

StaminaLift TS5000 Operator Manual

SAFETY WARNING Read this manual before using the unit and follow all instructions Congratulations on the purchase of your new StaminaLift TS5000. Please direct any queries to your nearest authorized StaminaLift service agent quoting the details below:

	Agent Details
Agent Name:	
Agent Address:	
Town/Suburb	
State:	
Postcode:	
Contact Phone:	
	Unit Details
Unit Serial Number:	
Unit Model Number:	
Customer Name:	
Date Commissioned:	

Alternatively, visit our website at: www.staminalift.com



The information in this manual is current at time of printing. Under the Company's policy of continual product improvement, product specifications may change without notice.

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StaminaLift International Ltd 30A Folland Avenue Northfield SA 5085 ABN: 26 143 984 758

REF: StaminaLift TS5000 D003-A0003

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1. Important Safety Information

1.1. Definition

This document contains important information relating to the safe and correct operation and maintenance of your TS5000 Transfer System. When reading this document, please be aware of the following definitions and conventions:



This symbol indicates useful or important information to be noted.



This symbol indicates important safety related information. Failure to comply with this information may result in personal injury.

- Company: refers to StaminaLift International Ltd 30A Folland Ave Northfield SA 5085 ABN: 26 143 984 758
- Unit: refers to the TS5000 Transfer System
- Agent: refers to a person or organisation authorised by the Company to carry out training and servicing of the unit.
- **Manual:** refers to this document and the associated training carried out by an Agent.

1.2. Intended Use

The StaminaLift TS5000 is a transporting device that effectively and efficiently moves heavy wheeled objects such as hospital beds, trolleys and stretchers. The StaminaLift TS5000 is specifically designed for the transportation of beds and stretchers with a patient over smooth even floors within hospitals.

1.3. Safety First

The Unit must only be operated by persons who have been trained to use it by an Agent or accredited trained staff, and who have read and understood this manual.



WARNING : Failure to use the Unit in accordance with this Manual may result in personal injury or damage to property, and will invalidate the Unit's warranty (refer to Section 6.2).

To ensure safe use, always:

- Use the Unit in the environmental conditions specified in Section 2.8.
- Operate the Unit in accordance with Section 3.
- Charge the Unit in accordance with Section 3.6.
- Clean and Decontaminate the Unit in accordance with Section 4.2.
- Dispose of components in accordance with Section 4.7.
- Wear closed shoes when operating the Unit.
- Keep hands and feet clear of the wheels.

- Keep hands and fingers clear of the lifting mechanism.
- Only use accessories approved for the unit by the Company.
- Read, understand and follow all instructions provided with the approved accessory.
- Have an assistant guide the bed/stretcher when working in tight spaces or when the patient needs extra care during transportation.
- Beware of the danger of crushing persons between the unit and walls when in drive mode
- Lift/lower the bed/stretcher carefully to avoid jarring the patient.
- Use the correct Battery Charger supplied with the Unit, specified in Section 2.5.
- Only connect Charger to a mains supply socket with protective earth.
- Park the Unit in an area where it cannot cause a hazard (e.g. tripping).
- Always approach a slope with the Transfer System/Bed combination oriented parallel to the direction of the slope

To prevent injury, never:

- Operate the Unit whilst under the influence of drugs or alcohol.
- Operate the Unit without the protective guards attached and the safety devices connected.
- Use the Unit as a toy; e.g. by riding on it or allowing others to ride on it.
- Expose the Unit to rain, moisture or other liquids.
- Place containers filled with liquids on to the Unit.
- Expose the Unit to excessive heat or naked flames.

- Place heavy items on the Unit other than hospital beds/stretchers.
- Let anything fall into the interior of the Unit
- Attempt to repair the product by yourself. All servicing must be done by an Agent in accordance with Section 4.4.
- Attempt to manually handle or lift the Unit during assembly or normal operation. If the Unit cannot be moved under its own power enable the brake bypass or use the appropriate lifting equipment with a Safe Working Load of at least 175 kg.
- Operate the Unit in the vicinity (less than 25 cm) of anaesthetic gases.
- Operate the Unit in an oxygen-rich environment.
- Attempt to lift items in excess of the maximum safe working load of the lift mechanism (300kg)
- Lower and release a bed/stretcher while on a slope.
- Attempt to move objects in excess of 600kg.
- Leave the Unit unattended in an area accessible to untrained persons.
- Leave the Unit unattended while attached to a bed/stretcher.
- Attempt to charge the Unit with another Battery Charger (other than the one supplied with the Unit), or attempt to use the supplied Battery Charger to charge any device other than the Unit.

