

mackworth

TX Advanced Ceiling Track Lift



Commissioning Manual

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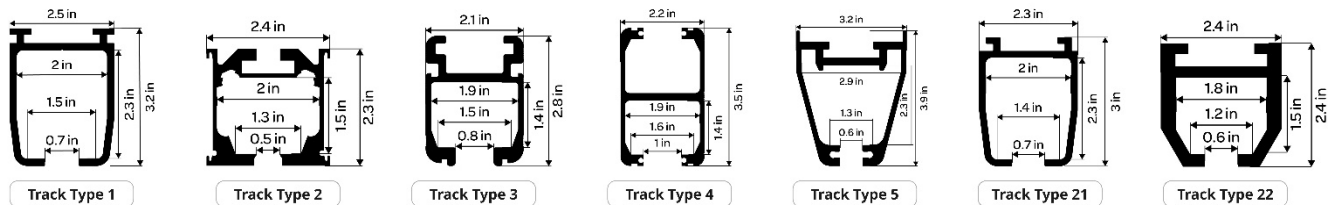
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1 Introduction

This manual explains how to commission the Mackworth TX Advanced Ceiling Track Lift. This document covers installing the ceiling lift into a pre-installed ceiling track system and removing and decommissioning it at the end of its life cycle—the manual aims to assist you in ensuring a successful installation for the end user.

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

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



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

TX600 Advanced Lift Type	Track Type
TX600 Advanced MT – 122520	Type 1
TX600 Advanced MT – 122521	Type 2
TX600 Advanced MT – 122522	Type 3
TX600 Advanced MT – 122523	Type 4
TX600 Advanced MT – 122524	Type 5
TX600 Advanced MT- 122531	Type 21
TX600 Advanced MT- 122912	Type 22
TX600 Advanced PT – 122622	Type 1
TX600 Advanced PT – 122666	Type 3
TX600 Advanced PT – 122669	Type 4
TX600 Advanced PT – 122672	Type 5
TX600 Advanced PT – 122532	Type 21
TX600 Advanced PT – 122911	Type 22
TX600 Advanced QRT – 122679	Type 1
TX600 Advanced QRT – 122689	Type 3
TX600 Advanced QRT – 122694	Type 4
TX600 Advanced QRT – 122699	Type 5
TX600 Advanced MTCC – 122621	Type 1
TX600 Advanced MTCC – 122665	Type 2
TX600 Advanced MTCC – 122668	Type 3
TX600 Advanced MTCC – 122671	Type 4
TX600 Advanced MTCC – 122674	Type 5
TX600 Advanced MTCC – 122914	Type 22
TX600 Advanced PTCC – 122624	Type 1
TX600 Advanced PTCC – 122667	Type 3
TX600 Advanced PTCC – 122670	Type 4
TX600 Advanced PTCC – 122673	Type 5
TX600 Advanced PTCC – 122913	Type 22
TX600 Advanced MTPT – 122620	Type 1
TX600 Advanced PTPT – 122623	Type 1

PT = Powered Traverse
MT = Manual Traverse
QRT = Quick Release Track

MTCC = Manual Traverse Constant Charge
PTCC = Powered Traverse Constant Charge
PHS = Powered H-System

MTPT = Manual Traverse Powered Turntable
PTPT = Powered Traverse Powered Turntable

2 Safety Precautions

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

- Only authorized personnel are eligible to perform a ceiling lift commissioning and decommissioning.
- 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 commission the ceiling lift safely.
- Ensure you have assessed all risks for your environment and any people 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 installations 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	
Hex Keys - 1.5, 2, 2.5, 3, 4, 5mm No. 2 Pozidriv Screwdriver 2mm Slotted Screwdriver 5.5mm Slotted Screwdriver Spanners - 8mm	External Circlip Pliers 3-10mm Long Nose Pliers Side Snips Second Cut Hand File
Equipment and Lubricants Required	
Step Ladder Multi-Meter Battery Tester Test Weights -Up to 1.5 x SWL Documentation (User, Service, Spare Parts, Commissioning Manual, Service Check List, Troubleshooting Guides)	Cable Ties – 100x2.5mm Morris Multi-Purpose Grease – k42EP Loctite 243 Cloth Marker Pen Tape Measure Digital Vernier

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 bolts, and end caps. A pre-installed track system should already include these components. A track system should never be left without the safety components.

If the track system does not have the safety components installed, you will need to modify the track by drilling a through hole using the available drill template.

