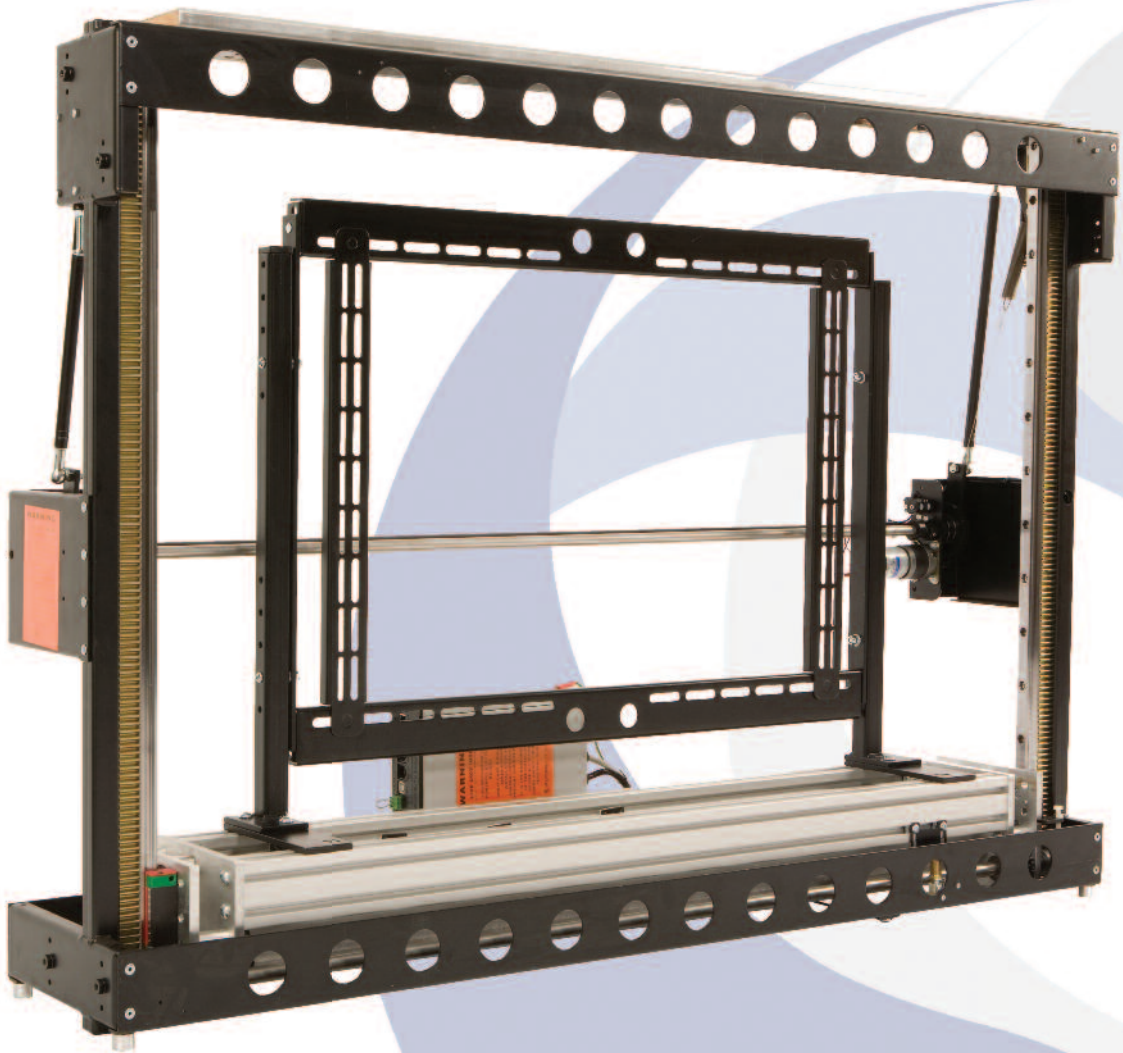
Installation Instructions

Lift Mechanisms

ML - Heavy Duty Lift Mechanism

Design Highlights

-Unique Drop and Roll Flap Mechanism
-Hand Made Quality Construction
-Full Cable Management
-Custom Sized to Suit Exact Size of Screen
-Range of Add On Functions Available
-Custom Frames for Deeper Screens and Speakers
-Positively Driven Rack System for Secure and Robust Lifting



Thank you for choosing
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ML - Heavy Duty Lift Mechanism


Caution Warning


Beware of Moving Parts


Danger Electricity


Keep Hands Clear

Safety Disclaimer
Important Safety Instructions
Explanation of graphical symbols
-(Electric Shock Symbol) = The lightning flash within an equilateral triangle is intended to alert you to the presence of un-insulated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute an electric shock to persons
-(Caution Symbol) = The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product
-(Tools Symbols) = The tools symbol within a coloured square are intended to highlight the required tools necessary for correct and safe installation of the product. These are intended as a
guide only, and it is at the installer's discretion as to which tools are used.

WARNING: RISK OF ELECTRIC SHOCK, ONLY AUTHORIZED INSTALLERS TO OPEN THE POWER CONTROL BOX.
WARNING: To reduce the risk of fire or electric shock, do not expose electrical parts to rain or moisture, unless the product has been specifically designed to do so.
WARNING: Failure to provide adequate structural strengthening, prior to installation can result in serious personal injury or damage to the equipment. It is the installer's responsibility to ensure the structure to which the component is affixed can support the four times the weight of the component.
WARNING: Do not exceed the weight capacity. This can result in serious personal injury or damage to the equipment. It is the installer's responsibility to ensure that the total combined weight of all attached components does not exceed that of the maximum figure stated.
WARNING: Failure to provide adequate structural strength for this component can result in serious personal injury or damage to equipment! It is the installer's responsibility to make sure the structure to which this component is attached can support five times the combined weight of all equipment. Reinforce the structure as required before installing the component.

Warnings:

1. **Read all technical instructions fully before installation and use. It is the installer's responsibility to ensure that all documentation is passed on the end user and read fully before operation.**
2. **Keep all documentation.**
3. **Heed all warnings.**
4. **Follow all technical specifications and instructions during installation.**
5. **Do not use near water unless the product has been specifically designed to do so.**
6. **Clean only with a dry cloth.**
7. **Do not defeat the purpose of the polarized or grounding type plug. A polarized plug has two blades, one wider than the other. A grounding type plug has two blades and a grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician or contact the manufacturer.**
8. **Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where the exit from the apparatus.**
9. **Unplug the apparatus during lightning storms or when unused for long periods of time.**
10. **Only use attachments/accessories specified by the manufacturer.**
11. **Refer all servicing to qualified personnel. Servicing is required regularly on an annual basis, when the apparatus is damaged in any way, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.**
12. **To completely disconnect the apparatus form the AC mains, disconnect the power cord plug from the AC receptacle on the power control box.**
13. **To prevent overheating, do not cover the apparatus. Install in accordance with the instructions.**
14. **UK, Ireland and Hong Kong only – The power cord is supplied with a 13A plug having an earthing pin. The apparatus is earthed and this pin is not required for safety, merely to operate the safety shutter of mains outlet.**
15. **No naked flames such as lit candles should be placed on the unit.**
16. **Observe and follow the local regulations when disposing of batteries.**
17. **Do not expose the unit to dripping or splashing fluids.**
18. **Do not place objects filled with liquid, such as vases, on the unit.**
19. **Do not expose the batteries to excessive heat such as sunshine, fire or the like.**
20. **For all mounted apparatus, the apparatus should be installed on solid wood, bricks, concrete or solid wood columns and battens.**
21. **Always turn off power at source before putting on or taking off parts and cleaning.**
22. **Do not use outdoors unless marked for outdoor use.**
23. **Exceeding the weight capacity can result in serious personal injury or damage to equipment.**

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Tool Indicator Icons

1. 
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1. - Drill
2. - Tape measure
3. - Allen Keys
4. - Spirit Level
5. - Screwdrivers
6. - Spanners
7. - Pencil
8. - Saw

Product Warranty

This product carries a warranty that covers the cost of labour and spare parts incurred by any defects in materials and workmanship under normal use during a two year period from date of purchase. Support for any problems that are not hardware faults are excluded from the warranty entitlement. This warranty does not affect your statutory consumer rights.

The following is excluded from warranty service:

- Malfunctioning caused by misuse or damage, accidental or otherwise, or service modification by persons not authorised by Future Automation, or the use of any non Future Automation supplied parts;
- Any electrical, or other environmental work external to your Future Automation mechanism including power cuts, surges or lightning strikes;
- Additional items not supplied by Future Automation although they may have been supplied together by the retailer;
- Any 3rd party software products controlling your mechanism;
- Any transfer of ownership. Warranty is provided only to the initial purchaser;
- Compensation for loss of use of the product, and consequential loss of any kind;
- Use of the product over the specified weight capacity;
- Any damage to products during transit that is not checked and notified as “unchecked” or “damaged” upon receipt of delivery.

