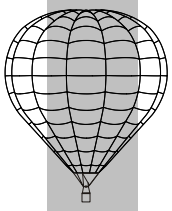
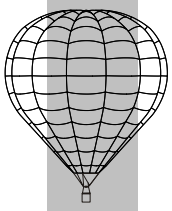
LIST OF APPROVED REVISIONS



Rev	Description	Approval	
		Date	Reference
1	Sup. 3, 4, 5 added	17/Sep/03	DGAC - Spain
2	Sup. 6, 7 added	18/Oct/03	DGAC - Spain
3	Sup. 9 added; V-25 model added; Section 8 amended	14/Feb/06	EASA BA.C.01011
4	Sup. 10 added	14/Feb/06	EASA BA.C.01011
5	Sup. 6 amended; Sup. 11 added	14/Feb/06	EASA BA.C.01011
6	Sup. 12 added	31/Jul/06	EASA BA.A.01001
7	Sup. 13, 14 added; Section 5.6 added	31/Jul/06	EASA BA.A.01001
8	Sup. 8 added	03/Mar/08	EASA BA.C.01028
9	Sup. 13 amended; Page 5.8 amended; Sup. 15, 16 added	31/May/07	EASA BA.A.01004
10	FAA requirements added; Section 8 amended; Sup. 19, 20 added	08/Feb/08	EASA BA.A.01010
11	Sup. 17, 18 added	21/Dec/07	EASA BA.C.01067 EASA BA.C.01068
12	Sup. 21 added; Sup.15 amended	18/Apr/08	EASA BA.A.01014
13	Sup. 22 added; Sup. 6, 9, 17, 18, 19 amended; Other minor modifications	29/Apr/08	DOA 21J.351 PD1-05 002
14	Sup. 25 added; Other minor modifications	23/Jul/08	EASA BA.A.01015
15	Sup. 23, 26 added; Other minor modifications	27/Jan/09	DOA 21J.351 PD1-05 009
16	Section 0, 2, 5, 6, 8, 9 amended; Sup. 8, 19, 26 amended; Sup. 27, 28, 34, 36 added	08/Sep/09	DOA 21J.351 PD1-05 012
17	Section 0, 4, 9 amended; Sup. 37, 38, 39 added	19/Jul/11	EASA 0010035791
18	Section 0, 1, 2, 5, 8, 9 amended; Appendix A, B amended; Sup. 24, 42 added; Sup. 4, 6, 19, 34, 39 amended	20/Jan/12	EASA 0010038120
19	Section 5 amended	12/Jun/12	EASA 0010016389
20	Sup. 22, 38, 39 amended	08/Mar/13	EASA 0010016416
21	Sup. 8, 38 amended; Other minor modifications	20/May/13	DOA 21J.351 PD1-05 023
22	Section 0, 2, 4, 5, 8, 9 amended; Appendix C amended; Sup. 47 added; Sup. 4, 6, 12, 13, 24 deleted	29/Nov/13	DOA 21J.351 PD1-05 024
23	Section 0, 1, 4, 5, 6 amended; Appendix B amended; Sup. 2, 10, 19, 22, 39 amended; Sup. 46, 48, 49 added	21/Jan/15	DOA 21J.351 PD1-05 028
24	Minor revisions to sections 0, 1, 2, 4, 5, 6, 9, Appendixes B, C and D.	21/Dec/15	DOA 21J.351 PD1-05 034
25	Minor revisions to sections 0, 1, 2, 3, 4, 5, 6 and 7	29/Apr/20	DOA 21J.351 PD1-05 062
26	Minor revision to sections 2.14, 4.8.2.2, 4.13, 6.2.2.5, Appendix B and Appendix E	09/Oct/20	DOA 21J.351 PD1-05 063
27	Embodiment of Suppl. 34, 52, 56, 62, 72 & 73. Corrections, format adjustment.	15/Dec/23	DOA 21J.351 PD1-05 099
	N-550 envelope & C-15 basket addition.		EASA Project 60087942
28	Editorial updates and corrections	11/Jan/24	DOA 21J.351 PD1-05 100
29	Section 2.12 update – MK-32 Quad volume range extension.	28/Jan/2025	EASA Project 60093254
	Temporary Revision 001 Iss.1 added. Typo corrections and disambiguations. Embodiment of contents from Sup. 10 & 80. Appendix B update.	28/Feb/2025	DOA 21J.351 PD1-05 110 & 122



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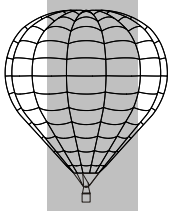

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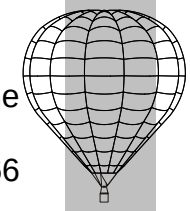


2.9 Internal temperature

In normal use, the maximum continuous internal temperature adjacent to the fabric is 120 °C (250 ºF).
The internal temperature adjacent to the fabric must never exceed 130 ºC (266 ºF).

2.10 Deflation systems

WARNING: It is forbidden to use the red rope of the FDS rapid deflation system at an altitude higher than 10 m (30 feet) above the ground.

CAUTION: In flight use of the parachute vent system should be no longer than 3 seconds at any one time. Re use must not be attempted until the envelope has re-inflated.

CAUTION: [For MZ Racer models] At high descend rates the envelope profile may suffer perceptible deformations, especially below the equator, adopting a characteristic funnel shape. During such manoeuvres, it is forbidden to use the parachute until the balloon has been reinflated and has returned to its normal shape.

2.11 Baskets

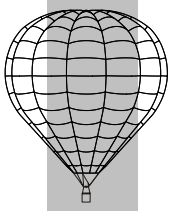
2.11.1 Rotation vents must be fitted to envelopes when used with partitioned baskets.
2.11.2 The maximum number of occupants in any one compartment of a basket is six.

2.12 Minimum Burner requirements.

The following table provides a summary of the burner capability regarding the envelope volume range. For detailed compatibility, refer to section 5.4.

BURNER ARRAY	BURNER MODEL	MIN VOLUME	MAX VOLUME
Single	MK-2 / MK-10	31,000 ft³ / 900 m³	77,000 ft³ / 2,200 m³
	MK-21	25,000 ft³ / 708 m³	105,000 ft³ / 2,950 m³
	BMK-008		120,000 ft³ / 3,400 m³
Double	MK-2 / MK-10	56,000 ft³ / 1,590 m³	160,000 ft³ / 4,550 m³
	MK-21 / BMK-008		210,000 ft³ / 6,000 m³
	MK-32		225,000 ft³ / 6,370 m³
	BMK-050	180,000 ft³ / 5,100 m³	300,000 ft³ / 8,500 m³
Triple	MK-2 / MK-10	105,000 ft³ / 2,950 m³	210,000 ft³ / 6,000 m³
	MK-21		300,000 ft³ / 8,500 m³
	MK-32	120,000 ft³ / 3,400 m³	315,000 ft³ / 8,920 m³
	BMK-050	250,000 ft³ / 7,000 m³	450,000 ft³ / 12,750 m³
Quadruple	MK-2 / MK-10	180,000 ft³ / 5,100 m³	425,000 ft³ / 12,000 m³
	MK-21		550,000 ft³ / 15,574 m³
	MK-32		600,000 ft³ / 17,000 m³
	BMK-050	355,000 ft³ / 10,000 m³	600,000 ft³ / 17,000 m³

NOTE: Check section 2.5 for requirements on fuel.



