

R/C
SOARING DIGEST
Radio controlled
THE JOURNAL FOR R/C SOARING ENTHUSIASTS

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R/C SOARING DIGEST

Radio controlled

THE JOURNAL FOR R/C SOARING ENTHUSIASTS

ABOUT RCSD

R/C Soaring Digest (RCSD) is a reader-written monthly publication for the R/C sailplane enthusiast and has been published since January, 1984. It is dedicated to sharing technical and educational information. All material contributed must be exclusive and original and not infringe upon the copyrights of others. It is the policy of RCSD to provide accurate information. Please let us know of any error that significantly affects the meaning of a story. Because we encourage new ideas, the content of all articles, model designs, press & news releases, etc., are the opinion of the author and may not necessarily reflect those of RCSD. We encourage anyone who wishes to obtain additional information to contact the author. RCSD was founded by Jim Gray, lecturer and technical consultant.

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R/C Soaring Digest
556 Funston Drive
Santa Rosa, CA 95407

phone: (707) 578-7871
e-mail: rcsdigest@aol.com

<http://www.b2streamlines.com/RCSD.html>

RCSD Staff

Jerry Slates - Editor/Technical Editor
Judy Slates - Managing Editor, Subscriptions
Lee Murray - RCSD Index/Database
(available on-line)
Bill & Bunny Kuhlman - RCSD Web Masters
PayPal Coordinators

Feature Columnists

Bill & Bunny Kuhlman (B²),
Lee Murray, Tom Nagel, Mark Nankivil,
Dave Register, Steve Savoie, Jerry Slates,
Greg Smith, Gordy Stahl

Artwork

Gene Zika is the graphic artist
who designs the unique ZIKA clip art.



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..... "Modifying & Building the MB Raven (Parts 1-4)" by Bill & Bunny Kuhlman
Bookshelf Listings - A listing of recently published books of interest to aeromodelers.
Complete RCSD Index, 1984-2001

The Soaring Site

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In response to popular demand, you can now start or renew an *R/C Soaring Digest* <<http://www.b2streamlines.com/RCSD.html>> subscription through PayPal, thanks to Bill & Bunny Kuhlman!

Purchase buttons are on the *RCSD* subscription page <<http://www.b2streamlines.com/subscription.html>>. Payments are made through B2Streamlines.

Back issues and sample copies are available and can be ordered on the subscription page <<http://www.b2streamlines.com/subscription.html>> as well.

Questions and comments regarding PayPal and *RCSD* should be directed to Bill & Bunny Kuhlman at <bsquared@b2streamlines.com>.

All other questions and comments regarding changes of address, remaining length of an existing subscription, *RCSD* editorial content, etc., should be directed to me at <RCSDigest@aol.com>.

New subscriber question

Having established PayPal earlier this month, we received quite a few requests for new subscriptions. One request was from Kentucky. Being so far behind schedule, the new subscriber checked in to see what was up. His response was so funny that we just had to share it with all of you!

("Facetious comments to follow, legal disclaimer")

"Looks like the California trip must have really been tough on you guys. Wagon train, over the rockies? Your last name isn't Donner is it? 5 months behind?! That California lifestyle must really be relaxing. Your not "DSing" with a new type of composite made of my *RCSD* issues are you?

"By the way I'll be happy when the

next issue gets here regardless. :)

(signed) Paul Cox, Kentucky

-in regards to soaring-"The truth will set you free!... or get you committed ..."

Paul, we appreciate your understanding and support! In regards to relaxing, I hate to say it, but we gotta move back to Texas in order to enjoy that luxury! Hadn't thought about the "DSing" notion. I'll have to suggest that to Jer!! Thanks for the suggestions! :-)

Coming Soon

And, with that, for those of you looking forward to reading the "Butterfly and Moth Airbrushing Tutorial" by Joedy Drulia, it's coming soon! We plan to start with the next issue. It will also be made available on-line in beautiful color, as well! (Sorry for the delay, Joedy!)

Happy Flying!
Judy Slates



Dave Jones' R-2

This month, our "On the 'Wing..." column, written by Bill & Bunny Kuhlman, concludes with Part 4 of their in-depth construction series covering Dave Jones' R-2. The previous construction articles on the Raven appeared in the June through September 2001 issues of *RCSD*.

Shown on the cover this month is Bill Kuhlman, the modified Raven in his left hand. In order to view the beautiful color scheme on the Raven, check out the *RCSD* main web page at <<http://www.b2streamlines.com/RCSD.html>>.



Jer's Workbench

Jerry Slates
556 Funston Drive
Santa Rosa, CA 95407
RCSDigest@aol.com

Custom Workbench Design

Now that we're kinda settled in our new home, I'm contemplating unpacking the models that made the trek to California from Texas. I'll likely find that some repair will be necessary, and thoroughly expect that some of the models sustained a bad case of hanger rash during the 1861 mile move.

In order to make repairs, a workshop is obviously required. And, it will have to fit in the garage, sharing space with washer, dryer, pantry, etc. So, I'm giving the design a lot of thought.

Since the main, most needed configuration for any workshop, centers around a workbench, it becomes my primary focus. I ask myself, "What kind of a workbench will work best for me? Should I go down to the local supply store and purchase an 8 foot folding table, or should I purchase boards, instead, and nail them to the garage wall?" Frankly, because I do a lot of building, I want a workbench designed for comfort, as I'll likely be spending a lot of time there. Over the years I have found that comfort is important. If I'm not comfortable, things don't get done right.

So, what's a comfortable workbench design? Well, if 27 engineers were locked in a room in order to provide us with the answer to this question, I suspect we'd get 27 different answers! The design obviously hinges on the type of work that will be performed. Right?

- A solid bench is a must, as power tools are quite heavy, while model airplane construction does not require quite so solid a work surface.
- A 6 foot length would be OK, but lumber comes in 8 foot lengths. It won't cost any more to go the extra 2 feet.
- And height? Well, I'm 6'1" and

find that a 42" high bench works well for me. By not having to bend over, I don't have to worry about developing back pains. And, a 30" bar stool works quite well with that height.

- About 24-26 inches seems about right for width.

So, we have envisioned a solid workbench that's 8 feet long, 42" high, and 24-26 inches wide. What's so comfortable or special about this design? Let's add a few accessories and see...

- A small drawer is handy as it can hold miscellaneous items such as pins, screwdriver, etc.
- An AC power strip provides easy access to power without all the juggling and hassle of cords under the table. It will likely be accessed from the ceiling.

- Holes will be drilled, and "T-nuts" installed, so that tools can be rotated or moved around as needed (vise, bench grinder, drill press, bandsaw, etc.). If power tools are removed from the workbench surface, I'll be able to lay down a butcher block building board to build the models on, or lay out the foam cutting tray with the foam cutter mounted on it.
- And, of course, casters are a must. If, for whatever reason, we need to move the workbench out of the way, those wheels will certainly come in quite handy!

