KNOX COUNTY RADIO CONTROL

Newsletter

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THIS'N THAT

► Other modelers seem to accumulate a backlog of model kits for future builds. I've never been able to do that; if I have a kit on hand, I'll usually start on it as soon as I finish the last one. In fact, sometimes I start another before I finish one. I've been getting antsy lately with the urge to build something. I'm not doing any flying but I hope to get some in pretty soon since it's almost springtime.

I recently went to HobbyTown to get something to build and they didn't stock a single kit, so I went to the internet. Graves Hobby in Orlando has a great selection. As I broused through page after page of kits I saw an old favorite. A BalsaUSA Phaeton II. It's a biplane kit they've been selling for years at a very good price. Die cutting instead of laser cutting but that's OK. I built one of the Phaetons back in the nineties and it was a great flyer so I have one ordered. I also ordered some of the Hobby King covering I talked about in a former newsletter that I liked so much. Now I have to go and get a bottle of Elmer's wood glue..

I'll let you know how things go..

MY THOUGHTS:
ARE EDF JETS RIGHT FOR YOU?

By Frank Allemand

Since I fly electro ducted fan (edf) jets quite a bit, Jim Scarbrough asked me to do an article so other club members could learn more about them.

In the last two years edf jets have seen lots of improvements that increase their reliability, make them more detailed and realistic looking, enhance their sound to be more like a real jet, and all at even lower prices. So there are many good logical reasons to consider edf jets. However, as with most hobby decisions, logic often goes out the window with the bathwater.

In my opinion, the real decision boils down to just two basic questions to ask yourself: Do I like jets? And do I like to fly fast? If the answer is yes to either or both questions, than you are probably a good candidate for an edf jet and should read the rest of the article.

I favor starting with a small trainer jet that has both flaps and retracts in order to learn all the basic fundamentals before moving up to bigger ones. There are key differences in taking off an edf versus most prop planes, some experience is needed to get used to the speed and the difficulty of seeing them when too far out or against a hazy sky, and some obvious differences are necessary in the approach and landing.

One starter suggestion is the E-flite Habu 2, which is a BNF F-16. It has a wingspan of 36 inches, a 69mm fan that uses a 4 cell battery, and flies about 80 mph. Unfortunately this model is being discontinued. So I also recommend the Freewing Rebel V2, which has a wingspan of about 32 inches, a 70mm edf that uses a 4 cell, and also flies about 80mph. It is attractively priced with flaps and retracts ready to go.

As a next step up I like Freewing's 80 mm fighters, most selling for about $299 PNP. This includes the F-86 Sabre, the de Havilland DH-112, the A-6 Intruder, the Mirage 2000C-5 fighter, a desert camo F-5, and a Swiss Scorpion. Scale details are superb, and they all fly great. Their speed is generally around 80 to 90 mph, except for the Mirage and the F-5, which are a little more difficult to fly and considerably faster (110 mph plus).

Illustration 1: This is the F-5

After 80mm's a further step up in cost and complexity is to the 90mm class. Right now the most popular 90mm jets are the Freewing Stinger, the Taft Viper, and the Hobby King Cobra. The Stinger is the fastest at about 110mph on a 6 cell. The Viper is the easiest to fly and goes about 85 mph on a 6 cell or 100 to 110 mph on an 8 cell (two four cells in series). The Cobra uses an 8 cell and has both the advantages of the Stinger's speed (actually about 120mph) and the Viper's ease of flying.

My edf flying has progressed through the 80mm and 90 mm models. I love the looks of the jets on takeoff, when flying a fast pass, and in landing. I am still learning to improve as I move up to bigger and heavier edfs in the 105mm and 120mm group. Some of these planes use 8 cells, others use 10 and 12 cells. All are done via series harness combinations of 6 and 4 cell batteries.

Getting back to logic, the quality of edf's is getting much better because several of the leading companies are in serious competition. Foam does not really look so much like foam anymore, but still is easy to repair. Many scale details are now being included, both on the exterior of the plane and in the cockpit. The Russian YAK-130 I brought to the November meeting is a good example of the kind of detail being added

Illustration 2: This is the Yak-130

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Reliability has gotten much better as well. The control hardware, retracts, motors, fans, and ESC's are now good enough on these particular models that very few people are changing them out.

