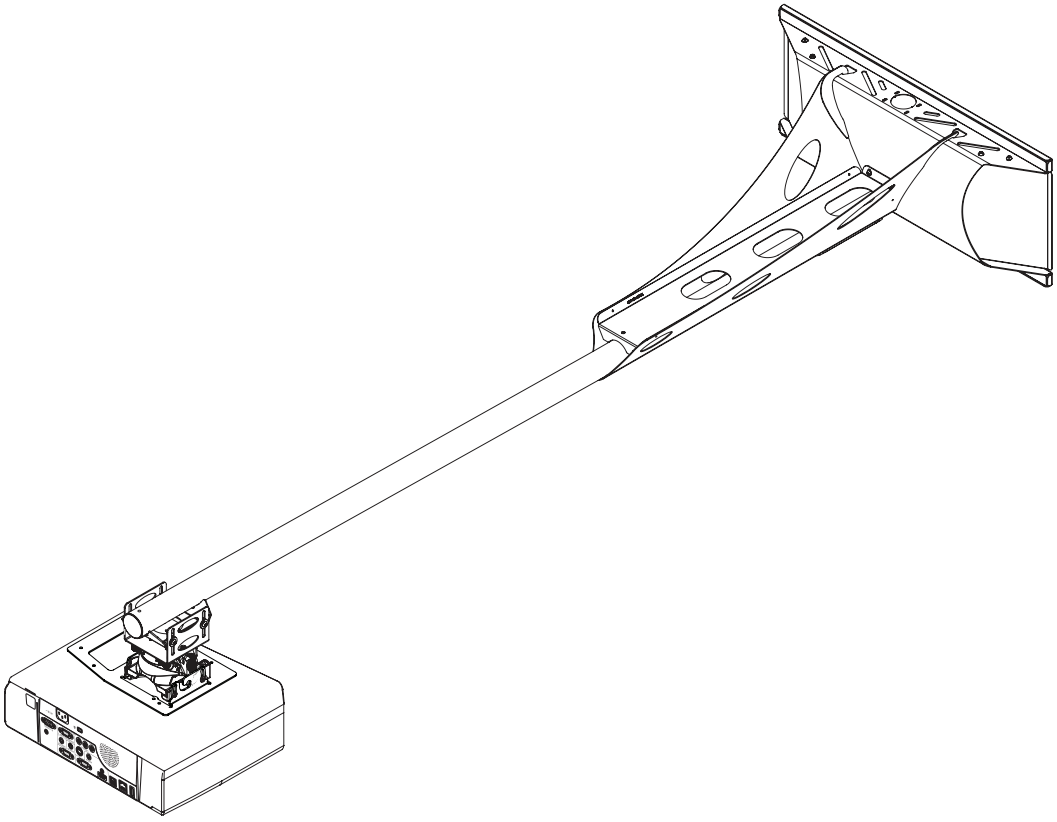
INSTALLATION INSTRUCTIONS



Short Throw Projector Arm

Model: NPLTWM

Table of Contents

Weight Capacity

Maximum projector weight: 50 lb.

THE WALL STRUCTURE MUST BE CAPABLE OF HOLDING FIVE (5) TIMES THE WEIGHT OF THE PROJECTOR. IF NOT, THEN THE WALL STRUCTURE MUST BE REINFORCED.

Warning Statements

PRIOR TO THE INSTALLATION OF THIS PRODUCT, THE INSTALLATION INSTRUCTIONS SHOULD BE READ AND COMPLETELY UNDERSTOOD. THE INSTALLATION INSTRUCTIONS MUST BE READ TO PREVENT PERSONAL INJURY AND PROPERTY DAMAGE. KEEP THESE INSTALLATION INSTRUCTIONS IN AN EASILY ACCESSIBLE LOCATION FOR FUTURE REFERENCE.

NEC DOES NOT WARRANT AGAINST DAMAGE CAUSED BY THE USE OF ANY NEC PRODUCT FOR PURPOSES OTHER THAN THOSE FOR WHICH IT WAS DESIGNED OR DAMAGE CAUSED BY UNAUTHORIZED ATTACHMENTS OR MODIFICATIONS, AND IS NOT RESPONSIBLE FOR ANY DAMAGES, CLAIMS, DEMANDS, SUITS, ACTIONS OR CAUSES OF ACTION OF WHATEVER KIND RESULTING FROM, ARISING OUT OF OR IN ANY MANNER RELATING TO ANY SUCH USE, ATTACHMENTS OR MODIFICATIONS.

SAFETY MEASURES MUST BE PRACTICED AT ALL TIMES DURING THE ASSEMBLY OF THIS PRODUCT. USE PROPER SAFETY GEAR AND TOOLS FOR THE ASSEMBLY PROCEDURE TO PREVENT PERSONAL INJURY.

At least two qualified people should perform the assembly procedure. Injury and/or damage can result from dropping or mishandling the projector.

If mounting to studs, make sure that the mounting screws are anchored into the center of the studs. Use of an edge-to-edge stud finder is recommended.

Be aware of the mounting environment. If drilling and/or cutting into the mounting surface, always make sure that there are no electrical wires in wall. Cutting/drilling into an electrical line may cause serious injury.

Make sure there are no water lines inside the wall where the mount is to be located. Cutting/drilling into a water line may cause severe water damage to the mounting surface.

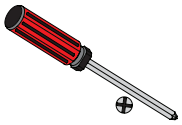
This product is intended for indoor use only. Use of this product outdoors could lead to product failure and personal injury.

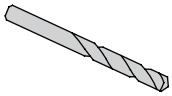
Do not install near sources of high heat. Do not install on a structure that is prone to vibration, movement or chance of impact

Contact NEC with any questions
(800) 368-9700
techsupport@mounts.com

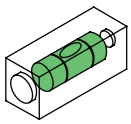
Installation Tools

The following tools may be required depending upon your particular installation. They are not included.

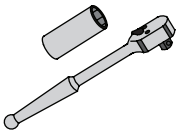

Phillips Screwdriver


¼″ Drill Bit


Electronic Stud Finder


Level

½″ Socket and Socket Wrench

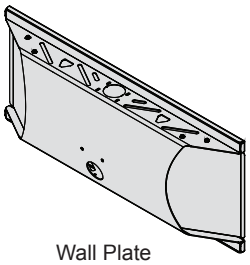


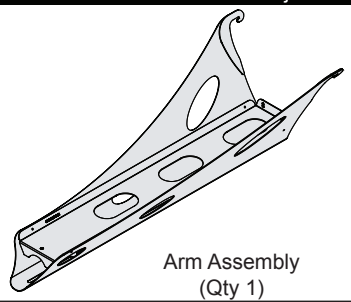

Drill

Parts List

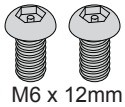
Make sure your NEC product has the following hardware and components before beginning installation. If there are parts missing and/or damaged, stop the installation and call NEC at (800) 368-9700.

Projector Mount Hardware


Wall Plate (Qty 1)

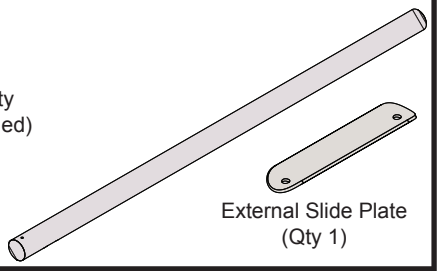

Arm Assembly (Qty 1)

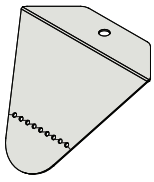
Extension Hardware Pack

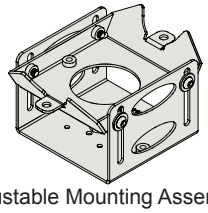

M6 x 12mm Security Screws (pre-assembled) (Qty 2)

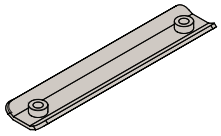

M6 Flat Washer (Qty 2)

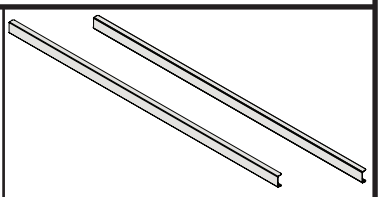
Extension Arm - Optional (Qty 1)


External Slide Plate (Qty 1)


End Cover (Qty 1)


Adjustable Mounting Assembly - Pre-Assembled (Qty 1)

