Amendment Number	Description	Pages Affected	Date	Approval
8	Record of Amendments updated, List of effective pages updated, Section 2: 2.10 Ambiguity for 340 000 corrected Section 9: Burner Frame CB2371 added to basket CB754. Supplement 8.1: Colt Beer Glass, Colt Flying Kiwi and Super FMG-100 Special Shape added. Supplement 8.21: CB3157 Description corrected, CB947 and CB3505 added, burner frame CB2269 added to basket CB3394	i-v, i-vii, 2-4, 9-6, Supp 8.1: All, Supp 8.21: All,	14:07:2010	Approved by EASA under Approval Number 10030936
9	Record of Amendments updated, List of effective pages updated, Section 9, Table 6: Page 9-5, table completely revised, no new equipment introduced. Page 9-6, Burner Frame CB2192 (older non gimbal style) added to basket CB3360 Appendix 3, A3-1, Conversion factor standardised, reference to tables corrected. Supp. 8-13 Duo Airchair: Addition of Duo Skychariot and Duo Airchair. Supp. 8-14 Cloudhopper Millennium: Addition of part number of chair assembly and applicable cylinders. Supp. 8-15 Wheelchair Baskets: Limitations on occupancy moved from Section 6 to Section 2. Descriptions, cylinder and burner frame applicability updated. Supp. 8-21 Special Baskets: Cylinder and burner frame applicability updated. Baskets CB3520, CB3525 and CB3528 added.	i-v, i-vii, i-viii, 9-5, 9-6, A3-1. Supp 8.13: All, Supp 8.14: All, Supp 8.15: All, Supp 8.21: All.	02:03:2011	Approved by EASA under Approval Number 10034058
10	Record of Amendments updated, List of effective pages updated. Section 6: Description of out of production cylinders moved to new supplement. Section 9: Table 5: Envelopes, Type R baskets added to Z-425, Z-450, Z-600. Table 6: Burner Frames CB750, CB2860 and CB2863 added, burner frame applicability to CB8000 series updated Table 7: out of production cylinders deleted, Table 8: Solenoid and removable burners moved to supplements. Appendix III: Out of production cylinders moved to new supplement, Supplements 8.2-8.4, 8.6-8.8, 8.12-8.16, 8.19-8.20, 8.23-8.26, 8.30, 8.32, 8.35 and 8.36: Maintenance Sections removed (published with Maintenance Manual i10-Amdt 3), editorial updates, previously approved equipment added to 8.13 and 8.16. Supplement 8.21: LBL Burner frame (BA-152-A-002) added to CB994, Baskets CB3196, CB3537, CB3541, CB3543 and CB3545 added. Supplement 8.39: New Supplement, “Out of production cylinders” (approved data)	i-v, i-vii, i-viii, i-xv, 6-10, 6-11, 9-3, 9-5-9-8 A3-1. Supp 8.2-8.4, 8.6-8.8, 8.10, 8.13-8.16, 8.19-8.21, 8.23-8.26, 8.30, 8.32, 8.35, 8.36 and 8.39 All,	25:01:2012	Approved by EASA under Approval Number 10038169
11	Section 2 : Z-750 Added, Z-600 classification corrected (AX14). Section 9 : Table 5: Z-750 added, Z-600 now R type baskets only. Table 6: Baskets CB3060, CB3081 deleted (in Supp 8.15), burner frame applicabilities updated. Basket CB3550 added, Supp. 8.6 Basket Nos. 244 and 265 added, Supp. 8.21 CB301 Series baskets added.	i-v, i-vii, 2-2, 2-4, 2-7, 5-4-5-5, 9-3, 9-6, Supp 8.6: All, Supp 8.21: All	13:07:2012	Approved by EASA under Approval Number 10040615

Amendment Number	Description	Pages Affected	Date	Approval
12	Record of Amendments updated, List of effective pages updated, Section 2: A-530LW added, Para 2.9, Para 2.17 and Table 1 updated (MLM now referenced to table 1) Section 4: Damage check on launch restraint added to pre-flight checklist. Reference to approved hose blanks added to para 4.5.3.1 Section 5: A-530LW added Section 9: A-530LW added, A-450LW basket applicability updated. Z-400, Z-425LW and Z-450 basket applicability updated. Basket CB3570 added	i-v, i-vi, i-vii, 2-4 to 2-7, 4-6, 4-12, 5-4, 5-5, 9-1, 9-3, 9-6.	03:05:2013	Approved by EASA under Approval Number 10044755
13	Record of Amendments updated, List of effective pages updated, Section 2: Minimum Equipment updated. A-425LW, A-500LW added, Para 2.17 and Table 1 updated. Section 4: Table 4.2 flying wire grouping updated, 4.12 Drop Line added. Section 5: Total Permitted lift tables updated. Section 6: 6.3.6 The word “Liquid” added for clarity, 6.5.5: Quick release updated. Section 9: Burner frame compatibility updated, Table 5 updated, Table 6 Burner frame compatibility updated CB2282, CB2283, CQ2018, CQ2027, CQ2028 and obsolete burner frames added for reference. Para 9.3 added for equipment not requiring approval. Supplement 8.21 Basket CB3625 added (C653)	i-v, i-vi, i-vii, i-viii, i-xiii, i-xvi, 2-5, 2-7, 4-20, 5-4, 5-5, 6-6, 6-13, 9-1 to 9-3, 9-5, 9-6, 9-9, 9-10, Supp 8.21: All	10:02:2016	Approved by EASA under Approval Number 10056665/ 10056666
14	Record of Amendments updated, List of effective pages updated and corrected, Contents updated, Section 1: Applicability update to include Lindstrand Envelopes, Section 2: Minimum Equipment updated to include pilot restraint. Table 4.2: Rigging information updated, Sections 4.7 and 6.5.4 updated (pilot restraint), Section 6.2.15, 128 was 127, Section 9: Burner Frame CB2264 added to CB3233 and CB3238	i-vi, i-vii, i-xi, 1-2, 2-3, 4-4, 4-15, 6-5, 6-13, 9-6	23:03:2017	Approved by EASA under Approval Number 10061396
15	Record of Amendments updated, List of effective pages updated, contents updated. Section 2, 2.5 Permitted Damage para 6 “Before Further Flight” added. Section 6 para 6.5.5 “Passenger Positioning Blocks” added. Section 6.5.6 was 6.5.5. Section 9. Table 6 “Burner Frame Compatability” corrected: CB983 was CB993, CB2282 deleted from CB3360, CB3361 and CB3288 baskets and added to CB3387 basket. Appendix 5 - Personnel Handling: Inflator fan and passenger briefings amended. Section “Passenger Fitness to Fly” added.	i-vi, i-vii, i-viii, i-xv. 2-5, 6-13, 6-14, 9-6, A5-2, A5-3, A5-4	07:07:2017	Approved under the authority of DOA nr EASA.21J.140
	Section 2: Table 1 O-26 added. Section 5 Table 2 and 3 “26” added. Section 9 Table 5 O-26 added.	2-6, 5-4, 5-5, 9-2	07:07:2017	Approved by EASA under Approval Number 10062543

Note: Any new or amended text in the revised page will be indicated by a black vertical line in the right hand margin, and the Amendment Number and the date will be shown at the bottom of the page.

