

*Wine Country Flier*



**Next meeting: Cancelled due to Covid-19.**

**[www.wcflyers.com](http://www.wcflyers.com)**

**Promoting Model Aviation in Sonoma County**

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**Newsletter: Guy Nicholas**

**Website: Patrick O'Halloran**

# Presidents Report

By: Guy Nicholas

Greetings all. I hope you are all doing well and enjoying the (finally) cool weather flying. For our runway project we currently have 2 bids on doing work and hopefully one of them will work out.

This month I, finally, got my slope glider into the air. I took a trek to Las Vegas to pick up a motorcycle and I ended up making a bit of a trip out of it by stopping by Robbie Jensen's place in Palmdale. Robbie is an ex-member and avid builder/flyer who now heads a "model shop" for NASA. He took me up a hill and we threw his glider out into the wild. Robbie took that thing out about 100 yards doing rolls and climbing the entire time! It was really pretty cool to just sit there and fly with nothing but the wind for power. Below is a picture of Robbie (left) and Ryan at the hill. It's hard to see due to it being a panoramic picture, but the hill is the part directly behind Ryan.



After my trip there I flew my Ahi (<https://dream-flight.com/products/ahi-kit>) at the coast for the first time. The wind was in the wrong direction so there wasn't a lot of lift there, but I did fly it around for a few. Given the Ahi's light wind needs, I know I can find a place closer to home to give it a toss. The glider flying was pretty fun and I highly recommend it.

I wrote a short article about chargers for this month's newsletter, but I would also like to add a charging safety tip. At a general meeting (remember those?) a while back I mentioned something about parallel charging, which is basically the practice of attaching a pair of batteries in parallel to a single charge port. I want to remind everyone this is a very risky process if you are very careful. When you parallel the batteries you are essentially connecting cells from one battery directly to another and when you do this the batteries will IMMEDIATELY auto balance from one battery to another. If the voltage difference between cells is not VERY close you will get a high discharge from the high battery to the low. Most times this will probably just burn out the balancing wire as they are not made for much current, but the high current drain, basically a short, can also damage the battery itself, and could potentially lead to a fire. I am bringing this up as a member just shared his negative experience with me. My strong suggestion is to not do parallel charging.

I would like to second item number two from our safety officer's report as I went to the field a couple weeks ago to find the gate open. Please make sure you close and lock the gate when you leave.

That's all for this month, enjoy the weather while it lasts!

Guy

## From the Garage

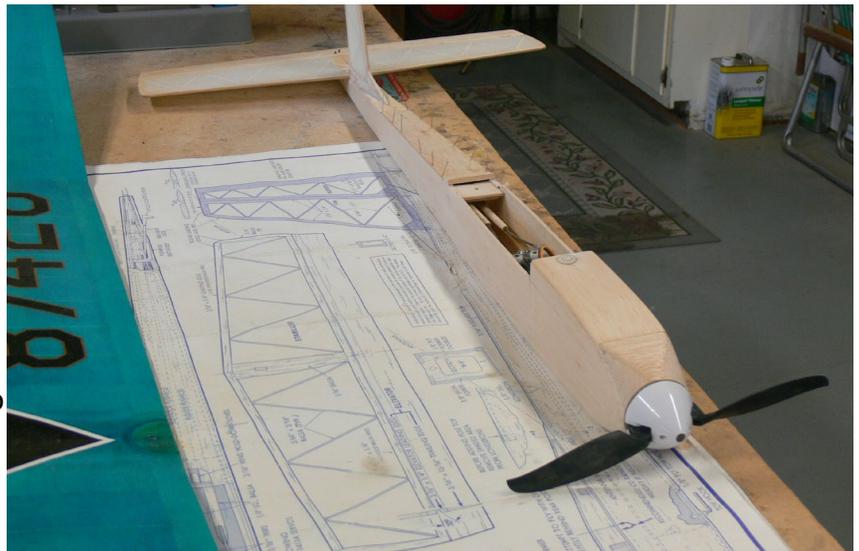
By: Jake Chichilitti

### From the Workbench

The P-47 build continues with detailing the cockpit. I thought I would take a break from the building effort and do something a little different. The Top Flite kit offered accessories to dress up the model. They included a cockpit kit, releasable drop tank and dummy radial engine molded from white ABS plastic. I finished the dummy engine and drop tank and started assembling and painting the cockpit. I am in the process of cutting out the instrument dials and attaching them to the instrument panel. It's pretty slow going, but will look really nice when finished. I removed the pilot from another model that is semi retired and will look good in the new one.



