

## WIRE JOINTS—Rat-Tail Joint

### *Making a Rat-Tail Joint*

#### **Purpose:**

A rat-tail joint is made when two or more conductors must be joined inside a fixture or an electronic system.

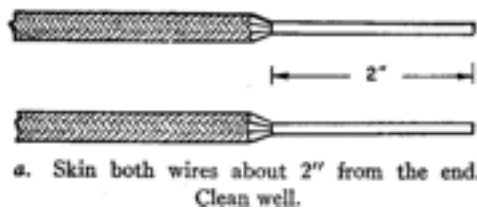
#### **Materials:**

Two, 8 inch (20 cm.) lengths of solid, insulated copper wire, size AWG 14 or 16, for each joint.

#### **Procedure:**

(a) Remove 1 ½-2 inches (3.7-5cm.) of insulation from each wire. Hold the wires tightly parallel with your left hand and bend one end up and the other down, so that the wires will cross 1/8 of an inch (.3 cm.) from the end of the insulation. Now, keeping a firm hold on the wires, twist the ends in a clockwise direction with your right hand, forming 6 tight turns. Cut off the wire ends with diagonal cutters.

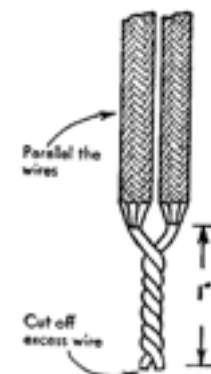
(b) The completed joint should be so tightly wound that the wires cannot be moved within it.



If wire sizes below AWG 16 are used, the joint can no longer be formed by hand. Pliers must be used for twisting the wires, but extreme care must be

taken not to damage the conductors.

Keep each joint for soldering later on. Ask your teacher to inspect each joint before you make a new one.



b. Make twists and complete splice.