Well, as I said earlier, this is how I envision building the new 'bench'. However, I have yet to start, and if any of you have designed and build a special 'bench' I'd sure like to hear about it. Just drop me a note, or e-mail to <RCSDigest@aol.com>.



About the Back Cover "RC Soaring... A Laughing Matter"

The back cover depicts one of Gene Zika's cartoons. He's the graphic artist that designs our unique clip art. Numerous pieces of Gene's artwork have appeared in *RC Soaring Digest* over the years.

RC Soaring... A Laughing Matter is a published book by Gene that includes 200 original cartoons on a variety of topics, from club

meetings and construction to winch line and thermal. Insightful, humorous, and downright hilarious, Gene's cartoons are truly works of art. Due to cartoon proportions, the book is printed in 7" x 8 1/2" format, 205 pages, fully illustrated.

For those interesting in obtaining the book, it can be ordered via PayPal through the B2Streamlines web site:

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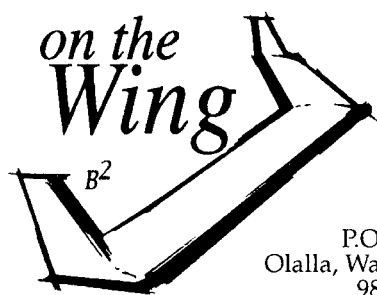
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Dave Jones' R-2, Part 4

Great flying weather and a willing accomplice were at the 60 Acres flying field at the same time we were, so we finally got to test fly the R-2!

The airframe was completed at the end of the third installment, so this column will be devoted to fiberglassing and painting the fuselage, covering the wing and fin-rudder assemblies, installing the radio gear, and test flying.

Fiberglassing and painting

The fuselage was entirely covered with fiberglass and polyester resin before painting. The bottom of the nose and the lower part of the ventral fin were first reinforced with a strip of six ounce cloth as these areas receive a lot of abuse. Lightweight 0.6 ounce per square yard 'glass was then used over

the rear portion of the fuselage to seal the wood and form a base for the primer. Three ounce cloth was applied over the entire front end, including the canopy.

Following some sanding, an initial coat of Zynolyte Spay-Mate gray primer was sprayed on the fuselage. We like using primer as it sands easily, can be used to fill any pin holes, and makes imperfections in the surface easy to see. After wet sanding three or more applications down to bare 'glass, a final light coat is applied. When entirely dry, this last coat is smoothed out with 400 grit sand paper to allow the paint coat to firmly adhere.

We used gloss black Zynolyte for the fuselage. We would have preferred gloss white, but the yellow, green and blue chosen for the wing and vertical tail clashed severely. Black really absorbs sunlight and the canopy area can get pretty hot if the aircraft is left in one position for very long. Under these conditions it's best to take a light colored cloth and throw it over the canopy area. In flight, the aircraft is always turning and the problem pretty much disappears.

After painting, the center section of the wing and the fuselage were glued together using 30 minute epoxy. The fuselage structure is such that there is a large surface to which the wing is attached. Alignment must, of course be

predetermined, and small adjustments are necessary after contact between the two pieces is made. Slow cure epoxy makes this an easy process.

Covering

We decided long ago that the color pattern for the R-2 would be similar to that of the modified Raven which we built a couple of years ago. While the Raven was covered in red, orange, and yellow, all transparent, the R-2 was to be covered in blue, green and yellow, again all transparent.

The idea behind the color pattern is to have the yellow portion extend across a portion of the span, the green/orange to extend across 2/3 of that distance, and the blue/red to extend across 2/3 of the green/orange distance. Mathematically, this turns out to be

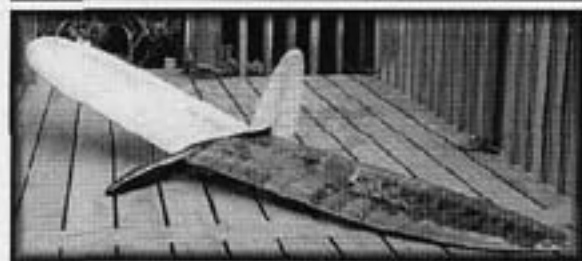
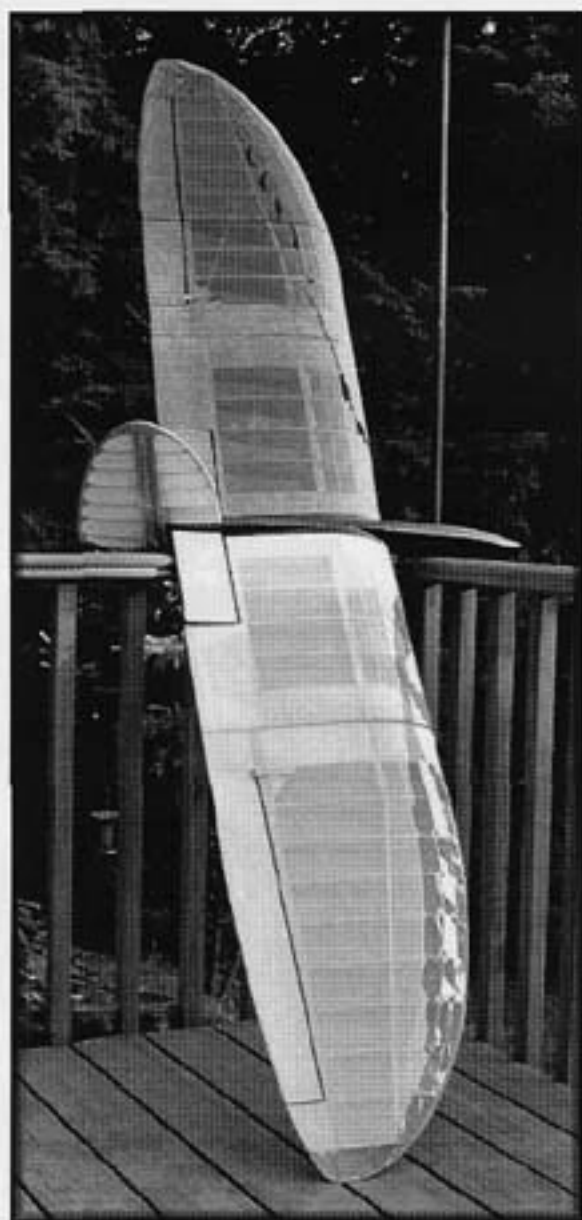
$$b = X + 2X/3 + 4X/9$$

where b is the wing span (100 inches in this case) and X is the portion of the span to be covered with yellow.

