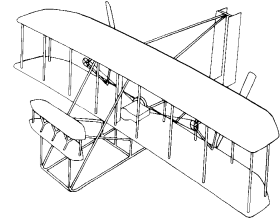




P. O. Box 1303
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The Wright Flyer



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NEWSLETTER OF THE WRIGHT FLYERS R/C CLUB

Meeting Highlights

On Tuesday August 9th, the Wright Flyers held the monthly membership meeting at the Montissippi Park flying field.

The meeting was called to order by president Scott Leiferman shortly after 7:30 PM. There were 10 members present including five club officers. The minutes of the July meeting were reviewed and approved. A treasurer's report was given. So far this year, the major expenditures are eight field cuttings at \$100 each and the supplies for the club picnic in July which ran \$136.

The discussion about procuring some club logo apparel continued with requests that we try to use the original "Cub & Transmitter" design that has been the mainstay for most of the club's past. Leo Davids offered to copy the logo off one of his old jackets and get it on a computer file for Wayne VanDenBoom.

Monticello's Women of Today requested the use of the Montissippi Field for an event for their Kids Week celebration on Saturday August 27th. They wanted to provide some simple hand-launch gliders for the kids to experience some aviation activity. Rich Johnson has offered them the opportunity to fly with an R/C trainer on buddy box setups if he can find some volunteers. Wayne VanDenBoom will email interested members more details and organize club volunteers to support this activity.

Scott Leiferman has some heavier patio blocks to try for flight station markers where the ones Jeff Nelson recently put down were broken up by the security vehicle traffic driving over them. Jeff noted that the ground was so hard when he installed the flight station markers that it was difficult to seat them in level so they would support any kind of

The next meeting is scheduled for 7:30 PM on Tuesday, September 13th, 2005, at the Montissippi Flying Field.

weight.

The meeting was adjourned with enough daylight for about another 1/2 hour of flying.

Kids Day at Montissippi Field

On Saturday August 27th, the Wright Flyers hosted a flying open house in conjunction with the Monticello Women of Today. The women's organization publicized that local youth were invited to come out to the field between 11 AM and 2 PM to try both hand launch gliders and flying R/C aircraft. The women also served cookies and punch to everyone who participated. The Wright flyers had three trainer setups with buddy boxes so anyone who wanted could fly an R/C airplane for a few minutes.

An area newspaper, the Monticello Times, covered the event with photos and a background article on the club for the back-page article in their September 1st issue.

We had four club members to support this event and three trainer aircraft flying. John Kossieck brought his electric powered fleet to give some impressive demo flights to the crowd. Wayne Van-

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DenBoom, Garth Landefeld and Leo Davids each operated their glow engine powered trainers with buddy boxes to give at least 25-30 people a chance to maneuver an aircraft through the sky. Along with the children, a number of parents and even the newspaper reporter were put at the controls of an aircraft in flight. Wayne and Garth each did some demo flying with their Twister 3D and Spitfire warbird respectively.

The Women of Today were quite pleased with the event and hope they can schedule something with the WFRC club again next year with added publicity about the R/C flying opportunity for the kids.

We would like to thank Eric O'Link from the Monticello Times for the wonderful article he wrote about this event. It's great publicity for our club and this event.

WFRC Logo Apparel

Wayne VanDenBoom has been coordinating a source of club logo apparel with a copy of our original club emblem. This emblem provides for a two-color silk screen of the "Cub & Transmitter" design. The preferred colors of yellow and black for the emblem will go best on a light color fabric such as gray or white. The logo should be across the back of each garment.

Wayne is looking to get an order of at least 2 dozen items immediately after the next club meeting on September 13th. The exact prices will depend on how many items are silk screened to spread out the cost of making the silk screening master stencils.

The garments that Wayne can readily have made include tee-shirts up to extra large (XL) at \$8 each, crew fleece sweat shirts to XL at \$12 each and hooded sweat shirts with front pocket to XL at \$18 each. Garments in sizes of 2XL and 3XL would cost an additional \$2 each. Prices represent the maximum expected and could be a little less if an order for larger quantities can be made.

If you want to get in on this order, come to the meeting to place your order. Wayne also wants to discuss if the club should have an inventory of the garments for selling or as prizes for meeting door prizes or other events. If you cannot make the meeting, call

or email Wayne VanDenBoom. (763-428-2360, wvan-denboom@charter.net).

Thanks to Jean Davids for scanning in and cleaning up the original logo from the back of Leo's jacket. She did a great job of it. Also thanks to Joel Dirnberger for getting this file converted over to the format that was required for the silk screening efforts. Great work. We'll now have this logo in a format we can use for any future needs.

The Annual ACRC Electric Fly

On Saturday September 3rd, the Anoka County R/C Club hosted their annual electric fly at the club field in East Bethel. The CD for the event was the lively Paul (PJ) Rono.

This well could have been the last outdoor electric fly of the season. There were 21 pilots registered and flying began with quite calm conditions at just after 8 AM. With five flight stations available, there was virtually no waiting to fly throughout the day.

Paul grilled up a great lunch of brats and hotdogs with plenty of beverages, chips and cookies for everyone.

The flying was leisurely and mostly uneventful except for a mid-air involving the sole representative of your Wright Flyers R/C Club (Leo Davids). A certain yellow Yak-54 has only a vestige of its rudder left and the other aircraft involved lost a sizeable section of its wing. The Yak was able to land without further damage but the "winged" aircraft did make a hard landing but was not fatally damaged.

