TYPE-CERTIFICATE

DATA SHEET

EASA.IM.BA.013

for

CAMERON HOT AIR BALLOONS

Type Certificate Holder:
CAMERON BALLOONS Ltd

St Johns Street
Bedminster
Bristol BS3 4NH
UNITED KINGDOM

For Variants: Cameron A Type, Cameron C Type, Cameron GP Type, Cameron H Type, Cameron N Type, Cameron O Type, Cameron TR Type, Cameron "Sport" Type, Cameron V Type, Cameron Z Type, Colt A Type, Colt "Bullet" Type, Thunder A Type, Thunder "Bolt" Type, Thunder AX-Series S1, Thunder AX-Series S2, Thunder Z Type.

Issue 27, 22-April-2025

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SECTION 1: GENERAL (ALL TYPES AND VARIANTS)

I. General

1. Data Sheet No: EASA.IM.BA.013 Issue 27 Date: 22 April 2025

2. Type / Variant or Model

(a) Type:	Cameron A Type, Cameron C Type, Cameron GP Type, Cameron H Type, Cameron N Type, Cameron O Type, Cameron "Sport" Type, Cameron TR Type, Cameron V Type, Cameron Z Type, Colt A Type, Colt "Bullet" Type, Thunder A Type, Thunder "Bolt" Type, Thunder AX-Series S1, Thunder AX-Series S2, Thunder Z Type.
(b) Variant or Model:	Refer to Sections 2 to 18

3. Airworthiness Category: Standard

4. Type Certificate Holder: **CAMERON BALLOONS LTD.**
St Johns Street
Bedminster
Bristol BS3 4NH
UNITED KINGDOM

5. Manufacturer: **CAMERON BALLOONS LTD.**
St Johns Street
Bedminster
Bristol BS3 4NH
UNITED KINGDOM

6. National certification date: Various, refer to Sections 2-18

7. CAA Application date: Various, refer to Sections 2-18

8. CAA Recommendation date: -

9. EASA Certification date: 2 August 2005

II. Certification Basis

1. Reference date for determining the applicable requirements: Various, refer to Sections 2-18

2. UKCAA Type Certificate Data Sheet No.: Various, refer to Sections 2-18

3. UKCAA Type Certification Basis: Various, refer to Sections 2-18

4. Airworthiness Requirements:

British Airworthiness Requirements, Manned Free Balloons, Issue 1 dated March 1972 († in Tables 1-17).

British Airworthiness Requirements, Manned Free Balloons, Draft Issue 2 dated May 1978 (‡ in Tables 1-17)

British Airworthiness Requirements, Manned Free Balloons, Draft Issue 3 dated September 1979 (◊ in Tables 1-17)

British Civil Airworthiness Requirements, Part 31, Issue 1, dated 31 August 1984

EASA CS 31HB (final CG9 draft 27 February 2003) (§ in Tables 1-17).

EASA CS 31HB Issue 1 (€ in Tables 1-17).

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		EASA CS 31HB Issue 1, Change 1 (€€ in Tables 1-17).
5.	Special Conditions:	*For aircraft certified in accordance with the British Civil Airworthiness Requirements, Part 31, Issue 1 dated 31/8/84, Appendix 1 to CAA letter, ref. 9/30/IPA, and dated 27/02/1989 applies. Refer to Note 2* *For aircraft fitted with a basket seat, Proposed Special Condition Seats and seat belts for hot air balloon baskets of 2/10/2014 applies.*
6.	Reversion and Exemptions:	*None*
7.	Equivalent Safety Findings:	*None*

