

## Smart Lifter



User & Installation Manual

LP Range



# Safety Guidelines



**WARNING! - Authorised Autochair technicians & installers are to complete the initial set up of this device. All Installation instructions must be followed.**

The following symbols are used to identify warnings and important details throughout this manual. Please read them and ensure you are aware of their meaning.



**WARNING! - These symbols denote a potentially dangerous situation. Failure to carry out the specified procedures may result in injury or damage to the device.**



**MANDATORY! - The indicated actions must be carried out as specified. Failure to perform the specified actions may result in injury or damage to the device.**



**PROHIBITED! - Do not carry out the indicated actions. They should not be performed at any time, under any circumstances. Carrying out a prohibited action may result in injury or damage to the unit.**

Please fill out the following details for quick reference:

**Autochair Dealer:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_ **Purchase Date:** \_\_\_\_\_

**Serial Number:** \_\_\_\_\_

NOTE: This owner's manual is compiled from the latest specifications and product information available at the time of publication. We reserve the right to make changes as they become necessary. Any changes to our products may cause slight variations between the illustrations and explanations in this manual and the product you have purchased. The latest/current version of this manual is available on our website.

NOTE: This product is compliant with WEEE, RoHS, and REACH directives and requirements.



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Autochair Ltd.  
1225202 Rev. H

**Manufactured By:**

Autochair Ltd  
Wood Street North  
Meadow Lane Industrial Estate  
Alfreton  
Derbyshire  
DE55 7JR



## SMART LIFTER USER'S MANUAL



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## SMART LIFTER INSTALLATION MANUAL



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# 1. Introduction

## **Congratulations on the purchase of your new Smart Lifter manufactured by Autochair Ltd**

**Please read through these instructions thoroughly before operating your Smart Lifter.**

All models of this product are very powerful in both the UP (lifting) and DOWN (lowering) as well as the IN (into vehicle) and OUT (out of vehicle) operation. Care should be taken that the boom and the mobility product that is being lifted is free to move. These devices have the power to break trim and cause harm if not operated correctly.

This Smart Lifter is designed to lift wheelchairs, electric wheelchairs and scooters into vehicles. They should be fitted into the vehicle by a competent fitter who will also ensure that the correct lifting bracket is fitted to suit your mobility vehicle. The fitter will also demonstrate the operation of your Smart Lifter and show you how the lifting brackets are connected.

Please note that your Smart Lifter comes complete with a 12 month warranty. This warranty covers the replacement of any faulty parts and the labour for replacing those parts. The warranty does not cover travel costs.

For further peace of mind, we also offer extended warranties up to a total of 4 years which include an annual service, which can be done at your home. If you would like further information on a service and warranty packages, please call.

### **ONLINE AND PRIVATE PURCHASES**

If you purchased your product online or from a previous owner and require any information about the safe use and maintenance of your Smart Lifter, please visit our website at [www.autochair.co.uk](http://www.autochair.co.uk) or contact your Accredited Autochair Dealer.

### **END-USER'S AGREEMENT**

By accepting delivery of this product, you agree that you will not modify, change or alter this Smart Lifter or remove or render inoperable or unsafe any guards, shields, or other safety features of this product; fail, refuse, or neglect to install any retrofit kits from time to time provided by Autochair to enhance or preserve the safe use of this product.

### **DELIVERY AND SHIPPING**

Before using or operating your Smart Lifter, make sure your delivery is complete. Some components may be individually packaged. If you do not receive a complete delivery or if any damage has occurred to the Smart Lifter or packaging whilst in transit, please contact your Accredited Autochair Dealer. Upon delivery of your new Smart Lifter your Accredited Autochair Dealer should provide a demonstration on the correct use of the Smart Lifter.

### **FEEDBACK AND SUGGESTIONS**

We want to hear your questions, comments, and suggestions about this manual. We would also like to hear about the safety and reliability of your new Smart Lifter and about the service you received from your Accredited Autochair Dealer.

Please notify us of any change of address, so we can keep you apprised of important information about safety, new products, and new options that could improve your ability to use and enjoy your lift system. Please feel free to contact us at the address below:

**Autochair Ltd  
Wood Street North  
Meadow Lane Industrial Estate  
Alfreton  
Derbyshire  
DE55 7JR**



0800 009 2326



[service@autochair.co.uk](mailto:service@autochair.co.uk)



[www.autochair.co.uk](http://www.autochair.co.uk)

## 2. Safety



### Product Safety Symbols

Please study the symbols below to ensure you understand them completely. They are used on the Smart Lifter and in the manual to identify warnings and mandatory or prohibited actions.



Read and follow all directions in this manual.



Maximum lifting capacity.



Do not ride on the mobility product while operating the Smart Lifter or when the vehicle is in motion.



Pinch/Crush points on the Smart Lifter. Keep hands and fingers away from moving components and crush points when operating the Smart Lifter.



Battery posts, terminals and related accessories contain lead and lead compounds. Wear goggles and gloves when handling batteries and wash hands after handling.






Disposal and recycling. Contact your Accredited Autochair Dealer for information on proper disposal of your Smart Lifter and its packaging.



## 2. Safety


### LIFTING CAPACITIES

The Smart Lifter is designed to lift a maximum weight of 100kg, 125kg, 150kg or 200kg depending on the version you have installed in your vehicle. Check this by referring to labels on the lift arm. Under no circumstances should the Smart Lifter exceed the stated lifting capacity. Subjecting the Smart Lifter to the strain of lifting more than it is designed to may cause it to fail, resulting in damage to the mobility product and/or injury to the operator. Refer to the mobility product specifications for information on the overall weight of the mobility product before lifting with the Smart Lifter.

	<b>WARNING!</b> Exceeding the maximum lifting capacity of your specific Smart Lifter may cause the lift system to fail, resulting in injury to the operator and damage to the hoist.
	<b>MANDATORY!</b> Adding accessories, oversized batteries, or a different seat will increase the weight of your mobility device. Verify with your mobility device supplier to ensure your mobility device does not exceed the maximum lift capacity of the Smart Lifter.
	<b>WARNING!</b> The Fitting Kit and Accessories for your vehicle may be rated at a lower capacity than your Smart Lifter. Please check with your Accredited Autochair Dealer to ensure the correct Safe Working Load is maintained.



### INSTALLATION

The Smart Lifter is intended for installation in the boot of a vehicle. Read and fully understand the installation instructions with the Smart Lifter and the related fitting kit instructions before installing the lift system.