List of Effective Pages

Section	Page	Date	Section	Page	Date
i	i-i	31 July 2008	4	4-15	23 March 2017
	i-ii	10 April 2006	(cont)	4-16	29 April 2010
	i-iii	31 July 2008		4-17	29 April 2010
	i-iv	29 April 2010		4-18	29 April 2010
	i-v	03 May 2013		4-19	29 April 2010
	i-vi	07 July 2017		4-20	10 February 2016
	i-vii	07 July 2017		4-21	Deleted
	i-viii	07 July 2017		4-22	Deleted
	i-ix	Deleted		4-23	Deleted
	i-x	Deleted		4-24	Deleted
	i-xi	23 March 2017		4-25	Deleted
	i-xii	29 April 2010		4-26	Deleted
	i-xiii	10 February 2016		4-27	Deleted
	i-xiv	29 April 2010		4-28	Deleted
	i-xv	07 July 2017			
	i-xvi	10 February 2016	5	5-1	29 April 2010
				5-2	10 April 2006
1	1-1	31 July 2008		5-3	10 April 2006
	1-2	23 March 2017		5-4	07 July 2017
	1-3	10 April 2006		5-5	07 July 2017
	1-4	10 April 2006		5-6	17 December 2007
2	2-1	13 July 2012	6	6-1	25 June 2009
	2-2	07 July 2017		6-2	25 June 2009
	2-3	23 March 2017		6-3	10 April 2006
	2-4	03 May 2013		6-4	29 April 2010
	2-5	10 February 2016		6-5	23 March 2017
	2-6	07 July 2017		6-6	10 February 2016
	2-7	10 February 2016		6-7	10 April 2006
	2-8	10 April 2006		6-8	10 April 2006
				6-9	10 April 2006
3	3-1	29 April 2010		6-10	25 January 2012
	3-2	29 April 2010		6-11	25 January 2012
	3-3	10 April 2006		6-12	10 April 2006
	3-4	10 April 2006		6-13	07 July 2017
	3-5	10 April 2006		6-14	07 July 2017
	3-6	10 April 2006			
			7	7-1	17 December 2007
4	4-1	29 April 2010		7-2	17 December 2007
	4-2	07 July 2017		7-3	17 December 2007
	4-3	29 April 2010		7-4	17 December 2007
	4-4	23 March 2017			
	4-5	10 February 2016	8	8-1	31 July 2008
	4-6	03 May 2013		8-2	31 July 2008
	4-7	29 April 2010			
	4-8	29 April 2010	9	9-1	10 February 2016
	4-9	29 April 2010		9-2	07 July 2017
	4-10	29 April 2010		9-3	10 February 2016
	4-11	29 April 2010		9-4	29 April 2010
	4-12	03 May 2013		9-5	10 February 2016
	4-13	29 April 2010		9-6	07 July 2017
	4-14	29 April 2010		9-7	25 January 2012

Section	Page	Date	Section	Page	Date
9	9-8	25 January 2012			
	9-9	10 February 2016			
	9-10	10 February 2016			
Appendices	A1-1 / A1-2	10 April 2006			
	A2-1 / A2-2	31 July 2008			
	A3-1 / A3-2	25 January 2012			
	A4-1 / A4-2	10 April 2006			
	A5-1 / A5-4	07 July 2017			

2.1 INTRODUCTION

Section 2 details the operating limitations for the balloon and its standard equipment.

The limitations included in this Section and in Section 8 have been approved by EASA.

WARNING: The balloon must not be flown into contact with powerlines.

2.2 WEATHER

1. The balloon must not be flown free, if the surface wind at the time and place of take-off is greater than:

   Balloons ≤ 600,000 ft^3 (16992m^3) : 15 knots (7.7m/sec)

   Balloons > 600,000 ft^3 (16992m^3) : 12 knots (6.2 m/sec)

2. The balloon must not be flown free if the forecast for the planned time and place of landing indicates a significant probability of the surface wind exceeding the limitations in paragraph 1. above.
3. The balloon must not be flown if there is extensive thermal activity, any cumulonimbus (thunderstorm) activity in the vicinity of the flight path, or any turbulence which is giving rise to gusts of 10 knots (5.1m/sec) above mean wind speed.

2.3 FUEL

1. The fuel for the burner is LPG. Propane is the preferred fuel, but some content of other hydrocarbons is permissible, provided that minimum fuel pressures are maintained through out the flight. Main and whisper burners must not be operated on a vapour fuel supply.

2. With the exception of single occupancy balloons, a minimum of two independent cylinders with provision to supply pilot lights (double burner) are required, three such cylinders for a triple burner, four for a quadruple burner. Extra cylinders may be used.

2.3.1 Fuel Pressures

1. The fuel pressure must never exceed the system safe working pressure of 15 bar (218psi).

	Balloons <340,000 ft^3 (9630m^3)	Balloons >340,000 ft^3	Balloons >340,000 ft^3 using Shadow, Sirocco or Stratus burners
Maximum fuel Pressure	15 Bar (215 psi)	15 Bar	15 Bar
Minimum fuel Pressure	3 Bar (44 psi)	7 Bar (102 psi)	5.5 bar (80 psi)

CAUTION: Care should be exercised if the fuel pressure is below 5.5bar (80 psi).

2.4 MINIMUM BURNER REQUIREMENTS

Burner Configuration	Permitted Envelope Volume
Single	17,000 ft^3 (481 m^3) - 105,000 ft^3 (2975 m^3)
Double	56,000 ft^3 (1585m^3) - 210,000 ft^3 (5950 m^3)
Triple	140,000 ft^3 (3970 m^3) - 315,000 ft^3 (8920 m^3)
Quad	180,000 ft^3 (5100 m^3) - 750,000 ft^3 (21238 m^3)

2.5 PERMITTED DAMAGE

1. No damage is permitted to load tapes or any load bearing part of the suspension system.

2. No damage is permitted to the burner or fuel system.

3. Damage to the fabric below the first horizontal load tape above the Nomex (Cameron) or within 4 m of the Nomex (Thunder & Colt) is limited to holes or tears smaller than 1.5 m (60”) in any direction.

4. Damage to fabric in areas above that defined in 3, but below the upper part of the envelope (defined as the area above the widest horizontal seam between two vertical load tapes) is limited to holes or tears smaller than 50 mm (2”) in any direction. The distance between two adjacent holes must not less than four times the maximum dimension of the larger hole. There must be not more than 15 holes in this section of the envelope and no more than 5 in any one panel.

5. Damage to the fabric in the upper part of the envelope is limited to holes or tears smaller than 12 mm (½”) in any direction. The distance between two adjacent holes must not be less than 50mm (2”). There must be not more than 15 holes in this section of the envelope and there must not be more than 5 holes in any one panel.

