TASK

Volume 34 Issue 1

Winter 2018

Web page: www.soggi.ca

Inside This Issue:

From the Editor…

A new year begins, and a chance for new experiences. While we're at the same field, we're lining up new contests, and new opportunities for folks to experience different aspects of sailplane competition, but all with an eye to keeping it fun and low-key.

I'm trying a new feature this issue, called "What's On The Bench", an opportunity for members to share their current building projects. Since it's in its infancy, I'll hog the first installment with my own projects!

Looking forward to a fun flying season, we've got some interesting workshops lined up, and etc.

Marc Freeman

SOGGI 2017 In-House Contests - Andy Meysner

Background

SOGGI has a history of being quite active in holding and participating in sailplane contests, whether it be in-house only or with other clubs. During 2016 however, the first year at our current Hwy 6 field, we were not as active contest wise as in the past. The layout of the Hwy 6 field is part of the reason for this, as line launching in particular is very limited if the wind is in a North or South direction.

So in 2017 the SOGGI Executive decided to make a concerted effort to enable SOGGI members to participate in internal contests in an informal manner. The intent was to have lots of fun with no pressure, meet your fellow SOGGI members on the field, and gain significant sailplane flying experience with the opportunity to complete LSF/ESAP accomplishments. *Previous experience has clearly demonstrated that pilot skills improve significantly in a contest environment.*

Between the beginning of June and the end of October we arranged a weekly contest, alternating between line launch and electric (Altitude Limited Electric Soaring, ALES) sailplane events. Bob Hammett, Ann Tekatch, Dick Colley and Andy Meysner took it in turn to direct these contests. The contests were typically scheduled on Thursdays, although were often postponed to a weekend rain day due to the weather. We scheduled an ALES and line launch contest on the Thanksgiving weekend, hoping we may get a better turnout.

The Events and Results

We ended up holding 10 contests between June and October. Twelve SOGGI members participated on various days, with the most contestants being 8 on July 15.

Although there were many weather related postponements and cancellations, with the exception of the contest held on October 14, the weather was mostly co-operative on the day. October 14 however was extraordinary. See the event report below for what transpired.

The results and details from each event are below. Many thanks to the CDs for directing, scoring and some of their comments which are copied from the message board. Thanks also to the many helpers who are acknowledged below. And thank you too Lyle Jeakins for your photographic record of most events. For some events you can obtain more detail, including landing scores, on the message board.

June 3, line launch, CD Ann Tekatch

Our first contest of the season was held on a beautiful sunny day with light, variable breezes out of the NNW. Wind direction proved to be an issue for laying out 2 hi-starts and the club winch. With patience and good humour, the five pilots managed to fly 6 rounds. Thermals were elusive and ground effect on landings made the day a challenging one.

Pilot	Score
Andy Meysner	1540
Bob Hammett	1445
Adam Maas	1042
Dick Colley	637
Ann Tekatch	154

June 8, ALES, CD Bob Hammett

This was the first of our bi-weekly, altitude-limited electric-sailplane (ALES) contests for 2017. Dick Colley encountered immediate technical difficulties which prevented him out from competing, but he remained on hand to act as a timer, and to provide moral support. Our remaining four contestants dealt with somewhat variable lift conditions. We all had fun, which was the main point of the exercise anyway. Congratulations Adam, for a convincing performance and a well deserved victory.

Pilot	Score
Adam Maas	3350
Bob Hammett	2929
Ann Tekatch	2097
Mike Sherlaw	1445

June 16, line launch, CD Andy Meysner

Everyone managed to fly 4 rounds before the wind became unmanageable, at which point carrying on would have meant taking home too much firewood or expensive composite. When almost maximum down trim was needed to keep my plane from landing in Newfoundland, I decided to call it a day during round 5, and the contestants seemed OK with that. Thank you Lyle for the shade tent and table. And Ann and Bob for the Hi-starts.

Pilot	Score
Bob Hammett	1426
Rob Nelson	1194
Adam Maas	1109
Ann Tekatch	1097
Andy Meysner	826
Mike Sherlaw	408

July 6, ALES, CD Bob Hammett

Yesterday's contest benefited from beautiful weather conditions and plenty of thermals ... probably the best flying day so far this year. Thank you Andy Meysner, Dick Colley and Mike Sherlaw for helping with the contest set-up and tear-down, and for acting as timers. It was also nice that the Linghornes came by to cheer us on. The contest consisted of 6 rounds, all with 10 minute maxes. Launch height was limited to 200 Meters.

