QA4 Surgery Trolley System – Powered Function, Version 2

Operating Instructions

Catalogue No. 21300

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1. Introduction

These instructions are intended to assist you with the operation of the QA4 day surgery trolley. It is important that these instructions are read thoroughly before using the equipment.

It is also important to check the trolley before use; **ensure that all trolley functions operate to their full range of movement and that all detachable components disengage, re-engage and lock correctly. We recommend that the trolley is visually inspected for any loose or damaged parts, foreign bodies caught in the castors, and hydraulic fluid leakage.**

1.1. Warnings and Cautions

Various warnings and cautions are made throughout these operating instructions.

A **WARNING** is given when the personal safety of the patient or user may be affected and when disregarding this information could result in injury.

A **CAUTION** is given when special instructions must be followed. Disregarding this information could result in permanent damage being caused to the trolley.

1.2. Scope of Use

This product is intended for use within a day surgery environment for the induction, transport, treatment and recovery of patients.

Due to its extra functionality and higher weight capacity this trolley is heavier than a conventional patient transfer trolley and therefore less suitable for this function. In addition the trolley has very low ground clearance that may cause problems when traversing uneven ground.

CAUTION: The trolley may be damaged by pushing it across rough or uneven ground.

1.3. Equipment Classification

The trolley has been classified as a 'Class 1' device.

2. Product Specifications

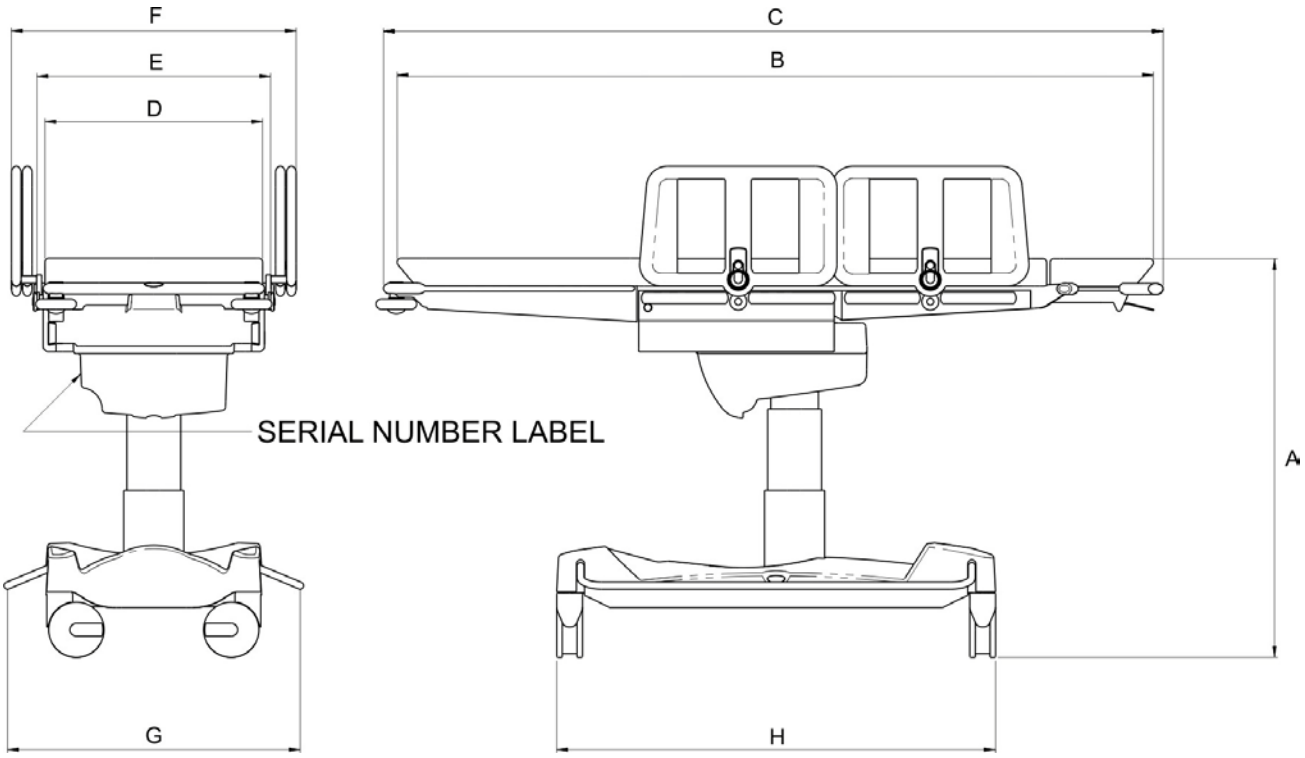


Fig. 1

Key to Fig. 1

A.	**Height, MIN**	680 mm
	Height, MAX	1080 mm
B.	**Mattress Length**	2040 mm
C.	**Trolley Length, MAX**	2100 mm
D.	**Mattress Width**	600 mm
	Trolley Width;	
E.	Side Rail Width	655 mm
F.	Cotside Width	770 mm
G.	Brake Width (Brakes Off)	835 mm
H.	**Base Length**	1190 mm
	Mattress Depth	75 mm
	Trendelenberg Tilt;	
	Trendelenberg	20°
	Reverse Trendelenberg	12°
	Lateral Tilt	±12°
	Backrest Articulation	0 - 65°
	Head Section Articulation	+25/-30°
	C Arm Traverse;	
	Head End Traverse	230mm
	Foot End Traverse	230mm
	Castor Diameter	150mm
	Trolley Weight	160 kg

Weight Limits;

Trolley	250 kg
Head Section	25 kg
Leg Section	50 kg

Fixed Leg Section (Standard)

Weight	6 kg
Articulation	N/A

Articulating Leg Section (Optional)

Weight	8 kg

Electrical Specification;

Electrical: 230VAC, 50Hz, 1.3A
Electromagnetic Compatibility: product conforms to EN 60601-1-2:1997
Battery voltage: 24V, 4.5Ah

