

Radio Controlled Soaring Digest

January 2015

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Front cover: Bill Kuhlman's R-2, a Dave Jones design, makes a gentle thermal turn high over the Seattle Area Soaring Society field at Carnation Farms, Washington, while piloted by Dave Beardsely. A 4-part construction article detailing the various modifications made to the basic design can be found in the July 2001, September 2001, October 2001 and March 2002 issues of *RCSD*.
Konica Minolta Maxxum 7D, ISO 100, 1/800 sec., f8.0, 500mm

4 Modelling the Eta

The world's largest sailplane, with a 30m wingspan, is modelled in 1/3 scale by Gilles Bailleul. XFLR5 was used to confirm the model design and fabrication of the wing was based on previous experience. In-flight photos of the completed model are included.

14 Tom's Tips My simplest stand yet!

After several successful designs, Tom's recent goal of designing a really simple and small, yet totally supportive, stand are achieved.

17 Glider tuning stand

Bring a new model to the field and try to fine tune the flight controls with a computer radio and you'll find it quite awkward to do. Here's a solution with full size plans available in dxf, dwg, vc6, eps and pdf formats through an included link.

The DynaMite 20

Construction of the DynaMite, a small full size glider (no piece larger than 18") is documented by the designer/builder Bengt (Ben) Jansson. The DynaMite would make an excellent large scale model for aerotow.

Lawrencetown Slope-Fest 2014 27

Nova Scotia venue, text and photo coverage of the event by Al Eastman.

Walk-around Schweizer SGS 2-8 / TG-2 36

Jeff Byard's yellow and blue 'ship' as photographed by Mark Nankivil.

Back cover: A homemade 3.7m wingspan Swift piloted by Daniel Vani flies inverted at "Le Col de Faisses" in the French Alps near Grenoble. The model uses a combination of TP series airfoils. Photo by Pierre Rondel.
Canon EOS 10D, ISO 400, 1/1500 sec., f8.0, 140mm

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Managing Editors, Publishers

B² Kuhlman

Contact

bsquared@rcsoaringdigest.com
rcsdigest@centurytel.net
<http://www.rcsoaringdigest.com>
Yahoo! group: RCSoaringDigest

FaceBook: <https://www.facebook.com/RCSoaringDigest>

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In the Air

Scale sailplane modellers will be excited to see several examples of full size sailplanes in this issue. The design, construction and flying of a 1:3 scale rendition of the 30m span Eta by Gilles Bailleul starts things off. A PDF detailing the construction of the DynaMite, precursor to the Duster, is next. And finishing things off is another walk-around by Mark Nankivil, this time documenting Jeff Byard's beautifully restored SGS 2-8 / TG-2.

RC sailplane enthusiasts in Nova Scotia had a fun time in Lawrencetown in 2014. Augmenting Al Eastman's coverage of the event is a 15 minute YouTube video available at <https://www.youtube.com/watch?v=_gakR5MAGtE>.



Andrew McKittrick sent in a short (38 seconds) video of some slope soaring with a miniature ASK 21. Small, but it does perform extremely well in the stiff breeze. Check it out at <http://www.rcsoaringdigest.com/videos/Mini_ASK_21.mp4>.

Time to build another sailplane!

Modelling the Eta the world's largest sailplane

Gilles Bailleul, Gilles.Bailleul@free.fr



Original Eta History

The sailplane Eta (Efficiency, from the Greek letter) has been designed for record flight, where searching for a FAI glider distance record requires an optimal usage of energy, from thermal flight phase to transitions at maximal gliding ratio. The 30m span is the result of the uncompromising design, 'the state of art' in aerodynamics and composite materials.

<http://www.leichtwerk.de/eta/>

The full size Eta made its maiden flight on July 31st 2000. The father (not only, but...) of the glider is the well known world record holder Hans-Werner Große, owner of 50 FAI world records. His free distance record, with an ASW12 from Lübeck (Germany) to Biarritz (France) in 1972 was broken only in 2003 by Klaus Ohlmann, but in Argentina. The Eta is still today the largest glider, even with open class sailplanes like the Concordia, EB28...

The Model Story

When I discovered the Eta in a sailplane magazine a few months after the first flight with its amazing aspect ratio, I imagined to build a scale model. In 2004, I discovered that Gérard Risbourg made 1/4 (See Figure 1) and 1/3 scale drawings, and Jean Poulou realized them in the 1/2 size.

<http://lesgpr.free.fr/construire/eta/eta-1/eta-1.htm>

In 2006, I contacted Jean Poulou who was selling a fiberglass fuselage of the 1/3 model. Jean invited me to Perpignan (France) to pick up this huge part (3.2 meters length) and discuss building. He explained to me how he made the master, from an ASH25 form, removing the cockpit, increasing the beam and the drift. I got also 25mm glass fiber wing joiner rod and lots of information about his building experiments.

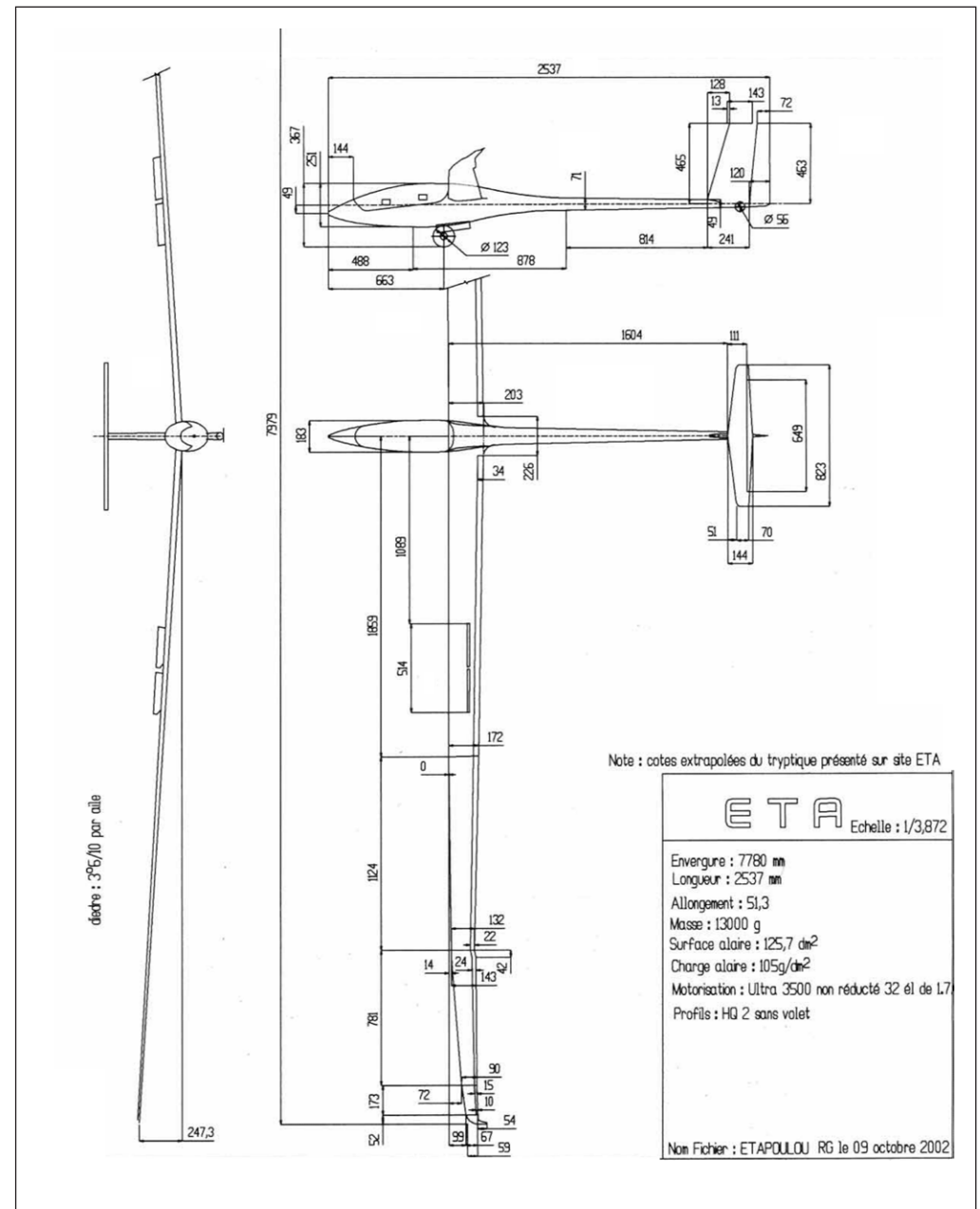


Figure 1: Dimensioned 3-view for 1/3.872 Eta

Before Building

Back home, I feel not immediately ready to start such building (the wing). First of all, the material resistance calculation was difficult to handle (with simple tools) for the wings. I decided to experiment, using carbon uni-directional and bi-directional glass on a similar project (from mechanical constraint point of view): the standard class 'CB15 Cristal' 1/3 scale (5 meter span), with a low aspect ratio of 23 but using an unusual F3B foil, HN354 - 7.88% thickness. The famous XFLR5 analysis by André Deperrois was used for wings and model simulation.

<<http://sourceforge.net/projects/xflr5/>>

(See Figures 2, 3, 4 and 5)

After flight experimentation, I was happy with the longitudinal flexibility of the wing but I realized that torsion was too soft, so that at 'relative' high speed, the wing started to flex, not as a classical flutter, but at low frequency (as a bird ☺). The glass rowing put at 45° was too soft. From this conclusion, and also by extrapolation of Thierry Pasquet's 9 meter ASW22, I decide, for the future Eta wing, to increase dramatically the torsional rigidity by a full surface of 160 g/m2 carbon and 160 g/m3 bi-directional glass to 2.8 meter also at 45°.

Let's talk about the wing design and the building techniques used. From the aerodynamic design, the wing is a set of five trapezoids plus a winglet.

