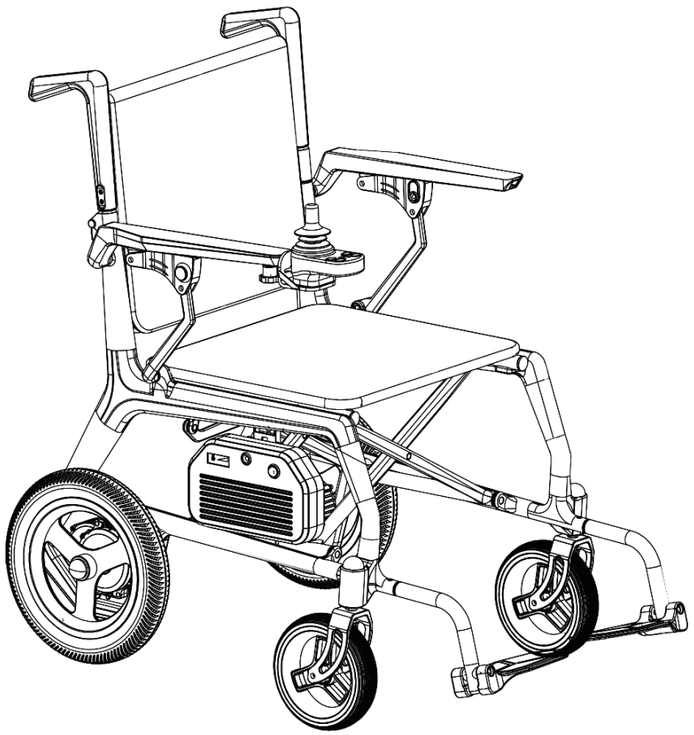
ROYALE
MEDICAL

Royale Air Carbon Fibre Powerchair

User Manual

Contents

1 Introduction



S343832 - Powerchair - Royale Air Carbon Fibre Folding + Wireless Attendant Control Compatibility (includes 1x 12AH Lithium Battery) - (Wireless Remote & Bracket optional)

Powerchair – Royale Air Carbon Fibre

Thank you for purchasing your Royale Air Carbon Fibre Powerchair.

As part of ongoing product development, product specifications may change without prior notice. Any updates that affect safety or usage for existing users will be clearly communicated.

Please note: All dimensions are approximate and may vary.

This product is designed for an intended service life of 5 years. To ensure safe and optimal performance, only use components or accessories that are officially approved for this model.

This user manual will help you to use and maintain your Powerchair safely.

Do not use your Powerchair until this manual and all relevant booklets have been read and understood. If the user manual was not included with your Powerchair, please contact your dealer immediately.

1.1 Further Information

If you have any questions about the use, maintenance or safety of your Powerchair, please reach out to your local authorised Royale Medical dealer.

1.2 Symbols used in this user manual

⚠ Warning

Important Notice for the User:

Any serious incident involving this device must be reported to the manufacturer

⚠ Caution

General User Information:

Failure to follow these instructions may result in personal injury, product damage, or harm to the environment.

2 Safety & Precautions

Make sure to follow the instructions marked with these warning symbols carefully.

Failure to do so could lead to physical injury, or cause damage to the Powerchair or surrounding environment.

2.1 Safety & Precautions: Symbol Description

Warning

Text marked with this symbol indicates that ignoring the instructions could result in serious injury.

Caution

Text marked with this symbol indicates that ignoring the instructions could result in injury, or cause damage to property.

2.2 Safety & Precautions: Temperature

Warning

- Avoid touching the Powerchairs motors at any time. During operation, the motors remain in motion and can become very hot. After use, allow at least 30 minutes for them to cool down before making contact, as touching them too soon may cause burns.
- When the Powerchair is not in use, keep it out of direct sunlight for prolonged periods. Parts such as the seat, backrest, and armrests can heat up significantly when exposed to the sun, potentially causing burns or skin irritation.

The recommended storage conditions for the Powerchair are as follows:

- Temperature range: -25°C to 50°C
- Relative humidity: not exceeding 90%
- Atmospheric pressure: 56 - 100 kPa

The Powerchair should be stored in a well-ventilated area, free from harmful or corrosive gases. Do not stack or place heavy objects on top of the Powerchair.

Avoid storing the product near heat sources or in direct sunlight for extended periods.

If the Powerchair will not be used for a long time, ensure it is fully charged and powered off before storage. For storage periods exceeding one month, recharge the battery fully before resuming use or continuing storage. Please refer to Battery Care in 5.2.1.

2.3 Safety & Precautions: Moving Components

Warning

A Powerchair contains several moving components. Contact with these parts can cause serious injury or damage to the Powerchair or user and should always treated with caution.

- Wheels (front and rear)

- Half folding backrest

- Swing-up armrest

2.4 Safety & Precautions: Electromagnetic Radiation

Caution

The Powerchair has been tested to meet applicable electromagnetic compatibility (EMC) requirements. However, despite these tests, electromagnetic interference cannot be completely ruled out.

External sources of electromagnetic radiation - such as mobile phones, large medical equipment, or other strong emitters - may affect the Powerchairs performance.

Similarly, the Powerchair itself may cause interference with certain electromagnetic systems, including:

- Automatic shop doors
- Security or anti-theft systems in stores
- Remote-controlled garages

If you experience any such interference or operational issues, please contact your dealer immediately.