4.5 Preparing the aerostat for flight

Brief crew as to the roles they are to perform.

4.5.1 Initial Pre-flight checks

Before preparing for every flight, the balloon should be inspected to comply with the following requirements:

4.5.1.1 – Documents

Check that all mandatory documents are on board, in compliance with the requirements from the appropriate national authority. Check that the Flight Manual is correct, complete and matches the actual aircraft configuration.

4.5.1.2 - Envelope and deflation system:

No holes or tears in the fabric exceed the permitted damage as per Section 2.1 of the UM Maintenance Manual Rev.18.
All horizontal and vertical load tapes in good condition.
All cords and pulleys well attached and working correctly.
The parachute or FDS lines are free of tangles and operating correctly.
Flying wires are free of kinks or damage

4.5.1.3 - Burner and fuel system:

Check the burner and blast valves, the condition of the hoses, and their connections to the fuel tanks, making sure that there are no leaks. Perform a burner test checking also the pilot lights.

4.5.1.4 - Basket:

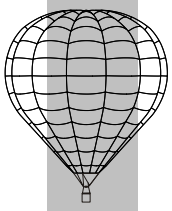
General condition, tanks firmly held in with two straps each, correct attachment of burner frame and wires. Door closed and locked (if fitted).

4.5.1.5 – Other Equipment:

Check Altimeter, variometer and thermometer. Also matches, gloves, First Aid kit and Fire Extinguisher all to be in proper condition.

4.5.2 Rigging the basket and burner

- Place the basket upright where the inflation is to take place.
- Check the wires of the basket for damage.
- Ensure that the fuel cylinders are firmly strapped into the basket, and that their contents are sufficient for the flight. Check also that the cylinders to be used for



4.5.3 Testing the burner

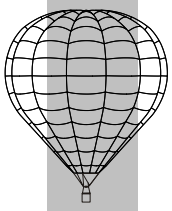
- With all the burner valves closed, turn on first the liquid fuel supply at the fuel cylinder and then (where applicable) the vapour supply valves at the fuel cylinder. Check that there are no leaks by listening and checking for smell.
- Light the pilot light to one burner, and check the flow, and ensure that the flame is strong. Where a vapour pilot light is fitted adjust the setting of the regulator if required.
- Open the main blast valve on the burner, and check that the flame is burning evenly. Check the pressure gauge reading. This should be between a minimum of 3 bars in winter to a maximum of 10 bars in summer.
- Follow the same procedure for each burner in any configuration.
- Check that the cross-flow valve (where fitted) operates correctly (checking 2 or 3 burners that are fuelled from the same fuel cylinder).
- Check that the "quiet" burner operates correctly (where fitted).
- If a hydraulic remote control valve is fitted, this should be connected and tested. The valve on the burner should open fully when the hydraulic handle is depressed.
- Close the liquid valves on the fuel cylinders, burn the remaining gas in the fuel lines, then shut the main blast valve.
- Close the vapour feed valves (where fitted) on the fuel cylinders, wait until the pilot light goes out, then close the pilot light valves.
- Check the friction setup on the burner pivoting. Seek for loose fasteners or damage to the burner attachments to the frame.

4.5.4 Envelope

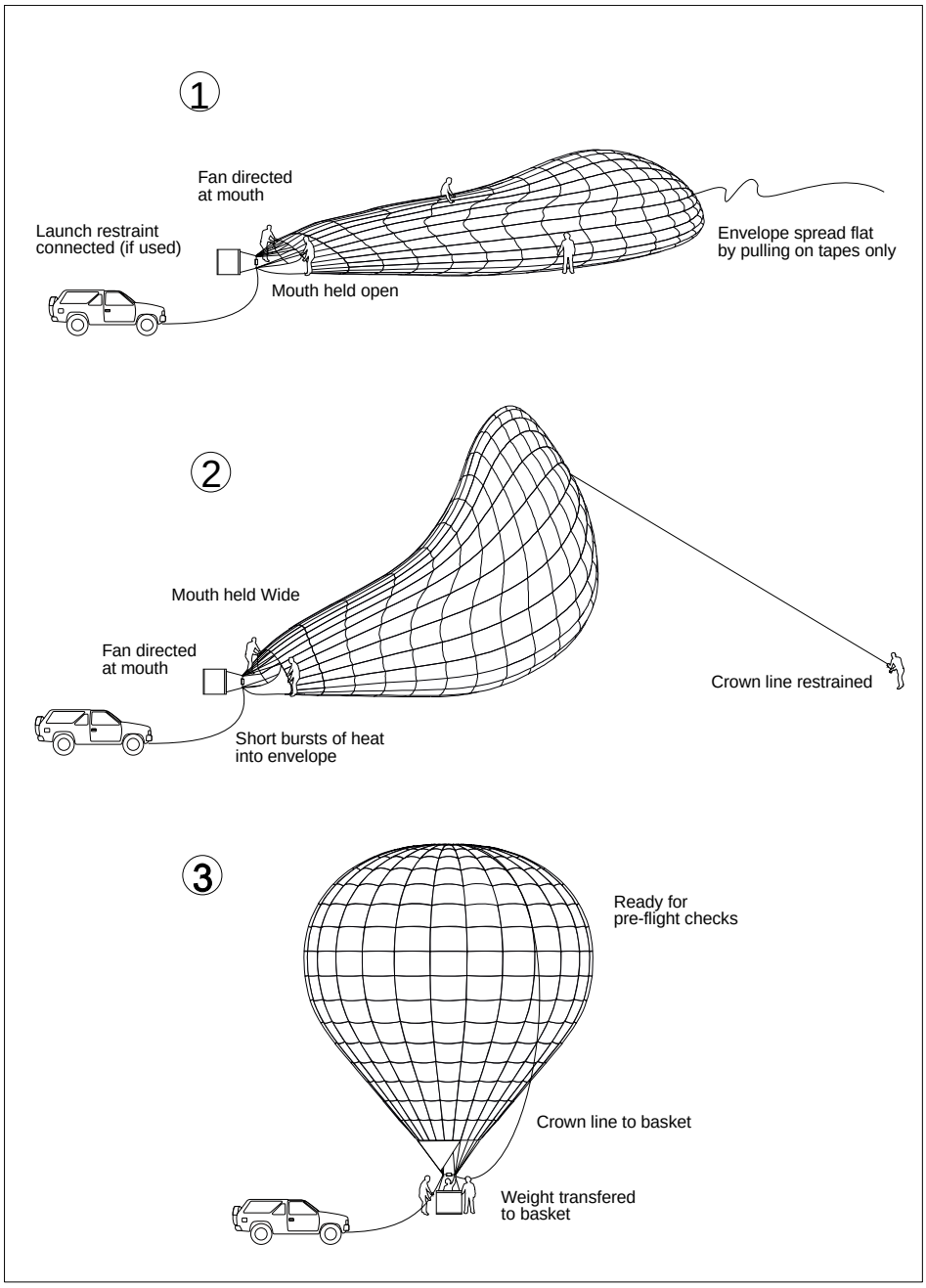
- Open the envelope bag and take out the cables and the lower part of the envelope. Find the coloured tape sewn to the bottom of the Nomex and place it in the centre of the lower part of the envelope. Maintaining this configuration, attach the envelope wires to the load frame with karabiners, making sure they are not twisted at each other. Cables must be attached as shown in Flying wire connection diagrams.

