IM433-C

WELDANPOWER® G8000

MULTIPROCESS GASOLINE ENGINE DRIVEN WELDER AND POWER GENERATOR

IM433 June, 1995
June, 1995
9742; 9790; 9791; 9792;
9932; 9933; 9971; 9991;
10062; 10063

For use with machine Code Numbers 9742, 9791, 9792, 9932, 9933, 9971, 9991, 10062 and 10063

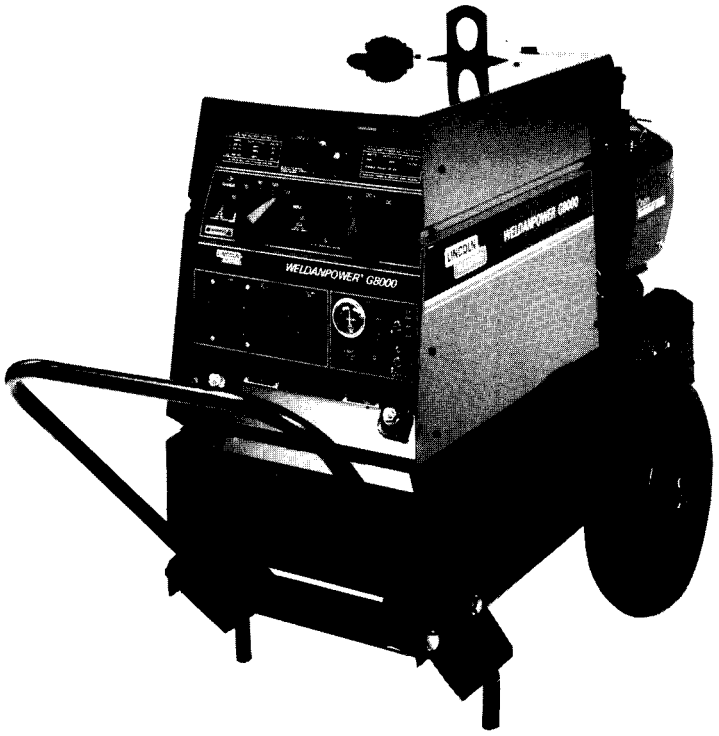
This manual covers equipment which is obsolete and no longer in production by The Lincoln Electric Co. Specifications and availability of optional features may have changed.

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.

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.



OPERATOR'S MANUAL

World's Leader in Welding and Cutting Products
LINCOLN® ELECTRIC
Premier Manufacturer of Industrial Motors
Sales and Service through Subsidiaries and Distributors Worldwide
22801 St. Clair Ave. Cleveland, Ohio 44117-1199 U.S.A. Tel. (216) 481-8100

⚠ WARNING

! CALIFORNIA PROPOSITION 65 WARNINGS !

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

The Above For Diesel Engines

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

The Above For Gasoline Engines

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

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

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

FOR ENGINE powered equipment.

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

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

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

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

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

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

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

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

ELECTRIC AND MAGNETIC FIELDS may be dangerous

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

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

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

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

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

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

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

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

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

ELECTRIC SHOCK can kill.

3.a. The electrode and work (or ground) circuits are electrically "hot" when the welder is on. Do not touch these "hot" parts with your bare skin or wet clothing. Wear dry, hole-free gloves to insulate hands.

3.b. Insulate yourself from work and ground using dry insulation. Make certain the insulation is large enough to cover your full area of physical contact with work and ground.

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

- **Semiautomatic DC Constant Voltage (Wire) Welder.**
- **DC Manual (Stick) Welder.**
- **AC Welder with Reduced Voltage Control.**

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

3.d. Always be sure the work cable makes a good electrical connection with the metal being welded. The connection should be as close as possible to the area being welded.

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

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

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

3.h. Never simultaneously touch electrically "hot" parts of electrode holders connected to two welders because voltage between the two can be the total of the open circuit voltage of both welders.

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

3.j. Also see Items 6.c. and 8.

ARC RAYS can burn.

4.a. Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing open arc welding. Headshield and filter lens should conform to ANSI Z87. 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.

Mar '95

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.

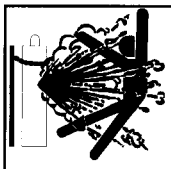
6.d. Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapors from substances inside. They can cause an explosion even though they have been "cleaned". For information, purchase "Recommended Safe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

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

IMPORTANT SAFETY NOTE: EMF CONSIDERATIONS

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5. *Do not work next to welding power source.*

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   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.
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   d. Ne jamais plonger le porte-électrode dans l'eau pour le refroidir.
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TABLE OF CONTENTS

[1] For Code 9742 order wiring diagram S20108 and for Code 9791 order wiring diagram S20109 direct from The Lincoln Electric Co.

GENERAL DESCRIPTION

The Weldanpower G8000 is a twin cylinder gasoline engine driven multiprocess arc welder and AC power generator. It is built in a heavy gauge steel case for durability.

SPECIFICATIONS

MACHINE DETAILS	K1405-1, K1405-2 WELDANPOWER G8000	K1404-1, K1404-2 WELDANPOWER G8000	K1417-1 WELDANPOWER G8000
Engine Manufacturer & Model	Briggs & Stratton Vanguard 303447	Onan P216	Kohler Command CH18S
Welding Output AC Constant Current DC Constant Current DC Constant Voltage Duty Cycle Max. O.C.V.	 225 Amps, 25 Volts 210 Amps, 25 Volts 200 Amps, 20 Volts 100% 80 Volts	 225 Amps, 25 Volts 210 Amps, 25 Volts 200 Amps, 20 Volts 100% 80 Volts	 225 Amps, 25 Volts 210 Amps, 25 Volts 200 Amps, 20 Volts 100% 80 Volts
Auxiliary Power Output Voltage Duty Cycle Receptacles	 8000 Watts, 60 Hz 115/230 Volts 100% 2-115 Volt Duplex 1-115/230 Volt Dual Voltage Full KVA (35 Amps) (K1405-2 is CSA approved)	 8000 Watts, 60 Hz 115/230 Volts 100% 2-115 Volt Duplex 1-115/230 Volt Dual Voltage Full KVA (35 Amps) (K1404-2 is CSA approved)	 8000 Watts, 60 Hz 115/230 Volts 100% 2-115 Volt Duplex 1-115/230 Volt Dual Voltage Full KVA (35 Amps)
Lubrication	Oil Pump, Pressure Lubrication Full Flow Oil Filter Oil Fill Tube and Dipstick Oil Capacity (including filter) 3.5 Pints (1.66 Liter)	Oil Pump, Pressure Lubrication Full Flow Oil Filter Oil Fill Tube and Dipstick Oil Capacity (including filter) 3.6 Pints (1.70 Liter)	Oil Pump, Pressure Lubrication Full Flow Oil Filter Oil Fill Tube and Dipstick Oil Capacity (including filter) 4.0 Pints (1.90 Liter)
Fuel System	8.0 Gallon Gasoline Tank (30 Liter) Fuel Filter and Pump	8.0 Gallon Gasoline Tank (30 Liter) Fuel Filter and Pump	8.0 Gallon Gasoline Tank (30 Liter) Fuel Filter and Pump
Starting System	12 Volt Battery, 235 Cold Cranking Amps Group U1 Toggle Start Switch Charging Ammeter Manual Choke	12 Volt Battery, 235 Cold Cranking Amps Group U1 Toggle Start Switch Charging Ammeter Manual Choke	12 Volt Battery, 235 Cold Cranking Amps, Group U1 Toggle Start Switch Charging Ammeter Manual Choke
Engine	16 HP @ 3600 RPM (SAE J1349 Gross) 2 Cylinder, 4 Cycle, Air Cooled Gasoline Aluminum Alloy Block with Cast Iron Liners Solid State Ignition Automatic Electronic Idler 3500 RPM Full Load 3700 RPM High Idle 1950 RPM Low Idle	16 HP @ 3600 RPM (SAE J1349 Gross) 2 Cylinder, 4 Cycle, Air Cooled Gasoline Aluminum Alloy Block with Cast Iron Liners Solid State Ignition Automatic Electronic Idler 3500 RPM Full Load 3700 RPM High Idle 1950 RPM Low Idle	18 HP @ 3600 RPM (SAE J1349 Gross) 2 Cylinder, 4 Cycle, Air Cooled Gasoline Aluminum Alloy Block with Cast Iron Liners Solid State Ignition Automatic Electronic Idler 3500 RPM Full Load 3700 RPM High Idle 1950 RPM Low Idle
Muffler	Low Noise "Crossover" Type	Low Noise "Crossover" Type	Low Noise "Crossover" Type
Air Cleaner	Dual Element	Two Stage Dry Type	Dual Element
Bore x Stroke, Inches (mm)	2.68 x 2.60 (68 x 66)	3.25 x 2.62 (83 x 66)	3.03 x 2.64 (77 x 67)
Displacement, Cu. In. (cc)	29.3 (480)	43.3 (710)	38.1 (624)
Dimensions H x W x L, Inches (mm)	 30.1 x 18.1 x 42.3 (765 x 460 x 1073)	 30.1 x 18.7 x 42.3 (765 x 475 x 1073)	 30.1 x 18.1 x 42.3 (765 x 460 x 1073)
Net Weight, Lbs. (kg)	467 (212)	503 (229)	485 (220)

OPTIONAL FEATURES

K768-1 Two Wheel Trailer
For in-plant and yard towing. (For highway use, consult applicable federal, state and local laws regarding possible requirements for brakes, lights, fenders, etc.) Two 4.80 x 12" four-ply tubeless tires. Bed-plate mounting. Has stand for tow bar and grips for hand pulling. Overall width 43.06" (1.09 m).

