



# HI-SKY R/C FLYER

January 2009

Volume 38 Issue 1

President: Chris Rutter  
Vice President: Gilbert Hernandez  
AMA Charter Club #851

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

**Meeting:** The January 2009 meeting will be held in the First Baptist Church Activity Building January 6, 2009. we will be meeting downstairs in the arts and crafts room (unless the usual room is available). The meeting will start at 7:00 PM.

**The 2009 dues are due:** Please be prepared to pay your 2009 dues at this meeting and help our treasurer do his job.

~~~~~Happy New Year~~~~~

## HI SKY R/C Club Minutes: December 2, 2008

Meeting was held at the First Baptist Church.

Bruce Hoover called the meeting to order at 7:05PM. 15 members and one guest were present.

**Minutes:** Minutes were approved as published in the newsletter.

**Field Report:** Field looks pretty good. Weeds are down. Gate seems to be locked as required, but remember to spin the lock when you leave.

**Safety Report:** A.J. Lee says everything has been safe, but we still have to watch for snakes.

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Servo Arms  
By Richard Lindberg  
Rocky Mountain Flying Machine Albuquerque, NM

"Those pesky servos—why can't I ever find one that's properly centered? Every time I attach an arm, it seems as though the servo center shifts! What's going on here?" Sound familiar? Well, if you're using an Airtronics, Futaba or JR radio, it sure seems as if that's the case. If you're using a HiTEC radio, the problem doesn't seem so bad. What causes this and what can you do about it?

All (standard-sized) servos today have splined shafts on which those servo arms are bolted. The problem arises because of the number of splines (teeth) on those shafts—Airtronics and JR use 23 splines, HiTEC uses 24, and Futaba uses 25. (Your radio may be different—grab a servo and count the splines on the shaft to find out. Use a magnifying glass!) This is a really neat feature, and you should take advantage of it when you set up your airplane!

Put a servo arm on a servo. Now, every time you lift and rotate the arm by one spline, you change its position by a fixed number of degrees: for Airtronics or JR, this is 15.65°, for Futaba its 14.4°, and for HiTEC it's an even 15°. The formula is simple: 360° divided by the number of splines. Now consider that your servo arms have an even number of fingers—2, 4, even 6. You can see by experimenting that rotating the servo arm and putting each finger as near as possible to where its predecessor was (about 90°, or 180° or 60°) will result in a shift in position of 3.91°, 3.6° or 3.75° for Airtronics/JR, Futaba and HiTEC respectively. The formula is equally simple: 360° divided by (the product of the number of splines times the number of fingers). So, for Futaba, finger 1 is assumed at 0°, finger 2 (rotating clockwise) is placed at 3.6° offset, finger 3 at 7.2°, and finger 4 at 10.8°. (For Airtronics/JR, use multiples of 3.91°, and for HiTEC use 3.75°.)

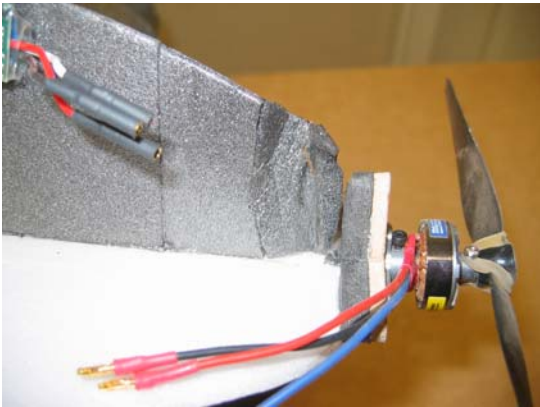
"Whoa, that's too complicated for me!" I hear you exclaiming. Well, don't worry about it—just keep rotating and pressing on the servo arm until you get a finger as close as possible to that magic 90° position.

