

Owner's Manual

Dynamo **ATS**



QUANTUM
REHAB

MOVING AT THE SPEED OF LIFE™

21 Healey Road, Dandenong, 3175, Victoria, Australia

www.quantumrehab.com

ACN# 088 609 661

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 (black symbol on yellow triangle with black border).



MANDATORY! These actions should be performed as specified. Failure to perform mandatory actions can cause injury to personnel and/or damage to equipment (white symbol on blue dot with white border).



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 (black symbol with red circle and red slash).



NOTE: Supplemental information that may be helpful to operate the equipment.



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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 Pride Mobility Products Australia Pty. Ltd. (Pride). The power chair you have purchased combines state-of-the-art components with **safety**, comfort, and styling in mind. We are confident that these design features will provide you with the conveniences you expect during your daily activities. Once you understand how to **safely** operate and care for your power chair, it should give you years of trouble free operation and service.

Read and follow all instructions, warnings, and notes in this manual before attempting to operate your power chair for the first time. In addition, your **safety** depends upon you, as well as your provider, caretaker, 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 in this manual and those located on your power chair can lead to personal injury and/or damage to the power chair, including voiding the 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 retrofits 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 power chair, 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 power chair. Please feel free to contact us at the address below:

Pride Mobility Products Australia Pty. Ltd.
21 Healey Road
Dandenong, 3175
Victoria, Australia

My Quantum Rehab Specialist Is:

Name: _____

Address: _____

Phone Number: _____

Purchase Date: _____



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.

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.



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



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.



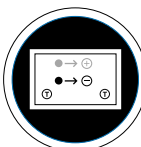
Maximum seating weight.



Unlocked and in freewheel mode.

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

Locked and in drive mode.



Two (2) Battery Configuration:

T = Terminal Post

Connect Red wire to T with +

Connect Black wire to T with -



Do not remove anti-tip wheels.

II. SAFETY



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 maneuver 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 power base. 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.

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 rearward. This may result in personal injury.

II. SAFETY



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.

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%. See figure 1.



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

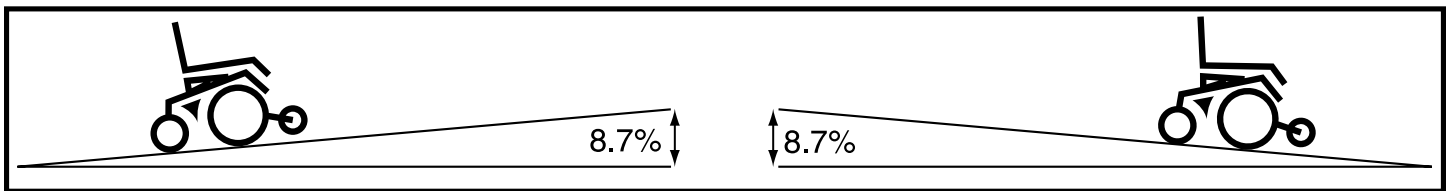


Figure 1. Maximum Safe Slope (Ascending and Descending)

Braking Information

Your power chair is equipped with two powerful brake systems:

- Regenerative — uses electricity to rapidly slow the vehicle when the joystick returns to the centre/stop position.
- 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 caster 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.

II. SAFETY

Freewheel Mode

Your power chair is equipped with a manual freewheel system to allow for manual maneuverability by a trained attendant. For more information about how to place your power chair into and out of freewheel mode, see III. “The Quantum Dynamo ATS.”



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 figures 2 and 3.



WARNING! Do not attempt to have your power chair climb or descend an obstacle that is higher than 5 cm unless you have the assistance of an attendant.

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.

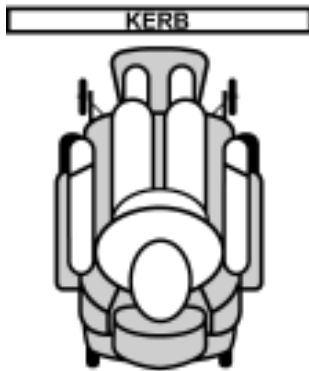


Figure 2. Correct Kerb Approach



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.

II. SAFETY

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 transportation. 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

Although your power chair may be equipped with a positioning belt, this belt was not designed with the intent of providing proper restraint during motor vehicle transport. Anyone traveling in a motor vehicle should be properly secured in his/her seat with seat belts approved by the vehicle manufacturer. Make sure to secure or remove the batteries before loading your power chair into a motor vehicle for transport.

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 the power off. See VII. "Operation."
- Ensure your power chair is not in freewheel mode. See III. "The Quantum Dynamo ATS."
- Turn both caster 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.

II. SAFETY



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.

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.

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.

Inclement Weather Precautions



WARNING! Rain, snow, salt, mist/spray, or icy/slippery conditions could cause serious injury and/or damage to your power chair and the electronic system. Exposure to these weather elements should be avoided whenever possible. Use extreme care when driving at all times. Maintain and store your power chair in a dry and clean condition.

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 bend, lean, or reach 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. Keep your hands away from the tyres when driving.

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.

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.

II. SAFETY

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. See 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.

Electromagnetic and Radio Frequency Interference (EMI/RFI)

Laboratory tests have shown that electromagnetic and radio frequency waves can have an adverse affect on the performance of electrically-powered mobility vehicles. The 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, and paging transmitters. In some cases, these waves can cause unintended movement.



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



PROHIBITED! To prevent unintended movement, turn off the power to the electrically-powered mobility vehicle before using a cell phone, two-way radio, lap-top, or any other type of radio transmitter.



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 www.pridemobility.com. If unintended motion or brake release occurs, turn the power chair off as soon as it is safe to do so.

III. THE QUANTUM DYNAMO ATS

THE QUANTUM DYNAMO ATS

Your power chair has two main assemblies: the seat and the power base. See figure 5. There are several seating options available with your power chair. Typically, the seating system includes the armrests, the seatback, the seat base, and the joystick/controller. The power base is the heart of your power chair. The power base assembly includes two drive wheels, two anti-tip wheels, two rear caster wheels, a body shroud, four frame assemblies (located under the body shroud), two battery boxes, and the electrical connectors. See figures 5, 6, and 7.

