

The Flying Times

The Official Newsletter of the Valley RC Flying Club

June 2007

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June Meeting Location Notice

At the church in Bridgewater, 7:30 pm, June 5.

Presidents Korner

Another month has gone by....Didn't get too much flying in .. weather has not been co-operating... either rain or too windy.

Went out this past Sunday but the wind was too turbulent but was talked into flying the Stryker, (Randy S, you devil). Got off to a good start but soon found that if I slowed down the plane, it would go nuts. That Stryker likes speed. The wind was strange as it was OK above about 30 feet. If you slowed down below that the turbulence was awful. Made a couple of landing passes but gave up and landed it up in the corn field. (grass cover crop was only about 8" high.) I got the plane down OK though. When I arrived at the field Randy had his newest creation in the air and appeared to be having a bit of a problem when he got low. I just thought he was ringing the

plane out. He did make a successful landing though. After landing my Stryker he told me that he had a tough time landing. Thanks Randy..

Today I went out to try and get in a data flight with the Typhoon. The wind was livable but coming from the south. I put the data recorder in and got to flying. After about 11 minutes I detected that the motor was slowing down so decided to bring it in. Well I think the battery dropped too fast at that point and shut down the Receiver voltage, so I had very little control. Needless to say it went into a spin and into the ground. Damage is easily repairable.

I downloaded the data when I got home and found the following:

Total pack mah use was 1643 mah. I had not charged the battery for 2 weeks so it might have been a little down so could not get the 2100 mah of

use. Max amps was 18.37amps, average was 4.73amps, Pack volts went from 12.43 to 10.40 volts and finally the watts used at any one time was - maximum 203.17 with an average of 51.91 watts. I recorded 21 minutes of data on the flight.

The graph data did not show a significant drop in battery voltage at the end to cause the plane to lose RX power, I had it set for a 70 % cut off which should not have cut off until about 8.7 Volts, so will have to see if there was another cause. One other thing I have to check is Data memory maximums. I might have run out of memory and got a false premature ending of data. I have to do some more learning on how to set it up properly.

The Typhoon information sheet shows that the Brushless controller has a max of 20 amps, so I was just within it's spec on the flight (18.37 amps)

And I was well within the Max current from the Thunder Power 2100 mah battery. I didn't even hit 15C the continuous current spec.(15 times battery capacity in MAH or 31.5 amps). The battery has a burst current of 24C or 50.4 amps). The maximum as far as the motor specs, I'm not sure as it's only listed as a part number BL400-15T (maybe 15Amps).

I have the option to measure Temperature and RPM but did not have those sensors hooked up.

Tid Bits

Be sure to check the **EVENT CALENDAR** later on in the newsletter.

And lastly, could you all rummage through your junk box for good items that can be used for door prizes at our meetings. Bill Link (former member) has donated a gallon of GSW 15% glo fuel for a door prize.

See you all at the meeting on Tuesday June 5th at the Church..

President Dave B.

The 23rd Ray Gordon Memorial Jumbo

Fellow VRCFC members

In less than 3 weeks our annual Ray Gordon Jumbo event will be in full swing. A lot has gone into planning this year's event and a lot of volunteers have

stepped forward to take on important roles. The two primarily VPs this year will be Aaron Swindle and Dan

Meyers. Make sure that you tell each of these gentlemen, when you can provide assistance to the various facet of the event that will need help.

I recently talk with both the AMA and IMAA about our event and I am happy to report that both organizations will have representatives at our event this year.

Also, the AMA Show team will be here to set up for the simulator trailers for everyone to enjoy. I will be printing many more flyers to go out in the local community, also.

The cost for the show team to make the trip is around \$550 for all 3 days. The AMA is going to pay for their gas round trip, but I need your donations to help recover some of my cost to get them here. I think you will really enjoy the

effort and the community will really get a kick out of flying the simulators.

Some of the other things I am working on are: Fly-over at noon with a real military type aircraft, Pilot night at the field with a movie, raffle items and a

special live weather broadcast from the local TV station.

I would like all member to Please print 5 copies of the flyers off the club web site and post it at places that you frequent. I have sent the flyer to all AMA and IMAA clubs in Virginia, North Carolina and

Maryland. Let's try and get the general public behind this as well. It is one of the oldest running event in Rockingham county!

If you have any ideals for advertising to the general public, let me know. I hope to have our club clothing items ready to pick up the first week of June. I will let you know when they are in. Be

prepared to help out at the Jumbo. If we all help, then we all get a chance to fly as well.

Remember...Hosting this event will show the community what we are about and that why we enjoy what we do. How we exhibit hospitality to others, will be remembered long after the event is over. That positive recollection, will help ensure our future in this community.

Thanks for listening,

Tim B.

TRAINING NOTES

Pilot Training

The pilot training program is up and running and seems to be off to a good start. I now have 6 Instructors to help newbie's earn their wings. We have 7 students signed up for the program already and hope to have it in full operation by June. If you want to earn your wings or go through the program yourself, give me a call and I will get you into the program. I also hope to get started on the advance program when the JUMBO event is over with. This program will pick up where the basic program ended. You will learn about Cuban 8's, hammerheads, Immelmans, and procedural acrobatics.

