

# Ultra short throw lens installation

The ultra short throw lens—0.36 UST GS (P/N: 140-133108-XX)—allows you to position your projector as close as possible to your screen or display.



Unless otherwise indicated, the 700-GS and 850-GS model is shown for illustration purposes and may vary from your model.

## Affected products

The following products are affected:

- Christie DHD630-GS
- Christie DWU630-GS
- Christie DHD635-GS
- Christie DWU635-GS
- Christie DHD850-GS
- Christie DWU850-GS
- Christie DHD700-GS
- Christie DWU700-GS
- Christie DHD1075-GS
- Christie DWU1075-GS

## Required components

The ultra short throw lens (P/N: 140-133108-XX) includes the following components.

Quantity	Description
1	0.36 UST GS lens
1	Boresight adapter plate
1	Lens support bracket
1	Lens bracket
2	Mounting blocks (A)
2	Mounting blocks (B)
1	Angle bracket

Quantity	Description
3	Boresight extension rods
1	Boresight L-shaped socket key
12	M3x8 screws
6	M3x8 hex screws
4	M6x22 screws
4	M6x55 screws
4	M6x65 screws
6	M3 washers
10*	M6 washers
1	Product information card

\* Six of the washers are provided as spare parts.

## Required tools

The following tools are required.

- Long neck #2 Phillips screwdriver
- L-shaped socket key provided with the lens kit
- 2.5 mm allen key
- 5 mm hex nut driver
- 10 mm hex key wrench

## Upgrading projectors to version 1.1.0 or newer software

Christie is continuously improving the GS Series product line. To make sure you are getting the best experience, version 1.1.0 or newer software is mandatory for the ultra short throw lens application.



For 1075-GS, 630-GS, and 635-GS, the current firmware version is compatible with the ultra short throw lens application.

1. To download version 1.1.0 or newer of the new GS Series software, go to <https://www.christiedigital.com/en-us/business/products/projectors/1-chip-dlp/gs-series>.
2. From the Overview tab, select the appropriate projector model.
3. Select **Downloads > Software Downloads**.
4. Under Christie GS Series Software (Version X.X.X), click **Download**. Where X.X.X is version 1.1.0 or newer.
5. Install the software and reboot the projector.

# Completing the ultra short throw lens installation setup

To complete the installation setup, enter UST mode and start a lens calibration.

1. If you have a non-ultra short throw lens, complete the following steps:
  - a) Install a non-ultra short throw lens in the projector.
  - b) Power on the projector.
  - c) Access the Service menu.
    - For the GS Series 700/850/1075 models: From the on-screen display, select **Configuration > Service**.
    - For GS Series 630/635 models: From the on-screen display, select **Settings > Service**.
  - d) Enter the Service password.
  - e) Click **OK**.
  - f) Start the ultra short throw lens installation.
    - For the GS Series 700/850/1075 models: Select **UST Lens Install > Start**.
    - For GS Series 630/635 models: Select **Lens Install > Start**.

A lens calibration is performed.

2. If you do not have a non-ultra short throw lens, complete the following steps:
  - a) Connect to the projector with a computer using RS232 or Ethernet.  
The default IP address is 192.168.0.100.
  - b) Send the following two serial API commands to the projector to enter UST mode:

```
(UID "service,service")
(UST 1)
```

A lens calibration is performed.

3. When the lens calibration is complete, to turn off the projector, press **Exit**.
4. Disconnect the projector from AC power.

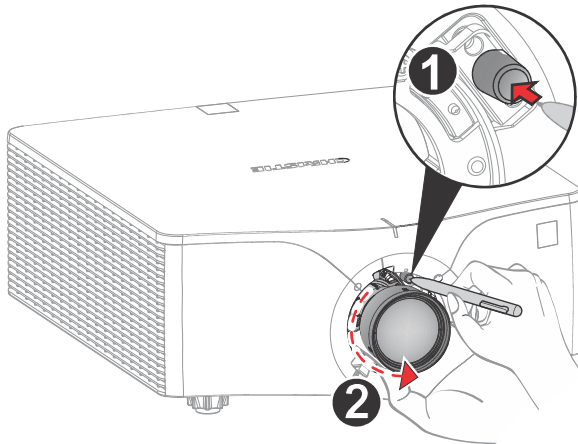
## Removing the non-ultra short throw lens

Use the correct method to remove the non-ultra short throw projection lens, if it is installed.

