

# Film-Tech

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# INSTRUCTION MANUAL

XENON POWER SUPPLY  
208/230 V.AC LINE

TYPE 61001  
8-83



X1 - HIGH  
X2 - MED  
X3 - LOW

L1 }  
L2 } 220V

5 } CONTROL  
6 } 110V

RED + COMP  
BLK - COMP

**Strong Electric Corporation**  
87 City Park Avenue, Box 1003, Toledo, OH 43697 U.S.A.  
419/248-3741, Telex 286033

## PREFACE

THIS STRONG POWER SUPPLY is a single phase, full wave bridge type, silicon power supply for use with the 1600-2000 watt xenon lamphouse.

THE POWER SUPPLY is designed to operate from a 208/230 (195-250) volt, 60 Hz. AC source, draws 27.5 amperes from a 208 volt line, and is rated for continuous duty. A step-down transformer (T2) is provided to reduce the line voltage to 115V. A. C. for the lamphouse and power supply control circuits. This transformer has a low voltage tap (Brn. H2) that must be connected if the measured A. C. supply line voltage is below 220 volts. The A. C. supply line must be protected with a 30 ampere fuse or circuit breaker for 1600 watt, 75 Ampere operation and a 35 Ampere fuse or circuit breaker for 2000 watt, 80 ampere operation. The A. C. supply line may be #10 AWG for 1600 watt operation and must be #8 AWG for 2000 watt operation.

THREE TAPS on the primary side of the T1 transformer are provided to compensate for variations in the A. C. line voltage. The rating on the taps are 190, 208 and 230 volts. The transformer tap terminal block is marked for 190 and 208 and 230 volts.

THREE TAPS on the secondary side of the T1 transformer (X1, X2, X3) are provided to permit operating the 1600 watt and 2000 watt xenon bulbs through their entire current range with an A. C. line voltage range from 195 volts to 250 volts. The power supply is shipped with the tap connected to permit operating the 1600 watt bulb through its full current range when the A. C. line voltage is between 190 to 230 volts A. C.

THE DC OUTPUT RANGE is from 55-80 amperes at 22-28 volts. The D. C. current to the bulb is adjusted by means of the (5) step tap terminal board Position (1) being the lowest and (5) the highest output.

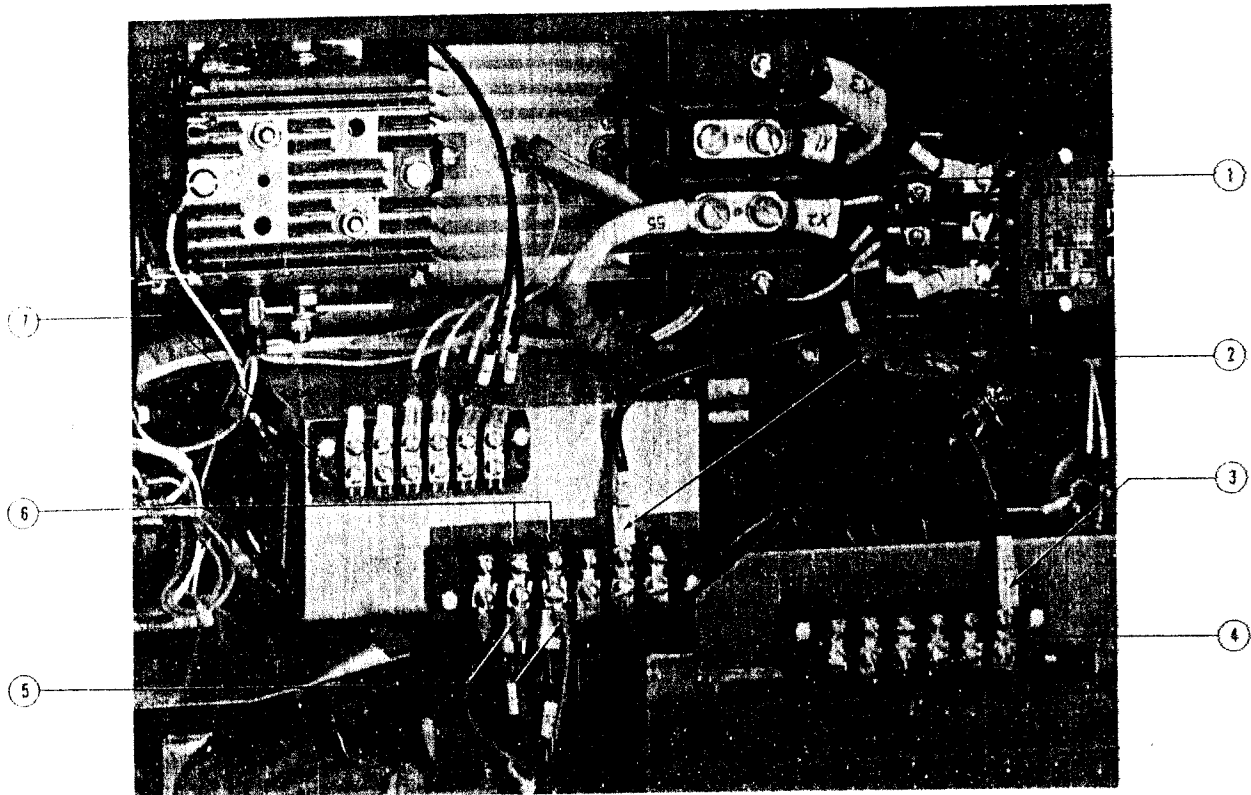
THE POWER SUPPLY is equipped with a cooling fan to maintain a safe operating temperature and a thermal switch located on each heat sink will stop operating of the power supply and protect the silicon diodes if the temperature at either heat sink reaches  $190^{\circ} \pm 5^{\circ}$  Fahrenheit.

