MaxBit Professional Crimping Tool

The purpose of this literature is to explain how to use the tool to optimize the best results for your situation. We will explain step-by-step how to use the tool, and multiple ways of securing wires to crimp pins. Additionally, there are thousands of different types of crimp pins (terminal), and we will also explain how to modify the tool to fit your exact needs. Cable comes in different copper gauge sizes, as well as different casing thickness. We will explain the best way to handle different cable situations.
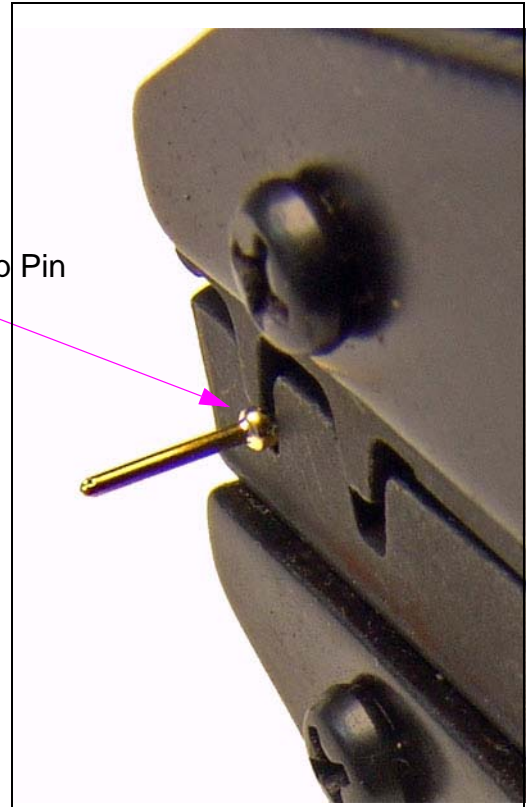
How to use the MaxBit Crimping Tool

Insert Clasp Style Crimp pin into the valley of the die of the crimping tool.

The crimp pin should stick out of the left side of the tool (MaxBit logo is on the left side of the tool). See figure #1.

The "Bulb" should be on the OUTSIDE of the die. You do NOT want to crimp the bulb.

Figure #1

Bulb of the Crimp Pin

The "Clasp" tabs should be pointing DOWN into the valley of the die. See Figure #2

Slowly compress the handles until the die touches the crimp pin, but do NOT start to compress the crimp pin. The crimp pin should not fall out of the tool either.

Now you can put the crimping tool down and start to work on the wire.

The front crimp valley is for regular D-sub (1.0mm) crimp pins and half-pitch (high density) D-sub (0.76mm) crimp pins. The rear valley is usually used for V.35 crimp pins. Since there are thousands of different crimp pins, you will have to determine which valley to use for each terminal that you use.
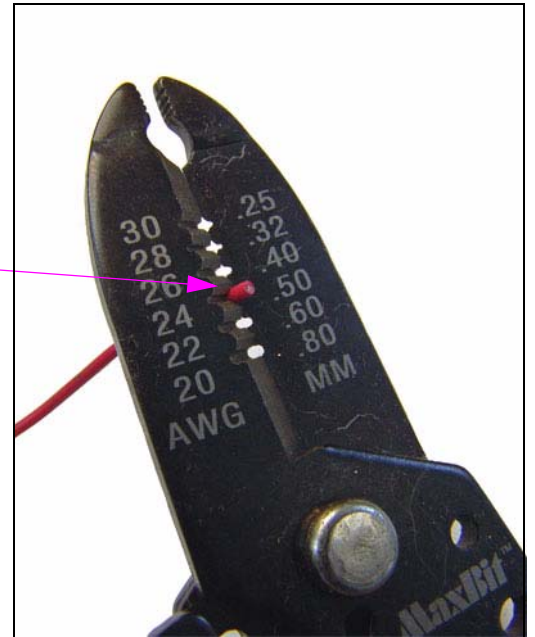
Figure #2