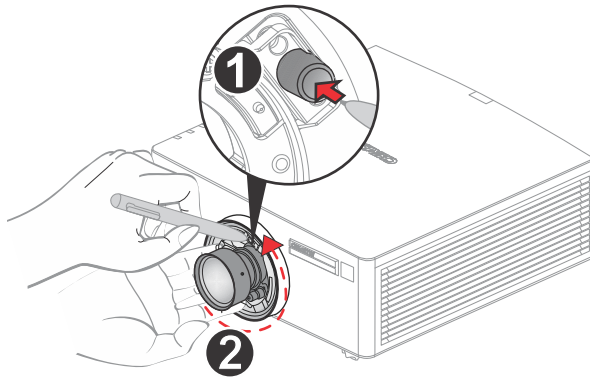


If a non-ultra short throw lens is not installed, proceed to *Replacing the boresight adapter* (on page 4).

1. To remove the lens, press the **Lens Release** button and rotate the lens counterclockwise by a quarter to release the lock.  
700-GS, 850-GS, and 1075-GS:



630-GS and 635-GS:

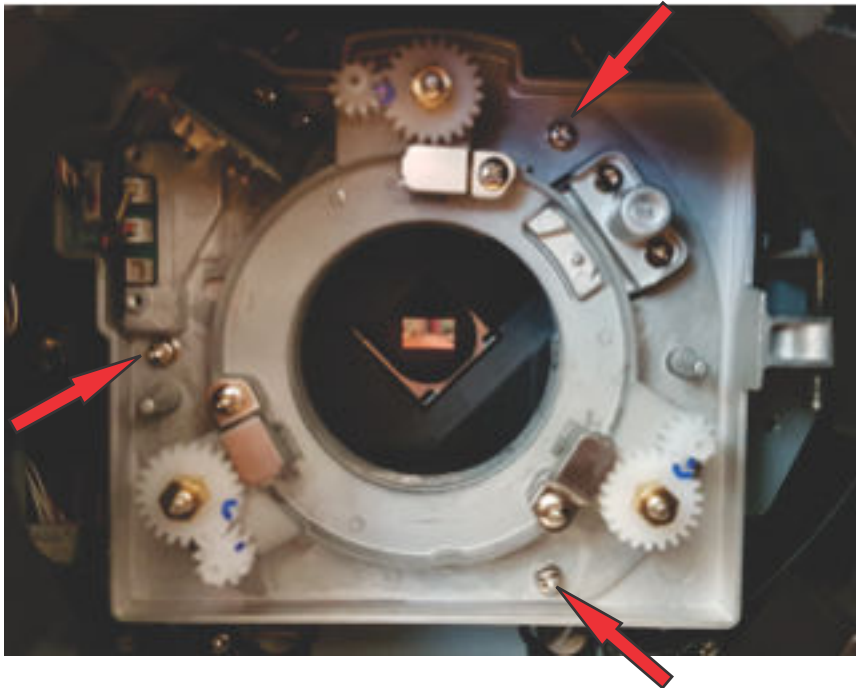


2. Remove the lens through the front of the projector.

## Replacing the boresight adapter

As part of the ultra short throw lens installation, replace the boresight adapter.

1. For 630-GS and 635-GS only, release the lens ring by turning the lens ring counterclockwise.
2. Remove the three screws securing the standard boresight adapter.  
Retain the three screws to use with the new ultra short throw lens boresight adapter.



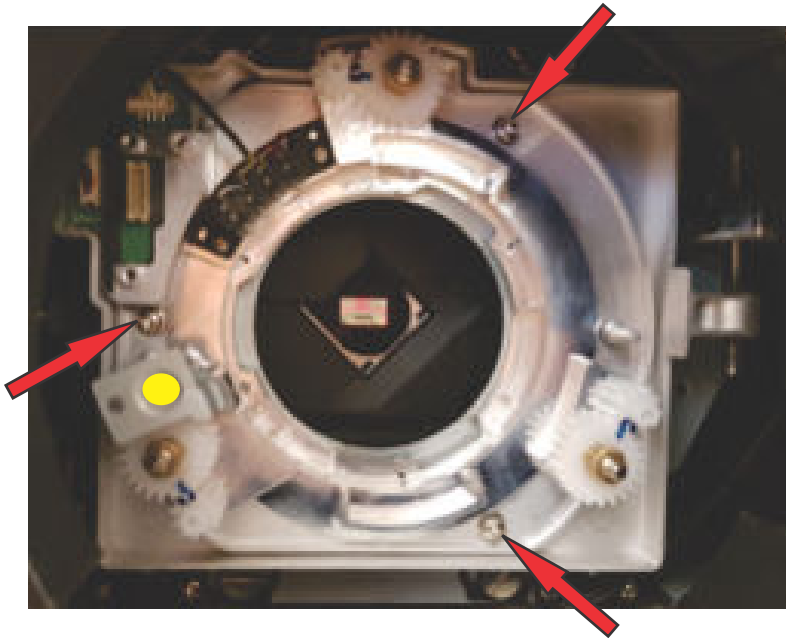
3. Rotate the standard boresight adapter and remove from the projector. When removing the boresight adapter, ensure it does not scratch the aperture casing of the projector.
4. Retain the standard boresight adapter for future use.
5. Disconnect the connector from the plate the boresight adapter rests on.



