Radio Controlled Soaring Digest

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Front cover: A large scale Nimbus 4 makes a pass with Mount Fuji in the background. Photo taken by Vincenzo Pedrielli at Kurodake, Japan, about 100 km west of Tokyo. More photos from Vincenzo's trip to Kurodake can be seen beginning on page 4 of this issue.
Nikon D90, ISO 200, 1/1000 sec., f/6.3, 135mm

Back Cover: Piet Rheeders arrived at the BERG field on the 21st of November to find the farmer had let his cattle out to graze, making flying impossible. Camera ever ready, he was able to capture a number of photos of the Cattle Egrets on the field. Graceful, to be sure.
Nikon D90, ISO 400, 1/4000 sec., f6.3, 195mm

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In the Air

On December 17th Ulli Werneburg posted the following message on the Soaring Association of Canada forum:

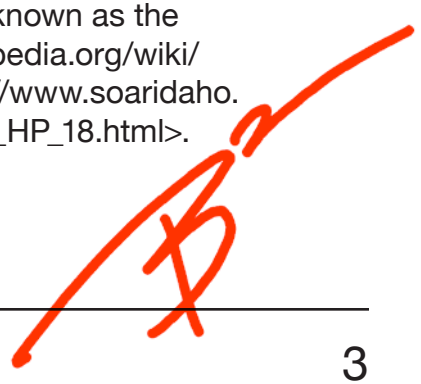
> "It is with a heavy heart that I have to report that Udo Rumpf passed away last night. He had been battling cancer for the last few years and fought hard to beat it. Unfortunately, various treatments were not successful..."

Some *RCSD* readers may remember Udo as a participant in various F3B competitions between 1977 and 1987.

In addition, Udo was very active in the full size soaring community, working on low drag cockpit ventilation and other methods for improving sailplane performance, and designing a one man rig system.

He extensively modified an HP-18 - improved wing airfoil, winglets, a front-hinged canopy, conventional control stick and higher ballast capacity - into what became known as the "Super HP-18" <http://en.wikipedia.org/wiki/Schreder_HP-18 > and <http://www.soaridaho.com/Schreder/HP-18/SUPER_HP_18.html>.

Godspeed, Udo.



玄岳 KURODAKE

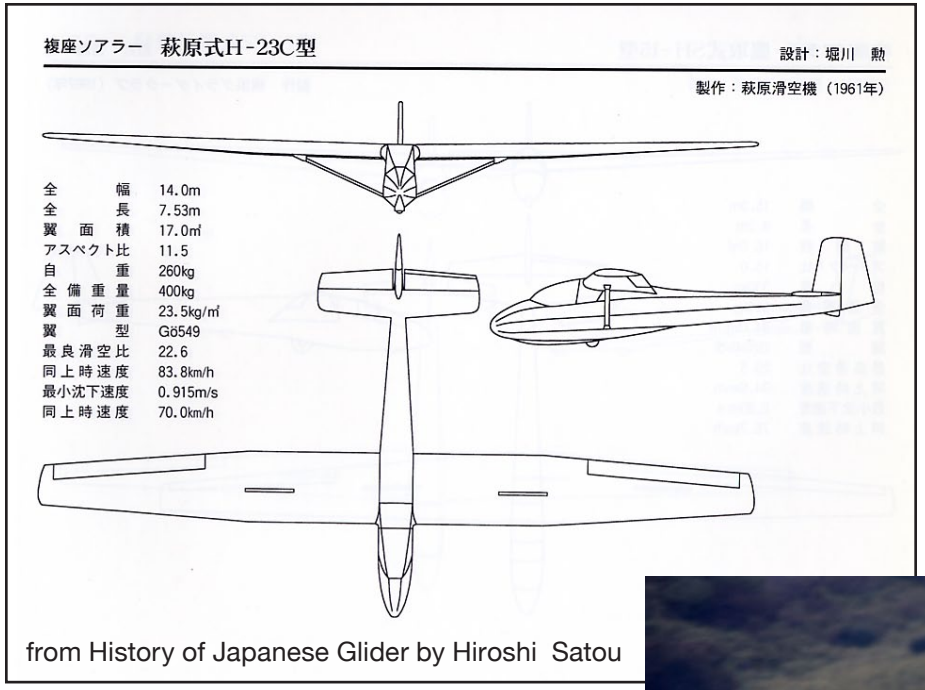
Vincenzo Pedrielli, vincenzopedrielli@gmail.com

Kurodake: what does it mean in Japanese? It means “rough mountain” and this name is quite appropriate, as this mountain is completely covered by bamboo bushes, very different from the mountains where we slope soar in Europe and in most parts of the world.

Kurodake is located on the Izu peninsula in the prefecture of Shinuoka, about 100km west of Tokyo. Once having reached Atami, very famous for its hot spring, you drive on Atami-Touge on the Izu Skyline Driveway. The soaring slope is a few kilometres from the toll gate.

What could be better than flying a large scale sailplane against the backdrop of Mount Fuji? Hagiwara Shiki H-32

Hikari Shiki 2.2



from History of Japanese Glider by Hiroshi Satou

Hagiwara Shiki 23C

The Izu peninsula is also well known for its mild climate and soaring activities including hang gliders, paragliders and RC model gliders. Very often it happens that the sky over the Kurodake mountain is filled with different kind of flying machines, but the Japanese know how to manage rush hour traffic.

