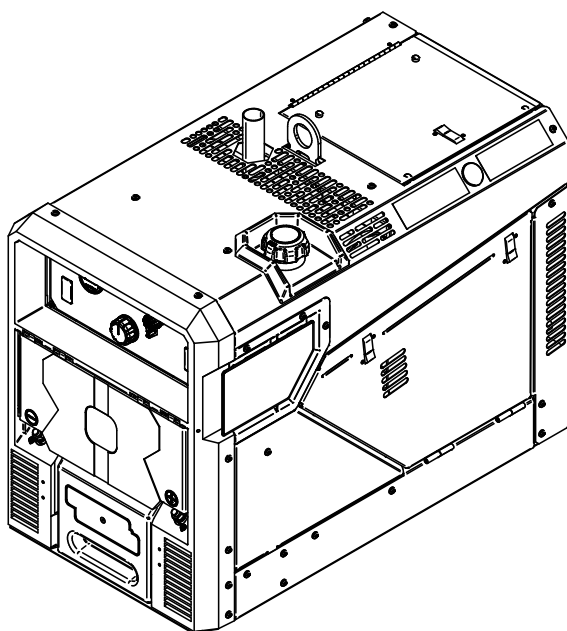


INSTRUCTION MANUAL

EAGLE[™] 10,000S



**For use with Product/Code
Numbers:**

13837, 13926

Save for future reference

Date Purchased

Code: (ex: 10859)

Serial: (ex: U1060512345)

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APPENDIX

EAGLE 10000S (GV750) WIRING DIAGRAM (Code 13837)

EAGLE 10,000S (REHLKO) WIRING DIAGRAM (Code 13926)

DIMENSION PRINT

CUSTOMER ASSISTANCE POLICY

SAFETY INFORMATION

SAFETY DEPENDS ON YOU

Lincoln welding, cutting, and heating 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.

DANGER



This statement indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING



This statement indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION



This statement indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

Notice: This statement indicates the possibility of damage to equipment if the potential risk is not avoided.

PLEASE EXAMINE CARTON AND EQUIPMENT FOR DAMAGE IMMEDIATELY

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

KEEP YOUR HEAD OUT OF THE FUMES



- **DON'T** get too close to the weld. Use corrective lenses if necessary to stay a reasonable distance away from the weld.
- **USE ENOUGH VENTILATION** or exhaust at the weld, or both, to keep the fumes and gases from your breathing zone and the general area.
- **IN A LARGE ROOM OR OUTDOORS**, natural ventilation may be adequate if you keep your head out of the fumes.
- **USE NATURAL DRAFTS** or fans to keep the fumes away from your face.
- **READ** and obey the Safety Data Sheet (SDS) and the warning label that appears on all containers of welding materials.

If you develop unusual symptoms, see your supervisor. Perhaps the welding atmosphere and ventilation system should be checked.

WEAR CORRECT EYE, EAR AND BODY PROTECTION



- **PROTECT** your eyes and face with properly fitted and with proper grade of filter plate (See ANSI Z49.1).
- **PROTECT** your body from welding spatter and arc flash with protective clothing including woolen clothing, flame-proof apron and gloves, leather leggings, and high boots.
- **PROTECT** others from spatter, flash, and glare with protective screens or barriers.
- **PROTECT** your eyes and face with welding helmet
- **IN SOME AREAS**, protection from noise may be appropriate.
- **BE SURE** protective equipment is in good condition.
- **AT ALL TIMES**, wear safety glasses in work area.
- **DO NOT WELD, CUT, OR HEAT** containers or materials which previously had been in contact with hazardous substances unless they are properly cleaned. This is extremely dangerous.



SAFETY INFORMATION

- **DO NOT WELD, CUT, OR HEAT** painted or plated parts unless special precautions with ventilation have been taken. They can release highly toxic fumes or gases.
- **PROTECT** compressed gas cylinders from excessive heat, mechanical shocks, and arcs; fasten cylinders so they cannot fall.
- **BE SURE** cylinders are never grounded or part of an electrical circuit.
- **REMOVE** all potential fire hazards from welding area.



- **ALWAYS HAVE FIRE FIGHTING EQUIPMENT READY FOR IMMEDIATE USE AND KNOW HOW TO USE IT.**

CALIFORNIA PROPOSITION 65 WARNINGS

WARNING



Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects, or other reproductive harm.

Always start and operate the engine in a well-ventilated area.

If in an exposed area, vent the exhaust to the outside.

Do not modify or tamper with the exhaust system.

Do not idle the engine except as necessary.

WARNING



This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code § 25249.5 et seq.)

For more information go to <https://www.p65warnings.ca.gov>

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. 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



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



- 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.



- 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.

- 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.
- **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.
- 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.



- To avoid scalding, do not remove the radiator pressure cap when the engine is hot.
- Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.
- Using a generator indoors **CAN KILL YOU IN MINUTES**.
- **NEVER** use inside a home or garage, EVEN IF doors and windows are open.
- **ONLY** use **OUTSIDE** and far away from windows, doors and vents.

- Avoid other generator hazards. **READ MANUAL BEFORE USE.**

ELECTRIC AND MAGNETIC FIELDS MAY BE DANGEROUS



- Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding and heating current creates EMF fields around cables and equipment.
- EMF fields may interfere with some pacemakers, and welders having a pacemaker should consult their physician before welding.
- Exposure to EMF fields in welding may have other health effects which are now not known. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:
- Route the electrode and work cables together - Secure them with tape when possible.

- Never coil the electrode lead around your body.
- 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.
- Connect the work cable to the workpiece as close as possible to the area being welded.
- Do not work next to welding power source.

ELECTRIC SHOCK CAN KILL



- 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.
- 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.
- In semiautomatic or automatic wire welding, the electrode, electrode reel, welding head, nozzle or semiautomatic welding gun are also electrically "hot".
- 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.
- Ground the work or metal to be welded to a good electrical (earth) ground.
- Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition. Replace damaged insulation.
- Never dip the electrode in water for cooling.

SAFETY INFORMATION

- 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.
- When working above floor level, use a safety belt to protect yourself from a fall should you get a shock.
- **Also see [WELDING AND CUTTING SPARKS CAN CAUSE FIRE OR EXPLOSION](#) and [FOR ELECTRICALLY POWERED EQUIPMENT](#)**

ARC RAYS CAN BURN



- Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing open arc welding. Headshield and filter lens should conform to ANSI Z87.1 standards.
- Use suitable clothing made from durable flame-resistant material to protect your skin and that of your helpers from the arc rays.
- 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



- 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 hardfacing (see instructions on container or SDS) or on lead or cadmium plated steel and other metals or coatings which produce highly toxic fumes, keep exposure as low as possible and within applicable OSHA PEL and ACGIH TLV limits using local exhaust or mechanical ventilation unless exposure assessments indicate otherwise. In confined spaces or in some circumstances, outdoors, a respirator may**

also be required. Additional precautions are also required when welding on galvanized steel.

- The operation of welding fume control equipment is affected by various factors including proper use and positioning of the equipment, maintenance of the equipment and the specific welding procedure and application involved. Worker exposure level should be checked upon installation and periodically thereafter to be certain it is within applicable OSHA PEL and ACGIH TLV limits.
- 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.
- Shielding gases used for welding can displace air and cause injury or death. Always use enough ventilation, especially in confined areas, to insure breathing air is safe.
- Read and understand the manufacturer's instructions for this equipment and the consumables to be used, including the Safety Data Sheet (SDS) and follow your employer's safety practices. SDS forms are available from your welding distributor or from the manufacturer.
- Also see [FOR ENGINE POWERED EQUIPMENT](#)

WELDING AND CUTTING SPARKS CAN CAUSE FIRE OR EXPLOSION



- 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.
- 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.

- 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.
- Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to ensure 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.
- Vent hollow castings or containers before heating, cutting or welding. They may explode.
- Sparks and spatter are thrown from the welding arc. Wear oil free protective garments such as leather gloves, heavy shirt, cuff-less 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.
- 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.
- **Read and follow NFPA 51B** “Standard for Fire Prevention During Welding, Cutting and Other Hot Work”, available from NFPA, 1 Batterymarch Park, PO box 9101, Quincy, MA 02269-9101.
- **DO NOT** use a welding power source for pipe thawing.

CYLINDER MAY EXPLODE IF DAMAGED



- 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.

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

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.
- Never allow the electrode, electrode holder or any other electrically “hot” parts to touch a cylinder.
- Keep your head and face away from the cylinder valve outlet when opening the cylinder valve.
- Valve protection caps should always be in place and hand tight except when the cylinder is in use or connected for use.
- Read and follow the instructions on compressed gas cylinders, associated equipment, and CGA publication P-1, “Precautions for Safe Handling of Compressed Gases in Cylinders,” available from the Compressed Gas Association, 14501 George Carter Way Chantilly, VA 20151.

FOR ELECTRICALLY POWERED EQUIPMENT



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

BATTERY HANDLING, STORAGE, AND DISPOSAL



Batteries can be flammable substances such as lithium or other organic solvents, which may result in overheating, rupture, or combustion. Failure to follow the battery manufactures instructions may result in fire, personal injury, and damage to property if used improperly.

SAFETY INFORMATION

- DO NOT short circuit, disassemble, deform, or heat batteries.
- DO NOT attempt to recharge batteries unless they are specifically marked as "rechargeable".
- DO NOT use or charge the battery if it appears to be leaking, deformed or damaged in any way.
- Store in a cool location. Keep batteries away from direct sunlight, high temperature, and high humidity.
- Immediately discontinue use of the battery if, while using, charging, or storing the battery, the battery emits an unusual smell, feels hot, changes color, changes shape, or appears abnormal in any other way.
- Keep batteries out of reach of children, should a child swallow a battery, consult a physician immediately.
- Recycle or dispose of batteries in accordance with local and federal laws.

FOR LASER EMITTING EQUIPMENT



- Hazardous Class 4 (IV) laser products emit invisible, infrared laser radiation which can permanently damage the eye's retina and/or cornea, burn skin, and pose a fire risk. End users shall assign a qualified Laser Safety Officer (LSO) who has the certifications required by applicable law/standards, have a documented Laser Safety Program and have a Laser Controlled Area (LCA) that confirms to ANSI Z136.1 & Z136.9.
- Do not operate laser before end user's LSO has completed a risk assessment and all the prescribed Risk Mitigations measures have been fully implemented. Ensure the laser is operated/ demonstrated safely by trained personnel and that the environment surrounding the laser welding cell or laser-controlled area is safe for people nearby when the laser is in operation.
- Never point the laser at yourself or others. Never look directly into a laser aperture, even if wearing full eye protection.

- All persons inside LCA must wear proper PPE to avoid eye or skin exposure to laser radiation. The end user's LSO shall select proper PPE including, but not limited to, heat-resistant gloves, flame-resistant clothing, laser safety eye wear and laser-safe helmets that conform to ANSI Z136.1 Optical Density requirements for the wavelength and output power of the laser in use. Standard safety glasses and welding helmets DO NOT provide adequate protection from laser beam hazards. Always inspect PPE for damage or improper fit before use.
- Only qualified persons shall install, operate or service this unit per ANSI Z136.1 standards and your LSO's instruction. Read and follow all labels and manuals before installing, operating, or servicing hand held any laser welding equipment.
- Do not operate outside of a LCA, or if the laser protective housing is modified or damaged, or if safety interlocks have been bypassed or otherwise defeated. Inspect all equipment and LCA for damage or tampering prior to use.
- Reflected beams from the laser can damage eyes and skin and can pose a fire risk. Prior to use, the LCA should be assessed by the LSO to understand the surfaces where hazardous reflected beams can exist. Never position yourself or flammable material in the anticipated laser beam path and take extra precautions when working on reflective materials like aluminum and stainless steel.
- Follow all standards, individual facility or building regulations, and national, state, and local codes.

DEALER LOCATOR & PRODUCT REGISTRATION

Register your machine:



<https://www.lincolnelectric.com/register>

Authorized Service and Distributor Locator:

<https://www.lincolnelectric.com/locator>

ADDITIONAL SAFETY INFORMATION

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

REHLKO WARRANTY AND EMISSIONS STATEMENT

Discovery Energy, LLC warrants to the original retail purchaser that each new engine will be free of manufacturing defects in materials and workmanship for the applicable coverage period set forth below, beginning on the date of purchase; provided the engine is operated and maintained in accordance with Discovery Energy, LLC's instructions and manuals.