III. Technical Characteristics and Operational Limitiations

1.	Type Design Definition:	Refer to Sections 2-18
2.	Description:	Manned Free Hot Air Balloons of conventional shape with natural, semi-bulbous or bulbous profiles. Volumes range from 17 000 to 750 000 ft^3 (498 to 21 238 m^3). Envelopes are fitted with rip panel, parachute, combination, Lock Top or rapid deflation systems. Envelope options include rotation vents (turning vents), pressure scoop, skirt, Turbulator and limited inflated artwork as required. The envelope is attached to the burner loadframe/basket using stainless steel flying cables. Burners (heaters) are specified in single, double, triple or quadruple configurations dependant on envelope size. Each unit incorporates a main burner, quiet burner and pilot light as a minimum. Baskets are generally of traditional woven cane construction in Open, Single Tee or Double Tee Partitions configurations. The stainless-steel suspension cables of the basket attach to the burner load frame and envelope using Karabiners. Pressurised fuel cylinders, manufactured from Titanium, Stainless Steel or Aluminium, are available in volumes of 47 to 90 litres. The cylinders have the facility to withdraw the fuel as liquid or vapour as required. Additional equipment is mounted in the basket as required.
3.	Equipment:	Equipment is listed in the Approved Cameron Balloons Flight Manual-Issue 9 or later approved EASA revision.
4.	Envelope:	Refer to Sections 2 to 18 and Cameron Balloons Flight Manual and Supplements-Issue 9 or later approved EASA revision.
5.	Burner:	Refer to Sections 2 to 18 and Cameron Balloons Flight Manual and Supplements-Issue 9 or later approved EASA revision.
6.	Basket:	Refer to Sections 2 to 18 and Cameron Balloons Flight Manual and Supplements-Issue 9 or later approved EASA revision.
7.	Mass:	Refer to Sections 2 to 18. Note: MTOM = Maximum Take-Off Mass, MLM =Minimum Landing Mass.

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8.	Envelope Temperature:	The envelope temperature must not exceed 120°C (250°F).
9.	Minimum Crew:	One (Pilot).
10.	Maximum Occupants:	Not to exceed maximum take off mass and limitations. Refer to Approved Aircraft Flight Manual, Issue 9 or later approved EASA revision.
11.	Fuel:	Commercial Propane.
12.	Other Limitations:	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.

IV. Operation and Service Instructions

1. Cameron Balloons Flight Manual and Supplements-Issue 9 or later approved EASA revision.

2. Cameron Balloons Maintenance Manual and Supplements-Issue 9 or later approved EASA revision.

3. Operation and Service Instructions specific to aircraft registration or constructor's number with an issue date prior to 28 September 2003 may continue to be used. Inspection shall be in accordance with the latest issue of the inspection schedule - Cameron Balloons Maintenance Manual and Supplements-Issue 9 or later approved EASA revision refers.

V. Notes

Note 1) For the purpose of maintenance and inspection a log book must be maintained with each hot air balloon envelope. If the burner, basket, instruments and/or cylinders are interchanged, they must be listed in the log book of each envelope with which they are used.

Note 2) Special Conditions (Appendix 1 to CAA letter, ref. 9/30/IPA, dated 27/2/1989) only apply to balloons certified in the UK CAA Transport Category (Passenger)

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SECTION 2: Cameron A Type (105 000 - 530 000 ft³)

CAA UK Type Certificate Data Sheet reference: *BB12*

Manned free hot air balloon with twenty horizontally cut, semi-bulbous gores and twenty flying cables.The envelope general assembly is defined by drawing CB1359. The definition of all variants (models) is listed in Table1.

Table 1 Cameron A Type Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
A-105	105 000	2 974	CB115	952	476	B	B, C, D, E, F, G, H, I, J, K	16-05-73
A-120	120 000	3 398	CB617	1 088	545	B	C, D, E, F, G, H, I, J, K, L	24-06-88
A-140	140 000	3 965	CB105	1 270	635	B	D, E, F, G, H, I, J, K, L, M	14-09-72
A-150	150 000	4 248	CB1825	1 361	681	B, C	D, E, F, G, H, I, J, K, L, M	14-07-22€€
A-160	160 000	4 531	CB653	1 451	726	B, C	D, E, F, G, H, I, J, K, L, M, N	07-11-88
A-180	180 000	5 098	CB692	1 633	817	B, C, D	E, F, G, H, I, J, K, L, M, N, O	18-08-89
A-200	200 000	5 664	CB1199	1 814	909	B, C, D	G, H, I, J, K, L, M, N, O, P, Q	10-04-97
A-210	210 000	5 947	CB199	1 905	952	B, C, D	G, H, I, J, K, L, M, N, O, P, Q	25-01-84
A-250	250 000	7 080	CB463	2 268	1 134	C, D	H, I, J, K, L, M, N, O, P, Q	14-05-86
A-275	275 000	7 788	CB1147	2 494	1 248	C, D	I, J, K, L, M, N, O, P, Q	19-04-96
A-300	300 000	8 496	CB603	2 721	1 361	C, D	K, L, M, N, O, P, Q	11-08-88
A-315	315 000	8 920	CB1028	2 857	1 429	C, D	K, L, M, N, O, P, Q	12-08-93
A-340	340 000	9 629	CB1166	2 857	1 429	D	L, M, N, O, P, Q	19-05-96
A-340HL	340 000	9 629	CB1148	3 084	1 542	D	L, M, N, O, P, Q	08-04-98
A-370	370,000	10 479	CB1802	3 357	1 678	D	M, N, O, P, Q	25-03-20€€
A-375	375 000	10 620	CB761	3 402	1 701	D	M, N, O, P, Q	08-06-90
A-400	400 000	11 328	CB1248	3 628	1 815	D	N, O, P, Q	23-10-97
A-415	415 000	11 753	CB1311	3 764	1 882	D	N, O, P, Q	25-01-99
A-425LW	425 000	12 036	CB1716	3 662	1 831	D	N, O, P, Q	10-02-16€€
A-450LW	450 000	12 744	CB1626	3 815	1 907	D	P, Q, R	29-04-10€
A-500LW	500 000	14 158	CB1725	4240	2120	D	P, Q, R	10-02-16€€
A-530LW	530 000	15 010	CB1672	4 500	2 404	D	P, Q, R	03-05-13€€
A-530	530 000	15 010	CB197	4 807	2 404	D	O, P, Q	16-04-02