K885-1 Engine Hour Meter Kit
For K1405-1 and K1405-2 only. Easily installed hour meter with quartz movement. Facilitates a proper schedule for engine servicing. (Standard on K1404-1, K1404-2 and K1417-1).

K886-1 Canvas Cover
To protect the G8000 when it is not being operated. Made from attractive red canvas material that is flame retardant, mildew resistant and water repellent.

K889-1 Two Wheel Undercarriage
For moving by hand. Two 4.00 x 8" industrial tires. Overall width 29" (.74 m).

K890-1 Truck Bed Mounting Rails
Heavy gauge steel rails that attach to the base of the G8000 and provide easily accessible holes for mounting the unit to a truck bed.

K892-1 Remote Control Receptacle Kit
For machines above code 9800. Includes a 6 pin MS-type (Amphenol) receptacle and a local-remote toggle switch that mounts in the case front. Requires a K857 Remote Control option.

K857 Remote Control
Consists of a control box with 25 ft. (7.5 m) of four conductor cable. Permits remote adjustment of output voltage. (Requires a K892-1 Remote Control Receptacle Kit to be mounted in machine.)

K893-1 Caster for Undercarriage
Mounts to the front of the K889-1 Two-Wheel Undercarriage to allow easy movement on smooth surfaces. Includes a six inch diameter hard rubber wheel with a convenient toe-on, toe-off locking brake.

K894-1 Spark Arrester Kit
Includes a heavy gauge steel, approved spark arrester and clamp for easy mounting to muffler exhaust pipe.

K896-1 GFCI Receptacle Kit
For K1404-1, K1405-1 and K1417-1 machines above code 9800. Includes two UL approved 115 volt ground fault circuit interrupter duplex type receptacles with installation instructions. Replaces the two factory installed 115 volt duplex receptacles. Each receptacle of each GFCI duplex is rated at 15 amps but the maximum total current from each GFCI duplex is limited to 20 amps. (Not for use on K1404-2 or K1405-2 CSA machines.)

K799 High Frequency Unit
High frequency generator with gas valve for AC and DC TIG welding. Rated at 250 amps. Includes by-pass capacitor which mounts inside the G8000.

K902-2 High Frequency Mounting Bracket
For mounting the K799 High Frequency Unit on top of the G8000.

K915-1 Amptrol Adapter
See MS 524

K710 Accessory Kit
Accessory Set includes 30 ft. (9.1 m) 3 AWG electrode cable, 25 ft. (7.6 m) 3 AWG work cable, headshield with No. 12 filter, work clamp and electrode holder. Cables are rated 40% duty cycle at 225 amps.

K802-R Power Plug Kit
Provides four 115 volt plugs rated at 15 amps each and one dual voltage, full KVA plug rated at 115/230 volts, 50 amps.

K802-N Power Plug Kit
Provides four 115 volt plugs rated at 20 amps each and one dual voltage, full KVA plug rated at 115/230 volts, 50 amps. (Not for use with K1404-2 or K1405-2 CSA machines and machines with GFCI receptacles.)

INSTALLATION INSTRUCTIONS

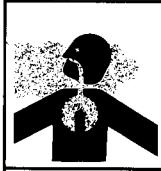
⚠ WARNING: Do not attempt to use this equipment until you have thoroughly read all operating & maintenance manuals supplied with your machine. They include important safety precautions, detailed engine starting, operating and maintenance instructions, and parts lists.

Hazards of Electric Shock, Engine Exhaust & Moving Parts

⚠ WARNING

ELECTRIC SHOCK can kill.

- **Do not touch electrically live parts such as output terminals or internal wiring**



ENGINE EXHAUST can kill.

- **Use in open, well ventilated areas or vent exhaust outside**

MOVING PARTS can injure.

- **Do not operate with covers or guards off**
- **Stop engine before servicing**
- **Keep away from moving parts**

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

Machine Grounding
Because this portable engine driven welder or generator creates its own power, it is not necessary to connect its frame to an earth ground, unless the machine is connected to premises wiring (your home, shop, etc.).

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

a. be grounded to the frame of the welder using a grounded type plug, ***or***

b. be double insulated.

When this welder is mounted on a truck or trailer, its frame must be securely connected to the metal frame of the vehicle.

Where this engine driven welder is connected to premises wiring such as that in your home or shop, its frame must be connected to the system earth ground. See further connection instructions in the section entitled **Standby Power Connections on page 13**, as well as the article on grounding in the latest U.S. National Electrical Code and the local code.

In general if the machine is to be grounded, it should be connected with a #8 or larger copper wire to a solid earth

ground such as a metal water pipe going into the ground for at least ten feet and having no insulated joints, or to the metal framework of a building which has been effectively grounded. The U.S. National Electrical Code lists a number of alternate means of grounding electrical equipment. A machine grounding stud marked with the symbol ⏚ is provided on the front of the welder.

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 muffler included with this welder does not qualify as a spark arrester. When required by local regulations a suitable spark arrester must be installed and properly maintained.

CAUTION: An incorrect arrester may lead to damage to the engine or adversely affect performance.

⚠ WARNING

GASES FROM BATTERY can explode.

- **Keep sparks, flame and cigarettes away from battery.**

To prevent EXPLOSION when:

- **INSTALLING A NEW BATTERY — disconnect negative cable from old battery first and connect to new battery last.**
- **CONNECTING A BATTERY CHARGER — remove battery from welder by disconnecting negative cable first, then positive cable and battery clamp. When reinstalling, connect negative cable last. Keep well ventilated.**
- **USING A BOOSTER — connect positive lead to battery first then connect negative lead to engine foot.**

BATTERY ACID can burn eyes and skin.

- **Wear gloves and eye protection and be careful when working near battery.**
- **Follow instructions printed on battery.**

PRE-OPERATION SERVICE

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

⚠ WARNING

GASOLINE fuel can cause fire or explosion.

- **Stop engine when fueling.**
- **Do not smoke when fueling.**
- **Do not overfill tank.**
- **Wipe up spilled fuel and allow fumes to clear before starting engine.**
- **Keep sparks and flame away from tank.**

Oil

The G8000 is shipped with the engine crank case filled with SAE 10W-30 oil. Check the oil level before starting the engine. If it is not up to the full mark on the dip stick, add oil as required. Make certain that the oil filter cap is tightened securely. Refer to engine's Operating Manual for specific oil recommendation.

Lubrication System Capacity (including filter)

Onan P216	3.6 pints (1.7 liters)
Briggs & Stratton Vanguard 303447	3.5 pints (1.7 liters)
Kohler Command CH18S	4.0 pints (1.9 liters)

Fuel

Fill the fuel tank with clean, fresh lead free gasoline. The capacity is approximately 8.0 gallons (30 liters).

Battery Connection

This welder is shipped with the negative battery cable disconnected. Make sure that the Engine Switch is in the "STOP" position and attach the disconnected cable securely to the negative battery terminal before attempting to operate the machine. If the battery is discharged and does not have enough power to start the engine, see page 16 for battery charging instructions.

WELDING OUTPUT CABLES

With the engine off, connect the electrode and work cables to the studs provided. These connections should be checked periodically and tightened if necessary. Loose connections will result in overheating of the output studs.

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	Total Combined Length of Electrode and Work Cables				
		0-50 ft.	50-100 ft.	100-150 ft.	150-200 ft.	200-250 ft.
225	40	3 AWG	3 AWG	2 AWG	1 AWG	1/0 AWG
225	100	1 AWG	1 AWG	1 AWG	1 AWG	1/0 AWG

OPERATING INSTRUCTIONS

SAFETY PRECAUTIONS

Location/Ventilation

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

⚠ WARNING

Damage to fuel tank may cause fire or explosion. Do NOT drill holes in the G8000 base or weld to the G8000 base. The K890-1 mounting rail kit is available for mounting the G8000 to a flat surface such as a truck bed.

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 8 gallons.

High Altitude Operation

If the G8000 will be consistently operated at altitudes above 5000 feet, a carburetor jet designed for high altitudes should be installed. This will result in better fuel economy, cleaner exhaust, and longer spark plug life. It will **not** give increased power which is decreased at higher altitudes.

CAUTION: Do not operate a G8000 with a high altitude jet installed at altitudes below 5000 feet. This will result in the engine running too lean and result in higher engine operating temperatures which can shorten engine life.

High altitude jet kits are available from the engine manufacturer. For the Onan model, order kit part number 146-0458. For the Briggs and Stratton model, order kit part number 805537. For the Kohler model, order kit part number 2475501.

