

WT60CM Ceiling Mount Unit

Installation and Adjustment Manual

Thank you for your purchase of this NEC ceiling mount unit.
Please read this installation and adjustment manual carefully to ensure proper use.

- This ceiling mount unit is for use with the WT60CM. (June 2003)

Special skills are required for the installation of the projector. This work should never be performed by the customer.

To the Dealer and the Installer

For the safety of the customer, we ask that the installation work be started after careful attention is paid to the strength of the mounting location to be sure it will withstand the weight of the projector and mounting hardware.

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Heed the Following



This symbol alerts the user that important information concerning the operation and maintenance of this unit has been provided. The information should be read carefully to avoid problems.



WARNING

- When installing the projector, be sure to do so as explained in this manual. The projector may fall and cause injury if it is installed improperly.
- To prevent the projector from falling, install it in a place and fasten it in a way with sufficient strength to support the combined weight (8.8kg) of the projector (5.9kg) and the ceiling mount unit (2.9kg) for an extended period of time as well as to withstand earthquakes. Insufficient strength or fastening may result in the projector falling and causing injury.
- To ensure safety, be sure to tighten the bolts and screws securely. Also be sure to use the included brackets and other metal fittings. Failure to do so may result in the projector falling and causing injury.
- When sliding the opening of the mounting adapter over the pin of the ceiling attachment unit, check that the pin of the ceiling attachment unit is fully seated in the opening. If not, the projector may fall and cause injury.
- Do not modify any parts. Doing so may result in the projector falling and causing injury.
- Do not use broken parts. Doing so may result in the projector falling and causing injury. If a part should be broken, consult your dealer.
- Do not look into the mirror when the projector is turned on. Doing so could damage your eyesight.
- Make adjustments as described in this manual. Incorrect adjustments may result in the projector falling and causing injury.
- Do not hang from the projector by the carrying handles in a ceiling mounted installation. Doing so may result in the carrying handles separating from the unit or the projector may separate from the mount resulting in personal injury.



CAUTION

- Do not obstruct the projector's ventilation holes. Doing so will prevent the dissipation of heat and may result in fires. In particular, do not use the projector in the following ways:
Do not install the projector in a wall or in a tight place where ventilation is poor, place a cover it, etc.
- Do not install the projector in front of the outlets of an air conditioner or heater or in a place where vibrations are strong. Doing so may result in fires.
- Do not install the projector in humid or dusty places or exposed to smoke or steam (such as near cooking equipment or humidifiers). Doing so may result in fires.
- When installing the projector, leave sufficient space between it and surrounding objects. Failure to leave sufficient space will prevent the dissipation of heat and may result in fires.
- When removing the screws on left and right on the mounting adapter, be sure to support the projector while doing so. Failing to do so may result in the projector swinging back abruptly and causing injury.
- for PLUGGABLE EQUIPMENT, the socket-outlet shall be installed near the equipment and shall be easily accessible.

Installation Precautions

- Special techniques are required for the installation work of the projector and installation work should only be undertaken by qualified and licenced installers.
- NEC Viewtechnology will not accept any responsibility related to any accidents or incidents due to insufficient or inferior mounting techniques.

Installation Location

Avoid places of high temperature or low temperature.

(For ambient operating temperature, see the user's manual included with the projector.)

Avoid places exposed to direct sunlight and the vicinity of ventilation holes of room air conditioning and heating.

Avoid rooms with a lot of dust, humidity, greasy smoke, or tobacco smoke.

Dirt will adhere to optical parts such as lenses and mirrors and this will cause a deterioration of image quality.

Avoid places in which the screen is exposed to direct sunlight or illumination light. When surrounding light directly hits the screen, the image appears washed out and is difficult to view.

Screen selection should be made carefully. Some screen types will perform better than others when used with the WT600. For screen recommendations, see the WT600 Setup Guide included with the projector.

Preparation

■ Packaged Parts

This product is packaged with the parts assembled.

