



Bariatric Wheelchair Mover

Operating Manual

Bariatric Wheelchair Mover Operating Manual—OM0027E

This manual contains important safety, installation and operating instructions for this unit. Read this manual thoroughly and completely, and retain for future reference. This unit can cause serious injury to personnel or damage to property if used incorrectly, therefore do not use this machine for any other purpose apart from its intended use. Using this unit incorrectly may void warranty.

Any damage audible or visible to this unit should be addressed at the time of discovery. Electrodrive Pty Ltd can provide parts and service support on request through its service partner company:

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Introduction

The Bariatric Wheelchair Mover is a battery operated mobile unit designed to power-assist patient wheelchairs, while helping to reduce the risk of back/shoulder strain for the operator—caused by manually pushing or pulling wheelchairs.

The Bariatric Wheelchair Mover includes the latest developments in DC motors with automatic electromagnetic park braking, as well as a high capacity programmable controller.

Features include quiet operation, ease of handling, high manoeuvrability, low maintenance, and the ability to handle loads up to 300 kg on a 6 degree gradient. The Bariatric Wheelchair Mover slows and brakes automatically when the twist grip is released.

Under typical operation, the Bariatric Wheelchair Mover battery capacity should be adequate for a day's operation. Overnight charging is recommended, and in high-use situations additional 'top-up' charging is advised. It is recommended to use the charger supplied with the Bariatric Wheelchair Mover when charging the sealed maintenance-free batteries. This charger is especially designed to set the charge rate, prevent gassing, and automatically cut switch to 'trickle charge' when charging is complete.

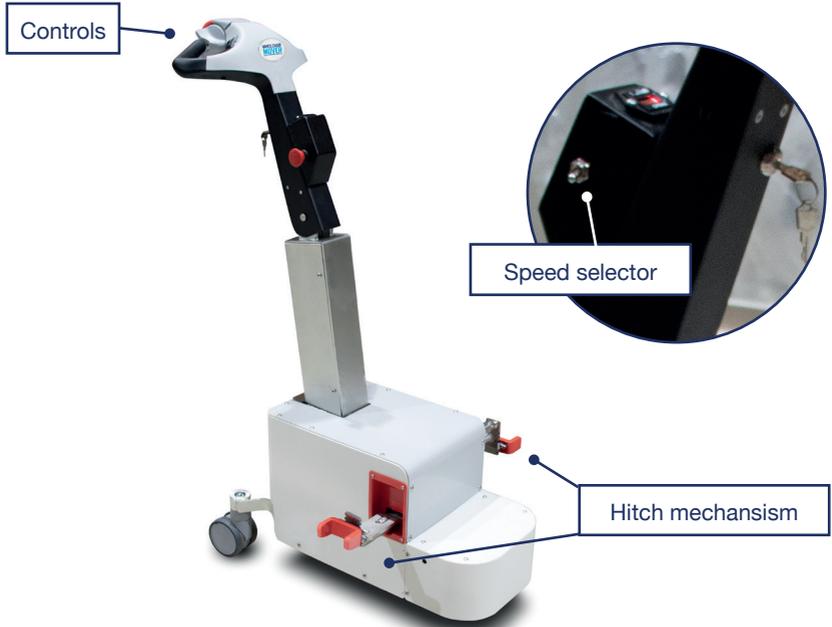
All bearings are pre-lubricated and sealed and should not require attention in normal use. Regular maintenance requirements on the vehicle are therefore minimal and are covered in this manual.

As with any machinery, safety considerations demand that the Bariatric Wheelchair Mover be handled with caution, and only operated by trained and authorised personnel. In addition, the wheelchair must be securely locked to the Bariatric Wheelchair Mover.



The Bariatric Wheelchair Mover must only be operated by trained and authorised personnel.

Operating instructions



Controls



Controls

Key switch

The key switch must be turned clockwise to switch the Bariatric Wheelchair Mover on. When on, the LED status indicator will be illuminated. It is important to note that the unit should be switched off and the key removed, whenever it is not in use. This eliminates the risk of unauthorised movement and also prevents an unnecessary use of battery power.

Emergency back-off bar

When the Emergency back-off bar is activated (depressed) while in motion, the Bariatric Wheelchair Mover will behave in one of two ways.

1. In reverse (towards the operator), the Bariatric Wheelchair Mover will stop and then move away from the operator for a short distance.
2. In the forward direction, the Bariatric Wheelchair Mover will reduce to a slow speed.



