

## E-01b: Repair/Replace Lighting Device (Fluorescent)

### SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- Power must be turned off so that it can not be turned on until your are ready.
- Overhead hazard exists when changing florescent devices, wear the safety harness.

### EQUIPMENT

- basic Electrical hand tools
- wire cutters
- replacement ballast
- ladder
- wire nuts
- replacement lamps

### RESOURCES

- ballast manufacturer's specifications
- ballast schematic



**Repair/Replace Lighting Device (Fluorescent)****1. Gather the required equipment for the lighting device problem.**

- Bring a ladder and the appropriately sized fluorescent lamp.

**2. Open the fluorescent light fixture.**

- Swing the bottom of the fixture down to allow access to the ballast covers and lamps.



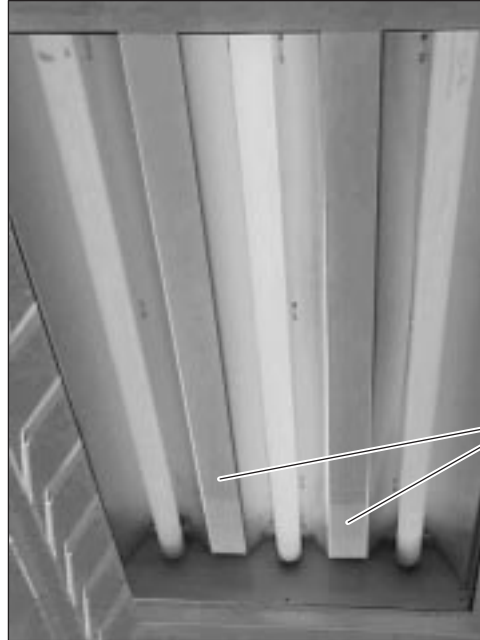
Lowered Light Fixture

**3. Determine the lighting device problem.**

- Replace the defective lamp with the same lamp type.
- Proceed to step 11, if the lamp lights.

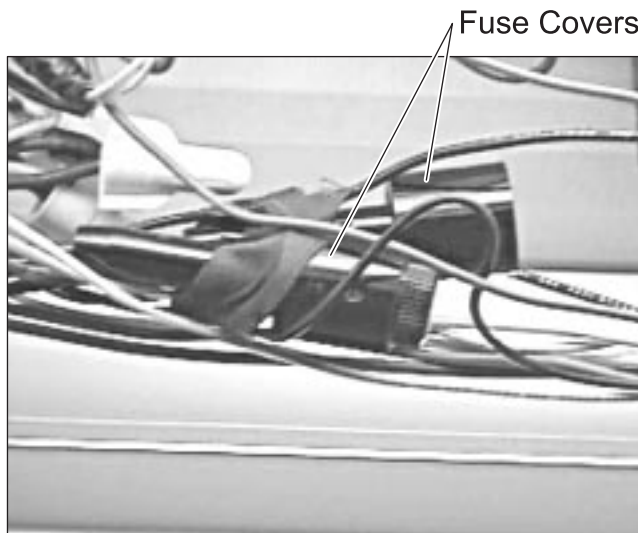
**4. Document the ballast and lamp type, if the lamp does not illuminate.**

- Remove the ballast cover.



Ballast Covers

- Feel the ballasts to determine which one is cooler. The cooler ballast is not operating.
- Note whether there are any fuses in the wiring.



Fuse Covers

- Write down the catalog number, required voltage, and the style of lamp from the ballast manufacturer's information.

5. Obtain the replacement ballast, lamp, and fuse (if applicable).

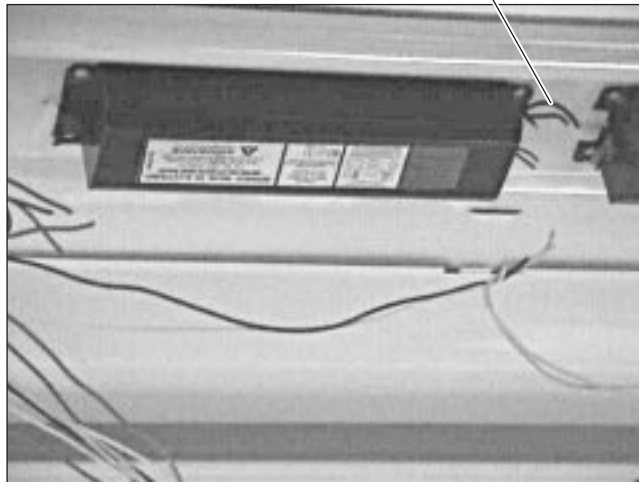
**Warning:** Lockout/tagout the power so that no one except you can restore the power.

6. Verify that the power is shut off.

7. Remove the old ballast.

- Cut all ballast wires approximately one inch from the ballast.

Ballast Wires  
Cut to 1 inch Long



- Remove the ballast from the light fixture.

**8. Install the new ballast.**

- Compare the new ballast specifications with the replaced ballast.

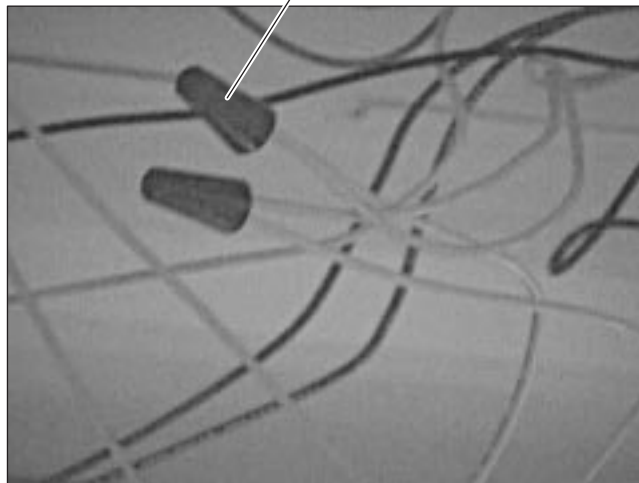
Ballast Specifications

Ballast Schematic



- Follow the ballast schematic to wire the ballast.
- Splice all matching colored wires with wire nuts.

Ballast Wires Spliced with Wire Nuts

**9. Check the wiring for a fuse.**

- Replace blown fuses accordingly.

**10. Replace the ballast cover.****11. Reinstall the lamps.**

12. **Remove lockout/tagout and verify light operation.**
13. **Close the light fixture and clean up the work area.**
14. **Dispose of the ballast according to Caterpillar waste procedures.**
15. **Dispose of the lamps according to Caterpillar waste procedures.**

