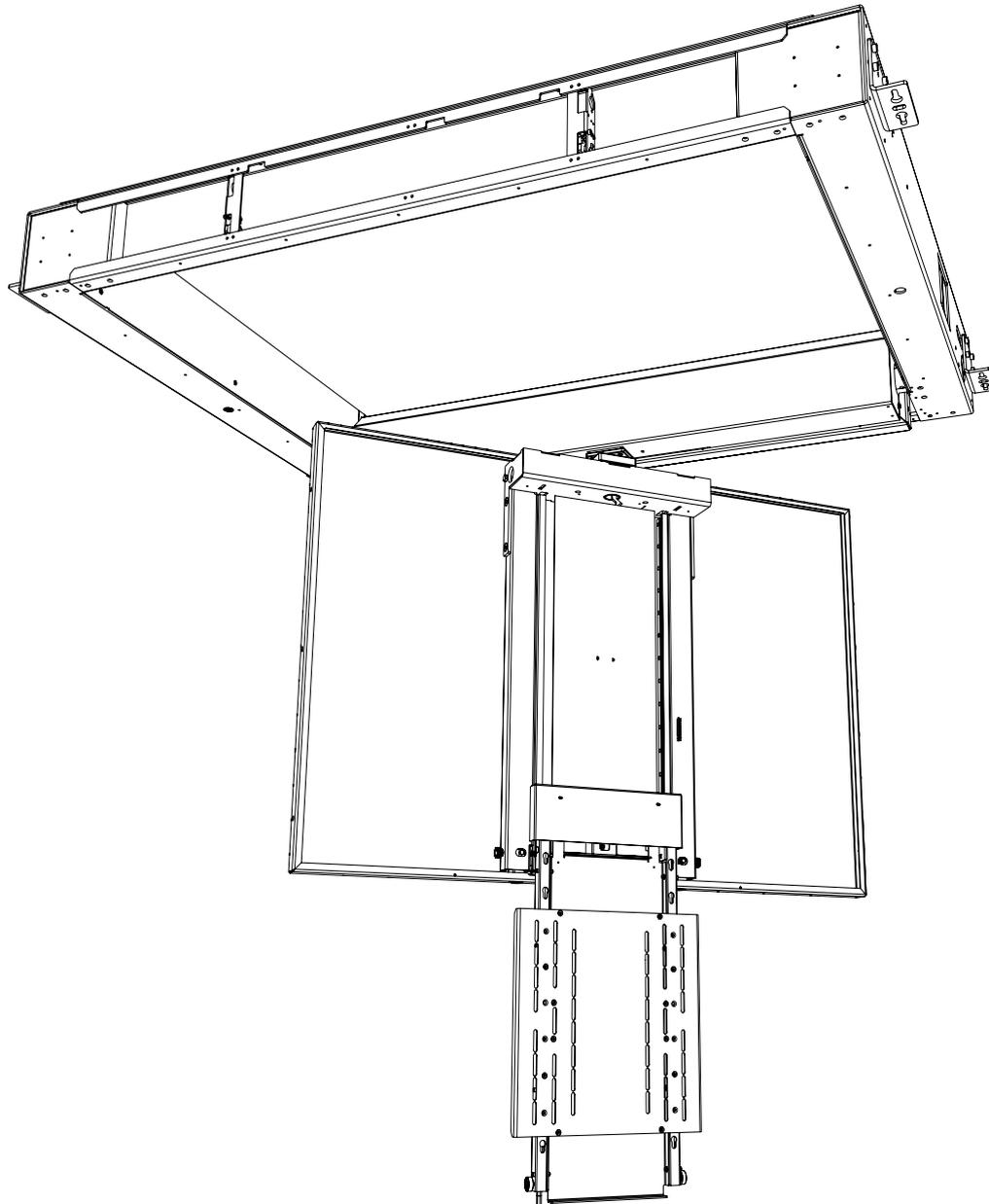


# CHRST

Ceiling Hinge Range With Swivel and Telescope

## Installation Instructions



# Safety Disclaimer

---

## Product Safety Disclaimer - **IMPORTANT SAFETY INSTRUCTIONS BELOW**

**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 four times the weight of the component and any additional apparatus mounted to the component.

**WARNING:** Do not exceed the weight capacity for this product as listed below. 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:** Risk of death or serious injury may occur when children climb on audio and/or video equipment or furniture. A remote control or toys placed on the furnishing may encourage a child to climb on the furnishing and as a result the furnishing may tip over on to the child.

**WARNING:** Risk of death or serious injury may occur. Relocating audio and/or video equipment to furniture not specifically designed to support audio and/or video equipment may result in death or serious injury due to the furnishing collapsing or over turning onto a child or adult.



Warning – Risk of Injury!



Only for use with equipment weighing  
CHRST4 - 40KG (88LBS) OR LESS/ CHRST5 -30 KG (66LBS) OR LESS/ CHRST6 - 75KG (165LBS) OR LESS.  
Use with heavier screens/equipment may lead to instability causing tip over or failure resulting in death or serious injury.

Bracket Suitable for Residential and Commercial Use.

---

### **WARNING:**

1. Keep all documentation/instructions after fitting.
2. 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.
3. Do not use near water or outdoors unless the product has been specifically designed to do so.
4. Protect the any cables or cords being used near this bracket from being walked on or pinched to prevent damage and risk of injury.
5. Use this product only for its intended purpose as described in these instructions and only use attachments/accessories specified by the manufacturer.
6. Refer all servicing to qualified personnel. Servicing is required regularly on an annual basis.
7. Do not operate the product if it 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. Contact the original installer/ manufacturer to arrange repair or return.

### **WARNING - To reduce the risk of burns, fire, electric shock, or injury to persons:**

1. Clean only with a dry cloth and always unplug any electrical items being used in conjunction with this product before cleaning.

---

Future Sound & Vision trading as Future Automation intend to make this and all documentation as accurate as possible. However, Future Automation makes no claim that the information contained herein covers all details, conditions or variations, nor does it provide for every possible contingency in connection with the installation or use of this product. The information contained in this document is subject to change without prior notice or obligation of any kind. Future Automation makes no representation of warranty, expressed or implied, regarding the information contained herein. Future Automation assumes no responsibility for accuracy, completeness or sufficiency of the information contained in this document.

# Contents

---

## Table Of Contents

Safety Disclaimer	2
Contents	3
Product Warranty	4
Package Contents	5
Installation Instructions	6
Preparing For Installation	6
Mechanism Installation - Beam Mounting	7
Mechanism Installation - Stud Mounting	8
Cable Routing	9
Accessing Control Board	9
Mount Plate Removal	11
Routing Cables Through Telescopic Unit	12
Screen and Mount Plate Installation	13
MDF Plaster Edge Installation	14
Mechanism Control	16
General Control	16
Infrared (IR)	17
Contact Closure	18
RS232	19
Mechanism Adjustments	20
Hinging Main Tray Levelling	20
Hinging Main Tray Positioning	22
Hinging Back Tray Positioning	25
Hinging Back Tray Levelling	26
Electrical Recovery	27
Recovering Mechanism When Closed	27
Mechanical Recovery	29
Mechanical Recovery When Closed In Finished Ceiling	29
Mechanical Recovery When Closed In Open / Suspended Ceiling	30
Accessing Control Board and Connections	31
Recovering Hinge Mechanism	32
Contact Information	34

# Product Warranty

---

## Future Automation - Product Warranty Details

Your warranty 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.

Under the warranty, we aim to either solve the issue remotely (via telephone or email support) or if the mechanism requires a part, arrange a visit to your premises by a Future Automation approved engineer or send replacement items where appropriate.

Support for any problems that are not hardware or software faults are excluded from the warranty entitlement.

Warranty repairs will be carried out as rapidly as possible, but subject to parts availability.

Some things are not covered under warranty, 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.

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

---

## Customer Support - Contact Details

### European Office

Address:  
Unit 6-8  
Brunel Road  
Bedford  
Bedfordshire  
MK41 9TG

Phone: +44 (0) 1438 833577  
Email: [info@futureautomation.co.uk](mailto:info@futureautomation.co.uk)

Office Hours:  
Mon - Fri 8:00 to 17:30 GMT  
Saturday & Sunday - Closed

### North American Office

Address:  
Enterprise Park  
127 Venture Drive  
Dover  
NH  
03820

Phone: +1 (603) 742 9181  
Email: [info@futureautomation.net](mailto:info@futureautomation.net)

Office Hours:  
Mon - Fri 7:00 to 17:00 EST  
Saturday & Sunday - Closed

---

## Product/Installer Details - **To be Completed By Original Installer**

### Installer Contact Details:

Contact Address:

---

---

---

---

---

Contact Phone:

Contact Email:

Original Installation Date:

Product Serial Number:

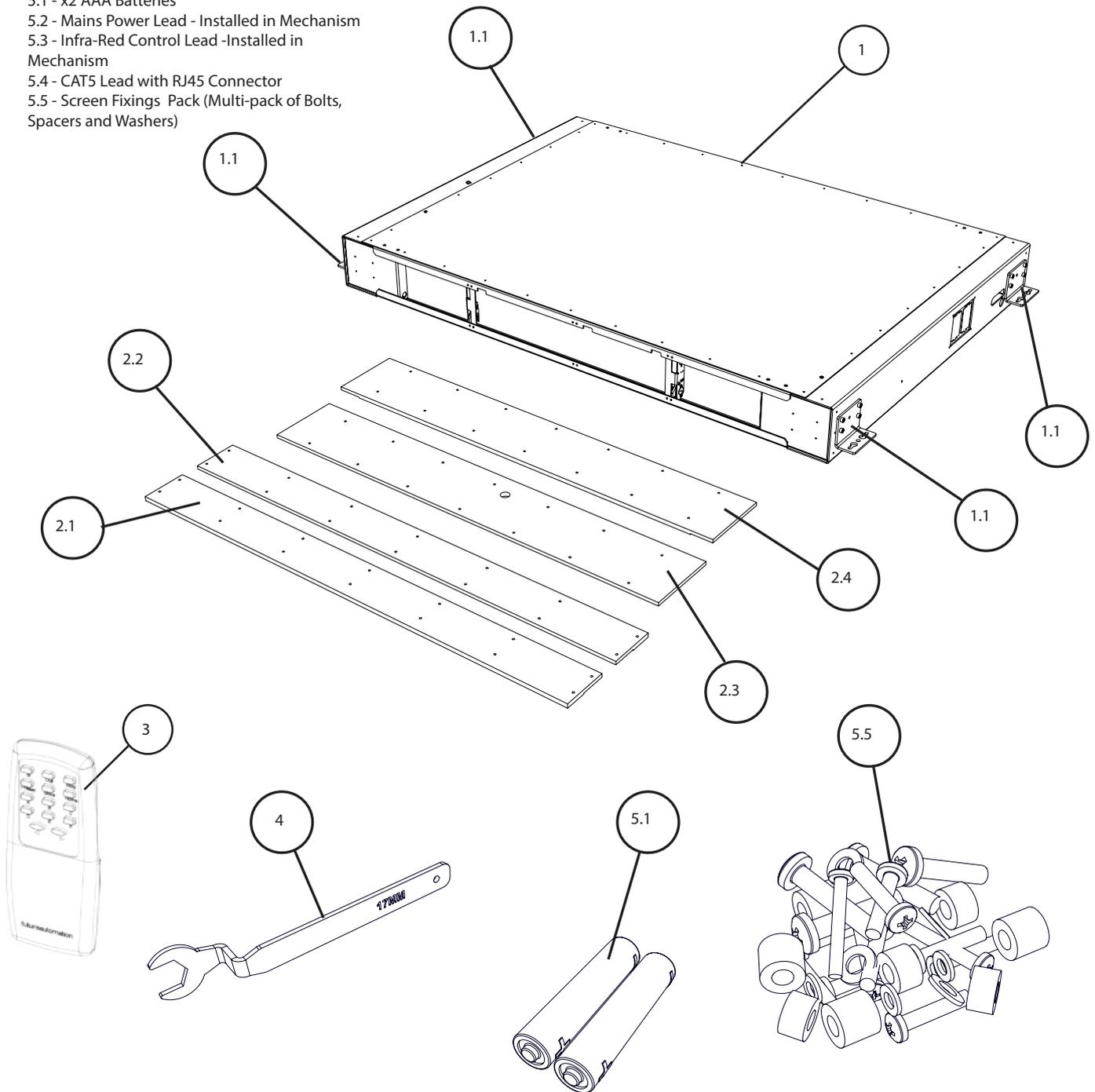
# Package Contents

## Package Contents:

- 1 - CHRST Mechanism
  - 1.1 - Mount Brackets
- 2 - MDF Plaster Edge Trims
  - 2.1 - Back MDF Plaster Edge
  - 2.2 - Front MDF Plaster Edge
  - 2.3 - Left MDF Plaster Edge
  - 2.4 - Right MDF Plaster Edge
- 3 - Infra-Red (IR) Remote Control
- 4 - CHR 17mm Adjustment Spanner

## Standard Accessories

- 5 - CHRST Accessory Pack
  - 5.1 - x2 AAA Batteries
  - 5.2 - Mains Power Lead - Installed in Mechanism
  - 5.3 - Infra-Red Control Lead - Installed in Mechanism
  - 5.4 - CAT5 Lead with RJ45 Connector
  - 5.5 - Screen Fixings Pack (Multi-pack of Bolts, Spacers and Washers)



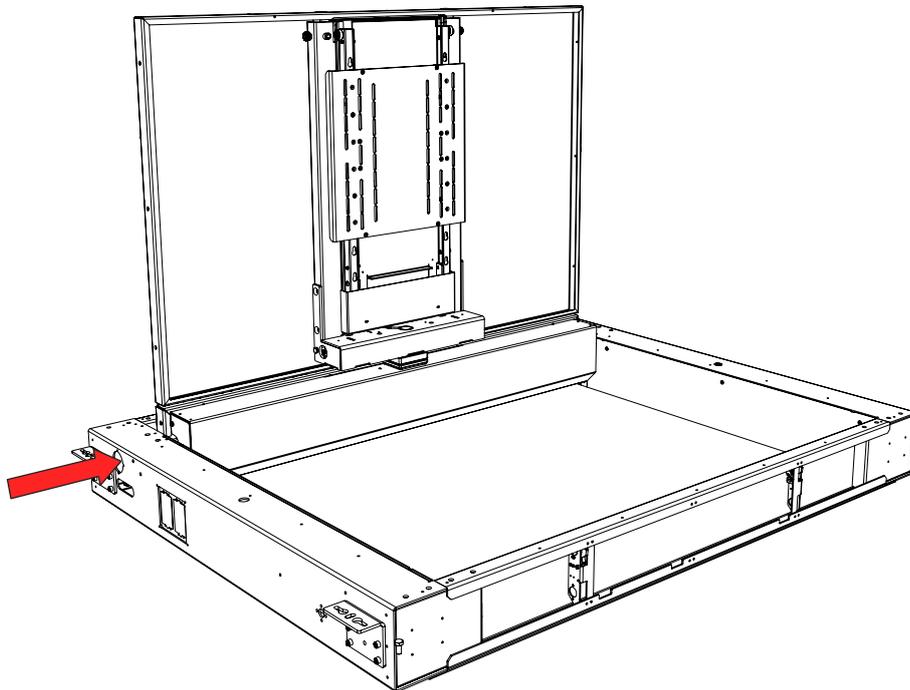
# Installation Instructions

## Preparing For Installation

1. The power and IR receiver cables are secured for transit using a red cable tie to the right side of the mechanism.
2. Remove the red cable tie and carefully pull the power and IR cables to full extension ready for installation.
3. With the mechanism laying upside down, operate using IR Controller provided into the OUT position. Check no damage has occurred during transit. See Page 15 for further control information.



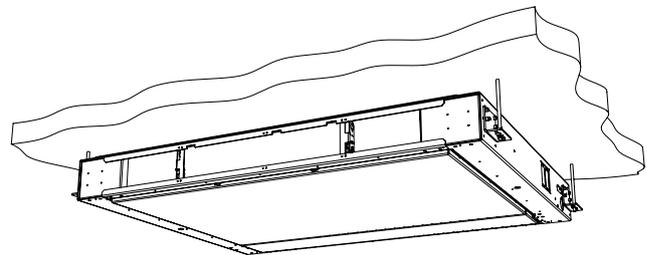
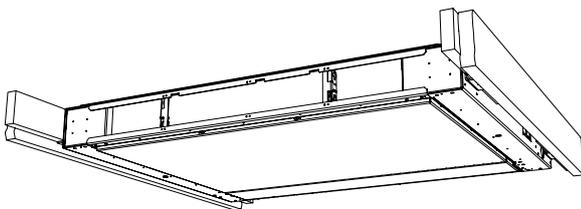
**WARNING: THE CHRST MECHANISM DOES NOT HAVE AN ANTI-JAM CAPABILITY. THE MOTOR DRIVE SYSTEM WILL CONTINUE TO MOVE UNTIL A LIMIT SWITCH IS CONTACTED. KEEP HANDS AND ANY OBJECTS CLEAR OF MECHANISM DURING OPERATION TO REDUCE RISK OF DAMAGE OR INJURY.**



## Mounting Options

Option 1 - Beam Mounting

Option 2 - Stud Hanging



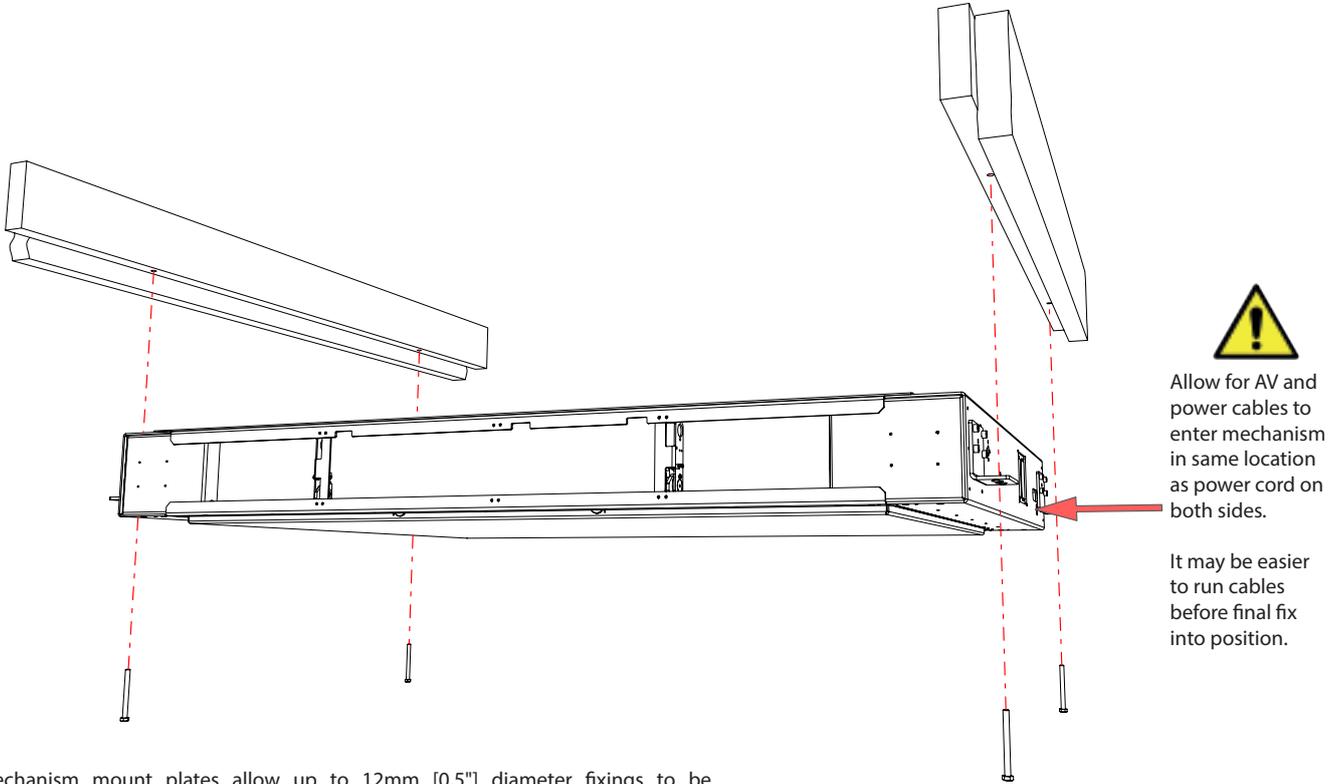
# Installation Instructions

## Mechanism Installation - Beam Mounting

With the mechanism CLOSED and in the correct orientation (UP AND TV VIEWING AREA IN FRONT OF UNIT) the mechanism can be fixed in the position securely using 4 mounting brackets and suitable fixings (Not Provided).