3. Product Functions

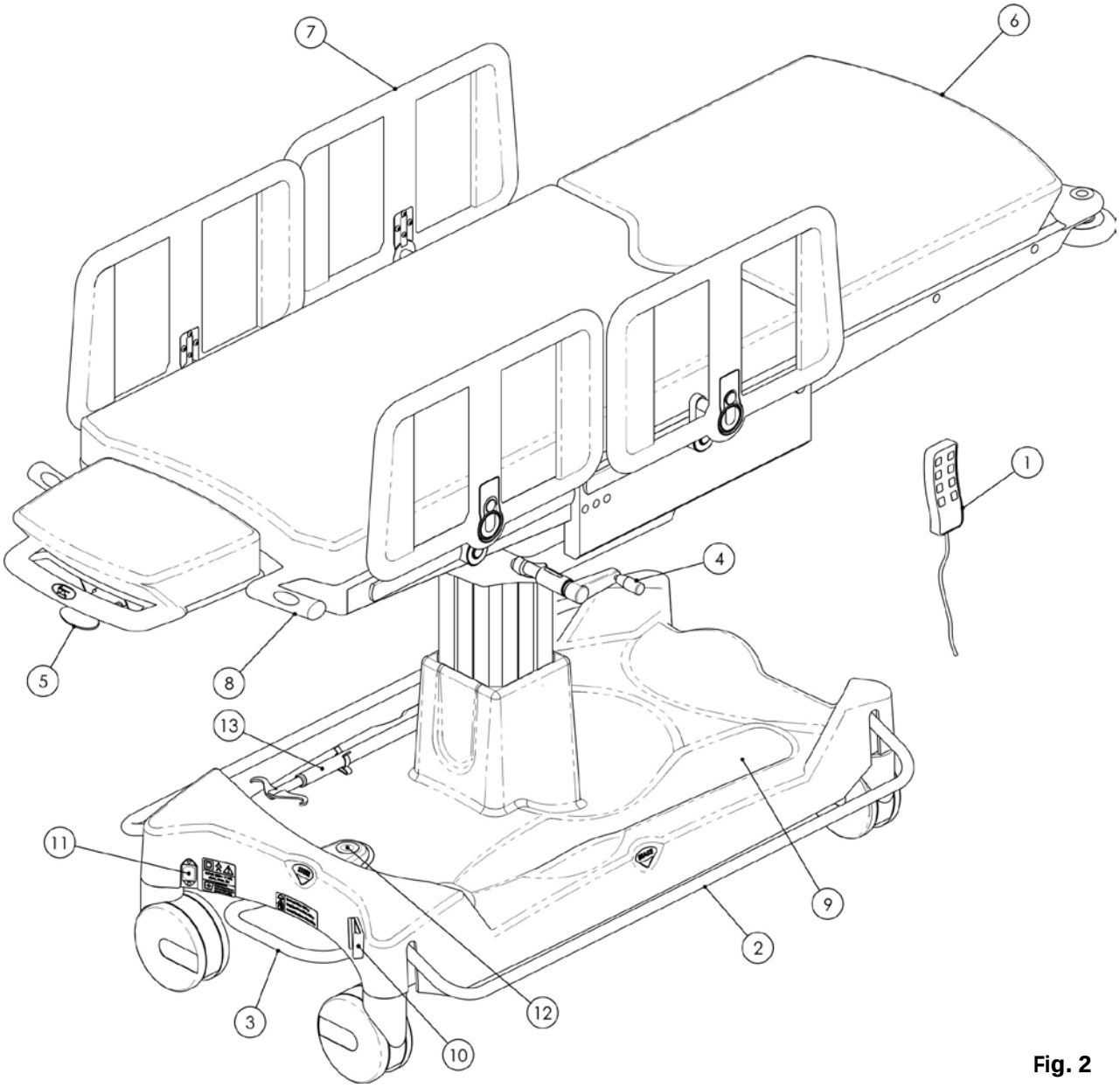


Fig. 2

Key to Fig. 2

1. Handset
2. Brake Pedals
3. Steering Pedal
4. Lateral Tilt Handle
5. Head Section Tilt Actuation Lever
6. Removable Leg Section
7. Cotsides
8. Pushing Handles
9. Oxygen Cylinder Mounting Trough
10. 'V' Mounting for Suction Canister
11. Mains Input/Charging Socket
12. Handset Socket
13. Transfusion Pole

3.1. Powered Trolley Functions

The following four trolley functions are electromechanical in operation and are powered from an on-board battery supply. These functions are operated and controlled through the handset (no.1, fig.2); the layout of the handset is shown below.

CAUTION: The battery must be properly maintained in accordance with these instructions. Failure to do so will result in significant loss of charge capacity or failure of the battery. Refer to section 4, 'Battery Charging & Maintenance' for a full explanation on how to care for the battery.

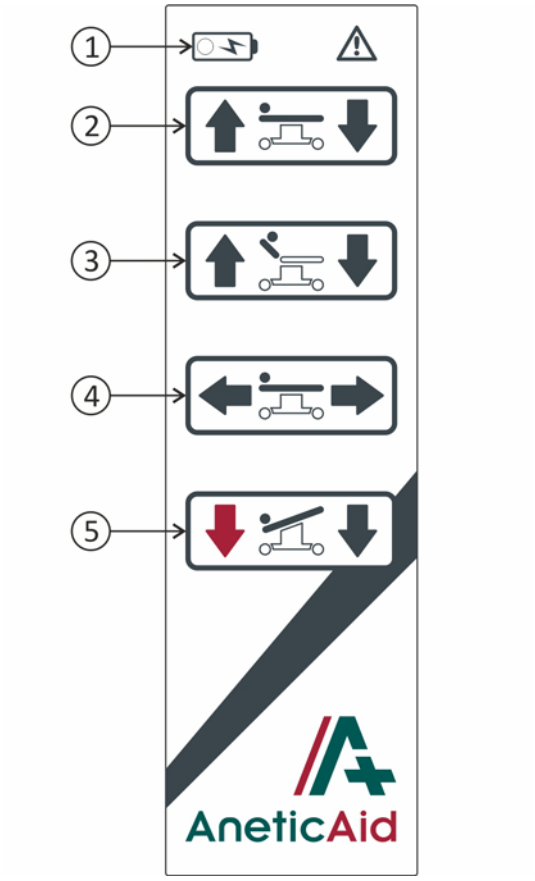


Fig 3.

