

User Manual

Gerber Coburn
990
Alloy Blocker™

 **GERBER COBURN**

990 Alloy Blocker is a trademark of Gerber Coburn, a subsidiary of Gerber Scientific, Inc.

A word about Gerber Coburn ...

CUSTOMER SERVICE (1-800-COBURN-1)

The Gerber Coburn Customer Service organization is an integral part of the Gerber Coburn *commitment to quality*. More than just product quality, Gerber Coburn recognizes the need to address the quality of its service and delivery systems. The goal is to make it easy to do business with Gerber Coburn.

Gerber Coburn Account Representatives can assist you in:

- Product information
- Product availability
- Product ordering
- Shipment information
- Billing information
- Account information
- Warranty and repair information
- Replacement parts sales
- Hands-on support in every aspect of the business

TECHNICAL SERVICE (1-800-COBURN-T)

Working hand-in-hand with your Gerber Coburn Account Representative, Technical Service personnel are available to provide:

- On-going Gerber Coburn seminars on lens processing and equipment operation and maintenance
- Problem solving by phone or in person
- Equipment updates and modifications
- Technical bulletins
- Maintenance checklists
- Replacement parts information and sales

FIELD SERVICE

Gerber Coburn covers all field service or repairs of defective parts while the machine is under the original warranty. When the warranty expires, if field service is needed for any purpose, such as parts replacement, refurbishing, rebuilding, maintenance or repairs, the service call is subject to an hourly service charge. All field service requested for Gerber Coburn equipment not owned by the original purchaser will be subject to an hourly service charge.

PARTS

An Extended Parts Coverage Plan, available at the time of original purchase or during the first 12 months, is available on new Gerber Coburn equipment. Your Gerber Coburn sales or field service representative will be pleased to discuss this economical additional coverage with you.

It is Gerber Coburn's policy to avoid or minimize downtime in your laboratory operation. Your Gerber Coburn account representative, backed by technical experts are trained to troubleshoot, service, repair or update your Gerber Coburn equipment as quickly and efficiently as possible.

Gerber Coburn stocks a complete selection of parts and supplies to keep your Gerber Coburn equipment operating at peak performance year after year.

GERBER COBURN WORLDWIDE OFFICES AND DISTRIBUTION CENTERS

UNITED STATES

Muskogee, OK
Telephone: (918) 683-4521
Customer Service: 1-800-262-8761
Facsimile: 1-800-262-8760
Technical Service: 1-800-262-8768

40 Gerber Road East
South Windsor, CT 06074-3248
Telephone: 1-203-648-6600
1-800-843-1479

Carson, CA
Telephone: 1-800-634-2906
(310) 639-1258
Facsimile: (310) 639-1258

LATIN AMERICA

Miami, FL, U.S.A.
Telephone: (305) 592-4705
Facimile: (305) 594-9058

CANADA

St. Leonard, Quebec
Telephone: (514) 326-7930
1-800-361-4100 Western Provinces
1-800-361-7720 Eastern Provinces
Facsimile: 1-800-361-4795
(514) 328-9992

AUSTRALIA

Lonsdale, South Australia
Telephone: (61) 83821699
Facsimile: (61) 83848661

EUROPE, AFRICA & MIDDLE EAST

The Netherlands
Telephone: (31) 23-52-46124
Facsimile: (31) 23-52-46008

FAR EAST

Republic of Singapore
Telephone: 65-2538577
Facsimile: 65-2551371

GERMANY, AUSTRIA & SWITZERLAND

Frankfurt, Germany
Telephone: (49) 69-773042
Facsimile: (49) 69-773044

UNITED KINGDOM & IRELAND

Andover, England
Telephone: (44) 1264-332130
Facsimile: (44) 1264-332134

Coburn 800 numbers you may wish to keep handy

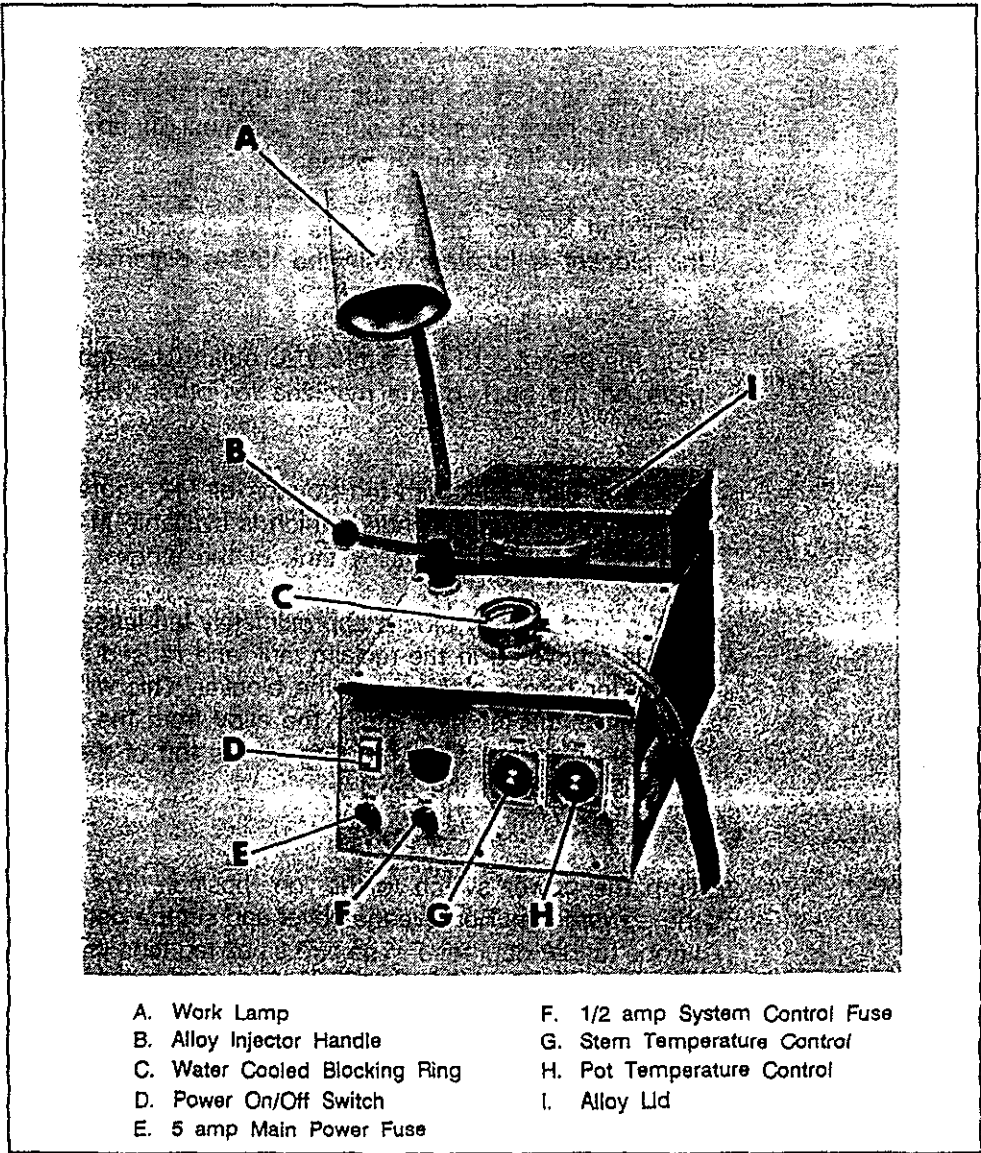
1-800-COBURN-1	Main number for equipment/ parts/supplies	1-800-634-2906	Carson, California
1-800-COBURN-T	Technical service	1-800-361-7720	Canada, Eastern Provinces
1-800-262-8760	Customer service (Fax)		
1-800-543-8182	Technical service (Fax)		