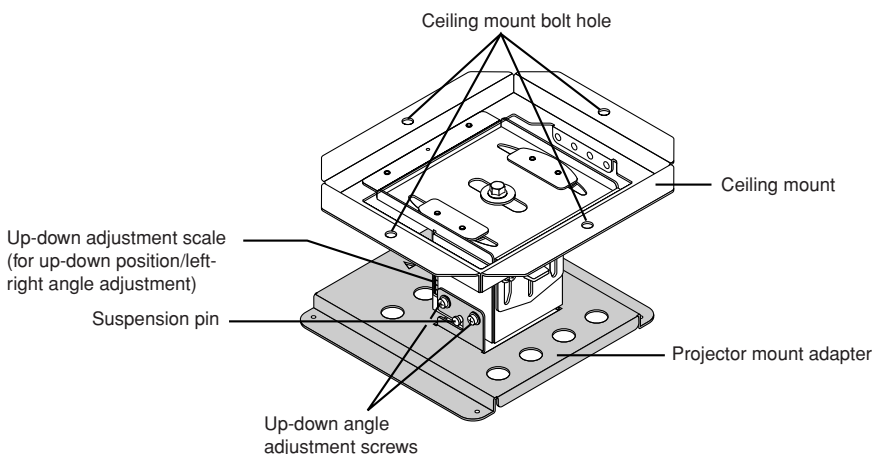
Ceiling mount unit (1)

M4 × 8 mm projector mounting screws (4)

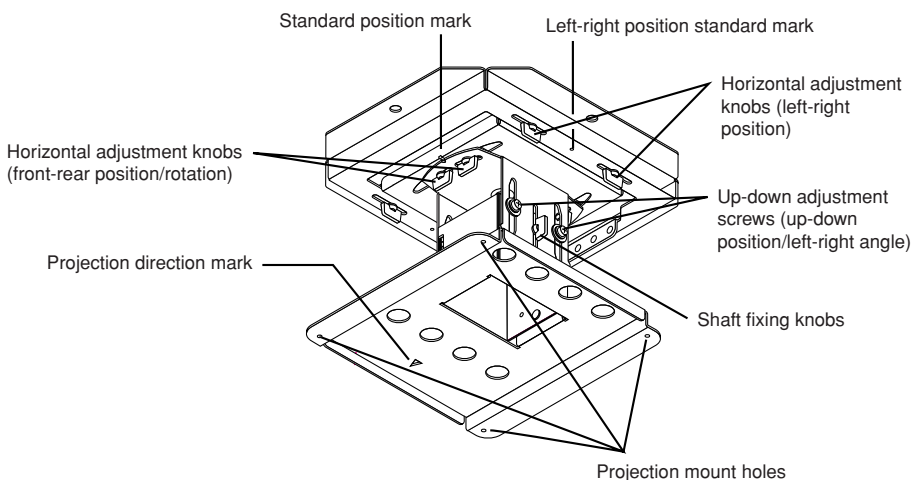
Installation and adjustment manual (1)

