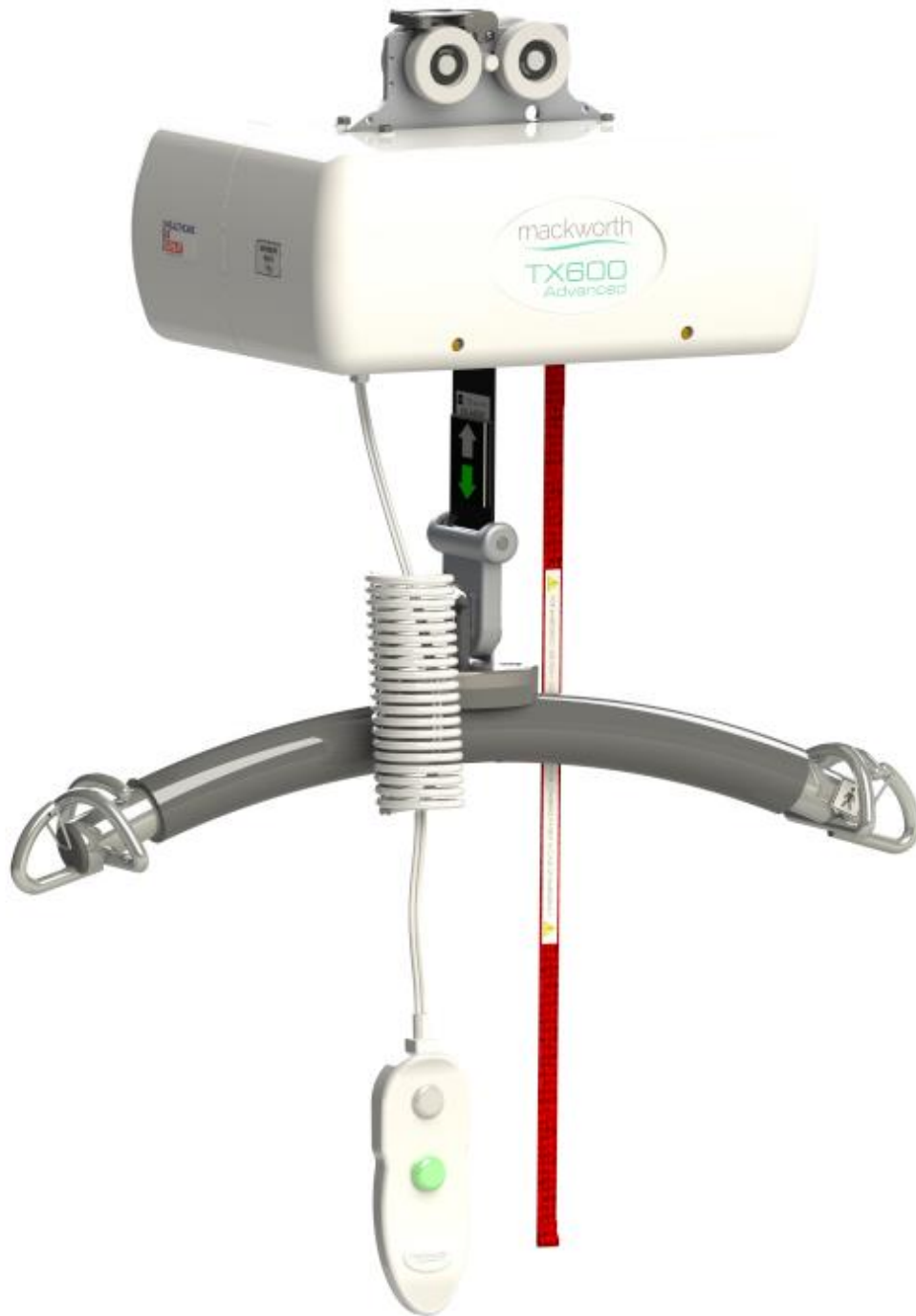


mackworth

# TX Advanced Ceiling Track Lift



## Commissioning Manual

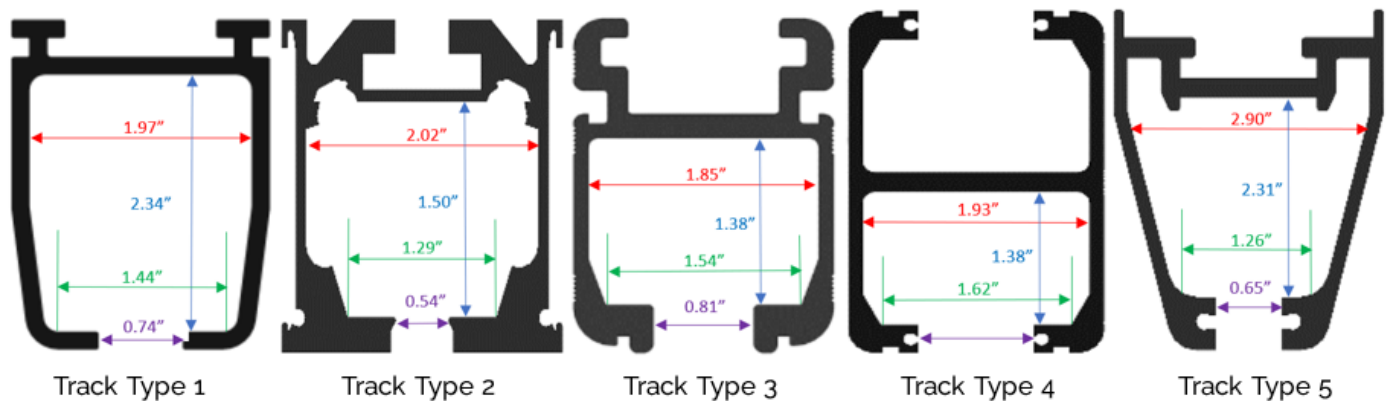
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## 1 Introduction

This manual will explain how to successfully commission the Mackworth TX Advanced Ceiling Track Lift safely and effectively. This document includes how to install the ceiling lift into a pre-installed ceiling track system, as well as removing and decommissioning the ceiling lift at the end of its life cycle. The aim of the manual is to advise and assist you, so that you can provide a successful install for the end user.

