



Buzzard Droppings



Gold Leader Club

Promoting the building and operation of radio controlled models, and the public acceptance and good will towards the sport/hobby. Our main goal is to have fun and enjoy the challenge of safely flying radio control models.

May 2010
Volume 17 Issue 5

Barnyard Buzzards

Model Airplane Club

AMA Chapter 2953
Monroe, Washington



Next Club Meeting is **Tuesday, May 11, 2010, 6:30 PM** at our club field in Monroe (See page 9 for a map).

Program: Builders Competition Showtime and Judging

Inside this issue:

President's Message	1
April 13 Meeting	1
Fun Fly Info	8
Safety Corner	5
Control Linkages	6
Photos for Fun	7
Sound Management	4
Builders Competition	5
Club Meetings, Maps and Field Info	9
Pilot Training Program	9
Club Officers	1

President's Message — Chet Blake

Hey Guys,

Well, spring is just about ready to bust out, so I hope you're getting those stored airplanes and radios out, safety checked and the batteries cycled after the long winter season.

Speaking of battery issues, I've been reading and hearing that a 6 volt flight pack is being talked

about more and more with the 2.4 GHz systems due to their loss of signal at the lower voltages. I think I can testify to that pattern of thought due to the recent incident that I had. I checked the battery on my Velox and it was 5 volts, so I decided to put it up for a one flight.

(Continued on page 2)

April 13th Meeting Minutes — Vaughan Houser

President Chet Blake called the monthly Barnyard Buzzard Model Airplane Club (BBMAC) meeting to order on Tuesday, April 13, 2010 at 6:30 P.M. at Alf's Pizza in Monroe. 27 members were present.

The next meeting will be on the second Tuesday of May - May 11, 2010, 6:30 P.M. at the club field in Monroe. Remember, this will be the

builder's contest at this meeting. Ron Swift, Rick Hanners, Bryan Reightley and Vince Bell have volunteered to be the judges. Come out and look at the craftsmanship and creativity of your fellow modelers.

Chet welcomed everyone. He asked if any guests and visitors were present. There were no visitors.

(Continued on page 2)



Club Officers and Contacts

President: Chet Blake (360) 863-2953

Vice President: Jim Reynolds (360) 435-9662

Secretary: Vaughan Houser (425) 788-8616

Treasurer: Rick Hanners (360) 668-1312

Safety Officer: Vince Bell (425) 788-2456

Newsletter & Website: Ron Swift (425) 788-6045

Field Manager: Jay Bell (425) 788-4831



(President's Message continued from page 1)

On the expanded scale meter this is still well within the white "ok" area. It was really windy that day, so it was hard to tell if the plane was acting irregular or not. About 6 times around the circuit, I decided to bring it in while I still could. Now, the plane is acting very strange, control reactions erratic and sometimes not what I "ordered". At first we thought that maybe I had just stalled it so bad that I lost all lift, but after finally plopping it down (and thankful for that), I checked the battery voltage and it was just above the edge of the red zone, at 4.6 to 4.7 volts. A quick range check also revealed that with the lower voltage, the range test wasn't as far as usual either.

The plane has an AR7000 with the satellite receiver and using more than usual servo action due to the extreme wind conditions caused more than usual drain on the battery. We think that it was losing signal due to the lower voltage. At any rate, here's the deal... If you don't change to the full 6 volts, you could

end up in trouble, so make sure your batteries are fully charged. I know next time I will (and fortunate to have that next time with this model)!!

Remember, the statistics say that the single most cause of crashes is battery issues.... Now I understand why!!

This month's meeting program is going to be the display and judging of the Builder's Contest.

C'mon out and cast your vote for your favorite build.

Charge 'em up to keep 'em up !!
Chet



(Continued from page 1)

Thanks to everyone who attended the meeting. Chet mentioned it was good to be back after his illness. He also thanked VP Jim Reynolds and the rest of the board for stepping in for the March meeting.

Chet introduced the officers and then went into the officers' reports.

President – Chet Blake

Vice President – Jim Reynolds

Treasurer – Rick Hanners

Secretary – Vaughan Houser

Field Safety Officer – Vince Bell

Newsletter Editor and Webmaster – Ron Swift

Field Manager – Jay Bell (absent)

Officers Reports

President – Chet Blake was pleased to announce that we still have a home field. Speaking of which, we do need to do some clean up. Jay Bell has scheduled a work day for May 1st (Delayed due to rain—new date to be set).

