MOUNT SPECIFIC INSTALLATION NOTES

KIT JPD - JOISTS PERPINDICULAR TO SCREEN

WARNING - SAFETY ISSUES
READ AND UNDERSTAND THE INFORMATION BELOW
BEFORE USING THIS KIT

★ The manufacturer of this kit is not responsible for fastener selection or installation methods used to attach this mount to a ceiling assembly or any other structure.

★ This kit is designed to be used with the CineSlide™ anamorphic lens transport device. It is not approved or suitable for any other use.

★ The manufacturer of this kit does not specify, recommend or approve sizing of structural elements including backing plates, joists or any other structural items. A qualified installer should consult a licensed engineer or architect for structural load design and/or for any advice related to the structure's ability to support a CineSlide, and proper sizing of fasteners used to attach a CineSlide or a CineSlide mount to a structural element.

★ The manufacturer of this kit does not recommend or approve any structural element modifications of any kind.

★ It is the installer's responsibility to size and use proper fasteners regardless of structure.

Warnings Continued Next Page

★ It is the installer's responsibility to guarantee and ensure no mechanical or electrical system elements are contacted by any fastener penetration including but not limited to electrical, water, sewer, or gas lines.

★ Any wiring including low voltage must be done in accordance with building codes by a qualified installer or licensed electrician as appropriate for the installation.

★ All local building and electrical codes must be followed.

★ Fastener examples herein are EXAMPLES ONLY and not recommendations. Any examples are those that were found to be of sufficient load bearing capability for the particular example installation to wooden ceiling joists. EACH INSTALLATION IS DIFFERENT, ANY EXAMPLES MAY NOT APPLY.

★ Any fastener must be of sufficient length to penetrate and engage the proper thread depth of the fastener into the structural element. The length must take into account the thickness of the CineSlide metal ceiling mount plate (1/4" typical), drywall thickness (varies by installation), and any other wall/ceiling assembly layer including but not limited to airspace or air gaps between the drywall and the structural element (varies by installation).

★ Installing any CineSlide mount should be treated similarly to mounting a 150-200 lb home theater ceiling mounted projector. Even though the CineSlide and lens is relatively lightweight, it will generate repetitive forces that can work small fasteners free and could cause a mount installation or fastener to fail if sufficient fastener strength is not provided. A general guideline is every individual installed fastener should have a pullout strength of 180 lbs or greater

★ All ceiling plate fastener holes should be used, do not leave any fastener hole unused.

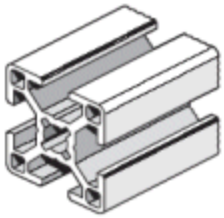
★ DO NOT INSTALL or hang a CineSlide directly from drywall, wall board, oriented strand board (OSB), "MDF", particle board, or any similar material. A Structural element of "2x" wood, ¾" or thicker furniture grade plywood, ¾" finished oak board, or properly engineered metal supports must be used. Any structural "backing plate" should be made from 2x structural wood material or minimum ¾" furniture grade plywood with no voids in the plywood layers. Any backing plates must also be properly attached to a structural element.

★ Ceiling fan hangers should not be used. This mount may experience lateral (sideways) forces that a Ceiling fan hanger may not be designed to handle.

★ This symbol is used in this document to call attention to items or procedures that require special attention, and may be safety related. Pay careful attention to all such warning symbols and follow their instructions completely.

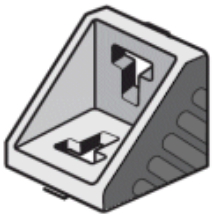
The Bosch-Rexroth System components:

The CineSlide mount kits are made from Bosch-Rexroth Aluminum Framing system components. The following shows the components used and information about using them.



Posts/Rails

The core component of the Bosch-Rexroth system is its structural aluminum profiles (called rails or posts in these instructions). They are designed so they have a "T-slot" running their length on all 4 sides. CineSlide mounts use these profiles for the *Mount Posts*, and *Headrail* assemblies. They are also used as Isco lens mount posts, identical to the Isco stock mount (except ours are black anodized). The T-slots in these profiles accept a variety of connectors and fasteners. The CineSlide mount kits use Gussets, T-nuts, and T-blocks to interface to the profile's T-slots.



Gussets

One of the main connection components used in the CineSlide mount is the 90 degree gusset. This gusset is made from cast aluminum. Since Cast aluminum does not anodize well, the CineSlide kits include gussets that are painted black. Use caution not to scratch the painted surface on the side of the gusset where it might show.

