

**Canberra Electric Flight Association**  
Radio-Controlled Aircraft Club  
Yarralumla Bay Oval, Canberra, ACT



## **Current Affairs**

**Newsletter of the Canberra Electric Flight Association**  
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*Part of the scene at the Heathcote Soaring League's Scale Glider Fun Fly on 15<sup>th</sup> December, 2002. The glider at the front is Bill Bland's 1/3<sup>rd</sup> scale Duo Discus.*

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## Scale Glider Fun Fly Maddens Plains – 15<sup>th</sup> December, 2002

Around the world, scale soaring is one of the fastest growing branches of our sport. In Europe, scale soaring has been popular for many years. And in Australia scale sailplanes are starting to develop a strong following – particularly after the big aerotowing event at Bordertown in 2000 which attracted 70 entrants, over 100 sailplanes and hundreds of spectators.

Each year the Heathcote Soaring League (HSL) runs a scale glider aerotowing day. This year, thanks to the efforts of a few scale sailplane pilots, the event was a big success. Two towplanes were there, including Bill Bland's huge Mega-Hots, powered by a 120cc two-cylinder petrol engine. The other towplane was smaller, but both hauled the sailplanes into the air with great authority. There were about 10 scale gliders there as well, including several Ka-6s, a Ka-8, a Fox, a Duo Discus, a Salto, a DG300, and a couple of ASW27s.



*A few of the gliders waiting for a tow with the Mega-Hots in the background. From the front ASW-27, Fox and, Ka-6e.*

Beside the scale flyers, there were about 20 spectators and non-scale flyers, two of whom (Murray Scott and myself) drove from Canberra. For an event that is really fairly low-key, that's not a bad effort. During breaks in towing a number of electric models were flown as well, ranging from an ARF Albatross glider to a moulded F5B pylon racer.

As I arrived the towing was just getting underway, albeit through some fairly long grass. The tug had absolutely no problem handling the grass, but the gliders did. Two gliders in a row caught a wingtip; this caused considerable damage to one glider as its pilot was not quick enough to flick his tow release switch.

Not surprisingly towing was suspended for about an hour so that the runway could be mowed. This gave plenty of opportunity for the non-scale flyers including myself to have some good flights in perfect conditions for thermal soaring.

By early afternoon there was a very lucky escape for Tony Shearman who was hoping to test fly his Flair Ka-8b. I was especially keen to see this model fly as I am building the same kit. Tony had prepared the K8 for flight and asked an experienced pilot to do the aerotow for him. Everything was ready to go, and the K8 was hooked up on the line. Before lift off, as all experienced pilots do, Tony performed a control check – but this time nothing worked! On examination Tony found his receiver battery was completely flat!



*A relieved Tony Shearman brings the K8 back in one piece!*

Tony charged up his battery but by that time the “Maddens Plains effect” was in full swing. Often at this field when the sea breeze comes in during the afternoon, it brings with it thick, very low level cloud. It was wisely decided that towing should stop for the day. Everyone else started packing up, while Max Stone and I did some hand launches with his little ASW27. Naturally by the time everyone had packed up, the sky was clearing nicely!

The main reason why I drove all that way was to have a look at how aerotowing is done and to see some large scale sailplanes fly. Eventually towing got underway again and I was able to get a good feel for what to expect when I aerotow my Ka-8b. The two tugs were able to haul the gliders up to 500 feet in perhaps twice the distance of a bungee launch, so there was no need to turn. The ground roll was exactly the same as I have performed many times in full size gliders - the pilot needed to use rudder to track straight behind the tug, and aileron to keep the wings level with the ground. After takeoff the glider pilot only needed to worry about was keeping the wings level with the ground, the powerful tug would keep pulling the glider on the correct track.



*Two of the Ka-6s await a tug.*

The gliders themselves fly fairly realistically, although most of the models I saw flying were in fact fairly small in size. The most realistic in flight would have been the Ka-6s, mainly because these are late 1950s/1960s designs that look like a normal built-up thermal soarer with a much bigger fuselage. When built light enough to fly at the correct “scale speed”, these models would fly superbly in light conditions and would be dead easy to fly.

I think most of the other models had reasonably thin aerofoils and may have been designed more for slope soaring than thermal soaring. To an ex-full size glider pilot like myself they appeared a little fast especially on the landing. However these were reasonably small models for scale gliders. Unfortunately I didn't see Bill Bland's seven metre wingspan Duo Discus fly; it would have been great to how more realistic a big scale glider is.

My overall impression of scale soaring was that although the models are generally larger and have more controls than the models usually seen at our field, many are not much more complicated than something like a Spirit Elite. Aerotowing seems very much like bungee launching in that the glider pilot only needs to keep the wings level, but with the addition of a ground roll, which is probably the hardest part of the flying. If you are a reasonable glider pilot with two channel gliders and have a little aileron experience, there is no reason why you can't fly a scale glider.

