Record of Amendments

Amendment Number	Description	Pages Affected	Date	Approval
1	Record of Amendment, List of Effective pages, Contents and List of Supplements Updated. Page 2-2: Permitted Damage increased. Page 4-2: Cylinder Orientation guidance added. Page 5-6: "Total" boxes added to tables. Page 6-10; Caution regarding vapour regulators at low ambient temperature added. 45 was 60. Pages 7-1, 7-2 revised, 7-3 and 7-4 added. Supplement 8.1: Addition of Turtle-120 Special Shape, Colt Sugar Box 90, Buddy-90, Head One-105, Lightbulb-110, Bierkrug-90, Condom -105, Apple-90, RX-105, Tiger 90 and Cup-110. Supplement 8.6: Addition of Record of Amendments, T&C and Cameron burners and burner frame information. Supplement 8.8: Introduction of basket maximum pay-loads and minimum burner requirements in accor-dance with EASA.BA.016. Extension to include T&C envelopes. Supplement 8.9: Kubíček Bottom Ends with Cameron and T&C Envelopes. Supplement 8.12: Addition of Cameron H20, H24, H34, Colt 17A, 21A and Thunder AX6-56S1.Supplement 8.15: Addition of Basket List. Supplement 8.19: Demountable double, triple and quad burners. Supplement 8.21: Deletion of A1 category (moved to type specific supplements), Addition of Basket CB3394, CB3006, CB3027, CB3120, CB3448 and CB3449, added. Type 3 cylin-ders added to CB950 and CB3175. Supplement 8.22: Addition of Paragraph 22.6.3.10.1. Burner Assemblies CB2051, CB2065, CB2081, CB2089, CB2095, CB2096, CB2097, CB2130, CB2145, CB2298, CB2299 added. Supplement 8.32: Out of Production Hoppers. Supplement 8.33: Sky Bottom Ends with Cameron and Thunder & Colt Envelopes.	i-iii, i-vii, i-viii, i-ix, i-xiv, ixv, i-xvi, 2-2, 2-3, 4-2, 5-6, 6-10, 6-11, 7-1 to 7-4, Supplement 8.1: All, Supplement 8.6: All, Supplement 8.8: All, Supplement 8.9: New Supplement, Supplement 8.12: All, Supplement 8.15: All, Supplement 8.19: New Supplement, Supplement 8.21: All, Supplement 8.22: All, Supplement 8.32: New Supplement, Supplement 8.33: New Supplement,	17:12:2007	Approved by EASA under Approval Number EASA.BA.C.01128
2	Supplement 8.10: Chaize Baskets.	Supplement 8.10: New Supplement,	21:12:2007	Approved by EASA under Approval Number EASA.BA.A.01013
3	Page 9-6 Burner frame applicabilities corrected, key updated, Page 9-8: Assembly CB2424 added, Supplement 8.8: Cameron Burners Added; Supplement 8.9: Baskets K12/K12A/K15 added, Cameron Burners Added. Supplement 8.21: T&C Burner Frame applicabilities updated, key updated.	i-iii, i-vii, i-ix, 9-6, 9-8, Supplement 8.8: All, Supplement 8.9: All, Supplement 8.21: All	01:02:2008	Revision nr Amendment 3 to AFM ref. HABFM-Issue 10 is approved under the authority of DOA nr EASA.21J.140
4	Section 2: Permitted Damage limits revised, TR-77 Variant added. Section 6: TR-77 added, Section 9: TR-77 added, Supplements 8.1 Issue 10: Satzenburger Bottle 56, Colt Flying Jeans, Cameron Cabin and Box 105 added. Supplement 8.2 "Kevron" Load Tapes added, 8.16 Single Airchair added, Supplement 8.21: Issue 6 Basket CB8280 added. Supplement 8.22: Issue 3 Burner assemblies CB2103, CB2104, CB2119 and CB2242 added.	i-iii, i-vii, i-ix, Page2-2 to 2-6, 6-2, 9-2, 9-3. Supplement 8.1: All, Supplement 8.2: New Supplement 8.16: New Supplement 8.21: Issue 6 Supplement 8.22: Issue 3	03.03.08	Approved by EASA under Approval Number EASA.BA.C.01145

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.

