



ACADEMY OF MODEL AERONAUTICS CHARTERED CLUB #1255

SERVO CHATTER

A PUBLICATION OF:

ANOKA COUNTY RADIO CONTROL CLUB, INC.

MARCH 2013

THE MEETING WILL BE THURSDAY, MARCH 21, AT RIVERWIND!!

PRESIDENT'S CHATTER

One more month and the flying season unofficially starts with the first fun fly. As our new season approaches the board has decided to have three events with a planned menu. Those events are the Spring Fly-In, The Warbird Fly-in, and the Fly-Out. The fun scale and pattern contests are usually a run to the store for hot dogs and burgers type of deal. But if we can it would be nice to get some potluck setups if at all possible. The reason for the change is that we have no way of knowing what to plan for. We had ideas and planed accordingly, but attendance was very low with lots of leftovers, hence the change. If you plan on coming to an event please bring something; you don't have to but would be great. So that's it for the upcoming events so far.

Andy Thunstrom

FROM THE VEEP

Hello Everyone!

Sorry I missed the last meeting but I was out of town on a business trip that I parlayed into a vacation down in Texas. I hope you all have been well and have been prepping your planes, as flying season will be starting soon. Some of you may have already been out; admittedly I haven't been out to the field since the freeze-fly so I have no idea of the road condition to get back there.

As I said, I was down in Houston, TX for a business trip that just so happened to coincide with the Houston Rodeo and Livestock Show World's

Championship BBQ contest, funny how that worked out isn't it? Imagine the MN State Fair except instead of everything on a stick and cheese curds it was wall-to-wall BBQ. I thought I'd Share a picture of the United Airlines BBQ pit. It is a fully functional pit and they cooked and competed off of it.



That's all I have for this month; I hope to see you all at the meeting

John Sager

ACRC TRAINING

The snow can't melt fast enough!! I don't know about you but I'm ready for some sunshine and warm weather!! I have been extremely busy this winter, however I still found time to finish the first new airplane to come out of my shop in 20 years!!! Guess what? It's a trainer!! Last winter I began building an old classic and my first R/C airplane, a Goldberg Eagle. Typically a fairly quick build, but not for me!! I plan to hog the runway with it doing touch and goes.

I don't have any new training news this month. Things have been pretty quiet as far as any new

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pilots. I have a tentative list together pairing new pilots and instructors and will begin calling everybody soon.

Training Tips and Tricks

Last month I covered the crosswind takeoff procedure for tricycle gear airplanes. I realize most of us fly tail draggers. The technique is pretty much the same except for elevator positioning. So here is the technique for the conventional gear aircraft.

Pull the control stick all the way back to the stop. This places our elevator in a full up position allowing for the relative wind to put a downward force on the tail. Remember, our only means of directional control at this point is with the steerable tail wheel. Next, move the control stick all the way to the left into the direction from which the crosswind is coming. This will position our ailerons properly to compensate for the wind. During the takeoff right rudder will also be needed to compensate for the crosswind striking the vertical stabilizer, engine torque and propeller "P" factor. With increasing ground speed, simultaneously ease the control stick slightly forward and remove about one-half of the left aileron correction. As you ease the control stick forward the tail wheel will lift from the runway. Under normal wind conditions you would want to keep the airplane in a tail low attitude, but in a crosswind you want to bring the tail up to a near level flight attitude. Just as you reach liftoff speed,



BELL YFM-1 AIRACUDA

apply very slight backpressure on the control stick and move the ailerons to a neutral position. After lifting off, relax the backpressure on the control stick and relax the rudder pressure you have been holding during the takeoff roll.

