JCRC FLIGHT LINE

www.flyjcrc.com

Johnson City Radio Controllers, Johnson City, TN April 2007

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## THE PRESIDENT'S REPORT

Hello Everyone,

Our meeting for April is at the flying field. Longer days and warmer weather is now upon us. It is going to be a great year. We will be hosting several fly-ins and at least one, maybe two competitions. The Gate codes will be changed during the workday at the end of this month. By now everyone should have their new membership cards. If not, please contact Dave Bench at 423-282-8444 and he will take care of it for you. Dave has been doing a great job as club secretary.

We have our next workday scheduled for April 28th. We will be working on both fields. There is plenty of work to be done. Please schedule time to come out and help, so we can keep our flying field as beautiful as it has always been. If you have any equipment that you can bring (such as chain saws, weed eaters, walk behind bush hogs, etc…) please call Skip at 753-5352 and let him know so he can schedule the work to be done. If some of you are willing to assist me, we can plan a picnic, and cook some burgers. Then after the work is done we can eat, fly and fellowship.

Have fun and be safe
Eddie

Next Meeting is:
Tuesday April 24th, 2007 6:45 PM at the Bowser Ridge Model Airport

**The deadline for next month's newsletter will be May 10, 2007.**

## Notes from the March Meeting…..

1. The club gave a plaque of appreciation to Chris Gomes and Golden Corral for their support in letting us have the meeting room free of charge and a reduced rate on meals during the winter season.
2. A call was made for someone to check, service or replace the batteries in the club trainers
3. It was announced that April 28 will be a workday at the field, starting at 9:00am. In the event of rain, it will be postponed until the following weekend. All volunteer help will be appreciated, and the primary efforts will be on the field we are using now. Time allowing, additional work will be done on the new field area so if you have a chain saw, weed eater, etc please come out. We are planning to have a cookout for lunch.
4. A discussion was started regarding the possibility of adding special facilities onto our current field for helicopter usage. These facilities would be primarily for hovering practice and novice pilot usage.

## From the Editor…

"All 2007 membership cards have been mailed to everyone that renewed their membership on time. If you haven't received your 2007 membership card please contact David Bench at flyjcrc@benchmarkcomputing.com or 282-8444. The new gate code that is on the 2007 card will be going into effect soon."

## Items for Sale…

Great Planes RV-4 w/ .46FX and Pitts muffler with flaps and 7 servos, Ready to fly less RX
Nice scale plane--$250.00

E-Flite Brio 10, no electronics--$60.00

Call David Collea ph 817-1882

33% Hanger 9 Extra 300-
Ready to fly (less motor)--$600.00
0With B&D 5.1ci twin cyl.- 1100.00

35% Extra 300 L Blue and White
Ready to fly with some servos
Less motor -- $500.00
With B&D 5.1 ci twin cyl--1000.00

Call Jerry Black –home-753-5511 or
- cell- 418-0887

Avistar 40 Select by Hobbico with everything needed to fly it. I paid around $400.00 for the plane, battery and other accessories.

Jane Lambert
423.677.2723

3 new Rascal 110" ARFs still in boxes $300.00 each or $800.00 for all 3

Danny
cell 865-405-0081
Maryville, TN

## IMAA News …

**Chapter 693**
**http://www.fly-imaa.org**

If you are an IMAA member and would like to be added to the JCRC chapter at no charge, contact Ed Fennell and give him your IMAA number so that he can update the membership roster. His number is: (423) 538-9667

## Senior Pattern:

Schedule for 1997:

| | |
|---|---|
| Cullman, AL | April 21-22 |
| Chattanooga, TN | May 19-20 |
| Atlanta, GA | June 9-10 |
| Asheville, NC | July 14-15 |
| Andersonville, GA | July 28-29 |
| Prattville, AL | August 18-19 |
| Knoxville, TN (Masters) | September 15-16 |

For more information about Senior Pattern go to:
http://www.rcpattern.net/spa/

## On The Building Board…

From Micheal Maupin, who built a scale Bell 222, .30 size about eight months ago, a new start on an E-Bay purchase, an Ecureuil Twinstar.

After washing and sanding, first coat of filler putty hides the seams

I decided a scale heli should not have "stickers" to represent windows and vents. 4 windows are made in the front section, as well as the main intake

The rear fuselage is tricky, this is actually a engine cover on the real thing, so more cutouts are needed to simulate seperate panels.

The intake ducts are also removed

# Loaded Digital Voltmeter Adapter

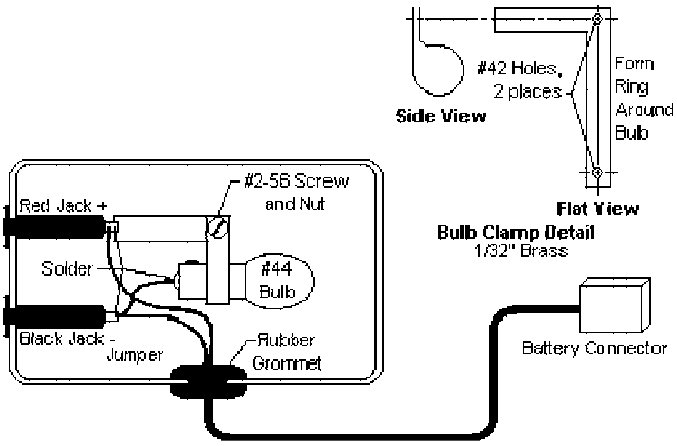
By Clifford Scholefield, Gainesville, FL

**E**xpanded scale loaded voltmeters have become the accepted means of field checking a receiver battery pack to see if it has the capacity for another flight. The meters that are available for $10 to $15 are all of the analog variety and of limited use other than for what they were developed. With the dramatic drop in price of digital multimeters, many R/C modelers consider them to be "necessary" support equipment. These meters have an extremely high impedance (resistance) and therefore display what is essentially the open circuit voltage of the battery pack. The open circuit voltage of a Ni-Cd. battery pack reveals very little regarding the state of charge of the pack. For this reason, the expanded scale voltmeter with a built in load is the recommended way of checking the status of the pack. Even this is not ideal since the discharge curve of Ni-Cd batteries is very flat. A better method of checking a Ni-Cd battery pack is with a "loaded" digital voltmeter with an inherent higher resolution.

