ACADEMY OF MODEL AERONAUTICS CHARTERED CLUB #1255

SERVO CHATTER

A PUBLICATION OF:

ANOKA COUNTY RADIO CONTROL CLUB, INC.

SEPTEMBER 2021

THE MEETING ON SEPTEMBER 16 WILL BE AT RIVERWIND!!!

PRESIDENT'S CHATTER

LABOR DAY

This is the weekend that for most of us signifies the end of the summer season and the beginning of fall. No more cooking the brain in the afternoons or fighting the gnats in the early morning hours. This is the season to get in some flying.

I am looking forward to our Electric Fly and our Fall Fly Out and indoor meetings with some great show-n-tells. We are planning on lunch being served at both of the fall events for those who want to partake. Keep safe and go bust some holes in the sky.

AUGUST FUN-FLY

There is just no way to have more fun than an ACRC fun-fly! There were 5 pilots and 4 damaged planes all in the name of havin' fun. Again he who takes first place wins the $50.00 card. This month it was Jeff Smith.

I brought back a 30 year old event, the balloon pop. Then a bomb drop on a target, followed by three consecutive touch-n-goes for time. If you were flying a TWIST it wasn't your day three participated and three went home damaged.

My Hanger 9 Pizazz, a predecessor to the Twist went home needing only landing gear re-attachment.

I invited Dale Case from MARCEE to video the fun-fly and he has posted it on u-tube showing some of the carnage and all the fun we had! I think we all agreed a day with less wind would be a better day for the balloon pop.

https://youtu.be/gkheahnGp9Q

Dale Anderson, Joe Boetcher, and Jeff Flander will be repairing or replacing their Twists before the September fun-fly. I have my Pizazz ready, and Jeff Smith's Something Extra escaped with only a prop strike.

Jeff Slater

FROM THE VEEP

Greetings fellow modelers,

For those of you who don't know me, I am Ryan Kontak, and I will be serving as your new Vice President of the ACRC club. I have been a member of the club for a few years, and I have enjoyed getting to know many of you through interactions at the flying field and during club meetings. I feel it is a great privilege to have access to our ideal flying site and connections to like minded individuals as we enjoy the hobby. Through my new position as a board member of ACRC, I intend to promote and preserve our club so that we and future modelers in our area can benefit from the camaraderie that I have found.

Growing up as the child of an Air Force officer, I have always been interested in aviation and the flying machines that free us from the ground. Despite having built a variety of free flight crafts as I grew up, I believe that my first introduction to the world of radio control occurred when my father gifted me a kit of the Sig 1/6 scale Piper J3 Cub when I was in middle school. Those of you who have already heard my story know that that bird is still "in the bones" all these years later, impatiently waiting for its chance to lift off from the ground. Even though my anxiety over the

Continued on Next Page

likelihood of crashing my first model kept me away from the hobby for a good while, I eventually found plans for models that required less investment in the materials and build process, which finally had me soloing with my own plane shortly after I graduated from college. I also found a community of modelers in my hometown that connected me to resources, encouragement and good-natured jibing to establish my growing involvement in the hobby.

It is that sense of community that excites me the most and has led to my first position as a club officer. I hope that you all get a chance to connect with that community and to encourage new modelers, young and old, to participate in the joy of flight. I look forward getting to know more of the members of the ACRC club and to serving you as your Vice President in the months to come.

Speaking of months to come, I intend to bring a new bird to each of our monthly club meetings as long as I am able, and it will be raffled off as long as we have a moderate attendance of members and guests. This September's model will be a Hobby Lobby Lynx-XF ducted fan jet. I hope to see many of you there, and I promise I won't regularly take home the main prize of the raffle like I did in August; I just happen to have an affinity for the F-18 ever since I lost my own to an electrical fire after its ESC ignited during its final flight.

Keep those planes in the air,

Ryan Kontak

A LOOK BACK

SEPTEMBER 2003

18 YEARS AGO

Tom Wesley stepped down as president to continue his education. Board positions were shuffled and Dave Dentz volunteered to fill in an open position.

