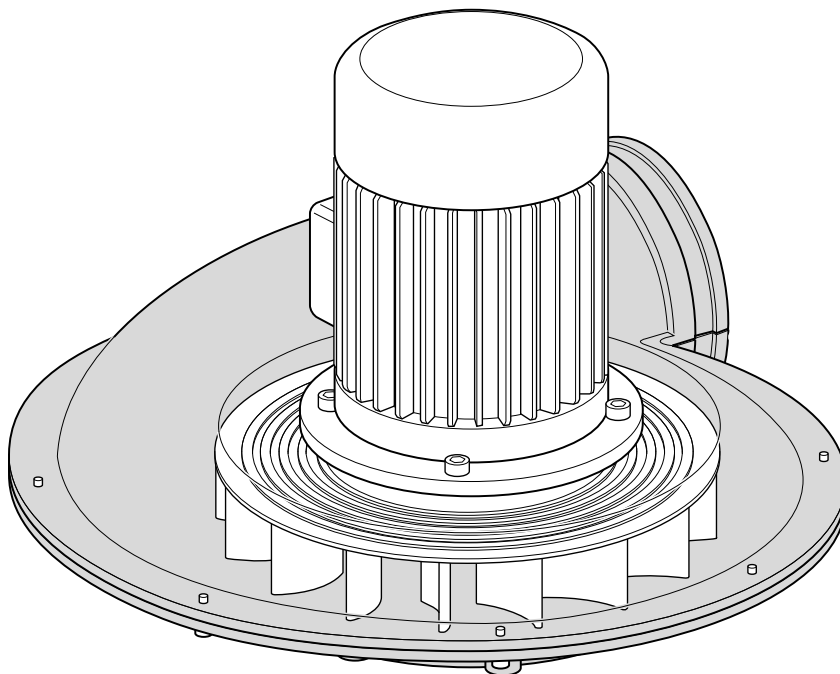


# SF2400 STATIONARY FAN

## Safety Depends on You

Lincoln arc welding and cutting equipment is designed and built with safety in mind. However, your overall safety can be increased by proper installation ... and thoughtful operation on your part. **DO NOT INSTALL, OPERATE OR REPAIR THIS EQUIPMENT WITHOUT READING THIS MANUAL AND THE SAFETY PRECAUTIONS CONTAINED THROUGHOUT.** And, most importantly, think before you act and be careful.



## OPERATOR'S MANUAL



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Cleveland, Ohio 44117-1199 U.S.A. TEL: 216.481.8100 FAX: 216.486.1751 WEB SITE: [www.lincolnelectric.com](http://www.lincolnelectric.com)

## ⚠ WARNING

### ⚠ CALIFORNIA PROPOSITION 65 WARNINGS ⚠

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

The Above For Diesel Engines

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

The Above For Gasoline Engines

**ARC WELDING CAN BE HAZARDOUS. PROTECT YOURSELF AND OTHERS FROM POSSIBLE SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. PACEMAKER WEARERS SHOULD CONSULT WITH THEIR DOCTOR BEFORE OPERATING.**

Read and understand the following safety highlights. For additional safety information, it is strongly recommended that you purchase a copy of "Safety in Welding & Cutting - ANSI Standard Z49.1" from the American Welding Society, P.O. Box 351040, Miami, Florida 33135 or CSA Standard W117.2-1974. A Free copy of "Arc Welding Safety" booklet E205 is available from the Lincoln Electric Company, 22801 St. Clair Avenue, Cleveland, Ohio 44117-1199.

**BE SURE THAT ALL INSTALLATION, OPERATION, MAINTENANCE AND REPAIR PROCEDURES ARE PERFORMED ONLY BY QUALIFIED INDIVIDUALS.**



### FOR ENGINE powered equipment.

1.a. Turn the engine off before troubleshooting and maintenance work unless the maintenance work requires it to be running.



1.b. Operate engines in open, well-ventilated areas or vent the engine exhaust fumes outdoors.



1.c. Do not add the fuel near an open flame welding arc or when the engine is running. Stop the engine and allow it to cool before refueling to prevent spilled fuel from vaporizing on contact with hot engine parts and igniting. Do not spill fuel when filling tank. If fuel is spilled, wipe it up and do not start engine until fumes have been eliminated.



1.d. Keep all equipment safety guards, covers and devices in position and in good repair. Keep hands, hair, clothing and tools away from V-belts, gears, fans and all other moving parts when starting, operating or repairing equipment.

1.e. In some cases it may be necessary to remove safety guards to perform required maintenance. Remove guards only when necessary and replace them when the maintenance requiring their removal is complete. Always use the greatest care when working near moving parts.

1.f. Do not put your hands near the engine fan. Do not attempt to override the governor or idler by pushing on the throttle control rods while the engine is running.

1.g. To prevent accidentally starting gasoline engines while turning the engine or welding generator during maintenance work, disconnect the spark plug wires, distributor cap or magneto wire as appropriate.



1.h. To avoid scalding, do not remove the radiator pressure cap when the engine is hot.



### ELECTRIC AND MAGNETIC FIELDS may be dangerous

2.a. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding current creates EMF fields around welding cables and welding machines

2.b. EMF fields may interfere with some pacemakers, and welders having a pacemaker should consult their physician before welding.

2.c. Exposure to EMF fields in welding may have other health effects which are now not known.

2.d. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:

2.d.1. Route the electrode and work cables together - Secure them with tape when possible.

2.d.2. Never coil the electrode lead around your body.

2.d.3. Do not place your body between the electrode and work cables. If the electrode cable is on your right side, the work cable should also be on your right side.

2.d.4. Connect the work cable to the workpiece as close as possible to the area being welded.

2.d.5. Do not work next to welding power source.



## ELECTRIC SHOCK can kill.

- 3.a. The electrode and work (or ground) circuits are electrically “hot” when the welder is on. Do not touch these “hot” parts with your bare skin or wet clothing. Wear dry, hole-free gloves to insulate hands.
- 3.b. Insulate yourself from work and ground using dry insulation. Make certain the insulation is large enough to cover your full area of physical contact with work and ground.

**In addition to the normal safety precautions, if welding must be performed under electrically hazardous conditions (in damp locations or while wearing wet clothing; on metal structures such as floors, gratings or scaffolds; when in cramped positions such as sitting, kneeling or lying, if there is a high risk of unavoidable or accidental contact with the workpiece or ground) use the following equipment:**

- Semiautomatic DC Constant Voltage (Wire) Welder.
  - DC Manual (Stick) Welder.
  - AC Welder with Reduced Voltage Control.
- 3.c. In semiautomatic or automatic wire welding, the electrode, electrode reel, welding head, nozzle or semiautomatic welding gun are also electrically “hot”.
- 3.d. Always be sure the work cable makes a good electrical connection with the metal being welded. The connection should be as close as possible to the area being welded.
- 3.e. Ground the work or metal to be welded to a good electrical (earth) ground.
- 3.f. Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition. Replace damaged insulation.
- 3.g. Never dip the electrode in water for cooling.
- 3.h. Never simultaneously touch electrically “hot” parts of electrode holders connected to two welders because voltage between the two can be the total of the open circuit voltage of both welders.
- 3.i. When working above floor level, use a safety belt to protect yourself from a fall should you get a shock.
- 3.j. Also see Items 6.c. and 8.



## ARC RAYS can burn.

- 4.a. Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing open arc welding. Headshield and filter lens should conform to ANSI Z87.1 standards.
- 4.b. Use suitable clothing made from durable flame-resistant material to protect your skin and that of your helpers from the arc rays.
- 4.c. Protect other nearby personnel with suitable, non-flammable screening and/or warn them not to watch the arc nor expose themselves to the arc rays or to hot spatter or metal.



## FUMES AND GASES can be dangerous.

- 5.a. Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When welding, keep your head out of the fume. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone. **When welding with electrodes which require special ventilation such as stainless or hard facing (see instructions on container or MSDS) or on lead or cadmium plated steel and other metals or coatings which produce highly toxic fumes, keep exposure as low as possible and within applicable OSHA PEL and ACGIH TLV limits using local exhaust or mechanical ventilation. In confined spaces or in some circumstances, outdoors, a respirator may be required. Additional precautions are also required when welding on galvanized steel.**
5. b. The operation of welding fume control equipment is affected by various factors including proper use and positioning of the equipment, maintenance of the equipment and the specific welding procedure and application involved. Worker exposure level should be checked upon installation and periodically thereafter to be certain it is within applicable OSHA PEL and ACGIH TLV limits.
- 5.c. Do not weld in locations near chlorinated hydrocarbon vapors coming from degreasing, cleaning or spraying operations. The heat and rays of the arc can react with solvent vapors to form phosgene, a highly toxic gas, and other irritating products.
- 5.d. Shielding gases used for arc welding can displace air and cause injury or death. Always use enough ventilation, especially in confined areas, to insure breathing air is safe.
- 5.e. Read and understand the manufacturer’s instructions for this equipment and the consumables to be used, including the material safety data sheet (MSDS) and follow your employer’s safety practices. MSDS forms are available from your welding distributor or from the manufacturer.
- 5.f. Also see item 1.b.



## WELDING and CUTTING SPARKS can cause fire or explosion.

6.a. Remove fire hazards from the welding area. If this is not possible, cover them to prevent the welding sparks from starting a fire.

Remember that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas. Avoid welding near hydraulic lines. Have a fire extinguisher readily available.

- 6.b. Where compressed gases are to be used at the job site, special precautions should be used to prevent hazardous situations. Refer to "Safety in Welding and Cutting" (ANSI Standard Z49.1) and the operating information for the equipment being used.
- 6.c. When not welding, make certain no part of the electrode circuit is touching the work or ground. Accidental contact can cause overheating and create a fire hazard.
- 6.d. Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapors from substances inside. They can cause an explosion even though they have been "cleaned". For information, purchase "Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping That Have Held Hazardous Substances", AWS F4.1 from the American Welding Society (see address above).
- 6.e. Vent hollow castings or containers before heating, cutting or welding. They may explode.
- 6.f. Sparks and spatter are thrown from the welding arc. Wear oil free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes and a cap over your hair. Wear ear plugs when welding out of position or in confined places. Always wear safety glasses with side shields when in a welding area.
- 6.g. Connect the work cable to the work as close to the welding area as practical. Work cables connected to the building framework or other locations away from the welding area increase the possibility of the welding current passing through lifting chains, crane cables or other alternate circuits. This can create fire hazards or overheat lifting chains or cables until they fail.
- 6.h. Also see item 1.c.
- 6.i. Read and follow NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work", available from NFPA, 1 Batterymarch Park, PO box 9101, Quincy, Ma 022690-9101.
- 6.j. Do not use a welding power source for pipe thawing.



## CYLINDER may explode if damaged.

- 7.a. Use only compressed gas cylinders containing the correct shielding gas for the process used and properly operating regulators designed for the gas and pressure used. All hoses, fittings, etc. should be suitable for the application and maintained in good condition.
- 7.b. Always keep cylinders in an upright position securely chained to an undercarriage or fixed support.
- 7.c. Cylinders should be located:
  - Away from areas where they may be struck or subjected to physical damage.
  - A safe distance from arc welding or cutting operations and any other source of heat, sparks, or flame.
- 7.d. Never allow the electrode, electrode holder or any other electrically "hot" parts to touch a cylinder.
- 7.e. Keep your head and face away from the cylinder valve outlet when opening the cylinder valve.
- 7.f. Valve protection caps should always be in place and hand tight except when the cylinder is in use or connected for use.
- 7.g. Read and follow the instructions on compressed gas cylinders, associated equipment, and CGA publication P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders," available from the Compressed Gas Association 1235 Jefferson Davis Highway, Arlington, VA 22202.



## FOR ELECTRICALLY powered equipment.

- 8.a. Turn off input power using the disconnect switch at the fuse box before working on the equipment.
- 8.b. Install equipment in accordance with the U.S. National Electrical Code, all local codes and the manufacturer's recommendations.
- 8.c. Ground the equipment in accordance with the U.S. National Electrical Code and the manufacturer's recommendations.

Refer to <http://www.lincolnelectric.com/safety> for additional safety information.

