Issue # 265

January - March 2010

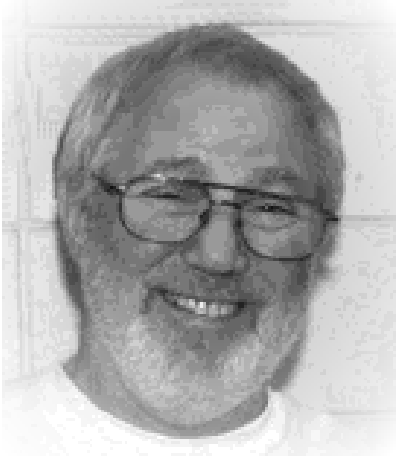
Antique Flyer

In this issue:

bringing modelers together
Academy of Model Aeronautics

President's Comments

by Chip Buss



Gentlemen,
In previous editions of this newsletter you were accustomed to seeing a two or three page letter from the president. From now on it will be a short greeting with an update on events and status of plans being made, and that's it. This news letter is not about me, it's about the club and its members. If you have a tip or an idea on a particular subject, send it to Jimmy Walker and he will consider it.
I'm working with Bill Copeland my counterpart at SAM 21 on a combined fun fly at our field this spring. The date is set for June 12 and the events are starting to line up. Here is a tentative list.

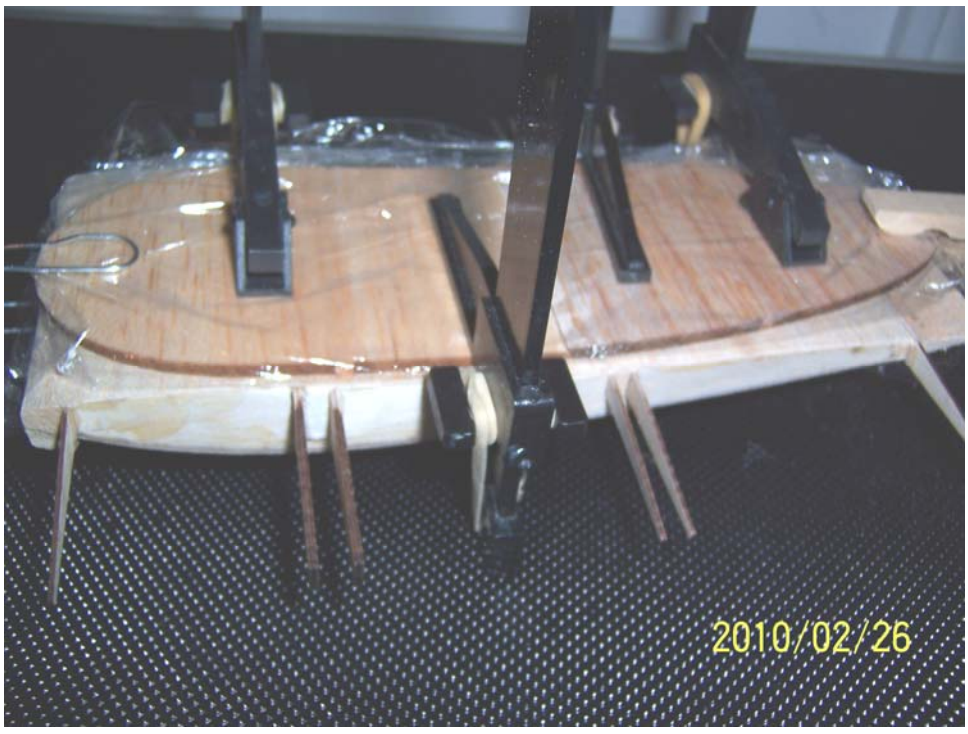
Events

1. Speed 400, SAM rules with 2 minute motor run
2. Unlimited motor run, time starts on motor shut-off.
3. Longest flight with any plane, with SAM rules.
4. Speed 400 pylon race
5. A Miss 2 event.
6. Fly by of the Giants:
Boehle Giant (Dave Saso)
1/4 Scale Piper Cub, (Chip)
9 ft 1928 De Havilland DH 80 Puss Moth (Andrew+ Rich Minnick)

This will probably be an all day fly so I've asked the two Bobs, Film and Rose if they could man the grill and they agreed.

Dick Douglas from the Oakland Cloud Dusters (OCD) asked if they could hold a meet at our field on August 8th as they did last year. He has been in touch with Jerry Rocha and I didn't see a problem with this pending approval from SAM27 members on both these items.

The Kerswap project is accelerating with all the kits now delivered. Mike Clancy pointed out that it is important to match the contour of the wing with the wing platform. Bob Rose and I both thought of one way to do this. Cover the bottom center of the wing with plastic wrap, soak the platform to make it pliable, and clamp it on the wing bottom to dry at least 24 hrs. Also, sand the top of the pylon to match the under camber of the wing.
That's about it. I'm looking forward to the March meeting at Round table. Don't forget the raffle/auction, Ed Hamler's membership gift, and the pizza. Mmmmmmmmm See you there. cb



A Few Words from the Editor

by Jimmy Walker

I grew up on a farm with lots of chores and things to keep me busy; but I still had time to make models and fly them. Starting with simple hand-launched gliders I tried my hand at control-line airplanes and never dreamed of having a radio controlled airplane due to the availability of funds. There were a lot of other kids in the county that had similar interests and we would often meet at the park in town to fly.

We didn't have a club or formal meetings...just a group of kids having fun. And we had some great summer weekends.

A lot of us belonged to FFA (future farmers of America...I'm glad that didn't happen) and the venerable 4H clubs. We learned from these clubs that a club project brought everyone together on the same page. If you were raising the same type of calf you would often go to each others place to compare notes. This Club project caused a lot of interaction between the members.

We did the same thing after a while with the models. Some of the guys were town-kids and some of us were country bumpkins. We decided on a model called the Barnstormer. I don't know much about it today, but I can remember we all had the same set of informal rules: We would build it and paint it and meet in the park for a "show and tell" then after everyone was ready we had a speed contest.. I painted mine white with purple diamonds on the wing and I was so proud of it. I still remember the cloth hinges cut with pinking shears.

To this day I can't remember the engine that I had on it...all I remember is that it was hard to start; I also found out rather quickly that hot fuel on a cut finger really hurt.

We all flew our airplanes and after a few times of figure 9's we slowly wound down our days at the park.

