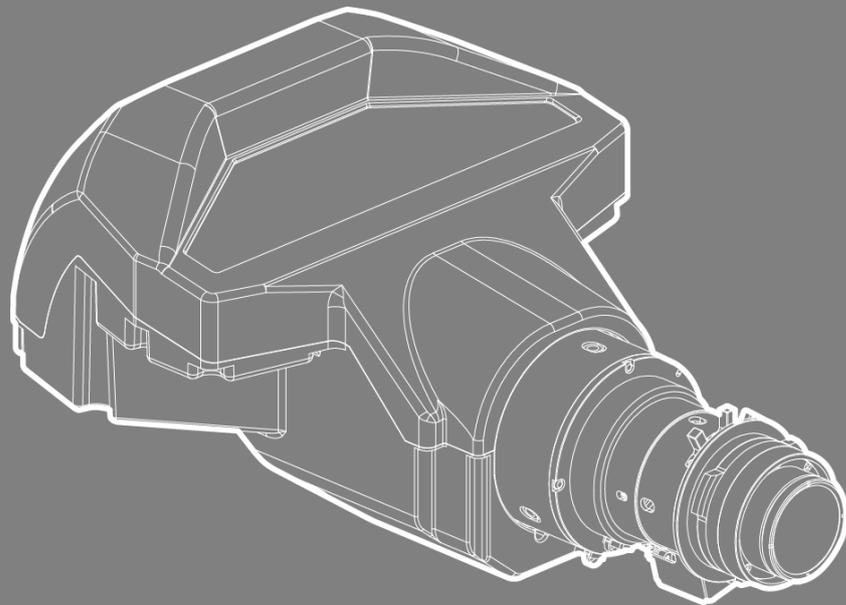


A16 UST lens



Content

Projector system requirement	2
Required accessories and tools	2
Entering UST mode for installation setup	4
Removing the non-UST lens	4
Boresight pre-adjustment	4
Installing UST lens boresight module.....	6
Installing the lens supporter	7
Installing ceiling mount with lens supporter	9
Installing the UST lens	11
Turning the projector on.....	12
Image adjustment	12
Lens focus adjustment.....	12
Boresight adjustment.....	13
Attaching the lens supporter to the UST lens	14
Removing the UST lens	14
Change back to the non-UST lens after using the UST lens.....	15
Releasing the UST lens boresight module	15

A16 UST LENS INSTALLATION INSTRUCTION

This user manual is designed to assist with the installation of the BX-CTA16 UST lens in your Optoma projector. Before attempting to fit the UST lens, please read through this document in full order to ensure installation steps are made correctly.

Projector system requirement

Firmware version **xxxx** or higher is mandatory for correct UST lens installation or operation.

To check the firmware version in the projector menu, select: OPTION > Information.

- ZU660: requires firmware version V04.10 or higher
- ZU850: requires firmware version V03.77 or higher
- ZU1050: requires firmware version V00.29 or higher

Required accessories and tools

Check that the following items (A-L) are included in the package. Prepare the required tools (I, II, III) for installing each item.

Item	Image	Name of item	Quantity included
A		UST lens	1
B		UST lens boresight module	1

C		Lens mount bracket	1
D		Bracket	1
E		Lens supporter	1
F		M3 X L8 screws	2
G		M3 X L8 hex screws	3
H		M6 X L22 hex screws	2
I		M3-3.7 x 0.8 x 18 washer	3
J		M6-6.7 x 1 x 16 washer	2
K		Boresight extender	3

L		L shape tool	1
---	---	--------------	---

Entering UST mode for installation setup

To complete the UST lens setup, follow the steps below.

1. Power on the projector with a non-UST lens.
2. In the projector menu, follow these steps: Option > Service > UST Lens Install > Start.
 - To enter service menu, enter the password “**Left, Down, Right, Up**” or “**1, 5, 9, 0**”.
3. Press Exit to turn off the projector.
4. Disconnect the AC cable.

Note: If an additional non-UST lens is not available, RS232 command, “~**XX361 1**”, or hot key “**Exit, Input, Left, Right**” can be used to do UST lens calibration. After UST lens calibration, the projector would automatically power off.

Removing the non-UST lens

To remove the non-UST lens, follow the steps below.

1. Make sure projector is turned off before removing the non-UST lens.
2. Rotate the non-UST lens counter-clockwise by a quarter to release the lens.
3. Remove the non-UST lens from the front aperture of the projector.

Boresight pre-adjustment

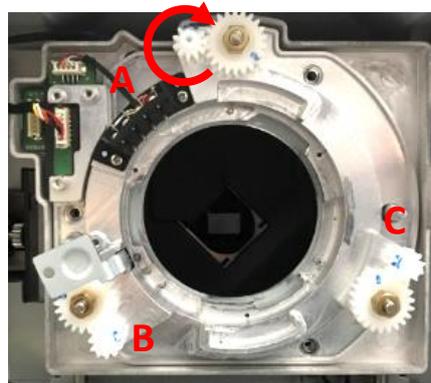
The UST lens boresight module needs to be adjusted before fitting to the projector.

