



Product Description	CobraMig 260 MT/PS/WF
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NWSA Form Number	550
Effective with serial number	01110001
Voltage Ratings	208V 230V 416V 480V
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This manual applies to the following CobraMig 260 model numbers	186-003

CobraMig 260 Power Supply/Wire Feeder



208V
230V
416V
480V

Multi-Tap Voltage Version

SAFETY CONSIDERATIONS

ELECTRIC ARC WELDING EQUIPMENT

CAUTION : READ BEFORE ATTEMPTING INSTALLATION, OPERATION OR MAINTENANCE OF THIS EQUIPMENT

1-1 INTRODUCTION

This equipment is intended for ultimate application by commercial/industrial users and for operation by persons trained and experienced in the use and maintenance of welding equipment. Operation should not be undertaken without adequate training in the use of such equipment. Training is available from many public and private schools or similar facilities.

Safe practices in the installation, operation and maintenance of this equipment requires proper training in the art, a careful study of the information provided with the equipment, and the use of common sense. Rules for safe use are generally provided by suppliers of welding power sources, compressed gas suppliers, and electrode suppliers. Careful compliance with these rules will promote safe use of this equipment.

The following Safety Rules cover some of the more generally found situations. READ THEM CAREFULLY. In case of any doubt, obtain qualified help before proceeding.

1-2 GENERAL PRECAUTIONS

A. Burn Prevention

ELECTRIC ARC WELDING PRODUCES HIGH INTENSITY HEAT AND ULTRAVIOLET RADIANT ENERGY WHICH MAY CAUSE SERIOUS AND PERMANENT EYE DAMAGE AND WHICH MAY DAMAGE ANY EXPOSED SKIN AREAS.

Wear helmet with safety goggles or glasses with side shields underneath, appropriate filter lenses or plates (protected by clear cover glass). This is a must for welding or cutting (and chipping) to protect the eyes from radiant energy and flying metal. Replace cover glass when broken, pitted, or spattered.

Medical first aid and eye treatment. First aid facilities and a qualified first aid person should be available for each shift unless medical facilities are close by for immediate treatment of flash burns of the eyes and skin burns.

Wear protective clothing - leather (or asbestos) gauntlet gloves, hat, and high safety-toe shoes. Button shirt collar and pocket flaps, and wear cuffless trousers to avoid entry of sparks and slag.

Avoid oily or greasy clothing. A spark may ignite them.

Flammable hair preparations should not be used by persons intending to weld or cut.

Hot metal such as electrode stubs and work pieces should never be handled without gloves.

Ear plugs should be worn when working on overhead or in a confined space. A hard hat should be worn when others work overhead.

B. Toxic Fume Prevention

WARNING: The use of this product may result

in exposure to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Adequate ventilation. Severe discomfort, illness or death can result from fumes, vapors, heat, or oxygen enrichment or depletion that welding (or cutting) may produce. Prevent them with adequate ventilation. NEVER ventilate with oxygen.

Lead-, cadmium-, zinc-, mercury-, beryllium-bearing and similar materials, when welded or cut, may produce harmful concentrations of toxic fumes. Adequate local exhaust ventilation must be used, or each person in the area, as well as the operator, must wear an air-supplied respirator. For beryllium, both must be used.

Metals coated with or containing materials that emit toxic fumes should not be heated unless coating is removed from the work surface, the area is well ventilated, or the operator wears an air-supplied respirator.

Work in a confined space only while it is being ventilated and, if necessary, while wearing an air-supplied respirator.

Gas leaks in a confined space should be avoided. Leaked gas in large quantities can change oxygen concentration dangerously. Do not bring gas cylinders into a confined space.

Leaving confined space, shut OFF gas supply at source to prevent possible accumulation of gases in the space if downstream valves have been accidentally opened or left open. Check to be sure that the space is safe before reentering it.

Vapors from chlorinated solvents can be decomposed by the heat of the arc (or flame) to form PHOSGENE, a highly toxic gas, and other lung and eye irritating products. The ultraviolet (radiant) energy of the arc can also decompose trichloroethylene and perchloroethylene vapors to form phosgene. DO NOT WELD or cut where solvent vapors can be drawn into the welding or cutting atmosphere or where the radiant energy can penetrate to atmospheres containing even minute amounts of trichloroethylene or perchloroethylene.

C. Fire and Explosion Prevention

Causes of fire and explosion are: combustibles reached by the arc, flame, flying sparks, hot slag, or heated material, misuse of compressed gases and cylinders, and short circuits.

BE AWARE THAT flying sparks or falling slag can pass through cracks, along pipes, through windows or doors, and through wall or floor openings, out of sight of the goggled operator. Sparks can fly many feet.

To prevent fires and explosion:

Keep equipment clean and operable, free of oil, grease, and (in electrical parts) of metallic particles that can cause short circuits.

If combustibles are in area, do NOT weld or cut. Move the work if practicable, to an area free of

combustibles. Avoid paint spray rooms, dip tanks, storage areas, ventilators. If the work cannot be moved, move combustibles at least 35 feet away, out of reach of sparks and heat; or protect against ignition with suitable and snug-fitting, fire-resistant covers or shields.

Walls touching combustibles on opposite sides should not be welded on (or cut). Walls, ceilings, and floor near work should be protected by heat-resistant covers or shields.

Fire watcher must be standing by with suitable fire extinguishing equipment during and for some time after welding or cutting if:

1. Appreciable combustibles (including building construction) are within 35 feet.

2. Appreciable combustibles are further than 35 feet, but can be ignited by sparks.

3. Openings (concealed or visible) in floors or walls within 35 feet may expose combustibles to sparks.

4. Combustibles adjacent to walls, ceilings, roofs, or metal partitions can be ignited by radiant or conducted heat.

Hot work permit should be obtained before operation to ensure supervisor's approval that adequate precautions have been taken.

After work is done, check that area is free of sparks, glowing embers, and flames.

An empty container that held combustibles, or that can produce flammable or toxic vapors when heated, must never be welded on or cut, unless container has first been cleaned in accordance with industry standards.

This includes: a thorough steam or caustic cleaning (or a solvent of water washing, depending on the combustible's solubility), followed by purging and inerting with nitrogen or carbon dioxide, and using protective equipment.

Water-filling just below working level may substitute for inerting.

A container with unknown contents should be cleaned (see paragraph above). Do NOT depend on sense of smell or sight to determine if it is safe to weld or cut.

Hollow castings or containers must be vented before welding or cutting. They can explode.

Explosive atmospheres. NEVER weld or cut where the air may contain flammable dust, gas, or liquid vapors (such as gasoline).

D. Compressed Gas Equipment

The safe handling of compressed gas equipment is detailed in numerous industry publications. The following general rules cover many of the most common situations.

1. Pressure Regulators

Regulator relief valve is designed to protect only the regulator from overpressure; it is not

intended to protect any downstream equipment. Provide such protection with one or more relief devices.

Never connect a regulator to a cylinder containing gas other than that for which the regulator was designed.

Remove faulty regulator from service immediately for repair (first close cylinder valve). The following symptoms indicate a faulty regulator:

Leaks - if gas leaks externally.

Excessive Creep - if delivery pressure continues to rise with downstream valve closed.

Faulty Gauge - if gauge pointer does not move off stop pin when pressurized, nor returns to stop pin after pressure release.

Repair. Do NOT attempt repair. Send faulty regulators for repair to manufacturer's designated repair center, where special techniques and tools are used by trained personnel.

2. Cylinders

Cylinders must be handled carefully to prevent leaks and damage to their walls, valves, or safety devices:

Avoid electrical circuit contact with cylinders including third rails, electrical wires, or welding circuits. They can produce short circuit arcs that may lead to a serious accident. (See 1-3C)

ICC or DOT marking must be on each cylinder. It is an assurance of safety when the cylinder is properly handled.

Identifying gas content. Use only cylinders with name of gas marked on them; do not rely on color to identify gas content. Notify supplier if unmarked. NEVER DEFACE or alter name, number, or other markings on a cylinder. It is illegal and hazardous.

Empties: Keep valves closed, replace caps securely; mark MT; keep them separate from FULLS, and return promptly.

Prohibited use. Never use a cylinder or its contents for other than its intended use, NEVER as a support or roller.

Locate or secure cylinders so they cannot be knocked over.

Passageways and work areas. Keep cylinders clear of areas where they may be stuck.

Transporting cylinders. With a crane, use a secure support such as a platform or cradle. Do NOT lift cylinders off the ground by their valves or caps, or by chains, slings, or magnets.

Do NOT expose cylinders to excessive heat, sparks, slag, and flame, etc. that may cause rupture. Do not allow contents to exceed 55 degrees C (130 degrees F.) Cool with water spray where such exposure exists.

Protect cylinders, particularly valves from bumps, falls, falling objects, and weather. Replace caps securely when moving cylinders.

Stuck valve. Do NOT use a hammer or wrench to open a cylinder valve that cannot be opened by hand. Notify your supplier.

Mixing gases. NEVER try to mix any gases in a cylinder.

NEVER refill any cylinder.

Cylinder fittings should never be modified or exchanged.

3. Hose

Prohibited use. Never use hose other than that designed for the specified gas. A general hose identification rule is: red for fuel gas, green for oxygen, and black for inert gases.

Use ferrules or clamps designed for the hose (not ordinary wire or other substitute) as a binding to connect hoses to fittings.

No copper tubing splices. Use only standard brass fittings to splice hose.

Avoid long runs to prevent kinks and abuse. Suspend hose off ground to keep it from being run over, stepped on, or otherwise damaged.

Coil excess hose to prevent kinks and tangles.

Protect hose from damage by sharp edges, and by sparks, slag, and open flame.

Examine hose regularly for leaks, wear, and loose connections. Immerse pressured hose in water; bubbles indicate leaks

Repair leaky or worn hose by cutting area out and splicing. Do NOT use tape.

4. Proper Connections

Clean cylinder valve outlet of impurities that may clog orifices and damage seats before connecting regulator. Except for hydrogen, crack valve momentarily, pointing outlet away from people and sources of ignition. Wipe with a clean, lintless cloth.

Match regulator to cylinder. Before connecting, check that the regulator label and cylinder marking agree, and that the regulator inlet and cylinder outlet match. NEVER Connect a regulator designed for a particular gas or gases to a cylinder containing any other gas.

Tighten connections. When assembling threaded connections, clean and smooth seats where necessary. Tighten. If connection leaks, disassemble, clean, and retighten, using properly fitting wrench.

Adapters. Use a CGA adapter (available from your supplier) between cylinder and regulator, if one is required. Use two wrenches to tighten adapter marked RIGHT and LEFT HAND threads.

Regulator outlet (or hose) connections may be identified by right hand threads for oxygen and left hand threads (with grooved hex on nut or shank) for fuel gas.

5. Pressurizing Steps:

Drain regulator of residual gas through suitable vent before opening cylinder (or manifold valve) by turning adjusting screw in (clockwise). Draining prevents excessive compression heat at high pressure seat by allowing seat to open on pressurization. Leave adjusting screw engaged slightly on single-stage regulators.

Stand to side of regulator while opening cylinder valve.

Open cylinder valve slowly so that regulator pressure increases slowly. When gauge is pressurized (gauge reaches regulator maximum) leave cylinder valve in following position: for oxygen and inert gases, open fully to seal stem against possible leak; for fuel gas, open to less than one turn to permit quick emergency shut-off.

Use pressure charts (available from your supplier) for safe and efficient recommended pressure settings on regulators.

Check for leaks on first pressurization and regularly thereafter. Brush with soap solution. Bubbles indicate leaks. Clean off soapy water after test; dried soap is combustible.

E. User Responsibilities

Follow all Safety Rules.

Remove leaky or defective equipment from service immediately for repair. Read and follow user manual instructions.

F. Leaving Equipment Unattended

Close gas supply at source and drain gas.

G. Rope Staging-Support

Rope staging-support should not be used for welding or cutting operation; rope may burn.

1-3 ARC WELDING

Comply with precautions in 1-1, 1-2, and this section. Arc Welding, properly done, is a safe process, but a careless operator invites trouble. The equipment carries high currents at significant voltages. The arc is very bright and hot. Sparks fly, fumes rise, ultraviolet and infrared energy radiates, weldments are hot, and compressed gases may be used. The wise operator avoids unnecessary risks and protects himself and others from accidents.

A. Burn Protection

Comply with precautions in 1-2.

The welding arc is intense and visibly bright. Its radiation can damage eyes, penetrate lightweight clothing, reflect from light-colored surfaces, and burn the skin and eyes. Skin burns resemble acute sunburn; those from gas-shielded arcs are more severe and painful. DON'T GET BURNED. COMPLY WITH PRECAUTIONS.

1. Protective Clothing

Wear long-sleeve clothing in addition to gloves, hat, and shoes. As necessary, use additional protective clothing such as leather jacket or sleeves, flameproof apron, and fire-resistant leggings. Avoid outer garments of untreated cotton.

Bare skin protection. Wear dark, substantial clothing. Button collar to protect chest and neck, and button pockets to prevent entry of sparks.

2. Eye and Head Protection

Protect eyes from exposure to arc. Eyes may be damaged by radiant energy when exposed to the electric arc, even when not looking in the direction of the arc. Never look at an electric arc without protection.

Welding helmet or shield containing a filter plate shade no. 12 or denser must be used when welding. Place over face before striking arc.

Protect filter plate with a clear cover plate.

Cracked or broken helmet or shield should NOT be worn; radiation can be passed through to cause burns.

Cracked, broken, or loose filter plates must be replaced IMMEDIATELY. Replace clear cover plate when broken, pitted, or spattered.

Flash goggles with side shields MUST be worn under the helmet to give some protection to the eyes should the helmet not be lowered over the face before an arc is struck. Looking at an arc

momentarily with unprotected eyes (particularly a high intensity gas-shielded arc) can cause a retinal burn that may leave a permanent dark area in the field of vision.

3. Protection of Nearby Personnel

Enclose the welding area. For production welding, a separate room or enclosed bay is best. In open areas, surround the operation with low-reflective, noncombustible screens or panels.

Allow for free air circulation, particularly at floor level.

Viewing the weld. Provide face shields for all persons who will be looking directly at the weld.

Others working in area. See that all persons are wearing flash goggles.

Before starting to weld, make sure that screen flaps or bay doors are closed.

B. Toxic Fume Prevention

Comply with precautions in 1-2B.

Generator engine exhaust must be vented to the outside air. Carbon monoxide can kill.

C. Fire and Explosion Prevention

Comply with precautions in 1-2C.

Equipment's rated capacity. Do not overload arc welding equipment. It may overheat cables and cause a fire.

Loose cable connections may overheat or flash and cause a fire.

Never strike an arc on a cylinder or other pressure vessel. It creates a brittle area that can cause a violent rupture or lead to such a rupture later under rough handling.

D. Compressed Gas Equipment

Comply with precautions in 1-2D.

E. Shock Prevention

Exposed electrically hot conductors or other bare metal in the welding circuit, or in ungrounded, electrically-HOT

equipment can fatally shock a person whose body becomes a conductor. DO NOT STAND, SIT, LIE, LEAN ON, OR TOUCH a wet surface when welding without suitable protection.

To protect against shock:

Keep body and clothing dry. Never work in damp area without adequate insulation against electrical shock. Stay on a dry duckboard, or rubber mat when dampness or sweat cannot be avoided. Sweat, sea water, or moisture between body and an electrically HOT part - or grounded metal - reduces the body surface electrical resistance, enabling dangerous and possibly lethal currents to flow through the body.

1. Grounding the Equipment

When installing, connect the frames of each unit such as welding power source, control, work table, and water circulator to the building ground. Conductors must be adequate to carry ground currents safely. Equipment made electrically HOT by stray currents may shock, possibly fatally. Do NOT GROUND to electrical conduit, or to a pipe carrying ANY gas or a flammable liquid such as oil or fuel.

Three-phase connection. Check phase requirement of equipment before installing. If only three-phase power is available, connect single-

phase equipment to only two wires of the three-phase line. Do NOT connect the equipment ground lead to the third (live) wire, or the equipment will become electrically HOT - a dangerous condition that can shock, possibly fatally.

Before welding, check ground for continuity. Be sure conductors are touching bare metal of equipment frames at connections.

If a line cord with a ground lead is provided with the equipment for connection to a switch box, connect the ground lead to the grounded switch box. If a three-prong plug is added for connection to a grounded mating receptacle, the ground lead must be connected to the ground prong only. If the line cord comes with a three-prong plug, connect to a grounded mating receptacle. Never remove the ground prong from a plug, or use a plug with a broken ground prong.

2. Connectors

Fully insulated lock-type connectors should be used to join welding cable lengths.

3. Cables

Frequently inspect cables for wear, cracks, and damage. IMMEDIATELY REPLACE those with excessively worn or damaged insulation to avoid possibly lethal shock from bared cable. Cables with damaged areas may be taped to give resistance equivalent to original cable.

Keep cable dry, free of oil and grease, and protected from hot metal and sparks.

4. Terminals and Other Exposed Parts

Terminals and other exposed parts of electrical units should have insulating covers secured before operation.

5. Electrode Wire

Electrode wire becomes electrically HOT when the power switch of gas metal-arc welding equipment is ON and welding gun trigger is pressed. Keep hands and body clear of wire and other HOT parts.

6. Safety Devices

Safety devices such as interlocks and circuit breakers should not be disconnected or shunted out.

Before installation, inspection, or service of equipment, shut OFF all power, and remove line fuses (or lock or red-tag switches) to prevent accidental turning ON of power. Disconnect all cables from welding power source, and pull all 115 volts line-cord plugs.

Do not open power circuit or change polarity while welding. If, in an emergency, it must be disconnected, guard against shock burns or flash from switch arcing.

Leaving equipment unattended. Always shut OFF, and disconnect all power to equipment.

Power disconnect switch must be available near the welding power source.

Thank You

For selecting a quality product. We want you to take pride in operating this product...as much pride as we have in bringing the product to you!

Please Examine Carton and Equipment For Damage Immediately

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

Please record your equipment identification information below for future reference. This information can be found on your machine nameplate.

Model Name & Number _____

Code & Serial Number _____

Date of Purchase _____

Whenever you request replacements parts for, or information on this equipment always supply the information you have recorded above.

Read this Owner's Manual completely before attempting to use this equipment. Save this manual and keep it handy for quick reference. Pay particular attention to the safety instructions we have provided for your protection.

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Section A

Installation

Technical Specifications

Wire Diameter Capacity030 - 1/16" ALL Types, .023 hard wires

Wire Capacity 12" Standard (*Insulated or Non-Insulated*)

Power Input, user

selectable by jumpers 208 VAC 60 Hz, 50 amperes, single phase

..... 230 VAC 60 Hz, 45 amperes, single phase

..... 416 VAC 60 Hz, 26 amperes, single phase

..... 480 VAC 60 Hz, 24 amperes, single phase

Rated Output @ 60%

duty cycle 260 amperes @ 26 Vdc - (8.7KW)

..... 2 ranges (12-22V) (22-32V)

..... 40 Vdc max OCV

Weight 230 lbs (dry), 260 lbs (shipping)

Size 15"w x 32"h x 34"d

For Use with Torch

Prefix Numbers 210, 211, 212, 213, 225, 226

SUPPORT EQUIPMENT REQUIRED

Regulated Gas Supply and 6' Gas Hose.

Water Source and Hose Capable of Providing a Minimum of **1 qt/min. at 45 p.s.i.** when using water cooled torches.

Machine Location

The unit should be placed in a location where it can be protected from damage. For the longest unit life and best efficiency, avoid locations exposed to dust, corrosive fumes, high ambient temperatures or high humidity. Moisture and dirt on components can cause corrosion and/or shorting of circuits.

Adequate air circulation is needed at all times in order to prevent overheating and possible damage to internal parts. Maintain at least 12 inches of free air space on all sides of unit.

An eye bolt and mounting hole is provided for lifting/unpacking purposes. Do not have the gas cylinder or any other equipment mounted to this unit when using the lifting eye bolt. Do not suspend this unit overhead.

Input Power Connections

This welding power supply is designed to be operated from single-phase 208, 230, 416 or 480 VAC 60 Hz input power and is provided with Voltage Links for converting power requirements in the field.. Consult your local electrical utility if there are any questions about the type of electrical system at the installation site, or how proper connections to the welding machine have to be made.



WARNING

A fused line disconnect switch should be installed in the input circuit to the welding machine. This would ensure a complete removal of all electrical power when performing service.

Conductor and Fuse Guide				
Line Volts	Full Load Amps	Approx. Line Fuse Rating	Copper Line Wire Size*	Copper Grounding Conductor Min. Size
			Free Air	
208	50	60 AMP	No. 8	No. 8
230	45	60 AMP	No. 8	No. 8
416	26	40 AMP	No. 8	No. 8
480	24	40 AMP	No. 8	No. 8

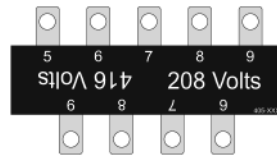
Based on 60% duty cycle

Before connecting input power cord verify input power requirements by checking data plate on rear of unit. Do not connect if your input power voltage is different from the voltage indicated on the input specification panel.

Turn off all power at the disconnect.

Remove the right lower panel, as viewed from front, and locate power block at rear of unit.

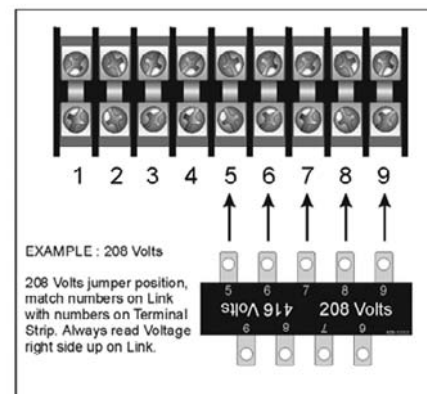
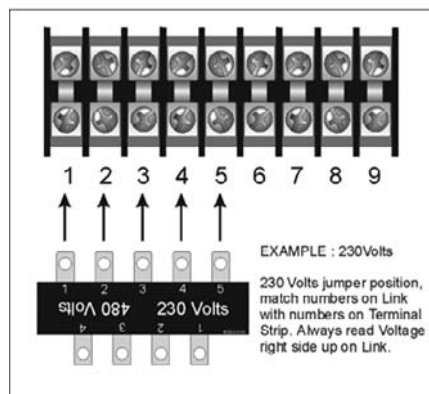
Determine input Voltage and MOVE both Voltage Links to match INPUT VOLTAGE on BOTH Terminal blocks "TB1" and "TB2", these need to be set the same or damage WILL occur to the unit.



Voltage Link

230 Volt Example

208 Volt Example



--- IMPORTANT ---

This unit has low and high power terminal blocks (TB1 & TB2) that must have the SAME jumper configuration. Put BOTH Voltage Links to same terminal block screws.

SEE SAMPLE HOOK UP DIAGRAM BELOW FOR EXAMPLE OF VOLTAGE LINK PLACEMENT.

Route input cable through strain relief and connect to power block as shown in the diagram following. Tighten strain relief and replace side panel with all hardware removed.

Machine Grounding

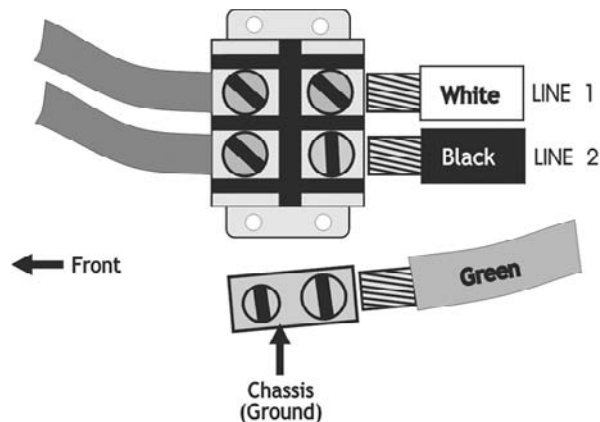
Before starting the installation, check with the local power company if there is any question about whether your power supply is adequate for the voltage, amperes, phase, and frequency specified on the welder nameplate. Also, be sure the planned installation will meet the U.S. National Electrical Code and local code requirements. This welder may be operated from a single phase line or from one phase of a two or three phase line.

The CobraMig 260 is supplied connected for 480 Volt input. If the welder is to be operated on another voltage, it must be reconnected according to the instructions.

WARNING:

Make certain that the input power is electrically disconnected before removing the screw on the reconnect panel access cover.

A green wire in the input cable connects this contact to the frame of the welder. This ensures proper grounding of the welder frame when the welder plug is inserted into the receptacle.



Welding Torch Connections

Work Cable

Connect a work lead of sufficient size and length (see table below) between the proper output stud on the power source and the work. Be sure the connection to the work makes tight metal to metal electrical contact. Poor work lead connections can result in poor arc initiation, poor weld results and activation of the ground lead protector.

Work Lead Lengths

Current 60% Duty Cycle	Up to 50ft. (15.2m)	10-100ft. (15.2-30.4m)
300A	0 (53mm)	0 (67mm)
400A	00 (67mm)	00 (85mm)
500A	00 (67mm)	00 (85mm)
600A	000 (85mm)	000 (107mm)

Control Cable

The 7-Pin "W" Clocked connector screws onto the mating receptacle on the front panel of the wire feeder. This provides all electrical signals (motor voltage, potentiometer control & trigger) to and from the feeder to the torch.

Wire Conduit Inlet

Front panel access to attach conduit to front of slave motor assembly.

Power Cable Inlet

Front panel access to attach power cable (air or water) to top of power block.

Gas Inlet

Front panel access to attach gas hose to bottom fitting of power block.

