



ACADEMY OF MODEL AERONAUTICS CHARTERED CLUB #1255

SERVO CHATTER

A PUBLICATION OF:

ANOKA COUNTY RADIO CONTROL CLUB, INC.

MARCH 2010

THE MEETING WILL BE THURSDAY, MARCH 18, AT RIVERWIND!!

PRESIDENT'S CHATTER

It's time to check out our planes and do some preventative maintenance now. It will go a long way in preventing problems later on. Cycling your transmitter and receiver batteries, checking fuel lines and control surface hinges are my first checklist items.

We do have our first Fun Fly coming in a little over a month. It will be to your advantage to have your planes ready and have some stick time. It will be here before you know it.

Last months get together at the Old Country Buffet had a pretty good turn out with around 25 people showing up. We will try again next year at a new location and maybe see some more of you.

See you at the field!

Erik Castrodale

FROM THE VEEP

I can tell spring is on the way. The days are getting longer, it's getting warmer and the snow is disappearing fast. The road out to the field has been OK so far this year but soon the frost will be out and it may become impossible to get out there until it dries out. Now is a good time to check over all of your aircraft and equipment. If your plane is engine powered don't forget to pull the fuel tank and check the clunk line inside. Two of my planes last year had rotted lines inside the tank. Also check all the electronics (Batteries, connections, servos, etc.) so you will be ready

when the warmer weather gets here.

The raffle prizes this month are a Seagull Models Extra 300 ARF, a Hanger 9 field box, a Hanger 9 incidence meter, a rechargeable LED work light and some CA adhesive. Tim Karash donated the field box and incidence meter. Thanks Tim.

Dan Thiede

PILOT TRAINING

Does anyone have spring fever as badly as I do? From what I have noticed during the last month, some of the members are in pretty bad shape, even those doing some flying indoors. It's getting time to dig out or finish that plane you've been itching to fly. April will be here and before you know it will be time to fly. For the people that are brand spankin' new and have a plane ready, all I have to say is pay attention to the manual as far as CG, control surface throws and balance are concerned because we will be doing this at the field for preflight checks. Also become familiar with your transmitter manual, so you're a smooth operator. For you experienced trainees, you know the routine; don't put away the simulator just yet. Also for members still in or looking for help, please call me. I would rather talk to you personally than through the Internet machine. Call me at (763) 291-2088.

Finally - Happy Spring!

Andy Thunstrom



Meeting Minutes

Meeting Minutes - February 18, 2010

Meeting called to order at 7 P.M.

21 members present.

Board Reports:

Vice President: Dan Thiede reviewed the evening's raffle prizes that included a Lanier 40 size Corsair ARF, field and bench equipment.

Events: Marc Davis picked up the discussion from last month regarding solar power. See below.

Membership: Stan Zdon reports that membership renewals are progressing well.

Events: Andy Thunstrom suggested a combat event every first Sunday of the month. He also discussed how points might be awarded per event and the possibility of the point winner receiving a prize at the end of the season. This was agreeable to the members. There are many in the club at this time interested in combat.

Treasurer: Jake Groetsch reports that the club is in good shape and he also did an analysis from the previous year. The club is far ahead of the previous year.

Old Business:

Last month Dale Anderson suggested the possibility of adding solar power to the field as some other clubs have done. Marc Davis did some investigating and found that the club could install a system for about \$350 which was expandable. While the project seems to be orientated toward those flying electric it was pointed out that the system could also be used to recharge receiver and transmitter batteries. It may also be a good selling point to attract new members. There was some discussion about the actual need to spend the money and it was also pointed out that for about the same amount of money a portable generator could be purchase that could be used for more than charging batteries. Marc will write up his findings and post it on the forum (which is now working on the club web site). Eric Castrodale agreed to put a voting

button on the write up so we could get a better idea of what the members wanted to do.

Eric Castrodale mentioned that the Country Buffet in Coon Rapids does not accept reservations for the weekend. There was some discussion about this and Eric will call back. Friday evenings seemed to be agreeable to the members present. Eric will inform us of the date for the club winter get together via e-mail.

