

Installing the HS Series and Jazz Series ultra-short throw lens

When using the ultra-short throw (UST) lens, the UST adapter must be used to stabilize the lens when used with HS Series and Jazz Series projectors.

Due to the weight of the UST lens, it must always be used with the adapter. Follow the instructions in this document to install the lens support bracket for the UST lens with HS Series and Jazz Series projectors.

Affected products

The following products are affected:

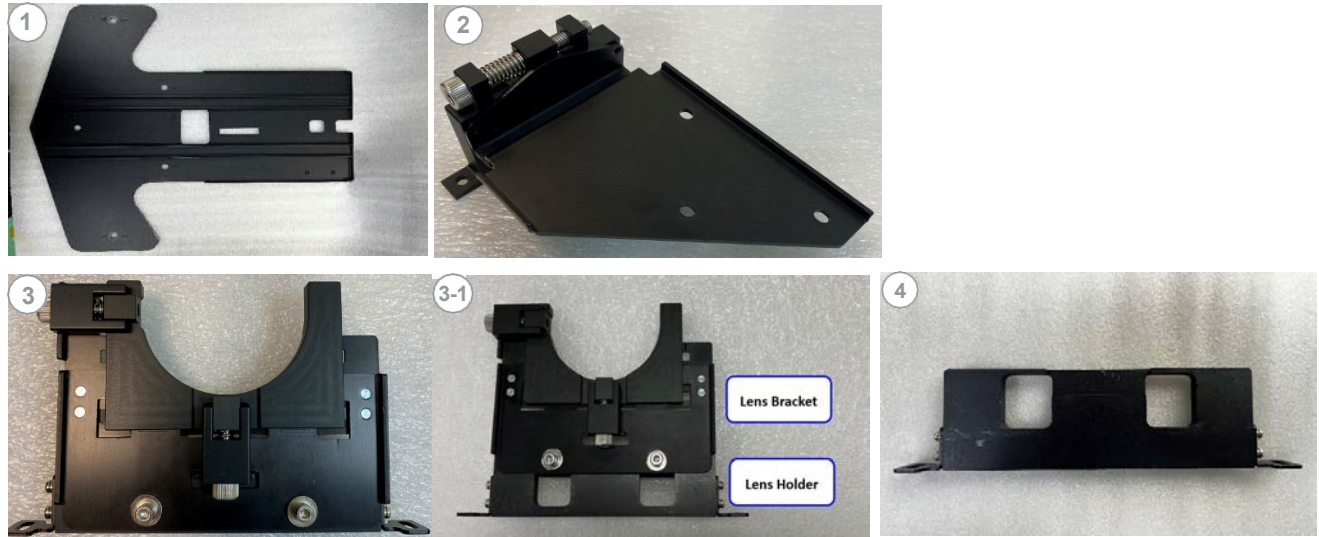
- D13HD2-HS
- D13WU2-HS
- D16HD-HS
- D16WU-HS
- D20HD-HS
- D20WU-HS
- 4K7-HS
- 410-HS
- DWU23(A)-HS
- DWU19(A)-HS
- DWU15(A)-HS
- 4K22(A)-HS
- 4K13(A)-HS
- DWU2400(A)-JS
- DWU1800(A)-JS
- 4K2100(A)-JS
- 4K1600(A)-JS




Required components

The following components are required to complete the upgrade.

Lens Support kit (P/N: 900-300413-XX) includes:

- UST lens (P/N: 140-142108-XX)
- UST lens bracket kit (P/N: 140-160108-XX)
- Screw socket head M8x16 SS (quantity 6 pieces)
- Screw socket head W/SF M4x10 SS (quantity 14 pieces)
- Washer flat M8 16x8.5x1.5 SUS304 (quantity 6 pieces)



Item	Image	Description	Quantity
I		Screw socket head M8x16 SS	6
II		Screw socket head W/SF M4x10 SS	14
III		Washer flat M8 16x8.5x1.5 SUS304	6

Item	Description
1	Supporter base
2	Lens fixture
3	Lens bracket (including lens holder for HS Series and Jazz Series, except 4K7-HS and 4K10-HS)
4	4K7-HS/4K10-HS lens holder
5	Screw packs

Required tools

The following tools are required for installing the lens support:

- 3 mm hex key
- 5 mm hex key
- 6 mm Allen key
- Hexagon wrench

Lens calibration

Perform lens calibration before installing the lens support bracket.



