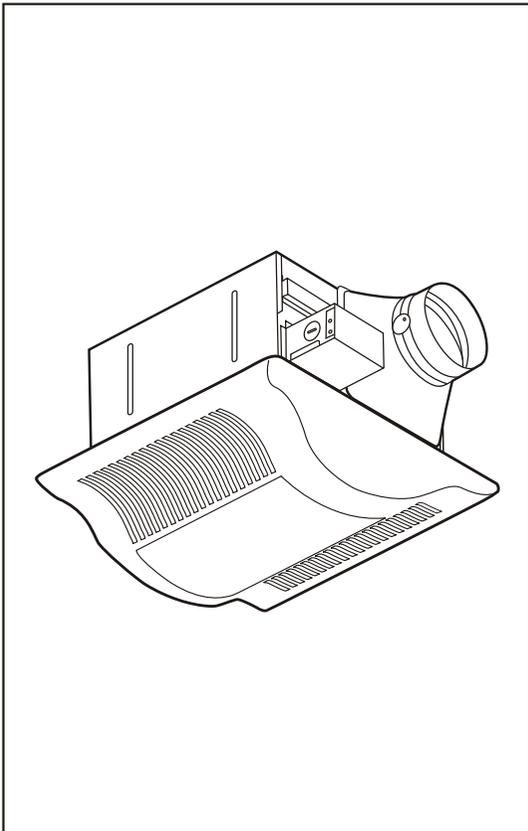


INSTALLATION INSTRUCTIONS

Ventilating Fan

Model No. **FV-05VFL3**
FV-08VFL3
FV-11VFL3



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READ AND SAVE THESE INSTRUCTIONS

Thank you very much for having purchased our product.

Please read these instructions carefully before attempting to install, operate or service the Panasonic product. Failure to comply with instructions could result in personal injury or property damage. Please explain to users how to operate and maintain the product after installation, and this booklet should be presented to users.

Please retain this booklet for future reference.

GENERAL SAFETY INFORMATION

WARNING:

To reduce the risk of fire, electric shock or injury to persons, observe the following:

1. Use this unit only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
2. Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
3. Installation work and electrical wiring must be done by qualified person (s) in accordance with all applicable codes and standards, including fire-rated construction.
4. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) and the local code authorities.
5. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
6. Ducted fans must always be vented to the outdoors.
7. If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) - protected branch circuit.
8. These models are UL listed for tub and shower enclosures.
9. Do not use this fan with any solid-state speed control device.
10. Canada only: Not to be installed in a ceiling thermally insulated to a value greater than R40.
11. Do not disassemble the unit for reconstruction. It may cause fire or electric shock.
12. A statement to the effect that when the product is no longer be used, it must not be left in place but removed, to prevent it from possibly falling.
13. Ceiling joist must be subjected to static load more than five times the weight of the product.
14. The special-purpose or dedicated parts, such as mounting fixtures, must be used if such parts are provided.
15. Do not install the product as the method which is not approved in the instruction.
16. This product must be properly grounded.

GENERAL SAFETY INFORMATION CONTINUED

CAUTION:

1. Do not install this ventilating fan where interior room temperature may exceed 104 °F (40 °C).
2. Make sure that the electric service supply voltage is AC 120V, 60 Hz.
3. Follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupation Safety and Health Act (OSHA).
4. Always disconnect the power source before working on or near the fan, motor, light fixture or junction box.
5. Protect the supply wiring from sharp edges, oil, grease, hot surfaces, chemicals or other objects.
6. Do not kink the supply wiring.
7. Provide make up air for proper ventilation.
8. For general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.
9. Do not install the unit where ducts are configured as shown in Fig. A.



Fig. A

10. Not for use in cooking area. (Fig. B)

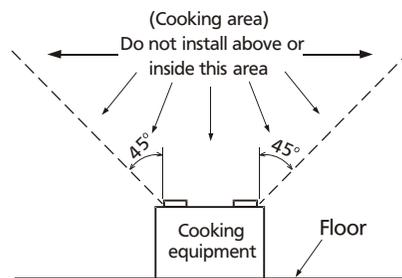


Fig. B

11. USA only: This product has a fluorescent lamp that contains mercury. Disposal may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities or visit Panasonic website: <http://www.panasonic.com/enveronmental> or call 1-888-769-0149.

DESCRIPTION

These products are listed by UL under UL file No. E78414.

These products use a sirocco fan driven by a capacitor motor. The motor is designed to have an extended service life with reduced energy consumption. It also incorporates a thermal-cutoff for safety.

The grille covering the main body is a spring-loaded, quick-release type.

A damper for preventing counterflow is provided.

The lighting unit is an energy-saving lighting device which uses one 32W fluorescent lamp and produces almost the same illumination as a standard 100W incandescent lamp.

This product contains electronic ballast with one fluorescent lamp and is in compliance with Part 18 of the FCC rules as consumer RF lighting device. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) this device must accept any interference received, including interference that may cause undesired operation.

This product may cause interference to radio equipment and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45-30 MHz. If interference should occur, try to increase spacing between this product and the other product.

Doc Responsible Party: Panasonic Corporation of North America
One Panasonic Way, Secaucus, NJ 07094

Sales Company: Panasonic Corporation of North America
One Panasonic Way, Secaucus, NJ 07094

Customer Call Support: 1-866-292-7292

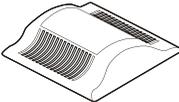
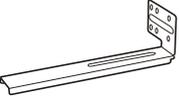
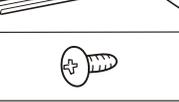
UNPACKING

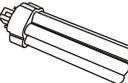
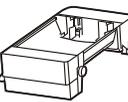
Unpack and carefully remove unit from carton.

Refer to the Supplied Accessories list to verify that all parts are present.

