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HOW TO SOLDER

Soldering will only be successful if your work is clean and oil free.

For this exercise we are soldering the two connections of the cables from a single 12V AC halogen low voltage garden and pond light to the super heavy duty 160/0.254(8mm²) Fig8 black twin flex low voltage cable, which has been laid and buried alongside the line of the garden lights.

The connections of the two cables from the light are made in the low voltage cable about 50mm apart to avoid any future possible shorting out. This method eliminates any need for insulation of the bared soldered connections as it is impossible for them to touch each other. The 12V AC current in the wires is safe low voltage, giving no feel of electricity or risk, if touched. Connections can even be underwater.

The copper wires are soldered, giving a permanent connection. Without solder, a dry joint caused by oxidation, will give poor light performance. Copper is very stable and will not corrode. This is the case with copper water pipe, when placed above or below ground.

The tools required to solder include,

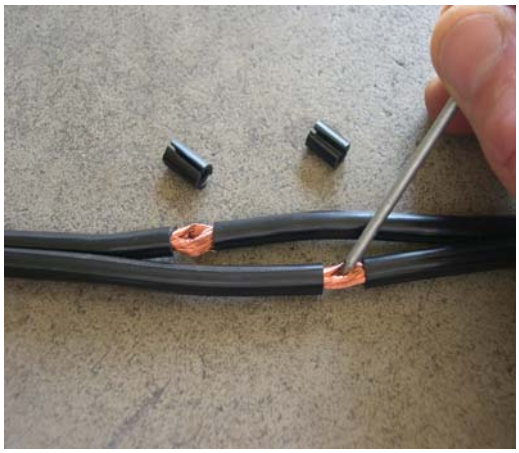
Nicholson 80W Soldering Iron,

1.6mm resin cored electrical solder

and a wet cotton cloth.

STEP 1.

Prepare the twin flex low voltage cable by carefully cutting away 10mm of the PVC insulation on both conductors 50mm apart. Do not cut the cable & avoid any contamination of the bare copper wire with oily fingers or tools.



STEP 2.

Push a clean nail through the super heavy duty cable to reduce the joining area meaning less required heat from the soldering iron.

STEP 3.

Pass the clean bared wires from the garden and pond light through the gap and carefully secure by twisting.

STEP 4.

Switch-on the Nicholson 80W Soldering iron.
a. When hot, wipe the tip across the wet cotton cloth.
b. The tip is now tinned or prepared by holding resin cored solder on the tip. It will spread over the hot tip.

STEP 5.

Hold the hot tinned soldering iron onto the twisted connection. Whilst held firmly in place push the resin cored soldering wire onto the hot tip. The solder will begin melting into the joint. Remove the soldering iron as soon as the molten solder has run smoothly throughout the joint. That connection is now complete. Repeat for the second connection.

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