Film-Tech

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INSTRUCTIONS

FOR

"XENOLITE"

CHF SERIES

XENON CONSOLES

"U.S. PATENT APPLIED FOR"

Manufactured by

CHRISTIE ELECTRIC CORP.
3410 W. 67th Street
Los Angeles, California 90043
Telephone (213) 750-1151

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I. GENERAL DESCRIPTION

The XENOLITE "CHF" Xenon Console is a series of integral projection illuminator systems which combine the rectifier power supply and projector base with a Xenon lamphousing in a single integrated unit that allows a minimum of installation and wiring expense.

These Consoles are designed to be operated with any standard 35mm or 35/70mm motion picture projector head and will accommodate Xenon compact arc lamps in ratings from 900 - 3000 watts.

They utilize a highly efficient optical system to obtain maximum light output with extreme ease of operation and high reliability. This is accomplished by using a horizontally operated xenon bulb within a deep, explosion-proof reflector which has a computer-generated, aspheric shape to achieve maximum efficiency. The high voltage igniter (#1, Figure B) required for starting the Xenon bulbs is included in the enclosure. For the bulb description, recommendations and warranty information, see the Christie (or equivalent) lamp instruction.

DANGER: Possible Explosion Hazard. Due to the high internal pressure of xenon compact arc lamps, they may explode if dropped or mishandled. Therefore, they must be handled with great care. Whenever the protective cover is removed from the lamp, protective clothing including rubberized cotton gloves, double layer .040" acetate face shield, and quilted ballistic nylon jacket must be worn. (These items are available from Christie Electric Corp.) The instructions regarding protective clothing are subject to change by any local or federal specifications which take precedence.

If the lamp has been operating, a ten minute delay period after shut-off must be observed prior to opening the lamp chamber to permit cooling of the heated lamp, thus reducing the internal pressure of the lamp to a level permissible for application of the authorized protective clothing.

NOTE: The XENOLITE consoles are equipped with a double latch system on the lamp access panels to eliminate inadvertent opening of the enclosure.

II. UNPACKING

1. Be sure the container is upright. Open the case and remove the packing.

2. Carefully remove the unit from the case. Thoroughly inspect the unpacked unit for possible damage that has occurred during shipment. Any damage discovered should be reported to the transportation company at once for inspection and filing of claim.

III. INSTALLATION

1. Place the Console on its intended operating location in the projection booth, (preferably over an electrical pull-box in the floor for input power wiring).

2. Install the four (4) leveling feet (#18, Figure B) which are screwed into the four corners underneath the base until about 2" of thread remains exposed. (A recommended method is to carefully tilt the Console to one side to install the first two feet, then rock it over to the other side for the other two feet).

3. Remove the upper rear panel by unlocking the key-lock in the safety panel and then loosening the 1/4-turn fasteners. Then remove the lower rear and lower right side panels as well.

4. Set the tilt angle of the Console to the approximate projection angle required. This is accomplished by loosening the "Tilt Adjust Locking Bolts" (#17,Figure B) located on both sides at the bottom rear inside the enclosure. Markings showing the approximate tilt angle are provided along the adjustment slot.

   CAUTION: It is recommended that this adjustment be made before the projector and sound heads are installed. If the projector is already mounted, DO NOT loosen the "Tilt Adjust Locking Bolts" without first providing adequate support under the projector. Otherwise, the projector and Console could tilt violently forward and cause extensive damage.

5. If installation is in a confined area such as in a projection booth, it may be necessary that the hot exhaust air be ducted to the outside of the building. Connect to the exhaust duct (#10, Figure A) on top of the lamphouse a six inch ID, flexible, fireproof ducting material. Be sure that there are no obstructions in the ducting, and that the air intake openings (#9,&26 Figure A) of the Console are unobstructed.

   If the unit is procured with cooling fan, and ozone-free bulbs are used, a short vertical exhaust stack (3 foot minimum) may be used.

   There must be sufficient air flow through the lamp chamber to properly cool the Xenon bulb. The CHF 30 Console is furnished with a blower so auxiliary ventilation is not normally required. If the exhaust duct height exceeds fourteen feet, an auxiliary blower must be added. All other Consoles should be installed with a blower in the exhaust duct capable of providing the following minimum air-flow.

CHF 30	600 cfm
CHF 20	250 cfm
CHF 10	100 cfm

IV. ELECTRICAL CONNECTIONS

1. BEFORE CONNECTING, PULL THE A-C DISCONNECT SWITCH IN BOTH THE 3-PHASE AND 1-PHASE A-C LINES.

2. Check the a-c voltage shown on the Console nameplates. Then check the a-c supply voltages with a voltmeter to see that they

do not differ by more than 10% from the rated nominal values of the unit.

3. Remove the wiring access panel from the foot of the base (#27, Figure A). Pull the 3 or 4-wire power cable from a 3-phase, 208/230 volt a-c, 60 Hz. line through one of the cable entrance holes in the bottom front of the rectifier compartment. Connect these wires to terminals L1, L2, and L3 on terminal board TB-1 (#24, Figure A). Connect a grounding wire to the grounding lug (#25, Figure A) in the rectifier-compartment. GROUNDING THE CABINET IS AN IMPORTANT SAFETY MEASURE.

4. Pull the two wires from a 1-phase, 115 volt a-c, 60 Hz. line through the other cable entrance hole in the base. Connect these wires to TB2-1 and TB2-2 (#7, Figure B) on the rear of the rectifier. The white wire should be connected to TB2-1 and the colored wire to TB2-2.

   This same 115 volt circuit may be connected to the convenience outlet (#4, Figure B) if desired. Controls for various booth functions may be mounted and wired to the 19" blank panel provided below the lamp control panel, if desired.

   The "CHF" Console is now completely wired and the lower rear and side panels may be replaced.

V. MECHANICAL ALIGNMENT

1. Mount and secure the projector and sound heads to the face plate of the projector mount casting (#21, Figure A) on the front of the Console. Standard spacer blocks (#19, Figure A) are available for varying sound heads. With the correct spacing, the film aperature is approximately 6-1/4" from the front edge of the Console snood.

2. The "CHF" Consoles are aligned and adjusted at the factory so that the optical axis is aligned to the center of the snood, and the projector mount casting is set to a 9" optical centerline.

   In order to achieve optimum efficiency of the system, the center of the snood must be aligned to the center of the film aperature. This alignment is readily accomplished by using the CHRISTIE Motion picture projector alignment tools (Figure C). The procedure is as follows:

   A. From the inside of the lamphouse remove the snood lens (#15, Figure A) by loosening the 2 screws holding the lens retaining clips in the snood.

      Note: For Model CHF10, remove the lens by removing the rear snap ring.

