



HI-SKY R/C FLYER

December 2007

Volume 36 Issue 12

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

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

Meeting:

The December meeting will be held December 4, 2007 in the First Baptist Church Activity Building at the corner of Garfield and Louisiana streets. The meeting will start at 7:00 PM.

AMA and club dues

If you have your 2008 AMA card you may pay your 2008 club dues.

Snake Alert Snake Alert

On November 11, 2007, Mike Chase found a Rattlesnake crawling from the field area through the covered area and going north. Mike killed the snake with a board. He and Tony Lara measured the snake at 44 inches long and about 1-1/2 inches around. Please use caution when flying because a snake this size could ruin an afternoons flying if you or someone gets bitten.

HI SKY R/C Club Minutes: November 6, 2007

Meeting was held at the First Baptist Church.

Bruce Hoover brought the meeting to order at 7:05 PM. There were 11 members present.

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October Safety Notes

By: Chuck Waller
AMA Dist. VIII Safety Coordinator

Dumb things happen!

Have you ever heard the phrase "Dumb thumbs?" Has it ever happened to you? Have you ever done something so dumb while flying that it defies logic?

Not too long ago I was flying with some friends when a pilot started doing low passes just outside the runway with a 40 size war bird. As he got more confidence, he decided to do a low pass inverted! You guessed it – as he neared the end of the runway he pulled UP, but forgot up was down when inverted!

Another friend was landing a pylon plane after a race. There was a metal pylon pole at the end of the runway and off to one side. As the pilot was landing several of us yelled "Watch out for the pole!!" He apparently took our advice because he flew directly into the 2" diameter metal pole!

A good friend of mine has a very large Stermann biplane. Power is a G-62 and it weighs around 28 pounds. He only flies it on special occasions. On one such occasion, he brought it out and was answering questions from onlookers while he was assembling the plane. He then fueled it up, started the engine and taxied to the runway and took off. I immediately noticed something was wrong as he was not as calm as he usually was. The plane climbed to about 150 feet and made a rather wide turn to down wind and continued the turn and landed in the tall grass adjacent to the runway. I walked over to him and noticed he was visibly shaken. I asked him what was wrong and he replied "In all the excitement, I forgot to hook up the ailerons!"

About two weeks ago, there was a pilot at our local field flying a Twist 60. He had been flying for quite a while and decided to land. The wind was gusting and he missed several approaches. As he gunned the engine following another missed approach, the engine died. He was at very low altitude and turning down wind. He had no chance. The plane was splattered as

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Minutes: Jeff Laufer moved and Mike Chase seconded that the October minutes be approved as published. Motion passed.

Field Report: Bruce reports the field looks good. Probably needs some weeding. Bruce has some Roundup to spray. Ralph Gillette has a sprayer and will get it to the field.

Safety Report: A.J. Lee says everything has been safe and everyone is watching what they do. Bruce warned about snakes as it gets cool and the snakes want to get out where it is warm.

Editor's note: Be sure to read the Safety alert about a rattlesnake sighting at the field.

Activities: Electric Fly – Dennis Robbins talked with the Horseshoe people. Rent is \$1000 for one day, 8:00Am to 12:00 AM. Tables are \$2.00. Dennis will check to make sure the electricity is included, do we need a security guard, any deposit and are there any other costs. Conesus was that at \$20.00 per pilot plus the raffle would pretty much cover the base cost. There will be more discussion next month.

Old Business: AJ Lee moved and Jeff Laufer seconded that we table the motion from last month to draft a letter to the Midland police department and the city of Midland. Motion carried.

AJ moved and Mike Chase seconded that we waive the dues for the next year for new members that join and show an AMA card. Motion carried.

New Business: Bruce Hoover will print some applications and field use letters to be left at the field for any new members that want to join there. Dennis Robbins will print up some new Hi Sky RC Club cards for use in advertising.

Treasurers Report: Ed Anderson reported that he has moved \$5000 into a CD to get the higher interest rate. We do have money in the bank.