Clasp tabs should be pointing DOWN into the valley of the die.
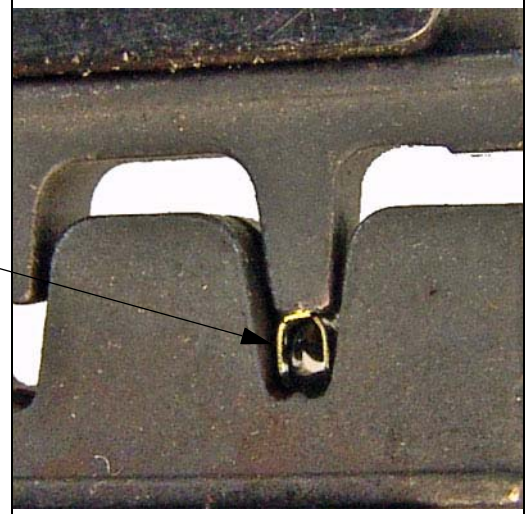
Using the MaxBit stripping Tool (#24140) strip back approximately 1/4 inch (6mm) of casing. See figure #3. We will trim off the excess wire later. Some techs will strip about 1/8 inch and not trim off the rest later.
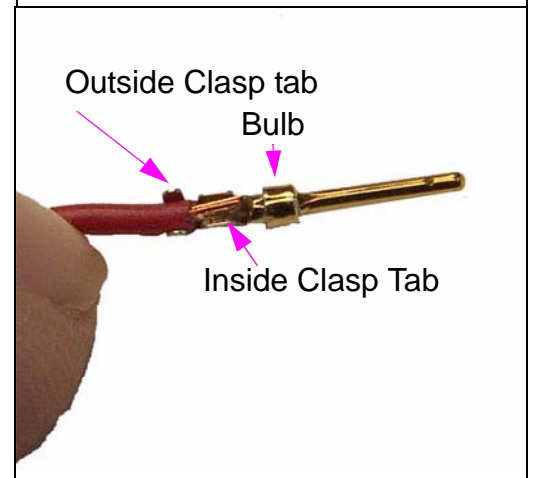
Most 1.0mm crimp pins work best with stranded 24-28 AWG wire with a normal casing. Foil shielding will not affect it. You should crimp the outside clasp over the casing. See Figure #4. Wire gauges smaller then 24 AWG will fit inside the bulb. Wires 24 AWG or larger will not fit inside the bulb.

Most 1.0mm crimp pins below 24 AWG generally require the casing to terminate outside the clasp in the crimp pin.

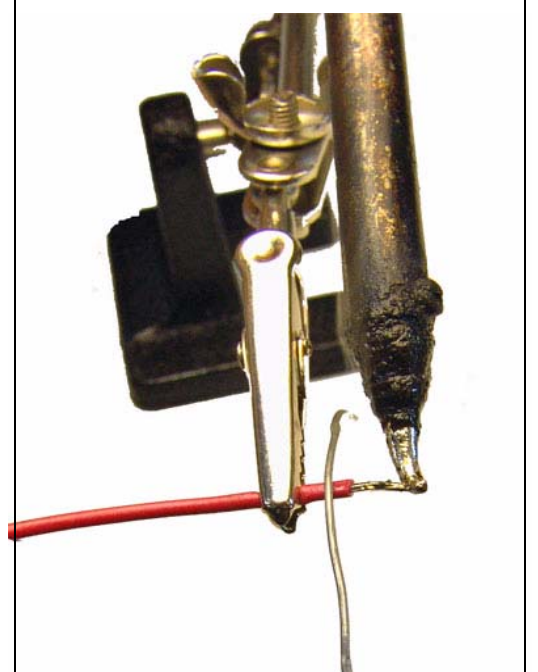Wires can generally be crimped using two methods. First, they can be crimped. Secondly, they can be solder and crimped. The second method is better, but has certain issues. This instruction sheet will show the second method. If you choose not to solder, just skip Figure #5.