- A basket fitted with double corner lugs will have two karabiners at each corner. Where a basket has eight poles then there will be a karabiner at the top of each pole. The envelope cables may be left connected to a separate set of karabiners. In the case of an eight-pole basket then there should be eight envelope karabiners. Where two adjacent corner lugs are fitted to the load frame then they should not be joined by a single karabiner from the envelope.

We can find in the following pages different drawings to clarify the position of the red tape of the mouth of the envelope according to the situation of the wires connected to the burner frame.



4.7 Inflation

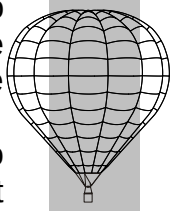


Fill the envelope with cold air using the fan. During this process the mouth is best held open by two crew, whilst one or a maximum of two, keep the crown rope taut.

At this point, with the basket still laying down on its side, pilot may decide to load passengers into the basket, especially on partitioned baskets and if certain wind is encountered. This is an alternative to the classic procedure, which prescribes the passenger loading once the balloon is upright (section 4.8).

When the envelope is as full as possible, inflation is completed using the burner. Light the burner using the procedure in Section 4.5.3.

Use the burner only in short bursts, leaving gaps between burns, to allow the air inside the balloon to be heated slowly and evenly.



As the balloon inflates, the crew holding the crown rope allow(s) the crown to rise. The fan should be kept running until the mouth of the balloon leaves the ground. It is useful to have a crewmember to angle the fan to direct air into the balloon.
As the balloon becomes upright, the crew on the mouth of the envelope let go and transfer their weight to the basket as the pilot climbs into the basket whilst the balloon becomes upright. The quick release rope(s) should be extended and taut.

NOTE: At the pilot's discretion, the crew on the mouth of the balloon may be dispensed with, if the balloon is fully cold inflated.
Also at the pilot's discretion, if the prevailing wind is sufficient to hold the crown down, under the pressure created by the fan, the crown crew may also be dispensed with unless lateral control is necessary.

CAUTION: The crown crew should be made aware of the following instructions.

1. Leather gloves and strong good grip shoes are advisable.
2. Do not take help from onlookers unless instructed by the pilot as this may create too much force to hold down the envelope resulting in too much lift being generated during inflation.
3. Advise the pilot during cold inflation if problems occur at the top of the envelope.
4. Stay at the end of the rope holding secure.
5. Do not wrap the rope about their person or feed out the rope.

WARNING: All crewmembers must be instructed that they must not allow their feet to come off the ground during the inflation and pre-flight period whilst holding either the basket or the crown rope. They must let go immediately.

4.8 Preparation for Take off

4.8.1 Checks –

Note: refer also to appendix C.

Once the balloon is upright carry out the following checks:
- Envelope: Check the condition of the fabric, and that there are no tears that would prevent the flight.
- Parachute/Deflating system: Pull the parachute line to release all the Velcro fasteners, making sure it closes properly afterwards and the line works freely.
- Karabiners: Screw gates all closed.
- If not done earlier (and only when the balloon is stable), passengers can be loaded. If applicable, use the door to permit passengers to get on board (See 4.14). As much as possible, distribute the room available in an even way among passengers. The pilot should ensure that each passenger has a handhold and that they have sufficient room. Once the passengers are aboard then they should be briefed (See 4.8.2 passenger briefing).

Continue checks:
- Pilot light: Normal function and no freezing.
- Burner: Check again that all fuel lines and valves are operating correctly as per Section 4.5.3.
- Fuel: Check again the contents of the fuel tanks.
- Equipment: Matches or a lighter, compulsory flight instruments.

The height to which the balloon is able to rise should be decreased if the wind increases, and ropes should never form an angle beyond 45º with the ground. Under no circumstance a height of 30 m (100 ft) above ground can be exceeded –with regard to the basket floor –.

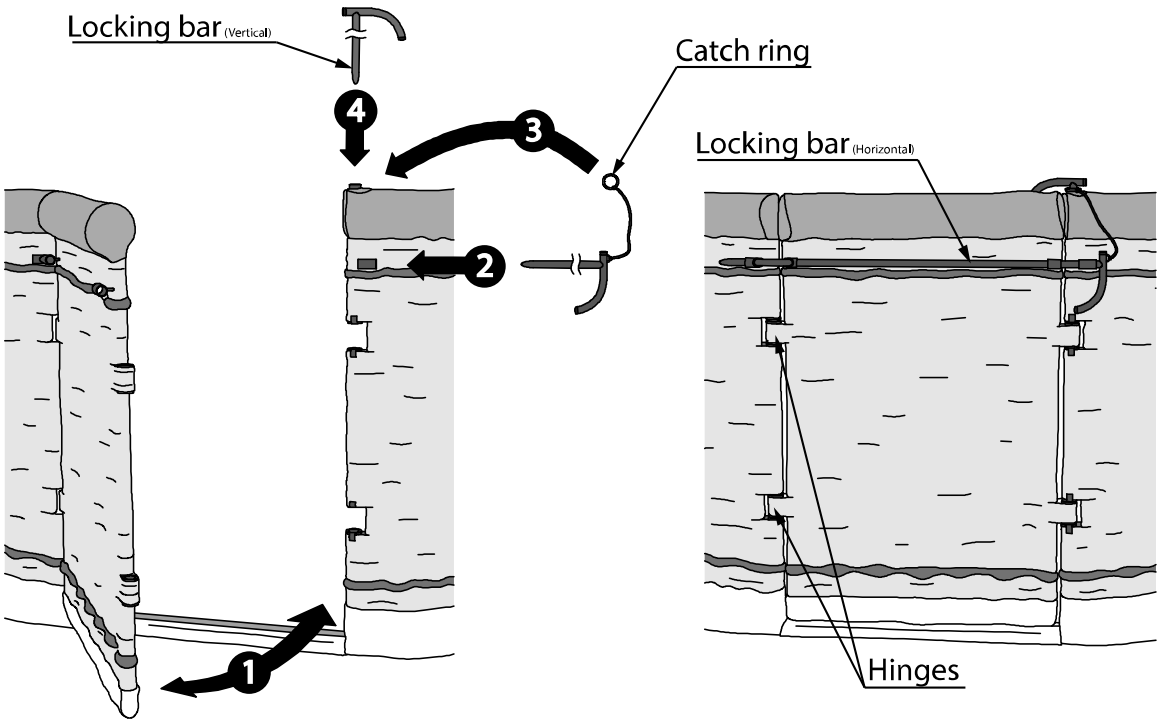
Tether flight must be terminated in presence of changing winds, unless a new clear wind direction is identified and the tether lines can be safely relocated accordingly.