Any part of your system that needs to be replaced during a warranty repair becomes the property of Future Automation.

ML - Heavy Duty Lift Mechanism

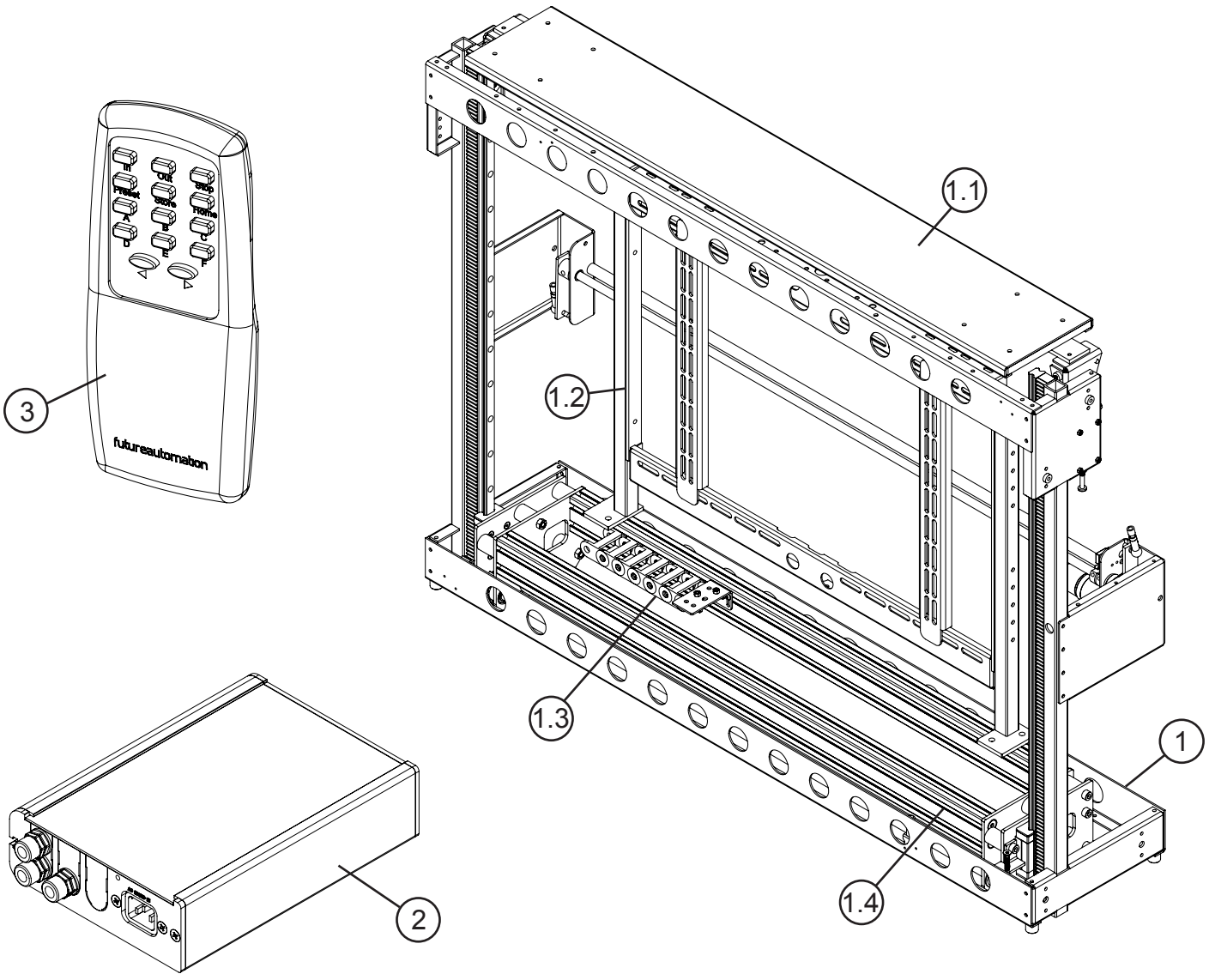
Package Contents

1 - Mechanism
1.1 - Flap
1.2 - Screen Mount
1.3 - Cable Management
1.4 - Lifting Beam
2 - Control Box
3 - Remote Control

Not Shown On Page

4 - x2 AAA Batteries
5 - Multi Pack Of Nuts, Bolts & Washers
6 - Mains Power & Other Leads

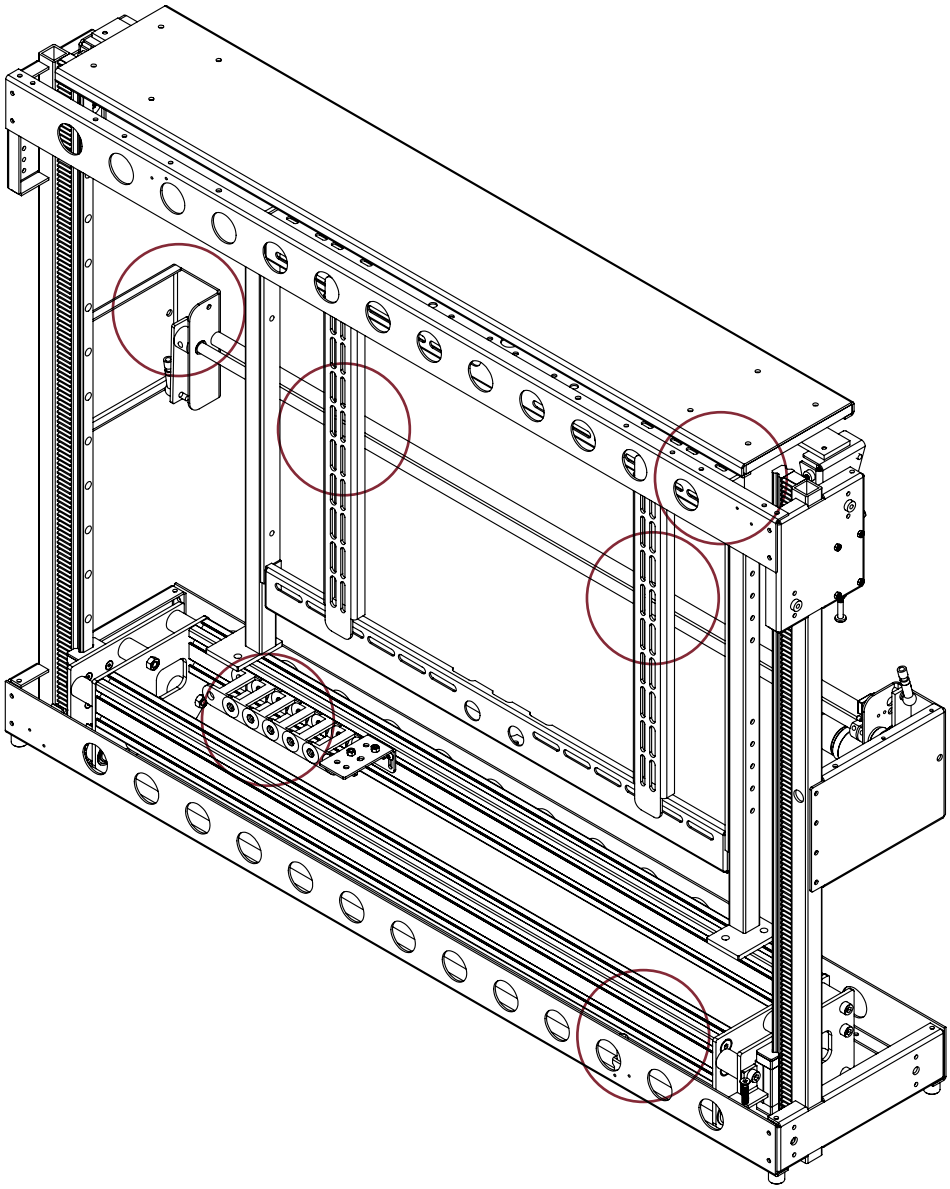
Nuts & Bolts Multipack:
A range of nuts, bolts, washers and spacers to help add in the mounting for your screen



