TRAULSEN TECHNICAL BULLETIN

PRODUCT SERVICE DEPARTMENT **FORT WORTH, TX 76137**

ECM EVAPORATOR BLOWER MOTOR

Introduction:

In October of 2010 Traulsen began using ECM (Electrically Commutated Motor) evaporator blower motors in equipment requiring double squirrel cage blower motor assemblies. This bulletin will outline this change. Keep in mind there will always be some exceptions and actual function may vary.

Identifying an ECM Motor:

When visually inspecting the motor you will notice a green cap on the right side of the motor. Only Traulsen's ECM motors will have this green cap. ECM motors do **NOT** require a capacitor. See Figure 1.

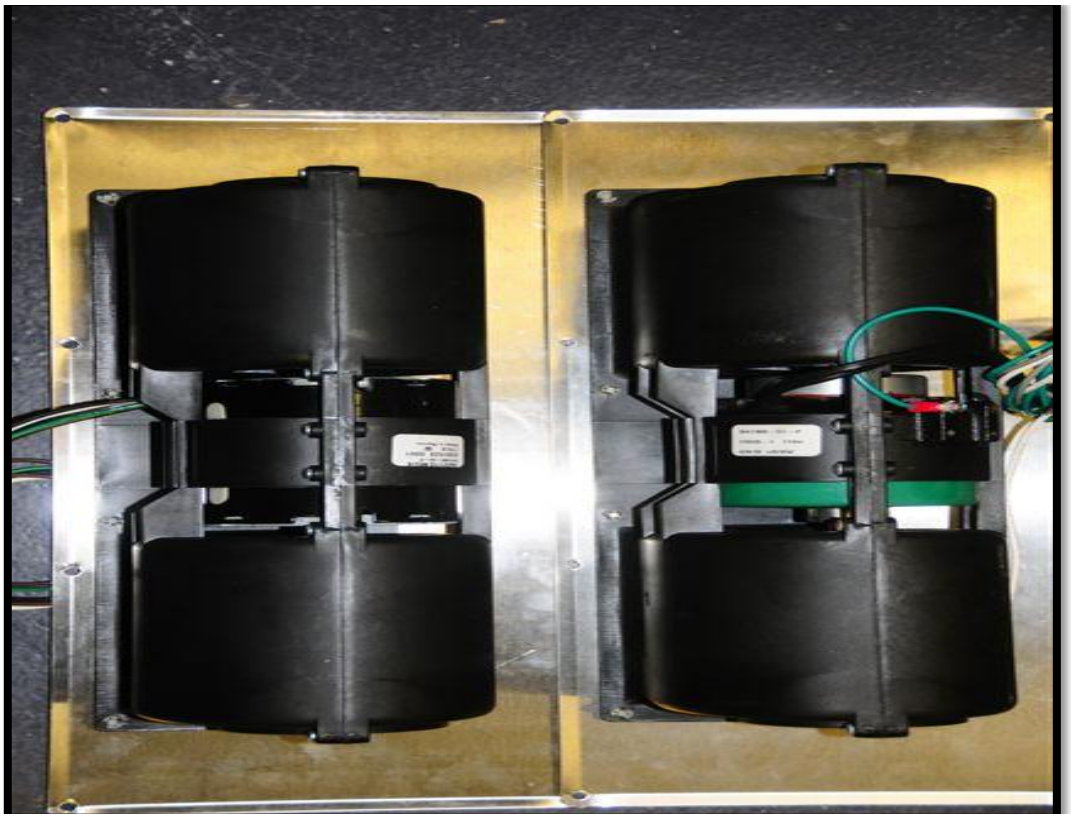

Figure 1: Blower Motor Comparison

ECM Motor Function:

An ECM motor will be supplied with A/C voltage but the motor is driven by internal DC circuitry. This circuitry precisely controls the motors RPM's during start up and run time to ensure consistent air flow and energy consumption.

When applying power to an ECM motor there will be a slight jerk in the blower wheel then a brief pause before the motor begins to ramp up. This is the motors DC circuitry "homing" itself. Once homed, the motor will ramp up to speed then continue to run as normal.

Troubleshooting:

⚠ WARNING Certain procedures in this section require electrical test or measurements while power is applied to the machine. Exercise extreme caution at all times. If test points are not easily accessible, disconnect power and follow lockout / tagout procedures, attach test equipment and reapply power to test.

An ECM blower will **NOT** spin freely when de-energized. When rotating a de-energized motor there is a stator step between magnets.

The resistance of the windings cannot be checked on an ECM motor due to the electronic circuit.

When checking motor function, apply power directly to the motor by installing a jumper between pins 2 and 3 (black & grey) on the 6 pin connector on the 7" (long) side of the black relay module (Note: this will apply power directly to the motor). The motor should function as outlined in the ECM motor function mentioned above.

Note: The blower relay is equipped with a snubber circuit to reduce arcing and increase relay life. As result Line Voltage will always be measured at the relay output regardless of relay state, open/closed.

Contact Traulsen Technical Service:

If further assistance is needed feel free to contact Traulsen Technical Service at 800-825-8220 between the hours of 7:30am – 11:30am CST & 12:30pm – 4:30pm CST.