

AMERIC AXIAL FAN TROUBLESHOOTING

CAUTION: All service procedures should be executed with the unit unplugged.

|                                                |                                                                                                                                                                           |                                                                                                                                                                                                    |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROBLEM<br>Unit will not run.                  | CAUSE<br>1) No power to unit.<br>2) Switch not on.<br>3) Switch is faulty.<br>4) Faulty / Broken cord or motor wire.                                                      | SOLUTION<br>1) Plug unit in. Check circuit breaker.<br>2) Place in "ON" position.<br>3) Replace switch.<br>4) Perform continuity check using volt/amp meter.<br>Repair/replace faulty/broken wire. |
| Unit runs but fan makes loud scraping noise.   | 1) Unit has been severely jolted causing fan to rub against housing.<br>2) Unit has been severely jolted causing housing to deform.                                       | 1) Remove motor and replace damaged motor mounts.<br>2) Replace housing/unit as necessary.                                                                                                         |
| Unit runs but vibrates excessively.            | 1) Severe jolt has bent motor shaft causing unit to be out of balance.<br>2) Fan blade damaged.<br>3) Dirt build up on one side of fan blade.                             | 1) Remove and replace motor. Replace fan blade if necessary.<br>2) Replace fan blade.<br>3) Clean fan blade.                                                                                       |
| Unit runs but fan does not turn.               | 1) Fan is jammed against housing.<br>2) Capacitor wire has broken/come loose, capacitor has failed.<br>3) Housing has been damaged such that it presses on the fan blade. | 1) Remove motor and replace damaged motor mounts.<br>Replace fan blade if necessary.<br>2) Repair/replace wires/capacitor as necessary.<br>3) Replace housing/unit as necessary.                   |
| Unit runs briefly, then shuts off on overload. | 1) Motor bearings are failing, or motor has developed an internal electric fault.<br>2) Intake grill and/or exhaust grill is obstructed.<br>3) Excessive duct length.     | 1) Replace motor.<br>2) Remove obstruction.<br>3) Reduce duct length to recommended maximum.                                                                                                       |

Refer to item # on pictorial breakdown on previous page.

| Item | Part #          | Each | Description                 |
|------|-----------------|------|-----------------------------|
| 1    | 0SMS8X12PPHSS   | 4    | Screw #8 x 1/2" PPH SS      |
| 3    | 0CAP40UF240V    | 1    | Capacitor 115V              |
|      | 0CAP40UF370V    | 1    | Capacitor 230V              |
|      | 0CC114          | 1    | 1-1/4" Clamp (230V only)    |
| 4    | SWPLTASY-V30A   | 1    | Switch Plate Cord Kit 115V  |
| 4    | SWPLTASY-V30B   | 1    | Switch Plate Cord Kit 230V  |
|      | CORD-16/3-20NA  | 1    | Cord 115V North America     |
|      | CORD-16/3-20EU  | 1    | Cord 230V European          |
|      | CONNECTOR-PG11  | 1    | Cord Strain Relief          |
|      | 0RSSPST20A      | 1    | Rocker Switch               |
|      | 0RSCAP          | 1    | Rocker Switch Cover         |
|      | SWPLT-VAF3000   | 1    | Switch Plate                |
| 5    | HSG-VAF3000     | 1    | Shell Housing Blue          |
| 6    | 0BM3-0.5X25HHSS | 10   | Bolt M3x.5 25mm             |
| 7    | 0WM3SS          | 10   | Washer M3 SS                |
| 8    | 0RF78OD         | 4    | Rubber Foot 7/8" OD         |
| 9    | 0WNM3-0.5HT     | 10   | Well Nut M3x.5              |
| 10   | 0RG38X1316X38   | 1    | Rubber Grommet 3/8"         |
| 11   | 0RIVET6-8A-B    | 13   | Rivet 3/16" x 1/2" G        |
| 12   | CS211-SP        | 1    | Motor 1 HP 115V 60 Hz       |
|      | CS211-50-SP     | 1    | Motor 1 HP 230V 50 Hz       |
|      | 0NY3816Z        | 1    | Nut Nyloc 3/8" -16          |
|      | 0W38X114FWZ     | 1    | Washer 3/8"                 |
|      | 0S832X14HWHTC   | 12   | Screw 8-32 x 1/4" Threading |
|      | MTRVN-VAF3000   | 6    | Motor Mount Vane            |
|      | BLADE-VAF3000   | 1    | Fan Blade 12" 7 Wing        |
| 13   | RING-VAF3000    | 2    | Duct Ring 12"               |
| 14   | GUARD-VAF3000   | 2    | Wire Guard 12"              |

