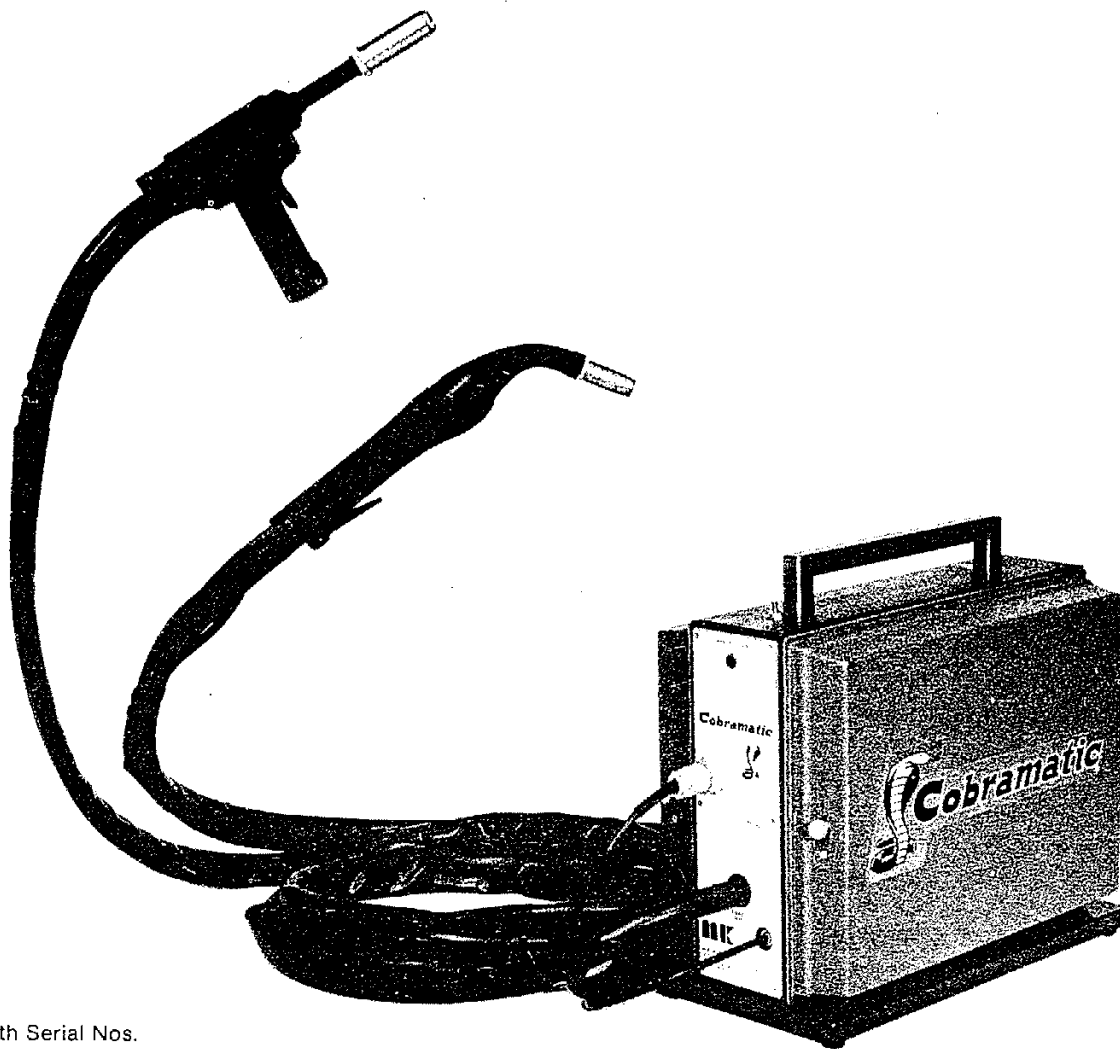




The
Cobramatic[®]
System

DOMESTIC OWNER'S MANUAL

Applies to Cobramatics and Torches
Models with prefix Nos.
109, 107, 111, 118, 116, 117, 130



Effective with Serial Nos.
Cabinet No. 21350
Gooseneck Torch No. E 17500
King Torch No. K 2800

Additional Copy Price \$2.50
P/N 091-0074

M.K. PRODUCTS, INC. • 16882 ARMSTRONG AVE. • IRVINE, CALIFORNIA 92714
(714) 863-1234 • TELEX 69-2369

For your protection in the event of theft, loss, or warranty service, please fill in the information requested below:

Model No. _____ Date of Purchase _____

Serial No. - Torch _____ Serial No. - Cabinet _____

Dealer Purchased From _____

INTRODUCTION

This manual details the installation of our Cobramatic® equipment. Properly installed, adjusted and maintained for your welding conditions, it will prove to be a reliable welding system producing consistently uniform welds.

In order to assure optimum performance of your Cobramatic® equipment, familiarize yourself with the contents of this manual and carefully follow all instructions.

This manual will not only guide you in installing your Cobramatic® equipment, but will also be a handy reference for optional items, replacement parts, and consumables, such as Contact Tips, Gas Cups, and Liners.

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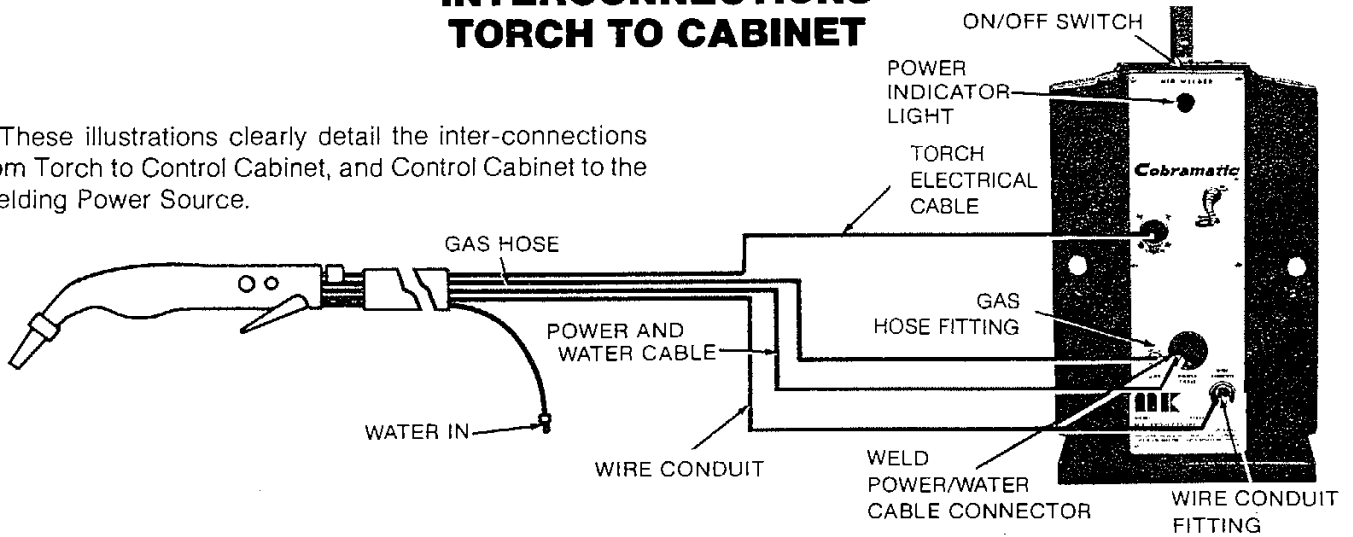
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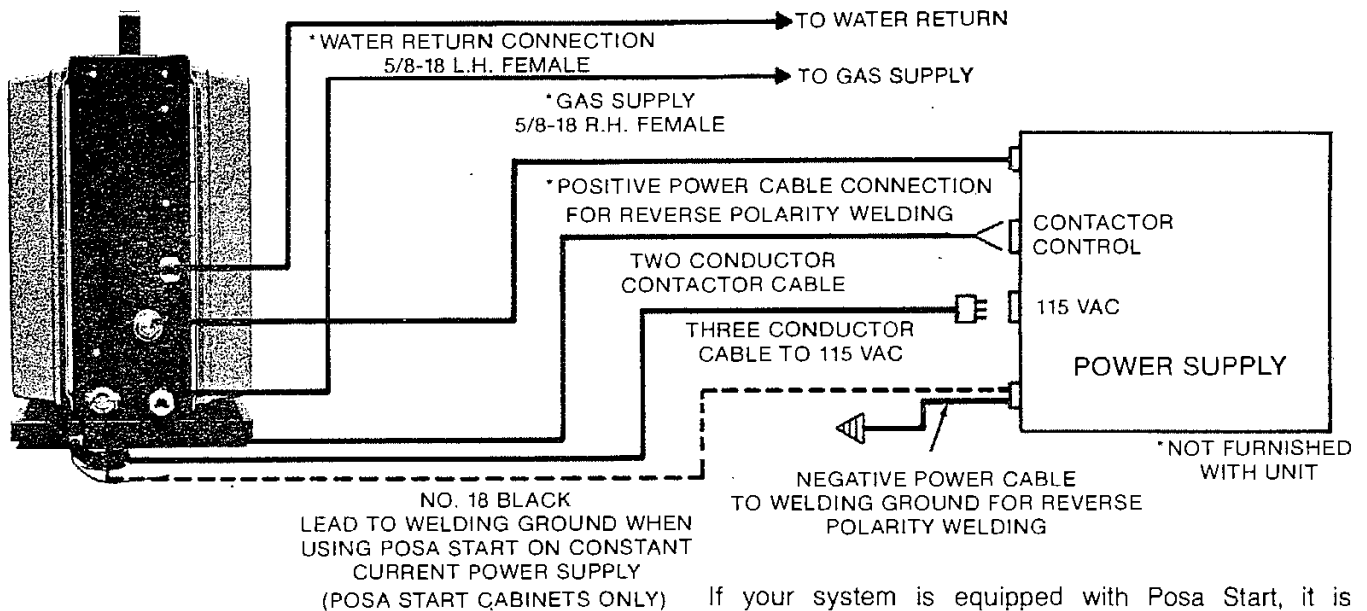
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INTERCONNECTIONS TORCH TO CABINET

These illustrations clearly detail the inter-connections from Torch to Control Cabinet, and Control Cabinet to the Welding Power Source.



INTERCONNECTIONS CABINET TO WELD POWER SOURCE

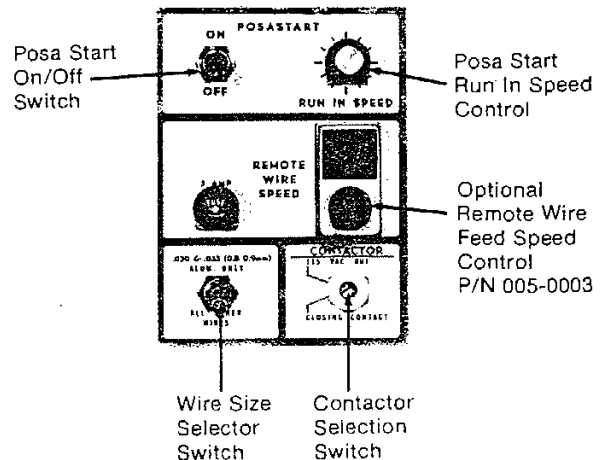


If your system is equipped with Posa Start, it is necessary to connect the #18 black lead extending from the rear of the Posa Start cabinet to the negative terminal of the welding power source, as shown above. SEE PAGE 5 FOR POSA START OPERATING PROCEDURE.

CONTROL PANEL WITH OPTIONAL POSA START® AND REMOTE WIRE FEED SPEED CONTROL

The Posa Start feature permits the Cobramatic to be used in combination with any constant current DC welding power source of open circuit voltage in excess of 55 volts. This feature is ideal for all aluminum wires, and works well with stainless steel and flux-cored gas-shielded wires.

CAUTION: DO NOT operate a Cobramatic equipped with Posa Start when connected to a welding machine having a high-frequency starting circuit before making sure that the high-frequency portion of the welder is turned off. Failure to take this precaution will cause damage to the Posa Start module.



WIRE THREADING PROCEDURE

These instructions also appear on the inside of the right-hand cabinet door.

1. Turn Cobramatic power switch on top of cabinet to "ON" Position.
2. Set wire Size Selector Switch **Fig. 3** to proper position for wire in use.
3. Remove Spool Retainer **Fig. 1-1** from Spindle Assembly.
4. Place wire spool on Spindle Assembly so that wire feeds from bottom of spool towards Slave Motor Drive Rolls **Fig. 2-3**. Line up red dot on end of Spindle Assembly with hole near the center of wire spool flange. This will aid in engaging wire spool with Drive Pin **Fig. 1-2**.
5. Replace the Spool Retainer.

CAUTION: Spooled wire, especially steel, has a tendency to unravel when loosened from spool. Maintain a firm grip on wire during threading operation.

- 6A. All Cobramatics have a pre-set slave motor drive roll pressure adjusting screw which enables spools of the same wire diameter and type (i.e. aluminum, steel etc.) to be changed without further pressure adjustment after initial setup.
- 6B. Release slave motor drive roll pre-set pressure adjusting screw, **Fig. 2-1**.
7. Loosen end of wire from spool and cut off any kinked or bent portion with wire cutters. Make a clean square cut.
8. Straighten out first 8" to 12" of wire.

CAUTION: In completing steps 9 and 11, DO NOT rotate wire spool counter-clockwise on Spindle Assembly without releasing brake as this could possibly throw the braking system out of adjustment or cause permanent damage to the brake pad.

9. While retaining hold of the wire with one hand, pull the torch trigger with the other to release the braking system. Wire spool can now be turned in either direction. Thread the wire through the inlet guide, **Fig. 2-2**, past the slave motor drive and idler rolls, **Fig. 2-3**, and into the outlet guide, **Fig. 2-4**, making sure not to rotate the wire spool counter-clockwise. Release the torch trigger.
10. Tighten the slave motor drive roll pre-set pressure adjusting screw until the shoulder of the slave motor shaft nut, **Fig. 2-5**, bottoms out on the slave motor casting (approximately 2½ turns).