ENGINE SERIES	TYPE OF USE		U.S.A. EMISSION
	RESIDENTIAL	COMMERCIAL	REFER TO SECTION
Aegis®	3 Years	3 Years	B or C
Command PRO®	3 Years	3 Years	B or C
Command PRO® CS	2 Years	2 Years	A
Command PRO® EFI	3 Years	3 Years	B or C
Command PRO® (Single Cylinder)	3 Years	3 Years	B
Courage®	2 Years	90 days	A
Courage PRO®	2 Years	1 Year	A
Confidant™	3 Years	3 Years	B
Confidant™ EFI	3 Years	3 Years	B or C
RH Series™	2 Years	90 days	A
SH Series™	3 Years	3 Years	B
2000 Series™	2 Years	90 days	A
3000 Series™	2 Years	90 days	A
5400 Series™	3 Years	90 days	B or C
6000 Series™	3 Years	3 Years	B
6600 Series™	3 Years	3 Years	B
7000 Series™	3 Years	3 Years	B or C
7500 Series™ EFI	3 Years	3 Years	B or C
K-Series®	1 Year	1 Year	N/A
Magnum®	2 Years	2 Years	N/A
OHC/Triad®	2 Years	2 Years	N/A

Discovery Energy, LLC's obligation under this warranty is expressly limited, at its option, to an appropriate adjustment, repair, or replacement of such part or parts as found to be defective following an inspection by Discovery Energy, LLC or an authorized service facility designated by Discovery Energy, LLC.

Limitations:

Mufflers on engines used commercially (non-residential) are warranted for one (1) year from date of purchase, except catalytic mufflers, which are warranted for two (2) years.

Exclusions:

The following items are not covered by this warranty.

- Damage caused by: (i) an accident or casualty; (ii) unreasonable use or neglect; (iii) normal wear; (iv) premature wear from improper maintenance; (v) improper storage; (vi) old or contaminated fuel left within the fuel system, which includes but is not limited to tanks, fuel lines, carburetors or fuel injection components.
- Failures caused by: (i) faulty repairs made by any party other than Discovery Energy, LLC or an authorized service facility designated by Discovery Energy, LLC; (ii) use of unapproved replacement service parts; or (iii) an act beyond the control of Discovery Energy, LLC, which includes but is not limited to theft, vandalism, fire, lightning, earthquake, windstorm, hail, volcanic eruption, flood or tornado.
- Transportation charges in connection with the repair or replacement of defective parts.

REHLKO WARRANTY AND EMISSIONS STATEMENT

- Engine accessories such as fuel tanks, clutches, transmissions, power drive assemblies, and batteries, unless supplied or installed by Discovery Energy, LLC
- Rental of equipment during performance of warranty repairs.
- Fuel, lubricating oil, air filters, oil filters, spark plugs or coolant/antifreeze.

IMPLIED OR STATUTORY WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. Discovery Energy, LLC MAKES NO OTHER EXPRESS WARRANTY, NOR IS ANYONE AUTHORIZED TO MAKE ANY ON Discovery Energy, LLC'S BEHALF. Discovery Energy, LLC AND/OR THE SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND.

Some states or countries do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from country to country (www.KohlerEngines.com), or state to state within U.S.A.

To Obtain Warranty Service:

Original retail purchaser must bring the engine to an authorized service facility designated by Discovery Energy, LLC found by visiting <https://www.KohlerEngines.com> or telephone 1-800-544-2444 (U.S.A. and Canada).

For engines placed on the European Union market, the European Union contact is:

Ing Patrizia Barrasso
Compliance Manager – Engines Lombardini S.r.l.
Via Cav. del Lavoro A. Lombardini 2
42124 Reggio Emilia, Italy

Useful contact details for owners: <https://engines.kohlerenergy.com/en/contact>

Emission Warranty Statements

Section A: SORE – Two Years

CALIFORNIA AND FEDERAL EXHAUST AND EVAPORATIVE EMISSIONS CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board, US Environmental Protection Agency ("US EPA") and Discovery Energy, LLC are pleased to explain the exhaust and evaporative emissions control systems warranty on your 2024-2026 Small Off-Road Engine ("SORE") and engine powered equipment as applicable. In California and the USA, new equipment that use SORE must be designed, built and equipped to meet California and US EPA stringent anti-smog standards. Discovery Energy, LLC must warrant the emission control systems on your SORE and engine powered equipment for the period listed below provided there has been no abuse, neglect or improper maintenance of your SORE or engine powered equipment leading to the failure of the emission control systems.

Your exhaust emission control systems may include parts such as carburetors, fuel-injection systems, the ignition system, and catalytic converters. Also included may be an evaporative emission control system which may include parts such as fuel tanks, fuel lines (for liquid fuel and vapors), fuel caps, valves, carbon canisters, clamps, connectors, and other associated components.

Manufacturer's Warranty Coverage:

The 1995 and later SORE exhaust and evaporative emission control systems are warranted for two years. If any exhaust or evaporative emission-related part on your SORE or engine powered equipment is defective, the part will be repaired or replaced by Discovery Energy, LLC.

Owner's Warranty Responsibilities:

As the SORE or engine powered equipment owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Discovery Energy, LLC recommends that you retain all receipts covering maintenance on your SORE or engine powered equipment, but Discovery Energy, LLC cannot deny warranty coverage solely for the lack of receipts. As the SORE or engine powered equipment owner, you should however be aware that Discovery Energy, LLC may deny you warranty coverage if your SORE or engine powered equipment or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your SORE or engine powered equipment to a Discovery Energy, LLC distribution or service center as soon as a problem exists. The warranty repairs shall be completed in a reasonable amount of time, not to exceed 30 days. If you have a question regarding your warranty coverage, you should contact a Kohler Dealer at 1-800-544-2444 or visit <https://www.KohlerEngines.com>.

General Emissions Warranty Coverage

The warranty period begins on the date the engine or equipment is delivered to an ultimate purchaser. Discovery Energy, LLC warrants to the ultimate purchaser and each subsequent purchaser that the engine is: Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board and US EPA; and free from defects in materials and workmanship that cause the failure of a warranted part to be identical in all material respects to the part as described in the engine manufacturer's application for certification for the warranty period stated above.

The warranty on emissions-related parts is as follows:

- (1) Any warranted part that is not scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the warranty period stated above. If any such part fails during the period of warranty coverage, the part will be repaired or replaced by Discovery Energy, LLC at no charge to the owner. Any such part repaired or replaced under the warranty will be warranted for the remaining warranty period.
- (2) Any warranted part that is scheduled only for regular inspection in the owner's manual supplied, is warranted for the warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.
- (3) Any warranted part that is scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part will be repaired or replaced by Discovery Energy, LLC at no charge to the owner. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- (4) Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts by the ultimate purchaser will be grounds for disallowing a warranty claim. The manufacturer will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

Parts Covered By Warranty

Listed below are the parts (if equipped) covered by the Federal and California Emission Control Systems Warranty. Some parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part.

REHLKO WARRANTY AND EMISSIONS STATEMENT

- Oxygen sensor
- Intake manifold
- Exhaust manifold
- Catalytic muffler
- Thermal reactor muffler
- Spark advance module
- Crankcase breather
- Gaseous fuel regulator
- Electronic control unit
- Fuel metering valve
- Carburetor or fuel injection system
- Ignition module(s) with high tension lead
- Air Injection System
 - Air pump or pulse valve assembly
 - Control/distribution valve
 - Distribution manifold
 - Air hoses
 - Vacuum lines
- Air filter, fuel filter, and spark plugs (only to first replacement point)
- Evaporative System
 - Carbon canister and carbon canister mounting bracket
 - Carbon canister filter
 - Purge port/orifice connector
 - Fuel tank
 - Fuel cap and fuel cap gasket
 - Primer bulb canister
 - Fuel line (for liquid fuel and fuel vapors), fuel line fittings and clamps
 - Carburetor purge port connector

Limitations

This Emission Control Systems Warranty shall not cover any of the following:

- (a) Consequential damages such as loss of time, inconvenience, loss of use of the engine or equipment, etc.
- (b) Diagnosis and inspection fees that do not result in eligible warranty service being performed.

For engines placed on the European Union market, the European Union contact is:

Ing Patrizia Barrasso
Compliance Manager – Engines Lombardini S.r.l.
Via Cav. del Lavoro A. Lombardini 2
42124 Reggio Emilia, Italy

Useful contact details for owners: <https://engines.kohlerenergy.com/en/contact>

Section B: SORE – Three Years

CALIFORNIA AND FEDERAL EXHAUST AND EVAPORATIVE EMISSIONS CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board, US Environmental Protection Agency (“US EPA”) and Discovery Energy, LLC are pleased to explain the exhaust and evaporative emissions control systems warranty on your 2024-2026 Small Off-Road Engine (“SORE”) and engine powered equipment as applicable. In California and the USA, new equipment that use SORE must be designed, built and equipped to meet California and US EPA stringent anti-smog standards. Discovery Energy, LLC must warrant the emission control systems on your SORE and engine powered equipment for the period listed below provided there has been no abuse, neglect or improper maintenance of your SORE or engine powered equipment leading to the failure of the emission control systems.

Your exhaust emission control systems may include parts such as carburetors, fuel-injection systems, the ignition system, and catalytic converters. Also included may be an evaporative emission control system which may include parts such as fuel tanks, fuel lines (for liquid fuel and vapors), fuel caps, valves, carbon canisters, clamps, connectors, and other associated components.

MANUFACTURER'S WARRANTY COVERAGE:

The 1995 and later SORE exhaust and evaporative emission control systems are warranted for three years. If any exhaust or evaporative emission-related part on your SORE or engine powered equipment is defective, the part will be repaired or replaced by Discovery Energy, LLC.

OWNER'S WARRANTY RESPONSIBILITIES:

As the SORE or engine powered equipment owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Discovery Energy, LLC recommends that you retain all receipts covering maintenance on your SORE or engine powered equipment, but Discovery Energy, LLC cannot deny warranty coverage solely for the lack of receipts. As the SORE or engine powered equipment owner, you should however be aware that Discovery Energy, LLC may deny you warranty coverage if your SORE or engine powered equipment or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your SORE or engine powered equipment to a Discovery Energy, LLC distribution or service center as soon as a problem exists. The warranty repairs shall be completed in a reasonable amount of time, not to exceed 30 days. If you have a question regarding your warranty coverage, you should contact a Kohler Dealer at 1-800-544-2444 or visit <https://www.KohlerEngines.com>.

GENERAL EMISSIONS WARRANTY COVERAGE

The warranty period begins on the date the engine or equipment is delivered to an ultimate purchaser. Discovery Energy, LLC warrants to the ultimate purchaser and each subsequent purchaser that the engine is: Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board and US EPA; and free from defects in materials and workmanship that cause the failure of a warranted part to be identical in all material respects to the part as described in the engine manufacturer's application for certification for the warranty period stated above.

The warranty on emissions-related parts is as follows:

- (1) Any warranted part that is not scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the warranty period stated above. If any such part fails during the period of warranty coverage, the part will be repaired or replaced by Discovery Energy, LLC at no charge to the owner. Any such part repaired or replaced under the warranty will be warranted for the remaining warranty period.
- (2) Any warranted part that is scheduled only for regular inspection in the owner's manual supplied, is warranted for the warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.
- (3) Any warranted part that is scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part will be repaired or replaced by Discovery Energy, LLC at no charge to the owner. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- (4) Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts by the ultimate purchaser will be grounds for disallowing a warranty claim. The manufacturer will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

PARTS COVERED BY WARRANTY

Listed below are the parts (if equipped) covered by the Federal and California Emission Control Systems Warranty. Some parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part.

REHLKO WARRANTY AND EMISSIONS STATEMENT

- Oxygen sensor
- Intake manifold
- Exhaust manifold
- Catalytic muffler
- Thermal reactor muffler
- Spark advance module
- Crankcase breather
- Gaseous fuel regulator
- Electronic control unit
- Fuel metering valve
- Carburetor or fuel injection system
- Ignition module(s) with high tension lead
- Air Injection System
 - Air pump or pulse valve assembly
 - Control/distribution valve
 - Distribution manifold
 - Air hoses
 - Vacuum lines
- Air filter, fuel filter, and spark plugs (only to first replacement point)
- Evaporative System
 - Carbon canister and carbon canister mounting bracket
 - Carbon canister filter
 - Purge port/orifice connector
 - Fuel tank
 - Fuel cap and fuel cap gasket
 - Primer bulb canister
 - Fuel line (for liquid fuel and fuel vapors), fuel line fittings and clamps
 - Carburetor purge port connector

Limitations

This Emission Control Systems Warranty shall not cover any of the following:

- (a) Consequential damages such as loss of time, inconvenience, loss of use of the engine or equipment, etc.
- (b) Diagnosis and inspection fees that do not result in eligible warranty service being performed.