SECTION 3: Cameron C Type (60 000 - 100 000 ft³)

CAA UK Type Certificate Data Sheet reference: *BB3*

Manned free hot air balloon with twelve vertically cut gores and twelve flying cables. The envelope general assembly is defined by drawing CB1363. The definition of all models is listed in Table 2.

Table 2 Cameron C Type Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
C-60	60 000	1 700	CB996	544	-	A, B	A, B, C, D, E, F, G	26-02-92
C-70	70 000	1 982	CB1256	635	-	A, B	A, B, C, D, E, F, G, H	23-10-97
C-80	80 000	2 266	CB1025	726	-	A, B	A, B, C, D, E, F, G, H, I	19-05-93
C-90	90 000	2 549	CB1460	816	-	A, B	A, B, C, D, E, F, G, H, I, J	30-04-02
C-100	100 000	2 832	CB1048	907	-	A, B	A, B, C, D, E, F, G, H, I, J,K	23-04-98

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SECTION 4: Cameron GP Type (65 000 - 70 000 ft³)

CAA UK Type Certificate Data Sheet reference: *BB22*

Manned free hot air balloon with twenty four vertically cut gores and twelve flying cables. The envelope may be fitted with an optional "Turbulator" inflated appendage to improve stability in rapid ascents and descents. The envelope general assembly is defined by drawing CB1539. The definition of all models is listed in Table 3.

Table 3 Cameron GP Type Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
GP-65	65 000	1 841	CB1397	590	-	A, B	A, B, C, D, E, F, G, H	13-06-00
GP-70	70 000	1 982	CB1498	635	-	A, B	A, B, C, D, E, F, G, H	02-06-03

SECTION 5: Cameron H Type (20,000-34,000 ft³)

CAA UK Type Certificate Data Sheet reference: *Not Issued*

Manned free hot air balloon with fifteen vertically cut gores and fifteen flying cables. The envelope general assembly is defined by drawing CB1365. The definition of all models is listed in Table 4.

Table 4 Cameron H Type Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
H-20	20 000	566	CB683	181	-	A1	A1	09-11-89
H-24	24 000	680	CB729	218	-	A1	A1	09-11-89
H-34	34 000	963	CB730	308	-	A1	A1	09-11-89

SECTION 6: Cameron N Type (31 450 - 210 000 ft³)

CAA UK Type Certificate Data Sheet reference: *BB4*

Manned free hot air balloon with twenty four or thirty two vertically cut, smooth gores and twelve or sixteen flying cables. The envelope general assembly is defined by drawing CB1361. The definition of all models is listed in Table 5.

