

PROP TALK



THE NEWSLETTER OF THE
RIVERSIDE RADIO CONTROL CLUB

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2009 Membership is due

Membership form is located on page 5

We are rapidly approaching that point in which we need to send in our annual club dues. Some of you may be on the fence and are weighing the cost of membership versus how much you use the facilities. These are tough times and your editor, as well as anybody, knows what priorities must be set. I was expecting a sparse crowd at the AMA Convention last week because of the economy, however, I was very pleasantly surprised when the place was packed. I don't know how much money was spent that day, but I did see so many people greatly interested in all phases of the hobby. You can have fun, relieve stress and stir your creative juices with a very small outlay of cash. You don't need the big bucks, you just need an incentive to build, modify or repair. The club offers you an outstanding flying facility and the opportunity to be with others of like interests. We always make it clear that if you have problems in covering the

cost of membership, Larry Roberts can help you work things out. We want you as a member of this club, so please fill out the form in this issue and mail it off if you haven't already. Also, make sure you have taken care of your current AMA membership.

As we know, the meeting last month was cancelled because of weather. Rain and wind came in, with the rain leaving and the wind hanging around and being, at times, a real nuisance. Until that jet stream decides to move south, we can expect more high winds and a very dry winter. Our fun-fly will be rescheduled to a more appropriate time.

Take good note of Oscar's New Year's resolutions. We should all do something like this.



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NEXT MEETING
SATURDAY
JAN 17TH
10:00 A.M.
CROWLEY
FIELD

There are no minutes for the December meeting as it was washed out.



By Oscar Weingart

Recognition Well Deserved

In the January, 2009 issue of Model Aviation magazine, I was pleased to see that Don McGovern, long-time editor of Flying Models magazine, was a member of the Class of 2008 introduced into the Model Aviation Hall of Fame. Please read the write-up on pages 181/182 in MA. I would like to add my own postscript to the official document:

When I lived back on “Longyland” (as we Brooklynites pronounced it), in the 1960s, I saw Don frequently, especially if anything related to model seaplanes was taking place. Don was a very strong advocate of model seaplane flying. He wrote a monthly column, “All Wet” in Flying Models magazine, and he always showed up at the few early RC float flies, like the big annual N.E. Hydro-Radioplane Championships at Brimfield, Mass.

Don had a great sense of humor, especially as seen in his editorial comments in the magazine and in the “All Wet” column. He ran amusing model airplane-related

cartoons in each issue. One I remember showed a model flyer holding a dripping, partially-dissolved model seaplane, which he has just removed from an industrial waste pond where he was float-flying. This was about forty years ago and it eerily anticipated our present day environmental water pollution problems like Stringfellow.

Don’s majestic Privateer free-flight flying boats are still seen at float flies out here in the Pacific southwest, now radio-controlled, of course. Dale Yaney of our Riverside RC Club has three of them in different sizes!

One of our ancient modelers sent me a hilarious letter he received from Don, describing the first test flight of the huge Custom Privateer. It was hand-launched from a rowboat and, out of trim, commenced to do a series of giant loops, the bottom of each loop coming closer and closer to the boat, while the occupants ducked for their lives and were on the verge of jumping into the water.

As a friend and fellow float-flier, I was privileged to appear in “All Wet” several times, sometimes at a float fly, and sometimes when Don went flying with our LIDS (Long Island Drone Society) members at Lake Ronkonkoma on Longyland. I brought my original 1/7 scale RC Grumman Widgeon to the 1968 DCRC Symposium, and saw Don’s eyes light up. On the spot, he signed me up to write a construction article, which appeared in the September, 1968, issue of Flying Models. He just could not resist a model seaplane!

Don was a great modeler, a good friend, and a funny guy. He was a fine writer, editor and model airplane designer, and he well-

deserved this posthumous introduction into the Model Aviation Hall of Fame

A New Year

I hope that all who read this, and their friends and loved ones, will have had a Happy and Healthy New Year. I am making some New Year’s resolutions about my model airplane and related activities:

1. Complete a new competition scale model, either the Fleet PT-6A biplane or another Ercoupe;
2. Get lots of stick time, in order to improve my deteriorating flying skills;
3. Get at least one new 2.4 gigahertz radio system and learn to use it;
4. Buy or build an electric-powered airplane, and learn the technology;
5. Continue to improve our RRCC web site;
6. Start to teach my oldest two grandsons to fly RC.
7. At the March Field Air Museum, attain the official rank of Volunteer Docent (They get a nifty Hawaiian-type shirt with airplanes on it);

Museum Musings

While we are on the subject of the March Field Air Museum, let me put in a bit of a plug. We still need volunteers, either for the “Red Hats”, who work on aircraft restoration and maintenance, or for the “Blue Hats”, the docents who work at the front desk or office, conduct tours, and help with special events and exhibits. Let me know if you are interested.