For engines placed on the European Union market, the European Union contact is:

Ing Patrizia Barrasso
Compliance Manager – Engines Lombardini S.r.l.
Via Cav. del Lavoro A. Lombardini 2
42124 Reggio Emilia, Italy

Useful contact details for owners: <https://engines.kohlerenergy.com/en/contact>

Section C: LSI ≤ 1L – Three Years

CALIFORNIA AND FEDERAL EXHAUST AND EVAPORATIVE EMISSIONS CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board, US Environmental Protection Agency (“US EPA”) and Discovery Energy, LLC are pleased to explain the exhaust emission control systems warranty on your 2024-2026 off-road large spark-ignition engine with displacement less than or equal to 1.0 liter and engine powered equipment as applicable. In California and the USA, new off-road large spark-ignition (LSI) engines must be designed, built and equipped to meet California and US EPA stringent anti-smog standards. Discovery Energy, LLC must warrant the emission control systems on your engine for the period listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your exhaust emission control systems may include parts such as carburetors, fuel-injection systems, the ignition system, and catalytic converters.

MANUFACTURER'S WARRANTY COVERAGE:

The 1995 and later LSI engine exhaust emission control system is warranted for three years. If any exhaust emission-related part on your LSI engine is defective, the part will be repaired or replaced by Discovery Energy, LLC

OWNER'S WARRANTY RESPONSIBILITIES:

As the off-road LSI engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Discovery Energy, LLC recommends that you retain all receipts covering maintenance on your off-road engine, but Discovery Energy, LLC cannot deny warranty solely for the lack of receipts. As the off-road large spark-ignition engine owner, you should however be aware that Discovery Energy, LLC may deny you warranty coverage if your off-road large spark-ignition engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible to present your off-road large spark-ignition engine to a Discovery Energy, LLC distribution or service center as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have a question regarding your warranty coverage, you should contact Kohler Dealer at 1-800-544-2444 or <https://www.KohlerEngines.com>.

GENERAL EMISSIONS WARRANTY COVERAGE

The warranty period begins on the date the engine or equipment is delivered to an ultimate purchaser. Discovery Energy, LLC warrants to the ultimate purchaser and each subsequent purchaser that the engine is:

Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board and US EPA; and free from defects in materials and workmanship that cause the failure of a warranted part to be identical in all material respects to the part as described in the engine manufacturer's application for certification.

The warranty on emissions-related parts is as follows:

- (1) Any warranted part that is not scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the warranty period stated above. If any such part fails during the period of warranty coverage, the part will be repaired or replaced by Discovery Energy, LLC at no charge to the owner. Any such part repaired or replaced under the warranty will be warranted for the remaining warranty period.
- (2) Any warranted part that is scheduled only for regular inspection in the owner's manual supplied, is warranted for the warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.
- (3) Any warranted part that is scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part will be repaired or replaced by Discovery Energy, LLC at no charge to the owner. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- (4) Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts by the ultimate purchaser will be grounds for disallowing a warranty claim. The manufacturer will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

PARTS COVERED BY WARRANTY

Listed below are the parts (if equipped) covered by the Federal and California Emission Control Systems Warranty. Some parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part.

REHLKO WARRANTY AND EMISSIONS STATEMENT

- Oxygen sensor
- Intake manifold
- Exhaust manifold
- Catalytic muffler
- Thermal reactor muffler
- Spark advance module
- Crankcase breather
- Gaseous fuel regulator
- Electronic control unit
- Fuel metering valve
- Carburetor or fuel injection system
- Ignition module(s) with high tension lead
- Air Injection System
 - Air pump or pulse valve assembly
 - Control/distribution valve
 - Distribution manifold
 - Air hoses
 - Vacuum lines
- Air filter, fuel filter, and spark plugs (only to first replacement point)
- Evaporative System
 - Carbon canister and carbon canister mounting bracket
 - Carbon canister filter
 - Purge port/orifice connector
 - Fuel tank
 - Fuel cap and fuel cap gasket
 - Primer bulb canister
 - Fuel line (for liquid fuel and fuel vapors), fuel line fittings and clamps
 - Carburetor purge port connector

Limitations

This Emission Control Systems Warranty shall not cover any of the following:

- (a) Consequential damages such as loss of time, inconvenience, loss of use of the engine or equipment, etc.
- (b) Diagnosis and inspection fees that do not result in eligible warranty service being performed.

For engines placed on the European Union market, the European Union contact is:

Ing Patrizia Barrasso
Compliance Manager – Engines Lombardini S.r.l.
Via Cav. del Lavoro A. Lombardini 2
42124 Reggio Emilia, Italy

Useful contact details for owners: <https://engines.kohlerenergy.com/en/contact>

EPA EMISSION CONTROL WARRANTY STATEMENT

New small off road engines (SOREs) must be designed, built, and equipped to meet the EPA's anti-smog standards. The Lincoln Electric Company must warrant the emission control system on your small off road engine for 2 years from the date of purchase to the ultimate purchaser, provided there has been no abuse, neglect, or improper maintenance of your small off road engine. The emission control system warranty is extended to the original owner and all subsequent owners.

Your emission control system may include parts such as:

1. Fuel Metering System
 - a. Carburetor and internal parts (and/or pressure regulator or fuel injection system).
 - b. Air-fuel ratio feedback and control system.
 - c. Cold start enrichment system.
2. Air Induction System
 - a. Controlled hot air intake system.
 - b. Intake manifold.
 - c. Air filter.
3. Ignition System
 - a. Spark plugs.
 - b. Magneto or electronic ignition system.
 - c. Spark advance/retard system.
4. Exhaust Gas Recirculation (EGR) System
 - a. EGR valve body, and carburetor spacer if applicable.
 - b. EGR rate feedback and control system.
5. Air Injection System
 - a. Air pump or pulse valve.
 - b. Valves affecting distribution of flow.
 - c. Distribution manifold.
6. Catalyst or Thermal Reactor System
 - a. Catalytic converter.
 - b. Thermal reactor.
 - c. Exhaust manifold.
7. Particulate Controls
 - a. Traps, filters, precipitators, and any other device used to capture particulate emissions.
8. Miscellaneous Items Used in Above Systems
 - a. Vacuum, temperature, and time sensitive valves and switches
 - b. Electronic controls.
 - c. Hoses, belts, connectors, and assemblies.

MANUFACTURER'S WARRANTY COVERAGE:

The engine is warrantied for 2 years for certain emission-related parts (defined below). Defective parts will be repaired or replaced by one our Lincoln Electric Authorized Repair Facilities.

OWNER'S WARRANTY RESPONSIBILITIES:

- As the small off road engine owner, you are responsible for the performance of the required maintenance listed in MAINTENANCE section within this manual. The Lincoln Electric Company recommends that you retain all receipts covering maintenance items listed in MAINTENANCE, however,

EPA EMISSION CONTROL WARRANTY STATEMENT

The Lincoln Electric Company cannot deny warranty solely for the lack of receipts or failure to ensure the performance of all scheduled maintenance.

- As the small off road engine owner, you should be aware that The Lincoln Electric Company may deny you warranty coverage if your small off road engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.
- You are responsible for presenting your small off road engine to a Lincoln Electric Authorized Service Facility as soon as a problem exists. For owners located more than 100 miles from an authorized service center, Lincoln Electric, at its sole choice and discretion, will either pay for shipping costs to and from an authorized service center, provide for a service technician to come to the owner to make the warranty repair, or pay for the repair to be made at a local non-authorized service center. The provision only applies to owners located in the contiguous United States, excluding the states with high-altitude areas identified in 40 CFR part 1068, Appendix III. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. Should you need assistance or have questions concerning The Lincoln Electric Company's Warranty Statement, you can contact our Customer Service Department at 1-888-935-3877 or online at <http://www.lincolnelectric.com>.

INSTALLATION

TECHNICAL SPECIFICATIONS

WELDING RATED OUTPUT @ 104°F (40°C)			
WELDING PROCESS	WELDING OUTPUT - IEC RATING Current/Voltage/Duty Cycle	OTHER RATINGS	MAXIMUM WELD OCV@ RATED LOAD RPM
DC STICK WELDING (CONSTANT CURRENT)	35A / 21.4V / 100% 204A / 28.2V / 100%	230A / 25V / 100%	85 VOLTS

AUXILIARY OUTPUT @ 104 °F (40°C)				
PHASE	CONTINUOUS	PEAK	RECEPTACLE	Rated Load
SINGLE PHASE 60Hz	9,500 WATTS	10,500 WATTS	120 VAC Duplex (5-20R) GFCI Protected	20 AMPS
			120/240 VAC Dual Voltage Full KVA (14-50R)	40 AMPS
			240 VAC (6-50R)	

ENGINE SPECIFICATIONS (GV750 ENGINE)			
MAKE/MODEL	Lincoln GV750 carb (22.0 hp)	FUEL SYSTEM	Electric lift pump, carburetor
EPA EMISSION	Evaporative	AIR CLEANER	Dual Element
DISPLACEMENT	45.7 cu. in. (749 cc)	LUBRICATION	Full pressure with full flow filter
SPEED	3600 rpm @ full load 2500 rpm @ low idle	ENGINE PROTECTION	Low Oil Pressure
WARRANTY (USA)	2 year complete (parts and labor) 3 year major components (parts and labor)	CAPACITIES	Fuel: 11 gal (41.6 L) Oil: 1.5 qts (1.5 L)
BATTERY	12VDC Battery BCI group size 26 500 cold cranking amps	CSA; IEC 60974-1; IP23S -10°C to +40°C operating range.	

ENGINE SPECIFICATIONS (REHLKO ENGINE)			
MAKE/MODEL	Rehiko carb with echoke - CH730 (23.5 hp)	FUEL SYSTEM	Electric lift pump, carburetor
EPA EMISSION	Evaporative	AIR CLEANER	Dual Element
DISPLACEMENT	44.2 cu. in. (724 cc)	LUBRICATION	Full pressure with full flow filter

ENGINE SPECIFICATIONS (REHLKO ENGINE)			
SPEED	3600 rpm @ full load 2500 rpm @ low idle	ENGINE PROTECTION	Low Oil Pressure
WARRANTY (USA)	2 year complete (parts and labor) 3 year major components (parts and labor)	CAPACITIES	Fuel: 11 gal (41.6 L) Oil: 1.7-1.9 qts (1.6 - 1.8 L)
BATTERY	12VDC Battery BCI group size 26 500 cold cranking amps	CSA; IEC 60974-1; IP23S -10°C to +40°C operating range.	

Note: Duty cycle is the percentage of 10 minutes welding can be performed at rated output without overheating.

GENERAL DESCRIPTION

The small size and low weight allows more room for trucks to carry tools and other equipment.

Low sound improves work place safety and may qualify the machine for low noise regions, such as near schools or hospitals.

Auxiliary power quality is the best in its class – less than 5% total harmonic distortion throughout the entire power range. Quality of the auxiliary power is fully independent of the weld setting.

EAGLE 10000S product family:

- K5491-1 Eagle 10,000S (GV750 Engine)
- K5491-2 Eagle 10,000S (Rehlko Engine)

SAFETY PRECAUTIONS

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

WARNING



Do not attempt to use this equipment until you have thoroughly read the engine manufacturer's manual supplied with your welder. It includes important safety precautions, detailed engine starting, operating and maintenance instructions, and parts lists.

WARNING



ELECTRIC SHOCK can kill.

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

⚠ WARNING**ENGINE EXHAUST can kill.**

- Using an engine driven welder indoors **CAN KILL YOU IN MINUTES.**
- **NEVER** use inside a home or garage, EVEN IF doors and windows are open.
- **ONLY** use **OUTSIDE** and far away from windows, doors and vents.

⚠ WARNING**MOVING PARTS can injure.**

- Do not operate with doors open or guards off.
- Stop engine before servicing.
- Keep away from moving parts.

Note:

See additional warning information at the front of this operator's manual.

ENVIRONMENTAL LIMITATIONS

The EAGLE 10000S is IP23S rated for use in an outdoor environment. It should not be subjected to falling water during use nor should any parts be submerged in water. Doing so may cause improper operation as well as pose a safety hazard. The best practice is to keep the machine in a dry, sheltered area. Use a protective cover when not in use. See [EAGLE 10000S ACCESSORIES](#) on page C-1 .

TILTING

Place the machine directly on a secure, level surface or on a recommended undercarriage or trailer. The machine may topple over if this procedure is not followed.

ANGLE OF OPERATION

The maximum angle of continuous operation is 15°. Engine oil must be at FULL capacity during operation. When operating at an angle, the effective fuel capacity will be reduced.

LIFTING

WARNING



FALLING EQUIPMENT can cause injury

- Lift only with equipment of adequate lifting capacity.
- Be sure machine is stable when lifting.
- Do not lift machine if lift bail is damaged.
- Do not operate machine while suspended from lift bail.

