

Simple 1/2 A MAN-WIN TRAINER

By Chris Brownhill



The credit for this model must go to Kevin Lusk of the "Perfect Circle Flying Club" in Winnipeg, Manitoba. I do not know if he is the designer of the "Man Win", or not, but he kindly brought this model to my attention last spring during some E-mail correspondence we were having.

Well, then Kevin was good enough to send me by Purolator an example of the finished airplane. Upon examining it, it became very obvious to me that nothing could be stronger or easier to build than this little model! I was absolutely stunned by its simplicity, and its sheer practicality, for it seemed to be almost crash proof.

The main material for the model is a piece of 3/16" (approx.) Coreplast, a sort of corrugated plastic sheet which is often used for election and advertising signs.

The motor mount can be made of either heavy tinplate, or 1/32" aluminum sheet, then drilled for whatever 1/2A engine you intend to use. (An engine that uses an integral tank with firewall mount would be the most convenient.)

The motor mount is attached to the airplane with 4-40 nuts and bolts, which would probably benefit from an application of "Loctite", or some similar sealant. (Please note that the rather

large amount of side-thrust shown on the drawing is absolutely necessary, and I would not recommend changing it at all!)

The leadout guide is adjustable (made from a piece of scrap Coreplast) using the openings in the corrugations through which either Dacron or .008 steel lines can pass through. (Having flown the model, I think that it will handle up to 35 feet of line without too much trouble. However, this will also depend on the power output of the engine that you are intending to use.)



The bellcrank is a standard $\frac{1}{2}$ A type (either metal or nylon would be OK) which you can purchase from most hobby stores, along with a suitable small control horn. You then connect the bellcrank to the horn via a pushrod made of .049 piano wire.

One of the most important features on the model is not at all visible, and that is a piece of $\frac{1}{8}$ " diameter hardwood dowel, or carbon fibre rod, that runs span-wise down one of the openings in the Coreplast corrugations, about one third back from the leading edge.

Another important operation is to cover the leading and wing tips with $\frac{1}{2}$ " duct tape, or something similar, as this greatly strengthens the wing during the inevitable crash!

The next small detail is the hinging of the elevator. This is accomplished by cutting one of the corrugations half way through just where the cutaway of the elevator appears at the trailing edge of the wing. The resulting hinge should easily last as long as the model.

So there you have it: a model that can be easily built in an evening. It requires no painting, and should be pretty much fuel proof.

