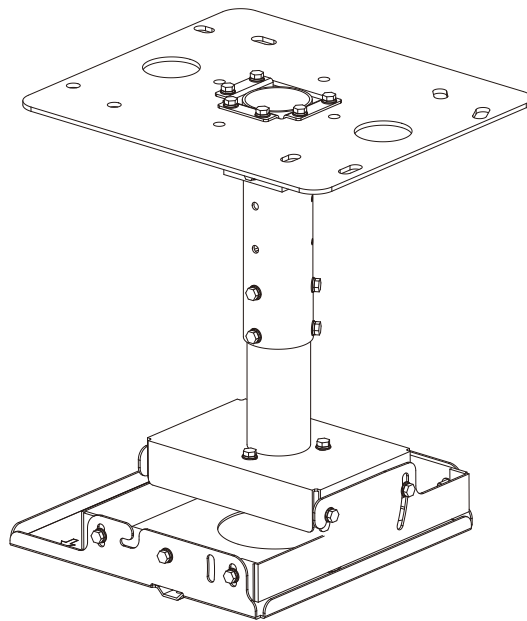


Installation Instructions Ceiling Mount Bracket (for High Ceilings)

Model No. **ET-PKR100H**



Thank you for purchasing this Panasonic product.

- To customers
The "Installation Instructions" is intended for use by installation personnel. Be sure to employ certified personnel to perform the installation.
After installation, have the installation personnel return these "Installation Instructions" to you, and save it for future use.
When moving or removing the projector, give this manual to the certified personnel and have them perform the procedure.
- To installation personnel
Read the "Installation Instructions" thoroughly and then perform the operation correctly and safely.
Be sure to read through the section entitled "Read this first!" (page 3) before proceeding with the installation.
After installation, return these "Installation Instructions" to the customer.



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WARNING:

Installation work should only be carried out by the certified personnel.

- If this product is not installed correctly, serious accidents may result.
- Follow the instructions specified in "Installation" of this manual, and perform secure installation.

Do not install in a place which is not strong enough.

- If the installation location is not strong enough, the ceiling bracket may fall down and an injury may result.

Make sure that your footing is safe and secure during installation.

- If your footing is not secure, you may fall down or drop the bracket, and an injury may result.

Make sure that the ceiling bracket is installed correctly in accordance with the structure and materials used at the installation location.

- If a mistake is made in the installation procedure, the ceiling bracket may fall down and an injury may result.

Do not loosen or remove the ceiling mount bracket screws or bolts unnecessarily.

- The projector may fall down and injury may result.

Do not set up the projector in humid or dusty places or in places where the projector may come into contact with oily smoke or steam.

- Using the projector under such conditions may result in fire, electric shocks or plastic deterioration. The plastic deterioration may cause the falling down of the projector which is mounted in the ceiling.

Do not allow children to reach the attached metal fittings and screws.

- The attached metal fittings and screws can cause personal injury if swallowed.
- If swallowed, seek medical advice immediately.

Mounting and installation must be carried out by two or more persons.

- Including the projector, this fixture weighs approximately 20 kg (44.1 lbs.). Be sure that mounting and installation are carried out by two or more persons.

Do not disassemble or modify the ceiling mount bracket.

- The projector may be damaged or fall, causing injury.

CAUTION:

Install only the designated projector.

Install only using the designated method.

- Otherwise, the projector may fall and become damaged, and cause injury.

Do not install the ceiling bracket in a place which may impede projector ventilation.

- If this is not observed, fire may result.

Do not hang from or hang objects on the projector or ceiling mount bracket.

- The projector may fall and cause injury.

When installing, always use the supplied components.

- Otherwise, this may cause damaged projector to fall and cause injury.

Install the mounting screws and power cable in such a way that they will not make contact with the inside parts of the ceiling.

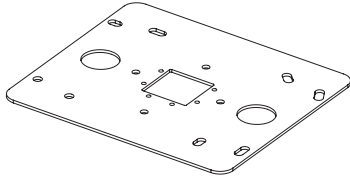
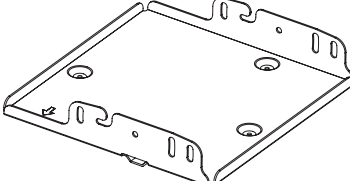
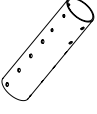

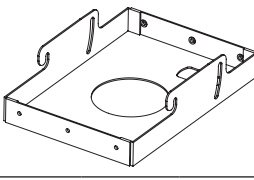

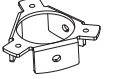
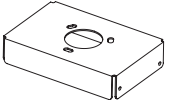


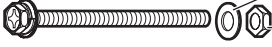

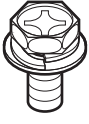
- Electric shocks may result from contact with any metal objects inside the ceiling.

- **Panasonic disclaims all liability for any accidents or any damage caused by the installation of the ceiling mount bracket using methods that are not described in these Installation Instructions or methods that do not use the parts specified in these Instructions.**
- **If products are no longer being used, they should be dismantled and removed by the certified personnel as soon as possible.**





Product description

This is a ceiling mount bracket for installing projectors.

■ Structural components

Parts name	Form (number of parts)	Applications
Attachment plate	 × 1	The attachment plate is attached to the ceiling via four ceiling mount bolts. Installation methods are different for concrete and wooden ceilings. It also allows horizontal swing adjustment.
Projector mount bracket	 × 1	This is used to install the projector itself. It also includes a function for adjusting the left/right tilt.
Adjustment pole	Adjustment pole 1  Adjustment pole 2  × 1	This is the adjustment pole which is installed in between the attachment plate and the projector mount bracket. It also includes a function for adjusting the distance between the ceiling and the projector itself.
Angle adjusting bracket	 × 1	This is attached to the projector mount bracket. It also allows vertical swing adjustment.
Pole brace 1	 × 1	This is attached to the attachment plate to secure adjustment pole 1.
Pole brace 2	 × 1	This is attached to the adjustment pole 2.
Pole base	 × 1	This is attached to the pole brace 2.
Screws and bolts	 Flat washer (M6) × 2  Hex nut (M6) × 2  Hex head bolt, captive washer (M6×80) × 2  Screw, captive washer (M4×10) × 4  Hex head bolt, captive washer (M6×16) × 30	These are used to assemble the bracket and mount it onto the projector.

Product description (continued)

Parts name	Form (number of parts)	Applications
Ceiling mount bracket drop prevention kit	 Flat washer (M8) × 1  Wire rope for ceiling mount bracket (2.0 mm (3/32") wire diameter, 800 mm (31-1/2") length) × 1	Prevents the the ceiling mount bracket from falling.
Projector drop prevention kit	 Wire rope for the projector (2.0 mm (3/32") wire diameter, 600 mm (23-5/8") length) × 1  Screw, captive washer (M4×10) × 1	Prevents the projector from falling.