During tether, pilot must infer that the loads applied to the tethering assembly are not excessive at anytime. To do so, pilot must have a mean to check the wind speed (e.g. a handheld anemometer, windsock, etc). Should the winds exceed the parameters from section 2.14, the tethered flight is to be terminated as soon as possible.

4.14 Door Operation

Certain baskets may incorporate a door for ease of access and exit of the passengers while the basket stands on the ground. Door must be closed during flight. To lock the door closed, see the figure below and proceed as follows:

(1) Close the door
(2) Drive the Horizontal locking bar through the guide tubes (if applicable)
(3) Place the catch ring on the socket tube for the Vertical locking bar (if applicable)
(4) Slide down the Vertical locking bar inside the socket tube



Door opening is the reverse process of closing.

Model	Basket	Pv	Lmax
G-90	C-3	215	878
	C-1	203	878
	C-2	198	878
	C-4	236	878
	C-10	231	878
S-105	C-4	255	1 032
	C-1	222	1 032
	C-3	234	1 032
	C-10	250	1 032
V-105	C-4	269	1 032
	C-1	236	1 032
	C-3	248	1 032
	C-10	264	1 032
M-105	C-4	254	1 032
	C-1	221	1 032
	C-3	233	1 032
	C-10	249	1 032
M-120	C-4	265	1 173
	C-1	232	1 173
	C-3	244	1 173
	C-5	357	1 173
	C-6	271	1 173
	C-7	287	1 173
	C-10	260	1 173
S-130	C-4	281	1 365
	C-1	248	1 280
	C-3	260	1 365
	C-5	373	1 365
	C-6	287	1 363
	C-7	303	1 365
	C-10	276	1 276
M-130	C-4	276	1 365
	C-1	243	1 275
	C-3	255	1 365
	C-5	368	1 365
	C-6	282	1 358
	C-7	298	1 365
	C-10	271	1 271
M-145	C-6	297	1 373
	C-3	270	1 436
	C-4	291	1 436
	C-5	383	1 436
	C-7	313	1 436
	C-10	286	1 286
T-150	C-3	280	1 465
	C-10	296	1 296
	C-4	301	1 465
	C-5	393	1 465
	C-6	307	1 383
	C-7	323	1 465
S-160	C-5	391	1 569
	C-4	299	1 569
	C-6	305	1 381
	C-7	321	1 569
	C-10	294	1 294
M-160	C-5	394	1 569
	C-4	302	1 569
	C-6	308	1 384
	C-7	324	1 569
	C-10	297	1 297

Model	Basket	Pv	Lmax
T-180	C-5	422	1 754
	C-6	336	1 412
	C-7	352	1 640
	C-8	405	1 754
	C-9	515	1 754
N-180	C-5	421	1 754
	C-6	335	1 411
	C-7	351	1 639
	C-8	404	1 754
	C-9	514	1 754
T-210	C-8	437	2 070
	C-5	454	2 023
	C-7	384	1 672
	C-9	547	2 070
	C-11	618	2 070
N-210	C-8	438	2 064
	C-5	455	2 024
	C-7	385	1 673
	C-9	548	2 064
	C-11	619	2 064
N-250	C-8	478	2 272
	C-5	495	2 064
	C-9	588	2 408
	C-11	659	2 408
N-300	C-9	623	2 831
	C-5	530	2 099
	C-8	513	2 307
	C-11	694	2 924
	C-12	795	2 924
N-355	C-9	654	2 862
	C-5	561	2 130
	C-8	544	2 338
	C-11	725	3 405
	C-12	826	3 450
N-370	C-12	858	3 450
	C-11	757	3 405
	C-9	686	2 862
	C-8	621	2 338
	C-5	593	2 130
N-390	C-5	627	2 196
	C-8	663	2 457
	C-9	728	2 936
	C-11	810	3 490
	C-12	911	3 795
N-415	C-5	632	2 201
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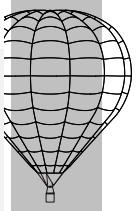
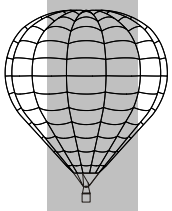
	C-9	733	2 941
	C-11	815	3 495
	C-12	916	3 916
	C-14	1002	3 950
N-425	C-12	860	3 860
	C-11	759	3 439
	C-9	688	2 896
	C-5	595	2 164
	C-8	578	2 372
	C-14	948	4 140

Model	Basket	Pv	Lmax
N-450	C-14	954	4 140
	C-12	878	3 878
	C-11	777	3 457
	C-9	706	2 914
	C-5	613	2 182
	C-8	641	2 435
N-500	C-12	865	3 813
	C-14	1055	5 000
	C-15	1170	5 000
N-550	C-12	1018	4 018
	C-14	1103	5 000
	C-15	1220	5 000

Pv = Empty Weight (no cylinders) [kg]
Lmax = Maximum Lift [kg]





Envelope Model	BASKETS							BURNERS												OTHER		
	C-6	C-7	C-5	C-8	C-9	C-11	C-12	MK-10 Double	MK-21 Double	BMK-008 Double	MK-32 Double	MK-2 Triple	MK-10 Triple	BMK-050 Double	MK-21 Triple	MK-32 Triple	MK-2 Quad	MK-10 Quad	BMK-050 Triple	MK-21 Quad	MK-32 Quad	FDS	Rotation Vents	Min Cylinders
T-180	■	■	■	■	■			■	■	■	■	■	■	■	■	■	■	■			■	STD	STD	2
N-180	■	■	■	■	■			■	■	■	■	■	■	■	■	■	■	■			■	STD	STD	2
T-210		■	■	■	■	■			■	■	■		■	■	■	■	■	■			■	STD	STD	2
N-210		■	■	■	■	■			■	■	■		■	■	■	■	■	■			■	STD	STD	2
N-250			■	■	■	■								■	■	■	■	■	■		■	STD	STD	3
N-300			■	■	■	■	■							■	■	■	■	■	■	■	■	STD	STD	3

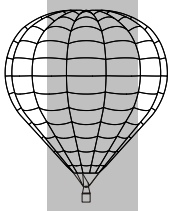
Envelope Model	BASKETS							BURNERS						OTHER		
	C-5	C-8	C-9	C-11	C-12	C-14	C-15	MK-2 Quad	MK-10 Quad	BMK-050 Triple	MK-21 Quad	MK-32 Quad	BMK-050 Quad	FDS	Rotation Vents	Min Cylinders
N-355	■	■	■	■	■			■	■	■	■	■	■	STD	STD	4
N-370	■	■	■	■	■					■	■	■	■	STD	STD	4
N-390	■	■	■	■	■					■	■	■	■	STD	STD	4
N-415	■	■	■	■	■	■				■	■	■	■	STD	STD	4
N-425	■	■	■	■	■	■		■	■	■	■	■	■	STD	STD	4
N-450	■	■	■	■	■	■				■	■	■	■	STD	STD	4
N-500					■	■	■				■	■	■	STD	STD	4
N-550					■	■	■				■	■	■	STD	STD	4

5.5.Minimum Take off Mass

The total take off mass must never be less than that specified in the following table. This applies to all balloons of Volume greater than 90,000 ft³.