UNITED KINGDOM CORDS ONLY

WARNING  
THIS APPLIANCE MUST BE EARTHED.  
IMPORTANT!

The wirer of this mains lead are colored in accordance with the following code:  
BLUE---- NEUTRAL  
BROWN---- LIVE  
YELLOW / GREEN---- EARTH

As the colors of the wires in the main lead of this appliance may not correspond with the colored markings identifying the terminals in your plug, proceed as follows: The wire colored brown must be connected to the terminal marked with the letter "L" or colored red.

The wire colored blue must be connected to the terminal marked with the letter "N" or colored black.

The wire colored yellow/green must be connected to the terminal marked with the letter "E" or ensure that your machine is connected correctly. If you are in any doubt consult a qualified electrician.

This appliance must be protected by a 13A fuse if a 13A (B.S. 1363) plug is used, or if any other type of plug is used by a 5A fuse either in the plug or adapter, or at the distribution board.



OWNER’S MANUAL  
SAFETY INSTRUCTIONS

Please read and keep these instructions with the fan.



MODEL: VAF3000A/B

For use in Non-Explosive/Non-Flammable environments only.

Purchase Date: \_\_\_\_\_ Serial No. \_\_\_\_\_

Dealer: \_\_\_\_\_



1.800.779.3267 • www.schaeferfan.com

# INTRODUCTION

Congratulations on your selection of a new Vane Axial Fan from Schaefer Ventilation Equipment, LLC. Our goal is to provide you with the very best in high performance air ventilators. Reading this owner's manual will help you achieve the maximum benefit from your portable air ventilator. If you do not understand any portion of this manual please contact Schaefer, or your authorized Schaefer dealer for proper assistance prior to operating this Fan.

Do not allow anyone to operate the vane axial fan without first reading the operator's manual and becoming familiar with its operation. Schaefer has endeavored to provide you with the finest equipment available for providing air for portable ventilation purposes. The possibility does exist; however, that the vane axial fan can be subjected to applications not intended by Schaefer.

**Misuse and/or misapplication of the vane axial fan can lead to the possibility of serious damage, injury or even death.**

Anyone operating the vane axial fan should refer to current OSHA job safety and health rules and regulations pertaining to the construction industry, with a particular emphasis on 29 CFR 1910, which contains rules governing Permit-Required Confined Spaces for General Industry.