Any accessories installed that prevent the safe operation of the emergency back-off bar may create a crush hazard for the user.

Throttle

The throttle provides variable speed control. Releasing the throttle stops the unit.

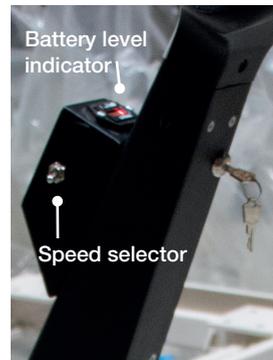
An automatic park brake is applied after a short delay after the grip has returned to its neutral position. Under no load, the park brake will maintain the Bariatric Wheelchair Mover in a stationary position. Under load, the brake may not be capable of holding the system stationary, particularly on a sloping surface.

Battery level indicator

The battery level indicator indicates the amount of charge left in the batteries. When it appears to be running low, return the Bariatric Wheelchair Mover to the closest charging station to charge the batteries.

Speed selector

Select a speed that you are comfortable using. The speed can be changed whilst driving. It is advisable that the operator select a slow speed when approaching a wheelchair to hitch; entering a confined area; on a slippery or slightly sloped floor surface; turning, or reversing.



Brakes

Two braking systems operate in the Bariatric Wheelchair Mover. Firstly, when the throttle is released the Bariatric Wheelchair Mover is slowed electronically with dynamic braking until the Bariatric Wheelchair Mover and the accompanying load stops. In addition, after a short delay an automatic electromagnetic brake is activated to stop the Bariatric Wheelchair Mover.

Park brakes release

In the case where the unit cannot be turned on due to a flat battery, use the park brake release switch located on the column. Use this key switch to override the motor park brake, the machine can now be manually pushed to a different location. Remove the key from the park brake release and immediately place the machine on charge when unit is at the charging station. Confirm the charger has begun to charge the batteries, leave on charge for a minimum of eight hours. If the machine is still not working call an Electrodrive service agent.

Using the Bariatric Wheelchair Mover

Safety check

Before using the Bariatric Wheelchair Mover, the operator should complete the following safety check.

1. The charger is disconnected from the Bariatric Wheelchair Mover.
2. The emergency back-off works.
3. The battery condition indicator shows adequate charge.
4. The braking system is in operation, so that when stopped, the unit cannot be manually moved, and that the unit slowly moves when the throttle is applied.
5. The Bariatric Wheelchair Mover hitch is not damaged and securely latches onto the wheelchair frame.

Safe operation

1. The unit, when attached with a wheelchair, may present a hazard to other staff and moving hospital equipment during an emergency. Setting the proper speed is advised in such cases.
2. Even though the electromagnetic or other interference of the Bariatric Wheelchair Mover is not significant, it may still have an impact on some high accuracy hospital equipment. It is advised that you do not park or keep the Bariatric Wheelchair Mover too close to this kind of equipment when they are in use.
3. Always begin driving the Bariatric Wheelchair Mover on SLOW speed to ensure you maintain control. The Bariatric Wheelchair Mover has an intuitive control system, so it becomes easier to use the more you use it. Select a speed that is suited to the competency of the operator. If unsure, start with SLOW speed then adjust up accordingly.

Hitching and unhitching to a wheelchair

The Bariatric Wheelchair Mover has a gripper hitch for hitching onto wheelchairs. Suitable for both standard and bariatric sized wheelchairs, it has a maximum range of 700 mm. This is the widest hitch point for chairs when the hitch arms are fully extended. (See page 10 for the maximum and minimum hitch range.)

Gripper hitch

The standard gripper hitch suits wheelchair frames up to 40 mm thickness.

Hitching to a wheelchair using the gripper hitches

1. Ensure the wheelchair is on a flat surface.
2. Using the lock/unlock buttons on the control panel, press the 'unlock' button until the gripper bar is in its closest position to the Bariatric Wheelchair Mover unit.
3. Drive the Bariatric Wheelchair Mover up to the wheelchair frame so that the gripper hitch is facing the wheelchair frame.
4. Using the lock/unlock buttons on the control panel, press the 'lock' button until the grippers are completely closed over the wheelchair frame and cannot move any further.
5. Ensure that the wheels on the wheelchair are in the neutral position and that the wheelchair is free from external equipment. The wheelchair is now ready to be moved.



