

## LIGHTS OUT?

If you've noticed you have flickering lights or a group of lights out, there could be several reasons for the malfunction, other than just a bad lamp. A simple 7-way socket circuit checker and plug circuit checker, to check for electrical continuity, can help troubleshoot the problem using the following steps below:



Socket Circuit  
Checker/Tester



Plug Circuit  
Checker/Tester

### VISUAL PIN DEGRADATION AND/OR CORROSION BUILD UP

1. Inspect the 7-way sockets on the tractor and trailer, as well as the plugs on the electrical cable, for corrosion build up as well as pin degradation.
2. If a socket has split pins, the pins can be carefully split apart to accommodate for degradation from wear and tear. If pins are solid, or too worn down, the socket and/or plug/assembly may need to be replaced.
3. Clean both 7-way sockets on the tractor and trailer, then also clean both plugs on your electrical cable with a 7-way plug and socket brush. This may remedy your problem. If not, move on to the tractor socket.

### TRACTOR SOCKET

1. On the tractor, insert a socket circuit checker, into your 7-way socket.
2. Go inside the cab, and turn on each of the circuits individually, i.e. marker lights, tail lights, etc
3. Check the tester to see that only 1 LED is lit for each circuit engaged. If the proper LED's light up, skip (a) and (b) that follow in this section and move to testing the electrical cable assembly.
  - a. If (2) or more lights on the tester come on there is a problem with the tractor wiring.
  - b. If no LEDs are lit, check the fuses and relays inside the trailer. If those are functioning properly, measure the voltage of the correlating circuit breakers on the tractor's 7-way socket. If there is no voltage, there is a cut or loose wire from the fuse box to the back of the tractor.

### ELECTRICAL CABLE ASSEMBLY

1. Connect your 7-way electrical cable to the tractor and use the 7-way plug tester at the other end of the cable.
2. Locate the area at the back of the plug where the cable and plug housing come together (often-times protected by a spring guard). Gently move/bend it back and forth. This is the weakest point on a cable. By manipulating it, you can determine if internal damage to this area is causing the malfunction.
3. If the LED's light up correctly the problem is most likely somewhere on the trailer.

### TRAILER 7-WAY ELECTRICAL SYSTEM

1. Check the circuit breakers, if so equipped, on the trailers 7- way nosebox. They may be bad or simply need to be tightened.
2. If the circuit breakers are working properly and there is still a problem with the lights, the problem is most likely with the trailer wiring.

## TIPS

- Flickering lights or a group of lights out could mean more than just a bad lamp or bulb.
- Inspect the sockets and plugs for corrosion build up or pin degradation.
- Use a socket and plug circuit tester to check for problems with the electrical current coming from the tractor.
- If all lights go on and off at the same time, check your ground.

Have technical questions? Get the latest tips from a skilled Phillips engineer!  
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