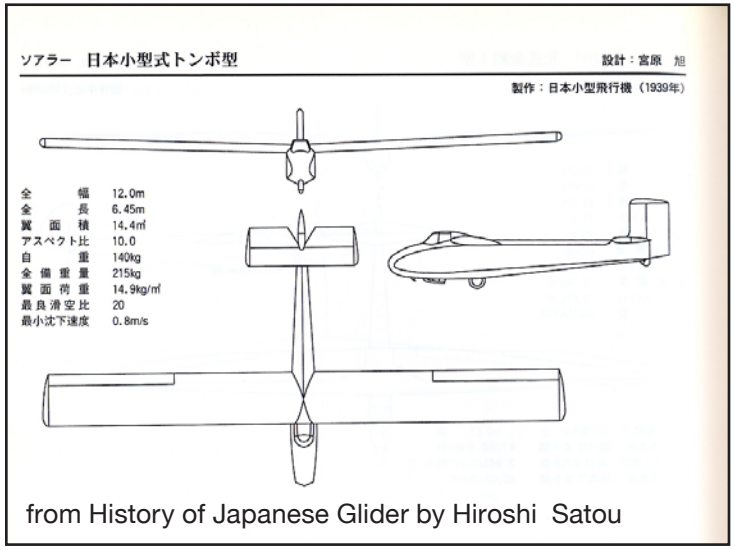
The best time to visit is from November to March when the west winds prevail due to the high pressure pushing from China to the low pressure out in the Pacific Ocean. From the slope, when the air is particularly clear, you can see all the way down to Atami bay and, on the right, Mount Fuji.

All the green you can see in between is not grass but a thick carpet of bamboo, so, where do the model gliders land? In the bamboo bushes of course, no alternative. That's what I like to call "Bamboo Landing." The thin bamboo canes are very flexible and despite the loud noise they make, they bend gently on impact and completely absorb the shock of the model. Every time a model lands into the bamboo bushes everyone laughs and applauds.

To recover the model from the bamboo bushes they activate a buzzing locator system with their radio and this guides them up to the model. This type of landing is not a flight manual recommended method and an off-field landing of a full size glider would not be ideal in these conditions.

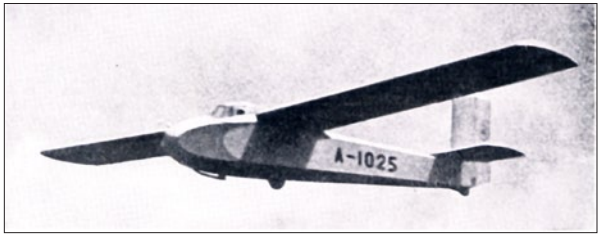
Nimbus 4

Right: Spoilers up and coming in
Below right: A Rhoenbussard
Below: Bamboo all around



from History of Japanese Glider by Hiroshi Satou

Nippon Tombo



Last November I visited Japan for two weeks and I spent one day in Kurodake with my friend Isao Odagiri. The weather was not as perfect as we hoped, but the wind was good enough to enjoy good slope soaring. A dozen people were already there and some had launched their models and were flying them.

Most models were scale, some vintage scratch built with wood and fabric, and others modern, built with composite materials. I was glad to see the scale reproduction of a few Japanese gliders, such as Tombo, Hagiwara 3C and Hikari II, all nicely built. We do not see these models so often in Europe.

For the modern scale gliders, a Nimbus 4 was the most attractive and once in the air could be taken as a true glider. Another large scale glider was a DG800. Of course to make these flights more realistic it was the skill of the pilots.

Few non scale models built from kits were dashing in the air making any sort of acrobatic flight. A couple of them were powered with electric motors.

I did enjoy the day and the friendly atmosphere spread by these new friends and despite the bamboo landing everybody went home with his model still in one piece. Should anyone travel to Japan, I would recommend to visit Kurodake and make the unique experience of “bamboo landing.”

A Sierra F3F lands in a bamboo cushion.

The author and wife Marisa, Isao Odagiri and his wife Keiko... Mount Fuji in the background

United States

F3B Team Select Report

Glauco Lago, glago@alberici.com

In the fun level category, what was the contest you enjoyed the most?

Most likely you would answer based on your final placing; you did well and remember how good you flew.

Now, how about if I tell you I finished last and it was still the most fun contest I have ever attended. This is what happened at the team select in California Valley this past weekend.

Technically I didn't finish last since one pilot broke all his planes and had to quit while the other got sick and stopped flying. Out of the 14 official pilots I finished 12, still last of pilots that flew all the rounds. Also, the actual count was 15 but one of the pilots is from Switzerland and ineligible as a US team member so a separate scoring was developed to include him.

This contest started for me a couple of months ago trying to find a team. Not a real issue at the other F3B contests but this was the team selects meaning if you want to go to the Worlds your chance is higher if you team up with two good pilots. I'm a beginner so whomever would team up with me knew he would get some help retrieving lines and other basic stuff, but I'm no help while flying. But Mike Lachowski who helped me from day one stepped up to the plate and took the challenge. Our other teammate was Reto Fiolka, a Swiss guy that is living in the US since early this year and has been flying F3B in Europe all the time. Both of them are really good pilots.

Second issue, taking all the equipment to central California. All the other teams had at least one local member who helped with equipment, but our team was from the East coast other than me. We decided Mike would take three winches and I would take two, but due to weight and size there was no way we could take the equipment with us in the airplane, so shipping was the other option. Overall we shipped by FedEx about 500 lbs of equipment to one of the organizers who then took all to the field. We also purchased locally five winch batteries. Thanks to Thomas Akers for handling our equipment, from receiving it to getting it to the field.

You may ask why five winches. Well, at large contests like the Worlds or where you have room, your team sets three winches at the prevailing wind and three at 180 degrees so there is no need for downwind launches. We had only five so

three went to the prevailing wind but we had six turnarounds and kept a line in place if we needed to swap a winch. We flew at Cal Valley earlier this year so knew how the weather could be variable; it is a valley so the wind if light keeps switching around.

Got to the field Friday morning and my winches were already set up since Mike and Reto arrived the day before. We had to test the winches to make sure their internal resistance was according to the FAI rules and after a few modifications they were all approved. We had some practice flights and I was happy with one of my planes called Tanga. Had also with me the Freestyler 3 which is a better plane than the Tanga but I had more practice and confidence the Tanga would perform well.

First day of the contest, Mike and Reto decided what kind of line and drum diameter for the current task and weather condition and put the lines on all five winches. Our day started every day at 6 AM - load the batteries and planes to the car, breakfast at 6:30 and we would be at the field at 7:00 for the start of the contest at 8:30.