This feature is not available under the following conditions:

- Lens Calibration is in progress or has failed.
- Lens Lock is engaged.
- Auto Focus (AF), Auto Calibration (AC), and Auto color uniformity (ACU) calibration processes are ongoing.
- UST mode is on.

1. Power on the projector.
2. If you have a non-ultra short throw lens (standard lens) installed, perform a lens calibration by selecting **Menu > Configuration > Lens Settings > Lens Calibration**.
3. If you do not have a non-ultra short throw lens, follow either step 4 or 5 to complete the lens calibration.
4. Connect to the projector using RS232 and perform a lens calibration by sending the serial API command **LCB+HOME1** to the projector.
5. To configure the projector settings using a web user interface, follow these steps.
 - a) Connect to the projector using Ethernet to open the web user interface. The default IP address is 192.168.0.100. Subnet Mask: 255.255.255.0 and Default Gateway: 192.168.0.1
 - b) Navigate to the **Configuration** menu.
 - c) Set the Ceiling Mount option to **ON** for table top or **OFF** for ceiling mount.
 - d) Enable **Rear Projection**.
 - e) Set Special Location to **Top, Center, or Bottom**.



This setting specifies the projector's position relative to the screen.

- f) Select **Apply**.
 - g) Install the ultra short throw lens.
6. Power off the projector.

To understand the projector's settings across different mounting configurations, see the table below. It provides a summary of the key settings required for ceiling mount, tabletop and rear projection installations. Make sure these settings are applied to avoid confusion during operation.

Mounting position	Image orientation	Configuration steps
Ceiling	Normal	1. Set Ceiling Mount to ON . 2. Enable Rear Projection . 3. Perform Lens Calibration.
Table top	Normal	1. Set Ceiling Mount to OFF . 2. Disable Rear Projection . 3. Perform Lens Calibration.
Rear Projection	Reversed	1. Enable Rear Projection . 2. Set Special Location to Top, Center, or Bottom depending on placement.

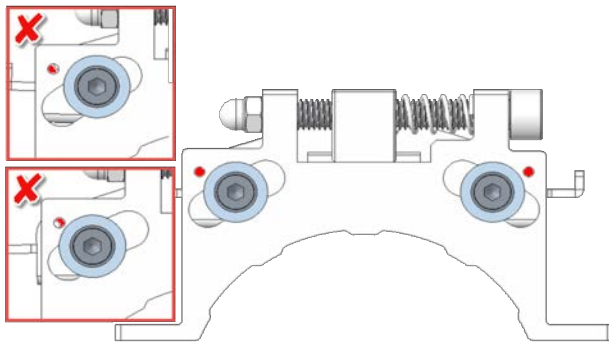
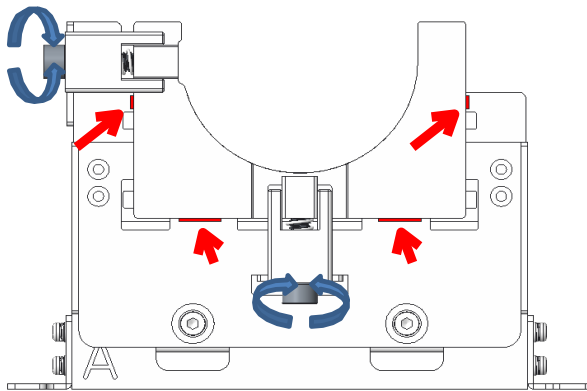
Mounting the lens support bracket

The lens holders are replaceable parts marked with T for the 4K7-HS and 4K10-HS, and an A for the Jazz Series and all other HS Series models.

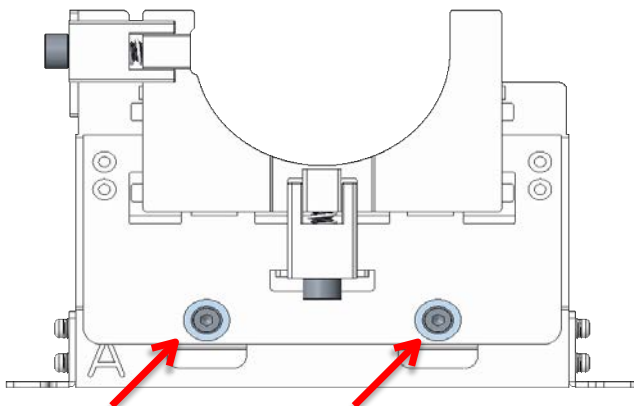


If you have purchased a new projector with the ultra short throw (UST) lens and have not performed any lens related operation, for example lens shift or lens calibration, the new projector remains in the default setting for lens position. Do not perform a lens calibration.

