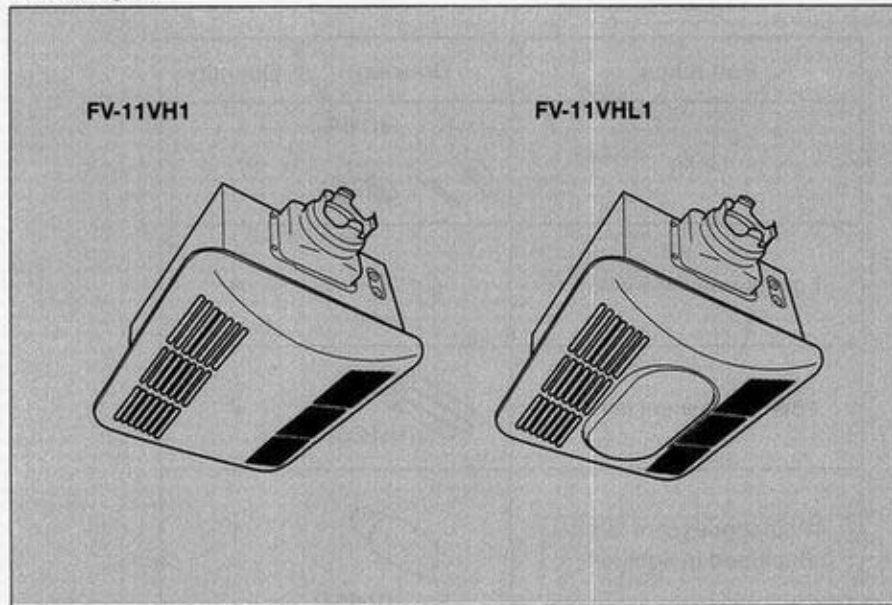


INSTALLATION INSTRUCTIONS

FV-11VH1
FV-11VHL1

Ventilating fan



Panasonic

READ AND SAVE THESE INSTRUCTIONS.

Please read these instructions carefully before attempting to install, operate or service the Panasonic Ventilating Fan. Failure to comply with instructions could result in personal injury and/or property damage. Please retain this booklet for future reference.

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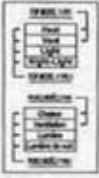
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UNPACKING

Unpack and carefully remove unit from carton.
Refer to the supplied accessories list to verify that all parts are present.

SUPPLIED ACCESSORIES

FV-11VH1, FV-11VHL1

Part name	Drawing	Quantity
Grille		1
Long screw (M4 x 30)		6
18W fluorescent lamp		2
4W incandescent lamp (Included in light kit)		1
Packing (for flange)		2
		2
Switch labels		1

DESCRIPTION

These Panasonic ceiling mount ventilating fan models use a sirocco fan driven by a capacitor motor.

The motor is designed to have an extended service life with reduced energy consumption.

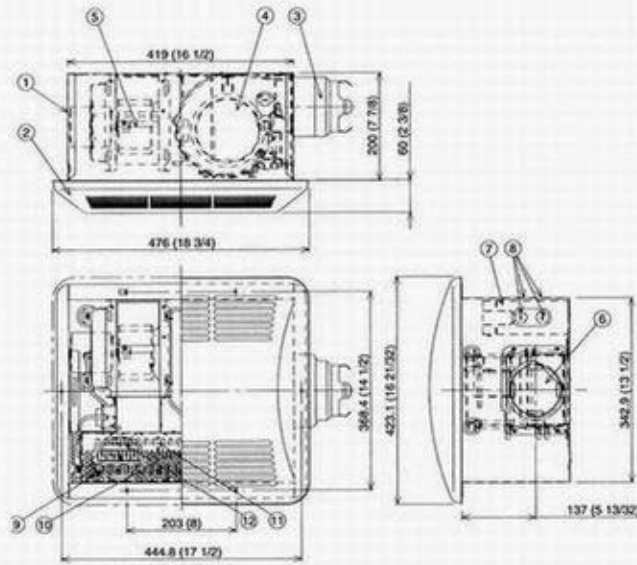
It also incorporates a thermal-cutoff for safety. The grille covering the main body is a spring-loaded, quick-dismount type. A damper for preventing counterflow is provided. The blower uses a high-capacity sirocco fan developed to reduce the noise level.

The heater for this unit is a 1400 watt sheathed heater. A thermostat and thermal cut-off switch have been added for safety in case of an abnormal temperature rise in the heater.