*continued on page 5*

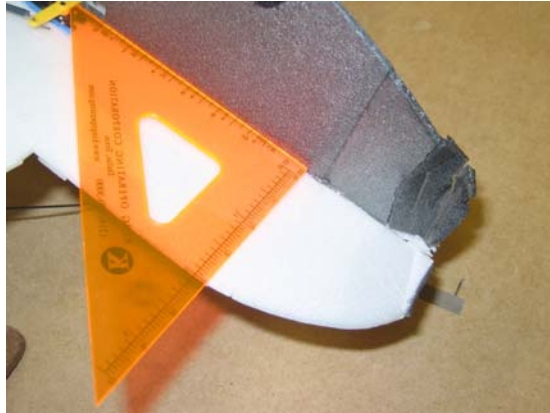
From the Robbins Nest:

**Nose Damage Repair the Easy Way!** By Dennis Robbins

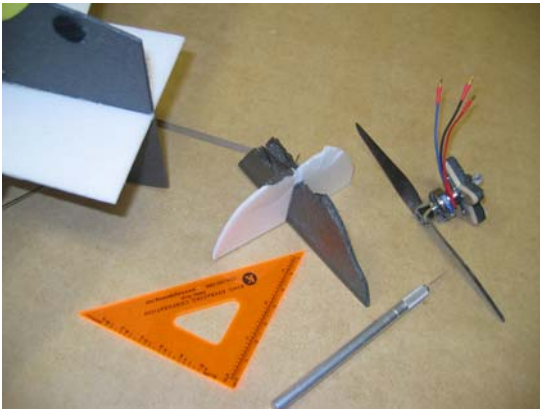
Crashes only happen to the other guy, or at least that's what we want to believe. We all have those days when things just don't go as planned, and we end up with a plane with a fender bender. On small indoor foamies, the damage is usually up front, and results in a crinkled nose, and a motor that needs to be remounted. Not to worry, because I'm going to show you a quick and simple way to repair minor damage to the business end of an indoor foam airplane. If you believe additional strength is needed at the glue joint, you can reinforce the area with fiberglass, or use a piece of foam over the glue joint as a doubler. I have found that on the lighter foamies, (4 -6 oz), this is not necessary, and the following repair method is just as strong as the original build.



**Photo showing damaged nose.**



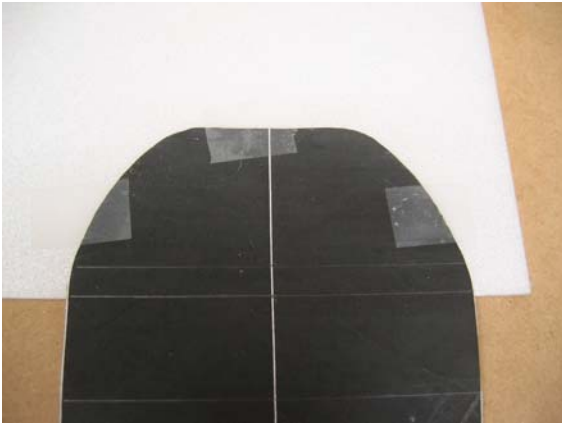
**Carefully cut away the damage.**



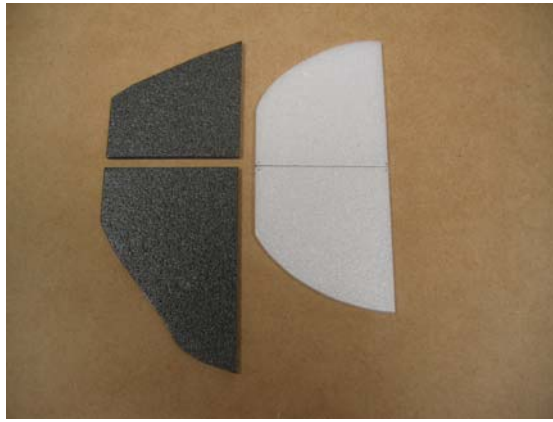
**Nose section has been cut and removed.**



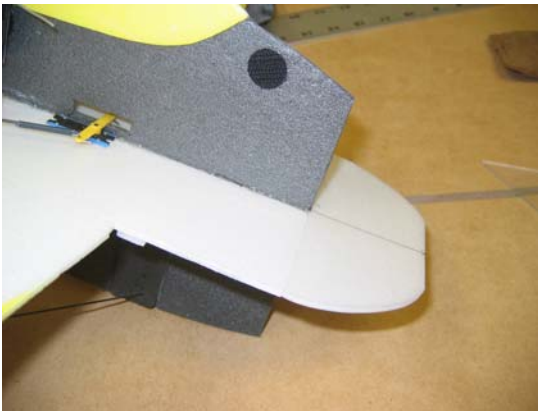
**Measure length for new piece to be cut.**



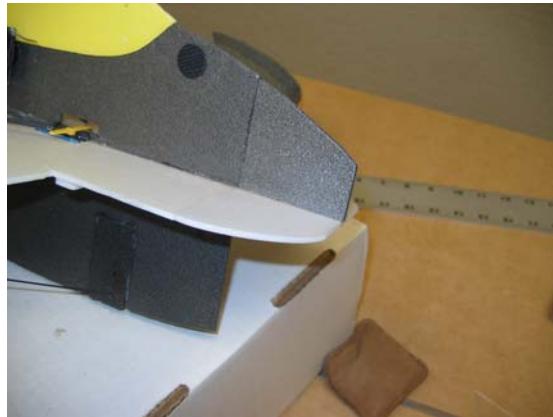
Using a template, the replacement parts are cut, using the previous measurement.



