

**OWNER'S
MANUAL**
Read and
save for
future reference

COMFORT AIDE™ Whole House Fans

INSTALLATION • OPERATION

IMPORTANT: Carefully read these instructions before you install or operate your new whole house fan. Proper installation is important to achieve maximum cooling efficiency. It is necessary to provide adequate ventilation to meet minimum exhaust requirements. This prevents pressure build-up in the attic which will reduce the fan's efficiency. Inadequate exhaust area can also lead to premature motor failure. Refer to the ventilation work chart on the back page to determine the exhaust air requirements.

CAUTION - SAFETY RULES

WARNING – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

Use this unit only in the manner intended by the manufacturer. If you have questions, please contact the manufacturer.

Before servicing or cleaning unit, switch power off at service panel to prevent power from being switched on accidentally.

Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.

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 local code authorities.

When cutting or drilling into wall or ceiling, **DO NOT** damage electrical wiring and other hidden utilities.

CAUTION – For general ventilating only, **DO NOT** use to exhaust hazardous or explosive materials and vapors.

CAUTION – This unit has an unguarded impeller. **DO NOT** use in locations readily accessible to people or animals.

Your whole house fan will operate only on 120 Volt, A.C., 60 Hz (cycle) current.

Permanent **THREE WIRE** (grounded) wiring must be used. **DO NOT USE AN EXTENSION CORD.**

To avoid risk of electrical shock, fire and other injuries **DISCONNECT MAIN POWER SUPPLY** prior to installation.

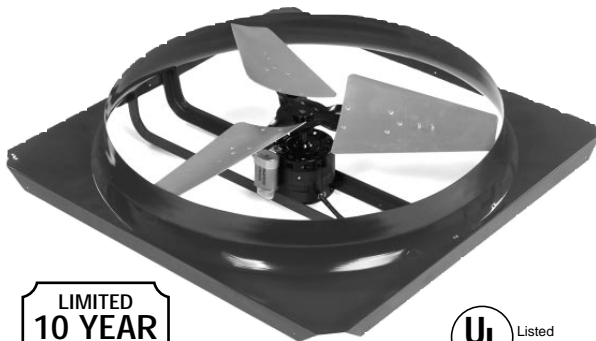
This fan is to be mounted in a location where the entrance of drawn in water (rain) is unlikely.

If shutter is removed for servicing, replace before normal operation.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK DO NOT USE THIS FAN WITH ANY SOLID STATE FAN SPEED CONTROL DEVICE.

Do not operate this fan in areas where gas or oil-fired equipment are in operation.

Wear safety goggles when drilling, hammering or cutting materials.



LIMITED
10 YEAR
WARRANTY



TRIANGLE ENGINEERING OF ARKANSAS, INC.

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TOOLS REQUIRED FOR INSTALLATION

- Hammer
- Pencil
- Electric drill
- Razorblade or sheet rock saw
- Straight edge
- Safety goggles
- Power or hand saw
- Measuring tape
- Screwdriver

OTHER MATERIALS REQUIRED

- 10 Ft. of 1" x 2" wood strips
- 6 Nails (#4 or #6)
- Automatic Ceiling Shutter
- Code required electrical materials
- Duct tape



FAN SPECIFICATIONS:

MODEL	H.P.	CFM		BLADE DIAMETER	DIMENSIONS			RPM		WATTS		VENTILATES	COMFORT COOLS
		HI	LO		A	B	C	HI	LO	HI	LO		
CA 2421	1/4	4700	3500	24"	34"	4"	9"	810	625	450	380	1500 - 2350 Sq. Ft.	600 - 1200 Sq. Ft.
CA 3021	1/4	6000	450	30"	34"	4"	9"	795	610	480	410	2250 - 3000 Sq. Ft.	750 - 1500 Sq. Ft.

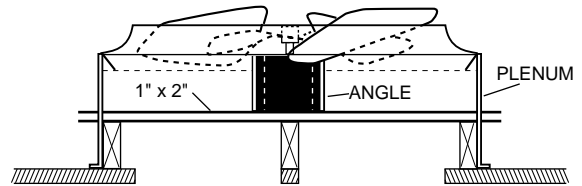
INSTALLATION INSTRUCTIONS

TRIANGLE'S COMFORT AIDE fans are easy to install using ordinary hand tools. It is not necessary to cut any ceiling joists or build any wood frames. The motor and two-speed switch are pre-wired at the factory so all you have to do is hook it to a 120 volt AC power source with 5 amp capacity. Follow these easy step-by-step instructions and you will have a professional installation.