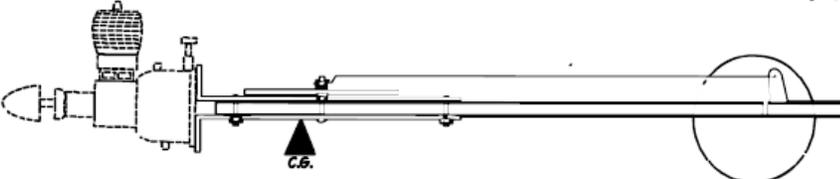
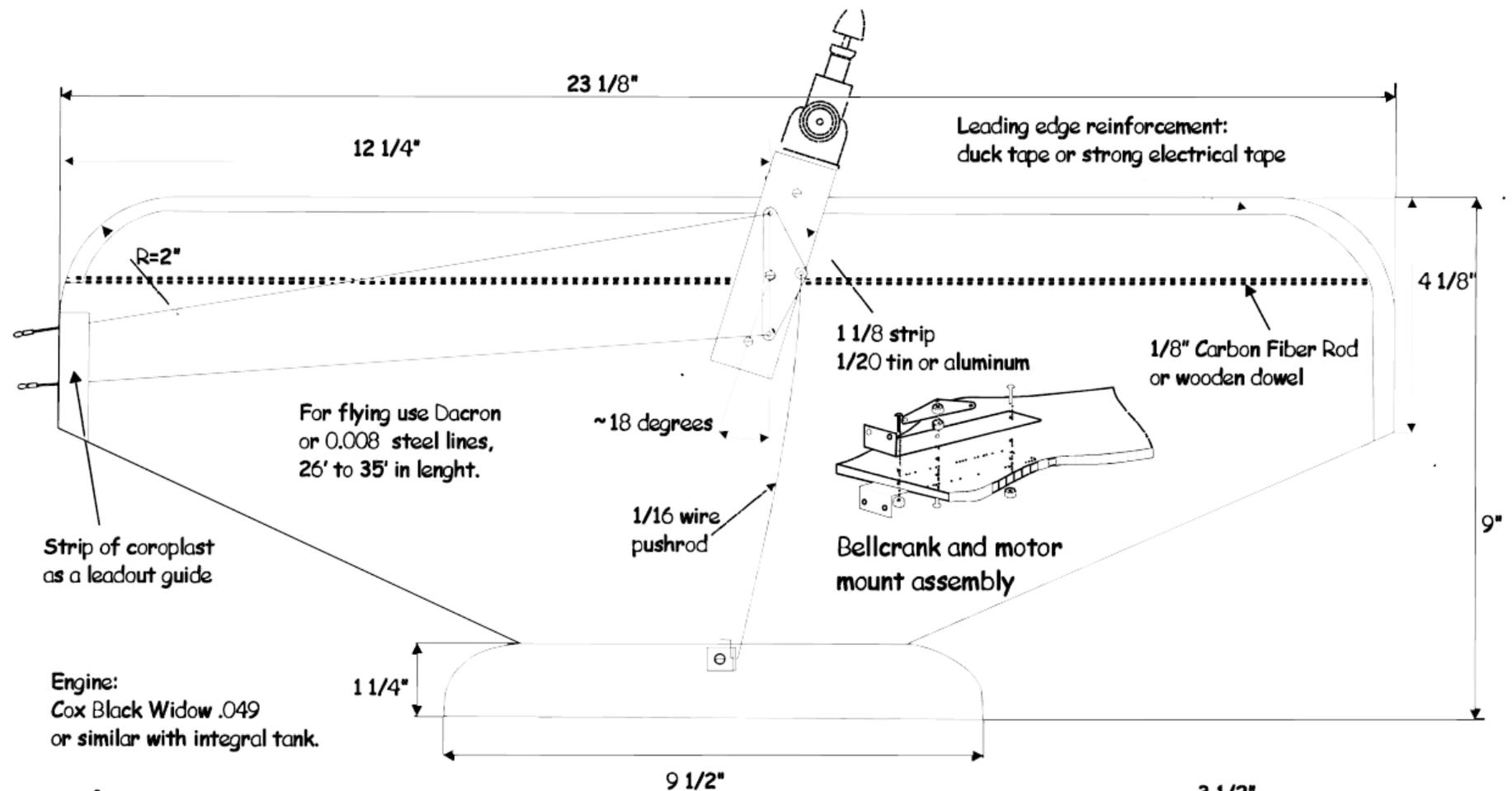
So, why not make up a half-dozen of these things as a club project, and introduce some young folks to model flying. The cost will be much less than the balsa wood required by conventional designs, and you will never probably ever find anything else so durable.

The Perfect Circle Club have developed some junior events for this design, such as a modified form of Mouse Race, and, of course, Combat! These events would be a "hoot" if you just went to the trouble of getting a few kids together to try them!

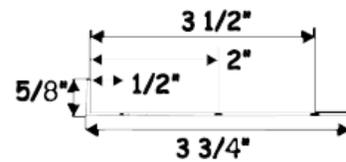
I will close by thanking Janek Zalewski for making the sketch of the "Man Win" for this article. His ability with graphics software far exceeds mine, and I am grateful for his assistance with this project.

There is nothing very critical about the attached plans. (May, 1, 2010).





Detail A



Motor mount dimensions

The position of the center of gravity is critical for flight stability. Add weight if needed.



Simple 1/2 Man-Win Coroplast Trainer
 Perfect Circle Flying Club, Winnipeg
 Drawn for Balsa Beavers Model Flying Club
 by Janek Zalowski Aug. 2002, June 2003