Table 5: Cameron N Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
N-31	31 450	890	CB476	285	-	A,	A, B, C, D	30-05-78
N-42	42 000	1 190	CB476	381	-	A,	A, B, C, D, E	27-04-83
N-56	56 000	1 586	CB476	508	-	A, B	A, B, C, D, E, F, G	21-04-77◊
N-65	65 000	1 841	CB476	590	-	A, B	A, B, C, D, E, F, G, H	17-01-80◊
N-70	70 000	1 982	CB476	635	-	A, B	A, B, C, D, E, F, G, H	04-08-94
N-77	77 500	2 195	CB476	703	-	A, B	A, B, C, D, E, F, G, H, I	24-05-77
N-90	90 000	2 549	CB476	816	-	A, B	A, B, C, D, E, F, G, H, I, J	09-06-83
N-100	100 000	2 832	CB476	907	-	A, B	B, C, D, E, F, G, H, I, J, K	08-01-88
N-105	105 000	2 974	CB476	952	476	B	B, C, D, E, F, G, H, I, J, K	01-08-79
N-120	120 000	3 398	CB476	1 088	544	B	C, D, E, F, G, H, I, J, K, L	06-05-88
N-133	133 000	3 767	CB476	1 206	603	B	C, D, E, F, G, H, I, J, K, L	04-08-88
N-145	145 000	4 106	CB476	1 315	657	B, C	D, E, F, G, H, I, J, K, L, M	21-06-88
N-160	160 000	4 531	CB476	1 451	725	B, C	E, F, G, H, I, J, K, L, M, N	08-04-86
N-180	180 000	5 098	CB476	1 633	816	B, C, D	E, F, G, H, I, J, K, L, M, N, O	04-01-85
N-210	210 000	5 947	CB476	1 905	952	B, C, D	G, H, I, J, K, L, M, N, O, P, Q	01-06-94

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SECTION 7: Cameron O Type (31 450 - 160 000 ft³)

CAA UK Type Certificate Data Sheet reference: *BB1*

Manned free hot air balloon with twelve horizontally cut, bulbous gores and twelve flying cables. The envelope general assembly is defined by drawing CB1360. The definition of all models is listed in Table 6.

Table 6: Cameron O Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
O-26	26 000	736	CB1752	236	-	A	A, B, C	07-07-17€€
O-31	31 450	890	CB110	285	-	A	A, B, C, D	31-01-73
O-38	38 000	1076	CB1838	344	172	A	A, B, C, D	05-01-24€€
O-42	42 000	1 190	CB101	381	-	A,	A, B, C, D, E	04-08-72◊
O-56	56 000	1 586	CB45	508	-	A, B	A, B, C, D, E, F, G	21-04-77†
O-65	65 000	1 841	CB54	590	-	A, B	A, B, C, D, E, F, G, H	18-01-80◊
O-77	77 500	2 195	CB112	703	-	A, B	A, B, C, D, E, F, G, H, I	10-04-73
O-84	84 000	2 379	CB49	762	-	A, B	A, B, C, D, E, F, G, H, I	20-07-71
O-90	90 000	2 549	CB658	816	-	A, B	A, B, C, D, E, F, G, H, I, J	19-12-88
O-105	105 000	2 974	CB167	952	477	B	B, C, D, E, F, G, H, I, J, K	31-05-79
O-120	120 000	3 398	CB505	1 088	545	B	C, D, E, F, G, H, I, J, K, L	28-08-87
O-140	140 000	3 965	CB772	1 270	635	B, C	D, E, F, G, H, I, J, K, L, M	28-03-90
O-160	160 000	4 531	CB368	1 451	726	B, C	D, E, F, G, H, I, J, K, L, M, N	09-06-83

SECTION 8: Cameron Sport Type (50 000 – 90 000 ft³)

Manned free hot air balloon with sixteen vertically cut gores and sixteen flying cables. The envelope general assembly is defined by drawing CB1754. The definition of all models is listed in Table 7.

Table 7: Cameron Sport Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
Sport-50	50 000	1 416	CB1759	453	-	A, B	A, B, C, D,	07-02-18€€
Sport-60	60 000	1 700	CB1755	544	-	A, B	A, B, C, D, E	01-02-18€€
Sport-70	70 000	1 982	CB1756	635	-	A, B	B, C, D, E, F	07-02-18€€
Sport-80	80 000	2 266	CB1757	726	-	A, B	B, C, D, E, F	07-02-18€€
Sport-90	90 000	2 549	CB1758	816	-	A, B	B, C, D, E, F	07-02-18€€
Sport-105	105 000	2 974	CB1808	952	476	A, B	B, C, D, E, F, G, H, I, J, K	12-10-23€€

SECTION 9: Cameron TR Type (60 000 – 84 000 ft³)

CAA UK Type Certificate Data Sheet reference: *BB22*

Manned free hot air balloon with sixteen or twenty four vertically cut gores and twelve or sixteen flying cables. The envelope may be fitted with an optional “Turbulator” inflated appendage to improve stability in rapid ascents and descents. The envelope general assembly is defined by drawing CB1523. The definition of all models is listed in Table 8.