Pilot	Score
Bob Hammett	3064
Ann Tekatch	1467
Sam Burke	821

July 15, line launch, CD Andy Meysner

We had a good turnout of 8 pilots yesterday, with good conditions and the wind blowing very conveniently from the West parallel to the track. Thanks to Bob and Ann for bringing their Hi-starts and Ann for the table. The club's new shade test is also getting lots of use.

Pilot	Score
Bob Koiter	2529
Ann Tekatch	1989
Rob Nelson	1895
Bob Hammett	1810
Adam Maas	1391
Dick Colley	1194
Mike Sherlaw	1117
Andy Meysner	1035

August 6, ALES, CD Andy Meysner

The forecast was for increasing winds late morning so we made an effort to complete the contest before conditions became unmanageable. Ironically strong and widespread thermals appeared at the same time as the winds picked up, and to keep within the task time, the last round required trying to find air that was not rising! We completed 6 rounds man on man and it was a close contest. Thanks to Lyle Jeakins for helping out.

Pilot	Score
Otakar Koprnicky	2113
Ann Tekatch	1811
Adam Maas	1800

August 24, line launch, CD Bob Hammett

The weatherman supplied a beautiful sunny day for our contest, but he also supplied wind that was coming mostly from due North. The short North-South dimension of our field does not easily accommodate the length of our launching tackle. As a result, we laid the tackle out for launching in a North-Westerly direction, meaning that our launches were somewhat crosswind. Landing scores proved to be important in the end results. Adam had the longest single flight of the day at 10 minutes 32 seconds. For quantity of hits on the highest landing score of the landing tapes, Andy and I tied with one hit on the red number 10. Andy's new Bubble Dancer continues to amaze in light air. Jim L gets the award for the highest launch (every launch, and by a mile) using Mikes new winch. We salute Allan, who has to be acknowledged as our club's most improved pilot. He's getting decent flights and enjoying our contests, having just 2 years of R/C sailplane activity under his belt.
Seven contestants made the day a success. Thanks everyone who pitched in with the set up and the tear down.

Pilot	Score
Bob Hammett	1870
Mike Sherlaw	1856
Jim Laslett	1751
Andy Meysner	1644
Adam Maas	1322
Dick Colley	1205
Allan Glover	806

September 10, line launch, CD Andy Meysner

We had a beautiful sunny day, a comfortable temperature and not too windy from the North East, enabling easterly line launches. That suited Bob Hammett who loves to fly into the sun. We had 6 pilots who all remarked what a great day it was. To quote Bob Koiter, "it was intense", although I have to admit I'm not sure why. The thermals were around but difficult to find, so not being man on man there was some luck whether you happened to find the good ones during your round. We had bonus landing points on the first 3 rounds which Bob Koiter took the best advantage of. Thanks to Lyle Jeakins for helping out.

Pilot	Score
Bob Koiter	2965
Bob Hammett	2478
Andy Meysner	2234
Mike Sherlaw	1926
Jim Laslett	1700
Adam Maas	1032

September 21, line launch, CD Ann Tekatch

Beautiful weather, graceful sailplanes and great company accompanied our latest weekly contest today. Moderate and weak thermals kept us scratching for lift at times. Six rounds were flown. Special thanks to Lyle for helping to set up and for taking pictures, and to everyone who came out

*Bob was only able to complete 3 rounds due to a damaged elevator mount.

Pilot	Score
Andy Meysner	2148
Ann Tekatch	1566
Dick Colley	1423
Bob Hammett	1302*

October 14, ALES (line launch cancelled due to a low cloud base), CD Andy Meysner

Well what an unusual day. A lot of us remarked that it was raining when we left home and most of the way to the field. But the entire time at the field we did not see a drop of rain. There was however a very low cloud base, and on first launches of ALES the planes disappeared into the cloud at or before the top of the climb. There were even puffs of cloud below the base and the planes would disappear for a few seconds before re-emerging. For the above reasons we decided not to hold the line launch event as, with no control before line release, we might lose sight of the model and not find it again soon enough!