Special exhibits now at MFAM include “To the Stars”, the Soviet side of the space race, and “He Gave Us Hope”, the story of Bob Hope and the USO.

Oscar Weingart

Epoxy can be cured

Now let's forget all those fancy chemical names for epoxy and look at some ways it can be used... and maybe some ways it shouldn't be!

First let's discuss the way two-part epoxy products should be mixed. When I say "two-part" I'm referring to the type of epoxy that requires equal parts of two different products to be mixed together. Some of the materials I use are shown in **Photo 1** to include the two-part epoxy itself, an accurate scale, mixing sticks, small brushes, milled fiberglass, baking soda, rubbing alcohol, mixing cups, and small sheets of paper.

I have had pretty good luck measuring equal amounts of Part A and Part B by eye (maybe that's why my bottle of Part A has less in it than Part B). To measure epoxy products, we really should measure them by weight. I use a digital postal scale set to measure grams

(roughly 1/28 oz.), as shown in **Photo 2** for small amounts of epoxy. For really small amounts. I use a piece of

copy paper cut into 4" squares, which I place on the scale. I then squeeze out an

amount of Part A onto the paper, noting the weight in grains. Then I zero the scale and add the same number of grams of Part B, giving me two equal parts.

Why do I use a piece of paper instead of a small epoxy cup? Because as epoxy cures it generates heat. The more epoxy there is in the cup, the faster this heat is generated.

Mixing the epoxy on a flat sheet of paper increases the heat generation time, thereby extending the working time of the mixture. I do mix larger quantities in a small plastic cup, as seen in **Photo 3**. I use 4 oz. plastic drinking cups pirated from the bathroom, or the little calibrated mixing cups found at hobby shops.

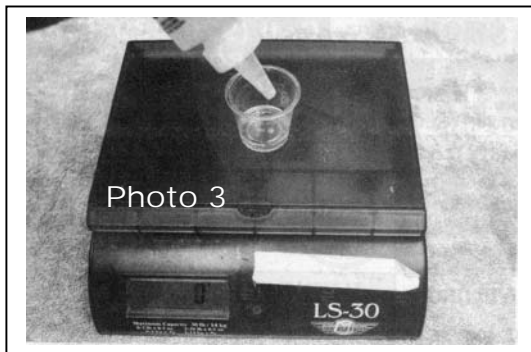
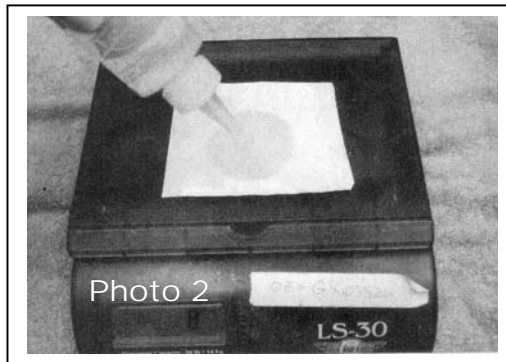
How long should the epoxy be mixed? I mix my epoxy at least 30 seconds, making sure that the mixture takes on a uniform color throughout, showing that the two parts are

thoroughly mixed. I generally use "craft sticks" which are nothing more than popsicle sticks without the popsicle. (What fun is that?) Sometimes I use scraps of thin plywood or what's left of an abused propeller. According to some reports, Gordon has a lot of these.