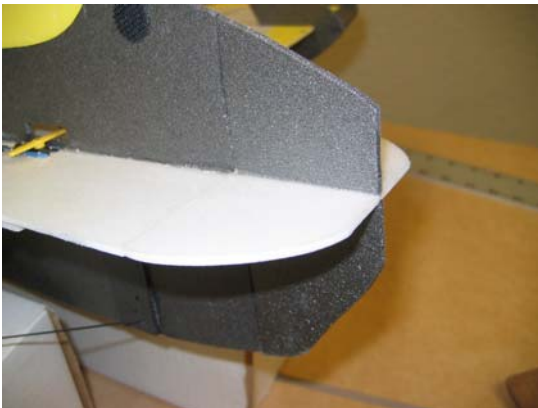
Replacement parts ready to be glued to the nose of the airplane.



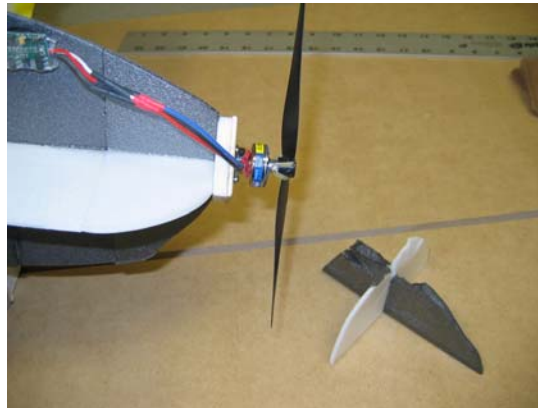
The horizontal fuse replacement part is glued into place first.



Next, the top piece of the fuselage is glued.



Finally, the lower part of the fuselage is glued into place.



The motor is attached, and the plane is ready for a test flight!

Some discussion about making sure to put your AMA card in the right slot on the frequency board so there is less chance of interference.

**Treasurers Report:** We have money in the checking, savings and CD accounts. Ed has put the money from the Horseshoe event into the CD.

**Activities:** General discussion of upcoming activities. We will put together an agenda at the next meeting.

Hi Sky RC will go with Odessa to do the IMAC contest next year. Tentative date is May 30/31.

Horseshoe electric fly-in got some good discussion. Some suggestions included get some sponsors to help with the cost, get a good radio and/or plane for the raffle. Thought was to have two-day event this time. Need to pick a date early so we get our choice. Dennis Robins will coordinate with other electric contests in the area.

**Old Business:** Elections were held. Nominated were Chris Rutter as President, Gilbert Hernandez as Vice President, Ed Anderson as Treasurer and Ralph Gillette as Secretary. Gene Laughlin moved and Jim Ruple seconded that the slate be elected by acclamation. Motion carried.

