

Section 3: Installation/Assembly

Ceiling Calculation for the ShuttleTrack

Use the following table to select the correct length Down-Tube for your application

Ceiling Mounting Height "Y"-Value	Down-Tube Length	"X"-Value	Head room to bottom of Extension Arm (Y-Value - X-Value)
8'0" – 9'0" [2438 – 2743]	9" [229] P/N: 1001461-9ST	24.25" [616]	71.75" – 83.75" [1822 – 2127]
9'1" – 10'0" [2768 – 3048]	20" [508] P/N: 1001461-20ST	35.25" [895]	72.75" – 84.75" [1848 – 2153]

[xx] denotes millimeters

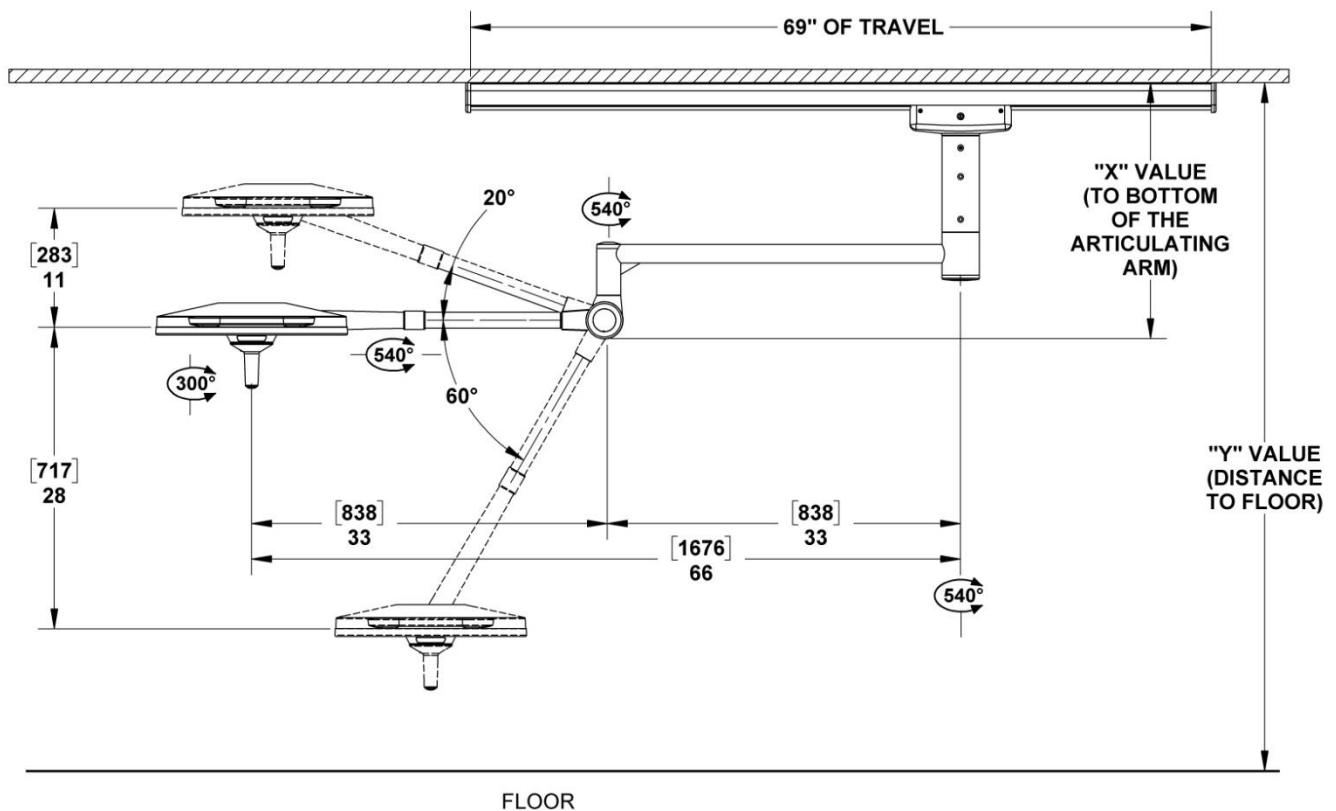


Figure 1: Single Trolley ShuttleTrack

Ceiling Mount Pre-Installation Guidelines

SPECIAL NOTE: Installation and repair of this equipment should be performed by qualified persons only. Medical Illumination International, Inc. does not warranty any damage occurring as a result of improper installation. It is recommended that this installation manual be completely reviewed prior to installation.

Before installation, check to ensure the following minimum conditions are provided:

Type	Weight: Lb	Moment: Ft Lb
Single Trolley	145	326
Dual Trolley	231	626

← recommended

Medical Illumination strongly recommends that the ceiling structure be designed to the weights and moments for the worst case (Dual Trolley). Designing for the heaviest model with the highest load/torque will ensure adequate support for all models.



A structural mount that does not meet these minimum conditions can cause serious injury and/or property damage.



A sloped or vaulted ceiling will require a level mounting surface be constructed that meets the above listed requirements.

- The ceiling structure must be strong enough to support the weight and rigid enough to constrain rotation to less than 0.1° at the track base.
- The equipment may be mounted directly over a 4-0 junction box. Input power supply lines should be wired in accordance with all applicable building codes.
- The supply circuit line must be as follows:
100-240VAC, 50/60 Hz, single phase, three wire, capable of supplying 200 Watts.
- The equipment is not deemed compatible with any sort of electrical dimming device. Use line voltage only.
- The power supply circuit line must be routed and wired to the wire harness in compliance with all applicable building codes.



