English

Optional Lens User's Manual

Important Safety Instructions

(Always follow these instructions)

Please read this section on important safety instructions before replacing the projector lens. To prevent accidents during lens replacement and ensure product safety after replacing the lens, be sure to follow the safety instructions described herein.

● These symbols indicate actions that can result in injury or damage if these operations are not followed correctly.

⚠ **Warning**	This symbol indicates that there is a possibility of serious injury or even death if the operation is not followed correctly
⚠ **Caution**	This symbol indicates that there is a possibility of physical injury or damage to equipment if the operation is not followed correctly.

● These symbols indicate the types of precautions that must followed.

	This symbol indicates that caution must be taken.		This symbol warns of possible high heat.
	This symbol warns of possible electrical shock.		
	This symbol indicates an action that must not be performed.		Do not look into the lens.
			Do not block the projection light.

⚠ Warning

■ **Make sure to follow the procedure on lens installation and removal for your safety.**

■ **Please read this manual and manuals for the projector to ensure correct usage through understanding.**

Incorrect usage could result in fire, an injury or damage.

■ **Do not subject the device any shock or impact.**

Any shock or impact could result in an injury or damage. The lens projects out of the device. Take care not to strike it.

■ **Never look into the projection window.**

Never look into the projection window while the projection lamp lights, since the projection lamp ray may cause a trouble on your eyes.

⚠ Warning

■ **Do not cover the projection window or bring a hand close to it during the projection.**

Strong light comes out of the projection window, so it may cause a burn or a fire.

■ **Be careful handling the projection window.**

The projection window broken by a shock or an impact causes injury. Do not touch the broken projection window directly. Pull out the power cord and contact your dealer.

▶ Do not subject the projection window any shock or impact.

▶ Keep the children from playing near the projector.

Notice

■ **Take care of the lens.**

- When transporting the lens, protect the lens and the projection window by attaching the lens cap. Be sure to pack the projector correctly with the original packing material. Be careful packing the peripheral part of the projection window especially.
- Do not polish or wipe the lens and the projection window with hard objects.
- Do not touch the lens and the projection window directly. Image quality is deteriorated if they are blurred or dirty.
- Do not touch or give an impact on the connector attached to the lens. It may cause a failure.
- The lens is a precision optical device. Carefully handle the lens without subjecting it to shocks or vibrations.
- When resting the lens on a surface, place the lens on a soft cloth with the projection window facing upwards.
- Do not paste something on the projection window or put something closely to it during use. The projection window may melt due to a high temperature, and projection failure may occur.

■ **Cleaning**

- Use commercially available lens tissue to clean the lens (used to clean cameras, eyeglasses, etc.).
- Excepting for lens, use a soft cloth to clean. When excessively soiled dilute a neutral detergent in water, wet and wring out the soft cloth.
- Do not use detergents or chemicals other than those noted above (e.g. benzene or thinners).

Information for users applicable in European Union countries

This symbol on the product or on its packaging means that your electrical and electronic equipment should be disposed at the end of life separately from your household wastes. There are separate collection systems for recycling in EU. For more information, please contact the local authority or the dealer where you purchased the product.

Operations

- Project an image as described in the Projector user's manual, and adjust the size and focus of the projected image.
- See the Projection Distance table in this user's manual for information on optional lens projection distances.

Note

- Since the projector features an ultra short throw, be aware that it is required to select a screen carefully to have better performance.
  - A soft screen such as a pull-down screen may cause serious distortion of a projected image. A hard screen such as a board screen is recommended for use with this projector.
  - A high-gain screen such as a bead screen that has narrow viewing angle is not suitable for this projector. A low-gain screen (around 1.0) such as a matte screen that has wide viewing angle is recommended for use with this projector.
  - A screen with a weave pattern may cause moiré on the projected image, which is not a failure of the projector. A screen that has less moiré effects is recommended for use with this projector.
  - A projected image may shift or distort largely if the installation position or height of the projector changes.
  - Shift of projected image position, image distortion, or change of focus may occur due to the ambient temperature, etc. It tends to occur for about 30 minutes until the performance stabilizes after turning on the lamp. Perform confirmation and readjustment as necessary.
  - The size of the screen changes when adjusting the focus. Perform the focus adjustment before adjusting the position or the angle of a screen.
  - When installing the lens into the projector, the balance of the focus in a peripheral part of the projected image changes. Correct it by correction function of the lens.
  - The distance of projection may not allow focusing on the peripheral area of the screen. Adjust the focus to keep the center and the peripheral area of the screen balanced.
- The screen position may shift after the installation if the projector is mounted on locations such as wall or ceiling. If readjustment is necessary, consult with your dealer or service personnel.
- Distortion may appear on screen if the keystone correction (trapezoidal distortion correction) is overly adjusted.
- The incoming light to the screen from the projector has a large angle. While the white image is on the screen, you may see it with colors, but this is because of the type of the screen used or the angles viewed, and it is not a malfunction.
- These specifications are subject to change without notice.

Important Operation Instructions

⚠ Warning

■ **Do not place the lens in a location subject to direct sunlight or other strong lighting or near heat-radiating equipment.**
This can cause a fire due to the properties of the lens. It can also cause injury or damage to the lens.

■ **Be sure to unplug the projector beforereplacing the lens.**
The inside of the projector has areas of high voltage which can cause electrical shock.
Furthermore, if a strong light accidentally shines in your eyes, it may cause visual impairment.

■ **Before replacing the lens, be sure to turn off and unplug the projector, and allow the projector to fully cool down.**

■ **When attaching, take care so that dust does not enter inside or stick to the connector.**
Continued use with dust inside may result in fire or electric shock.

■ **If the projector is mounted on a ceiling, ask the dealer to replace the lens.**
This can cause injury.

■ **The projector puts out an intense light. Before turning on the power, make sure no one within the projection range is looking at the projector.**

⚠ Caution

■ **When replacing the lens, do not touch the polarizing plates of the projector or subject them to shocks.**
This can cause damage to the equipment. It can also cause a misalignment of the optical adjustment and, therefore, require readjustments.

■ **When replacing the lens, be careful not to damage the connectors or wires inside the projector.**
This can cause damage to the equipment. Be careful not to pull on the connectors or wires or get them caught in the circuit board or case.

Contents of package

The following accessories are included with each lens.

Lens	Model	Supplied accessories
Ultra Short Throw Fixed Lens	FL-710CH	Optical filter (Model : UE34132) Lens cap Optional Lens User's Manual

