

FLIGHT MANUAL SUPPLEMENT 34

ULTRAMAGIC N-500 ENVELOPE AND C-14 BASKET

34.1 GENERAL INFORMATION

This supplement details the instructions and limitations necessary to ensure the safe operation, maintenance and continued airworthiness of the Ultramagic N-500 Hot Air Balloon and/or the C-14 Basket.

This supplement is specific to the following Envelopes and equipment:

Envelope: N-500
(14415 m³ | 500,000 ft³)

Basket: C-14
(170 x 520 cm | 67 x 205 in)

It will be kept the same numbering of the different sections with the §34.X to know at which sections correspond of the Main Manual, accepting they are substituted or appended by the indicated in this supplement. In case of ambiguity, most restrictive option is authoritative.

34.2 LIMITATIONS

The following limitations are additional to those already stated in the Flight Manual.

34.2.2 Wind Speed

The maximum surface wind speed for takeoff is 12 knots (13.8 mph).

34.2.5 Fuel

A minimum of 4 full cylinders is to be carried for flight.

WARNING: *Minimum pressure required to use the MK-21 Quad burner on this envelope is 6 bar (87 PSI).*

34.2.6 Loading

Applicable loading parameters are listed on section 34.5 of this supplement.

34.2.7 Crew

Maximum number of occupants is described on section 34.D

34.2.8 Vertical Velocities

Maximum rate of climb 3 m/sec (600 ft/min), or 4 m/s (800 ft/min), if an internal envelope temperature indicator is carried and the maximum permitted temperature is not exceeded.

Maximum rate of descent is 4 m/sec (800 ft/min).

34.2.12 Minimum Burner Requirements

The N-500 balloon may only be operated with the Quadruple array of Mk-21 (at a minimum pressure of 6 Bar or 87 PSI) or the BMK-050 and MK-32 Quadruple burners.

34.2.14 Tethered Flight

Maximum wind speed in surface: 10 knots (11.5 mph)

34.2.15 Other Manufacturers Equipment

N-500 Envelopes may only be flown with the adequate Ultramagic equipment.

34.3 EMERGENCY PROCEDURES

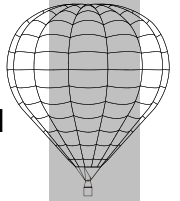
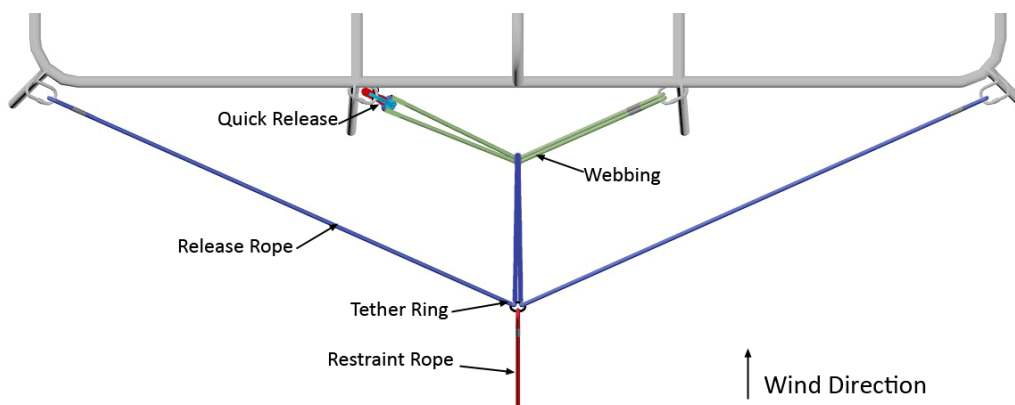
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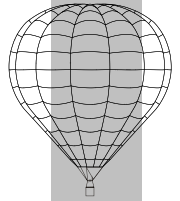
34.4 STANDARD PROCEDURES

The following procedures are additional to those already contained in the Flight Manual.

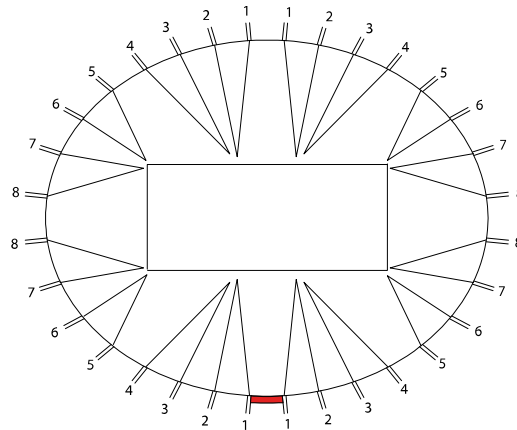
34.4.5.2 Rigging the basket and burner

When using a quick release system, attach the restraint rope to the quick release by means of a double release rope and a tether ring, always upwind, as shown on the following diagram. All the materials to be used must be supplied or approved by Ultramagic.





34.4.5.4 Envelope (add following diagram for 32 gores)



34.5 LOADING

34.5.2 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-500	144.2	C-14	1055 2326	5000 11023
		C-12	865 1907	3813 8406
N-425 ¹	120.0	C-14	948 2090	4140 9127

V = volume [m³]

Pv = Empty weight (without any cylinder) [Kg] / [lbs]

Lmax = Maximum authorised Lift [Kg] / [lbs]

¹ Other configurations for N-425 envelopes are listed on section 5.2 of the Ultramagic FM

34.5.4 Table of Compatibility

SIZE	N-425 ¹	N-500
MK-21 & BMK-050 BURNERS QUADRUPLE	*	*
BASKETS		
C12	*	X
C14	X	*
ROT. VENTS	*	*
FDS	*	*
MIN.CYL.	2	4

¹ Other configurations for N-425 envelopes are listed on section 5.2 of the Ultramagic FM

34.5.5 Minimum Take Off Weights

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

Volume (m ³)	Volume (1000 x ft ³)	Load max (kg lbs)	Load min (kg lbs)
14415	500	5000 11023	2300 5070

34.5.5 Reduced Maximum Take-Off Mass Operations

A reduced Maximum Take-Off Mass of 3995 kg (8807 lbs) may be selected for the N-500.