B. Install the snood alignment reticle into the rear of the snood (see #4,Figure C). Then place the mirror alignment reticle into the hole in the mirror. Make sure both reticles are properly seated.

C. Remove the lens from the projector and insert the 2-25/32" diameter aluminum plug (#5, Figure C) into the lens holder (use a lens adapter if required).

D. Insert the 1/2" alignment rod (36" long) into the aluminum plug, open the fire dowser, and run the rod through the projector to the snood alignment reticle. If necessary, adjust the alignment and adjustment screws (#20, Figure A) so that the rod passes smoothly through the reticle.

E. Slide the Front Lamp Support Alignment Collar onto the rod. Then push the rod through the lamphouse until it passes smoothly through the mirror reticle, adjusting the alignment and adjustment screws if necessary.

F. Slide the Lamp Support Alignment Collar so it is directly above the front lamp support bracket (#14, Figure A) and adjust the height of the support so the collar rests snugly in the cradle of the support bracket.

G. Tighten all adjustment screws and remove the alignment tools. Install the lens in the snood, retightening the retainer clips. Do not replace the projector lens in the projector. Check that the distance from the front of the snood to the aperture is approximately 6-1/4".

H. Insure that the air intake openings in the side of the lamphouse are free from any obstruction.

VI. INSTALLATION OF LAMP

1. Unlock the key-latch on the safety cover which gives access to the second fastener. Then remove the rear panel by loosening the remaining fasteners to open the enclosure.

   NOTE: When replacing the panels, be certain to fasten both sets of fasteners. The Lamphouse will NOT operate unless the safety cover is properly locked.

2. Hold the nut on the upper rear screw of the side panel, remove the screw, the three quarter-turn fasteners and remove the side panel. Remove the access cover (#17, Figure A) from the snood.

3. Remove the flexible air duct (#10, Figure B) and the connecting cone from the rear lamp support.

DANGER: POSSIBLE EXPLOSION HAZARD. WEAR AUTHORIZED PROTECTIVE MASK, JACKET AND GLOVES, WHEN WORKING WITH ANY COMPACT ARC LAMP WHEN THE PROTECTIVE COVER IS REMOVED. DO NOT TOUCH THE QUARTZ BODY OF THE LAMP WITH BARE HANDS.

4. Take the lamp out of its package LEAVING THE PROTECTIVE COVER ON. Remove the knurled nut from the negative base pin of the lamp. Remove the protective cover and place the lamp into the mirror with the negative threaded terminal toward the rear. Insert the negative terminal through the hole in the center of the rear support (#2, Figure B) and screw the nut onto the base pin tightly. Rest the positive end of the lamp in the front support (#14, Figure A) and connect the high voltage positive lead (from the igniter) to the front positive lamp base pin (#18, Figure A). When inserting or connecting the lamp, avoid the transfer of twisting or bending stresses to the quartz body. Be sure that the lamp is properly seated.

5. Take care to insure that the lamp is connected with the right polarity; the positive lead to be connected to the high voltage terminal in lamphouse (#18, Figure A) and the negative lead to the rear terminal on lamphouse (#2, Figure B). Operating with reversed polarity will ruin the lamp.

   Make sure that the positive lead from the lamp to the igniter does not touch, or run close to any metal parts of the lamphouse or the mirror. If these leads are close to any metal parts, it will cause arcing during the starting pulse and the lamp will not ignite.

DANGER: POSSIBLE EXPLOSION HAZARD. WEAR AUTHORIZED PROTECTIVE MASK, JACKET AND GLOVES WHEN WORKING WITH ANY COMPACT ARC LAMP WHEN THE PROTECTIVE COVER IS REMOVED. DO NOT TOUCH THE QUARTZ BODY OF THE LAMP WITH BARE HANDS.

6. If the quartz body of the lamp is accidentally touched with the bare hands, or if it becomes dirty, clean it with alcohol and subsequently clean it with a soft cloth and distilled water. *AUTHORIZED PROTECTIVE MASK, JACKET AND GLOVES MUST BE WORN.*

7. Remove any tools, paper or foreign matter in the Console. Then--

8. Carefully replace the snood access panel and the side panel. Replace the rear panel. Close and fasten the safety latch. Observe and record the elapsed time meter reading before starting any new lamp.

   NOTE: An interlock switch (#12, Figure B) will prevent the system from operating if the safety lock on the rear panel is not closed securely or if the polarity of the d-c leads from the power supply are reversed.

VII. STARTING AND OPERATING

1. Before starting the lamp, check the maximum lamp operating current, which will be found on the lamp data sheet in the box in which the lamp is shipped.

2. Check to see that DC POWER ON-OFF switch (#4, Figure A) is in OFF position. Energize the 3-phase and 1-phase a-c power to the Console,

and the pilot lamp (#6, Figure A) will light.

3. The Xenon lamp current is adjusted by means of a tap switch behind an access panel in the side of the Console (#5, Figure B). Set the current adjust on the rectifier to its medium position. Check that the Console cooling fan is operating, that all panels are closed, and all air intakes are unobstructed to insure proper cooling.

4. NEVER VIEW THE LAMP DIRECTLY. Serious and permanent eye damage can be caused by the ultra-violet radiation of the lamp. Under no condition should the Console be opened except as described in Paragraph IX below.

   DANGER: Fire Hazard. Keep hand, clothes and combustible material away from the concentrated light bean in front of the snood.

5. Check that the dowser handle (#11, Figure A) is closed (up position). Turn D-C POWER ON-OFF switch to ON position. The lamp (bulb) will ignite automatically. If not, momentarily press the EMERGENCY START BUTTON (#3, Figure A), this will strike the lamp again. Observe the ammeter to insure that the rated lamp current is not exceeded. Never allow the current to exceed the rated maximum lamp current, or drop below 40% of that value. If the current is too high or too low, use the tap switch to adjust the power to the proper current. The lamp may extinguish when the power supply is switched, but should restart automatically. If not, it must be restarted by pressing the EMERGENCY START BUTTON.

6. If, after a 10 minute warm-up period, the correct current cannot be obtained with the tap switch, turn the unit off, pull the a-c disconnect switches, remove the lower right panel of the Console and change the "HI-LO" links (#7, Figure A) as necessary.

   CAUTION: Do not service the rectifier until at least 2 minutes after it has been turned off, to allow capacitors to discharge.

7. The lamp is extinguished by turning the D-C POWER ON-OFF switch to the OFF position. DO NOT open the lamp compartment until at least 10 minutes after switching off the lamp. Always wear an authorized protective face mask, jacket and gloves when opening the lamp compartment, or when handling an unprotected lamp. Pull the a-c disconnects in the a-c lines before entering the Console.

VIII. OPTICAL ALIGNMENT AND ADJUSTMENTS

1. After the lamp has been started and adjusted per paragraph 5 of Section VII, open the dowser. A dark spot will be observed on the screen.

