

General Motor Knowledge  
Part 22

Motor Nameplate  
(The Model Number, Continued)

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GMK22.wps

A couple of months has passed since our last "Morrill Moments". Most of us have had a vacation since then. I will end this discussion of motor model numbers by beginning with my last example.

SP-B6LEJ1 is a "S"haded "P"ole, 4"-pole "B"-frame. The endbell is cast iron bossed because there is no designator to indicate otherwise. The motor is rated at "6" watts output. The "L" and "E" mounting holes are provided. The shaft extends out the rear "J" and rotates clockwise when looking at the lead end. The next position, number "1" in this example, indicates the design voltage and frequency for the winding. 1=115 volts 60 Hz; 2=230 volts 60 Hz; 28=208 volts 60 Hz and 27=277 volts both 60 Hz. See the pattern? 15=115 volts 50 Hz, likewise 25=230 volts 50 Hz. The voltage that does not follow this pattern is 440 volts. We designate 440 volts with the number 8.

A common question during our recent TTS, Technical Training Summary, on motor model numbers was, why does the model number indicate a "2" for 230 volts 60 Hz and the backcap indicate 60/50 Hz? The voltage designation in the model number is for the design voltage and frequency of the winding. The motor can often be operated, with satisfactory results, at other voltages or frequencies.

Most of the rest of the world operates with a 50 Hz power distribution system, compared to our 60 Hz system. Any of our motors will run on 50 Hz, some do not run well on 50 Hz. If our 60 Hz motor will operate satisfactorily on 50 Hz we mark the backcap "60/50 Hz". If we specially design a winding for 50 Hz operation, we indicate it as a "15" or a "25" in the model number and mark the backcap with only 50 Hz. Some customers are uncomfortable with only a single voltage. They know that the motor will operate satisfactorily over a range and request that our backcap be marked accordingly. We may mark the backcap "208-240" volts 60/50 Hz, but the winding on the inside is still our 230 volt 60 Hz winding as designated by the "2" in the model number.

Even with the best of intentions or planning, things happen. If we need to designate something special about the motor that is not covered somewhere else in the model number we add a number or letter to the end of the model number. Since this is really unusual, most of us will have to check the motor parts list to discover what this special character means.