Tech Tip
Motor Poles vs. RPM

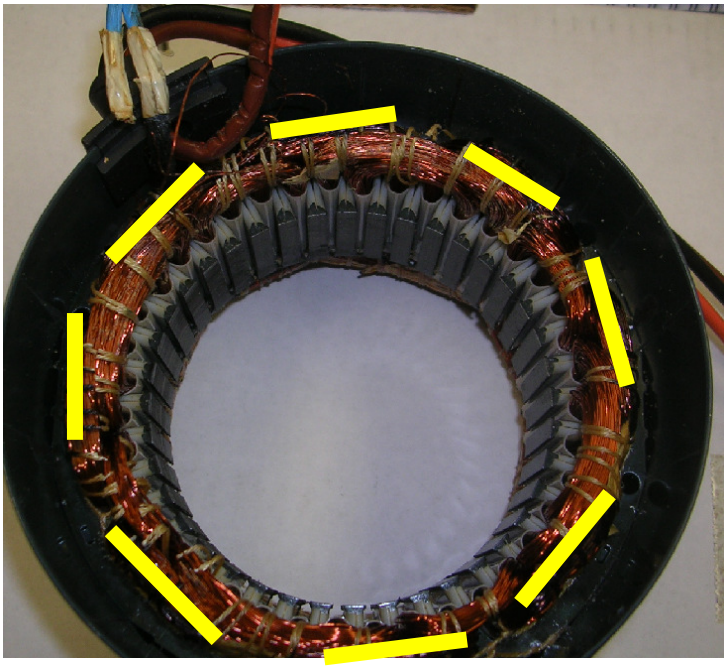
There are times when a motors data information sheet is faded or burnt to a point where the information is illegible.

This should not be a major sticking point for a good tech, there is a way to identify the RPM of a motor by counting the number of poles (winding loops) it has.
Remove the end bell of the motor. You will see that there are two groups of windings on the inside and outside circumference of the stator, one is the start winding and the other is the run winding.
The windings will usually be easier to count if you look only at the loops on the outermost circumference of the motor.

There is a Theoretical RPM which is what the motor should run at mathematically, and there is the Actual RPM that is usually printed on the motor data sheet. The difference between these numbers is called “slip” and can be thought of as the rotor drag, always trying to reach the perfect Theoretical RPM.

PSC motors

Number Of poles	Theoretical RPM	Actual RPM
2	3600	3250
4	1900	1625
6	1200	1075
8	900	825



It is now easy to count the poles (8) and compare it to the chart above to determine a PSC motor rpm (825).
Give it a try sometime.