New business:

Andy Noll encouraged everyone to enjoy the indoor flying being held at the National Sports Center. This coming Saturday it will be held 7 AM – 9 AM. So far the indoor flying has been well supported.

The club will have a swap meet at the March meeting. Bring what you want to sell or swap.

Show and Tell:



Bob Proulx gave us a brief update on his latest project and the trouble he has been having finding a suitable 1/7 scale pilot figure. Bob's projects are always meticulously built with much attention to detail so we initially thought this figure must be something special for Bob to mention it. He went on to say how he purchased the figure for \$47.00 from Century Jet Models whereupon he pulled the figure out of his coat pocket to show us. Even from across the room it was obvious that this figure was not up to Bob's – or anyone else's standards.

Continued on Next Page

He passed the figure around for all to get a good look and then mentioned that he would be contacting the supplier tomorrow. When the plane debuts this spring we are sure Bob will have remedied the pilot situation.

Raffle:

- | | | |
|-----|-----------------|--------------------|
| 1st | Jason Proffit | Lanier Corsair ARF |
| 2nd | Paul Castrodale | Electric starter |
| 3rd | Mike Harter | Z bend pliers |
| 4th | Erik Castrodale | Plane restraint |
| 5th | Steve Ulrich | Covering glove |
| 6th | Andy Noll | Protractor |

Steve Ulrich

MEMBERSHIP NEWS

ACRC currently has 76 (72) members signed up for 2010. Of these, 61 (59) are members that pay full yearly dues. The rest are honorary members, junior members and life members. The numbers in parenthesis are the membership numbers at the end of 2009. As you can see, membership renewal is a little better than last year. There are 32 full dues members, listed below, that have not renewed their membership for 2010. If you know any of these members personally, please call them and remind them to renew for 2010. If they all renew, the membership numbers will equal last year's numbers. The 2010 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. The events scheduled for this summer are:

- | | |
|-------------------|---------|
| Spring Fly-In | May 15 |
| Pattern Contest | June 5 |
| Warbird Fly-In | June 26 |
| Fun Scale Contest | July 10 |

- | | |
|--------------|-------------|
| Float Fly | July 21 |
| Scale Fly-In | August 28 |
| Electric Fly | September 4 |
| Fly-Out | October 2 |

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 and some a little lower. 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 18 at 7:00 PM.

Stan Zdon

Non-Renewals for 2010

- | | |
|------------------|--------------------|
| Dennis Batty | Mark Lester |
| Darren Bitzer | Eric Malkerson |
| Steve Burmeister | Michael G. Mastros |
| Matthew Campson | Michael J. Mastros |
| Kevin Carlson | Gregory Morin |
| Bruce Dibb | Michael O'keefe |
| Tom Doty | Dan O'link |
| Vong Duong | Keith Patch |
| Jeff Flander | Rick Proehl |
| David Greene | Phil Rinderknecht |
| Nick Halstead | Bruce Sheldon |
| Raymond Hamblin | Al Spearbecker |
| Pat Harker | Steve Strand |
| Michael Harter | Mark Strommen |
| Dana King | Cory Welsh |
| Berry Lee | Ed Wright |

WANTED

January 2010 issue of AMA Model Aviation magazine. Contact Tim Karash (763) 444-4617

It's coming closer to the flying season for most of us and for some it has already begun. I came across this article and felt it was a good read for all of our members and friends that are new to the hobby but also to the rest of us as well. Have a great season and remember takeoffs are optional but landing is a requirement.

Joe Coleman

ON THE SAFE SIDE

Safety: As Simple as ABC

by Don Lowe

Hi! I've been in this hobby a long time (forever), and I guess I've seen about every-thing happen in model flying that's possible. However, I wonder if there is some method of operation that might help preclude crashes and unsafe operations.

I've written about safety many times in past columns for RCM and, of course, I chaired AMA's Safety Committee for many years. One thing I've learned is that you can have all the safety rules that you want, but if fliers don't conscientiously observe these rules, then what good are the rules?

