the L.A.S.S. Edition

September 2013

Ka-Boom!!

I experienced an incident a couple weeks ago, the likes of which I have not heard of or encountered in nearly 40 years of sailplane winch flying, that I'm compelled to share with you all.

The Western Flyers Old Timer / Glider event of August 17, the assembled crowd is digesting their brats and generating conversational lift, while I'm laying out the winch at the north end of the field. They hear a rather loud "boom" and attribute it to a back-firing car leaving the field. Which, considering the last time you may have heard a car backfire, is remarkable. That aside ….

The actual source of the 'boom' was a winch battery exploding about 2 feet from my face. As we typically do, I was kneeling over the winch and tensioning the line before nailing down the winch 90 degrees to the anticipated line of retrieval.

What might have happened was that, due to a possibly defective charger now awaiting disposal in the trash, my battery (same one you've all flow on) was overcharged to the point that liquid had boiled off and exposed the battery plates. Place a load on those plates, create a spark, and watch Loren ducking the hydrogen explosion sending battery caps and acid into the air. My face seems to have survived the experience; the future of my shirt is still in doubt. The blast was strong enough that a section of the battery top actually collapsed inward.

Winch flying is still a viable means to launch gliders, just with a newfound sense of respect. A lesson learned: Even though it says "maintenance free", every now and then pop the caps and check the fluid level in your battery.

There is a wealth of information on the Internet this happening with deep cycle batteries; boats, RV's, etc. Strange how we've never considered it a hazard of sailplane flying.

Loren Blinde

August Meeting

No formal meeting was held in August and consequently there are no minutes.

How to Fix Warps, Dents, Twists, or Un-Crunch Foam Airplanes and Parts

By Ed Anderson, aeajr@optonline.net

I never crash, but maybe you do. Crashing can crunch the foam of a Radian or other foam airplanes to the point that the parts don't fit or you introduce a twist or warp as you try to put it back together. The repair can also introduce a twist or warp in the fuselage.

I am going to outline a method of getting the foam back to straight or un-crunching parts. This can also be used to take twists or warps out of new parts and it will take dents out of your foam wings or even bagged wings, like DLG glider wings.

Let's suppose your Radian, Easy Glider, Easy Star, etc., has a tendency to turn in the air requiring you to trim in a lot of rudder to get it to fly straight. How can you fix it? Well first you have to find the cause. Turn your foamy over and site down the fuselage seam. It should be straight from nose to tail. Or, tape a piece of string to the tail end of the fuselage, again inverted and then gently stretch the string to the nose. It should track down the center of the fuselage. If it does not, you have a warp. We are going to fix it.

Foam Repair (Continued on page 2)

Next CLUB MEETING
Tuesday, September 3
7:30 p.m.
Willard Community Center
Folsom & West B Street
Lincoln, NE

Regional Events

8/31	Council Bluffs, IA, Twin City's 2nd Annual Labor Day Fun Fly, Location is at "The Field" in Council Bluffs, Iowa, off of I29 and Nebraska Ave. Exit south of Ameristar Casino. This is a fly anything you want, just come, have fun, and enjoy yourself. The official date is August 31, 2013 but as always, you are more than welcome to fly on Friday and/or Sunday. There will be NO landing fee. We'll grill out and ask for donations on the food. Fun fly rules are: 1. AMA REQUIRED! No exceptions and 2. Have fun, be safe and see you there
9/1	Mead, NE, Western Flyer's 5th Annual Fall Fun Fly & Swap Meet - Swap Meet setup 9AM - Flying 10AM through 3PM
9/2	Omaha, NE (D) OMAHAWKS LABOR DAY AIRSHOW. Site: Standing Bear Lake Park. Edward Paasch CD PH: 402-496-8749 Email: bigedmustafa@hotmail.com. 34th Annual Omahawks Labor Day Airshow to benefit "Make A Wish of Nebraska". Dozens of different fly exhibitions of most every kind of model aircraft. Join us for a special day of excitement and entertainment for pilots and spectators alike! Sponsor: OMAHAWKS R/C INC
9/7-9/8	Blakesburg, IA (AA) THE RUSTY FALL SOAR IN. Site: Antique Airfield. Dennis Mccann CD PH: 563/263-7818 Email: mccann@machlink.com. Additional information available via email. Sponsor: EASTERN IOWA SOARING SOCIETY
9/15	Grand Island, NE (C) OLD TIMERS FUN FLY. Site: 1.3 Mi North Of Alda Ne. Lee Machmuller CD PH: 308.380.1048 Email: flyerhi2@yahoo.com. $20 pilot fee. Free lunch for pilots. Air conditioned club house. 540 x 30 petromat runway, 800' extended grass. Old time planes or Hiwing, no Hot rods please. Raffle prize. Sponsor: GRAND ISLAND MODELERS ASSN
9/21	Western Flyer's Old Timers Fun Fly with Glider Fly - 9AM - 3PM. Mead. NE
9/29	Waverly, NE (C) LEONARDS 57TH FALL FUN FLY. Site: Lincoln Sky Knights Field. Leonard Akert CD PH: 402/326-5970 Email: rakert@neb.rr.com. Visit: metrorcflying.com/metro_area_schedule.htm. Gates open at 9am- No Landin fee- Open flying optional. Pizza and pop lunch at 1 $5 2 Paved runway, both 450x40. One grass one paved. Sponsor: LINCOLN SKY KNIGHTS

Foam Repair (Continued from page 1)

This can happen at the factory, from a fuselage not sitting right in the box, or from a crash where one side of the fuselage compressed from an impact. This can also happen if you leave a foam airplane in a hot car for a long time. Believe me, what you will learn here will come in handy for the rest of your foam flying life.

