Instruction Manual



Asian Prime Sources Limited (APSL)
3806 Central Plaza, 38th Floor
18 Harbour Road, Wanchai
Hong Kong

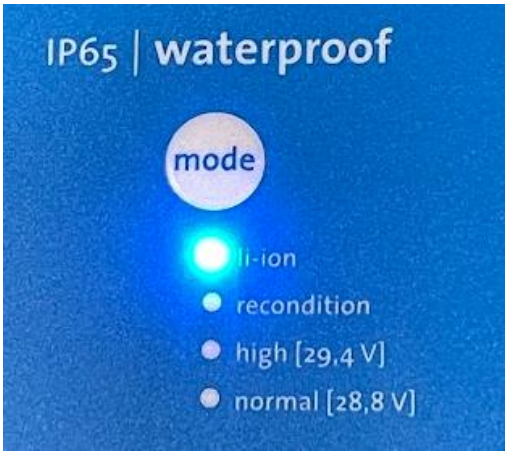
www.wheeleez.com

Revision D

General Specifications – Wheeleez™ Electric Sandcruiser™ (eSC)

Note: specifications including parts in illustrations are subject to change without notice

- Seat width: 46cm (18.1”)
- Seat height: 54cm (21.3”)
- Maximum length: 152cm (59.8”) footrest raised, 129cm (50.8”) footrest removed
- Maximum width: 103cm (40.6”)
- Height from ground to top of handles: 114cm (44.9”)
- Wheelbase (distance between front and rear wheel centres): 65cm (25.6”)
- Max occupant weight: 135kg (298lb)
- Total weight (including battery): 67kg (147.7lb)
- Ingress Protection rating: IP54
- Operating temperature range -15 to 50°C (5 to 122°F)
- Operating Voltage: 24V
- Motor power: 2x450W
- Max speed: 5km/h
- Motor specs: Motion Tech EC82L244745KLGBR0L, 43:1 gearbox
- Controller: Dynamic Controls DLX-PM120AL-C
- Occupant remote: Dynamic Controls DLX-REM150-A
- Attendant remote: Dynamic Controls DLX-ACU200-A
- Headlights: 2x 30W (max), 24VDC
- Running time: typically 2 hours from full charge but dependent on battery brand & quality, battery age, terrain, occupant weight, speed, ambient temperature & headlight use
- Recommended battery: 24V 50Ah LiFePO4. See Battery Information page for more detail.
- Recommended charger: Victron Blue Smart IP65, 24V, 13A
- **WARNING** - ensure the charging voltage for the battery and charger are compatible. LiFePO4 batteries have a unique charging voltage which is different to sealed lead acid batteries. The battery could get damaged, explode or cause a fire if incorrectly charged. The recommended Victron charger is suitable for LiFePO4 batteries; ensure charger mode is set to Li-ion before connecting to battery.



Limited Warranty Summary – Wheeleez™ Electric Sandcruiser™ (eSC)

Component Coverage

Component	Warranty Period
Frame & Structural Parts	3 years
Wheels & Hubs	2 years
Electrics (motors, controller, joystick, wiring)	1 year — 1 year only when used with a quality LiFePO4 battery and charger sourced by the APSL-appointed importer, or sourced directly by the purchaser and approved in writing by the APSL-appointed importer 6 months — if using other LiFePO4 battery/charger No coverage — if using Li-Ion batteries and/or non-compliant chargers
Battery & Charger	Covered solely by the retailer or manufacturer warranty (not APSL)
Upholstery	2 years

Important Notes

- The battery and charger must either be sourced by the APSL-appointed importer or, when sourced directly by the purchaser, approved in writing by the APSL-appointed importer at the point of sale
- Battery & charger are covered solely by the warranty of their original retailer or manufacturer. Any warranty claim must be made directly between the battery/charger purchaser and the retailer.
- Use of low-quality or non-approved batteries or chargers may void or shorten the warranty on eSC electrical components. APSL warranty excludes damage caused by non-compliant battery & charging systems.
- Normal wear and tear to upholstery and paint finishes is not covered. This does not affect the two-year coverage for defects in upholstery materials or workmanship.
- Warranty applies to normal use only. Misuse, abuse, negligence, over-inflation, or unauthorized modification will void coverage.
- If the eSC is leased or rented, warranty is limited to 90 days.
- Repairs/replacements are covered for the remaining warranty period or 60 days, whichever is longer.

Warranty Claims

To make a claim, please contact your distributor or APSL directly with proof of purchase and details of the issue. APSL may request the defective part or product be returned for inspection.

This limited warranty provides specific rights which may vary depending on local laws.
(For full legal terms, refer to the complete Limited Warranty document.)

Limited Warranty – Wheeleez™ Electric Sandcruiser™ (eSC)

Effective October 7, 2025

Asian Prime Sources Limited (APSL)
3806 Central Plaza, 38th Floor, 18 Harbour Road, Wanchai, Hong Kong

Wheeleez, Inc. (Authorized Warranty Service Provider for APSL - Hong Kong in the USA)
455 Lopes Road, Unit A, Fairfield, CA 94534, USA
Tel: 707-751-3999, Fax: 707-751-3939, www.wheeleez.com

LIMITED WARRANTY
CUSTOMER ACKNOWLEDGES THAT BY ACCEPTING AND USING THE Wheeleez™ PRODUCT, CUSTOMER IS ACCEPTING ALL OF THE TERMS AND CONDITIONS OF THIS LIMITED WARRANTY AND ITS WAIVERS. CUSTOMER SHOULD IMMEDIATELY RETURN THE PRODUCT IF THESE TERMS ARE NOT ACCEPTABLE.

APSL - Hong Kong ("COMPANY") warrants to the original purchaser ("Customer") that this Wheeleez™ product (i.e. the Electric Sandcruiser™) shall be free of defects in material and workmanship for the lesser of, (i) ninety (90) days from the date of purchase in cases where the Customer leases or rents the Wheeleez™ product to third parties, or (ii) the following durations from the date of purchase by the Customer in the case of other sales (the "Warranty Period");

Frame & structural parts: 3 years

Wheels & hubs: 2 years

Electrics (motors, controller, joystick, wiring): 1 year only when used with a quality LiFePO4 battery and charger sourced by the APSL-appointed importer, or sourced directly by the purchaser and approved in writing by the APSL-appointed importer; 6 months if using other LiFePO4 battery/charger; no coverage if using Li-Ion batteries and/or non-compliant chargers

Battery & charger: covered solely by the retailer or manufacturer warranty (not APSL)

Upholstery: 2 years

With respect to any defect in materials or workmanship occurring within the Warranty Period, notice thereof from the Customer must be received in writing by COMPANY at its principal place of business not later than 30 days after expiration of the Warranty Period ("Covered Defect") or the LIMITED WARRANTY will expire and be void. This limited warranty shall not extend to or apply to any industrial use of COMPANY'S product which would require metal bearings for the Wheeleez™ wheel, such as in construction applications. In such applications, Customer shall look solely to the separate warranty provided by the bearing manufacturer. Should any court extend the protections of this warranty to such Customer, then the limitations herein stated as to the remedies, duration and extent of the warranty shall apply.

Upon receiving timely written notice of a Covered Defect, and in full satisfaction of its obligations under this LIMITED WARRANTY, COMPANY shall have the option of repairing or replacing any part or the whole of its product to cure the Covered Defect and fully satisfy its obligations hereunder. At its option, COMPANY may either (i) repair or replace the Covered Defect at the Customer's facility, in which event Customer shall cooperate fully with

COMPANY, or (ii) COMPANY may require that the Customer ship the part or product affected by the Covered Defect to COMPANY or its designated repair facility for repair. All notices by Customer respecting any Covered Defect shall be through COMPANY appointed distributor or APSL.

