PROP KICKS

The Voice of the Cloud Kings

Bill Brueckman - President
Dan Crawford - Vice President
Leif Thomson - Secretary
Brian Swarts - Treasurer

AMA # 579

From the President's Bench

Bill Brueckman
President@Cloudkingsrc.org

Another great flying season is upon us, the field has been rolled and the driveway is touched up, so get those flying machines ready and lets make good use of our facilities.

Our next meeting is Wed. June 11, 2014 7:30 P.M. at West Field. Come early and get some flying in. The clubs first major event of the year is our Buy & Fly Tail Gate Sale. It will held on Sat. June 14th. 9:00 A.M. at West Field. Lunch will be provided for a small donation. Anyone wishing to volunteer should contact Henry Bohe.

With the passing of our good friend Bob Fling it has come to my attention that the trash barrel's in the pavilion are not being emptied. That was a job Bob faithfully performed. My solution to the problem is, it you see that a barrel is full please take a bag home to put out with your trash. Thanks to Roger Smith he did just that last week. New bags will be in the closet to replace what is used.

See you at the field.

Bill

The Editor's Desk - Mike Denest

Editor@Cloudkingsrc.org

The flying season is here! Time to dust off last seasons flying machine or get that new winter project ready to go. Don't forget to perform a good pre flight before you fly. Check the flight controls, engine installation, and most important, the batteries. Make 2014 a safe flying season for all.

We have a good issue this month with several tips on electric flight from Sparky, a method of determining the Cg location for large RC models and photos from the flight line.

We'll miss our good friend Bob Fling. Bob personally sponsored many of our club members, including this writer. I first met Bob while he was turning wrenches for Chester County Aviation in Coatesville. He was quite the character then, even as he was in his later years. God speed Bob, keep an eye on things.

See you at the field.

Mike

Submissions to Prop Kicks

Prop Kicks is a bi-monthly publication of the Cloud Kings RC Club. Your pictures, ideas, articles are needed for publication. Send your submissions to me, Editor@Cloudkingsrc.org. Please submit your articles and photos in electronic format by e-mail or cd.

Bob Fling

1928 – 2014

High Flight

Oh, I have slipped the surly bonds of Earth,
and danced the skies on laughter-silvered wings;
Sunward I've climbed, and joined the tumbling mirth of sun-split clouds -
and done a hundred things you have not dreamed of -
wheeled and soared and swung high in the sunlit silence.
Hovering there I've chased the shouting wind along
and flung my eager craft through footless halls of air.

John Gillespie Magee –Pilot Officer, RCAF

It is with deep regret we mark the passing of Robert Fling. Bob loved to build and fly those old time models. He brought the past to life while reposing in a well-worn lawn chair, reminiscing of his days in the United States Air Force – occasionally dozing off in the process. Someone once asked Bob, "Where's your airplane?" To which he replied, "It's that little black speck up there!" Now that I think about it he holds the official club altitude record! Bob loved to collect planes that others had given up on and make them fly again. He had a way of breathing new life into old abandoned airplanes that was simply amazing. His skills and zest for the hobby are almost a lost art; Bob was our own Norman Rockwell.

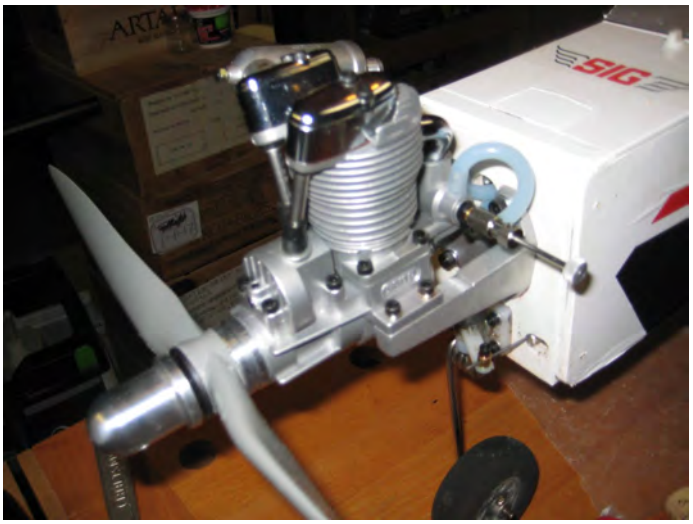
Bob was an enthusiastic member of the Cloud Kings RC Club for many years, and will be missed. Although absent in body, his spirit will be with us on the flight line. If you knew him, you'll never forget him.