■ The user must also obtain the following parts. (commercially-available)

Installation work	Required parts	Page
Installing the attachment plate to the ceiling (Bolt size: M10)	Installing to a wooden structure Ceiling mount bolt (× 4), Hex nut (× 16), Flat washer (× 16), Spring washer (× 8)	12
	Installing to a concrete structure Ceiling mount bolt (× 4), Hex nut (× 12), Flat washer (× 12), Spring washer (× 8), Anchoring nut or curled plug (× 4)	13
Installing the ceiling mount bracket drop prevention kit (Bolt size: M8)	Installing to a wooden structure Ceiling mount bolt (× 1), Hex nut (× 2), Flat washer (× 1), Spring washer (× 1)	17
	Installing to a concrete structure Anchoring nut or curled plug (× 1), Hex head bolt (× 1), Spring washer (× 1)	17

- Store small parts in an appropriate manner, and keep them away from small children.
- Tightening torque for the screws are, M4: 1.25±0.2 N•m, M6: 4±0.5 N•m, M8: 10±1 N•m, and M10: 20±1 N•m.
- When tightening up the screws, use a tool such as a torque screwdriver or torque wrench. Do not use electric screwdrivers or impact screwdrivers.

Attention

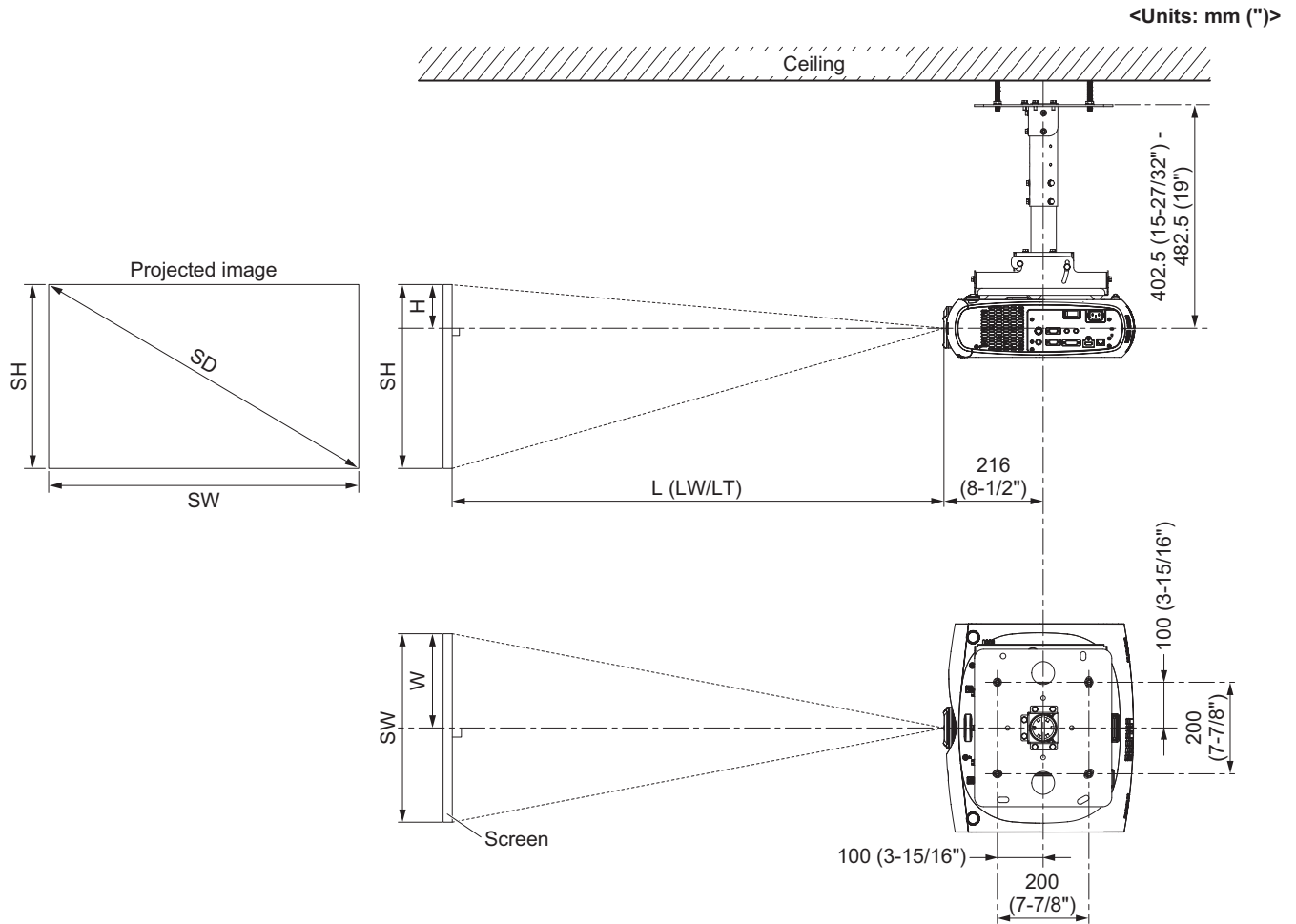
- Dispose of the packaging materials properly after taking the product out of it.

Standard installation dimensions

The dimensional relationship between the screen and the projector is shown below.

Establish the dimensions after assessing the area possible for installation.

If your projector has a zoom lens, you can use it to adjust the projected image size and the projection distance. Check the projected image while making fine adjustments.



(Note) This drawing is not in exact scale.

Attention

- Install the projector with at least 500 mm ($19-11/16$ ") gap from the surrounding walls or objects in order to ensure that the air intake/exhaust ports of the projector will not be blocked.
- Avoid setting up in places which are subject to sudden temperature changes, such as near an air conditioner or lighting equipment.

Note

- Depending on the product, the appearance may differ from the illustrations in these installation instructions.

Standard installation dimensions (continued)

■ Projected image size and projection distance

The dimensions in the table below contain a slight error.

● Distances for the PT-RZ475 series

Projected image size (16:9 aspect ratio)			Projection distance (L)	Center of lens- Top edge of image: H	Center of lens- Right edge of image: W
Screen diagonal (SD)	Height (SH)	Width (SW)			
1.02 m (40")	0.50 m (1'8")	0.89 m (2'11")	0.67 m (2'2")	approx. 0.20 m – 0.30 m (approx. 0'8" – 0'12")	approx. 0.41 m – 0.47 m (approx. 1'4" – 1'7")
1.27 m (50")	0.62 m (2')	1.11 m (3'8")	0.85 m (2'9")	approx. 0.25 m – 0.37 m (approx. 0'10" – 1'3")	approx. 0.52 m – 0.59 m (approx. 1'8" – 1'11")
1.52 m (60")	0.75 m (2'6")	1.33 m (4'4")	1.03 m (3'5")	approx. 0.30 m – 0.45 m (approx. 0'12" – 1'6")	approx. 0.62 m – 0.71 m (approx. 2'0" – 2'4")
1.78 m (70")	0.87 m (2'10")	1.55 m (5'1")	1.21 m (3'12")	approx. 0.35 m – 0.52 m (approx. 1'2" – 1'8")	approx. 0.72 m – 0.83 m (approx. 2'4" – 2'9")
2.03 m (80")	1.00 m (3'3")	1.77 m (5'10")	1.39 m (4'7")	approx. 0.40 m – 0.60 m (approx. 1'4" – 1'12")	approx. 0.83 m – 0.95 m (approx. 2'9" – 3'1")
2.29 m (90")	1.12 m (3'8")	1.99 m (6'6")	1.57 m (5'2")	approx. 0.45 m – 0.67 m (approx. 1'6" – 2'2")	approx. 0.93 m – 1.06 m (approx. 3'1" – 3'6")
2.54 m (100")	1.25 m (4'1")	2.21 m (7'3")	1.75 m (5'9")	approx. 0.50 m – 0.75 m (approx. 1'8" – 2'6")	approx. 1.03 m – 1.18 m (approx. 3'5" – 3'10")
3.05 m (120")	1.49 m (4'11")	2.66 m (8'9")	2.11 m (6'11")	approx. 0.60 m – 0.90 m (approx. 1'12" – 2'11")	approx. 1.24 m – 1.42 m (approx. 4'1" – 4'8")
3.81 m (150")	1.87 m (6'2")	3.32 m (10'11")	2.65 m (8'8")	approx. 0.75 m – 1.12 m (approx. 2'6" – 3'8")	approx. 1.55 m – 1.77 m (approx. 5'1" – 5'10")
5.08 m (200")	2.49 m (8'2")	4.43 m (14'6")	3.55 m (11'8")	approx. 1.00 m – 1.49 m (approx. 3'3" – 4'11")	approx. 2.06 m – 2.36 m (approx. 6'9" – 7'9")

