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paragliding by air turquoise

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Assessment of conformity

EN 926-1 and 926-2

PARAGLIDING PWC SUPERFINAL BRAZIL 2013

FEBRUARY 14 th 2014

Performed by:

Air Turquoise SA
Route du Pré-au-Compte 9
1844 Villeneuve
Switzerland

Required by:

Paragliding World Cup Association
364 route d'Annecy
74210 Marlens
France

Concern:

Verification of conformity with the EN 926-2:2005 norm, for paraglider **Ozone Enzo 2 M serial n° ENZO2-M-O-49A-149.**

Facts:

1.1 Ozone Enzo 2 M, serial n° PR3-0-18E-299, underwent a complete certification procedure in accordance with the EN 926-1 and 926-2 norms.

1.2 On the December 28th 2013, the procedure was finalized, and the glider was therefore homologated EN D.

2.1 During the 2013 World Cup Superfinal, the PWCA proceeded to test a sample of the gliders flown, as is permitted by the 2013 PWCA Rules, § 7 of the chapter concerning pilots' equipment.

2.2 At that point, doubts were emitted concerning the compliance of Ozone Enzo 2 M, serial n° ENZO2-M-O-49A-149 with PWCA rules.

3 The PWCA therefore requested an expertise on said glider, in order to determine if it is in fact to be considered homologated, according to the applicable norms, at the time of the competition.

[4] Measurements were done on February 13th 2014 in Air Turquoise's offices, under supervision of many witnesses of all concerned parties. We found the following discrepancies between the glider submitted and the certified sample:

- The trailing edge was found to be 205mm longer on each half of the span, than that of the certified sample (symmetric)
- The leading edge was found to be 44mm shorter on each half of the span, than that of the certified sample (symmetric)
- Hanging points of the first and second groups of B and B2 lines, as well as the afferent reinforcements, were found noticeably closer to the leading edge in comparison with the archived glider
- B2 lines are in average 15mm longer than those of the archived glider
- The total accelerator range matches that of the archived glider, but the A' group is pulled 10mm more than that of the archived glider in maximum speed configuration

Judgments:

[1.1] Air Turquoise is an independent homologation laboratory, authorized to test according to EN and LTF norms, and well respected within the paragliding world.

[1.2] *A contrario*, in order to ensure that the spirit of these norms and therefore the public's safety are respected, Air Turquoise is competent to verify *a posteriori* if the gliders sold to the public are conform to the sample tested, homologated and archived by us.

[2.1] According to § 5.3.1 of the EN 926-2 norm, the production gliders must be in all points conforming to the tested specimen.

[2.2] This means that a competent organ may verify the conformity of whichever parameter of the serial glider he sees fit, in order to compare it with that of the homologated specimen.

[2.3] The norm defines tolerances for some of these parameters (EN 926 -2:2005, § 7 lit. c n. 14 et 15)

[2.4] Where no tolerance is given by the norm, the manufacturer may define his own (EN 926-2:2005, §8 lit. g).

2.5 However, tolerances may only address issues concerning production constraints, and may in particular not be used to modify the behavior or performance of the serial glider, in comparison with that of the homologated specimen.

2.6 This interpretation is of paramount importance, in order to avoid abuses with potentially deadly consequences for the pilots, and is completely in line with the letter and spirit of EN norms.

2.7 The competent organ must therefore judge, in each case, if a parameter is conform or not, taking in account adequately all production and usage constraints.

Conclusions:

1.1 In this particular case, many characteristics of the tested glider present discrepancies with those of the homologated specimen.

1.2 Certain discrepancies exceed EN tolerances; whereas others concern characteristics for which no tolerance is defined by the norms.

1.3 We consider these discrepancies big enough, that the glider ENZO2-M-O-49A-149, and all Enzo 2 M gliders presenting analogous configurations, are clearly and unequivocally not conform to the specimen homologated and archived by Air Turquoise.

For Air Turquoise SA :

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Glider: OZONE Enzo2 M **S/N:** ENZO2-M-O-49A-149 **Done by:** GB **date:** 13/02/2014

Line measurement of PWC Competition glider

		Archive A	Glider	Diff	Archive A2	Glider	Diff	Archive B	Glider	Diff	Archive B2	Glider	Diff
Center	1	8348	8355	7	8335	8339	4	8378	8373	-5	8435	8458	23
	2	8239	8241	2	8226	8223	-3	8330	8322	-8	8287	8302	15
	3	8213	8212	-1	8196	8195	-1	8222	8218	-4	8233	8258	25
	4	8276	8279	3	8262	8259	-3	8211	8210	-1	8252	8276	24
	5	8135	8141	6	8124	8128	4	8183	8182	-1	8224	8240	16
	6	7993	7998	5	7984	7984	0	8175	8173	-2	8051	8069	18
	7	7927	7931	4	7916	7920	4	8217	8220	3	7974	7989	15
	8	7954	7960	6	7945	7952	7	8235	8234	-1	7961	7978	17
	9	7705	7697	-8				8160	8163	3			
	10	7665	7656	-9				8110	8109	-1			
	11	7570	7561	-9				7999	7997	-2			
	12	7567	7560	-7				7994	7988	-6			
	13	7509	7503	-6				7925	7926	1			
Wing tip	14	7512	7509	-3				7913	7910	-3			
	15	7387	7378	-9				7928	7924	-4			
	16	7367	7357	-10				7941	7942	1			
								7687	7696	9			
								7653	7659	6			
								7574	7577	3			
								7579	7580	1			
								7513	7521	8			
								7519	7528	9			
								7376	7370	-6			
								7379	7373	-6			

A[1]

Archive

Risers	trim	accel
A	502	360
A'	495	424
B	491	489
accel	**12.5**	cm

Glider

Risers	trim	accel
A	502	358
A'	485	410
B	488	491
accel	**12.5**	cm

Archive Glider Ozone Enzo 2 M / SN PR3_0_18E_299

PWC Glider Ozone Enzo 2 M / SN ENZO2-M-O-49A-149

Mesure of half wingspan with 5 kg of tension

	Archive	Glider	Diff
Front edge	6881	6837	-44
Trailing edge	6612	6817	205

Number of cell:	**101**	
Tolerance	**10**	
Weight of glider	6.1	**kg**
Pressure	**1002**	**hPa**
Humidity	**37**	**%**
Temperature	**23**	**°C**

Prepared by RE
Rev 5, 24.03.2011