SUPPLIED ACCESSORIES

FV-05VFL3 FV-08VFL3 FV-11VFL3

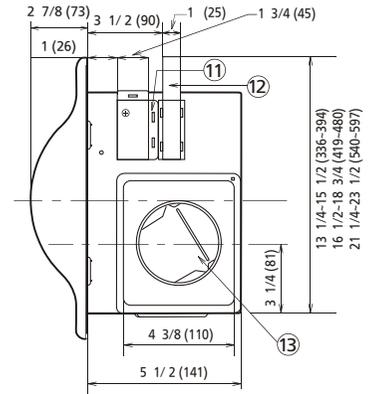
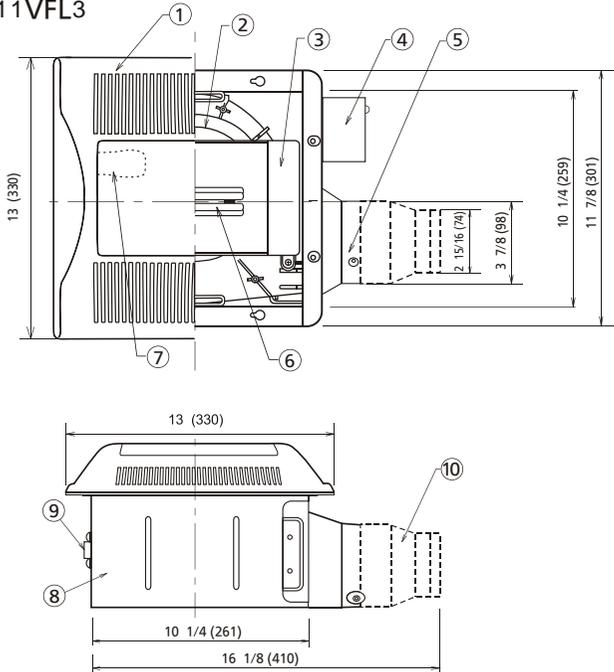
Part name	Appearance	Quantity
Grille		1
Suspension bracket I		1
Suspension bracket II		1
Suspension bracket III		1
Screw I (ST4.2X8)		2
Screw II (ST4.2X12)		2
Screw III (ST4.2X16)		2

Part name	Appearance	Quantity
Machine screw (M4X8)		2
Long screw (ST4.2X20)		6
32W Fluorescent lamp		1
4W Night lamp		1
Lighting unit		1
3 inches adaptor connector (optional part)		1

DIMENSIONS

FV-05VFL3
FV-08VFL3
FV-11VFL3

Unit: inches(mm)

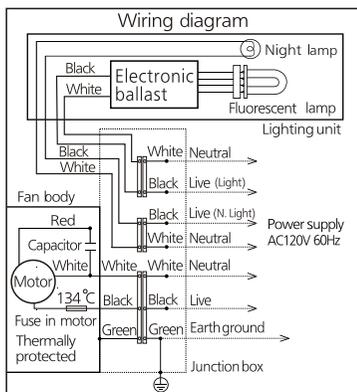


No.	Part name	No.	Part name
①	Grille	⑧	Fan body
②	Fan	⑨	Bracket cover
③	Lighting unit	⑩	Adaptor connector
④	Junction box cover	⑪	Junction box
⑤	Adaptor	⑫	Suspension bracket
⑥	Fluorescent lamp	⑬	Damper
⑦	Night lamp		

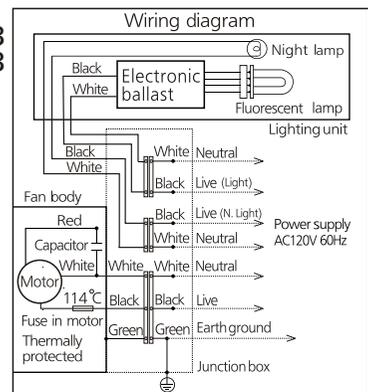
(For 16 inches on center joists, only use suspension bracket I, for 19.2 inches on center joists, only use suspension bracket III, If more than 19.2 inches on center joists, use suspension bracket II & III.)

WIRING DIAGRAM

FV-05VFL3



FV-08VFL3
FV-11VFL3



INSTALLATION I (JOIST MOUNTING-I)

- Before installation, secure the fan body to adaptor by using machine screw (M4X8). (Fig. 1)

IMPORTANT:

Remove the tape from damper and adaptor before installation. As shown below:

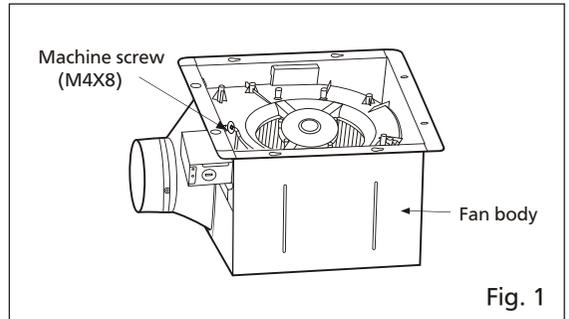
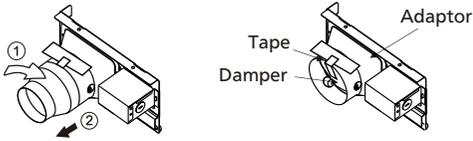


Fig. 1

Connection method for 3 inches adaptor connector

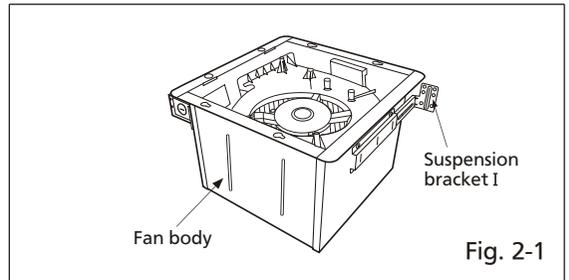
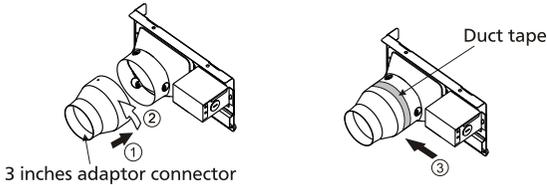
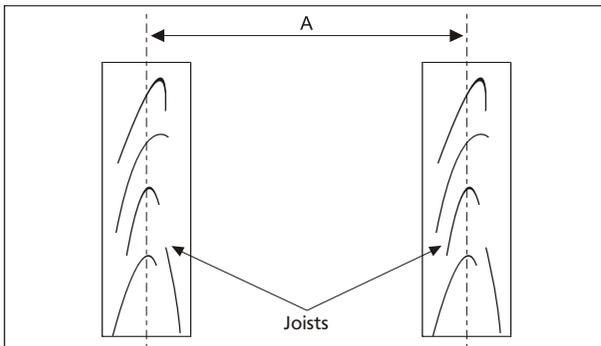