Key to Fig. 3

1. Battery Status LED
2. Variable Height Functions
3. Backrest Articulation Functions
4. Patient Platform Traverse Functions
5. Trendelenberg & Reverse Trendelenberg Tilt Functions

3.1.1. Using the Handset

The handset is externally removable and plugs into the handset socket on the base of the trolley at the head end (no.12, fig.2). Note; the manufacturer recommends that a spare handset is purchased and stored in an accessible location in the event that the handset becomes damaged.

CAUTION: Because the handset is in constant use it is particularly vulnerable to wear and tear or damage. Before use it is important to inspect the handset to ensure there is no damage to the cable or the buttons.

WARNING: In the event of handset damage the handset should be replaced immediately or the trolley removed from service.

WARNING: Handset damage may lead to malfunction during equipment use. If a handset button becomes damaged it is possible for one of the powered functions to operate spontaneously. In this unlikely event the following actions should be taken;

1. **Depress and hold the opposing function button, i.e. if the backrest is raising press backrest down.**
2. **Unplug the handset from the trolley.**
3. **Fit a new handset.**
4. **If another handset is not available transfer the patient to another trolley.**

3.1.2. Height Adjustment

The height of the patient platform can be adjusted by using the up and down buttons on the handset. When either button is depressed the green indicator light on the handset will illuminate to indicate that the trolley is powered.

CAUTION: Ensure that there are no obstructions in the way before raising or lowering the patient platform.

CAUTION: Ensure that there is no equipment stored in the base of the trolley before lowering the patient platform.

3.1.3. Using the Backrest

The backrest can be raised and lowered by using the up and down buttons on the handset.

CAUTION: Ensure that there are no obstructions in the way before raising or lowering the backrest.

3.1.4. Patient Platform Traverse ('C' Arm Access)

The patient platform is designed to traverse longitudinally, either towards the head end or the leg end, to provide; full 'C' arm access, a gynae position, and improved access at the head end. The patient platform is traversed by using the left and right buttons on the handset.

The mattress and patient platform are made from x-ray translucent materials. The areas of 'C' arm access are illustrated in fig. 4, with the trolley traversed in both directions.

The trolley should be returned to the 'neutral' position once the procedure has been completed.

Observe that when the patient platform is traversed in either direction the mid section static frame arm is revealed.

In the neutral position the traversing section of the patient platform aligns with the static arm.

NOTE: The patient platform should be returned to the neutral position once the procedure has been completed, see above.

CAUTION: Ensure that there are no obstructions in the way before traversing the patient platform.

CAUTION: With the leg section folded down caution must be exercised traversing the patient platform towards the head end.

CAUTION: When the head section is in the folded away position caution must be exercised when traversing the patient platform. There is a possibility that the head section could clash with other parts of the trolley which may result in permanent damage being caused to the trolley.

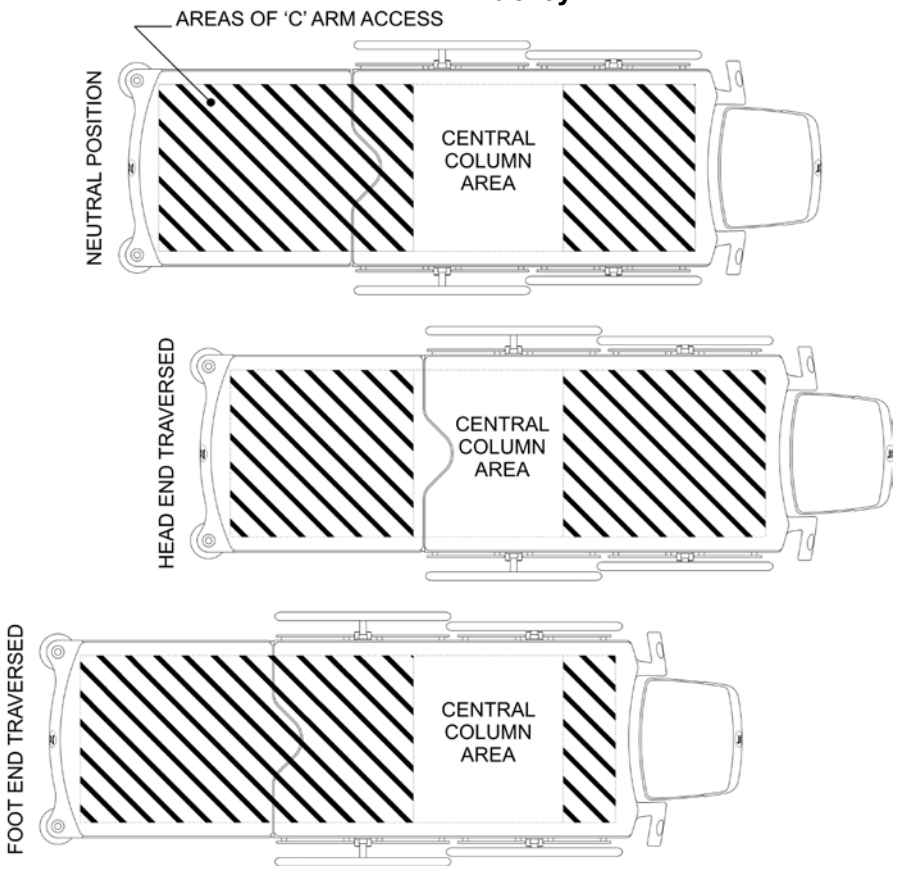


Fig. 4

3.1.5. Using the Trendelenberg Function

The patient platform can be longitudinally tilted to provide a trendelenberg (head down) or reverse trendelenberg (leg down) position by using one of the two down buttons on the handset.

The head down trendelenberg button is in-filled in red to indicate that this button is used for emergency positioning.

CAUTION: Ensure that there are no obstructions in the way before tilting the patient platform.

CAUTION: Ensure that there is no equipment stored in the base moulding of the trolley before tilting the patient platform (NOTE: This ONLY applies when the trolley is at its lowest height).

3.2. Manual Trolley Functions

The following functions are manually operated and are not powered from the on-board battery supply or mains.

3.2.1. Using the Brakes

All four castors are braked simultaneously by depressing either of the brake pedals (no.2, fig.2) at any point along the length of the pedal. The brakes are disengaged by lifting either pedal.

