

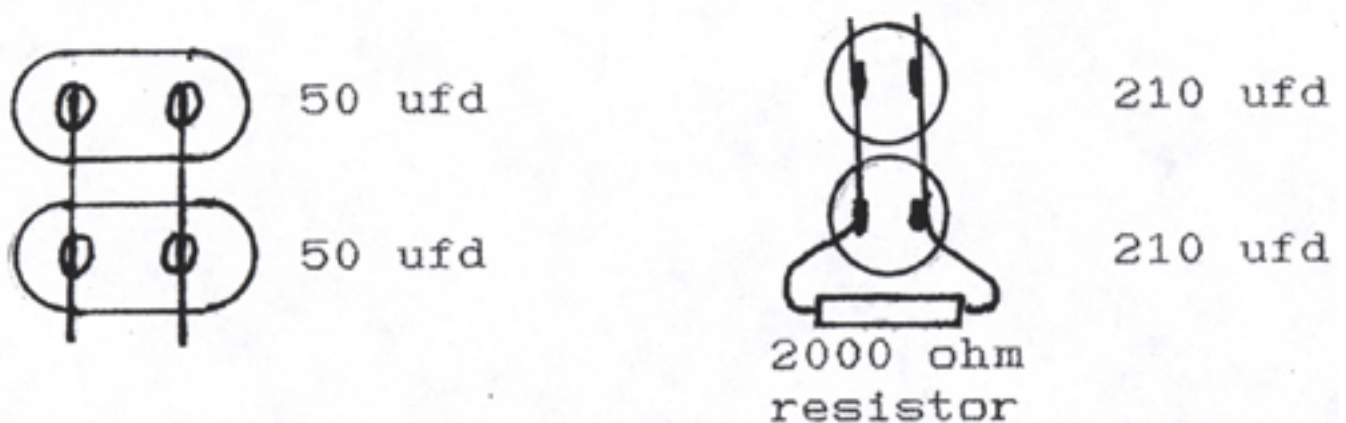


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Three Phase Converter-Designed and donated by Hans Peot ©1993

The wiring diagram in Figure 1 shows how to run a three phase 220 volt motor on 220 volt single phase. Most three phase motors have nine wires from the motor so that they can be used with either 220 or 440 volts. The motors usually have a wiring diagram to show the different connections for the different voltages. You need 20 μ fd (Microfarad) 330 volt AC oil filled capacitor per one horse power for the run capacitor. This capacitor is usually an oval shaped metal can with two connectors. For the start capacitor you need 80 μ fd (Microfarad) 330 volt AC capacitor per one horse power. This capacitor is a round plastic covered cylinder. They also rate capacitors (72 - 90 ufd) for example. Therefore, the rating required can be close to what you calculate and still work.

For example, if you want to run a 5 horse power motor, you will need 5 x 20 or 100 μ fd run capacitor and a 5 x 80 or 400 μ fd start capacitor. If you can't find a large enough single capacitor they can be connected in parallel as follows:



A 5 watt 2000 ohm resistor is always connected across the electrolytic capacitors to discharge them once the motor has started. To start the motor hold down the spring loaded start switch and close the two pole switch. When the motor is up to speed release the spring loaded switch.

This three phase motor can be used to run other three phase motors once it is running. As shown in Figure 2, simply provide three wire plus ground connection to the three leads of the larger motor through a three pole switch connected to the smaller motor. You can instantaneously reverse the smaller motor by having a switch that reverses two of the leads. The three phase converter motor should be at least twice the rating of the small motor.

