



CobraMig[®] 300

Owner's Manual

Product:	CobraMIG 300
Manual:	091-0711
Serial:	1601 0001
Voltage Req'd:	240VAC-1PH, or 480VAC-1PH
Revision:	-A-
Model Number:	187-001



**CobraMig 300
Power Supply/
Detachable Wire Feeder**

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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.

Introduction

Thank you for purchasing what we believe is the best built wire feeder/power supply on the market. MK Products is family owned, operated and has been the leader in aluminum push/pull technology for the past 50 years.

This manual details the installation of your CobraMig 300. Properly installed, adjusted, and maintained, it will prove to be a reliable welding system producing consistent uniform welds for years to come.

The CobraMig 300 unit consists of a single-phase constant voltage (CV) power supply with a removable push-pull wire feeder and controls. This unit is directly compatible with all of MK Products 14 pin X-Series digital push-pull guns or our 7 pin "W" clocked analog guns using an adapter kit (005-0784). In order to assure optimum performance of your CobraMig 300, familiarize yourself with the contents of this manual, and carefully follow all instructions.

This manual will not only guide you in installing your CobraMig 300, but will also be a handy reference for optional items, replacement parts, and consumables.

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.

Visit our website for a digital copy of this manual, www.mkprod.com.

Section A

Installation

Technical Specifications

Wire Diameter Capacity

-.030" - 1/16" (0.8mm - 1.6mm) aluminum wire

-.030" - .045" (0.8mm - 1.2mm) solid or flux-cored steel and stainless steel wire

Wire Capacity

-12" Diameter Spool

-Bulk Wire Drum using optional adapter kit 005-0786

Power Input

-240 VAC 60Hz, 50A, Single Phase

-480 VAC 60Hz, 30A, Single Phase

Duty Cycle - 60% @:

-300A @ 30 VDC - (9.0KW), No Load 40 VDC max OCV

Weight

-245 lbs (dry), 275 lbs (shipping)

Size

-18.5"W x 34.5"H x 36"L

For use with the Following Guns

-Digital 14 pin- Python X, Cobra X, Prince X

-Analog 7 pin "W" clocked with adapter kit 005-0784- Python, Python LX, Cobra MX, Cobra Max, Cobra SX, Cobra Gold, Cobra System III, Prince, Prince XL, RoboKing

Power Supply Installation

Step 1; Out of the box

Tools needed:

- 1/2" wrench
- Phillips screw driver

Uncrate CobraMig 300:

- remove box covering welder
- remove lag bolts from rear platform holding down welder with 1/2" wrench
- remove security bracket from bottom front of welder with Phillips screwdriver
- unit will now be available to remove from shipping pallet



* 2 people are required to lift welder from shipping pallet (approx. 250 lbs.)

DO NOT use handle on top for lifting

Permanent damage or serious injury may occur *

Refer to tag to designate how your unit is wired. If you find it necessary to change the input voltage see page 9, Input Voltage Setup.



VOLTAGE	240
PHASE	SINGLE
CURRENT	50 AMPS
FREQUENCY	50 / 60 Hz
DUTY CYCLE	100% @ 225 AMPS 60% @ 300 AMPS



VOLTAGE	480
PHASE	SINGLE
CURRENT	30 AMPS
FREQUENCY	50 / 60 Hz
DUTY CYCLE	100% @ 225 AMPS 60% @ 300 AMPS

WARNING

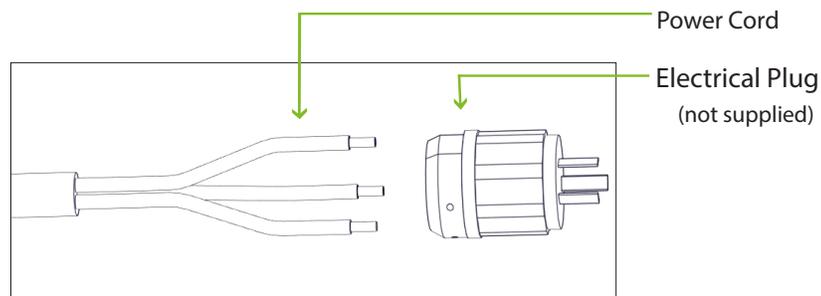
Turn OFF input power using the disconnect switch at the fuse box before working on equipment. Install equipment in accordance with the U.S National Electrical Code, all local codes and the manufacturer's recommendations. A fused line disconnect switch should be installed in the input circuit to the unit. Failure to comply with this warning can result in serious injury or death

Conductor and Fuse Guide			
Line Voltage	Approx. Line Fuse Rating	Copper Line Wire Size Ga.	Copper Grounding Conductor Min. Size Ga.
240	50 Amp	No. 8	No. 8
480	30 Amp	No. 8	No. 8



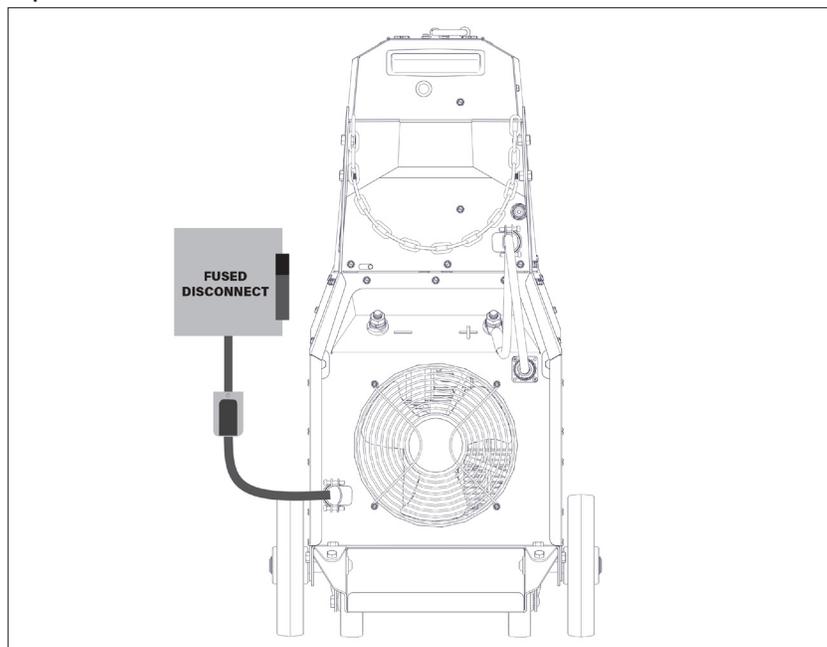
Step 2: Single Phase Electrical Plug

Wire an appropriate electrical plug to the provided power cord.



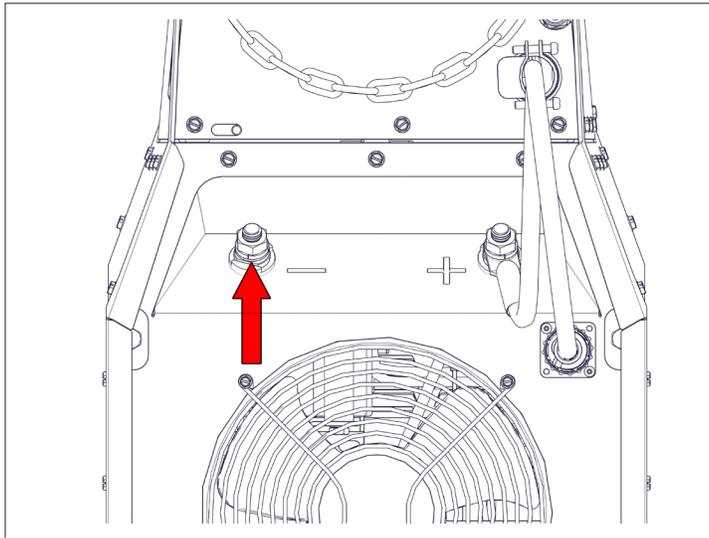
Step 3: Connect to Power

Plug the welder power cord into a single phase fused power outlet.