### **For Sale / Wanted**

Sanwa SRD-4107 RS 36mhz AM 4 channel RX (for sale/trade)  
4 channel 36mhz FM - JR Compatible RX (wanted/needed)

**Contact:**

Vince Samios

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*If you're wondering how the big scale gliders are transported – the Duo Discus goes on the left, the Fox on the right and the Mega Hots tug down the middle – how neat is this!*

## Full-Size emulating Models?

Full-size motor gliders have been produced in many shapes and forms. Their earliest examples were probably motorised versions of the Scud and Kirby Kite. These were merely low-performance sailplanes with a motor mounted on a pylon above the wing. The potential of motor gliders was not really realised until the 1970s when the popular Schleicher ASK-14 and Motor Falke entered production. These craft followed a completely different principle, looking like streamlined light aircraft with long wings.

The latest trend in the development of motor gliders occurred in the 1990s when sailplanes with retractable motors (such as the ASH-26E) entered production. These are true high-performance ships have revolutionised gliding to such an extent that around 80% of all gliders produced in Germany (the world's most prolific manufacturer of sailplanes) are now motorised.

The addition of a motor does add more weight, and this will have an impact on the performance. We know that from our model electric gliders; they mostly like to fly at a slightly faster speed than pure gliders and do not thermal quite as well in very light conditions. However for full-size cross-country flights most glider pilots take on water ballast (which can be dumped at any time during the flight). The glide angle of a ballasted glider will occur at a higher airspeed than that of an unballasted glider (and therefore will lose less height between thermals). The ballasted glider will, however, have a slower climb rate while thermalling and will have a higher sink rate. The addition of a motor therefore does not disadvantage the pilot in terms of cross-country performance, besides which if he gets into trouble he can always switch on the motor!

Model sailplane manufacturers such as EMS (Germany have copied this idea in their scale sailplanes using electric motors (usually brushless motors) as the power source. But now it is the full-size manufacturers turn to copy model manufacturers – the Antares sailplane (pictured opposite) is the first full-size glider to be powered by an electric motor.



The power plant is a retractable brushless 42 electric motor developed especially for the Antares. This provides the Antares with a climb rate of around 900 feet per minute (that's almost as fast as many light aircraft), and provides the same advantages of ease of maintenance, lack of vibration and reliability we have all experienced in radio controlled electric flight.

For more information about the Antares see <http://www.lange-flugzeugbau.de/>.

# 7 Cell Glider Competition

\$500 in prize money

1<sup>st</sup> \$150. 2<sup>nd</sup> \$125. 3<sup>rd</sup> \$100 4<sup>th</sup> \$75. 5<sup>th</sup> \$50

## and Electric Fun Fly.

The Belconnen Model Aircraft Club in Canberra and the Australian Electric Flight Association invites all local & interstate aeromodellers to participate in an electric fun fly on Saturday 15th March and a 7 cell electric glider competition on Sunday 16th March 2003 at their flying field.

So come out, fly, or just watch and see all facets of electric flight including Park Flyers, helicopters, pylon racers, 250 kph F5B rocket ships through to multi engined scale models.

Any financial member of the M.A.A.A. is welcome to participate.

Contact Byam Wight on 0411 337162 for further details

## Watts On

DATE	EVENT	LOCATION
February 9th	Millenium Cup (2M Glider) Round 2	Illawarra Model Aircraft Club, Wollongong, NSW
February 15th-16th	Seven Cell Glider / F5B	Wagga Wagga, NSW
March 15th- 16th	Seven Cell Electric Glider / Electric Fun Fly	Belconnen Model Aero Club, Mitchell
March 30th	YMAC Open Day	Yass Model Aircraft Club, Yass, NSW
March 30th	Millenium Cup (2M Glider) Round 3	Queanbeyan Model Aircraft Club, Hoskinstown, NSW
April 20th	Millenium Cup (2M Glider) Round 4	Muswellbrook, NSW
May 17th-18th	7 Cell Glider / F5B	Illawarra Model Aircraft Club, Wollongong, NSW
July 13th	7 Cell Glider / F5B	Picton, NSW
September 6th-7th	Millenium Cup (2M Glider) Round 5	Cowra Model Aircraft Club, Cowra, NSW
October 26th	Millenium Cup (2M Glider) Round 6	Heathcote Soaring League, Maddens Plains, Sydney, NSW
November 16th	Millenium Cup (2M Glider) Round 7	SMFC Bomaderry Field, Nowra, NSW
December 7th	Ted Swan Cup (Open Glider)	Goulburn, NSW

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