Table 8: Cameron TR Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
TR-60	60 000	1 700	CB1520	544	-	A, B	A, B, C, D, E, F	19-09-05§
TR-65	65 000	1 841	CB1749	590	-	A, B	A, B, C, D, E, F	07-02-18€€
TR-70	70 000	1 982	CB1519	635	-	A, B	A, B, C, D, E, F	14-05-04§
TR-77	77 500	2 195	CB1591	703	-	A, B	A, B, C, D, E, F	03-03-08§
TR-84	84 000	2 379	CB1612	762	-	A, B	A, B, C, D, E, F	30-06-09€

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SECTION 10: Cameron V Type (31 450 - 90 000 ft³)

CAA UK Type Certificate Data Sheet reference: *BB13*

Manned free hot air balloon with eight horizontally cut, bulbous gores and eight flying cables. The envelope general assembly is defined by drawing CB1362. The definition of all models is listed in Table 9.

Table 9: Cameron V Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
V-31	31 450	890	CB149	285	-	A,	A, B, C, D	17-01-78
V-42	42 000	1 190	CB369	381	-	A,	A, B, C, D, E	27-04-83◊
V-56	56 000	1 586	CB134	508	-	A, B	A, B, C, D, E, F, G	12-04-76◊
V-65	65 000	1 841	CB166	590	-	A, B	A, B, C, D, E, F, G, H	23-03-79◊
V-77	77 500	2 195	CB170	703	-	A, B	A, B, C, D, E, F, G, H, I	30-05-78
V-90	90 000	2 549	CB817	816	-	A, B	A, B, C, D, E, F, G, H, I, J	07-12-90

SECTION 11: Cameron Z Type (31 450 - 750 000 ft³)

CAA UK Type Certificate Data Sheet reference: *BB21*

Manned free hot air balloon with sixteen, twenty four, twenty eight or thirty two horizontally cut, smooth gores and twelve, sixteen, twenty four, twenty eight or thirty two flying cables. The envelope general assembly is defined by drawing CB1364. The definition of all models is listed in Table 10.