11. While restraining rotation of the wire spool with the right hand, have an assistant pull the torch trigger and, at the same time, slowly tighten the slave motor drive roll pressure adjusting nut, **Fig. 4-1**, with a 9/16" open-end wrench until drive rolls stall. Release trigger.
12. Tighten slave motor drive roll pressure adjusting nut an additional 1/4 turn clockwise. This setting does not need any further adjustment. (Refer to item 6A above.) Do not continue threading wire until steps 13, 14, and 15 have been completed.
13. Now adjust Drive Roll Pressure in the Torch by using tip of bare thumb (no wrench) to tighten Torch Drive Roll Adjusting Screw **Fig. 5-2**. Torch Drive Rolls **Fig. 5-1** will be under proper tension for threading wire when screw is barely thumb-tight.
14. Check knurled Plastic Wire Conduit Connection Nut **Fig. 6-1** at torch base, making sure connection is finger-tight. (Applies to Cobra Gooseneck Torch only.)
15. Stretch out torch cable assembly so that it lies fairly straight. This is necessary **ONLY** during wire threading operation.
16. Depress Torch Trigger and allow wire to feed until wire extends beyond torch contact tip.
17. If necessary, readjust pressure on Torch Drive Rolls so that wire coming from torch shows VERY SLIGHT serrations from its contact with Torch Drive Rolls. **Do Not Overtighten.**
18. If wire tends to unspool from Wire Spool when Torch Trigger is released, tighten Wire Spool Spindle Drag Adjustment **Fig. 1-3** with 1/4" Allen wrench. Tighten **ONLY** enough to prevent un-spooling, as trigger is released. (Note: There is no direct connection between this adjustment and the solenoid operated spool brake.)

CAUTION: Overtightening the pressure adjusting screws on the torch or slave motor drive rolls will REDUCE rather than improve performance.

19. Place the Contactor Switch, **Fig. 13**, into the proper position for **your** welding power source. When the switch is in the "115 VAC OUT" position, 115 VAC is provided to the welding power source to close the contactor. The "CLOSING CONTACT" position is for power sources that provide their own current for operating the contactor.

NOTE: Consult the power source Owners Manual for contactor electrical hook up. i.e. VAC or closing contact.

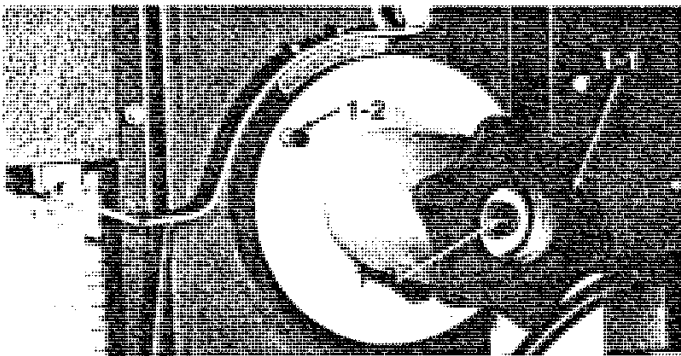


Figure 1

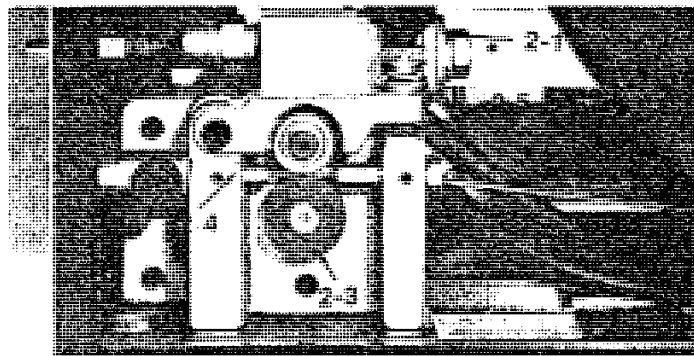


Figure 2

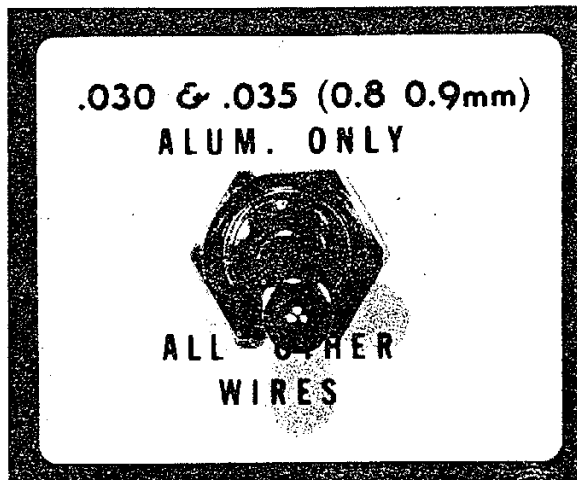


Figure 3

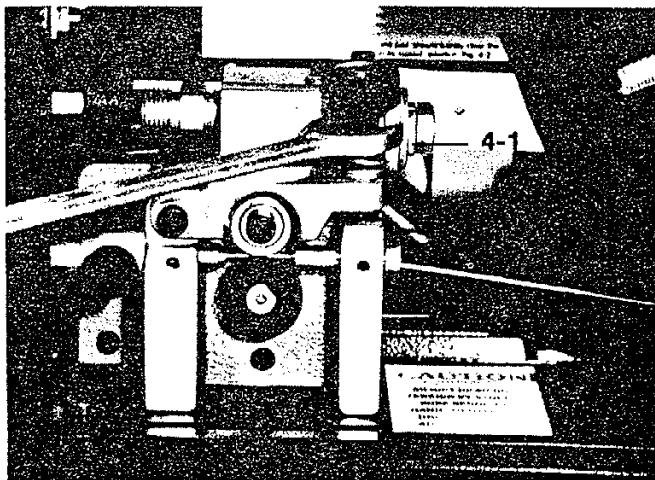


Figure 4

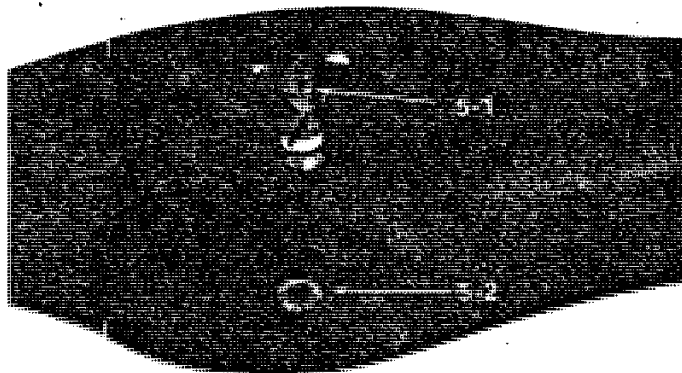


Figure 5

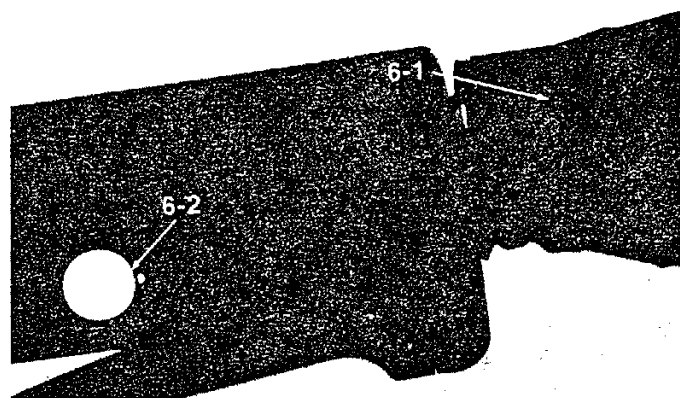


Figure 6

TENSION TESTS—SLAVE MOTOR AND BRAKE

These instructions also appear on the inside of the left-hand cabinet door.

NOTE: WHEN PERFORMING BOTH TESTS, MAKE BRAKE TEST FIRST

TEST EQUIPMENT NEEDED: Spring scale, 0-5 lb. capacity, wire cutters, 7/16" box wrench & 1/4" hex key.

TENSION TEST—SPOOL BRAKE

See page 4 for Illustrations.

1. **DISCONNECT WELDING POWER FROM COBRAMATIC CABINET.**
2. Connect Cobramatic to 115 VAC power source.
3. Remove the torch assembly wire conduit from the outlet guide on the slave motor assembly **Fig. 7-1**.
4. Mount a spool of wire on the spool spindle assembly.
5. Using 1/4" Hex Key, loosen wire spool spindle drag adjustment **Fig. 8-1** (After completion of these tests readjust the spindle drag adjustment so that when the brake arm **Fig. 10** is raised the wire spool does not tend to overrun when you stop pulling wire from the spool. **DO NOT OVERTIGHTEN.**)
6. Completely loosen the slave motor drive roll pressure adjusting screw **Fig. 7-2** and thread wire past the drive roll, allowing the end to protrude from the cabinet.
7. Attach spring scale to wire end as shown in **Fig. 9**.
8. Depress torch trigger, which will release the solenoid wire spool brake, allowing spool to turn freely.*
9. With the spool brake released pull the end of the wire through the drive rolls. There should be no measurable drag as the wire spool rotates.
10. Release the torch trigger so that the brake arm will engage the spool spindle assembly.
11. Now the measured wire spool drag should be more than 2 pounds.
12. If the tests conducted under items 9 and 11 are not up to standard, Brake Arm Pivot Point **Fig. 10-1** needs adjustment.
Proceed as follows:
 - A. Excessive drag on Test Item No. 9 indicates brake drag.
 - B. Lack of drag on Test Item No. 11 indicates that there is insufficient brake drag.
 - C. In both cases loosen the brake pivot bolt **Fig. 10-1** and slide brake assembly up or down as required.
 - D. Properly adjusted the tip of the brake pad should barely clear the spool brake hub, when the brake arm is held in its raised position **Fig. 10-2**

*Failure to release brake arm when turning spool counter clockwise will cause brake pad damage.

TENSION TEST — SLAVE MOTOR

CHECK LIST

1. DISCONNECT WELDING POWER FROM COBRAMATIC CABINET.
2. Connect Cobramatic 115 VAC power source.
3. Remove the torch assembly wire conduit from the outlet guide on the Slave Motor Assembly. **Fig. 7-1.**
4. Cut a piece of .045" hard wire of sufficient length for test setup **Fig. 11.**
5. Make test setup as illustrated in **Fig. 11.**
6. Set wire selector switch **Fig. 3** in the ".030 & .035 ALUM. ONLY" position.
7. Loosen slave motor drive roll pressure adjusting screw **Fig. 7-2.**
8. As you perform item 9, have an assistant depress the torch trigger while you hold the spring scale and restrain wire from moving through drive rolls.
9. Tighten the slave motor drive roll pressure adjusting nut, until the drive rolls stall, at which time the spring scale should read about 1-1/3 lbs.
10. Release torch trigger and reset the wire selector switch to "ALL OTHER WIRES" position. **Fig. 3.**
11. Depress torch trigger and readjust the drive roll pressure adjusting nut until the drive rolls stall once again. This time the spring scale reading should be approximately 4 lbs.

Both the Spool Brake and Slave Motor are now properly adjusted if:

1. When engaged the Spool Brake reading is more than 2 lbs. and when disengaged it is negligible.
2. The Slave Motor pull is:
 - A. About 1-1/3 lbs. when the selector switch is in the ".030 & .035 ALUM. ONLY" position.
 - B. About 4 lbs. when the selector switch is in the "ALL OTHER WIRES" position.

Failure to meet the above Slave Motor standards could be due to malfunction of any one of the following:

1. Part no. 159-0051 switch
2. Part no. 113-0593 resistor
3. Part no. 101-0031 capacitor
4. Part no. 157-0135 control relay

Part nos. refer to Cobramatic Cabinet exploded view shown on page 10.

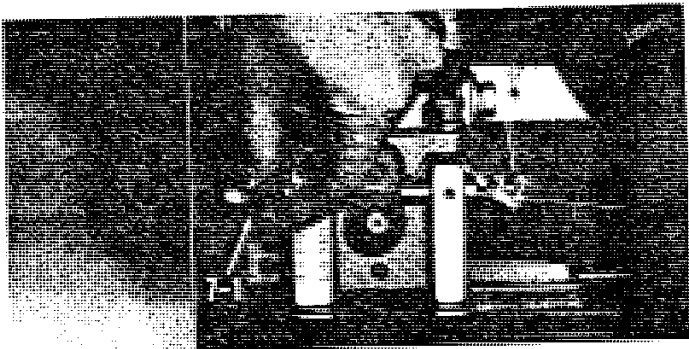


Figure 7

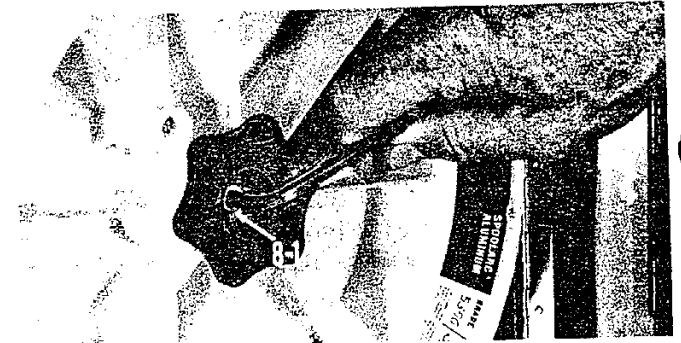


Figure 8

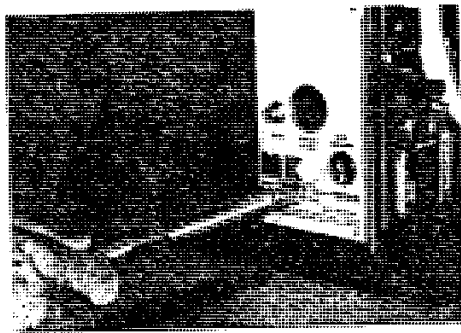


Figure 9

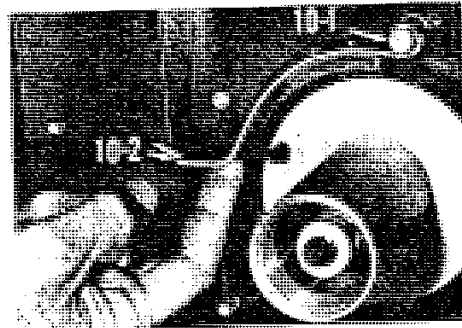


Figure 10

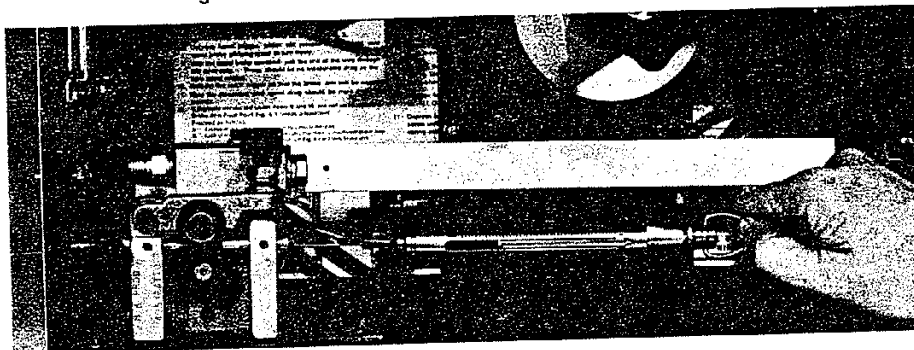


Figure 11

POSA START® OPERATING PROCEDURE

These instructions also appear on the inside of the right-hand cabinet door.