6. Any damage outside these limitations must be repaired before further flight in accor dance with the instructions contained in the Maintenance Manual. Permitted damage, other than that specified in 3, must be repaired prior to an annual or 100 hour inspection.

Note: If any two or more small holes lie within a circle of the same diameter as a permitted hole, they may be considered as one hole for the purposes of paragraphs 4 and 5.

2.14 TETHERED FLIGHT

Limitations	Balloons <180,000 ft^3 (5098 m^3)	Balloons >180,000 ft^3 <275,000 ft^3 (7788 m^3)	Balloons >275,000 ft^3
Max. Surface wind speed	15 knots (7.7 m/sec)	5 knots (2.5 m/sec)	Calm
Max. Surface wind speed with passengers	10 knots (5.1 m/sec)	5 knots (2.5 m/sec)	Calm
Max. Height above ground (measured from underside of basket)	30m (100ft)	30m (100ft)	30m (100ft)
Maximum Take-Off Mass	limited to 75% of the standard MTOM		

2.15 BASKETS

1. Each compartment must not contain more than six persons.

2. Reasonable space must be provided for each occupant, with regard to both comfort during the flight and to safety during the landing (Refer to Appendix 4).

3. There must be at least one restraint, e.g. hand hold, for each basket occupant.

4. Woven floor baskets must be fitted with load spreading boards when fitted with cylinders with a useable volume greater than 45 litres.

5. Where the ratio of length to width of the basket is greater than 1.4:1 the balloon must be equipped with envelope turning vents to allow the basket to be correctly orientated for landing.

2.16 CYLINDERS

1. All stainless steel, duplex stainless steel and titanium cylinders shall be equipped with an outer, water resistant protective layer at least 25mm thick made from structural cellular foam or similar material.

2. Each cylinder must be secured by a minimum of two cylinder straps. The straps must be of an approved design. Leather straps should not be used to secure cylinders with a useable volume greater than 60 litres.

2.17 ENVELOPE RIGGING

1. The following envelope types must be rigged using 4 tonne karabiners; Z-375, Z-400, A-425LW, Z-425LW, A-450LW, Z-450, A-500LW and A-530LW.

TABLE 1: ENVELOPE WEIGHT LIMITS AND VOLUMES

Variant	Volume		Standard MTOM		Reduced MTOM		MLM		FAI Class. AX
	ft^3	m^3	kg	lb	kg	lb	kg	lb	
25	25 000	708	227	500	227	500	-	-	4
26	26 000	736	236	520	236	520	-	-	4
31	31 450	890	285	629	285	629	-	-	4
35	35 000	991	317	700	317	700	-	-	5
42	42 000	1190	381	840	381	840	-	-	5
50	50 000	1416	453	1000	453	1000	-	-	6
56	56 000	1586	508	1120	499	1100	-	-	6
60	60 000	1700	544	1200	499	1100	-	-	7
65	65 000	1841	590	1300	499	1100	-	-	7
69	69 000	1954	626	1380	499	1100	-	-	7
70	70 000	1982	635	1400	499	1100	-	-	7
77	77 500	2195	703	1550	499	1100	-	-	7
80	80 000	2266	726	1600	499	1100	-	-	8
84	84 000	2379	762	1680	499	1100	-	-	8
90	90 000	2549	816	1800	499	1100	-	-	8
100	100 000	2832	907	2000	907	2000	-	-	8
105	105 000	2974	952	2100	952	2100	476	1050	8
120	120 000	3398	1088	2400	999	2202	544	1200	9
133	133 000	3767	1206	2660	999	2202	603	1330	9
140	140 000	3965	1270	2800	999	2202	635	1400	9
145	145 000	4106	1315	2900	999	2202	658	1451	10
150	150 000	4248	1361	3000	999	2202	681	1502	10
160	160 000	4531	1451	3200	999	2202	726	1601	10
180	180 000	5098	1633	3600	999	2202	817	1801	10
200	200 000	5664	1814	4000	999	2202	909	2004	10
210	210 000	5947	1905	4200	999	2202	952	2099	10
225	225 000	6372	2041	4500	1999	4406	1021	2251	11
240	240 000	6797	2177	4800	1999	4406	1088	2399	11
250	250 000	7080	2268	5000	1999	4406	1134	2500	11
260	260 000	7363	2358	5200	1999	4406	1179	2600	11
275	275 000	7788	2494	5500	1999	4406	1247	2750	11
300	300 000	8496	2721	6000	2699	5951	1361	3001	11
315	315 000	8920	2857	6300	2699	5951	1429	3151	11
340	340 000	9629	2857	6300	2699	5951	1429	3151	12

4.1 INTRODUCTION

Section 4 provides checklists and amplified procedures for the conduct of normal operation. Normal procedures associated with optional systems can be found in Section 8. The procedures included in this Section and in Section 8 have been approved by EASA.

4.2 PREPARATION AND RIGGING

4.2.1 Site Selection

The site should be chosen so that the downwind path that the balloon will take is clear of powerlines or obstructions. The clear area should be large enough that the balloon cannot be damaged should it move during inflation.

The area for laying out the balloon should ideally be a smooth grass surface. Surfaces covered with rocks, sticks or other objects likely to cause fabric damage should be avoided.

4.2.2 Basket rigging

Non-partitioned (open) baskets should be positioned with the step hole on the upwind side.

T-partition baskets should be positioned with the pilot compartment on the right, looking from the basket towards the envelope.

Double T-partition baskets should be positioned with either long side facing towards the envelope.

Strap the cylinders as required into the basket. Check the contents and ensure that the master cylinders (if used) are on the downwind (envelope) side of the basket.

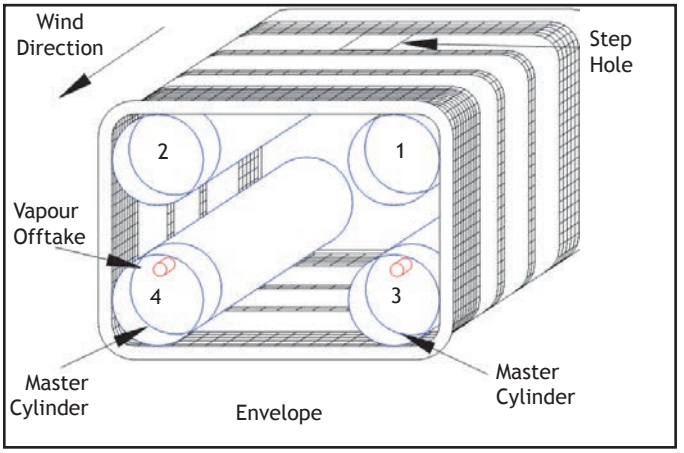
The orientation of the cylinders should ensure that:

1) Cylinders that are required to supply liquid during inflation are positioned so that the liquid valve is in the lower half of the cylinder when the basket is on its side.

2) Cylinders that are required to supply vapour during inflation are positioned so that the vapour valve is uppermost when the cylinder is on its side.

