



The Gull

BULLETIN OF THE CENTRAL ONTARIO GLIDER GROUP



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The Contests for 2008

Well it certainly has been quite a summer hasn't it, what with record rainfalls and, I wouldn't doubt, a few record winds as well. The weather has certainly played havoc with the regular flying at the COGG field. But we did manage to get a few contests in, so this issue is devoted to the results of this year's sailplane contests.

Beginning with the traditional 2 Meter contest held in May, for several years now this contest has been cancelled due to inclement early spring weather. But Lo and Behold, this year we actually had a 2-Meter contest on 25 May 2008, with seven entrants. The results are as follows:

2 Meter Contest: 25 May 2008

Place	Contestant	Total
1	Jozef Banial	1730
2	Doug Pike	1397
3	Joe Baltaza	1163
4	Helmut Berger	1097
5	Tony Boothman	485
6	Bob Sherliker	60
7	Neil Tinker	0

Congratulations to Jozef Banial for his first-place win (breaking Doug Pike's gold-medal winning streak!).



Unlimited Sailplane (22 June 2008)

Next in line was a man-on-man Unlimited Sailplane Event with eight contestants. This contest was shortened somewhat by the onset some severe weather in the early afternoon, resulting in the crash of one of the Onyx F3J sailplanes. Here are the final results:

Unlimited Sailplane 22 June 2008

1	Doug Pike	3000
2	Jozef Banial	2333
3	Alex Nadashverych	2241
4	Ivan Marchenko	2054
5	Joe Baltaza	1987
6	Bob Sherliker	1969
7	Tony Boothman	1395
8	Helmet Berger	1253

And we have a photo of this illustrious group:



Special F5J

Moving on to 6 July 2008 (held over from 1 June), we have the results of Doug Pike's new event, the Special F5J competition for electric sailplanes powered by a direct-drive motor with a published weight of 68 grams or less. This contest favours light open-structure sailplanes with spans of 2 meters or less, and is ideally suited for the Spirit of Yesteryear sailplane "Talisman", designed by our own Neil Tinker and the late Stuart Pearce. And it seems appropriate that a Talisman won the event.

Special F5J Results...6 July 2008

1 Doug Pike	4754
2 Jozef Banial	4671
3 Ivan Mackenzie	4538
4 Pat Mackenzie	4415
5 Ivan Marchenko	2253

A second Special F5J event will take place at the field on 7 September (see announcement later in this newsletter) and the competitor with the highest total score from both the 6 July and 7 September contests will be awarded the

Stuart Pearce Memorial Trophy.



Open Sailplane (6 July 2008)

Held in man-on-man format and in beautiful weather, this event was flown by eight competitors. Here are the results:

Open Sailplane 6 July 2008

1 Doug Pike	4998
2 Alex Nadashkevych	4745
3 Helmut Berger	4237
4 Jozef Banial	4114
5 Tony Boothman	4079
6 Ivan Marchenko	3722
7 Ivan Mackenzie	3704
8 Bob Sherliker	3446.



Competitors in Open Sailplane 6 July

Hand Launch Glider (16 Aug 2008)

Ivan MacKenzie

The 2nd annual COGG Interclub HLG meet was held on August 16th. Due to a variety of circumstances, nobody from the Ottawa area was able to attend this year, so this was more of a "club" DLG meet (i.e. minus the "Inter"). We had five competitors at the start of the contest, all from COGG: Greg Galler, Doug Pike, Ronald Khoo, Pat MacKenzie, and myself. Our Zone Director Bob Hudson and deputy ZD Clair Murray came to see the action, along with a few other spectators. Some spectators could not find the field, due to incorrect instructions posted by me on rcgroups.com and rcCanada.ca. My apologies to anyone who missed out on the action.

Conditions were challenging all day long. The winds were fairly strong and the thermals fairly weak; a sometimes deadly combination. Just when you thought you would be going for a ride, the thermal would peter out and you would be left not so high up and a long way downwind. Landing out was a common occurrence.

In Round 1, both Greg and I broke our models. I had a backup but Greg did not, so his day was done. Most rounds (after Round 1) were flown in 2 groups of 2, but for the All-Up, Last Down round all 4 of us flew together. In the end, Doug came out on top, but by a smaller margin than usual. (Maybe if I hadn't broken my LightHawk ...!!.)