NOTE: Posa Start not recommended for use with Solid Steel Wire

INTRODUCTION

1. Wire threading procedure for Posa Start identical to that detailed on page 2 **EXCEPT** make sure Posa Start Selector Switch **Fig. 12-1** is in "OFF" position, when performing the threading operation.
2. The Posa Start feature of Cobramatic allows Cobramatic to be used in combination with constant current DC welding power sources of **open circuit voltage in excess of 55 volts**. **ALSO**—reverse polarity **must** be used.

CAUTION: DO NOT operate a Cobramatic equipped with Posa Start to a power source having a high-frequency starting circuit before making sure that the high-frequency portion of the power source is turned **off**. Failure to take this precaution will cause permanent damage to the Posa Start module.

3. The Posa Start "Run-In Speed" control **Fig. 12-2** located in the Cobramatic cabinet provides adjustment for slow wire run-in which is necessary for MIG welding with constant current power sources. **IT DOES NOT CONTROL THE WIRE SPEED WHILE WELDING.**
4. The Wire Feed Speed Control Knob **Fig. 6-2**, which is located on the welding torch handle, establishes the welding wire speed. This control takes over after the Posa Start slow wire run in phase has been completed.

INSTRUCTIONS

1. Attach the No. 18 single black lead which extends from back of the Cobramatic to the negative terminal of the welding power source or work ground.
2. Turn Cobramatic power switch on top of cabinet to "ON" position.
3. Turn Posa Start Selector Switch **Fig. 12-1** to "OFF" position.
4. Place the Contactor Switch, **Fig. 13**, into the proper position for **your** welding power source. When the switch is in the "115 VAC OUT" position, 115 VAC is provided to the welding power source to close the contactor. The "CLOSING CONTACT" position is for power sources that provide their own current for operating the contactor.

5. Depress torch trigger and adjust Wire Feed Speed Control Knob on Torch Handle **Fig. 6-2** to desired wire feed rate for **your** welding condition.
6. Turn Posa Start Selector Switch to "ON" position. Depress torch trigger and, using **Posa Start** "RUN-IN SPEED" control knob **Fig. 12-2** in Cobramatic Cabinet, adjust wire feed speed to approximately 40 IPM if using .035" dia. wire. (For smaller diameters use higher feed rate—for larger diameters use a slower rate). During this adjustment **do not** change the welding wire feed speed setting previously established by the control knob on the Torch Handle. (4" in 6 seconds equals 40 IPM)
7. After adjusting the Welding Power Source to desired amperage for your weld condition, strike an arc. If the wire stubs out, reduce the wire feed rate **using wire feed speed knob on torch** or increase amperage setting on power source.

NOTE: Because the Posa Start slow run-in speed established by the "RUN-IN SPEED" control, **always** remains a percentage of the welding wire feed rate set by the adjustment provided on the **torch handle**, the Posa Start run-in rate will **always** slow down or speed up, proportional to any adjustment you now make at the torch handle.

8. If the welding wire feed speed, set in the torch handle, is too low for your combination of wire size and welding power source current setting, the wire will burn back to the contact tip. It is better therefore to start with excess wire feed speed rather than too little in order to prevent possible damage to the contact tip.

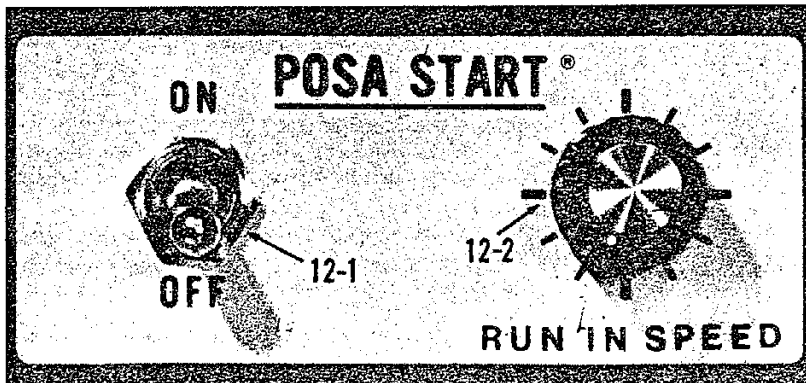


Figure 12

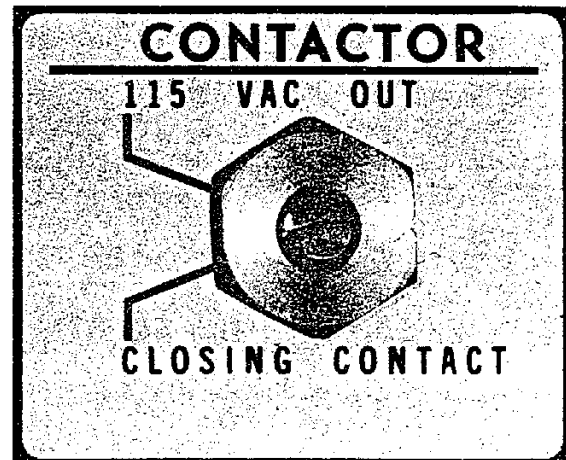


Figure 13

KING COBRA CURVED BARREL OPERATING INSTRUCTIONS

(See Page 16 for Item Numbers)

1. To rotate the barrel assembly, loosen item 92, barrel retaining nut, 1 to 1½ turns.
2. Rotate the barrel assembly to desired position.
3. Retighten barrel retaining nut, item no. 92.

CAUTION: Before proceeding to weld, assure proper barrel contact. Attempt to rotate barrel assembly. If barrel assembly continues to rotate, retighten barrel retaining nut.

BARREL INSULATOR ASSEMBLY PROCEDURE

NOTE: The water supply must be turned off prior to removing the gas cup, or gas adaptor.

1. Slide gas cup retaining nut, item no. 80, on the barrel contact tube, item no. 91.
2. Check barrel contact tube 'O' rings, item no. 89. These 'O' rings should be lubricated with a silicone lubricant. (Silicone Lube P/N 835-0006 should be used.)
3. Thread the barrel insulator, item no. 81, over the 'O'

rings and onto the barrel contact tube, item no. 91. Make sure the gas ports on the barrel contact tube are fully exposed. If not, further tighten the barrel insulator, item no. 81. (Do not use any tools which might damage the barrel insulator or 'O' rings.)

4. Thread the contact tip, item no. 84, into the barrel contact tube, item no. 91, with tip wrench P/N 931-0002.
5. Check barrel insulator 'O' rings, item no. 82, for proper lubrication. These 'O' rings should be lubricated with a silicone lubricant.
6. Slide the gas cup, item no. 96, or gas cup adaptor, item no. 112, over the barrel insulator, item no. 81, and secure with the cup retaining nut, item no. 80.
7. Assembly is now complete.

NOTE: To avoid the necessity of shutting off the water supply when changing the contact tip, the tip can be removed with the gas cup or gas cup adaptor in-place by using a tip removal tool, P/N 931-0002.

TROUBLE SHOOTING

PROBLEM: Wire Burnback

Causes:

1. Wrong size contact tip. Consult table on Page 7 or 9 for proper size. If after welding several inches, the wire mushrooms at end of contact tip, use next larger I.D.
2. Too low wire feed speed or too high voltage.
3. Incorrect wire spool-spindle tension. See Page 2 Wire Threading Procedure, Item 18.
4. Incorrect Slave Motor tension. See Page 3 "Tension Test — Slave Motor and Brake."
5. Torch idler roll tension incorrect. See Page 2 — Wire Threading Procedure", Items 13 and 17.

PROBLEM: Torch motor runs at one speed only.

Causes:

1. Speed Control Part No. 177-0500 in-operative — needs replacing.
2. Potentiometer failure.
3. Short in torch electric cable.

PROBLEM: Blown Fuses

Causes:

1. Contactor Switch in wrong position. See page 2 "Wire Threading Procedure", Item 19.
2. Short in electrical circuit.

PROBLEM: Cabinet Electrical System in-operative.

Causes:

1. Blown Fuse(s).

2. Check motor for short or open circuit. Check v continuity meter.
3. Check for open or short circuit in torch micro-switch. Disengage cabinet 115 VAC power plug and check plug pins with continuity tester.
4. Burned out transformer.

PROBLEM: Loss of weld current

Causes:

1. Lack of weld ground. Check for continuity with work piece.
2. Break in power/water cable. Check for continuity.
3. Faulty main relay.
4. Bad contactor switch.
5. Faulty power cable.

PROBLEM: Poor Wire Feed

Causes:

1. Wire selector switch improperly positioned. See Page 2 "Wire Threading Procedure", Item 2.
2. Improper wire spool spindle tension. See Page 2 "Wire Threading Procedure", Item 18.
3. Improper Slave Motor tension. See Page 3 "Tension Test — Slave Motor and Brake."
4. Torch idler roll tension incorrect. See Page "Instructions — Wire Threading Procedure", Items 13 and 17.
5. Excessive dirt in wire conduit.

6. Damaged wire conduit.
7. Bad speed control.
- Faulty Posa Start module.

OBLEM: Torch motor erratic or in-operative.

1. Check voltage of torch motor speed control (Part No. 177-0500) with wire feed speed control potentiometer wide open and torch trigger depressed. A reading of 24 to 27 VAC should register across terminals H and A and 24 VDC across terminals T and W.

2. Check to see if Slave Motor is working. If not, check input 110 VAC and fuse on control panel, Item 10 page 10.
3. If number two above checks out O.K., check for voltage reading at 24 VDC motor in torch.
4. Check continuity on all wires from the torch to the cabinet.
5. Check micro-switch with continuity tester.
6. Check potentiometer with meter.
7. Bad brake relay.

KING COBRA ONLY

PROBLEM: Poor Gas or Water Flow

1. Check barrel insulator, P/N 261-0049, for proper seating. This insulator must be correctly installed on the contact tube with the gas ports exposed for proper gas coverage.
2. Check gas cup for proper seating. The gas cup must be fully seated on the barrel insulator, P/N

261-0049, and secured with the cup retaining nut for proper water flow.

PROBLEM: Arcing Between the Barrel Housing and Contact Tube

1. Curved barrel contact tube assembly is not properly seated. If barrel can be rotated by hand, the barrel retaining nut is not tight. Tighten barrel retaining nut until barrel is secure.

MAINTENANCE TOOLS

QTY.	PART NO.	DESCRIPTION
1	051-0366	Hose Ferrule Crimper
1	757-0012	Conduit Coupler Fitting
1	823-0020	Green Touch-up Paint
1	835-0003	Gear Box Lubricant
1	835-0005	Safety Solvent (for installing power cable boot)
1	835-0006	Super Lube 'O' Ring Lubricant

QTY.	PART NO.	DESCRIPTION
1	921-0022	Allen Set - Standard
1	921-0029	Allen Set - Universal Ball Type
1	931-0002	H. D. Torch Tip Wrench
1	931-0005	Strap Wrench
1	931-0022	Spanner Wrench
1	931-0584	Gas Valve Tool

MAINTENANCE

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

Remove spatter buildup 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 and front body liners, wire guides, drives and idler rolls. A supply of these parts should be maintained on hand.

If repairs do become necessary, any part can easily be replaced by a qualified shop maintenance man.

SAFETY PRECAUTIONS

Virtually every occupation has certain potential hazards. This is just as true of MIG welding as it is with any other welding method. Operators should be aware of the potential hazards and observe the necessary precautions before attempting to operate the welder or accessories.

A standard welder's helmet with the proper shade of glass should be worn for protection against arc rays and spatter.

B. Turn off the welding power supply before changing

torch contact tips, nozzles, or wire, or making torch repairs.

C. The welding wire becomes energized the moment the torch trigger is pulled. Arcing can occur if the wire is brought to a ground. Care should be taken to keep the torch away from ground until welding is to be started.

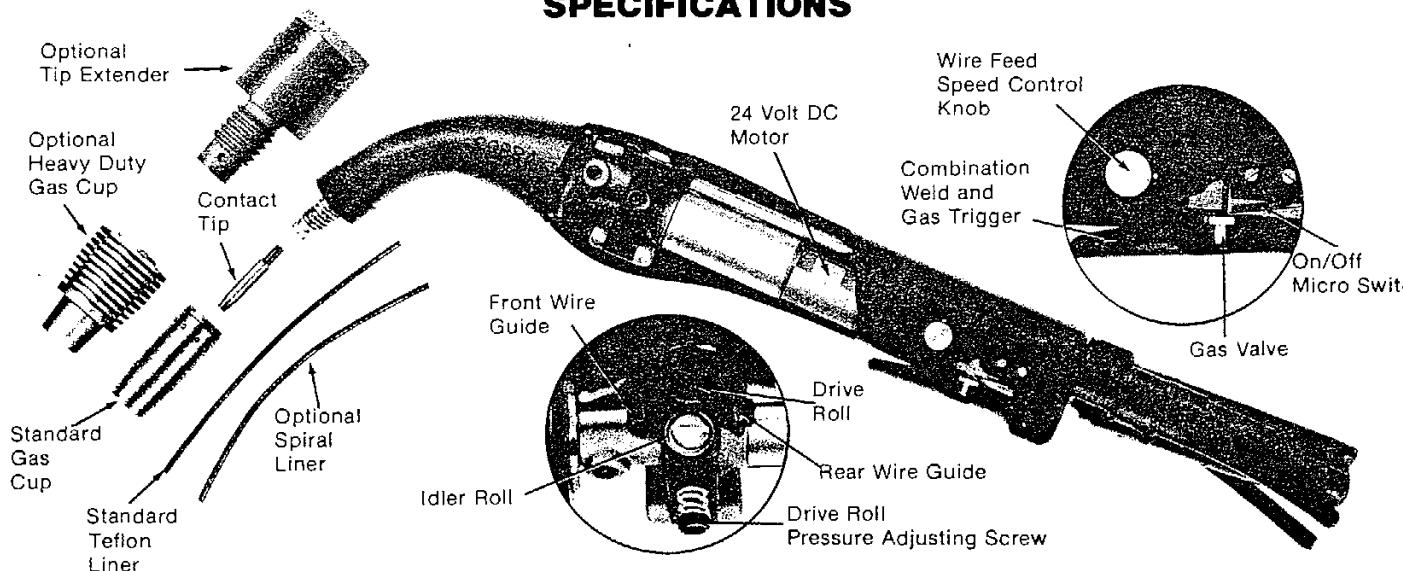
D. It is good practice to always turn off the power supply when work is completed.