A CHOKE and Capacitor in the D. C. circuit, reduces the ripple to a minimum consistent with the requirements of xenon bulbs for a long life.

A NEON GLOW LAMP is connected across the A. C. supply to indicate when the A. C. circuit to the power supply and from the power supply to the lamphouse is energized.

CIRCUIT BREAKERS are installed in the A.C. control circuit to protect components in the event a malfunction occurs.

AN MS CONNECTOR is wired into the AC control and DC circuit on some models of this power supply, for direct connection to the lamphouse that is equipped with the mating connector. This model is furnished with a 12 foot #10 AWG, 3 conductor cord with a 30 ampere, 230 volt twistlock cord cap for connection to the A.C. supply line. This model is limited to 1600 watt, 75 ampere operation.



1. Secondary Transformer Taps (X1, X2, X3)
2. Coarse Tap Lead, Transformer Primary AC Line
3. Fine Tap Lead, DC Output Adjust
4. Fine Tap Terminal Board
5. Stepdown Transformer Taps
6. 208/230 Volt AC Input
7. Control Circuit Terminal Board

## INSTALLATION - OPERATION

THE POWER SUPPLY MODEL equipped standard with an AC lead cord may be connected to any 30 ampere, three wire grounded, 230 volt single phase outlet. This model is limited for a maximum of 1600 watt, 75 ampere operation, and includes an MS connector keyed for a similar connector wired to lamphouse interconnect cables. This model is generally used in a follow spotlight application.

POWER SUPPLIES without the AC lead cord must be wired with #10 AWG and protected with a 30 ampere fuse or circuit breaker when used with the 1600 watt bulb, or #8 AWG with a 35 ampere fuse or circuit breaker when used with the 2000 watt bulb. Connect the AC input leads to the six terminal barrier strip at positions L1 and L2 (see Preface, Plate 3503, Item 6). Connect the ground lead to the terminal stud on the side of the case.

WITH EITHER SYSTEM, the AC supply line should be switched between the AC source and the power supply to permit turning the unit on or off.

THE POWER SUPPLY has three AC line taps on the primary side of the T1 transformer. The power supply is shipped connected for a 208-220 volt line and 1600 watt operation unless the equipment order specifies another line voltage and bulb rating. Lead T2 (Plate 3503, Item 2) from the line contactor K1 should be connected to the primary tap (190, 208, or 230) nearest the measured line voltage.

THE THREE TAPS on the secondary side of the T1 transformer (X1, X2, X3) provide adjustment range for operation of both 1600 and 2000 watt bulbs, with varying input voltages. Taps X1 and X2 are connected to the terminal block (Plate 3503, Item 1). Tap X3 is not connected, but is folded back and taped. If it is necessary to use this tap, remove X2 from the terminal board, tape it to prevent shorting out, and connect X3 to the terminal board. Lead #55 from the silicon bridge CR1 must be connected to the proper secondary tap. The following tables may serve as a guide.

### 1600 W. OPERATION

<u>AC LINE VOLTAGE</u>	<u>T1 TRANSFORMER</u>		<u>T2 STEPDOWN CONNECTION</u>
	<u>PRIMARY</u>	<u>SECONDARY</u>	
190 - 208	190	X3	BLK & BRN
208 - 220	208	X3	BLK & BRN
220 - 230	230	X3	BLK & BLU
230 - 254	230	X3	BLK & BLU

## 2000 W. OPERATION

AC LINE VOLTAGE	T1 TRANSFORMER		T2 STEPDOWN CONNECTION	
	PRIMARY	SECONDARY		
		LO	HI	
190 - 208	190	X2	X1	BLK & BRN
208 - 220	208	X2	X1	BLK & BRN
220 - 230	230	X2	X1	BLK & BLU
230 - 254	230	X3	X2	BLK & BLU

THE STEPDOWN TRANSFORMER T2 has a brown low voltage tap lead (190-220 volts). If the measured line voltage is 220 volts or lower, the blue lead on terminal L2 must be interchanged with the brown lead. DO NOT reposition the black tap lead.

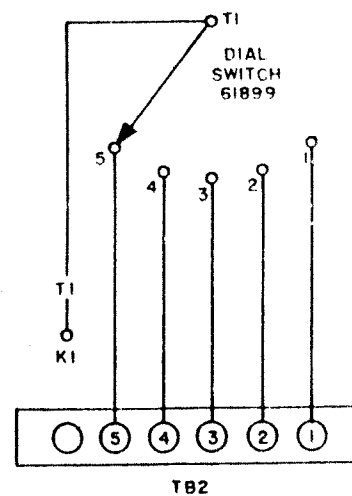
DC OUTPUT to the bulb is determined by the connection of lead T1 to one of the five output taps on terminal board TB2, located on the main transformer (Plate 3503, Item 4). Spotlight models include a dial switch; the numbered steps (1-5) correspond to the fine tap terminal numbers. On motion picture models, the T1 lead is moved to the correct output tap.