**T**he problem with using a loaded digital voltmeter is that no one makes such a device. This should not be a deterrent to modeler. The construction starts with two pin jacks to match the leads or probes on the digital multimeter; one red for the positive lead and a black for the negative lead. A resistor of the appropriate value could be used but that is kind of boring since it just lies there and resists. A brighter idea is a light bulb, which clearly shows it is providing a load for the battery. After careful experimentation, a # 44 bulb (6.3V-250mA) was found to load the pack with 220 mA. This is fairly close to the load imposed by the R/C system. If a higher load is needed, either a PR12 or PR13 bulb provides a drain of about a 500 mA. A normal battery pack should be able to sustain 500mA for an hour. The bulb can be used to roughly check the battery pack capacity. When the bulb dims significantly, the battery pack is near the end of the charge. A connector will be needed that will mate with the charge plug on the model. Finally, some type of enclosure will be needed to house the components and assembly may begin. A small plastic box about the size of a small matchbox will make a neat compact unit. It is nice if the box is clear or at least translucent so the bulb can be seen as it lights when the battery is loaded. Otherwise, the integrity of the box must be compromised by adding another hole in addition to the three needed for the jacks and battery lead. One of the leads can be soldered directly to the tip of the light bulb base. Attaching to the side of the bulb base may cause a problem because the material may not accept solder. A small brass clamp can be made from 1/32" thick stock by 3/16" wide and secured to the bulb with #2 hardware while leaving a small section to which the lead is soldered. The clamp can be made so that it can be soldered directly to one of the jacks providing a secure mount for the bulb. All that is required now is to plug the meter into the red and black jacks on the load box and the battery lead into the battery connector on the plane.

**I**f the loaded digital meter indicates 4.8 volts or greater, it has sufficient charge for an additional usage. If it indicates less than 4.5 volts, it is dangerously low and should not be used. The use of a battery pack with a reading below 4.8 volts is marginal and is dependent on the equipment, number of servos, activity of the servos, and other factors. Before being used at this level, the capacity should be checked. On a day when the equipment is

not being used, it should be allowed to discharge until the meter reads 4.6 volts. Then the system should be turned on and ground checked every 5 to 10 minutes. The servos should be actuated to determine how long it takes before they start to twitch. This will give a rough calibration as to the meter reading that should indicate the bottom limit for use.




- all parts for this tester are available through Radio Shack, with the exception of the tiny box. They do have a small box that is suitable, the lid of which could be replaced with thin plexiglass. The bulbs recommended are standard flashlight and lantern bulbs available through Radio Shack or any other retailer. Most packaging is marked with the bulbs voltage and load information.

## Save Your Plane…..maybe

SERVO FLUTTER

*-by Clay Ramskill*

The problem is servo "flutter" -- my term for when you move a servo to one side or the other, and let go of the stick, the servo doesn't stop at center, but passes through, "hunting" back and forth for a few cycles. When connected to a control surface, this looks like the servo makes the control surface "flutter" around its trim position.

This phenomena had happened to me before, and one of my current planes was afflicted in the ailerons. I had crashed a delta model (elevator failure) some time ago, after it had developed a case of elevon servo flutter, but had never figured out the real cause. Howard asked me one day what caused this flutter -- one of his planes was doing it, ailerons also. I was unable to give a decent answer.

Sometime later, Howard observed to me that he was able to "cure" the flutter problem by plugging and unplugging the aileron extension plug to the servo. We surmised that if the contacts in the plug were dirty or corroded, plugging several times might tend to clean the contacts enough that the problem might be temporarily cured. We don't know enough about the electronics involved to really pin down the exact cause and effect. But it was obvious that Howard was on to something.

Recent events have proved Howard's theory. After rainy weather (corrosion inducing?) my aileron servo flutter entered a worse stage -- the servo was super slow, it slowly fluttered, and sometimes DID NOT WORK AT ALL. Replugging the aileron plug 4 or 5 times improved the situation -- the servo worked normally! Later, replacing the aileron extension completely solved the problem.

Discussing this with Howard, it all comes together.

- All the servo flutter problems have occurred in conjunction with an aileron extension (including my delta's elevons).
- Both of us have aileron extensions in use which could be considered "ancient."
- We both have tended to use a good newer servo for ailerons -- but never paid much attention to the extension.
- Nothing lasts forever!

In retrospect, think about it -- the plug to your aileron extension is the most used, except for the charging plug. It gets wrenched around, jerked, and quite often is left to vibrate around in the plane as you fly.
So the possibility of it failing after years of use, be it dirt, corrosion, or wire breakage, is high.
And the "flutter"? Thank goodness -- again, your plane's trying to TELL you there's a problem!

ADDRESS CORRECTION REQUESTED

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***Notice to Membership***
Access to the "Members Only" section of the JCRC Website is as follows:
Username= jcrc (lowercase)
Password= 00 + current gate combination
www.flyjcrc.com

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