2. Using the lamp adjustment mechanism (#13,14,15,Figure B), adjust the bulb focus (#13, Figure B) until the dark spot is clearly defined and then center it using the vertical and lateral adjustments (#14 & 15, Figure B).

3. Then move the bulb forward. The light intensity should be the same on both sides of the dark spot. If not, adjust the vertical and/or lateral adjustments. When the intensity on both sides of the spot is equal, move the lamp back through "focus" and the light intensity should again be equal on both sides of the dark spot. If it is not, recheck the mechanical adjustment (paragraph V).

NOTE: The dark spot may have a slight oval shape. If so, turn off the lamp, close the dowser and rotate the snood lens so the oval shape becomes horizontal. If the lens cannot be reached from the front, wait 10 minutes and enter through side panel wearing authorized face mask, jacket and gloves.

4. Close the dowser and replace the projector lens in the projector. Again open the dowser and make final bulb adjustments, if necessary, to obtain maximum and uniform light on the screen.

NOTE: There is normally no need to change any of the adjustments thereafter until the bulb is replaced.

IX. REPLACEMENT OF LAMPS

1. Be sure that the lamp has been cooled for at least 10 minutes and that an authorized protective face mask, jacket and gloves are worn. Pull the a-c disconnects to the Console. Unlock the safety door, remove the rear panel and side panel. Loosen the positive (+) and negative (-) connections, carefully remove lamp from the lamphousing and immediately PLACE THE PROTECTIVE COVER AROUND THE LAMP, taking care not to touch the quartz envelope.

2. It is recommended to replace the lamps after a running time which exceeds the warranted lifetime by not more than 20%. The running time can be checked by the elapsed time indicator on the side of the lamphousing. Be sure to record the elapsed time reading when installing a new lamp.

3. Worn out lamps are to be returned to Christie Electric in their protective cover and original packing.

X. TROUBLE SHOOTING

1. Power Supply Will Not Start

A. Check carefully with a voltmeter across all 3 phases of the a-c line to see that the phase-to-phase voltages are equal on all 3 phases within 5%. To locate trouble in the line, start the test at the power supply input terminals, and then proceed to both sides of the fuses in the line, then on to the disconnect switch.

B. Check electrical connections and interlock (#12, Figure B) in the Console.

C. Try new fuses in the a-c line.

D. Check the indicator light.

2. Lamp Cannot Be Ignited, Check Following:

A. D-C power supply is set to proper value, as specified.

B. D-C voltage at lamp is connected with correct polarity and should not be less than 85 volts open-circuit. If d-c voltage is low, check the power supply.

C. Check the capacitor(s) (#3, Figure B) in the rectifier output circuit (see schematic).

D. 115 volt a-c is supplied to igniter.

E. Wiring connections to lamp power supply are correct and secure.

F. When the ON-OFF switch is turned ON, listen for the normal buzz of the igniter when the d-c voltage reaches 85 volts. If there is no buzzing, remove the left side panel and take the cover off the igniter. Check to see if the igniter relay pulls in.

DANGER: DO NOT TOUCH IGNITER WHEN ENERGIZED DUE TO VERY HIGH VOLTAGE.

If relay is not operating, check relay circuit, operate relay manually. Replace relay if found defective. If relay is operating but no buzz is heard, replace spark gap.

G. When the EMERGENCY START BUTTON is pushed, listen for the normal buzz of the igniter. If there is no buzzing, remove the left side panel from the Console and take the cover off the igniter. Replace spark gap.

DANGER: DO NOT TOUCH IGNITER WHEN ENERGIZED DUE TO VERY HIGH VOLTAGE.

H. If the igniter is operating properly, check for high-voltage arcing to ground as follows:

1) Disconnect the d-c power leads from power supply.

2) OPEN DOWSER. Remove the access panel from the snood.

3) While looking through the opening, momentarily press the EMERGENCY START BUTTON and observe if there is any arcing from the front of the lamp or from the positive (front) lamp lead to any metal parts of the Console or mirror.

4) If arcing is noted from the flexible lamp lead, relocate the lead routing as far as possible away from any metal parts.

I. Check The Lamp: *USE AUTHORIZED FACE MASK, JACKET AND GLOVES*

1) Check for air leakage into bulb. A Xenon lamp which "Goes Air" while running will turn suddenly black and cloudy.

3. If the Power Supply Will Not Deliver Its Full Output, or Output Is Not Steady:

A. Turn off power and make a complete inspection of all connections in the d-c and a-c lines. Connections found hot to the touch by hand after operation are indications of loose or dirty contacts.

B. If one phase of a 3-phase supply line is open, the power supply will deliver a reduced current of high ripple. In such case, check with a voltmeter or a test light across all three a-c terminals to see that the phase-to-phase voltages are equal on all 3 phases within 5% of rated voltage while the power supply is delivering load current.

C. Check for an "open" or "short" in one of the diodes. To do this, disconnect the flexible pigtail connection (or the lead to the diode) and measure the resistance of the diode from the pigtail to the base, using a standard ohmmeter. Reverse the meter leads and repeat the measurement. If both measurements are below 1 ohm., the diode is shorted. If both measurements are above 10,000 ohms, the diode is open. Replace open or shorted diodes. Observe polarity of diodes if new diodes are installed.

4. Light Intensity on Screen Changes to a Lower Level:

A. Check lamp current.

B. Check focus adjustment of lamp while viewing raw light on the screen to get brightest setting.

C. Turn DC Power off and cool lamp 10 minutes. With authorized face mask, jacket and gloves on, open Console and observe if there has been any damage or deterioration of the mirror surface or if lamp has dropped into a new position due to incorrect placing.

XI. MAINTENANCE

1. Before opening the Console, PULL THE AC LINE DISCONNECTS TO THE CONSOLE. USE AUTHORIZED FACE MASK, JACKET AND GLOVES AND PLACE PROTECTIVE COVER ON LAMP. Check the contact surfaces of the (+) and (-) connections at regular intervals of approximately 500 hours for cleanliness. If need be, clean them. It is important that this procedure be followed regularly as the contact resistance may lead to a scorching of the connectors. Clean air intake openings.

2. Cleaning Optical Surfaces. The exposed optical surfaces of the lamphouse occasionally require cleaning. Always remove the bulb (see Section IX) before cleaning the mirror. Remove the Snood Access Cover (#17, Figure A) to clean mirror and inside of lens. Mirror surface should be cleaned every two weeks to maintain optimum performance of the system.

Using the cleaning supplies listed in Table 1, clean optical surfaces as follows (optics cleaning kits are available from Christie Electric Corp.):

A. For surfaces that are dusty but do not have smudges, fingerprints or grease marks:

1) Brush the dust from the surface with a camel hair brush.

