

Revision No 38 to flight Manual Supplement 8.1 is approved under the authority of DOA ref. EASA. 21J.140 (C814)

8.1 SPECIAL SHAPE BALLOONS

8.1.1 GENERAL INFORMATION

This supplement shall be inserted in the Flight Manual, in Section 8: ‘Supplements’ with the revisions record sheet amended accordingly.

Information contained herein supplements, or in the case of conflict, supersedes that contained in the basic Flight Manual. For Limitations, Procedures, and Performance Data not contained in this supplement, consult the basic Hot Air Balloon Flight Manual.

Issue 38 of this supplement consists of twelve pages.

Supplement 7.1 (three pages) to Maintenance Manual Issue 10 is required to ensure continued airworthiness.

8.1.2 LIMITATIONS

8.1.2.2 WEATHER

1. The balloon must not be flown in surface winds greater than given in Table A.

8.1.2.4 MINIMUM BURNER REQUIREMENTS

Burner Configuration	Permitted Envelope Volume
Single	17,000 ft ³ (481 m ³) - 56,000 ft ³ (1586 m ³)
Double	56,000 ft ³ (1585m ³) - 180,000 ft ³ (5098 m ³)
Triple	140,000 ft ³ (3965 m ³) - 210,000 ft ³ (5947 m ³)
Quad	180,000 ft ³ (5098 m ³) - 210,000 ft ³ (5947 m ³)

8.1.2.8 ENVELOPE TEMPERATURE AND LOADING

3. The loading for special shape envelopes must be calculated in accordance with the active volumes listed in Table 8.1.A

8.1.2.9 WEIGHT RANGE

2. The reduced MTOM for Special Shape Balloons is given below:

Standard MTOM	Reduced MTOM
500-816 kg	499 kg
1000-1905 kg	999 kg

8.1.2.10 RATES OF CLIMB AND DESCENT

1. The maximum rate of climb and descent for all types is given in Table 8.1.A.

8.1.2.14 Tethered Flight (additional)

1. The balloon must not be tethered in surface winds greater than given in Table 8.1.A.

8.1.3 EMERGENCY PROCEDURES

No change.

8.1.4 NORMAL PROCEDURES**8.1.4.6.1 APPROACH TO LAND (ADDITIONAL)****Inverted Balloon -78 and -105**

Raise the skirt as required to obtain good vision in line of flight.

Wallaby-42

Shortly before touchdown deflate the head by opening the secondary rip-panel.

8.1.5 WEIGHT CALCULATIONS

Table 2 - Total Permitted Lift (Kg)

Balloon Size	Lift (lbs) Per 1000 cu.ft.										
	10	11	12	13	14	15	16	17	18	19	20
40	181	200	218	236	254	272	290	308	327	345	363
62	284	312	340	369	397	426	454	482	511	539	566
68	310	341	372	402	434	464	495	527	557	588	620
75	340	374	408	442	476	510	544	578	612	646	680
95	431	474	517	560	603	646	689	733	776	819	862
98	445	489	533	578	622	667	711	756	800	845	889
110	499	549	599	649	667	748	798	848	898	948	998
115	521	573	625	678	730	782	834	886	938	991	1043
125	567	624	680	737	794	850	907	964	1021	1077	1134
130	590	649	708	767	826	885	943	1002	1061	1120	1179
165	748	823	898	973	1048	1123	1197	1272	1347	1422	1497

Table 3 - Total Permitted Lift (lbs)

Balloon Size	Lift (lbs) Per 1000 cu.ft.										
	10	11	12	13	14	15	16	17	18	19	20
40	400	440	480	520	560	600	640	680	720	760	800
62	626	688	751	813	876	938	1001	1063	1125	1188	1251
68	683	751	820	888	956	1024	1092	1161	1229	1298	1366
75	750	825	900	975	1050	1125	1200	1275	1350	1425	1500
95	950	1045	1140	1235	1330	1425	1520	1615	1710	1805	1900
98	980	1078	1176	1274	1372	1470	1568	1666	1764	1862	1960
110	1100	1210	1320	1430	1470	1650	1760	1870	1980	2090	2200
115	1150	1265	1380	1495	1610	1725	1840	1955	2070	2185	2300
125	1250	1375	1500	1625	1750	1875	2000	2125	2250	2375	2500
130	1300	1430	1560	1690	1820	1950	2080	2210	2340	2470	2600
165	1650	1815	1980	2145	2310	2475	2640	2805	2970	3135	3300

Note : For other envelope volumes refer to the basic flight manual.

