

In this region, breakup occurs at or shortly after vehicle failure. Beyond 170 seconds, the dynamic pressure between failure and 280 seconds stays sufficiently low so that the vehicle remains intact.

The dramatic differences in impact distributions that can result at certain times during flight if the vehicle is subject to aerodynamic breakup can be seen by comparing the impact footprints in Figure 7 and Figure 8. Both patterns show 10,000 impact points from random-attitude failures of the Atlas IIAS at 130 seconds. Figure 7 is for no breakup, and Figure 8 is for a breakup $q\alpha$ of 5,000 deg-lb/ft².

The data in Table 19 comprise an example of a 270,000-point sample of random-attitude failures run at 10-second intervals from 15 to 275 seconds. (For brevity, only every-other failure time is shown in the table.) Ten thousand impacts are computed at each failure time. Five-degree sectors are identified in the left-hand column. For each time, the number of impacts in each 5° sector is shown in the column for that time. The total number of impacts for all failure times and the percentages of impacts in each sector are given in the last two columns of the table.