START ON STEP 1 for the first ignition of the bulb. Allow a few minutes for the current to stabilize, and read the lamphouse ammeter. If more current is required, extinguish the bulb and advance to step 2. Each step adjusts the DC output approximately four amperes. Repeat this operation to obtain the rated current specified by the bulb manufacturer. If the correct current cannot be reached on the highest (No. 5) step, extinguish the bulb, and move the T2 lead to the next lower coarse tap, i.e. from 230 to 208. Return to fine tap No. 1, and re-ignite the bulb. Again, increase the fine tap setting to reach the desired current.

IF THE OUTPUT exceeds the rated current on step 1, move the T2 lead to the next higher coarse tap, i.e. from 208 to 230. Starting on fine tap step 1, increase the fine tap setting to reach the desired current.

THIS DIAL SWITCH may be ordered as an optional item for motion picture power supplies. The power supply cabinet includes an opening to permit mounting the switch, however the nameplate must be cut to provide clearance. The aluminum nameplate can be easily cut with a "Greenlee" punch or a key-hole saw.

NOTE: If the nameplate is cut to allow mounting the dial switch, make certain that no metal chips or shavings short circuit electrical components inside the power supply.



TO WIRE THE DIAL SWITCH, remove and discard the T1 lead between the K1 contactor and the TB2 fine tap terminal board (Preface, Plate 3503, Item 3). Connect the T1 lead from the dial switch to the contactor terminal from which the T1 lead (Item 3) was removed. The numbered dial switch leads connect to their corresponding numbered terminals on TB2 (Plate 3503, Item 4). If necessary, the contactor and bracket can be moved closer to the main transformer by using the additional mounting hole in the power supply cabinet.

WHEN THE MAIN AC LINE SWITCH is in the "ON" position, the neon glow lamp DS1 will be energized, indicating that one side of the K1 relay contacts are "hot" and the AC control circuit through circuit breakers CB1 and CB2 to the cooling fan B1 in the power supply is also energized. The AC power to the lamphouse is carried through circuit (2-4), to the interlock switches and the fan in the lamphouse. The fan in the lamphouse and power supply will operate as long as the main AC line switch is in the "ON" position.

THE AC CONTROL CIRCUIT (2-4) is completed through the lamphouse and back to the power supply (5-6) when the lamp "ON-OFF" switch is placed in the "ON" position and the lamphouse interlocks are closed.

THE AC POWER is then transmitted to the coil of relay K1, closing the contact of this relay and energizing transformer T1.

THE THERMAL SWITCHES S1 and S2 sense the temperature at the CR1 and CR3 heat sink and will open at  $190^{\circ} \pm 5^{\circ} \text{F.}$ , breaking the AC circuit to the coil of relay K1 and protect the diodes from overheating. These Switches will remain open and prevent operation of the power supply until the temperature drops below  $185\text{-}190^{\circ}$  Fahrenheit.

POWER IS APPLIED to the DC circuit, the CR2 diode boost circuit and R1 current limiting resistor; charging the C2 boost capacitor to the peak voltage developed across the tertiary winding of T1 transformer. Resistor R3 is the bleeder for capacitor C2. Approximately 120 volts DC is momentarily applied to the DC circuit for the xenon bulb ignition. Upon ignition the boost circuit is reduced and 21-30 volts DC is supplied to the lamphouse to maintain operation of the xenon arc. Capacitor C3 functions as a RF bypass circuit at the time of bulb ignition to protect the CR1 rectifier bridge network.

THE CHOKE L1 and capacitor C1 serve as filters to reduce the DC ripple to the level required to insure a long bulb life. Resistor R2 functions as a bleeder for C1 capacitor and diode CR3 is the blocking diode in the negative DC circuit, to permit build-up of the high DC voltage required for bulb ignition.

CAPACITORS C4 and C5, mounted to the bridge rectifier, and C6, mounted to the blocking diode CR3, protect the diodes by suppressing the RF voltage at ignition.

## MAINTENANCE

VERY LITTLE MAINTENANCE is necessary to keep this equipment in top operating condition. The frequency of cleaning the equipment depends on dust conditions at each installation.

THE RECTIFIER (CR1) heat sink and the blocking diode (CR3) heat sink must be kept clean to permit dissipation of the heat generated by the power supply.

PERIODICALLY examine all electrical connections for tightness. A loose connection will cause overheating and possible intermittent operation.