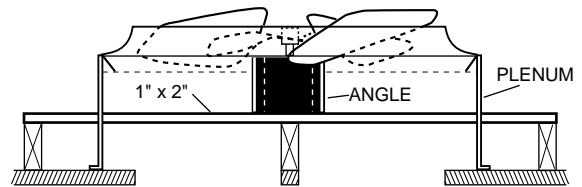
LOCATION OF FAN - The most logical place to locate your **WHOLE HOUSE FAN** is near the central part of the house. **NOTE** - if hall area is chosen, it must have a minimum 32" width for the 24" fan; 35" width minimum for the 30" fan. Check attic area to be certain there is adequate clearance above the fan. Minimum space should equal blade diameter. Inspect the area where the fan is to be installed. The area must be free of electrical wiring and pipes.

STEP 1. After installation site has been selected for the fan, remove insulation from area and select a ceiling joist or roof truss to be the center line of the fan. Use the shutter carton to make a template. Use the dimensions listed for your shutter as shown on the carton. **(FIG. 1)** Repeat this procedure on the other side of the middle joist. Drill small holes at each corner of the area marked on the ceiling. **CAUTION:** The shutter hole must equal the "fits hole" dimensions that appears on the shutter carton. Double check fan location from inside living area before cutting shutter hole.

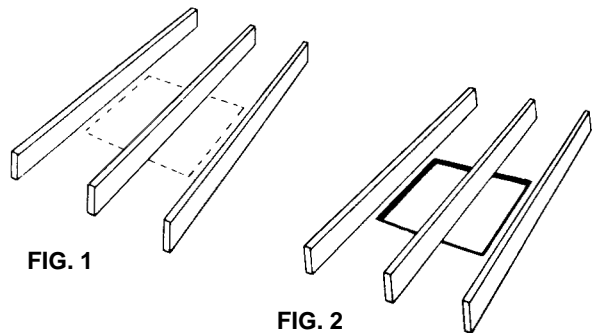
STEP 2. If the layout is satisfactory, cut and remove ceiling material. **(FIG. 2)** Lift fan into the attic through the hole you have just cut. Be careful not to damage the edges of the ceiling when lifting the fan into the attic. **IMPORTANT: THIS FAN IS DESIGNED FOR HORIZONTAL INSTALLATION ONLY FOR VERTICAL AIR FLOW. DO NOT MOUNT IT AT ANY OTHER ANGLE.**



Typical appearance of 30" fan mounted on ceiling joist 16" on center.



Typical appearance of 24" fan mounted on ceiling joist 16" and 24" on center and of a 30" fan mounted on ceiling joist 24" on center.



*CSS24 Template Size 10 $\frac{1}{4}$ x 30 $\frac{1}{4}$
CSS30 Template Size 14 $\frac{1}{4}$ x 34 $\frac{1}{4}$

STEP 3. Cut two 1" x 2" wood strips to span three joists. Locate the 1" x 2" strips as shown in Fig. 3 and nail them to each joist. Fasten the fan to the strips as illustrated using the #12 lag screws, washers and rubber isolation mounts. (FIG. 4.)

FIG. 3

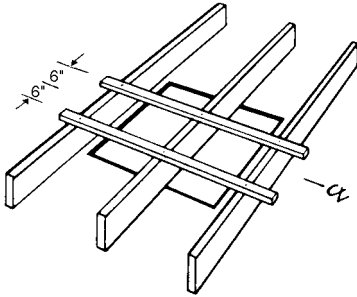
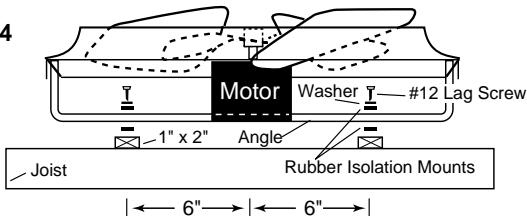


