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# Airplane Design Part I : Preliminary Sizing Of Airplanes



## Synopsis

Airplane Design Part I: Preliminary Sizing of Airplanes is the first book in a series of eight volumes on airplane design. The airplane design series has been internationally acclaimed as a practical reference that covers the methodology and decision making involved in the process of designing airplanes. Educators and industry practitioners across the globe rely on this compilation as both a textbook and a key reference. Airplane Design Part I: Preliminary Sizing of Airplanes familiarizes the reader with the following fundamentals: - Estimating take-off gross weight, empty weight and mission fuel weight - Sensitivity studies and growth factors - Estimating wing area - Take-off thrust and maximum clean, take-off and landing lift - Sizing to stall speed, take-off distance, landing distance, climb, maneuvering and cruise speed requirements - Matching of all performance requirements via performance matching diagrams

## Book Information

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## Customer Reviews

Dr. Jan Roskam has authored ten books on airplane flight dynamics and airplane design. He co-authored Airplane Aerodynamics and Performance with Dr. CT. Lan. He has written more than 160 papers on these topics and authored the popular Roskam's War Stories. He has actively participated in more than 36 major airplane programs. He retired as Ackers Distinguished Professor of Aerospace Engineering at The University of Kansas (KU) in 2003, where he taught airplane design, stability and control. Dr. Roskam retired as President of DARcorporation (Design, Analysis

and Research Corporation) in 2004. He currently serves as an active consultant for DARcorporation, which develops and markets airplane design and analysis software, and is a successful private and government consulting firm.

Very good reference book.

The data in this book goes back to the 1930's, but for an undergraduate level book that is supposed to give you an understanding of the design process behind an airplane, it's not so bad. It does a great job of explaining most of the variables, although there are some "referenced materials" that are extremely difficult to find. However, this book, and all the preceding versions cover the airplane design process in excruciating detail, so hopefully by the time you've gone through them all, you will be able to design a fully functional, statically (and dynamically) stable airplane that meets all of the FAA requirements.

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