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# INSTRUCTION MANUAL

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## RPA Series LCD/DLP Ceiling Mount

The Chief RPA Series ceiling mounts provide a unique, simplified method of ceiling mounting inverted LCD/DLP projectors. Chief's low profile design offers three easy mounting methods (1 1/2" NPT, flush or threaded rod); roll, pitch and yaw adjustment; a cable management system; and custom designed brackets that allow quick projector disconnect without loss of registration.

All Chief RPA Series ceiling mounts provide access for quick lamp changes and easy filter cleaning without requiring any disassembly. The mount is constructed of heavy gauge steel and designed to ensure proper projector ventilation.

Fast and precise image registration is achieved through the easy roll, pitch and yaw adjustments built into the RPA mounts. Optional projector security is included by using the All-Points™ Security kit



### All-Points™ Security Option Included

#### BEFORE YOU BEGIN

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- You must have an SLB (bracket designed for your application) to attach the RPA to your projector.
- The maximum weight to be installed on the RPA ceiling mount is 50 pounds (22.68 Kg).
- **CAUTION: To prevent damage to the RPA, which could affect or void the Factory warranty, thoroughly study all instructions and illustrations before you begin to install the RPA. Pay particular attention to the "Important Precautions" on Page 1.**
- If you have any questions about this installation, contact Chief Manufacturing at 1-800-582-6480.



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## IMPORTANT WARNINGS AND CAUTIONS!

**WARNING:** A **WARNING** alerts you to the possibility of serious injury or death if you do not follow the instructions.

**CAUTION:** A **CAUTION** alerts you to the possibility of damage or destruction of equipment if you do not follow the corresponding instructions.

- **WARNING: Improper installation can result in serious personal injury! Make sure that the ceiling structural members can support a redundant weight factor *five times the total weight of the equipment*. If the ceiling can not support this weight, reinforce the ceiling before installing the RPA.**
- **CAUTION:** Inspect the unit for shipping damage. See “DIMENSIONAL DRAWING” on page 2

## TOOLS REQUIRED FOR INSTALLATION

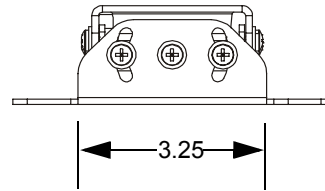
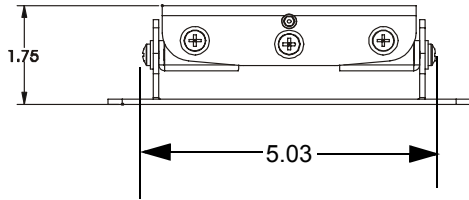
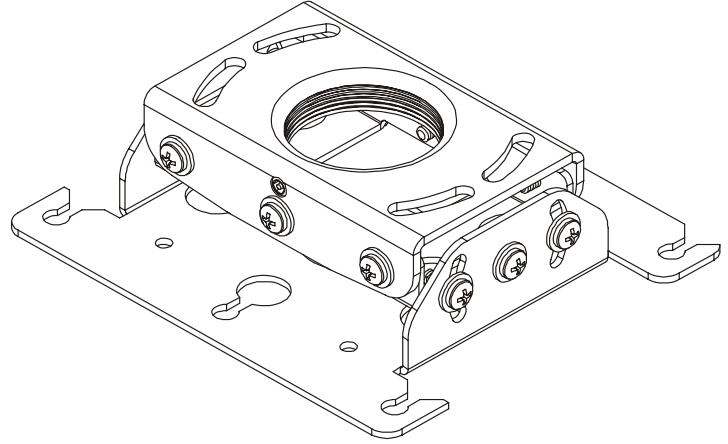
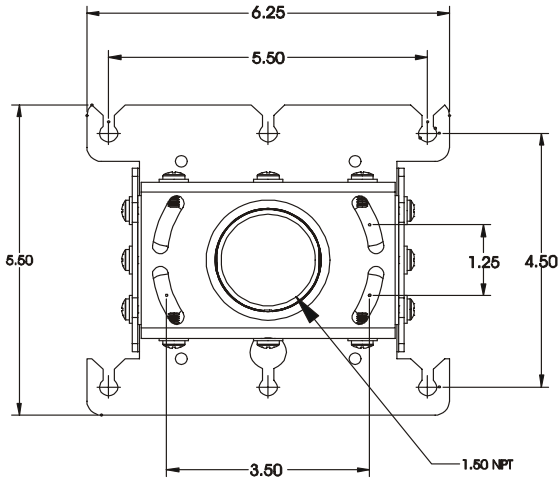
- Allen Wrench (provided)
- Security Allen Wrench (provided)
- Phillips screwdrivers, No. 1 and No. 2

**NOTE:** Other tools may be required depending on the method of installation.

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# DIMENSIONAL DRAWING



## INSPECT THE UNIT BEFORE INSTALLING

1. Carefully inspect the RPA for shipping damage. If any damage is apparent, call your carrier claims agent and do not continue with the installation until the carrier has reviewed the damage.