As seemed to be usual, I was always in the first group to launch. If you are not used to F3B contests, the duration round is always flown early in the morning or later in the day when the thermal activity is weak which makes the 10 minute task much more difficult with our lead sleds. By the way, you never launch your own plane, one of your teammates does it and usually the other handles the winch pedal.

So all nervous, the Tanga launches not too high and I started scouting the sky, but at 8:30 AM there isn't much to do. So I land at 7:38 with a 100 landing (FAI tape) and they tell me I may have won the round. They tell me also my plane thermals much better than the others. ☺

After reviewing the scores, I came in second but with a 970, not too bad when you fly with Skip Miller and Tom Kiesling. Must point out the field is the complete opposite of the grass we

A selection of 'ships specifically designed for the three F3B tasks - Duration, Distance and Speed. Because of the relatively low weight given to landing points, V-tails are more popular here than in the usual thermal duration contest.

are used to, just dirt with some bushes once in a while and really hard, no way of spearing your plane.

Then came another round of duration. This time I wasn't in the first group. By the way, this isn't seeded MOM, it is just like the Nats. My second duration flight was good, 10:03 and 100 landing. Beat Tom Kiesling and Cody Remington (just by a couple of points ◡̈) and was close to Daryl Perkins. Interestingly, in the group before me, all pilots hit 100 landing, three had 10:01 and one 9:58.

So all was well up to this point, but then we would start flying the tasks where I'm a beginner - distance and speed. Don't remember the correct sequence, but I think we started with a round of distance. Ballasted the plane and was terrible, a bit comic, too. I launched and entered the course but forgot the course was actually moved from practice day and instead of going to base B I started by going in the opposite direction. Mike almost had a heart attack and I couldn't understand what I was doing wrong. Did seven laps and it is bad when in your group you have Daryl which is a 4-time world champion. He did 18 laps, so my score was 389.

Second round of distance and the wind picked up to 25 mph. As I mentioned before, the ballast on F3B planes is reported in % of total stock ballast which is usually brass. But you can cast lead or get tungsten machined and you can go above 100% of ballast. It was common during that wind to hear numbers from 110% to 130%. The Tanga comes with about 55 oz of ballast and I cast two new lead joiner bars but finished only one before the trip. During this wind we decided to load all I had including the 55 oz of brass plus 10 oz of lead. Total plane weight got to 140 oz and believe me or not, the plane wasn't penetrating too well. Result was eight laps, but if it helps, Skip Miller had nine. Unfortunately, David Klein had 18 laps and my score was only 444.

Time for speed which I had practiced a bit and hoped for a reasonable score. Always nervous on first launch and it

Daryl Perkins does a last minute check before flying. Note the two rows of winches, set up so that launches are always up wind.

was low so we decided to abort and re-launch. Not bad but the plane was all over, meaning I could not point to where I wanted it to go. Result was a 20.87 second run. Speed is run one pilot at a time and the best time gets 1000. My teammates had smoking runs at 13.83 and 13.64 so my score was 654.

Second round of speed and I'm a bit calmer, but the result is horrible, a 25.22 second run. The plane isn't tracking. I pull elevator and it rolls going everywhere but where I want. For sure something is wrong but hard to say what. One possibility is CG that may have changed with the joiner ballast since there are two ways you can put it and I could have had the wrong one. Other is a flap that started the day with a bit of play but at that point the RDS had about 1/2" of play and you could feel something loose. I checked the plane once back to the hotel and the flap servo came loose and had play with the RDS at the spline.

Well, with two rounds complete I could switch planes and I got the Freestyler out of the bag for a round of distance. What a difference. Had 18 laps to tie with other two pilots but one had 19 so my score was 947. Well, at least it helped my morale a bit since at that point it looked like I had never flown a glider before.

We left the winches at the field covered by a tarp but had to remove all lines and get the batteries to charge at the hotel. It was interesting since two of our lines twisted and took us about an hour to clear the mess. It was night and we could only see with the help of the car headlights. After a full day of work and a good dinner, the bed looked really good, but I had a nice problem. My roommate was none else than Tom Kiesling, designer of the Mantis, helped with the Supra design, and several times member of the F3B and F3J American teams. So I had to talk a bit to Tom and get a bit of

Official timer, helper and pilot all lined up with the Base sighting device.

his vast knowledge. Tom is a super nice guy and didn't mind answering many of my questions.

Sunday we woke up to a dense fog but it cleared fast for a beautiful sunny day, still in the 50s but not as much wind as Saturday. Guess who was up for a round of duration? But this time I was a bit worried since the Freestyler isn't a thermal machine at all. Indeed, I landed at 7:26 while one pilot made his 10. By the way with a Freestyler it proves the pilot makes the difference. Well, compared to my speed and distance flights the day before, a 775 wasn't bad and it could be my duration throw out which actually happened.

Since we had enough help on the field the CD called for three rounds of distance. Had 18 laps on the first and 13 on the second. Good thing about distance is that it gets scored with your group. The winner of my round, Kyle Paulson, had only 16 laps which proved the air was bad. The best distance came on last round. I launched and found a thermal, it was close to the course so Mike tells me to get on course. I start and the plane is still climbing close to base A. The feel is fantastic and is known for how you get hooked on F3B. It isn't the speed, but when you can make a bunch of laps in distance. So Mike makes me set a good pace for the four minute task and all is going well. Two planes below me have a mid-air and I see some parts flying away. Last minute and I still have considerable height so kept pushing down and the result is a personal best of 24 laps. It was full adrenalin and couldn't stop smiling. Nope, didn't win the round. Tom Kiesling had 25 laps, but one lap shy is still something to brag about. Then we hear from the CD that there was a problem with the timing system and the whole group had to re-fly. Bummer. Then had 17 laps when Tom had 20. But still happy with the 24 laps meaning

US F3B team member Kyle Paulson (left) steps away from the winches after throwing a team mate's plane.

on average I did a 180 turn at each 10 seconds. Mind to tell that Kyle Paulson had a run the day before with 35 laps.