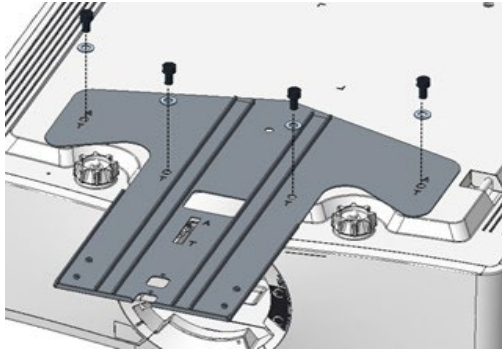
1. Turn on the projector and perform a *lens calibration* as described in the steps on page 3 and turn off the projector.
2. Remove the non-ultra-short throw lens, if installed.
3. Before mounting the bracket, using a 5 mm hex key, align the mark lines as shown below.



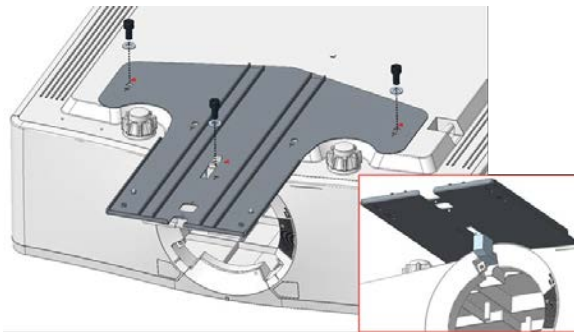
4. If the two highlighted M4xL22 screws have tightened, loosen the screws by one turn.



5. Flip the projector onto its top side.
6. Secure the support base (without lens bracket attached) to the projector.
 - For 4K7-HS and 4K10-HS, secure at the front position and fasten four M8x16 screws and washers.

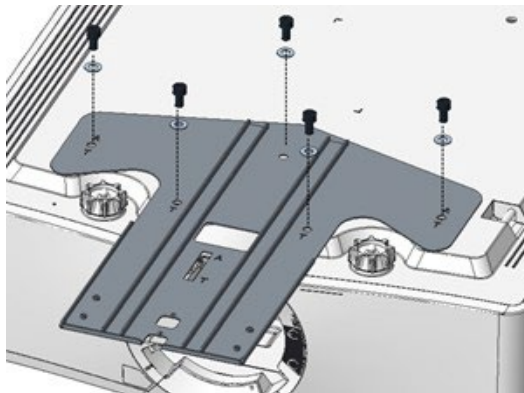


- For D13WU2-HS, D13HD2-HS, D16WU-HS, D16HD-HS, D20WU-HS, and D20HD-HS, fasten three M8x16 screws and washers. For the front screw, slide to hook the projector front cover and then secure the screw.

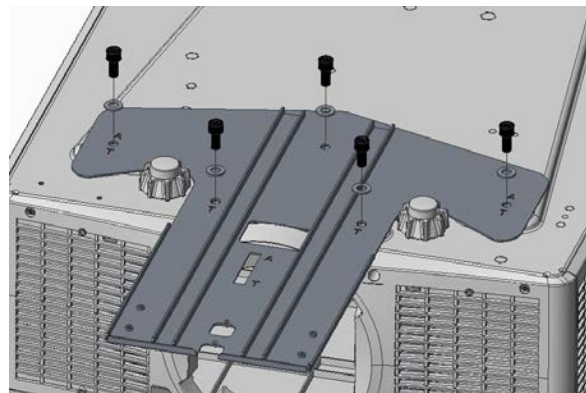


- For 4K13(A)-HS, 4K22(A)-HS, DWU15(A)-HS, DWU19(A)-HS, DWU23(A)-HS, 4K2100(A)-HS, 4K1600(A)-HS, DWU2400(A)-JS, and DWU1800(A)-JS, secure at the front position and fasten five M8x16 screws and washers.