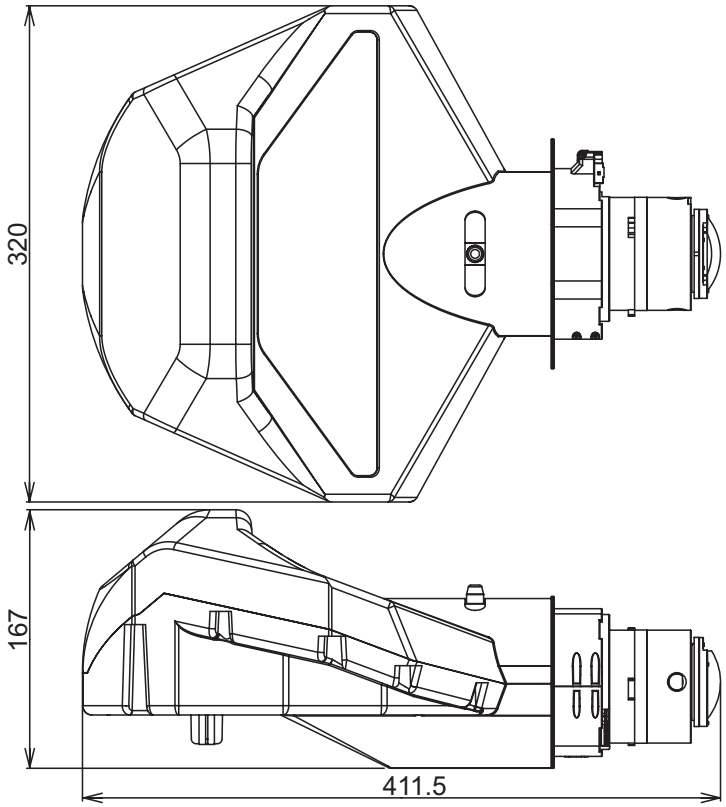
Specifications

Model		FL-710CH
Supported model		LX801i LW651i / LW751i LWU601i / LWU701i
Focus		Motorized
Lens shift position *	LX801i	5.3 : -1 (+73%)
	LW651i / LW751i	3.9 : -1 (+85%)
	LWU601i / LWU701i	3.9 : -1 (+85%)
F-number		2.0
Focal length		6.27 mm
Projection ratio (Throw ratio)	LX801i	0.39 : 1
	LW651i / LW751i	0.38 : 1
	LWU601i / LWU701i	0.38 : 1
Projection size		100 - 350 inch
Size		320(W) x 167(H) x 411.5(D) mm
Weight (Approximately)		3.1 kg

* Automatic recognition may not work depending on the projector. Part of the image may not be displayed due to the movement of the lens out of the regular lens shift position. Adjust the position within the range which does not cause the missing of the image. Consult with your dealer for details.

Dimensions

Unit[mm]

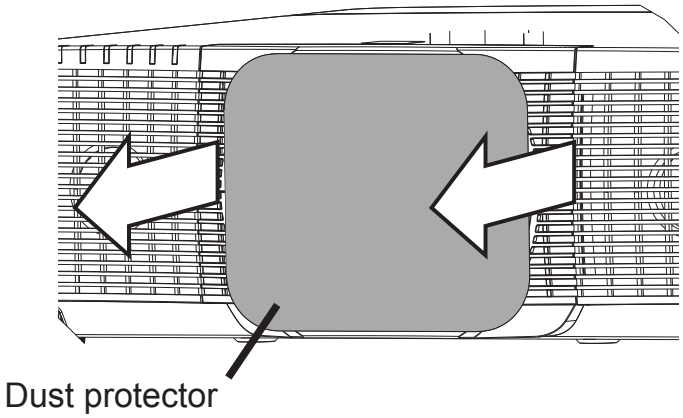


Installing and removing the lens

When replacing or removing the lens, move the lens shift position back to the center in advance. Refer to the manual of the projector or "Lens Removal Procedure" in this manual for moving the lens shift position back to the center.

Lens Installation Procedure

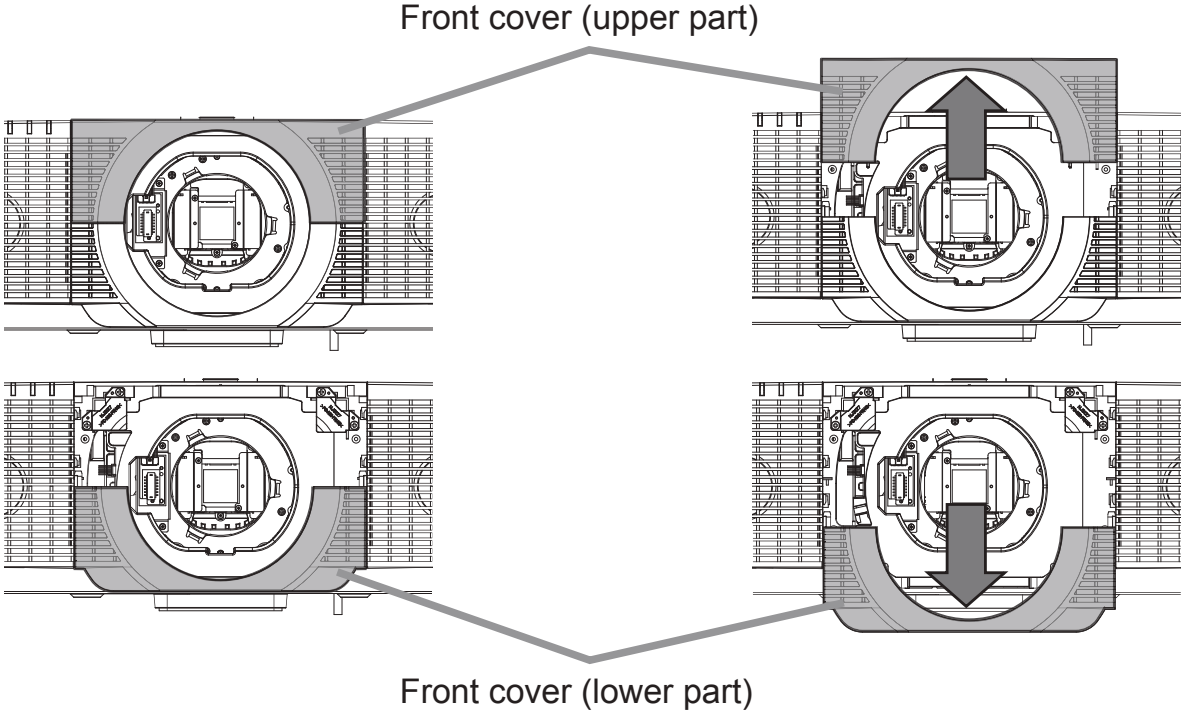
1. Pull out the dust protector knobs to remove it.