ML - Heavy Duty Lift Mechanism

Before you Start

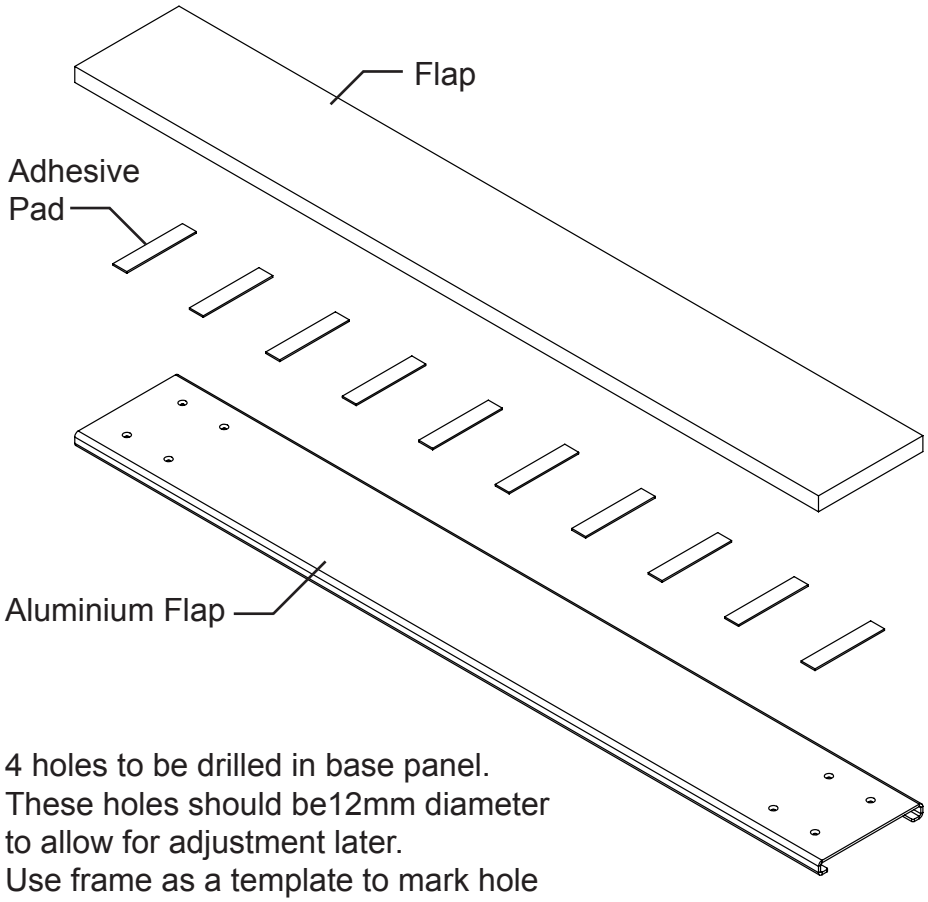
Check the Operation of the Mechanism.
Firstly, remove all the red cable ties which keep the mechanism safe and secure during transit. There are usually 6 ties in the locations circled on the image.
However, on some models there may be more than 6 cable ties.
Once they have all been removed, the mechanism can be powered up and tested.
Connect the supplied IR lead and check that the mechanism operates correctly before continuing with the installation.



ML - Heavy Duty Lift Mechanism

Fitting Flap Panel to the Mechanism

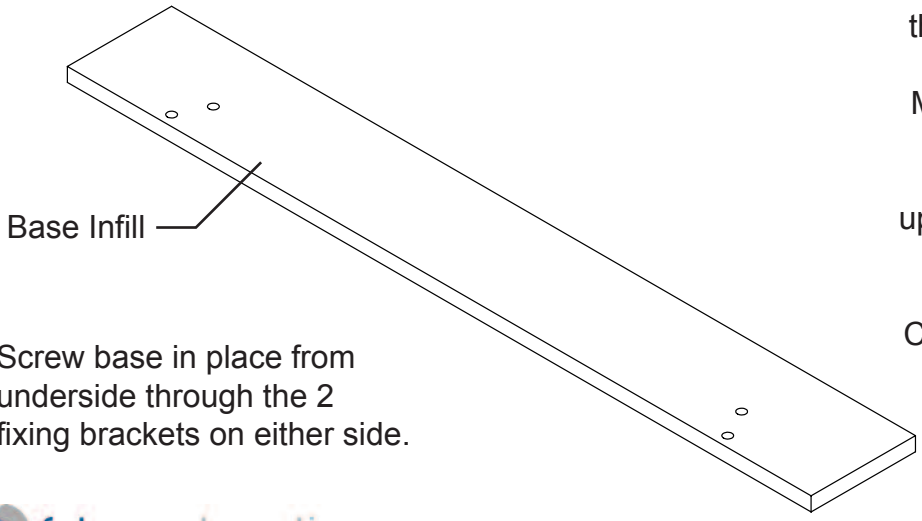
The 6mm flap and the base should be made as part of the cabinet.
The surfaces of the flap should ideally be varnished or painted to help prevent it from warping.



4 holes to be drilled in base panel.
These holes should be12mm diameter to allow for adjustment later.
Use frame as a template to mark hole locations.
Example hole locations shown above are for the Group A frame.

Take care when fixing the surfaces together. Place the objects on a flat surface to make sure the edges are properly aligned when they come into contact.

Try to use as many self adhesive pads as possible to get the most secure fixture.



Screw base in place from underside through the 2 fixing brackets on either side.

Bolt through the support frame then through base panel into the black plates on the beam using M8 x 30mm or M8 x 35mm bolts

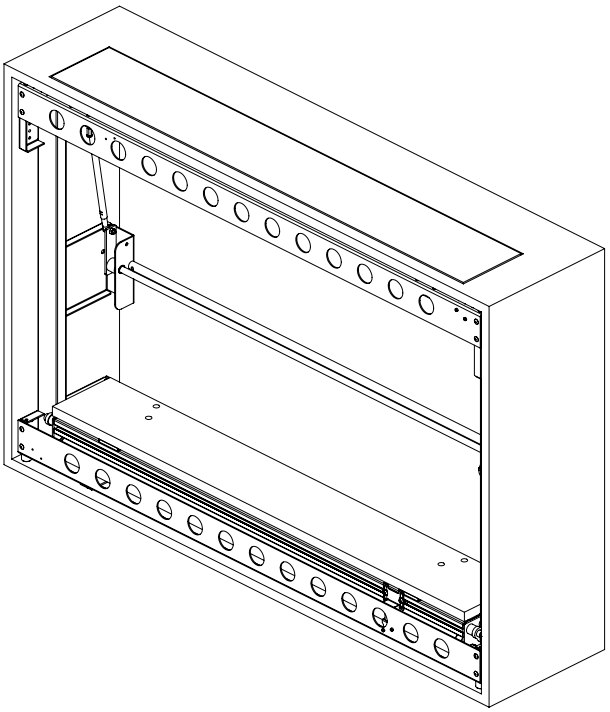
Make sure the base panel lines up squarely, directly on top of the lifting beam.

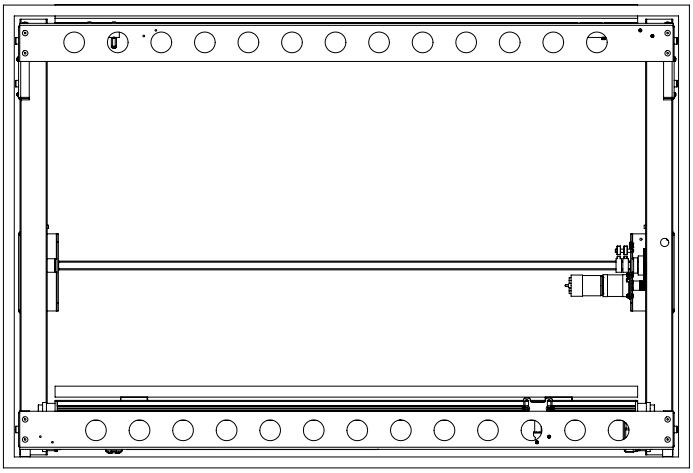
Consult ML TECHNICAL SHEET before fabricating any flaps or base panels.

ML - Heavy Duty Lift Mechanism

Fixing the Lift to the Cabinet

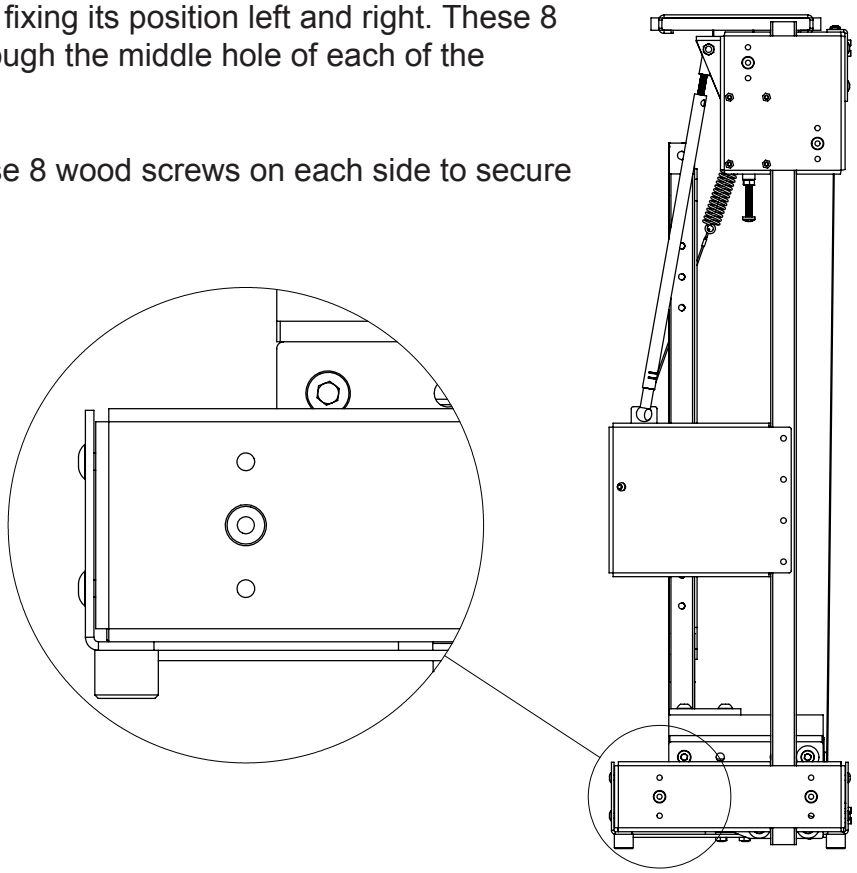
Place the mechanism within the cabinet. Raise the beam to the top and carefully guide the base through the opening.