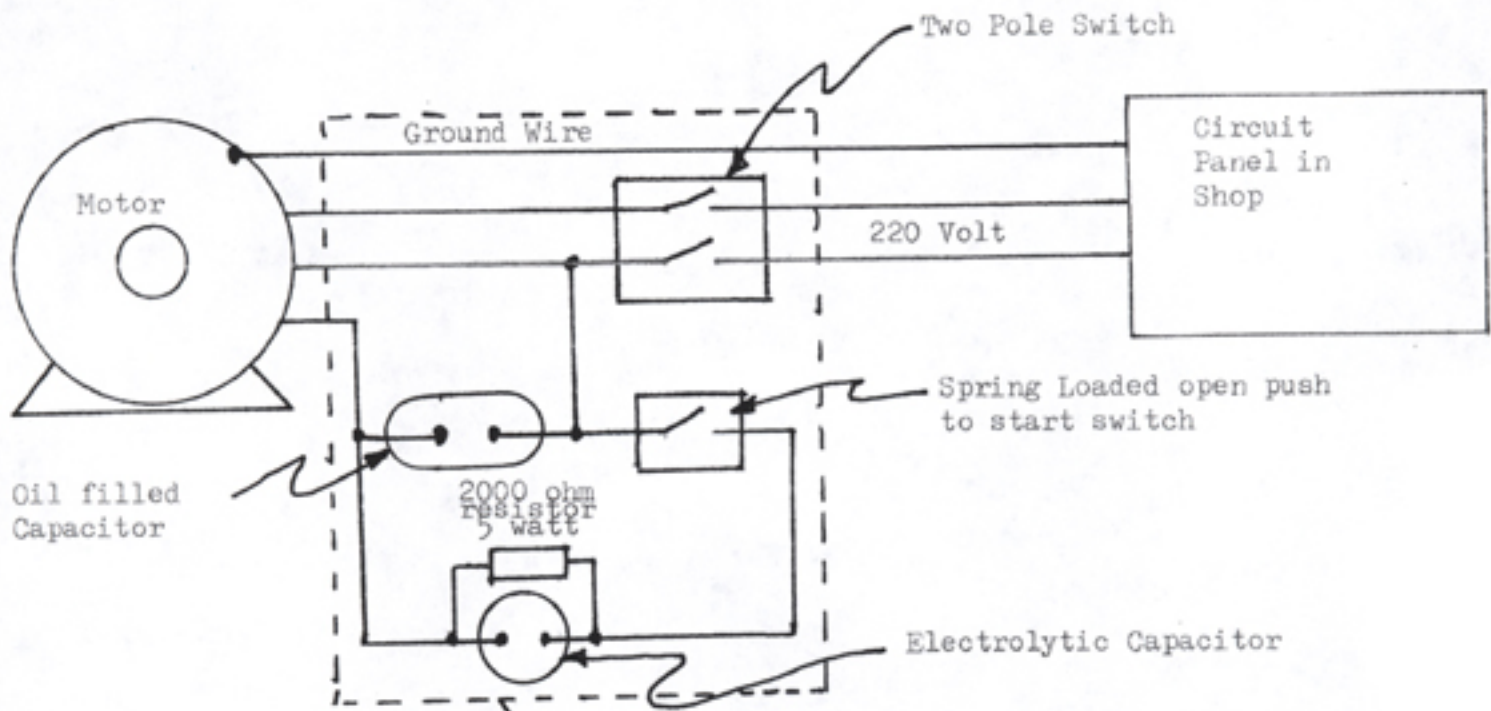


FIGURE 1

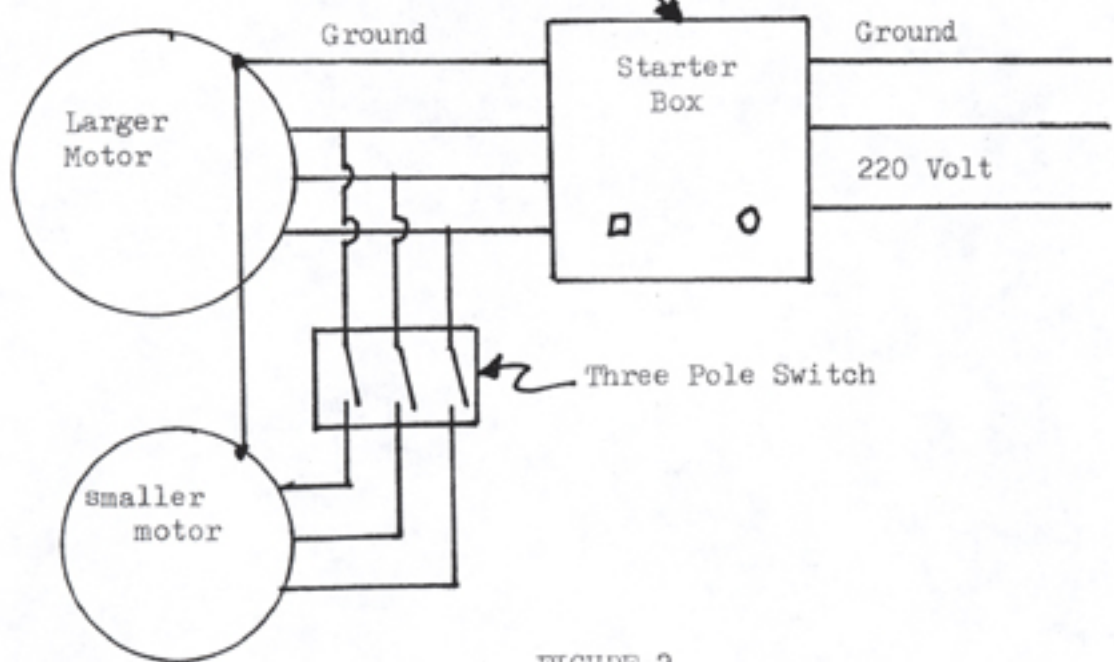


FIGURE 2