

Prop Kicks



The Official Publication of the Cloud Kings R/C Club

Charter Club # 579

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President's Corner

My compliments to the hardy souls who have been flying whenever possible so far this year. The wind and weather haven't been treating us too kindly all spring, but we've managed to make a fair showing in spite of the adverse conditions.

Our summer calendar got off with a **"Bang!"** at our **Spring Fling!** We had a great turnout by the membership and their guests. Lots of delicious food, in the way of chicken sandwiches were served-up by Dale Adams - our Master Chef.

The conditions were accommodating, and we enjoyed a day of wonderful weather. It was a good time for visiting and fellowship under the pavilion and temporary canopies. The ladies were well represented, and delivered up some tasty dishes for our dining pleasure (well done girls!).

Model aviation was the theme of the picnic, and the action continued throughout the whole day. We have some of the finest R/C pilots around, and they supplied plenty action to thrill and delight spectators and members alike. It's good to be part of a club that knows how to have great spring picnic, and enjoy our hobby at the same time!

You have probably noticed that we have 3 additional flight set-up tables at West Field. We need to thank Pete Jones for undertaking this job! Pete first made detail drawing, purchased the materials, cut the wood pieces, and then transported them to the field where with the help of some of our members the final assembly was completed.

The order of new Cloud King shirts has arrived. Those of you who have something on order you can pick it up from me at the field, or at our next club meeting on June 12th.

"Last Meeting"

No New Members:

Prospective members:

Mark Cordrey, sponsored by Brian Porter

Scott Graham, sponsored by Dale Adams

Rachel Kinney, sponsored by Louis Kinney

Matthew Kinney, sponsored by Louis Kinney

We stand in debt to Alvin Johnson for all the improvements he has negotiated for us at West Field this year. Which include not only a fine job of regular mowing, but also our new paved road, and the spring rolling of the field. It's good to have the guy who started our club still in there pitching!

Now Gentlemen - our big annual event is about to happen! It's our Fun-Fly at Harris Field on June 23rd.

We will need to see you **all** at our next club meeting where we will finalize our game plan for that day. We will need the help of **all** our members, not only to show up and fly, but to lend a hand with the various duties required to run the operation smoothly. Brian Porter will be the Field Boss for the day. He is expecting everyone to show up at around 9:30 AM to pitch in and make it all happen. Let's **all** get behind this event and make it a real success.

Everything seems under control and the club is percolating just fine. All club business is going forward with few bumps in the road. All we need to do is keep it moving in that direction. What we need to keep in mind is that it just don't magically happen, it takes the whole club pulling together to make it the great success it is — onward!

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Next Meeting: June 12, 7:30 PM at West Field

Cloud Kings Air show and Fun fly: Scheduled for June 23 2007 at Harris Field

“Misc. Photos”

Ray Crowley is sporting a new bird that just came off his work bench. It's a Sig 4 Star 60 - all in yellow, in case you hadn't noticed. It fly's as good as it looks!



Past President Visit

We were honored recently by several visits by one of our past presidents and his wife. Earl and Gladys Gibson could be seen at West Field enjoying the flying. Men like Earl were the early pioneers that formed the foundation our club rest on today! They prove that the *old days* are still alive and well...

Daily Operations Strategy by some of our board members?, or maybe planning how to beat the heat?...none of the above, we were all waiting for the wind to die down somewhat. Bob Fling with his Telemaster 40 nearby, Brian Porter with his new “pocket rocket” Model Tech Mach Racer, and Bill Vandenberg with his “Too Easy” Trainer...maybe the trainer was an Easy2.



Assembly of the new stands was completed in a couple of evenings. Thanks to the help of Dean Jones (shown on the left) Bob Fling, Bill Losey, and Rick Jones.

