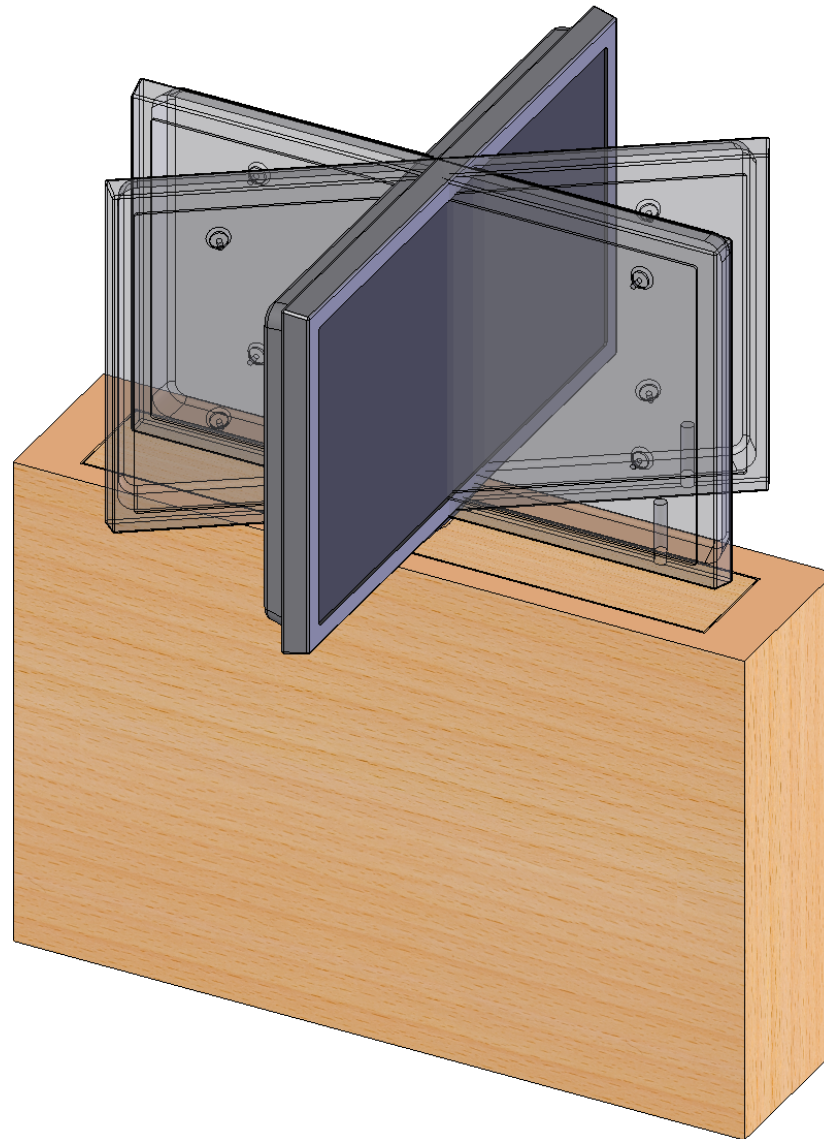






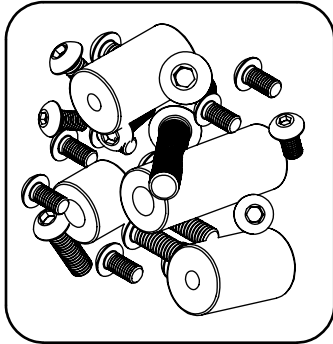
Your Pack Should Contain

1 ML - S

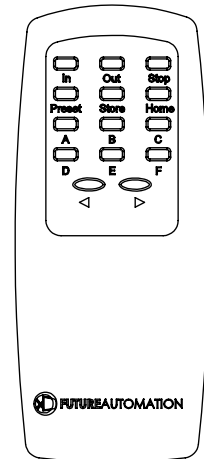
Marine Lift
Mechanism

1 Standard ML
Fixtures Pack

The contents of
which can be
found on Sheet 18

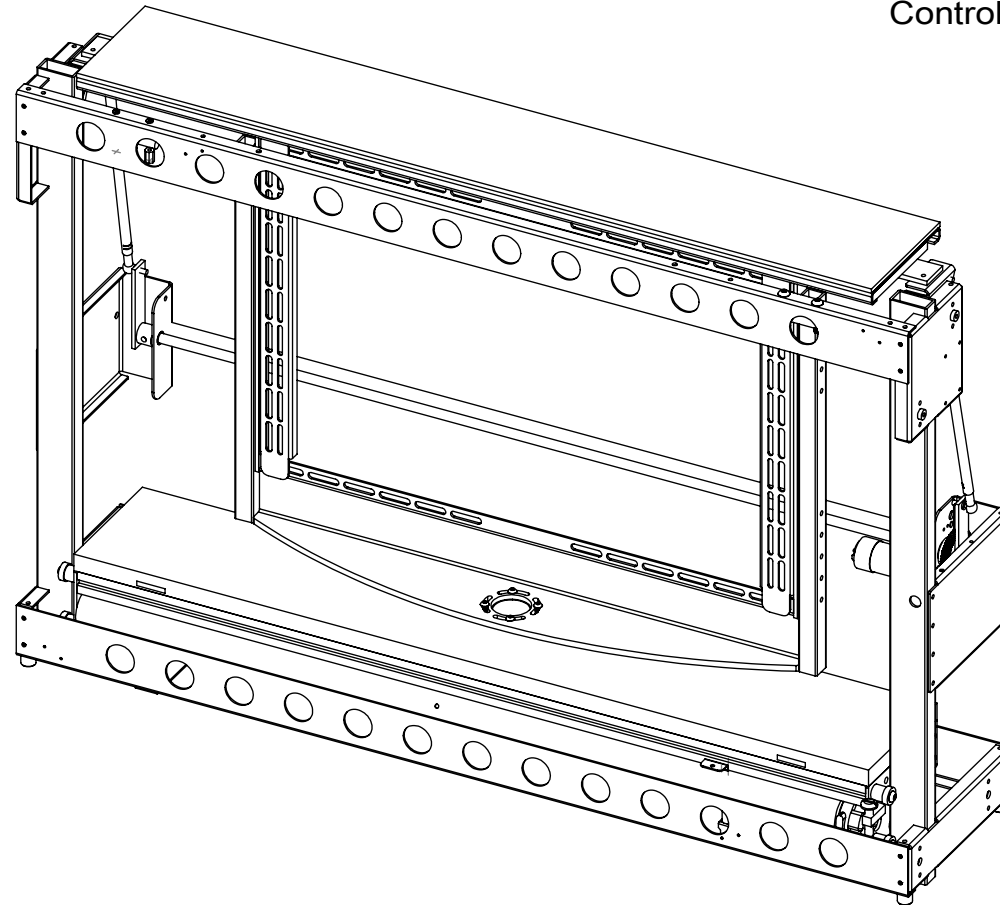
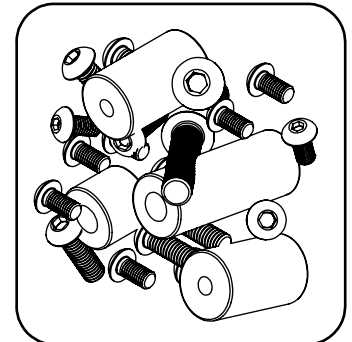


1 IR
Remote
Control



1 Fixtures Pack

Relating to the
type of mount
your screen
requires



WARNING

It is the responsibility of
the installer to warn all
potential end users of
the dangers of interfering
with mechanisms during
operation

IMPORTANT

Mechanisms which lift
or move weights need
to be checked on a
yearly basis for any
damage which may
result in an accident