And comment from Lyle Jeakins:

Early this morning as I drove down Hwy 6 south towards our field I thought to myself, R/C sailplaners must be the most optimistic bunch around. The sky was grey, overcast, my windshield wipers were flapping away and the cloud ceiling was probably no more than 300'. I was thinking what the heck am I doing? To my surprise, Andy and Adam were already at the field and getting ready to go! Soon we were joined by Craig Packham, Bob Hammett, Terry Dawson , Mike Sherlaw & Jim Laslett. Andy Meysner was the CD for today's contest and quickly went over the rules for the ALES contest. As there were only three pilots flying electrics, it was agreed to have sequential (i.e. man on man) take offs starting with Bob & his Lanzo Bomber, then Adam and his Radian Pro and then Mike with his Radian Pro. And then there were two! Adam's Radian developed a glitch so he was out. After some fiddling, Adam was able to solve the problem and get in two flights. There were some hairy moments as the planes would become lost in the low hanging clouds! Amazingly, all pilots left the field with their planes intact! In total, we were able to get in six rounds of 8 minutes before the grass cutter showed up to cut the field! A decision was made to call it a day and head to Tim Horton's in nearby Caledonia for coffee and treats. In the end, I'm glad I decided to go despite the less than perfect conditions. Lots of good flying and great camaraderie!

Pilot	Score
Bob Hammett	2129
Mike Sherlaw	1324
Adam Maas	587 (2 rounds only)

Final Thoughts

These contests were thoroughly enjoyed by all who participated. Some of us were able to complete several steps towards our next LSF or ESAP levels. There is no doubt that participating in contests improves one's flying skills. We would really like to see participation from more members. The Executive are thinking about how we can do that, so stay tuned. One thing to be realized is, with these informal contests, there is no intimidation, nothing to lose and much to gain. Just look at the results above to see how they may vary from contest to contest.

SOGGI's 2018 Contest Schedule – Lyle Jeakins

Following the summary of our successful 2017 contest season, here's the dates for 2018!

Date	Type	Contest Director
June 2/18	LSF	Ann Tekatch
June 16/18	LSF	Bob Hammett
June 30/18	LSF	Mike Sherlaw
July 14/18	LSF	Dick Colley
July 21/18	Open Fun Fly	Adam Maas
July 28/18	LSF	Andy Meysner
August 11/18	LSF	Adam Maas
August 18/18	Open F3-RES	Ray Munro
August 25/18	LSF	Ann Tekatch
September 8/18	LSF	Bob Hammett
September 22/18	Open ALES	Andy Meysner
October 6/18	LSF	Dick Colley
October 20/18	LSF	Mike Sherlaw

Notes on this year's contests:

LSF: Your executive is quite excited about the upcoming contest season! We've made some changes which we hope will improve membership participation. A decision was made to proceed with a contest every other week. Last year we tried to hold a line launch event one week followed by an electric ALES contest the following week. Due to the unpredictable nature of the weather….excessive wind and or rain, this year, we are asking for members to bring both line launch and electric sailplanes to the field on the above note contest days. The contest director for that week will send out a notice prior to the event to inform the members if the contest will be held as scheduled or if a possible rain date is required. Depending on wind conditions on the date of the contest, the CD will make a decision as to what type of contest will be held.

Open Contests: As indicated in green highlight on the contest schedule, this year we will be holding three additional major events that will be open to MAAC members from other area clubs. A Fun Fly in July, F3-RES, an exciting new 2M format, in August & finally an ALES contest in September.

Hopefully, by reducing the overall number of contests, there will be more "tinker time" for members to fine tune their planes and get in some practice sessions.

Cheers!

Lyle Jeakins, Contest Event Co-ordinator

STRENGTH OF GLUE JOINTS - Richard Lahde and Bob Bayard

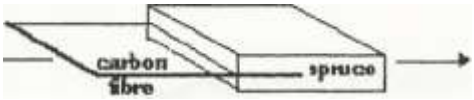
In the process of continuing some work that one of us (BB) started on the strength of wing spars, we felt the need to find the best way to glue strips of carbon fibre/epoxy laminates to each other and to other materials such as spruce. This note reports our findings on the strengths of aliphatic glue, gap-filling cyanoacrylate and fast (5 minute), medium speed (30 minute) and slow epoxy. The slow epoxy is the kind that sets up in about three hours and is best left overnight to harden.

