Carrier Wave

Newsletter of the Phantom Flyers R/C Club http://phantomflyersrc.com

CLUB OFFICERS	Work	Home
President – Herb Johnson	777-7605	(636) 207-9895
Vice President – Ed White	232-1479	(636) 441-6431
Secretary – Mitch Galatioto	234-5141	(636) 447-5484
Treasurer – Dan Sundman	777-9204	(636) 281-0676
Safety Officer – Emery Kattelman		(636) 946-3511
Boeing Rec Counselor – Larry Leuschke	234-5116	(636) 537-1472
Field Manager – By Committee		
Chief Flight Instructor - Al Bone		(636) 723-4062
Activities Committee Chairperson - Dan Abel		(314) 830-0138

Board of Directors:	Work	Home
Phil Moore	(314) 777-4167	(636) 928-5342
Ed White	(314) 232-1479	(636) 441-6431
Jim Wortkoetter	(314) 233-0735	(636) 947-1034

Send Membership Renewals to:
Mitch Galatioto
574 Wyatt Dr.
St. Peters, MO 63376

Send Newsletter Items to:
ED. Dave Evans
4214 Bedford Creek Ln.
Wentzville, MO 63385
Phone (Home) (636) 332-1980
Email: Email: editor05@phantomflyer

June 2005

Upcoming Events/Important Notices

June 12, Family BBQ and Build-a-Plane

June 15, Club Meeting at Flying Field

July 20, Club Meeting at Flying Field

July 23-24. Electric Fly

Notes from the Editor

Thanks to Don Vetrone for hosting a great Float Fly Event.

Articles, pictures, and tech notes for publishing in the Carrier Wave are always appreciated. If you have an idea but need a photographs, I have the photo equipment and will gladly volunteer to help as will several other club members.

Thanks,
Dave Evans

AMA Club # 393

Phantom Flyers

St. Charles, Mo RC Club

Meeting Minutes for May 25, 2005

President Herb Johnson called the meeting to order at 7:00 pm. Nineteen members were present. This meeting was postponed from May 18 due to unavailability of the club officers. New member Luke Miederoff introduced himself. Luke is new to the hobby. His mother works in software engineering in bldg 107.

Secretary's report – A motion was made and approved to accept the minutes of the April 20 meeting as printed in the Carrier Wave. Dave Evans has taken on the job of Carrier Wave editor and did a great job with the May Carrier Wave. Club thanks to Dave!

Treasury report - A motion was made and approved to accept the treasurer's report as presented.

Recreation report – The only news is that the insurance check for reimbursement for the stolen items is "in the mail" according to Recreation. The exact amount was not available. Larry asked for someone to volunteer to write a short article on the club for the Boeing news to try to drum up new members. Ed White was apparently railroaded into writing the article. The club also provided significant support to the Bat UAV program for their remote site testing at Fort Leonard Wood during most of last week. Jeff Brundt, Paul Buhse and Herb Johnson supported the flight testing.

GSLMA report – No report.

Field Managers report – A security chain and special lock are being procured for the new mower to secure it further when it is in the storage container. The chain has been purchased and a lock has been identified. We have a tenant living under the storage container, a reportedly large size skunk. We are looking for volunteers to collect rent. Please contact Herb Johnson if you are willing. If not rent collection, we need a volunteer to lead the task of replacing the gravel floor of the pavilion with poured concrete. Again contact Herb if you are willing to help. Another opportunity to help concerns the picnic tables under the pavilion. The finish is flaking off the tables and they need to be refinished. Ideally we'd like to see that done prior to the June 12 BBQ. Again, contact Herb.

Safety report – Safety officer Emery Kattelman had no issues to report/discuss.

Activity report – The float fly practice was held May 14, some death and destruction ensued. The Float Fly itself will be this Saturday (May 28) from 9:30 to noon at Innsbrook Estates. Mark Twain donated 5 dozen small balsa planes to give to the club. Thank them with your business. A pattern seminar was originally scheduled for June 4 but the CD can't make it. We will reschedule. Contact Ed White if you are interested. The Family BBQ / Build-a-plane contest will be held on June 12. The club will supply the major food items. Please bring drinks for yourself and a side dish to share. Contact Dan Abel if you are thinking about attending. We will eat late afternoon, around 4:00 and the field will be open for general flying all day.

Old Business – Frank Thomas presented a follow-up to the first aid tech session from April. There are several items that we should have on hand in the first aid kit and we will acquire most or all of these under the field maintenance budget. One issue is that many of the items we need for first aid have a limited shelf life, particularly in high temperature environments like the inside of the john. We will look for options to provide a more temperature controlled environment, suggestions are appreciated.

New Business – AMA sent a notice allowing people to sign up for email notifications. Some members got the email notice, many did not. Herb will forward the notice to the club. It allows you to get daily summaries of status of the Nats.