Solving for X, yellow should cover 47.6 inches of the 100 inch span. Following the preassigned proportions, green/orange will then cover 31.7 inches, and blue/red will cover 21.1 inches. (See, there are everyday uses for algebra!)

On the R-2, the ribs are three inches apart, so things work out fairly well once the black of the fuselage is used as the barrier between the green and yellow areas. As you can see from the photos of the covered airframe, the resulting color scheme is rather unique. The transparent covering allows the interior structure to be seen (including the identifying numbers on the wing ribs), and it looks great in the air, too!

We had originally anticipated some problems in covering this wing as it is filled with compound curves. The rib shape includes areas of concavity, the 1/8th inch turbulator spars in front of the leading edge have flat tops but bend downward and back as they track to the wing tip. The wing tips themselves are constructed of plywood sheet and triangular "ribs" which support the covering. The fin and rudder assembly poses the nearly same problems.



The covering must be pulled under heat and stuck to the framework in very small increments. The transparent coverings really lend themselves to this method. Planning ahead is a necessity, and extensive prior experi-

ence with iron-on coverings allows things to go much more smoothly.

In the end, the covering process went extremely well and the finish is very nearly perfect.

Radio installation

Readers of previous installments will remember that, as with most projects, a few unforeseen difficulties appeared during the construction process. Due to clearance constraints in the forward portion of the fuselage, the rudder and elevator servos had to be oriented diagonally. Additionally, the elevator servo drives only one pushrod, and the elevator pushrod just happens to go directly over the receiver compartment. We're quite delighted over how things worked out, however, so we've included a couple of photos of the interior of the front end.

The aileron servos have direct pushrod connections with their respective control surfaces. We wanted the external mechanisms to be on the upper surface of the wing so as to be separated from weeds and grass. The bottom hinging of the ailerons allows the control horns to be almost entirely recessed within the control surface. Despite the ball links necessitated by the swept hinge line, exterior protrusions are kept to a minimum and the installation is relatively clean, as can be seen in the included photo.

We used our JR PCM 10 radio for the R-2 due mainly to the ability to use separate servos for the ailerons and have individual control over the neutral positions and control

throws, something not available on the JR Century VII system which we use on our elevon controlled 'wings.

All three major control actions (rudder, elevator, aileron) were set up for 100%

rate, adjustable to 75% and 50% during flight by use of the appropriate three-position rate switch.

Test flying

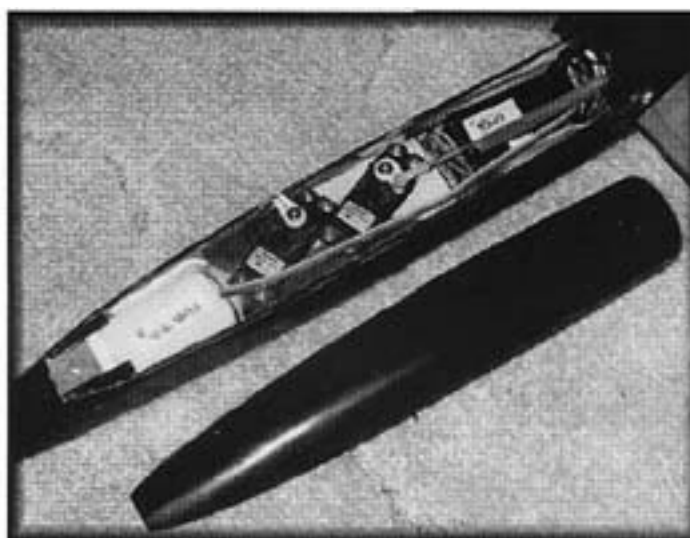
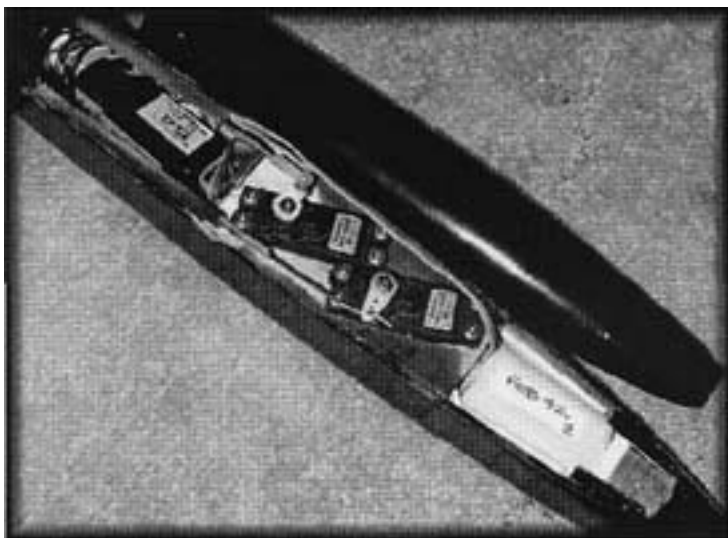
The R-2 plans show a CG range, so we marked the under side of the wing with the forward and rearward limits. The CG was then adjusted until it fell directly between the two marks. We anticipated this would place the CG a bit forward of its eventual location, as we tend to fly with a more rearward CG location.

Several runs across the 60 Acres field with the airplane being held more and more loosely seemed to indicate the CG was in the appropriate location, so actual test flying commenced with several hand launches. Elevator authority was good, and nice flat turns could be made with rudder alone, but aileron authority was much greater than anticipated, so the rate switch was moved to 50%.

Our next visit to the field was a few days later, and lots of other Seattle Area Soaring Society members were there. Bill Henley volunteered to assist with the all important first winch launch. Bill's flown some swept wing tailless slopers as well as a number of aileron equipped conventional 'craft, so we felt comfortable assigning him test pilot duties while we managed the launch.

We started with some hand launches so Bill would have some idea as to control sensitivity. The only adjustment needing to be made was a fraction of an ounce of additional nose weight. The towhook was adjusted relative to the new CG, and it was off to the winch.

Despite a forward towhook location, rotation was quick and the climb steep. No zoom, but a clean release and immediate flat glide straight out to the north, the direction of launch. The west side of 60 Acres is reserved for electrics, so Bill turned to the east and then south over the heavily grassed area. The R-2 suddenly went into a right turn and Bill said something like, "Hey, I didn't do anything. What's going on?" Despite the course diversion the R-2 did not appear to be in distress, so Bill decided to let it go and see what would happen. Another circle



to the right, then another. After about four circles, Bill reset the course to straight south again. But the R-2 was now noticeably higher than it was before the initial turn. Bill asked, "Did it just do some thermalling on its own?"

Bill asked for the aileron rate to be increased, so that switch was set to 75%. This added control authority was right on target. After some more turns, Bill set up for a landing. He was shocked by the extended glide in ground effect, but the deep ventral fin kept the aircraft firmly on the ground once contact was made.

