MY ARCHNEMESIS, MUSIC WIRE AND LANDING GEAR

You and most others, including myself, find working with music wire to be one of the most difficult tasks of the build. Along with that is having LG that don't rip off with every landing. So many of us try various methods from time to time trying to overcome the dilemmas.

Start with the wire. Tool quality counts when bending wire. We don't try to compete with the big retailers on these common tools. I find any of the big-name brands to be the ticket like Channellock. Don't go small either, leverage is your friend and you give it up with smaller tools. A nice pair of diagonal cutters or better yet a Dremel tool with an abrasive cutoff wheel works great for cutting the wire down to size. I make the part over size allowing it to be bigger than required at each end. I then trim with the Dremel to final size once I've got the wheels mounted.

Next get a pair of the Linesman pliers. These get a great grip and allow you to hold it while you bend the wire with your hands against it. The square jaws tend to reduce the sliding of the wire within the jaws. Cheap pliers are made of steel that is not as hard as music wire which will ruin your cutting edge instead of cutting.

Last, I like to have a couple pair of needle nose pliers available for tight or short bends. I actually took the grinder to mine and narrowed up the tip to about 1/8" wide for about ¼-3/8" zone from the tip. Two pairs of these allows holding the wire and near butting their noses against each other while bending.

Some might ask, what about using a vice? Well, you may if the gap between the bends is sufficient to pinch in the jaws of the vice. A combination of tools will usually be the best answer for these tasks.

After the tools get a permanent marker or some masking tape. You can use one or the other as you prefer. I will use a ruler and draw on the plan an exact pattern of how I want the wire bent. Typically, I only do one side as the parts are normally mirror images. I use a piece of tape to mark the center. From there I will mark each bend point on one side carefully rotating the wire to follow the pattern. Then flip the wire and mark the other side taking care to be as close to duplicating your first set of marks.

Bending, most often you not only want the bends to come out on a flat plane so the wheels can track and look straight. If you are off line when you make the bend then try bending the offending section by applying torsion to it. Trying to straighten and bend again normally ends up with a fatigue break in the metal wire. I try to suspend the wire by holding it in the plyers directly over the pattern and then just slightly overbend to get the actual bend I need. Your wire will spring back a little from where you pulled it to. Yes, sometimes I've had to scrap that piece of wire and start over but if there was no challenge then what fun would there be.

The landing gear (LG), my choice is to go with gear up whenever possible for contest flying models. Less drag, less weight, and nothing to break off and puncture or fracture the plane

elsewhere. Not all planes have retractable gear, some contest events require LG in the down position, sometimes that is the neatest character of your subject. For many reasons, modelers have been searching for the best solution since the beginning of modelling and all I can say is there is no one best solution. Each modeler must try to find the solution(s) that they believe will best suit their needs and desire for trial. Here are some thoughts. Build tough but give up on the flight time. Make flimsy or floppy LG that couldn't harm a flea but the plane won't stand up on its own. Make break away LG for hard landings but be prepared for some occasional repairs or lost LG. Make box inserts at the point of attachment held on with Moses Magnets or rubber bands. Make accommodations on the structure for handling most rough landings. One I use frequently for light planes like embryos is a plug in LG. I use two vertical pieces of balsa or 1/64 thick ply with an opening just right to slide the end in, sort of a "U" with the LG extending from the one side of the "U". The round part slips in nicely. If it is loose, I rub some glue stick on it and that is normally sticky enough to hold it. I like this method because it only goes about 3/8" into the fuselage. Any torque applied from the landing isn't multiplied by additional hit on the other side simultaneously. They are two separate pieces and can flex on their own independently. Just a theory that seems to work for me. I also like using plug in boxes that are held in place with Moses' magnets. There are some pictures of this in our building tips section https://easybuiltmodels.com/MosesMagnets.pdf And of course if you are one of the more patient and strategic type builder, you might hold off from installing any LG until after you have covered the model, before coloring, and trimmed it out to be sure it is flying and landing smooth, repeatedly. Once you can trust your plane, you can fix any damage incurred during trimming along with installing the LG. Of course, remember to mark the CG and rebalance the plane with the LG in place.

Here are some links to pictures for other models, not necessarily for beginners but you can scroll through these for a lot of tips on how to build a model as well as deal with the LG.

Scroll down to page 22-24 https://easybuiltmodels.com/PD13_FIKE_building_instructions.pdf

Scroll down to pages 55 & 66
https://easybuiltmodels.com/LC38_CHESTER_SPECIAL_Assembly.pdf

Scroll down to pages 31 and 32
https://easybuiltmodels.com/LC31_BABY_HORNET_ASSEMBLY_INSTRUCTIONS.pdf

Happy landings,

Dave N

2/2/2022