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Skywords

March 2008

The News Letter of the Burlington Radio Control Modelers Club

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Editorial.

Sorry, I'm too busy to write much this month beyond expressing my thanks to Ivan, Paul and Chris Dore for their contributions to your newsletter.

Lawrence

Thursday, March 27th
Show & Tell
Bring your pride and joy
and tell us about it.

Ivan's Cub

Ivan Wismayer writes:

While I was waiting for the glue to dry on the Spitfire, I built this project for Uncle Charlie's Float Fly. Its a partially built Goldberg Cub I got from the Flying Tigers swap meet a couple of years ago, that was built with the intention of floats. Art had floats hanging about his shop and he gave them to me. That's all I needed to get going'! It almost done, just waiting for a cowl. I'll get that in Toledo. Has a ASP .61FS and will swing a 14-4W APC Prop. Nick Chewka clued me in on the rare engine on e-bay. Got it for $100.00 CDN - brand new.

CG Super Chipmunk Part 1

This from Chris Dore.

Hello to all, hope you are having a great winter, I know I am!
Being a relatively new member I'll get the introductions out of the way first. My name is Chris Doré and I joined BRCM in 2006. Before joining BRCM I flew various foamies in parks and fields. Upon getting a glow trainer from a co-worker, who had dropped out of the hobby several years earlier, I required a more established place to fly and my days as a member of BRCM thus began. Ok that's enough, you know who I am, let's get to the fun stuff.
From the same co-worker I purchased my trainer, I also bought his partially completed CG Super Chipmunk (started in around 1991 I believe). After seeing Ivan's Spitfire in Feb. 2008's Skywords, I decided I'd share my current progress with the Chipmunk. I had brought the Chipmunk into one of the recent show-and-tell meetings, but since public speaking is not really my thing, I avoided the microphone like the plague… but that's a tale for another time. This Chipmunk is my first "real" airplane build; giving me the opportunity to learn a whole new set of modelling skills (definitely more work than grabbing some CA and a couple sheets of depron).

I decided to go with a Saito 100 and ended up getting it as a birthday gift! Thanks mom and dad! Standard JR Sport servos around, although I may switch to something faster, after getting the radio installed and seeing things in action (however I suspect there could have been a battery issue when I tested). Using a JR Sport receiver as well, nothing fancy here.
I said I wanted to share my current progress with the Chipmunk. Since a picture is worth a thousand words, I'll let them do the rest of the talking. In addition to the photos, I've also submitted my covering concept drawings. I made these drawings from the kit's plans and I find them extremely useful for visualization. In their native form I can whip up all kinds of ideas on my computer without too much effort. I'll be glad to help anyone who would like to make similar drawings for their own creations.

IF

If lawyers are disbarred and clergymen defrocked, then doesn't it follow that electricians can be delighted, musicians denoted, cowboys deranged, models deposed, tree surgeons debarked, and dry cleaners depressed?

Why do croutons come in airtight packages? Aren't they just stale bread to begin with?

A Story

George W. Bush meets with the Queen of England. He asks her, "Your Majesty, how do you run such an efficient government? Are there any tips you can give to me?" "Well," says the Queen, "the most important thing is to surround yourself with intelligent people." Bush frowns. "But how do I know the people around me are really intelligent?" The Queen takes a sip of tea. "Oh, that's easy. You just ask them to answer an intelligence riddle." The Queen pushes a button on her intercom. "Please send Tony Blair in here, would you?" Tony Blair walks into the room. "Yes, my Queen?" The Queen smiles. "Answer me this, please, Tony. Your mother and father have a child. It is not your brother and it is not your sister. Who is it?" Without pausing for a moment, Tony Blair answers, "That would be me." "Yes! Very good," says the Queen. Back at the White House, Bush asks to speak with vice president Dick Cheney. "Dick, answer this for me. Your mother and your father have a child. It's not your brother and it's not your sister. Who is it?" "I'm not sure," says the vice president. "Let me get back to you on that one." Dick Cheney goes to his advisors and asks every one, but none can give him an answer. Finally, he ends up in the men's room and recognizes Colin Powell's shoes in the next stall. Dick shouts, "Colin! Can you answer this for me? Your mother and father have a child and it's not your brother or your sister. Who is it?" Colin Powell yells back, "That's easy. It's me!" Dick Cheney smiles. "Thanks!" Cheney goes back to the Oval Office and to speak with Bush. "Say, I did some research and I have the answer to that riddle. It's Colin Powell." Bush gets up, stomps over to Dick Cheney, and angrily yells into his face, "No, you idiot! It's Tony Blair!"

