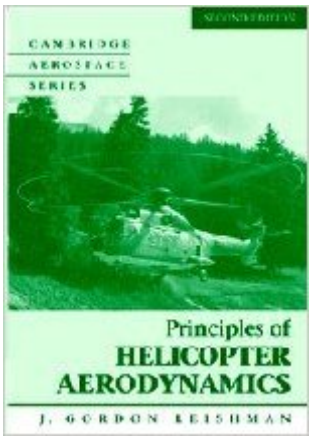
# Principles Of Helicopter Aerodynamics With CD Extra (Cambridge Aerospace)



## Synopsis

This book is a modern treatment of the aerodynamic principles of helicopters and rotating-wing vertical lift aircraft. Part one covers the technical history of helicopter flight, basic methods of rotor aerodynamics, and performance-related design issues. Part two contains advanced topics in helicopter aerodynamics, including airfoil flows, unsteady aerodynamics, dynamic stall, rotor wakes, and rotor-airframe aerodynamic interactions. Part three contains chapters on autogiros and advanced aerodynamic analysis and a new chapter on the aerodynamics of wind turbines. The book is extensively illustrated and contains homework problems.

## Book Information

Series: Cambridge Aerospace (Book 18)

Hardcover: 864 pages

Publisher: Cambridge University Press; 2 edition (April 24, 2006)

Language: English

ISBN-10: 0521858607

ISBN-13: 978-0521858601

Product Dimensions: 7 x 1.6 x 10 inches

Shipping Weight: 4 pounds

Average Customer Review: 4.5 out of 5 stars 7 customer reviews

Best Sellers Rank: #636,071 in Books (See Top 100 in Books) #53 inÃ Â Books > Engineering & Transportation > Engineering > Aerospace > Aerodynamics #350 inÃ Â Books > Textbooks > Engineering > Aeronautical Engineering #636 inÃ Â Books > Textbooks > Science & Mathematics > Mechanics

## Customer Reviews

"Professor Leishman has provided a significant addition to the literature that will prove its worth for many years to come." Alfred Gessow, Vertiflite"[A] complete treatment of the subject, pulling together between its covers all the relevant topics in a useable manner. The book will be suitable for anyone in the industry or academia who has to function at a high technical level. In particular, I recommend it highly to those of us who are not aerodynamicists per se, but need to be increasingly well informed on aerodynamic matters..." Stewart Houston, Aerospace Journal"Not only is this book a good text for the graduate student but it is also a good book for practical engineers and researchers ... This book is an excellent addition to a reference library." Chee Tung, AIAA Journal

This book is modern treatment of the aerodynamic principles of helicopters and rotating-wing vertical lift aircraft. Part one covers the technical history of helicopter flight, and basic methods of rotor aerodynamics, and performance related design issues. Part two contains advanced topics in helicopter aerodynamics, including airfoil flows, unsteady aerodynamics, dynamic stall, and rotor wakes, and rotor-airframe aerodynamic interactions. Part three contains chapters on autogiros and advanced aerodynamic analysis and a new chapter on the aerodynamics of wind turbines. The book is extensively illustrated and contains homework problems.

I am a retired aerospace engineer. When I was employed as an aero engineer, I considered myself to be a strength guy but I held a few different job positions and one of them was a job position titled "Production Support Engineer" on a specific helicopter platform. Because of my job position, I felt that it was necessary for me to understand the basic fundamentals of helicopter aerodynamics. I ordered this textbook and I considered it to be by far the very best textbook on the subject of helicopter aerodynamics. It has problems to solve at the end of each chapter which is great but that is one of the drawbacks. There are no answers to the problems provided anywhere in the textbook so I wasn’t really sure if I was really on the right track when I went through the problems.

As an aerospace engineer I have read many books on aircraft dynamics and design, but this is the best text I have gone through so far, especially on rotorcraft. The explanation and derivation are well presented and easy to follow. If there is only one book you want to stock in your library on rotorcraft, this should be it.

An authoritative work by one of the world’s top rotorcraft engineers and researchers. Includes a survey of the autogiro and its essential role in the development of technology that made the successful helicopter possible.

I used this for my V/STOL class that only focused on helicopters. Interesting information, but can be confusing at times.

Research material

As an aerospace engineer I have read many books on rotorcraft and I must admit that this is the most up to date and useful text on rotorcraft that I have had the pleasure to read. There are many

aspects of the text that stand out, however the one I found most useful, especially as a graduate student, was that the equations are derived from engineering basics and are accompanied by clear explanations of the principles involved. The text and equations are also supplimented by clear diagrams that serve to enhance understanding of the more complex topics covered. All in all a great book and one that I would highly recommend to both rotorcraft students and practicing engineers alike.

Clear and easy to understand illustrations. A good buy if you are really interested in the preliminary of the fundamentals of rotorcraft theory



Principles of Helicopter Aerodynamics with CD Extra (Cambridge Aerospace) A History of Aerodynamics: And Its Impact on Flying Machines (Cambridge Aerospace Series) Applied Computational Aerodynamics: A Modern Engineering Approach (Cambridge Aerospace Series) An Introduction to Flapping Wing Aerodynamics (Cambridge Aerospace Series) Helicopter Pilot's Manual: Principles of Flight and Helicopter Handling Helicopter Pilot's Manual Vol 1: Principles of Flight and Helicopter Handling Foundations of Aerodynamics: Bases of Aerodynamics Design Fundamentals of Aerodynamics (Mcgraw-Hill Series in Aeronautical and Aerospace Engineering) Eyes Turned Skyward: An Introduction to Aerospace Engineering with Empahsis on Aerodynamics and Aircraft Performance Analysis Theory of Aerospace Propulsion, Second Edition (Aerospace Engineering) Theory of Aerospace Propulsion (Aerospace Engineering) More Helicopter Aerodynamics Helicopter Aerodynamics, Vol. 2 (Volume 2) Helicopter Aerodynamics Volume I (Volume 1) Principles of Turbomachinery in Air-Breathing Engines (Cambridge Aerospace Series) Helicopter Maneuvers Manual: A step-by-step illustrated guide to performing all helicopter flight operations Ray's Complete Helicopter Manual: Your Guide to Successful Helicopter Flying Using the Triangle of Knowledge [Over 480 Photos; 135 Illustrations] Helicopter Pilot Oral Exam Guide: When used with the corresponding Oral Exam Guide, this book prepares you for the oral portion of the Private, ... Helicopter Checkride (Oral Exam Guide series) Helicopter Oral Exam Guide: When Used with the Oral Exam Guides, This Book Prepares You for the Oral Portion of the Private, Instrument, Commercial, ... Helicopter Checkride (Oral Exam Guide series) Schweizer Helicopter Pilot Textbook & Helicopter Pilot Exercise Book - Bundle

Privacy

FAQ & Help