This memory of those good times brings to mind the value of a common goal—working together as a group. I bring this up because it is something that we in SAM 27 are doing right now with our club projects. If you need help with something or have questions you get together with someone that has the answer. I had some questions about my Kerswap and I asked Mike Clancy if he could help and I went to his house to look at his project. I'd never been to his house and this gave me a good excuse to visit.

Whether it's a phone call or a visit it brings us together to help find a solution to a problem that we might come across when building our project. By sharing our time with each other we develop better friendships.

There is a chance also to bring out the competitive nature in us; whether it is in the craftsmanship of building the model or in the actual flying of it.

The park in my younger days is now the field at Lakeville and the friends are just as good as back then.

If you haven't had a chance to pick up the club project please do and ask lots of questions and give lots of advice. Don't wait for the meetings to show and tell; bring your unfinished project to the field to show off what you've done so far.

Give me a call if you want to come over to my house and see the work in progress and I might even have a few questions or advice.

Jimmy

The Cover Story

Another Perfect model from Paul Stober. This is a Jimmy Allen Bluebird made from scratch. The picture doesn't do it justice...you need to look very close to see the perfection built into this model. Paul has been building competitive free-flight airplanes his whole life; he runs the gamut from simple and small rubber powered models to large gas models. He has also brought home his share of trophies from many free-flight events. Paul is a multi-talented guy...he restores old pianos and victrola's, plays the sax, is a champion body-builder, and an all around fun guy to be around.

Last Month's Mystery Person

The little guy holding the airplane in the last issue on page 9 was Jay Beasley Sr. You might do the math and see that the biplane that he was holding was a modern plane at the time.

Jay's dad was a production test pilot for Lockheed and flew most of Lockheed's multi-engine propeller driven aircraft, including the P-38, Hudson/Vega Ventura, Constellation, Electra, P-2 and P-3. After his WWII Lockheed stint, he flew for American Airlines for a couple of years on the DC-3, DC-4, and DC-6, then got furloughed and flew a privately owned C-46 prior to going back to Lockheed for the next 32 years. He flew his last instructor flight on a Navy P-3 as a Lockheed consultant on his 70th birthday. He was still a Lockheed consultant when he died at age 81.

Monthly Club Meeting - January 2010

The first meeting of the year had 27 members attending; this was also the first "official" meeting as the new president for Chip Buss and he wielded the Bob Rose Power Gavel capably. There weren't too many things to report since our last meeting.

The field is a bog and of course some fools have seen fit to put lots of ruts in the parking area. We discussed the possibility of renting a blade to grade it when things start drying out, but could be rather expensive so no decision was made on that issue.

Jay Beasley our Secretary and Treasure reported that just a little over half of our 2009 members have paid their dues so far.

Chip had asked Don Bekins and Ed Hamler to give a short talk about the origins of SAM 27 and larger SAM organization. Don Bekins joined SAM 21 in the early 1970's and after making the long drive to their meetings too many times, he and a handful of others started our SAM 27 chapter. Contests were done in several locations; one was right across the street from the firehouse on Atherton Avenue where we hold our meetings. We have used the training room for our meetings for about 20 years. Don showed a video from the Crash & Bash contest in 1986 held at the Atherton field site. Thanks to complaints from neighbors and others, that was the last contest held there. We started using the Schmidt Ranch in 1989.

Ed Hamler told us about the greater Society of Antique Modelers. The organization started in 1967 Colorado as SAM 1. There is where the first SAM Champs contest was held. There are now over 100 chapters located in about 20 countries around the world. Ed talked a bit about the differences in SAM rules and what is considered an approved Old-Timer in the US and Europe. In the US the model is limited to designs from 1942 and before and in Europe, thanks to WW2, the Old-timers can be designed from 1950 and before.

Monthly Club Meeting - January 2010

Andrew Tickle presented "Builder of the model and contestant" trophies to Frank Plexico, John Trumbull, Rich Coleman, Rich Minnick, and Chip Buss. He also presented a trophy to outgoing president Mike Clancy for his great stewardship of SAM 27 for the past few years.

Ed Hamler delivered the remaining Kerswap kits to those who ordered them. Another batch of kits is due soon, and Ed will get those to the folks who ordered them asap.

The old SAM 27 1/2A Texaco Championship trophy has been resurrected and presented to Ed Hamler who was the latest winner.

Ned Nevels will bring SAM 27 coffee mugs to the next meeting for sale to members. We talked about raffles at the meetings, which we haven't done much of lately.We are thinking of having a raffle perhaps quarterly or maybe a little more often. We will encourage members to donate models or other items they don't need, and we will probably supplement the donations with fresh glues, dopes, etc. We tentatively will have the next raffle at our March meeting which will be held at the Round Table pizza restaurant where we had our December meeting.

Show and Tell

John Pratt showed some nice Superior props for rubber flyers. Most of the work is already done on them, and finishing is relatively easy. These sell for $15 to $20.

Paul Kramosil showed a nice BMJR model called the Race-E. This is a built up park flyer with good aerobatic properties.

Ron Meckley showed some nice Superior props for rubber flyers which sell for $15 to $20 each.

Ron Meckley showed a very large 30" span AJ-74 folding wing catapult glider. It's too nice to risk flying.

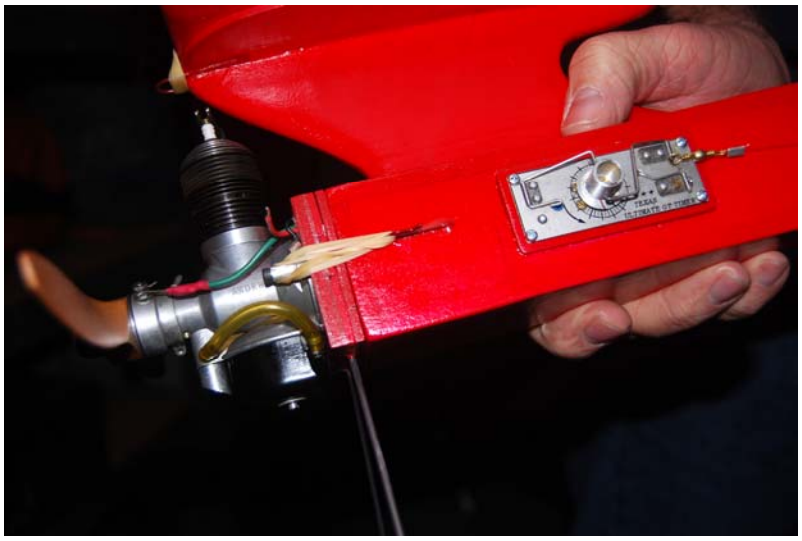
Bill Vanderbeek showed a beautiful F/F Kerswap powered by an Arden .19 ignition engine, and covered with Samspan. Bill also brought along a large trophy first won in 1931 in a F/F ROW contest at the California State Fair.