Did you buy the right prop?

With so many propellers available from so many sources and with the seemingly countless variations of diameter and pitch values, there is virtually an unlimited supply of props to choose from. One of the most frequently asked questions I receive from newbie's into Giant Scale aircraft is, "What prop should I use with my (fill in the brand name) engine?" This question seems pretty straightforward, but as we shall see, it's anything but! What should be asked is "Which prop should I use for my model?" Let's dig a little deeper.

To select the appropriate propeller, you have to take into account both your engine's power and your airframe's weight and structure. The prop requirement for a 1/3-scale Sopwith Pup is not necessarily the same as for a 1/5T-6 Texan even though both models might be powered by the same engine-a Zenoah G-62, for example. The Pup, with its rigging wires and two wings, has more drag to deal with, and because of its relatively light wing loading, it can fly

at low airspeeds. In comparison, the Texan has retractable landing gear, a single wing and a higher wing loading; it needs to be flown much faster than the Pup. It isn't likely that you would use the same prop for both planes.

What you have to ask yourself is, "How do I want my model to perform?" With the Pup, you want good climb performance and a maximum airspeed of about 40 to 50mph. With the Texan, you want good climb performance, but you also want the model to fly somewhere in the 60 to 50mph range. Also, you want your prop to load the engine sufficiently for it to operate within its optimal power band. So the information needed to pick the correct prop boils down to the model's weight, wing loading and estimated airspeed and the engine's optimal rpm range.

With calculations, you will find that a prop with a lower pitch is good for a slow, draggy Pup, and a higher pitch is good for the faster, higher-performance Texan. Of course, these are two extreme model examples, so the best way to find the optimum prop/engine/airframe combination is to test-fly your prop choices.

THE BALANCING ACT

It is very important to properly balance your propellers, especially with giant-scale models. An unbalanced prop causes unwanted vibration that can, over time, damage both the engine and the model's airframe. Use a good-quality prop balancer that's suitable for the size of prop you are balancing. I have used a High-Point balancer from Robart Mfg. for many years. At the very least, you should always balance your props so that they sit horizontally on the balancer's spindle. But this is only 50 percent of the job: the prop is balanced spanwise (Figure 2). You should also

balance it chordwise or across the hub face. Placing the prop in a vertical position will show whether it needs further attention. Whichever way the top blade falls, that's the side of the hub that is heavy. The propeller is perfectly balanced when it can be placed in any position and remains there without moving at all.

The first thing to do before balancing a prop is to ream the prop hole so it precisely fits your engine's output shaft. It makes little sense to balance the prop if the prop hole is too big or off-center. Don't use a drill bit to enlarge the hole; the bit could easily damage the prop. Use a prop reamer and do the job slowly by hand. Once the hole has been reamed to the proper size, slide the prop onto the output shaft and see how the aft prop hub face sits against the engine's drive washer. It should sit flat against it. If it is off slightly, sand the hub's surface with a sanding block. If it is off by a lot, replace the prop altogether.

There are many ways to balance props, but I believe in the "Keep it simple, stupid" method. I simply remove material from the very tip of the heavier blade or from the heavier side of the prop hub until the blades balance. Many modelers sand the blades' front or rear surfaces, but this can change the prop's airfoil cross-section. This method also removes a lot of the prop's protective finish and can allow moisture to be absorbed by the sanded blade area. By removing material only at the very tip, I need only a small amount of paint or clear varnish to seal the exposed wood. You can also paint your props to improve their scale appearance and to further protect them from moisture. And while you're at it, paint those tips with a bright color so they'll be more easily seen when the engine is running. Once you have balanced your props, store them lying flat in a horizontal position.

Don't hang them in such a way that one blade is lower than the other. Over time, moisture will find its way to the lower prop and will ruin all your hard work.

Several engines come with multi-bolt prop hubs in which there are six bolts around the central prop shaft. Don't try to drill these holes with a hand-held drill; use a drill press if you can, and use the prop washer as a guide while you drill the holes. The proper way to drill the bolt holes is to position them so that there is a clear path from prop tip to prop tip.

Once you have drilled the holes, check their alignment by placing the prop on the engine and installing the bolts by hand. They should all thread easily into the drive washer. If they don't, enlarge the misaligned holes slightly so that the bolts fit easily. When you're satisfied with their fit, remove the prop back and balance the prop. To ensure that the prop is always attached in the same position on the shaft, make a pencil mark on the prop hub and the drive washer. Whether you use a single prop nut or a multi-bolt prop hub, always make sure the prop is securely attached to the engine. Make sure the prop bolts are tight, and always check the prop for damage before you go flying. When it comes to props, don't take any chances!

BUILDERS CORNER

Hello, fellow fliers (builders)

As of now, my shop is finished and available for those of you that need space to build or repair your aircraft. The shop is equipped with large counters and a 12' by 4' long center table that was built with aircraft kit

builders in mind. The table is perfectly level any way you check it. Thanks to Tim Blankenship's craftsmanship.