## PRÉCAUTIONS DE SÛRETÉ

Pour votre propre protection lire et observer toutes les instructions et les précautions de sûreté spécifiques qui paraissent dans ce manuel aussi bien que les précautions de sûreté générales suivantes:

### Sûreté Pour Soudage A L'Arc

1. Protégez-vous contre la secousse électrique:
  - a. Les circuits à l'électrode et à la pièce sont sous tension quand la machine à souder est en marche. Eviter toujours tout contact entre les parties sous tension et la peau nue ou les vêtements mouillés. Porter des gants secs et sans trous pour isoler les mains.
  - b. Faire très attention de bien s'isoler de la masse quand on soude dans des endroits humides, ou sur un plancher métallique ou des grilles métalliques, principalement dans les positions assis ou couché pour lesquelles une grande partie du corps peut être en contact avec la masse.
  - c. Maintenir le porte-électrode, la pince de masse, le câble de soudage et la machine à souder en bon et sûr état de fonctionnement.
  - d. Ne jamais plonger le porte-électrode dans l'eau pour le refroidir.
  - e. Ne jamais toucher simultanément les parties sous tension des porte-électrodes connectés à deux machines à souder parce que la tension entre les deux pinces peut être le total de la tension à vide des deux machines.
  - f. Si on utilise la machine à souder comme une source de courant pour soudage semi-automatique, ces précautions pour le porte-électrode s'appliquent aussi au pistolet de soudage.
2. Dans le cas de travail au dessus du niveau du sol, se protéger contre les chutes dans le cas où on reçoit un choc. Ne jamais enrouler le câble-électrode autour de n'importe quelle partie du corps.
3. Un coup d'arc peut être plus sévère qu'un coup de soleil, donc:
  - a. Utiliser un bon masque avec un verre filtrant approprié ainsi qu'un verre blanc afin de se protéger les yeux du rayonnement de l'arc et des projections quand on soude ou quand on regarde l'arc.
  - b. Porter des vêtements convenables afin de protéger la peau de soudeur et des aides contre le rayonnement de l'arc.
  - c. Protéger l'autre personnel travaillant à proximité au soudage à l'aide d'écrans appropriés et non-inflammables.
4. Des gouttes de laitier en fusion sont émises de l'arc de soudage. Se protéger avec des vêtements de protection libres de l'huile, tels que les gants en cuir, chemise épaisse, pantalons sans revers, et chaussures montantes.
5. Toujours porter des lunettes de sécurité dans la zone de soudage. Utiliser des lunettes avec écrans latéraux dans les zones où l'on pique le laitier.
6. Eloigner les matériaux inflammables ou les recouvrir afin de prévenir tout risque d'incendie dû aux étincelles.
7. Quand on ne soude pas, poser la pince à un endroit isolé de la masse. Un court-circuit accidentel peut provoquer un échauffement et un risque d'incendie.
8. S'assurer que la masse est connectée le plus près possible de la zone de travail qu'il est pratique de le faire. Si on place la masse sur la charpente de la construction ou d'autres endroits éloignés de la zone de travail, on augmente le risque de voir passer le courant de soudage par les chaînes de levage, câbles de grue, ou autres circuits. Cela peut provoquer des risques d'incendie ou d'échauffement des chaînes et des câbles jusqu'à ce qu'ils se rompent.
9. Assurer une ventilation suffisante dans la zone de soudage. Ceci est particulièrement important pour le soudage de tôles galvanisées plombées, ou cadmiées ou tout autre métal qui produit des fumées toxiques.
10. Ne pas souder en présence de vapeurs de chlore provenant d'opérations de dégraissage, nettoyage ou pistolage. La chaleur ou les rayons de l'arc peuvent réagir avec les vapeurs du solvant pour produire du phosgène (gas fortement toxique) ou autres produits irritants.
11. Pour obtenir de plus amples renseignements sur la sûreté, voir le code "Code for safety in welding and cutting" CSA Standard W 117.2-1974.

## PRÉCAUTIONS DE SÛRETÉ POUR LES MACHINES À SOUDER À TRANSFORMATEUR ET À REDRESSEUR

1. Relier à la terre le châssis du poste conformément au code de l'électricité et aux recommandations du fabricant. Le dispositif de montage ou la pièce à souder doit être branché à une bonne mise à la terre.
2. Autant que possible, l'installation et l'entretien du poste seront effectués par un électricien qualifié.
3. Avant de faire des travaux à l'intérieur de poste, la débrancher à l'interrupteur à la boîte de fusibles.
4. Garder tous les couvercles et dispositifs de sûreté à leur place.

**Thank You** — for selecting a **QUALITY** product by Lincoln Electric. We want you to take pride in operating this Lincoln Electric Company product •• as much pride as we have in bringing this product to you!

**Please Examine Carton and Equipment For Damage Immediately**

When this equipment is shipped, title passes to the purchaser upon receipt by the carrier. Consequently, Claims for material damaged in shipment must be made by the purchaser against the transportation company at the time the shipment is received.

Please record your equipment identification information below for future reference. This information can be found on your machine nameplate.

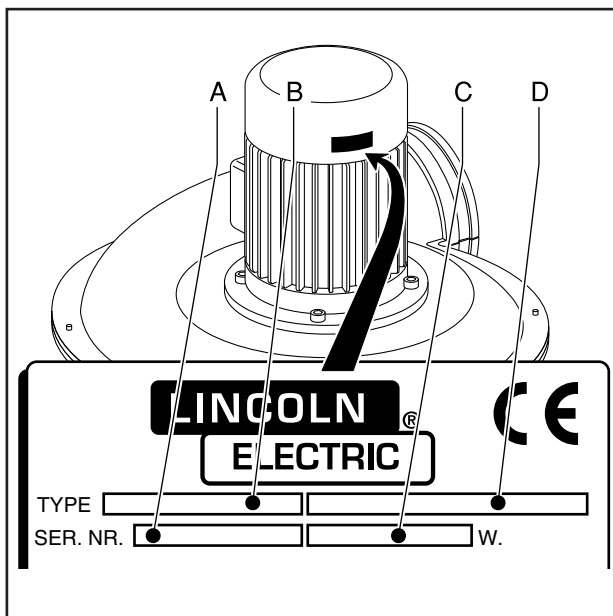
Model Name & Number \_\_\_\_\_

Code & Serial Number \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Whenever you request replacement parts for or information on this equipment always supply the information you have recorded above.

**Read this Operators Manual completely** before attempting to use this equipment. Save this manual and keep it handy for quick reference. Pay particular attention to the safety instructions we have provided for your protection. The level of seriousness to be applied to each is explained below:



**The identification plate specifies:**

- A. Serial number
- B. Product name
- C. Power consumption
- D. Supply voltage and frequency

**⚠ WARNING**

This statement appears where the information **must** be followed **exactly** to avoid **serious personal injury** or **loss of life**.

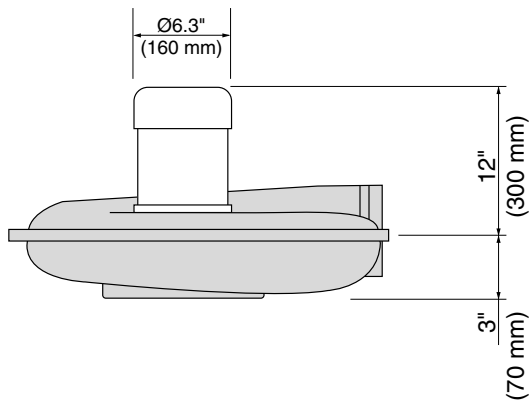
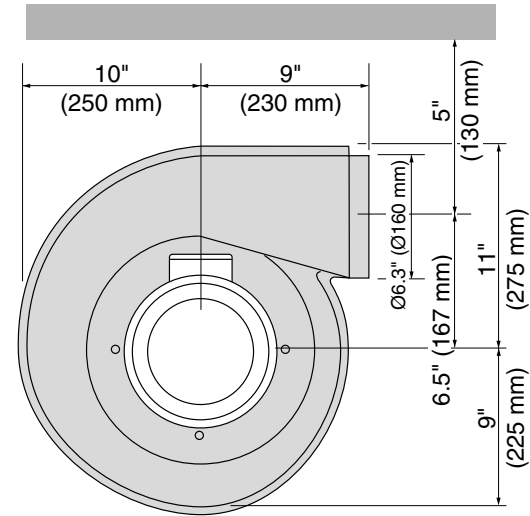
**⚠ CAUTION**

This statement appears where the information **must** be followed to avoid **minor personal injury** or **damage to this equipment**.

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## Technical Specifications- SF2400 Stationary Fan



### GENERAL

<b>Sales Spec.</b>	K1656-1
<b>Input Voltage</b>	115V, 1 Ph, 60 Hz
<b>Rated Current Draw</b>	9.4 A
<b>Power Rating</b>	0.75 kW
<b>Sound Level</b>	69 dB(A)
<b>Weight</b>	28 lbs. (14 kg)

### AMBIENT CONDITIONS

<b>Min. Temperature</b>	41°F (5°C)
<b>Max. Temperature</b>	113°F (45°C)
<b>Max. Rel. Humidity</b>	80%

**NOTE:** Technical Specifications are subject to change without prior notice. Specifications and guarantees are valid only when specified spare parts and filters are used.

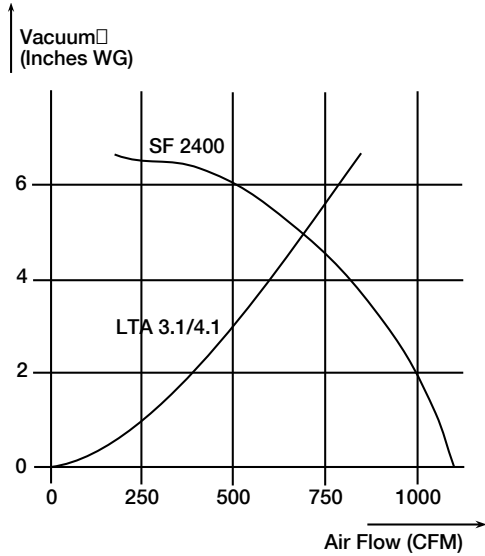
SF2400 STATIONARY FAN



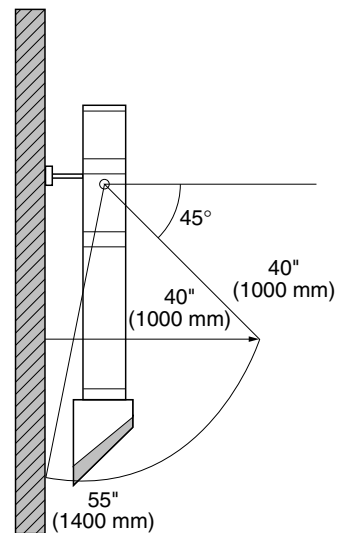
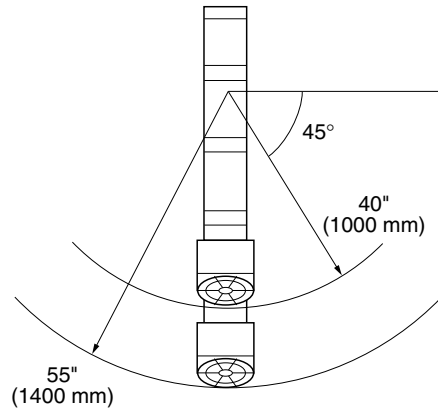
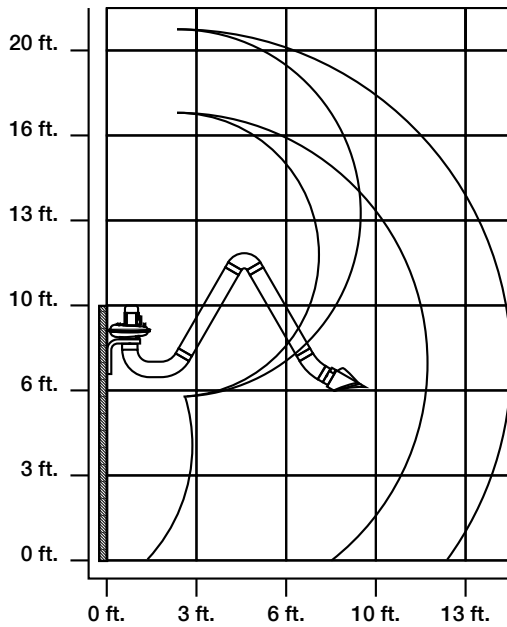
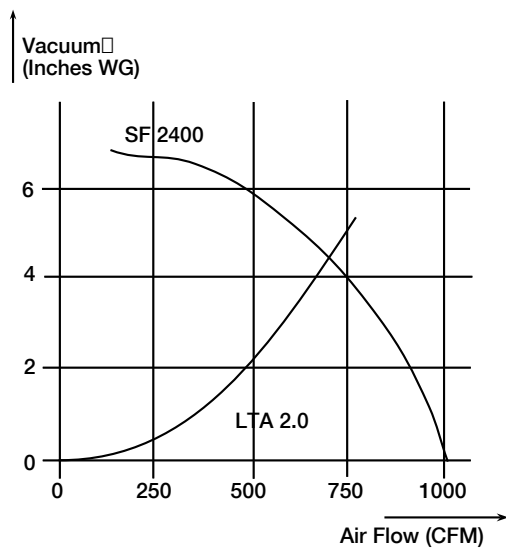


Technical Specifications- SF2400 Stationary Fan

**PRESSURE DROP**  
**SF2400 Fan and LFA 3.1/4.1 Arms**  
 Vacuum (inches WG) vs. Airflow (CFM)



**PRESSURE DROP**  
**SF2400 Fan and LTA 2.0 Arm**  
 Vacuum (inches WG) vs. Airflow (CFM)



SF2400 STATIONARY FAN



Read this entire installation section before you start installation.

## SAFETY PRECAUTIONS

Do not attempt to use this equipment until you have thoroughly read all installation, operating and maintenance information supplied with your equipment. They include important safety precautions and detailed operating and maintenance instructions.