VP – Jim Reynolds reported the events

planned for this summer. The events are as follows:

- Fun Fly on Saturday June 12th,
- Open House & auction on Saturday, July 17th
- Combat event on Saturday, August 14th, (with a rainout day scheduled for Aug, 21).
- A second Fun Fly is scheduled for Saturday, September 11th with a rainout day scheduled for the following Saturday, September 18th.

Treasurer – Rick Hanners reported that the Buzzards have \$8,921.24 in the bank. The club is in good shape.

Secretary – Vaughan reported there are 61 members.

Safety Officer – Vince reported that everything seems to be okay.

Field Manager – Chet reported for Jay Bell that both mowers are in the shed. The mowing list went around to all who were present. (After passing the list around during the meeting the result is all of the schedule slots were filled. Great job guys!)

(Continued on page 3)



(Continued from page 2)

Newsletter – Ron Swift suggested that anyone who has some words of wisdom regarding the R/C hobby is welcome to write an article for the newsletter. Rick Hanners wrote an article for the March newsletter on the topic of 2.4 GHz. Thank you Rick! The newsletter can be found on-line at <http://barnyard-buzzards.com>.

Old Business

Field situation. Chet reported a verbal agreement was reached with Dale based on the proposal that was drawn up. This proposal was presented to the membership via email, in the newsletter, as well as, at the March meeting. A motion was made to accept the proposal. The motion was seconded. The club's field and safety rules will be revised stating the new requirements as presented in the proposal.

Chet explained how he was able to work with Dale by nurturing a relationship and addressing two areas: Rent amount and sound management. Offering a comparable sum of money to what Dale potentially could get from crop yield was a starting point. Operating hours for when noisier aircraft could fly was an additional condition that met with Dale's approval and as such he was amenable with the Buzzards remaining at the field.

The floor was open for any discussion and/or concerns. A concern was presented regarding the end of flying during the week set at 7:00 P.M. for IC powered models. The concern was that the 7:00 P.M. end does not leave much time for people to fly after work. During the summer hours, when the sun stays up longer is more desirable for some who want to fly after work. The rationale was the club is demonstrating 'due diligence' in being sensitive to neighbors by curtailing the hours when we produce noise. Subsequent to this discussion, the motion was voted on. It was approved.

New Business

Ron Swift reminded people that Sandy has a new style of Buzzard shirt available for purchase. Ron was wearing one of the shirts. See Ron or Sandy for more information.

Ron also proposed the club invest in a few more tables for the field. Some of the current tables are starting to deteriorate. Additionally,

we tend to run out of table space during our events. Brian Illston and Jay Bell will do a feasibility study to determine the cost.

Ron proposed replacing the "Z" bend type brackets which were stolen lost. These are positioned in between the table boards and act as retainers for the aircraft wheels when you start up the engine. These are particularly useful for larger type aircraft. A motion was made, seconded, voted on, and passed.

Tim Baird reminded the Buzzards about possibly doing a Boy Scout event sometime in May. Some discussion ensued regarding what day of the week would better suit the Scouts: Saturday or Wednesday. Due to the shortened timeframe on the week nights, it seemed more reasonable to hold this event on a Saturday. Saturday, May 22nd was proposed. This would be open to the public. A motion was made, seconded; a vote taken. The members approved the motion. So, prepare yourselves to help in the event.

A proposal for doing another auction was presented. The club decided to combine the auction with the July 17th Open House. Donated items would be placed into two categories: one for charitable donations and one for personal items. Discussion took place regarding where the money collected would go. Besides being recognized for its charitable contribution, what else does the club get out of the auction? The club does need to cover its expenses.

Another proposal was presented to establish a \$5 table fee. Individuals who bring personal items to be auctioned would pay the table fee. Items to be auctioned for charity would be free.

Announcements

Builder's Contest: Remember the contest judging will be at the May 11, 2010 meeting.

Upcoming event: Zillah, WA Spring Opener event coming up 4/23 – 4/25. Site: Ben's Strip, Ryan Siebol CD phone 509-930-8132. You can visit www.yvam.com for more information.

