

# West Mountain Radio *PWRcrimp*

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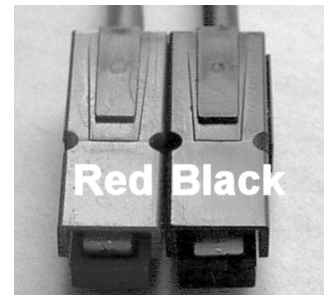
## INSTRUCTIONS for MAKING POWERPOLE CONNECTIONS

These general assembly tips, along with the photographs, help make it easy to install Powerpoles® on your dc cords. Read them through first so you get a good idea about the connector, the contacts, the housings, and most importantly, the orientation. Then follow the directions for using the PWRcrimp to make good, reliable and consistent connectors.

### GENERAL POWERPOLE CONNECTOR ASSEMBLY

#### CONNECTOR PAIR ORIENTATION OPTIONS

See the picture to the right for ARES /RACES standard orientation used on West Mountain Radio RIGrunners. This orientation is always correctly polarized and genderless. **Tip: you can orient housings in several other ways for special applications to avoid plugging the wrong voltage source in accidentally. With other orientations a matching pair will be mirror images.**



#### PREPARING THE HOUSINGS

Put the connector housings together before inserting the contact pins. This is the easier way, especially when using heavy paired-wire.

The plastic housings are held together with dovetail joints. Always slide these joints together! They will be damaged if you try to snap them together or apart. They ONLY slide together in one direction. This should be obvious by looking at them carefully.

#### SECURING THE HOUSINGS, ROLL PINS and GLUE

Do not use roll pins on Powerpoles®! Some people supply roll pins with Powerpoles®. Do not use them, they can and will fall out, and knowing Murphy, right in to your new radio causing smoke! Anderson does not supply or recommend roll pins, they supply not roll pins but much more expensive spiral pins, which are better. We have tested both, even the proper spiral pins will fall out. If the pair of heavy wires are squeezed together near the back of the connector, like you might do when you pull the connector out, it will spread the bodies apart slightly and out falls the pin.

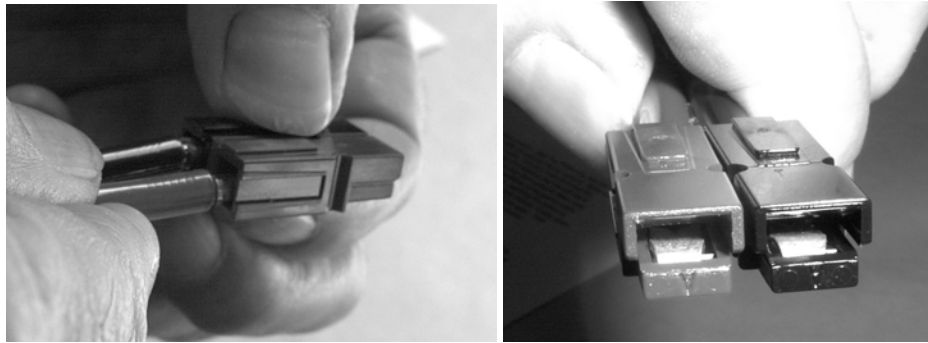
We spoke to Anderson about this concern and they said that they recommend using cyanocrylic glue, such as Crazy Glue, to hold the connector bodies permanently together. They do not recommend their spiral pins for critical applications. Normally the dovetail joints in the housings hold well. If you find it necessary, glue them, don't use pins. Make sure you have them assembled correctly BEFORE you glue because they will be permanently bonded together with the cyanocrylic glue. All it takes is a very small drop of glue in the seam between the red and black housings.

Alternatively, a bit of silicon glue injected in to the hole between the red and black housings works reasonably well. The housings hold together quite well and, if needed, they can still be taken apart.