Note: Maximum lift bail rating is 1,085 lb (492 kg).

Table 1 :EAGLE 10000S FULL FUEL AND EMPTY FUEL WEIGHTS

MODEL	EMPTY FUEL TANK WEIGHT	FULL FUEL TANK WEIGHT
Eagle 10,000S (Rehiko Engine)	426 lbs. (194 kg)	494 lbs. (225 kg)
Eagle 10,000S (GV750 Engine)	417 lbs. (190 kg)	485 lbs. (220 kg)

SERVICE TRUCK AND TRAILER INSTALLATION

WARNING



- Improperly mounted concentrated loads may cause unstable vehicle handling and tires or other components to fail.
- Only transport this welding equipment on serviceable vehicles which are rated and designed for such loads.
- Distribute, balance and secure loads so vehicle is stable under conditions of use.
- Do not exceed maximum rated loads for components such as suspension, axles and tires.
- Mount equipment base to metal bed or frame of vehicle. Do not mount the welder using rubber mounts.
- Follow vehicle manufacturer's instructions.
- Do not install equipment where air flow is restricted. Equipment or the engine may overheat.
- Do not weld on the base. Welding on the base may cause fuel tank explosion or fire.
- Always ground the equipment frame to the vehicle frame to prevent electric shock and static electricity hazards.
- Do not place propane or shielding gas tanks near hot air or exhaust.

Connect a ground cable from the welder to the metal frame of the vehicle. Use insulated AWG #8 cable or larger (not supplied with EAGLE 10000S).

BATTERY CONNECTION **WARNING**

GASES FROM BATTERY can explode.

- Keep sparks, flame and cigarettes away from battery.

 WARNING

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 negative battery lead at engine foot.

 WARNING

BATTERY ACID can burn eyes and skin.

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

IMPORTANT

To prevent ELECTRICAL DAMAGE WHEN:

- Installing new battery.
- Using a booster.

Use correct polarity - **NEGATIVE GROUND**.

EAGLE 10000S are shipped with the negative battery cable disconnected. Make sure that the Engine Switch is in the "OFF" position. 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 the battery charging instructions in the Battery section.

INSTALLATION

Note: These machines are furnished with a wet charged battery. If unused for several months, the battery may require a booster charge. Be careful to charge the battery with the correct polarity and voltage.

Always disconnect the negative (-) battery cable before charging the battery.

To access the battery:

1. Turn the machine OFF.
2. Remove the two screws holding the battery cover.
3. Slide the battery cover up and then out.
4. Slide the battery out.
5. When reinstalling, connect the positive battery cable first. Then connect the negative battery cable. Battery cables must be tightly assembled.
6. Do not pinch battery leads between battery, cover or welder frame.

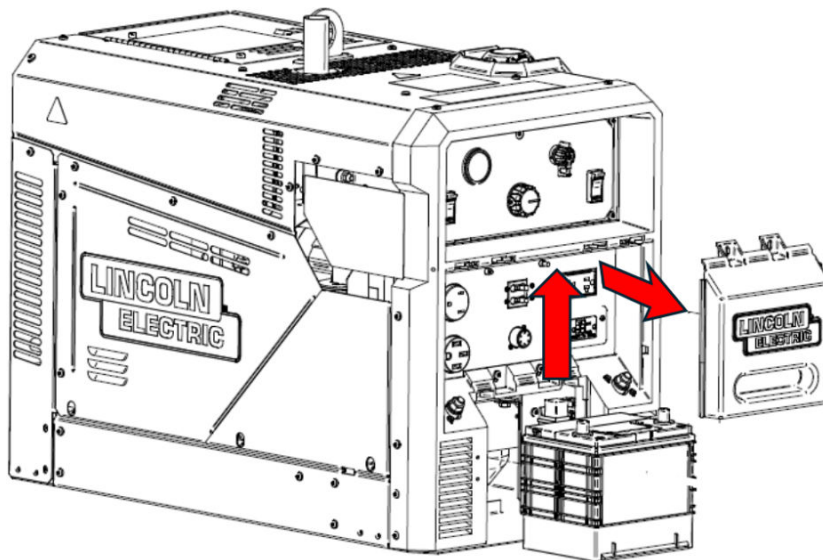


Figure 1 : BATTERY CONNECTION

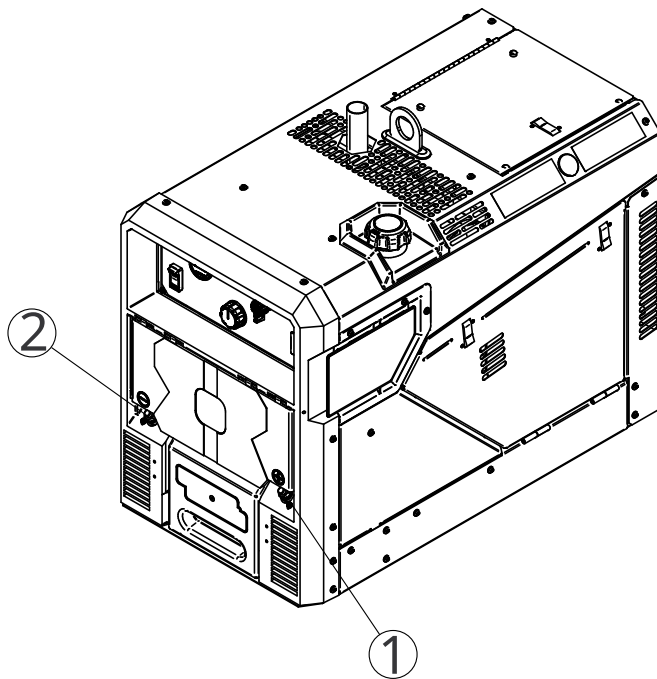
WELD CONNECTIONS

WARNING



- Turn the machine OFF before connecting/disconnecting welding equipment.
- Loose connections will cause the output terminals to overheat. The terminals may eventually melt.
- Do not allow bare weld cable to touch the machine or front doors.

Note: Keep the front door closed when the machine is operating.



1. Positive (+) weld terminal
2. Negative (-) weld terminal

For most stick welding procedures, connect the electrode to the Positive (+) terminal and the work lead to the Negative terminal.

Figure 2 : WELD CONNECTIONS

WELD CABLES, STANDARD

Tabulated below are copper cable sizes recommended for different currents and duty cycles. 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.

Table 2 :RECOMMENDED CABLE SIZES (RUBBER COVERED COPPER - RATED 75° C)**

Amperes	Percent Duty Cycle	CABLE SIZES FOR COMBINED LENGTHS OF ELECTRODE AND WORK CABLES				
		0 to 50 Ft.	50 to 100 Ft.	100 to 150 Ft.	150 to 200 Ft.	200 to 250 Ft.
200	60	2	2	2	1	1/0
200	100	2	2	2	1	1/0
225	20	4 or 5	3	2	1	1/0
225	40 & 30	3	3	2	1	1/0
250	30	3	3	2	1	1/0
250	40	2	2	1	1	1/0
250	60	1	1	1	1	1/0
250	100	1	1	1	1	1/0
300	60	1	1	1	1/0	2/0
325	100	2/0	2/0	2/0	2/0	3/0
350	60	1/0	1/0	2/0	2/0	3/0

** Tabled values are for operation at ambient temperatures of 40°C and below. Applications above 40°C may require cables larger than recommended, or cables rated higher than 75°C

STICK WELDING SET-UP

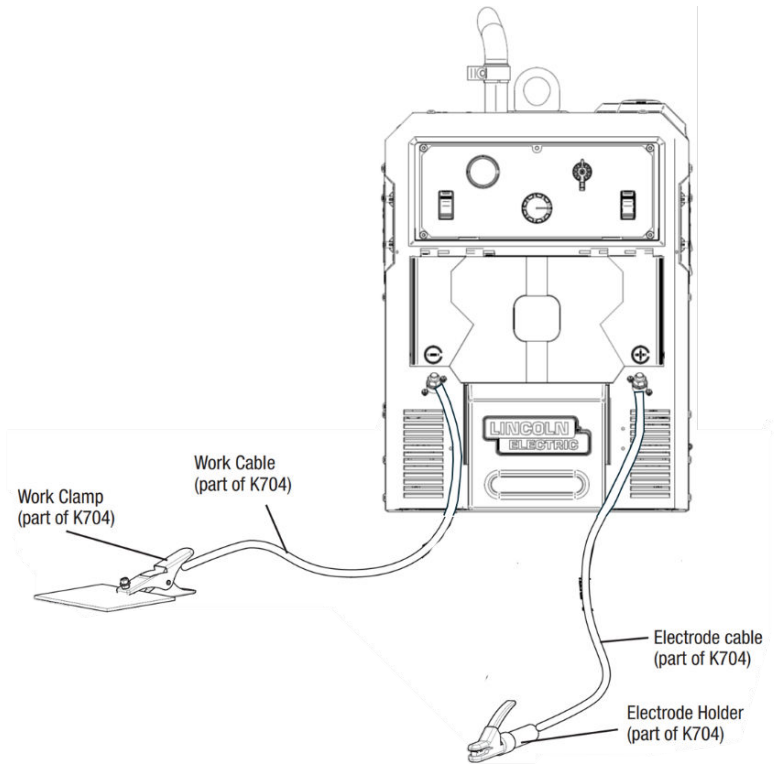


Figure 3 :

HIGH ALTITUDE OPERATION

Operating EAGLE 10000S at 4000 feet (1219 meters) or higher requires a high altitude carburetor kit. The engine should be operated in its original condition below 4000 feet (1219 meters).

Operating the engine with the wrong engine configuration at a given altitude may increase its emissions, decrease fuel efficiency and performance, and result in damage to the engine.

Machine	Elevation	High altitude kit
Eagle 10,000S (Rehiko Engine)	4000 – 8000 feet	Rehiko 24 755 420-S
	8000+ feet	Rehiko 24 755 422-S
Eagle 10,000S (GV750 Engine)	4000+ feet	9SG11070-30 available from Lincoln

OIL

The welder is shipped with the engine crankcase filled. Check the oil level with the machine on a level surface 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 filler cap is tightened securely. Refer to the engine Owner's Manual for specific oil recommendations.

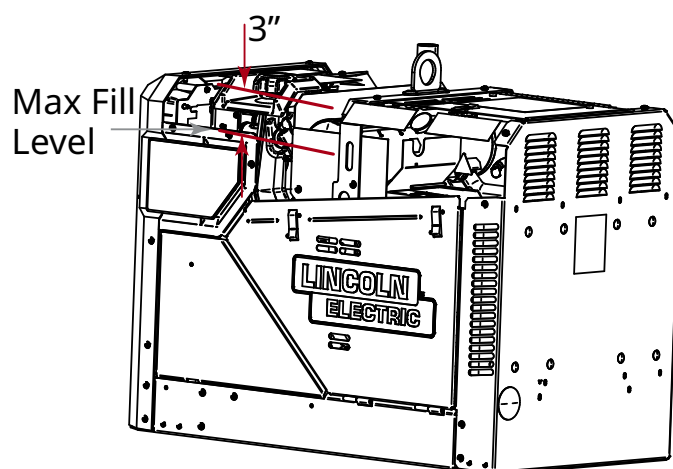
FUEL**⚠ WARNING****GASOLINE EXPLOSION**

- Stop engine while fueling.
- Do not smoke when fueling
- Keep sparks and flame away from tank
- Do not leave unattended while fueling
- Wipe up spilled fuel and allow fumes to clear before starting engine.
- Do not overfill tank, fuel expansion may cause overflow.
- Replace the fuel cap only with proper cap from Lincoln Electric. The cap has an internal safety vent to prevent damage to the machine.

The combination fuel/hour meter on the front of the machine shows the amount of fuel in the tank. Fill the fuel tank with clean, fresh, lead-free gasoline. **Do not top off tank or engine damage may occur.** Be sure to leave filler neck empty to allow room for expansion.

⚠ WARNING**GASOLINE FUEL ONLY**

- Do NOT use E15, E20 or E85 fuels.