Warning

When using two-way radios, walkie-talkies, CB radios, amateur radios, public mobile radios, or any other high-powered transmitting devices, the Powerchair must be brought to a complete stop and switched off. Use of cordless phones, mobile phones, and hands-free devices is allowed; however, if any irregular or abnormal operation of the Powerchair occurs, stop immediately and turn the Powerchair off.

Powerchair – Royale Air Carbon Fibre

2.5 Safety & Precautions: Electromagnetic Interface (EMI)

Warning

Electromagnetic interference (EMI) is caused by external electromagnetic energy sources such as radios, television transmitters, CB radios, garage door openers, and cordless or mobile phones. Such interference may affect the Powerchairs control system.

In certain cases, EMI can result in unintended behaviour - including brake failure, unexpected power activation, steering malfunction, or even permanent damage to the control system.

The following cable information is provided for reference to ensure compliance with electromagnetic compatibility (EMC) requirements.

Cable	Max. cable length Shielded/unshielded		Number	Cable Classification
AC Power Line	1.8m	Shielded	1 Set	AC Power
DC Power Line	1.2m	Shielded	1 Set	DC Power

Important Information on Electromagnetic Compatibility (EMC)

- This electrical medical device requires special precautions regarding EMC and must be operated in accordance with the EMC guidance provided in this user manual. The equipment complies with the IEC 60601-1-2:2014 standard for both immunity and emissions. However, certain precautions must still be observed.
- This equipment with essential performance, has been designed for indoor and outdoor use, includes essential performance features critical to its safe operation.
- **Warning:** Avoid using this equipment in close proximity to other electronic devices, as this may lead to improper operation. If simultaneous use is unavoidable, both devices should be monitored to ensure they function correctly.
- The use of accessories, transducers, or cables other than those specified or supplied by the manufacturer may increase electromagnetic emissions or reduce the device's immunity, potentially leading to malfunction.
- **Warning:** Portable RF communication equipment (including antennas, cables, and external antennas) must be kept at least 30 cm (12 inches) away from any part of the Powerchair including its cables. Failure to do so may degrade performance.
- **Warning:** When operating the Powerchair near strong AM, FM, or TV broadcast antennas (within approximately 1.5 km), verify that the equipment functions normally before use to ensure continued safety and correct performance throughout its service life.

- If the AC input power is interrupted during battery charging, the process will stop. Charging will automatically resume once the power supply is restored.

EMI Compliance table (Table 1)

Table 1 – Emission

Phenomenon	Compliance	Electromagnetic environment
RF emissions	CISPR 11 Group 1, Class B	Home healthcare environment
Harmonic distortion	IEC61000-3-2 Class A	Home healthcare environment
Voltage fluctuations and flicker	IEC61000-3-3 Compliance	Home healthcare environment

EMS Compliance Table (Table 2-5)

Table 2 – Enclosure Port

Phenomenon	Basic EMC Standard	Immunity test levels
		Home healthcare environment
Electrostatic discharge	IEC61000-4-2	±8kV contact ±2kV, ±4kV, ±8kV, ±15kV air
Radiated RF EM field	IEC61000-4-3	20 V/m 26Mhz-2.5GHz 80% AM at 1kHz 10V/m 80MHz-2.7GHz *80% AM at 1kHz
Proximity fields From RD Wireless communications equipment	IEC61000-4-3	Refer to Table 3
Rated power Frequency Magnetic fields	IEC61000-4-8	30A/m 50Hz or 60Hz

Powerchair – Royale Air Carbon Fibre

Table 3 – Proximity fields from RF wireless communications equipment

Test frequency (MHz)	Band (MHz)	Immunity test levels
		Home healthcare environment
385	380-390	Pulse modulation 18Hz, 27V/m
450	430-470	FM, ±5kHz deviation, 1kHz sine , 28V/m
710	704-787	Pulse modulation 217Hz , 9V/m
745		
780		
810	800-960	Pulse modulation 18Hz , 28V/m
870		
930		
1720	1700-1990	Pulse modulation 217Hz , 28V/m
1845		
1970		
2450	2400-2570	Pulse modulation 217Hz , 28V/m
5240	5100-5800	Pulse modulation 217Hz , 9V/m
5500		
5785		

Table 4 – Input a.c. power port

Phenomenon	Basic EMC standard	Immunity test levels
		Home healthcare environment
Electrical fast transients/burst	IEC 61000-4-4	±2kV 100kHz repetition frequency
Surges Line-to-line	IEC 61000-4-5	±0.5kV, ±1kV
Conducted disturbances induced by RF fields	IEC 61000-4-6	3V, 0.15MHz-80MHz 6V in ISM bands and amateur radio bands between 0.15MHz and 80MHz 80%AM at 1kHz
Voltage dips	IEC 61000-4- 11	0% UT; 0 .5cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°
		0%UT; 1 cycle and 70% UT; 25/30 cycles Single phase: at 0°
Voltage interruptions	IEC 61000-4- 11	0% UT; 250/300 cycles UT=rated input voltage

Table 5 – Signal input/output parts port

Phenomenon	Basic EMC standard	Immunity test levels
		Home healthcare environment
Electrostatic Discharge	IEC 61000-4-2	±8kV contact ±2kV, ±4kV, ±8kV, ±15kV air

Powerchair – Royale Air Carbon Fibre

2.6 Safety & Precautions: Choking Hazard

Warning

This Powerchair contains small parts that may pose a choking hazard to young children under certain conditions.

2.7 Safety & Precautions: Using a Powerchair Lift (Vehicle Mounted)

Warning

Lifts are installed in vehicles such as vans and buses, as well as in buildings, to assist users in moving safely between different levels.