### ⚠ WARNING



#### ELECTRIC SHOCK can kill.

- Do not touch electrically live parts such as internal wiring.
- Turn the input power off at the fuse box before working on this equipment.
- Have a qualified person install and service this equipment.



#### MOVING PARTS can injure.

- Do not operate with covers open or filter removed.
- Keep away from moving parts.

Only qualified personnel should install, use or service this equipment.

## GENERAL DESCRIPTION

The K1656-1 SF2400 Stationary Fan provides a low vacuum, high volume airflow for fume extraction and ventilation applications. It is intended for use with large diameter (6-8 in.) flexible arms or hoods.

The SF2400 fan is most commonly used with the LFA 3.1/4.1, 10 ft. and 13 ft. spring-balanced, articulated arms or LTA 2.0, 3-5 ft. Telescopic Arm (for small booth or workstation applications). Extracted air can be vented outside through an Air Exhaust Silencer, or filtered through a Statiflex 200-M Wall-Mounted Filter Unit. The Starter/Overload Switch for the SF2400 Extraction Fan protects the motor against overcurrent. The optional Lamp Kit for Wall-Mounted Systems provides a work lamp, remote hood-mounted switches for the lamp and extraction fan, and overload protection, (thus replacing the starter/overload switch). The Automatic Start/Stop Arc Sensor can be installed with the Lamp Kit to turn the extraction fan on and off automatically when an arc flash is detected. Extension Cranes in 7ft. and 14 ft. lengths, and a Feeder Hanging Rail for use with extension cranes further expand system possibilities.

#### Available Equipment:

- K1655-1 LFA 3.1, 10 ft. Extraction Arm
- K1655-2 LFA 4.1, 13 ft. Extraction Arm
- K1655-3 LTA 2.0, Telescopic Extraction Arm
- K1534-2 Air Exhaust Silencer
- K1654-1 Statiflex 200-M, Wall-mounted Filter Unit
- K1494-2 Starter/Overload Switch  
(unnecessary if using a K1669-2 Lamp Kit)
- K1669-2 Lamp Kit for Wall-Mounted Systems  
(replaces K1494-2 Starter/OL Switch)
- K1670-1 Automatic Start/Stop Arc Sensor  
(requires K1669-2 Lamp Kit)
- K1671-1 Extension Crane, 7 ft.
- K1671-2 Extension Crane, 14 ft.
- K1672-1 Feeder Hanging Rail for Extension Crane

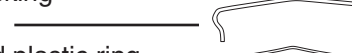

## INSTALLING WITH AN LFA 10FT. OR 13FT. WALL-MOUNTED PACKAGE

### ⚠ WARNING

The installer is responsible for following local safety codes and regulations.

Before drilling, verify locations of existing gas, water, or electrical conduits.

#### K1655-1 LFA 3.1 or K1655-2 LFA 4.1 Arm Includes:

- Assembled arm, 2 sections
- Flexible hose, (2) 8" Rubber seals for hood hinge
- Hood assembly
- (2) Bolts, M8x1.25, 45mm long (about 1.75")
- (2) Nuts, M8 self-locking
- Hose running guard 
- Clamping pin for red plastic ring 
- Metal rotating hinge
- Red plastic ring

#### K1657-1 Wall Mounting Bracket Includes:

- (2) Bracket pieces
- Hanging Adapter
- Spring Bracket
- Flexible Hose, (2) 8" Rubber bands for arm base
- (2) Bolts, M8x1.25, 45mm long (about 1.75")
- (4) Bolts, M8x1.25, 75mm long (about 3.00")
- (6) Nuts, M8 self-locking
- (6) Washers, M8

#### K1656-1 SF2400 Stationary Fan Includes:

- SF2400 Stationary Fan
- (2) Bolts, M8x1.25, 20mm long (about 0.75")
- (2) Bolts, M8x1.25, 65mm long (about 2.50")
- (4) Washers, M8

Note: K1494-2 Starter/Overload or K1669-2 Lamp Kit must be installed with this package. See the installation section later in this manual for details on installing this equipment.

SF2400 STATIONARY FAN



## INSTALLING WITH AN LFA 10FT. OR 13FT. WALL-MOUNTED PACKAGE

(continued)

### MOUNTING THE WALL-MOUNTING BRACKET

(continued)

Standard mounting height is approximately 8 ft., 2 in. from the floor to the top of the wall mounting bracket. Refer to Fig. 1 for drilling dimensions.

Refer to the Fig. 2 for recommended mounting methods for installation on various wall types.

- Mounting on a thin wall (recommended minimum wall thickness 5 in. (100 mm)), using four threaded rods, 3/8 in. (M10)
- Mounting on a thick wall using four cotter bolts 3/8 in. (M10)
- Mounting on a steel I-beam using four threaded rods 3/8 in. (M10) and two box-profile stabilizers (1x1x0.1 in., 30x30x3)

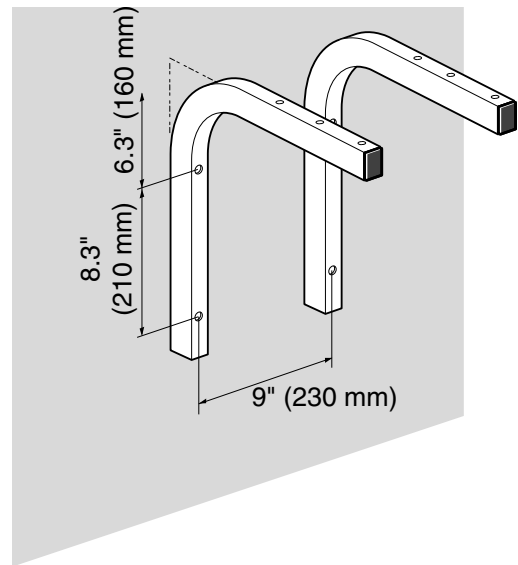


Fig. 1

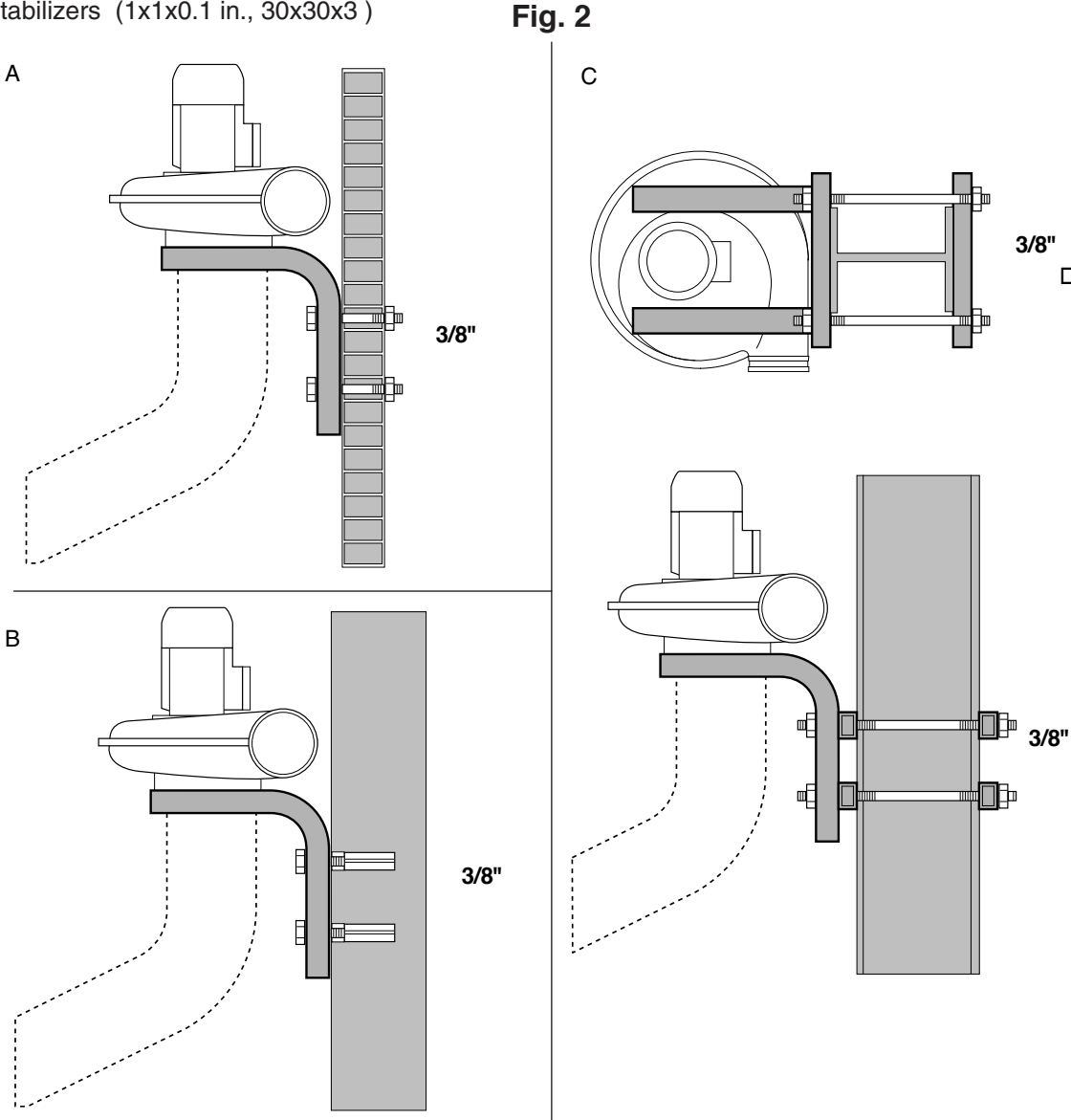


Fig. 2

SF2400 STATIONARY FAN

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## INSTALLING WITH AN LFA 10FT. OR 13FT. WALL-MOUNTED PACKAGE

(continued)

### MOUNTING THE LFA 3.1 OR 4.1 ARM TO THE WALL-MOUNTING BRACKET

Leave the tape and plastic packaging on the extraction arm sections until the arm is completely installed (including mounting the hood). The arm is spring-balanced to compensate for the weight of the hood and will spring out quickly if it is not mounted securely, with the hood in place.

The rotating hinge of the arm comes in three pieces: Metal rotating hinge, red plastic ring, and clamping pin. Refer to Figure 3. Mount the red plastic ring to the metal rotating hinge by fitting the clamping pin through the hole in the rotating rod, and snapping it into place on the U-shaped indents on the red plastic ring. The lip of the ring should fit securely against the top edge of the rotating flange, yet rotate with the rod. The assembly should look like Part C in Figure 4.

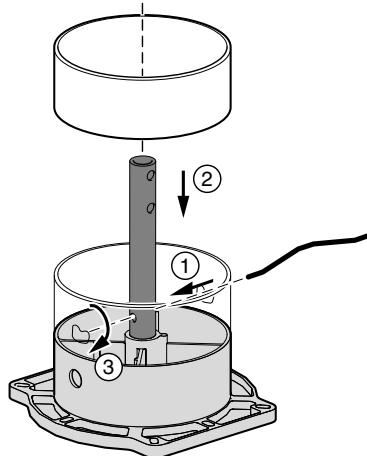


Fig. 3

Position the rotating hinge on the wall mounting bracket (See Fig. 4) so that the cable hole (Fig. 4A) is on the wall side and the long side of the pin (Fig. 4B) is in the front. Use the four 3" bolts with washers and nuts to secure the rotating hinge.

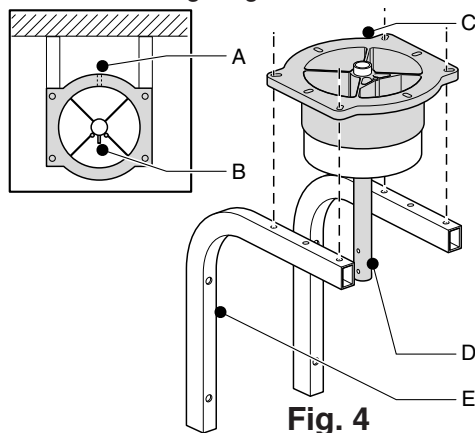


Fig. 4

Mount the hanging adapter (Fig. 5D) to the hinge rod (Fig. 5C) using (2) 1.75" bolts with washers and nuts. Mount the spring bracket (Fig. 5F) into the two holes as shown. Position one 8" rubber seal (Fig. 5A) on the red plastic ring. Roll the bottom half up and slide the connecting hose (Fig. 5E) over the bottom of the red plastic ring. Roll the bottom of the rubber seal down over the end of the connection hose.