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List of Supplements

The supplements ticked 'Applicable' to this balloon are inserted into this manual in Section 8.

Number	Description	Issue	Approval Date	Applicable
8.1	Special Shapes	10	03 March 2008	
8.2	"Kevron" load tapes	1	03 March 2008	
8.3	Balloons On French Register	-	-	-
8.4	Balloon Works Bottom Ends with Cameron Envelopes	-	-	-
8.5	Raven Aerostar Bottom Ends with Cameron Envelopes	1	10 April 2006	
8.6	Lindstrand Bottom Ends with Cameron and T&C Envelopes	2	18 April 2007	
8.7	Ultramagic Bottom Ends with Cameron Envelopes	1	10 April 2006	
8.8	Schröder Fire Bottom Ends with Cameron and T&C Envelopes	3	01 February 2008	
8.9	Kubícek Bottom Ends with Cameron and T&C Envelopes	2	01 February 2008	
8.10	Chaize Baskets	1	21 December 2007	
8.11	Lindstrand Cloudhopper with Cameron Envelopes	1	10 April 2006	
8.12	Out of Production Envelope Types	3	15 October 2007	
8.13	Duo Airchair MKII	1	10 April 2006	
8.14	Cloudhopper Millennium	1	10 April 2006	
8.15	Wheelchair Baskets	2	17 April 2006	
8.16	Single Airchair	1	03 March 2008	
8.17	Special Needs Passenger Seat	-	-	
8.18	Removable Partition Basket	1	10 April 2006	
8.19	Demountable double, triple and quad burners	1	30 November 2006	
8.20	Basket Towing Plates	1	10 April 2006	
8.21	Special Baskets	6	03 March 2008	
8.22	Out of Production Burner Models	2	18 April 2007	
8.23	Sirocco Burner - Remote Control Operating System	1	10 April 2006	
8.24	Shadow High Altitude Burner	1	10 April 2006	
8.25	Removable Burner	1	10 April 2006	
8.26	Shadow / Stealth Electric Burner	1	10 April 2006	
8.27	Launching Hang Gliders	1	10 April 2006	
8.28	Night Flying	1	10 April 2006	
8.29	Dropping Parachutists	1	10 April 2006	
8.30	Envelope Laser Display System	1	10 April 2006	
8.31	-	-	-	
8.32	Out of Production Hoppers	1	18 April 2007	
8.33	Sky Bottom Ends with Cameron and T&C Envelopes	1	10 April 2006	
	Canadian - Specific Addendum Type			

Number	Description	Issue	Approval Date	Applicable

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. Balloons must not be flown free in surface winds greater than 15 knots (7.7m/sec).

2. The balloon must not be flown in meteorological conditions which could give rise to erratic winds and gusts of 10 knots (5.1m/sec) above the mean wind speed.

3. The balloon must not be flown if there is extensive thermal activity or any cumulonimbus (thunderstorm) activity.

2.3 FUEL

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

2. 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 throughout the flight.

3. The minimum fuel pressure is 3 bar (44psi) for balloons smaller than 340,000cu.ft (9630m^3).

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

4. The minimum fuel pressure is 7 bar (102psi) for balloons of 340,000cu.ft (9630m^3). and larger, unless Shadow, Sirocco or Stratus burners are used, when the minimum fuel pressure is 5.5 bar (80psi),

5. Burners must not be operated on a vapour fuel supply.

6. 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.

2.4 MINIMUM BURNER REQUIREMENTS

1. A single burner may only be used in balloons of less than 105,000cu ft (2975m^3).

2. A double burner may only be used in balloons of 56,000cu ft (1585m^3) to 210,000cu ft (5950m^3).

3. A triple burner may only be used in balloons of 140,000cu ft (3970m^3) to 315,000cu ft (8920m^3).

4. A quad burner may only be used in balloons of 180,000cu ft (5100m^3) to 600,000cu ft (16992m^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 in accordance 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.