Fig. 2-1

- Insert the suspension bracket into the fan body and adaptor. (Select the suspension bracket as shown below)



Spacing A on center joists	Insert Suspension bracket
12 inches	Refer to Fig. 2-1
16 inches	Refer to Fig. 2-2
19.2 inches vertical joists	Refer to Fig. 2-3
24 inches	Refer to Fig. 2-4

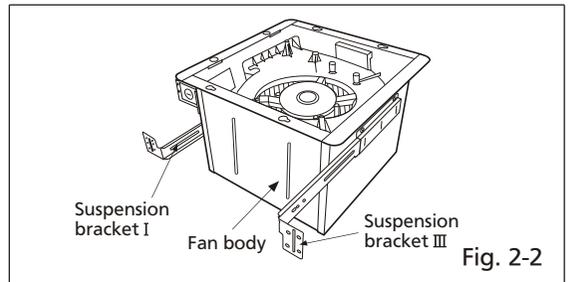


Fig. 2-2

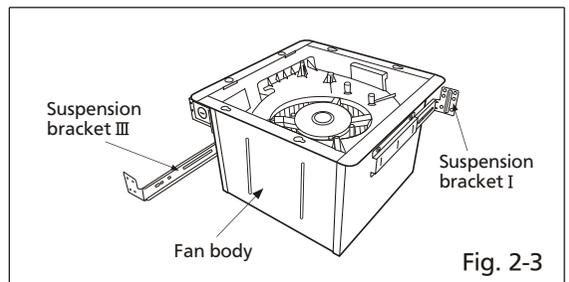


Fig. 2-3

If spacing A on center joists is 24 inches, connect suspension bracket II and III (C4 mark to C4 mark) as shown below:

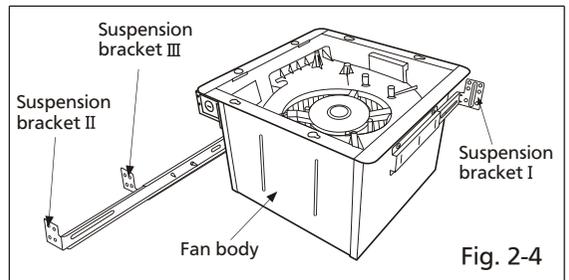
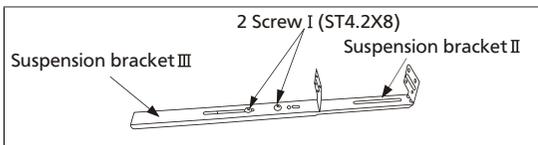
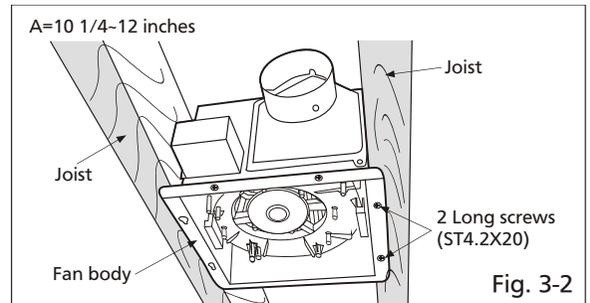
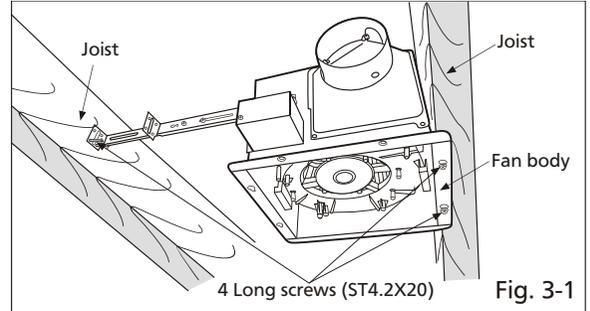


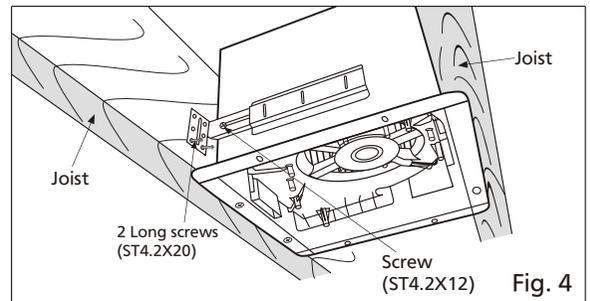
Fig. 2-4

INSTALLATION I (JOIST MOUNTING-I) CONTINUED

3. Install the suspension bracket and the flange of fan body to joists by using long screws (ST4.2X20). (If spacing A between joists is 10 1/4-12 inches, install the flange of fan body according to Fig. 3-2, others according to Fig. 3-1 install the product.)

