NEXT CLUB MEETING: MON APR 16th

Club meetings are held at 7:30pm on the third Monday of the month, except for legal Monday holidays, at the Pyle Adult Community Center, at the southwest corner of Rural & Southern in Tempe. Contests are held on the second Sunday of every month at Rodeo Park at the southeast corner of Ray & Val Vista Roads in Gilbert.

WingTips is CASL's monthly newsletter and as such always encourages members to submit articles for publication. All material must be given to the editor no later than the monthly contest. The editor also encourages other clubs to use any material from this newsletter, provided proper credit is given.

CHANNELS #16 & #17 have experienced problems at Rodeo Park. Use at your own risk.

Editor:
Chuck Wehofer  480-777-9733
chuck@wehofer.com

A.M.A. CHARTER #2133
FOUNDED IN 1985

CASL OFFICERS 2000-2001

HANK CAPLE  480-963-7028
ADAM JOHNSON  480-539-0336
VERN POEHL*  480-945-1957
ERICH VAN SANFORD*  480-857-1026
CHUCK WEHOFER*  480-777-9733
STEVE WILLCOX  602-249-6795

INTERNET ADDRESS:
www.casl.net

LSF
P.O. BOX 3028
Muncie, IN  47302-1028

MAR ’01 EDITION
Well here it is the first weeks of spring and everything of course is in bloom. I hope all of you that have allergies are doing okay. It is kind of tough to fly a plane if all you are doing is sneezing and rubbing your itching eyes.

At our last club meeting we were talking about our club library, both video and print-based. If you want to know what is in the library just go to the club web site and look in the Casl Info section. I have created a listing of the videos that we have plus the books and publications that have been donated. If you want to see a video or read the publication just contact me, via the List Server, and we will get together and make the appropriate exchange.

We also talked about the SWC 2001 and I gave a review on the profit that we realized from this contest. This was probably the most profitable both in total dollars and on ROI. The club made approximately $5,300 off the contest with just about a 32% ROI on what we spent. So our club checking account is not doing to bad we have just about $13,000.

Now the next thing we need to think about is what we need to get to upgrade our flying site. One of the things that we have talked about is to purchase a shade structure of some sort. Dave W. and I have come to the conclusion that the shade structure will be the first thing that we get. Cost Co. sells a real nice one that is not permanent but will be easy for us to install. It is not the type that we tear down at the end of the day, and it is not so expensive, that if it does get vandalized it is too much to replace. So I will in the next couple of weeks get one maybe two, then we can fly in the shade. We have talked about it in the past but we probably will be looking at buying some more instructional videos for your viewing pleasure.

I will be including in April’s newsletter the official ‘01/’02 membership form. Yes, it is getting that time again to start thinking about membership renewal. So you will see that form in April’s newsletter.

We are still having a few problems at the field with people using the field for purposes other than flying. We need to make sure that our flying site is used for the purpose that it is intended for. So let’s be ever vigilant and if we see something going on let’s take care of it. And again, we have to make sure we are always flying safe.

I have talked about this before and I have to bring this up again. The new scooter is for club members only! The scooter is not to be used by non-club members and it is not to be used by club member’s children. It has occurred a couple of times that the scooter is being used by kids for joy riding on the field while dad flies. That is not acceptable! Remember, the new scooter can go very fast so you need to use caution when riding on the scooter. So ride the scooter at your own risk! Only one person riding the scooter at a time. And no using the scooter for joy riding! No Kids Allowed! CASL Members Only!

Well that is about it for another month. Don’t forget that tax day is slowly approaching so get out your checkbook and send in a payment to your Uncle Sam! See you next month!

MARCH 2001 CONTEST REPORT
JIM STIDHAM C.D.

The contest was interesting due to weather conditions. I chose to have three flights for 8 min each with a modified concentric ring landing zone. Do to the comments everyone seemed to enjoy themselves with this format. It allowed more flying time and not as much a landing contest. The air was on and off but mostly slightly breezy which assisted in our launching and sort of cross wind direction for landings

Thanks to all that helped open- up and set -up, as well as Joe and others that broke down. The contest started promptly at 9:00am and last flight was recorded at 11:30am. Once again thanks to all those that helped with a great hand to Garland Hanson for adding up all the scores for the contest.