2.6 SAFETY EQUIPMENT (MINIMUM EQUIPMENT)

The following minimum equipment must be carried:

1. Protective gloves must be available to the pilot.

2. Matches or other independent means of ignition in addition to any igniters built into the burner.

3. A Halon 1211 or powder fire extinguisher of minimum size 1kg and conforming to EN3.
4. An Altimeter with an indicating range sufficient for the operation range of the balloon.

5. A rate of climb and descent indicator (variometer).

6. An envelope temperature indicator which may either be of the continuous reading type or a type which gives a warning signal.

7. Each fuel cylinder shall be fitted with a fuel quantity gauge.

8. A time piece.

All minimum equipment must be functional.

2.7 CREW

1. The minimum crew is one pilot.

2. The pilot must be suitably qualified to conduct the flight.

3. The maximum number of occupants (consisting of crew and passengers) is determined by Sections 2.8, 2.9 and 2.15 below.

2.8 ENVELOPE TEMPERATURE AND LOADING

1. The envelope temperature must not exceed 120°C, (250°F).

2. The envelope temperature must be controlled either by use of the envelope thermometer, or by loading according to the loading chart in Section 5.

2.9 WEIGHT RANGE

1. The take-off Mass (TOM) of the balloon must never exceed the Maximum TOM (MTOM) shown in table 1. The applicability of the MTOM, either Standard or Reduced is given on page i-i.

2. If it is desired, for operational or insurance reasons, to alter the MTOM of the balloon, either the Standard or Reduced MTOM, appropriate to the balloon model, may be selected. These permitted MTOM values are shown in Section 2 Table 1. The MTOM in use must be entered as an amendment on page i.i and used for loading calculations.

3. For balloons of 105,000 cu. ft (2975 m^3) and above, the Minimum Landing Mass (MLM) for normal operation must not be less than 50% of the Standard MTOM. For special flights, record attempts etc., with only necessary crew on board, lower masses may be used at the pilot's discretion.

2.10 RATES OF CLIMB AND DESCENT

1. With the exception of 'TR' Type balloons, the maximum rate of climb and descent for conventional shaped balloons smaller than 340,000 cu.ft (9630m^3) is 1000 ft/min (5 m/sec).

2. The maximum rate of climb and descent for 'TR' Type balloons is 1700 ft/min (8.5m/sec), except where the RDS is fitted, when the maximum rates of climb and descent are limited to 1000 ft/min (5 m/sec).

3. The maximum rate of climb and descent for conventional shaped balloons between 340,000 and 600,000 cu.ft is 800 ft/min (4m/sec).

2.11 PARACHUTE VALVE

1. The parachute valve must not be held open for periods longer than 3 seconds during flight. The envelope must be allowed to re-inflate fully and the envelope mouth must be seen to be fully open before subsequent operations of the vent.

2. 'TR' Type balloons must not have the parachute valve opened at rates of descent greater than 500ft/min (2.5m/sec).

2.12 RAPID DEFLATION SYSTEMS

1. The parachute valve of the rapid deflation system, when used for the controlled release of hot air during flight, must not be held open for periods longer than 3 seconds. The envelope must be allowed to re-inflate fully between operations of the vent.

2. Use of the rip line is not permitted at heights greater than 2m (6ft) above ground level, except in an emergency.

2.13 VELCRO RIP PANEL

1. Opening of the Velcro rip panel is not permitted at heights greater then 2m (6ft) above ground level, except in an emergency.

2.14 TETHERED FLIGHT

1. Balloons smaller than 340,000 cu.ft (9630m^3) must not be tethered in surface winds greater than 15 knots (7.7 m/sec).

2. Balloons of 340,000 cu.ft (9630m^3) and larger must not be tethered in surface winds greater than 10 knots (5.1 m/sec).

3. The balloon must not be tethered with passengers in surface winds greater than 10 knots (5.1m/sec).

4. When tethering with passengers the balloons Take-Off Mass is limited to 75% of the standard MTOM.

5. The maximum height for tethered flight is 30m (100ft) from the ground to the underside of the basket.

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. The 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 and Z-450.