For technical limitations of the cutting machine, I split the foam into nine sections. The airfoil progression starts with a HQW 2.5 - 15.6% at the body, and is then reduced by about 1% each 700 mm to reach 10% thickness at 6 meter of span and finishes at 9% at the wing end.

Unlike Jean Poulou, who kept the thickness between 14% and 12%, I made this choice of low thickness on the smaller wing chord in order to avoid a laminar bubble that can appear at low Reynolds numbers. I had discovered poor flight quality at low speed while flying a 'small' 4 meter span Nimbus 4D some

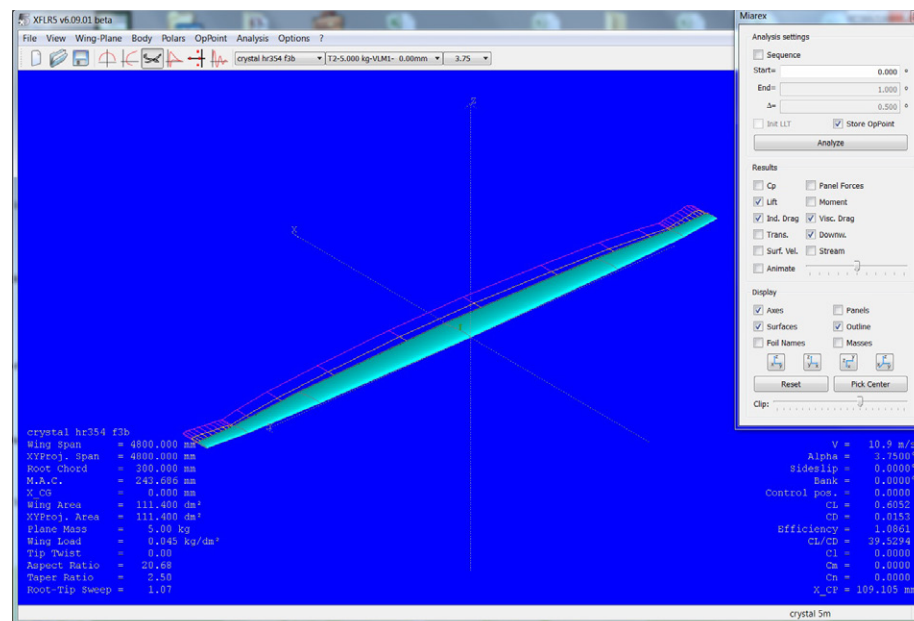


Figure 2: Cristal wing simulation in XFLR5

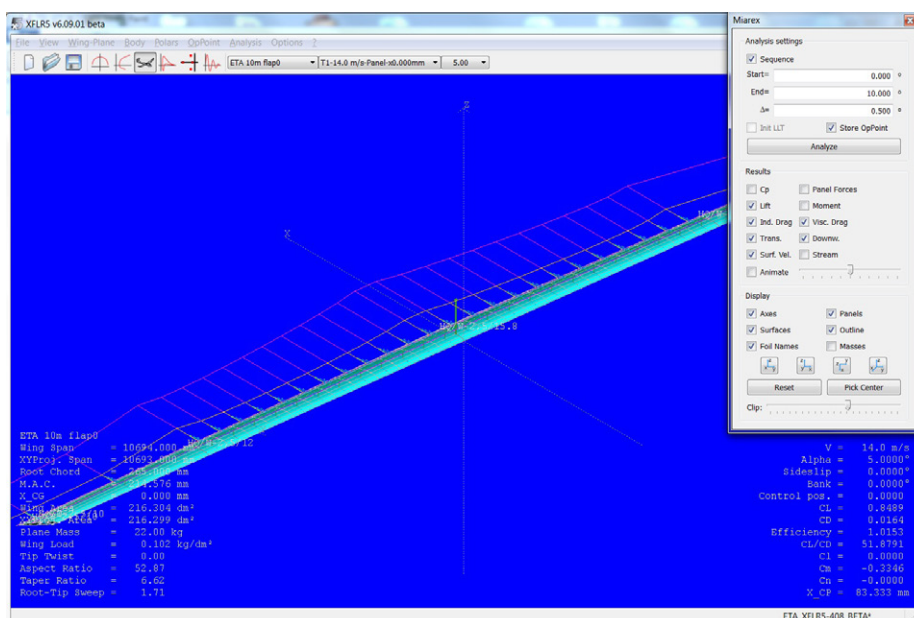


Figure 3: ETA wing simulation in XFLR5

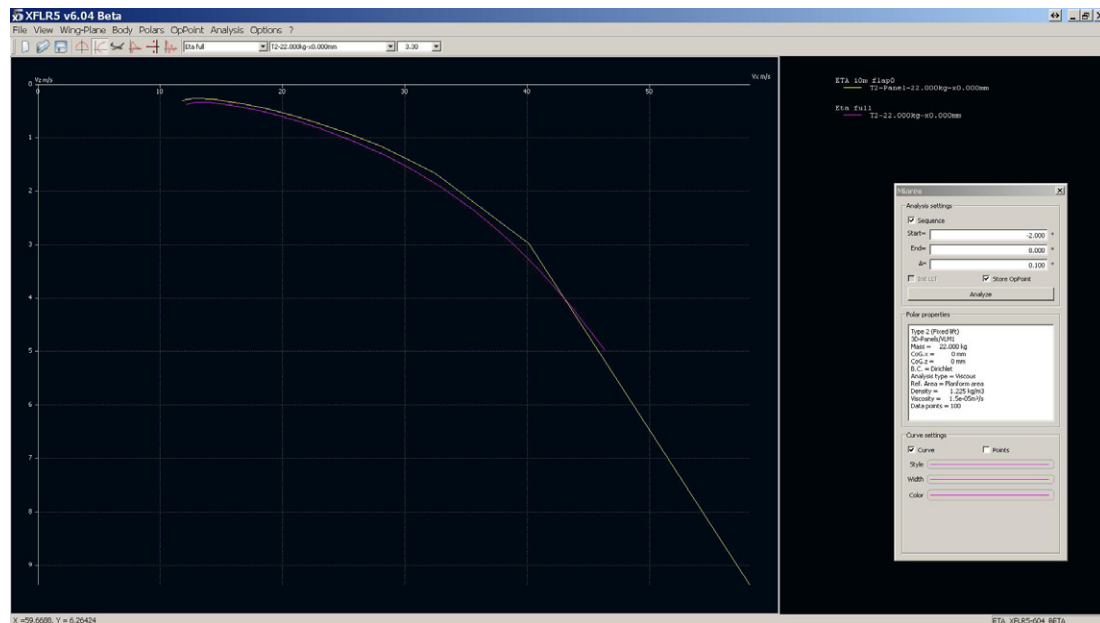


Figure 4: Eta polar simulation

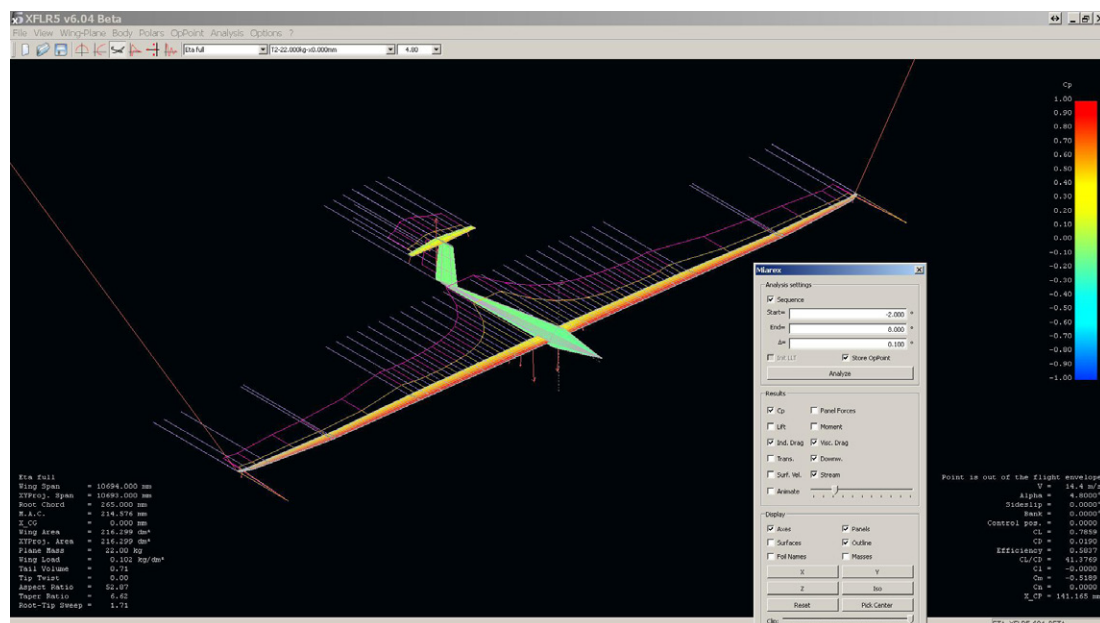


Figure 5: Eta full simulation

years ago. At medium and high speed (flap 0 to -2°) the Nimbus was good, but at low speed I was never able to say if the center of gravity was good or not, because of the divergent behavior of the model.

I exchanged mail with Mathieu Scherrer, at this time a SUPAERO student, who had the same issue with his model. He used Xfoil and MIAReX to evaluate the CM0 variation. The final solution was to add a turbulator as used on light and slow free flight sailplane and this cured the problem. A very good English article from Mathieu:

<<http://scherrer.pagesperso-orange.fr/matthieu/aero/nimbus4e.html>>

Now it's time to build

In the meantime, I built several gliders: a Pilatus B4 4.5 meter and Pegase (close to ASW20) 5 meter thanks to my friend Dominique for his mold. The acquired experience in epoxy resin, glass and carbon usage, and vacuum was important, but never enough... I discovered later some errors that I was not able to identify before.