Failure to provide a circuit meeting these minimum standards or complying with local building codes can cause a shock hazard.

Check the length of the Down-Tube to make sure that it is the proper length to install and operate the light without interference or over reach.



Means of Isolation

The Means of Isolation disconnects (Isolates) the light from the source of power. This isolation makes it safe to work on the light. In the case of a ceiling mounted light, the means of isolation is the circuit breaker that supplies the power to the circuit.

Ceiling Structure Construction and Mounting

The Ceiling Mount system will experience various levels of dynamic off center moment during regular use. Therefore, it is crucial that the ceiling structure be strong enough to uphold the weight of the system and support the positioning arms and light head without deflection. The owner and/or owner's contractor has the final responsibility for the strength and rigidity of the ceiling structure. An inadequate ceiling structure may result in serious injury, unintended drift, and/or equipment damage.

Because the ceiling structure is the owner's responsibility, the design and construction recommendation shown below covers only a few of the many possible alternatives that can be used. Medical Illumination highly recommends that the owner consult a structural engineer prior to designing and installing the ceiling structure.

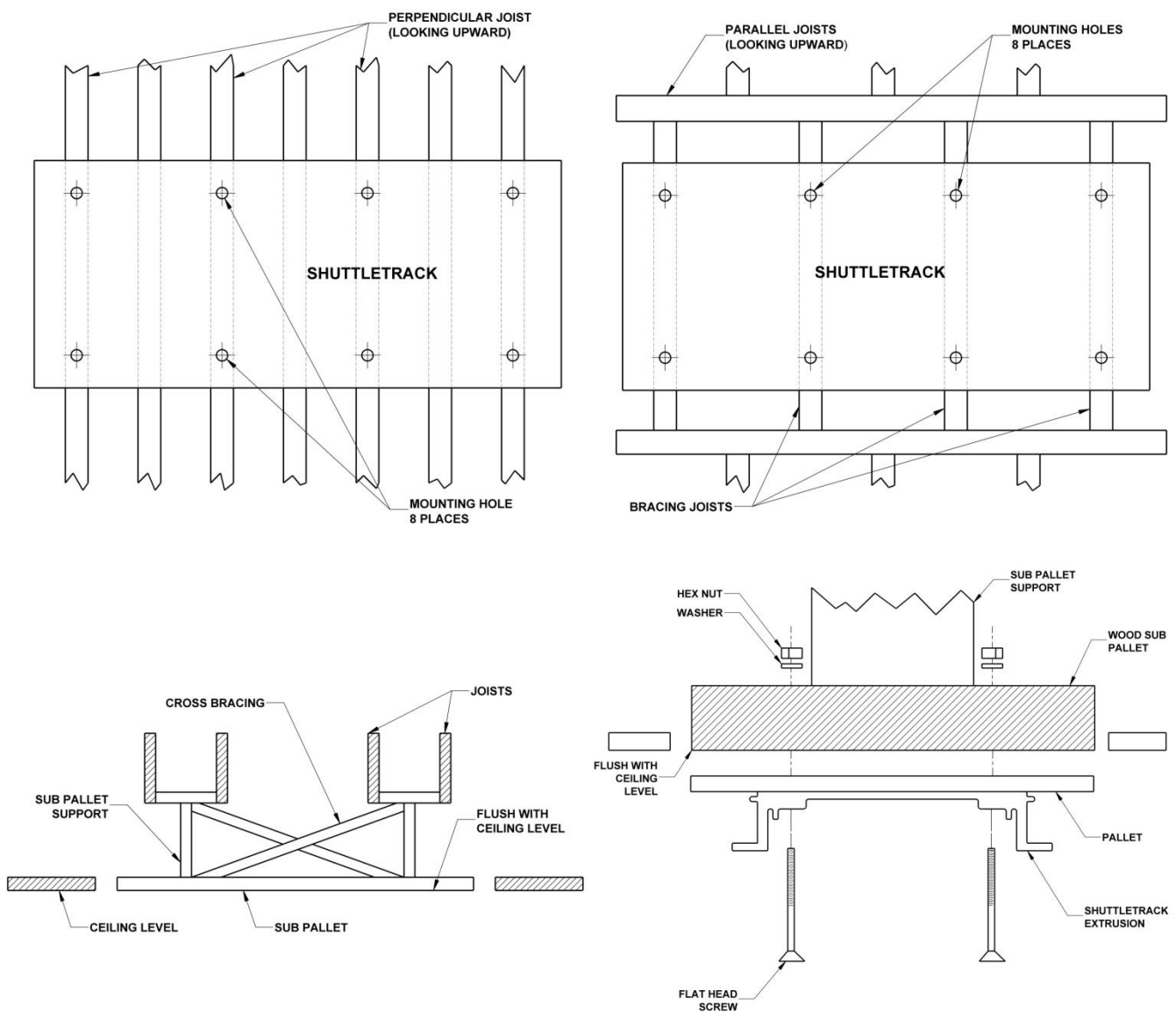
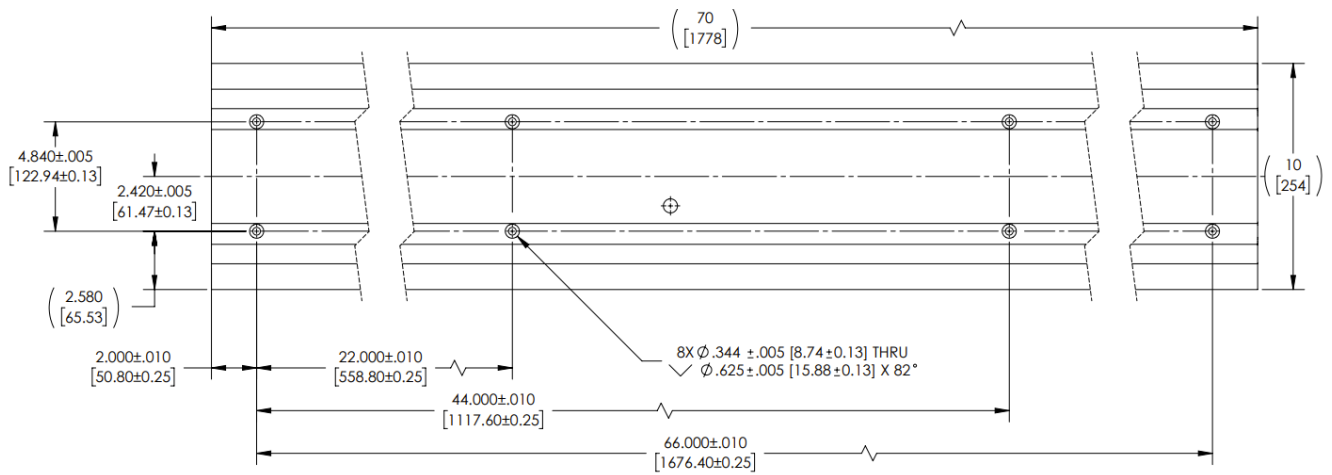


