



HI-SKY R/C FLYER

June 2007

Volume 36 Issue 6

President: Bruce Hoover
Vice President: Tommy Thomas
AMA Charter Club #851

Treasurer: Ed Anderson
Secretary: Ralph Gillette
www.hiskyrc.com

Meeting: The June meeting will be held June 5, 2007 at the club field. Come early and fly or come early and watch. The meeting will start at 7:00 PM.

HI SKY R/C Club Minutes: May 1, 2007

Meeting was held at the First Baptist Church Activity Building.

Ed Anderson brought the meeting to order at 7:09 PM. There were 11 members present and guests Kevin Hart and Mark Warnell.

Minutes: Gene moved and Jim seconded that the minutes be approved with the change in name from Coon to Kuhn. Motion approved.

Field Report: Field looks pretty good.

Field has been sprayed for weeds and trash hauled.

Another work party set for Saturday morning, May 19th. 8:00 to 8:30. Everybody bring weed eaters and any other tools you think you might need.

Jim Ruple noted that the shed needs to be cleaned out. Voted to give Jim \$20 to get some shelving to get things sorted out.

DON'T STORE INDIVIDUAL EQUIPMENT IN THE

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Purdue student from Midland in design competition

Jonathan Huseman, a Midland resident and sophomore in aeronautical engineering at Purdue, participated in the annual AIAA design/build/fly competition this year as a member of the 10 student Purdue team, placing third out of an original field of 50. The competition, held in Tucson, Arizona at the end of April, was sponsored by Raytheon Missile Systems. Teams were required to submit an extensive design report, and design an electric powered aircraft to complete two flight missions and two ground missions. The flight missions were to fly a simulated 'air sampler' payload weighing 3 pounds for two timed laps and a 'camera ball' payload weighing 5 pounds for four minutes. Scoring was based primarily off of the wing span and empty weight of the aircraft, favoring the lowest span and weight possible, and the aircraft was required to fit in a 4'x2'x1.5' box, assembled or not. For the ground missions removal and assembly of the aircraft from the box was also timed. Teams came to compete from universities all over the US, as well as Scotland, Israel, and Istanbul.

The Purdue team designed and built a lifting body with a 2 foot span, 5.5 pound aircraft, powered by twin counter-rotating AXI motors pushing 1100 watts. The majority of the aircraft at the competition were biplane designs, with a number of other lifting bodies, canards, monoplanes, and even a triplane as well. Of the 18 aircraft to complete a flight mission, the Purdue 'Spirit of Amelia' was the only successful lifting body. MIT took first place by a large margin with an extremely light 2-foot biplane design, followed by an OSU team with another 2-foot biplane, closely followed by Purdue. The 'Spirit of Amelia' completed the air sampler mission on the first attempt, but was not able to complete the second flight mission due to an unexplained motor failure and damaged batteries providing too little power, resulting in crashes during three flight attempts. The competition was very difficult, in that scoring favored unconventional and unforgiving designs to be competitive, pushing the limits of pilots, airframes, and equipment. As a result, there were a number of spectacular crashes and destroyed aircraft.

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From The Robbins Nest:

6TH ANNUAL CAF/HI-SKY INDOOR ELECTRIC FLY-IN UPDATE: Our fly-in, scheduled for July 14th and 15th is beginning to take shape. I reserved 50 tables for the event, and finished up the announcement page, (which is included in this issue of the newsletter). By the time you read this, I should have a thread started on E-Zone, where folks can post comments and monitor internet chat about our event.

HENRY SMITH PUBLISHED IN THE NATIONAL NEWSLETTER: Our very own Henry Smith has a huge and very detailed two page article published in the May 2007 AMA INSIDER. This is the National Newsletter published bi-monthly by the AMA, and is for Newsletter editors and Club Officers. Here is the link for you to view the issue containing Henry's article.

<http://www.modelaircraft.org/insider/index.html>

Here is the link directly to Henry's article:

http://www.modelaircraft.org/insider/07_05/setting.htm

Be sure to congratulate Henry for a great honor, and thank him for his excellent work on the Hi-Sky club newsletter. I hope you appreciate what he does by putting together such a fine newsletter. Many clubs only get a one sheet announcement page, and would love to have what we get via e-mail every month. Thanks Henry for all you do for our club, and congratulations!