The Mackworth TX Advanced is available in different configurations dependent on track profile. The track profiles are shown below:

When installing the ceiling lift, one of the below track profiles should match.



To ensure that the ceiling lift is compatible with the pre-installed track, match the track type above with the ceiling lift list in the table below.

TX400 Advanced Lift Type	Track Type	TX600 Advanced Lift Type	Track Type
TX440 Advanced MT – 122515	Type 1	TX600 Advanced MT – 122520	Type 1
TX440 Advanced MT – 122516	Type 2	TX600 Advanced MT – 122521	Type 2
TX440 Advanced MT – 122517	Type 3	TX600 Advanced MT – 122522	Type 3
TX440 Advanced MT – 122518	Type 4	TX600 Advanced MT – 122523	Type 4
TX440 Advanced MT – 122519	Type 5	TX600 Advanced MT – 122524	Type 5
TX440 Advanced PT – 122617	Type 1	TX600 Advanced PT – 122622	Type 1
TX440 Advanced PT – 122656	Type 3	TX600 Advanced PT – 122666	Type 3
TX440 Advanced PT – 122659	Type 4	TX600 Advanced PT – 122669	Type 4
TX440 Advanced PT – 122662	Type 5	TX600 Advanced PT – 122672	Type 5
TX440 Advanced QRT – 122678	Type 1	TX600 Advanced QRT – 122679	Type 1
TX440 Advanced QRT – 122688	Type 3	TX600 Advanced QRT – 122689	Type 3
TX440 Advanced QRT – 122693	Type 4	TX600 Advanced QRT – 122694	Type 4
TX440 Advanced QRT – 122698	Type 5	TX600 Advanced QRT – 122699	Type 5
TX440 Advanced MTCC – 122616	Type 1	TX600 Advanced MTCC – 122621	Type 1
TX440 Advanced MTCC – 122655	Type 2	TX600 Advanced MTCC – 122665	Type 2
TX440 Advanced MTCC – 122658	Type 3	TX600 Advanced MTCC – 122668	Type 3
TX440 Advanced MTCC – 122661	Type 4	TX600 Advanced MTCC – 122671	Type 4
TX440 Advanced MTCC – 122664	Type 5	TX600 Advanced MTCC – 122674	Type 5
TX440 Advanced PTCC – 122619	Type 1	TX600 Advanced PTCC – 122624	Type 1
TX440 Advanced PTCC – 122657	Type 3	TX600 Advanced PTCC – 122667	Type 3
TX440 Advanced PTCC – 122660	Type 4	TX600 Advanced PTCC – 122670	Type 4
TX440 Advanced PTCC – 122663	Type 5	TX600 Advanced PTCC – 122673	Type 5
TX440 Advanced MTPT – 122615	Type 1	TX600 Advanced MTPT – 122620	Type 1
TX440 Advanced PTPT – 122618	Type 1	TX600 Advanced PTPT – 122623	Type 1

## 2 Safety Precautions

Read and understand this manual in its entirety before Commissioning the Mackworth TX Advanced Ceiling Lift.

- Only Mackworth authorised personnel are eligible to perform a ceiling lift commission and decommission.
- The Ceiling lift must not be in use by the user during any form of servicing.
- The Ceiling lift must be turned OFF during any commissioning or decommissioning of the ceiling lift.
- Always ensure suitable clearance to remove the ceiling lift from the ceiling track.
- Ensure that all the procedures are followed correctly as instructed in this manual.
- All listed tools and equipment stated in this manual must be used to safely commission the ceiling lift.
- Ensure you have assessed all risks for your environment and any persons within that environment before commencing work.
- Ensure you have all PPE available to carry out the work before commencing.
- The ceiling lift is only suitable for installs within the professional and home health care environment.
- When working with ceiling track systems, ladders must be used to gain access. Ensure to follow safety guidelines while using ladders and working at height.

## 3 Tools and Equipment List

When carrying out work on the Mackworth TX Advanced ceiling lift, you will require the following:

Tools Required	Equipment Required
2mm Allen Key 2.5mm Allen Key 3mm Allen Key 4mm Allen Key 5mm Allen Key 8mm Spanner No. 2 Pozi Drive Screwdriver 2mm Slotted Screwdriver 5.5mm Slotted Screwdriver External Circlip Pliers 3-10mm Long Nose Pliers Side Snips Second Cut Hand File Power Drill 8.5mm Drill Piece	Step Ladder Marker Pen Cloth Lint Free Cloth Relevant Documentation Cable Ties – 100x2.5mm (Part No. 000106) Digital Vernier Calliper Tape Measure

## 4 Ceiling Track Access

This section will guide you on how to install and remove the safety components found within the track system. This includes the end stops, safety bolt and end caps.

A pre-installed track system should already have these components installed. A track system should never be left without the safety components being installed.

To install the safety bolt, a through hole should be drilled through the track profile. A hole position template should be available. Position the template side face against the edge of the track and flush against the inside of the bottom of the track, this will align the hole position. See images below for reference.