Figure 2: Mounting Methods for the ShuttleTrack



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES. DIMENSIONS IN [] ARE IN MILLIMETERS.

Figure 3: Mounting Hole Pattern

Disassembly of the Track Mount Before Installation

⚠ When performing this procedure **DO NOT** disassemble the components of the trolley assembly or remove the track extrusion channel from the plywood pallet.

- Remove the two (2) #6 wood screws from the end plate on the track end with the cable carrier and then remove the end plate.
- For dual Trolley models, remove both end plates.

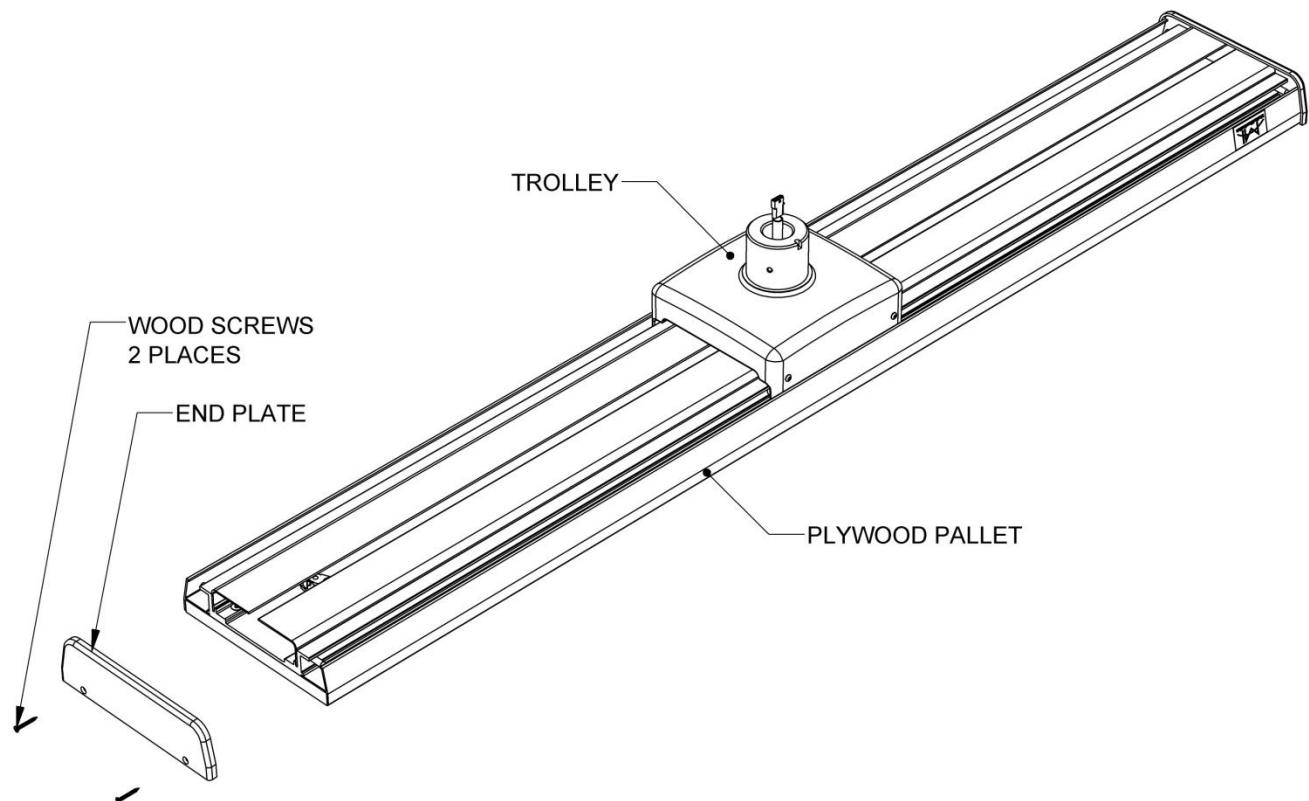


Figure 4: Removing the End Plate

Disassembly of the Track Mount Before Installation - (cont'd)

Take off the two side panels P/N 1001516 by removing the three (3) #10 wood screws on each Side Panel.