As mentioned previously, there was a spirited discussion about people flying without AMA cards. The problem with that is that the club is an AMA club and as such, the AMA insurance is in effect, if you are a member of the AMA. If you are not, then the club is not covered and neither is Jim Hall. If there is someone at the field trying to fly without AMA membership, tell them they cannot fly, period. The only way someone can fly without AMA membership is if they are flying a member's plane under their guidance. Please make sure everyone is up to date and covered.

**New Business:**

Jim Ruple brought up the subject of the frequency board needing some repair. Jim is going to do the work. Will need money for new numbers. Will get costs and get money at the next meeting.

**Show and Tell:**

Jim Tartt brought his new FlyZone Stagger Wing Beach. It is from Tower Hobbies via their scratch and dent sales. Absolutely nothing wrong with the plane, looks good, flies good. Jim said he didn't even have to put any trim into the transmitter.

Dennis Robbins brought his new Clik Kit. Weighs in at 3.5 ounces. Uses A10-15F Hacker out runner. Good flyer looks good and has some innovations like using carbon fiber tubing for struts instead of the usual rods. It cuts several grams from the weight.

**Club Raffle:** No raffle.

**Next meeting:** At the Baptist Church, 7:00PM January 6th.

Meeting adjourned at 7:40 PM.

**Picked up Passing by**

By the time you are reading this, Christmas is over and we have started a new year, 2009 is here. We have new things to look forward to. Some of us will have new jobs and others will adjust to new circumstances in their lives. I want to wish each one a wonderful and prosperous new year in 2009.

If you haven't paid your AMA membership send it in now. Remember that is one requirement to fly at the field and be a member of our club. You get an informative magazine and some valuable insurance protection among other perks.

There is a story on the internet that RC Report will publish its last issue March 2009. If this is true, another great rc magazine has ceased to exist. I enjoyed their reviews and various departments. They were about the best for information on a new ARF or build it yourself (BIY) kit as well as other re products.

**FOR SALE:-**

Great Planes Super Sportster 90/120 NIB 72" wingspan. Not an ARF. .90 2-stroke or .90 – 1.20 4-stroke makes this a terrific performer. It is stable at low speed and aerobatic at throttle up. \$125.00

Saito 1.20 engine – good compression, engine flex mount - \$130.00

Great Planes Kaos kit .61 size. 58 inch wingspan - Aerobatic to say the least - \$75.00

Hitec CG335 Field charger for NiCad batteries. Glow driver, 4-24 cells input voltage 9-13.9 volts - \$35.00

If interested call Henry Smith @ 570-6262 or email at [hksmith35@prodigy.net](mailto:hksmith35@prodigy.net)

The little unremembered acts of kindness and love are the best parts of a person's life. William Wordsworth

The mind is like a TV set – when it goes blank, it's a good idea to turn off the sound.

## CALENDAR OF EVENTS

12<sup>TH</sup> ANNUAL GEORGETOWN SWAP MEET  
SAN GABRIEL PARK NEIGHBORHOOD BUILDING  
JANUARY 16 & 17, 2009  
\$5.00 admission each day 100 free tables.

PERMIAN BASIN MODEL AIRCRAFT CLUB

ODESSA CLUB FIELD  
FEBRUARY 28, 2009 (9:00 AM TO 5:00 PM)  
No charge for tables and field will be open for flying.

WEATHERFORD, TX ANNUAL SWAP MEET AND AUCTION

HALL MIDDLE SCHOOL  
MARCH 20 & 21, 2009  
\$5.00 admission each day and \$10.00 table rental.

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### Tips & Tricks

#### A Couple of Building Hints

How many times have you used the household iron and been jumped on for leaving sticky stuff on it? Have you used iron-on film and had the color pigment stick to the iron and bleed to another section leaving streaks and marks on the second color (red on white, for instance)?

Solution: Heat the iron, put some salt on any sheet of paper and rub the iron over the salt. PRESTO! Iron face back in pristine condition.  
—From the Tingalpa Transmitter in Australia

When drilling a hole in balsa, the wood has a tendency to splinter out and make a nasty mess where the drill bit exits. Drip a few drops of thin Hot Stuff around the exit area of the drill bit and let it cure. You can now drill a hole and the wood will hold together much better. It may still splinter out some, but not nearly as much. This method also works great when drilling wing hold-down holes on built-up wings.  