<table>
<thead>
<tr>
<th>OPEN</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. STIDHAM, J</td>
<td>1534</td>
<td>6. LAIRD, J</td>
</tr>
<tr>
<td>2. TROUT, C</td>
<td>1424</td>
<td>7. BRISTER, P</td>
</tr>
<tr>
<td>3. RUSSELL, M</td>
<td>1382</td>
<td>8. VAN SANFORD, E</td>
</tr>
<tr>
<td>4. HITZEL, J</td>
<td>1367</td>
<td>9. ROBERTS, B</td>
</tr>
<tr>
<td>5. BOTHEL, R</td>
<td>1365</td>
<td>10. LANGENWALTER, M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2METER</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. STIDHAM, J</td>
<td>1258</td>
<td>4. TROUT, C</td>
</tr>
<tr>
<td>2. VAN SANFORD, E</td>
<td>1203</td>
<td>5. BOTHEL, R</td>
</tr>
<tr>
<td>3. HITZEL, J</td>
<td>1043</td>
<td>6. LANGENWALTER, M</td>
</tr>
</tbody>
</table>
I was negligent in last month’s newsletter in not giving proper thanks and recognition to the author of our tech article. I get a lot of our articles from other clubs and most of the time, when I copy it, the author and the club are identified in the title. Well last month I failed to give proper credit to Mike Glass and SLNT (Soaring League of North Texas) for the article. Thank You Mike and to SLNT.

BTW this month’s article is part 2 and next month’s article will be part 3 in the same series.
CENTRAL ARIZONA SOARING LEAGUE MONTHLY CONTests

APR 08, 2001
RODEO PARK
RAY & VAL VISTA RD's in GILBERT
SUNDAY
PRECISION/DURATION
OPEN & 2 METER
TASK: 3 RNDS 8 Min Max
LANDING: Runway
START TIME 9:00 a.m.
ENTRY FEE: $3 FOR ONE $5 FOR BOTH
AMA '01 RULES APPLY
AMA CARD REQUIRED
LAUNCH DEVICES: 12V WINCHES WITH "BIG WHEEL" RETRIEVERS
AWARDS 1st - 3rd
C.D.: Vern Poehls
PHONE: 480-945-1957

MAY 12, 2001
RODEO PARK
RAY & VAL VISTA RD's in GILBERT
SATURDAY
ADD-EM-UP
OPEN & 2 METER
TASK: 4 RNDS 23 Min 7 Min Max
LANDING: Tape
START TIME 8:00 a.m.
ENTRY FEE: $3 FOR ONE $5 FOR BOTH
AMA '01 RULES APPLY
AMA CARD REQUIRED
LAUNCH DEVICES: 12V WINCHES WITH "BIG WHEEL" RETRIEVERS
AWARDS 1st - 3rd
C.D.: Iain Glithero
PHONE: 480-831-1905
Cutting Foam Wings
By Mike Glass - a Novice

Part 2 of a three part series

Let me start this with a couple of warnings.

1) Fumes from foam cutting with a hot wire are toxic. Make sure you have plenty of ventilation when cutting foam. This is kind of tough to do when it cold, but it's necessary. A fan blowing across your work helps a lot.
2) Don't touch the hot wire. Trust me - it's really hot! (After you burn yourself, put ice on it.)

Let's cut some foam
You'll be cutting your wings from 2” foam sheets (used for insulation). The first thing you need to do is cut the foam sheets to the proper size. How you do this will depend on what size piece you start with. If you start with a 4'x8' piece, you'll need to first cut it into manageable pieces - say 2'x4'. I do this with a combination of a table saw and handsaw (it's easy to cut). You will then need to cut it down into the pieces for your wing components. Many people do this using their hot wire. I use my table saw. To cut them using a hot wire just attach two straight pieces of template material to the edge of the foam perpendicular to the surface and use them to guide your hot wire.

After your blanks are cut out, you need to start marking your foam so you don't end up cutting two left wings. Generally, wing panels are tapered so you have right and left panels. Mark the top of the panels indicating which is left and right and which edge is the leading edge. In addition, I like to put some marks across the ends of the panels (witness marks). This will help you line things up later.

Now you'll need a good size, flat worktable (if it's bowed you'll cut a bow into your wing). Clear everything off of it you don't need (everything will get tangled in your powers supply wires). Set your foam on the table with the leading edge away from you. Place some weights on it so that it doesn't move. Put your bottom templates on the ends of the foam with the flat part against the table. Align the leading edge marks on the template with the leading edge of the foam. Put nails into the indexing holes to hold the templates to the foam. Check this all again. It's easy to put the templates on backwards or put the bottom on one side and the top.

support your bow. Some people suspend them from the ceiling. I found that awkward at best. I put a small roller in the middle of the wood part of the bow and let it ride on the cutting table. The first roller I used was a regular swivel roller. It worked fine but you needed to be sure it was pointed in the right direction before you cut or it wouldn't roll right. I found an omni-directional roller at a woodworking store that's basically a captured ball bearing.