Unhitching from a wheelchair

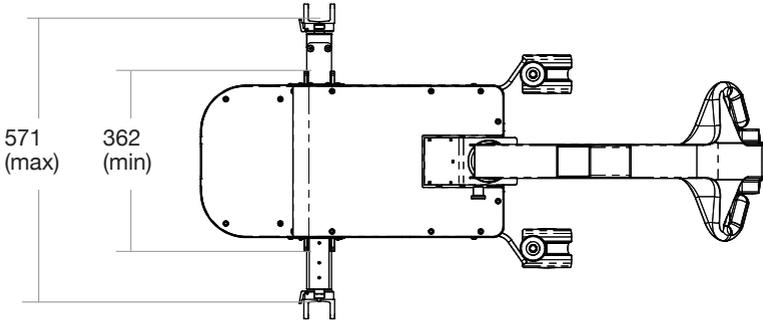
1. Confirm the Bariatric Wheelchair Mover and wheelchair are stationary, and on level ground.
2. Apply brakes to lock the wheelchair in position.
3. Press the 'unlock' button until both grippers are totally free from the wheelchair frame. The Bariatric Wheelchair Mover can now be taken to the charging station, or to the next wheelchair.



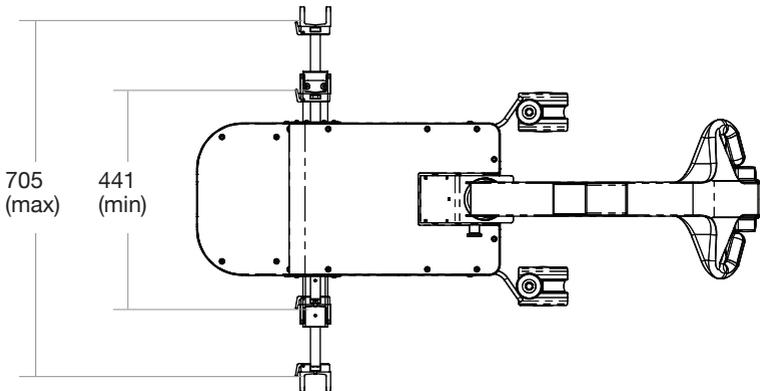
Always park the Bariatric Wheelchair Mover in a safe place.

Hitch range (maximum and minimum)

REGULAR VERSION:



BARIATRIC VERSION:



Sleep mode

After a period of 30 minutes of inactivity, the Bariatric Wheelchair Mover will switch into a sleep mode to extend battery life. To resume operation, simply reset by turning key OFF then ON.

Charging

1. Use only the supplied battery charger to charge the unit.
2. Always position the unit to allow enough space to connect or disconnect the charger socket from the unit.

For detailed charging procedures refer to Appendix 5.

Maintenance

Batteries

If the Bariatric Wheelchair Mover is not being used for an extended period of time, it should be connected to the battery charger to check the battery level on a regular basis, and placed on charge overnight if required. This will ensure the batteries are kept in good condition.

The batteries are sealed and maintenance free. DO NOT attempt to open these batteries. If the Bariatric Wheelchair Mover is not charged as above, the batteries may be exhausted and have dropped below the charging threshold of the battery charger. The supplied charger cannot begin to charge the batteries unless they have a small amount of charge. If this occurs, contact Electrodrive or your local service agent.

A sign that the batteries need replacing is when they no longer hold charge.



**Irregular charging may cause premature battery failure.
The battery can only be replaced by a qualified technician.**

Drive wheel

To replace the drive wheel:

1. Turn off the machine and remove the key.
2. Remove the covers.
3. Disconnect the motor and remove four counter sunk screws.
4. Lower the drive wheel assembly.
5. Follow above instructions in reverse order to fit new drive wheel assembly.

Brakes

The park brake does not require regular maintenance. If the Bariatric Wheelchair Mover is not remaining stationary when in the OFF position, contact Electrodrive or your local service agent.

Motor

Motor brushes should be inspected every 12 months and replaced as required.

Electronic speed control

This unit is factory programmed, and is not serviceable by the customer. Contact Electrodrive or your local service agent for diagnosis and advice.

Fuses

The control circuit is protected against inadvertent current overloads with a 1 Amp fuse. The charger circuit is protected by a 10 Amp fuse. These fuses are located next to the electronic controller on the electrical panel.