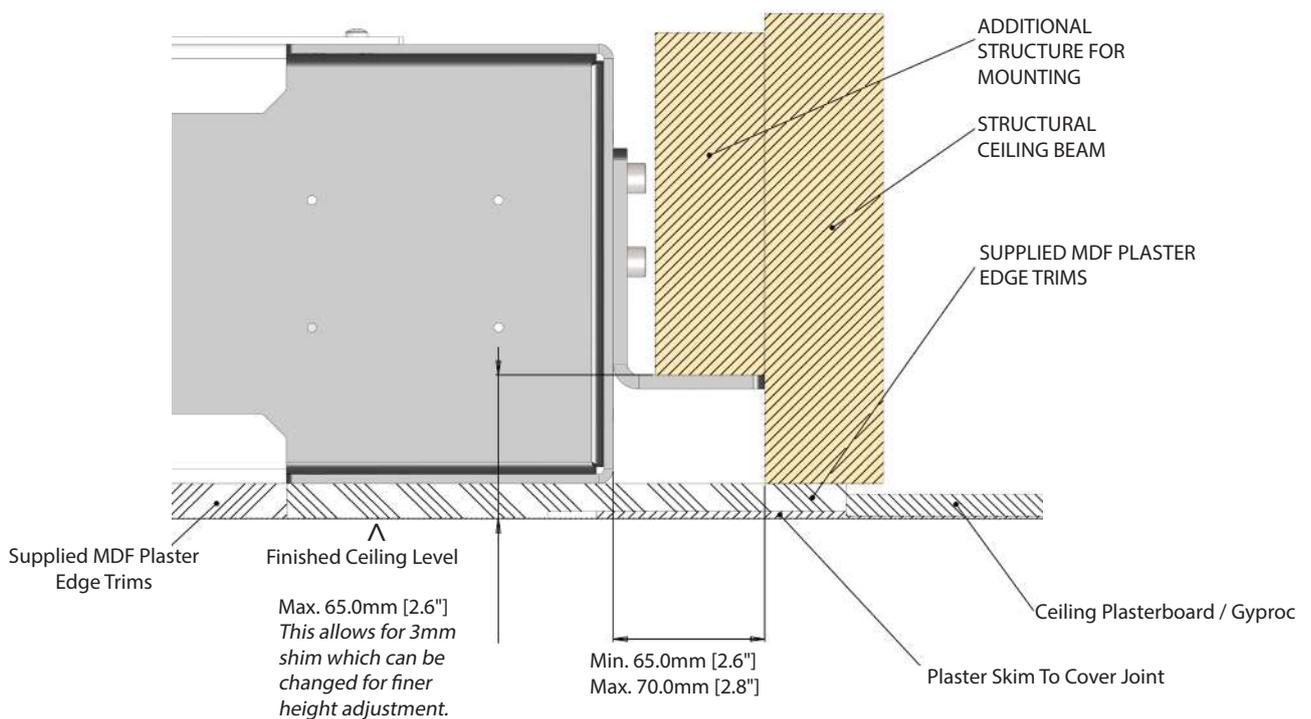
See below for critical dimensions for ceiling structure to allow for easy installation. Dimensional tolerances shown, allow for shims to be used to accurately adjust height.

**NOTE:** Beam width and ceiling opening dimensions can be found on the technical document for the model number mechanism specified.



Mechanism mount plates allow up to 12mm [0.5"] diameter fixings to be

## Beam Mounting Dimensions



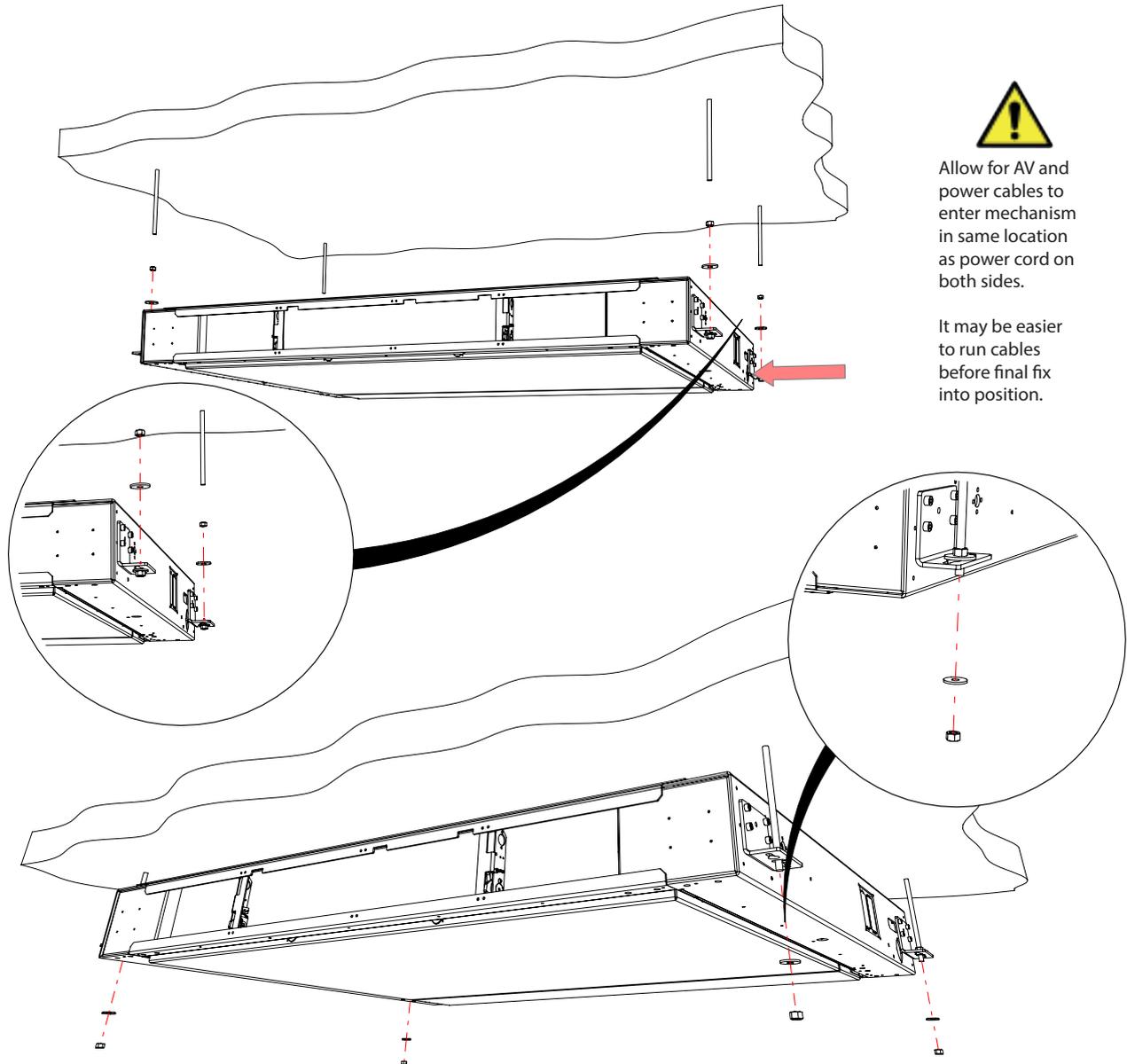
# Installation Instructions

## Mechanism Installation - Stud Mounting

With the mechanism CLOSED and in the correct orientation (Up and TV Viewing Area in Front of Unit) the mechanism can be fixed in the position securely using 4 mounting brackets and suitable fixings (Not Provided).

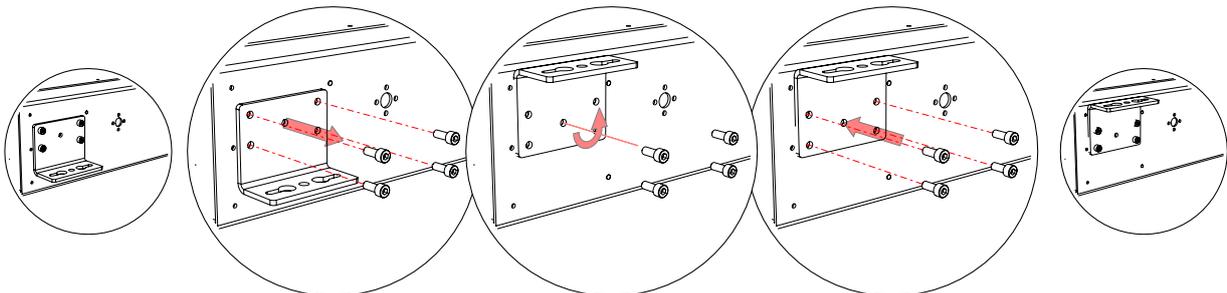
See below for directions for installation and ceiling structure layout to allow for easy installation.

**NOTE:** Stud positions and ceiling opening dimensions can be found on the technical document for the model number mechanism specified.



To hang mechanism on studs fixed securely to the ceiling above, suitable fixings should be used (Not Provided).

Mechanism mount plates allow up to 12mm [0.5"] diameter fixings to be used and can be rotated 180° for shorter fixings.



# Installation Instructions

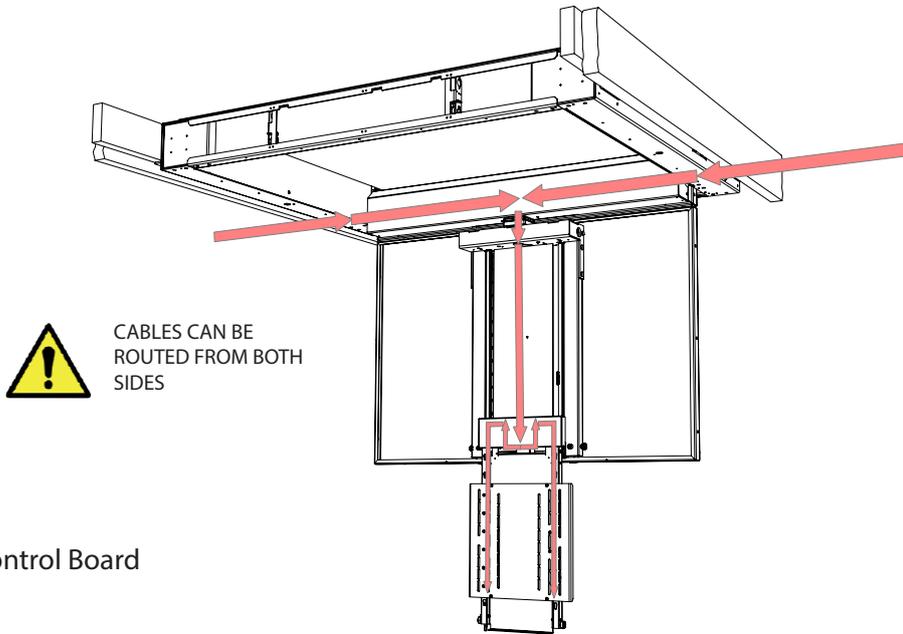
## Cable Routing

With the mechanism securely fixed in place, cables can be routed.

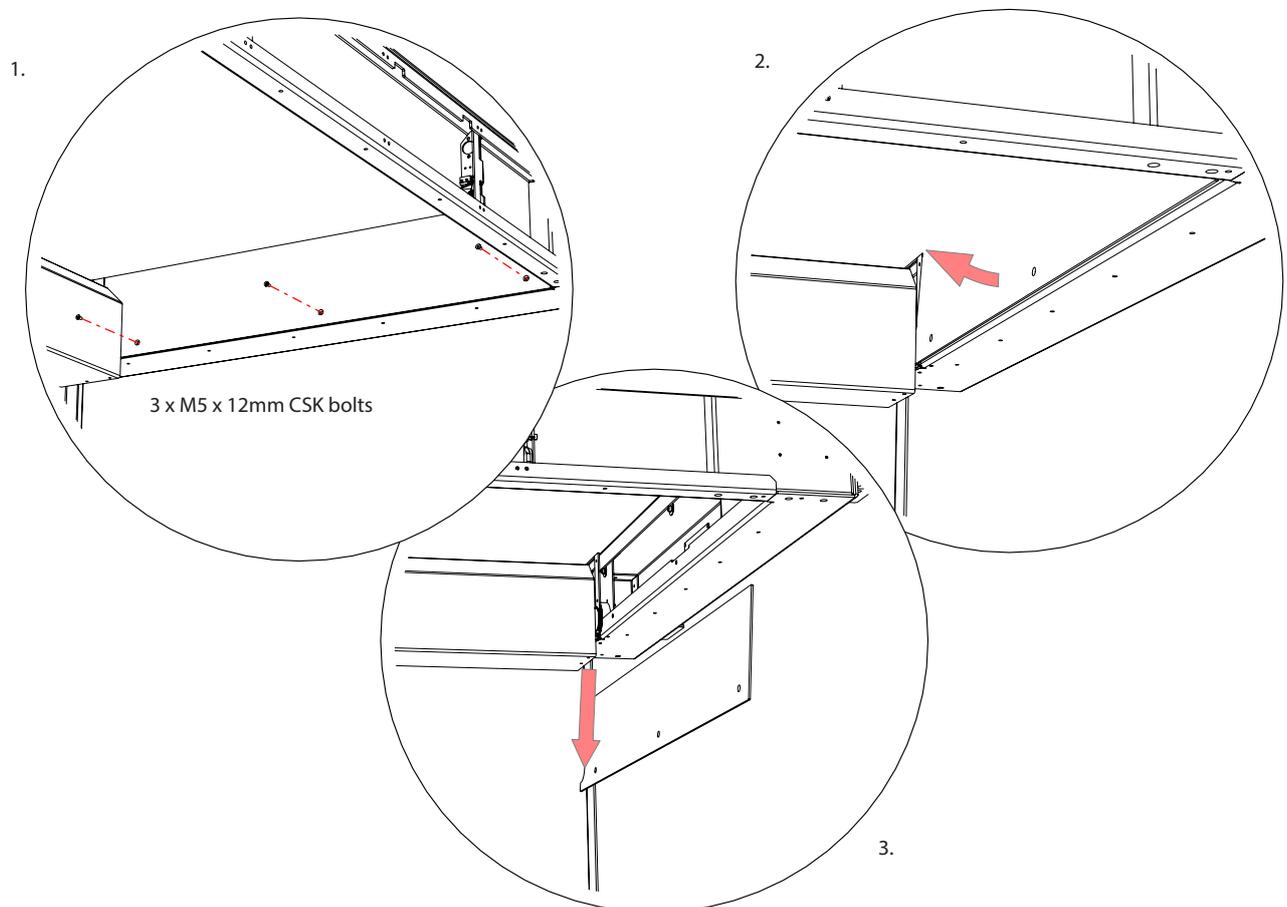
Supply mechanism with power and with area below mechanism clear, operate by sending 'OUT' command on IR Remote Control supplied.

Control system is located internally to mechanism.

**NOTE:** Control cables should be routed to the mechanism and tested before installing TV.

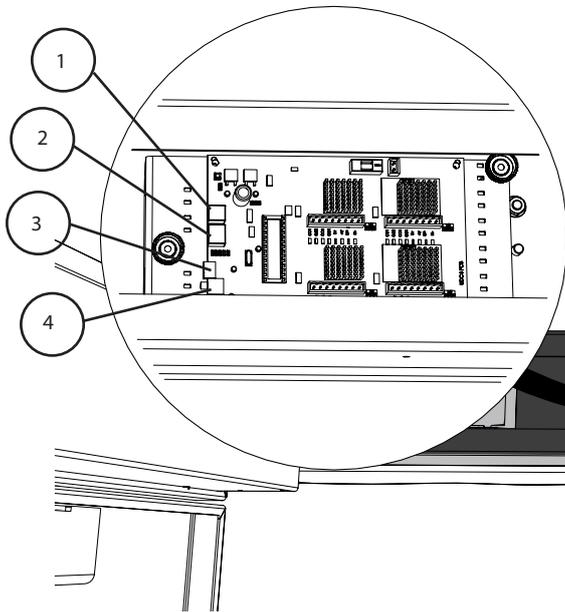


## Accessing Control Board



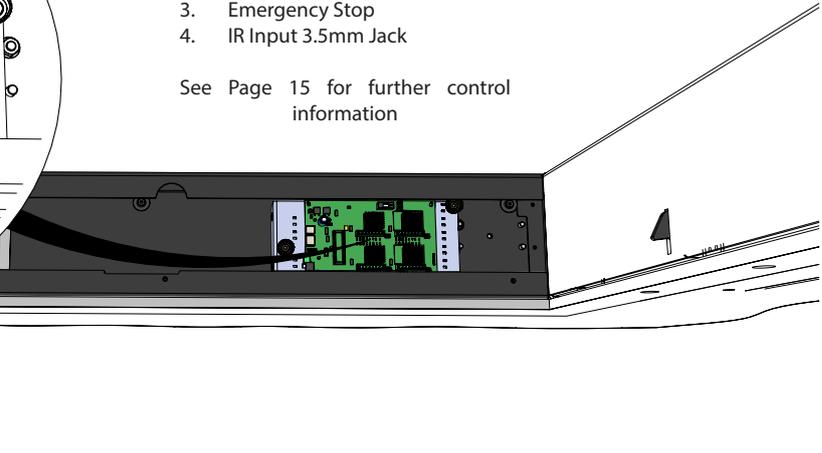
# Installation Instructions

## Cable Routing

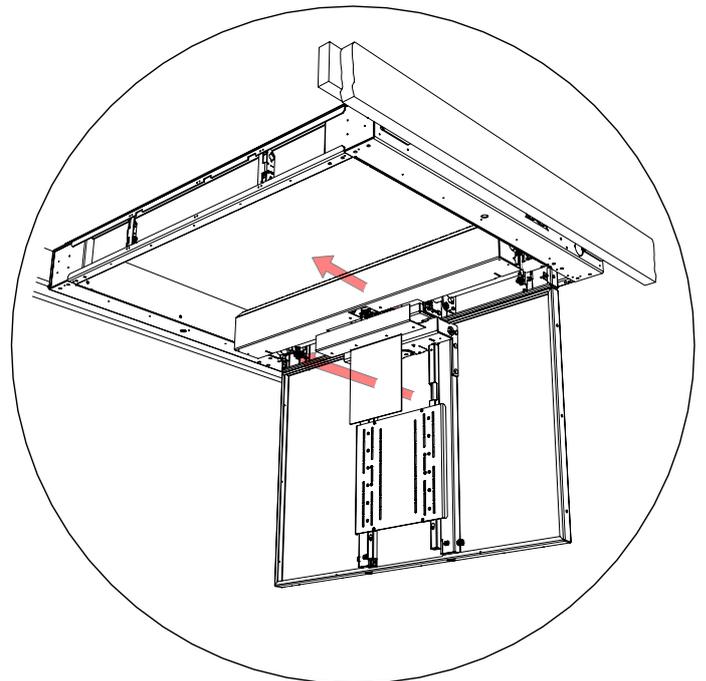
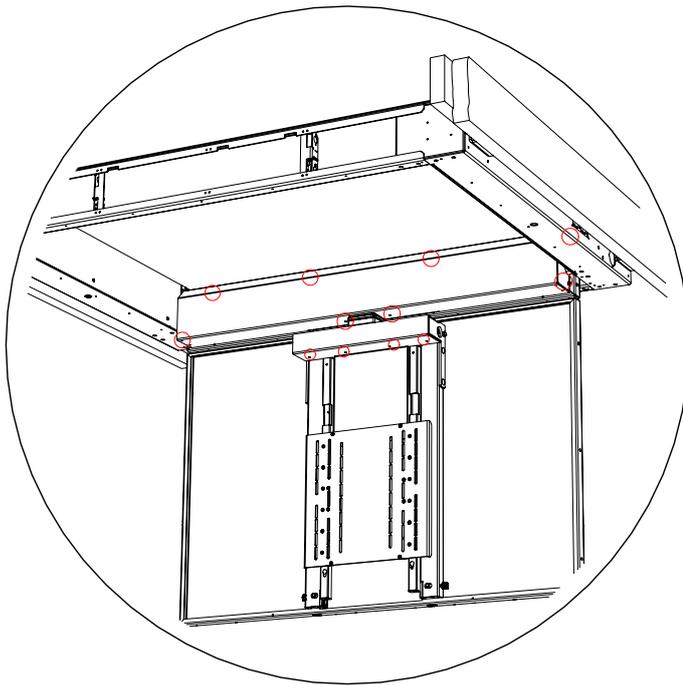