The day was cut short when thunder storms moved in shortly after lunch. Everyone got down and put away before the brunt of the storm hit. One unlucky pilot had a long walk to get his Slow Stick which could not buck the headwind that picked up just before the storm rolled in.

Thanks to Paul Rono and his ACRC club for putting on this event and hope that they keep it on their calendar for next year.

Battery Failure

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 fieldcharging equipment onhand 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.

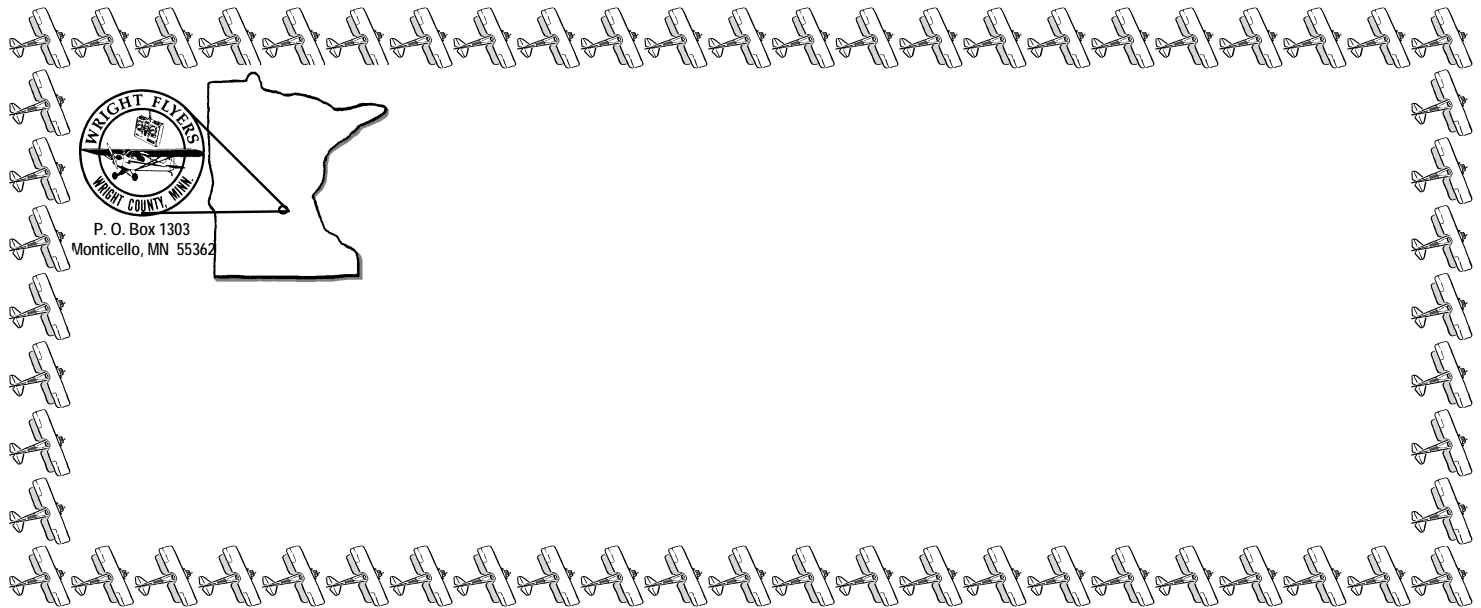
For this reason it is difficult to measure the battery's charge state without an accurate meter where you can see the small differences between the two. You also must have some knowledge of what the battery usually measures to see the change.

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 (milliampere hours) the battery will supply while maintaining voltage above a certain voltage (typically 1.1 volts per cell).



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2005 Club Officers

Pres Scott Leiferman..... 763-682-2707
VP Wayne Van Den Boom.... 763-428-2360
Treasurer Perry Dzuik..... 763-477-6865
Secretary Leo Davids 763-263-3577
Safety Off.... Ron Bredeken..... 763-441-3199
News Ed..... Jean Davids..... 763-263-3577

If you have news or ideas for articles you would like to see, you can email me at
jedavids@charter.net
 Or call me at 763-263-3577.

I use a cyler 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.

from the Indianapolis RC South club, Indianapolis IN

by Doug Gifford

Robert Braham, editor

Coming Events

TCRC Fall Float Fly

On Saturday September 10th, the Twin Cities R/C Club will host their annual float fly at Bush Lake Park in Bloom-

ington. AMA is the only requirement to participate. Aircraft of either electric or internal combustion are eligible to fly from the lake. The event will start at 11 AM. There will be a retrieval boat to pick up aircraft that are dead in the water. Contest director is Jim Cook (952-445-5257)

Maple Lake EAA Fly In Dinner

On Sunday September 11th, the EAA Chapter 878 will host their 19th annual pork chop dinner at the Maple Lake Municipal Airport. Dinner will be served from 11:30 AM until 2:00 PM. There is always a good variety of aircraft that fly into this dinner and there are static displays including model aircraft from our club, the Wright Flyers, which you are encouraged to contribute to. Door prizes and a prop clock raffle provide even more incentive to attend. Garth Landefeld is a member of the EAA chapter & specializes in doing touch-and-goes with the pork chops on the grill. Also, club members Leo Davids and Mike Ackerman have hangers at the airport which should be open to drop by and visit in.