The last time it was awarded was in 1941. Bill also donated a very nice Fokker D-VIII kit to be raffled in the future.

And last but not least, Ed Solenberger showed a finely machined EXTERNAL combustion engine. This is a unique concept that most of us had never seen.

Ron Meckley's AJ-74 folding wing catapult glider

Monthly Club Meeting - January 2010



Bill Vanderbeek's Free Flight Kerswap with an Arden .19 ignition engine. Covered in Polyspan.

Paul Kramosil's aerobatic park flyer called the Race-E. This is kitted by BMJR models.

Ed Solenberger's finely machined external combustion engine.—very unique but very little power.

Monthly Club Meeting - February 2010

We had a good turnout on February 17th with 34 members and one guest. A new member—Frank Guerrini—was introduced by his father-in-law Frank Plexico.

Secretary/Treasurer Jay Beasley gave a treasury report for the calendar year 2009. We are financially sound and growing. Prior to the meeting a review of the books was done by Frank Plexico, Jim Temple, and John Trumbull. It has been suggested that we have a similar review at least once each year.

There are still 20 to 30 members who have not paid their dues for 2010. Please contact Jay Beasley to pay your dues if you have not done so already.

Earlier this month President Chip Buss was invited by Ed Hamler to attend a SAM 21 dinner banquet. He had such a great time with this friendly bunch of old-timer flyers that he joined their chapter. Chip said that there was a discussion about having a joint SAM27/ SAM21 meet at Lakeville sometime this year. The idea was met with enthusiasm by our group.

A discussion of proposed safety rules for flying at Lakeville field was conducted by Chip. Previous to the meeting a copy of the rules had been mailed to the membership for their input. Chip went over each rule with some discussion on a few of them. After a little more massaging and approval by the membership these rules will be sent to the membership and be posted at the field. The rules are for everyone's safety and Chip made a good point: "Everybody is a Safety Officer". If that's true we should have few violations and nobody should be offended if their inadvertent (or otherwise) violation is pointed out to them. We all want to have fun without hurting anyone or damaging anything.

We watched a movie narrated by Irwin Ohlsson about how Ohlsson engines were manufactured around 1936.

Jerry Rocha announced the following contest Dates:

- Small Rubber—July 24th
- SAM 27 Jimmy Allen Postal August 28

Ed Hamler graciously volunteered to donate a membership to the larger organization of Society of Antique Modelers each quarter to a new member of SAM 27 whose has not joined the parent organization. Please don't let this nice gesture delay you from joining SAM.

Ed Hamler announced that our Italian SAM 27 member Gabriele Montebelli's wife passed away recently after a long battle with cancer. We all signed a card that Ed will send to Gabri.

Show and Tell

Ed Solenberger showed a couple of *Deezil* Engines. Yes the spelling is correct. These were put out in kit form starting around 1947 and were notorious for not running very well or at all. The price then was $3.95 and up for these things. Ed made some new pistons and believes one should run well. Do an online search for more information on this unique device.

Chip showed the tail group of his *Kerswap* which featured a nice way to connect the fuselage extension that goes between the elevators using some right angled wood stock.

Dick Vaubel showed his *Kerswap* fuselage and talked about c-grained balsa which he is using for the planked surfaces. He plans to finish it in clear. He also gave a demo on hinging tapered spar stabilizers and elevators as found on the *Kerswap*. It is important to make sure all hinges are in the same straight line. He also showed some sanding sticks and a wire bender that he found at Brick Art Supply.

Remo Galeazzi Showed a rubber model that he built from plans for a *Dwight Huntington H-14* Full scale homebuilt airplane. The real airplane was powered by a two cylinder Harley Davidson engine.

Mike Clancy also talked about building the *Kerswap*. He showed us that the curvature on the top of the pylon doesn't match the curve on the bottom of the wing. He also had some suggestions for landing gear mounting.

Rich Minnick graciously gave Mike Clancy three bottles of wine from his award winning winery; these were given for Mike's service rendered as our previous SAM 27 president. Mike refused to open them and pass them around so we could all have a few slugs from the bottle. As a result the membership voted Mike the worst president we ever had.

Monthly Club Meeting - February 2010

A Nice example of C-grain balsa used on the sides of a Kerswap.

The next day Chip handled the huge amount of traffic at our little airport Lakeville International.

Ed Solenberger's *Deezil* (not a misspelling) engine that sold for $3.95 new in 1947.

Monthly Club Meeting - March 2010

The March meeting was held again at the Round Table Pizza Restaurant in Novato with 26 members in attendance. A short Business meeting was followd by a spirited auction and raffle while consuming pizza and beverages.

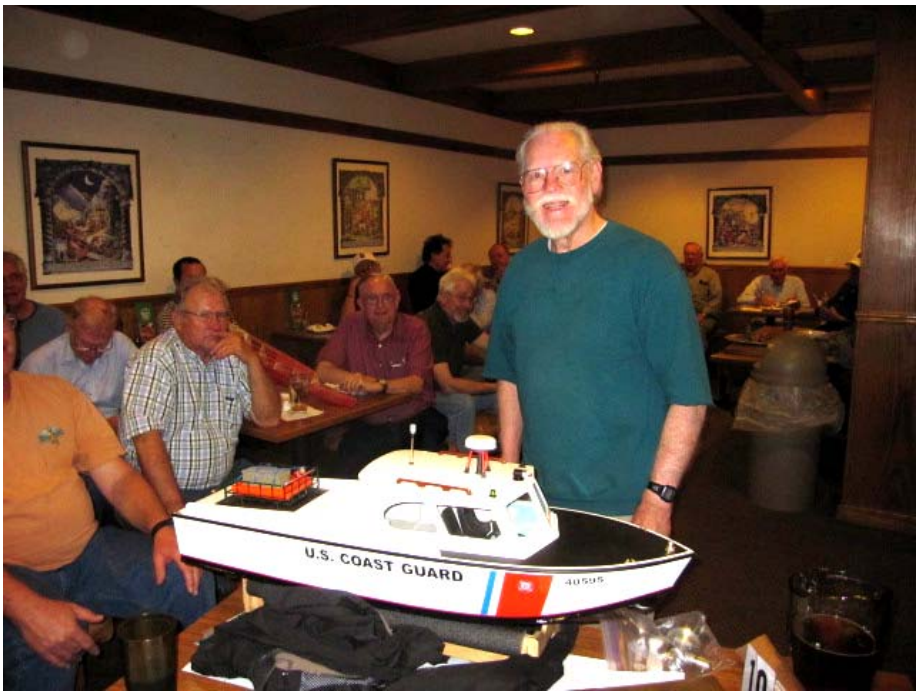
Business;
Chip Buss—el Presidente—announced that our combined flying meet with SAM 21 will be held at Lakeville Field on June 12. This should be a fun get-together with various contest events and a BBQ. More information will be forthcoming when the events are decided upon.