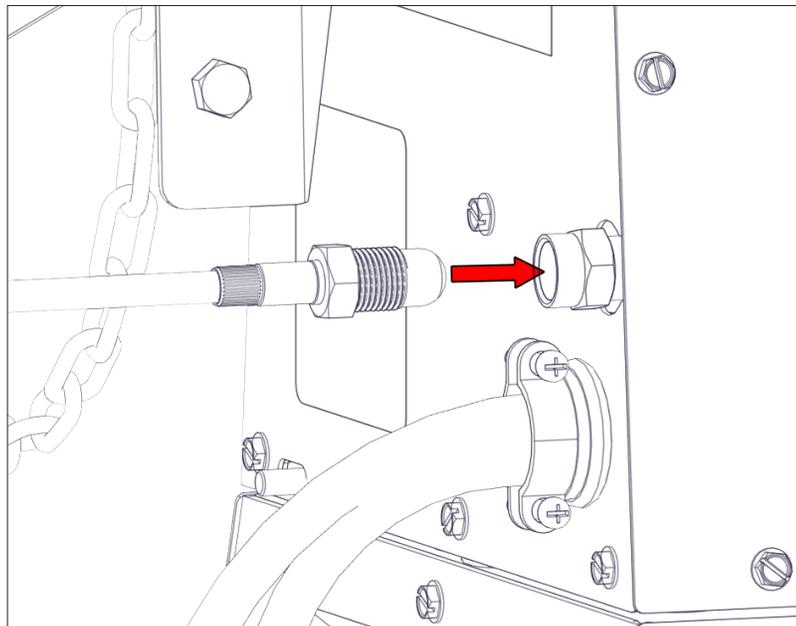
Step 4: Ground Cable

Attach a ground cable to the negative post on the back of the power supply.



Step 5: Inlet Gas Connection

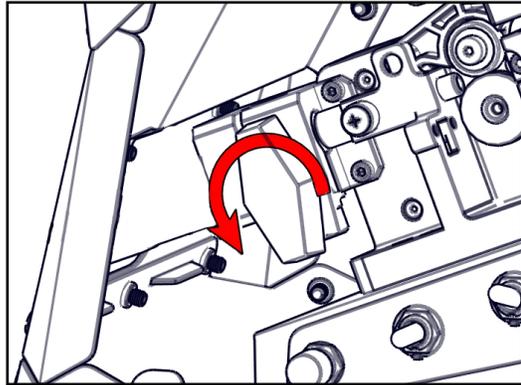
Connect a regulator/flowmeter and gas line to the inlet in the back of the wire feeder, typically set to 20-30 CFH.



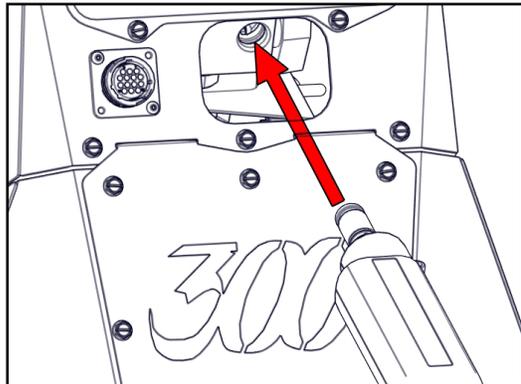
Gun Installation

Step 1. Connect Your Gun

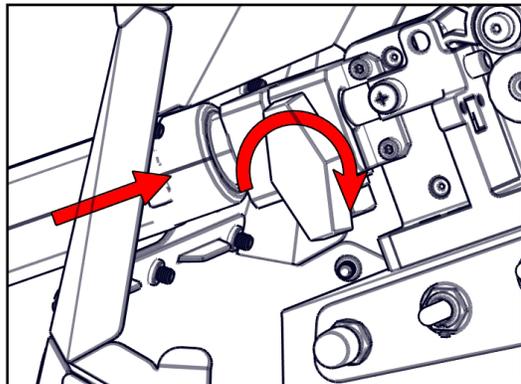
Loosen power pin connection knob.



Install power pin connection of the gun. Verify the handle orientation is correct to not interfere with the sheet metal.



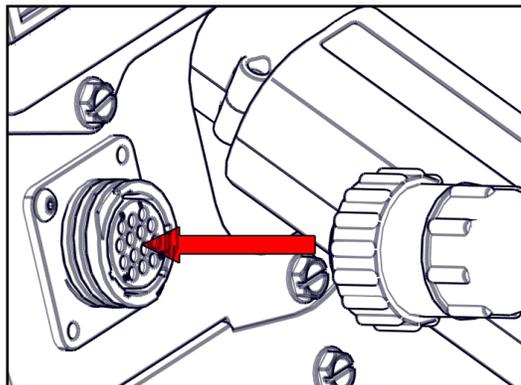
Tighten power pin connection knob



Step 2. Connect 14-pin Circular connector

Connect the 14-pin Circular connector to the front panel of wire feeder.

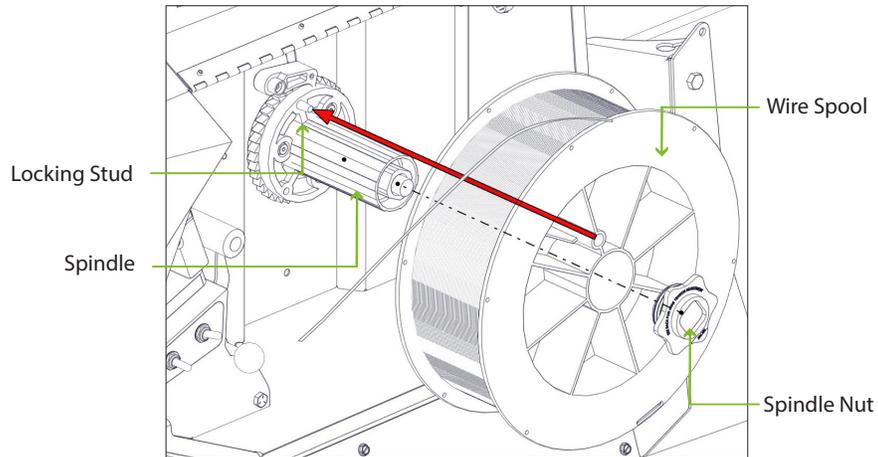
Align keys and tighten threaded collar until locked



Installing Wire Spool

Step 1: Install Wire Spool

Remove spindle nut, install spool on spindle with wire coming off the top as shown.

