THE COASTAL FLYER

THE NEWSLETTER OF SAM 26, THE CENTRAL COAST CHAPTER OF THE SOCIETY OF ANTIQUE MODELERS. JUNE 2012 #266

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NEXT CHAPTER MEETING: Is still being roughly planned to take place after our June 16 Saturday flying session. Precisely where is yet to be determined. We may not get that figured out; but then neither Washington D.C. nor Sacramento can figure out a budget, and they're highly paid professionals. Otherwise, we'll meet at Bob Angels' on the evening of June 20, the first day of summer.

AEROMODELER MAGAZINE is a British publication that features a lot of information for model builders (as opposed to model buyers). Some US builders and particularly OT fliers subscribe. Michael Woodhouse sends notice that the publication is struggling.

"Some of you may have heard this already. Here are the facts. I happened to make a call to the Model Flyer on the day things were signed and Ken Sheppard briefed me on the situation. He has sent me the attached flyer and asked if I would put the word around. Aviation Modeller that has contained for a number of years the Aeromodeller is now under new ownership. The next issue will be the last in the current form.

The Publishers ADH will now have the Model Flyer for IC power flying and AMI for electric. The Aeromodeller title will hopefully fly again later in the year to cover the other aspects; i.e., free flight, control line, space, indoor, overseas and vintage. The publishers want it to fly. But they need support. They will need both punters and contributors. So it's up to us to make it a commercial venture. We are sufficient in numbers to make it work be it through purchasing or a contribution. I for one will do both. Get in touch and get involved. Web site and flyer attached"
http://www.aero-modeller.co.uk/aeromodeller-magazine Michael Woodhouse

SAM CHAMPS REGISTRAR has changed. Champs Manager Jim Coffin announced that J.P. Kish won't be available, so Tina and Chuck Kime have volunteered to take on the registrar duties. Tina and Chuck have been very helpful at previous 'champs by taking on various chores. Address Champs related correspondence to them as follows:

Chuck and Tina Kime
112 Morris Ave
Woodlyn, PA 19094
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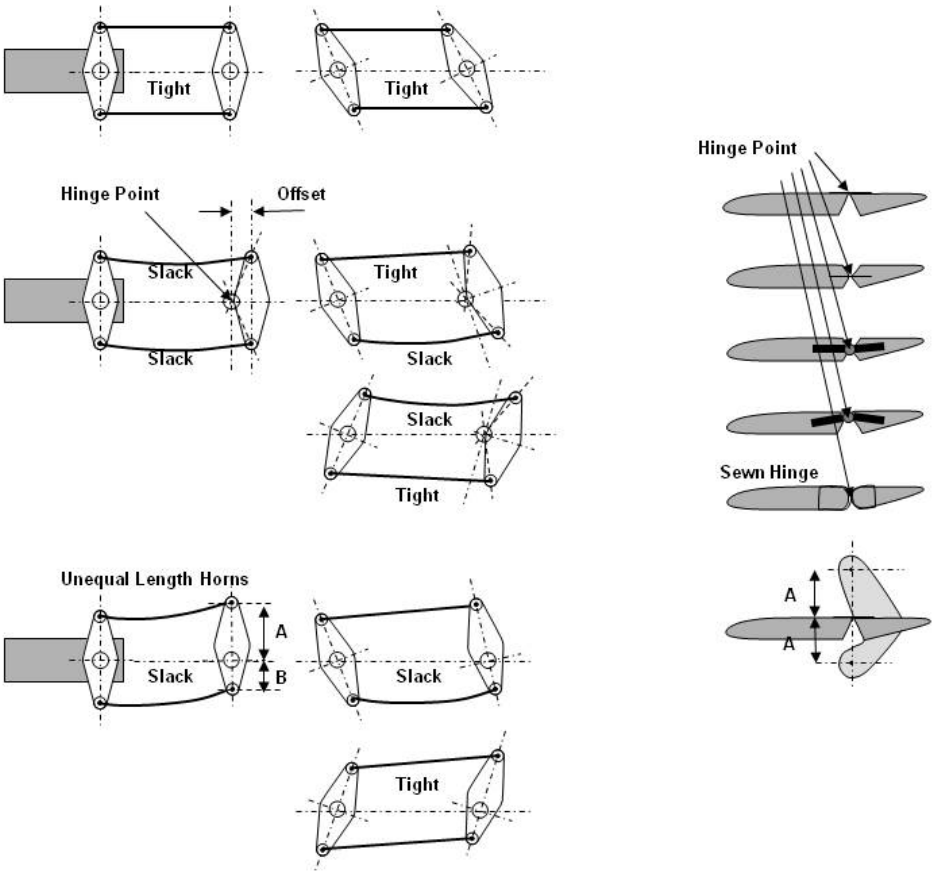
tinakime@yahoo.com