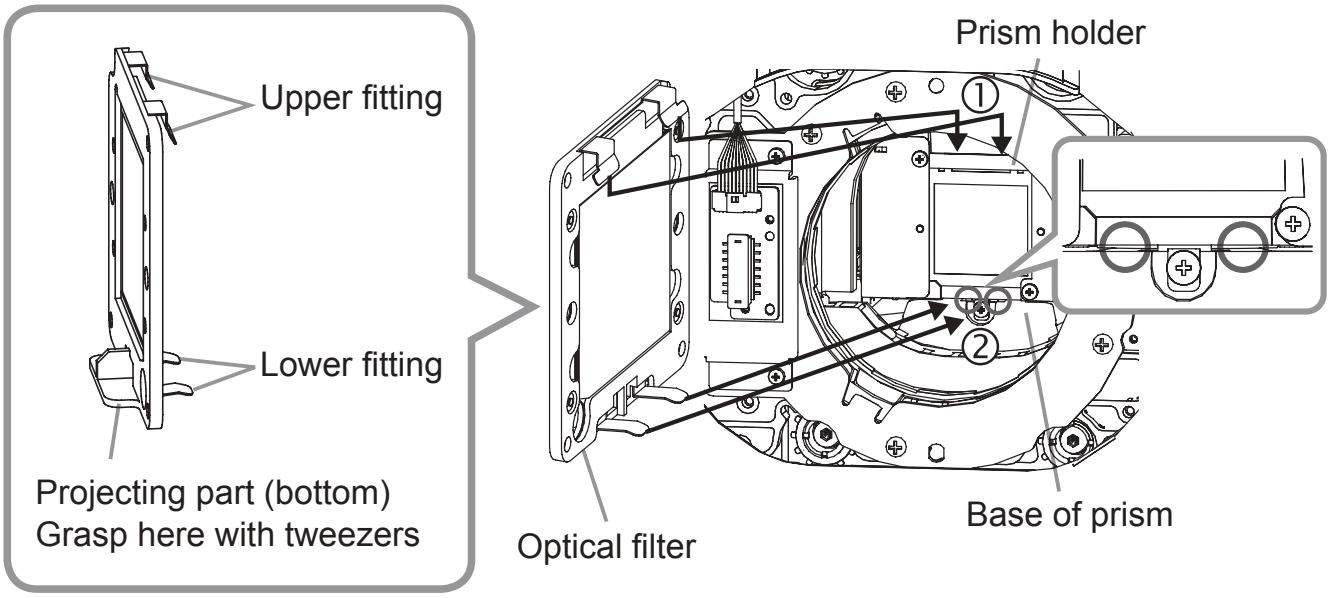
Note

- Keep the original packing materials and the dust protector carefully. Be sure to pack the projector correctly with the original packing material when transporting for repair or relocation. Be careful packing the peripheral part of the projection window especially.

2. Remove the front cover
   Slide the front cover (the upper part) upward while pressing the front cover from the underside and remove the front cover from the projector.
   Then, Slide the front cover (the lower part) downward while pressing the front cover from the upperside and remove the front cover from the projector.



3. Mounting an optical filter.
   (1) Use a pair of tweezers to hold the part sticking out at the bottom of the optical filter and hook the fitting at the top of the filter onto the projector's prism holder (①).
   (2) Then press the fitting at the bottom of the optical filter securely into the gap between the prism holder and the base of the prism (②).



⚠ Caution

■ **Be sure to unplug the projector beforereplacing the lens.**
The inside of the projector has areas of high voltage which can cause electrical shock.
Furthermore, if a strong light accidentally shines in your eyes, it may cause visual impairment.

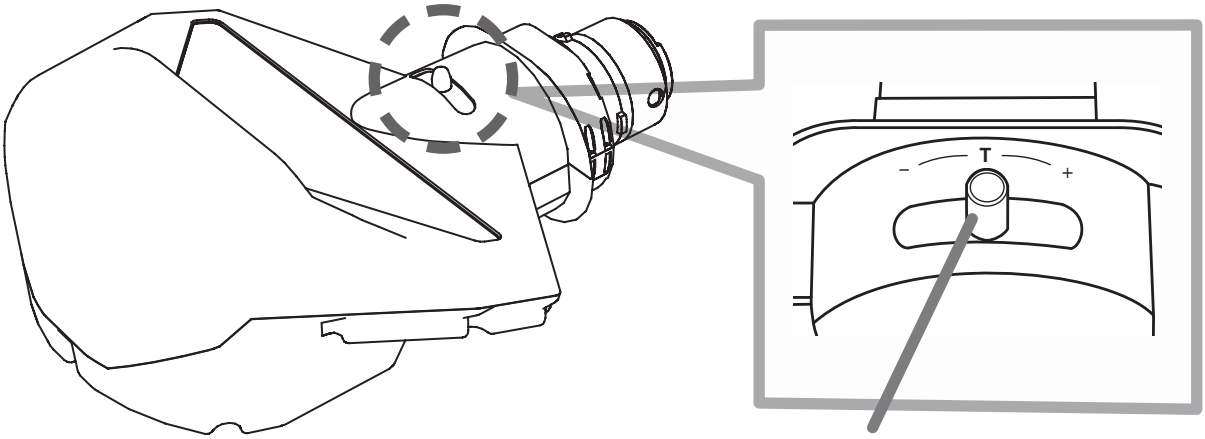
⚠ Warning

- Mount the optical filter when using the original lens. If you fail to use the optical filter, the picture may not be displayed properly.
- Be careful to mount/remove the optical filter correctly and avoid hitting the inside of the projector. Doing so may cause damage.
- Be sure to mount the optical filter correctly. If installed at an angle, the picture may not be displayed properly.
- Remove the optical filter when mounting any lens other than the original lens, such as an optional lens. Failure to do so may cause damage.
- **When replacing the lens, do not touch the polarizing plates of the projector or subject them to shocks.**
  This can cause damage to the equipment. It can also cause a misalignment of the optical adjustment and, therefore, require readjustments.
- **When replacing the lens, be careful not to damage the connectors or wires inside the projector.**
  This can cause damage to the equipment. Be careful not to pull on the connectors or wires or get them caught in the circuit board or case.

Lens Installation Procedure (continued)

<Tilt correction function>

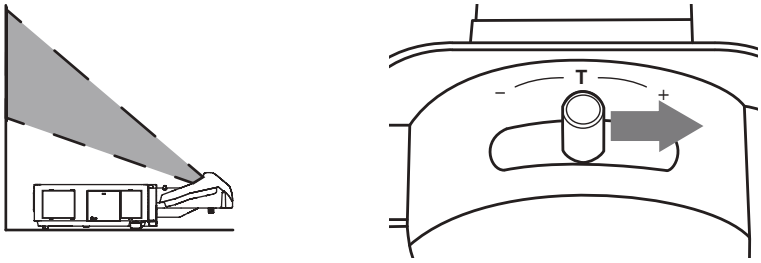
The balance of focus at the peripheral part of the projected image changes when installing the lens into the projector and projecting on a screen. Adjust the balance of focus by tilt correction function equipped in this lens. How to perform the tilt correction differs depending on whether the installation on the table or ceiling mount. Refer to the followings to use this function.



Tilt correction lever

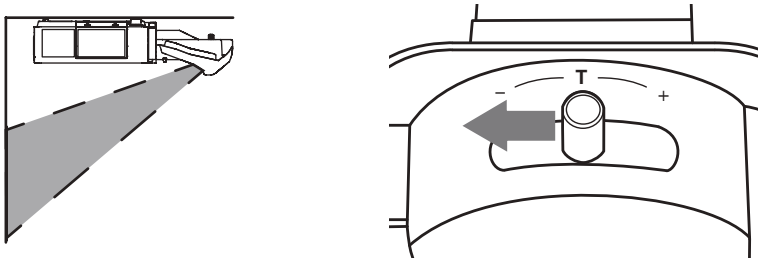
■ For installation on the table

Move the tilt correction lever to the direction of (+).



■ For installation on the ceiling

Move the tilt correction lever to the direction of (-).