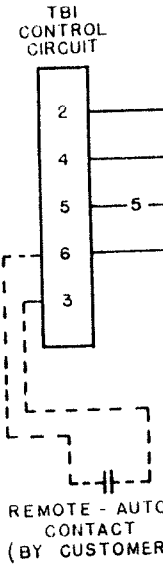
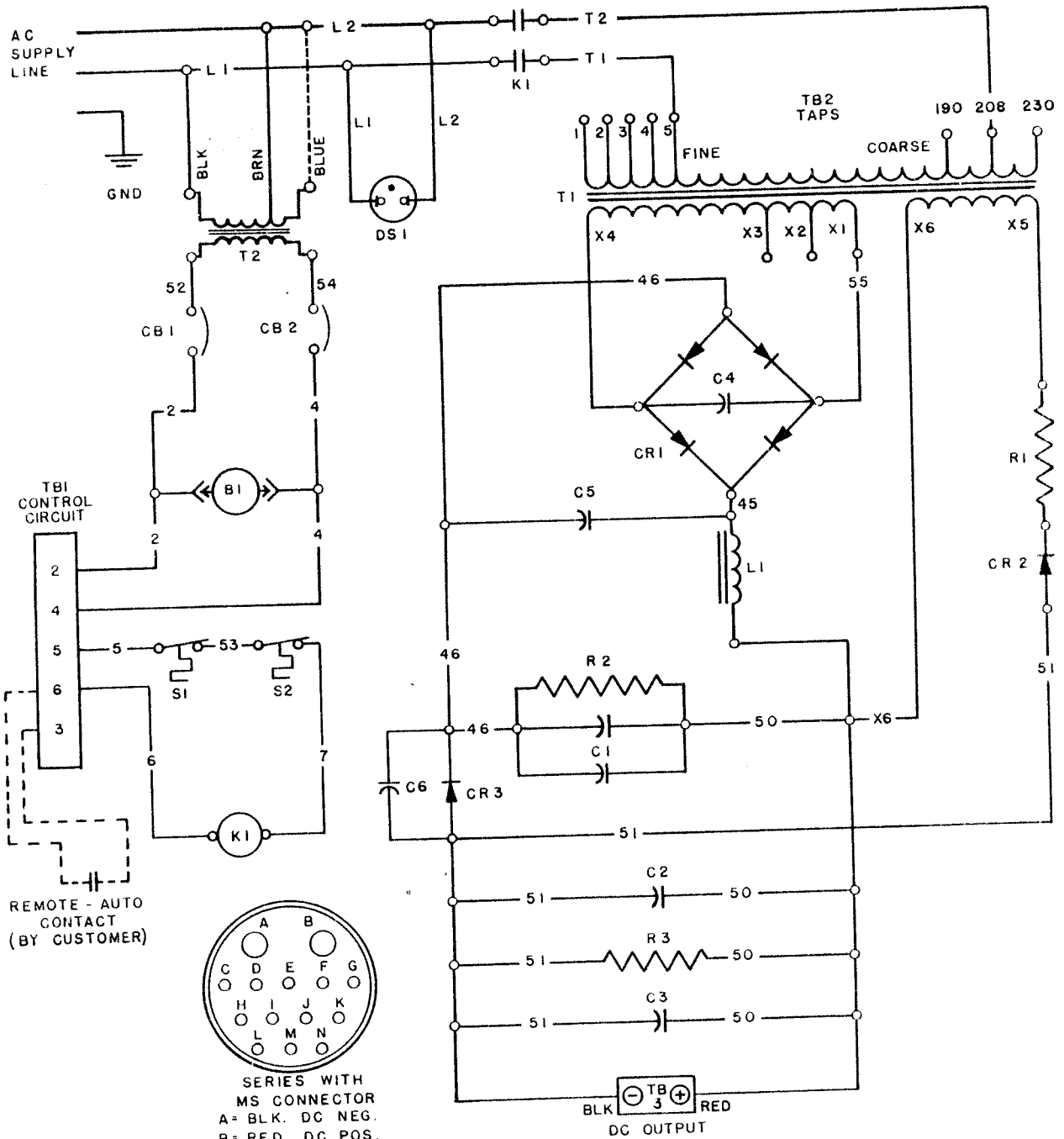
IF THIS POWER SUPPLY is operated in an ambient temperature high enough to permit the internal temperature at either heat sink to reach 190° Fahrenheit, the thermal switches (S1 and S2) will stop operation of the power supply until the temperature falls below this level.

THE COOLING FAN and grill must be kept clean to allow the fan to operate at its rated R. P. M. and permit full air flow through the power supply. Intermittent operation of the power supply may be an indication of inadequate cooling due to dirt on the grill or fan blades.

THE AIR OUTLET GRILL must be cleaned periodically from the inside of the power supply to insure proper air circulation



POWER SUPPLY SCHEMATIC



- SERIES WITH MS CONNECTOR
- A = BLK. DC NEG.
  - B = RED. DC POS.
  - C = BRN. 2
  - D = PINK 3
  - E = ORG. 4
  - F = BLUE 5
  - G = YEL. 6

PARTS LIST  
SCHEMATIC DIAGRAM

<u>Ref. Desig.</u>	<u>Part No.</u>	<u>Description</u>
B1	71220	Blower, 115 V. AC, 50/60 Hz.
C1	88233	Filter Capacitor, 37000 MFD, 75 V. DC (2 req'd)
C2	88185	Boost Capacitor, 1100 MFD, 150 W VDC
C3	88981	RF Bypass Capacitor, .01 MFD, 500/1000 V. DC (with R3)
C4	61933	RF Supression Capacitor, .01 MFD, 1000 V. DC
C5	61932	RF Supression Capacitor, .01 MFD, 1000 V. DC
C6	61902	RF Bypass Capacitor, .05 MFD, 600 V. DC
CB1, 2	79107	Circuit Breaker, 5 Amp, 250 V.
CR1	61976	Silicon Bridge Rectifier
-	84112A	Forward Diode, 600 PRV, 85 A. (replacement)
-	61140	Reverse Diode, 600 PRV, 85 A. (replacement)
CR2	85112	Boost Diode, 1000 PIV, 2.5 A. (with R1)
CR3	84112A	Blocking Diode, 600 PRV, 85 A.
DS1	61993	Neon Glow Lamp, 210/250 V. AC
K1	88116	Contactora, 115 V. AC, 50/60 Hz. Coil
L1	61919	Choke
R1	88982	Current Limiting Resistor, 200 Ohm, 25 W. (with CR2)
R2	88979	Bleeder Resistor, 450 Ohm, 12 W.
R3	88981	Bleeder Resistor, 100 K Ohm, .5 W. (with C3)
S1, 2	88118	Thermal Switch, 190° F. (88° C.)
T1	*	Transformer Assembly, Banked & Wired
T2	61984	Stepdown Transformer, Control Circuit
TB1	77218	Barrier Strip, 6 Terminal
TB2	61116	Barrier Strip, 6 Terminal
TB3	61111	Barrier Strip, 2 Terminal (61001-10 only)
-	61987	MS Connector & Leads (61001-11 only)

\* Order by Equipment Type and Serial Number on nameplate.