● Distances for the PT-RZ470 series / PT-RZ370 series

Projected image size (16:9 aspect ratio)			Projection distance (L)		Center of lens- Top edge of image: H	Center of lens- Right edge of image: W
Screen diagonal (SD)	Height (SH)	Width (SW)	Minimum (LW)	Maximum (LT)		
1.02 m (40")	0.50 m (1'8")	0.89 m (2'11")	1.26 m (4'2")	2.58 m (8'6")	approx. -0.12 m – 0.49 m (approx. -5" – 1'7")	approx. 0.13 m – 0.69 m (approx. 5" – 2'3")
1.27 m (50")	0.62 m (2')	1.11 m (3'8")	1.59 m (5'3")	3.23 m (10'7")	approx. -0.14 m – 0.61 m (approx. -6" – 2')	approx. 0.17 m – 0.85 m (approx. 7" – 2'9")
1.52 m (60")	0.75 m (2'6")	1.32 m (4'4")	1.91 m (6'3")	3.89 m (12'9")	approx. -0.17 m – 0.74 m (approx. -7" – 2'5")	approx. 0.20 m – 1.02 m (approx. -8" – 3'4")
1.78 m (70")	0.87 m (2'10")	1.55 m (5'1")	2.24 m (7'4")	4.54 m (14'11")	approx. -0.20 m – 0.85 m (approx. -8" – 2'9")	approx. 0.23 m – 1.19 m (approx. 9" – 3'11")
2.03 m (80")	1.00 m (3'3")	1.77 m (5'10")	2.57 m (8'5")	5.20 m (17'1")	approx. -0.23 m – 0.98 m (approx. -9" – 3'3")	approx. 0.27 m – 1.36 m (approx. 11" – 4'6")
2.29 m (90")	1.12 m (3'8")	2.00 m (6'7")	2.90 m (9'6")	5.85 m (19'2")	approx. -0.26 m – 1.10 m (approx. -10" – 3'7")	approx. 0.30 m – 1.54 m (approx. 12" – 5'1")
2.54 m (100")	1.25 m (4'1")	2.21 m (7'3")	3.23 m (10'7")	6.51 m (21'4")	approx. -0.29 m – 1.23 m (approx. -11" – 4')	approx. 0.33 m – 1.70 m (approx. 11" – 5'7")
3.05 m (120")	1.50 m (4'11")	2.66 m (8'9")	3.89 m (12'9")	7.82 m (25'8")	approx. -0.35 m – 1.47 m (approx. -1'2" – 4'10")	approx. 0.40 m – 2.05 m (approx. 1'4" – 6'9")
3.81 m (150")	1.87 m (6'2")	3.32 m (10'11")	4.88 m (16')	9.79 m (32'1")	approx. -0.43 m – 1.83 m (approx. -1'5" – 6')	approx. 0.50 m – 2.56 m (approx. 1'8" – 8'5")
5.08 m (200")	2.49 m (8'2")	4.43 m (14'6")	6.52 m (21'5")	13.07 m (42'11")	approx. -0.57 m – 2.44 m (approx. -1'10" – 8')	approx. 0.66 m – 3.41 m (approx. 2'2" – 11'2")
6.35 m (250")	3.11 m (10'2")	5.53 m (18'2")	8.17 m (26'10")	16.34 m (53'7")	approx. -0.72 m – 3.05 m (approx. -2'4" – 10')	approx. 0.83 m – 4.26 m (approx. 2'9" – 13'12")
7.62 m (300")	3.74 m (12'3")	6.64 m (21'9")	9.81 m (32'2")	19.62 m (64'4")	approx. -0.86 m – 3.67 m (approx. -2'10" – 12')	approx. 1.00 m – 5.11 m (approx. 3'3" – 16'9")

Standard installation dimensions (continued)

● Distances for the PT-RW430 series / PT-RW330 series

Projected image size (16:10 aspect ratio)			Projection distance (L)		Center of lens- Top edge of image: H	Center of lens- Right edge of image: W
Screen diagonal (SD)	Height (SH)	Width (SW)	Minimum (LW)	Maximum (LT)		
1.02 m (40")	0.54 m (1'9")	0.86 m (2'10")	1.29 m (4'3")	2.63 m (8'8")	approx. -0.10 m – 0.52 m (approx. -4" – 1'8")	approx. 0.11 m – 0.67 m (approx. 4" – 2'2")
1.27 m (50")	0.67 m (2'2")	1.08 m (3'7")	1.62 m (5'4")	3.30 m (10'10")	approx. -0.13 m – 0.64 m (approx. -5" – 2'1")	approx. 0.14 m – 0.84 m (approx. 6" – 2'9")
1.52 m (60")	0.81 m (2'8")	1.29 m (4'3")	1.96 m (6'5")	3.97 m (13')	approx. -0.15 m – 0.78 m (approx. -6" – 2'7")	approx. 0.17 m – 1.01 m (approx. 7" – 3'4")
1.78 m (70")	0.94 m (3'1")	1.51 m (4'11")	2.29 m (7'6")	4.64 m (15'3")	approx. -0.18 m – 0.90 m (approx. -7" – 2'11")	approx. 0.20 m – 1.18 m (approx. 8" – 3'10")
2.03 m (80")	1.08 m (3'7")	1.72 m (5'8")	2.63 m (8'8")	5.31 m (17'5")	approx. -0.21 m – 1.04 m (approx. -8" – 3'5")	approx. 0.22 m – 1.34 m (approx. 9" – 4'5")
2.29 m (90")	1.21 m (3'12")	1.94 m (6'4")	2.97 m (9'9")	5.98 m (19'7")	approx. -0.23 m – 1.16 m (approx. -9" – 3'10")	approx. 0.25 m – 1.51 m (approx. 10" – 4'11")
2.54 m (100")	1.35 m (4'5")	2.15 m (7'1")	3.30 m (10'10")	6.65 m (21'10")	approx. -0.26 m – 1.30 m (approx. -10" – 4'3")	approx. 0.28 m – 1.68 m (approx. 11" – 5'6")
3.05 m (120")	1.62 m (5'4")	2.59 m (8'6")	3.98 m (13'1")	7.99 m (26'3")	approx. -0.31 m – 1.56 m (approx. -1' – 5'1")	approx. 0.34 m – 2.02 m (approx. 1'1" – 6'8")
3.81 m (150")	2.02 m (6'8")	3.23 m (10'7")	4.98 m (16'4")	10.00 m (32'10")	approx. -0.38 m – 1.94 m (approx. -1'3" – 6'4")	approx. 0.42 m – 2.52 m (approx. 1'5" – 8'3")
5.08 m (200")	2.69 m (8'10")	4.31 m (14'2")	6.66 m (21'10")	13.35 m (43'10")	approx. -0.51 m – 2.58 m (approx. -1'8" – 8'6")	approx. 0.56 m – 3.36 m (approx. 1'10" – 11')
6.35 m (250")	3.37 m (11'1")	5.38 m (17'8")	8.35 m (27'5")	16.70 m (54'9")	approx. -0.64 m – 3.24 m (approx. -2'1" – 10'8")	approx. 0.70 m – 4.20 m (approx. 2'4" – 13'9")
7.62 m (300")	4.04 m (13'3")	6.46 m (21'2")	10.03 m (32'11")	20.05 m (65'9")	approx. -0.77 m – 3.88 m (approx. -2'6" – 12'9")	approx. 0.84 m – 5.04 m (approx. 2'9" – 16'6")

Setting-up dimensions which are not given in the above table can be calculated using the formulas below.