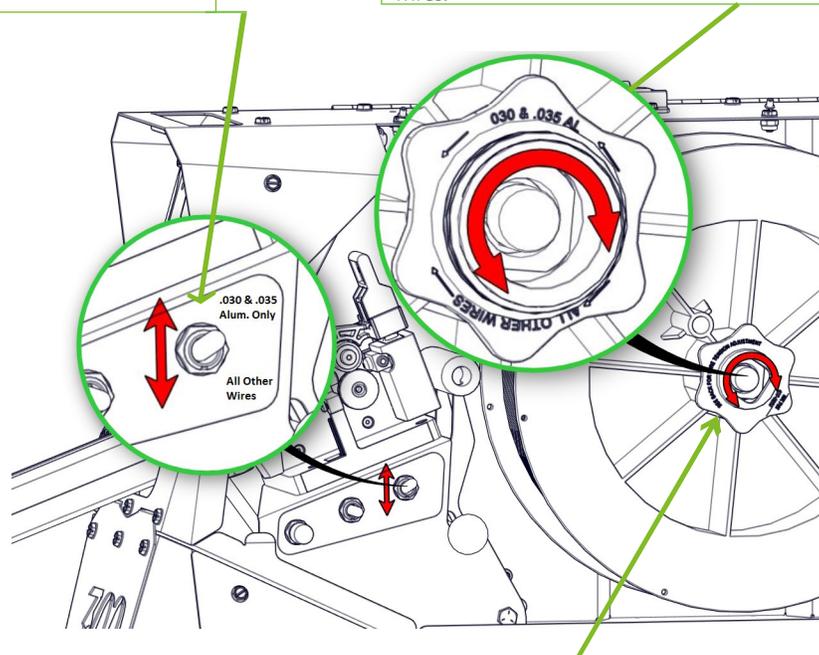


Step 2: Spool Drag, Motor Torque

Set the spindle drag and motor torque to match the wire used. This will allow for proper feeding of the wire to the gun.

To set motor torque, place toggle in 'UP' position for .030-.035 Aluminum wires and 'DOWN' for all

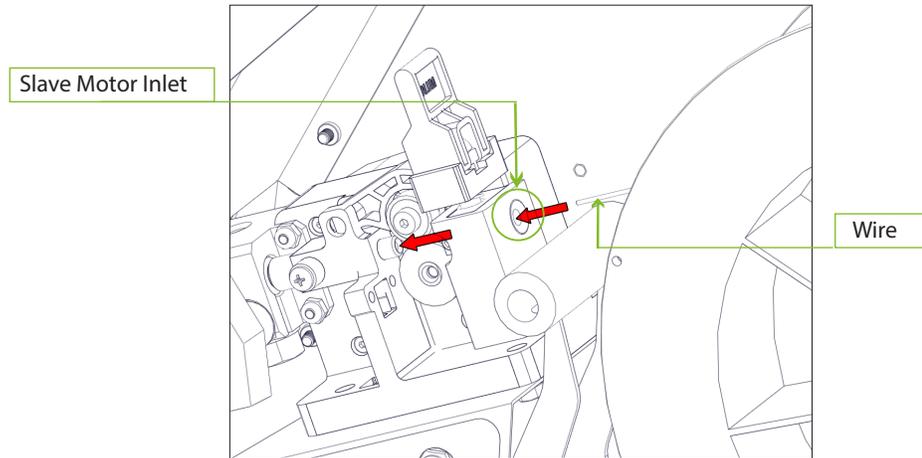
Using backside of spindle nut as a tool, place it on the spindle for rotating inner spool assembly to set tension. Rotate counter clockwise for .030 & .035 Aluminum Wire or rotate clockwise for All other wires.



After setting the tension flip the spindle nut back around and tighten it to the spindle thus locking the spool in place.

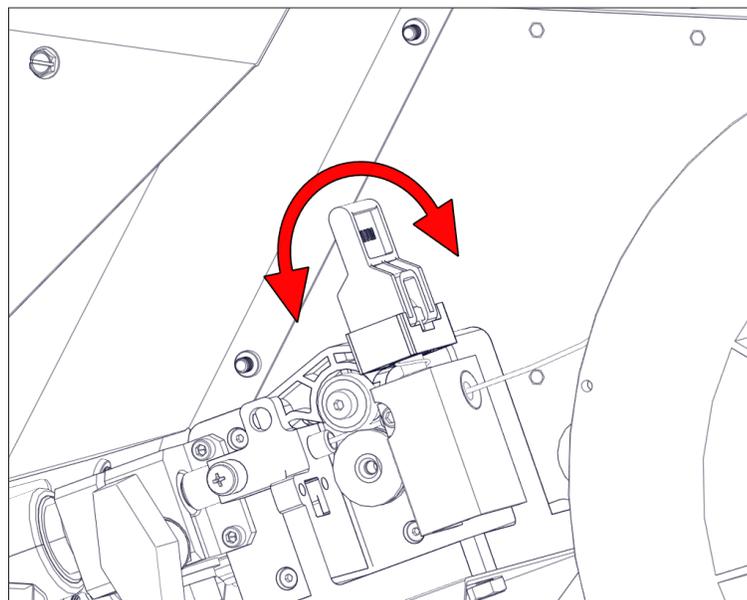
Step 3: Wire Threading

Straighten approximately 6 inches of wire to allow it to feed through the conduit gun head assembly. Thread the wire into the slave motor inlet. Feed the wire through the rollers.



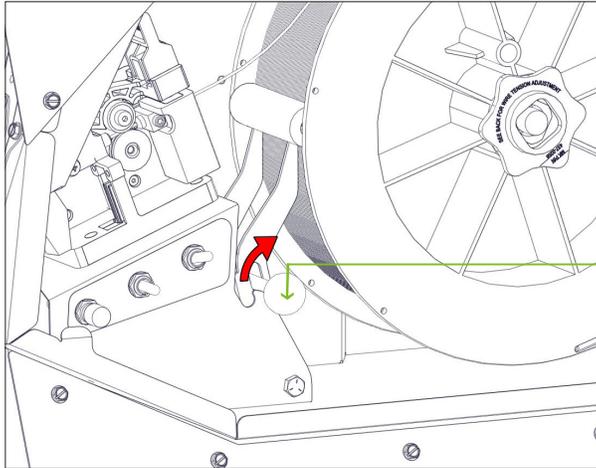
Step 4: Drive Tension

Flip the wire selector arm to either aluminum or steel based on alloy installed.



Step 5: Secure Wire

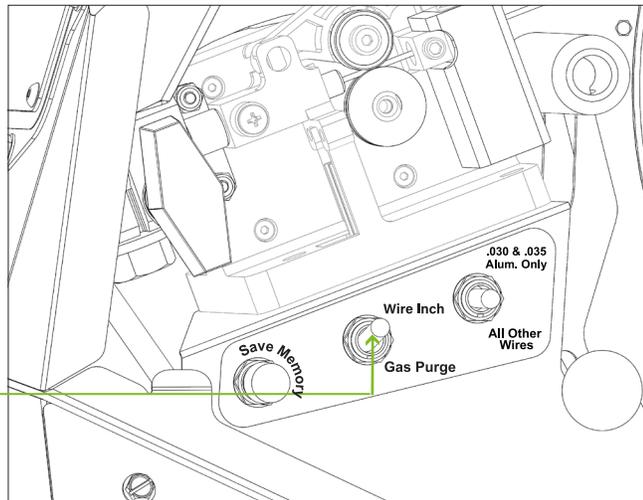
Lift to release retaining arm. This arm will aid in the level unwinding of spool during normal operation.



Release retaining arm to secure wire in place

Step 6: Feed Wire Through Gun

There are two methods for initially feeding wire through the system, either pull the trigger on the gun or hold the 'wire inch' toggle up on the feeder slave switch panel.



