



BRITELIGHT

BL7000 SYSTEM OPERATING MANUAL

REV 1.0

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POWER INPUT CONNECTOR WIRING INSTRUCTIONS

The input power requirements for a 7 kW power supply are as follows.

VOLTAGE NOMINAL 230/208 V.AC

FREQUENCY RANGE 47 - 63 HZ

INPUT CURRENT 3 PHASE
30 AMPS

MINIMUM INPUT WIRE SIZE 10 AWG

CONNECTIONS

THREE PHASE OPERATION

LINE DESIGNATION	WIRE COLOR	PIN COLOR	CONNECTOR PIN
PHASE A	BLACK	BLACK	X
PHASE B	RED	RED	Y
PHASE C	ORANGE	BLUE	Z
SAFETY GROUND	GREEN	GREEN	GREEN

**INSTRUCTIONS FOR REMOVING AND INSTALLING A TYPE XT XENON BULB IN A
BL7000 FIXTURE**

NOTE

FAMILIARIZE YOURSELF WITH THE LOCATION AND IDENTIFICATION OF THE COMPONENTS OF THIS SYSTEM AND ALSO THE NORMAL OPERATION OF THE SYSTEM BEFORE ATTEMPTING ANY ADJUSTMENT OR SERVICE.

NOTE

COMPLETELY READ THROUGH AND HAVE A GOOD UNDERSTANDING OF THE PROCEDURES BEFORE ATTEMPTING TO SERVICE THIS SYSTEM. FAILURE TO DO SO MAY RESULT IN FATAL INJURY OR EQUIPMENT DAMAGE.

WARNING

DISCONNECT POWER SOURCE BEFORE SERVICING THIS EQUIPMENT.

WARNING

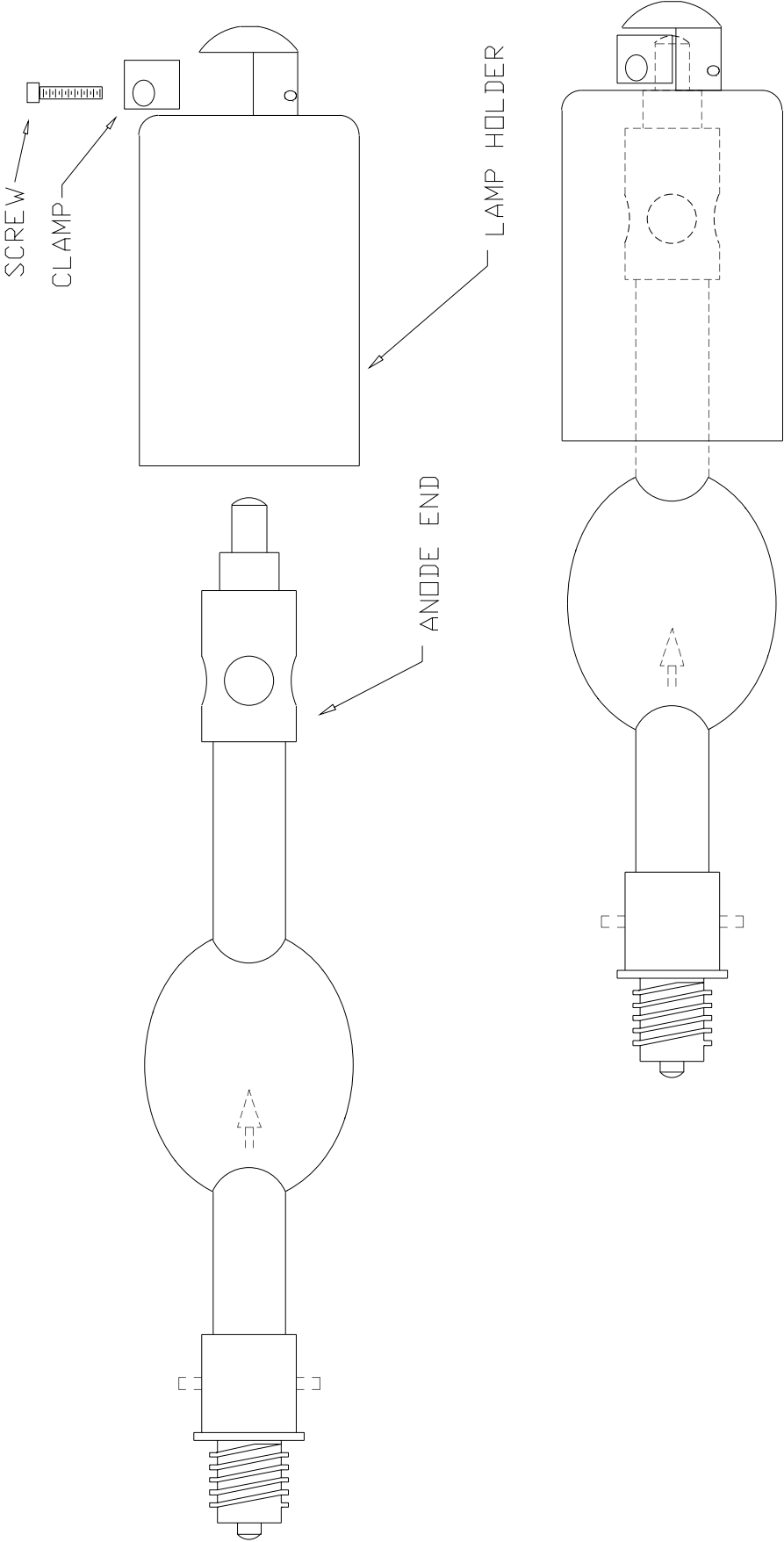
A PROTECTIVE JACKET, FULL FACE SHIELD, AND PROTECTIVE GLOVES MUST BE WORN AT ALL TIMES WHEN THE LAMPHEAD IS OPENED WITH A BULB INSTALLED OR WHEN HANDLING THE XENON BULBS. SERIOUS INJURY MAY OCCUR IF PROPER SAFETY PRECAUTIONS ARE NOT OBSERVED. READ ALL ENCLOSED INSTRUCTIONS AND INFORMATION SHEETS BEFORE HANDLING THE BULB.