■ Names of Parts

View from top

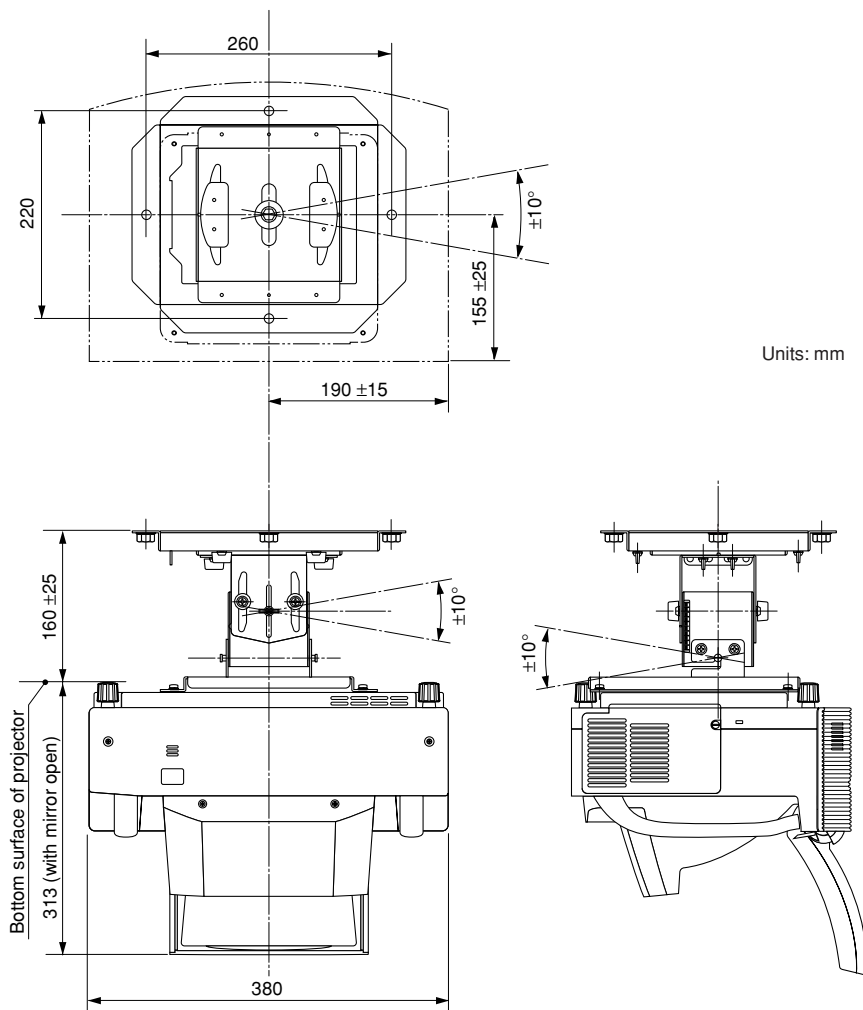


View from bottom



■ Dimensions of Parts

The following indicates the distances between the ceiling mount bolt positions, the maximum turning angle and the maximum shift.



Guide to Screen Size and Projector Mounting Position

Use this guide when considering the distance to the screen and the screen size.

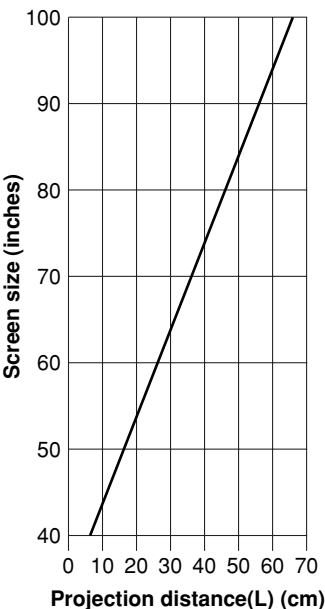
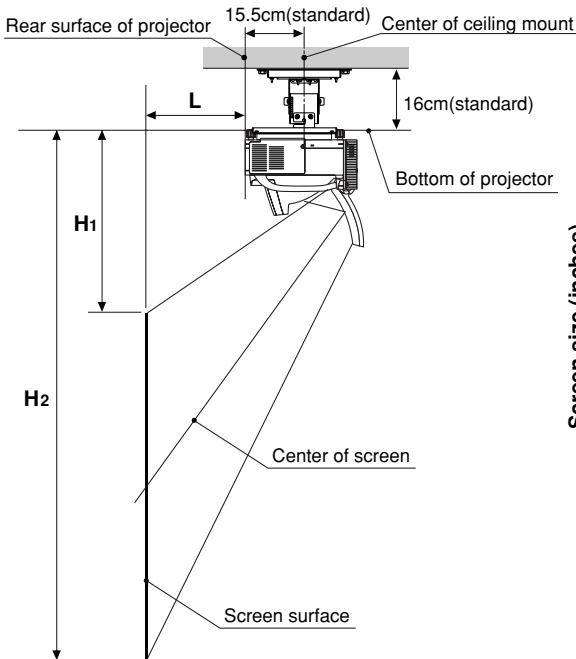
- The recommended screen size for use with the projector is 40" to 100" (measured diagonally).