So time for some speed runs and I'm feeling good since the Freestyler was built for speed even if I'm not sure if my speed settings were correct. Result wasn't good, 22.77 second run. Not sure what I did wrong, but the next one all came together for a clean 17:53 run.

Another run and my launch is horrible. Mike asked me if I wanted to relaunch, but why bother and I get a 24.73. Ugh. But then all comes together again at the last round for 17.17 seconds, my personal best.

(One of Glauco's 17 second speed runs can be seen on YouTube <http://www.youtube.com/watch?v=Y-8oKM_QDMY>.)

It is interesting to know the pilot while flying speed stays far away from the winch where the plane is launched, - 15 to 50ft depending on your lane at this contest. A bit awkward, but not that hard. What I didn't know was that my Freestyler wasn't pulling that hard, maybe clear for an experienced pilot, but I have to hear the winch to know that there is lots of tension. So only at the end after asking how hard my plane was pulling I heard a "not at all." During my practices here in St. Louis, the launch setup was set to be really safe so I wouldn't break it and only at the last practice day did I set it up to be a bit more aggressive. But without other planes to compare you always think an 800 ft launch is pretty good; it's not once other guys get to 900 or 1000. Another lesson learned.

So the contest was over but no results yet. Could see the top pilots nervous while I was happy I didn't break any of my planes. When the results came, Daryl Perkins was 4th place and alternate. A month before the contest Daryl had not flown F3B for seven years but he still

carries the 4-time world champion title and things got back to him pretty fast. He led the contest for a bit and had some smoking fast speed runs. But then he had some issues with allergies and couldn't see well. Had some problems on a speed run and then cut a base on another run. Still impressive for someone without practice.

None other than my teammate Mike Lachowski finished third and made the team. Mike had a good plane called Shooter which he felt very confident, but during the practice day the towhook broke and he was forced to fly his backup plane called Cyril. Still a good plane, but he had it for less than a month and wasn't expecting much. Really relieved I didn't screw up too badly since he was able to make the team even without the help and support of a well oiled team. Good job, Mike.

Second went to David Klein who started flying F3B not too long ago but has been practicing a lot. He flew really well and his team was behind him all the time. First place went to Kyle Paulson and it wasn't a surprise. Kyle has also been practicing with Dave and along with Tom Kiesling and their helper Craig Greening did a superb team job. After the contest an error was found in the scores and Tom Kiesling was promoted to alternate, proof of how well their team did with a 1st, 2nd and 4th place.

US F3B team member Kyle Paulson uses the sighting device to make sure his model goes through the Base plane during the turn.

All my gear arrived back home a week later. Not a cheap contest, but the most fun I had in a contest for sure. All pilots and helpers are really nice, everyone helps each other, and the result was a great contest.

Next F3B contest is in Florida in February along with the last space shuttle launch, it will be interesting.

2010 GEMS PSS

Piet Rheeders, piet.rheeders@gmail.com
Photos by Piet Rheeders, Evan Shaw and Izak Theron

Greenfields Eastern Model Soarers

The 2010 GEMS PSS event over the weekend (13th to 14th November) started on Saturday with excellent conditions for just about the entire day with a steady northwesterly wind of +/- 30 kph and at times peaking as high as 40 kph. This proved to be Ideal conditions for Paul's "Dragonfly," my Aero Commander, and Norbert's Jet.

Sunday, however, some low cloud set in and the wind changed direction to easterly, but by this time we were already set for the return journey home.

There are not many times that one can travel to the inland slope of Volksrust and find the conditions as perfect as we did on Saturday. From the moment we set foot on the main northwesterly slope 'til the time we left Saturday afternoon we could fly nonstop. There was, however, a slight shift in the direction of the wind to more westerly in the afternoon, but by this time all the heavyweights had put in their show.

With the conditions this good, witnessing the Power Slope Scale models as they fly by is just an awesome experience. It is in this department where Paul Carnell's Cessna "Dragonfly" stood out the most. Paul gave us a superb display of how it should be done. At the moderate speed, Paul put the "Dragonfly" through its paces. It looked very realistic, only lacking the sound of the jet turbines, but here the noise of the wind coming over the slope made up for this. Paul rounded off his flight with a perfect landing.

Norbert's Jet also looked and preformed well, as did the Aero Commander, both of them not making the landings as good as Paul did.

The other show stopper of the weekend was the Correx MiG of Izak Theron. Izak decided to build the MiG just two weeks before the event, but I am sure the maiden flight made up for all the late evenings building it.

Newcomer to the slope Ivan Williams took to it like a duck to water and was rewarded with 4th Place for his efforts (scale Spitfire). Unfortunately, Ivan lost his E-Hawk 1500 when the low cloud and fog trapped him in and lost sight of his model on Sunday morning. A one hour search proved to be fruitless, but the farmer below the mountain will be on the lookout for the lost model.

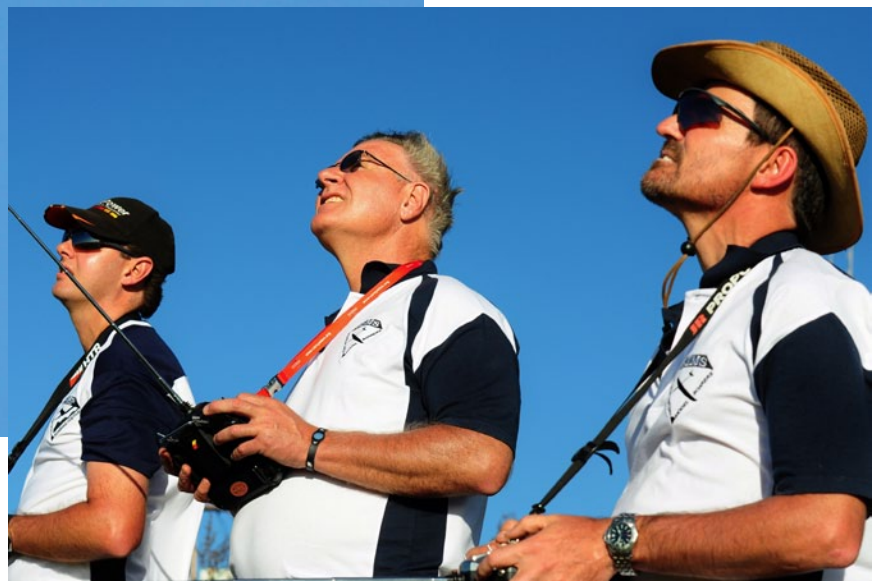
As the wind shifted to the west the lighter and smaller models started to fly. The warbird models of Paul, Izak and Evan put up some nice formation flying. Unfortunately, only Izak landed intact after Evan lost orientation of his "Mustang" facing the low setting sun on the west slope and crashed into the mountain while Paul's Spitfire just snapped in half on a normal landing.