God only makes one of a kind for which there is no replacement. We shall all remember Bob and those happy days spent at the flying field. Until we meet again good friend, enjoy that place where every day is sunny and warm, the breeze is light, and the sky is blue.

Scene at the Field

And on the Bench

From Roger Smith. Roger says, "My SIG Kadet LT-40 ARF was repaired after 137 flights (including 9 dead-sticks and 6 crash landings). I removed the Saito FA-45 Mk-II (purchased in Tokyo in 1987, $88 new) when it became unreliable for reasons unknown after 136 flights. I replaced the firewall and installed a new Saito FA-56 engine. I'm looking forward to the next 100 flights!



From the Ottawa Remote Control Club Newsletter

A method for locating the CG on model aircraft by Tom Hastie

There are many methods of measuring the CG of large scale aircraft. At some point, the wing sheeting just won't support the weight of the aircraft, making the good old "thumb" method a little tricky. Some people have rigs that hang the aircraft from the ceiling, but I never really liked suspending my $1000 airplane from the ceiling.

What follows is the method I've been using since getting into the 50cc class of aircraft. I've seen something similar described online, and indeed this is typical of the method used on full scale aircraft. Put simply, you measure the weight of the aircraft at each wheel, and you use some simple math to figure out where the CG is located. What I haven't seen suggested before, is using the main gear as the datum. If you keep reading you'll see that by doing this you can greatly simplify the math required and the process of shifting weight around to get the CG exactly where you want it to be.

The main benefits of using this method are:

My precious aircraft never leaves the ground. There's never any risk that it will topple off a balancing pivot.

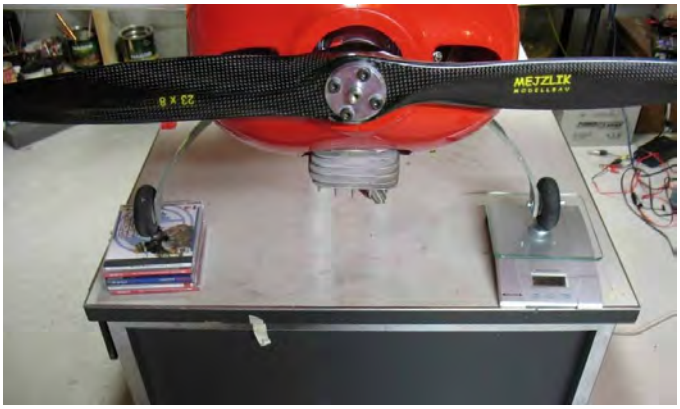
During this process, you also learn the exact weight of your aircraft. It's a good figure to have in mind when judging flight performance later.

It makes it very easy to shift weight around the aircraft to get the CG locked in right where you want it.

Here's what you'll need to measure the Center of Gravity.

A scale of some sort. I use a Starfrit Digital Food Scale that I purchased at Home Depot for $20. It measures up to 11lbs, and will give me 0.01oz resolution. The 11lb limit is plenty for measuring the CG of my 20lb aircraft. You'll also need a tape measure, a square and some way of leveling the aircraft as you weigh each point (I use CD-Jewel cases). Place the aircraft on a level surface. I use the top of my build table.

Pile up CD cases until the pile is the same height as your scale. Make two piles of CDs. Stack the cases under the tail wheel and put another stack under a main gear. Zero the scale, then put it under the other main wheel. Record the weight measured on the scale. On my Katana, the weight at this wheel was 125.7oz.