2) Blow any remaining dust away with an ear syringe.

B. For surfaces that are smudged or have oil or grease smears:

1) Moisten a pad of cotton with detergent solution. The pad should be well moistened but not dripping wet.

2) Gently swab the exposed lens or mirror surface, using a spiral motion and working from the center of the surface toward the edge.

3) Sponge up moisture with cheese cloth or lens tissue.

CAUTION: Never use cheese cloth or lens tissue for more than one sponging. Throw it away.

4) Dampen a pad of cotton with methyl alcohol. Wipe surface using spiral motion from center to edge, in one continuous motion.

5) Dry exposed surface with a dry pad of cotton or with lens tissue.

6) Repeat the procedure above as required. When exposed lens or mirror surface is dry and clean, loosen any remaining lint with brush and blow clean with the ear syringe.

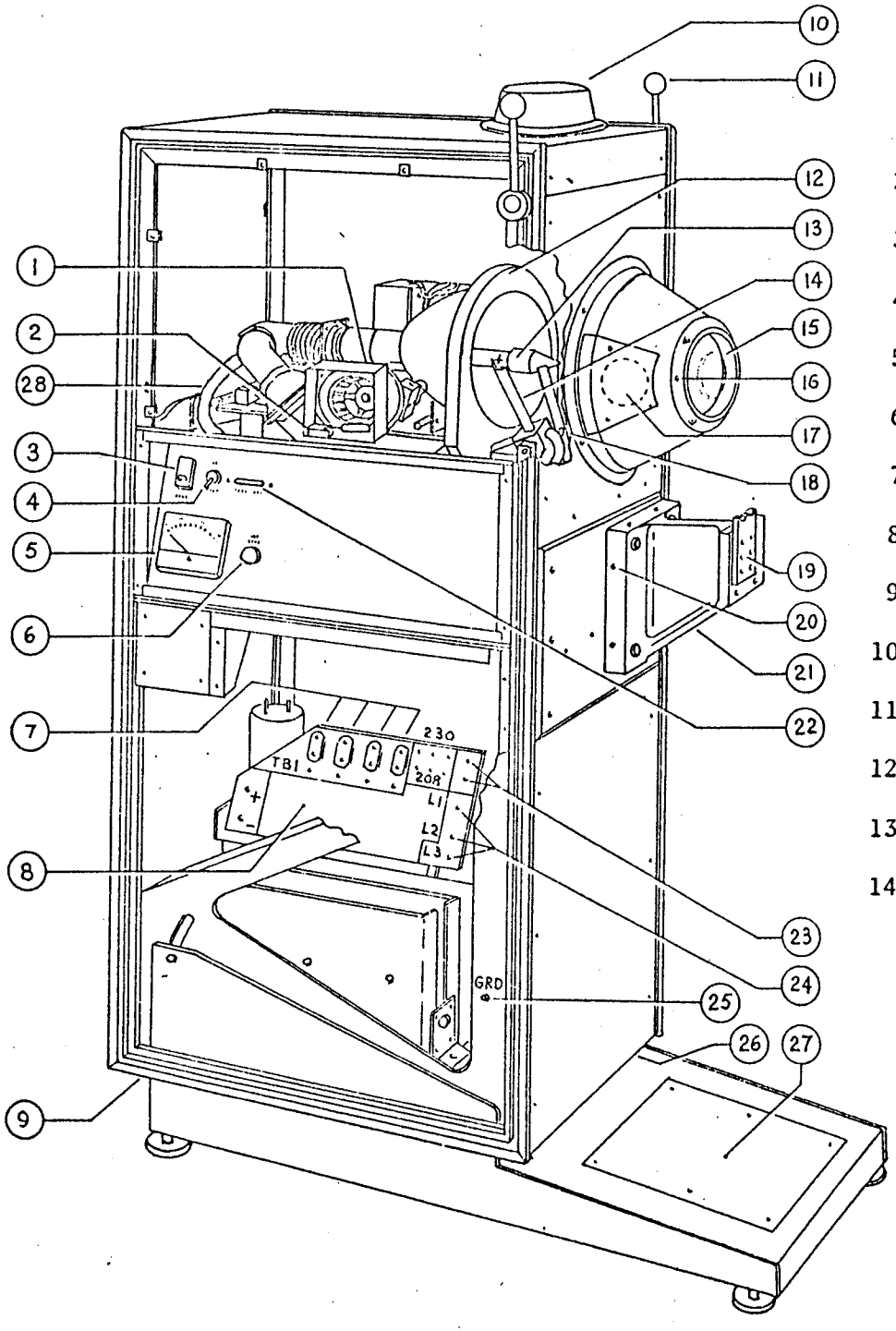
3. Periodically clean the high voltage insulator of the igniter to prevent any accumulation of dust or dirt.

4. The blower motors should be oiled approximately every 6 months through both of the oil holes in the blower motor housing.