	<b>WARNING!</b> The Smart Lifter is only intended to be installed by an Accredited Autochair Dealer or qualified technician. Separate installation instructions are provided with the Smart Lifter and the installation kit. Read and fully understand the manual prior to installation. Do not attempt to install the Smart Lifter yourself.
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### PRE-USE INSPECTION

There should be no sharp edges on the Smart Lifter, the A-Frame or the scooter brackets. If you find any sharp edges, please contact your Accredited Autochair Dealer and notify them. Make sure that you are completely happy with the operation of your Smart Lifter before lifting your mobility device. Misuse or incorrect operation of the Smart Lifter could result in injury. Inspect the lifting straps before every use for twisting, fraying or signs of wear. If signs of wear become evident, have them replaced by your Accredited Autochair Dealer.

	<b>WARNING!</b> A frayed or worn strap can snap, resulting in damage to the Smart Lifter and mobility device and potentially injury to the operator.
	<b>MANDATORY!</b> If your scooter or mobility device model changes, please contact your Accredited Autochair Dealer to confirm suitability with your existing hoist before use.

### OPERATOR POSITIONING

Keep hands and fingers clear of the lift arm while the lift system is lifting/lowering or loading in/out a mobility product. The operator should stand a safe distance from the Smart Lifter when it is in operation to ensure that their feet are never positioned under a raised mobility product.

## 2. Safety



### VEHICLE POSITIONING

Be sure your vehicle is parked on flat, level ground and the handbrake is engaged before attempting to lift a mobility product. Before lowering ensure that the Smart Lifter is fully out of the vehicle, otherwise your mobility device may come into contact with your vehicles bumper.



**WARNING!** Attempting to lift a mobility product when a vehicle is not on level ground will cause the mobility product to swing toward or away from the vehicle, making it difficult to get the mobility product into the vehicle.



**WARNING!** The Smart Lifter must never be operated by a child or any person not deemed appropriate by the technician who installed it.



**WARNING!** The safety R-clip must be fitted into the top pin in the A-Frame before operating.



**WARNING!** Note the position of all pinch point warning labels stating “Keep Clear”. Never place your hands in these locations when the Smart Lifter is in operation.



**WARNING!** The Smart Lifter must never be used to lift items other than the mobility product it was originally installed and set-up to lift. If you wish to lift additional mobility products, contact your Accredited Autochair Dealer.



**WARNING!** Never use an Smart Lifter that has signs of damage or excessive wear.



**WARNING!** Do not exceed the maximum stated lifting capacity.



**WARNING!** Misuse of the Smart Lifter may result in serious injury and damage to the unit or vehicle.

Before lifting the mobility product for the first time, operate the Smart Lifter without a load until you are familiar with the controls and how the Smart Lifter operates.

Any adjustment to the Smart Lifter settings must only be carried out by an Accredited Autochair Dealer.

Your Smart Lifter should be serviced every year to ensure it is in good working order.

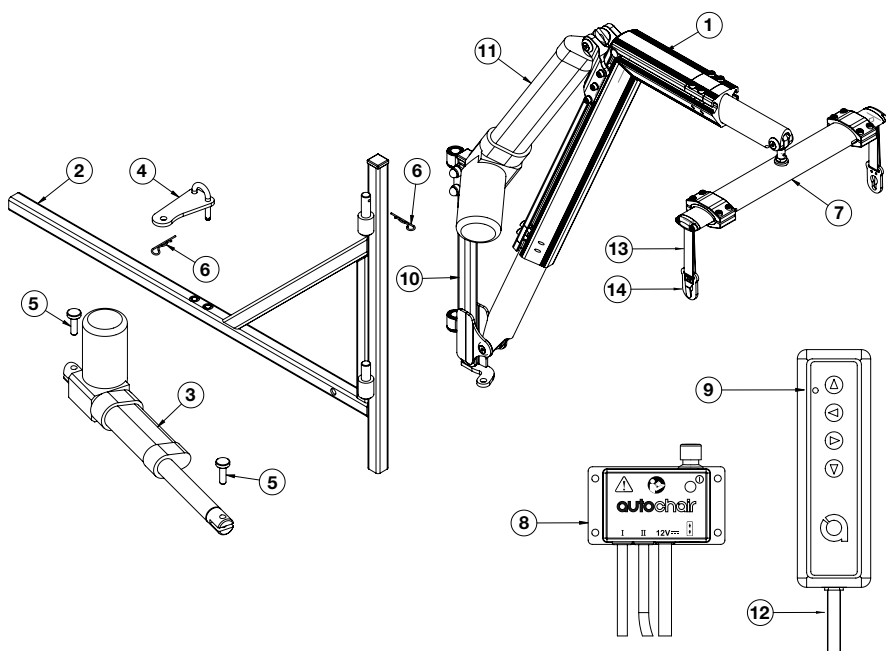
If in doubt about any aspect of your Smart Lifter, contact your Accredited Autochair Dealer.



## 3. Technical

### PRODUCT SPECIFICATIONS

<b>Smart Lifter Model</b>	L-P100	L-P125	L-P150	L-P200
<b>Weight of the lifting arm:</b>	11kg	11kg	11kg	14kg
<b>Maximum lifting capacity:</b>	100kg	125kg	150kg	200kg
<b>Power supply:</b>	12v DC			
<b>Maximum current draw:</b>	22 Amps			
<b>Product materials:</b>	Aluminium & Mild/Stainless Steel			
<b>Material Finish:</b>	Powder coated - grey, red, blue or pink			



1. BOOM
2. A - FRAME
3. IN/OUT ACTUATOR
4. IN/OUT ACTUATOR FIXING PLATE
5. ACTUATOR PIN
6. RETAINING PIN
7. SPREADER BAR

8. CONTROL BOX
9. HANDSET
10. PIVOT POST
11. UP/DOWN ACTUATOR
12. HANDSET CABLE
13. SPREADER BAR STRAP
14. KEYHOLE PLATE

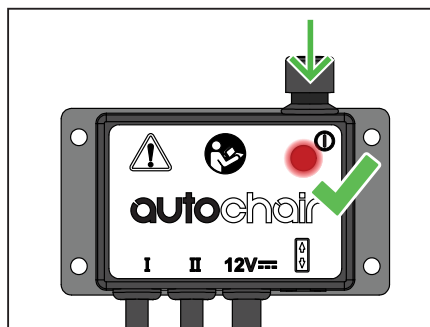
## 4. Operation - Loading



### LOADING A SCOOTER/CHAIR



1. Locate the power control box. This will normally be mounted to the A-Frame.



2. Press the power button to switch on the unit. This will be indicated by a red light when switched on.



3. Locate and pick up the handset from its stored position.



4. Keeping hold of the handset, move clear of the Smart Lifter and its path of operation.



5. Press and hold the left or right button (depending on the side of installation) to swing the Smart Lifter outwards.



6. Release the button when the boom is at its outmost position.



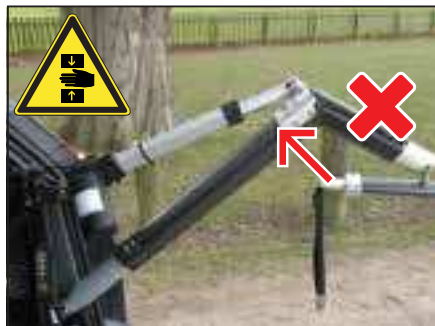
## 4. Operation - Loading



7. Position the scooter so that the lifting point is directly beneath the spreader bar. Ensure the scooter is folded/seat off.



