

5.0 Arc Lamp Module Installation

Contents

5.1 Attaching the Arc Lamp Module.....	5-1
5.2 Arc Lamp Module Power Connections	5-4
5.3 Arc Lamp Bulb Installation	5-6

5.1 Attaching the Arc Lamp Module

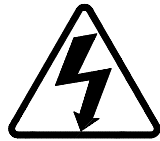
The Arc Lamp Module is shipped with a Shipping Plate Assembly attached to the Arc Lamp Module Mount Plate to protect the Collimating Lens and the floating lamp engine. This Shipping Plate Assembly must be removed before attaching the Arc Lamp Module to the Projection Module. To protect the Collimating Lens, do not remove the Shipping Plate Assembly until the Arc Lamp Module has been moved into position.

Tools Needed

8-mm Balldriver Hex-head wrench

To remove the Shipping Plate Assembly:

1. Move the Arc Lamp Module into position, facing the Projection Module side where it will be attached.
2. Remove the two side panels from the Arc Lamp Module.
3. Loosen the two Cam Locks (*shown in white circles, see Figure 5-2*) about $\frac{1}{2}$ turn each. Refer to Figure 5-5 which illustrates how the Arc Lamp Module and Projection Module appear *after* being attached. This illustration is also applicable when the Shipping Plate Assembly is attached. The hardware mounting and appearance is the same in both cases.



WARNING!!! Prior to performing Step 3, another person should hold up the Shipping Plate Assembly from the front (*see Figure 5-1*) to prevent it from falling off and possibly causing injury to personnel.

4. Lift up the Locking Ring Clip (*see Figure 5-5*). Then turn the Locking Ring Handle (*see Figure 5-5*) by hand only until the Locking Ring disengages. The Shipping Plate Assembly may then be removed and set aside.



Figure 5-1 Shipping Plate Assembly, front.

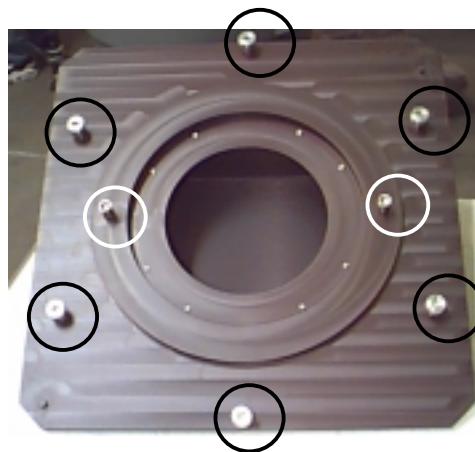
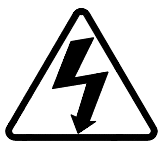


Figure 5-2 Shipping Plate Assembly, rear. Cam locks in white circles. Shoulder bolts in black circles.



WARNING!!! At least two people are necessary (preferably three) to lift the Arc Lamp Module onto the Projection Module. Do not install the Arc Lamp bulb yet!

To attach the Arc Lamp Module to the Projection Module:

5. Align the Arc Lamp Module Mount Plate to the Projection Module Pivot Plate (*see Figure 5-3*).
6. Rotate the Projection Module Pivot Plate so the cam locks (*see Figure 5-4*) are on a horizontal plane.
7. Orient the Mount Plate on the Arc Lamp Module so the slots align as close as possible to the shoulder bolts on the Projection Module.
8. Using the handles on each side, lift the Arc Lamp Module up (*see Warning above*) and align the two Cam openings to the two Cam Locks.
9. Fit the two cam locks and six shoulder bolts over the corresponding Cam Openings and Projection Module. Be careful to guide the protruding Collimating Lens assembly into place.

