



ACADEMY OF MODEL AERONAUTICS CHARTERED CLUB #1255

# SERVO CHATTER

A PUBLICATION OF:

ANOKA COUNTY RADIO CONTROL CLUB, INC.

**MARCH 2015**

***THE MEETING WILL BE THURSDAY, MARCH 19, AT RIVERWIND!!***

## **PRESIDENT'S CHATTER**

I just got back from a road trip in the southwestern states and the fields in Kansas and Nebraska are starting to turn green, just a little snow. Could this be an indication that spring is just around the corner? This could mean we need to get to work on our hanger queens and get them ready for the up coming season. By the way it starts Saturday, April 18 with a fun fly.

Our club meetings are the third Thursday of the month starting at 7:00 PM. The place is Riverwind Community Center in Coon Rapids during winter months, stop by renew old friendships. The everyday is Saturday group meets at Caribou Coffee at 12417 Ulysses St NE Blaine every Wednesday at 9:00 AM. If the weather is above 30 degrees with little wind and the field is accessible, they may meet there. Bring your coffee and something to fly.

Virgil Okeson

## **ACRC EVENTS**

Ladies and Gentlemen.-.start your engines!! As I mentioned in the February newsletter, the 2015 ACRC event season is fast approaching and, as always, we'll be needing lots of help to make this our best Summer yet. We have events scheduled starting with our first "Fun Fly" in April and continuing every month through the end of October.

I'll be asking for volunteers to help with things like field maintenance and set-up, registration,

food service and anything else that is needed. It seems like we always end up having enough volunteers when the day of the event arrives, but we always have a few "tense moments" leading up to each event as we wait for people to step forward and say they'll help out.

I would encourage anyone interested in becoming more involved in club activities to look ahead in the event schedule and choose one or two of the events and let me or any other ACRC board member know that you will be available to help out.

Volunteering at club events benefits not only the club, but can be a great learning experience for you as well. Think about it. Maybe you're a fairly new club member; you've soloed and moved up to a more advanced aircraft and now you'd really like to fly something "scale". A warbird maybe, or a beautiful vintage biplane. Problem is, you're not sure where to start. Volunteering at the ACRC "Club Scale" event is the perfect opportunity for you to gain knowledge and experience. Sure, there is going to be work to do, but you'll also have plenty of opportunities to get a close look at some beautiful scale models and talk with their owners/builders. Maybe you've heard that ACRC hosts a "Fun Fly" event once month and you'd like to give it a try, but you're not sure if you have the right equipment. Volunteer to help out at a few. Not only is it a lot of fun and a great learning experience, it can be totally hilarious!!

And let's not overlook one of the most important parts of our events - FOOD. We'll be asking for people to bring desserts, main dishes, snacks and

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beverages throughout the summer to keep everybody well fed and well hydrated. Even setting up and serving the food can be fun. (As long as you wear fire-proof clothing when you're serving meatballs - you know who we're talking about Phil)

These opportunities are available all summer long; whether you're specific interests include scale, electric, 3D or just plain sport flying. So, come on people, make this the summer that you get involved. You can reach me or any of the other board members by phone, e-mail or at the meetings to sign up to help.

Thanks in advance!!

Bob Proulx

## MEMBERSHIP NEWS

ACRC currently has 75 (78) members signed up for 2015. Of these, 64 (65) are members that pay full yearly dues. The rest are wives of members, junior members and life members. The numbers in parenthesis are the membership numbers at this time last year. As you can see, membership renewal is about the same as last year last year. There are 45 full dues members, listed below, that have not renewed their membership for 2015. If you know any of these members personally, please call them and remind them to renew for 2015. If they all renew, the membership numbers will equal last year's numbers. The 2015 budget is based on a projected membership of about 100 fully paid members. If we drop much below that number we will have to cut services somewhere.

The March meeting is when ACRC has the annual club swap meet. If you have something you want to part with bring it to the meeting and get BIG BUCKS for it.