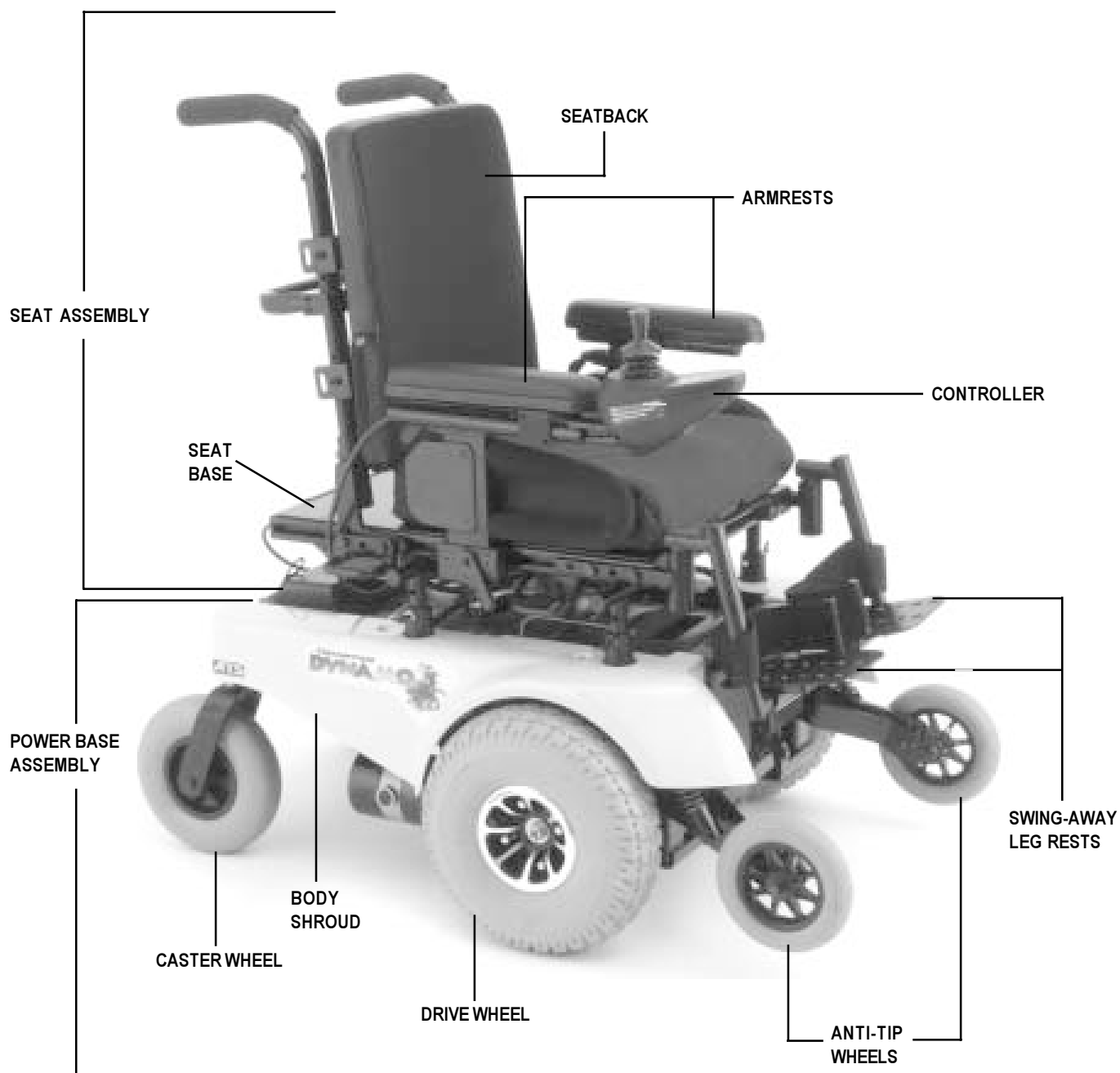


Figure 5. The Quantum Dynamo ATS

III. THE QUANTUM DYNAMO ATS

QUANTUM DYNAMO ATS SPECIFICATIONS	
Class of Use:	B
Suspension:	Active-Trac Suspension, Limited
Drive Wheels:	25 cm, pneumatic, centre-mounted (solid tyres are optional)
Caster Wheels:	20 cm, solid, rear articulating
Anti-tip Wheels:	15 cm, solid, front mounted
Maximum Speed:*	Up to 6.4 km/h
Brakes:	"Intelligent Braking," electronic regenerative, disc park brake
Ground Clearance:	6 cm
Maximum Safe Slope:	8.7%
Maximum Climbing Ability:	8.7%
Maximum Obstacle Climbing Ability:	5 cm
Turning Radius:	47 cm
Overall Size:	Length: 93 cm Width: 58 cm (assembled)
Seating Options:	Synergy Seat
Drivetrain:	Two motor, mid-wheel
Batteries:	Two 12-volt, U-1 (NF-22 with extended range package) batteries
Range:*	Up to 40 km
Battery Charger:	5-amp, onboard 5-amp, off-board (optional)
Motor Controller:	70-amp, PG Drives Remote Plus Controller
Weight Capacity:	72.5 kg
Component Weights:	Seat: 20 kg Front battery and case: 12 kg (U-1 Battery = 11 kg) Rear battery and case: 12 kg (U-1 Battery = 11 kg) Battery well frame: 6 kg Front frame: 1 kg Right frame assembly: 17 kg Left frame assembly: 17 kg

*Depends on user weight and terrain.

III. THE QUANTUM DYNAMO ATS

Seat and Power Base Components

The seating system and the power base consist of the following components. See figures 5, 6, 7, and 8.

- **Controller:** This device is used to move the power chair.
- **Joystick/Controller Harness Connector:** This is where the joystick harness connects to the electronics tray.
- **Armrests:** These provide a comfortable place to rest your arms during time spent on your power chair.
- **Manual Freewheel Levers:** These levers enable you to disengage or engage the motors from or to the gearbox. While the motors are disengaged, your power chair can be pushed manually.
- **Body Shroud:** These are the plastic pieces that cover the power base.
- **Swing-away Leg Rests:** This is where your feet rest during time spent on your power chair.
- **Anti-Tip Wheels:** These are wheels that allow “slight” or “no” tip while driving. They also allow for 5 cm obstacle-climbing abilities.
- **Drive Wheels:** These are the main wheels that move the power chair.
- **Rear Caster Wheels:** These are the trailing wheels that provide stability.
- **Ammetre:** This displays the charger’s current output in amps.
- **Main Circuit Breaker:** This 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 the power chair to “rest” for approximately one minute. Then, push in the circuit breaker button, turn on the joystick/controller, and continue normal operation. If the main circuit breaker continues to trip repeatedly, contact your Quantum Rehab Specialist.
- **Battery Charger AC Power Receptacle:** This is where the battery charger lead plugs in when the batteries need to be recharged.
- **Battery Connectors (Quick-Connectors):** These provide connection between the battery boxes and the electronics tray.
- **Motor Connectors:** These provide connection between the motors and the electronics tray.
- **Battery Boxes (Front and Rear):** These protect the batteries.
- **Seat Mount Connectors:** These provide connection with the seat posts.