Thanks For Choosing Gerber Coburn . . .

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INTRODUCTION



- A. Work Lamp
- B. Alloy Injector Handle
- C. Water Cooled Blocking Ring
- D. Power On/Off Switch
- E. 5 amp Main Power Fuse
- F. 1/2 amp System Control Fuse
- G. Stem Temperature Control
- H. Pot Temperature Control
- I. Alloy Lid

FIGURE 1

The COBURN 990™ Alloy Blocker is used to attach the block to the lens blank which provides a means of holding the lens for surfacing. A low melting point alloy is used to provide a firm bond between the block and the lens.

An especially designed water cooled blocking ring is furnished to dissipate the heat which causes the alloy to quickly become solid and affix the block to the lens. An assortment of rubber seal rings are also provided to allow blocking the different types of lenses.

The machine is equipped with a low alloy sensor switch. When the alloy level drops to approximately three pounds, a beeper will signal the operator to add alloy. It is important that alloy be added at this point to prevent slag from entering the stem assembly.

INSTALLATION

UNCRATE MACHINE

Remove the blocker from the shipping container and examine it for any damage that may have occurred during shipment. If any damage is detected, notify Coburn and the shipping carrier.

Place the blocker on a suitable table or counter. If a chiller is used, be sure the blocker is located within the tubing distance of the chiller.

CHECK POWER

Plug the power cord into a 115 VAC outlet (U.S. models only). Check the voltage plate on the back of the machine for other voltages.

ADD ALLOY

Load the alloy tank with ten pounds of 117 degree F. alloy. Coburn Blok-Aloy (#9916-00) is recommended which is available in five-pound blocks. Place two of these blocks in the alloy tank of the blocker.

One pound of alloy blocks approximately ten lenses. The alloy from the blocked lens is recovered in the reclaim tank and reused in the blocker. Allow the alloy to harden before placing it in the blocker. This will prevent a heat wave on the lens since the temperature of the alloy from the reclaim tank is much greater than the blocker. Skim the slag off the top of the molten alloy each time new alloy is added to the blocker.

HEAT ALLOY

Turn the power switch to the "on" position. The indicator light will show that the power is on. Remove the cover and set the pot and stem temperature control knobs to 122 degrees F. The two small red leds in the corner of the temperature control dial will light to indicate the heating elements are heating the alloy in the pot and stem. Wait approximately 15-20 minutes to allow the alloy to reach normal operating temperature. When normal operating temperature is reached, the red leds will go off. When more heat is needed, they will light again.

OPERATION

LENS LAYOUT

Since the final quality of the finished lens is totally dependent upon the care taken in each step of surfacing, it is *extremely important* to use the utmost care in the layout procedure so the lens may be blocked correctly. The layout markings should be clear and distinct to permit the lens to be positioned exactly on axis and center for the blocking operation.

Once the layout is complete, apply Coburn's Surface Blocking Tape (#82150-00) to the front surface of the lens. This 0.006" thick film protects the lens from abuse during surfacing and affords a thermal protection from the blocking alloy. When applying the blocking tape, be careful to avoid wrinkles.

INSTALL NESTING RING

After the initial warmup period, the blocker is ready for operation. If a special nesting ring is required, select one suitable for the lens to be blocked and insert it into the water ring.

The small groove in the face of the nesting ring allows trapped air to escape from the block cavity as it is being filled with molten alloy. Excessive force applied to the lens could seal off this vent and *cause an air-lock which would prevent* free flow of the alloy into the block. Only sufficient pressure to seal the lens to the nesting ring should be used.

INSTALL BLOCK

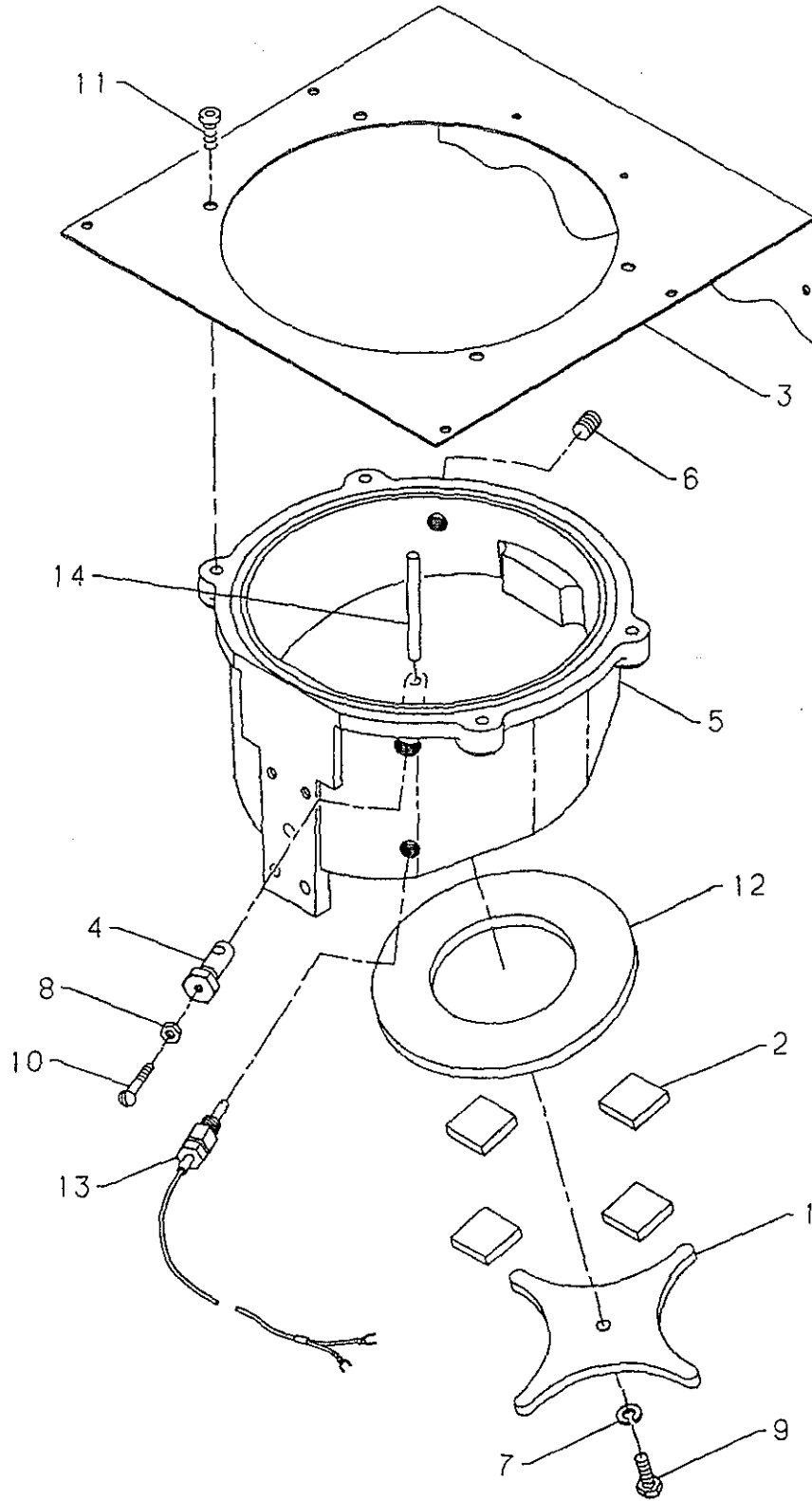
Place the block onto the water cooled blocking ring with the block's "Alloy Hole" located over the neoprene injector spout. Place the lens over the block, aligning the cylinder axis along the three block center points with the marked center directly over the middle center point.