Greg Classen reminded everyone that if field maintenance is happening, there is to be no flying for safety reasons.

129 Members at this point

A pavilion/shelter fix-it day is planned for September 13th

The Fun scale contest had 10 participants.

The August Fun-Fly had 11 participants.

Greg Classen, Ray Jelinek, Tom Hajinasiewicz, Paul Rono, Rob Martinson, Darren Bitzer, and Eric Malkerson all brought items for Show and Tell.

Mark Felland brought out a group of Cub scouts for a Try-N-Fly date. Unfortunately, Mark's LT-40 blew apart in midair. CSI discovered a severe lack of adhesives on the aft fuselage and wing ribs. Also MIA were the shear webs. OOPSIE !

A synopsis was written of the record setting model aircraft flight of 1883 miles from Canada to Ireland that took 38 hours and 23 minutes.

SEPTEMBER 1993

28 YEARS AGO

Bob Proulx took all the marbles at the Grass Field Labor Day Scale classic. His Cessna 172 wowed the crowd and apparently, the judges.

The August Small and electric Fun-Fly had 15 participants.

Roger Bass, Chuck Sautter, and Tim Mudek took top class honors at the Fun-scale contest.

Tim Karash

ACRC MINUTES

Board members present:
Jeff Slater, Stan Zdon, Bruce Martin, Ryan Kontak, Tim Karash, Brett Ohnstad.
12 Members present including a MIA member.

Membership Report:
84 Members

Treasurer's Report:

Income	$505.00
Expenses:	$272.72

Safety Report: no issues

Continued on Next Page

Events: fall fly out October 2nd, electric fly on 9/11, lunch/food

Training Report:
Many trainee "no shows" recently. One student nearly finished.
Bob Barton will step aside at the end of this season. A new training leader will be needed for 2022. Joe Van Norman has expressed an interest.

The Civil Air Patrol (CAP) at Anoka County Air Field has multiple young cadets with aeronautical interests in of all phases of radio control. Jeff Slater is in contact with CAP.

Old Business
Stan Zdon wishes to retire at end of year as newsletter editor and membership secretary. These are big shoes to fill. Volunteers are needed.

Tim Benzie has donated multiple small kits for raffle prizes. All are electric. Some foam, some balsa.

New Business:

Bank account news: Wells Fargo has incorrect names on our accounts and status of listed account member.
After discussion, a motion was made by Stan Zdon and second by Tim Karash stating our club treasurer should be in charge of the account, with an additional signature of the Vice President.
Motion approved. Jeff Slater and Marc Tellevik to arrange changes.

Raffle:

Super glue:	Jeff Slater
Special Screwdriver:	Ed Belmore
F18 6mm kit:	Brian
Bag of pins:	Ed Belmore
Head lamp:	Lucky LaRose
Servo screws:	Tim Karash

Show and Tell
Tim Karash brought a Vanessa Rig for locating aircraft CG. Essentially, it is a triangular rope sling that suspends the aircraft. Once the airplane is leveled, a plumb bob, hanging from the upper triangle point, shows the CG position. Tested on Jeff's Northstar, showed to be in the proper location and it flew well.

Jeff Slater brought a Northstar that he converted from glow to electric. Removed nearly 1 pound in the conversion. A 40 Size electric motor with a 10X7 3-blade prop turning 8500 RPM on a 5 cell battery (40 amp load), proved to be low on power. A prior test with a 6-cell battery showed an increase of 1000 RPM.

Jeff also brought a Stagger Bee biplane by Clancy Aviation, now back in production. 20 ounces all up weight with electric power. The wings, tail and landing gear are mounted with rubber bands.