III. THE QUANTUM DYNAMO ATS

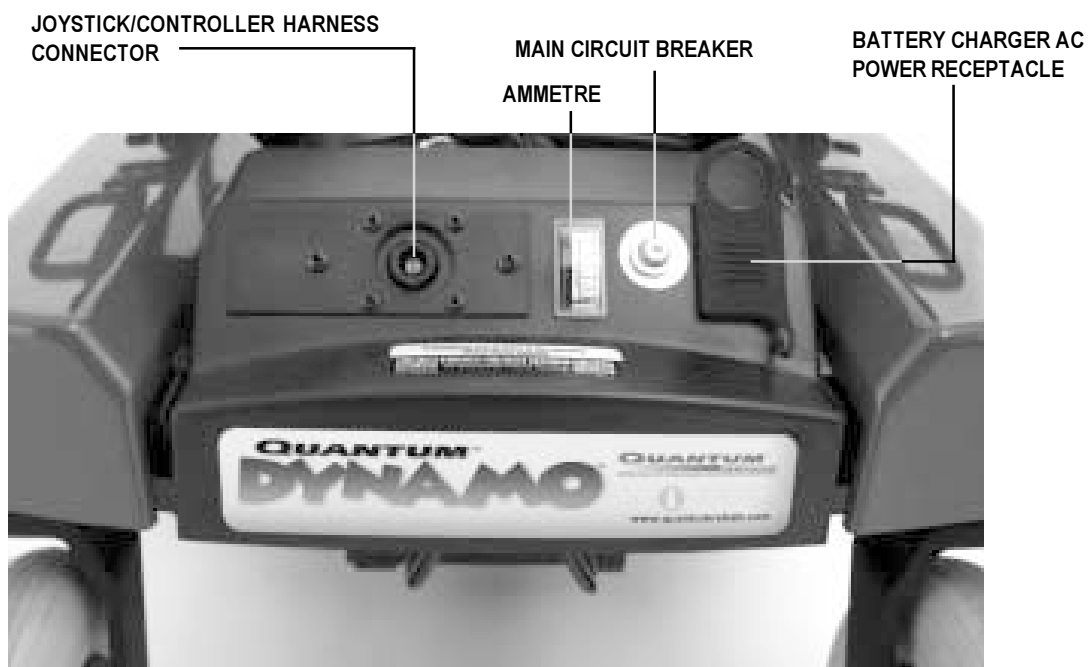


Figure 6. Power Base Rear View - Electronics Tray

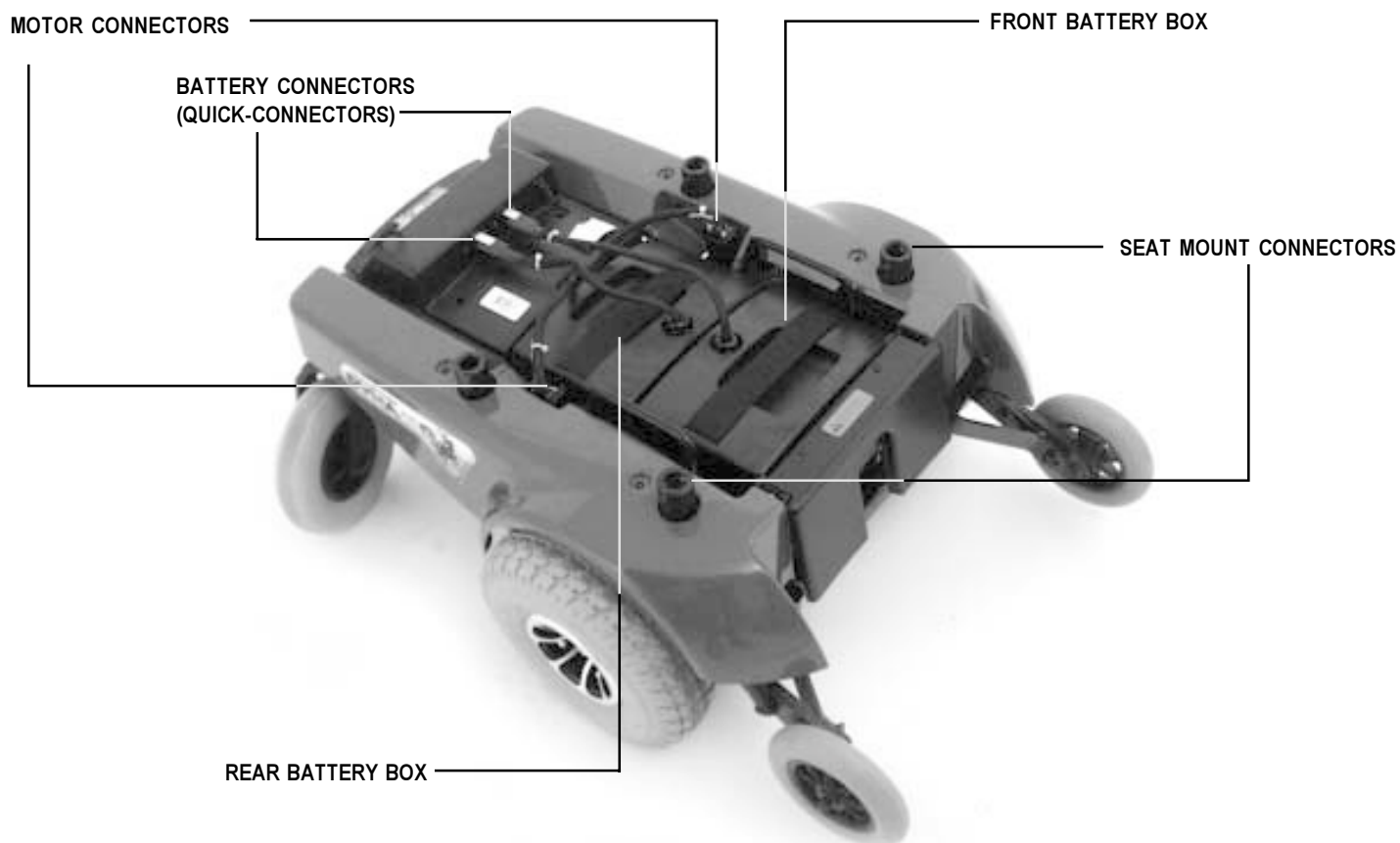


Figure 7. Power Base Top View

III. THE QUANTUM DYNAMO ATS

Manual Freewheel Levers

The power chair has a manual freewheel lever on each motor. Manual freewheel levers enable you to disengage the drive motors from the gearboxes and maneuver the chair manually.



WARNING! Do not use the power chair while the drive motors are disengaged! Do not disengage the drive motors when the power chair is on an incline, as the unit could roll on its own, causing injury!



NOTE: You must turn off the power before disengaging the drive motors, otherwise you may get an error code (nine flashing lights) on the controller. To clear this code, turn off the controller and place the power chair in drive mode. Then turn on the controller. The error message should be cleared. If it isn't, contact your Quantum Rehab Specialist.

To engage or disengage the drive motors:

1. Locate the levers on the front of the power base. See figure 8.
2. Push down the manual freewheel levers to engage the drive motors (drive mode).
3. Pull up the two levers to disengage the drive motors (freewheel mode).

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

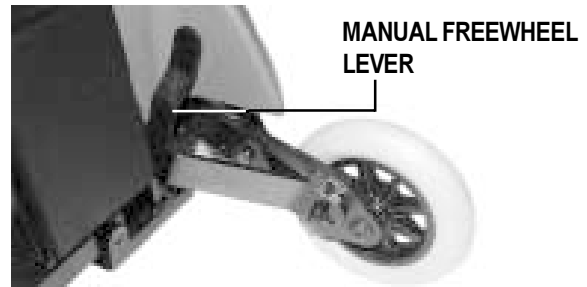


Figure 8. Manual Freewheel Lever (left side)



WARNING! It is important to remember that when your power chair is in freewheel mode, the braking system is disengaged.

Limited Active-Trac Suspension

Your power chair is equipped with a limited Active-Trac Suspension (ATS). See figure 9. ATS is a suspension system designed to make your power chair traverse different types of terrain and obstacles while maintaining smooth operation. With ATS, your front anti-tip wheels work in conjunction with your motor suspension to help you maneuver over obstacles.

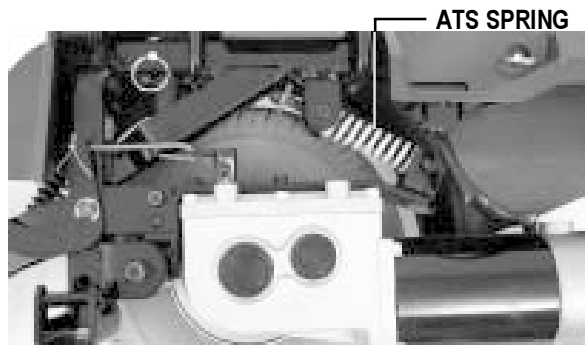


Figure 9. ATS System

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

III. THE QUANTUM DYNAMO ATS

Manual Park Brakes

Your power chair is equipped with a manual park brake mounted on each drive wheel. The manual park brakes work in conjunction with the electromagnetic brakes to help prevent your power chair's wheels from moving when your power chair is parked. After you release the joystick and your wheels are completely stopped, push the manual park brake lever down to engage it. See figure 10. To disengage the manual park brake, pull the manual park brake lever up. See figure 11.



WARNING! Do not attempt to use either manual park brake lever to stop your power chair. Serious injury may result.

