

WRCC

News
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Publication of the Wichita Radio Control Club

AMA Club 316
IMAA Chapter 371

2009 Club Officers

President:
Gene Morse

Vice-President:
Terry Grimes

Treasurer:
Terry Powell

Secretary/Newsletter:
Dawn Morse

Safety Coordinator:
Dale Williams

Webmaster:
Richard Bereman



Club Address:
WRCC
c/o Kansas Aviation Museum
3350 George Washington Blvd
Wichita, KS 67210

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Notes from the President:

Hello Fellow WRCC Members.

As the economy turns a bit inverted with signs of a stall...I would like for us to think of ways we can give back to our community as a club and as individuals.

I know that Bob Hernandez was working on an IMAA event with jumbo planes for a "Toys for Tots" event but it isn't coming together as he had hoped.

With the date already booked by an IMAA affiliated club near Wichita and other IMAA events in our area around that original time frame we may need start thinking and looking outside the box.

My thoughts, and I am looking for yours, would be to hold a "Jumbo" event (Non-IMAA) with jumbo planes...with toys for the landing fee and hold it whenever we want...since it won't be IMAA sanctioned... again, just a thought.

But with so many groups, organizations and opportunities to give back, there has got to be something we can do.

Maybe its as simple as letting a Boy Scout troop sell food at one of our events. Or inviting a group of kids from a local shelter out for a day at one of our flying fields...for a hot dog and games.

What can we do to make someone or some group's year a bit brighter?

So...what are your ideas?

Until next time....Flip it & Rip it!

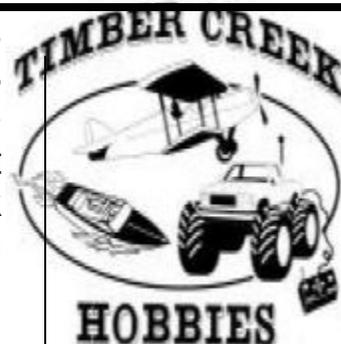


Gene

"It takes a big man to cry,
but it takes a bigger man
to laugh at that man."

-Jack Handey

This month's
raffle prizes
were pur-
chased at
Timber Creek
Hobbies in
Derby.



Over the last few years, servos have changed tremendously with size, rotational speeds and torque ever improving. The latest development, known as the 'digital servo', is yet another step forward. Digital servos have significant operational advantages over standard servos, even coreless versions. but with these advantages also come minor disadvantages, and this fact file will try, in simplified terms, to explain the positives and negatives of Digital servos. It will also dispel some myths.

To start with, a 'digital servo' is the same as a standard servo, except for a microprocessor, which analyses the incoming receiver signals and controls the motor. It is incorrect to believe that digital servos differ drastically in physical design to standard ones. Digital servos have the same motors, gears and cases as standard servos and they also, most importantly, have a Feedback Potentiometer (Pot) just like their standard counterparts. Where a digital servo differs, is in the way it processes the incoming receiver information, and in turn controls the initial power to the servomotor, reducing the deadband, increasing the resolution and generating tremendous holding power. In a conventional servo at idle, no power is being sent to the servomotor.

When a signal is then received for the servo to move, or pressure is applied to the output arm, the servo responds by sending power/voltage to the servomotor. This power, which is in fact the maximum voltage, is pulsed or switched On/Off at a fixed rate of 50 cycles per second, creating small 'blips' of power. By increasing the length of each pulse/blip of power, a speed controller effect is created, until full power/voltage is applied to the motor, accelerating the servo arm towards its new position.