ENGINE OPERATION

Engine Control Function/Operation

"ENGINE" Switch

Three position toggle: "START", "RUN", and "STOP". When placed in the "START" position the starter motor is energized to crank the engine. Hold in "START" position to crank the engine; release as the engine starts. Do not place in "START" position while engine is running since this can cause damage to the ring gear and/or starter motor.

When placed in the "START" and "RUN" position, this switch energizes the engine ignition circuit. When placed in the "STOP" position, the ignition circuit is de-energized to shut down the engine.

"IDLER CONTROL" Switch

Has two positions as follows:

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 power for lights or tools (approximately 100-150 watts minimum) from the receptacles, the engine operates at full speed.
   b. When welding ceases or the power load is turned off a fixed time delay of approximately 12 seconds starts. If the welding or power load is not restarted before the end of the time delay, the idler reduces the engine to low idle speed.
   c. The engine will automatically return to high idle speed when the welding load or auxiliary power load is reapplied.

NOTE: When *TIG welding using the K799 Hi-Freq Unit,* the High Idle ( ) position must be used for proper operation. [The Automatic Position (/) may be used with scratch start DC TIG welding.]

CAUTION: Excessive arcing can cause damage to the electrode gun tip when scratch starting while "Constant Voltage" welding.

Battery Charging Ammeter

Indicates amount of battery charging current. It is normal for the charging current to be high after starting or when the battery is "low" on charge.

STARTING/SHUTDOWN INSTRUCTIONS

Be sure all Pre-Operation Service has been performed. (See pages 9 and 10.)

Remove all loads connected to the AC power receptacles. To start the engine, set the "Idler Control" switch in the Automatic (/) position. Use the choke control as follows: **Onan Engine** – If the engine is cold, pull the choke control out. Do **not** use the choke if the engine is warm or hot. **Briggs & Stratton Engine** – Use the choke if the engine is cold or warm.. **Kohler Engine – Always** pull the choke control out when starting the engine; cold, warm or hot engine. Hold the "Engine" switch in the "Start" position.

Release the toggle switch when the engine starts. After the engine has started, slowly return the choke control to full "in" position (choke open).

After running at high engine speed for 8-12 seconds, the engine will go to low idle.

Allow the engine to warm up by letting it run at low idle for a few minutes.

When an engine is started for the first time, some of the oil will be needed to fill the passages of the lubricating system. Therefore, on initial starting, run the engine for about five minutes and then stop the engine and recheck the oil. If the level is down, fill to the full mark again.

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 "Engine" switch in the "Stop" position.

A fuel shut off valve is not required on the G8000 because the fuel tank is mounted below the engine.

Manual Starting G8000 Machines with Recoil Starter

K1405-1 and K1405-2 G8000's (Briggs & Stratton Vanguard engine) that were manufactured after February, 1992 include a manual recoil starter. This can be used in the event that the battery is discharged to the point that it will not allow cranking. If the battery is removed or is shorted, manual pull starting ***cannot*** be used. The engine will start but there will be no welding and auxiliary power output. A residual battery voltage of approximately 2 volts is required for the alternator to build up and generate power.

	Briggs & Stratton 16 H.P. Vanguard	Onan P216 16 H.P. Performer	Kohler 18 H.P. Command
Low Idle – No Load 1950 RPM	0.26 gallons/hour (1.0 liters/hour)	0.37 gallons/hour (1.4 liters/hour)	0.42 gallons/hour (1.6 liters/hour)
High Idle – No Load 3700 RPM	0.58 gallons/hour (2.2 liters/hour)	0.92 gallons/hour (3.5 liters/hour)	0.74 gallons/hour (2.8 liters/hour)
AC CC Weld Output 225 Amps @ 25 Volts	1.35 gallons/hour (5.1 liters/hour)	1.53 gallons/hour (5.8 liters/hour)	1.19 gallons/hour (4.5 liters/hour)
DC CC Weld Output 210 Amps @ 25 Volts	1.43 gallons/hour (5.4 liters/hour)	1.72 gallons/hour (6.5 liters/hour)	1.27 gallons/hour (4.8 liters/hour)
DC CV Weld Output 200 Amps @ 20 Volts	1.08 gallons/hour (4.1 liters/hour)	1.35 gallons/hour (5.1 liters/hour)	1.08 gallons/hour (4.1 liters/hour)
Auxiliary Power 8000 Watts	1.40 gallons/hour (5.3 liters/hour)	1.74 gallons/hour (6.6 liters/hour)	1.24 gallons/hour (4.7 liters/hour)

WELDER OPERATION

Welder Output

- Constant Current: 225 amps AC @ 25 volts
  210 amps DC @ 25 volts
- Constant Voltage: 200 amps DC @ 20 volts
- Maximum Open Circuit Voltage at 3700 RPM is 80 Volts RMS
- Duty Cycle: 100% for both welding and auxiliary power

Duty Cycle

The Weldanpower G8000 is rated at 100% duty cycle on all welding taps and auxiliary power.

"RANGE" Switch

A six position switch with designated welding currents as follows: 50, 70, 90, 125, 175, MAX is standard. These taps are used for Stick/TIG (constant current) welding. The "MAX" tap provides 225 amps AC and 210 amps DC. The Output Selector Switch includes a seventh position designated for wire feed (constant voltage) welding. This tap provides a maximum of 200 amps DC for wire feed welding.

CAUTION: Never change the "Range" switch setting while welding. This will cause severe damage to the switch.

"POLARITY" Switch

A three position switch with designated welding polarities as follows: AC, DC(–) and DC(+).

CAUTION: Never change the "Polarity" switch setting while welding. This will cause severe damage to the switch.

"OUTPUT" Control

Provides welding current adjustment between the "Range" switch settings in the Stick/TIG mode and welding voltage control with the "Range" switch set in the wire feed mode.

⚠ WARNING

ELECTRIC SHOCK can kill.

- **Do not touch electrically live parts such as output terminals or internal wiring**

ENGINE EXHAUST can kill.

- **Use in open, well ventilated areas or vent exhaust outside**

MOVING PARTS can injure.

- **Do not operate with covers or guards off**
- **Stop engine before servicing**
- **Keep away from moving parts**

- **Remove guards only when necessary and replace when work requiring removal is complete.**
- **Only qualified personnel should install, use, or service this equipment.**

PROCEDURE ADJUSTMENT

Stick (Constant Current) Welding

Connect welding cables to the "TO WORK" and "ELECTRODE" studs. Start the engine and set the idler switch to the desired operating mode. Set the "RANGE" switch to the desired welding current, the "polarity" switch to the desired polarity and the machine is ready for welding. A fine adjustment of the welding current can be made with the "Output" control.

The Weldanpower G8000 can be used with a broad range of AC and DC stick electrodes. See "Welding Tips 1" included with the operating manual for the electrodes within the rating of this unit.

It is recommended that the "Output" control be initially set to the maximum setting (10) and the "Range" switch set to give the desired current or slightly higher than the desired current. Then, if necessary, adjust the "Output" control to a lower setting for the desired current. Some arc instability may occur if the "Output" control is set to a low position rather than setting the "Range" switch to the next lower setting.

TIG (Constant Current) Welding

The K799 Hi-Freq Unit includes an R.F. bypass capacitor kit which ***must*** be installed inside the G8000 case for proper R.F. operation and for power source protection. Installation instructions are in the kit. (When using the Weldanpower G8000 with any other high frequency equipment, an R.F. capacitor ***must*** be installed. Order Kit T12246.) To provide protection, the welder grounding stud must be connected to ground. Also follow the grounding instructions given in the Hi-Freq Instruction Manual (IM-298).

When using the G8000 for AC TIG welding of aluminum, the following settings and electrodes are recommended:

SETTINGS FOR PURE TUNGSTEN		
Tungsten Diameter	**Range Switch Settings**	**Approximate Current Range**
1/8	70, 90 or 125	80-150 amps
3/32	50, 70 or 90	45-130 amps
1/16	50 or 70	40- 80 amps

SETTINGS FOR 1% THORIATED TUNGSTEN		
Tungsten Diameter	**Range Switch Settings**	**Approximate Current Range**
1/8	70, 90, 125, or 175	80-225 amps
3/32	50, 70, 90, or 125	50-180 amps
1/16	50, 70, or 90	45-120 amps

The K799 should be used with the Weldanpower G8000 on high idle to maintain satisfactory operation. See K799 Operating Manual (IM-298) for details on the K799's operation.

Connection of the WP G8000 to the LN-25

a. Shut the welder off.

b. Connect the electrode cable from the LN-25 to the electrode terminal of the welder. Connect the work cable to the work terminal of the welder.

c. Position the welder "Polarity" switch to the desired polarity, either DC(–) or DC(+).

d. Position the "Range" switch to the "Wire Feed" position.

e. Attach the single lead from the LN-25 control box to the work using the spring clip on the end of the lead. This is only a control lead — it carries no welding current.

f. Place the idler switch in the "High Idle" position. The automatic idler may not function properly in the wire feed mode. (See page 10 and 11.)

g. Adjust wire feed speed at the LN-25 and adjust the welding voltage with the "Output Control" at the welder.