**NOTE:** Read all instructions before starting installation.

2. Lay out components to ensure you have all the required parts before proceeding (see “PARTS” on page 8).

## PREPARE THE CEILING

Because of the wide variety of possible mounting situations, Chief Manufacturing can only provide general guidelines for installation. Study the following information carefully, and adapt it as necessary to fit your specific installation.

**WARNING: Be especially aware of the weight of the equipment, and the potential for personal injury or of damage to the equipment if it is not adequately mounted.**

The “General Guidelines” below and the information on the following pages cover the most common mounting situations:

- Suspended from a 1 1/2” diameter NPT threaded pipe secured to a structural cross brace in the ceiling.
- Standard fasteners secured to a wood framing member.
- Suspended from threaded rods that are secured to the structural cross brace

### General Guidelines

- Carefully determine the position of the mount, and its distance from the screen. This will require knowing the lens to screen distance (see projector specifications for set-up).

**WARNING: Improper installation can result in serious personal injury! To avoid such injury, make sure that the ceiling structural members can support a redundant weight factor *five times* the total weight of the equipment you intend to support overhead. If they cannot, the ceiling must be reinforced before you install the mount.**

## RPA INSTALLATION PROCEDURES

There are three methods for installing the RPA Series LCD/DLP ceiling mount. The RPA can be suspended from a 1 1/2" diameter NPT threaded pipe, standard fasteners secured to a wood framing member, or threaded rods.

**WARNING: Improper installation can cause serious personal injury! Make sure that the ceiling structural members can support a redundant weight factor *five times* the total weight of the equipment you intend to support overhead. The ceiling must be reinforced before you install the RPA if the ceiling cannot support a redundant weight factor *five times* the total weight of the equipment.**

### 1 1/2" Diameter NPT Threaded Pipe

Installation using a 1 1/2" diameter schedule 40 steel pipe section with 1 1/2" NPT threads requires securing the pipe to the building structure. We suggest the use of a Chief CMA ceiling plate to secure the pipe to a structural member (see Figure 1 and Figure 2). Install the RPA on the pipe as follows:

1. Thread the RPA onto the pipe a minimum of 1" to allow for final yaw adjustment.
2. Using Allen wrench provided, tighten the set screw to lock the RPA in position (see Figure 3).
4. Proceed to "BRACKET ATTACHMENT PROCEDURES" on page 6.

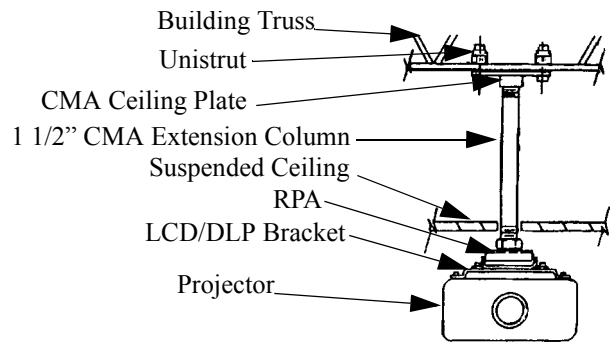


Figure 1. Example Using Pipe (1 1/2")

