IM626-A

Lamp Options For MobiFlex 200-M

October, 2001

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.

Date of Purchase:_____
Serial Number:_____
Code Number:_____
Model:_____
Where Purchased:_____

OPERATOR'S MANUAL

LINCOLN® ELECTRIC

• World's Leader in Welding and Cutting Products •
• Sales and Service through Subsidiaries and Distributors Worldwide •
Cleveland, Ohio 44117-1199 U.S.A. TEL: 216.481.8100 FAX: 216.486.1751 WEB SITE: 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.

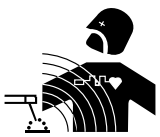
1.d. Keep all equipment safety guards, covers and devices in position and in good repair.Keep hands, hair, clothing and tools away from V-belts, gears, fans and all other moving parts when starting, operating or repairing equipment.

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.

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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. I 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 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.

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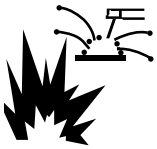


WELDING SPARKS can cause fire or explosion.

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.

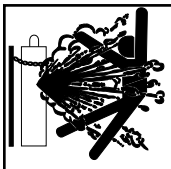
6.d. Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapors from substances inside. They can cause an explosion even though they have been “cleaned”. For information, purchase “Recommended Safe 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-l, “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.

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PRÉCAUTIONS DE SÛRETÉ

Pour votre propre protection lire et observer toutes les instructions et les précautions de sûreté specifiques qui parraissent 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 piéce 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 vétements mouillés. Porter des gants secs et sans trous pour isoler les mains.
   b. Faire trés attention de bien s'isoler de la masse quand on soude dans des endroits humides, ou sur un plancher metallique ou des grilles metalliques, 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 defonctionnement.
   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 precautions pour le porte-électrode s'applicuent 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.

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 lateraux 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 accidental peut provoquer un échauffement et un risque d'incendie.

8. S'assurer que la masse est connectée le plus prés 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'echauffement des chaines et des câbles jusqu'à ce qu'ils se rompent.

9. Assurer une ventilation suffisante dans la zone de soudage. Ceci est particuliérement 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 phosgéne (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 chassis du poste conformement 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 faires des travaux à l'interieur de poste, la debrancher à l'interrupteur à la boite 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**.

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Technical Specifications- Lamp Options for Mobiflex 200-M

GENERAL		
Sales Specification	**K1669-1 Lamp Kit for K1653-1 Mobiflex 200-M** **K1669-3 Lamp Kit with Arc Sensor for K1653-1 Mobiflex 200-M** **K1706-1 Work Lamp for K1653-2 Mobiflex 200-M with Transformer** **K1706-2 Work Lamp with Arc Sensor for K1653-2 Mobiflex 200-M**	
Operating Voltage	24 VAC	
Bulb	Halogen, 35W	
Weight	K1669-1 Lamp Kit K1669-3 Lamp Kit with Arc Sensor K1706-1 Work Lamp K1706-2 Work Lamp with Arc Sensor	4.4 lbs. (2.2 kg) 5.1 lbs. (2.3 kg) 1.1 lbs. (0.5 kg) 1.8 lbs. (0.8 kg)

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.

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 without extraction arm installed.
- Keep away from moving parts.

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

GENERAL DESCRIPTION

All of the Lamp Options for the Mobiflex 200-M incorporate a work lamp with remote, hood-mount switches for both the Lamp and the Mobiflex 200-M extraction fan. The 35W lamp fits in the hood of the LFA 3.1 or LFA 4.1 Arm to provide a convenient, positionable light at the workspace. The switch for the lamp is hood-mounted, for accessibility. The convenient dual switch at the hood also includes a remote switch for the Mobiflex 200-M extraction system.

The optional K1670-1 Automatic Start/Stop Arc Sensor can be combined with the K1669-1 Lamp Kit or K1706-1 Work Lamp to provide automatic switching on and off of the Mobiflex 200-M when the sensor detects the arc flash.

The K1669-3 Lamp Kit and the K1706-2 Work Lamp come with the Arc Sensor already installed in the lamp housing.

If not installing the Auto Start/Stop Arc Sensor separately, skip steps as specified.

If installing a complete K1653-1 or K1653-2 Mobiflex 200-M System, refer to the Mobiflex 200-M manual for installation information.

If installing a complete Mobiflex 400-MS System, refer to the Mobiflex 400-MS manual for installation information.