PLAINVIEW REVISITED! The Plainview SPEF club hosted a one day event May 26th, and had about 16 pilots show up for lots of flying fun. We started at 8 AM, and closed up shop at around 10 PM. I personally flew 37 flights. That equates to almost four continuous hours in the air! Needless to say, I had a blast! I actually brought all my planes home, and even survived a midair. (yes repairs were needed, but was quick and easy)



SHED.

Strongly suggested that everybody take their stuff home or it will get trashed.

Safety Report: A.J. Lee gave the safety report.

Still have the potential for rattlesnakes at the field. Watch what you pick up.

Activities: General discussion of upcoming activities.

Electric Fly at CAF – Jim will need lots of help. Dennis brought up the subject of flying later in the evening. Dennis will talk to Bill Coombes about getting CAF to let us stay late.

IMAC – Date is May 26th & 27th. We will need lots of help for this one.

Fajita Fly-In – Date remains June 16th. Need further discussion at next meeting.

Old Business:

Nothing heard from Jim Hall yet about the field. Several other suggestions made, including possible use of the airport at Stanton. Ed Anderson talked to a gentleman in Stanton that wants to sell his 50 acres for \$300 per acre. Ed will follow further.

New Business: No new business to report.

Treasurers Report:

Ed reported that we have money in the savings account and the checking account.

Show and Tell:

Dennis Robbins showed his new “CLIK!” (Foamy from Europe.) Great for indoor pattern. Weighs in at 5 ounces total. Flew great later.

Ralph Gillette showed his new AirHog Reflex helicopter. Has fans on the side to get forward thrust and left/right turn. Flew great later.

Mark Warnell had a FM Transmitter and Receiver for sale. Receiver is small, good for electrics.

Club Raffle: No raffle

Next meeting: At the field, 7:00PM June 5th. Meeting adjourned at 7:50 PM.

Picked Up Passing By

We had good attendance at the field cleanup on May 19, 2007. Thanks go to Ed Anderson, Mike Chase, Dennis Paschall, Jim Ruple, and Jim Tartt for showing up and working. The shelving in the building looks good. It gets some of the things off the floor. It looks like we need some

“heavy duty” weed killer for some of the small mesquite bushes that are sprouting in various places around the parking lot.

There are more of the “Spread Spectrum” 2.4 GHz systems showing up at the flying field. These are remarkable in that there is no interference even though many electronic devices use this frequency. Still we should have an area for those flyers to “pin-up”. This keeps everyone in practice using the “system”. This would eliminate confusion and possible arguments.

I hope you enjoy reading the article about Jonathan Huseman. This competition requires an extensive design program and is a great learning experience. It is great to read about the local students doing work such as this. Thanks go to Bill Coombes for getting him interested in models and aviation.

There were two articles in the May, 2007 AMA Insider that were written by Hi-Sky R/C Club members. Dennis Robbins’ article about cutting propellers for electric models was one. It is great to have someone of Dennis’ writing skills and knowledge on the team. The other article was written by me, Henry Smith, about setting up your airplane.

I hope everyone enjoys reading the newsletter. I try to find articles that I think will interest most people. If you think I am neglecting some facet of the hobby let me know and I will try to cover that subject. Or better still; send me a write-up so it can be included in a future newsletter.

Table of Excuses

From the D.C. Radio Control Club, Montgomery County, Maryland

Please give excuse by the number in order to save time.

1. I didn't know you were waiting for the pin.
2. Did you see my airplane get glitched?
3. I ain't got it.
4. I have more crashed because of bad radios.
5. That airplane was always squirrely.
6. I don't know who did it, but someone must have turned on their transmitter and shot me down.
7. I just lost control; everything went dead.
8. I thought I was on the field.
9. That's that only time I ever left my transmitter on. Can you help me pick up the pieces?
10. I didn't know you were in the landing pattern, next time I'll look before I taxi out. Do you think it can be repaired?

Optional- I didn't realize I was that low when I flew over the pit area. Are three models a record?

Tips & Tricks

GLAD Press 'N Seal plastic wrap makes a great masking medium for spray painting. It is sticky on one side and will stick to itself, or the item you want to paint. It is much easier to work with than paper because it clings to the surface without lifting the paint off when removed.

—From Flightline, Casper Airmodelers Association, Casper, Wyoming

CALENDAR OF EVENTS

FAJITA FLY IN

MIDLAND CLUB FIELD

JUNE 16, 2007

THIS IS A FUN EVENT. FLY WHAT YOU LIKE.