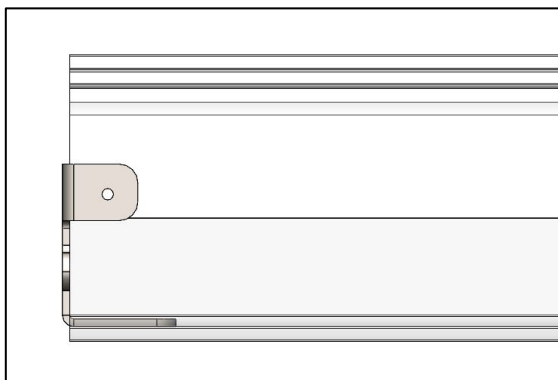


Figure 4-1

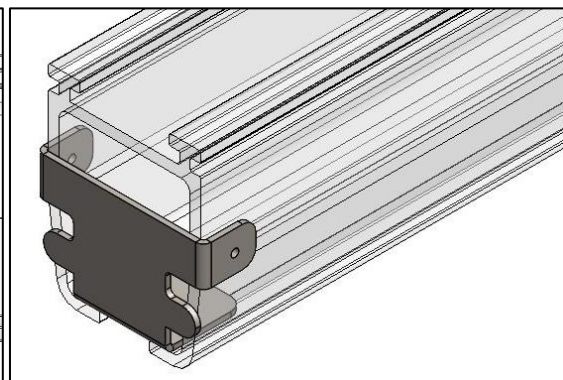


Figure 4-2

If the template is not available, see the drawings below for hole position.

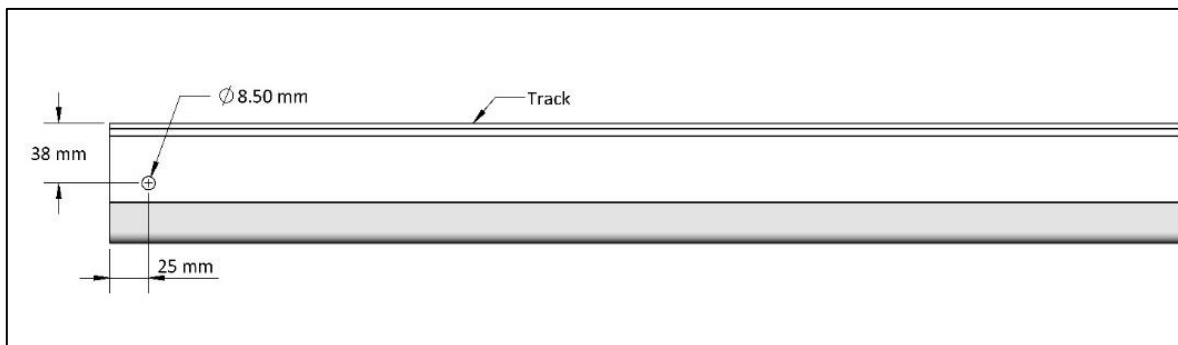


Figure 4-3

Once the hole is drilled, the end stop is installed first.

Slide the end stop into the track with the bumper facing inward. The end stop can be secured by clamping the end stop together within the track. This is done using a 5mm Allen Key on the two bolts. The end stop should be secured close to the end of the track system, but leaving enough space for the safety bolt behind.

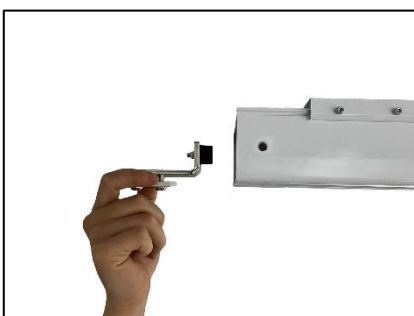


Figure 4-4



Figure 4-5



Figure 4-6

Once the end stop is secured, the safety bolt and end cap can be fitted. Place the rubber bumper inside the track, aligning it with the drilled hole and place the given bolt through the track and bumper and secure at the other end with the nut. This is done using two 13mm combination spanners. The end cap is push fitted into the track profile as shown below.

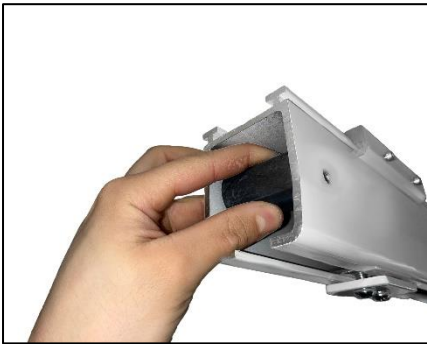


Figure 4-7



Figure 4-8



Figure 4-9

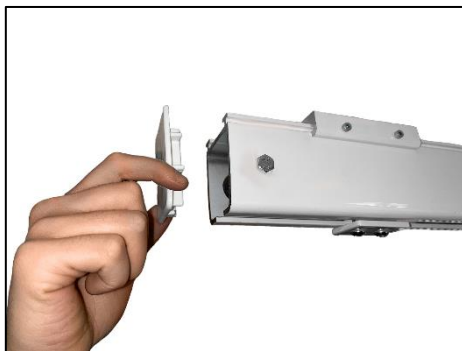


Figure 4-10



Figure 4-11

For constant charge track systems, a variant end cap is used, fitted with contact terminals which contact the charge strips on the inside of the track, the end cap is push-fitted into the track profile as normal, but is secured in place with the safety bolt as shown, the safety bolt is not fitted with a rubber bumper as it's not required.

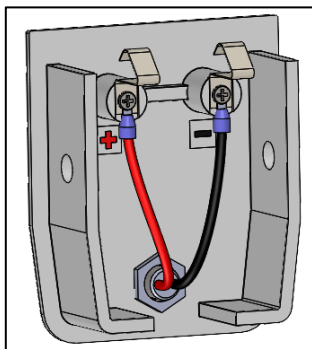


Figure 4-12



Figure 4-13



Figure 4-14

Note: Old style constant charge follows the same method as the standard end cap. See above for details.

## 5 Installing the Ceiling Lift

Each variant of ceiling lift is installed into the track in the same manner, but see below for detailed instructions which may vary slightly for different ceiling lift types. Each varying track type of ceiling lift is installed into its relevant track type following the same method.

