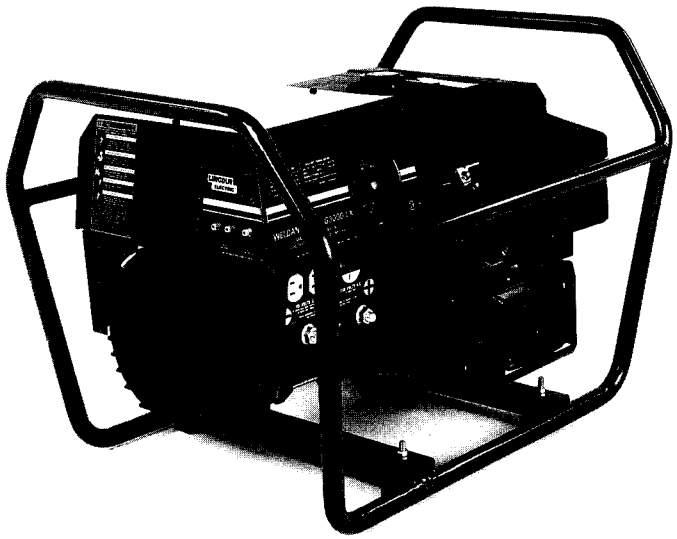
LINCOLN® WELDERS

IM-400A

IM400
April, 1993
Weldanpower G3000-LX
9544
9545
9797
10011
10012

OPERATING MANUAL

WELDANPOWER
G3000 and G3000-LX



This manual covers equipment which is obsolete and no longer in production by The Lincoln Electric Co. Specifications and availability of optional features may have changed.

This manual covers only the codes listed below:
9544, 9545, 10011, 10012

SHIPPING DAMAGE CLAIMS

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.

SAFETY DEPENDS ON YOU

Lincoln arc welding 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 OPERATING MANUAL AND THE ARC WELDING SAFETY PRECAUTIONS ON PAGES 2, 3 AND 4. And, most importantly, think before you act and be careful.

LINCOLN® ELECTRIC

THE LINCOLN ELECTRIC COMPANY
World's Leader in Welding and Cutting Products • Premier Manufacturer of Industrial Motors
Sales and Service through Subsidiaries and Distributors Worldwide
Cleveland, Ohio 44117-1199 U.S.A.

⚠ WARNING

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.

ELECTRIC SHOCK can kill.

1.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.

1.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.**

1.c. In semiautomatic or automatic wire welding, the electrode, electrode reel, welding head, nozzle or semiautomatic welding gun are also electrically"hot".

1.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.

1.e. Ground the work or metal to be welded to a good electrical (earth) ground.

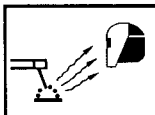
1.f. Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition. Replace damaged insulation.

1.g. Never dip the electrode in water for cooling.

1.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.

1.i. When working above floor level, use a safety belt to protect yourself from a fall should you get a shock.

1.j. Also see Items 4.c. and 6.

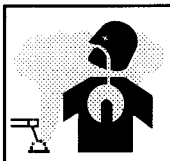


ARC RAYS can burn.

2.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.

2.b. Use suitable clothing made from durable flame-resistant material to protect your skin and that of your helpers from the arc rays.

2.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.

3.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 galvanized, lead or cadmium plated steel and other metals which produce 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.**

3.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.

3.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.

3.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.

3.e. Also see item 7b.

WELDING SPARKS can cause fire or explosion.

4.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.

4.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.

4.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.

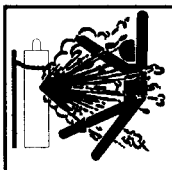
4.d. Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapors from substances inside. They can cause an explosion even though they have been "cleaned." For information purchase "Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping That Have Held Hazardous Substances", AWS F4.1-80 from the American Welding Society (see address above).

4.e. Vent hollow castings or containers before heating, cutting or welding. They may explode.

4.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.

4.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.

4.h. Also see item 7c.



CYLINDER may explode if damaged.

5.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.

5.b. Always keep cylinders in an upright position securely chained to an undercarriage or fixed support.

5.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.

5.d. Never allow the electrode, electrode holder or any other electrically "hot" parts to touch a cylinder.

5.e. Keep your head and face away from the cylinder valve outlet when opening the cylinder valve.

5.f. Valve protection caps should always be in place and hand tight except when the cylinder is in use or connected for use.

5.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.

6.a. Turn off input power using the disconnect switch at the fuse box before working on the equipment.

6.b. Install equipment in accordance with the U.S. National Electrical Code, all local codes and the manufacturer's recommendations.

6.c. Ground the equipment in accordance with the U.S. National Electrical Code and the manufacturer's recommendations.

FOR ENGINE powered equipment.

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

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

7.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.

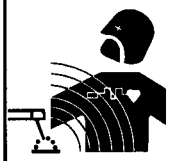
7.d. Keep all equipment safety guards, covers and devices in position and in good repair. Keep hands, hair, clothing and tools away from V-belts, gears, fans and all other moving parts when starting, operating or repairing equipment.

7.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.

7.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.

7.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.

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



ELECTRIC AND MAGNETIC FIELDS may be dangerous

8.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.

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

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

8d. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:

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

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

8.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.

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

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

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 l e s 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.

MACHINE SPECIFICATION REPORT
WELDANPOWER G3000 AND G3000-LX

TABLE OF CONTENTS

PRODUCT DESCRIPTION

Welding Output

The G3000 and G3000-LX give excellent DC constant current (stick) and DC TIG (scratch start) welding performance. Available DC welding output from 50 to 125 amps facilitates stick welding with most 3/32, 1/8 and 5/32" (2.4, 3.2 and 4.0 mm) diameter electrodes. Single welding output control allows continuous output current control through the entire current range.

Auxiliary Power

3000 watts (at unity power factory)(1) of single phase AC auxiliary power can be drawn continuously through the single 15 amp, 230 volt receptacle or the 15 amp, 115 volt duplex receptacle. The LX machine includes circuit breakers to protect the machine from overloads.

The auxiliary power circuit is insulated from the machine frame and all other grounded surfaces. The US National Electrical Code does not require the use of ground-fault circuit-interrupters (GFCI)on machines of this type that are rated less than 5000 watts.

Engine

The 9 HP Briggs & Stratton Vanguard engine is used on the G3000 and G3000-LX. The overhead valve design gives long engine life and excellent fuel economy. Low oil level shutdown protection is standard. The engine choke and on/off rocker switch are located on the rear of the engine. The engine has quick easy manual start with automatic compression release to reduce the pull required to start. It has an electronic ignition system for quick dependable starts with no maintenance required. It also includes a Low-Tone muffler with guard. The Buyer Protection Package provides a two year engine warranty and a lifetime ignition warranty.

Protective Tube Frames

Both the G3000 and G3000-LX machines have protective tube frames designed for easy two person lifting. The tube frame on the G3000-LX machine is designed for severe duty applications and provides more complete protection for the engine and welder components.

(1) Output rating in watts is equivalent to volt-amperes at unity power factor. Output voltage is within ±10% at all loads up to rated capacity. When welding, auxiliary power voltage may fall below 90% of rated voltage. Refer to Section entitled "Auxiliary Power Output" on page 18.

OPTIONAL FEATURES

Power Plug Kit (K802T)

An auxiliary power plug kit is available which provides 3 plugs, 2 for the 115 volt duplex receptacle and 1 for the 230 volt receptacle.

Accessory Set (K875)

Includes 20 ft. (6.1 m) 6 AWG electrode cable, 15 ft. (4.6 m) 6 AWG work cable, headshield with No. 10 filter, work clamp, insulated electrode holder, and sample electrodes. Cables are rated at 150 amps, 40% duty cycle.

Undercarriage (K882-1)

A two-wheeled, hand movable undercarriage is available for field installation. The undercarriage can be used with both the Weldanpower® G3000 and the G3000-LX.

Spark Arrester (K883-1)

A spark arrester for use on the 9 HP Briggs and Stratton Vanguard engine is available for field installation on both the Weldanpower® G3000 and G3000-LX.