Table 10: Cameron Z Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
Z-31	31 450	890	CB1462	285	-	A, A1	A, B, C, D	07-05-02
Z-42	42 000	1 190	CB1463	381	-	A, A1	A, B, C, D, E	05-03-03
Z-56	56 000	1 586	CB1464	508	-	A, B	A, B, C, D, E, F, G	24-07-09€
Z-65	65 000	1 841	CB1346	590	-	A, B	A, B, C, D, E, F, G, H	16-04-99
Z-69	69 000	1 954	CB1465	626	-	A, B	A, B, C, D, E, F, G, H	04-08-04§
Z-77	77 500	2 195	CB1342	703	-	A, B	A, B, C, D, E, F, G, H, I	24-05-99
Z-90	90 000	2 549	CB1340	816		A, B	A, B, C, D, E, F, G, H, I, J	16-04-99
Z-105	105 000	2 974	CB1345	952	476	B	B, C, D, E, F, G, H, I, J, K	14-07-99
Z-120	120 000	3 398	CB1348	1 088	544	B	C, D, E, F, G, H, I, J, K, L	12-04-02
Z-133	133 000	3 767	CB1349	1 206	603	B	C, D, E, F, G, H, I, J, K, L	02-06-00
Z-140	140 000	3 965	CB1477	1 270	635	B, C	D, E, F, G, H, I, J, K, L, M	21-02-02
Z-145	145 000	4 106	CB1350	1 315	658	B, C	D, E, F, G, H, I, J, K, L, M	06-04-00
Z-150	150 000	4 248	CB1473	1 361	681	B, C	D, E, F, G, H, I, J, K, L, M	15-11-01
Z-160	160 000	4 531	CB1351	1 451	726	B, C	D, E, F, G, H, I, J, K, L, M, N	07-08-00
Z-180	180 000	5 098	CB1352	1 633	817	B, C, D	E, F, G, H, I, J, K, L, M, N, O	31-01-02
Z-210	210 000	5 947	CB1353	1 905	952	B, C, D	G, H, I, J, K, L, M, N, O, P, Q	23-04-01
Z-225	225 000	6 372	CB1466	2 041	1 021	C, D	G, H, I, J, K, L, M, N, O, P, Q	29-07-02
Z-250	250 000	7 080	CB1459	2 268	1 134	C, D	H, I, J, K, L, M, N, O, P, Q	02-04-02
Z-275	275 000	7 788	CB1467	2 494	1 247	C, D	I, J, K, L, M, N, O, P, Q	24-02-03
Z-300	300 000	8 496	CB1857	2 721	1 361	C, D	K, L, M, N, O, P, Q	22-04-25€€
Z-315	315 000	8 920	CB1468	2 857	1 429	C, D	K, L, M, N, O, P, Q	19-04-02
Z-340HL	340 000	9 629	CB1791	3 084	1 542	D	L, M, N, O, P, Q	09-09-19€€
Z-350	350 000	9 912	CB1469	3 175	1 588	D	L, M, N, O, P, Q	04-03-03
Z-370	370,000	10 479	CB1801	3 357	1678	D	M, N, O, P, Q	18-03-20€€
Z-375	375 000	10 620	CB1470	3 401	1 700	D	M, N, O, P, Q	16-09-05§
Z-400	400 000	11 328	CB1471	3 628	1 814	D	N, O, P, Q	18-03-04§
Z-420LW	420,000	11 895	CB1800	3 662	1 831	D	N, O, P, Q	03-04-20€€

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Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
Z-425LW	425 000	12 036	CB1502	3 662	1 831	D	N, O, P, Q	25-06-03§
Z-450	450 000	12 744	CB1472	4 082	2 041	D	N, O, P, Q	27-11-06§
Z-450S	450 000	12 744	CB1780	4 082	2 041	D	O, P, Q, R	13-05-19€€
Z-500	500 000	14 158	CB1777	4 536	2 268	D	P, Q, R	04-12-18€€
Z-550	550 000	15 574	CB1809	4 990	2 495	D	P, Q, R	12-10-23€€
Z-600	600 000	16 992	CB1565	5 089	2 545	D	R	06-04-06§
Z-650	650 000	18 406	CB1824	5 089	2 545	D	R	14-07-22€€
Z-750	750 000	21 238	CB1663	5 103	3 062	D	R	13-07-12€€

SECTION 12: Colt A Type (17 000 - 450 000 ft^3)

CAA UK Type Certificate Data Sheet reference: *BB17*

Manned free hot air balloon with sixteen, twenty, twenty four, twenty eight horizontally cut, smooth gores and sixteen, twenty, twenty four or twenty eight flying cables. The envelope general assembly is defined by drawing CB1368. The definition of all models is listed in Table 11.

Table 11: Colt A Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
17A	17 600	498	CB1122	160		A	A	01-09-81◊
21A	21 000	595	CB1090	191		A	A	01-11-81◊
25A	25 000	708	CB1461	227		A	A, B	01-09-91
31A	31 450	890	CB1462	285	-	A	A, B, C, D	01-01-80◊
42A	42 000	1 190	CB1463	381	-	A	A, B, C, D, E	01-10-83
56A	56 000	1 586	CB1464	508	-	A, B	A, B, C, D, E, F, G	13-11-78‡
69A	69 000	1 954	CB1465	626	-	A, B	A, B, C, D, E, F, G, H	01-10-81
77A	77 500	2 195	CB1342	703	-	A, B	A, B, C, D, E, F, G, H, I	07-06-78
90A	90 000	2 549	CB1340	816		A, B	A, B, C, D, E, F, G, H, I, J	08-02-85
105A	105 000	2 974	CB1345	952	476	B	B, C, D, E, F, G, H, I, J, K	01-10-79
120A	120 000	3 398	CB1348	1 088	544	B	C, D, E, F, G, H, I, J, K, L	20-10-86
140A	140 000	3 965	CB1477	1 270	635	B, C	C, D, E, F, G, H, I, J, K, L	10-05-94
150A	150 000	4 248	CB1473	1 361	681	B, C	D, E, F, G, H, I, J, K, L, M	25-03-02
160A	160 000	4 531	CB1351	1 451	726	B, C	D, E, F, G, H, I, J, K, L, M	01-04-80
180A	180 000	5 098	CB1352	1 633	817	B, C, D	D, E, F, G, H, I, J, K, L, M	16-12-85
210A	210 000	5 947	CB1353	1 905	952	B, C, D	D, E, F, G, H, I, J, K, L, M, N	17-07-91
240A	240 000	6 797	CB1128	2 177	1 088	C, D	G, H, I, J, K, L, M, N, O, P, Q	15-04-82
260A	260 000	7 363	CB1129	2 358	1 179	C, D	H, I, J, K, L, M, N, O, P, Q	01-06-92
300A	300 000	8 496	CB1130	2 721	1 360	C, D	K, L, M, N, O, P, Q	01-07-86
315A	315 000	8 920	CB1468	2 857	1 429	C, D	K, L, M, N, O, P, Q	27-05-92
400A	400 000	11 328	CB1471	3 628	1 814	D	N, O, P, Q	05-10-98