Results

1 - Doug Pike	7,408	100.00%
2 - Ivan MacKenzie	7,189	97.04%
3 - Pat MacKenzie	6,309	85.17%
4 - Ronal Khoo	5,869	79.23%
5 - Greg Galler	DNF	-----

Open Sailplane (17 Aug 2008)

The weather held out well for the third Unlimited Sailplane event of the season, resulting in some very nice flights by 11 competitors. Unlike the previous man-on-man events, this contest was held in rounds, making it a quite enjoyable and very "low-key" day of competition. Here are the results:

1 Doug Pike	3103
2 Jozef Banial	3073
3 Alex Nadashkevych	3001
4 Ivan Mackenzie	2772
5 Joe Baltaza	2704
6 Bob Hammett	2407
7 Tony Boothman	2343
8 Helmut Berger	2243
9 Otakar Koprnický	2088
10 Ivan Marchenko	1184
11 Imre Rozsa	750

and the photo of the happy group:



US Soaring Nationals (27 July-3 Aug)

This year Doug Pike was the only COGG member who attended the US Soaring Nationals at the AMA Headquarters and flying site in Muncie Indiana. Doug earned a second-place win in Hand Launch Glider. But disaster struck in his other events with a mid-air collision in the 2-meter event, and an off-field landing in Unlimited Sailplane. Both aircraft will live to fly again, so there's always next year!!



Having a problem running out of battery power for your winch before the day's flying is done???
Here's your answer! (Better for your health too.)

Time to Change Flying Fields

The flying field on the south side of 9th Line is finally being stripped of sod, so it is time to move to another field. The next field will be the one on the east side of 15th Side Road, just north of 9th Line and across from the red barn. Only the field south of the path will be used, as the north field is being replanted.

Adjacent Channel Interference

Roy Bourke

A recent case of radio interference between two fliers operating on 72MHz frequencies only one channel apart, resulting in a crash, prompts me to review the subject of adjacent channel interference.

Radio control transmitters do not emit a single frequency. A transmitter emits a band of frequencies centred around the frequency to which it is tuned. So when we speak of our "operating"

frequency, we are really talking about the “center-of-channel” frequency, or the “assigned” frequency for that channel to which we tune the transmitter. The strength of rf (radio frequency) emission is strongest at the center of the tuned frequency, and decreases proportionately as you move farther away from the center in either direction towards the edges of the band of frequencies being emitted. The total width of the band of frequencies that can still produce significant signal strength is called the bandwidth.

Similarly the receiver is capable of receiving a band of frequencies, and the frequency to which it is most sensitive is the center of its reception band, so the receiver is tuned such that its strongest reception is at the center-of-channel frequency.

However, the frequencies of both the receiver and transmitter can, and do sometimes drift from their proper tuned values, due to a number of reasons (temperature, change in characteristics of critical components, age of the equipment, etc.). So the tuned frequency of a transmitter could drift away from the center-of-channel, without a corresponding change in the best reception frequency of the receiver, but the equipment would still work since the receiver can still detect the emission of another frequency within the bandwidth of the transmission. The off-center frequency is not as strong as the center frequency, and gets weaker the farther away from center, so range is affected. Hence a range check should be performed regularly to detect any loss of range that could be due to a shifting of the frequency of either the transmitter or receiver. If frequency drift is suspected, the equipment needs to be checked and re-tuned if necessary by a qualified repair facility for that make of system.

Prior to 1988, there were fewer channels in the 72MHz band, and they were never closer together than 80 KHz (80 Kilohertz or 80,000Hz) apart. Hence the frequency from an RC transmitter could drift quite a “distance” from its assigned frequency, and could emit a fairly wide band of frequencies, before it would interfere with the reception of a receiver tuned to an adjacent frequency. Usually before a transmitter drifted that far, its own receiver would have stopped receiving or would have exhibited such poor range that the modeller would have had his equipment checked and readjusted.

After 1988 (and before 1991), the 72MHz band was expanded to 50 channels for aircraft use, but only the even-numbered channels were used. The useable channels were spaced 40KHz apart, so the wide-band radio equipment still in use in the hobby could still be operated without significant danger of adjacent channel interference. To be on the safe side, some clubs still prohibited the simultaneous use of

adjacent channels by mandating the use of wide frequency pegs that covered up all channels within 80KHz of the frequency in use.