Tech Session – Frank Thomas presented two items: how to convert a PC power supply to provide a 3.3, 5, and 12 volt DC power supply, and a source for circuits for building a Li-poly battery charger. Look for both write-ups in the Carrier Wave or contact Frank if you want immediate information.

The meeting was adjourned at 7:55 pm. A raffle followed.

Respectfully submitted, Ed White

Wright Flyers and Phantom Flyers Float Fly

May 28, 2005

(Pictures by Ben Lanterman and Dave Evans)

The annual Phantom Flyers/Wright Flyers Float Fly was held at Innsbrook on Saturday, May 28. Two weeks prior to the event, a "practice day" was held at the same venue.

The practice day saw ten flyers and about 15 airplanes enjoying light-to-brisk winds and mild temperatures. Even battery powered park flyers had no trouble with the winds for the most part. As usual, there were some "incidents" resulting in mild to moderate damage when planes came into contact with water. All damage appeared to be repairable in the two-week period between the practice and the event

The Memorial Day Weekend event itself was a huge success. The weather was perfect. A large group of Innsbrook property owners came out to watch us fly, and the kids gobbled up the five dozen balsa gliders provided by Mark Twain Hobbies (thanks, Dennis). We had 17 pilots fly approximately two dozen aircraft. There were almost no times when somebody was not flying, and several times when five planes were airborne at one time. There were a few mishaps, but not many, and everyone seemed to have a good time. Two planes were displayed statically.

Thanks so much for the support for this event. … Don Vetrone & Dice Cowger

Every size airplane from small electric motors to large gas engines were present. Nearly all were successfully flown from the lake, only one airplane never quite got airborne though the pilot made several attempts.


N7101P

from the National Weather Service Web site
Lightning safety outside

Each year, roughly 400 children and adults in the United States are struck by lightning while working outside, at sports events, on the beach, mountain climbing, mowing the lawn, or during other outdoor activities. About 67 people are killed and several hundred more are left to cope with permanent disabilities.
Many of these tragedies can be avoided. Finishing the game, getting a tan, or completing a work shift isn't worth death or crippling injury.

The threat of lightning
• All thunderstorms produce lightning and are dangerous. Lightning kills more people each year than tornadoes.
• Lightning often strikes as far as 10 miles away from any rainfall. Many deaths from lightning occur ahead of the storm because people try and wait to the last minute before seeking shelter.

• You are in danger from lightning if you can hear thunder. If you can hear thunder, lightning is close enough that it could strike your location at any moment.
• Lightning injuries can lead to permanent disabilities or death. On average, 10% of strike victims die; 70% of survivors suffer serious long-term effects.
• Look for dark cloud bases and increasing wind. Every flash of lightning is dangerous, even the first. Head to safety before that first flash. If you hear thunder, head to safety!
• Lightning can travel sideways for up to 10 miles. Even when the sky looks blue and clear, be cautious. If you hear thunder, take cover. At least 10% of lightning occurs without visible clouds overhead in the sky.

The single most dangerous place
Outdoors is the most dangerous place to be during a lightning storm. When lightning is seen or thunder is heard, or when dark clouds are observed, quickly move indoors or into a hard-topped vehicle and remain there until well after the lightning storm ends. Listen to forecasts and warnings through NOAA Weather Radio or your local TV and radio stations. If lightning is forecast, plan an alternate activity or know where you can take cover quickly.
The U.S. lightning season is summer but lightning can strike year round! The Fourth of July is historically one of the most deadly times of the year for lightning. In summer, more people are outside, on the beach, golf course, mountains or ball fields. Outdoor jobs such as construction and agriculture, and outdoor chores such as lawn mowing or house painting are at their peak, putting those involved in danger.

Safety rules
1. Postpone activities promptly. Don't wait for rain. Many people take shelter from the rain, but most people struck by lightning are not in the rain! Go quickly inside a completely enclosed building, not a carport, open garage or covered patio. If no enclosed building is convenient, get inside a hard-topped, all-metal vehicle. A cave is a good option outside but move as far as possible from the cave entrance.
2. Be the lowest point. Lightning hits the tallest object. In the mountains if you are above tree line, you ARE the highest object around. Quickly get below tree line and get into a grove of small trees. Don't be the second tallest object during a lightning storm! Crouch down if you are in an exposed area.