SPECIFICATIONS

MACHINE DETAILS		
Welding Output (Constant Current)	125 Amps, 25 Volts DC, 30% Duty Cycle 100 Amps, 25 Volts DC, 60% Duty Cycle Maximum Open Circuit Voltage 80 Volts RMS at 3750 RPM	
Auxiliary Power	3,000 watts at Unity Power Factory, 60 Hz, 115/230V, Single Phase 100% Duty Cycle	
Dimensions H x W x L In. (mm)	**G3000** 18.12 x 18.23 x 30.00 (460 x 463 x 762)	**G3000-LX** 20.50 x 22.92 x 31.50 (520 x 582 x 800)
Net Weight Lbs. (kg)	**G3000** 176 (79.8)	**G3000-LX** 182 (82.6)
ENGINE DETAILS		
Engine	Briggs & Stratton Vanguard, 9HP at 3600RPM Single Cylinder, 4 Cycle, Air-Cooled, Gasoline Aluminum Block, Made in the USA	
Overhead Valve Design	Improved Fuel Economy. Cooler Running, More HP Displacement Clean, Efficient Combustion. Less Carbon Build up. Longer Valve Life.	
Air Cleaner	Dual Element, Pleated Paper (Automotive Type) Cartridge with Foam Pre-Cleaner. Both Cleaner and Pre-Cleaner are Cleanable and Replaceable.	
Fuel System	1.25 Gallon (4.8 Liters) Capacity Gasoline Tank, Fuel Shutoff Valve, Fuel Filter (Cleanable and Replaceable).	
Lubrication System	Splash System Lubricates all Internal Engine Parts with Oil at all Times. Low Oil Shutdown System Protects Engine if Operated with an Insufficient Amount of Oil [2.5 Pint (1.2 Liters) Capacity].	
Speed Control	**G3000**	**G3000-LX**
	Manual Speed Control 3500RPM Full Load 3750 RPM High Idle 1900RPM Low Idle	Automatic Electronic Idler 3500 RPM Full Load 3750 RPM High Idle 2400 RPM Low Idle
Bore X Stroke Inches (mm)	3.0 x 2.33 (76.2 x 59.2)	
Displacement, Cubic Inches (cc)	16.47 (270)	
Buyer Protection	Engine Manufacturer provides two year engine warranty and lifetime ignition warranty.	

INSTALLATION INSTRUCTIONS

Safety Precautions

WARNING: Do not attempt to use this equipment until you have thoroughly read all operating and maintenance manuals supplied with your machine. They include important safety precautions, detailed engine starting, operating and maintenance instructions, and parts lists.

Spark Arrester

Some federal, state or local laws may require that gasoline engines be equipped with exhaust spark arresters when they are operated in certain locations where unarrested sparks may present a fire hazard. The standard mufflers included with this welder do not qualify as a spark arrester. When required by local regulations a suitable spark arrester must be installed and properly maintained. An optional Spark Arrester Kit is available (see Optional Features on page 7).

CAUTION: An incorrect arrester may lead to damage to the engine or adversely affect performance. A suitable spark arrester for the Briggs and Stratton 9 HP Vanguard engine is available as a Lincoln field installed option.

Machine Grounding

Because this portable engine driven welder/generator creates its own power, it is not necessary to connect its frame to an earth ground.

To prevent dangerous electric shock, auxiliary equipment to which this engine driven welder supplies power, must:

a) use a three blade grounded type plug

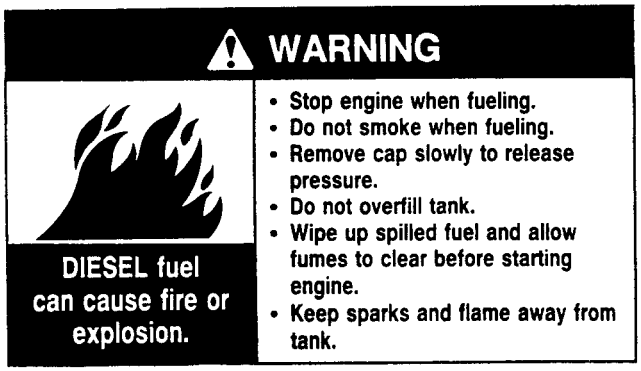
or

b) use an approved double insulation system with a two blade plug.

When this welder is mounted on a truck or trailer, its frame must be securely connected to the metal frame of the vehicle. A machine grounding stud is located on the control panel for this purpose and designated by the symbol ⏚ .

Pre-Operation Engine Service

READ the engine operating and maintenance instructions supplied with this machine.



Oil

NOTE: Engine is shipped WITHOUT oil.

Upon receipt of the machine, fill the crankcase with oil to the "full" mark on the dipstick. Pour oil into fill tube **slowly.** The capacity is approximately 2.5 pints (1.2 Liter). Use the weight and type oil recommended by the engine manufacturer in the Engine manual supplied with the machine. Do **not** overfill.

Fuel

Fill the fuel tank with clean, fresh lead free gasoline. The capacity is approximately 1.25 gallons (4.8 Liter).

Welding Output Cables

With the engine off, remove the 1/2 - 13 flanged nuts from the output studs and connect the electrode and work cables to the studs. Tighten the flanged nuts securely. Normally, the electrode cable is connected to the positive (+) output stud. These connections should be checked periodically and tightened if necessary.

NOTE: Loose connections will cause the output studs to overheat and the studs may eventually melt.

When welding at a considerable distance from the welder, be sure you use ample size welding cables. Listed below are copper cable sizes recommended for the rated current and duty cycle. Lengths stipulated are the distance from the welder to work and back to the welder again. Cable sizes are increased for greater lengths primarily for the purpose of minimizing cable voltage drop.

AMPS	% DUTY CYCLE	CABLE SIZES FOR COMBINED LENGTHS OF ELECTRODE AND WORK CABLES				
		0-50 FT. (0-15 M)	50-100 FT. (15-30 M)	100-150 FT. (30-46 M)	150-200 FT. (46-61 M)	200-250 FT. (61-76 M)
125	30	6 AWG	4 AWG	3 AWG	2 AWG	1 AWG

OPERATING INSTRUCTIONS

⚠ WARNING

ELECTRIC SHOCK can kill.

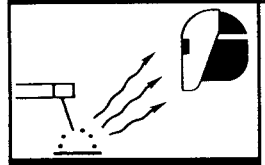
- Do not touch electrically live parts or electrode with skin or wet clothing.
- Insulate yourself from work and ground.

FUMES AND GASES can be dangerous.

- Keep your head out of fumes.
- Use ventilation or exhaust to remove fumes from breathing zone.

WELDING SPARKS can cause fire or explosion.

- Keep flammable material away.



ARC RAYS can burn.

- Wear eye, ear and body protection.

Location/Ventilation

The welder should be located to provide an unrestricted flow of clean air to the cooling air inlets and to avoid heated air coming out of the welder recirculating back to the cooling air inlets. Also, locate the welder so that engine exhaust fumes are properly vented to an outside area.

Additional Safety Precautions

Always operate the machine completely assembled as this provides maximum protection from moving parts and assure proper cooling air flow.

Read carefully the Safety Precautions pages in the Operating Manual before operating this machine. Always follow these and any other safety procedures included in this manual and in the Engine Instruction Manual.

Engine Operation

Engine Control Function/Operation

Rocker "Run/Stop" Switch

The two position "Run/Stop" switch is marked "I" and "O" on the red rocker and is located on the rear of the engine. In the run (I) position, the engine ignition circuit is energized, and the engine can be started by pulling the recoil rope starter. In the stop (O) position, the electronic ignition is grounded, and the engine shuts down.

Engine Speed Control Lever (G3000 Machine Only)

The engine speed control lever is located on the rear of the engine and to the right of the "Run/Stop" switch. When welding or drawing auxiliary power the lever **MUST** be set in the high idle position (). When no welding is being done and no auxiliary power is being drawn from the unit the speed control can be manually set to a lower idle speed () to conserve fuel and increase engine life.

"Idler Control" Switch (G3000-LX Machine Only)

The "idler switch" is located to the left of the front auxiliary receptacle and weld output stud control panel.
The switch has two positions:

1. In the "high idle" position (), the idler is off and the engine runs at the high idle speed controlled by the governor.

2. In the "automatic idle" position (/) the idler operates as follows:

   a. When welding or drawing auxiliary power (approximately 100-150 watts minimum or higher) from the receptacles, the engine operates at full speed.

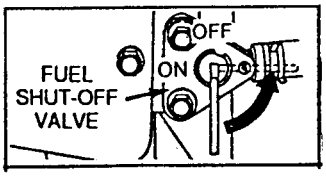
   b. When welding ceases or the power load is turned off, the engine will remain at high idle for approximately 12 seconds before automatically shifting to low idle.

   c. When the welding load or power load is reapplied, the engine will automatically return to high idle speed without delay.