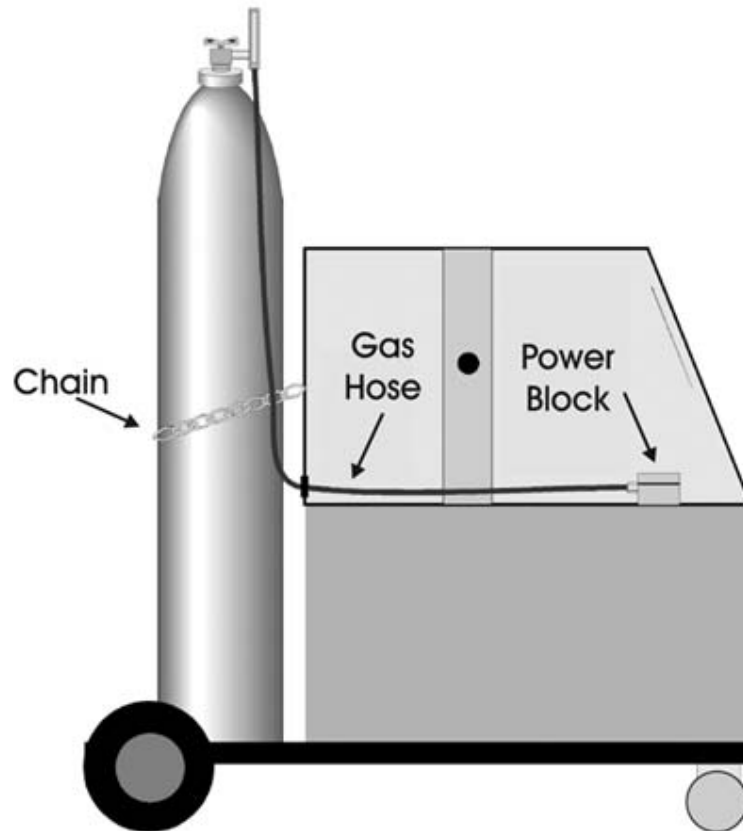
Water Inlet (For Water Cooled Torches)

Front panel access to connect the water hose to the middle fitting on the power block.

Shielding Gas Connection

Remove the screws from the left hinged door, as viewed from the front, and open door.

Route the gas hose from the regulator/flowmeter through the grommet on the back panel and into the 5/8-18 R.H. fitting on the power block.



DANGER

*Welding gases can cause serious injury or death.
Read manufacturer's instructions before installing, using,
or servicing the regulator, gas hose, or gas cylinder.*

Do not touch cylinder with electrode. Keep cylinder away from all electrical circuits. Keep gas cylinder secured so that it cannot move.

Coolant Connection (Water Cooled Torches Only)

Connect the water return line from the recirculator through the grommet on the rear panel and into the 5/8" - 18 L.H. thread on the power block. The water "IN" hose connects directly to the torch water "IN" fitting; it does not pass through the power supply.

Wire Threading Procedure

Wire Spool Installation

Release latches, and open right side door of cabinet.

Remove spool retainer nut from spindle hub.

Raise wire retainer bar to latched position.

Install wire spool onto spindle hub so that wire feeds from bottom of spool towards slave motor. Make sure that the hole in the spool aligns with pin on spindle hub. The white dot on the end of the spindle hub will aid in this alignment.

Replace the spool retainer nut.

Lower the wire retainer bar onto the spool.

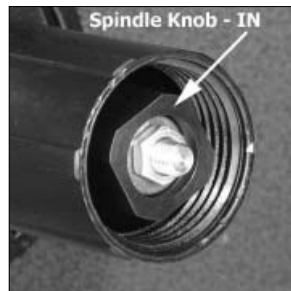
Wire Spool Drag Setting

NOTE:

*Standard factory setting of the Spindle Tension Knob is set for **All Other Wires**.*

There are two visible position settings for this Knob, IN - All Other Wires (Fig. 1) and, OUT - .030/.035 Al Only (Fig. 2). The Spindle Tension Knob must be set to match the Wire Size Selector Switch on the Cobramatic® front panel.

To change this setting, it is easier done without the spool of wire on the spindle. Remove the wire spool retainer and re-install it reversed back onto the Spindle Tension Knob (Fig. 3). In the "Tool Mode", the square shaped end of the retainer fits onto the Knob. Grab the retainer and turn in the COUNTER-CLOCKWISE direction until it stops. The Knob is now set to the OUT position (.030/.035 AL Only).



IN - All other wires
Figure 1



OUT - .030/.035 Aluminum ONLY
Figure 2



Wire Spool Retainer In "Tool Mode";
used to change spindle drag.
Figure 3

To reset the Knob back to the factory setting of All Other Wires, use the retainer as described above, and turn in the CLOCKWISE direction until it stops. The Knob is now set to the IN position. Turning the retainer and Knob in this direction may require more effort, since turning CLOCKWISE is working against a spring.

Load wire spool onto spindle according to the previous instructions.

Replace the spool retainer nut.

Lower the wire retainer bar onto the spool.

Threading Procedure

Place wire size selector switch on front panel to the correct position for the wire being used.

Loosen end of wire from spool and cut off any kinked or bent portions.

Unreel and straighten out first 6" to 8" of wire.

Raise wire type lever to center position.

Route wire into inlet guide, along drive roll groove, and into wire conduit.

Flip wire type lever to show type of wire being used: ALUM or STEEL.

Tighten the torch pressure adjusting knob so the wire will be picked up and fed through the contact tip. Proper tension is achieved when wire does not slip if a small amount of pressure is added to the wire as it exits the tip.

Wire Retainer Bar

The design of the patented Cobramatic® Wire Retainer Bar performs two very important and very basic functions of the wire feeder: a) spool drag tension, and b) wire maintenance on the spool.

The spool drag tension is set by lowering the wire retainer bar onto the wire inside of the spool. The spring tension of the wire retainer bar applies enough pressure on the spool so that when the torch trigger is released, engaging the brake pall, the spool does not overrun kicking wire off the spool.

Wire maintenance on the spool is performed by the applied pressure of the wire retainer bar spread across the coiled wire on the spool. The replaceable pad (P/N 437-0255) of the wire retainer bar is designed to hold the wire on the spool, maintaining the smooth layering of the wire and keeping it from jumping off, and possibly, electrically shorting to the cabinet chassis.

Section B

Operation

General Description

The CobraMig 260 is a constant voltage (CV) DC welding power supply with a built-in Cobramatic wire feeder which operates on the same basic principles as all other Cobramatics. The 115VAC slave motor in the feeder side runs at a fast, constant speed, but has very low torque. It is always trying to feed more wire than the torch motor wants, and when the torch motor gets all it wants, it slows the slave motor to the speed that the torch is running. Because of the low torque produced by the slave motor, a brake system is used to prevent wire overrun rather than tension. The drag adjustment in the spindle is used to keep the wire slightly taut, so it will not unspool while feeding wire. The high torque 24VDC torch pull motor is controlled by a solid state speed control, located on the main board, and the potentiometer located on the torch.

The lower portion of the unit houses the power supply components. Power supply controls include a range switch and a variable voltage control.

Controls and Settings

ON/OFF SWITCH

Placing the switch in the "ON" position energizes the power supply and places the unit in the ready-to-weld status. The power indicator light should be on at this time.

WELD VOLTAGE

The weld voltage knob adjusts the power supply output voltage. It is infinitely variable between the ranges. The scale surrounding the WELD voltage control is a relative scale only; it does not represent actual voltage.

RANGE SWITCH

The "LO" range provides from 12 to 22 volts and the "HI" range provides from 22 to 32 volts.

POLARITY JUMPER

The polarity jumper allows for easy reversal of the electrode polarity. For Reverse polarity (**DCRP**) plug jumper into the **plus (+)** connector below jumper plug. For Straight polarity (**DCSP**) plug jumper into **minus(-)** connector below jumper plug. The work cable plugs into whichever connector is not used for the polarity jumper.

COBRAMATIC CONTROLS

ON/OFF SWITCH

Placing the switch in the "ON" position energizes the feeder circuitry and the power indicator light.

WIRE SIZE SELECTOR SWITCH

The wire size selector switch changes the torque of the slave motor for the wire you are using. When in the ".030-.035" aluminum only position, the slave motor produces approximately **2 lbs.** inches and approximately **3 lbs.** inches when in the "**all other wires**" position.

NOTE:

Operating the cabinet with the switch in the wrong position will cause wire feed difficulties.

POSA START CONTROLS

The Posa Start Control selects a Run-in Speed which is *slower* than the actual welding speed. After arc initiation, the **wire feed speed** control is transferred to the potentiometer in the torch handle. The scale surrounding the Run-in Speed Control is a relative scale only; it does not represent actual inches per minute, but a percentage of the speed dialed by the torch potentiometer.

REMOTE VOLTAGE (See Optional Kits)

This option enables the weld voltage control to be adjusted from a remote hand pendant.

TIMER KIT (See Optional Kits)

This option provides Spot Welding or Stitch Welding operation from the Cobramig 260. In the Spot Mode, timing can be adjusted for a welding time of .5 to 4 seconds and a Burnback time of 0 to .25 seconds. In the Stitch Mode, the unit can be commanded to "Turn On" from .5 to 4 seconds and "Turn Off" from .25 to 1 second.

DIGITAL VOLT/AMP METER (See Optional Kits)

The LCD meter provides an alternating display of Volts and Amps during and after welding for up to 1 minute using a built-in memory.

GAS CONTROL/TRIGGER LATCH (See Optional Kits)

The Gas Purge/Trigger Latch Kit is a dual function kit. The kit includes an easy to install interface control PC board, a 24VAC solenoid for pre and post purge control, a modified valve stem for the welding torch and, a front panel switch for activating the Trigger Latch mechanism.

The gas control times have been preset to 0.5 seconds pre-purge and 1.0 seconds post-purge. This offers an optimum amount of inert gas shielding prior to striking the arc and after the arc has been extinguished.

The Trigger Latch mechanism gives the operator the flexibility of normal trigger operation (pull trigger to weld - release trigger to stop). This also offers the comfort of latched trigger operation (pull trigger once to latch and weld - pull trigger again to unlatch and stop).

POSA START OPERATING PROCEDURE

General

The Posa Start Run-in Speed Control, located on the front panel, provides adjustment for slow wire run-in. Once the arc has been established, the wire feed speed is automatically changed from the slow run-in speed to the welding speed set on the torch potentiometer. This slow run in speed helps to reduce "burn-backs" and "push-back" during arc start.

Posa Start Operation

Turn the Cobramatic to the "**ON**" position and the Posa Start to the "**OFF**" position.

Adjust power source to desired voltage for your weld condition.

Depress gun trigger and adjust wire feed speed at gun to match voltage setting. If approximate wire feed is not known, it is better to start with excess wire feed rather than too little, in order to prevent a "burn-back".

Turn the Posa Start switch to the "**ON**" position. Press torch trigger and, using Run-in Speed Control, adjust wire feed rate to approximately 10% of the welding wire speed.

Strike an arc, and adjust wire feed rate at gun until correct condition is achieved.

PROCESS SETTINGS

The following table is provided as a guide to assist you in setting up for standard welding processes. Please be aware that there are many variables associated with welding and conditions can change from day to day due to any number of external influences.

MK Products' Customer Service Department is ready to assist you should you need help setting up your equipment in the field. Please be aware that we do not specialize in process parameter problems, but are willing to share our resources if it might help you achieve better quality welds.

MK Products reserves the right to change any settings associated with this welding guide, you may request the most up to date guide by calling our Customer Service department during normal working hours.

To use chart, locate material, thickness and wire diameter. Then read across for values to use, "REF" is the value dialed on the "Weld Voltage" knob on the front panel, this is only a reference value.

CobraMig 260 Welding Guide											
Material	IPM	Dia.	Alloy	Tip ID Type	Cup	Gas	Flow	Range	Xfer	Ref.	
Aluminum	.040	295	.030	4043	.040 Spray	#6	Ar	20	Low	Short	2.5
	.060	370	.030	4043	.040 Spray	#6	Ar	20	Low	Short	3.2
	.090	350	.030	4043	.040 Spray	#6	Ar	20	Low	Spray	60.
	.060	370	.035	4043	.044 Spray	#6	Ar	20	Low	Short	4.2
	.090	360	.035	4043	.044 Spray	#6	Ar	20	Low	Spray	7.0
	.125	390	.035	4043	.044 Spray	#6	Ar	20	Low	Spray	9.0
	.090	460	.035	5356	.044 Spray	#8	Ar	20	Low	Spray	6.2
	.125	500	.035	5356	.044 Spray	#8	Ar	20	Low	Spray	9.2
	.125	220	.045	4043	.060 Spray	#8	Ar	25	Low	Spray	7.6
	.250	370	.045	4043	.060 Spray	#8	Ar	25	High	Spray	2.2
.375	475	.045	4043	.060 Spray	#8	Ar	25	High	Spray	4.8	
Steel	20 Ga.	190	.023	E-70S-6	.031 Short	#6	C25	20	Low	Short	3.4
	.060	270	.023	E-70S-6	.031 Short	#6	C25	20	Low	Short	4.6
	.060	180	.030	E-70S-3	.036 Short	#6	C25	20	Low	Short	4.8
	.090	230	.030	E-70S-3	.036 Short	#6	C25	20	Low	Short	5.5
	.060	140	.035	E-70S-6	.040 Short	#6	C25	20	Low	Short	5.2
	.125	150	.035	E-70S-6	.040 Short	#6	C25	20	Low	Short	5.6
	.250	210	.035	E-70S-6	.040 Short	#8	C25	25	Low	Short	7.2
Stainless	.060	120	.030	308LSI	.036 Short	#6	TriMix	30	Low	Short	4.2
	.125	230	.030	308LSI	.036 Short	#6	TriMix	30	Low	Short	6.2
	.060	100	.035	308LSI	.040 Short	#6	TriMix	30	Low	Short	4.2
	.125	180	.035	308LSI	.040 Short	#6	TriMix	30	Low	Short	7.0
	.250	240	.035	308LSI	.040 Short	#6	TriMix	30	Low	Short	7.8

Ar=Argon

C25=75%Ar 25%CO₂

TriMix=90%He 7 1/2%CO₂ 2 1/2%Ar

Sample Setup - Aluminum

The procedure described below is designed to help you familiarize yourself with this equipment and also provide you with a known procedure so that you may perform a successful weld. Although these conditions may not be the exact ones needed for your specific application, it will provide an example of the proper use and operation of this equipment.

MATERIALS NEEDED:

- 1 ea CobraMig 260 system with torch of your choice
- 1 ea #6 Gas Cup (3/8")
- 10 ea Contact Tips .044 (621-0001 spray arc)
- 1 ea Spool of clean .035 4043 Wire
- 1 ea Cylinder of Argon gas w/Regulator-Flowmeter and Hose
- 1 ea Stainless Steel Wire Brush
- 20 ea Weld coupons (2 X 6 X 1/8") 6061T-6 Aluminum

PROCEDURE:

Machine Set-up

Hook-up the CobraMig 260 according to installation instructions in owners manual.

Install wire onto spindle and thread wire through torch according to wire threading procedure.

Make sure "Wire Type" switch is in the "030-035 ALUM" position.

Press gun trigger and set gas flow to 25cfh.

Set the "VOLTAGE" control on front panel to 8.4 and the "RANGE" switch to Lo.

Turn the "POSA START" to the off position.

Place the "POLARITY JUMPER" in the positive (+) connector and the ground clamp in the negative connector.

Press the gun trigger for six (6) seconds. Adjust the wire feed speed until 32 inches of wire is measured in 6 seconds; this equals 320 ipm.

Using the S/S brush, brush two weld coupons until the oxide is removed.

Position Material and Tack Weld

Position the coupons on the work table to form a 'T' fillet.

Place the gas cup near the work piece and tack weld one end. Remember to provide pre-purge before each weld by cracking the torch trigger and holding it for a few seconds before fully pressing the trigger. This will reduce built-up pressure and aid in arc starting.

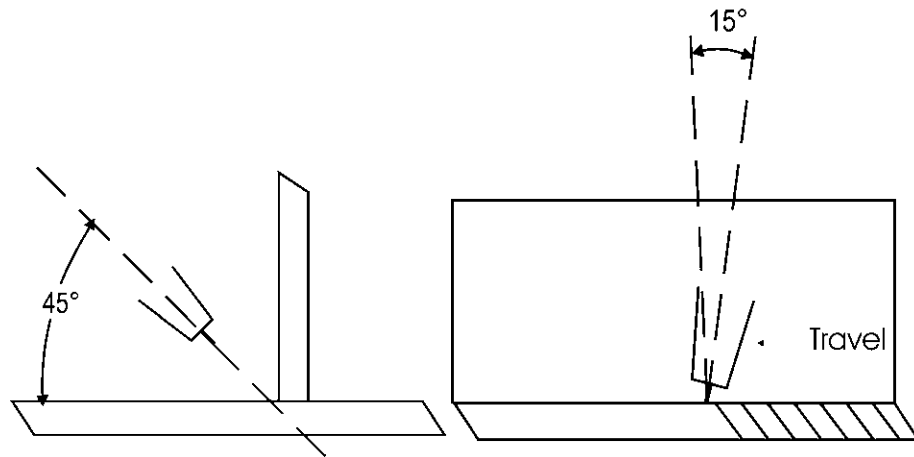
Tack weld the other end.

Deposit Weld

Securely clamp the workpiece to the table so that you have a clear view of the arc, weld puddle, and unwelded portion of the joint at all times.

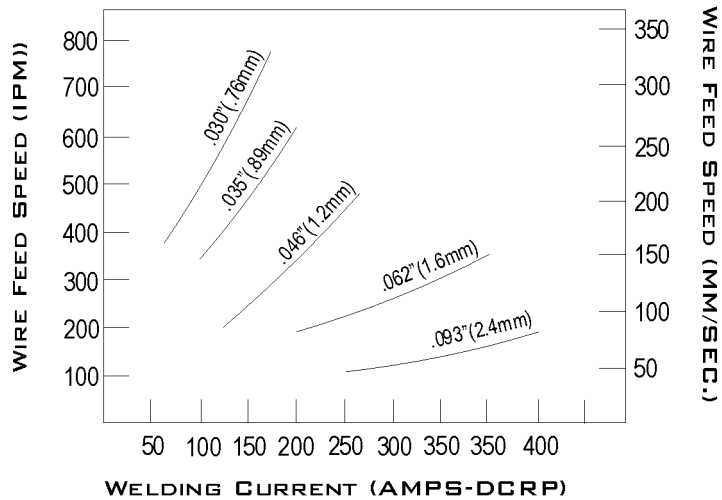
Welding is done from right to left for a right handed operator and from left to right for a left handed operator (known as Push or Forehand). The torch

should bisect the 90 degree angle made by the joint and a push angle of from 10 to 15 degrees in the direction of travel is used.



Strike an arc and move the torch progressively along the joint at a smooth steady rate. Most operators, unfamiliar with aluminum, tend to move too slow and consequently overheat the plate. A travel rate of 25 to 35 ipm should be used.

The arc should sound smooth and the weld bead should be bright and shiny. If spatter occurs and the arc sounds like a short arc condition, decrease the wire feed speed or, if the weld looks cold, increase the voltage until a smooth spray transfer is achieved.



Burnoff Characteristics 4043 wire

Source:
Mig Welding Handbook,
Linde

The above condition provides 20 volts and 112 amps. If exact volts and amps are required, purchase meter kit P/N 005-0585.

Sample Setup - Stainless

The procedure described below is designed to help you familiarize yourself with this equipment and also provide you with a known procedure so that you may perform a successful weld. Although these conditions may not be the exact ones needed for your specific application, it will provide an example of the proper use and operation of this equipment.

MATERIALS NEEDED:

- 1 ea CobraMig 260 system with torch of your choice
- 1 ea #6 Gas Cup (3/8")
- 10 ea Contact Tips .040 (621-0077 short arc)
- 1 ea Spool of clean .035 stainless wire (E308L-SI)
- 1 ea Cylinder of 90HE/7.5AR/2.5CO2 gas w/Regulator-Flowmeter and Hose
- 20 ea Weld coupons (2 X 6 X 16 gauge) stainless steel

PROCEDURE:

Machine Set-up

Hook-up the CobraMig 260 according to installation instructions in owners manual.

Install wire onto spindle and thread wire through torch according to wire threading procedure.

Make sure "Wire Type" switch is in the "All Others" position.

Press gun trigger and set gas flow to 25cfh.

Set the "VOLTAGE" control on front panel to 5 and the "RANGE" switch to Lo.

Turn the "POSA START" to the off position.

Place the "POLARITY JUMPER" in the positive (+) connector and the ground clamp in the negative connector.

Press the gun trigger for six (6) seconds. Adjust the wire feed speed until 8 inches of wire is measured in 6 seconds; this equals 80 ipm.

Position Material and Tack Weld

Position the coupons on the work table to form a 'T' fillet.

Place the gas cup near the work piece and tack weld one end. Remember to provide pre-purge before each weld by cracking the torch trigger and holding it for a few seconds before fully pressing the trigger. This will reduce built-up pressure and aid in arc starting.

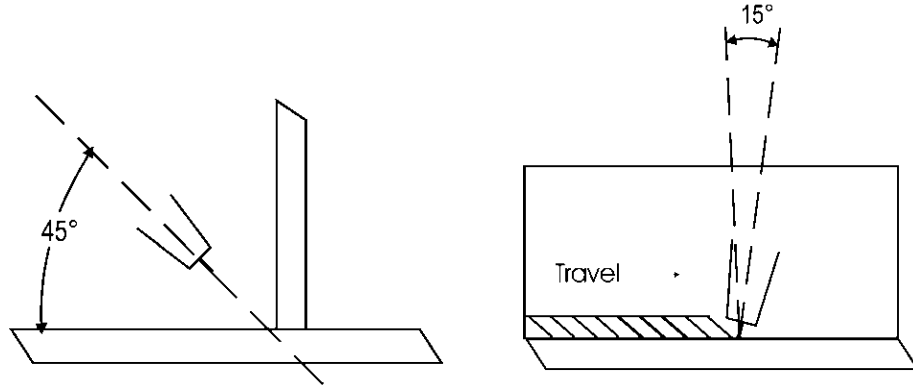
Tack weld the other end.

Deposit Weld

Securely clamp the workpiece to the table so that you have a clear view of the arc, weld puddle, and unwelded portion of the joint at all times.

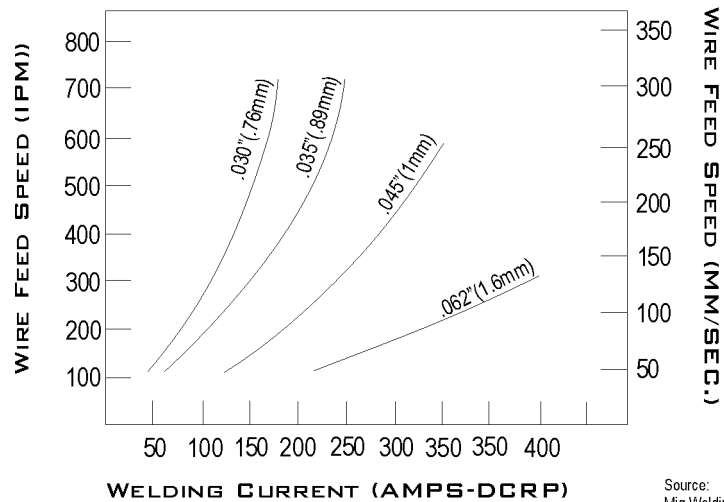
Welding is done from left to right for a right handed operator and from right to left for a left handed operator (known as Drag or Backhand). The torch

should bisect the 90 degree angle made by the joint and a drag angle of from 10 to 15 degrees is used.



Strike an arc and move the torch progressively along the joint at a smooth steady rate. A travel rate of 20 to 25 ipm should be used.

The arc should sound smooth and steady. If spatter occurs and the arc pops reduce the wire feed speed until the arc smooths out.



Source:
Mig Welding Handbook,
Linde

Burnoff Characteristics 300 Series Stainless

The above condition provides 20 volts and 40 amps. If exact volts and amps are required, purchase meter kit P/N 005-0585.

Sample Setup - Steel

The procedure described below is designed to help you familiarize yourself with this equipment and also provide you with a known procedure so that you may perform a successful weld. Although these conditions may not be the exact ones needed for your specific application, it will provide an example of the proper use and operation of this equipment.

MATERIALS NEEDED:

- 1 ea CobraMig 260 system with torch of your choice
- 1 ea #6 Gas Cup (3/8")
- 10 ea Contact Tips .040 (621-0077 short arc)
- 1 ea Spool of clean .035 steel wire (E70-S6)
- 1 ea Cylinder of 75Argon/25CO2 gas w/Regulator-Flowmeter and Hose
- 20 ea Weld coupons (2 X 6 X 16 gauge) mild steel

PROCEDURE:

Machine Set-up

Hook-up the CobraMig 260 according to installation instructions in owners manual.

Install wire onto spindle and thread wire through torch according to wire threading procedure.

Make sure "Wire Type" switch is in the "All Others" position.

Press gun trigger and set gas flow to 25cfh.

Set the "VOLTAGE" control on front panel to 5.8 and the "RANGE" switch to Lo.

Turn the "POSA START" to the off position.

Place the "POLARITY JUMPER" in the positive (+) connector and the ground clamp in the negative connector.

Press the gun trigger for six (6) seconds. Adjust the wire feed speed until 13 inches of wire is measured in 6 seconds; this equals 130 ipm.

Position Material and Tack Weld

Position the coupons on the work table to form a 'T' fillet.

Place the gas cup near the work piece and tack weld one end. Remember to provide pre-purge before each weld by cracking the torch trigger and holding it for a few seconds before fully pressing the trigger. This will reduce built-up pressure and aid in arc starting.

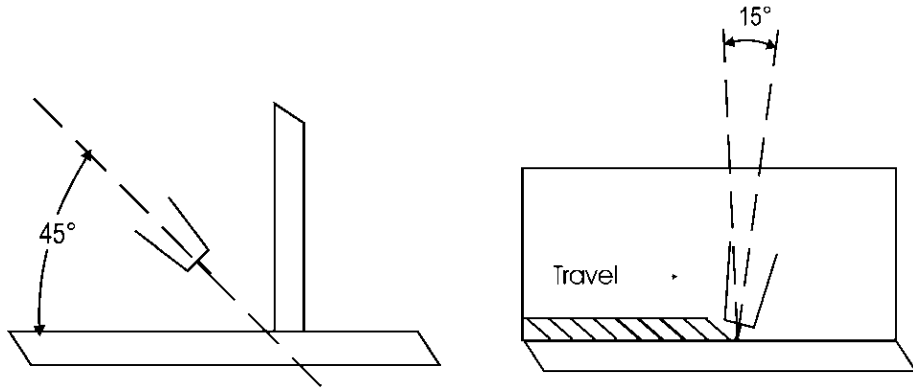
Tack weld the other end.

Deposit Weld

Securely clamp the workpiece to the table so that you have a clear view of the arc, weld puddle, and unwelded portion of the joint at all times.