1. Make sure the boresight gears are in the initial state.
If not, turn the small boresight gears counter-clockwise to the end position, where 2 marks are roughly aligned.



- Turn the boresight gears clockwise according to the desired projector orientation.

Note: The ZU850 has a different orientation table from ZU660 and ZU1050.



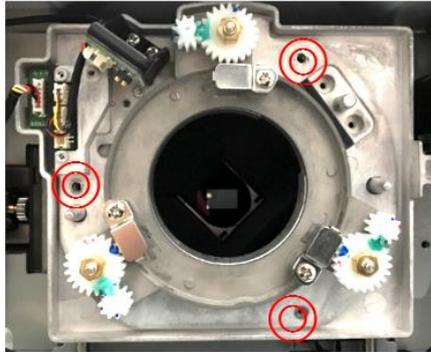
ZU850			
Orientation	A	B	C
Table top	$3 + 1/4$	9	9
Potrait (L)	$6 + 3/4$	7	$10 + 3/4$
Potrait (R)	$5 + 1/4$	$10 + 3/4$	6
Ceiling mount	$10 + 2/4$	$7 + 1/4$	$7 + 1/4$
Upright	$10 + 3/4$	$8 + 1/4$	$8 + 2/4$

ZU1050 / ZU660			
Orientation	A	B	C
Table top	$3 + 1/4$	$7 + 2/4$	$8 + 2/4$
Potrait (L)	$5 + 1/4$	4	10
Potrait (R)	$5 + 1/4$	$9 + 2/4$	$4 + 2/4$
Ceiling mount	$7 + 1/4$	6	6
Upright	$7 + 2/4$	7	$7 + 1/4$

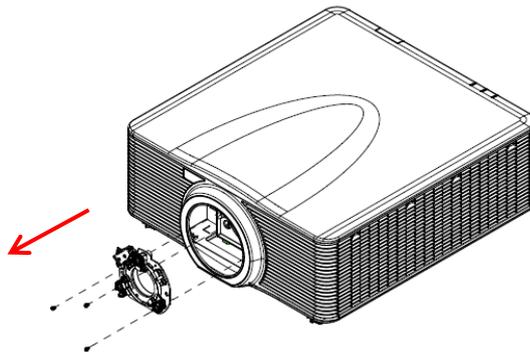
Installing UST lens boresight module

To install UST lens boresight module, complete the following steps.

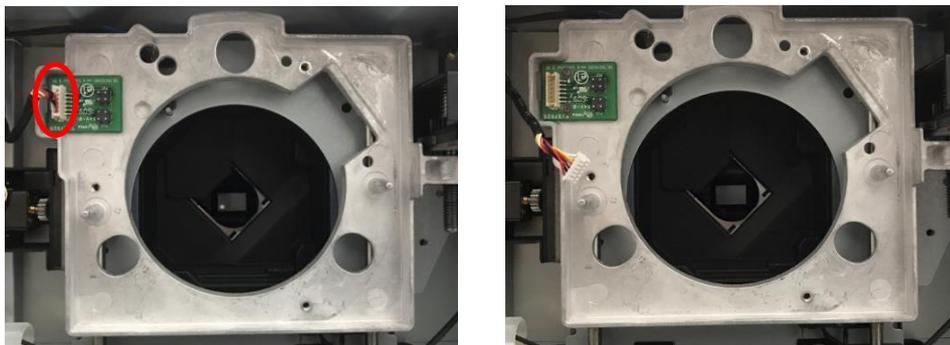
1. Remove 3 screws with a Philips #2 screwdriver from the non-UST lens boresight module.



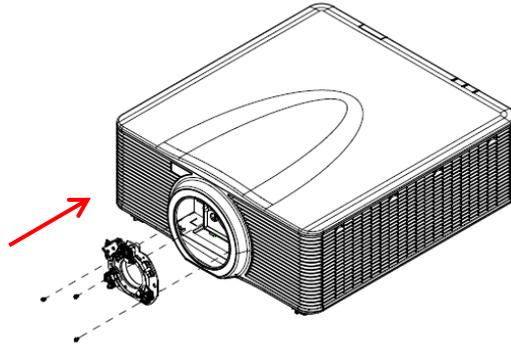
2. Release the non-UST lens boresight module from projector.



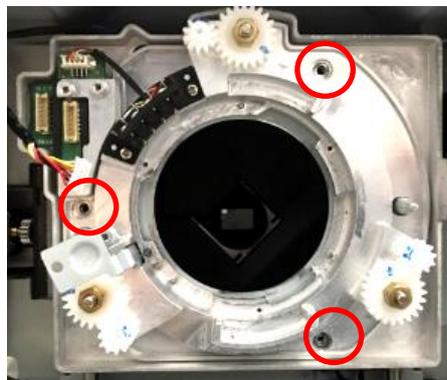
1. Release the lens cable from the original holder on the plate.