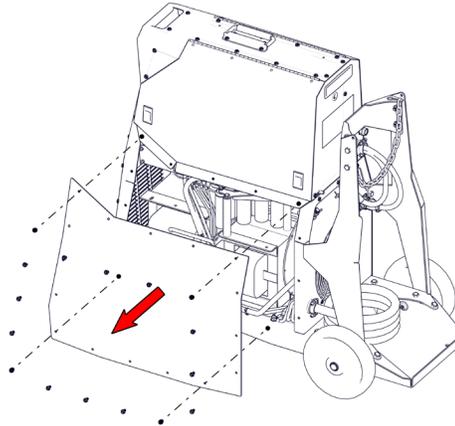
Feed Wire by holding toggle up

Input Voltage Setup

If you find it necessary to change the input voltage follow the steps below.

Step 1:

Remove right side panel of power supply.



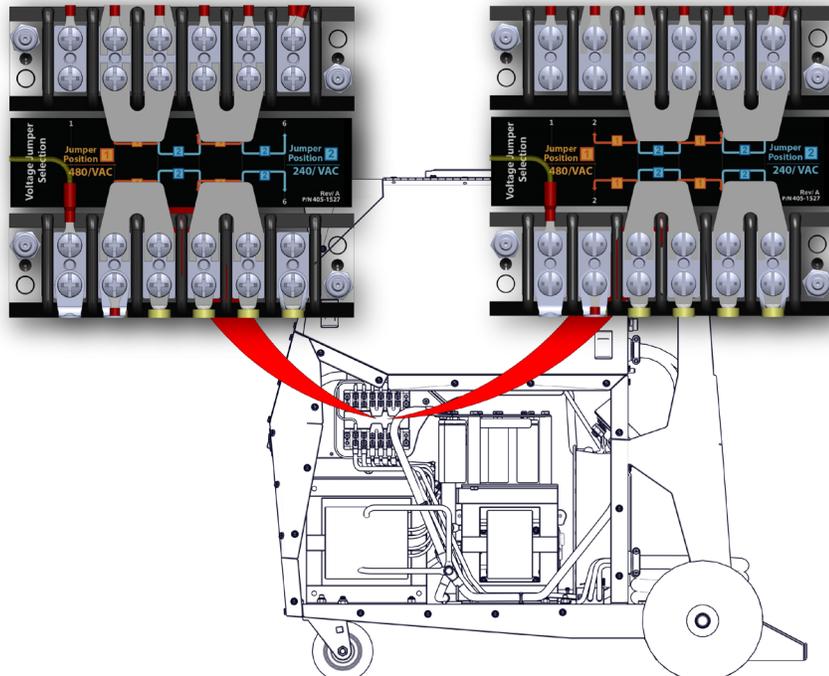
Step 2:

Reposition the 4 jumpers to the desired input 240VAC or 480VAC. Locations are specified on the terminal identification sticker.

Warning! Failure to place all 4 jumpers in the proper place will damage the unit and may cause electrical fire.

480VAC POSITIONS

240VAC POSITIONS



Section B

Display Settings

There are 3 operational values on your CobraMig 300 User Interface.

Heat: Is a reference value from 0-10, which controls the voltage output, (Actual voltage will display during welding)

Wire Speed: Wire speed displayed is from 0-800 (Displays in inches/ minute)

Memory: 1-8 User memories available



Press '**SELECT**' button either on the gun or front display to switch between operational settings.

The **LED light** will illuminate which setting is active.

Use **adjustment knob** or the (+) or (-) Button on the gun to adjust the value up or down.



Note: Once arc is established during welding, actual welding Voltage and Amps will be live and displayed on the user interface. After welding, actual Volts and Amps will remain displayed for three seconds before resetting back to Reference Voltage and Wire Speed. See example above.

~ All parameters are automatically saved per user memory~
(See advanced parameters S 04 for more details)

Advanced Parameters

- Hold 'select' button for 3 seconds to access Advanced Parameters
- Press 'select' button once to scroll between available parameters
- Use adjustment knob to adjust values
- Press gun trigger or hold 'select' button for three seconds to exit advanced parameters and return to normal operating mode

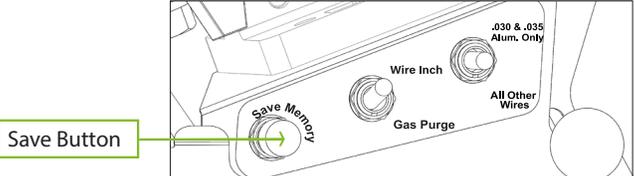
Settings unique per memory

These settings are stored in each memory separately, giving you the ability to set each memory parameter unique to itself.

 Pre Purge	Sets time gas is on, prior to feeding wire. This creates an inert environment and purges oxygen from the gun prior to arc initiation	0.0 - 10.0 seconds
 Posa Start	Also known as "run in" will reduce the speed of wire until arc is established. Will also reduce the unnecessary popping of wire at arc initiation.	OFF, 10%, 25%, 50%, 75%, 90%
 Hot Start	Increases the heat after arc initiation at the set percentage for the amount of time in the hot start length.	OFF-50% (Increments of 5)
 Hot Start Length	Length of time hot start is active	0.05 - 3.05 (Increments of .05)
 Crater Fill	Reduces heat at set percentage for amount of time in crater fill length parameter. This feature is active at the release of trigger or signals triggers in latch mode.	OFF-50% (Increments of 5)
 Crater Length	Length of time crater fill is active.	0.1 - 1.6 seconds
 Burn Back	Maintains weld parameters at the end of the weld for set amount of time to burn back the wire from the weld puddle.	0 - 1000 ex. 500 = 1/2 second 1000 = 1 second
 Post Purge	Sets time gas remains on after weld is extinguished. Solidifies the weld puddle and reduces weld contamination and porosity.	0.00 - 10.0 seconds
 Spot Timer	Activates weld sequence for set time when trigger is depressed Used for repetitive spot or tack welds.	OFF - 6.0 seconds
 Trigger	There are two available values: Normal and Latch. Normal - Standard trigger operation. Latch - Pull trigger once and wire will continue to feed until trigger is pulled again.	nor - Normal Ltch - Latch

Settings for entire system

These settings are system wide (global), they are not unique to each memory. These settings alter all memories.

	<p>There are two values available:</p> <p>Cabinet - Gas is controlled at the solenoid in the cabinet for all digital guns with no gas valve including X series guns. Gun - For use with classic guns with valve installed. Solenoid is bypassed and gas is controlled directly at the gun.</p>	<p>CAB - Cabinet Gun - Gun</p>
	<p>This parameter will not be displayed for X Series Digital guns. This setting is auto-sensed and will only display if an analog gun is installed.</p>	<p>Pyth - Python Prnc - Prince XL Cobr - Cobra MX CobS - Cobra SX</p>
	<p>Adjusts LED display brightness</p>	<p>0 - 15</p>
	<p>There are two values available:</p> <p>On – This mode will automatically save all your Operational Values and Advanced Parameters for each memory individually as they are changed. DO NOT NEED TO USE THE SAVE MEMORY BUTTON. Powering off the unit will not affect the values that were automatically saved.</p> <p>OFF – This mode allows memories to be saved and changes by the user to not overwrite saved memories automatically. The Save Memory button on the inside of the feeder will need to be held until the progress bars on the front panel display stop (indicating that memory has been saved). Failure to use the Save Memory button will revert all Operational Values and Advanced Parameters to the last saved values when switching between Memories in the Operation Mode. Unsaved memories will also revert to last saved values when the machine has been powered off.</p> 	<p>OFF On</p>
<p>Loc</p> <p>Lock Advanced Parameters</p>	<p>This four digit lock will ensure that Advanced Parameters remain secure from non-authorized changes for each individual memory. USE THE "SELECT" BUTTON AND THE ADJUSTMENT KNOB ON THE FRONT PANEL TO SET LOCK CODE</p> <p>To Lock: Rotate the adjustment knob to the desired first number, press the "SELECT" button. Repeat until all four numbers have been established. Once all four digits have been established, hold down the "Select" button for three seconds to lock the machines Advanced Parameters and return to the Operation Mode. Record the Lock Code for future use to Unlock the Advanced Parameters.</p> <p>To Unlock: Hold down the "SELECT" button for 3 seconds. The Front Panel will Display LocD. The four digit lock code originally entered must be entered using the same method as it was locked. Once the four digit lock code is entered, press the "SELECT" button once to Unlock the machine and access the Advanced Parameters.</p> <p>If the Lock Code is lost or forgotten, please contact MK Products customer service at 800 787 9707</p>	    

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, identify your known parameters, then read across for values to use. "Heat" is a reference value relating to weld voltage.