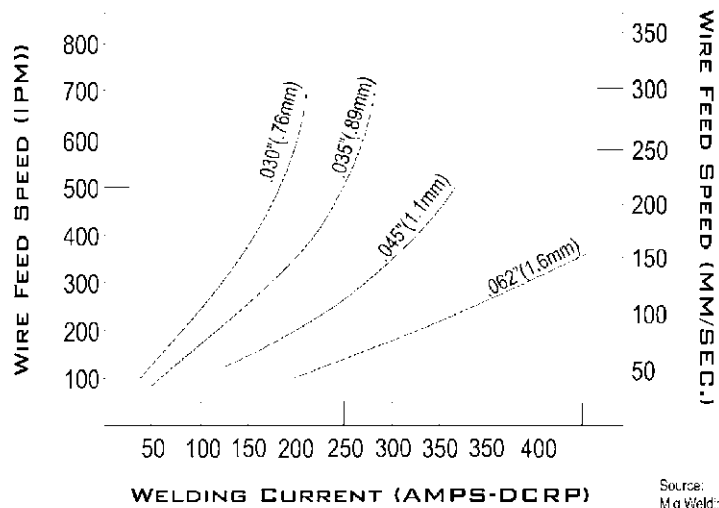
Welding is done from left to right for a right handed operator and from right to left for a left handed operator (known as Drag or Backhand). The torch

should bisect the 90 degree angle made by the joint and a drag angle of from 10 to 15 degrees is used.



3. Strike an arc and move the torch progressively along the joint at a smooth steady rate. A travel rate of 25 to 35 ipm should be used.

4. The arc should sound smooth and steady. If spatter occurs and the arc pops reduce the wire feed speed until the arc smooths out.



Source:
Mig Welding Handbook
Linde

Burnoff Characteristics Mild Steel Wire

The above condition provides 16.5 volts and 89 amps. If exact volts and amps are required, purchase meter kit P/N 005-0585.

Section C

Accessories

Optional Kits

Remote Voltage Kit	005-0584
<i>Enables the power supply to be controlled from 25' pendant.</i>	
LCD Meter Kit	005-0354
<i>Digital Volt and AMP meters with memory feature to hold and alternately display volts and amps for 1 minute after welding.</i>	
Timer Kit	005-0586
<i>Add on panel includes spot timer and stitch weld option.</i>	
Torch Hanger Kit	005-0169
<i>Allows you to hang torch on side of power supply. Easily hooks on and off.</i>	
Gas Control/Trigger Latch Kit	005-0674
<i>Adds Pre/Post Purge and Trigger function options.</i>	
Water Flow Kit	005-0253
<i>Monitors water pressure in torch. No water - no arc.</i>	

Section D

Maintenance

Routine Maintenance

Maintenance of the torch will normally consist of a general cleaning of the wire guide system, including tubes, drive rolls, and conduits at regular intervals.

Remove spatter build-up from inside of nozzles with a hardwood stick.

The only parts on the Cobramatic system that are subject to normal wear are the conduit, contact tips, gas cups, front body liners, wire guides, drive and idler rolls. A supply of these parts should be maintained on hand.

Power Supply

Periodically inspect all cables and hoses for damage or breaks in the insulation jacket, particularly at the plugs or ends. Repair or replace cables or hoses as necessary.

Remove grease and dirt from components and remove moisture from electrical parts and cables.

Be sure that all connections are clean and tight.

WARNING:

ELECTRIC SHOCK can kill.

Shut-off disconnect and unplug unit before cleaning unit.

Every six months blow out or vacuum dust and dirt from the internal components of the power supply. Remove the side panels and use a clean, dry air stream or vacuum suction for the cleaning operation. If repairs do become necessary, any part can easily be replaced by a qualified shop maintenance man.

Your CobraMig 260 is designed to provide years of reliable service. Normal wear and component failure may require occasional service. The number of units in operation and the importance of minimal "down time" will determine to what extent spare parts should be stocked on hand.

Testing the Feeder

Relay K2 Operation

When the torch trigger is pressed, 24VAC is sent to the coil of relay K2. When K2 is energized, 115VAC is sent to the slave motor, spool brake, and the 115VAC contactor. Relay K2 is also responsible for sending 24VAC to the speed control circuit and shorting the torch motor leads together when the trigger is released for the dynamic braking system. K2 also provides the closing contactor signal.

Testing the 115 VAC Circuits

The 115 VAC circuit is protected by fuse F3. If F3 continually blows, remove J4 (Brake Solenoid), J7 (slave motor) and J5-3,4 (115 VAC Contactor) from the P.C. Board. Replace fuse, and retrigger system. If fuse does not blow; isolate the problem by plugging in J4, J7, and J5-3,4 one at a time until the fuse blows.

Testing the Torch

Motor Check

Remove the amphenol connector from the cabinet.

Using the torch amphenol, check the resistance across pins "A" and "B"(motor leads). The resistance across the motor should be between **5-10 ohms**.

If an open circuit or short exist, check the motor leads and motor independently.

Testing the Potentiometer - "W" Clocked

Using the torch amphenol, check the resistance across pin "D" (wiper) and pin "C". The resistance should vary from **0 - 5K ohms**.

Check the resistance across pin "D" (wiper) and pin "G". The resistance should vary from **5K - 0 ohms**.

Testing the Micro Switch

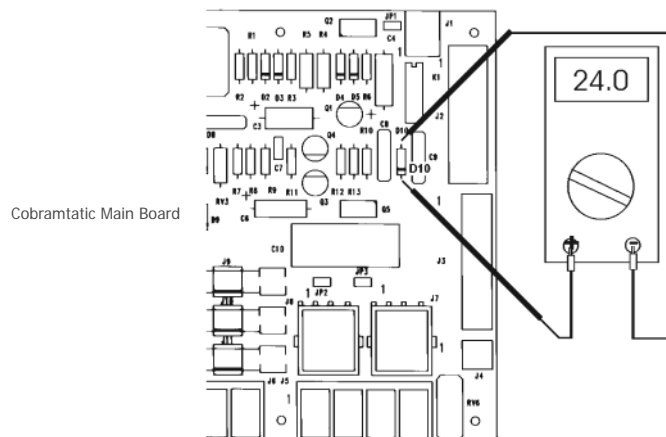
Using the torch amphenol, check for continuity across pins "E" and "F" when the trigger is pressed.

Testing the Speed Control

NOTE:

The torch should be tested first and the torch panel amphenol must be connected to the Cobramatic I to perform this test.

Place a voltmeter across diode **D10** and press torch trigger. A reading of **0 - 24VDC** should be observed, as the potentiometer varied.





WARNING

Turn off input power switch, unplug primary power cord and wait 5 minutes before performing any service to this equipment. This will ensure that all storage capacitors have discharged to a relatively safe level.

The following pages detail the trouble shooting section of this manual, please read carefully and use caution when performing service on any electrical equipment. All service is to be performed by a qualified service technician.

Before calling for customer service, please go over the trouble shooting page to help solve your equipment problem. If the flow charts can not help you, please have the following information on hand before calling our service personnel:

1. Company name
2. Your name
3. Your phone number
4. Power supply Model No.
5. Primary power source
6. Symptoms of failure
7. Weld conditions

CobraMig 260 Troubleshooting Guide

TROUBLE	CAUSE	REMEDY
No wire feed at torch, feeder not operating, i.e. no slave motor or brake solenoid.	Cobra I Main board F3 fuse blown	Check 115 VAC circuit, replace fuse.
	Micro-switch defective/not being activated.	Replace switch. Check switch for operation.
	Relay K2 on Cobra I Main Board is inoperative.	Check / Replace K2 relay.
	Loose J2, J3, P.C. Board connectors on Cobra I Board.	Check J2, J3 connection.
	Broken electrical cable.	Check for continuity, replace cable if needed.
Brake solenoid / Slave motor inoperative.	Solenoid / Slave motor defective.	Check for open circuit.
	Relay K2 inoperative.	Check for 115 VAC across J4-1,2.
		Check relay K2 if 115 VAC not present.
No wire feed at torch, feeder operating properly.	Bad torch Potentiometer.	Check potentiometer with meter.
	Bad torch motor.	Check / Replace motor.
	Broken Electrical Cable.	Check motor and potentiometer wires for continuity.
	Bad Speed control/PCB.	Check / Replace P.C. Board.
Wire feeds at one speed only.	Torch pot is defective or torch cable is shorted.	Check / Replace torch pot.
	Cobra I main board is defective.	Check / Replace Cobra I Main P.C. Board.
No weld output, wire feeds ok.	Loose or No cable connections.	Check all power connections.
	Power Supply control board is defective.	Check / Replace Power Supply control board.
	Loose connection at thermostat terminals.	Check connections to thermostat.
	Thermostat is defective.	Relace thermostat.
	K2 relay on Cobra I main board is not sending closing contact signal.	Check / Replace relay K2.
	Triac is defective.	Check / Replace triac.
	Remote/panel voltage jumpers in wrong place.	Check position of Remote/Panel Jumpers.
No weld output, fan motor does not run either.	No primary power input.	Connect primary power!
	Primary power connections are loose.	Check for secure connections on the primary power.
	Primary disconnect switch off or fuses open.	Close switch or replace fuse.
	CobraMig 260 main power switch defective.	Replace power switch.
Low weld voltage.	Low input voltage.	Check for proper input voltage (208,230,416,480 VAC)
	Input Voltage jumper in wrong position.	Place jumper in position to match input voltage.
	One of two diodes is defective or blown.	Check / Replace power switch.
Wall disconnect fuse blows when torch trigger is depressed.	Recifiers / Capacitors damaged or defective.	Check for short (J6-1,2 on Cobra I main boards should read about 25 ohms.)
		Replace rectifiers / capacitors if necessary.
Posa Start not operating.	Posa Start pot or Posa Start switch is defective.	Check / Replace if necessary.
	Current sensor is defective or Posa Start circuit on Cobra I main board is defective.	Check / Replace current sensor or Cobra I main board.
Erratic weld output.	Ground clamp loose at work connection.	Check ground clamp for secure attachment.
	Capacitors defective.	Replace capacitors if necessary.
	Voltage and wire feed settings are not correct.	Readjust as necessary.

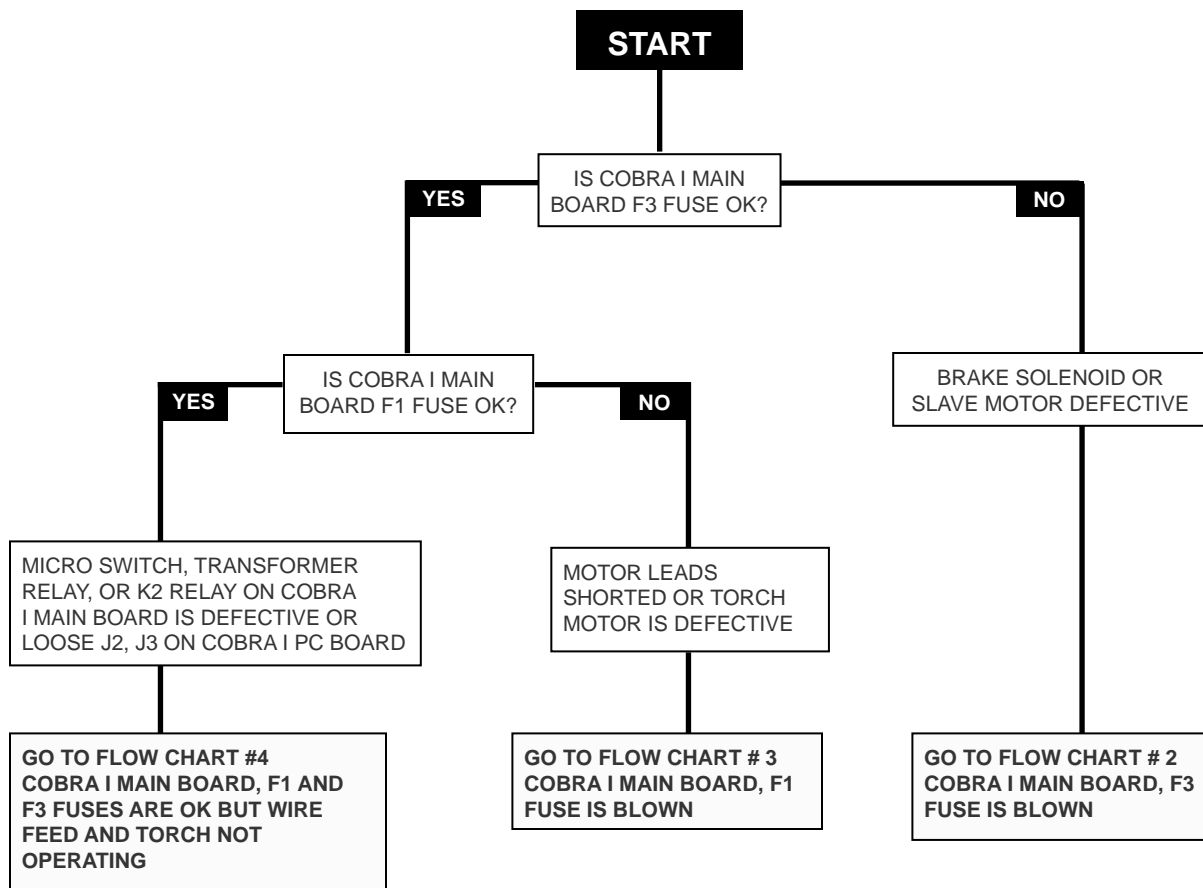
SYMPTOM

NO WIRE FEED AT TORCH, FEEDER NOT OPERATING

PROBLEM AREA

COBRA I: MAIN BOARD, K2 RELAY

TORCH: MOTOR, CABLE, MICRO SWITCH, SLAVE MOTOR, BRAKE SOLENOID

**TROUBLE:**

No wire feed at torch, feeder not operating, ie. No slave motor or brake solenoid action.

CAUSE:

(F3) 2 amp Fuse on Main P.C. board on wire feeder.

(F1) 4 amp Fuse on Main P.C. board on wire feeder.

Micro Switch defective / Not being activated.

Broken electrical cable.

Transformer relay, Relay K2 inoperative.

Loose J2, J3, Cobra I Main P.C. board connections.

SYMPTOM

F3 FUSE ON COBRA I IS BLOWN WHEN TORCH IS TRIGGERED

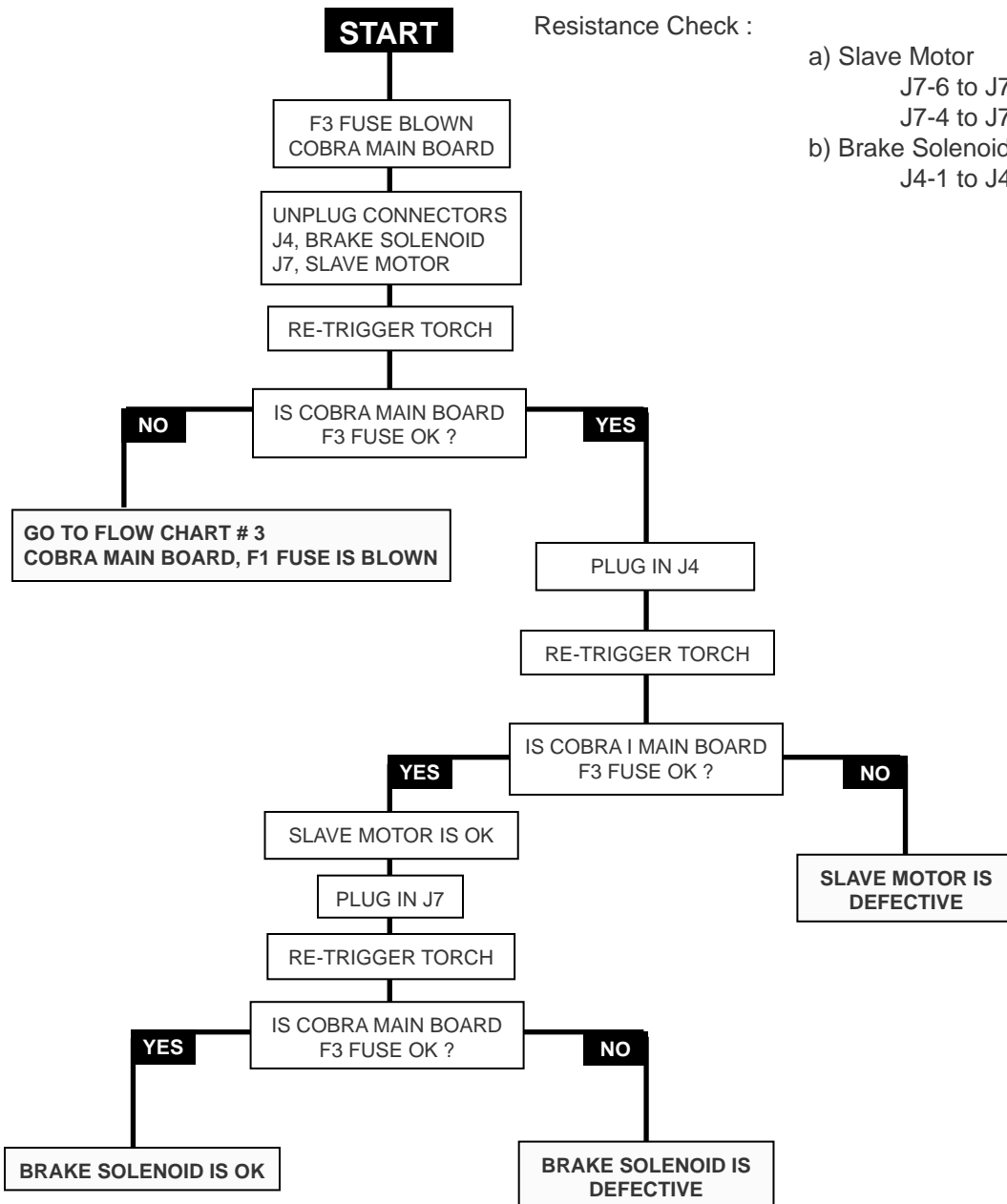
PROBLEM AREA

COBRA: MAIN BOARD, SLAVE MOTOR OR BRAKE SOLENOID

NOTE :The 115VAC on Cobra I Main P.C. Board is protected by Fuse F3. If F3 continually blows, unplug J4 (Brake Solenoid), J7 (Slave Motor) from the P.C. Board. Replace the fuse and retrigger. If fuse does not blow, isolate the problem by plugging in J4 and J7 one at a time until the fuse blows.

Resistance Check :

- a) Slave Motor
J7-6 to J7-1 = 150 ohm
J7-4 to J7-2 = 150 ohm
- b) Brake Solenoid
J4-1 to J4-2 = 80 ohm

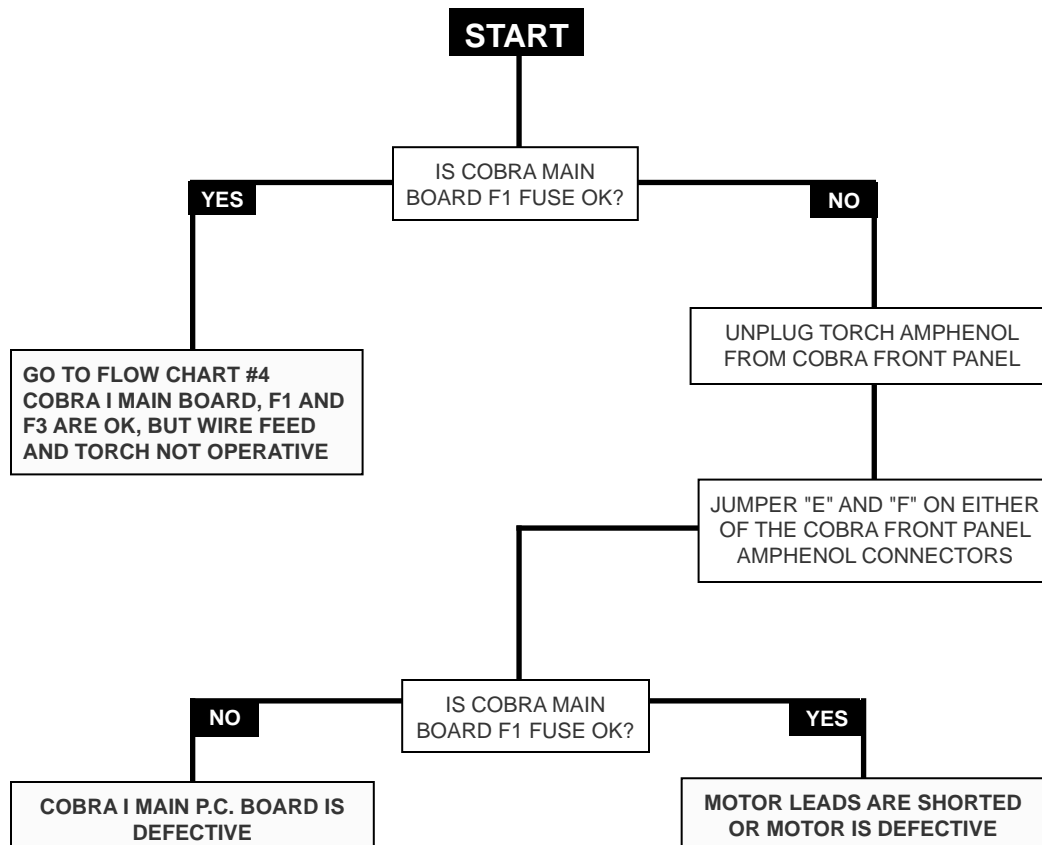


SYMPTOM

COBRA: MAIN BOARD, F1 FUSE IS BLOWN

PROBLEM AREA

COBRA: MAIN BOARD OR TORCH MOTOR

**NOTE :****MOTOR CHECK**

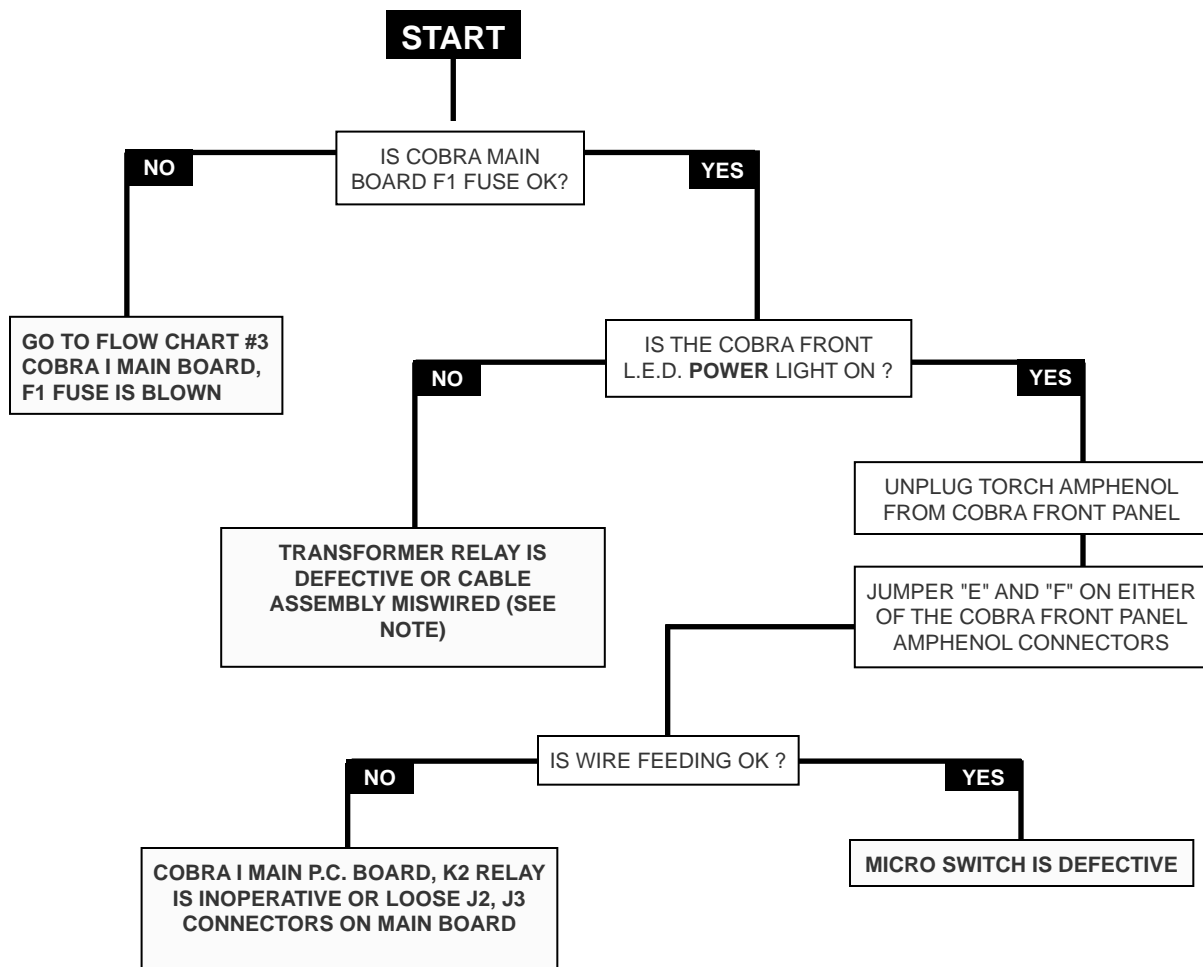
- Remove the amphenol connector from the cabinet.
- Using an OHM meter, check the resistance across pins "A" and "B" (motor leads) on torch amphenol. The resistance across the motor should be between 5 and 10 ohms.
- If an open circuit or short circuit condition exists, check the motor leads and motor independently.

SYMPTOM

COBRA MAIN BOARD, F1 AND F3 FUSES ARE OK
BUT NO WIRE FEED AT TORCH AND FEEDER NOT OPERATING

PROBLEM AREA

K2 RELAY ON COBRA I MAIN BOARD,
TRANSFORMER RELAY OR TORCH MOUNTED MICRO SWITCH

**NOTE :**

When the Cobra I front panel power switch is on, 115VAC is sent to the coil of Transformer Relay and 27 VAC is sent to Cobra I main board. When the torch is triggered, then K2 on Cobra I main board is energized. This action transfer 115 VAC to the slave motor, brake solenoid and controlled voltage to the torch motor.

