



SIRS BIG BIRD IS HERE

Aviation Camp is Coming

The Prairie Aviation Museum is again sponsoring an aviation camp this year. They have asked SIRS if they would host the group again this year. This will be the 4th year that SIRS has been host to 15 teenagers interested in aviation. We would like to do the same as we have done in the past by giving demonstrations on R/C flying and also some hands on flying. We will need to have at least 3 trainers, preferably with trainer cords for the radios and would like to have 6 flyers to help out with the kids flying. This event will be on Wednesday, July 20th from about 1:30 PM to 3:00 PM. This camp is a 2 week event and the day we are the hosts is generally the highlight of the camp for the teenagers

Anyone interested in Helping can contact Chuck Tarbox at 309 838-7183 or email him at : Bob.tarbox@verizon.net



Jerry Worden helping out with last years Aviation Camp visit

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Club Meetings

Club meetings are held on the second Saturday of each month at the flying field in Covell, IL. Meetings begin at 7:00pm during the winter (CST) and 8:00pm during the summer (CDT).

SIRS Inc Meeting

May 14th, 2005

CALL TO ORDER:

President Jim Danforth called meeting to order at 8:00. There were 20 members present.

PREVIOUS MINUTES:

Mike Wilson read the previous minutes from the April meeting.

TREASURE'S REPORT:

Treasure Tom Kirk gave the treasure's report. Motion passed.

NEW BUSINESS:

Big Bird Fly In at SIRS Saturday June 11th from 10:00am-3:00pm
Drawing for Hanger 9 RTF Alpha Trainer at the Big Bird June 11th
Tickets are \$5 a piece for a chance to win the Trainer.

Wednesday July 20th Aviation Camp

3 New members joined. Welcome to the club!

June 4th at 1:00pm Quickie Pylon Racing if anybody is interested
Bob Hawkes is coordinating.

5 day notification if a member is going to have a flyin event at the field
Must contact an officer to let know when the event will be taking place

OLD BUSINESS:

Auction of Merrill Jackson planes for the club

Charter has been filed

Corporate filing in July

Thanks for Todd organizing the fuel order

Thanks for Tom and Pat for doing field cleanup

SHOW & TELL:

Pat Henson told us about his new PT-17 Military Stearman bi-plane.

Bob Hawkes told us about his new Racer II

Orville Egli told us about his SIG Doubler II

50/50 Winner was GeneBarker. Gene donated it back to the club.

Thanks Gene!

FOR SALE: Hanger 9 Ultrastick .40 size plane with an OS .46 and servos for \$130.00

please contact Mike Wilson if interested. His phone number is 309-662-7455.

ADJOURNMENT:

Meeting adjourns at 9:00pm. Motion passed.

Show and Tell



Orville Egli told us about his SIG Doubler II



Bob Hawkes told us about his new Racer II



Pat Henson told us about his new PT-17 Military Stearman bi-plane



Jim Danforth holds up items donated to the club by Merrill Jackson for auction.



Battery failure

by Doug Gifford from the Indianapolis RC South club, Indianapolis IN

Whether you are a seasoned pilot or a new flier, we all share the risk of experiencing a crash due to battery failure—the most common RC equipment failure.

Let's face it, rechargeable batteries die, and they often don't give us much warning. If the application is critical (such as with our glow-powered model aircraft) the trick is to stay ahead of the game and detect the pending failure before your prized creation goes down. If you are not paying attention to your batteries you will probably not see the signs of pending failure.

Most glow aircraft use a four-cell series connected pack of AA Ni-Cd batteries to power the radio flight pack in the aircraft. The series connection of four cells gives a nominal voltage of 4.8 volts (approximately 1.2 volts per cell), and usually can produce 600 to 700 milliamperes per hour (mAh). Six hundred mAh means a healthy pack will supply a current flow of roughly 600 milliamperes (mA) for about one hour at near its rated voltage. Drawing an average current less than 600 mA will result in longer endurance time.

Our transmitters often use eight of the same cells in a series resulting in a nominal 9.6 volts (1.2v per cell x 8). Transmitters usually draw a constant current level of approximately 150 to 250 mA while transmitting.

Flight packs typically draw 30-60 mA when idle, but when flying the servo motors are in constant use drawing higher currents. Two standard servos can draw peaks of more than 400 mA. If a flight surface is a bit stiff, servo current draw can increase considerably. The wall chargers supplied with typical radios do a fine job. They charge at a relatively constant current of 50-70 milliamps. This is one-tenth of the battery capacity specification.

These chargers are known as one tenth-C, or slow chargers. This is the most reliable and simple arrangement, because almost all Ni-Cds can tolerate considerable overcharge (days or even weeks) if the charge current is one tenth-C or less.