■ Formula for projection distance

Dimensions such as projection distances can be calculated from the diagonal length of the projected image SD (m). Units for calculations: m

Values obtained with the formulas below contain a slight error.

● Distances for the PT-RZ475 series

	16:9 aspect ratio	16:10 aspect ratio	4:3 aspect ratio
Projected image size Height (SH)	= SD × 0.490	= SD × 0.530	= SD × 0.6
Projected image size Width (SW)	= SD × 0.872	= SD × 0.848	= SD × 0.8
Projection distance (L)	= 0.7084 × SD - 0.0476	= 0.7659 × SD - 0.0476	= 0.8670 × SD - 0.0476

● Distances for the PT-RZ470 series / PT-RZ370 series

	16:9 aspect ratio	16:10 aspect ratio	4:3 aspect ratio
Projected image size Height (SH)	= SD × 0.490	= SD × 0.530	= SD × 0.6
Projected image size Width (SW)	= SD × 0.872	= SD × 0.848	= SD × 0.8
Minimum projection distance (LW)	= 1.2955 × SD - 0.0544	= 1.4004 × SD - 0.0544	= 1.5854 × SD - 0.0544
Maximum projection distance (LT)	= 2.5812 × SD - 0.0408	= 2.7904 × SD - 0.0408	= 3.1589 × SD - 0.0408

● Distances for the PT-RW430 series / PT-RW330 series

	16:10 aspect ratio	16:9 aspect ratio	4:3 aspect ratio
Projected image size Height (SH)	= SD × 0.530	= SD × 0.490	= SD × 0.6
Projected image size Width (SW)	= SD × 0.848	= SD × 0.872	= SD × 0.8
Minimum projection distance (LW)	= 1.3236 × SD - 0.0542	= 1.3604 × SD - 0.0542	= 1.4984 × SD - 0.0542
Maximum projection distance (LT)	= 2.6369 × SD - 0.0407	= 2.7102 × SD - 0.0407	= 2.9851 × SD - 0.0407

Installation

After checking the height, width, and structure of the installation location while referring to “Standard installation dimensions” on pages 6 to 8, determine the appropriate positions for setting up the screen and installing the projector.

Setting up the screen

Set up the screen according to the specified method in a position which takes into account the projection distance and angle and the type of screen being used.

Screws tightening torques

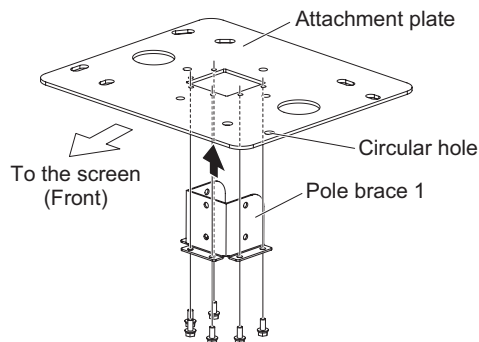
M4	1.25±0.2 N•m
M6	4±0.5 N•m
M8	10±1 N•m
M10	20±1 N•m

- Use a torque screwdriver or torque wrench to tighten screws and bolts to their specified tightening torques. Do not use electric screwdrivers or impact screwdrivers.

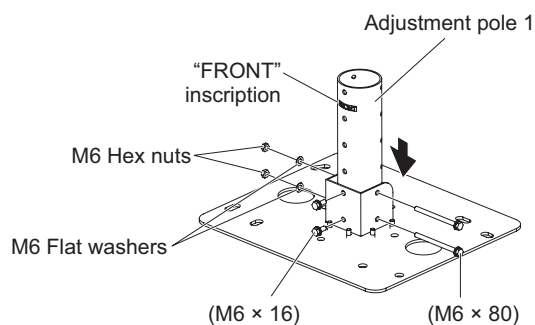
Preparing the attachment plate

Before installing the attachment plate on the ceiling, attach the pole braces, adjustment poles, and the pole base to the attachment plate with the following procedures.

■ Attaching the pole brace 1 and the adjustment pole 1 to the attachment plate



- 1) Insert the pole brace 1 into the center of the attachment plate, and secure the pole brace 1 with the supplied six captive washer hex head bolts (M6 × 16). (Refer to the figure on the left for the directions of the attachment plate and the pole brace 1.)



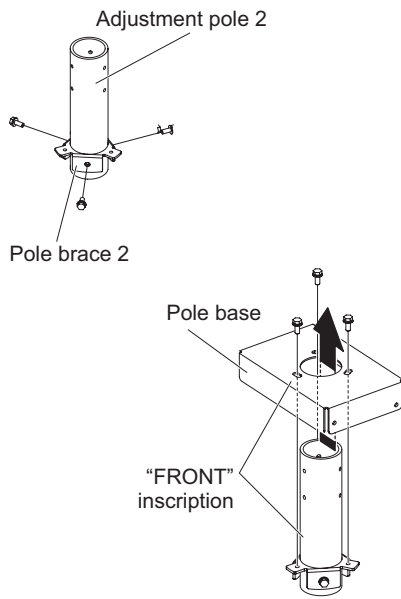
- 2) Insert the adjustment pole 1 into the pole brace 1, aligning them so that the “FRONT” inscription faces the front.
- 3) Insert the supplied two captive washer hex head bolts (M6×80) through the side of the pole brace 1, and secure them with M6 flat washers and M6 hex head nuts. Attach the supplied two captive washer hex head bolts (M6 × 16) from the screen side of the pole brace 1, and secure the pole brace 1 and the adjustment pole 1.

Attention

- Be sure to tighten the screws to a value within their specified torque range. If the screws are tightened with insufficient torque the projected image may tilt.

Installation (continued)

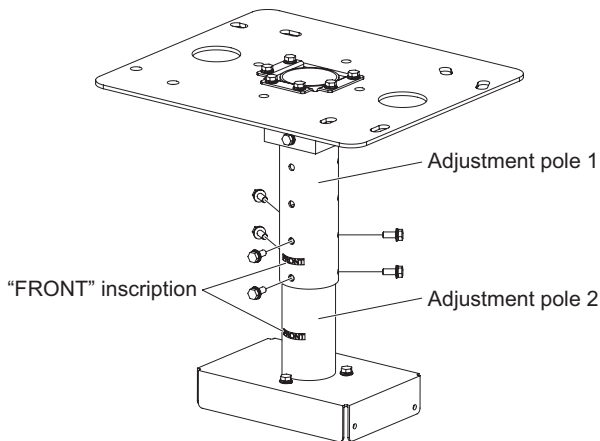
■ Attaching the pole brace 2 and the pole base to the adjustment pole 2



1) Temporarily secure the pole brace 2 to the adjustment pole 2 using the supplied three captive washer hex head bolts (M6 × 16), and secure them firmly.