8.1.6 BALLOON AND SYSTEMS DESCRIPTION

Inverted Balloon-78 and -105

A skirt is fitted around the base of the envelope to disguise the presence of the basket. This can be raised at any one or more of four equispaced locations using the lines at the burner frame corners. Pulling on a line (facilitated by a loop handle) raises that area of the skirt. Karbine clips (karabiners) locate the lines in their raised positions.

Wallaby-42

The envelope has a secondary rip-panel in the head. This is operated by a line with yellow and black bands.

8.1.7 BALLOON MAINTENANCE, HANDLING AND CARE

No change.

8.1.9 EQUIPMENT LIST

TABLE 5: ENVELOPES (ADDITIONAL)

Envelope Type	Drawing Number	Applicable Burners	Applicable Baskets
Otti-34	CB1116	A	A, A1, B
Wallaby-42	CB1731	A	A,A1,B
Colt Satzenbrau Bottle-56	810310-1	A, B	B, C, D, E
Truck-56	CB383	A, B	B, C, D, E
Cow-110	CB669	C,D	F, G,H,I
Sphere-165	CB1775	B,C	E,F,G,H
Drop-180	CB1690	B,C,D	G,H,I
Pot-180 (Cylinder 20)	CB1730	B,C	G,H,I
All other applicable envelopes	various	B	B, C, D, E, F

TABLE 8.1.A TYPE SPECIFIC LIMITATIONS

Type Designation	Active Volume (ft ³)	Drawing	MTOM (kg)	MLM (kg)	Max Surface Wind Speed Free	Max Surface Wind Speed Tethered	Max Rate Ascent/Descent
AX-56-Series 1/SP 1	56 000	AX56-SP1	508		8 knots	5 knots	400 ft/min
House-60	60 000	CB192	544	-	8 knots	5 knots	400 ft/min
Colt 56 Satzenbrau Bottle	56 000	810310-1	508	-	5 knots	5 knots	600 ft/min
Can-60 (Barrel-60)	56 000	CB356	508	-	10 knots	8 knots	400 ft/min
Chateau-84 (House-1)	84 000	CB358	762	-	5 knots	5 knots	300 ft/min
Burger King (Burger-1)	56 000	CB404	508	-	15 knots	8 knots	400 ft/min
Colt Flying Head	69 000	840927-1	650	-	8 knots	5 knots	500 ft/min
Elephant-77	70 000	CB414	635	-	10 knots	5 knots	400 ft/min
Watch-75	62 000	CB459	572	-	10 knots	5 knots	300 ft/min
Bear-72	65 000	CB472	590	-	5 Knots	5 knots	400 ft/min
Mickey-90 (Wimi-1)	90 000	CB492	816	-	15 knots	5 knots	600 ft/min
Colt Flying Egg	90 000	SS-EGG-100	816	-	5 Knots	5 knots	400 ft/min