Fortunately most fliers exercise common sense in their flight operations, and their airplanes survive to fly another day. Some say that man is a creature of habit. If you can, in some magical way, coach that creature to use common sense and to follow a set of safety guidelines, then you have accomplished something.

Models come in all shapes and sizes. Some have such low-energy content in their flight operations that they are not much of a threat. By and large, the typical model airplane flown by the average modeler is of a size, weight, speed, and complication that logical care in flight operations is mandatory otherwise serious damage can occur to people or property and none of us wants that to happen. Several weeks ago a friend of mine crashed a gorgeous and expensive Aerobatics (Pattern) model at a contest because of a

momentary lapse of attention and adherence to important safety practices. The model was a typical F3A Pattern aircraft with a plug-in wing and tail. In his haste to fly, he forgot to physically secure the wing halves into position and plug in the aileron servos.

This inattention to flight procedure was followed by a failure to exercise the control system prior to flight to observe normal operation. A takeoff and the resultant crash occurred. Fortunately no one was hit, but the beautiful aircraft - and his ego - were severely damaged.

How do we improve our chances of safe flight? In mulling over this on the way home I thought about our flight training in the Air Force. We used a check system prior to flight that was simple and easy to remember. Each checklist was particular to an individual aircraft design; full-scale pilots use such checklists today. The code I used at that time was CIGFT-PR, and I will never forget it. It followed the usual walk-around - inspecting the exterior to see that everything was in place and kicking the tires. Then in the cockpit I went through the list. It goes something like this:

C (controls): Operate the flight controls to observe for motion and direction.

I (instruments): Check the instruments to be sure all are functional.

G (gear): Landing gear lever down and locked.

F (flaps): Flaps are set to proper position.

T (trims): Control trims are set properly for takeoff.

P (propeller): Propeller controls are set for startup and takeoff.

R (run-up): Engine run-up to check proper operation.

This system worked well and I'm sure the precheck saved many an aborted takeoff. Okay, such a system works for full scale, but is there a system that is easy to use for model fliers that will be remembered and may be used to prevent disaster down the road? How about using ABC? It's simple and easy to remember. The check would go like this:

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Solar Charging System

Two months ago at the club meeting Dale Anderson asked if the club would be interested in installing a solar charging station. After the meeting the board talked about it and it was decided that we would get some budget numbers to present to the club at the next meeting. At the last meeting I presented what I thought would be a good budget number for installing a small solar charging system. It was decided at that time that we should put the data in the next newsletter and what follows is a result of that. I know there is a lot of math, but I wanted everyone to be able to see the numbers, as I understand them. I hope that you find it easy to follow and that you will be able to make an informed decision on how you feel about installing a solar charging system at our club. If you have any questions please feel free to contact me.

Ok, here we go.....

(2) Solar Cells: 45 Watt system with charging regulator \$500

www.harborfreight.com/cpi/ctaf/displayitem.taf?Itemnumber=90599

Battery: 260 Amp-h \$221

http://www.napaonline.com/Search/Detail.aspx?R=NBE8274_0056217521

Weatherproof Distribution Box \$25

Banana plugs (3 sets) \$15

<http://www.radioshack.com/product/index.jsp?productId=2102838>

Hookup wire 20ft @ \$1.81 ft \$36

http://www.napaonline.com/Search/Detail.aspx?R=BEL738472_0006445180

Battery Connectors \$9

http://www.napaonline.com/Search/Detail.aspx?R=PHI8610_0006559464

Estimated Total \$806

I found a great website by Advanced Energy Group that talk about sizing solar systems. To use

this site you just need to know some of the basic information. Let's step through the calculation together.

I had to start with some estimated usage from our club members. To do so I assumed a peak usage of 3 users with an imposed limit of 3 amps of current draw while charging a typical 3-cell LiPo battery. I can only guess at how much usage we would use as a club so I tried to pick high but reasonable numbers. You all know how engineers are; we all use a safety factor of 200 percent.