3.2.2. Using the Steering Pedal

The trolley can be manoeuvred more easily by engaging the steering mechanism. The mechanism is engaged by pressing the steering pedal (no.3, fig.2) and disengaged by lifting the pedal.

CAUTION: Applying the steering pedal with excessive force, i.e. by standing on the pedal, will cause permanent damage to the mechanism.

CAUTION: The steering pedal is designed to disengage automatically when the trolley is pushed *leg first* over an obstruction. Attempting to prevent this will cause damage to the mechanism. The 5th wheel should be allowed to disengage and then can be reengaged after the obstruction.

CAUTION: The steering wheel must be disengaged manually when the trolley is pushed *head first* over an obstruction, i.e. a lift threshold, or damage may occur.

3.2.3. Using Lateral Tilt

Lateral tilt is achieved by rotating the lateral tilt handle (no.4, fig.2) either clockwise or anti-clockwise.

To use the lateral tilt handle; extend the handle by pulling it away from the trolley, and unfold the crank handle until it locks into position. Return the handle to its stored position when not in use.

CAUTION: The lateral tilt handle must be stored away to ensure that the handle does not get damaged.

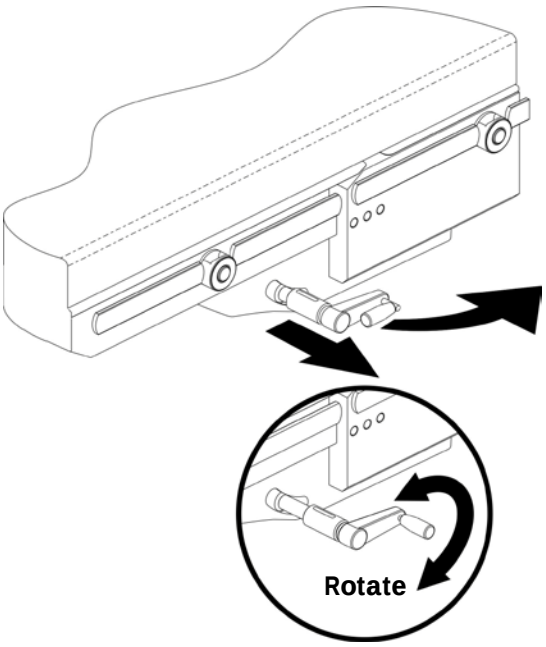


Fig. 5

3.2.4. Using the Head Section

The head section is articulated by simply pulling up on the head section tilt actuation lever.

The head section is also designed to be removed for specific theatre procedures; i.e. gynae and urology, to give greater anaesthetist access to the patient. Removing the head section prior to administering anaesthetic reduces the length of the backrest and the need to reposition the patient in theatre. Removing the head section also gives

greater access to the patient from the head end for theatre staff.

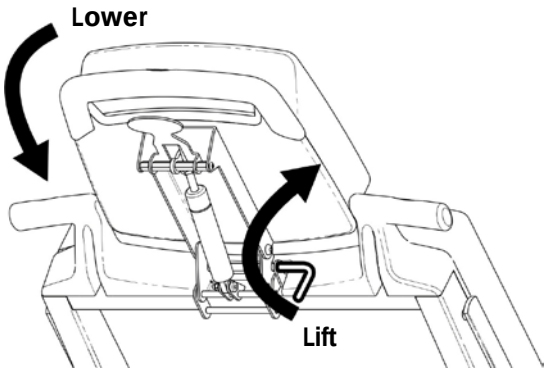


Fig. 6

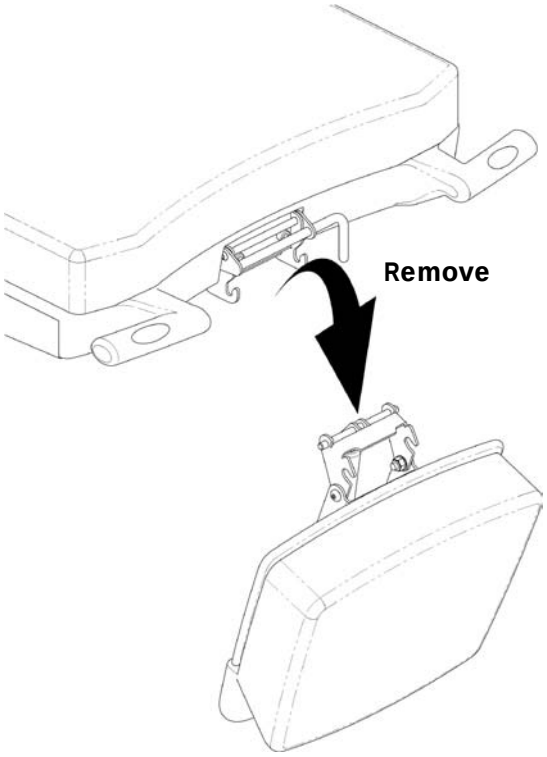


Fig. 7

The head section is removed by lifting the release handle, then lowering and removing the head section from the support bracket.

WARNING: When the head section is fitted on to the trolley ensure that the head section is fully engaged and securely locked in position.

3.2.5. Using the Leg Section

The trolley is fitted as standard with a non-articulating lightweight leg section (no.6, fig.2), if the trolley is fitted with an articulating leg section refer to section 3.2.5.3.

3.2.5.1. Removing the Leg Section

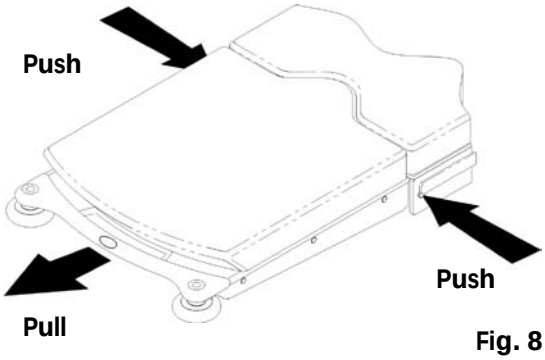


Fig. 8

Depress both buttons as shown (one button is located on each side of the trolley) and remove the leg section.

WARNING: Ensure that any persons responsible for removing the leg section adopt good posture and stance, in accordance with the relevant 'Moving and Handling' policies, to prevent injury to the user.