BLOCK LENS

Hold the lens firmly in this position using gentle but firm pressure. Gently pump the alloy injector handle until the block cavity is full of alloy. Hold slight pressure until the metal hardens, which is visually detected by the texture of the molten alloy. The blocked lens may then be removed from the ring and is ready to be cribbed or generated.

CAUTION: If glass and plastic lenses both are processed on the same blocker, it is extremely important to avoid mixing alloys #9915 and #9916, which would cause both of them to become unusable. Since the #9916 low melting point alloy is also suitable for glass lenses, it may be desirable to utilize this alloy for both glass and plastic to avoid any possibility of contamination.

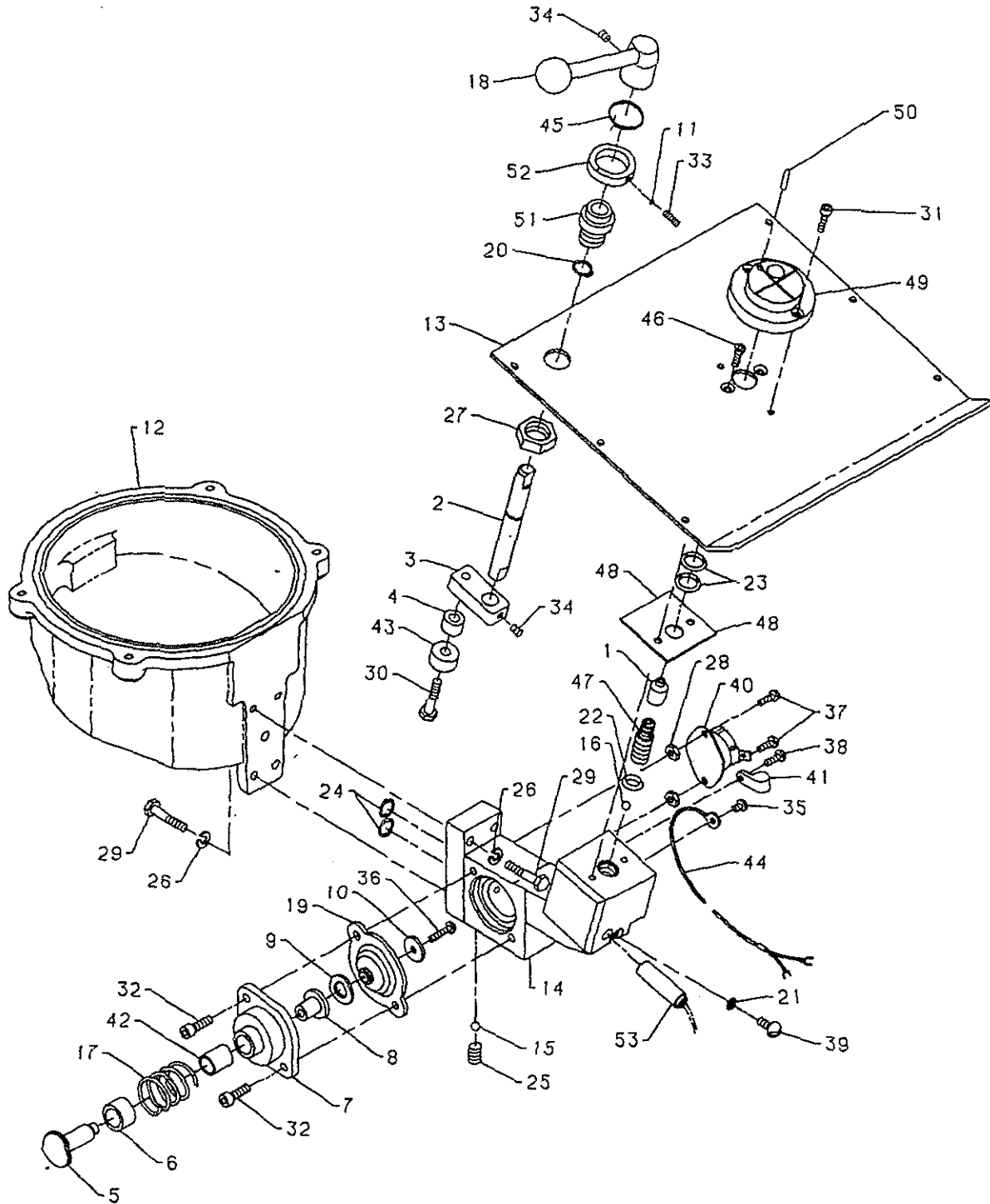
REF. NO.	PART NUMBER	QTY.	DESCRIPTION
1	0051100	1	BURNER BRACKET
2	0369100	4	INSULATING PAD
3	0452700	1	POT COVER
4	0453200	1	PROBE ADAPTER
5	0453400	1	MELTING POT
6	0714800	1	PIPE PLUG (1/8 NPT SOC HD)
7	0748700	1	WASHER (1/4)
8	0759500	1	HEX NUT (#8-32)
9	0767500	1	HEX HD SCR (1/4-20 X 3/4)
10	0812900	1	RD HD SCR (#8-32 X 1-1/4)
11	0827300	4	BUTTON HD SCR (1/4-20 X 5/8)
12	0901000	1	HEATER RING (110V/500W)
	0901300	1	HEATER RING (220V/500W)
13	1148600	1	THERMOCOUPLE
14	2493300	1	HINGE PIN