- **This Powerchair is not suitable to use as a seat in a vehicle**
- Ensure that both the user and all caregivers fully understand the lift manufacturer's operating instructions before use
- Never exceed the lift manufacturer's specified safe working load or recommended load distribution
- Always switch off the Powerchair while on the lift
- Failure to do so may result in accidental joystick movement, causing the chair to roll off the platform - note that the roll-stop may not prevent this
- Confirm that the Powerchair is in drive mode (not freewheel mode) before using the passenger lift

2.8 Safety & Precautions: Manual Handling

Warning

Do not lift the seating system by any removable parts, as this may cause damage to the Powerchair or result in injury to the user.

2.9 Safety & Precautions: Intended Use

The Royale Air Carbon is a Powerchair designed to provide a smooth and reliable driving experience in both indoor and outdoor environments.

Its compact design and simple construction make it well suited for easy servicing, refurbishment, and recycling.

The Royale Air Carbon is designed to support a wide range of user needs, preferences, and mobility requirements.

2.9.1 Safety & Precautions: Area of Application; The User

Powerchairs are designed exclusively for individuals who are unable to walk or who have limited mobility, for their personal use both indoors and outdoors.

Operating a Powerchair requires adequate cognitive, physical, and visual abilities. The user must be capable of assessing and correcting their actions while driving the Powerchair.

The Powerchair is intended for a single user only and must not carry more than one person at a time. The maximum weight capacity (130kg) - including the user and any installed accessories - is indicated on the product label attached to the chair's chassis.

Before operating the Powerchair, the user must be familiar with the contents of this manual. Additionally, a qualified specialist must provide thorough instruction before the user participates in public traffic. Initial driving sessions should always be conducted under the supervision of a trained instructor or advisor.

Indications

The Royale Air Carbon is intended for individuals who are unable to walk or have limited mobility due to:

- Paralysis
- Amputation of a leg
- Deformities or defects of the limbs
- Joint contractures or injuries
- Medical conditions such as heart or circulatory disorders, balance impairments, or cachexia

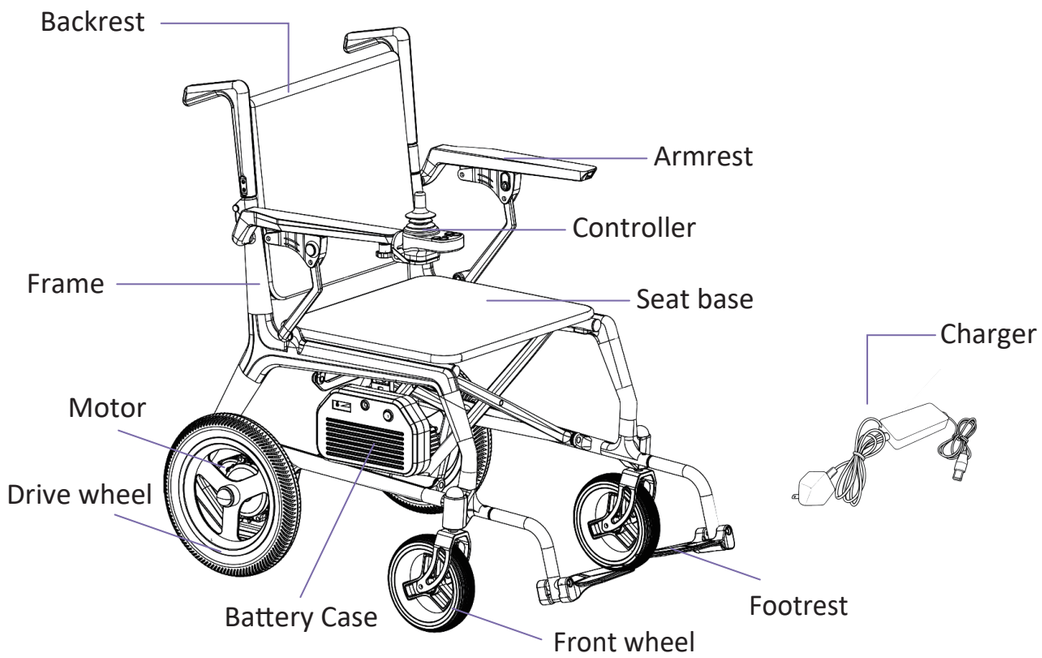
It is also suitable for elderly users who retain sufficient upper body strength.

Contraindications

The Powerchair should not be used by individuals who experience:

- Impaired perception or awareness
- Significant balance difficulties
- Inability to maintain a stable seated position

The Powerchair is mainly composed of front castors, drive wheels, main frame, controller, motor and drive devices, armrest, push- handle, backrest, seat cushion, footrest, battery box and charger. The structural diagram is as below.



Please note that operating a Powerchair requires adequate cognitive, physical, and visual abilities. The user must be capable of evaluating their actions while driving and correcting them when necessary. Royale Medical cannot evaluate these abilities or ensure the safe use of any additional components and therefore assumes no liability for any resulting damage.

Always refer to the operating instructions for both the Powerchair and any attached components. Ensure the user is properly instructed in their safe operation and made aware of all specific warnings that must be read, understood, and followed.

Warning

Do not operate the Powerchair if you are under the influence of medication that may affect your ability to drive safely.

- Sufficient vision is essential for the safe operation of the Powerchair in all situations.
- The Powerchair is designed for a single occupant only; it must not carry more than one person at a time.
- Children must never use or ride in the Powerchair without supervision.
- Users must always remain within the Safe Working Load (SWL) specified for the Powerchair. Exceeding the maximum weight limit - which includes the user and any accessories or carried items - may affect stability, performance, and safety, and could result in equipment damage or personal injury.