I could not resist taking my E- Slope Mini Pulse (no scale model at all) that I built from scratch a month before.

The Idea of E-Slope Mini Pulse is to be versatile and to fly on just about any terrain and a wide range of wind conditions. The E-Slope Mini Pulse has confirmed that this concept work and I am sure that similar projects like this will follow. Fitted with a folding prop and minus the undercarriage it handled the wind with no problem, the little extra weight was only for the good and it preformed exceptionally well on the slope, the only time I need to use the electric motor was to get out of trouble when I landed in the router behind the slope and a short burst of 10 seconds got me back into the smooth slope lift. The fuselage and wing came apart on landing with no major damage due to me not installing the correct hard points in the wing but I have already done the repair and the E-Slope Mini Pulse is ready to fly again.

Gert Nieuwoudt and his Correx MiG

The Three Wise Warbird Pilots, the way they stand is the way they fly: Paul/Corsair on the left, Evan/Mustang in the middle, Izak/P-51 on the right.



Evan launching Izak's MiG for it's maiden flight.

Ivan and his scale Spitfire

Ivan and his E-Slope Mini Pulse.

Above: Evan's P51 Mustang was another victim of orientation problems we had flying into the late afternoon sun.

Above right: Paul Carnall's Spitfire promptly broke in half on a perfectly normal landing.

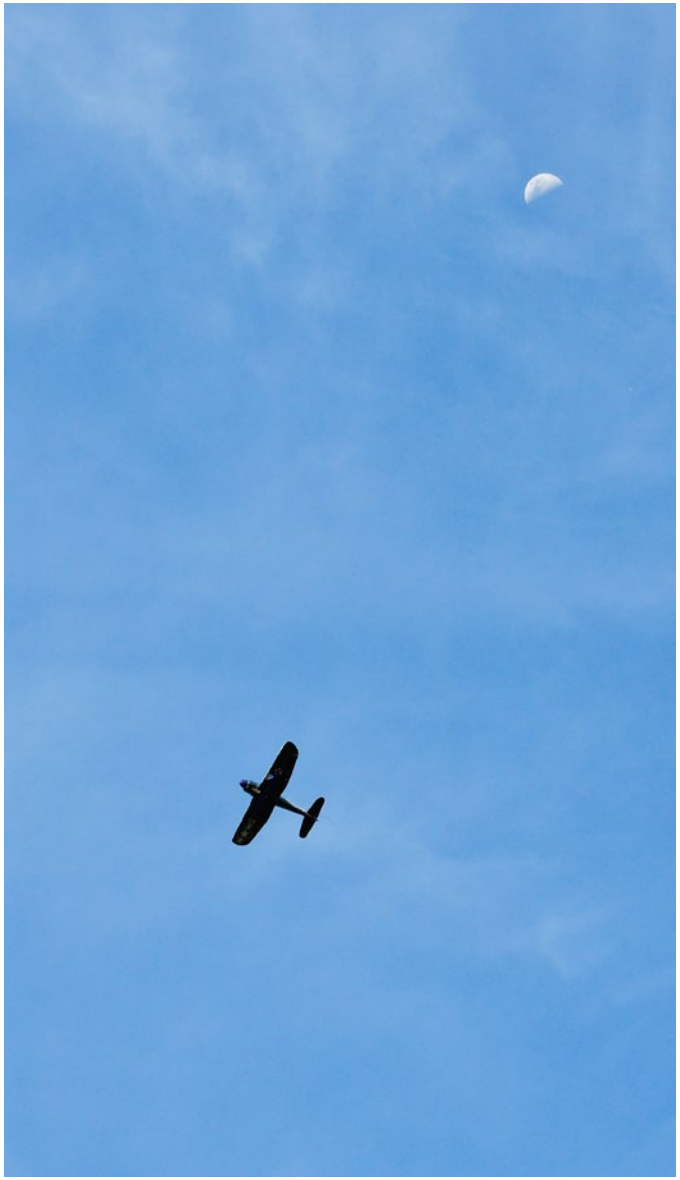
Right: Close-up of the Fox

Piet getting ready to fly this 1/7 scale Aero Commander.

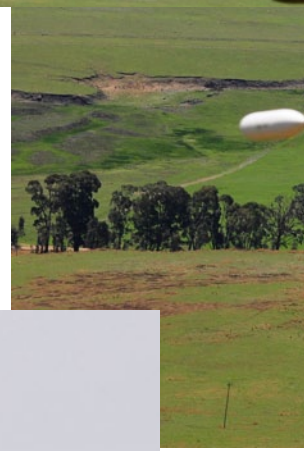
Piet, with transmitter, and Evan enjoy flying the Aero Commander.

Norbert's Jet in flight over the main northwest slope.

Gert Nieuwoudt's Jart launched by one of his club members.



Izak tried to fly over the moon with his Corsair (as he was the sole warbird left flying) but the moon came out on top.



Evan Shaw helps Paul Carnall with his Cessna "Dragonfly."

