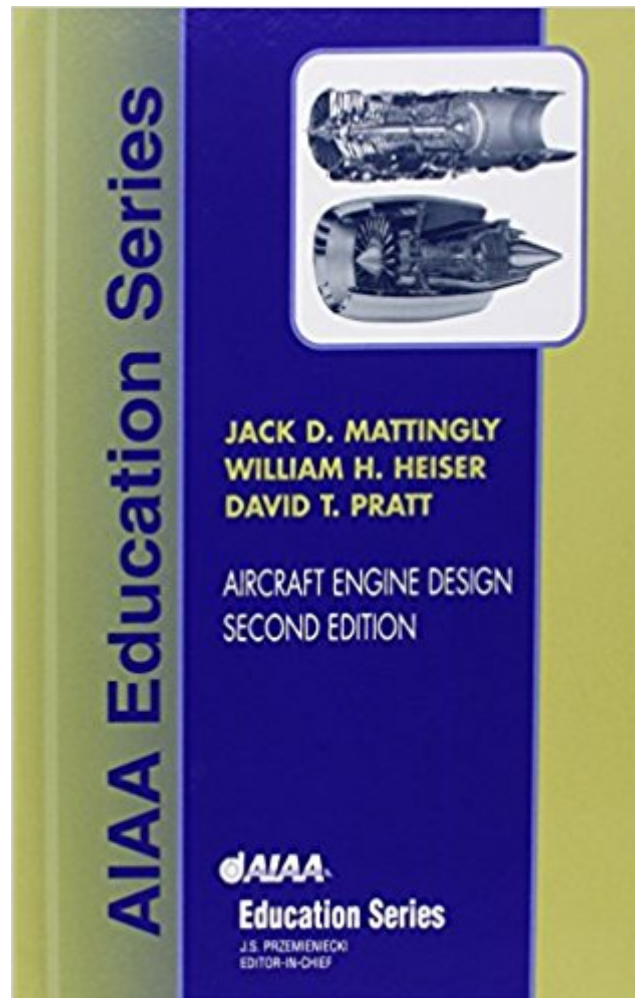




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Aircraft Engine Design, Second Edition (AIAA Education)



Synopsis

This text presents a complete and realistic aircraft engine design experience. From the request for proposal for a new aircraft to the final engine layout, the book provides the concepts and procedures required for the entire process. It is an expanded and updated version of the first edition that emphasizes contemporary developments impacting engine design such as theta break/throttle ratio, life management, controls, and stealth. The key steps of the process are detailed in ten chapters that encompass aircraft constraint analysis, aircraft mission analysis, engine parametric (design point) analysis, engine performance (off-design) analysis, engine installation drag and sizing, and the design of inlets, fans, compressors, main combustors, turbines, afterburners, and exhaust nozzles.

Book Information

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Customer Reviews

Great...different in all the right ways...clear and direct...highly organized...a total aircraft [engine] design experience. -- John D. Anderson, University of Maryland

This textbook and the accompanying software is a real time journey through the aircraft engine conceptual design process which is analogous to the design process within the industry. It is a unique reference after Dr. Oates three well known reference books which are the industry

standards. Though, J. Mattingly followed Dr. Oates' foot step in an innovative, modern and practical integrated manner. From a generic stand, the package is a powerful tool for aircraft engine design, aircraft conceptual design/ initial sizing, aircraft performance and the principles of gas dynamics. A very interesting chapter has been given for combustion simulation, valuable annexes in propeller design, materials, mixer design, aircraft engine controls Etc. Design of supersonic and subsonic intakes and variable geometry CD nozzle is an added value. However, no provision was given for aircraft engine transient, emission and noise; which I wish to see in the next coming edition. The output of this software could be sending for further aircraft modeling analysis. This package is a good reference for aerospace engineers, and researchers seeking to get quick answers to conceptual problems in aircraft and engine design, which makes this package unique for contents and cost. Meanwhile, I would like to express to Dr. Mattingly, Dr. Heiser and Dr. Pratt the gratitude of many students and engineers; living and trying to learn thousands of miles away from United States; for providing them with this low cost package. Those young students and engineers without that technical support cannot complement aerospace learning before it is too late because of the money obstacle. I give this package (book + Software + examples and material on the CD) five stars plus.

Thumps Up

This book is very complete and the appendix sections contains a lot of useful information about either technical and managements aspects of turbofan engines.

Absolutely love these!!! Nice product, and delivered the date it was scheduled! This is the best one I ever bought. Strongly recommend. Super fast shipping. you won't do better at this price anywhere I bought it from on the basis of other people's good comments. It was very good and very cheap. I was very happy that it replaced the one I had before.

This is one of the best books on the market on aircraft engine design for the professional engine designer and aeronautical engineer specialising on this subject. The book is well organized and well written with clear and easy to follow explanations. The book methodically, step-by-step guides the reader through the engine design process from request for proposals for a new aircraft to the final engine layout. The author clearly presents the concepts, principles and design issues of modern gas turbine engines. The book has great explanations, diagrams and figures that the reader will find useful and helpful. The book comes with the AEDsys software on COD-ROM that gives in depth

computational support for every design step. All-in-all, a fantastic book that is well recommended to the target audience.

A clearly-written, logically-organized overview of aircraft jet engine design including thermodynamics, cycle analysis, and component design and evaluation. Includes an overview of how jet engine design fits into the overall process of aircraft design.

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