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.
## SAFETY

### WARNING

<table>
<thead>
<tr>
<th>Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.</th>
<th>The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Above For Diesel Engines</strong></td>
<td><strong>The Above For Gasoline Engines</strong></td>
</tr>
</tbody>
</table>

**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.**

---

<table>
<thead>
<tr>
<th>FOR ENGINE powered equipment.</th>
<th>1.h. To avoid scalding, do not remove the radiator pressure cap when the engine is hot.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.a. Turn the engine off before troubleshooting and maintenance work unless the maintenance work requires it to be running.</td>
<td></td>
</tr>
<tr>
<td>1.b. Operate engines in open, well-ventilated areas or vent the engine exhaust fumes outdoors.</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

---

**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. |  |

---

Mar '95
SAFETY

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.

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.

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 below Threshold Limit Values (TLV) 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. 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.c. 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.d. 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.e. Also see Item 1.b.

Mar ’95
**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.

---

**SAFETY**

**WELDING 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.

---

**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.

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Mar ’95
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. Protegez-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. Éviter 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 ou on recoit 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 soliel, 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.

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 une 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 chaines de levage, câbles de grue, ou autres circuits. Cela peut provoquer des risques d’incendie ou d’échauffement des chaines 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 fumeés 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.

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

1. Relier à la terre le chassis du poste conformément au code de l’électricité et aux recommendations du fabricant. Le dispositif de montage ou la piece 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:

⚠️ 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.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>i-iv</td>
</tr>
<tr>
<td>Installation</td>
<td>Section A</td>
</tr>
<tr>
<td>Technical Specifications</td>
<td>A-1</td>
</tr>
<tr>
<td>Safety Precautions</td>
<td>A-2</td>
</tr>
<tr>
<td>General Description</td>
<td>A-2</td>
</tr>
<tr>
<td>Installing the Sensor</td>
<td>A-2</td>
</tr>
<tr>
<td>Operation</td>
<td>Section B</td>
</tr>
<tr>
<td>Safety Instructions</td>
<td>B-1</td>
</tr>
<tr>
<td>Operating Instructions</td>
<td>B-1</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Section C</td>
</tr>
<tr>
<td>Routine Maintenance</td>
<td>C-1</td>
</tr>
<tr>
<td>Trouble Shooting</td>
<td>Section D</td>
</tr>
<tr>
<td>Trouble Shooting Chart</td>
<td>D-1</td>
</tr>
<tr>
<td>Wiring Diagram</td>
<td>Section E</td>
</tr>
<tr>
<td>Wiring Diagram</td>
<td>E-1</td>
</tr>
</tbody>
</table>
## Technical Specifications - Automatic Start/Stop Arc Sensor

### GENERAL

<table>
<thead>
<tr>
<th>Sales Specification</th>
<th>K1670-1 Automatic Start/Stop Arc Sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Voltage</td>
<td>24 VAC</td>
</tr>
<tr>
<td>Weight</td>
<td>0.7 lbs. (1.5 kg)</td>
</tr>
</tbody>
</table>

### AMBIENT CONDITIONS

| Min. Temperature       | 41°F (5°C)                             |
| Max. Temperature       | 113°F (45°C)                           |
| Max. Rel. Humidity     | 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.
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.

INSTALLING THE SENSOR

The K1670-1 Auto Start/Stop Arc Sensor can be installed with a:
- K1669-1 Lamp Kit for a K1653-1 Mobiflex 200-M
- OR
- OR
- K1706-1 Lamp Kit for all other Mobiflex Units

Remove the switch box (Fig. 1A) by squeezing together the front and back. Pull the control board (Fig. 1D) off the bottom of the switch (Fig. 1B). Disconnect the lamp cable (Fig. 1C) from the control board using a small screwdriver.

GENERAL DESCRIPTION

The K1670-1 Automatic Start/Stop Arc Sensor can be used with the Lamp Kit to automatically switch on the connected extraction fan when it detects the arc flash, and off (after a 20 second delay) after the arc stops.

If installed on a Mobiflex 200-M system with a K1669-1 Lamp Kit, the Sensor will control the operation of the Mobiflex 200-M extraction fan.

