

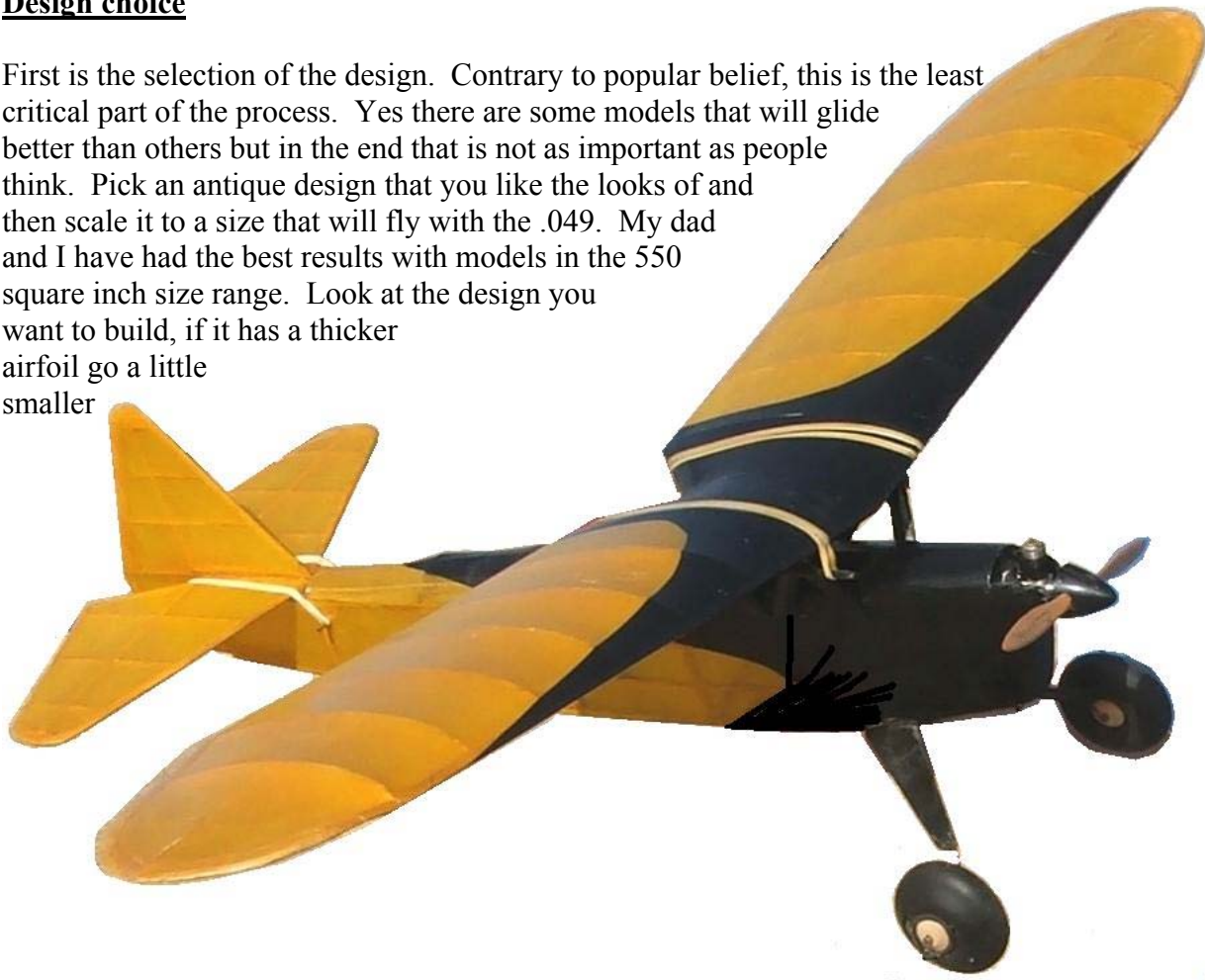
½ A Texaco Secrets Revealed!

by Daniel Heinrich

Many of you have seen me fly ½ A Texaco with my Cavu and have wondered how I get a 26-ounce model to fly on a Cox .049. The answers are more basic than you might think. I will try to give you some hints on how to build and fly a successful and competitive model.