This manual covers installation of a
K1669-3 Lamp Kit with Arc Sensor or
K1669-1 Lamp Kit
and optional K1670-1 Arc Sensor
on an existing K1653-1 Mobiflex 200-M system, or

K1706-2 Work Lamp with Arc Sensor or
K1706-1 Work Lamp
and optional K1670-1 Arc Sensor
on an existing Mobiflex 200-M or 400-MS system.

Note: The K1706-1 and K1706-2 Work Lamp options cannot be combined with a K1653-1 Mobiflex 200-M.

⚠ WARNING

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

The K1669-1 Lamp Kit Includes:
- Work Lamp
- 13 ft., 3-Wire, 20 Ga. Connection Cable
- Transformer Relay Kit
  - Screws, (2) 2.9x9.5mm Self-tapping
  - Screws, (5) 3.5x9.5mm Self-tapping

The K1669-3 Lamp Kit with Arc Sensor Includes:
- Work Lamp with Factory-installed Automatic Start/Stop Arc Sensor
- 13 ft., 3-Wire, 20 Ga. Connection Cable
- Transformer Relay Kit
  - Screws, (2) 2.9x9.5mm Self-tapping
  - Screws, (5) 3.5x9.5mm Self-tapping

The K1706-1 Work Lamp Includes:
- Work Lamp
- 13 ft., 3-Wire, 20 Ga. Connection Cable

The K1706-2 Work Lamp with Arc Sensor Includes:
- Work Lamp with Factory-installed Automatic Start/Stop Arc Sensor
- 13 ft., 3-Wire, 20 Ga. Connection Cable

GENERAL PREPARATION

1. Pop out the sealing plate (Fig. 1, Item A) on the top of the hood with a screwdriver.
2. Remove the six screws (Fig. 1, Item C) and the airflow focus vanes (Fig. 1, Item B).
3. Open the airflow throttle valve (Fig. 1, Item D).

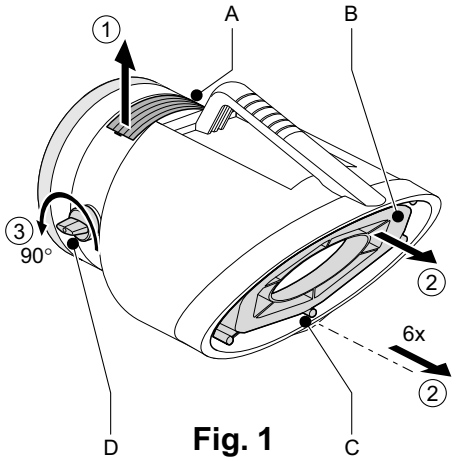


Fig. 1

MOUNTING THE ARC SENSOR IN THE LAMP HOUSING

If not installing the K1670-1 Auto start/stop arc sensor, skip to the next step, "Mounting the lamp housing in the hood". The K1669-3 Lamp Kit and K1706-2 Work Lamp have the Arc Sensor built into the lamp housing.

Note: If the lamp housing assembly has (5) leads, the Arc Sensor is already installed. Skip to the next step "Mounting the lamp housing in the hood."

Use a small phillips-head screwdriver to remove the six screws that hold the lamp housing (Fig. 2, Item A) together. Insert the sensor housing (Fig. 2, Item B) with the sensor 'eye' away from the lamp. Route all 5 leads through the lamp housing "leg" and out the opening as shown in Figure 2. Replace the other half of the lamp housing, and tighten the screws.

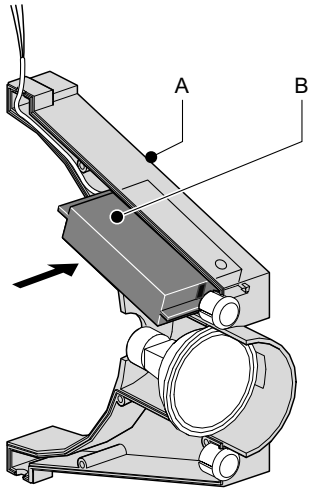


Fig. 2

MOUNTING THE LAMP HOUSING IN THE HOOD

Feed the lamp (and sensor leads, if used) through the hole (Fig. 3, Item A) in the top of the hood; push the top leg of the lamp housing into position, then snap in the bottom leg. Remount the airflow focus vanes in the open end of the hood, using the six screws.