Scott Oleson

BASIC FIRE SAFETY

Imagine that you've been working on your latest project when you stop for a quick snack. Before you return to your workshop you notice the smell of something burning. You think that it can't be anything serious because your fire detector isn't screaming at you. But wait, what fire detector? I must have one because that was where I got the last 9-volt battery for my FPV camera. Well that explains why that is not going off. Maybe the smoke is coming from that LiPo battery that you picked up online real cheap, but it can't be, that thing is in a charging bag. Could it be that the servo you were running through test cycles finally burned out? But no, that wouldn't make much sense either. Your mind starts to panic as you realize that you left your hot glue gun on and it is setting right next to the soldering iron you also forgot to unplug and your new plane. My plane could be on fire! Wait! No! My house could be on fire! You run in to your workshop to find the trash can smoldering. Turns out the rags that you used to wipe up some spilled fuel were in the process of starting to spontaneously combust. A moment later and those rags would have started up in nice little blaze had you not gotten them out of the house and into the open.

We have just described the perfect extreme fire prevention textbook cliché. But how close to the truth is this story for you. Many people do not own or have access to the proper fire safety equipment and preventative tools. A little advance planning and training will go a long way in making sure that you do not lose anything to fire. Even if nothing like this has happened to you, don't pat yourself on the back quite just yet; we got some learning to do here.

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Types of fires

Fire is in fact a chemical reaction that depends on three properties that need to be present at the same time in order for combustion to occur. Just like the engine on your airplane, you need some sort of **fuel** or combustible, a **heat** source for ignition and for sustaining combustion, and **oxygen**. Remove any one of these three items, and like your engine, the fire will stop.

The type of fuel being consumed in the fire will determine the classification of fire.

Class A: This includes any solids like wood, paper, plastics that are not metals

Class B: Any flammable liquids or gasses like fuel, oil, thinners, or paints.

Class C: Electrical equipment fires

Class D: Metals such as aluminum, and magnesium usually in shavings or metal dust.

Knowing the type or class of fire will help in determine what type of extinguisher that should be used on the fire. For example; a water filled fire extinguisher that you would use to put out a wood fire could cause an oil fire to spread or cause additional damage on an electrical fire if the electrical equipment it still plugged in.

Types of Extinguishers

APW (Air Pressurized Water) are typically large silver colored cylinders that are filled with water. These are for use on Class A fires and stop the fire by removing the heat needed for continued combustion.

Carbon Dioxide (CO₂) are most often found as red cylinders and can be range from 5 lbs to 100 lbs in size. They are useful on Class B and Class C fires and work by taking away the Oxygen needed for combustion. As the CO₂ is very cold from expansion of the gas as it is released from the nozzle it also removes some of the heat from the fire. CO₂ is not recommended for Class A fires as it does not typically remove enough oxygen from the fire to put the fire out and may not remove enough heat to be able to extinguish all of the embers in the fire resulting in a potential flare up.

Dry Chemical (DC) are can be a red or white cylinders that can be anywhere between 5 and 20 lbs. and can be easily purchased at a local hardware store. They will be classified as either ABC or BC for the type of fire that can extinguish. They are filled with a fine powder of monoammonium phosphate or some other agent that puts out the fire by separating the fuel from the oxygen and interrupting the chemical reaction.

Extinguishers rated for Class D fires do not use a dry chemical as these agents could actually aggravate a Class D fire. Instead they may use a dry powder form of graphite or granular sodium chloride and the extinguishers can be relatively expensive. If you do perform metal work make sure that you keep your work area clean of any fine metal shavings before they could potentially lead to a fire

What to do in event of a fire

Should you have a situation in which you have a fire, you need to make some quick decisions. Your first priority is to help any person who may be in immediate line of danger. Next, you need to call 911 or have someone else call. Even if it is a small fire you need to make sure that help is on its way before you attempt to fight the fire yourself. Should you become incapacitated or unable to contain the fire, having called for backup ensures that help gets there and that help gets there soon.

If you have a fire extinguisher on hand should choose to use it you, all you have remember is the acronym "**PASS**"

Pull the pin. This releases the "safety" on the extinguisher allowing you to use it

Aim at the base of the fire. This is where the chemical reaction of the fire is happening.

Squeeze the trigger.

Sweep the base of the fire from side to side until the fire is out.