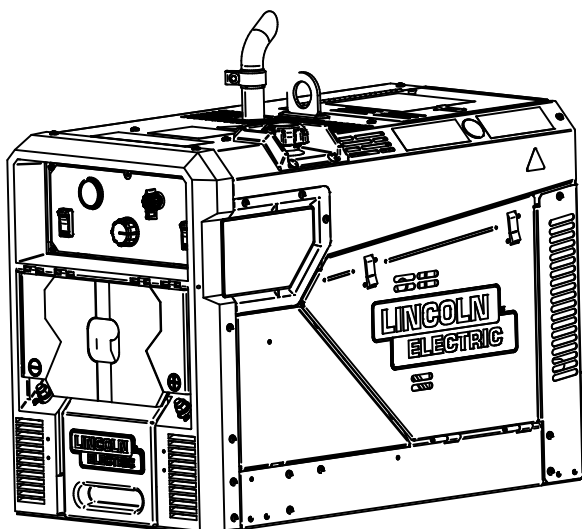
Do not fill the fuel tank higher than 3" (76mm) from the top of the fuel tank. Roof not shown for clarity

EXHAUST PIPE INSTALLATION

WARNING



- Turn the machine OFF before assembling or removing the exhaust pipe.
- Do not point the exhaust pipe toward fuel sources or compressed gas cylinders.
- Point the exhaust pipe away from the front control panel.



The Eagle 10,000S is shipped with the exhaust pipe not assembled. Assemble the exhaust pipe before operating the Eagle 10,000S. Orient the exhaust pipe to direct exhaust away from the front of the machine as shown.

Some federal, state or local laws may require that gasoline or diesel engines be equipped with exhaust spark arrestors 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 arrestor. When required by local regulations, a suitable spark arrestor, such as the K3679-1 must be installed and properly maintained.

MACHINE GROUNDING

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

WARNING



- To prevent dangerous electric shock, other equipment to which this engine driven welder supplies power must:
- Be grounded to the frame of the welder using a grounded type plug or be double insulated.
 - Do not ground the machine to a pipe that carries explosive or combustible material.

When this welder is mounted on a truck or trailer, its frame must be securely connected to the metal frame of the vehicle. When this engine driven welder is connected to premises wiring such as that in a home or shop, its frame must be connected to the system earth ground. See further connection instructions in the

section entitled "Standby Power Connections" as well as the article on grounding in the latest National Electrical Code and the local codes.

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 ground stake going into the ground for at least 10 Feet or to the metal framework of a building which has been effectively grounded.

The National Electric 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.

OPERATION

SAFETY PRECAUTIONS

Read and understand this entire section before operating EAGLE 10000S.

WARNING



- Do not attempt to use this equipment until you have thoroughly read the engine manufacturer's manual supplied with your welder. It includes important safety precautions, detailed engine starting, operating and maintenance instructions, and parts lists.

WARNING



ELECTRIC SHOCK can kill.

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

WARNING



ENGINE EXHAUST can kill.

- Using an engine driven welder indoors **CAN KILL YOU IN MINUTES.**
- **NEVER** use inside a home or garage, EVEN IF doors and windows are open.
- **ONLY** use **OUTSIDE** and far away from windows, doors and vents.

WARNING



MOVING PARTS can injure.

- Do not operate with doors open or guards off.
- Stop engine before servicing.
- Keep away from moving parts.

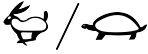
The serviceability of a product or structure utilizing the welding modes is and must be the sole responsibility of the builder/user. Many variables beyond the control of The Lincoln Electric Company affect the results obtained in applying these programs. These variables include, but are not limited to, welding procedure, plate chemistry and temperature, weldment design, fabrication methods and service

requirements. The available range of a welding mode may not be suitable for all applications, and the builder/user is and must be solely responsible for welding mode selection.

GRAPHIC SYMBOLS

The following graphics appear on the Eagle 10,000S or in the manual.

Table 3 :GRAPHIC SYMBOLS

	WARNING OR CAUTION		HOT SURFACE		FRAME GROUND
	INSTRUCTIONS		FIRE OR EXPLOSION		CIRCUIT BREAKER
	FUMES AND GASES		BATTERY EXPLOSION	A	WELDING AMPERAGE
	EXPLOSION		BATTERY ACID	V	WELDING VOLTAGE
	ARC RAYS		ENGINE EXHAUST		3 PHASE ALTERNATOR
	MOVING PARTS		TEMPERATURE		DIRECT CURRENT
	FALLING EQUIPMENT	+	POSITIVE OUTPUT		CHOKE
	ELECTRIC SHOCK	-	NEGATIVE OUTPUT		HIGH IDLE
U₀	OPEN CIRCUIT VOLTAGE		STOP		AUTO IDLE
I₂	OUTPUT CURRENT		START	X	DUTY CYCLE
U₂	OUTPUT VOLTAGE		STICK WELDING		

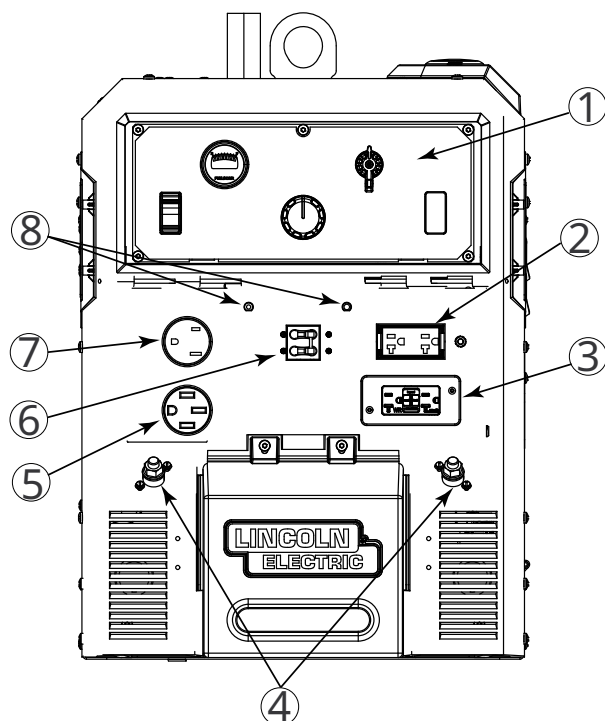
CASE FRONT CONTROLS

Figure 4 : EAGLE 10,000S CASE FRONT

1. Control Panel (See [CONTROL PANEL LAYOUT](#) on page B-4)
2. 120V 20 Amp Duplex Receptacle
3. 120V 20 Amp GFCI Receptacle
4. Weld Terminals
5. 240V 50A Receptacle
6. 50 Amp 2-Pole Circuit Breaker
7. 240V 50A Receptacle
8. 20 Amp Circuit Breakers

CONTROL PANEL LAYOUT

The table below lists the controls numbered in the figures on the left:

#	CONTROL
1	Fuel Gauge
2	Output Control Knob
3	Run/Stop Switch

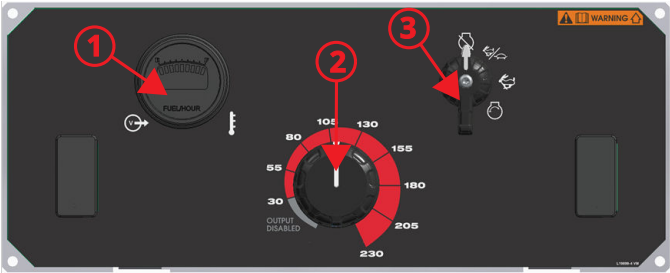


Figure 5 : EAGLE 10,000S CONTROL PANEL

CONTROL PANEL FUNCTIONS

Engine Control Switch

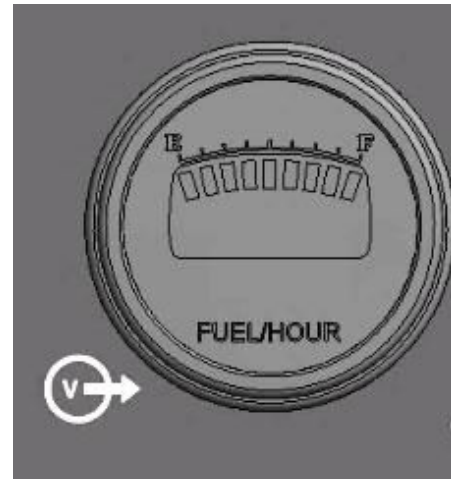
	OFF: Turns of the engine and all electronics. Remove all weld and auxiliary power loads before turning off the engine.
	AUTO IDLE: When either a welding load or auxiliary power load is present, the engine will operate at full speed (3600 rpm). About 12 seconds after the load is removed, the engine slows to idle speed (2500 rpm).
	HIGH IDLE: The engine always operates at full speed (3600 rpm).
	START: Used to start the engine. Do not crank the engine more than 10 seconds continuously. Place the engine control switch in either AUTO or HIGH IDLE once the engine has started.



Fuel/Hour Meter

The fuel/hour meter shows how much fuel is in the fuel tank and the number of hours the Eagle has operated.

A green LED lights anytime the weld output is ON.



Use the weld output knob to adjust the amps or volts for welding. When the knob is rotated full counter clockwise, the welding out is turned off.



WELDING

The EAGLE 10000S is a multi-process machine capable of welding many materials. The machine has a welding range suitable for many 3/32", 1/8", 5/32" and 3/16" stick electrodes.

Table 4 :5P+ E6010 ELECTRODE TYPE

Stick Electrode Size	18 ga	16 ga	14 ga	12 ga	1/8" 10 ga	3/16"	1/4"	5/16"
3/32"	40	50	60	70				
1/8"				80	85	90	100	
5/32"					130	140	150	170

Table 5 :E6013 ELECTRODE TYPE

Stick Electrode Size	18 ga	16 ga	14 ga	12 ga	1/8" 10 ga
3/32"	70	80	85	95	
1/8"			105	115	125

Table 6 :E7018 ELECTRODE TYPE

Stick Electrode Size	16 ga	14 ga	12 ga	1/8" 10 ga	3/16"	1/4"	5/16"	3/8"	1/2"
3/32"	60	70	80	90	100				
1/8"			100	110	115	120	125	130	
5/32"				120	130	135	145	150	160

E6010/E6011 - Deeper penetrating electrode usable in all positions. Frequently used for joining pipe.

E6013 - Shallower penetrating electrode usable in all positions. Commonly used for wide root openings, or conditions of poor fit up.

E7018 - Low hydrogen electrode used for joints involving high-strength (structural), high carbon, or low alloy steels. Smooth arc with medium arc penetration. Usable in all positions.

When paired with a suitcase wire feeder, the Rangers can be used for MIG, FCAW self-shield and FCAW gas-shielded processes.

AUXILIARY POWER

WARNING



An electric shock can result in serious injury or death.

- Due to the risk of power interruption, do not power life support equipment from this machine.
- Unplug accessories and tools before attempting service.
- Close the front service doors protecting the receptacles when operating the machine.
- Do not test or reset the GFCI while at idle speed.
- If the LED blinks, stop using the GFCI receptacle and have it replaced by an authorized service center.
- Long extension cords or cords with poor insulation may allow enough leakage current to trip the GFCI.
- Always perform the GFCI test before using the generator. If the GFCI system fails the test, the machine must be repaired by an authorized service center.
- If the GFCI fails to trip when the test button is pressed (power "ON" light does not go off) or fails to reset (power "ON" light does not go on) the device is inoperative and should be replaced immediately.
- If the GFCI tests properly without any appliance connected to it but trips each time an appliance is connected to it, the appliance has a ground fault and needs to be repaired or replaced. **DO NOT USE THE APPLIANCE IF THIS CONDITION OCCURS: A REAL SHOCK HAZARD MAY EXIST.**

When the machine is set to auto or high idle, the output frequency is controlled to 57 - 63 Hz under steady state conditions. For equipment affected by momentary voltage fluctuations, install a plug-in surge suppressor on the receptacles feeding the equipment.

Note: The Lincoln Electric Company is not responsible for any damage to electrical components improperly connected to this product.

Overload operation:

Never exceed the rated load when it is running continuously. Before connecting and operating the EAGLE 10000S, calculate the electrical power (in Watts) required by the devices to be powered. This electrical power rating is usually found on manufacturer's plate on motors, appliances and power supplies. The sum total power required by these devices should not exceed the nominal power of the EAGLE 10000S.

Most motors require more than their rated wattage for start-up.

Devices with large start-up power demands may not allow the engine to reach normal operating rpm when the machine is set to AUTO. Turn the OFF/AUTO/HIGH/START switch to HIGH.

In the event that the combined weld + auxiliary power load exceeds the machine's capability, the welding circuit will continue to drive as much power as possible without causing damage to any components. Continued operation in an overload state will bog and stall the engine.

Overloading just the auxiliary power circuits will cause the circuit breakers to trip.

