



## CAMERA SYSTEM INSPECTION & TROUBLESHOOTING - INSTRUCTIONS FOR USE

### Purpose

This document is intended to provide detailed instructions on:

- the proper installation and inspection of a Precision HD camera into a camera-ready(TV) lighthead, and
- troubleshooting a camera system that is not functioning properly (camera OK).

### Camera Inspection and Installation

#### CAUTION

Make sure the MAIN POWER switch is OFF on the light fixture wall control and the camera control unit before installing or removing the camera.

#### a. Remove Sterilizable Camera Cover and Counterweight

1. If the sterilizable camera cover is installed, push in the two (2) white pins in the cover and remove the cover (Figure 1).

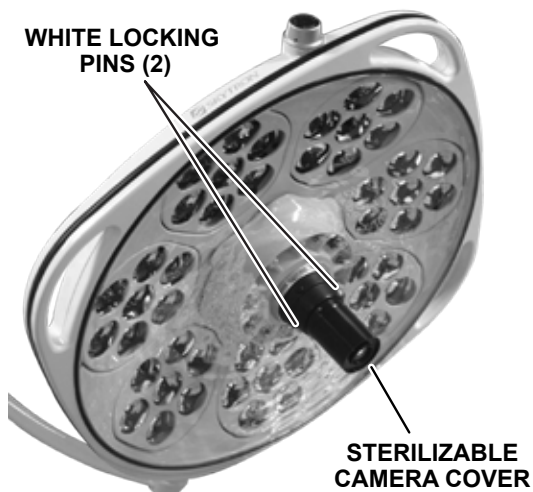


Figure 1. Sterilizable Camera Cover Removal

2. If a counterweight or handle adapter is installed on the lighthead, hold the counterweight (or adapter) firmly and press the camera release button on the lighthead attachment ring (Figure 2). Pull the counterweight (or adapter) straight out of the attachment ring.



Figure 2. Counterweight Removal

#### b. Inspect Camera Slip Ring Assembly

1. Obtain the camera you are going to install and inspect the following:
  - Check the alignment of the slip ring assembly (Figure 3). The slip ring should be straight and should not lean in one direction.

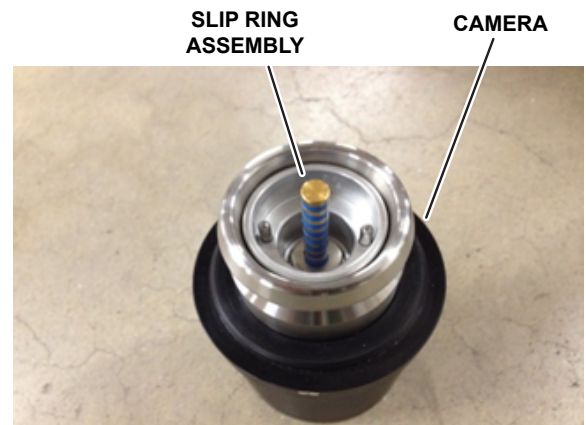


Figure 3. Slip Ring Assembly

- Inspect the slip ring for physical damage on the gold colored contact rings and on the end. All surfaces should be free of deep scratches and any dimpling or distortion.
- With minimal force, verify that the slip ring does not freely rotate in the camera body.

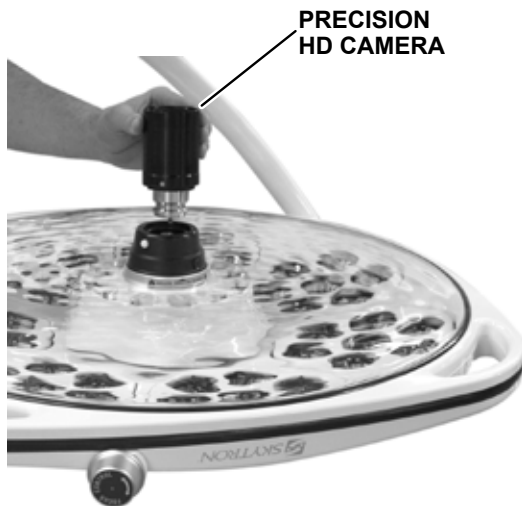
### CAUTION

Installing a physically damaged camera into the surgical lights receptacle can cause internal damage to the receiving brush block inside the lighthead.

2. If any irregularities or distortions are found on the slip ring assembly, DO NOT install or use the camera. Notify your SKYTRON representative.

#### c. Install the Camera and Sterilizable Camera Cover

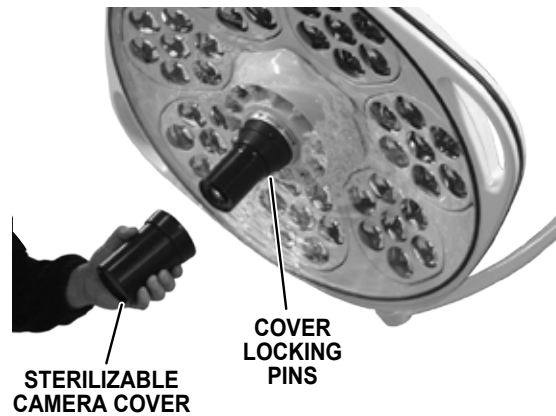
1. Move the lighthead to the full down position and turn it over so it faces up (Figure 4).