If installed on a wall-mounted system including SF2400 Fan with a K1669-2 Lamp Kit, the Sensor will control the operation of the SF2400 Fan.

For information on installation with a Lamp Kit, refer to the appropriate Lamp Kit manual.

For information on installation of a complete wall-mounted system, refer to the SF2400 Fan manual.

For information on installation of a complete mobile system, refer to the Mobiflex 200-M manual.
INSTALLING THE SENSOR
(continued)

Open the airflow throttle valve (Fig. 2E). Remove the six screws (Fig. 2-2) and the airflow focus vanes (Fig. 2-3). Remove the lamp housing (Fig. 2-4) from the hood; lift out the bottom end first.

Use a small phillips-head screwdriver to remove the six screws that hold the lamp housing (Fig. 3A) together. Insert the sensor (Fig. 3B) as shown. Route the leads through the lamp holder and out with the lamp leads as shown in Figure 3. Close up the lamp holder using the six screws.

Feed the lamp and sensor leads through the hole 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.

Have a qualified electrician connect the lamp (Fig. 4C) and sensor (Fig. 4B) leads to the control board according to the wiring diagram in the back of this manual. Push the control board (with leads connected) onto the bottom of the remote switch as shown in Figure 4.

Snap the switch box into the hood by squeezing the front and back.
Read and understand this entire section before operating your Automatic Start/Stop Arc Sensor.

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.

OPERATING INSTRUCTIONS

To use the Automatic Start/Stop Arc Sensor, leave the 0/I switch on the hood (See Figure 5) in the 0 (off) position (If using a Mobiflex 200-M, the Start/Stop switch must be in the “Start” position). When an arc is sensed, the sensor will turn on the connected extraction system automatically. When the arc is no longer detected, the sensor will shut the system down after 20 seconds.

Refer to Figure 5:
A. Switch with Lamp Symbol - Operates Lamp.
B. Switch with 0/I- Operates connected extraction fan (Mobiflex 200-M or SF2400 Fan).

Fig. 5

For optimum fume-capture, position hood within 10-15 inches (250-400mm) of the arc.
ROUTINE MAINTENANCE

This product has been designed to function without problems for a long time with a minimum of maintenance.

Regularly pull out and clean with a soft, damp cloth the plastic lens caps on either side of the lamp.
### AUTOMATIC START/STOP ARC SENSOR

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>PROBLEM</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected extraction fan does not start automatically.</td>
<td>Welding light insufficient to be detected by sensor.</td>
<td>Position the hood closer to the arc. Check the functioning of the sensor using a striker or bright light (or arc flash).</td>
</tr>
<tr>
<td></td>
<td>Lens caps extremely dirty.</td>
<td>Clean or replace the lens caps.</td>
</tr>
<tr>
<td></td>
<td>Automatic Start/Stop Arc Sensor damaged or defective.</td>
<td>If the connected extraction system operates correctly with the hood-mounted I/O switch, check the wiring of the Sensor into the hood-mounted switch. Replace the Sensor if necessary.</td>
</tr>
<tr>
<td></td>
<td>Motor overload protection activated. (Starter/Overload in Mobiflex 200-M, Thermal Relay with SF2400 Fan)</td>
<td>Check the overload; if tripped, let the machine cool down for a few minutes and reset the overload.</td>
</tr>
<tr>
<td></td>
<td>Fuse blown.</td>
<td>Check and replace if required.</td>
</tr>
<tr>
<td></td>
<td>Connecting cable in arm damaged or defective.</td>
<td>Check and replace if required.</td>
</tr>
<tr>
<td></td>
<td>Hood-mounted switch or Control Board loose or defective.</td>
<td>Check and tighten or replace if required.</td>
</tr>
<tr>
<td></td>
<td>Transformer (in Control Box or Mobiflex Control Panel) defective.</td>
<td>Check and replace if required.</td>
</tr>
<tr>
<td></td>
<td>Contactor (in Control Box or Mobiflex Control Panel) defective.</td>
<td>Check and replace if required.</td>
</tr>
<tr>
<td></td>
<td>Wiring or connections loose.</td>
<td>Check all connections and tighten or repair if necessary:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• At Control Board (under hood-mounted switch)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• In Control Box (if using SF2400 Fan with K1669-2 Lamp Kit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• In Control Panel (in Mobiflex 200-M)</td>
</tr>
</tbody>
</table>

**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.
NOTES:
N.A. LAMP WIRES ARE WHITE WITH BLACK SLEEVES.
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Need Welding Training?