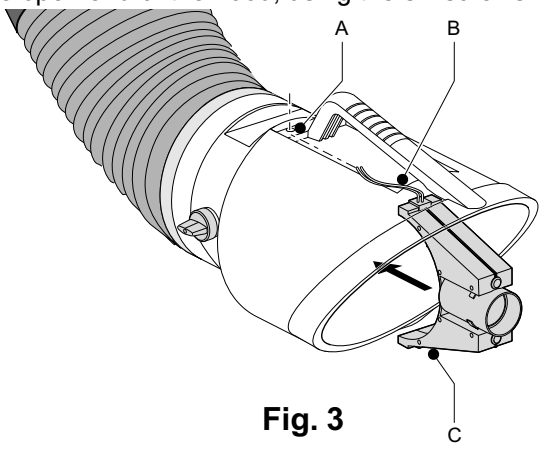


Fig. 3

MAKING THE CONNECTIONS AT THE HOOD

Feed the 13 ft. connecting cable through the hole in the hood (Fig. 4, Item B).

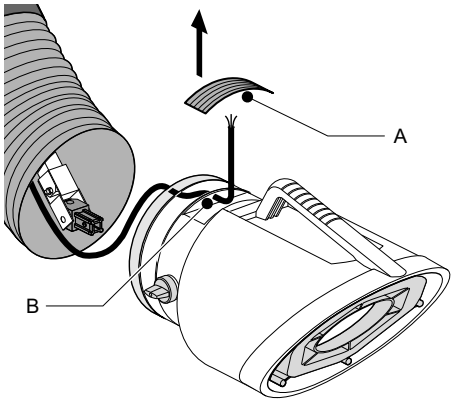


Fig. 4

Have a qualified electrician connect the 13 ft. connecting cable leads, lamp leads, and sensor leads (if used) to the control board (Fig. 5, Item B). Push the board onto the bottom of the remote switch (Fig. 5, Item C). Snap the switch box into place atop the hood.

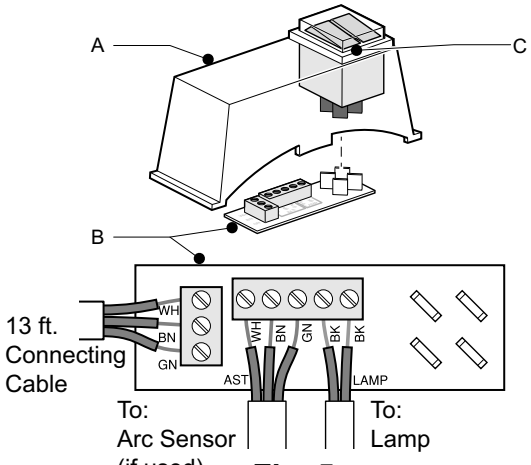


Fig. 5

INSTALLING THE 13 FT. CONNECTING CABLE

Roll back the rubber seals and pull back the hose at each joint to allow access to the arm mechanism.

Route the 13 ft. connecting cable through the four cable holders in the arm (Fig. 6, Points D). Leave plenty of slack at each hinge to allow for the full range of movement of the arm. Secure the cable in the cable holders (Fig. 6, Inset). Exit the arm through the cable hole in the rotating hinge; use a knife to cut a small X-pattern in the grommet and push the cable through.

Use the supplied wire ties to secure the cable as shown in Fig. 7.

Reseal all hose joint connections with the rubber seals.