Position the template side face against the edge of the track and flush against the inside bottom face of the track; this will align the hole position. See the images below for reference.

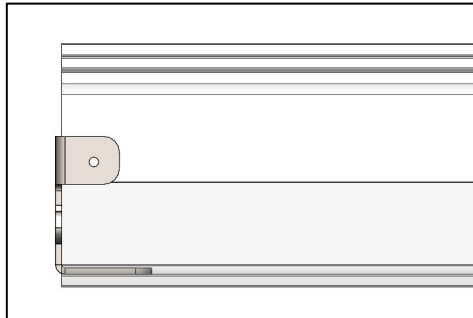


Figure 4-1

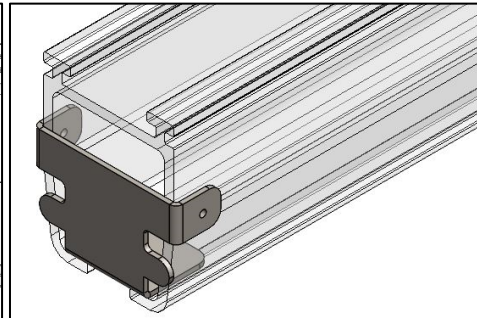


Figure 4-2

Use the template to drill a pilot hole. Then, remove the template and drill a 6.5mm hole through the track.

After drilling the hole, install the end stop first. Slide the end stop into the track with the bumper facing inward. Secure the end stop by clamping it 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, but leaving enough space for the safety bolt behind.

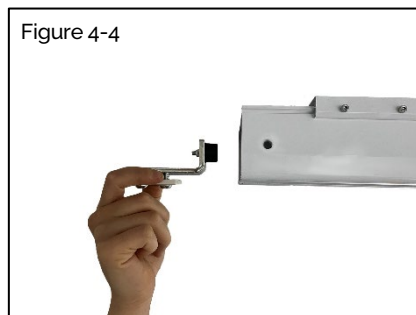


Figure 4-4

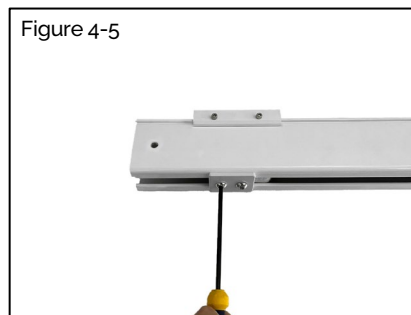


Figure 4-5

Once the end stop is secured, the safety bolt and end cap can be fitted. Place the end cap into the track as shown, then insert the safety bolt through the track and end cap. The safety bolt can be secured with a nut on the rear side using 13mm spanners. Finally, place the caps on the nut and bolt for a tidy finish. (This method applies to the constant charge variant, too.) For any other track modifications. Please refer to the installation manual.



Figure 4-6



Figure 4-7

Old-Style End Cap

Place the rubber bumper inside the track, align it with the drilled hole, and place the bolt through the track and bumper, and secure it 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.

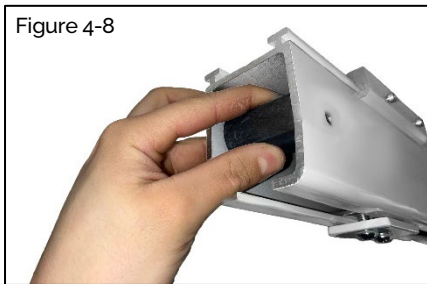


Figure 4-8



Figure 4-9



Figure 4-10

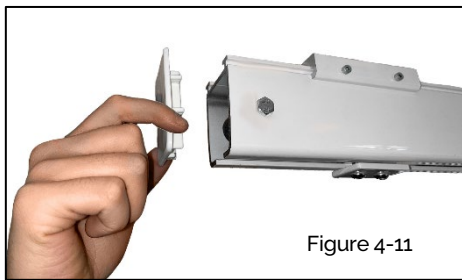


Figure 4-11



Figure 4-12

5 Installing the Ceiling Lift

Each ceiling lift variant is installed onto the track in the same manner; see below for detailed instructions, which may vary slightly by ceiling lift type. Each type of ceiling lift is installed in its corresponding track type using 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 to the ceiling track entrance (See Figure 5.1.1)
3. Ensure that the charging beak is oriented 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 center 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 in 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 beak stickers matching the same face as the stickers installed on the track. (See figure 5.2.2)