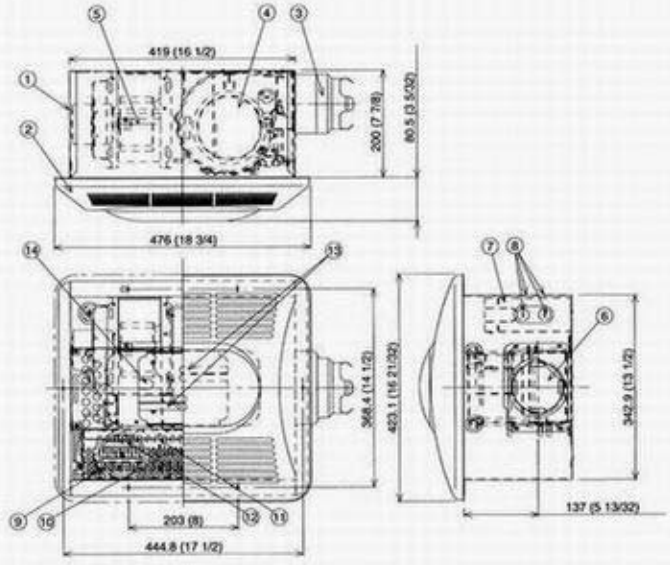
The light unit is an energy-saving, lighting device which uses two 18W fluorescent lamps and produces almost the same illumination as a standard 100W incandescent lamp. (11VHL1)

DIMENSIONS

FV-11VH1



FV-11VHL1



Dimensions: mm (inch)

No.	Part name	No.	Part name
①	Body	⑧	Knock out holes
②	Grille	⑨	Direction grille
③	Adapter	⑩	Heater
④	Ventilation unit	⑪	Thermal cutoff
⑤	Heating unit	⑫	Thermostat
⑥	Damper	⑬	Fluorescent lamp
⑦	Junction box	⑭	Night lamp

SPECIFICATIONS

Model No.	Air direction	V	Hz	Power consumption*(W)				Speed* (RPM)	Air deliver at 0.1" WG (CFM)	Weight kg.(lb.)
				Heat	Vent	Light	N. light			
FV-11VH1	Exhaust & circulation	120	60	1424	25.5	--	--	921	110	10 (22)
FV-11VHL1						36	4			11.5 (25.3)

* At 0.0" Static pressure, (Pa)

GENERAL SAFETY INFORMATION

1. Do not install this ventilating fan where air temperature may exceed 40°C (104°F).
2. Make certain that the electric service supply voltage is 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 electrical wires before working on or near the fan, motor or junction box.
5. Protect the electrical wires from sharp edges, oil, grease, hot surfaces, chemicals or other objects.
6. Do not kink the electrical wires.
7. Do not install the unit where ducts are configured as shown in Fig. A.
8. Ensure there is an adequate air supply to the vented area.

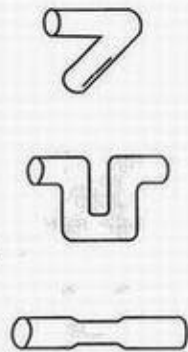


Fig. A

CAUTION:

1. For general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.
2. Not for use in cooking area. (Fig .B)
3. This product must be grounded.

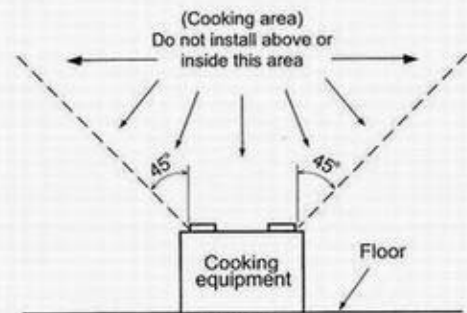


Fig. B

WARNING:

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

- A. Use this unit only in the manner intended by the manufacturer. If you have any questions, please contact the manufacturer.
- B. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
- C. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent backdrafting. 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.
- D. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
- E. Ducted fans must always be vented to the outdoors.
- F. Solid state controls may cause harmonic distortion which can cause motor humming noise. Do not use this unit with any solid-state control device.
- G. 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.
- H. NEVER place a switch where it can be reached from a tub or shower.
- I. Not to be installed in a ceiling thermally insulated to a value greater than R40.