FIG. 4



STEP 4. TURN OFF POWER AT FUSE BOX OR CIRCUIT BREAKER. The fan requires a 120 volt A.C. power source with at least 5 amp capacity. All electrical work must be in accordance with local building codes using approved material. Follow wiring diagram to finish electrical installation. Before restoring power, be certain the fan blades are clear as the pull chain switch may be in the "on" position. If you are using the optional wall mounted control for your installation, follow the instructions with the wall mounted switch. (FIGS. 5 & 6)

FIG. 5

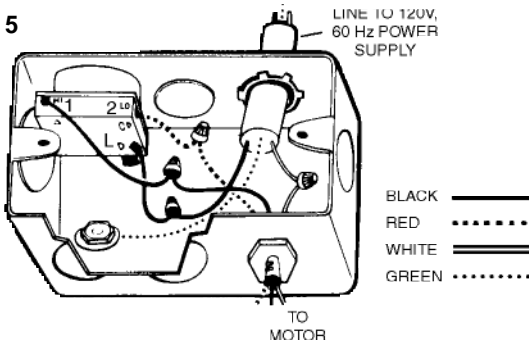
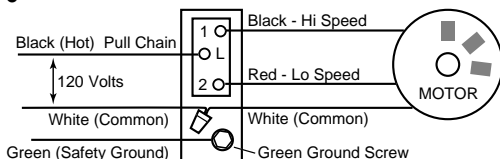
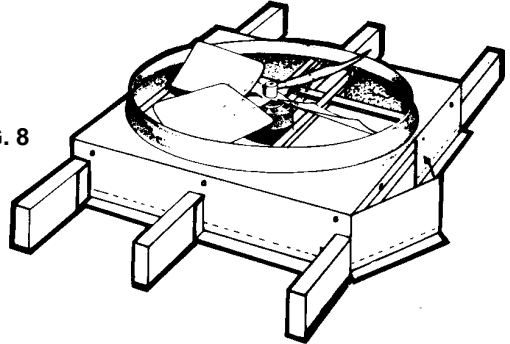


FIG. 6



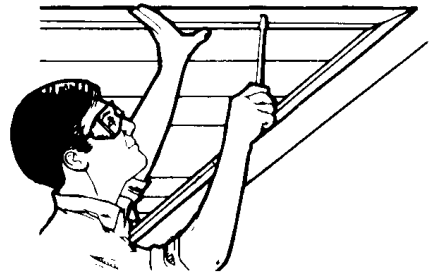
STEP 5. Cut out the plenum at premarked openings to fit your ceiling joists. Attach the plenum to the deck using the # 10 screws and fender washers provided. Staple or tack the plenum to the ceiling joist. Improper installation of the plenum can result in poor fan performance or possible motor failure. Re-install insulation to the edge of the plenum. Cover any opening with duct tape. The plenum must be tightly sealed to the fan, joists and ceiling so the fan draws air from the living area only. (FIG. 8)

FIG. 8



STEP 6. Install flush mounted ceiling shutter into the ceiling opening using the #10 1/4" screws included in the shutter carton. Caution should be taken not to effect the free operating action of the shutter. Drop the pull chain through the hole provided in the shutter and trim it to desired length. Your installation is now complete. (FIG. 9)

FIG. 9



OPERATING YOUR FAN

IMPORTANT: DO NOT OPERATE THE FAN WITHOUT FIRST OPENING A WINDOW OR DOOR TO PROVIDE INLET AIR FLOW. IF FAN IS LOCATED IN HALL, YOU MUST OPEN DOORS TO HALL TO ALLOW AIR FLOW INTO THE FAN.

The air movement in rooms can be increased by closing off parts of the house. Each room must be treated as a separate ventilating case. Always open the window farthest from the point that the air will leave the room.

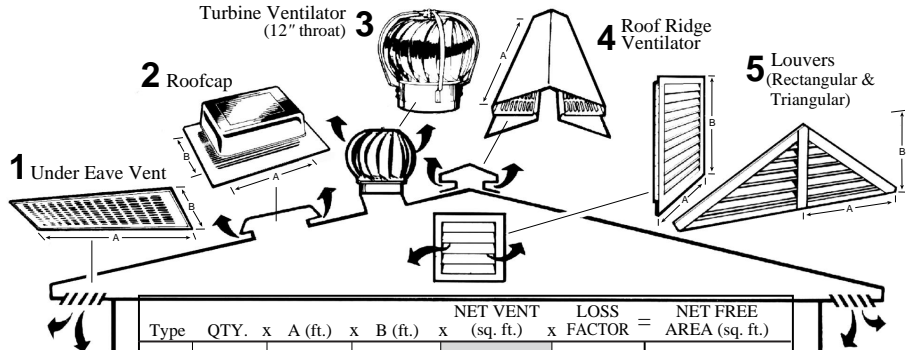
For best cooling results from your **WHOLE HOUSE FAN** open only the windows in the room being use.