Caution

The Powerchair user is fully responsible at all times for adhering to all applicable local safety regulations and guidelines.

2.9.2 Safety & Precautions: Area of Application; The Environment

This Powerchair is designed for indoor and outdoor use. This Powerchair has been tested in accordance with ISO 7176 standard. When used outdoors, it should only be driven on smooth, paved surfaces such as roads, pavements, footpaths, or bicycle paths. Always adjust your speed to match the surrounding conditions and environment.

Warning

- Drive cautiously on wet or slippery surfaces caused by rain.
- Do not drive on muddy, rugged, soft, icy surfaces.
- Exercise extra care when driving at higher speeds. Reduce the maximum speed when indoors, on pavements, or in pedestrian areas.
- Avoid driving off high obstacles or curbs.
- Do not attach any additional weight or accessories to the Powerchair without approval from a qualified specialist, as this may compromise the product's stability.

Caution

- Avoid exposing the Powerchair to sea water, as it is corrosive and may cause serious damage.
- Keep the Powerchair away from sand, which can enter moving parts and lead to excessive wear.
- Do not operate the Powerchair in temperatures below -10°C to 50°C.
- Never use the footplate to open doors.
- Do not push, pull, or tow objects with the Powerchair.
- Avoid driving through puddles or standing water.

3 Features

- Lightweight design for improved portability
- Foldable and compact, facilitating storage and transport
- Max user weight up to 130 kg
- Up to 16 km (32 km with an optional second battery) range on a full charge, depending on conditions.
- Front armrest headlight for improved visibility
- Ample storage - Rear backpack

Powerchair – Royale Air Carbon Fibre

Specifications 4

Product Model	S343832
Type class (Class A, Class B or Class C)	Class A
Folding Mode	Manual Folding
Frame Colour	Glossy Carbon
Frame Material	Carbon Fibre
Maximum Speed	6 km/h
Net Weight (without battery)	12.5 kg
Net Weight	13.9 kg
Overall Dimensions (L x W x H)	97 x 61.5 x 89 cm
Folded Dimensions (L x W x H)	75 x 27 x 72.5 cm
Maximum Load (SWL)	130 kg
Seat Width	45 cm
Seat Depth	40 cm
Seat Height (from floor)	48 cm
Backrest Height	40 cm
Backrest Angle	8°
Distance Between Armrests	50 cm
Armrest Length	36 cm
Armrest Width	5 cm
Driving Distance	16 km (32 km with an optional second battery)
Climbing Ability	6°
Minimum Braking Distance	⩽1000
Front Castor	7” solid
Rear Wheel	12” pneumatic
Turning Circle	74 cm
Clearance	4 cm
Maximum Output Current of Charger	2Ah
Battery	12Ah Lithium

4.1 Drive Range

Please refer to the specification tables in this manual for details on energy consumption and maximum drive range.

The maximum driving range of this device is *16 km (32 km with an optional second battery), measured under optimal conditions. Actual performance may vary based on factors such as terrain, inclines, curves, obstacles, driving style, load, and temperature.

For extended trips or longer distances, we recommend the following:

- Fully charge the battery before use
- Plan your route to avoid steep slopes and obstacles
- Maintain a steady speed and avoid frequent or abrupt stops

4.2 Driving on a Slope

The Royale Air Carbon Powerchair has been designed and tested for safe operation on slopes or gradients of up to 6°.

Warning

In certain situations, your Powerchair may become unstable.

- Before attempting to climb or descend a slope or kerb, use caution when shifting your body weight for balance.
- To improve stability when travelling uphill, lean forward and keep the seat and backrest in an upright position.
- When going downhill, sit upright or slightly recline the seat to maintain balance.
- If you are uncertain about the Powerchair's ability to safely handle a slope or kerb, do not attempt it - find an alternative route instead.
- Stopping distances on slopes can be significantly longer than on level ground.

4.3 Obstacles & Kerbs

The Royale Air Carbon a maximum obstacle or kerb climbing height of 40mm.

- Never descend a kerb while travelling backwards.
- Do not attempt to climb or descend steps or use escalators. Doing so is unsafe and may cause injury or damage to the Powerchair.
- For users with limited upper body stability, it is recommended to use appropriate restraint systems to maintain an upright posture when ascending or descending ramps, kerbs, or obstacles.

Climbing small kerbs/surface lips

- Always approach kerbs at a 90° angle, driving slowly and steadily.
- Stop the Powerchair as soon as the castor wheels contact the kerb.
- Apply steady power to the motors to lift the front of the chair onto the kerb, then slightly increase power to allow the drive wheels to climb smoothly.
- Keep the joystick as straight and forward as possible throughout the manoeuvre.

Descending small kerb/surface lips:

- Always approach kerbs at a 90° angle, driving slowly and steadily.
- Move the Powerchair slowly and carefully forward until both front wheels are positioned at the edge of the kerb, maintaining a 90° angle to it.
- Descend the kerb slowly and smoothly with the drive wheels - do not stop while moving down. You may feel more secure by leaning slightly backward, but even if you cannot, the Powerchair remains stable within its designed limits.
- For added security, it is recommended to use the seat belt while going down the kerb.

5 Instructions for Use

5.1 Assembling the Royale Air Carbon Powerchair

The Royale Air Carbon Powerchair is lightweight and compact, folding in seconds for easy transport. Its simple design makes folding and unfolding effortless, allowing users to quickly switch between travel and use.