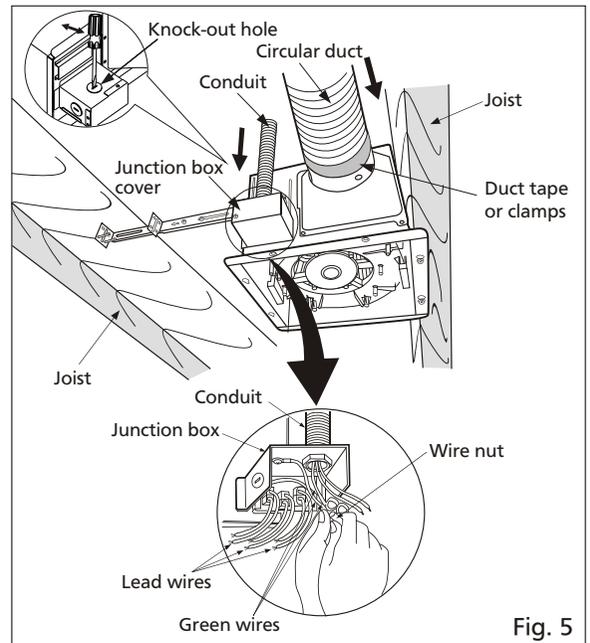


4. Install the suspension bracket to joists by using long screws (ST4.2X20) and secure it to the fan body by using screw II (ST4.2X12). (Fig.4)
5. Remove junction box cover and secure conduit or stress relief to junction box knock-out hole. (Fig.5)
6. Refer to wiring diagram (page 5).
Using wire nuts, connect house power wires to ventilating fan wires:
black to black; white to white; green to green;
Replace the junction box cover. (Fig.5)



CAUTION:

Mount junction box cover carefully so that lead wires are not pinched.



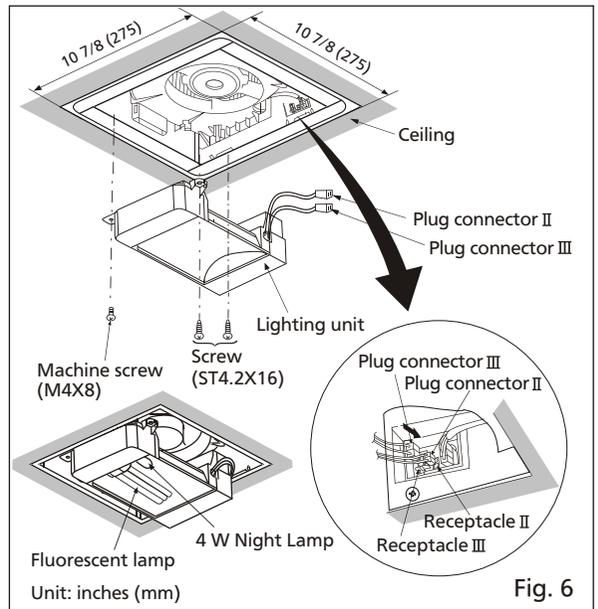
7. Install a circular duct (using 4 inches duct or 3 inches duct) and secure it with duct tape or clamps.

INSTALLATION I (JOIST MOUNTING-I) CONTINUED

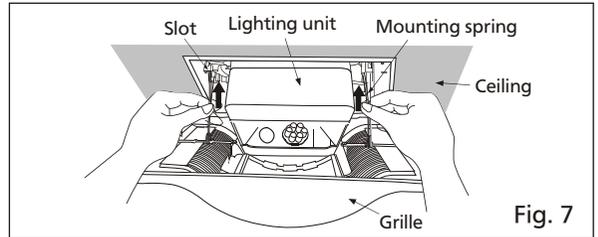
8. Finish ceiling work. Ceiling hole should be aligned with the edge of the flange. (Fig.6)

9. Insert the plug connector II and plug connector III into the receptacle II and receptacle III respectively, and secure the lighting unit to the fan unit with 2 screw III (ST4.2X16) and 1 machine screw (M4X8). (Fig.6)

10. Insert the fluorescent lamp and screw the night lamp into the lighting unit. (Fig.6)



11. Insert mounting springs into slots as shown and mount grille to fan body. (Fig.7)

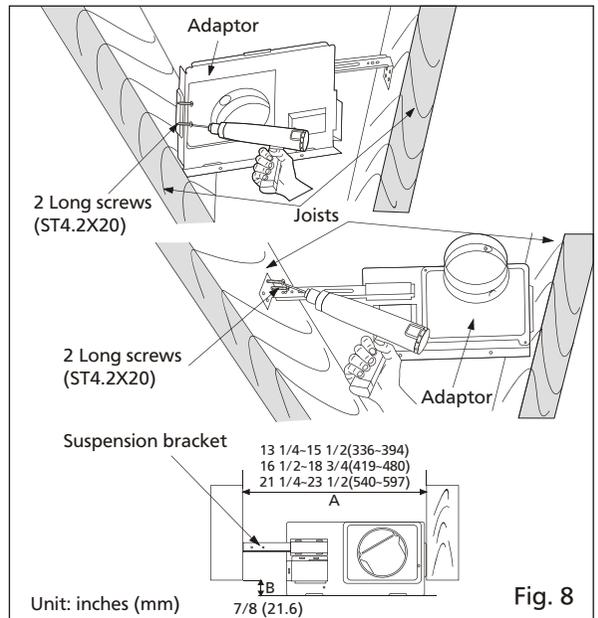


INSTALLATION II (JOIST MOUNTING-II)

1. Disconnect plug connector from receptacle and remove adaptor from fan body before starting installation.
2. Insert the suspension bracket into the adaptor and secure it to joists by using long screws (ST4.2X20). (Fig.8)
Ensure that distance B (7/8 inch, 21.6mm) for the thickness of ceiling board.

If spacing A between joists is 21 1/4 to 23 1/2 inches, (540mm~597mm), connect suspension bracket II and III (C4 mark to C4 mark) according to page 6. Select the suspension bracket according to spacing A as shown below.

Spacing A between Joists inches (mm)	13 1/4-15 1/2 (336-394)	16 1/2-18 3/4 (419-480)	21 1/4-23 1/2 (540-597)
suspension bracket	suspension bracket I	suspension bracket III	suspension bracket II & III



3. Follow step 5 to 7 of the installation I (page 7) to complete the duct work and wiring.

INSTALLATION II (JOIST MOUNTING-II) CONTINUED

- Insert the suspension bracket into fan body (referring to step 2 of installation I, page 6).
- Insert the fan body into joists. (Fig.9)

IMPORTANT:

Make sure that adaptor claws are properly inserted into body slots.

