FREE FLIGHT

BY BOB STALICK

• Bill Barr's .010 Baby Hawk • Building An Engine Timer From A Windup Toy

Over the years, free flighters have bemoaned the trend to take newly introduced "beginner's events" and make them so complicated that only the experts can excel at them—EZB and Pennyplane and Pee Wee 30 being good examples. In the FAI arena, the recently adopted F1J event is beginning to take on the same attributes that made it an attractive stepping stone between AMA power and F1C.

To be competitive in these events, fliers have begun using multi-function timers, bunt and VIT systems. Such refinements can be considered improvements on a theme, but each change is also a further complication for the modeler. The result of each complication is a reduction in the number of fliers willing to tackle the event.

Recent articles and letters in the NFFS publication *Free Flight* propose changes in FAI events, including reducing the number of functions allowed to engine cutoff and DT. Others propose an R.O.G. requirement for certain events.

In the northwest, the number of active F1A glider fliers can be counted on one finger. Maybe there's a message here.

Fred Guilfoyle, who hails from the Seattle area, built two of these Nostalgia-era "Da' Box" models. This is the A/B version, powered by a K&B Greenhead. The model features a very thin undercambered airfoil wing, and climbs and glides extremely well.

The high-zoot events are either no longer flown at most meets, or the numbers who fly them are so small as to make their effects on the local scene trivial. So, we have a logical concern: we are not generating new blood to take the place of the aging experts who currently compete in the international programs.

We can either "dumb down" the international events by limiting their performance, or we can promote the entry of new competitors to the nation's FF talent pool. Currently, the NFFS is promoting sponsorships to the U.S. Junior Team as a means of building that talent pool. It's a worthwhile endeavor that should have long-term payoffs. Our youngsters will be competing in Kiev during the first part of August—about a month after you read this. Consider a donation from your club treasury or from you as an individual. Send to AMA, 5151 E. Memorial Dr., Muncie, IN 47302. Make checks payable to "AMA—Junior FAI

Glenn Greil of Tangent, Oregon showed up the at the 1994 Strat-O-Bats Misery Meet with this Stalick-designed Simplex A-2 glider (MB Plan No. 5763, $6.00).

FF Fund." Contributions are tax deductible.

The larger issue still facing the international free flight community is whether future competitions can continue without massive changes to the entire concept. This discussion needs to take place before no one is left who cares.

AUGUST MYSTERY MODEL

One of America's legendary free flighters has a lifespan that covers nearly the entire history of our hobby. Active in all engine-powered classes, the designer of this month's Mystery Model provides an example of his winning ways in R.O.W. events. Powered by an Arden .09 on glow, the model had a 48-inch wingspan. The planform should be a dead giveaway for Nostalgia gas buffs.

So, enough hints. If you think you can identify this ship, write it down and send it in to *Model Builder*. A free year of *MB* will go to the one whose name is drawn at random from among the correct entries.

MAY MYSTERY MODEL WINNER

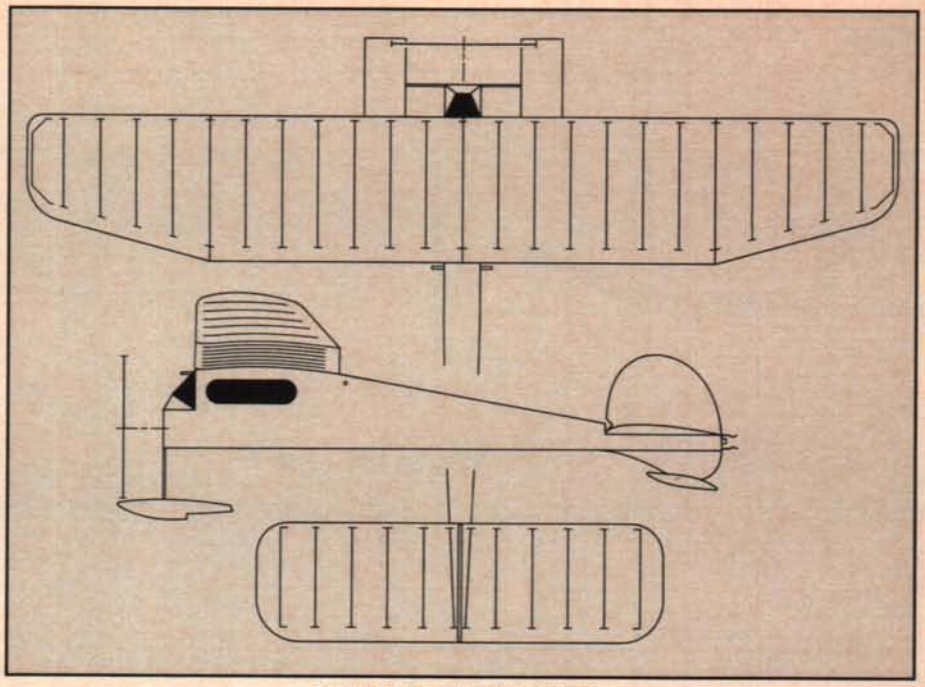
A one-year MB *sub goes to Ed Mate of Riverdale, Illinois for being one of ten who correctly identified George Xenakis' "Tadpole Mk. II" A-1 towliner, featured as one of the Ten Best Models of the Year in the 1980 NFFS Symposium and which George's son Greg flew to a Junior AMA record of 21 minutes 9 seconds at the 1974 U.S. FF Champs.*