Egg-89	84 000	CB517	807	-	15 knots	8 knots	600 ft/min
Donald-97 (Head-10)	95 000	CB587	880	-	15 knots	5 knots	600 ft/min
Golf Ball-76 (Ball-1)	75 000	CB507	689	-	15 knots	10 knots	1000 ft/min
Colt Ariel Bottle (Bottle-1)	77 000	SS-1045-1	703	-	8 knots	5 knots	500 ft/min
Colt Beer Glass	90 000	870319-1	816	-	8 knots	8 knots	500 ft/min
Harley-78 (Motor Bike-1)	77 000	CB478	708	-	5 knots	Not Permitted	200 ft/min
Dinosaur-80 (Quadruped-1)	80 000	CB606	726	-	10 knots	5 knots	300 ft/min
Truck-56	56 000	CB383	508	-	5 Knots	5 knots	300 ft/min
Sultan-80 (Standing Figure-1)	75 000	CB638	685	-	5 knots	5 knots	300 ft/min
Saucer-80	77 000	CB639	708	-	10 knots	5 knots	300 ft/min
Tub-80	62 000	CB635	567	-	12 knots	8 knots	400 ft/min
Club-90	68 000	CB618	620	-	12 knots	8 knots	600 ft/min
Trivial Pursuit (Box-1)	77 000	SS-TP-101	703	-	8 knots	5 knots	500 ft/min
Bus-90	80 000	CB647	726	-	5 knots	5 knots	300 ft/min
RTW-120	120 000	CB665	1088	-	12 knots	5 knots	500 ft/min
Colt Flying Book (Box-2)	105 000	SS-FB-101	816	-	10 knots	5 knots	400 ft/min
Colt Clown (Standing Figure-2)	105 000	SS-CLOWN-100	953	-	8 knots	5 knots	500 ft/min
Sarotti-105 (Standing Figure-3)	100 000	CB702	943	-	5 knots	Not Permitted	500 ft/min
Bottle-100 (Bottle-2)	95 000	CB625	907	-	10 knots	8 knots	500 ft/min
Sphere-105	105 000	CB693	953	-	15 knots	10 knots	600 ft/min
Cameron Box 105 (Telefonhäuschen)	105 000	CB703	953	-	10 knots	5 knots	350 ft/min
Truck-72	70 000	CB720	658	-	8 knots	5 knots	500 ft/min
Colt Jumbo-2	77 000	SS-JUM2-01	703	-	8 knots	5 knots	400 ft/min
Cow-105 (Quadruped-2)	105 000	CB736	953	-	5 knots	5 knots	400 ft/min
Cork-116	115 000	CB723	1057	-	12 knots	8 knots	500 ft/min
Cork-82	80 000	CB723	749	-	12 knots	8 knots	500 ft/min
Cheese-82 (Horizontal Cylinder-1)	80 000	CB721	744	-	10 knots	5 knots	400 ft/min
Colt Flying Kiwi	77 000	SS-KIWI-100	703	-	15 knots	15 knots	1000 ft/min
Egg-65	65 000	CB744	590	-	15 knots	8 knots	600 ft/min
Cooling Tower-80 (Cylinder-2)	80 000	CB749	726	-	10 knots	8 knots	600 ft/min

