

Table of Figures

Figure 1. Joust Impact Trace Showing a Mode-5 Failure Response.....	6
Figure 2. Atlas IIAS Risk Contours for Inner-Ear Injury with $A = 3.0$	11
Figure 3. Atlas IIAS Risk Contours for Inner-Ear Injury with $A = 3.5$	12
Figure 4. Filter Factor Results for Representative Configurations of Atlas.....	23
Figure 5. Combined Random-Attitude and Slow-Turn Results.....	36
Figure 6. Atlas IIAS Breakup Percentages for Random-Attitude Turns.....	37
Figure 7. Atlas IIAS Impacts with No Breakup	39
Figure 8. Atlas IIAS Impacts with Breakup.....	40
Figure 9. Atlas IIAS Simulation Results with $B = 1,000$	42
Figure 10. Atlas IIAS Simulation Results with $B = 50,000$	44
Figure 11. Atlas IIAS Simulation Results with $B = 100,000$	45
Figure 12. Atlas IIAS Simulation Results with $B = 500,000$	46
Figure 13. Atlas IIAS Simulation Results with $B = 5,000,000$	47
Figure 14. Effects of Breakup q -alpha on A for Atlas IIAS	49
Figure 15. Mode-5 Density-Function Values at Three Miles	51
Figure 16. Atlas IIAS Mode-5 Ship-Hit Contours with $A = 3.00$	53
Figure 17. Atlas IIAS All-Mode Ship-Hit Contours with $A = 3.00$	54
Figure 18. Atlas IIAS Mode-5 Ship-Hit Contours with $A = 3.45$	55
Figure 19. Atlas IIAS All-Mode Ship-Hit Contours with $A = 3.45$	56
Figure 20. Atlas IIAS Mode-5 Ship-Hit Contours with $A = 6.30$	57
Figure 21. Atlas IIAS All-Mode Ship-Hit Contours with $A = 6.30$	58
Figure 22. Impact-Range Distributions	59
Figure 23. Delta-GEM Breakup Percentages	61
Figure 24. Delta-GEM Simulation Results with $B = 1,000$	62
Figure 25. Delta-GEM Simulation Results with Best-Fit Shaping Constants	63
Figure 26. Titan IV Breakup Percentages	65
Figure 27. Titan Simulation Results with $B = 1,000$	66
Figure 28. Titan Simulation Results with Best-Fit Shaping Constants.....	67
Figure 29. LLV1 Breakup Percentages	69
Figure 30. LLV1 Simulation Results with $B = 1,000$	70