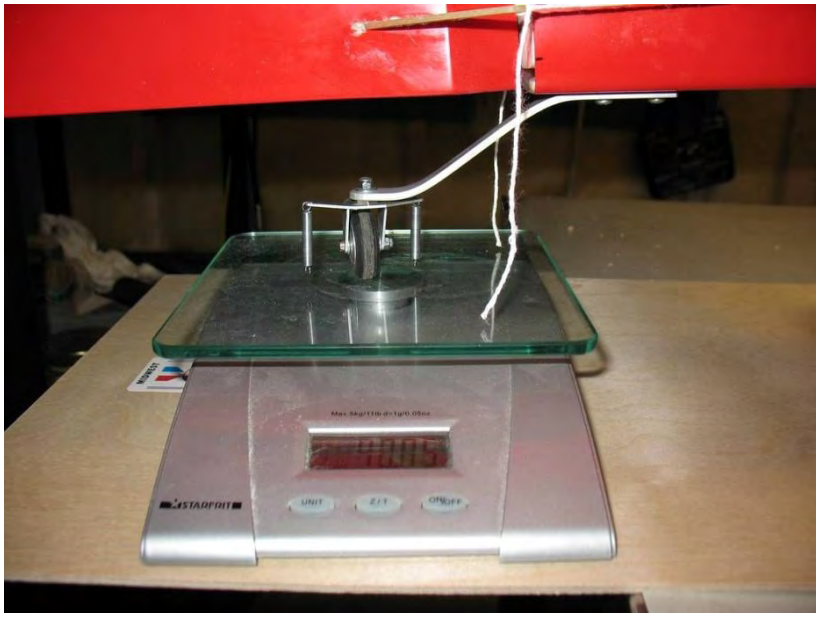


Swap the scale and CD cases, and record the weight measured under the other main gear. The weight at this wheel was 125.6oz.

Swap the scale and CD cases to the tail wheel then record the weight. This weight was 48.1oz.

Using the tape measure, measure the distance between the point where the main gear touches the ground, and where the tail wheel touches the ground. On my Katana, the distance between the main gear and the tail wheel is 59.25 inches.

That's all you have to do with the plane. Here's where the math comes in. Don't be worried, it's not that bad.



The weight of the aircraft can be found by adding together the three measurements you made above.

Wleft gear + Wright gear + W tailwheel = Wtotal

For my Katana, I get:
125.7 + 125.6+ 48.1= 299.4oz. (or 18.7lbs)

The location of the Center of Gravity, measured aft from the main gear can be found by the doing the following:

XCG = (W tailwheel * Distance between the main gear and tailwheel) / W total.

XCG = (48.1 * 59.25) / 299.4
XCG = 2,849.925 / 299.4
XCG = 9.5 inches

This means, that the CG of the aircraft is 9.5 inches aft of the point where the main gear touches the ground. I measure this distance along the ground, place my square there, and make a mark on the airframe. This is where the CG is located.

You might notice in the picture that the fuselage of the aircraft isn't level. So long as the aircraft attitude is the same as each measurement is taken and the CG distance is measured horizontally along the table top, the method will produce results that are accurate enough for our purposes. I use the CD cases to ensure that the aircraft remains in the same attitude as each measurement is taken. I use the square to bring my CG measurement from the table surface up to the fuselage (as shown in the figure).

Now, here's the magic of this method. Usually you know where you want the CG to be. You can reverse the equation above, so that if you know where the CG should be, you can figure out what the weight of the tail wheel should be:

