LED CoB Lamp Replacement Guide

This guide will instruct owners and installers of gobo projectors through the process of replacing the LED CoB (circuit-on-a-board) lamp found in ECO Spot and ECO Lines projectors.

Requirements

The tools required to access the LED CoB include a 5mm (3/16") Allen key and Phillips head screwdriver. To replace an ECO Spot LED CoB, a solder iron is required, and a large tip and operating temperature of >400 °C should be used. In addition, a smudging and/or gentle prying tool is recommended for seating the CoB.

Disassembly

⚠ Before handling the projector, ensure that the unit is disconnected from power and has had sufficient downtime to cool down. When servicing the projector, support the chassis in a manner that prevents stress on the outward facing cables.

To begin the LED replacement, the projector must be partially disassembled. For an ECO Spot projector, it is required to remove the gobo holder assembly, which is secured with six (6) hex key screws [See pic. 1]. ECO Lines CoBs can be accessed by removing the lens assembly.

LED CoB removal and replacement

⚠ It is imperative that the LED CoB is properly mated to the heatsink before connecting to power. Powering the CoB without the heatsink will damage the LEDs.

To remove the existing CoB:

1. Unscrew four (4) seating screws in LED carrier [See pic. 2]
2. Lift LED carrier away from heatsink [See pic. 3]
3. Disconnect the contacts for power to the LED carrier
    a. Desolder ECO Spot CoBs with a solder iron
    b. Unclip ECO Lines CoBs by squeezing the retaining clips in the connectors
4. Clean old thermal paste on heatsink interface with >75% isopropyl alcohol

To install a new CoB:

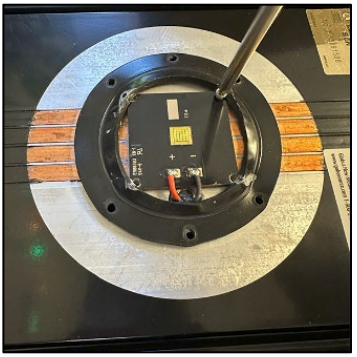
1. Apply thermal paste in a thin, even layer to the copper underside of the LED CoB (Latex gloves, plastic utensils and/or cotton swabs are suitable tools for application of thermal paste)
2. Solder or clip CoB power contacts
3. Seat CoB on top of heatsink, parallel with exposed copper pipes
4. Slide and twist CoB into alignment with screw holes in the heatsink
5. Gently fasten each corner of the CoB using an X-pattern to distribute pressure

At this point it is safe to test the new LEDs before re-attaching the gobo holder or lens. After verifying the connections and reassembling the projector, it may be returned to its original installation.

Demonstration photos

Picture 1: Removing hex key screws from gobo holder

Picture 2: Removing set screws from LED CoB



Picture 3: Lifting LED CoB to desolder