

Wiring for 230 volts electric motor for RUDD furnace

Source: <http://sci.tech-archive.net/Archive/sci.electronics.basics/2006-11/msg00779.html>

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 - *Date:* 23 Nov 2006 04:52:16 -0800
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The motor on my commercial furnace (heat+air) went bad. I took the motor out. The existing motor was an Emerson motor, 3/4HP,1075 rpm,6.3 amps,230volts with no capacitor. The existing motor is a 2 speed motor. The motor had 4 wires (brown,black,red,orange). All these wires were directly connected to same color wires from the furnace controls.

I bought the replacement motor with same specification (3/4HP,1075 rpm,6.3 amps,230volts) but it needs a capacitor (15MFD). The shop told me it was a three speed motor. The new motor has 5 wires + small green ground wire coming out of it (2 brown wires;#1 black wire;#2 black wire;#3 black wire). The wiring diagram on motor shows that the brown wires go to the capacitor & #2 & #3 black wires are low & high speed. The #1 black wire is a common wire.

How do I connect these wires to the existing black, orange, red & brown wires coming out of the furnace.

I did some juice checks of the existing wires. When the heat on the thermostat is off & the electric motor switch on the thermostat is set to "auto", the brown & orange wires have juice in them. When I change the fan setting to "on" (heat still off) the brown, orange and black wire gets the juice. The red wire never gets the juice.

Prmpt help will be greatly appreciated since we do not have heat in the building.