2) Insert the adjustment pole 2 into the hole of the pole base, aligning the orientation of the "FRONT" inscriptions as illustrated on the left, and secure them with the supplied three captive washer hex head bolts (M6 × 16).

■ Joining the adjustment poles 1 and 2



Insert the adjustment pole 1 into the adjustment pole 2, align the holes, and secure them with the supplied six captive washer hex head bolts (M6 × 16).

- Align the "FRONT" inscription on the adjustment pole 1 with that on the adjustment pole 2.
- After inserting all 6 bolts into the holes, firmly tighten each one.

Note

- Adjustable screw holes are provided in both adjustment poles 1 and 2 at 40 mm (1-9/16") intervals. Join the poles to each other by fitting the adjustable screw holes based on the projection distance (402.5 - 482.5 mm (15-27/32" - 19")) on page 6.

Installation (continued)

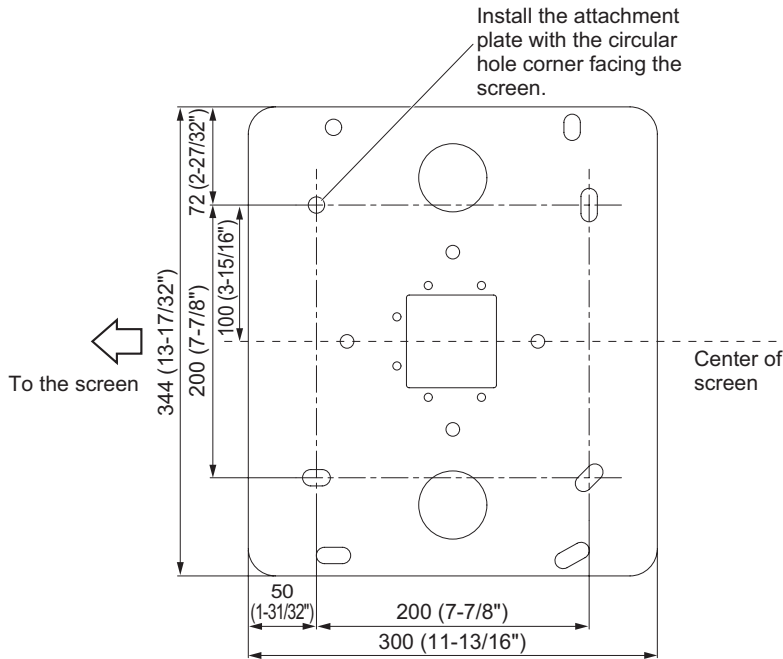
Installing the attachment plate to the ceiling

After checking the height, width, and structure of the installation location while referring to "Standard installation dimensions" on pages 6 to 8, determine the appropriate positions for setting up the screen and installing the projector.

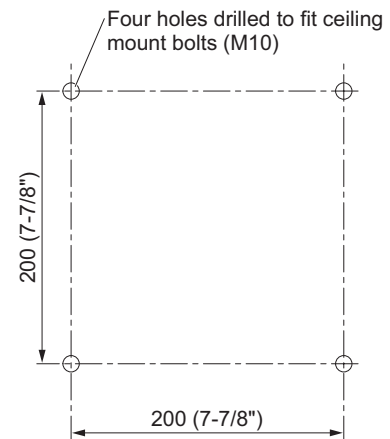
■ Attachment plate mounting hole sizes and preparation

Make mounting holes while referring to the attachment plate diagram.

Attachment plate diagram



Bolt mounting hole size



<Units: mm (")>

Attention

- If attaching to a concrete ceiling, the sizes of the holes for the anchoring nuts or curled plugs should match the sizes specified by the manufacturer.
- Use commercially available M10 ceiling mount bolts, hex nuts, flat washers, spring washers, and anchoring nuts or curled plugs.

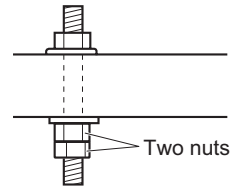
Installation (continued)

■ Installing the attachment plate

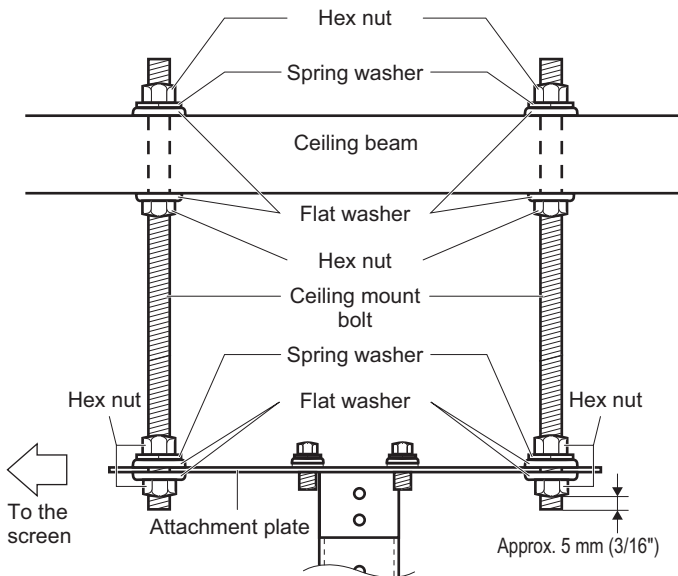
Depending on whether it is installed on a concrete or wooden ceiling structure, there are two different installation methods. Carry out by the appropriate installation method which is suited to each ceiling.

Attention

- Make sure to use the ceiling mount bolts, hex nuts, flat washers, spring washers, anchoring nuts or curled plugs for M10.
- All bolts and nuts should be securely tightened, and sufficient measures such as using two nuts or a nut lock should be employed as necessary to prevent loosening.



● Installing to a wooden structure



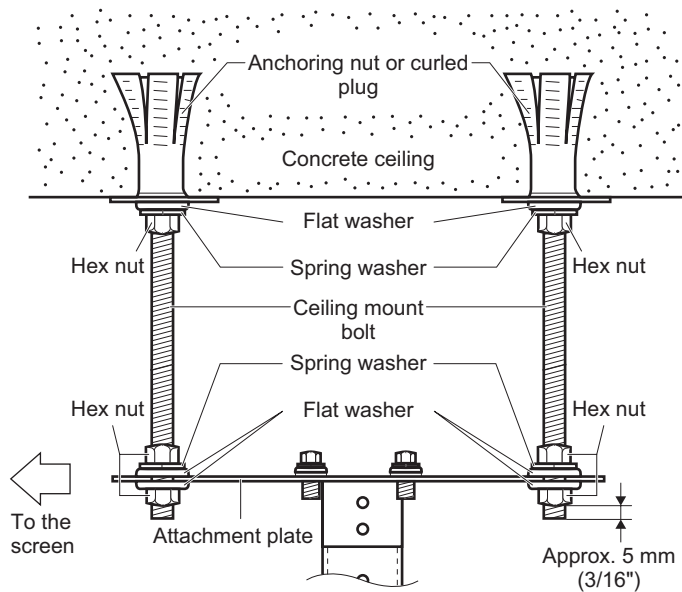
- 1) Drill four penetration holes in the ceiling beam for the ceiling mount bolts.
 - Drill the penetration holes with same size as the ceiling mount bolt mounting holes. (Refer to page 11 for hole locations and dimensions.)
- 2) Securely fix the four ceiling mount bolts to the ceiling beam.
 - Confirm that the location to retain the ceiling mount bolts has enough strength to retain the weight of the projector and the ceiling mount bracket. If there is not enough strength, perform sufficient reinforcement considering the safety factor.
- 3) Temporarily secure the attachment plate to the ceiling mount bolts
(It will be permanently secured after adjusting the installation angle in horizontal directions on page 18.)
 - The threaded end of ceiling mount bolt at the attachment plate side should protrude by approx. 5 mm (3/16") from the hex nut. Be sure to use commercially available flat and spring washers to install the attachment plate.

