

FLIGHT MANUAL SUPPLEMENT 80

ULTRAMAGIC N-390 & N-415 ENVELOPES

80.1 GENERAL INFORMATION

This supplement details the instructions and limitations necessary to ensure the safe operation, maintenance and continued airworthiness of the Ultramagic N-390 and N-415 Hot Air Balloons.

This supplement is specific to the following Envelopes and equipment:

Envelope:	N-390 (11045 m ³)
	N-415 (11750 m ³)

Sections are numbered keeping the Flight Manual index with the §80.X prefix, in ease of a quick cross reference, accepting they are substituted or appended by the indicated in this supplement. In case of ambiguity, most restrictive option is authoritative.

80.2 LIMITATIONS OF USE

No change.

80.3 EMERGENCY PROCEDURES

No change.

80.4 STANDARD PROCEDURES

No change.

80.5 LOADING

80.5.2 Table of Empty Weight and Maximum Lift

For the calculations in the Load Chart of chapter 5 of the Flight Manual will be used the following characteristics:

Model	V	Basket	Pv	Lmax
N-390	110.5	C-5	627	2196
		C-8	663	2457
		C-9	728	2936
		C-11	810	3490
		C-12	911	3795
Model	V	Basket	Pv	Lmax
N-415	117.5	C-5	632	2201
		C-8	668	2462
		C-9	733	2941
		C-11	815	3495
		C-12	916	3916
		C-14	1002	3950

V = volume [m³]
 Pv = Empty weight (without any cylinder) [Kg]
 Lmax = Maximum authorised Lift [Kg]

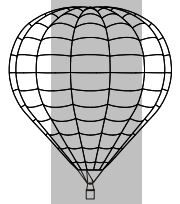
80.5.4 Table of Compatibility

Envelope Model	BASKETS						BURNERS					OTHER			
	C-5	C-8	C-9	C-11	C-12	C-14	MK-2 Quad	MK-10 Quad	BMK-050 Triple	MK-21 Quad	MK-32 Quad	BMK-050 Quad	FDS	Rotation Vents	Min Cylinders
N-390													STD	STD	4
N-415													STD	STD	4

80.5.5 Minimum Take Off Mass

The minimum Take Off Mass for this envelope is as follows:

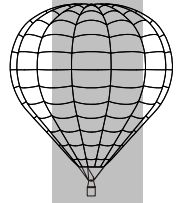
Vol [ft ³]	Vol [m ³]	Max TOM [kg]	Min TOM [kg]
390,000	11,045	3,795	1,760
415,000	11,750	3,950	1,805



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80.5.6 Reduced Maximum Take-Off Mass

A reduced Maximum Take-Off Mass of 3552 kg may be selected for the N-390 and a reduced Maximum Take-Off Mass of 3780 kg may be selected for the N-415.



80.6 BALLOON AND SYSTEMS DESCRIPTION

80.6.3 Dimensions and Weights

See following table corresponding to mass and dimensions:

Type	SERIES N	
	390	415
Vol. (m ³)	11,045	11,750
Number of gores	28	28
FAI Class	AX-12	AX-12
Total Height (m)	33.5	34.5
Standard Basket	C-11	C-12
Envelope		
Height (m)	29.8	30.3
Diameter at the equator (m)	28.4	29.3
Diameter at the Mouth (m)	5.0	5.0
Weight (kg)	380	385
Parachute Diameter (m)	8.25	8.25
	FDS	FDS

80.7 BALLOON HANDLING, MAINTENANCE AND CARE

No change.

80.8 OTHER MANUFACTURERS EQUIPMENT

Basket

Basket No	Basket Size (cm)	Type	Typical Mass (Kg)	UM Envelope size Range
42	152 x 470	DT	452	415 - 500

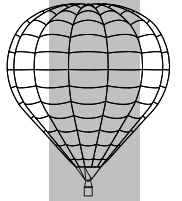
Burner

Burner Type	Burner Configuration	UM Envelope size Range
KBS3-4	Quadruple	415 - 425