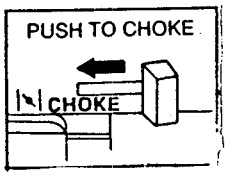
Starting/Shutdown Instructions

Be sure all Pre-Operation Engine Service has been performed.

Remove all loads connected to the AC power receptacles. Before starting, first open the fuel valve by turning to the right 1/4 turn.



Next, move the choke control on the engine to the left.



On the G3000 model, set the engine speed control lever to the far right high idle speed position and on the G3000-LX model set the "Idler Control" switch to the automatic position. Place the "Run/Stop" switch on the engine in the run (I) position. To start, pull the starter cord slowly until resistance is felt, then pull the cord rapidly. Slowly move the choke control to the right (opening the choke) immediately after the engine has started. Allow the engine to warm up gradually by letting it run at low idle speed for a few minutes. The G3000-LX model will go to low idle speed after approximately 12 seconds.

Stopping the Engine

Remove all welding and auxiliary power loads and allow engine to run at low idle speed for a few minutes to cool the engine.

Stop the engine by placing the rocker run/stop switch in the stop (O) position.

WARNING: Close the fuel valve when the machine is transported to prevent fuel leakage from the carburetor.

Break-in Period

It is normal for any engine to use small quantities of oil until break-in is accomplished. Check the oil level twice a day during the break-in period (about 50 running hours). Change the oil after the first 8 hours of operation. See the Engine Instruction Manual for further details.

IMPORTANT: IN ORDER TO ACCOMPLISH THIS BREAK-IN, THE UNIT SHOULD BE SUBJECTED TO MODERATE LOADS, WITHIN THE RATING OF THE MACHINE. AVOID LONG IDLE RUNNING PERIODS. REMOVE LOADS AND ALLOW ENGINE TO COOL SEVERAL MINUTES AT LOW IDLE BEFORE SHUTDOWN.

Low Oil Sensing

This engine has a built in sensor which responds to a low oil level (no pressure). When activated, this system will shut the engine down, preceded briefly by flashing of the red warning light located just to the right of the engine speed control slot. The engine will not restart until sufficient oil is added. Check oil level frequently and add oil as required to the full mark on the dipstick. Do not overfill.

Angle of Operation

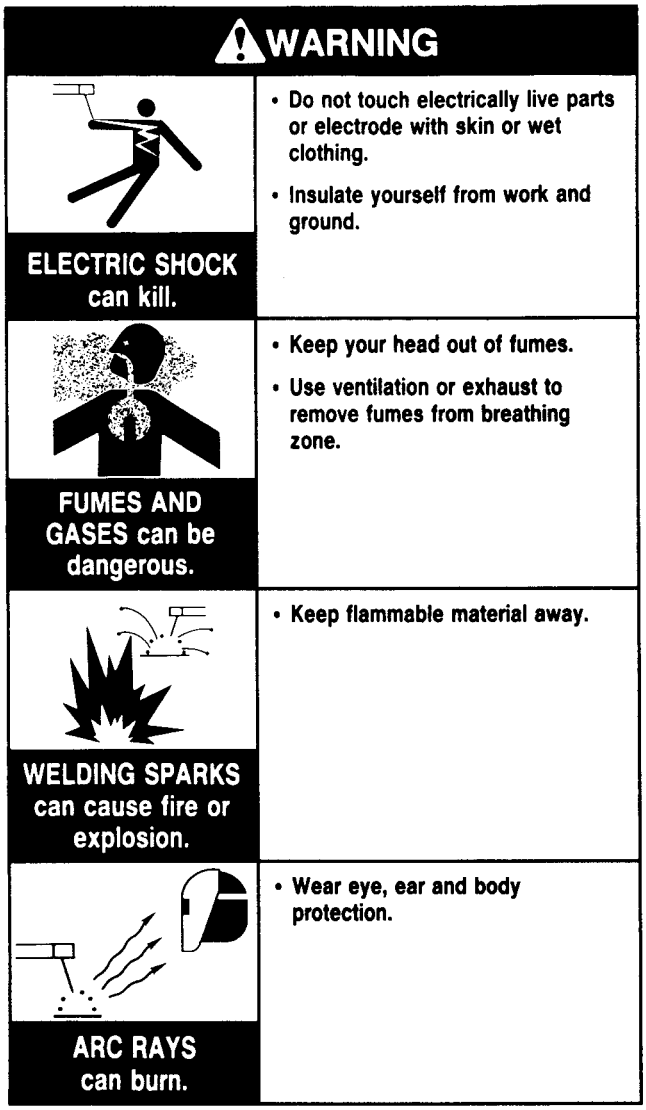
Internal combustion engines are designed to run in a level condition which is where the optimum performance is achieved. The maximum angle of operation for the engine is 15 degrees from horizontal in any direction. If the engine is to be operated at an angle, provisions must be made for checking and maintaining the oil at the normal (FULL) oil capacity in the crankcase in a level condition.

When operating the machine at an angle, the effective fuel capacity will be slightly less than the specified 5.0 quarts.

G3000 and G3000-LX Typical Fuel Consumption

Engine	Briggs & Stratton 9HP Vanguard
No Load 3700 RPM	0.3 Gallons/Hour (1.1 Liters/Hour)
Welding Output 125 Amps, 25 Volts	0.7 Gallons/Hour (2.7 Liters/Hour)
Welding Output 100 Amps, 25 Volts	0.6 Gallons/Hour (2.3 Liters/Hour)
Auxiliary Power 3000 KVA	0.6 Gallons./Hour (2.3 Liters/Hour)

Machine Operation



Welder Output

- Constant Current: 125 amps DC at 25 Volts
- Full range continuous welding output control with single knob
- Current Range: 50-125 amps DC
- Maximum Open Circuit Voltage at 3750 RPM is 80 Volts RMS
- Duty Cycle: 30% at 125 amps welding current 60% at 100 amps welding current Duty cycle is based on a ten minute period; thus, the welder can be loaded to 125 amps for three minutes out of every ten minute period or to 100 amps for six minutes out of every ten minute period.

NOTE: Welding current is continuously variable with 60% duty cycle applying to output currents 100A and less and 30% duty cycle applying to currents above 100A.

Control Function/Operation

"Output Control"

Provides welding current adjustment from 50 through 125 amps.

Maximum welding output is obtained with the "Output Control" set at "125" (Not "MAX") on a "cold" machine. As the machine warms up, the "Output Control" setting should be increased toward "MAX" for maximum output.

For auxiliary power, the "Output Control" must always be set to the "MAX" setting.

Constant Current (Manual Welding)

For DC+ welding, the electrode cable is to be connected to the "+" output stud and work cable to the "-" output stud. (For DC- welding, reverse these connections.) Start the engine and set the "Output Control" to the desired welding current. On the G3000 Machine, set the engine speed control lever to the far right, high idle speed position. The machine is now ready for welding.

The Weldanpower G3000 and G3000-LX machines can be used with a broad range of DC stick electrodes. See Lincoln Weldirectory M210 and the chart below for the electrodes within the rating of this machine.

AWS CLASSIFICATION	ELECTRODE TYPE	ELECTRODE POLARITY	CURRENT RANGE AMPS		
			3/32" (2.4mm)	1/8" (3.2mm)	5/32" (4.0mm)
6010	Fleetweld® 5P	+	50-75	75-125	--
6011	Fleetweld 35	+	50-75	70-110	80-125
6011	Fleetweld 180	+	50-80	55-110	105-125
6013	Fleetweld 37	+/-	70-95	100-125	--
7018	Jetweld® LH-70	+	70-100	90-125	--
7018	Jetweld LH-73	+	65-85	90-125	--
308-16	Blue Max™ 308-16	+	50-60	55-95	80-125
ENi-CI	Softweld® 99Ni	+	50-80	80-110	--
ABW	Wearshield™ ABR	+	--	50-125	--
SHEET THICKNESS			1/8" AND THINNER	1/8" AND THICKER	

Auxiliary Power Output

The maximum rated auxiliary power output (no welding) is 3000 watts at unity power factor, 60 Hertz, 115/230 VAC, single phase.

115 Volt Circuit: Up to 15 amps of 115 volt power can be drawn from either side of the 15 amp duplex receptacle, but no more than 26 amps total from both sides.

230 Volt Circuit: Up to 13 amps of 230 volt power can be drawn from the 230 volt receptacle.

NOTE: Output rating in watts is equivalent to volt-amperes at unity power factor (resistive load). Output Voltage is within ±10% at all loads up to rated capacity.