## TROUBLE SHOOTING

REFER TO THE INSTALLATION-OPERATION section and the schematic diagram of this manual before attempting any trouble shooting. Some models of this power supply have taps on both the primary and secondary sides of the main transformer to compensate for variations in line voltage and supply the proper current for operation of the various xenon bulbs.

IN ADDITION, the power supplies manufactured for use on a supply line of 208/230 volts A. C., or higher have a stepdown transformer to reduce the A. C. supply voltage to 115-120 volts required for the A. C. control circuit in the lamphouse and power supply. This stepdown transformer has a high (blue) and low (brown) voltage tap on the primary side.

THESE TAPS, on both the main transformer and stepdown transformer, must be connected in accordance with the instructions in your manual to insure proper operation and ignition of the xenon bulb.

THESE POWER SUPPLIES have two (2) thermal switches. One is attached to the bridge rectifier heat sink and one on the blocking diode heat sink. If either switch opens, the power supply will stop operating.

### CR1 Rectifier Bridge Test

Remove the rectifier bridge (CR1) #61101, from the power supply. This bridge has two forward and two reverse diodes. Connect one lead of an ohmmeter to the heat sink of the diode being tested. A functional diode will show an infinite resistance in one direction and a low (approximate 15 Ohm) in the other direction. A shorted diode will indicate low resistance in both directions.

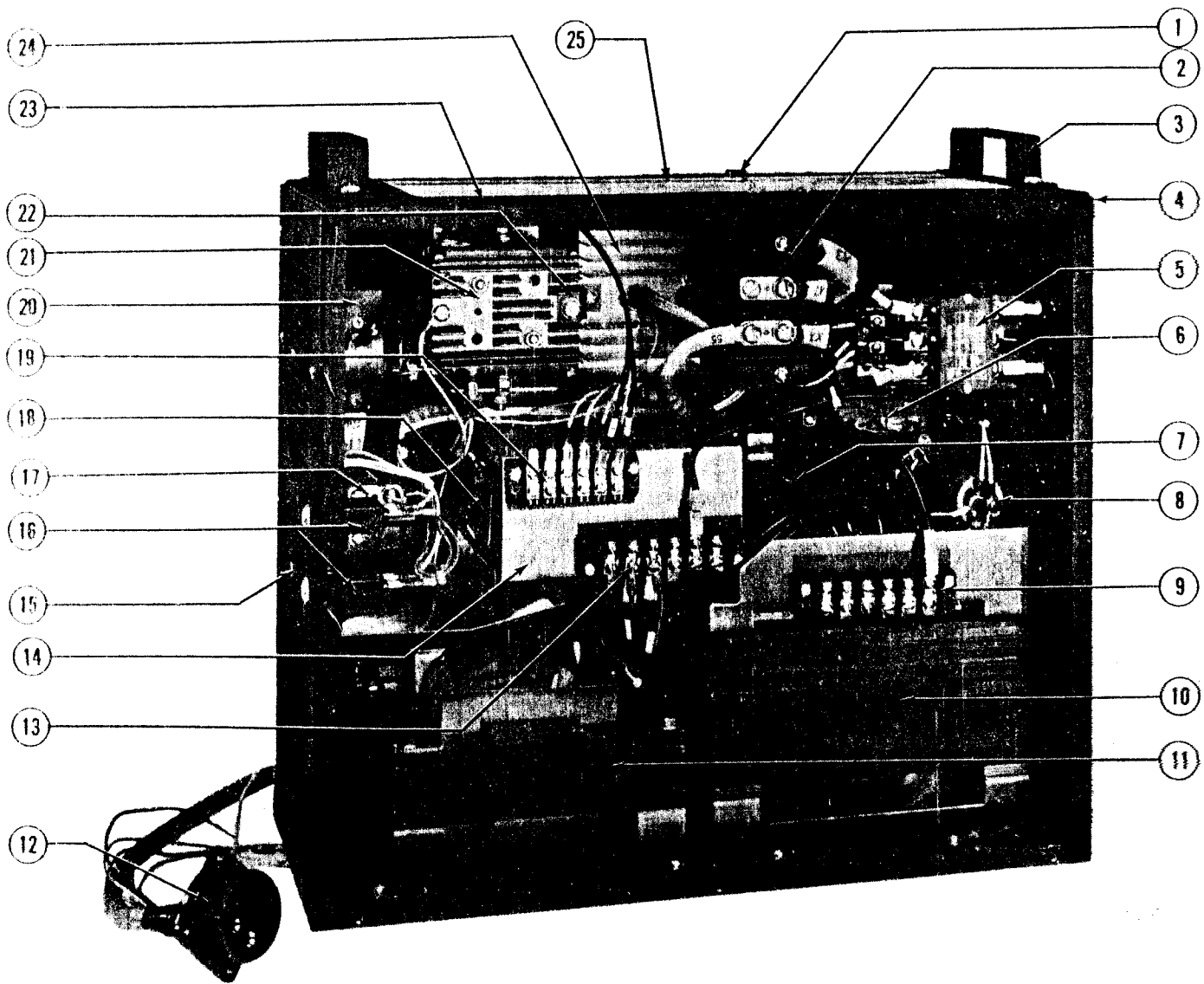
<u>TROUBLE</u>	<u>PROBABLE CAUSE</u>	<u>TEST</u>	<u>REMEDY</u>
Line contactor does not energize (no loud click from contactor when lamp switch is turned on. Red indicator light <u>not</u> lit.	Main power switch not turned on.  Blown line fuses.	Check main line switch.  Check line fuses.	Turn on.  Replace bad fuses.