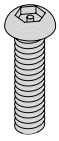

Internal Slide Plate (Qty 1)


Back Plate Covers (Qty 2)


M4 x 10mm Security Screws (Qty 4)


M5 x 8mm Security Screws (Qty 7)

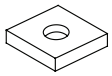

M6 x 12mm Security Screw (Qty 4)


M6 x 16mm Security Screw (Qty 2)

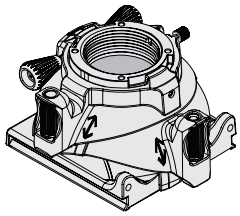
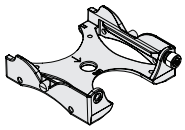
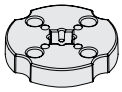
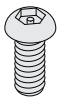
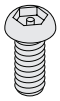

5⁄16″ x 3″ Lag Bolts (Qty 4)


M5 Allen Wrench (Qty 1)

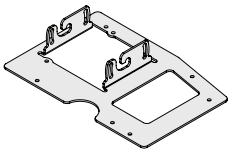

¼″ Nylon Spacer (Qty 2)


Square Washers (Qty 4)

Parts List (cont'd)

FTP Hardware					
 FTP Dome (Qty 1)	 Quick Set Base (Qty 1)	 Installation Disk (Qty 1)*	 M5 x 12mm Security Screw (Qty 1)	 M6 x 8mm Security Screw (Qty 4)	 M3 Allen Wrench (Qty 1)
 M5 Allen Wrench (Qty 1)	 #14 x 3" Wood Screw (Qty 1)*	 M6 x 6mm Set Screw (Qty 1)*			

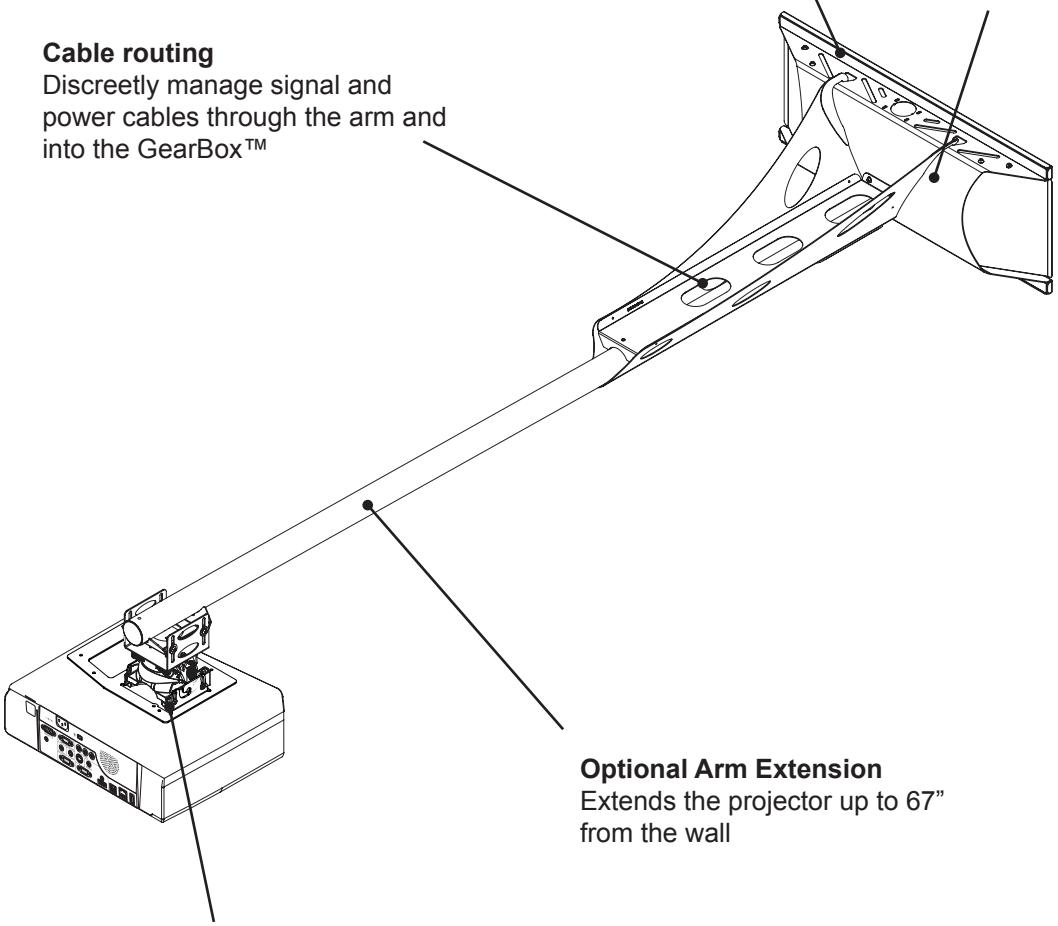
*Note: Depending on your installation, these parts may not be needed.

Projector Bracket Hardware		
 Projector Bracket (Qty 1)	 M4 x 10mm Pan Phillips Screw (Qty 4)	 M4 x 10mm Lock-It™ Security Screw (Qty 4)

Projector Mount Features

The short-throw projector arm (NPLTWM) is one of the most flexible and installer-friendly short-throw arms on the market. It is designed specifically for the NEC M300W and M300WS projectors. The mount easily adjusts from 7” to 67” from the wall if used with the extension arm. Its fine-tune controls lets the installer adjust pitch, roll, and yaw independently. After aligning the projectors image to the final projection settings, the mount can be locked in position with one thumb screw.

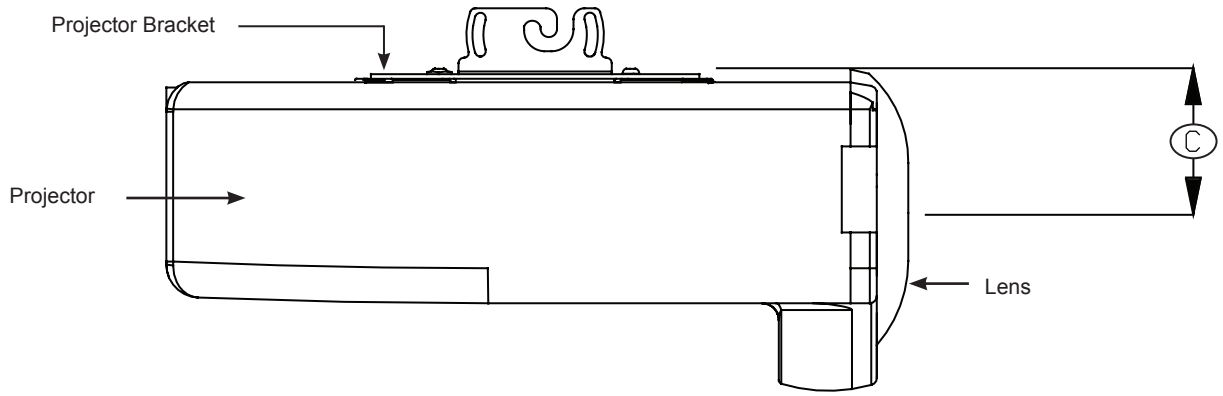
To make installations even easier, an array of mounting points at the top and bottom of the GearBox™ allows you to mount the NPLTWM off-center from the stud spacing, if needed. The NPLTWM mounts to dual studs at 16”, 18” or 24” spacing.