The strength we were interested in is shear strength, the ability of the glue joints to resist sliding or breaking along the glued surface. A typical test sample is shown in the sketch. In this case a strip of carbon fibre laminate is glued on its upper and lower surface to spruce. We have tested not only CF/spruce but also CF/balsa and CF/CF joints.

Epoxy does not bond well to the epoxy surface of the carbon fibre/epoxy laminate if the laminate surface is even partially un-sanded. Cyan is somewhat more tolerant of some shiny surface spots on the laminate. Best, of course, is to sand the laminate surfaces until no shiny spots remain. The results we present here are based on "no shiny spots" laminate preparation, though the reason we know about the shiny spot problem is that we were not too thorough in our sanding the earlier phases of our inquiry.

The best joints are made with the least glue, by clamping the two pieces and squeezing out excess glue.
When we made joints with thicker glue, the glue pulls apart in chunks rather than shearing along the whole surface. The strength is very low, no more than about one fourth the strength of a well-made joint.

A good joint between CF and balsa fails by pulling slivers of balsa off the piece. The glue is not torn. Bonds between these two materials are weakest of all.



Glue joints between CF and spruce are much stronger than CF/balsa and fail by a combination of pulling some splinters out of the wood and by shearing some of the glue itself. Joints between CF and CF fail mostly by separating at the glue-laminate interface, even for well sanded surfaces. The strength of the CF/CF joints is close to that of the CF/spruce, maybe a bit more. Some of these joints taxed our tension machine and it had to be re-engineered in order to break all of the samples.

Aliphatic glue makes the weakest bond of the glues we tested. Next is 5 minute epoxy. The fast epoxy is somewhat weaker than the slow epoxies. The cyanoacrylate is the strongest by quite a bit, being about twice as strong as the slowest epoxy and about four times as strong as the fast epoxy. The average breaking shear stresses for our samples are given in the table following:

GLUE	AVERAGE STRENGTH (psi)
Aliphatic	1530
Epoxy - fast (5 minute)	1220
Epoxy - medium (30 minute)	2190
Epoxy - slow (3 hour)	3410
Cyanoacrylate	6560

In summary, if you want a good joint between CF/epoxy laminate and spruce or other laminate, sand until all shiny spots disappear, clean it, put slow cyan on it and squeeze the extra glue out. That's your best joint.

Improve Your Glide Performance with a Gyro – Bob Hammett

"Gyros" are devices used to dampen unwanted motion. The first use of gyros in the R/C aircraft hobby was more than a decade ago by R/C helicopter enthusiasts. Since that time, thanks to gyros, more people have been able to fly R/C helicopters successfully than would otherwise have been the case. More recently gyros have seen increasing use in fixed wing models, notably entry level ARF's such as the Radian and Micro Radian. The Radians' 3-axis gyro system maintains stability even under fairly turbulent conditions. The Radians make an excellent trainer for beginners to learn on. My interest was piqued when it became evident that the Radians had better thermalling ability than similar models that lacked gyro stabilization.

My Lanzo Bomber electric sailplane was flying OK, but I decided to retrofit it with a single axis gyro to see if any performance increase would result. I installed an ancient GWS PG-03 Piezo Gyro connected to the elevator servo, to dampen pitch axis rotation. My single GWS Gyro is a much less sophisticated than today's fully-autonomous self-stabilizing systems that have a gyro on each of three axes supplemented with gravity sensing accelerometers. Nevertheless, the GWS gyro has produced measurable improvement in my sailplane's performance. A fully autonomous system might produce further improvement.

Gyro Characteristics

Any given gyro should be aligned to sense active rotation about only one of the aircraft's three principle axes; either pitch, roll, or yaw. My gyro was installed parallel to the aircraft's pitch-axis, which can be visualized as running from wing-tip to wing-tip. Aircraft rotation about the roll or yaw axes cannot be sensed by my pitch-axis gyro.

The physical casing of the gyro must also be correctly oriented with respect to the aircraft's own up/down and front/back orientation. Otherwise the direction of the gyro's output-motion may be reversed. Some gyros have a reversing switch to take care of this; some don't. It's best to verify output direction by bench-testing, before finalizing your installation.