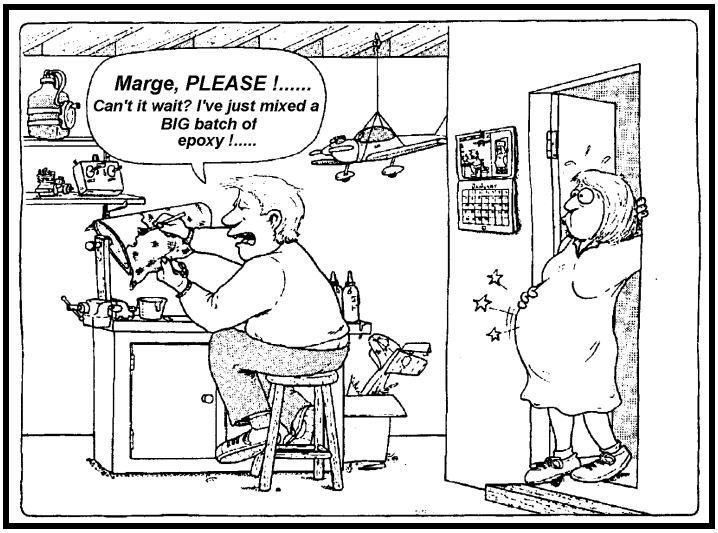
Tim Karash

MEMBERSHIP NEWS

Membership in ACRC is currently at 85 members. This is 5 less than last year at this time. Spread the word that we are looking for new members. Each year ACRC gets some new fliers. One of the ways that you can help the club is to become an instructor. If you are interested in becoming an instructor you can contact Bob Barton at instruction@anoka-rc.com.

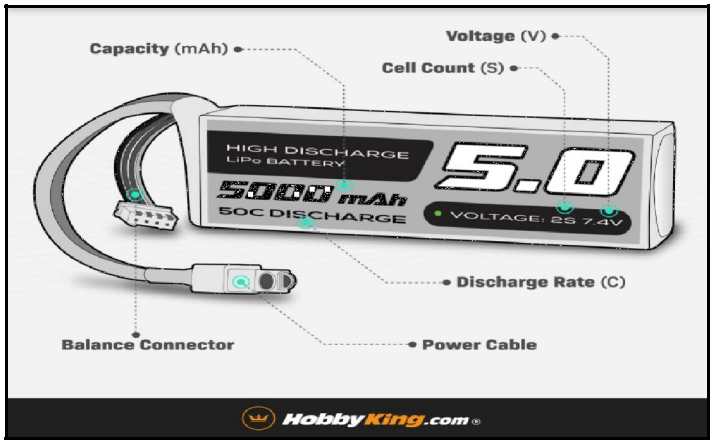
THE NEXT MEETING WILL BE AT ***RIVERWIND*** ON SEPTEMBER 17 AT 7:00 PM. Don't forget the fun-fly on Saturday September 19.

Stan Zdon



UNDERSTANDING THE NUMBERS AND LETTERS ON A LIPO BATTERY

LiPo (lithium polymer) batteries: one of the greatest innovations in the RC universe yet, somewhat confusing. What do the numbers mean on a LiPo? What does the "C" mean? What does the "S" stand for? In this Hobby King blog, we will decipher the LiPo code together.



Rating System

While the numbers and letters may seem intimidating (especially for beginners), they are actually here to help. Each number or letter is a measurement or rating which enables us to compare and choose the right LiPo battery for the right job. Ultimately, each different number and letter tells you 2 things: how long your RC model will run for before needing a recharge, and how powerful or fast your RC model can get.

Capacity (MAh)

The first thing you should look at is the capacity of the battery, which is measured in mAh (Milliamps Hour). The capacity simply tells you how much power your LiPo battery can hold. For example, a 5000mAh battery can output 5000 milliamps in 1 hour until it is completely drained. If you had an RC plane with a current drain (AKA load) of 20 amps (20,000 milliamps), then you can expect to fly for 15 minutes - (5000mAh ÷ 20, 000mAh) x 60 minutes - before completely discharging your battery. Generally, the higher the capacity, the longer your RC model will run.