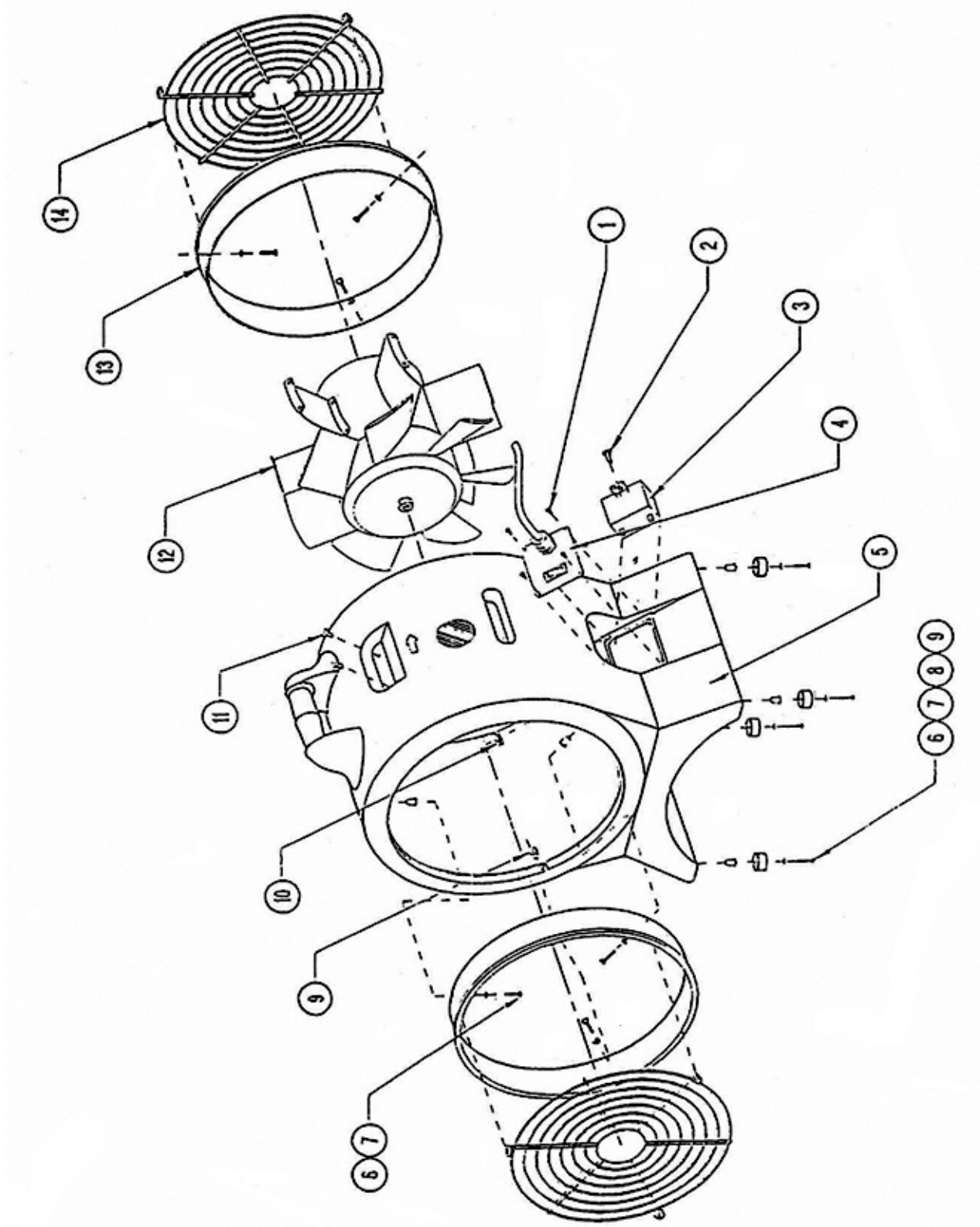
**Record the vane axial fan model and serial number in the space provided below.**

**Model No.**\_\_\_\_\_ **Serial No.** \_\_\_\_\_

**Date Purchased** \_\_\_\_\_

All specifications are general in nature and are not intended for specific application purposes. Schaefer accepts no responsibility for variations which may be evident in actual products, specifications, pictures and descriptions contained in this publication.

# VAF3000 PICTORIAL BREAKDOWN



MAINTENANCE



DANGER

ALWAYS SHUT OFF THE FAN AND UNPLUG IT FROM ITS POWER SOURCE TO PREVENT ACCIDENTAL STARTING AND THE POSSIBILITY OF ELECTRICAL SHOCK AND/OR ELECTROCUTION. BE SURE THE FAN BLADE HAS STOPPED ROTATING BEFORE PLACING ANY OBJECTS OR FINGERS NEAR THE FAN GRILL.

- I.

Visually check all fasteners and individual components for loose or broken parts. Tighten or replace items as required, with genuine, factory approved replacement parts.
2.

Keep the fan blade clean from debris. Accumulation of dust, dirt, paint, etc. on the fan blade will throw the blade rotation out of balance resulting in damage. To clean the fan blade, be sure the plug is disconnected and the blade has stopped rotating. Remove one grill and wipe blade and interior shell housing clean of debris with a damp cloth and mild liquid soap. Dry all parts thoroughly.

