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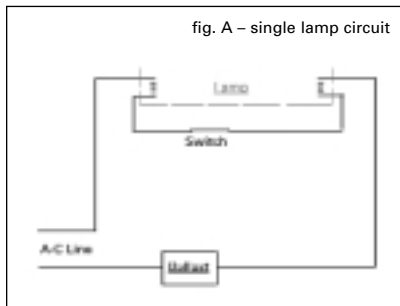
Cosmedico technical advisory: starter maintenance

There has always been mystery and confusion associated with fluorescent lamp “starters”.

In the simplest terms - fluorescent starters are not much more than automatic “switches”. They are used in combination with a choke ballast and their function, as their name implies, is to start a fluorescent lamp.

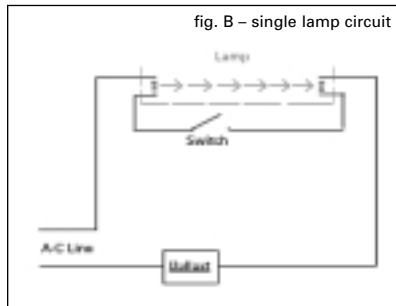
In the diagram that follows (A) you can see that when current flows through the lamp and ballast circuit, it passes through the cathode (or coil) at one end of the lamp, through the switch (starter) and through the cathode at the other end of the lamp.

When this happens, the cathodes (which look much like a coil in a household light bulb) heat up and glow incandescent, causing the coils to emit a stream of electrons.



These active electrons heat and “ionize” the gas inside the lamp which makes the gas a very good conductor. At a precise moment, the starter (or switch) “opens”. This induces a kick or spike of voltage from the choke ballast and an arc is struck between the two cathodes of the lamp (shown in Diagram B). This arc was once described as “lightening in a bottle” and the term is quite appropriate.

At this point in time, the starter has performed its sole function. The contacts now remain open and this component is out of the circuit - standing by, waiting to



perform its job the next time the bed is turned on.

What is most important to know is that these starters are considered “wear parts” with only a finite life. Starters will age with use. As they get older, they begin to fail for different reasons - and some of these reasons can create stress on lamps and cause a lamp to fail prematurely. The inverse is also true - as lamps age they frequently become harder to start (due to the loss of conductive coating on the lamp cathode). A “hard-to-start” lamp may require the starter to cycle over and over until the lamp fires. This can age the starter at an accelerated rate.

While many salon owners still replace starters only when they fail - others have adopted a plan to replace them on a scheduled group basis - usually during a re-lamping of the bed. This practice seems to make great sense because it is protective to the lamps, reduces spot maintenance tasks and because a new set of starters is a very reasonable investment.

There have been countless opinions offered as the “best time” to replace starters, but the optimal schedule depends greatly on the lamp type and typical exposure schedule for the piece of equipment.

Simple math allows us to make some recommendations. 100 watt starters are (conservatively) life-

BED/BOOTH	TIMER	REPLACE AT
80-100 watt	20 min.	2,000 hrs
80-100 watt	15 min.	1,500 hrs
140-160 watt	12 min.	1,200 hrs
180 watt	12 min.	1,200 hrs
200 watt	9 min.	600 hrs

rated at +6000 start cycles. If a particular bed runs for three (3) 20-minute cycles every hour, we can divide 600 cycles by 3 and determine that a starter in this application should last about 2000 hours.

Using the same math (and de-rating for higher wattage) we can calculate recommended schedules for different beds as follows:

In the interest of streamlining your maintenance schedule, these hourly numbers can be easily converted so that starters are group replaced at the same time you re-lamp your beds.

For the 80 - 100W bed with a 20 minute timer - the 2000 hour mark means that you can replace all of your starters with every third re-lamp. And so on...



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