Back on the ground, we decided to add another fraction of an ounce to the nose to eliminate the last vestiges of down trim, and couple aileron to rudder at the 100% rate to reduce the left stick workload.

The second launch was better than the first, and the R-2 was up in the air again. It hit some sink where the thermal was a short while before, but the extra nose weight has improved control feel, and the aileron-rudder coupling makes turns almost automatic. "Aileron turns are in the groove, and it flies almost like it's on rails," Bill remarks. While the vertical area and dihedral seem to be well matched and coordinated turns can be made with aileron-rudder coupling, rudder input alone leads to stable flat turns.

Positive comments come from all quarters — "It's beautiful in the air," "It's a real floater," "It looks like it thermals so easily," "Smooth landing..."

The R-2 is a floater (63 ounces and 1500 square inches for a six ounces per square foot wing loading) and reacts

positively to very light lift. It launches well and flies smoothly. It exactly matches the tasks we had envisioned for it — cruising around at low speed in still evening air while watching the sunlight refract through multicolored transparent covering. In all, the R-2 has been and continues to be a tremendously rewarding experience. Our sincere thanks to Bill Henley for doing the initial test flying!

Questions, comments, and suggestions for future columns can always be sent to us at P.O. Box 975, Olalla WA 98359-0975 USA, or at <bsquared@appleisp.net>.

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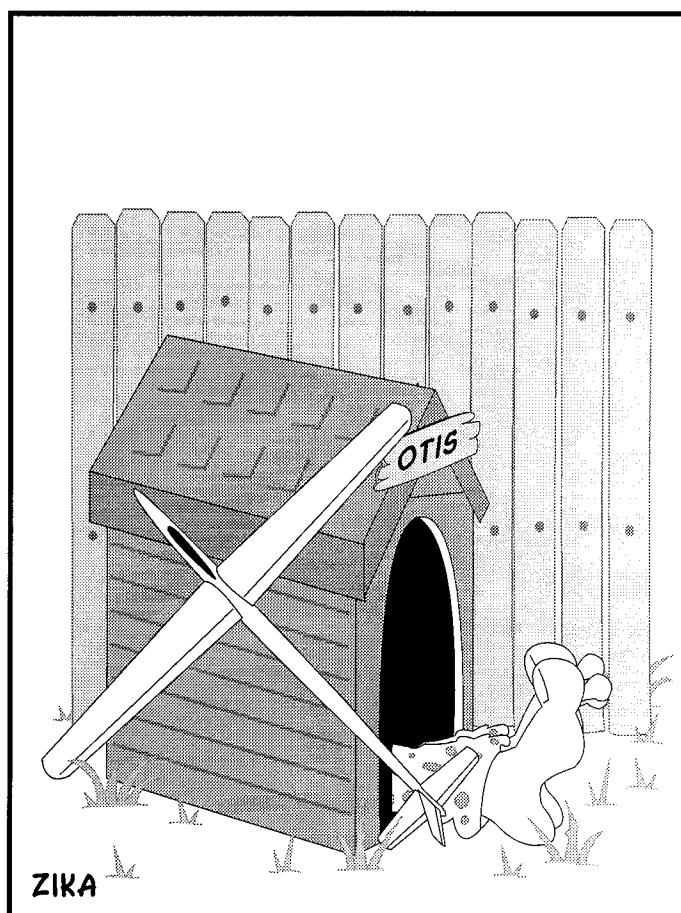
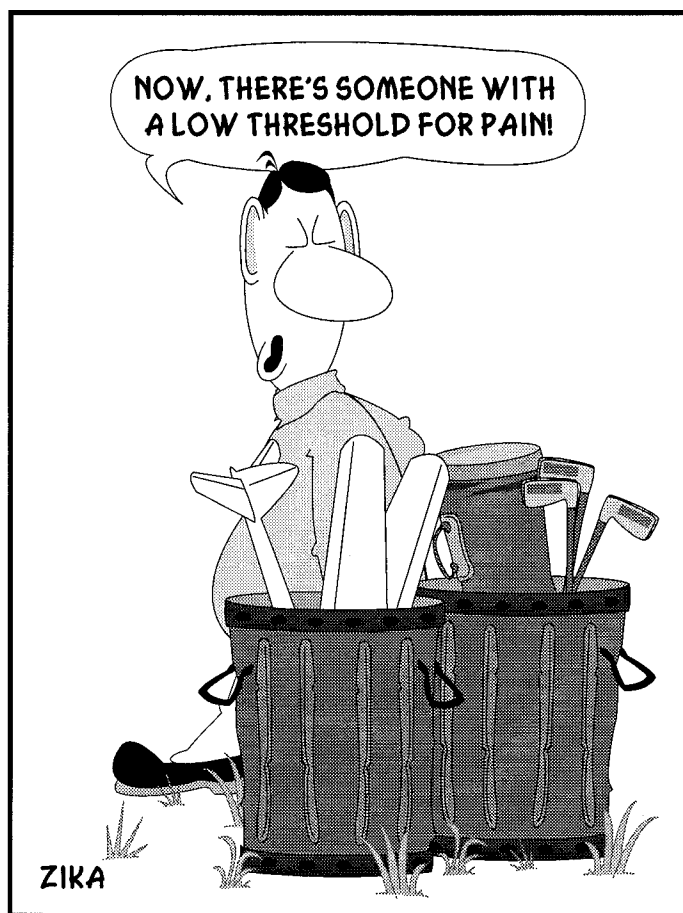
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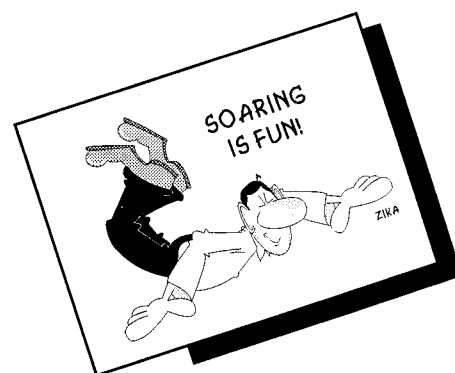
THE JOURNAL FOR R/C SOARING ENTHUSIASTS

A MONTHLY LOOK INTO THE WORLD OF SAILPLANE ENTHUSIASTS EVERYWHERE

R/C Soaring Digest (RCSD) is a reader-written monthly publication for the R/C sailplane enthusiast. Published since 1984, *RCSD* is dedicated to the sharing of technical and educational information related to R/C soaring.

RCSD encourages new ideas, thereby creating a forum where modelers can exchange concepts and share findings, from theory to practical application. Article topics include design and construction of RC sailplanes, kit reviews, airfoil data, sources of hard to find items, and discussions of various flying techniques, to name just a few. Photos and illustrations are always in abundance.