Paul's "Dragonfly" takes to the air


USAF
EN
U.S. AIR FORCE


U.S. AIR FORCE

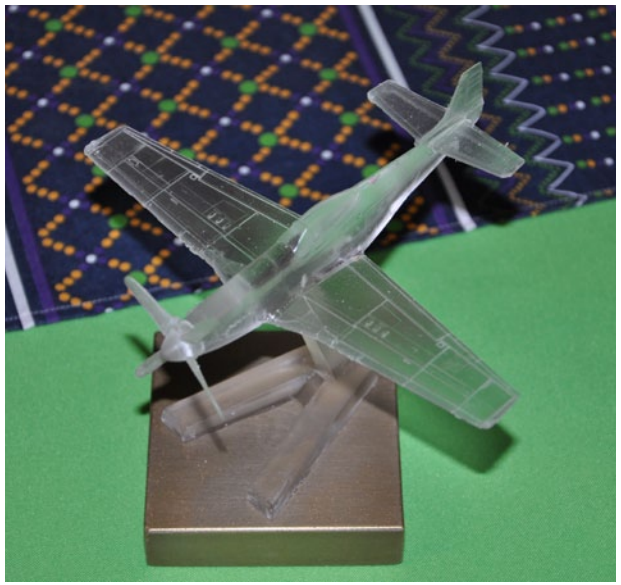

USAF

Izak Theron and his Corsair

Ivan and Norbert flying in the 40 kph wind. Note the bend in the streamer pole.

2010 GEMS PSS AWARDS

Above, left to right: Evan Shaw hands out the bronze trophy to Izak Theron, the silver to Norbert Rudolph, and the gold to Paul Carnell.



Right: The neat clear casted trophies supplied by the GEMS club.

At the Saturday evening braai (barbeque) we had a prize giving sponsored by AMT, with the beautiful custom made trophies - miniature P-51 Mustangs cast in clear resin - with gold, silver and bronze basses for first, second and third prizes.

Placing for GEMS 2010 PSS is as follows;

1 Paul Carnell - Cessna Dragonfly
2 Norbert - F5 Jet
3 Izak Theron - Correx MiG
4 Ivan Williams - Spitfire
5 Piet Rheeders - Aero Commander.

On Sunday low cloud and fog set in and only the brave ones attempted to fly in the fog and mist and at around midday we started our journey home. I am sure that some of us are already thinking of the PSS model to build for next year's meeting.

PHOTO CREDITS: Photos of Piet and his Aero Commander were taken by Evan and Izak, photos of Piet and his E-Slope Mini Pulse were shot by Evan, all other photos were taken by the author.

Building the **MicroStar 2000** Version 5

Pete Carr WW3O, w3bqo@yahoo.com

In 2000 I built a Version 1.0 M*2K encoder and installed it in a 1980 Kraft transmitter case. The sticks on that transmitter were not the best but the abilities of the encoder more than made up for them. The FM RF deck was from FMA on Channel 08 (50.960 MHz) in the lower 6-meter band. I've changed the batteries twice and dismantled the LCD display from the bezel to clean out the dust from between them. Otherwise the radio performs perfectly.

In 2008 I decided to build another MicroStar using some high end stick assemblies and an unpunched Ace MicroPro case. The encoder is Version 2.0 software and is considerably smaller than the old Version 1.0. The idea was to position the sticks so that they were exactly under my hands and also to place the secondary switches for easy operation. While the case is slightly larger than the Kraft they both weight the same. The sticks are a major improvement from the Kraft. In both transmitters the battery pack was split in two and mounted with hook & loop tape each side of the encoder.

The Three MicroStars lined up for action. Version 1.0 is to the left while Version 2.0 is on the right. The newest, Version 5.0, is the ProLine Competition Six. The rudder and aileron trims are on a common metal mount and were moved up toward the sticks to make room for the display.

The rear two transmitters have their RF decks just above the right stick assembly. The ProLine RF deck is between the stick so I could spread out the placement of the top switches.

My son Jeff, AE1O, had been given a ProLine Competition Six transmitter that had been in someones shop drawer for many years. In that time the NiCads had spilled their guts all over the electronics. Jeff sent it along to me for maintenance but the boards were too far gone. It sat a year in the shop awaiting inspiration until the MicroStar Version 5.0 became available. I removed all the electronics from the case except the stick and pots and cleaned everything using baking soda and some Clorox bleach. After it dried I checked out the sticks and found that they were in very good condition with excellent centering. It was time to do up a bill of materials and get serious about this project.

Many of you may live in urban centers where RF noise can be a problem. For that reason many of the old amplitude modulated radios have been retired. I live midway between Buffalo, New York and Pittsburgh, Pennsylvania so RF noise is very low. In addition I wanted the radio system to operate on the upper 6-meter (53.400MHz) Ham band. Over the years I've converted several Ace Silver Seven receivers to this band from 72 MHz and have been very pleased with their performance. I had an Ace RF deck on 53.400 MHz so I used that for the RF link. It did seem strange to marry all this old equipment to a state-of-the-art encoder but the results are worth it.

The Version 5.0 encoder in at the bottom center of the case. The two battery packs are placed each side. Connectors along the topside of the encoder are for trims and controls. The 3-pin Deans connector at the right side disconnects the battery. In the center, just above the encoder, is the Ace RF deck. The LCD display is underneath the encoder with the connecting ribbon cable visible at the right side of the encoder.

The Version 1.0 encoder was a nightmare to build. It used surface mounted parts that are extremely small and hard to solder. The version 2 and 5 both have the surface mount parts already installed on the circuit board. The remainder of the parts are traditional through-hole types.

The edge connectors for the stick/trim control connections are a far better idea than the Version 1 where individual wires had to be soldered to the board. Another benefit of the edge connector is the ability to turn the three-wire plugs from each control around. For example, if the aileron trim deflects opposite from the aileron stick you can just turn the plug around to make them move the same direction.

The Kraft and the Ace case transmitters had trim levers and were easy to center. The ProLine uses trim wheels with a dab of white-out applied to denote the center of trim. These are easy to bump when picking up the transmitter and I don't always check them before flying. The solution is a feature in the Setup menu where you can activate an audio chirp when the trim goes off center. This is very nice when flying since it's easy find center trim without having to look down at the transmitter. This feature also came in very handy when I powered up the unit for the first time. The audio chirp wouldn't shut up! The 30+year old trim pot for the aileron was intermittent and the chirp would sound off when the pot went open. I changed out the pot and proceeded to set up the transmitter with no further problems.