- Secure the fan body to adaptor by using machine screw (M4X8) and plug connector to receptacle. (Fig.10)
- Secure the suspension bracket to joists by using long screws (ST4.2X20) and secure it to fan body by using screw II (ST4.2X12) in vertical direction. (Fig.11)
- Follow step 8 to 11 of installation I (page 8) to complete the installation work.

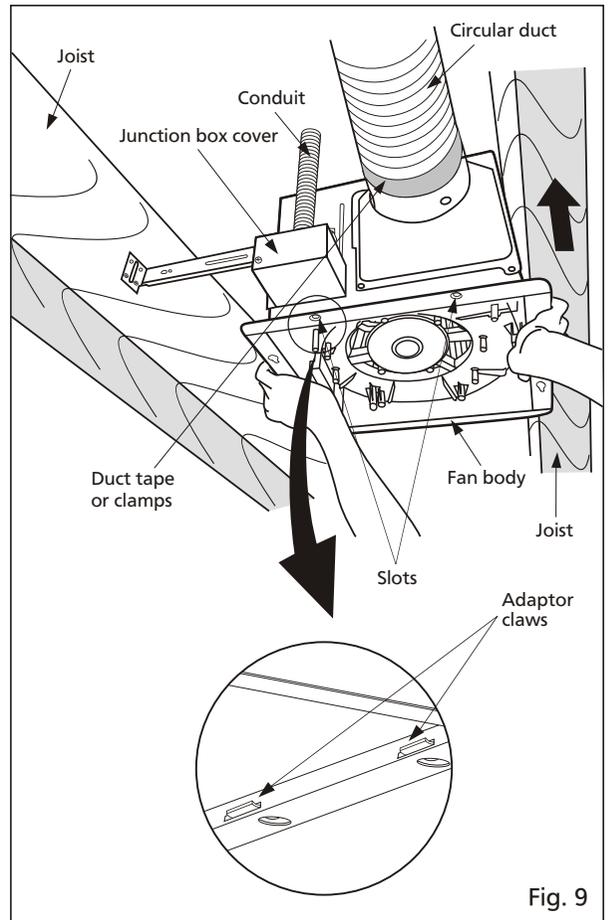


Fig. 9

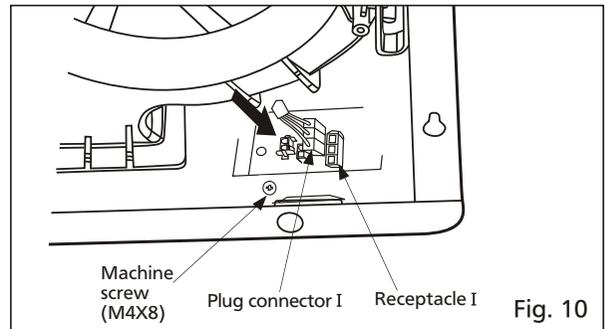


Fig. 10

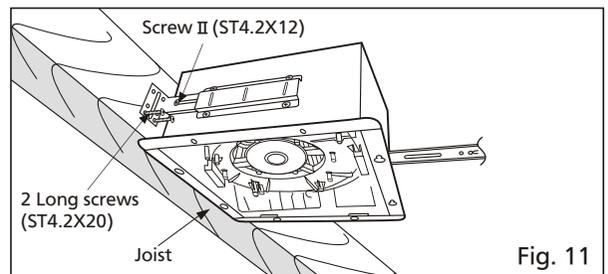


Fig. 11

When mounting body and blower separately

- Loosen 4 screws (but do not remove them from blower). (Fig.12-1)
- Remove blower section. (Fig.12-2)
- Remove adaptor from fan body and secure it to joists as in Fig. 8 of page 8.
- Insert fan body (without blower section) into joists. (Fig. 9)
- Secure the adaptor to fan body by using machine screw. (M4X8). (Fig. 10)
- Secure the fan body to joists by using long screws (ST4.2X20). (Fig. 11)
- Insert the blower into the fan body. (Fig. 12-3)
- Secure the blower. (Fig. 12-4) and plug connector to receptacle. (Fig. 10)