Testing is extensive. For example, the new Freewing 90mm F-16 edf was extensively tested by Motion RC (Freewing's US distributor) and their suggested modifications were made before it even went into production. Testing included about 200 flights under all conditions including heat, rain, and wind. Since the gear on the model F-16 is very complex (just like the real one), it was extensively torture tested. This consisted of 74 flights on one inch tall grass, 29 flights on a grass/dirt/weeds mix, and 22 flights on rolled dirt. Static drop testing consisted of 20 drops, the highest from 32 inches with the jet loaded to 12 pounds (an 8s battery plus extra weights). It is also great that the guys doing the testing on these planes have been available by phone and email to answer questions I had about control settings, flying techniques, etc.

Illustration 3: This is the Freewing F-16.

Some of the newer edf jets also have brakes to help out with short runways, and others have a reverse thrust feature on the motor. These add even more fun to the landing process.

Many edf companies are also changing from 4 or 5 blade fans to 11, 12, or 14 blades. It doesn't add more power (there is actually a small power penalty), but it provides a jet like sound most people love. After hearing some of my edf's fly, several members of the Chattanooga club commented they want to change out their fans just to get the great sound.

Price wise, it seems to me edf jets are competitive with regular prop planes when factoring in similar size and accessories like flaps, retracts,

etc. No one ever said that RC flying was a cheap hobby.

However, I should mention the one aspect of edf jets I do not like and that is the short flying time. Most of these models will only fly about 4 to 5 minutes when at full throttle for most of the flight (and who wants to fly these jets at half throttle anyway?). Usually I land a minute early just in case I have to do a go-around. When time runs out, you better be on the ground because glide is minimal. On the positive side, battery and edf motor technology are still dramatically improving. So I hope to be able to get much longer flight times in the not too distant future.

From the time I started with edf's I have always wondered whether or not I should get into turbines. Watching them fly is truly awesome. However, when the weather is good I want to fly 4 or 5 times a week and cannot get past the fact there is not a suitable local field with a long enough runway. As for the expense, one good turbine set-up costs more than all my edfs put together. And since things do occasionally go wrong, I hate the thought of trashing what would be the equivalent of my whole edf air force in one bad minute. So logic says that turbines are probably not right for me, but then again, there is the bathwater aspect, so one never knows.

You can check out any of the edf jets that I mentioned for more details, or please just give me a call if I can help.....Frank

Editors note:: These models are awesome. The pictures here don't do them justice. Check out better pictures on the " EDF photos" by Frank on our KCRCTN website.

Assembling the ARF Goldberg Falcon 56 Airplane Part III

by Phil Spelt

Starting the actual Assembly

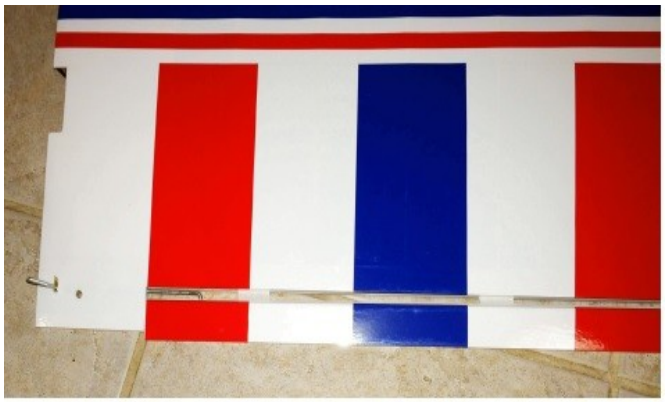
A friend of mine listed the following steps for assembling ARFs:

1. Reinforce the firewall.
2. Reinforce the landing gear mounts.
3. Reinforce the wing mounting area.
4. Repeat steps 1 – 3.

Well, those of you familiar with computer programming will recognize those steps as comprising an infinite loop – one with no exit. However, the point is well-made – those three areas need to be checked for strength, as they are the usual failure points for ARFs, and kit-built planes as well, often.

The first step is to check the above three high-stress areas. Next, give the control surfaces (ailerons, elevators and rudder(s) a strong tug to make sure they are glued securely.