DAVE HARDING adds some follow-up to the item from our previous issue about the joys and perils of pull-pull control setups. The servo is on the left in the sketches and the rudder or elevator on the right. Although Daves' sketches are self explanatory, I couldn't resist adding some words below them. RLA



The top pair of sketches shows a correct installation.
The next pair + 1 down shows the results of having the hinge point not centered between the control cable attachment points.
The bottom three sketches illustrate why you want the cable attach points equidistant from the hinge point.

Obviously you'd never commit those crimes on purpose, but this calls attention to the fact that it's important to get it right.

But there is one deviation not shown which you can get away with. It's not necessary that the distance between two control cable holes at the servo end and the ones at the horn end be the same. You can vary them as needed to get the total amount of travel desired.

In some installations guys run a push pull rod from servo back to an added bellcrank, which becomes the front pivot for the pull-pull cables. The purpose is to let the bellcrank take the cable pull and strain rather than the servo bearings.

WE GET CONTRIBUTIONS! - HOORAY! Dave Harding also forwarded a four page write up he'd published a few years back about **pushrod overloading** problems. It's a real windfall for any newsletter editor to get something to actually edit rather than write. The treatise covers the subject very scientifically and thoroughly, but it's a bit long to put into our 10 page limit, especially for the mail out copies. So I'll try to summarize the gist on this page, and will forward the whole four pages to anyone who requests.

Dave deals with solid pushrods as opposed to ny-rod or pull-pull installations. You generally want the lightest pushrod which will do the job without buckling under flight load stresses during the "push" movement. So he uses Dr. Leonard Eulers' formula for calculating buckling loads for various materials, such as balsa, spruce, maple, aluminum, and graphite. He also presents charts for different diameters of round tubes and rods in various diameters, lengths, weights.

He gives force calculations for "push" forces needed to move the control surfaces at various flying speeds. And he addresses the results of simply supporting a pushrod in the middle with a smooth guide to allow a less beefy pushrod to do the job. I don't know where Dave originally presented this, but it seems suitable for a scientific journal.

Dave probably needed something like this when he built his Boehlert Giant, which moved him into the unaccustomed territory of larger flight loads. But I'll likely continue to use the seat of the pants method, of just giving the controls a push, watching for flex, and deciding "that feels about right".

Here's the moving crew walking Dave's Boehle giant to the flight line at the Henderson Nevada SAM Champs 2011.

FIXING A DING: I had a neat looking (for me) aircraft frame going together. I managed to make a small cosmetic gouge in an edge of a long piece of balsa that was to be painted later. I tried something new which turned out to be quick, easy, and worked surprisingly well.

I filled the ding with lightweight spackling compound from Ace Hardware. After drying, this stuff probably weighs no more than balsa and seems to sand easier than balsa. It's also a fair color match, and would probably blend in nicely under translucent covering material. But it didn't seem to be too durable for wear and tear. So after the sanding I soaked in a few drops of thin CYA, which cured instantly, even letting out a puff of smoke. The setting was probably accelerated by a little residual moisture in the spackling. After a final bit of finish sanding the repair seemed quite solid and ready for painting. RLA

SCREWED UP SMALL SCREWS: You'd think small screws (#2 & #3's) would need to be manufactured to closer tolerances than larger ones. I keep 2-56 and 3-48 screws and nuts in adjacent compartments in a plastic parts box. Each compartment is a hodge-podge of types, sizes, and manufacturers in both nuts and screws. There's always some doubt, especially with the nuts, about which size I've plucked out, so I end up picking back and forth to be sure I have the right nut for the right screw. But even after matching, the nuts are often a poor fit with either screw.