1 Knot = 0.51 m/sec, 100 ft/min = 0.5 m/sec

Table 8.1.A Type Specific Limitations (continued)

Type Designation	Active Volume (ft ³)	Drawing	MTOM (kg)	MLM (kg)	Max Surface Wind Speed Free	Max Surface Wind Speed Tethered	Max Rate Ascent/Descent
Colt Flying Whiskey Bottle (Bottle-3)	77 000	800826-1	703	-	10 knots	8 knots	500 ft/min
Gosser Mug-90-Bierkrug-90 (Glass-1)	102 000	CB774	816	-	15 knots	8 knots	600 ft/min
N-90 Nail	90 000	CB476	816	-	15 knots	15 knots	1000 ft/min
S Can-100	98 000	CB821	888	-	10 knots	8 knots	600 ft/min
Macaw-90 (Bird-1)	100 000	CB784	942	-	5 knots	Not Permitted	600 ft/min
Carrots-80	77 000	CB813	708	-	15 knots	5 knots	600 ft/min
Flying Windmill	90 000	SS-MILL-200	816	-	5 knots	5 knots	500 ft/min
Flying Lager Bottle (Bottle-4)	105 000	SS-LB-001	1050	-	5 knots	5 knots	500 ft/min
Colt Flying Mitt	90 000	SS-WC-100	900	-	5 knots	5 knots	500 ft/min
Colt Cylinder One	105 000	PB-100	953	-	10 knots	8 knots	500 ft/min
Bowler-90 (Hat-1)	84 000	CB832	762	-	12 knots	5 knots	500 ft/min
Ball-70	69,000	CB693	626	-	15 knots	10 knots	600 ft/min
Wimi Airbus-90 (Wimi-2)	90 000	CB825	816	-	10 knots	5 knots	400 ft/min
Doll-90 (Cylinder-3)	84 000	CB818	762	-	15 knots	8 knots	600 ft/min
Tiger-90	90 000	CB645	816	-	15 knots	15 knots	1000 ft/min
Colt Santa Claus (Standing Figure-4)	120 000	SS-SC-100	1088	-	10 knots	5 knots	400 ft/min
4 Pack-90 (Four Pack-1)	77 000	CB839	703	-	10 knots	5 knots	600 ft/min
Furness 56 Building	65 000	CB823	609	-	10 knots	5 knots	600 ft/min
Ship-90	100 000	CB706	936	-	5 knots	Not Permitted	400 ft/min
Colt Flying Yacht	69 000	SS-YA-100	690	-	5 knots	Not Permitted	400 ft/min
Colt Flying Jeans	90 000	SS-JN-104	816	-	5 knots	5 knots	400 ft/min
Colt Flying Hut	105 000	SS-TH-100	953	-	5 knots	5 knots	400 ft/min
Flying Beer Glass (Cylinder-4)	105 000	SS-Beer Glass 105 -100	953	-	10 knots	8 knots	500 ft/min
Colt Bottle-90 (Bottle-5)	90 000	SS-PARR-100	816	-	10 knots	5 knots	500 ft/min
Colt Mickey Mouse (Wimi-3)	90 000	SS-Micky-100	816	-	10 knots	5 knots	400 ft/min
Colt Flying Shuttletcock (Cone-1)	105 000	SS-SHUT 100	953	-	10 knots	8 knots	500 ft/min
Rupert Bear-90 (Standing Figure-5)	90 000	CB940	816	-	10 knots	5 knots	400 ft/min
Flying Castle	105 000	CB960	953	-	8 knots	5 knots	300 ft/min
RX-100	100 000	CB961	907	-	15 knots	8 knots	600 ft/min
Colt Bottle-11	90 000	CHM-100	816	-	10 knots	8 knots	500 ft/min
Colt Film Can (Cylinder-5)	90 000	AFC-100	816	-	10 knots	8 knots	500 ft/min
Brandenburger Tor (Box-3)	95 000	CB1001	871	-	10 knots	5 knots	600 ft/min
Battery LR2 (Cylinder-6)	98 000	CB1006	898	-	15 knots	8 knots	600 ft/min
Football-120 (Sphere-120)	120 000	SS-BALL-100	1088	544	8 knots	8 knots	500 ft/min
Chicken-105 (Bird-2)	105 000	CB1008	953	-	10 knots	5 knots	500 ft/min
Katalog-82 (Box-4)	80 000	CB1009	744	-	10 knots	5 knots	400 ft/min
Colt Bottle-10	90 000	WWB-100	816	-	10 knots	8 knots	500 ft/min
Shoe-90 (Shoe-1)	90 000	CB1005	816	-	10 knots	5 knots	600 ft/min
Dude-90	90 000	CB1011	816	-	15 knots	15 knots	600 ft/min
Cabin	120 000	CB1010	1088	544	5 knots	5 knots	600 ft/min
Clown (Standing Figure-6)	120 000	CB1014	1088	-	8 knots	5 knots	400 ft/min