3) All cylinders should be positioned so that the liquid off-takes and hoses can not be struck by the pilot or passengers during landing.

WARNING: Incorrect positioning of cylinders used for vapour offtake can result in pilot light failure.



Correct Positioning Of Master Cylinders

4.2.3 Burner Rigging

The burner frame should be orientated so that the burner pressure gauges are legible when the basket is laid down for inflation. The burner frame is rigged to the basket using karabiners of which there are three standards detailed below. The 2.5 and 3 tonne karabiners may be regarded as direct alternatives, although the 2.5 tonne is the preferred standard as it causes less flattening of the wires due to its symmetric oval shape.

Karabiner Specifications

Part No.	Rating	Identification Markings
CU-9820-0003	2.5 Tonne	STUBAI SYMOVAL2500 UIAA
CU-9820-0001	3 Tonne	STUBAI SYMOVAL3000 UIAA
CU-9825-0001	4 Tonne	STUBAI SYMOVAL4000 UIAA

The 2.5 Tonne karabiners are used in all basket-envelope rigging, not including tethering, except in the following applications where 4 tonne karabiners are recommended;

- where the burner frame has only 4 attachment points and the envelope volume is of 210,000 cu.ft (5947 m^3) and greater;

and,

- where the burner frame has 8 attachment points and the envelope volume is of 340,000 cu.ft (9629 m^3) or larger.

If a launch restraint is to be attached to these karabiners, it is essential that they are orientated so that restraint karabiners must load the solid, not the screwgate side of the envelope karabiners.

4.2.3.1 Flexible Corner Socket Burner Frames

Insert the support rods into the basket sockets, then lift the burner up and locate the burner frame corner sockets onto the top of the support rods.

4.2.3.2 Fixed Corner Socket Burner Frames

Insert the support rods into the burner frame corner sockets, lift up the burner and rods and locate the lower end of the rods into the basket sockets.

4.2.3.3 Adjustable Height Burner Frames

Where an adjustable height burner frame is used, the gas strut must be below the burner during inflation and the burner must be in the upper half of its height range. On larger baskets the gas strut is positioned to the side of the burner, and care must be taken not to overheat the strut.

4.2.3.4 Rigging of Basket Wires to Burner Frame (All Burner Frames)

The correct attachment of the basket wires depends on the number of wires and the burner frame type. The four configurations (A, B, C, D) are shown in the following figures.

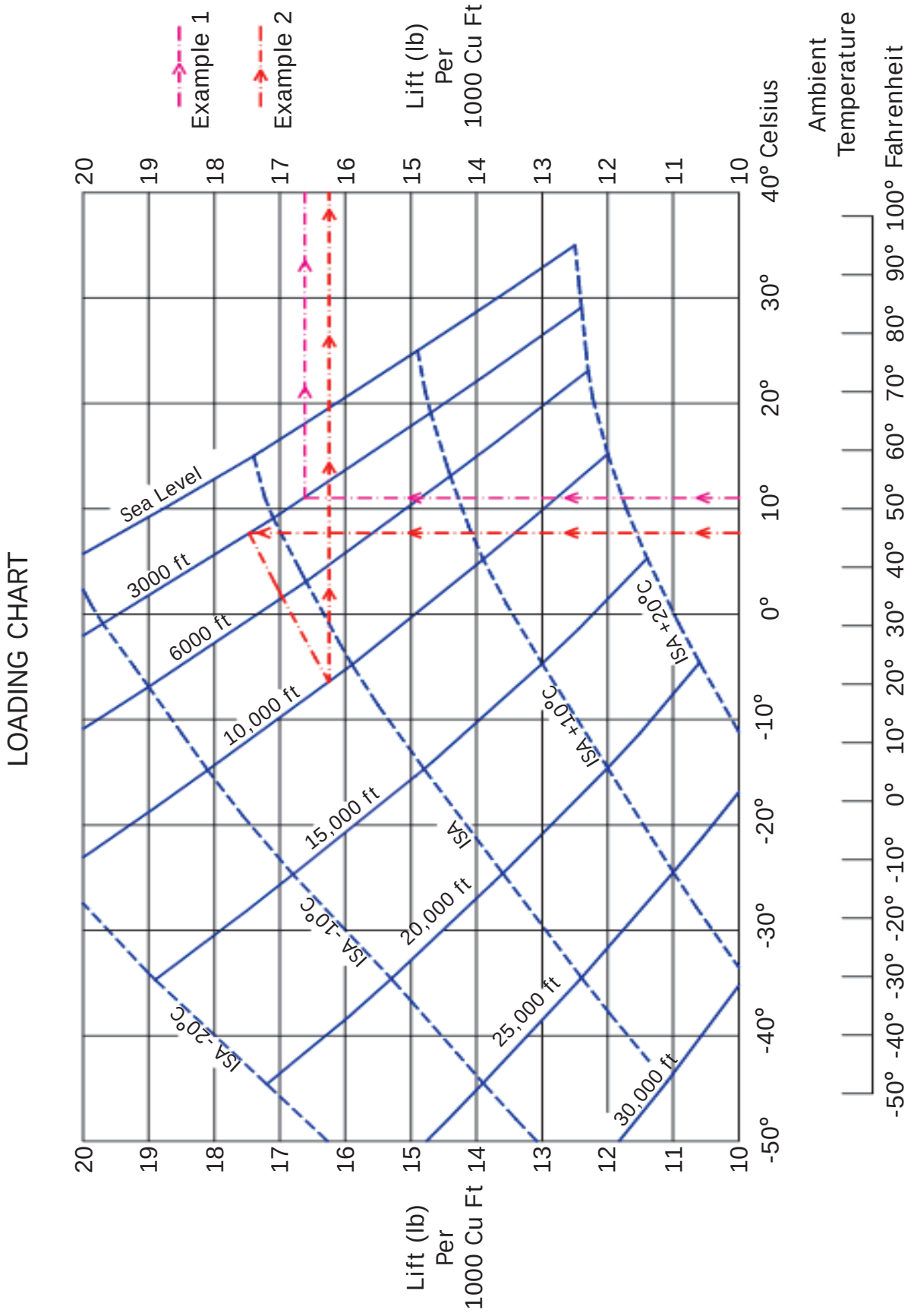

LOADING CHART
Example 1
Example 2
Lift (lb) Per 1000 Cu Ft
Ambient Temperature
40° Celsius
Fahrenheit
Sea Level
3000 ft
6000 ft
10,000 ft
15,000 ft
20,000 ft
25,000 ft
30,000 ft
ISA
ISA +20°C
ISA +10°C
ISA -10°C
ISA -20°C

Table 2: Total Permitted Lift (kg)