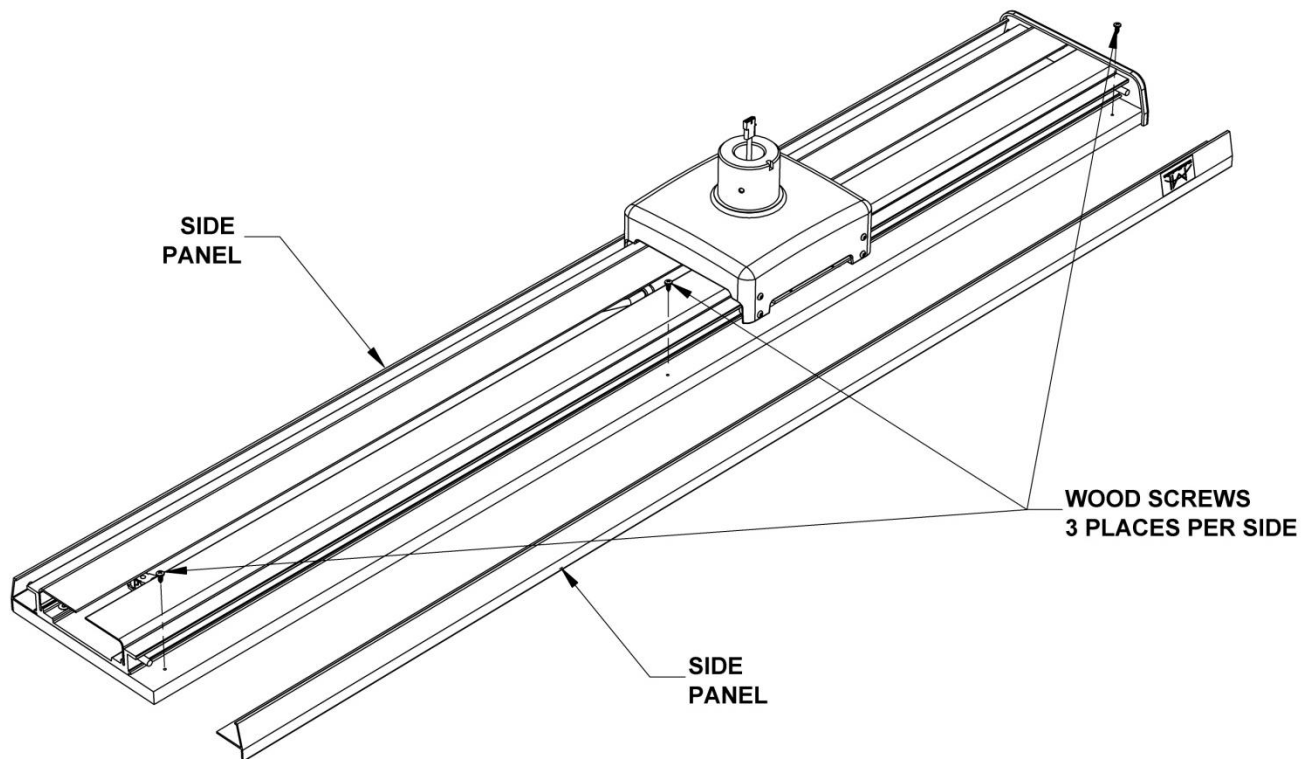


Figure 5: Removing the Side Panels

Disassembly of the Track Mount Before Installation (cont'd)

Loosen the three #8 set screws along each side of the track channel extrusion P/N 1001500 with the provided hex Allen wrench. Remove both dress covers P/N 1001515 by sliding forward. Avoid scratching the covers through the Trolley.