Explanation note: These values provide for an appropriate internal pressure of the envelope which results in less vulnerability to envelope deformation (loss of hot air) by gusts.

Volume [ft³]	Volume [m³]	Maximum TOM [kg]	Minimum TOM [kg]
25,000	708	250	n/a
31,000	900	307	n/a
42,000	1 200	414 (M-42) 416 (H-42)	n/a
50,000	1 415	500	n/a
56,000	1 650 (V-56) 1 590 (All others)	549 (V-56/M-56Z/H-56) 550 (M-56/M-56C)	297 (M-56Z only)
60,000	1 700	588	299
65,000	1 840	635 (M-65C) 636 (M-65Z) 638 (M-65/V-65/H-65)	303 (M-65Z only)



Volume [ft³]	Volume [m³]	Maximum TOM [kg]	Minimum TOM [kg]
70,000	1 982	686	306
74,000	2 100	710	312
77,000	2 190 (H-77/V-77) 2 200 (M-77/M-77C)	756	n/a
90,000	2 550	878 (G-90/S-90/V-90) 880 (M-90) 894 (Z-90)	n/a
105,000	2 950	1 032	480
120,000	3 400	1 173	544
130,000	3 680	1 365	588
145,000	4 105	1 436	656
150,000	4 245	1 465	679
160,000	4 550	1 569	728
180,000	5 100	1 754	816
210,000	6 000	2 064 (N-210) 2 070 (T-210)	960
250,000	7 000	2 408	1 120
300,000	8 500	2 924	1 360
355,000	10 000	3 450	1 600
370,000	10 480	3 450	1 600
390,000	11 045	3 795	1 760
415,000	11 750	3 950	1 805
425,000	12 000	4 140	1 920
450,000	12 750	4 140	1 920
500,000	14 412	5 000	2 300
550,000	15 574	5 000	2 500

5.6. Reduced Maximum TO Mass Operation

Under certain operational conditions it may be necessary for the balloon operator to select a reduced Maximum Take-Off Mass. Under these circumstances the following limits are advised by Ultramagic S.A.

Volume [1000 x ft³]	R.MTOM [kg]
25	238
31	295
42	399
56	532 531 (M-56Z)
60	568
65	618 615 (M-65Z)
70	663
74	687
77	732
90	855
105	998
120	1 140
130	1 235

Volume [1000 x ft³]	R.MTOM [kg]
145	1 378
150	1 425
160	1 506
180	1 710
210	1 995
250	2 375
300	2 845
355	3 373
370	3 370
390	3 552
415	3 780
425	3 995
450	3 995
500	3 995
550	4 100

requirements for the triple and quad burners, the detent is only provided in one axis. However, the triple and quad burner mounting is provided with tension gas springs which automatically return the burner to the vertical in the other axis, when released.

6.2.3 Basket

The basket is made from woven willow and cane on a marine plywood base.
Various openings are woven in to accommodate step holes and strap holes for cylinders.
The basket is connected to the load frame by a minimum of four stainless steel cables that pass down the sides and through and under the base. These cables are continuous in pairs. Tube stiffening and tube sockets are woven in various positions depending on the size and type of basket.
The sockets are to accept the nylon rods, which support the burner load frame. These support rods, cables as well as burner hoses are kept inside padded zipped covers when erected.

The floors are reinforced and protected on the outside with hardwood runners, which are bonded and coach bolted to the floor. The bottom edge of the basket, where the wicker joins with the floor, is covered in rawhide for protection from damage.

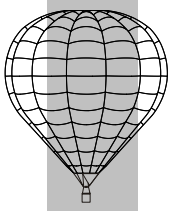
The top edge of the basket is padded with foam and covered in either leather or suede both to enhance appearance and also to offer passenger protection. The sides of the basket can also be padded and covered on the inside in a hardwearing waterproof canvas type material.

A fire extinguisher is fitted to the inside of the basket inside a special padded bag.

Baskets may install attachment points for occupant's restraint harnesses. The U-bolt type attachment to the floor permits the simultaneous fastening of up to 3 harness sets, while other types are individual.

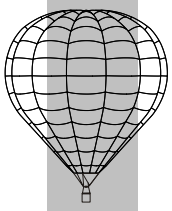
6.2.3.1 Sports Basket

Ultramagic sports baskets are available in various sizes capable of carrying between 1 and 6 passengers. They can be either straight top or swept.



SERIES N

Type	370	390	415	425	450	500	550
Vol. (m3)	10480	11045	11750	12000	12750	14415	15574
Number of gores	28	28	28	28	28	32	32
FAI class	AX12	AX12	AX12	AX12	AX12	AX13	AX13
Total height(m)	33.2	33.5	34.5	35.5	35.2	36.2	37.3
Standard basket	C11	C11	C12	C12	C12	C14	C15
Envelope							
Height (m)	29.1	29.8	30.3	31.2	30.9	32.2	33.3
Diameter at the Equator (m)	28.2	28.4	29.3	29.5	30.0	31.1	32.1
Diameter at the Mouth (m)	4/5	5.0	5.0	4/5	5.5	5.5	5.5
Weight (Kg)	360	370	375	380	390	422	472
Parachute							
Diameter (m)	8.25 FDS	8.25 FDS	8.25 FDS	7.5/8.25 FDS	8.25 FDS	9.0 FDS	9.0 FDS



SECTION 7

BALLOON MAINTENANCE HANDLING AND CARE

7.1 Introduction

This section contains the recommended procedures for proper ground handling and servicing of the balloon.

7.2 Inspection periods

Refer to the Ultramagic Maintenance Manual for inspection periods

7.3 Alterations or repairs

No alterations to the balloon may be undertaken without first contacting the appropriate airworthiness authority.

WARNING: Any alterations to the balloon without authority approval will invalidate the Certificate of Airworthiness.

Refer to the Ultramagic Maintenance Manual for all repair procedures.

7.4 Ground Handling and Transportation

When not being used the envelope must always be packed for transportation in its protective bag. This will help prevent the fabric from being damaged by sharp or abrasive objects. The envelope in its bag should be prevented from getting wet.

The burner system must be disconnected from the fuel cylinders and all fuel must be vented from the lines.

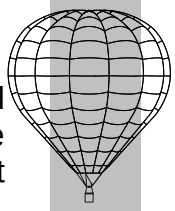
The basket and burner system must always be de-rigged when being transported. Failure to do so could increase wear on the structure of the support system and load frame.

Whenever possible, fuel cylinders should be transported in a vertical position. Failure to do so may prevent the correct function of the pressure relief valve.

All equipment should be well secured in its means of transport to ensure minimum movement and should also be protected from sharp or abrasive surfaces.

Should the balloon equipment be transported by air, sea or rail it is imperative that the service provider is contacted prior to travel. Each operator has varying requirements relating to the transportation of fuel cylinders, inflation fans and fire extinguishers and these must be planned for and adhered to.

In the event of an incident while handling a balloon component (e.g. a road accident), component must be subjected to inspection as per the Maintenance Manual, Hard Landing Inspection section.



