MOUNT SPECIFIC INSTALLATION NOTES

KIT JPA - JOISTS PARALLEL 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.

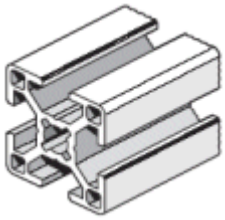
★ DO NOT INSTALL or hang a CineSlide directly from drywall, wall board, oriented strand board (OSB), "MDF", particle board, or any similar material. A Structural element of "2x" wood, ¾" or thicker furniture grade plywood, ¾" finished oak board, or properly engineered metal supports must be used. Any 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.

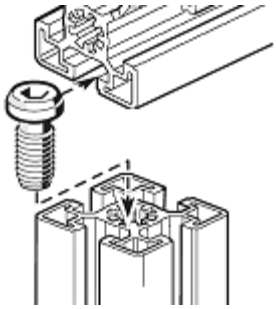
IMPORTANT: When using T-nuts it is important that you visually check to ensure the T-nut did rotate 90 degrees and is perpendicular to the T-slot groove. If a T-nut needs to be loosened for adjustment, etc. **IT MUST be loosened a few turns**. A T-nut that is tightened from a less than fully loose condition 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

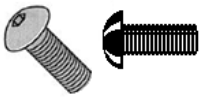
Each mount kit includes cover caps to cover exposed rail ends. Some cover caps may be pre-installed. DO NOT install the other cover caps until the installation is complete. They are difficult to remove once installed.

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.

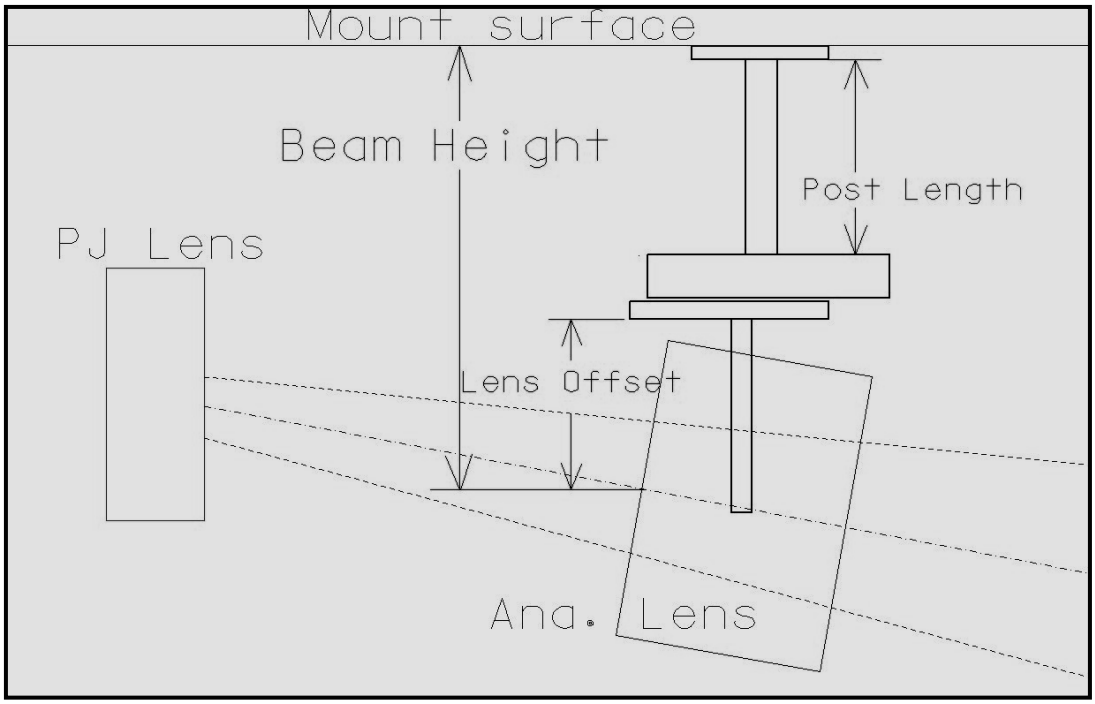
1. Size and prepare mount posts, cut to length