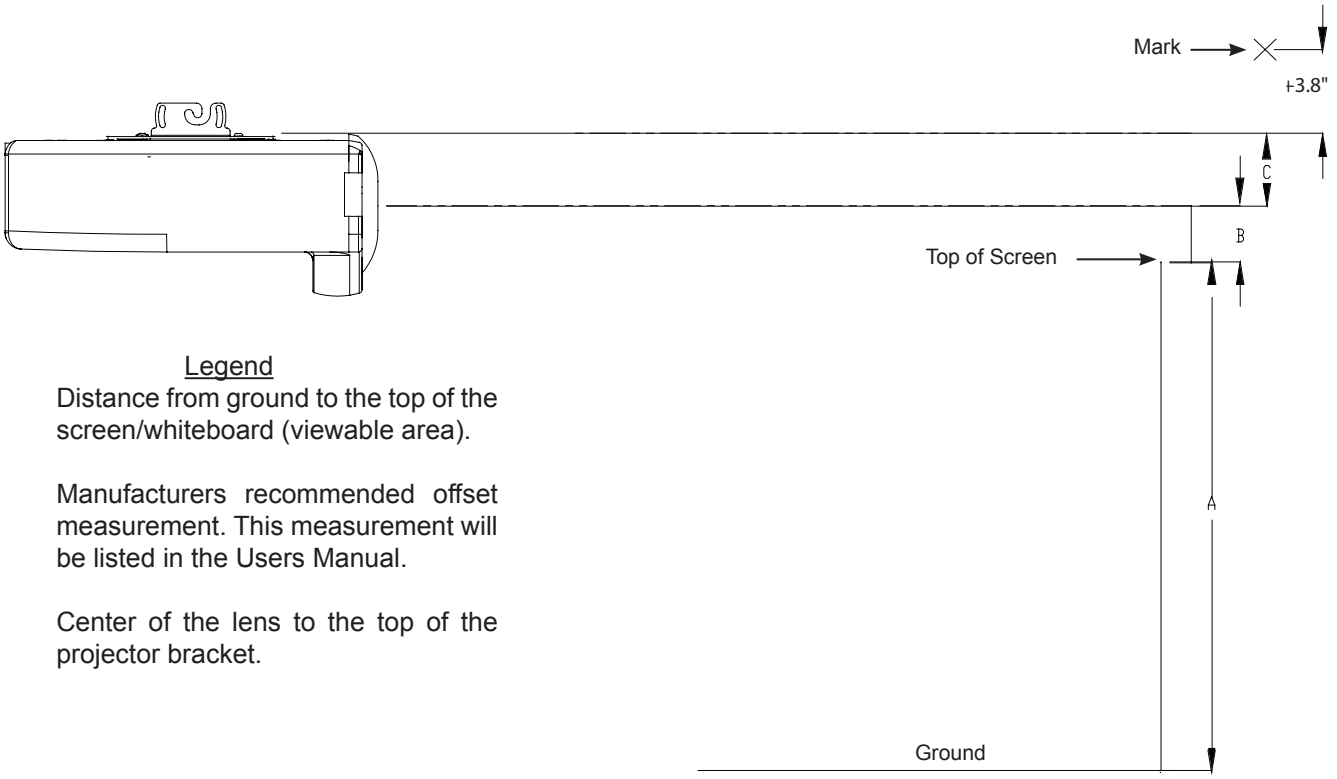
Determining the Installation Height

In order to determine the installation height and throw distance, the projector bracket must be mounted to the projector. Please refer to the projector bracket installation instructions (page 15) prior to performing the following steps.

Refer to the projector's User Manual to determine the offset of the projector lens to the top of the screen/whiteboard (B).



1. Measure distance from center of lens to the top of the projector mounting bracket (C).
2. Add the distance from the ground to the top of the screen (A). Add the projector manufacturers recommended offset from the projector manual (B), then add the measurement from Step 1 (C). Lastly, add 3.8" to the total.
   (Example: A + B + C + 3.8″= ?)
3. Add the measurements to determine the mounting height mark. Place a mark at the top of the total calculated height measurement starting from the ground up. This mark will represent the lower edge of the wall plate.



Legend

A - Distance from ground to the top of the screen/whiteboard (viewable area).

B - Manufacturers recommended offset measurement. This measurement will be listed in the Users Manual.

C - Center of the lens to the top of the projector bracket.

This total distance will be the location for the bottom rail on the wall plate.

Proceed to the **"Wood Stud Installation"** section.

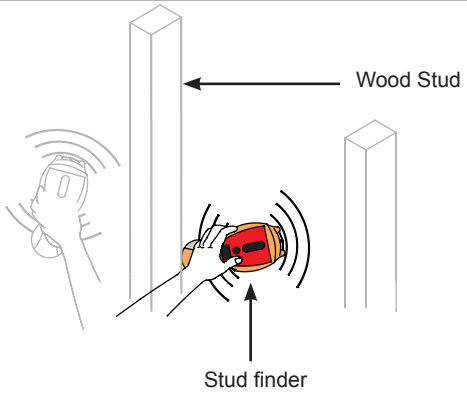
Wood Stud Installation

Do NOT over-tighten lag bolts when attaching the mount to the wall. Improper installation may result in personal injury or damage to property.

THE EXACT CENTER OF THE STUD MUST BE LOCATED FOR CORRECT AND SAFE INSTALLATION.

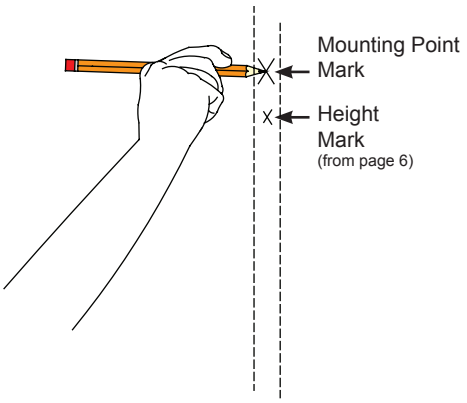
Step 1

Use an electronic stud finder (not supplied) to locate the center of the stud that is in the wall.



Step 2

Use a pencil to mark the first mounting point, just above your height mark (from page 6).

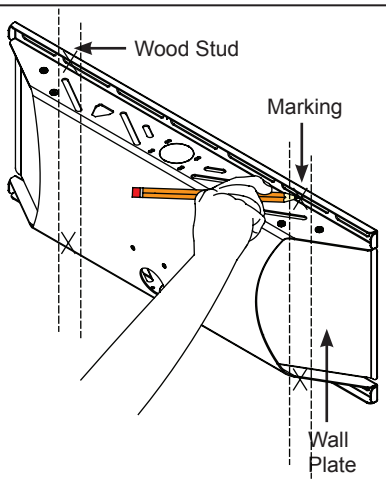


Step 3

❶ Use the level to make sure the wall plate is level from side to side.

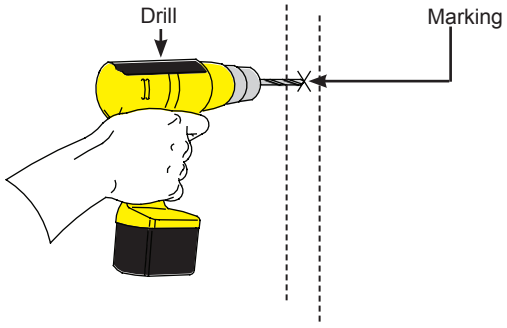
❷ Place the wall plate over the first mounting point mark and use a pencil to mark the rest of the mounting points.

Four (4) mounting points must be used. Two (2) upper mounting points and two (2) lower mounting points.



Step 4

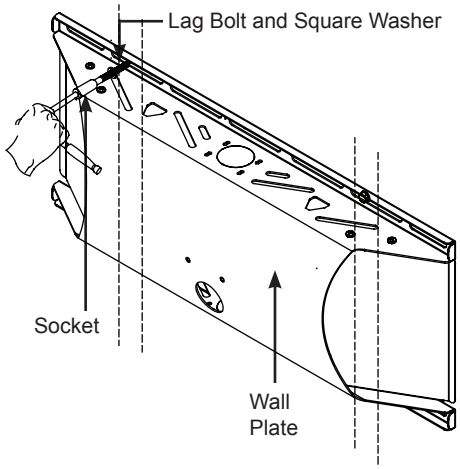
Once the mounting points have been marked, use a ¼″ drill bit and portable drill to drill the pilot holes.



Step 5

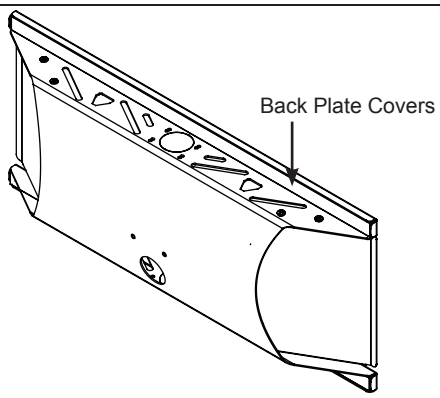
After the pilot holes have been drilled, use four (4) $\frac{5}{16}$″ x 3″ lag bolts and four (4) square washers to mount the wall plate to the wooden studs.

Use a ½″ socket and socket wrench to finish this step.



Step 6

Insert and gently tap the upper and lower back plate covers into place.