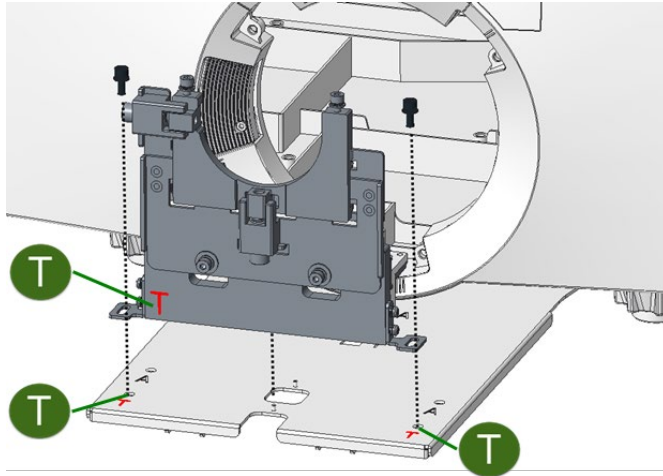
4K13(A)-HS, 4K22(A)-HS, DWU15(A)-HS,
DWU19(A)-HS, and DWU23(A)-HS



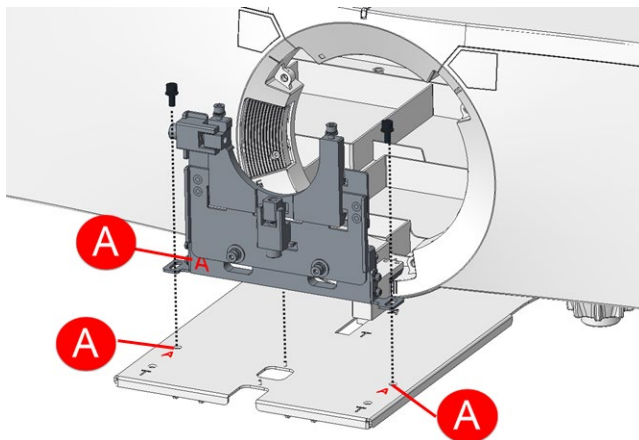
4K2100(A)-JS, 4K1600(A)-JS, DWU2400(A)-JS, and
DWU1800(A)-JS



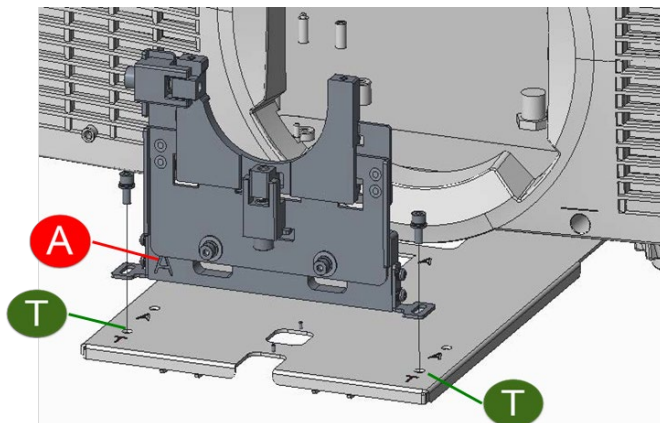
7. Connect the lens bracket to the support base, aligning the location hole and pin.
8. Secure the attachment with the pre-lock screws (M4xL10 hexagon socket head screws).
 - For 4K7-HS and 4K10-HS, use the lens bracket marked with a T and assemble it onto the support base marked with T.