1 Knot = 0.51 m/sec, 100 ft/min = 0.5 m/sec

Table 8.1.A Type Specific Limitations (continued)

Type Designation	Active Volume (ft ³)	Drawing	MTOM (kg)	MLM (kg)	Max Surface Wind Speed Free	Max Surface Wind Speed Tethered	Max Rate Ascent/Descent
Raindrop-77	77 000	CB1013	721	-	15 knots	8 knots	600 ft/min
Pot-90	90 000	CB1018	853	-	15 knots	8 knots	600 ft/min
Nissan Micra (Car-1)	84 000	CB1015	-	-	10 knots	5 knots	400 ft/min
Colt Flying Open Book (Box-5)	90 000	SS-OPB-001	816	-	5 knots	5 knots	500 ft/min
Bunch-100	95 000	CB1019	866	-	10 knots	5 knots	400 ft/min
Sonic-90 (Figure 1)	90 000	CB1016	857	-	10 knots	5 knots	400 ft/min
Bunny-90 (Standing Figure-7)	90 000	CB1021	816	-	10 knots	5 knots	500 ft/min
Orange-120	120 000	CB1017	1102	551	15 knots	8 knots	600 ft/min
Horse-90 (Quadruped-3)	90 000	CB1020	816	-	8 knots	5 knots	500 ft/min
Bottle-77 (Bottle-6)	77 000	CB1026	703	-	10 knots	8 knots	400 ft/min
Pylon-80 (Figure-2)	80 000	CB1023	732	-	8 knots	5 knots	400 ft/min
Cart (Box-6)	80 000	CB1027	726	-	8 knots	5 knots	400 ft/min
Film Can-90 (Cylinder-7)	90 000	CB1024	816	-	15 knots	8 knots	600 ft/min
Dragon (Quadruped-4)	100 000	CB1030	907	-	10 knots	5 knots	500 ft/min
Cow-110 (Quadruped-5)	210 000	CB669	1905	953	5 knots	Not Permitted	300 ft/min
Colt Bottle -12	90 000	SS-GGIN-100	816	-	10 knots	5 knots	500 ft/min
Flying Coffee Jar (Cylinder-8)	90 000	SS-COFF-100	816	-	15 knots	8 knots	500 ft/min
Peacock-90 (Bird-3)	90 000	CB1036	816	-	15 knots	5 knots	1000 ft/min
Cider Bottle-120 (Cylinder- 9)	120 000	CB1038	1088	544	10 knots	8 knots	400 ft/min
Colt Flying Pig (Quadruped-6)	90 000	SS-PIG-100	816	-	15 knots	5 knots	500 ft/min
Doll-105 (Standing Figure-8)	105 000	CB1039	953	-	10 knots	5 knots	500 ft/min
Colt Bottle-13	90 000	SS-KAIS-100	816	-	10 knots	8 knots	500 ft/min
Can-77 (Cylinder-10)	77 000	CB1054	703	-	15 knots	8 knots	600 ft/min
Flying Piggy Bank (House-2)	105 000	SS-PBANK-100	953	-	10 knots	5 knots	500 ft/min
Eagle-95 (Bird-4)	98 000	CB1055	889	-	10 knots	5 knots	500 ft/min
N-120 Fox	120 000	CB1049	1088	544	10 knots	8 knots	600 ft/min
Flying Ice Cream Cone (Cone-2)	105 000	SS-ICE-100	953	-	10 knots	8 knots	500 ft/min
Colt World-90	90 000	SS-DHL-100	816	-	10 knots	5 knots	500 ft/min
Hex Glass-84 (Glass-2)	98 000	CB976	894	-	15 knots	8 knots	600 ft/min
Bulb-65 (Light Bulb-1)	65 000	CB1073	590	-	8 knots	Not Permitted	400 ft/min
Otti-34	42 000	CB1116	381	-	8 knots	8 knots	600 ft/min
Eagle -110 (Bird-5)	110 000	CB1098	998	-	10 knots	5 knots	400 ft/min
Fire-90 (Cylinder-11)	90 000	CB1104	816	-	10 knots	8 knots	400 ft/min
Cola Can-90 (Cylinder-12)	90 000	CB1102	816	-	15 knots	8 knots	600 ft/min
Inverted Balloon-78	77 000	CB1114	708	-	5 knots	5 knots	600 ft/min
Mug-90 (Cylinder-13)	90 000	CB1103	816	-	15 knots	8 knots	600 ft/min
Thunder Forklift-90	90 000	CB1109	816	-	10 knots	5 knots	500 ft/min
Grand Illusion (Figure-3)	125 000	CB1111	1132	-	10 knots	5 knots	400 ft/min
Shopping Bag-120 (Box-7)	120 000	CB1145	1088	-	5 knots	5 knots	400 ft/min
N-120SP (Robijn)	120 000	CB1151	1088	544	15 knots	15 knots	600 ft/min
Loco -105 (Locomotive-1)	95 000	CB1154	862	-	8 knots	5 knots	400 ft/min

1 Knot = 0.51 m/sec, 100 ft/min = 0.5 m/sec

Table 8.1.A Type Specific Limitations (continued)