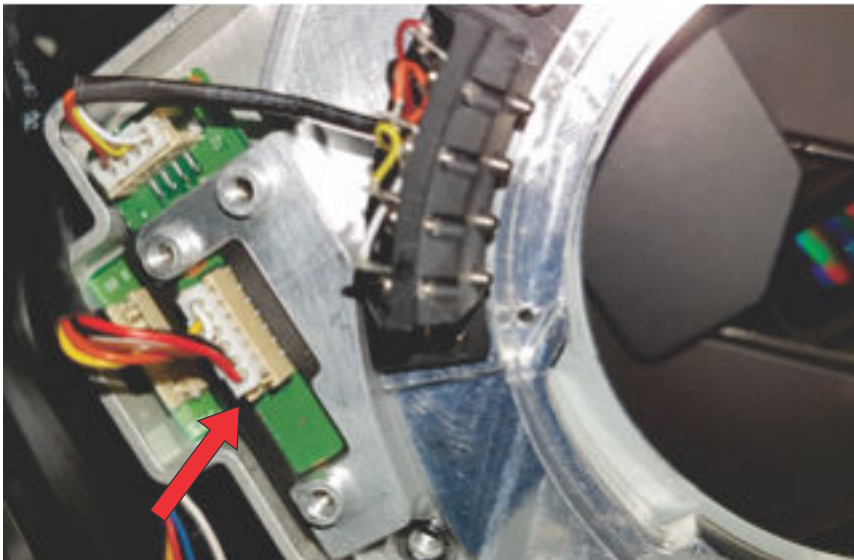
If in a poorly lit area, stand the projector with the projector aperture facing up for better visibility of the connector.



6. Insert the new ultra short throw lens boresight adapter in the projector. When inserting the new boresight adapter, ensure it does not scratch the aperture casing of the projector.
7. Install and tighten the three screws.



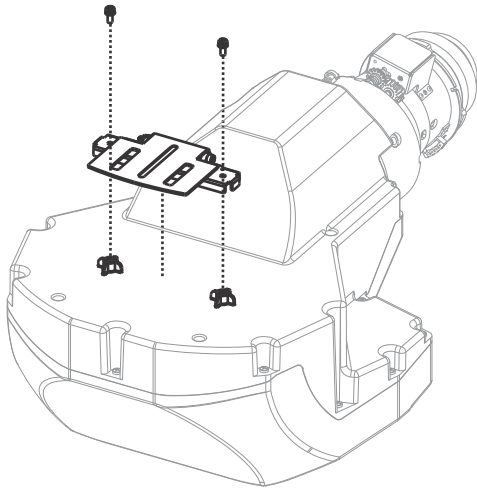
8. Install the connector that you disconnected in step 4 in the new boresight adapter.



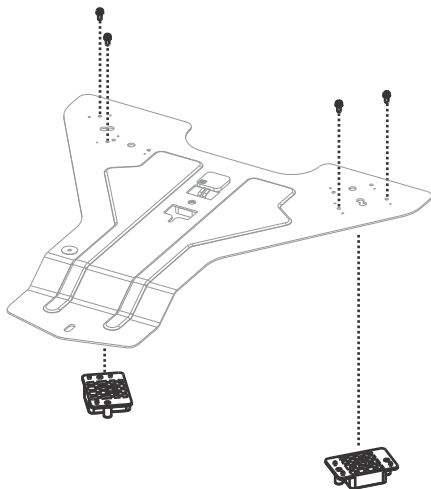
## Mounting the lens support bracket

To provide additional support for the ultra short throw lens, mount it on a support bracket.

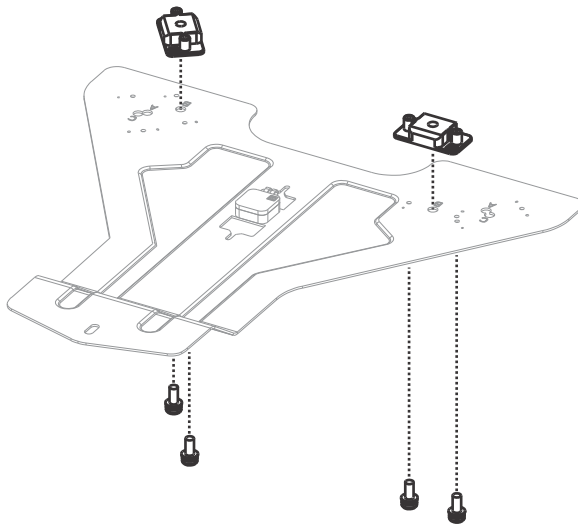
1. Place the ultra short throw lens on a cushioned surface to prevent damaging the lens.
2. Using two M3x8 screws, secure the lens bracket to the ultra short throw lens.  
Note the direction of the arrow on the lens bracket.