Balloon Size	Lift (lb) Per 1000 cu.ft.										
	10	11	12	13	14	15	16	17	18	19	20
25	113	125	136	147	159	170	181	193	204	215	227
26	118	130	142	153	165	177	189	200	212	224	236
31	143	157	171	185	200	214	228	243	257	271	285
35	158	174	190	206	222	238	254	269	285	301	317
42	191	210	229	248	267	286	305	324	343	362	381
50	226	249	272	294	317	340	362	385	408	430	453
56	254	279	305	330	356	381	406	432	457	483	508
60	272	299	327	354	381	408	435	463	490	517	544
65	295	324	354	383	413	442	472	501	531	560	590
69	313	344	376	407	438	469	501	532	563	595	626
70	317	349	381	413	444	476	508	540	571	603	635
77	352	387	422	457	492	527	562	597	633	668	703
80	363	399	435	472	508	544	580	617	653	689	726
84	381	419	457	495	533	572	610	648	686	724	762
90	408	449	490	531	571	612	653	694	735	776	816
100	454	499	544	590	635	680	726	771	816	862	907
105	476	524	572	619	667	714	762	810	857	905	952
120	544	599	653	707	762	816	871	925	980	1034	1088
133	603	663	724	784	844	905	965	1025	1086	1146	1206
140	635	699	762	826	889	953	1016	1080	1143	1207	1270
145	658	723	789	855	921	987	1052	1118	1184	1250	1315
150	680	748	816	884	952	1020	1088	1156	1224	1293	1361
160	726	798	871	943	1016	1088	1161	1234	1306	1379	1451
180	816	898	980	1061	1143	1225	1306	1388	1470	1551	1633
200	907	998	1088	1179	1270	1361	1451	1542	1633	1723	1814
210	952	1047	1143	1238	1334	1429	1524	1619	1715	1810	1905
225	1020	1122	1224	1327	1429	1531	1633	1735	1837	1939	2041
240	1089	1197	1306	1415	1524	1633	1742	1851	1960	2068	2177
250	1134	1247	1361	1474	1588	1701	1814	1928	2041	2155	2268
260	1179	1297	1415	1533	1651	1769	1887	2005	2123	2241	2359
275	1247	1372	1497	1621	1746	1871	1995	2120	2245	2370	2494
300	1361	1497	1633	1679	1905	2041	2177	2313	2449	2585	2721
315	1429	1571	1714	1857	2000	2143	2286	2429	2571	2714	2857
340	1542	1696	1850	2005	2159	2313	2467	2621	2776	2857	2857
340HL	1542	1696	1850	2005	2159	2313	2467	2621	2776	2930	3084
350	1587	1746	1905	2063	2222	2381	2540	2698	2857	3016	3175
375	1701	1871	2041	2211	2381	2551	2722	2892	3062	3232	3401
400	1814	1995	2177	2358	2540	2721	2902	3084	3265	3447	3628
415	1882	2070	2259	2447	2635	2823	3011	3200	3388	3576	3764
425LW	1927	2120	2313	2506	2698	2891	3084	3277	3469	3662	3662
450LW	2041	2245	2449	2653	2857	3061	3265	3469	3673	3815	3815
450	2041	2245	2449	2653	2857	3061	3265	3469	3673	3878	4082
500LW	2268	2494	2721	2948	3175	3401	3628	3855	4082	4240	4240
530LW	2404	2644	2884	3125	3365	3605	3846	4086	4327	4500	4500
530	2404	2644	2884	3125	3365	3605	3846	4086	4327	4567	4807
600	2721	2993	3265	3537	3810	4082	4354	4626	4898	5089	5089
750	3402	3742	4082	4423	4763	5103	5103	5103	5103	5103	5103

Table 3: Total Permitted Lift (lb)

Balloon Size	Lift (lb) Per 1000 cu.ft.										
	10	11	12	13	14	15	16	17	18	19	20
25	250	275	300	325	350	375	400	425	450	475	500
26	260	286	312	338	364	390	416	442	468	494	520
31	315	346	378	409	441	472	504	535	567	598	620
35	350	385	420	455	490	525	560	595	630	665	700
42	420	462	504	546	588	630	672	714	756	798	840
50	500	550	600	650	700	750	800	850	900	950	1000
56	560	616	672	728	784	840	896	952	1008	1064	1120
60	600	660	720	780	840	900	960	1020	1080	1140	1200
65	650	715	780	845	910	975	1040	1105	1170	1235	1300
69	690	759	828	897	966	1035	1104	1173	1242	1311	1380
70	700	770	840	910	980	1050	1120	1190	1260	1330	1400
77	775	852	930	1007	1085	1162	1240	1317	1395	1472	1540
80	800	880	960	1040	1120	1200	1280	1360	1440	1520	1600
84	840	924	1008	1092	1176	1260	1344	1428	1512	1596	1640
90	900	990	1080	1170	1260	1350	1440	1530	1620	1710	1800
100	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
105	1050	1155	1260	1365	1470	1575	1680	1785	1890	1995	2100
120	1200	1320	1440	1560	1680	1800	1920	2040	2160	2280	2400
133	1330	1463	1596	1729	1862	1995	2128	2261	2394	2527	2660
140	1400	1540	1680	1820	1960	2100	2240	2380	2520	2660	2800
145	1450	1595	1740	1885	2030	2175	2320	2465	2610	2755	2900
150	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
160	1600	1760	1920	2080	2240	2400	2560	2720	2880	3040	3200
180	1800	1980	2160	2340	2520	2700	2880	3060	3240	3420	3600
200	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000
210	2100	2310	2520	2730	2940	3150	3360	3570	3780	3990	4200
225	2250	2475	2700	2925	3150	3375	3600	3825	4050	4275	4500
240	2400	2640	2880	3120	3360	3600	3840	4080	4320	4560	4800
250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000
260	2600	2860	3120	3380	3640	3900	4160	4420	4680	4940	5200
275	2750	3025	3300	3575	3850	4125	4400	4675	4950	5225	5500
300	3000	3300	3600	3900	4200	4500	4800	5100	5400	5700	6000
315	3150	3465	3780	4095	4410	4725	5040	5355	5670	5985	6300
340	3400	3740	4080	4420	4760	5100	5440	5780	6120	6300	6300
340HL	3400	3740	4080	4420	4760	5100	5440	5780	6120	6460	6800
350	3500	3850	4200	4550	4900	5250	5600	5950	6300	6650	7000
375	3750	4125	4500	4875	5250	5625	6000	6375	6750	7125	7500
400	4000	4400	4800	5200	5600	6000	6400	6800	7200	7600	8000
415	4150	4565	4980	5395	5810	6225	6640	7055	7470	7885	8300
425LW	4250	4675	5100	5525	5950	6375	6800	7225	7650	8075	8075
450LW	4500	4950	5400	5850	6300	6750	7200	7650	8100	8410	8410
450	4500	4950	5400	5850	6300	6750	7200	7650	8100	8550	9000
500LW	5000	5500	6000	6500	7000	7500	8000	8500	9000	9350	9350
530LW	5300	5830	6360	6890	7420	7950	8480	9010	9540	9920	9920
530	5300	5830	6360	6890	7420	7950	8480	9010	9540	10070	10600
600	6000	6600	7200	7800	8400	9000	9600	10200	10800	11215	11215
750	7500	8250	9000	9750	10500	11250	11250	11250	11250	11250	11250

Table 4: Balloon Component Weight Record

Registration	
Year Of Construction	
Constructors Number	
Balloon Type	

Component	Drawing Number	Serial Number	Weight (kg)
Envelope			
Burner			
Basket			
		Total	

Cylinder	Drawing Number	Serial Number	Weight (kg)	
			Empty	Full
Cylinder 1				
Cylinder 2				
Cylinder 3				
Cylinder 4				
Cylinder 5				
Cylinder 6				
		Total		

Total Fuel Weight _____ kg

Padded hose covers can be used to bring fuel hoses from the centre of the burner frame to the centre of the pilot compartment.