As far as I know, no metrics have slipped into the mix to further confuse the issue. So I dumped out both compartments and re-sorted them back in. Most were visually identifiable, but in some cases I had to try the nuts on both sizes to be sure. I measured the overall thread OD on samples of the screws and found one source of the problem. The #2 screws varied from .0790" to .0845" in diameter and the #3's from .090" to .0975". If you assume the nuts are equally as sloppy in tolerance, you could have a diameter variance of .015" between the two. No wonder some nuts want to strip out while others do not want to screw on. Whether this information is of any help to anyone, I don't know. I just wanted to get it off my chest.

Want a big project?

Prefer building over flying?

Consider the Goldberg Valkyrie.

This was taken in the pit area at Muncie, where this years' Champs' will occur.
Mike Salvador photo.

STILL MORE CONTRIBUTIONS! It started recently when **Dan Carpenter** forwarded a scholarly study on **Bomber wing area**. The standard size Lanzo Bomber has two slightly different wing configurations, so we'd expect a slight variation in area between the two. However, the area reported on contest forms for each version has varied all over the map.

Personally, I (and others) went for some time using the figure of 1260 square inches which was lifted from earlier reports. That figure has been since generally discredited and replaced with various smaller numbers. A few years ago Ed Hamler made some careful measurements and calculations and came up with a figure of 1206, which I've taken as close enough and have used ever since. Besides, 1206 seems sort of related to 1260 using mathematical pig Latin. The 1206 number has the slight advantage of requiring a little less minimum weight. But either number requires something over 5 lbs minimum and 5½ Lbs. gets you a 6 Lb. run allotment in Antique and Texaco. Therefore, most Bombers are built to exceed the weight requirement for 1260 square inches anyway.

Dan's report runs to 11 pages including sketches and appendix so it too will be available only on request. He measured the plan form parts, separated them into a rectangular center section plus two trapezoidal tip pieces and a pair of semicircular tips. He applied geometry to this, along with analysis of possible error magnitudes and sources in making the measurements.

Dan also forwarded copies to Tandy Walker, Ed Hamler and possibly others who had calculated these values earlier.

HERE FOR YOUR PERUSUAL is some of the figures and sources reported over the years for the standard size **bomber wing area**. Both wings are nominally 96" span. But the long center section has more area because the trapezoidal tip areas are shorter. Both use 12" dihedral, so the dihedral angle is steeper on the long center. Consider the chart below to be just a bit of historical trivia, for which I don't vouch for either accuracy, or placement under long or short center sections. I believe, but can't say for certain that the long center is usually considered the "standard" wing. The uncertainty comes from perusing over 40 pages of commentary, in which there were some conflicts. RLA

CONTRIBUTOR	LONG CENTER	SHORT CENTER
Jim Reynolds	1212, later 1232	1106 & 1212
Ralph Turner 1960-on re traced plan	1260 Now considered inaccurate from the plan itself.	
Don Blackburn	1170	
Dale Tower (SW Regionals)		1186
Ed Shilen	1260	
Don Bekins		1186
SAM approved list (earlier)	1256	
Ed Hamler	1232	1206
Tandy Walker	1232	1207
Dan Carpenter	1230	1214

I'd guess Dan Carpenter's numbers to represent the most accurate, if for no other reason than the effort he expended to get it right. But I may stay with the 1206 figure just now for consistency with my past reports on this same ship. I believe we've closed in significantly on the exact number with the bottom three listings.