- Control Board Connections
1. RS232 (RJ11/RJ25)
  2. Contact Closure (RJ45)
  3. Emergency Stop
  4. IR Input 3.5mm Jack

See Page 15 for further control information



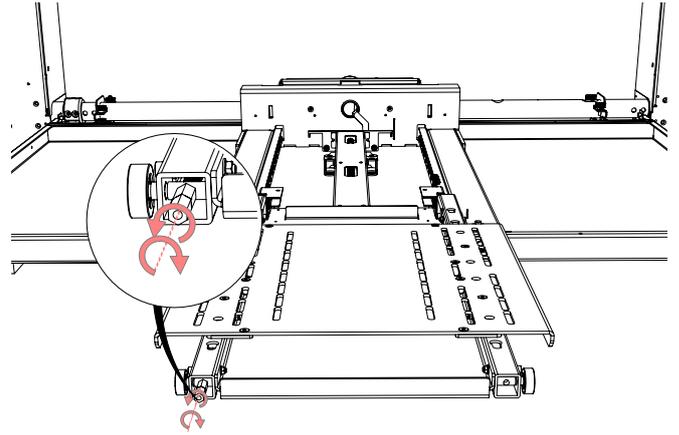
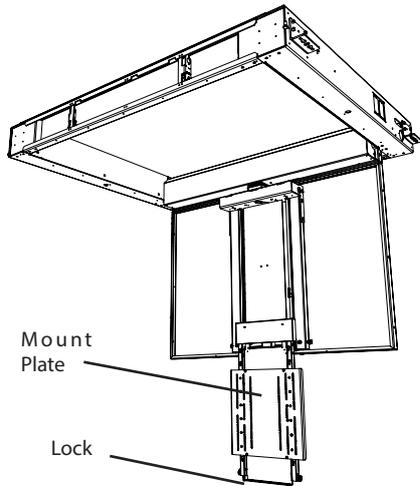
## Covers and Trims Removal



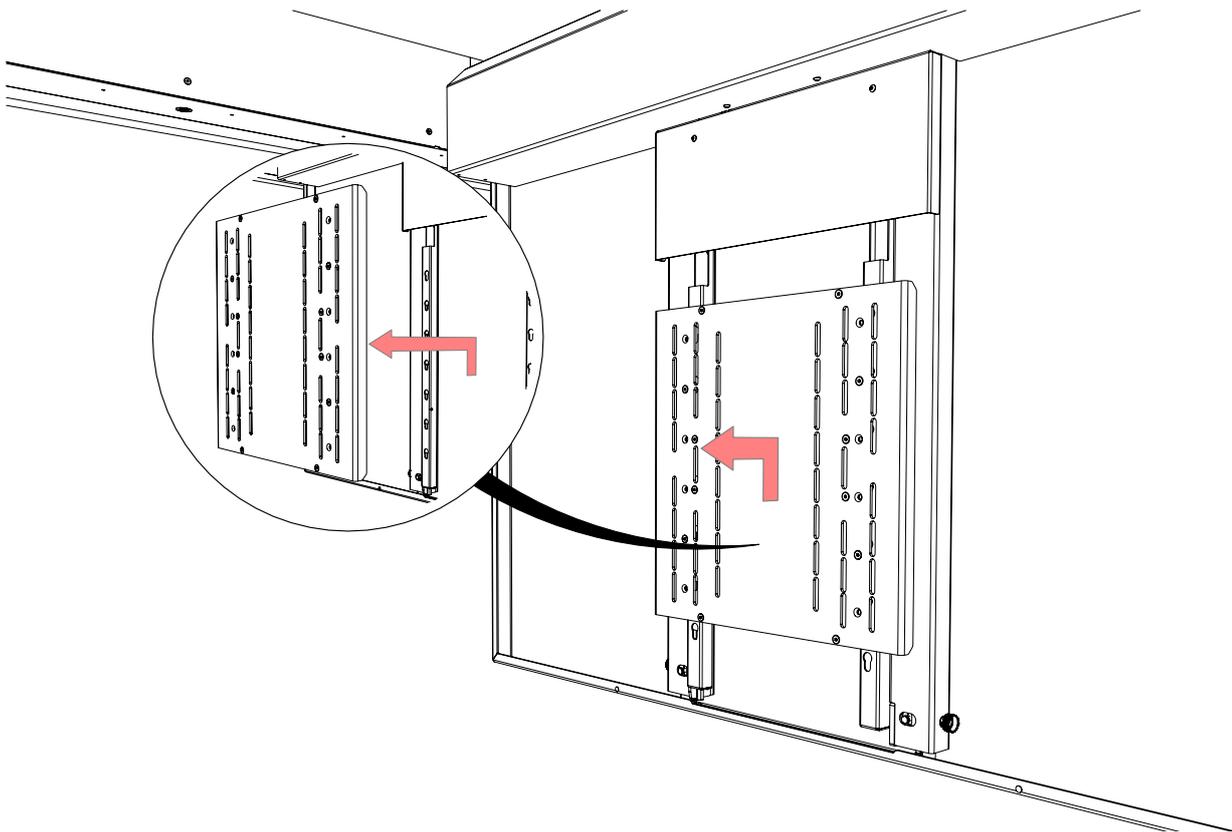
1. Remove / Loosen all retaining bolts holding on large top cover.
  - Loosen 4 x M6 Hex (10mm Spanner) along top edge.
  - Remove 2 x M5 x 12mm Pozi Machine Screws.
  - Loosen 1 x M6 Hex (10mm Spanner) on each side.
2. Remove lower front cover.
  - Remove 2 x M5 x 12mm Pozi Machine Screws.

# Installation Instructions

## Mount Plate Removal



10mm Spanner/ 3mm Allen Key  
CW - LOCK  
CCW - UNLOCK

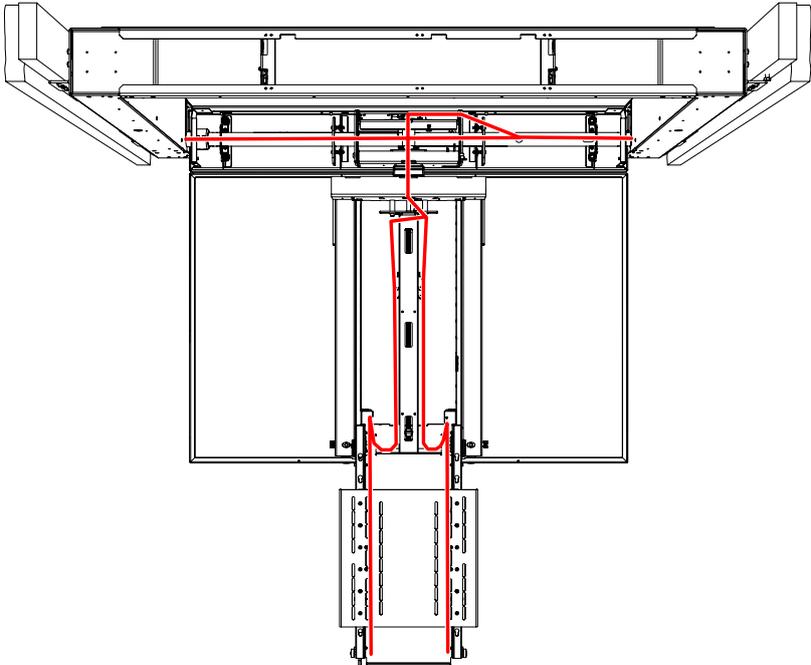
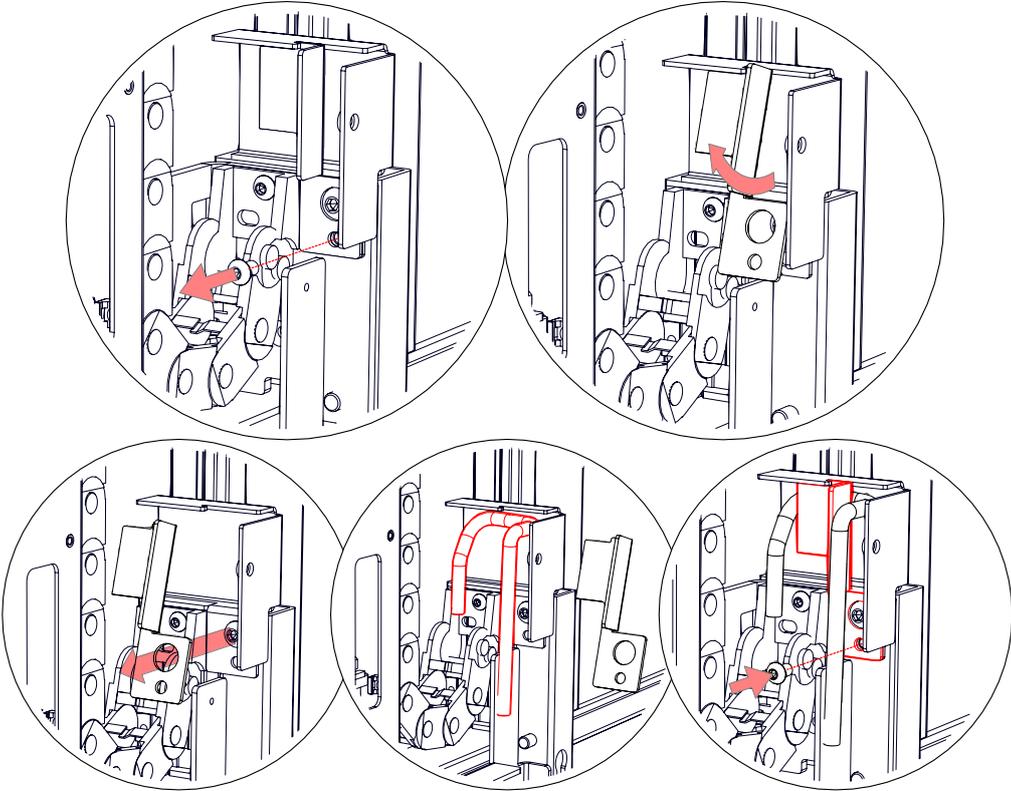


Once unlocked, the mount plate will lift up approximately 20mm [0.8"] and can be pulled forward away from the hinging tray.

Cables can now be routed through the mechanism.

# Installation Instructions

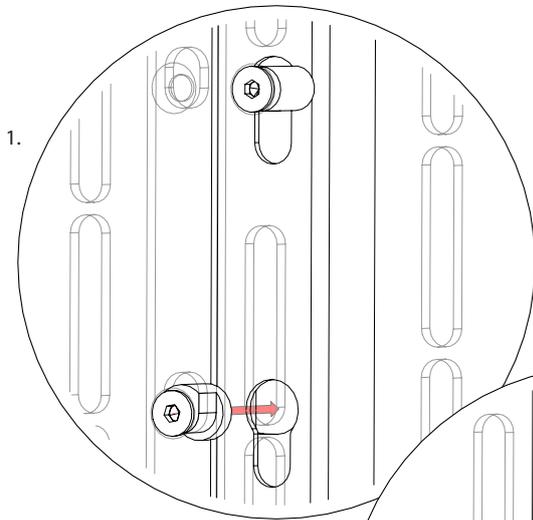
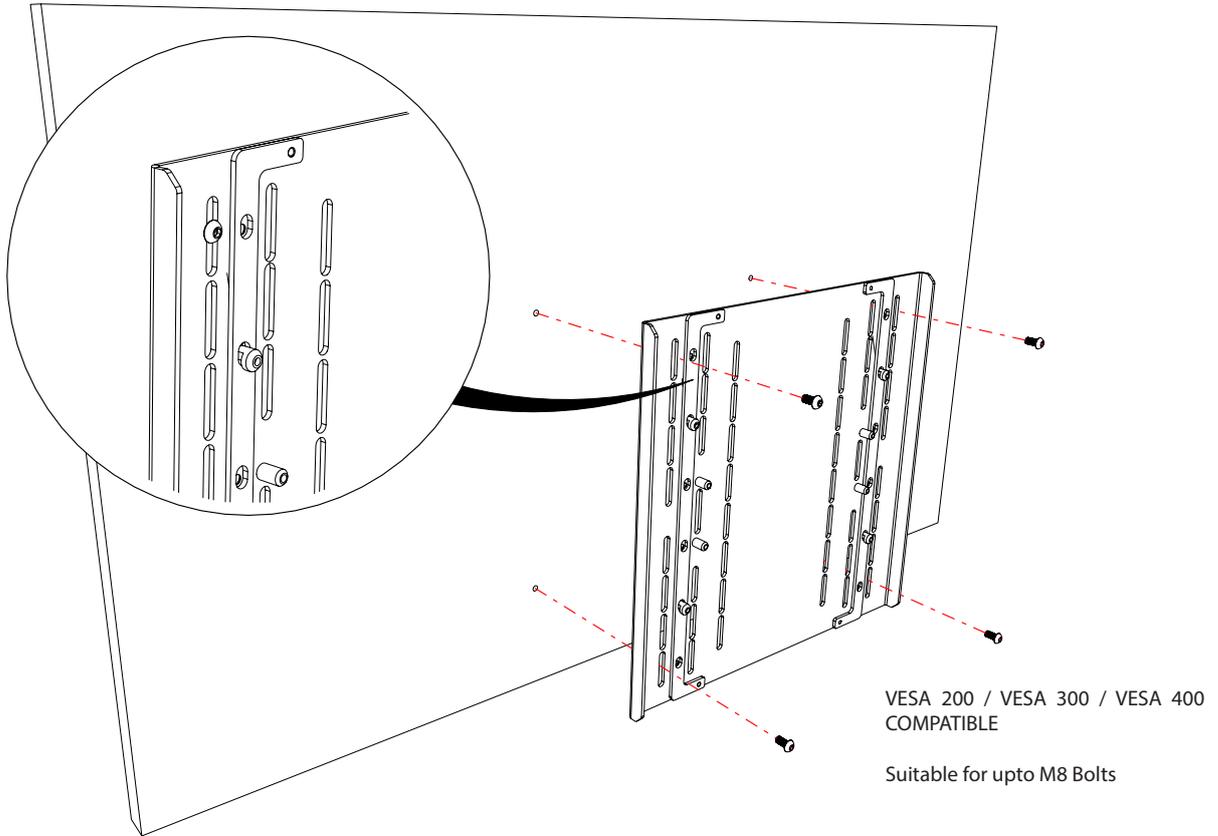
## Routing Cables Through Telescopic Unit



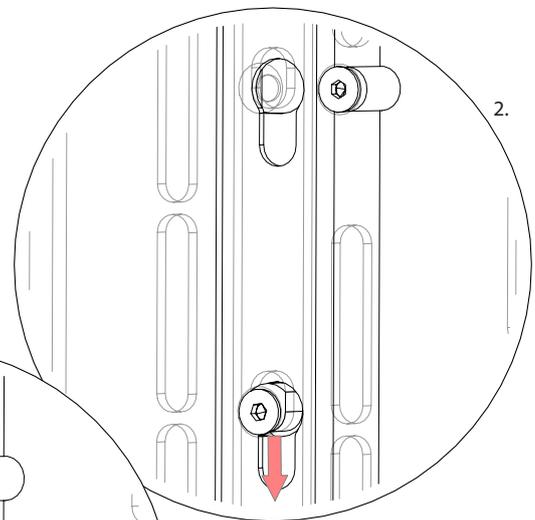
With all cables routed to desired areas of mechanism, panels can be replaced and secured in reverse order of removal.

# Installation Instructions

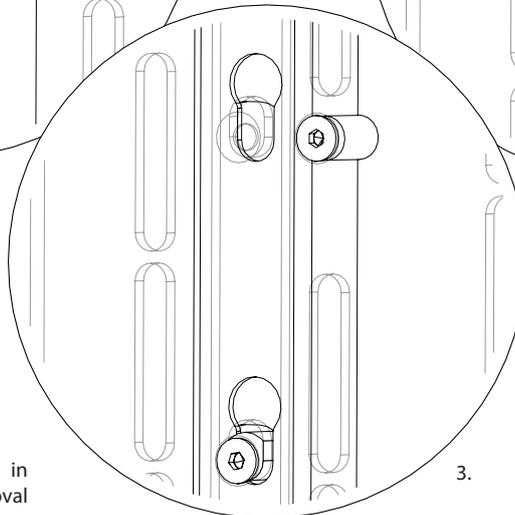
## Screen and Mount Plate Installation



1.



2.



3.

1. Hook plate on at desired height on tray. (4 locating pins will centre plate on tray.)
2. With plate located into side rails, plate will drop down into key shaped slots, apply light pressure to help engage slot.
3. Ensure plate is secure and lock plate in place as shown in Mount Plate Removal Section.



During installation, ensure TV does not overhang edge of moving tray.

TV should be no less and 20mm [0.8"] from lower edge of tray.