ALLOY SPOUT

COBURN 990 Alloy Blocker

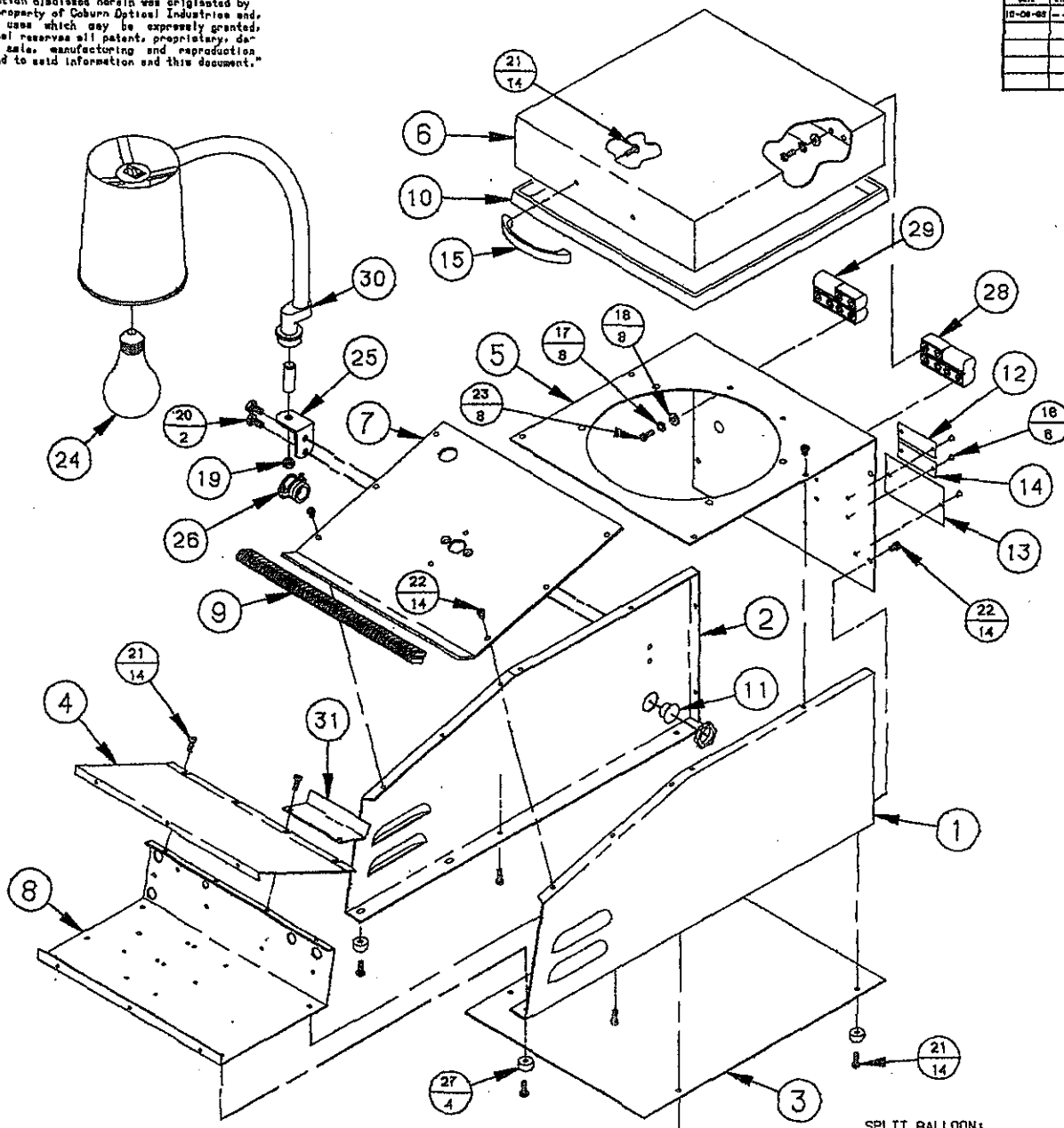
REF. NO.	PART NO.	QTY.	DESCRIPTION	REF. NO.	PART NO.	QTY.	DESCRIPTION
1	0224700	1	INJECTOR NOZZEL	35	0804400	1	TRUSS HD SCR (#8-32 X 1/4)
2	0369600	1	SHAFT	36	0805800	1	TRUSS HD SCR (#10-24 X 5/8)
3	0369700	1	CAM	37	0812000	2	RD HD SCR (#8-32 X 3/8)
4	0369800	1	SPACER	38	0812200	1	RD HD SCR (#8-32 X 1/2)
5	0369900	1	PUMP PLUNGER	39	0816100	1	RD HD SCR (1/4-20 X 3/8)
6	0370000	1	CAP EXTENION	40	0838800	1	SWITCH, THERMAL SAFETY
7	0370100	1	END CAP	41	0918700	1	ELECTRICAL CLAMP
8	0370200	1	PLUNGER	42	0944500	1	BUSHING (1/2 ID X 5/8 OD X 3/4 LG)
9	0370300	1	PLUNGER PAD	43	0977200	1	BEARING
10	0370400	1	BRACE	44	1148500	1	THERMOCOUPLE
11	0404400	1	SOFT SHOE	45	1599700	1	TORSION SPRING
12	0453400	1	MELTING POT	46	1823000	2	FLAT HD SCR (#10-32 X 3/8)
13	0455100	1	TOP PANEL	47	2490800	1	ALLOY SPOUT
14	0455200	1	MAIN STEM	48	2493500	1	PANEL INSULATOR
15	0598400	1	BALL (1/4 DIA. TEFLON)	49	2496100	1	TARGET BLOCK BASE
16	0599200	1	BALL (1/4 DIA. CARBIDE)	50	2496700	1	AXIS PIN
17	0603600	1	RETURN SPRING	51	2498900	1	SHAFT HOUSING
18	4299200	1	HANDLE	52	2499000	1	SPRING RETAINER
19	0612300	1	DIAPHRAGM	53	2666000	1	PENCIL HEATER (110V/100W)
20	0619500	1	EXTERNAL RETAINER RING		2666200	1	PENCIL HEATER (240V/100W)
21	0643400	1	O-RING (1/4 ID X 3/8 OD X 1/16)				
22	0643700	1	O-RING (7/16 ID X 5/8 OD X 3/32)				
23	0644000	2	O-RING (9/16 ID X 3/4 OD X 3/32)				
24	0643700	2	O-RING (7/16 ID X 5/8 OD X 3/32)				
25	0714800	1	PIPE PLUG (1/8 NPT SOC HD)				
26	0745500	4	LOCKWASHER (1/4)				
27	0758000	1	JAM NUT (3/4-16)				
28	0759600	2	HEX NUT (#10-24)				
29	0767800	4	HEX HD SCR (1/4-20 X 1-1/4)				
30	0770300	1	HEX HD SCR (5/16-18 X 1-1/2)				
31	0778600	2	SOC CAP SCR (#10-32 X 5/8)				
32	0779400	2	SOC CAP SCR (1/4-20 X 5/8)				
33	0791600	1	SOC SET SCR (#10-32 X 3/16)				
34	0792600	2	SOC SET SCR (1/4-20 X 1/4)				