The wings are made by the classical foam method, assembly is prepared by half wings (5 meters) and covered with 1mm of samba (wood). Inside the samba, reinforcement is made with carbon and glass fabric for torsion (45°) and the longitudinal part with uni-directional carbon (300g 40mm wide). The number of layer s is digressive, calculated by a dedicated excel sheet originally designed for F3B, adapted and experimented for large sale plane by Jean Luc Delort.

(See Figure 6)

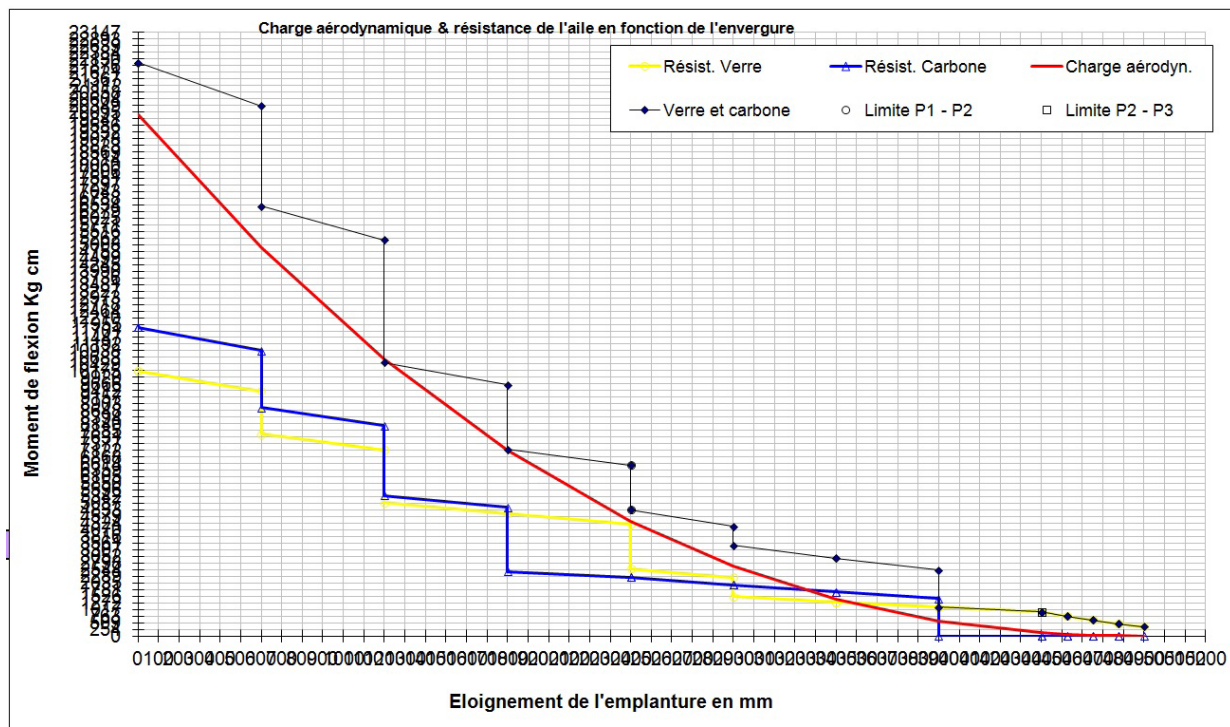


Figure 6: Eta wing bending moment

An intermediate 14mm carbon fiber wing joiner rod is used to split the wing into two parts after 2.8 meter from the root.

The wing was assembled in one operation, starting from the foam and joiner tube, local reinforcement for servo and wires.

I chose this method in order to get the maximum resin resistance and grip, but honestly it's very difficult to realize. First because each panel is difficult to move with all layers of glass and carbon, second because it needs a lot of space,

and the resin must be prepared in small parts using a flat container to avoid resin heating. And last, the carbon uni-directional spar adjustment in the foam is not stabilized, so that it creates a hollow fault that must be filled.

The main advantage was that I got a strong closed box, with good mechanical characteristics. From the root of the wing, to the end, this is a huge amount of work.

I got an unpleasant surprise: the woven fabric under the wood had too much

resin, so I was not able to use this for flaps; thanks to silicone for that job.

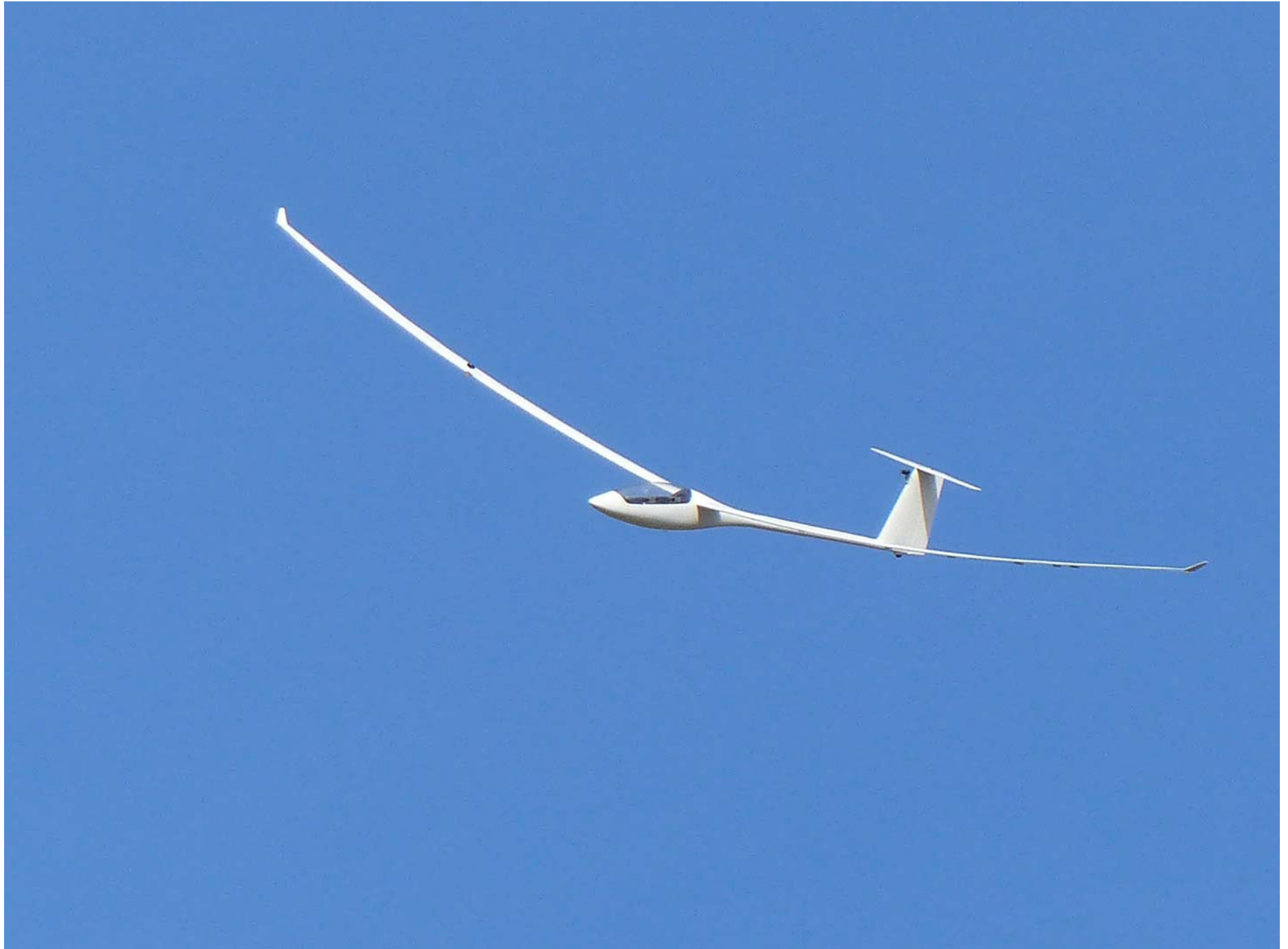
Despite the size, the servo installation is hard, there is no more place than on a 4 meter span wing, but with very long flaps and wires. The wing assembly on the fuselage was a bit funny because I had to support the wing at several points to avoid flexing, and estimate the dihedral so that the wing will not touch the ground at both extremities - around 4° dihedral per side.

The main wing joiner rod was assembly in a tube in the fuselage and geometry was made by using a laser gauge and strings.

After sanding, I covered all the surfaces with light 50g/m² glass, prepared and painted (polyurethane). Thanks to my friend Michel for a perfect finish.

Final mounting, verifications

Most of the building was made in 2010-2011, but due to familial constraint, I finished the last radio installation in 2013. The radio used is a Graupner MX24 (12 channels 41 Mhz APCM), receiver and servo are powered by a DPSI RV box from Emcotec and two 5000mah Lipo batteries. The box provides signal amplification (important regarding the distance to the extreme servo about 5 meters from the box), it protects the receiver against interference from wires and servos, and for safety each servo







supply is independent. Servos used are 15kg.cm (for rudder (1), 5kg.cm for elevator (2), for airfoil (4), ailerons (6), 2kg.cm (2) for small ailerons, 15kg.cm for flaps (6), 20kg.cm for retracting gear (1) and 30kg.cm for tow release (1): total 23 servos!

Maiden Flight

All was ready by April 2014, but due to the bad spring weather in France, the first flight was delayed to October 18-19 in Saint-Auban. Saint-Auban hosts the famous National French Sailplane Training Center (Centre National de Vol à Voile, CNVV), dedicated to training competitors, but it's not only open to individuals, but also teams, organizations

or companies which need 'on demand' training, from initiation to the higher levels of competition and aerobatics.
<<http://cnvv.net/>>

This platform is also exceptional for aeromodelling, thanks to the very good relation between the local aeromodelling club and the CNVV. The weekend of October 18-19 was reserved for aeromodelling (see Gérard Risbourg GPR site: <<http://lesgpr.free.fr/manifestations/reportages/2014-st-auban/2014-st-auban.htm>>). There were over 50 sailplane pilots and a top level of tugs.

