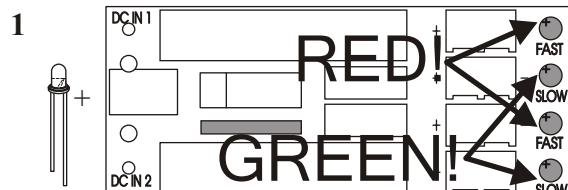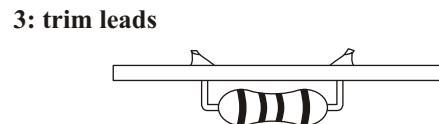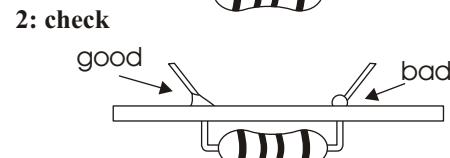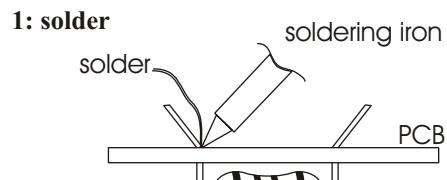# 6.270 Battery Charger Assembly Instructions
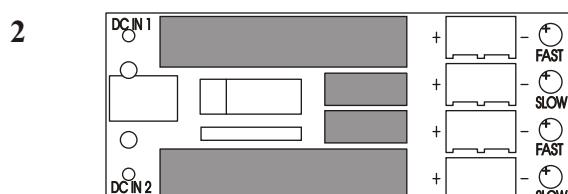
General Instructions

A soldering iron and diagonal cutters are required to assemble the battery charger. The green printed circuit board (PCB) is the base that holds the components together and establishes the necessary electrical connections. Insert the components through the top side (the side with the white silkscreen) and solder from the bottom side.

Soldering is accomplished by heating a component lead and the PCB pad and then applying solder until the solder flows onto both the lead and the pad. If the solder beads up on the lead or on the pad, the connection is bad and more heat must be applied. Dull solder is another indication of improper soldering.
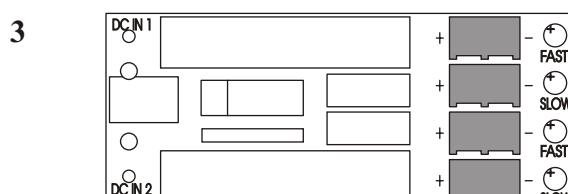
The battery charger has large copper areas designed to distribute heat from the power resistors. Unfortunately, this makes soldering slightly more difficult, and the soldering iron must be kept on the leads longer.

1: solder

2: check
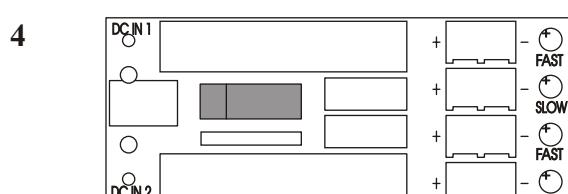

3: trim leads

1

Begin by inserting the 8-pin resistor pack and the four light emitting diodes (LEDs). The resistor pack can be inserted in either orientation, but the LEDs are polarized. Make sure to put the longer, positive leads into the holes marked with '+' on the PCB silkscreen. Use the red LEDs for the 'FAST' indicators and green LEDs for the 'SLOW' indicators.
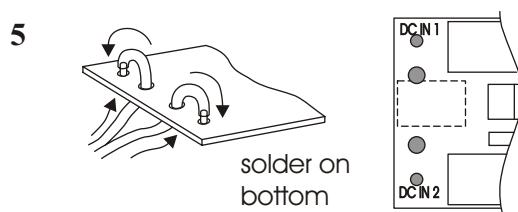
2

Next, solder in the four large power resistors. R1 and R2 are the larger resistors with square cross sections; R3 and R4 have circular cross sections. The large resistors are for fast charging, and the small ones are used for slow charging. You can mount them in any orientation, but you should try to make the markings on the resistors visible.

3

Now, add the four battery connectors. Pay attention to the polarity-indicating tabs on the connectors, and align them with the marks on the PCB silkscreen. In general, make sure the positive terminal of the battery you are charging is on the side marked '+'.

4

The last component to install is the rectifier, a large black component with four leads. The rectifier has marks on the top of the case and a beveled corner that you should line up with the PCB silkscreen markings.

5

solder on bottom

Finally, connect the power supply leads to the PCB. Pass the insulated wires through the larger, inner holes from the bottom of the board, then bend them out and solder them to the outer holes. The larger holes and the wire insulation provide a strain relief that should prevent your wires from breaking off with use. Either wire can go to either hole. J1, a DC input jack, is not used this year.