In turn, as the servo positioning pot tells the servo's electronics it is reaching its required position, the power blips are reduced in length to slow it down, until no power is supplied and the servomotor stops. The '**Standard Servo**' has custom logic chip and timing components with standard 30 strand lead. The '**Digital Servo**' has a Quartz crystal controlled microprocessor, FET amplifier and heavy duty 50 strand lead. As you can imagine, a quick blip of power 'On', followed by a pause, does not give the motor much incentive to turn, whereas leaving the power 'On' for a longer period of time does. This means that a small control movement, which in turn sends small initial pulses to the motor, is very ineffective, and that is why there is what is termed a 'Deadband', i.e. sluggish or virtually no movement around the centre of a standard servo, in relation to a small Tx stick movement. • First, it is able, via it's microprocessor, to receive the incoming signal and apply preset parameters to that signal before sending its pulses of power to the servomotor. This means the length of the power pulse/blip, and therefore the amount of power sent out to activate the motor, can be adjusted by the microprocessors program to match its function requirements and therefore optimize the servo's performance. • The second, is that a digital servo sends pulses to the motor at a significantly higher frequency. This means that, as opposed to the motor receiving 50 pulses/sec., it now receives 300. Although the length of the pulses is reduced in a direct ratio to the higher frequency because the power is being turned on/off to the motor more frequently, the motor has more incentive to turn. This also means that not only does the servomotor respond faster to the commands, but that increases or decreases in power for acceleration/deceleration are able to be transmitted to the servomotor far more frequently. This gives a digital servo an improved deadband, a faster response, quicker and smoother

Just One Disadvantage

The downside to these significant advantages - 'well, there's got to be one' - is power consumption. Naturally, with power being transmitted to the servomotor more frequently, together with increases in power being supplied to the motor earlier, the overall power consumption must go up. However, with batteries in general gaining monthly in capacity for the same size and weight, increased current drain as a trade off for significantly better performance, is no longer a problem. The key point to remember with digital servos is to install the largest capacity battery that space/weight will allow. Al-

ways install a battery monitor to check the operational capacity and, wherever possible, top up the charge before every flight, just to be sure. Digital servos are the future for model control, and anyone who has used them says the difference is so significant that they would never return to standard servos, if there is a digital one available to fit the application.

So If You Need:

- ◆ Higher resolution - less deadband, more accurate positioning
- ◆ Faster control response - increased acceleration
- ◆ Constant torque throughout the servo travel
- ◆ Increased holding power when stationary

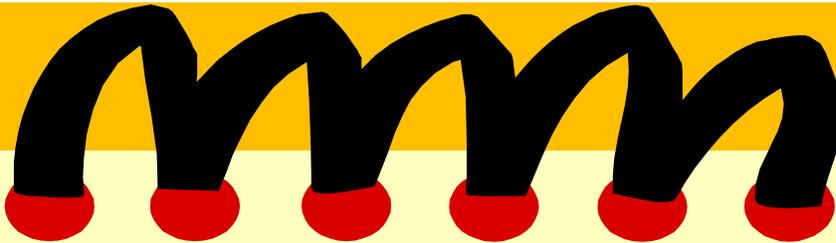


Futaba Analog Servo

Futaba Digital Servo



(Note from the editor: they look a lot alike to me...)



A Note From Your VP

SAFETY

Lets all remember to be safe it's the start of a new flying season and I am sure some of us are just a little rusty at starting and operating our models.

One of the most common flying related injuries are cuts from propellers. Propeller safety is very important and you should take all the steps necessary to protect your self. All propellers will hurt you if you stick your finger in it while it is running. Just how much is determined by how sharp and heavy the blade is, and how fast the engine is running.

You may or may not have known this, but when the propeller is spinning, you can barely see the safety zone around it. It blends in with anything behind it, so you could go and reach for something and seriously injure yourself.

Painting the tips of the prop a bright color will create a boundary to stay clear of (do not forget to re balance the prop after painting)

Yes I know you all probably know all of this but this is just a reminder have fun and fly safe.

Thanks—Vp-tg

Lights....

Camera.....

Action!

Leon Smitherman with the Channel 3 KSN WeatherLab has approached our club about doing a story on some of our members and the planes we fly! Be on the lookout for TV cameras and a reporter at a flying field near you!



Submit your stories and pictures to the WRCC News! Deadline is two weeks before the next scheduled meeting. E-mail to newsletter@wichitaradiocontrolclub.org. Please include your contact information.

