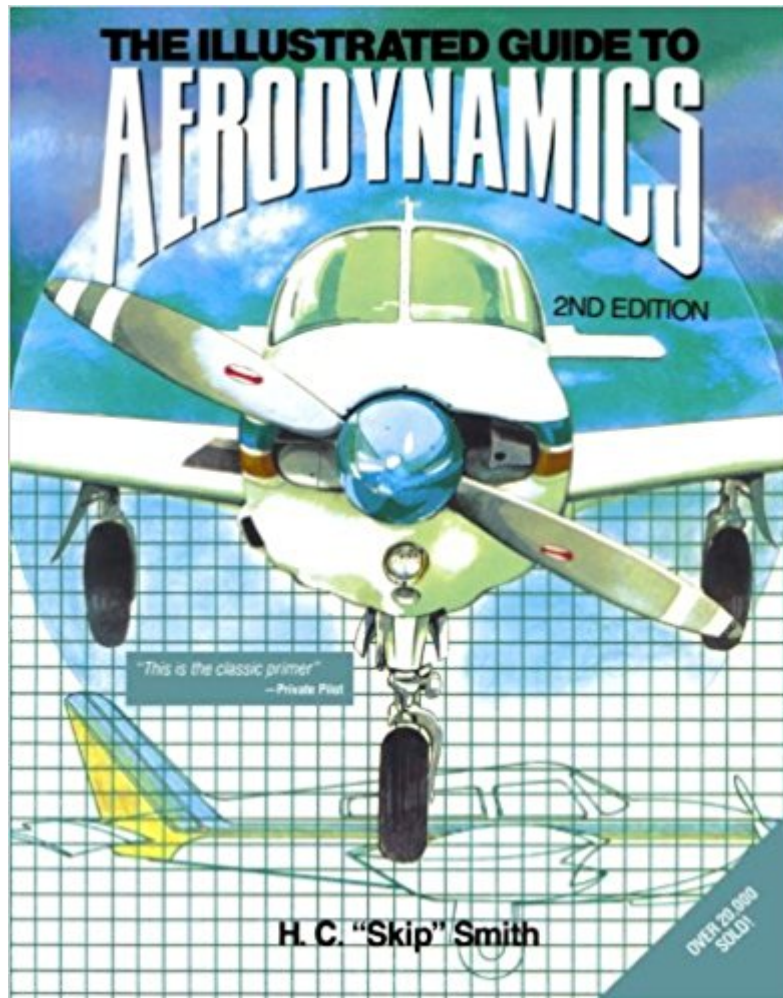




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# Illustrated Guide To Aerodynamics



## Synopsis

Most pilots and flight students wince at the mention of the term "aerodynamics" because most courses and books dealing with the subject do so using complicated scientific theory and intricate mathematical formulas. And yet, an understanding of aerodynamics is essential to the people who operate and maintain airplanes. This unique introductory guide, which sold more than 20,000 copies in its first edition, proves that the principles of flight can be easy to understand, even fascinating, to pilots and technicians who want to know how and why an aircraft behaves as it does. Avoiding technical jargon and complex calculations, Hubert "Skip" Smith demonstrates how aerodynamic factors affect all aircraft in terms of lift, thrust, drag, in-air performance, stability, and control. Readers also get an inside look at how modern aircraft are designed-including all the steps in the design process, from concept to test flight and the reasoning behind them. This edition features expanded coverage of aircraft turning and accelerated climb performance, takeoff velocities, load and velocity-load-factors, area rules, and hypersonic flight, as well as the latest advances in laminar flow airfoils, wing and fuselage design, and high-performance lightplanes. Question and answer sections are added for classroom use.

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## Customer Reviews

This book gives you an inside look at how modern aircraft are designed-including all the steps in the design process, from concept to test flight, and the reasoning behind them.

Hubert C. "Skip" Smith (University Park, PA) is Associate Professor Emeritus, Aerospace Engineering at Pennsylvania State University. He is the author of McGraw-Hill's The illustrated Guide to Aerodynamics, Second Edition.

Excellent book! I am going to school for aerospace engineering and this book does a wonderful job at explaining everything from the forces on a plane to why planes are designed the way they are. I would highly recommend this book to anyone looking to gaining knowledge on aircraft performance and design; you can't beat the price!

This guide is an excellent primer for anyone in college, anyone who has a technical degree, or has a strong background in high school science. This is the first time I have ever seen aerodynamics presented in a form this concise and well explained. The book is a great supplement to the classic "Stick and Rudder - an explanation of the art of flying" (Wolfgang Langewiesche). My degree is in aerodynamics and the guide provided me with many hours of enjoyable reading which brought back many wonderful memories of my aerodynamics classes. The illustrations are excellent and make the material much more digestible.

I read this book for research that I am doing at school. In this book the author carefully and slowly explains the principles of aerodynamics. His approach is perfect for those of us who are new to the subject. The layout of the book makes sense. The book includes many examples along with thorough explanations of these examples. (He also gives many interesting anecdotal comments.) Additionally, the author's handling of the material is simple, but not so basic that one cannot get a full understanding of aerodynamic forces acting on an airplane and on the structures that comprise the vehicle. This book is a very useful reference for understanding aerodynamic forces and how these forces can be determined and predicted.

I want to know more about flying and how planes work and found little that could explain it so I can understand, until I found this book. Not only does the author give excellent details about flying, he uses a step by step approach to cover areas like lift, drag, airplane and wing design, and more. This book is fascinating and kept me interested throughout. The illustrations make it easy to understand and I have renewed confidence about physics, a subject I previously avoided. I recommend this book to anyone who wants a greater understanding of how and why flight works. Illustrated Guide to

## Aerodynamics

This is a great book. If you have a good grasp of algebra you can grasp most key facts about aerodynamics. Most other texts require a level of comfort with differential equations that I don't have. This is my second copy as my first copy went missing.

Extremely easy to understand aerodynamics guide. It is a good intro, but leaves an engineer with a myriad of question marks. It could have been a lot better with a little more analysis coupled with the excellent conceptual explanations.

This book was just right for what I was looking for. Not too much math represented, just a little algebra and geometry. There are a few areas I wish I could've asked a question to the author, but overall this is a good intro to the basic principles of aviation.

I am an aeronautic engineer student and this help me as much as the teacher, it complement and help to understand more the subjects. It is very helpful for aerodynamics classes.

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