DO NOT PRESSURE WASH THE FAN. Replace grill prior to next operation.



DANGER

DO NOT OPERATE THE FAN WITHOUT THE INLET AND OUTLET GRILL PROPERLY IN PLACE.

3. Contact Schaefer directly for fan maintenance or repair not described in this manual (or if you are unsure whether maintenance is required.) at Tel# (320) 251-8696 or at [www.schaeferfan.com](http://www.schaeferfan.com).

SERVICE

1) Refer to the TROUBLESHOOTING GUIDE in this manual.

MOTOR SPECIFICATIONS

|                | A             | B              |
|----------------|---------------|----------------|
| Voltage        | 115V AC--     | 230V AC--      |
| Frequency      | 60/50 Hz      | 50Hz           |
| Phase          | Single        | Single         |
| Electric Motor | 1 HP          | 1 HP (.75kw)   |
| Current (amps) | 8/5.7         | 4.2            |
| R.P.M          | 3300/2800     | 2850           |
| Watts          | 615W@115V     | 670W @230V     |
| Free Air (cfm) | 2796 (79.2m³) | 2492 (70.6m³)  |
| Max S.P.       | 3"            | 2.5" (68mmlaq) |

GENERAL INFORMATION & DIMENSIONS

|              |          |            |
|--------------|----------|------------|
| Type         | Axial    |            |
| Duct adapter | 12" dia. | (30 cm)    |
| Height       | 21"      | (53.34 cm) |
| Width        | 14"      | (35.65 cm) |
| Length       | 17"      | (43.18 cm) |
| Weight       | 32.5 lbs | (14.74 kg) |

AIR FLOW RATES

| Feet     | Description | (115V AC) |        | (230V AC) |        |
|----------|-------------|-----------|--------|-----------|--------|
|          |             | CFM       | M³/Min | CFM       | M³/Min |
|          | Free Air    | 2796      | 79.2   | 2492      | 70.6   |
| 15' duct | Straight    | 1938      | 54.9   | 1722      | 48.8   |
| 25' duct | Straight    | 1829      | 51.8   | 1646      | 46.6   |
| 25' duct | 1-90° bend  | 1564      | 44.3   | 1344      | 38.1   |
| 25' duct | 2-90° bends | 1377      | 39.0   | 1232      | 34.9   |
| 40' duct | Straight    | 1764      | 50.0   | 1556      | 44.1   |
| 50' duct | Straight    | 1567      | 44.4   | 1173      | 33.2   |
| 75' duct | Straight    | 1254      | 35.5   | 1094      | 31.0   |

The published flow rates are intended to serve only as a reference. Manufacturing tolerances, duct type and specific operating parameters will affect the overall flow rates(s) for each particular fan.



CAUTION

THE AIR FLOW RATE DECREASES AS THE LENGTH OF DUCT INCREASES FOR BOTH BLOWING AND EXTRACTING APPLICATIONS. AIR FLOW RATES WILL VARY WITH SPECIFIC DUCT TYPES AND MANUFACTURES.

Schaefer Limited Warranty Policy

Schaefer Ventilation Equipment, LLC (SVE) provides the following limited warranty from the date of invoice to the initial purchaser of our products or to its customer with a dated proof of purchase:

- I.

Two-year coverage applies to all products, components and assemblies provided by SVE that prove to be defective in material or workmanship. Any such defective product will be repaired or replaced at SVE’s option, with the defective product or component returned, upon approval, to SVE, F.O.B Sauk Rapids, Minnesota.
- II.

This warranty does not cover:

a.

Failure, damage or malfunction as a result of:

i.

Improper installation or installation not in accordance with installation instructions.

ii.

Operating conditions that vary from SVE’s operating instructions.

iii.

Misuse, abuse, negligence, alteration, or accident.

iv.

Transporting the product.

v.

Improper operation or lack of appropriate or regular maintenance of the product.

b.

