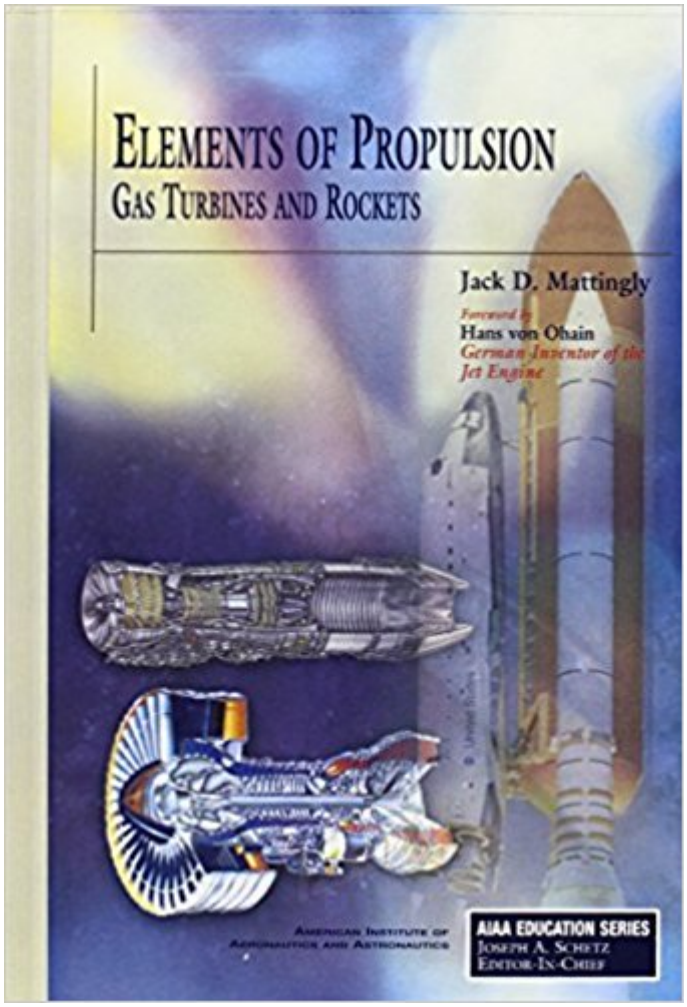
Elements Of Propulsion: Gas Turbines And Rockets (AIAA Education)



Synopsis

This text provides a complete introduction to gas turbine and rocket propulsion for aerospace and mechanical engineers. Building on the very successful Elements of Gas Turbine Propulsion, textbook coverage has been expanded to include rocket propulsion and the material on gas dynamics has been dramatically improved. The text is divided into four parts: basic concepts and gas dynamics; analysis of rocket propulsion systems; parametric (design point) and performance (off-design) analysis of air breathing propulsion systems; and analysis and design of major gas turbine engine components (fans, compressors, turbines, inlets, nozzles, main burners, and afterburners).Design concepts are introduced early (aircraft and rocket performance in an introductory chapter) and integrated throughout. Written with extensive student input on the design of the book, the book builds upon definitions and gradually develops the thermodynamics, gas dynamics, rocket engine analysis, and gas turbine engine principles. The book contains over 100 worked examples and numerous homework problems so concepts are applied after they are introduced. Over 600 illustrations and pictures show basic concepts, trends, and design examples.Eight computer programs accompany the text, which allow for rapid calculation of trends, Ã¢â ¬Å“what ifÃ¢â ¬Â• questions, conceptual design, homework problems, and homework verification. The software runs in the Windows operating system on PC-compatible systems.

Book Information

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Customer Reviews

Jack D. Mattingly received his B.S. and M.S. in Mechanical Engineering from the University of Notre Dame, and his Ph.D. in Aeronautics and Astronautics at the University of Washington. While studying for his doctorate under Gordon C. Oates, he pioneered research in the mixing of coannular swirling flows and developed a major new test facility. During his 40 years of experience in analysis and design of propulsion and thermodynamic systems, he has written two engineering textbooks, developed aerothermodynamic cycle analysis models, and created engineering software for air-breathing propulsion systems. Dr. Mattingly was previously at the Aero Propulsion Laboratory at Wright-Patterson AFB where he directed exploratory and advanced development programs aimed at improving the performance, reliability, and durability of gas turbine engine components. He retired from active duty with the U.S. Air Force in 1989 and joined the faculty of Seattle University. In 2000 he retired from Seattle University as Professor Emeritus in Mechanical Engineering to dedicate his efforts to writing this textbook and a new edition of Aircraft Engine Design, teaching short courses, and consulting. Dr. Mattingly has more than 35 years of experience in Engineering Education, earlier as a senior member of the Department of Aeronautics at the United States Air Force Academy, where he established a top undergraduate propulsion program. In addition, he has taught and done research in propulsion and thermal energy systems at the Air Force Institute of Technology, University of Washington, University of Notre Dame, University of Wisconsin, and IBM Corp. He was also founder of the AIAA/Air Breathing Propulsion Team Aircraft Engine Design Competition for undergraduate students. Among his many distinguished teaching awards is Outstanding Educator for 1992 from Seattle University. Having published more than 25 technical papers, articles, and textbooks in his field, Dr. Mattingly authored Elements of Gas Turbine Propulsion (1995) and was co-author of Aircraft Engine Design, Second Edition (2002), an unprecedented conceptual design textbook for air breathing engines that won the 2005 AIAA Summerfield Book Award.

Absolutely terrible book. Nothing is explained properly, there is merely just a long list of equations thrown at you with notations that are not properly defined. The appendix is lacking and does not properly reference half the information in the book. There is a lack of organization throughout the chapters and a lack of formatting that makes it very hard to find what chapter and topic you are currently on. The example problems are few and lacking, and do not go in enough detail to allow students to answer the chapter questions. Everything is presented in a vague and ambiguous manner, with almost no references to any physical phenomenon. Numerous assumptions and statements are made without any explanations or references. I fail to see how this textbook can

profit any engineering student short of listing equations in an unorganized manner.Edit: It get’s even worse. Numerous typos make the questions and solutions impossible to understand, and the book feels the need to jump randomly from SI to English units, adding to even more confusion. 0 stars if possible. A very sloppy book from AIAA. Stick to Anderson for any of your aerospace needs.

Needed this for a class. Very good so far. It has some errors though

Got this for one of my last university classes in engineering. Was much cheaper on here than through the university. Needed for school.

amazing book.

Was in the condition described. There is more than one edition. The newest one has made many corrections, the one i recieved was the older and I have so far found a few errors in the text. Would be good to note this in item description.

as described with super fast shipping

Great book great price

This text book came in very good condition. Only the edges of the cover were slightly bent. All in all, it was a very worthwhile purchase.

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