With the top properly located, use the 8 screws supplied, 4 on each side, to pin the mechanism in place, fixing its position left and right. These 8 screws should be screwed through the middle hole of each of the clusters of 3, shown.

With the lift fixed in position, use 8 wood screws on each side to secure the lift to the cabinet.



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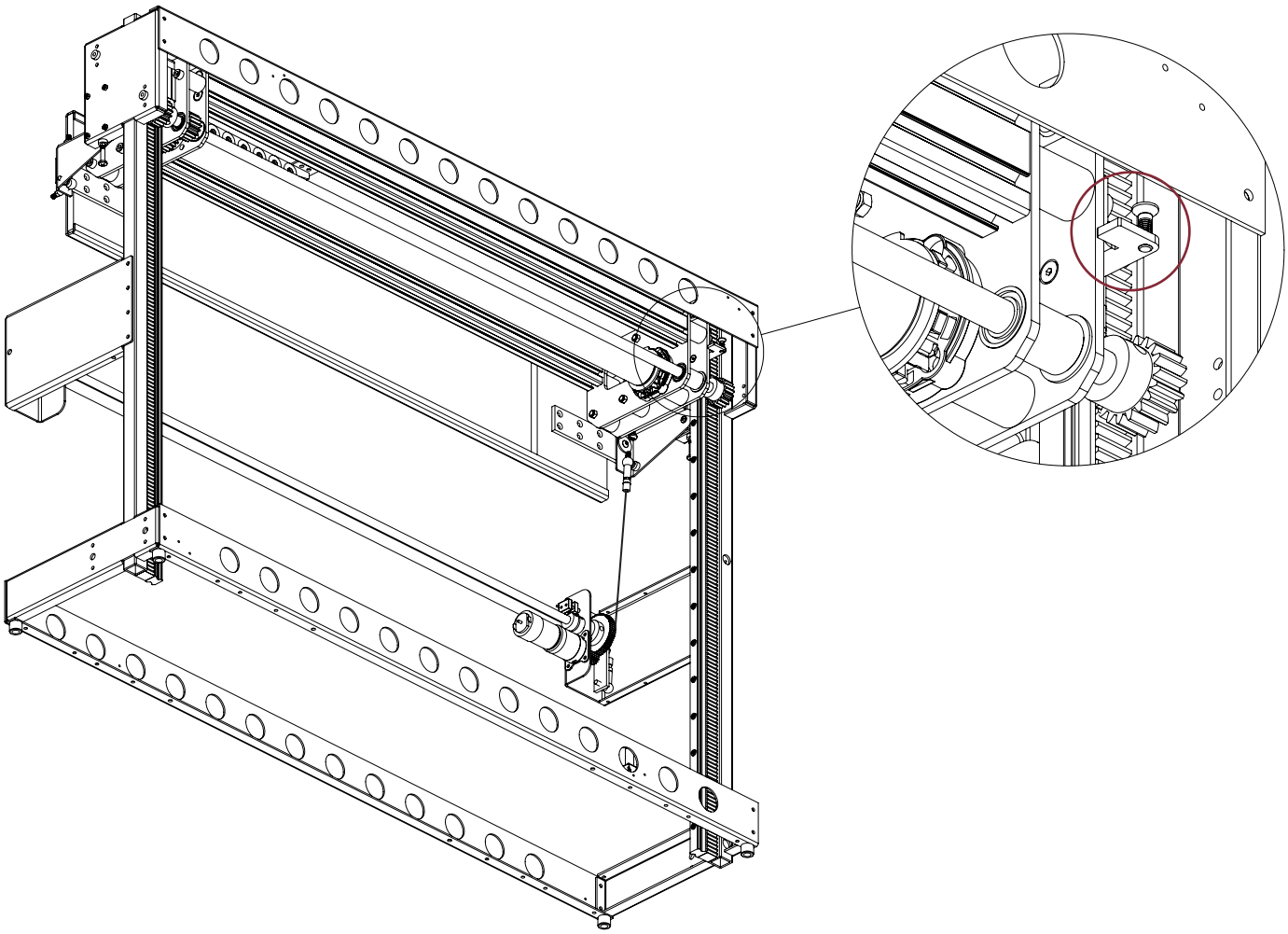
Adjusting the Up Stop Position

By adjusting the screw up or down, you can adjust the stop height of the lifting beam and also, the base infill panel.



Make sure that the gears and racks are evenly greased and move smoothly.

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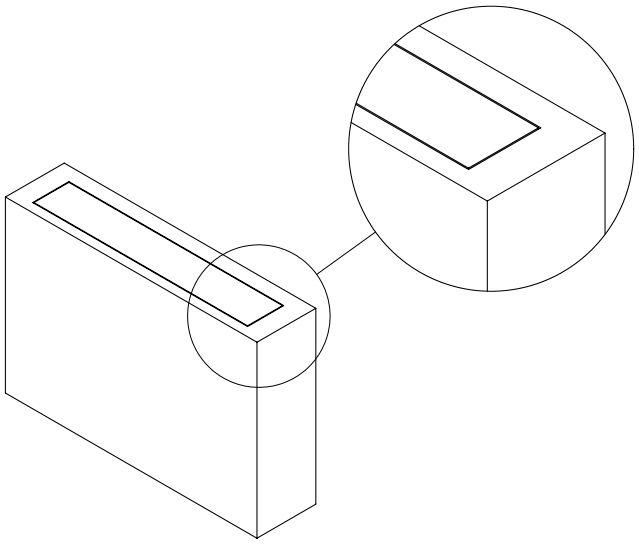
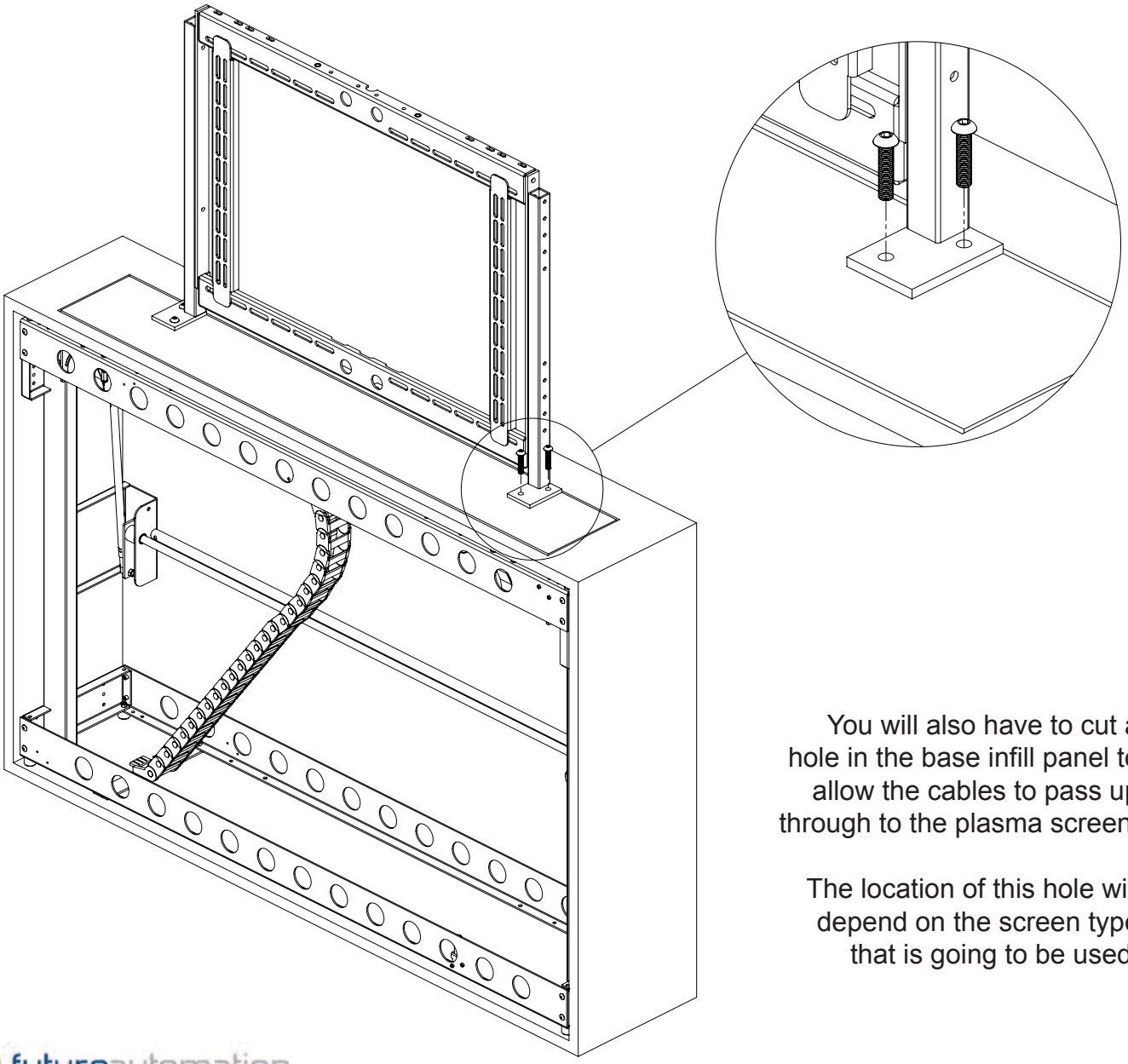
Positioning the Base Infill Panel

