Preparing, crimping and using Spade Lugs

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The connection points on modern speech networks are too small for the standard blue crimp connectors from the big-box stores. Use Mouser part 571-614982-LP (special order) or Newark part 93F4802. Do not strip the wire, these are insulation displacement connectors and are designed to pierce the insulation. Use a **D-Sub Pin Crimp Tool** to crimp them on. I like ShowMe cables https://www.showmecables.com/catalog/product/view/id/63291/s/d-sub-pin-crimp-tool/, I'm sure an internet search for D-Sub tool will reveal alternate suppliers.

Here's how to use the lugs and crimping tool:

Separating the lug

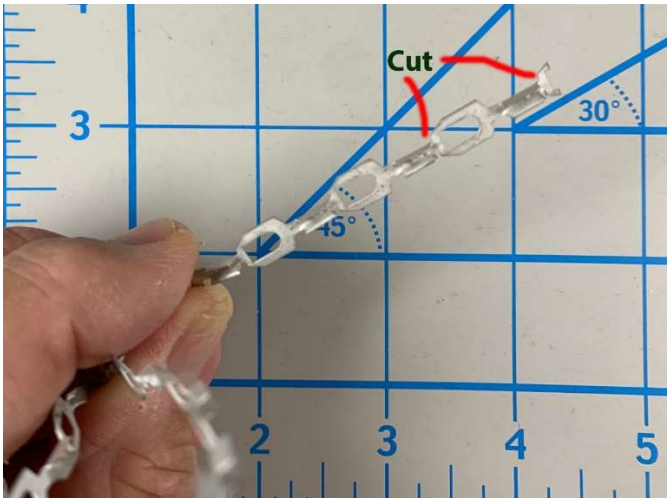

Figure 1- The lugs come connected on reels

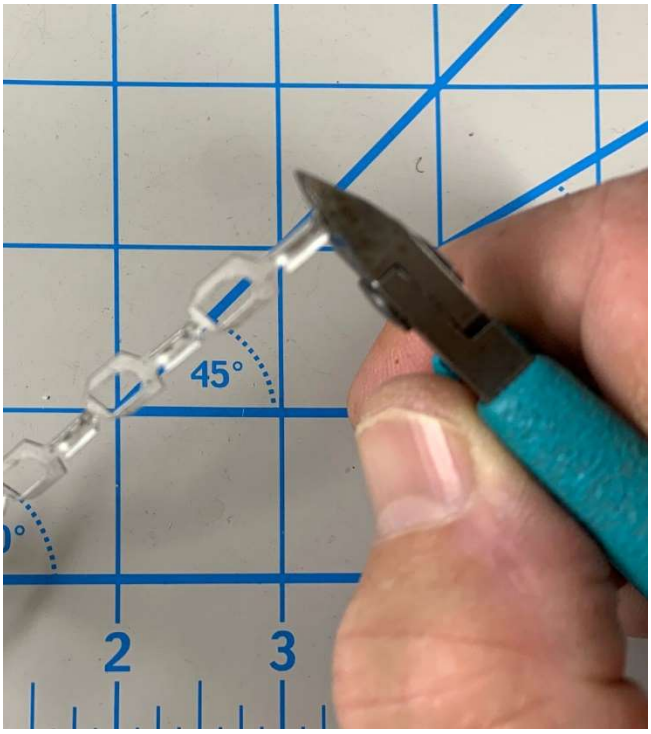

Figure 2 - Cut any flash on the "tail" of "butt" of the lug off with flush cutting pliers