Attach the alligator clips from your power supply to the wire, spacing them so that they're just farther apart than the width of the foam. The wire only gets hot between the clips. Grab a block of scrap foam. Turn on the power supply and turn it up about three quarters of the way. Put your piece of scrap foam against the wire and it should cut right through it. Once you figure out the correct setting on your power supply, put a mark on it so you can repeat the setting.

Let's assume this first panel has no taper. Rest the wire on the part of the templates that are in front of the foam (leading edge ramp). Slowly pull the wire towards you, making sure the wire stays in contact with the templates. Keep a nice steady pressure on the wire. You don't want to pull hard - the heat on the wire will determine how fast it's going to go. Keep both ends of the wire going at the same speed. The object is to have both sides exit at once. The wire will bow somewhat in the middle so the ends will come out before the middle. Turn off the power supply and set the bow down.

The bottom of the wing has now been cut. Remove the bottom templates from the foam and replace them with the top templates. The indexing holes should line up and the leading edge marks should line up with the edge of the foam. Check everything again. Make sure the weights are on top of the foam. Follow the same procedure as above to cut the top of the wing.

Remove the templates and the top and bottom shucks, stand back and admire your wing.

Why did we cut the bottom first? Because if you cut the top first, the thickness of your wing would be off by the width cut by the wire (wire kerf). When you cut the bottom surface first, the top piece of foam falls down onto the bottom shuck and eliminates the kerf. Why go from leading edge to trailing edge? That just seems to be the way most people get the best results. (Jerry Slates cut from TE to LE and gets beautiful cores- experiment).

That’s the basics. If you have a tapered panel, it’s a little trickier. The problem is that one side of the wire needs to go faster than the other. If you have two people this is
easy. Just make some marks on the foam equally dividing each side. Then each person takes one side of the wire and one person counts out when he gets to each mark. The other person keeps up with him. By yourself, just concentrate on keeping at about the same relative position in each hand. Try to exit at the same time. I've been told this is easy - mostly by guys who have done this for years. It takes some practice.

The other option is to use a simple, automatic foam cutting machine that I'll tell you how to build next month.

Tip from Jerry Slates shop - Don't put too much weight on top of the foam. You want just enough to keep it from moving while you're cutting it. If you put a lot of weight on top, it squeezes the foam down on the wire causing a rough cut. Jerry uses a "bed of nails" to help keep his foam in place. He has a grid of nails sticking up through his cutting board by about 1/16 inch that grab the bottom of his foam.

On more note - You'll need to clean your wire every now and then. The only way I've found to do this is to wipe it down when it's hot. I use a terry cloth rag (see warning number two above).

Foam Types and sources

White foam - This is the lightest weight and weakest foam. It weighs about 1 lb/cu-ft. It's commonly used in obechi skinned wings.

Pink foam (Owens Corning Foamular®) - Somewhat stronger and weighs about 1.5 lb/cu-ft. (several other densities are available).

Blue foam (Dow Styrofoam®) - About the same as pink foam but a little stronger and denser at 2 lb/cu-ft. It's commonly used in glass bagged wings. (Other densities are available).

EPP foam - This is the bouncy stuff they make combat planes (and trainers) out of. It comes in lots of densities from about 0.9 lb/cu-ft to 1.9 lb/cu-ft. It's very flexible.

Spider foam - This is very stiff stuff. It weighs about 2.5 lb/cu-ft and is commonly used for thin airfoils like tail surfaces.

This is not a complete list! Be aware that some foams are very toxic to wire cut. If you want to try different types of foam, check to see if they can be hot wire cut safely.

You can get White foam and Blue foam at Southwest Vault Builders (214-948-1431). They are located in Oak Cliff near the main post office (just south of I-30).

EPP foam is available mail order from RPV Industries (I have not ordered from them): http://members.aol.com/Rpvi/home.html

Spider foam is available mail order from Aerospace Composite Products www.acp-composites.com

Other Info

Charles River Web Site - www.charlesriverrc.org Compufoil web site - www.compufoil.com WingCraft at www.wingcraft.com - This company uses a computer controlled hot wire to cut wings - no template required! RPV Industries - http://members.aol.com/Rpvi/home.html

All setup and ready to cut.

Close-up of the wire resting on the leading edge ramp. Note the witness marks on the side of the foam, the nails in the indexing holes and the position of the alligator clips.

From SLNT