NOTE: The welding electrode is energized at all times, unless an LN-25 with built-in contactor is used.

Connection of the WP G8000 to the LN-7

a. Shut the welder off.

b. Connect the LN-7 and the K240 contactor kit per instructions on connection diagram S17742 on page 14.

c. Place the "Output Selector" switch to the "Wire Feed" position and the "Electrode Polarity" switch to the desired polarity.

d. Place the idler switch in the "High Idle" position. The engine idling device may not function when welding in the wire feed mode.

e. Adjust wire feed speed at the LN-7 and adjust the welding voltage with the "Output" control at the welder.

Wire Feed Welding Processes

The only Innershield® electrode recommended for use with the G8000 is NR211MP. The electrode sizes and welding ranges that can be used with the G8000 are shown in the following table:

Dia.	Wire Speed Range in./min	Approximate Current Range
.035	80-110	75A to 120A
.045	70-130	120A to 170A
.068	40-90	125A to 210A

The G8000 is recommended for limited "MIG" welding (GMAW – gas metal arc welding). The recommended electrodes are .030 and .035 L-50 and L-56. They must be used with a blended shielding gas such as C25 (75% argon – 25% CO_2). The welding ranges that can be used with the G8000 are shown in the following table:

Dia.	Wire Speed Range in./min	Approximate Current Range
.030	150-500	80A to 180A
.035	100-400	80A to 200A

NOTE: The above Innershield® and "MIG" welding ranges apply to an LN-25 wire feeder. When using an LN-7 wire feeder, the minimum "Output" control setting is limited. Settings below "3" can result in the auxiliary voltage being too low which can cause improper operation of the LN-7 and/or the contactor kit.

AUXILIARY POWER

Start the engine and set the idler control switch to the desired operating mode. Voltage is now at the receptacles for auxiliary power.

The auxiliary power receptacles should only be used with three wire grounded type plugs or approved double insulated tools with two wire plugs.

The current rating of any plug used with the system must be at least equal to the current load through the associated receptacle. Do not attempt to connect power receptacles in parallel.

Most 1.5 hp AC single phase motors can be started if there is no load on the motor or other load connected to the machine, since the full load current rating of a 1.5 hp motor is approximately 20 amperes (10 amperes for 230 volt motors). The motor may be run at full load when plugged into only one side of the duplex receptacle. Larger motors through 2 hp can be run provided the receptacle rating as previously stated is not exceeded. This may necessitate 230 V operation only.

It must be noted that the above auxiliary power ratings are with no welding load. Simultaneous welding and power loads are permitted by following Table I. The permissible currents shown assume that current is being drawn from either the 115 volt or 230 volt supply (not both at the same time). Also, the "Output Control" is set at "10" for maximum auxiliary power.

TABLE I
SIMULTANEOUS WELDING AND POWER

"Range" Switch Setting	Permissible Power Watts (Unity Power Factor)	Permissible Auxiliary Current in Amperes @ 115 V or @ 230 V	
175-Max CV	None	0	0
125	1800	16	8
90	3600	32	16
70	4600	40	20
50	5800	50	25
NO WELDING	8000	70	35

Standby Power Connections

The Weldanpower G8000 is suitable for temporary, standby or emergency power using the engine manufacturer's recommended maintenance schedule.

The Weldanpower G8000 can be permanently installed as a standby power unit for 230 volt-3 wire, single phase 35 ampere service. Connections must be made by a licensed electrician who can determine how the 115/230 volt Weldanpower can be adapted to the particular installation and comply with all applicable electrical codes. The following information can be used as a guide by the electrician for most applications (refer also to the connection diagram shown in Figure 1.

IMPORTANT: When the Weldanpower is connected to a 230 volt 3-wire line, the unit should be operated with the idler switch in the "High Idle" position to avoid load sensing problems. If the machine is set for automatic idle, the 230 volt circuit will sense loads and cause the engine to accelerate to high idle. However, since only one line of the circuit senses current, 115 volt power drawn from only one line to neutral may result in the engine not going to high idle.

1. Install a double pole, double throw switch between the power company meter and the premises disconnect.

   Switch rating must be the same or greater than the customer's premises disconnect and service overcurrent protection.

2. Take necessary steps to assure load is limited to the capacity of the Weldanpower by installing a 35 amp, 230 volt double pole circuit breaker. Maximum rated load for the 230 volt auxiliary is 35 amperes. Loading above 35 amperes will reduce output voltage below the allowable –10% of rated voltage which may damage appliances or other motor-driven equipment.

3. Install a 50 amp 115/230 volt plug (NEMA Type 14-50) to the Double Pole Circuit Breaker using No. 8, 4 conductor cable of the desired length. (The 50 amp 115/230 plug is available in the optional plug kit.)

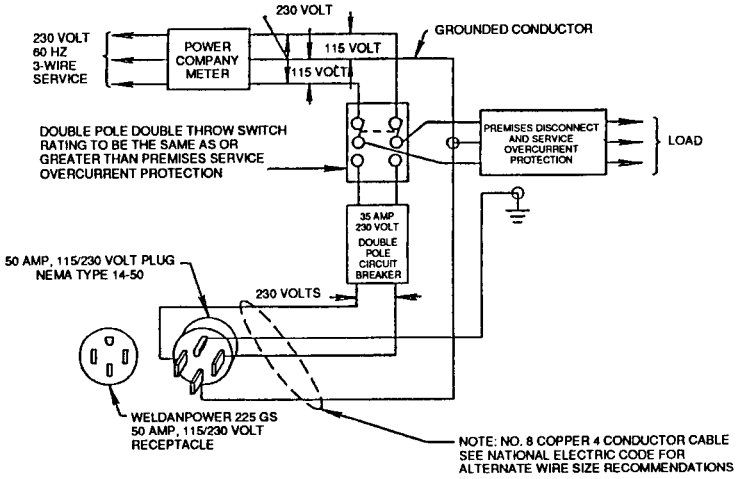
4. Plug this cable into the 50 amp 115/230 volt receptacle on the Weldanpower G8000 case front.

Break-In Period

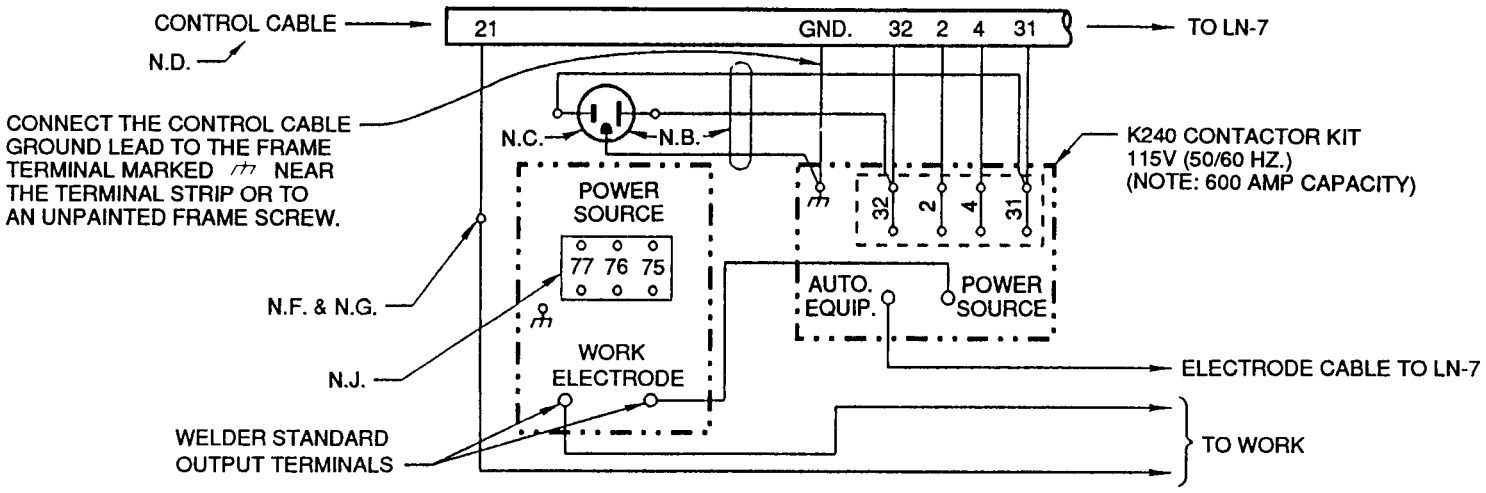
It is very normal for any engine to use small quantities of oil until the break-in is accomplished. We suggest checking the oil level twice a day during the break-in period (about 50 running hours).

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 BEFORE SHUTDOWN.

FIGURE 1
CONNECTION OF WELDANPOWER® G8000 TO PREMISES WIRING



CONNECTION OF LN-7 & K240 CONTACTOR KIT WITH 115 VOLT AC AUXILIARY POWER AND CV OUTPUT



WARNING: Turn the power off when making connections.

N.A. Use power source polarity switch to set for desired electrode polarity. Position the output selector switch on the power source to the CV position.

N.B. 3 conductor #16 power cord physically suitable for the installation and plug rated at 115 volt AC.