CM300, CV WELDING								
MATERIAL	WIRE SIZE	WIRE TYPE	TIP	SHEET THICKNESS	HEAT	WIRE SPEED	GAS	FLOW
ALUMINUM	0.030	4043	621-0390-25	0.040	1.9	245	Ar	20
				0.063	3.0	360	Ar	20
				0.090	3.8	370	Ar	20
	0.030	5356	621-0390-25	0.040	2.2	310	Ar	20
				0.063	2.8	440	Ar	20
				0.090	3.6	540	Ar	20
	0.035	4043	621-0391-25	0.063	3.1	340	Ar	20
				0.090	3.9	360	Ar	20
				0.125	5.0	390	Ar	20
	0.035	5356	621-0391-25	0.063	3.0	430	Ar	20
				0.090	3.5	455	Ar	20
				0.125	4.7	490	Ar	20
	3/64	4043	621-0393-25	0.125	4.5	210	Ar	20
				0.188	6.0	260	Ar	25
				0.250	7.3	330	Ar	25
	3/64	5356	621-0393-25	0.125	5.0	330	Ar	20
				0.188	6.2	420	Ar	25
				0.250	7.2	480	Ar	25
	1/16	4043	621-0394-25	0.188	6.5	205	Ar	25
				0.250	6.8	228	Ar	25
				0.375	8.1	280	Ar	30
	1/16	5356	621-0394-25	0.188	6.8	240	Ar	25
				0.250	7.7	280	Ar	25
				0.375	8.9	310	Ar	30
STEEL	0.030	E-70S-3,-6	621-0396-25	0.060	3.3	155	C25	20
				0.090	4.0	180	C25	20
				0.120	4.9	240	C25	20
	0.035	E-70S-3,-6	621-0397-25	0.120	4.6	200	C25	20
				0.188	5.3	240	C25	25
	0.045	E-70S-3,-6	621-0398-25	0.250	6.0	250	C25	25
				0.188	5.3	180	C25	25
				0.313	7.2	215	C25	30
	STAINLESS	0.030	308LSI	621-0396-25	0.060	2.5	149	TriMix
0.090					3.1	180	TriMix	30
0.120					4.3	265	TriMix	30
0.035		308LSI	621-0397-25	0.120	4.5	225	TriMix	30
				0.188	5.3	290	TriMix	30
				0.250	6.0	320	TriMix	30
0.045		308LSI	621-0398-25	0.188	5.5	220	TriMix	30
				0.250	6.2	270	TriMix	30
				0.313	7.0	300	TriMix	35

* This table is provided as a guide to assist in setting your machine, adjust as needed.
Values are based off 240VAC input.

Section C

Accessories

Optional Kits

Start-up kit..... 005-0787

Includes a gas regulator/flowmeter, 5ft. gas hose and 15ft. ground cable and clamp. Everything you need to get you welding.



Gas Kit..... 003-2652

Includes a gas regulator/flowmeter, 5ft. gas hose. To connect to your gas source or bottle.



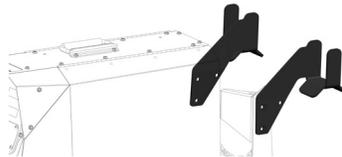
15ft. ground cable/clamp.....843-0727

Includes 15ft. ground cable and clamp. To connect your CM300 to your work piece.



Cable Holders.....005-0785

Includes two cable holders that attach to the rear of your CM300 with existing hardware.



Wire feeder to power supply umbilical cord (- Length)..... 003-2606-25

.....003-2606-50

Includes all the connections and cables you need to extend the range of you wire feeder. 25 or 50 foot lengths available.



Adapter Kits

Analog Gun Adapter Kit.....005-0784

Includes an analog gun 7 to 14 pin control cable and power pin adapter. Which gives you the ability plug your analog gun directly to the CM300.



Analog gun 7 to 14 pin control cable..... 843-0726

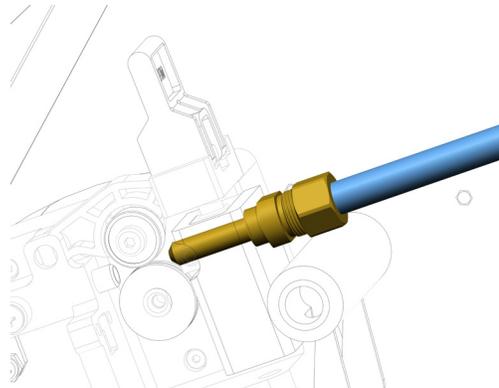


Analog gun power pin adapter 003-2607



Bulk wire dispensing adapter kit.....005-0786

This kit allows you to easily adapt your CM300 to connect to bulk wire dispensing boxes or drum systems.



Section D

Maintenance

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 maintenance person.

Your CobraMig 300 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.

Section E

Troubleshooting



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:

.....
Power supply Model No.

.....
Symptoms of failure

.....
Weld conditions

Troubleshooting Guide

Symptom	Cause	Remedy
Gas leaks from power block connection.	Gun power pin connector not inserted fully or defective o-rings.	Make sure the o-rings on the power pin are good and that it is fully inserted into the power block. Then locked in place by turning knob.
Wire feeder does not lock into place on top of power supply.	Bent mounting and or lock tabs.	Adjust tabs as needed to align with mount holes and locking mechanism.
System black out.	No input line voltage.	Check input voltage supply and fuse.
	Unit not set internally to correct input voltage.	Make sure your input voltage matches what is specified on the voltage input tag on your unit. See page 9 for instructions on how to change input voltage of your unit is necessary.
	Bad F2 fuse (28VAC) on main board P/N 003-2613.	If power supply fan is running then check F2 fuse (28VAC) on main board, replace if needed.
Unit does not respond to gun trigger.	Gun trigger is defective.	Press gun trigger to verify voltage displays two step dash lines. If not, unplug gun control cable. Use jumper to jump connection pin 5 to pin 6.
	Front panel board is defective.	- If voltage displays two step dash lines while jumped then the gun, trigger or cable is bad (see gun manual). Replace if needed. - If not, replace Front panel PCB
Brake solenoid or slave-motor not working.	Main PCB is defective.	1. Press torch trigger, visual check that relay on main PCB is energized. - If yes, check F1, F3 fuses. Replace as needed.
	F1, F2 input fuses on main PCB are blown.	- If not, replace main PCB.
	Brake solenoid or Slave motor defective.	2. If fuses are okay and relay is energized then use ohmmeter to verify resistance per below: Slave motor: Red – Blue: approx. 180 Ohm Black – White: approx. 180 Ohm Brake solenoid: approx. 290 Ohm Replace as needed.
Wire feeds one speed only.	Front PCB is defective.	Set select button to wire feed display. Use Volt meter to measure voltage at J1-1 (GND) and J1-6 (POT) on Main PCB.
	Main PCB is defective.	Trigger and verify voltage changes when adjusting the voltage knob or buttons on the gun. - If no change is seen, replace Front PCB - If it changes, replace Main PCB
	Defective electrical cable. Defective potentiometer (analog guns only). Defective control buttons (digital guns only).	Check with meter, replace as needed.
Wire feeds but wire is not energized.	Loose cable connection or no work ground.	Check all power and ground connections.
	TRIAC in power supply defective.	1. Use volt meter to measure the output voltage at the (+) and (-) terminals on the back of the power supply. Press gun trigger; - If voltage is uncontrolled and maxed out, replace the TRIAC. - If no output is measured, proceed to next step.
	Front PCB defective.	2. Remove Power Source side panel. Use Volt meter to measure voltage across (+) and (-) of TRIAC terminals. Trigger and verify; - If voltage does not change when triggered then replace Front PCB. - If voltage does change when triggered then replace TRIAC