Type Designation	Active Volume (ft ³)	Drawing	MTOM (kg)	MLM (kg)	Max Surface Wind Speed Free	Max Surface Wind Speed Tethered	Max Rate Ascent/Descent
Kookaburra-120 (Bird-6)	120 000	CB1160	1088	-	8 knots	5 knots	400 ft/min
Coffee Jug-90 (Jug-1)	90 000	CB1163	825	-	10 knots	5 knots	400 ft/min
TV-80 (Box-8)	80 000	CB1170	726	-	10 knots	5 knots	500 ft/min
Bradford & Bingley-90 (Box-9)	90 000	CB1167	816	-	10 knots	5 knots	400 ft/min
Monster Truck-105	105 000	CB1165	953	-	5 knots	5 knots	300 ft/min
Sports Car-110 (Car-2)	120 000	CB1182	1088	-	8 knots	5 knots	400 ft/min
Maple Leaf-95	90 000	CB1173	816	-	8 knots	5 knots	400 ft/min
Calling Card-110 (Box-10)	110 000	CB1190	998	-	8 knots	5 knots	400 ft/min
Grosch-105 (Bottle-7)	105 000	CB1198	953	-	10 knots	8 knots	500 ft/min
Apple-90	90 000	CB1169	816	-	15 knots	10 knots	600 ft/min
Sign-90 (Box-11)	90 000	CB1183	816	-	8 knots	5 knots	400 ft/min
Startac-105	105 000	CB1191	953	-	10 knots	5 knots	400 ft/min
Pipe-105 (Standing Figure-9)	120 000	CB1201	1088	-	5 knots	5 knots	300 ft/min
Spaceship-110	110 000	CB1203	998	-	8 knots	5 knots	400 ft/min
AML-105	105 000	CB1204	953	-	10 knots	5 knots	500 ft/min
Bertie Bassett-90 (Standing Figure-10)	90 000	CB1196	816	-	8 knots	5 knots	400 ft/min
Ronald-105 (Standing Figure-11)	105 000	CB1216	953	-	8 knots	5 knots	400 ft/min
Hard Hat-90 (Hat-2)	84 000	CB1218	814	-	10 knots	5 knots	400 ft/min
Frog-90 (Quadruped-7)	90 000	CB1231	816	-	8 knots	5 knots	400 ft/min
Waving Flag-90	90 000	CB1224	816	-	8 knots	5 knots	400 ft/min
Parachutist-110 (Figure-4)	110 000	CB1221	998	-	5 knots	5 knots	300 ft/min
Home Special-105 (House-3)	105 000	CB1217	953	-	8 knots	5 knots	400 ft/min
Douglas-110 (Figure-5)	125 000	CB1220	1136	-	8 knots	5 knots	500 ft/min
Britannia Pig-90 (Quadruped-8)	95 000	CB1223	893	-	15 knots	5 knots	600 ft/min
Baltika-77 (Cylinder-14)	77 000	CB1249	699	-	10 knots	8 knots	600 ft/min
Colt Golf Ball-90 (Ball-2)	90 000	CB1219	816	-	15 knots	10 knots	500 ft/min
Sparkasse Box-90 (Box-12)	90 000	CB1250	816	-	15 knots	5 knots	500 ft/min
Andreton Bottle (Bottle-8)	120 000	CB1252	1088	-	10 knots	5 knots	500 ft/min
Saturn-110 (Sphere-110)	120 000	CB1257	1088	-	15 knots	5 knots	600 ft/min
Bibendum -110 (Standing Figure-12)	115 000	CB1262	1043	-	8 knots	5 knots	400 ft/min
Thomas-110 (Locomotive-2)	110 000	CB1274	998	-	8 knots	5 knots	400 ft/min
Colt Can-110 (Cylinder -15)	110 000	CB1266	998	-	10 knots	8 knots	600 ft/min
PM-80 (Bottle-9)	80 000	CB1270	727	-	10 knots	8 knots	500 ft/min
Unox -110 (Hat-3)	110 000	CB1283	1026	513	15 knots	8 knots	600 ft/min
Smurf-2 (Head-11)	100 000	CB1273	907	-	12 knots	5 knots	600 ft/min
Mountie-120 (Quadruped-9)	120 000	CB1294	1088	-	8 knots	5 knots	400 ft/min
EB-90 (Glass-3)	90 000	CB1287	816	-	10 knots	8 knots	600 ft/min
N120MW	120 000	CB1308	1088	544	8 knots	8 knots	500 ft/min
Wine Box-90 (Box-13)	90 000	CB1306	816	-	10 knots	5 knots	500 ft/min
Colt Bottle-14	105 000	CB1320	961	-	10 knots	8 knots	400 ft/min
LTSB-90 (Box-14)	90 000	CB1329	839	-	10 knots	5 knots	500 ft/min