INSTALLATION I (WOODEN HEADER INSTALLATION)

* Illustrations in this manual are for FV-11VHL1.

1. Install header between ceiling joists using nails or screws. (Fig. 1)
2. Install the ventilating fan to the header (thickness: 1.5 inch or more) with long screws. Reinforce the installation hardware as needed to prevent the ventilating fan from dropping. (Figs. 1 & 2)

* If a packing is required for the flange, the packing included in the accessories can be used.

mm (inch)

Model No.	A	B
FV-11VH1	349 (13 3/4)	559 (22) or more
FV-11VHL1		

3. Insert the circular duct (4 inch) to the adapter.
4. Remove the junction box cover and secure conduit to junction box knockout hole. (7/8 inch) (Fig. 3) (1 hole for 11VH1, 2 holes for 11VHL1)
5. Remove screws to take out the connector plate from the junction box. Refer to wiring diagram. (Page 6)
Using wire nuts, connect house power wires to ventilating fan wires: black to black; white to white; green to greens. (Fig. 4) Replace the connector plate and the junction box cover.
6. Finish ceiling work. Ceiling hole should be aligned with the edge of the flange. (Fig. 5)

CAUTION

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

WARNING

1. Disconnect power source before working on unit.
2. The lamp's glass is fragile. Please handle with care. To remove fluorescent lamp, grasp at base and move back and forth to loosen. Do not pull hard on the lamp or you may break the glass.
3. For heater, AWG 14 or more must be used when wiring. (11.9A)
4. When making wiring connections take care to prevent excessive slack in the wiring since a large of current is drawn through the heater electrical wire.
5. Connect the switch to the live (black color) side.