REF. NO.	PART NUMBER	QTY.	DESCRIPTION
1	0452100	1	RIGHT SIDE
2	0452200	1	LEFT SIDE
3	0452300	1	BOTTOM PLATE
4	0452500	1	ELECTRICAL COVER
5	0452700	1	POT COVER
6	0452800	1	LID
7	0455100	1	TOP PANEL
8	0455300	1	ELECTRICAL MOUNT
9	0610700	2 Ft.	PANEL TRIM
10	0615900	3 Ft.	LID TRIM
11	0665900	1	SERIAL NUMBER PLATE
12	0666700	1	ELECTRICAL SPEC. PLATE
13	0667400	1	PRODUCT LIABILITY PLATE
14	0694000	1	HANDLE
15	0738700	6	POP RIVET (1/8)
16	0746400	8	LOCKWASHER (3/16)
17	0749400	8	WASHER (3/16)
18	0760200	1	HEX NUT (5/16-18)
19	0767300	2	HEX HD SCR (1/4-20 X 1/2)
20	0812000	14	RD HD SCR (#8-32 X 3/8)
21	0825800	14	BUTTON HD SCR (#8-32 X 1/4)
22	0826400	8	BUTTON HD SCR (#10-24 X 3/8)
23.	0885000	1	BULB (220V/60W)
	0885400	1	BULB (115V/75W)
24	0897100	1	LAMP MOUNTING BRACKET
25	0914700	1	CABLE CONNECTOR
26	1625500	4	FOOT
27	1663200	1	LEFT-HAND HINGE
28	1663300	1	RIGHT-HAND HINGE
29	1896900	1	LAMP ASSEMBLY
	1896901	1	LAMP (3-WAY)
30	2494300	1	SPLASH GUARD

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DATE	REV.	REVISION NUMBER	BY
10-08-68		PCN 980421	DS



SPLIT BALLOON: TOP NUMBER IS ITEM (SYM), BOTTOM NUMBER IS QUANTITY REQUIRED IN INDICATED OR RELATED LOCATION(S).

SYM	QTY	PART NUMBER	DESCRIPTION
20	2	0707300	HEX HD SCR (1/4-20 X 1/2)
19	1	0760200	HEX NUT (5/16-18)
18	8	0749400	WASHER (3/16)
17	8	0748400	LOCKWASHER (3/16)
16	8	0738700	POP RIVET (1/8)
15	1	0894000	HANDLE
14	1	0687400	PRODUCT LIABILITY PLATE
13	1	0686700	ELECTRICAL SPEC. PLATE
12	1	0685900	SERIAL NUMBER PLATE
11	1	0625700	HOLE PLUG
10	3'	0615900	LID TRIM
9	2'	0610700	PANEL TRIM
8	1	0455300	ELECTRICAL MOUNT
7	1	0455100	TOP PANEL
6	1	0452800	LID
5	1	0452700	POT COVER
4	1	0452500	ELECTRICAL COVER
3	1	0452300	BOTTOM PLATE
2	1	0452200	LEFT SIDE
1	1	0452100	RIGHT SIDE

SYM	QTY	PART NUMBER	DESCRIPTION
31	1	2494300	SPLASH GUARD
30	1	1896901	LAMP (3-WAY)
30	1	1896900	LAMP ASSEMBLY
29	1	1883300	RIGHT-HAND HINGE
28	1	1883200	LEFT-HAND HINGE
27	4	1625500	FOOT
26	1	0914700	CABLE CONNECTOR
25	1	0897100	LAMP MOUNTING BRACKET
24	1	0885400	BULB (115V/75W)
24	1	0885000	BULB (220V/60W)
23	8	0826400	BUTTON HD SCR (#10-24 X 3/8)
22	14	0285800	BUTTON HD SCR (#8-32 X 1/4)
21	14	0812000	RD HD SCR (#8-32 X 3/8)

PARTS LIST

DO NOT SCALE DRAWING		COBURN OPTICAL INDUSTRIES MUSKOGEE, OKLAHOMA 74403 ©1968			
ENGINEER	TITLE 800 CABINET				
DESIGNED BY	DATE 10-08-68	SCALE 1:1	SHEET 1	OF 1	
DRAWN BY D. STOUT	APPROVED	INFO. CODE	DRAWING NUMBER ILL04802	FORMAT 3D	
990	CHECKED BY				