TABLE 1

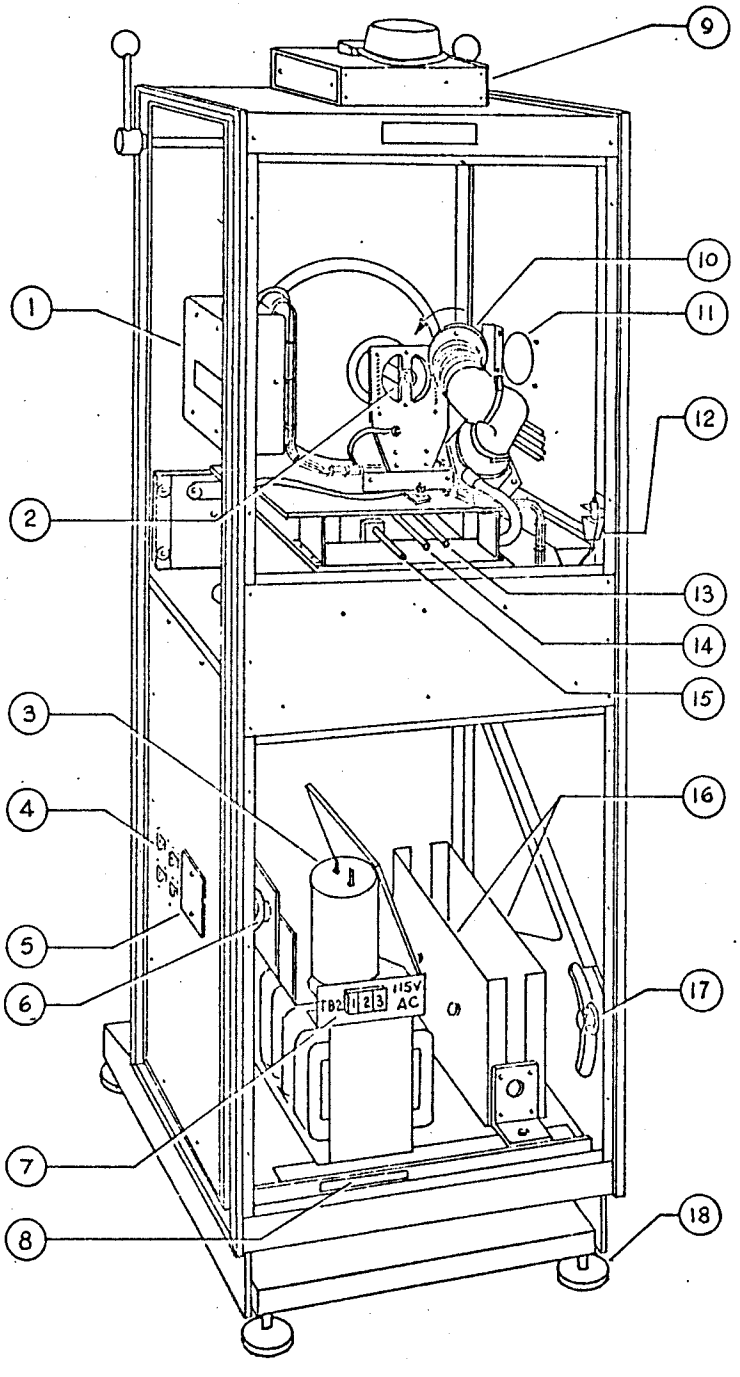
CLEANING OPTICAL SURFACES

NAME	DESCRIPTION	MANUFACTURER
Detergent solution in plastic bottle (M113689-1)	Comprising 1 part ORVUS to 9 parts water, or 1 teaspoonful of TIDE to 1 quart of water. ORVUS is a liquid and TIDE is a flake detergent.	ORVUS and TIDE are produced by the Procter and Gamble Co., Cincinnati, Ohio
Brush (598900-076)	3/4" camel hair	
Lens Tissue	Optical rice paper No. 51, 5-1/2 pound UT	C. H. Dester and Sons, Inc., Windsor, Conn.
Cotton (598900-083)	1 inch pads, sterilized, medical (soft), absorbent	
Case, plastic, clear (598700-018)	Medical	
Bag, plastic	4 X 6	
Bag, plastic	9-1/2 X 12	



1. Blower
2. Air Flow Switch
3. Emergency Start Button
4. D.C. Power ON-OFF Switch
5. Ammeter
6. Power On Light
7. "HI-LO" LINKS
8. TBI Terminal Board
9. Air Inlet
10. Exhaust Duct
11. Dowser Handle
12. Mirror Casting
13. Lamp Adapter (Front)
14. Front Lamp Support Bracket
15. Snood Lens
16. Snood
17. Access Cover for Mirror cleaning
18. Positive Lamp Connection
19. Projector Mounting Spacer
20. Alignment and adjust Screws Projector
21. Projector Mount Casting
22. Elapsed Lamp Time Meter
23. 1Ø AC Input Terminals
24. 3Ø AC Input Terminals
25. Chassis Ground
26. Air Inlet
27. Access Panel (Cables)
28. Air Tube