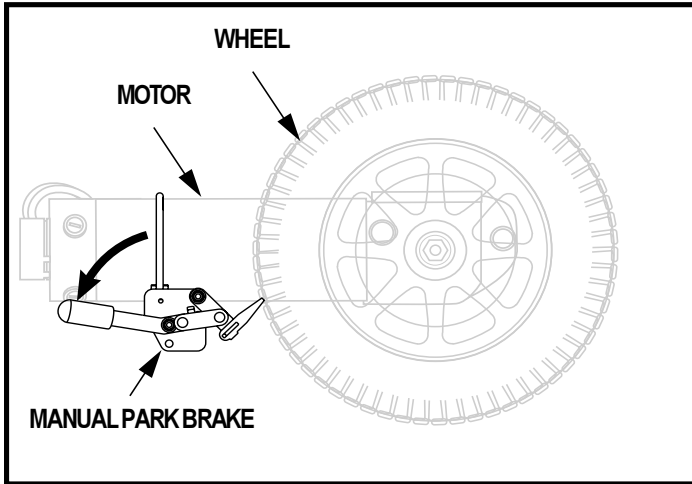


Figure 10. Manual Park Brake Engaged

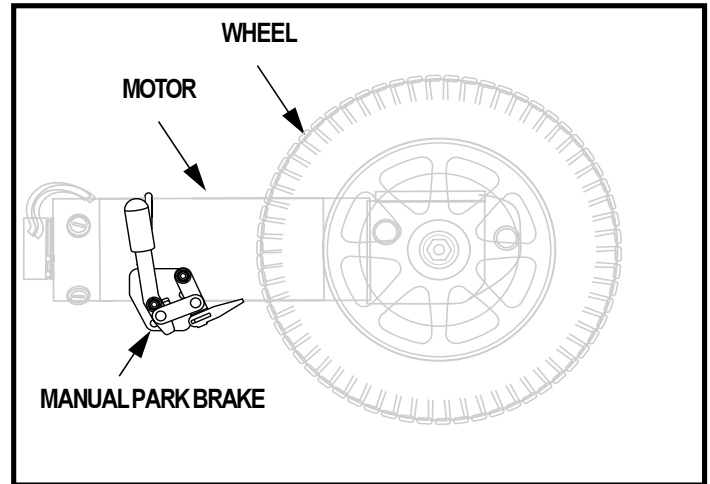


Figure 11. Manual Park Brake Disengaged

IV. DISASSEMBLY AND ASSEMBLY

DISASSEMBLY

Your power chair disassembles into eight easily transportable component assemblies (seat and leg rests not shown)—with no tools required. See figure 12.



WARNING! Even though no tools are required to disassemble or assemble your power chair, you should not place your hands or fingers on the areas of the component assemblies where they may be pinched, as the assemblies “snap” together or “snap” apart.



NOTE: During both disassembly and assembly of your power chair, take your power chair out of freewheel mode so that the chair does not roll while you are disassembling or assembling it. See III. “The Quantum Dynamo ATS.”

Disassembly Preparation

Position your power chair in a location where there is ample working room on all four sides. We recommend at least one metre of clearance on all sides. There are eight component assemblies, some of which take up a great deal of space when disassembled from the chair.



WARNING! Make certain that your power chair is powered off and is not in freewheel mode.

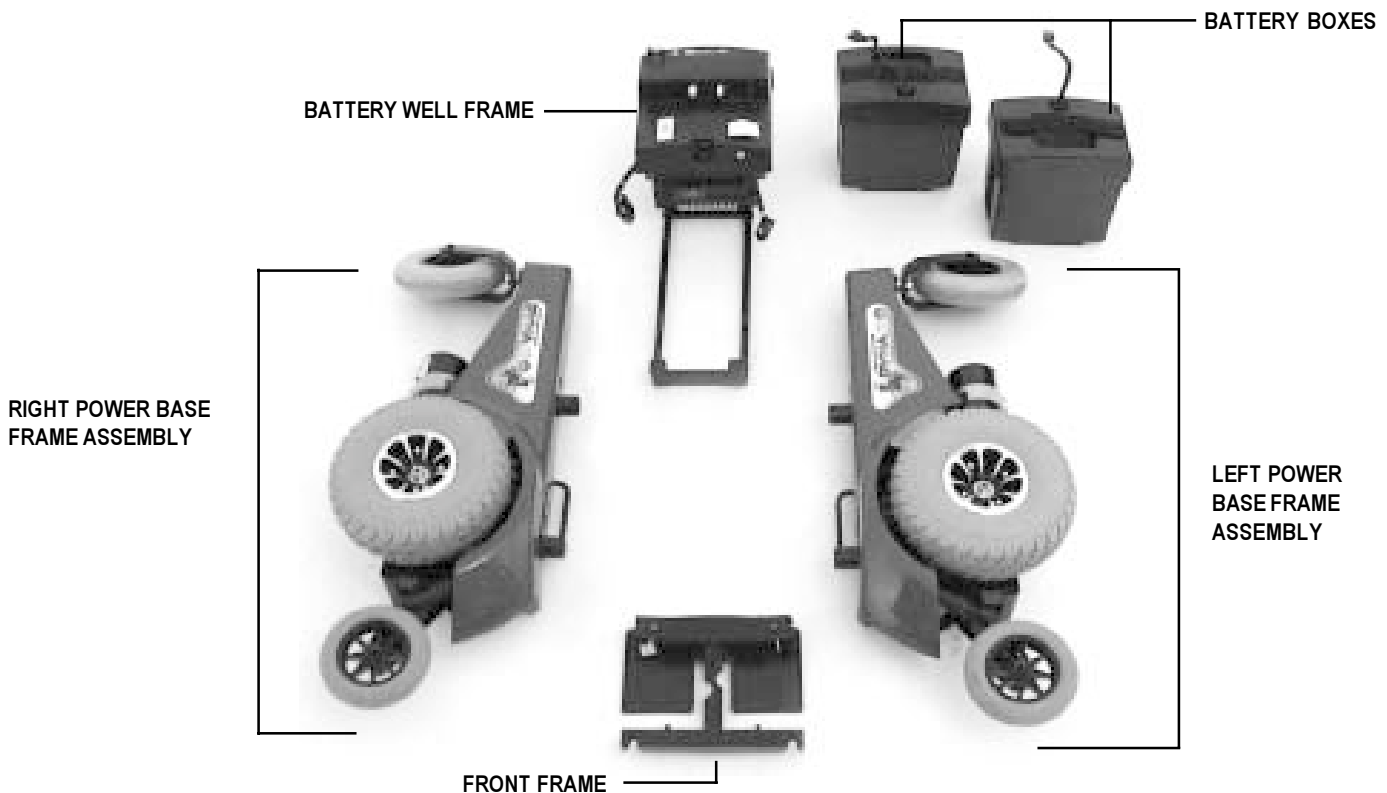


Figure 12. Quantum Dynamo ATS Component Assemblies

To disconnect the joystick/controller harness:

Disconnect the joystick/controller harness from its connector on the electronics tray. See figure 6. You may need to pull firmly and gently wiggle the harness to remove it from the connector.

IV. DISASSEMBLY AND ASSEMBLY

To remove the seat:



WARNING! Depending on your lifting ability, Pride recommends that two people remove the seat to avoid possible damage to the seat or your power chair.

1. Remove the four (4) T-handle ball detent pins securing the seat to the power base.
2. Allow the seat to rest on the seat mount connectors.
3. Lift the seat directly up. See figure 13. You may find it necessary to rock the seat gently from side to side to free the seat posts from the seat mount connectors.



WARNING! Do not pick up the seat frame by the armrests. They may be 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 remove the swing-away leg rests:

1. Press and hold the locking lever to unlock the leg rest. See figure 14.
2. Swing the leg rest to the side, then lift it straight up to remove it from the mounting bracket.

To remove the battery well frame:

1. Disconnect both battery connectors and both motor connectors. See figure 7.
2. Lift and remove each battery box. See figure 15.
3. Squeeze together the latch release levers that hang vertically down from the crossbar at the rear of the battery well frame. Lift up the rear end of the battery well frame. See figure 16. Pull it to the rear of the chair to release the front slots from the locating pins on the front frame bottom bar.

To disassemble the right and left power base frame assemblies:

1. Stand behind your power chair and grasp one of the power base frame assembly handles. See figure 17.
2. Press the chrome latch release lever toward the centre of the frame and hold it. See figure 17.
3. Push the frame assembly outward and pull up on the front frame until the latching mechanism releases.
4. Keep pulling upward until the locating pin on the bottom of the front frame releases from its slot in the power base frame assembly.
5. Carefully let the power base frame assembly tilt to a resting position.
6. Repeat for the other power base frame assembly.