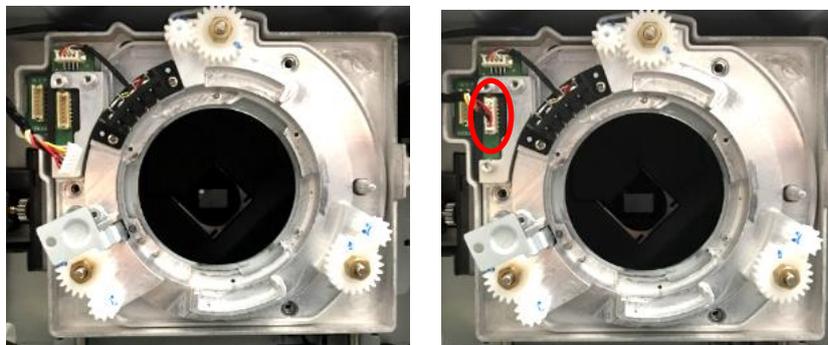
2. Install the UST lens boresight module into the projector.
The boresight module needs to be adjusted before fitting to the unit.
See [Boresight pre-adjustment](#).



3. After installing UST lens boresight module, fasten using 3 screws with a Philips #2 screwdriver.



4. Insert the cable back into the UST lens boresight module.



Note: Ensure the cable is not wrapped or pinched when fastening the UST lens boresight module.

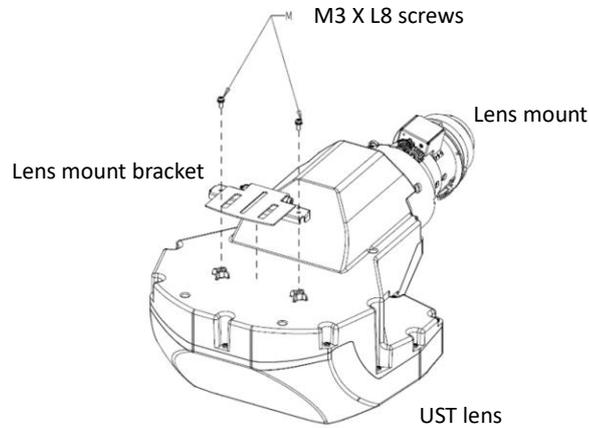
Installing the lens supporter

An additional lens supporter is required for this lens. Complete the following steps to install the lens supporter.

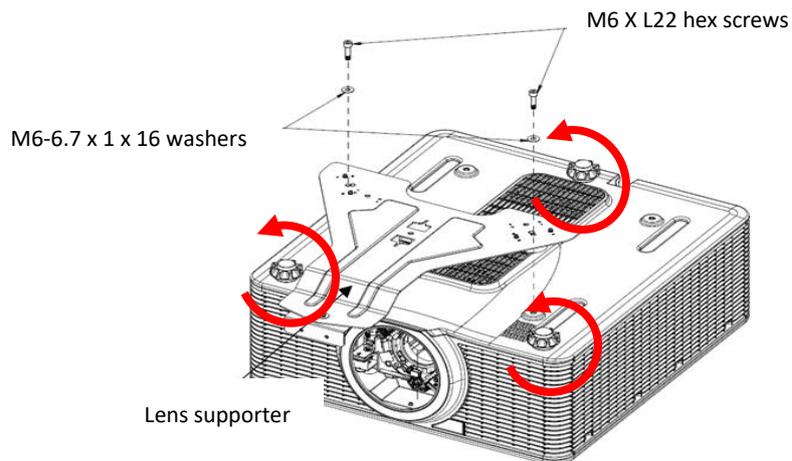
1. Place the lens and projector upside-down on the cushioned surface.
2. Use a Philips #2 screwdriver to fasten the lens mount bracket on to the UST

lens with 2 M3 X L8 screws.

Note: Ensure the arrow on lens mount bracket is facing out from the lens mount.