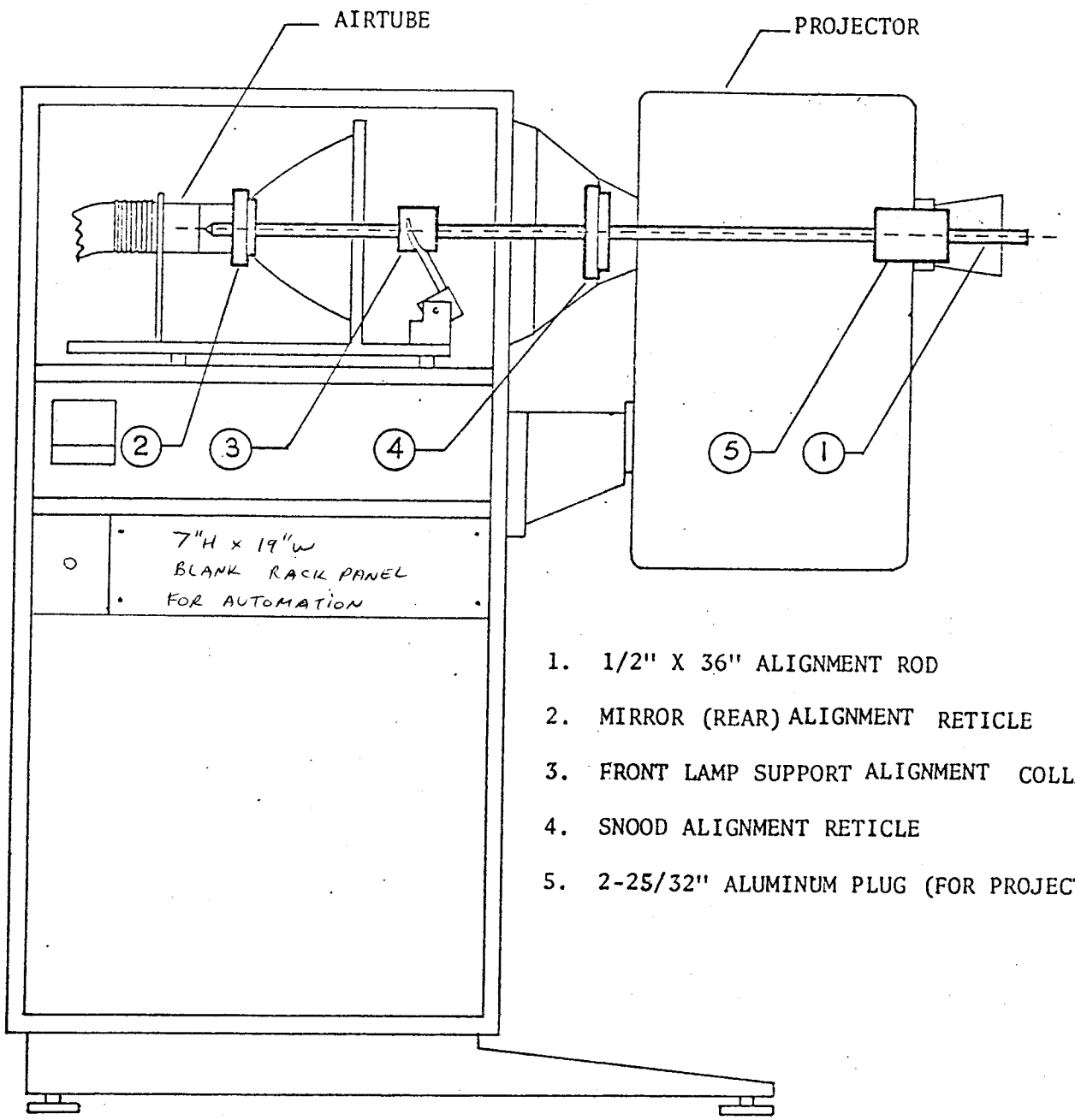
FIGURE A



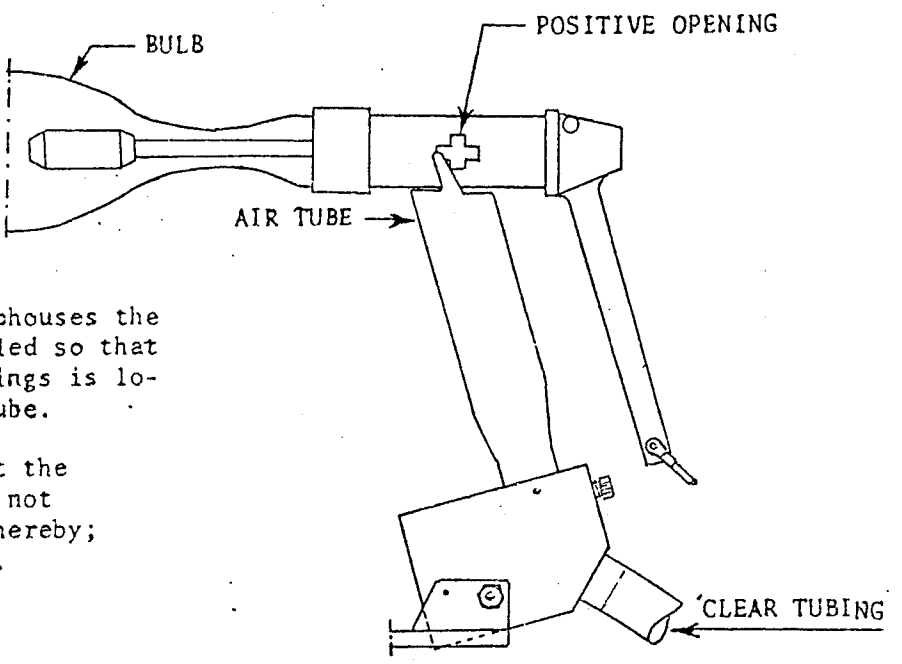
1. Igniter (High Voltage)
2. Rear Lamp Support
3. Capacitor
4. A.C. Receptacles
5. Tap Switch Access Panel
6. Tap Switch
7. TB2 Terminal Strip
8. Power Supply Name Plate
9. Blower (CHF 30 only)
10. Flexible Airtube
11. View Screen
12. Panel Interlock Switch
13. Lamp Adjust Focus
14. Lamp Adjust Vertical
15. Lamp Adjust Lateral
16. Heatsinks
17. Tilt Adjust Locking Bolts
18. Leveling Pads

FIGURE B

FIGURE C



1. 1/2" X 36" ALIGNMENT ROD
2. MIRROR (REAR) ALIGNMENT RETICLE
3. FRONT LAMP SUPPORT ALIGNMENT COLLAR
4. SNOOD ALIGNMENT RETICLE
5. 2-25/32" ALUMINUM PLUG (FOR PROJECTOR)

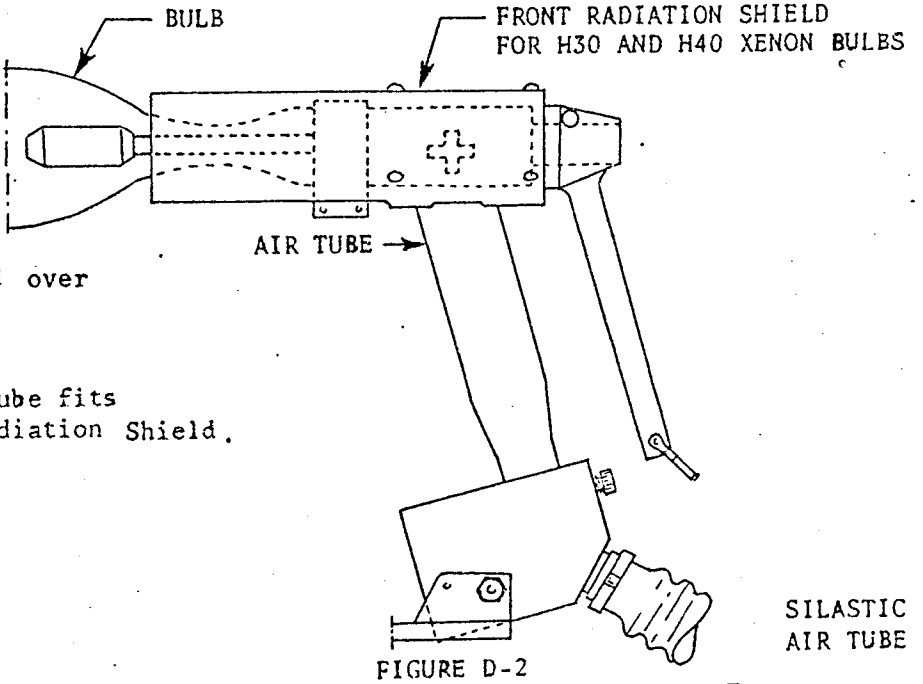


WARNING

On H20,CH20, and H25,CH25 lamphouses the the Xenon bulb MUST be installed so that one of the four positive openings is located directly above the Airtube.

NOTE: Check and make sure that the Clear plastic tubing is not Pinched or Collapsed, thereby; restricting the Airflow.