To install the ceiling lift correctly, follow the guidelines below:

### 5.1 Standard ceiling lift install

1. Remove the safety components found in the track system for access. (Refer to section 4)
2. Using both hands to support the ceiling lift, raise the ceiling lift up to the ceiling track entrance (See figure 5.1.1)
3. Ensure that the charging beak is orientated to align with the charging dock. (Ceiling lift orientation is dependent on which end the charging dock is situated). (See figure 5.1.1)
4. Place the ceiling lift wheels into the track profile, be careful not to damage the charging beak and its cable. (5.1.2)
5. Slide the ceiling lift to the centre of the track system. (5.1.3)
6. Close the track system by fitting the safety components at either end. (Refer to section 4)
7. Where applicable, install the charging dock to the system. (Refer to section 6)



Figure 5-1-1



Figure 5-1-2



Figure 5-1-3

### 5.2 Constant charge ceiling lift install

Follow the guidelines above, noting the following points:

1. If not done already, place a positive sticker on one side of the track and a negative sticker on the other side.
2. Install the constant charge ceiling lift with the charging beaks stickers matching the same face as the stickers installed on the track. (See figure 5.2.2)



Figure 5-2-1

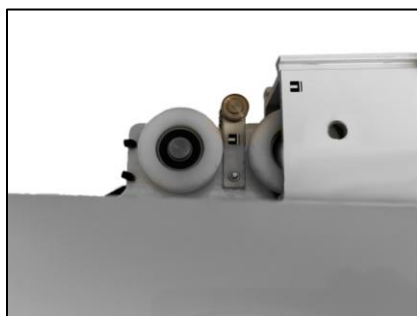


Figure 5-2-2



Figure 5-2-3

### 5.3 Powered Auxiliary ceiling lift install (Turntables only)

Follow the guidelines above, noting the following points:

1. The powered auxiliary ceiling lift for turntables will have two beaks on the chassis trolley. The charging beak is the white nylon block. Ensure that this is orientated to dock with the charger. (See figure 5.3.1)



Figure 5-3-1



Figure 5-3-2

### 5.4 QRT system install

#### Preparing the track for QRT ceiling lift

1. Determine a suitable location, next to where the charging dock will be installed for a trolley dismount point.
2. Using the template, drill a 9mm hole through the track extrusion. (See figure 5.4.1)
3. Place the trolley dismount sticker onto the track with the dismount point aligning with the drilled hole. (See figure 5.4.2)
4. Place an adhesive clip next to the dismount point. When the charging dock is installed, the dismount pin can be secured onto the clip. (See figure 5.4.2)

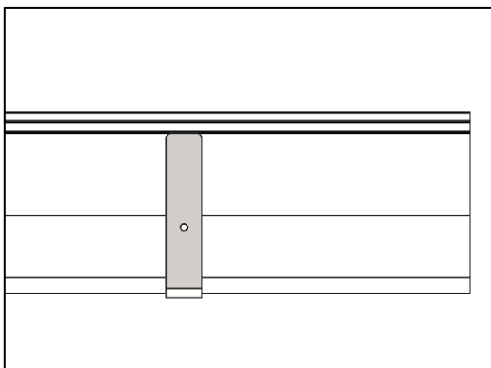


Figure 5-4-1



Figure 5-4-2

#### Installing the trolley

1. The QRT can be installed (without ceiling lift attached) in the same fashion as a standard ceiling lift install. Refer to section 5.1). Ensure that the charging beak is orientated to dock with the charger.
2. Position the QRT under the trolley dismount point and place the dismount pin through the track to secure the trolley in place.



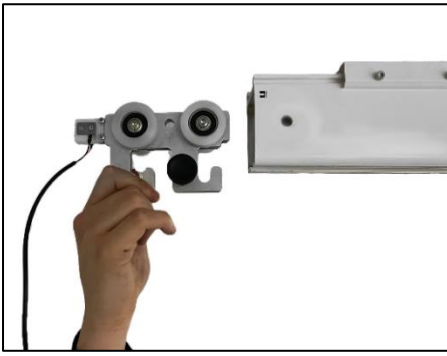


Figure 5-4-3

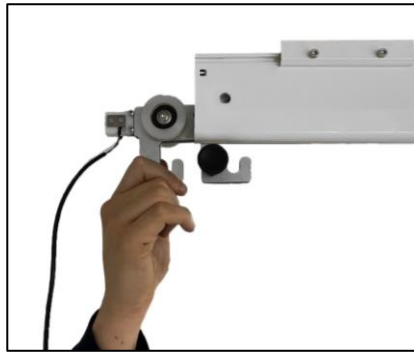


Figure 5-4-4

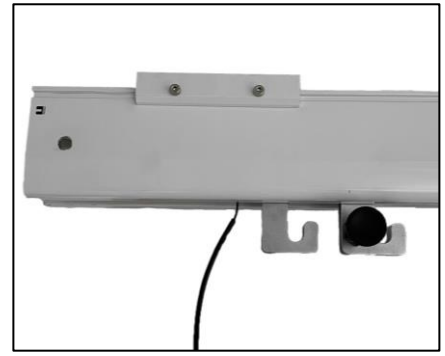


Figure 5-4-5

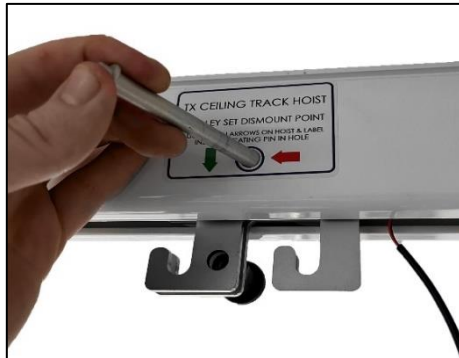


Figure 5-4-6



Figure 5-4-7

### Installing the ceiling lift onto the trolley

1. Disengage the plunger found on the side face of the trolley to allow attachment access. (See figure 5.4.8)
2. Using both hands to support the ceiling lift, raise the ceiling lift up to the trolley and align the ceiling lift anchors with the trolley hooks. (See figure 5.4.9)
3. Engage the plunger to secure the ceiling lift into the trolley. (See figure 5.4.10)
4. Plug the charging beak jack lead into the port found on the top of the lift covers. (See figure 5.4.11)
5. Use a cable tie to route the lead to the ceiling lift chassis.
6. Remove the dismount pin to release the trolley and place the pin back onto the adhesive clip.