Turning vents should be fitted to envelopes used with partitioned baskets. This allows the basket to be rotated so that the long side faces the direction of travel during landing.

▲ Double 'T' Partition Basket

6.5.4 Pilot Restraint Harness

The pilot restraint harness prevents the pilot being thrown from the basket during landing.

The harness is a waist belt fitted with a buckle which will allow rapid release in an emergency. A strap of adjustable length is clipped to a metal D-ring on the belt and an anchor point on or near the floor of the basket.

A pouch is fitted to the wall of the basket to store the belt and strap when not in use.

6.5.5 Passenger Positioning Blocks

Passenger positioning blocks assist passengers to achieve and maintain the proper landing position by preventing the passengers from over-bending their knees or squatting down on their heels.

The blocks are made from foam with a fabric outer cover and are laced or attached with Velcro to the leading edge of the passenger compartments of partioned blocks.

6.5.6 Quick Release

The quick release is designed to restrain the balloon during inflation and heating up for take-off, but must not be used for tethered flight. A locking pin or collar is fitted to prevent accidental release.

Use of the quick release is recommended to ensure that the balloon does not drag during inflation or leave the ground prematurely.

Note: Care should be taken to protect all webbing and rope items from the effects of sunlight. Ultraviolet radiation causes degradation of the rope or webbing, considerably reducing its strength. This applies especially to the launch restraint and equipment for tethered flight. Regular checks should be made to the launch restraint and equipment for tethered flight for wear and loss of strength.

6.6 FLIGHT INSTRUMENTS

Flight instruments used in ballooning are an altimeter (for altitude measurement), a variometer (to display climb and descent rate), a time piece (to record flight times, sunset times etc.) and an envelope temperature gauge (to indicate envelope internal temperature).

9.1 INTRODUCTION

This Section lists the major components which may be combined with each envelope to make a complete balloon. Additional equipment, not requiring approval, is listed in Section 9.3.

9.1.1 Burner Frame Compatability

Table 6 lists the compatible burner load frames for each basket type. The burner load frames are divided into two categories:

Applicable Burner Frames (specific): These are frames design specifically to fit a given basket type.

Applicable Burner Frames (with Assembly check):

These are structurally and dimensionally similar frames which have been designed for similar baskets that incorporate minor design changes (e.g. additional restraint lugs, offset crossbar, changed rod socket angles etc.). These frames may only be combined with the listed basket after an assembly check by a competent person (normally an inspector).

9.2 EQUIPMENT LIST

Tables 5, 6, 7 and 8 list the envelopes, baskets, fuel cylinders, burners and burner frames which are compatible.

Table 5: Envelopes

Envelope Type	Drawing Number	Applicable Burners	Applicable Baskets
A-105	CB115	B	B, C, D, E, F, G, H, I, J, K
A-120	CB617	B	C, D, E, F, G, H, I, J, K, L
A-140	CB105	B	D, E, F, G, H, I, J, K, L, M
A-160	CB653	B, C	D, E, F, G, H, I, J, K, L, M, N
A-180	CB692	B, C, D	E, F, G, H, I, J, K, L, M, N, O
A-200	CB1199	B, C, D	G, H, I, J, K, L, M, N, O, P, Q
A-210	CB199	B, C, D	G, H, I, J, K, L, M, N, O, P, Q
A-225	CB1618	B, C, D	G, H, I, J, K, L, M, N, O, P, Q
A-250	CB463	C, D	H, I, J, K, L, M, N, O, P, Q
A-275	CB1147	C, D	I, J, K, L, M, N, O, P, Q
A-300	CB603	C, D	K, L, M, N, O, P, Q
A-315	CB1028	C, D	K, L, M, N, O, P, Q
A-340	CB1166	D	L, M, N, O, P, Q
A-340HL	CB1148	D	L, M, N, O, P, Q
A-375	CB761	D	M, N, O, P, Q
A-400	CB1248	D	N, O, P, Q
A-415	CB1311	D	N, O, P, Q
A-425LW	CB1716	D	N, O, P, Q
A-450LW	CB1626	D	P, Q, R
A-500LW	CB1725	D	P, Q, R
A-530LW	CB1672	D	P, Q, R
A-530	CB197	D	O, P, Q

Table 5: Envelopes (continued)

Envelope Type	Drawing Number	Applicable Burners	Applicable Baskets
C-50	CB1611	A, B	A, B, C, D
C-60	CB996	A, B	A, B, C, D, E, F, G
C-70	CB1256	A, B	A, B, C, D, E, F, G, H
C-80	CB1025	A, B	A, B, C, D, E, F, G, H, I
C-90	CB1460	A, B	A, B, C, D, E, F, G, H, I, J
C-100	CB1048	A, B	B, C, D, E, F, G, H, I, J, K
GP-65	CB1397	A, B	A, B, C, D, E, F, G, H
GP-70	CB1498	A, B	A, B, C, D, E, F, G, H
N-31	CB476	A	A, B, C, D
N-42	CB476	A	A, B, C, D, E
N-56	CB476	A, B	A, B, C, D, E, F, G
N-65	CB476	A, B	A, B, C, D, E, F, G, H
N-70	CB476	A, B	A, B, C, D, E, F, G, H
N-77	CB476	A, B	A, B, C, D, E, F, G, H, I
N-90	CB476	A, B	A, B, C, D, E, F, G, H, I, J
N-100	CB476	A, B	B, C, D, E, F, G, H, I, J, K
N-105	CB476	B	B, C, D, E, F, G, H, I, J, K
N-120	CB476	B	C, D, E, F, G, H, I, J, K, L
N-133	CB476	B	C, D, E, F, G, H, I, J, K, L
N-145	CB476	B, C	D, E, F, G, H, I, J, K, L, M
N-160	CB476	B, C	E, F, G, H, I, J, K, L, M, N
N-180	CB476	B, C, D	E, F, G, H, I, J, K, L, M, N, O
N-210	CB476	B, C, D	G, H, I, J, K, L, M, N, O, P, Q
O-26	CB1752	A	A,B,C
O-31	CB110	A	A, B, C, D
O-42	CB101	A	A, B, C, D, E
O-56	CB45	A, B	A, B, C, D, E, F, G
O-65	CB54	A, B	A, B, C, D, E, F, G, H
O-77	CB112	A, B	A, B, C, D, E, F, G, H, I
O-84	CB49	A, B	A, B, C, D, E, F, G, H, I
O-90	CB658	A, B	A, B, C, D, E, F, G, H, I, J
O-105	CB167	B	B, C, D, E, F, G, H, I, J, K
O-120	CB505	B	C, D, E, F, G, H, I, J, K, L
O-140	CB772	B, C	D, E, F, G, H, I, J, K, L, M
O-160	CB368	B, C	D, E, F, G, H, I, J, K, L, M, N
TR-60	CB1520	A, B	A, B, C, D, E, F, G
TR-70	CB1519	A, B	A, B, C, D, E, F, G
TR-77	CB1591	A,B	A, B, C, D, E, F, G
TR-84	CB1612	A,B	A, B, C, D, E, F, G
V-31	CB149	A	A, B, C, D
V-42	CB369	A	A, B, C, D, E
V-56	CB134	A, B	A, B, C, D, E, F, G
V-65	CB166	A, B	A, B, C, D, E, F, G, H
V-77	CB170	A, B	A, B, C, D, E, F, G, H, I
V-90	CB817	A, B	A, B, C, D, E, F, G, H, I, J

