Free Flight 2001

Steve Uzochukwu reports from the Garmisch show

The weather in Germany was atrocious and very little flying took place. What there was involved the likes of base-jumpers and acro pilots stepping out of helicopters and balloons. However watching Mike Kung wring out a small Octane with 'helicopters', SATs and barrel rolls was fantastic - stuff you wouldn't believe possible unless you saw it with your own eyes.

The keynote of the show itself this year was development and improvement to existing products rather than ground-breaking new ones. These developments were evenly spread across both hang gliding and paragliding.

Most competition weight-shift hang gliders have been undergoing drag reduction exercises. After the kingpost, attention has turned to uprights and wing wires in the search for minimal drag. Wills Wing have developed a new low-drag upright with a very deep chord that, allied to a carbon-fibre aerofoil base bar, forms the basis for their new low drag A-frame. It's used on their latest prototype, the Talon, their first competition glider with curved tips. Wills apparently decided only two days before the show to freeze the design process and present the prototype on display for certification. The Talon also features carbon inserts to further stiffen the leading edge over the inner span.

Moyes displayed the most recent Litespeed variation and Icaro (who are now building paragliders too and revealed their DHV1 Cyber) showed the latest MRX 2001. Both were displayed with aerofoil base bars and low-drag uprights. Seedwings showed their new top-level Vertigo and the Kestrel intermediate. Airwave are now producing the Fly 2, Pulse (in one size) and Sportster (two sizes).

In the Class 2 arena, Flight Design showed their new Axxess, successor to the Ghostbuster. The glider features an improved tip area, the outer end of the leading edge unplugging to reduce packed length. With all the optional extras fitted it becomes the Axxess +, featuring a low-drag A-frame, retractable flaps and wires exiting the A-frame much higher up than is usual. Flight Design have managed to get their CT 3-axis microlight through BCAR Section S certification (opening up the UK market), and announced a new co-operation deal with Swing.

Seen for the first time at a big show was the DHV-certificated Aeros Stalker, unique among Class 2 wings in having ailerons rather than spoilers. To overcome adverse yaw effects the glider also has some mini tip-draggers. The leading edge is not covered in sailcloth, instead presenting naked fibre-glass and carbon-fibre to the airflow.

Both the Icaro/AIR Atos and the Guggenmos ESC were shown in their latest and most developed forms. The Atos was displayed with winglets and cable fairings (a design study not intended for immediate production) and a new low-drag A-frame. AIR have managed to eliminate slack side wires, ingeniously combining front and side (control-only) wires in one. The rear rigging is conventional, but two wires from the front of the A-frame join the wing at the leading edge about a foot outboard from the keel. These eliminate slack from the control loop, giving far more direct control. Detail drag reduction on the A-frame and elsewhere have led to a claimed 1.2-point improvement in glide. Prices of most Class 2 wings were round about 18,000DM - about £5,900 at today's exchange rates.

The drag reduction theme of Classes 1 and 2 was continued into the realm of harnesses. Skyline, Vonblon, M2, Charly, Woody Valley and Nene Rotor all have ultra-low-drag harnesses with parachutes in internal containers, mostly above the pilot's thighs or buttocks. Shoulder areas are tightened and cleaned up by the use of neoprene.

In paragliding, 2001 is the year of the closed cell. Do we need them? Do they affect inflation, reinflation or performance? Airwave designer

Bruce Goldsmith pointed to Airwave's new DHV1 Logic as evidence that, with the right combination of design features, a glider with closed cells need have no inflation difficulties on take-off or reinflation problems in flight, explaining that the cleaner leading edge profile attainable with closed cells means less drag and thus better performance. Airwave's top-of-the-range glider, the Magic (also with closed cells), is now DHV2-3 certificated in all sizes. Work has started on a new DHV1-2 glider, the Sport, and on an as-yet-uncertificated model, the Micro, targeted at the acro pilot.

Changes to paragliding harness geometry was widespread, with a lot of harnesses now taking the leg loops up to chest-strap level. This allows weight shift when sitting back in the relaxed position, but locks the harness up when the legs are extended as they would be on the speed bar.