Proceed to the **"Attaching the Projector Arm"** section.

Attaching the Projector Arm

Step 1

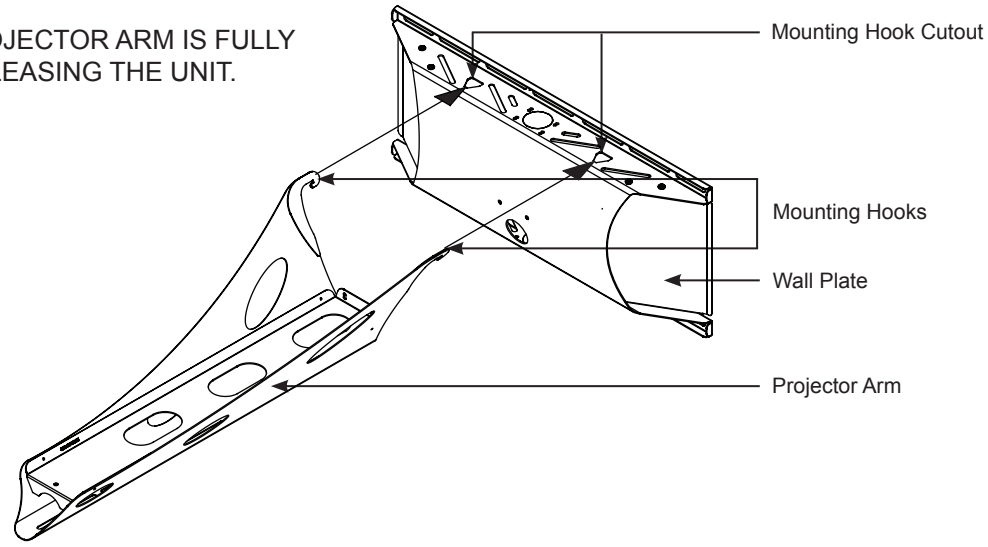
❶ Locate the mounting hook cutout on the top of the wall plate.

❷ Tilt the arm slightly and gently insert the mounting hooks into the mounting hook cutouts.

❸ Slowly lower and let the projector arm rest against the wall plate.

If using the storage feature of the product, it may be easier to route any wiring at this time (please see page 16).

MAKE SURE THE PROJECTOR ARM IS FULLY SEATED BEFORE RELEASING THE UNIT.

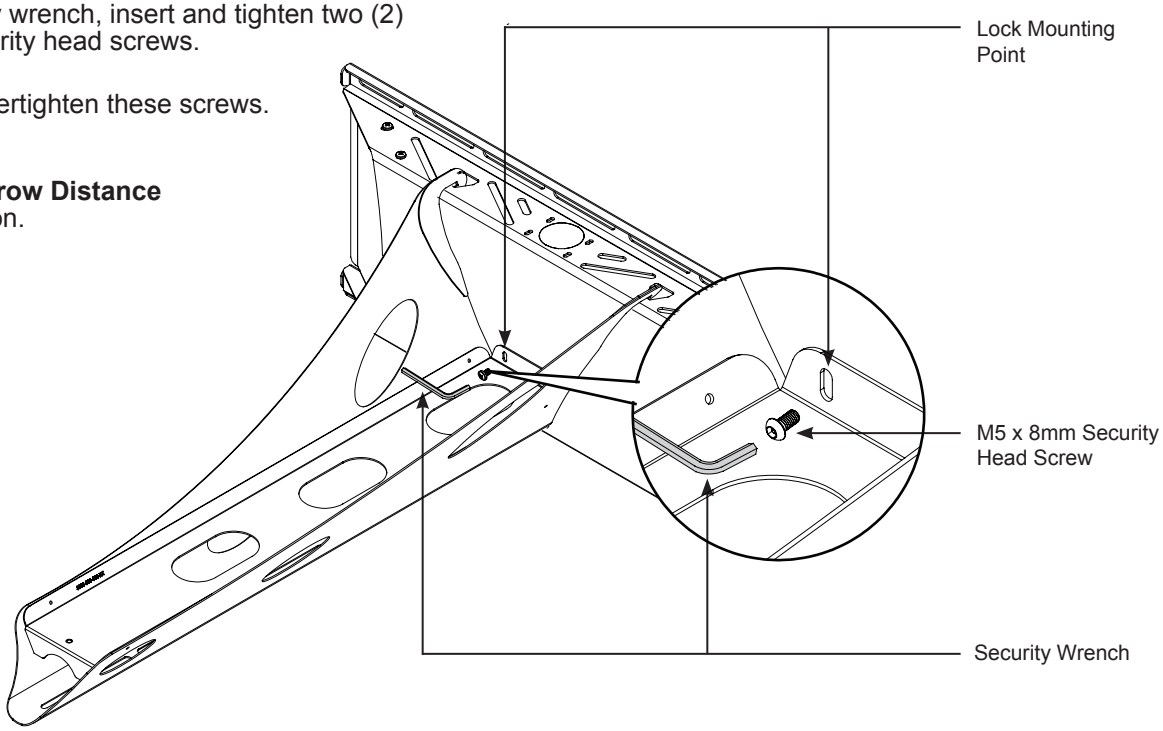


Step 2

1. Locate the two (2) lock mounting points on the projector arm. These two points will be aligned with the lock mounting points on the wall plate.
2. Using a security wrench, insert and tighten two (2) M5 x 8mm security head screws.

Do NOT overtighten these screws.

Proceed to the **"Throw Distance Calculation"** section.



Throw Distance Calculation

Please review the Operator's Manual that came packaged with your projector before attaching the upper mounting bracket. The correct throw distance (the distance from the projector to the screen) must be determined prior to mounting the projector.

1. Refer to the projectors Users Manual to determine the distance from the lens to the front of the screen (X).
2. Measure the distance from the front of the lens to the center of the projector (Y).
3. Measure the distance from the wall to the face of the whiteboard/screen (Z).
4. Add all measurements (X + Y + Z) to determine projector placement on the arm assembly. This measurement will determine where the center of the mount bracket will be located on the arm assembly. Please make note of this measurement.

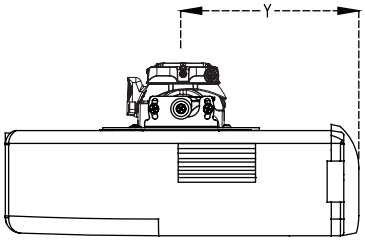
Calculations

X = Manufacturers recommended throw distance

Z = Distance from wall to face of whiteboard/screen

Front Lens Throw Distance = (X + Y + Z)

Front Lens



The NPLTWM can be also used as a wall-mounted standard projector mount as well as a short throw projector mount. Align the projector facing the opposite direction from the wall plate to project the image across the room. Please take into account the projectors throw capabilities prior to mounting in the projector opposite direction

Proceed to the **"Attaching the Projector Mount"** section.

Attaching the Projector Mount

Attach the FTP Dome to the mounting assembly before attaching the projector itself.

1. Detach the upper half of the mounting assembly from the lower half.
2. Following the "**A**" mounting-hole pattern (Figure 1), use four (4) M4 x 10mm security screws to attach the FTP projector mount to the lower half of the mounting assembly (Figure 2). Do not overtighten.

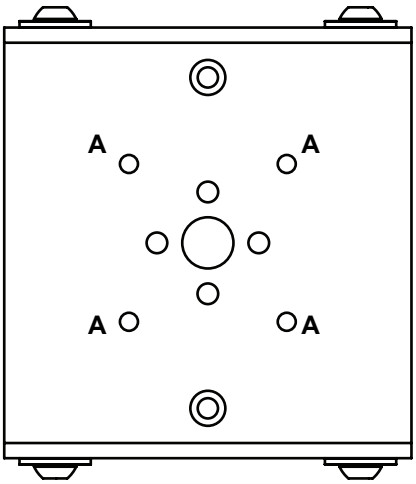
Use the four mounting holes on the collar of the FTP.

3. Re-attach both components of the mounting assembly.

Are you attaching an extension arm?