Those of you who have had experience with the Ace MicroPro 8000 transmitter will have no problem using the new Version 5.0 programming. Basically, the new features are accessed from a sub-menu which is very extensive. Paperwork on the sequence of initial setup and use of these features can be downloaded from the MicroStar web site.

The ProLine is powered up and the display shows aircraft number 1. The "M" at the top line indicates that Mix #1 is active. The battery voltage is displayed at left. The red LED above the on-off switch reminds me to turn the rig off! The meter indicates RF going to the antenna and reads slightly higher with the antenna extended.

As you can see from the pictures, the various parts are a tight fit inside the ProLine case. Of special note is the mount for the RF deck. This particular deck uses a full height crystal. After mounting the red LED and wiring the on-off switch and the aileron dual rate switch I glued two pieces of balsa above and below them. Then I mounted the RF deck to a piece of 1/32nd thick circuit board and screwed that assembly to the balsa. The result is that the RF deck clears the back of the case and still allows the wire bundles from the sticks and switches to pass next to it. I had also been concerned about stray RF causing trouble with the encoder but none was found. It appears that the encoder is well enough bypassed with capacitors to isolate it from this problem.

The two packs of four NiCad cells were wired up and connected to a Deans 3-pin plug and jack. Whenever I do anything inside the case I unplug the battery so I don't let the smoke out of the circuit!

The LCD display is glued inside the case behind the bezel which makes for a very professional look. A ribbon cable from the display is soldered to a socket that attaches to the encoder. My unit used a fixed resistor at R-13 on the encoder to set the display contrast. This controls a voltage from the 10-volt supply that sets the contrast. Rather than mess around with various fixed resistor values I installed a 10K ohm pot and adjusted the contrast. The end result is a display that is very easy to read in the brightest sunlight.

The ProLine case had a edge meter above the on-off switch that displayed the amount of RF going to the antenna. I wanted to keep that feature but the drive for the meter was derived from the old encoder/RF deck. I looked up an old set of Ace Silver Seven manuals and found a circuit that detected the encoder

waveform from the transmitter to feed to an oscilloscope. It's basically a diode and inductor with a filter capacitor that feed a representative voltage to the meter depending on RF intensity. I used that circuit and a small length of wire tied along the lead from the RF deck to the antenna connector. By adjusting the wire length I was able to get a ¾ scale readings as you can see in the pictures.

The LCD display gives the battery voltage and also indicates which mixing and dual rate switches are active. With so many switches along the top of the case it's easy to miss one that's in the wrong position. A quick check of the display prevents that.

Test flights were done using a Mountain Models Scepter sailplane of 100 inch span. The radio room of that ship is big enough to take any receiver I have so it was possible to test with several of them. Mix 1 was used to add "up" elevator with spoiler deflection. A value of 35 on the display was about perfect to keep the nose level when the spoilers came up. This transmitter has a old Ace angled antenna mount that was popular on some Ace rigs. The range is fine and I don't notice much difference in the mount from straight ones. It does look cool though!

The ProLine case is slightly smaller than the Kraft and much smaller than the Ace MicroPro. It's also thinner and fits well in my hands. It's possible to swap the trims and move elevator over to where throttle is now. That would make elevator trim adjustments possible without taking my hand off the right stick. I may try that since it's just a matter of moving the two trim plugs on the encoder edge connector.

There is quite a group of builders who are working on transmitters and sharing their projects via Yahoo Groups. Many are putting new encoders into single stick cases and having a ball doing it. Links to these groups and resources are listed at the end of the article. If you have any interest in a project like this there is ample assistance available.

Enjoy!

Resources

Yahoo Groups:

MP8K; discussion group
MP8KSubgroup; discussion group
ACERC; old Ace radio group

<http://www.mstar2k.com>
Gordon Anderson's web page for the MicroStar 2000

UKARUMPA RC SOARING CONTEST

Dan Perrett, dan_perrett@crmf.org and Tisr on RCGroups
Photos by Tony Hinton, Phil KIng, and Paula Parker

Papua New Guinea – nestled between Australia and the Indonesian archipelago, is a country most people associate with tribal cultures, high mountains and thick jungle. It is not a place that springs to mind when you mention radio control gliders. This changed recently, during the running of the inaugural Ukarumpa RC Soaring Contest. While not quite in the same league as Visalia and other competitions featured in this magazine, it did attract pretty much all of the active RC sailplane pilots in PNG – did I happen to mention there are only six of us?!

The event was held on Saturday, October 9th at the Ukarumpa International Highschool in the Eastern Highlands Province. Most of the pilots attending were missionaries serving with the aviation department of the nearby Summer Institute of Linguistics. Myself and my family traveled down from Goroka, ninety kilometres away, where we work with Christian Radio Missionary Fellowship – the communications arm of Missionary Aviation Fellowship (M.A.F.).

Above: Ukarumpa pilots (left to right) - Paul Stewart, James Nelson, Dan Perrett, Daniel Jezowski, Steve Parker and Calvin Mathys

Steve Parker, the event organizer based the competition on a loose interpretation of the Australian TD rules. Each pilot had to fly five rounds during the course of the afternoon, with their best four rounds counting for their final score. Each round consisted of a five minute task with a spot landing required. Given the small number of pilots, it wasn't an issue to launch off our single winch.

Our winch also deserves special mention. Necessity being the mother of invention, Steve put this together from an Ebay "2000lb rtv winch". He machined up an F3B style drum and bearing blocks and mounted this on a large section of aluminum channel. With ripstop nylon being unavailable in this country, the material from a cheap umbrella was cut up following the S.E.A.T. plans for a parachute. While this winch is only rated at about 0.7kw, with 200 metres of mono to the turnaround, it launches our 2m planes with authority.