Discharge Rate (C)

The C Rating is a safety gauge that tells you the maximum current - measured in amps - you can draw without damaging your LiPo battery. The C Rating by itself may be a little misleading as you also need to know the capacity (mAh) to calculate the maximum current draw. The formula is as follows:

Max Current Draw = Capacity x C Rating

So, if you had a 2S LiPo with a capacity of 5000mAh and a C Rating of 50, the maximum current draw would be 5000mAh (5A) x 50C = 250A. You can theoretically go over the recommended draw, however, this will overheat your LiPo battery and ultimately, damage it.

The C Rating can also be used to determine how quickly you charge your LiPo batteries. A seasoned hobbyist may tell you to “charge your LiPo at 2C”. This means to charge your battery at a current of the capacity in amps (A) x 2C. So, if you had the same 2S LiPo with a capacity of 5000mAh, charging your LiPo at 2C means to charge at 10A -- (5A) x 2C.

Cell Count (S)

S stands for series and is used to indicate how many cells are “in series” inside the LiPo battery. For example, a 2S LiPo means that there are 2 cells in series within the LiPo battery pack while a 6S LiPo would mean that there are 6 cells. Each cell has a nominal voltage – the average voltage a cell outputs when charged - of 3.7V; so a 2S LiPo has a voltage of 7.4V (3.7V x 2) while a 6S LiPo has a voltage of 22.2V (3.7V x 6). You can also tell the number of cells in a LiPo battery by counting the number of wires in the balance connector. If the balance connector has 3 wires, it is a 2S LiPo; if the balance connector has 7 wires, it is a 6S LiPo. The balance connector gives you individual access to each cell and is used to equalize the voltage across all your cells. Just remember, the higher the S, the higher the voltage.

Voltage (V)

The voltage of your LiPo battery is linked to the number of cells (S) contained within the battery pack. They go up in increments of 3.7V and generally, you will find LiPos from 3.7V (1S LiPo) to 22.2V (6S LiPo).

Many hobbyists tend to think that higher voltage equates to a higher speed. This is somewhat correct, however, technically voltage is directly correlated with power - and power does not necessarily mean speed. For example, a heavy RC rock crawler will need a lot more power to drive through harsh terrains and overcome obstacles. An RC drift car, on the other hand, can use a much smaller voltage LiPo battery and still be much quicker than our off-road friend. When you buy an RC car or plane, you will normally find what voltage battery you need in the specifications; so don't worry too much about it.

Now that you know the ins and outs of a LiPo battery, why not check out our "LiPo batteries section" and see how well you can read and understand them. If you are still having problems looking for the right LiPo, send us a message and we'll be happy to help.

CHANGE HAPPENS

By Sherwood Heggen

While being driven to my designated flying site today by an assigned transport vehicle, I began to think how flying isn't as much fun as it used to be. As a very senior citizen, my driving skills had waned and my driving privileges could not be reinstated. But with today's models, I can still fly.

During the ride, a lot of good memories about flying models over the past decades came to mind. It's not only the flying, but also the friendships that were developed from times at the field. There my buddies and I would gather and sometimes not even get the airplanes out of the cars. It was just as much fun to sit and talk and watch others fly. Many were the times that there were three, four, or even five models in the air at one time.

I remember during my early years of flying models, I would bring my model to the open field before the housing developments took over the land. There, I would join other modelers with their free flight models. We would brag about how long our models could stay airborne and then challenge each other to prove it. Many were the times, a model went beyond expectations by catching a thermal, floating down wind, and begin to head out of sight. This dictated the owner and an observer to hop in a car and chase it downwind hoping to not loose site of it. Many models were recovered but many disappeared under those circumstances, lost to thick woods or unknown finders. The rule of "Finders Keepers, Losers Weepers" would often take effect. The loss would encourage the activity referred to as building. It was a mental and physical activity where one would gather a model airplane plan printed on paper, balsa wood (now in scarce supply), plywood, wire, glue and other construction items, and then actually build a new model to fly. A skilled modeler could build, cover with silk, coat it with a protective smelly liquid called dope, and fly a new model within a couple of weeks. Then it was back to the open field to risk the new model to the fate which the previous model was subjected. A real modeler was always optimistic that everything would turn out well at the end of the day with an undamaged model riding home with him in his privately owned vehicle.