“The Wing Project”

By Pete Jones

If you were at the last meeting you may remember the “Wing”. Since that meeting, and good flying weather being near, the wing project has developed into quite an adventure. Let’s start with the glow version, as by far! this one has been the fastest one. More than one you question?, yes. I started out with an O.S. 25 fX on my “test unit” this was ok,



and learning to fly this contraption turned out to be quite the adventure too. After putting it in, I need not define that term any further, 3 or 4 times “in” was experienced before mastering the plane then I decided to step out of the box and seek more speed. There was a nice O.S. 32 that I have been playing around with on my “Hots” profile, same bolt pattern, just a little more weight and set on the wing frame perfectly. As it turned out that this little “bullet in a box” was the perfect engine for my wing. Some of the frequent flyers that had seen the 25 unit performance at West Field just happened to be around when I arrived for the first throw with the 32. If I would have had a rear view mirror on I would probably seen other pilot running for cover, but no mirrors so I assumed everyone would trust my building skills. After recruiting one of the guys that had enough nerve to even get close to this 36” tail-less beast, and a few lessons from Bill Losey on how to toss one of these things, then off she went straight and true. If you like speed! and you want something different!

this is the ultimate. I expected, well, really I didn’t know what to expect but something a little more difficult to fly was my expectation. Not the case guys this thing flies like it’s on rails at high speed, same for medium speed, and will slow down to a crawl if you want. Just one note, if you want to do crazy stunts with it, tight loops, rolls, combo loops and rolls, watch out! “Wing” having a mind of her own, will show you what she can do in return! and you won’t like it. I am not sure what causes the wing to act this way but I believe I am re-living Jack Northrups’ woes back in



the day when he was working with the government to get a contract to build flying wing bombers. Now the fun begins. As some of you know this wing was fast. Enter Brian Porter who feels the same about speed as I and also feels quite competitive. I’ll shorten this up by saying I beat him. This could be another story but I’ll end by saying that the next time out he won and I introduced my fine flying slab wing to an O.S. 46 AX and that was the end of that adventure. Upon installation of the 46 and thinking that I needed a little more nose heavy to handle the speed I then realized that my original research was spot on, “DO NOT MESS WITH THE CG, SET IT AT 15 % OF THE CHORD AND LEAVE IT ALONE” this time trying to recruit someone to toss her was a little more difficult, I turned around and everyone was gone, hidden, wanting no parts of the finger crunching capability it could

produce, after cutting my hand and getting that squared away, all kidding aside John Andrews was up for the task but it was me that received the 14 stitches on my thumb for losing concentration for just an instant. This time, with care we tuned her to a fine sounding hum that even Gil the neighbor would enjoy. John picked her up, I double checked all systems, nodded to John and off she went, nose heavy right into the ground... end of Glow Wing. Now what? here I am, the score is 1 win for me, one win for Brian and my plane is destroyed but my thumb survived. Where do you go from here? I set a goal and started to form a plan of ac-



tion with some constraints. Goal: beat Brian, constraint #1: must use a “Wing” but how will I power it? After giving this some thought I believe that electric would be the way to go as I really feel that if you want that kind of speed, glow can’t handle the task unless you go to a competition type engine with a tuned pipe. Now with that kind of weight maybe I’ll need wheels, retracts would be out due to weight so I would need more power to pull the wheels at that speed. Constraint #2, I need to retain the ability to toss it (maximize power without excess weight) enter electric motor.

Cont.

With electric in mind now I'll need to keep weight down to a minimum so as I build this one I'll focus on wood that I can remove and still retain strength.

I don't know anything about electric motors so where can I get some help? Enter Sparky, remember Sparky? In this newsletter (past issues) he gave us some information to get us started. So based on a target weight of an airframe I need to calculate all up weight (AUW) so I can determine motor size. Now we need to throw a lot of information around, back a forth, until all components will do the job within my constraints.



Now, as I consider electric I'll set more constraints but I'll give a little because of availability of motors, etc.. #3, I need to achieve a flight time of about ten minutes, #4 I don't want to spend a fortune buying batteries. Having chosen a light weight motor that Eric Musser had on the shelf (although not the kind of speed I need to beat Brian) at Extreme Hobbies, a speed control, and a battery, then off to the building board. Enter calculator, don't go off to the building board

without this, remember the 15% CG, we need to hold that number, so now my brain is really fried. Remember the commercial? Here's your brain..