5.1.1 Unfolding the Royale Air Carbon Powerchair

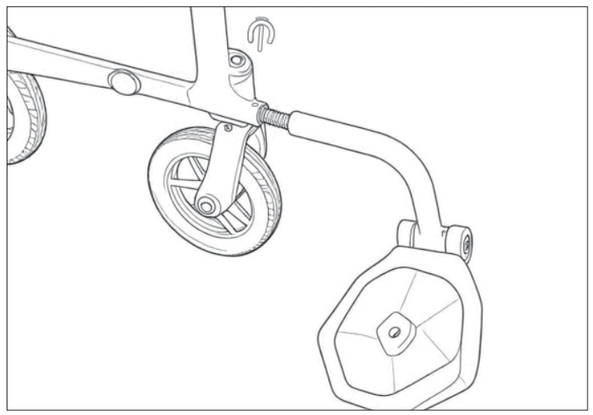
Open the packaging box, remove the Powerchair, and take off all protective padding. Simply pull the left and right frames apart and push down on the seat.

5.1.2 Unfolding the backrest

Lift the handles upward and forward until the backrest locks in the upright position.

5.1.3 Attaching the footplates

Insert the left and right footplates into the frame, align it with the hole and insert the C-clip into place to secure.



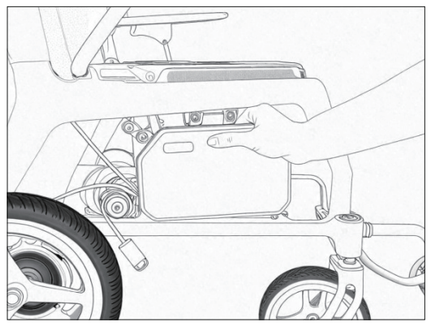
5.1.4 Folding the Powerchair

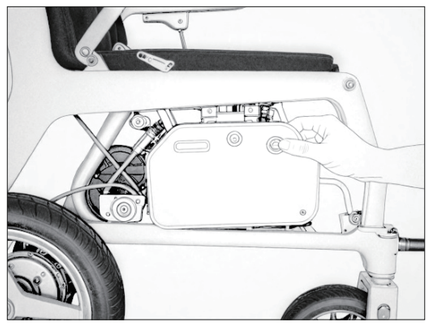
To fold the powerchair

- Fold Footplates: Flip the footplates up to fold it
- Folding the Powerchair: Grab the front and back of the seat and lift upwards to collapse the Powerchair halfway. Then gently push both the arms inwards to fully fold the wheelchair.
- Folding the Backrest: Pull the two black clips located behind each armrest to unlock from the frame. Push down both the handles towards the back wheels to fold.

5.2 Installing the battery

Position the battery into the right-hand side battery compartment holder. Press the battery latch switch to release. Connect the battery cable into the battery.





5.2.1 Charging the battery

Before first use, fully charge the new battery to ensure it reaches about 90% of its optimal performance. After each use, recharge the battery fully and operate the Powerchair again - after four to five full charge cycles, the battery will reach near 100% efficiency, helping to extend its lifespan. Recommended charge time is 3-5 hours.

When a battery no longer holds a charge, purchase and install a new battery as needed. Always replace the Powerchairs battery with compatible, manufacturer-approved batteries to ensure safe operation, optimal performance, and compliance with warranty conditions.

Ensure the old batteries are appropriately recycled and disposed to prevent environmental pollution.

If the Powerchair will not be used for an extended period, it is recommended to charge the battery every two weeks and run the Powerchair for at least 20 minutes to maintain battery health.

Do not charge the battery outdoors. Keep it away from open flames and heat sources while charging. Always charge the Powerchair in a clean, dry, and well-ventilated area, free from flammable, explosive, or chemical substances.

There are two methods of charging the battery:

Charging Method 1: Connect the charger, then insert the charger plug into the upper controller to begin charging.

Charging Method 2: Remove the battery and connect the charger plug directly to the battery's charging port to begin charging.

Battery Care

The following battery care recommendations have been developed in cooperation with battery manufacturers to help users achieve the best performance and longest lifespan from your maintenance-free batteries. Failure to follow these guidelines may result in reduced battery performance and shorter operating range.

- Use only the approved charger that is compatible with your Powerchair.
- Charge the batteries every night, regardless of how much the Powerchair has been used during the day.
- Always charge in a well-ventilated area.
- Do not interrupt the charging cycle once it has started.
- For long-term storage (over 15 days), fully charge the batteries, then disconnect the main battery lead.
- Failing to regularly recharge the batteries may cause permanent damage, reduced travel distance, and early battery failure.
- Do not "top up" or partially charge the batteries during the day - wait until evening for a full overnight charge.
- Following these steps will help ensure healthier batteries, greater travel range, and a longer overall battery life.

5.2.2 Using the Charger

The battery charger is an essential part of the Powerchair, allowing for quick and efficient charging to achieve a full battery. The external charger has been designed to charge the Lithium-Ion battery.

The chargers are equipped with safety features designed to prevent accidents or damage caused by incorrect battery connection, overheating due to faults, or attempts to charge batteries of the wrong voltage.

To charge the battery:

- Ensure the Powerchair is turned off and the rechargeable battery is properly connected to it.
- Insert the three-pin metal plug of the charger into the three-hole socket on the controller or directly into the battery.
- Plug the other end of the charger into a standard electrical outlet. The red light indicates charger is connected to the power source, Red/Green charging is in progress, and the green light shows that the battery is fully charged.
- Once charging is complete, disconnect the charger and power cable.