Table 6: Baskets

Basket Cat.	Drawing Number	Basket Description*	Applicable Cylinders	Applicable Burner Frames (specific)	Applicable Burner Frames (with Assembly check)
B	CB3037	LITE	1a, 1, 2	CB2118, CB2355, CB2356	
B	CB310-1A	31-42 O	1a, 1, 2	CB855, CB871, CB925, CB2203(Fl), CB2224(Fl), CB2231(Fl), CB2598, CB2874	
C	CB300-2A	56-65 O	1a, 1, 2, 3	CB855, CB871, CB925, CB2203(Fl), CB2224(Fl), CB2231(Fl), CB2598 (Fl), CB2643, CB2665, CB2857(Fl), CB2874	CB2203, CB2224, CB2231, CB2598, CB2650, CB2652, CB2857, CB2995, CB8810,CB8810, CB8811, CB8820, CB8821, CB8864,CB8894, CB8902, CB8903, CB8905, Concept (CB994,CB2000), BA-152-A-002 (LBL)**
C	CB310-2A				
C	CB3050-2				
C	CB3115-2				
C	CB3011-2A	56-65 OH			
C	CB3023-2				
C	CB3011-2B				
C	CB3051	C60/70 O	1a, 1, 2, 3	CB855, CB871, CB925, CB2203, CB2224, CB2231, CB2598, CB2665, CB2860, CB2863, CB2874, CQ2018***, CQ2028	CB2643, CB2650, CB2652, CB2665, CB2857, CB2874, CB8810, CB8811, CB8820, CB8821, CB8864,CB8894, CB8902, CB8903, CB8905
D	CB300-3A	77-84 O	1a, 1, 2, 3		
D	CB310-3A				
D	CB3050-3				
D	CB3115-3				
D	CB3011-3A	77-84 OH	1a, 1, 2, 3		
D	CB3023-3				
D	CB3011-3B				
D	CB3052	C80/90 O	1a, 1, 2, 3		
D	CB8001	65-77 O	1a, 1, 2, 3	CB855, CB871, CB925, CB8810, CB8811, CB8820, CB8821, CB8894, CB8902, CB8903, CB8905, CB8912	CB2203, CB2224, CB2231, CB2598,CB2650, CB2652, CB2857, CB2995, Concept (CB994,CB2000), BA-152-A-002 (LBL)**
D	CB8012				
D	CB8006	65-77 OH	1a, 1, 2, 3		
D	CB8017				
D	CB8002	77-90 O	1a, 1, 2, 3		
D	CB8013				
D	CB8007	77-90 OH	1a, 1, 2, 3		
D	CB8018				
E	CB300-4A	90-105 O	1a, 1, 2, 3	CB855, CB871, CB925, CB2203, CB2224, CB2231, CB2598, CB2665, CB2874, CQ2027	CB2203, CB2224, CB2231, CB2598,CB2650, CB2652, CB2857, CB2995, Concept (CB994,CB2000), BA-152-A-002 (LBL)**
E	CB310-4A				
E	CB3050-4				
E	CB3115-4				
E	CB3011-4A	90-105 OH	1a, 1, 2, 3		
E	CB3023-4				
E	CB3011-4B				
E	CB8003	90-105 O	1a, 1, 2, 3	CB8810, CB8811, CB8820, CB8821, CB8894, CB8902, CB8903, CB8905, CB8912	CB2203, CB2224, CB2231, CB2598,CB2650, CB2652, CB2857, CB2995, Concept (CB994,CB2000), BA-152-A-002 (LBL)**
E	CB8014				
E	CB8008	90-105 OH	1a, 1, 2, 3		
E	CB8019				
F	CB8004	105-120 O	1a, 1, 2, 3	CB8822, CB8823, CB8824, CB8825, CB8830, CB8831, CB8846	
F	CB8013				
F	CB8009	105-120 OH	1a, 1, 2, 3		
F	CB8020				
F	CB8200	105-120 T	1a, 1, 2, 3		

* For key see page 9-6

Table 6: Baskets (continued)

Basket Category	Drawing Number	Basket Description*	Applicable Cylinders	Applicable Burner Frames
G	CB303	120 - 133 O	1a, 1, 2, 3	CB855, CB871, CB925, CB2203(Fl), CB2309, CB2312
G	CB3238	120 - 133 P	1a, 1, 2, 3	CB2264, CB2470, CB2468, CB2856
G	CB3233	120 - 133 T	1a, 1, 2, 3	CB2264, CB2470, CB2468, CB2856
H	CB991	140 T	1a, 1, 2, 3	CB983, CB2264, CB2263
H	CB3376	140 T	1a, 1, 2, 3	CB2264, CB2263
H	CB8266	120 - 160 T	1a, 1, 2, 3	CB8900, CB8901
I	CB3310	160 - 180 T	1a, 1, 2, 3	CB2590, CB2591
I	CB8206	180 - 210T	1a, 1, 2, 3	CB8826 CB8832, CB8840
J	CB754	180 - 210 TT	1a, 1, 2, 3	CB750, CB2420, CB2411, CB2261, CB2371
K	CB3164	210 TT Os	1a, 1, 2, 3	CB2050, CB2250, CB2283, CB2303
L	CB3314	210 - 250 T	1a, 1, 2, 3	CB2505, CB2592
M	CB3004	250 TT	1a, 1, 2, 3	CB2050, CB2250, CB2283, CB2303
M	CB971	250 TT D	1a, 1, 2, 3	CB970, CB2260, CB2304
M	CB3387	250TT	1a, 1, 2, 3	CB2282, CB2613, CB2614
N	CB3200	275 TT Os	1a, 1, 2, 3	CB2427, CB2447
O	CB3042	300 TT	1a, 1, 2, 3	CB2270, CB2258
O	CB3040	300 TT D	1a, 1, 2, 3	CB2271, CB2259
O	CB3049	300 TT S	1a, 1, 2, 3	CB2272, CB2269
O	CB3235	300 TT	1a, 1, 2, 3	CB2390
O	CB3223	300 TT S	1a, 1, 2, 3	CB2427, CB2447
O	CB8250	350 TT	1a, 1, 2, 3	CB8842, CB8843
O	CB3360	350 TT	1a, 1, 2, 3	CB2192, CB2274, CB2418, CB2562
P	CB3205	400 TT S	1a, 1, 2, 3	CB2192, CB2274, CB2418, CB2562
Q	CB3288	400 - 410 TT S	1a, 1, 2, 3	CB2192, CB2274, CB2418, CB2562
R	CB3570	500 TT S	1a, 1, 2, 3	CQ2015
R	CB3370	600 TT S	1a, 1, 2, 3	CB2376
R	CB3550	750 TT S	1a, 1, 2, 3	CB2953