As Pascal Tournache writes to conclude what all the participant felt, "If searching for the Grail is often closer to chimaeras

than reality, this weekend we were very close..."

Well, a perfect choice for me...

On the Saturday morning, I was not in a hurry. The Eta was ready for several months, but the pilot was not.

I verified the model several time, and decided to try. The first take off was as in a dream, few trims needed, the wing takes the wind perfectly and takes off.

The main difficulty is to anticipate rolling; I estimate at least 3 seconds for what we call the 'time constant' in the servo loop system. So you need to anticipate the tug turns, but also in straight line the corrections to keep the axis. I was very



surprised by the longitudinal stability, very little compensation to keep the towing attitude.

After drop, the flight seems not so bad, probably a too much advanced center of gravity (already 40% but to increase),

certainly a too high speed, but difficult to estimate because of the low chord, it seeks a greater Reynolds number. (Speed is the only remaining factor.) Before landing, a test of airfoil and flaps was done. Airfoil seems OK, flaps need

an important compensation, so decided to not use it for landing.

Unfortunately, on the last landing I got strange yaw and roll behavior; associated with the high roll inertia I was not able to understand what happened. Some days



ago, the embedded video shows one of the four airbrakes open. During the four test flights, all landings were a bit difficult as each time I had to open the airbrakes by pulsing. Video: <<https://www.youtube.com/watch?v=f7k3nlYuWpk>>

One other difficulty was a too short travel of the flaps. This limitation will be difficult to manage because the joint is on the top of the airfoil, a bottom position can solve it (as on many flaps).

Next:

This winter I have a some work to do.

First to replace the airbrakes as I discovered mechanical backlashes that block at least one airfoil under constraint. It's the first time I got this kind of issue, critical in final landing phase on such a model.

For the flaps, I will study if I can modify the hinges, a hard job on a finished

model... Other finishing stuff will be easy to perform. I plan also to rework on the aerodynamic side because it seems that there is a lot to gain by working on centering and flaps management. It will probably take me a lot of time, I hope to get the help of embedded instrumentation (air speed and vario, GPS, camera...), and I need to invest in those.



TOM'S TIPS

My simplest stand yet!

Tom Broeski, T&G Innovations LLC, tom@adesigner.com

There are all kinds of plane stands out there. From PVC pipe, bicycle stands, to big boxes, etc. So far I've designed many plane stands and improved others. Some were complex and had lots of adjustments for use with and without wing support extensions.. I found I really didn't use the stand without the supports. My recent goal was to design a really simple and small, yet totally supportive stand.

A couple years ago I designed the Heavy Duty Stand, a heavier version of the Better Stand I designed in 1997 (for more support and wider cord for my XC planes), and the Simple Stand. See <http://adesigner.com/planestand/>

The Simple Stand was close, but had some unnecessary curves and the base had angles that were difficult to cut and a bit harder to assemble. You adjusted it by moving the supports in and out. I found the Heavy Duty Stand worked a bit better,, but had a lot of parts and I had to use my CNC to get the grooves right.

Sooooooo... I eliminated the side curves, got rid of knobs and such and ended up with this one:

The flat-heads hold the stand together.





The pan-heads let the side supports adjust and are tightened when you have it positioned where you want it.

You can copy it and adjust the dimensions to whatever suits you.

Here's my parts list:

1pc - 5" x 11" x 1/2" plywood base with 1 1/4" center recessed 1/8" with 1/2" hole drilled through to accommodate a 3/8" T-nut.

2 pcs - 5" x 7" x 1/2" ply with V-grooves - Wider and deeper in front. Higher and narrower in back to fit most fuses.

2 pcs - 2" x 11" x 1/2" ply with 5/8" holes a bit forward of center to allow support without hitting flaps.

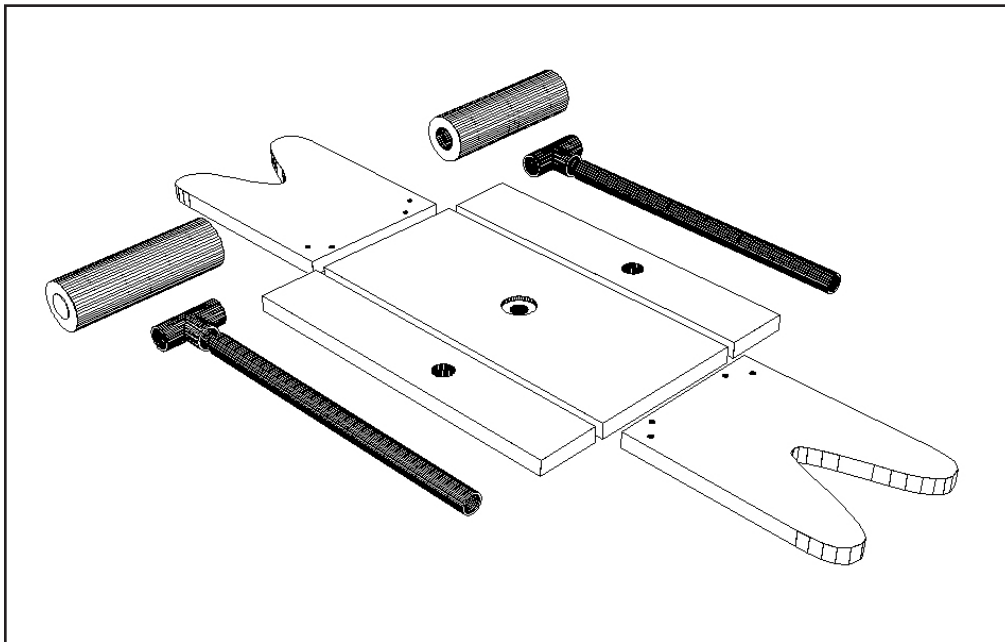
2 pcs - 1/2" ID pvc pipe 10" long with T's and 5" long pipe insulation.

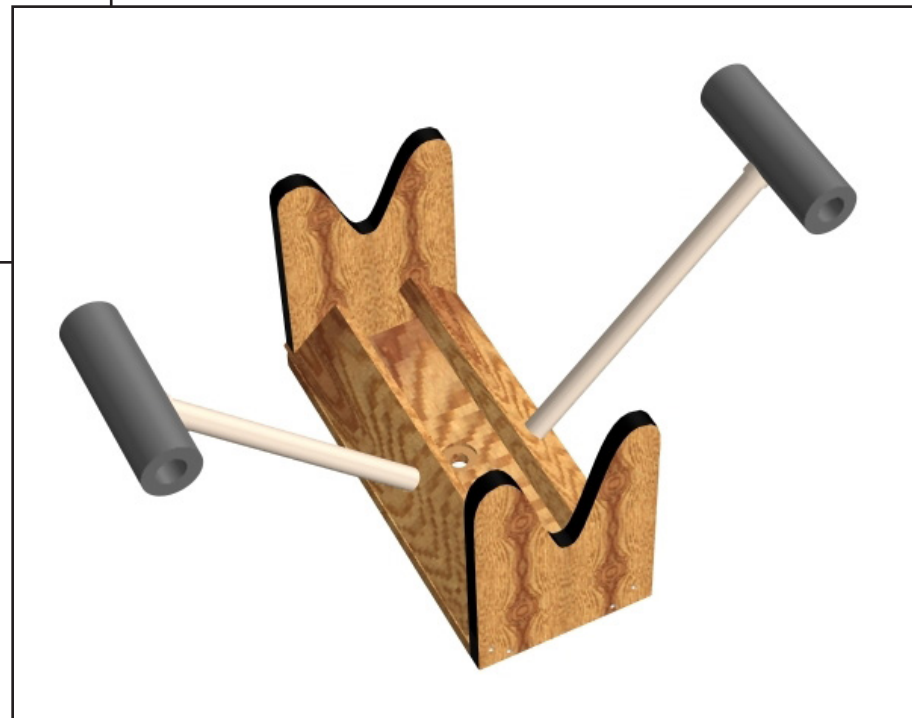
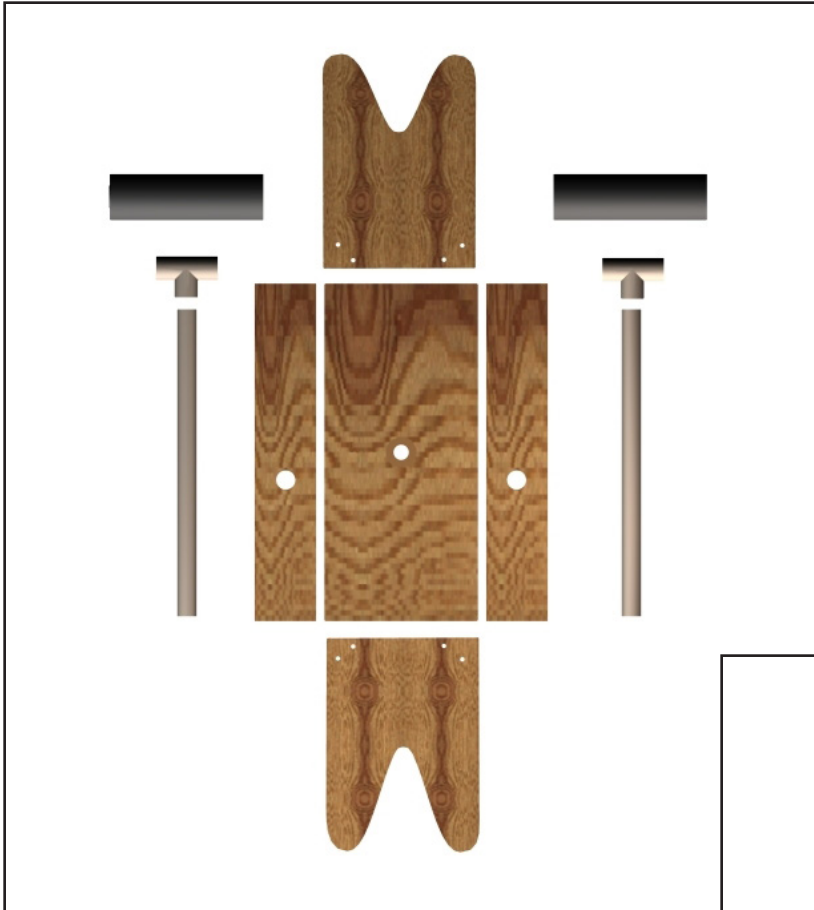
2 lengths of velcro loop around the ends. A couple strips of hook to hold the plane down.