Figure 5-4-8

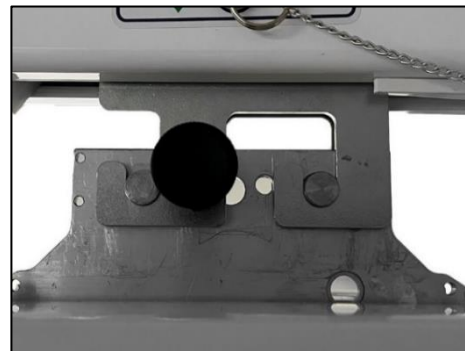


Figure 5-4-9

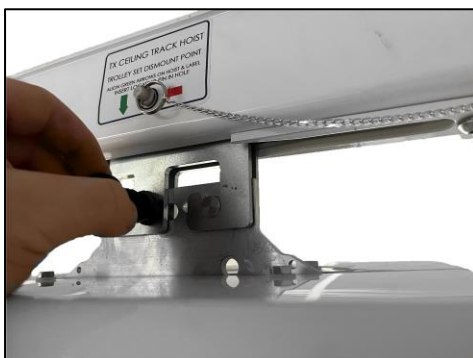


Figure 5-4-10



Figure 5-4-11

## Removing the ceiling lift from the trolley

Removal is a reversal of the install process noting the following points:

1. Traverse the ceiling lift to the dismount point and align the dismount hole in the track with the hole found on the trolley centre.
2. Insert the dismount pin through the track to secure the trolley in position.
3. Disconnect the charging beak jack lead and snip the cable tie securing the lead to the chassis.
4. From here you can now disengage the trolley plunger and raise the ceiling lift out of the trolley to remove.

## 6 Installing the Charging Dock

There are a few variants of charging docks that are suited to different track profiles. But all chargers are installed in the same manner. Follow the instructions below for the correct install method.

1. Remove the safety components found in the track system for access. (Refer to section 4)
2. Align the charger with the rubber bumper facing inwards, towards the track. (See figure 6.1)
3. Place the charging dock into the track and position in front of the safety bolt. (See figure 6.2)
4. Secure the charging dock in the track by clamping the dock together using a 5mm Allen Key on the two bolts. (See figure 6.3)
5. Route the charging cable out through the track profile behind the charger and before the end cap. (See figure 6.4)
6. Refit the safety components behind the charging dock as instructed in section 4. When a charger is installed, this replaces the need for the end stop. Do not install an end stop and charger at the same end of the track.
7. See section 8 for details on installing the charging unit to the wall.

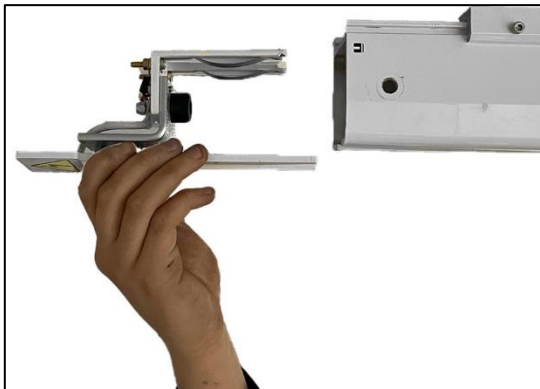


Figure 6-1

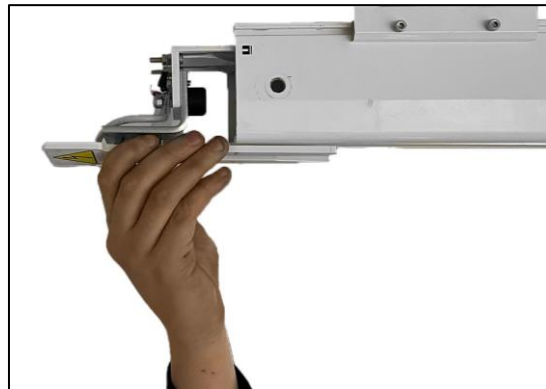


Figure 6-2



Figure 6-3



Figure 6-4

## 7 Installing a power supply to the Constant Charge Strips

Each track type has a different type of constant charge strips, with each being powered differently. Follow the subsection below which suits your install.

### 7.1 Installing a power supply to the constant charge strips (Track Type 1) – New Style

1. The end cap is fitted with two contact terminals which will touch onto the constant charge strips. (See figure 7.1.1). Therefore install all the safety components (end stop, safety bolt and end cap) as per section 4.
2. Once the end cap is fitted, the charging unit can be connected through the jack plug found at the end cap. (See figure 7.1.3)
3. See section 8 for details on installing the charging unit to the wall.

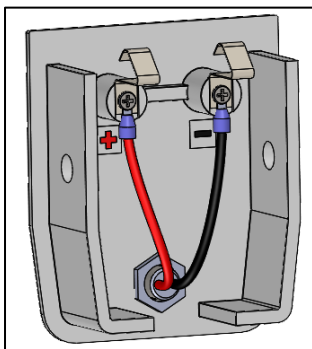


Figure 7-1-1



Figure 7-1-2



Figure 7-1-3

### 7.2 Installing a power supply to the constant charge strips (Track Type 1) – Old Style

1. The old style does not have any contact terminals on the end cap, therefore install all the safety components (end stop and safety bolt) excluding the end cap. (Refer to section 4)
2. Place a positive and negative sticker on either side of the track to determine a positive and negative terminal for the charge strips.
3. Attach the charging unit terminals to the contact strips. Matching the positive terminal to the positive strip and the negative terminal to the negative strip. (See figure 7.2.2)
4. Route the charging cable out through the track profile behind the end stop and before the end cap.
5. Fit the standard end cap into the track, The end cap is push-fitted into the track profile.