7.5.2 Basket

The basket should always be stored in a clean and dry condition. All mud should be removed as failure to do so may cause damage over a period of time to the wicker, floor and hide. Always use clean water and allow to dry naturally as fast drying may make the wicker brittle and weaken its integrity.

7.5.3 Burner

The burner should always be stored in a clean and dry condition. Ensure that the hose connectors are protected from ingress of dirt and that the fuel hoses are kept in a natural position avoiding any coiling or bending with small radius of curvature. If stored in an outside building it is advisable to cover the burner to prevent foreign matter getting into the jets.

7.5.4 Cylinders

Cylinders should always be stored vertically in a clean and dry condition. This must be a secure place and local regulations must be adhered to.

CAUTION: The valves must always be at the top in their normal operating position. Failure to do so will affect the correct operation of the Pressure Relief Valve (PRV)

CAUTION: Precautions should be taken to ensure that the cylinders do not become over-pressurised. Prevent the cylinders from long periods of direct sunlight or heating.

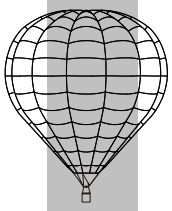
CAUTION: Do not store cylinders which have been nitrogen or other inert gas pressurised for a long period of time. Vent off the pressure in a safe area if the cylinders are not to be used.

7.6 Cleaning and Care

The envelope should be cleaned using clean water, although is better to dry-wash it whenever is possible. Avoid the use of strong detergents as these could damage the fabric. A gentle non-detergent soap may be used as long as it is rinsed clean with fresh water. Always ensure that the envelope is dry before packing.

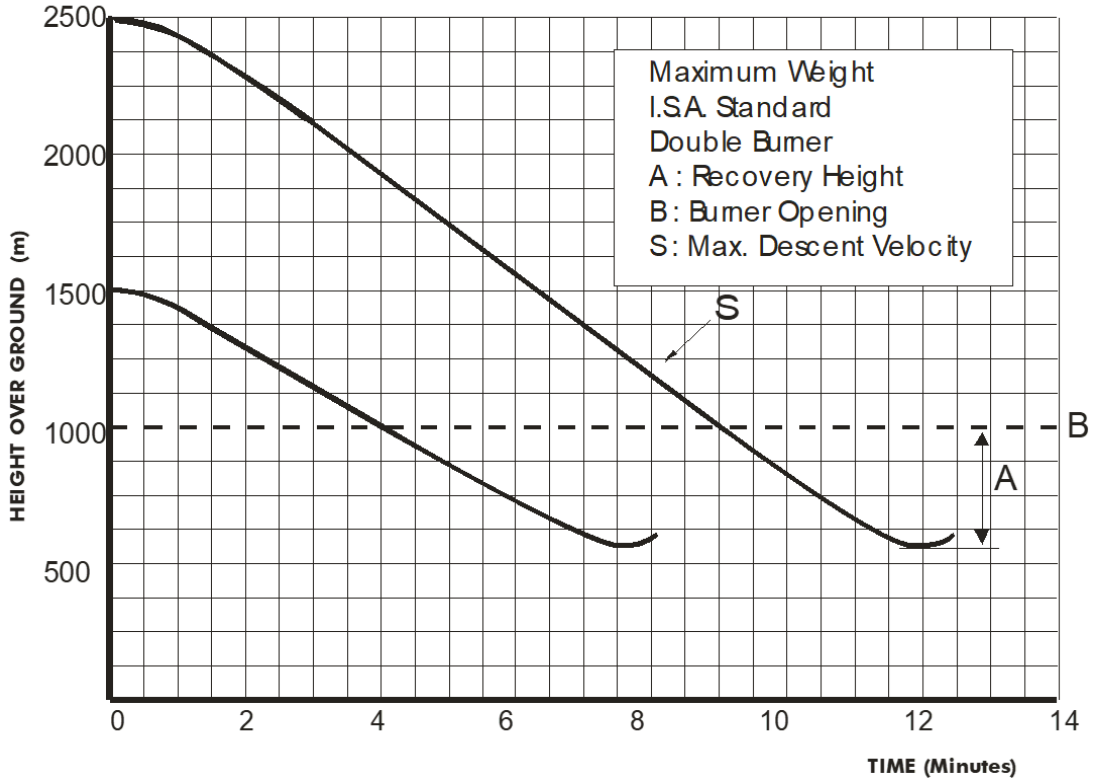
It is recommended to wash the basket, burner and cylinders with clean water only. Always ensure that all systems are dry before storing. If the basket is fitted with a cushion floor it is recommended to remove it from the basket before cleaning it to avoid moisture problems. Reinstall the cushion floor again when the basket is completely dry.

Refer to Ultramagic Maintenance Manual for further cleaning instructions.

