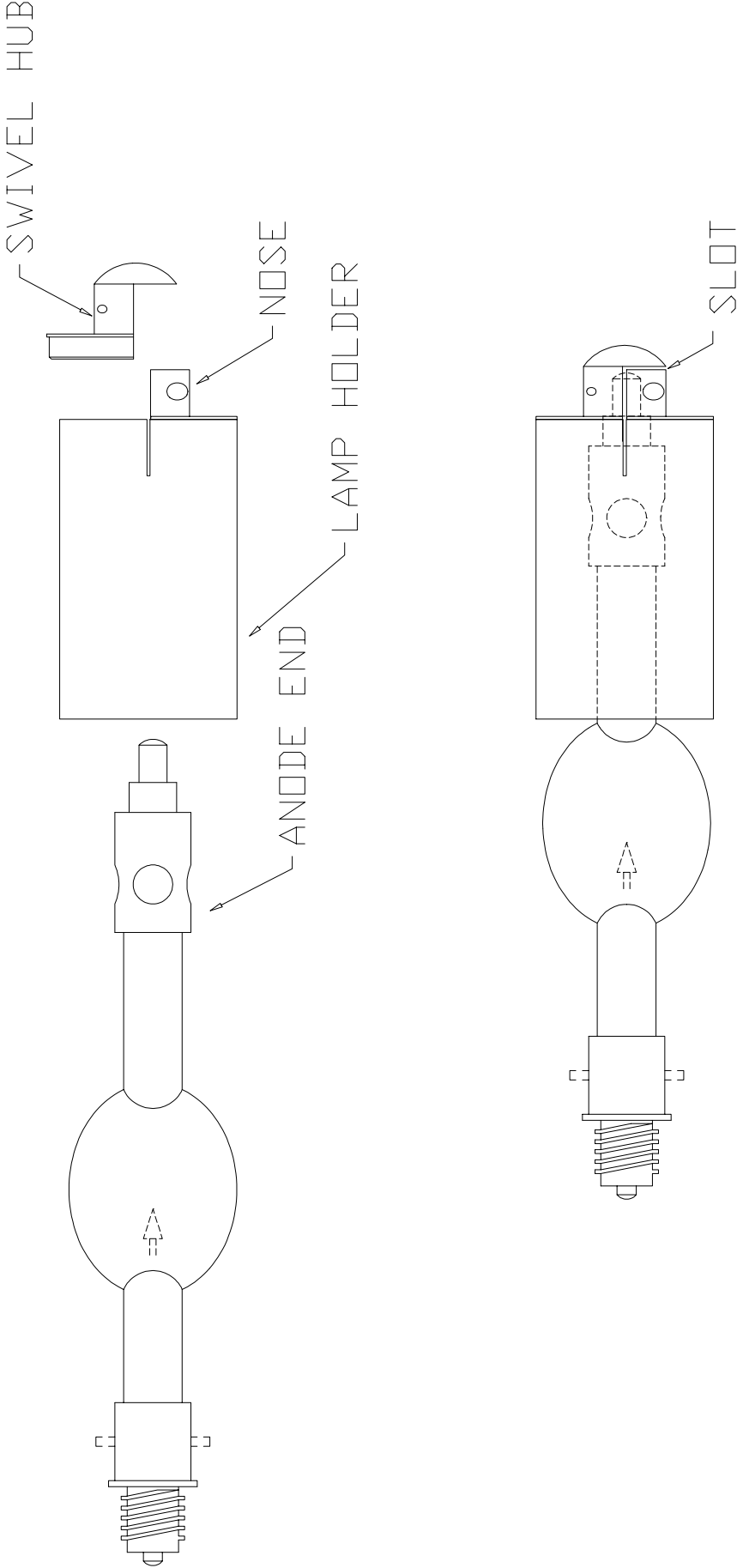


# *Xenotech, Inc.*<sup>®</sup>

## BRITELIGHT<sup>®</sup> 4000EB OPERATING MANUAL

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FRONT LAMP HOLDER ASSEMBLY

## **INSTRUCTIONS FOR REMOVING AND INSTALLING A TYPE TH GLOBE IN A BL4000 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 BOTH POWER SOURCE BEFORE SERVICING THIS EQUIPMENT.**

### **WARNING**

**THIS SYSTEM IS UNDER THE CONTROL OF AN AUTOMATIC IGNITION SYSTEM AND MAY LIGHT WITHOUT WARNING ANY TIME THE MAIN POWER IS ENERGIZED.**

