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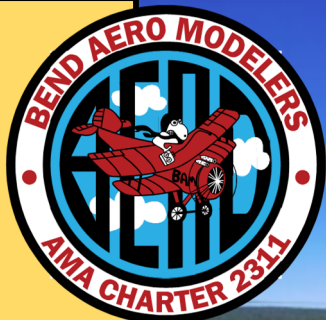
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BEND AERO MODELERS

JULY 2021

FLIGHT REPORT

President's Message

FUN FLY NEXT SATURDAY JAN 26, 9:30 AM

At long last, things are opening up -- let's open up this summer with a Fun Fly! 4 Easy Events -- ① Take off, timer starts, count # of loops in 1 minute and land; ② Landing Accuracy; ③ Combat; ④ Limbo. No Entry Fee, Cash Prizes. Use any plane for any event. Bring your own lunch and drinks. Wind will not be a problem, as this Flight Report issue has some great info about this. GET IT ON YOUR CALENDAR AND LET'S ALL MAKE IT A POINT TO GET OUT THERE AND FLY! SEE YOU AT 9:30 AM!



On that note, I recently flew on a Saturday that was partly cloudy and in the mid-sixties. I was surprised when I arrived at 10 am only one other flyer was present and ultimately only a total of three of us showed. We enjoyed several flights over four hours experiencing no mishaps and really had a fun time. The one drawback for flying that day was the wind was blowing between 7 -15 mph, mostly right down the run way from east to west. After returning home, I called a couple of members to see why they didn't participate and the wind was the primary reason cited. I get it. The main reason I don't fly more often is the wind is too strong, or it's gusty or both. The last thing I want to do is crash a plane even though it is part of the sport, I like to minimize the number and severity of crashes! Usually you can dress to handle the heat or cold, it really doesn't rain enough to cause that to be much of a problem but the wind does blow regularly out at Popp's Field.

I reached out to our three club instructors and received some very solid ideas on how to approach flying in the wind. Look for "The answer . . ." starting on Page 4 of this issue, where you'll find some excellent info on the subject.

At this point, however, I want to direct our focus to how thankful we all are at the outpouring of generosity you exhibited in our Popp's Field Expansion fundraising effort, bringing in over \$5700 after deducting PayPal fees, adding to our roughly \$500 in savings before the fundraiser. Regular donations from 37 members totalled \$2,418, an average of \$65.35 each. These donations started at \$20, and went up to \$300. Special thanks go to our member and 3D-extraordinaire pilot Frank Wood of Cascade Sotheby's Realty for donating the Draco, which really gave a shot in the

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President's Message (From p. 1.)

arm to the giving. Very well done, members! And, notably, I also pass on the profound gratitude of all of you BAM members to the anonymous gentleman who gave \$2,000. It seemed that the consensus of the club was that we would really prefer Option A, but there was a \$2,000 deficit keeping us from being able to go that route, and he decided to just eliminate that as an obstacle, challenging the club to raise another \$1,000, which you more than doubled! That donation, along with Frank's offer, accelerated the pace of our donations, and then, knock our socks off, another anonymous donor gave \$1,400, putting us in tremendous shape to do our upgrade. We need to finish the project before the end of this year, so be ready to get out your gloves and roll up your sleeves to make this project happen. Stay tuned to your email for updates on how we'll need everyone's help. Again, a hearty THANK YOU!

Joe Newman, President, Bend Aero Modelers

Some Highlights of our June 26 BAM Meeting out at Popp's Field



Phyllis Chappel does a marvelous job pulling out Chris Shaker's winning entry.



Master Builder Tom "Trouble" struts his stuff with his masterfully built Proctor Antic and Lazy Bee



A rare moment--

Frank Wood flying a 3D plane in nearly a straight and level attitude.



Billi Broich on the sticks



James covering the basics with Blake & Rex Van Meter. Love to see the Father - Son connection.



The Safety Corner

Jim Stuart

BAM Safety Officer

That Preflight -- AGAIN!