#### INSERTING THE CONTACTS

The contacts go in the housings in only one way. Insert the contacts with their sharp hooked edge facing against the flat spring that is in the housing. They should slide in and click. If you do not hear a click or they are not fully seated then fix them. When they are inserted fully you should notice that the contact and its wire "floats" slightly inside the housing. If it feels tight the contact may not be snapped in fully or you have made the contact wider than it was

originally during crimping or soldering. **Tip: If you are using small gauge wire, use a small screwdriver to push the contact into the housing.**

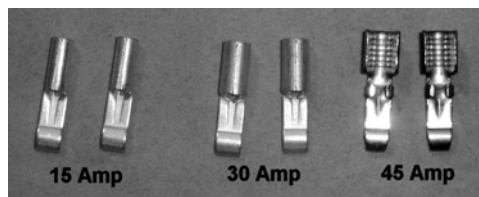


### REMOVING A CONTACT FROM A HOUSING

With a small screwdriver lightly pry the contact away from the spring clip while gently pulling the wire and contact out of the housing. Be sure that you bend the contact back straight before re-inserting it in another housing. For a pair of wires, gently work each wire out of the paired housing.

### CONTACT RATING AND WIRE SIZE

Note that the Anderson 15, 30, and 45 ampere contacts all mount in the same plastic housings. Also all contacts have the same connection contact area. The difference is the size wire that fits each contact. See below.



15 amp contacts can be used with #14-18 AWG wire. For #20 AWG or smaller the wire will have to be doubled or tripled over to fill the contact for a good crimp (you can also fold it back on the insulated wire so the crimp includes the insulation for a sturdier cable)

30 amp contacts can be used with #12-16 AWG wire. You will find it is possible to use up to 10 gauge wire in a 30 amp contact even though they are made for 12 to 14 gauge. The #10 will have to be cut cleanly and you have to neatly twist it to get all of the strands inside. For #18 AWG or smaller the wire will have to be doubled or tripled over to fill the contact for a good crimp.

45 amp contacts can be used with #10-14 AWG wire. You will find it is possible to use up to 8 AWG wire in a 45 amp contact. However, the insulation may not fit in the plastic housing; with a little work, it may be trimmed to fit. For #16 AWG or smaller the wire will have to be doubled or tripled over to fill the contact for a good crimp.

## CRIMPING WITH THE *PWRcrimp*

This tool is a custom designed crimp tool for professionally crimping Anderson 15, 30, and 45 ampere Powerpoles®. It has a contact holder to position the contact correctly, and a ratcheting mechanism to assure correct force is applied each time.

Because of leverage from the long handles, operation is easy, even for a 45 Amp terminal on a #10 wire. The results are professional, providing the strongest and lowest possible resistance crimp, and are faster than soldering.

Looking at the PWRcrimp you will see it has three crimping dies, marked 15, 30, and 45, for the respective Anderson Powerpole contact ampere rating. The contact holder extends off the other side of the lower jaw. You should check out the crimper by squeezing the handles closed. The ratchet will click, keeping it closed, until the end of travel and then allowing the tool to open fully.



### PREPARING TO CRIMP

You will need cutters to prepare the wire length, and wire strippers to strip the wire. Using cutters to strip wire might possibly nick the wire strands. Strip the wire insulation back 3/8 in., trying not to nick the strands.

### PREPARING THE WIRE ASSEMBLY

If you are using paired-wire, orient the wire with the red/plus wire on your right with the stripped end of the wire away from you. Place the contact on the wire so that the hooked edge of the contact tip (flat tab) is down. Do both contacts this way and when crimped they will fit in to the plastic housing correctly without twisting the wire.

### CRIMPING 15, and 30 AMP CONTACTS

Carefully insert all of the strands of the wire in to the wire cup on the contact end. Fully open the PWRcrimp jaw. With the flat tab downward, place the contact and wire fully into the plastic contact positioner for the respective 15 or 30 amp die. Note that the contact's split portion of the wire barrel is facing squarely towards the upper die. Make sure that the wire is still fully inserted into the contact. Crimp down firmly. Continue to squeeze through each ratchet index, only until the tool opens. **DO NOT SQUEEZE PAST THE POINT WHERE THE RATCHET RELEASES**, doing this will make a poor and damaged connection. The ratchet release point assures that the crimp is fully compressed and makes the best connection.