FUTUREAUTOMATION



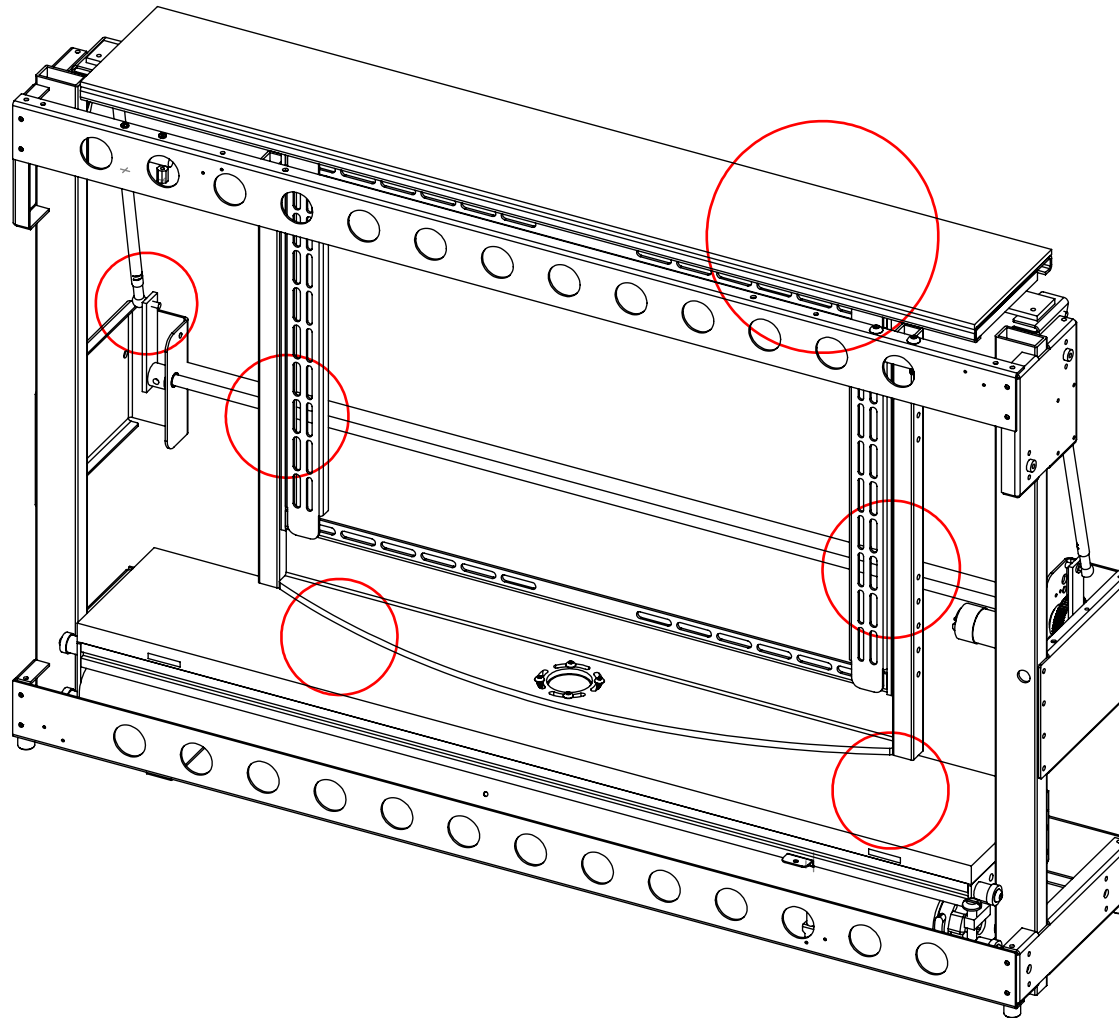
Stage I

Check the operation of the mechanism

Firstly, remove the cable ties that keep the mechanism safe and secure during transit. There are usually 6 ties in the locations circled on the image, right.

However, on some models there may be more than 6 cable ties.

Once all the cable ties have been removed, then the mechanism can be powered up and tested.



CONTROLS

Connect the mechanism and check that the mechanism operates correctly.

IN - HIDE SCREEN

OUT - REVEAL SCREEN
FACING FORWARD

STOP - STOP

PRESET - MEMORY

STORE + PRESET - STORE

HOME - HOME FROM
ANGLE

< - PULSE LEFT

> - PULSE RIGHT

Refer to page 12 for
full controls



FUTUREAUTOMATION



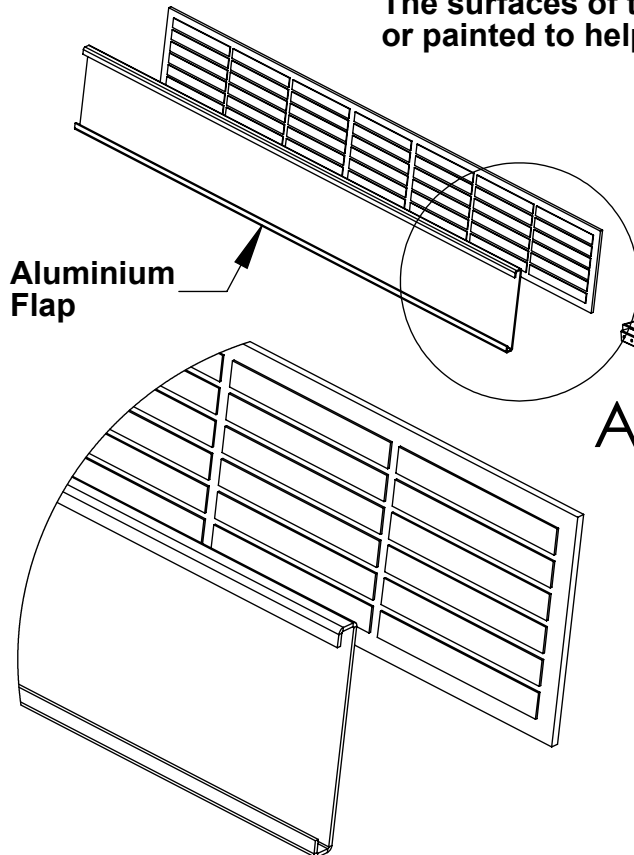
Stage 2

Fitting flap and base to mechanism

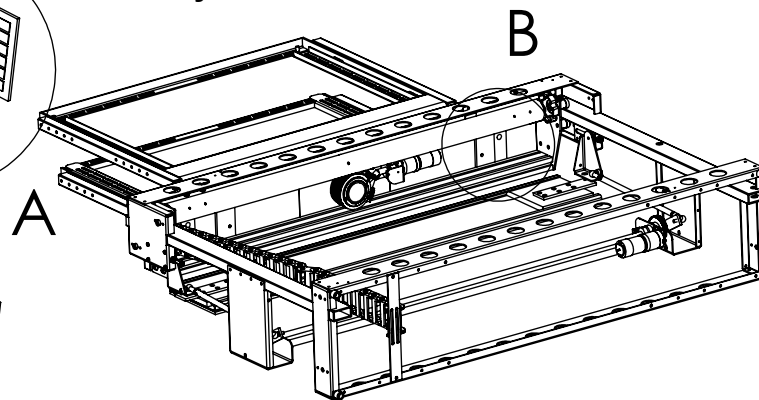
The 6mm flap and the base should be made as part of the cabinet.

The surfaces of the flap should ideally be varnished or painted to help prevent it from warping.

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.



DETAIL A
SCALE 1 : 5



DETAIL B
SCALE 1 : 5

VIEWING SIDE

72.50

FIXING

Firstly, before attempting to fix the base panel to the mechanism, it will be necessary to remove the mounting frame, for ease of working.

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

Always consult
ML TECHNICAL SHEET
before fabricating any
flaps or base panels.

1 large hole to be drilled in base panel.

This hole should be $\phi 86\text{mm}$ to allow for adjustment later. The hole's centre has to be 72.5mm away from the back edge of the base panel.

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

Remove the screen mount from the mechanism and put the base on the beam. With the base panel on the beam, it will be possible to mark where the wood screws will need to go through the support plates into the base panel. Mark where the holes need to go and then drill a pilot hole for the screws. Then screw in the provided wood screws with washers.

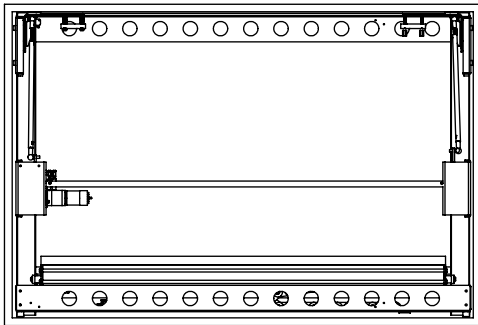


FUTUREAUTOMATION



Stage 3

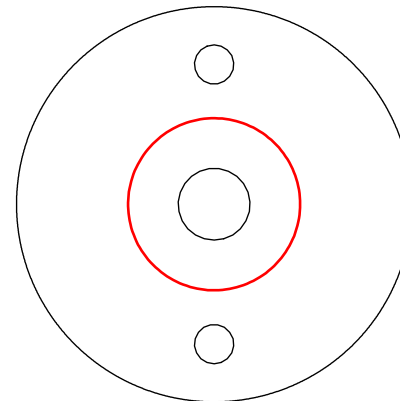
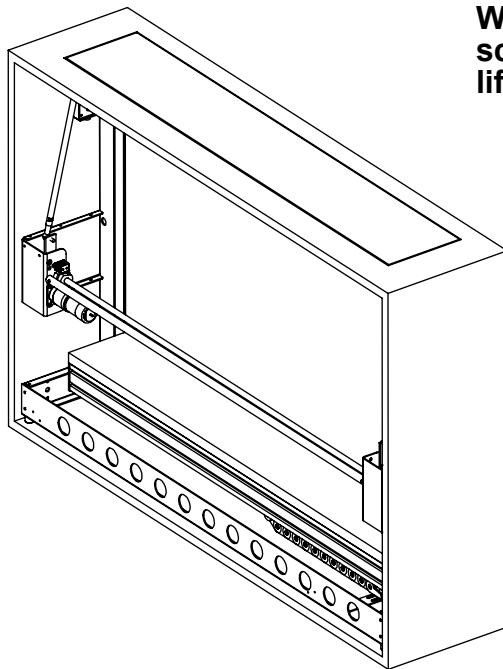
Fixing the lift in the cabinet