All warranty returns and replacements require prior COMPANY approval. The Customer must initially ship the affected part or product to COMPANY or its designated repair facility freight prepaid. If the claim is confirmed as covered under this Limited Warranty, COMPANY will reimburse the Customer's reasonable, pre-approved inbound shipping costs and return the repaired or replacement part or product at COMPANY's expense. If the claim is not covered, all shipping costs will remain the Customer's responsibility.

If a product or part is replaced or repaired, the Warranty Period for such product or part shall be the later of (i) sixty (60) days after the date of repair or replacement of such defective part or product, or (ii) the remaining length of the original Warranty Periods outlined above for such product or part. Any sales representations or demonstrations shown to the Customer were for purposes of illustration only and do not alter this Limited Warranty or imply any uses for the Company's product other than those for which it was designed. Customer agrees as a condition of its purchase of the COMPANY'S products to review the limitations listed in the wheel/tire warranty information.

This product is not designed and should not be (i) used for horizontal movement along an incline where one side of the product is elevated above the other, (ii) used above its preset maximum speed of 5km/h, (iii) subjected to sharp turning manoeuvres. Exceeding tire pressure and/or maximum payload limitations voids any Warranty. This product is not intended to be used for long-term storage under loaded conditions. This product is NOT legal for "ON-ROAD" use.

Any use of this product in a manner other than that for which it was designed shall terminate any warranties hereunder. Furthermore, Seller will have no warranty obligations under this LIMITED WARRANTY if the products or goods furnished by COMPANY to Customer are subjected to abuse, misuse, negligence, OVERINFLATION, accident or any modification not approved by Seller (any modification approved by COMPANY must be carried out in accordance with COMPANY's instructions, be approved in writing by COMPANY, and must be completed consistent with good engineering practices).

THE WARRANTIES AND REMEDIES PRINTED ABOVE ARE THE SOLE WARRANTIES AND REMEDIES AVAILABLE FOR ANY MALFUNCTION OR DEFECT IN THE COMPANY'S PRODUCTS, REGARDLESS OF THE FORM OF DAMAGES CLAIMED. CUSTOMER AND ALL OTHER PARTIES WHO ACQUIRE AN INTEREST OR USE COMPANY'S PRODUCTS HEREBY WAIVE AND RELEASE COMPANY FROM ANY OTHER WARRANTY OBLIGATIONS WHATSOEVER. EXCEPT TO THE EXTENT OF THE LIMITED WARRANTIES AND REMEDIES SPECIFIED HEREIN, COMPANY DISCLAIMS ANY AND ALL OTHER IMPLIED OR EXPRESS WARRANTIES OR REMEDIES, AND SPECIFICALLY DISCLAIMS ANY OTHER WARRANTIES OF FITNESS, MERCHANTABILITY, OR USE.

REGARDLESS OF ANY OTHER PROVISION HEREIN, (i) COMPANY'S LIABILITY FOR DAMAGES DUE TO DEFECTS IN PRODUCTS OR SERVICES SHALL NOT EXCEED THE COST OF THE PRODUCT, PART, OR SERVICE PAID FOR BY THE CUSTOMER, AND (ii) NEITHER COMPANY

NOR ITS AGENTS, REPRESENTATIVES OR SUCCESSORS IN INTEREST SHALL BE LIABLE FOR ANY CLAIMS FOR SPECIAL OR CONSEQUENTIAL DAMAGES CAUSED BY A MALFUNCTION OR DEFECT IN ITS PRODUCTS, WHETHER FOR LOSS OF USE, LOST REVENUE, LOST PROFIT, OR ANY OTHER FORM OF CONSEQUENTIAL OR SPECIAL DAMAGES.

THESE LIMITATIONS ON LIABILITY SHALL APPLY REGARDLESS OF THE CUSTOMER'S PARTICULAR USE OR APPLICATION OF THE COMPANY PRODUCT OR PART, AND REGARDLESS OF WHETHER OR NOT COMPANY KNEW OF SUCH PARTICULAR USE OR APPLICATION. NO AGENT, STAFF, OR EMPLOYEE IS AUTHORIZED TO EXTEND ANY WARRANTIES OR ASSURANCES TO A CUSTOMER CONTRARY TO THESE PROVISIONS UNLESS THEY ARE IN WRITING AND SIGNED BY AN OFFICER OF COMPANY.

ANY CHANGE IN THE TERMS OF THIS LIMITED WARRANTY AND LIMITATION ON LIABILITIES MUST BE IN WRITING AND SIGNED BY COMPANY.

This Warranty gives you specific legal rights while also limiting those rights and your remedies. You may also have other rights under applicable law and certain jurisdictions may preclude limitations on the length of a warranty or on the recovery of incidental or consequential damages. If any portion of this warranty and/or its limitations is deemed to be unenforceable, then the remaining portion shall be enforced.

Should Customer wish to enhance the warranties provided by COMPANY, it may do so by contacting COMPANY and negotiating for enhancements to the limited warranty herein granted based on price. However, no such enhancements shall be valid unless evidenced by a specific agreement to such effect, duly executed by an officer of, and after full payment for the additional costs of such an enhanced warranty.

Regulatory Statement

File No: AP/CE-EW-03

EC Declaration of Conformity
Regarding Medical Device Regulation MDR (EU)2017/745

Manufacturer Name: Asian Prime Sources Limited
Address:3806 Central Plaza, 38th Floor,18 Harbour Road, Wanchai, HK Hong Kong
EC Representative:
Name: Riomavix S.L.(ES-AR-000001202)
Address: Calle de Almansa 55,1D,Madrid 28039 Spain
E-mail:leis@riomavix.com

Product Name: Electric Sandcruiser - All Terrain Electric Beach Wheelchair
Type: WZI-ATC-ESC

Classification: MDR CLASS 1
Basic UDI-DI: 489715624ESCSL
Intended Use: The Wheeleez(TM) Electric Sandcruiser® (eSC) is an occupant-controlled electric-motor-driven wheelchair intended to provide mobility assistance for individuals with mobility impairment.

The device is designed for use across outdoor and uneven terrain environments including sand, gravel, grass and similar surfaces where conventional wheelchairs may have limited mobility performance.

The device incorporates low-pressure balloon wheels and powered drive assistance to support occupant mobility and accessibility in outdoor environments.

We confirm our product meets the requirement of Medical Device Regulation MDR (EU)2017/745 and the following harmonized standards. We agree to develop, implement and maintain a documented post-production monitoring process.

EN ISO 14971:2019
EN 62366-1:2015
EN 15223-1:2021
EN ISO 10993-1:2018
EN ISO 10993-10: 2021
EN 60601-1-6:2010
EN 12184:2022
ISO 7176-21:2025

Signature: Sylvia Huang. Duty:

Date: AUG 18, 2025 Place:

ASIAN PRIME SOURCES LIMITED SHANGHAI REPRESENTATIVE OFFICE 亚洲供应商有限公司 上海代表处

Component List



Backrest Frame



Seat Frame



Footrest



Drive Module



Front Caster Forks



Diagonal Braces



Upholstery Set



Battery Fixings & Packing



Occupant Remote



Quick Release Pins



Anti-Tip Wheels



Rear Wheels
(49U with axle adapters, WZ1-49U-E)



Front Caster Wheels
(30U with 20mm Bushing, WZ1-30U)

Accessories

The chair is ready to accept these optional accessories:



Attendant Remote with
Cradle & Extension Lead

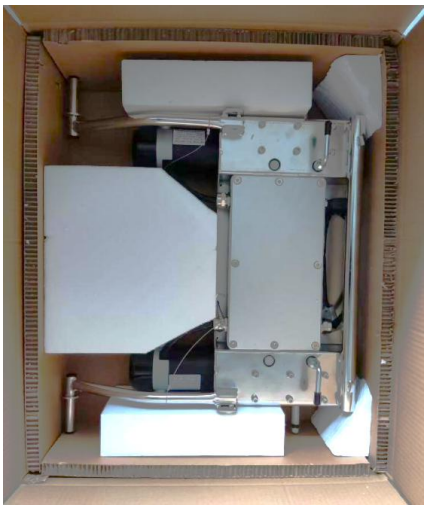


Headlights with Clamps

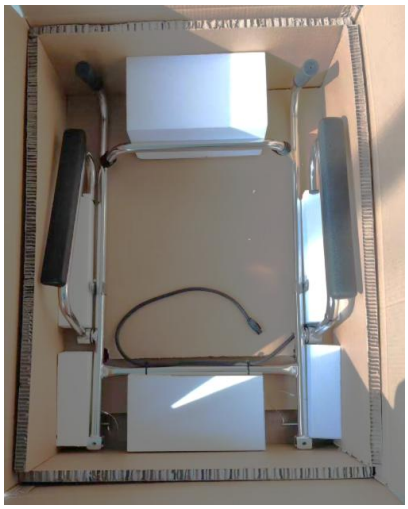
Shipped Cartons

The eSC is shipped as follows:

- One carton of 2x 49U rear wheel assemblies
- One carton of 2x 30U front wheel assemblies
- Three chair cartons as shown below. The smaller parts are distributed within these.



Drive Module



Backrest Frame



Seat Frame

- The battery and charger may be supplied separately or sourced locally, depending on the market.

Transportation

Once assembled, the chair can be separated into the following modules for ease of transport.



Drive Module

30.0kg
(66.1lb)

101x78x49cm
(39.8x30.7x19.3”)



Footrest Frame

3.5kg
(7.7lb)

55x52x14cm
(21.7x20.5x5.5”)



Front Casters

5.0kg
(11.0lb)

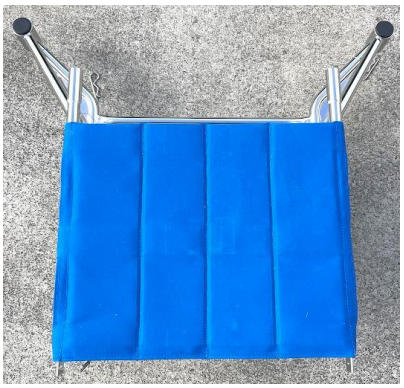
60x30x28cm
(23.6x11.8x11.0”)



Backrest Frame

6.5kg
(14.3lb)

90x63x26cm
(35.4x24.8x10.2”)



Seat Frame (incl. Battery)

22.0kg
(48.5lb)

79x67x26cm
(31.1x26.4x10.2”)



Optional - the backrest and seat frames can be transported assembled together (incl. battery)

28.5kg
(62.8lb)

90x79x45cm
(35.4x31.1x17.7”)

Safety Precautions

Failure to adhere to these precautions could result in serious injury or death.

> Assembly & Setup

- Always assemble chair on flat and level ground. Do not assemble chair with the motors in freewheel mode as the chair is free to roll.
- Ensure all lock pins, clips, fasteners, seatbelts, etc. are secure prior to operation.
- Ensure foam packing is used to hold battery in place within the battery compartment. A loose battery able to slide around will cause damage and could lead to a dangerous event.
- Ensure battery terminal insulating caps are used to prevent dangerous short circuits during installation and/or operation.
- Ensure the battery and charger are compatible to prevent fire, explosion or degradation of battery life. Only charge the battery through the Anderson connector on the side of the battery enclosure, not directly via the battery terminals. Do not attempt to charge battery through the occupant remote using third-party accessories. Use the following adapters (supplied) to connect the charger to the chair connector:



For Victron Blue Smart
IP65, 24V, 13A charger



For other chargers, connect wires to
the screw terminals, observing polarity

- For best driving performance, inflate tires to upper end of stated limit at 0.21 to 0.28 bar (3-4 psi). This will minimise tires slipping on hubs during demanding driving. Never inflate above 0.28 bar (4 psi) as prolonged sun exposure will increase tire pressure slightly.
- Store the chair in a dry environment.
- Exposure to sun will cause the metal parts to become extremely hot. Use caution when handling.
- The controller box is sealed closed with no user serviceable parts inside. Do not open. Do not tamper with the motors, brake covers or remotes.
- No controller or remote settings are available to the operator. All settings have been preset for optimal performance on a variety of terrains. Do not purchase third-party accessories to access controller settings.

> Pre-Journey

- Always start a journey with a full battery.
- Always ensure the seatbelt is properly adjusted for the user.
- Do not drive alone. Make sure help is on hand in case you encounter a problem.
- The chair is not for use on public roads.
- The chair must not be used for towing and must not be towed by a vehicle.
- Turn off at the circuit breaker (or unplug the battery) during transfer to avoid accidental contact with the remote or joystick.
- Do not lean on the joystick or use it as a handle to enter or leave the chair.
- The armrests hinge up for side-transfer. Always drive with both armrests down.
- Use caution when setting the chair to freewheel mode. Occupant transfer into the chair in freewheel mode is dangerous and must be avoided.
- Do not stand on the anti-tip wheels or their mounting arms.

> Operational Safety

- Do not leave any person unattended or unsecured while in the chair, especially in freewheel mode where the motors and brakes are mechanically disengaged. Electronic braking operation is not possible in freewheel mode and the chair is free to roll away.
- Always check basic operation of assembled & empty chair before driving. Check operation of joystick and brakes (brakes are audible – clicking on & off).
- Take time to learn the dynamics of the chair in a flat & open space, particularly joystick sensitivity in forward and reverse.
- Be aware of your own limits and the limitations of the chair. Do not enter into a dangerous situation that you can't get out of. Use caution while traversing over obstacles found in the outdoor environment. While the chair has rear anti-tip wheels, shifting your weight or navigating over undulating terrain may result in the chair tipping over.
- Use caution when driving near water where the depth must stay below 50mm (2"). The chair is splashproof but not fully waterproof. The motors and remotes are IP54 rated. Always rinse after contact with salt water. For cleaning, use a garden hose on the shower setting. Avoid water jets and pressure washers. Avoid spraying water directly into motors, brakes, remotes, cable connectors and battery compartment electrics. The battery compartment is not sealed, however drain holes prevent water accumulation. Once dry, always test brake operation before use. Avoid plugging battery or charger connector into a wet socket. Towel dry to remove excess water and leave in a warm place for remaining water to evaporate. Only use fresh water to clean the upholstery.
- Monitor the tightness of diagonal brace thumbscrews during use. Loose joints will be audible during driving.
- The hubs may slip inside the tires during heavy driving, causing squeaking sounds.

- The tires have low traction on wet grass & loose ground. Avoid steep banks as braking ability will be compromised. Avoid paths with steep traverse slope (camber, crossfall) as the ability to correct will be compromised.
- Avoid narrow paths. The front casters require space to swivel. Striking a front caster against the side of a narrow path will cause them to rotate and may bind.

Required Tools

Below is a list of tools required for assembly.

Assembly Step	**Tool**
Front caster wheels	13mm wrench 13mm socket & ratchet
Battery compartment lid	4mm hex wrench
Battery terminals	13mm socket & ratchet
Rear wheels onto shafts	17mm socket & ratchet 250mm (10”) extension
Battery foam cutting	Craft knife
Occupant remote	4mm hex wrench
Attendant remote (accessory)	3mm hex wrench
Headlights (accessory)	8mm wrench 5mm hex wrench 10mm wrench 10mm socket & ratchet Cutters (for cable ties)

Latch Pin Assembly

Latch pins/drop-nose pins have springs that must be fully compressed to permit latch tab to drop after insertion. Ensure spring is present on each pin before inserting.



