

Chicagola

A hot V.T.O. Class A Power ship. Does well on a middle-aged .15 mill/**Dave Linstrum**

With the advent of super hot racing engines such as the Rossi .15 and the Cox Conquest .15, a large group of .15 (or 1.5cc if you think metric) engines has been made more or less obsolete. When you have an F.A.I. Power ship operating with auto surfaces and flying on a mere 7 second engine run, you have to use the most power available. But how about in A.M.A. Gas, where the longer runs and lighter weight airframes allow a bit less power? The answer, to us,

seemed to be quite evident: use those "obsolescent" F.A.I. engines!

For quite some time we have favored the rear fin design school of thought, where the power trim is controlled without any auto-surfaces. The combination of a medium-high pylon, rear fin and adequate wash-in on the right wing seems to groove the model for a good spiral climb. If climb velocity is sufficient, the model rolls out at the top every time into a right hand glide, which is easily

achieved with stab tilt. This type of trim dates back to the early British designs of the 1960's, and in particular to the famous Dixielander. This model, which appeared both as plans and a Yeoman kit, has been built on both sides of the Atlantic. We built our first one in 1965 and were very impressed with the hot climb. It got so high it took at least three minutes to fall back to earth, even if it didn't hit a thermal! However, we lost it in a boomer at a Wichita meet. When we moved to Chicago, we still had the urge for a hot "A" job. Thus the "Chicagolander" was born- an updated, stretched version of our original Dixie, with more rakish rudder and a hot Cox Special Mk II. It satisfied our urge!

Please note that we definitely recommend that you build this model only if you have had some experience trimming fast power models. While it is not difficult to adjust, it *does* move fast and a small mistake is "Crashville". Also do not use a Rossi or a Conquest .15. They have too much power, even on F.A.I. fuel.

The prototype Chicagolander shown in the photos was built at a time when we favored MonoKote, because we were flying off very rough fields (Bong, for example) and it was puncture resistant. However, we now feel that you are much better off to cover with a tissue (double-cover underside of wing and stab) doped with nitrate dope, followed (after 72 hours) by an epoxy topcoat. The plastic coverings just have too much tendency to change with the weather, and warps, like too much trim change in adjusting, can lead to an early grave for your fast-climbing machine.

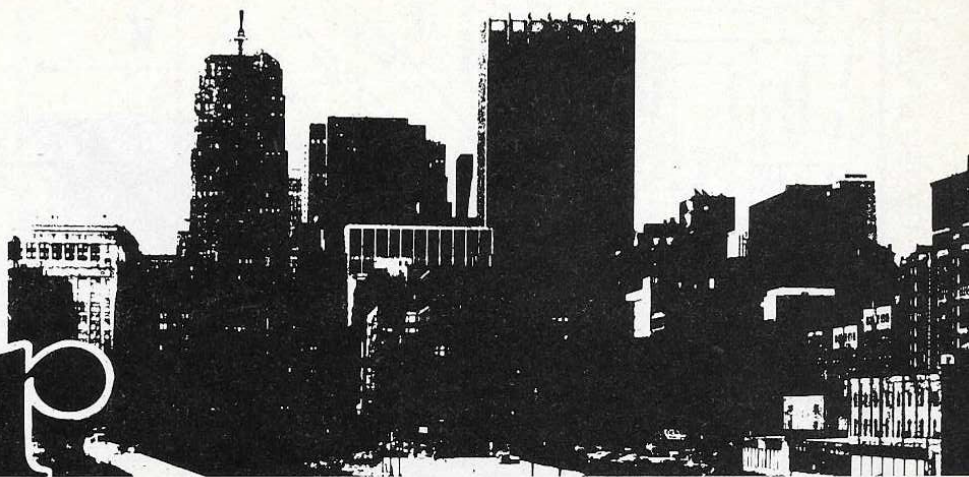
One feature that we used on this new version is a pacifier fuel tank, instead of the suction feed off a Perfect tank on the Dixie. This ensures a stable fuel condition at launch, and, once you get used to it, is easy to handle. We simply "let it all hang out" by having the pacifier hang under the timer. If you wish, you can fashion a little clip for the pacifier neck and attach it to the D/T skid. A tie-down to the bottom of the body would look good too. Tatone Tick-Off timers are suitable; it is not necessary to use a flood-off. You can experiment with a fuel dump system if you like, but the squeeze-off worked fine for us.