4 - #8 flat head screws counter sunk in ends (you can just glue and nail together if you want)

4 - #10 x 1 1/8" pan head screws. These hold the side pieces that adjust to hold the wing supports. I just tighten them where I want them. You can go through the trouble of using knobs, but I found it unnecessary.

That's it folks... we'll see how it holds up over the next year or so.





Glider Tuning Stand

Curtis Suter, sales@tailwindgliders.com

I have flown radio controlled model planes since the late 70's. Sheesh, I'm showing my age now! I am thoroughly enjoying gliders pretty much exclusively since the early 90's.

When I finish building a new model or arrive at the glider field and am setting up or fine tuning the flight controls with the computer radio, I find it quite awkward to do. It is also paramount to ensure that the correct model is programmed. I'm sure I've never tried to fly a model with the wrong model program... Not!

I also ensure the trailing edges (flaps and ailerons) are neutral and deflect evenly across the wing when applying camber and reflex. To do this I pick up the tail and balance the nose and one wingtip on the ground. Then when I need to make an adjustment I need both hands on the transmitter so I sit the tail on my knee.

It's quite awkward and if there is any wind then the model wants to tip left and right while I'm trying to view the control surface movement. If I leave the model on the ground then the outer portion

of the flaps drag the ground and reduces deflection and/or causes the model to tip left/right.

Recently I was surfing, the internet that is, and saw a neat Discus Launched Glider carrying cradle that held three models. Then the idea hit me! This is exactly the hands free stand I need to set my glider in so I can tune up the flight controls.

So I went to my trusty CAD program and drew up some plans for a stand that accepts only one model of two meter or larger size. I wanted it close to the ground so that if I walked away and the wind came up it wouldn't blow the model over easily. I also wanted it to be easy and quick to assemble and disassemble. This is where I got stuck.

So I solicited my good friend Jim Loughran and he not only drew up a beautiful quarter quick-turn interlocking system, but fine-tuned my entire design. All that's required for assembly/disassembly is to insert the three horizontal pieces into each side piece and give each one a quarter turn!



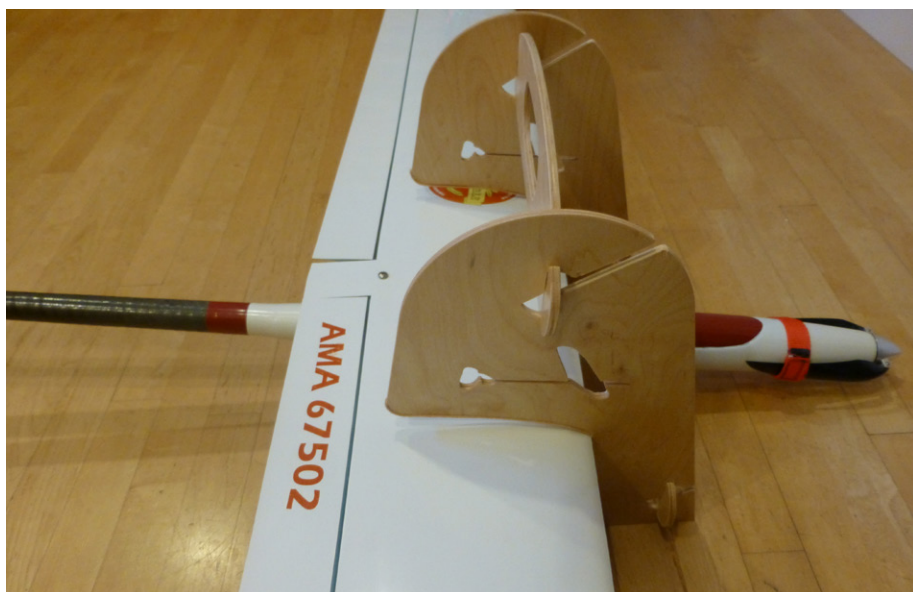


Jim Loughran used his CNC machine to cut ours out of 6mm plywood. I would think that cutting and sanding by hand using the Adobe plans (pdf) would work well, too.

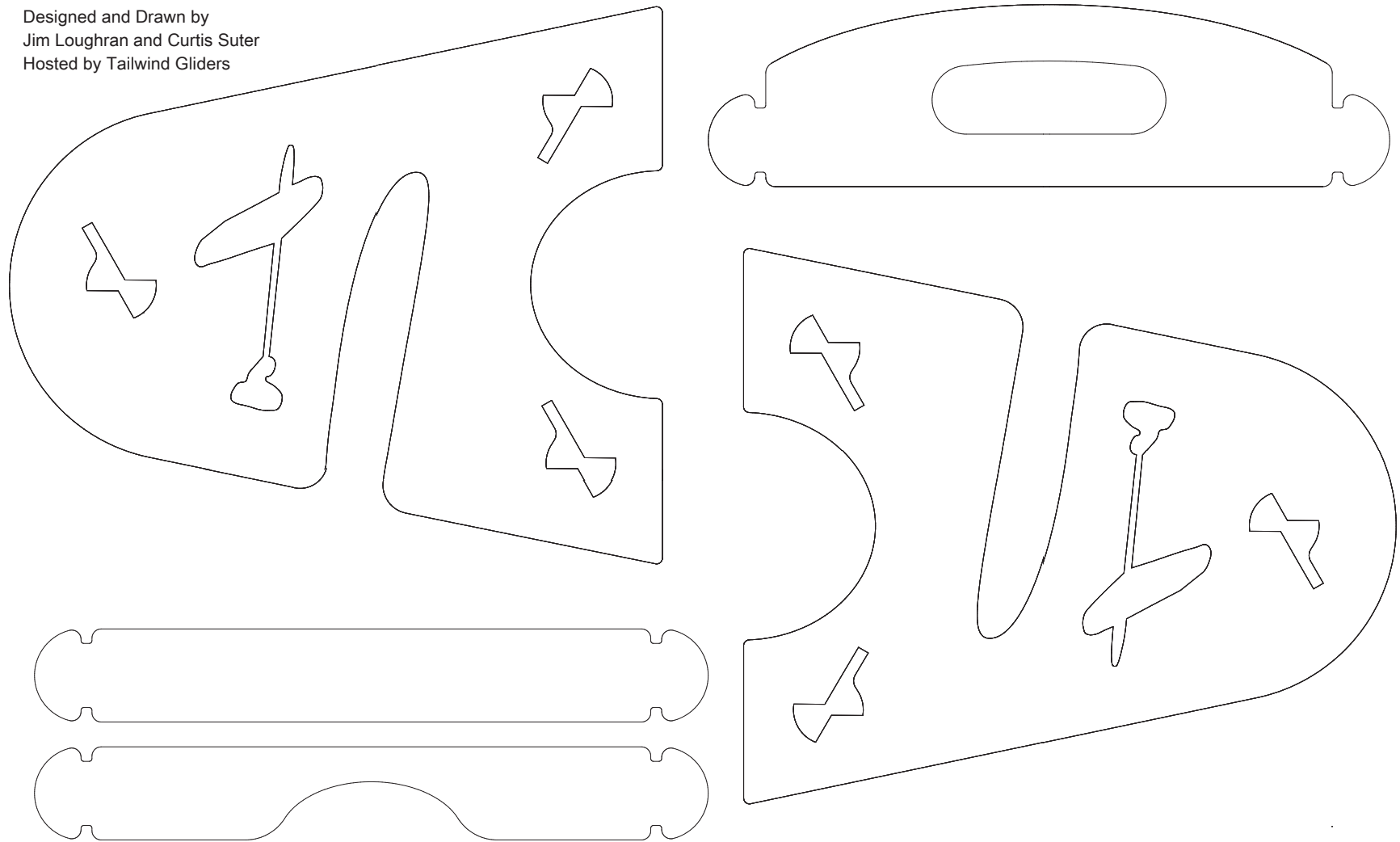
Once the parts are cut out some rounding of the insides of the interlocking areas are needed, a little foam where the wing is inserted to protect the gliders wings and a protective finish and she's ready to use.

The plans are hosted on the "Files" page at Tailwind Gliders. They are available in different formats, dxf, dwg, vc6, eps and pdf.

<http://tailwindgliders.com/Files.html>



Designed and Drawn by
Jim Loughran and Curtis Suter
Hosted by Tailwind Gliders



Once “pasted” together, this is what the PDF plans look like.
They do print out to full size from the downloaded file.