E. Use good ventilation at all times.

OPTIONAL COBRAMATIC KITS

- 005-0003 — Remote Potentiometer Kit with Reference Digital Readout** — Removes the wire feed speed control potentiometer from the torch to the cabinet and provides a reference digital readout counter. Useful as a handy reference of wire speed settings where readability is desired.
- 005-0006 — Heater Kit** — In areas where high humidity and wet weather can cause wire spool contamination and weld porosity, a heater kit may be added to the Cobramatic® cabinet. A control panel and heater strip control the temperature inside the cabinet, keeping the wire dry and protected from dampness.
- 005-0007 — Drip Shield Kit** — This kit provides a cover that extends beyond the cabinet doors and protects the Cobramatic® controls and welding wire from rain and moisture. The drip shield is mounted on top of the Cobramatic® utilizing the cabinet handle hardware and mounting poles.
- 005-0057 — Wire Spool Retainer Kit** — The wire spool retainer kit consists of an insulated wire retainer which is mounted in the Cobramatic® cabinet around the spool of wire. This kit prevents the wire from unspooling when using wire spools which are completely filled to the outside diameter.
- 005-0071 — Cobra® Gooseneck Small Diameter Wire Kit** — Allows the use of .020 through .035 diameter aluminum and .020 and .025 diameter stainless steel wire in the Cobra® Gooseneck Cobramatic® Wire feed speeds up to 800 I.P.M. are attainable, providing trouble-free feeding of these small diameter wires. (Must be used with a Model No. 109-515 Cobra® Gooseneck torch.)
- 005-0101 — Gas Solenoid Kit** — A gas solenoid valve is added to the inside of the Cobramatic® cabinet to allow torch activation or remote control of the gas flow. To remote control this kit, the addition of a double-pole three-position switch is required.
- 005-0118 — Cobra® Gooseneck Insulated Knurled Drive Roll Kit** — For .030 through 1/16" diameter hard wire, aluminum, and cored wire. Includes an insulated drive roll P/N 511-0068 and idler roll P/N 511-0074.
- 005-0119 — King Cobra® Insulated Knurled Drive Roll Kit** — For .030 through 1/16" diameter hard wire, aluminum, and cored wire. Includes an insulated drive roll P/N 511-0064, idler roll P/N 511-0075, front and rear wire guides P/N 431-1067, and hex nut P/N 350-0004.
- 005-0132 — King Cobra® Insulated V-Grooved Drive Roll Kit-.030** — For .030 diameter aluminum only. Includes a drive roll P/N 511-0077, idler roll P/N 511-0071, front and rear wire guides P/N 431-1067, and hex nut P/N 350-0004.
- 005-0120 — King Cobra® Insulated V-Grooved Drive Roll Kit-.035** — For .035 diameter aluminum only. Includes a drive roll P/N 511-0065, idler roll P/N 511-0071, front and rear wire guides P/N 431-1067, and hex nut P/N 350-0004.
- 005-0121 — King Cobra® Insulated V-Grooved Drive Roll Kit-.045** — For .045 diameter aluminum only. Includes a drive roll P/N 511-0066, idler roll P/N 511-0071, front and rear wire guides P/N 431-1067, and hex nut P/N 350-0004.
- 005-0122 — King Cobra® Insulated V-Grooved Drive Roll Kit-.062** — For .062 diameter aluminum only. Includes a drive roll P/N 511-0067, idler roll P/N 511-0071, front and rear wire guides P/N 431-1067, and hex nut P/N 350-0004.
- 005-0126 — Cobramatic® Switchable Potentiometer Kit** — Allows the operator of a Cobramatic® to switch between the potentiometer on the torch and a remote potentiometer mounted in the cabinet. This kit enables the operator to select one of two wire feed speeds without changing either potentiometer.
- 005-0191 — Cobramatic® Burnback Kit** — The burnback kit allows the contactor to remain on for a period of .040 to .7 seconds after the trigger has been released and the wire has stopped feeding. This feature is particularly desirable on mechanized applications where it is necessary for the wire to burn back out of the weld puddle after the wire has stopped feeding.
The burnback duration is controlled by a burnback potentiometer mounted on a small control panel which is installed in the Cobramatic® cabinet just below the existing control panel.
- 005-0194 — Cobramatic® Prepurge/Postpurge Kit** — The combination prepurge/postpurge kit allows the shielding gas to come on for a period of .3 to .7 seconds prior to the wire feeding and the contactor energizing (prepurge). This kit also allows the shielding gas to remain on for a period of .3 to .7 seconds after the wire has stopped feeding and the contactor has been de-energized (postpurge).
Prepurge is suggested for those occasions where it is desirable to have the gas clean and shield the weld area prior to arc initiation. Postpurge is used to envelope the weld puddle after the arc has been extinguished. This is especially useful when a large weld puddle is created.
The prepurge and postpurge functions are controlled by one potentiometer mounted on a small control panel, which is installed in the Cobramatic® cabinet just below the existing control panel.
- 005-0195 — Prepurge/Postpurge/Burnback Kit** — The prepurge, postpurge, burnback kit performs all three functions of the above two kits consecutively, using the two separate potentiometers.
The prepurge and postpurge are controlled by one potentiometer, and the time duration for one will always be the same for the other, (.3 to .7). The burnback duration is controlled by a second potentiometer and has a range setting of .04 to .7 seconds.
- 005-0328 — Remote Potentiometer Kit** — Removes the wire feed speed control potentiometer from the torch to the cabinet. Kit includes potentiometer knob, assorted hardware and wiring harness.
- 005-0587 — Posa Start Kit** Allows the addition of "Posa Start" to an existing standard Cobramatic® cabinet. This will enable an operator to initiate a trouble-free arc with a Cobramatic®, using any constant current type welding power source of open circuit voltage in excess of 55 volts.

COBRA GOOSENECK TORCH SPECIFICATIONS



WIRE CAPACITIES	MAX WIRE FEED SPEEDS	DUTY CYCLE	
		WITH STANDARD GAS CUP	WITH HEAVY DUTY GAS CUP
.030 through .045 Solid and hard wire	500 ipm or 850 ipm	Water cooled 250 amps @ 50%	Water cooled 300 amps @ 50%
.030 through 1/16 aluminum and cored wire		Without water 200 amps @ 50%	Without water 200 amps @ 50%

TORCH AND LEAD ASSEMBLIES				
MAX IPM	PART NO.			
	SERVICE LINES			
	15'	25'	30'	50'
500	109-315	109-325	109-330	109-350
850	109-515	109-525	109-530	109-550

STANDARD GAS CUPS		
SIZE	I.D.	PART NO.
No. 6	3/8"	001-0137
No. 8*	1/2"	001-0138
No. 10	5/8"	001-0139

* Standard-Furnished with gun

HEAVY DUTY GAS CUPS		
SIZE	I.D.	PART NO.
8	1/2"	621-0366
10	5/8"	621-0367

CONTACT TIPS				
WIRE SIZE	TIP I.D.	ARC USE	LENGTH	PART NO.
.030	.036	SPRAY	1 1/2"	621-0325
		SHORT	1 3/4"	621-0326
.030	.040	SPRAY	1 1/2"	621-0076
		SHORT	1 3/4"	621-0077
.035	.044	SPRAY	1 1/2"	621-0001
		SHORT	1 3/4"	621-0002
.045 3/64	.053	SPRAY	1 1/2"	621-0327
*.045-.052 3/64	.060	SPRAY	1 1/2"	621-0003
		SHORT	1 3/4"	621-0286
.063	.075	SPRAY	1 1/2"	621-0075
.063	.085	SPRAY	1 1/2"	621-0153
		SHORT	1 3/4"	621-0154

* Standard-Furnished with torch

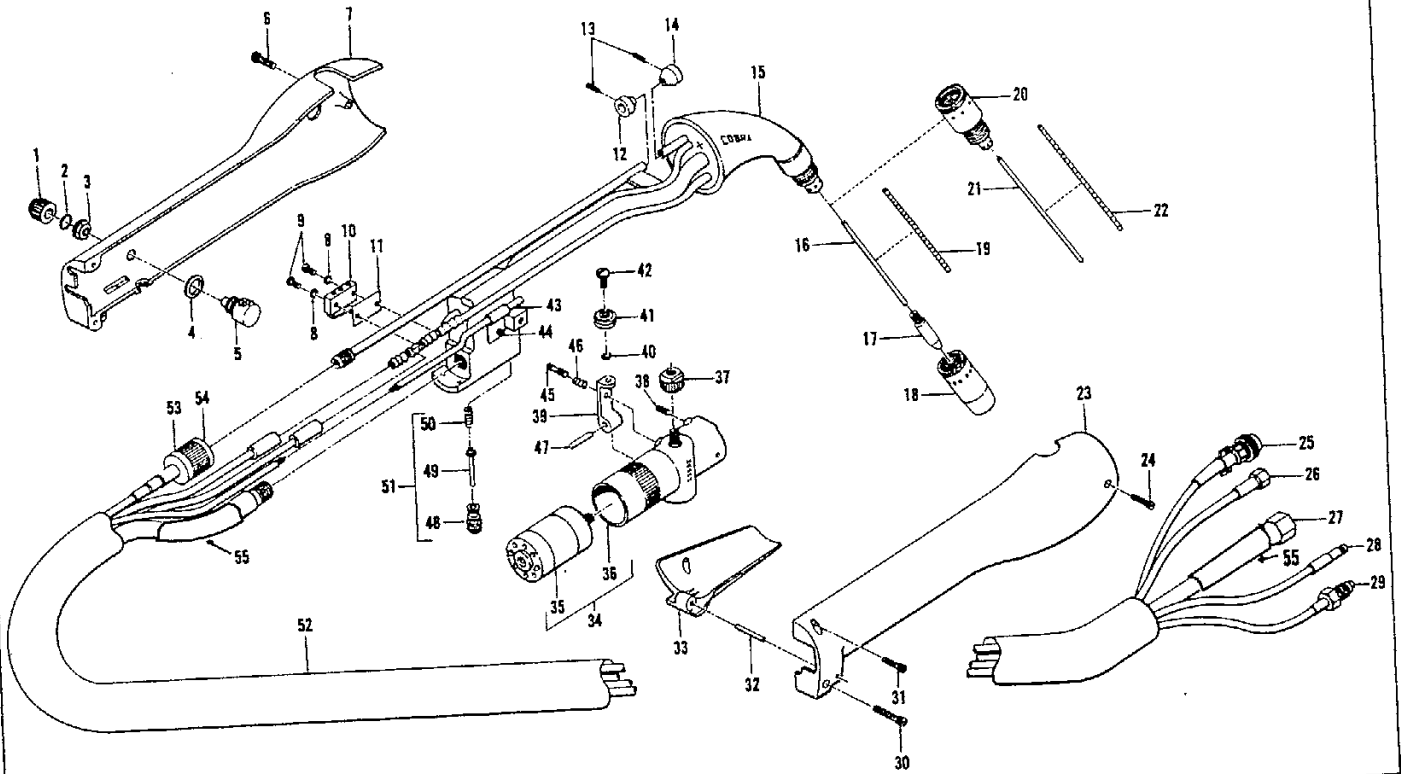
NOTE: All contact tips stamped with tip I.D.

OPTIONAL ACCESSORIES — COBRA GOOSENECK TORCH

- | | |
|--|---|
| <p>001-0066— Standard conduit with additional protective cover—15 ft.</p> <p>001-0067— Standard conduit with additional protective cover—25 ft.</p> <p>001-0068— Standard conduit with additional protective cover—30 ft.</p> <p>001-0673— Standard conduit with additional protective cover—50 ft.</p> <p>615-0031— 15 ft. flat spiral conduit with nut—for steel and cored wire.</p> <p>615-0032— 25 ft. flat spiral conduit with nut—for steel and cored wire.</p> <p>615-0034— 30 ft. flat spiral conduit with nut—for steel and cored wire.</p> | <p>615-0073— 50 ft. flat spiral conduit with nut—for steel and cored wire.</p> <p>615-0057— Spiral steel torch liner, long—for use with tip extender P/N 621-0017. For steel and cored wire.</p> <p>615-0284— Spiral steel torch liner, short—for use with steel and cored wire.</p> <p>615-0058— Teflon torch liner, long—for use with tip extender P/N 621-0017. For aluminum wire.</p> <p>621-0017— Tip extender—permits use of front body in which threads have been damaged. Use with longer torch liner P/N 615-0057 or P/N 615-0058.</p> |
|--|---|