On another subject, I am tired of going to the coast to slope soar my gliders and not being able to fly because the wind is too light or from the wrong direction. So I dug out my old plans for the Gentle Lady glider designed by Carl Goldberg and redesigned the fuselage to mate an E-Flite 450 motor and the folding prop assembly from the Radian Glider. It is nearing completion and hope to test fly it at the field soon. I mated the fuselage to a Gentle Lady wing I had on hand.



Jake

# ***Safety Matters***

By: Jake Chichilitti

Guys,

This month sure went fast. I only managed to get out to the field a few times this month. The cooler weather in the mornings seem to make the glow/gas engines run better. Here are a couple more club rules I'd like to cover this month.

Rule # 21 No Smoking or vaping except inside personal vehicles. Please be considerate of other members when out at the field, thanks.

Rule #22 Last person leaving for the day lock gate. I noticed that this rule is also duplicated as rule #24.

So far I don't know of anyone in the club that has contracted Covid-19, so we must be doing something right.

Keep up the good work,  
Jake

# ***Board Meeting Minutes***

8 October 2020

By: Chris Bailey

- Present: Adam, Steve Koll, Eric, Guy, Steve Cole, Paul, Jake, Chris
- Meeting started @ 6:35 pm
- Group discussion of member dues, what date should dues be prorated and drop to half for new WCF members, what date should new members pay full next year dues and get remainder of current year for free? Motion by Paul, membership dues are full price until the end of June, July 1st until September 30, new member dues are prorated at  $\frac{1}{2}$  of current annual dues, October 1st until December 31st, new members pay full annual dues for next year and receive the remainder of the current year for free, Second by Steve Cole, all board members present in agreement, motion approved, discussion of board member dues, Guy pointed out that the WCF club bylaws state that there is “no compensation for board members or club officers” thus, unless there is a modification approved by a majority of club members, board members and officers will pay full annual dues
- Runway update: Guy spoke further with Boyd, grant money could go directly to the WCF club, 1 contractor has submitted a bid for runway project ( Donte O’Connell), Guy will speak with Donte to clarify some points on the bid, and follow up with 2 addition contractors regarding obtaining bids for runway project, Paul discussed club finances, funds available for project
- Group discussion about club officer election for 2021, Paul suggested that we could do an online election, or could include a ballot for club officers along with the club dues renewal for 2021, Adam suggested that the current officers could remain in office until we could hold an in person election, probably sometime next year, Paul made a motion to defer election, current officers to remain in office until an in person election can be held, Steve Cole seconded motion, all present were in favor, motion approved, we will hold a club election for officers for 2021 when we are again allowed to hold general membership meetings
- Member Ryan Rommel has a warehouse with a commercial kitchen in Petaluma, might be a good location for a club party( after Covid-19), Steve Cole will contact him regarding facility details
- Eric located a copy of WCF club bylaws, he will forward to Guy and all board members
- Meeting adjourned @ 7:40 pm

# Charger 101

By: Guy Nicholas

Most of us fly electric aircraft which means we have batteries that need charging, which means we need a charger. I just did a quick search in a couple of stores and boy there are a lot of numbers they throw at you. What do they all mean? Well, hopefully I can clear some of that up. There is a newer system by Spektrum using the name Smart and I will not be covering that here, but I am hoping to convince "someone" (you know who you are) to write a follow up to this article that covers Spektrum's system.