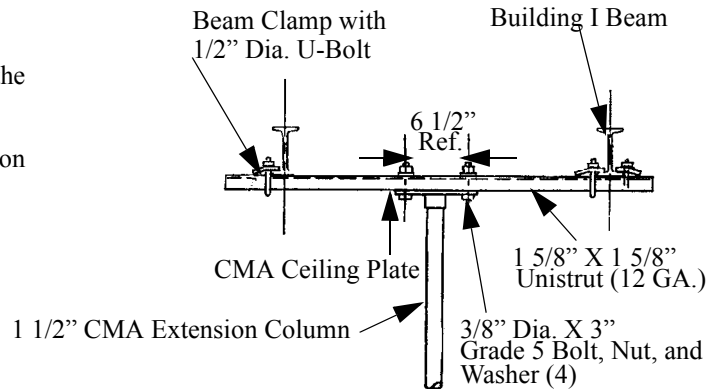


Figure 2. Pipe (1 1/2") Side View

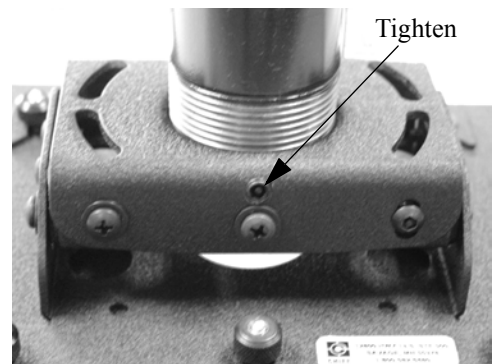


Figure 3. Tighten Set Screw

## Standard Fasteners Secured to a Wood Framing Member

The RPA can be secured to a wood framing member through four slotted holes in the ceiling bracket using four 1/4" diameter lag screws or, if the area is accessible from above, four 1/4" diameter machine bolts, nuts, and washers (see Figure 4). Install the RPA as follows:

1. Secure the ceiling bracket to the wood framing member.
2. Proceed to "BRACKET ATTACHMENT PROCEDURES" on page 6.

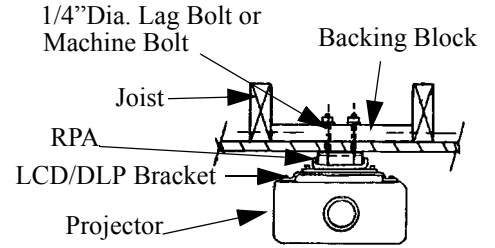


Figure 4. Example Using Lag Bolts or Machine Bolts

## Threaded Rod

Using four 1/4" diameter threaded rods, the RPA can be secured to a typical unistrut, angle or channel assembly at the overhead structural members (trusses or I-beams) (see Figure 5 and Figure 6). Install the RPA as follows:

1. Secure one end of the threaded rod to the structural member.
2. Install a 1/4-20 jam nut on each threaded rod.
3. Install the RPA on the threaded rod.

**NOTE:** Holes in the RPA allow socket wrench access without unit disassembly.

4. Secure the RPA to the threaded rod using four 1/4-20 nuts.

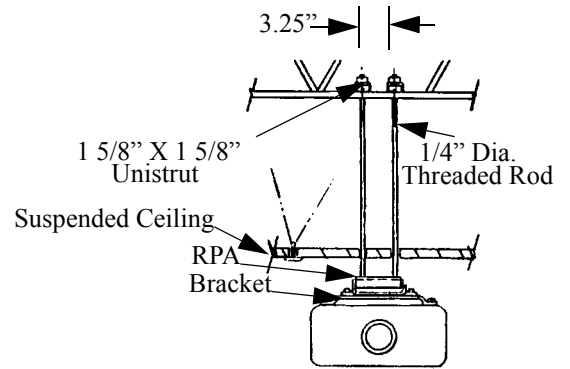


Figure 5. 1/4" Threaded Rod (Front View)

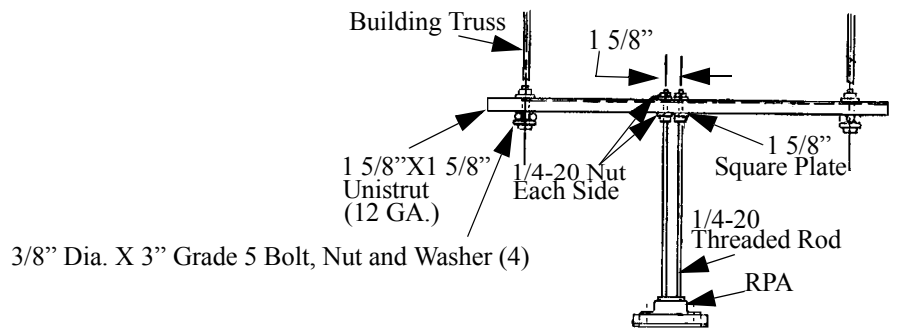


Figure 6. 1/4" Threaded Rod (Side View)

## BRACKET ATTACHMENT PROCEDURES

All LCD/DLP brackets attach to the RPA by sliding the screws of the bracket into the one enclosed slot and five vee slots of the RPA. Secure the bracket using provided thumb screws (see Figure 7) and route cabling as necessary. Install the RPA on the bracket as follows:

**NOTE:** It is not necessary to remove the thumb nuts from the studs.

1. Loosen the 10-24 thumb nuts.
2. Align the locating slot and five vee slots of the RPA with the 10-24 studs of the bracket and slide the bracket on the RPA to the limit of the slotted holes.