Figure 5-2-1

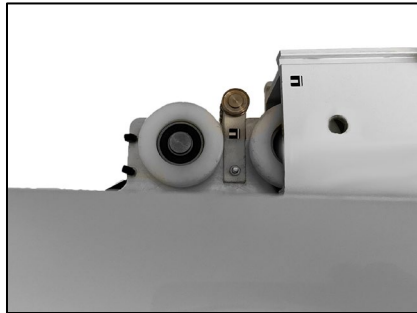


Figure 5-2-2



Figure 5-2-3

5.3 Constant charge ceiling lift install (TT22)

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. Observe the wiring orientation of the hoist ensuring that the polarities match.
2. Install the constant charge ceiling lift ensuring that the wheels are inserted into the track first.
3. Once the Constant Charge Beak has been slid into the track, remove the protective cover by sliding it towards yourself.
4. Ensure that the carbon brushes make direct contact with the Constant Charge Strip. (See figures 5.3.3, 5.3.4 & 5.3.5)



Figure 5-3-1



Figure 5-3-2

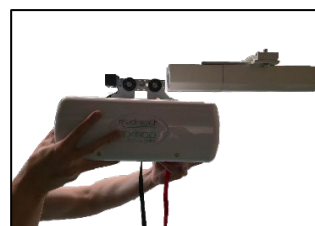


Figure 5-3-3



Figure 5-3-4



Figure 5-3-5

5.4 Powered Auxiliary ceiling lift installed (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 a white nylon block. Ensure that this is oriented to dock with the charger. (See Figure 5.4.1)



Figure 5-4-1



Figure 5-4-2

5.5 QRT system install

Preparing the track for the 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 5.5.1)
3. Place the trolley dismount sticker onto the track with the dismount point aligning with the drilled hole. (See Figure 5.5.2)
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 5.5.2)

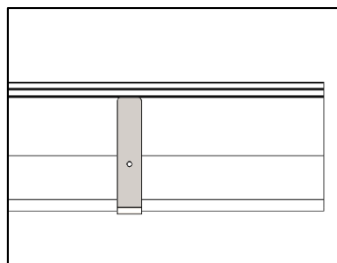


Figure 5-5-1



Figure 5-5-2

Installing the trolley

1. The QRT can be installed (without a ceiling lift attached) in the same fashion as a standard ceiling lift install. Refer to section 5.1. Ensure that the charging beak is oriented 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.

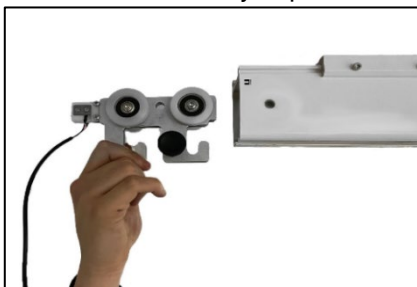


Figure 5-5-3



Figure 5-5-4

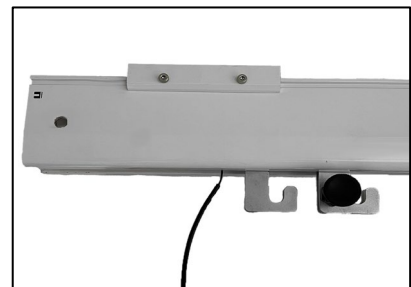


Figure 5-5-5

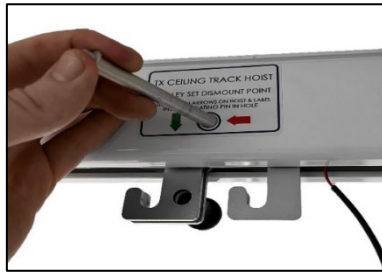


Figure 5-5-6



Figure 5-5-7

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 5.5.8)
2. Using both hands to support the ceiling lift, raise the ceiling lift to the trolley and align the ceiling lift anchors with the trolley hooks. (See Figure 5.5.9)
3. Engage the plunger to secure the ceiling lift to the trolley. (See Figure 5.5.10)
4. Plug the charging beak jack lead into the port found on the top of the lift covers. (See Figure 5.5.11)
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 5-5-8

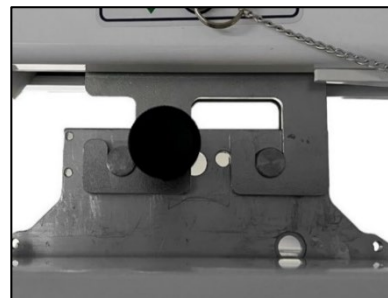


Figure 5-5-9

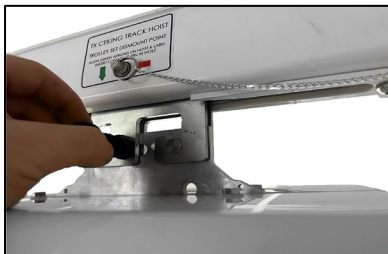


Figure 5-5-10



Figure 5-5-11

Removing the ceiling lift from the trolley.