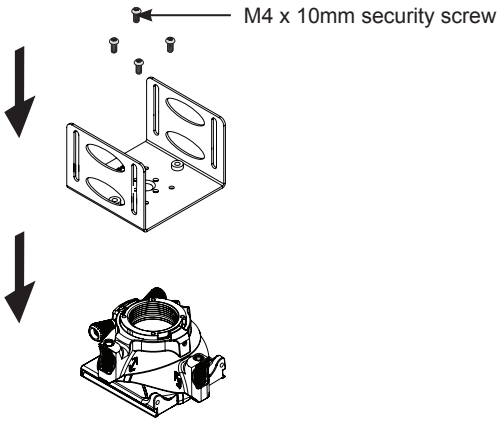
If yes, continue to the "**Extension Arm Installation (Optional)**" section on page 11.

If no, proceed to the **"Adjustable Mounting Bracket Installation"** section on page 12.



Bottom view of the adjustable mounting assembly

Figure 1



Projector not shown

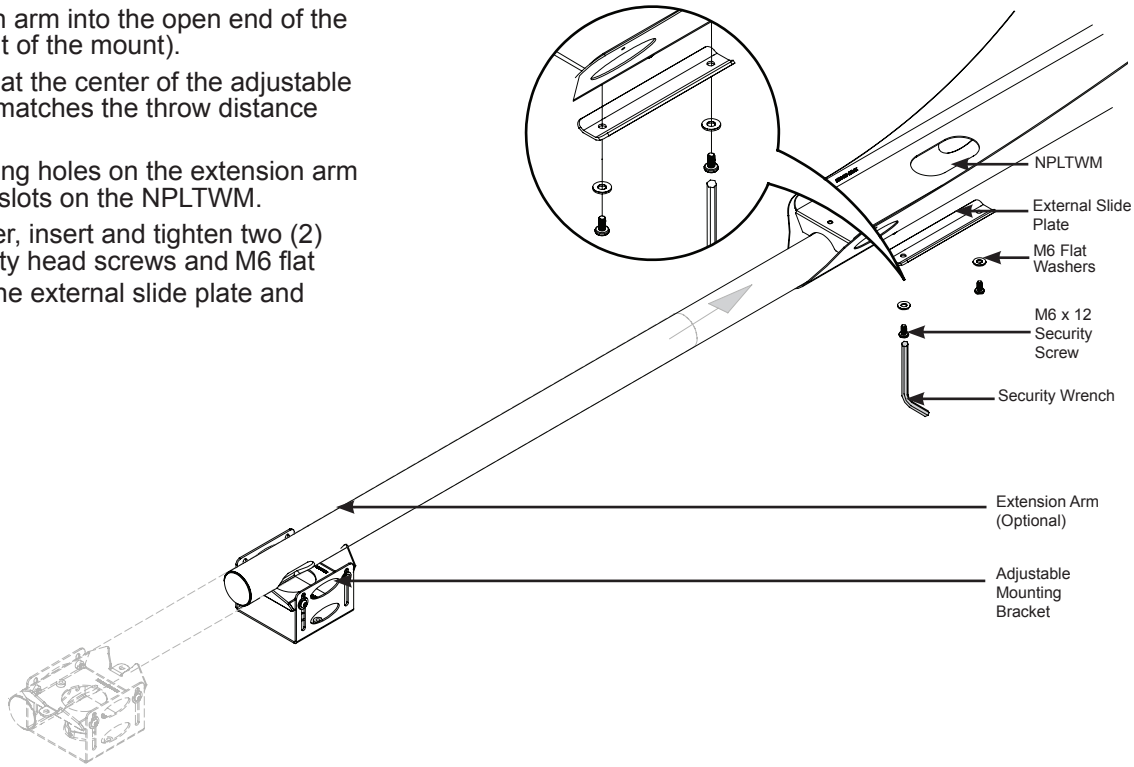
Figure 2

Extension Arm Installation (Optional)

Please see the Operator's Manual to determine the correct throw distance (the distance from the projector to the screen). The throw distance must be determined prior to mounting the projector (Page 8).

The end cover must be removed prior to installing the extension arm.

1. Slide the extension arm into the open end of the NPLTWM (the front of the mount).
2. Adjust length so that the center of the adjustable mounting bracket matches the throw distance calibration.
3. Line up the mounting holes on the extension arm with the mounting slots on the NPLTWM.
4. Using a screwdriver, insert and tighten two (2) M6 x 12mm security head screws and M6 flat washers through the external slide plate and tighten.



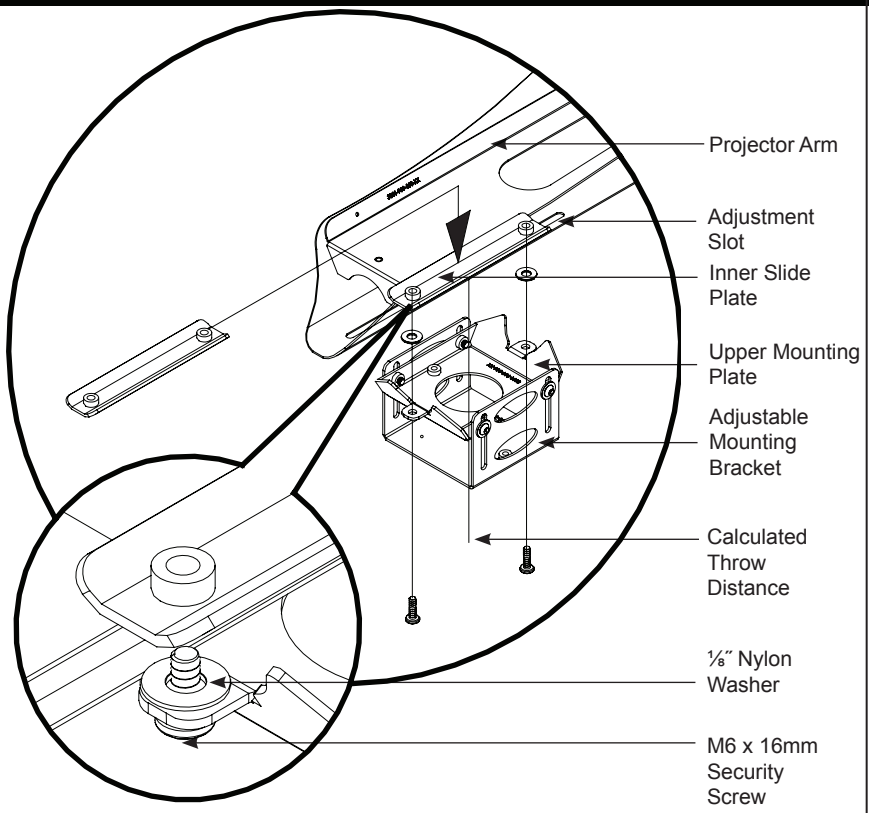
Proceed to the **"Adjustable Mounting Bracket Installation"** section.

Adjustable Mounting Bracket Installation

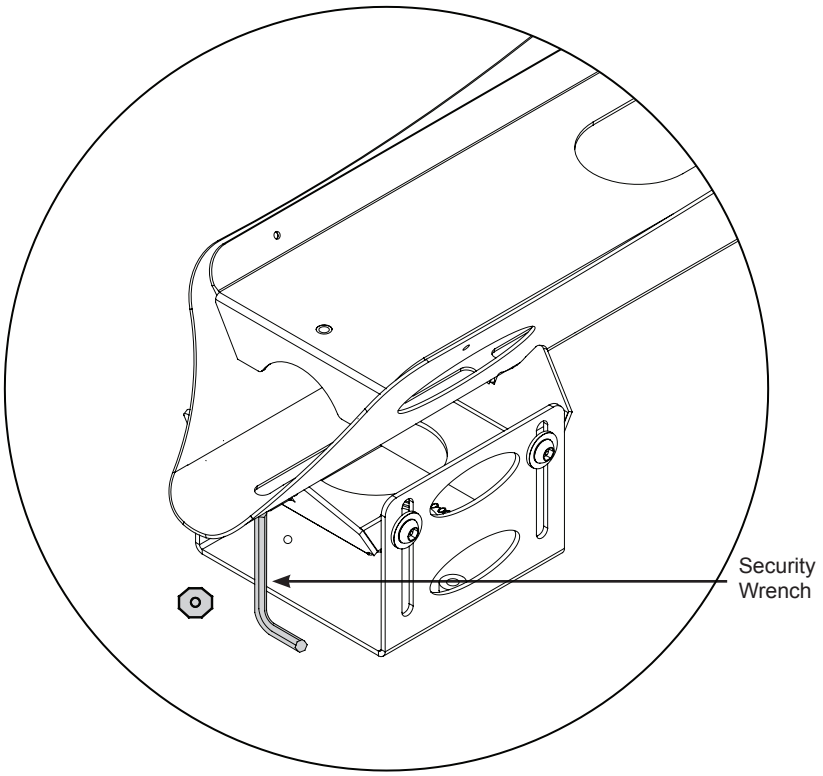
1. If you are not using the extension arm, insert the inner slide plate into the projector arm.
2. Determine which adjustment slot best matches your throw distance calculation (above).
3. Raise the adjustable mounting bracket into position.
4. Align the mounting holes of the upper mounting plate with the mounting holes of the inner slide plate or extension arm.