<u>TROUBLE</u>	<u>PROBABLE CAUSE</u>	<u>TEST</u>	<u>REMEDY</u>
Line contactor does not energize (no loud click from contactor when lamp switch is turned on. Red indicator light is <u>lit</u> .)	Contactors K1 coil burned out.	Check for 115V. AC across terminals 5 & 6 on terminal block with lamp switch on.	If line voltage appears across these terminals replace contactor.
	Circuit breakers CB1, CB2 open.	Check for short.	Reset circuit breakers.
	Defective thermal switch or switches S2 & S3.	Remove one lead at switch and test for continuity with an ohmmeter across switch on bridge rectifier. Repeat same test for switch on blocking diode heat sink.	Replace switch or switches if open.
	Defect in lamp-house A. C. Circuit.	(See lamp manual)	
Contactor clicks on but bulb does not ignite. (Bulb does not flash)	Contacts in K1 line contactor burned or defective.	Check AC voltage on leads T1 & T2.	Replace contactor if voltage is not indicated.
	Lamp-house igniter.	(See lamp manual)	
	Shorted blocking diode CR3.	(See test under Low-No Load D. C. voltage)	Replace diode.
Repeatedly blows line fuses.	Wrong size fuses.	Check size of fuses.	Replace with proper size fuses.
	Shorted silicon bridge (CR1).	Check bridge. See instruction for test in this manual.	Replace defective bridge.

<u>TROUBLE</u>	<u>PROBABLE CAUSE</u>	<u>TEST</u>	<u>REMEDY</u>
(Cont'd) Repeatedly blows line fuses.	Shorted filter capacitor (C1).	Test with capacitor checker.	Replace if defective.
	Shorted boost capacitor C2.	Same test as C1 above.	Replace if defective.
	Shorted step-down transformer (T2).	Disconnect T1 transformer at relay K1. T2 secondary leads 52 & 54 at CB1&2. Energize AC circuit.	If fuse blows, replace T2 stepdown transformer.
	Shorted transformer T1.		If fuses still blow after completing tests on other components replace T1 transformer.
Circuit breakers CB1, 2 open repeatedly. Lamp power switch <u>not</u> "on".	Defective fan in power supply	Disconnect fan.	If circuit breakers do not open, replace fan.
	Defective fan in lamphouse.	-----	See lamp manual trouble chart.
Circuit breakers CB1, 2 open repeatedly. Lamp power switch "On".	Defective igniter.	-----	See lamphouse manual trouble chart.
	Defective contactor (K1).	Remove leads 6-7 from contactor.	If circuit breakers do not open, replace contactor.
Repeatedly failed diodes (CR1).	Defective suppression capacitors (C4, 5).	Test with capacitor checker.	Replace if defective.

<u>TROUBLE</u>	<u>PROBABLE CAUSE</u>	<u>TEST</u>	<u>REMEDY</u>
Low-no load DC voltage to lamphouse (less than 100 volts DC measured across DC terminal board in power supply).	Defective filter capacitor (C1).	(See test and remedy under repeatedly blows line fuse.)	
	Defective boost capacitor (C2).	Remove and test with capacitor tester if available.	Replace capacitor.
	Defective boost diode (CR2). Possible defect if only 50-60 VDC measured at DC terminal block.	Check continuity across the diode with an ohmmeter. Must show low resistance in only one direction when reversing ohmmeter leads	If tests show low resistance in both directions or does not show low resistance in either direction, replace diode and R1 resistor assembly.
	Shorted or open blocking diode CR3. Check voltage at DC terminal block. Possible defect if only 50-60V. DC measured at DC terminal block.	Check with an ohmmeter, the continuity from the (-) heat sink to the negative output lead. Should show continuity in only one direction when reversing ohmmeter leads.	If tests show continuity in both directions, replace diode.
	Defective current limiting resistor R1.	Measure resistance with an ohmmeter. Check reading with listed resistance value $\pm 20\%$ .	If defective, replace resistor and CR2 diode.
	Possible defective diode in bridge rectifier if less than 40 volts measured at DC terminal block.	See test for rectifier bridge (CR1) on first page of trouble shooting.	Replace if defective.
Excessive light flicker.	Defective xenon bulb.	(See lamp manual trouble shooting)	

<u>TROUBLE</u>	<u>PROBABLE CAUSE</u>	<u>TEST</u>	<u>REMEDY</u>
Excessive light flicker. (cont'd)	Defective silicon diode bridge (CR1).	See previous test for bridge.	Replace if defective.
	Filter capacitor (C1).	See test under repeatedly blows line fuse.	Replace capacitor.
	Boost capacitor (C2).	See test under repeatedly blows line fuse.	Replace capacitor.
Reduced light output.	Defective xenon bulb.	(See lamp manual troubleshooting)	
	Defective silicon diode bridge (CR1).	See previous test for bridge.	Replace if defective.
Xenon bulb does not light (bulb flashes).	Defective xenon bulb.	(See lamp manual trouble shooting)	
	Open blocking diode (CR3).	See previous test for CR3.	Replace CR3 if defective.
	Power setting too low to maintain ignition of xenon bulb.	-----	Advance T1 tap lead on TB2 up a step or two. Do not attempt to operate bulb below the manufacturers recommended minimum rating.
Bulb goes out during operation.	B1 blower.	-----	Replace if not operating, clean if dirty and running slow.
	Thermal switches located on CR1 bridge heat sink and blocking diode CR3 heat sink.	See test under trouble of line contactor does not energize and indicator light is lighted.	Replace switch if defective. If temperature at heat sink reaches $190^{\circ} \pm 5^{\circ}$ thermal switch will open.