3.2.5.2. Replacing the Leg Section

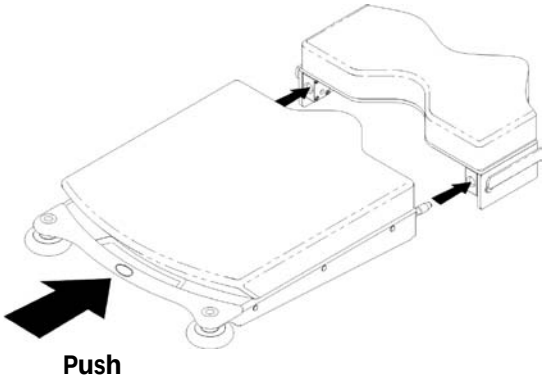


Fig. 9

Engage the locating spigots of the leg section as shown and push home firmly until the leg section is fully engaged.

WARNING: Ensure that the leg section is fully engaged and securely locked in position.

3.2.5.3. Articulating Leg Section

NOTE: The articulating leg section is an *optional* accessory for this trolley.

To articulate the leg section pull up on the leg frame lever and push down on the board. To remove the leg section refer to section 3.2.5.1.

CAUTION: With the leg section articulated down caution must be exercised when tilting the trolley leg down, i.e. a reverse trendelenberg position.

NOTE: With the articulating leg section the leg section should be articulated down to the maximum angle before being removed. This shortens the distance between the end of the leg section and the mounting sockets. This does two things; one, it provides better access to the release buttons, and two, it reduces the distance that the user has to reach to support the weight of the articulating leg section.

NOTE: When replacing the articulating leg section pull the actuation handle to operate the gas struts and allow the location spigots to achieve a horizontal position.

3.2.6. Using the Cotsides

The trolley is fitted with four cotsides (no.7, fig.2) that can be individually removed from the trolley or rotated through 180 degrees.

Each cotside is mounted into a fixed socket that is labelled with a position number, (1) – (4), this corresponds with the numbered label on the cotside and ensures that each cotside is correctly positioned.

See the following sections for more information on rotating, removing and replacing the cotsides.

3.2.6.1. Rotating the Cotsides

Depress the button as indicated, see fig.10, and rotate the cotside, the cotside will automatically relock in the next position.

3.2.6.2. Removing the Cotsides

Ensure the cotside is in the 'up' position, depress the button as indicated, see fig. 11, and remove the cotside.

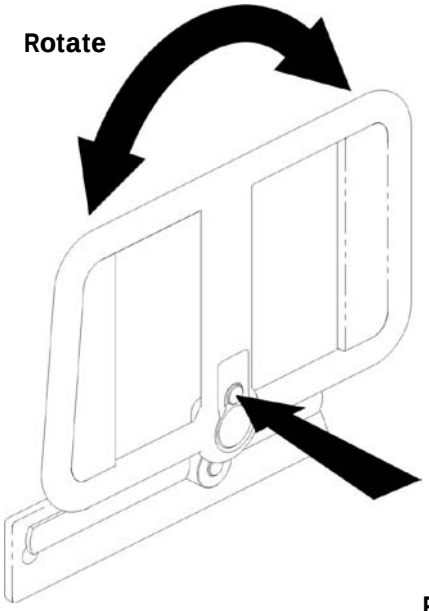


Fig. 10

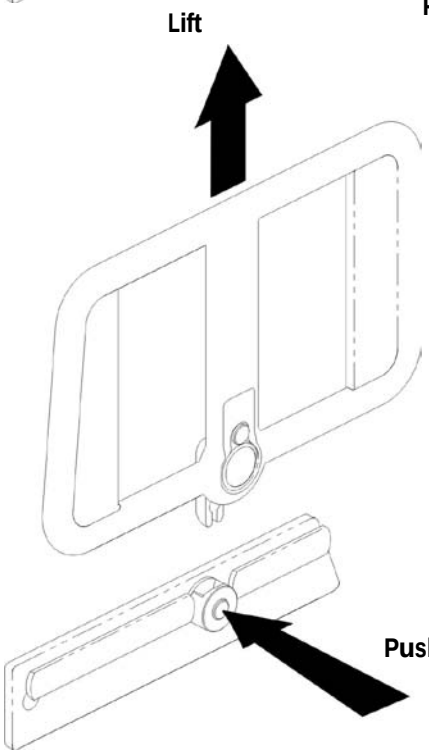


Fig.11

3.2.6.3. Replacing the Cotsides

Align the stem of the cotside to the socket and let the cotside drop into position, the cotside will automatically lock in position when replaced.

CAUTION: Ensure that the cotsides are located into their respective numbered sockets to prevent the cotsides clashing.

3.2.6.4. Attaching the Full Length Cotside

The optional full length cotside attaches to the trolley by hooking onto the side bar. To secure the cotside, rotate the locking clamp handle 90° in either direction, shown in flg.13

WARNING: Failure to secure the cotside to the side bar using the locking clamp could result in injury to the patient.

Fig. 12

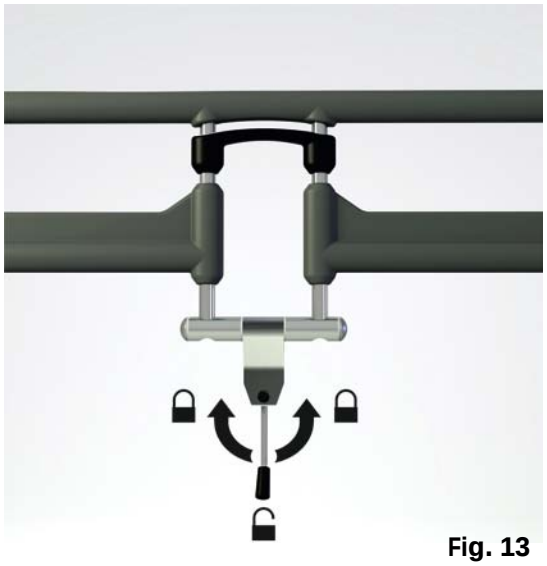


Fig. 13

3.2.6.5. Rotating the Full Length Cotside

When the cotside is secured to the trolley, shown in fig. 13. Pull the handle in the up direction as indicated in fig.14 and rotate the cotside away from the trolley into the down position. The cotside will automatically relock in the down position.