The morning of the contest dawned typical of a "dry season" day in this part of the country – light winds and patchy clouds. Aiyura is located approximately 5000 feet above sea level in a fairly exposed valley, so by midday it is usually fairly gusty. The first round kicked off just after a barbecue lunch. Most pilots were flying Spirit RES wings mated with Spirit Elite ARF fuselages with one guy flying a very battered Spirit Elite full house.

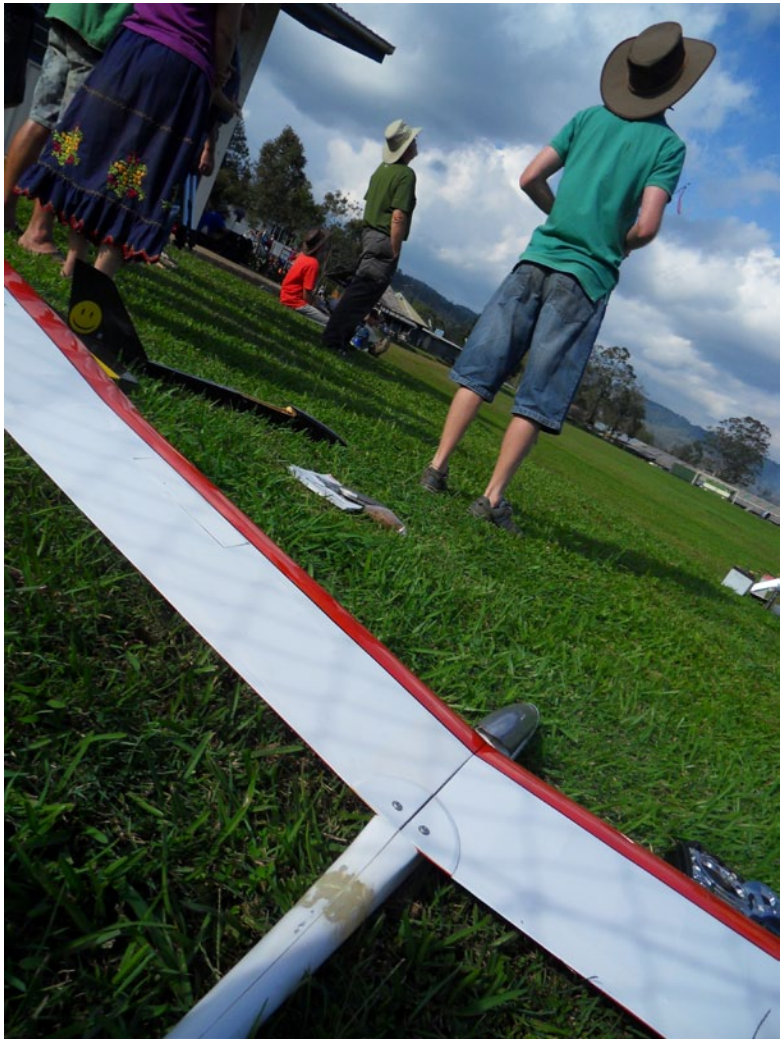
Right: Steve Parker poses for the camera with his Spirit RES. Steve was the driving force behind the inaugural Ukarumpa Soaring Contest. Photo by Paula Parker

Below: James Nelson overcoming nerves as he prepares to launch in an early round. Photo by Tony Hinton

Above: Almost a one design contest - hand cut Spirit RES wings mated with Spirit Elite ARF fuses.
Photo by Tony Hinton

Above right: Some young spectators admiring the contest trophy prior to the final presentation. Hopefully some of these young guys will be flying in next year's contest.
Photo by Tony Hinton

Right: Calvin Mathys making the long walk from the landing zone back to the winch line. The bleachers were full of spectators for the majority of the contest!
Photo by Phil King



Above: Dan Perrett piloting his Spirit Elite - the only full-house model in the competition. The extra weight imposed a bit of a penalty in the light conditions. That's Calvin Mathys' Spirit in the foreground. Photo by Phil King

Right: Calvin Mathys working the lift off the treeline and buildings on the upwind edge of the field. Photo by Phil KIng

Left: A good reason not let your friend borrow your wing - it might end up here! Photo by Phil King

Below: Steve Parker launches for Calvin Mathys. A relaxed flight line on a beautiful "dry season" afternoon. Photo by Phil King

A bit of local color. A typical Papua New Guinea costume

Photos by
Dan Perrett

Ukarumpa RC Soaring Contest Winch

Here are a couple of shots of Steve Parker's winch.

It consists of a modified 2000lb ATV winch purchased on Ebay and home made drum and bearing housings. A bicycle one way sprocket prevents "kiting" on launch as per F3B rules.

Since this photo was taken, the battery cables have been upgraded to welding cable.

Plans are currently underway to upgrade to an Airstrike winch (from a castings kit). A build thread of this adventure may feature in RC Soaring Digest in the new year.

The early rounds were demanding with only very patchy lift, so times under the five minutes were common. The close confines of the high school field also proved to be a challenge to a few of the competitors, with at least one pilot ending up with a model in a tall gum tree, after trying to work the ridge lift off the roofs of the nearby buildings.

Steve Parker performed a “candy drop.” Candy was stuffed in the winch chute and to the delight of the young spectators dropped out as the chute popped. It’s important to wait before the model is back on the ground before the kids run onto the field!

Some more damage was also inflicted in the second round with one of the guys damaging a tip panel spar after a spectacularly deep zoom off the winch.

As the afternoon progressed the lift became more consistent and this was reflected in the higher scores. With only a small margin separating the first three pilots, Steve Parker was the eventual winner.

All of the pilots involved learnt a lot – for many of them, this was their first taste at flying competitively. The other great benefit of the event was the exposure it created for model flying in the local community – at any one time there were more than one hundred spectators present.

With this sort of exposure, we are hoping to see significantly more pilots involved when the event runs again next year.

Ukarumpa Pilots (left to right) - James Nelson, Steve Parker, Dan Perrett, Daniel Jezowski, Paul Stewart and Calvin Mathys. The wings belonging to the black fuselage were “borrowed” in an early round only to end up stuck in a large pine tree. Photo by Paula Parker