Loss of time, inconvenience, loss of use of the product or other consequential or incidental damages.

c.

Parts that need replacement due to normal wear and tear.

d.

Superficial or cosmetic rust or corrosion.

e.

Any product whose name plate has been removed.

THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS OF USE.

Schaefer Ventilation reserves the right to change product design and specification without prior notice or liability.

The above constitutes the sole warranty offered by Schaefer Ventilation Equipment, LLC.

## SAFETY PRECAUTIONS



### DANGER

THE FAN IS DESIGNED FOR PORTABLE AIR VENTILATION PURPOSES ONLY. THE FAN IS NOT DESIGNED FOR TRANSPORTING LIQUID OR SEMI-SOLID MATERIALS. **THE ELECTRIC MOTOR AND FAN HOUSING ARE NOT DESIGNED FOR OPERATION IN AN EXPLOSIVE OR FLAMMABLE ATMOSPHERE. OPERATION OF THE FAN IN AN EXPLOSIVE OR FLAMMABLE ATMOSPHERE MAY RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR EVEN DEATH.** INCORRECT USE OF THE FAN CAN RESULT IN AN ELECTRICAL SHOCK AND/OR ELECTROCUTION. ALWAYS OPERATE THE FAN IN COMPLIANCE WITH CURRENT OSHA AND NATIONAL ELECTRIC CODE REGULATIONS.



### DANGER

INCORRECT USE OF THE FAN CAN RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR EVEN DEATH. TO REDUCE THIS RISK, GIVE COMPLETE AND UNDIVIDED ATTENTION TO THE JOB AT HAND. AN ENVIRONMENT ATMOSPHERE CONSTANTLY CHANGES. THEREFORE, IT'S RECOMMENDED THAT AIR MONITORING/ GAS DETECTION EQUIPMENT BE USED FREQUENTLY. IF TESTS SHOW THAT THE ATMOSPHERE QUALIFIES AS A **HAZARDOUS LOCATION** (AN AREA WHERE THE POSSIBILITY OF EXPLOSION AND FIRE IS CREATED BY THE PRESENCE OF COMBUSTIBLE LIQUIDS, FLAMMABLE GASES, VAPORS, DUST, FIBERS, FLAMES OR FILINGS.) **DO NOT USE THIS FAN.** READ AND UNDERSTAND THE FOLLOWING PREPARATION ITEMS AND GENERAL SAFETY INFORMATION.

## PREPARATION

- 1) Become familiar with the fan operations before utilizing this fan. Read and understand all cautions and warnings in this manual. Refer to current OSHA publications for complete job safety and health rules and regulations (CFR 1926 and 1910).
- 2) Confirm that the fan is in its original, factory configuration and has not been modified in any manner.
- 3) Minors should not be allowed to operate the fan. Close attention is necessary when used, especially when used near children or animals.
- 4) Guard against the possibility of back-related injuries. Always lift the fan with leg muscles and not with the back.
- 5) Periodically inspect the fan visually for damaged or worn parts. Check for loose and/or broken parts. Be sure that the fan and accessories are in good working condition before operating.
- 6) Ground the motor securely. The (U.S.) fan utilizes a NEMA 5-15P plug. It is designed to operate ONLY from a grounded, 115 volt nominal AC~, 60Hz, single phase power source that utilizes a NEMA 5-15R receptacle. The 230 volt, 50Hz Fan (VAF3000B) comes with a power cord having no end connector. The customer must provide a plug suitable for use with grounded receptacles at their location. The use of a ground fault circuit interrupter (GFCI) gives additional on the job protection from electrical shock hazards caused by ground faults in commercial, industrial and residential applications.
- 7) Know how to stop the fan quickly in an emergency. Turn unit off using (on/off) switch located on side of unit or unplug fan from power supply.