8. Press and hold the down button to lower the boom.



**WARNING!** - When lifting/lowering do not hold or steady the Smart Lifter by placing your hand beneath the actuator. This is a pinch point and may cause injury.



9. Engage the keyhole plates securely to the lifting bracket. (The bracket will vary depending on the scooter being lifted) **DO NOT** attempt to lift without all lifting straps securely connected.



10. Press and hold the up button to raise the scooter from the ground.



11. Release the up button once the scooter has reached the upmost position.

## 4. Operation - Loading



12. Press and hold the left or right button (depending on the side of installation) to move the scooter inwards. Rotate the scooter as it moves inwards.



13. Guide the scooter into the boot, ensuring there is adequate clearance for the boom and scooter to swing into position.



14. Press and hold the down button until the scooter is firmly placed onto the floor of the vehicle and the straps become loose enough to detach.\*



15. If fitted, you should engage the restraint system now.\*\*



16. Return the handset to its stored position, ensuring the cable is clear of trapping points. Press the power button to switch the unit off.\*\*\*



**WARNING!**  
Please read and understand  
the following guidelines.

\*Do not continue to hold the down button once the scooter is grounded. Do not attempt to maneuver the mobility device once it is grounded.

\*\*Autochair **strongly recommend** the mobility equipment is restrained whilst traveling. Failure to restrain your mobility equipment could result in injury and damage to the vehicle or passengers.

\*\*\*Never leave the system switched on when not in use.



## 4. Operation - Unloading

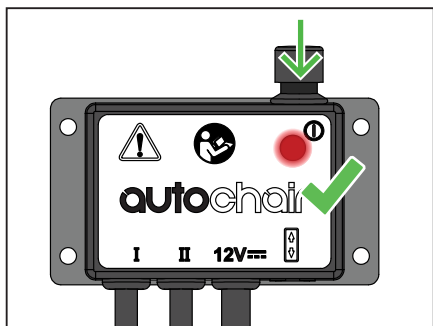
### UNLOADING A SCOOTER/CHAIR



1. If you have a restraint system fitted, this should first be disengaged.



2. Locate the power control box. It is usually mounted to the A-Frame.



3. Press the power button to switch on the unit. This will be indicated by a red light when switched on.



4. Locate and pick up the handset from its stored position.



5. Keeping hold of the handset, move clear of the Smart Lifter and its path of operation.



6. Press and hold the up button to raise the scooter/chair from the vehicle floor.

## 4. Operation - Unloading



7. Ensure there is clearance for the Smart Lifter to swing fully outwards.



8. Press and hold the left or right button (depending on the side of installation) to swing the Smart Lifter outwards.



9. Press and hold the down button until the scooter/chair is grounded and there is some slack in the lifting straps.\*



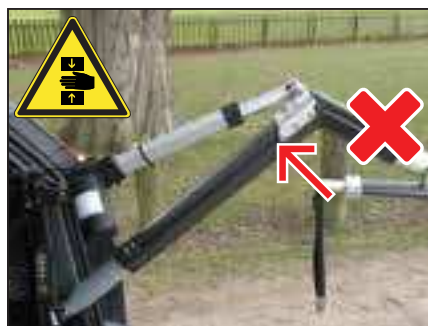
10. Release the key hole plates.



11. Ensure the scooter/chair is free from the Smart Lifter. Press the up button to raise the boom fully upwards.



**\*WARNING!** Do not continue to hold the down button once the scooter is grounded.



**WARNING!** - When lifting/lowering, do not hold or steady the Smart Lifter by placing your hand beneath the actuator. This is a pinch point and may cause injury.



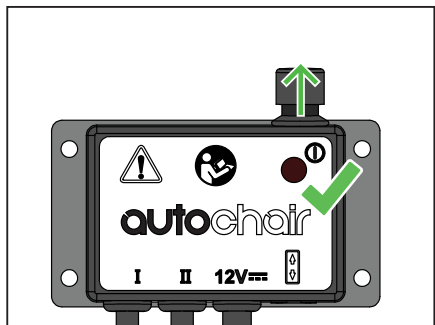
## 4. Operation - Unloading



12. Press and hold the left or right button (depending on side of installation) to move the Smart Lifter inwards.\*



13. Return the handset to its stored position, ensuring the cable is clear of trapping points or hazards.



14. Press the power button to switch off the unit. The light should no longer be illuminated indicating the unit is switched off.\*\*



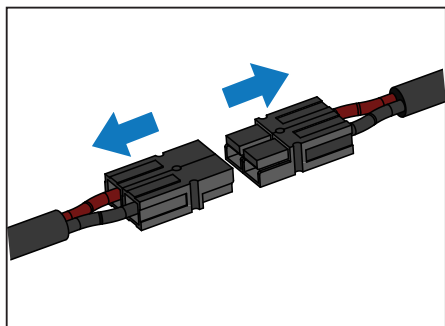
**\*WARNING!** Ensure the boom is rotated sufficiently into the boot to avoid contact with the boot lid when closed. Failure to ensure the boom is fully rotated could result in damage to the vehicle.

