TECHNICAL BULLETIN

IF THE COSMOSTART/E WON'T START A NEW LAMP . . .

There are infrequent occurrences (assuming that supply voltage and other conditions are correct) where an electronic starter will not start a new, intact lamp. This "no start" problem may be an inter- mittent problem or it may shift from one lamp to another with each start cycle.

The Probable Cause

Lamp cathodes (coils) are coated in a paste rich in rare earth salts (carbonates of barium, strontium or calcium). As part of the final stage of manufacturing, the lamp cathodes need to be constantly heated in order to convert these salts into oxides. As oxides, the compounds become "low work function materials" which, when heated to a moderate degree, freely emit streams of electrons. Before conversion of the salts to oxides the cathodes are not functioning and the lamp will not operate.

Normal processing at the end of lamp manufacturing includes passing a fixed current through the cathodes for a pre-determined time, holding them at a heat that is calculated to complete the conversion of the cathode materials into efficient emitters. The tube is then ignited and extinguished repeatedly in order to complete it's conditioning and to ensure that in service it will ignite correctly.

The 'conditioning' process is always a critical one. Too much conditioning plays havoc with the lamp cathodes - and will shorten the life of the lamp. For this reason conditioning is normally applied at the minimum of the acceptable range. If this occasionally results in too little conditioning, the electronic starter sees the (not fully conditioned) lamp as defective and locks it out of the circuit.

The Fix

Try the easiest thing first. Cycle the equipment on and off repeatedly up to 20 times. This will often solve the "no-start" problem. If this does not work try replacing the electronic starter with an old glo-bottle starter for a short period of time. The lamp will condition itself from the continuous alternating preheating and pulsating that occurs when the bed/booth is cycled on and off. After 20 or 30 start/stop cycles the lamp will have conditioned itself and the electronic starter can be reinstalled.

It is important to remember to reinstall the E-starter. Use of this device rather than the old glo-bottle design will always result in the lamps being started under the best possible conditions. It will reduce the rate and severity of end-blackening and maximize the physical life of the lamps.

Another Possibility

Also remember that the COSMOSTART/E (Part #71204) is designed to start lamps that are properly matched to their operating ballasts. If the lamps in your system are "underdriven" (160 watt lamp with 140 watt ballasts), we have a "mis-match" situation. The 140W ballast will not provide enough preheat current in the time that the preheat condition exists. In this case it is necessary to extend the duration of the time of preheat. This is accomplished by use of the COSMOSTART/E-EPH (Extended Pre-Heat) starter, our part #71205.

Even if the 160W lamp on the 140W ballast appears to start normally, it is doing so with insufficient cathode heating so the COSMOSTART/E-EPH should always be chosen. This starter will provide the best possible conditions for the lamp (lowest "wear" during start up).

For more information, please visit www.cosmedico.com

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