

Docket No. SA-539

Exhibit No. 2-K

NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

Attachment 10 – Kubicek Performance Information

(3 Pages)

5.6 LOADING TABLE

Maximum balloon lifting capacity [kg]														
Envelope	Lift Units per 1000 cu ft													
	10	11	12	13	14	15	16	17	18	19	20	21	22	23
BB17GP, BB17XR	272	299	326	354	381	408	435	462	490	495	495	495	495	495
BB20, BB20E, BB20ED	323	355	388	420	452	485	517	549	582	614	630	630	630	630
BB20GP, BB20XR	323	355	388	420	452	485	517	549	582	614	646	679	711	730
BB22E, BB22ED	355	391	427	462	498	533	569	604	640	675	680	680	680	680
BB22, BB22D, BB22N, BB22Z	355	391	427	462	498	533	569	604	640	675	711	730	730	730
BB22XR	355	391	427	462	498	533	569	604	640	675	711	747	780	780
BB26E, BB26ED	420	462	504	546	588	630	672	714	730	730	730	730	730	730
BB26, BB26D, BB26N, BB26Z, BB26XR	420	462	504	546	588	630	672	714	756	798	840	840	840	840
BB30ED	485	533	582	630	679	727	776	824	840	840	840	840	840	840
BB30D, BB30N, BB30Z, BB30XR	485	533	582	630	679	727	776	824	873	921	945	945	945	945
BB34ED	549	604	659	714	769	824	879	934	945	945	945	945	945	945
BB34D, BB34Z	549	604	659	714	769	824	879	934	989	1 040	1 040	1 040	1 040	1 040
BB37D, BB37N, BB37Z	598	658	717	777	837	897	957	1 016	1 076	1 136	1 150	1 150	1 150	1 150
BB40D, BB40Z	646	711	776	840	905	969	1 034	1 099	1 163	1 228	1 293	1 310	1 310	1 310
BB42D, BB42Z	687	755	824	893	961	1 030	1 099	1 167	1 236	1 305	1 373	1 410	1 410	1 410
BB45D, BB45N, BB45Z	727	800	873	945	1 018	1 091	1 163	1 236	1 309	1 382	1 454	1 520	1 520	1 520
BB51D, BB51Z	824	908	989	1 071	1 154	1 236	1 318	1 401	1 483	1 566	1 648	1 690	1 690	1 690
BB60D, BB60N, BB60Z	969	1 066	1 163	1 260	1 357	1 454	1 551	1 648	1 745	1 842	1 939	1 940	1 940	1 940
BB70D, BB70Z	1 131	1 244	1 357	1 470	1 583	1 697	1 810	1 923	2 036	2 149	2 262	2 300	2 300	2 300
BB85D, BB85Z	1 373	1 511	1 648	1 785	1 923	2 060	2 197	2 335	2 472	2 610	2 747	2 820	2 820	2 820
BB100D, BB100Z	1 603	1 763	1 924	2 084	2 244	2 405	2 565	2 725	2 886	3 046	3 200	3 200	3 200	3 200
BB120P	1 924	2 116	2 308	2 501	2 693	2 886	3 078	3 270	3 463	3 655	3 700	3 700	3 700	3 700
BB142P	2 276	2 504	2 732	2 959	3 187	3 415	3 642	3 870	4 098	4 325	4 500	4 500	4 500	4 500

Figure 1: Kubicek Loading Table (Source: Kubicek Flight Manual, page 5-4).

Appendix 1: Balloon Performance

The following table indicates balloon performance based on flight tests performed at the maximum takeoff weight and using average piloting techniques.

Model	Max. Rate of Descent		Minimum Climb in first 60 s		Altitude Drop to Reach Max. Rate of Descent		Maximum Altitude Drop to Recover from the Max. Descent	
	[m/s]	[ft/min]	[m]	[ft]	[m]	[ft]	[m]	[ft]
All BB models *	6.5	1 300	95 **	310 **	450	1 475	450	1 475
BB17GP, BB20GP	6.5	1 300	135	420	490	1 605	250	820
XR models	9.0	1 800	135	420	460	1 508	250	820

* Applicable to all models of BB type models except below mentioned

** The minimum attainable height for all BB type models

Figure 2: Kubicek balloon performance. (Source: Kubicek Flight Manual, page 8-6)

2.13 RATE OF CLIMB AND DESCENT

Vertical Speed Limitations

Model	Maximum Rate of Climb		Maximum Rate of Descent	
	[m/s]	[ft/min]	[m/s]	[ft/min]
All BB models except below mentioned	4.0	800	6.5	1 300
BB17GP, BB20GP	6.0	1 200	6.5	1 300
XR models	9.0	1 800	9.0	1 800
XR models at the reduced fabric strength*	5.0	1 000	5.0	1 000

*Reduced fabric strength means the grab test carried out according to the Maintenance Manual has proven the fabric strength in the range 10 - 13 kg (22.0 - 28.6 lb).

If the envelope fabric strength is reduced, it will be documented in the balloon logbook and the envelope fabric index plate (if applicable).

Figure 3: Kubicek vertical speed limitations. (Source: Kubicek Flight Manual, page 2-10)