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=

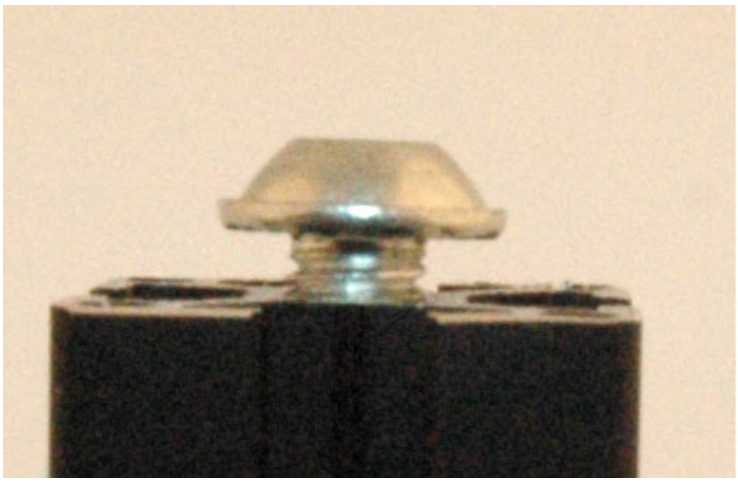
15” – 2.75” – 3.25” = 9.0”

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

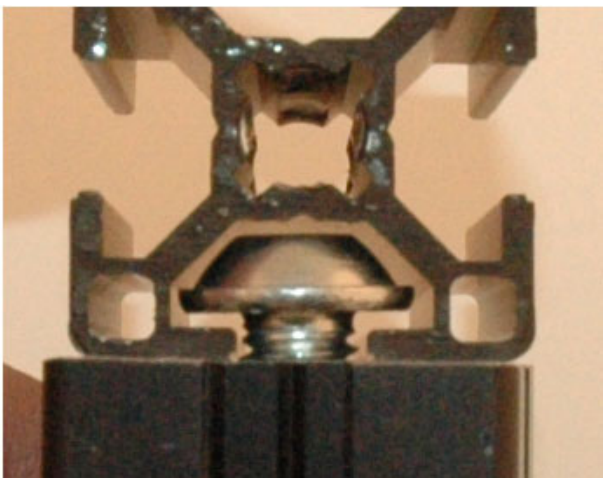
e) Using a proper metal saw cut the posts to the proper post length. The post must be cut with a saw capable of making a clean and square cut such as a metal saw with a carbide non-ferrous metal cutting blade. If the cut is not perfectly square, be sure and orient this end of the post away from the CineSlide body. The connection at the CineSlide body MUST be perfectly 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:

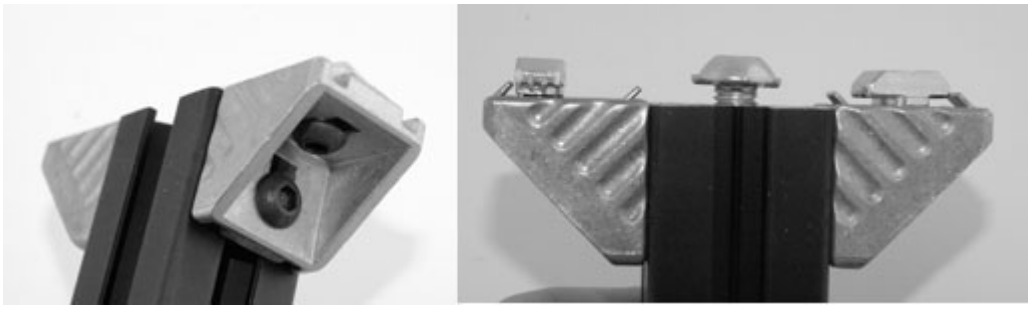


Safety screw shown screwed 1/8” from surface.



