

## **Review of the freeX Mission –Fly and Glide magazine (translated from German)**

FreeX paragliders are famous for their instant response to pilot input and turn initiation. This is achieved through a different brake arrangement. The outermost line is connected to the underside of the winglet. The winglet's form and shape have been designed to ensure optimum stability with no turns as well as causing less drag. From the stabiliser, which has three fastenings, there is a different coloured line to the D(!)-riser.

The usual construction quality of freeX gliders has not been compromised by the change in manufacturers.

### **Launch**

For the Mission it is advisable to lay out the canopy in the shape of an arrow. The different colours of the lines, makes them easy to separate and the lines are designed not to kink. Pulling the canopy up needs an initial strong and consistent pull and once the canopy is above the pilot, it is advisable to slow down the canopy slightly to stabilise the pilot. The launch, which may require a little time to get used to, was standard for the Oxygen, but has been improved in the Mission. The Mission will launch with medium speed during a reverse launch, as well as during a forward launch, and the canopy will need to be guided for a short while. Because the leading edge will accelerate during the final stage of raising the canopy, I was sometimes lifted off my feet a little. The launch needs a little getting used to, but once this has been achieved, the launch is easy and fun.

### **Flying**

The glider is very responsive to brake input and can be easily and precisely steered. The Mission deservedly has the same reputation of all freeX gliders in that it offers uncompromising and responsive handling. Even during my first flight with this intermediate I was impressed with the handling. As the glider is not prone to pitching back, the glider will fly smoothly in strong ridge lift and the easy turning means that only a small amount of input is needed to be able to core a thermal easily. The turn pressure is small but increases progressively. Using the brakes with a little weight shift makes this the one of the most responsive gliders I have ever tested.

In terms of radical manoeuvres, and in comparison to its predecessor the Spear, the Mission is far more forgiving. During a stall, the brake pressure will increase, until the glider depressurises. As this point can be felt by a lightening of pressure, a quick release of the brakes can prevent the stall from occurring.

One marked difference to other canopies in this class is the tuck characteristics. During my first attempts to make the canopy tuck, I was surprised how long the canopy remained stable, i.e. how resistant it was to tucking. Only after several tries, with the speed bar, without, leaning forwards and at trim, could I test the canopies response to a tuck accurately. Because of the clever use of a v-cell system, the canopy will remain stable in a large range of conditions. During a 50% tuck the canopy (without pilot input) merely turned 180° and caused a marginal tuck in the leading edge.

The canopy will react in a more exacting way during more radical manoeuvres. If the canopy has an asymmetric deflation the canopy will spiral 360° and the pilot will lose significant height. In this case the pilot must stop the spiral dive carefully but quickly. The brake should be applied strongly on the tucked side. Although the glider is very stable - especially in comparison to other comparable

canopies, this stability should not fool pilots into believing that experience and ability is not needed during radical manoeuvres.

The speed system is easily applicable and therefore saves much effort for the pilot. It is especially useful during into-wind valley crossings and strong wind flying. Three risers are shortened and the B-riser can be reduced by 75% (12cm) and the C-riser is 50% (8cm) from the A-riser (16cm).

### **Rapid Descent**

**Big Ears:** to induce big ears, use the A-risers. The wings tuck easily and are easy to hold in position. The sink rate will be about 3m per second, but this can be increased to 4m per second with the application of speed. Steering with big ears requires weight shift, but the canopy will turn remarkably easily and even tight turns are no problem.

**B-stall:** to induce a B-stall medium force is required, but after the first 10cm - 12cm the stall is easily achieved. During the B-stall the canopy remains stable and on reaching the optimum sink rate the glider will descend at 9m per second. To release the stall, a quick release of the B-risers is required, however, even with a slow release the glider returned to normal flight.

**Spiral Dive:** similar to its freeX predecessor, the Spear, and their current performance glider Oxygen, the Mission can be easily and effectively spiralled. Because of the good handling, spirals are easy and after a few rotations I was sinking at 15m per second. With input, I could gain a sink rate of 20m per second for a short time, however, my speed at that time was 100km/h. During a spiral dive I would recommend braking and pulling the outer leading edges in, in order to prevent the outer parts of the canopy from collapsing. When coming out of the spiral it is important to reduce the speed over several rotations due to the speeds which can be built up during the dive.

### **Performance**

On the day of my flight test I was also testing the Oxygen and this gave me the opportunity to compare two gliders of the same make. In terms of performance the Mission was not really inferior to the Oxygen. At trim speed, 37km/h, both canopies have an equally good glide. At full speed the Mission will accelerate to 49km/h and I could only accelerate the Oxygen by a further 2 - 3 km/h. Only after about 46km/h was the performance difference noticeable. I achieved min sink (1.1 meters per second) at 30km/h, and with full brakes the glider will still fly at 24km/h, which means that in terms of performance this glider is at the cutting edge of its class.

### **Conclusion**

The newest DHV2 from freeX is a great development. In comparison to its predecessor, the Spear, safety has been improved, the handling is better and performance, especially at speed, has improved dramatically. The major strength of the Mission is its typical freeX easy handling. If the pilot flies this canopy in a responsive way, they should not be beaten in climb rate. In terms of safety, the Mission has a wide safety margin. However, during accelerated or asymmetric deflations the pilot flying this canopy should have the experience and airtime to know how to recover a glider in a radical manoeuvre. An interesting glider for experienced and current pilots!

Andy Pfister

|                                |   |
|--------------------------------|---|
| Flying Statistics and Class    |   |
| Minimum Speed                  | 24km/h  |
| Trim Speed                     | 37km/h  |
| Max speed with Speed System    | 49km/h  |
| Minimum Sink (approx.)         | 1.1m/sec  |
| Average Speed                  | High  |
| Weight loading with test pilot | 3.41kg/m <sup>2</sup> with 72kg body weight             |
| DHV Classification             | Class 2 GH Nr. GS01-714-99                              |
| Fly and Glide Classification   | Performance Intermediate/Performance Competition Glider |
| Recommended Pilot Type         | XC/Competition Pilots                                   |
|                                |   |

**For further information or to arrange a test flight contact:**

Air Base UK Ltd.  
30 Thornthwaite Rd.  
Windermere  
Cumbria LA23 2DN  
UK

Tel: +44 15394 88880  
Fax: +44 15394 42124  
e-mail [info@airbase.uk.com](mailto:info@airbase.uk.com)  
web [www.airbase.uk.com](http://www.airbase.uk.com)