Evening Program: Ron Swift presented thoughts pertaining to aircraft noise and how to manage that noise. Some of the information Ron included was the areas that noise is produced in our aircraft. Ron also provided sug-

(Continued on page 4)



(Continued from page 3)

gestions as to the mitigation of problem noise areas. Thank you, Ron, for taking the time to analyze sound sources and the steps we can take to better manage those areas.

The meeting officially adjourned at 8:25 PM.

The next meeting is Tuesday May 11, 2010 at the field in Monroe at 6:30 P.M.

The BBMAC club newsletter, Buzzard Drop-

pings, is available on-line. If you still want to receive a "hard copy" contact Ron Swift (425-788-6045) -

email ronswift@cablespeed.com

Respectfully submitted by Vaughan Houser BBMAC Secretary.

Sound Management

By Ron Swift

Noise from our flying models comes from many different sources:

- Out of balance propeller
- Rigid mounting of engines – the body and covering acts like a speaker
- Rigid mounting of the muffler system
- Propeller tip speed and design
- Engine exhaust and muffler design
- Engine intake
- Wind over the wings
- Loose hardware (ex. Wheels on the spindles)
- Poor hinging and out of balance control surfaces (flutter)

What we could do:

- It is better to be proactive and prevent noise complaints, than to resolve them after they occur.
- Noise from an RC plane can be irritating to a neighbor, even if it isn't loud. As we fly our planes in a pattern, from our neighbor's perspective, the pitch is constantly changing as the aircraft goes toward and away from that neighbor (doppler effect).
- The person complaining is always right. Never start a conflict with that person. That is a lose-lose situation. Refer the complaint to our club officers. Offer to give them a club newsletter and show them the club officer contact info – let them contact us.
- Experience has shown that engines with APC and Scimitar props are the quietest. 3 or 4 blade props help. The issue is to keep the tip speed below 85% of the speed of sound!

Many believe that the muffler is the most important item to reduce noise. Yet the propeller has been identified as potentially the biggest contributor of noise for internal combustion propelled models. And

even the biggest contributor to the noise levels of our electric propelled models. An article in the July 1988 Model Aviation stated, "Experiments have dramatically shown that using a very quiet muffler with a fast turning prop does not get the job done; lowering the prop speed is necessary to effectively quiet the sound".

This fact is reinforced by the August 1999 issue of RCM article which gave the results of testing noise levels and prop tip speed related to the speed of sound. At prop tip speeds of 0.45 the speed of sound equated to 90 dBa sound pressure and tip speeds of 0.50 of the speed of sound equated to 95 dBa. Keeping the tip speed under 85% of the speed of sound is very important!

Many stock mufflers are simple exhaust diverters and don't muffle much of the sound. Efficiency is enhanced when the muffler is designed with smooth passages for the gasses to flow through, avoiding right angles, etc.

Many don't realize the servos and electric motors, especially geared or high speed turbine (ducted fan) models can make plenty of annoying sound. We

can limit some of the noise by good model design, flying with throttle management and equipment selection.

We need to be good neighbors as well as being good builders and pilots.





Safety Corner



Accident, according to my dictionary is, an event that is without apparent cause or that is unexpected. Why is that? Let's just suppose you install a servo and you don't secure the servo arm with the screw. Is that an accident when the plane re-kits itself. It was certainly unexpected, and until the post mortem there was no apparent cause. I don't think it was an accident at all - someone was careless and did not inspect their own work or have someone else look it over.

Another thing that could be called an accident is a hardware failure. This one is not as straight forward as not putting the screw into the servo arm, but still not an accident. Maybe the builder used a part not designed for the task; the manufacturer of the part did not design it properly or used a cheaper material to save a few cents; maybe the molded part had an air bubble in it. So many things can cause something called an

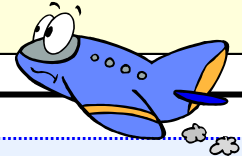
accident which is not an accident at all.

Midair collisions are not accidents! Someone was not paying attention. If you crash your car on the way to the field it is not accident, someone was not paying attention or there was a hardware failure. If you stick your finger into the propeller it is not an accident. You did something you should not have done.