IMPORTANT: Fan should always be started on HIGH SPEED to prevent possible motor failure.

The following chart is provided so you may determine the existing ventilation in your attic. It is necessary that you provide adequate ventilation to meet the minimum exhaust requirements for the fan you have selected.

Should your calculations show your exhaust area is inadequate, additional ventilation must be provided. Failure to meet minimum exhaust requirements will result in a reduction of fan efficiency and motor failure.

Model	Min. Free Exhaust Area Req'd
CA 2421	7 sq. ft.
CA 3021	9 sq. ft.

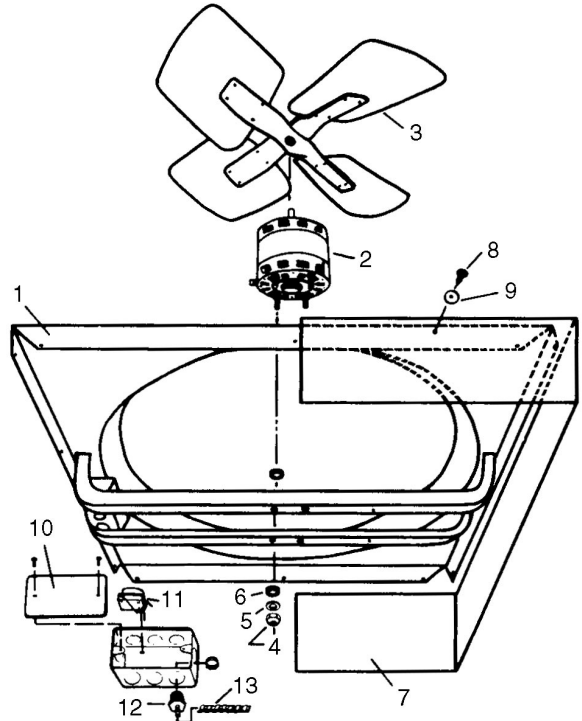


IMPORTANT! WHEN ORDERING REPAIR PARTS
Always give the following information:

1. Model No. and Serial No. of fan
2. Part Description
3. Part Number

Type	QTY.	x	A (ft.)	x	B (ft.)	x	NET VENT (sq. ft.)	LOSS FACTOR	=	NET FREE AREA (sq. ft.)
1								.5		
2								.6		
3							1			
4							.13			
5								.6		
OTHER FORMS OF VENTILATION										
TOTAL NET FREE EXHAUST AREA (sq. ft.)										

Key No.	Part Number	Part Description
1	WPCA24FRA WPCA30FRA	24" Fan Frame (Venturi) 30" Fan Frame (Venturi)
2	PP ¼ HP	Motor
3	WPCA24BA WPCA30BA	24" Fan Blade 30" Fan Blade
4	PP1032 NUT	Nut (4 req'd - #10 - 32)
5	PP ⅜ WSH	Washer (4 req'd - ⅜ Flat)
6	PPRUBMOT	Grommet (8 req'd)
7	PPCA24SKT PPCA30SKT	24" Fan Skirt 30" Fan Skirt
8	PP10X.75	Screw (12 req'd - #10 x ¾)
9	PPFENDER	Washer (16 req'd - ⅜ Fender)
10	PPHANDYC	Cover, Switch Box
11	PPPULLSW	Switch, 2-Speed
12	PPGREENCO	Connector
13	PPGREENFD	Conduit
†	FGCSS24	Shutter - 24" Fan
†	FGCSS30	Shutter - 30" Fan
†*	FG2SPWALL	2-Speed Wall Switch
†*	FG12HRTIM	12-Hour Timer
†*	FG2SP12HR	2-Speed, 12 hr. Timer Wall Switch



† Not Illustrated †* Optional Specifications subject to change without notice.