**NOTE:** The tapers of the thumb nuts should seat in the holes of the bracket.

3. Secure the Bracket to the RPA using the thumb nuts (tapered side down).
4. Route cables as necessary (see Figure 8).

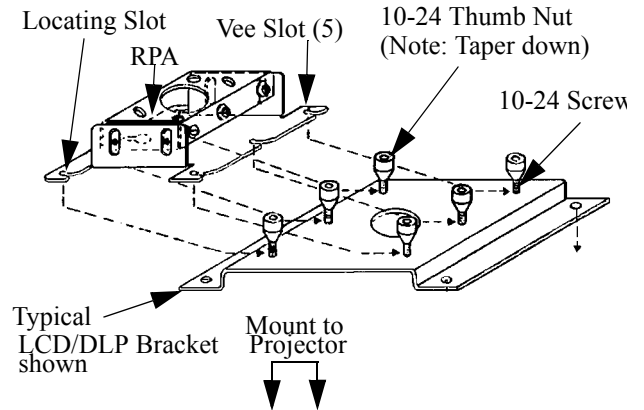


Figure 7. RPA to Bracket Attachment

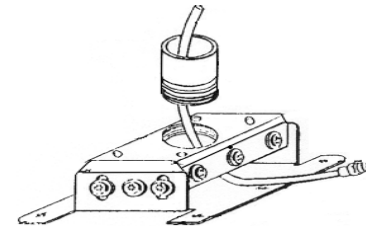


Figure 8. Cable Routing Example

## ALL-POINTS™ SECURITY

Install All-Points security as follows:

1. Remove four screws (A thru D) (see Figure 9).

**NOTE:** You must retain the Security Allen Wrench if security screws are installed. Do not discard this wrench or leave it where unauthorized persons have access to your Security Allen Wrench.

2. Using security wrench (provided), replace screws (A thru D) with security screws.
3. Using security wrench (provided), remove 5/16" standard set screw (E) and replace with 5/16" security set screw.
4. Remove two screws from SLB, preferably one from each far corner (see Figure 10).
5. Using security wrench (provided), replace screws in SLB with undercut security screws (see Figure 11).
6. Remove all projector mounting screws and, using security wrench (provided), replace projector mounting screws with security screws.