* Key: H= Hi-Spec; L=Asymmetric pilot compartment; O = Open; P= single partition; T = T partition; TT = double T partition; Os = offset; D = designed for use in Germany; S = Safari (tough terrain); W = wheelchair access; Fl = Flexi-corner burner frame only.

Burner Frames: **LHABL= Lindstrand, *** = Kubicek Ignis

A5.1 INTRODUCTION

This appendix provides guidance on handling and brief crew and passengers. It describes practices that have been shown to be safe and effective in practice but is not compulsory.

A5.2 CREW BRIEFINGS

A5.2.1. General

Strong gloves (leather or fire resistant), footwear and clothing of natural or heat resisting fibre should be worn. Clothing for the mouth crew should cover the arms.

The crew members should be briefed before the inflation procedure is started.

CAUTION: The most important instruction for all crew members is to let go immediately if they are lifted off the ground.

Crown Crew Briefing

The object is to prevent the envelope from swaying excessively, and to prevent it rising until it is full and sufficiently buoyant. Apply only moderate tension on the crown line until the parachute panel is seen to be pressing against the crown tapes, then apply maximum force until the balloon is upright. Do not try to fight the wind, but keep the envelope downwind wherever possible.

1. Hold the very end of the line; do not attempt to feed it out through the hands.
2. Do not loop or tie the crown line around your body, your arm or any object
3 Refuse all offers of help pulling on the crown line from onlookers.
4. Hold the line slack during cold inflation.
5. Hold the line taut when the burner noise is heard.
6. Continue to pull the line until the balloon is upright
7. On the pilot's instruction walk up to the basket and clip the end of the line to a karabiner on the burner frame.

Mouth Crew Briefing

The aim of the mouth crew should be to hold the mouth of the envelope as open and round as possible. During cold inflation this means simply supporting the weight of the fabric. When hot inflation (i.e. the burner is turned on) commences the crew should be prepared to shield themselves to the side and slightly behind the Nomex which will provide protection from the heat. As the balloon rises the crew should work their way down the side to the base of the mouth, without holding on to the scoop.

As the envelope finally rises catch the scoop attachment hooks and clip them onto the karabiners. The crew member on the pilot's right hand side may need to hold the control lines to prevent them hanging in the burner flame.

1. Keep feet off and outside of the flying wires.
2. If you feel uncomfortable or in danger, let go and move away.
3. Watch the pilot.
4. Do not hold on by the scoop.
5. When the basket is upright, move to it and apply your weight to the upper padding.

Inflator fan briefing

The aim of the fan crew should be to control the operation of the fan and direct the air stream into the centre of the mouth thus avoiding deflecting the burner flame into the side fabric.

If a single fan is used it should be positioned to the left of the basket, so that the on/off switch is nearest to the pilot, and so that the fan does not blow the deflation line which is positioned on the right side into the burner flame.

1. Remove or secure any loose clothing, long hair or other items that could be drawn into the fan.
2. Hold the fan at the top.
3. Point the fan into the centre of the mouth.
4. Do not re-position the fan with the engine running
5. Turn fan off at a pre-agreed signal from the pilot.
6. Wheel the fan well away from the basket.
7. Return and apply weight to basket

The fan crew may also be responsible for manning a fire extinguisher during hot inflation should a fire occur.

A5.3 PASSENGER BRIEFINGS

Passengers may be briefed either before inflation begins, or once they are in the basket after inflation. Passengers should be shown how to safely get into the basket before inflation starts highlighting the step holes and internal handles.

The passenger's landing position may be rehearsed before take-off to ensure that they are taking up the correct position. It is important that the passenger's knees are only slightly bent, and that they are not squatting or sitting on their heels.

Passenger Briefing: Open Baskets

1. Do not hold on to hoses, valves or control lines.

2. Hold on to rope handles, cylinder rims or (except when landing) burner support rods.

3. Before landing, stow all loose items, cameras etc.

4. Long hair should be secured before landing.

5. Scarves, neck-straps or other long neckwear should be removed before landing.

6. On landing stand sideways to the direction of travel, at the front edge of the basket (where practicable). Knees should be together and slightly bent. Hands must remain inside the basket. Hold on to rope handles or cylinder rims. Watch the progress of the landing and brace for the touchdown. After touchdown the basket may fall on its side and drag along the ground.

7. After landing do not leave the basket without the pilot's permission.

Passenger Briefing: Partitioned Baskets

1. Do not hold on to hoses, valves or control lines.

2. Never stand on passenger positioning blocks (if fitted).

3. Hold on to rope handles or (except when landing) burner support rods.

4. Before landing, stow all loose items, cameras etc.

5. Long hair should be secured before landing.

6. Scarves, neck-straps or other long neckwear should be removed before landing.

7. Attach passenerage restraint harness before landing if fitted (Supplement 8.36)

8a. (Passenger positioning blocks not fitted) On landing face away from the direction of travel. Knees should be together and slightly bent. Push backwards against the leading edge of the passenger compartment. Hold onto the rope handles infront of you with both hands. Continue to hold on until the basket comes to rest.

8b. (Passenger positioning blocks fitted) On landing face away from the direction of travel. Sit down on the passenger positioning block with your knees together. Push backwards against the leading edge of the passenger compartment. Hold on to the rope handles in

front of you with both hands. Continue to hold on until the basket comes to rest.

9. After landing do not leave the basket without the pilot's permission.

Passenger Fittness to Fly

The pilot is responsible for the safety of the passengers and deciding whether they are suitable to undertake the flight.

Children and people with infirmities or disabilities should only be flown if they are able to understand and respond to the briefing and other instructions from the pilot, are able to adopt the correct landing position, and to firmly hold onto the internal handles. A useful guide for flying children in a balloon is that they should only be flown if they are tall enough to see over the edge of the basket while standing on its floor and are able to reach the internal handles while in the normal position.

Pilots may be able to achieve an equivalent level of safety for less able passengers by the use of passenger restrains and passenger positioning blocks in partitioned baskets, or by flying in good weather conditions.