Experimental low-drag A-frame and rigging on AiR Atos

Axxess - son of Ghostbuster

AiREA are back with new gliders after some business troubles. As usual with AiREA they had to have a 'unique selling point' at the show - this year it was his-and-hers AiREA perfume! Both the Rebel (DHV1-2 or 2) and Revolution (DHV2 or 2-3) had closed cells and a new speed system. Designer Ernst Strobl explained that this has two positions for the top pulley, the top location giving a 5 km/h gain in top speed at the expense of the certification level going up a notch.

Ozone displayed their new DHV2-3 Proton GT, available in two sizes so far, and the DHV1 Atom. A big talking point at Ozone was the Peak, a new 'mountain' glider with a total weight of 6.8kg (glider + harness + bag!) developed in collaboration with Pilots Right Stuff/Aerosport GmbH. Robbie Whittall was showing pilots the complete pack, asking if it would encourage them to fly and hike. The consensus amongst fliers was 'yes' - very much so!

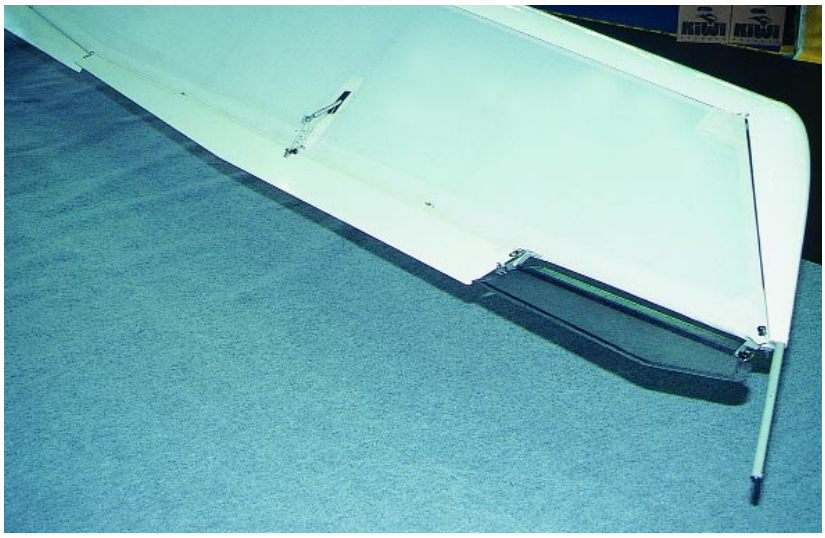
Apco had a complete range of gliders, with boss Anatoly Cohn denying rumours of the Allegra's demise: 'It's an excellent product, still in demand, and we have nothing better to replace it with. It will be some time and a lot of work before we have a successor ready.'

Advance displayed the new Omega 5, announced a whole set of O5 accessories - keyrings, bottle holders and such - and gave away the O5 brochure in CD format. Their new 'Winner' harness was on display, and the Sigma 5 was promised for later this year.

Nova designer Hannes Papesh was very happy with the reception the Carbon is getting, pointing out that although performance hasn't increased much since the time of the Xyon, safety has - he now has a DHV1-2 glider with Xyon performance or better. Closed cells? 'The position and number of closed cells is just another interlinked thing in a glider's development.' Nova's kites use a lot of closed cells including at mid-span; the Argon has eight but all at the tip.

FreeX's Pure continues - a DHV1-2 glider aimed at the entry-level club pilot - with the Sun DHV1 at the bottom end of the range. The Moon is a top-end DHV1-2 for pilots wanting a responsive, dynamic glider with high passive safety. FreeX also have a new mountain glider, the SXT, and the uncertificated Arrow competition wing.

All I brought back from Garmisch was a video, given to me by Vertigo's Alain Zoller, featuring fantastic shots, set to music, of last year's Red Bull/Vertigo International aerobatic competition. This year's event will be at Villeneuve, Switzerland on August 24th - 26th. Details are at www.redbull-vertigo.com.



DHV-certificated Class 2 Stalker, with ailerons and tip draggers

The latest in low-drag harnesses from Nene Rotor