There are *RCSD* subscribers worldwide.



R/C Soaring Digest
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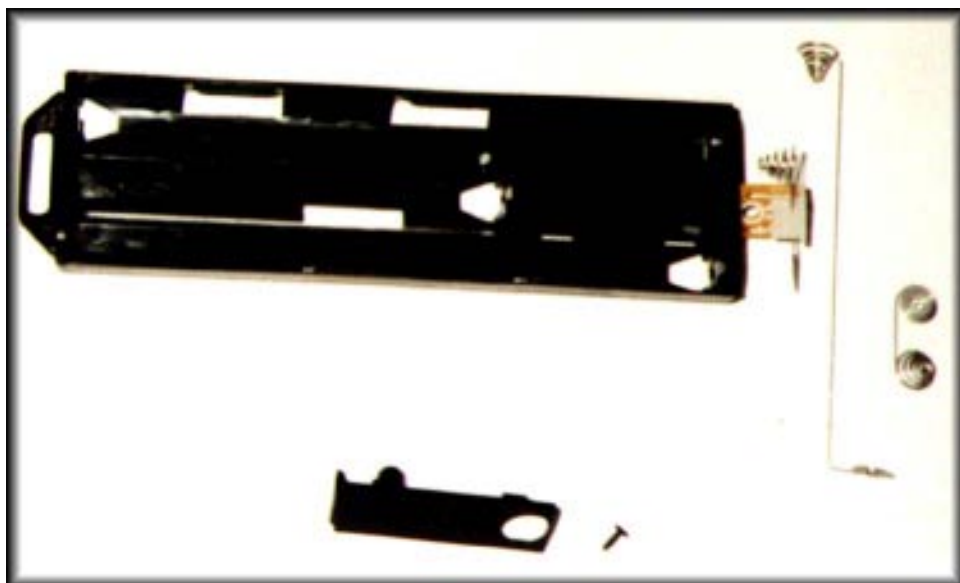
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(Left) Holder parts



Batteries in holder



Backside complete

Battery Capacity Custom Battery Arrangement

by David Enete
Member of North
Atlanta Soaring Association
Dallas, Georgia

In 2000, I decided to make my first serious (expensive) radio purchase. I shopped around and decided to purchase an Airtronics Stylus. After getting the radio set up in my open-class TD plane, I began to think about the battery capacity issue: how much battery do I have versus how much I might need during a long flying session? I really prefer to have a backup battery available at the field in case of a failure, so I started to investigate my options.

The options were quite few. I could upgrade the stock Stylus battery pack with a new cell pack from Batteries America. That would give me greater battery capacity, but would not give me a backup pack. I could purchase a second stock battery pack made by Airtronics (item 95050 for about \$38). That's a little too much money for a

700 mAh NiCd battery pack in my mind.

The final options involved the Airtronics spring-loaded dry-cell battery holder. If you ask friends for opinions, you are bound to get EVERY possible fact, theory, and rumor. I was told by some that the spring-loaded pack was fine, and would serve me for years without fail. Others said that the spring terminals would fail just like my remote control for my television. (I was told that I should be sure to pull the pack out and spin the cells in their holder each time I fly.) And others simply said I was asking for trouble by even considering the dry-cell holder. Overall, the advice alone was enough to make me worry about this consideration.

All I needed was a way to get the cells into and out of the transmitter while they stayed aligned with internal connector. So, I got a couple of the plastic bodied spring-loaded cell holders... And, had an idea.

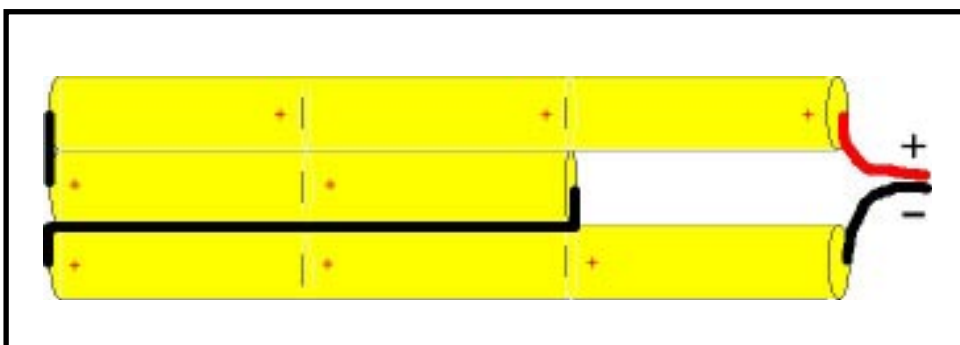
E. H. Yost (aka. Mr. Nicad) at Batteries America can make up just about any

pack you can dream up. The plastic holder from Airtronics had cells arranged in a 3-3-2 inline flat configuration (see illustration). The two cells at the end were on the outside with a "missing cell" space between them. I called up Batteries America and had them look at what I wanted to try. They said it would be no problem. The pack with 1650 mAh AA cells (NiMH) cost approximately \$35. Today you can go even higher in AA capacity with 2000 mAh NiMH cells.

A week later I had the custom made soldered and wired pack in hand (very fast turnaround). I laid the new pack over the top of the holder to get a feel for the fit and then began the transformation. Using a Dremel Moto-Tool with a cut-off wheel, I cut the dividers that sit between the cells in the holder. The remaining cavity was the same shape as the new pack from Batteries America. If you get your pack from Batteries America, you should ask that there be a space of about 3/32" between the sides of the 3 adjacent cells. This space will replace the plastic that is removed from the holder and make the fit very comfortable for the two lone cells at the end of the pack.

I also removed the wire that acts as the connectors between the spring-loaded terminals. This wire pops out of the plastic channels and can be slipped out through the openings in the holder's frame.

The space in the battery pack (between the 2 lone cells) straddles a plastic block. This block contains the charging outlet and transmitter connector. After

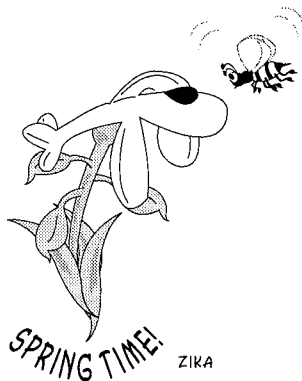


removing the plastic cover, you will find that a single Phillips-head screw holds the terminal printed circuit board in place. Once removed, the red and black leads can be clipped from where they attach to the spring-loaded connectors. Create a small opening in one corner of the plastic block and thread the battery leads through it. Carefully solder the leads to the printed circuit board and replace it in the block.