Lacking the ability to sense gravity, my gyro can't tell if the aircraft is right side up, upside down, climbing, or diving. This means that it is up to the pilot to put the aircraft right-side up and on the intended glide slope. When there's any subsequent disturbance that causes rotation about the aircrafts' pitch axis, the pitch-axis gyro senses that rotation, and applies elevator movement to restore the original pitch axis attitude.

Reducing the Gliding Sink Rate

My habit is to arrive early at the field so that I can trim my Lanzo Bomber in dead calm air. This aircraft climbs to 200 Metres altitude at which point the motor is automatically shut off every time the aircraft is launched. The aircraft is also equipped with vario telemetry, meaning that the aircraft's gliding sink rate can be continuously monitored and thereby optimized by adjusting elevator trim. I timed the glide-portion of a number of flights before the gyro was installed. My best glides back to the ground averaged about 5 minutes. For later flying sessions, the pitch-axis gyro was installed. Best glides consequently averaged about 6 minutes. These "Before" and "After" glide times were observed during numerous "dead-air" flights over the course of several flying sessions. Other than adding the gyro, no changes could account for the improvement.

In the afternoons of these flying sessions, further flights were conducted in livelier air. Subjectively, aircraft handling and soaring qualities showed consistent improvement with the gyro installed. But there was no valid way to compare "with-gyro" and "without-gyro" flight times, since random wind gusts, thermals and down drafts affected the duration of all flights.

Where Does The Improvement Come From? (This is my best guess.)

Case #1: In relatively calm air, the lowest sink rate generally occurs near the edge of aerodynamic stall. By careful trial and error an R/C pilot can find the elevator trim-setting that corresponds to "almost stalled". But any subsequent disturbance can then cause some degree of stalling. Even without pilot input, a properly balanced and trimmed sailplane is somewhat self-stabilizing after an aerodynamic stall. But it may take several cycles of decreasing "porpoising" motion, before self-stability is fully restored. Glide slope deviations and recoveries can be so small and so far away, that an R/C pilot can't even see them, let alone correct them. Glide-slope and aerodynamic efficiency then both suffer as a result. The addition of a pitch axis gyro will reduce the amplitudes of these deviations and recoveries, with consequent improvement of aerodynamic efficiency and better adherence to the glide slope that was originally set.

Case #2: In turbulent air, choosing a little more down elevator trim helps an aircraft to punch through the bumps. A gyro will strive to maintain the same pitch-axis-attitude of the aircraft, even when transitioning from dead air into thermal lift, or into downdraft. By maintaining the same aircraft pitch-axis-attitude during these transitions, possible aerodynamic stalls (or precipitous dives) are minimized or avoided. Aircraft momentum and energy are better conserved, and then stored in the form of altitude.

Case #3: Simply the existence of any thermal that you are in, tells you that conditions favour other thermals being in the surrounding area. If your current thermal appears to be subsiding, it may be time to bale out while you still have some altitude. Higher speed is helpful when searching for the next thermal, particularly if that thermal is believed to be in the upwind direction. You can re-set elevator trim for a slightly steeper glide slope and higher speed (which your gyro will then closely maintain).

How are R/C Gyro's Made?

The way that Gyros are made is a staggering accomplishment in itself. Weird physics is combined with spectacular innovations in materials and production processes. Here are links to a couple of Youtube videos that give a sense of what is involved:

https://www.youtube.com/watch?v=zwe6LEYF0j8

https://www.youtube.com/watch?v=CNmk-SeM0ZI

Information, for what it's worth … Bob Hammett

Adventures in Laser Cutting: Part 1 – Marc Freeman

How often do we look at published plans and think "gee, I'd love to have a kit of that!"? For me, it was fairly often. The idea of being able to take a drawing and convert it quickly and accurately into a real object is part of what drew me to laser cutting. In this series of short articles, I'm going to outline the various ways one can get into laser cutting, what your options are, the pros and cons of different laser machines, and their limitations.

We've all marvelled at laser-cut kits, at the precision and detail of the shapes, and many of us know how much effort would go into doing the same thing with an X-Acto. The appeal of laser cutting is that it can produce complex shapes quickly, consistently and repeatedly. Until recently, laser cutters have been expensive tools that were really only justifiable for commercial endeavours. More recently, advances in LED technology have produced high-powered visible-light lasers that can engrave, and in many cases cut the materials we routinely use in our hobby.