N.C. Plug into 115 volt AC receptacle on welder control panel or other 115 volt AC supply rated at a minimum of 500 volt amperes.

N.D. Leads #21 and GND. do not appear on LN-7's with codes below 7026.

N.E. Welding cables must be of proper capacity for the current and duty cycle of immediate and future applications. (See Page 9.)

N.F. If LN-7 is equipped with a meter kit, extend lead #21 using #14 or larger insulated wire physically suitable for the installation. An S16586-"length" remote voltage sensing work lead may be ordered for this purpose. Connect it directly to the work piece independent of the welding work cable. For convenience, this extended #21 lead should be taped to the welding work lead.

N.G. Tape up bolted connection where lead #21 is extended.

N.H. Idler switch on power source must be in high idle position.

N.J. If an optional remote output control is used, connect it to this terminal strip. NOTE: Terminal strip not available on all power sources.

CAUTION: Any speed up of the engine RPM by changing the governor setting or over-riding the throttle linkage will cause an increase in the AC auxiliary voltage. If this voltage goes above 140 volts, the LN-7 control circuit will be damaged. The engine governor setting is pre-set at the factory – do not adjust above RPM specifications listed in engine welder operating manual.

S17742
4-15-88A

TROUBLESHOOTING

Trouble	Cause	What To Do
A. No welder or power output.	1. Faulty PC board.	1. Replace with known good one.
	2. Open lead in flashing or field circuit.	2. Refer to wiring diagram and check white lead running from engine to PC board & all related leads (200, 200A, 200B, 201, 201A).
	3. Faulty rotor.	3. Lift brushes and check rotor resistance between slip rings. It should be approx. 5 ohms.
	4. Faulty Potentiometer (R1)	4. Replace with known good one.
	5. Faulty stator field winding.	5. Disconnect lead #4 at D2 and check for continuity between leads #4 and #7.
	6. Faulty field rectifier (D2).	6. Replace with known good one.
	7. Open in misc. leads.	7. Refer to wiring diagram & check related leads.
B. Engine will not idle down to low speed.	1. Idler switch on High Idle.	1. Set switch on Automatic Idle.
	2. Insufficient voltage present between terminals #213 and #5E. (Voltage should be 12V DC.	2. Check for proper connection of leads (#213, #5E, #215, #209, #209A, #212, #212A).
	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 #213 and #215.
	5. Faulty idler solenoid.	5. Replace with known good one.
	6. Faulty idler PC board.	6. Replace PC board with known good one.

TROUBLESHOOTING (continued)

Trouble	Cause	What To Do
C. Engine will not go to high idle when attempting to weld.	1. Poor work lead connection to work. 2. No voltage signal from the current sensor. 3. No open circuit voltage on output studs. 4. Faulty idler PC board.	1. Make certain work clamp is tightly connected to clean base metal. 2. Check for disconnected or broken leads in idler sensing circuit. 3. Check generator output. 4. Replace PC board with known good one.
D. Engine will not go to high idle when using auxiliary power.	1. No voltage signal from the current sensor. 2. Auxiliary power load less than 100 to 150 watts. 3. Faulty idler PC board.	1. Check for disconnected or broken leads in idler sensing circuit. 2. Idler may not function with less than 100 to 150 watt load. Set idler switch to high idle. 3. Replace PC board with known good one.
E. Engine will not crank or is hard to crank.	1. Battery will not hold a charge. Faulty battery. 2. No or insufficient charging current. 3. Loose battery cable connection(s).	1. Replace with known good one. 2. Check the connection of the lead from the voltage regulator on the engine to the charging ammeter and the battery. 3. Check and tighten connection at battery, at starter, at engine foot, or at frame.

MAINTENANCE

⚠ WARNING

MOVING PARTS can injure.

- **Only qualified personnel should do maintenance and troubleshooting work. If possible, turn the engine off and disconnect the battery before working inside the machine.**
- **Remove guards only when *necessary* to perform maintenance and replace them when the maintenance requiring their removal is complete.**
- **If fan guards are missing from a machine, obtain replacements from a Lincoln Distributor. (See operating manual parts list.)**

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 macine 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.

Engine Adjustments

⚠ WARNING: OVERSPEED IS HAZARDOUS

The maximum allowable high idle speed for this machine is 3750 RPM, no load. Do NOT tamper with governor components or setting or make any other adjustments to increase the maximum speed. Severe personal injury and damage to the machine can result if operated at speeds above maximum.

Adjustments to the engine are to be made only by a Lincoln Service Center or an authorized Field Service Shop.

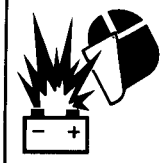
Slip Rings

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. If brushes are to be replaced, clean slip rings with a fine emery paper.

CAUTION: Do not attempt to polish slip rings while engine is running.

Battery

⚠ WARNING

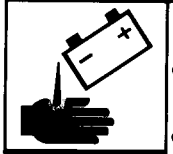


GASES FROM BATTERY can explode.

- **Keep sparks, flame and cigarettes away from battery.**

To prevent EXPLOSION when:

- **INSTALLING A NEW BATTERY — disconnect negative cable from old battery first and connect to new battery last.**
- **CONNECTING A BATTERY CHARGER — remove battery from welder by disconnecting negative cable first, then positive cable and battery clamp. When reinstalling, connect negative cable last. Keep well ventilated.**
- **USING A BOOSTER — connect positive lead to battery first then connect negative lead to engine foot.**



BATTERY ACID can burn eyes and skin.

- **Wear gloves and eye protection and be careful when working near battery.**
- **Follow instructions printed on battery.**

1. When replacing, jumping, or otherwise connecting the battery to the battery cables, the proper polarity must be observed. Failure to observe the proper polarity could result in damage to the charging circuit. The positive (+) battery cable has a red terminal cover.
2. If the battery requires charging from an external charger, disconnect the negative battery cable first and then the positive battery cable before attaching the charger leads. Failure to do so can result in damage to the internal charger components. When reconnecting the cables, connect the positive cable first and the negative cable last.

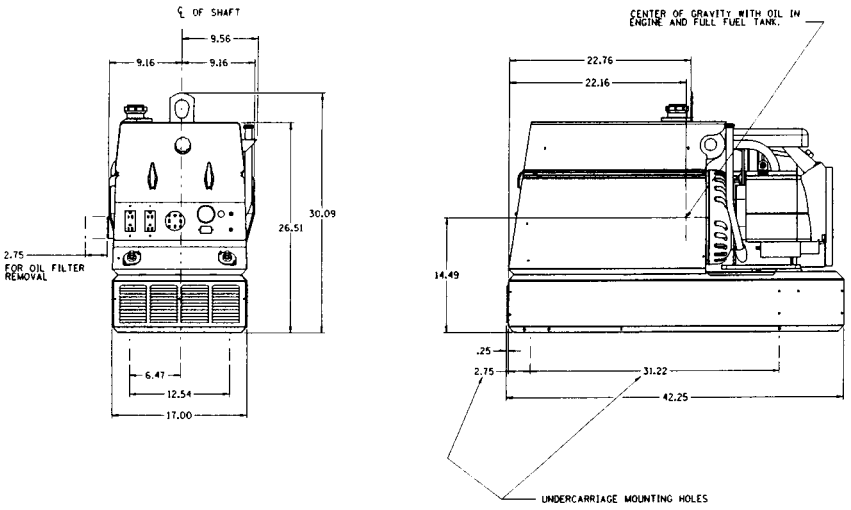
Hardware

Both English and Metric fasteners are used in this welder.

Engine Maintenance Parts

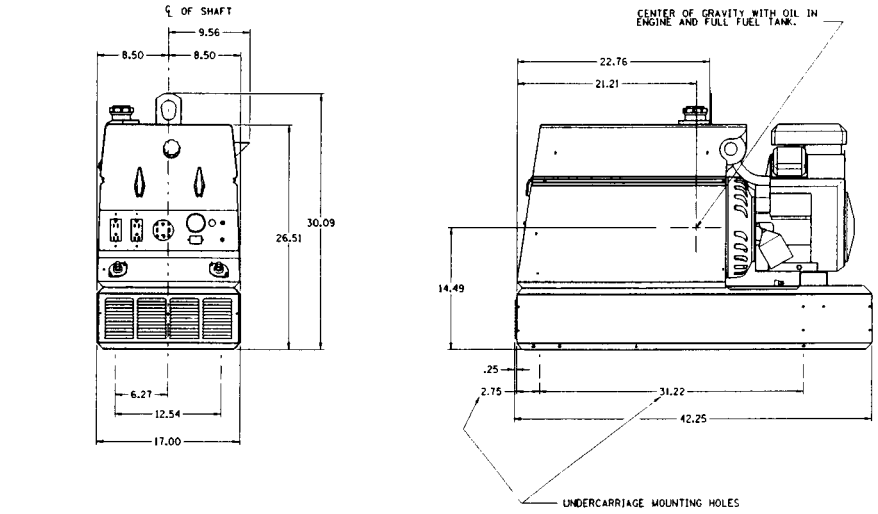
	Onan P216	Kohler CH18S	B & S Vanguard 16
Oil Filter	Onan 122-0645 FRAM PH3614	Kohler 1205001	B & S 491056 FRAM PH3614
Air Filter Element	Onan 140-2628-01 FRAM CA140PL	Kohler 4708303 FRAM CA79	B & S 394018 FRAM CA79
Air Filter Pre-Cleaner	Onan 140-1496	Kohler 2408302	B & S 271271
Fuel Filter	Onan 149-2005 FRAM G1	Kohler 2505002 FRAM G1	B & S 394358 FRAM G1
Spark Plugs (Resistor Type)	Onan 167-0263 Champion RS14YC (.025 GAP)	Champion RC12YC (.040 GAP)	B & S 491055 Champion RC12YC Autolite 3924 (.030 GAP)