Align tab with pin. Hold tab horizontally to prevent dropping



Insert pin through hole, fully compressing spring



Rotate tab or allow it to fall under gravity



Release pin & ensure correct seating of tab

Caster Assembly



Caster components



30U wheels



Insert bushing



Insert axle tube



Insert bolt



Tighten nut using a 13mm wrench, 13mm socket & ratchet



Assembled caster

Chair Frame Assembly



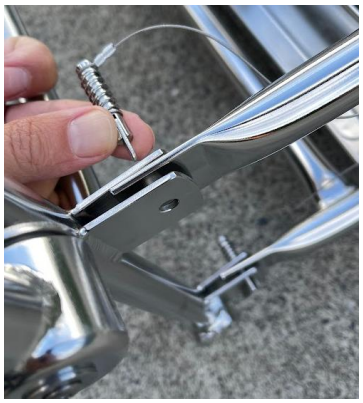
Arrange backrest and seat frames as shown

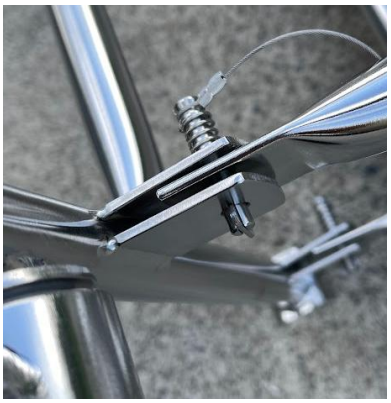




Insert drop-nose pins into bottom clevis joints

Note: install pins from inside of frame facing outwards to give clearance to rear tires







Repeat for the top clevis joints



Remove R-clip from caster bearing housing & insert caster



Insert R-clip through both holes of the bearing housing



Repeat for both casters

Anti-Tip Wheel Installation



Remove R-clip and outer washer



Fit wheel, outer washer & R-clip



Complete both sides

Drive Module Assembly



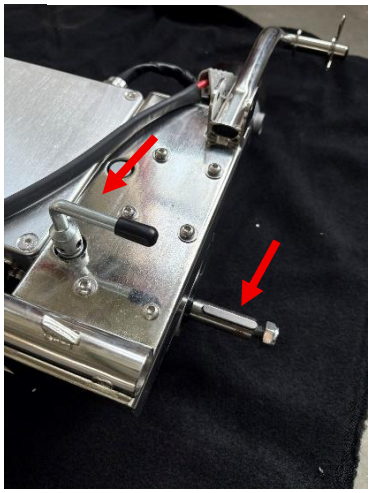




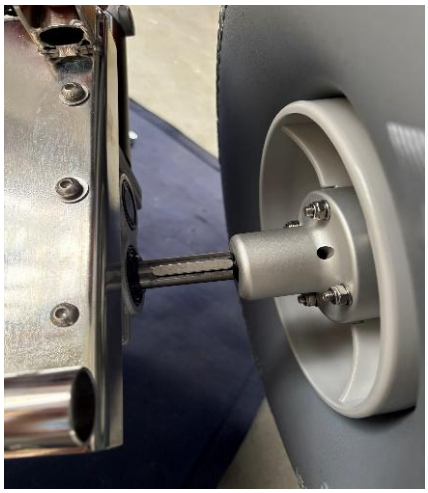
Secure bottom end of diagonal brace into drive module bracket as shown. Repeat for both sides.

Note 1: armrest support pegs face outwards. **Note 2:** Thumb-bolt on inside, thumb-nut on outside.

Note 3: Diagonal braces can be removed from drive module to reduce assembled size

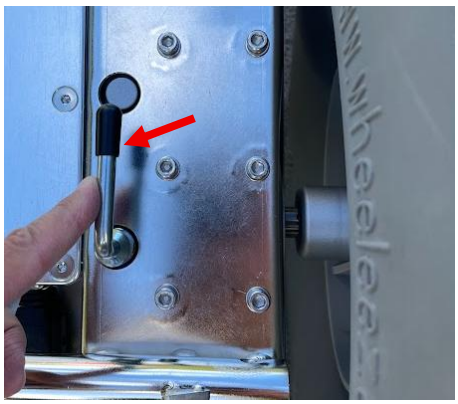


Move lever into freewheel mode. Rotate shaft so slot is at top position. Place loose key in slot.

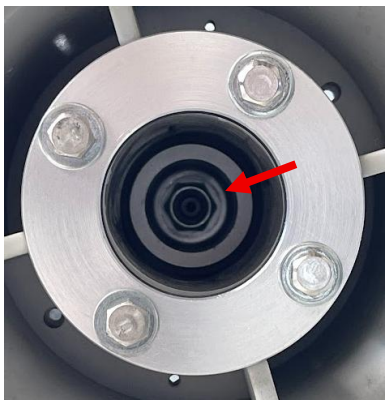




Align rear wheel hub and slide onto shaft



Move lever out of freewheel mode (shaft now braked)

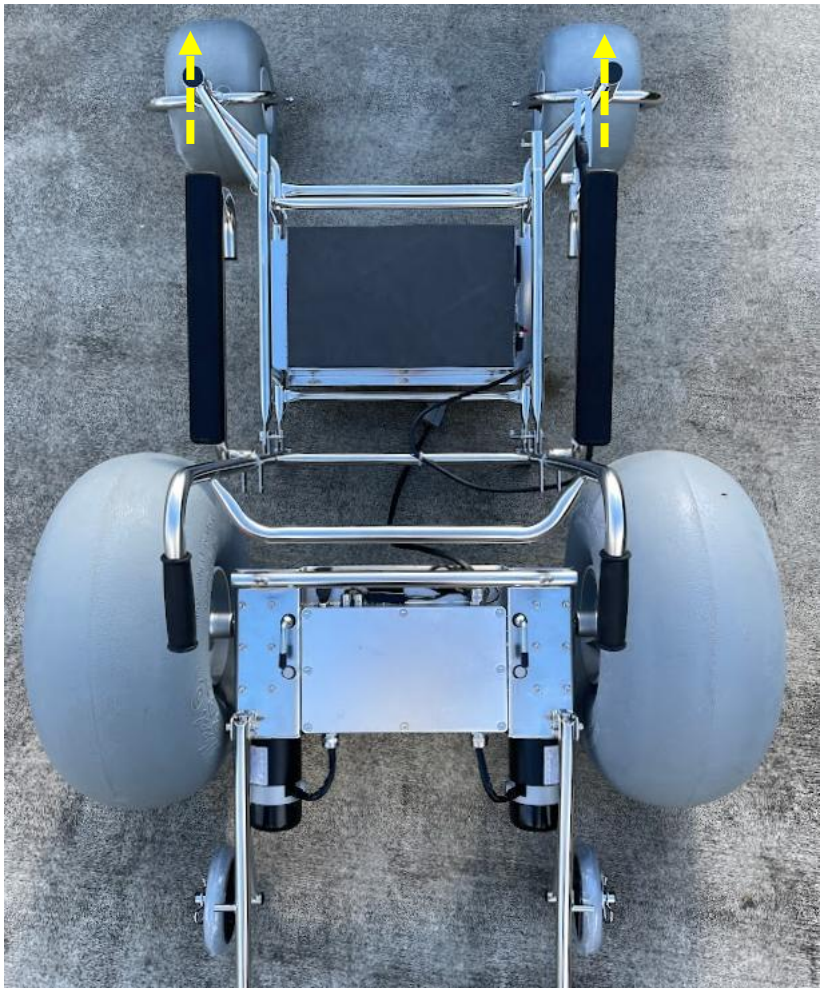


Place the M10 locking nut into a 17mm socket. Using a ratchet and 250mm (10”) extension, tighten nut to secure wheel to shaft.