Circuit breaker

The Bariatric Wheelchair Mover is fitted with a self-resetting circuit breaker in case of momentary overload. This switch can be found next to the fuses as shown.

If the circuit breaker continues to trip multiple times in succession, test the machine, as the motor may be damaged. Continued use could damage the unit further.

The controller is also equipped with safety shut down capabilities and will limit the battery current as well as detect low battery voltage.

Cleaning

To clean exterior of machine wipe surfaces down with a warm damp cloth. A mild detergent may be used for harder-to-remove grime.



Do NOT use chemical solvents, highly concentrated caustic soda or abrasive cleaning agents. These may damage the surface quality and may affect the integrity of polyurethane and machine lubricant properties.

General

Any damage audible or visible to the Bariatric Wheelchair Mover should be addressed at the time of discovery.

When not in use the unit should be stored in a cool dry place. Please ensure it is not parked in a manner that obstructs access, causes a tripping hazard, or any other safety related issue.

Disposal of components or material

All replaced or damaged components should be disposed or recycled properly based on its category.

Warranty

Electrodrive Pty Ltd warrants that this product is free from defects in materials and workmanship for a period of 12 months from the date of dispatch from the Electrodrive plant.

If a defect is reported, Electrodrive will repair or replace the defective part, at its own discretion. This warranty does not apply if the Bariatric Wheelchair Mover has been misused, damaged, or modified in any way.

Modifications and misuse will void your warranty

The following activities (including, but not limited to) are examples:

Modifications

- The machine is re-wired by an unauthorized service agent.
- The motor controller is re-programmed by an unauthorized service agent.
- There are modifications to the body or frame of the machine.
- Use of non-specified parts.
- The machine is serviced by an unauthorized service agent.

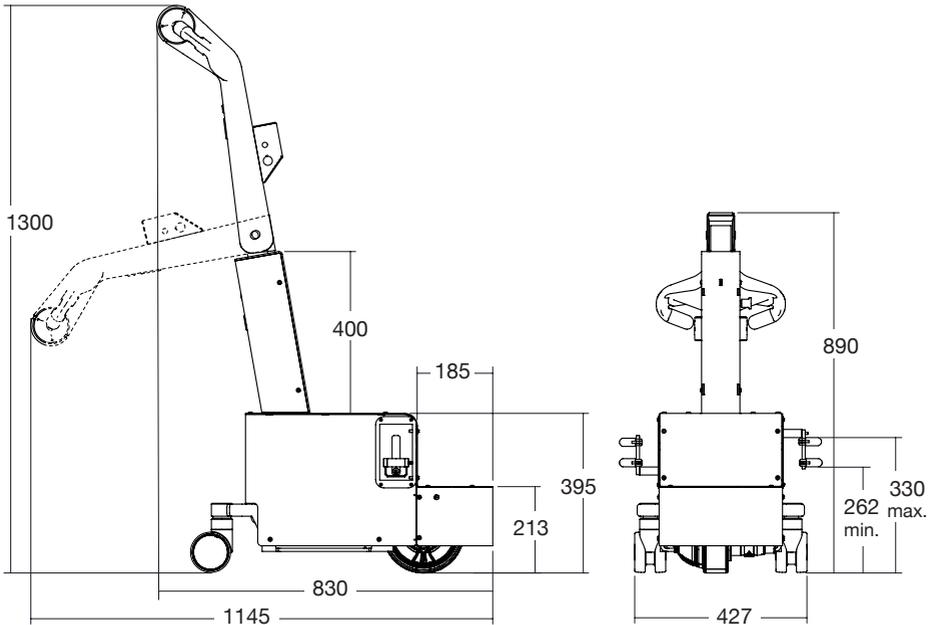
Misuse

- Overloading the unit.
- Carrying people or other foreign objects.
- Exposed to rain or other precipitation.
- Using the emergency back-off system to change direction regularly.
- Exposed to a corrosive environment.
- Driven off road—potholes, gravel, etc.
- Driven on slopes with a steeper gradient than 1:12.
- Not being charged adequately.
- Using the emergency stop button as an ON/OFF button.

General wear items not covered under warranty

- Castors.
- Drive wheels and motor brushes.
- Back-off button.