SECTION 13: Colt 'Bullet' Type (56 000 - 90 000 ft^3)

CAA UK Type Certificate Data Sheet reference: *BB18*

Manned free hot air balloon with sixteen alternately horizontally and vertically cut smooth gores and eight flying cables. The envelope general assembly is defined by drawing CB1369. The definition of all models is listed in Table 12.

Table 12: Colt Bullet Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
56B	56 000	1 586	CB1132	508	-	A, B	A, B, C, D, E, F, G	03-07-81◊
77B	77 000	2 190	CB1133	697	-	A, B	A, B, C, D, E, F, G, H, I	07-02-80◊
90B	90 000	2 549	CB1143	816	-	A, B	A, B, C, D, E, F, G, H, I, J	24-04-01

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SECTION 14: Thunder A Type (Series 3) (56 000 - 77 000 ft³)

CAA UK Type Certificate Data Sheet reference: *Not Issued*

Manned free hot air balloon with twenty four or thirty two vertically cut, smooth gores and twelve, twenty four or thirty two flying cables. The envelope general assembly is defined by drawing CB1540. The definition of all models is listed in Table 13.

Table 13: Thunder A Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
AX6-56A	56 000	1 586	CB1541	508	-	A, B	A, B, C, D, E, F, G	01-01-74†
AX7-77A	77 000	2 190	CB1542	697	-	A, B	A, B, C, D, E, F, G, H, I	13-09-74†

SECTION 15: Thunder "Bolt" Type (Series 5) (42 000 - 77 000 ft³)

CAA UK Type Certificate Data Sheet reference: *Not Issued*

Manned free hot air balloon with eight vertically cut, bulbous gores and eight flying cables. The envelope general assembly is defined by drawing CB1543. The definition of all models is listed in Table 14.

Table 14: Thunder A Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
AX5-42Bolt	42 000	1 190	CB1544	381		A	A, B, C, D, E	01-03-79
AX6-56Bolt	56 000	1 586	CB1545	508	-	A, B	A, B, C, D, E, F, G	08-12-78
AX7-65Bolt	65 000	1 841	CB1546	590		A, B	A, B, C, D, E, F, G, H	01-03-79
AX7-77Bolt	77 000	2 190	CB1547	697	-	A, B	A, B, C, D, E, F, G, H, I	17-11-78

SECTION 16: Thunder AX-Series S1 (Series 1) (42 000 - 180 000 ft³)

CAA UK Type Certificate Data Sheet reference: *BB15*

Manned free hot air balloon with twelve horizontally cut, bulbous gores and twelve flying cables. The envelope general assembly is defined by drawing CB1366. The definition of all models is listed in Table 15.