Two (2 - one per screw) ⅛″ nylon washers must be placed between the adjustable mounting bracket and the projector arm (see inset to the right).

5. Secure and finger-tighten two (2) M6 x 16mm security head screws.



6. If needed, determine the Throw Distance again.
7. Once the correct throw distance has been determined, use the security wrench (supplied) to tighten the mounting screws.



If the adjustable mounting bracket needs to be adjusted, the four (4) M6 x 12mm security screws may be loosened so that the bracket can be moved ±2″. Once the desired height has been achieved, re-tighten the hardware.

Do NOT overtighten these screws.

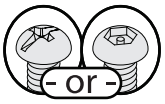
Proceed to the **"Attaching the Projector Bracket"** section.

Attaching the Projector Bracket

Lock-It™ Security Hardware Pack

Your projector bracket comes with the option of using Lock-It™ Security Screws. Simply replace any of the Phillips head screws with the corresponding sized Lock-It™ Security screws and tighten using the appropriate Security Allen wrench.

When you see these graphics associated with a step, you have the option of using the standard mounting hardware or the Lock-It™ Security hardware.



Step 1

1. Invert the projector and place it on a soft, flat surface.
2. Remove any foot levelers that might prevent bracket installation.
3. Locate the mounting points on the projector.
4. Place the bracket on the projector (Figure 1).

Bottom of projector shown is for example purposes only.

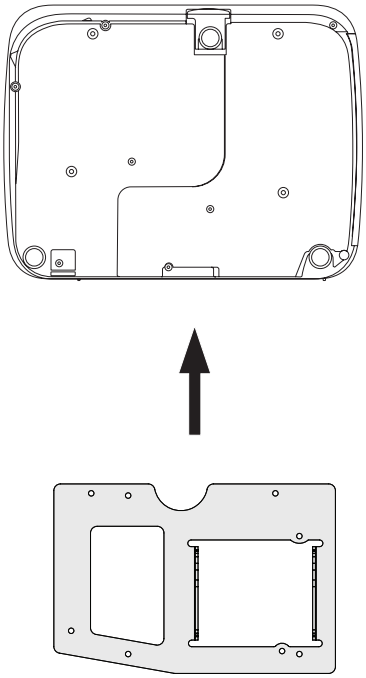


Figure 1

Step 2

1. Align the mount holes on the bracket with the mounting points on the projector.

If you are using the NEC M300W projector, use the mount holes labeled "**A**". If you are using the NEC M300WS projector, use the mount holes labeled "**B**". See Figure 2.

2. Insert one (1) M4 x 10mm pan Phillips screw or one (1) M4 x 10mm Lock-It™ security screw into each mounting point.
3. Tighten the mounting hardware.

Do not overtighten the mounting screws.

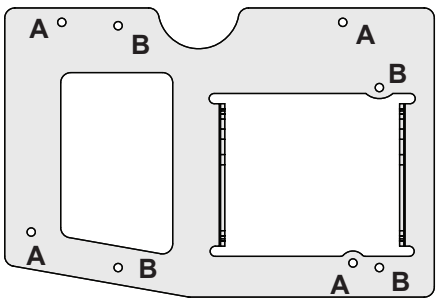


Figure 2

Attaching the Projector Bracket (cont'd)

Step 3

Slide the quick set base into the projector plate and hook the projector plate over the quick set base hinge pins (Figure 1).

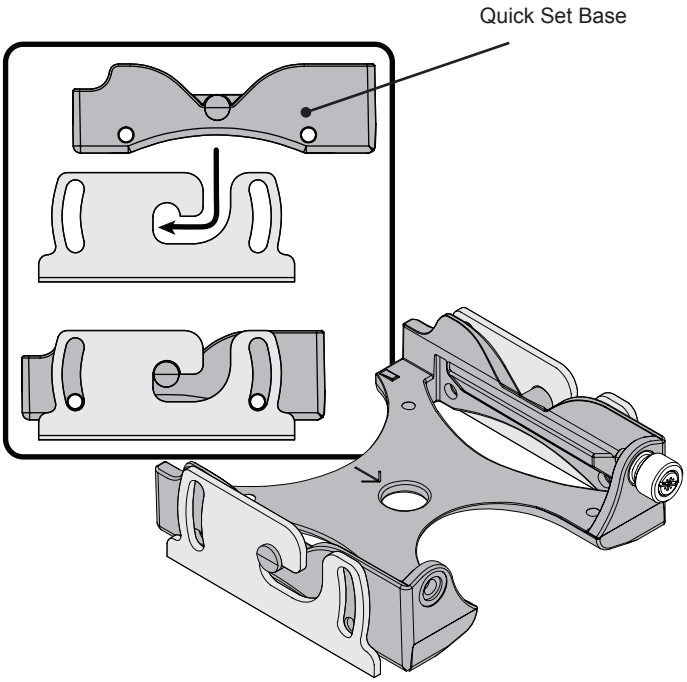


Figure 1

Step 4

❶ Insert one (1) M6 x 8mm security screw into each of the indicated locations. See Figure 2.

❷ Proceed to the **"Attaching the Projector Mount"** section.

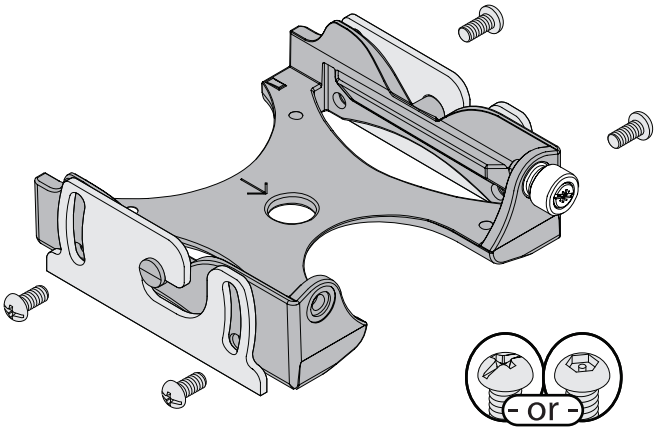


Figure 2

Step 5

❶ Hand tighten the captive screw.

❷ Insert one (1) M5 x 12mm security screw into location **"B"** to tighten the Quick Set Base to the FTP Dome (Figure 3).

❸ Proceed to the **"Attaching the Projector Mount"** section.

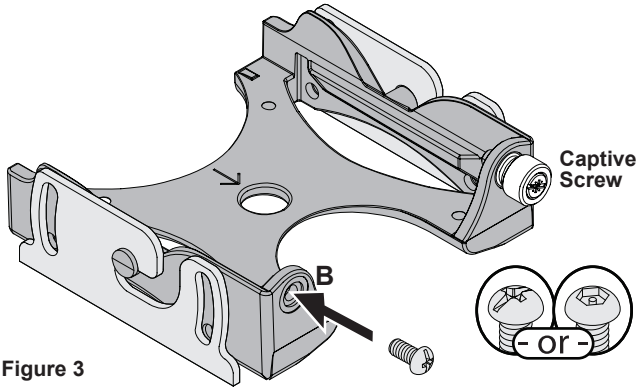
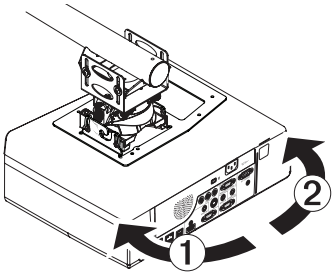


Figure 3

Alignment & Fine-Tuning

Yaw

Yaw can be adjusted up to 20° left and 20° right from center.