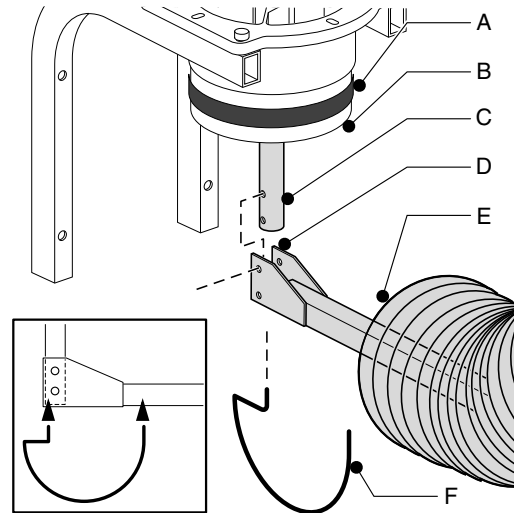


Fig. 5

Put another rubber band on the base of the arm. Use (2) 1.75" bolts with nuts to mount the arm (Fig. 6B) to the hanging adapter (Fig. 6A), using both mounting holes as shown in the inset of Figure 6.

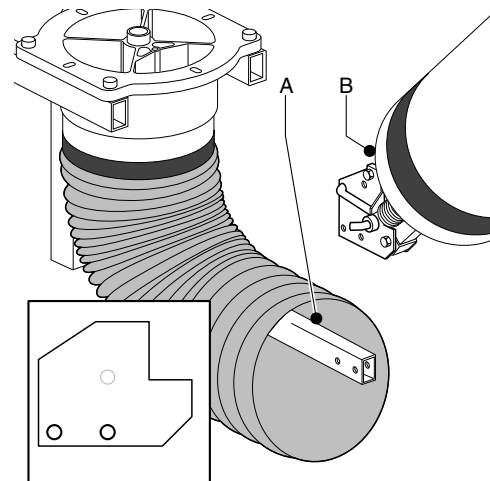


Fig. 6

SF2400 STATIONARY FAN

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## INSTALLING WITH AN LFA 10FT. OR 13FT. WALL-MOUNTED PACKAGE

(continued)

### MOUNTING THE LFA 3.1 OR 4.1 ARM TO THE WALL-MOUNTING BRACKET

(continued)

Position one 8" rubber seal (Fig. 7B) and the flexible hose supplied with the arm (Fig. 7C) on the hood end of the arm (Fig. 7A). Put the last rubber seal on the hood connection. Mount the friction block into the U-section, using one bolt and nut as shown in Figure 7.

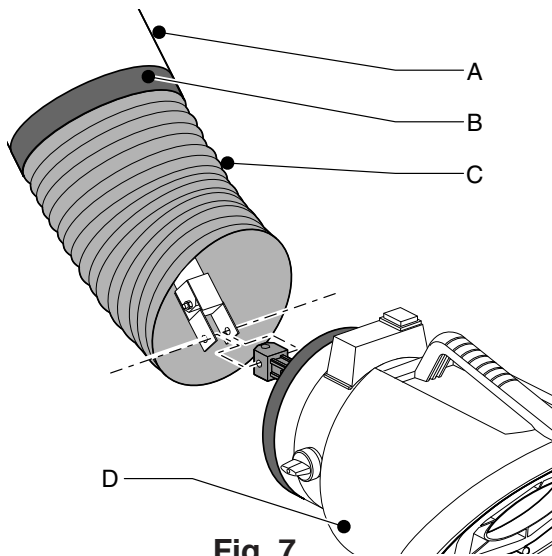


Fig. 7

Snap the hose running guard into place atop the middle hinge section so the "nose" end faces the base of the arm as shown in Figure 8.

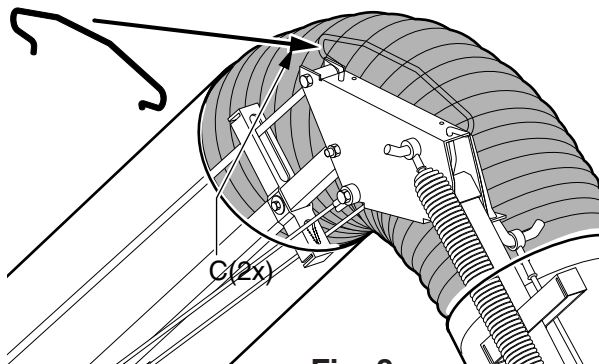


Fig. 8

Remove the plastic and tape from the arm sections. Adjust the friction of the arm and hood movement as described in the Maintenance Section of the LFA Extraction Arm Manual.

### MOUNTING THE SF2400 FAN TO THE WALL MOUNTING BRACKET

Use the (2) 0.75" bolts and the (2) 2.5" bolts with washers supplied with the fan to mount the fan (Fig. 9B) to the rotating hinge (Fig. 9C) as shown. Tighten all mounting bolts firmly to make the seal at the inlet of the fan.

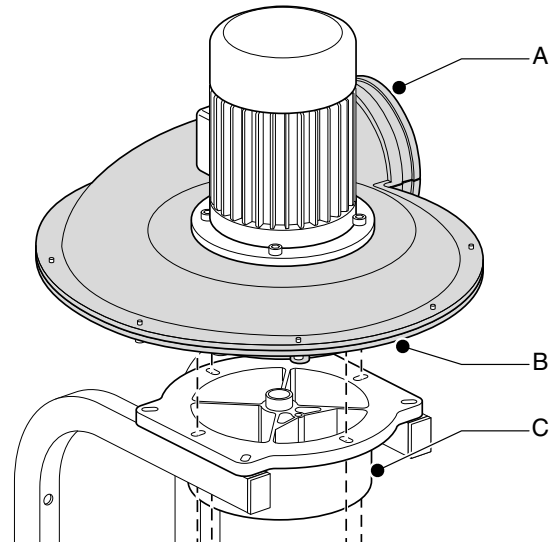


Fig. 9

The K1494-2 Starter/Overload Switch or K1669-2 Lamp Kit must be installed to provide power to the fan. Refer to the appropriate Installation section in this manual for details.

## INSTALLING WITH AN LTA 2.0, 3-5 FT. TELESCOPIC ARM

### ⚠ WARNING

The installer is responsible for following local safety codes and regulations.

Before drilling, verify locations of existing gas, water, or electrical conduits.

#### K1655-3 LTA 2.0 Telescopic Arm Includes:

- Telescopic arm, assembled
- (1) Flexible hose, (2) 8" Rubber seals for connection to fan

#### K1657-1 Wall Mounting Bracket Includes:

- (2) Bracket pieces
- Tapered Connection Flange
- 8" Hose Clamp

#### K1656-1 SF2400 Stationary Fan Includes:

- SF2400 Stationary Fan
- (2) Bolts, M8x1.25, 20mm long (about 0.75")
- (2) Bolts, M8x1.25, 65mm long (about 2.50")
- (4) Washers, M8

Note: K1494-2 Starter/Overload or K1669-2 Lamp Kit must be installed with this package. See the appropriate Installation section in this manual for details on this equipment.

### MOUNTING THE MOTOR-MOUNTING BRACKET AND TELESCOPIC ARM

Disconnect the telescopic mounting bracket from the arm before mounting, by removing the 1.75" bolt (Fig. 12C), and sliding the post out of the friction block.

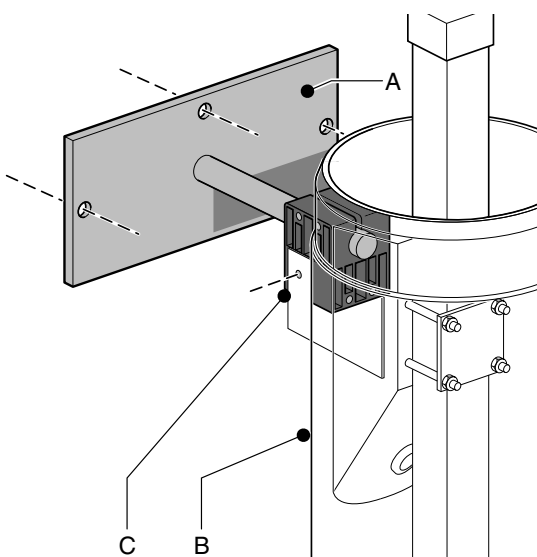


Fig. 10

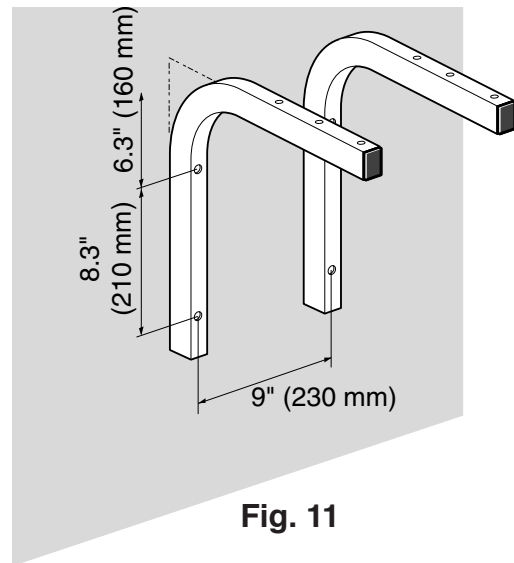


Fig. 11

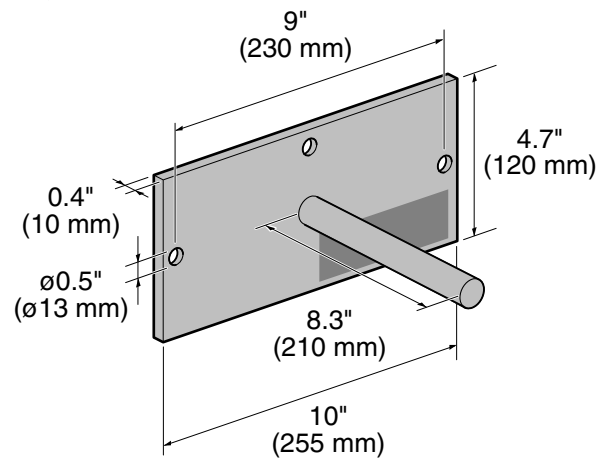


Fig. 12

Drill (5) holes (Reference Figures 11, 12, 13).

Mount the motor mounting bracket and the telescopic mounting bracket to the wall. Standard mounting height is 5 ft., 3 in. (1300 mm) from the work table to the post of the telescopic mounting bracket. Refer to Figures 11 and 12 for drilling dimensions.

Refer to Figure 2 for information on mounting methods for installation on various wall types.

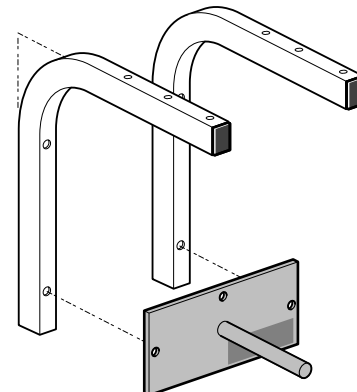


Fig. 13

SF2400 STATIONARY FAN

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## INSTALLING WITH AN LTA 2.0, 3-5 FT. TELESCOPIC ARM

(continued)

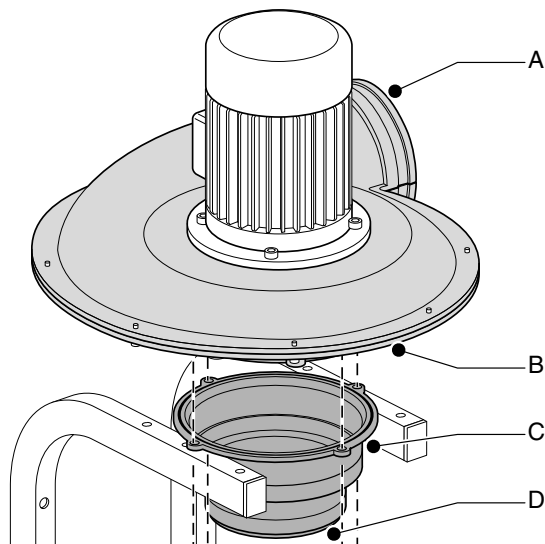
### MOUNTING THE MOTOR-MOUNTING BRACKET AND TELESCOPIC ARM

(continued)

Remount the telescopic arm on the telescopic mounting bracket by sliding the friction block over the post of the bracket and securing with the 1.75" bolt and nut (Refer to Figure 10).

### MOUNTING THE EXTRACTION FAN TO THE MOTOR MOUNTING BRACKET

Position the tapered connection flange (Fig. 14C) on the motor mounting brackets; use the (2) 0.75" and (2) 2.5" bolts with washers (supplied with the fan) to secure the fan (Fig. 14B) and the connection flange to the motor mounting brackets. Tighten all bolts securely to make a good seal on the inlet of the fan.



**Fig. 14**

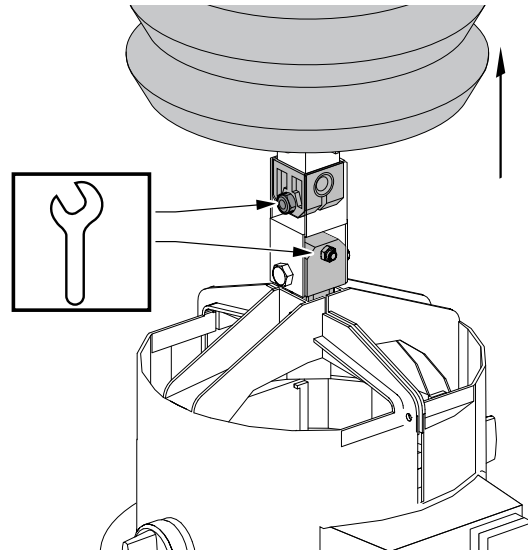
Position one of the 8" rubber seals supplied with the arm on the largest part (8" diam.) of the tapered connection flange. Roll the bottom of the rubber seal up, and slide one end of the 4 ft. connection hose (supplied with the arm) up over the tapered connection flange until it butts up against the folded side of the rubber seal. Fold the rubber seal down over the hose. Secure the connection with one 8" hose clamp. Apply the other 8" rubber seal and the other end of the hose to the top of the telescopic arm tube.