Removal is a reversal of the installation 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 center.
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 it.

6 Installing the Charging Dock

6.1 All Track Types (Excluding Below)

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 installation 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 6.1.1)
3. Place the charging dock into the track and position it in front of the safety bolt. (See Figure 6.1.2)
4. Secure the charging dock in the track by clamping the dock together using a 5mm Allen Key on the two bolts. (See Figure 6.1.3)
5. Route the charging cable out through the track profile behind the charger and before the end cap. (See Figure 6.1.4)
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 6-1-1

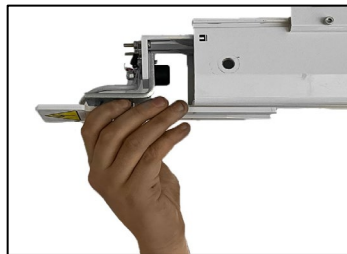


Figure 6-1-2



Figure 6-1-3



Figure 6-1-4

6.2 Track Type 21

If you are installing this track type, you will need to modify the charging dock accordingly.

1. Remove the existing finger guard from the charging dock by removing the two bolts. (Figure 6.2-1)
2. Replace the finger guard with the alternative guard provided, which is fixed using two countersunk bolts. (Figure 6.2-2)
3. Install the charging dock in the same manner as section 6.1. See figure 6.2-3 for visual reference.)
4. Place the warning labels provided at either end of the track system. (Figure 6.2-3)



Figure 6-2-1



Figure 6-2-2

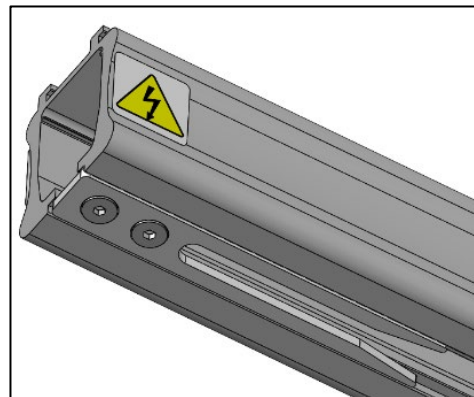


Figure 6-2-3

7 Installing a power supply to the Constant Charge Strips

Each track type uses a different kind of constant-charge strip, each powered differently. Follow the subsection below that applies to your installation.

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.

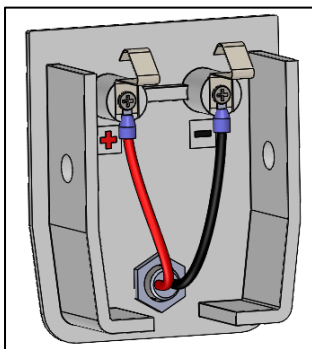


Figure 7-1-1



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. Match 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.

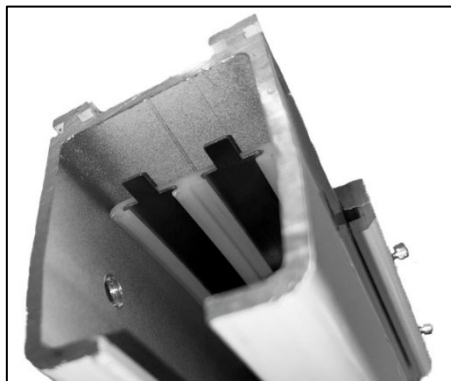


Figure 7-2-1

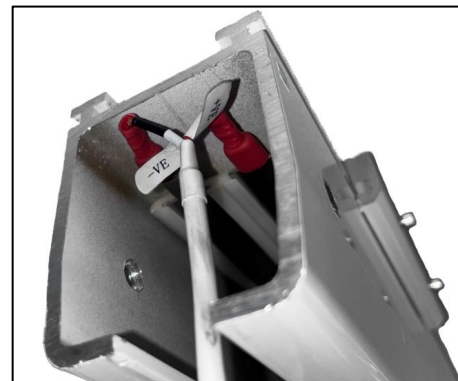


Figure 7-2-2

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

When installing the charging unit on a track with a varying track type, you must use the current dock in the track. First, remove the existing dock from the track, detach the attached charging unit, and connect our charging unit to the existing dock. See the 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 located. (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 it 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.

