

Table 16. Recommended Response-Mode Percentages for Flight Phases 0 - 1

Response Mode	Mature Launch Systems (F = 0.993)	New Solid Systems (F = 0.996)	New Liquid Systems (F = 0.999)
1	0.5	3.4	10.7
2	7.4	6.6	4.3
3	0.1	0.6	2.4
4	81.9	74.5	67.0
5	10.1	14.9	15.6

Absolute probabilities of occurrence for response Modes 1 through 5 can be obtained by multiplying the absolute failure probabilities for flight phases 0 - 1 and 0 - 2 (Table 6) by the relative failure probabilities in Table 15 and Table 16. The results are shown in Table 17. Probabilities are listed to six decimal places to show differences, not because all figures are actually significant. To obtain these results, more precise values for relative probabilities of occurrence were used than shown in Table 15 and Table 16.

Table 17. Absolute Failure Probabilities for Response Modes 1 - 5

Vehicle:	Atlas		Delta		Titan	
Flight Phase:	0 - 1 (0-170 sec)	0 - 2 (0-280 sec)	0 - 1 (0-270 sec)	0 - 2 (0-630 sec)	0 - 1 (0-300 sec)	0 - 2 (0-540 sec)
Mode 1	0.000119	0.000121	0.000054	0.000051	0.000216	0.000250
Mode 2	0.001637	0.001665	0.000744	0.000698	0.002976	0.003437
Mode 3	0.000011	0.000012	0.000005	0.000005	0.000020	0.000026
Mode 4	0.018007	0.026738	0.008185	0.011212	0.032740	0.055200
Mode 5	0.002226	0.002465	0.001012	0.001034	0.004048	0.005088
Total	0.022	0.031	0.010	0.013	0.040	0.064

For each vehicle, the absolute probabilities for Modes 1, 2, and 3 differ slightly for flight phases 0 - 1 and 0 - 2. This difference is due to the unequal data weighting produced by the exponential filter. If equal data weighting had been applied, the absolute probabilities for these modes would have been identical as expected, since Modes 1, 2, and 3 cannot occur beyond flight phase 1.

Differences in absolute probabilities for Modes 4 and 5 for flight phases 0 - 1 and 0 - 2 can also be seen in the table. A part of this difference may result from unequal data weighting, but primarily it is due to the obvious fact that fewer Mode 4 and 5 failures have occurred during flight phase 0 - 1 than during the longer span of flight phase 0 - 2.