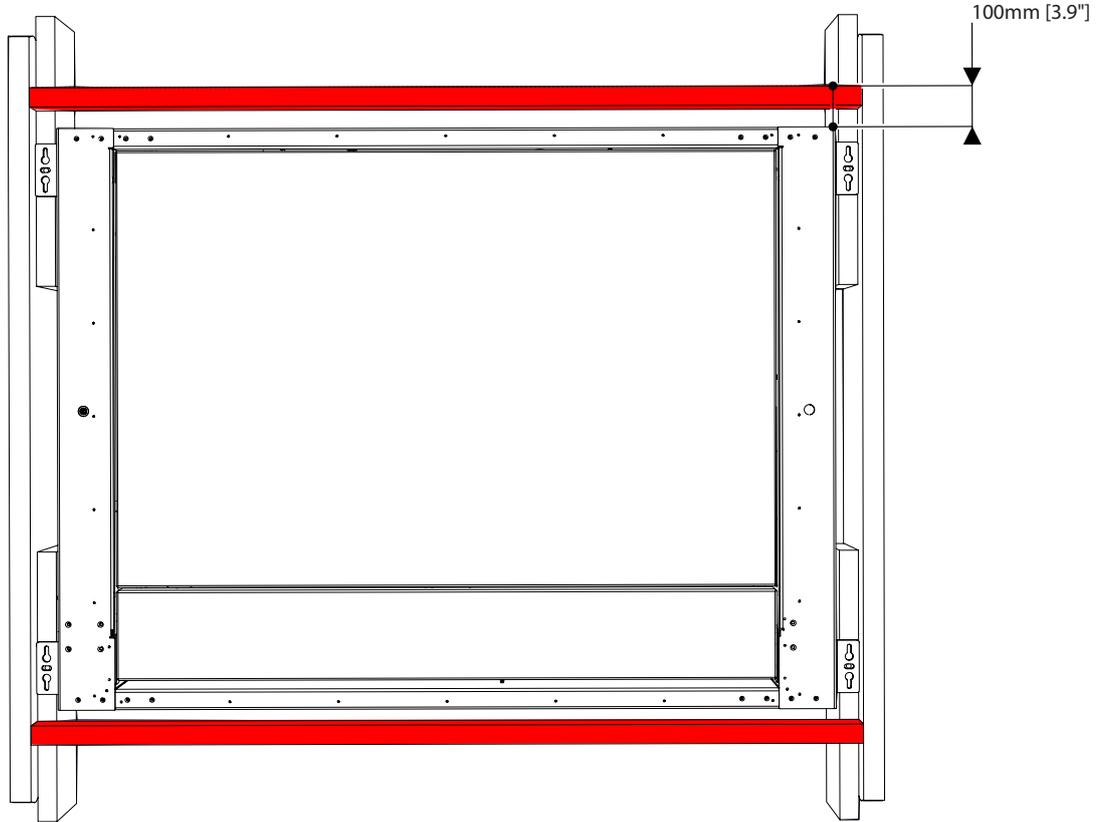
Adjust height of TV on mount plate to suit

# Installation Instructions

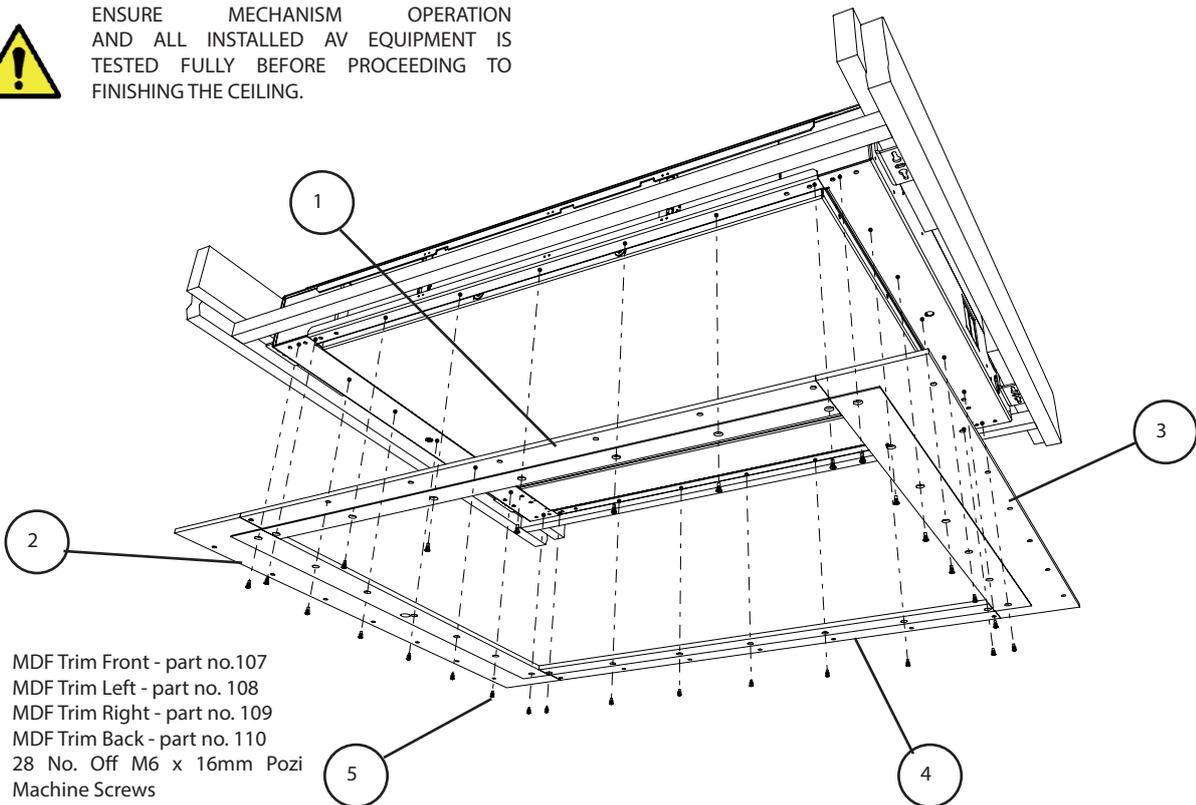
## MDF Plaster Edge Installation

The CHR Ceiling Hinge Mechanisms are all supplied with MDF Plaster Edge Trims allowing for the mechanism to be plastered neatly into the ceiling.

With the mechanism mounted, two additional framing batons are required across the width of the structure to fix the Front and Back MDF Trims securely.



ENSURE MECHANISM OPERATION AND ALL INSTALLED AV EQUIPMENT IS TESTED FULLY BEFORE PROCEEDING TO FINISHING THE CEILING.



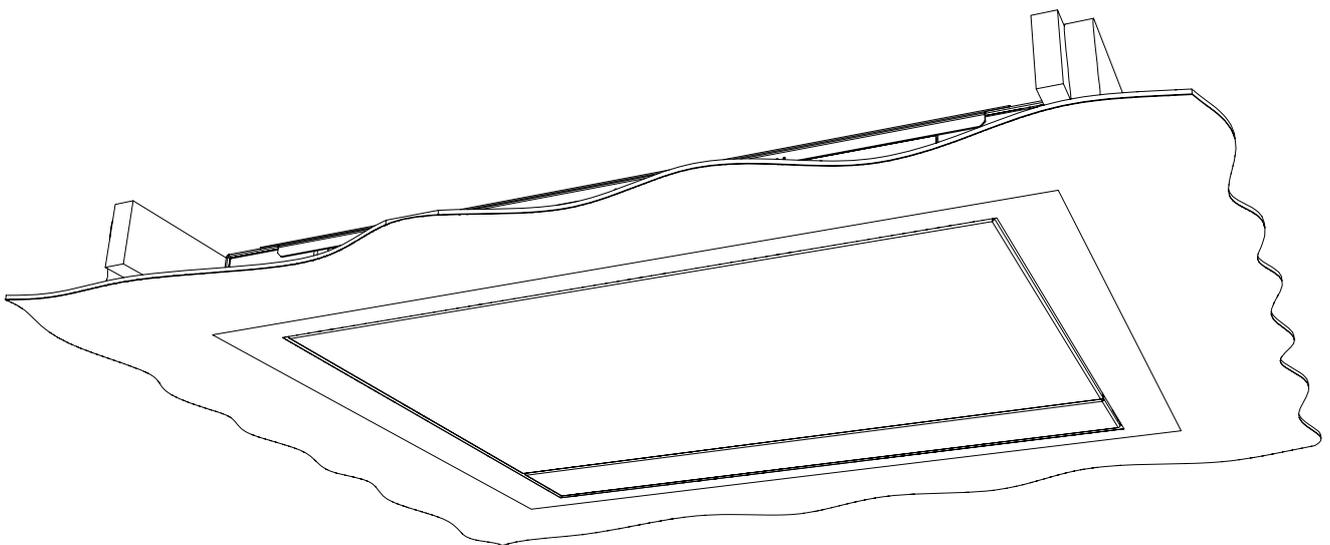
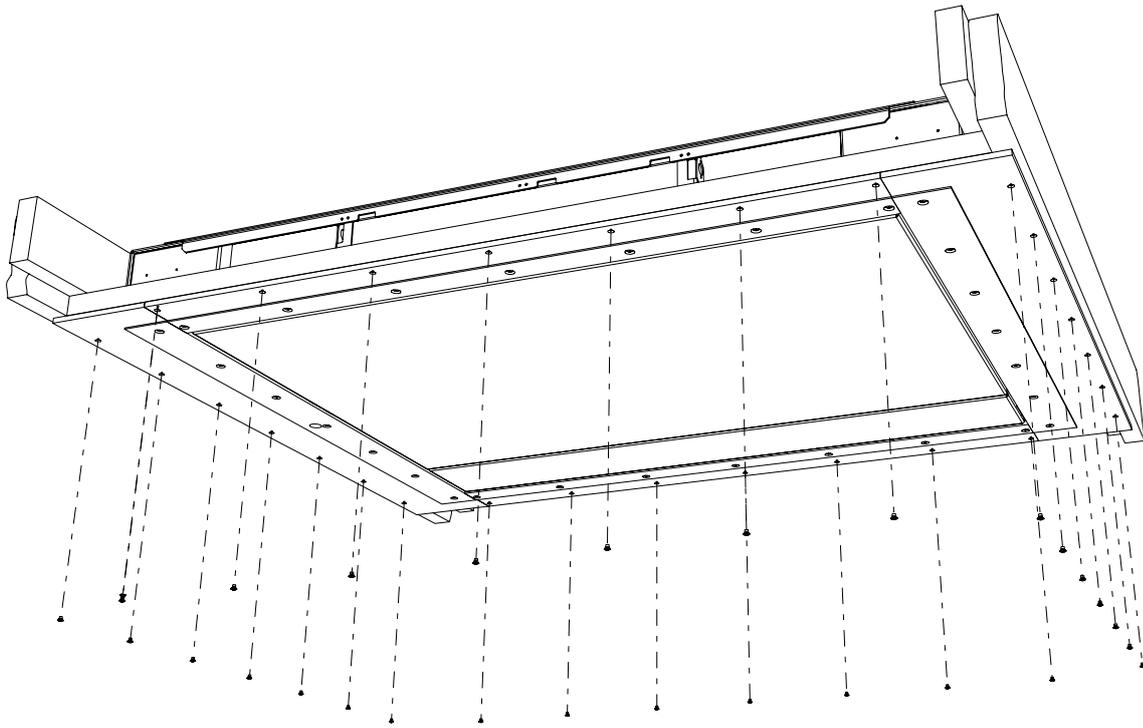
1. MDF Trim Front - part no.107
2. MDF Trim Left - part no. 108
3. MDF Trim Right - part no. 109
4. MDF Trim Back - part no. 110
5. 28 No. Off M6 x 16mm Pozzi Machine Screws

# Installation Instructions

## MDF Plaster Edge Installation

With the MDF Plaster Edge Trims bolted to the mechanism using provided bolts and secure the trims to the surrounding structure in preparation for the ceiling to be plastered.

Drywall or plasterboard screws are recommended for this job. (NOT PROVIDED)



With MDF Plaster Trims secured in place the ceiling can be fitted around the mechanism and plastered.

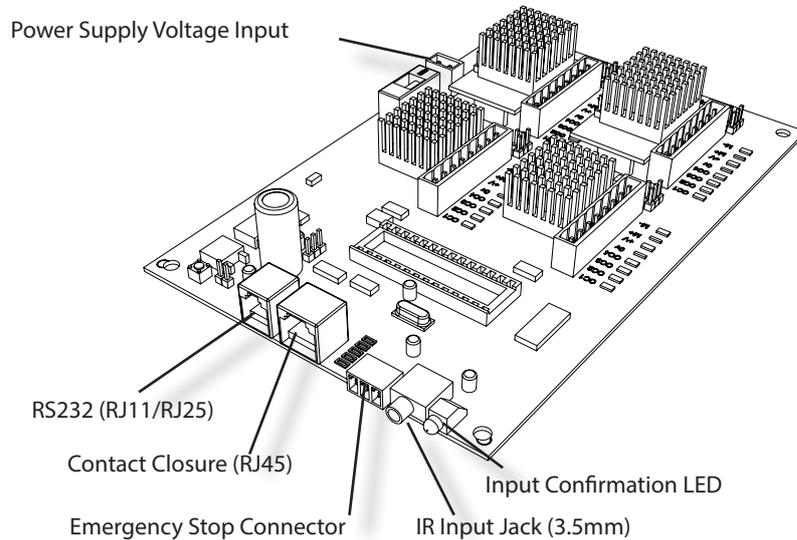
# Mechanism Control

## General Control

This mechanism has multiple standard control methods, each of which requires a different input method to the control box. For ease, the input sockets on the control board are labelled below.

(Control board size and style may vary to image shown based on mechanism)

## Control Box Inputs



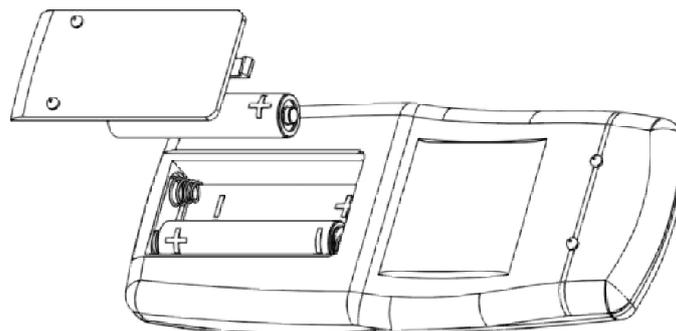
## Mechanism Emergency Stop Connector

This mechanism features an Emergency Stop Connector, which **MUST** be plugged into the control box in the connector labelled above for the mechanism to operate. If this connector is not plugged in, the Input Confirmation LED will be permanently lit. As per the red plastic tag attached to the Emergency Stop Connector (and shown below), the small loop of wire in this connector is designed to be replaced by a third party safety mechanism.



## Replacing Mechanism Batteries

The standard Future Automation Infrared (IR) remote control required x2 AAA batteries to operate. These are provided with the mechanism in the Accessories Pack. These batteries can be replaced as the per the image below.



# Mechanism Control

## Infrared (IR)

This Mechanism can be controlled via the supplied 14 button Infrared (IR) Remote Control, pair with the supplied Infrared (IR) lead and sensor.

The mechanism's functions can be controlled by plugging the Infrared (IR) lead and sensor into the 3.5mm IR Input Jack shown on the General Mechanism Control page.

Confirmation of Infrared (IR) input will be shown by a single flash of the large green LED located on the end of the control box.

As Infrared (IR) control works over line of site, the Infrared (IR) sensor must be directly viewable from what ever location the remote control is being used from.

## Infrared (IR) Remote Control Button Layout

**IN** - Brings the mechanism into the ceiling.

**OUT** - Brings the mechanism out of the ceiling, to the fully out position of 90 degrees, Telescope to full extension and Swivel in the centre position.

**STOP** - Will stop the operation of the mechanism at ANY position.

**PRESET** - Brings the mechanism out of the ceiling to the out position of 90 degrees, Telescope retracted and Swivel in the centre position.

**[STORE] + [<] / [>]** - Limits the maximum rotation of the swivel unit.

Use this button combination with swivel stopped at desired position.

**[STORE] + [STOP] + [<] / [>]** - Clears stored maximum rotation of the swivel unit.

Use this button combination to clear maximum limits and revert to 180 degree rotation.

**[STORE] + [A]-[F]** - Stores any position. (*6 positions available*)

To utilise this feature, press [OUT] and use [<] and [>] and [IN] buttons to position hinge, telescope and swivel and press [STOP] at the desired position.

Use the button combination above to store this position on the corresponding button.

To target stored position press button [A]-[F] that corresponds to position required.

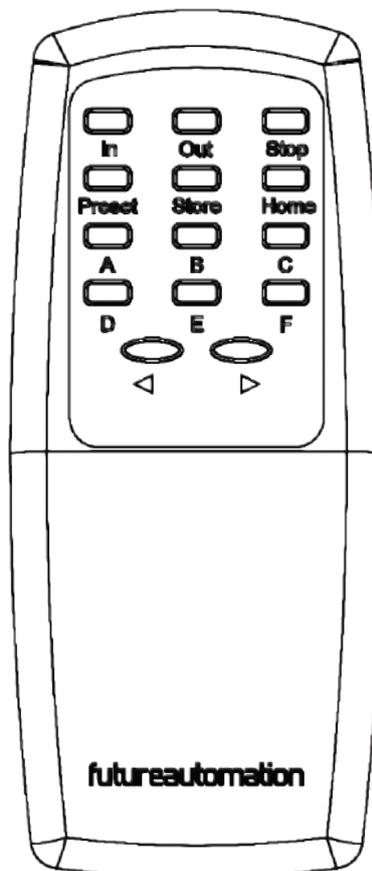
Adjustments can be made to this position by repeating the process to reposition and then using the above button combination to relearn.

**[STORE] + [OUT]** - Limits the maximum drop of the telescope unit.

Use this button combination with telescope stopped at desired height.

**[STORE] + [STOP] + [OUT]** - Clears stored maximum drop of the telescope unit.

Use this button combination to clear telescope maximum drop.



## IMPORTANT

Only buttons indicated above are functional with the product. Any other button press will STOP the mechanism.

# Mechanism Control

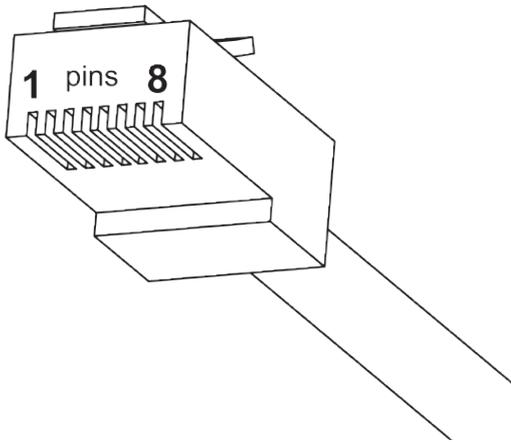
## Contact Closure

This Mechanism can be controlled via Contact Closure, utilising an 8 Pin RJ45 Connector attached to a length of CAT5 (Type 568A or 568B) cable.