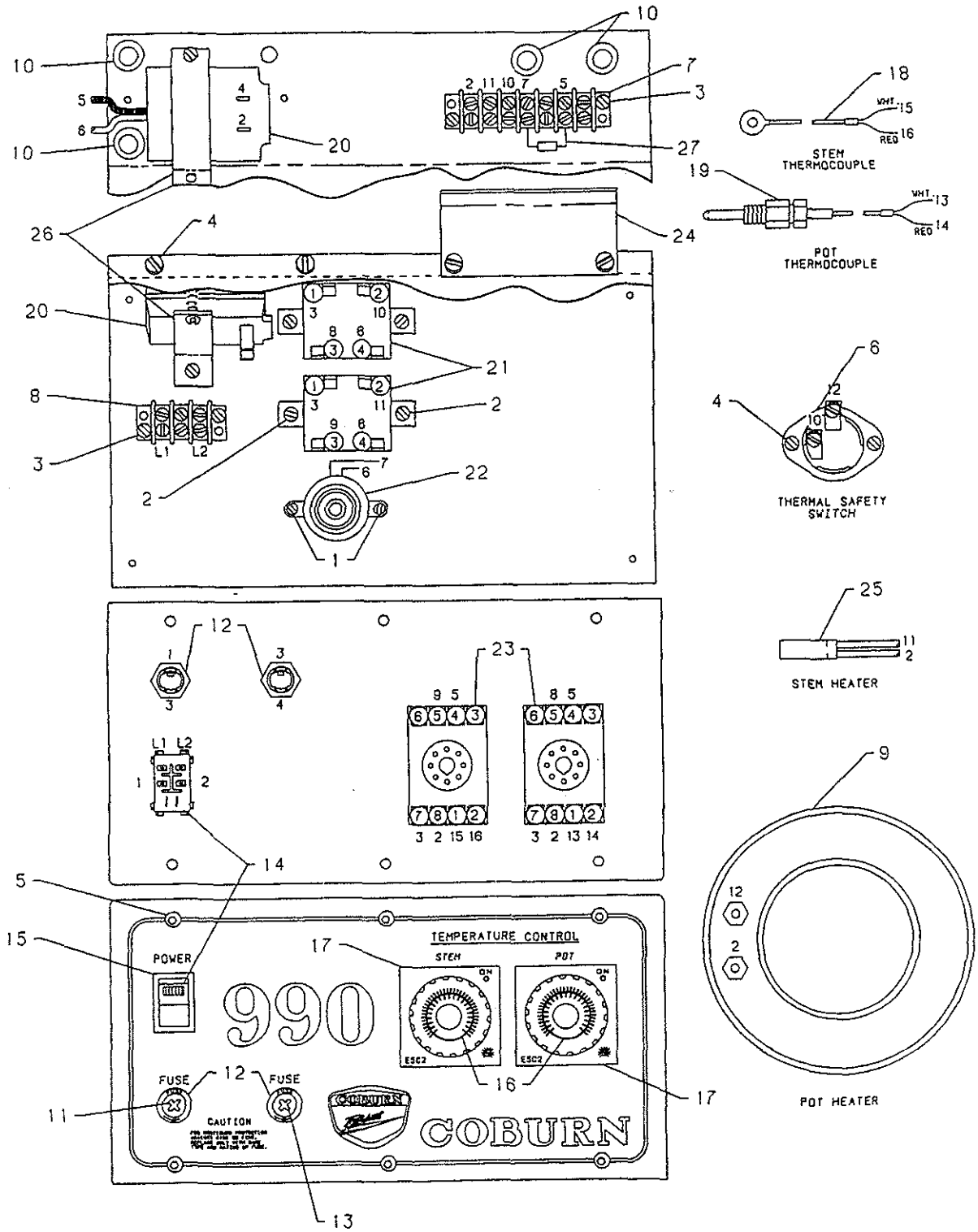
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COMPANY CONFIDENTIAL ORIGINAL, DO NOT DUPLICATE

**CONTROL PANEL &
ELECTRICAL DIAGRAM**
(110 VAC/60 Hz./1 Ph.)

COBURN 990 Alloy Blocker

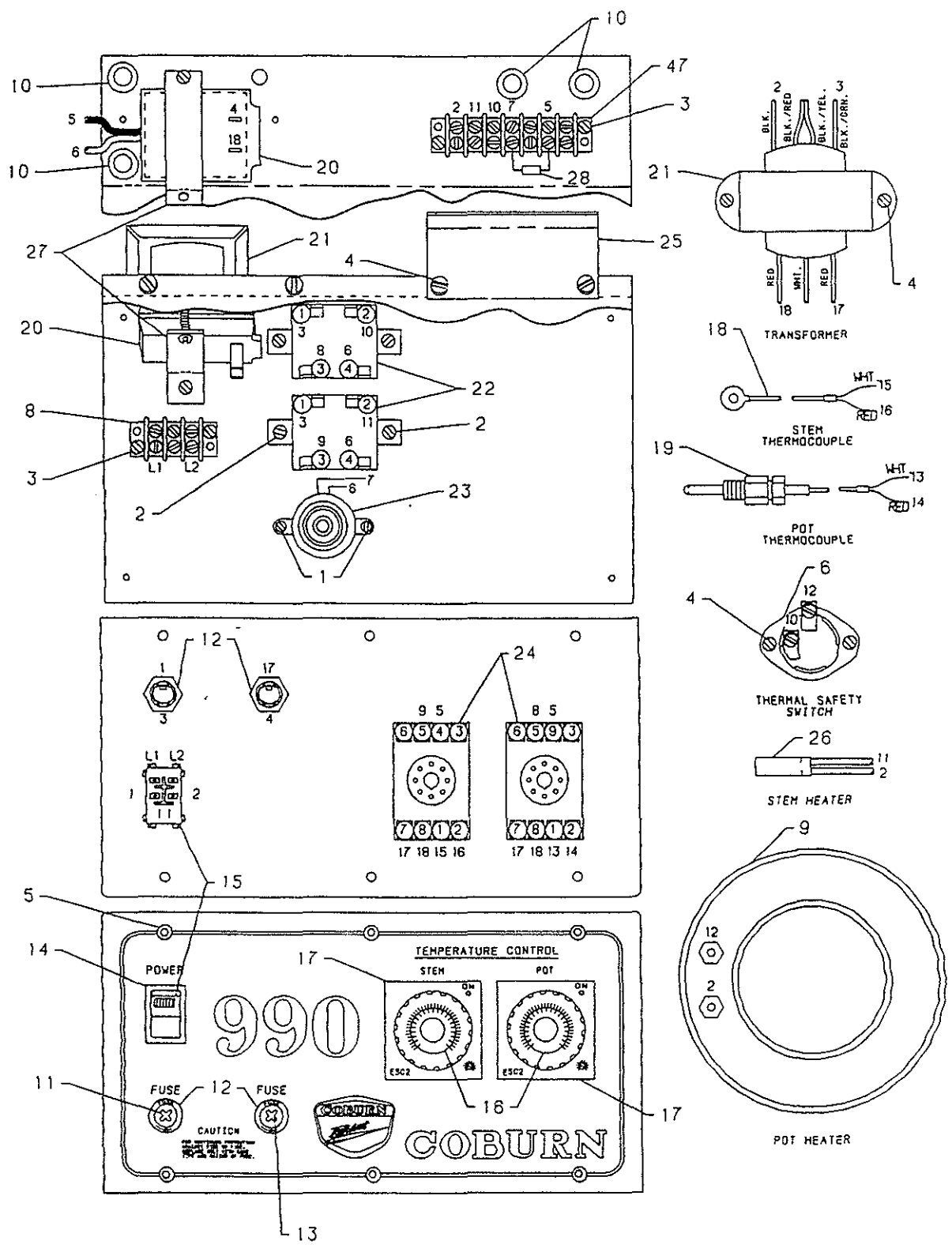
Ref. No.	Part Number	Qty.	Description
1	0809100	2	RD HD SCR (#4-40 X 1/4)
2	0809700	4	RD HD SCR (#6-32 X 1/4)
3	0810100	4	RD HD SCR (#6-32 X 1/2)
4	0812000	6	RD HD SCR (#8-32 X 3/8)
5	0825300	6	BUTTON HD SCR (#6-32 X 1/4)
6	0838800	1	SWITCH, THERMAL SAFETY
7	0841400	1	TERMINAL STRIP
8	0841500	1	TERMINAL STRIP
9	0901000	1	HEATER (120V/500W)
10	0903000	4	GROMMET
11	0905800	1	FUSE (05.000 AMP)
12	0908200	4	FUSE HOLDER
13	0908800	1	FUSE (00.500 AMP)
14	1054500	1	ROCKER SWITCH (LIGHTED)
15	1054600	1	ROCKER SWITCH CAP
16	1148300	2	TEMP CONTROL
17	1148400	2	TEMP CONTROL COVER
18	1148500	1	THERMOCOUPLE ((J-RING))
19	1148600	1	THERMOCOUPLE (1/8 PIPE)
20	1862300	1	DC SUPPLY
21	1061100	2	RELAY
22	1923100	1	ALARM, LOW ALLOY
23	1970800	2	RELAY SOCKET
24	2494300	1	SPLASH GUARD
25	2666000	1	PENCIL HEATER (120V/100W)
26	2690400	1	DC SUPPLY BRACKET
27	1870400	1	RESISTER, .490 OHM

