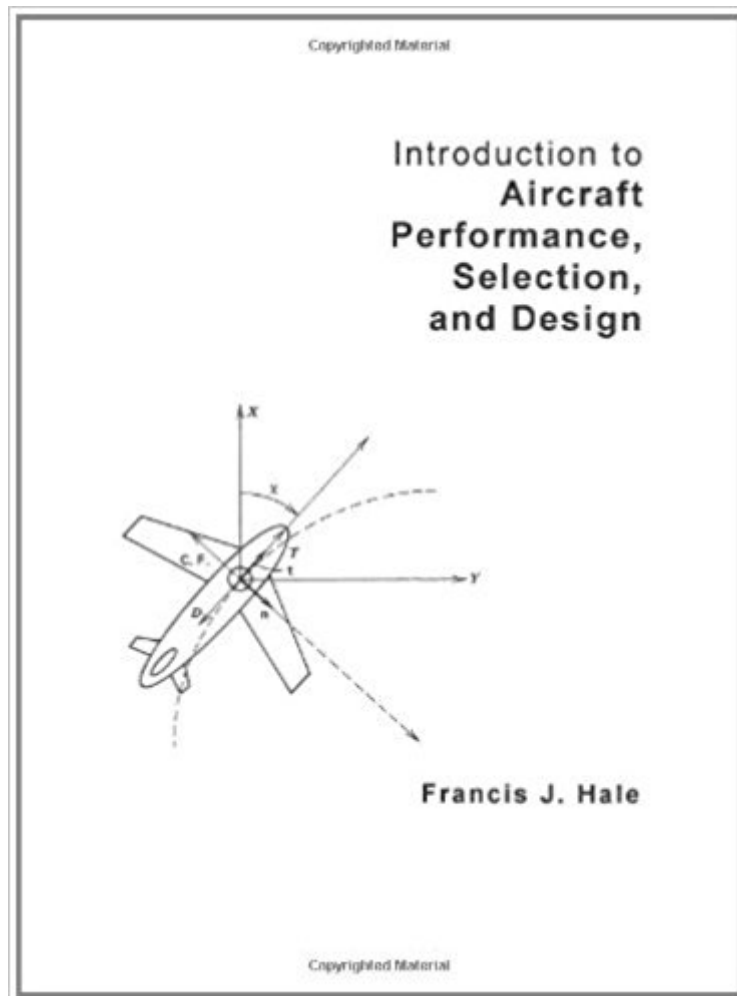




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Introduction To Aircraft Performance, Selection And Design



Synopsis

A self-contained in-depth treatment of aircraft performance, designed for a first course in aeronautical or aerospace engineering for undergraduate engineers. Provides an understanding of why conventional aircraft look and fly the way they do. This well written text covers turbofan and turboprop propulsion, subjects often avoided in other texts. New to the text is the treatment of wind effects on aircraft. Includes illustrative examples and references to practical piloting procedures and the significance of parameters.

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Customer Reviews

A self-contained in-depth treatment of aircraft performance, designed for a first course in aeronautical or aerospace engineering for undergraduate engineers. Provides an understanding of why conventional aircraft look and fly the way they do. This well written text covers turbofan and turboprop propulsion, subjects often avoided in other texts. New to the text is the treatment of wind effects on aircraft. Includes illustrative examples and references to practical piloting procedures and the significance of parameters.

Here is a self-contained, comprehensive introduction to the performance and design characteristics of aircraft with conventional propulsion systems. This teaching-text for a first course in aeronautical or aerospace engineering imparts an understanding of why conventional aircraft look and fly as they do. After working through this book, students and design engineers will be able to take the physical

characteristics of any existing aircraft and from them determine the aircraft's range, flight regime, rate of climb, turning rate, and all other performance characteristics. The text gives a detailed overview of all the supporting technologies involved in aircraft design, including propulsion, aerodynamics and stability. It also provides a unique, in-depth treatment of turbofan and turboprop propulsion. Introduction to Aircraft Performance, Selection, and Design emphasizes simple analytical relationships applicable to classes of aircraft, rather than the traditional graphical techniques applicable only to individual aircraft with specified weights, wing areas and altitudes. It gives numerous illustrative examples and incorporates into the text many references to practical flying procedures. The text includes work-problems in each chapter and involves minimal mathematical skills such as the ability to solve a quadratic equation, take a first derivative, and perform a single integration. Throughout the book the author uses the English system of units, often with corresponding SI units and values shown in parentheses. The most accessible text of its kind, Introduction to Aircraft Performance, Selection, and Design will be an indispensable resource for all students in aeronautical or aerospace engineering, as well as practicing engineers who need a quick refresher or updating.

Shipping was longer than I thought, book quality is great. Some stickers.

The title is misleading. In fact, this book has nothing to do about aircraft design. I estimate that 90% of the text is about aircraft performance and 10% is about stability and control. There are only few pages at the end of the book that is about aircraft design. A better title would be Introduction to Aircraft Performance. If you are not convinced, just check the table of the content: 1 - Introduction 2 - Aircraft Forces and Subsystems. 3 - Level Flight in the Vertical Plane: Turbojets. 4 - Other Flight in the Vertical Plane: Turbojets. 5 - Turning Flight in the Horizontal Plane: Turbojets. 6 - Level Flight in the Vertical Plane: Piston-Props. 7 - Other Flight: Piston-Props. 8 - Turboprops, Turbofans, and Other Things. 9 - Figures of Merit for Selection and Design. 10 - Effects of Wind on Performance. 11 - Stability and Control Considerations. 12 - Some Design Examples. There is nothing wrong to write a book about aircraft performance but author and editors should be cautious when choosing a title. Also, in the preface, the author states that this book is intended for student with no prerequisites in aerodynamics and propulsion. However, I am pretty sure that students without these prerequisites will not fully master the text. Indeed, the coverage of aerodynamics and propulsion is very short and without some basic knowledge in aerodynamics it is difficult to fully understand the performance analysis of a aircraft. The author claims that the prerequisites delay the exposure of

students to the reasons for configuration and performance of various types of aircraft. However, there are reasons why most engineering schools have the practice to teach an aerodynamics and a propulsion course before a performance course. It's because students need some theoretical basis in order to understand aircraft performance.

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