Start the engine. On the G3000 machine set the engine speed control lever to the far right, high idle speed position. The receptacles are now ready for auxiliary power.

When the G3000-LX machine is set in the automatic idle position, the engine may remain at low idle with small auxiliary loads. In this case, set the Idler Control Switch to the high idle position.

The auxiliary power receptacles should only be used with three wire grounded type plugs or approved double insulated tools with two wire plugs. Do **not** attempt to connect power receptacles in parallel. The auxiliary power supply is insulated from the machine frame and all other grounded surfaces eliminating the need for ground-fault circuit interrupters for temporary wiring (see US National Electrical Code).

Most single phase 3/4 HP motors can be started if there is no load on the motor or other load connected to the machine.

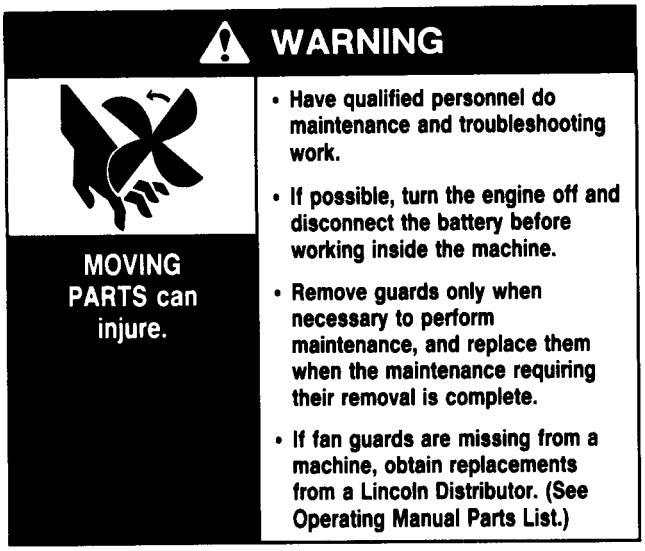
Auxiliary power ratings are with no welding load. While welding, the auxiliary power is limited to 100W. Auxiliary voltages can drop from 115V to 80V and 230V to 160V.

CAUTION: **DO NOT** attempt to connect the G3000 or G3000-LX to premises wiring. These machines are not equipped with receptacles suitable for connection to premises wiring.

TIG Welding

CAUTION: **DO NOT** use high frequency equipment with this welder. Use of high frequency equipment **will damage** the machine.

The Weldanpower G3000 can be used for DC TIG welding using the "scratch" starting technique.



Safety Precautions

Read the Safety Precautions in the front of this manual and the engine instruction manual before working on this machine.

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

Routine Maintenance

1. Refer to the engine maintenance section in the Engine Instruction Manual for routine engine maintenance.

2. At the end of each day's use, refill the fuel tank to minimize moisture condensation in the tank. Also, running out of fuel tends to draw dirt into the fuel system. Check the crankcase oil level.

Periodic Maintenance

1. Blow out the machine and controls with low pressure air periodically. In particularly dirty locations this may be required once a week.

2. Refer to engine Operating and Maintenance Instructions for engine maintenance schedule for servicing oil, air cleaner, air cooling system, spark plug, and fuel filter.

3. A slight amount of darkening and wear of the slip rings and brushes is normal. Brushes should be inspected when a general overhaul is necessary.

WARNING: OVERSPEED IS HAZARDOUS

The maximum allowable high idle speed for this machine is 3750 RPM (no load). Do **NOT** adjust the hex shaped governor stop on the side of the engine opposite the muffler or tamper with any other engine settings. Severe personal injury and damage to the machine can result if operated at speeds above maximum rated speed.

Troubleshooting

TROUBLE	CAUSE	WHAT TO DO
A. No welder or power output.	1. Open lead in flashing or field circuit.	1. Refer to wiring diagram and check white lead running from engine to PC board and all related leads (200, 200A, 200B, 201, 201A, 201B, 202, 202A).
	2. Faulty rotor.	2. Lift brushes and check rotor resistance between slip rings. It should read approximately 8 ohms.
	3. Faulty rheostat (R1).	3. Rheostat resistance should be approximately 3 ohms when set at min.
	4. Faulty stator field winding.	4. Disconnect lead #4 at D1 and check for continuity between leads #4 and #7.
	5. Faulty field rectifier (D1).	5. Replace with known good one.
	6. Faulty PC Board	6. Replace with known good one.
	7. Open in miscellaneous leads.	7. Refer to wiring diagram and check related leads.
B. Engine will not idle down to low speed. (G3000-LX Machine Only)	1. Idler Switch on High Idle.	1. Set switch on Automatic Idle.
	2. Engine choke is not fully open.	2. Move choke control to right as far as possible.
	3. External load on welder or auxiliary power.	3. Remove all external loads and short circuits.
	4. Faulty wiring in solenoid circuit.	4. Check for broken leads 207, 208 and 209.
	5. Faulty idler solenoid.	5. Replace with known good one.
	6. Faulty PC board.	6. Replace PC board with known good one.

TROUBLE	CAUSE	WHAT TO DO
C. Engine will not go to high idle when attempting to weld. (G3000-LX Machine only)	1. Poor work lead connection to work.	1. Make certain work clamp is tightly connected to clean base metal.
	2. No voltage signal from the current sensor.	2. Check for disconnected or broken leads in idler sensing circuit.
	3. No open circuit voltage on output studs.	3. Check generator output.
	4. Faulty idler PC board.	4. Replace PC board with known good one.
D. Engine will not go to high idle when using auxiliary power. (G3000-LX only)	1. No voltage signal from the current sensor.	1. Check for disconnected or broken leads in idler sensing circuit.
	2. Auxiliary load is less than 100 to 150 watts and Idler Switch is on Automatic Idle.	2. Idler may not function with less than 100 to 150 watt load. Set idler switch to High Idle.
	3. Faulty idler PC board.	3. Replace PC board with known good one.

WELDANPOWER G3000-LX (K1385-1)
PROCEDURE FOR REPLACING P.C. BOARD (M16391-1)
(Reference appropriate Wiring Diagram)

1. Remove mounting screws (8) from roof (G2116).

2. Remove pertinent lead ties.

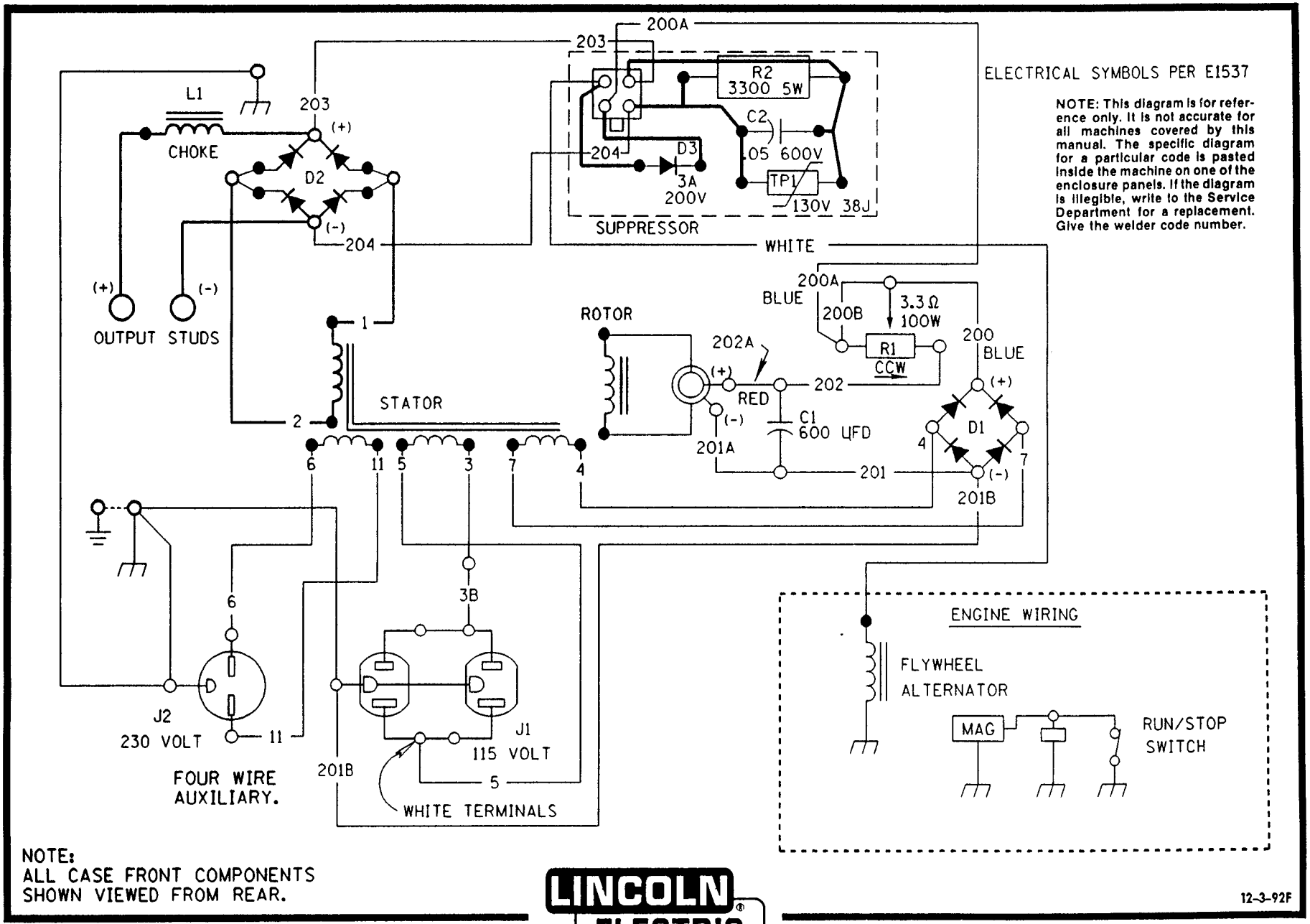
3. Untape and unbolt 2 lead connections (204A-204B and 3-3C).