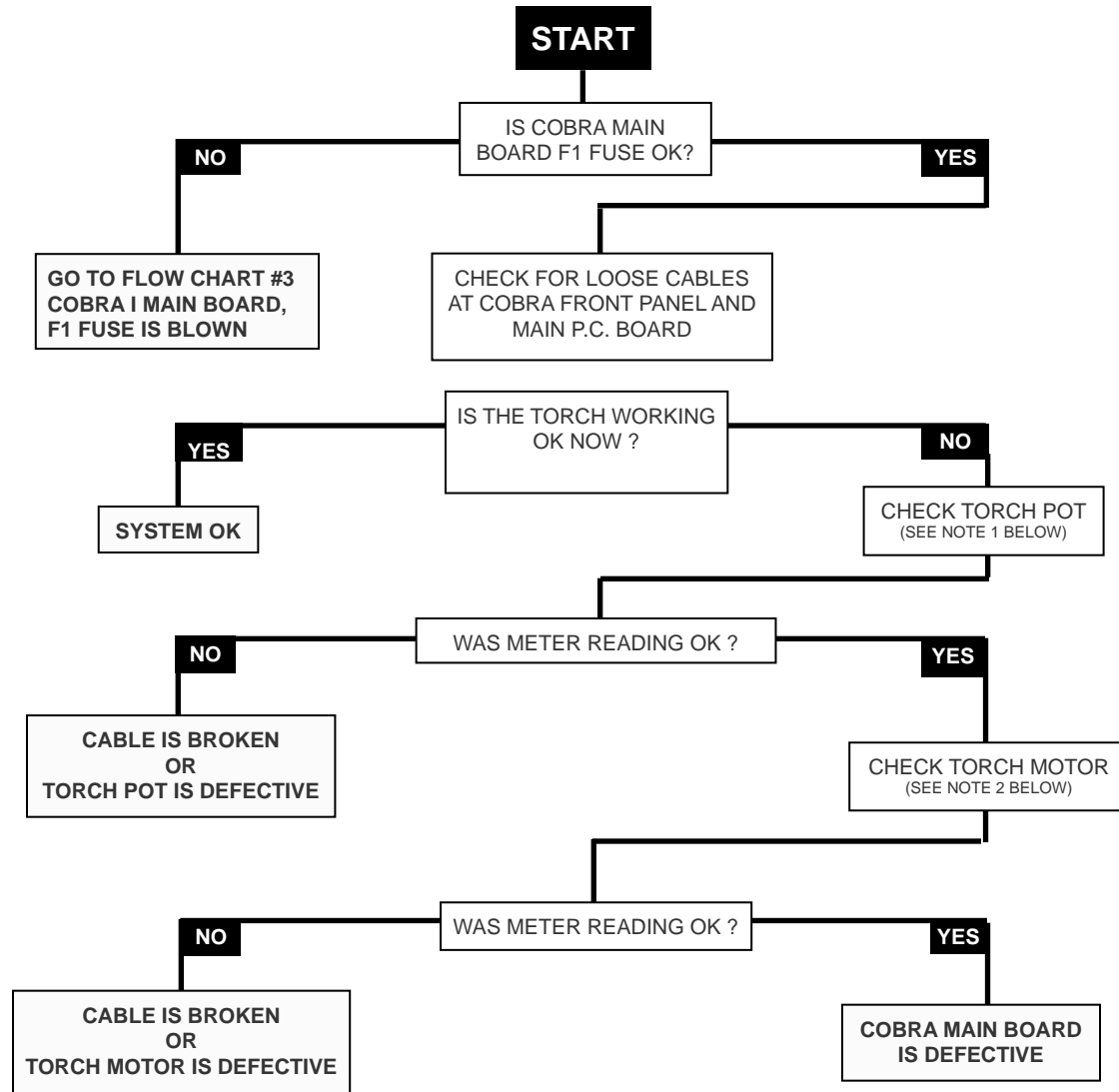
TRANSFORMER RELAY VOLTAGES : *When torch trigger is depressed*
115 VAC COM (White), Pin A to 115 VAC HOT (Neu), Pin B = 115 VAC
27 VAC COM (Brown), Pin 7 to 27 VAC HOT (Orange), Pin 9 = 27 VAC
27 VAC COM (Yellow), Pin 4 to 27 VAC HOT (Blue), Pin 6 = 27 VAC

SYMPTOM

NO WIRE FEED AT TORCH, FEEDER OPERATING PROPERLY

PROBLEM AREA

COBRA MAIN BOARD, TORCH POT OR TORCH MOTOR



NOTES:

1. Check **TORCH POT** at plug connector

a. Testing the potentiometer - "**W**" **Clocked**. - Using Ohm Meter to check resistance across pin "**D**" (wiper) and pin "**C**" of Torch plug. Should vary from 0 to 5k ohm while turning pot. - Using Ohm Meter to check resistance across pin "**D**" (wiper) and pin "**G**" of Torch plug. Should vary from **0 to 5k** ohm while turning pot.

b. Testing the potentiometer - "**S**" **Clocked**. - Using Ohm Meter to check resistance across pin "**D**" (wiper) and pin "**C**" of Torch plug. Should vary from 0 to 5k ohm while turning pot. - Using Ohm Meter to check resistance across pin "**D**" (wiper) and pin "**A**" of Torch plug. Should vary from **0 to 5k** ohm while turning pot.

2. Check **TORCH MOTOR**

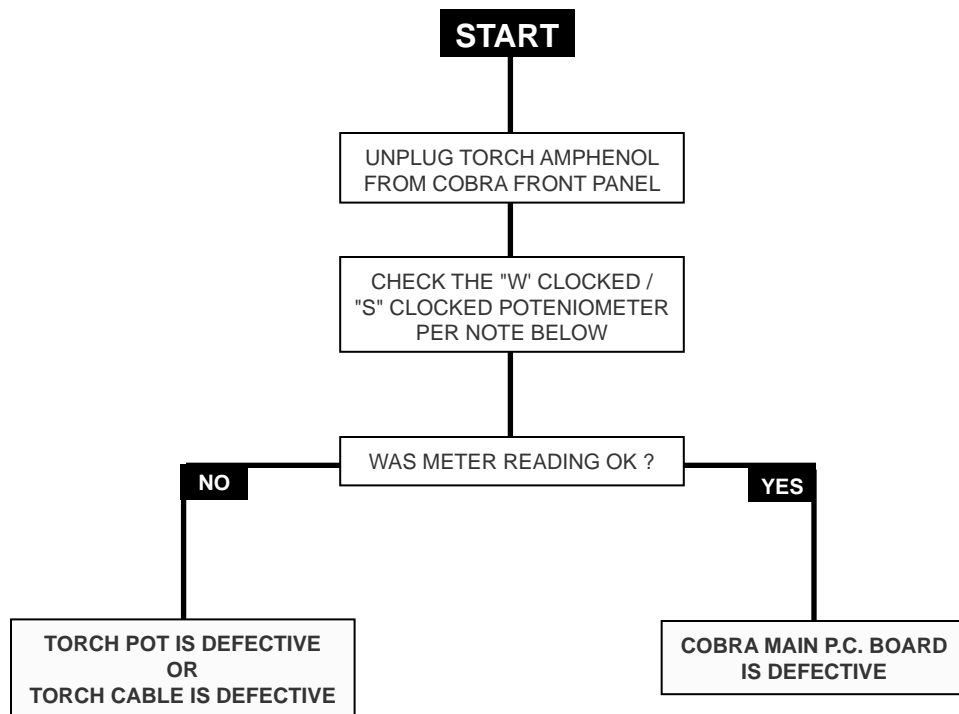
a. Unplug the Torch from the front panel.
 b. Using the Ohm Meter, Check the resistance across pin "**A**" and pin "**B**" (motor leads) of Torch plug. The resistance should be about **5 to 10** ohms.
 c. If open or short circuit exists, then check motor leads and motor for additional problems.

SYMPTOM

WIRE FEEDS AT ONE SPEED ONLY, NO CONTROL BY POT SETTING ON TORCH

PROBLEM AREA

TORCH MOTOR POTENIOMETER OR CABLE OR COBRA I MAIN BOARD



NOTES:

1. Check **TORCH POT** at plug connector

a. Testing the potentiometer - "**W**" **Clocked**. - Using Ohm Meter to check resistance across pin "**D**" (wiper) and pin "**C**" of Torch plug. Should vary from 0 to 5k ohm while turning pot. - Using Ohm Meter to check resistance across pin "**D**" (wiper) and pin "**G**" of Torch plug.

Should vary from **0 to 5k** ohm while turning pot.

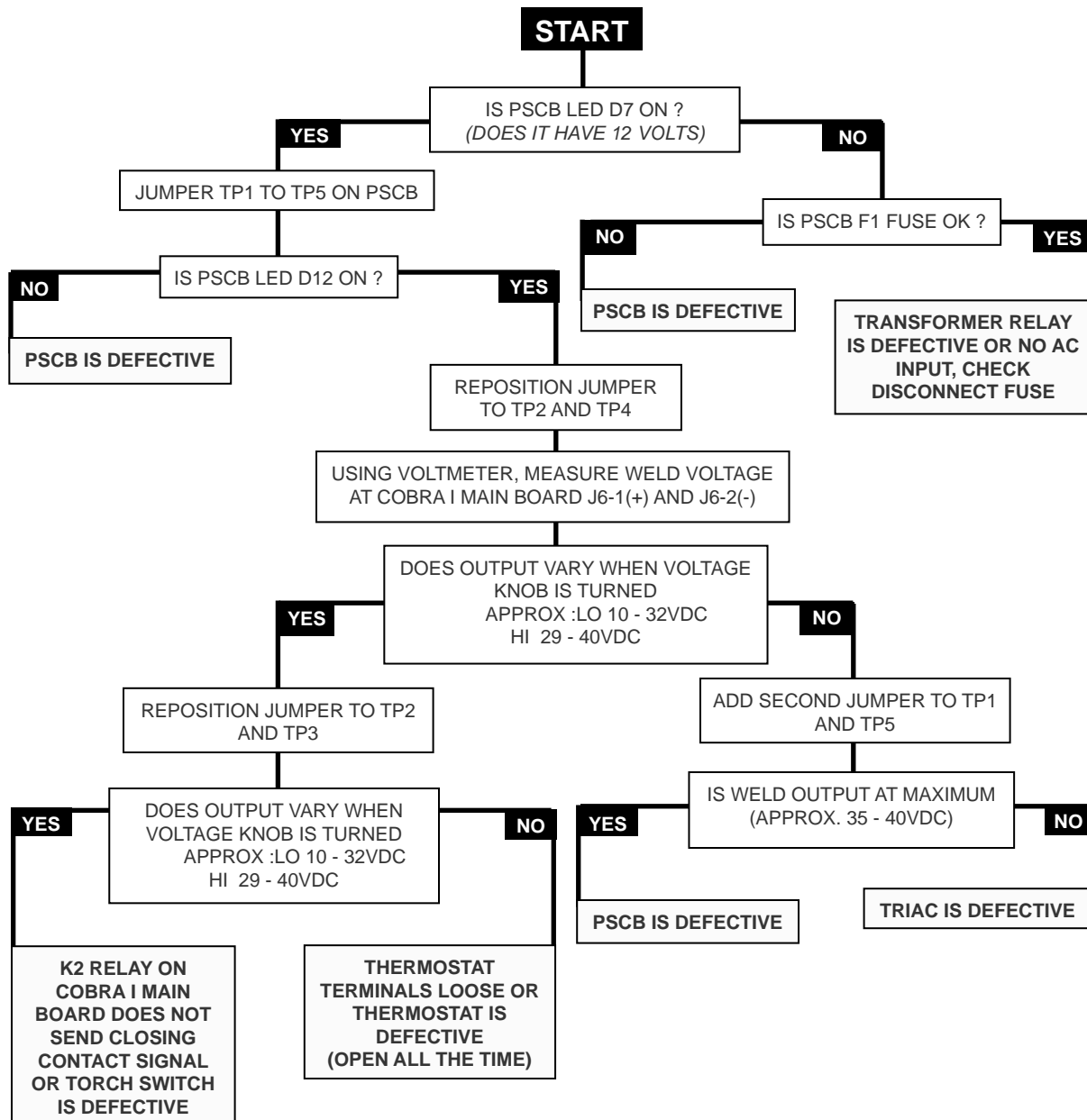
b. Testing the potentiometer - "**S**" **Clocked**. - Using Ohm Meter to check resistance across pin "**D**" (wiper) and pin "**C**" of Torch plug. Should vary from 0 to 5k ohm while turning pot. - Using Ohm Meter to check resistance across pin "**D**" (wiper) and pin "**A**" of Torch plug.

Should vary from **0 to 5k** ohm while turning pot.

SYMPTOM

NO WELD OUTPUT, NO VOLTAGE CONTROL

PROBLEM AREA

POWER SUPPLY CONTROL (PSCB), THERMOSTAT, TRIAC, CONTACTOR SIGNAL,
PWR SWX BOARD**TRIAC RESISTANCE CHECK:**

Use meter in "Diode" mode.

Pin 3 to Pin 4 : 2.3

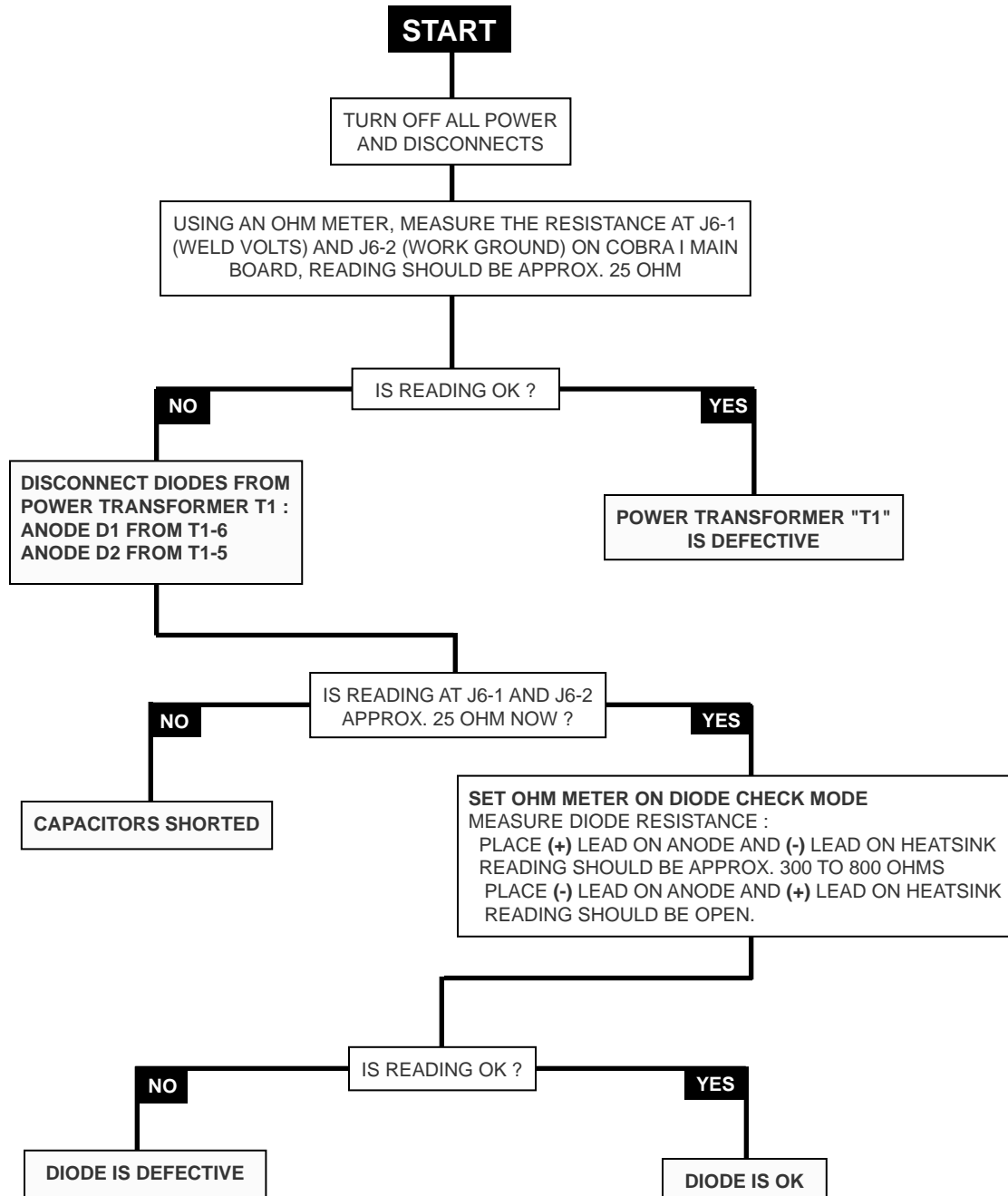
Pin 1 to Pin 2 : open

SYMPTOM

DISCONNECT FUSE BLOWS WHEN TORCH IS TRIGGERED

PROBLEM AREA

POWER TRANSFORMER "T1", DIODES, CAPACITORS

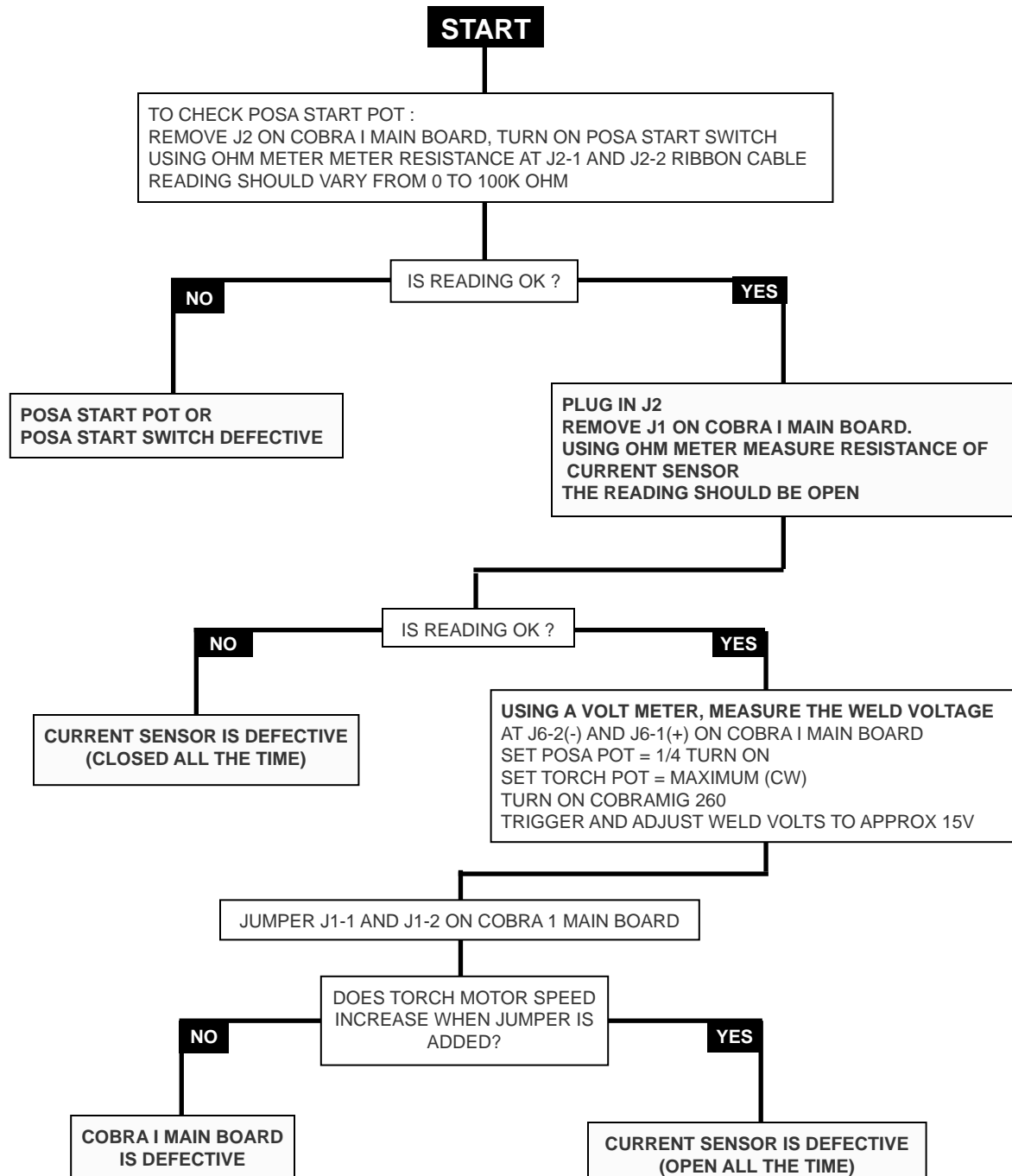


SYMPTOM

POSA START NO WORKING PROPERLY

PROBLEM AREA

CURRENT SENSOR, COBRA I MAIN BOARD, READ POSA START SECTION.

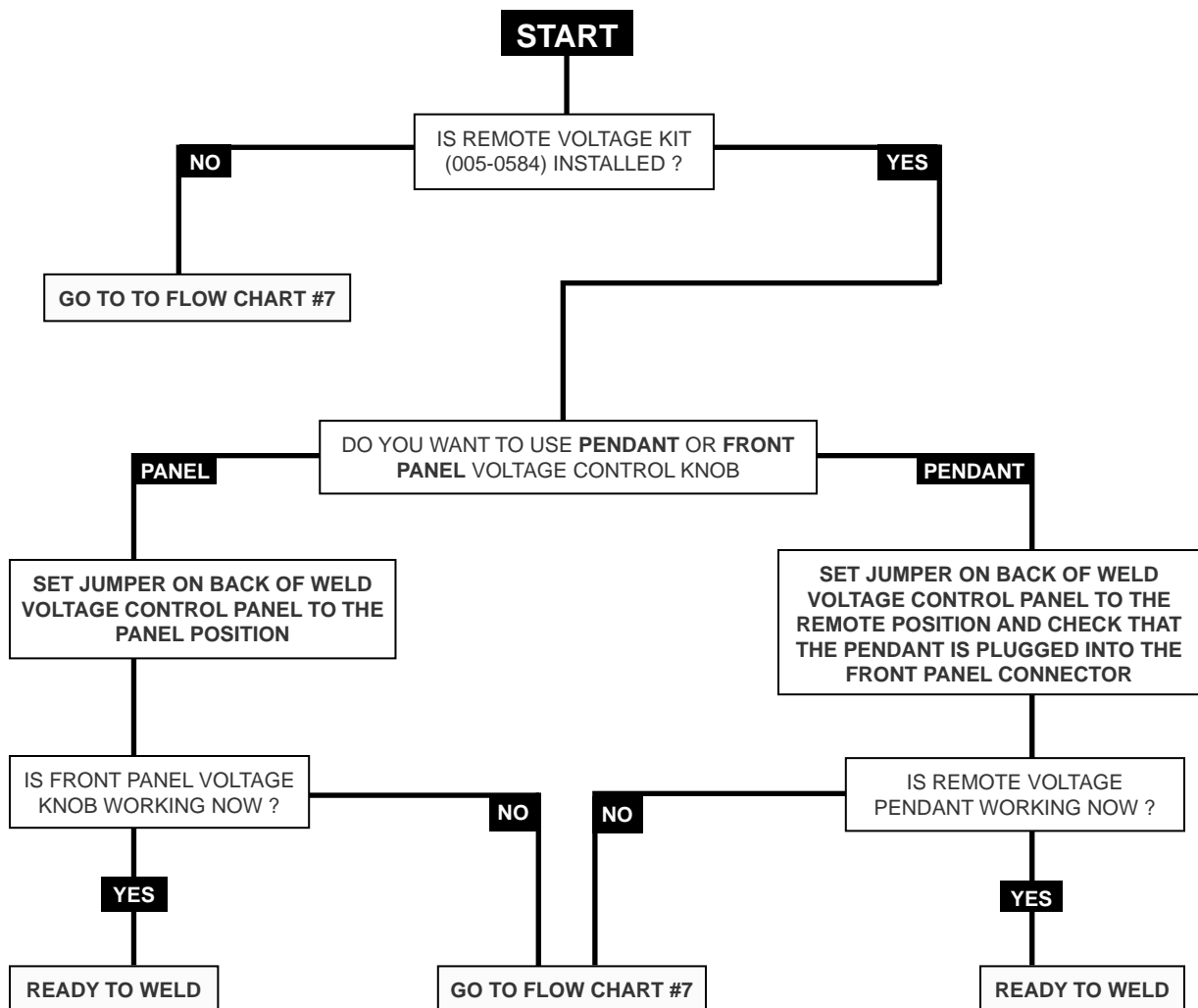


SYMPTOM

NO WELD OUTPUT, REMOTE VOLTAGE POT INSTALLED

PROBLEM AREA

JUMPER ON POWER SUPPLY CONTROL BOARD (PSCB) IN WRONG POSITION
REMOTE PENDANT IS DEFECTIVE



NOTE :

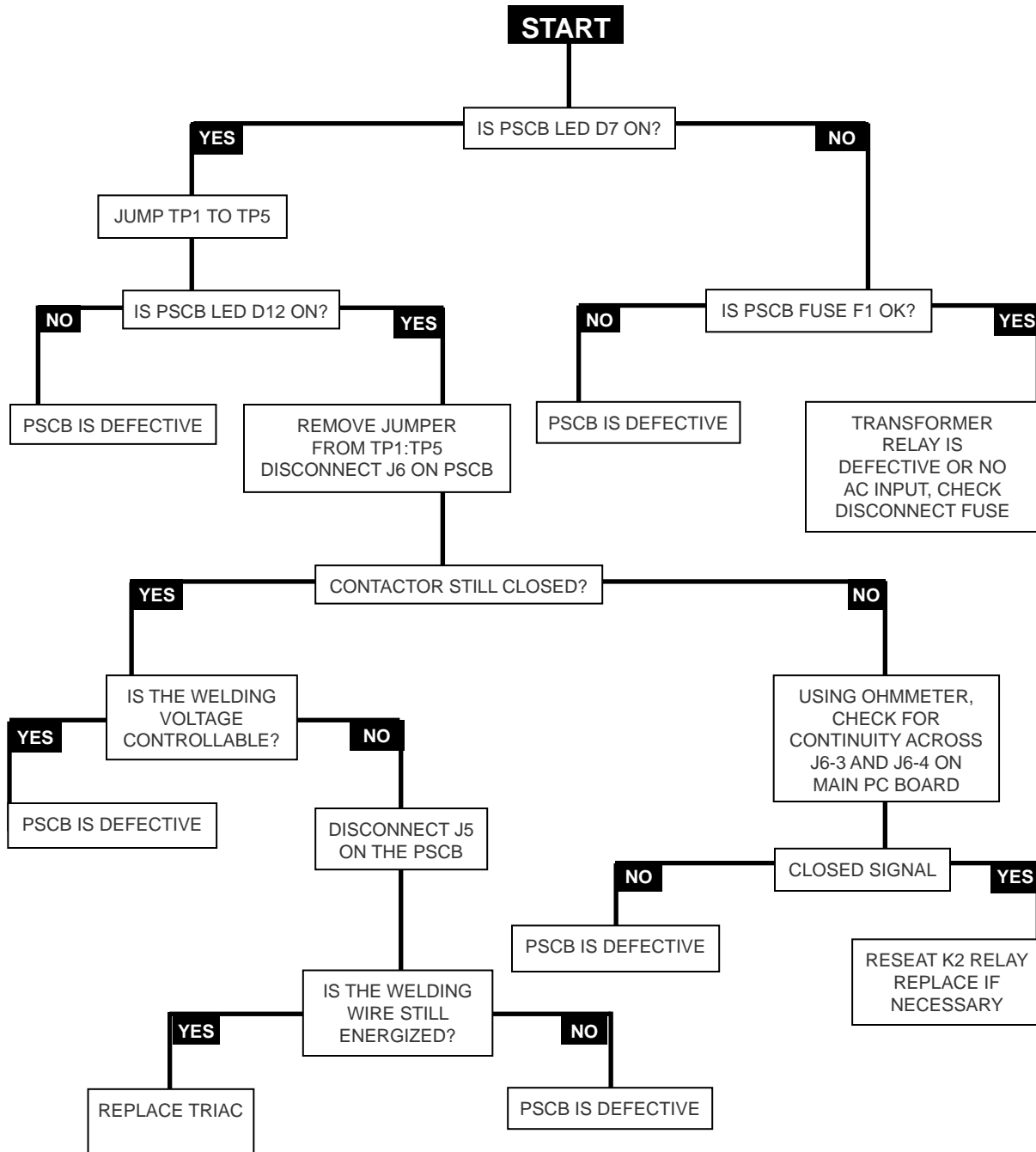
WHEN THE REMOTE VOLTAGE POT KIT IS INSTALLED AND THE JUMPER IS IN THE REMOTE POSITION, **YOU MAY ONLY USE THE REMOTE POT**, THE FRONT PANEL VOLTAGE POT IS DISABLED UNTIL YOU MOVE THE JUMPER BACK TO FRONT PANEL POSITION.