The Gussets have tabs on one or both of its connecting surfaces that normally align the gusset with the rail's T-slot. **The CineSlide mount kits include (2) different gusset configurations.** The first type has alignment "tabs" on both its connecting surfaces. The second type has the tabs removed on one side only. The second type is for use where a gusset is to be connected to a flat surface, such as the CineSlide body, or a flat Ceiling Plate

When using these gussets, be sure you are using the correct type gusset for the connection location. For a rail-to-rail corner, the first type is used. For a flat-surface-to-rail connection, the gusset with one flat side (no tabs) is used. The alignment tabs fit into the rail's T-slot.

T-nuts

T-nuts are T-slot nuts that can slip straight into a bar's T-slot from the top. This nut does not have to enter via the end of the post/rail. These are designed such that you:

a) Place an M6x14mm screw through a gusset hole,
b) Thread the T-nut LOOSELY onto the end of the screw,
c) Insert the gusset with the T-nut into the T-slot, slide the gusset to its desired location, and then tighten the M6 screw. The tightening motion causes this specially made T-nut to turn 90 degrees to the slot and then as it is tightened, it will grab the inside of the T-slot and give a very tight hold.

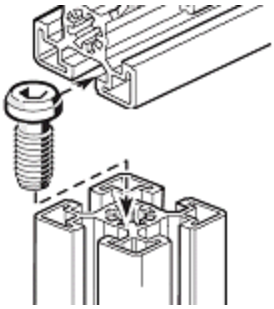
IMPORTANT: When using T-nuts it is important that you visually check to ensure the T-nut did rotate 90 degrees and is perpendicular to the T-slot groove. If a T-nut needs to be loosened for adjustment, etc. **IT MUST be loosened a few turns**. A T-nut that is tightened from a less than fully loose condition may not turn 90 degrees and may not properly lock. If the T-nut did not turn 90 degrees, loosen it fully then retighten. This procedure should cause the T-nut to turn properly and engage the slot. **ALWAYS VISUALLY CHECK T-nut's after tightening and be SURE it is rotated properly to the locked position (90 degrees from the slot direction)**

T-blocks

T-**block**s are similar to T-**nut**s with a very important difference. T-blocks cannot be inserted through the slot itself like a T-nut. Likewise they cannot come out of a slot. A T-block must be installed by sliding it into the rail's T-slot from the end.

T-blocks are used in locations where it is particularly important the fastener cannot come out of a slot. Conversely, a T-**nut** could come out if it was loose. T-**block**s will not come out if they are just loose. These are used for example to attach ceiling plates to headrails.

T-slot Head Screws (Safety Screws)



Special T-slot head screws are used in CineSlide Mounts as a "safety screw". These are installed in the ends of rails where it is particularly important a rail-to-rail connection cannot come completely loose.

With headrail type mounts for example, the safety screws are installed into the top ends of the mount posts and then slid into the ends of the headrail. This provides a hanging connection that would prevent the connection from coming loose in the event a gusset was installed improperly and came loose.

CineSlide Posts are shipped with the posts pre-threaded and this screw pre-installed. If posts are cut/shortened, this screw MUST BE REINSTALLED. It is self tapping so no tapping operation is required to reinstall it.

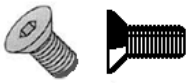
NEVER OMIT THIS SCREW IF IT IS INDICATED FOR USE. FAILURE TO INCLUDE THIS SCREW IS UNSAFE AND NOT APPROVED. See instructions for locations where this screw is to be installed.

Cover Caps

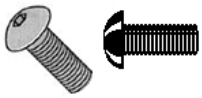
Each mount kit includes cover caps to cover exposed rail ends. Some cover caps may be pre-installed. DO NOT install the other cover caps until the installation is complete. They are difficult to remove once installed.

Also, round gusset cover caps are provided for the gussets (not pictured). Similarly, install these after the mount is installed and adjusted.

Other Fasteners used with the CineSlide Mount Kits and Bosch Components:


Flat Head Cap Screw (FHCS)

FHCS used with Ceiling Plate to posts, lens mount posts


Button Head Cap Screw (BHCS)

BHCS used with Gussets, CineSlide to post screws


Socket Head Cap Screw (SHCS)

SHCS used with some lens mount post safety stops


Hex Head Screw (HHS)

Hex head screws used with lens mount plate


Nylon Insert Lock Nut

Nylon inset lock nuts used with some Gusset connections, lens mount plate safety nut


Flat Washer


Split Lock Washer

Flat washers and **lock washers** used on CineSlide to post, also used with lens mount plate hex screws

Metric Fasteners are used with these components. More than one size of a particular fastener type may be used in the mount kit. Check sizes listed in the instructions and use the proper size, type, and length fastener as indicated.