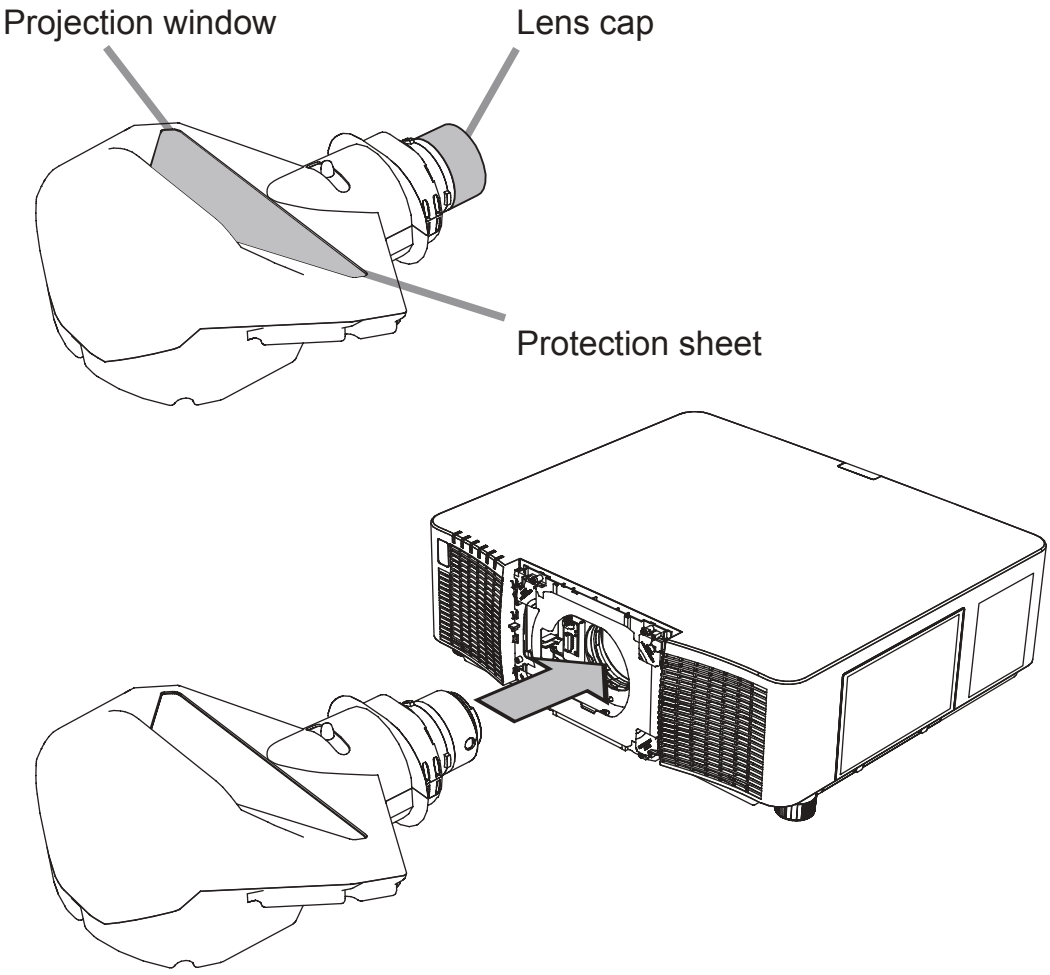


⚠ Caution

■ Perform the tilt correction before installing the lens into the projector. It causes malfunction if it is performed with the lens installed.

Lens Installation Procedure (continued)

4. Install the lens
   (1) Remove both the protection sheet pasted to the projection window and the lens cap. Install the lens into the projector.

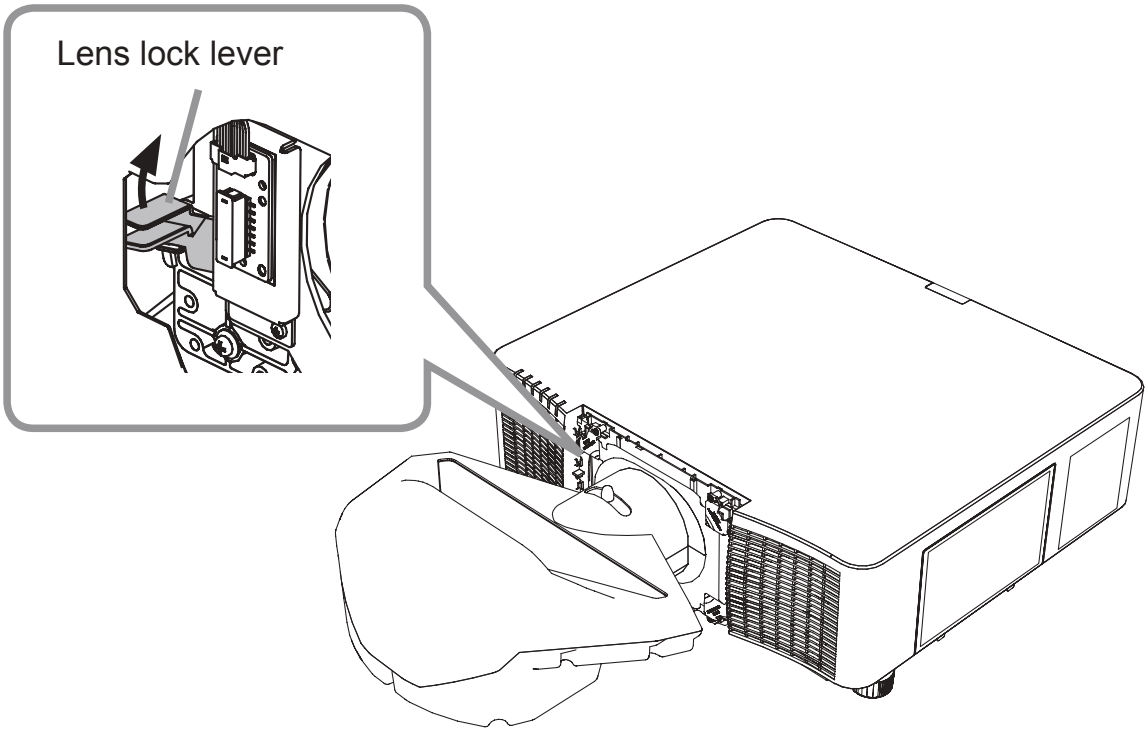


⚠ Caution

- Be sure to remove the protection sheet. If not, it may become extremely hot and the protection sheet may melt, which causes a projection failure.
- Installing the lens in the projector with the lens cap on may lead to malfunction.
- Avoid hitting the surface of the lens on the projector when attaching the lens as this may lead to malfunction.
- Do not touch the connector of the lens or subject it to impact as this may lead to malfunction.
- Do not move the tilt correction lever with the lens installed into the projector. It may cause a malfunction.

Lens Installation Procedure (continued)

(2) Support the lens, and move the lens lock lever to the upside (until the lens lock lever clicks into the locked position).

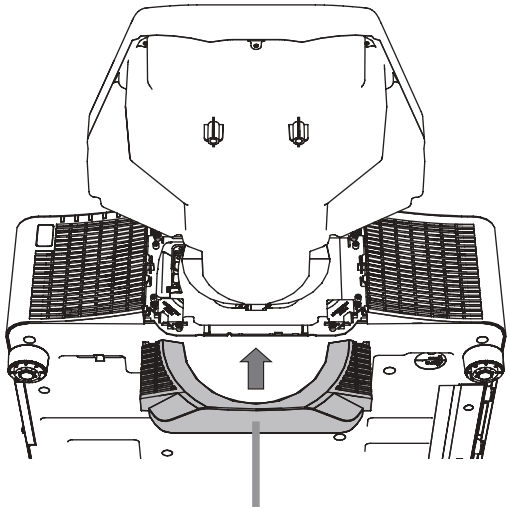


⚠ Warning

■ To prevent the lens from falling off, after attaching the lens, check that it is securely mounted and that the lens does not move. If the lens falls or topples over, it could result in injury or damage to the lens and the surrounding things.