Warning

- Never attempt to open, modify, or tamper with the batteries under any circumstances. If you have any concerns, contact your local authorised Royale Medical dealer for assistance.
- Do not leave the batteries or battery pack unattended while charging.

Warning

As with all mains-powered electrical equipment, always replace blown fuses with a fuse of the same type and rating as specified.

- Using an incorrect fuse type may increase the risk of fire, cause damage to the charger, or prevent it from functioning properly.

5.3 Joystick Assembly

The joystick can be interchanged between left and right armrests to suit the user's preferences.

1. Before swapping the left and right armrest controllers, make sure to turn off the power to the Powerchair.
2. Disconnect the joystick cable.
3. Loosen the joystick bracket screw, located underneath the armrest. This will allow the joystick assembly and bracket to be removed and re-positioned to the other armrest.
4. The joystick cord will need to be re-positioned to run from the control box to the left-hand side of the frame. Ensure appropriate cable management to reduce the risk of damage to the cord.

5.3.1 Operating the Joystick

Insert diagram labelling all components.

Joystick

- Push the joystick forward or in any direction to control the speed and movement of the Powerchair.

Power Button

- Press once to turn on
- Press once to turn off

+ Button

- Press "+" to increase the speed setting by one level (maximum level 5)

- Button

- Press "-" to decrease the speed setting by one level (minimum level 1)

Horn Button

- Press once to activate the horn.

5.3.2 Display Screen

5.3.3 Voice Prompt

Press and hold the speed "＋" button for about 5 seconds to turn on or off the voice prompt.

5.4 Seat Belt

Warning

- This product is intended solely for positioning a single individual.
- Seat belts are not suitable for vehicle transportation; this Powerchair is not suitable to use as a seat in a vehicle
- Failure to follow these warnings could result in serious injury or death.
- Ensure that the carer or attendant is properly trained in the correct use of the restraint belts.
- Incorrectly fitted seat belts may cause delays in emergencies and increase the risk of injury.

1. Fasten the seat belt - insert the tongue into the buckle until a click sound is heard.

2. Adjust the length of the seat belt to suit user's requirements.

3. Removing the seat belt - simply press the clip button and remove the seat belt.

Positioning and adjusting the seat belt

- Adjust the seat belt to fit comfortably and securely, leaving no more than a hand's width of space for both comfort and safety.
- Ensure that when the seat belt is under normal tension, there are no large gaps or loose loops.
- The seat belt should generally be positioned at an angle of approximately 45°. When properly adjusted, it should prevent the user from sliding forward in the seat.

As with all positioning accessories, periodic adjustments may be necessary as the user's seating posture changes over time.

- Regularly inspect the seat belt to ensure it is fitted correctly and continue to provide both safety and comfort for the user.

Powerchair – Royale Air Carbon Fibre

5.5 Footplates

The footplates on your Powerchair are designed only to support your feet while seated.
It is not intended to bear your full body weight.

To ensure safety and prevent damage:

- Do not stand on the footplate when getting into or out of the Powerchair. Standing on it may cause the footplate to bend, break, or detach, leading to injury or damage to the Powerchair. Placing weight on the footplate will cause the Powerchair to tip which may result in serious injury to the user.
- Always fold the footplate up before transferring into or out of the Powerchair.
  When seated, make sure your feet are securely positioned on the footplate to maintain appropriate posture and stability.
- Check the footplate regularly for loose fittings, cracks, or signs of wear, and contact your authorised dealer if any damage is found.

Warning

Standing or applying excessive force on the footplate may result in personal injury or structural damage that is not covered under warranty.

5.6 Releasing the Brakes

To move the Powerchair manually, flip the red brake release levers located at the rear, above the anti-tip wheels. This feature is designed for Powerchair attendants and also serves as an emergency freewheel release mechanism.

NB: lock and unlock symbols

Warning

Only release the brake levers when the Powerchair is on a flat surface and the power has been turned off, or in case of an emergency. After manually moving the Powerchair with the brakes released, flip the brake release levers to re-engage and lock the brakes.

Be aware that when the brakes are released, the Powerchair can move freely, increasing the risk of accidents.

Do not operate the brake release levers with your feet, as this may cause them to bend, break, or become inoperable.

Powerchair – Royale Air Carbon Fibre

5.7 Transporting the Powerchair

5.7.1 Air Transportation

The Royale Air Carbon Powerchair and the 24V12AH Lithium-Ion battery are recommended for air transport.

Note: Please be advised that airline carriers have varying policies with respect to flying with Lithium-Ion powered items.

ILS recommend the 24V12AH sized lithium battery for any airline travel with your Royale Air Carbon Powerchair, however, please confirm with your airline carrier prior to arranging travel. The airline carrier ultimately confirms or denies travel of any Lithium device, and specification requirements onboard.

If your airline accepts the Powerchair and the battery, it is recommended to follow the steps below to prepare your Powerchair for air transport:

- Ensure the battery charge does not exceed 40%. Refer to battery indicator on display screen.
- Disconnect the battery from compartment.
- Fold the powerchair.
- Pack the Powerchair carefully in its original packaging or with the travel bag accessory for safe transport.

5.7.2 Vehicle Transportation

This Powerchair is not suitable to use as a seat in a motor vehicle.