Figure 13. Removing the Versa Seat

LOCKING LEVER



Figure 14. Removing the Swing-away Leg Rest

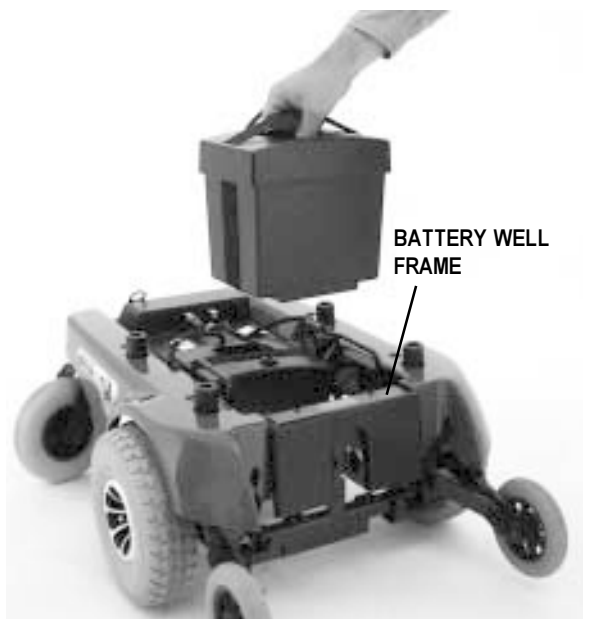


Figure 15. Removing Battery Boxes

IV. DISASSEMBLY AND ASSEMBLY



Figure 16. Removing Battery Well Frame

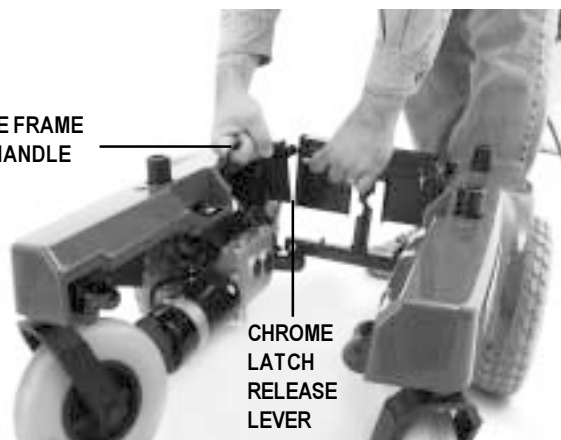


Figure 17. Removing Front Frame

ASSEMBLY

To assemble the front frame and power base frame:

1. Place the three frame assemblies next to each other as shown in figure 18.
2. Grasp the front frame and fit the notch on the front frame bottom bar onto the locating pin on the lower section of the power base frame assembly. See figure 19.



WARNING! The front frame should be positioned with the two semicircular notches in the vertical bar facing forward.

3. Pivot the front frame top bar toward the power base frame assembly and push the front frame top bar onto the locking mechanism until the two assemblies snap securely into place. See figure 20.
4. Repeat for the other power base frame assembly.



WARNING! Make certain that the front frame is snapped securely to both the right frame assembly and to the left frame assembly.

To install the battery well frame:

1. Hold the battery well frame so that the bottom of the well hangs downward.
2. Position the notches on the front of the battery well frame onto the locating pins on the front frame bottom bar. See figure 21.
3. Fit the notch on either side of the rear of the battery well frame onto the locating pin on each power base frame assembly.
4. Make certain that the locking mechanisms snap securely into place.

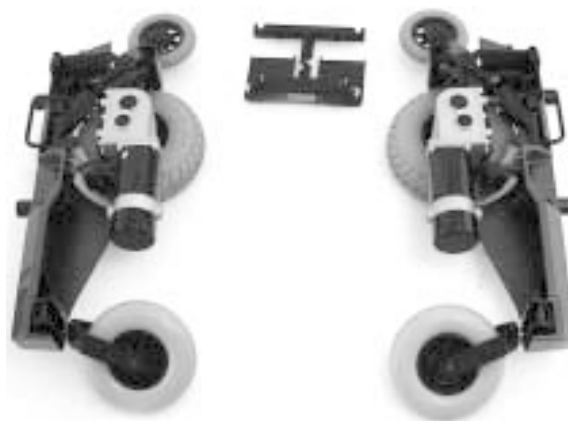


Figure 18. Frame Assemblies



Figure 19. Connecting Front Frame Assembly

IV. DISASSEMBLY AND ASSEMBLY

To install the battery boxes:

1. Place the front battery box into the front end of the battery well frame.



NOTE: Make certain that the connectors are facing toward the centre of the power chair.

2. Place the rear battery box into the back end of the battery well frame. Make certain that none of the wiring harnesses or cables are pinched between the battery or the motor controller box and the frame.
3. Connect the battery boxes. Use the battery connection label for a reference.
4. Reconnect the left and right motor connectors. Be certain to match the left connector to the left motor and the right connector to the right motor. The connectors are labeled left and right.

To install the seat:

1. Position the seat directly over the power base so that the seat posts line up with the seat mount connectors.
2. Slide the seat posts down into the seat mount connectors.
3. Align the locating holes in the seat posts with those in the seat mount connectors and insert the T-handle ball detent pins through the holes.

To install the swing-away leg rests:

1. Press and hold the locking lever and slide the swing-away leg rest into the mounting bracket.
2. Swing the leg rest to the centre position.
3. Release the locking lever to lock the leg rest in place.
4. Repeat steps 1 through 3 for the opposite leg rest.

To connect the joystick/controller:

Reconnect the joystick/controller harness to its connector on the electronics tray. See figure 6.



WARNING! Do not place the joystick/controller harness so that it can be pinched in the seat frame or the power base frame.



Figure 20. Fitting the Frames

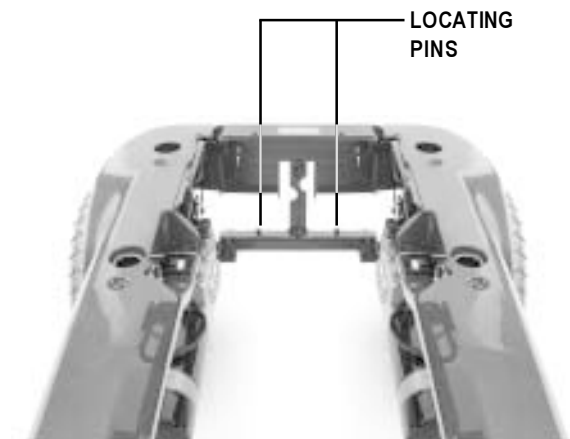


Figure 21. Connect Battery Well Frame

V. COMFORT ADJUSTMENTS

COMFORT ADJUSTMENTS

The Synergy Seat is the standard seat assembly for your power chair. After you have become familiar with your power chair's operation, you may find the need to make adjustments to the seat to increase your comfort. Information on seat adjustment is contained in separate manuals that accompany this product.



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

ANTI-TIP WHEELS

The power chair's mid-wheel drive design provides superior performance and safety. The anti-tip wheels are an integral part of this design because they provide you with stability during deceleration. The anti-tip wheels are preset at the factory to a height of 1.9 cm off the ground. This is the ideal setting for most power chair users. However, you may encounter situations where you may need to adjust the anti-tip wheels. For instance, if you drive your power chair on surfaces such as deep pile carpeting, you may notice that the anti-tip wheels have a tendency to drag on the carpet. In this case, you may need to raise the anti-tip wheels. If you drive your power chair primarily on smooth surfaces such as linoleum or tile, you may find that you tip forward more than is comfortable for you. (This may be more apparent for lighter users.) In this case, you may need to lower the anti-tip wheels.



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



WARNING! The higher you raise the anti-tip wheels, the more you increase your power chair's tendency to tilt forward when coming to a stop. You can compensate for this by having your Quantum Rehab Specialist make 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.



NOTE: Before making height adjustments on your anti-tips, consult your Quantum Rehab Specialist to make sure that your seat is positioned properly. Moving your seat rearward 2.54 cm may be sufficient.

You can adjust the anti-tip wheels so that they are higher or lower. Adjusting the anti-tip wheels also affects the stiffness of the suspension. Raising the anti-tip wheels stiffens the suspension while lowering the anti-tip wheels softens the suspension.

