

How to Use Your Vintage Connections RTL Crimping Tool

Proper use of the crimping tool is important to form strong conductive crimps on your electrical leads. The following steps will help you to maximize the quality of your crimp connections, using our RTL ratcheting crimping tool.

NOTE: The AWG (American Wire Gauge) of a wire is based on the diameter of the wire's conductor (copper core). The insulation thickness of a given AWG of wire can vary radically from one manufacturer to another, and from application to application. However, it's the AWG of the wire's copper core that matters, when creating a proper crimp.

1. Cut a clean flush end on the wire and insulation, making sure to remove any damaged insulation or frayed wire strands. Then, strip the wire back approximately 3/16 of an inch (Illustration 1). Use your fingertips to form a uniform wire end, by twisting the exposed wire ends, in the same direction that they originally were twisted by the wire manufacturer.
2. Slip the appropriate PVC insulator over the wire, and slide it back to clear your working area. Make sure that the larger opening of the sleeve is facing where the crimp terminal will attach, as the sleeve will be slid down the wire and over the terminal, after the terminal is crimped into place.
3. Compress the handles fully, to release the ratcheting mechanism. Then, allow the tool to open fully, with the movable (ratchet mechanism) side of the tool hanging downward.
4. Select the crimp terminal you want to install. Then, look at the wire-gauge markings of the three die cavities. The smaller the wire gauge numbers, the larger the conductor of the wire. For example, the conductor in a 10-gauge wire is significantly thicker than the conductor in a 16-gauge wire. Most crimps for a vintage Japanese wiring harness will use the middle of the three cavities, since 16- or 18-gauge wires were most commonly used. However, some thicker or thinner wires will need to use the larger or smaller cavities, as appropriate (for example, some of our 6.3mm I.D. spades and 6.5mm eyelets are for 14-12 gauge wire).
5. Use fingertip pressure or a pair of pliers to bend the insulation tabs (Illustration 2), so that they are in a position that's slightly more closed than the vertical. This reduces the force that is required to crimp the terminal and also produces a nicer finished crimp.
6. Align the terminal so that its projecting tabs are in the proper orientation relative to the upper butt-shaped cavity of the crimp head. (The tabs should end up facing upward, as is shown in Illustration 3, so that the terminal body and tabs forms a letter U.) **The larger projecting tabs should be positioned under the larger die-set cavity (insulator) and the smaller tabs under the smaller die-set cavity (conductor).** When the terminal is positioned properly, gently close the crimp tool until the terminal is gently gripped and held in position.
7. Insert the stripped wire end into the back of the terminal, moving it forward until it butts against the inside of the terminal and stops moving.
8. Begin to squeeze the handles, keeping an eye on the orientation of the wire as the terminal begins to deform. Re-orient the wire, as may be necessary for it to stay aligned with the long axis of the terminal, as you continue to squeeze the tool handles closed.
9. Squeeze the handles, until the crimp is fully formed and the ratcheting mechanism releases. *Do not squeeze the handles further than is required to release the ratchet, or you will defeat the purpose of the ratchet mechanism.* If you are lacking in hand strength, or have small hands, you might need to use both hands to complete this operation. After the mechanism releases, you will have formed a uniform crimp, as is shown in Illustration 4. With very little practice, you will become adept at this crimping process. That will allow you to produce uniform and reproducible crimps that rival the quality and reliability of the machine-crimped terminals that came on your factory wiring harness.

Vintage Connections
120 NE Fairway Dr
Albany, OR 97321
<http://www.vintageconnections.com>

NOTE: If the ratcheting mechanism jams, simply flip forward the ratchet safety latch that is located between the handles, to release the ratchet mechanism. Correct the misalignment problem and then either complete the crimp operation, or remove the damaged connector and begin again from Step 5

10. Slide the clear PVC insulator sleeve down the wire and over the terminal, to complete the repair operation. Note that the internal design of the insulator is intended to hold it in place, after it's properly positioned.

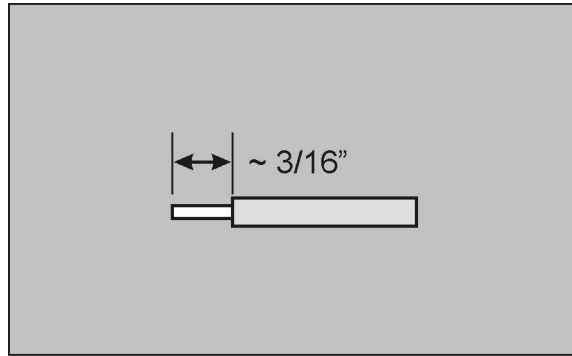


Illustration 1

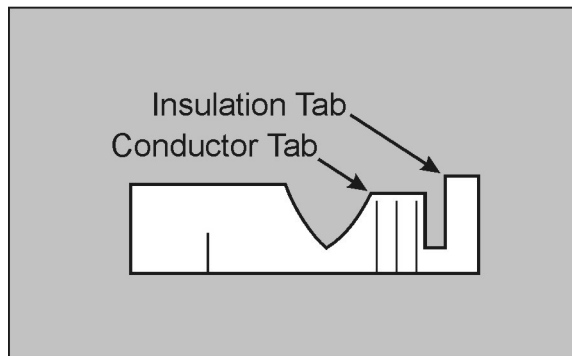


Illustration 2

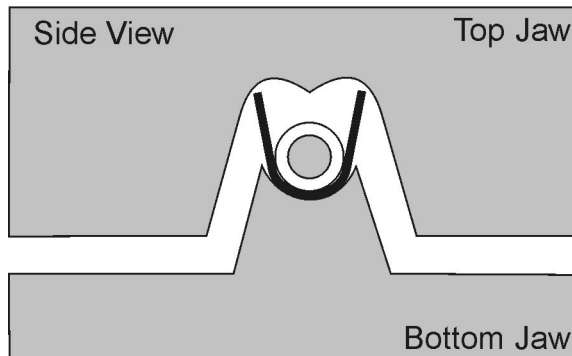


Illustration 3

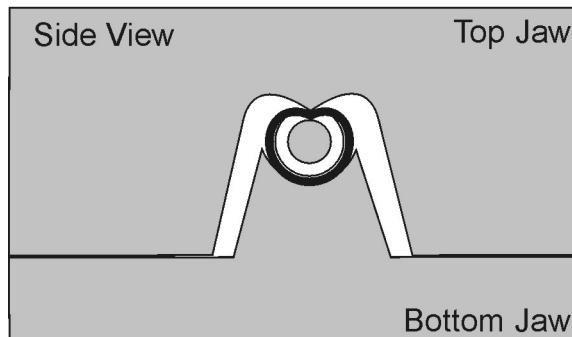


Illustration 4