Awhile back, I posted some comments on the preflight of an airplane before you fly it. I think that I am a pretty safe flyer and I do a good brief preflight before I start flying a plane on a day. Recently, I found that I was lax on a very important part of that check. I was flying my new OV-10A Bronco, doing a lot of landing practice in different wind conditions. The Bronco makes it look easy but on my last landing, on the roll out, the transmitter shut off. About six seconds earlier and the Bronco would have been toast! Talk about dumb luck? You bet!



I had been setting up the transmitter for a buddy box a couple of days before and doing some flight instruction. That kept the transmitter on and off a lot in a couple of days. I did a great job preflighting the AIRPLANE, but completely missed the fact that the Tx voltage was getting low. When the Tx shut off, the voltage had just passed 6.9V. After recharging it was now 7.9V. **What we all have to do is check that dang voltage on every preflight for sure.** I know I will. I have also stuck a blank label on the Tx

battery pack. Every time that I recharge the pack I will now mark down the date on it.

The picture shows the Bronco BEFORE flying and thanks to dumb luck also shows the AFTER.

LiPos really do a great job, but they need to be understood and properly cared for. Anyone who has been flying electric for awhile probably has a good understanding of them, but for someone new to the hobby it is worth gaining some knowledge.

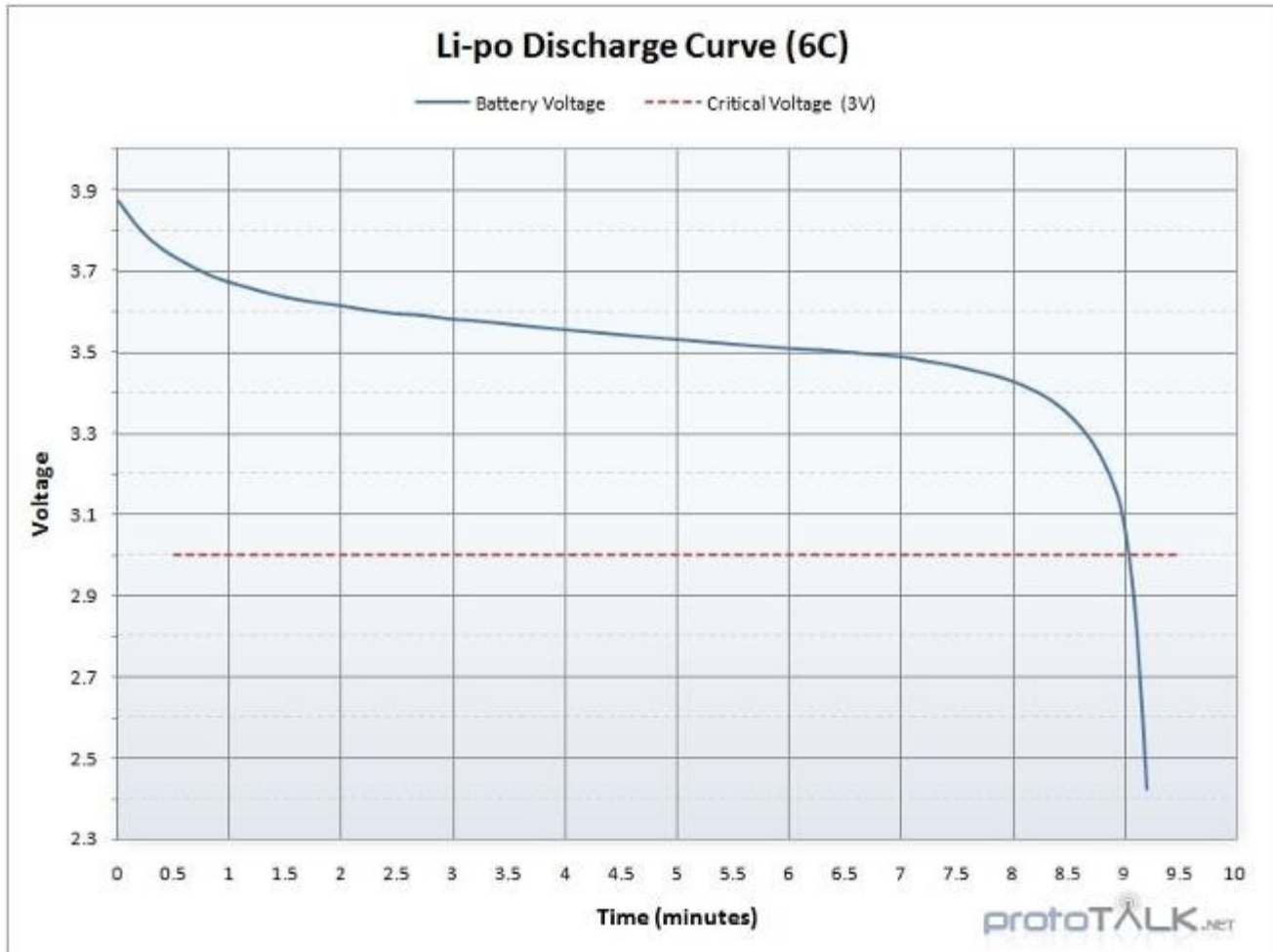


A cell voltage of 3.5V is a good "no go" point, but what we see on our Spektrum transmitter display would be 7.0V. The last voltage that I saw on my transmitter after it shut down and then recovered a little bit after I had turned the switch back on after the incident was 6.9V and I suspect that at this point the LiPo was at the cliff at 3.45V per cell. The LiPo is officially dead at 3.4V and a throw away at 3.1V.

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The Safety Corner (Continued)

Take a look at the discharge curve for a typical LiPo.:



It's pretty flat for the most part and then at around 3.7V per cell it's getting pretty close to the "cliff". You may have been flying for hours after a full charge but at a point in the discharge you may be looking at minutes before your transmitter or flight pack shuts down. I think that for the flight packs we are all with the program and always start with a fully charged pack and are careful about a time limit on flying. I suspect that we all don't always start with a fully charged transmitter pack every time though, so it's important to check this voltage frequently and to set a "must do" point for a recharge. It's a personal preference as to where this point should be, so base it on the usual amount of flying you might do on a typical day.

It's great to start with a fully charged transmitter every time that we fly, but often an opportunity to fly comes up on short notice and a couple of flight packs can be quickly charged and ready to go. However, a transmitter pack may take considerably longer. The important thing is to just check it often and have a "no go" point in mind.