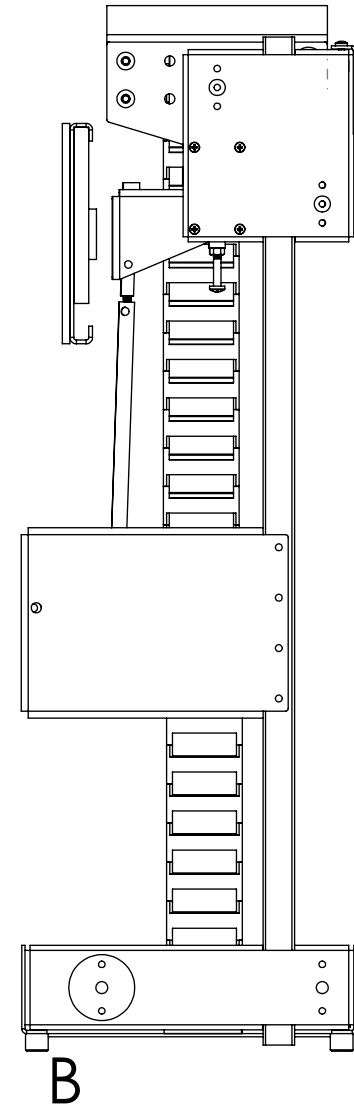
Place the mechanism within the cabinet. Raise the beam to the top and guide base through the opening in the top. IR remote STOP button will stop the lift.

With the base 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 below right.

