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Ready For a Long Hot Summer, Part 3

Here are several additional items to keep in mind while working to cool your motors.

An often overlooked, but simple item is keeping the motors clean. Frequently when visiting manufacturing facilities unfortunately it is not uncommon to find a lot of waste build up obstructing the shroud that protects the external fan of the motor. In some cases removing the protective shroud once the motor is secured and locked out reveals a fan with build up on it that it looks more like a blob than a fan. With the blades of the fan caked with so much debris you can be certain while it is running the air flow directed across the frame of the motor is well below what it should be. For open frame motors this lack of cleanliness is compounded by the possibility that dirt and other material may block internal cooling ducts which greatly reduces the effectiveness of the cooling circuit.

Another aspect sometimes overlooked is ensuring during a motor overhaul the repair specification is very clear on fan size, direction, and location. Misalignment of a fan and air deflectors will greatly reduce cooling of the machine. Reviewing your motor repair specifications to ensure that the correct type of fan (unidirectional or bi-directional for example) and the proper orientation between the fan and air deflectors after final assembly could save you a lot of grief after the motor is installed.

The motor's nameplate provides the maximum ambient temperature for the motor to operate in and still be able to operate without exceeding its design temperature rise at rated load. In some outdoor locations simply building a cover to provide shade for motors can have a significant effect in reducing the ambient temperature.

You are invited to submit an Electric Motor Testing Tip of your own and receive a free PdMA[®] mug or hat if we publish it! Contact Lou at 813-621-6463 ext. 126 or lou@pdma.com.