5.7.3 Using your Powerchair on the Train

Before travelling by train, please contact the train operator for information on any specific requirements or instructions. It is recommended to confirm the following before your journey:

- Whether there is a designated Powerchair/Wheelchair area on the train with adequate turning space for safe manoeuvring.
- Whether there is a suitable or marked area on the platform for Powerchair/Wheelchair users, also allowing sufficient space to manoeuvre.
- That boarding access is suitable for both entering the train carriage and reaching the designated Powerchair/Wheelchair area.
- That the boarding ramp or lift can safely support the combined weight of the Powerchair and occupant.
- That the slope of the boarding access does not exceed the Powerchair's maximum safe gradient.
- That any obstacles or thresholds on the platform or train do not exceed the Powerchairs maximum kerb-climbing height.

Most train operators can aid with Powerchair users, but this usually needs to be arranged in advance.

We recommend keeping your Owner's Manual available when planning your trip and when contacting the train operator.

Powerchair – Royale Air Carbon Fibre

Labelling Information 6

The device has a product label. The product label includes the following information:

- Name and address of the company
- Name and code for the product
- Safe Working Load (SWL)
- Serial number of the product (which includes the date of manufacture and the batch serial number)

7 Product Care & Maintenance

The lifespan of your Powerchair depends greatly on appropriate maintenance and care.

For details regarding specific adjustments, maintenance, or repair services, please contact your authorised Royale Medical dealer. When doing so, always provide the model, year of manufacture, and the serial number found on the product label.

Caution

It is recommended that your Powerchair is serviced by an authorised Royale Medical dealer at least once a year, or every six months if it is used intensively.

To find a list of approved dealers in your area, please contact your Royale Medical Dealer.

7.1 Maintenance

Caution

Loose fasteners should be tightened according to the installation instructions.

- Replace seat belt immediately if any signs of damage or excessive wear are noticed.
- If any broken or loose components are found, stop using the Powerchair immediately and contact your authorised Royale Medical dealer for replacement parts.
- Check all components and mechanisms to ensure they adhere properly when pressed together.
- Remove any debris, such as fluff or hair, from components, as this can reduce their holding strength.

If you have any concerns or uncertainties about your Powerchair's performance requirements, please contact your authorised Royale Medical dealer for guidance.

- After carrying out any maintenance or repairs, always ensure the Powerchair is operating correctly before use.
- All fasteners must be replaced with identical parts that match the original length, tensile strength, and material specifications.
- When replacing self-locking nuts or fasteners that use a thread-locking compound, make sure to reapply an appropriate thread-locking solution before installation.

Powerchair – Royale Air Carbon Fibre

7.2 Daily Checks Before Use

Perform the following routine checks before operating the Powerchair each day:

Caution

Checking castors and rear wheels

- Ensure that all wheels are securely fastened.

Checking the battery

- Before using your Powerchair for the first time, charge the batteries to 100%.
- Check that the batteries are adequately charged - the green lights on the battery indicator should be illuminated.

Checking the joystick

- With the power switched off, check that the joystick is straight and undamaged, and that it returns smoothly to the centre position when pushed and released.

Checking the freewheel lever

- Make sure the freewheel lever is set to the "drive" position.

Checking the seat and backrest

- Ensure that the seat cushion is properly positioned and secure.
- Visually inspect the Powerchair to confirm that the footplate, armrests, and other components are correctly attached and firmly fastened.

Checking for clothing entrapment risk

- When operating the Powerchair, make sure your clothing does not interfere with its movement (e.g. garments that are too long).
- Before use, check that your clothing and accessories are clear of the wheels and any other moving or rotating parts where they could become caught or entangled.

Checking weather conditions

- In cold weather, battery performance decreases. During mild frost, capacity drops to about 75% of normal, and at temperatures below -5°C, it may reduce to around 50%. This will limit the Powerchair's driving range.
- Ensure operation is within environmental temperature requirements.
- Plan trips prior to avoid exposure to wet weather.

Warning

Avoid wearing loose sleeves or cuffs while operating the joystick, as they may become caught and interfere with safe operation.

Warning

If the footplate comes into contact with the ground during use, it may cause the front edge to become sharp and potentially lead to injury. Handle it with caution and replace the footrest immediately if any sharp edges develop.

Recycling & Disposal 8

Please follow the local government rules regarding proper recycling and disposal. Recycling and disposal should always be done through an authorised agent or licensed place of disposal.

Please review the list of Powerchair parts and packaging materials to ensure they are recycled or disposed of correctly.

- Frame - Carbon fibre, steel and plastic
- Castors and Wheels - Polyurethane
- Motors - Aluminium, steel and copper
- Seat - Polyurethane
- Packaging - Cardboard carton and plastic
- Battery - Lithium-Ion

Please follow the local government rules in regard to the proper disposal and recycling.

9 Troubleshooting

If the Powerchair is not functioning properly, review the following checklist:

- Ensure the batteries are fully charged.
- Turn the Powerchair off, then switch it back on.
- Confirm that all battery connectors are securely plugged in, including the joystick cable.
- Check that the freewheel lever is set to the DRIVE position.

For detailed error codes and troubleshooting please refer to the table below.