OPERATION

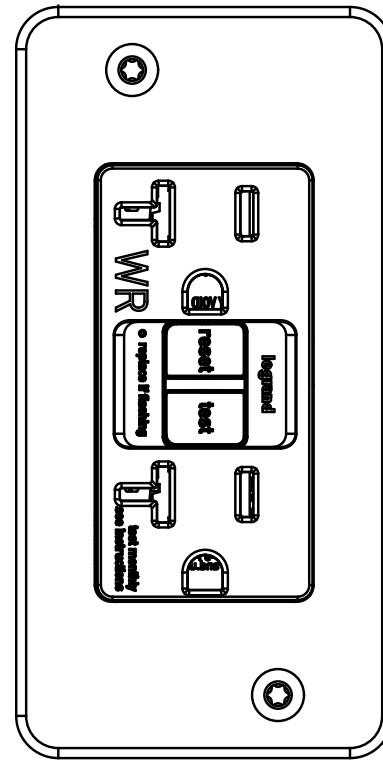
GFCI

The GFCI is an auto reset, self-testing GFCI. It is identified by the STATUS LED located above the buttons.

- Auto Reset: Immediately supplies power to the load when power is applied to the line.
- STATUS LED illuminates Green when the GFCI is functioning properly.
- STATUS LED illuminates Red when the GFCI has tripped. Press the reset button.
- STATUS LED illuminates flashing Red when the GFCI has failed and needs replaced.

This GFCI has a self-testing feature. To manually test this GFCI, press the "TEST" button. The "STATUS" LED should turn red. Then press the "RESET" button. The "STATUS" LED should turn green. If the "STATUS" LED does not turn red and green as indicated (or flashes red), the GFCI failed the test and should be replaced.

If the EAGLE 10000S are to be grounded, use a AWG #8 copper wire or larger to a solid earth ground. Refer to local codes and the U.S. National Electrical Code.



SIMULTANEOUS POWER

EAGLE 10,000S			
Welding Output-Amps	Permissible Power-Watts (Unity Power Factor)	Permissible Auxiliary Current in-Amps	
		120VAC*	240VAC
0	9,500	80**	40
100	7,000	58**	29
150	5,300	44*	22
200	3,400	28*	14
250	2,000	16	8
300	0	0	0
330	0	0	0

Note: * 120VAC Receptacles limited to 20 amps.

Note: ** Not to exceed 50A per 120VAC branch circuit when splitting the 240VAC outlet.

ACCESSORIES AND OPTIONS

EAGLE 10000S ACCESSORIES

Stick Accessories:

K875	Stick welding kit with electrode cable. Includes 20 foot #6 cable, work cable 15ft #6, electrode holder, work clamp and helmet. 150 amp nominal rating.
K909-7	EH-305HD Heavy Duty Electrode Holder
K909-8	EH-405HD Heavy Duty Electrode Holder

General Accessories:

K6055-1	Eagle 10,000S Nylon Cover
K1803-2	Work and power lead package (10 ft, 2/0) – Tweco male and ground clamp / Tweco male and lug
K2150-1	Work lead package (15 ft, 2/0) lug connector
K1842-10	Weld power cable - lug to lug (3/0) – 10 foot
K2163-35	Weld power cable - lug to lug (4/0) – 35 ft (2 cables per package)
K2163-60	Weld power cable - lug to lug (4/0) – 60 ft (2 cables per package)
K2483-2	Weld cable – Tweco Male to open end (2/0) – 10 ft
K2483-3	Weld cable – Tweco Male to open end (3/0) – 10 ft
K2485-2	Weld Cable – Tweco Male & Female (2/0) – 50 ft
K2485-3	Weld cable - Tweco Male & Female (3/0) – 50 ft
K2484-3	Weld Cable – Tweco Male to lug (3/0) - 50 ft
K2487-1	Insulated CT40FS Female Connector, straight
K2946-1	Tweco-Style Cam-Lock Adapter Plug for 2/0 Cable
K3416-70	Tweco Style Plug (male, 1/0 through 2/0)
K3416-90	Tweco Style Plug (male, 3/0 through 4/0)
K3417-70	Tweco Style Plug (female, 1/0 through 2/0)
K3417-90	Tweco Style Plug (female, 3/0 through 4/0)
K857	Remote Output Control 6 pin, 25 foot
K857-1	Remote Output Control 6 pin, 100 foot

Trailers And Undercarriages:

K2635-1	Small Two-Wheel Welder Trailer
K3589-5	Factory Undercarriage, pneumatic tires
K3589-6	Factory Undercarriage with Flat-Free Tires
K3590-4	All-Terrain Undercarriage, pneumatic tires
K3590-5	All-Terrain Undercarriage with Flat-Free Tires

Engine Accessories:

K3494-1	Rehiko 100 hour service kit
K3679-1	Spark Arrestor
K5380-1	GV750 100 hour service kit

MAINTENANCE

SAFETY PRECAUTIONS

WARNING



- Have qualified personnel do all maintenance and troubleshooting work.
- Turn the engine off before working inside the machine or servicing the engine.
- Remove guards only when necessary to perform maintenance and replace them when the maintenance requiring their removal is complete. If guards are missing from the machine, obtain replacements from a Lincoln Distributor (see Operating Manual Parts List).

Read the Safety Precautions in the front of this manual and in the Engine Owner's 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 the gears, fans, and all other moving parts when starting, operating, or repairing the equipment.

ENGINE COMPONENT SERVICE INTERVALS

Rehiko engine manuals can be found at the follow website or QR code:

<https://www.engines.rehiko.com/manuals>



EAGLE 10,000S REHLKO ENGINE			
Item	Service Interval	OEM Replacement Part Number	Included With K3494-1 Kit
Oil	100 hours	2.0 qts Rehiko PRO 300 hour 10W-50 25 357 72S Rehiko PRO 300 hour 25 050 53-S Oil Filter	Y
Air Filter	100 hours	Rehiko 24 083 03-S: Air Filter Element Rehiko 24 083 05-S: Air Filter Pre-Cleaner	Y
Spark Plug	500 hours	Rehiko 12 132 02-S Champion RC12YC (.030" gap)	Y
Fuel Filter	200 hours	Rehiko 24 050 13-S	Y

EAGLE 10,000S GV750 ENGINE			
Item	Service Interval	OEM Replacement Part Number	Included With K5380-1 Kit
Oil	100 hours	2.0 qts SAE 10W-30 service class SJ or higher 100004087-001 Oil Filter	Y
Air Filter	100 hours	NOT AVAILABLE	Y
Spark Plug	500 hours	100009388 NGK BPR6ES	Y
Fuel Filter	200 hours	NOT AVAILABLE	Y

OIL AND OIL FILTER CHANGE

Turn the machine off. Drain the oil while the engine is warm to assure rapid and complete draining. See [ENGINE COMPONENT SERVICE INTERVALS](#) on page D-1 for capacity and service interval information.

- Remove the oil filler cap.
- Remove the cap from the drain valve. Push in and twist the yellow drain valve counter counterclockwise. Then pull the valve out and drain the oil into a suitable container.
- Close the valve by pushing in and twisting clockwise. Replace the cap. **Close valve and valve cap before adding oil and running the engine.**
- Remove the old oil filter. Use Channellock® No. 209 pliers if the filter is stuck.
- Clean the oil filter mounting surface, and coat the new oil filter gasket with clean oil.
- Screw on the new oil filter by hand until the gasket touches the mounting surface. Then tighten the oil filter an additional 1/2 to 7/8 turn.
- Add oil until to the upper limit mark on the dipstick. Tighten the oil filler cap securely.
- Start the engine and check for leaks.
- Stop the engine and check the oil level. If necessary, add oil to the upper limit mark on the dipstick.

Use 4-stroke motor oil that meets or exceeds the requirements for API service classification SJ. For Rehlko engines, Rehlko 300 hour PRO 10W-50 oil is recommended (see [Figure 7 : REHLKO ENGINE OIL TEMPERATURE RANGES](#) on page D-3). For CV750 engines, SAE 10W-30 oil is recommended (see [Figure 6 : GV750 ENGINE OIL TEMPERATURE RANGES](#) on page D-3). SAE 10W-30 oil may also be used for general, all temperature use: -5°F to 104°F, -20°C to 40°C. See the Engine Owner's Manual for more specific information on oil viscosity recommendations.

Wash hands with soap and water after handling oil.

Dispose of used oil in a manner compatible with the environment. Do not throw used oil into the trash, pour it on the ground or down a drain.

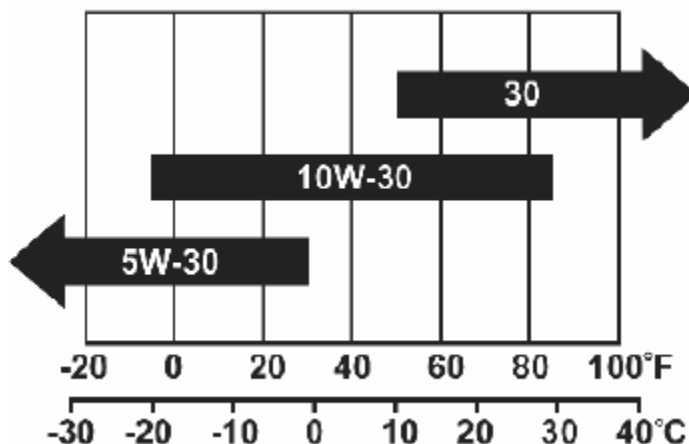
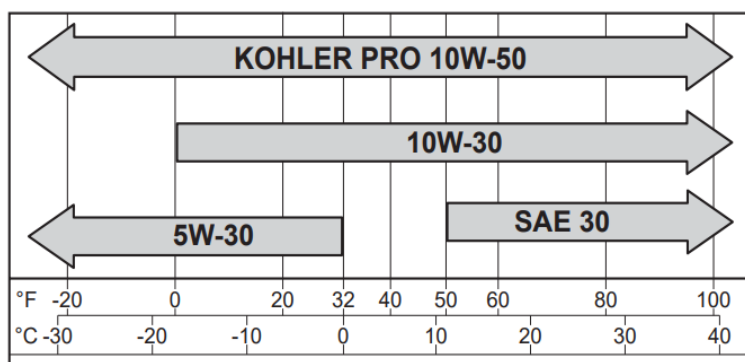


Figure 6 : GV750 ENGINE OIL TEMPERATURE RANGES
Figure 7 : REHLKO ENGINE OIL TEMPERATURE RANGES



AIR FILTER CHANGE

⚠ WARNING



- Never use gasoline or low flash point solvents for cleaning the air cleaner element. A fire or explosion could result.
- Never run the engine without the air cleaner. Rapid engine wear will result from contaminants such as dust and dirt being draw into the engine.

Turn the machine off.

Air Filter Pre-cleaner Service:

- Loosen the cover retaining knob and remove the cover.
- Remove the pre-cleaner from the paper element.
- Wash the pre-cleaner in warm water with detergent. Rinse the pre-cleaner thoroughly until all traces of detergent are removed. Squeeze out excess water (do not wring). Allow the pre-cleaner to dry.
- Reinstall the pre-cleaner over the paper element.
- Reinstall the air cleaner cover. Secure the cover with the cover retaining knob.

Air Filter Paper Element

- Loosen the cover retaining knob and remove the cover.
- Remove the pre-cleaner from the paper element.
- Remove the element cover nut, element cover, and paper element.
- Do not wash the paper element or use pressurized air, as this will damage the element. Replace a dirty, bent, or damaged element with a new element. Handle new elements carefully; do not use if the sealing surfaces are bent or damaged.
- When servicing the air cleaner, check the air cleaner base. Make sure it is secured and not bent or damaged. Also check the element cover for damaged or improper fit. Replace all damaged air cleaner components. Reinstall the paper element, pre-cleaner, element cover, element cover nut, and air cleaner cover. Secure cover with the cover retaining knob.

Note: Before air cleaner is reassembled make sure rubber seal is in position around stud. Inspect, making sure it is not damaged and seals with the element cover.

- Reinstall the paper element, pre-cleaner, element cover, element cover nut, and air cleaner cover. Secure cover with the cover retaining knob.

FUEL FILTER CHANGE

WARNING



When working on the fuel system:

- Do not smoke!
- Do not spill fuel!
- Keep bare or unprotected lights away.
- Check the fuel filter for water accumulation or sediment. Replace the fuel filter if it is found with excessive water accumulation or sediment.

Turn the machine off.

To change the fuel filter:

- Allow the machine to cool after shutting power off.
- Remove the hose clamps on either side of the fuel filter.
- Remove the fuel filter and discard appropriately.
- Insert the new fuel filter into the hoses.
- Move the hose clamps into place to secure the fuel filter.
- Wipe up any spilled fuel.
- Start the engine and check for leaks.

SPARK PLUG SERVICING

WARNING



- Before removing spark plug, the muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot.
- The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and may cause engine damage.