Note

- The signal cable of the projector can also be run inside the adjustment poles. In such a case, be sure not to damage the cord or the cable. (The inside diameter of the adjustment pole is 47 mm (1-27/32").)

Installation (continued)

● Installing to a concrete structure



- 1) Attach the anchoring nuts or curled plugs to a concrete ceiling and securely fix the four ceiling mount bolts. (Refer to page 11 for attachment positions.)
 - When installing anchoring nuts or curled plugs, strictly adhere to the installation instructions supplied by the manufacturer of the nuts so that they will not loosen in the concrete structure or be dislodged from the intended positions.
 - Check to make sure that the concrete ceiling structure can easily bear the weight of the projector and the ceiling mount bracket. If it is found to be fragile or degraded, use steel or wooden reinforcements.
- 2) Temporarily secure the attachment plate to the ceiling mount bolts.
(It will be permanently secured after adjusting the installation angle in horizontal directions on page 18.)
 - The threaded end of ceiling mount bolt at the attachment plate side should protrude by approx. 5 mm (3/16") from the hex nut. Be sure to use commercially available flat and spring washers to install the attachment plate.

Note

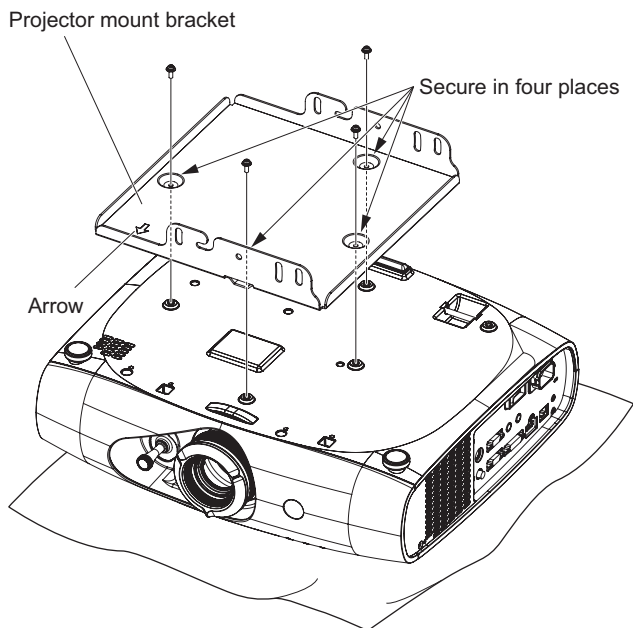
- The signal cable of the projector can also be run inside the adjustment poles. In such a case, be sure not to damage the cord or the cable. (The inside diameter of the adjustment pole is 47 mm (1-27/32").)

Installation (continued)

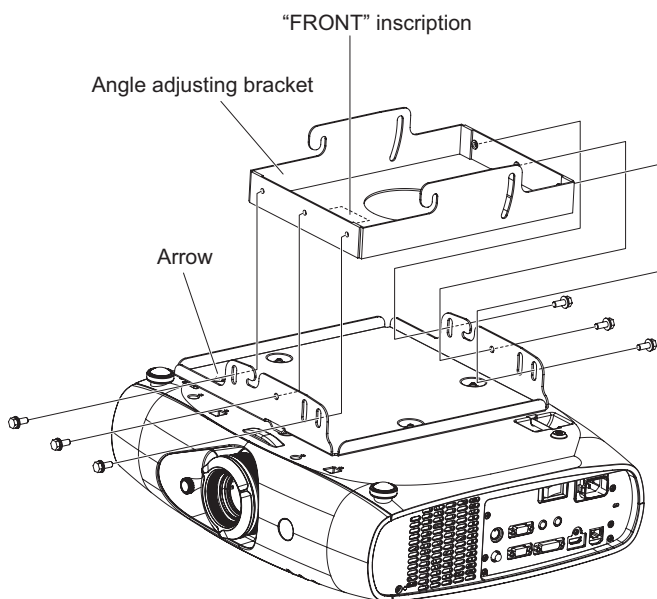
Installing the brackets to the projector

Install the sections of the bracket to the projector (sold separately).

*PT-RZ470 is used as an example in the illustrations throughout this manual.



- 1) Place the projector upside-down onto a piece of soft material.
- 2) Secure the projector mount bracket to the bottom of the projector using the four supplied captive washer screws (M4 × 10) as illustrated on the left.

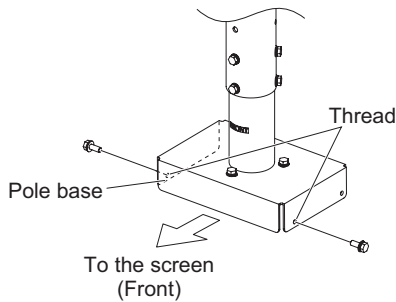


- 3) As illustrated on the left, secure the projector mount bracket to the angle adjusting bracket using the six supplied captive washer hex head bolts (M6 × 16).

Installation (continued)

Suspending the projector

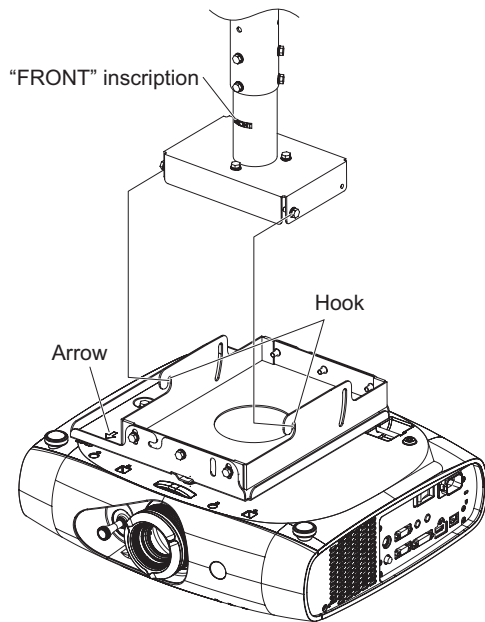
Suspend the projector from the attachment plate installed to the ceiling.



- 1) Screw the supplied two captive washer hex head bolts (M6 × 16) half way into two opposite side bolt holes in the pole base, on the forward side nearest the screen.

Attention

- Check that the thread ridges of the temporarily fastened captive washer hex head bolts are correctly and firmly affixed to the thread of the pole base.