A copy of the flying field rules were laminated and we will post these on flying days at Lakeville.
Jay Beasely reported that several members have yet to pay their dues for 2010 and he will be sending a nastygram to perpetrators. Other than that our finances are healthy and in order.

Bob Rose told us that his neighbor Al Marcucci has volunteered to check our parking area at the field and see if he can grade it for us. Winter rains and foolish drivers have produced some pretty deep ruts..

Sid Maxwell showed a foamy float plane kit called a Polaris that comes with a good brushless outrunner and ESC for $125. Sid took a few orders for these. See it fly at this web page that follows: www.rcgroups.com/forums/t=922465. Float fly dates at Sal Lake this year are April 24th, May 31, July 4, and September 6. Sid also announced that he has 8 more SAM 27 T-shirts and 6 more ball caps available.

Don Bekins showed some interesting photos including one dating back to 1947 which showed Don with his own design U-control.
(see pictures on page 12)



Finished at Last!

Ed Hamler conducted a drawing for a SAM membership which he donated. The lucky winner was Frank Plexico. Thanks a lot Ed and congratulations to Frank.
Ed Hamler also showed a *Movo D2* (A Texaco type engine) that was donated by our Swiss Italian member Gianco Lusso. We will auction or raffle that off at Crash and Bash. Thanks Gianco and Ed.

Ed Solenberger showed a very nice electric powered boat that he had recently completed after many years.

The auction of several models went very well, with lots of spirited bidding and lots of laughs. Our new member Victor Barbieri really got into it, hauling off several kits. Beer seems to be very good for stimulating bidding. We all had a lot of fun with this auction.

Our next meeting will be on April 21 at the fire station training room as usual.

SOLD!!! For $10,500 to the bidder in the back holding up his pitcher of brew.

Spars—by Kermit Walker

This article is a response to another member's article on the subject; it's nice to see that there are opposing opinions and that both members are friends and agree that reasonable people can disagree on any subject. The nice thing about a SAM club is that our members are mature adults and have no problem in posting their viewpoints. This makes the newsletter even more interesting. Thank you Kermit and Ed for your inputs.
Editor

In the last SAM 27 newsletter, Ed Solenberger made several comments about spar construction types that I would like to take issue with. At first I started to generate an extensive article that would explain in detailed structural engineering terms my case for disagreeing with Ed's conclusions. However, after a couple of false starts in doing so, I decided that instead I would simply state my opinions and a couple of points leading to those opinions without going into all of those detailed engineering explanations.

First of all, Ed's remarks quite clearly indicate to me that he feels that a couple of recent wing failures of models which had so-called "I-beam" spars suggest that type of construction to be suspect and therefore undesirable. I don't think that a couple of isolated incidents can lead to that conclusion for starters. ANY type of spar can be overloaded until it fails. In my opinion, the fact that two specific models that HAPPENED to have I-beam spars crashed hardly justifies such a conclusion. I have seen models with all types of spar structures fail over the years.

One of the primary reasons that SAM Old Timer R/C models are especially prone to wing failures is that the way they are being flown via R/C can and does generate G loads WAY higher than they were originally designed and built to have to absorb. To start with, those models were all originally flown free flight and low-powered, where the model is for the most part floating around at essentially 1 G, except for the occasional gust or climb load. On the other hand, when a SAM Old Timer R/C model gets very high in a thermal, it becomes very difficult to see its attitude or airspeed, and it thus becomes VERY easy to accidentally subject the model to many, many G's – perhaps as many as 15 or 20 G's or more – with accidental gross R/C control overloads. One of the other reasons that R/C Old Timers in the past were loaded higher than their original prototypes was the relatively high weight of the R/C system and its batteries. However, with modern R/C equipment and lighter and lighter batteries, that is really not much of a factor any more.

As a general statement, it is my opinion that all other things being equal (which they admittedly seldom are in the real world!), the I-beam type of spar will carry more load before failing than any other type of spar structure. One of those "other things being equal" is weight. To say it another way, for a given weight of spars, you can support a higher load before failing with an I-beam type of spar than any other commonly-used type of spar in a built-up wing structure.

One of the problems with this conclusion is that it can often be not applicable for a given model. For instance, and very much to the point with SAM Old Timer models, if a builder is "stuck with" (that is, limited by rules) some other type of spar that was originally used in an old design, then some other less efficient type of spar must be used. For instance, a lot of Old Timer models use what I will call "vertical blade" spars – that is, one or more solid rectangular members set on end, often extending part way up into the ribs from the bottom surface, but not carrying up to the top surface, or slid through the ribs ala "Goldberg style". There is no real way I can see to convert or modify this type of spar structure into an I-beam structure and still be within the SAM rules as I understand them. On the other

Spars by Kermit Walker

hand, it seems to have been deemed acceptable to convert or modify the fairly common "over and under" square spar design into what is essentially an I-beam spar by adding webbing between the top and bottom spar, thereby creating an I-beam. Doing so, and using reasonable construction techniques and workmanship, should produce a wing which will be minimally heavier, and yet capable of carrying something like twice the load and be something like 4 times stiffer in bending.

Ed seems to think that this stiffness in the I-beam spar may lead to its being more subject to failure. I don't agree. A more flexible spar system may in fact be MORE prone to failure in that repeated bending and flexing can create, especially in woods like balsa that are especially prone to cracking under repeated compression loading, a gradually lowering of the strength until the spar eventually fails under a loading much lower than its originally designed and built strength. I will concede that even an I-beam spar system can eventually succumb to stress cracks generated by repeated overstressing, BUT! That type of overstressing can be minimized by using a spar that is strong enough so that unless it is subjected to WAY too much load (which shouldn't happen very often, right?!), it won't be overloaded to the point where those stress cracks can be created.