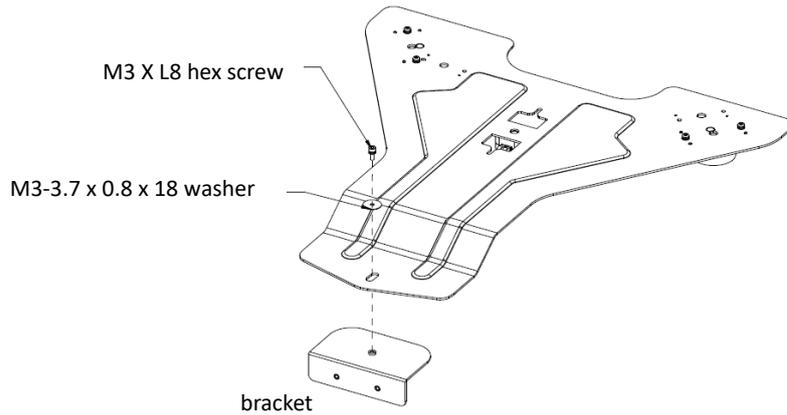


3. To avoid the lens supporter touching the surface, turn the projector feet at least 5 counter-clockwise turns.

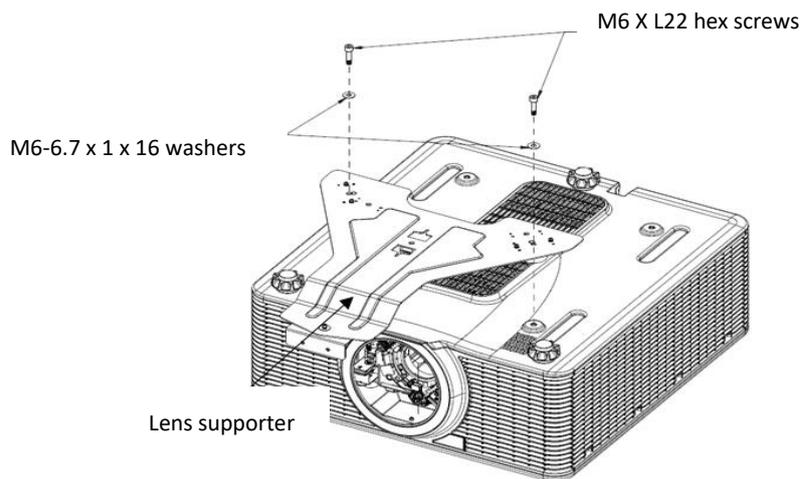


4. To pre-lock the bracket on to the lens supporter use a 2.5 mm allen key with 1 M3 x L8 hex screw and M3-3.7 X 0.8 X 18 washer.

Note: Do not fully tighten the screws until the lens has been installed.



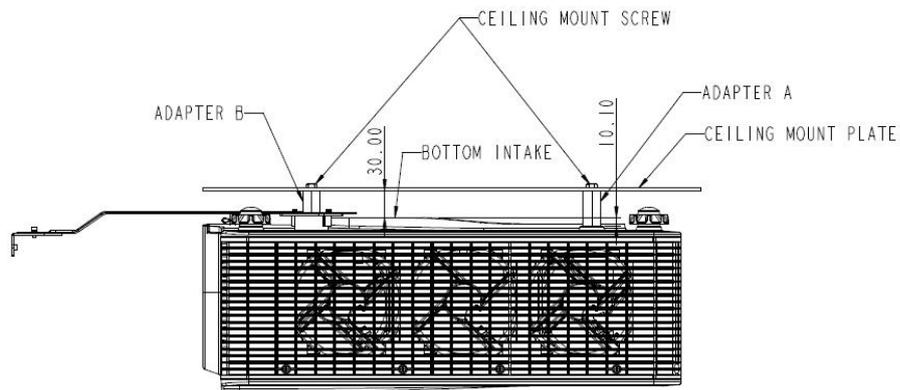
5. Attach the lens supporter to the bottom of the projector.
6. To fasten the lens supporter on to the mounting holes use 5 mm allen key with 2 M6 x L22 hex screws and 2 M6-6.7 x 1 x 16 washers.



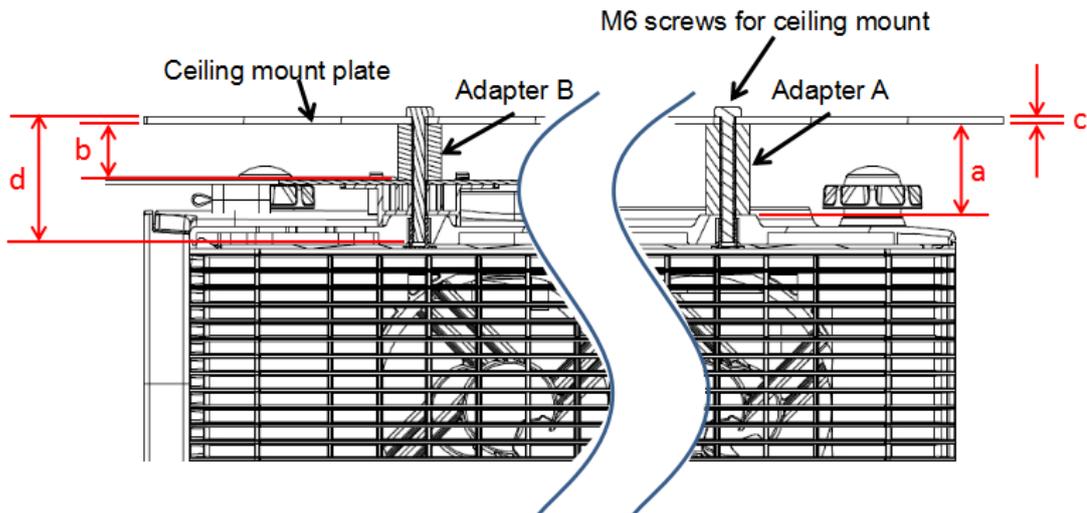
Installing ceiling mount with lens supporter

To install this lens in ceiling mount, complete the following steps.

Note: Due to thermal requirement, user needs to keep at least **30mm** between the ceiling mount plate and bottom intake. Furthermore, user would need to prepare adapter A, adapter B, M6 ceiling mount screws and ceiling mount plate that are not included in the package list.