### **WARNING**

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

### **WARNING**

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

### **EQUIPMENT REQUIRED**

1. PROTECTIVE SAFETY EQUIPMENT KIT
2. FLAT SCREWDRIVER MEDIUM SIZE
3. 7/16", 5/16", 3/8" OPEN END WRENCH
4. ALLEN WRENCHES 3/32", 5/32", 3/16"

**DISASSEMBLY PROCEDURE**

**IF THERE IS NO GLOBE INSTALLED IN THE FIXTURE**

1. Remove the 8 screws located on the small sides of the front cowling using an 3/32" allen wrench 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. Donot 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.
7. Slide the blade of the screwdriver in the slot between the rounded end of the swivel hub and the nose of the lamp holder body and twist the screwdriver to pop the end of the swivel hub off the lamp holder.

**DISASSEMBLY PROCEDURE**

**IF THERE IS A GLOBE IS INSTALLED IN THE FIXTURE**

1. Remove the 8 screws located on the small sides of the front cowling using a 3/32" allen wrench and remove the cowling.

**CAUTION**

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

2. Wrap the globe securely in the protective wrapper that the globe was originally shipped with.
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 globe does not drop when the mounting screw is removed.

**WARNING**

**DO NOT EXERT EXCESSIVE FORCE ON THE GLOBE WHILE UNSCREWING IT FROM THE REAR LAMP HOLDER! THE GLOBE 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 GLOBE.**

6. Remove the globe by lightly pushing back on the globe to move the rear lamp holder to it's rear most position while lightly turning the globe in a counterclockwise rotation. The globe will release from the rear lamp holder in approximately 1.5 complete turns.
7. Remove the globe 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.
9. Slide the blade of the screwdriver in the slot between the rounded end of the swivel hub and the nose of the lamp holder body and twist the screwdriver to pop the end of the swivel hub off the lamp holder.
10. Remove the lamp holder from the globe and place the globe into its shipping container for safe keeping. 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 GLASS PORTIONS OF THE GLOBE 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 globe 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.

**WARNING**

**DO NOT PLACE ANY PRESSURE ON THE GLOBE WHILE REASSEMBLING THE FRONT LAMP HOLDER!**

3. Align the swivel hub with the lamp holder body and press the two halves together while making sure that the stud of the globe does not slip back into the lamp holder. The two halves will have a snug fit and it may be necessary to **lightly** tap the swivel hub into the lamp holder body using the handle of a screwdriver or similar object.
4. Replace the 2 clamp retaining screws located on the side of the lamp swivel hub using a 5/32" allen wrench.
5. Install the globe 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 globe counterclockwise until the globe threads drop into the receiver threads.

**CAUTION**

**DO NOT OVER TIGHTEN 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 globe clockwise until resistance is felt.
8. At this point the globe should be in contact with the spring plunger assemblies. Gently turn the globe 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. Donot turn the swivel joint or focus rod.

11. Connect 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 GLOBE EXCEPT FOR ALCOHOL THAT HAS BEEN DENATURED USING PETROLEUM PRODUCTS SINCE THE DENATURING AGENT WILL LEAVE A RESIDUE ON THE GLOBE.**

12. Remove the protective cover from the globe and clean the glass portion of the globe completely with alcohol.
13. The installation is now complete. Replace the front cowl and test the lamp.

**REMOVING A FROZEN GLOBE**

1. Replace the front lamp holder retaining bolt to support the front of the globe while freeing the globe from the rear lamp holder.
2. Remove the fixture rear cover by removing the 10 screws around the perimeter of the sides using a 3/32 allen wrench and pulling the cover straight back using the rear handle.
3. Disconnect the rear panel wiring connectors from the head wiring harness then set the cover aside.
4. Remove the plenum access cover by removing the 10 screws from around the cover using a 3/32" allen wrench and remove the cover.

**WARNING**

**DO EXERT ANY FORCE ON THE GLASS PORTIONS OF THE GLOBE WHILE ATTEMPTING TO FREE IT FROM THE REAR LAMP HOLDER! IF A SECOND PERSON IS AVAILABLE AND HAS THE PROPER SAFETY EQUIPMENT TO ASSIST YOU HAVE THAT PERSON LIGHTLY SUPPORT THE FRONT OF THE GLOBE INSTEAD OF FASTENING IT TO THE FRONT SPIDER THERE BY ELIMINATING ANY POSSIBILITY OF STRESSING THE GLASS PORTION OF THE GLOBE.**

5. Reach around the rear lamp holder assembly and grasp the globe by its rear ferrule and while lightly pulling the globe back into the receiver block turn the globe in a clockwise direction until the globe begins to rotate freely.
6. Once the globe is free do not remove it completely from the rear lamp holder.
7. Replace the plenum cover, rear panel wiring, and fixture rear cover.
8. Return to step 5 of :

**“DISASSEMBLY PROCEDURE  
IF THERE IS A GLOBE IS INSTALLED IN THE FIXTURE”**



**POWER INPUT CONNECTOR WIRING INSTRUCTIONS**

The input power requirements for a BRITELIGHT 4000EB are as follows.