GOOSENECK TORCH

Dwg. No. 097-0006



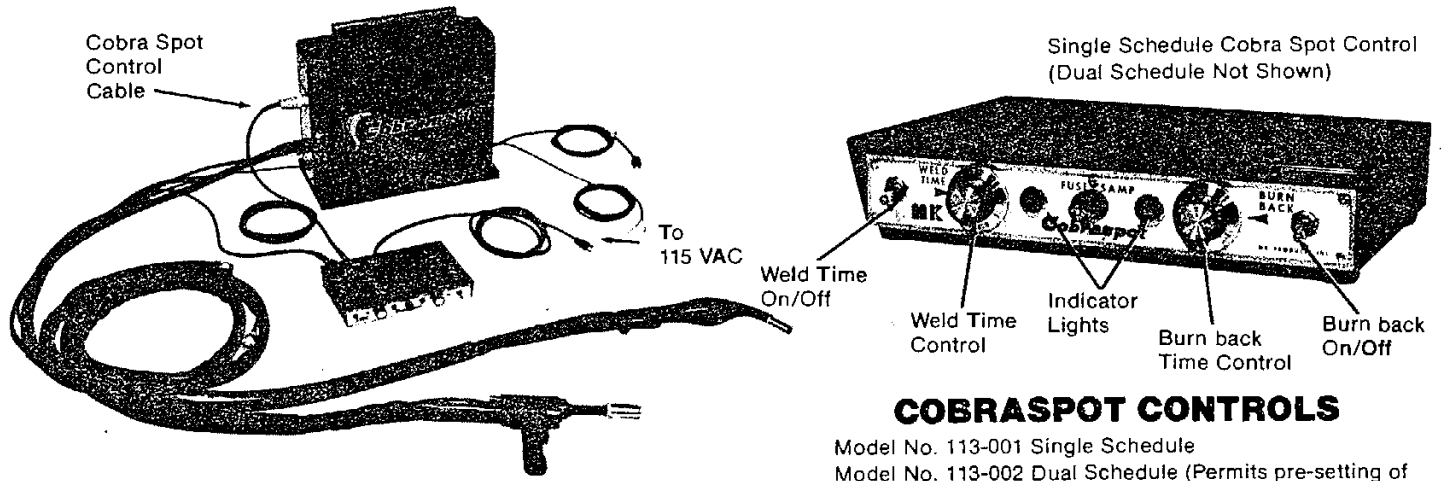
PARTS LIST GOOSENECK TORCH

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	401-0521	1	Knob	26	001-0537	1	15' Gas Hose Assy.
2	303-0540	1	"O"-Ring		001-0538	1	25' Gas Hose Assy. (Optional)
3	449-0542	1	Nut, Pot		001-0557	1	30' Gas Hose Assy. (Optional)
4	331-0034	1	Spacer		001-0665	1	50' Gas Hose Assy. (Optional)
5	117-0520	1	Potentiometer	27	001-0149	1	15' Power/Water Cable Assy.
6	328-0015	1	Screw 6-32 x 3/4 Soc. Hd. Cap.		001-0150	1	25' Power/Water Cable Assy. (Optional)
7	437-0048	1	Handle, Left Side		001-0177	1	30' Power/Water Cable Assy. (Optional)
8	333-0039	2	Lock Washer #2 Int. Star		001-0666	1	50' Power/Water Cable Assy. (Optional)
9	325-0025	2	Screw 2-56 x 3/8 Pan Hd.	28	001-0007	1	15' Conduit
10	161-0002	1	Micro Switch		001-0008	1	25' Conduit (Optional)
11	261-0069	1	Insulator		001-0563	1	30' Conduit (Optional)
12	431-0115	1	Rear Wire Guide		001-0659	1	50' Conduit (Optional)
13	321-0001	2	Set Screw 4-40 x 1/8	29	001-0529	1	15' Water In Hose Assy.
14	431-0743	1	Front Wire Guide		001-0530	1	25' Water In Hose Assy. (Optional)
15	001-0029	1	Front Body Assembly (Including)		001-0565	1	30' Water In Hose Assy. (Optional)
	431-0743	1	Front Wire Guide		001-0667	1	50' Water In Hose Assy. (Optional)
	431-0115	1	Rear Wire Guide	30	328-0014	1	Screw 6-32 x 5/8 Soc. Hd. Cap.
	615-0055	1	Teflon Liner	31	328-0002	1	Screw 4-40 x 3/8 Soc. Hd. Cap.
	001-0562	1	Gas Valve Assembly	32	421-0018	1	Dowel Pin 3/32 DIA. x 7/8
16	615-0055	1	Teflon Liner	33	003-0302	1	Lever-Switch Actuator
17	SEE TABLE	1	Contact Tip (Page 7)	34	001-0551	1	Motor & Gear Box Assembly
18	SEE TABLE	1	Gas Cup (Page 7)		001-0552	1	500"/Min. Motor & Gear Box Assembly
19	615-0284	1	Spiral Liner (Optional)	35	001-0539	1	850"/Min. Motor 24 Volt
20	621-0017	1	Tip Extension (Optional)	36	001-0549	1	Gear Box Assembly, 500"/Min.
21	615-0058	1	Long Teflon Liner (Optional)		001-0550	1	Gear Box Assembly, 850"/Min.
22	615-0057	1	Long Spiral Liner (Optional)	37	511-0016	1	Drive Roll
23	437-0049	1	Handle, Right Side	38	321-0081	1	Set Screw, 1/4-20 x 1/4
24	328-0013	1	Screw 6-32 x 1/2 Soc. Hd. Cap.				
25	001-0610	1	15' Electrical Cable Assy.				
	001-0611	1	25' Electrical Cable Assy. (Optional)				
	001-0612	1	30' Electrical Cable Assy. (Optional)				
	001-0664	1	50' Electrical Cable Assy. (Optional)				

Gooseneck Torch Parts List Continued

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
39	413-0017	1	Idler Arm	49	001-0740	1	Valve Stem Assembly Including 303-0723 "O"-Ring
40	333-0082	1	Lock Washer #10 Med.	50	419-0742	1	Spring
41	511-0001	1	Idler Roll	51	001-0562	1	Gas Valve Assembly
42	325-0206	1	Screw, 10-24 x 3/8 Pan Hd.	52	551-0272	1	15' Cable Cover
43	411-0159	1	Cable Clamp	52	551-0273	1	25' Cable Cover
44	328-0216	1	Screw 3-48 x 3/16 Soc. Hd. Cap.	52	551-0292	1	30' Cable Cover
45	431-0015	1	Torch Adjusting Screw	52	551-0293	1	50' Cable Cover
46	419-0020	1	Spring, Roll Pressure	53	439-0090	1	Nut, Conduit
47	421-0024	1	Dowel Pin, 1/8 DIA. x 1"	54	313-0089	2	Retaining Ring
48	001-0553	1	Gas Valve Seat Assy. Including 303-0516 "O"-Ring (2)	55	301-0097	2	Wtr/Pwr Cable Boot

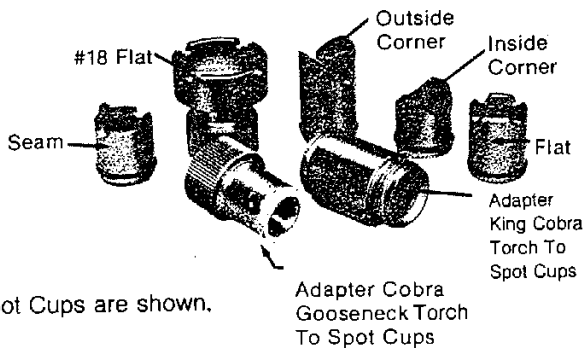
COBRAMATIC® WITH COBRASPOT



COBRASPOT CONTROLS

Model No. 113-001 Single Schedule
 Model No. 113-002 Dual Schedule (Permits pre-setting of two separate weld times)

MIG SPOT CUPS



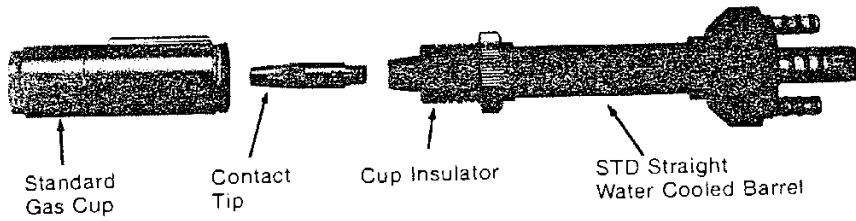
NOTE: Only Cobra Gooseneck Spot Cups are shown.

MIG SPOT CUPS				
TORCH	DESCRIPTION	CUP SIZE	ADAPTER*	PART NO.
GOOSENECK COBRA	INSIDE CORNER	NO. 10	001-0545	621-0197
GOOSENECK COBRA	OUTSIDE CORNER	NO. 10	001-0545	621-0199
GOOSENECK COBRA	FLAT	NO. 10	001-0545	621-0198
GOOSENECK COBRA	FLAT - SEAM	NO. 10	001-0545	621-0043
GOOSENECK COBRA	FLAT - H.D.	NO. 18	001-0545	621-0042
KING COBRA	INSIDE CORNER	NO. 10	621-0101	621-0174
KING COBRA	OUTSIDE CORNER	NO. 10	621-0101	621-0175
KING COBRA	FLAT	NO. 10	621-0101	621-0176
KING COBRA	FLAT - SEAM	NO. 10	621-0101	621-0177
KING COBRA	FLAT - H.D.	NO. 18	621-0101	621-0178

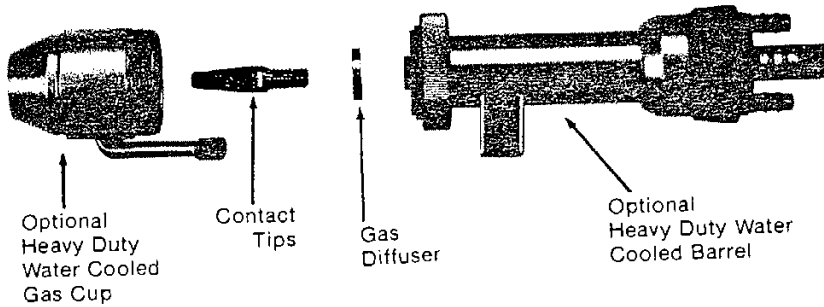
* A Spot Cup Adapter must be used with both the Cobra and the King Cobra Torch. When selecting the proper Spot Cup, the type of Torch and Adapter must be taken into consideration.

KING COBRA® TORCH BARREL ASSEMBLIES

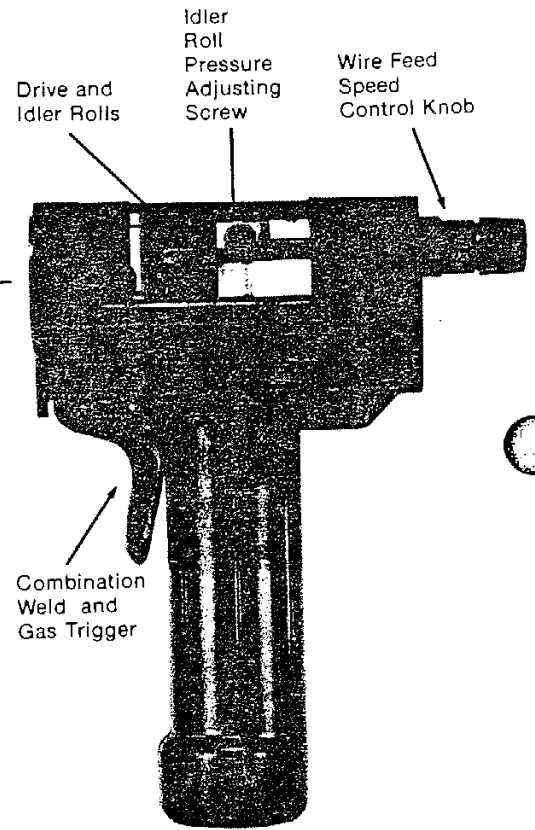
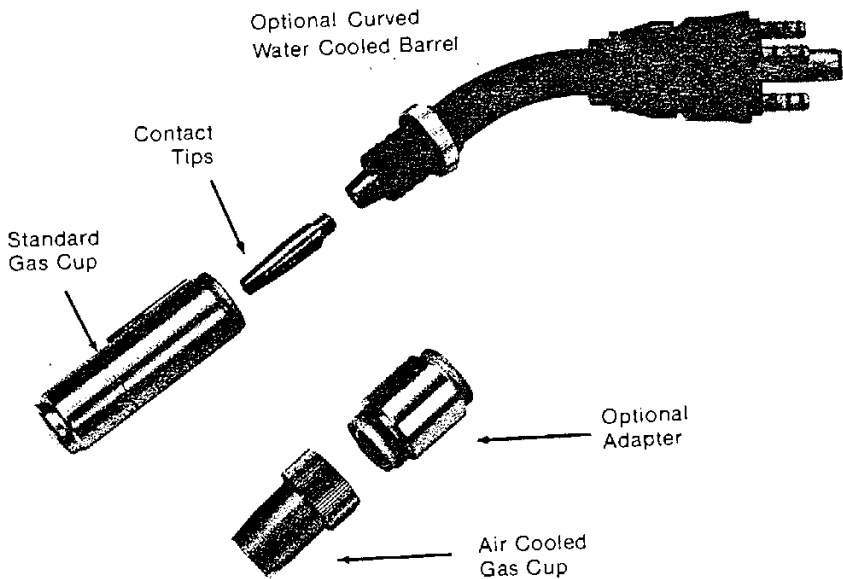
STANDARD STRAIGHT BARREL



OPTIONAL HEAVY DUTY BARREL



OPTIONAL CURVED BARREL



The straight barrel assemblies shown on page 13 may be bent to a desired radius and angle, if requested. (See "Robotic Applications," page 14, for details.)

**KING COBRA® TORCH
BARREL ASSEMBLIES
(continued)**

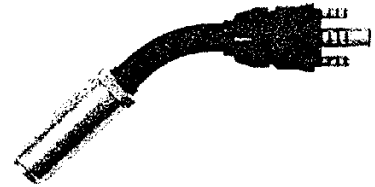
STANDARD 6" STRAIGHT BARREL

P/N 001-1765



OPTIONAL 6" CURVED BARREL

P/N 001-1750



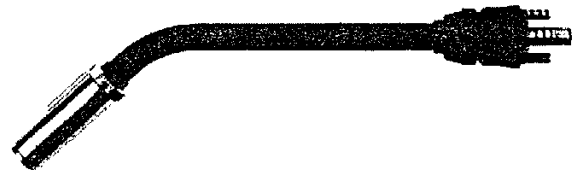
OPTIONAL 12" STRAIGHT BARREL

P/N 001-1766



OPTIONAL 12" CURVED BARREL

P/N 001-1751



OPTIONAL 18" STRAIGHT BARREL

P/N 001-1767



OPTIONAL 18" CURVED BARREL

P/N 001-1752



OPTIONAL 29" STRAIGHT BARREL

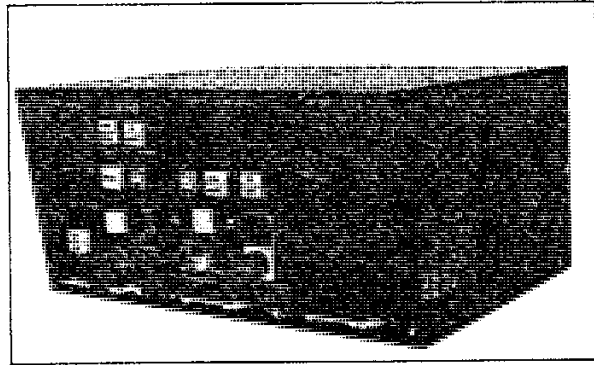
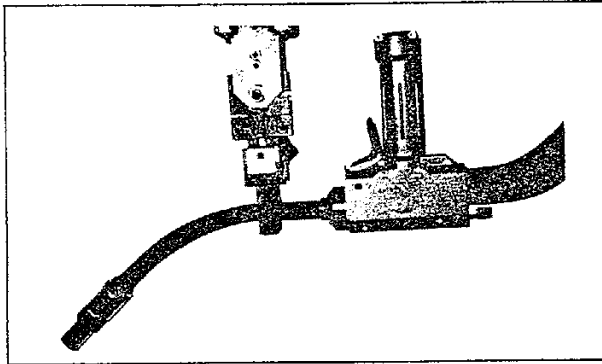
P/N 001-1768



The unique plug-in design of the King Cobra barrel assembly allows the operator to quickly change from one barrel assembly to another.

Any one of the above barrel assemblies may be installed on new King Cobra torches, if requested at the time the order is placed.