1. Remove 2 M6 x L22 hex screws and 2 M6-6.7 x 1 x 16 washers from the mounting holes.
2. Insert adapter B between lens supporter and ceiling mount plate, and insert adapter A between projector and ceiling mount plate.
3. Fasten the ceiling mount plate onto the lens supporter by the M6 ceiling mount screws.



Note:

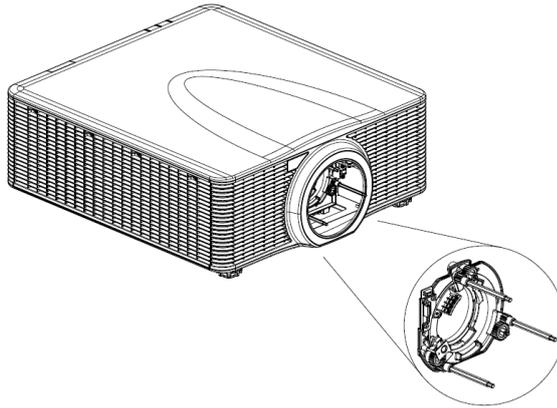
1. Adapter A should be at least 40.1mm long.
2. Adapter B should be the length of adapter A minus the length between lens supporter and projector. The length between the lens supporter and projector is 15.15mm.
3. Determine the thickness of the ceiling mount plate in order to have the length of the M6 screws for ceiling mount. M6 screws for ceiling mount should be the

length of adapter A plus thickness of ceiling mount plate plus 10mm.

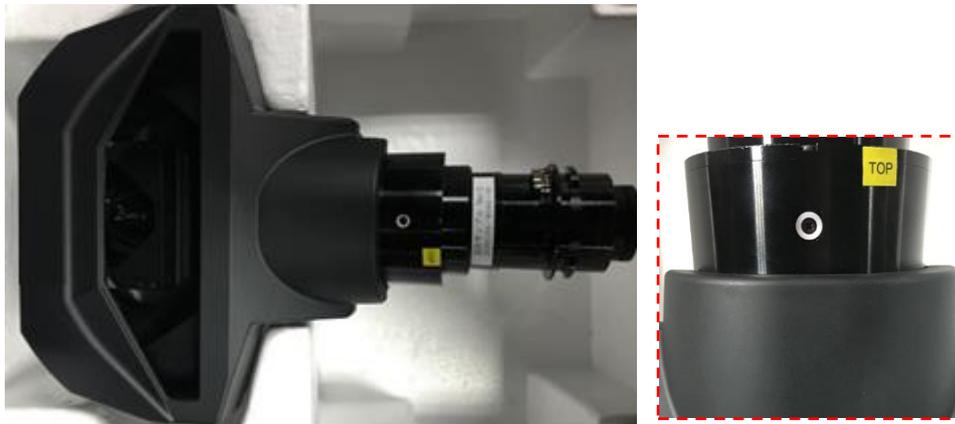
Installing the UST lens

Follow the steps below to install the UST lens.

1. To fine-tune the boresight, insert the boresight extenders before installing UST lens.

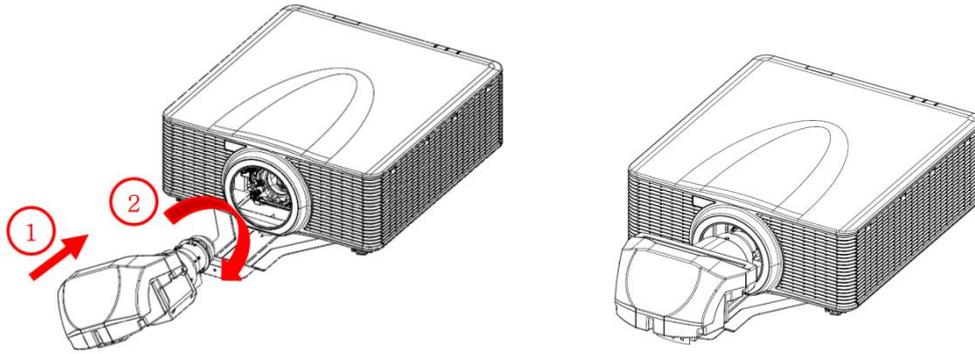


2. Insert the UST lens.



Note: Align the TOP mark with the top of projector when inserting the UST lens.

3. Rotate the lens clockwise to lock UST lens.



Turning the projector on

To turn on the projector after UST lens has been installed, follow the steps below.

1. Connect the AC cable and ensure the power is switched on.
2. Ensure the lens correctly installed in the projector.
3. Ensure no personnel or no object is in the beam path before projector turning on.
4. Turn on the projector by pressing  on the remote controller or  on the projectors built-in keypad.