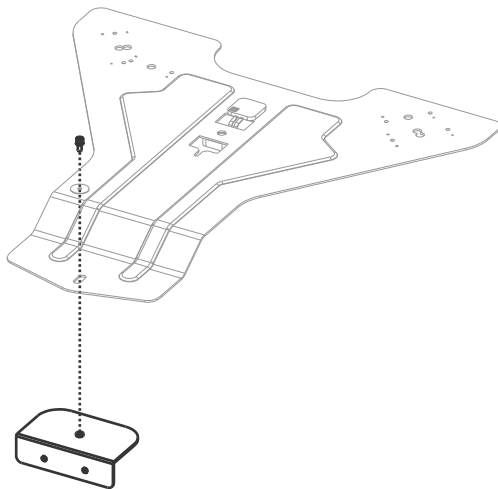
3. Place the projector upside-down on a flat, clean surface.
4. For 630-GS and 635-GS only, to ensure there is enough clearance between the lens support bracket and the surface the projector is on, rotate each projector foot nine counterclockwise turns.
5. Align the mounting block to the lens support bracket.
  - For 700-GS, 850-GS, and 1075-GS, align the screw holes on mounting block A to the holes marked A on the lens support bracket.
  - For 630-GS and 635-GS, align the screw holes on mounting block B to the holes marked B on the lens support bracket.
6. Install four M3x8 screws to secure the mounting block to the lens support bracket.  
700-GS, 850-GS, and 1075-GS:



630-GS and 635-GS:

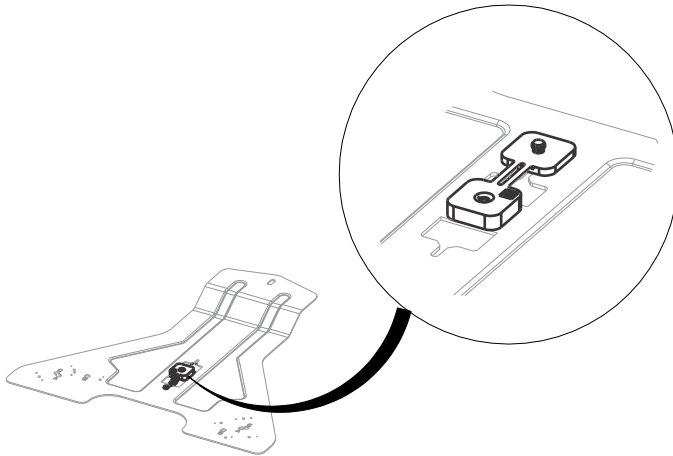


7. To secure the angle bracket to the lens support bracket, install one M3x8 hex screw and one M3 washer.  
Do not fully tighten the screw.



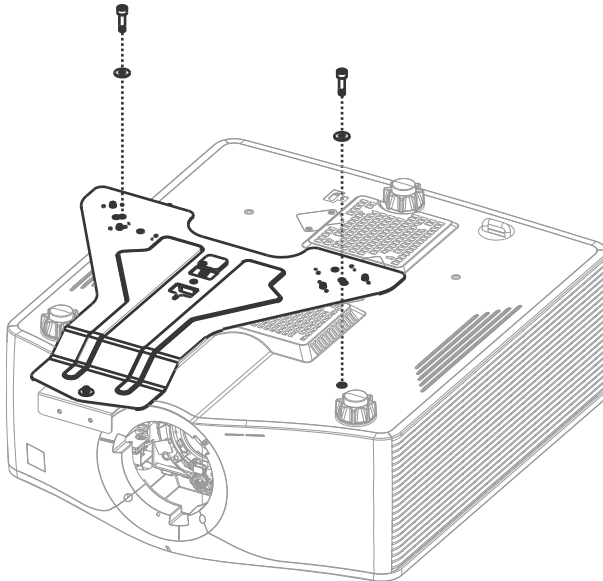
8. For 630-GS and 635-GS only, install the rubber spacer provided in the installation kit on top of the default rubber spacer on the lens support bracket.  
The additional rubber spacer is not required for 700-GS, 850-GS, and 1075-GS.