**\*\*WARNING!** Never leave the system switched on when not in use.

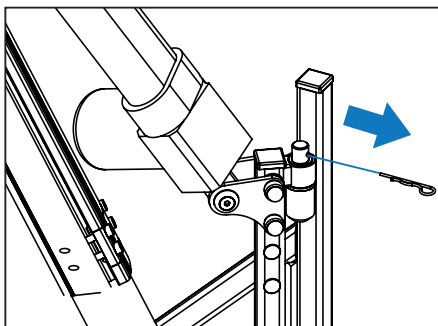
## 5. Removing & Replacing



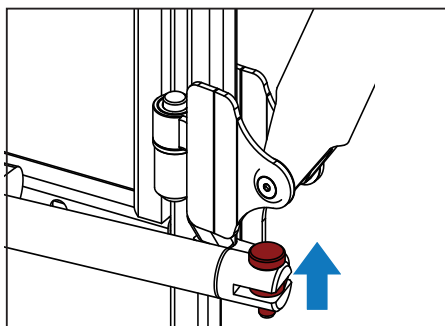
### REMOVING



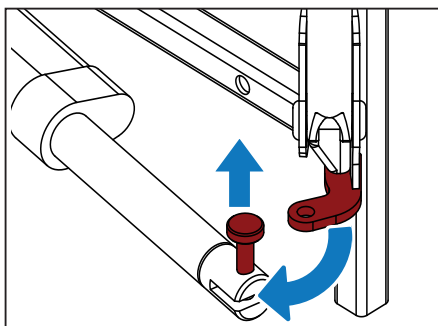
1. Ensure the system power is OFF and unclip the power connectors. **DO NOT** pull apart by the wires. This will damage the connectors.



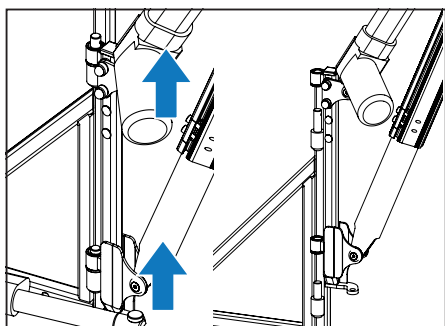
2. Remove the Retaining Clip from the top pin.



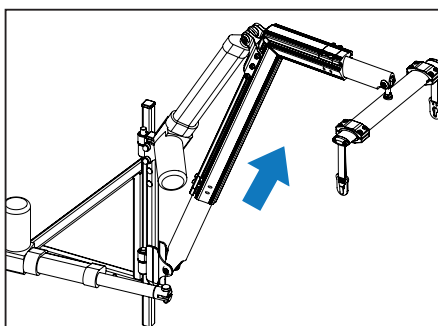
3. Partially remove the actuator pin.



4. Rotate the actuator away from the bottom post and remove the actuator pin.



5. Slide the Smart Lifter upwards to remove it from the mounting lugs. **TAKE CARE when lifting.**

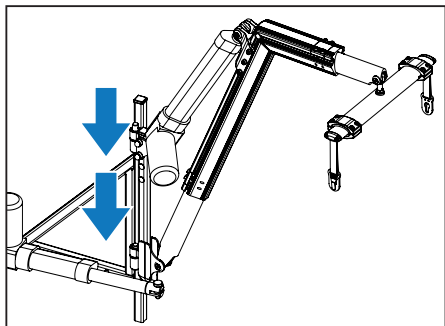


6. Store the Smart Lifter in a dry, safe place when not in use.

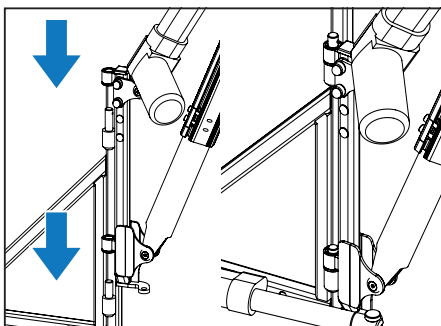


## 5. Removing & Replacing

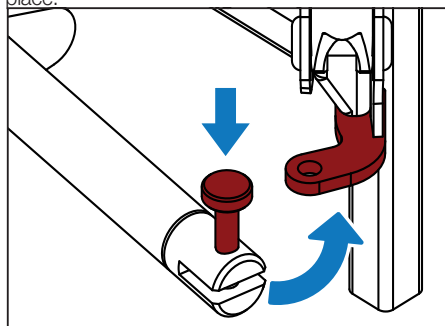
### REPLACING



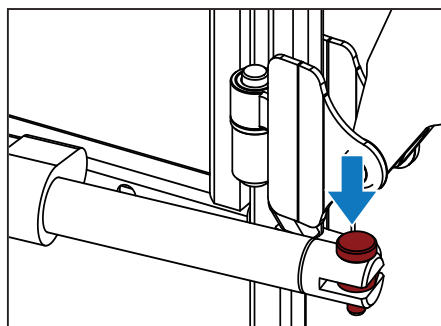
1. Rest the upper mounting lug onto the longer upper pin before aligning the lower pin. The Smart Lifter should slide smoothly down into place.



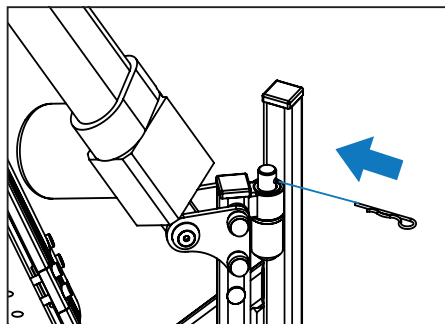
1. Continued - Ensure both pins are located on their respective lugs.



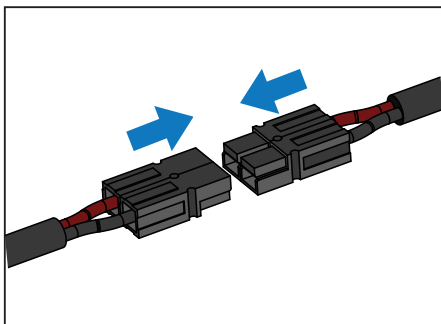
2. Half engage the actuator pin. Rotate the Smart Lifter and align the bottom mount with the actuator arm.



3. Fully engage the actuator pin by pushing it all the way down. This will secure the in/out actuator.



4. **IMPORTANT** - Fully insert the Retaining Clip into the top pin.