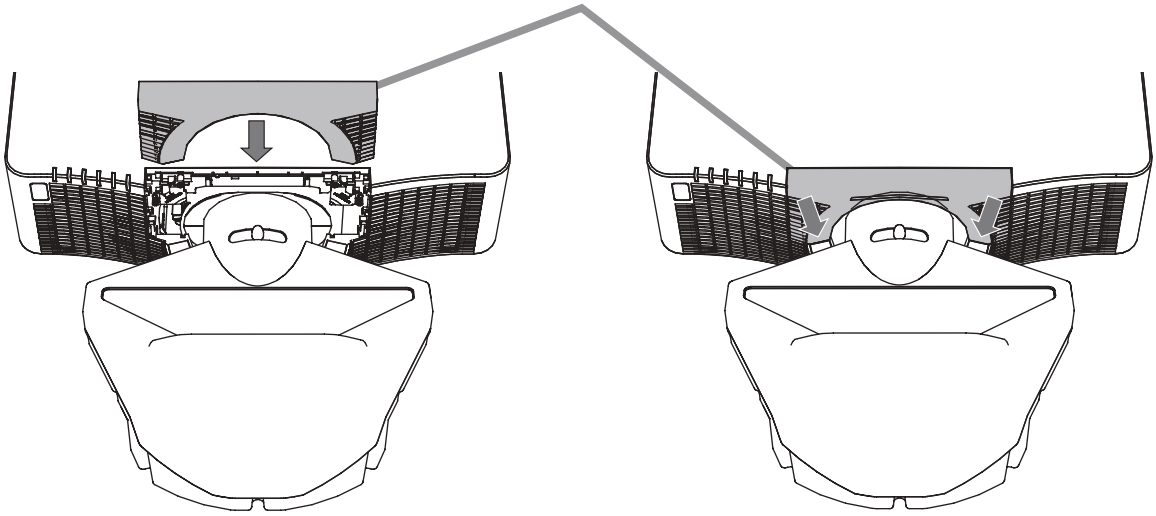
Lens Installation Procedure (continued)

5. Attaching the front cover
   Insert the front cover into the projector body.



Front cover (lower part)

Front cover (upper part)



Lens Removal Procedure

1. Return the lens shift to the center position

   (1) Press the **LENS SHIFT** button to display the LENS SHIFT dialog.

   (2) Press the **ENTER** or **INPUT** button while the dialog is displayed to execute the CENTERING feature, which adjusts the lens to the center. A message dialog is displayed for confirmation.

   (3) Pressing the ►button performs CENTERING.

Note

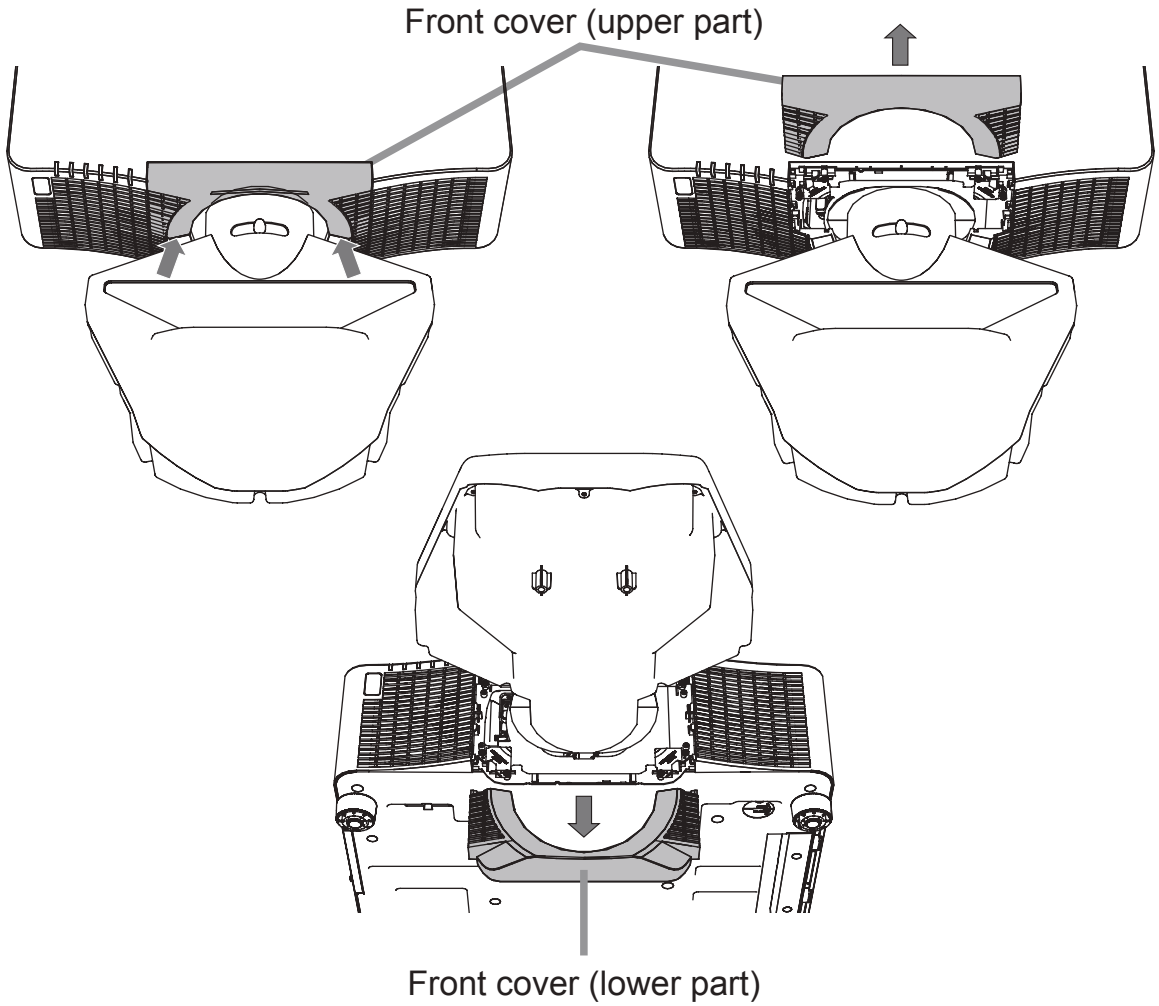
• You can also perform CENTERING in the standby mode by pressing the **FUNCTION** and **LENS SHIFT** buttons on the control panel for 3 seconds at the same time.

2. Turn off the projector

   Turn off and unplug the projector, and allow the projector to sufficiently cool down.