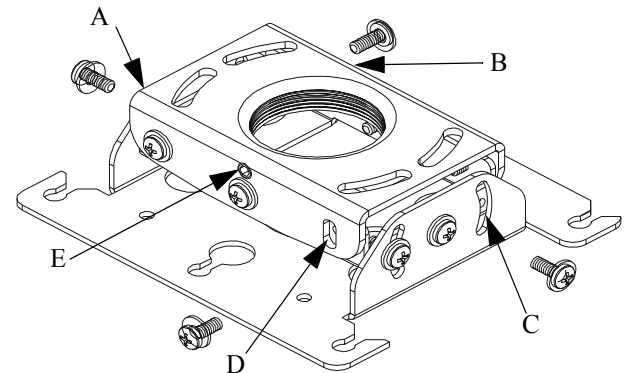


Figure 9. Remove and Replace Screws and Set Screw

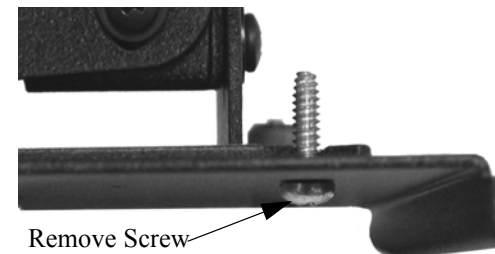


Figure 10. Remove Adjacent Screws

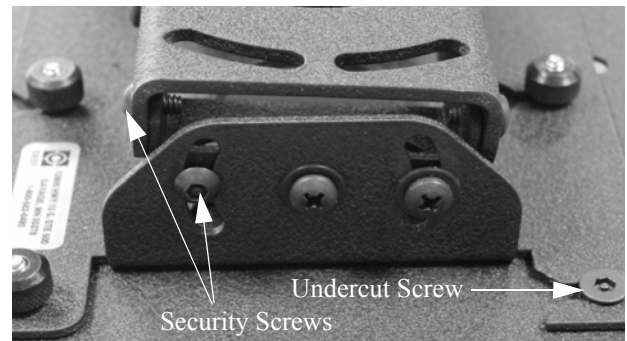


Figure 11. Security Screws

## PROJECTOR ALIGNMENT INSTRUCTIONS

The RPA can be adjusted for vertical elevation (pitch), horizontal tilt (roll), and rotation (yaw). Once the desired position is located and all the screws of the RPA are tightened, the projector may be removed from its location and replaced using the six thumb screws without losing the registration of the projector. Align the projector as follows:

### Pitch

Adjust pitch using the two 10-24X3/8" pitch adjustment screws located on each side of the adjustment plate. Adjust pitch as follows:

1. Loosen two 10-24X3/8" pitch adjustment screws located on each side of the adjustment plate (see Figure 12).
2. Adjust projector angle to desired pitch.
3. Tighten two 10-24X3/8" pitch adjustment screws located on each side of the adjustment plate.

### Roll

Adjust roll using the four 10-24X3/8" roll adjustment screws, two on the front and three on the back, of the adjustment plate. Adjust roll as follows:

1. Loosen two 10-24X3/8" roll adjustment screws on each side of the adjustment plate (see Figure 13).
2. Adjust projector to desired roll position.
3. Tighten two 10-24X3/8" roll adjustment screws on each side of the adjustment plate.

### Yaw

Adjust yaw by threading or unthreading the RPA on the 1 1/2" pipe. Adjust yaw as follows:

1. Loosen the set screw (see Figure 14).

**WARNING: Do not turn the RPA to the end of the pipe threads. The RPA, bracket, and projector will fall from the pipe if the RPA is unthreaded too far.**