## PARTS LIST

<u>Item No.</u>	<u>Part No.</u>	<u>Description</u>
1	61993	Neon Indicator Lamp (DS1)
2	61111	Barrier Strip, Transformer Secondary (Coarse Taps)
-	61121	Insulated Marker Strip
-	61113	Bracket
-	541	Screw, 1/4-20 x 1/2", Pan Hd.
-	805A	Hexnut, 1/4-20
-	889	Shakeproof Lockwasher, 1/4"
-	392	Screw, 10-32 x 7/8", Fil. Hd.
-	1344	Shakeproof Lockwasher, #10
3	88208	Handle
-	541	Screw, 1/4-20 x 1/2", Pan Hd.
-	805A	Hexnut, 1/4-20
-	889	Shakeproof Lockwasher, 1/4"
4	61911	Cabinet
-	61921	Base Plate, Cabinet
-	88161	Cover Plate, Cabinet
-	1794	Screw, 8-32 x 3/8", Slotted Hex Washer Hd.
5	88116	Contacto (K1)
-	1382	Screw, 8-32 x 3/16", Pan Hd.
-	88164	Bracket
-	541	Screw, 1/4-20 x 1/2", Pan Hd.
-	805A	Hexnut, 1/4-20
-	889	Shakeproof Lockwasher, 1/4"
6	61984	Control Transformer, Stepdown (T2)
-	1382	Screw, 8-32 x 3/16", Pan Hd.
7	88982	Fixed Resistor & Diode Ass'y. (R1 with CR2)
-	1412	Screw, 6-32 x 1/8", Pan Hd.
8	88185	Boost Capacitor (C2)
-	88125	Capacitor Clamp
-	1412	Screw, 6-32 x 1/8", Pan Hd.
9	61116	Barrier Strip, Fine Taps
-	61187	Insulated Marker Strip
-	1312	Screw, 8-32 x 1/2", Pan Hd.
10	61001-10BW	Transformer (T1)
-	1419	Screw, 5/16-18 x 3/4", Hex Hd.
-	807	Hexnut, 5/16-18
-	877	Split Lockwasher, 5/16"
11	61919	Choke (L1)
-	1419	Screw, 5/16-18 x 3/4", Hex Hd.
-	807	Hexnut, 5/16-18
-	853	Flatwasher, 5/16"
-	877	Split Lockwasher, 5/16"
12	61987	MS Connector & Leads Ass'y. (61001-11 only)
-	464	Screw, 10-32 x 1/4", Pan Hd.

<u>Item No.</u>	<u>Part No.</u>	<u>Description</u>
13	61116	Barrier Strip, AC Line
-	61117	Insulated Marker Strip
-	1312	Screw, 8-32 x 1/2", Pan Hd.
14	61112	Capacitor Mounting Bracket
-	464	Screw, 10-32 x 1/4", Pan Hd.
-	88233	Filter Capacitor (C1), 2 req'd.
15	1487	Ground Bolt, 1/4-20 x 7/8", Hex Hd.
-	889	Shakeproof Lockwasher, 1/4"
-	805A	Hexnut, 1/4-20
-	835	Flatwasher, 1/4"
16	79107	Circuit Breaker (CB1, 2) See Item 23 for Alternate Location
17	61111	Barrier Strip, DC Output (TB3; 61001-10 only)
-	61121	Insulated Marker Strip
-	392	Screw, 10-32 x 7/8", Fil. Hd.
-	1344	Shakeproof Lockwasher, #10
-	831	Flatwasher, #10
18	88979	Bleeder Resistor (R2)
19	61103	Barrier Strip, Control Circuit (TB1)
-	61109	Insulated Marker Strip
-	1312	Screw, 8-32 x 1/2", Pan Hd.
20	71220	Blower (B1)
-	61994	Power Cord, Blower
-	1795	Screw, 6-32 x 1", Self-tapping
-	61127	Tinnerman Nut, #6
21	61976	Silicon Bridge Rectifier (CR1) See Figure 2
22	61118	Buss Bar See Figure 2
23	-	Alternate Location for Circuit Breakers, Item 16
24	61977	Blocking Diode Ass'y. See Figure 2
25	61182	Nameplate
-	1639-3	Rivet, 1/8", Domed Hd.

Parts Not Listed Above

61194	Air Deflector, Blower Outlet
61983	AC Power Cord with Plug
61115	Plug, 30 Amp. 250 V.
61126	Power Cord Strain Relief Bushing

Specify Equipment Type and Serial Number when ordering replacement or optional parts.