Make sure that if you attempt to fight the fire you position yourself with an escape that is away from the fire. Close any doors and windows if you can to help contain the fire and smoke to the smallest area possible. Remember that help is on its way because you have already called 911.

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Lithium polymer batteries are a special instance of fire in which once ignited the only thing that can realistically be done is to prevent the further spread of the fire with either an extinguisher or even possibly a bucket of sand. Lipo batteries have a high energy density and contain a flammable electrolyte making for a highly potent combination. Charging the battery while it is in a LiPo bag, in an ammo box or on a piece of ceramic will help prevent a secondary fire. Charging your LiPo battery underneath the open hood of your vehicle at the flying field on the other hand is a good way to make sure that you get to walk home at the end of the day.

Being proactive about fire is going to be your best fire preventative measure. Small extinguishers can easily be obtained and mounted in your workshop and on your field box. The early warning offered by a smoke detector can be an easy and efficient form of preventative measure, provided that people actually use them. A properly installed and maintained smoke detector will have fewer annoying false alarms. This means placing them in your home and workshop in a place that has easy access to clear a false alarm, perform a test, or to change the battery. The easier it is to get to, the more likely that it is to be used. Also change the battery and check your extinguishers twice a year, preferably at the start and end of Daylight Savings time. Just remember to save the old battery for the FPV camera.

Brett Ohnstad

MEMBERSHIP NEWS

MARCH 2013

ACRC currently has 78 (89) members signed up for 2013. Of these, 67 (76) 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 somewhat down from last year. There are 42 full dues members, listed below, that have

not renewed their membership for 2013. If you know any of these members personally, please call them and remind them to renew for 2013. If they all renew, the membership numbers will equal last year's numbers. The 2013 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 4
Fun Scale Contest	June 1
Warbird Fly-In	June 29
Pattern Contest	July 13
Float Fly	July 24
Scale Fly-In	August 24
Electric Fly	September 7
Fly-Out	October 5

Monthly Fun Flies are also scheduled. 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, with some a little higher. 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 28** 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 21 at 7:00 PM.

Stan Zdon



Non-Renewals for 2013

- | | |
|-------------------|--------------------|
| Dennis Batty | Marcus Martinez |
| Mark Bilyk | Michael G. Mastro |
| Darren Bitzer | Michael J. Mastro |
| Dave Boll | Andrew Noll |
| Dale Case | Dan O'link |
| Jim Chapman | Don Olson |
| David Clapp | Joe Parent |
| Chris Cone | Joel Parker |
| | Tim Pettman |
| Marc Davis | Jason Proffit |
| Jake Groetsch | Bob Proulx |
| Matthew Hallerman | Werner Remmen |
| Michael Harter | Lee Ritchie |
| Sean Haugen | James Rosenthal |
| Scott Jarchow | Jacob Schoenberger |
| John Jensen | Jerry Setterholm |
| Tim Karash | Eric Sherman |
| Dana King | Dave Sievert |
| Andy Labine | Larry Small |
| Garth Landefeld | JR Venegas |
| Scott Larson | Lee Wolfgram |

Vice President: - John Sager

Went over raffle prizes and announced the indoor flying dates (has since been canceled due to low attendance)

Old Business – None

New Business – None

Show and Tell



Chris Elliot brought in a R/C truck that he uses in truck pulls.

MEETING MINUTES

February 21, 2013

Meeting Called to Order at 7:03 PM.

President - Andy Thunstrom showed the prizes for the raffle.

Treasurer: - Phil Vaughn

The January Financial report was submitted along with club expense to date. Report was accepted with a motion.

Membership - Stan Zdon

Membership is at about 80 total members for 2013 with 70 paying members.

Events- Chris Elliott

Fun Flies start in April and the Spring Fly-In is May 4.

Safety – Brett Ohnstad

Brett brought safety goggles for the raffle.



Stan Zdon brought in the lower wing and the tail from his Sopwith Pup. It is 1/4 scale plane built from a Balsa USA kit and will be powered by a Saito 150.