5. Push the power connectors securely together.

## 6. Troubleshooting



Problem	Solution
No power to the unit	<ul style="list-style-type: none"> <li>• Make sure the Smart Lifter is switched on. Check the power light is on.</li> <li>• Turn the Smart Lifter off and back on again and retry.</li> <li>• Check the fuse. This is next to the car's battery. A spare fuse is supplied.</li> <li>• Is the car battery flat? Try to start the car.</li> </ul>
The handset doesn't work	<ul style="list-style-type: none"> <li>• Make sure that the Smart Lifter is switched on.</li> <li>• Turn the Smart Lifter off and on again and retry.</li> <li>• Check the fuse. This is next to the car's battery. A spare fuse is supplied.</li> <li>• Is the car battery flat? Try to start the car.</li> <li>• Inspect the handset for damage or loose connections.</li> <li>• Inspect the cable for damage or wear.</li> </ul>
Smart Lifter turns on but won't lift	<ul style="list-style-type: none"> <li>• Inspect the actuator power supply. It may have become disconnected.</li> <li>• Inspect the electrical plugs between 'UP/DOWN actuator and power supply, reconnect if they have come apart.</li> </ul>
Smart Lifter stops during lifting	<ul style="list-style-type: none"> <li>• Has the mobility device become caught on the vehicle?</li> <li>• Smart Lifters are protected by a fuse located near the vehicle battery. If a load greater than the Smart Lifter's capacity is lifted, the fuse could blow.</li> </ul>
The actuator is clicking	<ul style="list-style-type: none"> <li>• The 200kg Smart Lifter actuator uses a clutch for overload protection. If the noise only occurs at the top or bottom of the lift, this is perfectly normal. If it occurs part way through the lift the unit is overloaded.</li> <li>• Check the scooter/chair is not caught against anything.</li> </ul>
The Smart Lifter lifts very slowly	<ul style="list-style-type: none"> <li>• The mobility device weight may be close to the Smart Lifter weight capacity</li> <li>• Is the vehicle's battery charged? Low battery will cause slow operation.</li> </ul>
What servicing is available?	<ul style="list-style-type: none"> <li>• We offer yearly servicing to ensure your Smart Lifter is safe and reliable.</li> </ul>
What if we have an accident?	<ul style="list-style-type: none"> <li>• If you think that your Smart Lifter has been damaged in any way please call your Accredited Autochair Dealer to arrange an inspection and safety test.</li> </ul>

If you can't find a solution to your problem, before operating the Smart Lifter please contact your Accredited Autochair Dealer as soon as possible. Their details will be written on the inside cover and the back page of this manual. If you do not have their contact details, get in touch with us and we'll let you know who your Accredited Dealer is and how to get in touch with them.



## 7. Lifting Accessories

### SMART LIFTER LIFTING ACCESSORIES

In order to ensure you get the best lift possible with your Smart Lifter, we offer a range of lifting accessories. Your Smart Lifter can use a range of Spreader Bars, specific Scooter Brackets and mounting kits to make stowing your mobility device as simple as possible.

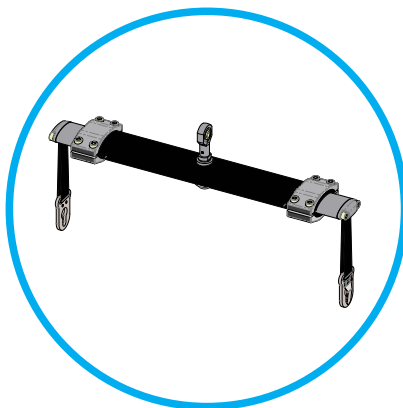
Please identify your lifting accessory below and ensure it is correct for your individual needs. If your scooter changes or you would like to see or discuss our entire range of lifting accessories, please contact your Accredited Autochair Agent and discuss possible options with them.

#### Spreader Bar with Keyhole Brackets

##### The standard Smart Lifter lifting accessory

The general purpose spreader bar & attachment set-up for lifting ordinary scooters and powerchairs. The Keyhole Brackets allow for simple attachment of a range of mobility devices.

The Spreader Bar with Keyhole Brackets can also be used in conjunction with a number of specialist lifting brackets.

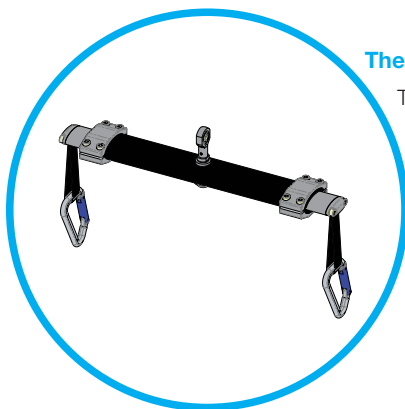


#### Spreader Bar with Karabiners

##### The lifting accessory for easier attachment

This spreader bar makes use of spring-loaded karabiners for even easier attachment and removal. The karabiners snap over a pair of eye-hole mounts on the scooter bracket, allowing easier attachment.

This spreader bar arrangement is typically for use by people with reduced hand co-ordination or with difficulty when bending down.



## 7. Lifting Accessories

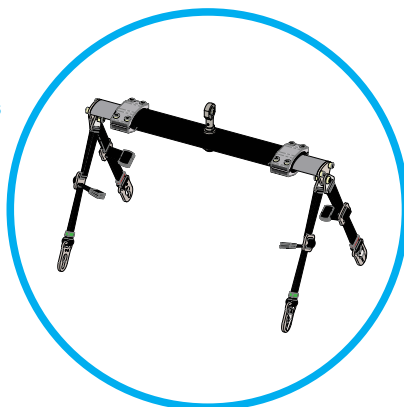


### 4 Point Spreader Bar with Keyhole Brackets

#### For lifting larger scooters & powerchairs

The 4 Point Spreader Bar is ideal for lifting longer, wider and heavier scooters & power chairs. The 4 point mounting system allow for a stable and level lift even when lifting large or specialist mobility devices.

This version makes use of the standard keyhole bracket attachments.



### 4 Point Spreader Bar with Karabiners

#### Easier lifting of larger scooters & powerchairs

For use in the same application as the other 4 Point Spreader Bar, the Karabiner version allows for lifting of large or specialist scooters and powerchairs with with the added simplicity of quick attach/detach karabiners.

Ideal for use by people with reduced dexterity or with difficulty when bending.



**MANDATORY!** Smart Lifters are set up specific to your mobility device. If you change your scooter or powerchair in any way, contact your Accredited Autochair Dealer to have your Smart Lifter adjusted to suit your new mobility device.



**WARNING!** Never attempt to adjust or modify your Smart Lifter. Any adjustments must be made by an Accredited Autochair Dealer.



## 8. Care and Maintenance

### Smart Lifter Care and Maintenance

The following routine maintenance should be performed at the indicated intervals. Failure to perform the maintenance procedures at the required intervals may void your product warranty.

#### **Perform prior to daily use:**

- Inspect buckles, straps & fastenings and replace if necessary.
- Inspect lift for damage or excessive wear and replace if necessary.
- Check electrical wires and connections for signs of damage or wear.