ROBOTIC APPLICATIONS INCORPORATING THE COBRAMATIC SYSTEMS



CUSTOM BARREL ASSEMBLIES

Both the straight and curved King Cobra Barrel Assemblies are now available in six, twelve, and eighteen inch lengths. All of the above barrel assemblies are available as replacement parts; or, may be installed on new King Cobra torches at the time the order is placed. If a requirement for a particular radius and angle is desired on the twelve or eighteen inch barrel assemblies, we will custom bend these barrels upon request. This has proven extremely successful in robotic applications where the radius and angle are critical. Custom barrel order forms are available upon request.

ROBOTIC WELDING

As robotic welding continues to make advancements in the welding industry, we have found that the Cobramatic wire feeder is well suited to adapting to many robotic applications maintaining smooth, consistent wire feed in virtually any position. To keep up with this growing industry, M.K. Products has developed a line of interface control units (ICU) to adapt the Cobramatic to existing robots. Several different control units are now available with a variety of functions. For further information on the interface control units, contact your local distributor or M.K. Products.

OPTIONAL ACCESSORIES — KING COBRA® TORCH

- 001-0774 — Standard conduit with additional protective cover — 15 ft.
- 001-0775 — Standard conduit with additional protective cover — 25 ft.
- 001-0776 — Standard conduit with additional protective cover — 30 ft.
- 001-0777 — Standard conduit with additional protective cover — 50 ft.

- 615-0208 — 15 ft. flat spiral conduit — for steel and cored wire
- 615-0216 — 25 ft. flat spiral conduit — for steel and cored wire
- 615-0217 — 30 ft. flat spiral conduit — for steel and cored wire
- 615-0218 — 50 ft. flat spiral conduit — for steel and cored wire

KING COBRA TORCH SPECIFICATIONS

WIRE CAPACITY	MAX. IPM WIRE	DUTY CYCLE (Water Cooled)		
		WITH STANDARD AIR COOLED GAS CUP	WATER COOLED GAS CUP	HEAVY DUTY WATER COOLED GAS CUP
.030 through 1/16 all wires	700	300 amps @ 100%	400 amps @ 100%	750 amps @ 100%
Note: When not water cooled King Cobra torches are all rated at 200 amps 50% duty cycle.				

CONTACT TIPS FOR STRAIGHT AND CURVED BARREL ASSEMBLIES				
WIRE SIZE	TIP I.D.	ARC	TIP LENGTH	PART NO.
.030	.036	SPRAY SHORT	1 - 5/8"	621-0155
		SPRAY SHORT	1 - 7/8"	621-0173
.030	.040	SPRAY SHORT	1 - 5/8"	621-0158
		SPRAY SHORT	1 - 7/8"	621-0165
.035	.044	SPRAY SHORT	1 - 5/8"	621-0157
		SPRAY SHORT	1 - 7/8"	621-0166
.045 - 3/64	.053	SPRAY SHORT	1 - 5/8"	621-0161
		SPRAY SHORT	1 - 7/8"	621-0167
3/64 - .052	.060	SPRAY SHORT	1 - 5/8"	621-0162
		SPRAY SHORT	1 - 7/8"	621-0168
.063	.075	SPRAY SHORT	1 - 5/8"	*621-0163
		SPRAY SHORT	1 - 7/8"	621-0169
.063	.085	SPRAY	1 - 5/8"	621-0164

*STANDARD — FURNISHED WITH TORCH

CONTACT TIPS FOR OPTIONAL HEAVY DUTY WATER COOLED BARREL				
WIRE SIZE	TIP I.D.	ARC	TIP LENGTH	PART NO.
.030	.040	SPRAY SHORT	1-5/8 "	621-0020
		SPRAY SHORT	1-7/8 "	621-0035
.035	.044	SPRAY SHORT	1-5/8 "	621-0021
		SPRAY SHORT	1-7/8 "	621-0036
.045-3/64	.053	SPRAY SHORT	1-5/8 "	621-0022
		SPRAY SHORT	1-7/8 "	621-0037
.052-3/64	.060	SPRAY SHORT	1-5/8 "	621-0027
		SPRAY SHORT	1-7/8 "	621-0038
.063	.075	SPRAY SHORT	1-5/8 "	621-0023
		SPRAY SHORT	1-7/8 "	621-0039
.063	.085	SPRAY	1-5/8 "	621-0024

* Standard-Furnished with Torch
NOTE: 1. All contact tips stamped with Tip I.D.

WATER COOLED BARREL ASSEMBLIES				
BARREL NO.	FURNISHED WITH BARREL ASSEMBLY			
	DESCRIPTION	CONTACT TIP	CUP SIZE	GAS CUP
001-1765*	6" STRAIGHT Bbl.	621-0163	NO. 10	621-0065
001-1750	OPTIONAL 6" CURVED Bbl.	621-0163	NO. 10	621-0065
001-1766	OPTIONAL 12" STRAIGHT Bbl.	621-0163	NO. 10	621-0065
001-1751	OPTIONAL 12" CURVED Bbl.	621-0163	NO. 10	621-0065
001-1767	OPTIONAL 18" STRAIGHT Bbl.	621-0163	NO. 10	621-0065
001-1752	OPTIONAL 18" CURVED Bbl.	621-0163	NO. 10	621-0065
001-1768	OPTIONAL 29" STRAIGHT Bbl.	621-0163	NO. 10	621-0065
001-0670	OPTIONAL 6" HEAVY DUTY	621-0023	NO. 12	621-0094
001-0671	OPTIONAL 6" HEAVY DUTY	621-0023	NO. 14	621-0095
001-0672	OPTIONAL 6" HEAVY DUTY	621-0023	NO. 16	621-0096

* Standard Barrel Assembly furnished with all King Cobra Cobramatic Systems as well as with Model Number 118 King Cobra Torch and Lead Assemblies.

TORCH AND LEAD ASSEMBLIES				
MAX IPM	PART NO.			
	SERVICE LINES			
	15'	25'	30'	50'
700	118-315	118-325	118-330	118-350

AIR COOLED GAS CUPS			
CUP SIZE	CUP I.D.	CUP LENGTH	PART NO.
NO. 6	3/8"	1.43	621-0170
NO. 8	1/2"	1.43	621-0159
NO. 10	5/8"	1.43	621-0160

Use of the above air cooled Gas Cups on either the straight or curved barrel assemblies requires the addition of a Gas Cup nut P/N 449-0193 and a Gas Cup adapter P/N 621-0101.

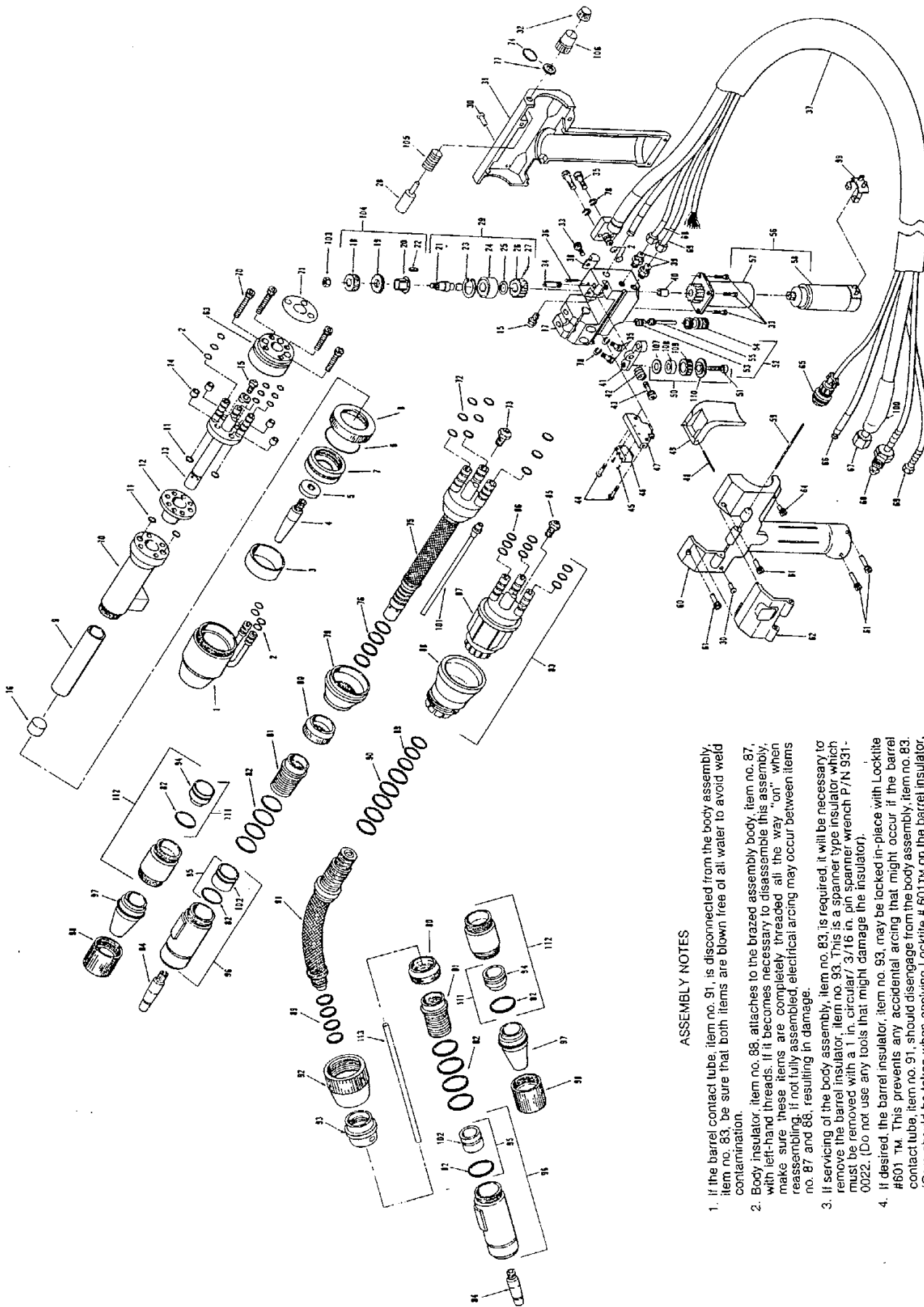
HEAVY DUTY WATER COOLED GAS CUPS			
SIZE	CUP I.D.	CUP NO.	GAS DIFFUSER NO.
12	3/4"	621-0094	* 431-0779
14	7/8"	621-0095	* 431-0780
16	1"	621-0096	* 431-0781

* Order Separate From Cup.
(Gas Diffuser Screws Onto Contact Tip.)

KING COBRA BARREL TEFLON AND SPIRAL LINERS						
BARREL PART NO.	BARREL LENGTH	BARREL TYPE	LINER MATERIAL	LINER DESCRIPTION	WIRE SIZE	LINER PART NO.
001-1765	6"	STRAIGHT	GREEN TEFLON	.177 O.D. x .084 I.D. x 6.06 LG.	.030-.063	615-0194
001-1766	12"	STRAIGHT	GREEN TEFLON	.177 O.D. x .084 I.D. x 12.25 LG.	.030-.063	615-0198
001-1767	18"	STRAIGHT	GREEN TEFLON	.177 O.D. x .084 I.D. x 18.25 LG.	.030-.063	615-0205
001-1768	29"	STRAIGHT	GREEN TEFLON	.179 O.D. x .084 I.D. x 29.56 LG.	.030-.063	615-0200
001-1750	6"	CURVED	WHITE TEFLON	.175 O.D. x .052 I.D. x 7.56 LG.	.030-.035	615-0179
			WHITE TEFLON	.175 O.D. x .084 I.D. x 7.56 LG.	.045-.063	615-0182
001-1751	12"	CURVED	WHITE TEFLON	.175 O.D. x .052 I.D. x 13.31 LG.	.030-.035	615-0180
			WHITE TEFLON	.175 O.D. x .084 I.D. x 13.31 LG.	.045-.063	615-0183
001-1752	18"	CURVED	WHITE TEFLON	.175 O.D. x .052 I.D. x 19.31 LG.	.030-.035	615-0181
			WHITE TEFLON	.175 O.D. x .084 I.D. x 19.31 LG.	.045-.063	615-0184
001-1750	6"	CURVED	SPIRAL STEEL	.174 O.D. x .114 I.D. x 7.56 LG.	.030-.063	615-0223
001-1751	12"	CURVED	SPIRAL STEEL	.174 O.D. x .114 I.D. x 13.31 LG.	.030-.063	615-0224
001-1752	18"	CURVED	SPIRAL STEEL	.174 O.D. x .114 I.D. x 19.31 LG.	.030-.063	615-0225

KING COBRA® TORCH

Dwg. No. 097-0007



ASSEMBLY NOTES

1. If the barrel contact tube, item no. 91, is disconnected from the body assembly, item no. 83, be sure that both items are blown free of all water to avoid weld contamination.
2. Body insulator, item no. 88, attaches to the brazed assembly body, item no. 87, with left-hand threads. If it becomes necessary to disassemble this assembly, make sure these items are completely threaded all the way "on" when reassembling. If not fully assembled, electrical arcing may occur between items no. 87 and 88, resulting in damage.
3. If servicing of the body assembly, item no. 83, is required, it will be necessary to remove the barrel insulator, item no. 93. This is a spanner type insulator, which must be removed with a 1 in. circular/ 3/16 in. pin spanner wrench P/N 931-0022. (Do not use any tools that might damage the insulator.)
4. If desired, the barrel insulator, item no. 93, may be locked in-place with Locktite #601™. This prevents any accidental arcing that might occur if the barrel contact tube, item no. 91, should disengage from the body assembly, item no. 83. (Care should be taken when applying Locktite # 601™ on the barrel insulator, item no. 93. One small drop on the threads is sufficient.)