Show and Tell: Gilbert Hernandez showed his Predator 500 pylon racer. 40 power with a 9/6 prop. Tony Lara showed his Sonic 500 pylon racer. 40 power with a 9/6 prop.

Club Raffle: No raffle.

Next meeting: At the Baptist Church, 7:00PM
December 4th.
Meeting adjourned at 7:53PM.

Picked up Passing by

I hope you have read the minutes and the safety alert concerning snakes. This is to remind you to be cautious at the field. Look around the area where you park, where you set your plane and the flight line for any snakes or other non desirables before you start getting ready to fly. If you bring small children out to watch you fly, check on them often. Many times they don't know what may harm them.

In the event of snakebite to someone, there are some don'ts to observe. Don't cut the bite open. This can cause infection. Don't use a tourniquet. Other "home remedies" are in question.

Get the victim to a hospital as soon as possible. We are within thirty minutes of a hospital that can administer the anti-snake venom and provide the necessary medical care.

Page 82 of the Model Aviation magazine for November 2007 had a picture that reminded me of an unpleasant experience. It was a picture of a hand that had been cut by an electric motor prop. The author goes on to state that these just don't give up, they will keep slicing away. I found this out a couple of years ago. The emergency room bill would have purchased a nice airplane with engine and radio.

It is between the Thanksgiving and Christmas holidays. I am thankful for many things. I am thankful for the many people who expressed their concern following my stay in the hospital following a stroke and followed by surgery for a gall bladder. (My wife and I plan to skip the 16th of the month from now on.) It is gratifying to know that people are caring. I am thankful for my family and friends who don't voice an objection when I complain. I am thankful to live in a country where I may complain about the government without fear of being taken to jail. I am thankful to have a model airplane club such as the Hi-Sky R/C Club where we can discuss many things about model airplanes and whatever else we may talk about.

Dennis Robbins certainly deserves a pat on the back for writing something for this newsletter every month. Several of his articles have been selected for the National AMA newsletter for publication. Jon Wheeler is a silent partner in that he converts my Word document into a PDF file for distribution to everyone. Many Thanks Guys!

From the Robbins Nest:

Plainview revisited once again: On November 17th, 2007, the SPEF (South Plains Electric Flyers) club held another one day fly-in, and as usual, all who attended had a blast. Throughout the day, 17 pilots came and went. This means that there was lots of stick time available for those who stayed the entire time, which was from 7 AM to 12 midnight. We officially shut down around 10 PM, but I assure you that I got to fly till my thumbs began to get sore! The facility is approximately 130' wide, and about 300' long, with plenty of room for numerous pilots in the air at any one time. If you every wanted to try indoor flying, this is hard to beat. It takes exactly 2 hr 45 min. to drive to Plainview, so you could easily get up early Saturday morning, fly until the evening, and still make it home in time for the evening news. Give it a try, I promise you won't be disappointed.







CALENDAR OF EVENTS

GEORGETOWN, TX SWAP MEET

SAN GABRIEL PARK BUILDING

JANUARY 18 & 19, 2008

3:00 – 9:00 PM Friday & 9:00 AM – 3:00 PM Saturday

WE NEED TO GET OUR EVENTS SCHEDULED AND APPROVED

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.
 Contact Henry Smith at 570-6262 or hksmith35@prodigy.net

If you have anything to sell let me know if you would like to list it here. Just give me the details and I will do the rest.

Little by little we human beings are confronted with situations that give us more and more clues that we are not perfect. Mister Rogers' Neighborhood - Fred Rogers

he attempted to get it down next to the runway. When he checked, the fuel tank was completely empty.

At a recent pylon race, there was a pilot flying on a Spectrum 2.4 Gig radio. He has been flying only 2.4 Gig since it came out. At this event, he had another plane he was going to fly as a demonstration for the pilots after the race. This second plane was on 72 Mhz. So...after flying all day on the Spectrum he got the other plane ready for flight, then was interrupted and called away from the flight line. A few minutes later some of the pilots yelled for him to come fly quick. The pilot ran out to the plane, started it and proceeded to check controls while taxiing to the runway. He took off and after about 500 ft. the plane started to roll to the left and went into the ground.