Radio Batteries

This from Paul Chitty

With the huge advances in battery technology over the last few years it was inevitable that we would see vast improvements in our Radio System Batteries.
We are all used to running 4.8V and 700 to 1100maH NiCad or NimH packs, some of us have moved to 6V and up to 2400maH packs. There are real advantages to 6v packs, 1) the servo's have more torque and they move faster, 2) If a cell fails you still have 4.8V to keep you in the air, 3) they generally last longer between charges. They are however correspondingly heavier so are somewhat restricted to bigger airplanes .
Transmitter packs are generally 8 cell 11.2V 700maH NiCad. These packs usually require charging every time you go to the field.
Last year I decided to try going LiPo in both my Transmitter and in my Flight Packs, my TX pack is a 3cell 11.1 Nominal 2400maH LiPo. I now charge my Tx about every FOUR visits to the field. The main benefit of this is obvious, less charge cycles means longer life. The pack is physically the same size as my NiCad pack but packs way more punch.
Flight packs are 7.4V nominal, 1800maH and require a regulator to bring them down to either 4.8 or 6V, by doing this the packs stay charged much longer than NiCads and deliver more constant available power.
I took a standard 4.8V NiCad and weighed it and it came out at 4.5 ozs. Then I weighed the 6V 1800maH LiPo pack and 6V Regulator which tipped the scale at 4ozs combined. As with the TX pack the physical size is about the same. One of the major benefits is that LiPo's charge in about an hour from full discharge and do not ever need to be cycled. This is normal unlike Nicads which require about 14 hours, you can fast charge NiCads but it does shorten their lives quite considerably and it is not advisable to do it often.
Now comes the crunch, LiPo's have a couple of drawbacks,, if you discharge them too far they are not retrievable (they say, I actually retrieved a pack that had .9V on load) they also require more careful handling than our old NiCads. The cost. of a normal 6V, 1100maH Nicad pack will set you back around $60-$70 and will weigh around 7ozs, more output more weight. The LiPo pack and Regulator in the Photo cost $48.00 US.
I believe that this technology which is still going ahead in leaps and bounds will leave our old NiCads redundant. A123 have some new batteries called Manganese Poly that apparently are more powerful and less likely to catch fire than LiPo, they are a fraction heavier than LiPo but still lighter than NiCads.
I have static tested a flight pack in my Hangar, I put it into a Giant scale plane with 130oz Servo's and just exercised the servo's from the TX, after about an hour (boy did I have tired thumbs) I measured the pack voltage with my ESV at the charge jack and it was still at 7.4V, so I measured the voltage at the RX and it was still at 6V. I reckon I will be able to fly all day on one charge and of course my TX will even outlast that.

The warnings for these pack advice you not to charge in situ, however I have been doing just that and so far all is well. If you follow the charge instructions i.e. Use the correct charger and charge at no more than 1C (I charge at about .5 to .75C) there should be no problems, and you don't have to use a balancer because we only discharge these guys at a fraction of their capabilities so the chance of unbalanced discharge is not an Issue.
The other good thing is that disposal is not a problem, just bin them when they are dead. So if you are going LiPo don't forget proper disposal of your NiCads.

It can happen to full size too:

A Piper Cherokee PA2S-140, with two pilots on board, took off on a VFR flight. During climbout, about 25 ft above ground level (AGL), the aircraft rolled to the left. The pilo-flying, who was also the owner of the aircraft, applied right aileron to compensate for the turn, but the aircraft continued to turn left. The other pilot also tried to straighten the aircraft by applying right aileron until the ailerons jammed in the full right position. The aircraft flew over a highway, and the left wing tip struck a snowbank on the side of the highway. The left wing separated at the fuel tank, and the aircraft came to rest in a field on the other side of the highway. The two pilots evacuated the aircraft and were taken to hospital for minorinjuries. There was no fire.

The checklist used by the pilot provided three opportunities to confirm that the ailerons were functioning properly: the walk-around check, the before-start check, and the before-takeoff check. During these three checks, the two pilots ensured that the flight controls moved freely, but they did not pay particular attention to the directional deflection of the control surfaces.

Preliminary examination of the aircraft by the investigator at the airport revealed that the bell cranks were installed backwards. The left wing had separated at the fuel tank, and one could clearly see that the bell cranks were not installed properly. By moving the ailerons from outside the aircraft, it was confirmed that the flight controls moved in the opposite direction.

Recreation of an old classic

I don't remember who sent this to me. It's the story of building a replica or restoring a Boeing 40C. It includes an interesting note which I reproduce unedited here.
Ed.

Yesterday the folks up in Seattle rolled out the restored Boeing 40C. So here it is. Will make flight shortly. Anyone wanting some more shots of end please e mail me.

40C Progress:

After 8 years and 18,000 hours of toil the Boeing 40C rolled out last week end as a finished airplane. We now have to wait a few weeks for the snow to melt to fly this baby.

We received our Standard Airworthiness cert form the FAA last week and completed the engine pre oil and fuel flow tests for the 1st of the taxi tests to start when the snow melts bit. This is the snowiest winter in Spokane since 1968 !!

Cockpit.

Factoids for the Boeing 40 project

221 gallons of dope/reducer and 120 yards of 102 ceconite fabric.

12 gallons of poly urethane paint for the sheet metal.

The wings have 33,000 individual parts in them.

The airplane weights 4080 lbs empty and has a gross weight of 6075lbs.

It's 34 ft long and 13 feet tall with a wing span of 44 1/2 feet. Wing loading 10 lbs per sq ft and power loading 10 Pounds per HP. Should cruise at 115 mph at 28 GAH. And 32 GPH at 120 mph. It carries 120 gallons of fuel in three tanks.

We used 350 2" brushes and 6 gallons of West Systems epoxy. 181 rolls of paper towels.

There were a total of 62 volunteers who worked on the project to some degree and 21 volunteers who did a significant amount of work and 9 that worked continentally over many years.

Passenger Cabin