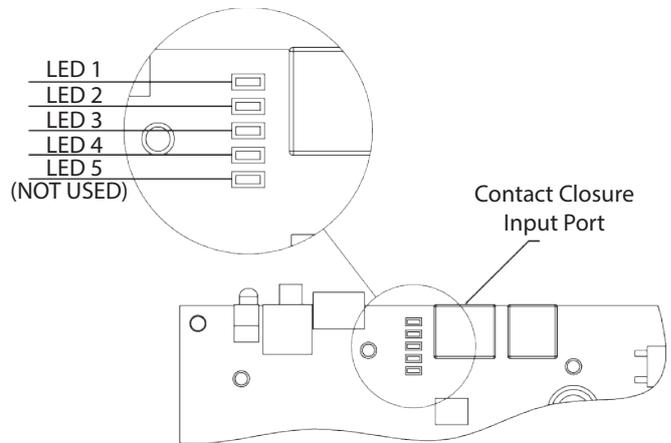
The mechanism's functions can be controlled by plugging this into the RJ45 port on the mechanism control board, then shorting pins 1-8 on this connector as shown in the Contact Closure Input Table below.

Confirmation of Contact Closure input will be shown by a single flash of the large green LED located on the end of the control box, as well as illumination of the corresponding Contact Closure LED on the printed circuit board as shown below.

RJ45 Pin Layout



Contact Closure LED Layout



NOTE: A short on any pin while the mechanism is operating will execute a STOP command and disable Contact Closure input for 1 second.

Contact Closure Input Table

PIN	DESCRIPTION	ACTION
1		
2		
3	GROUND	GROUND
4		
5	DEVICE LEFT	MOMENTARY SHORT TO GROUND (PIN 3), DEVICE WILL MOVE OUT, TELESCOPE DOWN, THEN SWIVEL TO LEFT LIMIT.
6	DEVICE RIGHT	MOMENTARY SHORT TO GROUND (PIN 3), DEVICE WILL MOVE OUT, TELESCOPE DOWN, THEN SWIVEL TO RIGHT LIMIT.
7	POSITION A	MOMENTARY SHORT TO GROUND (PIN 3), DEVICE WILL MOVE OUT, TELESCOPE DOWN, THEN SWIVEL TO POSITION "A".
8	DEVICE IN	MOMENTARY SHORT TO GROUND (PIN 3), DEVICE WILL MOVE TO IN POSITION.

WIRE/CABLETYPE		LED INDICATOR
568A	568B	
		LED 4
		LED 3
		LED 2
		LED 1

# Mechanism Control

## RS232

This Mechanism can be controlled via RS232, utilising a 6 Pin RJ11/RJ25 connector OR 9 Pin Serial connector attached to a length of 6 core cable.

The mechanism's functions can be controlled by plugging this into the RJ11/RJ25 port on the mechanism control box, then inputting the RS232 commands shown in the RS232 Input Table below.

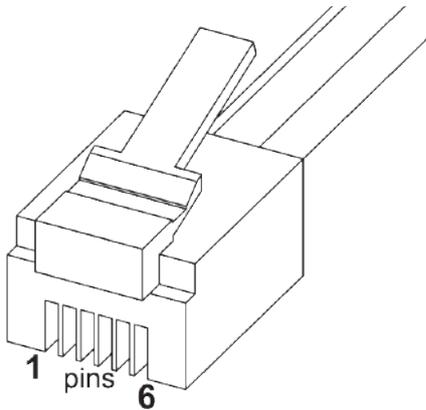
Confirmation of Contact Closure input will be shown by a single flash of the large green LED located on the end of the control box.

### RJ11/RJ25 Pin Layout

PIN 1: RX

PIN 6: TX

PIN 3 & 4: GROUND

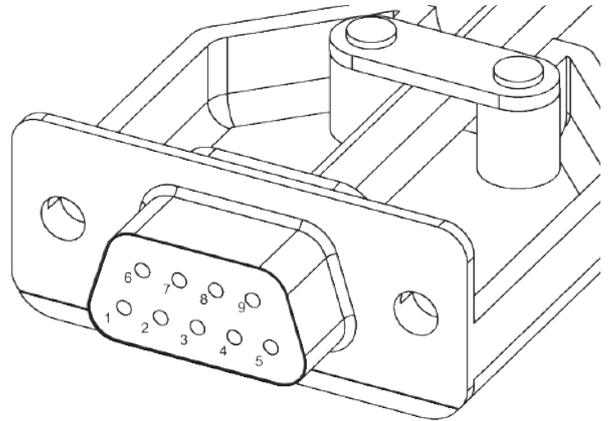


### Serial Pin Layout

PIN 2: RX

PIN 3: TX

PIN 5: GROUND



### RS232 Programming Details

Baud Rate: 9600

Stop Bit: 1

Parity: None

Databits: 8

RJ11/RJ25	Func.	9 PIN Serial	Colour
PIN 1	TX-RX	PIN 2	Blue
PIN 3	GROUND	PIN 5	Green
PIN 4	GROUND	PIN 5	Red
PIN 6	RX-TX	PIN 3	White

### RS232 Input Table

IMPORTANT - Ensure all protocols are entered exactly as written below, including Carriage Return (ENTER / ASCII 13)

Protocol	Action
fa_in Carriage Return (Enter / ASCII 13)	Device IN
fa_out Carriage Return (Enter / ASCII 13)	Device OUT with NO SWIVEL
fa_right Carriage Return (Enter / ASCII 13)	Device OUT RIGHT limit
fa_left Carriage Return (Enter / ASCII 13)	Device OUT LEFT limit
fa_home Carriage Return (Enter / ASCII 13)	Device to HOME (Hinge Down, Telescope Up Swivel Centre) position
fa_a Carriage Return (Enter / ASCII 13) - fa_f Carriage Return (Enter / ASCII 13)	Device OUT to memory position A - F respectively
fa_stop Carriage Return (Enter / ASCII 13)	Device STOP (At any position)

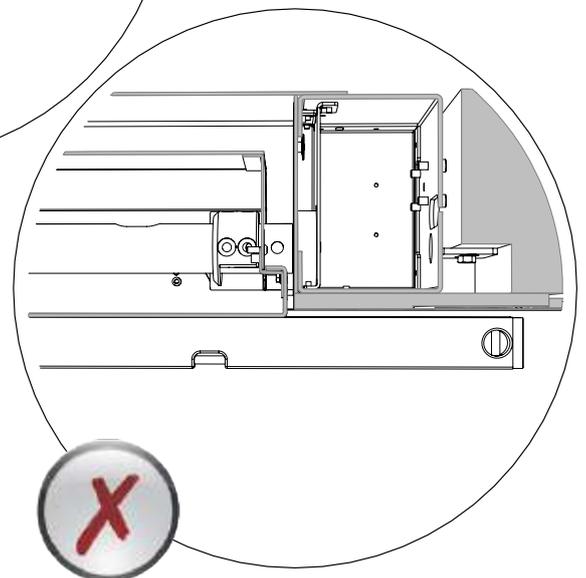
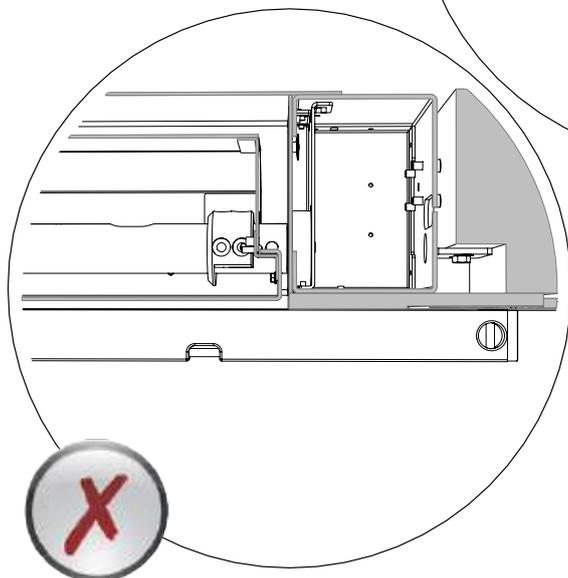
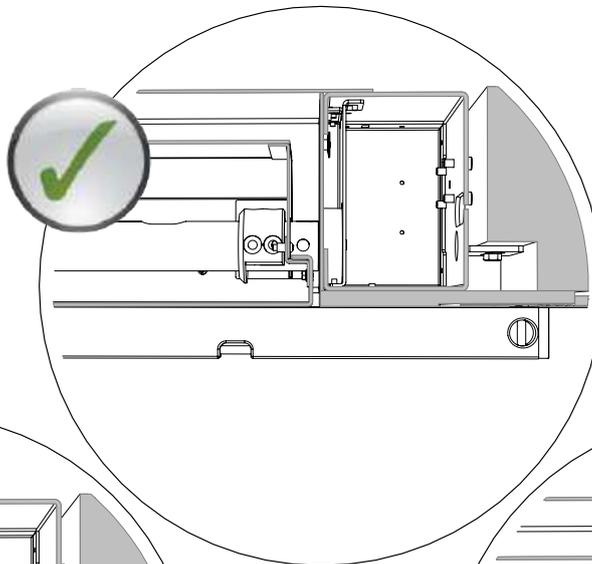
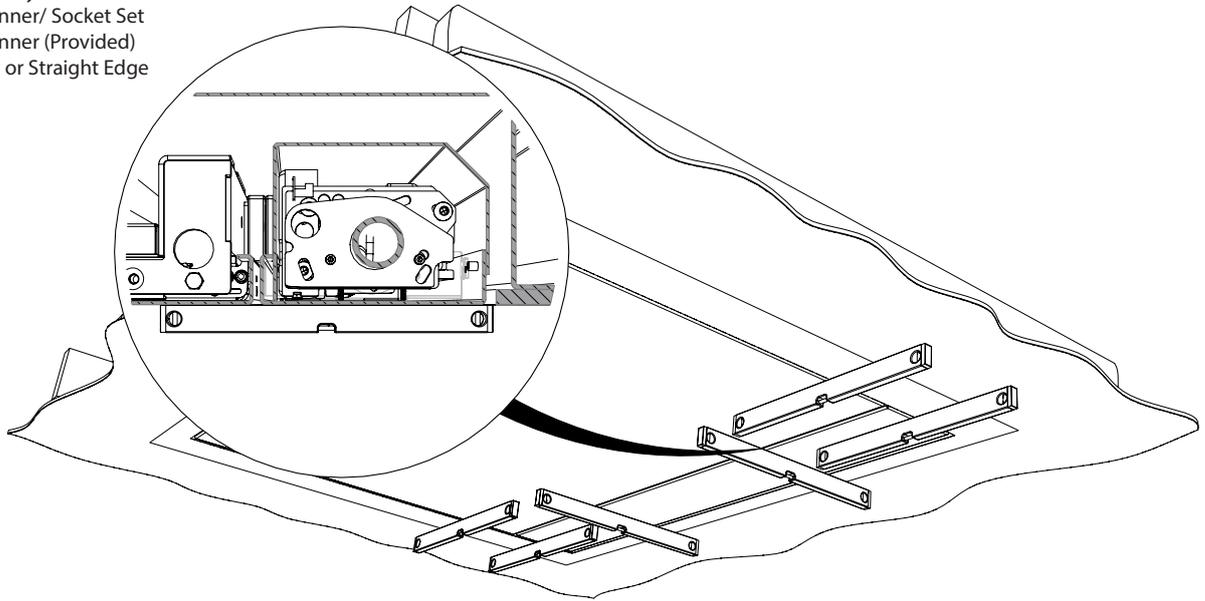
# Mechanism Adjustments

## Hinging Main Tray Levelling

The moving tray on the mechanism is factory set and should not require any further adjustment after install, however the tray may become misaligned during transit or if removed for maintenance or painting.

### Tools required

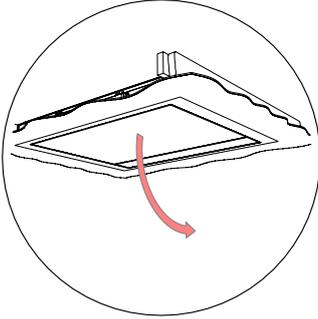
- 4mm Allen Key
- 10mm Spanner/ Socket Set
- 17mm Spanner (Provided)
- Spirit Level or Straight Edge



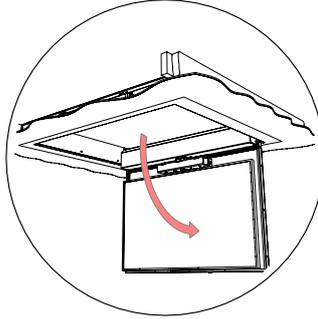
# Mechanism Adjustments

## Hinging Main Tray Levelling

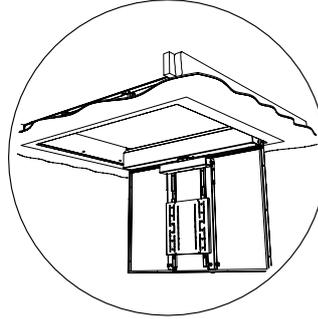
1. Open Mechanism



2. Remove Screen (If Installed)



3. Remove Covers (If Installed)

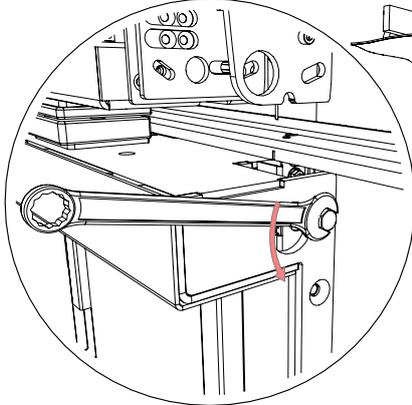


4. Prepare tools

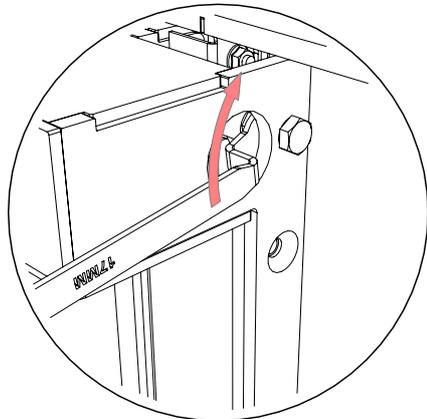
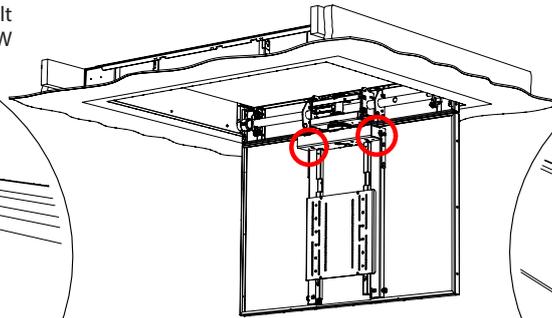
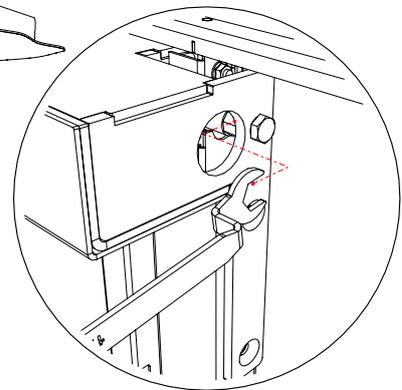


5. Loosen Clamp Bolts on both sides of tray

5a. 17mm Spanner - Loosen Bolt  
- 1/4 Turn Bolt CCW

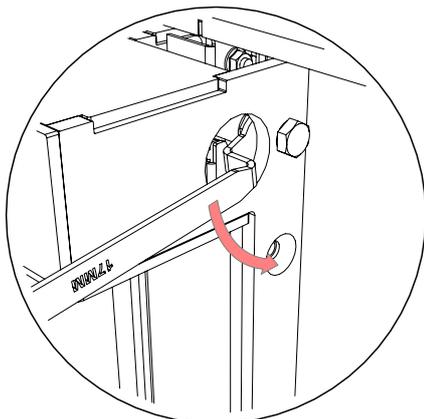
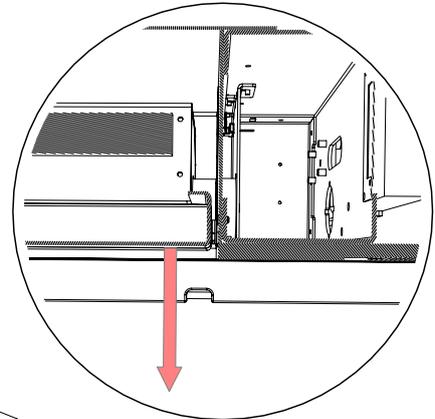


5b. Insert supplied spanner into opening

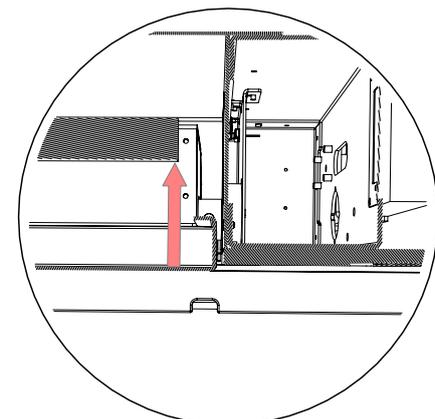
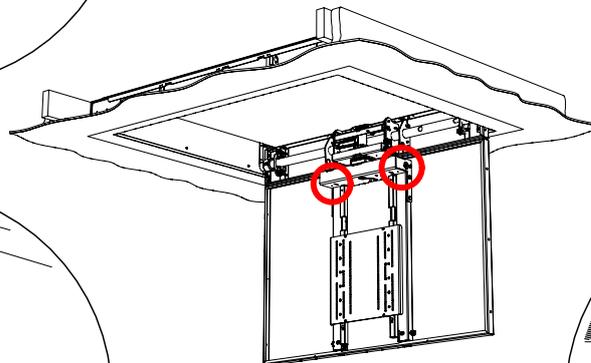


6. Adjust Height of Tray Using Cam Adjuster

6a. Rotate UP                      DOWN  
1/2 turn =                      2.5mm [0.1"]



6b. Rotate DOWN                      UP  
1/2 turn =                      2.5mm [0.1"]

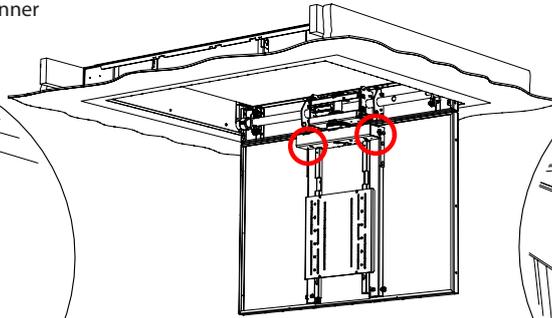
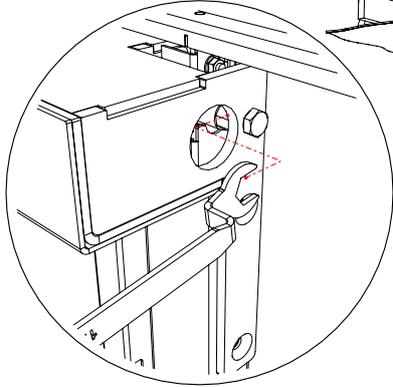