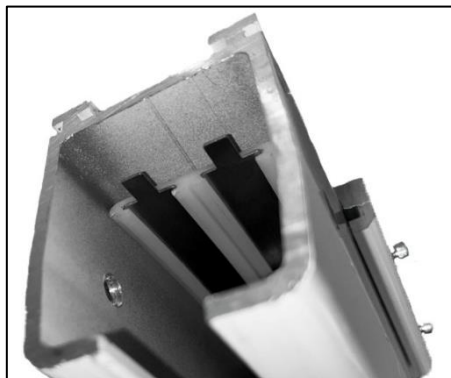


Figure 7-2-1

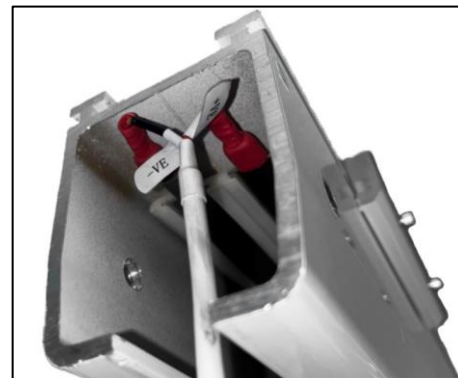


Figure 7-2-2

### 7.3 Installing a power supply to the constant charge strips (Track Type 2)

When installing the charging unit to a varying track type, we must use the current dock found in the track. You must first remove the existing dock from the track, remove the charging unit attached and connect our charging unit to the existing dock. See details below on how to do this correctly.

1. Remove the safety components found in the track system for access. (Refer to section 4)
2. If not already done, apply a positive sticker to the side face of the track where the red wire of the dock is situated, and a negative sticker to the opposite face where the black wire of the dock is situated. (See figure 7.3.1)
3. To remove the dock from the track, use a 3mm Allen Key to loosen the grub screw and slide the dock out of the track. (See figure 7.3.2)
4. Using pliers, pull the contact dowels out of the dock as shown. (See figure 7.3.3)
5. Remove the existing wiring and route the new charging unit wires in the same fashion. (See figure 7.3.4)
6. Insert the dowel pins back into the charging dock.
7. Insert the dock back into the track and secure by tightening the grub screw with the 3mm Allen Key.
8. Make sure to refit the safety components to close the track system. (Refer to section 4)
9. See section 8 for details on installing the charging unit to the wall.



Figure 7-3-1

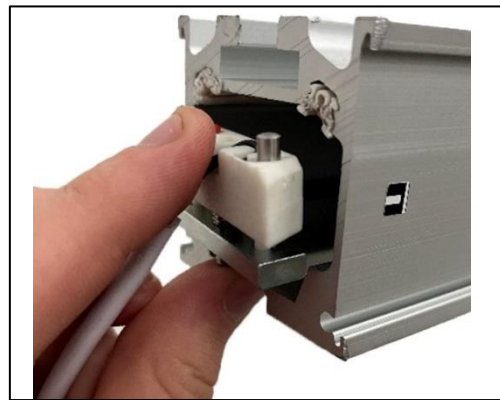


Figure 7-3-2

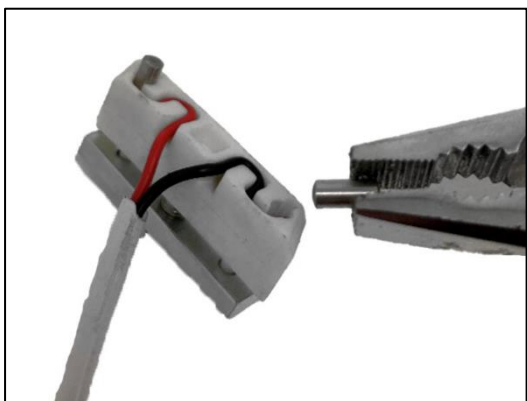


Figure 7-3-3



Figure 7-3-4

### 7.4 Installing a power supply to the constant charge strips (Track Type 3)

When installing the charging unit to a varying track type, we must use the current dock found in the track. You must first remove the existing dock from the track, remove the charging unit attached and connect our charging unit to the existing dock. See details below on how to do this correctly.

1. Remove the end cap from the track for access. (Refer to section 4)
2. If not already done, apply a positive sticker to one face of the track, if the ceiling lift is already installed, then make sure red wire terminal of the charging beak is on the same side, then place a negative sticker on the opposite face of the track. (See figure 7.4.1)
3. Disconnect the current charging unit by unplugging the jack lead from the charging dock. (See figure 7.4.2)
4. Connect the new charging unit by plugging it into the port in the charging dock. (See figure 7.4.3)
5. Make sure to refit the safety components to close the track system. (Refer to section 4)
6. See section 8 for details on installing the charging unit to the wall



Figure 7-4-1

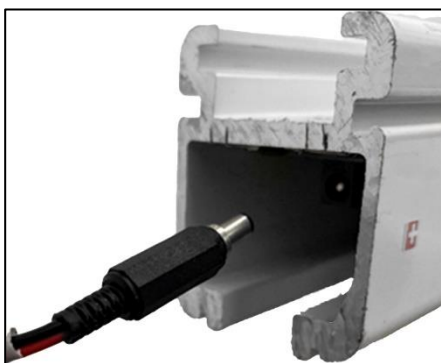


Figure 7-4-2



Figure 7-4-3

### 7.5 Installing a power supply to the constant charge strips (Track Type 4 and 5)

When installing the charging unit to a varying track type, we must use the current dock found in the track. You must first remove the existing dock from the track, remove the charging unit attached and connect our charging unit to the existing dock. See details below on how to do this correctly.

1. Remove the end cap from the track for access. (Refer to section 4)
2. If not already done, apply a positive sticker to the side face of the track where the red wire of the dock is situated, and a negative sticker to the opposite face where the black wire of the dock is situated. (See figure 7.5.1)
3. Disconnect the terminals of the old charging unit from the dock.
4. Connect the new charging unit to the docks terminals, with the wiring matching the stickers on the track face. (See figure 7.5.2)
5. The charging dock for track type 4 can be slid out of the track for easier modification.
6. Make sure to refit the safety components to close the track system. (Refer to section 4)
7. See section 8 for details on installing the charging unit to the wall.