TABLE 1 - ENVELOPE WEIGHT LIMITS AND VOLUMES

Model		Volume		Standard MTOM		Reduced MTOM		FAI Class
		cu. ft	cu. m	kg	lb	kg	lb	AX
Z-25	25A	25000	708	227	500	227	500	4
V-31	O-31	31450	890	285	629	285	629	4
N-31	Z-31							
	31A							
V-42	O-42	42000	1190	381	840	381	840	5
N-42	Z-42							
	42A							
V-56	O-56	56000	1586	508	1120	499	1100	6
N-56	Z-56							
	56A							
TR-60	C-60	60000	1700	544	1200	499	1100	7
V-65	O-65	65000	1841	590	1300	499	1100	7
N-65	Z-65							
GP-65	65A							
	65-SI							
Z-69	69A	69000	1954	626	1380	499	1100	7
C-70	N-70	70000	1982	635	1400	499	1100	7
GP-70	TR-70							
V-77	O-77	77500	2195	703	1550	499	1100	7
N-77	Z-77							
77A	77-SI							
	TR-77							
	C-80	80000	2266	726	1600	499	1100	8
	O-84	84000	2379	762	1680	499	1100	8
C-90	V-90	90000	2549	816	1800	499	1100	8
O-90	N-90							
Z-90	90-SII							
90-A	90-SI							
C-100	N-100	100000	2832	907	2000	907	2000	8
O-105	N-105	105000	2974	952	2100	952	2100	8
A-105	Z-105							
105-SII	105A							
	105-SI							
O-120	N-120	120000	3398	1088	2400	999	2200	9
A-120	Z-120							
120SII	120A							
	120-SI							

Note: Table 1 lists the complete range of envelopes produced by Cameron Balloons Limited.

The applicable envelope data in Table 1 corresponds to the specific envelope Type and Variant given on page i-i and in Table 4.

For details of Type Approval, reference should be made to the appropriate Type Certificate.

6.1 INTRODUCTION

Section 6 provides a description of the standard component parts and assemblies that make up the balloon system.

Optional equipment is described in Section 8.

6.2 ENVELOPE

Envelopes are of sewn construction, and are made of high tenacity nylon fabric. The fabric is coated to make it airtight and to protect it from the effects of sunlight. All the main loads on the envelopes are carried by nylon or polyester load tapes and the designs use high factors of safety.

Horizontal tapes act as rip stoppers so that any damage to the envelope will be limited in extent.

The base panels of the balloon are made from Nomex heat resistant fabric so that the nylon is kept at a sufficient distance from the flame to prevent heat damage. The lower ends of the load tapes are formed into rigging loops to which stainless steel or Kevlar cables, called flying cables, are attached.

Envelopes are fitted as standard with a 'Parachute' deflation system in sizes of up to 150,000 cu.ft (4250m^3) and a 'Lock-Top' deflation system in larger sizes. The Rapid Deflation System is available as an option on most models.

The base of the balloon may be fitted with a Scoop. This improves the performance of the balloon when taking off or tethering in wind, and during flight in turbulent conditions.

There are seven standard types of envelope, all of which are of the conventional 'inverted teardrop' shape.

6.2.1 Cameron 'V' Type

The Viva has eight bulbous gores. Sizes range from 31,000 to 90,000cu.ft (890 to 2550m^3). There are eight flying cables.

6.2.2 Cameron 'C' Type

The Concept is a 12-gore vertically cut envelope of 60,000 to 100,000cu.ft (1700 to 2832m^3) designed for economy of construction. There are twelve flying cables.

6.2.3 Cameron 'O' Type And Thunder Series I

The Cameron 'O' Type and Thunder Series I have twelve semi-bulbous gores. Sizes range from 65,000 to 160,000cu.ft (1840 to 4530m³). There are twelve flying cables.