Now let's turn to the question of when to use 5-minute epoxy and when to use 30-minute epoxy. Since the working time of 30-minute epoxy is six times as long as 5-minute epoxy, it just stands to reason that the longer curing mixture will have more time to penetrate further into the material (substrate) on which it's applied, providing that material is porous enough to allow penetration. The use of 5-minute epoxy should be limited to areas of little stress, and perhaps quick fixes at the field. Note that I used the term "working time" above. Now let's dispel a

popular myth. Five-minute epoxy does not cure in five minutes, nor does 30-minute epoxy cure in 30 minutes. The time element is actually the "working time",

meaning how long the mixed epoxy can be handled and applied before it begins to cure and harden. Also, those times can change under varying conditions such as temperature, humidity, and the amount of epoxy being mixed. The more we mix at one time, the faster and hotter it heats up, which reduces its working time. How long does it take for epoxy to fully cure? It generally takes somewhere between 24 and 48 hours, but we all know that it's plenty strong within an hour or so. It's actually still hardening then,



and will continue to do so until it's fully cured.

Our next topic is the applications where epoxy should or should not be used, and what we can do to alter the consistency and strength of epoxy. Since epoxy contains no water that evaporates as the adhesive cures,

epoxy weighs pretty much the same when cured as it did when mixed. It's a strong adhesive, but it's also heavy. If you use epoxy everywhere when building a model, don't be surprised when it comes out much heavier than expected. We frequently hear modelers say that their latest model came out tail-heavy, only to learn that they used epoxy needlessly, when they should have used a lighter adhesive. Instant glue (CA's) or even carpenter's glue would be a better choice. CA's add practically no weight at all, and carpenter's glue (white or yellow) contain water that evaporates, leaving only about half the original weight.

Epoxy is good where high strength and vibration resistance is needed, such as firewalls, wing braces, and main landing gear mounts. Even when fully cured, most epoxies have a little "give" in them, allowing them to move just a little under stress.

Epoxy can also be used for reinforcement purposes, but here we generally add additional material to further increase its strength. Milled or shredded fiberglass can be added to thoroughly mixed epoxy that will increase the strength of the final product many times over. This material is basically fiberglass cloth that has been either milled or shredded (hence the name) and

packaged for sale to modelers. When combined with mixed epoxy, it becomes a very thick paste (see **Photo 4**) that can be

brushed or troweled into place. The added fiberglass does not seem to affect the epoxy's curing

time, but it needs to be applied quickly to allow the product to penetrate the surrounding structure.

A third use of epoxy is that of a filler material. Now don't go off ranting and raving that I said epoxy is heavy and should be used sparingly.

That's still true, but if you add a different type of material to mixed epoxy, you can have a very lightweight product good for filling holes and dents, plus it even sands easily. What is this magical product that transforms heavy epoxy into a lightweight tiller? First we have microballoons, which are tiny, hollow, glass beads that have practically no weight, and it thickens mixed epoxy to the point where it won't drip or run, making it a really good filler material. On the other hand, consider the cost and difficulty of manufacturing these tiny glass beads, and how much the user has to pay for them.

Another product that can be used to thicken epoxy and make it easier to sand may not cost you anything. Look in your refrigerator for that little box of baking soda used to absorb odors. If you take that little box out to

your workshop, your significant other will probably notice that it's gone when the cheese starts smelling like onions. When that happens, the missing box will be replaced after the next trip to the grocery store, so the box you took from the "frige" is all yours. Mix your two-part epoxy normally, add in about the same amount of baking soda, and mix it again. Be careful with baking soda at first, since it emits quite a cloud of dust while being mixed, but you'll soon have a thick, sticky wad of tiller like that seen in **Photo 5** that can be troweled into place or applied with your fingers. When this Mixture cures and hardens, you'll

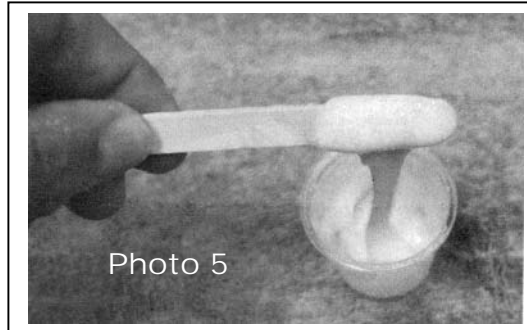
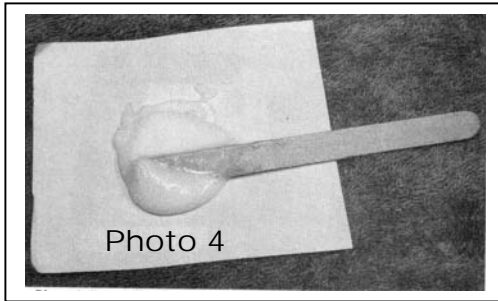
be amazed at how easily it sands, and how little weight it adds.