Figure 7-5-1



Figure 7-5-2



Figure 7-5-3

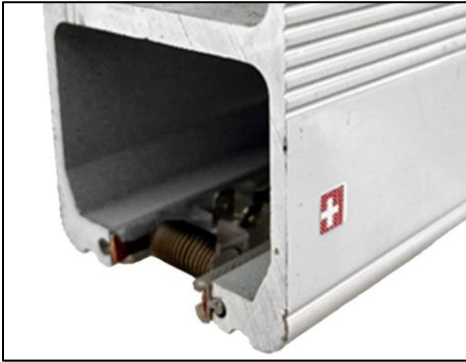


Figure 7-5-4

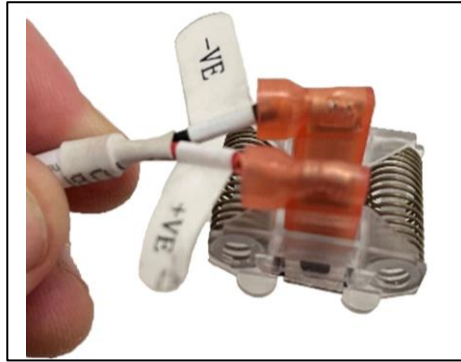


Figure 7-5-5

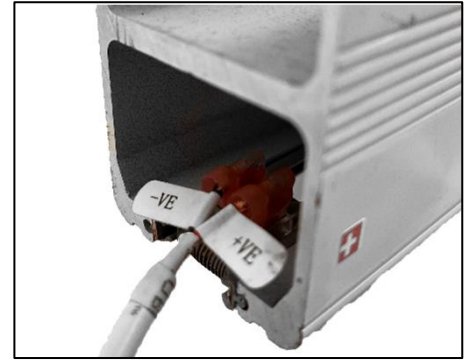


Figure 7-5-6

## 8 Mounting the Charging Unit to the Wall

Once the charging dock is fitted into the track, or the charging unit jack plug is fitted for constant charge strips, the charging unit must be mounted to the wall.

1. The charging unit is positioned in its casing (figure 8.3), this casing has three holes which are used to mount the bracket to the wall.
2. To mount the charging unit to the wall, determine a suitable location, (close to a socket or other power source) and drill three 7mm holes into the wall to the profile of the case. (See figure 8.1)
3. Place the provided raw plugs into the holes and secure the case using the provided screws and a pozi screwdriver. (See figure 8.2)
4. Position the charging unit into its case and route the cables in a tidy fashion to the charging dock and to the closest power source.
5. Turn on the power supply to make the charging dock operational.

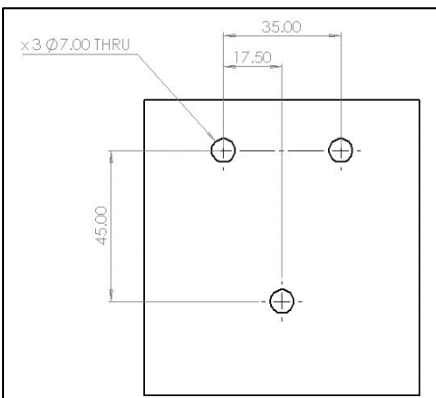


Figure 8-1



Figure 8-2



Figure 8-3

## 9 Connecting the Handset

There are various handset options depending on the ceiling lift chosen, all handsets are installed onto the ceiling lift in the same manner. Follow the guidance below for the correct install method.

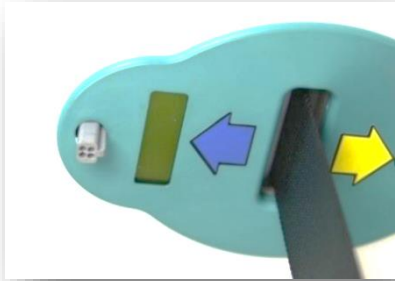


Figure 9-1

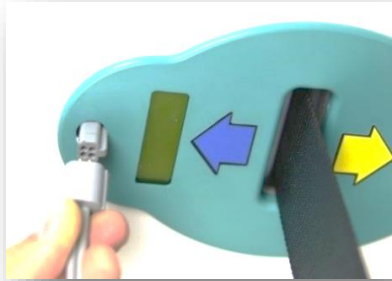


Figure 9-2

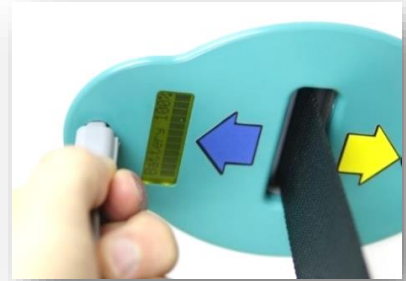


Figure 9-3

The handset grommet attaches to the airline grommet on the underside of the ceiling lift. Align the profile of the grommets together and insert the handset brass inserts into the air grommet holes. See images below for reference. Make sure that the handset is fully inserted onto the airline grommet.

## 10 Attaching the Carry Bar

To attach the carry bar, follow the guidance below for correct install method.