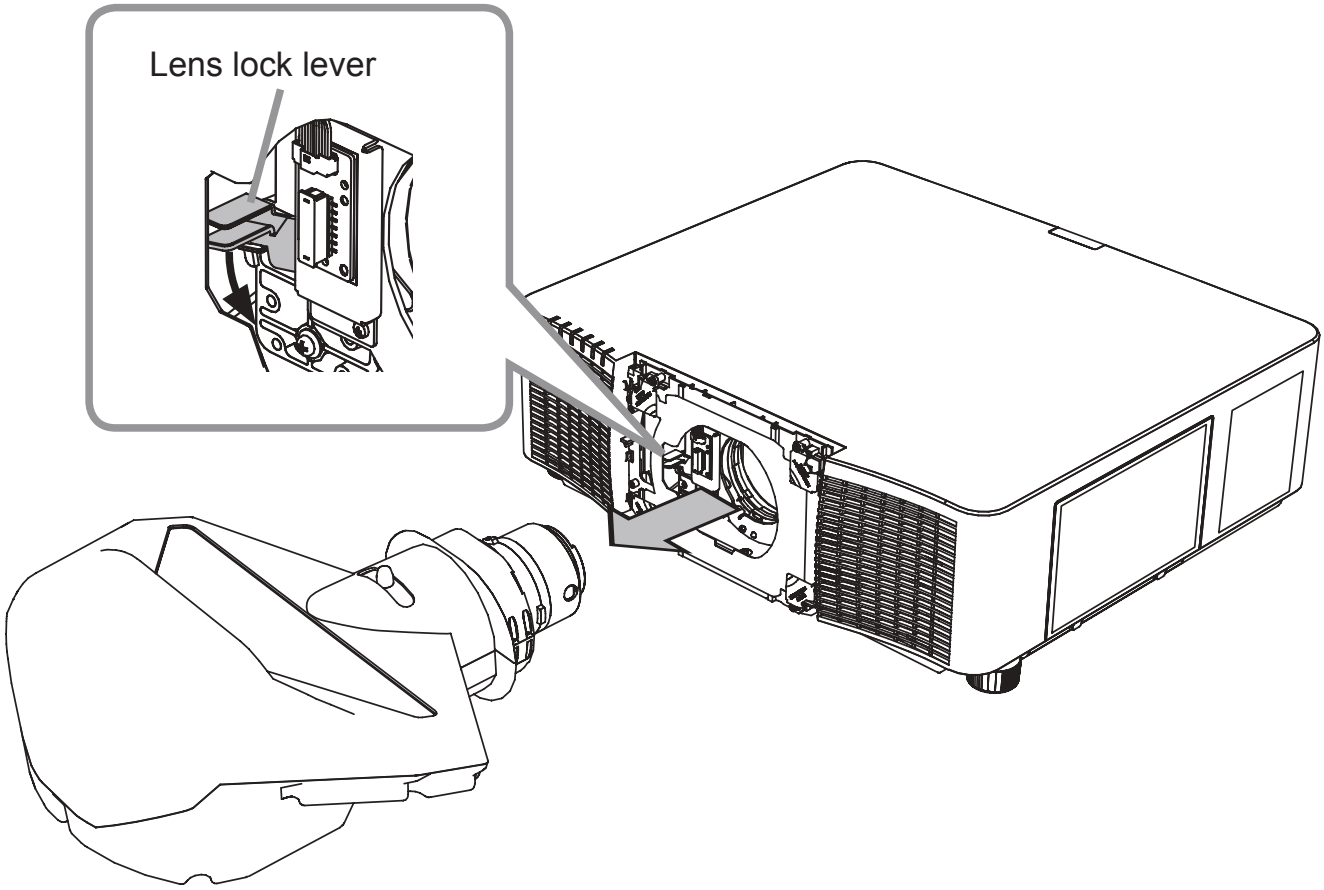
3. Remove the front cover

   Move and slide the front cover up while pressing the front cover from the underside and remove the front cover from the projector.



Lens Removal Procedure (continued)

4. Remove the lens
   Support the lens, and lower the lens lock lever to the lowest position and remove the lens from the projector. You can move the lever while the upper plate touches lower one.



Note

Attach the bundled lens cap to the lens at the time of storage.

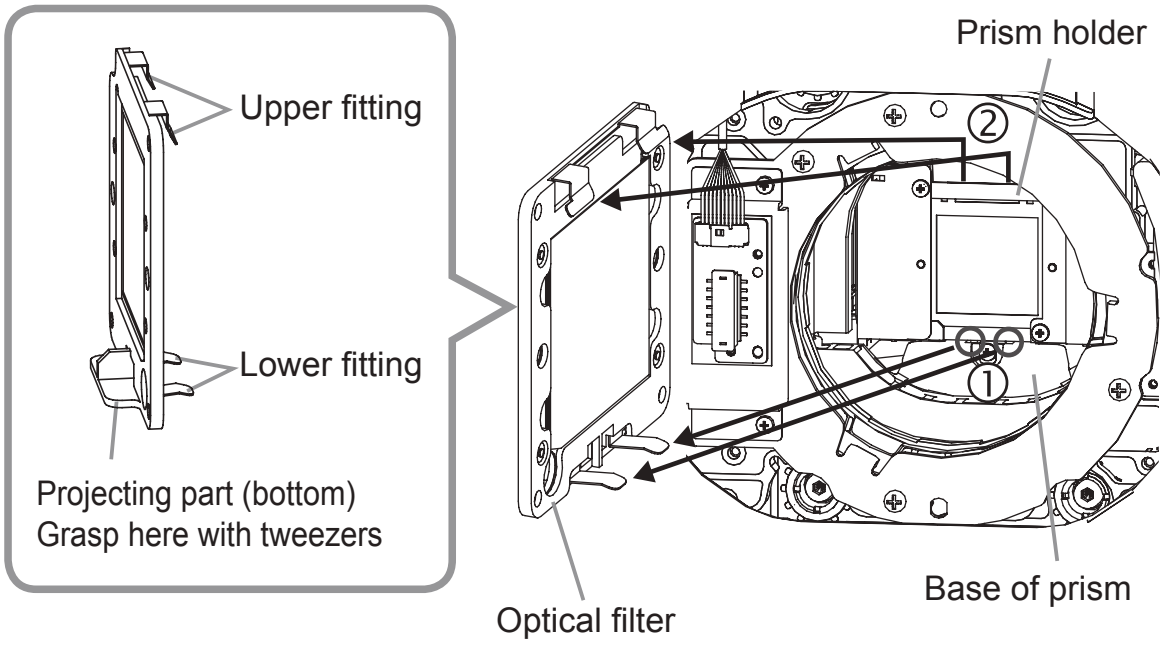
⚠ Caution

- Avoid hitting the surface of the lens on the projector when removing the lens as this may lead to malfunction.
- Do not touch the socket of the lens or subject it to impact as this may lead to malfunction.

5. Removing the optical filter.

(1) Use a pair of tweezers to hold the part sticking out at the bottom of the optical filter and remove the filter from the gap between the prism holder and its base (①).

(2) Then unhook the fitting at the top of the optical filter from the prism holder (②).



⚠ Caution

■ **Be sure to unplug the projector beforereplacing the lens.**
The inside of the projector has areas of high voltage which can cause electrical shock.
Furthermore, if a strong light accidentally shines in your eyes, it may cause visual impairment.

⚠ Warning

■ Be careful to mount/remove the optical filter correctly and avoid hitting the inside of the projector. Doing so may cause damage.