Appendix 1: Machine rating conditions



Model	Safe Working Load	Max speed
Bariatric Wheelchair Mover	350 kg (max.)	Up to 5 km/h

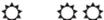
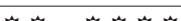
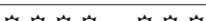
The Bariatric Wheelchair Mover has been designed to move the rated weight capacity on a level firm surface. Variations in the working environment may impede the performance of the Bariatric Wheelchair Mover. Such parameters include (but are not limited to) the following:

- Ramps and sloped surfaces.
- Soft surfaces (for example carpet).
- Slippery surfaces (gravel, water, oil on the ground, etc).



It is important that the Bariatric Wheelchair Mover NOT to be operated outside of the recommended conditions.

Appendix 2: Fault codes

	LED codes	Explanation
LED off		No power or defective controller.
Solid on		Controller operational; No faults.
1, 1		Thermal cutback fault.
1, 2		Throttle fault.
1, 3		Speed limit pot fault.
1, 4		Undervoltage fault.
1, 5		Overtoltage fault.
2, 1		Main contactor drive 'off' fault.
2, 3		Main contactor fault.
2, 4		Main contactor drive 'on' fault.
 3, 1		HPD fault present for > 10 seconds.
3, 2		Brake 'on' fault.
3, 3		Precharge fault.
3, 4		Brake 'off' fault.
3, 5		HPD (high pedal disable) fault.
 4, 1		Current sense fault.
 4, 2		Motor voltage fault (hardware failsafe).
 † 4, 3		EEPROM fault.
 4, 4		Power section fault.

 = Must cycle keyswitch to clear.

† = Must use programmer to clear, as follows: Select 'parameters menu'; alter data vaule of any parameter; cycle keyswitch.

Note: Only one fault is indicated at a time, and faults are not queued up.

Appendix 3: Hitch release instructions

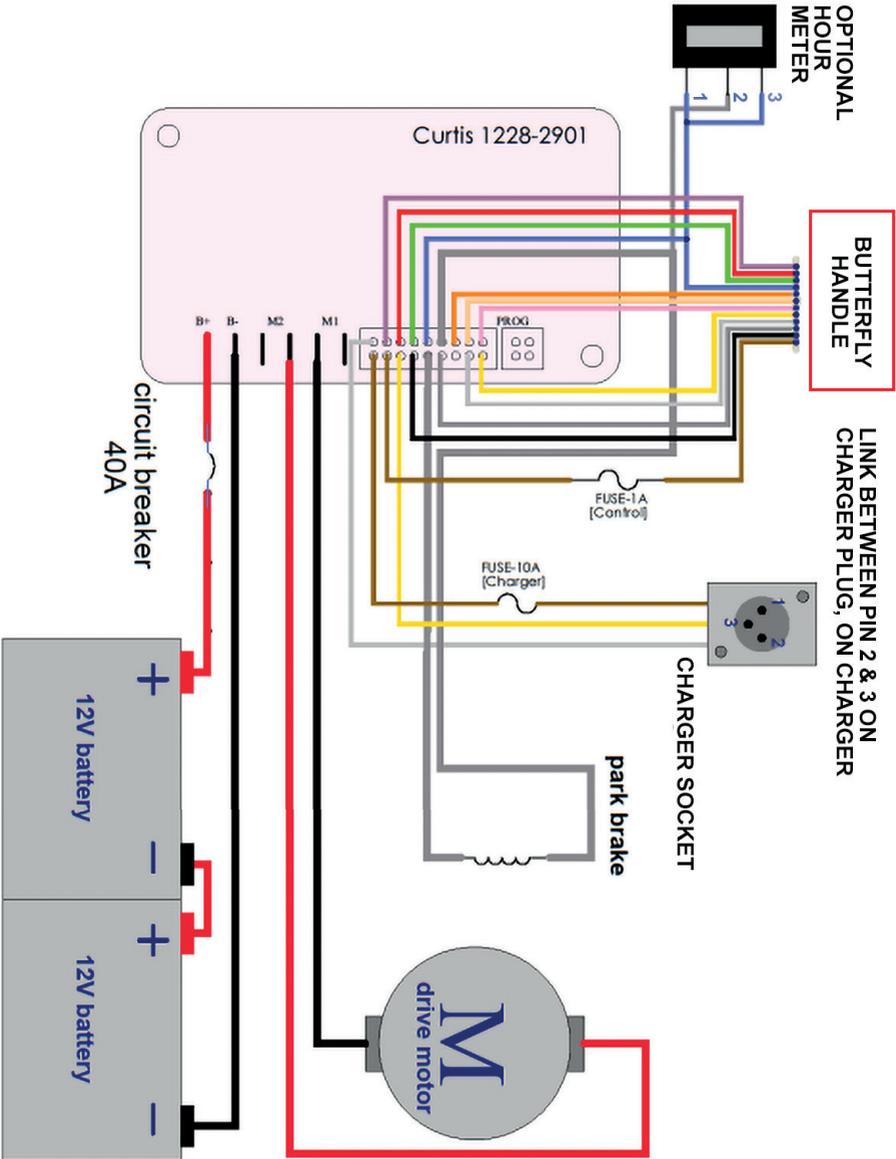
The powered hitch function of the Bariatric Wheelchair Mover has built-in safety controls to limit the output force of the hitch. When this force is exceeded, the hitch will stop.