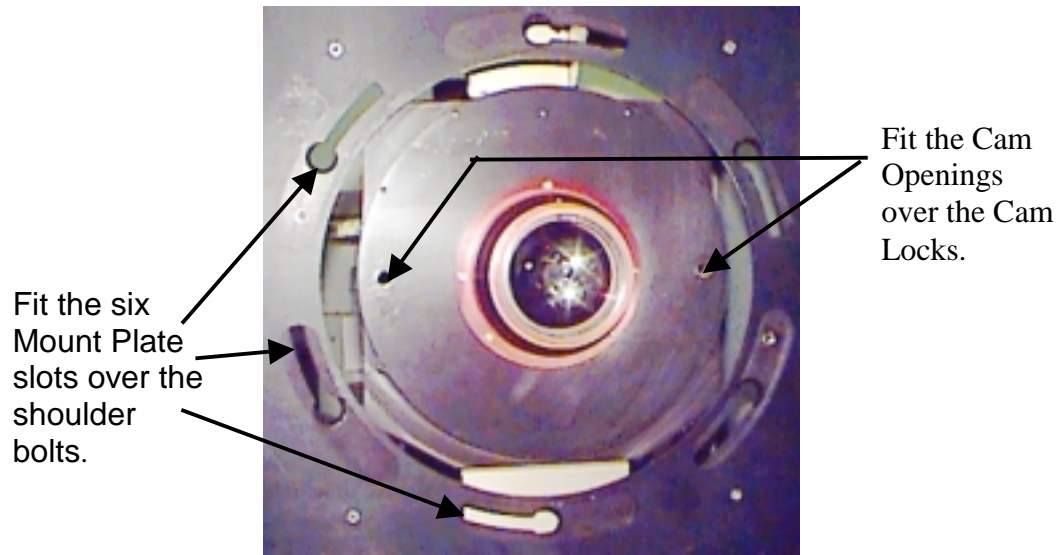


Figure 5-3 Arc Lamp Module Mount Plate.

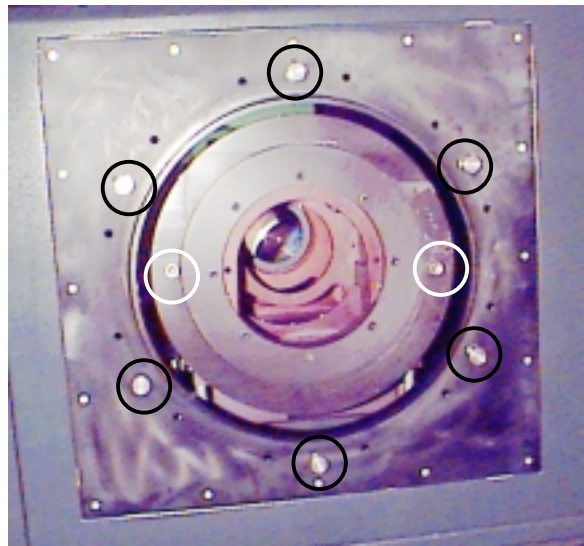


Figure 5-4 Projection Module Pivot Plate, Shoulder Bolts (circled in black) and Cam Locks (circled in white).

10. After the Arc Lamp Module is placed over the Projection Module Shoulder Bolts and Cam Locks, turn the Locking Ring to secure the attachment. Turn this handle **by hand only** until the Locking Ring Clip (see Figure 5-5) engages.
11. Using a 8-mm Balldriver Hex Wrench, tighten the Cam Locks to secure the Arc Lamp Module to the Projection Module. Ensure that the Mount Plate (see Figure 5-3) and the Pivot Plate (see Figure 5-4) are fully engaged. Inspect the connection with fingers where the two plates mate (see Figure 5-3) and verify that no space exists between the plates.