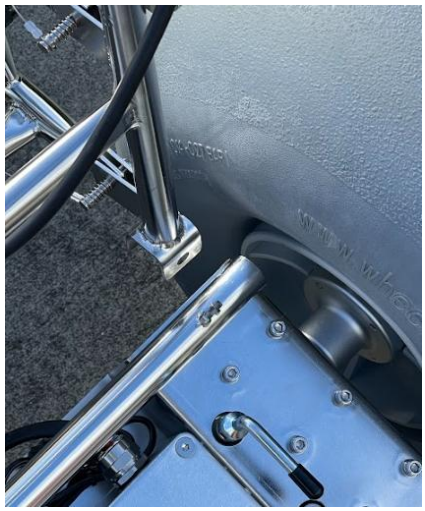


Complete both sides

Drive Module to Chair Assembly





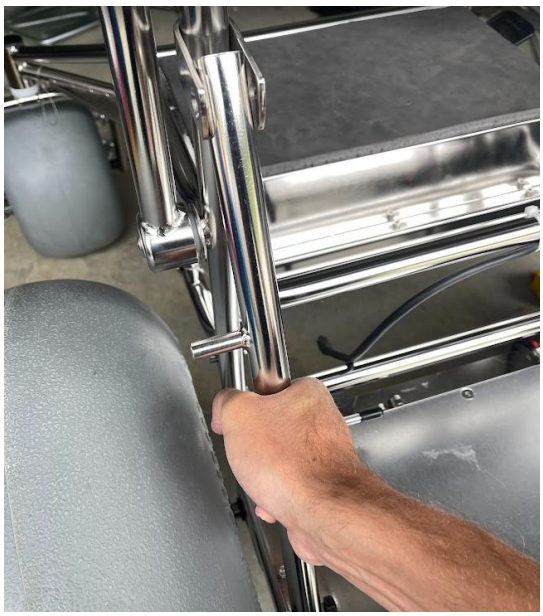


On flat and level ground, place the chair frame with both casters facing forwards.

Ensure freewheel levers are in off (drive) position. Place drive module just behind chair frame.

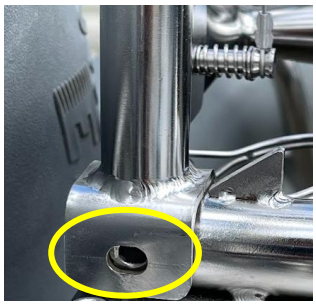
Using handles, lift chair frame up and backwards so that lugs align as shown.






Lift up rear of drive module and fix both diagonal braces to top brackets.

Fit both braces loosely first, then tighten all four positions.






Ensuring holes align between drive module and chair frame, insert quick pin and retain. Joggle the drive unit up/down to allow the pin to easily pass through the holes. Repeat for both sides.

Connect Remote



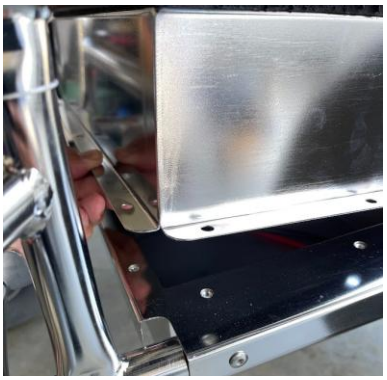


Connect remote cable at armrest

Fix remote to armrest bracket using a 4mm hex wrench

Connect remote to lower connector on drive module

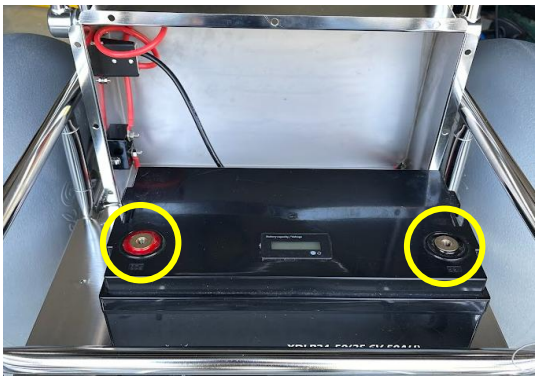
Battery Installation



Remove 12 screws from battery compartment lid using a 4mm hex wrench



Lift lid and rest towards back of chair



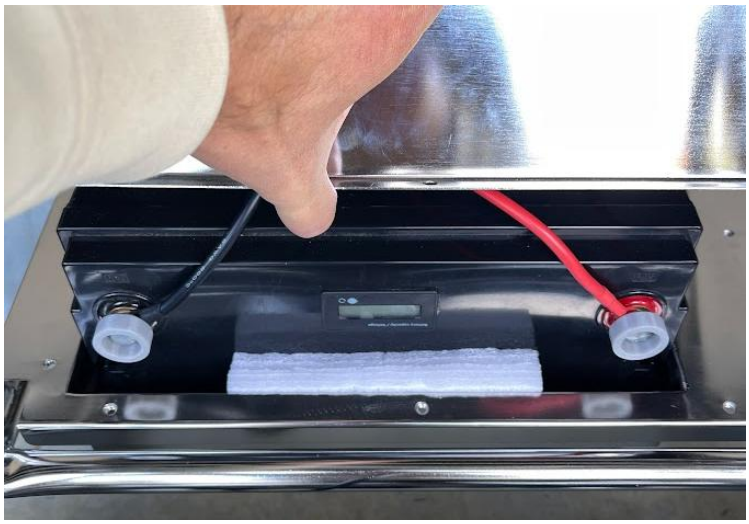
Stand battery in compartment as shown





Connect the wires to the battery terminals using the parts provided. Use a 13mm socket & ratchet to secure the M8 terminal screws. The plastic terminal insulating caps prevent accidental contact of the terminal to surrounding metalwork. Ensure screw heads do not protrude outside of caps.

Rotate battery to lay on its long side inside the compartment.



Insert the foam pad between the battery and compartment. This prevents the battery moving inside the compartment. Note: battery sizes can vary regionally. Extra padding may be required to prevent battery movement.

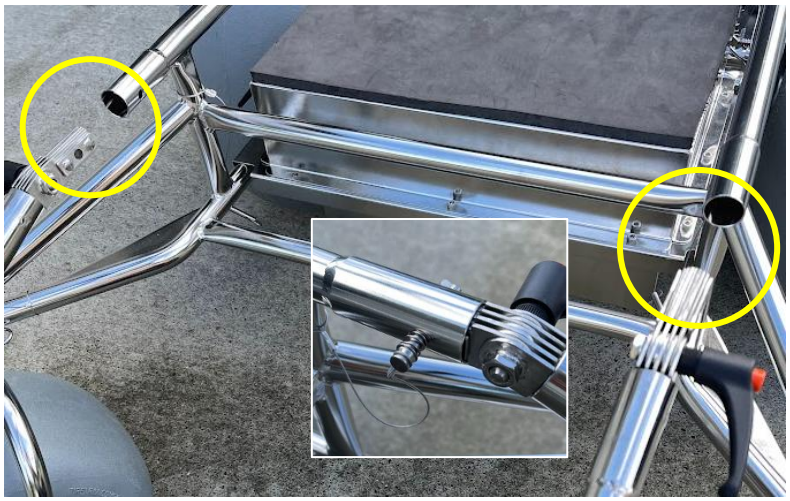
WARNING

- Foam pad must be used to prevent physical battery damage during operation
- Terminal insulating caps must be used to prevent dangerous short circuits during installation and/or operation.

Leg Rest Installation



Align footrest frame with seat frame



Insert spigots of footrest frame into sockets of chair frame. Fit drop nose pins.