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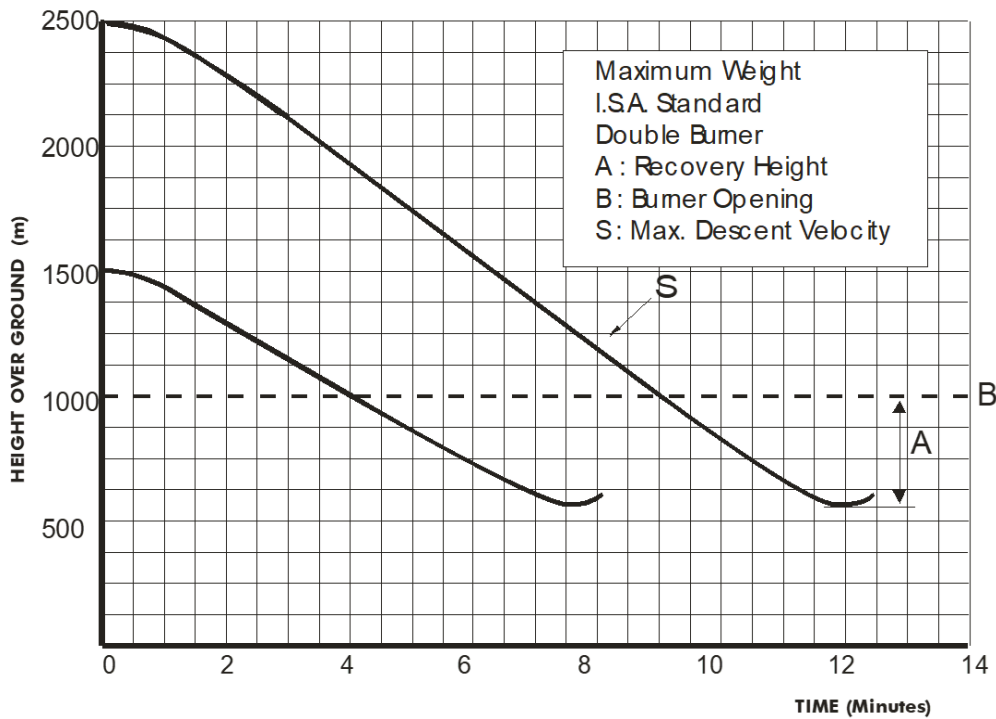
80.A VERTICAL VELOCITIES AND ALTITUDE RECOVERY

Add following graphs:

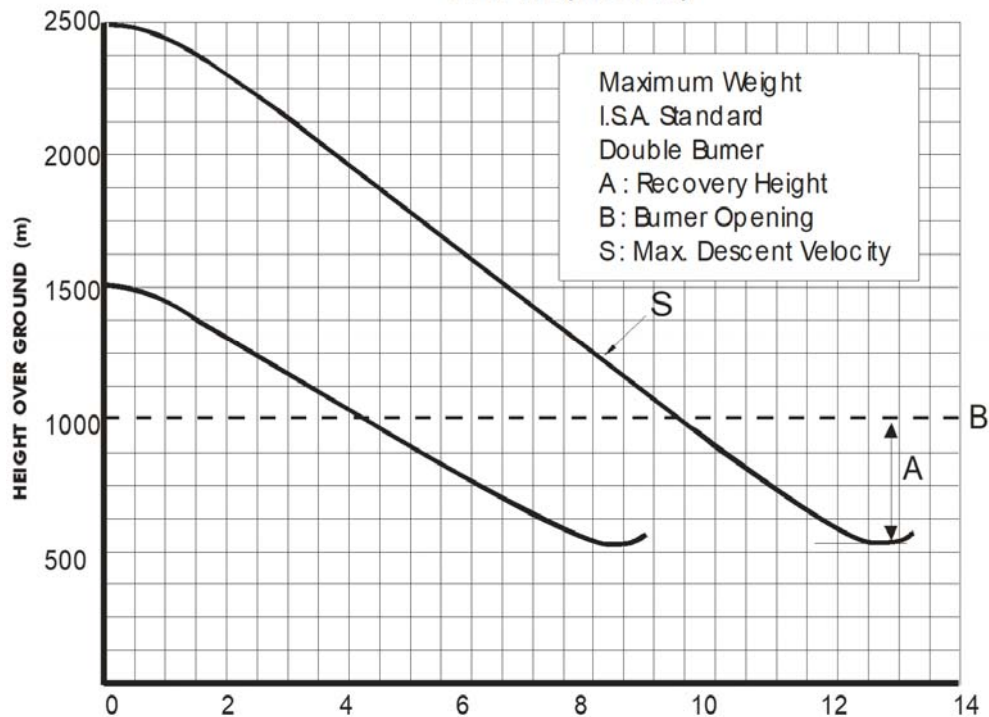


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SIZE 390 (11045 m³)



SIZE 415 (11750 m³)



80.D MINIMUM BASKET SPACE REQUIREMENTS

No change.