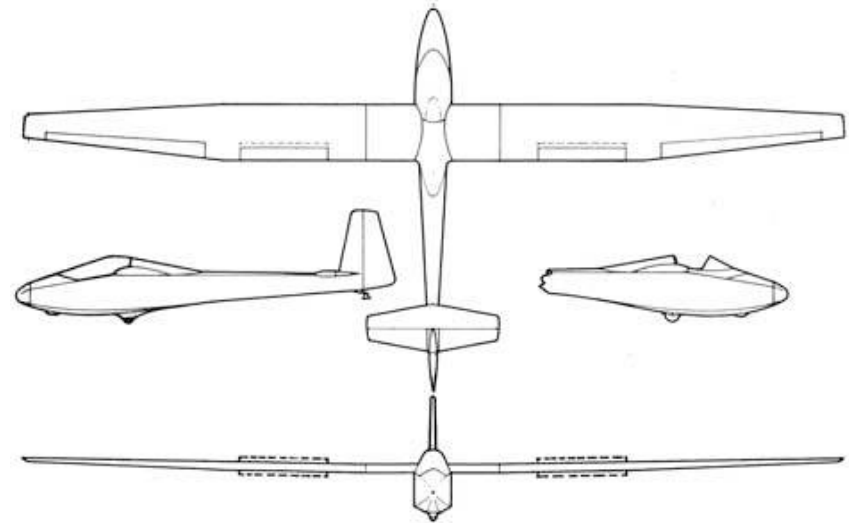
BJ-1 DynaMite

1966

Some pictures from the construction



Happy smiles after the first test flight!
Ben in the cockpit and Hank as the “wing man”



The original document created by Bengt Jansson can be downloaded from <http://www.rcsoaringdigest.com/pdfs/DynaMite.pdf>.



BJ-1B Duster



BJ-1 DynaMite with closed cockpit



The concept of DynaMite, and eventually the follower, Duster, was that it should be able to be built and stored in an ordinary garage.

(Thereby the 3-piece wing with a "fixed" 8ft center section and max 8ft horizontal tail span)

Ordinary wood hand tools (except for tapering the wing spar) and some help with aircraft quality welding.

Performance better than the German K-8, especially at high speeds,
=higher wingloading

The fuselage was built, with 1"x1" spruce stringers and bulkheads in 1" fir plywood on a sturdy bench.

Three piece wing with solid laminated spruce spar

Cut out ribs of 1/4" fir plywood with cap strips at scarf joints

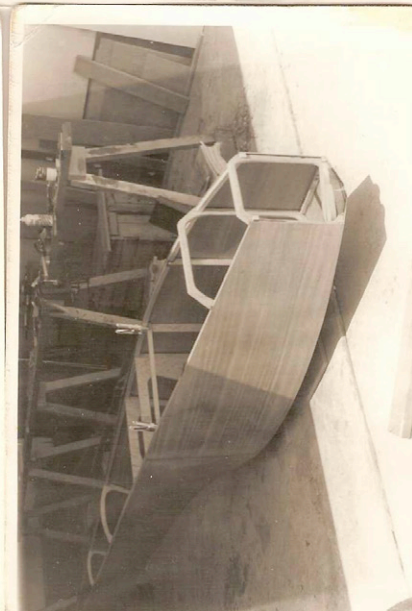
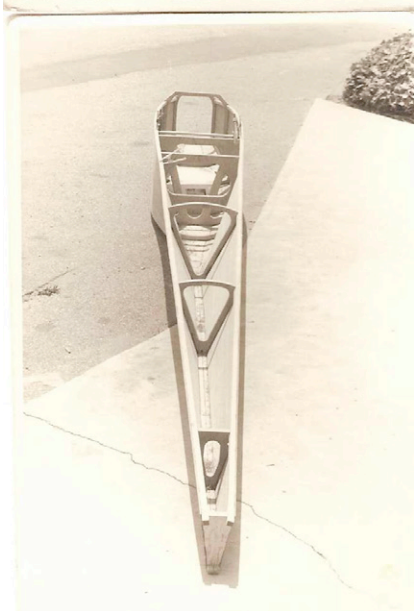
Wing leading edge covered with 3/32" aircraft grade mahogany

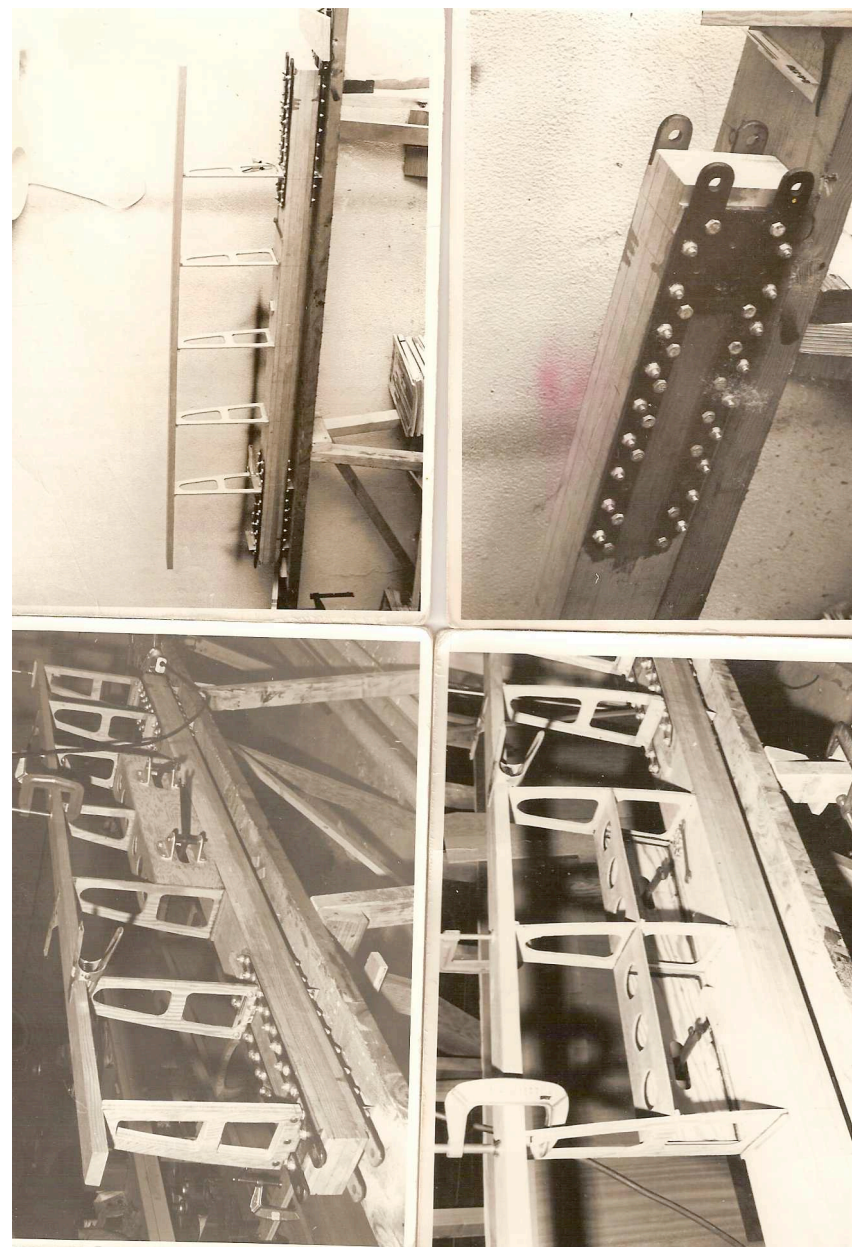
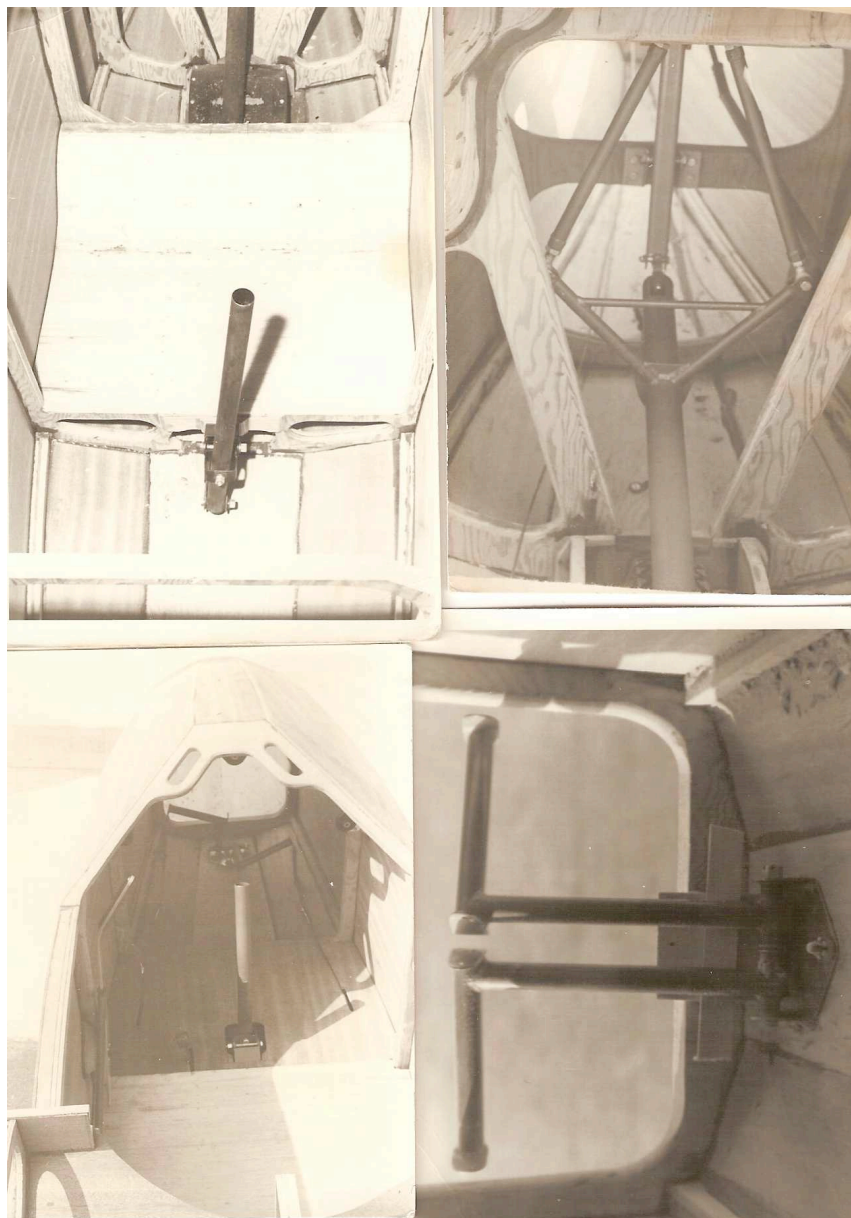
All control surfaces covered with 1.5 mm birch plywood

Novel terminal velocity dive brakes.