WARNING

NEVER OPERATE A FIXTURE WITH AN EXPOSED BULB! THERE IS AN EXTREME DANGER OF SEVERE BURNS TO EXPOSED SKIN AND EYES FROM THE ULTRAVIOLET LIGHT EMITTED FROM THE EXPOSED BULB. DAMAGE CAN OCCUR IN AS LITTLE AS 30 SECONDS OF EXPOSURE. THERE IS ALSO AN ADDITIONAL DANGER FROM FLYING QUARTZ IF AN EXPOSED BULB EXPLODES!

EQUIPMENT REQUIRED

1. PROTECTIVE SAFETY EQUIPMENT KIT
2. 7/16", 5/16", 3/8" OPEN END WRENCH
3. ALLEN WRENCH, 5/32"
4. PHILLIPS SCREWDRIVER #2



FRONT LAMP HOLDER ASSEMBLY

DISASSEMBLY PROCEDURE

IF THERE IS NO BULB INSTALLED IN THE FIXTURE

1. Release the (8) 1/4 turn fasteners located at the small sides of the cowl using a #2 phillips screwdriver and remove the cowling.
2. Remove the (2) brass bolts connecting the short leads to the front lamp holder using a 7/16" wrench..
3. Remove the center mounting screw washer and spring from the spider using a 5/32" allen wrench while supporting the front lamp holder so that it does not fall when the screw is removed.
4. Remove the lamp holder from the fixture.
5. Disconnect the focus rod swivel joint from the spider arm using the 5/16" and 3/8" open end wrenches. Do not turn the swivel joint or focus rod.
6. To disassemble the front lamp holder, remove the (2) clamp retaining screws located on the side of the lamp swivel hub using a 5/32" allen wrench and remove the clamp.