NOTE:
Fasteners in this manual are referenced using their name abbreviation, followed by their size
Example:
M6 x 25 BHCS = 6mm screw size, 25mm long, Button Head Cap Screw.

Special tools required:

- ★ 10mm open ended wrench for lens mount plate
- ★ 4 mm Hex key Wrench (Allen wrench) for gusset fasteners - **Ball head strongly recommended**
- ★ 5 mm Hex key wrench for CineSlide to post screws, Safety screws

ONLY IF MOUNT POSTS ARE CUT TO LENGTH BY THE INSTALLER:

- ★ Non-ferrous metal cutting blade metal saw (if post length is to be cut on-site. Posts are available pre-cut to order). **HAND CUTTING MAY NOT PRODUCE AN ACCEPTABLE CUT OR PROPER STRENGTH JOINT.** A proper saw capable of making a clean, square cut is necessary to cut the mount posts to length.

Installation

Installing a CineSlide mount kit involves the same basic steps. There are several ways to accomplish each step and the experienced installer may find a method that works better for them. The steps outlined below are a reliable method to do it correctly.

Start with the CineSlide assembled, including a complete lens-mount but NO LENS. See manual for lens-mount assembly.

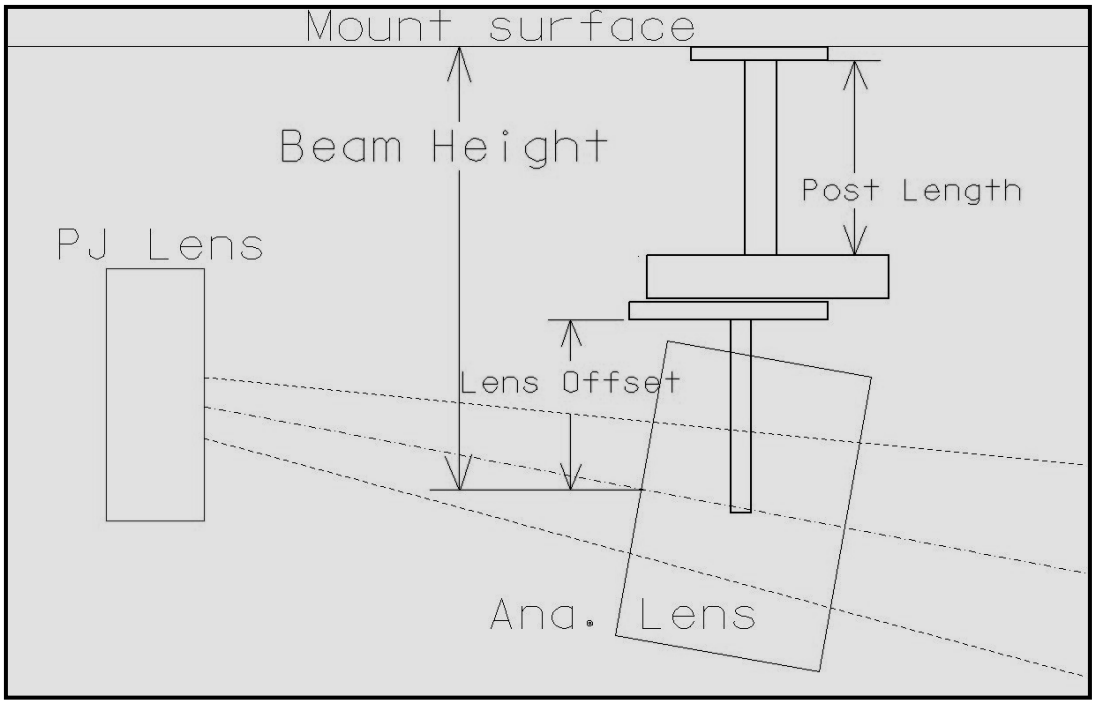
1. Size and prepare mount posts, cut to length

NOTE: If your posts were pre-cut to length by the factory, skip this step.

a) Determine "Beam Height". Turn on the projector, project a bright image or white test pattern that is aligned with the screen. Measure the distance from the mount surface to the center of the rectangular beam of light at the point where the rear of the anamorphic lens will sit in front of the PJ. This is the "beam height" **For most installations this is not the vertical center of the projector's lens** (See diagram below)

b) Determine "lens offset". The lens offset is the distance from the lens mount plate surface to the center of the rear of the lens (in its tilted orientation). This will vary by installation but the lens offsets listed below will work for most installations and allow some up/down adjustment range. If the installation needs to be as close as possible, tight to the ceiling, you should measure and determine the minimum/smallest lens offset possible.