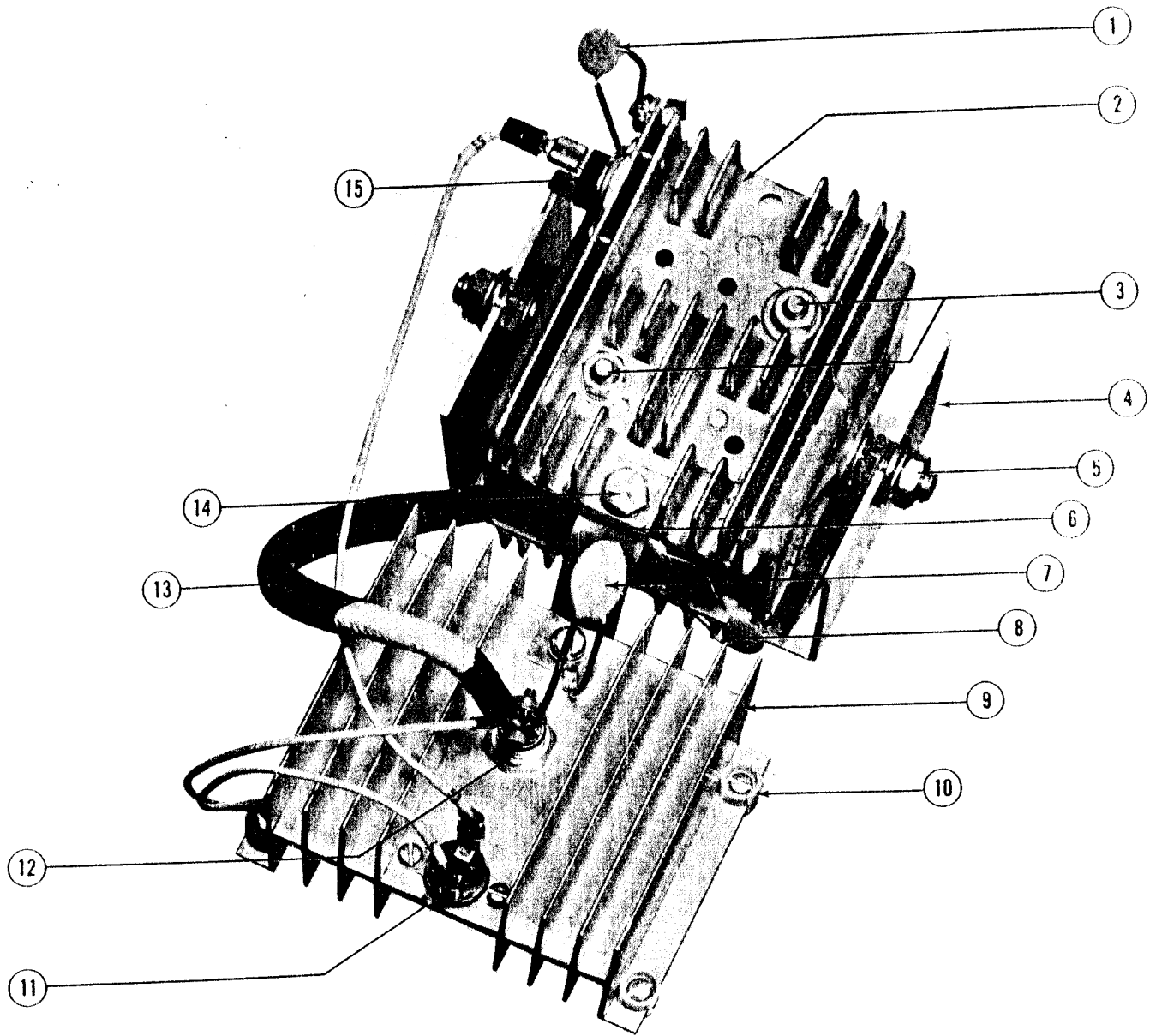
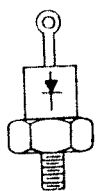


FIGURE 2

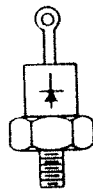
FIGURE 2  
PARTS LIST

<u>Item No.</u>	<u>Part No.</u>	<u>Description</u>
1	61933	Capacitor Ass'y. (C4)
2	61101	Rectipoint (with CR1 Diodes)
3	61140 *	Reverse Diode
-	84112A*	Forward Diode (not shown)
4	61107	Mounting Bracket
-	1304	Screw, 8-32 x 5/16", Pan Hd.
5	-	Hardware supplied with Rectipoint, Item 2
6	61118	Buss Bar
-	1307	Screw, 10-32 x 3/8", Pan Hd.
-	1344	Lockwasher, #10
7	61902	Capacitor Ass'y. (C6)
8	61932	Capacitor Ass'y. (C5)
9	61120	Heat Sink
10	88237	Mounting Insulator
-	1473	Screw, 6-32 x 1/2", Pan Hd.
11	88118	Thermal Switch (S2)
-	1305	Screw, 6-32 x 1/4", Pan Hd.
12	84112A	Blocking Diode (CR3)
-	1722	Screw, 6-32 x 1/2", Socket Hd.
-	793	Hexnut, 6-32
-	1494	Lockwasher, #6
13	61988A	Negative Lead Ass'y.
14	687	Screw, 1/4-20 x 1/2", Hex Hd.
-	805A	Hexnut, 1/4-20
-	852	Flatwasher, 1/4"
-	889	Lockwasher, 1/4"
15	88118	Thermal Switch (S1)
-	1305	Screw, 6-32 x 1/4", Pan Hd.

\* Note marking for correct replacement:



FORWARD



REVERSE