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# Welcome to the Nexteligence Newsletter!

Welcome to the seventh edition of the Nexteligence Newsletter. We look forward to continuing to provide the latest news in the Nexteligence training community.



# Don't Be A Butt...Splicer!

Making proper electrical wire repairs

In the November edition of the Nexteligence Newsletter, we discussed water wicking, and in this month's Nexteligence newsletter, we will show you how to repair those nasty butt splices that are a problem that aids in water wicking into the electrical harness.

Sometimes as technicians, we are rushed in making electrical repairs, and we grab butt splices to connect broken wires to get the equipment

back online. These types of splices can cause electrical gremlins that will come back to haunt us in the future, creating more unit downtime.

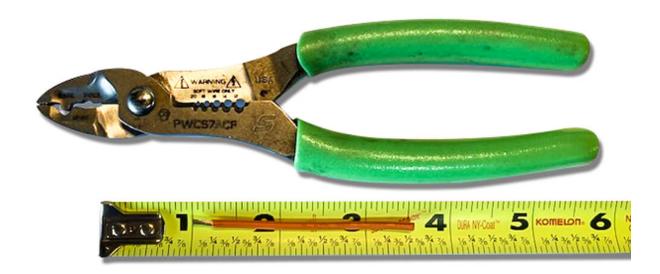


The following connection types **ARE NOT** recommended when repairing damaged electrical wires:

- T-tap wire connectors or scotch locks
- Wire nuts
- Twisted and taped

Although these connections have their place in the electrical world, they don't meet the standard for quality and durability in the atmosphere we install in.

Now, let's look at what is recommended for a quality electrical connection repair.



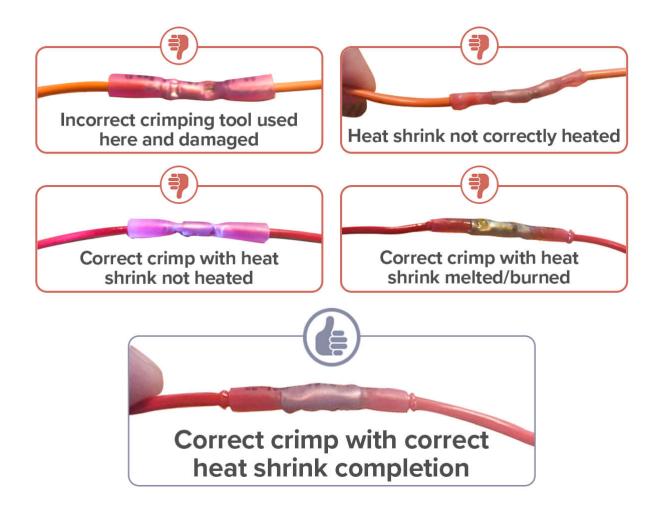


### **Insulation Stripping**

For the typical wire termination, ¼" of the insulation should be removed from the wire using a wire stripping tool. Removing too much insulation could result in a bad seal and leave the wire susceptible to corrosion or other damage. Removing too little insulation could result in crimping the insulation, causing a bad connection.

# **Heat Shrinking**

Heat shrinking must be performed correctly to prevent circuit damage. The heat shrink should be completely formed to the wire with a small amount of adhesive extruding from the protective coating. If not shrunk completely, the connection is subject to corrosion. It is also important not to melt or burn the heat shrink by holding the heat source too close or heating it too long.



### **Summary**

Heil recommends replacing the harness when damaged wires are found. This will give you the greatest probability of success. If you do decide to repair a wire, we recommend the following.

- Do not add or take away from the length of wire. If the repair can not be completed without adding wire, then you will need to replace the harness.
- Clean and strip about 3/4 to 1 inch of insulation from each wire to be repaired.
- Place a 1 1/2 to 2-inch piece of shrink tubing of the correct size over one wire side and slide down the wire out of the field of the work area.
- Twist both copper strand wire ends and bend a hook shape to each side.

- Hook the wire ends together and twist.
- Use only rosin core solder when repairing wire. Heat wire to be soldered.
- When wire is hot, apply solder. Solder show flow between strands when hot enough.
- Finally, let it cool, then slide shrink tubing over wire and heat to seal wire from the elements.









Would you like to know more about electrical repairs? Good news! We teach that in our Nexteligence MAT classes. You can get in-depth training by contacting us to register for a Nexteligence MAT class at: Nexteligence@doveresg.com

# **Contact Info & Helpful Links**

### **Nexteligence Class Registration**

Feel free to contact us anytime if you have any training questions or to register for one of our training classes.

**Email Training** 

### 2023 NexteligenceTraining Schedule

Our 2023 Training Schedule is now available and can be viewed via the Nexteligence Training webpage, as well as the Heil Dealer Portal.

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### **Service Shack**

Visit the Heil Service Shack for helpful training and instructional videos

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