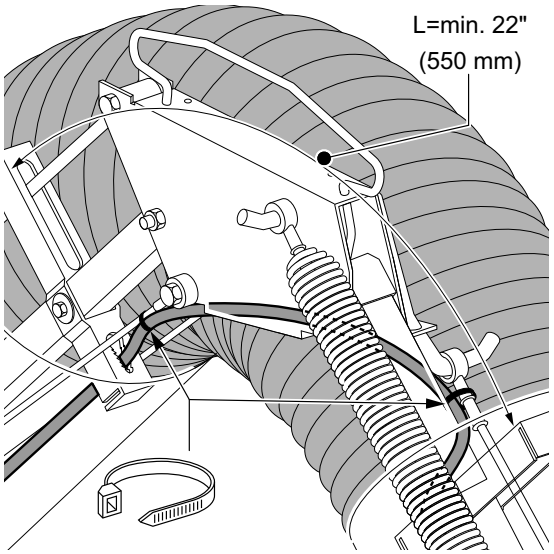
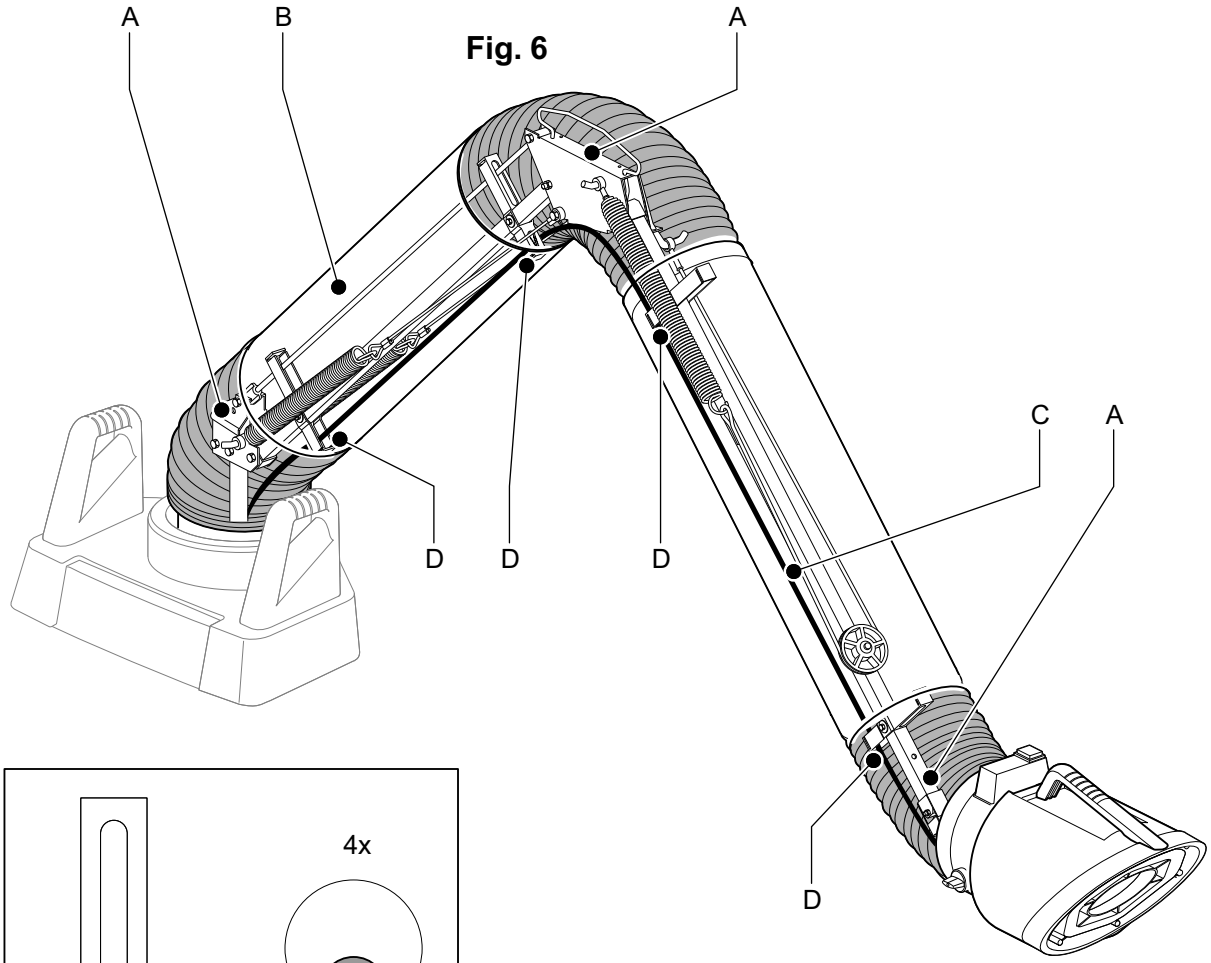
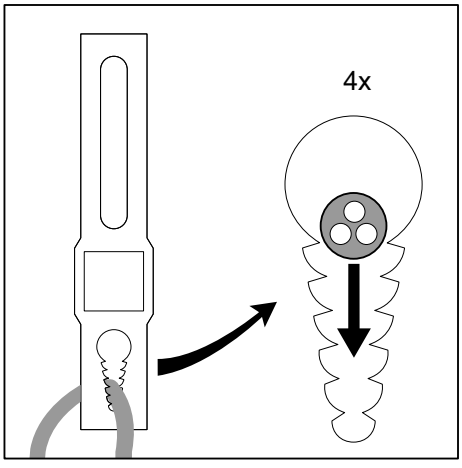


Fig. 7

Fig. 6





Loosen the four screws of the cover (Fig. 8, Item B), lift the cover around the arm and turn it 180 degrees, and allow it to rest on the filter cover. Remove the control cover (Fig. 8, Item A), secured by four screws as shown. Route the 13 ft. connecting cable through the grommet in the control cover (cut an X as before).