The Lincoln Electric Company operates the oldest and most respected Arc Welding School in the United States at its corporate headquarters in Cleveland, Ohio. Over 100,000 students have graduated. Tuition is low and the training is “hands on”

For details write: Lincoln Welding School
22801 St. Clair Ave.
Cleveland, Ohio 44117-1199.

and ask for bulletin ED-80 or call 216-383-2259 and ask for the Welding School Registrar.

Lincoln Welding School
BASIC COURSE $700.00
5 weeks of fundamentals

There is a 10% discount on all orders of $50.00 or more for shipment at one time to one location.

Orders of $50 or less before discount or orders outside of North America must be prepaid with charge, check or money order in U.S. Funds Only.

Prices include shipment by 4th Class Book Rate for U.S.A. Mainland Only. Please allow up to 4 weeks for delivery.

UPS Shipping for North America Only. All prepaid orders that request UPS shipment please add:

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METHOD OF PAYMENT: (Sorry, No C.O.D. Orders)

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Month Year ___________________________

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USE THIS FORM TO ORDER: Order from: BOOK DIVISION, The Lincoln Electric Company, 22801 St. Clair Avenue, Cleveland, Ohio 44117-1199
Telephone: 216-383-2211 or, for fastest service, FAX this completed form to: 216-361-5901.

Lincoln Welding School Information

| Seminar Information (ED-45) | $5.00 L |
| Educational Video Information (ED-93) | $15.00 PH |
| James F. Lincoln Arc Welding Foundation Book Information (JFLF-515) | $5.00 H |
| Incentive Management | $5.00 IM |
| A New Approach to Industrial Economics | $5.00 NA |
| The American Century of John C. Lincoln | $5.00 AC |
| Welding Preheat Calculator | $3.00 WC-8 |
| Pipe Welding Charts | $4.50 ED-89 |

SUB TOTAL

Additional Shipping Costs if any

TOTAL COST
### WARNING

- Do not touch electrically live parts or electrode with skin or wet clothing.
- Insulate yourself from work and ground.
- Keep flammable materials away.
- Wear eye, ear and body protection.

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### Spanish

**AVIS DE PRECAUCIÓN**

- No toque las partes o los electrodos bajo carga con la piel o ropa mojada.
- Aislese del trabajo y de la tierra.
- Mantenga el material combustible fuera del área de trabajo.
- Protejase los ojos, los oídos y el cuerpo.

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### French

**ATTENTION**

- Ne laissez ni la peau ni des vêtements mouillés entrer en contact avec des pièces sous tension.
- Isolez-vous du travail et de la terre.
- Gardez à l’écart de tout matériau inflammable.
- Protégez vos yeux, vos oreilles et votre corps.

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### German

**WARNUNG**

- Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder feuchter Kleidung!
- Isolieren Sie sich von den Elektroden und dem Erdboden!
- Entfernen Sie brennbares Material!
- Tragen Sie Augen-, Ohren- und Körperschutz!

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### Portuguese

**ATENÇÃO**

- Não toque partes elétricas e electrodos com a pele ou roupa molhada.
- Isole-se da peça e terra.
- Mantenha inflamáveis bem guardados.
- Use proteção para a vista, ouvido e corpo.

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### Japanese

**注意事項**

- 適切な防護具を装着し、濡れた手や顔を電気設備に近づけないでください。
- 安全な状態で作業し、火災の危険を防ぎます。
- 電気火災の危険を防ぐため、適切な保護具を使用してください。

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### Chinese

**警 告**

- 皮肤和衣物切勿接触带电部件及湿潮。
- 使自己与地面和工作绝缘。
- 把一切易燃物品移离工作场所。
- 佩戴眼、耳及身体劳动保护用具。

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### Korean

**위험**

- 전도체나 움직이는 물질을 잡거나 피부로 점점 접촉하지 마십시오.
- 물질의 접촉을 피하여 안전한 작업을 하십시오.
- 암초에 놓은 물질을 지나지 마십시오.
- 눈, 귀와 몸에 보호장구를 사용하십시오.