Higher charging schemes need charge-end detection and automatic shutdown in order to prevent overcharge damage.

Sounds complex? It's not so bad. There is much you can do to enhance your reliability without spending money on extra equipment. For starters, here is a list of good practice items:

1. Protect the battery pack from excessive vibration by wrapping a layer of foam around it.
2. Make sure you have a good charge before flying—a full 10-12 hours. If you know your batteries are low give them a full 18-24 hours.
3. Avoid using a wall socket controlled by a switch. It might get turned off. Confirm charging by making sure the LEDs are lit.
4. Batteries self-discharge slowly over time. Batteries can differ in this area, and older batteries can lose charge more quickly. If you charged your batteries immediately after last week's flights, and you plan on flying tomorrow—charge them again. You want them at their best.
5. Keep connections clean and in good shape.
6. Typical transmitters have a battery meter, display, or LEDs to help monitor the transmitter. Learn how yours reacts when batteries are new. What does a normal full charge look like? How about after a half hour of use? If it begins to behave differently, have it checked out.
7. Batteries that are in their third flying season deserve more attention. With fourth and fifth season batteries you can almost expect a failure. Typically it will be a single-cell failing, but do not trust the other cells unless the pack is new. Individual cells can be replaced, but it's typically not worthwhile. A four-year-old pack with one bad cell replaced will probably give trouble again very soon.
8. With a full charge, how do the servos act? Are they responsive and quick? If you ever develop a sluggish servo get it checked out.
9. Consider four to five flights maximum if you don't have a way to check the batteries, and be sure to turn your equipment off between flights.
10. If for any reason you think you might have a problem, ask another flier for assistance. Many experienced fliers have battery checking and field-charging equipment on hand and would be happy to help.

If you are thinking about purchasing extra equipment, I would recommend buying a digital voltmeter with an internal load specifically designed for RC use (I use a Hobbico. It cost about \$25).

Before digital became popular, there were analog Ni-Cd checkers. Expanded Scale Voltmeters (Hobbico still makes these at around \$12) provide a scale expansion that allows more accurate reading around the voltages of battery packs (the 4.8 and 9.6 volts).

Why expanded scale or digital? NiCads (and also Nickel-Metal Hydrides - NiMH) are known to have a relatively flat voltage-discharge curve. In other words, as they progress from fully charged to fully discharged, the voltage decreases very little.

For this reason it is difficult to measure the battery's charge state without an accurate meter where you can see the small differences between the two. You also must have some knowledge of what the battery usually measures to see the change.

The load feature puts a brief 75 to 200 mA load on the battery. Always measure battery voltage under some load in order to see how voltage holds under typical discharge load.

The best defense against the battery failure, and/or the inadvertent "fly until discharged" crash, is frequent checking under load with an accurate voltmeter.

You will hear fliers talk of cyclers that test and exercise batteries. These are good, but not necessary.

A cycler will discharge a battery and count how many milliamperes per unit time (milliamperehours) the battery will supply while maintaining voltage above a certain voltage (typically 1.1 volts per cell).

I use a cycler sometimes, but it basically is detecting early loss of voltage during discharge. Occasionally checking batteries under load with a simple voltmeter essentially accomplishes the same thing.

Know your battery's voltage history. Know that they are fully charged for the start of your session.

Check the voltage before your first flight, maybe after the third, and any other subsequent flights.

You will be doing the most you can to avoid the third most common cause of pilot error—the error of not paying proper attention to your equipment.

Air Show

SIRS 2005 Big Bird
Invitational Fly-In

Sat. June 11 05

ShowTime 10 am to 3 pm



Break Time 12:00 to 12:45 pm

12 years old and older

Try your skill flying RC with Inst.

50-50 raffle open at 2:30 pm

free admittance----public welcome
concessions at field



South Bloomington I-74-55 by pass
Exit 160 west.3.5 miles on RT.9 to covel road
Travel 4 miles south to field.

S.I.R.S. Newsletter Editor
 Andy Cogswell
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June 2005

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----------|-----------|---|-----------|-----------|----------|------------------------------------|
| | | | 1 | 2 | 3 | 4 |
| 5 | 6 | <div data-bbox="298 1503 1133 1871" style="background-color: yellow; border: 1px solid black; padding: 5px;"> <p>In the coming months....</p> <p>SIRS Big Bird-June 11th-Thompson Field Aviation Camp-June 20th- Thompson Field</p> </div> | | | | 11 Big Bird Club meeting |
| 12 | 13 | | | | | 18 |
| 19 | 20 | | | | | 25 |
| 26 | 27 | 28 | 29 | 30 | | |