The K1494-2 Starter/Overload Switch or K1669-2 Lamp Kit must be installed to provide power to the fan. Refer to the appropriate Installation section in this manual for details.

### ADJUSTING THE FRICTION POSITIONING

The amount of friction resistance should be set such that the arm is comfortable to move (always test both up and down movements), yet hold its position against gravity once positioned.

To adjust the friction resistance of the hood movement, fold back the rubber band onto the hood, and push up the flexible hose, exposing the connection blocks. Use an 8mm wrench to adjust both bolt/nut pairs as shown in Fig. 15.



**Fig. 15**

## INSTALLING WITH AN LTA 2.0, 3-5 FT. TELESCOPIC PACKAGE

(continued)

### ADJUSTING THE FRICTION POSITIONING (continued)

The amount of friction resistance should be set such that the arm is comfortable to move (always test both up and down movements), yet hold its weight against gravity once positioned.

To adjust the friction setting for side to side movement of the arm, use the top two bolt/nut sets on the rotating hinge (Fig. 16A).

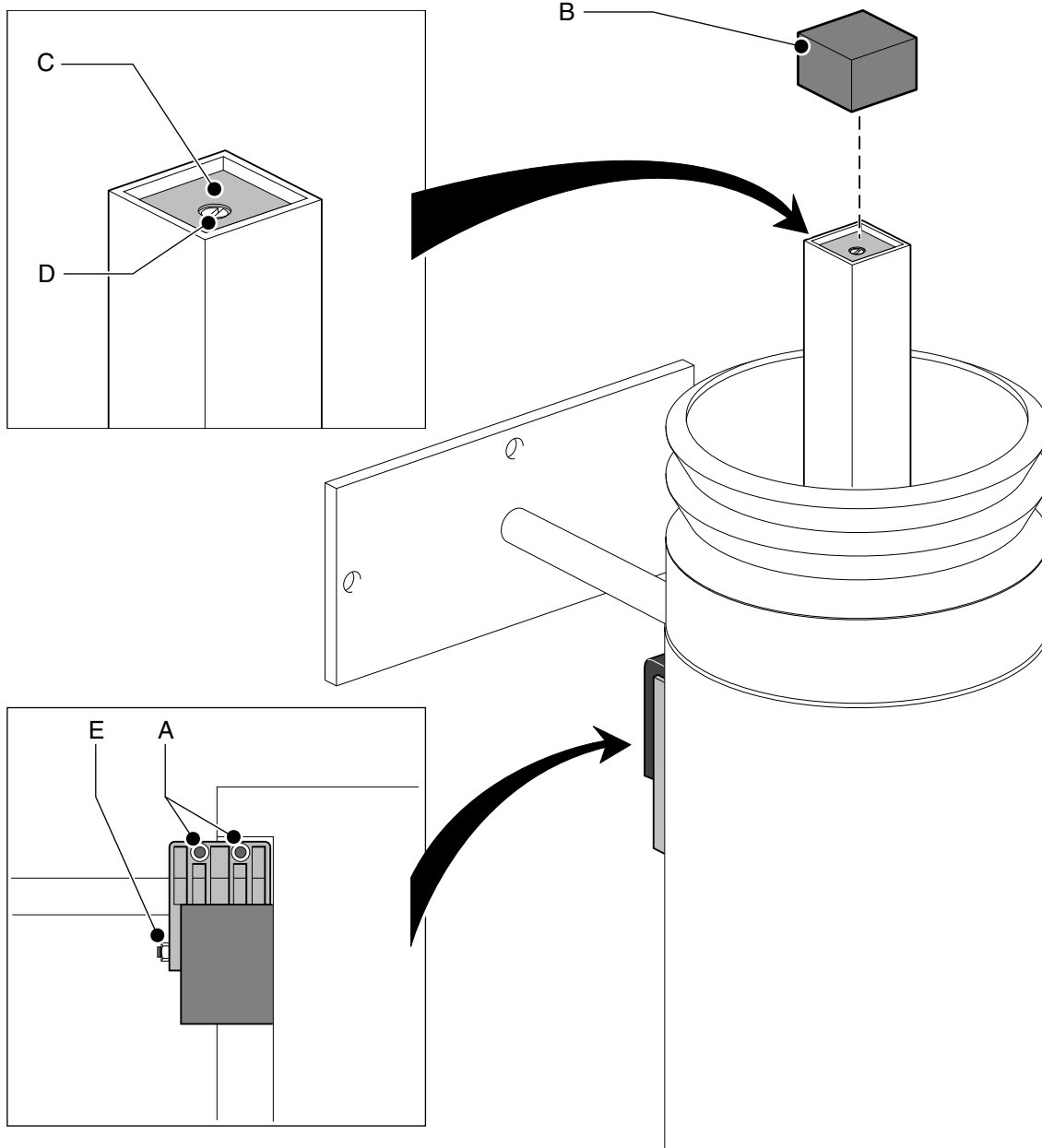
To adjust the friction setting for front to back movement, adjust the front bolt/nut set (Fig. 16E) on the rotating hinge.

To adjust the friction setting for the telescopic motion of the arm, remove the black cap (Fig. 16B) and turn the set screw (Fig. 16D):

Counterclockwise to increase friction and  
Clockwise to decrease it.

NOTE: Friction is only applied to the telescopic movement when pulling the hood down; gravity provides resistance when lifting the hood.

Fig. 16



SF2400 STATIONARY FAN

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## INSTALLING THE SILENCER

The K1534-2 6" silencer can be used on the outlet of the SF2400 stationary fan to reduce airflow noise levels.

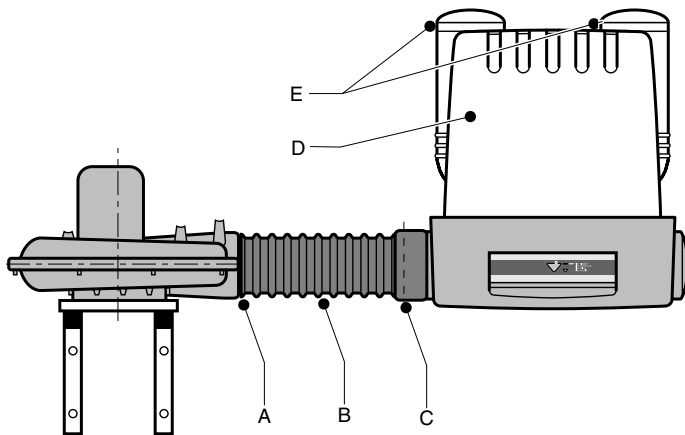
The K1534-2, 6" Air Exhaust Silencer Includes:

- Air Exhaust Silencer, with 6" (160 mm) connections
- Elbow, 90°, with 6" (160 mm) connections
- (2) Fittings, to fit on the OD of the:
  - Outlet of the SF2400 Fan
  - Elbow, 90°
  - Air Exhaust Silencer

Install the silencer and the connecting ductwork into the outlet of the fan. If venting extracted air outside, apply the supplied ductwork between the fan and silencer, then use 160 mm (6.3 in.) ductwork or flexible hose to route the exhausted air outside through a hole in the wall or roof.

## INSTALLING THE OPTIONAL STATIFLEX 200-M

The Statiflex 200-M Wall-Mounted Filter Unit can be installed to filter the exhausted air before it is recirculated or exhausted outside. The Air Exhaust Silencer is unnecessary when a Statiflex 200-M Filter is used.



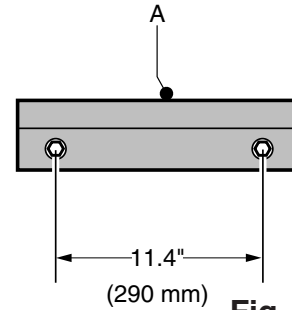
The K1654-1 Statiflex 200-M Filter Unit Includes:

- Complete Filter Unit, with filter installed and inlet(s) and outlet(s) sealed
- Reducer, 6"-8"
- 8" Connection hose, 4 ft. long
- (2) 8" Hose Clamps

Fit the small (6" diam.) side of the 6"-8" Reducer over the outlet of the SF2400 Fan (See A); be sure to slide the Reducer all the way over the rubber seal. Secure with three sheet-metal screws through the reducer into the plastic-molded fan outlet.

Fit one end of the 8" Connection hose (See B) over the larger side of the 6"-8" Reducer. Secure with one 8" hose clamp.

Mount the Statiflex mounting bracket (Fig. 17A) to the wall where convenient with the following in mind:



**Fig. 17**

- Access to the filter (for maintenance) is by lifting the large red cover over the (internal) filter. The easiest method is to lift the entire filter unit off the mounting bracket (about 2-4" higher than its mounting height) and set it down on the floor, then perform any necessary maintenance.

- The 8" connection hose must reach (comfortably) the inlet of the Statiflex 200-M; the inlet (when mounted) is approximately 10 in. off the left side of the Statiflex mounting bracket.

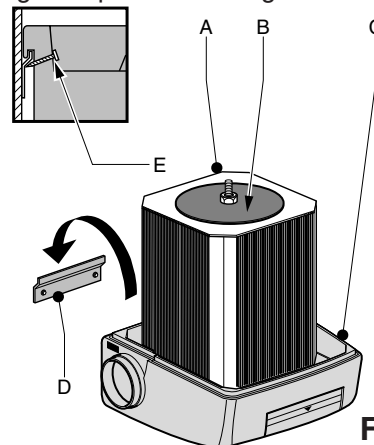
- The Statiflex 200-M may be mounted on either side of the fan, as long as the connection hose reaches from the outlet of the fan to the inlet of the Statiflex 200-M.

- Recommended mounting height of the Statiflex mounting bracket is less than 7 ft. from the floor to the drilled holes. It is recommended to mount the bracket about 30-36 in. off the outlet of the fan (to the right).

Before lifting the Statiflex 200-M Filter Unit onto the mounting bracket:

- Cut the left inlet (or right, depending on which side of the fan it is to be mounted) open (See C). A hacksaw or multi-purpose power saw may be used.
- Unscrew the thumb nut and remove the filter cover (See D). Cut one or both outlet openings (See E) open. Replace the filter cover and thumb nut.

Lift the Statiflex 200-M onto the mounting bracket; refer to Figure 18. The installation may be made permanent by running (2) self-tapping screws (Fig. 18E) in through the plastic base against the wall bracket.



**Fig. 18**

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## INSTALLING THE STARTER/OVERLOAD SWITCH

The K1494-2 Starter/Overload switch is used to turn on and off the SF2400 Stationary fan. It is unnecessary if using a K1669-2 Lamp Kit.

Mount the switch to the wall in a location convenient to the operator.

Route a 120VAC, 1ph, 60hz supply cable into the switch compartment, and a power cable between the switch and the extraction fan. Have a qualified electrician make connections per the wiring diagram in the back of this manual. Set the Overload to 10.0A.

## INSTALLING THE OPTIONAL LAMP KIT AND AUTOMATIC START/STOP ARC SENSOR

An optional K1669-2 Lamp Kit for wall-mounted units provides hood-mounted switches for both lamp and SF2400 Extraction Fan. It is used in place of the Starter/Overload switch, and can be combined with a K1670-1 Automatic start/stop arc sensor to automatically switch the extraction fan on and off when it senses an arc. Installation instructions include directions for mounting both the Lamp Kit and Sensor. If not installing the Auto start/stop feature, skip steps as indicated.

The K1669-2 Lamp Kit includes:

- Work Lamp (WL)
- 36 ft. Connection Cable (NCW 11)
- Connection Box (CB)
- Thermal Relay, 8-12.5A (NTR)

Pop out the sealing plate (Fig. 19A) on the top of the hood with a screwdriver. Remove the six screws (Fig. 19C) and the airflow focus vanes (Fig. 19B). Open the airflow throttle valve (Fig. 19D).

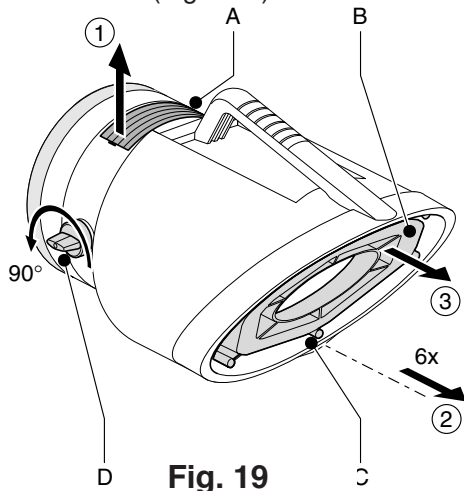


Fig. 19

**If installing the Automatic start/stop arc sensor:**

Use a small phillips-head screwdriver to remove the six screws that hold the lamp housing (Fig. 20A) together. Insert the sensor (Fig. 20B) as shown. Route the leads through the lamp housing and out with the lamp leads as shown in Figure 20. Reclose the lamp housing using the six screws.