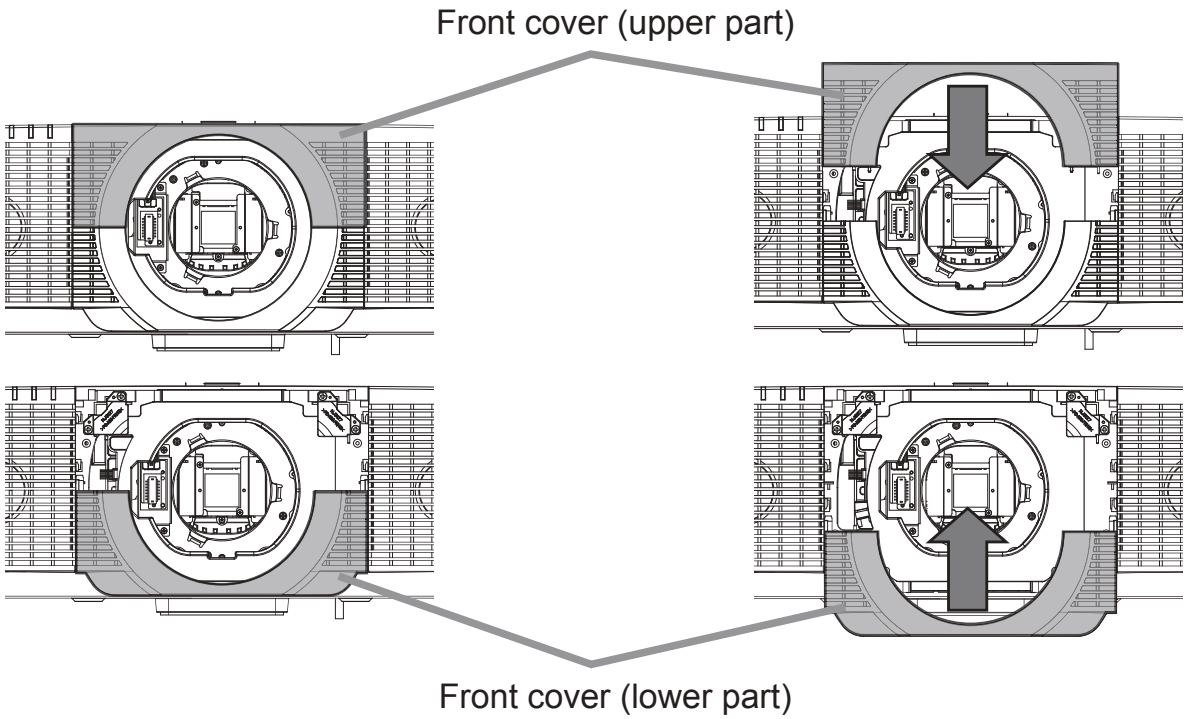
■ Remove the optical filter when mounting any lens other than the original lens, such as an optional lens. Failure to do so may cause damage.

■ **When replacing the lens, do not touch the polarizing plates of the projector or subject them to shocks.**
This can cause damage to the equipment. It can also cause a misalignment of the optical adjustment and, therefore, require readjustments.

■ **When replacing the lens, be careful not to damage the connectors or wires inside the projector.**
This can cause damage to the equipment. Be careful not to pull on the connectors or wires or get them caught in the circuit board or case.

Lens Removal Procedure (continued)

6. Attaching the front cover
   Insert the front cover into the projector body.



Note

• Insert the dust protector to prevent dust from entering the lens mounting part.

Setting the lens shift position

Moving the lens shift position automatically to the default projection position by controlling from the projector.

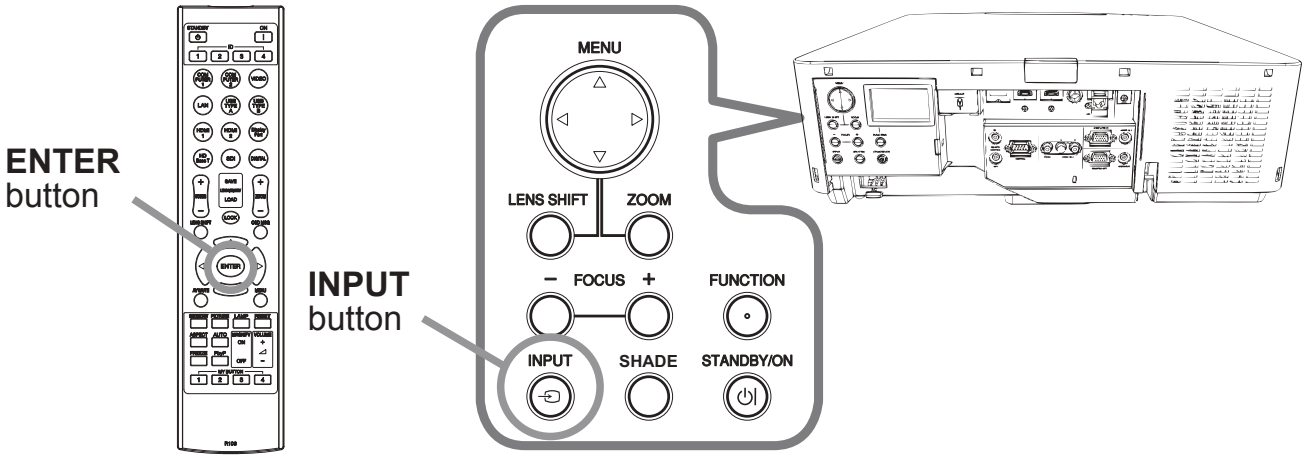
Note

Automatic recognition may not work and this function may not be available depending on the projector. In that case, adjust the lens shift position by remote control or controlling from the projector. Part of the image may not be displayed due to the movement of the lens out of the regular lens shift position. Adjust the position within the range which does not cause the missing of the image.

Setting the lens shift position

(1) Turn on the projector and project an image. The message is displayed to confirm whether to perform the automatic setting function to move the lens shift position to the default projection position.

(2) When pressing the **ENTER** or **INPUT** button while the dialog is displayed, the lens shift position moves to the default projection position automatically.



⚠ Warning

■ Do not put your fingers or any other things around the lens. The moving lens could catch them in the space around the lens and result in an injury.

■ **Never look into the projection window.**
Never look into the projection window while the projection lamp lights, since the projection lamp ray may cause a trouble on your eyes.

■ **Do not cover the projection window or bring a hand close to it during the projection.**
Strong light comes out of the projection window, so it may cause a burn or a fire.

Setting the lens shift position (continued)

Note

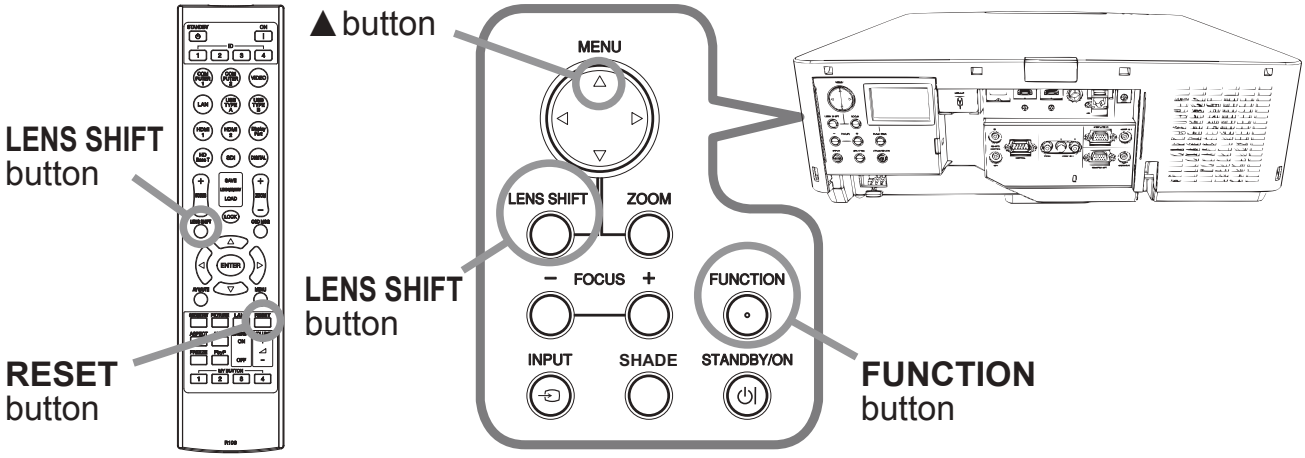
- The lens shift function is available within the range of lens shift adjustment even after moving to the default projection position.
- The lens memory function is not supported by this lens.