Design choice

First is the selection of the design. Contrary to popular belief, this is the least critical part of the process. Yes there are some models that will glide better than others but in the end that is not as important as people think. Pick an antique design that you like the looks of and then scale it to a size that will fly with the .049. My dad and I have had the best results with models in the 550 square inch size range. Look at the design you want to build, if it has a thicker airfoil go a little smaller



than 550 and if it has a thinner airfoil go a little bigger. My Cavu has a thick airfoil and was built specifically for the 15cc rules so it is actually quite a bit bigger. I am currently building the Punkins' Seed around 600 square inches but it has a very thin airfoil. My dad has built the Trenton Terror and New Cyclone Thunderbird at around 550 square inches and both flew very well and were more competitive in the 8cc events. The Powerhouse that many people are flying is around 550 square inches and is also an excellent flyer. Like I said before, the design itself is not critical and they will all fly well. Just make sure that it ends up at



around the right size for the wing design.

Weight

Again, this is not as critical as some would lead you to believe. I say this with a side comment, apparently 30 ounces is too heavy as our Gary Sherman found out when he first built his Cavu. Most of the models are coming in between 14 and 19 ounces with a few exceptions, my father and I being two of them. His Trenton Terror weighed in at 12-ounces while, as previously mentioned, my Cavu is 26 ounces. If we flew at 7 AM with no thermals, he would have a better dead air time than me. I now pose the question; do dead air times always win the contest? More on this later.



Engine, Propeller and Fuel choices

Any .049 will work. I realize that there are many out there who are altering the engines, using only single ported cylinders and low compression heads and only using certain models of the Cox engines but this level of research and design is unnecessary. When I choose my engines I have two criteria, do I have it and does it run. That is it, no tricks,

and no alterations. I do

recommend the low compression head or the Texaco head, as they seem to work well at low RPM. The engine I currently fly I bought for \$5.00 in a big bag of Cox product (plastic back plate) engines. These are the same engines they put in the ready-to-fly models. I got about six of them at the same time and did not even run it before I mounted it in the airplane! That was a mistake as I found that they need to be broken in a little bit before they will run consistently with the larger propellers. I would recommend three or four tanks with the big propeller or until it will run a whole tank out at a consistent RPM without having to change the needle setting. The best results have been with the BY&O 9-3 but an APC 9-3 will also work well or if you have an old Top Flight 9-3 that would be a good choice too. For fuel, find one that will fly the model. 15% nitro just would not pull the Cavu in the air so I kept bumping the nitro until it flew well. When I was first flying it I needed 50% nitro with no propylene oxide to get it to fly. The propylene oxide



was removed to slow the burn rate of the fuel down to match the slow piston speeds. As the engine broke in I was able to lower the nitro and currently fly on our Custom 350 (35% nitro) fuel. Lower nitro levels will net a longer engine run but if the model will not gain altitude it really does not matter if you have a long run.

Flying

The key to winning is consistency. Many contests have been won, not by having the “best” airplane but rather by having the airplane that got in the air. In all of my models, ½ A Texaco or otherwise, I want an easy starting engine that I can start and get the model in the air in within 15 seconds. For ½ A Texaco I pre-run the engine in the morning to get a needle setting.

Run a full tank of fuel through it in case the setting changes as the fuel level in the tank changes. When I go out to launch I flip the prop, put it on the ground and launch. My engine run times are the same as every one else, even using higher nitro fuel, because I do not waste fuel on the ground.



The last and probably most critical factor is the trimming of the airplane. Usually this cannot be done in just one flying session but over repeated observations of what the model does in the air. The power pattern should be a wide-open circle and can be attained either by using thrust



adjustments or rudder. Care should be taken if rudder is used, as it will affect the glide as well. I like countering rudder with thrust on my ½ A Texaco models to achieve a balance (i.e.: right thrust, left rudder). If you can turn the model in the glide with stab tilt that is better. The glide should be a wide-open circle that tightens up when the model encounters a thermal. This is easier than most people think. Watch the model when it goes into a thermal, if it stalls or straightens out move the CG forward, if it spins move it back. Most models have the CG too far back for thermal flying and the models do not “lock in” to the thermal. A little nose weight will net some nice thermal flights and these are the ones that win contests. The wide-open circle allows the model to “hunt” for lift over a much bigger area and will tighten up when it hits the thermal. You may need to adjust the incidence a

little to compensate for a lot of added nose weight but typically not much and in my case not at

all. These glide trim adjustments are the same whether you are trimming a ½ A Texaco, a C gas or an FAI model. We want our models to fly in lift and this is how they tell us how to accomplish this.

You may not agree with my recommendations and that is perfectly fine with me. I am simply letting you know what has worked for my dad and me. My Cavu has won the last 3 contests it was entered in and my dad posted a 56 min flight at the Scamps annual last year. We build designs that we think are nice looking and trim them to hunt for, and fly in thermals. Thermals win contests and the secret is that simple. Of course the most important criteria is having fun. If you are, then you have already won.