2. Adjust projector by turning the RPA on the 1 1/2" pipe to the desired yaw position.
3. Tighten the set screw.

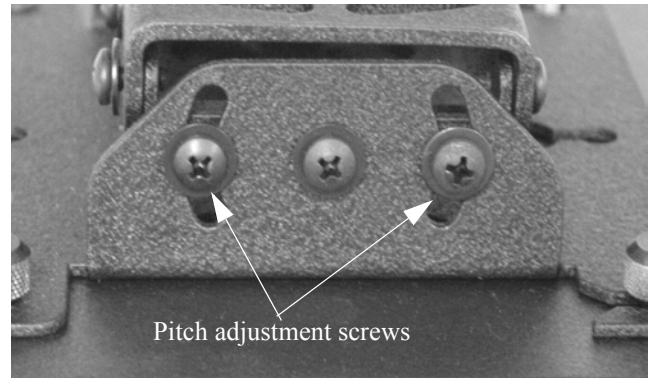


Figure 12. Pitch Adjustment

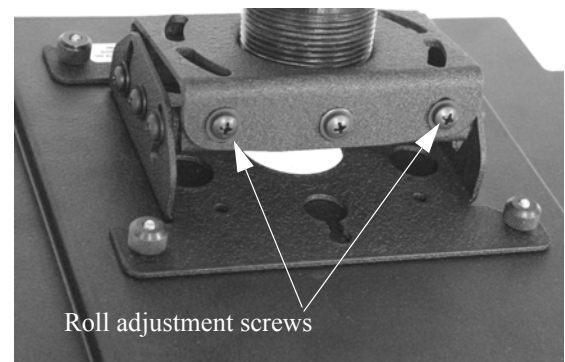


Figure 13. Roll Adjustment

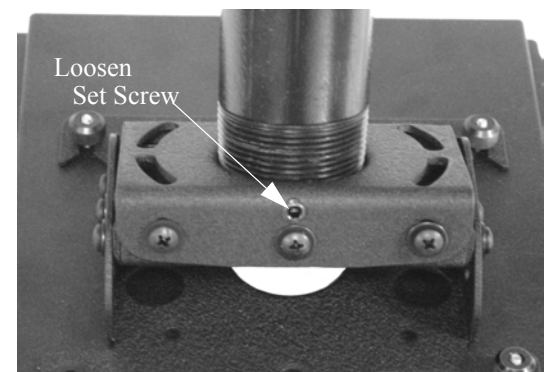
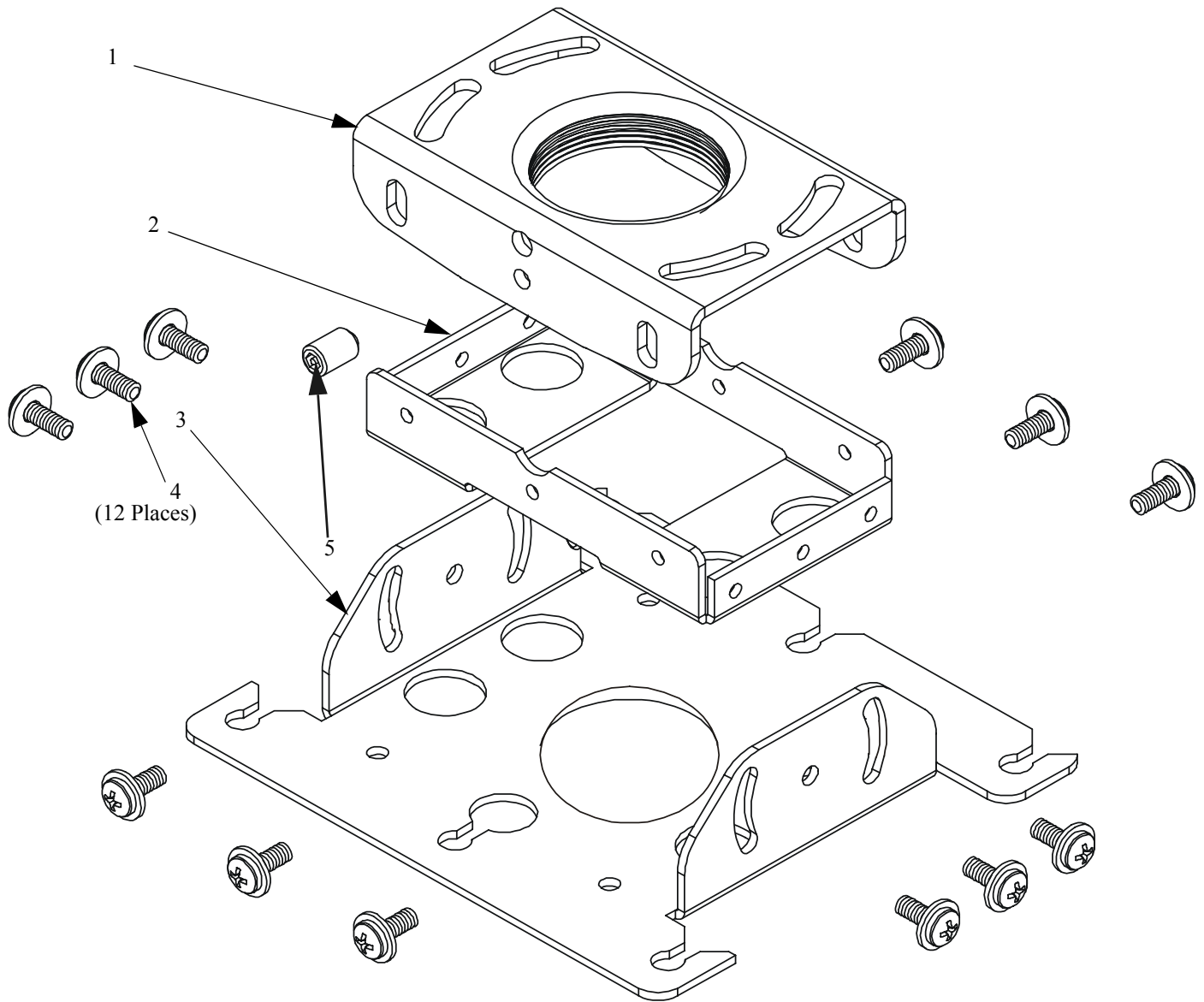


Figure 14. Yaw Adjustment



# PARTS



**Table 1: Parts**

No.	Nomenclature	Qty.
1	BRACKET, Ceiling	1
2	BRACKET, Joint	1
3	PLATE, Adjustment	1
4	SCREW, Self-Tapping, Pan Head, 10-24 X 1/2", with washer	12
5	SCREW, Set, 5/16"	1