Back in those times, there were modelers, who had a knack for electronics. They designed a ground based transmitter that would broadcast to a receiver to control a mechanical device to control a model. It took years of fiddling and refining, but eventually model flight controls of rudder, elevator and engine were available to those who could afford them. With the modeling world sharing Citizen Band transmitting frequencies with the rest of the world, flying a model was frequently disastrous. Other CB users on the same frequency, who were broadcasting at the same time as the time the model was flying, locked up the models controls resulting in a crash. This brought about another occasion to build or repair to be able to fly again.

Continued on Next Page

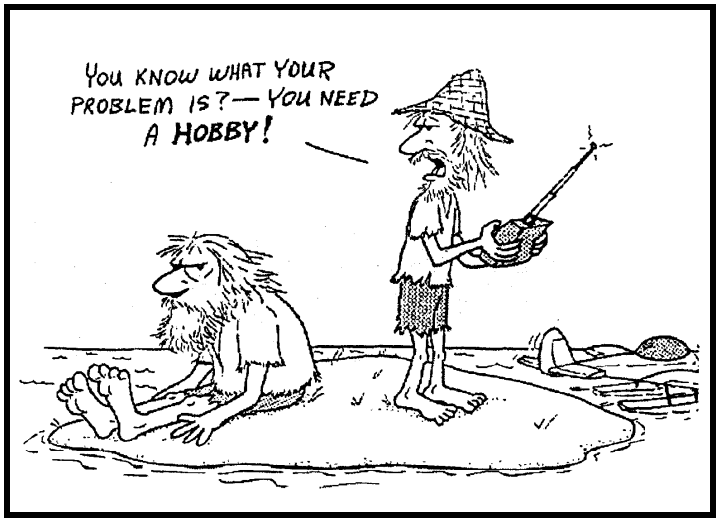
As years past, radios became more sophisticated. Multiple controls could be managed by a small hand held transmitter on frequencies specific to modeling. Dependable engines were developed to create great amounts of horsepower. Building and flying a model had fewer challenges to overcome than what existed in the past. Kits were developed to make it easy for the modeler to get in the air quickly. Super glues and shrinkable covering materials eliminated drying time compared to the cellulose glues and silk and dope covering. Soon, companies from other countries began building the airplanes for the modelers calling them "Almost Ready to Fly" or ARF's. It allowed a modeler to order and have the UPS driver deliver the ARF to his door, assemble it during a week of evenings and fly it that weekend. Following sometimes vague directions, which were often a translation from Chinese to English, the modeler had an airplane that was ready to fly.

Unfortunately, this level of development and refinement of the hobby had a down side. If the model crashed, a new one was purchased to replace it. The "modeler" now became enabled to have little or no building skills - only skills regarding assembly. The challenge of building and making a model flyable was gradually being dismissed.

My nostalgic thoughts are interrupted by the transport vehicle's announcement that it had arrived at the designation allowed for model flying activity. I remove the protective carrying case from the vehicle and prepare to fly my government approved model airplane. I remove my model from its case after keying the security code I have been assigned to open its lock. The battery to power the airborne unit is charged nearly instantaneously by a solid chemical in the form of a small energy tablet the size of an aspirin. It is inserted in a slot on the side of the model and a small door snaps closed over it. A moment later a triple beep confirms the battery is charged and the spent tablet is ejected. One more step must be performed before the model can be flown. My voice recognition code, AMA number, and FAA number must be uploaded to the model through my personal communication device each time the model is to be flown. If all codes match to the model, a voice from the model announces "Flight Ready".