Have a safe flying day!

Jim, The Safety Officer

*The answer,
is blowin' in my friend,
in the wind...*

I have categorized these into four groupings including technology, technique, flight plan and airplane. My thought is that all our members know some of these, but do we know all of them? I had forgotten a couple of items mentioned and plan on using these in the future to increase my flying time so I hope you find this valuable. As a starting point, Valdemar has categorized wind speeds to help facilitate discussion. These are:

Up to 10 MPH: Should be flyable without much problem

10-15 MPH: Requires hands-on flying, especially if you fly in gusty conditions

15-20 MPH: Is dicey so if you value your airplane, you should consider keeping it on the ground

20 Plus MPH: Not recommended, stay on the ground

Most of the discussion below pertains to the 10-15 and 15-20 mile per hour wind speed categories.

Technology: I think everyone in our club is aware of the relatively new and continually advancing technology as it relates to flying Radio Control planes. Specifically, the use of high speed gyros to keep your plane stable even during very windy conditions is impressive even in lighter foam construction planes. Brand names such as Horizon's AS3X are just one example of many available in the market today and many of the bind and fly planes sold today come with some form of this. Keeping the plane stable during variable wind conditions allows the pilot to relax and not over control the plane and concentrate on executing the flight plan. Another related technology is a full recovery mode which allows the pilot who has lost control or orientation of the aircraft to simply initiate the recovery mode (usually button or switch activated) and the plane quickly recovers and assumes level flight path as long as the initiation occurs with enough room before the ground interrupts the recovery. This particular technology gets a lot of use with new flyers who don't have access or desire to receive one on one training. Using both of these technologies during windy conditions can make the flight much less stressful. Yet another advance in RC flying is the auto landing mode. Again, with this system properly set up, once initiated the plane can land itself (hands off) on the runway very close to its take off point. Hum, with all this technology do you really need a pilot to fly the plane? You make the choice as to what level of technology you chose to use. I have AS3X (or similar) on about half of my planes, I don't have a recovery or landing system on any



planes currently. My decision is driven by realizing some of my planes are really hard to fly in even moderate wind (think foam military scale planes) so the AS3X is handy and helps me relax flying those models and enjoy the flight more. I have chosen not to have recovery or landing technology because I learned flying without those enhancements and this has allowed me to advance in my ability faster (my opinion) and the price of those technologies is hard on my flying budget!