1. In the event of the hitch stopping unexpectedly, press the 'unlock' button on the hitch controls. This resets the safety circuit, and allows the hitch to function normally.
2. If, for some reason, the hitch is overloaded in its extreme 'unlock' position, there is an alternative method of 'driving' the hitch out of a bind. This will only work if the hitch is in its unlock position. Whilst holding the hitch 'unlock' button on the controls, press the button simultaneously. This will momentarily override the safety circuit to get the hitch working in its normal range.



Please note: These instructions should only be carried out by a qualified maintenance technician. If there is any uncertainty, please contact your local Electrodrive Authorised Service Agent for further advice.
To avoid the hitch being unnecessarily overloaded, please avoid locking the wheelchair into the hitch.

Appendix 4: Wiring diagram



Appendix 5: Charging procedures for SLA batteries

- Always charge batteries when work is complete and the equipment is not required for use.
- Opportunity charging is NOT recommended. This can also shorten battery life.
- Never leave batteries in a discharged state as this will shorten the batteries life.
- For maximum battery life, a battery must be recharged to 100% capacity. Recharging less than 100% may result in premature battery failure. Batteries are not covered under warranty if they are not recharged properly.
- If batteries are disconnected from the machine and not used for lengthy periods of time, it is recommended to give them a maintenance charge once every two months.

Charging setup

- Ensure you have the correct charger for the batteries. The correct voltage and current is important to ensure the full life of the batteries.
- Check all connections are tight and in good condition.
- The green charger LED will illuminate to confirm charging is in progress.
- If charger lights do not come on, call your service technician.
- When charger is plugged in, drive function of machine is automatically inhibited.

During charging

- Ensure there is enough airflow to help keep the batteries as cool as possible.
- If the batteries are swollen turn off immediately and call your service technician.
- Always leave batteries on charge until the charge is COMPLETE. This is indicated when charger LED turns off.

Charger manual

Please read BA1105—Battery Charger Operating Manual for more information.

Appendix 6: Spare parts list

Part number	Description
EDGM2021	Plunger for wheelchair mover
EDBATGEL33AH	Battery 12V 33Ah
EDBUTTERFLYCONTROL	Butterfly control handle
EDWIRGZ10MCSWTCH	GZ10SL mirco switch loom
EDGM2855	Compression springs: C08-05
EDSUBFAQ100FCSWA	Trinity 100 mm conductive Q
EDSPRPLG7MM	Winco-822.6-7-M12X1.5-B spring pin plunger 7mm pin M12
EDMSA20R230	20mm MSA profile rail
EDMSA20LESSFCN	20mm runner block E series
EDMOTHUB300WS1	Amer DW2 6962215
EDGM2101	Spring tension L100 OD25.4 K3.13
EDEL1100	Blanking plug: 13mm
EDEL2110	Controller 1228, blank ready to program
EDEL3190	3 Pin charger socket
EDACT100N50MM	1000N, 24V DC, stroke: 50mm
EDBA1105	7Ah 24V batery charger

Service log

Service recommendations

To ensure this equipment is kept in a safe and reliable condition, it is important to follow a preventative maintenance program. Maintain a log of the service work on the cards below, and always use an approved Electrodrive service agent to conduct the works. Approved service personnel will be provided with all necessary documents and components in service repair, including but not limited to, circuit diagrams, component part lists, descriptions, service checklists and spare parts.

6 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

12 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

18 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

24 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

30 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

36 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

42 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

48 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

54 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

60 month service

Date of service		Service agent	
Machine serial number			
Summary of works			
Next service due			

Notes

Mobility solutions to help you push, pull & lift with ease.

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