1 Knot = 0.51 m/sec, 100 ft/min = 0.5 m/sec

TABLE 8.1.A TYPE SPECIFIC LIMITATIONS

Type Designation	Active Volume (ft ³)	Drawing	MTOM (kg)	MLM (kg)	Max Surface Wind Speed Free	Max Surface Wind Speed Tethered	Max Rate Ascent/Descent
Rugby-90 (Ball-3)	90 000	CB1341	816	-	15 knots	8 knots	600 ft/min
Printer-105 (Box-15)	105 000	CB1338	953	-	10 knots	5 knots	500 ft/min
Double Cow -110 (Quadruped-10)	110 000	CB1343	998	-	8 knots	5 knots	400 ft/min
Can-120 (Cylinder-16)	120 000	CB1344	1088	544	10 knots	8 knots	500 ft/min
N-90 Nivea	90 000	CB1357	816	-	10 knots	8 knots	600 ft/min
Bic Chic-90 (Figure-6)	90 000	CB1333	816	-	8 knots	5 knots	400 ft/min
Van-110	110 000	CB1354	998	-	8 knots	5 knots	500 ft/min
Heart-120	120 000	CB1382	1088	544	10 knots	5 knots	500 ft/min
RX-105	105 000	CB1379	953	-	12 knots	8 knots	500 ft/min
Colt Flying Lager Bottle 2	105 000	CB1384	953	-	10 knots	8 knots	400 ft/min
Freddo-105 (Standing Figure-13)	105 000	CB1403	953	-	10 knots	5 knots	400 ft/min
Newspaper-90 (Cone-3)	90 000	CB1390	816	-	10 knots	8 knots	500 ft/min
Lips-90	90 000	CB1413	816	-	10 knots	5 knots	400 ft/min
RX-120 Replica	120 000	CB1408	1088	544	12 knots	8 knots	500 ft/min
Kindernet Dog-100 (Standing Figure-14)	100 000	CB1410	907	-	10 knots	5 knots	600 ft/min
Sugar Box-90 (Box-16)	90 000	CB1417	816	-	10 knots	5 knots	400 ft/min
Cockerel-130 (Bird-7)	130 000	CB1421	1179	-	8 knots	5 knots	400 ft/min
Cup-90 (F.A.)	120 000	CB1407	1088	-	8 knots	5 knots	400 ft/min
Snacpac-90	90 000	CB1414	843	-	8 knots	5 knots	500 ft/min
Tissue Pack-100 (Four Pack-2)	100 000	CB1409	907	-	10 knots	5 knots	600 ft/min
Orange Box-115 (Box-17)	115 000	CB1426	1043	-	10 knots	5 knots	600 ft/min
Flying Cow-110 (Quadruped-11)	105 000	CB1436	963	-	8 knots	5 knots	400 ft/min
Whisky Bottle-90 (Bottle-6)	90 000	CB1422	816	-	10 knots	5 knots	400 ft/min
Light Bulb-110 (Light Bulb-2)	110 000	CB1424	998	499	15 knots	8 knots	600 ft/min
Monster -110 (Head-12)	110 000	CB1442	998	-	10 knots	5 knots	600 ft/min
Fork Lift-105	105 000	CB1453	953	-	12 knots	5 knots	500 ft/min
Bull-110 (Quadruped-12)	110 000	CB1441	998	-	8 knots	5 knots	400 ft/min
Waving Flag-105	110 000	CB1446	1016	-	5 knots	5 knots	400 ft/min
Pack-130 (Box-18)	130 000	CB1451	1179	590	10 knots	5 knots	500 ft/min
Colt Pils Bottle (Bottle-12)	90 000	CB1452	816	-	10 knots	8 knots	500 ft/min
Colt Beetle-105 (Car-3)	105 000	CB1457	953	-	8 knots	5 knots	400 ft/min
Krush Bottle-106 (Bottle-7)	105 000	CB1456	953	-	8 knots	8 knots	400 ft/min
Ball-77 (Ball-4)	77 500	CB1475	703	-	15 knots	10 knots	600 ft/min
Flame-95	95 000	CB1480	862	-	10 knots	8 knots	500 ft/min
Onion-105	105 000	CB1481	953	-	10 knots	8 knots	600 ft/min
Graz Box-110 (Box-19)	110 000	CB1490	998	-	8 knots	5 knots	400 ft/min
Mikey-90 (Head-13)	90 000	CB1492	816	-	10 knots	5 knots	600 ft/min
Van Gogh-110 (Head-14)	110 000	CB1501	998	-	10 knots	5 knots	600 ft/min
Robijn N-133	133 000	CB1512	1206	603	15 knots	15 knots	1000 ft/min
Nudie -90 (Standing Figure-15)	90 000	CB1517	816	-	15 knots	8 knots	600 ft/min
Beer Crate-120 (Box-20)	120 000	CB1515	1088	-	8 knots	5 knots	400 ft/min

1 Knot = 0.51 m/sec, 100 ft/min = 0.5 m/sec

Table 8.1.A Type Specific Limitations (continued)

