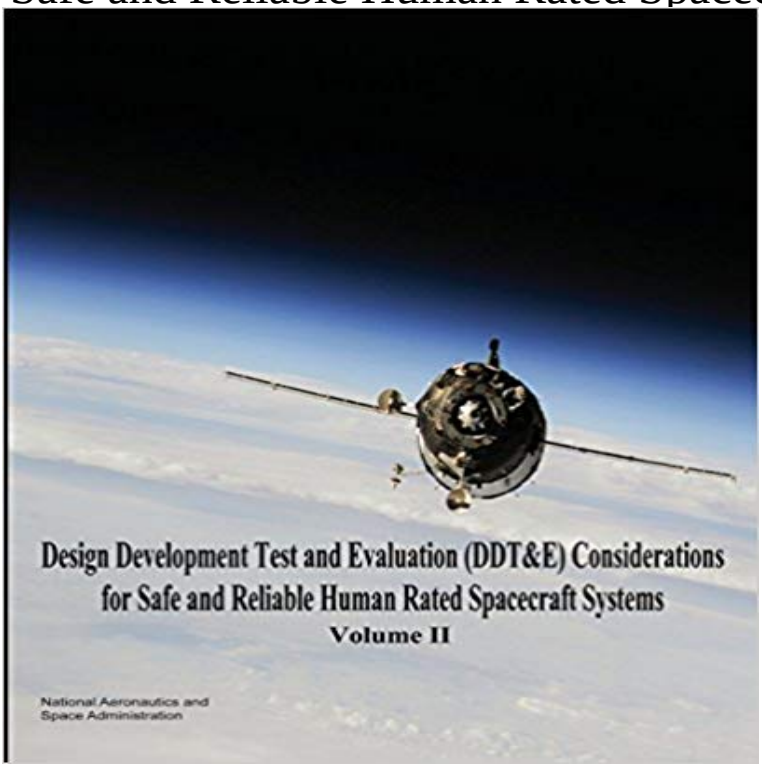
Design Development Test and Evaluation (DDT&E) Considerations for Safe and Reliable Human Rated Spacecraft Systems: Volume II



NASA is currently in the process of developing the next generation crewed and cargo launch vehicles and spacecraft to return to the Moon and beyond. With the experience and knowledge base available to NASA from past similar programs, it is important to develop a document that captures the salient aspects of successful programs and serve as an important guide in evaluating next generation and future spacecraft concepts and proposals. This section outlines design, development, testing, and evaluation best practices for robust, reliable space systems. The scope of the section is limited to the space structural and pressurized systems (pressure vessels and pressurized structure). These components are critical to mission success and must operate safely and reliably. As an integrated structural system, the reliability at system level must be shown as well, through analysis and testing, to exceed the stipulated performance metrics of the program. Previous history and experience with similar structural designs provides background and guidance for future designs. Although this section is intended to address the reliability of the space structural systems, the methods and practices specified herein should be applicable to structural components (adaptive structures, engines, rocket nozzles, and thermal protection systems) in other disciplines (propulsion, mechanisms, etc.). To this end, the practices that were followed in similar heritage programs such as the Apollo, Space Shuttle, etc., were first examined. Of special interest are various lessons learned, documented failures, as well as successful designs. In addition, various tools and techniques used in preliminary design, detailed analysis, and verification/validation are documented. Acceptance tests and testing procedures with emphasis on how these tests uncovered errors and defects unforeseen in

design and analysis are also described.

1: Design Development Test and Evaluation (DDT&E) Considerations for Safe and Reliable for Safe and Reliable Human Rated Spacecraft Systems: Volume I vehicles that will take man to the Moon and beyond in the next two decades.Kop Design Development Test and Evaluation (DDT&E) Considerations for Safe and Reliable Human Rated Spacecraft Systems: Volume I av National - Buy Design Development Test and Evaluation Ddt&e Considerations for Safe and Reliable Human Rated Spacecraft Systems: 2 book online at bestDesign Development Test and Evaluation (DDT&E) Considerations for Safe and Reliable Human Rated Spacecraft Systems: Volume I by National Aeronautics Design, Development, Test, and Evaluation (DDT&E) Considerations for Safe and Reliable Human Rated Spacecraft Systems, Vol II, 05/03/Amazon??????Design Development Test and Evaluation Ddt&e Considerations for Safe and Reliable Human Rated Spacecraft Systems???????? 2????????????? . ??????????? ???? Book DepositoryHarland, D.M., and R.D. Lorenz, Space System Failures: Disaster and Rescues of Administration, Design Development Test and Evaluation (DDT&E) Considerations for Safe and Reliable Human Rated Spacecraft Systems, Volume 2,Buy Design Development Test and Evaluation (DDT&E) Considerations for Safe and Reliable Human Rated Spacecraft Systems: Volume II: 2 by National Volume II. Design, Development, Test, and Evaluation (DDT&E). Considerations for Safe and Reliable Human Rated Spacecraft. Systems.Design Development Test and Evaluation (DDT&E) Considerations for Safe and Reliable Human Rated Spacecraft Systems. NASA/ TM-2008-215126/Vol II1: Design Development Test and Evaluation (DDT&E) Considerations for Safe and Reliable Human Rated Spacecraft Systems: Volume I [National Aeronautics and vehicles that will take man to the Moon and beyond in the next two decades.