PHOTOGRAPHY: DAVE LINSTRUM



Mindy Linstrum, all smiles, makes a reluctant chase crew. "Flies too far" is her main complaint. Dave's daughter. **At right:** Dave looking for an illusive thermal. Chicagolander MonoKoted in orange and white.

Under



Since you should be an experienced Free-Flighter before attempting a hot model like this, we will not go into the detailed "glue Part Y to Part Z with 'Hot Stuff' and launch" routine. You no doubt already have your favorite building methods and can follow plans carefully. However, we would still like to hit some of the highlights and mention a few favorite tricks of our own.

The Wing Structure

Wing ribs can easily be cut on a bandsaw, then sanded to shape and notched. Simply trace the rib pattern off the plans and rubber cement it to a stack of rib blanks cut from 1/16" quarter-grain. We used aerosol rubber cement to stack the blanks, about 6 or 8 to a bunch. Use a bandsaw or jigsaw to put the notches in, getting a tight fit.

When you have the ribs shaped, carve the leading edge roughly to curvature. We found a pre-shaped R/C leading edge ripped in half (it is symmetrical) was an almost perfect shape, but you can carve your own from 1/2" sq. strip. The trailing edge is a normal tapered stock size. Be sure to use hard spars in the main panels as this wing takes a lot of stress at the climb speeds imparted by a .15 running on high nitro. Also be sure to prop up the leading and trailing edges as shown on plans to get a smooth undercamber curvature. Build in 1/4" washout in the tips and 1/4" washin on the right main panel only. Be certain this stays in after covering and doping. If it varies, steam it back in!

Stabilizer

The stab ribs can be cut by the "stack and saw" method also, although there are so few it seems as easy to cut them with a metal template. Again, check that spar slots are a tight fit on a spar strip. Like the wing, the stab has little tip fairings, but these are tilted up on the stab Starduster style, rather than following the undercamber as they do on the wingtip. Tips are 1/16", grain spanwise.

Covering can be done after the wing and stab are dry and have been pre-coated with three coats of thinned (50-50) nitrate dope. Sand a bit after the first pre-coat. Cut your tissue (Blue Ridge Models has some fine Japanese tissue, as good as pre-war) slightly oversize and lay it in place. Brush through

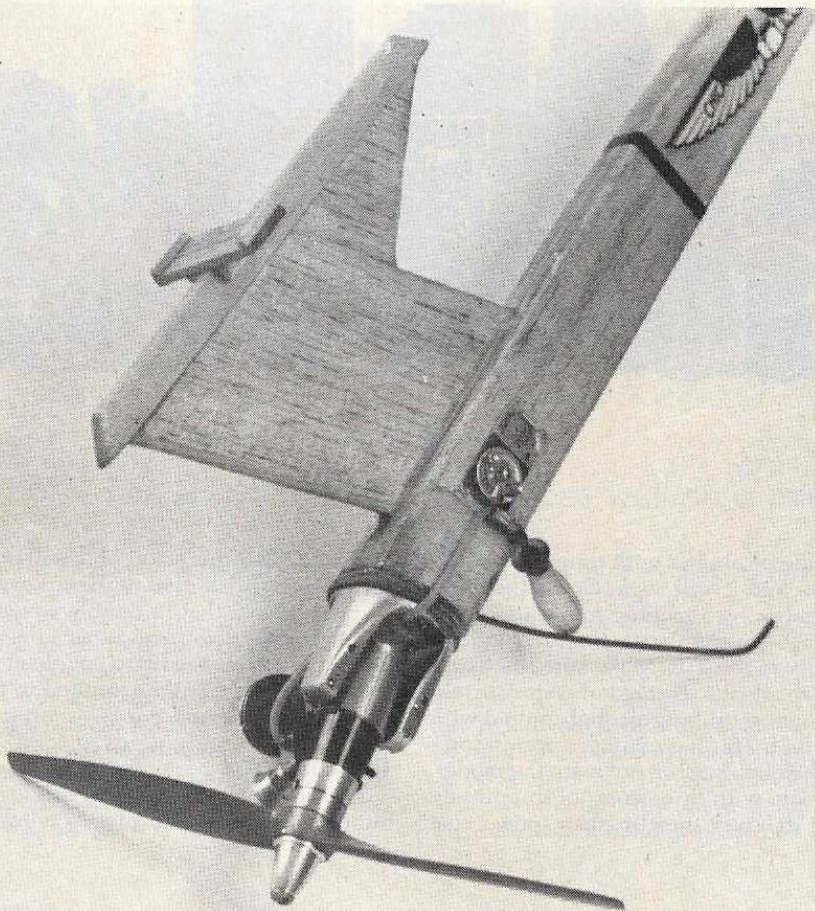
the outside perimeter with thinner. Smooth the edges and it will stick. Cover the wing undercamber by attaching to the rear spar, then all ribs to front spar, then to the L.E. and finally to the T.E. Make sure the tissue adheres to all ribs. Instead of water shrinking we suggest rubbing alcohol applied with a cotton ball. This has enough water in solution to shrink tissue but not warp the model. Dope tissue with three coats of thin nitrate and wait 72 hours, then brush or spray a coat