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



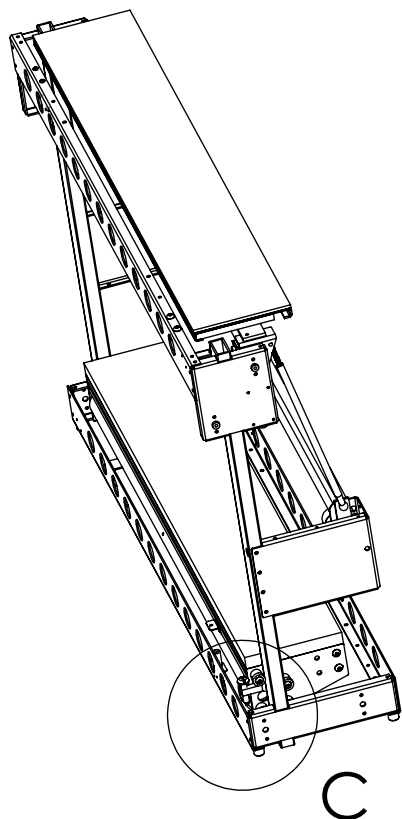
DETAIL B



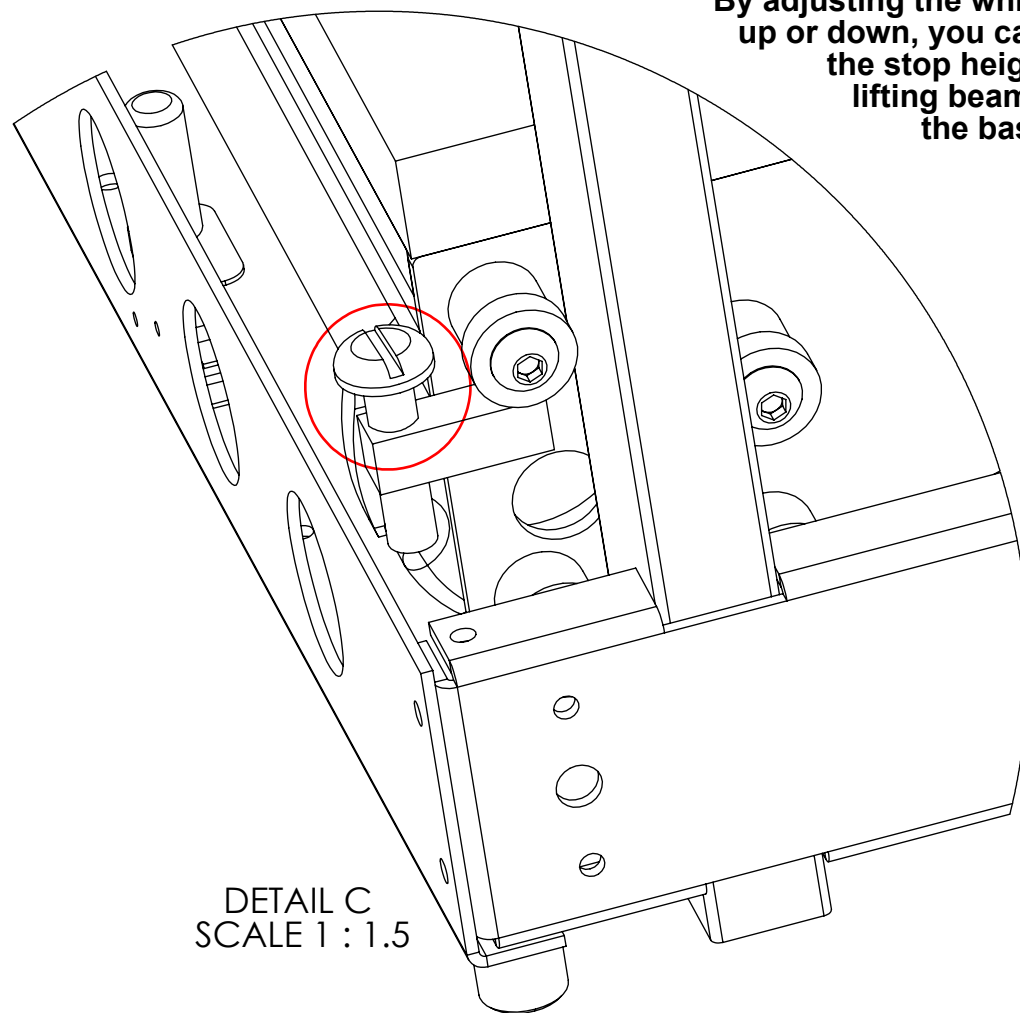


Stage 4

Adjusting the base panel height



C



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

DETAIL C
SCALE 1 : 1.5



FUTUREAUTOMATION

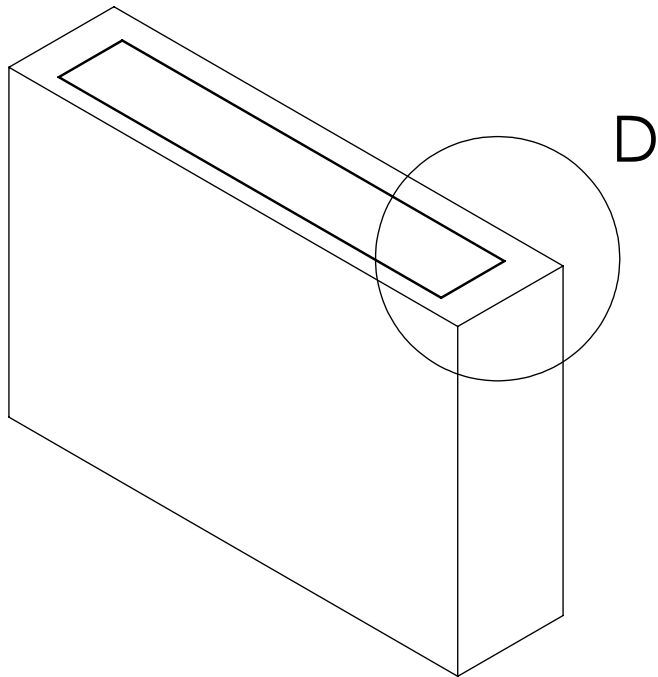


Stage 5

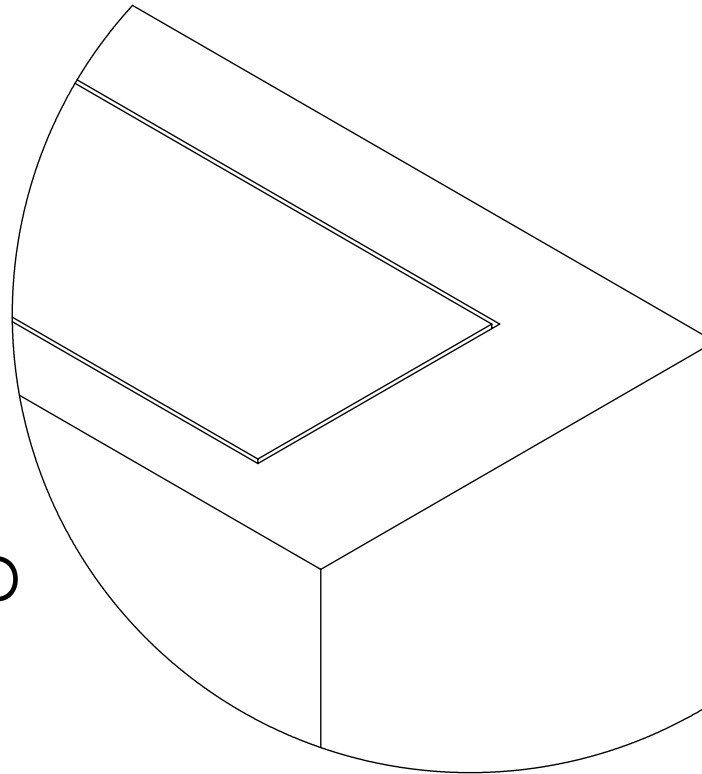
Positioning the base panel

Loosen off the wood screws on the under side of the lifting beam and move the base to the centre of the opening.

There should be a gap of about 3mm around the edges of the base panel to the cabinet.



D



DETAIL D
SCALE 1 : 4

MOUNTING THE FRAME

Once the base panel has been positioned correctly and properly secured, it is then possible to re-attach the mounting frame.

Firstly make sure the mechanism is in the 'Home' position.

Then the screen mounting frame can be bolted down.

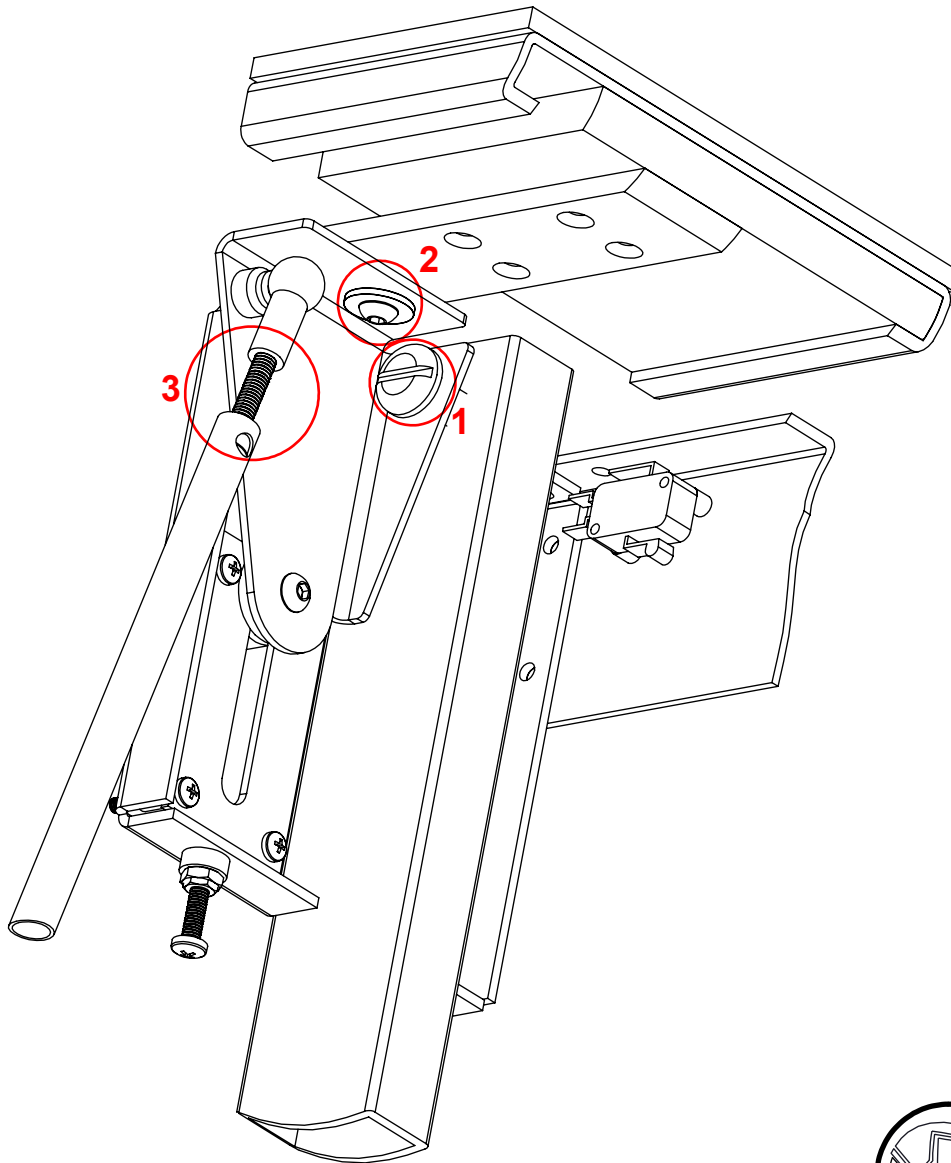
Make sure the mounting frame is square with the slot in the cabinet.



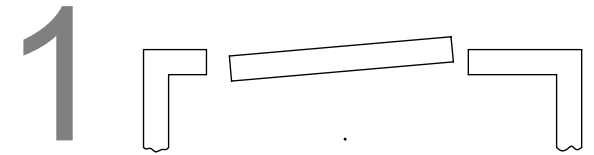


Stage 6

Adjusting the flap-up position

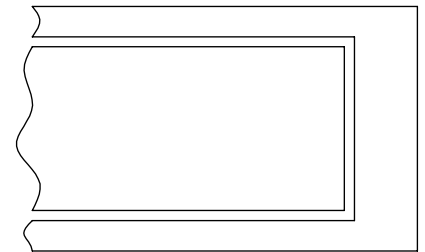


CABINET TOP - SIDE VIEW



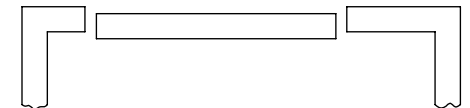
By adjusting the white screw, at each side of the lift, you can adjust the tilt of the flap.

2 CABINET TOP - PLAN VIEW



By loosening the M6 bolts on each side under the flap, you can adjust the position of the flap in the hole in the cabinet top. Aim for a 3mm gap all round.