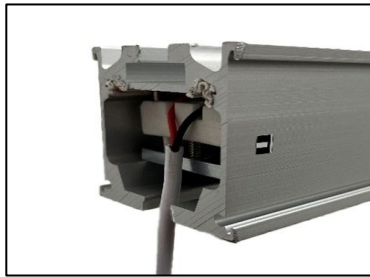


Figure 7-3-1

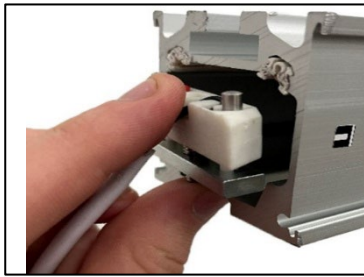


Figure 7-3-2

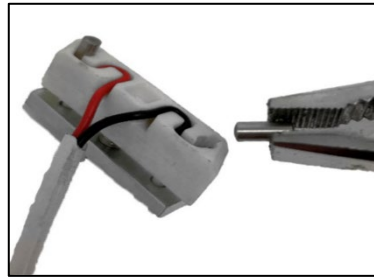


Figure 7-3-3

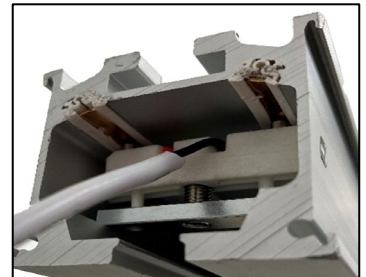


Figure 7-3-4

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

When installing the charging unit on a track with a varying track type, you must use the current dock in the track. First, remove the existing dock from the track, detach the attached charging unit, and connect our charging unit to the existing dock. See the 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, ensure the 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

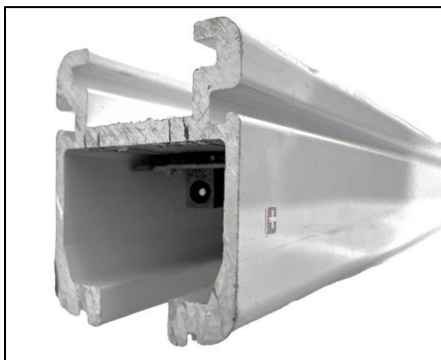


Figure 7-4-1

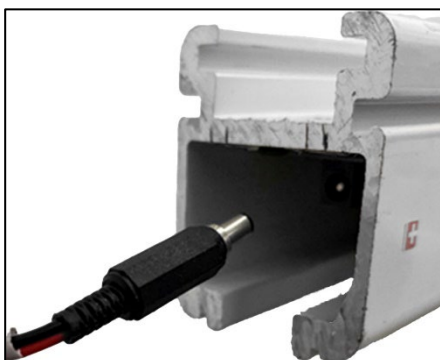


Figure 7-4-2



Figure 7-4-3

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

When installing the charging unit on a track with a varying track type, you must use the current dock in the track. First, remove the existing dock from the track, detach the attached charging unit, and connect our charging unit to the existing dock. See the 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 located. (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 dock 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

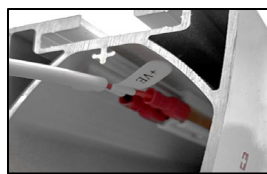


Figure 7-5-2



Figure 7-5-3



Figure 7-5-4

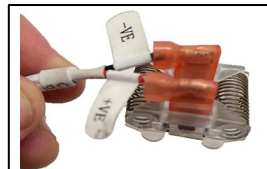


Figure 7-5-5



Figure 7-5-6

7.6 Installing a power supply to the constant charge strips (Track Type 22)

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

1. Place the constant charge block into the track, ensuring the contact pins sit flush against the constant charge strip and the polarities shown on the block match the track. (See figure 7.6.1 & 7.6.2).
2. Tighten the white screw on the bottom of the block using a flat-head screwdriver. (See figure 7.6.3).
3. Refer to section 8 for details on installing the charging unit to the wall.