of clear K&B Superpoxy. This will provide a fuel-proof finish that will not warp the structure. Note that in double covering the under surfaces you can attach the second layer after giving the first a couple of coats of dope. The tissue is then applied in the normal way, shrink and dope.

The Fuselage

The body is built Starduster style on a flat building board. Try a piece of flakeboard





Nose end starts with a plastic Cox 8/4, Cox .15 (old style, not Conquest .15), Tatone Tick-Off, pacifier fuel tank, a 3/32" wire skid. **Below:** Launch it vertically for an entry into typical pylon spiral climb.



shelving with some cork bulletin board material contact cemented to it. This gives a perfectly flat, pin-stick board. Glue the longerons, spacers and former truss to the bottom side and then add the pylon which was pre-assembled. Cap off with the top side and let dry overnight (we used TiteBond to build fuselage) to insure against a twist. Add the pre-assembled "hollow" fin last, insuring that it lines up perfectly. Note that the sheet on both sides of the fin must be of similar grain to allow equal bowing. A built-up fin of thick cross-section is more warp-free and aerodynamically effective than the simpler sheet fin. We used no fillers on the fuselage, just a couple of coats of the same clear K&B Superpoxy that went on the wing and stab. Be sure the snuffer tube has an open front end to allow you to adjust fuse length. Also determine that D/T bands will hold stab T.E. down tight. Use a braided metal cable or dacron towline for the D/T limit line.

Assembly

The assembly is a crucial pre-flight step. Check all mounts to see that they are secure. Attach wing and stab with strong bands, so they don't stretch at climb speeds. Using a tape measure from tip to tail, check wing and stab alignment. Key surfaces (with split dowels) tightly in place. Check thrust angles, both down and side (the left thrust helps conquer that first swoop to right most pylon ships have) and be sure motor mount is tight.

Trimming

Adjusting should be done under full power only, with prop on backwards to cut some thrust. Only under full power will you get true attitudes in climb recovery. Use a short fuse and double-check the timer for accuracy. Start out on 3 second runs and launch steeply. If the model "grooves" increase run in 2 second increments. If it loops, try a bit more downthrust. Should it come in to the right, try left tab (cut in fin) or a bit less decalage (shift C.G. to adjust glide). Keep working on trim in small bits on short runs, then open her up for that screaming maxmaker!

Credits

Credits for the original Dixielander design go to George Fuller, with further inspiration by John West and other British flyers who modded the design and flew it with great success. We would like to add our own personal thanks to Corky Wald of St. Paul, Minnesota and Jack Fluehr of Omaha, who inspired the author to build the Dixielander from the original kit plans, and even furnished them to us! Chicagolander then followed.

Further trimming methodology which applies to this design as well as to most other rear finned power models was published in the Country Boy 650 article in the Oct. 1977 issue of FLYING MODELS. We refer you to this fine listing of cause and effect, one-step-at-a-time trimming. It was written by Jim Clem, one of the finest power modelers around. We could not say it better! ☺