3 CABINET TOP - SIDE VIEW



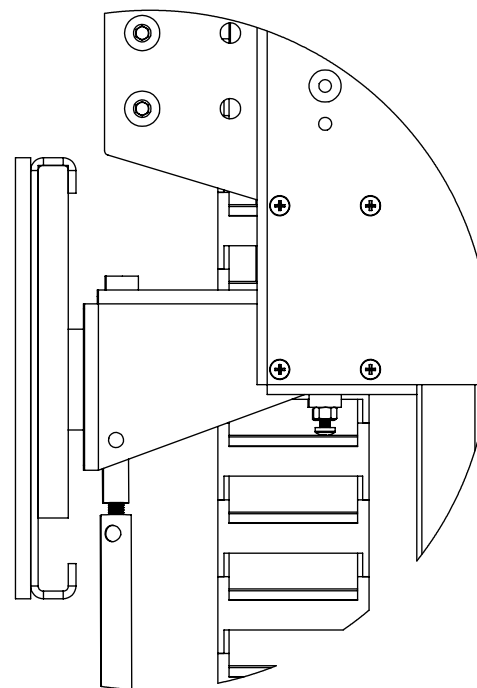
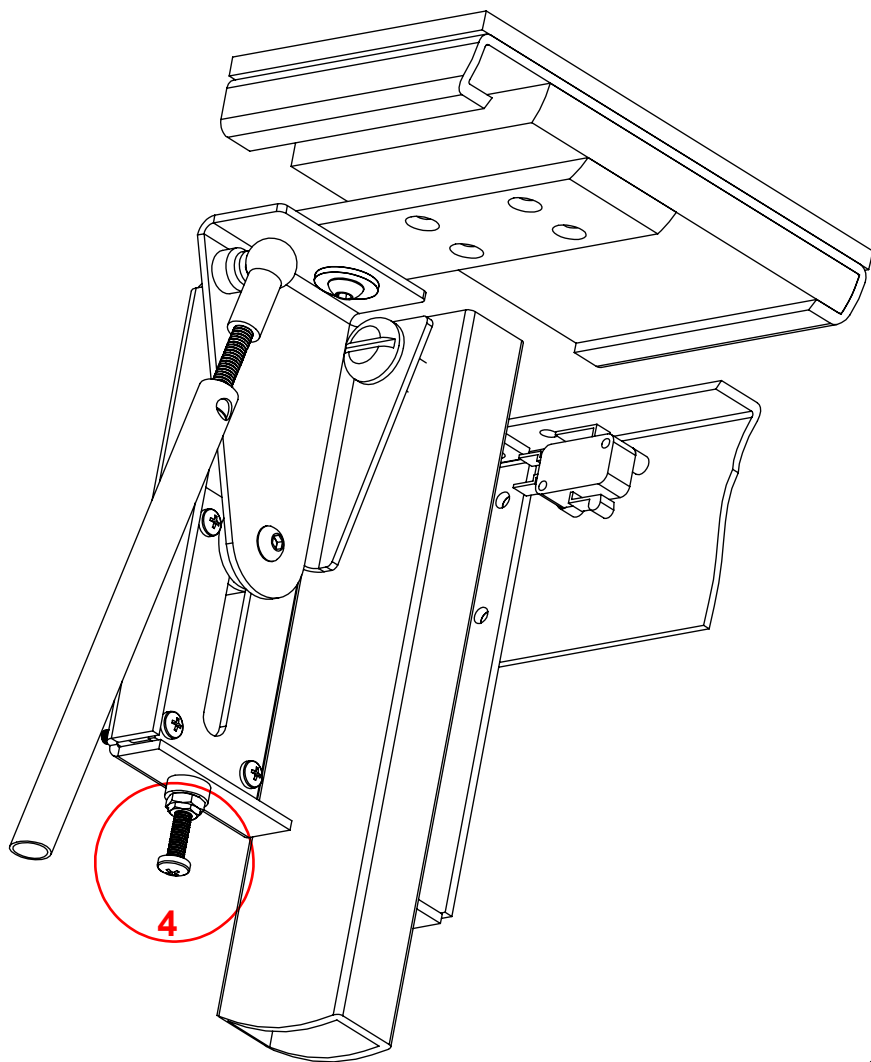
By winding the push rods on each side, you can adjust the height of the flap in order to get it level with the cabinet top. Be sure to lock the nut securely once adjusted. Make sure the black plate doesn't touch the inside of the cabinet. This can cause strain on the motor, leading to failure.



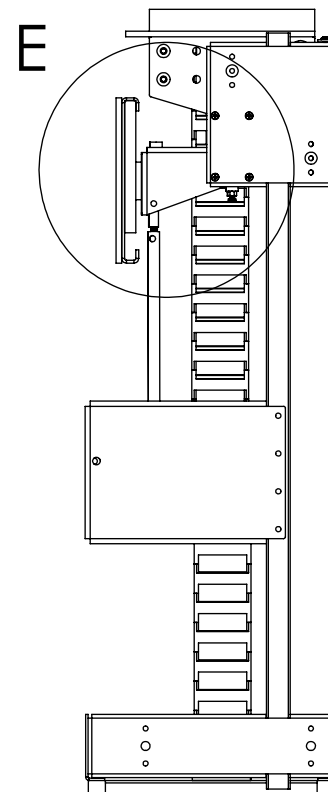


Stage 7

Adjusting the flap-down position



DETAIL E
SCALE 1 : 3



4

By adjusting the bolts under 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 above.



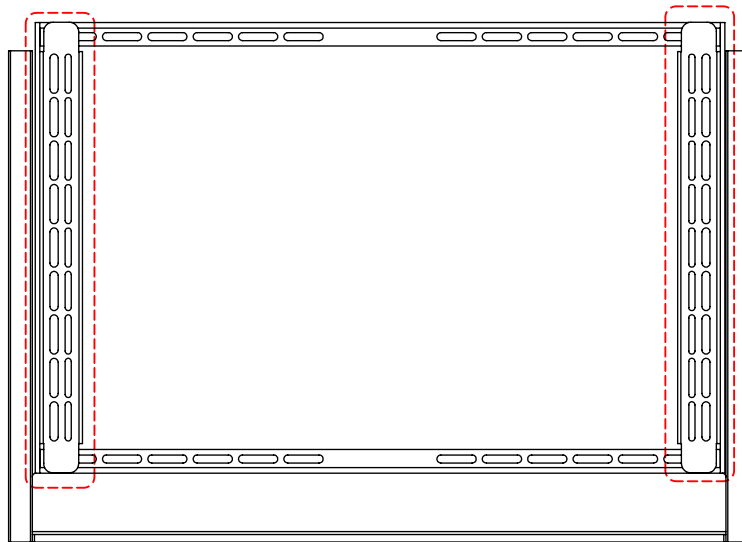
FUTUREAUTOMATION



Stage 8

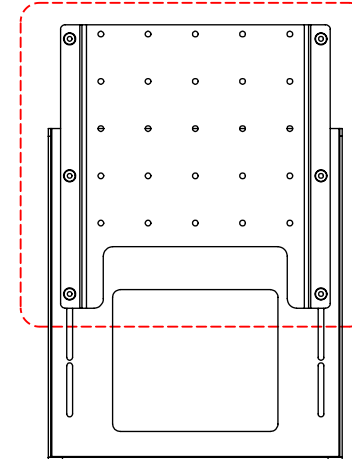
Checking the screen mount

With a standard marine 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.



Group A or C Framework

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



VESA 200 Mount

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





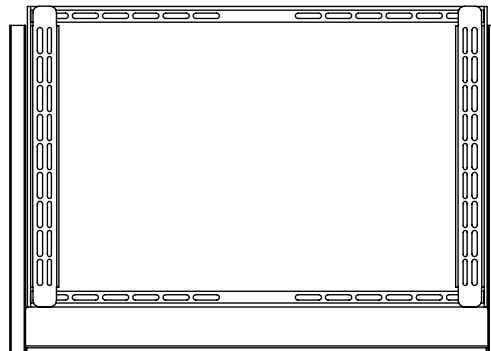
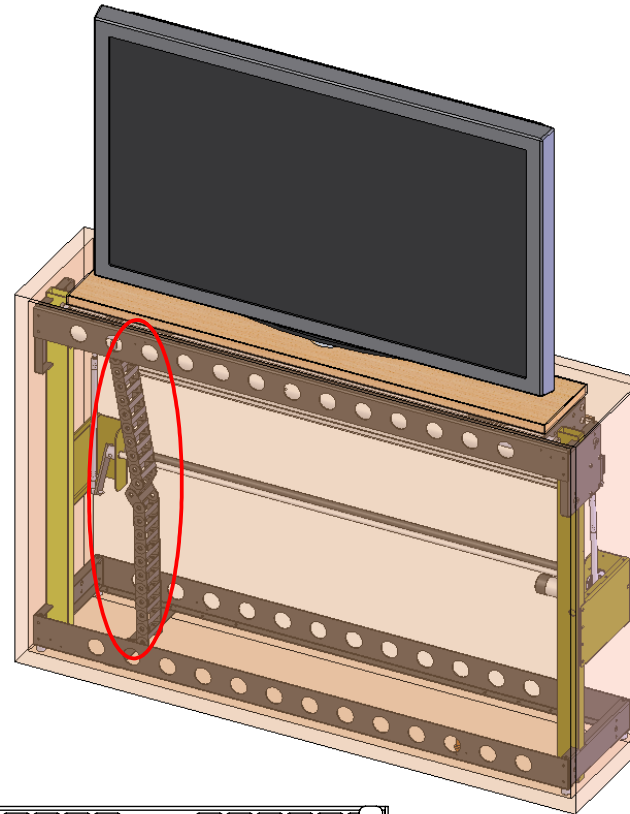
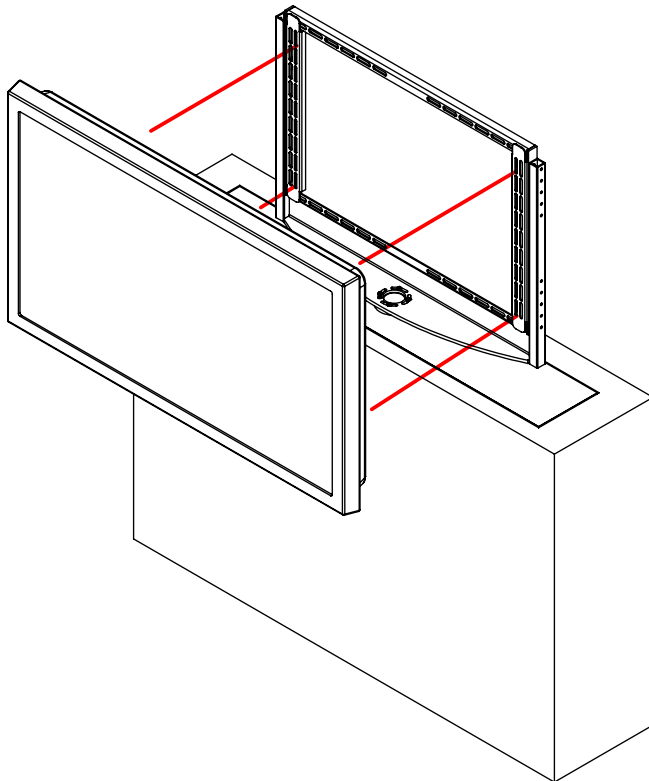
Stage 9

Fixing 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.