I believe there are a few basics you need to think about when purchasing a charger which include power source, output power, channels, and programmability. Let's start with the power source.

I think most of us want to be able to charge at the field, or perhaps you drive to a park and want to fly there, you may want to be able to charge from your car battery. If so then you will want to have a charger that is DC capable. If you would like to charge at home you have two choices, buy a unit that is AC capable or buy a separate 12V power supply. The advantage of getting a charger with a built-in power supply is that you then have everything in a single unit. The downside is that they tend to be lower power and bulky. When I bought my charger I had decided on a straight up DC version and while I was deciding on a power supply I would hook it up to my truck when I wanted to charge at home. I found dedicated power supplies to be fairly expensive, so I hunted for alternatives. I now have a pair of supplies, my first was a laptop charger that cost under \$20 and put 12V and 80 watts. I then decided for my main supply I would buy a server supply that ended up looking like this:

I paid \$35 for the supply, and a few bucks in a fan cover and plug connectors. The thing that is nice about this is that it puts out 750 Watts (we'll get to watts in a bit). That should get you started with input power, now let's move on to output power.



Without going into details Watt's law says that power (in watts) = current (in amps) times volts (in volts). Let's suppose you have a 6S 3000mah battery that you want to charge at 2C. First 2C means that you want to charge at twice its capacity which is 6000mah. The voltage we will call 4 volts per cell (ballparking here) which when you multiply that by 6 gives us 24V. So the power we need to charge this battery is  $24 * 6$  or 144 watts. What this means is that you will need a charger capable of about 150 watts to charge this battery. A lot of times when you look at the output of chargers, they will list the cell count they support, 6, 7, 8, etc. and then they often list amps they are capable of, but you have to be careful, for example I am looking at a Prodigy charger that says it will do 2-6S and .1A-10A charge rate, but then says it has a 100 Watt max. Going back to our math, a 6S battery charging at 10A would be 240 Watts, which obviously exceeds its stated 100W max. If you wanted to know the max charge rate it could do on a 6S battery you could rearrange our equation and divide power by volts, so  $100W / 24V =$  just under 4 amps. My suggestion here is that you think about the batteries you have and the ones you may intend to buy and do the volts times current calculation to get an idea how many watts you want your charger to be.

Once you decide on the output power you should think about channels. Generally speaking, you can charge one battery per channel, so if you would like to be able to charge 2 batteries at once you need a 2-channel charger. Remember that if you choose a multi-channel charger your power supply will need to generate enough to power all your channels. You also will want to look at discharge power as this will tell you how fast a charger can discharge batteries. When discharging the charger will generate a lot of heat as that is where the power goes, so smaller chargers with no fans will typically discharge at a much slower rate than one with larger internal heat sinks and fans.

Lastly you should consider programmability. Some have none, meaning when you plug a battery in you may have to enter the cell count, capacity and charge rate, though some of these, like cell count, could be auto selected when you connect in the balancing plug. The point here is that each time you attach the battery, you must enter some values to get it to charge. Other chargers let you program things like cell count, charge rate, max voltage, etc. I have an iCharger 308 and it lets me save 64 programs. I much prefer this type of setup as when I first get a set of batteries, I can create a program right then tailored to them, and after which I don't have to think about it. I plug them in, choose the program and tell it to charge, I don't have to worry about screwing up the setting.

That wraps up my view on things to consider when looking into a charger. I think it's an important purchase and one you should put some thought into, so look around, and don't be afraid to ask questions of your fellow pilots at the field.

Happy charging, Guy

## *For Sale*

BRAND NEW IN BOX Balsa USA

1/4 Scale Piper Cub Kit no.438 \$250 or best offer

BRAND NEW IN BOX

Horizon Hobby - Blade 330X Ready-To-Fly \$250 or best offer

Call Matt: 707-235-7457

Or Email: [22manytoys@gmail.com](mailto:22manytoys@gmail.com)

## **WCF 2020 EVENTS SCHEDULE**

- **Christmas Party: TBD**
- **News Year Day Fun Fly: (take a guess)**