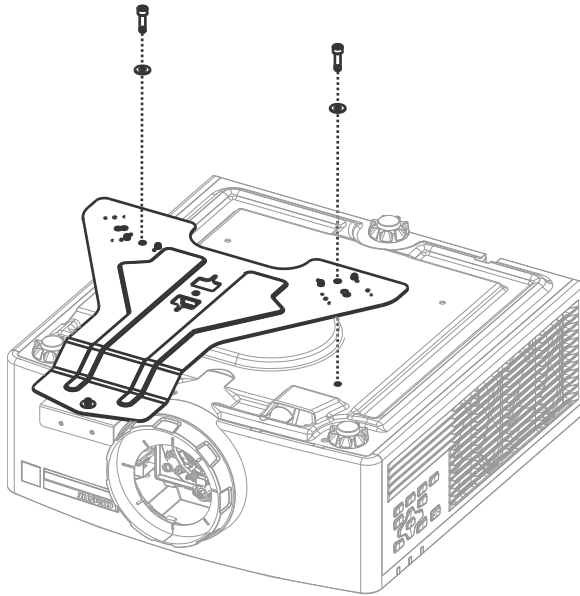


9. If not mounting the projector using Christie One Mount, complete the following steps:
  - a) Attach the lens support bracket assembly to the bottom surface of the projector.
  - b) Install the two M6x22 hex screws and two M6 washers in the mounting holes of the projector.

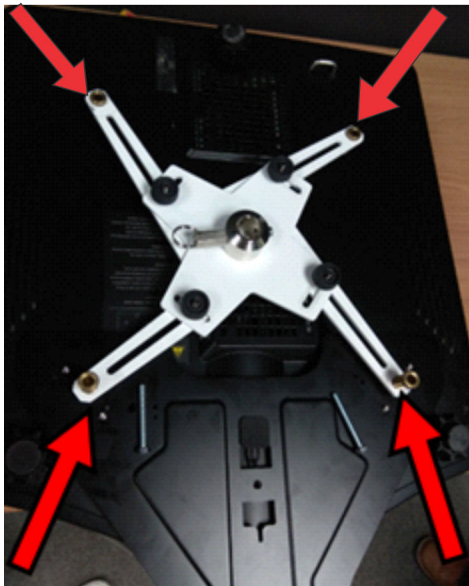
700-GS, 850-GS, and 1075-GS:



630-GS and 635-GS:



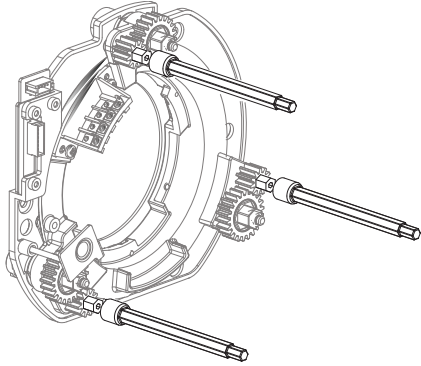
- c) Continue with the last step in this procedure .
10. If using the lens support bracket with Christie One Mount, complete the following steps:
- a) Place the lens support bracket assembly on the bottom of the projector.
  - b) Position two pillars of Christie One Mount to the lens support bracket and the other two pillars on the projector as shown below.



- c) To fasten the two rear pillars of Christie One Mount to the projector, install the two M3x8 hex screws (no washers required) provided with Christie One Mount.
- d) Fasten the two front pillars of Christie One Mount to the lens support bracket assembly.
  - For 700-GS, 850-GS, and 1075-GS, install the two M6x65 screws and two M6 washers.
  - For 630-GS and 635-GS, install two M6x55 screws.

11. Turn the projector back to its original orientation.
12. Install the three extension rods.

The boresight extensions rods must be installed before installing the ultra short throw lens.



## Initially adjusting the boresight screws

Before installing the ultra short throw lens, Christie recommends initially adjusting the boresight. Once the lens is installed, the adjustment range is limited.

1. Confirm the boresight screws are in their initial position with the blue marks aligned as shown.



2. If the boresight screws are not in their initial position, turn the screws counterclockwise until they stop and then turn the screws clockwise until the blue marks are aligned as shown above.
3. Adjust the boresight to the recommended ranges according to the projector orientation.

For DHD700-GS, DWU700-GS, DHD850-GS, and DWU850-GS:

Orientation	Adjustment range (in turns) for boresight screws		
	A	B	C
Table top	3 + 1/4	9	9
Portrait (right)	6 + 3/4	7	10 + 3/4
Portrait (left)	5 + 1/4	10 + 3/4	6
Ceiling mount	10 + 1/2	7 + 1/4	7 + 1/4

Orientation	Adjustment range (in turns) for boresight screws		
	A	B	C
Upright	10 + 3/4	8 + 1/4	8 + 1/2