Heat does wonderful things to foam. It can stretch it, expand it, and help straighten it. You can put twists in or take them out. You can use this when making some foam replacement parts too.

Since we are fixing the fuselage, take the wings off; you won't need them. Take the horizontal stabilizer off if it comes off. Tape the rudder so it is straight.

Try to figure out where the warp is centered. I am going to guess it will start behind the wings, somewhere along the boom. Flex the fuselage to see if you can get it to look straight. You may have to use something to apply pressure in the center of the curve on the opposite side to get it straight. If you can flex it to straight, you can fix it.

Basically you are going to apply heat to the inside of the curve as you flex the boom away from the curve and a bit past straight. As you apply heat, the gas that is trapped in the

Foam Repair (Continued on page 3)

The Lincoln Area Soaring Society, chartered by the Academy of Model Aeronautics as club #1853, publishes this newsletter. Any material in it may be reprinted without permission provided credit is given to LASS and the article author. Submit articles to the editor at the E-mail **AWorrest@aol.com**

President: Loren Blinde **Treasurer:** Jim Baker
Secretary: Tom Wild **Editor:** Allan Worrest

Foam Repair (Continued from page 2)

foam beads will expand. As the beads expand, they extend that side of the fuselage making the heated side longer and helping you take that warp out. If this was caused by a crash this will un-crunch the crunched beads.

This goes under various names, but you might hear it called the Elapor soup method as it really became popular with the Mulitplex Elapor foam models. But it works well with most bead-type foams. Easy Star pilots would crunch the nose of the airplane in a crash. They would plunge the nose, Elapor foam, it into boiling water and the foam would expand, thus the soup reference.

HEAT METHODS

Hot running tap water: You hold the part to be expanded under the hot water while you shape it. In this case you flex the fuselage just a little past straight while it is under the running hot water. The foam beads will expand, extending that side of the fuselage. After a minute or two, take the fuse out from under the water, still holding it and let it cool. Then site and see if it took. Go back under the water if needed. As tap water is only 100-140E sometimes this is not hot enough to do the job. So we need more heat.

Place the part into boiling water: This works well for small pieces like a rudder, a wing tip, or a crunched nose. You can also pour boiling water over the area.

Steam from boiling water sometimes works. Use a big pot and make lots of steam. This works well for large areas such as wings.

My favorite is using a heat gun/hair dryer to heat a wet cloth or paper towels. Don't let the towels dry out completely. You heat the wet cloth till it steams and starts to dry out. You have the part stretched while you do it, just as above.

By the way, this works well for bagged composite wings, like DLG glider wings. It can take a dent out by heating the foam under the skin. I use paper towels and my covering iron. They magically disappear. This works well for dents in your Radian, Easy Glider, etc. Here you want to be more focused, so a covering iron or a hot clothes' iron is best. Just use the tip to focus the heated area over the dent.

In each case, the purpose of the water is to keep the foam from getting too hot and melting. We want to get it up to about the temperature of boiling water, though sometimes hot tap water, 120-140E can do it too.

Using these methods I have taken Radians and Easy Gliders that have been broken into numerous smashed and crushed pieces, reshaped the foam, and glued it back together with great success. Recently I shredded my Radian while Slope Soaring. A high-speed crash through bare tree branches did a nice job on the fuselage. The wings got a few dents, but the fuselage was in five pieces. It flies today!

Regardless of the method, you want to spread the expand over a somewhat broad area, not a pinpoint. Again, in the case of dents in a wing you want to be more targeted. That is why I use my covering iron rather than a heat gun.

In the case of the fuselage we are using as our example, you want to expand the most in the center of the warp curve, but you want to extend that somewhat forward and back of the center or you will have to overheat one area too much and perhaps not have enough expansion ability to make it work.

Try it! If you have some scrap Styrofoam or other beaded foam you can try this out for practice. Take a foam drinking cup and cut out the bottom. Now do a top-to-bottom slice. Use the method above and see if you can take the curve out of the foam and make it fl at. You may not get it totally flat but you will see the impact. Note that the cup material is thin so don't heat it too much at once or you will expand all of the beads instead of just the ones on the inside of the curve. The heated beads will get bigger.

When working on a fuselage, wings, or other parts, be sure you don't introduce a twist as you do this or you will have another problem. But no worries, that can be fixed too.

Clear skies and safe flying . . .

The above article is reprinted from the July 2013 issue of the AMA Insider. My major concern with it is that applying too much heat to foam with a heat gun can potentially release some very toxic gases. Be very careful about using a heat gun, especially in an unventilated area. – A.W.