

used to order the vehicle tests for filtering, whether the dates are inconsistently in local or Greenwich times is inconsequential. In most cases, the ordering is not affected by a one-day change in launch date. In rare cases where the order of two launches might be inadvertently reversed, the filtering calculations are unaffected if the interchanged flights are both failures or both successes. Even when this is not the case, the effect on the final results for samples greater than one-hundred is negligible.

Configuration discrepancies also existed in the source data as, for example, the listing of the same Atlas vehicle as a IIA in one source and as a IIAS in another. In rare cases, a launch may have been called a success in one document and a failure in another, with little or no data provided to make it clear whether the difference in classification was due to error or different success criteria. Although a considerable effort was made to eliminate errors and discrepancies in Appendix D, there can be no assurance that the effort was 100% successful.

D.1.2 Assignment of Failure-Response Modes

In the tabular historical summaries in Appendix D, the column labeled "Response Mode" refers to the failure-response modes in program DAMP. The numbers 1 through 5 in this column correlate with the failure-response modes described in Appendix A. The letter "T" following either a "3" or "4" indicates that the vehicle executed a thrusting tumble before breakup or destruct. An "NA" (i.e., not applicable) appearing in the column means that some anomalous behavior caused stages or components to impact outside their normal impact areas without necessarily failing the flight, or that the anomalous behavior resulted in an unplanned orbit that may or may not have interfered with mission objectives. If the response-mode column is blank, either the flight was a success, or there was no information in the data sources to indicate otherwise.

In some cases where the data sources contained only sketchy or incomplete information, assignment of the response mode involved some speculation. Mostly, this situation arose in trying to decide between response modes 4 and 5 or between modes 4 and 4T or, in rare cases, what mode to assign when the vehicle response did not exactly fit any of the response-mode definitions.

D.1.3 Assignment of Flight Phase

The number shown in the "Flight Phase" column in the tabular summaries of Appendix D indicates the phase of vehicle flight in which the failure or anomalous behavior occurred. Definitions of flight phase are given in Table 38. The assigned numbers are arbitrary, but were chosen in a way that suggests the vehicle stage that failed or the stage that was thrusting when the failure occurred.