# Mechanism Adjustments

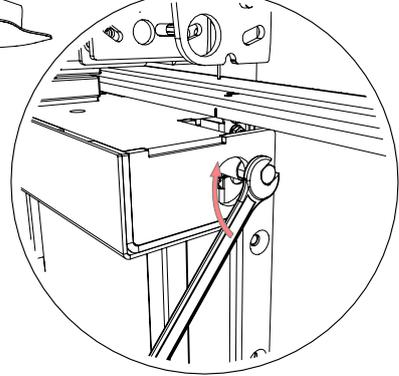
## Hinging Main Tray Levelling

7. Tighten Clamp Bolts on both sides

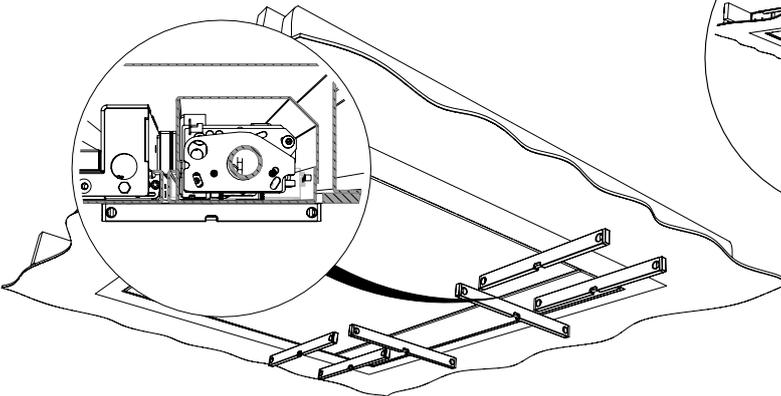
7a. Remove supplied Spanner



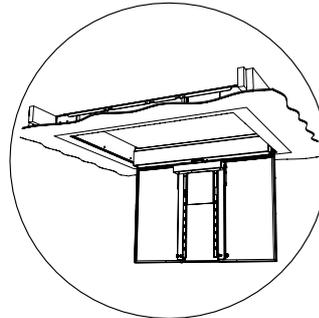
7b. Tighten Clamp Bolt  
- 1/4 Turn Bolt CW



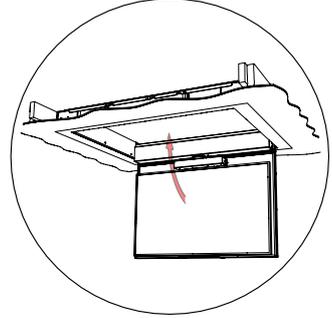
8. Close Mechanism And Check Levels.  
*Repeat steps 5 to 7 if necessary*



9. Reinstall Covers (IF REMOVED)



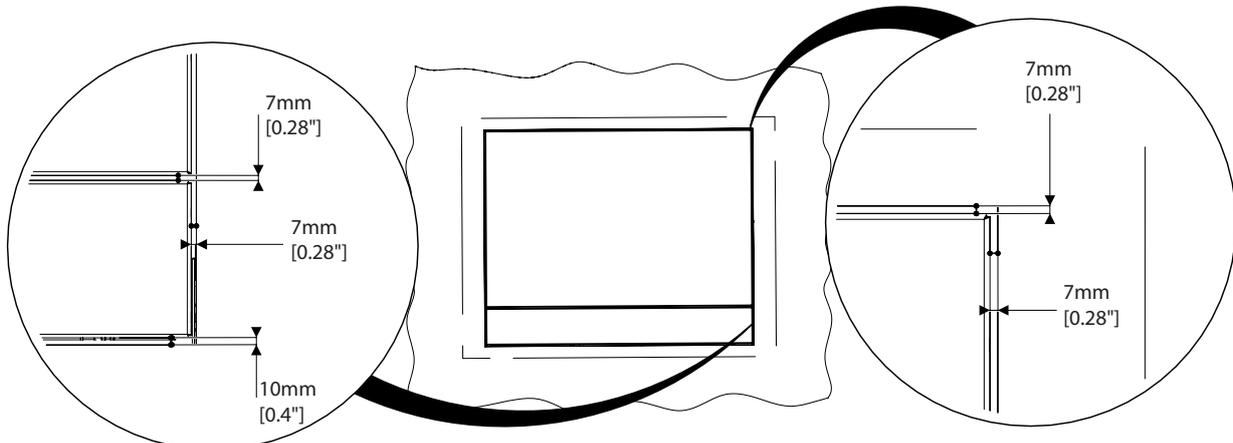
10. Reinstall Display (IF REMOVED)



## Hinging Main Tray Positioning

Adjustments can be made to the tray position within the ceiling.

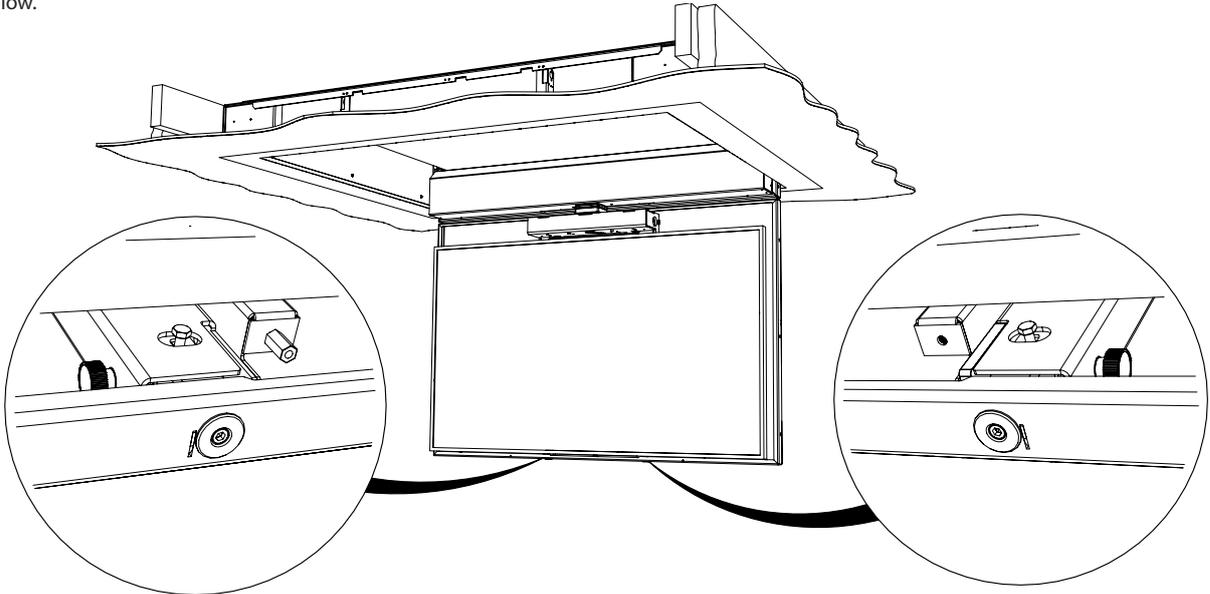
The CHR is designed to have a 7mm [0.28"] shadow gap at the Front, Left and Right and a 10mm [0.4"] gap at the back.



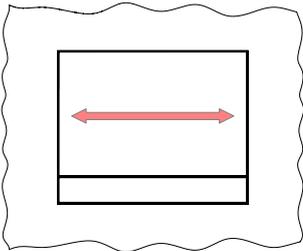
# Mechanism Adjustments

## Hinging Main Tray Positioning

Adjustments to tray position can be carried out with Screen in place as shown below.



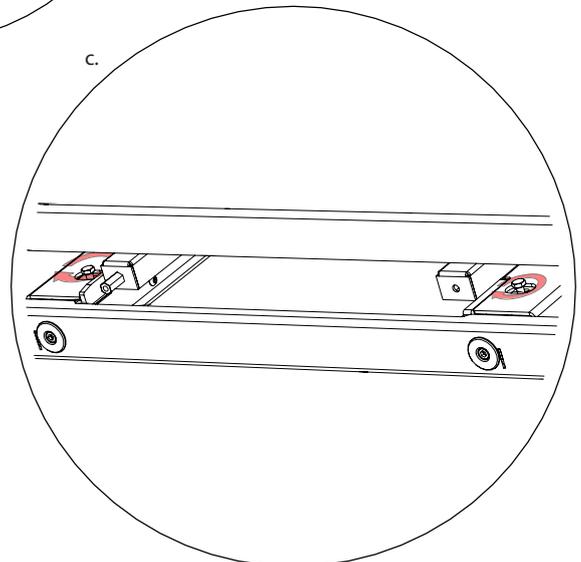
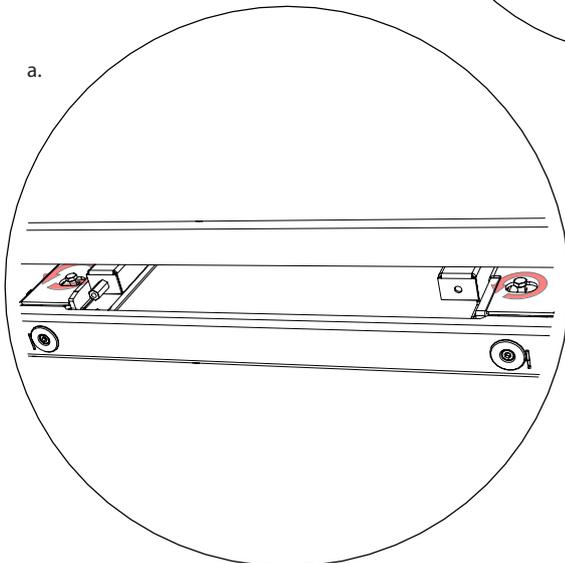
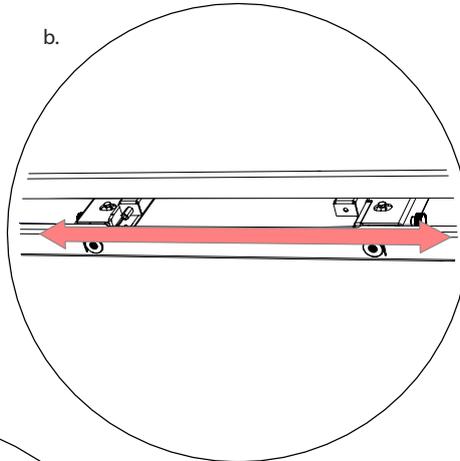
Left to Right



### Tools required

(10mm Socket / Spanner)

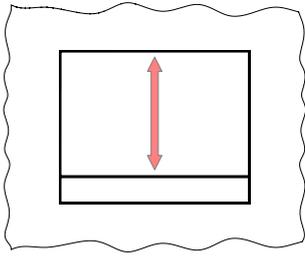
- Loosen 2 M6 Hex Bolts - 1 turn
- Move tray as needed
- Tighten 2 M6 Hex Bolts - 1 turn



# Mechanism Adjustments

## Hinging Main Tray Positioning

### Front to Back



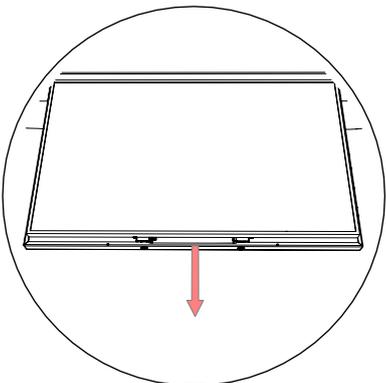
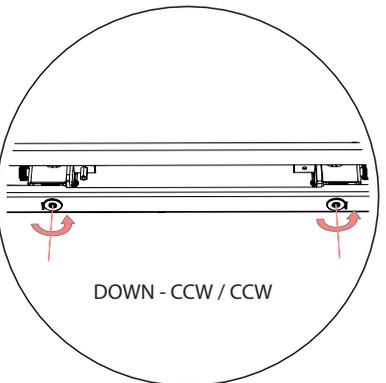
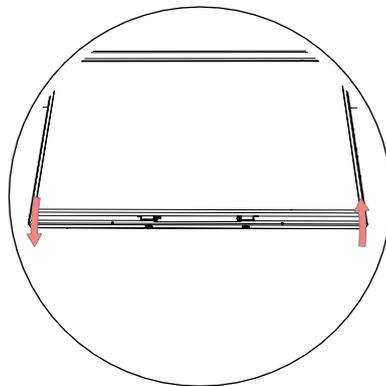
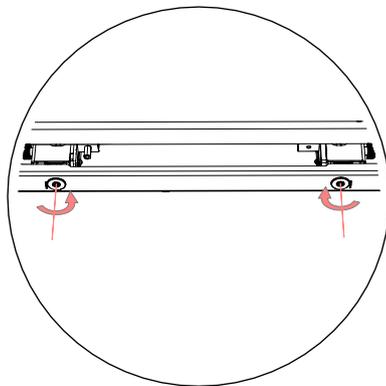
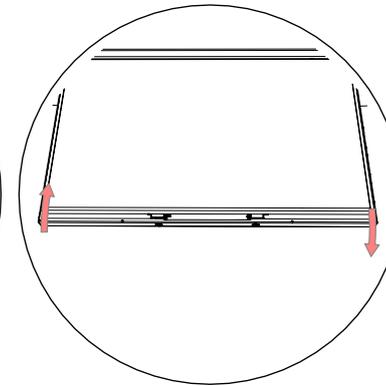
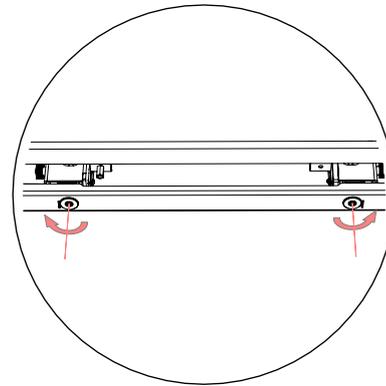
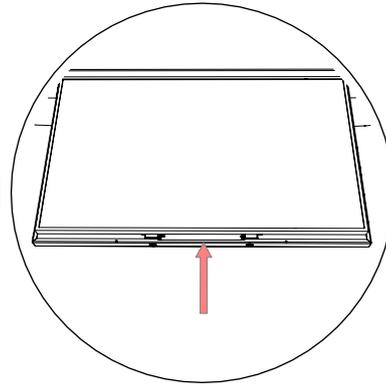
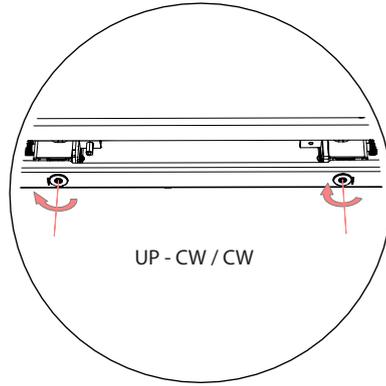
#### Tools required

(4mm Allen Wrench / Key)

Rotate socket on each side as needed.

1 CW Turn = 1mm Up

1 CCW Turn = 1mm Down

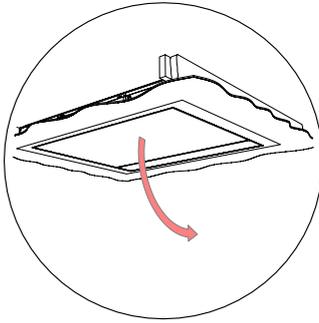


# Mechanism Adjustments

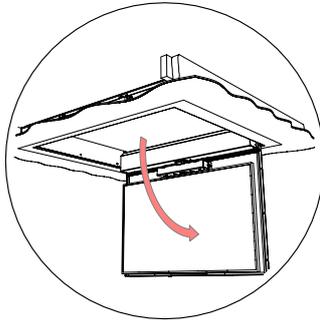
## Hinging Back Tray Positioning

Adjustments to tray position can be carried out with Screen in place as shown below.

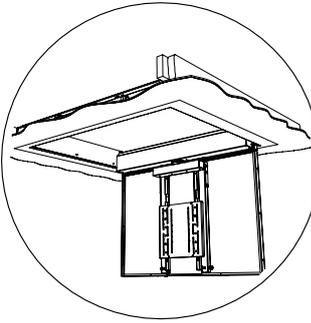
1. Open Mechanism



2. Remove Screen (If Installed)



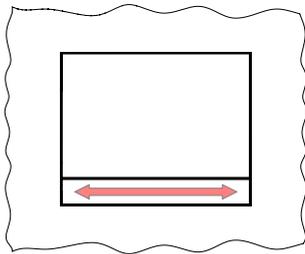
3. Remove Covers (If Installed)



4. Prepare tools

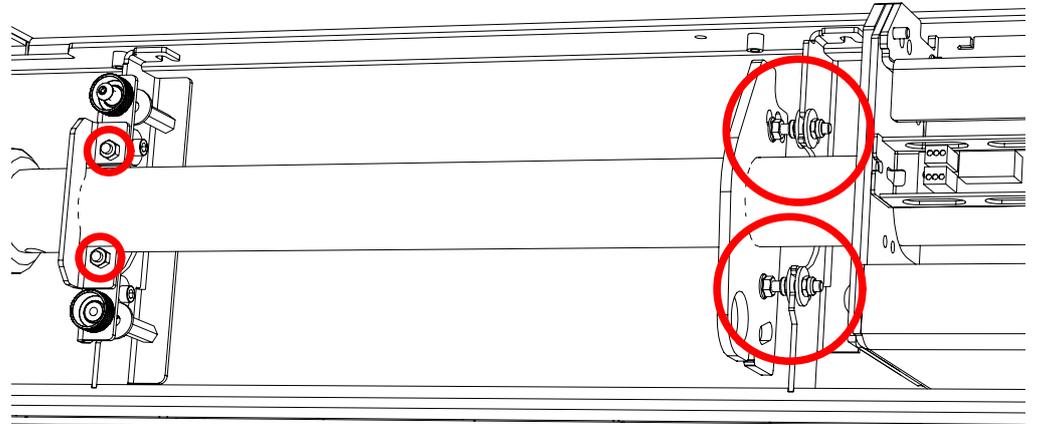


Left to Right



a / d

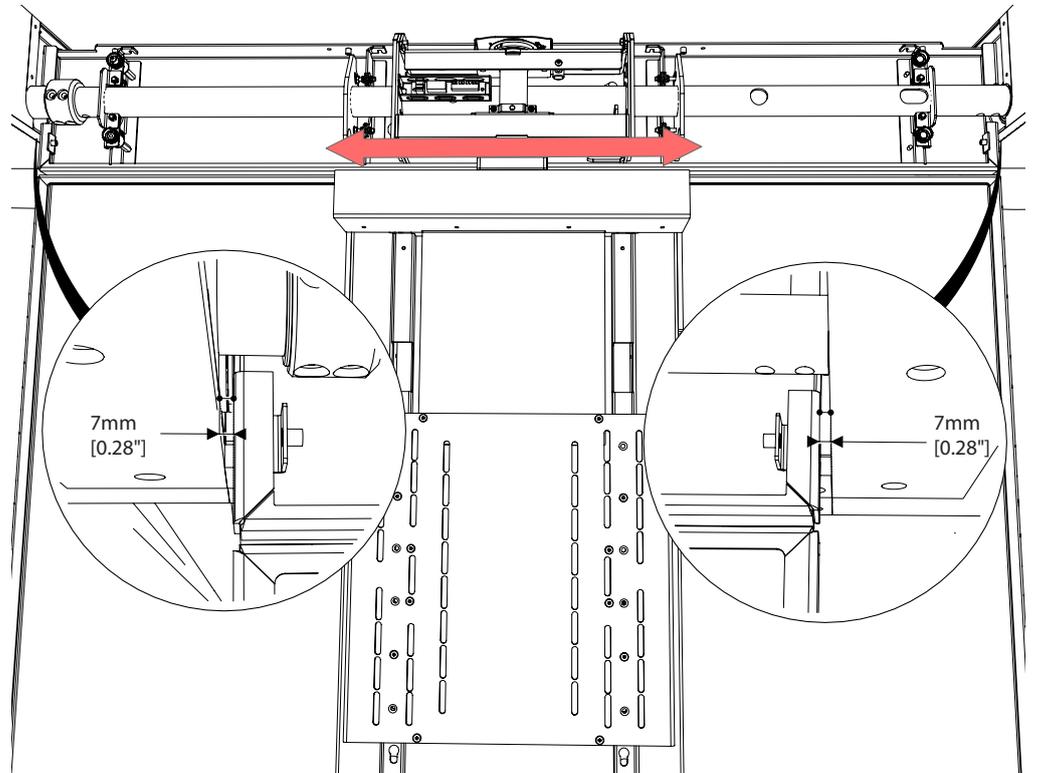
b / e



### Tools required

(10mm Socket / Spanner)