4. Unplug multi-lead connector from P.C. board.

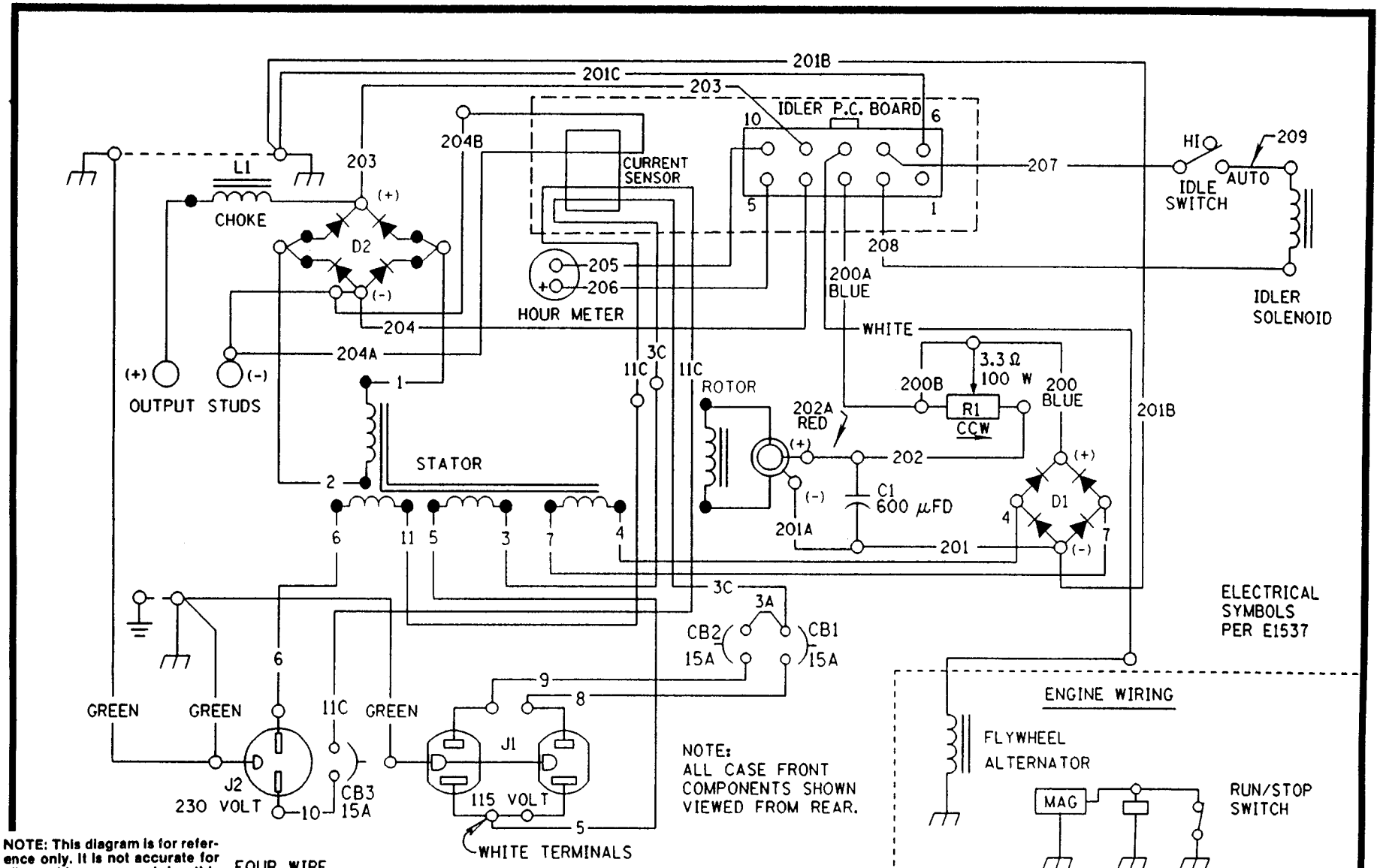
5. Remove P.C. board mounting screws (3).

6. To install P.C. board, reverse steps 1 through 5.

WIRING DIAGRAM – WELDANPOWER G3000



WIRING DIAGRAM – WELDANPOWER G3000 – LX



NOTE: This diagram is for reference only. It is not accurate for all machines covered by this manual. The specific diagram for a particular code is pasted inside the machine on one of the enclosure panels. If the diagram is illegible, write to the Service Department for a replacement. Give the welder code number.