CAF Electric Fly In

CAF HANGER

JULY 14 & 15, 2007

FEE INCLUDES MUSEUM. 16OZ/3 CELLS ON ALL MODELS NO CARBON FIBER ROTOR BLADES ON HELICOPTERS.

CALLIN' OF THE HOGS

MIDLAND CLUB FIELD

SEPTEMBER 15 AND 16, 2007

This is the 50th anniversary of the Astro Hog.

T BIRD OLD FART FLY IN

THUNDERBIRD CLUB FIELD ON LAKE BENBROOK

JUNE 13, 2007; YES THAT IS A WEDNESDAY!

Bring your own brown bag lunch.

For Sale:

Top Flite Spitfire kit... 0.60 size... Complete NIB \$75.00
Top Flite Airacorba kit 0.60 size with cockpit kit. \$75.00
World Models Clipped wing Cub (electric power) ARF new in the box. \$60.00
Horizon Hobbies PT-19 (electric power) ARF new in the Box. Almost ready to go. \$60.00
Contact Bill Coombes at 689-8359 or email at: Snj24@earthlink.net

Hitec CG-335 NiCd field charger (4 to 24 cell packs) \$40.00
This is a great field charger for NiCds only.
Goldberg Cub with 2 JR servos in wing. Ready to fly. Just Add your radio and engine. \$120.00
Contact Henry Smith at 570-6262 or hksmith35@prodigy.net
Estate sale:
Cessna with ASP .46 radio needs batteries.
Miscellaneous items. Contact Henry Smith

Measuring Washout

Washout, the downward twist in wingtips that improves low-speed flight, is sometimes used in airplanes with flat-bottom wings. A good way to make sure each wingtip has the same amount of washout (or any at all) is to get two straight dowels or carbon rods. Tape each to the bottom of the wing near the tips.

Set the wing on something so you can see both rods, and sight down the wing so you can see each rod in relation to the other. The rods magnify any angle that might be present in the wing.

Correct the wing twist until you have the angle you want. This doesn't work too well with wings that are rounded on the bottom, but is an excellent way of making sure the flat-bottom wings are true.

From the Suffolk Aero Modelers, Bay Shore, New York

Jonathan Huseman was a student at Trinity School of Midland, first learning to build and fly RC with the instruction of Bill Coombes. Jonathan was in charge of propulsion and electronics for the aircraft, as well as the construction of the empennage and covering the airframe.

For more information about the contest, visit :

<http://www.ae.uiuc.edu/aiaadbf/>
www.terrabreak.org

And You Want to Know Why I Like Retirement?

From The Transmitter, Baltimore, Maryland

Q: How many days are in a week?

A: Six Saturdays and one Sunday.

Q: When is a retiree's bedtime?

A: Three hours after he falls asleep on the sofa..

Q: How many retirees does it take to change a light bulb?

A: One—but it might take all day.

Q: What's the biggest gripe of retirees?

A: There's not enough time to get everything done.

Q: Why don't retirees mind being called seniors?

A: The term comes with a 10% discount.

Q: Among retirees what is considered formal attire?

A: Tied shoes.

Q: Why do retirees count pennies?

A: They are the only ones who have the time.

Q: What is the common term for someone who enjoys work and refuses to retire?

A: Nuts!

Q: Why are retirees so slow to clean out the basement, attic, and garage?

A: They know that as soon as they do, one of the adult kids will want to store their stuff there.

Q: What do retirees call a long lunch?

A: Normal.

Q: What is the best way to describe retirement?

A: The never ending coffee break.

Q: What is the biggest advantage of going back to school as a retiree?

A: If you cut classes, no one calls your parents.

Q: Why does a retiree often say he doesn't miss work but he misses the people he used to work with?

A: He is too polite to tell the whole truth.

Q: What do you do all week?

A: Monday through Friday, nothing and on Saturday and Sunday I rest!

Installing Control Horns

Your airplane is done and covered and now we have to put holes into that perfect job you've done. That's not bad because the horn and base will cover them. But, now we have to take a small, fine-head Phillips screwdriver and struggle getting those little self-tapping screws to bite on the back. It will happen, the driver slips off and a third hole is in your covering. Here is the tip and kind of input we can all use. Simply take a piece of cardboard, or plywood if you wish to make it permanent, trace the outline of your horn, trim it out, place over the horn and you have eliminated that possible third hole!

—from John Neilson, the Sun Valley Fliers, Phoenix, Arizona

Has This Ever Happened to You?