If you look back on anything called an accident you will find someone did something wrong or didn't do what they should have. Not putting the screw into the servo arm, not paying attention, not doing a thorough inspection. I hope you get the point—there are no accidents.

Why do people refer to an airplane crash as a crash and an automobile crash as an accident? Be Safe.

Vince Bell
Safety Officer



Builder's Competition 2009-2010 Rules

- Entries can be made by any club member in good standing.
- Each model is considered an entry and will have a \$10.00 fee.
- Payment along with the name of the model can be submitted to any board member or event judge.
- Event judges and ruling body will be comprised of 4 members plus the Vice President.
These members are not yet named, but new judges for each year would be a great idea!
- Judges cannot judge their own plane.
- You must build the model yourself.
- Two main categories (others such as wet fuel vs. other may also emerge as we progress):
 - ◊ ARF
 - ◊ Stick build (plans or kits)
- You must beat someone to win (must have other entries in the same category).
- You can finish the model you previously entered, but didn't complete.
- New models must be started after the May judging club meeting (end of the previous competition).
- Two special awards voted on by the attendees of the May meeting:
 - ◊ In the Bones (award to the best model started, but not finished)
 - ◊ Members Choice Award
- Prizes will be color plaques of the winners and models.
- You must have fun!
- Extra points awarded if the model is flown before the May meeting.
- A write up of the model including the wingspan, weight, modifications, power, etc. would be helpful.
- Questions should be directed to the judges or Vice President, who is the responsible events coordinator.



Control Linkages

Part 1

By Ron Swift

The purpose of a control linkage is to take the motion generated by the radio control servos and transfer it to the airplane's control surfaces and other controlled devices. Since this motion is mechanical, there are considerations for choosing one technique versus another. So, in it's simplest terms, a control linkage will include a servo control arm, push rod, control horn, a way to attach the push rod to the servo control arm and control horn, some way to adjust the position and distance of movement and the controlled device itself. This is obvious to those of us who have been around the R/C circuit for a while, but to the newcomer, this is a challenging topic.

Always plan ahead and avoid mechanical interference between the moving parts. Engine vibration and G-forces will cause our control linkages to behave erratically. These introduce stress and must be considered, even in a docile trainer.

Cost

The real cost of the control linkage is the price of the entire model if it were to fail doing its job! If we take into consideration the initial cost of the hardware, the time it takes to install, adjust, and lock, special tools, as well as any maintenance during the life of a model, we might want to consider using the higher initial price of carbon fiber push rods (titanium ends give you special bragging rights!), nylon bushed control horns, ball/stud clevises, etc. The old adage "You Get What You Pay For" comes into play here, especially for the Giant Scale and speed models. Many times we use parts because they are part of a kit. We forget that the kit manufacturer makes choices based on their costs – many times providing parts that "will do", but may not be the best for the application. Some don't even provide these parts, leaving the choice to the preference of the model builder.

Precision and strength

The most important thing for the control surface setup is the proper movement, with no slop, exact mechanical repeatability, no wear, and no maintenance. It must tolerate the stress placed on it during normal reasonable flight. It should tolerate changes in temperature and wear slowly. Parts that have been problematic over time:

- Threaded metal clevises that can split apart and/or become stripped by vibration. Sullivan provides an interlocking design that is good.
- Nylon parts that are too soft or brittle
- Wooden dowels that twist and warp from moisture
- Incorrect application or number of supports
- Incorrect application (ie. Braided wire for elevators à yikes!??)

Size and space

These seem obvious, until considering that each model has many moving parts and these may interfere with

each other as they move. Some planning for the elevator and rudder push rods is required even on ARFs or problems will occur. Some of these problems occur with the aileron movement, noticed only once the wing is mounted to the fuselage (parts hit items mounted in the fuselage). Sometimes the needed supports cannot be installed because the construction has already progressed past the point for making this easy (like an ARF fuselage).