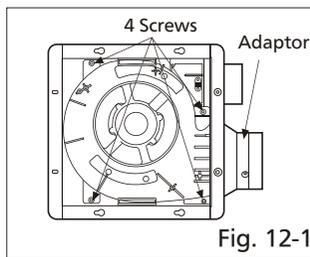


Fig. 12-1

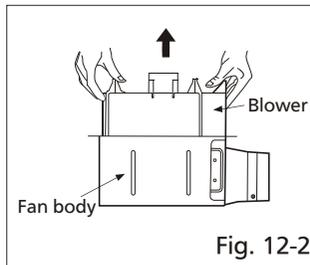


Fig. 12-2

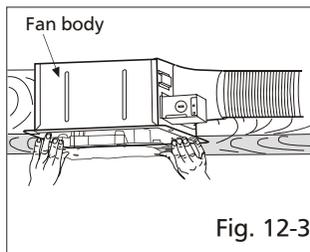


Fig. 12-3

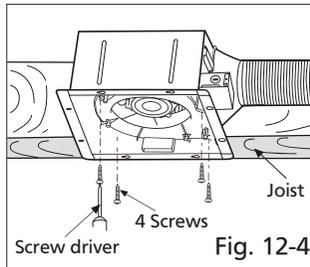
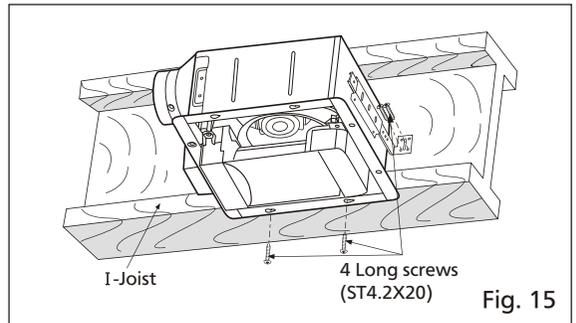
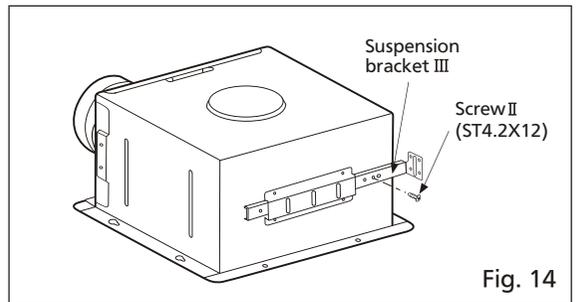
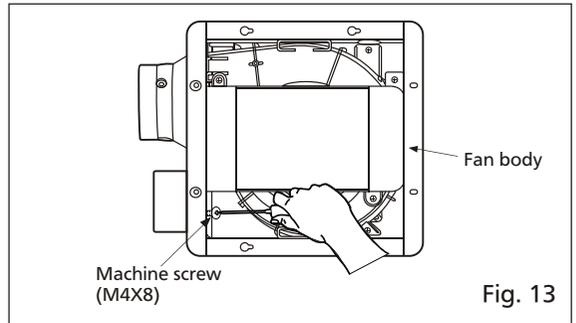
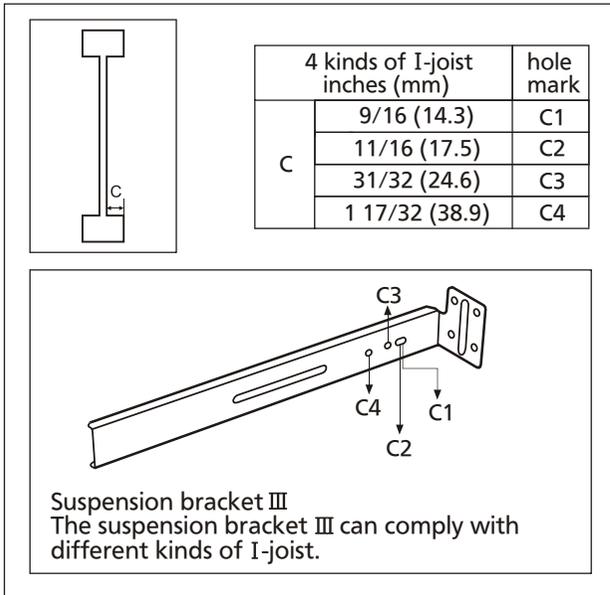


Fig. 12-4

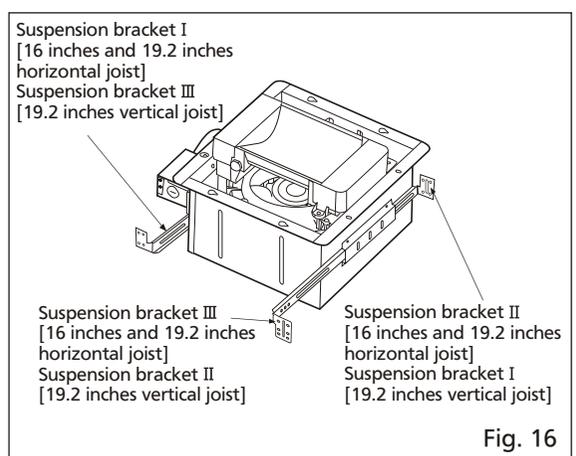
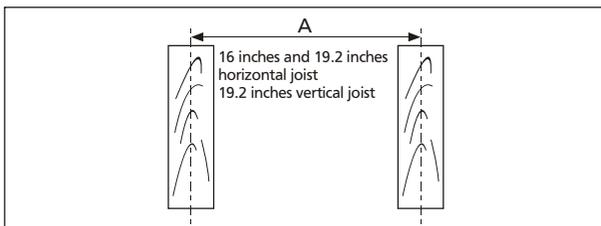
INSTALLATION III (I-JOIST MOUNTING)



1. Before installation, secure the fan body to adaptor by using machine screw (M4X8) (Fig.13). Secure the lighting unit to fan body (referring to Fig.6 of page 8).
2. Connect the suspension bracket III to fan body. (Fig.14) (Select the hole by checking I-joist size fix the screw to the frame hole.)
3. Connect the ventilating fan to the I-joist. (Fig.15)
4. Follow step 5 to 11 of installation I (page 7~page 8) to complete the installation work.

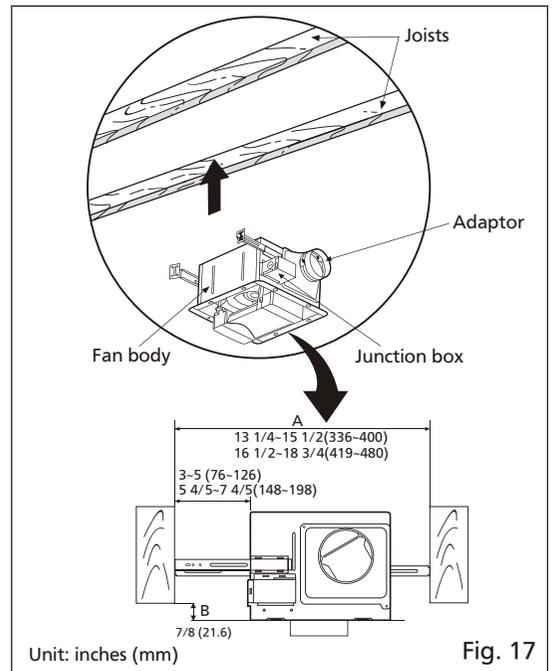
INSTALLATION IV (BETWEEN JOIST MOUNTING)

1. Before installation, secure the fan body to adaptor by using machine screw (M4X8) (Fig.13). Secure the lighting unit to fan body (referring to Fig.6 of page 8).
2. Insert the suspension bracket into bracket cover of adaptor side and the back of the fan body. (Fig.16) (select the suspension bracket according to spacing A as shown below)