Finally in 1991, all 50 channels were opened up, with only 20KHz spacing between channels, thus forcing all transmitters to operate well within 10KZ on either side of their assigned frequency. A modern well-tuned transmitter with a high accuracy crystal can operate in a band that extends only 5KHz on either side of center-of-channel, provided it doesn't drift off center frequency.

But 5KHz is only 0.005 MHz or 0.007% of the 72MHz channel frequency. This is a rather tight tolerance to meet. It doesn't take much to cause a frequency drift of such a small amount in either a receiver or transmitter.

There is still a lot of older equipment out there that wasn't designed with the more accurate components that are used today. The presence of a gold sticker on a transmitter does not guarantee that the transmitted frequency has remained within the narrow-band tolerances required of today's tight channel spacing. (Current manufacturers no longer affix gold stickers on their products.) And there are still some older wide-band systems that have been “converted” to narrow band that are even more suspect to be beyond current tolerances. And of course, the receiver must also be tuned to the correct channel frequency and be capable of receiving only a narrow band of frequencies centred around its assigned center-of-channel frequency. Your best assurance of being within narrow-band tolerances is to replace older equipment with modern, and periodically have RC equipment of any age checked.

So what is the moral of all this? Simply, **DO NOT TRUST ADJACENT FREQUENCIES IN THE 72MHz BAND**. In most cases, adjacent frequencies can be used safely, but you never know, and it is not worth a crash to find out that your, or your fellow modeller's equipment is causing interference. A simple test will determine if you are interfering with each other. Simply operate both sets of equipment on the ground to see if either transmitter can control the wrong airplane. But if one aircraft is already in the air and its frequency peg is on the board, **do not operate a transmitter on an adjacent frequency** until the other aircraft has landed, and the two pilots can collaborate on a brief ground test.

It should be noted here that not all RC bands are set up with this narrow 20KHz channel spacing. The 27MHz band (ground and air dual use) still has channel spacing of 50KHz and the 53MHz Ham band frequencies are spaced at 100KHz. These bands can still operate fairly safely on adjacent frequencies with wide-band equipment.

RULES

Electric Sport Sailplane

Aircraft requirements

Any aircraft with a wing span of 100" or less.

No limit on control functions. Special F5J aircraft are allowed

Any motor may be used. Gearing and folding prop are allowed.

Battery restrictions same as for Special F5J

Flights

Motor run time is 2 minutes (120 sec). The motor may be stopped and re-started any time within the first 2 minutes of the flight. After this initial 2-minute "climb window", running the motor will result in zero-points for that flight. (Note: an accidental "blip" of the motor may be tolerated provided it is less than 1 second in duration and provides no advantage to the flight.)

For each entry three attempts shall be allowed for 3 official flights. Final score is the sum of the score for the 3 flights. The official flights may be made at any time during the hours of the contest.

Maximum flight time is 10 minutes (600 sec. which includes the 120 sec. motor run), unless a shorter time is set by the CD at the beginning of the contest. A flight is scored with 1 point per second of the flight time up to the maximum time, after which 1 point is deducted for each second in excess of the max.

A bonus of 30 spot landing points will be added to the flight score if the aircraft lands within a designated 15 meter diameter circle and is still in good flying condition immediately after landing. A landing beyond designated field boundaries will result in a zero score for that flight.

In the event of a tie final score, the CD will determine the terms of a flyoff round.

SPECIAL F5J

Airframe – No limit on size or control functions.

Power System – Direct drive motor (of any type) with a published weight of no more than 68 grams.

Battery – 3 or fewer LiPo cells (any capacity)
9 or fewer NiCd or NiMH cells (any capacity)
3 or fewer LiFePO₄ (a.k.a. LiFe or M1) (A123 or other manufacture)

Task - Man on Man in a 10 minute round (Working Time 10 minutes)
One unlimited continuous motor run
Flight time starts when you stop the motor
Landing in a 15 meter dia. circle yields 30 points
Landing after the 10 min. Working Time ends yields no landing points.

Note: At the discretion of the CD's;

Limited sport flying of electric or towline aircraft may be allowed and in assigned areas. However, priority of frequencies will be given to official flights, and sport fliers are asked to keep their flights relatively short to avoid tying up frequencies.