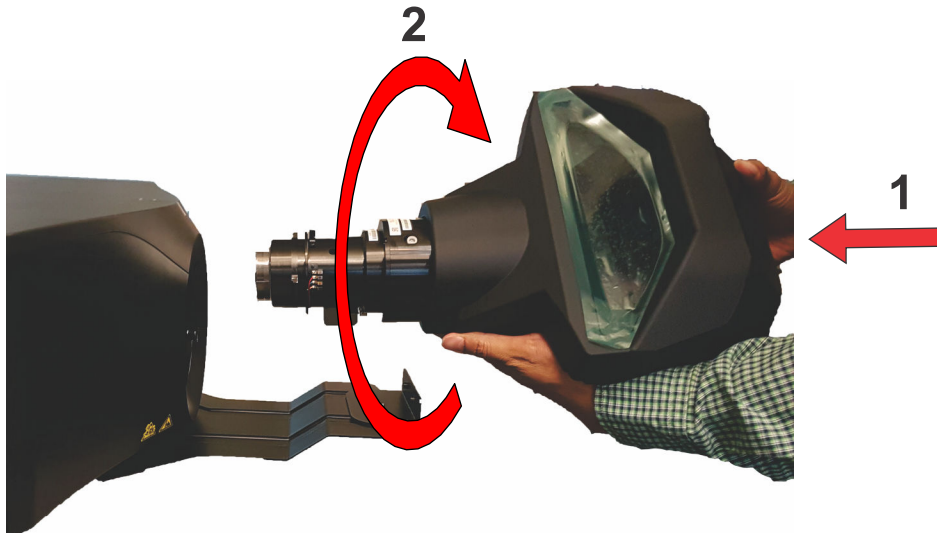
For DHD630-GS, DWU630-GS, DHD635-GS, DWU635-GS, DHD1075-GS, and DWU1075-GS:

Orientation	Adjustment range (in turns) for boresight screws		
	A	B	C
Table top	3 + 3/4	7 + 1/2	8 + 1/2
Portrait (right)	5 + 1/4	4	10
Portrait (left)	5 + 1/4	9 + 1/2	4 + 1/2
Ceiling mount	7 + 1/4	6	6
Upright	7 + 1/2	7	7 + 1/4

## Installing the ultra short throw lens

Install the ultra short throw lens in the projector after installing the new boresight adapter.

1. Insert the ultra short throw lens into the projector slightly angled to the left so the Top label on the lens aligns with the Status LED indicator on the projector.  
Note the orientation of the lens (1) as illustrated below.
2. To lock the lens, rotate the lens clockwise (2 in the image below).



## Turning on the projector

Before turning on the projector, ensure the ultra short throw lens has been installed.

1. Plug the projector into AC power.

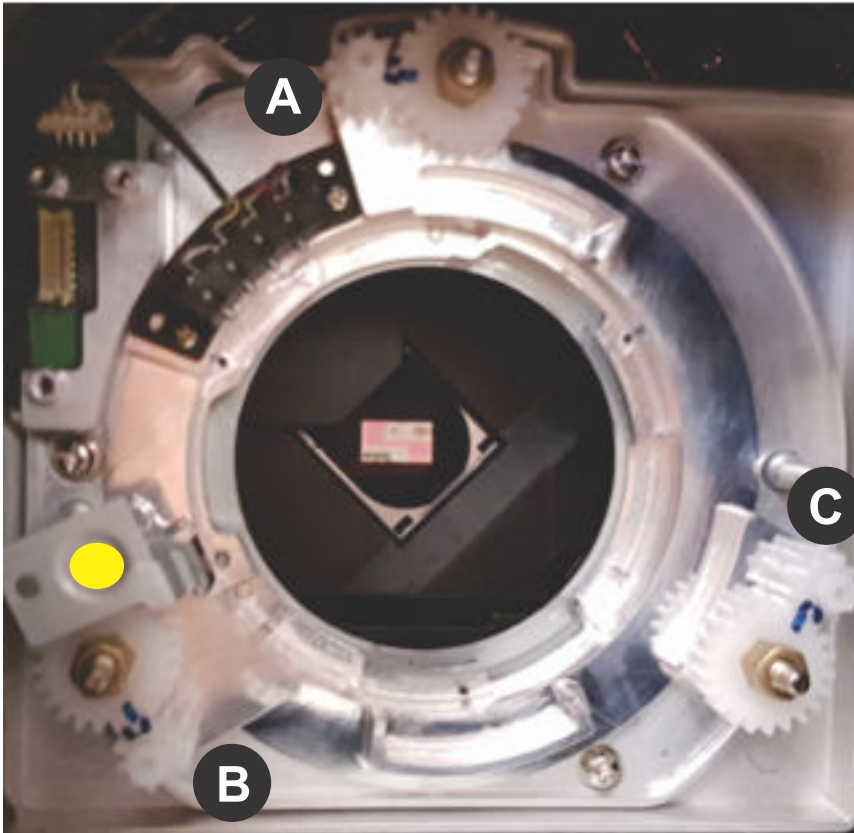
2. To turn on the projector, press the **Power** button.