FOUR WIRE AUXILIARY

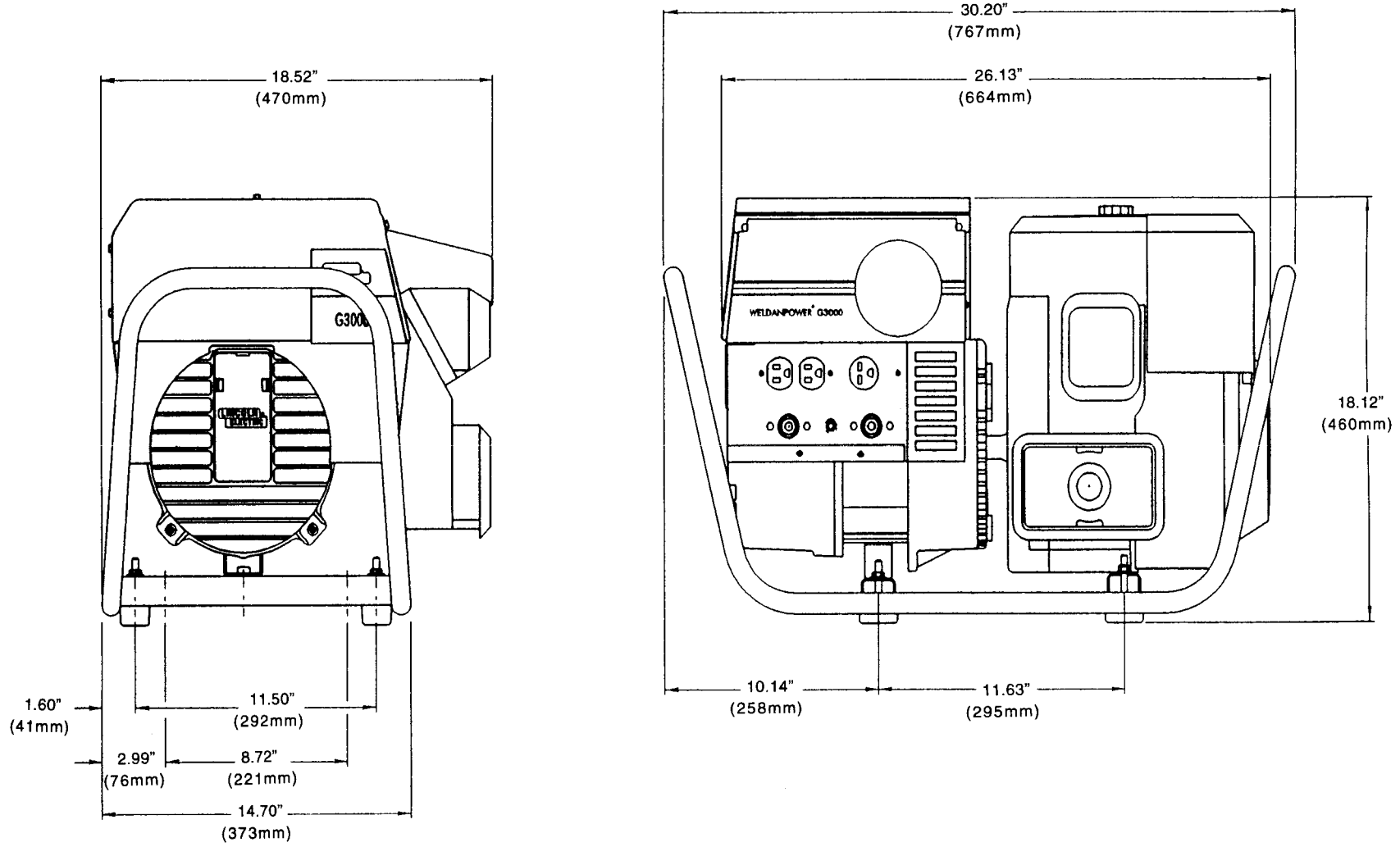
LINCOLN ELECTRIC

CLEVELAND, OHIO U.S.A.

