



All Modern Display Christmas trees come with StayLit incandescent lights or LED lights. Every precaution has been taken to ensure that all the light sets on your tree work properly. Should a light set fail to light, please bring that section of tree back to us and we will either fix it or swap it out for a new section. If you have a tree from MD that is more than 3 years old or have purchased a tree from somewhere else, and it does not have staylit lights or LED lights, the “helpful hints” listed below may help you fix any problems you encounter.

- **Not Seated Properly**

Miniature light sets are wired in a “series”. Electricity must flow through each bulb, from the first to the last, in order for the light set to turn on and function properly. Missing and broken bulbs can disrupt the series and cause a light set to stop working. Lights that are not seated all the way in the base, have come loose or that have a broken wire can also disrupt the series.

- **Shunt Failure**

A burned out bulb should not cause a light set to go out, unless there is a shunt failure. Shunt failure is caused when an individual bulb shunt fails to energize. The shunt is energized when a filament burns out. An energized shunt allows the series to be completed and the set of lights to continue to work. Shunt failure causes a section of lights to go out instead of just one light bulb. Miniature light sets are wired in “series” and electricity must flow through each bulb to the next for them to all light.

- **Cascade Burn Out**

Burned out bulbs with fully functioning shunts can cause problems to your light sets as well. Each light set is made to handle 120 volts. Each light bulb is a 2.5-volt light bulb. When a light burns out and the shunt is energized the remaining good bulbs on the set absorb all of the power or voltage. This causes the lights to become overloaded, burn brighter and fail prematurely, effectively shortening the life of your light bulbs. As more bulbs burn out the problem becomes exacerbated and the life of the bulbs becomes shorter and shorter until all the remaining bulbs burn out in a flash. This is known as cascade burn out. The best way to avoid this problem and extend the life of your lights is to make sure to replace a burned out bulb as soon as possible. A light set that has succumbed to cascading can be fixed. Each and every bulb on the strand must be replaced while it is not plugged in. You must make sure you replace all 50 lights in the strand for it to light up properly.

- **Burned Out Bulbs**

Burned out bulbs on a working light set should always be replaced as soon as possible. Each non-working bulb shortens the life of the light set. A non-illuminated bulb draws no voltage. Therefore the 120 volts in the series is spread across the other functioning bulbs. This causes the lit bulbs to burn hotter and brighter. (See cascade burn out above)

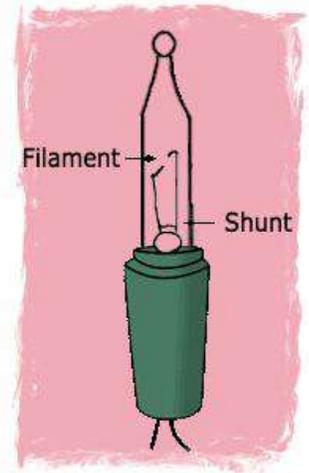
- 2 burned out bulbs reduce the life of a 50 light set by 39%
- 4 burned out bulbs reduce the life of a 50 light set by 63%

Failure to replace burned out bulbs will result in the eventual cascade burn out of the entire set, as referenced above. This begins with the remaining bulbs burning substantially brighter followed by total failure.

- **Surge Protector**

Christmas light sets are extremely susceptible to power surges. You will know you have had a power surge go through your light set if light set does not work and the majority of the lights on the set have a black, burned ring around the glass of the bulb. This is also the sign of a light set that has had a cascade burn out. To protect against power surges we recommend you plug your tree into a high quality surge protector, not just a power strip, but an actual surge protector. Light sets that have had a surge can be fixed in the same manner as set that has had a cascade burn out. Please see that information above.

Burned out bulbs, cascaded light sets and light sets that have had a surge go through them are not covered under the Modern Display tree warranty. These are problems that are not within the scope of our control.



- **Replacing Bulbs**

All Christmas light manufacturers use different husk shapes on their lights. The husk is the plastic piece the glass bulb slides into. Most bulbs are the same and as long as it is a 2.5-volt bulb it will work in any 50 or 100 light set, but it will not fit if the husk does not match up correctly. Most bulbs can easily be swapped between husks. It is important that you save all the husks from bulbs you replace on your tree to use in the future. Modern Display tries to carry replacement bulbs for the different light sets on the trees we sell, however we recommend you save your husks for future use.

If a light set goes off and on again and again, there is most likely a loose bulb in one of the sockets, or the brass wires have been slightly twisted and are not making a good connection. An easy way to fix this issue is to follow the steps below.

1. Do not push in or twist bulbs. Remove the first bulb in the strand.
2. Replace this bulb with a new one. Make sure the 2 copper wires are centered and not twisted before positioning in the socket.
3. If the set fails to light, continue this process for each bulb through the entire set, replacing the next bulb with the one before it and so on.
4. Normally there are 50 bulbs per light set, so it should take less than 20 minutes to repair the set in this fashion.

Sometimes wires are just slightly out of place. Tapping each bulb or lightly shaking the branch can help locate a twisted bulb easily.

- **Replacement of entire set of lights:**

If light cannot be fixed, it can be replaced. Follow the steps below to replace a light set on your pre-lit tree.

1. Locate the plug of the non-working set connected to the wiring harness.
2. Unwrap the old set starting at the plug.
3. Plug the new light set into the wiring harness (group of plugs located along the trunk of the tree). Make sure to plug the set in the same location as the set that has been removed.
4. Wrap the replacement set onto the branch as before.

*Please note that green electrical tape is used to cover the plugs for safety purposes. Replacing a light set or fuses is the only time that the electrical tape should be removed.

- **Repairing Entire Section of tree:**

1. Locate the main cord for the section that is not working, just a built in extension cord.
2. Plug that section directly into a wall outlet, bypassing the included extension cord.
3. If the section lights, continue to use with the wall outlet. The included extension cord or the wiring harness from the section below may be the cause of the problem.
4. If the section fails to light, change the fuse in that cord. Slide the cover to open the position. There should be 2 fuses; one of them is a replacement.

- **Fuses in Light set:**

Typically fuses in light sets do not need to be changed and are NOT the problem. If a fuse is bad, it will normally be in the first plug of the group "piggybacked" together on the wiring harness. This will then cause multiple sets to be out. It is highly unlikely one light set failure is due to the fuse.

- **Other Tips and Safety Instructions:**

1. This seasonal product is not intended for permanent installation or for use outside.
2. Do not mount or place near gas or electric heaters, fireplaces or other similar sources of heat.
3. Do not hang ornaments or other objects from the cord, wire, or light set.
4. Some tree stands contain one hole. If your tree includes two screws, keep second screw as a spare.
5. When taking your tree down for the season, be sure to turn the lights off a few hours before you do so. This will allow the lights to cool down. Individual light filaments are more likely to fail if jostled around while hot.
6. Flocked or white trees should be stored in dry, normal room temperature, location. This will help prevent discoloring. They should also be kept/displayed out of direct sunlight. Discoloration is not covered by warranty.
7. Tree bags are a great way to store your tree. Once shaped, tree bags make it easier to put the tree away and easier to shape the next year.
8. All trees should be stored in a dry location.
9. **The Light Keeper Pro** is an excellent tool that can make repairing Christmas Lights very easy. It is available at Modern Display and can easily help diagnose and fix most problems encountered with Christmas lights.

- **Check out our Christmas Tree and Light instructional videos:**

<https://www.youtube.com/user/moderncompanies>