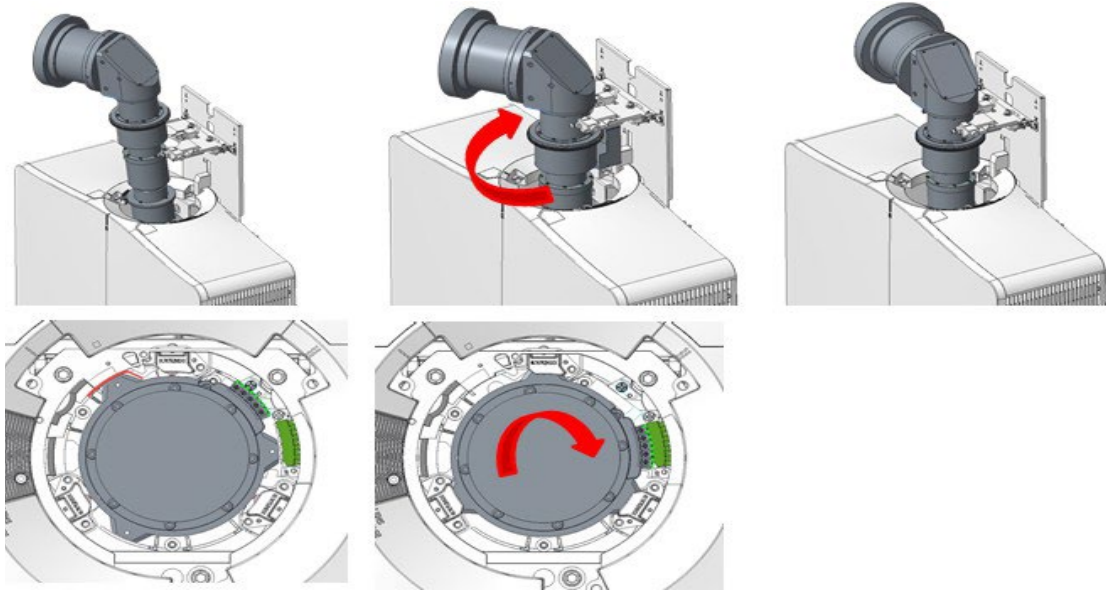
- For all other HS Series models, make sure to use the lens bracket marked with an A and assemble it onto the support base marked with A.



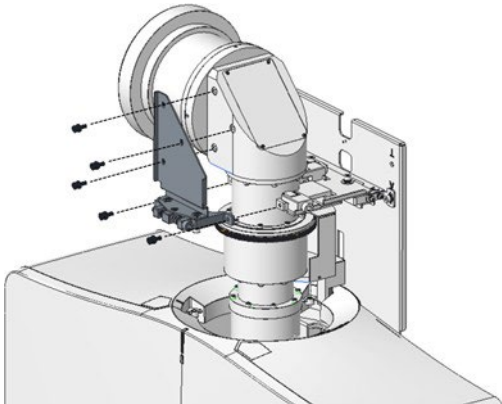
- For Jazz Series, make sure to use the lens bracket marked with an A and assemble it onto the support base marked with T.



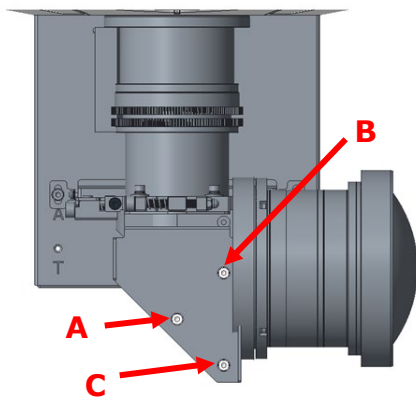
- Position the projector with the back panel on the surface and the lens facing upward and then install the UST lens.



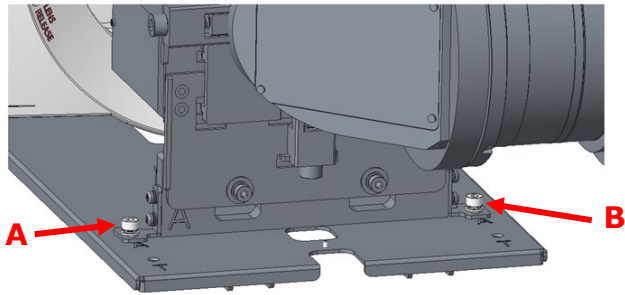
- Attach the lens bracket to the support UST lens neck.
- Use five M4xL10 screws to fasten the lens fixture securely to the lens bracket.



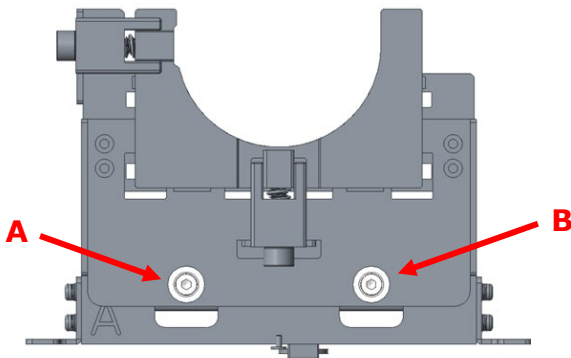
- Tighten the three M4xL10 screws (A, B, and C in the image below).