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### Arabic

**تحذير**

- لا تمس الأجزاء التي يسري فيها التيار الكهربائي أو الاتربور، بجد التسميد أو الملابس المثيرة للذبابة.
- ضع المواد الناقدة للالقادات في مكان بعيد.
- ضع أدوات وملاكى على منديل وقاية.
- وجسماً.
<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Keep your head out of fumes.</td>
</tr>
<tr>
<td>● Use ventilation or exhaust to remove fumes from breathing zone.</td>
</tr>
<tr>
<td>● Turn power off before servicing.</td>
</tr>
<tr>
<td>● Do not operate with panel open or guards off.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AVISO DE PRECAUCION</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Los humos fuera de la zona de respiración.</td>
</tr>
<tr>
<td>● Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases.</td>
</tr>
<tr>
<td>● Desconecte el cable de alimentación de la máquina antes de iniciar cualquier servicio.</td>
</tr>
<tr>
<td>● No operar con panel abierto o guardas quitadas.</td>
</tr>
</tbody>
</table>

<table>
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<tbody>
<tr>
<td>● Gardez la tête à l'écart des fumées.</td>
</tr>
<tr>
<td>● Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail.</td>
</tr>
<tr>
<td>● Débranchez le courant avant l'entretien.</td>
</tr>
<tr>
<td>● N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés.</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>WARNUNG</th>
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<tbody>
<tr>
<td>● Vermeiden Sie das Einatmen von Schweibrauch!</td>
</tr>
<tr>
<td>● Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes!</td>
</tr>
<tr>
<td>● Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öffnen; Maschine anhalten!)</td>
</tr>
<tr>
<td>● Anlage nie ohne Schutzgehäuse oder Innenschutzverkleidung in Betrieb setzen!</td>
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<th>ATENÇÃO</th>
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<tbody>
<tr>
<td>● Mantenha seu rosto da fumaca.</td>
</tr>
<tr>
<td>● Use ventilação e exaustão para remover fumo da zona respiratória.</td>
</tr>
<tr>
<td>● Não opere com as tampas removidas.</td>
</tr>
<tr>
<td>● Mantenha-se afastado das partes moventes.</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>注意事項</th>
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<tbody>
<tr>
<td>● 警告</td>
</tr>
<tr>
<td>● 頭部遠離煙霧。</td>
</tr>
<tr>
<td>● 在呼吸區使用通風或排風扇除煙。</td>
</tr>
<tr>
<td>● 警告板打開或沒有安全罩時不準作業。</td>
</tr>
</tbody>
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<th>警告</th>
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<tbody>
<tr>
<td>● 不得在打開機身蓋板或卸下防護罩時起動。</td>
</tr>
<tr>
<td>● 高圧電解槽及屬高壓部位，必須要由有資格的電気技術人員。</td>
</tr>
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<th>위험</th>
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<tr>
<td>● 위험</td>
</tr>
<tr>
<td>● 상기 사항에 따라 사용하시기 바랍니다.</td>
</tr>
<tr>
<td>● 제품에 동봉된 사용지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다.</td>
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</tbody>
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<th>تحذير</th>
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<tr>
<td>● اقرأ وفهم المعلومات المصنع المنتج لهذه المواد قبل استخدامها وتتبع هذه الاتهامات للوقاية لصاحب العمل.</td>
</tr>
</tbody>
</table>

LEIA E COMPREenda AS INSTRUÇõES DO FABRICANTE PARA ESTE EQUIPAMENTO E AS PARTES DE USO, E SIGA AS PRATICAS 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指示材料，並請遵守貴方的有關勞動保護規定。

이 제품에 동봉된 작업지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다。

اقرأ وفهم المعلومات المصنع المنتج لهذه المواد قبل استخدامها وتتبع تعليمات الوقاية لصاحب العمل. 