- Isco III typical lens offset: **3.25"**
- Schneider CineDigitar typical lens offset: **2.5"**



c) Calculate post length: We subtract the CineSlide thickness, the mount hardware thickness, and the lens offset from the beam length. Use the following formula to determine the post length:

- For mount kits with a headrail (e.g. JPD, JPA):
  Post length = Beam height" – 2.75” - "Lens Offset"

- For mount kits without a header bar (e.g. JPP):
  Post length = Beam height" – 1.5" - "Lens Offset"

EXAMPLE: Typical tilt Isco III lens installation, using a kit with a header bar, beam height measured to be 15". Post length=

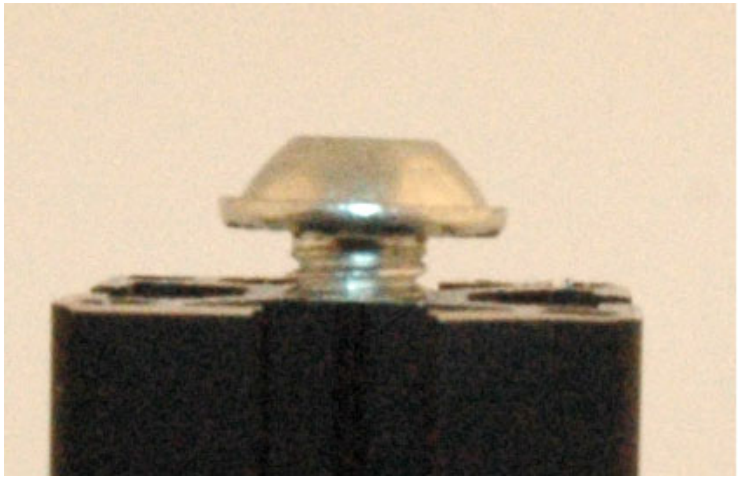
15” – 2.75” – 3.25” = 9.0”

d) The mount posts were shipped with the upper and lower gussets pre-installed. If the posts are being cut to length, make a note of how the gussets were installed and then remove the:
   a. Upper safety screw
   b. Both upper gussets

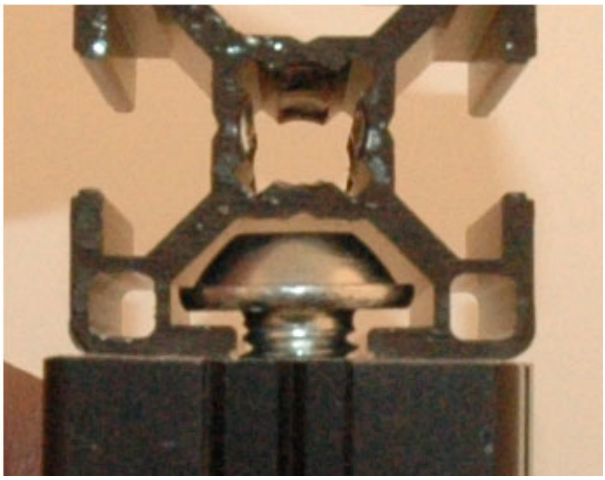
e) Using a proper metal saw cut the posts to the proper post length. The post must be cut with a saw capable of making a clean and square cut such as a metal saw with a carbide non-ferrous metal cutting blade. The connection at the CineSlide body MUST be square. **HAND CUTTING WILL NOT PRODUCE AN ACCEPTABLE CUT OR PROPER STRENGTH JOINT.**

f) Use a file and smooth any sharp cut edges. Debur the cut. Avoid damaging the black anodize finish, touchup silver edges if necessary with a permanent black marker or model paint.

g) Reinstall the Upper Safety screws, these special screws have heads that fit into the T-slot of the headrail. They are also self-tapping so no tap is required to reinstall into cut posts. Screw them into the top, cut end of the mount posts. Do not screw them all the way down. Screw them in until there is **1/8" gap** between the screw head and the top of the post. The correct head height is where the head will slide into the headrail's T-slot freely, and the mount post can be pulled against the headrail edge without the safety screw's head touching the top of the T-slot:

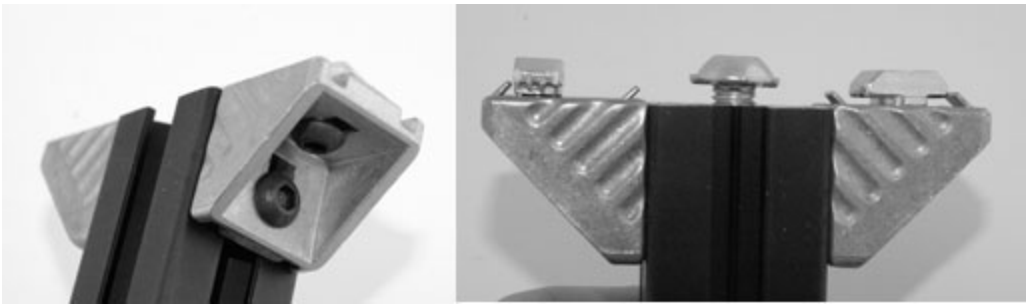


Safety screw shown screwed 1/8” from surface.



Safety screw not touching top (correct)

h) Install/reinstall both upper gussets so the bottom of the gusset is just slightly higher than the edge of the mount post (1/32"). This will help prevent the sharper edges of the mount post from scratching the headrail. Before tightening the gusset screws, slide them in the gusset slot so they are at the outside edge of the slot, away from the gusset corner as shown left:



Upper mount posts with gussets installed to posts, headrail attachment hardware

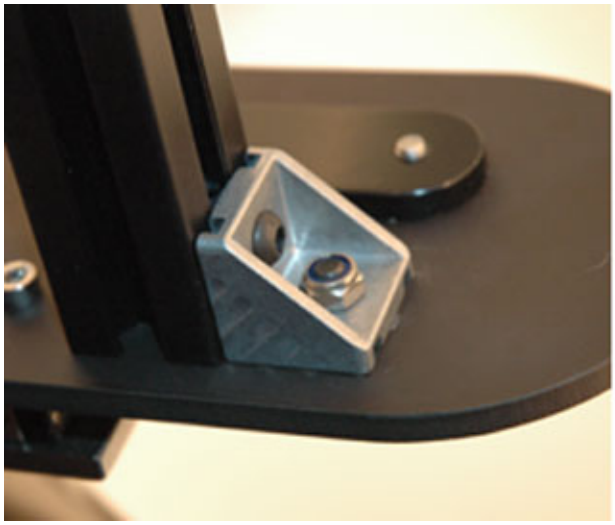
i) Install the gusset's upper connection hardware. This is an M6x14 BHCS, through the gusset, pointed up, and then a T-nut threaded loosely onto it (just a few turns, enough to keep the nut from falling off).

2. Assemble mount posts to the CineSlide.

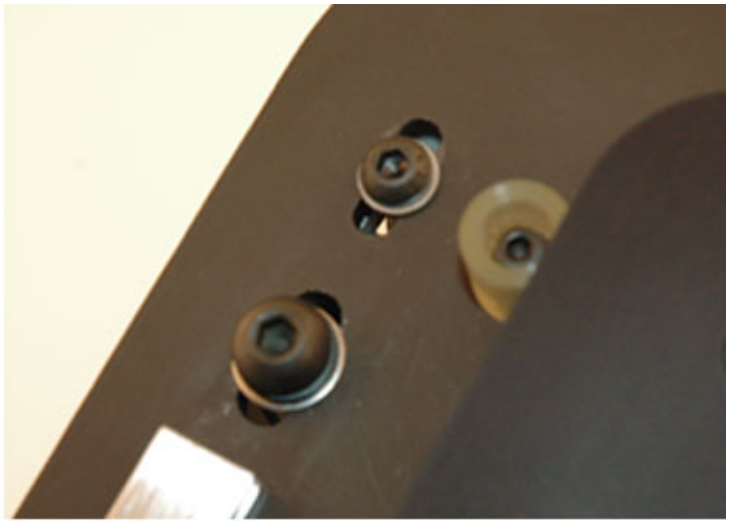
a) Using (2) M8 x 25 button head cap screws, 2 split ring lock washers, and (2) flat washers, Attach the mount posts to CineSlide™ body. Be careful not to damage the finish. The posts are attached to each side of the CineSlide body through the slotted 8mm (larger slot) mount holes. Position the mount bolts and posts in the center of this slotted hole. Rotate the posts so its front is parallel with the CineSlide front. Gently snug the M8 mount screw to hold the post in its correct position.

b) Install CineSlide body-to-post gussets, one for each post using an M6x20 BHCS with a flat washer on the lower (screw head) side and a M6 nylon insert locknut on the top/gusset side. Orient the Gusset's flat side (no guide tabs) against the CineSlide body. Orient the screw/nut so it is at the outside of the gusset's slotted hole (away from the corner). Washers and lock washers go on the bottom side as shown below.

c) Gently tighten the M6 BHCS and the M8 BHCS.