#### **Perform at least every 6 months:**

- Inspect all mounting hardware and lift pivots for defects and a secure fit. Any parts found to be loose should be tightened or replaced if necessary. If in doubt contact your Accredited Autochair Dealer.

#### **Perform every 12 months:**

- It is recommended that the Smart Lifter is serviced every year by Autochair or your Accredited Autochair Dealer.

#### **Cleaning:**

- If required the Smart Lifter can be cleaned with a damp cloth and detergent. Ensure the unit is disconnected from the power before cleaning.

**Do not immerse in water, do not allow water to run into the electrical connectors or control box and allow to dry before use.**

# 9. Warranty



## Product Warranty

The warranty period for the Smart Lifter is 12 months from the date of delivery.

This warranty will cover **any defects of workmanship or function.**

The warranty **does not cover any incorrectly installed Smart Lifters** or one with damaged mechanical or electrical components due to **incorrect use or damage.**

The warranty does not cover consequential loss, unless regional law requires it.

The warranty is invalidated if the seal on either the actuator or control box is broken. These contain no user replaceable components.

No alteration should be made to the Smart Lifter by anyone other than a qualified person, as defined by an Accredited Autochair Dealer.

In the event of damage or defects in the actuator, the Smart Lifter should be returned to your Accredited Autochair Dealer for evaluation.

No wires must be cut as they are fitted with connectors that must be correctly removed before repair.

In the event of any malfunction of the electrical circuit box or handset which require replacement, they should be removed and returned as a set.

### Please keep a note of the following:

Serial Number: \_\_\_\_\_

Date Supplied: \_\_\_\_\_

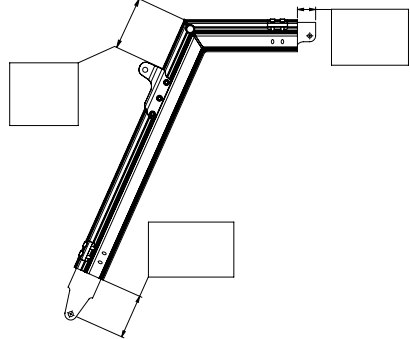
Details of the Supplier: \_\_\_\_\_

\_\_\_\_\_

Postcode: \_\_\_\_\_

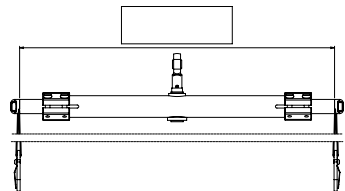
Telephone: \_\_\_\_\_

### Set up details:



Fitting Kit Rating: \_\_\_\_\_

Lifting Accessory Rating: \_\_\_\_\_



A	B	C	D	E

Scooter/Chair Weight: \_\_\_\_\_ Signed: \_\_\_\_\_

If this changes, please check with your Accredited Autochair Dealer.

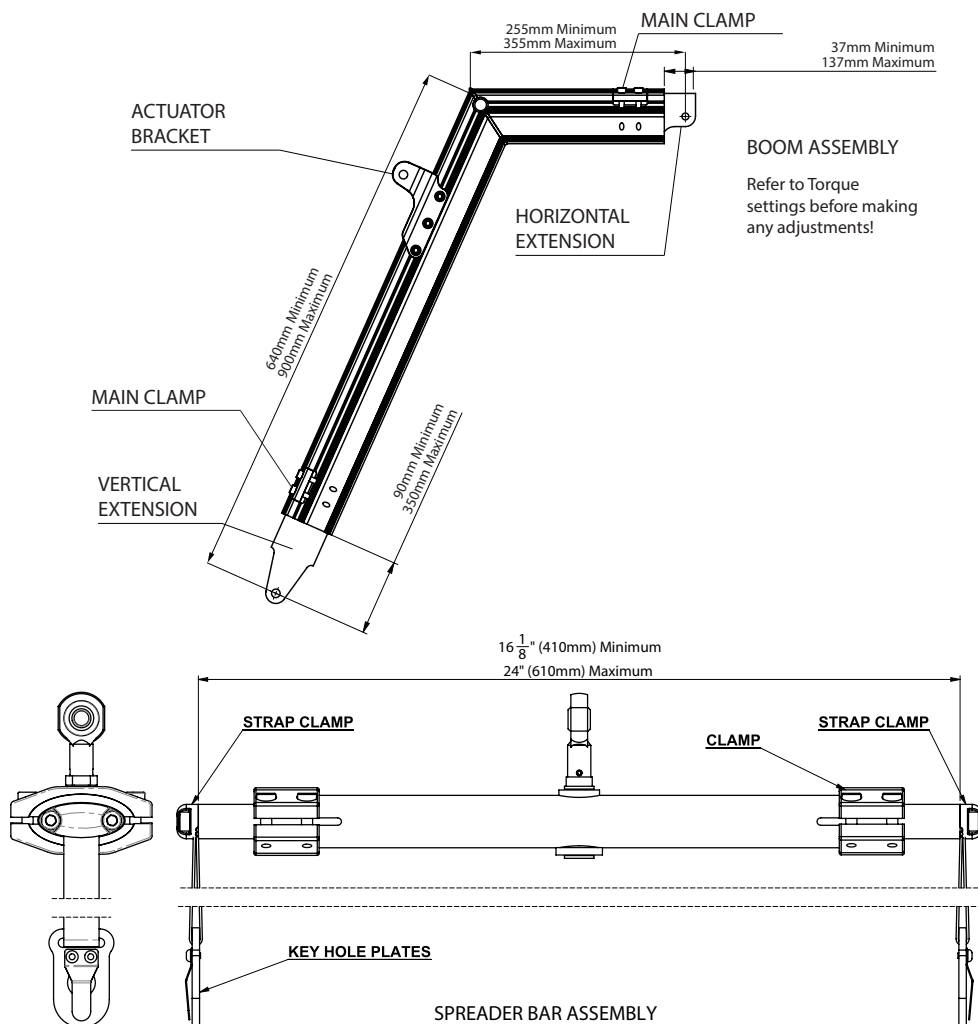


## 10. Installation Instructions

### TORQUE SETTINGS

The Smart Lifter is tested and set to a nominal position for the vehicle it is intended for. Adjustment may then be required to suit the vehicle. The screws are only tightened to stop movement in transport. All fixings are to be fully tightened and checked at the time of installation and servicing.