## GENERAL SAFETY INFORMATION

- 1) Never place the fan in standing water because of extreme shock hazard.
- 2) Never allow air intake grill to become blocked.
- 3) Never discharge flammable solvents or kerosene based chemicals through the fan air intake grill.
- 4) **Do not use the fan in areas where flammable or combustible liquids, gases, vapors, dust, fibers or filings may be present.**
- 5) Never put any object in the air intake grill.
- 6) Never run the fan outside when it is raining. Never store the fan outdoors.
- 7) Do not use the fan as a toy.
- 8) Use the fan only with a properly grounded outlet.
- 9) Unplug the fan from outlet when not in use and before servicing.

**WARNING:** To reduce the risk of fire or electric shock, do not use this fan with any solid state speed control device.

## GENERAL SAFETY INFO. (Continued)

- 10) Do not use the fan with a damaged cord or plug. Do not pull or carry the fan by its cord, do not use cord as a handle, do not close a door on the cord and do not pull cord around sharp edges or corners. Keep cord away from heated surfaces. Do not unplug the Fan by pulling on cord. Grasp the plug when unplugging. Do not handle the plug or cord with wet hands.
- 11) Keep hair, loose clothing, fingers and all parts of the body away from the air intake grill.
- 12) Do not allow water inside the motor. If the motor becomes wet for any reason, unplug the fan and thoroughly dry it before using again.
- 13) Never remove the ground from the power cord or plug as this may result in electrical shock or electrocution. Removing the ground would void the warranty.
- 14) If the fan has been dropped, left outdoors or dropped into water, etc., please thoroughly inspect it prior to use. If the fan is not working or if you have a question about its safe operation, do not operate it. Contact Schaefer Ventilation directly at (320)251-8696 or at [www.schaeferfan.com](http://www.schaeferfan.com).

## OPERATION

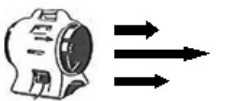
- 1) Your new fan comes to you completely assembled and ready to operate. Upon removing the fan from its carton, inspect it for any possible damage in transit.
- 2) Before operating the fan, please read all the safety precautions and general safety information about the proper and safe use of the fan.
- 3) Assess your job site. Certain job site locations are classified as being hazardous because the atmosphere may contain gas, vapor or dust in explosive quantities.



### DANGER

**THE ELECTRIC MOTOR AND FAN HOUSING ARE NOT DESIGNED FOR OPERATION IN AN EXPLOSIVE AND/OR FLAMMABLE ATMOSPHERE OF ANY CLASS OR GROUP. OPERATION OF THE FAN IN AN EXPLOSIVE OR FLAMMABLE ATMOSPHERE MAY RESULT IN PERSONAL INJURY OR DEATH.**

- 4) Locate a properly grounded outlet.
- 5) Prior to plugging in the fan into a grounded outlet, inspect the inlet and outlet grills and remove debris which may restrict airflow movement. Never operate the fan without the inlet and outlet grills properly secured and in place. Never replace the grills with other than factory supplied replacement units.
- 6) Note the directional airflow indicator on the external shell. This is the way the air moves.
- 7) Place the fan on secure footing to prevent it from shifting while in use.
- 8) Do not stand directly in front of and/or face the fan outlet. Personal injury can result from being struck by debris thrown at a relatively high velocity from the fan blade.
- 9) When ducting is required, do not install duct while fan is in operation. Place duct lip over the Fan duct adapter, secure firmly and note direction of the airflow.
- 10) When duct is used, be aware that the airflow rate decreases as the length of duct increases. Airflow rates will vary with specific duct types and manufactures.
- 11) Position fan air inlet away from walls and other obstructions to allow for maximum air intake.



- 12) **For safe operation, use the fan only in combination with thorough gas detection tests and continual retesting.**



### DANGER

**ALWAYS ASSUME A CONFINED SPACE WORK AREA IS CONTAMINATED UNTIL IT HAS BEEN PROVEN SAFE FOR WORK PERSONNEL. NEVER ENTER A CONFINED SPACE WORK AREA UNTIL IT HAS BEEN THOROUGHLY TESTED WITH APPROPRIATE GAS DETECTION EQUIPMENT AND PROVEN SAFE FOR WORK PERSONNEL.**