VOLTAGE NOMINAL	208 / 230 VAC
FREQUENCY RANGE	47 - 63 HZ
PHASE	SINGLE
INPUT CURRENT	40 AMPS
MINIMUM INPUT WIRE SIZE	8 AWG

CONNECTIONS

CONNECTOR TERMINAL	LINE DESIGNATION	WIRE COLOR
A	PHASE A OR ( HOT )	BLACK
B	PHASE B OR ( NEUTRAL )	WHITE
C	N/C	N/C
D	SAFETY GROUND	GREEN

( EUROPEAN TYPE SINGLE PHASE 220 VAC )

**OPERATING INSTRUCTIONS BRITELIGHT 4000EB**

**CAUTION**

**ALWAYS ALLOW THE COOLING SYSTEM TO RUN AT LEAST 15 MINUTES AFTER USE BEFORE DISCONNECTING THE POWER CONNECTIONS.**

**CONNECTIONS**

1. Connect lamp head to the lamp head connector located on the front panel marked DC OUTPUT.
2. Connect the power cord to the input connector located on the rear of the ballast and to the AC power source as indicated on the POWER INPUT CONNECTOR WIRING INSTRUCTIONS.
3. When the connections are correct and the AC mains are energized the following indicators will light and the blower in the lamp head will operate.

GREEN LIGHT : MAIN POWER input is connected across the A & B phase input pins and energized.

BLUE LIGHT : AUX 120 VAC supply is energized.

4. The two additional indicators on the front panel of the ballast have the following functions.

RED LIGHT : HEAD OVER TEMP This indicator will light when the LAMP switch has been turned on if any one of the following conditions occur: head overtemperature, head cooling system failure, or an open connection in the safety circuit such as a break in a head extension cable or the head not being connected to the ballast.

AMBER LIGHT : BOOST READY This indicator will light 1-3 seconds after the LAMP switch has been turned on with the unit in MANUAL STRIKE mode indicating that the open circuit output voltage is over 100 VDC and the supply is ready to ignite the lamp.

**LOCAL LIGHT OPERATION**

1. Set the main power circuit breaker to the on position.
2. There are two options for igniting the lamp.
  - a. Auto strike - with the strike switch in the AUTO STRIKE position the lamp will ignite automatically in approximately 2 seconds when the LAMP switch is moved to the on position.
  - b. Delayed manual strike - with the strike switch in the MANUAL STRIKE position the lamp will not ignite when the LAMP switch is moved to the on position but the power supply will energize in preparation to ignite the lamp the BOOST READY indicator will light and the lamp will light **immediately** when the strike switch is moved from the MANUAL STRIKE position to the AUTO STRIKE position.

**CAUTION**

**DO NOT LEAVE THE FIXTURE IN THE HOLD MODE WITH THE LAMP SWITCH IN THE ON POSITION FOR EXTENDED PERIODS OF TIME.**

2. Focus the light for the desired effect by moving the FOCUS switch located on the front panel of the ballast and the rear of the lamp head to the forward or reverse position and hold 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.
3. Adjust the light intensity with the INTENSITY control. This control will vary the light output approximately 50%.
4. To turn off the light move the LAMP switch to the off position.

#### **REMOTE CONTROL OPERATION**

1. Move the LAMP switch on the ballast and on the hand unit to the off position.
2. Set the strike mode switch on the ballast to the AUTO STRIKE position.
3. Connect the remote cable to the 5 pin XLR connector located on the front panel of the ballast and to the remote control hand unit.
4. The system can be controlled from the hand unit in the same manner as the controls on the front panel of the ballast.

**CAUTION**

**DO NOT DISCONNECT THE MAIN POWER UNTIL THE GLOBE 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 VAC POWER SUPPLY IS PROTECTED BY THE 5 AMP CIRCUIT BREAKER LOCATED ON THE FRONT PANEL. THIS CIRCUIT SUPPLIES POWER FOR THE COOLING SYSTEM, CONTROL CIRCUIT, FOCUS, AND IGNITION CIRCUIT.**

**NOTE**

**THE LAMP HEAD AND POWER SUPPLY ARE THERMALLY PROTECTED. THE LAMP HEAD 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.**

**CAUTION**

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