To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

- Remove the spark plug cap.
 - Clean any dirt from around the spark plug base.
 - Use a plug wrench to remove the spark plug.
 - Visually inspect the spark plug. Discard them if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.
 - Measure the plug gap with a feeler gauge. Correct as necessary by bending the side electrode.
 - Check that the spark plug washer is in good condition and thread the spark plug in by hand to prevent cross-threading.
 - After the spark plug is seated, tighten with a spark plug wrench to compress the washer.
 - If installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer.
 - If reinstalling a used spark plug, tighten 1/8 - 1/4. turn after the spark plug seats to compress the washer.
- Spark Plug Gap: .030 in. (0.76 mm)
Spark Plug Torque: 20 ft. Lb. (27 N-m)
- Use only the recommended spark plug or equivalent.
 - A spark plug which has an improper heat range may cause engine damage.

ENGINE SPEED ADJUSTMENT

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.

BATTERY MAINTENANCE

WARNING



GASES FROM BATTERY can explode.

- Keep sparks, flame and cigarettes away from battery.

WARNING



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 negative battery lead at engine foot.

WARNING



BATTERY ACID can burn eyes and skin.

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

To access the battery, remove the 2 screws from the front battery cover and lift the cover up and out. Slide the battery out only far enough to access the battery terminals.

CLEANING THE BATTERY: Keep the battery clean by wiping it with a damp cloth when dirty. If the terminals appear corroded, disconnect the battery cables and wash the terminals with an ammonia solution or a solution of 1/4 pound (0.11kg) of baking soda and 1 quart (0.1 L) of water.

After cleaning, flush the outside of the battery, the battery compartment, and surrounding areas with clear water. Coat the battery terminals lightly with petroleum jelly or a non-conductive grease to retard corrosion. Keep the battery clean and dry. Moisture accumulation on the battery can lead to more rapid discharge and early battery failure.

CHARGING THE BATTERY: When you charge, jump, replace, or otherwise connect battery cables to the battery, be sure the polarity is correct. Improper polarity can damage the charging circuit. The EAGLE 10000S positive (+) battery terminal has a red terminal cover.

If you need to charge the battery with an external charger, disconnect the negative cable first, then the positive cable before you attach the charger leads. After the battery is charged, reconnect the positive battery cable first and the negative cable last. Failure to do so can result in damage to the internal charger components. Follow the instructions of the battery charger manufacturer for proper charger settings and charging time.

SPARK ARRESTOR SERVICING

WARNING



- Muffler may be hot.
- Allow the engine to cool before installing the spark arrestor.
- Do not operate the engine while installing the spark arrestor.

Clean every 100 hours.

STORAGE

To prepare the engine for long term storage, empty the fuel tank and run the engine until it stalls to use of all the fuel in the carburetor.

Store the EAGLE 10000S in a clean, dry, protected location.

WELDER GENERATOR MAINTENANCE

Blow out the generator and controls periodically with low pressure compressed air.

BRUSH REMOVAL AND REPLACEMENT

WARNING



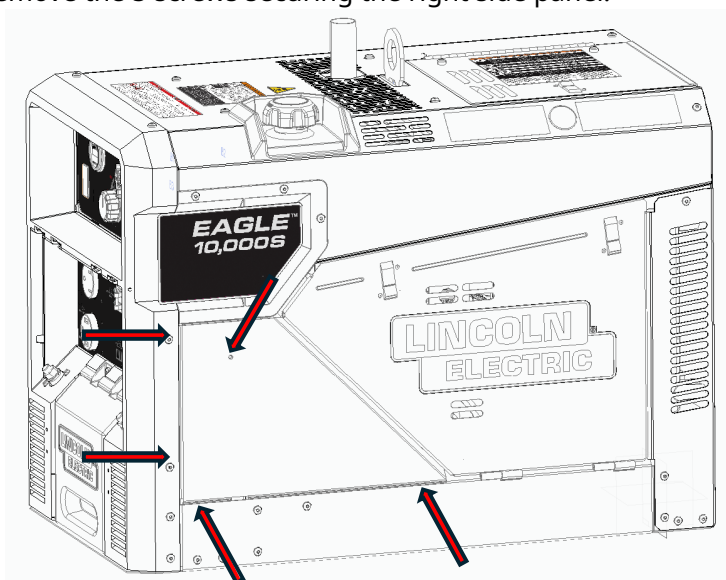
Do not attempt to polish slip rings while the engine is running.

- Service and repair should only be performed by Lincoln Electric Factory Trained Personnel. Unauthorized repairs may result in danger to the technician and machine operator and will invalidate your factory warranty. For your safety and to avoid Electric Shock, please observe all safety notes and precautions.

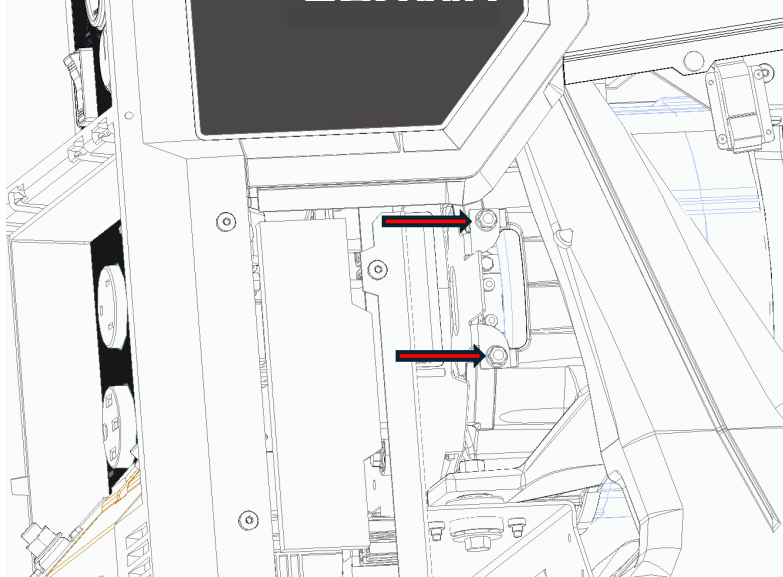
It is normal for the brushes and slip rings to wear and darken slightly. Inspect the brushes every 3 months or 200 hours, whichever comes first.

To replace the brush assembly:

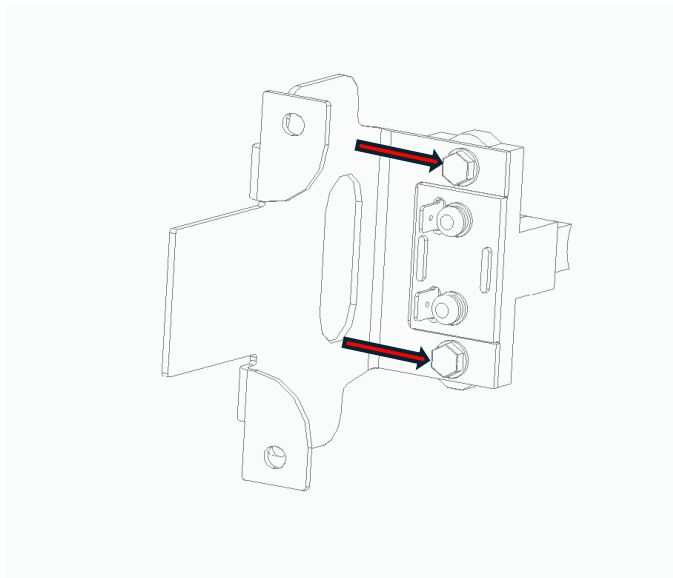
1. Turn off the machine.
2. Open and remove right side door.
3. Using a T-30 Torx bit, remove the 5 screws securing the right side panel.



4. Use a 10mm socket to remove the 2 bolts holding the brush assembly to the alternator casting.



5. Remove the leads from brush bracket.
6. Use a 8mm socket to remove the brush bracket from the brush holder.



7. Obtain a new brush holder and assemble to the brush bracket.
8. Carefully position the brush holder assembly on the casting. Once the brushes are aligned on the slip rings, secure with the 2 bolts from step 4.
9. Reassemble the right side panel and the right side door.

TROUBLESHOOTING

HOW TO USE TROUBLESHOOTING GUIDE

WARNING



Service and Repair should only be performed by Lincoln Electric Factory Trained Personnel. Unauthorized repairs performed on this equipment may result in danger to the technician and machine operator and will invalidate your factory warranty. For your safety and to avoid Electrical Shock, please observe all safety notes and precautions detailed throughout this manual.

This Troubleshooting Guide is provided to help you locate and repair possible machine malfunctions. Simply follow the three-step procedure listed below.

1. LOCATE PROBLEM (SYMPTOM)

Look under the column labeled “PROBLEM (SYMPTOMS)”. This column describes possible symptoms that the machine may exhibit. Find the listing that best describes the symptom that the machine is exhibiting.

2. POSSIBLE CAUSE

The second column labeled “POSSIBLE CAUSE” lists the obvious external possibilities that may contribute to the machine symptom.

3. RECOMMENDED COURSE OF ACTION

This column provides a course of action for the Possible Cause, generally it states to contact your local Lincoln Authorized Field Service Facility.

CAUTION



If you do not understand or are unable to perform the Recommended Course of Action safely, contact your local Lincoln Authorized Field Service Facility.

Observe all additional safety guidelines detailed throughout this manual.

TROUBLESHOOTING GUIDE

Contact your local Lincoln Authorized Field Service Facility if you do not understand the test procedures, if you are unable to perform the tests/repairs safely, or if all recommended possible areas of misadjustment have been checked and the problem persists.

Observe all Safety Guidelines detailed throughout this manual

SYMPTOMS	POSSIBLE CAUSE	RECOMMENDED COURSE OF ACTION
AUXILIARY OUTPUT PROBLEMS		
No 120 VAC output.	1. Check that the 20 Amp circuit breaker did not trip. 2. Check that the GFCI has not tripped. 3. Check for a bad 120V receptacle.	If all recommended possible areas of misadjustment have been checked and the problem persists, contact your local Lincoln Authorized Field Service Facility.
No 120 VAC and no 240 VAC output.	1. Check that the 50 amp breaker did not trip. 2. Do not start the engine with a large 120 or 240V load applied. 3. Inspect the alternator brushes for wear or corrosion on the slip rings. 4. Check for voltage to the brushes. 5. Verify engine runs at 3600 rpm in high idle. 6. Check flashing diode. 7. Faulty pc board.	
120 and 240 VAC are high.	1. Check for faulty D2 diode and lead 213 wiring.	