DIMENSION PRINTS
Weldanpower G8000 (Onan)



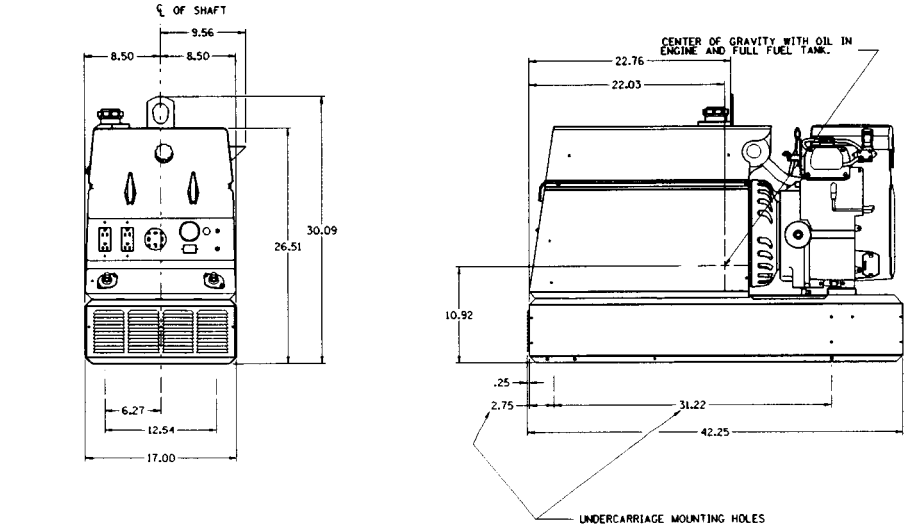
M16623-1
3-13-92G

Weldanpower G8000 (Briggs & Stratton)



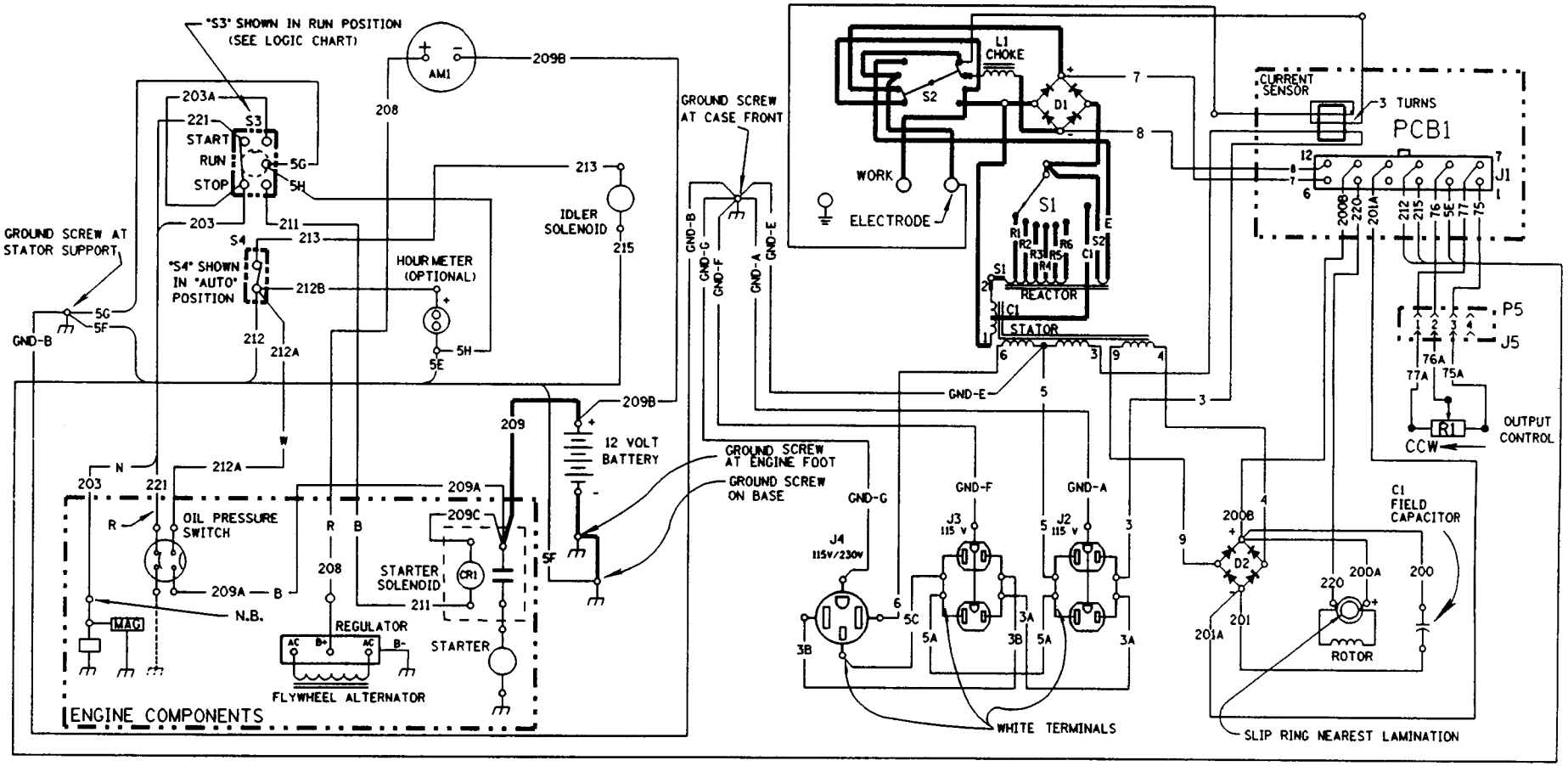
M16623-2
3-13-92G

Weldanpower G8000 (Kohler)



M16623-3
10-19-92

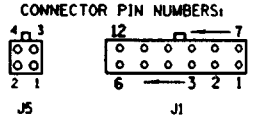
WELDANPOWER G8000 (B&S) WIRING DIAGRAM



S3 SWITCH LOGIC

	STOP	RUN	START
④ ① ② ⑥ ③	1 & 2	4 & 6	3 & 2 (MOMENTARY)
	CLOSED	CLOSED	CLOSED

CONNECTOR PIN NUMBERS:



LEAD COLOR CODE:

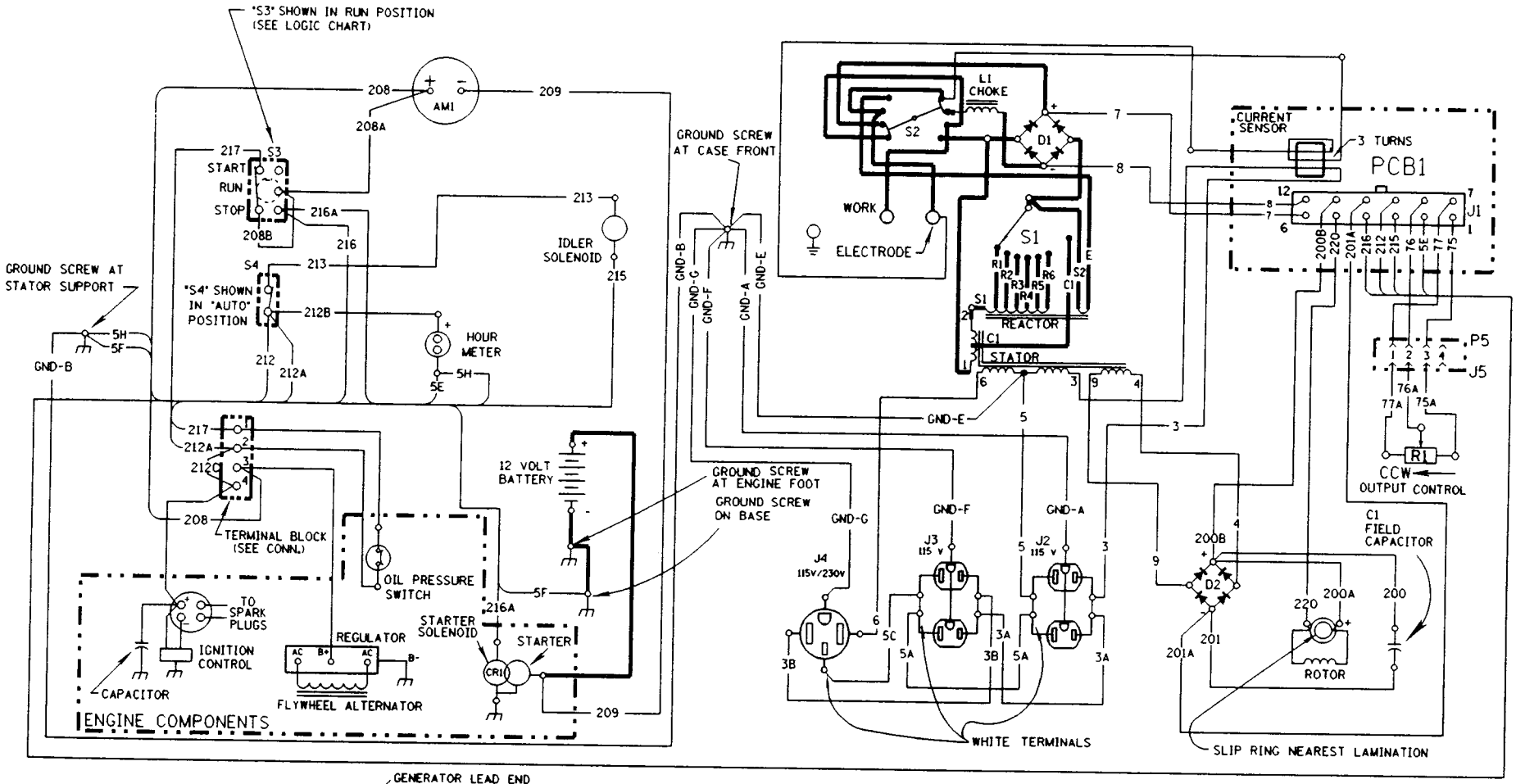
B = BLACK
N = BROWN
R = RED
W = WHITE

N.A. ALL CASE FRONT COMPONENTS SHOWN VIEWED FROM REAR.
N.B. GROUNDING THIS TERMINAL STOPS THE ENGINE.

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.

S20508
9-25-92

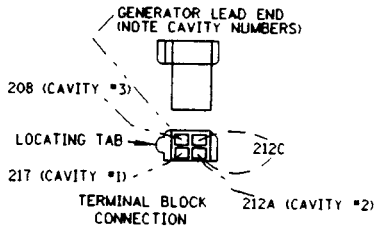
WELDANPOWER G8000 (ONAN) WIRING DIAGRAM



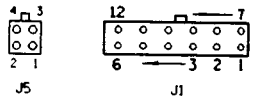
N.A. ALL CASE FRONT COMPONENTS SHOWN VIEWED FROM REAR.

S3 SWITCH LOGIC

	STOP	RUN	START
④ ① ② ⑥ ③	1 & 2	4 & 6	3 & 2 (MOMENTARY)
	CLOSED	CLOSED	CLOSED



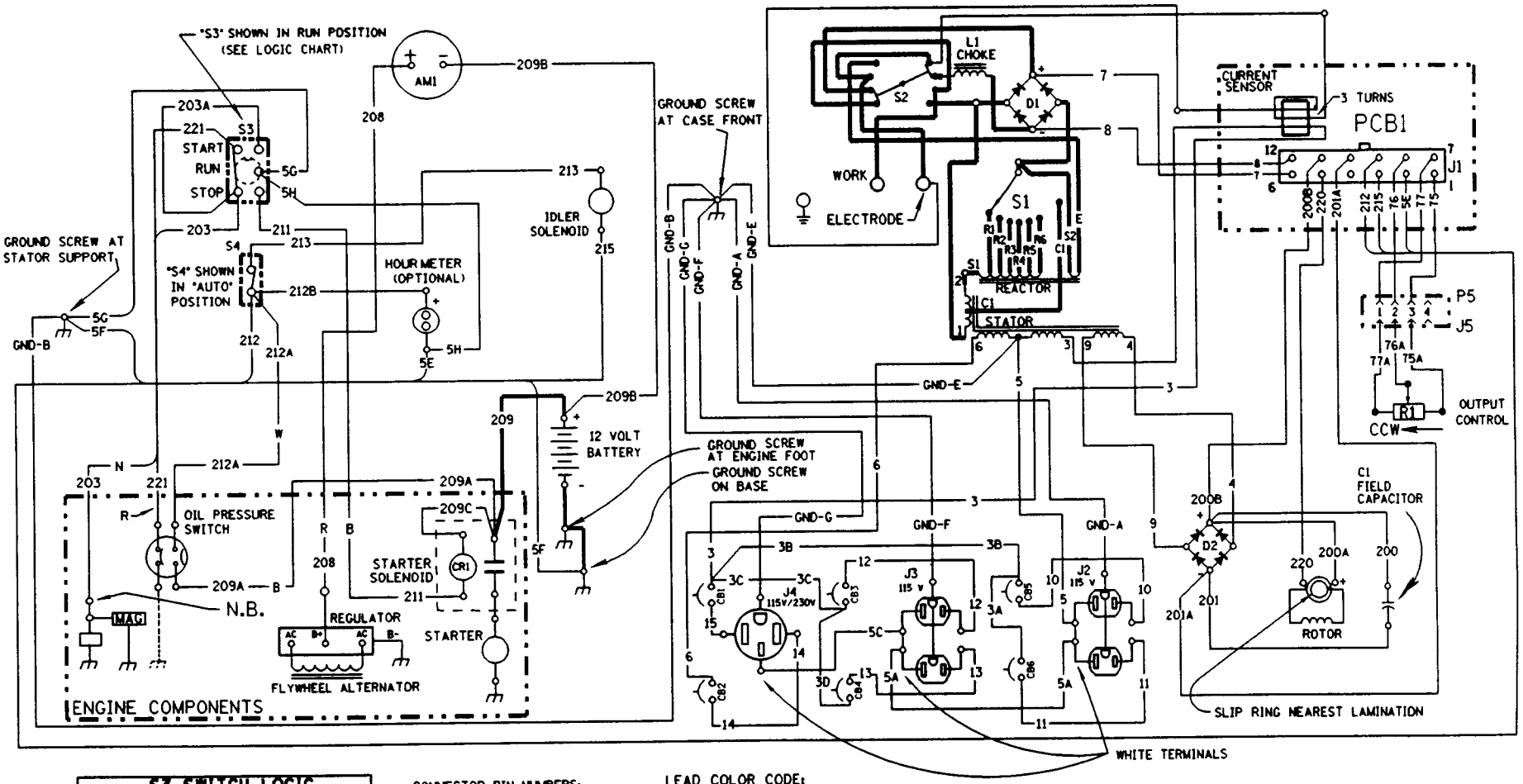
CONNECTOR PIN NUMBERS:



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.

S20509
9-25-92

WELDANPOWER G8000 (CSA/B&S) WIRING DIAGRAM



S3 SWITCH LOGIC	STOP	RUN	START
	1 & 2	4 & 6	3 & 2 (MOMENTARY)
	CLOSED	CLOSED	CLOSED

CONNECTOR PIN NUMBERS:

J5 J1

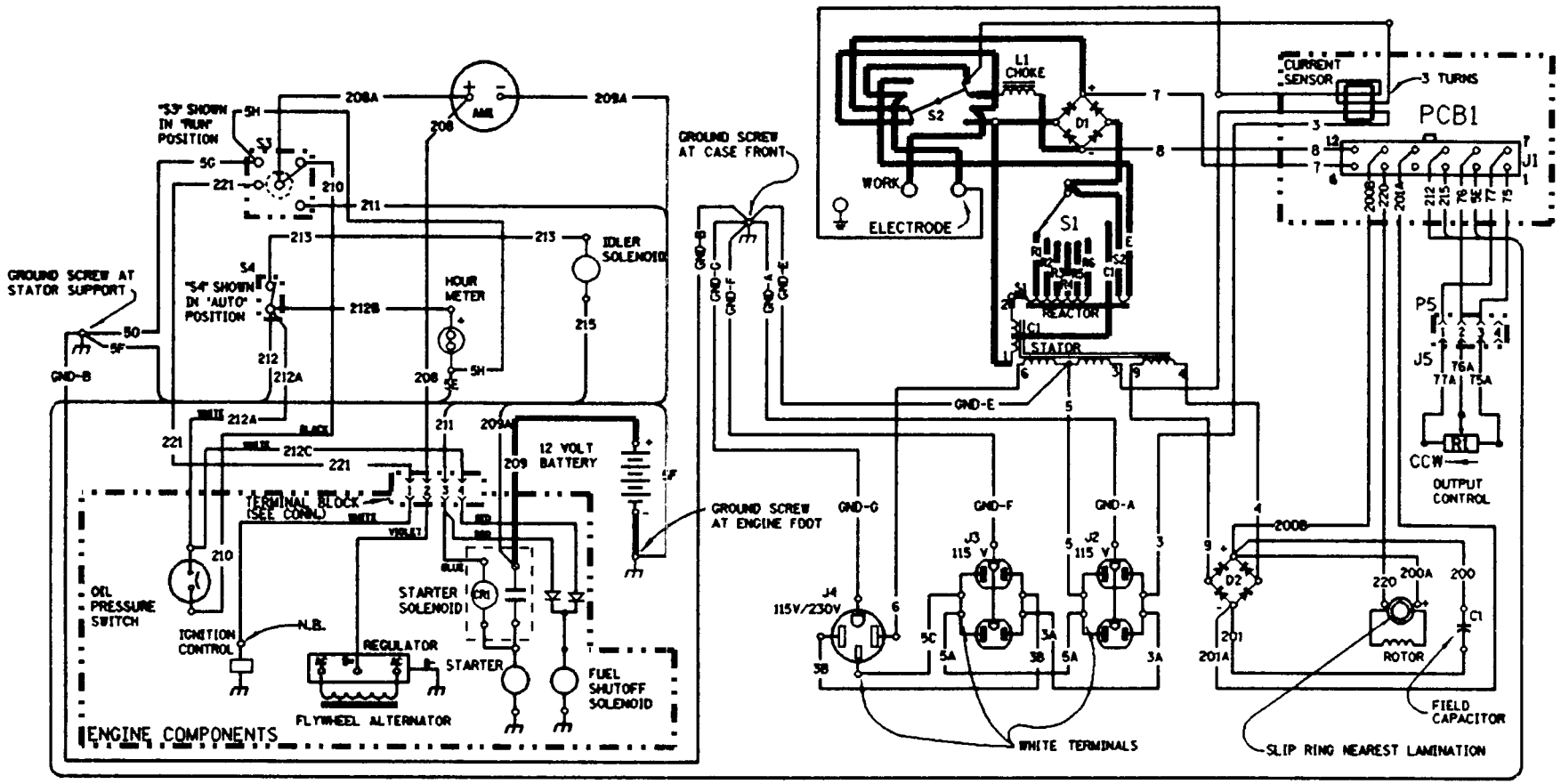
LEAD COLOR CODE:
B = BLACK
N = BROWN
R = RED
W = WHITE