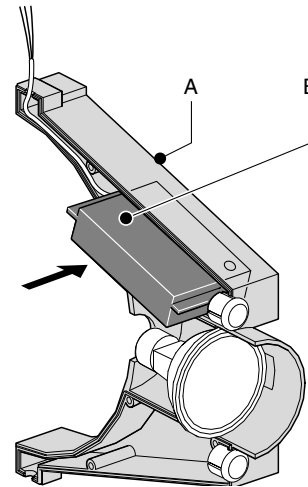


Fig. 20

Feed the lamp and/or sensor leads through the hole (Fig. 21A) in the top of the hood, and snap the lamp holder into place, top end first. Remount the airflow focus vanes in the open end of the hood.

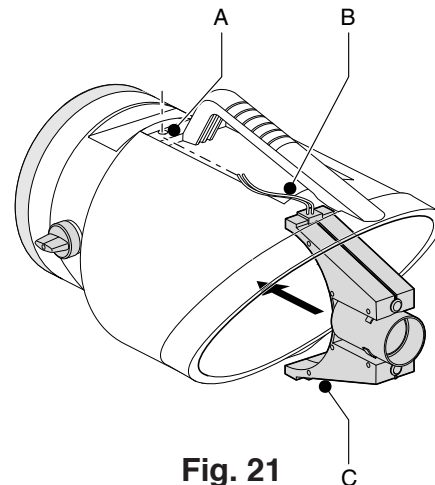


Fig. 21

### INSTALLING THE OPTIONAL LAMP KIT AND AUTOMATIC START/STOP ARC SENSOR

(continued)

Roll back the rubber seals on each flexible hose joint in the arm, to allow access to the arm mechanism. Feed the 36 ft. connecting cable through the hole in the hood (Fig. 22B).

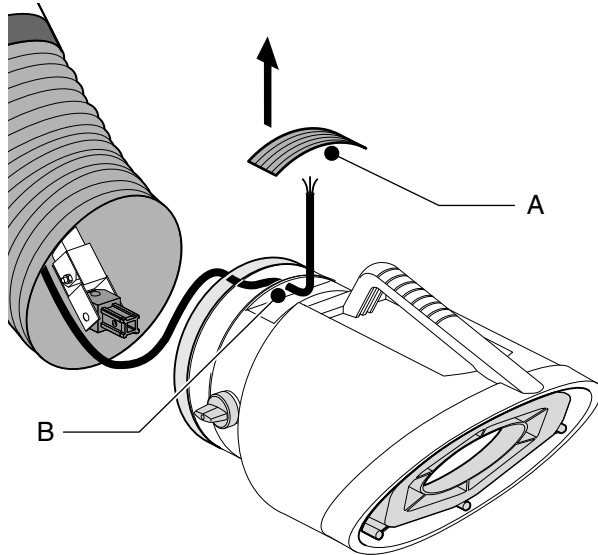


Fig. 22

#### If installing with an LTA 2.0 Telescopic Arm:

With the arm fully extended, route the 36 ft. connecting cable through the arm, securing it to the guide arm in two places with cable ties as shown in Figure 24. Exit the arm through the hole near the rotating hinge (Fig. 24A); use a knife to cut an X-pattern in the grommet as shown in the inset. Loosely secure the cable to the post of the mounting bracket as shown.

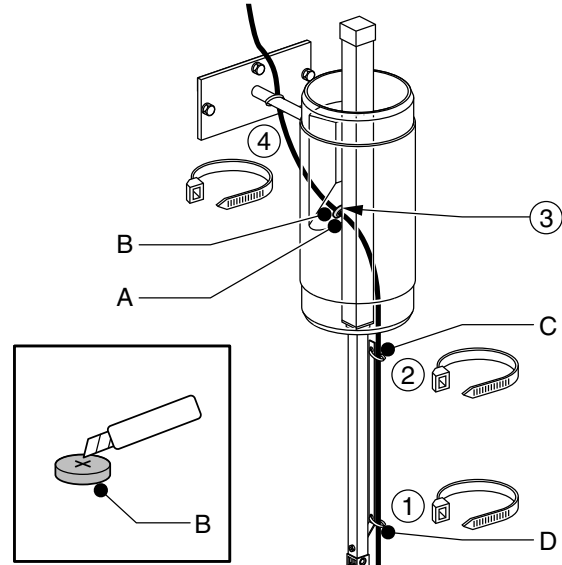


Fig. 24

Have a qualified electrician connect the 36 ft. connecting cable, lamp cable, and sensor cable (if used) to the control board (Fig. 23B). Snap the board onto the bottom of the remote switch (Fig. 23C). Snap the switch box (Fig. 23A) into the top of the hood by squeezing the front and back.

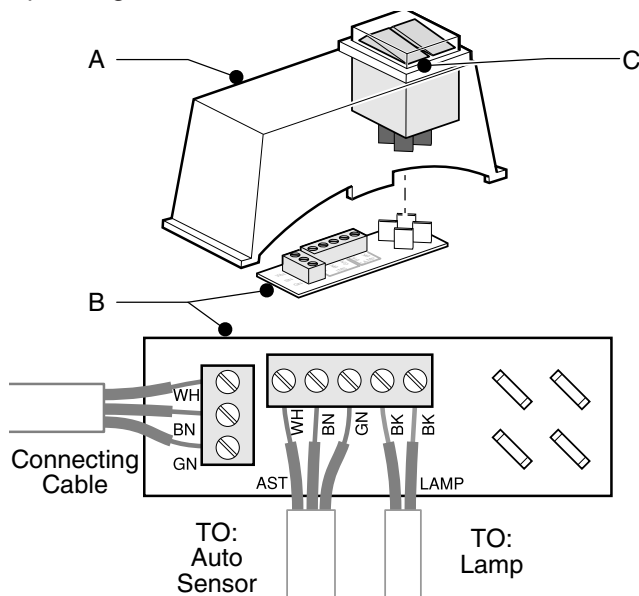


Fig. 23

# INSTALLING THE OPTIONAL LAMP KIT AND AUTOMATIC START/STOP ARC SENSOR

(continued)

## If installing with a 10 ft. or 13 ft. Arm:

Route the 36 ft. connecting cable through the four cable holders in the arm (Fig. 26D). Leave plenty of slack at each hinge (Fig. 26A) (22 in. at the middle hinge).

Secure the cable in the cable holders (Fig. 26-Inset), and use wire ties at the hinge as shown in Fig. 25. Exit the arm through the cable hole in the rotating hinge; use a knife to cut a small X-pattern in the grommet as shown in Figure 24.

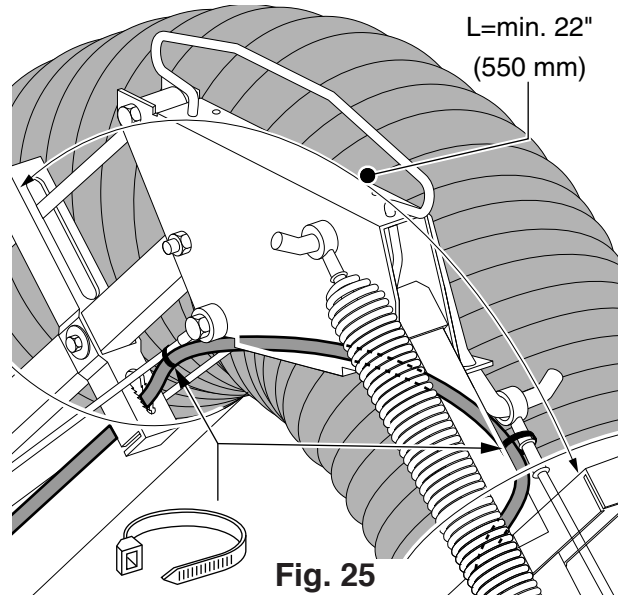


Fig. 25

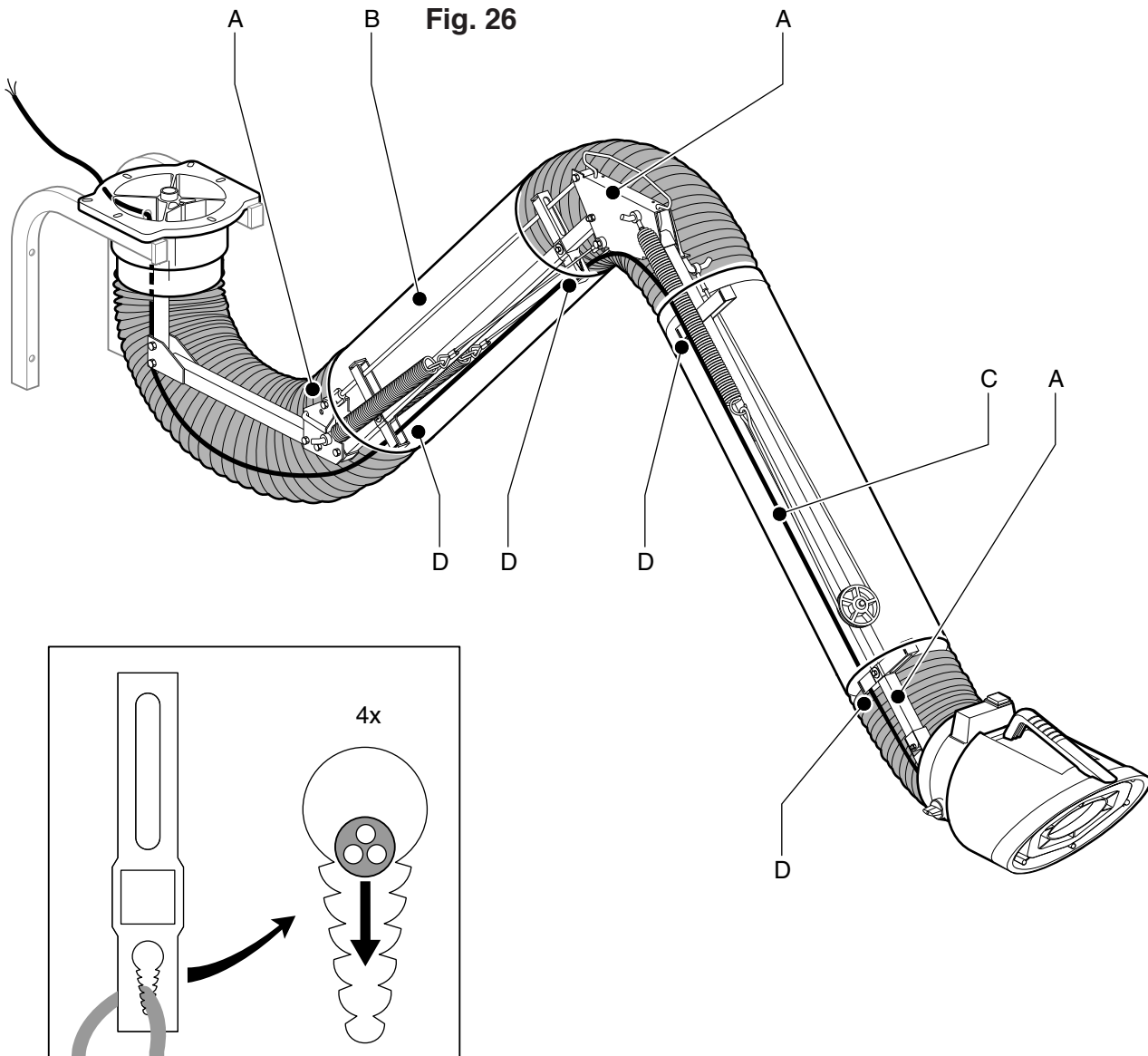


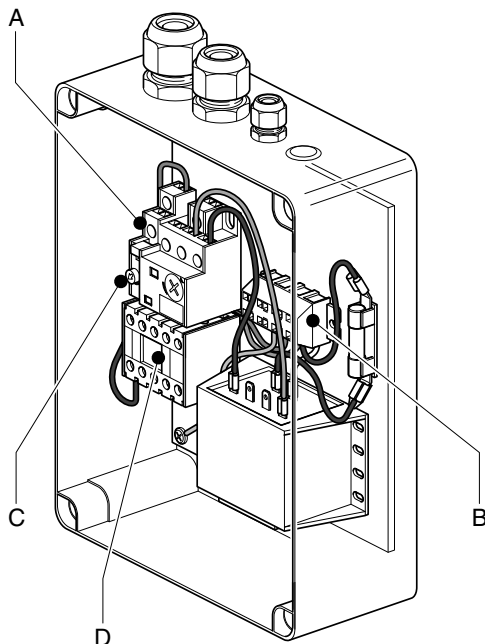
Fig. 26

## INSTALLING THE OPTIONAL LAMP KIT AND AUTOMATIC START/STOP ARC SENSOR

(continued)

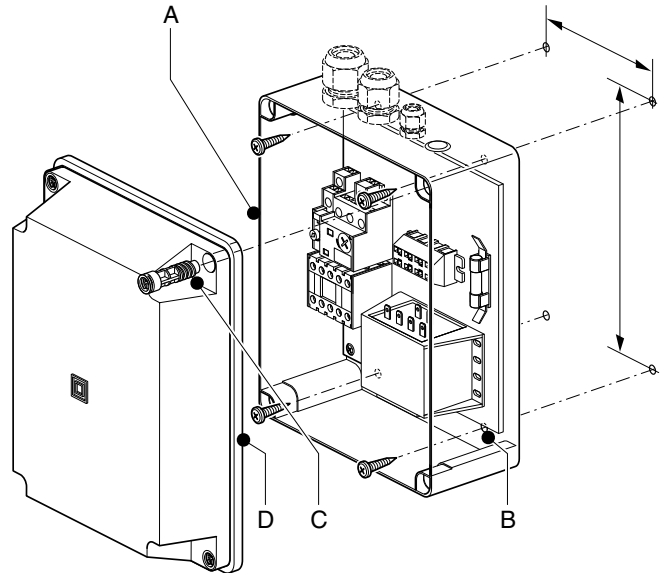
### INSTALLING THE CONTROL BOX

Mount the Thermal Relay (Fig. 27A) to the Contactor (Fig. 27D) by snapping the pin on the bottom of the Thermal Relay into the hole in the top of the Contactor. The three shorting pins at the bottom of the Thermal Relay should connect into terminals 2T1, 4T2, and 6T3 of the Contactor. Tighten the screw connections at 2T1, 4T2, and 6T3, and have a qualified electrician make the remaining connections inside the Control Box per the wiring diagram in the back of this manual. (NOTE the orientation of the control box when referencing Figures 27, 28, and the wiring diagram).