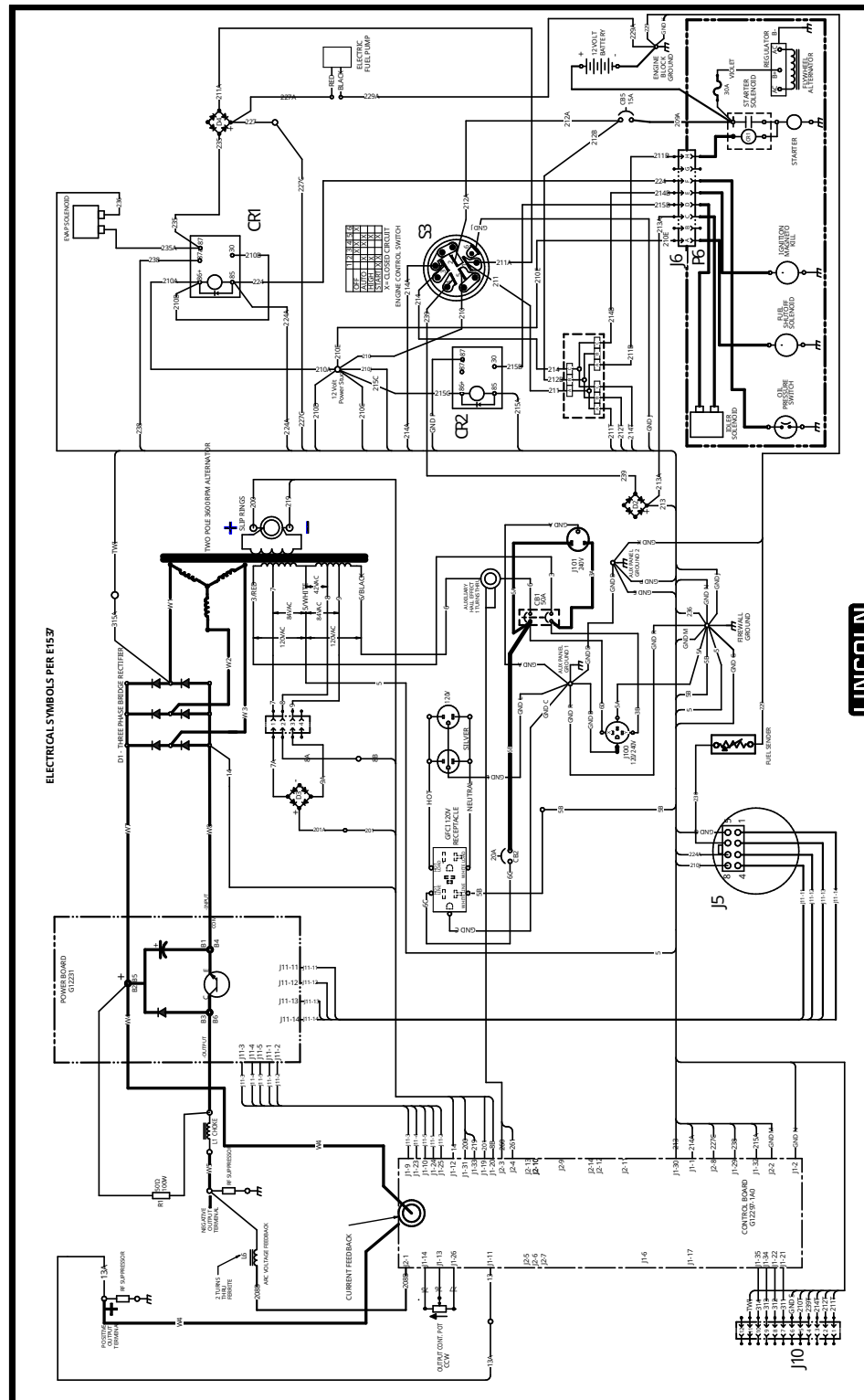
SYMPTOMS	POSSIBLE CAUSE	RECOMMENDED COURSE OF ACTION
ENGINE PROBLEMS		
Engine will not crank.	1. Low or weak battery. 2. Inspect for loose or corroded battery terminals. 3. "Battery circuit" circuit breaker (CB4) has tripped. 4. Verify engine control switch operation and related connections. 5. Verify CR1 relay operation and connections. 6. Faulty starter motor.	If all recommended possible areas of misadjustment have been checked and the problem persists, contact your local Lincoln Authorized Field Service Facility.
Engine will crank but not start.	1. Unit is out of fuel. 2. Check choke operation (including echoke if equipped). 3. Verify the fuel pump is working. 4. Check spark plugs for damage. 5. Confirm spark plugs are receiving voltage. 6. Verify the engine fuel shutoff solenoid is open. 7. Verify operation of the engine control switch.	
Engine shuts down shortly after starting.	1. Low fuel level. 2. Low oil level. 3. Clogged fuel filter. Clean. 4. Faulty oil pressure switch. 5. Faulty fuel pump. 6. Verify operation of the engine control switch.	
Engine has low output or runs rough.	1. Low fuel. 2. Clogged fuel filter. 3. Clogged air filter. 4. Choke is stuck. 5. Poor quality fuel – fuel has sat for a long time. 6. Spark plugs are fouled, or plug wires are loose. 7. Valves are out of adjustment. 8. Engine is running on one cylinder. 9. Verify low idle rpm is set to 2500.	

SYMPTOMS	POSSIBLE CAUSE	RECOMMENDED COURSE OF ACTION
ENGINE PROBLEMS		
Engine will not go to low idle.	1. Verify engine control switch is in the AUTO position. 2. Verify operation of the engine control switch. 3. Check low idle solenoid. 4. Confirm there is no auxiliary load by opening the 50 amp breaker. 5. Confirm there is no weld load by rotating the weld output knob to the "Output OFF" position. 6. Faulty pc board.	If all recommended possible areas of misadjustment have been checked and the problem persists, contact your local Lincoln Authorized Field Service Facility.
Engine does not go to full power when using auxiliary power.	1. The auxiliary power load is less than 100 Watts. Set the OFF/AUTO/RUN/START switch to RUN. 2. Disconnect / turn off auxiliary power loads before starting the engine. 3. The engine is operating on one cylinder.	

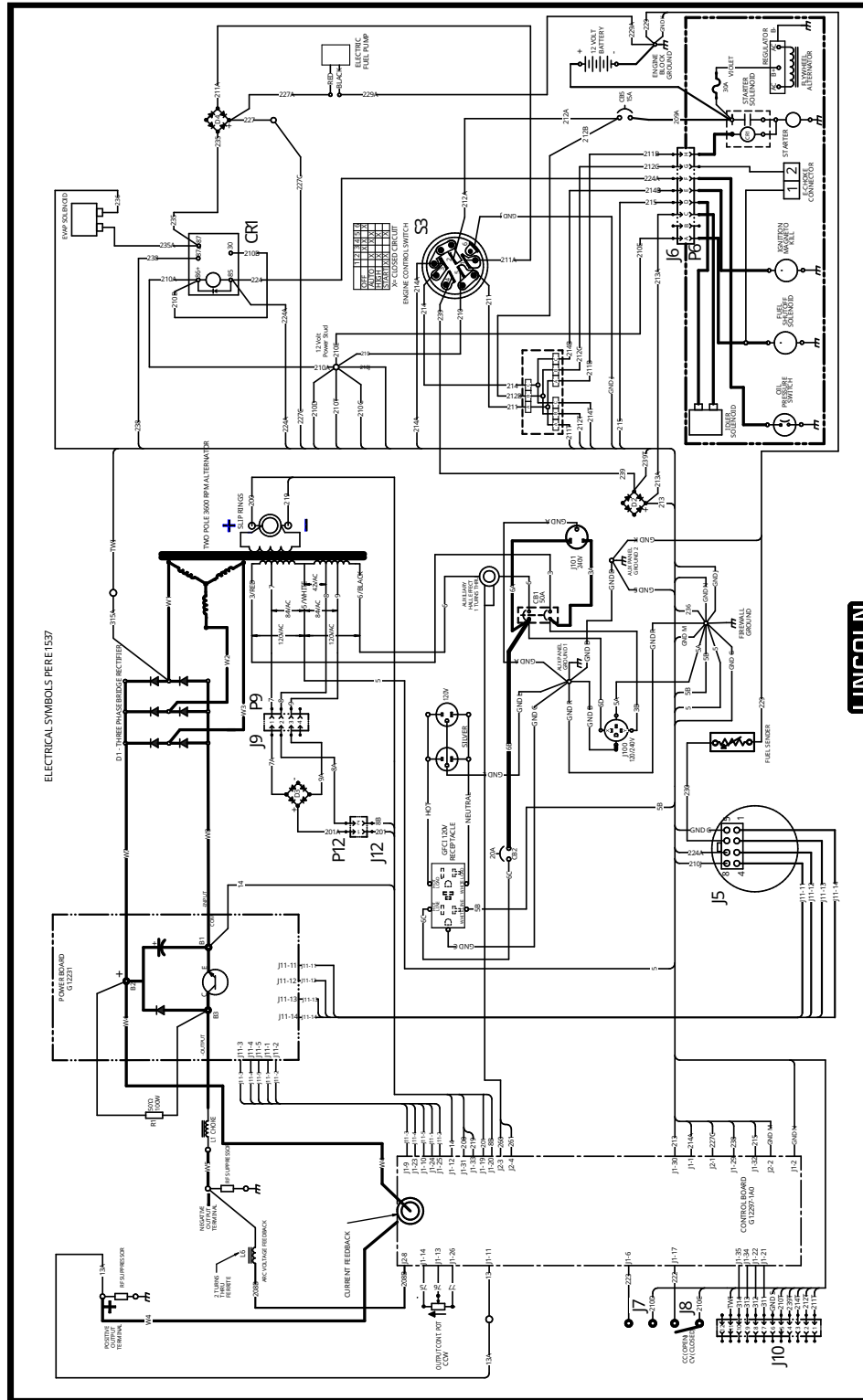
SYMPTOMS	POSSIBLE CAUSE	RECOMMENDED COURSE OF ACTION
WELDING PROBLEMS		
No weld output.	1. Verify the weld output knob is in the ON position. 2. Check for worn brushes.	If all recommended possible areas of misadjustment have been checked and the problem persists, contact your local Lincoln Authorized Field Service Facility.
The arc is not stable.	1. Verify the polarity of the electrode and work cables. 2. Cables may be excessively long, undersized or damaged. 3. Verify the weld settings match the electrode. 4. Verify the electrodes have not been exposed to moisture. 5. Check for worn brushes.	

APPENDIX

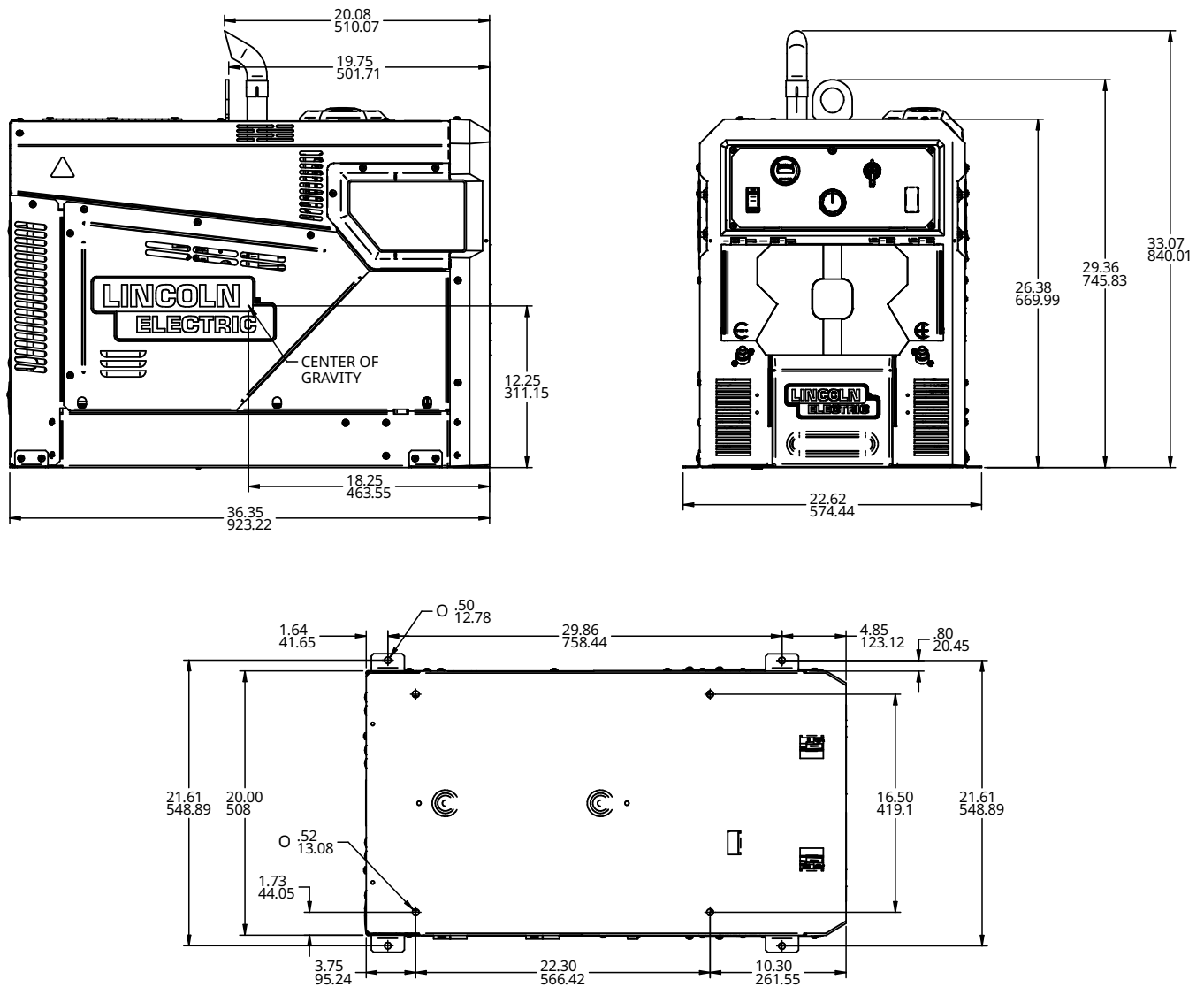
EAGLE 10000S (GV750) WIRING DIAGRAM (Code 13837)



EAGLE 10,000S (REHLKO) WIRING DIAGRAM (Code 13926)



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CUSTOMER ASSISTANCE POLICY

CUSTOMER ASSISTANCE POLICY

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WELD FUME CONTROL EQUIPMENT

The operation of welding fume control equipment is affected by various factors including proper use and positioning of the equipment, maintenance of the equipment and the specific welding procedure and application involved. Worker exposure level should be checked upon installation and periodically thereafter to be certain it is within applicable OSHA PEL and ACGIH TLV limits.

PARTS LIST

Content/Details may be changed or updated without notice. For most current Instruction Manuals, go to PARTS.LINCOLNELECTRIC.COM.