All the control surfaces in this ARF are unglued. This would permit the builder to replace the hinges with a preferred type. I like the CA hinges installed here – they are Great Planes unslotted hinges, but they will work fine, as it is not worth the time to pull



them all out and reslot for other types.

The wings on the Falcon 56 are set up for a single aileron servo, driving the ailerons through the control rods visible at the left (i.e., center) end of the bottom of the wing in Fig. 1.

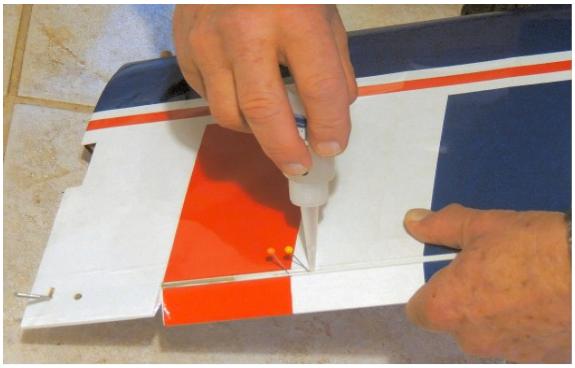
With the aileron pulled away from the wing in the following picture, you can see the rod sticking into the aileron. This point must be glued at this time, also. The problem with a single-servo aileron setup is that there is no individual aileron adjustment using the Tx. If the ailerons are not in proper alignment with respect to each other (if there is roll built into the ailerons as initially set up) the only adjustment is via the mechanical linkage at the aileron control horns. We will cover that topic after the plane is built and ready for flight.

The tail surface hinges also need gluing. The same pinning and gluing method we use on the ailerons also applies to these. The good thing is that there are separate elevators on this plane; the bad news is that the stock installation uses a wire bracket to tie the elevator halves together as a single unit, thus precluding individual elevator adjustment. I may change this procedure when we get to that step.

Gluing Control Surfaces:

With the control surface pulled slightly away from the flying surface, insert two straight pins through the CA hinge. Should the hinges not be already in place, the pins should be inserted in the hinge at the fore-aft midpoint, so that half the hinge goes into each surface. Once all the hinges for a particular control surface are in place and pinned, **thin** CA is applied to each

Figure 2 shows glue being dripped into the hinge line, with the bottom side of the aileron pointing down to



encourage the CA to wick down into the aileron. The wing should be tilted the other way (leading edge down)

to wick CA into the trailing edge. The entire assembly is then flipped over and the process repeated on the upper side of the wing, always using gravity to flow the CA into the hinge and surface slot. The hinge should have been thoroughly soaked with the first glue applications, but just in case, it is a good idea to repeat the process on the top (opposite) side of the surface. Be careful not to apply so much CA that it runs down onto the surfaces – it is difficuolt to remove once it cures. Don't ask me how I know…

Having glued the CA hinges and the aileron control rods together, we are ready to assemble the wing panels into a wing. The V-shaped dihedral brace, so a naïve builder would know what it is for, was taped to one end of a wing panel. Figure 3 pictures the inner ends of the wing panels (the ones to be glued together). The paddle between the bottles of epoxy is to mix and apply the glue – it is wider than the usual popsicle sticks often used, and is better suited to ladling on epoxy and spreading it around.

Figure 6 shows the wing brace and other materials layed out ready for the gluing. The use of 30-minute epoxy allows time for the glue to be spread all over the ends of the wing panels as well as inside the box for the brace, and on the brace itself. Once the epoxy is spread around, the brace is inserted into one panel and the other panel is pushed onto the brace and against the end of the first panel.

Before applying the glue, it is smart to have a can of acetone and some paper towels handy, along with latex gloves, which should be worn throughout this step. The gloves keep the epoxy off your hands, and also keep the acetone away from your skin. Acetone is very readily absorbed through the skin, and it is a liver poison. I prefer to keep all my liver function for processing good scotch rather than acetone!