By Bob Kugler
Palos R/C Club; Palos Park, Illinois

You're flying your favorite airplane. You're doing the maneuvers that you've done a hundred times before. The weather is perfect. The wind is steady, light and blowing in your favorite direction. You are having a great time. You couldn't feel more comfortable.

Then, without warning your old friend develops a mind of its own. While doing a simple, straight and level fly-by, your plane throttles up. Then it rolls over, and spins into the ground. Something has gone seriously wrong. Your first thought is "I've been shot down!" This may or may not be true. After you have had time to regroup and analyze the situation, you may be able to determine the actual cause of the crash. A postmortem is always worth doing so you can prevent the problem from recurring.

What are the possibilities?

1. Someone turned on a transmitter on your frequency.
2. Outside radio interference.
3. Receiver battery failure.
4. Transmitter battery failure.
5. Radio failure.
6. Receiver switch failure.
7. Mechanical failure.
8. Pilot error.

My limited experience has shown that most planes are lost as a result of mechanical or electrical failure (items 3, 4, 5, 6, and 7). Next comes pilot error. This includes letting the plane get too far away, losing it in the sun, getting confused while inverted, stalling the plane too far away, throwing the wrong switch on your transmitter, or simply trying one too many turns while dead stick. The least frequently seen cause of RC plane crashes is radio interference (items 1 and 2). Yet this is the one we think of first. This is probably because it is one of the few causes that we can blame on someone or something else.

Here are some things you can do which may prevent these problems.

1. When installing the switch harness in your plane, you may want to locate it inside the plane. Cut a piece of thin music wire so when bent to shape, it will extend from the switch to the outside of the plane. This will help the switch stay clean and oil free.
2. When installing the radio in your plane, shield the receiver and battery from vibration by wrapping them in closed cell high density foam. In time vibration will loosen the internal electronics of an unprotected radio. Prolonged vibration can also cause a short in an onboard battery. While you're at it, make sure your servos are shock mounted by using the little rubber grommets and sleeves that come with the radio.
3. Before you assemble your plane, make sure that the servos, battery, and receiver are secure in the plane. Ensure that all radio connectors are in place. Check the control surfaces for excessive play, cracks, or binding.
4. Walk the flight line and pits. Check to see who is sharing your frequency. Let them know you are there and ask them if anyone else is using the channel. Don't assume that everyone uses the board when flying. You may run into a new person who is not familiar with our system, or you may find someone whose tag fell off the board.
5. Use the frequency control board.
6. Always do a pre-flight inspection of your airplane.

Check your flight pack battery with a good expanded scale volt meter. If you check this before each flight, you will get to know how much battery is needed for a flight and therefore if you have enough battery for the next flight. A recent article in RCM suggests that you leave the ESV connected for at least 30 seconds to get an accurate reading. I have tried this and have seen the needle drop. If the battery is weak, it will show up here.

Check to see that all the controls are working and in the right direction. When I first started I could not remember which way the ailerons were supposed to work until I started using a catch phrase. When I test my aileron, I push the stick to the right and watch the right aileron. I say "right up" to myself. If the right aileron moves up, it's working correctly.

Check the meter on your transmitter. These batteries are reliable, but they do sometimes fail.

People who faithfully check their receiver batteries sometimes forget to glance at the transmitter meter. Range check your radio system. This is rarely done, but it can uncover an otherwise undetected problem. It should be done with the engine running so if any of the radio components are loose the vibration may cause it to act up.

Test to see if another transmitter is turned on. This can be done by turning on your transmitter and receiver. Move the sticks to the corners, much like you would when performing a snap roll. While holding the sticks in that position, turn off your receiver switch. Next, turn off your transmitter. This will leave the ailerons, rudder, elevator and throttle off center. Turn on the receiver switch. If the control surfaces should center themselves, or begin to twitch, your receiver is getting hit by another radio or some sort of outside interference. DO NOT FLY!

If you think there is interference on your channel and I happen to be at the field, do the following: (1) Don't fly. (2) Ask me to scan your channel with the club's scanner before you fly. We may be able to identify the culprit. We have used the scanner to find people who are using one channel with their tag on another. We have found signals appearing on channels with no radio in the vicinity on those frequencies. This may be a case of 3IM or someone using a transmitter at a nearby picnic grove.

If you are already flying and your plane starts going crazy, hold your transmitter as high as possible. Notify everyone on the flight line that you are going on the field. Run toward your plane. If you can get your transmitter closer to the receiver in your plane, it may provide a strong enough signal to override any interference. I have seen this technique used several times by our Chief Instructor, Joe Felonk. It works.