Technique: At some point while you were learning to fly or by watching others fly in windy conditions you realized landing in the wind is challenging particularly if the wind is blowing at an angle to the landing strip and/or is variable speed. I was trained to use the rudder to keep the plane pointing into the wind until just prior to touch down when the rudder is returned to neutral to allow the plane to track straight down the runway. The harder the wind is blowing, the more variable the wind the more difficult the maneuver is. It requires practice. One suggestion is to practice this technique in lower wind conditions even when it isn't necessary as this will help you gain some confidence and muscle memory for when you really need it.



Another technique on the landing is to use the ailerons during the runway approach to keep the plane lined up then level the plane just before touching down. I have used this technique several times and it works but you have to be careful to level out just before touchdown otherwise the wingtip will strike the runway prior to landing and crashing is a likely outcome. During variable wind conditions I have used both the rudder and ailerons together to keep the plane lined up with the runway. I leave you to experiment with this technique. My suggestion is to use a gentle touch to either of these or both as you and as over correction creates more problems than it solves.

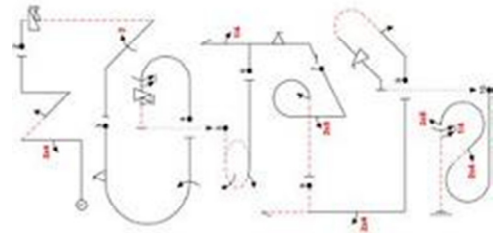


Some planes have flaps that add lift and allow the plane to land (and take-off) at slower speed than without the flaps deployed. This can be a bit tricky as some planes I have land better in wind with the flaps down, others don't. My suggestion is that you perform a couple of practice landing approaches at a higher altitude with flaps deployed, half deployed and retracted to gauge how the plane is performing in the wind. My experience is the lighter planes with flaps tend to either not need them in windy conditions or perhaps only deployed midway. This also depends on wind speed and angle so practicing a couple of wind landings with flaps in various positions is advisable. The heavier planes I own land just fine with the flaps deployed though I find adding a touch more power while landing is helpful.

Taking off can be challenging in the wind. The advantage is you can orient the plane somewhat into the wind (unless it's at 90 degrees to the runway direction) and use rudder control to keep orientation. Be

ready with ailerons at lift off to keep the plane level and get some altitude quickly to add a safety margin. The advantage of taking off into the wind is that you don't need as much ground speed to get off the ground so usually even planes that require a long roll before liftoff are in the air quickly.

Flight Plan: It helps me when I fly in any conditions to consider a flight plan before each flight, even if I have been flying all day. Why? A flight plan helps me focus my thoughts on what I want to do during the flight allowing me to concentrate on what specific things I need to do as a pilot to make that happen. I don't write down my flight plan, but as I am thinking about my next flight, connecting the battery or filling the fuel tank I think of what I want to do during that flight. For example, with a recently acquired plane (EFXTRA) that is capable of high speed (100 + MPH) I have been working on keeping the plane closer in so I don't lose sight of it and flying some simple acrobatics (upside down, loops, rolls, hammerhead) so I in my mind I put those maneuvers in order prior to take off. Once I take off, I try to complete the plan and I find I have a much better chance of getting through the list and gaining confidence flying that new plane and improving my flying skills. How does this relate to flying in the wind? In particularly windy conditions, I usually simplify the flight plan compared to what I might do with low wind conditions. Usually, I find I am more apprehensive when flying in windy conditions so the simplification of flight plan makes it easier to execute. If I normally want to perform 5-6 items during a flight, I might make that 2-3. If I haven't flown a plane in the wind before, I change my plan after take-off and performing a few simple oval or race track patterns over the field then immediately lining up for landing. This allows several down wind and line up on the run way attempts if needed prior to actual landing.