I have never felt so dumb as I stood there looking at my collapsed antenna!

Dumb things can happen to any of us. We just hope they do not occur when others are around to see them! One of the best ways to prevent dumb accidents is to have a set procedure to go by when setting up a plane and when flying. One such method is called CAWTT.

This stands for:

- Controls** – Check each control surface to make sure it is operating correctly and in the correct direction.
- Antenna** – Check to make sure your antenna is extended. If you use a Spectrum or other 2.4 Gig system, bend the antenna just to keep in practice if you ever go back to a “standard” collapsible antenna.
- Wind** – Check the direction and speed of the wind in case you have to make an emergency landing.
- Traffic** – Check to see that other planes are not in the landing pattern or over the runway before you take off.
- Time** – Set a timer or look at your watch to make sure you do not fly beyond your allotted time. This will keep you from running out of fuel or, in the case of electrics, battery.

I hope every one has a great time in this hobby / sport and that each of you will think about safety each and every time you fly!

If you have an idea for a safety notes column, please send me a note! I want to be responsive to all of you but I cannot do that if you do not communicate your needs to me!

Till Next Time – Have fun and fly safe!

From the Transmitter, Burlington County, New Jersey.

Do You Have and Itch to Scratch?

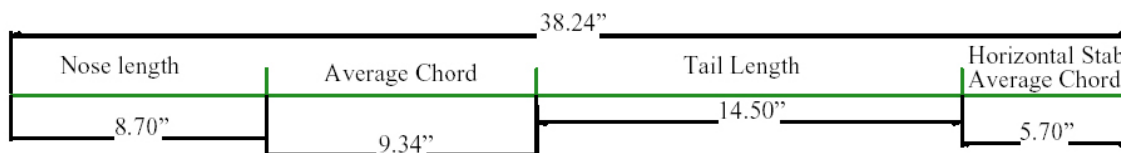
By Bill Bowne

Part III: Let's start drawing!

Let's look at how to do it with pencil and paper. I do use Computer Aided Drafting (CAD), but I started with pencil and paper. You can use whatever method you wish; the principles are pretty similar. If you do use paper, I suggest rounding up some No. 2 (or harder) pencils, a good eraser, a metal yardstick, some good paper (not newsprint – it tears too easily when being erased), a protractor, a good 12-inch ruler, a 12-inch square, a good drawing surface (I used to use a melamine shelf, about 1 foot x 4 foot) and some tape (or thumbtacks) to hold the paper down.

Let's assume you're doing a simple, constant-chord, low-wing sport ship. We'll keep on using the numbers we calculated last month.

Starting with a nice, big piece of clean paper, draw a line the length of the fuselage. Mark off the nose length, average wing chord, tail length, and average tail chord. Since the wing is a constant chord, the average is the same as the chord.

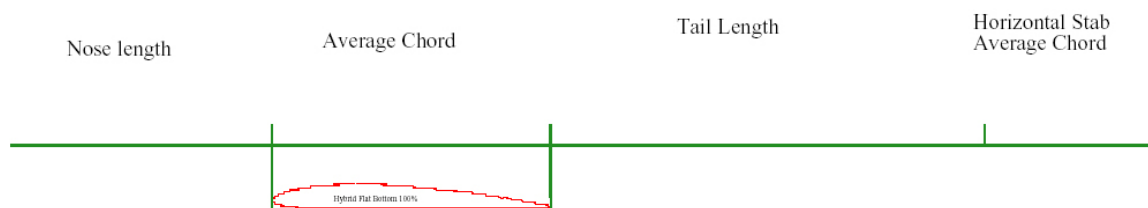


This horizontal must be straight as it is what all of the other components will be referred to! When we talk about incidence, down and side thrust, and so forth, we will be doing it in reference to this line.