## Adjusting the boresight

The boresight adjustment range changes depending on the orientation of the projector.

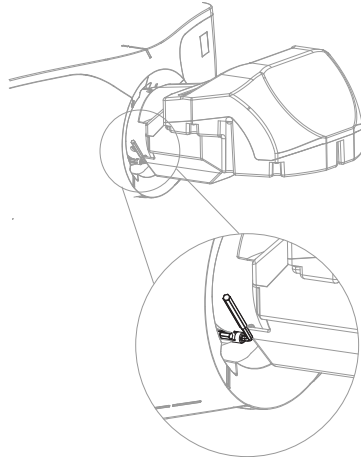
When adjusting the boresight with the internal test pattern, only limited lens shift can be performed and source input is not allowed.

1. Note the location of each the boresight screw before continuing with this procedure.

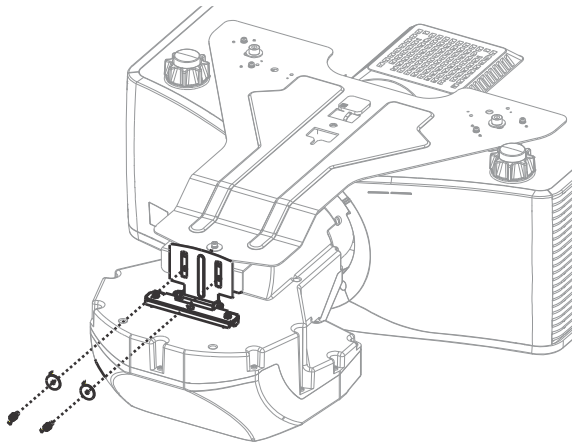


2. To display a test pattern to assist with adjusting boresight, press **TEST**. Four internal test patterns are available.
3. To switch to the next test pattern, press **TEST**.
4. To exit the Test pattern menu, press **Exit**.  
To access the boresight test pattern after pressing **Exit** from the popup window, go to the Service menu.
  - For 700-GS, 850-GS, and 1075-GS, to enable the boresight adjustment mode, from the on-screen display select **Configuration > Service > UST Lens Install > Test Pattern 1 to 4**.
  - For 630-GS and 635-GS, to enable the boresight adjustment mode, from the on-screen display select **Settings > Service > Lens Install > Pattern 1 to 4**.

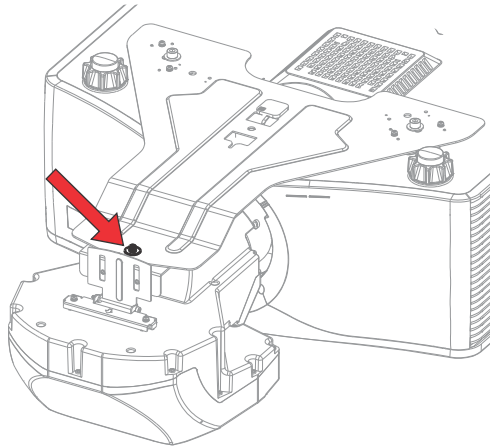
5. Using the L-shaped socket key, adjust the three boresight screws (A, B, and C in the image in Step 1) counterclockwise until tight.



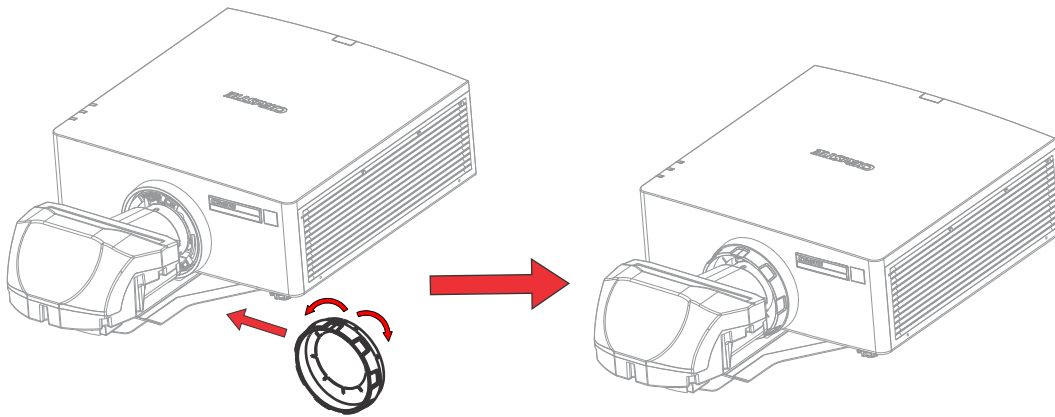
6. To adjust the boresight for optimized image quality, use the L-shaped socket key.
  - a) To focus the center of the screen, adjust the floating and back focus.  
To adjust the floating focus, press **FOCUS**. To adjust the back focus, press **ZOOM**.
  - b) To focus the left area of the screen, adjust the B boresight screw.
  - c) To focus the right area of the screen, adjust the A boresight screw.
  - d) To focus the top area of the screen, press **FOCUS**.
  - e) To focus the bottom area of the screen, adjust the C boresight screw.
7. To complete the installation of the lens support bracket, install two M3x8 hex screws and two M3 washers to secure the lens bracket to the lens support bracket assembly.