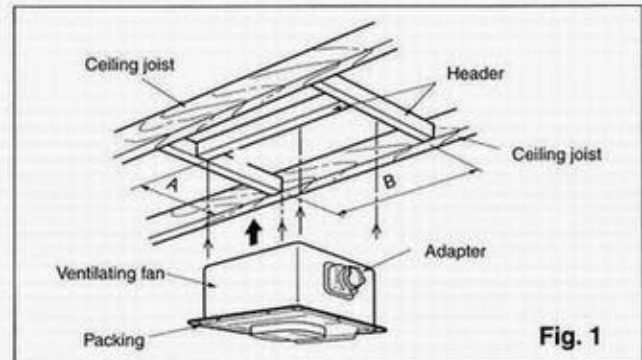


Fig. 1

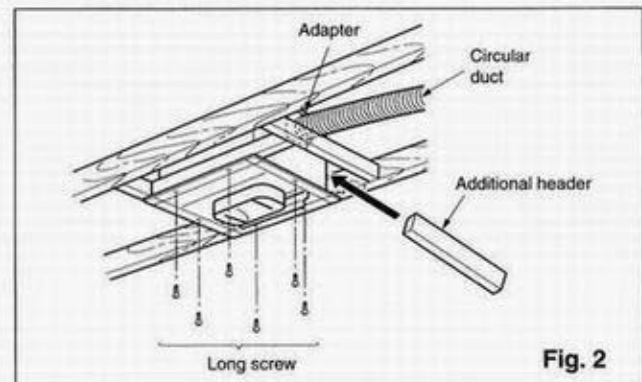


Fig. 2

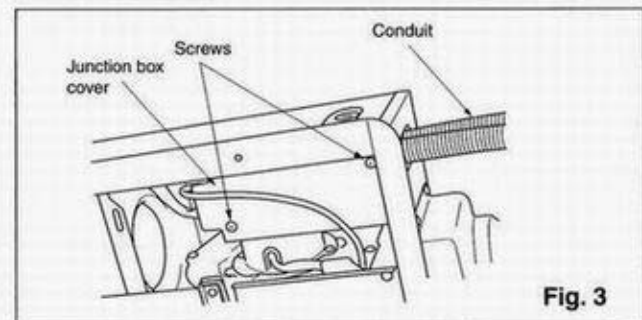


Fig. 3

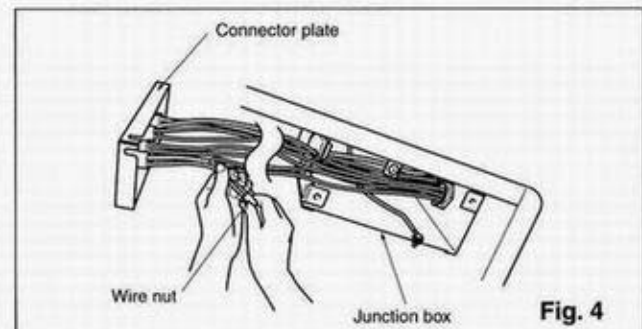


Fig. 4

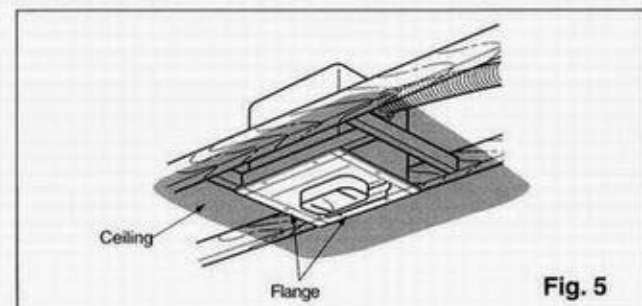
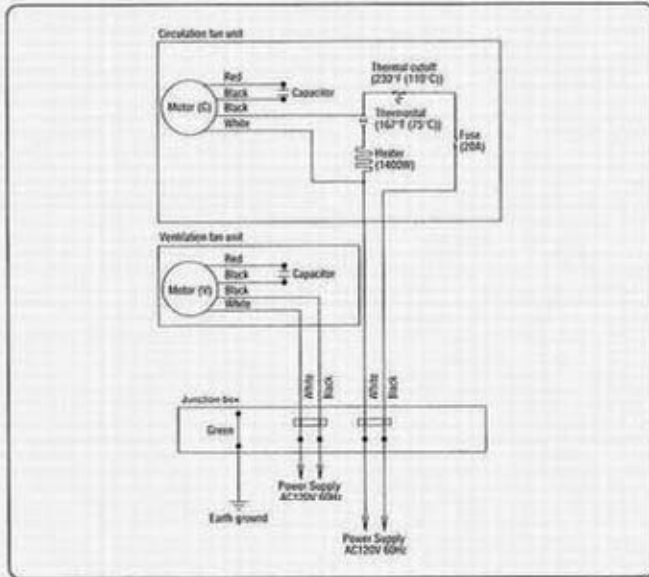