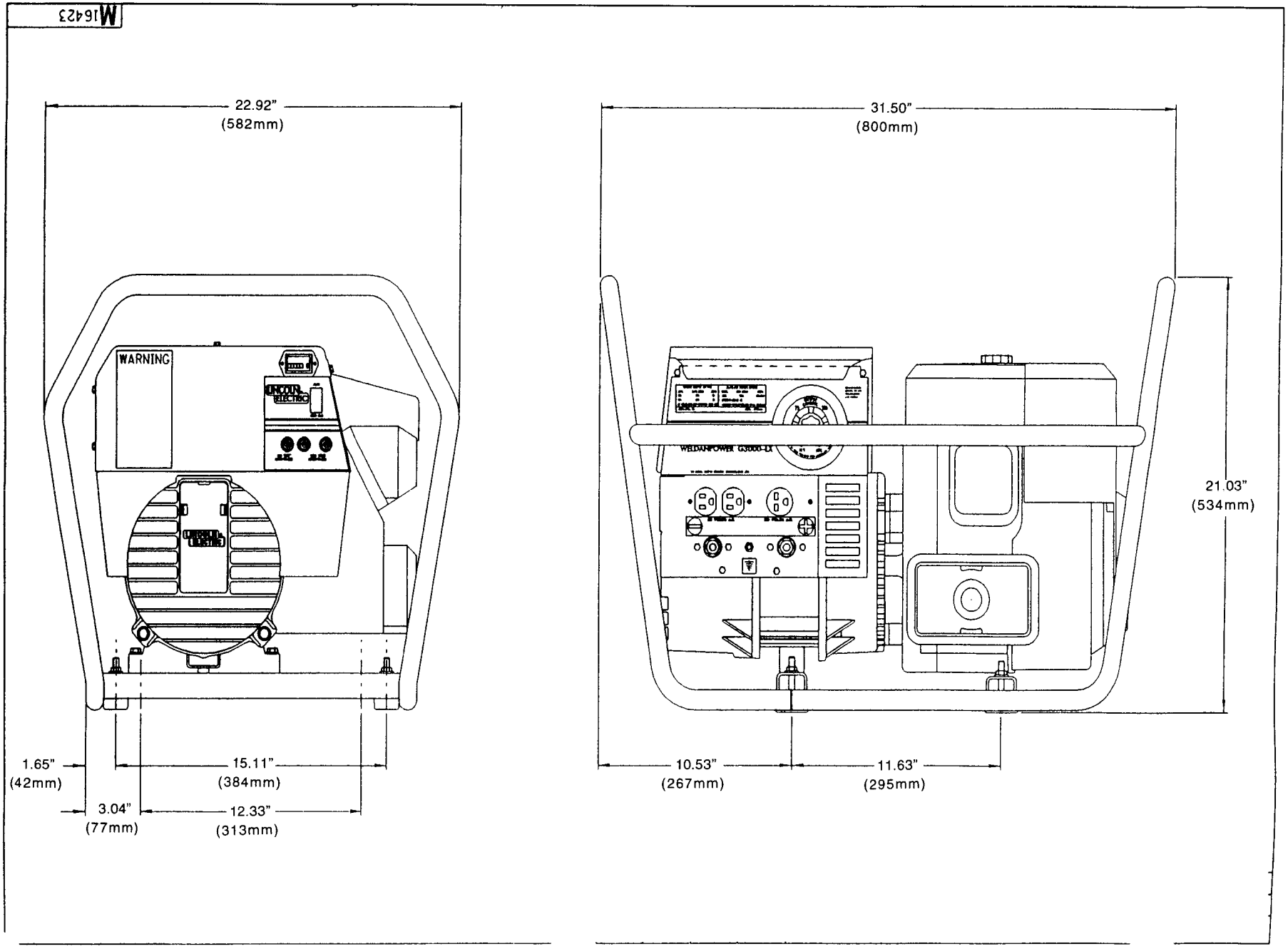
12-3-92F

S20766

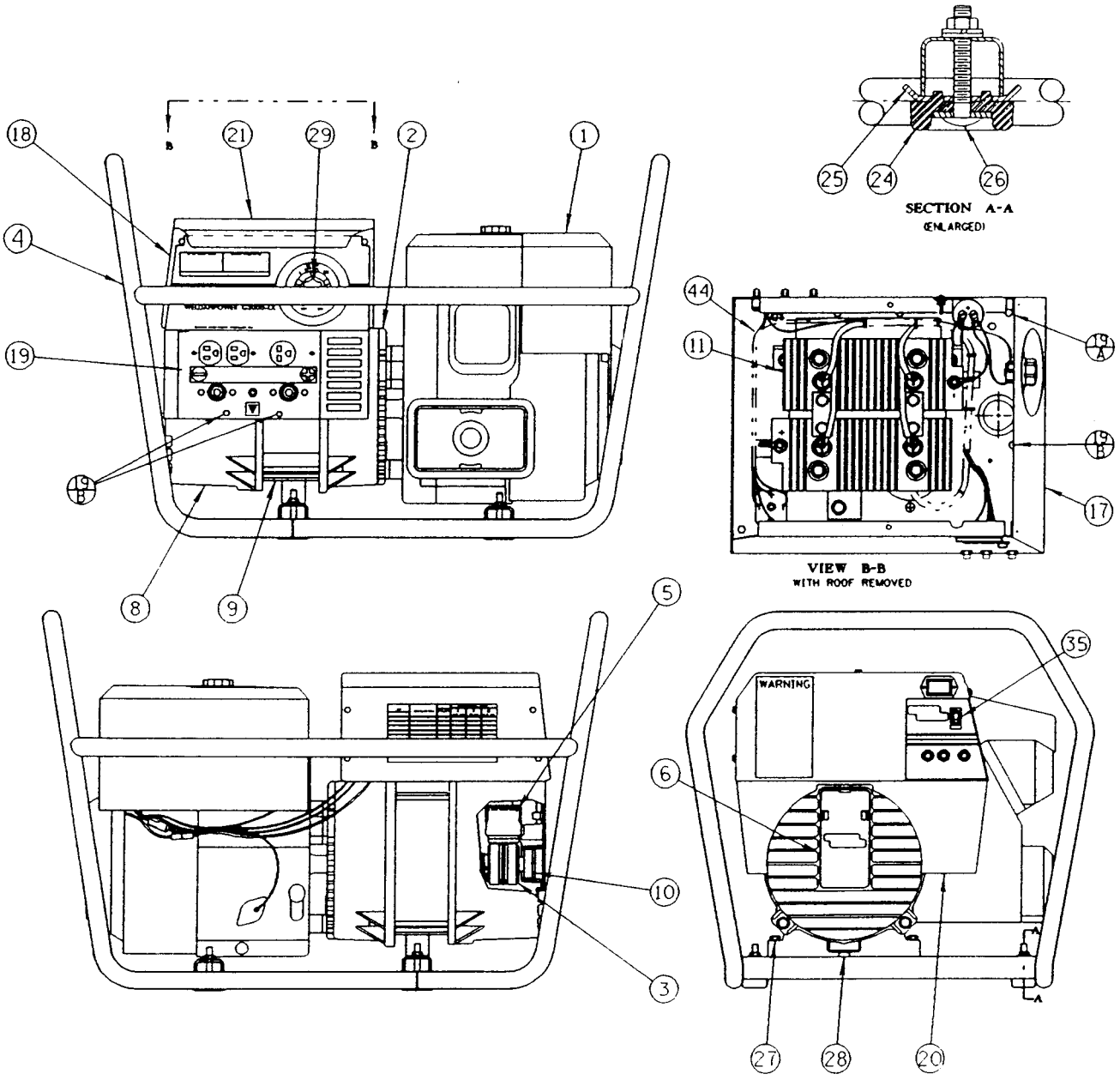
DIMENSION PRINT G3000



DIMENSION PRINT G3000-LX



GENERAL ASSEMBLY



G2126-2
11-14-90

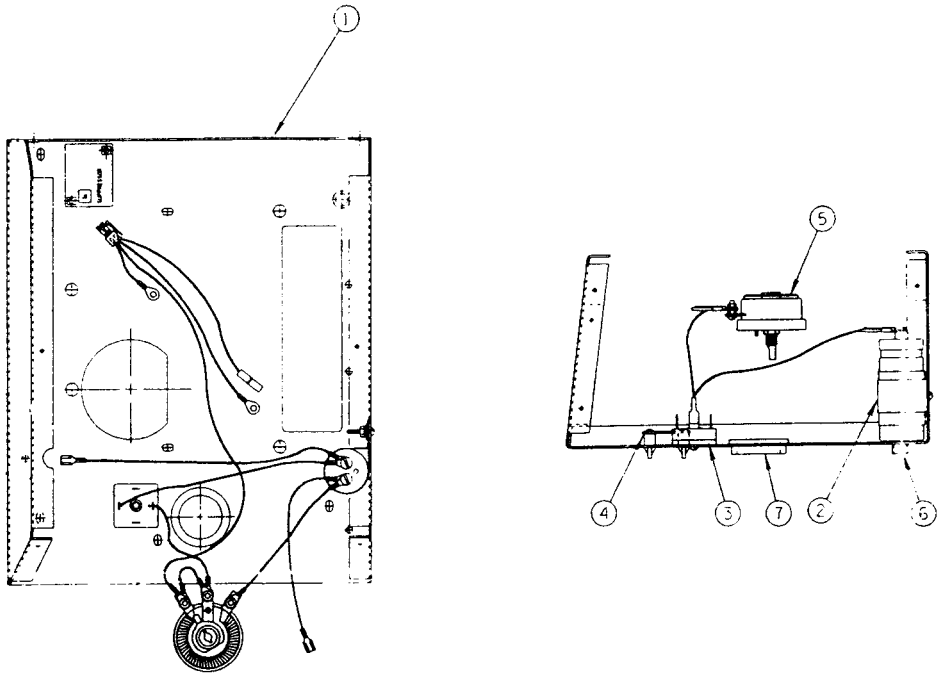
ITEM	DESCRIPTION	PART NO.	NO. REQ'D
1	B&S Vanguard 9 HP (Contact Engine Distributor)		1
2	Engine End Bracket	G2099	1
3	Rotor & Blower Assbly (Below Code 10,000)	L8153	1
3	Rotor & Blower Assbly (Above Code 10,000)	L8153-1	1
*	Rotor & Shaft Assbly	L8133	1
*	Blower (Below Code 10,000)	L8152	1
*	Blower (Above Code 10,000)	L8152-1	1
*	Tolerance Ring	S18044-3	1
4	Carrying Cradle	M16153	1
	Carrying Cradle (LX Model)	M16155	1
5	Brush & Brush Holder Assbly	M16158	1
*	Brush Holder Cartridge	G2114	1
*	Brush Assbly	S19480	2
*	Brush Holder Clip	M16157	1
6	Bearing Bracket End Cover	M16160	1
7	Blower Baffle (Below Code 10,000)	M16150	1
*	Self Tapping Screw	S8025-76	3
7	Blower Baffle (Above Code 10,000)	M17083	1
*	Self Tapping Screw	S8025-77	3
8	End Bracket (Below Code 10,000)	G2098	1
8	End Bracket (Above Code 10,000)	G2620	1
9	Stator & Bracket Assbly (Below Code 10,000)	M16151	1
9	Stator & Bracket Assbly (Above Code 10,000)	M16151-1	1
*	Stator Assbly (Below Code 10,000)	L8127-1	1
*	Stator Assbly (Above Code 10,000)	L8127-2	1
*	Mounting Bracket Assbly	S19477	1
10	Tolerance Ring	S18044-7	1
*	Bearing	M9300-84	1
11	Rectifier & Choke Assbly	L8155	1
*	Rectifier (Negative)	L8154-2	
*	Diode	M9661-39R	1
*	Rectifier (Positive)	L8154-1	1
*	Diode	M9661-39	1
17	Case Bottom & Sides	See P199-D	1
*	Self Tapping Screw	S8025-91	4
18	Case Front	G2118	1
18A	Self Tapping Screw	S8025-92	2
19	Output Panel Assbly	See P199-E	1
19A	Self Tapping Screw	S8025-91	1
19B	Self Tapping Screw	S8025-92	3

ITEM	DESCRIPTION	PART NO.	NO. REQ'D
20	Front Shroud	G2117	1
*	Self Tapping Screw	S8025-91	4
21	Roof	G2116	1
*	Self Tapping Screw	S8025-91	8
24	Friction Pad	M16409	4
25	Bracket	S19861	4
26	Pad Insert	S19862	4
*	Carriage Bolt	T11827-50	4
27	Engine Mounting Assbly	M8859-55	2
28	Stator Mounting Assbly	M8859-56	1
29	Knob	T10491	1
35	Switch (Below Code 10,000)	T10800-32	1
35	Switch (Above Code 10,000)	T10800-44	1
	Items Not Illustrated		
	Nameplate	L8120	1
	Nameplate (LX Model) (Below Code 10,000)	L8302	1
	Nameplate (LX Model) (Above Code 10,000)	L8560	1
	Warning Label	S19458	1
	Electrode Information Decal	S19718	1
	Auxiliary Power Decal (Below Code 10,000)	S19798	1
	Auxiliary Power Decal (Above Code 10,000)	S19798-1	1
	Warning Label	S19799	1
	Earth Ground Connection Decal	T13260-4	
	Field Installed Options		
	Power Plug Kit, Includes:	K802T	1
	3 Wire Plug (115V)	T12153-1	2
	3 Wire Plug (230V)	T12153-3	1
	Accessory Package, Includes:	K875	1
	Headshield	M9673-5	1
	Ground Clamp Assbly	M12033	1
	Electrode Holder	M13306	1
	Lead	M5513-71	1
	Lead	M5509-60	1
	Spark Arrester	K883-1	1
	Undercarriage Mounting Kit	K882-1	1

NOTE: Items with * Not Illustrated.

1-8-93

CASE BOTTOM & SIDES
(G3000 MODELS)