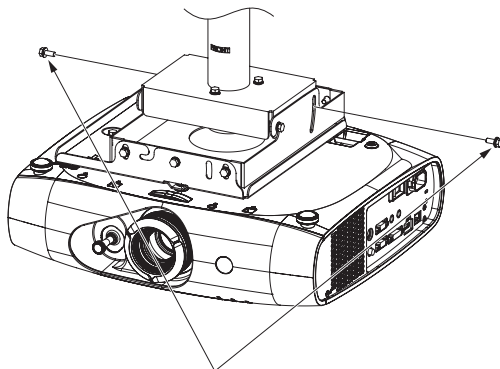
- 2) Insert the temporarily fastened captive washer hex head bolts on either side into the hook section of the angle adjusting bracket.

Attention

- Hold the projector firmly until the captive washer hex head bolts are securely placed in the hook part of the angle adjusting bracket.

WARNING:

Mounting and installation must be carried out by two or more persons.



Secure with the supplied captive washer hex head bolts

- 3) Secure the angle adjusting bracket to the pole base using the supplied two captive washer hex head bolts (M6 × 16), as illustrated on the left.

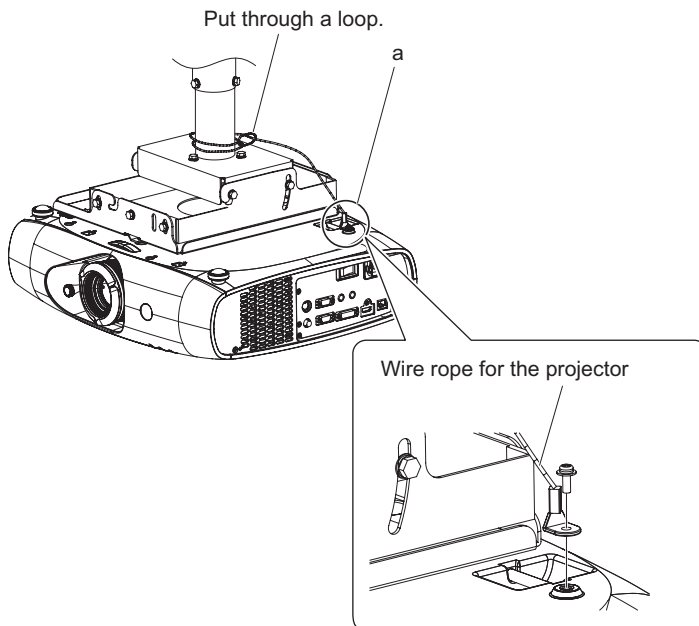
Attention

- After adjusting the installation angle on pages 18 to 19, securely tighten the captive washer hex head bolt of the pole base in four places on right and left.

Installation (continued)

Attaching the projector drop prevention kit

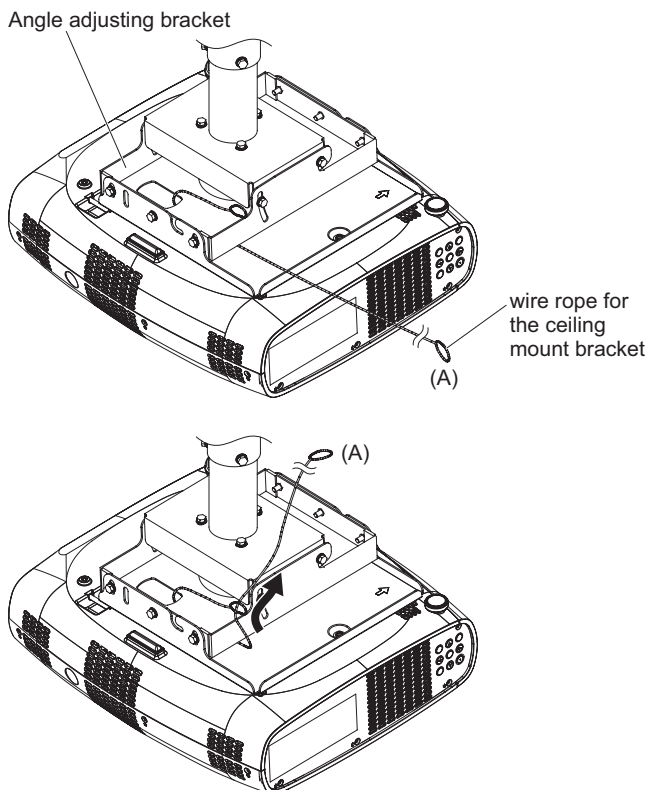
Attach the drop prevention wire rope for the projector.



- 1) Turn the wire rope for the projector around the adjustment pole.
 - Minimize the slack of the wire rope.
- 2) Secure the bracket at the front end of the wire rope for the projector to "a" on the projector using a supplied washer screw (M4 × 10).

Installing the ceiling mount bracket drop prevention kit

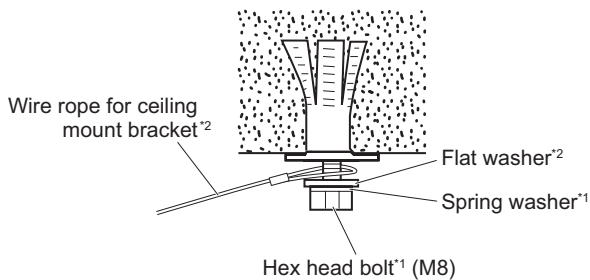
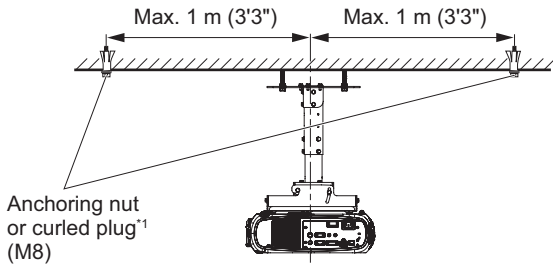
Attach the wire rope for the ceiling mount bracket to the ceiling mount bracket before performing installation work to prevent falling.



<Attaching the wire rope for the ceiling mount bracket>

- 1) Pass the end of the wire rope (A) through the angle adjustment bracket, as illustrated on the left.
 - Be sure to pull out the wire rope in the direction illustrated on the left.
- 2) Pass the end of the wire rope (A) in Step 1) through the ring of the other end of the wire rope and pull out upward.

Installation (continued)



*1: Commercially available product

*2: Supplied with this product

<Installation procedure>

This procedure uses the example of attachment to a concrete surface.

- 1) Mount the anchoring nut or curled plug (M8) in the concrete ceiling (at a single point within the area shown in the diagram on the left).
 - If it is to be attached to a wooden surface, make holes in the ceiling beam and use commercially available ceiling mount bolts as described in the procedure for attaching the attachment plate on page 12.

Attention

- When mounting the anchoring nut or curled plug (M8) to the ceiling, be careful that there is no slack of the wire rope for the ceiling mount bracket between the projector and the ceiling.
 - If the wire rope for the ceiling mount bracket is too long, increase the number of times it is wound around the adjustment pole to adjust the length.
- 2) Tighten the commercially available hex head bolt (M8) to the anchor, passing through the commercially available spring washer (M8), the supplied flat washer (M8), and the ring of the end of the wire rope for the ceiling mount bracket.
 - If it is to be attached to a wooden surface, pass the loop at the end of the wire rope for the ceiling mount bracket, a supplied flat washer (M8), and a commercially available spring washer (M8) through the attached ceiling bolt and fix with a commercially available hex nut (M8).

Attention

- Be sure to use the wire rope for the ceiling mount bracket and flat washer that are supplied with this product.
- Purchase the commercially available anchoring nut or curled plug, hex head bolt, and spring washer.