Note: Do not attempt to move bed/patent combinations in excess of 500kg without assistance – Refer to Section 3.5

1.4. Explanation of Symbols

The following symbols are used on the Unit:

Symbol	Description
	No stepping on surface.
	Warning – Crushing of Hands in this area
	Refer to service/operator's manual.
Ð	Unit On/Off button. See section 2.4 for instructions.
	Drive and Lift Toggle Button. See section 2.4 for instructions.
d	Horn Button. See section 2.4 for instructions.
	Jaw Width Toggle. Toggle toward operator to close jaws, toggle away from operator to open jaws.

2. Unit Introduction

2.1. Basic Specifications

- Safe Lifting Load: 300kg.
- Safe Moving Load: 600kg.
- Duty Cycle:
 - Drive Mode: Continuous.
 - o Lift Mode: 5% Max 1min. on, 19mins. off
- Classification:
 - Internally Powered Medical Electrical Equipment (normal operation).
 - Class 1 Medical Electrical Equipment (during charging).
- Device Life: 7 to 10 years depending on usage and servicing
- The TS5000 is not rated for use at high altitude (>2000m)
- IP21

2.2. Electrical Specification:

Normal Operation:

- 24±6V DC
- 78A max (<10s @ 20°C initial) 60A nominal
- 18A cont. (@ 20°C ambient) 15A nominal

Charging:

- 115V/230V AC selectable
- Current: 5.5A Max
- 47-63Hz
- 300W Max.

2.3. Key Features

The Unit is a self-propelled device designed to move hospital beds/stretchers under the control of a trained operator. Other hospital equipment may be moved with the use of approved accessories. The Unit has a number of key features which make moving hospital beds and stretchers faster, easier, and ergonomically safer than manual moving methods, including:

- Simple operation a single joystick controls forward, reverse, turning and lifting movements.
- Smooth start and stop functions.
- No user calibration required before use. All settings are factory set.
- An adjustable handle column for operator comfort.
- Jaws that attach to the castor wheels of the bed/stretcher to prevent inadvertent disengagement.
- Compact dimensions to allow access into standard elevators.
- Automatic brakes that eliminate the possibility of freewheeling.
- Non-marking wheels to prevent damage to floor surfaces.
- Jaw Release bypass features (lower / open).
- Brake Release bypass feature.
- Suits bed/stretcher wheel diameters ranging from 125mm to 200mm.
- Suits bed/stretcher wheel tracks with outside to outside measurement ranging from 550mm to 840mm.

2.4. Unit Overview

Component	Description
Chassis	Contains all the equipment required to move the Unit, including wheels, batteries, motors, gearboxes and brakes.
Lift Mechanism	Raises and lowers the bed/stretcher being moved by the Unit.
Jaw Mechanism	Attaches to bed/stretcher wheels to prevent disengagement from the Unit during movement. It is adjustable to be compatible with different sized wheels
Handle	Provides ergonomic access to the Control Assembly.
Control Assembly	Allows the operator to control the Unit.



Component	Description
Handle Adjustment Lever	Raises and lowers the handle.
Jaw Height Indicator	Illuminates red when the Jaw is lowered and ready to attach to a bed/stretcher. Illuminates green when Jaw is raised above the ground and is safe to drive (with or without a bed/stretcher attached.)
Emergency Stop Button (when engaged)	Stops move and lift functions. Activates bypass functions
Bypass System – Lower Jaws (Refer 3.8)	Lows jaws to release bed in case of controller failure
Bypass System – Open Jaws (Refer 3.8)	Opens jaws to release bed in case of controller failure





2.5. Controller

Component	Description
On/Off	Press to turn Controller on. All LED's on the Information Gauge will light up briefly, and then indicate the current battery charge (see below).Press again to turn off. All LED's will turn off.
Drive and Lift Toggle	By default the Unit starts up in Drive (allowing operator to move the Unit).To switch to Lift Mode (to operate the Lift Mechanism) press this button once. To return to Drive Mode press the button again.
Horn Button	Press to warn others of the Unit's approach
Joystick (Drive Mode)	Push the Joystick in the direction the Unit should travel. The Joystick is proportional; pushing it further from centre will cause the Unit to increase speed. When released the Joystick will return to centre and automatically stops.
Joystick (Lift Mode)	Push the Joystick forward (away from operator) to raise the Lift Mechanism. Pull the Joystick back (towards operator) to lower the Lift Mechanism.
Information Gauge	The LEDs provide feedback on the status of the Unit (see below).
Power Control Knob	The Knob controls the maximum drive power of the Unit. Turn it clockwise to increase power and anti-clockwise to decrease power.