6.2.4 Cameron 'A' Type And Thunder Series II

The Cameron 'A' Type and Thunder Series II envelopes are designs for larger balloons not requiring a smooth surface. Standard sizes range from 90,000 to 530,000 cu.ft (2549 to 15,010m³). There are twenty flying cables.

6.2.5 Cameron 'N' Type

The Cameron 'N' Type envelope has closely spaced load tapes and narrow gores of vertically cut panels to give a near-smooth surface. Sizes range from 31,000 to 210,000cu.ft (890 to 5947m³). There are twelve or sixteen flying cables dependent on envelope size.

6.2.6 Cameron 'Z' Type And Colt 'A' Type

The Cameron 'Z' Type and Colt 'A' type envelopes have closely spaced load tapes and narrow gores of horizontally cut panels to give a near-smooth surface. Sizes range from 25,000 to 600,000cu.ft (708 to 16992m³). There are eight, twelve, twenty-four, twenty-eight or thirty two flying cables dependent on envelope size.

6.2.7 Cameron 'GP' Type

The 'GP' type balloon is specially designed for competition flying. The envelope shape allows the balloon to be more manoeuvrable and safer during demanding competition flying. The envelope can be fitted with Turbulators which aid stability during rapid climbs or descents. Sizes range from 65,000 to 70,000cu.ft (1841 to 1982m³). There are twelve flying cables.

6.2.8 Cameron 'TR' Type

The 'TR' type balloon is specially designed for competition flying. The envelope shape allows the balloon to safely achieve high rates of climb and descent. Sizes range from 60,000 to 77,500 cu.ft (1700 to 2195 m³). There are twelve flying cables.

9.1 INTRODUCTION

This Section lists the major components which may be combined with each envelope to make a complete balloon.

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-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-530	CB197	D	N, O, P, Q
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

Table 5 - Envelopes (continued)

Envelope Type	Drawing Number	Applicable Burners	Applicable Baskets
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-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
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
Z-25	CB1461	A	A, B, C
Z-31	CB1462	A	A, B, C, D
Z-42	CB1463	A	A, B, C, D, E
Z-56	CB1464	A, B	A, B, C, D, E, F, G
Z-65	CB1346	A, B	A, B, C, D, E, F, G, H
Z-69	CB1465	A, B	A, B, C, D, E, F, G, H
Z-77	CB1342	A, B	A, B, C, D, E, F, G, H, I
Z-90	CB1340	A, B	A, B, C, D, E, F, G, H, I, J

Table 5 - Envelopes (continued)