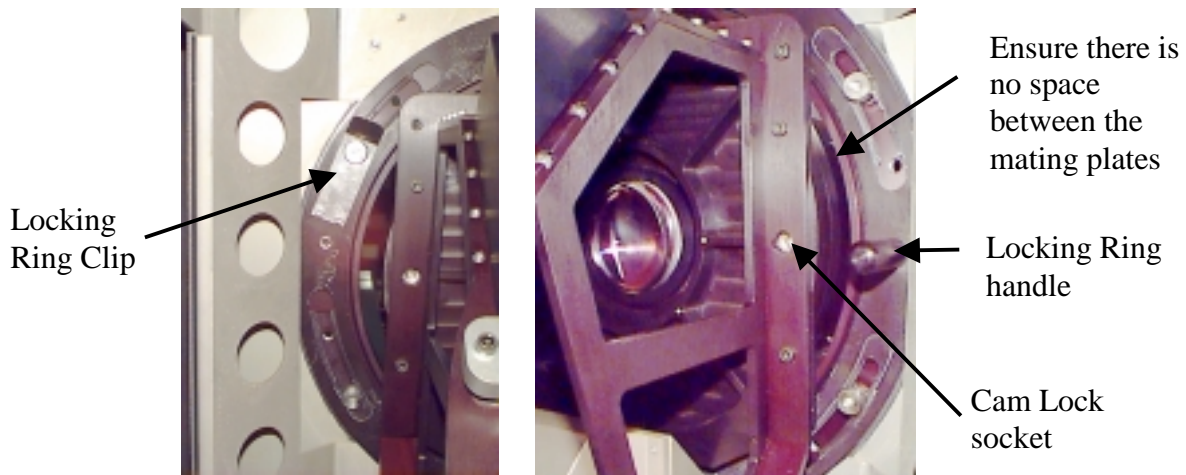


Figure 5-5 Left and right side of Arc Lamp Module after attachment to Projection Module.

5.2 Arc Lamp Module Power Connections

The Arc Lamp Power Supply resides in the Projection Module. Four cables carry the DC Power from the Arc Lamp Power Supply to the Arc Lamp in the Arc Lamp Module.

1. Verify that the circuit breaker on the front panel of the projector is in the OFF position and the power cord is disconnected before connecting any cables to the projector.
2. Connect the four Arc Lamp cables from the Arc Lamp Module to the Projection Module (see Figure 5-6). The Green cable must be connected first, then the white cable and then the black cable. The white cover will not lift up until the green cable is connected, The black cover will not lift up until the white cable is connected (see **Caution** below).



CAUTION! The green, white and black Arc Lamp power connectors contain interlocks. These connectors are connected from left to right and disconnected from right to left. It is not possible to connect or disconnect these connectors in any other order. Do not try to force these connectors on in any other order--damage to the connectors or sockets will result!

3. Connect the Reference Temperature and Air Pressure/Flow Sensor cables to the left side of the Arc Lamp Module (see Figure 5-7). These connections are *not* interlocked.

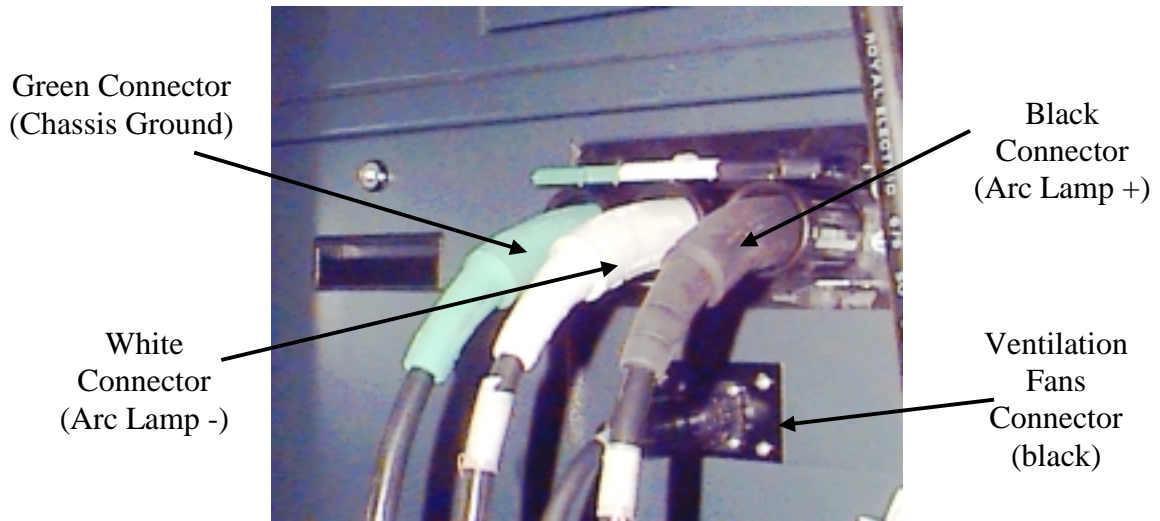


Figure 5-6 Arc Lamp (DC) Power Cables.

