

## Shielded Cable Preparation.

Begin by stripping the outer insulation about 1-2 cm (a half to three-quarters of an inch) from the end of the supplied cable. I have the plier-action, automatic wire stripper here and the 14-16 gauge spot works good to take the outer insulation off of the RG-174u type cable supplied. Rolling the end of the cable beneath a sharp knife edge works good too but you need to be careful to not cut the strands of the shield. If the stripped piece of insulation is saved, it can be trimmed and used to cover the shield wire before it's connected.

Use a probe or stylus to un-braid the shield wire away from the internal wire. Pull this un-braided shield to the side with a pinching and pulling it to smooth, straighten and removed any loose strands of the shield. Twist the braid to a tight point at the end but less where it exits the outer insulation and splits from the internal wire. Heat this end and flow some solder into the strands ('tinning' the strands) and work back to about half the length from the tip so it remains flexible at the split. Forceps or an alligator clip can be used to heat-sink at this split to ensure the internal insulation doesn't melt (this is especially helpful when making connections at connector terminals where there can be more heat for a longer amount of time, and strain).

Strip about 5mm (quarter-inch) from the end of the internal wire and tin the exposed strands--the heat here will often shrink the insulation back another mm or two.

For our kits, it is usual that the shield only connects at one end, the board, or the connector. In these situations, the remaining end of the cable is prepared with the shield clipped off at the split. So, again, strip the outer insulation about 1-2 cm (a half to three-quarters of an inch) from the end of this measured length, unbraid and pull it to the side, but this time, clip the shield as near to the split where the outer insulation ends. A piece of heat-shrink tubing or electrical tape can be put over the stub that remains to prevent it from touching anything else. If you're particularly deft, you might be able to pinch and pull the outer insulation while holding the first end to stretch it over this exposed stub. When I prepare a length, I wait to prepare the first end until I have stretched the outer insulation over the stub of the second end and then when I unbraid the shield at the first end, it is all the way to the end of the outer insulation.

Finally, the prepared length can be used to make the connection beginning with the first, split end to the board (or connector) according to the instructions. If you have saved the outer insulation that was stripped away, a diagonal can be clipped in it at one end and this end slipped over the shield before it is soldered with the high point of the diagonal on the outside edge of the shield and the low point of the diagonal on the inside edge of the shield--this sleeve should be clipped to leave some of the shield exposed for the solder joint. Avoid strain between the shield wire and the internal wire to ensure the shield doesn't melt through the insulation of the internal wire as the solder joint is made.

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