To put these numbers in perspective for the non-electric members of the club, the most common battery is a 2100 ma LiPo that is not charged more than 1C or 2.1 amps. There are some club members that have larger batteries but I think that it would be safe estimate for average usage. I calculated that the average use per day is approximately 28.3 Amp-hours. So for the non-electric users this would be like charging 13.5 average batteries in a day.

Using that data we can now determine how many solar charging systems our field will need. Factoring in battery and charging loses of 20 percent we get 33.96 Amp-hours on an average day.

$(1.2) \times (28.3 \text{ Amp-hours}) = 33.96 \text{ Amp-hours}$

From the web I found for our area that we could expect on average of 4.53 hours of sun hours a day. What this means is that on average we will get the equivalent of 4.53 hours of direct sun a day. The next step is to determine how many amps that the charging system will need. By taking the 33.96 Amp-hours of usage that we found before and dividing that by the number of solar hours (4.53 hours) we can expect we find that we will need 7.5 Amps of power to keep the battery fully charged in a week

$(33.96 \text{ Amp-hours}) / (4.53 \text{ hours}) = 7.5 \text{ Amps}$

The solar panels from harbor freight that we are looking at are designed for 45 watts of total power. To calculate the charging amperage we



take the wattage and divide 12 volts which gives us 3.75 amps of charging current.

45 watts / 12V = 3.75 Amps.

Ok, hang in there we are almost done only one more calculation. We now need to take the charging amps and divide that by the number of amps the system can deliver to find out how many panels we will need in doing so we see that almost exactly 2 sets of panels.

$(7.5 \text{ Amps}) / (3.7 \text{ Amps}) = 1.99$

Now I have stepped through all the numbers and I was surprised to see that we would actually need two complete systems from harbor freight. I have listed the total price of the system at \$806 but Stan has been able to find this system on sale twice for as little as \$180 dollars a piece. This would bring the price of the system down to about \$660. I also selected a very good battery, I'm sure that if we shopped around we could save a few bucks there as well.

So now that we have an idea of the system design and cost we need to hear from you our club members. I have asked Erik to put a poll up on the club forums so you can vote on whether or not you would like to see a solar charging system at our club. You can also express your opinions both for and against the idea. We know that we are not all flying electrics in the club and that this is a nice to have.

Marc Davis

Source:

Advanced Energy Group

<http://www.solar4power.com/solar-power-sizing.html#solar>

Club forums:

<http://anoka-rc.com/forums/viewtopic.php?f=3&t=2>

R/C COMBAT

We are starting a new flying season and have a new schedule, and we also have a new event. Combat!! For members that have wanted to get

everyone together for a combat event, the calendar has been set. The dates are:

May 1 May 30 July 4

August 1 September 12

I was trying to schedule around our other events and this is what was available. Planes are to be SSC or close to it. They do not have to be a Battle Axe brand, bring what you have. It has to meet these specs.

Engine - .15 cu.in., bearing or bushing, anything this size under \$89.

Electrics must be equivalent in size.

Props - 8x3, no bigger no smaller.

Weight - Minimum 2.5 lbs.

There is a one time \$10.00 entry fee good for the entire season. This fee will help cover the cost of combat ribbons and prizes for the end of the year. The event will include a roster and points. The idea is to run a roster for the schedule and a point tally for each person. The event is to run three 5-minute rounds, keeping a tally of points for the day. Points add up through the season. At the end of the season the top 6 point leaders fly a round for top point prize. The prize is going to be a new SSC Battle Axe combat plane. Gotta have some incentive. Points are easy:

100 points for full 5 minute flight.

5 points per foot of streamer left on your plane.

-25 points for non-engagement.

Pilots will stand on the east side of runway, on the asphalt. The combat area is going to be bounded by the first ditch to the east, the field road just north of the run way, and the ditch just to the south of the runway. Now this is just for FUN!!!!!! The point is to get some combat in for the people who have combat planes, and to have some good times. If there are any questions, show up and we'll run through a pilots meeting before hand. This is a NON-SANCTIONED event, FUN ONLY!