Gusset installed on CineSlide

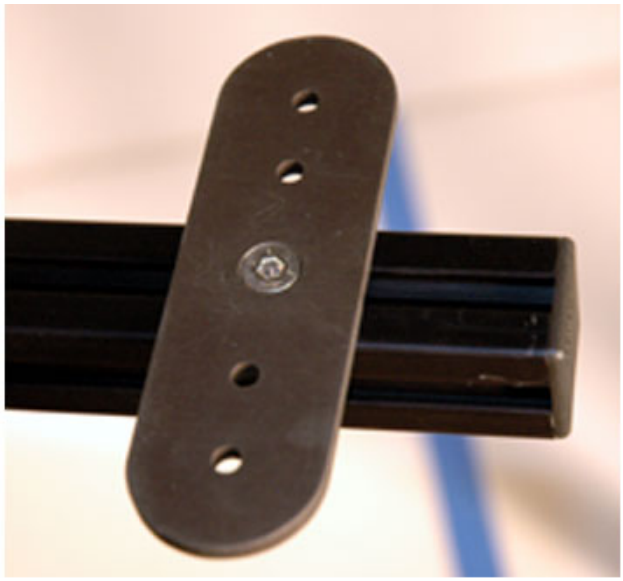


Bottom view of BHCS into post bottom and gusset

3. Temporarily install head rail:

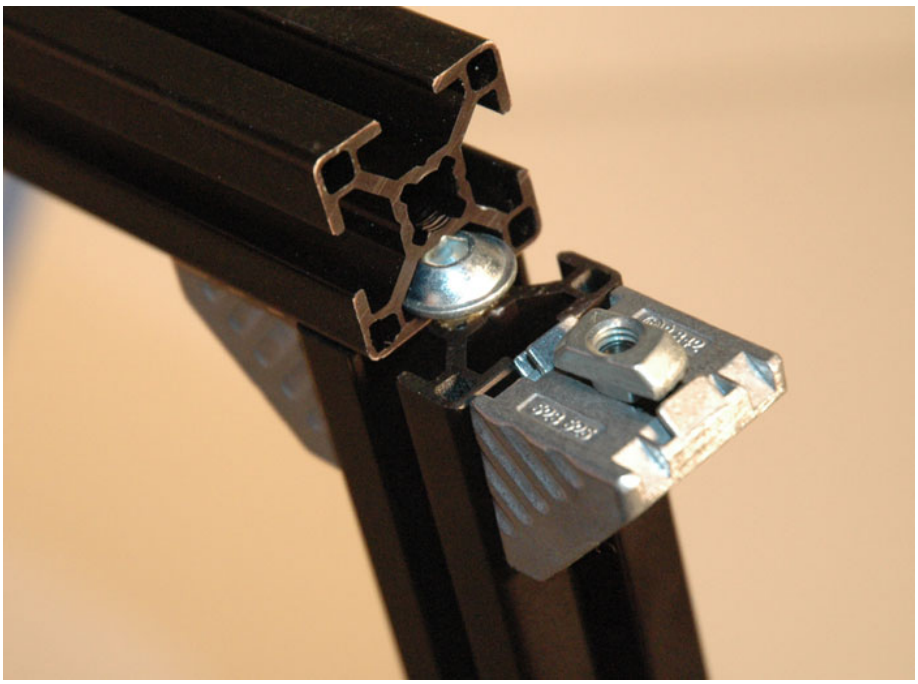
The headrail was shipped with (2) "ceiling plates" installed on the headrail. These are attached using (2) T-Blocks and (2) M8x12mm FHCS. Loosen the (2) ceiling plates, and rotate them so they are perpendicular to the headrail, and near the ends of the headrail. Re-tighten the (2) ceiling plate screws (just snug for now).

T-Block in the T-slot of the headrail



Ceiling plate properly oriented

Slide the head rail assembly onto the tops of mount posts, ceiling plates facing up, feeding the mount post's upper *safety screw's* heads down the headrail's lower T-slot. Slide the headrail from left to right, onto the left post, then across and over the right post's safety bolt head.



The safety screws prevent the mount posts from coming completely loose from the headrail; **do not omit the safety screws**. Slide the headrail carefully while holding upward pressure to ensure the header bar is not scratched by the mount posts or gusset T-nut.

Tighten (1) post-to-head rail gusset ON EACH post. This is the BHCS and T-nut that holds the gusset to the headrail. **See the instructions in the Bosch-Rexroth hardware section of this document for how to tighten and check T-nuts.**

4. Locate headrail on ceiling

Gently slide the CineSlide lens mount to the Lens-ON position stop by hand (see manual for description of "Lens-ON" position; this is typically the motor-side stop).