Envelope Type	Drawing Number	Applicable Burners	Applicable Baskets
Z-105	CB1345	B	B, C, D, E, F, G, H, I, J, K
Z-120	CB1348	B	C, D, E, F, G, H, I, J, K, L
Z-133	CB1349	B	C, D, E, F, G, H, I, J, K, L
Z-140	CB1477	B, C	D, E, F, G, H, I, J, K, L, M
Z-145	CB1350	B, C	D, E, F, G, H, I, J, K, L, M
Z-150	CB1473	B, C	D, E, F, G, H, I, J, K, L, M
Z-160	CB1351	B, C	D, E, F, G, H, I, J, K, L, M, N
Z-180	CB1352	B, C, D	E, F, G, H, I, J, K, L, M, N, O
Z-210	CB1353	B, C, D	G, H, I, J, K, L, M, N, O, P, Q
Z-225	CB1466	C, D	G, H, I, J, K, L, M, N, O, P, Q
Z-250	CB1459	C, D	H, I, J, K, L, M, N, O, P, Q
Z-275	CB1467	C, D	I, J, K, L, M, N, O, P, Q
Z-315	CB1468	C, D	K, L, M, N, O, P, Q
Z-350	CB1469	D	L, M, N, O, P, Q
Z-375*	CB1470	D	M, N, O, P, Q
Z-400*	CB1471	D	N, O, P, Q
Z-425LW	CB1502	D	N, O, P, Q
Z-450*	CB1472	D	N, O, P, Q
Z-600	CB1565	D	N, O, P, Q
Thunder 65 S1	CB1136	A, B	A, B, C, D, E, F, G, H
Thunder 77 S1	CB1080	A, B	A, B, C, D, E, F, G, H, I
Thunder 90 S1	CB1113	A, B	A, B, C, D, E, F, G, H, I, J
Thunder 105 S1	CB1107	B	B, C, D, E, F, G, H, I, J, K
Thunder 120 S1	CB1137	B	C, D, E, F, G, H, I, J, K, L
Thunder 140 S1	CB1214	B, C	D, E, F, G, H, I, J, K, L, M
Thunder 160 S1	CB1138	B, C	D, E, F, G, H, I, J, K, L, M, N
Thunder 180 S1	CB1139	B, C, D	E, F, G, H, I, J, K, L, M, N, O
Thunder 90 S2	CB1082	A, B	A, B, C, D, E, F, G, H, I, J
Thunder 105 S2	CB1089	B	B, C, D, E, F, G, H, I, J, K
Thunder 120 S2	CB1105	B	C, D, E, F, G, H, I, J, K, L
Thunder 140 S2	CB1079	B, C	D, E, F, G, H, I, J, K, L, M
Thunder 150 S2	CB1334	B, C	D, E, F, G, H, I, J, K, L, M
Thunder 160 S2	CB1140	B, C	D, E, F, G, H, I, J, K, L, M, N
Thunder 180 S2	CB1141	B, C, D	E, F, G, H, I, J, K, L, M, N, O
Thunder 210 S2	CB1142	B, C, D	G, H, I, J, K, L, M, N, O, P, Q
Thunder 225 S2	CB1200	C, D	G, H, I, J, K, L, M, N, O, P, Q
Thunder 250 S2	CB1194	C, D	H, I, J, K, L, M, N, O, P, Q

* These envelopes must be rigged using 4 tonne karabiners (Stubai 982501 Karabiners (marked 'SYM OVAL 4000 UIAA').

Table 5 - Envelopes (continued)

Envelope Type	Drawing Number	Applicable Burners	Applicable Baskets
Colt 25A	CB1461	A	A, B, C
Colt 31A	CB1462	A	A, B, C, D
Colt 42A	CB1463	A	A, B, C, D, E
Colt 56A	CB1464	A, B	A, B, C, D, E, F, G
Colt 65A	CB1346	A, B	A, B, C, D, E, F, G, H
Colt 69A	CB1465	A, B	A, B, C, D, E, F, G, H
Colt 77A	CB1342	A, B	A, B, C, D, E, F, G, H, I
Colt 90A	CB1340	A, B	A, B, C, D, E, F, G, H, I, J
Colt 105A	CB1345	B	B, C, D, E, F, G, H, I, J, K
Colt 120A	CB1348	B	C, D, E, F, G, H, I, J, K, L
Colt 133A	CB1349	B	C, D, E, F, G, H, I, J, K, L
Colt 140A	CB1477	B, C	D, E, F, G, H, I, J, K, L, M
Colt 150A	CB1473	B, C	D, E, F, G, H, I, J, K, L, M
Colt 160A	CB1351	B, C	D, E, F, G, H, I, J, K, L, M
Colt 180A	CB1352	B, C, D	D, E, F, G, H, I, J, K, L, M, N
Colt 210A	CB1353	B, C, D	E, F, G, H, I, J, K, L, M, N, O
Colt 225A	CB1466	C, D	G, H, I, J, K, L, M, N, O, P, Q
Colt 240A	CB1128	C, D	G, H, I, J, K, L, M, N, O, P, Q
Colt 250A	CB1459	C, D	H, I, J, K, L, M, N, O, P, Q
Colt 260A	CB1129	C, D	I, J, K, L, M, N, O, P, Q
Colt 275A	CB1467	C, D	K, L, M, N, O, P, Q
Colt 315A	CB1468	C, D	L, M, N, O, P, Q
Colt 350A	CB1469	D	M, N, O, P, Q
Colt 375A	CB1470	D	N, O, P, Q
Colt 400A	CB1471	D	N, O, P, Q
Colt 450A	CB1472	D	N, O, P, Q