DISASSEMBLY PROCEDURE

IF THERE IS A GLOBE IS INSTALLED IN THE FIXTURE

1. Release the (8) 1/4 turn fasteners located at the small sides of the cowl using a #2 phillips screwdriver and remove the cowling.

CAUTION

DO NOT PLACE ANY EXCESSIVE FORCE ON THE GLOBE WHILE REPLACING THE PROTECTIVE WRAPPER!

2. Wrap the bulb securely in the protective wrapper that the bulb was originally shipped in.
3. Remove the (2) brass bolts connecting the short leads to the front lamp holder using a 7/16" wrench.
4. Disconnect the focus rod swivel joint from the spider arm using the 5/16" and 3/8" open end wrenches. Do not turn the swivel joint or focus rod.
5. Remove the center mounting screw, washer, and spring from the spider using a 5/32" allen wrench while supporting the front lamp holder so that the bulb does not drop when the mounting screw is removed.

WARNING

DO NOT EXERT EXCESSIVE FORCE ON THE BULB WHILE UNSCREWING IT FROM THE REAR LAMP HOLDER! THE BULB SHOULD RELEASE FROM THE REAR LAMP HOLDER WITH A VERY LIGHT COUNTER CLOCKWISE ROTATION. IF THIS DOES NOT HAPPEN, SEE THE PROCEDURE FOR REMOVING A "FROZEN" BULB.

6. Remove the bulb by lightly pushing back on the bulb to move the rear lamp holder to its rearmost position while lightly turning the bulb in a counterclockwise rotation. The bulb will release from the rear lamp holder in approximately 1.5 complete turns.
7. Remove the bulb with the front lamp holder attached from the fixture and place it on a stable working surface for the removal of the front lamp holder.
8. To remove the front lamp holder from the globe remove the (2) clamp retaining screws located on the side of the lamp swivel hub using a 5/32" allen wrench and remove the clamp.
9. Remove the lamp holder from the bulb and place the bulb into its shipping container for safekeeping. Resecure the protective wrapper if necessary.

ASSEMBLY PROCEDURE

WARNING

DO NOT REMOVE THE PROTECTIVE COVER FROM THE LAMP UNTIL INSTRUCTED TO DO SO!

WARNING

DO EXERT ANY FORCE ON THE QUARTZ PORTIONS OF THE BULB AT ANY TIME!

NOTE

IF THE FRONT LAMP HOLDER HAS NOT BEEN DISASSEMBLED, SEE THE LAST STEPS IN THE APPROPRIATE DISASSEMBLY INSTRUCTIONS.

1. Untie the cord on the anode end of the protective cover. Do not remove the cover at this time!
2. Fasten front lamp holder to the bulb by placing the anode end (large electrode) of the lamp in the lamp holder and aligning the stud on the end of the lamp ferrule with the channel in the nose of the lamp holder body. Slide the lamp completely down the channel as far as it will go.
4. Replace the clamp and reinstall the (2) clamp retaining screws located on the side of the lamp swivel hub using a 5/32" allen wrench.
5. Install the bulb into the fixture by inserting the cathode end of the lamp through the opening in the reflector.
6. Insert the end of the lamp ferrule into the opening in the rear lamp holder receiver block and align the threads by turning the bulb counterclockwise until the bulb threads drop into the receiver threads.

NOTE

DO NOT OVERTIGHTEN THE LAMP IN THE RECEIVER BLOCK AS THIS MAY CAUSE THE LAMP TO "FREEZE" IN THE RECEIVER BLOCK MAKING IT DIFFICULT TO REMOVE. TIGHTEN THE LAMP JUST ENOUGH TO APPLY SPRING PRESSURE TO THE THREADS BUT NOT SO MUCH AS TO BOTTOM OUT THE LAMP FERRULE COMPLETELY AGAINST THE RECEIVER BLOCK.