AUGUST THREE-VIEW

Last year, when we ran the MiniPower postal contest, 1st place winner Bill Barr was the only entrant who made the full complement of three maxes. He did it using his Baby Hawk, a tiny version of Jim Clem's Witch Hawk. As you can see from the plan, it's the ultimate in simplicity.

The model is built just like a typical 1/2A free flight. It's important to build it as light as possible; the power of the Cox .010 is impressive, but it still won't haul a 3-ounce airplane very high in 10 seconds. Strive for a model under 2 ounces.

This model is designed to fly to the right both under power and in the glide. Use right thrust and right stab tilt. You may need slight right rudder tab in case the model wants to straighten out at the end of the power run. If you have further questions, contact Bill Barr at 2000 Larkspur Dr., Lexington, KY 40504.



AUGUST MYSTERY MODEL

HOMEMADE TIMER HOW-TO

Without trying to steal the thunder from Bruce Augustus' upcoming NFFS Symposium article, the following is a blow-by-blow account on making an engine pinch-off timer from a windup toy. (See last month's column for details on which toys make the best conversions.)

Take the toy apart and you will have a windup unit that weighs about 3 grams when stripped to its bare essentials. It will typically run, when wound tight, 3 or 4 seconds for each 360 degrees of rotation; obviously, it must be slowed down. To do so, you must install a weight in the escapement.

This escapement is a piece of rounded plastic that is exposed when looking into a small slot in the bottom side of the tapered part of the timer case. To be sure you have found it, wind the timer to the max and let it unwind. The escapement appears to vibrate back and forth, thereby keeping the timer from unwinding too fast. If your timer does not have such an escapement, the toy you bought is not the right kind. Go back and buy a different one.

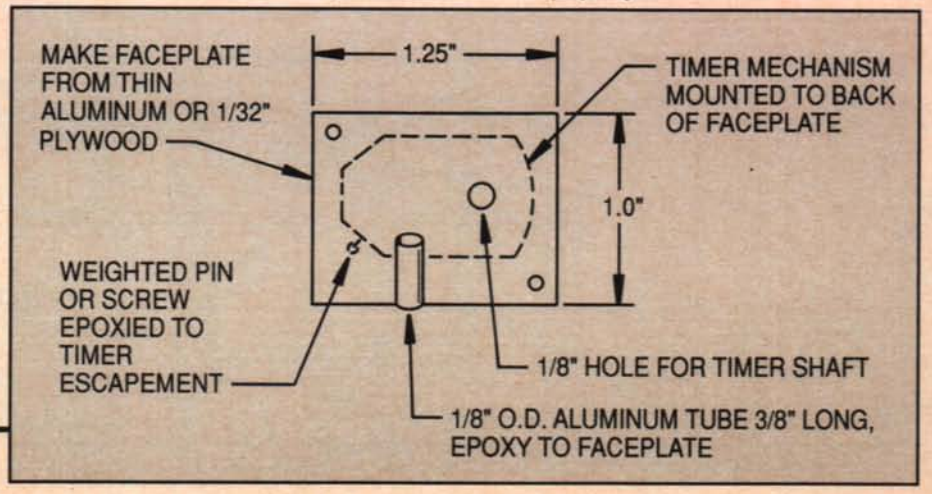
Next, drill a shallow (1/16-inch deep or less) hole in the escapement, using a drill no larger than 1/32-inch in diameter. After you have drilled the hole, install a short dress pin (3/8-inch long) or a very small wood screw (00 or less) in the hole. Use epoxy, not CA, to secure the pin or screw in place. Let it cure. Rewind the timer to see that everything works. It should run much slower than before. If not, remove the pin, glob some solder on the end and re-install it.