To adjust the anti-tips:



WARNING! Make certain that your power chair is powered off and is not in freewheel mode.

1. Use a hex key and a socket to loosen the nut and bolt that fasten the anti-tip spring to the anti-tip arm. See figure 22.
2. Use a spanner and socket to remove the anti-tip wheel.
3. Use a hex key and socket to remove the anti-tip adjustment bolt.
4. Raise or lower the anti-tip wheel in .6-cm increments.
5. Replace the hardware into the appropriate holes and tighten.
6. Install the anti-tip wheel.
7. Tighten the nut and bolt that fasten the anti-tip spring to the anti-tip arm.

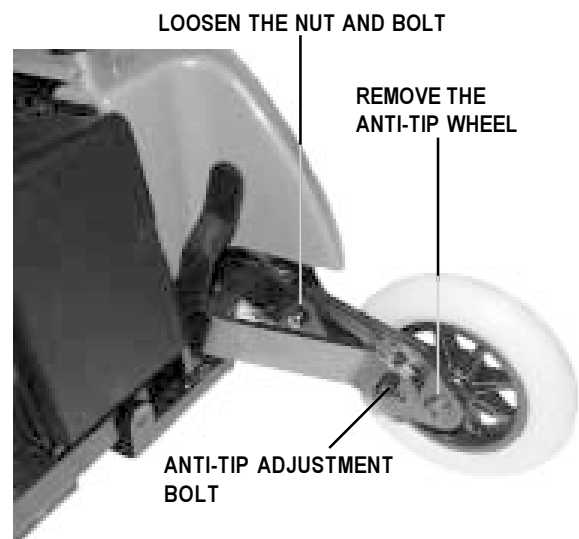


Figure 22. Anti-Tip Wheel Adjustment

V. COMFORT ADJUSTMENTS

MULTI-AXIS FOOT PLATE

The multi-axis foot plate assembly can be installed on either a swing-away leg rest or an elevating leg rest. The multi-axis foot plate has four adjustments: leg rest length (A), position (B), tilt (C), and angle (D). See figure 23.

To change leg rest length (A):

1. Remove the hardware.
2. Move the foot plate to the desired position.
3. Reinstall the hardware.

To change foot plate position (B):

1. Remove the hardware.
2. Move the foot plate to the desired position.
3. Reinstall the hardware.

To change foot plate tilt (C):

1. Loosen the hardware.
2. Tilt the foot plate to the desired position.
3. Tighten the hardware.

To change foot plate angle (D):

1. Turn setscrew clockwise to decrease angle.
2. Turn setscrew anticlockwise to increase the angle.

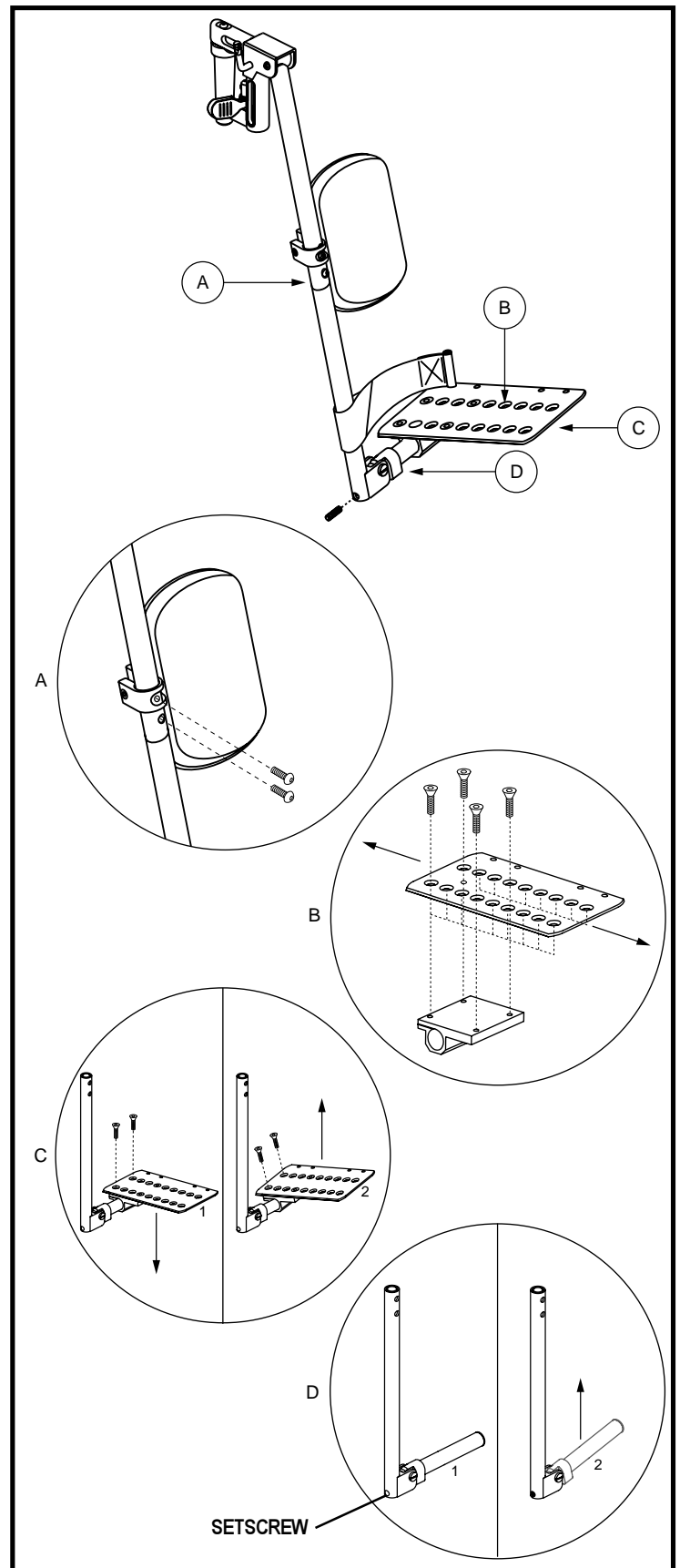


Figure 23. Multi-axis Foot Plate

VI. BATTERIES AND CHARGING

BATTERIES AND CHARGING

The 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 for your power chair batteries. The battery charger is designed to optimise your power chair's performance by charging the batteries safely, quickly, and easily. Quantum Dynamo ATS power chairs use either an onboard charger or an optional off-board charger to charge the batteries. The onboard charger is plugged into the battery charger AC power receptacle on the electronics tray. The off-board charger is plugged into a port on the front of your controller. See VII. "Operation." Follow the directions supplied with the charger.



WARNING! You must recharge your power chair's batteries with the supplied onbaord or off-board 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 wall outlet.

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 throughout the house and grounds. Move slowly at first, and don't stray too far until you become accustomed to the controls and break in the batteries.
3. Give the batteries another full charge of 8 to 14 hours and operate your power chair again. The batteries will now perform at over 90% of their potential.
4. After four or five charging cycles, the batteries will top off at 100% charge and last for an extended period.

Frequently Asked Questions (FAQs)

How does the charger work?

The battery charger takes the standard wall outlet voltage of 120 VAC (alternating current) and converts it to 24 VDC (direct current). The power chair batteries use direct current to run your power chair. When the battery voltage is low, the charger works harder to charge the battery. This is why the ammetre initially reads 5 or more amps. As the battery voltage approaches full charge, the charger doesn't work as hard to complete the charging cycle. This explains why the ammetre drops as it approaches a full charge. When the battery is fully charged, the amperage from the charger is nearly at zero. This is how the charger maintains a charge but does not overcharge the battery.

Can I use a different battery charger?

You should use the charger supplied with the power chair. It is the safest, most efficient tool to charge the batteries. We do not recommend using other types of chargers (e.g., an automotive battery charger).

VI. BATTERIES AND CHARGING

How often must I charge the batteries?

Many factors come into play 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.