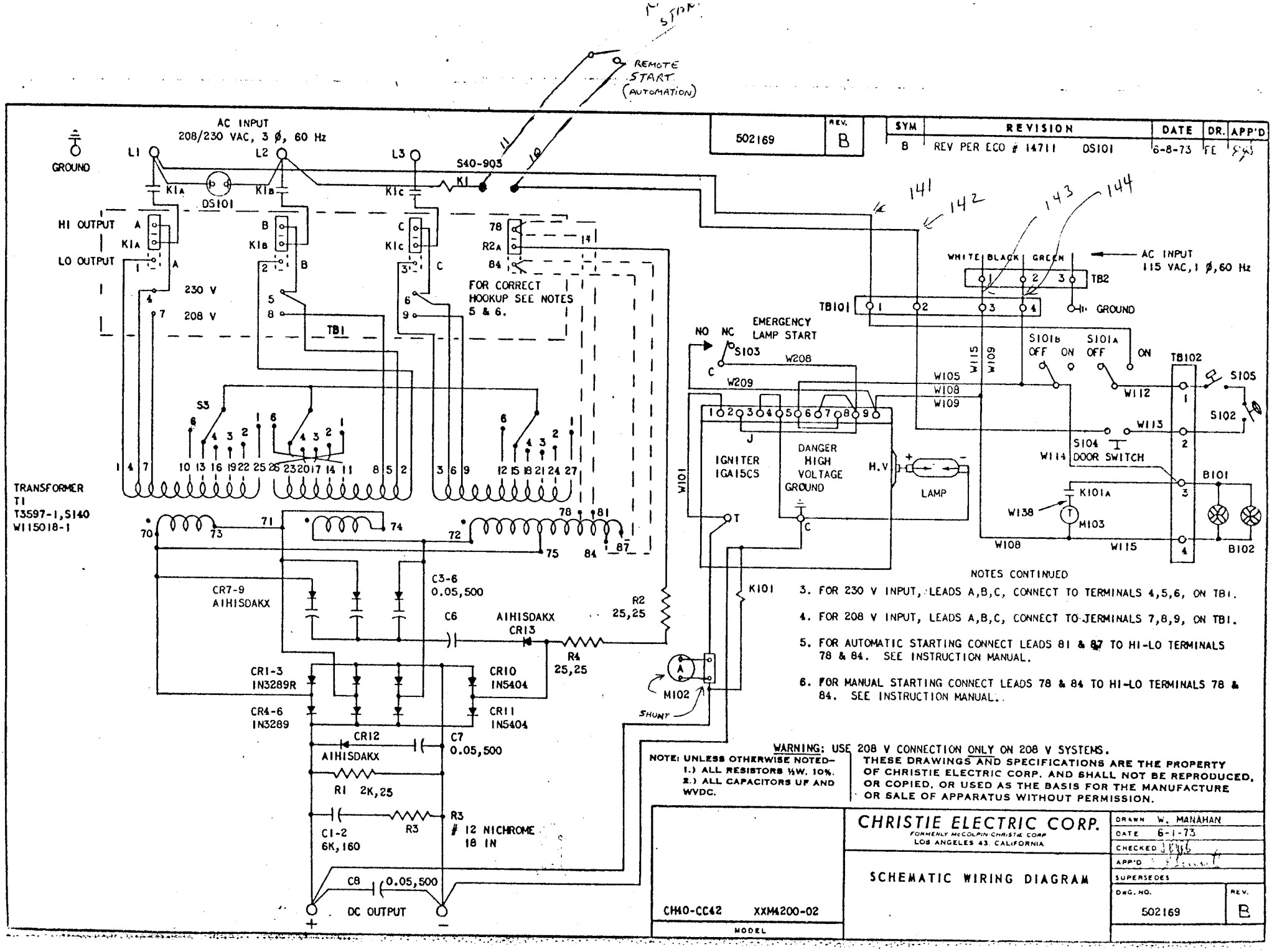
FIGURE D-1
H20,CH20,and H25,CH25,FRONT LAMP SUPPORT



Install Front Radiation Shield over Xenon bulb as shown
Install bulb in Lamphouse.

NOTE: Make sure that the Airtube fits into the slot in the Radiation Shield.

FIGURE D-2
H30,CH30 and H40,CH40, FRONT LAMP SUPPORT



502169	REV. B

SYM	REVISION	DATE	DR.	APP'D
B	REV PER ECO # 14711 DS101	6-8-73	FE	

NOTES CONTINUED

3. FOR 230 V INPUT, LEADS A,B,C, CONNECT TO TERMINALS 4,5,6, ON TB1.
4. FOR 208 V INPUT, LEADS A,B,C, CONNECT TO TERMINALS 7,8,9, ON TB1.
5. FOR AUTOMATIC STARTING CONNECT LEADS 81 & 87 TO HI-LO TERMINALS 78 & 84. SEE INSTRUCTION MANUAL.
6. FOR MANUAL STARTING CONNECT LEADS 78 & 84 TO HI-LO TERMINALS 78 & 84. SEE INSTRUCTION MANUAL.

NOTE: UNLESS OTHERWISE NOTED—
1.) ALL RESISTORS ½W, 10%.
2.) ALL CAPACITORS UF AND WVDC.

WARNING: USE 208 V CONNECTION ONLY ON 208 V SYSTEMS.

CH40-CC42 XXM4200-02
MODEL

CHRISTIE ELECTRIC CORP.
FORMERLY MCCOLPIN CHRISTIE CORP
LOS ANGELES 43, CALIFORNIA

SCHEMATIC WIRING DIAGRAM

DRAWN	W. MANAHAN
DATE	6-1-73
CHECKED	
APP'D	
SUPERSEDES	
DWG. NO.	502169
REV.	B

SHEET 1 OF 3 — CHRISTIE ELECTRIC CORP. BILL OF MATERIAL — ASSEMBLY # PL- U115019-1

REG.#	ASSEMBLY NAME	MODEL # 3FXM4200-02S
W.O.#	UNIT ASSEMBLY	QTY / DATE REQ'D

ITEM NO.	PART NO.	PART NAME	QTY PER ASS'Y	QTY REQ'D	QTY ISSUED	QTY SHT.	PER EACH PART NO. LABOR HRS.	LABOR $	MAT. $	PER ASS'Y TOTAL HRS.	TOTAL $
		C1-C2									
	530106-302	CAPACITOR - electrolytic,6000 mf.,160v.	2								
		DS1									
	546700-018	LIGHT INDICATOR-bayoneet base w/clear lens	1								
	546597-002	G.E. NE51-H LAMP - 110 v., 0.012 a. (B2A NEW INDUSTRY NO.)	1								
	515610-001	SPRING - tap switch	1								
	515380-003	PIN - taper	1								
	515500-010	EYEBOLT - lifting	2								
	515900-035	CONNECTOR - cable clamp type, 1-1/4"	1								
	515900-034	CONNECTOR - cable clamp type, 2"	1								
		S2									
	578711-006	SWITCH - toggle, spst, 250 v., 10 a.	1								
		CONTACTOR: K1									
	571340-001	RELAY - RBM S40-903, 3 pole, 40 AMP	1								
	583706-020	LUG - ground	2								
		T1									
	W115018-1	TRANSFORMER - main, T3597-1, S140	1								
	S114099-1	HEATSINK ASSEMBLY (incl.the following:	1								
		541103-034,diode,200 v.,100 a.IN3289 CR4-6									
		541103-036,diode,200 v.,100 a.IN3289R CR1-3									
		S1									
	S111972-2	TAP SWITCH ASSEMBLY	1								
	S114173-1	CONTROL ASSEMBLY - (incl. the following:	1								
		541146-009,diode,400 v.,3 a.IN5404 CR10-11									
		540133-025,rec. stack CR7,8,9,12,13									
		530705-703,capacitor,.05,uf.,500 v,C3-7,C8									
		555250-903,resistor,fixed,25 ohm,25w R2-4									
		555023-901,resistor,fixed,2K ohm,25 w. R1									