Have one or two helper's lift and firmly hold the CineSlide and mount assembly to what will be its final, mounted position on the ceiling. Fine tune the location and check these items:

- The lens mount is in the "Lens-ON" position (to the travel stop), and the lens mount is centered to projector lens OR to the projector's light path (for projectors with side offset lens)
- The rear of the lens mount is located the preferred distance from the front of the projector (typically as close as possible)
- The ceiling plates are flush against the ceiling. If the ceiling is level, the posts will be plumb when the ceiling plates are flush. If they are not plumb and are significantly out, shims may be required under the ceiling plates.
- The headrail is running parallel to the screen (or at the desired angle relative to the projector/screen) Be sure that any mount angle will not cause the lens to move into the Projector once installed (i.e. incorrectly angled toward projector).

With the assembly being held so the CineSlide is in its final location as described above, mark the ceiling along the back edge of the head rail. Mark the line in pencil or with tape. Make the line long enough so it can be extended later with a straight edge as needed. Be sure the line extends at least beyond the location of the mount posts. This line will be referred to as the ***mount line*** and will be the front-to-rear reference you use to install the headrail to the ceiling.

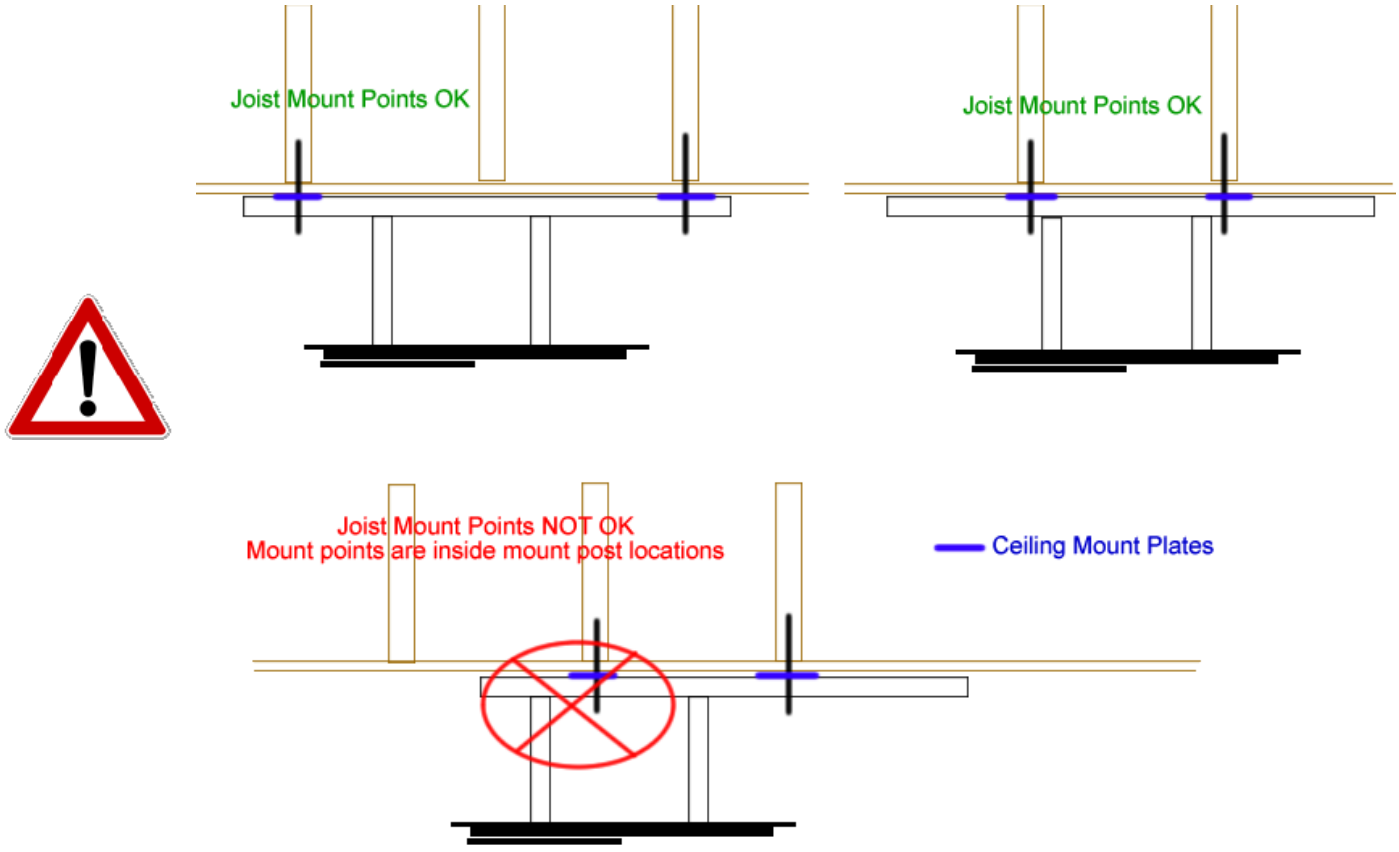
With the assembly still being held so the CineSlide is in its final location, mark the center lines of the mount posts where they fall on the ***mount line*** just drawn.