Next, draw the wing rib profile in. USE PENCIL!!! You will be erasing plenty of lines!

Ah, what rib profile, you ask? There are thousands of airfoils, so which do you want to use? Personally, I use only a handful of airfoils. For slower airplanes, I like either a flat bottom airfoil or a Clark Y. For faster airplanes, I like the NACA 2412. I'm not into all-out aerobatics, so I haven't used a fully-symmetrical airfoil in many years. You can get airfoils from several sources; kits, airfoil books, or the Internet (there are programs to draw ribs, including spars). Of course, if you're doing a flat-plate foamie, the airfoil is just that, a flat plate.

Let's say you choose a flat bottom airfoil, like the modified Clark YH I use. Why am I picking that airfoil? Because I'm writing this at a campground and all I have on our laptop is my hybrid airfoil!

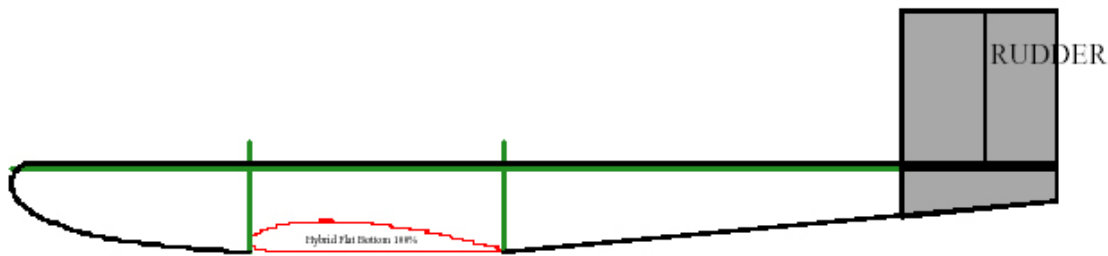


Now, let's decide where to put the horizontal and vertical tail surfaces, and draw a rough fuselage shape. You may ask "How tall and wide do I make the fuselage?" Well, how much room will you need for the radio, engine, fuel tank, and so forth? Do what I do—look at other people's models! If you have another airplane of similar size, measure it. Put the engine on top of the drawing and sketch around it. Likewise, put your servos, receiver, batteries, fuel tank, etc. over the drawing. Leave room for your fingers!

For a sport plane, I like to use a basic rectangular fuselage, with the sides parallel from the wing LE to the wing TE. All of the rear taper is behind the wing TE, tapering from down to the width of the two sides, plus enough to fit a tapered rudder post. I like the fuse to taper to about the width of the rudder so as to reduce turbulence between the fuselage and the rudder. I know I could add block to the base of the rudder, but then it's not as easy to cover as is a single-thickness rudder.

Depending on the size of the power plant and radio, I'll either taper the fuselage from the wing LE forwards, or else leave it constant width. The reason I often leave it constant width is to allow a fairly large battery-cooling intake.

How about down and right thrust? I usually use about 3 degrees of each. If you're using an engine or motor that turns a big propeller, you may need more. Again, look at what works.



Here we have a rough fuselage side, with the vertical stabilizer area shaded. Note that I've included the area below the horizontal stabilizer as being part of the vertical stabilizer area. The function of the vertical stabilizer is to stabilize the yaw motion of the model, just as do the feathers on an arrow. What is below the arrow shaft is just as important as what is above, so we need to include that too.

Landing Gear: I'll be frank. We haven't had a nose-gear airplane in more than 20 years. Trike gear weighs more than conventional gear (critical for older, less powerful electrics), is less forgiving on grass, and the nose gear acts like an extra vertical fin to slow the roll rate. I'm not joking about this; it's often reported in reviews of full-scale aircraft that have been converted from trike to conventional gear.