Note

- For attaching the drop prevention kit to the projector, refer to page 16.

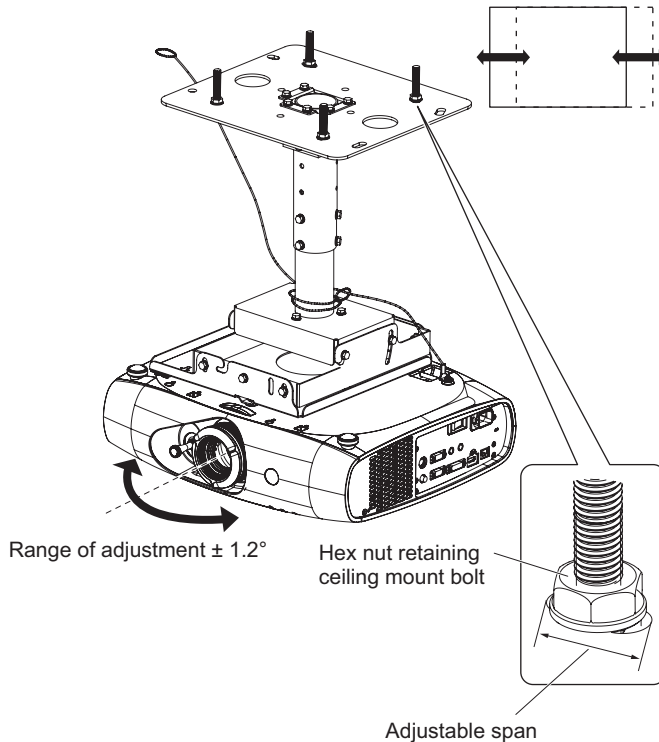
Adjusting the installation angle

The ceiling mount bracket has functions to adjust the horizontal swing and the horizontal and vertical tilt.

- After confirming that the projector lens is on the standard position*1, adjustments should be carried out in order to make the center of the projector lens perpendicularly to the surface of the projection screen.
- Without performing keystone correction from the [POSITION] menu of the projector, make adjustments to ensure that the lens center is perpendicular to the screen surface. If it is not installed perpendicularly, keystone distortions will occur. While making sure that the screen and projector are aligned opposite each other, adjust the installation angle. If your projector has a lens shift function, make sure the lens is in standard position*1 before starting to make adjustments.

*1 The standard position is the state where shift lever of the projector lens is set to the center of the lens.

■ If the picture is too far to the left or right of the screen

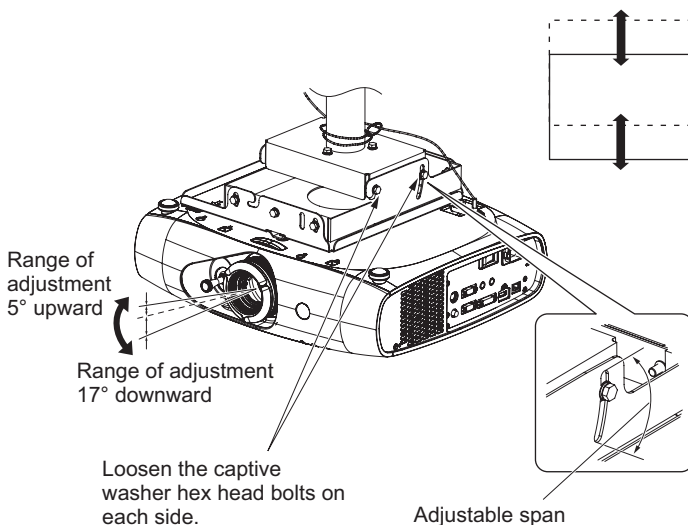


- Loosen the four hex nuts retaining the attachment plate to the top ceiling mount bolts, then swivel the projector head horizontally until the picture is centered on the screen.
- Once the picture position has been set, be sure to retighten the nuts securely.

Attention

- Do not over-loosen the hex nut fixing the ceiling mount bolt on the top side of the attachment plate. Otherwise, the projector may fall off.
- If the center of the screen and center of the projector do not align, the installation position may be incorrect. Refer to "Standard installation dimensions" on pages 6 and 8 and check the installation dimensions. If your projector has a lens shift function, you can make adjustments using this function.

■ If the picture is too far to the top or bottom of the screen



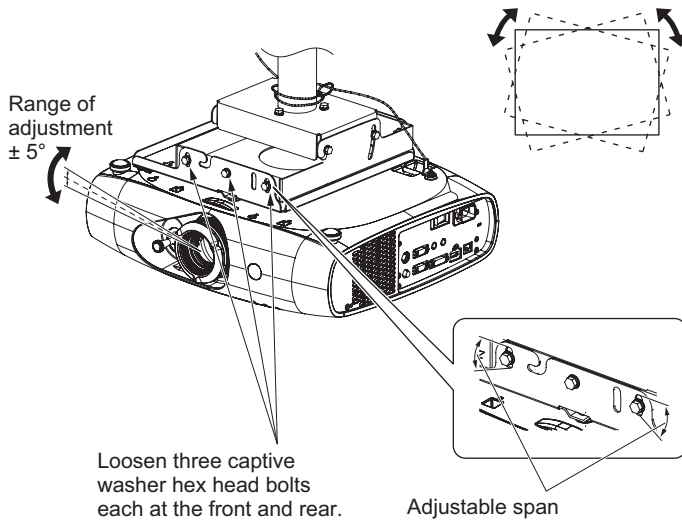
- Loosen the captive washer hex head bolts (two on each side) that attach the angle adjusting bracket to the pole base, then tilt the back of the projector vertically until the picture is centered on the screen.
- Once the picture position has been set, be sure to retighten the bolts securely.

Attention

- Do not over-loosen the captive washer hex head bolts, which are used to secure the adjustable bracket to the pole base. Otherwise, the projector may fall off.

Adjusting the installation angle (continued)

■ If the picture is tilted to the left or right



- Adjust to the position where the picture is not tilted by loosening the captive washer hex bolts fixing the projector mounting bracket and the angle adjusting bracket (three locations in front and rear), and rotating the projector.
- Once the picture position has been set, be sure to retighten the bolts securely.

Attention

- Do not over-loosen the captive washer hex head bolts, which are used to secure the adjustable bracket to the projector mounting bracket. Otherwise, the projector may fall off.

Attention

- After checking the position adjustments, check that the screws have been tightened to the torques specified on page 9.

Note

- If there is a keystone effect in the image even after adjusting the installation angle in the [POSITION] menu of the projector without applying keystone correction, the positional relationship between the screen and the projector is out of alignment. Check that the screen and projector are aligned opposite each other. Alternatively, perform the keystone correction at the projector.

Specifications

Range of adjustment	Height (from center of projector lens to ceiling)	402.5 mm - 482.5 mm (15-27/32" - 19")
	Horizontal swing angle	$\pm 1.2^\circ$
	Vertical tilt angle	5° upward, 17° downward
	Horizontal tilt angle	$\pm 5^\circ$
External dimensions		Width: 355 mm (13-31/32"), Height: 339 mm - 419 mm (13-11/32" - 16-1/2"), Depth: 306 mm (12-1/16")
Weight		Approx. 9.1 kg (20.1 lbs.)

MEMO

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Panasonic Corporation

Web Site : <https://panasonic.net/cns/projector/>

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