Make sure the swivel is in the HOME position!

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



CABLES

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

Pass the cables through the centre of the aluminium shaft at the base of the framework. Once inside the cabinet, pass the cables into 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.

The cable management system is circled near left.

The height of the inner framework is adjustable. The inner uprights will slide inwards to allocate different mounting systems.

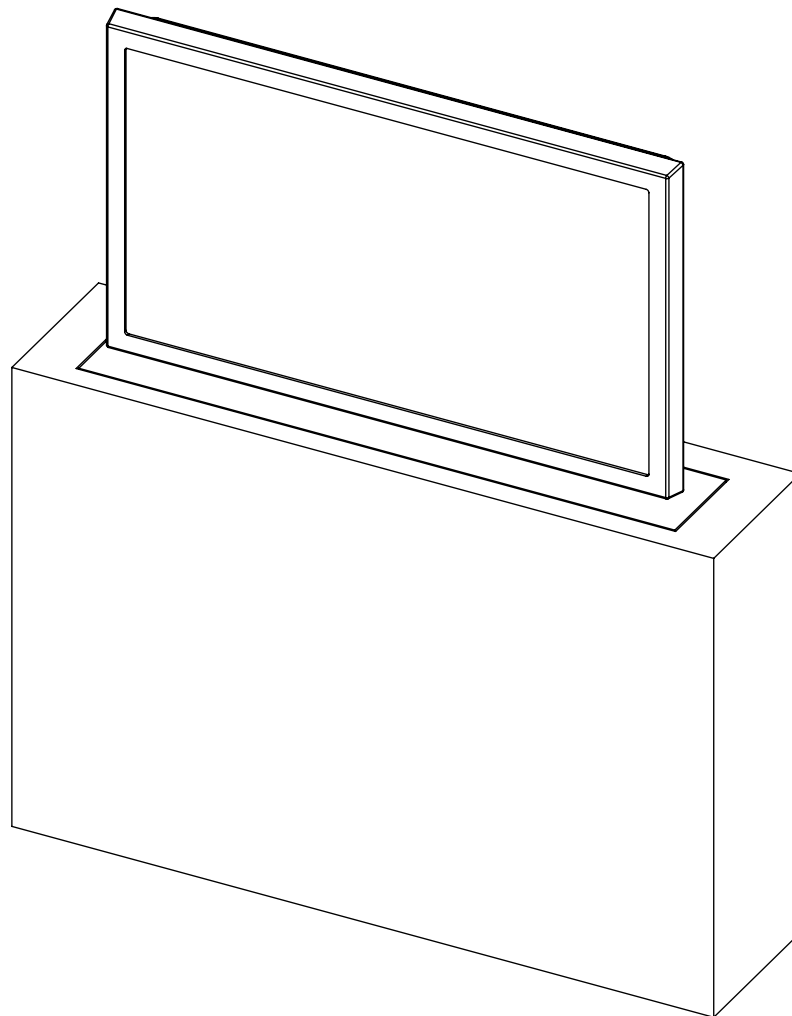




Stage 10

Fix the IR sensor and run the mechanism

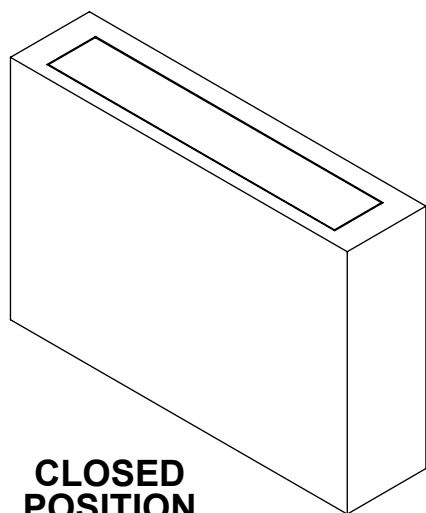
The IR sensor can be located anywhere outside of the cabinet.





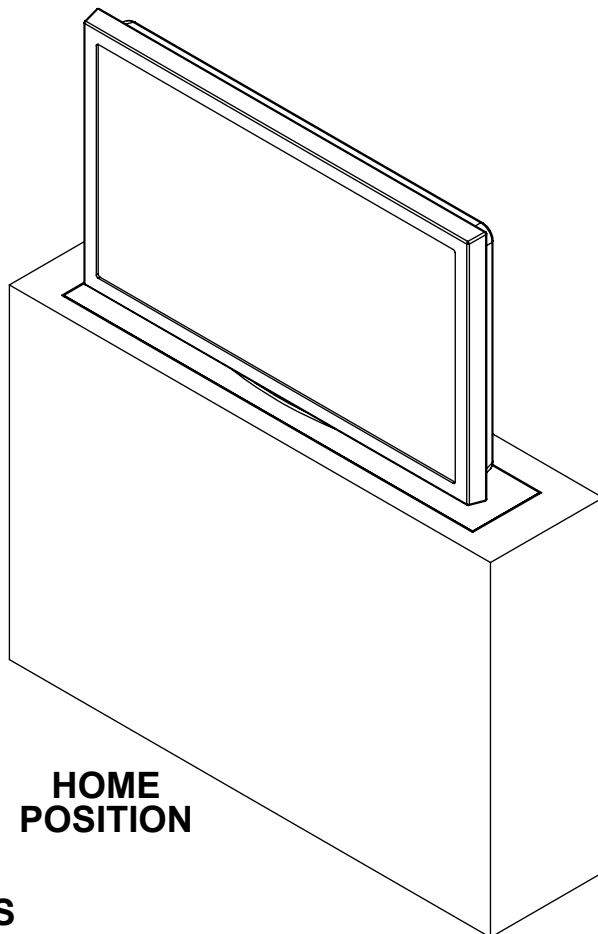
Controlling The Mechanism

Viewing from the front



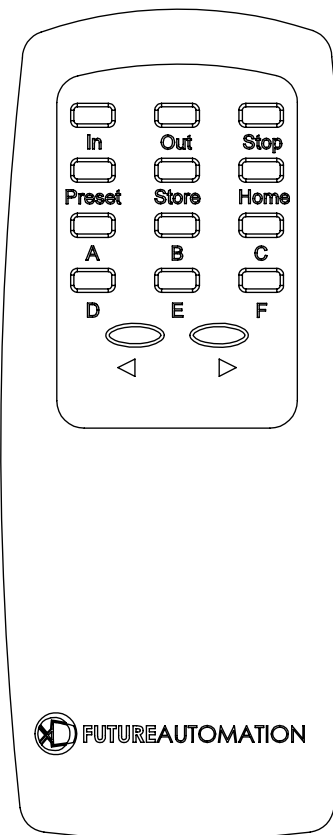
**CLOSED
POSITION**

**PRESS
OUT**



**HOME
POSITION**

**PRESS
IN**



REMOTE CONTROLS

IN - Takes the screen inside the cabinet

OUT - Takes the screen out of the cabinet facing forward

STOP - Stops the mechanism at any time

PRESET - Screen goes to learnt position

STORE - Programs current screen position to learnt position

HOME - Takes screen to forward facing position when screen is already in an angled position