When you set out looking for a laser machine, you'll likely have certain expectations in mind – I want it to be easy to use, I want it to cut the materials I use frequently, I want it to fit my budget. With tongue firmly planted in cheek, I suggest you pick any two. Currently, to meet all three criteria, you'll need a generous budget – I'll go into that in a bit. For now, let's look at the two main types of laser cutters on the market: carbon dioxide (CO_2) and light-emitting diode (LED). Each type has its advantages and disadvantages, and in this installment, I'll cover some of them.

First, a brief discussion about what's so special about lasers. And to understand what makes lasers special, we need to understand what light is. Rather than the full Physics 101 description of light, I'll just say that light (as we perceive it) is a narrow part of the spectrum of electromagnetic radiation,that goes from very long wavelengths (like radio waves) down to very short wavelengths such as X-rays and gamma rays. What we call visible light is just a very narrow part of that spectrum. White light, as we see in daylight or from light bulbs, consists of a mixture of different wavelengths of visible light. Unlike most of the light from light bulbs, laser light differs in two important ways. First, it consists of a very narrow range of wavelengths of light (the better the laser, the fewer wavelengths, or colour) and the waves of light are produced parallel to each other, and in a consistent timing or phase, called coherence. It is these two properties that give lasers such power. Without going into a long description of how light of different wavelengths and phases causes areas of constructive and destructive interference, laser light avoids these problems and presents a consistent amount of light energy in a very small space. By using a lens to focus that energy, we can make a very small spot with a very high amount of energy – enough to burn or vaporise a number of materials.

All laser cutting machines have some commonalities, as they are at their heart computer-assisted manufacturing (CAM) machines. They are the yin to computer-aided design's (CAM) yang. That means that they are taking digital information from a computer and translating it into physical motion that moves the laser cutting beam around the material to be cut. So you will need some familiarity with computers, software and hardware installation to get set up and running.

In terms of ease-of-use, there are many plug'n'play solutions; that is, you buy it, connect it to your computer, load the software and start working. These solutions also tend to be the more expensive options, as someone has already assembled and tested the machine and the software, and provided the support documentation to make them work. At

the other end of the spectrum of ease-of-use are the open-source machines, which require you to collect and assemble all the components, and configure software to work on your particular setup.

When you start shopping lasers, you're likely to look and see what various manufacturers use. Most commercial laser cutters are carbon-dioxide lasers. CO_2 laser have been around the longest, since 1964, and are used in a wide range of industrial and medical applications. They use a tube of carbon dioxide gas, which is excited much like a fluorescent light tube, but instead of visible light, emit a coherent beam of light at infrared wavelengths (700 micrometers – 1 mm). They come in a range of powers, from a low of 40 watts up to several thousand watts for industrial machines. For most hobby purposes, we're looking to cut wood (balsa, birch, spruce, ply) at fairly low thicknesses, less than ¼ inch, so most home-gamers use machines in the 40 W range. CO2 laser systems tend to be mechanically more complex than LED systems, as the laser beam is generated in the laser tube, and must be conducted to the cutting head by means of carefully aligned mirrors, then focussed at the cutting surface. Additionally, they require pressurized air to blow debris from the cutting path, and for higher-powered units, a water-cooler to keep the laser tube cool. The main advantage of CO_2 systems is that they will cut pretty much anything quickly and cleanly. The disadvantage is that they are expensive (figure around $1,500 for a reliable, ready-to-use unit, upwards to $50,000 for higher-powered, large-bed commercial units). There are a few inexpensive CO_2 laser units found on Ebay and other online sites, but they tend to contain components of dubious quality (laser tubes especially), so as usual, buyer beware.

