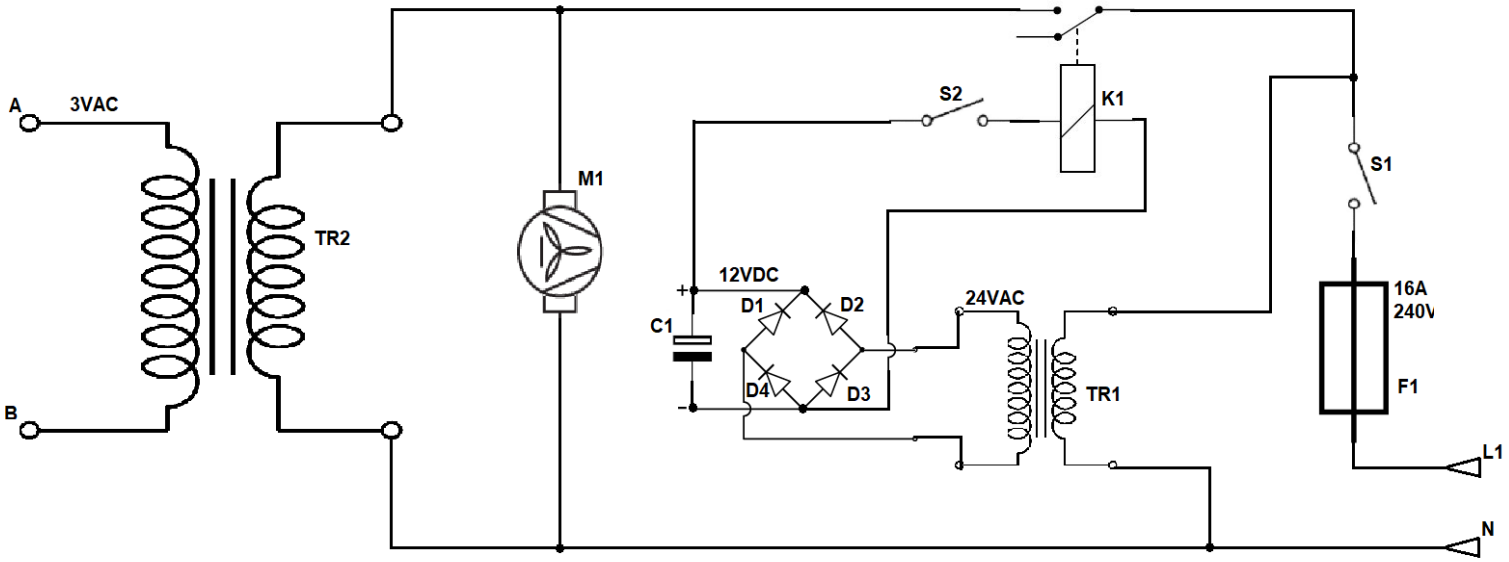
Spot Welder

Abstract: This article covers topic of building spot welder.

1. Schematic

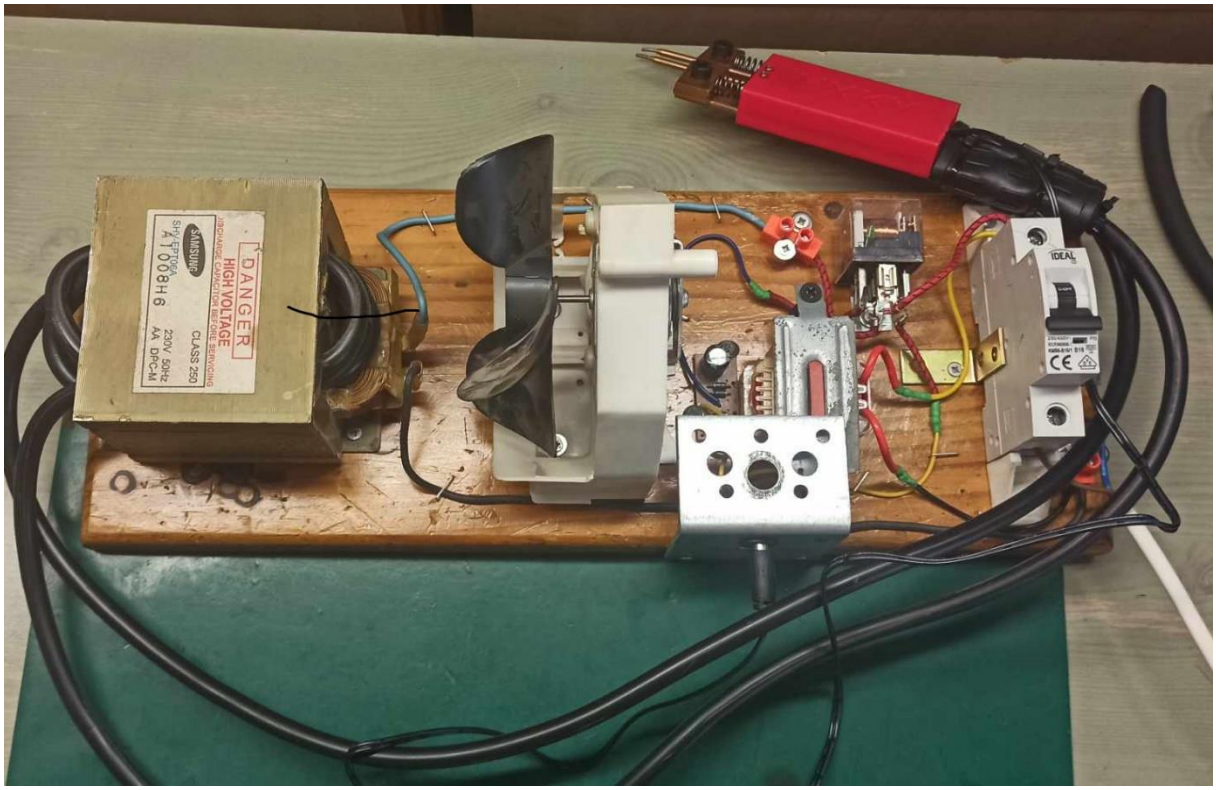


General overview:

1) 240VAC goes through 16A circuit breaker. Typical polish home individual electric line has 16A circuit breaker so it should gain whole available power yet not any miliampere more. It also severs as main switch S1.
2) 240VAC is converted to 24VAC on transformer TR1 and through Graetz bridge only positive part of is forward that charge capacitor C1 to 12VDC.

3) This 12VDC is switching relay K1. Relay is car type of relay because it can handle up to 30 amps. To steer ON and OFF state is used switch S2 that is switch in placed spot welder pen and enclosed when spot welder pen is pressed.
4) When relay is enclosed, it close circuit forwarding electricity on transformer TR2. Transformer TR2 that comes from microwave has secondary winding displaced for 4 loops of cable starter jumper. This provides about 3VAC, which is perfect for spot welding.
5) Motor M1 is simple fan from microwave that provides cooling on transformer TR2

2. Ready spot welder



Schematic doesn't cover topic of spot welder pen. Its connection to cables must be tight, best should be copper pieces of pipes, cut in half and hammered as end of high current cable. I also drilled holes to connect it easily to spot welder pen.

3. Summary

   During building this device I experienced some troubles. I can list them as:

   - Destroying primary wiring of transformer TR2. Need to use much force but be gentle as well
   - Transformer TR2 (Samsung SHV-EPT06A) needed to be shorted between two pins.

Device works well, making metal red in the matter of couple of seconds.
Photo proofs will be provided in next update