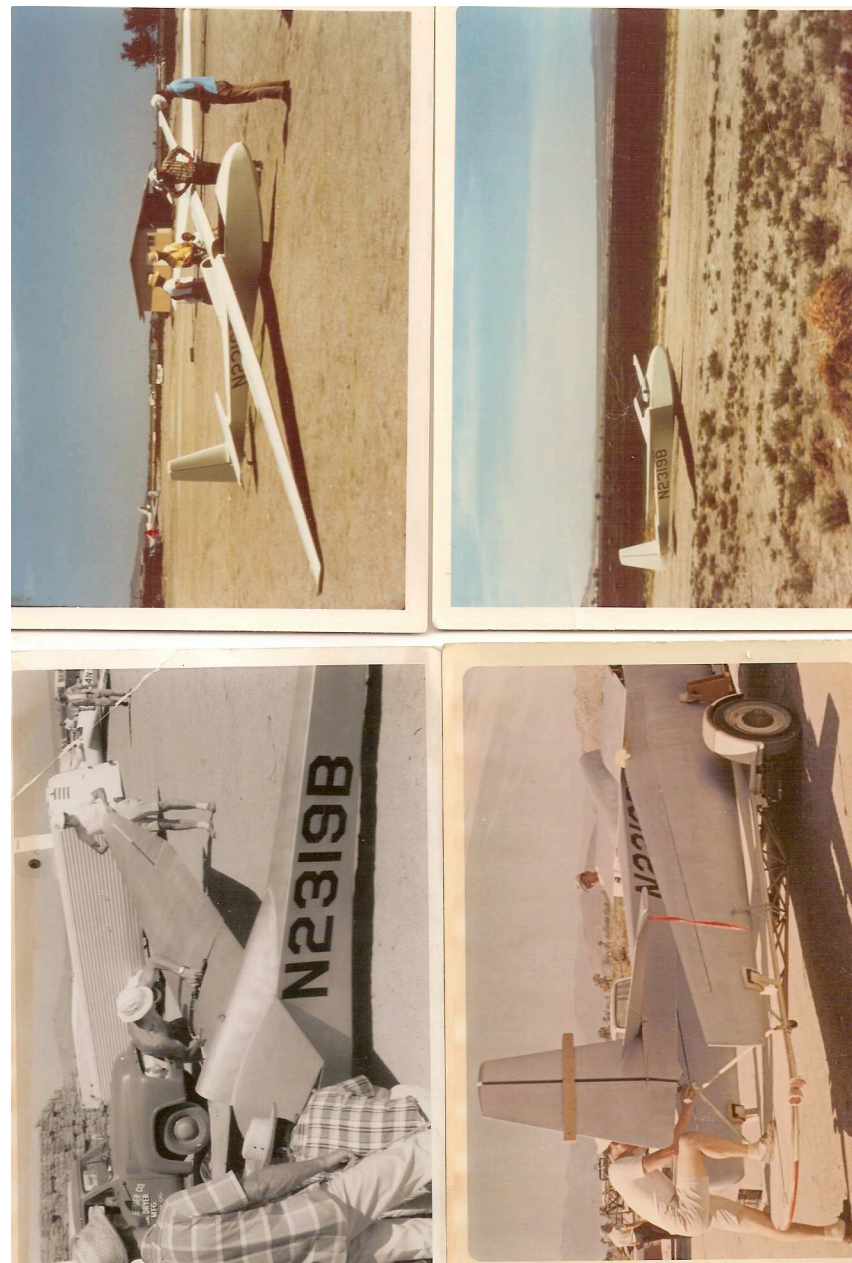
IT WORKED!

/ Ben











Some pictures of BJ-1B Duster. Developed from BJ-1 DynaMite
Somewhat increased span, more reclined seating position.

RC
SD

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LAWRENCETOWN SLOPE-FEST 2014

Text and photos by Al Eastman



John prepares to launch his power glider. No power will be used here though. John's models are exotic and works of art.

Dateline: Lawrencetown, Nova Scotia
Forty years in the hobby and I cannot believe I waited so long to try this.

I have always looked for that perfect no wind flying day and here I am this day standing on an almost sheer cliff ninety eight feet above the Atlantic Ocean, the wind whistling around my head pushing my tied down hat back behind my ears and exposing my sunburn prone pate to the strong rays of the sun.

I've read about it, looked at pictures and videos, and listened to good friend Rick MacDonald talk about it, but today I'm experiencing it for the first time.

This is the Lawrencetown Slope Fest 2014 and my son Jon and I are here racing almost in formation two brand new gliders back and forth across the face of the Lawrencetown slope.

No laid back floating around, this is aggressive adrenalin inducing flying. In addition to trying to stay together we have a look out for the other six or seven ships orbiting with us.



Andrew Colwell carries the big 109 out to the slope edge.



The 109 was beautiful in the air, soaring back and forth effortlessly in at that time about 25 kph winds.



Andrew Colwell and Jim Lloyd enjoy the large 109 and it's super flying characteristics. The two shared flying responsibilities, but I think here Jim is on the controls. Jim with his well known British wit declared "put your dollars in the hat now" when the big bird got its first taste of the slope.



John O'Sullivan receives a special gift in recognition of his being the pioneer of Lawrencetown soaring. John first flew at this site in 1980 following his arrival from Ireland.

Near misses are frequent, actual hits less so. It's all good!

This is exciting stuff for a guy who has always looked up while flying to now seeing his glider dive thirty to forty feet below his feet, race over the water at what seems like a couple of feet, but is actually a comfortable lot more, and then rise up steeply in an aggressive chandelle at the end of the pass and repeat again in the other direction.

To gain altitude and a comfort zone over the Atlantic Ocean below I simply turn away from the face directly into the 35kph wind. My little Adagio glider rises immediately as if in an invisible elevator and in seconds I've got it into a steep forty five degree dive to build speed and pull up and over into one of the largest and most graceful loops I've ever done.

All with NO power, amazing!

This is slope soaring at its best and we're doing it because local flyer Vic Rusgys and his lady Mary Jefferson took it upon themselves to host this second annual event again this year.



Event organizer Vic Rusgys launches one of his self designed slope flyers. All of his planes are scale models of fighter aircraft and perform aggressively on the slope, all aerobatic maneuvers being possible.



Another slope veteran Steve Ryan flies some pretty exotic ships, often self designed. Here he holds his Coyote I believe as he heads to the edge for another flight.

Vic, a helicopter pilot in the Canadian Armed Forces, is well known in the local modeling community for his model flying and designing skills. Mary is always nearby, camera in hand, except for those times when she is looking out for flyers at events such as this one, manning the barbecue, hosting the over nighters camping on their nearby west Lawrencetown property and passing out her dessert delicacies. The hobby is very lucky to have people like this duo.

As well as flying several of his self-designed slope warbirds, Vic spent much of the weekend assisting neophyte slope flyers and at one point on Sunday was seen giving buddy box flights to two young twin brothers from Quebec who were vacationing in Nova Scotia. Out for a drive on the Eastern Shore with their grandfather, they had stumbled onto the glider event. In a conversation with grand dad I learned he was blown away by the hospitality shown and thrilled his grandsons had that experience.



Jon has just released his new Cularus in this photo. Veteran slope flyer Colin Brooks looks on.

In all, forty flyers turned out bringing 62 models ranging from Dave Rowe's small three ounce 34 inch span ASK21 to the 100 inch quarter scale Me-109 weighing nine pounds brought by the New Brunswick contingent of Jim Lloyd, Andrew Colwell, Alain DeGrasse and Cato Hansen. The big 109 was a delight in the air.

Dave's little Eflite glider was an aerobatic wonder in the lighter wind earlier on Saturday.

Almost every plane imaginable was represented from the large light gliders to regular everyday power aircraft. Just about anything can fly on the slope. I saw a parkzone Corsair, minus its prop, orbiting at one point.

Popular long time modeler John O'Sullivan was recognized by the group Saturday for his involvement in bringing slope soaring to Lawrencetown. John, who also won the draw for an E-flite UMX ASK 21 glider with high-start donated by Maritime Hobbies, first flew the Lawrencetown slope in 1980.



Right above: It might be a bit hard to see them all, but there are seven gliders floating above the Atlantic ocean in this shot.

Right: The edge of the slope looked like this all day on Saturday.



Above: Cato checks the wind speed on Saturday and finds it at 41.7 kph. Great conditions for gliding, especially for some of the heavier slopers.

Above right: Rick MacDonald launches this small, light and uncomplicated slope flyer. It was very agile and aggressive in the 35 kph winds on Sunday. Tough too, as I saw it bounce more than once.

Right: A slightly smaller and a slightly different crowd were on hand for Sunday flying. Left to right; Jon Eastman, Cato Hansen, John Liddard, Rick MacDonald, and in the background Steve Ryan.





Left: Vic and Shearwater RC Flyers president Dave Rowe discuss conditions on Saturday. Dave is holding his small UMX ASK21 which proved to be a very aerobatic little machine in the lighter morning winds. One of these little Eflite ships donated by Halifax Hobby Shop, Maritime Hobbies and Crafts, was given away in a draw and won by John O'Sullivan.

Left below: This is just one section of the hill where the gliders were laid out. You can see Vic's series of warbirds in the foreground.

Below: Alain DeGrasse also from Saint John club in N.B. on the left having a great time flying one of his combat planes as those two gentlemen whose names I didn't get were having a great time watching him on Saturday afternoon, and no, nobody got a ticket.





