

Ramblings

Official Newsletter of the Roxbury Area Model Airplane Club



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AMA Charter #429

Missing Man Ed Smith

Ed Smith passed away unexpectedly on September 5th. Ed wasn't seen at the field too often, but when there was a RAMAC club meeting the smart bet was Ed would be there. Whenever the club started talking about something that needed a sign, Ed always raised his hand. We can thank Ed for our combat hats, the "No Cell Phone" sign and the transmitter pins at Pocono. No, Ed didn't make the "No Dogs Allowed" sign at Pocono. Yes, that is really supposed to be a dog. Although Ed was in another club and rarely came to our field Ed was one of RAMAC's most active members.

If you did see Ed at the field you knew one thing... it was Stick combat day! Ed **LOVED** combat! Ed always had an ear-to-ear smile the entire day even when holding a battle-scarred airplane with a missing engine. Ed loved combat so much he even created and sold foam wings and wood fuselage kits for our combat planes the Balsa USA Stick 40. I always bought the foam wing and fuselage kits from Ed as did many others. They will be missed. Win or lose Ed always had a smile on his face after each round of combat. I recall vividly Ed shaking my hand with that joyful ear-to-ear smile after our battles saying, "good battle Dan"! I will miss Ed, the club will miss Ed, and so will the combat skies. Ed's obituary follows as published in the NJ Star Ledger on September 9th 2010.

Edward R. Smith, 67, of Blairstown, N.J., died on Sept. 5, at Morristown Memorial Hospital, Morristown, N.J. A memorial visitation will be held from 11 a.m. to 3 p.m. on Saturday, Sept. 11, at Newbaker Funeral Home, 200 Rt. 94, Blairstown, N.J. Interment will be private at Port Murray Cemetery. For directions to the funeral home, please see Newbaker.com. Born in Brooklyn, N.Y., Ed was a son of the late Robert S. and Elaine Smith. He was a true All-American entrepreneur. He was a former builder and he was the founder of Ramparts Inc., and the former owner of Sign Language. Ed was a former Blairstown Rotarian and was the former chairman of District 7470 of Rotary Gift of Life, and with his wife, Barbara, helped expand the program. In addition, he was a member of Blairstown Business Association and Blairstown Aeromodelers, and an avid NASCAR enthusiast. A guy with a great smile, who could not say "no"



Ed Smith with an ear-to-ear smile holding his battle-scarred plane during a RAMAC combat contest at Great Meadows

or "it's not possible." If you knew him, that's only the beginning of his story. Ed is survived by his loving family, his wife, the former Barbara C. Carroll; a son, Scot, of Dallas, Texas; a daughter, Wendy Smith-Stelzer and her husband, Ronald, of Succasunna; two grandchildren, Kyle and Jillian, and five sisters. Donations, in lieu of flowers, may be made in Mr Smith's memory to Deafness Research Foundation, 641 Lexington Ave., 15th floor, New York, N.Y. 10022, online: www.drf.org.

-DAN VANNIEUWLAND
NEWSLETTER EDITOR

RAMAC ANNUAL MEETING NOTICE

OUR ANNUAL MEETING IS DECEMBER 14th AT THE EISENHOWER SCHOOL. If you are going to make only one meeting this year this is the meeting to attend. Officers are elected at this meeting and **POSSIBLY**

OTHER IMPORTANT CLUB DECISIONS FOR 2011! There are no new nominations to date. If you would like to run for an officer position or would like to nominate someone please contact a board member. **THIS IS YOUR NOTICE TO ATTEND!**

-RAMAC BOARD

RAMAC Auction November 9th

We will be doing things the same this year as we did last year. The first two hours will be "Lebanon style" flea market sales. Followed by two hours of "Wolfman" style auctioning. "It's your auction so get me started". All sales will be cash and carry. There is no entry fee but the club will get 10% of all sales from both the flea market sales and the auction. All sales are final. RAMAC is not responsible for items purchased being in any state or condition. Purchasers are responsible for item inspection and for determining if the item is what they "must have". Date of the Auction/Flea market will be the first meeting of Nov. (the 9th). We will begin setting up at 6pm and Auction sales will begin at 8pm. I will be seeing you there.