Also, because the stress on ANY spar system being loaded in bending is concentrated on its upper and lower surfaces, I firmly recommend that you use very firm wood for the upper and lower members of the I-beam. VERY hard balsa or, even better, spruce or basswood would be my recommended material for top and bottom members of the I-beam, as well as for the entire spar if it is of the simple "blade" type. This is especially important for the primary load-carrying spars of the inboard panels (for a polyhedral type wing). The secondary spars, which are normally there mostly to maintain the airfoil shape and/or to aid in torsion resistance, as well as all the spars in the tip panels, can be made of medium to medium-hard balsa, as they carry MUCH less load than the main inner panel spars. I-beam webs can be relatively light balsa as their primary function is to keep the upper spar from buckling downward, resulting in failure.

If you are a REAL weight fanatic, you can even gradually reduce the wood size of the webs as you go out towards the tips. That is, you can start out with say 3/32" balsa webs (on a relatively large model), then maybe ¼ the way out the wing go to 1/16" balsa, then about ½ way out go to 1/32" balsa, then ¾'s the way out go to no webs at all, as the load on a given section of wing decreases as you go out from its center. You could even gradually taper the top and bottom spar sections in either thickness or width (or even both!) for the same reason, although that becomes a bit of a chore to do, to say the least! Also, it might not be legal for SAM events if you end up with spars that are in some areas smaller, and therefore lighter, in the ends of the wings as this MIGHT be construed to be "lightening" which is in general illegal under SAM rules.

In addition to all the above, there is a whole 'nother issue involving spars and their construction called "stress risers" and their affects, but that might be a good subject for another day!

Well, I think I've rambled on enough here to keep the fire stoked about this subject for a while, so I'll now end this discussion, at least for the time being. If you have any comments and/or arguments with any of the above, please feel free to contact me either thru the Editor or directly at planecrazy@comcast.net.

Kermit Walker – Member SAM 27
Life Member – AMA, SAM, NFFS, IMAA, AMA Museum Patron
Member – FAC, IMAC, MECA, SARH, NASA, etc.!!

Letters to the Editor

These are a few of the pictures that I found while cleaning out some files.

Don Bekins

Ramrod nostalgia converted to RC powered by Johnson 35 glow. I'm standing with Ramrod designer, Ron St.Jean, Carson City, NV, just before first flight of the newly constructed model, one of the best flying of all nostalgia models.

I am starting an inverted Cox 15 glow-powered Goldberg Zipper, one of the most successful old-timer contest models from the early '40's. Location: El Dorado dry lake bed, Las Vegas, July 1977 [Don's 1st SAM Champs at which he brought home his first Radio Control Grand Champion trophy]. It was HOT -- over 110 degrees in the shade!

That Handsome man on the right is a young Ed Hamler. Here we are with our support team enjoying dinner at the superb Domaine Chandone Winery. Ed is now retired as the former executive VP in charge of Wine Production. Our SAM 27 flying field is on Chandon Property, courtesy of Ed's assistance.

Here I am at the young age of 17 with my own design U-Control stunt contest model powered by an original ignition Anderson Spitfire around 1947

Thanks Don for the nice pictures. We look forward to anything you come across as you organize your files.

Editor

Letters to the Editor

Here's a progress report on our team scale 1928 DH 80 D Dehavilland Puss Moth.

Andrew Tickle and Rich Minnick

Here is a couple of shot's of my New ***Diamond Demon 101***....I bought most of the lumber at Home Depot to build it; should have it done in a week or so. I had the old plans blown up 200%

Rich Minnick

Thanks a million fellas! Any progress reports like this make this newsletter better and better. Keep 'em coming.

editor

Letters to the Editor

I asked Ed Hamler what his opinion is of moving the pylon to the front or the back to change the center of gravity on the Kerswap; here is his answer:

Chip Buss

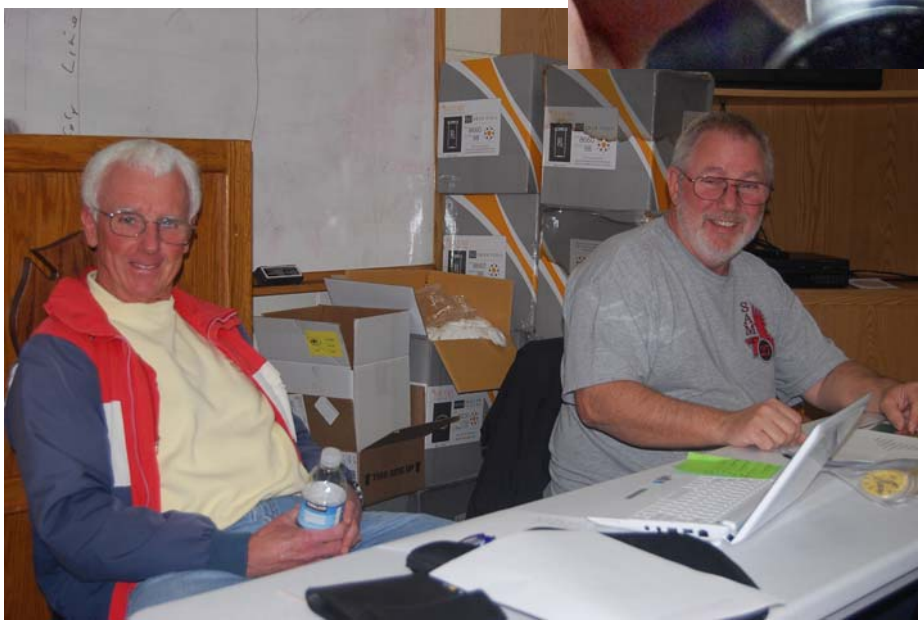
Chip,
Not Legal! Adjusting the pylon position for the CG became a common thing with nostalgia models like the Zeke.
But the 1942 Kerswap was a free flight model with the pylon structure extending at an angle to the fuselage bottom.
Our Bob Holman kits have been modified to accommodate radio gear. The pylon should be positioned as shown.
Ed H.

Gents,
Here's a link to a web site where you can find parts of your little slimers.

http://www.coxengines.com

Jay Beasley

Here's the Movo-D2 to be raffled at the next Crash&Bash.