PARTS LIST KING COBRA® TORCH

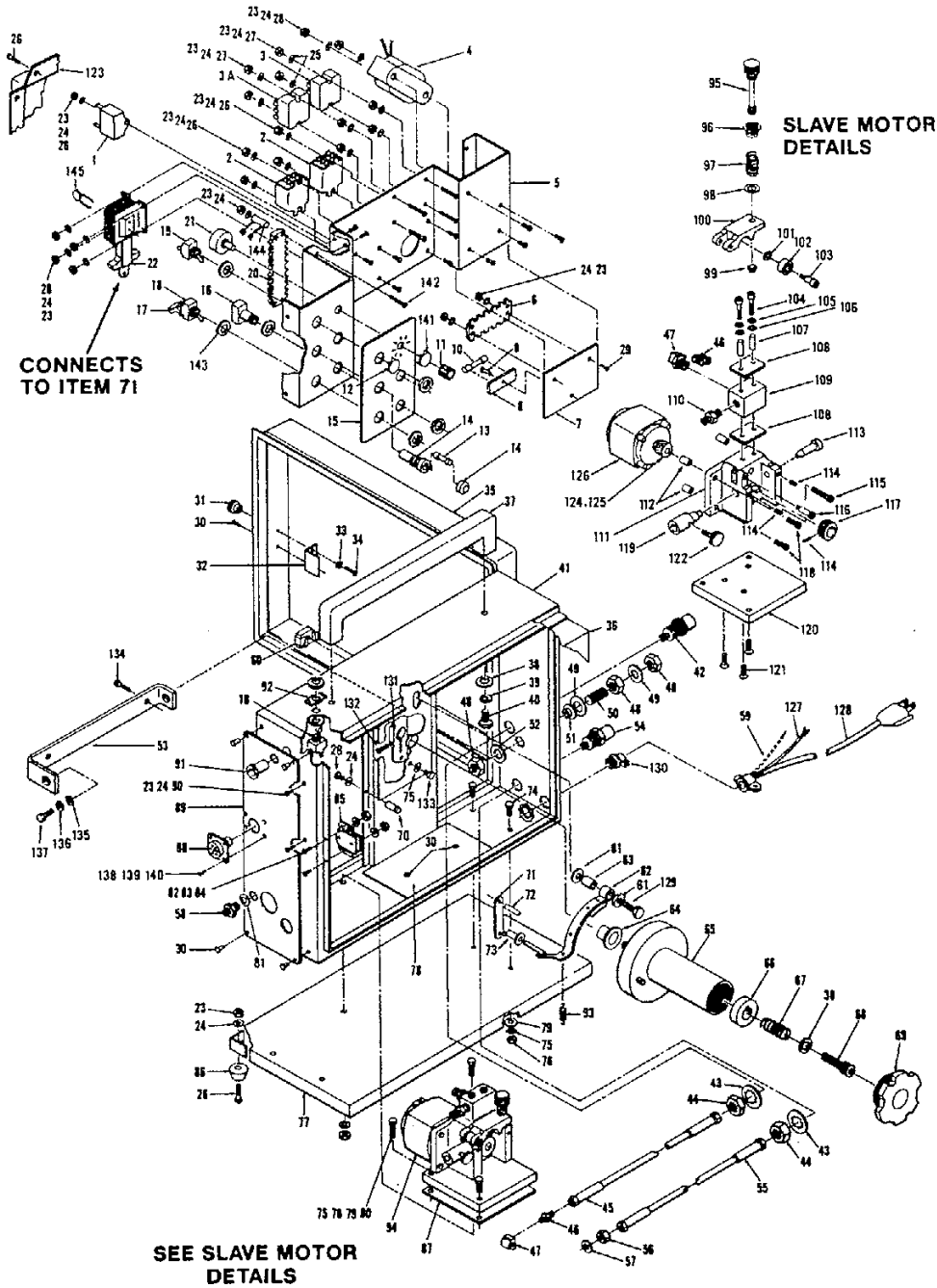
ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	SEE TABLE PAGE 15	1	Cup Water/Cooled	65	001-0610	1	15' Electric Cable Assembly
2	303-0081	15	Ø Ring BNA .178 I.D. x .05 THK. (Incl. w/ 1, 13, and 67)		001-0611	1	25' Electric Cable Assembly
3	261-0672	1	Insulator H.D. Gas Cup (Incl. w/ 1)		001-0612	1	30' Electric Cable Assembly
4	SEE TABLE PAGE 14	1	Contact Tip H.D. Barrel		001-0664	1	50' Electric Cable Assembly
5	SEE TABLE PAGE 15	1	Baffle	66	815-0007	1	15' Conduit
6	303-3189	1	Ø Ring BNA 1.178 I.D. x .070 THK.		815-0008	1	25' Conduit
7	431-0684	1	Adpt. Ring #12-16 W/C H.D. Barrel		815-0563	1	30' Conduit
8	431-0774	1	Knurled Nut #12-16 W/C H.D. Barrel		815-0068	1	50' Conduit
9	261-0063	1	Insulator Long H.D. Barrel	67	843-0030	1	15' Power-Water Cable Assy.
10	002-0139	1	Brazed Assy. #12-16 H.D. W/C Barrel		843-0031	1	25' Power-Water Cable Assy.
11	303-0723	4	Ø Ring BNA .114 I.D. x .07 THK.		843-0032	1	30' Power-Water Cable Assy.
12	261-0001	1	Insulator H.D. Barrel		843-0029	1	50' Power-Water Cable Assy.
13	002-0111	1	Contact Tube H.D. Barrel	68	552-0001	1	15' Water In
14	342-0400	4	Sleeve Insulator		552-0002	1	25' Water In
15	431-1067	2	Wire Guide Insulated		552-0003	1	30' Water In
16	261-0255	1	Front Insulator H.D. Barrel		552-0040	1	50' Water In
17	431-0158	1	Torch Body King	69	552-0004	1	15' Gas Hose
18	431-0873	1	Knurled Drive Roll Housing (Incl. w/ 104)		552-0005	1	25' Gas Hose
19	507-0211	1	Spur Gear (Incl. w/ 104)		552-0006	1	30' Gas Hose
20	261-0242	1	Insulator Drive Roll (Incl. w/ 104)	70	328-0028	4	Screw, 8-32 x 7/8 Soc. Hd. Cap.
21	431-0132	1	Drive Roll Shaft (Incl. w/ 29)	71	261-0011	1	Insulator Disc
22	421-0403	1	Phenolic Key (Incl. w/ 104)	72	303-0061	9	Ø Ring BNA .176 I.D. x .05 THK. (Incl. w/ 75)
23	313-0003	1	Retaining Ring (Incl. w/ 29)	73	431-1067	1	Wire Guide Insulated
24	501-0207	1	Drive Shaft Bearing (Incl. w/ 29)	74	303-0540	1	Ø Ring BNA .426 I.D. x .07 THK.
25	331-0106	1	Flat Wahr. .255 x .442 x .015 (Incl. w/ 29)	75	003-0187	1	6" Barrel Contact Tube Assy.
26	507-0002	1	Drive Gear (Incl. w/ 29)		003-0191	1	12" Barrel Contact Tube Assy.
27	421-0129	1	Drive Gear Roll Pin (Incl. w/ 29)		003-0217	1	18" Barrel Contact Tube Assy.
28	117-0036	1	5 Turn Pot. Mod.		003-0192	1	28" Barrel Contact Tube Assy.
29	001-0114	1	Drive Shaft Assembly	76	303-0010	4	Ø Ring BNA .489 I.D. x .629 THK. (Incl. w/ 75)
30	320-0005	2	Screw, 6-32 x 3/8 Soc. Button Hd.	77	449-0542	1	Nut
31	437-0060	1	Right Side Handle	78	333-0007	4	Lock Wahr. #10 (Incl. w/ 17)
32	401-0521	1	Knob	79	261-0057	1	Body Insulator
33	328-0012	5	Screw, 6-32 x 3/8 Soc. Hd. Cap.	80	431-0977	1	Gas Cup Retainer Nut
34	431-0182	1	Idler Arm Pin	81	261-0049	1	Barrel Insulator
35	328-0047	4	Screw, 10-32 x 5/8 Soc. Hd. Cap. (Incl. w/ 17)	82	303-0012	6	Ø Ring BNA .676 I.D. x .818 THK. (Incl. w/ 81, 95 and 111)
36	321-0421	1	Set Screw 6-32 x 3/4 Mod.	83	003-0247	1	Body Assembly
37	551-0272	1	15' Cable Cover	84	SEE TABLE PAGE 14	1	Contact Tip Standard
	551-0273	1	25' Cable Cover	85	431-1067	1	Wire Guide Insulated
	551-0292	1	30' Cable Cover	86	303-0081	9	Ø Ring BNA .176 I.D. x .05 THK. (Incl. w/ 87)
	551-0293	1	50' Cable Cover	87	002-0269	1	Brazed Assembly Body (Incl. w/ 83)
38	411-0158	1	Cable Clamp	88	261-0270	1	Body Insulator (Incl. w/ 83)
39	753-0114	2	Adapter Fitting	89	303-0010	7	Ø Ring BNA .489 I.D. x .629 THK. (Incl. w/ 81)
40	501-0004	1	Bearing	90	303-0011	5	Ø Ring BNA .614 I.D. x .754 THK. (Incl. w/ 91)
41	431-0161	1	Idler Arm	91	003-0244	1	6" Barrel Contact Tube Assy.
42	419-0020	1	Idler Roll Pressure Adj. Spring		003-0245	1	12" Barrel Contact Tube Assy.
43	431-0015	1	Idler Roll Pressure Adj. Screw		003-0246	1	18" Barrel Contact Tube Assy.
44	325-0133	2	Screw, 6-32 x 3/8 Pn. Hd.	92	431-1089	1	Barrel Retaining Nut
45	325-0025	2	Screw, 2-56 x 3/8 Pn. Hd.	93	261-0271	1	Spanner Barrel Insulator
46	161-0002	1	Micro Switch	94	261-0234	1	Adapter Insulator (Incl. w/ 111)
47	431-0032	1	Switch Mounting Bracket	95	261-0240	1	Gas Cup Insulator Assy. (Incl. w/ 96)
48	421-0018	1	Trigger Pin	96	821-0065	1	#10 W/C Gas Cup Assy.
49	001-0116	1	Trigger	97	SEE TABLE PAGE 15	1	Air Cooled Gas Cup Assy.
50	511-0075	1	Insulated Idler Roll Assembly	98	449-0193	1	Cup Retaining Nut
51	350-0005	1	Nylon Idler Roll Retaining Screw (Incl. w/ 50)	99	921-0024	1	Motor Brushes (Replacement) (Incl. w/ 58)
52	001-0562	1	Gas Valve Assembly	100	301-0097	2	Water/Power Cable Boot (Incl. w/ 67)
53	419-0742	1	Gas Valve Spring (Incl. w/ 52)	101	SEE TABLE PAGE 15	1	Barrel Liner
54	001-0553	1	Gas Valve Seat Assy. (Incl. w/ 52) (Includes (2) 303-0516 Ø Rings)	102	261-0239	1	Gas Cup Insulator (Incl. w/ 85)
55	001-0740	1	Valve Stem Assy. (Incl. w/ 52) (Includes (2) 303-0723 Ø Rings)	103	350-0004	1	Insulated Drive Roll Retaining Nut
56	001-0101	1	Motor & Gear Box Assy. 700 I.P.M.	104	511-0064	1	Insulated Drive Roll Assy.
	001-0641	1	Motor & Gear Box Assy. 1000 I.P.M.	105	261-0254	1	Insulated Pot. Retainer
	001-0153	1	Gear Box Assembly 700 I.P.M. (Incl. w/ 56 - 001-0101)	106	261-0247	1	Insulated Pot. Nut
	001-0645	1	Gear Box Assembly 1000 I.P.M. (Incl. w/ 56 - 001-0641)	107	342-0083	1	Idler Roll Spacer (Incl. w/ 50)
58	001-0155	1	Motor 24 Volt DC (Incl. w/ 56)	108	501-0720	1	Idler Roll Bearing (Incl. w/ 50)
59	421-0015	1	Door Pin	109	431-0163	1	Idler Roll Housing (Incl. w/ 50)
60	437-0055	1	Left Side Handle	110	507-0217	1	Spur Gear (Incl. w/ 50)
61	328-0014	4	Screw, 6-32 x 5/8 Soc. Hd. Cap.	111	261-0235	1	Adapter Insulator Assy. (Incl. w/ 112)
62	437-0057	1	Door	112	621-0101	1	Gas Cup Adapter Assy.
63	431-0138	1	Barrel Insulator				
64	328-0016	1	Screw, 6-32 x 7/8 Soc. Hd. Cap.				

COBRAMATIC® CABINET

Dwg. No. 097-0005

MODEL NO. MK3A P/N 001-0517 STANDARD

MODEL NO. MK3APS P/N 001-0519 WITH POSA START



ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	101-0031	1	Capacitor, 3.75 UF	11	401-0521	1	Knob, (Posa Start Only)
2	157-0135	2	Control Relay, 3 PDT 24 VAC	12	351-0004	1	Snap Button, 1/2" Dia.
3	177-0500	1	Speed Control Module	13	151-0197	1	Fuse, MTH 5A 250V
3A	177-0550	1	Posa Start Module (Posa Start Only)	14	152-0058	1	Fuse Holder
4	137-0047	1	Transformer w/ Leads, 115V/26.8V	15	405-0597	1	Name Plate
5	435-0569	1	Control Panel	16	159-0022	1	Switch, DPDT, Rotary
6	186-0164	1	Terminal Strip, 6 Contacts	17	113-0593	1	Resistor, 400 OHM 5W
7	405-0028	1	Fuse Plate	18	159-0051	2	Switch, DPST, Toggle
8	152-0001	1	Fuse Holder	19	159-3581	1	Switch, SPDT, Toggle (Posa Start Only)
9	305-0006	1	Rivet, 1/8"	20	186-0222	1	Terminal Strip, 10 Contacts
10	151-0001	1	Fuse, AGC 2A 250V				