The pack can be laid in the holder, and then secured with clear packing tape (thin tape that is about 2 inches wide). I finished my pack by slipping the holder into a length of heat shrink tubing (3 inch tubing) and shrinking it tight. If you choose to use the heat shrink tubing, you will need to cut a hole for the charging receptacle after the tubing cools. Although the tubing adds a small amount of diameter to the overall size of the pack, it will still slide easily into the transmitter's battery compartment.

The holder has a plastic handle of sorts that is used to extract it from the transmitter. I found it hard to grasp. I cut a length of cloth tape (Manco fluorescent cloth tape) that was approximately 3/8" by 2". This was run through the handle and then stuck to itself to create a pull tab.

I have found this battery arrangement to work flawlessly to date. Be sure to label and date your battery packs. Knowing their history and capacity can prove to be invaluable.



In looking back, this project had several advantages for me. The quality of the battery pack is without question (thank you Mr. Nicad). The affordability of the cell holder beats the stock battery pack. The increased capacity lets me fly all day without having to be tethered to a charger or worrying about my batteries while scratching for lift far downwind. And above all, I now have a high quality spare battery on hand when flying. Maybe I'll make it to see my own LSF-V attempt someday. I'll have my custom Stylus transmitter battery pack and a spare ready.

Airtronics Inc.
www.airtronics.net
(714) 978-1895

Batteries America
www.batteriesamerica.com
(800) 308-4805



Editorial Note

Please remember that whenever you make modifications to a computer radio, you run the risk of voiding your warranty! Read the manual before you proceed and/or contact the manufacturer.



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The R/C Soaring Digest Index

By Lee Murray
Appleton, Wisconsin

The index for the years 1984 through 2001 is now complete and posted on the RCSD web page as a 238K zip file. The file contains a series of text files. Most of the text files represent two years of articles. There is also a list of the key words that are used to make it easy to find the articles. Using a word processor you can find any work or phrase you are interested in. You might even merge all the files into a large one for a global search of RCSD. The article descriptions were started when computer memory was small and expensive. That isn't the situation now but explains why we don't have a larger abstract for each article. In the latter years, multiple records are used to create a better description for the contents of the article. However, I have attempted to include information that would be useful to readers such as phone numbers and web page addresses.

Here are some examples of information from the index:

Vol: 1 No: 1 Jan-0-84 Page: 9 Contributor: Cheney, Bob
Key Words: Launching, Turn-around
A clothes dryer pulley (cast aluminum) is suggested for a Winch turn-around. Someone else suggested using a front bicycle wheel not just the axle.

Vol: 4 No: 11 Nov-0-87 Page: 16 Contributor: Devlin, Ed
Key Words: Finishing
Advice on developing your color scheme to enhance the beauty of a model.
Good article. Original and useful.

Vol: 6 No: 8 Aug-0-89 Page: 2 Contributor: Vivas, Felix
Key Words: Electric, Launching
Contest formats are described. Mfgs are heavily promoting electric soaring \$2000 cash prize being offered for winner of Astro Flight contest.

Since the beginning of RCSD in 1984, there have been many articles published.

We have 3,800 entries in the database/index. Many of the article entries take up two or more records. Even with the correction, the total number of articles would come to 2,800 articles. The most published authors are listed below. The records describe an article, letter or other significant information.

<u>Contributor</u>	<u># of Articles</u>
Slates, Judy & Jerry	185
Kuhlman, Bill & Bunny	129
Gray, Jim	122
Lehman, Robin	75
Murray, Lee	66
Savoie, Steve	65
Simons, Martin	58
Stahl, Gordy	48
Register, Dave	43
Jones, Gordon	38
Nankivil, Mark	35
Garwood, Dave	32
Nagel, Tom	30
Mallet, Fred	27
Sanders, David	27
Abell, Bruce	22
Morris, Pancho	22

About the R/C Soaring Digest Index What is it? How does it work?

By Judy Slates

RCSD was created in 1984 and, quick to see the need to be able to find information easily without investing a lot of time and energy searching back through each issue, Lee Murray created the R/C Soaring Digest index. It allows all of us to easily extract whatever pertinent information we need and has, indeed, saved me many hours. I find it a most valuable resource tool, thanks to Lee.

The index is intended to be a tool primarily for those that are RCSD subscribers and/or have access to the issues covered by the index. It can be downloaded from:

<http://www.b2streamlines.com/RCSD.html>

Our web masters, Bill & Bunny

Kuhlman, coordinate with Lee and update the web pages as updates or changes are made.

The index is available in two versions:

- Zipped text file format for PC's, or
- Stuffed text file format for Macs (created in TexEdit Plus, but should be able to open with any text processor).

There is also a link to Lee Murray's web site: LJM Associates, makers of sailplane performance software. The index can be downloaded from his pages, as well, and/or you can e-mail Lee should you have any questions.

In addition, the complete RCSD index is also searchable through an interactive web page, thanks to Greg Ciurpita, an RCSD subscriber, who created this feature. Simply follow the link.

Once the index is downloaded and opened in a word processing application, a search can be made using key words from Lee's "key words" sheet.

Or, if one knows the author, then a search can be made using the author's name. Any words can be used in the search; if the words are in the index, then the word processor will find them.

Some folks use the index to research projects; some want to know if a product or sailplane has been reviewed and exactly what's been said. For whatever reason, the index makes the work much easier, especially for me.

What happens if someone downloads the index, does not have the RCSD issues, and is 'desperate' to obtain information on a subject? Well, we've received some of those desperate messages in the past. And, we don't have a lot of back issues available. But, we're not one to ignore a cry for help. So, for those of you that are new subscribers to the pages of RCSD, if there's something you need from past issues, please send me an e-mail at RCSDigest@aol.com (or a note) and I'll see what I can do to help.

MIDWEST SLOPE CHALLENGE

?? / ?? , 2003

Wilson Lake, Kansas

URGENT NOTICE!

The future of the Midwest Slope Challenge, as we know it, is in doubt. The Academy of Model Aeronautics has proposed the following safety code revision: "Any flight activity involving the intentional collision between model aircraft is prohibited". It will be voted on by the AMA Executive Council on July 14. This proposal would effectively end slope combat as a MWSC event. Last year 50 out of our 60 entrants flew combat. You're urged to contact each and every member of the AMA Executive Council and voice your opinion. The contest you save may be your own! The names and email addresses of the Executive Council may be viewed by clicking [here](#).