Image adjustment

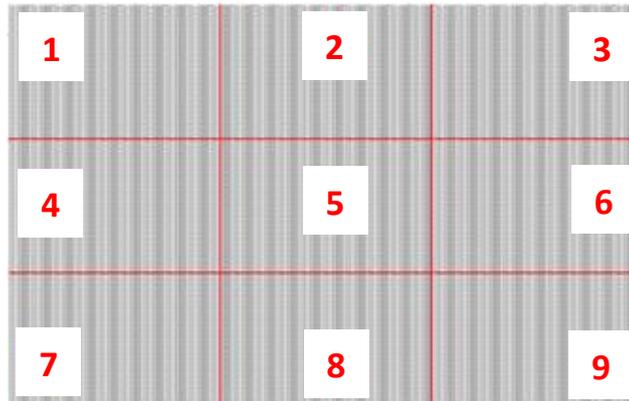
Please note the items below when completing the initial image adjustment.

1. Limited lens shift is allowed.
2. Source input is not available.
3. If Lens Focus Adjustment does not make the image clear, follow the steps in Boresight Adjustment for boresight fine-tuning.
4. Press “Pattern” to switch test patterns.
5. Press “Exit” to exit this adjustment process.

Lens focus adjustment

To make up the tolerance between lens and DMD chips, user would need to adjust back focus to make the screen distinct. “ZOOM” button on remote control is for back focus length adjustment and “FOCUS” button is for floating focus adjustment.

1. Adjust back focus length to make the area of point 5 clear and sharp.

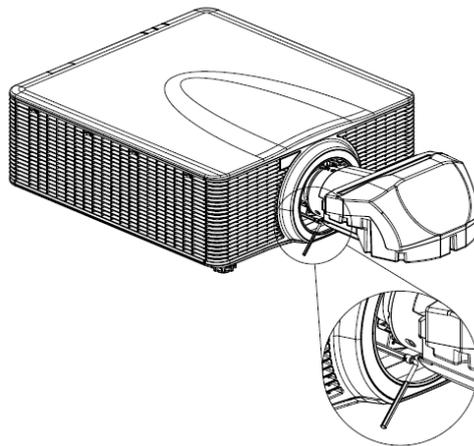


2. Adjust focus to make screen corners (point 1, 3, 7, and 9) clear and sharp.
3. Repeat step 1 and step 2 on full screen to balance center and corner resolution.

Boresight adjustment

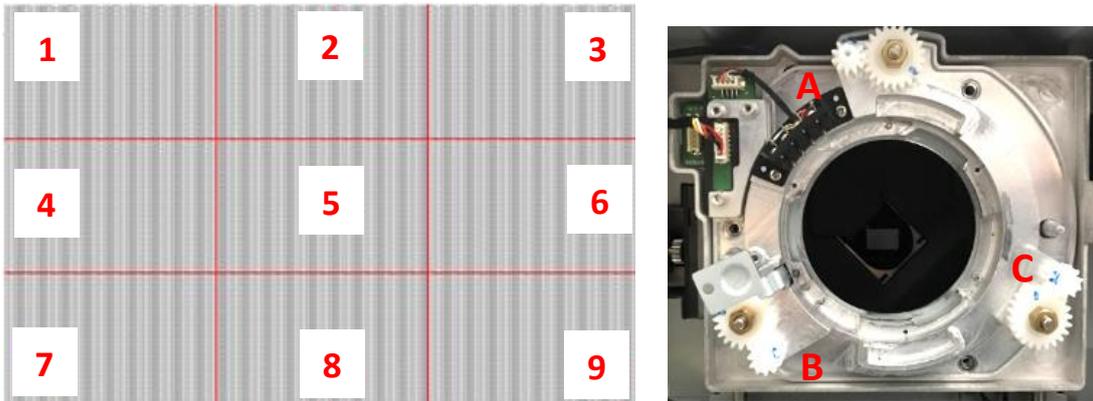
Note: If further tuning is required, follow the steps below. Otherwise, move to the next section.

To complete fine tuning of the image, adjust the boresight gears using the L shape tool. Make sure that the boresight extenders are installed.



1. Adjust boresight gear B using the L shape tool to focus screen point 4 and 7.
2. Adjust boresight gear C using the L shape tool to focus screen point 6 and 9.
3. Adjust Zoom/Focus to make screen point 1 to 3 clear.
4. Adjust boresight gear A using the L shape tool to make screen point 8 visible.

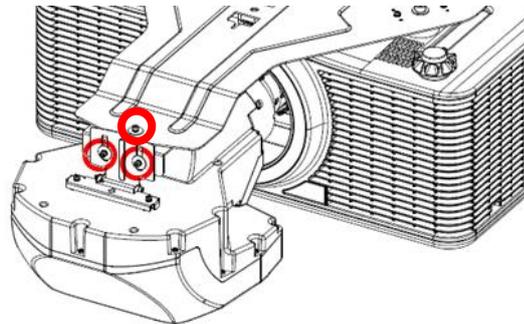
5. Repeat steps 1 - 4 to balance center and corner resolution.



Attaching the lens supporter to the UST lens

After image adjustment is completed, attach the lens supporter to the UST lens. Follow the steps below to complete the processes.

1. Attach lens mount bracket to the bracket.
2. Fasten the two M3 X L8 hex screws using the 2.5 mm allen key without putting excessive force on the UST lens, bracket and lens supporter.
3. Fasten the M3 X L8 hex screws fully using the 2.5 mm allen key to connect the bracket and lens supporter in to the final position.