Loosen off the frame and move the base to the centre of the opening. There should be a gap of about 3mm [1/8”] around the edges of the base panel to the cabinet opening.





You will also have to cut a hole in the base infill panel to allow the cables to pass up through to the plasma screen.

The location of this hole will depend on the screen type that is going to be used.

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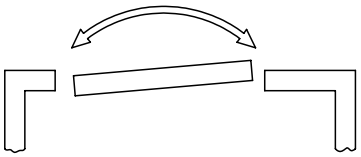
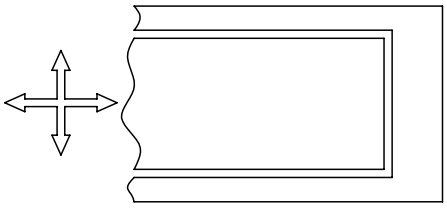
Adjusting the Flap Closed Position

1. - By adjusting the white screw, at each side of the lift, you can adjust the tilt of the flap.

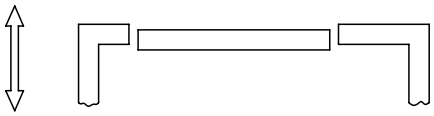
2. - By loosening the M6 bolts on each side under the flap, you can adjust the position of the flap in the cabinet top. Aim for a 3mm [1/8”] gap all round.



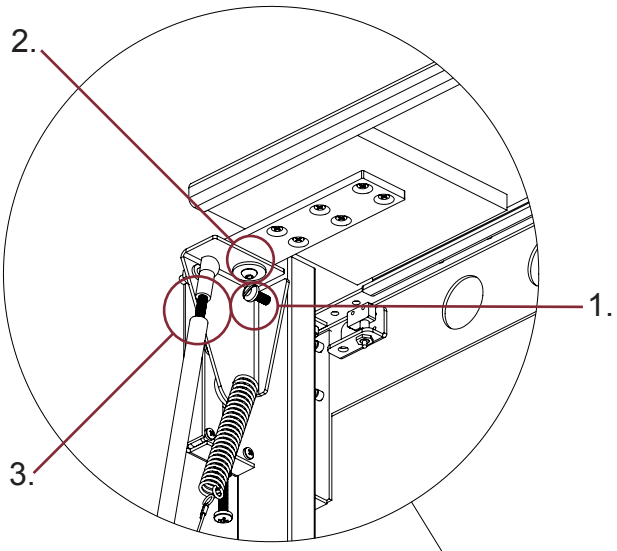
CABINET BASE - SIDE VIEW

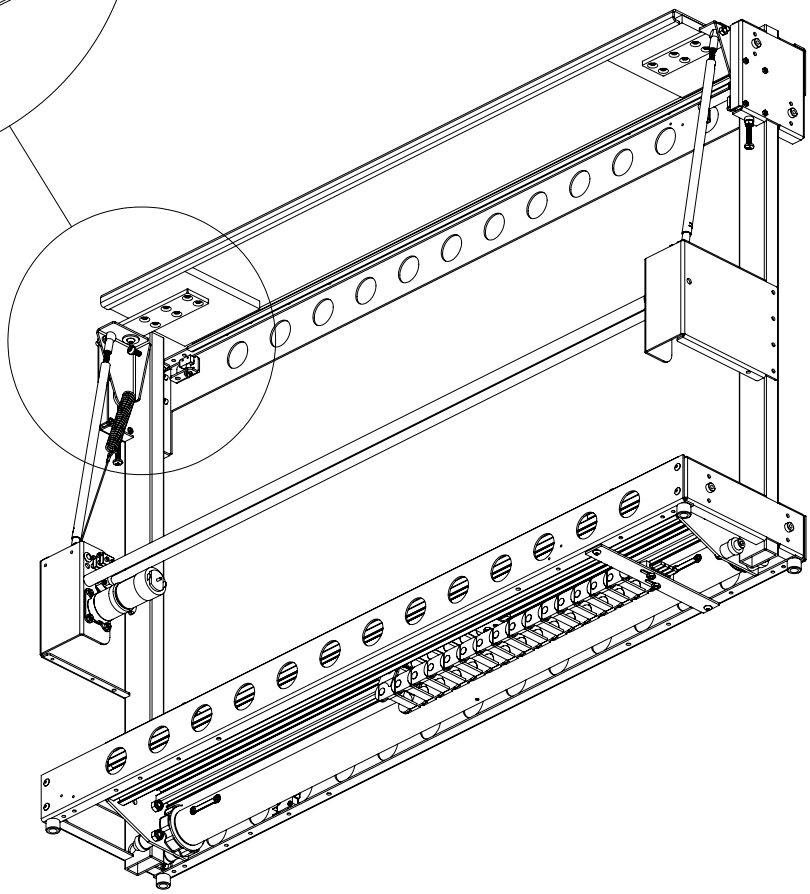


CABINET BASE - PLAN VIEW



CABINET BASE - SIDE VIEW





3. - For further adjustment you can adjust the push rod length by screwing the studding in or out.

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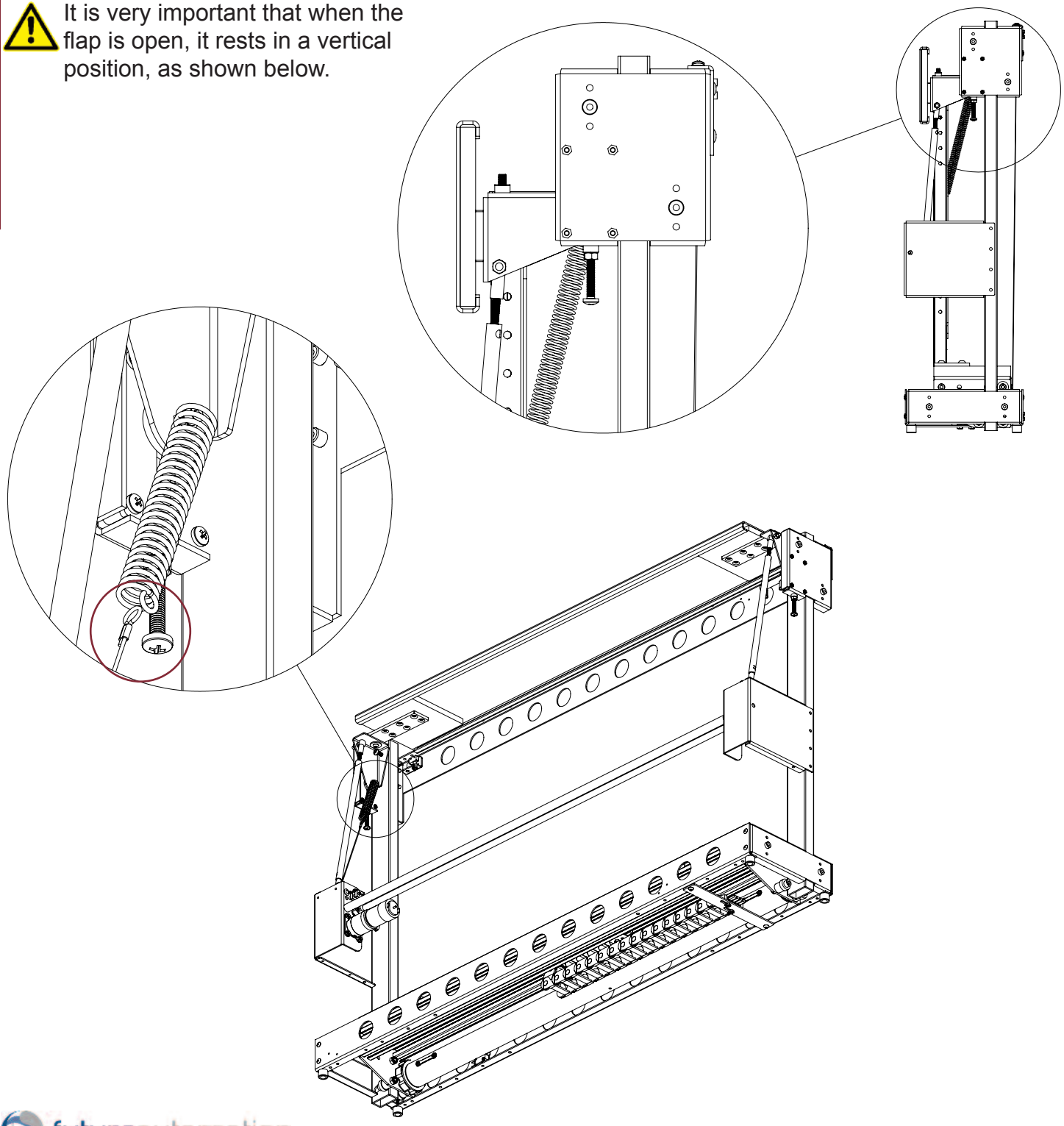
Adjusting the Flap Closed Position