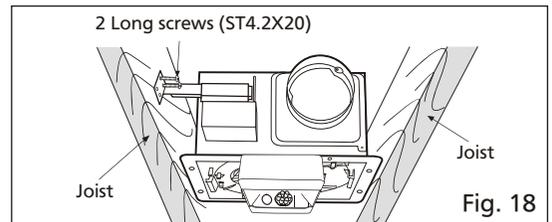


INSTALLATION IV (BETWEEN JOIST MOUNTING) CONTINUED

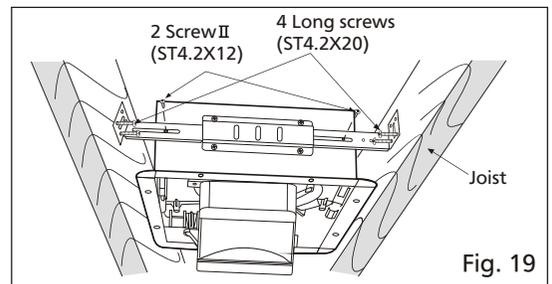
3. Insert the fan body between joists.
Make sure the fan body is level and square (perpendicular) with the joists. (Fig.17)
Ensure that distance B (7/8 inch, 21.6mm) for the thickness of ceiling board.



4. Secure the suspension bracket to joists by using long screws (ST4.2X20). (Fig.18, Fig.19)



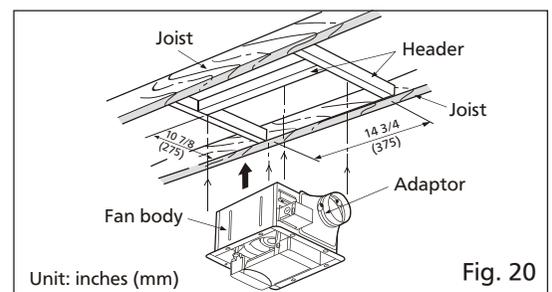
5. Secure the suspension bracket to fan body by using screws II (ST4.2X12). (Fig.19)



6. Follow step 5 to 11 of installation I (page 7~ page 8) to complete the installation work.

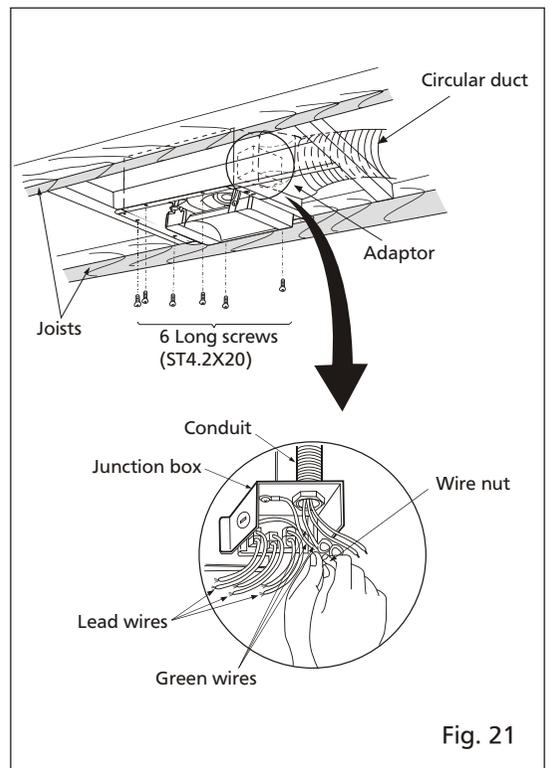
INSTALLATION V (WOODEN HEADER)

1. Before installation, secure the fan body to adaptor by using machine screw (M4X8) (Fig.13 of page 10).
Secure the lighting unit to fan body (referring to Fig.6 of page 8).
2. Install header between joists by using nails or screws.
3. Install the fan body and secure it by using long screws (ST4.2X20). (Fig.20, Fig.21 of page 12)



INSTALLATION V (WOODEN HEADER) CONTINUED

4. Follow step 5 to 11 of installation I (page 7~page 8) to complete the installation work.



INSTALLATION VI (IN EXISTING CONSTRUCTION)

1. Installation in existing construction.

Installing the fan body in an existing building requires an accessible area (attic or crawl space) above the planning installation location or existing ducting and wiring.

- (1) To install the fan body, follow the procedures described in Installation II. Take the following precautions before installation.

CAUTION:

Check area above planning installation location to be sure that:

1. Duct work can be done and that area is sufficient for proper ventilation.
2. Wiring can be run to planning location.
3. No wiring or other obstructions shall interfere with installation.

- (2) Inspect duct work and wiring before proceeding with installation.
 - (3) Plan suitable location for fan body. (next to ceiling joist)
 - (4) Before installation, provide inspection and maintenance access at a location that will not interfere with installation work shown in installation II.
 - (5) First, remove ceiling section according to Fig.6 of page 8.
 - (6) Install fan body.
2. Installation from accessible area above fan location.
- (1) Inspect duct work and wiring before proceeding with installation.
 - (2) Remove ceiling section according to Fig.6 of page 8.
 - (3) Install fan body.

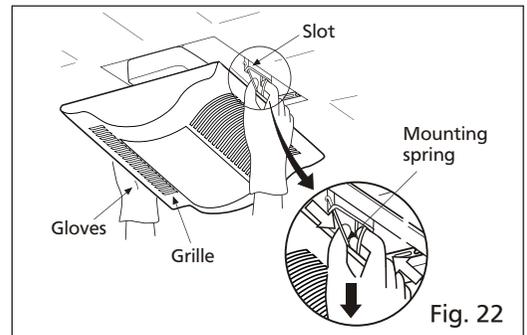
MAINTENANCE I (CLEANING)

WARNING:

Disconnect power source before working on unit.
Routine maintenance must be done every year.

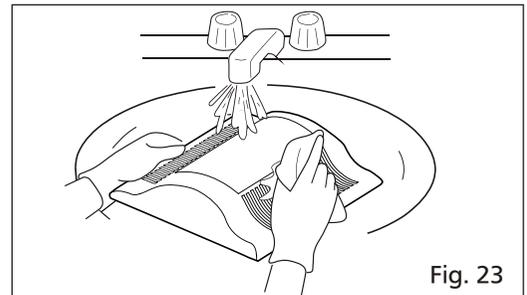
CAUTION:

1. Never use petrol, benzene, thinner or any other such chemicals for cleaning the ventilating fan.
2. Do not damp water to enter motor.
3. Do not soak resin parts in water over 140 °F(60 °C).