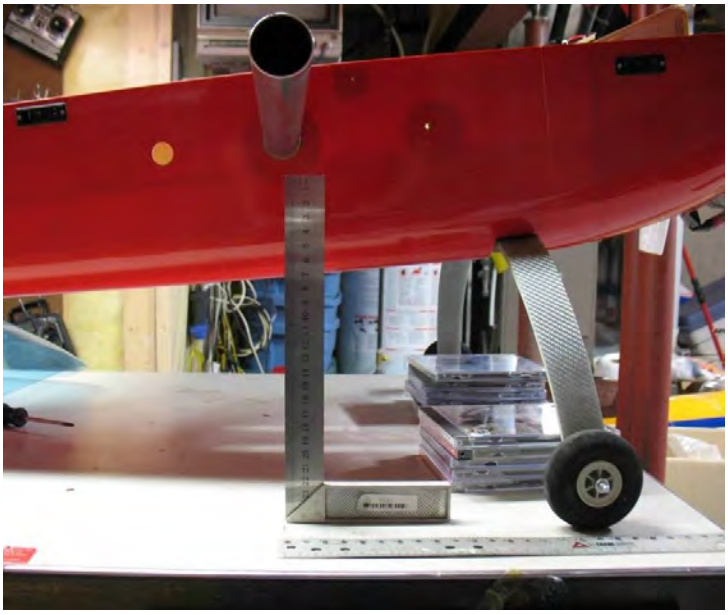
Wtailwheel = (Wtotal * XCG) / Distance between the tailwheel and the main gear.

For the Krill, the CG should be on the main spar. I used the square to help me figure out how far the CG location is from the main landing gear (my datum). I found that this point is 8.75 inches aft of where the wheels touch the ground. So as is, my aircraft is slightly tail heavy at the moment.

Plugging things into the equation above, we get:

Wtailwheel = (299.4 * 8.75) / 59.25
Wtailwheel = 44.2

This tells me that to get the CG at 8.75 inches aft of the main gear. I want the tail wheel to weigh 44.2oz. Now, I take some easily moveable weight within the plane. Usually this is the receiver battery, or some other easily relocated mass. With the scale under the tail wheel, move this weight forward and aft in the aircraft until the scale under the tail reads 44.2oz. Once I'm there, I secure my weight with some Velcro, and that's it. The CG is set exactly without adding extra weight, and without suspending my precious aircraft precariously from the ceiling.



It might be a good idea to check all three wheels one more time and crank through the calculations to make sure everything is correct. The CG is now exactly where you want it. My aircraft never left the ground, and never had to balance on any sort of pivot.

Ed. Note: Harbor Freight has several varieties of digital scales at reasonable prices. Purchase three and you won't need to shift your leveling tools around. Level the aircraft, get the weights and do the calculations.

Don't forget - Buy and Fly Saturday June 14

Hello Cloud Kings Members,

We will be holding our annual Buy 'n Fly on Saturday, June 14th. What has made this an enjoyable and successful event in the past has been the participation or our club members and their families.
Please consider this a personal invitation to come out for a day of flying, horse trading and enjoying the scenery of our beautiful West field.
Secondly, I need 4 or 5 volunteers to help me with the day's events. For every event this club sponsors there seems to be a core group who unselfishly pitch in to "get'r done". This time I would really like to see some fresh faces give of their time and talent to make this another fun day.

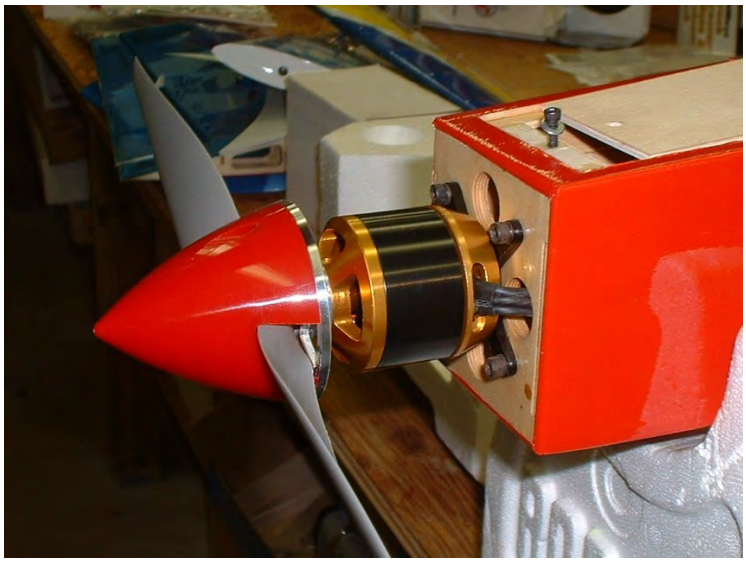
Thanks,

Henry Bohe
610-732-4100

Electrifying News

By Sparky

As they used to say when I was a lad, "What's buzz 'n Cousin?" Well, the answer these days is plain and simple - its electric motors! Like the popular credit card commercial puts it, "Don't leave home without one" - on the front of your new airplane that is!"