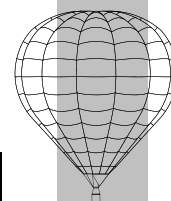
34.6 BALLOON AND SYSTEMS DESCRIPTION

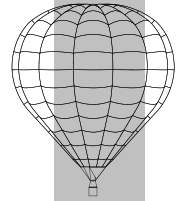
34.6.3 Dimensions and Weights

See following table corresponding to mass and dimensions:

BALLOON TYPE	N-500
Vol. (m ³)(ft ³)	14415 500,000
Number of gores	32
FAI class	AX-13
Total height (m)(ft)	36,20 119
Standard basket	C-14
Empty Weight in Standard config.*	1172 2584
Karabiners Strength (kN)	40
Envelope	
Height (m)(ft)	32.20 106
Max width (m)(ft)	31.13 102
Diameter at the Mouth (m)(ft)	5.50 18
Weight (kg)(lbs)	422 930
Parachute	
Diameter (m)(ft)	9.00 29.5
BASKET	
C-14	
Length (m)(in)	5.20 205
Width (m)(in)	1.70 67
Height (m)(in)	1.15 45
Mass (kg)(lbs)	533 1175
Karabiners Strength (kN)	40

* incl. 4 M-40D cylinders at 10%, C-14 basket, MK-21 quad burner/frame, envelope and minimum equipment (kg)(lbs)





34.6.5 Bonanno Quick Release

Apply special lashing as described on section 34.4.5.2.

34.7 BALLOON HANDLING, MAINTENANCE AND CARE

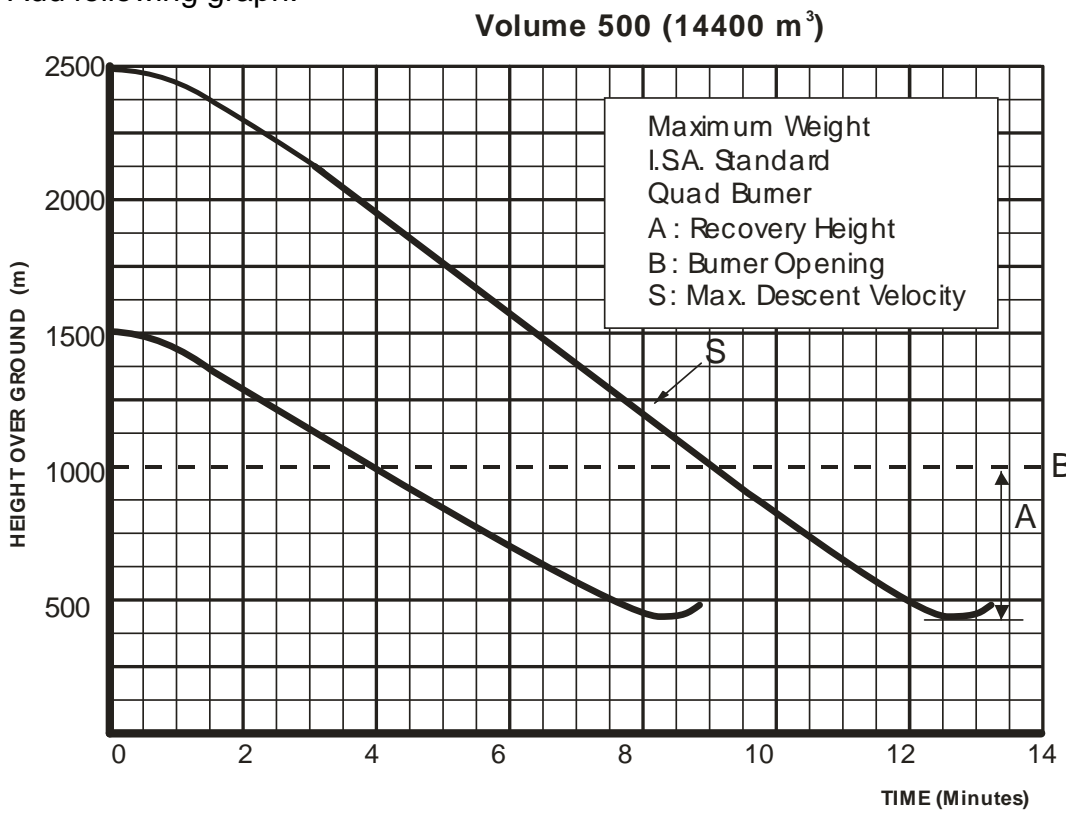
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34.8 OTHER MANUFACTURERS EQUIPMENT

No change.

34.A VERTICAL VELOCITIES AND ALTITUDE RECOVERY

Add following graph:



34.D MINIMUM BASKET SPACE REQUIREMENTS

Basket Specs.				Capacity		
Model	Width	Length	Max Load	Pilot Compartment		Other Compartments
				Cylinders	Pilot + Pax	Pax
C-14	1,7 m 67 in	5,2 m 205 in	5000 kg 11023 lbs	4	3	28* ((3+4)×4)
				5 to 7	2	
				8 to 10	1	

* Only when a secondary partition (Minor Change 029) is installed in the passenger compartments. Otherwise the occupancy is limited to 24, (6x4).

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