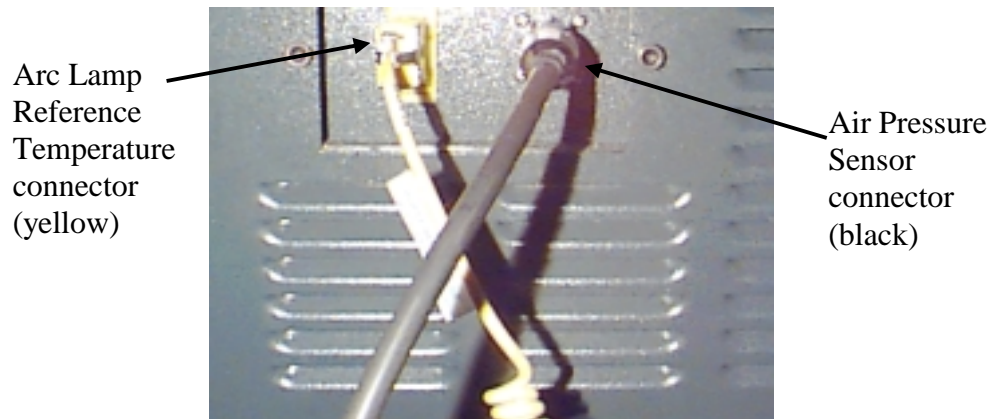
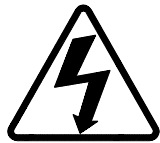


Figure 5-7 Arc Lamp Reference Temperature and Air Pressure/Flow Sensor cables.

5.3 Arc Lamp Bulb Installation

The Arc Lamp Bulb is shipped separately to prevent it from being damaged, exploding and damaging other components. It should not be installed until the Arc Lamp Module has been attached to the Projection Module.



WARNING!!! The bulb is pressurized. Precautions must be taken to prevent the bulb from damage or possible explosion which could cause severe injury to personnel. When handling the Arc Lamp Bulb follow the safety guidelines below:

- ❑ Wear the Leather Welders Flak Jacket provided, HJT p/n 106042
- ❑ Wear the Safety Glasses w/ chin guard provided, HJT p/n 106040
- ❑ Wear the Kelvar SS weave Safety Gloves with palm grip provided, HJT p/n 106020(L) and 106021(R)

NOTE: This safety equipment must be worn when installing the bulb into socket or any time the bulb is handled.

Tools Needed

- 8-mm Balldriver Hex-head wrench
- Flatblade screwdriver

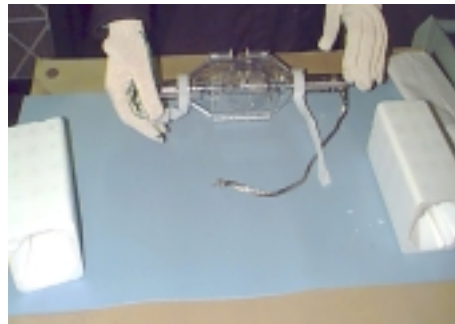
To install the Arc Lamp Bulb in the Arc Lamp Engine:

1. Remove the Arc Lamp Bulb from its container. Observe that the bulb itself is contained inside a plastic bulbcase for protection (*see Figure 5-8*).
2. Remove the bulb from the bulbcase by squeezing the locking pins together to open the bulbcase.



Figure 5-9 Remove bulb from container and place on padded table.

Figure 5-8 Arc Lamp Bulb in shipping container.





CAUTION! Keep the anode cable away from the bulb glass to avoid breaking the bulb!!

3. Lift up the Arc Lamp Spider.
4. Insert the Arc Lamp bulb through the hole at the bottom of the parabolic shaped reflector and into the socket in the bottom of the Arc Lamp Engine. The bulb should insert fully into the socket (about $\frac{3}{4}$ -inch).



Figure 5-10 Insert the bulb into the bulb socket. Note that anode cable is at the top.

5. Ensure that the bulb is secure enough in the socket by verifying that it cannot be pulled out from the top.
6. Lower the Spider Assembly onto the top of the Arc Lamp Bulb.
7. Connect the Arc Lamp Bulb anode cable (attached to bulb) to the Ignitor terminal using the 8-mm Balldriver Hex-head wrench and tighten to 32-ft./lbs. Make sure the connection is tight!
8. Ensure the cable is routed through the cable guide and is a minimum of 1-inch from nearby surfaces to avoid arcing during lamp ignition (*see Figure 5-11*).



Arc Lamp
cable connects
to Ignitor

Figure 5-11 Arc Lamp Bulb installed with cable connected.