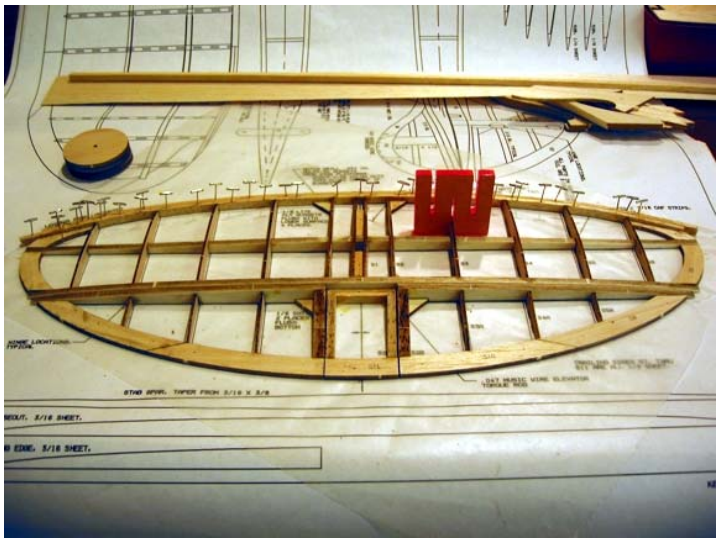


I just couldn't resist putting in this picture of the fearless duo.

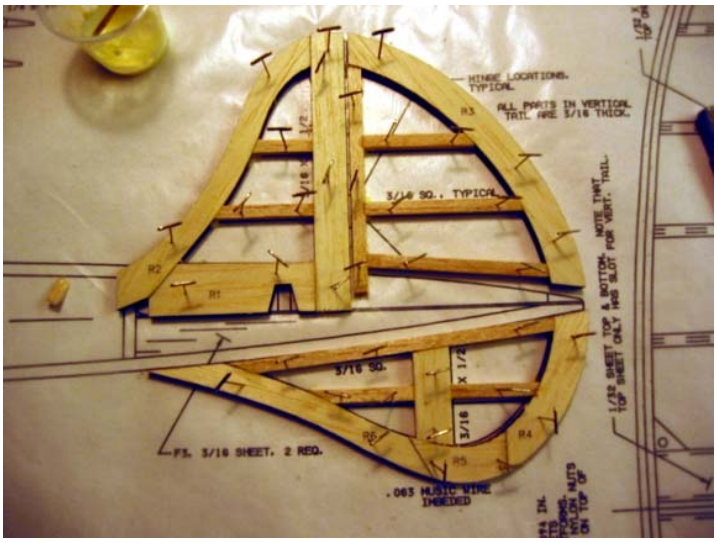
editor

Kerswap—A Work in Progress by Mike Clancy

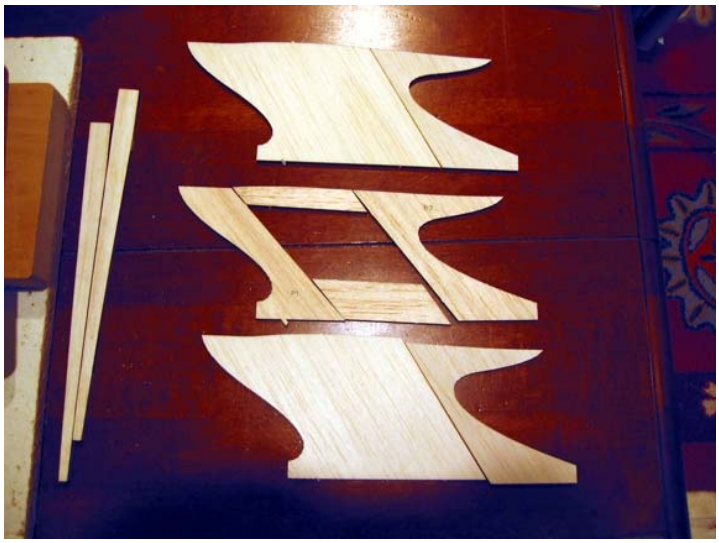
While recovering from my total knee replacement I had lots of time to work on my Speed 400 Kerswap club project. I couldn't stand for long and had to change positions a lot so the job was done on a kitchen table and the family room coffee table. The rooms were pretty much in disarray as I had a hospital bed smack in the middle of everything. John Trumbull and I worked together on both of our kits; we learned a lot about them. I thought some photos might help beginner builders of this plane—so here we are. I can also answer questions new builders have about construction of this airplane. As a builder's plane it is pretty easy, but there are a lot of steps and you must be patient and attack one small project at a time. More to come as work progresses.



The stabilizer and the rudder were actually the most difficult since they were smaller and not so easy to handle.



The vertical stabilizer, rudder, and subfin are an easy "project" to start with.



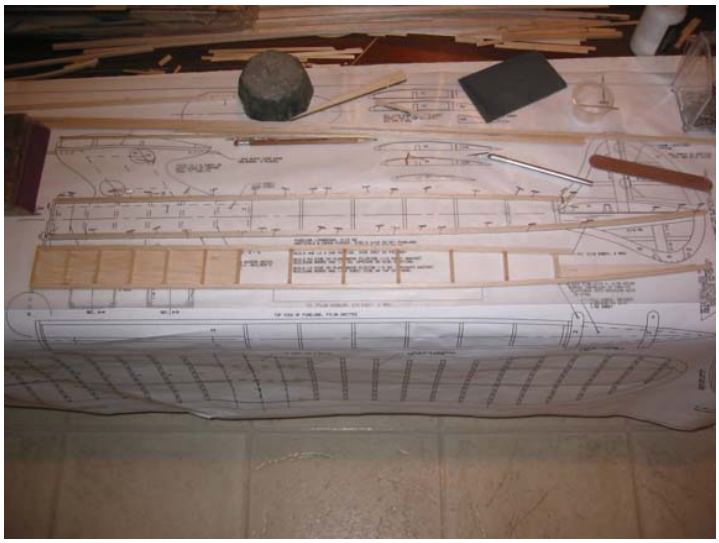
I layered a little carbon fiber veil inside the pylon sides to add some extra strength.

Layout the leading edge, tip parts, and trailing edge then add the ribs but not the spars. Glue this assembly together.

Kerswap—A Work in Progress by Mike Clancy

Pick up the whole wing, turn it over then drop the spars in. This only works on a laser cut kit since everything is so exact.

Cut the wing apart at the dihedral joints then sand the leading edge, spars, and trailing edge to the correct angles then join them.



The fuselage sides are easy; make sure to make a right side and a left side. Even old-timers have made two of one side.

