The best-fit values of B and A from Figure 30 and Figure 31 have been listed for convenient reference in Table 25. It is interesting to note that, for all breakup conditions, the currently-used value of B = 1,000 provided a better data fit than any other B that was investigated.

Table 25. Shaping Constants for LLV1

T_B (sec)	Breakup qα (deg-lb/ft²)	B	A
290	none	1,000	1.85
	20,000		2.60
	10,000		2.70
	5,000		2.75
290	none	10,000	2.45
	20,000	1,000	2.60
	10,000	1,000	2.70
	5,000	1,000	2.75

No launch-area risk calculations were made for LLV1.

6.6 Shaping Constants for Other Launch Vehicles

Procedures for developing Mode-5 shaping constants A and B are fully described in this report. For Atlas, Delta, Titan, and LLV1, best-fit values of A were derived for four breakup conditions (1) for the currently-used value of B = 1,000, and (2) for optimum-fit values of B. For any new launch vehicle requiring risk calculations, the same procedures should be followed to obtain suitable values for A and B.

As an alternative and less time-consuming process, values of A and B can be estimated by comparing the new vehicle with one of the four vehicles referred to above and listed in Table 26. If the configuration and trajectory of the new vehicle and one of the listed vehicles are similar, values of A and B shown in the table for that vehicle and the assumed breakup condition can be used. There may, of course, be no similarity between the new vehicle and any of the listed vehicles. In that event and depending on assumed breakup conditions, one of the mean values shown in the last row of the table can be selected until better values can be developed.

Table 26. Summary of A Values for B = 1,000

	IP Range (nm)	Breakup qα (deg-lb/ft²)			
Vehicle	at 30 sec	5,000	10,000	20,000	None
Atlas IIAS	0.3	3.45	3.20	2.75	1.90
Delta-GEM	5.2	4.30	3.10	2.90	1.90
Titan IV	1.9	3.50	3.25	2.95	2.00
LLV1	33.4	2.75	2.70	2.60	1.85
Other vehicles		3.5	3.1	2.8	1.9