With electric airplanes, I shorten the flight time. If the plane has a 6 minute flight time, I shorten it to 4 minutes. This allows me extra time to land! Knowing I have more than one or two chances at landing helps me relax and concentrate on the specific things I need to do to land successfully. With gas and nitro planes that I own, the flight time on a tank of fuel is well beyond what I am comfortable flying anyway (10 plus minutes) so I listen for the timer as usual on my transmitter to begin the landing routine.

Airplane: If you have more than one plane, you will probably know which one flies better in the wind. While not universally true, generally the larger and heavier planes fly well in the wind. I have a giant scale Carbon Cub that does pretty well in windy conditions but it makes me nervous to fly since it's a new plane and I am not interested risking a crash! So when you pick your plane to fly in the wind, there are more things to consider than just size and weight. Here is a partial list that you might consider when selecting which plane to fly in windy conditions:



Size and Weight: Larger, heavier planes usually are easier to handle in wind. This is really about wing loading. Trainer planes tend to have lower wing loading (15 oz. or less per square foot of wing area) which provides for great slow landing and flying speed but does not work well in windy conditions. Planes with higher wing loading particularly above 20 oz. per square foot will handle windy conditions much better.

Scale Planes: These are usually harder to fly in calm conditions so this translates to windy conditions as well. There are exceptions to this rule, I have a foamy P-51 with many windy flights that handles very well in most conditions so is one of my planes I will fly in the wind. On the other side of the coin I have a WW1 Bristol mono plane with a skid rather than a tail wheel and wouldn't dream of flying it in the wind as it wants to weather vane in a slight cross wind.

3 D Planes: I don't currently own a 3 D plane so am not qualified to give personal experience on this one but watching some of our members flying these planes in all conditions including wind suggests a combination of their skill, the low speed flight characteristics, maneuverability and very low stall speed can make these planes a possibility to fly in wind but it's a mixed bag as wing loading is low so they will get bounced around in the wind requiring greater pilot skill to fly. The higher power to weight ratio means these planes can also have an extremely short take off run which is helpful in the wind.



Bi-Plane: More wing area makes these fun to fly but more challenging to fly in the wind. Again, I don't own one but the wing loading on these tends to be low with lots of wing surface relative to the weight so not ideal for wind flying.

Ducted Fan Jet: I haven't flown either of the two jets I own in much wind. I find them challenging to fly in calm conditions given typically higher take-off and landing speeds required to fly these birds. Would love to hear from anyone in the club their experience on this.

Flying Wing: This has become one of my go to planes for flying in the wind! I have a Flight Test wing with a 39 inch wing span made of foam. I find it can fly at high speed but it actually glides at no throttle into the wind. This wing is particularly tough so I don't worry as much about a rough landing and has no landing gear so hand launching simplifies the take off in windy conditions. During the previously mentioned Saturday, Bill Broich also flew his foam wing (Horizon Hobby-Opterra) and it performed incredibly well in the variable wind conditions experienced that day.



Thanks to the instructors who contributed to this write up, you are all fantastic! I hope this brief recap of ins and outs of flying in the wind helps you to fly more often at Popp's field. I look forward to see you flying soon and practicing your skills for flying in the wind!

Enjoy,

Joe Newman



On June 12, Tom Schramm stopped by the Nampa Idaho flying field's Fun Fly and Swap Meet. It has a 400' x 40' asphalt runway flanked by a 500' x 50' grass runway, pilot pits, six concrete prep tables with AC power, and a grass infield on 2 1/2 acres. Thanks Tom, kinda fun to see another club's layout



Ah,
AIRPLANES
FOREVER!



Looks like a swap meet . . .



Nice A1
Skyraider



Classy Pit area . . .



Hope they have a big wide mower or at least a herd of goats

A Little Tip from the Editor:

Xacto knives. Nice, sleek little tools with smooth, round handles. Look great, but round stuff knows how to roll. And, if those babies decide to take a turn toward the edge of the table or



work bench, they can show their skill in metamorphosing into darts, real attention getters if they nail their favorite target, your foot. I've turned to taping a chunk of duct tape to them, leaving fin-like protrusions to prevent their radial locomotion and bloodletting.