N.A. ALL CASE FRONT COMPONENTS SHOWN VIEWED FROM REAR.
N.B. GROUNDING THIS TERMINAL STOPS THE ENGINE.

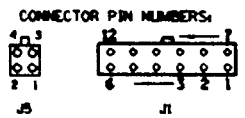
NOTE: This diagram is for reference only. It is not accurate for all machines covered by this manual. The specific diagram for a particular code is pasted inside the machine on one of the enclosure panels. If the diagram is illegible, write to the Service Department for a replacement. Give the welder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

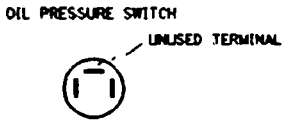
S20131
9-25-92

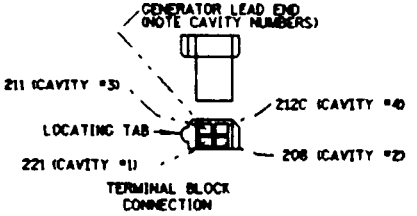
WELDANPOWER G8000 (KOHLER) WIRING DIAGRAM



S3 SWITCH LOGIC			
	STOP	RUN	START
	8 & 9	3 & 5	1 & 5 (MOMENTARY)
	CLOSED	CLOSED	CLOSED





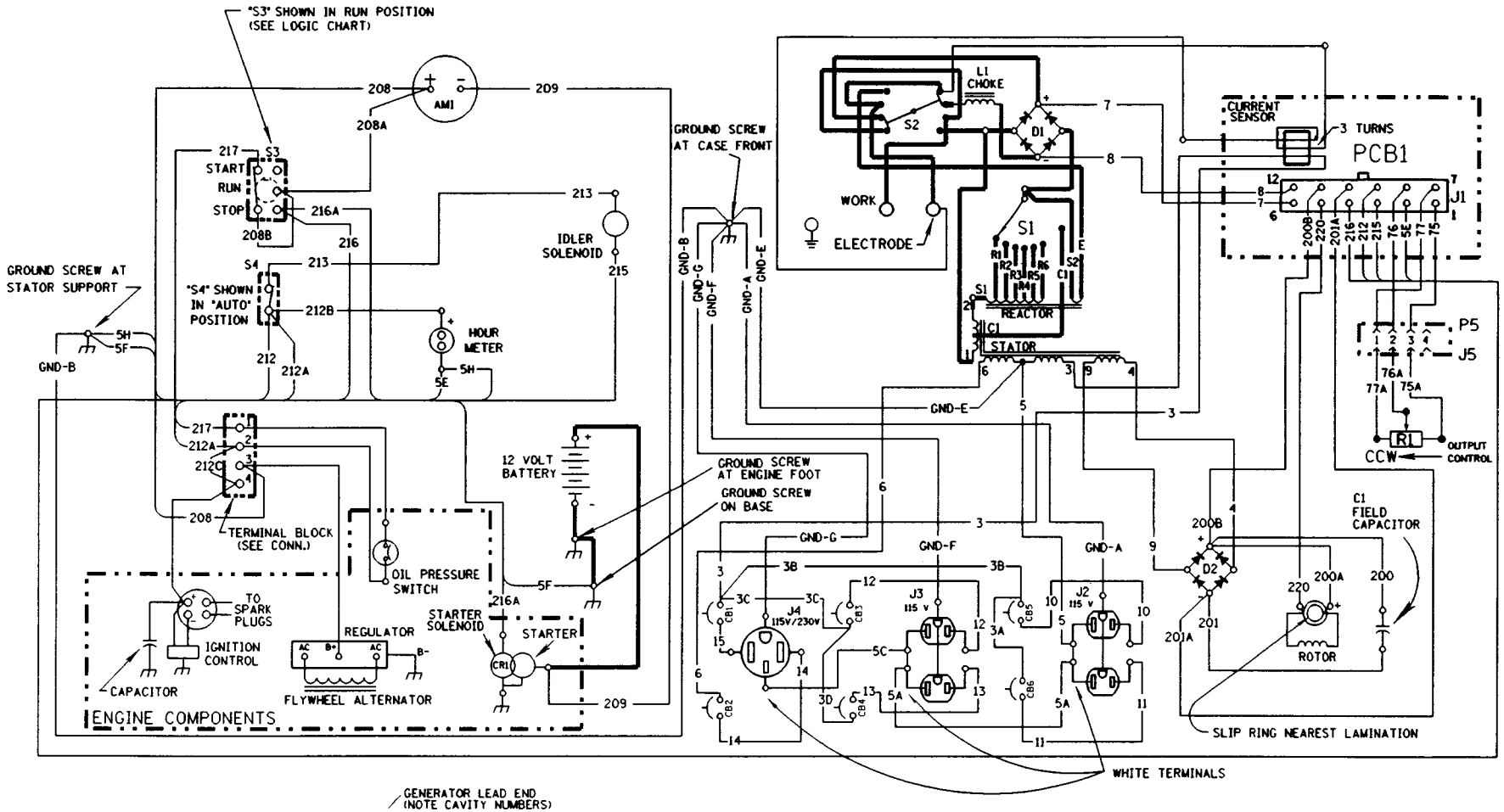


N.A. ALL CASE FRONT COMPONENTS SHOWN VIEWED FROM REAR.
N.B. GROUNDING THIS TERMINAL STOPS THE ENGINE.

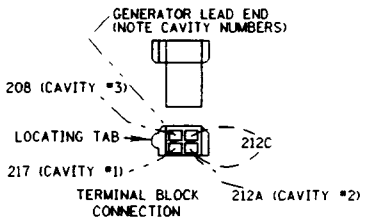
NOTE: This diagram is for reference only. It is not accurate for all machines covered by this manual. The specific diagram for a particular code is pasted inside the machine on one of the enclosure panels. If the diagram is illegible, write to the Service Department for a replacement. Give the welder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

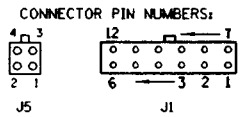
M17021
12-11-92

WP G8000 ONAN CSA WIRING DIAGRAM



S3 SWITCH LOGIC	STOP	RUN	START
④ ① ② ⑥ ③	1 & 2	4 & 6	3 & 2 (MOMENTARY)
	CLOSED	CLOSED	CLOSED





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.

M17022
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			SUB TOTAL	
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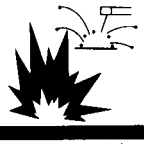
			TOTAL COST	

			
WARNING	● Do not touch electrically live parts or electrode with skin or wet clothing. ● Insulate yourself from work and ground.	● Keep flammable materials away.	● Wear eye, ear and body protection.
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 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 painels 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 위험
● 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
Inverter Welders
Automatic Wire Feeders
Semiautomatic Wire Feeders
Plasma-cutting Power Sources
Engine Driven Welders (except engine and engine accessories) with operating speed under 2,000 RPM

Two Years:

Engine Driven Welders (except engine, engine accessories and Power-to-generator/welders) with operating speed of 2,000 RPM

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

One Year:

Equipment not listed above such as gun and cable assemblies, water coolers, FAS TRAK, MIG-TRAK equipment, Power-to-generator/welders, Wire Feed Module (Factory Installed) and field-installed optional equipment.

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 of equipment 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.

August, '94