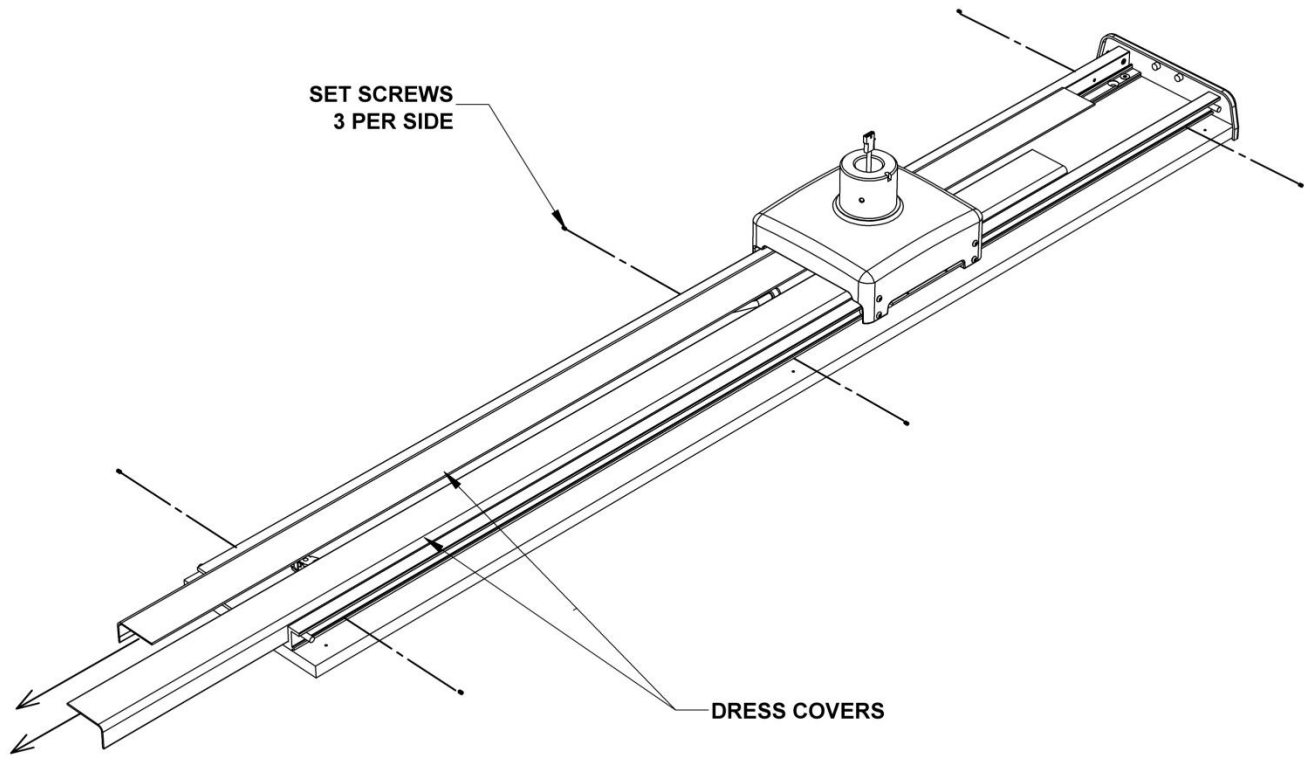


Figure 6: Removing the Dress Covers

Disassembly of the Track Mount Before Installation (cont'd)



Keep the side panels and dress covers in a safe place to prevent damage.

- Remove the two stop pins P/N 1001076 and the #8 flat head screws P/N 0001165 holding the pins in place from the track end with the end plate already removed.
- For dual Trolley models, remove the Stop Pins from both ends of the track.

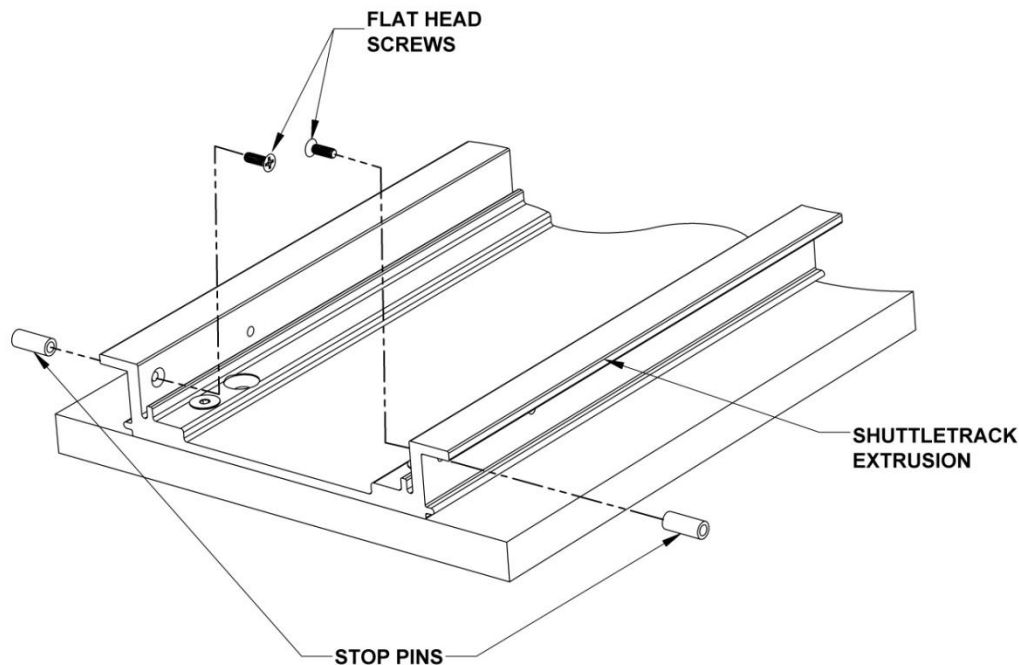


Figure 7: Removing the Stop Pins



Secure all screws and hardware until it is time for reassembly.



Disconnect the Molex connector attached to the Trolley first.

Disassembly of the Track Mount Before Installation (cont'd)

- Slide the Trolley assembly (P/N 1000825) to the edge of the track and then disconnect the cable.
Note: It may be helpful to use tape to temporarily hold the cable carrier in place while mounting the track.
- For dual Trolley models, repeat to remove the second Trolley.