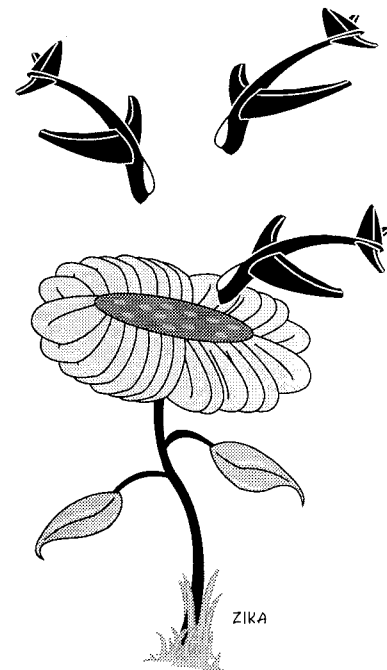
" For feedback or more information, contact:
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Tangerine Soaring Championships Orlando, FL
www.orlandobuzzards.org
September 13-15, 2002
Last Fling of Summer Broken Arrow, OK
Dave Register, (918) 335-2918
regdave@aol.com
September 14-15, 2002
Pacific Northwest HL Redmond, WA
Glider Contest
Adam (Red) Weston, (206) 766-9804
red@tgworks.com
<http://www.reddata.com/sass>
October 18-20, 2002
Deep South Soaring Championships Houston, TX
<http://home.houston.rr.com/kovacs/hawks/deepsouth.htm>
February 1-2, 2003
Southwest Classic Phoenix, AZ

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GORDY'S TRAVELS

Gordy Stahl
Louisville, Kentucky
GordySoar@aol.com



A Sticky Situation Products for Hinge Tape Removal

With all my traveling, hot cars and dusty flying sites, my hinge tape takes a beating!

I find that after a trip the joint has collected all sorts of grass, sand and bugs. Also, if it's been really hot, the tape has either stretched or 'slid' some, leaving a sloppy hinge.

One of the benefits of travel is that I can 'surf' all sorts of stores in search of... well, I never know what I am looking for exactly, but it never fails. When I see it - I know it!

That's how I found the following products for removing hinge tape goo.

The first is a citrus based goo remover, and while there are plenty of similar products that seem the same and claim the same, this one is the best I have found for painted, covered or molded wings.

De-Solv-it:

It comes in a 12 oz. clear plastic spray bottle with the name on the top of the label and the words "Citrus Solution" on the bottom. The label is blue with an orange band through the middle. The spray is a variable spray (mist to squirt) so you can meter just how much and where you put the stuff. It smells good too.

While I forgot where I got it last, WalMart carries their stuff or you can contact them at 800-877-7771. Or you can visit their web site at <www.Orange-sol.com>.

No Touch Anti-Glare

The other product I bought for my truck while working in Oklahoma and Texas. They have lots of windshield bugs there and I managed to find them all. So when I saw a product called 'No Touch', anti-glare treatment, I thought it might reduce the adhesion of the bugs to the glass. Well I never got to try it, but the other day I was cleaning up my plane's wings and thought it might be a good thing to shine them up too.

This one is aerosol spray foam and comes out thick! I just sprayed it on, found that it also took off tape goo pretty quickly, and it shinned the wing panels up too, without leaving any haze or marks. You can find this product by going to www.Notouch.com or by calling 800-348-5999. You won't find "Anti-Glare" shown there, maybe because it's a new product. But you will find some interesting products that will be great for plane care, too. I can't remember where I found this can, but I seem to recall that it was at a Big Lots or Dollar



Store. In any case, there is a retail locator option on the web site.

Traveling with a shine!


Windows Plotting Programs

Airfoil Plot 8 \$35


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Airfoil Plot and Model Design are now available for Windows 95, Windows 98, and Windows NT. Features include the ability to use airfoils downloaded from Michael Selig's airfoil data base, export airfoils in DSF format for use with CAD programs, and plot airfoil templates for cutting foam cores upright or inverted.. Nothing else to buy Over 400 airfoils plus NACA and Quabeck airfoil generators are included. Airfoil Plot 7 and Model Design 7 are still available for MSDOS and Windows 3.1 users. Shipping \$5. Send #10 envelope with 55 cents postage for demo disk. email canders@edge.net

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Open Letter Regarding the Proposed "Intentional Collision" Rule

I understand that on July 14 the AMA Executive Council will consider a rule banning "intentional collision" R/C flying. It seems that this rule would have the effect of outlawing "Foamie Combat" and I'd like to ask the EC to consider other ways to assure the safety of participants and observers in this specialized facet of slope soaring.

Foamie Combat as we know it today started about 1995 with the advent of EPP foam as an airframe construction material. EPP foam is used as a packing material for computer equipment, and has the useful property of returning to its original shape after being crushed or distorted. It allowed the development of "bounceable" slope sailplanes which were shortly used in slope combat matches, both informally and as components of AMA sanctioned events such as the Midwest Slope Challenge. Please consider the following:

1. These are "Rubber Planes."

These foam plastic planes not only shrug off damage from mid-air collision or a bad landing, they are much softer than balsa or fiberglass planes if they hit a person. The hard parts of the airframe (spar, servos, battery pack) are buried inside and surrounded by foam. I've discussed this with Park Rangers and concluded that foamie sailplanes are a low level hazard, comparable to beach volleyball, softball, or kite flying. It's not the collision with another plane that causes harm to people, it's hitting the people, which might better be addressed with a separation zone, as in AMA flight line layout rules.

2. Modeling newcomers love flying these planes.

People born after man walked on the moon are harder to impress than people born before. For the last four years I've flown foamie slope combat with my 25-year-old son and three of his buddies, each of whom have now built a second EPP foam sailplane. These guys don't have the time or interest to build a model by pushing sticks together, and typical trainer-type sailplanes hold no joy for them, but they go for foamie sailplanes and foamie combat in a big way. I'm enclosing photos of some of these fellows and their planes.

We all want to be safe, and we want to welcome new blood in the AMA. I hope the Safety Committee and the Executive Council will consider safety rules (see enclosed) which will allow this growth component of R/C model aviation, attractive to newcomers to the hobby/sport, to continue to operate as a sanctioned activity.

Respectfully submitted,

Dave Garwood
AMA 304645

Model Aviation soaring columnist SEP 1995 - NOV 1998

writer of series: "Intro to Slope Soaring" *Model Aviation* JAN, APR, JUL, OCT 2000

COPY TO:

Dave Mathewson, AMA Region II Vice President
R/C Soaring Digest, R/C Soaring Exchange, ISR slope soaring discussion board
Mike Garton, Loren Blinde, Tom Henscheid, Dave Sanders, Pat Bowman



(L) Chris, Kyle,
and Lou with
DAW Foam-51
by the seaside.

(R) Furball !
DAW EPP
FoamWulf,
FoaMe-109,
and Foam-51.



STOP PRESS!

