



Aromat Corporation-Lighting Division

AID004

Special Bulletin:

*Lampholder Mounting & Hipot Testing
on
Metal Halide Fixtures*

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Special Application Bulletin

SPECIAL TOPIC #1: Lamp Holder Mounting Screw Variations

It has been noticed in our fixture thermal testing that OEMs use various styles of mounting screws for securing the HID lampholder. In some cases extra long screws were used to mount the lampholder from the back side. This extra length protruded through the lampholder threads and reduced the distance between the lampholder screw shell and the threaded mounting bushing by over 50%. Also, in other cases, where the screw head was located on the inside of the socket, some very large screw heads were used which also reduced the spacing significantly. We have conducted some breakdown voltage tests of various commercial fixtures with the results as follows:

Dielectric Withstand Test Results on Commercial Track Light Fixtures

Mounting Screw Configuration	Screw head Location	Breakdown voltage - Screw shell to housing
Small round-head screw	Inside of Lampholder	>6 KV
Allen-head screw	Inside of Lampholder	4.8 KV
Slotted flat head screw	Inside of Lampholder	>6 KV
Short protrusion screw	Outside: screw from back	>6 KV
Medium protrusion screw	Outside: screw from back	4.7 KV
Long protrusion screw	Outside: screw from back	4.07 KV
Un-mounted lampholder	None	> 6 KV

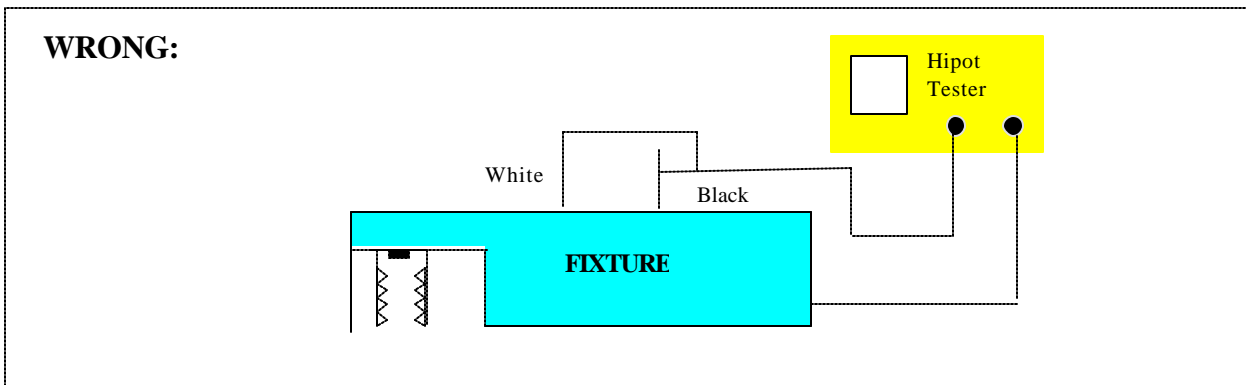
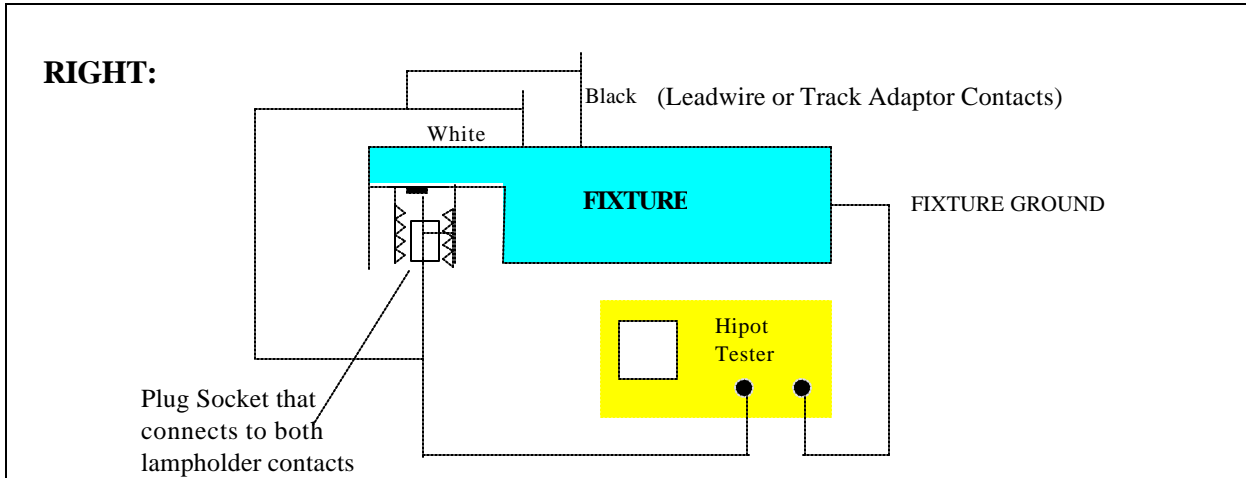
It must be realized that the above values are for clean and new conditions; no dirt or airborne contaminants have collected on the surfaces, etc. Therefore, to eliminate any possibility of arcing during ignition pulses, the following recommendation is presented:

Recommendation to OEM:

- **Please check the dielectric withstand capability of your lampholder to fixture ground.**
- **The breakdown voltage should be at least 110% of socket pulse rating**

SPECIAL TOPIC #2: Hipot Testing:

It must be emphasized that the hipot (dielectric withstand) test must be conducted by connecting all "input & output" ballast (fixture connections) leads together and then hipotting from the common connection to the fixture ground.



If the hipot voltage is connected only to the input power leads AND an output lead is shorted to the fixture housing; the ballast electronic components between input to output leads would then have the full hipot potential impressed across them and the ballast would be damaged. To assure that no high voltage potential is applied between the input and output connections, these connections must be connected together during the hipot test.

RECOMMENDATION TO OEM:

Please check your hipot testing connections and modify as necessary to hipot between the common connection of the input power connections & both lamp terminals and to ground.