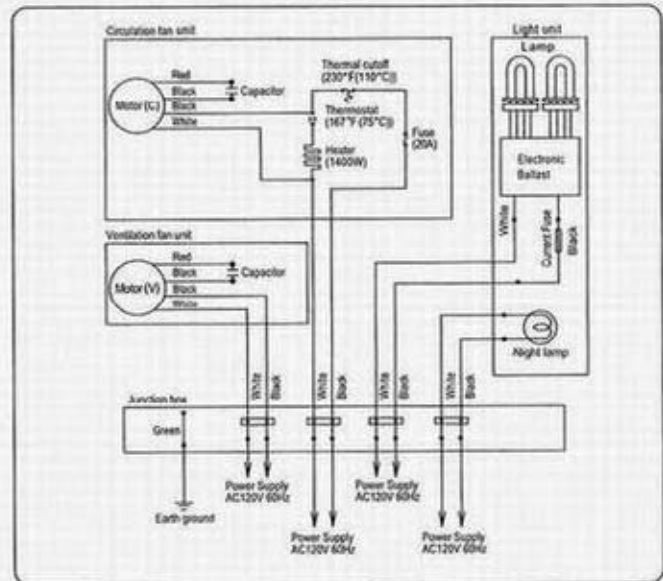
Fig. 5

Wiring Diagram

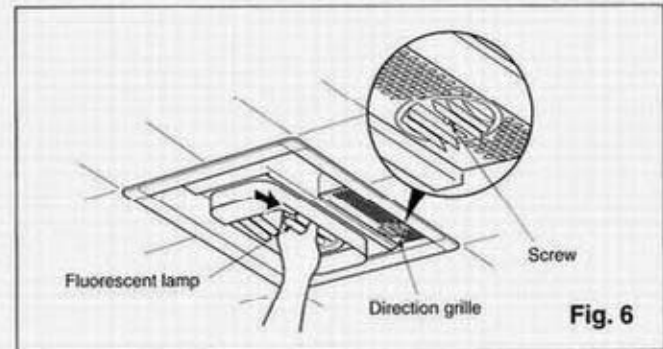
FV-11VH1



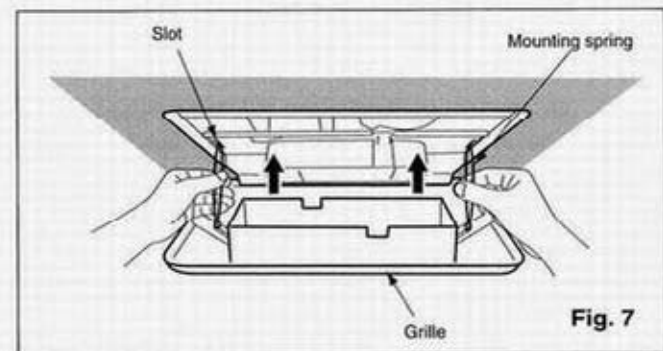
FV-11VHL1



7. Insert fluorescent lamps to the kit body. (11VHL1)
Decide where to blow the heated air and then adjust how the direction grille faces. (Loosen the screws, adjust how the direction grille faces and then securely retighten the screws.) (Fig. 6.)

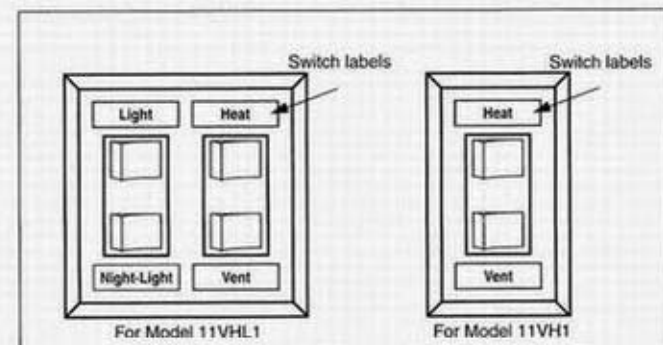


8. Mount grille to fan body. (Fig. 7)



[Optional]

Attach the given switch labels (in accessories) on the wall switch (not included) as shown in the diagram for clearer indication.



INSTALLATION II (IN EXISTING CONSTRUCTION)

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

1. To install the ventilating fan, follow the procedures described in Installation I. Take the following precautions before installation.

CAUTION

Check area above planned installation location to be sure that:

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

2. Inspect duct work and wiring before proceeding with installation.
3. Plan suitable location for ventilating fan. (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 I.

MAINTENANCE

* Illustrations in this manual are for FV-11VHL1.

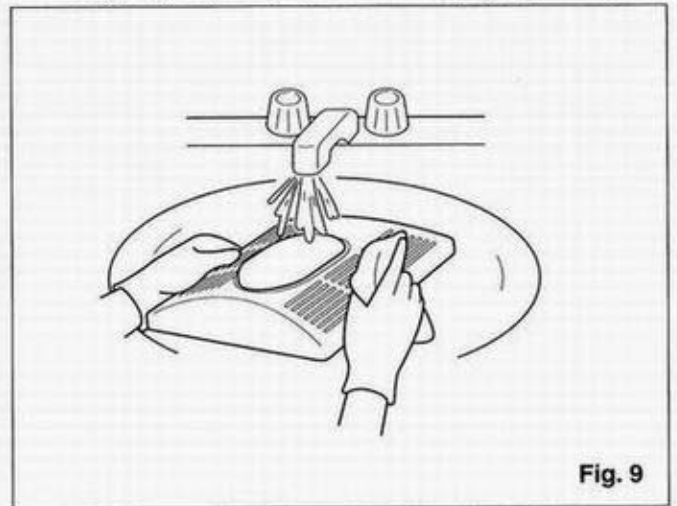
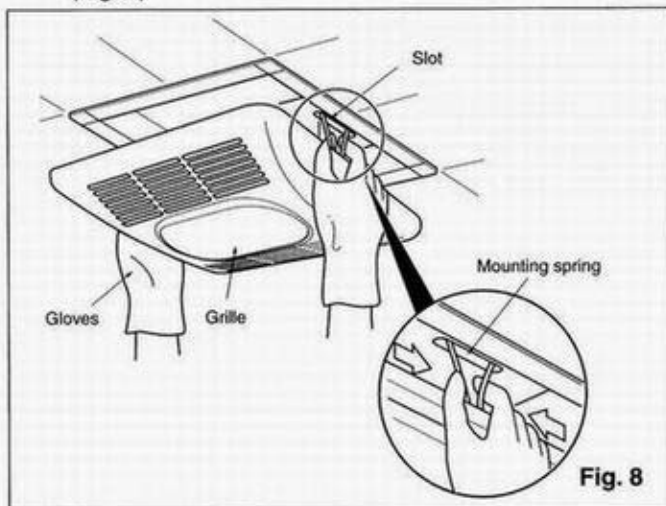
WARNING

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 allow water to enter motor.
3. Do not immerse resin parts in water over 60 °C (140 °F).