From the Monmouth Model Airplane Club, Inc. Keansburg, New Jersey

Li-Poly Battery Basics

By Paul Gentile

The popularity of electric-powered aircraft has soared (pun intended) over the past few years. Part of the reason behind the recent popularity has been the advent of Lithium Polymer or Li-Poly batteries. Li-Poly batteries pack a high energy-to-weight ratio when compared to their Ni-Cad and NiMH battery cousins. This stored energy has good and bad potential, and we will touch on both here. Li-Poly battery cells are 3.7 volts, as compared to Ni-Cad and NiMH batteries which are 1.5 volts per cell. When Li-Poly batteries are wired in parallel, they do not discharge like other batteries. In addition, when you wire cells in parallel, each cell only sees half the total current, or amp draw.

Total current is very important for Li-Poly batteries and is identified with a C rating. You may see Li-Poly batteries advertised as 3C, 6C, 8C, or 10C. This means that a 3C 1500 mAh (1.5 amp) Li-Poly battery pack should never be discharged at a rate higher than 3 x 1500 mAh or 4500 mAh (4.5 amps). Discharging a Li-Poly beyond this rating could cause damage to the cells or even fire. A very serious concern. Changing a propeller on your airplane can change the current draw and cause higher than expected discharge rates. So it is beneficial to have a current meter on hand. The manufacturer's specifications for the motor, speed control, and propeller combination you are running also come in very handy.

The other letters on Li-Poly packs refer to S for serial wiring of cells and P for parallel wiring of cells. A 3S pack would be 3.7 volts x 3 cells = 11.1 volts. A 3P pack would mean three parallel cells, or 3.7 volts and a higher C rating. A 3S 3P pack would have 3 cells in serial (11.1 volts) and 3 cells in parallel.

Li-Poly batteries also do not require cycling, or discharging like other batteries. In fact, you never want to cycle down Li-Poly batteries. You should always leave a partial charge, to avoid damage.

Chargers and speed controls should always be rated for Li-Poly use. Do not attempt to use your Ni-Cad or NiMH equipment. An improper charge rate could cause a Li-Poly pack to explode and burn at over 2000 degrees. A non Li-Poly rated speed control could cause over discharge and cell damage.

Here is a list of dos and don'ts for your Li-Poly packs:

- Never put your Li-Poly packs in water and never put water on the packs.
- Don't leave your Li-Poly batteries unattended while charging. See www.modelaircraft.org for this year's list of people whose cars and houses have burned down while leaving packs unattended during charging.
- Don't puncture or short out Li-Poly batteries.
- Don't fully discharge your Li-Poly packs, this will damage the cells.
- Don't put the Li-Poly battery in your car, or leave it in your airplane after a crash. If the battery is damaged internally, you may not notice. According to the AMA, several members' cars have already burned up this year due to this scenario.
- Do use common sense and respect the energy that is stored in that little package.
- Do follow all manufacturer ratings and specifications for use and storage.
- Do store your Li-Poly packs in a fire-proof container.

Li-Poly batteries are used everyday safely in cell phones, laptops, consumer electronics, and iPods. In our hobby, we are pushing these batteries to their limits, charging and discharging them at high rates and sometimes smashing them into the ground at high speeds. We need to respect their potential and keep it safe.

Enjoy the power and convenience of electric flight with Li-Poly batteries; I do. Just respect the energy stored in that little Li-Poly package and it will reward you with some of the fastest, 3-Dest (if that is a word), most fun flying you will have.

Li-Poly Quick Reference

C = Current

S = Serial

P = Parallel

Li-Poly Cell Voltage

Cells X 3.7 = voltage

1 cell = 3.7 volts

2 cells in series = 7.4 volts

3 cells in series = 11.1 volts

mAh = milliamp hour rating of a battery's capacity under load.

1000mAh = 1 Amp

MIDLAND, TEXAS 6TH Annual-2007

Commemorative Air Force & Hi-Sky R/C CLUB

INDOOR ELECTRIC FLY-IN & SWAP MEET

Saturday, July 14th
& Sunday, July 15th

8:00 AM - 5:00 PM

\$10 ADMISSION for both days
1 table provided per registered pilot
(extra tables - \$5 each)

Limited to 16 oz/3 cells on all models
No carbon blades on helicopters

AMA card required to fly

Midland International Airport
At large hangar South of CAF Museum

INFO: Jim Ruple
432-683-5444