Which leaves the other option, LED lasers. LEDs use a diode laser, producing short wavelength usually in the 430-450 nanometer range (ultraviolet). Most LED lasers are low power, ranging from 1-5W, although some advertise pulsed power up to 15W. Unlike CO2 lasers, the LED laser cutter moves the laser itself over the work piece, which reduces the complexity of the system. LED cutting/engraving machines seem to be dominating the hobby market due to their low price (~$200-$300) and relative ease of use. That said, at the lower end of the price range, these units are anything but plug'n'play. There is some tinkering required to get them optimized mechanically, and the software that ships with many of them is not well documented or simple to use. There are alternatives, but they require the user to do some research and experimenting. Diode lasers will cut balsa and basswood up to ⅛", some up to ¼ ". Unfortunately for us aeromodellers, LED lasers and aircraft plywood don't get along. The glues used to laminate these plywoods are impervious to the blue laser light, and just result in charring and bubbling rather than clean cuts.

Whether you choose a CO_2 or LED laser, there is a large, helpful internet community available to help you sort out your machine. And should you feel you don't want to invest the time or money in a machine of your own, many commercial shops now offer laser cutting at reasonable rates for small or one-of jobs. Next issue I'll go into more detail about my choice of an LED laser cutter, and what was involved in getting it assembled and working satisfactorily.

What's On the Bench?

This is a new feature (for me) that I'm throwing open to the membership. If you've got a current project on the go, a repair you're working on, or just a pile of sticks and sawdust, take a picture and share it with SOGGI!

This winter hasn't allowed me nearly as much bench time as I would have liked, but I've finally created enough clear space that I can start the project I've been waiting to get to since last fall. I picked up a Jasco Floater G-110 kit. This is an older Frank Zaic design that he updated for RC. It's a cantilievered wing with spruce spars across the bottom of the ribs, and a plywood pod-and-boom fuselage.

By all accounts it lives up to its name, and flys very well in stock form. I plan to build the kit to original specs, and then work on customizing it later, with a more modern wing construction and a lighter fuse using carbon fibre tube for the boom.

This is its current state, but will soon begin resembling something that might fly…

SOGGI's Website

SOGGI was one of the earliest MAAC clubs to have a website. Our website has been continuously improved through the years, and now serves many purposes. Here are a few:

- Promotes the experience of radio-controlled soaring, using words and images
- Provides the club's contact information
- Describes SOGGI's member-based organization
- Invites new members and explains benefits and responsibilities of membership
- Educates our membership concerning SOGGI's relations with external parties:
    - The Model Aeronautics Association of Canada (MAAC)
    - Owners of our flying sites
    - Sod Farm operators and the Hamilton Conservation Authority
    - Residential neighbours
    - Air-space regulators
- Supports members who are planning flying sessions, by providing:
    - A local 3 day hourly weather forecast, updated several times per day
    - A Message Board* to invite other members to come flying; SOGGI has no fixed schedule for casual flying. Flying Sessions may occur several times per week. Plans are usually based on the 3 day weather forecast.
- Promotes Flying-Field Safety by providing links to:
    - the current version of SOGGI's Flying Field Guidelines
    - Safety documents originated by MAAC
- Provides a Calendar of scheduled Events
    - Membership and Executive Meetings
    - Special club flying events
    - Winter workshops, and technical tours
- Houses a historical archive of photographs, aircraft designs and helpful tips originated by our members
- Provides a "Buy and Sell" marketplace (on the Message Board*)

*****Our message Board is publicly viewable, but you must be a SOGGI member to post messages on it. At their own discretion, members may also post messages on behalf of non-members. **For posting messages on our Message Board,** Members will first need their own Username and Password, which are normally provided as a part of SOGGI's New Member's Package. **Please do not lose or share your Message Board identity.**

Questions concerning the website or its' Message Board should be addressed to our Web-master Tom Crawford (905-662-3991, tomcr50@hotmail.com).

2017 SOGGI Executive

President	Andy Meysner	(905) 601-4228
Vice-president	Mike Sherlaw	(519) 752-1334
Treasurer	Anne Tekatch	
Secretary	Terry Dawson	(905) 318-4279
Contest Organizer	Lyle Jeakins	(905) 575-4115
Newsletter Editor	Marc Freeman	(905) 962-4113

2017-18 Calendar of Events

- February 25th, Workshop – Programming Tx's at Rockton Hall at 9:00 am
- March 11th , Membership Meeting at Rockton Hall at 1:00 pm
- April 8th , Membership Meeting at Rockton Hall at 1:00 pm
- April 22nd, Workshop – Building an HLG at Rockton Hall at 9:00 am
- May 13th , Membership Meeting at Rockton Hall at 1:00 pm
- Flyin' Season!