1. Remove grille. (Squeeze mounting spring and pull down.) (Fig. 8)
2. Wash and clean grille. (Use non-abrasive kitchen detergent.) Wipe dry with new cloth. (Fig. 9)



MAINTENANCE CONTINUED

3. Remove dust and dirt from fan body using a vacuum cleaner. (Remove fluorescent lamps and incandescent lamp (FV-11VHL1 only) if necessary.) (Fig.10)

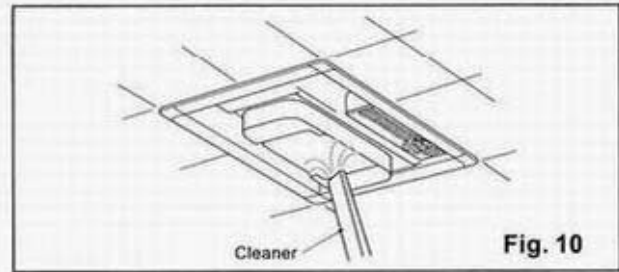


Fig. 10

4. Using a cloth dampened with kitchen detergent, remove any dirt from fan body. Wipe dry with new cloth. (Fig.11)
5. Replace bulbs (FV-11VHL1 only) and grille.

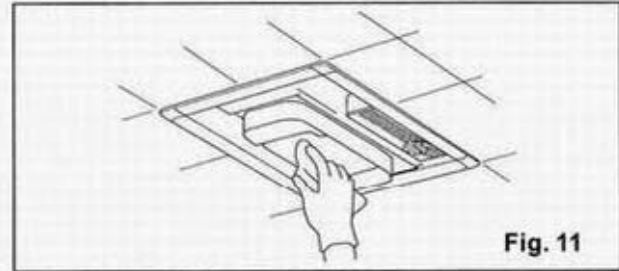


Fig. 11

PRACTICAL GUIDE TO INSTALLATION

Proper insulation around the fan to minimize building heat loss and gain.(Fig.12)

Loose fill or batt insulation can be placed directly over the fan housing in the attic. Panasonic 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 bulbs do not create enough ambient heat to be subjected to these limitations.

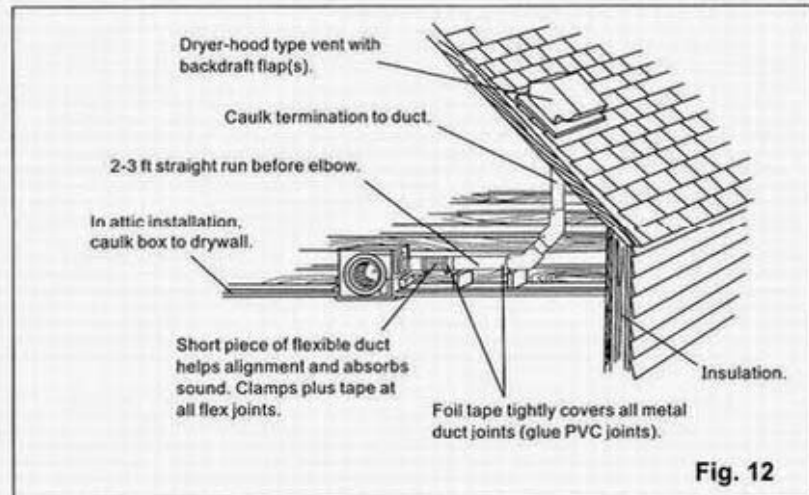


Fig. 12

PRODUCT SERVICE

Warning concerning removal of covers.

This unit should be serviced by qualified technicians only. No service information is provided for customers. Your product is designed and manufactured to ensure a minimum of maintenance. However, should your unit ever require service, a nationwide system of factory service centers and AUTHORIZED INDEPENDENT SERVICE CENTER is maintained to support your product's warranty. (In the U.S.A., call 1-866-292-7292 to locate the PASC Authorized Service Center nearest you.)

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