7. Gently rotate the bulb clockwise until resistance is felt.
8. At this point, the bulb should be in contact with the spring plunger assemblies. Gently turn the bulb an additional 1/16-1/8 of a turn to load the threads with the spring plungers.
9. Secure the front lamp holder to the spider with the shoulder bolt, spring, and washer that was removed during disassembly.
10. Reconnect the focus rod swivel joint to the spider arm using the 5/16" and 3/8" open end wrenches. Do not turn the swivel joint or focus rod.
11. Reconnect the (2) short leads from the spider to the front lamp holder using the (2) brass bolts and washers that were removed during disassembly.

NOTE

ANY TYPE OF ALCOHOL IS SUITABLE FOR CLEANING THE XENON BULB EXCEPT FOR ALCOHOL THAT HAS BEEN DENATURED USING PETROLEUM PRODUCTS SINCE THE DENATURING AGENT WILL LEAVE A RESIDUE ON THE BULB.

12. Remove the protective cover from the bulb and clean the quartz portion of the bulb completely with alcohol.
13. Reinstall the front cowl.
14. Log the hour meter reading at installation.
15. Test the lamp operation and perform the output power adjustment procedure.

REMOVING A "FROZEN" BULB

1. Replace the front lamp holder retaining bolt to support the front of the bulb while freeing the bulb from the rear lamp holder.

WARNING

DO EXERT ANY FORCE ON THE QUARTZ PORTIONS OF THE BULB WHILE ATTEMPTING TO FREE IT FROM THE REAR LAMP HOLDER!

2. Reach through the opening in the rear of the reflector and grasp the bulb by its rear ferrule, and while lightly pushing the bulb back into the receiver block, turn the bulb in a counterclockwise direction until the bulb begins to rotate freely.
3. Once the is free, *do not* remove it completely from the rear lamp holder.
4. Return to step 5 of :

"DISASSEMBLY PROCEDURE
IF THERE IS A BULB IS INSTALLED IN THE FIXTURE"

OUTPUT POWER ADJUSTMENT PROCEDURES

WARNING

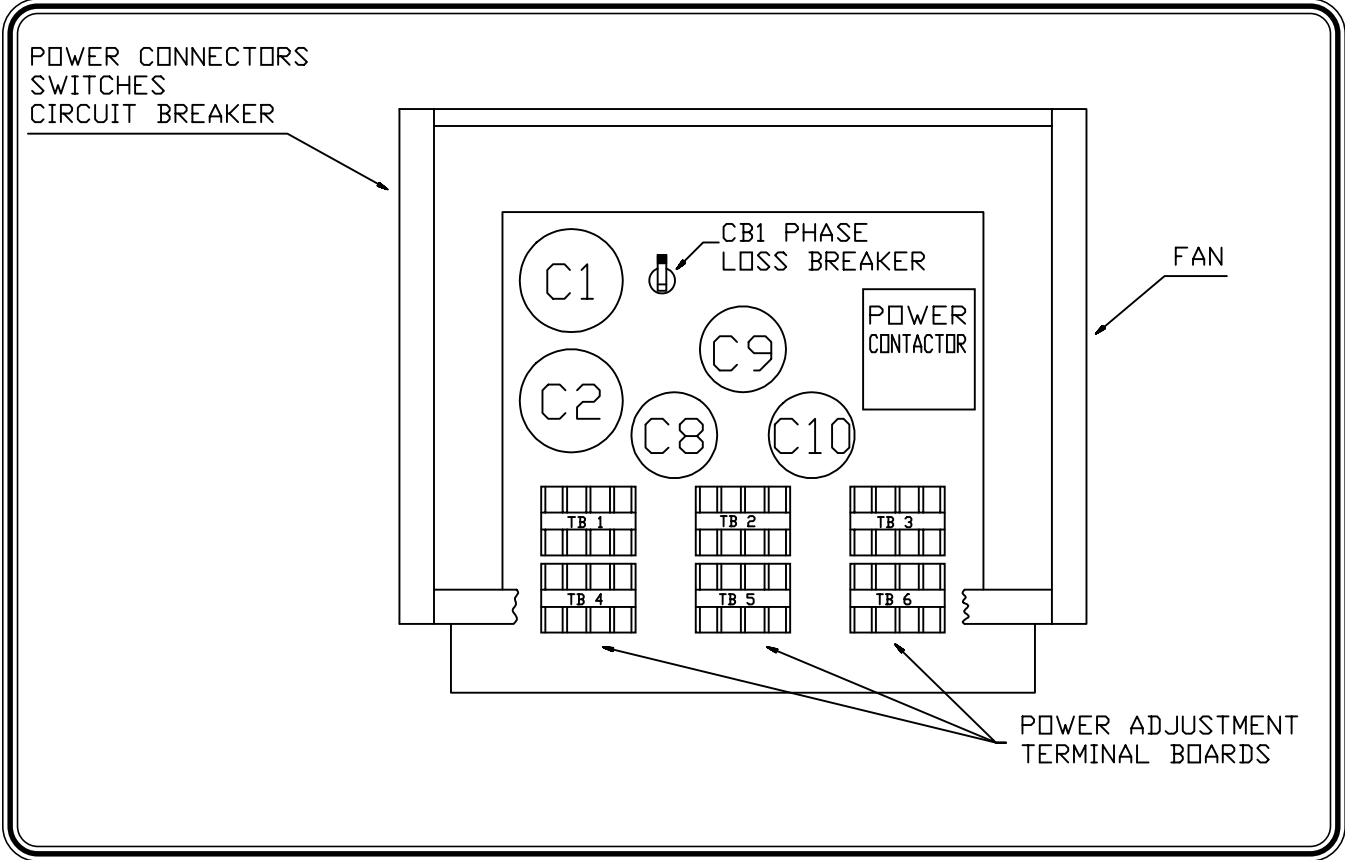
REMOVE VOM/DVM FROM THE CIRCUIT BEFORE STRIKING THE LAMP. THE IGNITOR CIRCUIT MAY IMPRESS A VOLTAGE SPIKE ON THE OUTPUT LINES OF THE POWER SUPPLY CAPABLE OF PERMANENTLY DAMAGING THE METER.