Still another low-cost choice is

good old balsa dust. If you've collected and saved any, use it just like baking soda.

We've used epoxy to assemble things, and we've added stuff to it to make it stronger, lighter, and/or thicker. What if we just want to apply a thin coat of epoxy to act as a fuel proofing product? Here we don't need the epoxy's full strength so we can add alcohol to thin the Mixture. Since the alcohol evaporates and leaves no weight behind, all we have is a lightweight coat of fuel-proof epoxy. Alcohol is a good product to have in one's model shop anyway, since it's great for removing uncured epoxy from things like covering material, the workbench, and your fingertips.

For thinned epoxy, mix it normally in a small cup or other disposable container. Then add a little alcohol (which slows the curing process,



by the way) and mix again. We're striving for a mixture with a consistency slightly thicker than water, but a little thinner than syrup. When you arrive at this consistency, use a small brush to apply it to your firewall, fuel tank compartment, or wherever you need extra fuel proofing, as seen in **Photo 6**. The alcohol will evaporate as the epoxy cures, leaving very little weight behind.

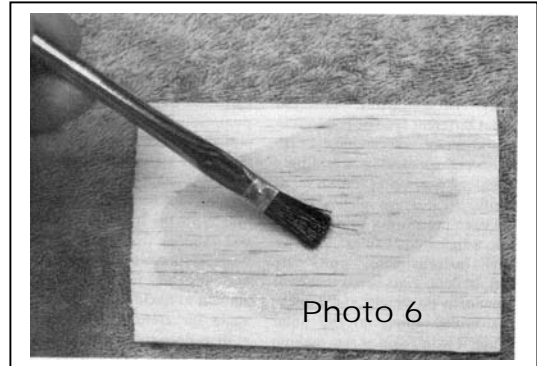
There are many brands of epoxy out there and most work fine for our uses. When you find a brand you like, however, stick with it so you'll become thoroughly familiar with it and its characteristics. They're all pretty good, but they're not always compatible with one another. Don't mix one brand's Part A with another brand's Part B.

I hope you've learned something new and/or useful here. Epoxy is a great product with numerous uses in

modeling, but it must be used correctly.

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Dick Petit, THE BIG PICTURE, R/C Report, October 2006, pp. 12-16



From Bob Aberie's column (Frequently Asked Questions) in the Dec 2008, Model Aviation (page 100) is an excellent answer to making your own decals using an ink-jet printer. Bell Inc. (www.belldecal.com) makes a water-slide decal paper that, as you can see in the photo of my Focus Sport, gives outstanding results. I used the Word Art portion of my Word program to do this decal and my AMA number. There is no limit to what you can do. You could even put your own picture on your airplane if you have no life. The decal is covered by Several coats of Krylon Crystal Clear Acrylic Coating (item 1303).

Mail Dues to:
Larry Roberts
P.O. Box 295
Homeland, CA 92548

RRCC 2009 DUES

Name: _____

Address: _____

2009 Dues Included:

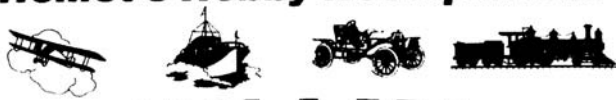
\$50 (Open)

\$10 (Junior)

AMA # _____ Phone: _____ E-Mail: _____

It's that time again; time to send in our 2009 dues. Annual fees are due by the end of January. The annual dues are \$50 for an Open membership and \$10 for those under 18 years of age. Fill out the form above, cut it out and mail it with your dues to Larry's P.O. Box. A check is the preferred method of payment as it makes Larry's job so much easier. Again, if you have a hardship let Larry know. He can help you work out a payment option.

Hemet's Hobby Headquarters



DYNAMIC HOBBIES

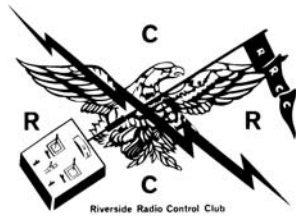
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HAPPY NEW YEAR

*May all your flights in 2009
end with a landing fine.*



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