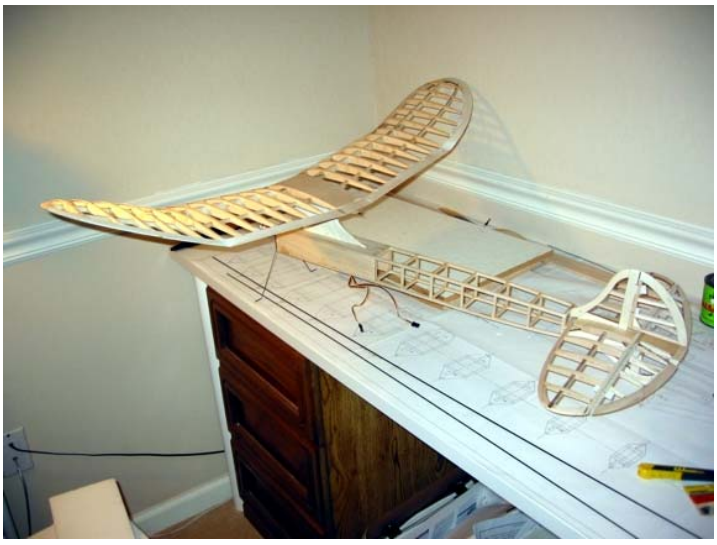
Here's a look at the finished "Projects". The wing is about five projects and the rest are smaller projects.

Kerswap—A Work in Progress by Mike Clancy

I have a nice fuselage jig for joining the sides; it's nice but not necessary.

Once the framing projects are assembled you can start fitting your hardware. A little creativity is required here.

It's starting to look like an airplane now. Install everything else and temporarily hinge the rudder and elevator. You should have a complete airplane ready to finish.



When all of your hardware is installed including the pushrods and control horns, take it all apart then finish the airplane.

Latest Electric Rules

Dave Harding

The SAM electric rules committee made some change proposals to the electric competition rules for implementation in 2010. The membership and the Board approved these changes so they are being incorporated into the 2010 Rule Book update and are in effect for the 2010 Champs. This is a discussion on these changes and some observations on designing for them.

LMR and ETexaco rules changes are; best two out of four flights count, and alternate new or emerging Lithium battery technologies are addressed by giving the same capacity for all "Lithium Technology" batteries. This means you can use A123 cells but your energy allowance will be based on LiPo voltage. Same for any new Lithium cells, just use the LiPo battery table in selecting the right battery for your model weight.

But there has been a good deal of grousing about the 2008 battery capacity rules; hard to calculate and put LiPoly cells at a disadvantage. Here are the rules in a simple table.

LMR and eTexaco Battery Tables

Figure your model all up weight including the battery, decide the number of cells that fit your intended motor and read off the maximum capacity. If you can't find a battery with capacity close to the rule then consider a larger battery and add some ballast. Or examine a different number of cells, but this may require you to select a different motor and or propeller.

Until now LiPoly batteries were at a disadvantage in LMR because you could not draw enough current to "drain" them in the 90 seconds. This current limitation resulted in a lower climb altitude when compared to NiCad or NiMH cells. This is no longer the case as a new generation of batteries is now available. Look for batteries with a 40C continuous rating.

The process of selecting a motor for LMR is to start with the candidate battery for your model weight. Take the battery cell capacity in mAh and divide by 1000 to bring it to Amp Hours. Then multiply by 35 (leaving you some energy for subsequent flight control). This is the target current for the motor. Now you have selected a battery with a given number of cells, so for NiCad or NiMH multiply the target current by the number of cells and this will be the continuous power capability required in your motor. For LiPo batteries multiply the target current by the number of cells then by 3.6 to get the motor continuous power capability.

Example; 32 ounce model with a two-cell 800 mah LiPo battery.
Max current = 800/1000 x 35 = 28 Amps
Max continuous power = 28 x 2 x 3.6 = 202 watts

Motor manufacturers usually specify the voltage range (in voltage and or number of cells), maximum continuous power and maximum continuous current. So this is your starting point. Having selected a range of batteries and motors you must now select a prop. You can do this several ways. Frequently the manufacturers identify the prop and battery combinations for a given motor. This kind of information is available for the popular AXI outrunners on the company website; http://www.modelmotors.cz/ Alternately you can calculate the model performance while selecting a prop using Motocalc or Electricalc, two excellent software programs that will do the calculations for you. Another option is to use one of the online calculators such as the one at San Diego's Diversity Models; http://brantuas.com/ezcalc/dma1.asp Typically the combination that turns the largest prop will give you the best rate of climb and altitude.

For Electric Texaco the same process is executed to select a battery, indeed you may fly the same model in LMR and ETexaco with the same battery but if you want maximum performance you should use a smaller motor for ETex. Here too Motocalc is invaluable in making these selections as in this case you are trying to find the most efficient motor/gearbox/prop combination to allow the maximum flight time. If you use Motocalc first look for motors with the minimum Io, or idle current. If you don't have this information you must just try to find a combination that will allow sufficient rate of climb to break through the typical ground turbulence layer. I find that 120 ft/minute to be the minimum performance. And here too the combination that turns the biggest prop is probably the most efficient too.

I should note here that my experience is that quality geared inrunner motors like the Hackers, Neu and Mega motors are more efficient than quality outrunners. That said a well set up model with an outrunner motor can win when flown well. So you "pays your money and makes your

Latest Electric Rules

Dave Harding

your money and makes your choice".

We made no changes to the excellent Sprit of SAM event, but there is an issue here, and that is the growing scarcity of 350 mah AAA NiCad batteries. Our usual supplier, Batteries America no longer have the Sanyo brand but they do have a substitute. It is recommended that if you buy from them ask them to build a pack for you as they will spot weld the connectors and that is safer than soldering them as you can damage the cell if they get too hot.

The Electric Wakefield event model is unchanged but the maximum has been increased to seven minutes.

The Unlimited Rubber event has been eliminated to make room for the Speed 400 event which is now a Rule Book Special Event. It has been observed that we did the wrong thing by eliminating Unlimited vice Wakefield as there are a limited (but still vast) number of Wakefield models but a bigger selection for Unlimited and Wakefields qualify for that too. Well, we screwed up, so Unlimited goes.

Speed 400 has been added as a Special Event with the rules as below. Note that there is a minimum weight of 16 ounces. The rules committee felt that it was desirable to limit the altitude achieved by these models and even at 16 ounces they can be an eye test at the top of the climb. One element to highlight is there is no wing loading rule. This was probably an oversight in rules preparation but it does open the design space to models of different sizes.