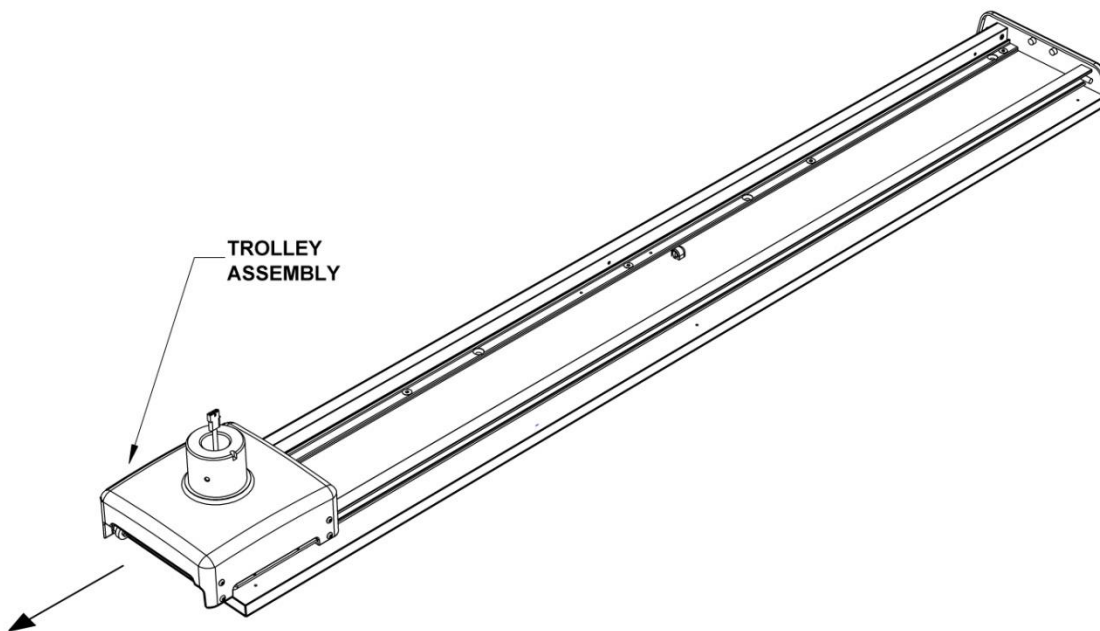





Figure 8: Removing the Trolley

Track Mount Installation Procedure

 **Warning: Improper fastening of the track mount can cause serious injury and/or property damage. Ensure the installation is capable of supporting a weight of at least 231 pounds and an off center load of 626 ft-lbs.**


- Drill the proper sized pilot or clearance holes in the ceiling structure depending on the type of fastener that has been chosen.

 **Note: The next step requires two people to mount the track base. One person is needed to support the ShuttleTrack at the ceiling while the other person fastens the bolts.**

 **Failure to use two people could result in equipment damage and/or personal injury.**

 **Proper movement of the trolley requires the track to be mounted to a level ceiling structure. Check the ceiling with a leveling device in the length and width directions before mounting the base.**

- Install the base to the desired location with eight (8) 5/16" Flat Head Bolt x 4" (minimum length) bolts with flat washers or hex lag screws with washers and nuts. If shimming is required (1/4" or less), flat washers can be placed between the track pallet and the ceiling surface to achieve a level installation.
- An electrical junction box is provided if one is not available in the ceiling. Fasten the box as close as possible to the power cable exiting the back of the track. Route the cable from the track to the junction box then connect the power source to the cable (figure not shown).

 **Note: A ground wire is provided and must be fastened to an earth ground to insure proper grounding reliability for the lighting fixture(s). Wire routing and connections must be done in accordance to local and national electrical codes.**

Track Mount Installation Procedure (cont'd)

- Familiarize yourself with the Trolley and the associated components.