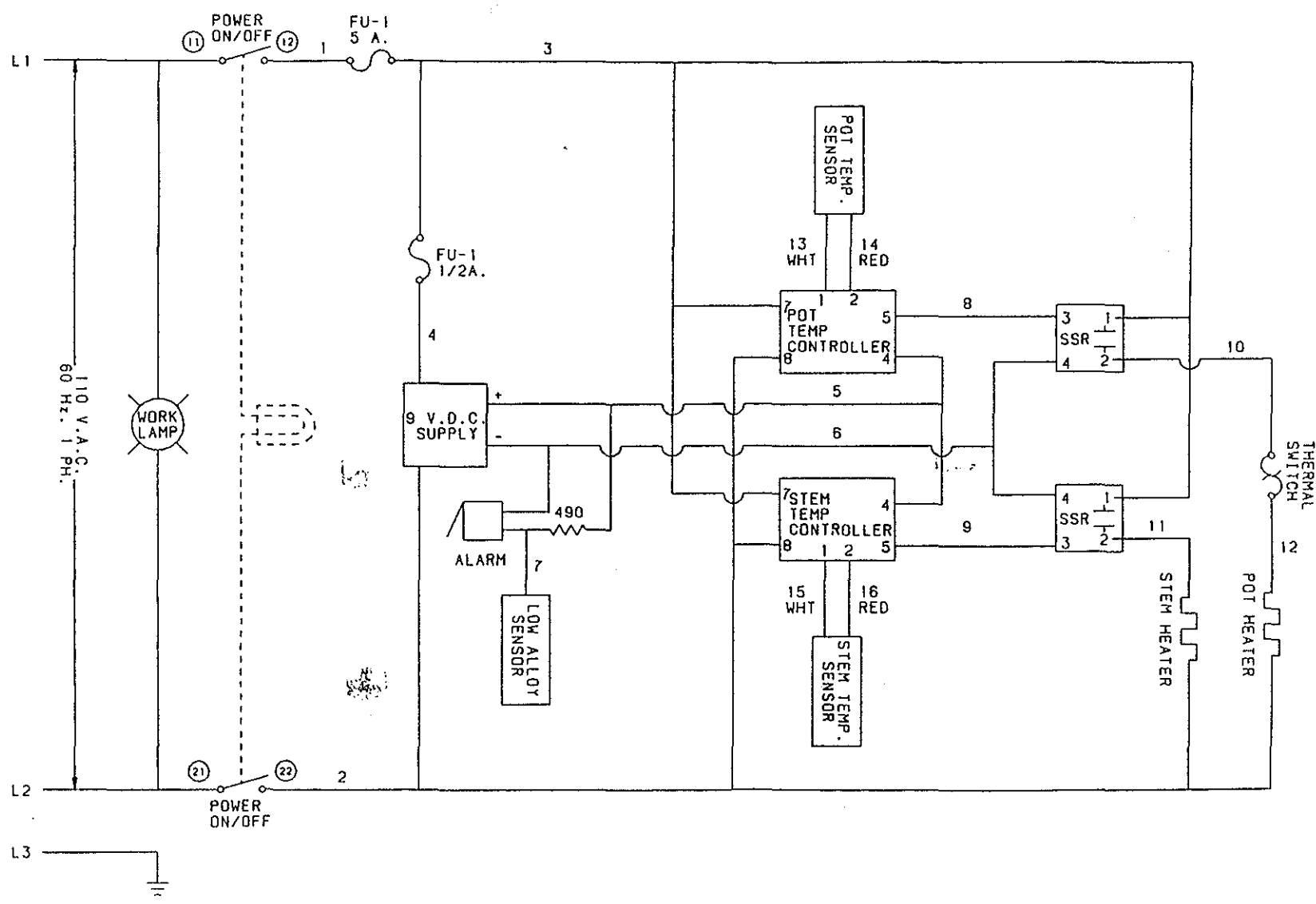


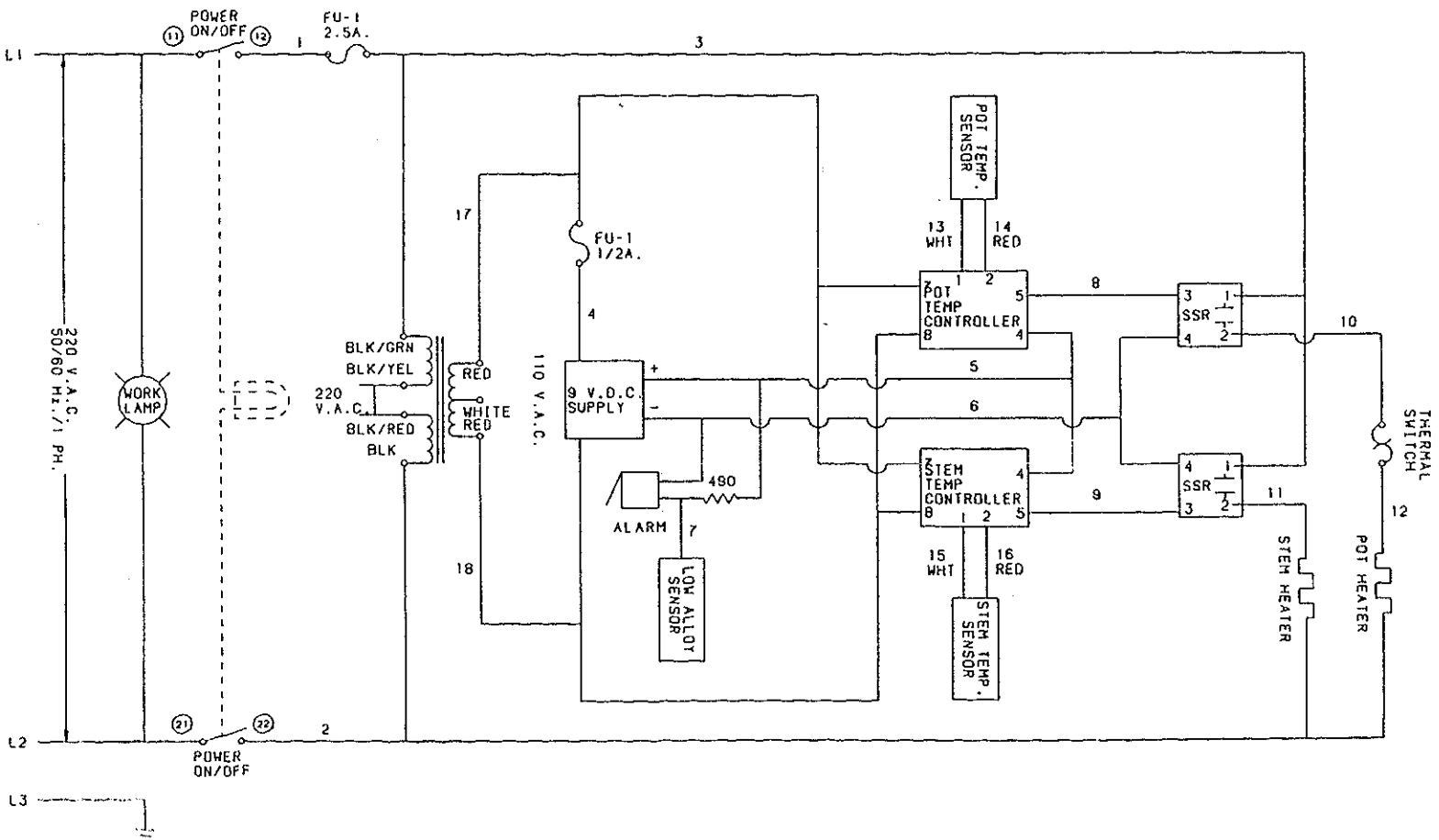
**CONTROL PANEL &
ELECTRICAL DIAGRAM**
(220 VAC/50-60 Hz./1 Ph.)