Here's your brain on drugs. This may be like drugs! There is a simple formula for calculating CG...

$W1L1=W2L2$ simple right?... It's not simple and believe that! Why is the nose so long on this electric version? Keeping in mind the formula above, the wing frame lets say weighs 12 oz covered and ready to fly. If you were to set it on a balance beam with the pivot point on the CG then you would see that to get balance you need to add weight to the forward section. Remember that the motor weight is about 3 oz. And the lipo battery is 5 oz. So that being 8 oz. is not enough to bring the 12 oz. frame to balance. This is just like a lever; increase the length of the lever (nose) and it will pull the load up (frame). I'll save you from doing the math here, and for the motor, as there are many things to consider and bounce around depending on the type of flying you want to do, just don't lose your calculator.

So the build came out nothing short

of perfection and I sometimes wonder how I can out-do myself with the next project but remember, I need to beat Brian! This current electric Wing is the sweetest plane I have flown yet, all the bad habits of the glow wing have gone, a simple toss by yourself will send her out to perform the magic you want to see, and as of this writing I can get about 20 minutes of flying time at about 60 mph if I want, and it will do vertical until you can't see it. Speaking of seeing it, you should con-



sider a color scheme that will allow you excellent visibility. Also, the high speed version is nearing completion and I expect it will have Brian shuffling to answer this creation as I calculated 126 mph being very conservative with the math. Since I have worked through all the calculations and if you would like to try building one of these machines I'll work with you to get that going, meanwhile,

See you at the field.

“Tips from an instructor”

By Brian Porter

The following is just some hints and tips to help you get more flight time with your instructor. Most instructors are very happy to help you learn to fly and enjoy our hobby of Radio Control, But In order to maximize your flying time, take care of a couple of things BEFORE you get to the field, Preflight your model, Preflight your field box, I know this sounds strange, But I have seen it too often where a student gets to the field and they either have very little fuel with them (not enough to complete one flight), or there starter, glow plug, transmitter or receiver batteries are dead.

If you get to the field before your instructor and this is not a maiden voyage, have your model fueled, the wing installed and the radio range checked, this way when your instructor gets there you can get to flying. If you have crashed or it's your maiden voyage, contact your instructor before you go out so he can set aside extra time to look over your aircraft, and fly it prior to turning the controls over to you.

Some instructors such as myself are starting to set aside one night during the week to instruct, But these time are usually limited. For and example I try to be at the west field on Wednesday nights, But due to work I cannot get there until 6:00PM. When I arrive, if I have to spend 30 minutes getting a student together, it's that much less flying time you get. Now for those of you who cannot show up on Wednesday's, I know there are usually a few instructors who try to fly on Friday evenings. Remember, the more you help yourself, the more you help your instructor and the better chances of successful flying.

“A Wife's view of R/C”

By Liz Porter (R/C widow)

“This hobby is really different.” That's what I heard three years ago after many different hobbies had come through my door. I thought” well this will last a while and it will collect dust in the closet with the rest of the past hobbies”. This is the way it really happened, this hobby has turned my once honest husband, a man of his word, into a person I just shook my head at and agreed with.

First came” I just have to stop by the hobby store for two minutes to look around”. This turned into a two hour stay. Next came,” I just need to stop for one thing,” When I hear this I think ”OH NO.” The truth here is that these past years have given us so much equipment, that we could probably open our own store. When you hear this “one thing” line, your thoughts are” What else could you possibly need?”.

But finally the best for last. This is “I'll be back soon” by the time the day is through any other plans for a day of activity other then R/C is shot. By the time dinner is reheated three times and you are still waiting for your flyer, just give up and go watch TV. They will have so many stories of what went on when they get in, they won't eat anyway.