### Description of components and Max./Min. settings:





## Setting the Boom (Vertical Extension)

1. The Smart Lifter will be provided assembled and set to a nominal boom size suitable for the vehicle. If a more optimal boom setting is required the following procedure can be used.
2. The actuator supplied will be labeled with the maximum weight setting. Refer to the charts on page 24, for the allowable settings for the different stroke actuators. **No boom length should be set greater than 900mm.**
3. Do not set a 200kg Smart Lifter less than 710mm boom length.
4. **Before starting, ensure the actuator is fully retracted.**
5. If the chart shows that a different lower actuator bracket position is required on the pivot post, this should be changed first.
6. Fit the Boom Assembly, with the actuator and pivot post, to the A-Frame fitted in the vehicle.
7. Loosen the vertical extension main clamp and the actuator bracket while supporting the horizontal boom.
8. Extend the boom to the desired length to suit the boot opening. You should never exceed the maximum extension.
9. While holding the horizontal boom horizontal (parallel to the vehicle floor), tighten the vertical extension main clamp and actuator bracket, by hand initially, to hold the Smart Lifter in position while the settings are checked. (Do not load the Smart Lifter at this stage).
10. Once satisfied that the Smart Lifter moves through its intended course without fouling the vehicle, tighten the main clamps and the actuator brackets to the specified torque settings.

## Setting the Horizontal Extension

1. The horizontal extension provides two functions; it is principally adjusted to suit the width of the spreader bar, ensuring the spreader bar can rotate without hitting the boom. It can also be increased to give more drop when the boom is lowered.
2. With the spreader bar set to the desired width check the rotation of the bar.
3. If necessary, loosen the horizontal extension main clamp and adjust the length of the horizontal extension.
4. Do not set beyond the limits shown in the diagram on page 22.
5. Once satisfied that the position is correct, tighten the main clamps to the specified torque settings.

## Setting the Spreader Bar

1. Loosen the clamps on the spreader bar extensions and adjust to the width of the scooter seat or the required width for the power chair.
2. Do not exceed the limits shown in the diagram (see page 22) and also make sure the arms are extended to equal lengths to maintain balance of the load.
3. Loosen the strap clamps and extend the straps to the desired length.
4. Ensure the straps are of equal length to keep the spreader bar level during lifting.
5. Once satisfied the positions are correct, tighten the main clamps and the actuator brackets to the specified torque settings on page 25.

**The limits of the adjustments are shown on the previous page diagrams.**

**The maximum settings must not be exceeded.**

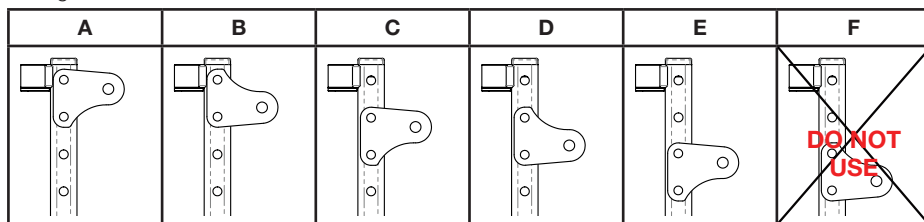
**When correctly set, the top part of the Smart Lifter must be parallel with the vehicle floor at the point when the actuator is fully retracted.**



## 10. Installation Instructions

### Pivot Post Bracket Positions

The following table shows the lower actuator bracket positions and the reference used in the actuator setting chart;



The following table shows the lower actuator bracket positions recommended for various actuator loads:

		100kg			125kg		150kg		200kg
Actuator Stroke		200mm	250mm	300mm	250mm	300mm	250mm	300mm	250mm
BOOM LENGTH	900	DO NOT USE	A	A	A	A	A	A	A
	890								
	880								
	870								
	860								
	850								
	840								
	830								
	820								
	810								
	800								
	790		A	B	A	B	A	B	B
	780								
	770		A	C	A	C	A	C	C
	760								
	750		DO NOT USE	DO NOT USE	DO NOT USE	DO NOT USE	DO NOT USE	DO NOT USE	DO NOT USE
	740								
	730								
	720								
	710								
	700								
	690								
	680								
	670								
	660								
	650								
	640								

Recommended positions

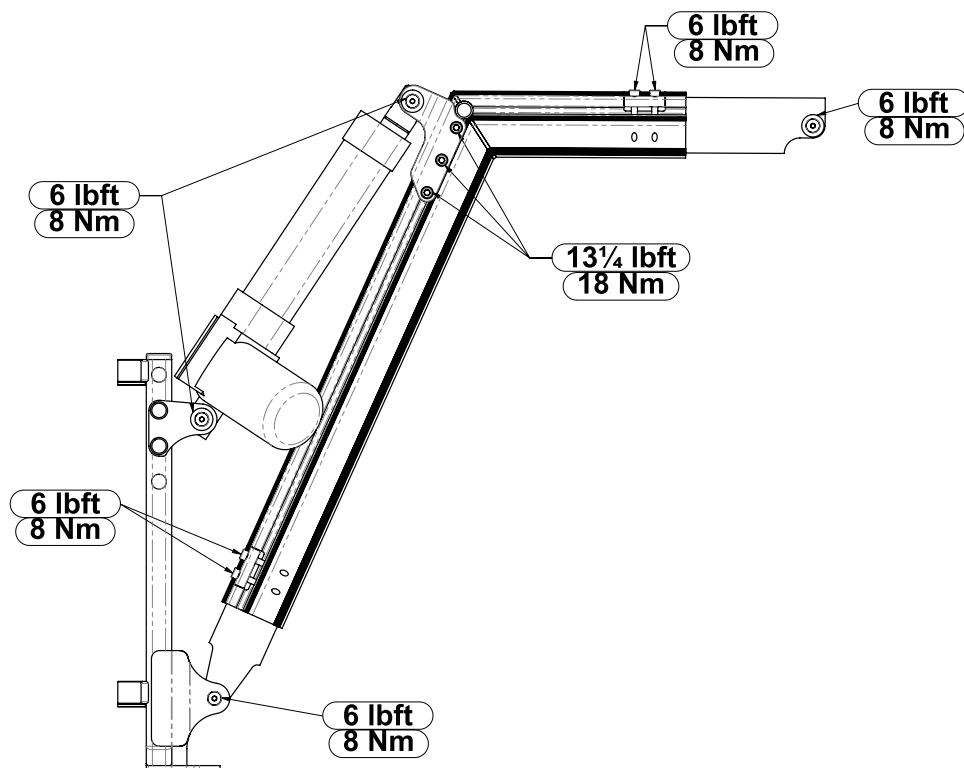
Additional adjustment zone

DO NOT USE

# 10. Installation Instructions



## TORQUE SETTINGS



**NOTE: Only use the screws supplied as these have pre-applied thread locking compound.**

When tightening the screws, the screws should be tightened slowly and evenly until the desired torque setting is reached.