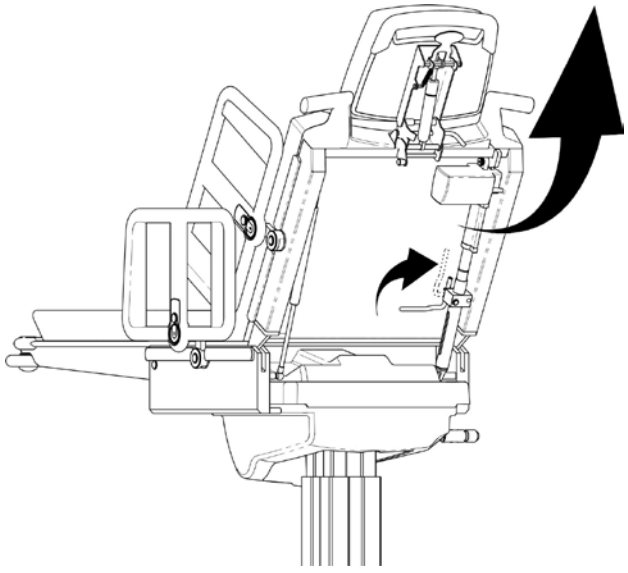
Fig. 14

3.2.7. Using the Emergency Backrest Release Function

The emergency backrest release handle allows the backrest to be dropped immediately from any articulated angle to the horizontal position.

When the emergency backrest release handle is disengaged the backrest will *not* function; the backrest handle must be engaged for correct backrest operation.

NOTE: It is important that staff are clearly informed as to the location of the emergency release handle, its function, and its mode of operation.



3.2.7.1. Releasing the Emergency Backrest Handle

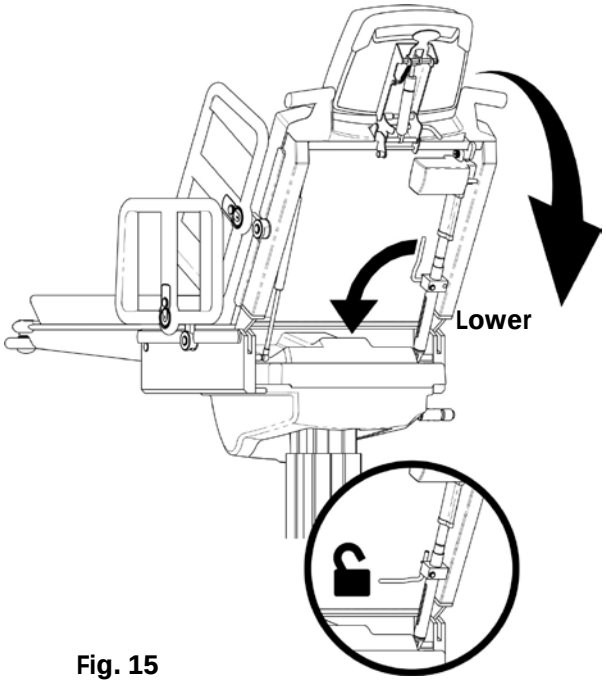


Fig. 15

Grasp the emergency release handle and rotate the handle anticlockwise. As the handle is released the backrest will be unsupported and will drop to the horizontal position.

WARNING: Caution is required when releasing the emergency backrest handle. Once the handle is released the backrest will fall without resistance, ensure no persons are stood behind or under the backrest when the handle is released.

3.2.7.2. Reengaging the Emergency Backrest Handle

With the backrest horizontal depress the backrest down button, see fig. 3, to ensure that the backrest actuator is retracted to its shortest length. Now grasp the emergency release handle and rotate the handle 90 degrees clockwise until the handle 'clicks' into position and physically stops. The release handle is now reengaged enabling the backrest to be operated from the handset.

WARNING: Ensure that the handle is properly reengaged. Failure to do so will result in the backrest not functioning correctly and possibly disengaging unexpectedly.

3.2.8. Using the Transfusion Pole

The trolley is fitted with a loose transfusion pole (no.13, fig.2) that can be fitted at any point along the side bar and secured using the locking lever.

To adjust the height of the transfusion pole, as illustrated in Fig.16; grasp the locking mechanism (A) and using your thumb, lift the mechanism to release the lock and move the pole up or down to the required height (B); release the mechanism to lock the pole in position.

The transfusion pole is fitted with two spring-loaded hooks that are designed to return to their original upright position when not in use. Swivel one or both hooks outwards (C) to hang the IV bags.

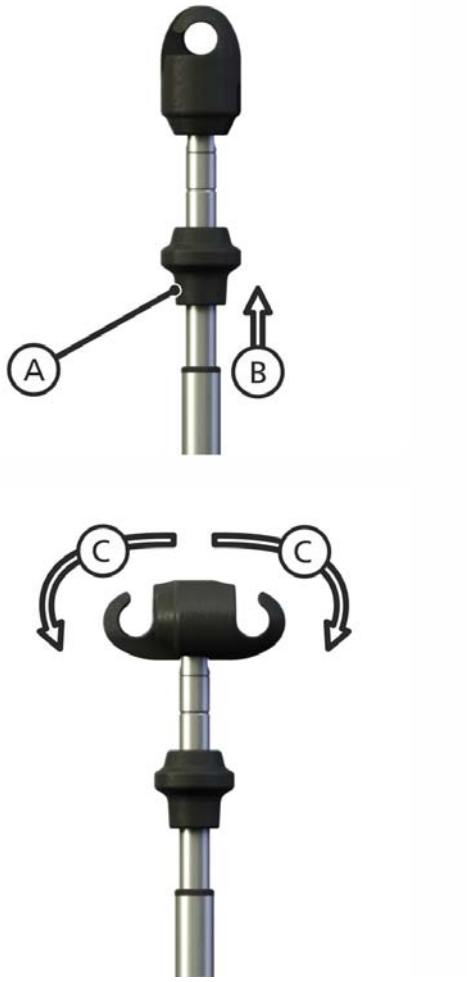


Fig. 16

NOTE: The maximum weight limit per IV hook is 3kg or 3 litres, and the safe working load for the IV pole is 6kg.