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

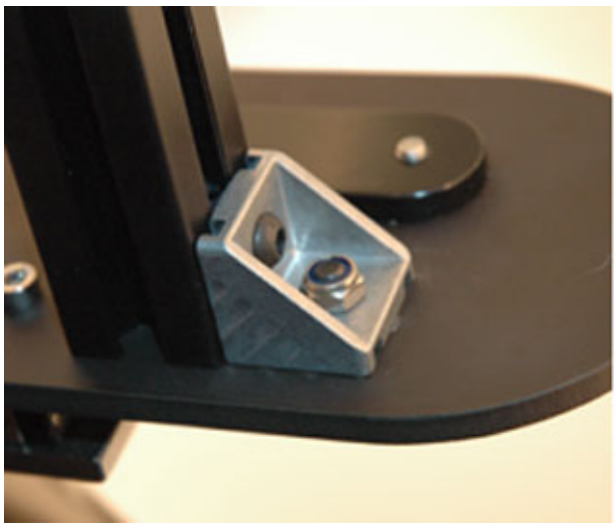
i) Install the gusset's upper connection hardware. This is an M6x14 BHCS, through the gusset, pointed up, and then a T-nut threaded loosely onto it (just a few turns, enough to keep the nut from falling off).

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 their front is parallel with the CineSlide front. Gently snug the M8 mount screw to hold the post in its correct position.

b) **DO NOT Install the post-to-CineSlide gussets at this time**, they will be installed later.

c) Gently tighten the M8 BHCS.



Post shown with Post-to-CineSlide gusset (top view)

Bottom view of post fasteners

c) 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.

d) Center the mount posts onto the headrail. Tighten all 4 post-to-head rail gusset fasteners (2 gussets on each post). These are 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.**

Posts and Headrail assembled, Headrail-to-Siderail gussets in place

3. Locate headrail on ceiling

a) *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).

b) 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 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).

c) With the assembly being held so the CineSlide is in its final location as described, draw a line along the back edge of the headrail. Mark the location of BOTH ends of the headrail. Mark the line in pencil or with tape. This line will be referred to as the ***mount line*** and will be the reference you use to install the headrail to the ceiling. Set the CineSlide/headrail assembly aside.

Locate the joists that that fall in front of, and behind the mount line. Methods for joist locating are beyond the scope of this document. **Be POSITIVE no wiring, plumbing, etc. will be contacted in the mount area.**

d) Using a carpenter square, draw a line perpendicular to the ***mount line*** from each marked end of the headrail. Do this on both ends of the ***mount line***. These will be the ***siderail lines.*** Extend the ***siderail lines*** forward/rearward so they intersect the centerlines of the located joist in front of and the joist behind the mount line.

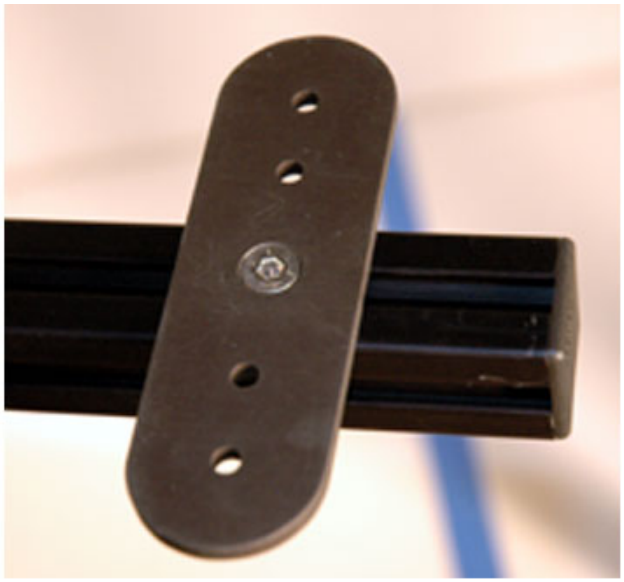
e) Measure the distance from the rear joist centerline (the joist away from screen) to the ***mount line.*** This is the ***hearail offset***. Measure the distance between the front and rear joist centerlines on each side of the mount line, these are the ***joist span*** measurements (16" typical).

f) Unscrew the (2) M8 BHCS fasteners from the bottom of the posts and detach the CineSlide from the mount post and headrail assembly. Set the CineSlide aside.