Section F

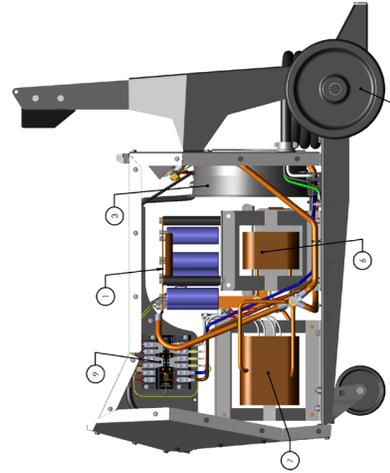
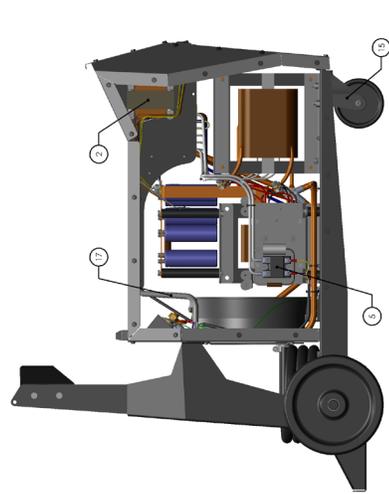
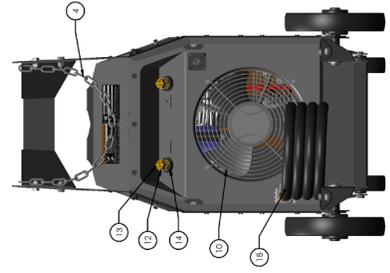
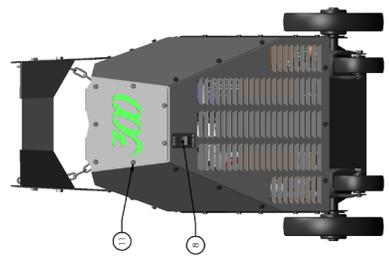
Appendices

Diagrams / Parts List

Assembly Power Supply CM300, 187-201	20-21
Assembly Wire Feeder CM300, 187-101.....	22-23
CobraMig 300 Electrical Block Diagram	24
X-Series Gun Electrical.....	25

Assembly Power Supply CM300, 187-201

READ THE OWNER'S MANUAL FOR THE M.K. PRODUCTS, INC. COBRA X CUTTING TOOL TO ENSURE PROPER USE AND SAFETY. ALWAYS USE THE CORRECT ATTACHMENT FOR THE JOB. THE M.K. PRODUCTS, INC. COBRA X CUTTING TOOL IS A TRADEMARK OF M.K. PRODUCTS, INC.



NO.	QTY.	PART NO.	DESCRIPTION
18	1	848-0744	CABLE 90/60V 9/0C 10 FT.
17	1	843-0728	ASST CABLE INTERNAL CONTROLLER CHA000
16	2	514-0024	WHEEL 80 X 1.5 IN.
15	2	514-0033	CASIER 441 26 IN.
14	2	401 2114	ISOLATOR P/ CHA000
13	2	401 2160	STD P/ CHA000
12	4	341-0106	SCR HW 1/2 X 3/8 IN C 5/ 16 HW BR5
11	10 PK.	329-0000	SCR HW 1/2 X 3/8 IN C 5/ 16 IN C BLK
10	1	201-0024	GRILL FAN 254mm
9	5	186-0108	TERM E JUMPER 142
8	1	189-0174	SWITCH ROCKER (AA-DP) ON ON BLACK
7	1	323-0285	TRANSFORMER
6	1	130-0007	CHOKE
5	1	125-0033	TRAC
4	1	003-2448	ASST CHAIN CHA000
3	1	003-2617	ASST FAN CHA000
2	1	003-2615	ASST TRANSFORMER LOGIC CHA000
1	1	003-2601	ASST CAP BANK CHA000

DATE		PART LIST	
DESIGN	MATTHEW FIORE 2/18/2016	DATE	2/18/2016
ENGINEER	MATTHEW FIORE 2/18/2016	FILE	187-201
CHECKED			
APPROVED		SEE	DWG. NO. 187-201
		SCALE	1:1
		REV	A

MATERIAL: SEE PARTS LIST
 FINISH: N/A
 HEAT TREATMENT: N/A
 SURFACE FINISH: N/A

UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 DIMENSIONS IN PARENTHESES ARE METRIC EQUIVALENTS
 FINISHES ARE TO UNLESS OTHERWISE SPECIFIED

M.K. PRODUCTS, INC.
 IRVINE, CALIFORNIA

Assembly Power Supply CM300, 187-201 cont.

18	1	843-0744	CABLE 8/3 600V 90C 10 FT
17	1	843-0728	ASSY CABLE INTERNAL CONTOLLER CM300
16	2	515-0034	WHEEL 8X1.5IN
15	2	515-0033	CASTER 4X1.25IN
14	2	431-2161	ISOLATOR PS CM300
13	2	431-2160	STUD PS CM300
12	4	341-0106	NUT HX 1/2-13UNC 5/16THK BRS
11	10 PK	329-0300	SCR HW 10-32X3/8 STL ZINC BLK
10	1	201-0034	GRILL FAN 254mm
9	5	186-0108	TERM E JUMPER-142
8	1	159-0174	SWITCH ROCKER 16A DPDT ON ON BLACK
7	1	137-0095	TRANSFORMER
6	1	133-0007	CHOKE
5	1	125-0033	TRIAC
4	1	003-2648	ASSY CHAIN CM300
3	1	003-2617	ASSY FAN CM300
2	1	003-2615	ASSY TRANSFORMER LOGIC CM300
1	1	003-2601	ASSY CAP BANK CM300
NO.	QTY.	PART NO.	DESCRIPTION
PARTS LIST			

DRAWN	DATE	 M.K. PRODUCTS, INC. IRVINE, CALIFORNIA		
ENGINEER	DATE			
CHECKED	DATE			
APPROVED	DATE			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMALS .X \pm .03 .XX \pm .01 .XXX \pm .005 DO NOT SCALE DRAWING		TITLE: ASSY POWER SUPPLY CM300		
		SIZE D	DWG. NO. 187-201	REV A
		SCALE: 1:4	SHEET 1 OF 1	

Assembly Wire Feeder CM300, 187-101

Exploded view diagram of the Assembly Wire Feeder CM300. The diagram shows the main unit with its front panel open, revealing internal components. Callout numbers 1 through 23 identify various parts including the control panel, power block, motor assembly, and various cables and connectors. A separate view shows the front panel assembly (13) and another view shows the internal wiring and components (14-16).