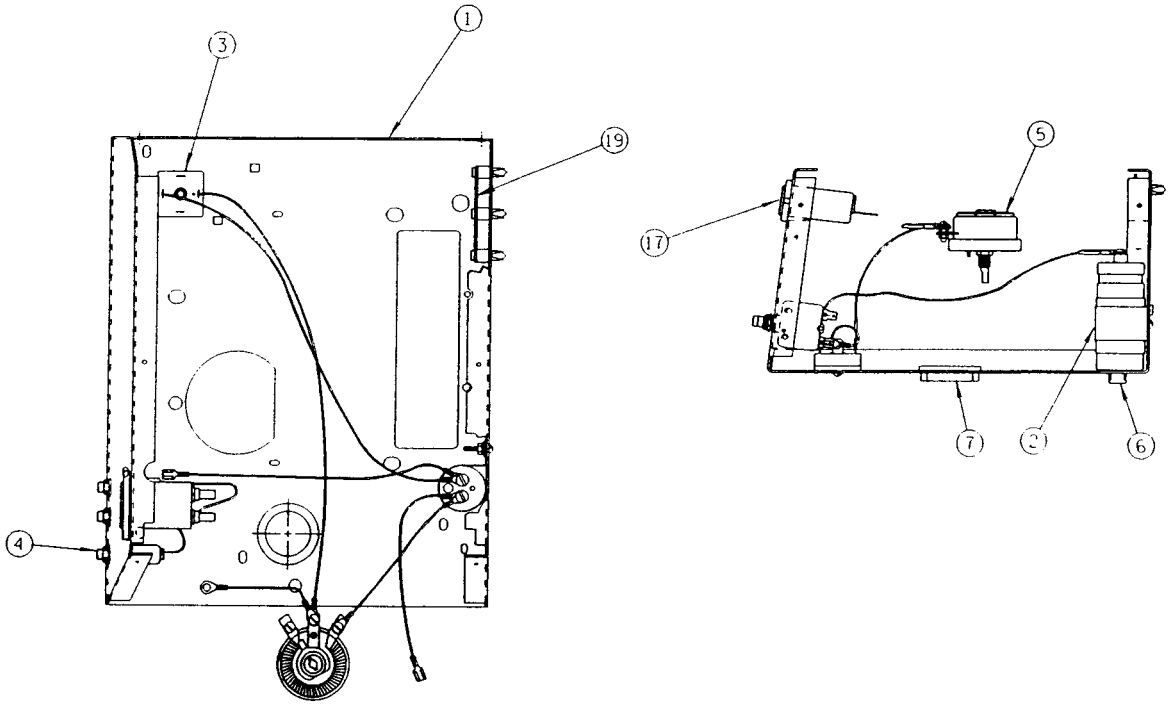


L8159
11-6-89

ITEM	DESCRIPTION	PART NO.	NO. REQ'D
1	Case Bottom & Sides	G2115	1
2	Capacitor (C1)	T11577-67	1
*	Clamp	S18517	1
3	Rectifier Bridge (D1)	T13637-1	1
4	Suppressor PC Board	M16142-1	1
*	Self Tapping Screw	S8025-75	2
*	PC Board Standoffs	S14020-3	2
5	Potentiometer	T10812-110	1
6	Bushing	T12380-2	1
7	Bushing	T12380-1	1

NOTE: Items with * Not Illustrated. 1-9-91

CASE BOTTOM & SIDES
(G3000-LX MODELS)

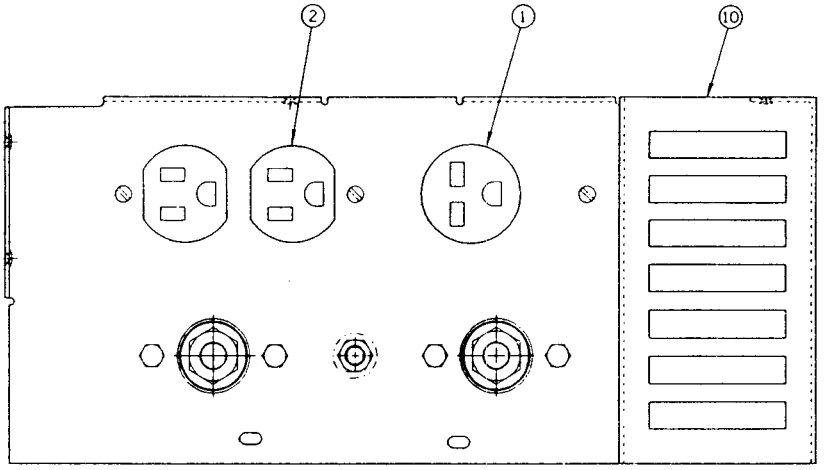


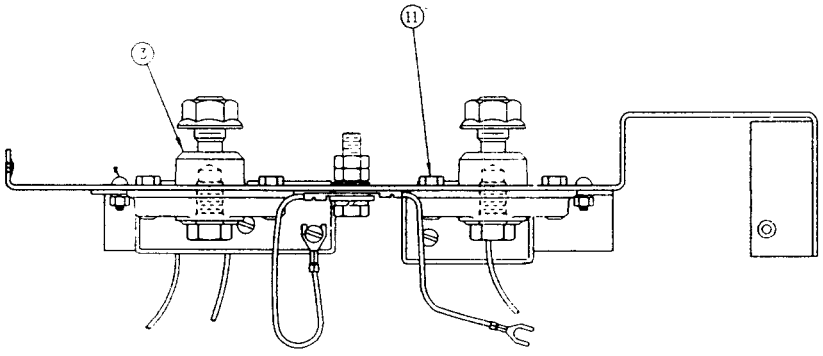
L8159-2
12-3-92

ITEM	DESCRIPTION	PART NO.	NO. REQ'D
1	Case Bottom & Sides (Below Code 10,000)	G2115-1	1
1	Case Bottom & Sides (Above Code 10,000)	G2115-2	1
2	Capacitor (C1)	T11577-67	1
*	Clamp	S18517	1
3	Rectifier Bridge (D1)	T13637-1	1
4	Circuit Breaker	T12287-22	3
5	Potentiometer	T10812-110	1
6	Bushing	T12380-2	1
7	Bushing	T12380-1	1
17	Hourmeter	S17475-1	1
19	Idler PC Board	M16391-1	1
*	Self Tapping Screw	S8025-75	3
*	Expansion Nut	S14020-3	3

NOTE: Items with * Not Illustrated. 1-8-93

OUTPUT PANEL ASSEMBLY





L8319
6-14-90

ITEM	DESCRIPTION	PART NO.	NO. REQ'D
1	230V Receptacle	S14675-1	1
2	115V Duplex Receptacle (Standard Models Only)	S11668	1
2	115V Duplex Receptacle (LX Models Only)	S11668-1	1
3	Output Terminal Assbly	M13900-4	2
10	Receptacle Panel	G2119	1
11	Self Tapping Screw	S8025-91	4

NOTE: Items with * Not Illustrated. 1-8-93

			
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絶緣。	• 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 INSTRUCT ION 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.

			
● 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 Schweißrauch! ● 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 painéis 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.

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，並請遵守貴方的有関勞動保護規定。

이 제품에 동봉된 작업지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다.

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

LIMITED WARRANTY

STATEMENT OF WARRANTY:

The Lincoln Electric Company (Lincoln) warrants to the original purchaser (end-user) of new equipment that it will be free of defects in workmanship and material.

This warranty is void if Lincoln finds that the equipment has been subjected to improper care or abnormal operation.

WARRANTY PERIOD:

All warranty periods date from the date of shipment to the original purchaser and are as follows:

Three Years:
- Transformer Welders
- Motor-generator Welders
- Semiautomatic Wire Feeders
- Plasma-cutting Power Source
- Engine Driven Welders (except engine and engine accessories) with operating speed under 2,000 RPM

Two Years:
- Engine Driven Welders (except engine and engine accessories) with operating speed over 2,000 RPM

All engine and engine accessories are warranted by the engine or engine accessory manufacturer and are not covered by this warranty.

Equipment not listed above such as guns and cable assemblies, automatic wire feeders and field installed optional equipment is warranted for one year.

TO OBTAIN WARRANTY COVERAGE:

You are required to notify Lincoln Electric, your Lincoln Distributor, Lincoln Service Center or Field Service Shop of any defect within the warranty period. Written notification is recommended.

WARRANTY REPAIR:

If Lincoln's inspection of the equipment confirms the existence of a defect covered by this warranty, the defect will be corrected by repair or replacement at Lincoln's option.

WARRANTY COSTS:

You must bear the cost of shipping the equipment to a Lincoln Service Center or Field Service Shop as well as return shipment to you from that location.

IMPORTANT WARRANTY LIMITATIONS:

- Lincoln will not accept responsibility for repairs made without its authorization.
- Lincoln shall not be liable for consequential damages (such as loss of business, etc.) caused by the defect or reasonable delay in correcting the defect.
- Lincoln's liability under this warranty shall not exceed the cost of correcting the defect.
- This written warranty is the **only** express warranty provided by Lincoln with respect to its products. Warranties implied by law such as the Warranty of Merchantability are limited to the duration of this limited warranty for the equipment involved.

PERFORMANCE PLUS PROTECTION
3 YEAR WARRANTY PARTS & LABOR
LINCOLN® ELECTRIC

LINCOLN® ELECTRIC

THE LINCOLN ELECTRIC COMPANY
World's Leader in Welding and Cutting Products • Premier Manufacturer of Industrial Motors
Sales and Service through Subsidiaries and Distributors Worldwide
Cleveland, Ohio 44117-1199 U.S.A.

April '93

Litho in U.S.A.