The ACRC freeze-fly and the TCRC auction are finished now and the flying season is almost here. Monthly Fun Flies are scheduled for the Saturdays after the membership meetings. Get those airplanes ready and come out and have some fun. More information will be published as the year progresses.

ACRC will be working with King Kong Hobbies in Coon Rapids this year for the fuel order. The prices are about the same as last year, some a little higher but most the same. An order sheet for fuel from King Kong Hobbies is included with this month's newsletter. It will have to be mailed to King Kong Hobbies by **March 30** and you will have to pick up your fuel at their store. If you have any questions call Stan Zdon at (763) 784-3121 or call King Kong Hobbies at (763) 390-0490.

The next meeting will be at Riverwind on March 19 at 7:00 PM.

### Non-Renewals for 2015

- |                    |                    |
|--------------------|--------------------|
| Jason Ascheman     | Tim Mattsson       |
| Kris Aurandt       | Bruce Montgomery   |
| Nickolas Aurandt   | Andrew Noll        |
| Dennis Batty       | Scott Oleson       |
| Neil Birkebak      | Phil Pascuzzi      |
| Darren Bitzer      | Bob Proulx         |
| Matthew Campson    | Werner Remmen      |
| Anthony Carter     | Ronald Riley       |
| Adam Codner        | Paul Rono          |
| Dan Codner         | Kyle Ruesch        |
| Darren Codner      | Rick Rump          |
| Joseph Coleman     | Arthur Rupp        |
| Chris Cone         | Eric Sherman       |
| Christian Cone     | Gary Smith         |
| Marc Davis         | Jeffrey Smith      |
| Ahmed Elbassel     | Dan Stahn          |
| Robert Gallagher   | Chris Swentkofske  |
| Jake Groetsch      | Rick Teteak        |
| Matt Hoffman       | Greg Thody         |
| John Jensen        | Phil Vaughn        |
| Garth Landefeld    | Eulogio Venegas Jr |
| Michael G. Mastros | Kris Westerbur     |
| Michael J. Mastros |                    |

Stan Zdon



## ACRC TRAINING

It's almost training season. Anyone interested in being a instructor please let me know, we always have a good time.

Any students interested in training make sure you contact me so I can make sure I have instructors for you. Designerfirewood@gmail.com

Tom Janos

## ACRC SAFETY

If you have ever flown with me there are a few things that you should already know about me. I always show up at the field with my stereo on my truck blasting heavy metal, and not the pop heavy metal, but the stuff that makes your ears bleed. You probably know that I am always slightly disorganized and that I sometimes fly like I am disorganized. And last of all, you probably know that I like to stick cameras on my airplanes. Ever since I started flying, one of my primary goals was to be able to stick a video camera onto an airplane. I liked the idea of being able to watch the flight from the take-off to the landing. I wanted to look out at the distant horizon even if it was only from the vantage point of a model.

I had seen several videos on YouTube of pilots flying far beyond the ability of even the keenest observer's eyesight. Pilots would often take airplanes on wild flights of fancy through cityscapes, forests, or mountains. These videos really piqued my interest in this type of RC flight. But that was several years ago when equipment to pull these feats of flight was still fairly rare and very expensive.

In the last few months I have notice that there is an increased interest in "drones" and FPV. There has been a lot of buzz on the local and national news media concerning the flying of these UAVs or unmanned aerial vehicles. This is being fed by the fact that the FAA was looking into establishing laws regulating the use and spreading the flames of fear over concerns of privacy and security issues.

The plus side of this attention is a plethora of new quad-copter manufacturers and FPV equipment retailers who want to feed those who are hungry for the video flying experience. And with all this abundance of equipment jockeying for market supremacy, we the consumer are afforded cheaper and better equipment. Now I can fulfill my dream of flying a model in the first person.

Unfortunately, so can a lot of other people. There are so many different options that are really directed at the beginner. For under \$200 you can buy a small quad-copter with a camera that transmits either to a cell phone or to a small monitor built into the proprietary transmitter. For a few hundred dollars more, a person can get a fairly large quad-copter and be off to the local neighborhood park later that same day for their first flight.