EQUIPMENT REQUIRED

1. D.C. Volt Meter (VOM / DVM).
2. D.C. Clamp-on Amp Meter capable of reading at least 199 amps or a shunt capable of carrying 200 amps.

ADJUSTMENT INSTRUCTIONS

1. If a shunt is to be used for current measurements, install it in series with the positive output lead from the power supply.
2. Turn on the power supply and strike the lamp.
3. Measure the output voltage and current of the power supply.
4. Calculate the output power using the formula (volts) X (amps) = (watts). If the power level is over 7400 watts immediately turn off the light and go to step 6.
5. Allow the light to run at least 10 minutes before making any adjustments.
6. Turn off the light and adjust the input voltage taps (TB-1)-(TB-6) to set the output power level to 7000 Watts \pm 5%.
7. The taps on (TB-1-3) labeled W,X,Y,Z are coarse adjustments with tap (W) being the lowest current and tap (Z) being the highest current.
8. The taps on (TB-4-6) labeled 1,2,3,4 are fine adjustments with tap (1) being the lowest current and tap (4) being the highest current.
9. All three terminal blocks must have the wire in the same tap.
10. Be sure all the terminal block screws have been tightened then turn on and re-strike the light.
11. Repeat steps 3 thru 10 until the power supply has been properly adjusted. When the adjustments are completed remove the shunt if used and close up the panels.



7 KW POWER SUPPLY COMPONENT LOCATION

OPERATING INSTRUCTIONS FOR 7 KW XENON SYSTEM

CONNECTIONS

1. Connect lamphead to the lamphead connector located on the side panel.
2. Connect the power cord to the AC input power connector.
3. When the power is energized the blower in the lamp head will operate.

NOTE

THERE IS A 3 - 5 SECOND DELAY AFTER THE MAIN POWER IS ENERGIZED BEFORE THE LAMPHEAD COOLING SYSTEM IS UP TO PRESSURE. DURING THAT TIME THE MAIN POWER CONTACTOR IN THE POWER SUPPLY WILL BE LOCKED OUT PREVENTING THE LAMP FROM BEING LIT.