	**1 beep / Fault code E1 / Low battery voltage** Please charge for half an hour and then try again.
	**2 beeps / Fault code E2 / Left motor wire disconnection or left motor failure** Please switch the left motor wire to the right motor, and connect it to the left motor. If you still hear 2 beeps, the controller has malfunctioned. Restart the system; if you hear 4 beeps, there is a fault with the motor or the wire (loose connection).
	**3 beeps / Fault code E3 / Left brake wire disconnection or left brake failure** Please switch the left motor wire to the right motor, and connect it to the left. If you still hear 3 beeps, the controller has malfunctioned. Restart the system; if you hear 5 beeps, there is a fault with the brake (or the clutch is not engaged).
	**4 beeps / Fault code E4 / Right motor wire disconnection or right motor failure** Please switch the right motor wire to the left motor, and connect it to the right motor. If you still hear 4 beeps, the controller has malfunctioned. Restart the system; if you hear 2 beeps, there is a fault with the motor or the wire (loose connection).
	**5 beeps / Fault code E5 / Right brake wire disconnection or right brake failure** Please switch the right motor wire to the left motor, and connect it to the right. If you still hear 5 beeps, the controller has malfunctioned. Restart the system; if you hear 3 beeps, there is a fault with the brake (or the clutch is not engaged).
	**6 beeps / Fault code E6 / Communication error between upper and lower control** There is a communication error between the upper and lower control; please contact the manufacturer.

	**8 beeps / Fault code E8 / Internal controller failure** There is an internal controller failure; please contact the manufacturer for return and repair.
	**9 beeps / Fault code E9 / Left Hall wire fault (specific to brushless controllers)** Please switch the left motor wire to the right motor, and connect it to the left. If you still hear 9 beeps, the controller has malfunctioned. Restart the system; if you hear 10 beeps, there is a fault with the left motor Hall wire or the motor itself.
	**10 beeps / Fault code EA/ Right Hall wire fault (specific to brushless controllers)** Please switch the right motor wire to the left motor, and connect it to the right. If you still hear 10 beeps, the controller has malfunctioned. Restart the system; if you hear 9 beeps, there is a fault with the right motor Hall wire or the motor itself.
	**11 beeps / Fault code Eb / No voltage output from the brake or brake short circuit** Gently push the joystick; if the vehicle does not move and the electromagnetic brake does not make a 'click' sound, there may be damage to the controller's brake circuit, resulting in no drive voltage output, or a short circuit in the electromagnetic brake system. You may try replacing with a new motor for testing!
	**Fault code (as shown) / Joystick not in the center position during startup alarm** If the joystick is not in the center position when starting up, return the joystick to its neutral position. If the alarm persists after the joystick is reset, the joystick may need to be recalibrated. Please contact the manufacturer, or refer to the digital control parameter adjustment manual to recalibrate the joystick yourself. (The user must operate the joystick 2 seconds after turning on the controller.)
	Fault code (as shown) / Alarm for three-push-rod model not resetting after startup For three-push-rod standing wheelchair models, after assembling the push rods, when the controller is turned on while selecting the three functions (lift legs, recline, stand), the controller will display the fault code as shown. At this point, press and hold the reset button to reset the wheelchair, and all three functions will then work normally.

10 Warranty

Warranty Coverage

If any part of this product requires repair or replacement due to a manufacturing or material defect within 24 months of purchase, the affected component(s) will be repaired or replaced free of charge.

- This warranty covers manufacturing defects only.

How to Make a Warranty Claim

To make a warranty claim, please contact the authorised dealer from whom you purchased your Powerchair.

All warranty repairs must be carried out by an authorised dealer.

Repaired or Replaced Parts

Any part repaired or replaced under this warranty will remain covered for the remainder of the original warranty period for the product, as outlined in ‘Warranty Coverage’.

Electronics And Batteries

The electrical components and batteries supplied with this product are covered under the manufacturer’s warranty for a period of 12 months from the date of purchase. This warranty covers defects in materials or workmanship.

The warranty for batteries applies only when the batteries have been used, charged, and stored in accordance with the instructions provided in this manual.

Batteries must be charged using the approved charger supplied.

Powerchair – Royale Air Carbon Fibre

The warranty becomes void if the batteries are damaged due to:

- Improper charging or use of non-approved chargers.
- Over-discharge or neglect (e.g., leaving batteries uncharged for extended periods).
- Exposure to extreme temperatures, fire, or water.
- Physical damage or tampering.

Refer to 5.2.1 battery information and manufacturers recommendations.

Warranty on Purchased Spare Parts

Genuine spare parts fitted at the customer’s expense are covered by a 12-month warranty from the date of fitting, under these same warranty conditions.

Warranty Exclusions

This warranty does not cover repairs or replacements required as a result of:

- Normal wear and tear (including but not limited to batteries, armrest pads, upholstery, tyres, etc.).
- Overloading the product beyond its maximum user weight (refer to the product label).
- Failure to maintain or service the product as recommended in the user or service manual.
- Use of accessories not approved or supplied as original parts.
- Damage caused by neglect, accident, misuse, or improper handling.
- Modifications or alterations that deviate from the manufacturer’s specifications.
- Repairs undertaken without prior authorisation from ILS Customer Service.

Governing Law

This warranty is subject to the laws of the country in which the product was originally purchased.

Product Life Expectancy

The estimated life expectancy of this product is five years, provided that:

- It is used strictly in accordance with the intended use described in this manual.
- All maintenance and service requirements are completed as recommended.

With proper care and maintenance, this lifespan may be extended. However, extreme or incorrect usage can significantly reduce it.

- The stated life expectancy is an estimate only and does not constitute an additional warranty.

If you have any questions regarding the use, maintenance, or safety of your Powerchair, please contact your local authorised Royale Medical dealer.

If you are unsure of an approved dealer in your area or have additional inquiries, please contact us by phone or in writing at the details below:

Independent Living Specialists Pty Ltd

Unit 1/12 Mars Road, Lane Cove, 2066, NSW

Phone: 1300 008 267

www.ilsau.com.au

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