Optional Tinning of wire (how to tin wire)
In the second method we will lightly tin the wire with some solder. This involves holding the soldering iron on the end of the wire, and heating up the wire. Melt a small amount of solder on tip of the soldering iron. This will allow the heat to transfer up the wire easily and quickly. Then place the solder on the wire near the casing. You will sudden see the solder quickly migrate thru the strands. Once this is done stop. Use 0.032 solder thickness. MaxBit Soldering Stand (#24470)

Figure #3

Strip back about 1/4 inch of Casing from the wire. We will cut off the excess later.

Figure #4

Outside Clasp tab
Bulb

Inside Clasp Tab

Figure #5
Optional: Tin the Wire

Trim the excess copper wire by using the Max-Bit Precision wire cutters (#24163) or similar wire cutters.

For smaller gauge wire and MaxBit 1.0mm crimp pins (#11000 & #11010), trim the wire to 1/8 inch long. You want the wire casing to extend past the outside tabs, but not extend into the inside clasp tabs.

For larger gauge wire and MaxBit 1.0mm crimp pins (#11000 & #11010), trim the wire to 3/16 inch long. You do not want the wire casing inside the crimp pin tabs. In this case the wire casing is too large for the outside tabs to fit around.

Carefully insert the wire into the crimp pin in the tool. Make sure that the wire is all the way into the crimp pin.

Figure #6
Trim the Wire

Failure to insert the wire all the way in can result in a bad crimp, and the it must be recrimped. If the wire is smaller, then try to wiggle the wire into the crimp pin bulb.

Figure #7
Insert the Wire

Once the wire is all the way in, finish crimping the crimp pin. See Figure #8.

Sometimes holding the wire and crimp pin with one hand helps hold them together better. Just be careful not to pinch the skin of your fingers.

Once you have crimped it completely, the tool will automatically release.
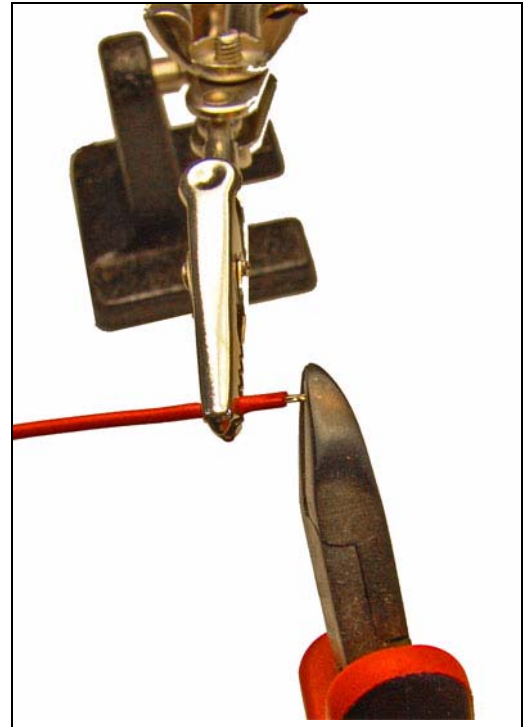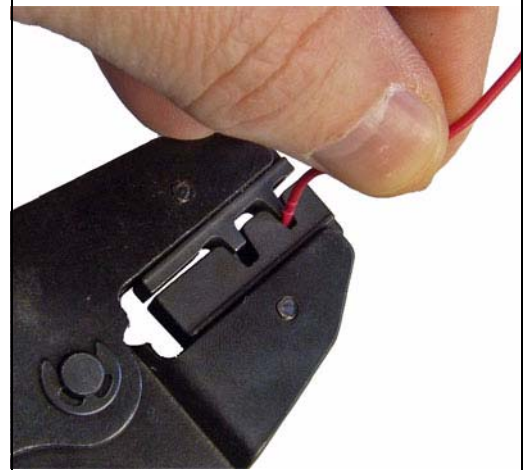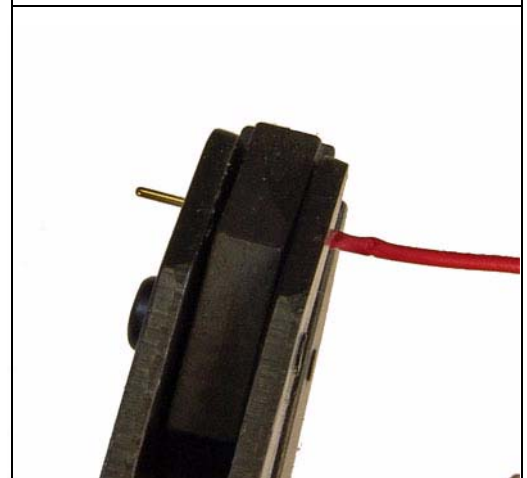
Figure #8
Complete the Crimp