Andy Thunstrom

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

Safety - Continued from Page 4

A (assembly): Check that everything is in its proper place, controls are still intact as installed and securely fastened, and all assembly fasteners are in place.

B (batteries): Must be fully charged - very critical to safe flying.

C (controls): Controls checked for deflection, without evidence of servo malfunction, and operate in the proper direction.

Have you ever taken off with the ailerons running backwards? The average flier will not survive this error, and many models have been lost because of reversed ailerons. Remember, make sure they are operating and in the proper direction. Just stare at the aileron; did the right aileron deflect up when I commanded right aileron? Simply observing motion is not enough; you must check direction. You probably would be unable to execute a takeoff if any other control is backward, but the ailerons are another story! When I taxi I am consciously flipping the ailerons to make sure they are working correctly. When I flew full scale I always checked controls one last time before initiating takeoff.

Will you do your ABCs? I sure hope so since it hurts to see a gorgeous airplane in pieces and maybe someone hurt. Let this little memory jogger help save your beautiful aircraft. Yes, safety is common sense, and for some it is habitual. Be sure and practice safe flight.

Happy flying!



NAME THE PLANE

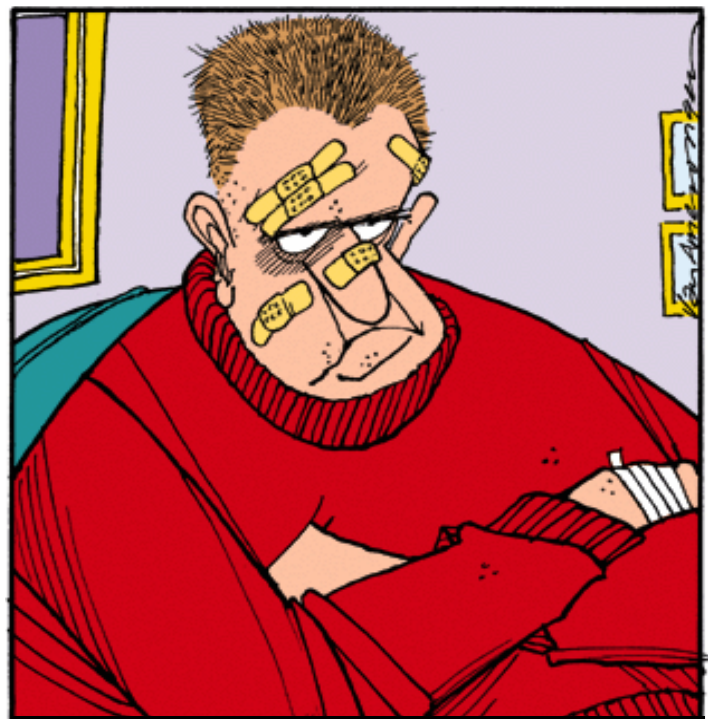
USEFUL WEBSITES

Ever get frustrated trying to figure out how many inches are in a 1,980mm wingspan? Or convert a 94.6 g/dm² wing loading to something you understand. Or, just how big is a 2.5 cubic inch engine? I'm used to seeing engine sizes in cubic centimeters (cc). Here are a couple web sites that I've found useful for converting measurements from metric to US. For most folks www.onlineconversion.com will have a simple conversion that will do the job and is pretty simple to use. If you're more of an engineering type, you might like www.engineersedge.com.

Ever wonder if there's a less expensive option to that expensive servo recommended by your airplane manufacturer? Take a look at www.servodatabase.com. I've found it quite useful in finding alternative servos. But be sure to research prices. Don't take their price as the gospel. There may be better deals if you're willing to do a little searching. And, sites like this may not have the latest new servos in their list.

Phil Vaughn

BALLARD STREET by Jerry Van Amerongen



Bud is always pushing things right up to the point he shouldn't.