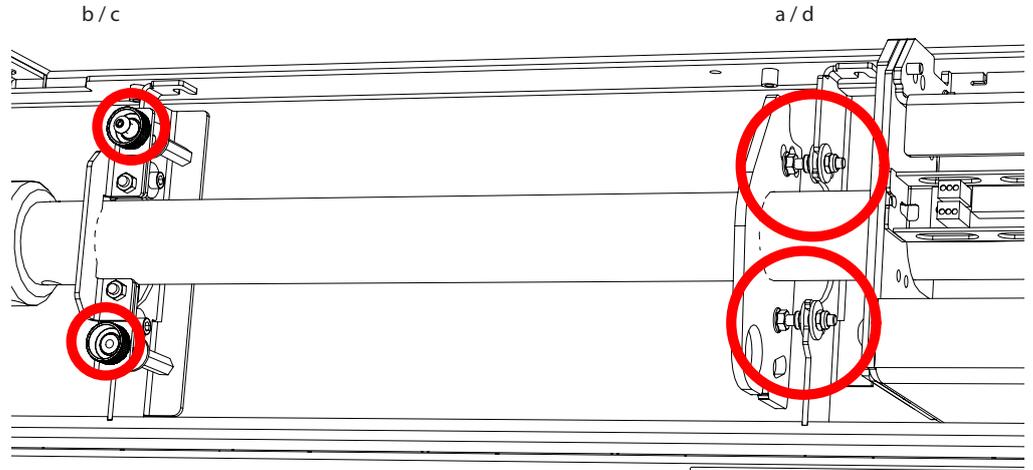
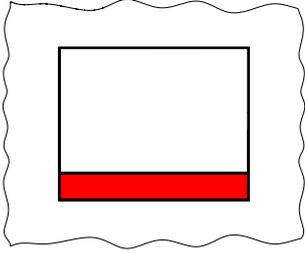
- a. Loosen 2 M6 nuts on outer clamps (both sides) - 2 turns
- b. Loosen 4 M6 nuts on inner mount studs (both sides)
- c. Move tray as needed.
- d. Tighten 2 M6 nuts on outer clamps (both sides) - 2 turns
- e. Tighten 4 M6 nuts on inner mount studs (both sides)



# Mechanism Adjustments

## Hinging Back Tray Levelling

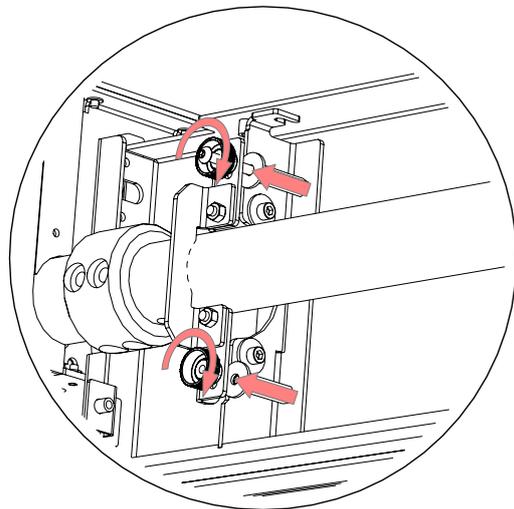
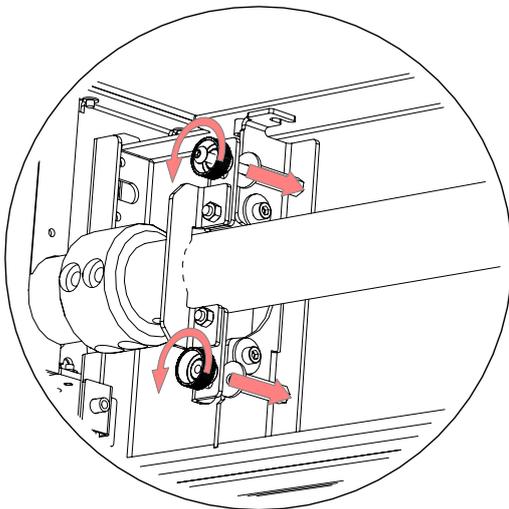
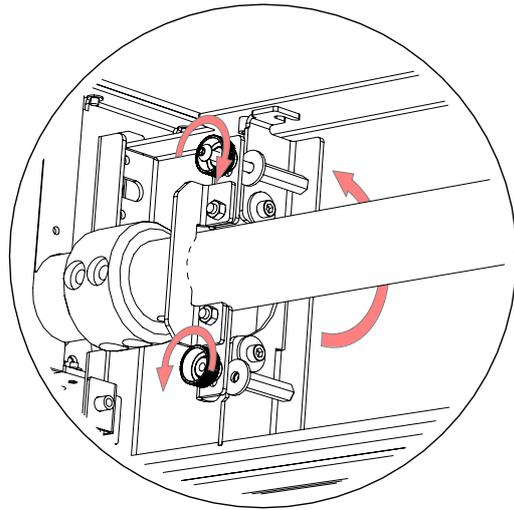
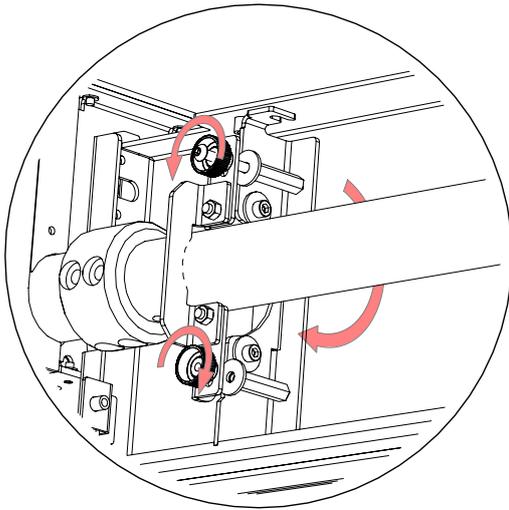
### Height and Rotation



#### Tools required

(10mm Socket / Spanner)

- a. Loosen 4 M6 nuts on inner mount studs (both sides).
- b. Loosen lock nuts and rotate thumb nuts as required (both sides).
- c. Tighten lock nuts (both sides).
- d. Tighten 4 M6 nuts on inner mount studs (both sides)



# Electrical Recovery

## Recovering Mechanism When Closed

If the Mechanism fails to OPEN from IR or control system commands, an electrical override system can be utilised in order to recover the mechanism for emergency use and repair.

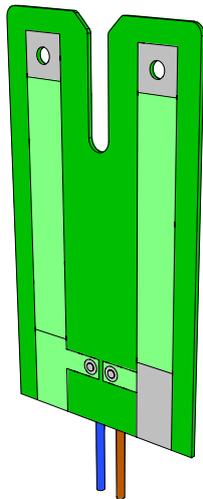
The Electrical Recovery system uses an override card that is supplied with the mechanism to bypass the internal control system in order to operate the main hinging tray drive.

This is done by inserting the supplied card into a concealed connector in the back left corner of the mechanism and powering directly using an 18v Drill Battery or equivalent voltage DC power supply.

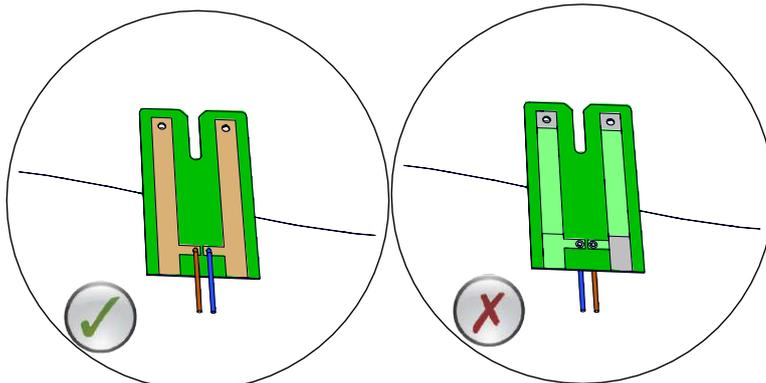
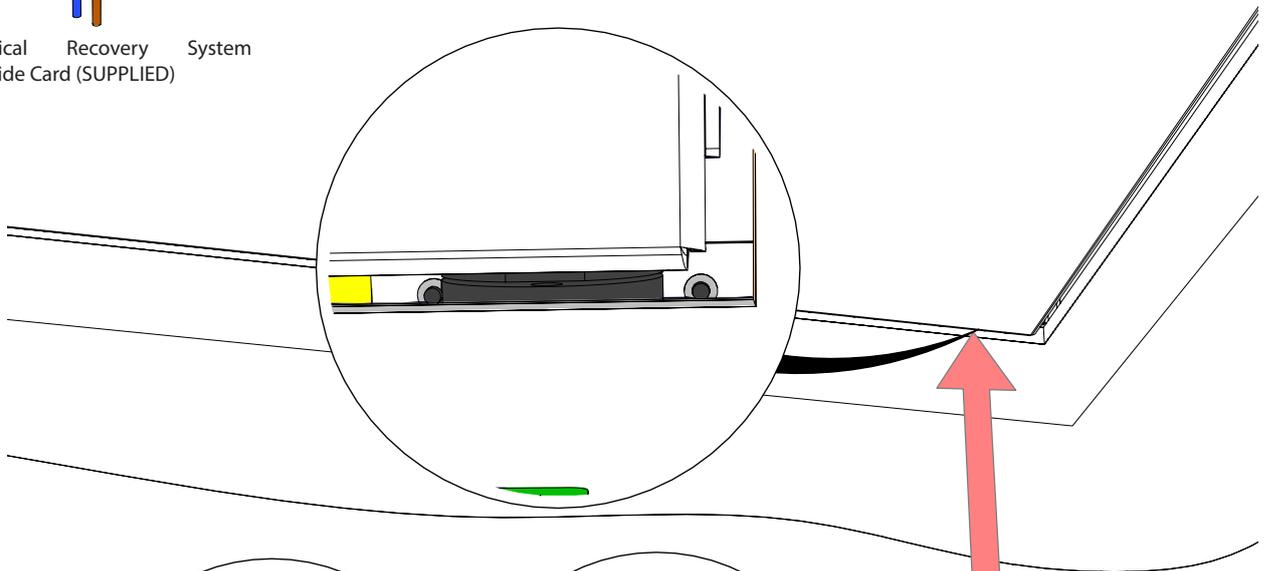
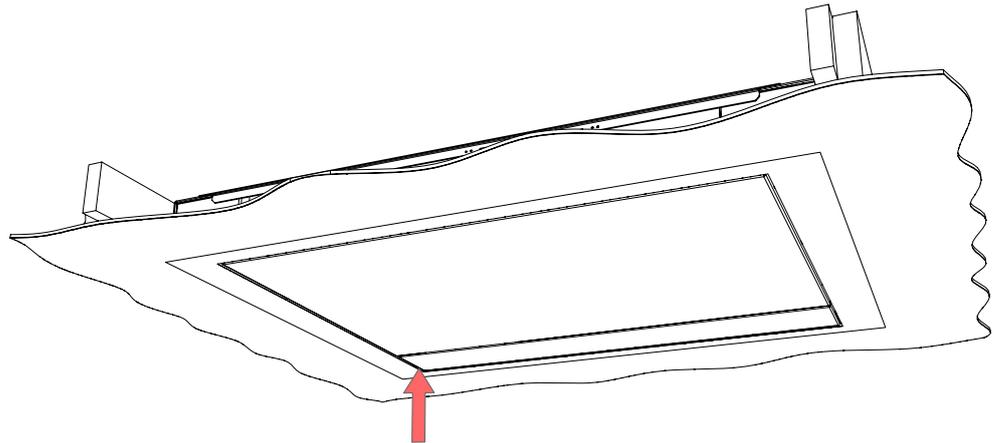
Powering Mechanism using Electrical Recovery System Override Card will cause mechanism to open without control system and internal safety switches.



DO NOT OPEN FULLY AND ENSURE AREA BELOW MECHANISM IS CLEAR. BEFORE OPERATION

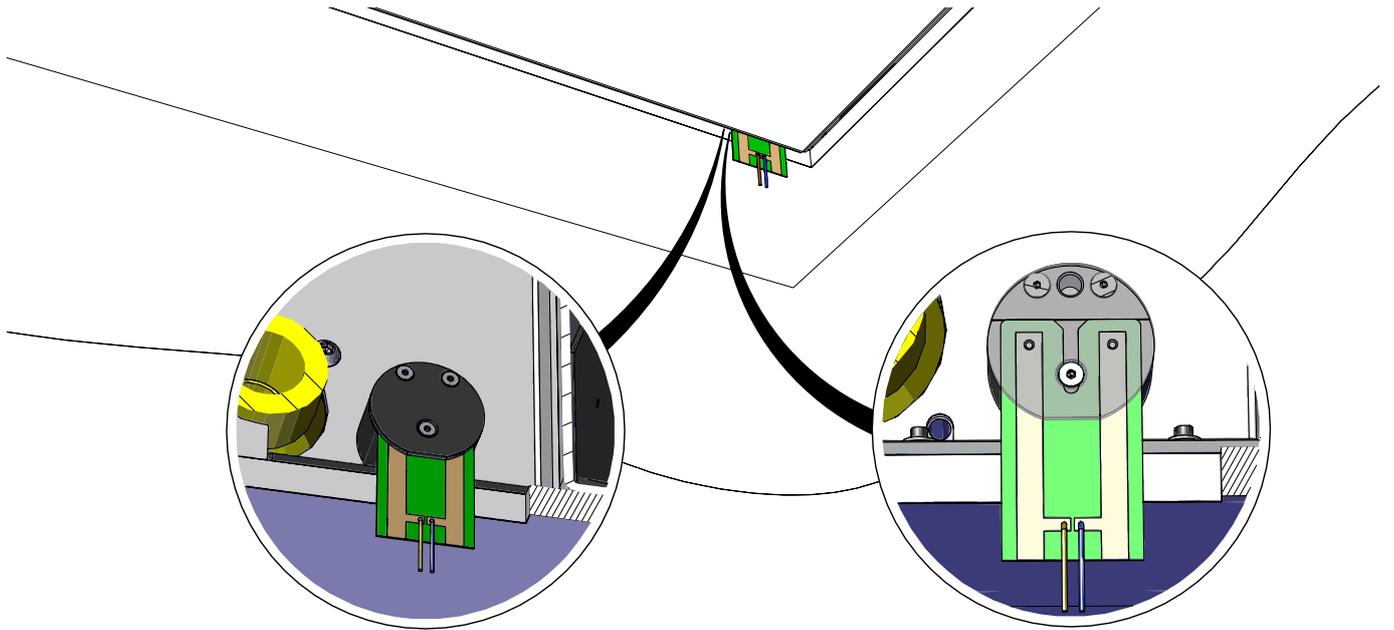


Electrical Recovery System  
Override Card (SUPPLIED)



Make sure card is in correct orientation. Silver contact pads should be facing ceiling, NOT Mechanism.

# Electrical Recovery



Ensure card is securely inserted into override connector. Card should click into position and be held in position by the connector.

With card in place and using lead on the card to carefully power card from 18V DC drill battery or similar voltage DC power supply.



**DO NOT EXCEED 24V DC WHEN USING ELECTRICAL RECOVERY SYSTEM AS THIS CAN CAUSE DAMAGE TO MECHANISM.**



If Mechanism fails to move, change polarity of power supply / drill battery and also check card is in correct orientation and firmly inserted into connector.

With mechanism open, diagnostics can take place to determine cause of fault.

The Electrical override system will ONLY OPEN mechanism and requires fault to be fixed in order to close using internal control system via IR Remote Control, Contact Closure or RS323 Commands.