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Now that you have completed the crimp, inspect the crimp pin.

Make sure that it is firmly crimped to the wire.

NOTE: *If you yank on the wire hard enough, the wire will come out of the crimp pin no matter how well you crimp it. Unless it is soldered.*

Pictured in Figure #9 is a 22 AWG wire on a MaxBit 11000 crimp pin. Please note that the wire casing ends just before the outside clasp tabs.

If you are using the optional solder method, take your soldering iron and touch the crimp pin until the solder in the wire melts, and flows onto the crimp pin clasp.

NOTE: *The soldering method takes more time, but will yield the best connection, and will minimize the amount of solder needed for RoHS & WEEE compliant situations.*

NOTE: *Crimp pins are required in situations where vibration is an issue. All aircraft, planes, and jets must use crimp pin connections. Please check your specifications to see if soldered crimps are acceptable for your application.*

Figure #9

On larger wires the wire casing ends at the outside of the outside crimp pin clasp tabs.
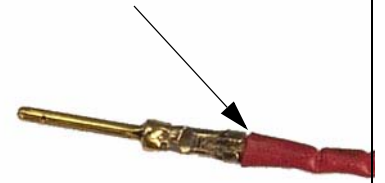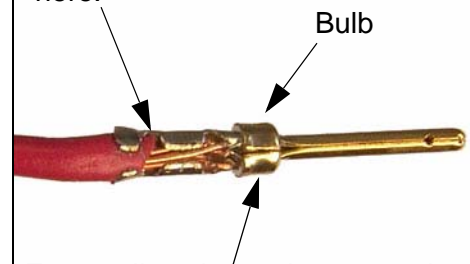
Figure #10

Optional Soldering Method:

Figure #11

This picture shows how smaller gauge wire will look on a MaxBit #11000 Crimp Pin

For smaller wire casings, you should terminate the wire casing here.

Bulb

For smaller wire casings, you should insert the copper wire into the bulb.

How to Maintain and Modify the Tool

Align the Dies: To align the dies, loosen the two phillip head screws. Compress the dies together, and then adjust the dies so that they are equally spaced. Then retighten the screws.

Double check the spacing again once the screws have been retighten.

Figure #12

How to modify the Die: Since there are thousands of crimp pins, it is impossible to have a tool that will crimp all of them perfectly. For this reason, most experienced techs will modify the die to perfectly match the crimp pin AND wire they want to crimp. Different gauge wire, and casing size can affect the quality of the crimp. Some experienced techs will have multiple dies for different gauge wires.

This tool come with the maximum amount of metal, so almost everyone will want to modify the tool. Some techs complain that this tool flattens out the top of the crimp pin too much. The directions below will assist you on how to modify the tool to get a nice round look that will work with crimp pin extraction tools (#24100).

The best method to modify the tool is to use a Foredom or Dremel tool with a very small round headed cutter. When using a powered grinder, always grind at a 90 degree angle.