We maintained the Graupner-only rule as there are hundreds of Mabuchi 370 motors that look the same but are internally quite different. If you have such motors by all means fly with them but at the SAM competitions you will need a Graupner 6 volt speed 400 motor. Some have commented that brushed motor speed controllers are hard to find by you can still find GWS and Kontronic ESCs and "no name" units from several suppliers. Others complain that brushed motors are old technology and we should be allowed to use outrunner brushless motors. Well, an event that is fairly available to a wide range of experiences needs simple rules. The Graupner speed 400 is an excellent motor by any measure and should be around for many years to come so we should have stability in this class for a while. If you really want to fly a brushless, build an LMR. Hey, if you build one with the right size you could also power it with a speed 400 and fly it in two classes.

Speed 400 2010 Rules

1. Any approved SAM Old Timer gas model airplane. Scaling is allowed. There is a 16 oz. minimum weight requirement. By rule, North American Old Timer designs .
2. Thrust will be provided by a non-folding, non-metal, propeller of any size driven directly (i.e., no reduction drives) by a Graupner Speed 400, 6-volt permanent magnet ferrite motor without ball bearings. After purchase, motor timing adjustments are allowed. To prevent damage to the motor, folding propellers may be used provided they are locked in the fixed position for normal flight.
1. The battery may be six NiCad cells, or six NiMh cells, or two Lithium chemistry cells of any capacity with manufacturer's label clearly visible.
2. The power to the motor must be radio controlled but may be on/off or ESC.
3. Flights may be hand launched with landing area determined by field rules.
4. The motor may be run only during the first 180 seconds of the flight; any running of the motor afterwards results in a zero score for that flight. This time may be changed at the discretion of the CD.
5. A model's score is the sum of the best two of four 15 minute max flights.

See you at Muncie?
Dave Harding
Electric Rules Committee Member
2010 Muncie Champs Contest Manager

La Page Mystère

This beautiful Fighter was an exceptional and deadly dogfighter. Some of the aces considered this to be one of the most undervalued of fighters.
The designer was known for his work on aircraft that entered into the Schneider Trophy races from which we also see beginnings of the British Spitfire. One of his designs held the world speed record for five years.
Pilots that flew this loved their aircraft. The controls were light and well balanced and performance was very strong and responsive.
This fighter was considered superior to the Hawker Hurricanes and the P-40 Warhawks and an equal to the Spitfire; though the Spitfire had a better climb rate it could not outmaneuver it. One of the only drawbacks of this airplane was its lack of good armament.

This airplane fought on many fronts against many different airplanes. It was found on the Russian front against Sturmoviks and Pe-2s. It fought against P-38 Lightnings. It fought with Egypt against Israeli Spitfires. It was ordered by countries such as Croatia and Switzerland.

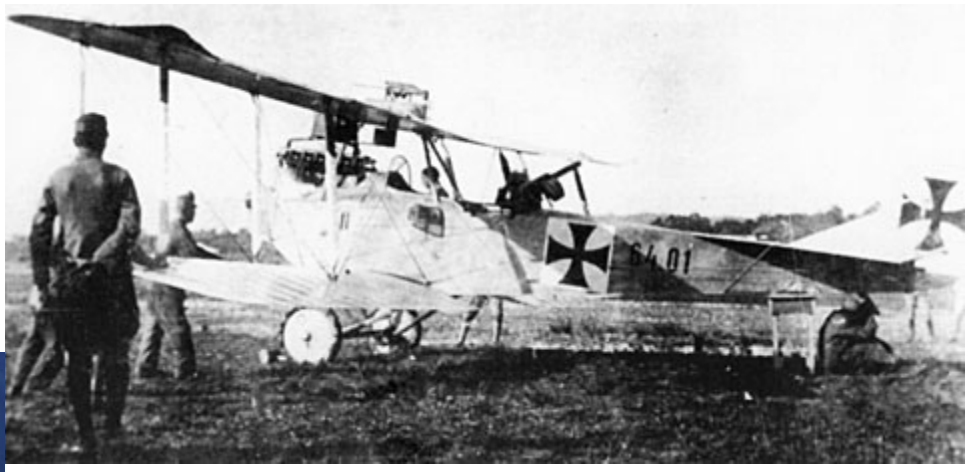
The top ace flying this airplane was credited with 22 kills plus two probables and 14 shared. He was not killed in combat, but during a training flight with a P-29 Airacobra.
Many were in service until 1951.

Last Month's Mystery Plane

The Hansa-Brandenburg was one of the earliest designs of Ernst Heinkel, who worked at Hansa-Brandenburg at the time. It was a conventional biplane with staggered wings and the pilot and observer sat in tandem in a long open cockpit. It was also produced under license by Aero Vodochody a Czech company.
The Hansa-Brandenburg first flew in 1914 as a reconnaissance aircraft flown largely by the Austro-Hungarian Air Service.

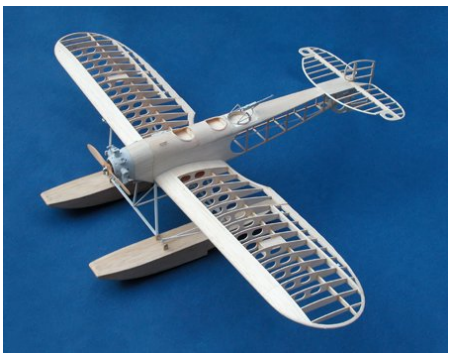
A later version—the Hansa-Brandenburg C.I was an armed reconnaissance version. It had a *Schwarzlose* machine gun at the rear for the observer and a similar 8mm gun in the front for the pilot. It also carried a 60Kg (130 lb.) bomb. Some aircraft carried two 20 lb bombs.

Dimensions and specs:
Two place
26 feet in length
43 foot wingspan
468 sq. ft wing area
2300 lbs loaded
Austro Daimler 160 HP engine
78 mph maximum speed
19,000 foot ceiling
3 hour endurance



A variant called the W29 was produced in Norway and Denmark after the war.

An RC model of the version S5A (This was changed to a monoplane) is available from a Swedish kit manufacturer.
http://www.mjd.se



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Club Meetings

Monthly Meetings are held on the third Wednesday at 7:00PM at the Novato Fire Department Training Room on Atherton Avenue between highway 101 and Highway 37. The training room is located behind the fire station. Ample parking is available.

Membership

Membership dues are based on the class of membership. The **full membership** includes flying privileges at the Lakeville site and voting rights for only $25 yearly. An **associate membership** includes the newsletter and meetings for only $15 yearly. Associate members will not be allowed to fly at the Lakeville site.
Dues are payable to the treasurer/secretary as shown above and require proof of current AMA membership.