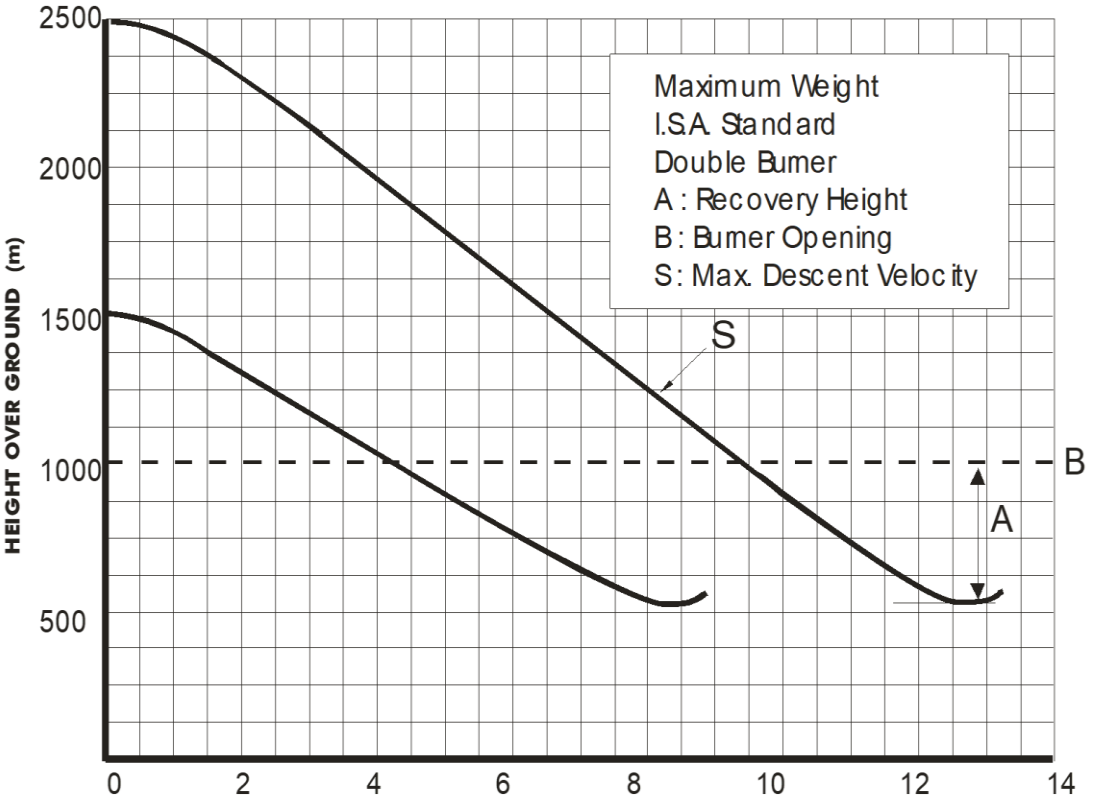


A VERTICAL VELOCITIES

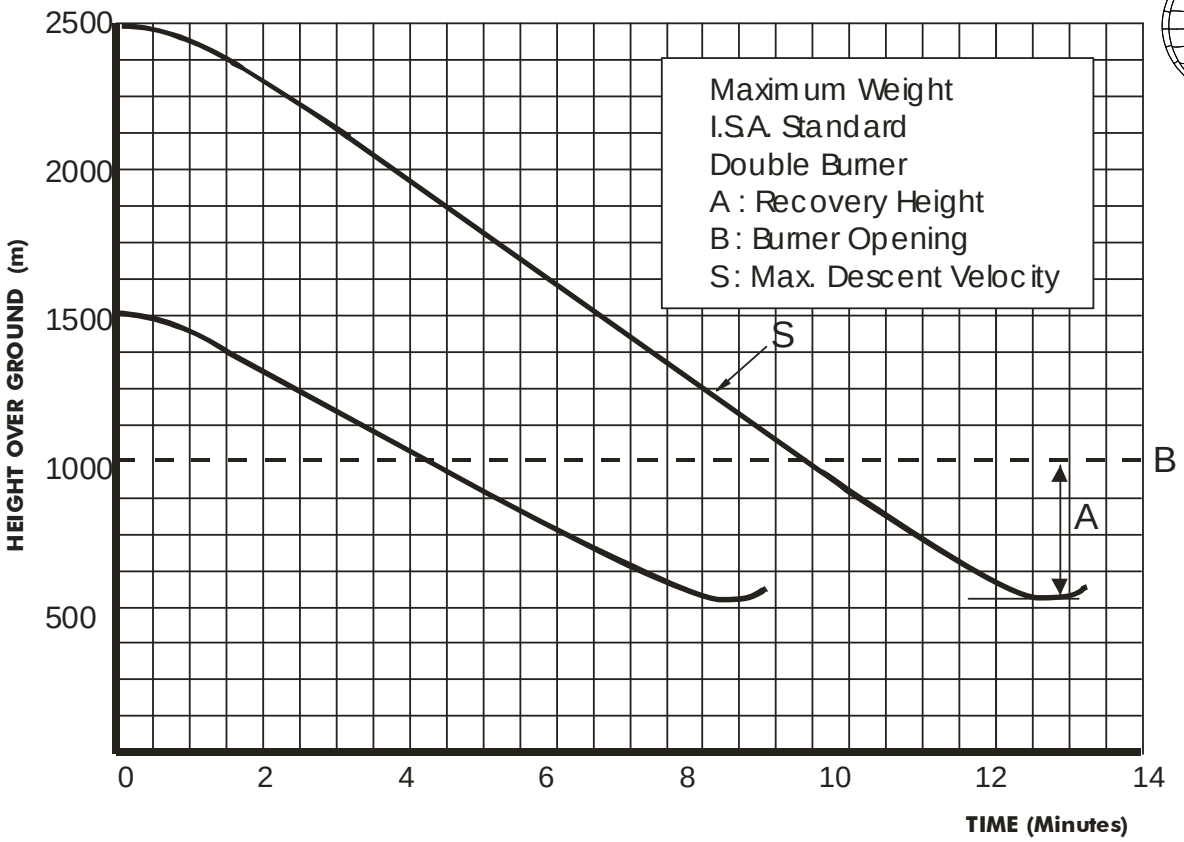
SIZE 390 (11045 m³)



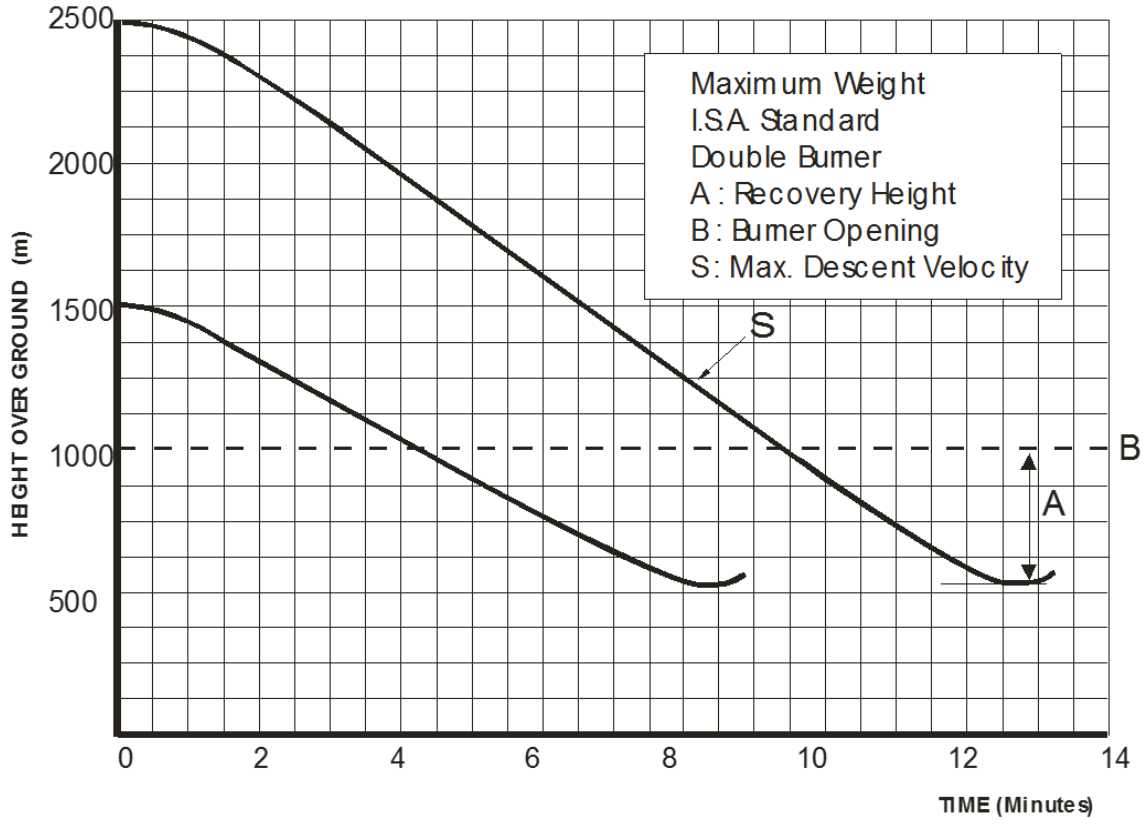
SIZE 415 (11750 m³)



Volume 425 (12000 m3)