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

■ Daily Use

If you use your power chair on a daily basis, charge the batteries as soon as you are finished using your power chair. 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, footpath cracks, uneven and loosely packed surfaces, curves, and wind. All of these factors will affect the distance or running time per battery charge. Below are a few suggestions for obtaining the maximum range per charge:

- Always charge the batteries fully prior to your trip.
- 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 batteries 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.

Use these specifications to reorder deep-cycle batteries:

BATTERY SPECIFICATIONS	
Type:	Deep-cycle (AGM or Gel-Cell)
Size:	U-1 (NF-22 with extended range package)
Voltage:	12V each



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

VI. BATTERIES AND CHARGING

Why do my new batteries seem weak?

Deep-cycle batteries employ a much different chemical technology than that used in car batteries, nickel-cadmium (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 and 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 your power chair’s specific demands. Fresh batteries arrive regularly at Pride and are promptly shipped with a full charge. During shipping, the batteries encounter temperature extremes that may influence initial performance. Heat robs the charge from the battery, and cold slows the power available and extends the time needed to recharge the battery (just as with a car battery).

It might take a few days for the temperature of the battery to stabilise and adjust to its new ambient temperature. More importantly, it will take a few “charging cycles” (a partial drain—then a full recharge) to establish the critical chemical balance that is essential to the battery’s peak performance and long life. It will be well worth it to take the time to break in your battery properly.



NOTE: The useful life of a battery is quite often a reflection of the care it receives.

How can I ensure maximum battery life?

A fully charged deep-cycle battery will provide reliable performance and extended battery life. Keep your power chair’s 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 per 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.

What about public transportation?

AGM and Gel-Cell batteries are designed for application in power chairs and other mobility vehicles, allowing safe transportation 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.

Battery Disposal and Recycling

If you encounter a damaged or cracked battery, immediately enclose it in a plastic bag and call your Quantum Rehab Specialist for instructions on disposal. Your Quantum Rehab Specialist will also have the necessary information on battery recycling, which is our recommended course of action.



WARNING! Battery posts, terminals, and related accessories contain lead and lead compounds. Wear goggles and gloves when handling batteries and wash hands after handling.

VII. OPERATION

REMOTE PLUS CONTROLLER

The electronic controller is what you use to operate your power chair. The electronic controller enables you to move the power chair, as well as monitor battery charge, electronic controller functions, and the condition of your electrical system. The Remote Plus is part of a modular electronic controller system. The system consists of more than one module. Typically, the Remote Plus is mounted to one of the armrests. See figure 24. It is connected to a power module located on the power base through the controller communications cable.

The controller supplied with your power chair has been pre-programmed to meet the needs of the end user. 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.

Remote Plus

The Remote Plus consists of the following:

1. joystick
2. keypad
3. controller communications cable
4. 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 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, you engage the electromagnetic brakes. This causes your power chair to decelerate and come to a complete stop.

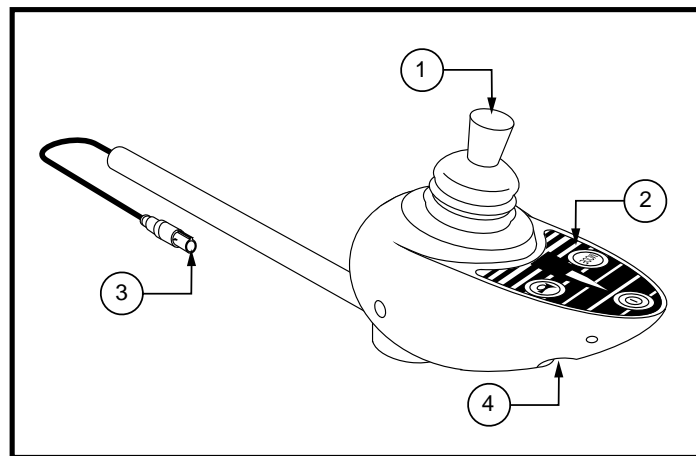


Figure 24. Remote Plus Controller



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. It contains keys that you will use to control your power chair. See figure 25.

On/Off Key

The on/off key turns the system 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.

VII. OPERATION

Mode Key (Speed Settings)

The mode key controls the 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 on the speed setting indicator.



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 controller.
2. Press the mode key once.
3. To increase power chair speed, push the joystick to the right. Each time you push the joystick, you will increase the speed setting in the speed setting indicator.
4. To decrease power chair speed, push the joystick to the left. Each time you push the joystick, you will decrease the speed setting in the speed setting indicator.
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.

Horn Key

The horn key activates the horn.

Battery Condition Metre

The battery condition metre is a 10-segment illuminated display located in front of the joystick. When the lights are on, it indicates that there is power to the Remote Plus. The lights also indicate battery status, Remote Plus operational status, and electrical system status.

- **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 an error in the controller or the electrical system. See “Remote Plus Error Codes.”
- **Ripple up and down of lights:** The joystick was not in the neutral position when the controller was turned on. If you get “ripple up and down of lights,” turn off the controller and 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.

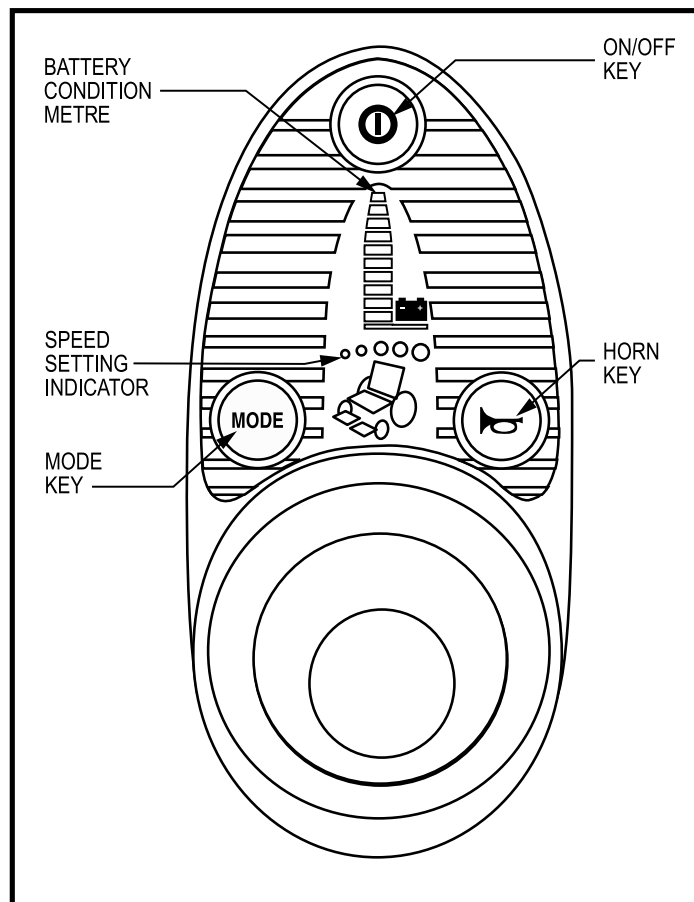


Figure 25. Remote Plus Keypad

VII. OPERATION



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!

Off-board Charger/Programming Socket

The off-board charger/programming socket is located on the front of the Remote Plus. If you use an off-board charger, the charger current should not exceed 12 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. See your Quantum Rehab Specialist for more information.

Controller Communications Cable

The controller communications cable provides the Remote Plus with a connection to the power module.

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 metre 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 metre can also indicate possible problems with your power chair's electrical system. If any of the battery condition metre lights are flashing rapidly, the controller may be indicating an error. Error codes are displayed as a number of flashing lights. For instance, if the first light is flashing rapidly, the battery voltage is nearly depleted. The table below identifies the individual error codes, probable causes, and possible solutions. If you 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 Dynamo ATS 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 your 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 your power chair's care or operation, contact your Quantum Rehab Specialist.



WARNING! Prevent injury. Do not service the power chair when the seat is occupied.

Your power chair, 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 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 power chair 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 power chair 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 connectors to ensure that they are all tight and secured properly.
- Make sure the drive tyres are inflated to **2.4 bar/35 psi** (if equipped with pneumatic tyres).