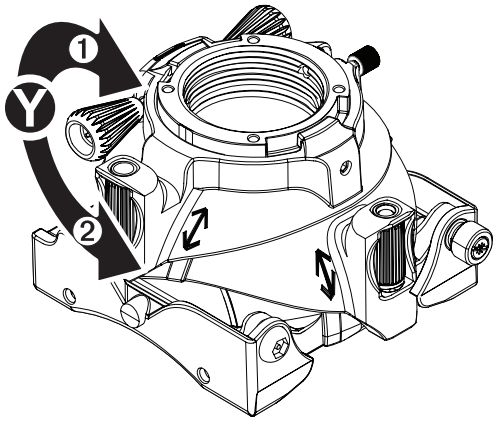


Adjust the projector's yaw by turning control Ⓨ...

...clockwise to pivot the front ① to the right.

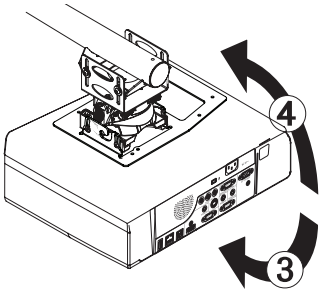
...counter-clockwise to pivot the front ② to the left.

Each full revolution of the Ⓨ control adjusts the yaw by 4°.



Pitch

Pitch can be adjusted 15° down and 5° up from level.

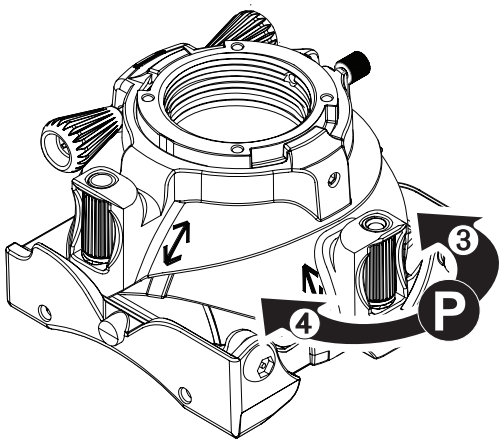


Adjust the projector's pitch by spinning control Ⓟ...

...right to pitch the front ③ down.

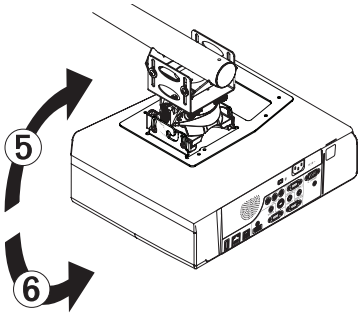
...left to pitch the front ④ up.

Each full revolution of the Ⓟ control adjusts the pitch by 1°.



Roll

Roll can be adjusted up to 5° to either side from level.

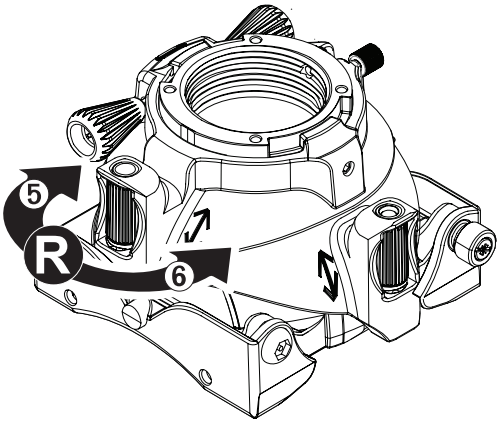


Adjust the projector's roll by spinning control Ⓡ...

...left to roll the right side ⑤ up.

...right to roll the right side ⑥ down.

Each full revolution of the Ⓡ control adjusts the roll by 1°.



Locking in the Adjustments

After you have finalized your yaw, pitch, and roll adjustments, you can lock them in to prevent them from being accidentally changed.

❶ Finger-tighten the knurl knob until it makes firm contact with the FTP Support Sphere (Figure 1).

The M6 set screw on the front of the FTP Dome provides tension for the roll, pitch and yaw adjustments. This is a factory setting which you should not change (Figure 2).

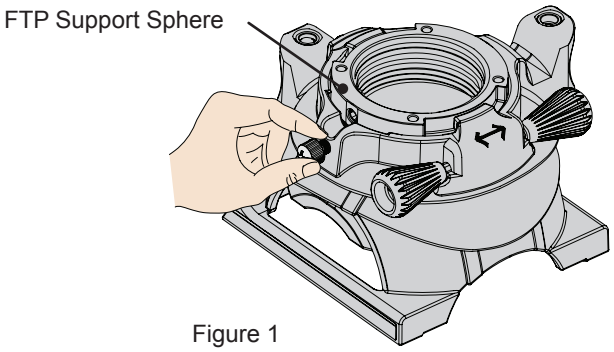


Figure 1

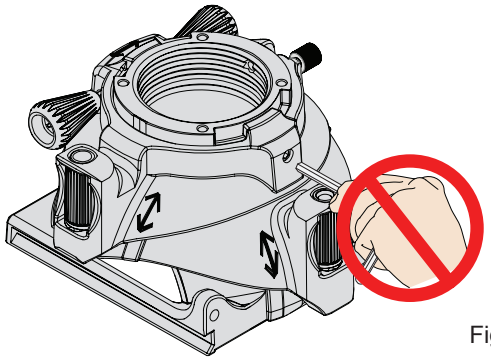


Figure 2

Utilizing the Storage Feature

The storage feature may be used to store electronic components. There is an accessible door on each side of the storage enclosure. It may be securely held shut with the use of four (4) M5 x 8mm security head screws. It may be easiest to pre-wire all cables down the arm (or extension) at this time.

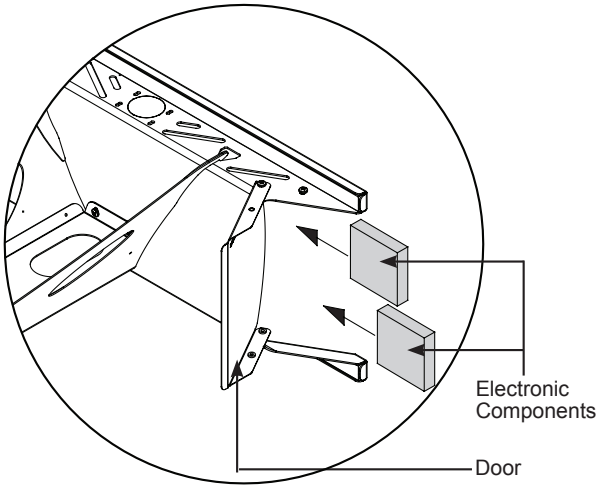
❶ Open the storage door that is located on the side of the wall plate.

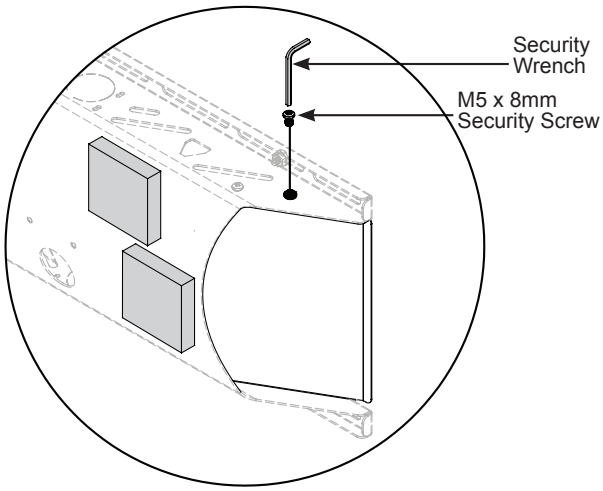
❷ Place the electronic components inside the storage enclosure.

❸ Make all electronic connections at this time.

❹ Close the storage door and secure using two (2; 1 upper and 1 lower) M5 x 8mm security head screws. Tighten using a security wrench. Repeat this process for the other side as well.

Proceed to the **"Cable Management"** section.