SYMPTOM

CONTACTOR CLOSED, WIRE ALWAYS ENERGIZED

PROBLEM AREA

POWER SUPPLY CONTROL BOARD, K2 RELAY MAIN BOARD, TRIAC



Section F

Appendices

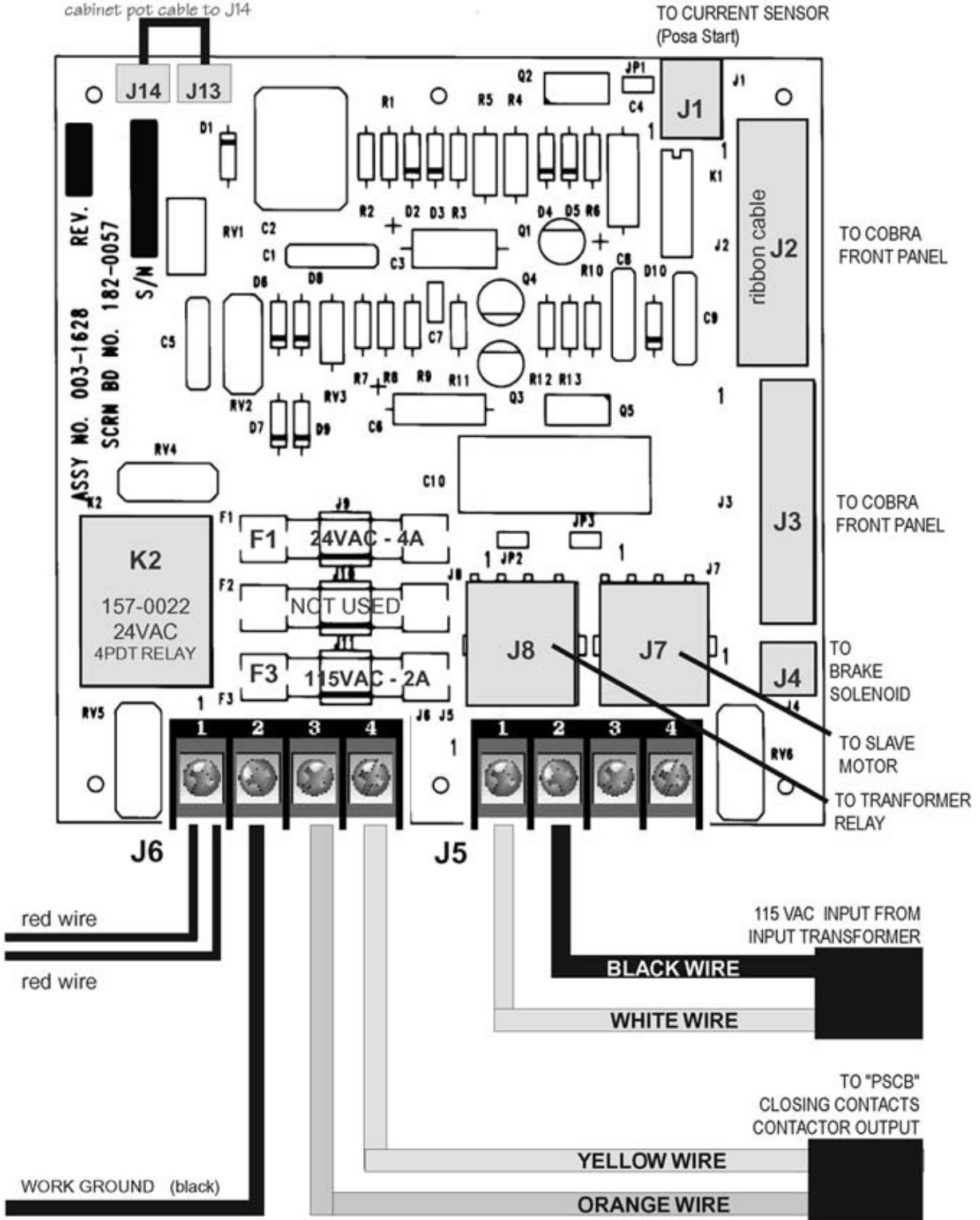
Diagrams/Parts List

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STANDARD CONNECTIONS - MAIN PC BOARD

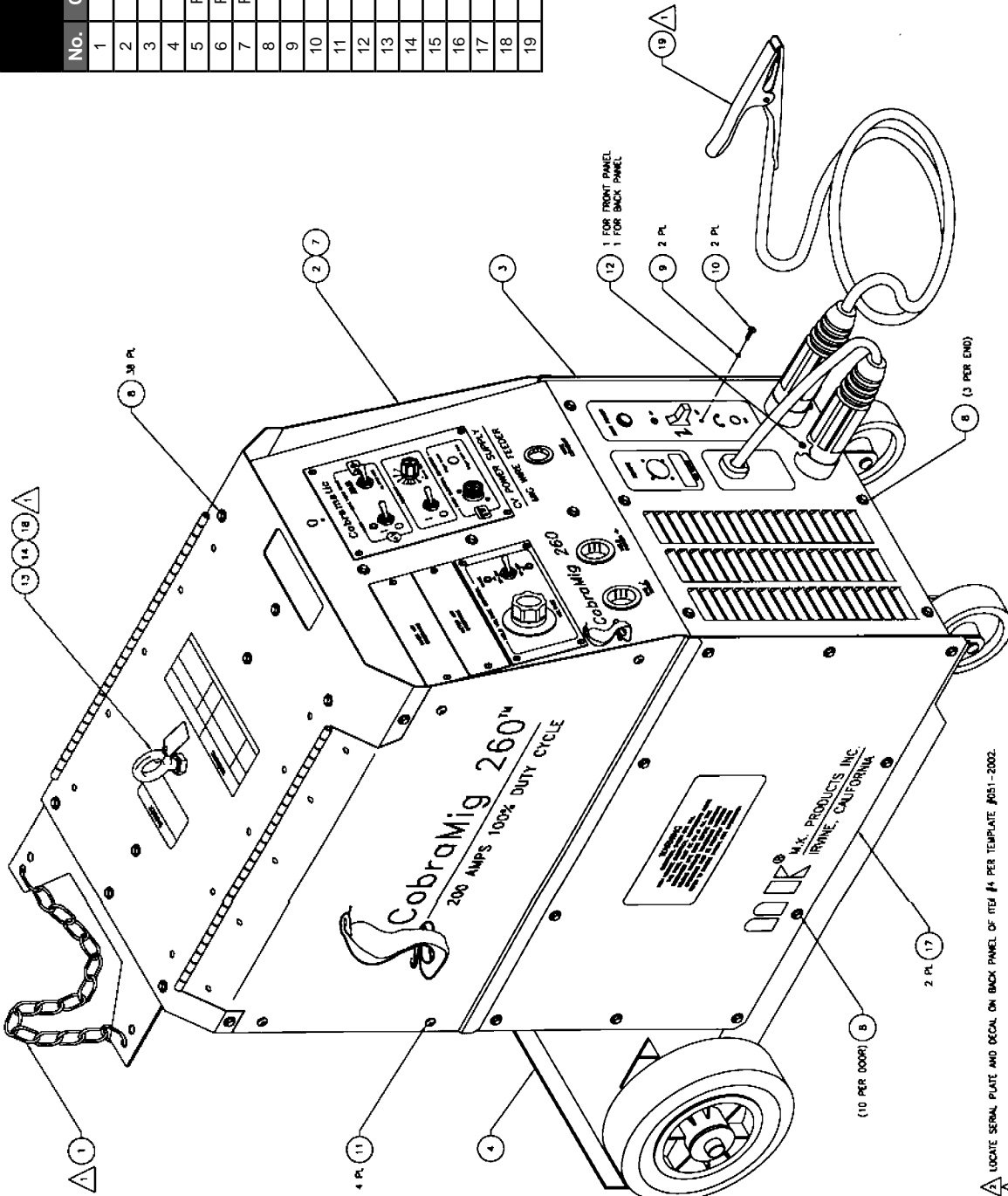
REMOTE POT JUMPER

For cabinet pot operation,
Remove jumper and connect
cabinet pot cable to J14



**Multi-Tap CV 260
001-3850**

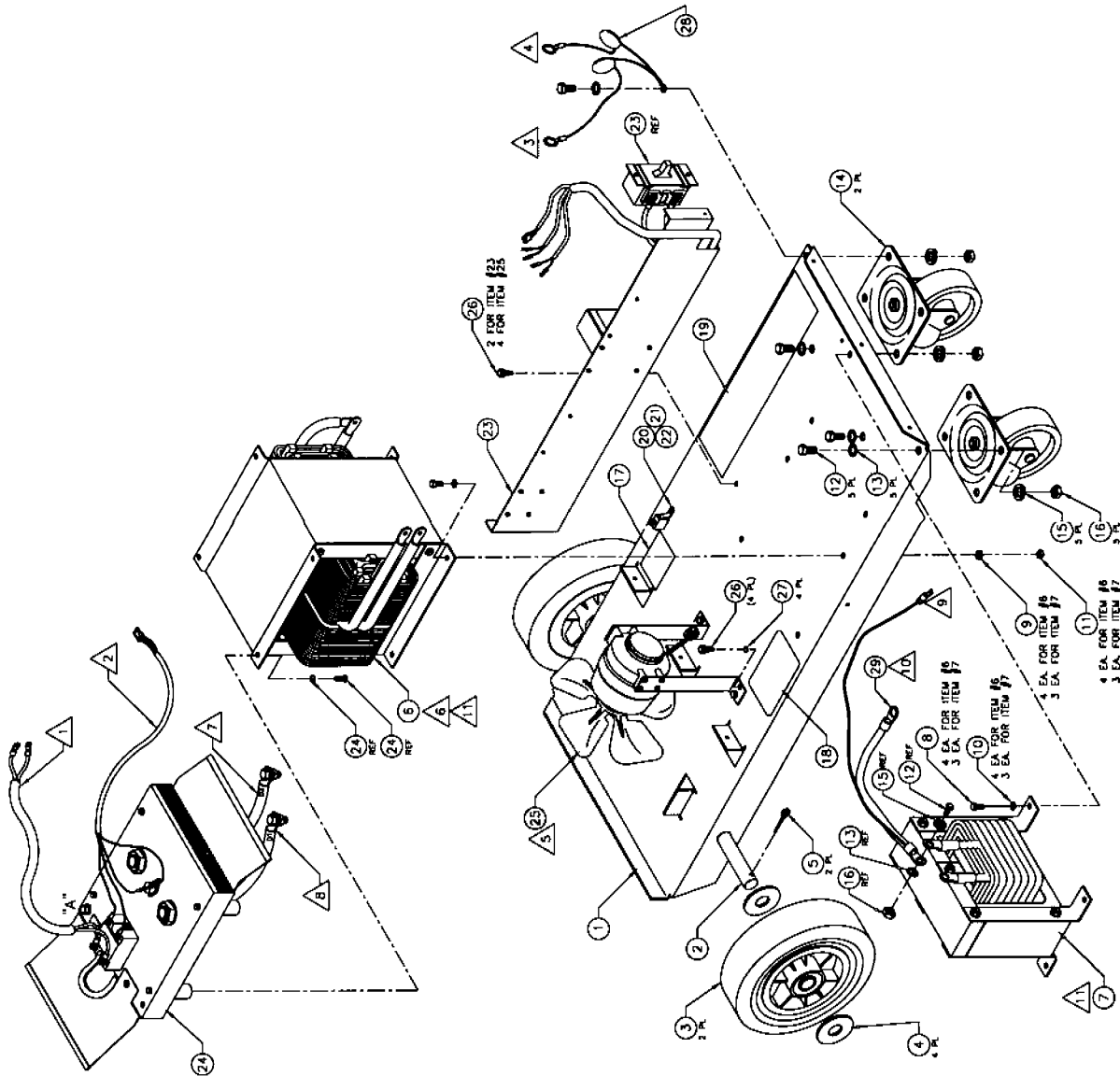
No.	Qty.	P/N	Description
1	1	003-1744	Assy Gas Tank Chain CV-260
2	1	003-1863	Assy Top Cover CV-260
3	1	003-2131	Assy Wire Feeder CV-260
4	1	003-2134	Assy Power Supply CV-260
5	REF	031-0171	Test Procedure Final CV-260
6	REF	071-0389	Block Diagram CV-260
7	REF	071-0390	Block Diagram w/option CV-260
8	38	327-0115	Scr Hw S T/B #14 x 1/2 St
9	2	333-0043	Washer Flat #6
10	2	336-0005	Scr Ph 6-32 x 3/8
11	4	336-0039	Scr Ph P 10-32 x 3/8 ST
12	2	336-0188	Scr Ph P 6-32 x 3/8 ST HI
13	1	341-0018	Nut Hx Plain #1/2-13UNC
14	1	405-0780	Tag Owner Man CV-260
15	1	405-0887	Decal Warning T13470
16	1	405-0951	Decal Serial Plat CV-260
17	2	436-0044	SS Fixed Door CV-260
18	1	445-0013	Bolt Eye 1/2 - 13UNC
19	1	843-0528	Cable GND Power 20FT CV-260



▲ LOCKE SERIAL PLATE AND DECAL ON BACK PANEL OF ITEM #1 PER TEMPLATE #081-2002.
▲ BAG AND TAG FOR SHIPPING.
NOTES: UNLESS OTHERWISE SPECIFIED.

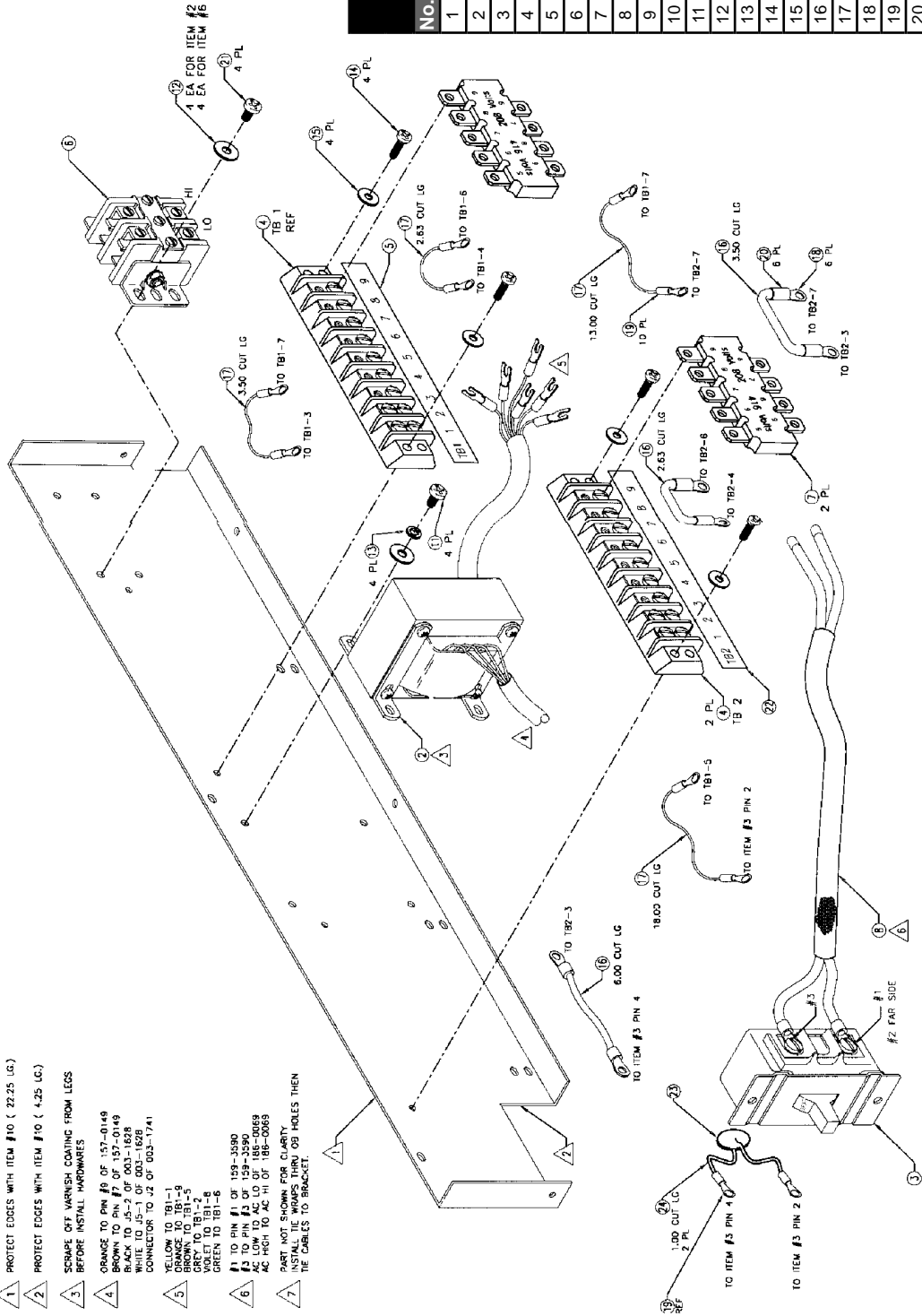
**Multi-Tap Power Supply Assembly
003-2134a**

No.	Qty.	P/N	Description
1	1	438-0030	Base Paint
2	1	431-3516	Axle Back Wheel
3	2	515-3693	Wheel 08.00
4	4	331-0080	Washer Flat 13/16x1.75
5	2	421-0410	Pin 03/32 x 1.25 LG
6	1	137-0084	Transformer Power
7	1	133-0007	Choke
8	7	329-0003	Scr Hex 1/4-20x3/4LG
9	7	333-0009	Washer Spring Lock 1/4
10	7	331-0050	Washer Flat 1/4x5/8x1/16
11	7	345-0051	Nut Hex Lock 1/4-20
12	5	329-0029	Scr Hex 5/16-18x3/4LG
13	5	331-0025	Washer Flat 5/16
14	2	515-3692	Caster
15	5	333-0010	Washer Spring 5/16
16	5	341-0012	Nut Hex 5/16-18
17	1	405-0801	Decal Power Input
18	1	405-0621	Decal Warning
19	1	405-0862	Decal Voltage
20	1	185-0073	Terminal Ground
21	1	329-0219	Scr Hex 10-24x1/2LG
22	1	345-0012	Nut Hex 10-24
23	1	003-1586	Assy Bracket
24	1	003-1774	Assy Heatsink
25	1	003-1706	Assy Fan Cooling
26	6	327-0115	Scr Sht Mtl #14 x 1/2 LG
27	4	333-0027	Washer LK Star-In 1/4
28	1	003-1879	Assy Cap
29	1	844-0066	Cable Choke to Receptable



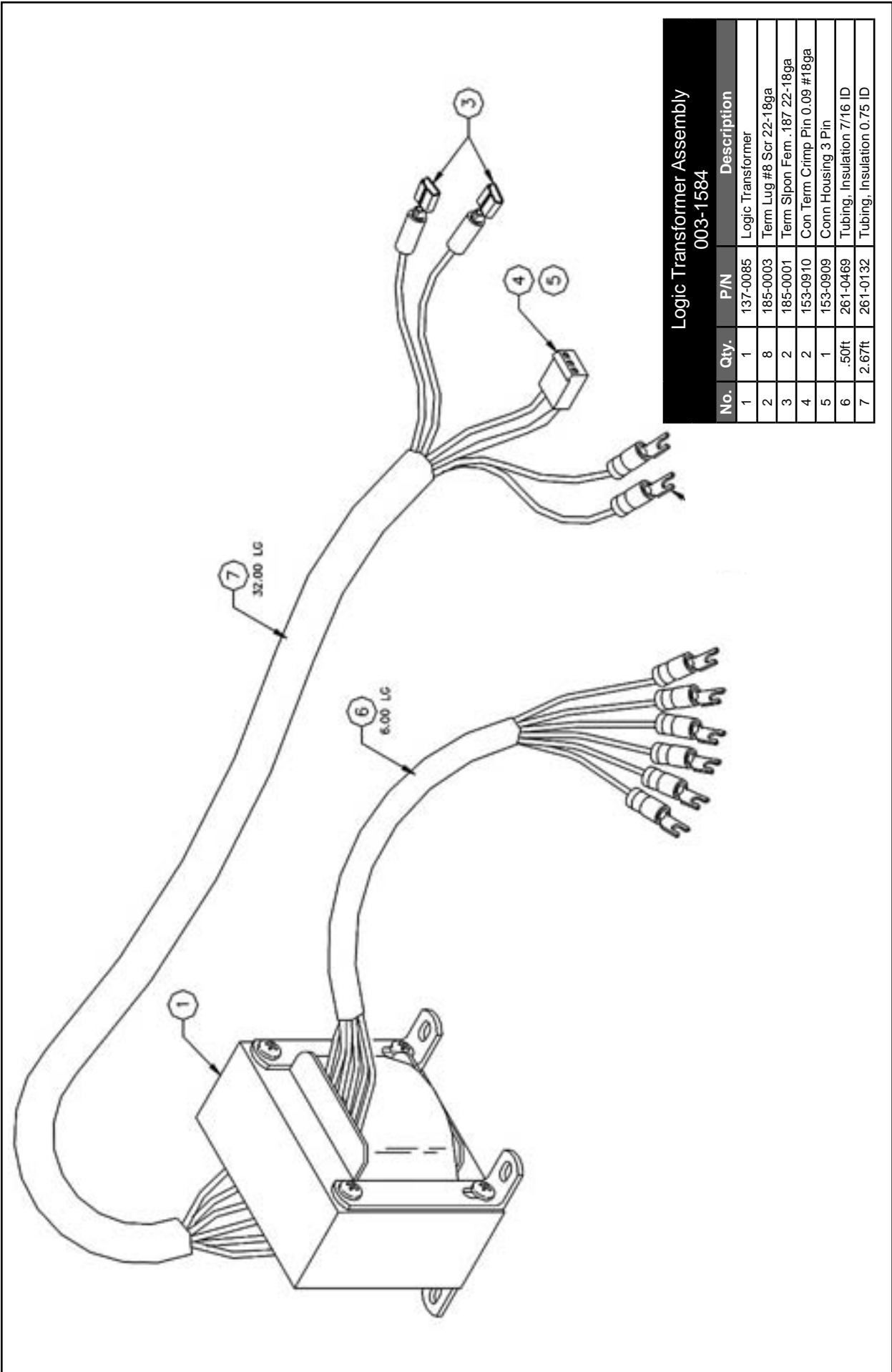
ASSEMBLY INSTRUCTIONS

- 1 PROTECT EDGES WITH ITEM #10 (22.25 LG.)
- 2 PROTECT EDGES WITH ITEM #10 (4.25 LG.)
- 3 SCRAPE OFF VARNISH COATING FROM LEGS BEFORE INSTALL HARDWARES
- 4 ORANGE TO PIN #9 OF 157-0149
BROWN TO PIN #7 OF 157-0149
BLACK TO J5-2 OF 003-1828
RED TO J5-1 OF 003-1828
CONNECTOR TO J2 OF 003-1741
- 5 YELLOW TO TB1-1
ORANGE TO TB1-9
BROWN TO TB1-5
GREEN TO TB1-8
VIOLET TO TB1-6
- 6 #1 TO PIN #1 OF 159-3590
#2 TO PIN #3 OF 159-3590
#3 TO PIN #4 OF 159-3590
#4 TO PIN #5 OF 159-3590
#5 TO PIN #6 OF 159-3590
#6 TO PIN #7 OF 159-3590
#7 TO PIN #8 OF 159-3590
#8 TO PIN #9 OF 159-3590
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#95 TO PIN #96 OF 159-3590
#96 TO PIN #97 OF 159-3590
#97 TO PIN #98 OF 159-3590
#98 TO PIN #99 OF 159-3590
#99 TO PIN #100 OF 159-3590
- 7 PART NOT SHOWN FOR CLARITY. INSTALL TIE WIPES THRU QD HOLES THEN TIE CABLES TO BRACKET.



