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Wire *BENDING* is Easy With The Right Tool

In RC modeling, building the big parts usually goes fairly fast. However, it's often the details that take the most time and can be the most frustrating. In RC modeling, whether it is air, land or sea, you will need to connect something, create a specific form or control something using spring wire.

Spring wire forming is a dreaded task, especially if you have to make multiples or something like a landing gear that needs to be symmetrical. Spring wire is hardened to keep its shape and, yes, spring back! However, this makes it challenging to bend it into small or complex shapes.

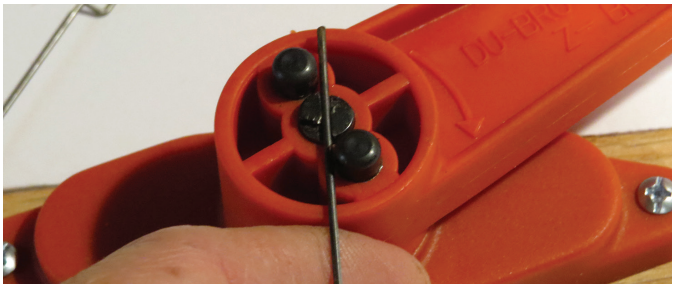
Through the years, the typical way to bend wire has been using pliers, a vise, a hammer while gritting your teeth! It's not fun at all, and the part often looks like a pretzel instead of the picture in the plan sheet. To make this task much more manageable, our friends at DU-BRO created the E/Z Bender Wire Forming Tool, part no. 480. This Patent Pending tool has been available for a while, but it's worth reminding your customers about it.

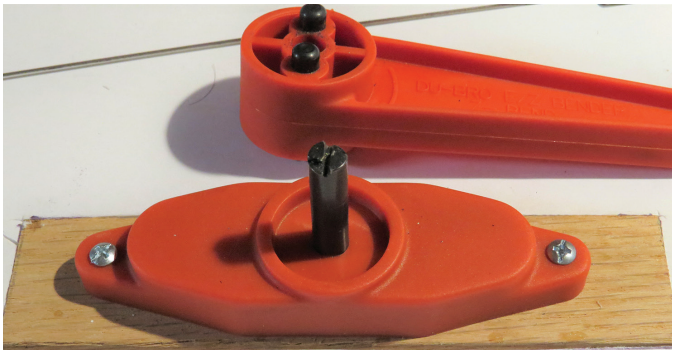
The basic package comes with Forming Handle, Base and two sizes of wire dies, 0.015 in. and 0.047 in. in diameter. You can buy additional dies to fit different wire sizes and just slide them in to the base, which I did with part no. 485 for 0.062 in. to 0.072in. wire and part no. 486 for 0.072 in. to 0.093 in. wire.

DU-BRO says the tool should be bench mounted or held in a vise. Since I had no clear areas on my bench, I mounted it to a scrap piece of oak. I then clamped the oak in my vise, making it very stable to work with and somewhat portable.

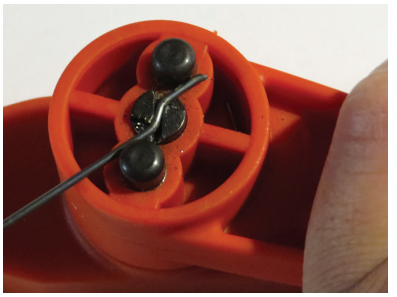
The first step is to drop the wire into the slot on the die. Make sure the short side has enough overhang to go a little past the tool pins. The pins will pull it around the die and make your "Z" bend in one turn!

The movable handle has two sides. The double pin side is for "Z" bends, and the single pin side is for more complex bends. A note before we begin: the dies are for specific sizes of wire. To bend the wire properly and safely, it must fit in the slot and be flush with the top of the die. If the wire is "proud" or projecting out of the top of the die, it will snap out. With that noted, let's give it a try!