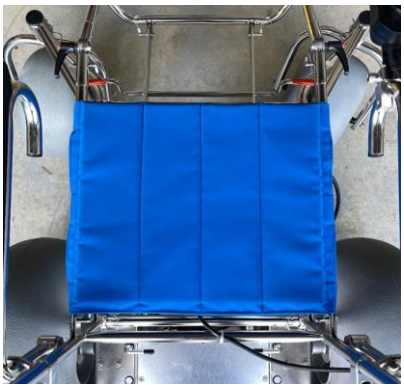


Attach footrest adjustment bar onto seat frame. Set to desired position.



Tighten hinge with black handle then press orange button to stow handle in line with frame

Upholstery Installation



Seat bottom pad.

Adjust & tighten buckles beneath



Seat back pad.

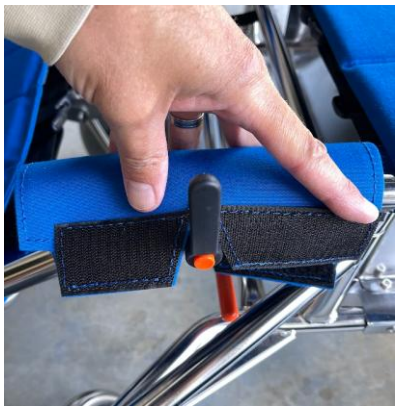
Adjust & tighten buckles behind



Seat belt



Footrest hinge foam



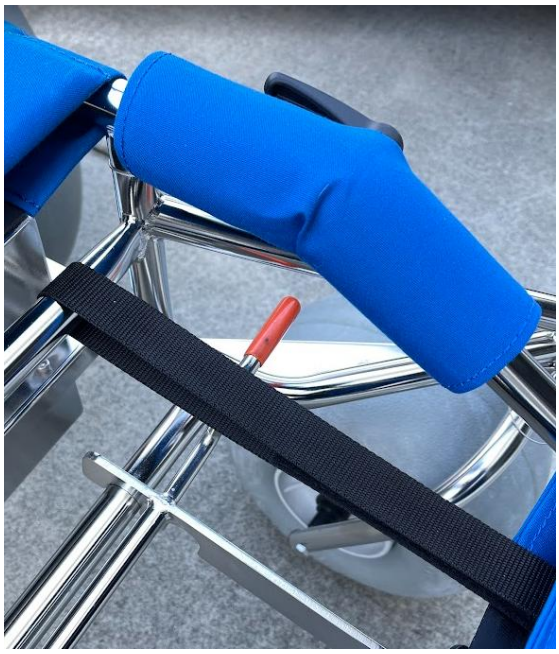


Footrest hinge foam wrap – marked L & R respectively



Leg pad & footrest foam.

Adjust & tighten buckles beneath



Adjust length of Velcro straps
to position leg pad

Long-Term Assembly

The following changes can be made for when chair disassembly is not required (fixings not included).



Backrest

Replace drop-nose pins with M6x20mm SS316 bolts, with washers and locknut.



Footrest

Replace drop-nose pins with M6x35mm SS316 bolts, with washers and locknut.



Drive Module Diagonal Braces

Replace thumb screws with M6x40mm SS316 bolts, with washers and locknut.

Fitting Accessories (If Applicable)

> Attendant Remote



Clamp the attendant remote cradle to the top of the chair frame using a 3mm hex wrench



Mount the attendant remote into the cradle



Connect remote to upper connector on drive module



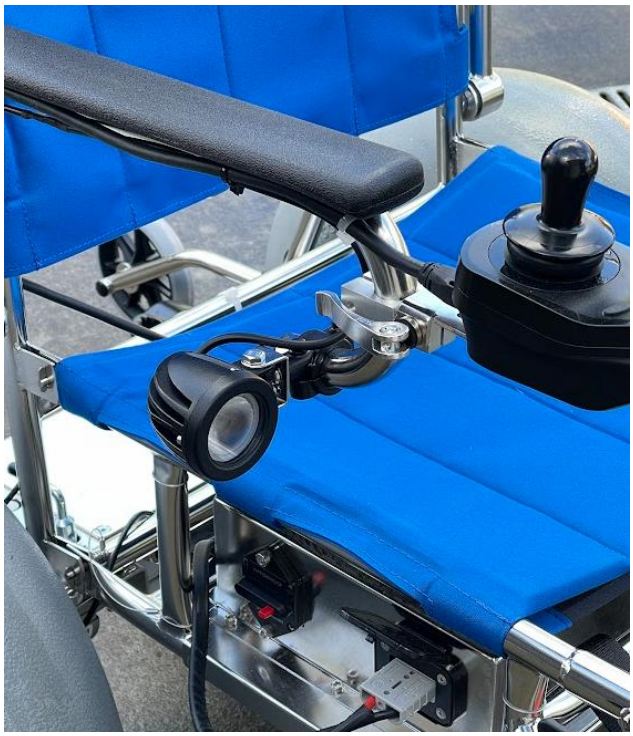
The remote can be mounted and removed to suit attendant operation

> Headlights

- Headlights clamp to 22mm frame members. Possible mounting positions are shown below.
- Use an 8mm wrench to tighten the clamp. Use a 5mm hex wrench and 10mm wrench, 10mm socket & ratchet to make adjustments.

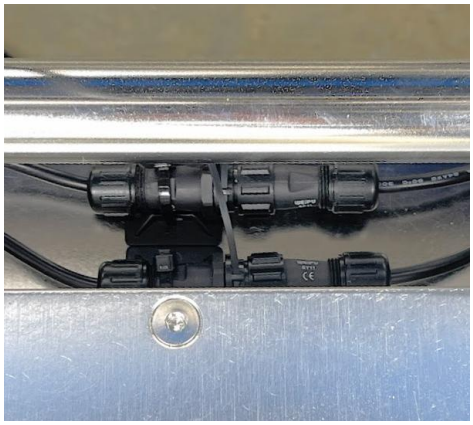






- Headlights get warm during use. Position headlights to avoid skin contact when transitioning or driving.

- Connect headlights to plugs at the back of the drive module. Tidy the cabling along chair frame members using cable ties. If not using headlights re-fit caps on connectors to avoid water ingress.




Operation

> On/Off

- Before any connection or disconnection to or from the battery box, ensure the breaker is switched off
- The breaker must be switched on to charge the battery or operate the chair
- Avoid hot-plugging charger and drive module leads



> Battery Charging

- Connect the charger plug to the battery box socket. Turn on breaker.
- Ensure the battery is fully charged before use
- Remove the charger plug and connect the drive module power lead to the battery box