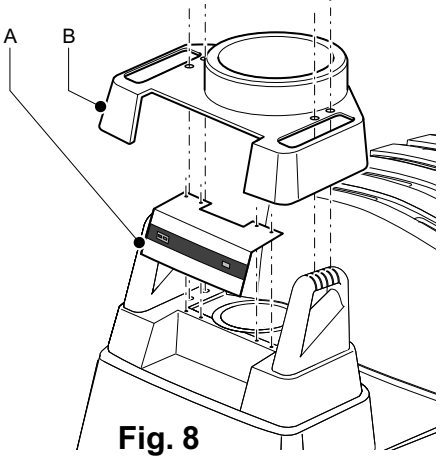


Fig. 8

⚠ 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.

Note: To insert conductors in Terminal Block, push in on front opening with small screwdriver, and insert conductor into corresponding top opening.

Note: GN is <u>not</u> the same potential as Ground.

MOUNTING THE TRANSFORMER RELAY KIT

When installing a K1669-1 or K1669-3 Lamp Kit on a K1653-1 Mobiflex 200-M:

Note: If the control panel has the Contactor, Transformer, Fuseholder/Fuse, and Terminal Block already installed (as in Fig. 9), skip to the next step "Making the final connections at the Control Panel."

Use the seven supplied screws to mount the pieces of the Transformer Relay Kit in the Control Panel of the Mobiflex unit as shown in Figure 9.

Use the two smaller screws to mount the terminal block (E), one of the larger screws to mount the fuse holder (C), and the four remaining large screws to mount the transformer (B). Mount the Contactor (A) on the DIN rail next to the Starter/Overload.

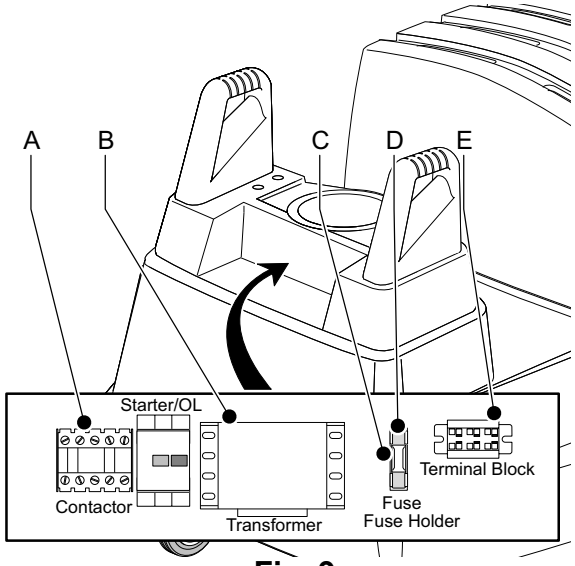


Fig. 9

The mounting points have been marked on the mounting surface of the control panel.

Note: Make sure there are no wires routed between the Contactor and Starter/OL, as this may interfere with the proper positioning of the Starter/OL buttons when replacing the Control Cover.

Have a qualified electrician make the connections according to the wiring diagram in the back of this manual. Reference wiring diagrams for "K1653-1 Mobiflex 200-M" and "Mobiflex 200-M with Lamp Option and Arc Sensor" in the back of this manual.

Note: The (2) fan motor wires must be moved from the top of the Starter/OL to the bottom of the Contactor. Reference the wiring diagram in the back of this manual for details.

Loop any extra cable inside the control box. Verify that the two ground wires are connected to the tabs on the inside of the Control Cover. Line up the Start and Stop buttons on the Starter/OL with the proper holes in the control cover, and replace the control cover; secure with the four screws. Replace the large cover over the handles.

MAKING THE FINAL CONNECTION AT THE CONTROL PANEL

When installing a K1706-1 or K1706-2 Work Lamp on a K1653-2 Mobiflex 200-M:

Remove the jumper on the terminal block. Connect the leads of the 13 ft. connecting cable according to color (WH, BN, GN). Loop any extra cable inside the control box. Replace the control cover and large cover over the handles.

Read and understand this entire section before operating your Mobiflex 200-M.

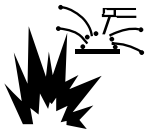
SAFETY INSTRUCTIONS

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

Connect the Mobiflex 200-M to 120 VAC input power.

Leave the Start/Stop Switch on the Mobiflex base unit in the “Start” position to control the Mobiflex 200-M and Work Lamp from the Hood-mounted switch.