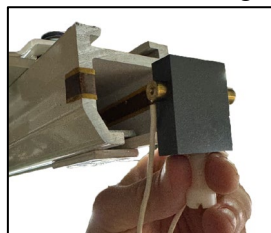


Figure 7-6-1

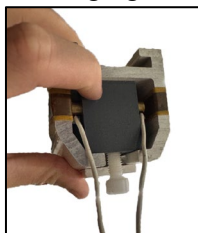


Figure 7-6-2

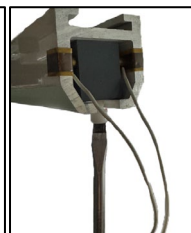


Figure 7-6-3

8 Mounting the Charging Unit to the Wall

Once the charging dock is fitted into the track or the charging unit jack plug is supplied to the 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 for mounting 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 supplied 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.

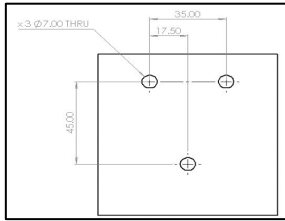


Figure 8-1

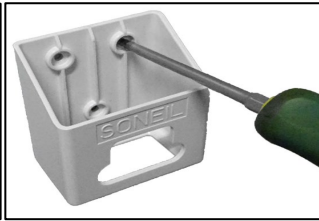


Figure 8-2



Figure 8-3

9 Connecting the Handset

There are various handset options depending on the chosen ceiling lift; all handsets are installed on the ceiling lift in the same manner. Follow the guidance below to ensure proper installation.

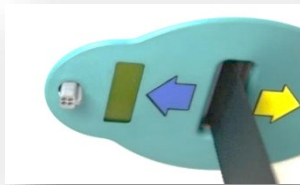


Figure 9-1

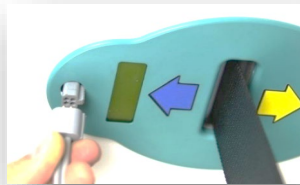


Figure 9-2



Figure 9-3

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

10 Attaching the Carry Bar

To attach the carry bar, follow the steps below to ensure proper installation.

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 it. (See Figure 10.3)



Figure 10-1

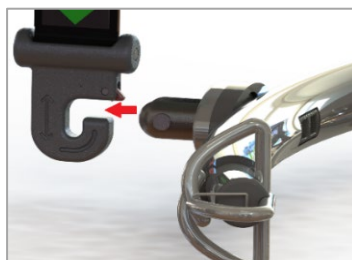


Figure 10-2

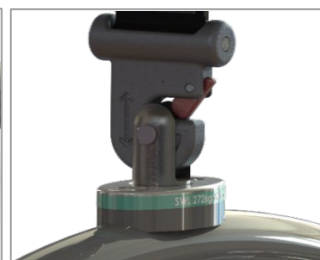


Figure 10-3

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 safekeeping. 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 in the ceiling track system, perform functional testing to verify proper operation. 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 can 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

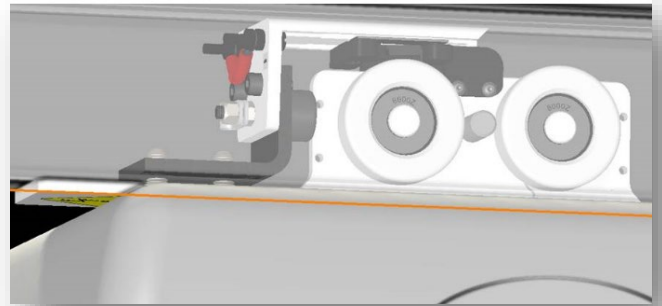


Figure 12-3

If the ceiling lift is not functioning as intended, refer to the troubleshooting guide for details on resolving 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 – 996158

14 Decommissioning

Once the ceiling lift reaches the end of its service life, it will require decommissioning. This includes removing the track from the ceiling lift, dismantling it, and disposing of the dismantled components. 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; this includes the end stop, safety bolt, and 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 before disposal. Refer to the service manual for detailed instructions on dismantling the ceiling lift.

14.3 Disposal

The following outlines the importance of proper disposal procedures, including compliance with local laws and environmental considerations.

Please comply with local recycling laws and follow the disposal regulations for the community where the device is being used. If there is any uncertainty about the guidelines below, contact your local authorities to determine the proper method of disposal of potentially biohazardous parts and accessories.

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

Fully Recyclable:	Considerations 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 Moldings	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

While every effort has been made to ensure the accuracy of information contained in this manual, no liability can be accepted by Mackworth for any errors or omissions. Mackworth operates a continuous improvement policy. Specifications and other data are subject to change without notice.



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