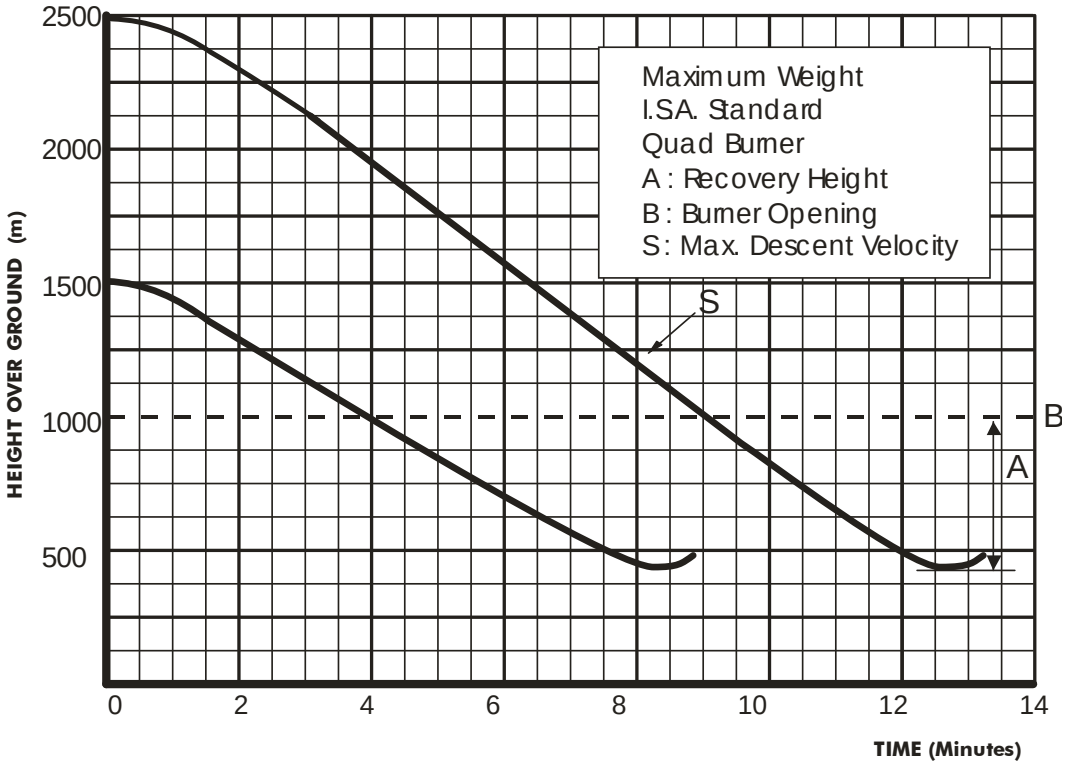


SIZE 450 (12750 m³)

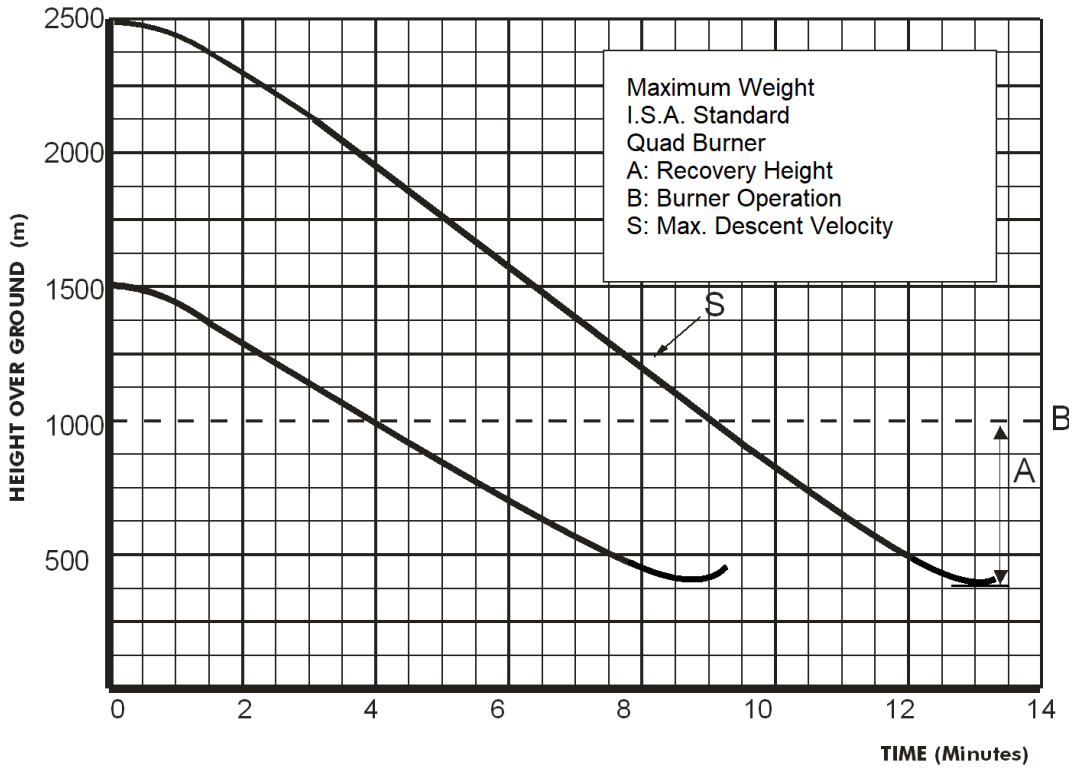


A VERTICAL VELOCITIES

Volume 500 (14400 m³)



Volume 550 (15 574 m³)



APPENDIX

B – Flight Instruments.

The requirements for the carrying of flight instruments vary from country to country. However, the carriage of an altimeter and rate of climb indicator is mandatory. In some countries a thermister is also required for measuring internal envelope temperature during the flight. The list shown below indicates instruments that Ultramagic recommend and are generally approved for balloon use. This is by no means a list of the only instruments available for use in Hot air balloons. Ultimate approval for use is subject to the instrument being compliant with the requirements from the local authority.

CAUTION: Under particularly extreme environments, ensure that the equipment used can withstand the humidity and temperature conditions referring to the specifications of the manufacturer. Batteries may last shorter than the expected under cold conditions.

Purpose-Built Platforms

Manufacturer	Instrument Model
Flytec	3040, 4005, 6005, 6040, TT34, FB4
Aircotec	Piccolo 5000, Piccolo 8000
Ball	655, M55, M57
Blue Sky Avionics	Pegasus HA
Brauniger	IQ, IQ Balloon Comfort
Winter	
DigiTool Instruments	DBI3

Multipurpose Mobile Platforms

Software	Device	
Ultramagic FlightPack	Samsung	Galaxy S3, S4, S5, S6+, Galaxy Note and later models
	Sony	Xperia Z3 and later models
	Google	Nexus 4, 5, 10 and later models
	Apple	iPad Air 2 and later models iPhone 6, 6+, 6s and later models

NOTE: Platform must be equipped with a suitable ambient pressure sensor (barometer). List above shows examples of proven devices, although the list is not limiting. Later iOS tablets/smartphones and Android smartphones may meet the requirements. Check the datasheet or the manufacturer of the device if in doubt.

CAUTION: Multipurpose platforms such as tablets or smartphones must have a dedicated use, so that its function as altimeter/variometer cannot be unexpectedly interrupted.