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Raffle Winners:

- | | |
|-------------------|-------------------|
| 1. Dick Stark | Voltmeter |
| 2.) Stan Zdon | Spektrum receiver |
| 3.) Ray Jelinek | Robart stand |
| 4.) Brett Ohnstad | Jack Daniels |
| 5.) Ray Jelinek | Safety glasses |
| 6.) Neil Olson | Glow starter |
| 7.) Darren Bitzer | Fuel pump |
| 8.) Dick Stark | Safety glasses |

Stan Zdon

PROPELLER BALANCING

Information from the Bolly Products website
<http://www.bolly.com.au/>

It is important that propellers be well balanced. The propeller should also sit square to the engine prop driver. Check for an equal height under each tip with the prop sitting on a flat surface. Many props (especially molded nylon types) will have an uneven bottom (and/or top) surface due to uneven material shrinkage. Check this before checking for equal heights below each tip. It can happen that the shaft hole isn't square to the rear face of the hub, for this it is a good idea to step or taper ream the prop, leaving only a small amount of the hole at the required diameter. Please note, unlike machine made products which should be perfectly balanced (but often aren't), hand made props will require some balancing and finishing. Just to be safe, all props should be checked.

We use 4 types of prop balancers:

- 1.) **Basic Double Cone type.** This is the common easy to use type. Take care to hold this balancer square between the fingers. It is easy to create a false reading.
- 2.) **The Pin and Cone type.** This type is good for checking balance in 2 directions, a) along the length, b) across the hub. The position of the cone adjusts the sensitivity. High = insensitive, Low = sensitive or 'overbalance'. Make a series of split sleeves to fit larger shaft diameters. This type of balance is very good for multi blade propellers.

3.) **Tru-Spin type.** The tru-spin style of balancer has 2 sets of rotating wheels onto which the prop is placed via a shaft that is fitted through the hub of the propeller. These are the most expensive, but accurate and hardest to use. Caution, we have found the alloy wheel types to be far better than the plastic types. These balancers are also very good for balancing spinners. Note - many spinners are out of balance.

4.) **Magnetic type.** To a large degree these work on a similar principle to the basic double cone type, but without the friction of the fingers. The good versions are as accurate as the tru-spin type. They are at a disadvantage when balancing large, heavy propellers.

At Bolly we use all 4 types at different stages for different jobs when we factory balance a propeller.

Always balance by evenly removing material (sanding) from the top (curved) side of the blade. To remove material from the bottom may change the pitch and to remove material from the blade length or chord will create a dynamic imbalance. When removing the material, the choice of abrasive paper will depend upon the type of prop material. When modifying nylon base props, use a very fine abrasive paper as leaving any scratches on the surface is very dangerous, a deep scratch is potentially fatal. Wood props are easy to work with any appropriate abrasive paper. GRE / CRE props are very tough and will often require a very course paper for initial work, finishing with finer grades.

It is common for the prop to be heavy one side (across the blade). It is necessary to evenly remove material from the LE side of one blade and the TE side from the other, i.e. it is best to use a pin and cone or tru-spin type balancer.

USING PROP BALANCERS

It is surprising how many modelers have never used a prop balancer, and even more surprising as to how few know how to read what the balancer is telling them. With any balancer, and any propeller, the prop should stay stationary at any point throughout its 360 degrees of rotation. Sounds simple, but it isn't. If you have ever had a

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prop which refuses to stay put, or one that is different when rotated through 180 degrees, it is almost certain that the prop has a heavy side, across the blade (chord) as opposed to along the blade (diameter).

The technique we recommend is this:

- 1.) Check the blade horizontally to find the heavy blade and mark the blade H.
- 2.) Put the prop vertically, heavy blade down, and if the blade sits off center, mark a H on that side of the heavy blade. Tip - to help determine the heavy side of a prop - use a piece of clay stuck to a hub or blade.
- 3.) Now bias the material removal from that half of the heavy blade. In extreme cases material may be removed from the side of the hub, or even the opposing blade - but on the same side of the hub. Three and 4 blade props use the same principle, except it is often a combination of blades that need to be checked.