8. Tighten the center M3 screw.



9. For 630-GS and 635-GS only, Christie recommends installing the rubber boot.



Christie recommends keeping the boresight extenders in place in case you need to adjust boresight again.

## Removing the ultra short throw lens

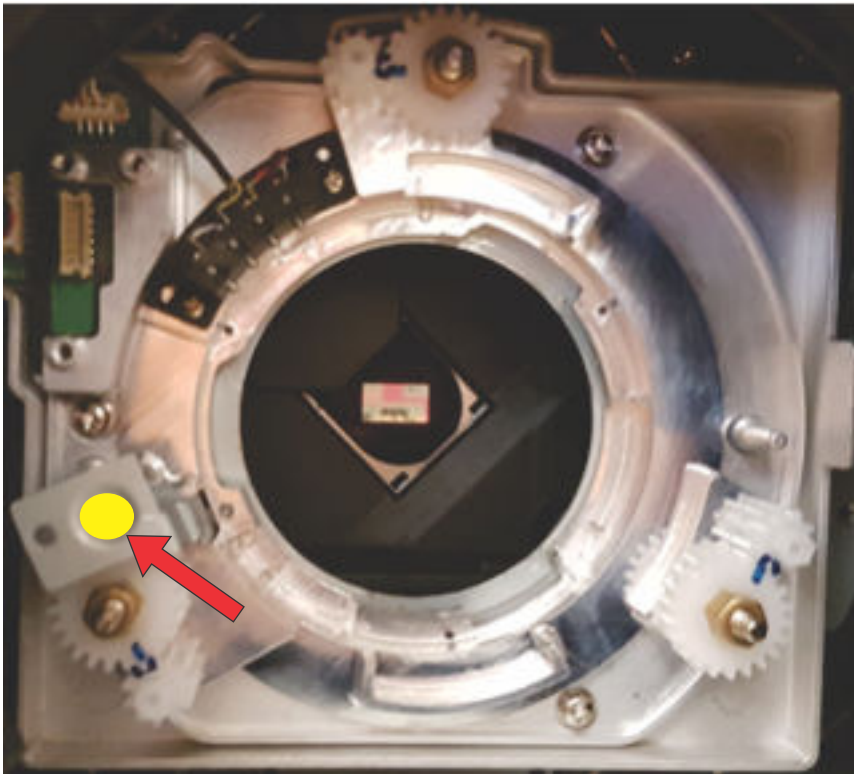
A long neck screwdriver is required to release the lens.

1. Loosen the screws that connect the lens bracket to the lens support bracket assembly.
2. Insert the screwdriver into the lens aperture, aligning the screwdriver with the bottom side of the lens.





3. To remove the lens, with the screwdriver press the **Lens Release** button (shown below) and rotate the lens counterclockwise by a quarter.



4. Remove the lens through the front of the projector.
5. If installing a non-ultra short throw lens in the projector:
  - a) Remove the new boresight adapter and install the original standard boresight adapter. Repeat the steps in *Replacing the boresight adapter* (on page 4) in reverse order.
  - b) Install the non-ultra short throw lens.
  - c) From the on-screen display, select **Configuration > Service**.
  - d) Enter the Service password.
  - e) Click **OK**.
  - f) Select **UST Install > None**.



A lens calibration is performed and the projector is ready to use with the non-ultra short throw lens.

## Ultra short throw lens specifications

Learn about the specifications for the ultra short throw lens.

Description	Value
Throw ratio (0.67" WUXGA, 0.65" 1080P)	0.361 (120")
Focal length	9.49 - 9.55
F number	2.4
Zoom ratio	No zoom
Throw distance (0.67" WUXGA)	0.96 - 2.65 m
Throw distance (0.65" 1080P)	0.99 - 2.72 m
Screen size	120" to 350" (305 to 889 cm)
Lens configuration	23 group 23 elements
Brightness ratio	76.5%
Net weight	2.715 kg (5.986 lbs)



The throw ratio is for screen size 120". The tolerance is +/- 3%.