NO.	QTY.	PART NO.	DESCRIPTION
23	1	84340799	ASSY CNL SIGNAL LOGIC
22	1	84340734	ASSY CNL PWR LOGIC CNL 300
21	1	84340780	ASSY CNL CTRLE GUN INTC CM300
20	1	84340759	ASSY CONTROL CABLE CM300
19	1	84340725	POWER CABLE 3 FT CM300
18	1	43740340	WIRE BASKET PPOOL ADAPTER
17	1	43740268	SPINDLE NUT
16	1	43121180	LOCK LATCH
15	4	43121172	FOOT W/ CM300
14	1	43121196	WIRE HOLDER
13	2	41540079	DOOR LATCH
12	1	4010043	KNR: POWER BLOCK
11	10 PK	32940300	SCR HW 10-32X3/8 STL INC BLK
10	1	14540402	LIGHT BULB 120V 20W CB BASE
9	1	00345453	ASSY POWER BLOCK CM300
8	1	00345445	ASSY DOOR RIGHT W/ CM300
7	1	00345442	ASSY SPINDLE W/ CM300
6	1	00345244	ASSY SWITCHES INTERNAL W/ CM300
5	1	00345213	ASSY PCA MAIN 115V CM300
4	1	00345208	ASSY SLAVE MOTOR
3	1	00345264	ASSY FRONT PANEL CM300
2	1	00345452	ASSY GAS SENS/END
1	1	00345091	ASSY BAYE COUPLRD

MATERIAL: SEE PARTS LIST
FINISH: N/A
HEAT TREATMENT: N/A
SURFACE FINISHES: N/A

DATE: 01/15/2016
DESIGNED BY: MATTHEW FROBE
DATE: 2/17/2016
APPROVED: [Signature]
DATE: [Blank]
SCALE: 1:1
PROJ. NO.: 187-101
REV.: A

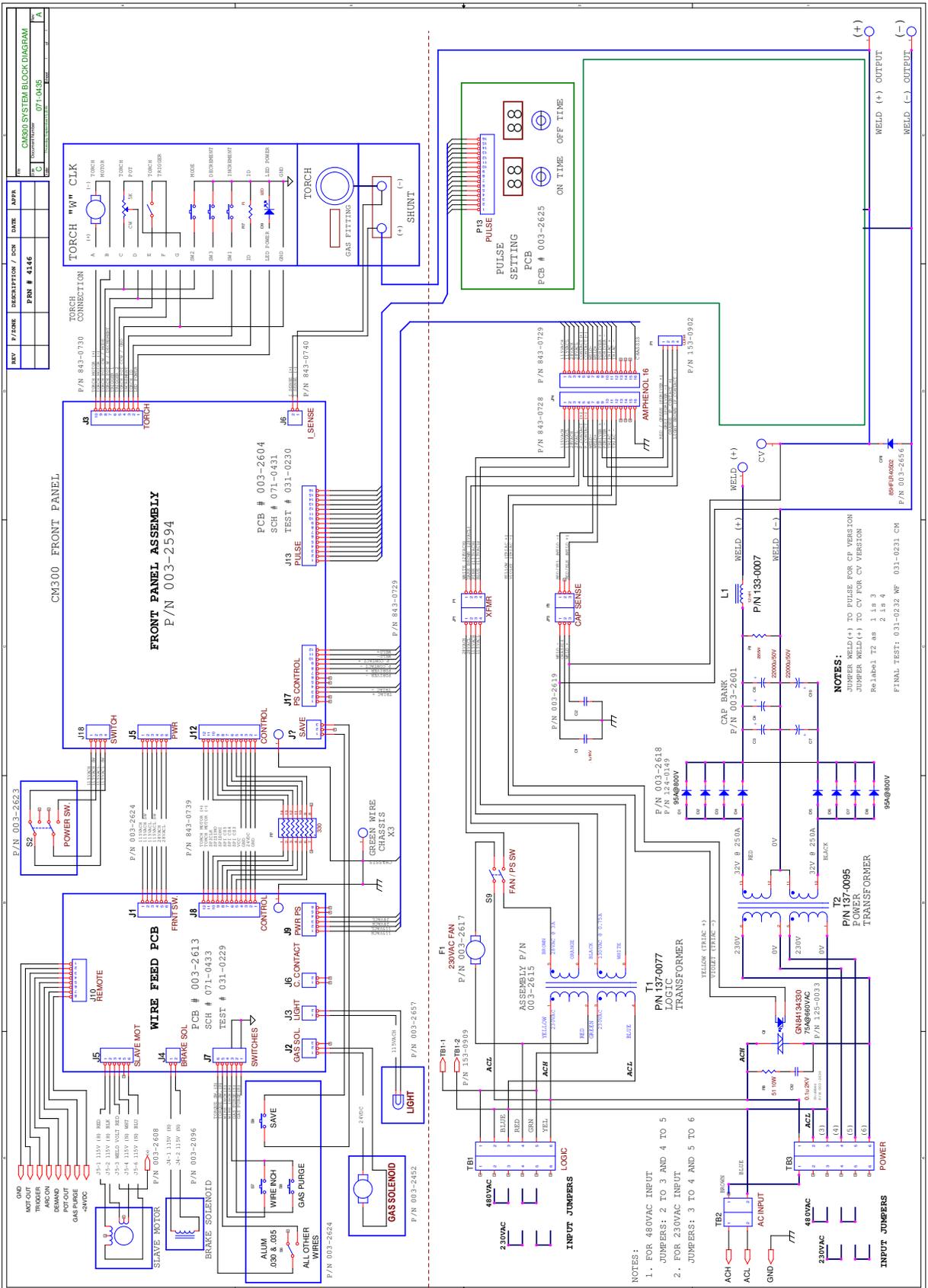
PARTS LIST
M.K. PRODUCTS, INC.
 IRVINE, CALIFORNIA
 ASSY WIRE FEEDER CM300

Assembly Wire Feeder CM300, 187-101 cont.