< - Rotates screen left

> - Rotates screen right

STORE + PRESET - Within 1 sec stores preset position

STORE + E within 1 sec clears preset and sets swivel 180 degree right and left

STORE + D within 1 sec sets left limit

STORE + F within 1 sec sets right limit

STORE + A-C stores other positions
 A-C then takes it to those positions

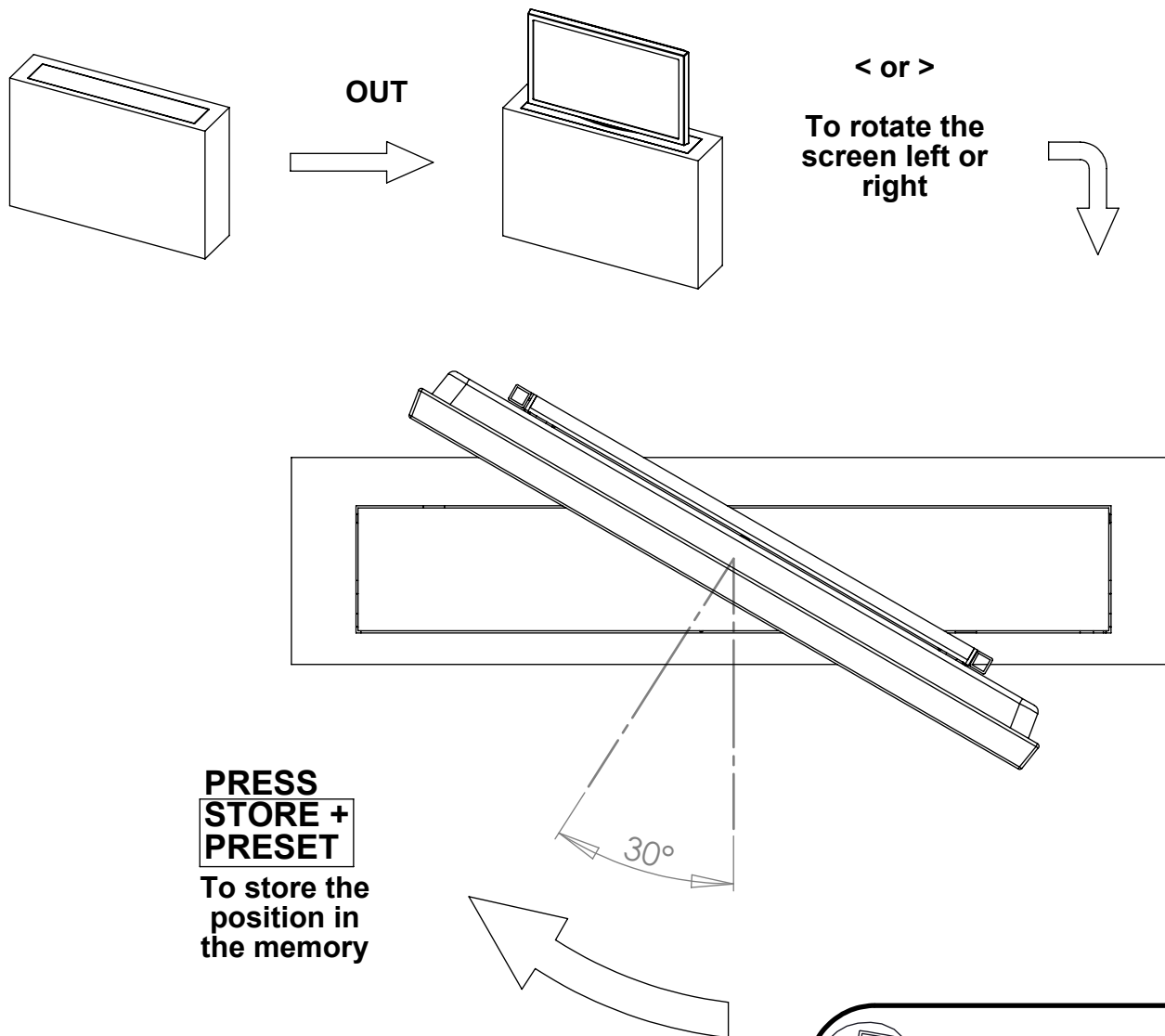


FUTUREAUTOMATION



Controlling The Mechanism

Programming new memorised positions



POSITION OPTIONS

The example, left, shows the programming of a position that is left of centre.

In order to program a position that is right of centre, simply press < to turn the screen to the right.

Then press **STORE + PRESET** to store the position in the memory.

STORE + A-C
Also stored positions

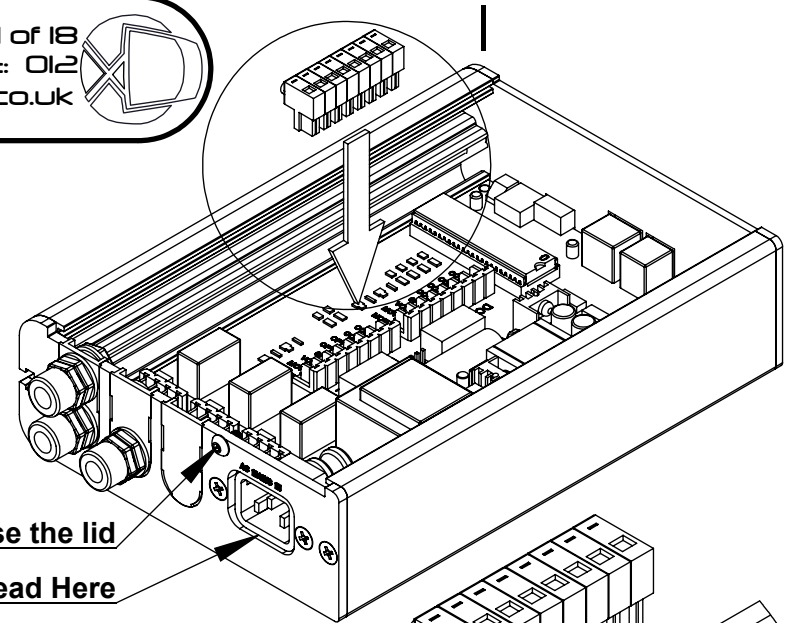


FUTUREAUTOMATION



Electrical Connections

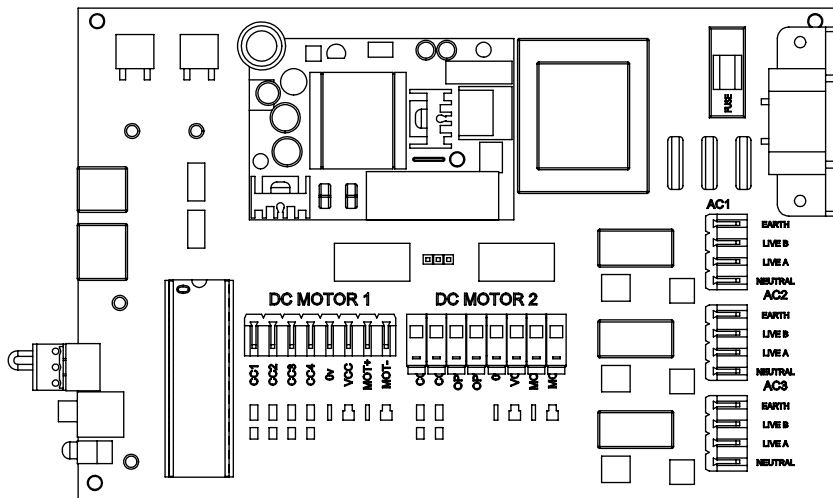
The MLS mechanism must be connected to the AC1, DC1 and DC2 blocks of connections.



Remove this screw to release the lid

Connect the IEC Power Lead Here

DETAIL I
SCALE 2 : 2.5



Connect the Infrared Sensor here

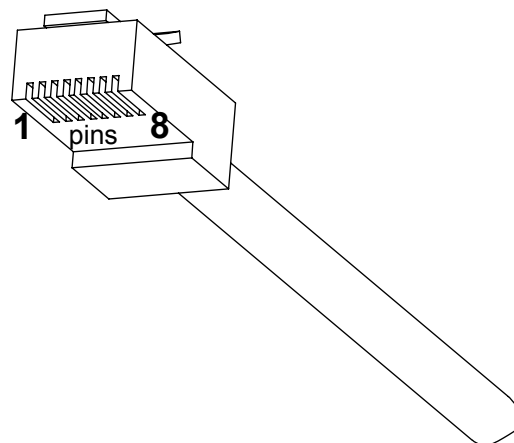
It is **VERY** important that when all of the electrical connections are made, the connector blocks are connected in the way shown above, with all the wires coming directly out the top of the connector blocks.





Contact Closure

Use an RJ45 connector in the CC1 socket on the control box to operate via contact closure.



Once the mechanism is moving, any contact closure input will cause the lift to stop. There will then be a short delay before another command can be issued. This feature should always be available to the end user for safety reasons.

The emergency stop connector should also be used to connect other safety devices or switches

PIN	568 B	568 A	DESCRIPTION	ACTION
1	W/G	W/O	12V SUPPLY CURRENT LIMITED	
2	G	O	12V LATCH	When 12V is attached, device will go OUT. When 12V is removed, device will go IN.
3	W/O	W/G	GROUND	
4			N/A	
5	W/BL	W/BL	DEVICE IN LATCHED	Momentary short to ground to make lift go UP and RIGHT. CC4
6	O	G	DEVICE STOP	Momentary short to ground to make lift go UP and LEFT. CC3
7	W/BR	W/BR	DEVICE OUT	Momentary short to ground to make lift go UP to HOME position. CC2
8	BR	BR	DEVICE IN	Momentary short to ground to make lift go IN. CC1





RS232

Use an RJ11 connector in the socket marked RS232 on the control box to operate using RS232.