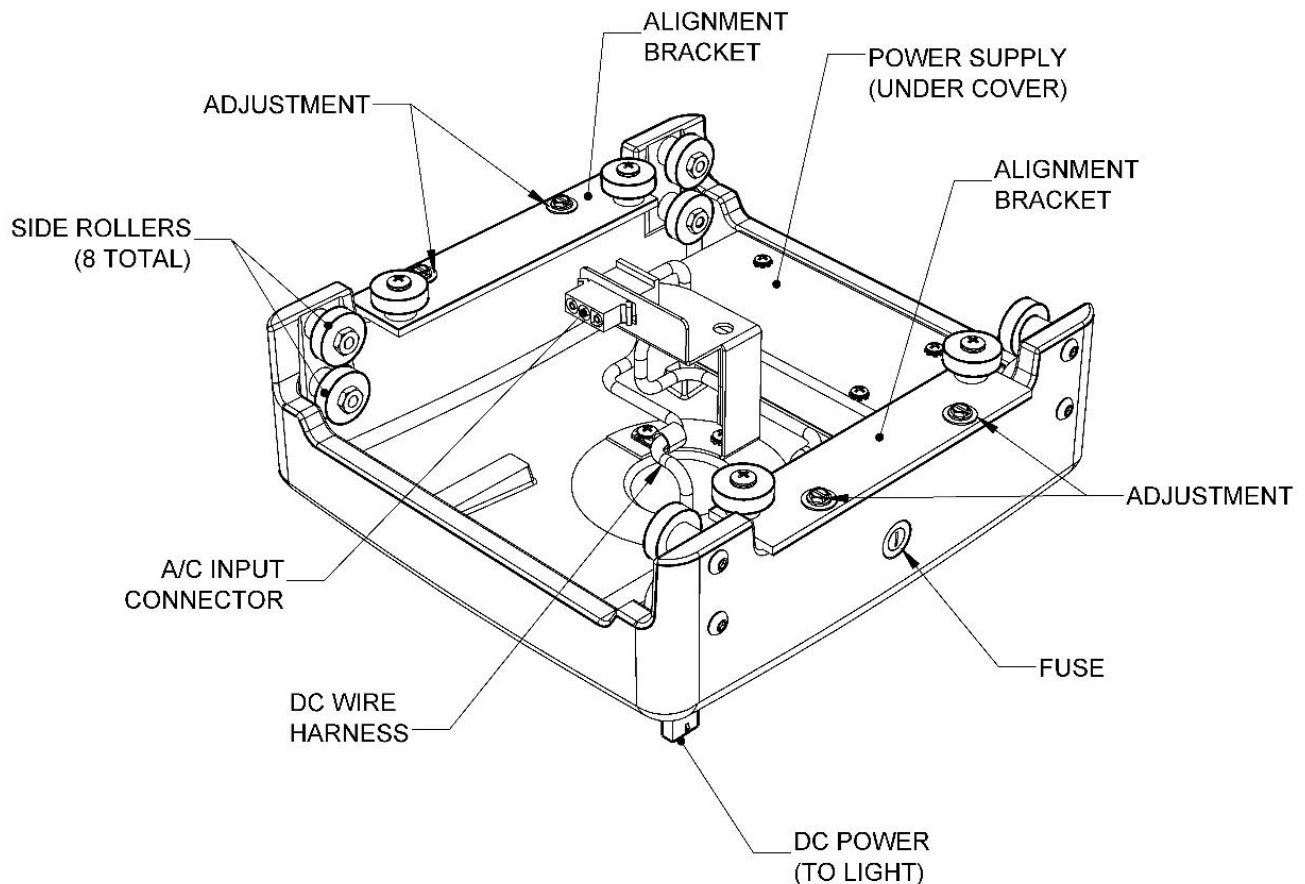


Figure 9: The Trolley Assembly

- Slide the trolley onto the track. The A/C Input Connector in the trolley should be positioned so it is next to the mating Molex connector on the power cord. Ensure that the trolley rolls freely along the track. If adjustment is necessary loosen the adjustment screws and position the side rollers against the base track extrusion.

⚠️ Ensure the power cord does not get twisted when attaching it to the cord bracket on the next step. Do not proceed with the installation before correcting the problem.

Track Mount Installation Procedure (cont'd)

- Ensure the cable carrier chain lays flat within the track. Attach the Molex connector to the mating connector on the trolley assembly.
- For dual Trolley models, slide the second Trolley onto the track and connect the Molex connector.

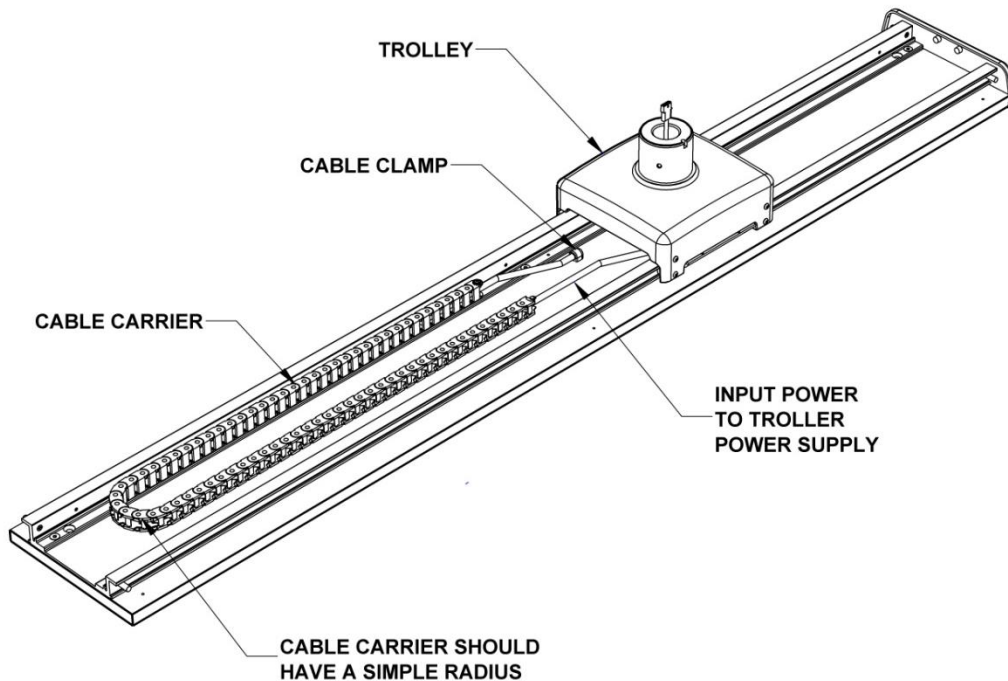


Figure 10: The Carrier Chain

If the cable carrier and trolley move properly along the track, replace the stop pins and screws at the open track end. Carefully slide the center dress covers through the trolley. Be careful not to damage the trolley components, wire connections, or the covers when installing these back. Tighten the three set screws along each side of the track to secure the covers in place.