Refer to Figure 10:

A. Switch with Lamp Symbol - Operates Lamp.
B. Switch with 0/I- Operates Mobiflex 200-M.

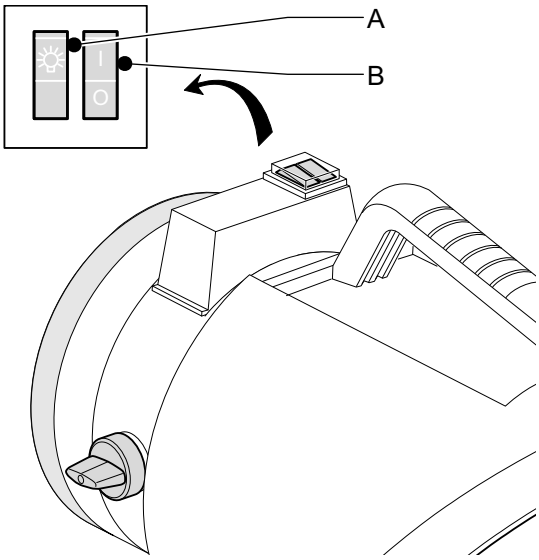


Fig. 10

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

If using the Automatic Start/Stop Arc Sensor, leave the 0/I switch in the 0 (off) position (the Start/Stop switch on the Mobiflex 200-M must be in the “Start” position). When the sensor detects an arc, it will start the Mobiflex 200-M automatically. When it no longer detects the arc, the sensor will shut down the Mobiflex after 20 seconds.

ROUTINE MAINTENANCE

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

CLEANING/REPLACING THE SPATTER GUARD

A glass spatter guard is positioned in front of the long-life halogen bulb to prevent spatter build-up on the face of the bulb. When the spatter guard becomes dirty with spatter and fume, it is necessary to clean or replace it.

- Remove holding spring by squeezing on the loose ends and pulling it out; the glass spatter guard will drop out.
- Clean the spatter guard with glass cleaner or a mild abrasive. If the glass becomes excessively dirty or damaged, replace it.
- Wipe the lamp housing and the plastic face of the halogen bulb with a soft, damp cloth.
- Replace the glass spatter guard over the bulb and secure with the holding spring.

REPLACING THE HALOGEN BULB

When the halogen bulb burns out, it is necessary to replace it.

⚠ WARNING

- Disconnect from input power before servicing this equipment.
- Have a qualified person install and service this equipment.

- Remove holding spring by squeezing on the loose ends and pulling it out; the glass spatter guard will drop out.
- Push on one of the side tabs (that hold the bulb in) with a screwdriver until the bulb assembly pops loose.
- With one finger, push through the hole directly behind the bulb to push the bulb assembly out the front of the lamp housing.
- Detach the bulb from the cable base.
- Push new bulb onto cable base (polarity doesn't matter).
- Push bulb assembly back into lamp housing.
- Set the spatter guard back over the bulb and secure with the holding spring.

TROUBLESHOOTING

D-1

Observe all Safety Guidelines detailed throughout this manual

SYMPTOM	PROBLEM	SOLUTION
Lamp does not illuminate.	Start button on Mobiflex 200-M base unit not depressed.	Leave the Start/Stop switch on the Mobiflex 200-M base unit in the “Start” position.
	13 ft. Connection cable damaged or defective.	Check and repair or replace if necessary.
	Bulb loose or burned out.	Tighten the bulb or replace it if necessary.
	Lamp cable damaged or defective.	Check and repair or replace if necessary.
	Lamp switch damaged or defective.	Check and repair or replace if necessary.
	Transformer damaged or defective.	Check and replace if necessary.
	Fuse defective or blown.	Check the fuse and replace if necessary.
	Fuse Clip connections loose.	Check and repair or replace fuse holder if necessary.
	Control board (under switch box) loose, damaged or defective.	Tighten board; replace if necessary.
Mobiflex 200-M does not start when hood-mounted switch to “I”.	Start button on Mobiflex 200-M base unit not depressed.	Leave the Start/Stop switch on the Mobiflex 200-M base unit in the “Start” position.
	13 ft. Connection cable damaged or defective.	Check and repair or replace if necessary.
	Remote I/0 switch damaged or defective.	Check and repair or replace if necessary.
	Fuse defective or blown.	Check the fuse and replace if necessary.
	Fuse Clip connections loose.	Check and repair or replace fuse holder if necessary.
	Control board (under switch box) loose, damaged or defective.	Tighten board; replace if necessary.
	Transformer damaged or defective.	Check and replace if necessary.
	Start/Stop switch in Mobiflex 200-M base unit damaged or defective.	Check and replace if necessary.
	Contactor damaged or defective.	Replace if necessary.