COBURN 990 Alloy Blocker

Ref. No.	Part Number	Qty.	Description
1	0809100	2	RD HD SCR (#4-40 X 1/4)
2	0809700	4	RD HD SCR (#6-32 X 1/4)
3	0810100	4	RD HD SCR (#6-32 X 1/2)
4	0812000	8	RD HD SCR (#8-32 X 3/8)
5	0825300	6	BUTTON HD SCR (#6-32 X 1/4)
6	0838800	1	SWITCH, THERMAL SAFETY
7	0841400	1	TERMINAL STRIP
8	0841500	1	TERMINAL STRIP
9	0901300	1	HEATER (220V/500W)
10	0903000	4	GROMMET
11	0905900	1	FUSE (2.5 AMP)
12	0908200	4	FUSE HOLDER
13	0908800	1	FUSE (.5 AMP)
14	1054600	1	ROCKER SWITCH CAP
15	1060900	1	ROCKER SWITCH (250 V)
16	1148300	2	TEMP CONTROL
17	1148400	2	TEMP CONTROL COVER
18	1148500	1	THERMOCOUPLE
19	1148600	1	THERMOCOUPLE
20	1862300	1	DC SUPPLY
21	1862400	2	TRANSFORMER
22	1061100	2	RELAY
23	1923100	1	ALARM, LOW ALLOY
24	1970800	2	RELAY SOCKET
25	2494300	1	SPLASH GUARD
26	2666200	1	PENCIL HEATER (240V/100W)
27	2690400	1	DC SUPPLY BRACKET
28	1870400	1	RESISTER, 490 OHM







COBURN PRODUCT WARRANTY

Effective 12/1/96

1. WHAT DOES THE COBURN PRODUCT WARRANTY COVER?

Coburn warrants that the product is free from defects in materials and workmanship. A defect exists when a part or component does not conform with the Coburn specifications as they appear in the owner's manual.

2. WHAT DOES THE COBURN PRODUCT WARRANTY NOT COVER?

- a. Coburn does not warrant against any problem which results from owner's failure to properly install, maintain and/or operate the product in accordance with Coburn's instructions found in the owner's manual. All users should be trained to properly operate the equipment in accordance with the owner's manual and comply with all safety precautions.
- b. Coburn does not warrant against any problem which results from damage in transit or by casualty, or which results from misuse or abuse.
- c. Coburn does not warrant against any problem which results from an improper repair or use of an incorrect part or accessory or which results from service or repair with any part that is not manufactured, sold, or specifically authorized by Coburn for such use.
- d. Coburn does not warrant against any problem which results from Acts of God or voltage power fluctuations or voltage power failures.

3. WHO IS COVERED BY THE COBURN PRODUCT WARRANTY AND FOR HOW LONG?

- a. The original purchaser of the product from Coburn is entitled to warranty coverage. Except as provided below, new equipment is warranted for one year from the date of invoice. Remanufactured and/or refurbished equipment is warranted for 90 days from original installation date. Used equipment is not warranted.
- b. Replacement parts are warranted for 90 days. Routine maintenance items, such as; belts, light bulbs, UV bulbs, chuck pads, air filters, fuses, hoses, hydraulic lines, rubber guards/boots/baffles, nuts, bolts and screws are warranted for 60 days from original installation date.
- c. Diamond wheels are warranted for 30 days from original installation date.
- d. Cylinder machine pins and diamond cutters are determined to be functioning properly at the time of installation and are not covered by the product warranty.
- e. For a minimal charge, an extended parts coverage is available for new equipment for the second and third year of the product life. Contact your Customer Service or Sales Representative.

4. WHAT WILL COBURN DO IF A DEFECT IS COVERED BY WARRANTY?

Technical Service in conjunction with our Field Representative will assist you over the phone to troubleshoot your problem and determine the best solution for repair or replacement. Coburn will repair or replace, at its option, any part or component which it determines to be defective.

5. ARE THERE ANY OTHER LIMITATIONS OR EXCLUSIONS RELATED TO THE COBURN WARRANTY?

This written warranty is in lieu of and excludes all other warranties and representations, expressed or implied, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose; and the remedy of repair or replacement provided herein is exclusive, and in lieu of any other remedy, including, without limitation, incidental or consequential damages, even if Coburn has been advised of or can foresee the possibility of such damages, whether based on contract, negligence, strict liability in tort or other legal theory.

6. WHAT SHOULD I DO TO OBTAIN REPAIR ASSISTANCE OR REPLACEMENT PARTS OR SERVICE AS COVERED UNDER THIS WARRANTY?

Call 1-800-262-8768 and request Technical Service. Be prepared with your account number, serial number of the machine, and the approximate date of purchase.

7. WHAT IF I HAVE QUESTIONS ABOUT A WARRANTY ISSUE?

Coburn maintains a toll free telephone number (1-800-262-8761) for your convenience. Just tell the Customer Service Representative that you have a question about your warranty.