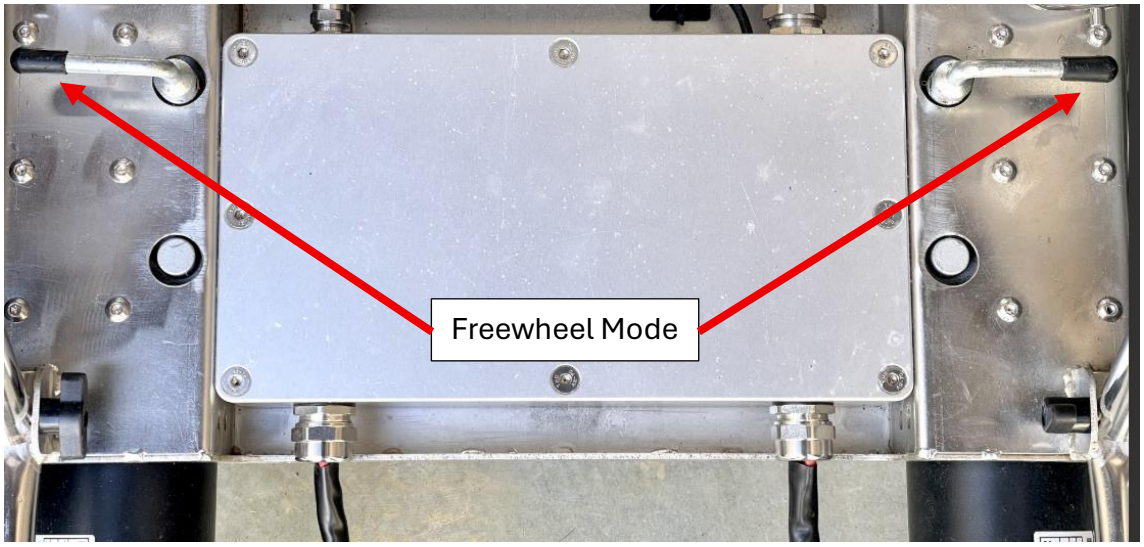


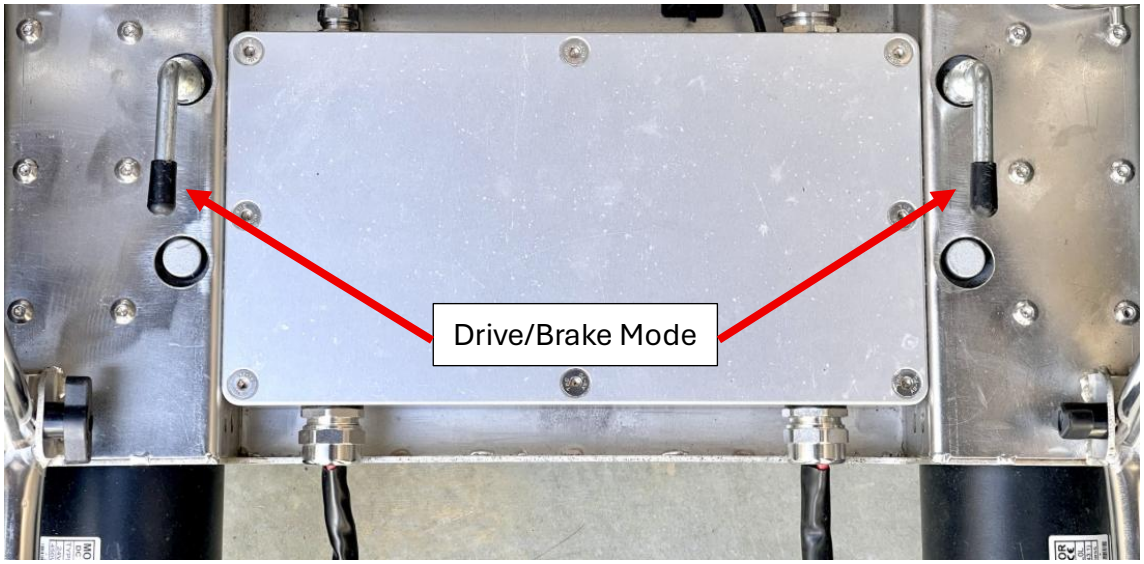
> Freewheel Levers

WARNING

- Turning the gearbox levers to freewheel mode mechanically disengages the brake. The chair can roll away uncontrollably in freewheel mode.

- The attendant can place the chair in freewheel mode for manoeuvrability when unpowered or during a flat battery.
- Always ensure the levers are placed in drive mode prior to occupant entry.
- When commanded by the joystick, the motors will turn in freewheel mode, but the chair will not move.
- If stopped on an incline, gently rock the chair back/forward to remove load from the brake when turning the lever.





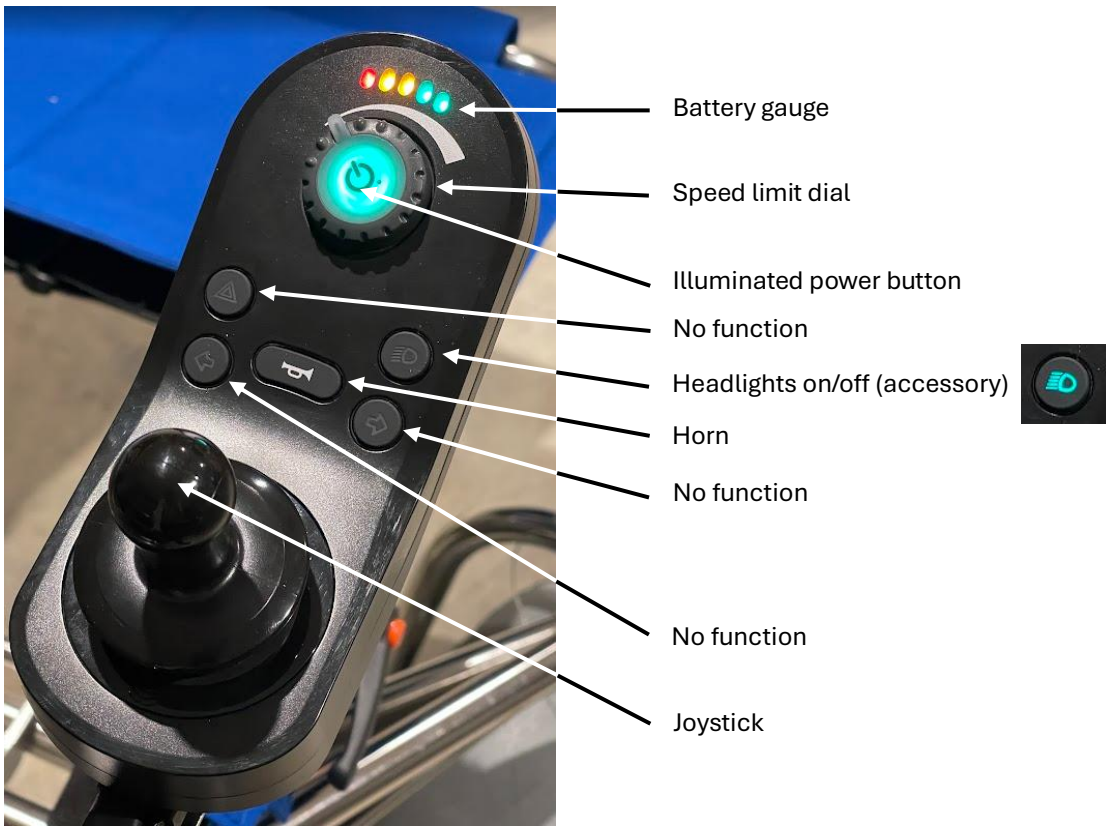
> Pre-Drive Checks

Before entering the chair, ensure:

- The freewheel levers are placed in drive mode
- The battery is fully charged
- All drop-nose pins are in place, connecting the frame parts together
- Both quick-pins are present, connecting the drive module to the frame
- The thumb-screw fixings are tight on both rear diagonal braces, top & bottom
- The R-clips are in place on both casters
- All tires are inflated at 0.21 to 0.28 bar (3-4 psi)
- Lighting cable connector blanking caps are fitted (if optional headlights are not fitted)
- The remote powers on and illuminates
- Brake operation by moving then releasing joystick

> User-Controlled Driving

- The system has been preset with parameters suitable for driving the eSC on a variety of terrains. These settings cannot be modified.