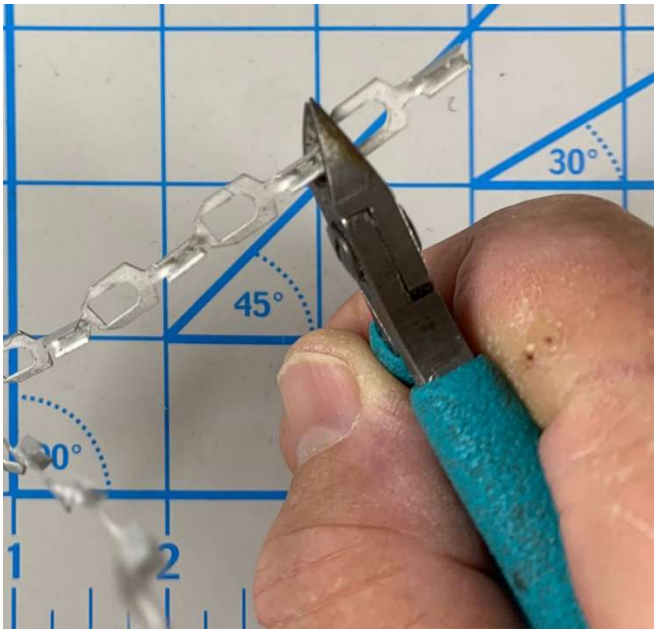

Figure 3 - cut off any flash on the front of the lug

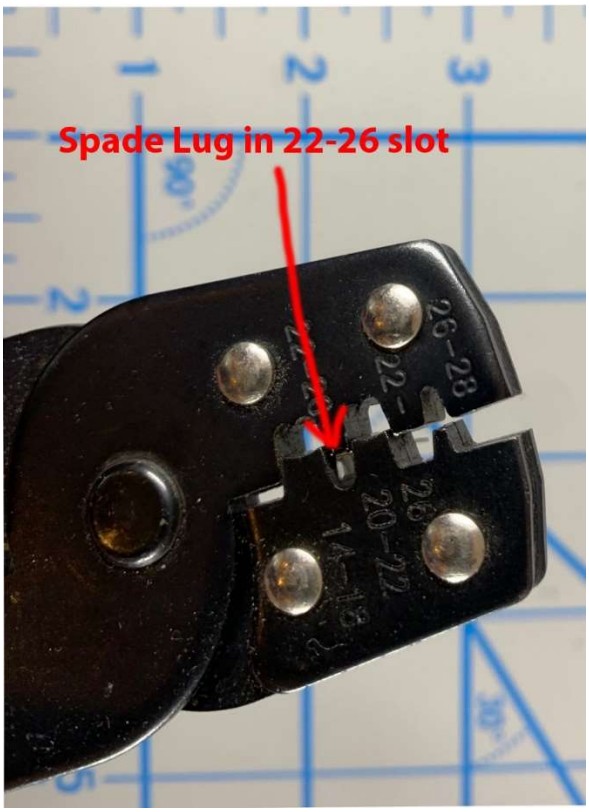

Figure 4 - Insert tail or "butt" of lug into the 22-26 Ga Slot, note the open side of the butt goes into the slot

Figure 5 - Insert 22-26 wire into the butt of the lug, DO NOT STRIP!

These are “Insulation Displacement Connectors” and rely on the insulation for strain relief. The little fins inside the butt pierce the insulation and form a gas-tight metal-metal joint.

Now squeeze the crimper until it stops. You should get something like this:

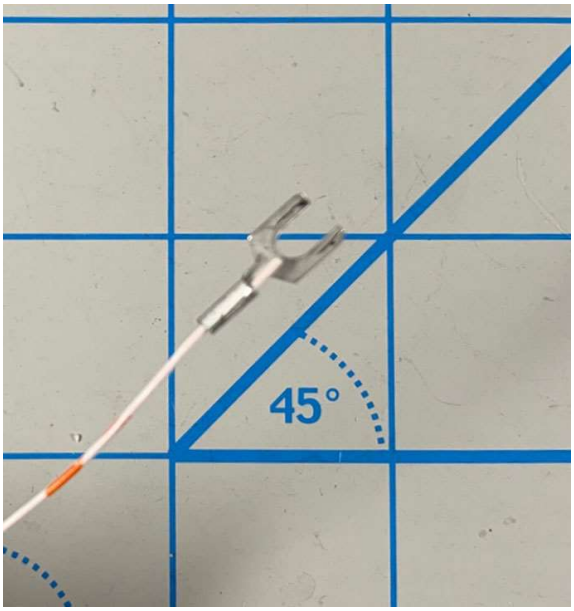

Figure 6 - Completed Crimped Lug

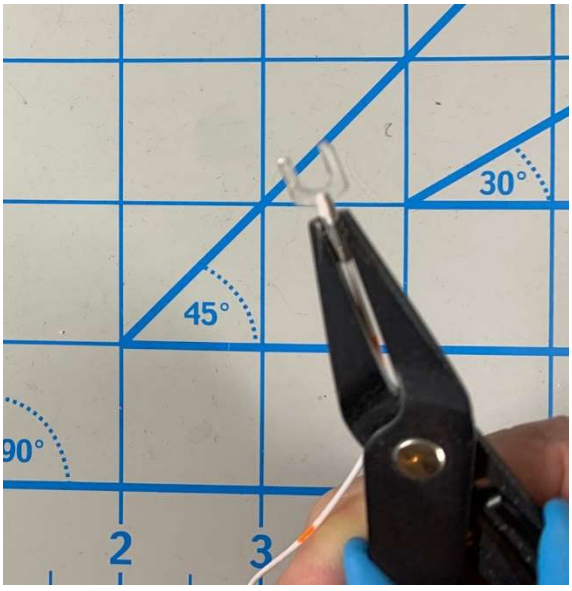

Figure 7- Grab the barrel of the lug with spiking pliers (use the groove to align the lug)

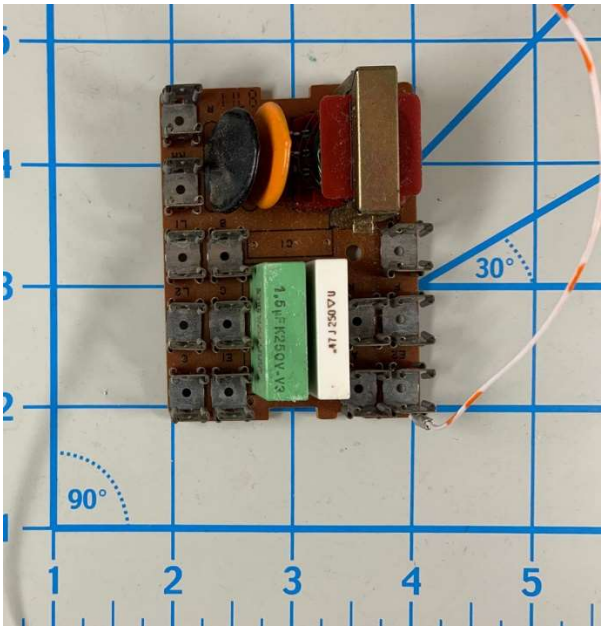

Figure 8 - Spade Lug inserted in "Spain Clip" in Modern Network

Note that each of the “Spain” clips on the network has 4 positions for spade lugs, 2 lower/outer and 2 upper/inner. I try to use the lower/outer positions first. (I don’t know where the term “Spain Clip” came from, one ITT alumnus thinks they first appeared on equipment from a Spanish subsidiary of ITT in the 60s or 70s).

The combination of Spade Lugs and modern networks offers many tie points and easy, reliable connections. I often use these lugs with screw terminals (#4 and #6 studs) as the spades stay in place better than bare wire, especially if there is more than one wire under a screw.