RC HELICOPTER SAFETY TIPS

1. Whenever you start your helicopter, whether it's a nitro, gasser, or electric, always hold the blade grips tightly. If your throttle is not all the way down, or there's a glitch, your helicopter can spin out of control and cause damage.
2. Always stand a minimum of five to ten feet away from your helicopter and never fly toward yourself. Similarly, don't fly around other people or pets.
3. Blade tips can be spinning in excess of 250 mph and a carbon fiber rotor at those speeds can do some serious damage and even cause death.
4. Always disconnect your battery/motor before trying to adjust anything on your helicopter.
5. If a blade separates during in flight, it can fly in excess of 100 feet, so make sure your nuts/bolts are tight.
6. Perform a quick preflight check to make sure everything is as it's supposed to be. Make sure nuts, bolts, and screws are tight, linkages aren't loose, and your batteries are charged.
7. Don't fly alone if it can be avoided and always have a cell phone or other means of communication available.
8. Don't fly near trees, power lines, or other obstacles.
9. Avoid flying your RC helicopter in close proximity to another helicopter to avoid contact and a potentially fatal crash.
10. Don't fly a non-electric RC helicopter indoors. The fumes are toxic and not good for your health.
11. Practice new moves on a simulator first for safety and your wallet's sake.
12. When flying on windy days, always fly upwind from your RC helicopter so a gust doesn't blow it toward you. Better yet, don't fly when it's windy out.
13. Don't adjust the radio when your helicopter is powered. If you accidentally reverse throttle, bad things can happen.
14. Avoid flying your RC helicopter at head height. If something comes loose or there's a glitch (electrical or human) you're less likely to lose an eye.
15. If you want to manually slow down the blades, do so by adding friction to the button and keep loose clothing and other bodily parts away from them.
16. When walking toward your helicopter, make sure that your transmitter's throttle hold switch is turned on.
17. Only use hardened bolts for any bolt that has a load being placed on it. If possible, stick to stock parts.
18. Program fail-safe settings into your receiver if possible.
19. If you're new to RC helicopters, make sure that an experienced helicopter pilot checks out your aircraft and radio setup prior to your first flight.
20. Don't fly powerful RC helicopters indoors that were meant for the wide open spaces of outdoors.

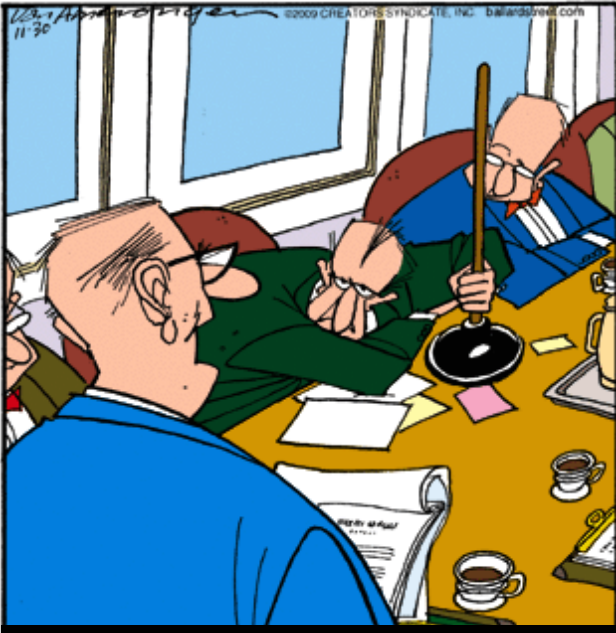
From the Rogue Eagles R/C Club, Medford, Oregon



SERVO CHATTER

902 - 88TH LANE NW
COON RAPIDS, MN 55433

BALLARD STREET by Jerry Van Amerongen



The board is well aware of your sentiments.

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Aerospace welding
Cambridge State Bank
T & G Hardwood

*Deadline for the
next newsletter is:
April 1, 2010*

CALENDAR OF UPCOMING EVENTS

Thursday – March 18

- ACRC Club Meeting

Thursday – April 15

- ACRC Club Meeting

Saturday – April 17

- ACRC Fun Fly

Saturday – May 15

- ACRC Spring Fly-In