5. Mount Headrail assembly:

Fully loosen the (2) upper gusset fasteners (the ones that attach to the headrail). Slide the headrail off of the mount posts. Set the CineSlide and post assembly aside.

In reference to the ***mount line*** just drawn, locate the joists that that fall outside or on the mount post marks. Methods for joist locating are beyond the scope of this document. **Be POSITIVE no wiring, plumbing, etc. will be contacted in the mount area.** With a straight edge, extend the mount line so it intersects with the joists that fall outside or directly above the mount post marks. Mark these joists centerline where they intersect the ***mount line.*** These points will be the ***joist mount centerline***

IMPORTANT!: The ceiling plates must be located such that the mount post locations fall IN BETWEEN or directly below, the 2 ceiling plates (*joist mount centerline*).



On the headrail, loosen the ceiling plate's M6 FHCS mount screws just enough so the ceiling plates can slide on the headrail.

Hold the headrail and ceiling plate assembly against ceiling, aligning back of the head rail to the ***mount line.***

Slide ceiling plates along the headrail so the ceiling plates are aligned with the ***joist mount centerline***, centered and in-line with the joist.

With the headrail and ceiling plates in their proper position, carefully lower the headrail and tighten both ceiling plates while maintaining their proper positions. Reposition the assembly against the ceiling to verify proper location of the ceiling plates was not changed when the plates were tightened. Readjust as required.

Once the ceiling plates and are properly located on the headrail and tightened, securely mount the headrail ceiling plate assembly to the ceiling. Use appropriate fasteners (not supplied, **SEE WARNINGS AT BEGINNING OF THIS DOCUMENT**). **Use one fastener in every available mount hole of the ceiling plate. Do not omit any holes, all are required.**

Generally, for typical wood joist installation, a screw size of #12 or possibly a #10 with deep threads such as a fully threaded hex-head sheet-metal screw, or a typical square-drive cabinet hanging screw is often an acceptable fastener. Such a fastener should penetrate the structural element, via a proper sized pilot hole, by 1 ½" to 2" (clear of any electrical, plumbing, etc.). For ¾" furniture grade plywood, #10 through-bolts & **nylon insert lock nuts** are usually suitable fasteners. Proper pilot holes should be provided for all screws.

Example: Mounting a CineSlide mount to properly rated structural joists, with a ½" tight fit drywall ceiling; one installation used a #12 x 2 1/2" hex-head sheet metal screw. This provided 2 ½ - (1/4" + ½") = 1 ¾" thread penetration into the joist side grain.

6. Attach CineSlide to Headrail

In the upper mount post gussets, install the other upper mount hardware (BHSC and T-nuts) if not already there. All 4 upper screws and T-nuts that attach to the headrail should be in place

With the headrail securely mounted to the ceiling, lift the CineSlide with the mount posts up to the headrail and slide the T-nuts, and the post's safety screw heads into the end of the headrail's T-slot. Slide carefully and hold the assembly so the tops of the mount posts do not scratch the head rail while sliding. Slide the assembly to the post marks made on your "*mount line*".

Gently, by hand, slide the lens mount to the "Lens-ON" position stop. Carefully slide the CineSlide assembly, including the mount posts, and adjust so the lens mount is centered with the projector's lens (or light path as appropriate).

Tighten all 4 post-to-headrail gussets while holding the screws to the outside of the gusset (away from the gusset's corner). Visually verify ALL T-nuts are turned 90 degrees and engaged.

7. Install all end caps.

Place the end caps on the ends of the rails and gently tap them into place with a block of wood or soft mallet.

8. DO NOT INSTALL gusset caps until after final fastener check and safety checklist.

9. This completes the JPD kit specific steps. See the owner's manual for the final instructions on electrical connections, fine adjusting, and the **safety checklist**.