13. Tighten the two M4xL10 screws (A and B in the image below).



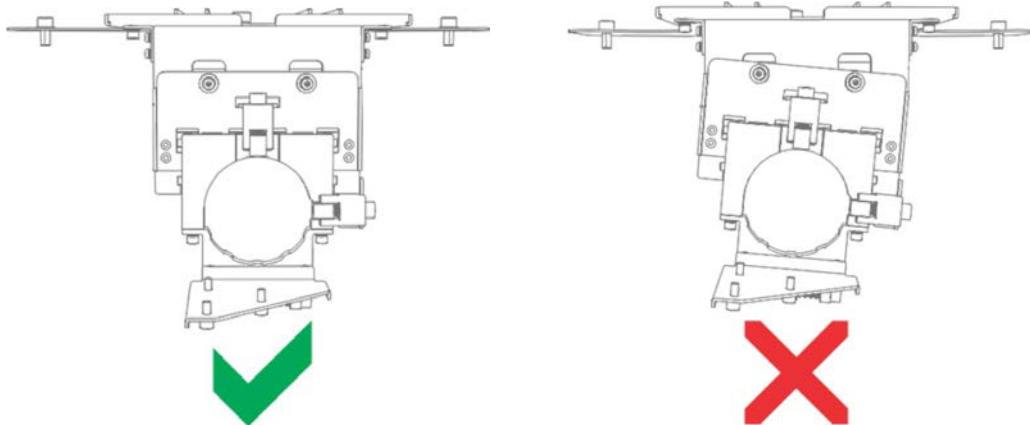
14. Tighten the two M4xL22 screws (A and B in the image below).



15. Restore the projector to its upright position and turn on power to the projector.

16. Shift the lens bracket to fit the UST lens neck.

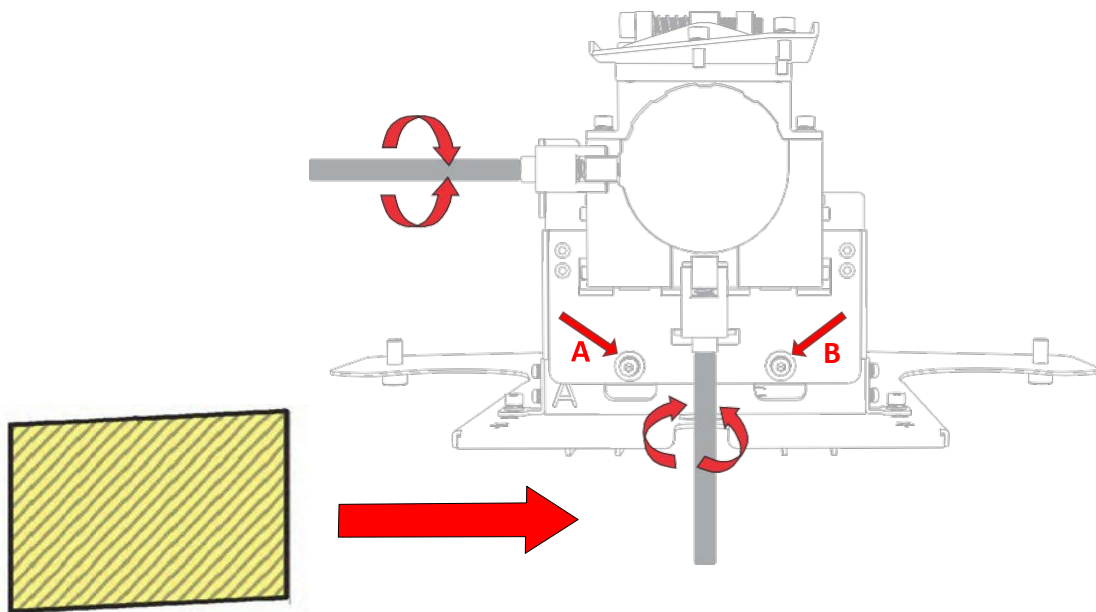
Make sure the lens bracket plate and the lens holder are properly aligned and securely assembled to prevent any tilting.



Adjusting the ultra short throw lens

After mounting the lens support bracket, adjust the ultra short throw (UST) lens.