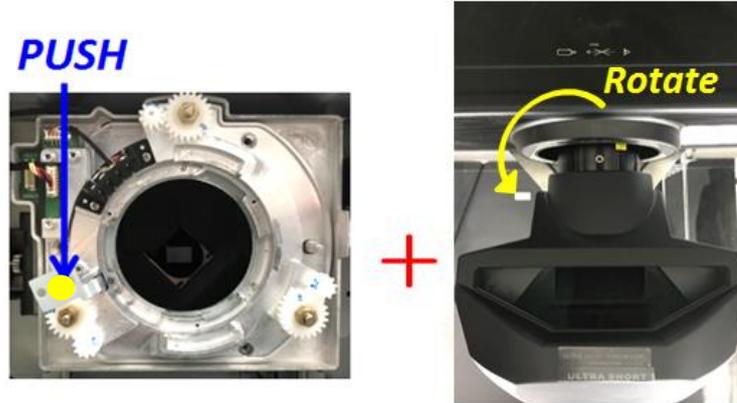


Note: To avoid affecting the projected image, do not use any force whilst fastening the screws.

Removing the UST lens

Follow the steps below to remove the UST lens.

1. Press the lens release button.
2. Rotate the lens counter-clockwise by a quarter and release the UST lens.



Change back to the non-UST lens after using the UST lens

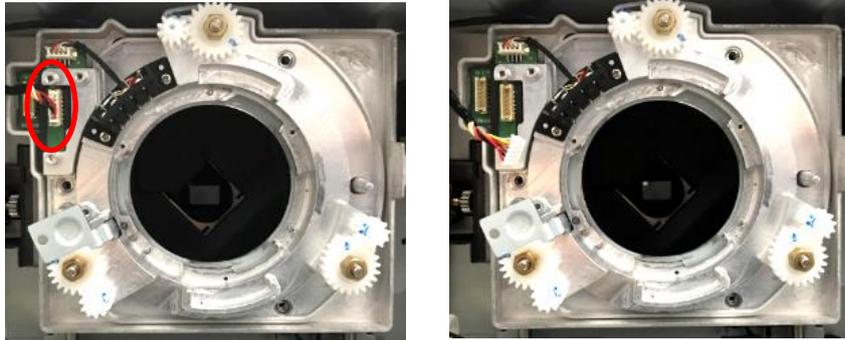
To install non-UST lens, follow the steps below.

1. In the projector menu, follow these steps to switch back to non-UST mode:
Option > Service > UST Lens Install > None.
 - To enter service menu, enter password “**Left, Down, Right, Up**” or “**1, 5, 9, 0**”.
2. Turn off the projector.
3. Disconnect from AC power.
4. Remove the UST lens.
See [Removing the UST lens](#).
5. Replace the UST lens boresight module with the non-UST boresight module.
See [Releasing UST lens Boresight module](#).
6. Change back to the non-UST lens.
7. Power on the projector with AC power on.
8. Complete the lens calibration process by pressing “**Lens, Enter**” on keypad or “**Lens H or Lens V, Enter**” on remote control.

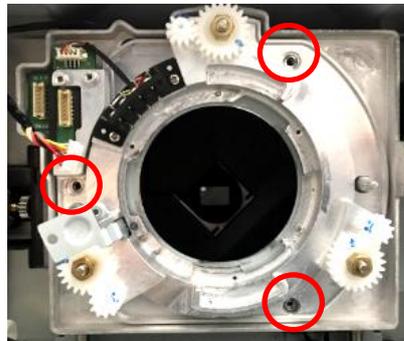
Releasing the UST lens boresight module

To uninstall the UST lens boresight module, follow the steps below.

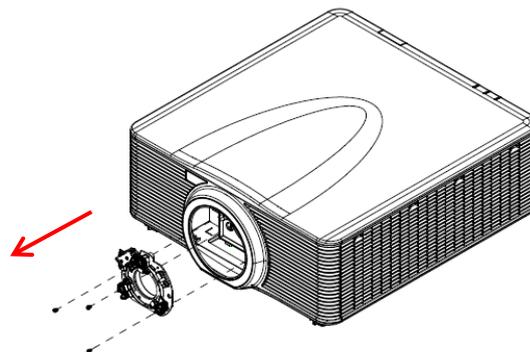
1. Release the lens cable from the UST lens boresight module.



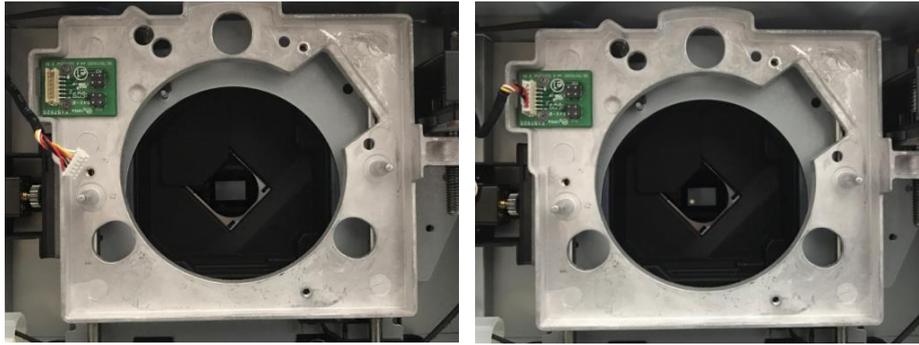
2. Remove 3 screws using a Philips #2 screwdriver on the UST lens boresight module.