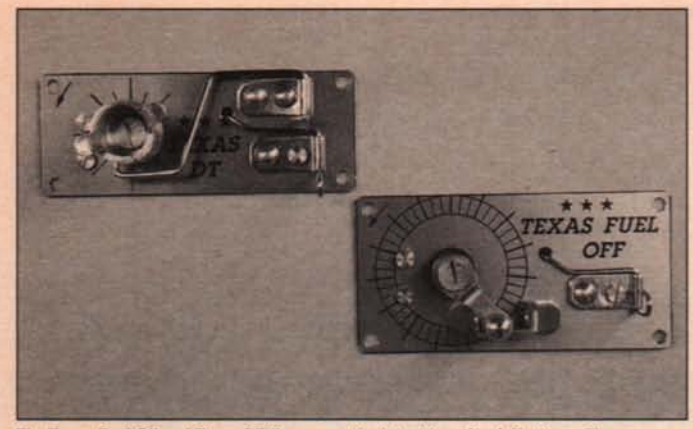
The amount of weight needed depends on the timer's use. For Nostalgia or .020 Replica events, you need a timer that runs 15 to 20 seconds. For AMA events, 10-15 seconds will do. The less weight on the escapement, the faster the timer will run.

Now that you have the timer running to your liking, it's time to make a faceplate. Carefully shove a .055-inch diameter wire into the back of the timer, pushing the windup wire out the front. Cut a piece of 1/32 plywood or thin aluminum large enough to cover the front of the timer (see sketch). Drill a hole in the faceplate where the windup wire will exit and epoxy the faceplate onto the timer case. Put epoxy only on the ends of the case and be careful not to get it on any gears or pivot points. Allow to cure thoroughly.

Drill 1/32-inch holes through

Faceplate details for the do-it-yourself engine timer built from a windup toy, fully described in text.





The Texas Fuel Off and Texas DT timers are the latest from Hank Nystrom. These are first-class units and built to withstand lots of use. Details in text.

the faceplate where it joins the case and also where the case has holes through it. Epoxy straight pins through these holes. The pins help keep the timer case in one piece and also firm up the timer/faceplate joint.

Remove the plastic knob from the windup wire. Bend the wire at a 90-degree angle with enough of it to re-install into the timer and still leave about 1/8-inch in front of the faceplate, then bend the tip of the wire at another 90-degree angle so that when you push the wire back into the timer hole, the bent tip is just a whisper above the faceplate. Wind the timer to the max and allow it to unwind fully. Note the timer arm arc on the faceplate.

Now rewind the timer fully and lock the arm so that it can't unwind. Securely epoxy a 3/8-inch long piece of 1/8-inch aluminum tubing to the faceplate just inside the timer arm arc. Allow the assembly to cure 24 hours.

The last step is to remove the timer lock and double check to see that the timer arm comes to rest on the edge of the tubing. If so, you're done. To test your unit, put a piece of surgical fuel line through the aluminum tube sleeve on the faceplate. When the arm comes around it should fold the fuel line over the edge of the aluminum tube. If it does, the timer is ready to use. Install it in your model in the usual fashion. You may want to install an on/off switch mechanism, or you may want to do as I do and just hold it with your thumb while starting the engine.

TWO NEW TEXAS TIMERS

I recently received one of the latest Texas Timers, a unit that designer/manufacturer Hank Nystrom calls the Texas Fuel Off Timer. The neat thing about it, besides the powerful spring and light weight (15.4 grams), is that it has a wire bale type of on/off switch, which is as positive as you can get. There's no chance that the vibration of the engine will re-engage the switch, as is the case with some of the other timers currently on the market.

The clockwork mechanism appears identical to the Starline pinch-off timer, which means it has a strong, positive and consistent action. Full windup on this timer will give you about 30 seconds of run.

Also available is the new Texas DT timer. I haven't seen one of these up close, but if it's anything like the Fuel Off, it's a good one. Both of these units join with Hank's other timers and can be purchased directly from him. Write to Hank Nystrom, 3317 Pine Timbers Rd., Johnson City, TN 37604. Enclose $18.95 for the Fuel-Off and $24.50 for the DT timer. S&H for any number of timers is $2.00. ***MB***