Now, here's a little ***oomph*** to grace the business end of your next 40 size project. It comes from HobbyCity (www.hobbycity.com), and can be purchased for a poultry $49.95, complete with all the usual accessories (*Pictured below*). which include a motor mount, 2 prop drive adapters, 3 male, 3 female (3mm) power connectors, and set of assorted screws.

Electrifying News

Motor specifications: (KDA 50-12S Brushless Outrunner)

- Shaft Diameter = 6mm
- Motor Dimensions = 56mm x 49mm
- Weight = 289g
- Stator = Length 25mm, Diameter 42mm
- Kv = 620rpm/v
- Battery = 4-5 Cell Li-Po
- Max Current = 55A
- Max Eff. Current = 20-40A
- Suggested Prop = 13 x 10 for 4 cells & 13 x 8 for 5 cells

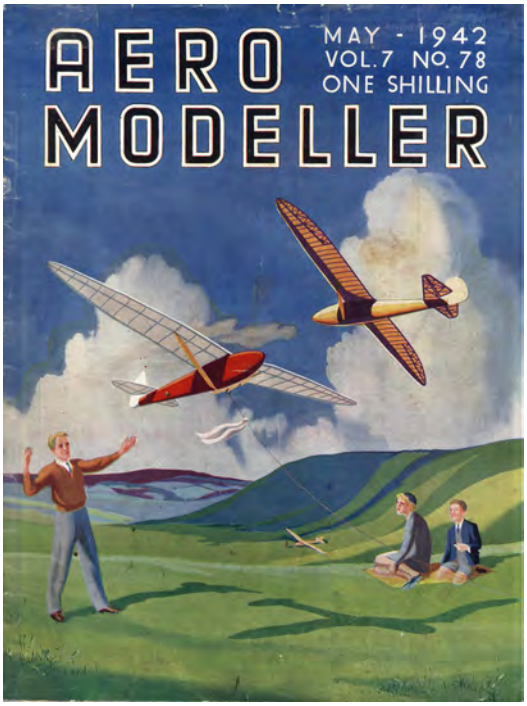
If you choose to use this motor then you'll be looking for the right Electronic Speed Control (ESC). (*Pictured below*)

ESC specifications: (Turnigy Plush – 60A)

Cont. Current: 60A
Burst Current: 80A
BEC Mode: Switching
BEC: 5v / 3A
Input: 5.6v-22v
Weight: 60gSize: 80x31x14mm
Cost: $46.20

Jump on the internet and do your duty to change the Cloud Kings color to all **GREEN!**

Here's a couple of vintage items from the British Aeromodeller magazine and American Aircraft Modeler.



Calendar of Events

June 7 - 8 ESL Thermal Duration SKSS White Clay Creek State Park

Club meeting - June 11 7:00 PM West Field. Flying before the meeting.

June 14 - Buy and Fly West Field

June 14 - 15 - Lums Pond IMAC Challenge. Delaware R/C

July 9 - 12 Warbirds Over Delaware. Delaware R/C

August 23 - Club Picnic West Field

August 21 - 24 Great American Aero Tow SKSS White Clay Creek State Park

October 11 - Octoberfest West Field

December 6 - Christmas Lunch

For Sale

Futaba 6 EX 2.4 GHz FAAST Transmitter with Futaba 6106 6 channel FAAST receiver, Futaba R617FS FAAST receiver, charger and manual. $100.00

Graupner Cirrus Sailplane - complete, needs some work to fly. $100.00

Mike Denest 302-234-9597