Information Gauge	
LED Status	Meaning
	Power is off. The Unit is
000000	programmed to automatically
• • • • • • • •	power off if it has not been used for
All LEDs off	15 minutes.
	Power is on and batteries are fully
	charged.
All LEDs on steady	
	Power is on and batteries are
2000	moderately charged. Recharge
	before undertaking a long trip.
Red and amber LEDs	
on steady	
	Power is on and battery charge is
0000	low. Recharge as soon as possible.
Red LEDs on steady	
	Battery charge is very low. Do not
PRANK	attempt to lift a bed/stretcher.
7.00000	Recharge immediately.
Left red LED	
	The batteries are being charged.
chase - steady	
Left to right "chase"	
alternating with steady.	
	The power was turned on while
	the Joystick was not centered.
	Release the Joystick back to the
	centre position. Once all LEDs
	are on steady the Unit can be
LEDs flashing slowly	used again.

LED Status	Meaning
	Unit is in the Lift Mode. Press the Drive and Lift Toggle to return to
0000	Drive Mode.
Green LEDs flashing slowly	
	There is a fault with the Unit.
ROVENOS	Report fault immediately so an
	Agent can rectify it. Follow your
	organisation's procedures for
	tagging the Unit as faulty.
Flashing amber LEDs	
	Controller is Locked. Press the
	Horn button twice in quick
chase - steady	succession. The LED's should
Disht to left "shaaa"	return to normal battery status
Right to left "chase"	pattern.
	There is a fault with the Unit.
	Report fault immediately so an
	Agent can rectify it. Follow your
LEDs flashing in	organisation's procedures for
sequence with a pause	tagging the Unit as faulty.
then repeating	

2.6. Battery Charger



Component	Description
Power Switch	Flick up for "on", down for "off".
	Switch should illuminate when
	Charger is powered.
Charging	Green LED flashes rapidly whilst
Indicator	boost charging, reducing to
	continuous illumination as battery
	charges

2.7. Batteries

The unit uses sealed, maintenance free batteries to provide power for use. These batteries are only to be replaced by an agent.



2.8. Operating Conditions

The unit is designed for operation and storage in a clean indoor environment with the following characteristics:

- Operating temperature of +10 to +40°C.
- Operating relative humidity of 30% to 75%.
- Storage and transport temperature of -10 to +65° C.
- Storage and transport relative humidity of 10% to 90%.
- Maximum slope of ± 7°.

The unit may be used, under cover, for brief periods outdoors, but must not be exposed to rain or parked in direct sunlight.

The unit must only be operated on carpet or solid smooth surfaces such as concrete or linoleum. It must not be used on gravel, sand or other loose uneven surfaces. Avoid wet surfaces as the unit may lose traction.



3. Operation

3.1. Preparation for use



PRECAUTION:

The Unit must only be operated by persons who have been trained to use it by an Agent.

- Before using the unit, review the general safety instructions in Section 1.3.
- Ensure you are familiar with the key components and functions described in Section 2.
- Carry out a visual inspection of the unit to ensure nothing is damaged or missing.
- Ensure any loose, faded, or otherwise damaged warning labels are noted for repair immediately. Do not operate the unit unless the correct warning labels are present.
- Switch off the Charger and disconnect it from the Controller's Charging Socket. Carefully coil and store the cables so they do not present a hazard to others.
- Adjust the Handle to a comfortable height.
- Ensure the Emergency Button is pressed in.
- Press the Controller On/Off Button, if the device turns on the Emergency Stop Button is faulty. Do not use the Unit.
- If the Emergency Stop Button is working, release it.
- Press the Controller On/Off Button to turn the device on.
- Use the information gauge to ensure that the Battery has adequate charge. If not, charge according to instructions in Section 3.6.
- Turn the Speed Control Knob fully anti-clockwise.
- Check the brakes are working correctly by slowly pushing the joystick. Once the unit has started moving release the Joystick. The brakes should automatically apply and stop the Unit. If this does not happen the brakes are faulty; do not use the Unit.