**Multi-Tap Bracket Assembly
003-1586**

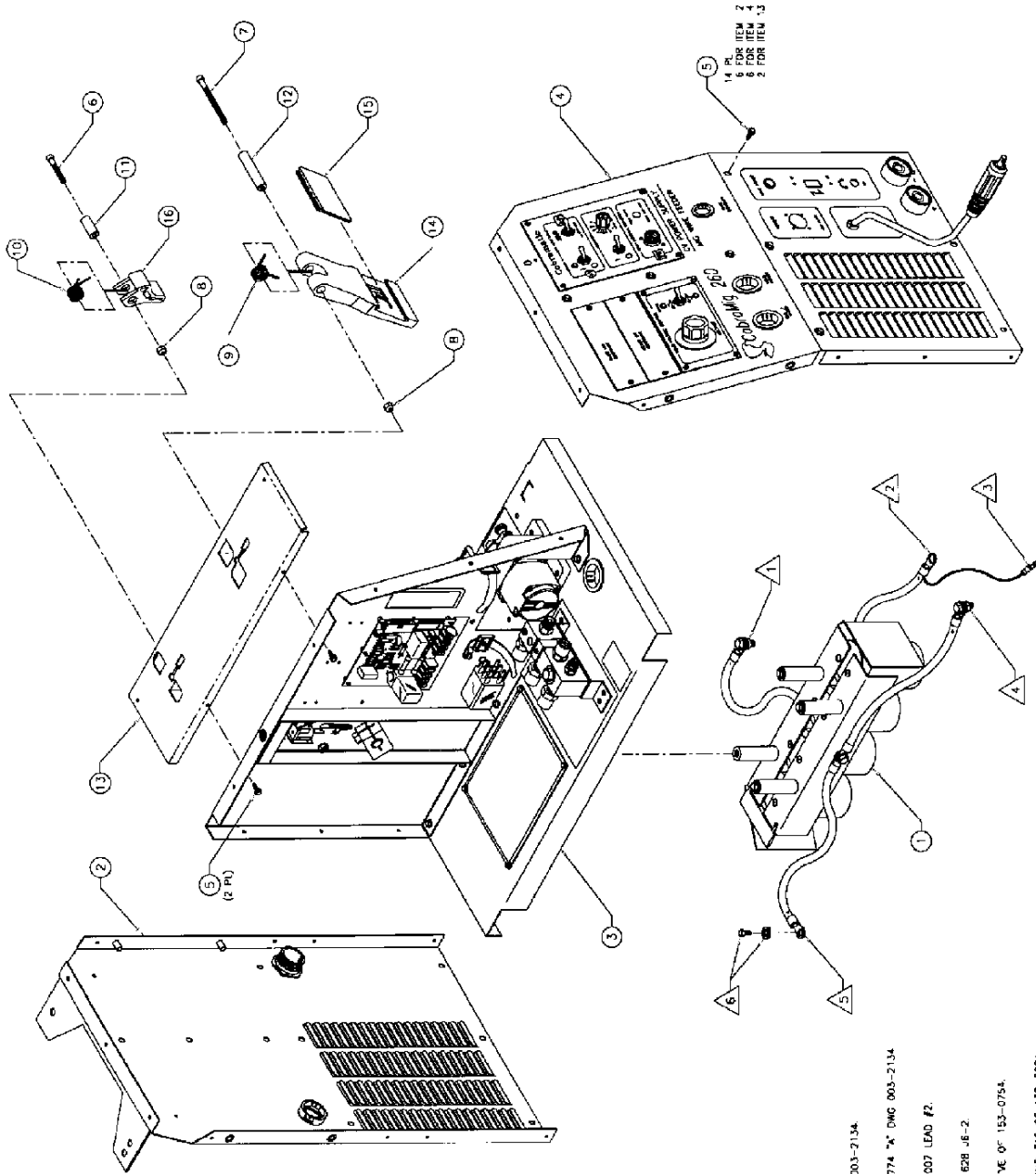
No.	Qty.	P/N	Description
1	1	435-1515	Bracket, Multi-Tap
2	1	003-1584	Assy Xfmr Logic
3	1	159-3590	Switch, Power
4	2	1860075	Terminal Strip 9 Pos
5	1	405-0864	Label TB1
6	1	186-0069	Terminal Strip 2Pos
7	2	437-0207	Jumper, Capsulated
8	1	003-1772	Cable Power Supply
9	5	411-0193	Tie Wrap
10	2.23ft	301-0081	Grommet, Edge Protect
11	4	335-0198	Scr Hp Fil 10-32x1/2
12	8	331-0004	Washer Flat #10
13	4	333-0007	Washer Spring Lock #10
14	4	336-0195	Scr Hp Fil 8-32x3/4
15	4	331-0003	Washer Flat #8
16	1.02ft	845-0058	Wire Bga White
17	3.43ft	845-0289	Wire 1Bga White
18	6	185-0077	Ring Lug Scr #10 8ga
19	10	185-0516	Ring Lug Scr #1022-1 8ga
20	0.50ft	739-0007	Tubing Heat Shrink 3/8 ID1.00
21	4	336-0197	Scr Hp Fil 10-32x3/8
22	1	405-0869	Label TB2
23	1	124-0127	Var Rd 510V 110J 14mm
24	0.17ft	261-0019	Tubing Teflon White 18Ga



Logic Transformer Assembly 003-1584			
No.	Qty.	P/N	Description
1	1	137-0085	Logic Transformer
2	8	185-0003	Term Lug #8 Scr 22-18ga
3	2	185-0001	Term Spon Fem .187 22-18ga
4	2	153-0910	Con Term Crimp Pin 0.09 #18ga
5	1	153-0909	Conn Housing 3 Pin
6	.50ft	261-0469	Tubing, Insulation 7/16 ID
7	2.67ft	261-0132	Tubing, Insulation 0.75 ID

Wire Feeder Assembly 003-2131

No.	Qty.	P/N	Description
1	1	003-1714	Assy Cap Blank
2	1	003-2130	Assy Back Panel CV-260
3	1	003-2132	Assy Deck CV-260
4	1	003-2135	Assy Front Panel
5	14	327-0115	Screw Sht Mtl #14-12 St T/B
6	1	328-0063	Screw Sch 1/4-20 x 1 3/4 Blk
7	1	328-0258	Screw Sch 1/4-20 x 3 1/2 Stl
8	2	345-0015	Nut Hex Lock 1/4-20 St
9	1	419-0089	Torsion Spring Restrainer
10	1	419-0090	Torsion Spring Catch
11	1	431-1608	Mandrel Catch
12	1	431-1609	Mandrel Restrainer
13	1	435-1584	Panel Restrainer CV-260
14	1	437-0242	Restrainer Wire
15	1	437-0243	Pad Restrainer
16	1	437-0255	Catch Restrainer



- △ 6 REF DWG 003-2134.
- △ 5 TO 003-1774 "A" DWG 003-2134.
- △ 4 TO 135-0507 LEAD #2.
- △ 3 TO 003-1628 J6-2.
- △ 2 TO NEGATIVE OF 153-0754.
- △ 1 TO #11 AND #12 OF 137-0084.

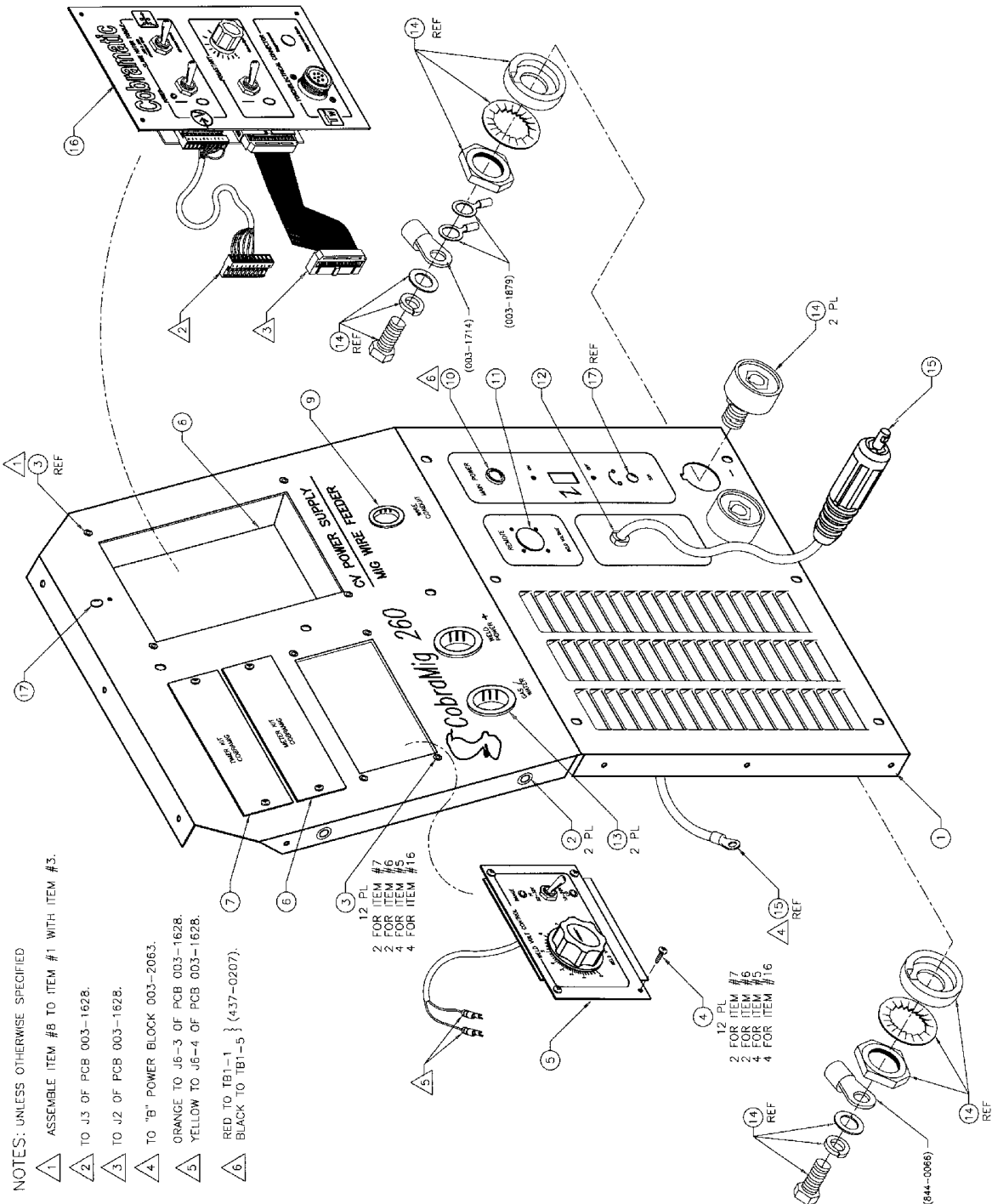
ASSEMBLY INSTRUCTIONS

NOTES: UNLESS OTHERWISE SPECIFIED

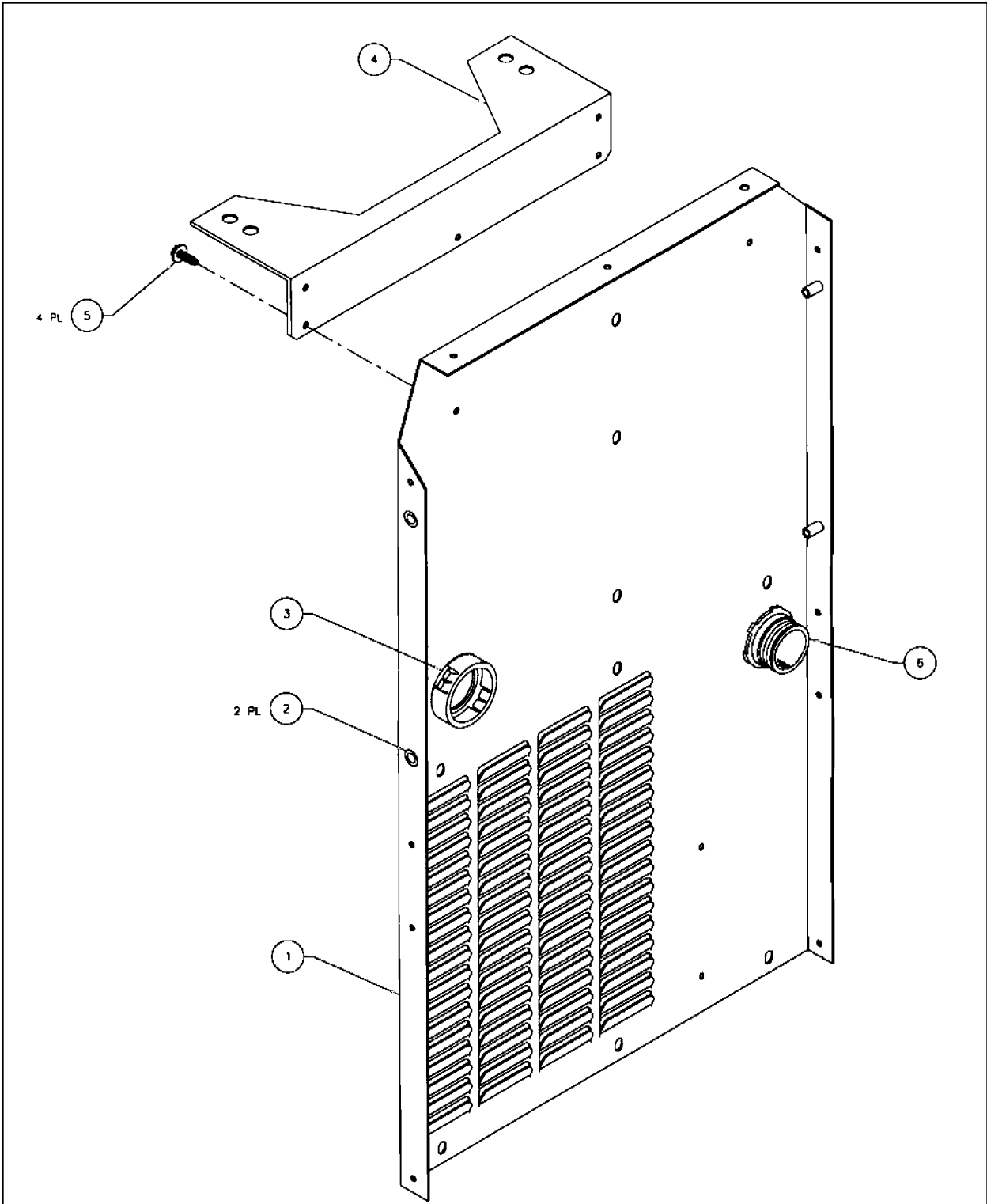
- 1 ASSEMBLE ITEM #8 TO ITEM #1 WITH ITEM #3.
- 2 TO J3 OF PCB 003-1628.
- 3 TO J2 OF PCB 003-1628.
- 4 TO "B" POWER BLOCK 003-2063.
- 5 ORANGE TO J6-3 OF PCB 003-1628.
- 6 YELLOW TO J6-4 OF PCB 003-1628.
- 7 RED TO TB1-1 { (437-0207).
- 8 BLACK TO TB1-5

- 12 PL #7
- 2 FOR ITEM #6
- 4 FOR ITEM #5
- 4 FOR ITEM #16

- 12 PL #7
- 2 FOR ITEM #6
- 4 FOR ITEM #5
- 4 FOR ITEM #16



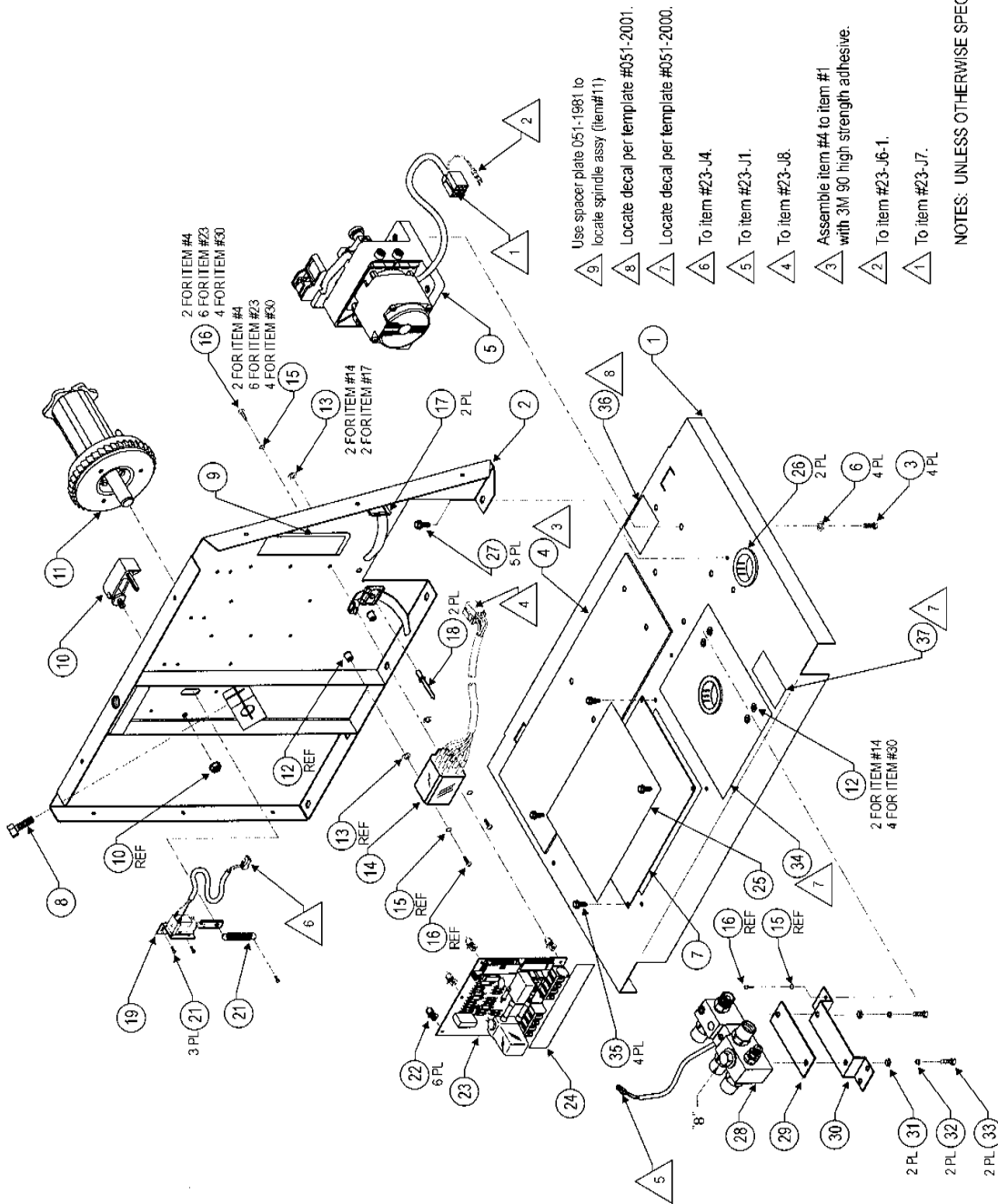
Front Panel Assy. 003-2135a		
No.	Qty.	P/N Description
1	1	436-0161 Silkscreen Front Panel
2	2	351-0089 Thread Insert, #10-32
3	12	351-0086 Thread Insert, #6-32
4	12	336-0005 Screw, Ph Flt, #6-32 x 3/8"
5	1	003-1703 Control Panel Assy
6	1	436-0093 Screened Cover, Meter Kit
7	1	436-0094 Screened Cover, Timer Kit
8	1	435-1588 Cover PCB CV-260
9	1	351-0745 Bushing, Snap 01.12
10	1	003-1780 Pilot Lamp Assy
11	1	351-0748 Plug, Hole 01.12
12	1	351-0101 Strain Relief, Cable
13	2	351-0752 Bushing, Snap 01.50
14	2	153-0754 Con. Rep. Pnl. Dinese, 400A
15	1	844-0065 Polarity Cable
16	1	003-2110 Cobra Panel Assy.
17	2	351-0008 Plug, Hold 03/8



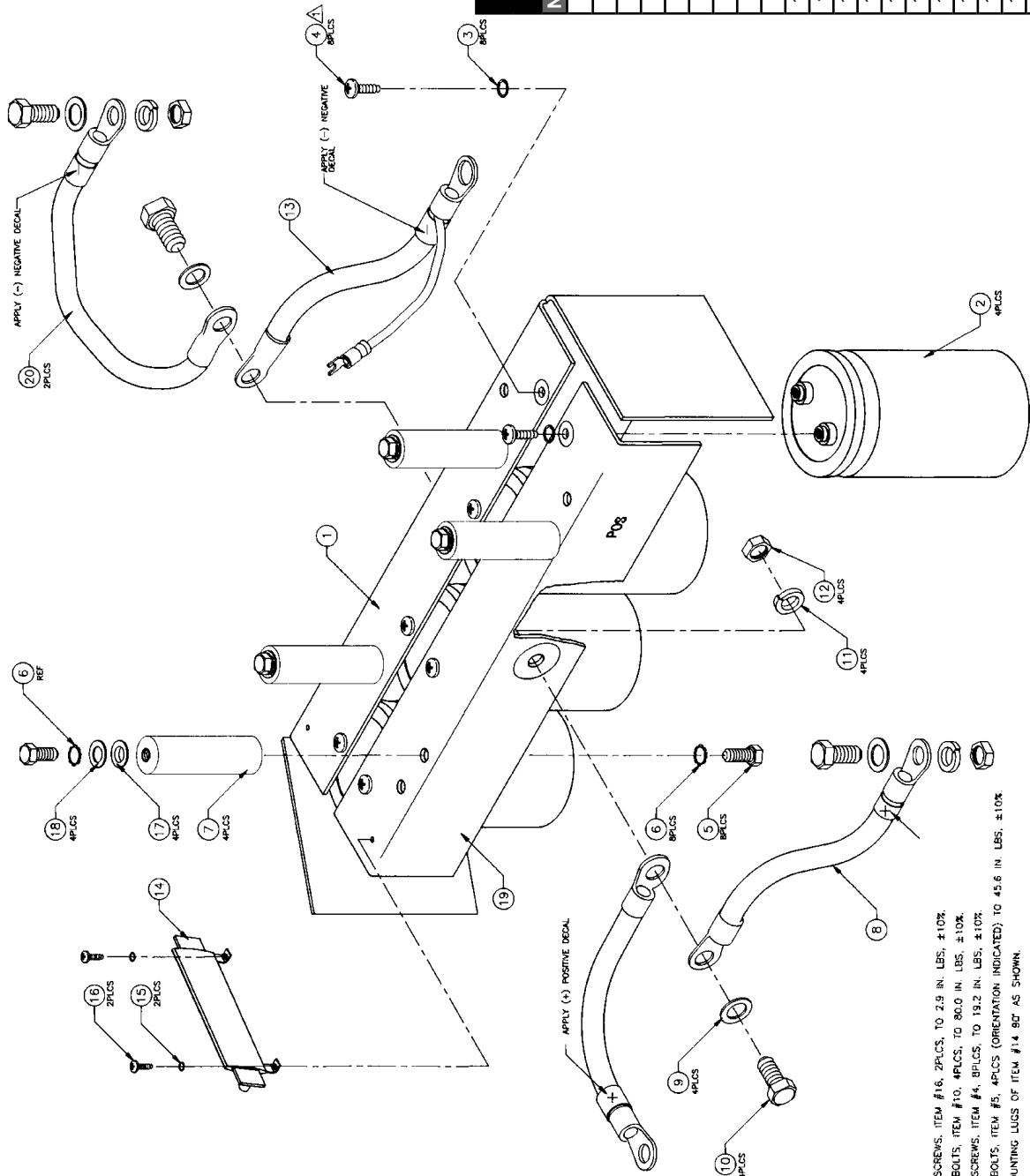
Back Panel Assembly 003-2130			
No.	Qty.	P/N	Description
1	1	438-0073	Paint Back panel CV-260
2	2	351-0089	Thread Insert #10-32
3	1	351-0100	Bushing Snap 02.0 Hole
4	1	435-1499	Bracket Gas Tank
5	4	327-0115	Scr Hex Sht Mtl #14-12 x 1/2"
6	1	411-0165	Strain Relief Cable

Deck Assembly 003-2132a

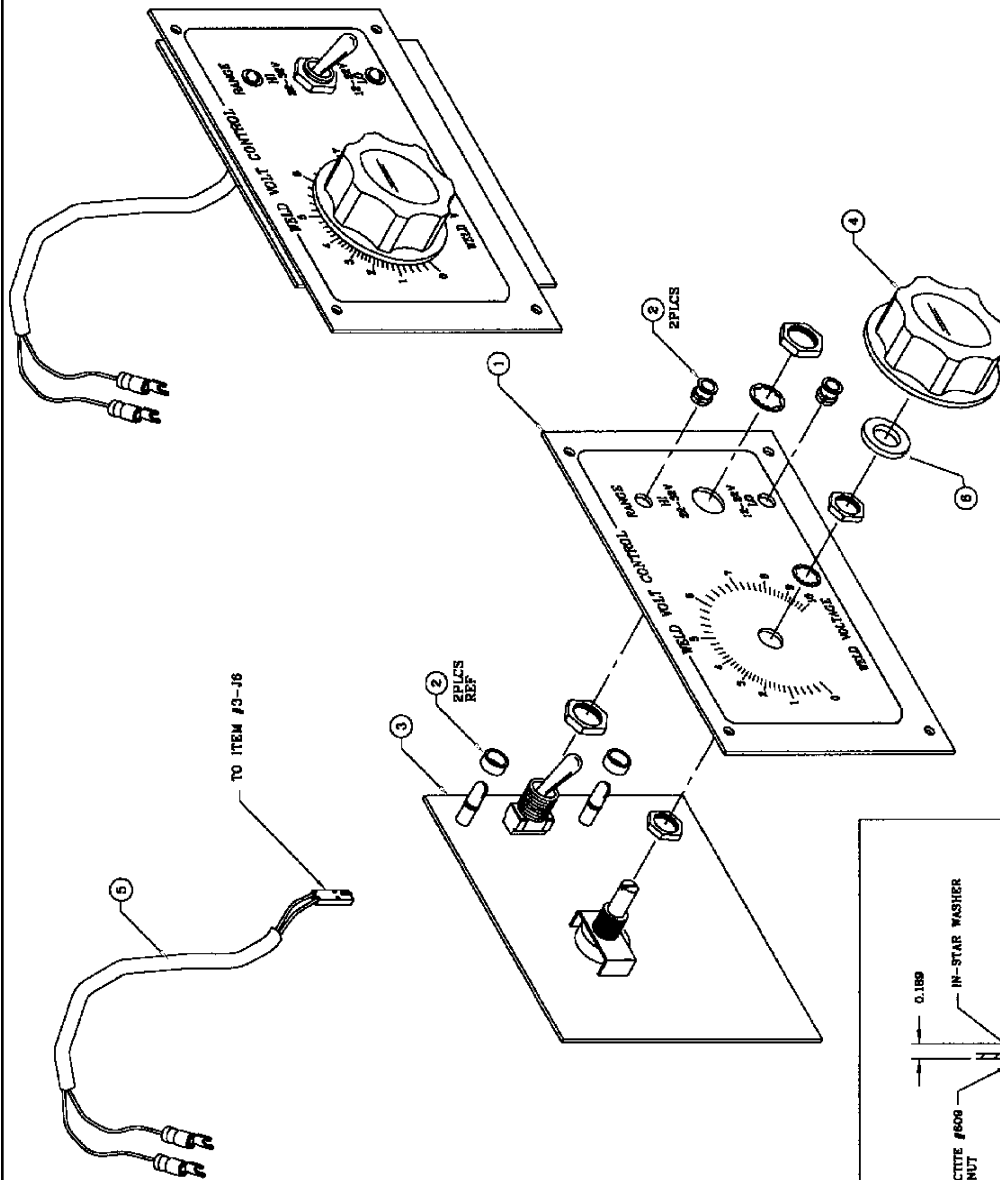
No.	Qty.	P/N	Description
1	1	438-0072	Paint Deck CV-260
2	1	438-0070	Paint Mid-Plate Assy.
3	4	329-0002	Scr Hex 1/4-20 x 5/8
4	1	261-0510	Spool Insulator
5	1	003-2078	Assy Slave Motor 115V
6	4	333-0009	Washer Spring Loc 01/4 ID
7	1	438-0044	Paint Panel Access Triac CV-260
8	1	329-0208	Scr Hex 3/8 -16 x 1.0
9	0.50ft	261-0505	Trim Protection Edge
10	1	003-0784	Assy Pawl Ratchet
11	1	003-2146	Assy Spindle CB
12	6	351-0086	Insert Thread #6-32
13	4	331-0002	Washer Flat #6
14	1	003-0593	Assy Relay
15	12	333-0043	Washer Star-In #6
16	12	336-0005	Scr Ph Pl St #6-32 x 3/8
17	2	411-0186	Strap Cable
18	2	305-0042	Pop Rivet 1/8 Al.
19	1	003-2096	Assy Sol Brk 115V
20	3	336-0037	Scr Ph Pl St #6 x 1/4 T/B
21	1	419-0080	Spring Extension
22	6	342-0410	Spacer #6-32
23	1	003-1628	Assy Pcb main Cb 115V
24	1	405-0072	Decal Elec Connection
25	1	405-0929	Decal Main Pcb Connections
26	2	351-0752	Bushing Snap 01.50
27	5	327-0115	Scr Hex Sht Mtl #14 x 1/2
28	1	003-2063	Assy Power Block CB
29	1	261-0109	Insulator Power Block
30	1	435-1502	Bracket Power Block
31	2	332-0009	Washer Shoulder 01/4
32	2	331-0049	Washer Flat 01/4
33	2	329-0003	Scr Hex 1/4-20 x 3/4
34	1	405-0930	Decal Hose Connections
35	4	329-0405	Scr Hexwshrd Hi-Perf 8-32 x 3/8
36	1	405-0886	Decal Warning T13297
37	1	405-0887	Decal Warning T13470