As you push the panels together, epoxy will squeeze out from between them. The acetone will clean this off, as well as any finger prints that always somehow get onto the covering during this assembly. Again, don't ask how I know. Once the panels are together, weight the trailing edge ov one panel down to the table -- over wax paper or the backing from covering to prevent gluing the wings to the table. Block up the other wing tip to maintain the dihedral and keep the seam between the panels snug and let the glue set over night to make sure it is fully cured. It turns out that this procedure is well-described in the manual that came with the Falcon 56, but other manuals may not be so clear. Next time, we will add the aileron servo mounting plate and continue with the next steps in this process.....Phil .

Illustration 4: ***John Walkling's MOM winner***

Minutes of Mar 10, 2015

President Ralph Holder called the meeting to order at 7:00pm. Minutes of the February meeting were approved as printed in the March, 2015, NewsLetter.

Treasurer Joel Hebert presented the Treasurer's Report which was approved unanimously. He also presented the list of current paid members, totaling 568 members.

Ralph Colon reminded members of a Fun Fly and picnic on April 18th.

He also discussed having a float fly in late May or early June. Memorial Day weekend was suggested as a possible target date.

Safety Coordinator Alan Valeo led a discussion on the AMA's Safety Rules, and why it is important to follow them. The primary reason, (other than being safe!) is that any law suit over an accident involving one of our aircraft would be greatly weakened for the pilot of that aircraft if the safety rules were not followed. Phil Spelt pointed out that the same applies to the KCRC Safety Rules.

Ed Dumas announced that the NOAA visit to the KCRC field was postponed to March 11, 2015, due to inclement weather.

Phil Cope announced that Harry Hogan, a KCRC Emeritus member, had passed away last October. The remains of his R/C things were on display for folks to

take after giving a donation to KCRC.

Joel Hebert announced that next month's meeting would be in room 207 in the west wing of Fellowship Church, near where the out building we used to use is located.

Model of the Month:

John Walkling had the only MoM entry this month – a beautifully-done Great Planes F-15 Tomcat. The plane has fixed gear.

Crash of the Month

Randy Philipps won the glue package for crashing his Hangar 9 P-47.

Meeting adjourned at about 7:50pm.
Respectfully submitted, Phil Spelt, Secretary ▉

Getting the Most From Your Club's Web Site

Did you know that KCRC has a Web site with advanced features that allow members to get information about other members, post ads and pictures, and much more?

Let's say you need to contact another member but don't have their phone number or e-mail address. Our entire membership database is online and protected so that only other KCRC members can view the information. Here's how you go about retrieving contact info for another member:

1) Go to the KCRC Web site by typing www.kcrctn.com into your browser's address bar.

2) Click the "Login" link near the top right corner of the home page.

3) Enter your user name and password, and then click the "Log In" button. You should have received a user name and password when you joined the club. If you did not, or if you can't remember them, contact Jeff Prosise (jeffpro@wintellect.com) or Joel Hebert (hebertjj@gmail.com) and they will provide you with what you need.

4) Click "Members Only" near the top-right corner of the home page. (It appears there after you log in

successfully.)

5) Click "View the KCRC membership directory" near the top of the Members Only page.

6) With the membership directory displayed, click the numbers at the top or the bottom of the listing to page through the database until you find the member you're looking for.

Incidentally, you can click "My Profile" to view your own membership profile and update it if necessary. It's a help to other club members if you keep your own information current in case they need to contact. ..

Jeff Prosise, Webmaster ▉

SAFETY NOTE

Thing's I Saw At the Field

At the last indoor meet, a pilot accidentally powered off his transmitter before he powered off his model and the prop started to spin. The explanation is easy. The failsafe function wasn't executed properly. It's easy to setup on most of our systems and they all seem to have this safety feature. On Spektrum systems it just requires binding the receiver with the throttle set to the idle or lowest stick setting. Other systems vary and you should check your manuals for the correct procedure. To check the operation of the failsafe you should always make sure your model is restrained. I suggest using the buddy system with a knowledgeable buddy. With the airplane running and the throttle advanced off idle, turn off the transmitter. The throttle should drop to idle. Electrics should stop spinning completely. Turn the transmitter back on and you should regain full control. A bad failsafe is easy to miss on an electric because the ESC won't arm during binding even if the throttle stick is at full power. One more tip on fuel models, reinitialize the failsafe after you have a good idle setting. It may save you from having a dead stick after a short signal loss.

…….**....Allan Valeo, KCRC Safety Officer** ▉