NOTES

- Mirror projectors are equipped with special high magnification mirrors designed for an optical axis launch angle of approximately 0.00°. For this reason, the size and position of the projected image change greatly if the projection distance is off.
- The ceiling mount unit can be adjusted a maximum of $\pm 10^\circ$ in the up-down, left-right and front-rear directions. The image will be distorted if the angle is too large, so only use the adjustment capabilities for fine-adjustment. If the angle must be adjusted greater than $\pm 10^\circ$, also adjust the angle of the screen itself.
- The brightness may be uneven when using a rear screen. Use of a rear screen is not recommended.
- The WT600 projector is equipped with a 3D reform and digital zoom adjustment function for simple installation. Adjusting these too much will reduce picture quality. Set the position of installation properly.

■ Projection Distance

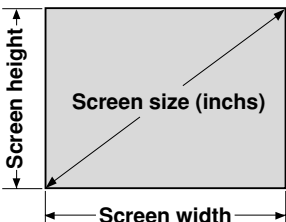
Screen size (inches)	Projection distance (L) cm	Screen top edge height (H1) cm	Screen bottom edge height (H2) cm
40	6.4	35.4	96.4
50	16.4	41.8	118.0
60	26.3	48.2	139.6
80	46.1	60.9	182.8
100	65.9	73.7	226.1



NOTES

- The projection distance and screen top/bottom edge heights are design values and may have an error of $\pm 5^\circ$.
- The projection distance and screen top/bottom edge heights are calculated for a screen type setting of 4:3.

Screen Size Conversion Table



Size (inches)	Screen width (cm)	Screen height (cm)
40	81.3	61.0
50	101.6	76.2
60	121.9	91.4
80	162.6	121.9
100	203.2	152.4

Using the Diagrams

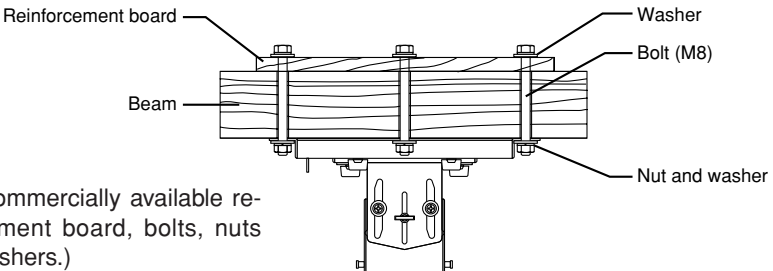
Screen size: An 80-inch screen, for example, will be 162.2 cm wide and 121.9 cm high according to “Screen Size Conversion Table”.

Projection distance: According to the “Projection Distance” table on page 5, the projection distance for an 80-inch screen will be 46.1 cm. Also, the measurement from the bottom surface of the projector to the top edge of the screen will be 60.9 cm, to which 16 cm will be added from the ceiling mount surface.