The reason for me saying that this is bad is two-fold. First: A person jumping into this hobby may not understand that the model aviator will break a lot of equipment, especially when learning to fly. Although there are a myriad of functionality built into the latest aircraft, such as the SAFE programming from Horizon, or the "return to home" function offered from several of the more expensive new quads, it will not guarantee that a pilot will not damage their aircraft on one of their first flights. Pilots will crash and that pilot should be able to fix what they fly. Anything with a camera transmitter will not be cheap and even a bent prop on the first time out might be overwhelmingly discouraging for the pilot who does not know that a prop is an easy two minute fix. Banging up cheap airplanes is not only good for learning how to fly but for learning how to repair, and if the new pilot does not know how to fix the airplane after the first crash, it becomes an expensive piece of junk sitting in the back of the closet.

The second reason is that of safety, or more importantly, a potential lack of safety. Realistically, someone could go out today and purchase off the shelf gear (or online), and put a black eye on the hobby before the end of the day. I don't think that anyone would deliberately go

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out with the intent of doing something illegal or malicious, such as flying over groups of people, or peeking over someone's fence, or even fly into controlled airspace, all these activities can be looked upon as a negative with the hobby. Without the guidance of an experienced pilot we are left to the wiles of the ethics of the rouge pilot who may be unaware of or unwilling to follow AMA guidelines and FAA rules.

Fortunately the AMA has set up web sites that explain safe and responsible guidelines for pilots, (<http://knowbeforeyoufly.org/for-recreational-users/>) we just have to hope that the new pilots will read and follow the guidelines.

That being said, and the fact that this article will most likely be read exclusively by pilots with experience who do care about flying safely, I would like to look at the building of and use of a FPV systems. Over the next few months I will be putting together and testing several systems. The platforms will include aircraft and transmitters for use in park flyer size or indoor flight, club sized airframe in either gas or electric with electric being preferred, and also a quad-copter format. I will look at different sized transmitters and any necessary operating licenses required to use the higher powered transmitter. I will also look into different receivers and displays including video ground stations and FPV goggle option. Most importantly I will be looking at the safest way to use this equipment.

Hopefully I won't be too disorganized about this even with the additional equipment that I will now be lugging around. I, however, cannot promise that I will stop showing up at the airfield without having my heavy metal turned up on my truck stereo.

#### Safety addendum

Flying season is right around the corner. Now is the time to start checking your equipment for damage that may have occurred while in storage. Throw those batteries on the charger and give it the storage charge. This will prevent under-charged batteries from being damaged. Also, you do not want to leave your LiPo batteries at a full charge as it can reduce the life of the battery by

reducing the number of charge cycles that it can take.. LiPo batteries should be stored at 50% of their capacity or about 3.85V per cell. .

Brett Ohnstad

## THE BLACK WIRE DISEASE WHAT'S THE CAUSE?

The black wire syndrome is an occurrence in battery packs (Ni-Cds) where the negative wire becomes corroded (turns from shiny copper to blue-black). This is the result of either a shorted cell in the pack, the normal wear out failure mode of Ni-Cds, or cell reversal when a pack is left under load for an extended period. The sealing mechanism of a Ni-Cd cell depends to some degree on maintaining a potential across the seal interface. Once this potential goes to zero the cell undergoes what is called creep leakage. With other cells in a pack at some potential above zero the leakage (electrolyte) is "driven" along the negative lead. It can travel for some distance making the wire impossible to solder and at the same time greatly reducing its ability to carry current and even worse, makes the wire somewhat brittle. A switch left on in a plane or transmitter for several months can cause this creepage to go all the way to the switch itself, destroying the battery lead as well as the switch harness. There is no cure. The effected lead, connector, switch harness must be replaced.