So R/C wives if this is the worst your husband does then you are very lucky, R/C's a great hobby.

By the way, come on out I'm usually there. Hey! It's better than sitting at home watching dinner dry out.

“Safety Briefs”

Brian Porter
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The weather is improving and the flying pace is picking up! During the winter, we have picked a few new people.

As “newbie’s” start this wonderful odyssey of Radio control, we the “experienced” fliers while still trying to wake our wings and fingers from the long winters nap, we need to keep a watchful eye on them.

Watch as they unload and setup, are they doing things right? IMPOUND there transmitter! Pre-flight there aircraft. Complete a proper range check?

When they start there aircraft, is it at

low throttle? Do they stay as clear as possible from the prop arc?

When they make a needle adjustment do they do it from BEHIND the aircraft? When placing the aircraft on the ground, do they stay away from the prop and is the aircraft pointed in a safe direction? Do they check the wind so they takeoff into it? Do they announce there intentions? (Taking off, on the runway, etc) Do they complete a final control surface check for the proper direction of travel?

After they fly and land successfully, do they IMPOUND their transmitter? Check over there aircraft to insure it’s safe to fly again? And most important did they have fun?

Oh, I thought I was just writing about “Newbie’s”?????

I like to end this with” I hope it was a safe month”, BUT we had small incident this month.

A VERY experienced pilot, After starting his aircraft and getting ready to move it from the stand to the ground, had a momentary loss of focus.

Unfortunately, this loss of focus cost him a couple of stitches in his thumb!

So please pay attention, especially when working around running aircraft.

Till next month.

“Take offs are optional, landings are not”

Pete I Brian I

“Electrifying News”

By Sparky

Sparkys been wondering, maybe he’s been putting the cart before the horse. Why he’s been dishing up all this suffocated stuff about how those electric motors function, and just maybe we need to review some fundamentals. We’ll backup and try to bring everybody up to speed. So, let’s start at the beginning and talk about voltage. It all starts with the VOLT. No voltage – no nothing! Voltage is the ElectroMotive Force (EMF) that makes everything else happen. Electrical energy is referred to in a number of ways, EMF, Voltage, Electrical Potential (Potential Difference), and is usually referred to using the all inclusive term, as the Source. The strength of the electrical energy is measured in volts. There are a variety of ways to create electrical energy. The way we model aviation enthuses are most familiar with is electricity generated by a chemical process – the battery. A battery is made up of two or more cells. There are two types of cells, the primary cell, and the secondary cell.

In the primary cell once the chemical activity in cell is used up the cell is usually discarded. A secondary cell can be charged and discharged many time before the cells natural life is used up. A cells voltage is determined by the materials it is made of, this is the reason we find different kinds of cells producing different voltages. For example the cell voltage of Li-Po = 3.7V, and Ni-Cd = 1.2V.

Two or more cell connected together is called a battery. Two cells can be connected in series to double the voltage (but the current available is that of only a single cell), or two cells can be connected in parallel to double the current (however, the voltage will only be that of a single cell).

Since we are talking about voltage let’s dig a little deeper. What’s going on inside the cell to produce the voltage? Basically a cell is composed of three parts, two electrodes and the electrolyte. One electrode is negative, and one positive (hence, the markings on the outside of the cell + & -), the electrolyte is the stuff that the elec-

trodes are swimming in and allows the *internal* transfer of electrons from the positive electrode to the negative electrode. During the charging process the cell is chemically reconstituted allowing massive quantities of electrons to be made available on the negative electrode. The electrons on the Negative terminal want to get back to the Positive terminal where they belong. Now since the negative terminal has what the positive terminal wants, all we need to do is connect an external load between the two opposite terminals, and *WALA* - mochas electrons are on the move making the bulb light, the glow-plug incandescent, and the motor turn.

Stay connected, in our next News Letter we’ll talk about the *flux capacitor* - leave these Li-Po’s in the past, and see if we can’t get back to the future...

Zap!