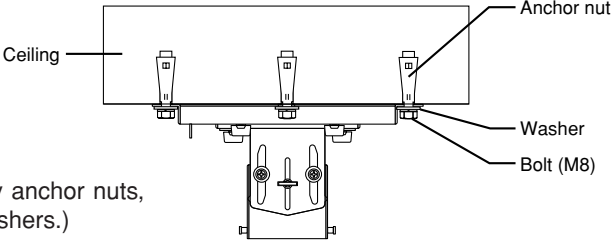
Reference

Mounting the ceiling mount on the ceiling (examples)

For a wood ceiling



For a concrete ceiling

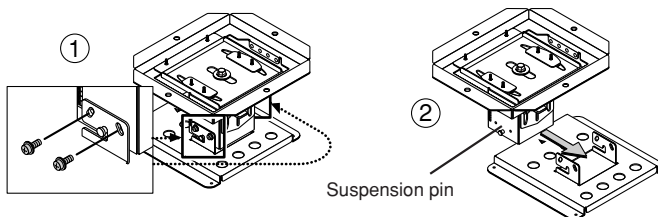


Mounting the Projector

Preparations:

1. Remove the projector mount adapter from the ceiling mount unit.

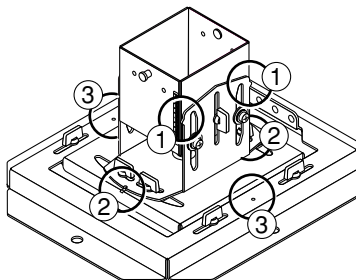
- ① Turn the M5 × 15 screws (4) counterclockwise to remove them.
- ② Remove the projector mount adapter from the suspension pin.



2. Set the ceiling mount to the standard positions (left-right, up-down and rotation).

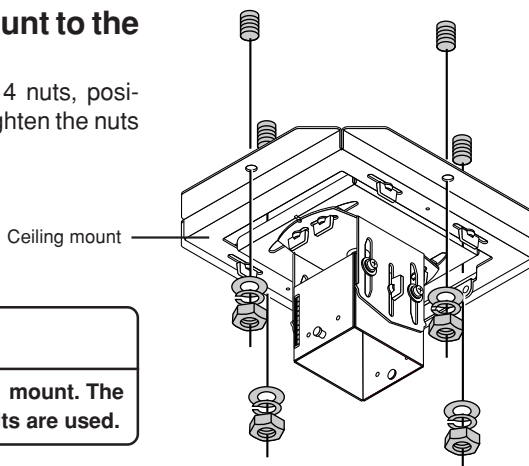
Loosen the adjustment knobs and shaft fixing knobs (by turning them counterclockwise), line up with the position marks and the standard positions as shown on the scales, then tighten the adjustment knobs and shaft fixing knobs (by turning them clockwise).

- ① Line up the projecting parts with the “▲” marks on the scales on both sides.
- ② Line up the notches with the standard position marks.
- ③ Line up the left-right standard position marks (the round holes) with the holes in the plate below.



1. Mount the ceiling mount to the ceiling

First temporarily tighten the 4 nuts, position the ceiling mount, then tighten the nuts securely.



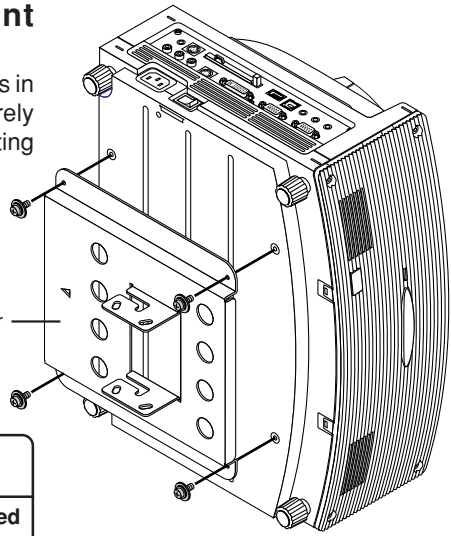
WARNING

Use M8 bolts for the ceiling mount. The projector may fall if other bolts are used.

2. Mount the projector mount adapter on the projector.

Line up the mount adapter with the holes in the bottom of the projector and securely tighten the 4 included projector mounting screws (M4×8).