Type Designation	Active Volume (ft ³)	Drawing	MTOM (kg)	MLM (kg)	Max Surface Wind Speed Free	Max Surface Wind Speed Tethered	Max Rate Ascent/Descent
Paint Can-115 (Cylinder-17)	115 000	CB1525	1043	522	10 knots	10 knots	600 ft/min
Ikea-120 (Heart & Box-120)	120 000	CB1524	1088	-	8 knots	5 knots	400 ft/min
Head-90 (Head-15)	90 000	CB1537	816	-	12 knots	5 knots	800 ft/min
Modified Sugar Box-90 (Box-21)	90 000	CB1566	816	-	10 knots	5 knots	400 ft/min
Racing Car-110 (Car-4)	110 000	CB1568	998	499	8 knots	5 knots	400 ft/min
Turtle-120 (Quadruped-13)	120 000	CB1572	1088	544	10 knots	5 knots	500 ft/min
Buddy-90 (Figure-7)	90 000	CB1575	816	-	8 knots	5 knots	500 ft/min
Head One-105	105 000	CB1580	953	-	10 knots	5 knots	600 ft/min
Condom-105 (Cylinder-18)	105 000	CB1583	953	-	10 knots	8 knots	400 ft/min
Cup-110 (Urn-1)	110 000	CB1589	998	499	10 knots	8 knots	500 ft/min
Egg-120	120 000	CB1595	1088	544	10 knots	8 knots	500 ft/min
Inverted Balloon-105	105 000	CB1614	953	-	5 knots	5 knots	600 ft/min
Fire Truck-100	115 000	CB1615	1043	522	8 knots	5 knots	500 ft/min
TR-84S1	84 000	CB1620	762	-	15 knots	10 knots	600 ft/min
F.R. Ball	90 000	CB1092	816	-	15 knots	10 knots	600 ft/min
Super FMG-100	100 000	CB1636	907	-	8 knots	5 knots	500 ft/min
Obelix-90 (Figure-8)	90 000	CB1638	816	-	8 knots	5 knots	600 ft/min
TR-84S2	84 000	CB1639	762	-	8 knots	5 knots	600 ft/min
Cork-105	105 000	CB723	953	-	12 knots	8 knots	500 ft/min
Sim Card-120	120 000	CB1657	1088	544	10 knots	5 knots	500 ft/min
Cube-105	105 000	CB1668	953	-	10 knots	5 knots	600 ft/min
Skywhale-110	110 000	CB1673	998	-	8 knots	5 knots	500 ft/min
Minion-105 (Cylinder-19)	105 000	CB1674	953	499	10 knots	8 knots	400 ft/min
Apple-120	120 000	CB1678	1088	544	15 knots	10 knots	600 ft/min
Head 2-120	120 000	CB1679	980	544	10 knots	8 knots	600 ft/min
Dodo-105 (Bird 8)	105 000	CB1686	953	-	8 knots	5 knots	500 ft/min
G-Rail-90 (Standing Figure 16)	100 000	CB1698	816	-	8 knots	5 knots	400 ft/min
Drop-180	180 000	CB1690	1633	817	5 knots	5 knots	600 ft/min
Helmet-120 (Head-16)	120 000	CB1719	1088	544	10 knots	10 knots	750 ft/min
Tyre-100 (Horizontal Cylinder-2)	100 000	CB1263	907	-	10 knots	5 knots	400 ft/min
Pot-180	180 000	CB1730	1388	817	12 knots	5 knots	600 ft/min
Wallaby-42	40 000	CB1731	363	-	5 knots	5 knots	500 ft/min
Drop-95	95 000	CB1751	862	431	15 knots	8 knots	600 ft/min
Bearskin-100	100 000	CB1750	907	454	15 knots	10 knots	600 ft/min

1 Knot = 0.51 m/sec, 100 ft/min = 0.5 m/sec

Table 8.1.A Type Specific Limitations (continued)

Type Designation	Active Volume (ft ³)	Drawing	MTOM (kg)	MLM (kg)	Max Surface Wind Speed Free	Max Surface Wind Speed Tethered	Max Rate Ascent/Descent
Heart-100	100 000	CB1760	907	-	10 Knots	5 knots	500 ft/min
Standing Bear-105	105 000	CB1764	953	-	10 Knots	8 knots	500 ft/min
Sphere-165	165 000	CB1775	1497	748	12 Knots	8 Knots	500 ft/min

1 Knot = 0.51 m/sec, 100 ft/min = 0.5 m/sec

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