Table 15: Thunder AX-Series S1 Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
AX5-42 S1	42 000	1 190	CB1134	381	-	A	A, B, C, D, E	01-11-86
AX6-56 S1	56 000	1 586	CB1135	508	-	A, B	A, B, C, D, E, F, G	01-01-73†
AX7-65 S1	65 000	1 841	CB1136	590	-	A, B	A, B, C, D, E, F, G, H	01-05-74
AX7-77 S1	77 500	2 195	CB1080	703	-	A, B	A, B, C, D, E, F, G, H, I	01-01-73
AX8-84 S1	84 000	2 379	CB1125	762		A, B	A, B, C, D, E, F, G, H, I	01-04-79‡
AX8-90 S1	90 000	2 549	CB1199	816	-	B	B, C, D, E, F, G, H, I, J	09-05-85
AX8-105 S1	105 000	2 974	CB1107	952	476	B	C, D, E, F, G, H, I, J, K, L	04-03-86
AX9-120 S1	120 000	3 398	CB1137	1 088	544	B, C	C, D, E, F, G, H, I, J, K, L	23-01-92
AX10-160 S1	160 000	4 531	CB1138	1 451	726	B, C	D, E, F, G, H, I, J, K, L, M, N	01-04-84
AX10-180 S1	180 000	5 098	CB1139	1 633	817	B, C, D	E, F, G, H, I, J, K, L, M, N, O	01-02-85

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SECTION 17: Thunder AX-Series S2 (Series 2) (90 000 - 250 000 ft³)

CAA UK Type Certificate Data Sheet reference: *BB12*

Manned free hot air balloon with twenty horizontally cut, semi-bulbous gores and twenty flying cables. The envelope general assembly is defined by drawing CB1367. The definition of all models is listed in Table 16.

Table 16: Thunder AX-Series S2 Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
AX8-90 S2	90 000	2 549	CB1082	816	-	A, B	A, B, C, D, E, F, G,H,I,J	01-01-77
AX8-105 S2	105 000	2 974	CB1089	952	476	B	B, C, D, E, F, G, H,I,J,K	05-03-74
AX9-120 S2	120 000	3 398	CB1105	1 088	545	B	C, D, E, F, G, H,I,J,K,L	01-09-91
AX9-140 S2	140 000	3 965	CB1079	1 270	635	B, C	C, D, E, F, G, H, I,J,K,L,M	01-12-78
AX10-150 S2	150 000	4 248	CB1344	1 361	680	B, C	C, D, E, F, G, H, I, J, K, L, M	04-03-99
AX10-160 S2	160 000	4 531	CB1140	1 451	726	B, C	D, E, F, G, H, I, J, K, L, M, N	01-04-91
AX10-180 S2	180 000	5 098	CB1141	1 633	817	B, C, D	E, F, G, H, I, J, K, L, M, N, O	01-07-91
AX10-210 S2	210 000	5 947	CB1142	1 905	952	B, C, D	G, H, I, J, K, L, M, N, O, P, Q	02-03-95
AX11-225 S2	225 000	6 372	CB1200	2 041	1 020	C, D	G, H, I, J, K, L, M, N, O, P, Q	10-03-97
AX11-250 S2	250 000	7 080	CB1194	2 268	1 134	C, D	H, I, J, K, L, M, N, O, P, Q	27-02-97

SECTION 18: Thunder Z Type (Series 4) (31 000 - 160 000 ft³)

CAA UK Type Certificate Data Sheet reference: *Not Issued*

Manned free hot air balloon with sixteen, twenty, twenty four or twenty eight horizontally cut, bulbous gores and sixteen, twenty, twenty four or twenty eight flying cables. The envelope general assembly is defined by drawing CB1548. The definition of all models is listed in Table 17.

Table 17: Thunder Z Type; Definitions, Limitations and Eligible Equipment

Model	Vol. (ft^3)	Vol. (m^3)	Dwg.	MTOM (kg)	MLM (kg)	Burner Cat.	Basket Cat.	Date
AX4-31Z	31 000	878	CB1549	285	-	A	A, B, C, D	26-03-84◊
AX6-56Z	56 000	1 586	CB1550	508	-	A, B	A, B, C, D, E, F, G	11-01-78†
AX7-65Z	65 000	1 841	CB1551	590	-	A, B	A, B, C, D, E, F, G, H	18-01-82◊
AX7-77Z	77 500	2 195	CB1552	703	-	A, B	A, B, C, D, E, F, G, H, I	01-09-77†
AX8-105Z	105 000	2 974	CB1573	952	476	B	C, D, E, F, G, H, I, J, K, L	30-05-82◊
AX10-160Z	160 000	4 531	CB1553	1 451	726	B, C	D, E, F, G, H, I, J, K, L, M	01-05-83◊

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