Projector mount adapter



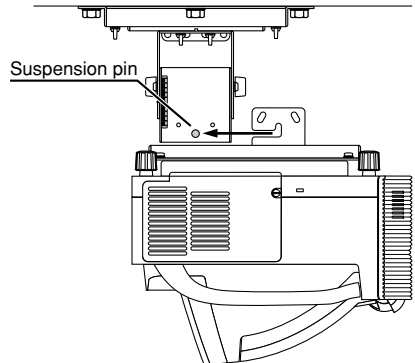
WARNING

Using screws other than those included could damage the projector or result in the projector falling and causing injury. Be sure to use the included screws.

3. Suspend the projector from the ceiling mount.

Slide the groove in the projector mount adapter onto the suspension pin all the way to the back.

Remember that the projector is now only temporarily suspended and not fastened. Be careful not to let it drop.



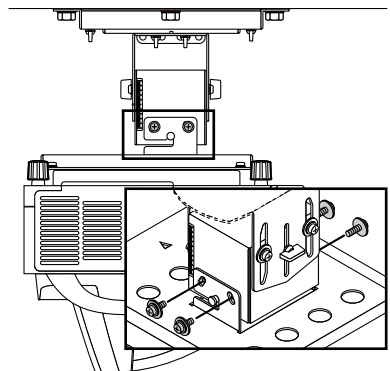
4. Temporarily fasten the projector mount adapter.

Temporarily fasten the 4 screws (M5×15) removed in "Preparations" step 1.

Mount in such a way that tilt is minimum.

Fasten the screws securely after adjusting the screen's projection position.

This completes projector mounting.



Adjusting the Projection Position

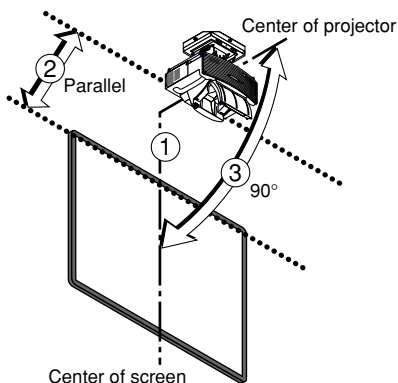
■ Before adjusting

- Project an image from the projector, then first use the “FOCUS +/-” buttons to roughly adjust the focus of the projected image.
For instructions on projecting an image, see “Installation and Connections” and “Projecting an Image (Basic Operation)” in the projector’s operating instructions.
- From the menu, select “Ceiling Front” as the method of projection under “Advanced Menu” → “Projector Options” → “Setup” → “Page 1”.

Reference

Hints on adjusting

- ① Line up the center of the projector with the center of the screen.
- ② Set the projector and screen on parallel lines.
- ③ Set the projector at an angle of 90° to the screen.

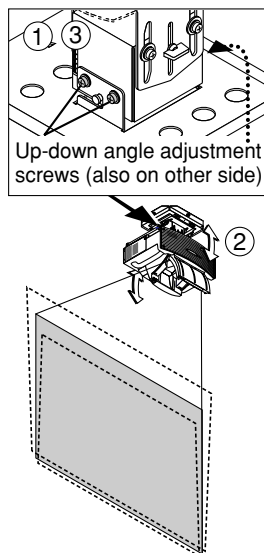


1. Adjust the up-down angle so that the projector is at an angle of 90° (right angle) with respect to the screen.

If the projector is at an angle in the up-down direction, there may be trapezoidal distortion of the projected image and the projection height may be far off.

- ① Loosen the up-down angle adjustment screws (by turning them counterclockwise).
- ② Adjust so that the side edges of the image are parallel.
It is OK here if the projected image is partially off the screen or not properly positioned.
- ③ Temporarily tighten the up-down angle adjustment screws (by turning them clockwise).

* If the projected image is tilted in the left-right direction, adjust for this at step 3.



* The screen frame is not shown in the above illustration.