WVCC SPRING FLING

2009



**Saturday, May 23rd, at Chapin Field.
Just north of E. MacArthur on S. Hydraulic
Flying starts at 10 AM until 4PM
Come one; come all for a full day of flying.
No landing fee. AMA Membership Required.
Door prizes for Members Only
(Memberships available at the Fun Fly).
\$500 worth of Pilot Prizes.
Bring your own Food and Drinks.**

February 26, 2009
Kansas Aviation Museum
Meeting began at 7:00

Gene Morse called the meeting to order.

Gene reminded the club to submit articles!

Gene read the minutes from the last meeting. Motion made to approve minutes as corrected. Seconded and approved.

Terry Powell gave the treasurer report including results of the auction. Motion made to approve report. Seconded and approved.

Fred Harvey gave a final auction report. Total of 48 sellers, which is more than the previous year. Although the total number of pre-registered items was fewer, final items registered were 540. The auction moved at approximately 1 item per minute. The software worked pretty well for the first year, but had a few hitches. Fred thanked many of the key volunteers for their efforts.

3 visitors were introduced to the group, and shared a bit about their involvement in RC flying. Thanks for coming!

Calendar committee report: El Dorado event will be posted to the calendar. Victor Kirkpatrick announced dates for 3-pole races to take place at Lake Afton Field. These will be posted to the calendar as well. Calendar updates go to Terry Grimes.

Safety report: Dale Williams reminded that all planes or flying craft need to have either AMA number or name and address on the plane at all times.

Website report: Richard Bereman reported the February newsletter was posted to the website. Question asked about Timber Creek Hobby website – no one knows.

Field reports:

Chapin: David Wise gave an update on the pending park development. Construction may start as early as summer.

Beech: New cards were distributed to those who have re-registered. See the link on the website if you need to register. A new card must be requested each year. Charge is \$1. New rule was posted that no one may park on the grass away from the road due to fire hazards. If this changes, the members will be notified. Tuesday night training will resume on Daylight Savings.

Afton: 2-pole racing will start the last week of March. Cement siding has been secured to seal off the open area underneath the shed to keep animals from nesting underneath. Other options may be explored before this is done.

Jumbo Fly report: Tentative date for sanctioned event was booked by another club. Alternative or non-sanctioned options will be considered.

Fun Fly report: Terry Grimes announced date set as Saturday May 23rd at Chapin. Pilot prizes will be offered for members only and no landing fee for club members. Memberships may be purchased at the event. Club will not be providing food, but a couple grills will be available for cooking for those who choose to bring their own food in.

Combat Flying report: Matt Paulson proposed Tuesdays be designated as combat nights at Chapin. Safety concerns were also raised regarding regular flying during combat sessions. AMA provides guidelines for combat flying including safety gear and designated spectator areas. Other members offered suggestions for organizing. Additional information will be presented in March. A steering committee meeting will be considered to discuss. Another proposal was to publish proposal in the newsletter.

Group took a break for refreshments.

Gene called the meeting back to order.

Show and tell:

Greg Crumley showed his 1/3 scale Great Planes Pitts bi-plane.

Attendance drawing: Glen Freeman was drawn, but was not present. Next month's prize will be \$45 at the March meeting! Don't forget to wear your nametag!

Raffle winners were:

John Riggs (3x)	Fred Harvey	Gene Morse (2x)
Jerry Salter	Matt Paulson (3x)	Terry Grimes
Marvin Blankenship	Dennis DeMoure	Jim Embree

Congratulations to our winners!

Meeting adjourned.

Flight training will be starting back up for the year at Beech field on Tuesdays, and at Chapin on Thursdays.

Contact Scott Stoecker at LearnToFly@wichitaradiocontrolclub.org for info.



**Share your
enthusiasm for
RC flying and
modeling.**

**Invite a
friend or
acquaintance to
the next WRCC
meeting!**