LONG VS SHORT Bomber wing center sections have been the subject of discussion as to which is better. I forget what the conclusions, if any, were. But I found a more practical difference in the way they fit in my travel trailer. The best storage place for the Bomber wing is crosswise in the upper bunk at the front of the trailer. Wall to wall distance is a fraction less than 91". The long center section wing will fit, but the short center one will not. Both wings have a plan-form span of 96". The long center section is 48", with two 24" tips. The short center is 36" with 30" tips. Both tips use 12" dihedral, giving the long center a greater dihedral angle. For the first time in RC use I find that the projected wing span is important. If my arithmetic is correct the calculated difference in projected span of the two wings is just1.4", but that's just enough to make the difference. And yes, I've trial fitted both wings. But I suppose with just a little fudging on dimensions, I could build a short center to fit

HAIR CLIP CLAMPS: One of guys shared some hair clips a couple months back. They had become surplus from his wife, girlfriend, or some other source. I and others took some knowing they'd probably be useful, but not knowing exactly where or how. That good use finally showed up when I needed just the right light clamp and pressure to glue on some outside stringers. Small C clamps were too heavy and cumbersome, while clothespins and other spring clamps put too much wood crushing pressure. But just as Goldilocks discovered Baby bears soup, these were just right.

Don't let your significant other see this picture, or she'll know where to come looking for her missing hair clamps.

SUNGLASSES AND F-STOPS: This has been mentioned before on these pages, but it arose again on SAM Talk. Cameras take sharper pictures in strong light when their lens apertures are reduced to smaller (numerically larger) f-stops. Our eyes operate the same way. In bright light the lens opening closes down and we see more clearly. This can be used to advantage in flying if you're having trouble seeing your plane and it's about to get away from you. I usually wear flip up sunglasses over prescription lenses so I can raise them for better visibility. The bright light is uncomfortable and not recommended for long periods, but the ships can be seen more clearly. Sunglasses which fully cover other glasses and reduce side glare are better in the long run, but are a little more awkward to remove while flying.

Here's a typical table at a "collecto" or collectogether as MECA terms it. This was taken at the SAM Champs. See how many engines you can identify.

Come Fun Fly with Us!

S.A.M. 30 AMA 1631
Chartered 1977

When: Saturday, July 21, 2012
Where: Schmidt's Ranch
Contact Information: Warren Pickering
530-846-2541

Sam 30 invites you to bring your favorite Old Time Models and enjoy a relaxed day of non-competitive fun. A Hi-Start will be available, test fly a new model or just enjoy a oldie.

Miriam's pancakes and coffee will be waiting in the morning and lunch will be available for $5.00.

A great raffle will be held and maybe an oddball trophy or two will be awarded.

See you there!

Ed. Note: The Hay shakers have the same problems in putting on a contest as do many other clubs. There's a shortage of worker personnel and other resources. But being a smaller club, their problem is magnified. So they are trying a fun fly event rather than a formal contest. Maybe this can draw out some folks reluctant to enter a contest.

Don Bishop and I had planned on traveling from the Central Coast to the SAM 21 contest at the ranch June 8-10. But we both chickened out because of predicted heavy winds. It had even been blowing badly here at home for almost a solid month. Well it did blow out much of the flying at the ranch on Saturday, but lessened some on Sunday, so that some flying did get done. Meanwhile here at home base, we lucked out as Saturday became the first really nice day for flying after a week of miserable winds.

What do we have here? It's a Cleveland Cloudster, straight wing version, scaled up from the original 50' wingspan to 80".

That scales it to 927 square inches, making it SAM eligible for a glow engine up to .41 Cu. In.

This is part of the Hardy Robinson Estate, which we'll be disposing of for some time. It's nicely built and has been flown.

It's pretty much set up for a glow engine and would make a great fun flyer. Its servo rails will accept three standard Futaba S-148 servos or equivalent...
The solid firewall is ready for a commercial engine mount.
It's for sale at a modest price.

THE LAST WORD: We still have lots of modeling stuff for sale from the Robinson estate. There are nearly two hundred plans, several short kits, engines, a few old 72MHz transmitters, field supplies and few built ships. There's a nicely framed up Taube project awaiting completion. The ships of course will need to be picked up.

For those of you on the internet, you can request a list at samrcflier@verizon.net. Or for postal delivery send a large SASE to Bob Angel at the address on the masthead.

Robert L. Angel
1001 Patterson Rd.
Santa Maria, Ca 93455