**Figure 4. Camera Installation**

2. Carefully insert the male slip ring of the camera into the mating female brush block on the attachment ring of the lighthead.
3. Push the camera into the attachment ring and turn until you hear it lock in place (audible click).
4. Pull out on the camera to verify that it is secure.

5. Obtain the sterilizable camera cover and align the holes in the cover with the white cover locking pins on the camera attachment ring (Figure 5).



**Figure 5. Sterilizable Camera Cover**

6. Slide the cover onto the camera attachment ring until it locks on the two (2) locking pins.

#### d. Check Camera Clearance

After properly installing the camera and sterilizable camera cover on the lighthead, use the following procedure to check the clearance between the camera and the sterilizable camera cover when the lighthead is focused:

### CAUTION

DO NOT attempt to focus or position the lighthead using the camera body. Damage to the camera rotation motor may result.

1. Use the focus knob on the side of the lighthead to adjust the focus on the lighthead through its full range of adjustment. While adjusting the focus, observe the movement of the camera inside the sterilizable camera cover.
2. Use the camera attachment ring to adjust the focus on the lighthead through its full range of adjustment. While adjusting the focus, observe the movement of the camera inside the sterilizable camera cover.
3. If the camera has positional movement (rotation) when the lighthead is focused using either method, there is an interference problem. Notify your SKYTRON representative.

## Camera System Troubleshooting

If the camera system is not functioning properly after the functioning camera has been successfully inspected and installed, perform the following troubleshooting steps to diagnose the faulty component:

- Ensure that the wall control is on and the intensity of the wall control is illuminated.
- Ensure that the camera control unit (CCU) is turned on.
- Confirm the **AUTO FOCUS** LED on the camera control is illuminated on the face of the CCU (Figure 6). This indicates that there is a proper connection between the installed camera and the CCU.

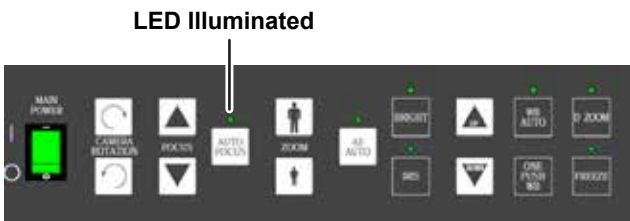


Figure 6. Camera Control Unit (Front)

- If the **AUTO FOCUS** LED is not illuminated, perform the following steps (Figure 7):

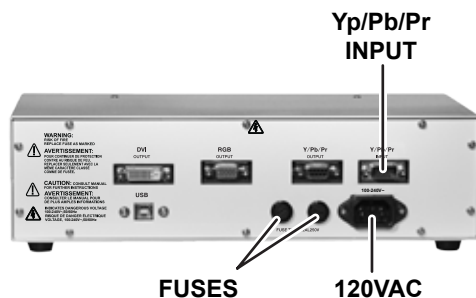


Figure 7 Camera Control Unit (Back)

- Verify that the power cord is properly seated in the **100-240V~** input power connector and plugged into a live hospital grade outlet.
- Check both **T2AL250V** fuses. Replace fuse(s) if blown.
- Inspect DB9 connections (Figure 8) at **Y/Pb/Pr INPUT** connector (Figure 7) and at the CCU connector faceplate (Figure 9). Check the continuity of the cable. Replace the cable if necessary.



Figure 8. DB9 Connector

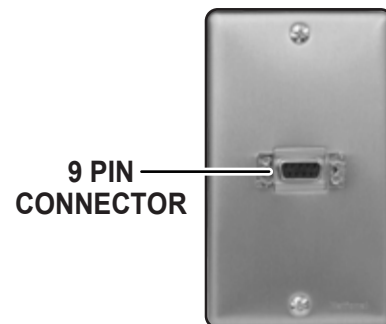


Figure 9. CCU Connector Faceplate

- Check the continuity of the cable from the lighthead VST (under the top cover of the VST) to the DB9 connection on the CCU connector faceplate. Check cable connections and cable for continuity. Replace the cable if determined to be faulty.
- If camera control LED is illuminated (Figure 7), inspect output cable from CCU to the display. Check cable connections and cable for continuity. Replace the cable if determined to be faulty.
- Connect an alternate signal to the display to verify that the display is functioning properly. If the display and cable are functioning properly, the CCU is likely to be faulty. Notify your SKYTRON representative for further instructions.

## REVISION HISTORY

Date	Revision	Revision History
12/04/14	0	Initial release.