3. Keep an eye on the sky. Look for darkening skies, flashes of lightning, or increasing wind, which may be signs of an approaching thunderstorm.
4. Listen for the sound of thunder. If you can hear thunder, go to a safe shelter immediately.
5. If you see or hear a thunderstorm coming or your hair stands on end, immediately suspend your game or practice and instruct everyone to go inside a sturdy building or car. Sturdy buildings are the safest place to be. Avoid sheds, picnic shelters, baseball dugouts, and bleachers. If no sturdy building is nearby, a hard-top vehicle with windows closed will offer some protection. The steel frame of the vehicle provides some protection if you are not touching metal.
6. Listen to NOAA Weather Radio. Coaches and other leaders should listen for a tone-alert feature during practice sessions and games.
7. If you can't get to a shelter, stay away from trees. If there is no shelter, crouch in the open, keeping twice as far away from a tree as it is tall.
8. Avoid leaning against vehicles. Get off bicycles and motorcycles.
9. Get out of the water. It's a great conductor of electricity. Stay off the beach and out of small boats or canoes. If caught in a boat, crouch down in the center of the boat away from metal hardware. Swimming, wading, snorkeling, and scuba diving are NOT safe. Lightning can strike the water and travel some distance beneath and away from its point of contact. Don't stand in puddles of water, even if wearing rubber boots.
10. Avoid metal! Drop metal backpacks, stay away from clothes lines, fences, exposed sheds, and electrically conductive elevated objects. Don't hold on to metal items such golf clubs, fishing rods, tennis rackets, or tools. Large metal objects can conduct lightning. Small metal objects can cause burns.

from the Hampton Roads Radio Control Club, Hampton Roads VA
Trucker's Hitch
Rick Lawrence, editor

I used finishing line to make a Kevlar braid, and then the braid as a pull-pull rudder for my models. I used it on a large biplane and had good results, but on my triplane the rudder was a little big and too loose. When I flew my triplane, it fishtailed in flight.
I spoke with a friend about my problem, and I also mentioned that I had trouble tightening the lines to get the pull-pull system tight. John said that I should use a Trucker's Hitch to make the pull-pull system. It is commonly used by fishermen to cinch lines and make them secure.
Searching Trucker's Hitch on the Internet will give you several excellent explanations. In my Ashley Book of Knots, I found a couple of knots that might also work—they are a Farmer's Loop, Harness Loop, and Lineman's Loop. (The book indicates that the Lineman's loop is better than the Harness Loop. It is stronger and easier to tie).
All of these knots create a bight in the line where you can make a loop for cinching the line tight. They are all finished with half-hitches to keep them from slipping. Of course, finish the job with a dab of super-glue to make sure it never gets untied or slips.

from the Indianapolis RC South club, Indianapolis IN
Battery failure
by Doug Gifford
Robert Braham, editor

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 then 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 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 (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.

from the District of Columbia Radio Control Club, Washington DC
Flying radio control helicopters: One man's story
by Julio Cesar de la Yncera
Andy Kane, editor

Have you ever thought about flying RC helicopters? Do you think you need to learn to fly airplanes before you fly an RC helicopter? What model and radio should I use? If you have questions about how to learn to fly RC helicopters then read on.

I am a beginning helicopter flyer with no experience in RC flying. Before i started flying, I would come to the flying field to admire the airplanes and helicopters.

When I decided I wanted to try to fly, I went to the helicopter flying area and asked the members what they recommended for a newcomer. They told me to get the Great Planes Simulator, version two. They advised me to learn how to hover first.

I immediately went and bought the flight simulator at Hobby Works. After installing the program on my computer, my next step was figuring out how the controls sticks on the simulator box functioned. It took a while to learn what each of the controls was for.

I found that when you are learning to fly RC helicopters, it is best to fly with the tail pointing toward you at first. That way the control maneuvers correspond with the movements of the helicopter.

Once I had the controls figured out, I learned how to hover. Hovering is the most important maneuver to master for helicopter flight. Most maneuvers begin and end in a hover; while others end with a crash!

After having some fun and learning the basics with the simulator, I decided it was time for the real thing.

I bought a Raptor 50 V2 with O.S. 50 engine, a Futaba H9C FM computer radio transmitter and receiver, and a Gyro GY401.

I spend about two weekends setting up my helicopter; meanwhile I still practiced with the simulator for about an hour each day.

Once my helicopter was setup, I asked someone to check it for me. I also asked him to do a test fly, just to make sure that it was set up correctly.

The first time I flew my real helicopter I was a bit nervous. It was different from the simulator. You can crash many times on the simulation and it will not cost you a penny, but this was the real thing.

Very slowly I increase power to the engine. As the main rotor started rotating, I could hear my heartbeat matching its speed—thump, thump, thump. After getting it light on its skids—about one inch of the ground—I landed it again to make sure I knew how to turn it off. After that, I proceeded to practice hovering on my helicopter.

After I gained some confidence and was comfortable hovering, I practicing flying forward, left, right, and in circles on the simulator. The simulator gives you confidence and allows you to perfect your timing on the control sticks. You can also see if something goes wrong, what actions to take as to avoid danger.

In conclusion, learning to fly helicopters is a lot of fun, and it is easy to learn. The helicopter pilots in my club were also very helpful.

So yes, you can learn to fly helicopters before you learn to fly an airplane.