- Check the Bypass Systems. Raise Jaws as normal with no bed/stretcher attached. Press and hold the Bypass System – Jaw Lower Button to ensure the jaws lower. Press and hold the Bypass System – Jaw Open Button to ensure the jaws open.
- Press the Horn button. If it does not sound report the fault. Do not operate the machine until rectified.
- Check correct operation of Jaw In/Out Toggle



3.2. Basic Operation

- Before driving the Unit (with or without a bed/stretcher attached) ensure that the Jaw Height Indicator is illuminated green. If not, ensure controller is in Lift mode, push the Joystick forward until the indicator illuminates green. Press the Drive and Lift Toggle Button to return to Drive Mode.
- In tight spaces or busy areas operate the Unit at a low speed (Speed Control Knob fully Anti-clockwise. Only increase the speed (by turning Knob clock-wise) where it is safe to do so.
- Push the Joystick in the desired direction of travel.
- Remember that the Unit speed will increase in proportion to the Joystick's distance from the centre position. Be aware that there will be a slight "ramp up" time for the Unit to reach the desired speed.
- Release the Joystick to stop movement.
- If at any stage the Battery charge is low do not attempt to lift a bed/stretcher. Recharge immediately.
- When reversing, move the Handle to a convenient position to make it more comfortable to operate and to clear feet.
- When leaving the Unit, choose a location which is out of the way and make sure the Emergency Stop Button is pushed in to prevent inadvertent operation.
- Do not drive over foreign objects on the floor as this may damage the non-marking wheels.
- Where available, use corridor mirrors for checking around corners.
- Before entering an elevator raise the Handle to the fully upright position. Be careful not to bump the Emergency Stop Button by accident.



3.3. Adjust Jaws to suit different sized wheels

The jaws of the TS5000 can be adjusted to suit 125mm, 150mm and 200mm diameter castor wheels. The blocks can be raised and seated to one of three positions while remaining attached to the machine. The pivoting flap can be positioned up or down.

Wheel Size	Description
Ø125mm	Wheel Diameter: 125mm Flap Position: Down Block Position: Closest to flap – aligned with Ø125mm marker
Ø150mm	Wheel Diameter: 150mm Flap Position: Down Block Position: Centre position – aligned with Ø150mm marker
Ø200mm	Wheel Diameter: 200mm Flap Position: Up Block Position: Furthest from flap – aligned with Ø200mm marker



3.4. Moving Bed or Stretcher

- Drive the Unit slowly up to the end of the bed/stretcher, trying to align the Unit centrally with the bed/stretcher.
- Ensure that the casters of the bed/stretcher are aligned and pointing towards the bed/stretcher mover.
- Change to Lift Mode and lower the Jaw Mechanism until the Jaw Indicator illuminates red.
- Use the Jaw Width Toggle to adjust the width of the Jaws to be greater than the overall width of the bed/stretchers castor wheels.
- Consider the size of the wheels on the bed/stretcher and adjust Jaw Flaps appropriately. Refer Section 3.3.
- Change to drive mode and drive the Unit forward until the Jaw Mechanism captures the bed/stretcher wheels.
- Use the jaw width adjustment switch to reduce the width of the Jaws until they are securely engaged around the bed/stretcher wheels.
- Change to lift mode and lift the Jaw Mechanism until the Jaw Height Indicator illuminates green. Observe the bed/stretcher as it is lifting to ensure no obstructions.
- Before driving, ensure all the patient peripherals (e.g. drips, monitors etc.) are attached to the bed/stretcher and not on separate trolleys.
- When the bed/stretcher has reached it's destination, change to Lift mode and lower the Jaw Mechanism. Take care to lower the bed/stretcher slowly.
- Use the Jaw Width Toggle to spread the Jaws until they are clear of the bed/stretcher wheels.
- Change to drive mode and reverse the Unit away from the bed/stretcher.
- Change to Lift Mode and raise the Jaw Mechanism until the Jaw Height Indicator illuminates green.
- Change to drive mode to drive the unit away.



3.5. Moving Bed/Patient Combinations Over 500kg

- These loads must only be moved with at the assistance of an additional person.
- Best performance is achieved by engaging the Unit at the foot of the bed/stretcher.
- The assistant must guide the head of the bed/stretcher. Little force is required as the unit will drive the bed/stretcher, but the assistant will be required to direct the bed/stretcher, especially around corners and into tight spaces such as lifts.

3.6. Storage

Store the Unit in an area with restricted public access to avoid improper use. Lock the controller when unit is not in use.

• For storage, turn the Unit off using the On/Off button on the Controller. Depress the Emergency Stop Button.