The shop is air-conditioned and heated. Has a handicap bathroom and hot and cold water. There is even a small refrigerator for you to put your favorite drinks in to keep cold. Plenty of light and room. Shop offers power tools, equipment and a large variety of hand tools for use at no additional cost. Expendables such as glue, paint, towels, etc. the builder has to provide, but if you run out, the shop has enough on hand to get you by.

Cost of using the shop depends on length of build, type of kit, or if it is an ARF. The fees are to pay for lights, AC and heat. Shop was built to building codes, 2 fire extinguishers are close at hand. Telephone is available to use for local calls. Engines may be run-in and tested outside of the shop any day of the week. There are some restrictions while using the shop: No smoking; no alcoholic beverages; no fuels allowed in shop. The shop is located 2 miles south of Grottoes on Route 340 South.

The shop has a large inventory of small RC parts from lock collars to spinners that if the builder needs a part to finish his/her project then it is available to them here instead of driving back to Harrisonburg to get. If you're interested in using the shop for 1, 2 or 30 days or more, give Joe Hash a call at 540-249-4950.

BUY-SELL-GIVE AWAY

I am still looking for a .61 size motor for the Cherokee I bought at the swap meet.

Phil Speicher

540-335-5328

Free to anyone that wants/needs one: Doors that would make great building boards/benches. Doors vary in width from 18" to 32" x 6'8" , have several of each. Anyone that wants one let me know. Must be picked up at my house. First come, first serve.

Randy Ryman

SAFETY STUFF

WARNING

Do not operate any propeller until you have thoroughly read and understood the following instructions and warnings!

A rotating propeller has the potential to be very dangerous and can cause personal injury. It is the responsibility of the user to be aware of this fact and to operate it with extreme care, common sense, and good practices. Inspect the prop before each use for any signs of damage or irregularity. Remove and replace any damaged or irregular prop. Do not attempt to repair it. Be sure that it is balanced and mounted properly. Check the prop bolts often for proper security. Do not allow a spinner to rub against the prop.

Do not hand start your engine. Always remain clear of the rotating prop blades. Never reach toward a spinning prop or

allow anything or anyone to come near it while in operation. Keep people behind the plane of the prop. Do not run the engine at high RPM in the proximity of personnel or property. Always operate over a firm surface. Never attempt to stop the engine by throwing any object into the propeller.

(Editor's note: Consider an ESC as you would a loaded gun. Once you power it up and it is connected to the motor, you have a slicing machine which may be coming your direction)

FIELD MARSHAL NOTES

Hello fellow members. Well it's been fairly windy thus far this season. Makes it kind of tough to get in some flying during the middle of the day. And it seems almost every Sunday the weather is less than desirable for flying.

So what's with all the wind? I've been tracking the windy conditions for about the last three years, it has been above average for quite some time now. Global warming? Could be..many schools of thought there. We've had some obvious changes in the jet-streams over the last decade, which has been confirmed by the professional meteorologists across the nation.

El-Niño/El Nina...both have contributed to more intense and sometimes extreme weather conditions from day to day. I've noticed we seem to get more (microbursts) than we used to here in the valley. Microbursts are small intense storms that form in their own soup fueled by very local conditions.

Hot/Dry windy conditions seem to contribute quite a bit to these

phenomenon. It is estimated that the jet-stream conditions can last from 8-12 years on a cycle. I saw this same cycle as a kid living on the Gulf Coast around Corpus Christi Texas. We would get rain bursts that would put us ankle deep in rain water in less than 30 minutes of down-fall. Like rain that falls in the jungles. We didn't mind. We just got out our skims boards and went swooshing down the street.

I also withstood 2 hurricanes during my time in Texas, once you've seen what water/wind can do to an area up close you never forget its power. Well, what to do about the wind!? Make plans to fly earlier in the morning hours and late in the afternoon....say around 6:00-8:00 P.M. We've had some great times huckin around the pattern in the evening hours watching the sun slip beyond the horizon. Mucho Fun!

Windy conditions can be scary when you are a newer pilot. The ole (crosswind blues)...you want to fly but you might be worried about whacking your bird into the ground. Been there...done that!

Try to get some crosswind practice when the wind is a bit gentler...learning to use the rudder on your aircraft is an all important aspect of flight. Remember, the rudder steers the nose of the aircraft; just like an outboard motor steers the front of the boat.

Practice taxiing down the runway in the wind, this will help you learn how fast your aircraft reacts to your inputs. Some days you'll get that nice smooth milky air to fly in, but at our flying field most days you'll have to deal with a little summer wind. Happy Flying!

Thanks for reading,

Aaron

VRCFC

EVENT CALENDAR

A Flyer from the Expoland Club inviting us to a Fly-In on June 3rd 9:30 AM until ----

8th Annual Electric Aircraft Fly-in

Saturday, July 28, 2007

LCAA Flying Field Banshee Reeks Park, Leesburg, Virginia

Registration and flying starts at 9 AM and goes 'til 5 PM. AMA Sanction 07-0061. Bring your Park Flyers, Slow Flyers or Sport Flyers. Check LCAA web site <http://www/lcaa.org> for additional details.