4. Battery Charging and Battery Maintenance

As with all products that use a rechargeable battery, the battery will require recharging at regular intervals. The frequency with which the battery requires recharging is dependant on the battery usage and the state of charge.

If the trolley is going to be placed in storage the trolley must be charged for 8 hours every 2 weeks. Failure to do so will result in permanent battery damage.

CAUTION: Only batteries supplied and approved by Anetic Aid Ltd or Portsmouth Surgical Equipment Ltd should be used.

CAUTION: The battery unit should not be opened.

CAUTION: Use the battery only for its intended purpose.

CAUTION: Never use a battery that is damaged.

CAUTION: The battery must be recycled, properly disposed of or returned to Anetic Aid Ltd or Portsmouth Surgical Equipment Ltd. The battery must not be discarded with Household waste.

4.1. Power Lead

The trolley is supplied with an IEC mains power lead which is used to charge the on-board battery.

WARNING: Only use the lead supplied with the trolley for charging purposes. Do not use the lead for any other purposes.

WARNING: Visually inspect the lead for damage on a daily basis. Do not use the lead if damaged in any way.

4.2. Charging

The power lead should be plugged into a mains socket and the appliance connector end plugged into the charging socket on the trolley (no.11, fig.2). The socket should now be switched on.

Once the mains power lead is connected the control unit will check the charge capacity of the battery before commencing charging, this may take up to 12 minutes. Once this test is complete the battery will either; begin to charge and the battery status LED on the handset will flash 'green', or the battery status LED will turn solid 'green' to indicate that the battery is fully charged. From flat the battery will take approximately 8 hours to fully charge. Plugging the trolley in for a short period of time will only partially recharge the battery.

The trolley can be left on charge permanently as there is no danger that the battery can be over charged. The control unit manages the status of the battery charge, switching the charging circuit off when the battery is full and back on when the charge dissipates below a preset level.

4.3. Low Battery Alarm

When the battery charge is low the control unit will emit a continuous 'beeping' tone when any one of the function buttons is being depressed, and the handset battery status LED will turn 'amber'. This indicates that the battery must be recharged; failure to do so will result in the deep discharge protection being enabled.

CAUTION: Failure to charge the battery once the low battery alarm has sounded could result in a permanent loss of maximum charge capacity.

4.4. Manufacturers Recommendation

We recommend that the battery is put on charge *whenever* the trolley is not in use, including overnight. Establishing this routine will ensure that the trolley does not run out of charge in the course of a day.

4.5. Battery Deep Discharge

If the battery has not been charged and the trolley is continuously used, the battery will run flat and eventually reach

a 'deep discharge' condition. A normal 8 hour charging period will not be sufficient to recover the battery. The battery will need to be on charge for approximately 72 hours to fully recover.

5. Patient Weight Limits

1. **Main Body;** The trolley is designed to accommodate a maximum patient weight of 250kg. Patients should mount the trolley at the centre of the patient platform and their weight kept as evenly distributed as possible whilst on the trolley.
2. **Head Section;** The head section is designed to take a maximum weight of 25kg.
3. **Leg Section;** The leg section is designed to take a maximum weight of 50kg.

NOTE: The safe working load is the sum of the maximum patient weight, the weight of any accessories attached to the trolley and the weight of the items on or attached to those accessories.

WARNING: Exceeding any of the maximum specified weight limits could result in failure of the trolley and injury to the patient and staff.

6. K8 Pressure Care Mattress

Each mattress part is fixed to the patient platform with Velcro®; this enables the mattress sections to be removed from the trolley for cleaning and replacement.

NOTE: The mattress parts should be visually inspected for damage on a daily basis. If the outer mattress fabric is torn, then fluids may penetrate and the mattress should be replaced. Do not attempt to repair tears or splits with self adhesive tapes.

CAUTION: Ensure that the mattress is correctly orientated on the patient platform with the Velcro® of the mattress aligning with the Velcro® on the patient platform.

CAUTION: Ensure that the mattress is centrally positioned across the width of the patient platform otherwise it may prevent the side rail from locking when raised.

7. Cleaning and Disinfecting the Trolley

Clean the trolley with warm water and neutral detergent and dry the surfaces thoroughly using a soft cloth. Apply disinfectant by spray or disinfectant wipe, do not soak or immerse the trolley. Suitable disinfectants are: quaternary ammonium compounds, isopropyl alcohol, chlorine bleach 0.5% and phenolics. Following disinfection, wash off the trolley surfaces with clean warm water and dry thoroughly using a soft cloth.

NOTE: It is recommended that only CE marked cleaning products are used in the cleaning of this trolley.

NOTE: Dilute all disinfectants in accordance with the manufacturer's guidelines.

CAUTION: Disinfectant products are corrosive in nature; failure to properly wash and dry the trolley surfaces could leave a corrosive residue which may cause damage to the trolley.

CAUTION: Do not steam clean or jet wash any areas of the trolley.

CAUTION: Do not use concentrated bleaching disinfectant solutions, organic solvents, abrasive powders or expose any part of the trolley to excessive heat.

8. Product Warranty

The product, when new, is guaranteed to be free from defects in materials and workmanship and to perform in accordance with the manufacturer's specification for a period of one year from the date of purchase from Anetic Aid Ltd or their approved Distributor. Anetic Aid Ltd will repair or replace, at their discretion, any components found to be defective or at variance with the manufacturer's specification within this time at no cost to the purchaser.

The warranty will take effect from the date of purchase, subject to the

purchaser registering the product with Anetic Aid to confirm its receipt, installation date and product details.

The warranty does not provide cover for breakage or failure due to tampering, misuse, neglect, accidents, modifications or shipping. The warranty is also void if the product is not used in accordance with the manufacturer's instructions or is repaired during the warranty period by any persons other than Anetic Aid or its appointed agent. No other expressed or implied warranty is given.

For details of our extended warranty packages please contact Anetic Aid or your authorised dealer.

9. Product Maintenance

It is recommended that the trolley is serviced on an annual basis in accordance with the manufacturer's service schedule.
Before use, ensure all trolley functions operate to their full range of movement and that all components disengage, re-engage and lock correctly. Also visually inspect the trolley for any loose or damaged parts, foreign bodies caught in the castors and hydraulic fluid leakage.