Mechanical Gain and Differential

Many times the control horn and servo arm have different locations for installing the push rod. If the push rod (or pull-pull cables) are installed at the same distance from the pivot center, the travel and torque are linear. Some modelers will install the push rods so they are in a mounting hole further from the pivot center in the servo and closer to the pivot center at the control surface. This will increase the travel and decrease the torque. For precision and higher torque, moving the push rod to the inner most hole on the servo end and the farthest from the pivot point in the controlled surface provides the highest torque and the greatest precision (but the lowest possible movement). Some vendors provide longer servo arms to help in getting the amount of travel a control surface needs. Just keep in mind that the torque rating for a given servo is given at 1-inch from the servo pivot point. At one-half inch the effective torque doubles, while the travel is reduced.

Wear

Providing free movement for our control linkages is one of the goals. Checking that wear has not created slop is one of the routine inspections we should make. Those nylon parts will wear oval holes where they were once round. This introduces a great amount of slop. Check and replace these as needed. Make sure the parts aren't too tight. This speeds up the wear and causes repeatability problems.

Weight

Although not usually a primary factor, weight in some of the lighter models is a BIG thing. Building with components that add unnecessary weight is poor practice. Using composite materials like carbon fiber rather than wooden dowels or threaded steel rods make a difference in both weight and precision. Usually the choice of materials is dependent on several of the other factors already mentioned. A good scale (digital or otherwise) is a good investment for the builder. Choosing parts that perform identically based on their weight is the right way to build. If a model needs additional weight for balance, why not choose the parts that will help balance the model, rather than installing dead weight (i.e. lead) later.



Photos for Fun





Radio Controlled Airplane Fun Fly Saturday, June 12

10:00 AM - 2:00 PM

All current AMA members are
welcome to participate!!!

\$5.00 entry fee, prizes for 1st - 3rd place

Public Invited to watch the fun, FREE!

Food and beverages available, too!



Contact Ron Swift for details

(425) 788-6045

ronswift@cablespeed.com



600ft



Barnyard Buzzard's Club Meeting

Our club meetings are open to the public. Starting in March 2010, we meet at 6:30 PM on the **2nd Tuesday** of each month at Alfy's Pizza in the Staples Plaza on RT2, Monroe, WA. During the summer months (weather permitting), the club meets at our flying field. See the schedule below for location...

If you would like additional information, come out to a club meeting, or contact one of our club officers. Each meeting starts with an introduction of the club officers followed by a short business meeting. We will have a **program** about some aspect of the hobby/sport.

Then, a **Show & Tell** and **raffle** conclude the meeting, which ends at around 8:30 P.M.

Barnyard Buzzards Pilot Training



Our club is dedicated to the safe pursuit and advancement of model aviation. We offer the newcomer free lessons to learn how to build models and to fly them. If you should have any questions about the club, flight instruction or membership requirements, call any of the club officers. We have a safety checklist available for those new to our flying field.

Use of a computer simulator is advisable. This allows you to practice safely and will end up saving you hundreds of dollars in the long run.

Still, in any case, the best way to learn to fly R/C planes is by finding an instructor to help. Learning on your own can be expensive and somewhat less safe.

We provide instruction for both building model aircraft as well as flying these models. In most cases, a buddy box system is used at the flying field. Experience has shown this to be the safest method to learn.

Those who want to enroll in the pilot training should contact Rick Hanners (phone number is on the list below) or our club secretary, Vaughn Houger at **425 788-8616**.

Pilots already enrolled in the training program are welcome to contact any of these club instructors to set up lessons.

Current Flight Instructors:

Dean Appell	360 435-7803
Vince Bell	425 788-2456
Rick Hanners	360 668-1312
Ron Swift	425 788-6045
Brian Taylor	425 225-5247



Upcoming Meetings

**Meetings begin at 6:30 PM
2nd Tuesday**

May 11	Club Field
June 8	Club Field
July 13	Club Field
August 10	Club Field
September 14	Club Field
October 12	Alfy's Pizza
November 9	Alfy's Pizza

Our Flying Field

The field is located in Monroe on 168th St SE, just north of Ben Howard Rd along Route 203. If the gate is unlocked, feel free to visit! Our web [site \(http://www.barnyard-buzzards.com\)](http://www.barnyard-buzzards.com) has lots of photos of our field.



Next meeting, **Tuesday, May 11, 6:30 PM** at our club field in Monroe (see map on page 9).
Program: Builders Competition Showtime and Judging



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Visit Our Web Page
<http://www.barnyard-buzzards.com>



Store Hours:
10 - 7:30 M-F
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