4. Position Ceiling Plates

Each siderail was shipped with (2) "ceiling plates" installed on the siderails. These are attached to the siderails using T-Blocks and M8x12mm FHCS. Loosen each of the (4) the ceiling plates. Rotate them so they are perpendicular to the siderails and position them on each siderail. Slide them apart or together so they are located the same distance as the ***joist span*** measurement above (typically 16" center to center). Adjust their location so they have approximately the same amount of rail sticking out beyond the ceiling plates on each end. Tighten the M8 FHCS ceiling plate screws (just snug for now).

T-Block in the T-slot of the siderail

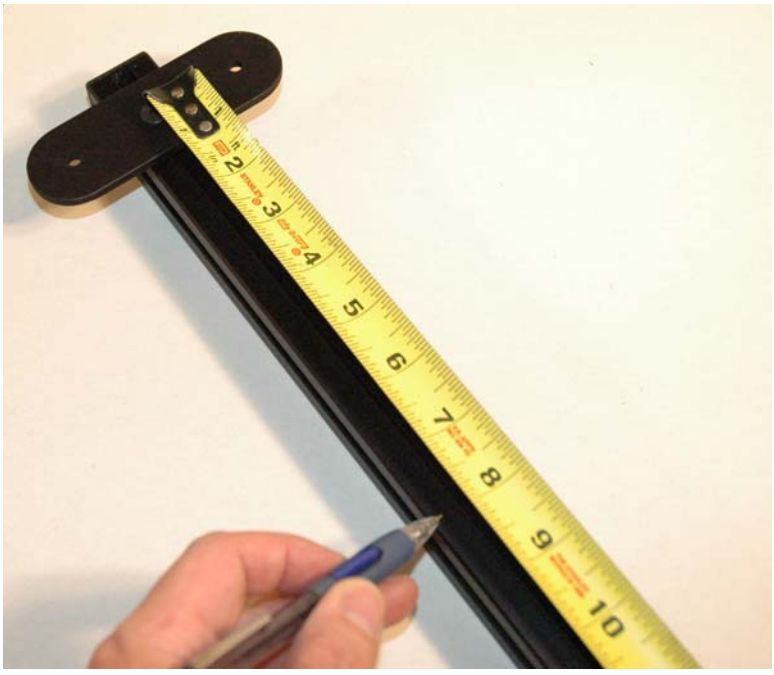


Ceiling plate properly oriented

5. Attach siderails to headrail.

a) From the rear ceiling plate's center, measure along the top of the rail, the distance of the ***headrail offset*** Place a mark on the top of the rail at that point. Repeat for the other siderail. These marks are used to align the headrail to the siderail. **(Photo Right)**

b) With the ceiling plates oriented so they are on the top (pointed up), slide the right siderail onto the right side of the headrail. Slide the headrail's safety screw into the T-slot of the siderail. Slide the siderail to the point where the back edge of the headrail lines up with the headrail offset mark just made above.



c) With the headrail positioned properly along the siderail, install and tighten the siderail-to-headrail gusset. When installing this gusset, attach it to the headrail. First, align the gusset flush with the end of the headrail and tighten that side fastener. Second, tighten the fastener that connects to the siderail.

d) Repeat b) and c) above for the left siderail.

5. Attach mount to ceiling

The mount is now completely assembled. Hold the complete assembly up against the ceiling in its mounting location. Verify the ceiling plates are properly aligned with the centerline of the joists in all 4 locations. Readjust ceiling plates as required.

Once the ceiling plates are properly located on the headrail and tightened, securely mount the assembly to the ceiling. Use appropriate fasteners (not supplied, **SEE CRITICAL SAFETY 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.