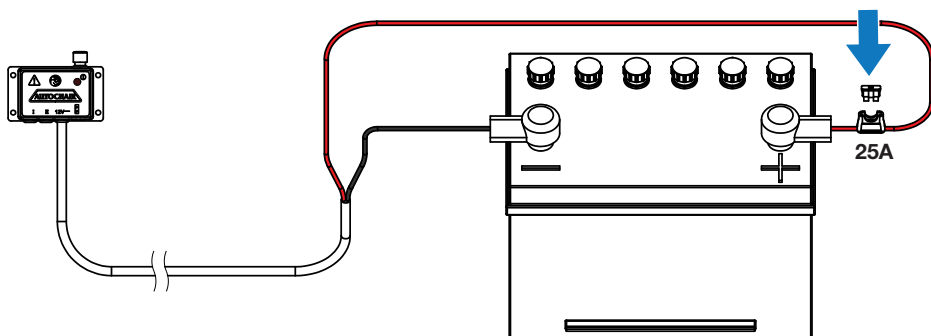
Do not tighten each screw, from loose, to the full torque setting before tightening the next, the brackets clamps will be unevenly loaded and may not clamp fully.

After reaching the torque setting, repeat the tightening sequence checking that all screws are at the desired torque setting.



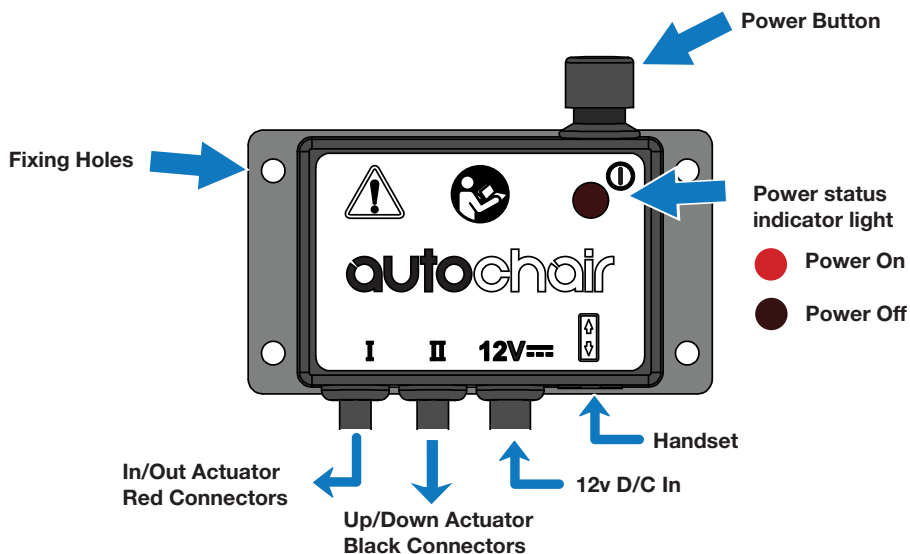
# 11. Wiring

## HARD WIRING THE CONTROL BOX



- The wiring supplied for connecting the battery and power socket is twin core with red and black insulation.
- Run the cable directly to the vehicle battery. Secure the cable where required using the cable ties provided.
- Connect **both** wires to the battery. Use the inline fuse holder provided on the positive connection. Wire as follows BLACK = negative / RED = positive. A spare 25 AMP fuse is provided and should be handed to the customer or located in an obvious and appropriate position.
- **DO NOT** use a painted surface to achieve an earth. This could lead to intermittent operation of the Smart Lifter.
- Securely fix the control box in a position which is easily accessible when the vehicle is both loaded and unloaded.

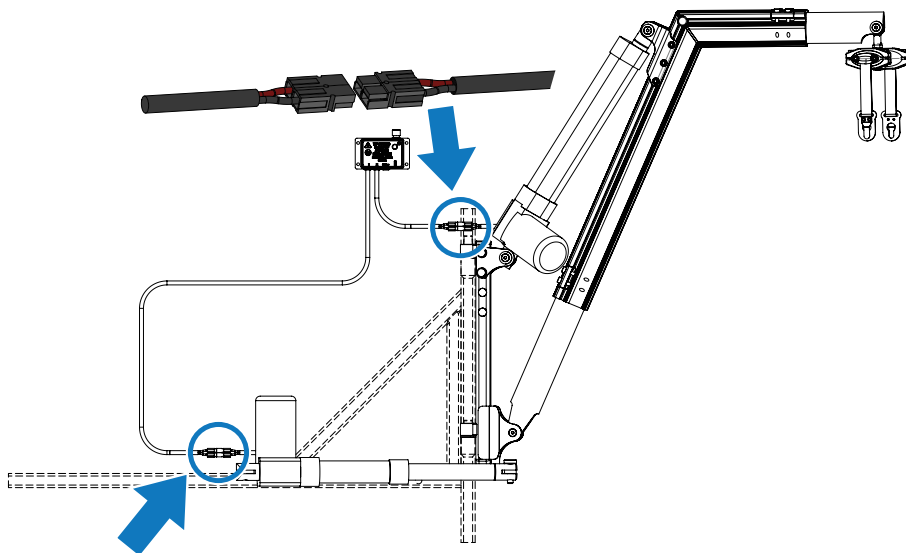
## CONTROL BOX CABLES



# 11. Wiring

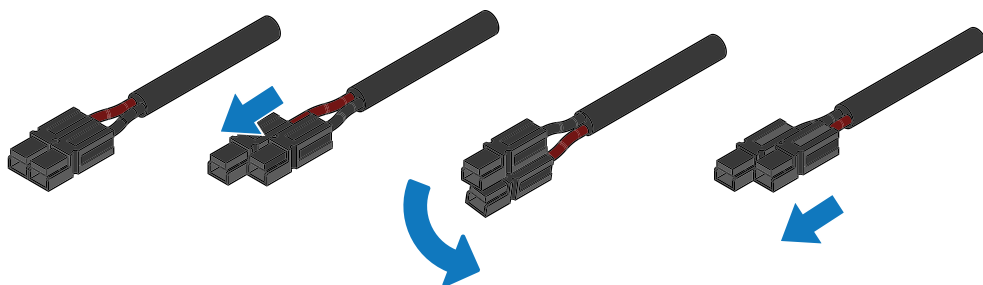


## CONNECTING ACTUATORS



Test operation with handset. If the movement is opposite to expected then reverse the polarity of the connector/s.

## REVERSING POLARITY



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