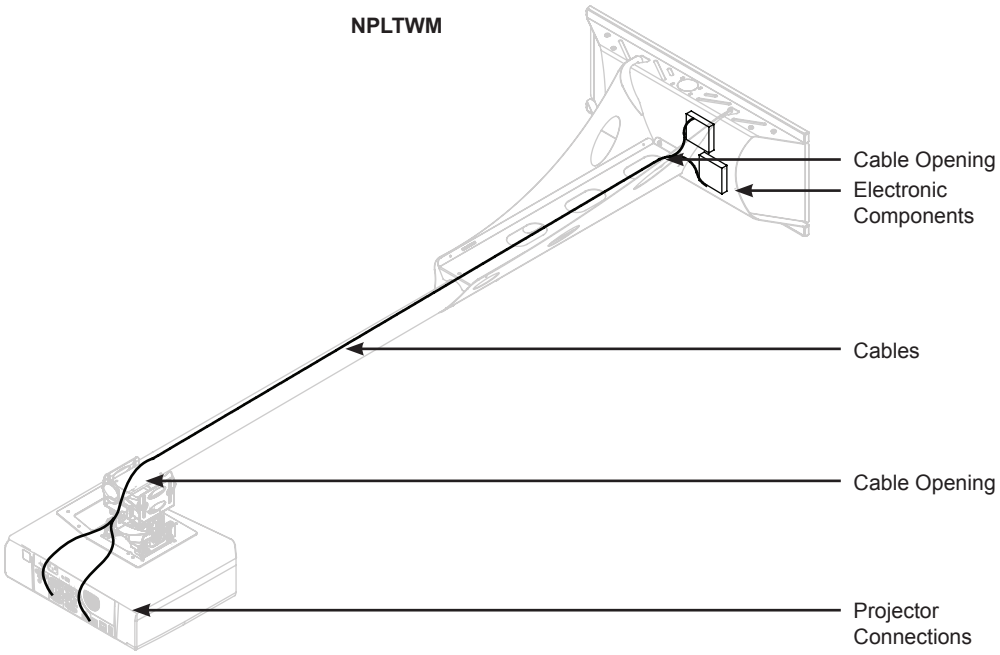


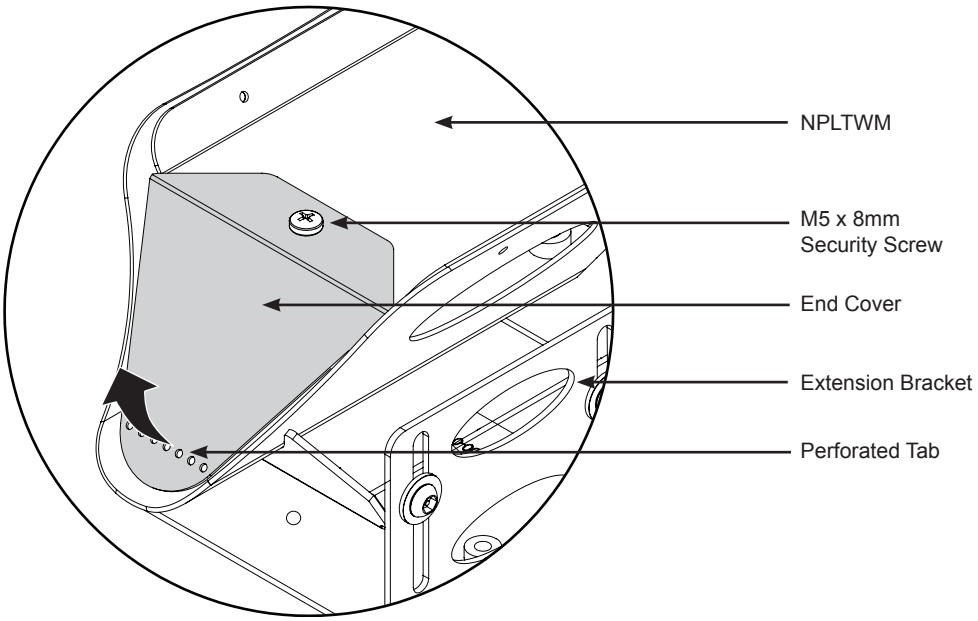


Cable Management

1. The cable access holes are located at the end of the short throw mount and on the wall plate.
2. Route the cables through one end of the NPLTWM and out the other end.
3. Attach the end cover with an M5 x 8mm security head screw.

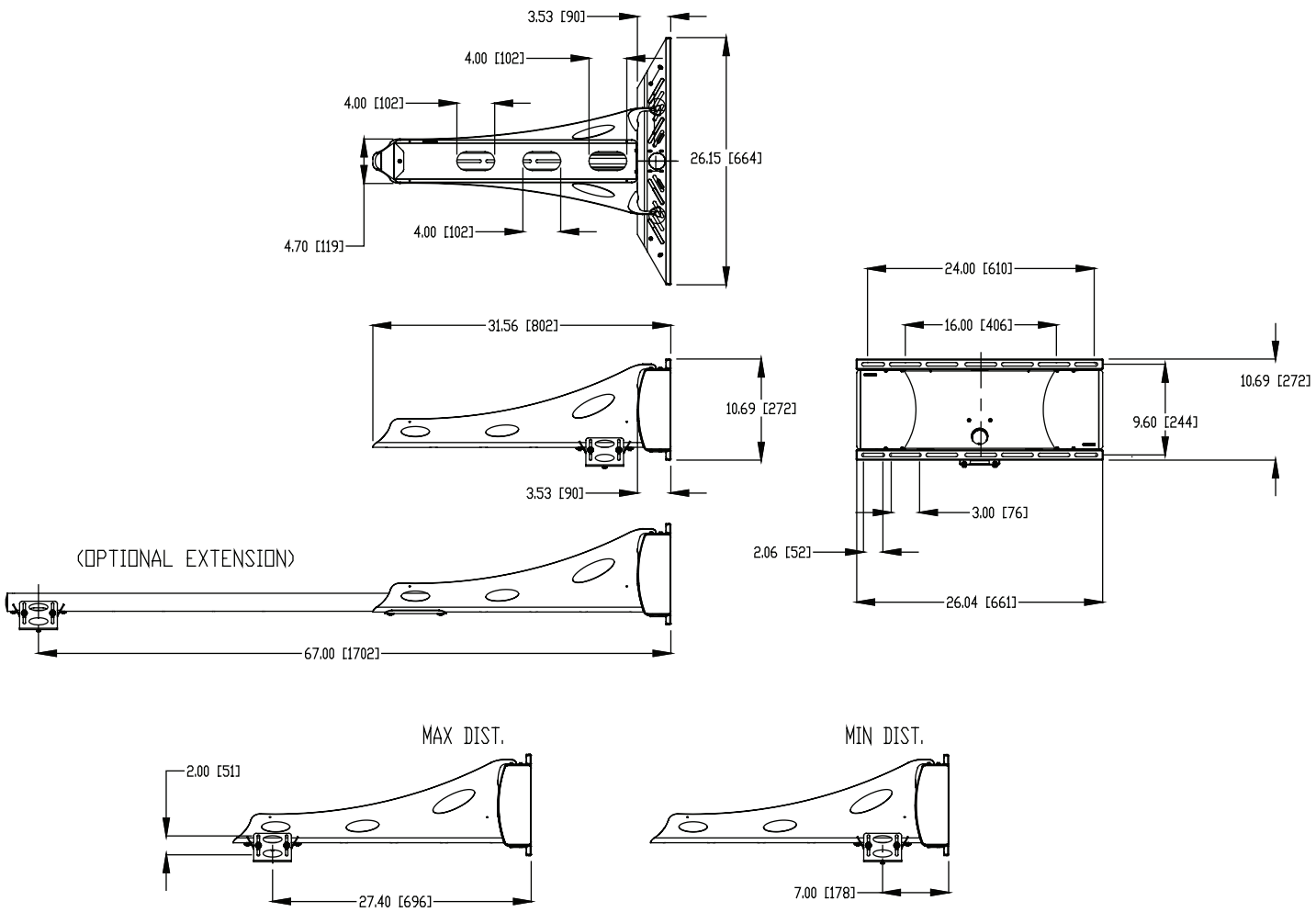
You may direct the cables out the end of the NPLTWM. The end cover has a perforated tab to allowcables to pass out the end. Pliers must be used to bend the perforated tab. If the cables will not fit, the end cover may be removed by loosening and extracting the M5 x 8mm security screw.





Technical Specifications

All measurements are in inches(mm).



Disclaimer

NEC intends to make this manual accurate and complete. However, NEC makes no claim that the information contained herein covers all details, conditions or variations, nor does it provide for every possible contingency in connection with the installation or use of this product. The information contained in this document is subject to change without notice or obligation of any kind. NEC makes no representation of warranty, expressed or implied, regarding the information contained herein. NEC assumes no responsibility for accuracy, completeness or sufficiency of the information contained in this document.