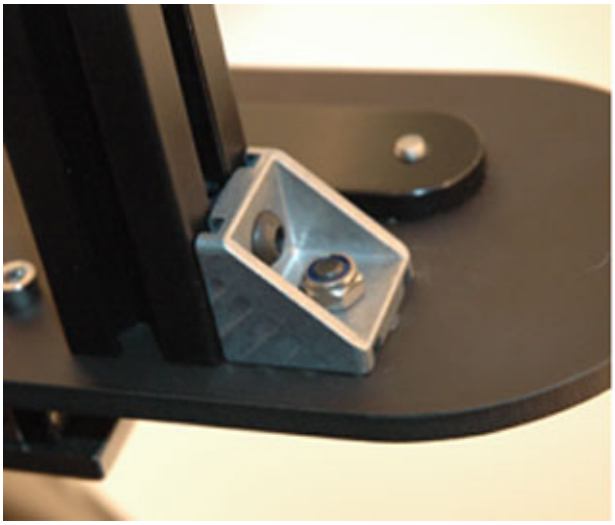
6. Attach CineSlide to Mount

a) With the mount fully assembled and attached to the ceiling, check all fasteners. Be sure all gusset T-nuts are properly oriented 90 degrees to the rail and fully engaged. Be sure all ceiling fasteners are properly tightened.

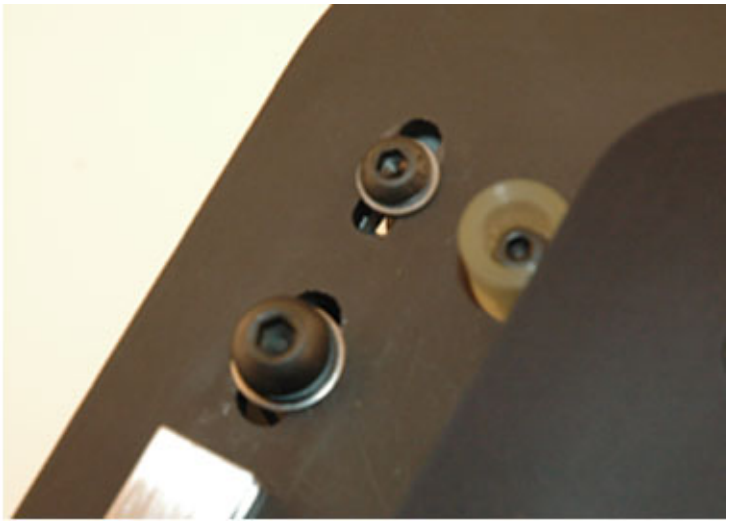
b) Hold the CineSlide in place and attach it to the bottom of the mount posts using the M8 x 25 BHCS fasteners. Use an M8 flat washer and a lock washer with the lock washer against the screw head for this fastener. Snug these screws on each side.

c) Gently, by hand, slide the lens mount to the "Lens-ON" position stop. Verify the lens mount hole is centered with the projector lens or projector's light path (for projectors with a horizontal offset). If necessary, loosen the lower M8 mounting screws and fine adjust the left-right position of the CineSlide. Retighten the M8 mount screws.

d) Install CineSlide-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 in the following photograph.



Gusset installed on CineSlide



Bottom view of BHCS into post bottom and gusset

e) Tighten the M6 BHCS and the M8 BHCS.

7. JPA kit adjustments:

The JPA kit allows some adjustment in both the left-right and the front-rear directions. If the measurements were made properly and carefully, no adjustment should be necessary.

a) **ONLY IF NECESSARY:** If there is not enough left-right adjustment in the slotted holes of the CineSlide, the upper headrail-to-mountpost gussets may be removed and the CineSlide posts can then be moved left-right as required. If moved, reinstall the headrail-to-mountpost gussets and tighten, insuring any T-nuts are properly oriented and tightened.

d) **ONLY IF NECESSARY**: Check the distance from the lens backing plate to the projector. It should be correct but if it is not, this distance can be adjusted. Adjust by removing the (2) headrail-to-siderail gussets and carefully sliding the headrail forward/rearward.

CAUTION, be careful not to bind the headrail when moving. It must be moved evenly on both ends. It moved, reinstall the headrail-to-siderail gussets (one each side) when complete, insuring any T-nuts are properly oriented and tightened.

8. 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.

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

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