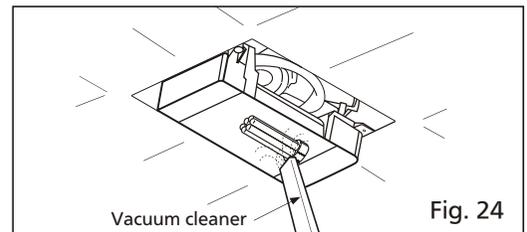


1. Remove grille. (Squeeze mounting spring and pull down carefully.) (Fig.22)

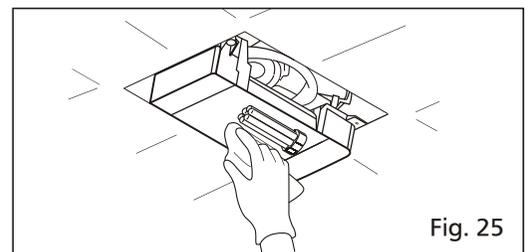
2. Wash and clean grille. (Use non-abrasive kitchen detergent, wipe dry with new cloth.) (Fig.23)



3. Remove dust and dirt from fan body using a vacuum cleaner. (Remove lamps if necessary.) (Fig.24)



4. Using a cloth dampened with kitchen detergent, remove any dirt from fan body. Wipe dry with new cloth. (Fig.25)



5. Replace lamps and grille.

MAINTENANCE II (REPLACEMENT OF LAMP)

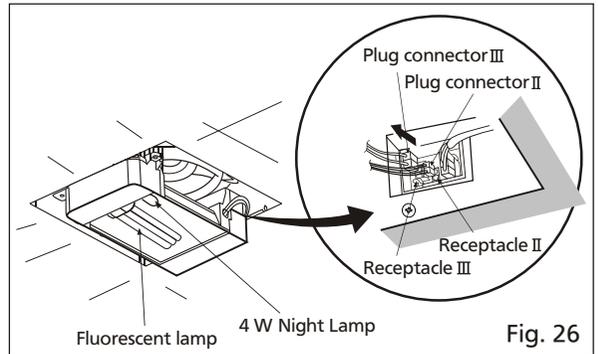
WARNING:

1. Disconnect power source before working on unit.
2. The lamp's glass is fragile. Please handle with care. To remove lamp, grasp at base and move back and force to loosen. Do not pull hard on the lamp or you may break the glass.
3. 4W night lamp has threaded base. Remove by turning counterclockwise.

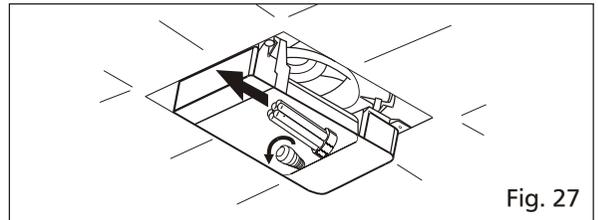
MAINTENANCE II (REPLACEMENT OF LAMP) CONTINUED

1. Remove grille. (Squeeze mounting spring and pull down) (Fig.22 of page 13)

2. Disconnect the connector II or connector III of lighting unit. (Fig.26)



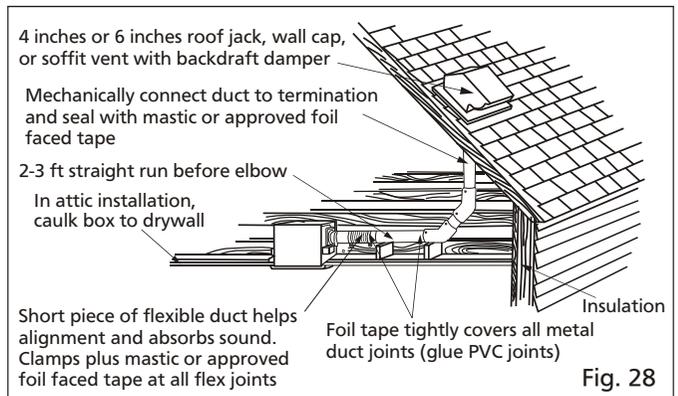
3. Replace the fluorescent lamp (Panasonic FHT32E35 32W) or the 4W night lamp, connect the connector II or connector III and replace the grille. (Fig.27)



PRACTICAL GUIDE TO INSTALLATION

Properly insulate the area around the fan to minimize building heat loss and gain. (Fig.28)

Loose fill or batt insulation can be placed directly over the fan housing in the attic. Our fans and fan/light combination units do not create excessive heat that is a common problem with recessed light fixtures or some competitors' fan/light combinations. Our efficient, cool-running motors and our fluorescent lamp do not create enough ambient heat to be subjected to these limitations.



SPECIFICATIONS

Model	Air direction	Voltage (V)	Frequency (Hz)	Duct diameter (inches)	Noise (sones)	Power consumption (W)			Speed (rpm)	Air deliver at 0.1" WG (cfm)	Weight lb.(kg)
						Fan body	Lighting unit				
							Fluorescent lamp	Night lamp			
FV-05VFL3	Exhaust	120	60	4	<0.3	16	32	4	700	50	13.5 (6.1)
				3	<0.3	15			760	50	
FV-08VFL3				4	0.5	30	32	4	830	80	13.9 (6.3)
				3	0.6	30			940	70	
FV-11VFL3				4	1.3	33	32	4	910	110	14.1 (6.4)
				3	1.5	33			1050	90	

HVI Certified performance based on HVI Procedures 915, 916 and 920.

PRODUCT SERVICE

Warning Concerning Removal of Covers.

The unit should be serviced by qualified technicians only.

Your product is designed and manufactured to ensure a minimum of maintenance.

Should your unit require service or parts, call Panasonic Call Center at 1-866-292-7292 (USA) or 1-800-669-5165 (Canada).

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T0212-0 08VFL3420