Because the handset is in constant use it is particularly vulnerable to wear and tear or damage. Before use it is important to inspect the handset to ensure there is no damage to the cable or the buttons; see section 3.1.1., 'Using the Handset', for more information.

Note; the manufacturer recommends that a spare handset is purchased and stored in an accessible location in the event that the handset becomes damaged.

CAUTION: In line with the MHRA Device Bulletin DB2006(5), maintenance work should only be conducted by suitably trained personnel following manufacturer's guidelines.

10. Label Identification

The following list is a description of all the labels used on the trolley;

Maximum patient weight limit is 250kg and the trolley safe working load is 300kg. The maximum load for the head section is 25kg and the maximum load for the leg section is 50kg.

Depress the brake pedal to brake all four castors.

Depress the steering pedal to engage the 5th wheel steering function.

Engage and rotate the lateral tilt handle to position the trolley laterally.

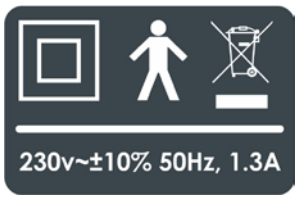
Pull up on the head section tilt actuation lever to articulate the head section.

Indicates that the leg section is removable.

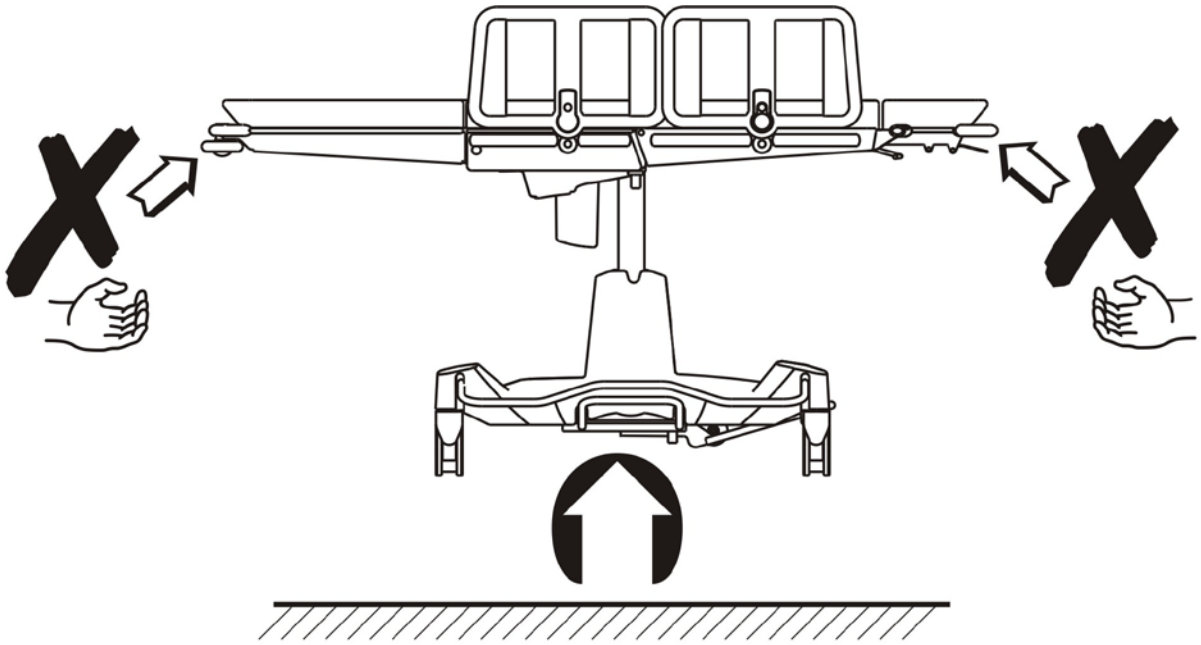
Depress both leg section release buttons to remove the leg section.

Unlocking the emergency backrest handle allows the user to lower the backrest in the event of an emergency.

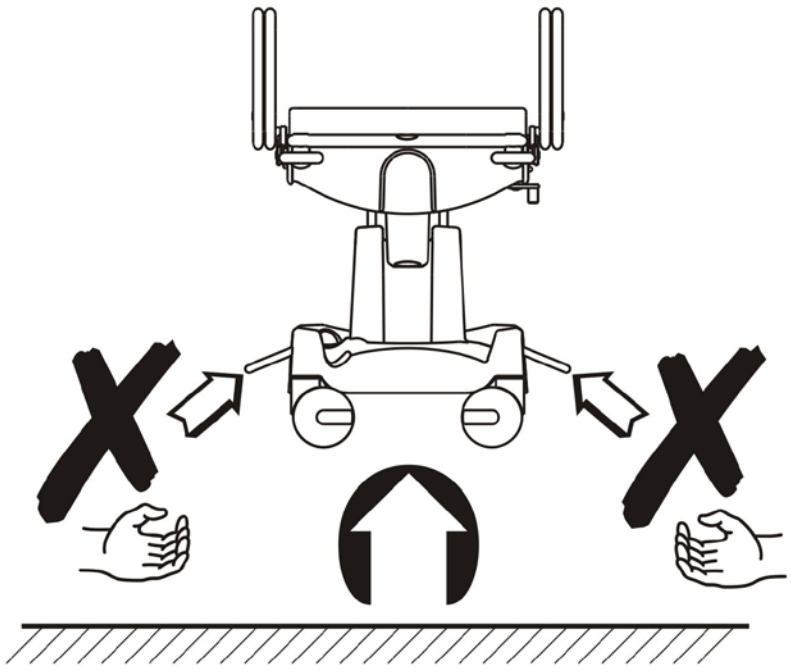
Electrical Information label.



The screen printed Anetic Aid brand logo with multiple information symbols (reading from left to right); indicates that the mattress is for a QA3 trolley and is manufactured using K8 technology, the mattress is CE marked, refer to the instructions for use (for cleaning etc.), the mattress is x-ray translucent and latex free.



Do not lift by brake pedals or top,
lift from base frame only.



Important Battery Information

Before Use: The trolley must be charged for 8 hours.

Storage: The trolley must be charged for 8 hours every 2 weeks. Failure to do so will result in permanent battery damage.

See section 4, ‘Battery Charging & Battery Maintenance’, for further instruction.