

Hack the Perch

Installing the shaft on to the motor.....

The guidelines on the manual instruct you to use epoxy to secure the shaft extension to the motor shaft. This 'Hack' will walk you through soldering the shaft onto the motor. If done right this is as permanent as it gets (until you want to take it apart).

Tools

Soldering Iron
Solder
Aluminum foil

Materials

Potted Motor
Shaft coupler



The process

The goal of this process is to use the soldering iron to heat the shaft coupler hot enough to melt the solder, then install it on the shaft. In order to heat the coupler we will hack the soldering iron.

1. While the iron is unplugged and cold, remove the tip from the iron. There will be a set screw on the side of the iron holding the tip in place or the tip will just unscrew from the iron.



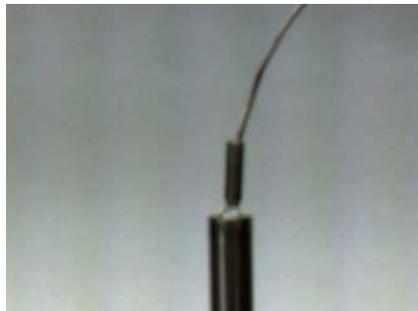
2. Now we have a nice hole in the end of our iron, if your real lucky the coupler fits right in the end threads first and stops when the body of the coupler gets to the iron. You can use the set screw to assist this if are close, otherwise fear not, that's what the tinfoil is for!



3. Wrap the tinfoil around the coupler loosely until it is snug in the hole in the end of the iron. Wiggle the coupler around to make enough room for the coupler to come out of the foil easily.



4. Its now time to warm up the iron. Once the iron is hot, place a coupler into the tinfoil (which should already be in the iron). Once the coupler starts to get warm place the solder down the throat of the cup. As it starts to melt, GO SLOW!!! Let the Flux bubble out a bit.

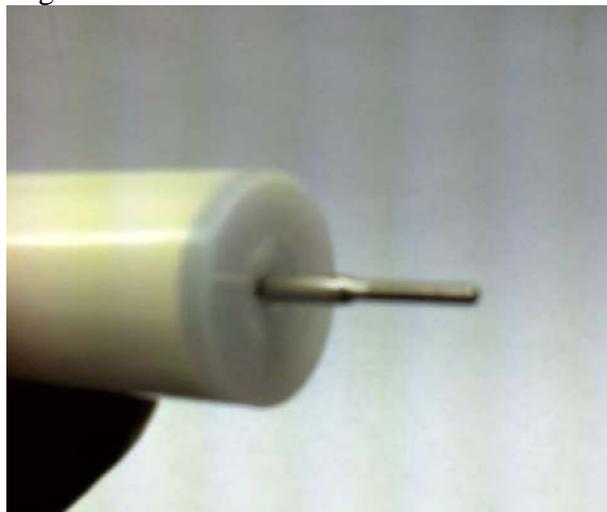


5. Once you have the cup at least $\frac{1}{2}$ full, take the potted motor and slide it into the end of the coupler.

DANGER
WATCH FOR SOLDER SPLATTER



6. Once the motor is in keep the assembly in the iron for a good 5 seconds then slide the motor/coupler assembly out of the iron. You may need to use pliers to help if the tinfoil is too tight.



7. Set the motor aside to cool and start the next motor.
8. When the motor cools, use a pair of dikes to clean any solder spatter off the coupler.

Things that go wrong and how to fix.

Coupler slides right off after assembly cools down.

Start over. The 5 second pause step needs to be done. It allows the solder to heat up the motor shaft and bond with it.

Coupler slides right off after assembly cools down and it is all black and icky.

Start over. Clean off the shaft. Slowly add the solder to the cup again. After it is full and ready to go, tap it out on a piece of scrap wood and get the old solder out. Slowly add the solder to the cup again. And try again.

Shaft stopped before I was happy with the placement in the coupler (it got stuck)

Patience.... Let the iron heat up the assembly again. It will reflow the solder and the motor will drop in. once it drops , get the assembly out of the iron before too much of the wax melts!! You will have to use pliers to get the assembly out of the iron.