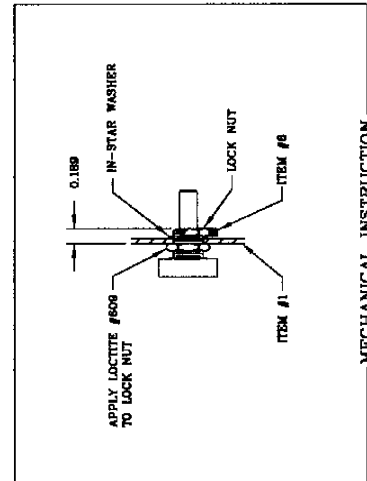
Cap Bank Assembly 003-1714D		
No.	Qty.	P/N Description
1	1	435-1062 Bracket Mounting, Minus
2	4	104-0081 Capacitor 300000uF
3	8	333-0045 Lock Washer #10 Internal Tooth
4	8	325-0225 Screw Pan Slotted #10-32x3/8
5	8	329-0001 Bolt Hex Head 1/4-20x1/2
6	8	333-0027 Lock Washer 1/4" Ext. Tooth
7	4	431-4029 Spacer Cap Bank
8	1	844-0058 Cable Jumper Positive
9	4	331-0099 Washer Flat 5/16"
10	4	329-0029 Bolt Hex Head 5/16-18 x 3/4
11	4	333-0010 Lock Washer #5/16 Slit Spring
12	4	Nut 5/16-18 Hex
13	1	844-0059 Cable Power & Posa
14	1	113-0056 Resistor 15 Ohm, 55W
15	2	333-0041 Lock Washer #4 Int-Tooth
16	2	327-0109 Scr Pan Phil T/B #4-40x1/4
17	4	332-0009 Washer 0.265ID Shoulder
18	4	331-0005 Washer Flat #1/4
19	1	435-1061 Bracket Mounting Plus
20	2	844-0084 Cable 12" Power



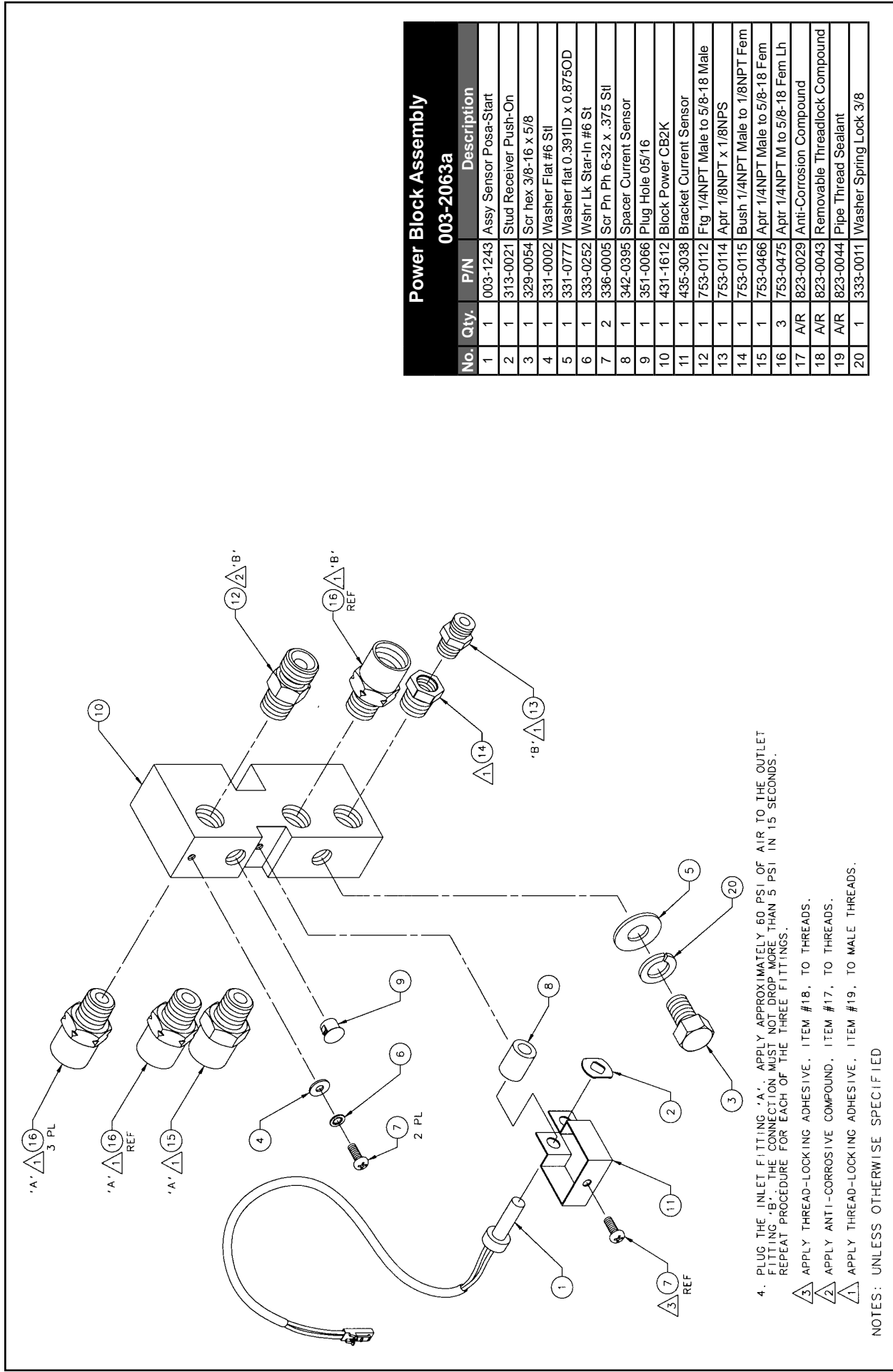
TORQUE SCREWS, ITEM #16, 2PLCS, TO 2.9 IN. LBS. ±10%
 TORQUE BOLTS, ITEM #10, 4PLCS, TO 80.0 IN. LBS. ±10%
 TORQUE SCREWS, ITEM #4, 8PLCS, TO 13.2 IN. LBS. ±10%
 TORQUE BOLTS, ITEM #5, 4PLCS (ORIENTATION INDICATED) TO 45.6 IN. LBS. ±10%
 BEND MOUNTING LUGS OF ITEM #14, 90° AS SHOWN.
 NOTES: UNLESS OTHERWISE SPECIFIED



Control Panel Assembly 003-1703			
No.	Qty.	P/N	Description
1	1	436-0045	Screened Panel
2	2	301-0023	Grommet Pnl. Led
3	1	003-1741	Pcb Control Assy.
4	1	401-0075	Knob 2.00 Dia
5	1	003-1311	Closing Contact Cable
6	1	331-0087	Washer Flat Neoprene



MECHANICAL INSTRUCTION



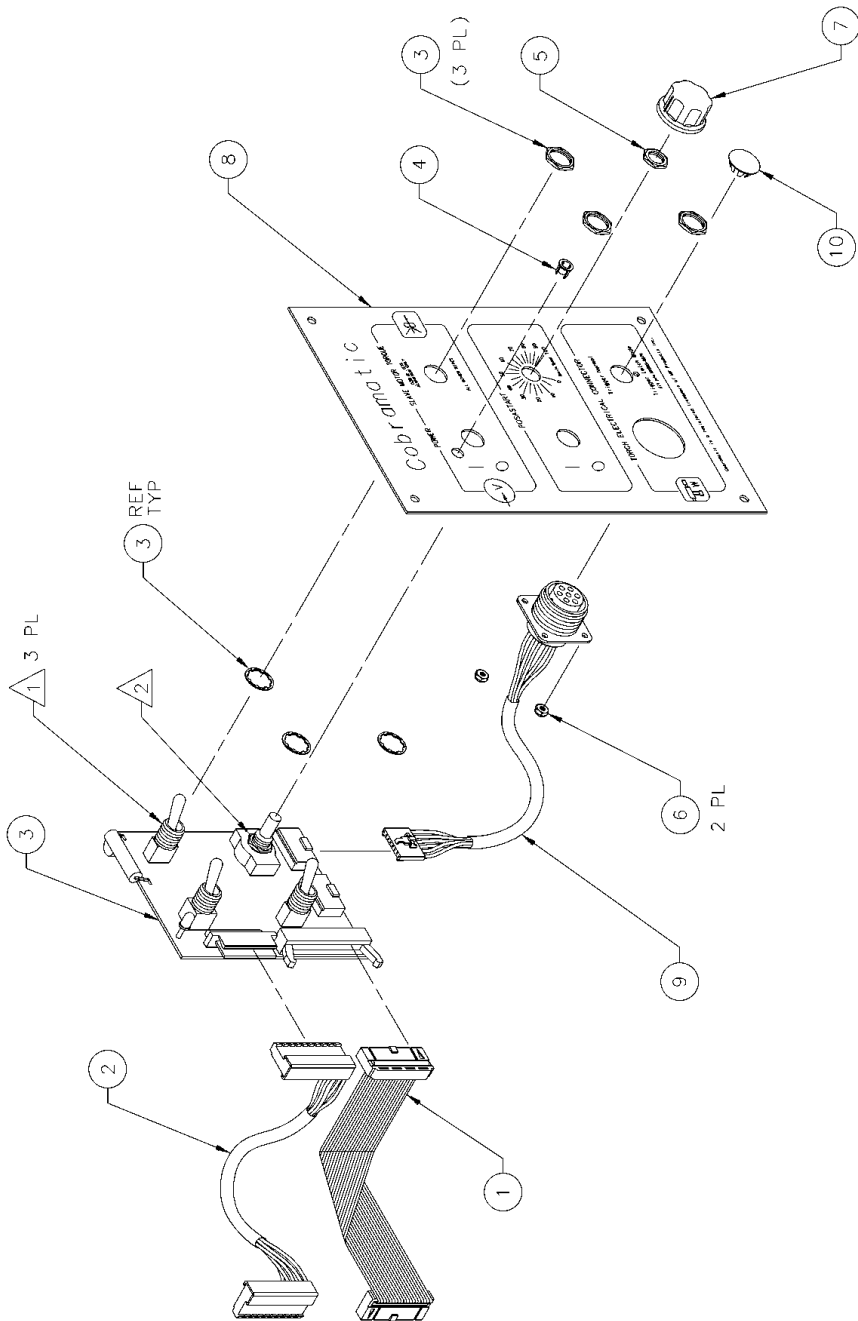
**Power Block Assembly
003-2063a**

No.	Qty.	P/N	Description
1	1	003-1243	Assy Sensor Posa-Start
2	1	313-0021	Stud Receiver Push-On
3	1	329-0054	Scr hex 3/8-16 x 5/8
4	1	331-0002	Washer Flat #6 Stl
5	1	331-0777	Washer flat 0.391ID x 0.875OD
6	1	333-0252	Wshtr Lk Star-In #6 St
7	2	336-0005	Scr Ph 6-32 x .375 Stl
8	1	342-0395	Spacer Current Sensor
9	1	351-0066	Plug Hole 05/16
10	1	431-1612	Block Power CB2K
11	1	435-3038	Bracket Current Sensor
12	1	753-0112	Fig 1/4NPT Male to 5/8-18 Male
13	1	753-0114	Aprt 1/8NPT x 1/8NPS
14	1	753-0115	Bush 1/4NPT Male to 1/8NPT Fem
15	1	753-0466	Aprt 1/4NPT Male to 5/8-18 Fem
16	3	753-0475	Aprt 1/4NPT M to 5/8-18 Fem Lh
17	A/R	823-0029	Anti-Corrosion Compound
18	A/R	823-0043	Removable Threadlock Compound
19	A/R	823-0044	Pipe Thread Sealant
20	1	333-0011	Washer Spring Lock 3/8

4. PLUG THE INLET FITTING 'A'. APPLY APPROXIMATELY 60 PSI OF AIR TO THE OUTLET FITTING 'B'. THE CONNECTION MUST NOT DROP MORE THAN 5 PSI IN 15 SECONDS. REPEAT PROCEDURE FOR EACH OF THE THREE FITTINGS.

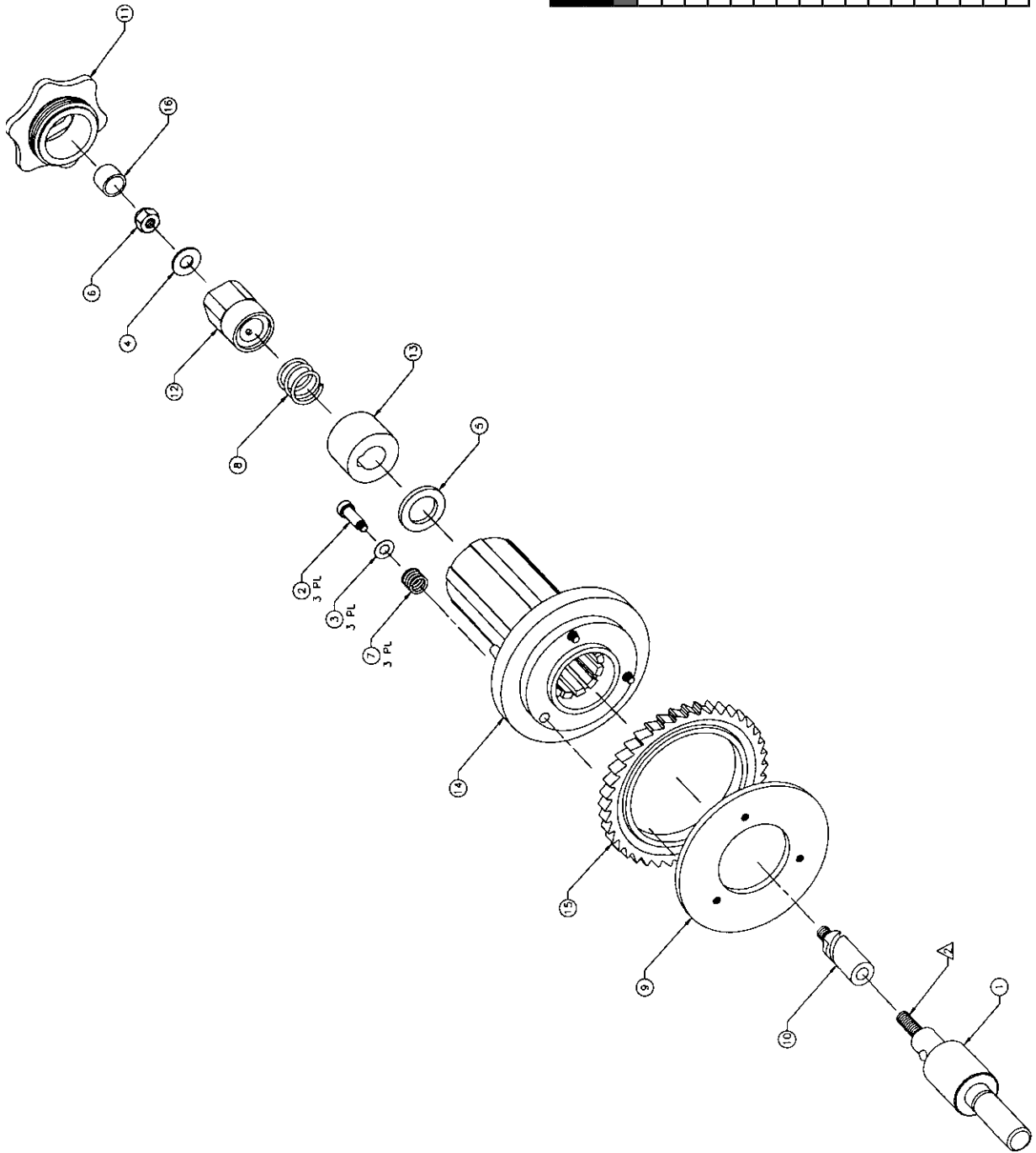
- 3. APPLY THREAD-LOCKING ADHESIVE, ITEM #18, TO THREADS.
- 2. APPLY ANTI-CORROSION COMPOUND, ITEM #17, TO THREADS.
- 1. APPLY THREAD-LOCKING ADHESIVE, ITEM #19, TO MALE THREADS.

NOTES: UNLESS OTHERWISE SPECIFIED



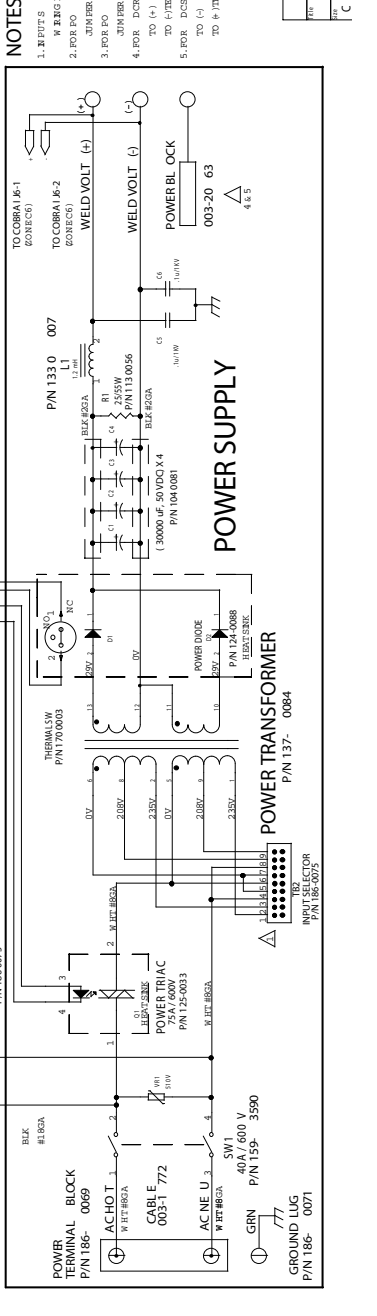
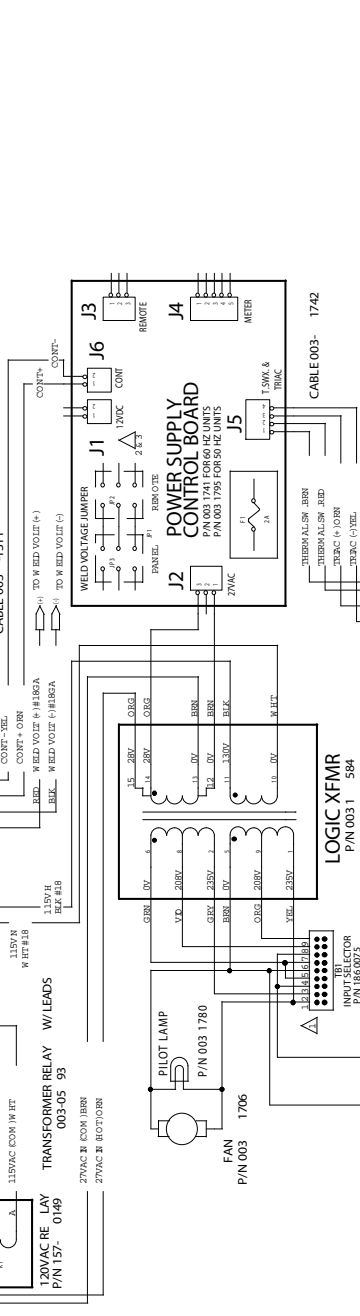
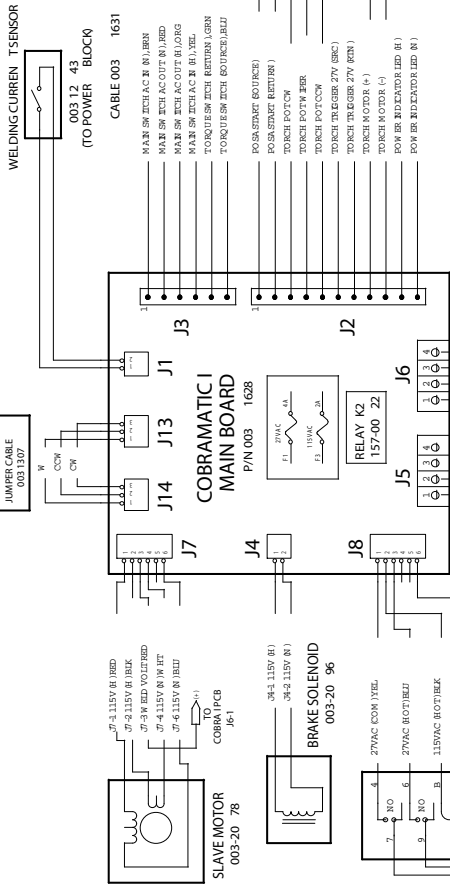
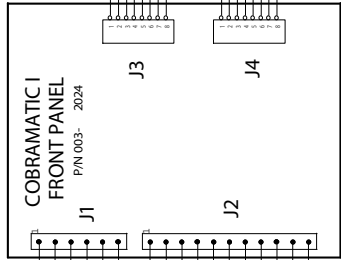
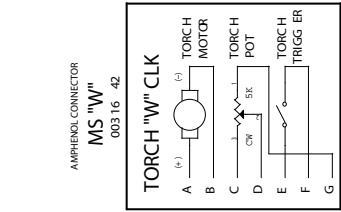
42 VAC Front Panel Assembly
003-2110b

No.	Qty.	P/N	Description
1	1	003-1332	Assy Cbl Rbn 26c
2	1	003-1631	Cable Power Assy.
3	1	003-2024	Assy Pcb Fr Pnl CB 110V
4	1	301-0023	Grommet Panel Mount
5	1	341-0050	Nut 3/8-32 St
6	2	345-0004	Nut Hex Lock 4-40
7	1	401-0012	Knob 01.0 Blk
8	1	436-0144	SS Pnl Fr Cobramatic
9	1	003-1642	Assy Con 7P "w" CB
10	1	351-0835	Snap Btn 01/2 Hole Blk



Spindle Assembly 003-2146		
No.	Qty.	P/N Description
1	1	003-2139 Assy Bearing Spindle
2	3	330-3063 Scr Shldr Mod .25 x .63 10-24
3	3	331-0063 Wshr Fit .355 x .505
4	1	331-0095 Wshr Fit 11/32 x 3/4 Sst
5	1	331-0313 Wshr Leather .75ID x .125 Thk
6	1	345-0018 Nut Hex Lock 5/16-18 St
7	3	419-0059 Spg Comp .468 x .437 x .056
8	1	419-0095 Spg Comp .85 x .69 x .75
9	1	431-1266 Plate Back-up Ring
10	1	431-3726 Adapter Spiral Spindle
11	1	437-0258 Retainer Spool Spindle
12	1	437-0259 Knob Tension Spindle
13	1	437-0260 Spacer Spindle
14	1	437-0645 Spindle
15	1	723-0059 Disk Ratchet Brake
16	1	751-0018 Cap .5 Lg Vinyl Black
17	A/R	823-0049 Thread Locking Permanent

REV	PZONE	DESCRIPTION / DCN	APPR.	DATE
-	-	PN 1313		02/01



NOTES

- FOR P1'S SELECTOR: USE ONLY 260 IN UNIVERSAL INPUT W RING DIAGRAM
- FOR P2 W RING INPUT PANEL VOLTAGE CONTROL, JUMPER SET TO #3
- FOR P3 W RING INPUT 0V OR VOLTAGE CONTROL, JUMPER SET TO #2
- FOR DCSE, PLEGS FEEDBACK BLOCK TO (-) TERM BALANCED OR GROUND CLAMP TO (-) TERM BALL
- FOR DCSE, PLEGS FEEDBACK BLOCK TO (-) TERM BALANCED OR GROUND CLAMP TO (-) TERM BALL