1. Power on the projector to prepare it for lens adjustments.
2. Adjust the image position using the Lens Shift function.
 - Position the projector as close as possible to the original UST setting (for example, ceiling, floor, or center) to minimize the need for lens shift adjustments.
 - Small lens shifts can be performed without affecting boresight or focus balance. For larger shifts, proceed to Step 4 onward.
 - Do not use the Lens Shift function while the two M4xL22 screws are locked.
3. If the tilt of the lens is too significant to fine-tune, gently lift up the lens to reduce the image offset before locking the screws.
4. Adjust the two M6 screws to fine-tune the image position, ensuring screws A and B are securely tightened beforehand.

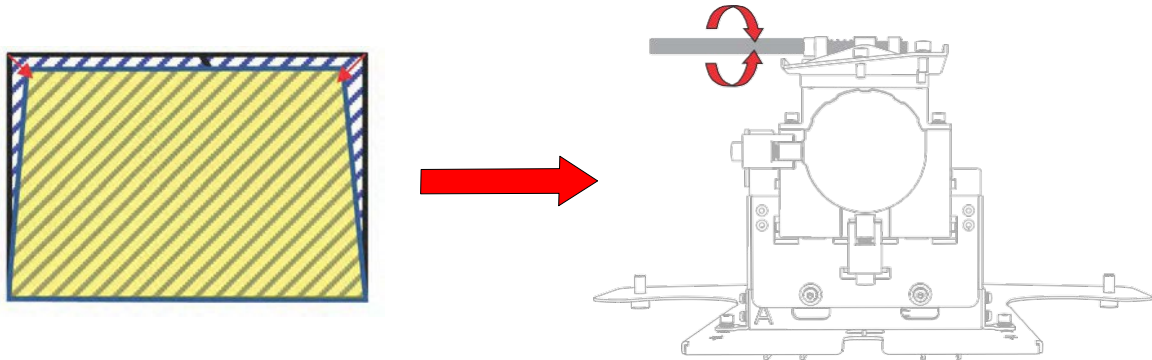


5. Prepare for lens roll angle adjustments.

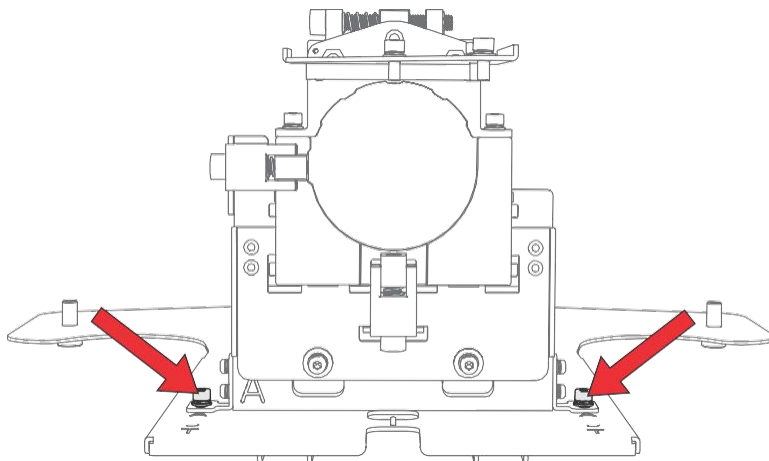


Geometry corrections should be made by physically adjusting the projector mount. If physical adjustments are not feasible, minor geometry corrections can be made using the UST lens settings provided below.

- To fine tune the lens roll angle, adjust the M6 screw using a hexagon wrench.



- Loosen by one turn the two M4 screws on the lens supporter, shown below.



- Adjust the boresight.
For information on how to adjust boresight, refer to the product's *Installation and Setup guide*.
- Tighten the two screws from step 7.
- To ensure the Lens Shift function cannot be executed after the boresight has been adjusted, from the on-screen display, navigate to **Configuration > Lens setting > Lock all Lens Motors** and select **Locked**.

Technical support

Technical support for Christie products is available at:

- North and South America: +1-800-221-8025 or *Support.Americas@christiedigital.com*
- Europe, Middle East, and Africa: +44 (0) 1189 778111 or *Support.EMEA@christiedigital.com*
- Asia Pacific
 - Australia: +61 (0)7 3624 4888
 - China: +86 10 6561 0240
 - India: +91 (80) 6708 9999
 - Japan: 81-3-3599-7481
 - Singapore: +65 6877-8737
 - South Korea: +82 2 702 1601