REV	ECO	REV	ECO	REV	ECO	REV	ECO	REV	ECO	PREPARED	POSTED	MAT. ISSUED	CORRECTED
A	5-26-72	B	6/1/73							BY / DATE	BY / DATE	BY / DATE	BY / DATE

SHEET 2 OF 3 — CHRISTIE ELECTRIC CORP. BILL OF MATERIAL — ASSEMBLY # PL- U115019-1

REG.# | ASSEMBLY NAME: UNIT ASSEMBLY | MODEL # 3EXM4200-02S

W.O.# | QTY | DATE REQ'D

ITEM NO.	PART NO.	PART NAME	QTY PER ASS'Y	QTY REQ'D	QTY ISSUED	QTY SHT.	PER EACH PART NO. LABOR HRS.	LABOR $	MAT. $	PER ASS'Y TOTAL HRS.	TOTAL $
	M107316-5	RESISTOR - #12 nichrome, 19" long R3	1								
	541103-034	DIODE, IN3289, 200V, 100 AMP CATHODE TO CASE	3								
		USE ECG 6154 400V, 150 AMP									
3/8-24 THREADS	541103-036	DIODE, IN3289R, 200V, 100 AMP ANODE TO CASE	3								
		USE ECG 6155 400V, 150 AMP									

REV	ECO	REV	ECO	REV	ECO	REV	ECO	REV	ECO
A	5-26-72	B	6/1/73						

PREPARED	POSTED	MAT. ISSUED	CORRECTED
BY	BY	BY	BY
DATE	DATE	DATE	DATE

SHEET 3 OF 3

CHRISTIE ELECTRIC CORP. BILL OF MATERIAL

ASSEMBLY # U115019-1

DATE ISSUED:	CONTR.#	REG.#	W.O.#	QTY.	MODEL # 3FXN4200-02S
DATE COMPL.:	DEPT.	ASS'Y NAME UNIT ASSEMBLY			DATE REQ'D:

PART NO.	PART NAME	QTY. RUN	QTY. PER ASSY	QTY. REQD.	QTY. ISSUED	QTY. SHORT	PER EACH PART NO. LABOR HRS.	PER EACH PART NO. LABOR $	PER EACH PART NO. MAT. $	PER ASS'Y TOTAL HRS.	PER ASS'Y TOTAL $
C315019-1	CABINET PARTS LIST		1	X							
M315019-1	MISCELLANEOUS PARTS LIST		1	X							
B315019-1	BUS BAR AND SHUNT LIST		1	X							
H315019-1	HARNESS LIST (INCL.)		1	X							
N315019-1	NAMEPLATE AND STICKER LIST		1	X							
	FASTENINGS AND HARDWARE LIST			X							
	PAINT (ESTIMATED)			X							
	SHIPPING CRATE AND BRACKETS (SEE REGISTER)			X							
502169	CH40		1								
502062	SCHEMATIC WIRING DIAGRAM		1	X							
	INSTRUCTION MANUAL			X							
	FREIGHT			X							

REV	ECO	REV	ECO	REV	ECO	REV	ECO	REV	ECO	PREPARED	POSTED	MAT. ISSUED	CORRECTED
A	5-26-72	B	6/1/73							By	By	By	By
	D-6									Date	Date	Date	Date

SHEET 1 OF 1 CHRISTIE ELECTRIC CORP. BILL OF MATERIAL ASSEMBLY # PL-

REG.#	ASSEMBLY NAME	MODEL # CH 40
W.O.#	REPLACEMENT PARTS LIST	QTY / DATE REQ'D

ITEM NO.	PART NO.	PART NAME	QTY PER ASS'Y	QTY REQ'D	QTY ISSUED	QTY SHT.	PER EACH PART NO. LABOR HRS.	LABOR $	MAT. $	PER ASS'Y TOTAL HRS.	TOTAL $
1	U115133-1	IGNITER - IGA-15CS	1								
2	535122-306	AMMETER 0-200 amps	1								
3	581399-008	ELAPSED TIME INDICATOR	1								
4	578000-028	START SWITCH MOMENTARY PUSH BUTTON	1								
5	578000-031	DOOR SWITCH MOMENTARY SPDT	1								
6	578722-011	ON-OFF SWITCH - TOGGLE, DPDT	1								
7	D191939-1	MIRROR ASSEMBLY	1								
8	D191932-1	LAMP ADJUSTMENT MECHANISM, PLASTIC	1								
9	G192049-2	LENS	1								
10	578400-011	SWITCH - AIRFLOW	1								
11	578100-008	WIND VANE USED WITH AIRFLOW SWITCH)1600 TYPE	1								
12	578900-019	PRESSURE SWITCH	1								
13	M114308-1	SPARK GAP	1								
14	D191920-1	BLOWER ,ASSEMBLY	1								
15	D191943-1	BLOWER EXHAUST, ASSEMBLY	1								
16	D191945-3	ASSEMBLY, ADAPTER FORWARD	1								
171	M112481-1	OPTICAL CLEANING KIT	1								

REV	ECO	REV	ECO	REV	ECO	REV	ECO	REV	ECO
A	5/23/73								

PREPARED	POSTED	MAT. ISSUED	CORRECTED
BY	BY	BY	BY
DATE	DATE	DATE	DATE

CHRISTIE ELECTRIC CORP. 3410 WEST 67TH STREET • LOS ANGELES, CALIF. 90060

WARRANTY

COVERING

XENOLITE PRODUCTS

Manufactured by: CHRISTIE ELECTRIC CORP.
(herein referred to as "Christie")

Christie warrants the apparatus sold to the extent of the parts necessary to correct any defect in workmanship or materials which may develop under proper or normal use for a period of one (1) full year (90 days on electric motors) from date of installation (except as noted below) but not to exceed 18 months from date of shipment from Christie Electric Corp. Christie reserves the right to have the apparatus returned, freight prepaid, to the Christie factory to effect the warranty repairs.

Replacement parts for warranty repairs will be shipped promptly by Christie f.o.b. factory, and invoiced to the customer. Credit will be issued upon return of the defective part or parts, prepaid, to the Christie factory.

The above shall constitute a fulfillment of all Christie liabilities in respect to said apparatus.

This warranty does not cover the following items:

Special customer specified purchased parts or materials; Xenon, Mercury and other types of lamps (bulbs).

Christie shall not be liable for any consequential damages except:

Christie will replace standard reflectors in XENOLITE lamphouse damaged by failure of a Christie xenon bulb during its warranted life, if properly operated (mirror castings must be returned to Christie to receive credit).