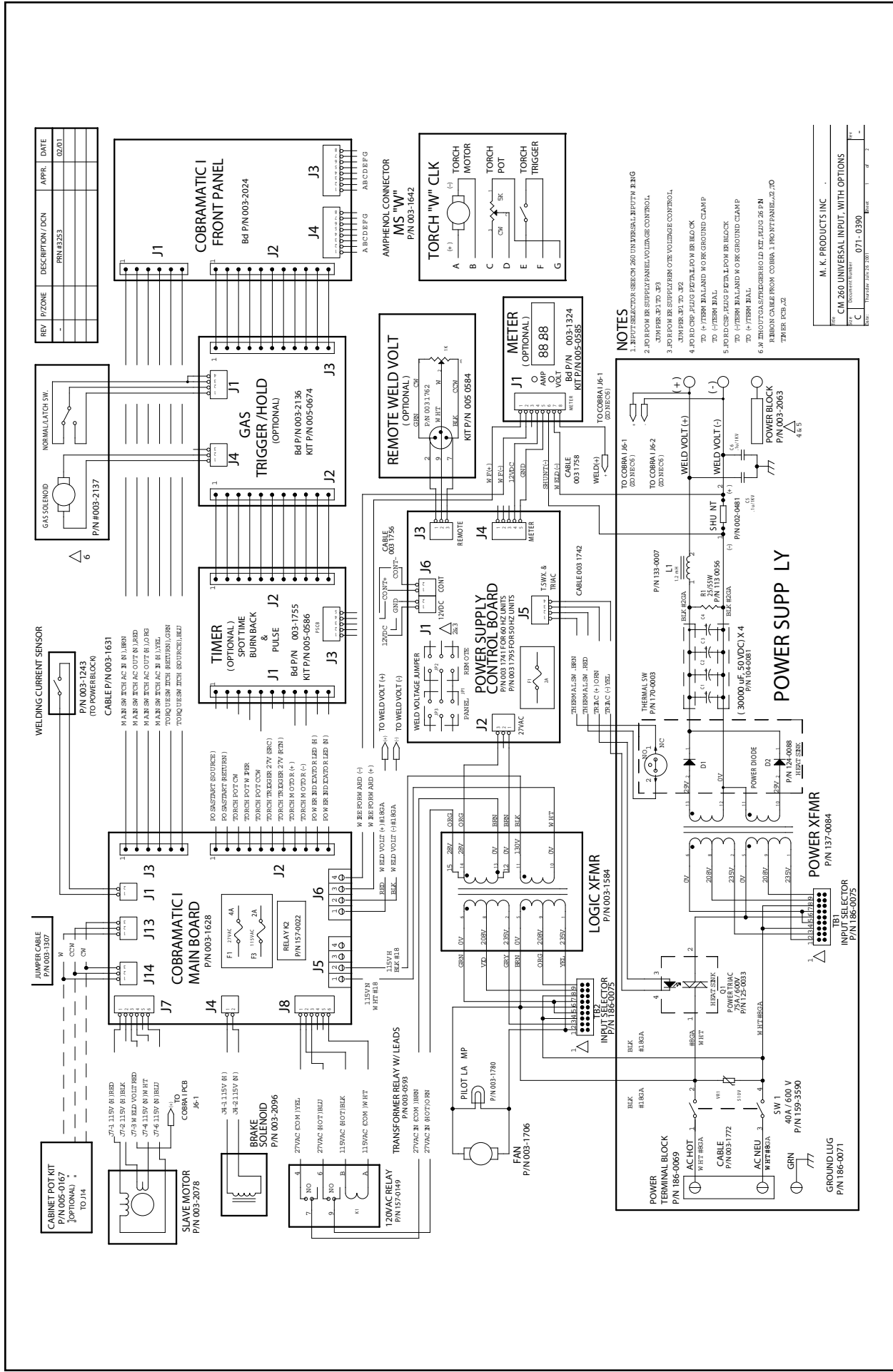
REV	DESCRIPTION / DCN	APPR.	DATE
-	PN 1313		02/01

REV	DESCRIPTION / DCN	APPR.	DATE
-	PN 1313		02/01

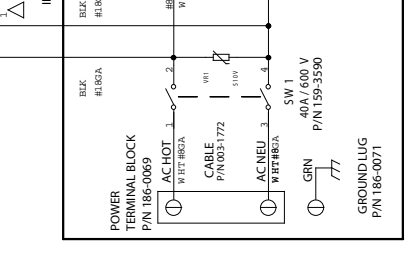
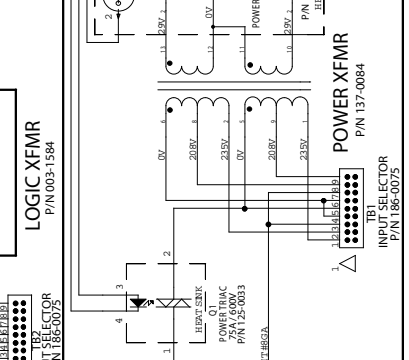
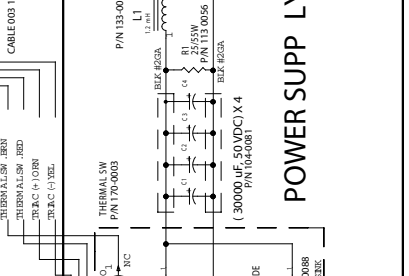
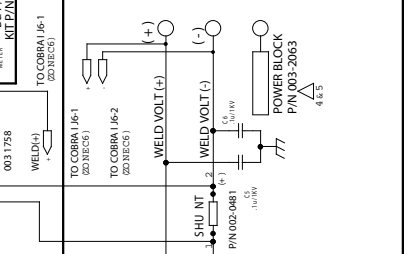
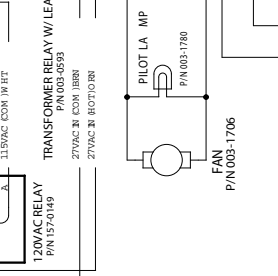
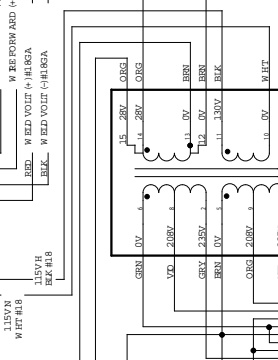
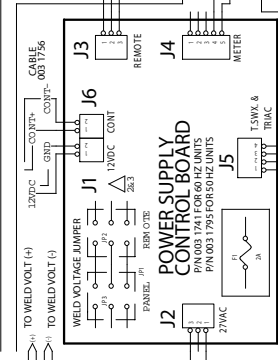
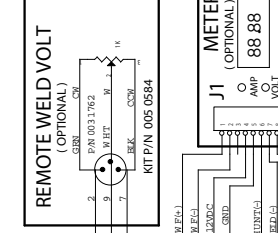
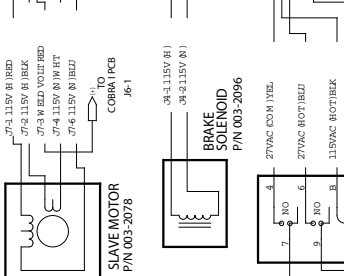
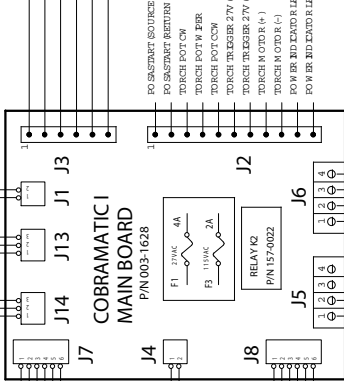
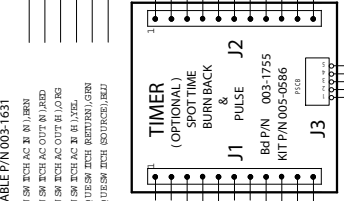
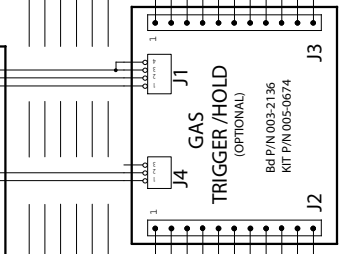
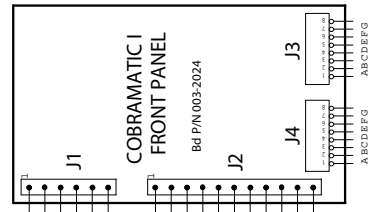
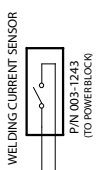
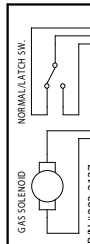
REV	DESCRIPTION / DCN	APPR.	DATE
-	PN 1313		02/01

REV	DESCRIPTION / DCN	APPR.	DATE
-	PN 1313		02/01

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-	PN 1313		02/01

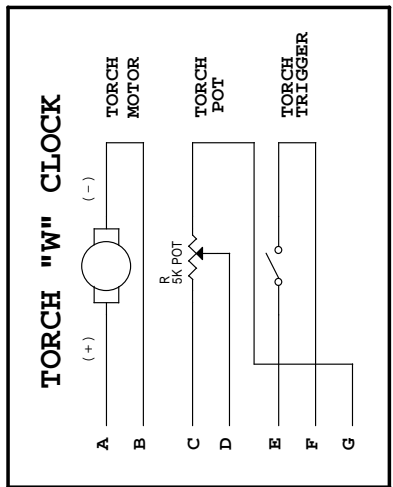
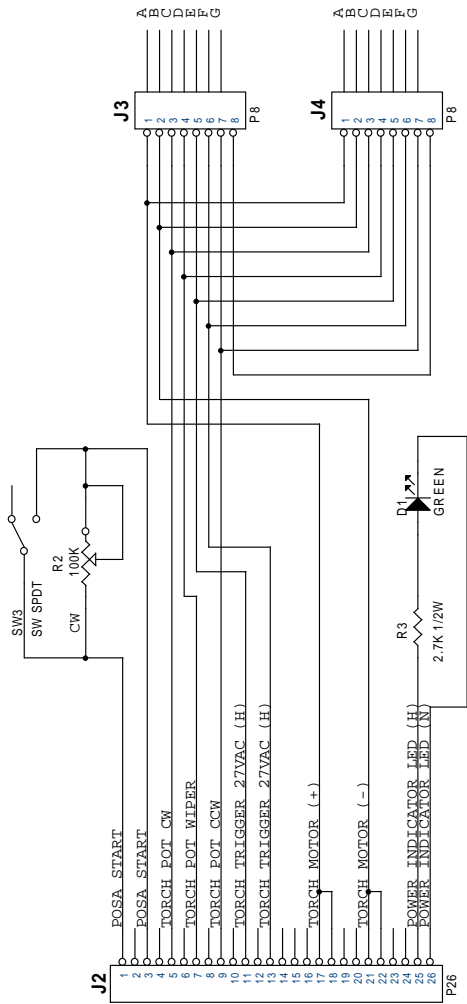
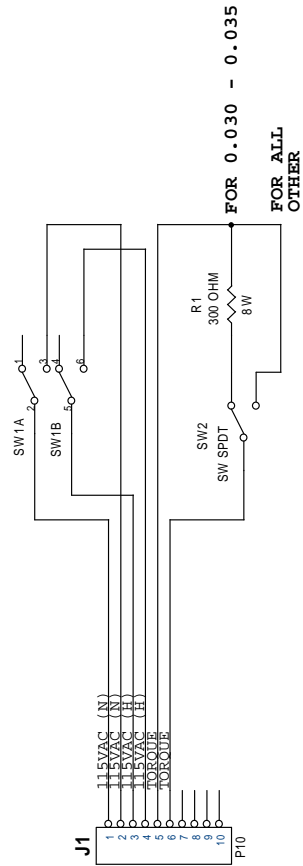


REV	P/ZONE	DESCRIPTION / DCN	APPR.	DATE
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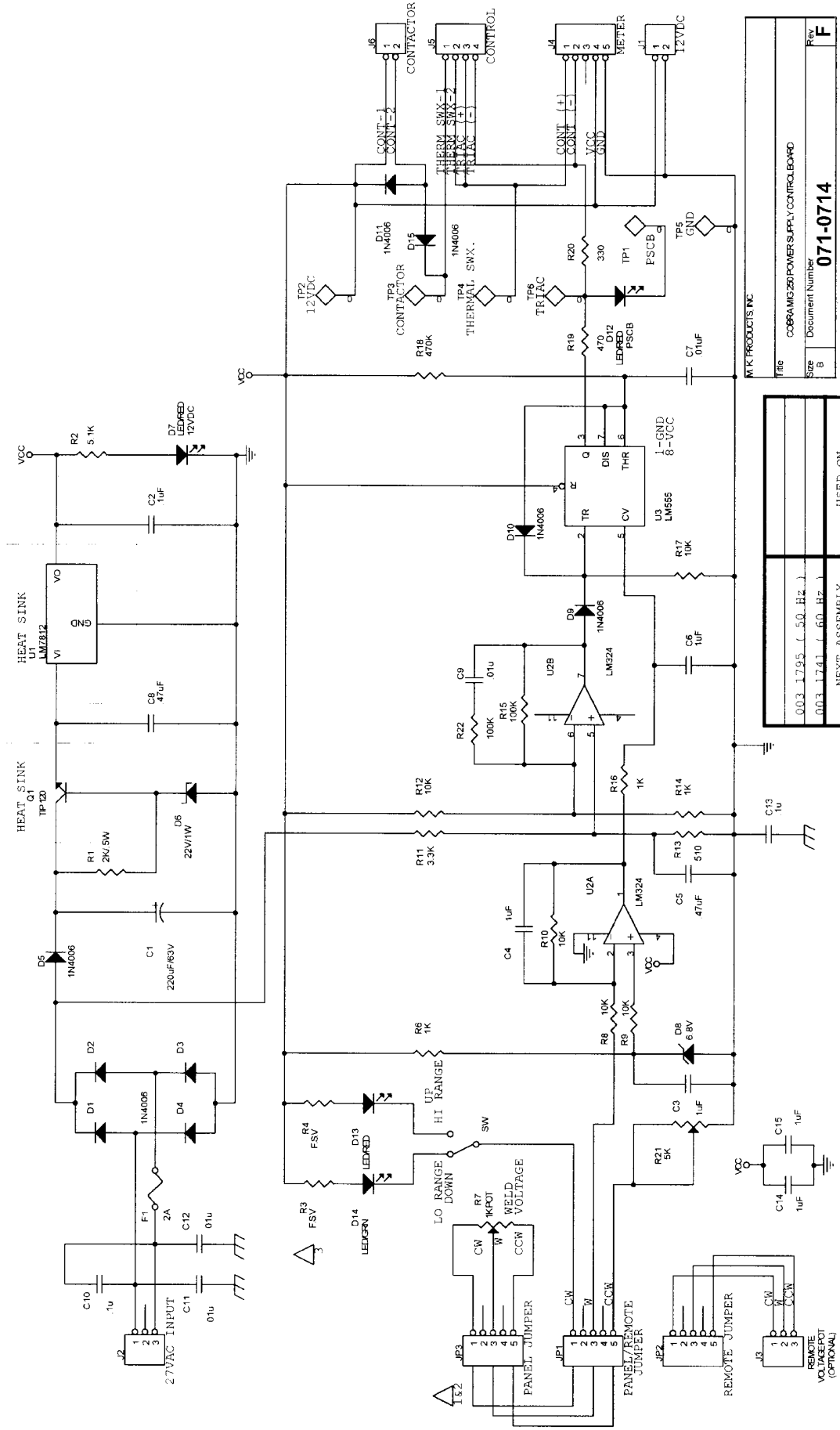


- NOTES**
1. INPUT SELECTOR: USE ON 260 UNLESS INPUT W/ FLAG
 2. 40 RPOW BR SUPPLY PANEL VOLTAGE CONTROL. UNLESS J3 TO J3
 3. 40 RPOW BR SUPPLY REMOTE VOLTAGE CONTROL. UNLESS J3 TO J2
 4. 40 RPOW BR SUPPLY REMOTE VOLTAGE CONTROL TO (+) TERM. BLOCK W/ OR GROUND CLAMP TO (-) TERM. BLOCK
 5. 40 RPOW BR SUPPLY REMOTE VOLTAGE CONTROL TO (+) TERM. BLOCK W/ OR GROUND CLAMP TO (-) TERM. BLOCK
 6. INPUT GAS/REGULATOR KIT. REG. 26 EM REMOTE CABLE FROM COBRA 1 PRODUCT PANEL. 20 TERM. PCB. 22

PRN	M. K. PRODUCTS INC.
CM	260 UNIVERSAL INPUT, WITH OPTIONS
REV	001
DCN	071-0390
DATE	11/12/12



- △ NOTES:
1. FOR POWER SUPPLY PANEL VOLTAGE CONTROL, JUMPER JP1 TO JP3.
 2. FOR REMOTE VOLTAGE CONTROL, JUMPER JP1 TO JP2.
 3. FOR POWER SUPPLY REMOTE VOLTAGE CONTROL, JUMPER JP1 TO JP2.
- △ AT 50 Hz, LO RANGE Toff (max) IS 3.3ms
 △ AT 60 Hz, LO RANGE Toff (max) IS 2.3ms



M.K. PRODUCTS INC.	
Title	COBRAMIG 260 POWER SUPPLY CONTROL BOARD
Size	Document Number
8	071-0714
Rev	F

NEXT ASSEMBLY	
003 1795 (50 Hz)	15271 PM
003 1741 (60 Hz)	

			
WARNING	<ul style="list-style-type: none"> Do not touch electrically live parts or electrode with skin or wet clothing. Insulate yourself from work and ground. 	<ul style="list-style-type: none"> Keep flammable materials away. 	<ul style="list-style-type: none"> Wear eye, ear and body protection.
Spanish AVISO DE PRECAUCION	<ul style="list-style-type: none"> No toque las partes o los electrodos bajo carga con la piel o ropa mojada. Aíslese del trabajo y de la tierra. 	<ul style="list-style-type: none"> Mantenga el material combustible fuera del área de trabajo. 	<ul style="list-style-type: none"> Protéjase los ojos, los oídos y el cuerpo.
French ATTENTION	<ul style="list-style-type: none"> Ne laissez ni la peau ni des vêtements mouillés entrer en contact avec des pièces sous tension. Isolez-vous du travail et de la terre. 	<ul style="list-style-type: none"> Gardez à l'écart de tout matériel inflammable. 	<ul style="list-style-type: none"> Protégez vos yeux, vos oreilles et votre corps.
German WARNUNG	<ul style="list-style-type: none"> Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder feuchter Kleidung! Isolieren Sie sich von den Elektroden und dem Erdboden! 	<ul style="list-style-type: none"> Entfernen Sie brennbares Material! 	<ul style="list-style-type: none"> Tragen Sie Augen-, Ohren- und Körperschutz!
Portuguese ATENÇÃO	<ul style="list-style-type: none"> Não toque partes elétricas e electrodos com a pele ou roupa molhada. Isole-se da peça e terra. 	<ul style="list-style-type: none"> Mantenha inflamáveis bem guardados. 	<ul style="list-style-type: none"> Use proteção para a vista, ouvido e corpo.
Japanese 注意事項	<ul style="list-style-type: none"> ● 通電中の電気部品、又は溶材にヒフやぬれた布で触れないこと。 ● 施工物やアースから身体が絶縁されている様にして下さい。 	<ul style="list-style-type: none"> ● 燃えやすいものの側での溶接作業は絶対にしてはなりません。 	<ul style="list-style-type: none"> ● 目、耳及び身体に保護具をして下さい。
Chinese 警告	<ul style="list-style-type: none"> ● 皮肤或湿衣物切勿接触带电部件及焊缝。 ● 使你自已与地面和工件绝缘。 	<ul style="list-style-type: none"> ● 把一切易燃物品移离工作场所。 	<ul style="list-style-type: none"> ● 佩戴眼、耳及身体劳动保护用具。
Korean 위험	<ul style="list-style-type: none"> ● 전도체나 용접봉을 젖은 헝겍 또는 피부로 절대 접촉치 마십시오. ● 모재와 접지를 접촉치 마십시오. 	<ul style="list-style-type: none"> ● 인화성 물질을 접근 시키지 마십시오. 	<ul style="list-style-type: none"> ● 눈, 귀와 몸에 보호장구를 착용하십시오.
Arabic تحذير	<ul style="list-style-type: none"> ● لا تلمس الأجزاء التي يسري فيها التيار الكهربائي أو الألكترود بجند الجسم أو بالملابس المبللة بالماء. ● ضع عازلا على جسمك خلال العمل. 	<ul style="list-style-type: none"> ● ضع المواد القابلة للاشتعال في مكان بعيد. 	<ul style="list-style-type: none"> ● ضع أدوات وملابس واقية على عينيك وأذنيك وجسمك.

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

SE RECOMIENDA LEER Y ENTENDER LAS INSTRUCCIONES DEL FABRICANTE PARA EL USO DE ESTE EQUIPO Y LOS CONSUMIBLES QUE VA A UTILIZAR, SIGA LAS MEDIDAS DE SEGURIDAD DE SU SUPERVISOR.

LISEZ ET COMPRENEZ LES INSTRUCTIONS DU FABRICANT EN CE QUI REGARDE CET EQUIPMENT ET LES PRODUITS A ETRE EMPLOYES ET SUIVEZ LES PROCEDURES DE SECURITE DE VOTRE EMPLOYEUR.

LESEN SIE UND BEFOLGEN SIE DIE BETRIEBSANLEITUNG DER ANLAGE UND DEN ELEKTRODENEINSATZ DES HERSTELLERS. DIE UNFALLVERHÜTUNGSVORSCHRIFTEN DES ARBEITGEBERS SIND EBENFALLS ZU BEACHTEN.

			
<ul style="list-style-type: none"> • Keep your head out of fumes. • Use ventilation or exhaust to remove fumes from breathing zone. 	<ul style="list-style-type: none"> • Turn power off before servicing. 	<ul style="list-style-type: none"> • Do not operate with panel open or guards off. 	WARNING
<ul style="list-style-type: none"> • Los humos fuera de la zona de respiración. • Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases. 	<ul style="list-style-type: none"> • Desconectar el cable de alimentación de poder de la máquina antes de iniciar cualquier servicio. 	<ul style="list-style-type: none"> • No operar con panel abierto o guardas quitadas. 	Spanish AVISO DE PRECAUCION
<ul style="list-style-type: none"> • Gardez la tête à l'écart des fumées. • Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail. 	<ul style="list-style-type: none"> • Débranchez le courant avant l'entretien. 	<ul style="list-style-type: none"> • N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés. 	French ATTENTION
<ul style="list-style-type: none"> • Vermeiden Sie das Einatmen von Schweißrauch! • Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes! 	<ul style="list-style-type: none"> • Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öffnen; Maschine anhalten!) 	<ul style="list-style-type: none"> • Anlage nie ohne Schutzgehäuse oder Innenschutzverkleidung in Betrieb setzen! 	German WARNUNG
<ul style="list-style-type: none"> • Mantenha seu rosto da fumaça. • Use ventilação e exaustão para remover fumo da zona respiratória. 	<ul style="list-style-type: none"> • Não opere com as tampas removidas. • Desligue a corrente antes de fazer serviço. • Não toque as partes elétricas nuas. 	<ul style="list-style-type: none"> • Mantenha-se afastado das partes moventes. • Não opere com os painéis abertos ou guardas removidas. 	Portuguese ATENÇÃO
<ul style="list-style-type: none"> ● ヒュームから顔を離すようにして下さい。 ● 換気や排煙に十分留意して下さい。 	<ul style="list-style-type: none"> ● メンテナンス・サービスに取りかかる際には、まず電源スイッチを必ず切して下さい。 	<ul style="list-style-type: none"> ● パネルやカバーを取り外したまま機械操作をしないで下さい。 	Japanese 注意事項
<ul style="list-style-type: none"> ● 頭部遠離煙霧。 ● 在呼吸區使用通風或排風器除煙。 	<ul style="list-style-type: none"> ● 維修前切斷電源。 	<ul style="list-style-type: none"> ● 儀表板打開或沒有安全罩時不準作業。 	Chinese 警告
<ul style="list-style-type: none"> ● 얼굴로부터 용접가스를 멀리하십시오. ● 호흡지역으로부터 용접가스를 제거하기 위해 가스제거기나 통풍기를 사용하십시오. 	<ul style="list-style-type: none"> ● 보수전에 전원을 차단하십시오. 	<ul style="list-style-type: none"> ● 판넬이 열린 상태로 작동치 마십시오. 	Korean 위험
<ul style="list-style-type: none"> ● ابعء رأسك بعيداً عن الدخان. ● استعمل التهوية أو جهاز ضغط الدخان للخارج لكي تبعد الدخان عن المنطقة التي تتنفس فيها. 	<ul style="list-style-type: none"> ● اقطع التيار الكهربائي قبل القيام بأية صيانة. 	<ul style="list-style-type: none"> ● لا تشغيل هذا الجهاز اذا كانت الاغطية الحديدية الواقية ليست عليه. 	Arabic تحذير

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

使う機械や溶材のメーカーの指示書をよく読み、まず理解して下さい。そして貴社の安全規定に従って下さい。

請詳細閱讀並理解製造廠提供的說明以及應該使用的銀焊材料，並請遵守貴方的有關勞動保護規定。

이 제품에 동봉된 작업지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다.

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

LIMITED WARRANTY

Effective March 1, 2001

This warranty supersedes all previous MK Products warranties and is exclusive, with no other guarantees or warranties expressed or implied.

LIMITED WARRANTY - MK Products, Inc., Irvine, California warrants that all new and unused equipment furnished by MK Products is free from defect in workmanship and material as of the time and place of delivery by MK Products. No warranty is made by MK Products with respect to trade accessories or other items manufactured by others. Such trade accessories and other items are sold subject to the warranties of their respective manufacturers, if any.

MK Products' warranty does not apply to components having normal useful life of less than one (1) year, such as relay points, wire conduit, tungsten, and welding torch parts that come in contact with the welding wire, including nozzles, nozzle insulators, and contact tips where failure does not result from defect in workmanship or material.

In the case of MK Products' breach of warranty or any other duty with respect to the quality of any goods, the exclusive remedies therefore shall be at MK Products' option: **(1)** repair; **(2)** replacement; **(3)** where authorized in writing by MK Products, the reasonable cost of repair or replacement at our Irvine, California plant; or **(4)** payment of or credit for the purchase price (less reasonable depreciation based upon actual use) upon return of the goods at customer's risk and expense. Upon receipt of notice of apparent defect or failure, MK Products shall instruct the claimant on the warranty claim procedures to be followed.

As a matter of general policy only, MK Products may honor an original user's warranty claims on warranted equipment in the event of failure resulting from a defect within the following periods from the date of delivery of equipment to the original user:

1. Torches, Weldheads & Water Recirculators 1 year
2. All Other Equipment..... 3 years
3. Repairs 90 days

Classification of any item into the foregoing categories shall be at the sole discretion of MK Products. Notification of any failure must be made in writing within 30 days of such failure.

A copy of the invoice showing the date of sale must accompany products returned for warranty repair or replacement.

All equipment returned to MK Products for service must be properly packaged to guard against damage from shipping. MK Products will not be responsible for any damages resulting from shipping.

Normal surface transportation charges (both ways) for products returned for warranty repair or replacement will be borne by MK Products, except for products sold to foreign markets.

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DATE : March 1, 2001



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