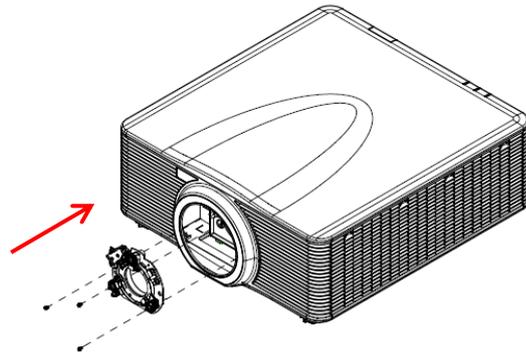
3. Release the UST lens boresight module from the projector.



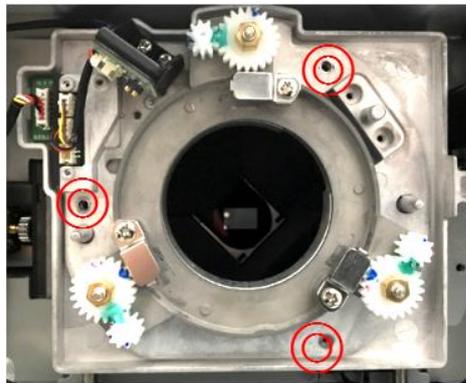
4. Insert the cable back into the lens shift plate.



5. Insert non-UST lens boresight module back into the projector.



6. Fasten the module using 3 screws with a Philips #2 screwdriver.



Optoma global offices

For service or support, please contact your local office.

USA

3178 Laurelview Ct.
Fremont, CA 94538, USA
www.optomausa.com

☎ 888-289-6786
📠 510-897-8601
✉ services@optoma.com

Canada

3178 Laurelview Ct.
Fremont, CA 94538, USA
www.optomausa.com

☎ 888-289-6786
📠 510-897-8601
✉ services@optoma.com

Latin America

3178 Laurelview Ct.
Fremont, CA 94538, USA
www.optomausa.com

☎ 888-289-6786
📠 510-897-8601
✉ services@optoma.com

Europe

Unit 1, Network 41, Bourne End Mills
Hemel Hempstead, Herts,
HP1 2UJ, United Kingdom
www.optoma.eu
Service Tel : +44 (0)1923 691865

☎ +44 (0) 1923 691 800
📠 +44 (0) 1923 691 888
✉ service@tsc-europe.com

Benelux BV

Randstad 22-123
1316 BW Almere
The Netherlands
www.optoma.nl

☎ +31 (0) 36 820 0252
📠 +31 (0) 36 548 9052

France

Bâtiment E
81-83 avenue Edouard Vaillant
92100 Boulogne Billancourt, France

☎ +33 1 41 46 12 20
📠 +33 1 41 46 94 35
✉ savoptoma@optoma.fr

Spain

C/ José Hierro,36 Of. 1C
28522 Rivas VaciaMadrid,
Spain

☎ +34 91 499 06 06
📠 +34 91 670 08 32

Deutschland

Wiesenstrasse 21 W
D40549 Düsseldorf,
Germany

☎ +49 (0) 211 506 6670
📠 +49 (0) 211 506 66799
✉ info@optoma.de

Scandinavia

Lerpeveien 25
3040 Drammen
Norway

☎ +47 32 98 89 90
📠 +47 32 98 89 99
✉ info@optoma.no

PO.BOX 9515
3038 Drammen
Norway

Korea

WOOMI TECH.CO.,LTD.
4F, Minu Bldg.33-14, Kangnam-Ku,
Seoul,135-815, KOREA
korea.optoma.com

☎ +82+2+34430004
📠 +82+2+34430005

Japan

東京都足立区綾瀬3-25-18
株式会社オーエス
コンタクトセンター:0120-380-495

✉ info@os-worldwide.com
www.os-worldwide.com

Taiwan

12F., No.213, Sec. 3, Beixin Rd.,
Xindian Dist., New Taipei City 231,
Taiwan, R.O.C.
www.optoma.com.tw

☎ +886-2-8911-8600
📠 +886-2-8911-6550
✉ services@optoma.com.tw
asia.optoma.com

Hong Kong

Unit A, 27/F Dragon Centre,
79 Wing Hong Street,
Cheung Sha Wan,
Kowloon, Hong Kong

☎ +852-2396-8968
📠 +852-2370-1222
www.optoma.com.hk

China

5F, No. 1205, Kaixuan Rd.,
Changning District
Shanghai, 200052, China

☎ +86-21-62947376
📠 +86-21-62947375
www.optoma.com.cn