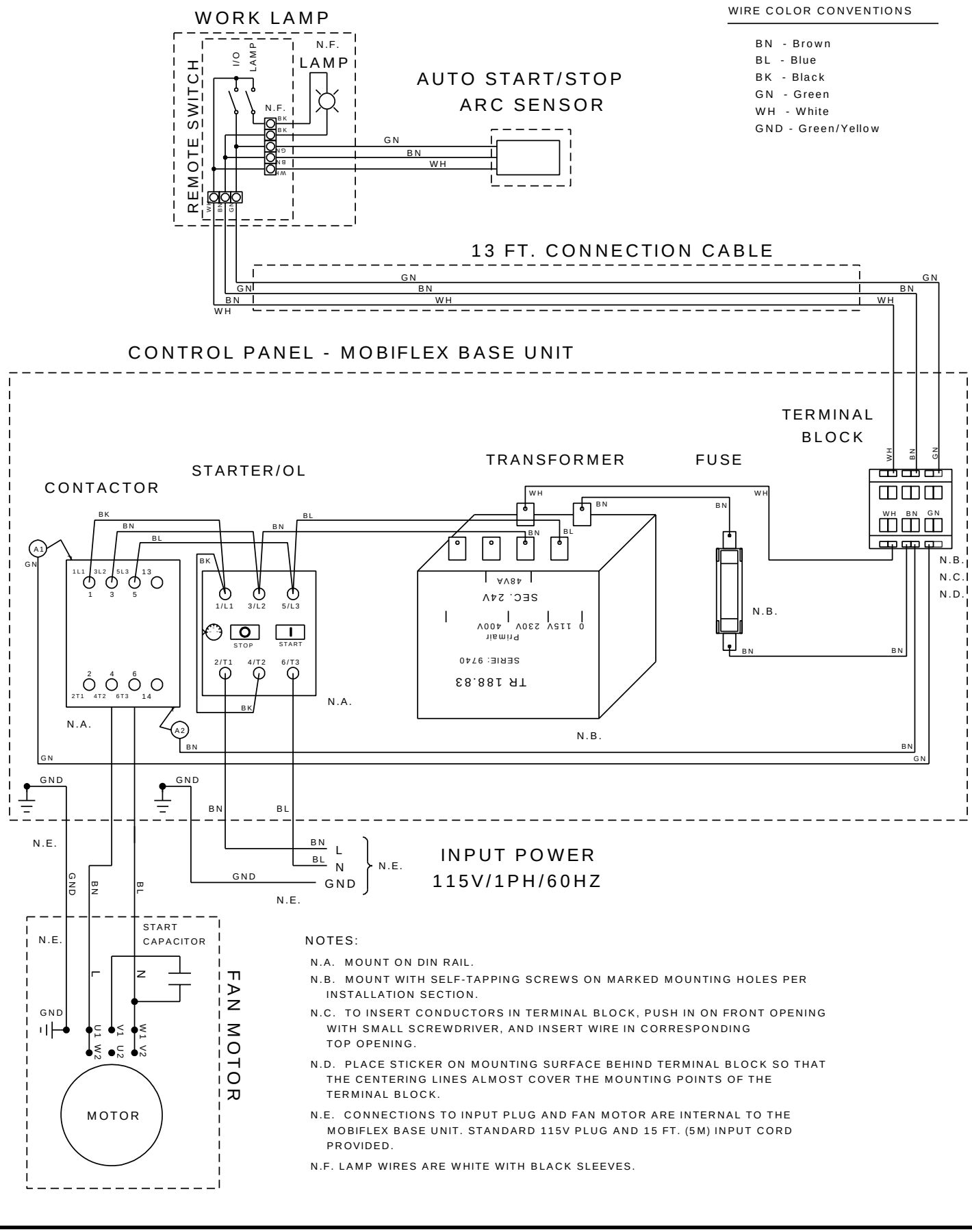
⚠ CAUTION

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.

DIAGRAMS

E-1

WIRING DIAGRAM FOR MOBIFLEX 2OO-M WITH LAMP OPTION AND ARC SENSOR



NOTES:

N.A. MOUNT ON DIN RAIL.

N.B. MOUNT WITH SELF-TAPPING SCREWS ON MARKED MOUNTING HOLES PER INSTALLATION SECTION.

N.C. TO INSERT CONDUCTORS IN TERMINAL BLOCK, PUSH IN ON FRONT OPENING WITH SMALL SCREWDRIVER, AND INSERT WIRE IN CORRESPONDING TOP OPENING.

N.D. PLACE STICKER ON MOUNTING SURFACE BEHIND TERMINAL BLOCK SO THAT THE CENTERING LINES ALMOST COVER THE MOUNTING POINTS OF THE TERMINAL BLOCK.