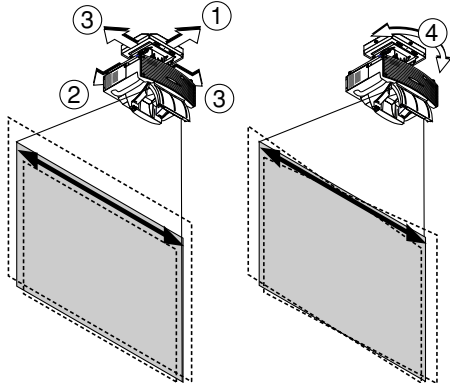
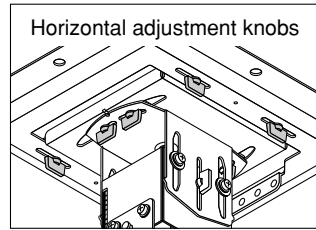
2. Adjust the projector in the left-right and front-rear directions so that the upper edges of the projected image in the horizontal direction fit over the entire width of the screen.

Loosen the horizontal adjustment knobs a little (by turning them counterclockwise), adjust, then tighten the horizontal adjustment knobs (by turning them clockwise).

If ... :

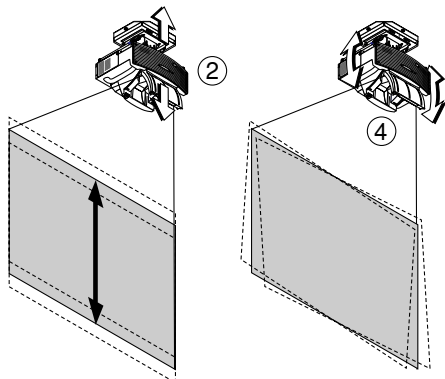
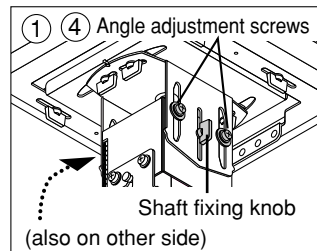
- ① The image is too small: Adjust to the rear (the projection position lowers).
- ② The image is too large: Adjust to the front (the projection position rises).
(When adjusting, keep the projector parallel to the screen.)
- ③ The image is off the left or right side of the screen: Adjust in the left-right direction to center the image on the screen.
- ④ The image is not parallel in the vertical direction: Rotate clockwise or counterclockwise to make it parallel.

* Maximum adjustment range: ± 25 mm front-rear, ± 15 mm left-right, $\pm 10^\circ$ rotation



3. Adjust the height so that the projected image fits on the screen in the vertical direction.

- ① Loosen the 4 angle adjustment screws (by turning them counterclockwise).
- ② Support the projector from below holding its handles, slightly loosen the 2 shaft fixing knobs, adjust the height, then tighten the shaft fixing knobs.
- ③ If the projected image is tilted in the left-right direction, adjust the angle.
- ④ Tighten the shaft fixing knobs and angle adjustment screws.



WARNING

When the shaft fixing knobs and angle adjustment screws are loosened, the projector may drop (as far as it can slide) and the equipment may be damaged. Be sure to support the projector from below.

4. Use the “FOCUS +/-” buttons to focus the projected image.

- If the projection position is off, readjust from step 1.
- If there is bobbin- or barrel-shaped distortion of the projected image, use the projector's “Correcting Pincushion Distortion” function to adjust.

**This completes adjustment of the projection position.
Securely tighten all screws and adjustment knobs.**

Specifications

Product name:	Projector ceiling mount unit
Model:	WT60CM
Adjustment angle:	Up-down angle $\pm 10^\circ$, left-right angle $\pm 10^\circ$, inclination angle $\pm 10^\circ$
Adjustment width:	Front-rear ± 25 mm, left-right ± 15 mm, up-down ± 25 mm
External dimensions:	290 (W) $\times$ 262 (D) $\times$ 170 (H) mm
Weight:	Approximately 2.9 kg
Supplied items:	Installation and Adjustment Manual: 1

Specifications and design are subject to change without notice.