Ground looping can be a problem with conventional gear, but there are three factors that go a long way to tame it:

1. Using the right takeoff procedure is a big factor. Just jamming the throttle forward can make the airplane torque around and try to take off in some unplanned—and probably undesired—direction! Advance the throttle slowly and smoothly, and success is much more likely.
2. For tail-draggers, put the axles under the leading edge of the wing. Old-time Free Flight (FF) models had them farther forward to protect those hand-carved propellers. It works, but it makes for some very squirrely ground-handling.
3. Slightly point the main wheels inward. This is called “toe in”.

If the model tries to turn to the right, for example, the left wheel is now “scuffing” against the ground and will have a harder time turning. The right wheel, though, turns more easily. The differences in drag between the two wheels will force the plane to turn against the diversion and (hopefully) come back to a straight ground path.

Where to put the nose gear is pretty easy, but I'm not going to try to tell you where to put the main gear. I know the gear does have to be behind the center of gravity (CG), but not too far or else it'll be too hard to rotate the airplane to climb attitude.

You do want a trike-gear airplane to sit either level or slightly nose-down, so it won't lift off prematurely during the takeoff run or refuse to settle down on landing. Tail-draggers won't sit nose down (Obviously!), but it's also pretty hard to get them to sit level, unless you really make a tall tail wheel strut.

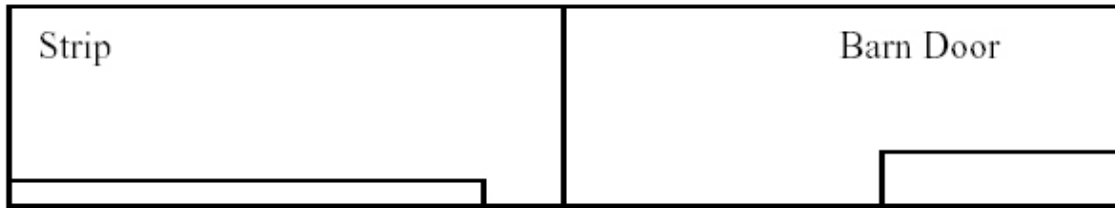
What size wheels do you want to use? That depends on the surface you fly from. We belong to two clubs; one has a gravel runway and the other a grass strip. Small wheels work very well on the gravel strip, but are useless on the grass one. If you don't mind using skinny wheels, like the ones used on WWI aircraft, you can get better handling on grass without going to absurdly large and draggy wheels.

Hand in hand with wheel sizes is the length of the gear struts. You need to make sure that the propeller will clear the ground. The necessary length is more visible for trike geared airplanes; to estimate the needed gear length for a tail-dragger, we have to look at how long the gear needs to be with the wings level. For peace of mind, I like to put the propeller tip no lower than the center of the wheels, when the airplane is tipped about 30 degrees nose down.

So, we've gone with a tail-dragger gear, with the wheel axles under the wing LE. Whether to mount the gear in the wing or to the fuselage is up to you. In the wing gives you the ability to have a much wider wheelbase, decreasing the likelihood of dragging a wingtip. On the other hand, main gear attached to the fuselage is lighter and lets you rest the fuselage on its wheels (assuming your radio gear is secured within the fuse and won't drop out) when the wing is removed!

What type of aileron do you want to use? Barn door ailerons (i.e., those built into outer portion of the wing) work better than strips (those that go from the root to the tip), but aren't as easy to set up. Some people have success with bell cranks, but I've NEVER had them work well. My best setup for barn doors is to use a separate servo for each aileron. Torque rods work well for strips, but are too flexible for the long reach needed for barn doors. On the other

hand, strip ailerons can flex and flutter all too easily. In this drawing, we see a wing with a strip aileron on the left and a barn door aileron on the right. Both are of the same area and both will work.



Okay, so we've gotten a basic layout down. But, we don't really like rectangular tail surfaces. Full-scale airplanes rarely have them, and we don't want ours to, either. So, we'll start next month by looking at how to turn our "Plain Jane" sport ship into something with some sex appeal.