By adjusting the bolts below each flap arm, it is possible to alter the angle the flap opens to.

It is very important that when the flap is open, it rests in a vertical position, as shown below.



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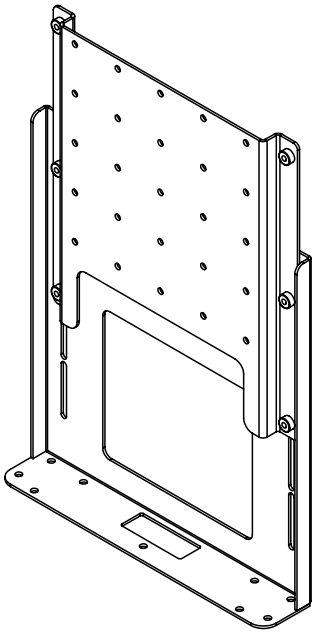
Checking Screen Mount Suitability

With a standard plasma lift, the supplied mounting type will be either a Group A or C framework, or a VESA 200 mount. Check that the type supplied suits the screen that is going to be mounted to the mechanism.

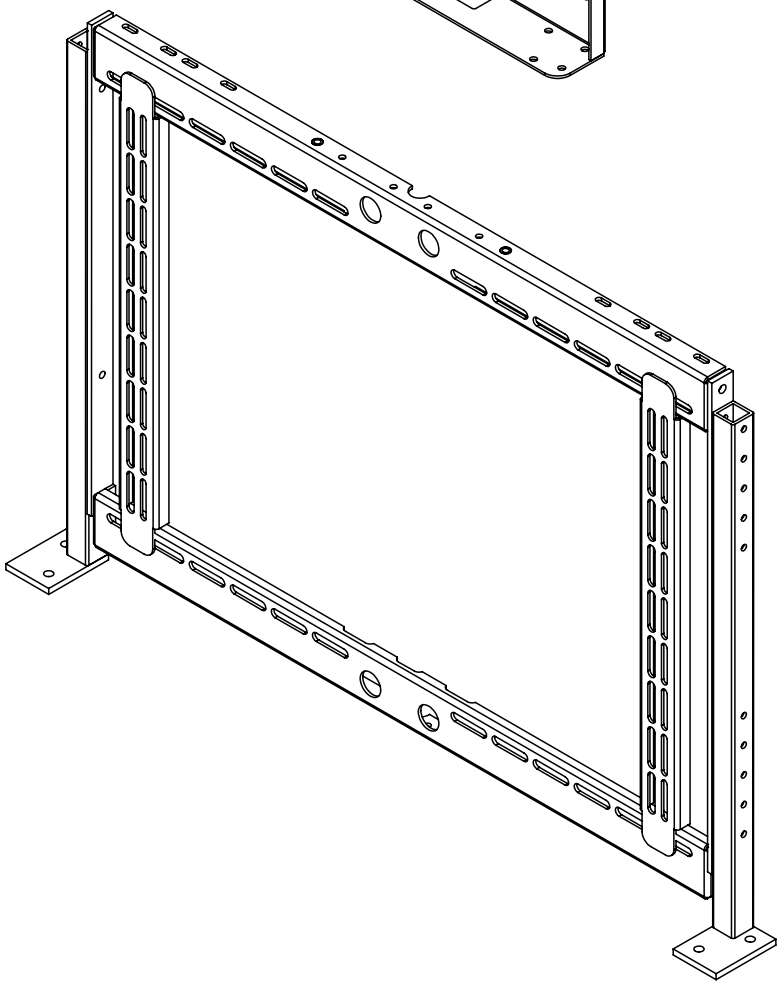
VESA 200 Mount

Remove the screen plate, and fix it to the back of the screen using the appropriate fixings.



Group A or C Framework

Remove the uprights, and fix them to the back of the screen using the appropriate fixings.



If these screen mounts are unsuitable to secure your screen, a custom mount plate can be designed.

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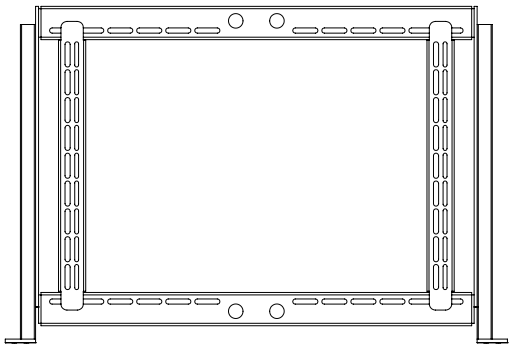
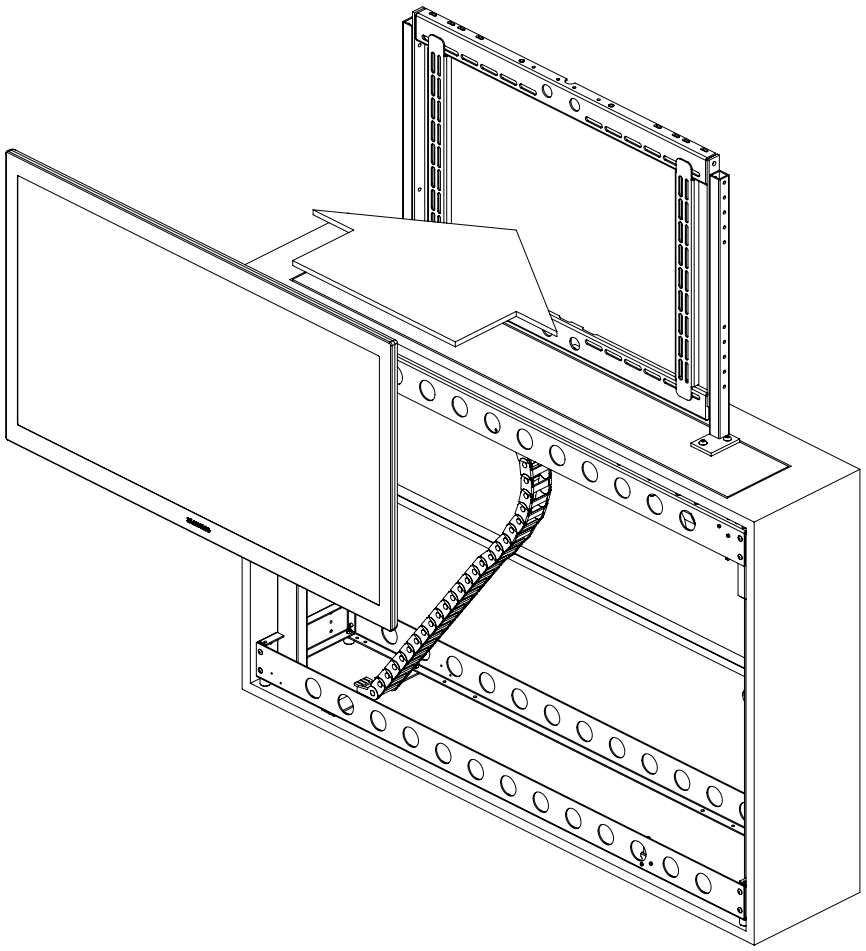
Mounting the Screen to the Lift