With the upload successful, it is the time to fly, but I must hurry as my allotted time to fly is quickly passing. Federal laws permit only one model in the air at a time at one location during a specified period by reservation. This is to preclude any interference with commercial drone operation in the area. I began to think how this flight is going to go as the model taxis out. I now have turned it into the wind and consider a smooth take off and a mental list of maneuvers I had planned ahead of time. I failed to mention that a hand held transmitter is no longer necessary. My brain waves, through a small chip implanted in my brain a few years ago, now allow control of the sophisticated radio in the airplane. I think the maneuver and the airplane does it. If I error in my thinking, the model radio determines the best correction to make each flight a success.

The flight has been completed and has complied with all Federal regulations including staying within the allowed 3½ minutes flight time and span of flying space. I picked up the airplane and carried it back to the pits. There was still enough time to recharge the airborne unit and have another flight. I remove an energy tablet from its package and place it in the slot. The tablet ejects and falls to the ground followed by a voice from the model saying, "Your quota of flights has been met for this year. Please re-subscribe."



NEW AIRCRAFT CHECKLIST

ENGINE:

_____ PROP/SPINNER - PROPER SIZE/TYPE - BALANCED

_____ ALL BOLTS WITH LOCK WASHERS OR LOCKTITE

_____ THROTTLE - PROPER DIRECTION AND CORRECT AMOUNT OF TRAVEL

_____ FUEL LINES - NO OBSTRUCTIONS, KINKS OR HOLES - SILICONE

_____ FUEL TANK - PROPERLY MOUNTED IN FOAM - SECURE

_____ NO METAL TO METAL ON THROTTLE ARM CONNECTION

WING/FUSELAGE:

_____ WING AND TAIL PROPERLY ALIGNED - NO WARPS

_____ BOLTS OR RUBBER BANDS - BLOCKS OR DOWELS SECURE

_____ AILERONS - HINGES SECURE - NO BINDING

_____ HORNS OR TORQUE RODS SECURE - CLEVISES SECURE

_____ AILERONS ALIGNED WITH WING AND EACH OTHER

TAIL GROUP:

_____ CORRECT ALIGNMENT WITH WING AND FUSELAGE, PERPENDICULAR

_____ HINGES SECURE - NO BINDING

_____ HORNS SECURE - CLEVISES SECURE

_____ TAIL WHEEL OR SKID - SECURE AND PROPERLY ALIGNED

LANDING GEAR:

_____ WHEELS ALIGNED, SECURE AND FREE TURNING

_____ GEAR WIRE OR LEGS STRAIGHT AND SECURE (Slight toe-in OK)

RADIO:

_____ SERVOS MOUNTED CORRECTLY - GROMMETS INSERTED FROM BOTTOM

_____ BATTERY AND RECEIVER SECURED IN FOAM

_____ BATTERY CHARGED

_____ ANTENNA EXITS PROPERLY AND WITH STRAIN RELIEF

_____ ANTENNA SECURE AT TAIL - NO METAL CONNECTIONS

_____ CONTROL RODS PROPERLY INSTALLED AND SECURE

_____ SWITCH PROPERLY MOUNTED AND EASILY ACCESSIBLE (Opposite exhaust)

_____ RADIO FUNCTIONS WITH ENGINE RUNNING

_____ **AIRCRAFT BALANCES FORE/AFT AND LEFT/RIGHT**

_____ **CONTROLS MOVE IN PROPER DIRECTION - DOUBLE CHECK**

_____ **RANGE CHECK – FOLLOW GUIDELINES IN INSTRUCTION MANUAL**

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CALENDAR OF UPCOMING EVENTS

Saturday – September 11
- ACRC Electric Fly

Thursday – September 16
- ACRC Meeting-Riverwind

Saturday – September 18
- ACRC Fun Fly #6

Saturday – October 2
- ACRC Fall Fly Out

Thursday – October 21
- ACRC Meeting-Riverwind

Saturday – October 23
- ACRC Fun Fly #7

Thursday – November 18
- ACRC Meeting-Riverwind