LIGHT OPERATION

1. Place the main power switch in the on position and the local / remote switch in the local position. Once the power supply is energized by these switches steps 2 - 4 may be preformed either at the power supply or the rear of the lamp head.
2. Depress the strike pushbutton switch. When the lamp lights, release the lamp switch. If the lamp does not light immediately, release the switch wait 5 seconds for the capacitor bank in the power supply to fully recharge and re-try.
3. Focus the light for the desired effect by moving the focus switch to the forward or reverse position and holding the switch. The focus mechanism works on a cam action and will cycle from full flood to full spot until the focus switched is released. Moving the switch to the opposite position will reverse the focus action.
4. To turn off the light move the power switch to the off position.

CAUTION

DO NOT DISCONNECT THE MAIN POWER UNTIL THE BULB HAS COMPLETELY COOLED. THE LAMPHEAD COOLING SYSTEM WILL RUN WHENEVER THE MAIN POWER LINES ARE ENERGIZED.

CAUTION

THE POWER SUPPLY CONTAINS A CAPACITOR BANK ACROSS THE OUTPUT TERMINALS. THE ENERGY STORED IN THE CAPACITORS MAY BE PRESENT FOR SEVERAL MINUTES AFTER THE POWER SUPPLY IS DE-ENERGIZED.

NOTE

THE AUXILIARY 120 V.AC POWER SUPPLY IS PROTECTED BY THE 5 AMP CIRCUIT BREAKER LOCATED ON THE FRONT PANEL. THIS CIRCUIT SUPPLIES POWER FOR THE COOLING SYSTEM, FOCUS, POWER CONTROL, AND IGNITION CIRCUIT.

NOTE

THE LAMPHEAD AND POWER SUPPLY ARE THERMALLY PROTECTED. THE LAMPHEAD IS ALSO PROTECTED BY AN AIR PRESSURE SWITCH . IF THE COOLING SYSTEM FAILS, OR THE EQUIPMENT IS USED IN AN EXCESSIVELY HOT ENVIRONMENT, THE LAMP WILL SHUT OFF TO PREVENT DAMAGE. WHEN THE EQUIPMENT COOLS TO A SAFE OPERATING TEMPERATURE, OR WHEN THE FAULT IS CLEARED, THE POWER CONTACTOR IN THE POWER SUPPLY WILL REENERGIZE AND THE LAMP MAY THEN BE RELIT.

CAUTION

DISCONNECT THE INPUT POWER CONNECTOR BEFORE REMOVING THE ACCESS PLATES. DANGEROUS VOLTAGE IS PRESENT IN THIS EQUIPMENT.

NOTE

THIS EQUIPMENT IS PROTECTED AGAINST LOSS OF PHASE (SINGLE PHASING) BY A CIRCUIT BREAKER LOCATED ON THE CENTER PANEL INSIDE THE POWER SUPPLY. IF THIS EQUIPMENT IS OPERATED ON SINGLE PHASE INPUT POWER THE CIRCUIT BREAKER WILL TRIP AND MUST BE RESET MANUALLY TO RESTORE OPERATION OF THE EQUIPMENT.

NOTE

THE LAMPHEAD INCORPORATES MAGNETIC STABILIZATION OF THE GLOBE ARC. THE LAMPHEAD MUST BE OPERATED IN AN UPRIGHT POSITION FOR THE STABILIZATION TO WORK PROPERLY. THE POSITION OF THE LAMPHEAD CAN BE DETERMINED BY THE POSITION OF THE TEXT ON THE SIDES OF THE LAMPHEAD WHICH SHOULD BE UPRIGHT. OPERATING THE LAMPHEAD UPSIDE-DOWN MAY CAUSE MASSIVE INSTABILITY IN THE BULB ARC TO THE POINT EXTINGUISHING AND MAY CAUSE EXCESSIVE LAMP WEAR.