SUMMARY - Any of the prop balancers can be used, just remember to check the prop in horizontal and then vertical. If in doubt, check the direction of the imbalance with a small weight on the side opposite what you believe is the heavy side. This will also allow you to gauge the amount of material to remove.

PROPELLER CARE

After spending time balancing the propeller, take care to keep it in balance on the field. Frequently clean off residue, i.e. - grass, insects, earth, etc. from the blade. A propeller should not be used if any damage or stressing is evident. Avoid storing propellers in a stressed position or hot environment, i.e. - model nose down, resting on the prop. The propeller may warp under these conditions. Nylon needs to maintain moisture content for optimum properties. Most manufacturers moisture condition the props before sale.

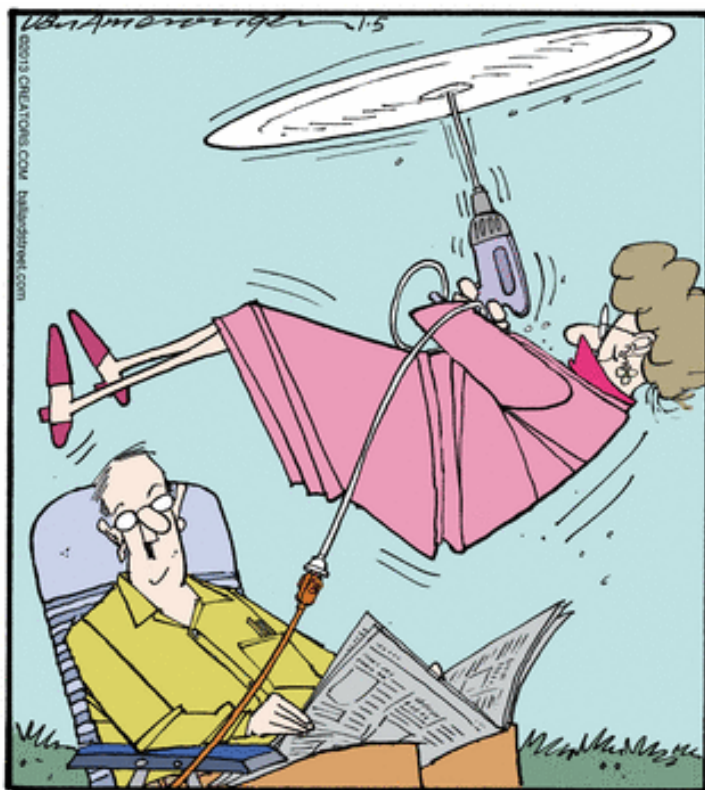
PROPELLER SAFETY

Propellers are potentially dangerous. Please treat them with care, respect and common sense. Modelers have died from injuries caused by

propellers. Remember a static propeller is safe, it is how they are used that causes the problems. Your safety (and those around you) is your responsibility. At Bolly we have a test bench where we frequently test our products. When testing a 20cc engine we had a prop kick loose (the prop nut wasn't tightened sufficiently), the prop flew forward 3 meters and hit the roof which was 4 meters above. It then bounced back to the test stand. It was a very good example of the potential dangers, luckily no one was nearby when it happened.

1. Correctly secure the propeller.
2. Do not stand to the side of, or lean over a rotating propeller. Always adjust an engine from behind.
3. Have a helper hold the model (or secure the model in some way), and keep spectators well clear.
4. Discard any propeller that is scratched, nicked, stressed or damaged in any way.
5. Almost all props sold will have an instruction leaflet, please read them and take heed of them.

Ballard Street by Jerry Von Amerongen



“Tina, be sure you have enough cord!”

SERVO CHATTER

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SERVO CHATTER

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ACRC SPONSORS

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

*Deadline for the
next newsletter is:
April 1, 2013*

CALENDAR OF UPCOMING EVENTS

Thursday – March 21

- ACRC Meeting

Thursday – April 18

- ACRC Meeting

Saturday – April 20

- ACRC Fun Fly