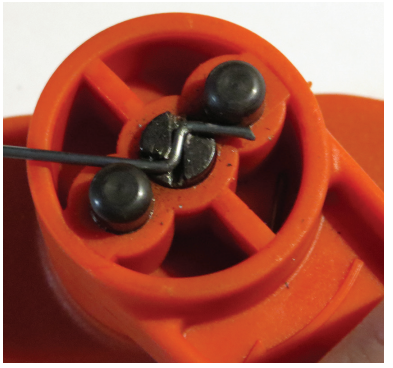




I first tried the thinner wire and the "Z" bend side. This is the bend I use most often. For the 1-meter wingspan models, I will make a bunch of rods with the "Z" bend and a 3 to 4 in. length of straight wire. They are then bound to carbon rods or dowels later for complete pushrods. I have spent many hours with Ed Bojan at NRHSA, watching him effortlessly crank out "Z" bends. Yes, it is that easy with this tool.



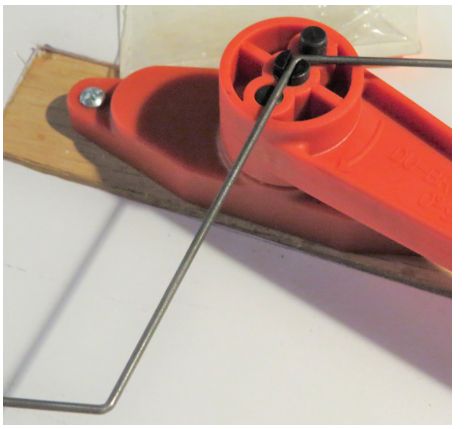
Pull the handle around gently to start forming the "Z" bend. Note, for stiffer wire, it may be necessary to remove some of the hardness to prevent snapping the wire as it gets close to 90 degrees. You can make the wire more pliable by heating it to red color at the bend location. After it's red hot, let it cool slowly and wait until it's fully cooled before proceeding. This step will remove the temper, making it less prone to breaking.

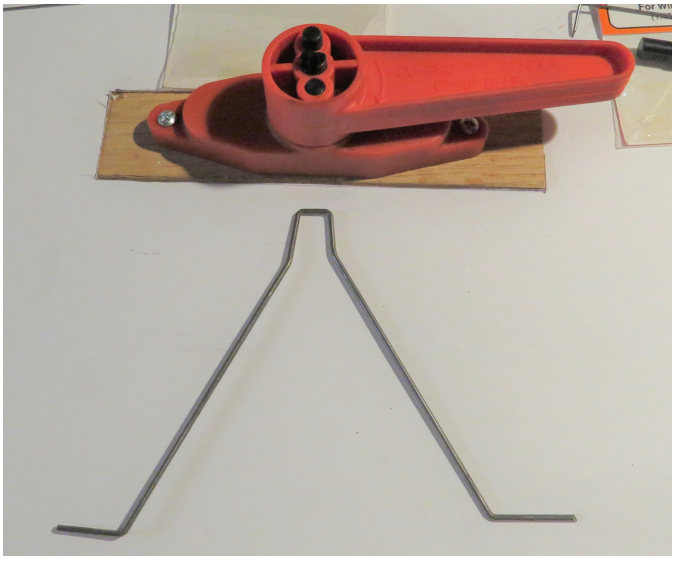


There you have it, a perfect "Z" bend. For a "Z" bend to work well, it must be exactly 90 degrees, or the linkage will travel up and down the less-than-90-degree bend.

Now I'll switch to a heavier gauge of wire and the single pin side of the handle to bend a landing gear. I free-handed this one. Mark each bend point with a marker. If you go too far, you can rotate the wire and undo most issues. It's like an undo button!

By simply rotating the wire for the next bend and making sure each bend is parallel to the next, you are rewarded with excellent results.





Here's a set of former-mounted main landing gear, completed in a few minutes. I found that if the wire fits a little looser than fully tight, I had better results and less breakage even with the very hard, thin wire. Even with the thicker wire, I was surprised how little effort was required.

In summary, this is a great time-saving and accurate tool. In the past, trying to bend gears the old school way, I wasted a lot of wire before achieving the shape I needed. Hopefully, the tips supplied will benefit your customers, particularly those tangling with their first kit-built projects. This tool will get lots of use in my shop! **HM**