This leakage creep takes time so periodic inspection of the packs, making sure that there are no shorted cells, insures against the problem. The cells should also be inspected for any evidence of white powder (electrolyte mixed with carbon dioxide in the air to form potassium carbonate). In humid conditions this can revert back to mobile electrolyte free to creep along the negative lead. Some "salting", as this white powder is referred to, does not necessarily mean that the cell has leaked. There may have been some slight amount of residual electrolyte left on the cell during the manufacturing process. This can be removed with simple household vinegar and then washed with water after which it is dried by applying a little warmth from your heat gun.

C. L. (Red) Scholefield 8/29/96

## Test Flying a New RC Airplane

by Bob Wilson, Macon Aero Modelers, Franklin NC

All too often pilots, knees rattling and fingers shaking, taxi a new model out to the runway and begin what turns out to be a disaster. Rather than calmly analyzing feedback from the model, there is a flurry of stick yanking and jerking and a crash.

Successfully testing a new model is more of an attitude than anything else. It requires calm analysis by reading what the airplane is trying to tell you and a good dose of planning ahead.

The planning ahead part involves being sure you have taken all the preliminary steps while building or assembling the model to make sure the engine is properly mounted, fuel lines are free of kinks, the CG is correct, the engine is tuned in, and myriad other small details that it takes for a model to fly well are taken care of. A good carpenter will measure three times and it follows that the details of an airplane should be checked three times as well.

How many times have I seen the fuel line to the engine connected to the vent line instead of the pickup line? How many times have I seen the lack of a screw to hold a servo arm in the servo, or gas engines/mufflers bolted on without using thread lock? It's a good idea, once the model is finished, to go back through the manual and read and check each step of the construction/assembly process. Check and check again. For added comfort, enlist the aid of another builder to critique your work.

Then, when you taxi out for takeoff, you will know that everything is as it should be and that you haven't forgotten some important detail. If you are a pro, you may be able to put the model together in short order because you know what to look for and take care of the details almost automatically. But, if you are a bit less than an expert, take your time and don't worry about how long it takes. Be meticulous.

If you've taken care of the details ahead of time, there really shouldn't be any surprises to catch you off guard and most likely the model is going to fly

just fine. The pros refers to the model's first flight as a trim flight. They don't consider it as a "test flight." They know the model is going to fly and it only becomes a matter of trimming it.

If you are flying a model with a low power-to-weight ratio, fly level for a few seconds immediately after takeoff to build up flying speed. If the model climbs, apply a little down elevator, if it turns one way or the other, make the necessary corrections, but by golly don't start yanking sticks around. Chances are the model isn't going to be very far out of trim anyway. When you get to altitude, then begin correcting with the trim buttons on your transmitter.

The first flight is a culmination of your having taken care of all the little details and, if you are confident in your work, there is no need to panic. So taxi out, relax, take a deep breath and line up for takeoff, check your control movement one last time, and after that, "just fly the damned airplane."



**"I won't be coming into the office today.  
I'll be out in the field doing research."**

# ACRC MINUTES

February 19 2015

**Attendance:** 15

**Membership:** Need more members to send in applications.

**Training:** No inquiries. Contact Tom Janos for instructor list. Tom is also looking for people to help out with training and to bring club planes to field on training days, as he is in the process of moving.

**Finances:** Looking good, late members get membership in.

**Visitor:** Bob Veenhuis, showed up at the meeting to check out club possibilities.

**Events:** Stay posted for more info.

**Old business:** Indoor flying dates, March, 16, 23, April, 6. Non MARCEE members \$15.00 to fly or join MARCEE and \$10.00 to fly. Contact Jeff Slater for info. Bylaws are in the books. Be ready for nominations in May and the reset of the political stuff to follow thru July.

**New business:** There will be a fun scale contest at the field this year so check out the schedule for dates. any scale outline plane qualifies; just for fun, no pressure.

**Show and tell:** Grandpa showed off his new SIG Fazer, with O.S. 46. Has fiberglass gear for quick touch and goes and 1/32 ply to stiffen the fuse for some abuse. Looks fast, we'll see grandpa come April. Nice Work!