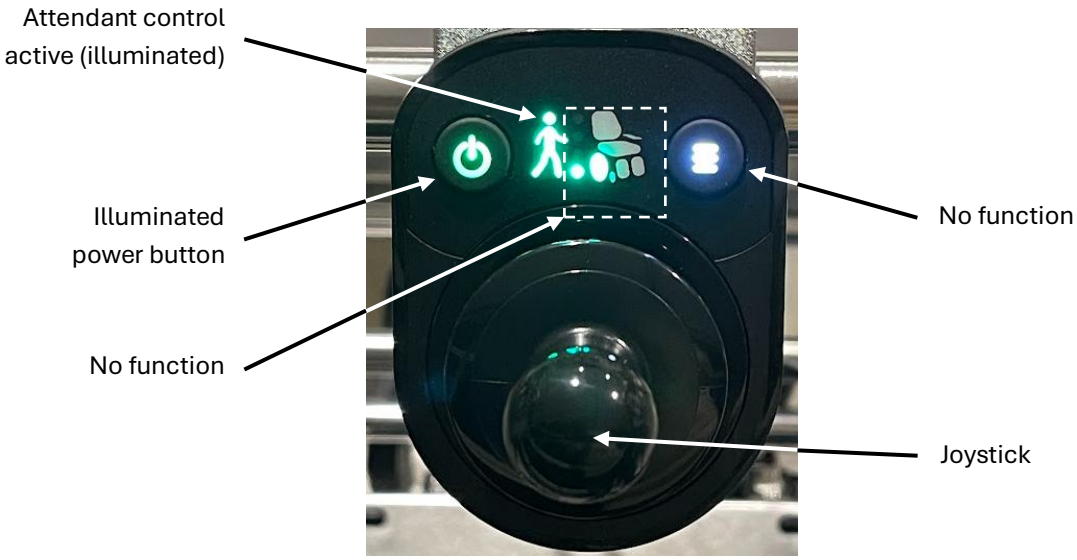


- Press the power button to toggle the system on/off. The button shall illuminate green when on.
- Select desired speed limit by turning the dial

- Slowly move the joystick from its centre position to the desired direction of travel

  Note: motor brakes default to on. Brakes are on when the system is unpowered or powered and at rest. They turn off when the joystick is moved away from centre. Brakes automatically apply once the joystick is at centre position and the chair has come to a stop. Brake activation makes an audible clicking sound.
- Press the horn button to momentarily activate the horn sound
- Press the headlight button to toggle the headlights on/off. The button shall illuminate green when on.
- The chair will come to a gradual stop when the joystick is left alone.
- Emergency stop – pressing the power button while driving shall stop the chair promptly
- Monitor the battery gauge while driving. See Battery Information page for more detail.
- Note that some Dynamic Controls LiNX functions have been disabled to simplify usage
- The chair may stop and apply the brakes after prolonged periods of uphill driving. The controller shuts down to protect itself thermally.
- If the illuminated power button flashes red when the battery is not low, turn off and on again to clear the fault.

> Attendant Driving (Accessory)



- The system can be switched on/off by pressing the power button on either the main remote or attendant remote. The corresponding power button will illuminate.
- Either the occupant or the attendant can request control by pressing their own power button. Ownership is indicated by the lights shown below.

<u>Occupant control:</u>



<u>Attendant control:</u>



- Attendant control is pre-set to walking speed and is not influenced by the occupant remote speed limit dial position.

> Driving Tips

- When driving around on soft undulating sand, it is possible that the front casters become lodged in a divot, preventing swivel. In this case, simply reverse out of the divot and the casters will follow.
- Continued forward driving, with the casters unable to move, may result in the rear wheels digging themselves into the sand. In this case, the chair weight will be transferred to the anti-tip wheels and the driving wheels will lose traction. The attendant will need to provide manual assistance to move the chair.





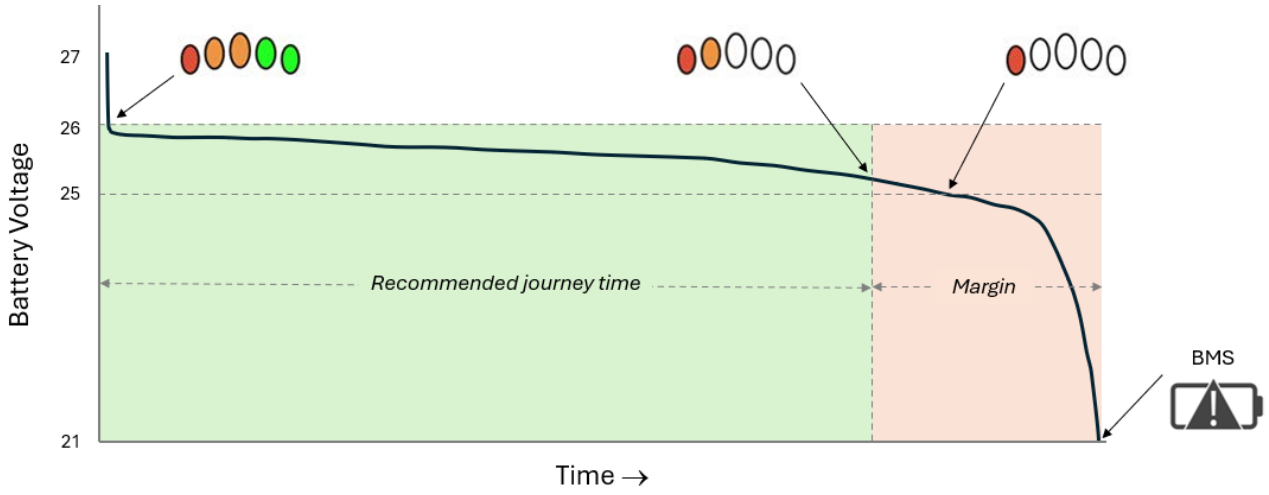
Battery Information

> Battery Specification

Parameter	Value
Type	LiFePO4
Weight (kg)	<15 (33lb)
Size (mm)	Up to 330x175x215 (13.0x6.9x8.5”) *not including terminal screws*
Ingress Protection Rating	IP54 or better, in mounted orientation
Mounting Orientation	Able to mount on long side
Screw Terminals	M8
BMS	Yes
Cycle Life (100% DOD)	>2000
Nominal Voltage (V)	24-25.6
Nominal Capacity (Ah)	50-55
Maximum Continuous Discharge Current (A)	50
Peak Discharge Current (A)	100
Recommended Charge Voltage (V)	Up to 29.2
Recommended Charge Current (A)	Up to 25
Discharge Under-Voltage Protection (BMS, V)	Up to 22

> Battery Behaviour

- LiFePO4 batteries have a flatter discharge curve compared to sealed lead acid (SLA) batteries. Their output voltage remains consistent until almost empty, then voltage drops sharply. This is shown in the chart below.
- The battery is typically charged to 27-28V. Upon use, the battery working voltage drops to a range of 25-26V where it will remain for the majority of the journey.
- Below 25V, remaining run time drops quickly, with only minutes left
- LiFePO4 batteries have an on-board battery management system (BMS) which protects cells from damage during a number of scenarios, including low voltage. The BMS will switch off the battery when voltage typically reduces to ~21V (battery dependent).



- Aim to end the journey and return home no later than a single orange light: giving typically 2hrs running time but is dependent on battery quality, battery age, terrain, occupant weight, speed, ambient temperature & headlight use.
- The gauge on the remote provides three levels of low battery warning, as shown below:



Times are approximate and depend on load & terrain

- There is no alert as the BMS shuts down the battery. Brakes will be suddenly applied resulting in a rapid uncontrollable stop. The freewheel levers can be placed into freewheel mode to manually push the chair home.
- It is normal that battery voltage drops during periods of demanding use. The battery gauge lights on the remote may step down during heavy use, then return to green at rest. This momentary behaviour is no indication of remaining battery capacity.
- Driving speed will reduce slightly throughout the journey as the battery discharges

- Fully charging using the recommended charger ensures optimum cell balancing, to prolong life and minimise risk of individual cell damage.



WARNING

- Running the chair to a flat battery will apply the brakes suddenly, resulting in a rapid uncontrollable stop.
- If battery is low, end your journey on a slow speed to preserve life.
- Always leave time and battery capacity to get home.
- Battery gauge lights do not guarantee absolute or relative remaining capacity or running time.
- Get to know your chair and use elapsed journey time as an indication of remaining battery capacity. Running times will be lower for more demanding terrain.
- Repeated flat battery scenarios risk damaging the cells
- Avoid connecting directly to the battery Bluetooth system (if fitted)