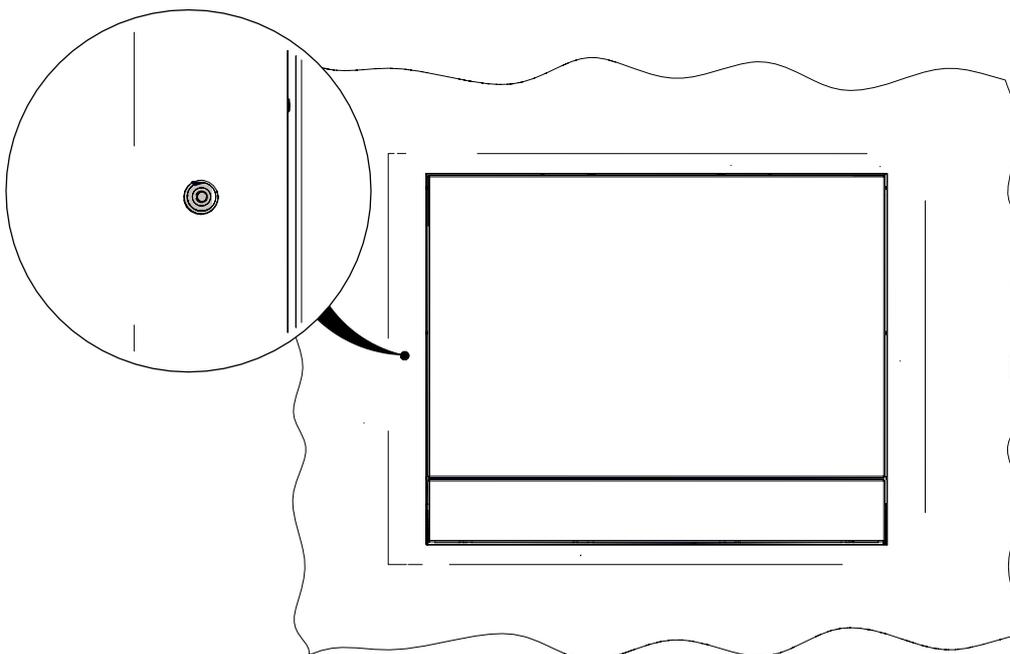
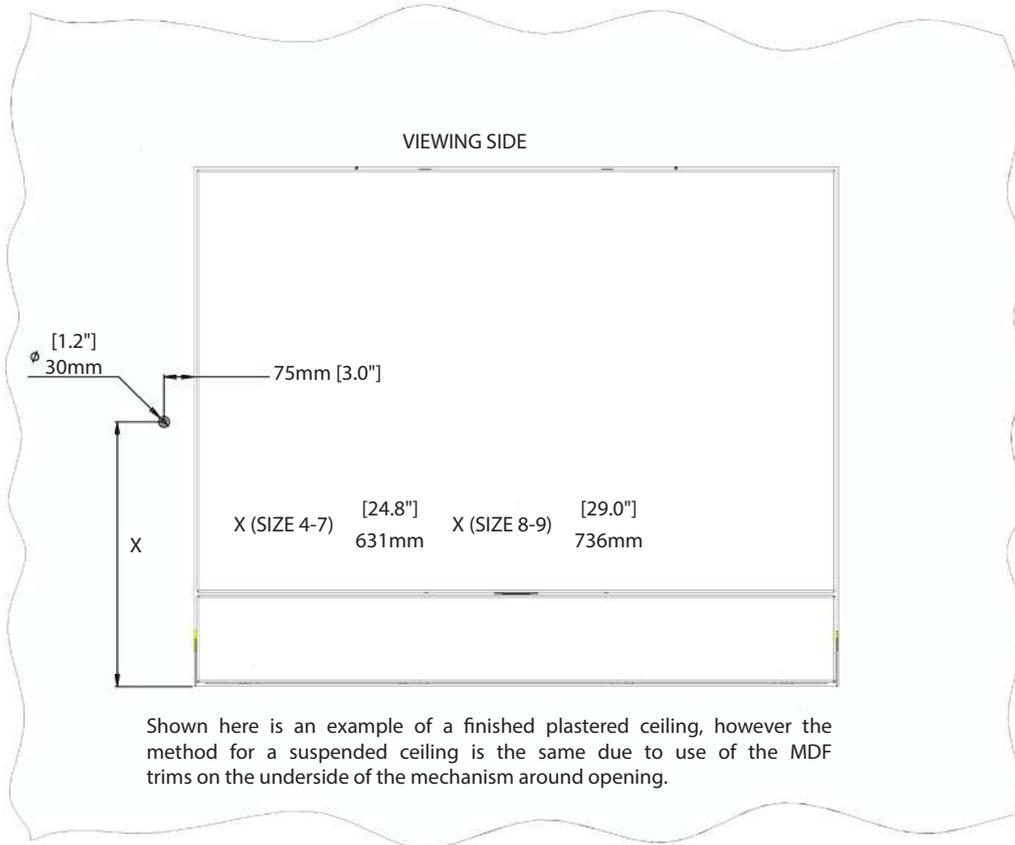
# Mechanical Recovery

## Mechanical Recovery When Closed In Finished Ceiling

Should the CHR mechanism fail to operate when in the CLOSED position and the Electrical Recovery System has not worked, a Mechanical Recovery System can be utilised to OPEN the mechanism and diagnose any faults.

Should the Mechanism be plastered into the ceiling or in a suspended ceiling environment, a small hole in the surrounding finished MDF plaster edge trims is required to locate the recovery mechanism release pin at a specified position shown below.

**NOTE:** The dimensions shown are relevant to all residential mechanism sizes and models. i.e CHR, CHRS, CHRT and CHRST



# Mechanical Recovery

## Mechanical Recovery When Closed In Open / Suspended Ceiling

Should the CHR mechanism fail to operate when in the CLOSED position as shown, a Mechanical Recovery System can be utilised to OPEN the mechanism and diagnose any faults.

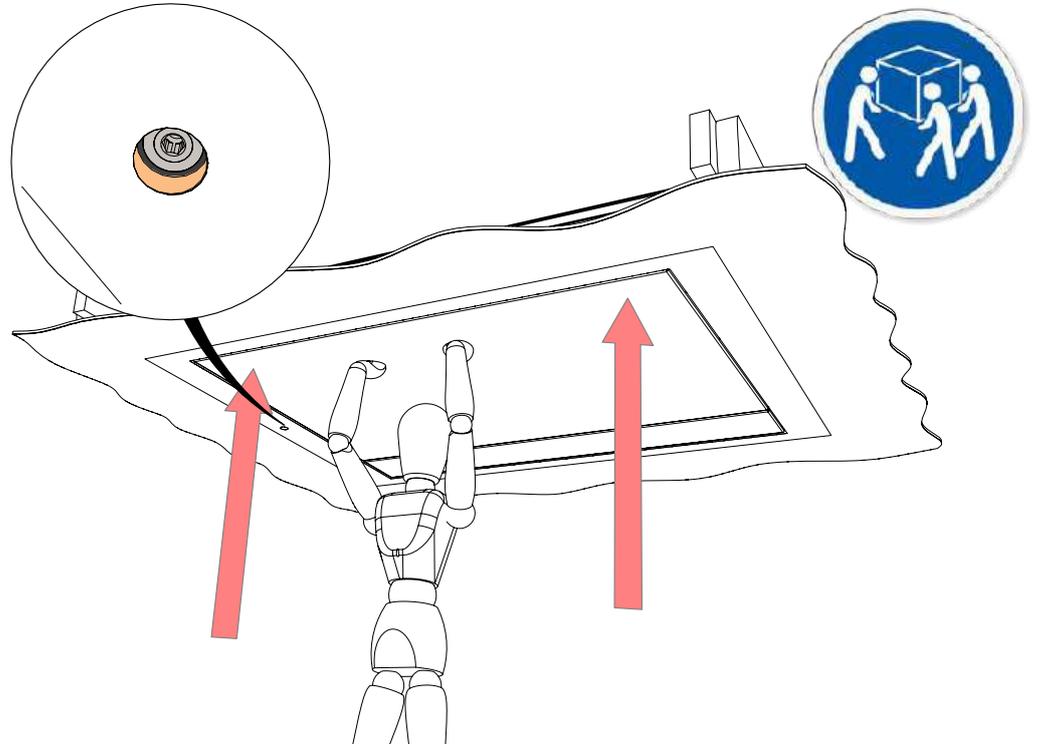
Should the Mechanism stop functioning while the ceiling is open, the Mechanical Recovery release pin can be easily located as shown below.

1. (MIN. 2 PERSON) Support tray to stop tray swinging down when released.

2. Locate release pin on left hand side of mechanism from below.

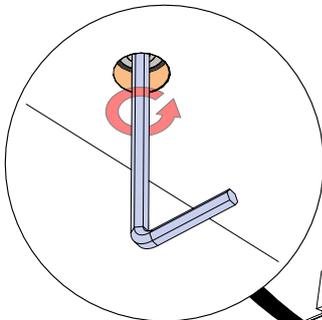
Requires 8mm Allen Wrench to remove.

**DO NOT REMOVE UNTIL TRAY HAS BEEN SUPPORTED FULLY**



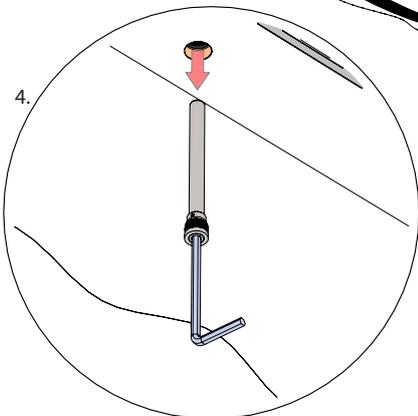
3.

3. Unscrew Release Pin.

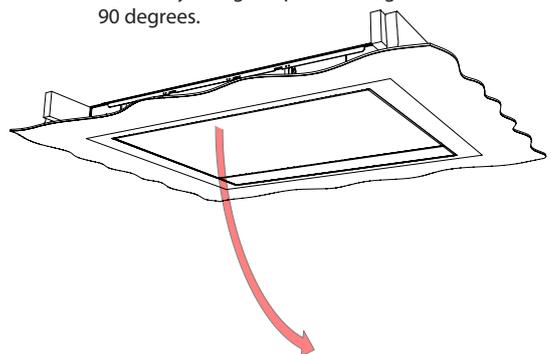


4. Whilst holding tray, remove Release Pin using an 8mm Allen Wrench.

4.

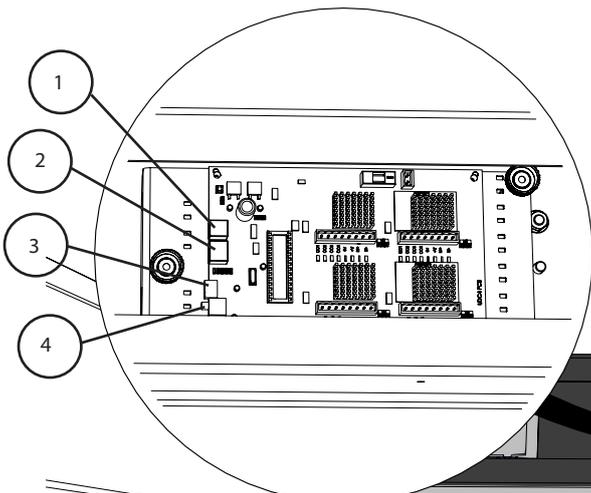
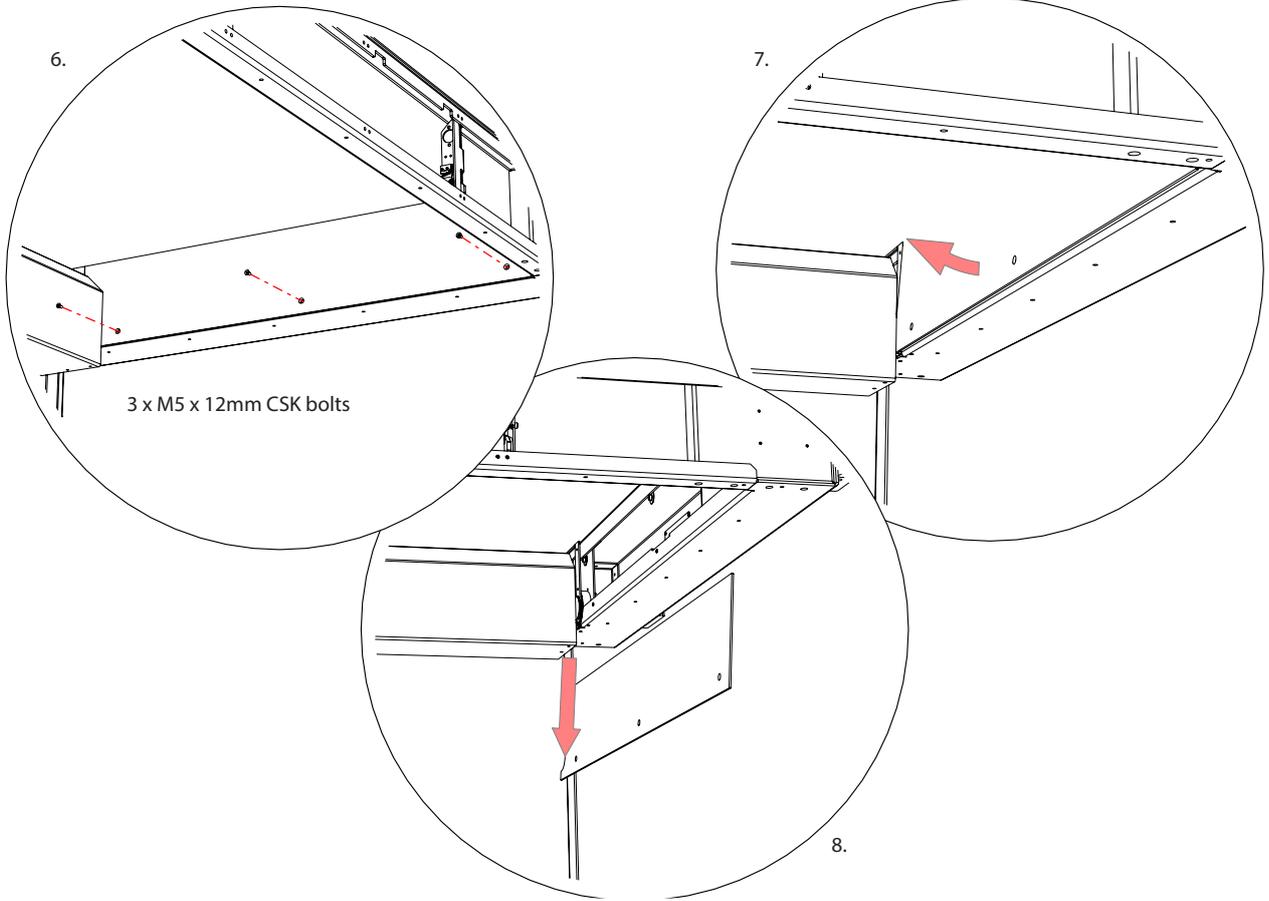


5. Slowly hinge open through 90 degrees.



# Mechanical Recovery

## Accessing Control Board and Connections



- Control Board Connections
1. RS232 (RJ11/RJ25)
  2. Contact Closure (RJ45)
  3. Emergency Stop
  4. IR Input 3.5mm Jack



DO NOT OPERATE WHILE PIN IS REMOVED AS THIS CAN CAUSE DAMAGE TO MECHANISM.

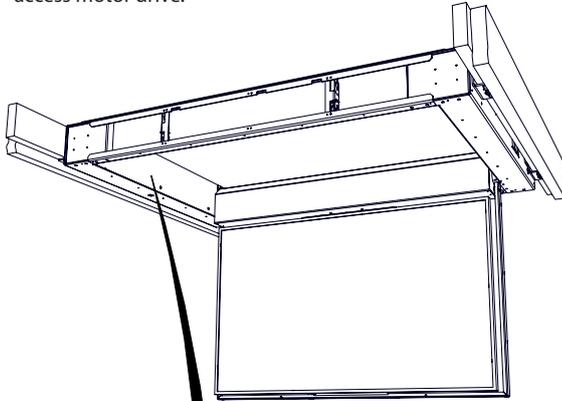
# Mechanical Recovery

## Recovering Hinge Mechanism

With control board open and access to connections, ensure IR Lead and any external controls are plugged in and secured in place using cable management mount holes on control board mount plate.

In order to return mechanism to operation, Recovery Pin must be put back.

- Remove left hand trim panel to access motor drive.

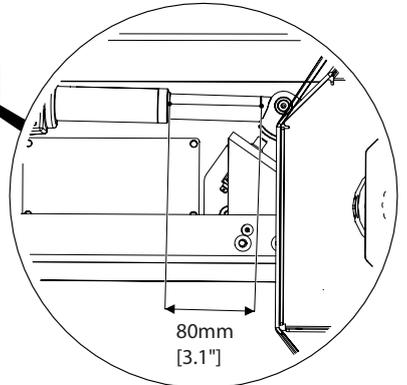
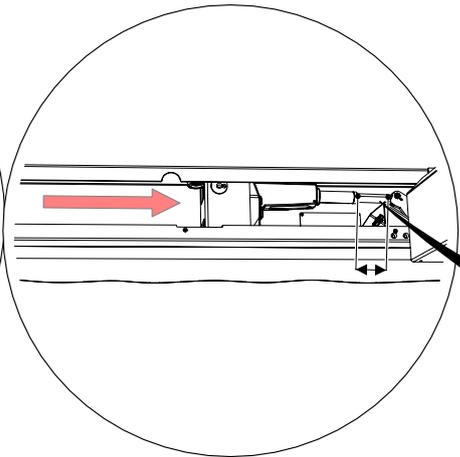
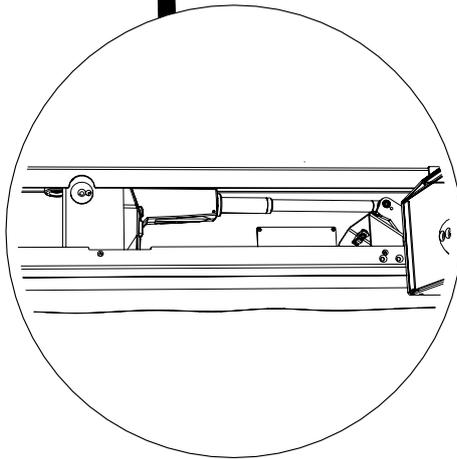
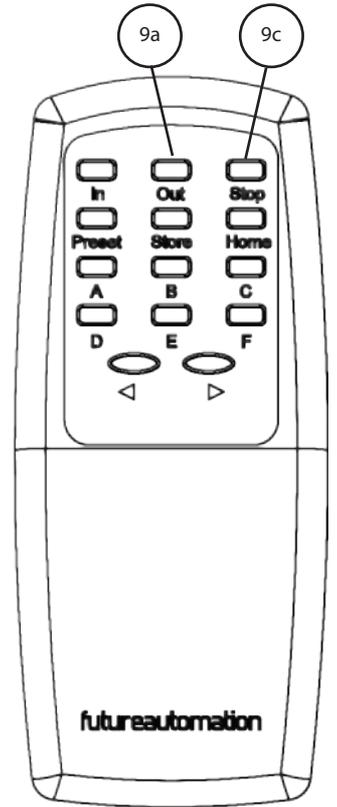


Use IR Remote provided to give following commands.

9a. 'OUT'

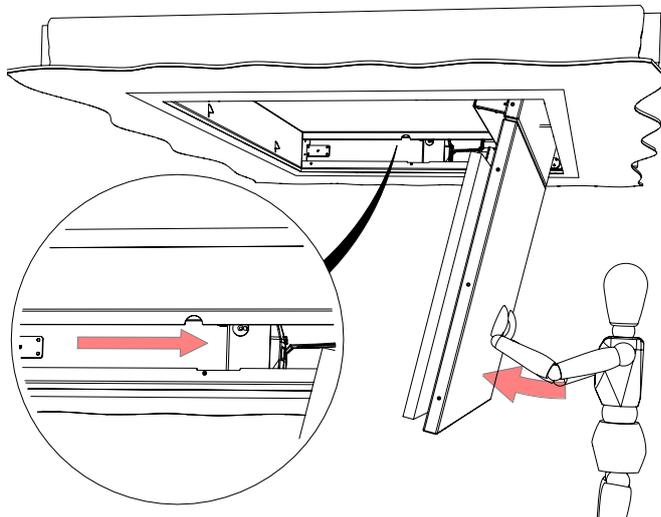
9b. Wait until motor drive extension is approx 80mm [3.1"] from collar to cranks

9c. 'STOP'



To return the Recovery Pin, manually lift the hinging tray back towards CLOSED position.

- 



HINGING TRAY CAN CAUSE INJURY IF NOT WELL SUPPORTED.

SHOULD NOT CARRIED OUT BY 1 PERSON





# Contact Information

---



## European Office

Address:  
Unit 6-8  
Brunel Road  
Bedford  
Bedfordshire  
MK41 9TG

Phone: +44 (0) 1438 833577  
Email: [info@futureautomation.co.uk](mailto:info@futureautomation.co.uk)

Office Hours:  
Mon - Fri 8:00 to 17:30 GMT  
Saturday & Sunday - Closed

## North American Office

Address:  
Enterprise Park  
127 Venture Drive  
Dover  
NH  
03820

Phone: +1 (603) 742 9181  
Email: [info@futureautomation.net](mailto:info@futureautomation.net)

Office Hours:  
Mon - Fri 7:00 to 17:00 EST  
Saturday & Sunday - Closed