## Raffle prizewinners:

Voltmeter	Tom Larose
24" servo extensions	Grandpa Stan
Hangar 9 glow wrench	Donated to visitor
Hangar 9 digital tach	Dick Huber
Hot shot glow starter	Bruce Martin
Bench drill press	Dick Huber

Andy Thunstrom

ACRC Forum - <http://anoka-rc.com/forum>

# SPRING PREP

*From the official newsletter of the Tri County R. C. Club, New Jersey*

It has been a long winter for some of us. We have cleaned our models and engines and checked all the electronics. But now that the equipment has been sitting for three months, it needs a little late-winter refresh.

What am I talking about? Battery cycling. If you are using Nicad or NiMH cells, you will need to recharge the batteries about now. These batteries tend to self-discharge over time.

This is also a good time to cycle the batteries and ensure that they still have the capacity to be viable for the coming flying season, or order new batteries if they are of diminished capacity.

Now, if you are using Li-Poly cells, you don't need to charge or cycle the batteries. However, you should check the voltage to make sure they have held the storage charge you gave them. You do bring the cells to the recommended storage voltage, don't you? Yeah, me neither. Well, I will be doing that soon since I bought a charger that can put a storage charge on a Li-Poly.

Oh, and while you're at it, go through your field box. Dump everything out and purge stuff you don't need. Put the paint stirrers (broken propellers) in a container for later use, or just throw them out if you have too many already.

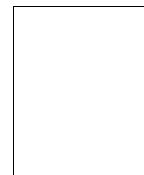
Check your starting and glow batteries and charge them, too. If you have a power panel, remove it and inspect all the wiring. If you keep repair tools in the field box, make sure they are fresh (glue, fuel tubing, rubber bands, band aids, dressings, ointments, etc.) While you're at it get some fresh cleaning solution and paper towels too.

Now, when the weather turns fair, you are ready to grab your stuff and go flying.



# SERVO CHATTER

902 - 88TH LANE NW  
COON RAPIDS, MN 55433



## ACRC BOARD MEMBERS

**PRESIDENT**  
Virgil Okeson

[president@anoka-rc.com](mailto:president@anoka-rc.com)

**TREASURER**  
Marc Tellevik

[treasurer@anoka-rc.com](mailto:treasurer@anoka-rc.com)

**VICE PRESIDENT**  
Phil Vaughn

[vicepresident@anoka-rc.com](mailto:vicepresident@anoka-rc.com)

**INSTRUCTION COORDINATOR**  
Tom Janos

[instruction@anoka-rc.com](mailto:instruction@anoka-rc.com)

**MEMBERSHIP SECRETARY**  
Stan Zdon

[membership@anoka-rc.com](mailto:membership@anoka-rc.com)

**FIELD SAFETY OFFICER**  
Brett Ohnstad

[fieldsafety@anoka-rc.com](mailto:fieldsafety@anoka-rc.com)

**RECORDING SECRETARY**  
Andrew Thunstrom

[secretary@anoka-rc.com](mailto:secretary@anoka-rc.com)

**EVENT COORDINATOR**  
Bob Proulx

[events@anoka-rc.com](mailto:events@anoka-rc.com)

ACRC Website - <http://www.anoka-rc.com>

ACRC Forum - <http://anoka-rc.com/forum>

## SERVO CHATTER EDITOR

Stan Zdon

[newsletter@anoka-rc.com](mailto:newsletter@anoka-rc.com)

## CONTRIBUTORS THIS MONTH

*Tom Janos*

*Virgil Okeson*

*Brett Ohnstad*

*Bob Proulx*

*Andy Thunstrom*

*Stan Zdon*

## ACRC SPONSORS

King Kong Hobbies  
Abraham Technical  
Aerospace Welding  
Cambridge State Bank  
T & G Hardwood

*Deadline for the  
next newsletter is:  
April 1, 2015*

## CALENDAR OF UPCOMING EVENTS

Thursday – March 19

- ACRC Meeting

Thursday – April 16

- ACRC Meeting

Saturday – April 18

- ACRC Fun Fly #1

Thursday – May 21

- ACRC Meeting