- Reinstall the side panels and secure in place with the wood screws. Ensure the holes in the pallet are aligned with the holes in the side panel before fastening.
- Reinstall the End Plate(s).
- Install the Down-Tube using the three (3) of the ¼-20 Flat Head Screws provided.
- For the 20" Down-Tube, add the extension cable to the DC Power Cable.

Unpacking the Light System

To begin the installation, remove the Upper Light Head Foam Pads and move the Light Head to a safe place for mounting after the Arm Assembly is securely installed. Use the Light Head Pads to protect the Light Head until it is installed.

With the Arm Assembly still in the Foam Packaging, carefully lift the Foam Packaging and Arm Assembly out of the Carton and place the Foam/Arm Assembly near the light installation. The Carton can also be cut away to access the Foam Packaging from the Carton.

Installing the Arm Assembly

It is recommended that a scissor-lift be used to lift and mount the Arm Assembly. If a scissor-lift is not available the installation can be performed by two people. In either case, carefully lift the Foam Packaging up to the Down Tube. Connect the Light Head Power Connector(s) and then Slide the Arm Shaft up into the Down Tube on the Trolley. Align the holes on the Down Tube to the Arm Shaft and install the six (6) ¼-20 Flat Head Screws

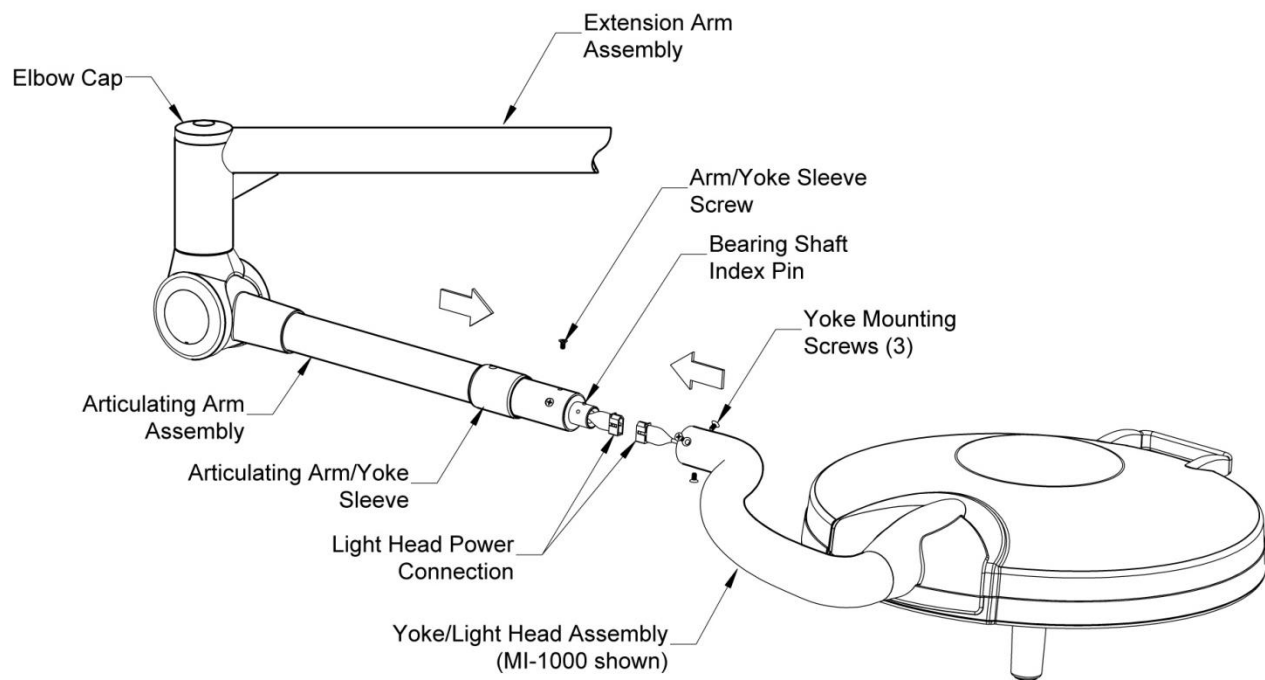


Figure 11: Installing the Light Head

With the Arm Assembly installed and the Extension and Articulating Arms rotate freely without binding, the Light Head is now ready to install. Using two people lower the Articulating Arm to the horizontal position and slide the Articulating Arm/Yoke Sleeve with the screw hole positioned away from the light head onto the arm as shown. Use caution in holding the Articulating Arm in place in that it is spring loaded to accommodate the weight of the Light Head. Next, pre-align the indexing pin on the Bearing Shaft extending out of the Articulating Arm to match the position of the channel located on the inner diameter of the Yoke neck. While supporting the light head, securely connect the Light Head Power Connection. Carefully slide the Yoke onto the Arm Bushing with the indexing pin in the channel on the yoke, ensuring the power-connectors do not bind or disconnect. Attach the three (3) Flat Head Yoke Mounting Screws to secure the Yoke to the Articulating Arm. Slide the Articulating Arm/Yoke Sleeve of the Arm/Yoke Joint and install the Flat Head Screw holding the Sleeve in place.