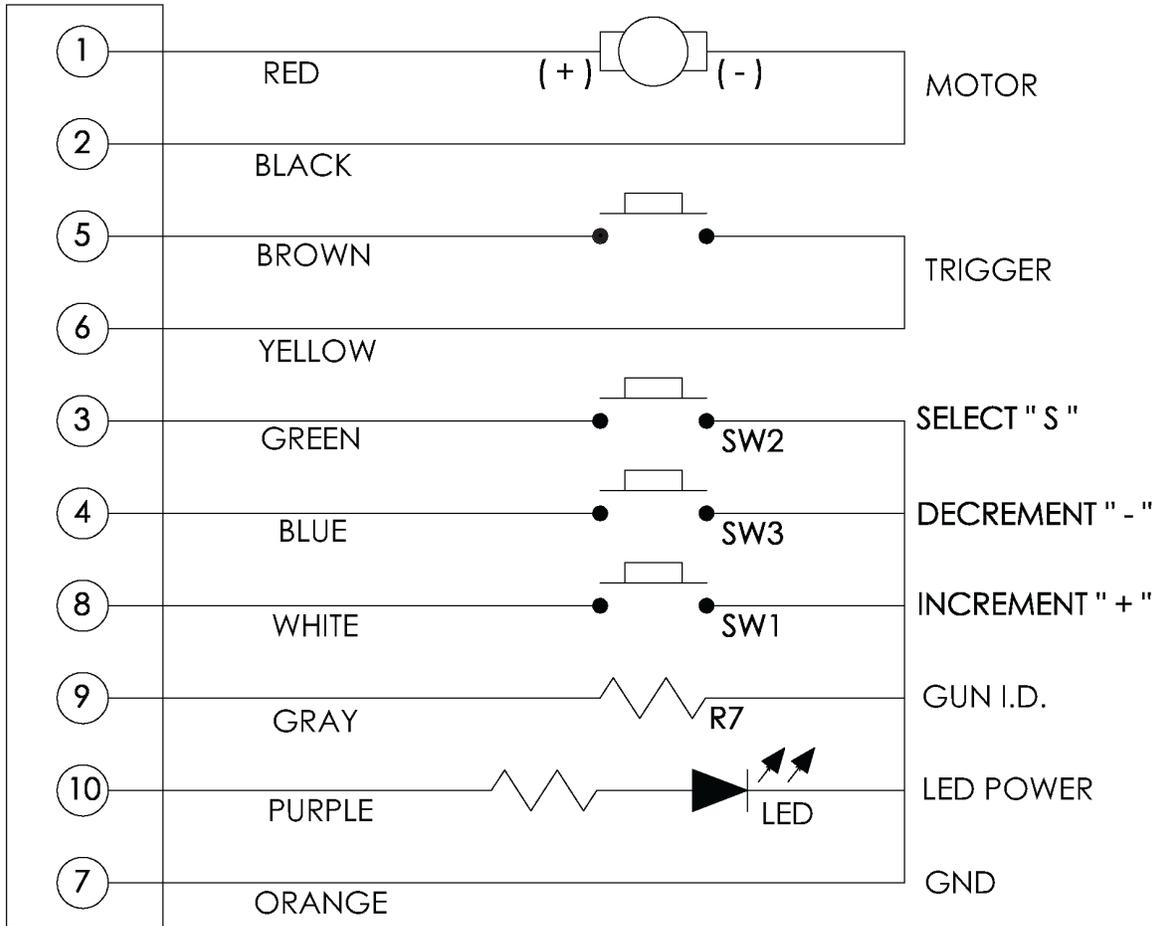
23	1	843-0739	ASSY CBL SIGNAL LOGIC
22	1	843-0734	ASSY CBL PWR LOGIC CM 300
21	1	843-0730	ASSY CBL CTRL GUN INTFC CM300
20	1	843-0729	ASSY CONTROL CABLE CM300
19	1	843-0725	POWER CABLE 3 FT CM300
18	1	437-0340	WIRE BASKET SPOOL ADAPTER
17	1	437-0258	SPINDLE NUT
16	1	431-2180	LOCK LATCH
15	4	431-2172	FOOT WF CM300
14	1	431-2158	WIRE HOLDER
13	2	415-0079	DOOR LATCH
12	1	401-0043	KNOB POWER BLOCK
11	10 PK	329-0300	SCR HW 10-32X3/8 STL ZINC BLK
10	1	145-0042	LIGHT BULB 120V 20W G8 BASE
9	1	003-2653	ASSY POWER BLOCK CM300
8	1	003-2645	ASSY DOOR RIGHT WF CM300
7	1	003-2642	ASSY SPINDLE WF CM300
6	1	003-2624	ASSY SWITCHES INTERNAL WF CM300
5	1	003-2613	ASSY PCM MAIN 115V CM300
4	1	003-2608	ASSY SLAVE MOTOR
3	1	003-2594	ASSY FRONT PANEL CM300
2	1	003-2452	ASSY GAS SOLENOID
1	1	003-2094	ASSY BRAKE SOLENOID
NO.	QTY.	PART NO.	DESCRIPTION
PARTS LIST			

DRAWN	DATE	 M.K. PRODUCTS, INC. IRVINE, CALIFORNIA	TITLE: ASSY WIRE FEEDER CM300	
ENGINEER	DATE			
CHECKED	DATE			
APPROVED	DATE			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE DECIMALS ANGLES .XX ±.03 ±1/2 .XX ±.01 .XXX ±.005		SIZE	DWG. NO.	REV
DO NOT SCALE DRAWING		D	187-101	A
SCALE: 1:4			SHEET 1 OF 1	

CobraMig 300 Electrical Block Diagram



X Series Gun Electrical



CIRCULAR
CONNECTOR

14 PINS ELECTRICAL DIAGRAM

			
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. ● Aíselese 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觸帶電部件及鉚條。 ● 使你自已與地面和工件絕緣。 	<ul style="list-style-type: none"> ● 把一切易燃物品移離工作場所。 	<ul style="list-style-type: none"> ● 佩戴眼、耳及身體勞動保護用具。
Korean 위험	<ul style="list-style-type: none"> ● 전도체나 용접봉을 젖은 환경 또는 피부로 절대 접촉처 마십시오. ● 모재와 접지를 접촉처 마십시오. 	<ul style="list-style-type: none"> ● 인화성 물질을 접근시키지 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 الأقطاب بجلد 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"> ● ヒュームから頭を離すようにして下さい。 ● 換気や排煙に十分留意して下さい。 	<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って下さい。 	<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"> ● ابتعد 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 August 1, 2010

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 defects 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 gun parts that come in contact with the welding wire, including gas cups, gas cup insulators, and contact tips where failure does not result from defect in workmanship or material.

MK Products shall, exclusively remedy the limited warranty or any duties with respect to the quality of goods, based upon the following options:

- (1) repair
- (2) replacement
- (3) where authorized in writing by MK Products, the reasonable cost of repair or replacement at our Irvine, California plant.

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. Power Supplies and Wire Feed Cabinets 3 years
- 2. Weldheads, Coolers, Positioners, and Push-Pull Guns ...1 year
- 3. Spool Guns, and Spool Gun Modules 180 days
- 4. Repairs/Exchanges/Parts 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 (one way) for products returned for warranty repair or replacement will be borne by MK Products, except for products sold to foreign markets.

ANY EXPRESS WARRANTY NOT PROVIDED HEREIN AND ANY IMPLIED WARRANTY, GUARANTY, OR REPRESENTATION AS TO PERFORMANCE, AND ANY REMEDY FOR BREACH OF CONTRACT WHICH, BUT FOR THIS PROVISION, MIGHT ARISE BY IMPLICATION, OPERATION OF LAW, CUSTOM OF TRADE, OR COURSE OF DEALING, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR PARTICULAR PURPOSE, WITH RESPECT TO ANY AND ALL EQUIPMENT FURNISHED BY MK PRODUCTS, IS EXCLUDED AND DISCLAIMED BY MK PRODUCTS.

EXCEPT AS EXPRESSLY PROVIDED BY MK PRODUCTS IN WRITING, MK'S PRODUCTS ARE INTENDED FOR ULTIMATE PURCHASE BY COMMERCIAL/INDUSTRIAL USERS AND FOR OPERATION BY PERSONS TRAINED AND EXPERIENCED IN THE USE AND MAINTENANCE OF WELDING EQUIPMENT AND NOT FOR CONSUMERS OR CONSUMER USE. MK PRODUCTS' WARRANTIES DO NOT EXTEND TO, AND NO RE-SELLER IS AUTHORIZED TO EXTEND MK PRODUCTS' WARRANTIES TO ANY CONSUMER.

USE OF OTHER THAN **GENUINE** MK PRODUCTS' CONSUMABLES, PARTS, AND ACCESSORIES MAY INVALIDATE YOUR PRODUCT WARRANTY.



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August 1, 2010

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