A less expensive way to modify the tool is to use a very small triangular file to cut a V in the "mountain top" of the die. Since the mountain top is very small, use a very small file. You will only need to slide the file a couple of times to create a small valley. Then you can use a very small round file to perfect the roundness that you desire.

You can also grind down the "Stops" with a flat file to make the space smaller.

Figure #13

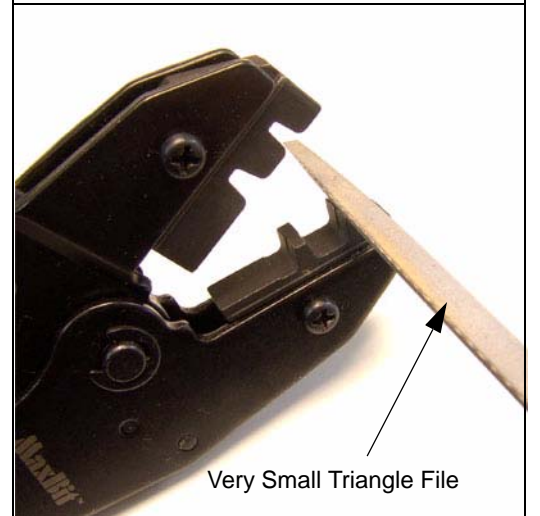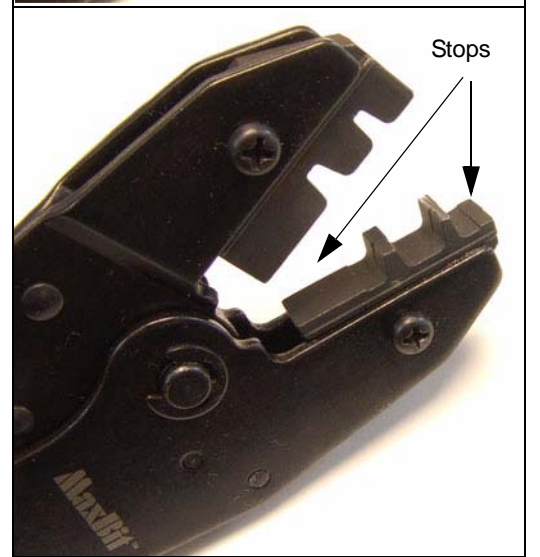Very Small Triangle File

Figure #14

Stops

Part Number	Description	Weight	Dimensions	Package	Case
24038	MaxBit Professional Crimp Pin Tool	1.12	11.5 x 4.5 x 1.0	5	50
24038U	MaxBit Professional Crimp Pin Die (extra)	0.11	2 x 1.5 x 0.3	10	50
Part Number	Description	Weight	Dimensions	Package	Case
11000	MaxBit Crimp Pins 1.0mm Male	0.035	8.0 x 2.0 x .25	N/A	100
11010	MaxBit Crimp Pins 1.0mm Female	0.035	8.0 x 2.0 x .25	N/A	100
11020	MaxBit Crimp Pins 1.0mm Male (reel of 10k)	3.800	19.75 x 19.75 x 1.0	N/A	6
11030	MaxBit Crimp Pins 1.0mm Female (reel of 10k)	3.800	19.75 x 19.75 x 1.0	N/A	6
24470	MaxBit Soldering Stand	0.870	4.75 x 3.0 x 2.75	10	36
24140	MaxBit Stripping Pliers (20-32 AWG)	0.341	9.5 x 3.75 x 0.75	10	100
24163	MaxBit Precision Cutting Pliers	0.184	8.0 x 2.75 x 0.75	6	120
24410	MaxBit Professional Soldering Iron	0.327	12.0 x 3.25 x 1.25	10	50
24420	MaxBit Professional Soldering Station	4.040	10.5 x 9.25 x 6.5	6	6
24100	MaxBit Crimp Pin Insertion & Extraction Tool	0.007	4 x .25 x .25	10	100
24101	MaxBit Crimp Pin Insertion & Extraction Tool	0.007	4 x .25 x .25	10	100

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