Mike Garton's Proposed Safety Rules for Slope Combat

1. All aircraft must have only Expanded Polypropylene (EPP) foam for the first 2" of the fuse and wing with no hard objects imbedded in the first 2". This is already a common rule at contests. EPP is the springy, shock absorbent type of foam.
2. Combat aircraft shall weigh no more than 2 pounds. This limits both the speed and momentum of the gliders.
3. Pilots are not allowed to stand directly downwind of the flight area. CD's would mark the pilot area. A "no fly zone" will be enforced upwind of the pilots. This is a new idea in slope combat. Light combat planes stall and tumble downwind (up the slope hill) when they are hit. This rule alone would make slope combat very safe.
4. Combat planes can not have exposed sharp linkages or control surfaces. Nylon clevises or ball links are OK, Z-bends and other exposed metal pushrod ends are not. Balsa or Coroplast control surfaces are OK. Fiberglass, kevlar, or carbon control surfaces are not legal. Rules of this type are not currently being used in contest but would be easy to accommodate. Manufacturers and owners of existing aircraft can easily make the change.

Getting hit with a slope combat plane is very much like getting hit with a Nerf football. They have little momentum and are soft. Falling combat planes are in a slow stalled condition. Rule #3 above would make human/plane collisions nonexistent.

Slope flyers currently account for about half the people flying RC gliders and about 80% of the newcomers flying gliders. Most slope flyers join AMA only to enter AMA sanctioned slope contests. If the contests can not be sanctioned, the pilots won't join.

Compared to powered flight, their activity is relatively safe so they are not as concerned about obtaining insurance. I hope the AMA can find a way to create sensible guidelines. If the new regulation does pass "as-is", the number of people flying slope soaring combat will not change, but the number of new glider flyers joining AMA will.

Mike Garton
Model Aviation Soaring Columnist
e-mail: mike@iastate.edu

NOTE: Additional, similar safety rules in use for years are available from the Laguna Nigel Slope Soaring Guild (CA), and from the Lincoln Area Soaring Society (NE) for use at the Midwest Slope Challenge.



(L) Chris and Lou. Joe flies by. EPP foamie combat planes.

(R) DAW FoamWulf and Foam-51 do their dance in the sky.



I'M NOT SURE I LIKE THE WAY THIS
GUY IS LOOKIN' AT MY GLIDER!



ZIKA

Classified Advertising Policy

Classified ads are free of charge to subscribers provided the ad is personal in nature and does not refer to a business enterprise. Classified ads that refer to a business enterprise are charged \$5.00/month and are limited to a maximum of 40 words. RCSD has neither the facilities or the staff to investigate advertising claims. However, please notify RCSD if any misrepresentation occurs. Personal ads are run for one month and are then deleted automatically. If you have items that might be hard to sell, you may run the ad for 2-3 months.

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Reference Material

Summary of Low-Speed Airfoil Data - Volume 3 is really two volumes in one book. Michael Selig and his students couldn't complete the book on series 3 before series 4 was well along, so decided to combine the two series in a single volume of 444 pages. This issue contains much that is new and interesting. The wind tunnel has been improved significantly and pitching moment measurement was added to its capability. 37 airfoils were tested. Many had multiple tests with flaps or turbulation of various configurations. All now have the tested pitching moment data included. Vol 3 is available for \$35. Shipping in the USA add \$6 for the postage and packaging costs. The international postal surcharge is \$8 for surface mail to anywhere, air mail to Europe \$20, Asia/Africa \$25, and the Pacific Rim \$27. Volumes 1 (1995) and 2 (1996) are also available, as are computer disks containing the tabulated data from each test series. For more information contact: SoarTech, Herk Stokely, 1504 N. Horseshoe Circle, Virginia Beach, VA 23451 U.S.A., phone (757) 428-8064, e-mail <herkstok@aol.com>.

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Internet soaring mailing listserve linking hundreds of soaring pilots worldwide. Send msg. containing the word "subscribe" to soaring-request@airage.com. The "digestified" version that combines all msgs. each day into one msg. is recommended for dial-up users on the Internet, AOL, CIS, etc. Subscribe using soaring-digest-request@airage.com. Post msgs. to soaring@airage.com. For more info., contact Michael Lachowski at mikel@airage.com.



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There is a growing interest in scale soaring in the U.S. We are dedicated to all aspects of scale soaring. Scale soaring festivals and competitions all year. Source for information on plans, kits, accessories and other people interested in scale. For more information:

web site: www.soaringissa.org

Books by Martin Simons: "World's Vintage Sailplanes, 1908-45", "Slingsby Sailplanes", "German Air Attaché", "Sailplanes by Schweizer". Send inquiries to: Raul Blacksten, P.O. Box 307, Maywood, CA 90270, <raulb@earthlink.net>. To view summary of book info.: <http://home.earthlink.net/~raulb>

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Sailplane Homebuilders Association (SHA)

A Division of the Soaring Society of America



The purpose of the Sailplane Homebuilders Association is to stimulate interest in full-size sailplane design and construction by homebuilders. To establish classes, standards, categories, where applicable. To disseminate information relating to construction techniques, materials, theory and related topics. To give recognition for noteworthy designs and accomplishments.

SHA publishes the bi-monthly *Sailplane Builder* newsletter. Membership cost: \$15 U.S. Student (3rd Class Mail), \$21 U.S. Regular Membership (3rd Class Mail), \$30 U.S. Regular Membership (1st Class Mail), \$29 for All Other Countries (Surface Mail).

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The League of Silent Flight (LSF) is an international fraternity of RC Soaring pilots who have earned the right to become members by achieving specific goals in soaring flight. There are no dues. Once you qualify for membership you are in for life.

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The Vintage Sailplane Association

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Vintage Sailplane Association
1709 Baron Court
Daytona, FL 32124 USA



The Eastern Soaring League (ESL) is a confederation of Soaring Clubs, spread across the Mid-Atlantic and New England areas, committed to high-quality R/C Soaring competition.

AMA Sanctioned soaring competitions provide the basis for ESL contests. Further guidelines are continuously developed and applied in a drive to achieve the highest quality competitions possible.

Typical ESL competition weekends feature 7, or more, rounds per day with separate contests on Saturday and Sunday. Year-end champions are crowned in a two-class pilot skill structure providing competition opportunities for a large spectrum of pilots. Additionally, the ESL offers a Rookie Of The Year program for introduction of new flyers to the joys of R/C Soaring competition.

Continuing with the 20+ year tradition of extremely enjoyable flying, the 1999 season will include 14 weekend competitions in HLG, 2-M, F3J, F3B, and Unlimited soaring events. Come on out and try the ESL, make some new friends and enjoy camaraderie that can only be found amongst R/C Soaring enthusiasts!

ESL Web Site: <http://www.e-s-l.org>

ESL President (99-00): Tom Kiesling (814) 255-7418 or kiesling@ctc.com

ALRIGHT MEN, AT THE SOUND OF THE
GUN, EVERYONE "HAND-LAUNCH" YER
GLIDER! MAY THE BEST MAN WIN!