1. Open the red retaining tab on the QRS by pushing it down. (See figure 10.1)
2. Hold the carry bar horizontally and insert the boss into the QRS hook. (See figure 10.2)
3. Pivot the carry bar down to its natural position and release the retaining tab to secure. (See figure 10.3)

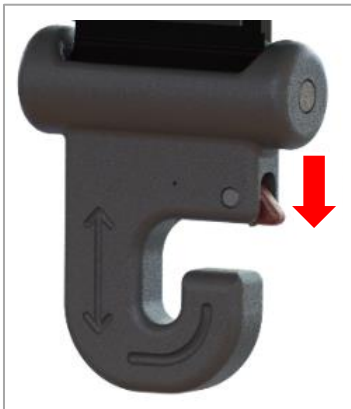


Figure 10-1

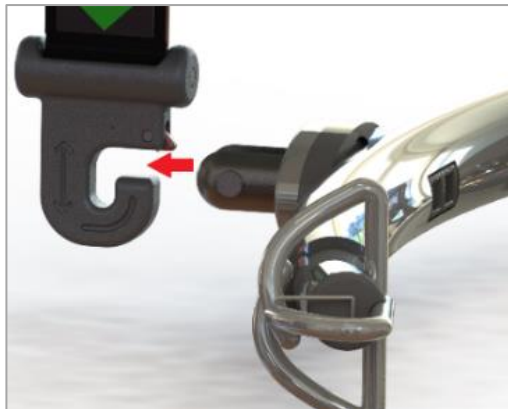


Figure 10-2

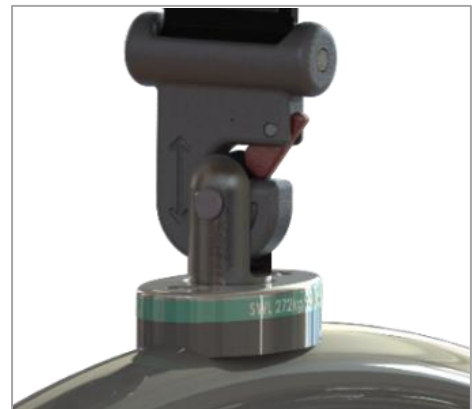


Figure 10-3

## 11 Accessories

The remaining accessories found in the box are the user manual and the emergency wind down Allen Key. These should be given to the customer for safe keeping. The ceiling lift box should also be kept with the customer, and will be needed for transportation when the ceiling lift is decommissioned.

## 12 Final Function Checks

Once the ceiling lift is installed into the ceiling track system, you should function test the product to ensure that everything is working correctly. Follow the guidelines below to complete the function test.

1. Turn the ceiling lift on, this is done by pressing the toggle switch red tab up into the “on” position. (See figure 12.1)
2. Operate each handset button to ensure that the ceiling lift is responding to the correct command. See the LCD screen to confirm the command.
3. Check that the ceiling lift is able to traverse correctly along the full length of the track system. Powered ceiling lifts should traverse along without any assistance.
4. Dock the ceiling lift into the charging dock to ensure that the ceiling lift is charging correctly.



Figure 12-1



Figure 12-2

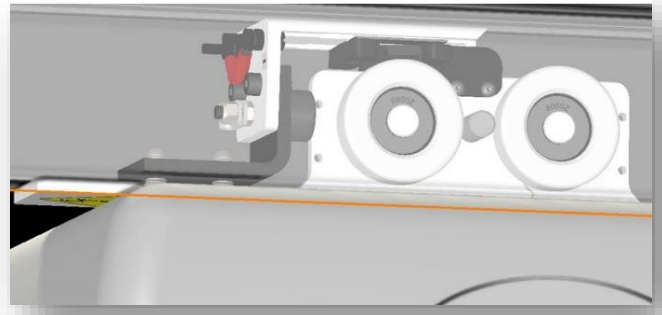


Figure 12-3

If the ceiling lift is not functioning as intended, refer to the troubleshooting guide for details on how to resolve the issue.

## 13 Additional Documentation

See the list of available documents you may or may not need to refer to for a successful commission. All documents will be available to view on the Mackworth website: <http://mackworthusa.com>

- Spare Part Manual – 992674
- User Manual -999674
- Service Manual – 995674
- Troubleshooting Guide – 990674
- Program Mode Guide Sheet – 990SD-01
- Ceiling Track Installation Manual – 996080



## 14 Decommissioning

Once the ceiling lift has reached the end of its life cycle, the ceiling lift will require decommissioning. This includes removing the track from the ceiling lift, dismantling and disposal. Follow the guidelines below for detailed instructions on how to decommission correctly.

Before removing the ceiling lift from the track, it is highly recommended that the ceiling lift be cleaned to reduce the risk of cross-contamination. For cleaning instructions, refer to the user manual.

### 14.1 Removal

To remove the ceiling lift from the track, follow the guidelines below:

1. Turn the ceiling lift "off" by pulling the e-lower cord down to the middle switch.
2. Turn off the charger at the mains power source and unplug the charger.
3. Detach the carry bar from the ceiling lift.
4. Detach the handset from the ceiling lift.
5. Remove the safety components from the track system, this includes the end stop, safety bolt and the end cap.
6. Remove the charger from the track system.
7. Slide the ceiling lift out of the track.
8. Ensure to refit the safety components into the track to close the track system.

### 14.2 Dismantling

All serviceable components of the ceiling lift should be dismantled prior to the disposal of the ceiling lift. Refer to the service manual for detailed instructions on how to dismantle the ceiling lift.

### 14.3 Disposal

The following specifies the importance of correct disposal procedure including local laws and being environmentally friendly.

Please observe the local laws on recycling and respect the current laws for disposal within the community the device is being used within. If there is any uncertainty of the below guidelines, contact your local authorities to determine the proper method of disposal of potentially biohazardous parts and accessories.

The relevant components utilised in the manufacture of the device that can be recycled at the end of life are:

Fully recyclables:	Consideration when Recycling:
Chassis	Batteries
Plastic Covers	Wiring Looms – electronics
Metallic Internals – Hub etc.	PCB
Initial packaging of the device (cardboard)	Hand Control
Metallic fixing – Screws etc.	Motors
Plastic Mouldings	Lift Tape
Carry Bar metalwork	Charger

Ensure that this list is used as guidance and that the local laws in the given community overrule the suggested component disposal in the table above.

**Dealer/service contact details:**

**Contact details:**

**Mackworth USA**  
54 West Industrial Drive  
O'Fallon, MO 63366 USA  
314-889-1000  
www.mackworthusa.com

**Disclaimer**

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