<u>DATE</u>	<u>DAY</u>	<u>EVENT</u>
All Year		The Great American Crepe Paper Tow Contest CD, Bob Karasiewicz
Nov. 9th	Tuesday	Club Meeting and Auction Eisenhower School, Roxbury NJ
Nov. 23rd	Tuesday	Club Meeting Eisenhower School, Roxbury NJ
Dec. 14th	Tuesday	Club Meeting and <u>ELECTIONS</u> Eisenhower School, Roxbury NJ
Dec. 28th	Tuesday	Club Meeting Eisenhower School, Roxbury NJ

KEEP THE 2009 CALENDER UPDATED. CONTACT DAN VANNIEUWLAND

This event is open to all interested in getting RC equipment at a reasonable price. If you are tripping over it in your shop and don't even remember what it is or why you purchased it, bring it in and sell it for a few bucks. This will get it out of your way and make the club a couple of bucks too.

-Lew Wolfman" McCarthy
Auctioneer

Manuver of the month

The Electrostick project

Gerald Lehr of Germany sent me an e-mail where he electrified a Stick 40. He used an AXI 2826/10 and 4 LiPo cells. He said it had straight up performance. That got me thinking-wouldn't it be great to have an electric Stick in next years combat! Well I tried to electrify one of my Stick 40's. I had a 2836 motor and a 40 amp speed control. On 3 cells it turned 5700 on a folding 10/7 prop. It drew only 10 Amps. I thought, "That's not enough" So having only

another 3 cell pack, I hooked them up in series. 11,000 for a few seconds then, all this smoke started to come out of the motor. It slowed down to 0 and started to vibrate back and forth. Should have waited and tried 4 cells and a larger prop. I couldn't get that darned smoke back in the motor, oh well. It turns out that the Axi motor nomenclature is not the same as most other electric motors.

My 28-36 motor was way too small. A word about electric motor sizing-the 28 refers to the diameter of the 'can' holding the magnets, the 36 refers to the length of the motor.

Now I knew I needed a 'MUCH' larger motor. One became available. Skip Berka had a 5055 motor that stopped working. When I say stopped, I mean it stopped (froze) in mid air.

It turns out that these motors are put together with the 'can' holding the magnets screwed onto the front plate with the prop drive. You do know that in "outrunner" electrics, the whole motor turns with the prop and the inner wire windings are held fast to the back-plate and motor mount.

In the case of this motor the 'can holding the magnets unscrewed itself from the prop drive front plate and hit the stationary back-plate. This 'can' has left hand threads which when driving the prop tries to unscrew from the prop drive. When it succeeds, it stops. At first I just screwed it back, mounted it on an old, dirty, much repaired and heavy Stick 40. And flew it with a 40 amp speed control and a 12/6 prop (that prop was handy). It pulled 42 amps and turned 11300 RPM on 6 cells.

That's 924 Watts. Since 1 horsepower is 750 Watts, that's about 1 and 1/4 HP. The Stick flew like it had a Supertigre 40 on it; not bad, but I wanted at least Supertigre 45 (with a tuned pipe) performance. That combo produces about 1 and 3/4 HP or about 1200 Watts.

The saga is continuing and I'll have more for the next issue of the newsletter.

BOB KARASIEWICZ

Servo Arms

"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? 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—two, four, even six. 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 one is assumed at 0°, finger two (rotating clockwise) is placed at 3.6° offset, finger three at 7.2°, and finger four at 10.8°. (For Airtronics/JR, use multiples of 3.91°, and for Hitec use 3.75°.)

RAMAC
ANNUAL AUCTION

Tuesday
November 9th

Eisenhower School

"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.

One of those fingers will be right. (Actually, Futaba makes it simple—the fingers are numbered! Choose number one and you're there. JR has a raised dot in the lower right of its number one finger. It doesn't matter as much with Hitec, as there are even numbers 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

-RICHARD LINDBERG
FROM THE ROCKY MOUNTAIN FLYING MACHINE,
ALBUQUERQUE,
NEW MEXICO

DEANS CONNECTORS

As I continue to discover more and more about the mysteries of electric flight, I'm never surprised when something that I initially think is a big problem turns out to have a simple solution once I understand the nuts and bolts about it. I'd like to share one of my latest learnings that supports this truth.

I've always been very mechanical and understood mechanical things. I also have always had a great deal of confidence about using tools and getting the feel for them very quickly in order to make them work for me. That being said, I found myself getting a little rattled just using a soldering gun as I was putting together the "system" on my first electric-power project. After purchasing the motor, speed controller, and battery, I eagerly started to string things together.

I started by soldering the bullet connectors to the three wires coming off the motor. I spoke with Matt at the Prop Shop and he instructed me to fill the pocket of the bullet connector with molten solder, then plunge the wire in, holding it until the solder cooled. The first obstacle I had here was that I simply didn't have enough hands to hold the clamp while trying to melt solder into the bullet connector. I overcame this by wrapping a rubber band around the handle of a pair of needle nose pliers. I was then able to position the bullet connector with no problem for assembly to the wire. I also quickly realized I had to slide the shrink tubing as far up the wire as possible before putting the bullet connector on. There is enough heat transmitted an inch or so up the wire to shrink the shrink tube.