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.

VIII. CARE AND MAINTENANCE

- 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 boxes and battery well frame, with the battery terminals facing inward, toward each other. Refer to the battery wiring label 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 neutral position 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. See your Quantum Rehab Specialist if there is a problem.
- Visually inspect the controller communications cable. Make sure that it is not frayed, cut, or has any wires exposed. See your Quantum Rehab Specialist if there is a problem.
- Check for flat spots on solid tyres. Flat spots could adversely affect stability.

Weekly Checks

- Disconnect and inspect the controller battery door. Look for corrosion. Contact your Quantum Rehab Specialist if necessary.
- Ensure that all parts of the controller system are securely fastened to your power chair. 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. To calibrate the joystick, power off the unit, place the joystick in the neutral position, and power the unit back on. If a problem still exists with your joystick's performance, contact your Quantum Rehab Specialist.
- Check the brakes. This test should be carried out on a level surface with at least one metre 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 metre. 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 rearward, then left, and then right.

To calibrate the joystick:

1. Position the joystick in the full reverse position and hold it there. Turn on the controller.
2. The battery condition metre lights up from one light to ten lights, and then back to one light. It does this twice, then blinks rapidly.
3. Turn off the controller.
4. Position the joystick in the full forward position and hold it there; then turn the controller on.
5. The battery condition metre lights up from one light to ten lights, and then back to one light. It does this twice, then blinks once, and then it blinks continuously.
6. Turn off the controller. Now the joystick and controller are set up to function properly together.

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Monthly Checks

- Check that the anti-tip wheels do not rub the ground when you operate the 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 repair.
- Check the caster wheels for wear. Replace them as necessary.
- Check the caster 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.

Storage

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



WARNING! If you fail to store the unit properly, the frame can rust and the electronics can be damaged.

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.

Tyre/Wheel Replacement

If you have pneumatic tyres and you have a flat tyre, replace the tube. If your chair is equipped with a solid tyre insert, then you must replace the whole wheel assembly. Replacement tyres, tubes, and wheel assemblies are readily available through your Quantum Rehab Specialist.



WARNING! To avoid possible injury, be sure that the controller's power 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 for both pneumatic and solid tyres:

1. Turn off the power to the controller.
2. Set the power chair on blocks.
3. If you are changing a pneumatic tyre, completely deflate it before removing the wheel.

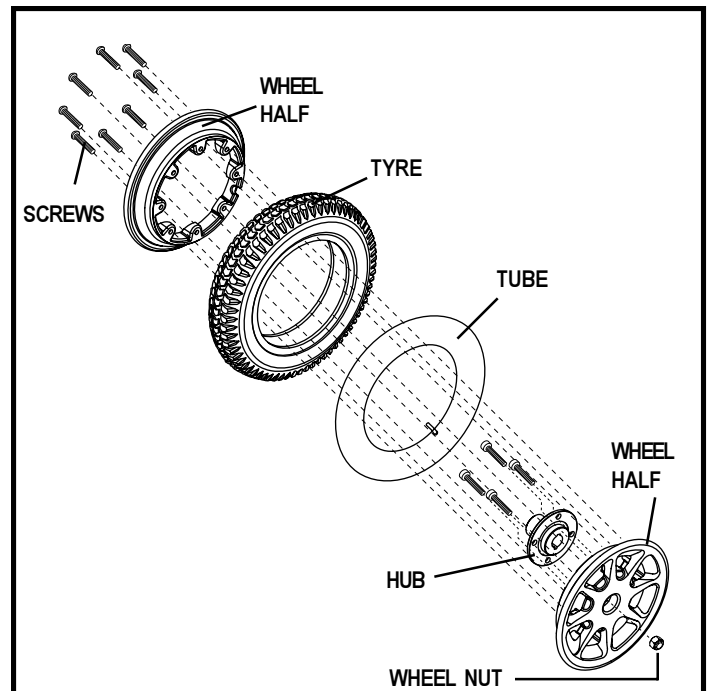


Figure 26. Quantum Dynamo ATS Wheel Assembly

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4. Remove the drive wheel nut from the wheel hub.
5. Pull the wheel off the axle.
6. Remove the screws that fasten the two wheel halves together. See figure 26.
7. Remove the old tube from the pneumatic tyre and replace it with a new tube or replace the entire assembly if it is a solid tyre.
8. Screw together the two wheel halves.
9. Slide the wheel back onto the shaft.
10. Reinstall the drive wheel nut onto the wheel hub and tighten.
11. Inflate the pneumatic tyre to **2.4 bar/35 psi** if equipped with pneumatic tyres.
12. Remove the power chair from the blocks.

Battery Replacement

A battery wiring diagram is printed on a decal located on the battery well frame. See VI. “Batteries and Charging” for correct battery specifications.

WARNING! Prevent injury. Do not replace battery when seat is occupied.



WARNING! Battery posts, terminals, and related accessories contain lead and lead compounds. Wear goggles and gloves when handling batteries and wash hands after handling.

WARNING! Power chair batteries are heavy. See 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.

To replace the batteries:

1. Turn off power to the controller.
2. Make sure that the power chair is in drive mode. See III. “The Quantum Dynamo ATS.”
3. Unplug the controller communications cable from the power module.
4. Remove the seat.
5. Lift off the shroud.
6. Unplug the battery quick-connectors from the power base.
7. Remove the old batteries.
8. Disconnect the wiring harnesses from the batteries.
9. Connect the wiring harness to the new batteries.



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

10. Place the batteries back into the battery well frame on the power base.
11. Plug in the battery quick-connectors.
12. Reinstall the shroud.
13. Reinstall the seat.
14. Reinstall the controller communications cable.
15. Charge the batteries.

VIII. CARE AND MAINTENANCE

When to See Your Quantum Rehab Specialist for Service

The following symptoms could indicate a serious problem with your power chair. 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
- Frayed harnesses
- Cracked or broken connectors
- Uneven wear on any of the tyres
- Jerky motion
- Pulling to one side
- Bent or broken wheel assemblies
- Does not power up
- Powers up, but does not move

Corrective Maintenance

If the battery condition metre 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.

I X . W A R R A N T Y

LIFETIME LIMITED WARRANTY

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

TWO-YEAR LIMITED WARRANTY

Drivetrain, including: differential, motor, and brake.

ONE-YEAR LIMITED WARRANTY

Your Pride Power Chair is fully guaranteed for twelve (12) months from the date of purchase against faults arising due to defects in manufacture or materials. This warranty does not detract from, but is in addition to your legal rights.

All electronic parts, including controllers and battery chargers, have a one (1) year warranty. Servicing to the controller or battery charger must be carried out by your Quantum Rehab Specialist. Any attempt to open or dismantle these items renders the guarantee void on that item.

Not Covered Under Warranty

This guarantee does not extend to those items which may need replacement due to normal wear and tear (tyres, belts, bulbs, upholstery, plastic shrouds, motor brushes, fuses, and batteries), or damage to the product caused by misuse or accident for which Pride or its agent cannot be held responsible. This warranty does not include labour or service calls.

Batteries

Batteries are covered by a twelve (12) month warranty from the original manufacturer.

Gradual deterioration in performance due to being left in a discharged state, left in cold conditions for long periods of time, or worn out through heavy use is not covered.

Service Checks and Warranty Service

Warranty service can be performed by your Quantum Rehab Specialist. Please contact your Quantum Rehab Specialist for advice on the current cost affecting the service visit.

Replacement Units

The availability of replacement units is subject to the discretion of the provider, not the manufacturer. For more information regarding replacement units, contact your Quantum Rehab Specialist.

NOTES

Dynamo **ATS**

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

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

#1
In Quality

Model # _____

Serial # _____

☐ **Controller** _____

Serial # _____

☐ **Inclusion of all Parts**

☐ **Fit and Finish**

☐ **Performance**



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

Date Inspected

Inspector

Pride
Mobility Products Australia Pty. Ltd.