N.E. CONNECTIONS TO INPUT PLUG AND FAN MOTOR ARE INTERNAL TO THE MOBIFLEX BASE UNIT. STANDARD 115V PLUG AND 15 FT. (5M) INPUT CORD PROVIDED.

N.F. LAMP WIRES ARE WHITE WITH BLACK SLEEVES.

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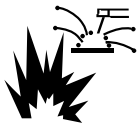


WARNING	● Do not touch electrically live parts or electrode with skin or wet clothing. ● Insulate yourself from work and ground.	● Keep flammable materials away.	● Wear eye, ear and body protection.
Spanish **AVISO DE PRECAUCION**	● No toque las partes o los electrodos bajo carga con la piel o ropa mojada. ● Aislese del trabajo y de la tierra.	● Mantenga el material combustible fuera del área de trabajo.	● Protéjase los ojos, los oídos y el cuerpo.
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 matériel inflammable.	● Protégez vos yeux, vos oreilles et votre corps.
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 brennbarres Material!	● Tragen Sie Augen-, Ohren- und Körperschutz!
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.
Japanese **注意事項**	● 通電中の電気部品、又は溶材にヒフやぬれた布で触れないこと。 ● 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。	● 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。	● 目、耳及び身体に保護具をして下さい。
Chinese **警 告**	● 皮肤或濕衣物切勿接觸帶電部件及銲條。 ● 使你自己與地面和工件絕緣。	● 把一切易燃物品移離工作場所。	● 佩戴眼、耳及身體勞動保護用具。
Korean **위 험**	● 전도체나 용접봉을 젖은 헝겁 또는 피부로 절대 접촉치 마십시요. ● 모재와 접지를 접촉치 마십시요.	● 인화성 물질을 접근 시키지 마시요.	● 눈, 귀와 몸에 보호장구를 착용하십시요.
Arabic **تحذير**	● لا تلمس الاجزاء التي يسري فيها التيار الكهربائي أو الالكترود بجلد الجسم أو بالملابس المبللة بالماء. ● ضع عازلا على جسمك خلال العمل.	● ضع المواد القابلة للاشتعال في مكان بعيد.	● ضع أدوات وملابس واقية على عينيك وأذنيك وجسمك.

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

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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.

			
● Keep your head out of fumes. ● Use ventilation or exhaust to remove fumes from breathing zone.	● Turn power off before servicing.	● Do not operate with panel open or guards off.	**WARNING**
● Los humos fuera de la zona de respiración. ● Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases.	● Desconectar el cable de alimentación de poder de la máquina antes de iniciar cualquier servicio.	● No operar con panel abierto o guardas quitadas.	Spanish **AVISO DE PRECAUCION**
● Gardez la tête à l'écart des fumées. ● Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail.	● Débranchez le courant avant l'entretien.	● N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés.	French **ATTENTION**
● Vermeiden Sie das Einatmen von Schweibrauch! ● Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes!	● Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öffnen; Maschine anhalten!)	● Anlage nie ohne Schutzgehäuse oder Innenschutzverkleidung in Betrieb setzen!	German **WARNUNG**
● Mantenha seu rosto da fumaça. ● Use ventilação e exhaustão para remover fumo da zona respiratória.	● Não opere com as tampas removidas. ● Desligue a corrente antes de fazer serviço. ● Não toque as partes elétricas nuas.	● Mantenha-se afastado das partes moventes. ● Não opere com os paineis abertos ou guardas removidas.	Portuguese **ATENÇÃO**
● ヒュームから頭を離すようにして下さい。 ● 換気や排煙に十分留意して下さい。	● 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って下さい。	● パネルやカバーを取り外したままで機械操作をしないで下さい。	Japanese **注意事項**
●頭部遠離煙霧。 ●在呼吸區使用通風或排風器除煙。	●維修前切斷電源。	●儀表板打開或沒有安全罩時不準作業。	Chinese **警 告**
● 얼굴로부터 용접가스를 멀리하십시요. ● 호흡지역으로부터 용접가스를 제거하기 위해 가스제거기나 통풍기를 사용하십시요.	● 보수전에 전원을 차단하십시요.	● 판넬이 열린 상태로 작동치 마십시요.	Korean **위 험**
● ابعد رأسك بعيداً عن الدخان. ● استعمل التهوية أو جهاز ضغط الدخان للخارج لكي تبعد الدخان عن المنطقة التي تتنفس فيها.	● اقطع التيار الكهربائي قبل القيام بأية صيانة.	● لا تشغل هذا الجهاز اذا كانت الاغطية الحديدية الواقية ليست عليه.	Arabic **تحذير**

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

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