Now it was time to solder the Deans-style connector onto the battery leads and the speed controller. One month ago I didn't have the foggiest idea what a Deans Connector was. Now, here I am buying them at the Prop Shop and trying to tie them into my

power system.

I read the instructions on the back of the pouch that the connector set came in, and the instructions told me to tin (pre-apply solder) to the wires and connectors then touch the two together, add a little heat and you should have a good bond, ready for shrink tubing right? Wrong! By the time I was able to melt the solder on the connector, the tab had melted the outside of the connector, allowing the tab to move out of position. Also, it seemed like an extended period of time before the solder would cool enough for handling due to heat being retained in the connector body. I also found that the bond between the wire and the tab was not very strong and was easily pulled free.

After a long frustrating struggle, I was successful at getting one set of connectors soldered in place. However, when I tried to plug the two connectors together, the tabs were so far out of alignment due to the melting of the outside shell, they simply would not go together. After ruining three or four pairs of connectors, I finally stumbled upon a solution.

I found if I first plugged a set of connectors together and afterward started the tinning/soldering process. I had much better success at a well aligned connector. I also noted that the solder joint seemed to cool quickly along with the tab alignment remaining intact and showing great bond to the wire. Having the connector plugged together also gave me enough material to hold in a vise for soldering. A couple of other observations I want to point out that seem to make sense to me after going through the process of assembly are as follows:

- Lightly sand the tab where you intend to solder, giving the material an opportunity for "tooth."
- Always assemble the female portion of the connector to the battery side. By doing this, you won't be as likely to inadvertently short out your battery because the terminals are not exposed.
- Maintain a standard for your connectors for positive versus negative. Doing this, you'll finally have flexibility for switching between batteries and speed controllers. Typically, Deans Connectors recommend the wide end be utilized as the positive side.
- Have an extra set of connectors available that are used only for the assembly process. This way you won't power up the speed controller when doing assembly. Also, if you do utilize a set only for assembly, be sure to put the shrink tube over the

exposed terminals to minimize the risk of a short.

- Use shrink tube over your solder joints. Shrink tubes serve two purposes. First and foremost, it acts as an insulator, minimizing the potential for a short. Second, it adds strength to the wire just behind the solder joint reducing the opportunity for wire fatigue.

Good luck and don't let the electricians scare you. I've been finding that when I first started getting involved with electricians, the amount of confusing information was intimidating. Learning and understanding a piece at a time starts to add up quickly, making the process manageable. Hopefully I've been successful giving you a tip that will help you in your own building.

-PHIL LAPERRIERE
From the Radio Control Club of Detroit,
Clinton Township, Michigan

Tips & Tricks

Gluing on Canopies

Before gluing on your airplane's canopy, put a small hole in some obscure place to allow air circulation under the canopy. This will keep your canopy from popping off in the summer when the air inside expands or from collapsing in the winter when the air shrinks.

Soldering Wires

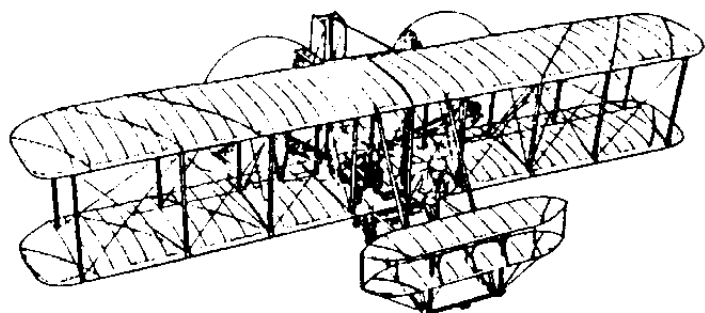
Unless you have nerves of steel, it's difficult to hold two wires still while you solder them together, even if one is clamped to your workbench. An easy solution to this problem is to glue two wooden clothespins to a wooden base, about an inch apart. Now, slip the wires to be soldered into the clamping part of the clothespins, and they will be held together without jiggling. You can put the clothespins side by side rather than nose to nose. This keeps them from interfering with longer wires. You will probably have to sand the gripping part to create a larger grip area.

-from the Beachmasters RC Club
Ocean Park, Washington

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Visit the RAMAC Web Site!
www.ramac.org

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RAMAC
Holiday Party
January 2011
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