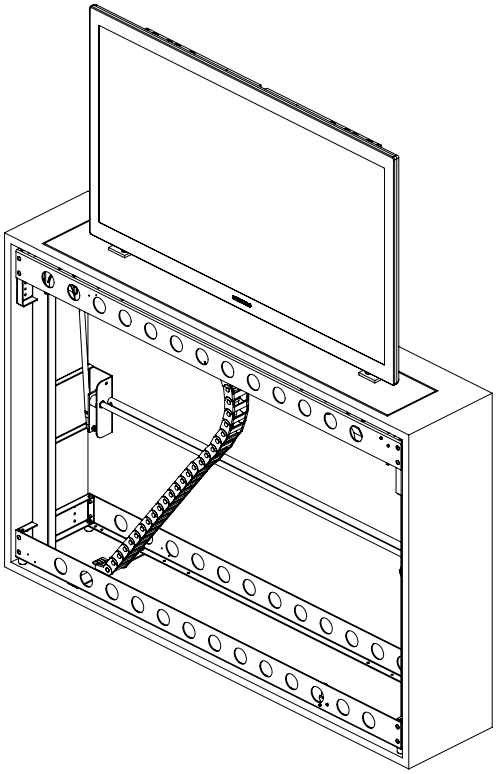
Before mounting any screen, press STOP on the IR remote in order to prevent any motor movements during the mounting procedure.

Simply mount the screen on to the mount supplied with your mechanism. The example below shows a Group A framework.





The height of the inner framework is adjustable in 30mm increments. There is then the final fine adjustment available from 30mm slots in the side. The inner uprights will slide to allocate different mounting systems.



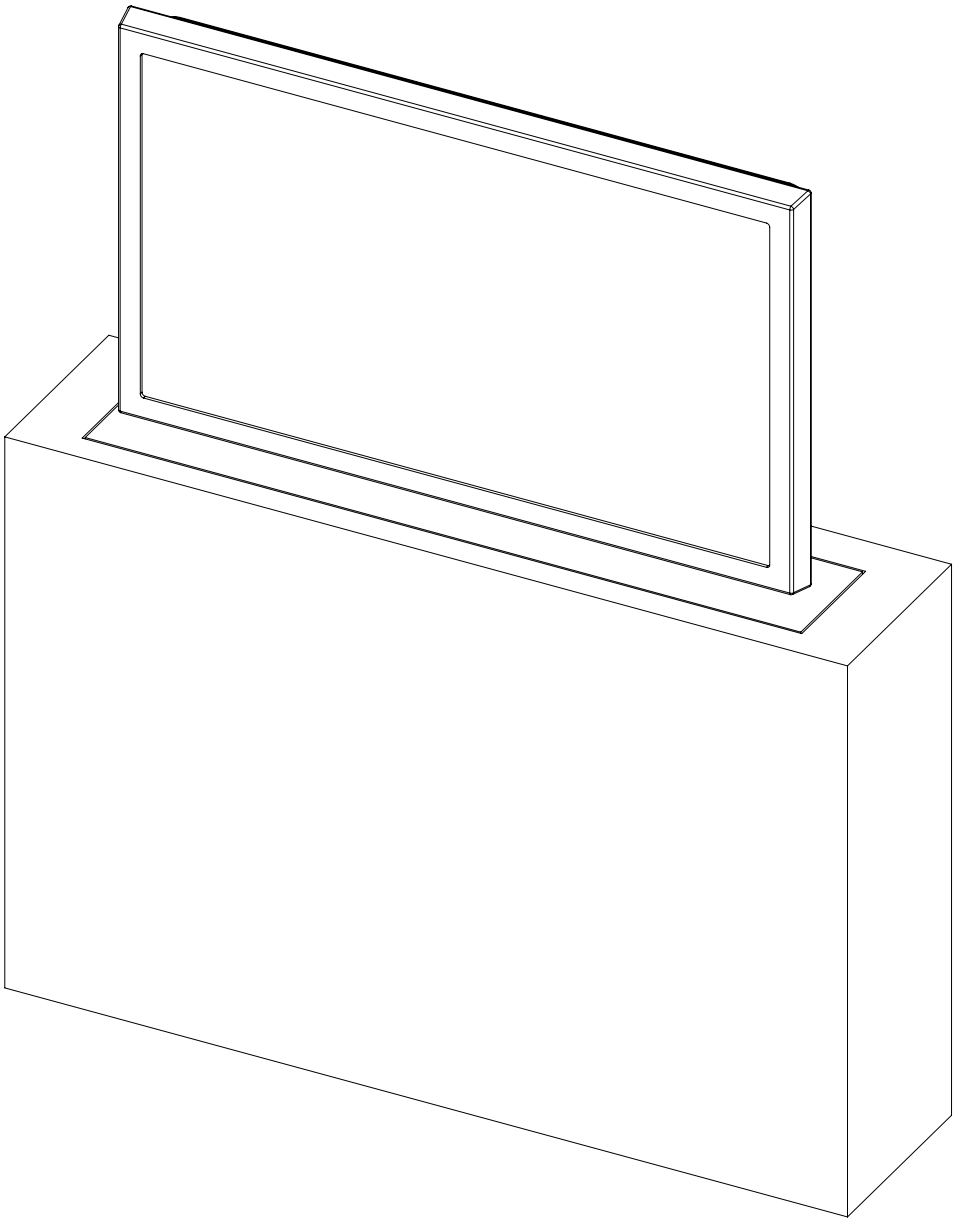
When the screen is in position, the cables can be connected and run up into the cabinet.

Pass the cables through the hole you cut in the base for the cables. Once inside the cabinet, pass the cables in to the cable management system. This resembles a black chain running from the beam to the base of the cabinet that the cables can be pushed inside to keep them tidy.

ML - Heavy Duty Lift Mechanism

Fix the IR Sensor and Run the Mechanism

The IR sensor can be located anywhere outside of the cabinet.



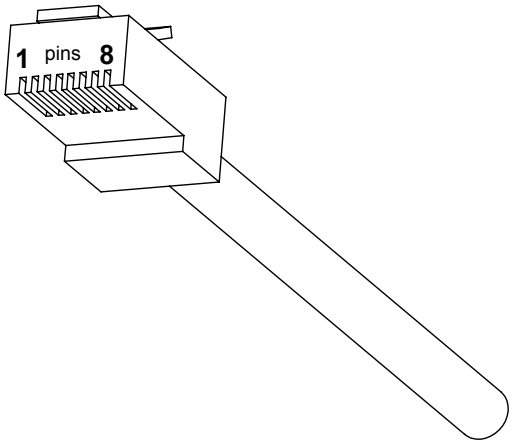
It is very important that once the mechanism is set up, the lift is run in and out a number of times to bed in and stabilise.

It may then be necessary to re-adjust the height and / or level of the lifting beam, as first discussed in Stage 4 of these instructions.

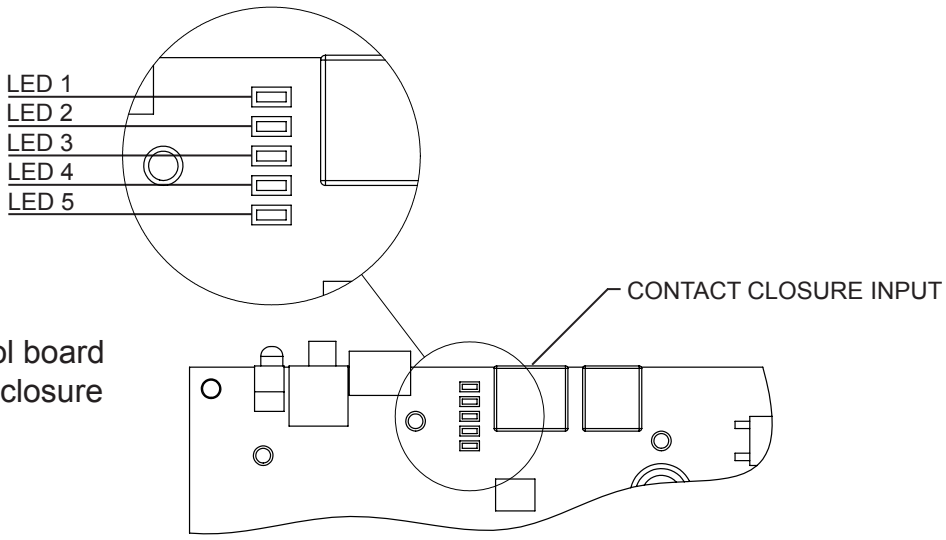
ML - Heavy Duty Lift Mechanism

Contact Closure

- Use an RJ45 connector in the CCI socket on the control box to operate via contact closure