Tip: For heavy paired cables keep the intended orientation so that you do not have twist the wire to insert them in to the contact housing. .

### CRIMPING 45 AMP CONTACT

For 45 Amp contacts do not place the wire in to the contact first. Fully open the PWRcrimp jaw and with the flat tab downward, place the contact fully into the 45 amp contact positioner opening. Neatly place all the strands of the wire

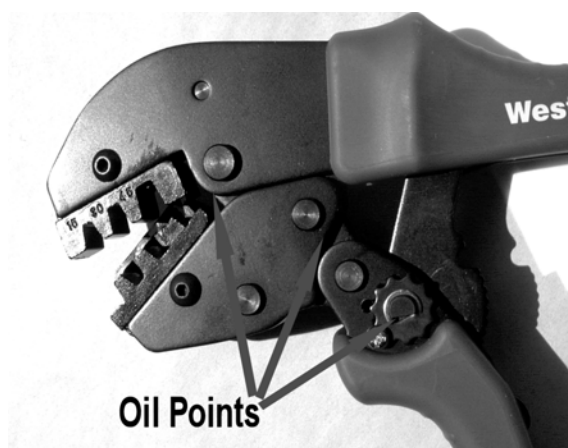
fully in to U shaped channel. It is very important that the U shaped contact tabs are aligned evenly within the channel of the top die on first click. If it appears to be aligned properly, continue to squeeze through each ratchet index, only until the tool opens. **DO NOT SQUEEZE PAST THE POINT WHERE THE RATCHET RELEASES**, doing this will make a poor and damaged connection. The ratchet release point assures that the crimp is fully compressed and makes the best connection.

Tip: You can release the tool without clicking further by using the release lever located at the inside the bottom handle next to the ratchet teeth.

Tip: For heavy paired cables keep the intended orientation so that you do not have twist the wire to insert them in to the contact housing. .

### **PWRcrimp MAINTENANCE**

For a long service life the PWRcrimp, like any crimp tool, requires periodic and proper lubrication. This should be done every 50 or 100 crimps. Always make sure the pivots points are oiled with machine oil. Make sure that the lubricant flows inside bearing surface of all pivot points. See the figure below.



The crimp dies come pre-lubricated. We recommend that periodically you spray the dies with a light coating of silicon lubricant or WD40 to allow the crimped contacts to be removed easily and to make the dies last longer.

### ***PWRcrimp* Warranty**

The PWRcrimp is warranted against failure due to defects in workmanship or materials for ninety days after the date of purchase from West Mountain Radio or an authorized dealer. If purchased from an authorized dealer it must be returned with a copy of the original sales receipt or proof of purchase.

Warranty does not cover damage caused by abuse, accident, misuse, improper or abnormal usage, failure to follow instructions. If failure occurs within this period, return the PWRcrimp to West Mountain Radio at your shipping expense with a full explanation and necessary proof of purchase. The tool will be repaired or replaced, at our option, without charge, and returned to you at our shipping expense. Repaired or replaced items are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the tool if returned after the expiration of the warranty period.

West Mountain Radio shall have no liability or responsibility to customer or any other person or entity with respect to any liability, loss, or damage caused directly or indirectly by use or performance of the products or arising out of any breach of this warranty, including, but not limited to, any damages resulting from inconvenience, loss of time, data, property, revenue, or profit, or any indirect, special incidental, or consequential damages, even if West Mountain Radio has been advised of such damages.

Except as provided herein, West Mountain Radio makes no express warranties and any implied warranties, including fitness for a particular purpose, are limited in duration to the stated duration provided herein.

## **West Mountain Radio**

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