Returning the lens shift to the default position.

(1) Press the **LENS SHIFT** button to display the LENS SHIFT dialog.

(2) Press the **RESET** button, or press the **FUNCTION** and ▲ buttons at the same time while the dialog is displayed. The message is displayed to confirm whether to perform the automatic setting function to move the lens shift position to the default projection position.

(3) When pressing the ► button, the lens shift position moves to the default projection position automatically.



Note

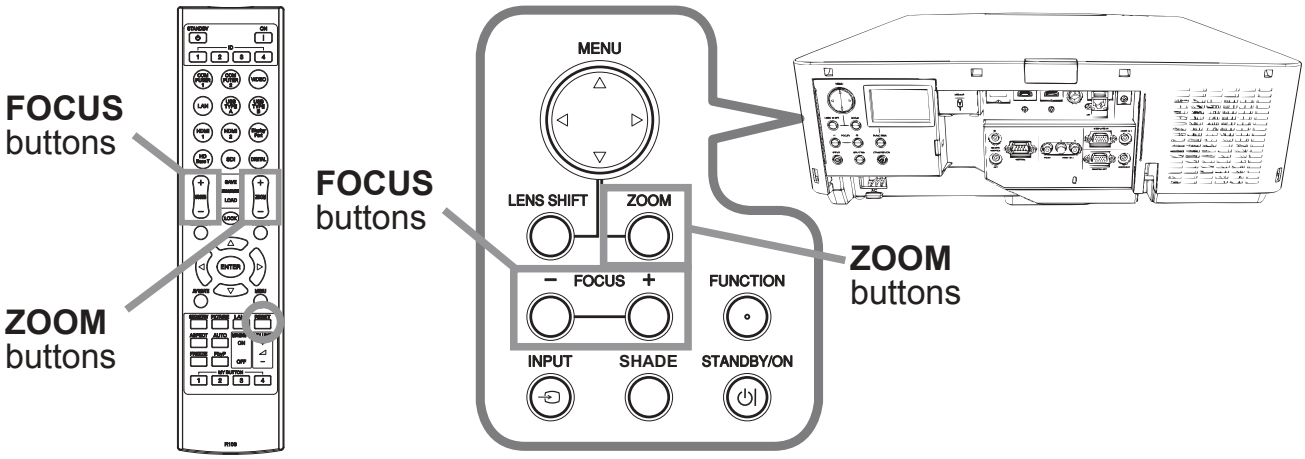
- When the projector is in the standby mode, this function is available by pressing the **FUNCTION** and ▲ buttons at the same time for 3 seconds.
- Refer to the Projector user's manual or "Lens Removal Procedure" in this manual to see how to return the lens shift to the center position when replacing or removing the lens.

Adjusting the focus

Adjusting the focus at the center and the peripheral part of the screen.

1. Adjusting the focus on the center of the screen
   (1) Press the **FOCUS +/-** button to display the FOCUS dialog.
   (2) Press the **FOCUS +/-** button to adjust the focus at the center of the screen.

2. Adjusting the focus at the peripheral part of the screen
   (1) Press the **ZOOM +/-** button to display the FOCUS dialog.
   (2) Press the **ZOOM +/-** button to adjust the focus at the peripheral part of the screen.



⚠ Warning

■ **Never look into the projection window.**
Never look into the projection window while the projection lamp lights, since the projection lamp ray may cause a trouble on your eyes.

■ **Do not cover the projection window or bring a hand close to it during the projection.**
Strong light comes out of the projection window, so it may cause a burn or a fire.

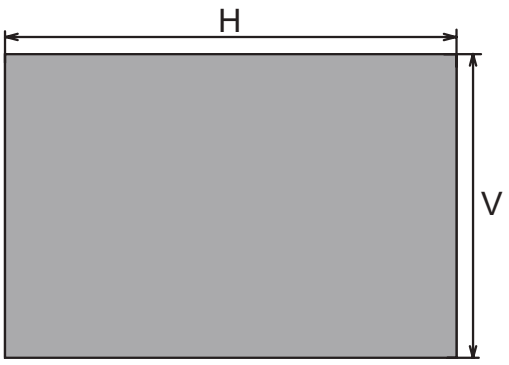
Note

- Automatic recognition may not work depending on the projector. Although the Zoom dialogu may be displayed when adjusting the focus at the peripheral part, it is not a failure.
- The lens memory function is not supported by this lens.

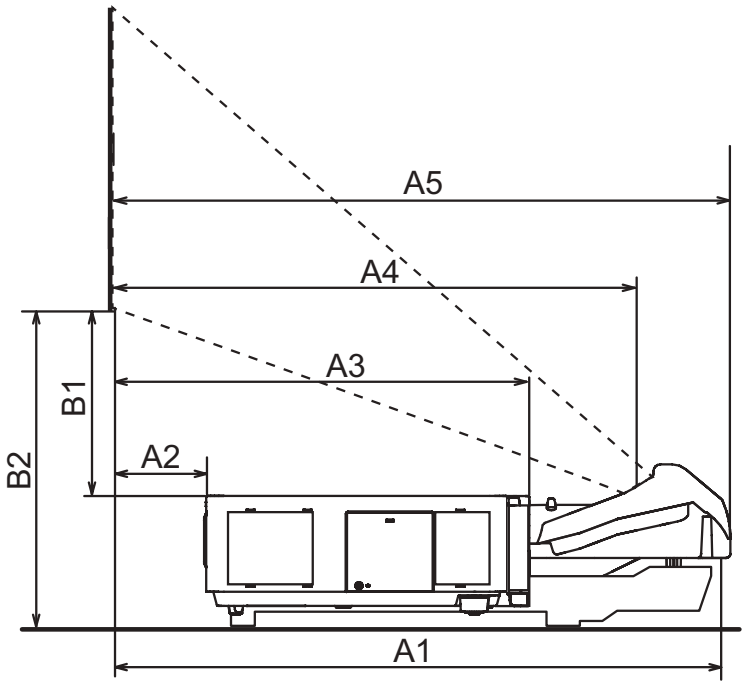
Definition of the table of projection distance

● The distance between a projector and a screen is shown below.

● Refer to the table at the end of this manual for a projection distance.



Screen



∗This figure is not drawn to scale.

H : Horizontal width of a screen
V : Vertical width of a screen
A1 : Reflecting mirror surface to screen
A2 : Projector rear end to screen
A3 : Projector front end to screen
A4 : Projection window center to screen
A5 : Lens front end to screen
B1 : Projector top to bottom edge of screen
B2 : Projector bottom to bottom edge of screen

* A1 (a reflecting mirror surface) cannot be confirmed because it is installed inside the lens.

⚠ Caution

■ A2 is the distance between a projector rear end to a screen. Keep a space of 50 cm or more between the sides of the projector and other objects such as walls.

■ Use the air conditioner and ventilation system when installing in a closed space. The inside of the projector becomes overheated if it is not ventilated normally. It may cause automatic power-off, a fire, or malfunction.