**Fig. 27**

Mount the connection box to the wall using four screws as shown in Figure 28.



**Fig. 28**

Feed a 120VAC, 1ph, 60Hz supply cable into the Control Box. Route a power cable out of the box, to the terminal box on the motor of the SF2400 fan. Route the 36 ft. connection cable into the Control Box. Connect all cables per the wiring diagram in the back of this manual.

Make sure the thermal relay is always in manual operation by setting the blue button (Fig. 27C) at H. Check also that the thermal relay is set to 10.0A.

**PLEASE NOTE:**

It is not necessary to use the K1669-2 Lamp Kit in conjunction with a K1494-2 Starter/Overload Switch.

Read and understand this entire section before operating your SF2400 Stationary Fan System.

## SAFETY INSTRUCTIONS

Do not attempt to use this equipment until you have thoroughly read all operating and maintenance manuals supplied with your equipment and any related welding machine it will be used with. They include important safety precautions, operating and maintenance instructions and parts lists.

### WARNING



#### **ELECTRIC SHOCK can kill.**

- Do not touch electrically live parts such as output terminals or internal wiring.
- Insulate yourself from the work and ground.
- Always wear dry insulating gloves.



#### **WELDING SPARKS can cause fire or explosion.**

- Keep flammable material away.
- Do not weld upon containers which have held combustibles.



#### **ARC RAYS can burn.**

- Wear eye, ear and body protection.



#### **FUMES AND GASES can be dangerous.**

- Although the removal of the particulate matter from welding smoke may reduce the ventilation requirement, concentrations of the clear exhausted fumes and gases may still be hazardous to health. Avoid breathing concentrations of these fumes and gases. Use adequate ventilation when welding. See ANSI Z49.1, "Safety in Welding and Cutting", published by the American Welding Society.

Only qualified personnel should operate this equipment.

## ADDITIONAL SAFETY PRECAUTIONS

Always operate this equipment with the filter and arm installed and all covers in place as these provide maximum protection from moving parts and insure proper vacuum operation and cooling air flow.

## OPERATING INSTRUCTIONS

Use the wall-mounted starter/overload switch or the hood-mounted remote switch (if a lamp kit is installed) to turn on the SF2400 Stationary Fan.

Position hood within 10-15 inches (250-400 mm) of the arc.

#### If using a Lamp Kit:

- The switch on the hood with a lamp symbol operates the work lamp in the hood.
- The 0/1 switch operates the SF2400 Fan.

#### If using an Auto Start/Stop Arc Sensor:

Leave the 0/1 switch in the 0 (off) position. The arc sensor will automatically switch the fan on when it senses an arc. Standard run-out time is approximately 20 sec. The work lamp operates independently of this sensor.

#### If using a Statiflex 200-M filter unit:

**DO NOT USE FOR CUTTING OR GOUGING OPERATIONS.** The Statiflex filter unit is recommended for light duty or intermittent use. Although it can be used in production applications, this may require very frequent maintenance or replacement of the filter cartridge. Use of the Statiflex 200-M disposable filter system is cost effective if consumable use at the station is less than 1500 lbs. per year of solid wire or 1100 lbs. per year of flux-shielded consumables.

#### STATIFLEX FILTER MAINTENANCE INDICATOR

With use, the filter will fill up with collected fume. When using the machine, regularly check the maintenance indicator on the front panel of the machine. The indicator will move gradually from white to red as the filter becomes saturated, letting you know ahead of time how close the filter is to clogging.

When the maintenance indicator shows that the filter is clogged, it is time to replace the filter.

## ROUTINE MAINTENANCE

Every 12 months, have a qualified technician check the blower fan and housing for encrusted particles and clean if necessary. Check the sealing material of the extraction fan and replace if necessary.

If used, refer to the Statiflex 200-M, Extraction arm, Extension crane, Lamp kit, and Auto start/stop arc sensor manuals for required routine maintenance operations.

Observe all Safety Guidelines detailed throughout this manual

SYMPTOM	PROBLEM	SOLUTION
Motor does not start.	<p>No input power.</p> <p>Input cord damaged.</p> <p>Loose contacts.</p> <p>Starter/overload switch damaged or defective.</p> <p>Motor damaged or defective.</p>	<p>Verify 120VAC/60Hz, 1ph input power.</p> <p>Check the integrity of the input cord.</p> <p>Check the contacts.</p> <p>Repair or replace the starter/overload switch in the control panel.</p> <p>Repair or replace the motor.</p>
Motor hums, but no suction.	Motor capacitor defective or not connected.	Replace the motor capacitor.
Motor stops automatically.	<p>Motor overload protection activated.</p> <p>Motor defective or damaged.</p>	<p>Let the machine cool down for a few minutes.</p> <p>Repair or replace the motor.</p>
Poor suction.	<p>Leakage.</p> <p>Outlet grid blocked.</p> <p>Air path in arm blocked.</p> <p>Filter blocked (check Maintenance Indicator).</p> <p>Spark arrester blocked.</p> <p>Blower fan blocked.</p> <p>Fan seal damaged.</p>	<p>Check hose connections and integrity</p> <p>Remove obstructions from outlet grid.</p> <p>Remove obstructions from arm.</p> <p>Replace filter.</p> <p>Clean the spark arrester.</p> <p>Clean excess fume or spatter from fan.</p> <p>Check or replace sealing material of fan.</p>
Dust or smoke coming out of outlet.	Filter damaged, or not seated correctly.	Replace the filter or reseal it.
Vibrations in the machine.	Imbalance in the fan.	Clean excess dirt from fan.

**⚠ CAUTION**

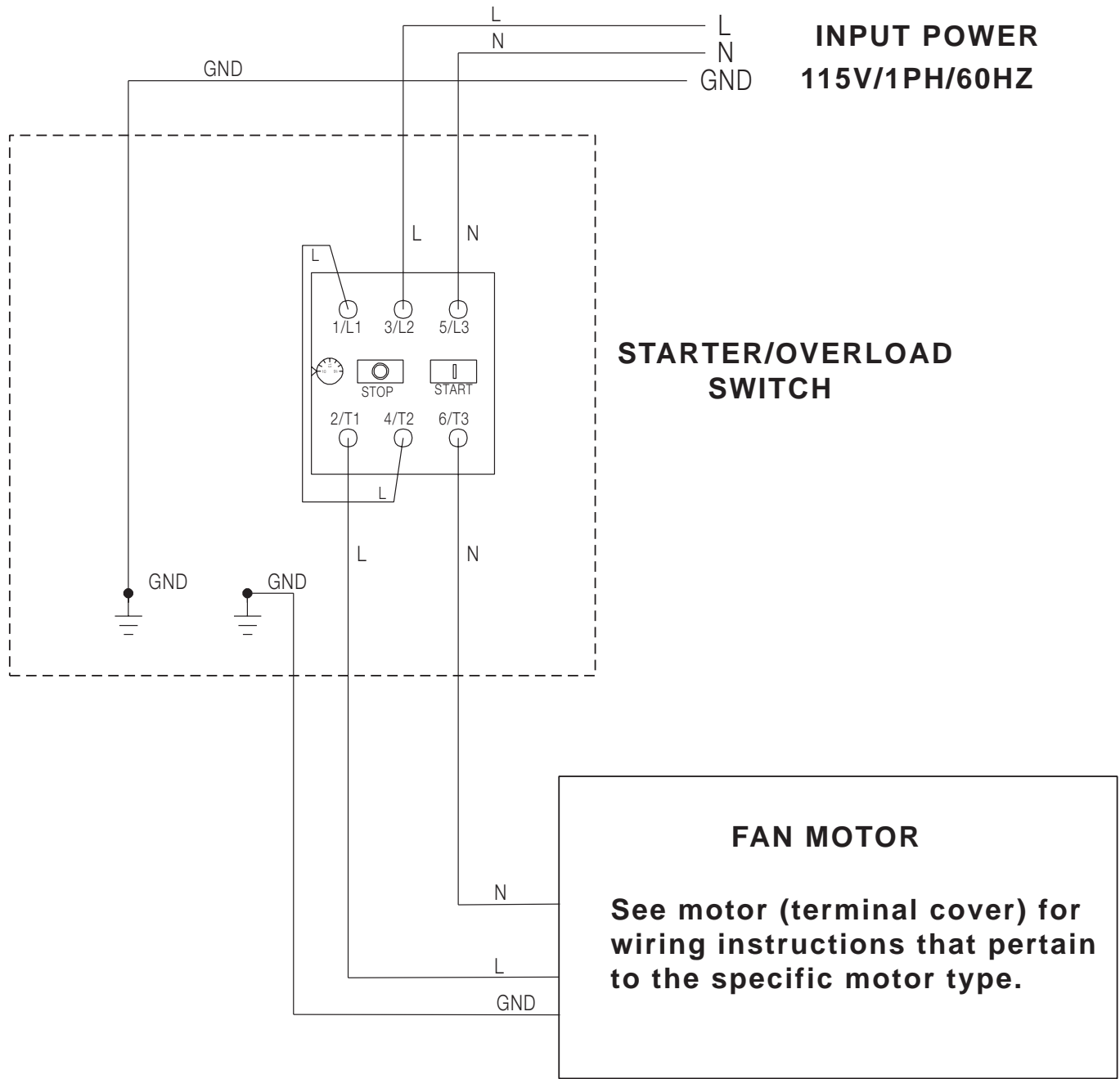
If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your **Local Lincoln Authorized Field Service Facility** for technical troubleshooting assistance before you proceed.