3.7. Charging

- It is recommended that the Unit batteries are charged at the end of each day's use. The batteries cannot be overcharged; frequent charging will prolong battery life.
- When the battery charge indicator is in the red, the batteries will need to be charged for eight hours.
- To charge the unit, firstly ensure that the E-Stop is not depressed. Insert the EPS2410 battery charger plug into the controller charging socket. Plug in and switch on charger at the mains supply. Turn the Charger on and check that the Charging Indicator on the Charger is green.
- The green LED on the charger will flash rapidly (3 Flashes per second) when the charger is boost charging, and more slowly (1 flash per second) once the battery is above 80%.



At 100% the LED will stop flashing and illuminate continuously.

3.8. Locking the Controller

Locking the Controller helps to prevent unauthorized users from operating the Unit.

To lock:

Press and hold the On/Off button for approximately 4 seconds until the horn beeps twice in quick succession (at the same time all the LEDs on the information gauge will flash twice).

To Unlock:

Press the On/Off button to turn on the Unit. The LEDs should be flashing in a "chase" pattern from right to left. Press the horn button twice in quick succession. The LEDs should return to the normal battery status pattern. Always lock the Controller when leaving the Unit unattended.

3.9. Bypass Systems

In case of a controller failure the Bypass System makes it possible to release the captured bed and manually move the machine. Before activating the Bypass Systems depress the Emergency Stop Button.

- Jaw Lower Bypass The jaw lower bypass will lower the jaws to their minimum height when depressed and held.
- Jaw Open Bypass The jaw open bypass will open the jaws to their maximum width when depressed and held.

4. Maintenance

4.1. Unpacking and Commissioning

The Unit must only be unpacked and commissioned by an Agent.

4.2. Decontamination

Turn the Unit off at the Controller and push in the Emergency Stop Button before commencing cleaning to prevent inadvertent operation of any functions.

To ensure the Unit does not pose a risk of contamination, the covers must be cleaned thoroughly using standard hospital issue isopropyl alcohol wipes:

- Immediately upon the spillage of any substance onto the Unit, <u>and</u>
- At least weekly (i.e. as a regular preventative regime).
- The covers must be removed and the inside of the Unit must be cleaned (top-side and under-side) as part of a regular 6-monthly service carried out by an Agent.

4.3. Cleaning of Charger

If the Charger becomes dusty, wipe with a soft, dry lint-free cloth. Ensure the Charger is disconnected from the mains supply before cleaning. Do not use liquid or abrasive cleaners.

4.4. Servicing

The Unit must only be serviced by an Agent.

4.5. Replacement of Parts

For part replacement, contact an Agent. The mains power supply cord must be replaced (as per the specified power lead for the region in which the TS5000 is to operate) if faulty. It must not be serviced or repaired.

4.6. Transportation

If the Unit needs to be transported (i.e. moved while not under its own power), observe the following:

- Ensure the Unit is switched off with the Emergency Stop Button depressed.
- If lifting of the Unit is required, use appropriate lifting equipment with a safe working load of at least 160kg.
- Orientation Ensure the Unit is positioned on it's wheels. Do not lie on it's side.
- Stacking Do not stack units on top of each other.

4.7. Disposal

The Unit contains sealed, maintenance free batteries and electronic components. Dispose of in accordance with local Regulations.



This product has been supplied by an environmentally aware manufacturer. Please recycle this product at the end of its life in accordance with your local regulations. This product may contain substances that could be harmful to the environment if disposed of in a landfill.



5. Troubleshooting



The information gauge provides important feedback for troubleshooting faults. Refer to Section 2.4 for details. If the fault cannot be solved through the Information gauge, contact an Agent for assistance.

6. Other Information

6.1. Approved Beds & Stretchers

Contact your agent to enquire about compatibility of the Staminalift TS5000 with your bed and stretcher needs.

6.2. Warranty Conditions

The Unit is warranted by the Company to be free from faulty materials or workmanship for a period of twelve months or 1 year from date of purchase. This can be extended to 2 years by arranging a servicing agreement with your local agent. If any defect is found within the warranty period, the company will repair, or at its discretion replace the Unit without charge for materials or labour. Batteries which carry a 12 month warranty only are excluded from the extended warranty agreement.

The Warranty is subject to the provisions that the Unit:

- Has been used solely in accordance with this Manual.
- Has been properly charged in accordance with this Manual.



- Has the original serial number attached.
- Has not been subjected to misuse, abuse, improper operation, unauthorised modification, tampering, been involved in an accident, or been modified or repaired by any person other than an agent.

Do not modify this equipment without authorisation from the manufacturer. Unauthorised modifications will void the warranty and can also result in serious injury or death.

6.3. Standards Compliance



6.4. Trademarks & Patents

StaminaLift ® is a registered trademark.

There are several patents pending for the StaminaLift TS5000.