—From the Windy Flyer newsletter, Downers Grove, Illinois

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Springtime is the land awakening. The March winds are the morning yawn. Lewis Grizzard

There are two kinds of people, those who do the work and those who take the credit. Try to be in the first group; there is less competition there.  
-Indira Gandhi

ONE of those fingers will be right. (Actually, Futaba makes it simple—the fingers are numbered! Choose number 1 and you're there. JR has a raised dot in the lower right of its number 1 finger. It doesn't matter as much with HiTEC, as there are an even number of splines, and two of the fingers (out of four) will be right at any time.

Incidentally, the number of splines being different is the reason why servo arms are NOT interchangeable between servos of different brands—don't try to use Futaba arms on JR servos, etc.

This also clears up the apparent servo-centering shift. Most of the servos today have electronics that are so good that mechanical centering is a thing of the past and isn't necessary. If you in fact have a servo that won't center properly, or consistently, it's probably BAD! Send it back for repairs!

*Newsletters editor comment: If it is one of the low price servos, it will cost as much to have it repaired as to buy a new one. Don't keep using a bad servo. It could cost an airplane or more)*

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### How's Your Nicads?

By Ted Brindle  
From the Suffolk Aero Modelers,  
Long Island, New York

The Nicad batteries that we use in our transmitters and aircraft wear out with time. If you have a battery pack that is more than three years old, you should be keeping a close check on it by cycling every month. If it is five years or older, you should replace it and be sure to properly dispose of the old cells. So, how do we tell the age of our batteries?

Most Futaba battery packs and individual Sanyo battery cells (which most OEM radio manufacturers use) have a two-letter date code stamped somewhere on the pack or cell. The first letter of the code is the year of manufacture and the second letter is the month of manufacture. 1996=A, 1997=B, 1998=C, etc. January=A, February=B, March=C, etc.

If you have a battery or pack with a date code of IB, it was manufactured in February of 2004. Probably still okay but keep a close check on it. The pack in my 8UAF transmitter was ZF, or June of 1995 so I replaced it. I found one pack with a date code of WC which translates to 1992; replaced that one without question.

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Those who agree with us may not be right, but we admire their astuteness. Cullen Hightower

## How to Adjust a Two-Needle Carburetor

From the Spirit of St. Louis R/C Flying Club, St. Charles, Missouri

Typically, carburetors come from the factory close to being preset. If you have torn down your carburetor for a thorough cleaning and examination, or you just want it to run right, here's a good starting point.

With the throttle barrel in the full open position, close the high-speed needles until it stops. Then, back it out three turns. Now, with the throttle barrel almost closed, do the same thing with the idle mixture screw. This is your baseline.

Some carburetors have a throttle-stop screw. Usually we set these so the air hole in the carburetor barrel completely closes off at full low throttle trim. When adjusting some idle mixture screws, the carburetor barrel wants to rotate and get pushed inward, making it a little difficult to get a good setting. All you have to do is lock the throttle arm so it cannot rotate or go in while you are adjusting the idle mixture screw.

Here are 10 steps for setting up almost any two-needle carburetor:

1. Start the engine and go to full power.
2. Set the high-speed needle to maximum power and back off about  $\frac{1}{4}$  to  $\frac{1}{2}$  turn.
3. Go back to as low an idle as you can achieve.
4. Turn the idle mixture screw until the engine stops. While the engine is off, back the idle screw out  $\frac{1}{2}$  to  $\frac{3}{4}$  turn.
5. Restart the engine at idle.
6. The engine should be idling pretty well.
7. Reset the high-speed needle to maximum rpm and back off 200-300 rpm.
8. Return to idle and let the engine idle for about 15 seconds.
9. Quickly move the throttle to full power and listen to the transition from idle to full power. If it instantly goes to full power, you are finished.
10. If it hesitates or sags a little, it is still too lean. Back out just  $\frac{1}{4}$  turn. Repeat step 9.

When you are finished, at about  $\frac{1}{2}$ -trim setting, you should be getting a good fast idle at high-throttle trim. You should be able to shut the engine off at full low-idle trim. That's all there is to it!