SF2400 STATIONARY FAN



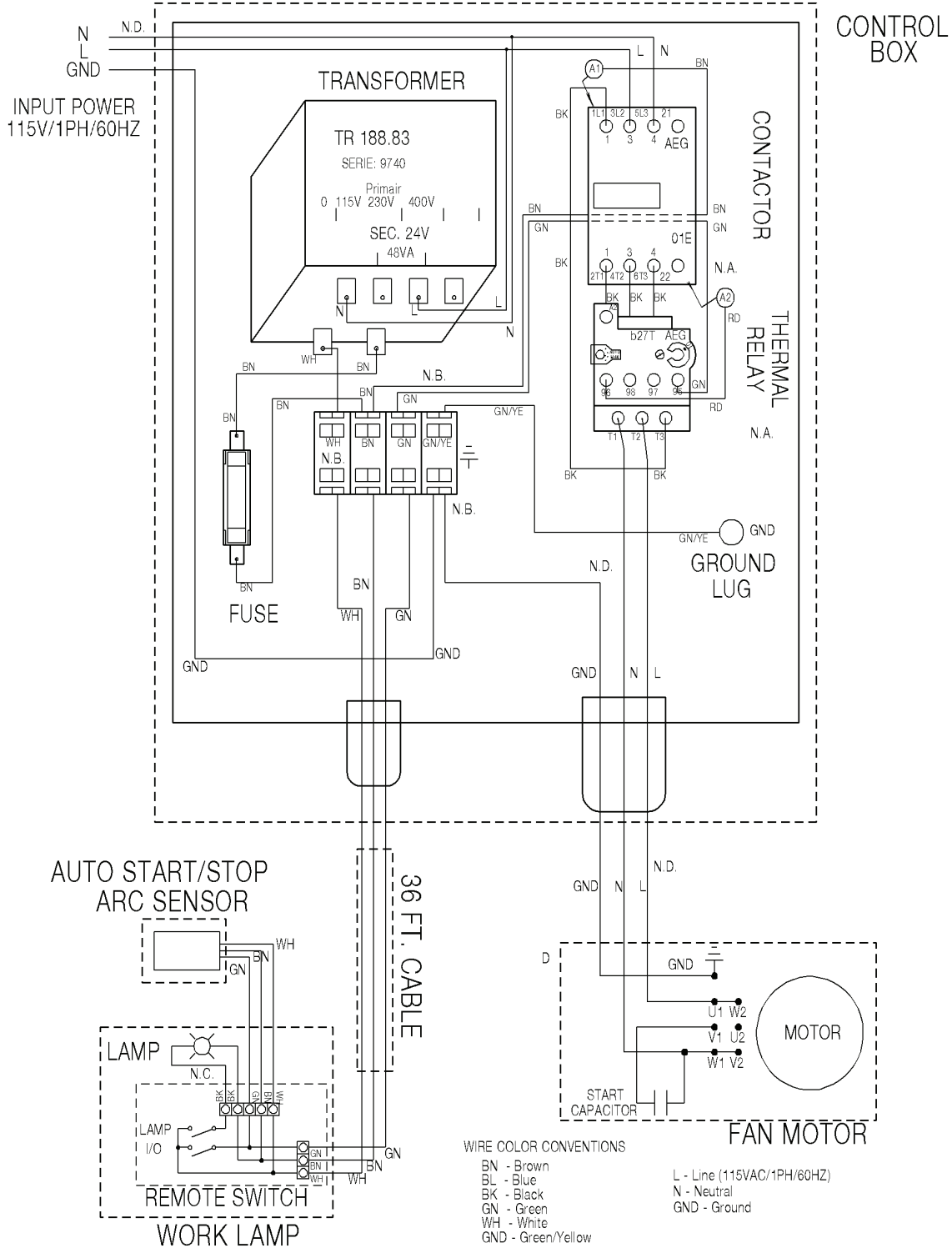


WIRING DIAGRAM FOR SF2400 FAN WITH K1494-2 STARTER/OVERLOAD SWITCH



WIRING DIAGRAM FOR SF2400 FAN WITH K1669-2 LAMP KIT

NOTES:  
 N.A. MOUNT THERMAL RELAY TO CONTACTOR AS DESCRIBED IN INSTALLATION SECTION.  
 N.B. TO INSERT CONDUCTORS IN TERMINAL BLOCK, PUSH IN ON FRONT OPENING WITH SMALL SCREWDRIVER, AND INSERT WIRE IN CORRESPONDING TOP OPENING.  
 N.C. LAMP WIRES ARE WHITE WITH BLACK SLEEVES.  
 N.D. WIRES LABELED L, N, AND GND TO BE PROVIDED AND INSTALLED BY CUSTOMER.



SF2400 STATIONARY FAN



# NOTES

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SF2400 STATIONARY FAN



			
<b>WARNING</b>	<ul style="list-style-type: none"> <li>Do not touch electrically live parts or electrode with skin or wet clothing.</li> <li>Insulate yourself from work and ground.</li> </ul>	<ul style="list-style-type: none"> <li>Keep flammable materials away.</li> </ul>	<ul style="list-style-type: none"> <li>Wear eye, ear and body protection.</li> </ul>
Spanish <b>AVISO DE PRECAUCION</b>	<ul style="list-style-type: none"> <li>No toque las partes o los electrodos bajo carga con la piel o ropa mojada.</li> <li>Aíslese del trabajo y de la tierra.</li> </ul>	<ul style="list-style-type: none"> <li>Mantenga el material combustible fuera del área de trabajo.</li> </ul>	<ul style="list-style-type: none"> <li>Protéjase los ojos, los oídos y el cuerpo.</li> </ul>
French <b>ATTENTION</b>	<ul style="list-style-type: none"> <li>Ne laissez ni la peau ni des vêtements mouillés entrer en contact avec des pièces sous tension.</li> <li>Isolez-vous du travail et de la terre.</li> </ul>	<ul style="list-style-type: none"> <li>Gardez à l'écart de tout matériel inflammable.</li> </ul>	<ul style="list-style-type: none"> <li>Protégez vos yeux, vos oreilles et votre corps.</li> </ul>
German <b>WARNUNG</b>	<ul style="list-style-type: none"> <li>Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder feuchter Kleidung!</li> <li>Isolieren Sie sich von den Elektroden und dem Erdboden!</li> </ul>	<ul style="list-style-type: none"> <li>Entfernen Sie brennbares Material!</li> </ul>	<ul style="list-style-type: none"> <li>Tragen Sie Augen-, Ohren- und Körperschutz!</li> </ul>
Portuguese <b>ATENÇÃO</b>	<ul style="list-style-type: none"> <li>Não toque partes elétricas e electrodos com a pele ou roupa molhada.</li> <li>Isole-se da peça e terra.</li> </ul>	<ul style="list-style-type: none"> <li>Mantenha inflamáveis bem guardados.</li> </ul>	<ul style="list-style-type: none"> <li>Use proteção para a vista, ouvido e corpo.</li> </ul>
Japanese <b>注意事項</b>	<ul style="list-style-type: none"> <li>通電中の電気部品、又は溶材にヒブやぬれた布で触れないこと。</li> <li>施工物やアースから身体が絶縁されている様にして下さい。</li> </ul>	<ul style="list-style-type: none"> <li>燃えやすいものの側での溶接作業は絶対にしてはなりません。</li> </ul>	<ul style="list-style-type: none"> <li>目、耳及び身体に保護具をして下さい。</li> </ul>
Chinese <b>警告</b>	<ul style="list-style-type: none"> <li>皮肤或湿衣物切勿接触带电部件及焊条。</li> <li>使你自己与地面和工件绝缘。</li> </ul>	<ul style="list-style-type: none"> <li>把一切易燃物品移离工作场所。</li> </ul>	<ul style="list-style-type: none"> <li>佩戴眼、耳及身体劳动保护用具。</li> </ul>
Korean <b>위험</b>	<ul style="list-style-type: none"> <li>전도체나 용접봉을 젖은 헝겊 또는 피부로 절대 접촉치 마십시오.</li> <li>모재와 접지를 접촉치 마십시오.</li> </ul>	<ul style="list-style-type: none"> <li>인화성 물질을 접근시키지 마십시오.</li> </ul>	<ul style="list-style-type: none"> <li>눈, 귀와 몸에 보호장구를 착용하십시오.</li> </ul>
Arabic <b>تحذير</b>	<ul style="list-style-type: none"> <li>لا تلمس الاجزاء التي يسري فيها التيار الكهربائي أو الألكترود بجك الجسم أو بالملابس المبللة بالماء.</li> <li>ضع عازل على جسمك خلال العمل.</li> </ul>	<ul style="list-style-type: none"> <li>ضع المواد القابلة للاشتعال في مكان بعيد.</li> </ul>	<ul style="list-style-type: none"> <li>ضع أدوات وملابس واقية على عينيك وأذنيك وجسمك.</li> </ul>

**READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTION FOR THIS EQUIPMENT AND THE CONSUMABLES TO BE USED AND FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.**

**SE RECOMIENDA LEER Y ENTENDER LAS INSTRUCCIONES DEL FABRICANTE PARA EL USO DE ESTE EQUIPO Y LOS CONSUMIBLES QUE VA A UTILIZAR, SIGA LAS MEDIDAS DE SEGURIDAD DE SU SUPERVISOR.**

**LISEZ ET COMPRENEZ LES INSTRUCTIONS DU FABRICANT EN CE QUI REGARDE CET EQUIPMENT ET LES PRODUITS A ETRE EMPLOYES ET SUIVEZ LES PROCEDURES DE SECURITE DE VOTRE EMPLOYEUR.**

**LESEN SIE UND BEFOLGEN SIE DIE BETRIEBSANLEITUNG DER ANLAGE UND DEN ELEKTRODENEINSATZ DES HERSTELLERS. DIE UNFALLVERHÜTUNGSVORSCHRIFTEN DES ARBEITGEBERS SIND EBENFALLS ZU BEACHTEN.**

			
<ul style="list-style-type: none"> <li>● Keep your head out of fumes.</li> <li>● Use ventilation or exhaust to remove fumes from breathing zone.</li> </ul>	<ul style="list-style-type: none"> <li>● Turn power off before servicing.</li> </ul>	<ul style="list-style-type: none"> <li>● Do not operate with panel open or guards off.</li> </ul>	<b>WARNING</b>
<ul style="list-style-type: none"> <li>● Los humos fuera de la zona de respiración.</li> <li>● Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases.</li> </ul>	<ul style="list-style-type: none"> <li>● Desconectar el cable de alimentación de poder de la máquina antes de iniciar cualquier servicio.</li> </ul>	<ul style="list-style-type: none"> <li>● No operar con panel abierto o guardas quitadas.</li> </ul>	Spanish <b>AVISO DE PRECAUCION</b>
<ul style="list-style-type: none"> <li>● Gardez la tête à l'écart des fumées.</li> <li>● Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail.</li> </ul>	<ul style="list-style-type: none"> <li>● Débranchez le courant avant l'entretien.</li> </ul>	<ul style="list-style-type: none"> <li>● N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés.</li> </ul>	French <b>ATTENTION</b>
<ul style="list-style-type: none"> <li>● Vermeiden Sie das Einatmen von Schweißrauch!</li> <li>● Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes!</li> </ul>	<ul style="list-style-type: none"> <li>● Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öffnen; Maschine anhalten!)</li> </ul>	<ul style="list-style-type: none"> <li>● Anlage nie ohne Schutzgehäuse oder Innenschutzverkleidung in Betrieb setzen!</li> </ul>	German <b>WARNUNG</b>
<ul style="list-style-type: none"> <li>● Mantenha seu rosto da fumaça.</li> <li>● Use ventilação e exaustão para remover fumo da zona respiratória.</li> </ul>	<ul style="list-style-type: none"> <li>● Não opere com as tampas removidas.</li> <li>● Desligue a corrente antes de fazer serviço.</li> <li>● Não toque as partes elétricas nuas.</li> </ul>	<ul style="list-style-type: none"> <li>● Mantenha-se afastado das partes moventes.</li> <li>● Não opere com os painéis abertos ou guardas removidas.</li> </ul>	Portuguese <b>ATENÇÃO</b>
<ul style="list-style-type: none"> <li>● ヒュームから頭を離すようにして下さい。</li> <li>● 換気や排煙に十分留意して下さい。</li> </ul>	<ul style="list-style-type: none"> <li>● メンテナンス・サービスに取りかかる際には、まず電源スイッチを必ず切して下さい。</li> </ul>	<ul style="list-style-type: none"> <li>● パネルやカバーを取り外したまま機械操作をしないで下さい。</li> </ul>	Japanese <b>注意事項</b>
<ul style="list-style-type: none"> <li>● 頭部遠離煙霧。</li> <li>● 在呼吸區使用通風或排風器除煙。</li> </ul>	<ul style="list-style-type: none"> <li>● 維修前切斷電源。</li> </ul>	<ul style="list-style-type: none"> <li>● 儀表板打開或沒有安全罩時不準作業。</li> </ul>	Chinese <b>警告</b>
<ul style="list-style-type: none"> <li>● 얼굴로부터 용접가스를 멀리하십시오.</li> <li>● 호흡지역으로부터 용접가스를 제거하기 위해 가스제거기나 통풍기를 사용하십시오.</li> </ul>	<ul style="list-style-type: none"> <li>● 보수전에 전원을 차단하십시오.</li> </ul>	<ul style="list-style-type: none"> <li>● 관널이 열린 상태로 작동치 마십시오.</li> </ul>	Korean <b>위험</b>
<ul style="list-style-type: none"> <li>● ابعء رأسك بعيداً عن الدخان.</li> <li>● استعمل التهوية أو جهاز ضغط الدخان للخارج لكي تبعد الدخان عن المنطقة التي تتنفس فيها.</li> </ul>	<ul style="list-style-type: none"> <li>● اقطع التيار الكهربائي قبل القيام بأية صيانة.</li> </ul>	<ul style="list-style-type: none"> <li>● لا تشغيل هذا الجهاز اذا كانت الاعطية الحديدية الواقية ليست عليه.</li> </ul>	Arabic <b>تحذير</b>

**LEIA E COMPREENDA AS INSTRUÇÕES DO FABRICANTE PARA ESTE EQUIPAMENTO E AS PARTES DE USO, E SIGA AS PRÁTICAS DE SEGURANÇA DO EMPREGADOR.**

使う機械や溶材のメーカーの指示書をよく読み、まず理解して下さい。そして貴社の安全規定に従って下さい。

請詳細閱讀並理解製造廠提供的說明以及應該使用的銀焊材料，並請遵守貴方的有閣勞動保護規定。

이 제품에 동봉된 작업지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다.

اقرأ بتمعن وأفهم تعليمات المصنع المنتج لهذه المعدات والمواد قبل استعمالها واتبع تعليمات الوقاية لصاحب العمل.



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