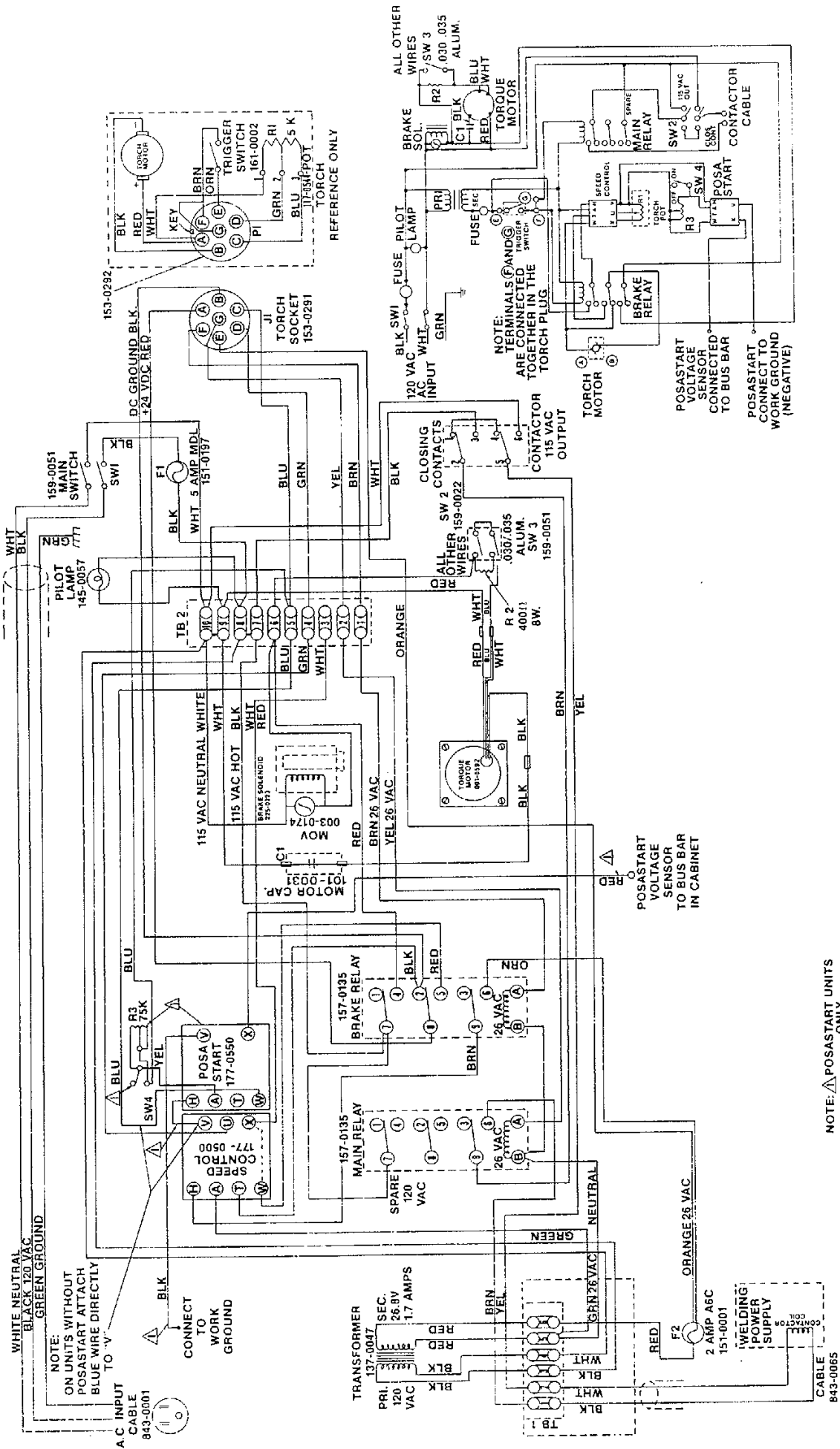
PARTS LIST - COBRAMATIC® CABINET

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
21	119-0573	1	Pot., 75K 2W (Posa Start Only)	83	333-0024	4	Wshr. Lock, #8 EXT. STAR
22	225-0223	1	Declutch Solenoid	84	341-0006	4	Nut Hex, 8-32 STL/CAD
23	341-0005	35	Nut Hex, 6-32 STL/CAD	85	415-0221	2	Magnet Latch
24	333-0023	25	Wshr. Lock, #6 EXT STAR	86	301-0103	4	Cabinet Pads
25	301-0534	4	Wshr., Rubber	87	261-0372	1	Insulator, Slave Motor
26	325-0135	13	Screw Pan Hd., 6-32 x 1/2	88	153-0291	1	Connector, Receptacle 7 Pin FEM.
27	325-0142	4	Screw Pan Hd., 6-32 x 1/4	89	405-0046	1	Face Plate (Not Available)
28	325-0131	7	Screw Pan Hd., 6-32 x 1/4	90	324-0133	4	Screw Flat Hd., 6-32 x 3/8
29	325-0137	2	Screw Pan Hd., 6-32 x 5/8	91	145-0057	1	Pilot light
30	305-0004	10	Rivet, 1/8"	92	405-0005	1	"On-Off" Switch Plate
31	401-0333	2	Knob, Cabinet Door	93	419-0067	1	Brake Return Spring
32	415-0276	1	Door Catch, Left	94	001-0596	1	Slave Motor & Gear Box Assy.
32	415-0277	1	Door Catch, Right (Not Shown)	95	003-0273	1	Pressure Shaft/Knob S/A
33	333-0082	2	Wshr. Lock, #10	96	345-0047	1	Self Locking Adjustment Nut
34	325-0225	2	Screw Pan Hd., 10-32 x 3/8	97	419-0211	1	Pressure Spring
35	001-0219	1	Door Assy., Left Side (Includes 31, 32 and Hinge)	98	331-0050	1	Wshr. Flat, .265 I.D. x .625 O.D. x .06 THK.
36	001-0217	1	Door Assy., Right Side (Includes 31, 32 and Hinge)	99	431-1082	1	Nut-Shaft Stop
37	415-0242	1	Lift Handle	100	413-0209	1	Idler Roll Arm
38	331-0016	3	Wshr. Flat, 5/16 STL	101	333-0009	1	Wshr. Lock, 1/4 Spring
39	333-0010	2	Wshr. Lock, 5/16 Spring	102	501-0207	1	Idler Roll-Slave Motor
40	329-0029	2	Screw, Cap Hex Hd., 5/16-18 x 3/4	103	330-0001	1	Screw Shdr., 1/4 x 3/8
41	002-0088	1	Center Control Box	104	328-0043	2	Screw Shc., 10-24 x 1-3/4
42	431-0016	1	Fitting, Water 5/8 L.H.	105	333-0025	2	Wshr. Lock, #10 EXT. STAR
43	333-0054	2	Wshr. Lock, 3/4 INT STAR	106	331-0044	2	Wshr. Flat, AN 960-10
44	342-0025	2	Nut Jam, 3/4-16	107	261-0053	2	Sleeve Insulator
45	552-3130	1	Water Hose Assy.	108	261-0051	2	Block Insulator
46	753-0114	2	Adapter Fitting	109	431-0978	1	Block Connector
47	753-0182	2	Elbow, M-F 1/8 NPT	110	753-0112	1	Power & Water Fitting
48	449-0024	3	Nut Hex, 7/16-20	111	001-0204	1	Gear Box Assembly (Includes 46, 47, and 95 thru 122)
49	331-0176	2	Wshr. Brass, .500 x 1.125 x .080	112	342-0063	4	Spacer
50	445-0375	1	Buss Bar Connector	113	753-0210	1	Wire Inlet Guide
51	261-0339	1	Buss Bar Insulator Outside	114	321-0060	3	Screw Cps., 10-24 x 1/4
52	261-0365	1	Buss Bar Insulator Inside	115	328-0029	2	Screw Shc., 8-32 x 1
53	435-0283	1	Buss Bar	116	330-0004	1	Screw Shdr., 1/4 x 3/4
54	431-0017	1	Gas Fitting, 5/8	117	511-0206	1	Drive Roll-Slave Motor (Includes Item 114)
55	552-0041	1	Gas Hose Assy.	118	328-0026	1	Screw Shc., 8-32 x 5/8
56	341-0053	1	Nut Hex, 1/8 NPT Brass	119	753-0265	1	Wire Guide Outlet
57	333-0057	1	Wshr. Lock, .418 I.D. x .605 O.D. x .023 THK.	120	261-0213	1	Gear Box Insulator
58	431-0018	1	Gas Fitting, 1/8-27 NPT	121	324-0286	3	Screw Fhsm., 1/4-20 x 3/4
59	843-0065	1	18/2 SVO 8' (Posa Start Only)	122	003-0176	1	Knob, S/A
60	351-0050	1	Nut Retainer, 1/4-20	123	001-0499	1	Cover, Electrical Panel
61	261-0374	2	Brake Sleeve Spacer	124	421-0126	1	Spring Pin, 1/16 x 1/4
62	001-0728	1	Brake Arm Assy.	125	507-0214	1	Gear HEL
63	261-0375	1	Insulated Brake Sleeve	126	001-0592	1	Motor Gear Assy.
64	261-0376	1	Insulated Spool Bushing	127	843-0064	1	Contacto Lead 8' 18/3
65	001-0229	1	Spool Spindle Assy.	128	843-0001	1	110 VAC 8' 18/3
66	331-0231	1	Wshr. Mod. .64 x 1.5 x .4 Nyln.	129	329-0006	1	Screw Hex Hd., 1/4-20 x 1/4
67	419-0230	1	Comp. Spring	130	411-0453	1	Cable Strain Relief
68	328-0088	1	Screw Shc., 5/16-18 x 1	131	431-1099	1	Insulated Spool Clamp
69	431-0169	1	Spool Retainer	132	328-0050	1	Screw Shc., 10-32 x 1
70	261-0377	1	Insulated Spring Retainer	133	329-0001	2	Screw Hex Hd., 1/4-20 x 1/2
71	435-0580	1	Brake Link	134	327-0014	1	Screw ST-F, 6-32 x 3/8
72	421-0176	1	Spring Pin, 1/8 x 1/2	135	331-0007	1	Wshr. Flat, 3/8 STD STL
73	261-0378	1	Insulated Brake Pivot	136	333-0011	1	Wshr. Lock, 3/8 Spring
74	329-0002	2	Screw Hex Hd., 1/4-20 x 5/8	137	329-0055	1	Screw Hex Hd., 3/8-16 x 3/4
75	333-0009	7	Wshr. Lock, 1/4 Spring	138	325-0069	4	Screw Ph., 4-40 x 3/8
76	341-0010	5	Nut Hex, 1/4-20 STL/CAD	139	341-0003	4	Nut Hex, 4-40 STL/CAD
77	435-0218	1	Cabinet Base	140	333-0041	4	Wshr. Lock, #4 INT STAR
78	261-0236	1	Insulator Cabinet	141	351-0006	1	Snap Button, 3/8 Dia.
79	331-0005	5	Wshr. Flat, 1/4 STD STL	142	325-0138	2	Screw., 6-32 x 3/4
80	329-0005	3	Screw Hex Hd., 1/4-20 x 1	143	341-0056	8	Nut Hex 15/32 x 32 STL/CAD
81	331-0029	1	Wshr. Flat, .4 I.D. x .63 O.D. x .03 THK.	144	003-0173	1	Resistor S/A
82	324-0167	4	Screw Flat Hd., 8-32 x 3/8	145	003-0174	1	MOV S/A

WIRING SCHEMATIC

Dwg. No. 071-0135

(CONTROL CABINET MK3A 001-0517 & MK3APS 001-0519)



NOTES

LIMITED WARRANTY

LIMITED WARRANTY—M.K. Products, Inc., Irvine, California warrants to customer that all new and unused equipment furnished by M.K. Products is free from defect in workmanship and material as of the time and place of delivery by M.K. Products. No warranty is made by M.K. 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.

M.K. Products warranty does not apply to components having normal useful life of less than one (1) year, such as relay points, wire conduit and welding torch 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.

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

As a matter of general policy only, M.K. Products may honor an original user's warranty claims on warranted equipment in the event of failure resulting from a defect within ninety (90) days from the date of delivery of Equipment to the original user.

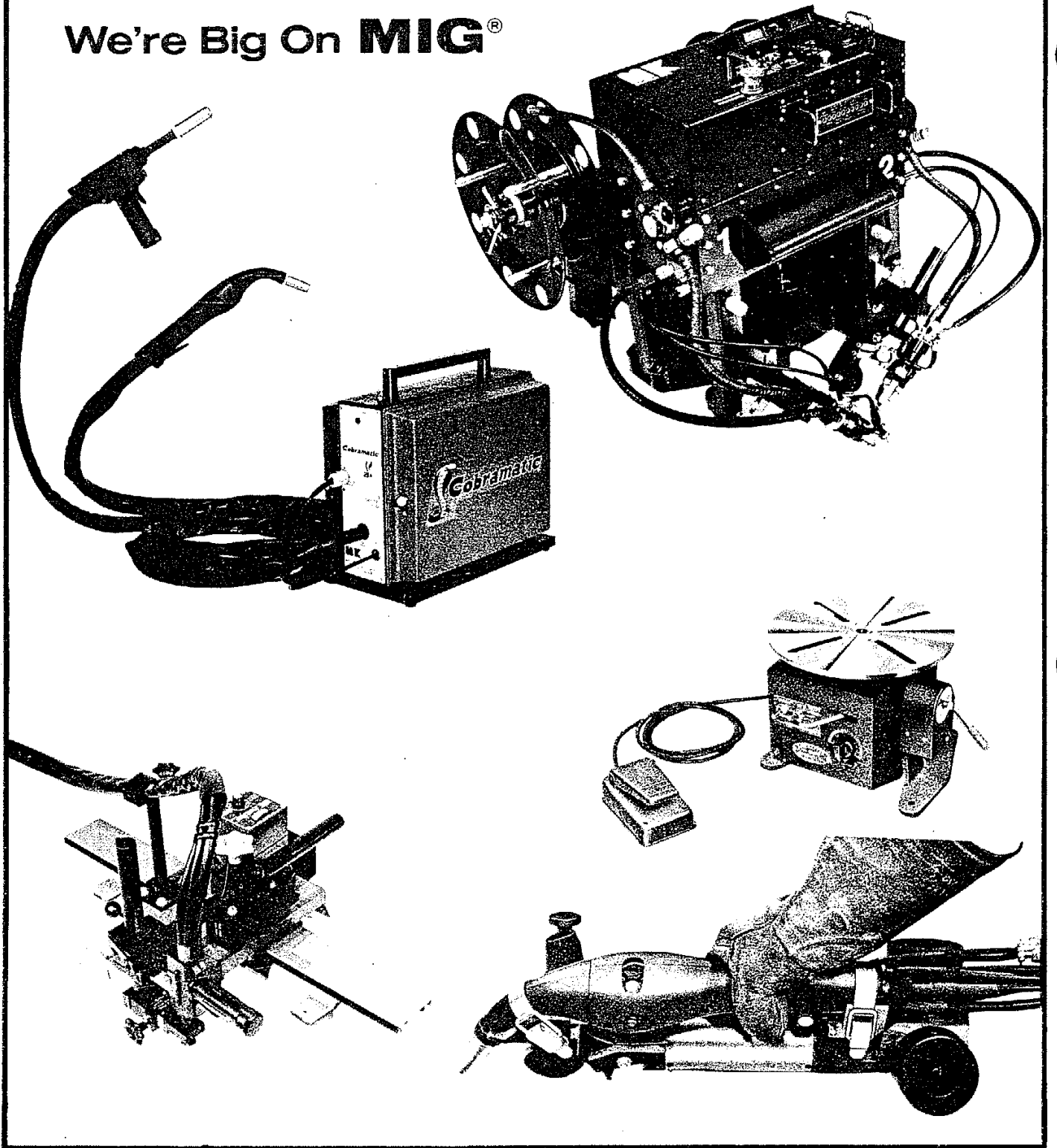
A copy of the distributor's invoice to the end user, showing the date of sale, must accompany products returned for warranty repair or replacement.

Normal surface transportation charges (both ways) for products returned for warranty repair or replacement will be borne by M.K. Products except for products sold for 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 M.K. PRODUCTS IS EXCLUDED AND DISCLAIMED BY M.K. PRODUCTS.

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We're Big On **MIG**[®]



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