Left: Twin brothers Migel and Mathew Tremblay from Quebec who stumbled on our event on Sunday while walking with their grandfather are treated to some time on the sticks by event organizer Vic Rusgys and Steve Ryan. You can see their enthusiasm and excitement in these photos. Well done gents! The boys have been spending their summer visiting their grandfather here in Nova Scotia. Grand dad was pretty impressed with the hospitality and very pleased his grandsons were able to experience the hobby.

Below left: Colin Brooks prepares for a flight on his Radian. Steve, the gentleman in the background, is the owner of the white poodle Lucy, the unofficial mascot of the HEFA club.

Below: Vic gets a little assistance on some maintenance on one of his models. Event co-organizer Mary Jefferson is seated at right. Not sure, but it looks like she might be still working when this photo was made Sunday afternoon.





One of the many powered electric aircraft that are suitable for slope soaring prepares for some time over the Atlantic Ocean.

On Sunday John commented on the HEFA forum: "I was a bit shocked to get the award as the pioneer of Lawrencetown soaring. I was not the first, as when I started flying there, there were at least two others well established. Dave Brown was flying a Graupner Cirrus and Wendell Sicard was also flying. I have not had contact with them in many years, but they were the instigators. When I arrived in Nova Scotia in 1980, I had been used to flying in 1000 to 1500 ft sites in Ireland and scoured topo maps to find similar sites in Nova Scotia. No such luck. However, after a visit to Lawrencetown beach with my kids, I spotted the hill at Lawrencetown. Only 98 feet tall, I decided to give it a try. Well, with its unobstructed airflow from the southeast around to west, it proved to be one of the best sites I had ever flown. Also in the old days before the regrowth friggged up the eastern slope, this was a good site."



FOR SALE



1:5 Slingby T-31B

I would like to sell the display model, my original plans and patterns, material lists and instructions for kitting this plane, along with the manufacturing rights.

I have photographs and documentation for the real airplane this was kitted after, Raul Balckstein's real T31-B.

Please contact me for further information.

Buzz Waltz, bwaltz@dc.rr.com

FOR SALE

Schweizer SGS 2-8 / TG-2 NC47575

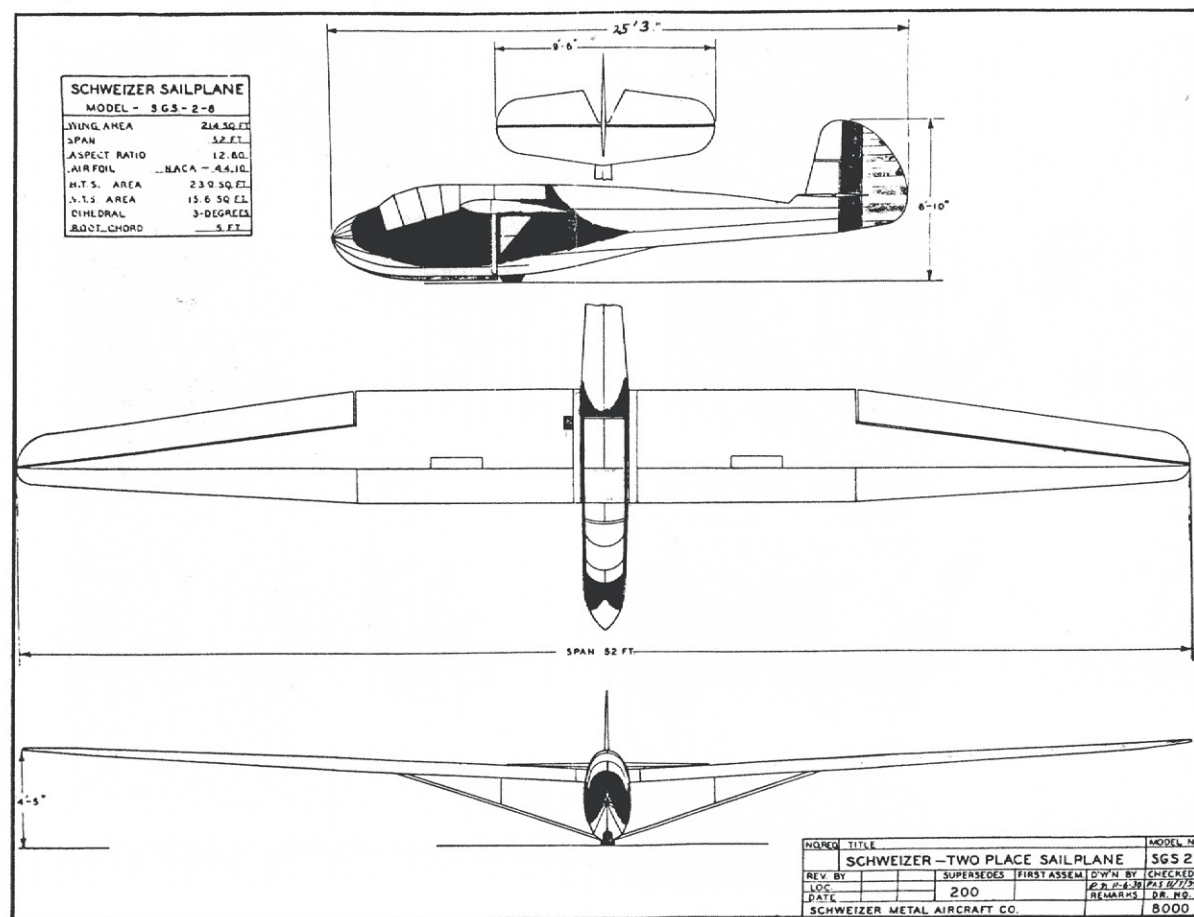
Jeff Byard, owner walk-around by Mark Nankivil

Specifications:

Manufacturer: Schweizer Aircraft Corp,
Elmira, NY

Length: 25'
Height: 8'
Wingspan: 52'
Airfoil: NACA 4412
Aspect ratio: 12.6
Crew: 2
Empty Weight: 450 lbs
Gross Weight: 860 lbs
Wing Loading: 4 lbs/ft²
Sinking Speed: 2.75'/sec @ 40 mph
L/D max: 23 @ 42 mph
Maximum Speed: 72 mph

Detailed historical information on this specific aircraft, including civilian and military chronology and the eight and a half-year reconstruction process can be found at <<http://www.scalesoaring.co.uk/VINTAGE/Documentation/TG-2/TG-2.htm>>

















S. ARMY TG-2
C. 42-53019
UNDERBIRD FIELD, AZ.

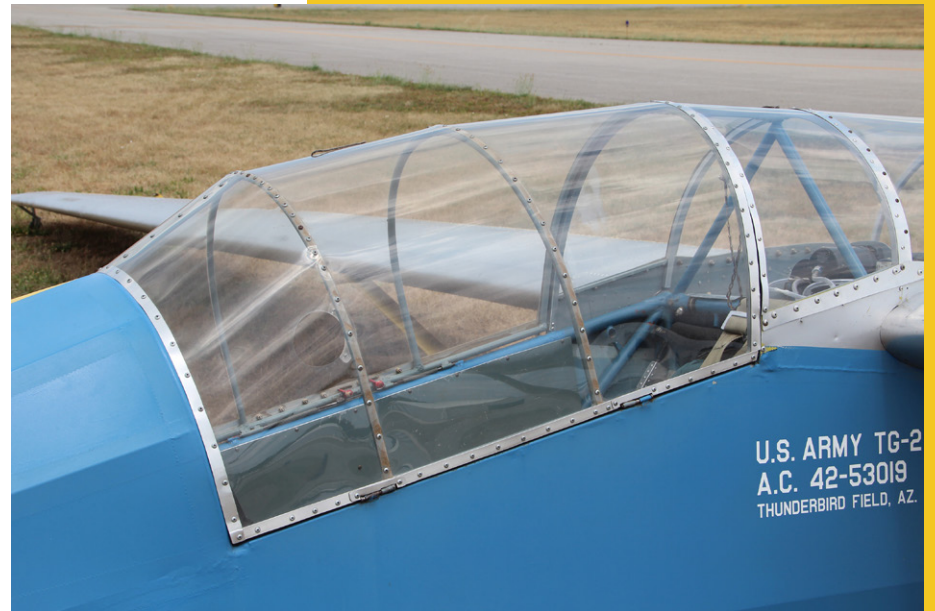












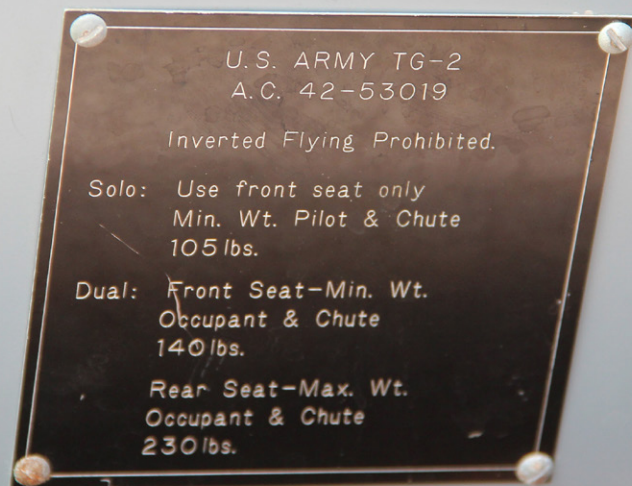








U.S. ARMY TG-2
A.C. 42-53019
THUNDERBIRD FIELD, AZ.

















Vintage Sailplane Association



A Division of the Soaring Society of America

Promoting the acquisition, restoration and flying of vintage and classic sailplanes and gliders and preserving their history since 1974.

For membership information, please go to the VSA website:
<<http://www.vintagesailplane.org/membership.shtml>>

Jim Short, President: simajim121@gmail.com
David L. Schuur, Secretary: dlschuur@gmail.com