DETAILS

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

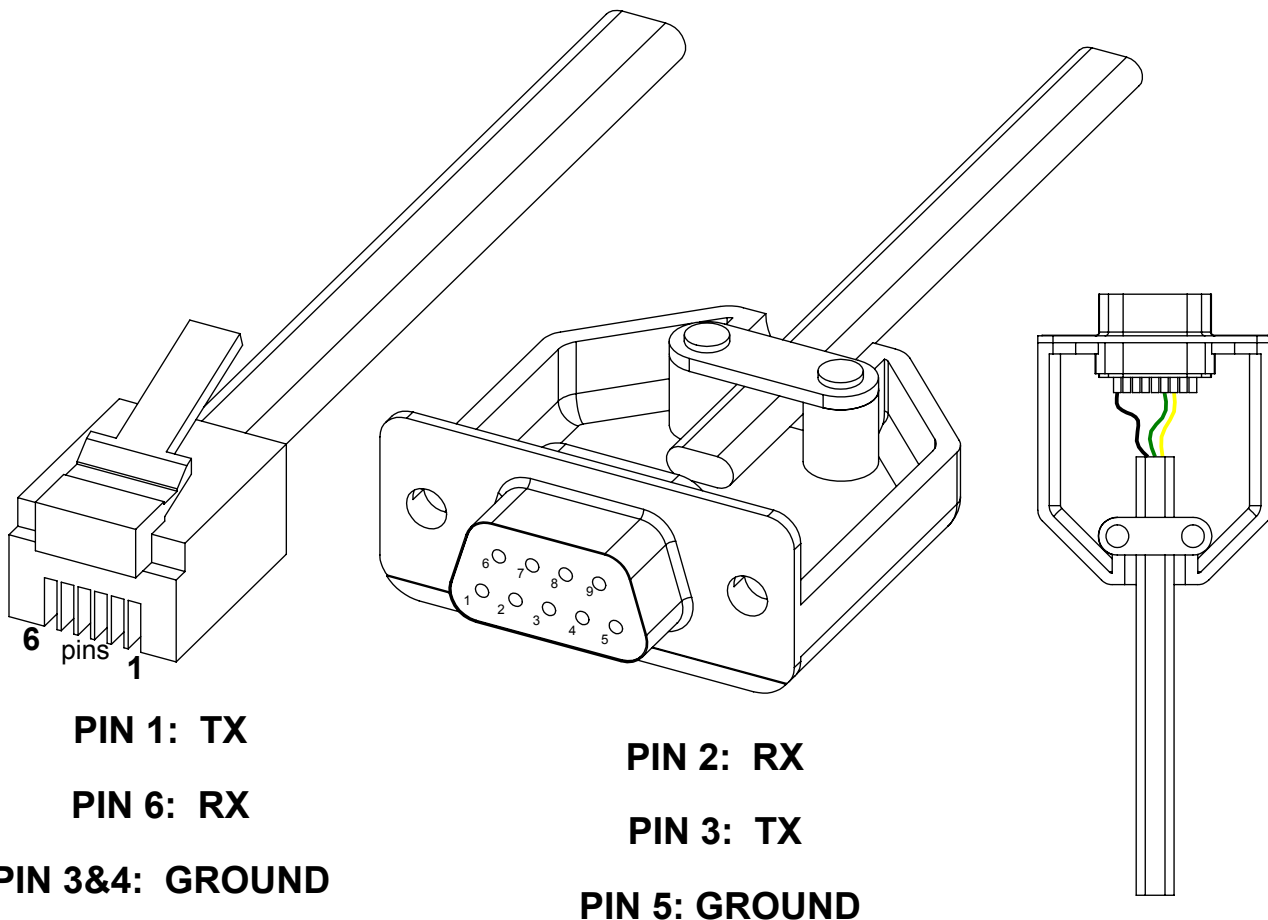
PROTOCOL

ASCII Command
fa_in = Device IN
fa_out = Device UP only
fa_stop = Device STOP

fa_store = STORE MEMORY position
fa_preset = Go to MEMORY position

fa_home = Device UP only
fa_right = Device UP and to RIGHT limit
fa_left = Device UP and to LEFT limit

ALL COMMANDS FOLLOWED BY
CARRIAGE RETURN





Operation Details

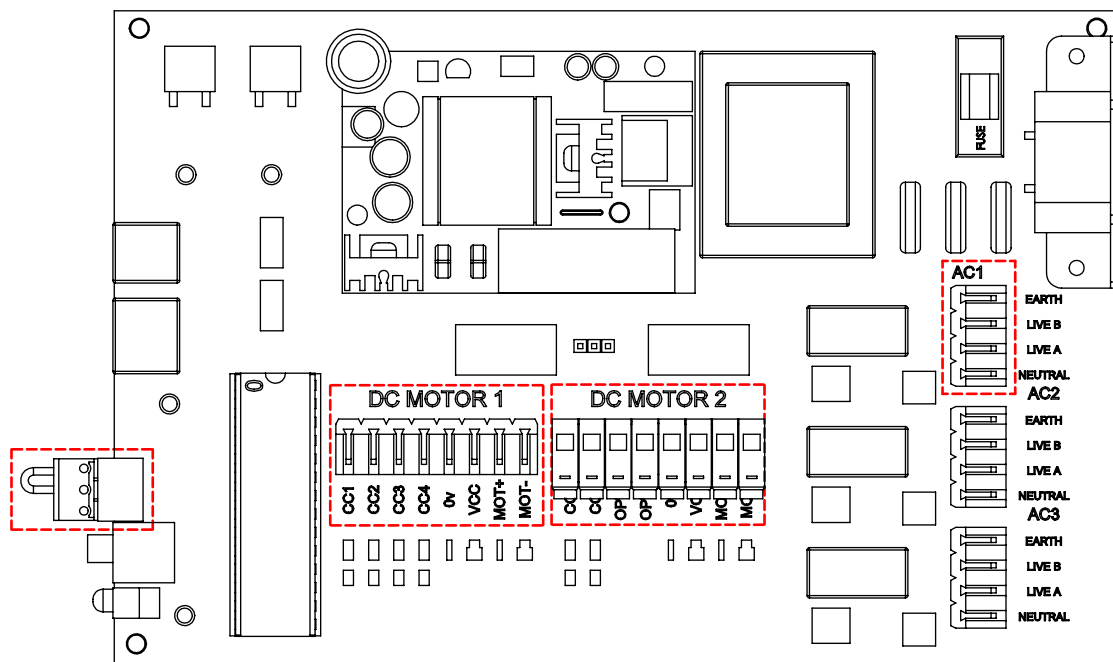
AC1

Gives an output of 240V(or 110V) to control the Marine Lift motor.

Outputs stay live for 60 seconds after the OUT or IN functions are selected.

EMERGENCY STOP

This connection will stop all functions of the mechanism once broken / removed.



DC1

A low voltage connection for the switches in the lift mechanism. The four LEDs indicate the state the mechanism is in.
CC1 Not Lit: Flap is OPEN
CC2 Not Lit: Flap is CLOSED
CC3 Not Lit: Beam is DOWN
CC4 Not Lit: Beam is UP

DC2

A low voltage connection for the switches in the swivel mechanism. The two LEDs indicate the state the mechanism is in.



FUTUREAUTOMATION



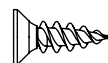
Supplied Fixings

The fixings immediately below are the standard ML-S fixings supplied with every ML-S product.
 There will be one other pack of fixings supplied, containing fixings that are specific to the particular screen being mounted on the ML-S product.

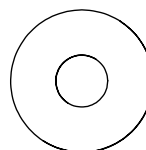
**M6 x 25mm
 Pointed x 8**



Wood Screws x 2



Penny Washers x 2



GROUP A		VESA	GROUP C	
M4 x 16mm x8	M5 Washers x8	M4 x 16mm x6	M4 x 16mm x4	M8 Washers x6
M5 x 12mm x8	M6 Washers x6	M4 x 20mm x6	M5 x 16mm x4	
M6 x 16mm x6		M5 x 20mm x4	M5 x 20mm x4	M8 Rawl Bolts x6
M8 x 16mm x6	Spacers 18 OD 8 ID 10mm x8	M5 x 30mm x4	M5 x 30mm x4	
M8 x 25mm x4	Spacers 18 OD 8 ID 15mm x4	M5 x 35mm x4	M5 x 50mm x4	Spacers 15 OD 6 ID 15mm x4
M8 x 30mm x4	Spacers 18 OD 8 ID 45mm x4	M6 x 20mm x4	M6 x 16mm x4	Spacers 15 OD 6 ID 30mm x4
M8 x 50mm x4			M8 x 60mm x6	Spacers 20 OD 6 ID 3mm x4
M8 x 60mm x4				
M8 x 80mm x4		Spacers 20 OD 6 ID 3mm x8		