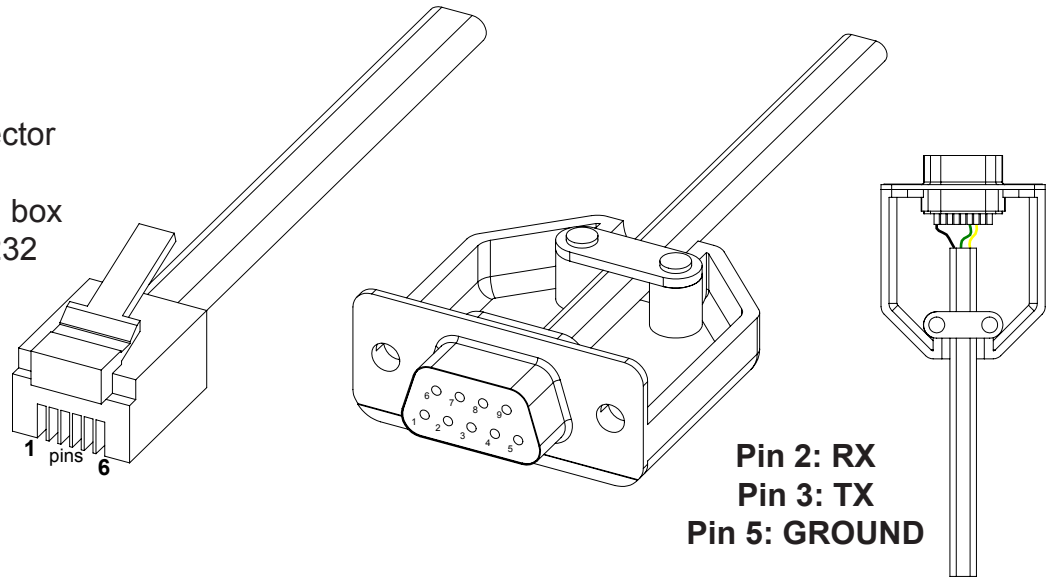
PIN	DESCRIPTION	ACTION	WIRE / CABLE		CONTACT CLOSURE LED INDICATOR
			568A	568B	
1	12V SUPPLY	12V SUPPLY - CURRENT LIMITED	W/G	W/O	
2	12V LATCH	When 12V attached, device will go OUT. When 12V removed, device will go IN.	G	O	
3	GROUND	GROUND	W/O	W/G	
4		PIN 4 NOT USED	BL	BL	
5	DEVICE LATCH	Short to GROUND (pin 3), device will go OUT, remove short device will go IN.	W/BL	W/BL	LED 4
6	DEVICE STOP	Momentary short to GROUND (pin 3), stops device in current position.	O	G	LED 3
7	DEVICE OUT	Momentary short to GROUND (pin 3), makes device go OUT.	W/BR	W/BR	LED 2
8	DEVICE IN	Momentary short to GROUND (pin 3), makes device go IN.	BR	BR	LED 1



NOTE:
Earlier versions of the control board may not have these contact closure LED indicators.

ML - Heavy Duty Lift Mechanism

RS232
- Use an RJ25 connector in the socket marked RS232 on the control box to operate using RS232



Pin 1: TX
Pin 6 : RX
Pin 3 & 4: GROUND

Pin 2: RX
Pin 3: TX
Pin 5: GROUND

Details

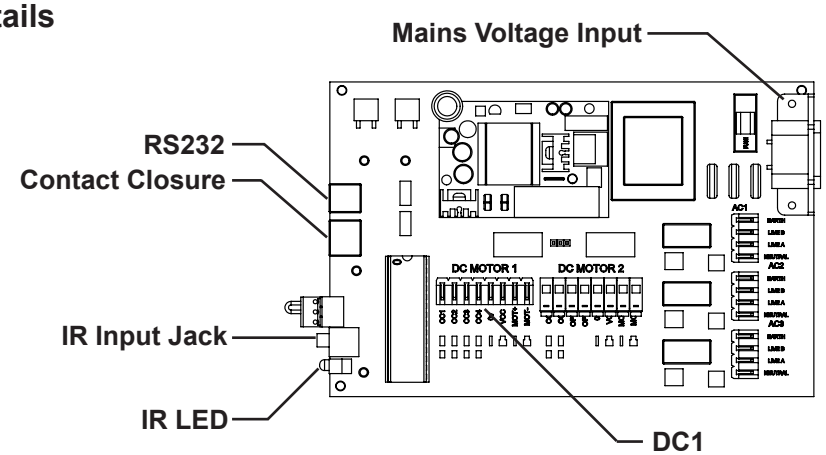
Baud rate:	9600
Stop bit:	1
Parity:	None
Databits:	8

RJ25		9 PIN D
PIN 1: TX	TO	PIN 2: RX
PIN 6: RX	TO	PIN 3: TX
PIN 3: GROUND	TO	PIN 5: GROUND
PIN 4: GROUND	TO	PIN 5: GROUND

IMPORTANT
Ensure protocol is entered exactly as written, including Carriage Return (Enter / ASCII 13).

Protocol	Action
fa_in Carriage Return (Enter ⏎)	Device IN
fa_out Carriage Return (Enter ⏎)	Device OUT
fa_stop Carriage Return (Enter ⏎)	Device STOP (At any position)

Operation Details

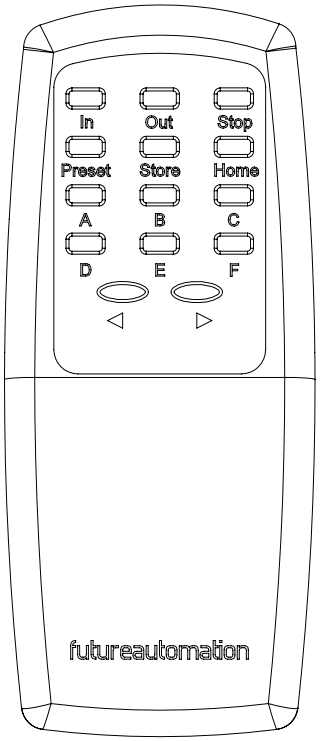


DC1
Low voltage power output for motor drive.LED's to show operation of limit switches and positional counters

ML - Heavy Duty Lift Mechanism

Operation buttons for the IR remote

In - Brings the mechanism inside the cabinet



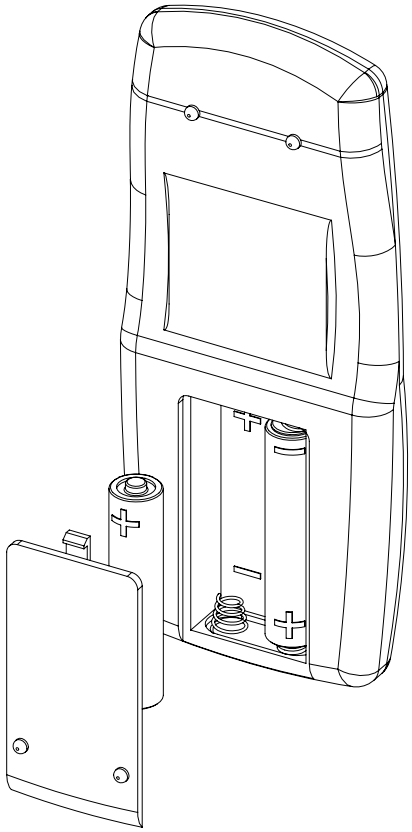
Out - Brings the mechanism out of the cabinet facing forward

Stop - Will stop the operation at any position

Note
Only buttons indicated are functional with the product. Any button pressed when in motion mechanism will stop.

Replacing batteries

Future Automation IR Remote Controller needs x2 AAA batteries which are provided within the packaging



ML - Heavy Duty Lift Mechanism

Heavy Duty Lift Mechanism - Trouble shooting guide

Lift Mechanism ML - Trouble shooting

For information on our products please refer to our web site - **www.futureautomation.co.uk**
or for questions on installations and our product range please phone us on - **+44(0) 1438 833577** and ask for our technical support department

ML - Heavy Duty Lift Mechanism

Technical Overview

A general technical overview of the ML lift mechanism

	ML
Product Dimensions	Custom
Weight	Custom
Power Consumption	250W - 500W
Power Consumption On Standby	100mA
Lifting Capacity (Kg)	100Kg [220.5lb]
Standard Screen Mount Colour	Black
Max Television Size	Width - N/A
	Height - N/A
	Depth - 155mm [6.1"]
Control	IR Remote, RF Remote, Contact Closure & RS232
Power Supply	240V or 110V
Control Of 3rd Party Product	Yes
Output Power Supply	Yes (12V)
Control Box Size (W,D,H)	152x200x55mm [6x7.9x2.2"]
Shipping Details	
Dimensions Approx (W,D,H)	1800x500x1200mm [70.9x19.7x47.2"]
Weight Approx (Kg)	50 - 60Kg [110.2 - 132.3lb]

ML - Heavy Duty Lift Mechanism

Notes...

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