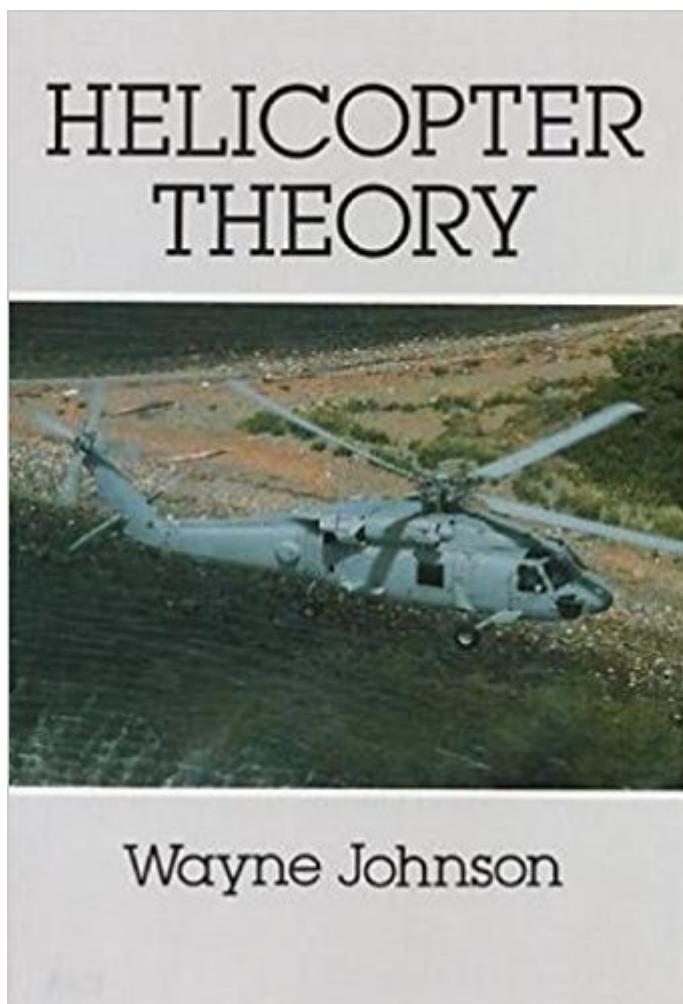


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# Helicopter Theory (Dover Books On Aeronautical Engineering)



## **Synopsis**

The history of the helicopter may be traced back to the Chinese flying top (c. 400 B.C.) and to the work of Leonardo da Vinci, who sketched designs for a vertical flight machine utilizing a screw-type propeller. In the late nineteenth century, Thomas Edison experimented with helicopter models, realizing that no such machine would be able to fly until the development of a sufficiently lightweight engine. When the internal combustion gasoline engine came on the scene around 1900, the stage was set for the real development of helicopter technology. While this text provides a concise history of helicopter development, its true purpose is to provide the engineering analysis required to design a highly successful rotorcraft. Toward that end the book offers thorough, comprehensive coverage of the theory of helicopter flight: the elements of vertical flight, forward flight, performance, design, mathematics of rotating systems, rotary wing dynamics and aerodynamics, aeroelasticity, stability and control, stall, noise and more. Wayne Johnson has worked for the U.S. Army and NASA at the Ames Research Center in California. Through his company Johnson Aeronautics, he is engaged in the development of software that is used throughout the world for the analysis of rotorcraft. In this book, Dr. Johnson has compiled a monumental resource that is essential reading for any student or aeronautical engineer interested in the design and development of vertical-flight aircraft.

## **Book Information**

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## **Customer Reviews**

Wont invest the time to fully understand this book as it's more of an engineers manual than for a

pilot (more of a pilot end of the spectrum for me) but is exceedingly insightful from the first paragraph onward. Helps greatly as an instructor for answering or backing up claims about helicopter's physics.

One of the best books out there on helicopter flight.

This turned out to be an excellent reference. Good history of the progression of helicopter design and evolution in the beginning was a nice bonus.

You need this book. It makes the absolute perfect reference. An invaluable resource to anyone dealing with rotor design or performance.

I give 5 stars because I believe it is a great scientific insight on the fluid dynamics and mathematical mechanics whatsoever about the helicopter flight/theory. However, I wanted something general/easier to understand insight about helicopter design, why some decisions in the design process are being favored instead of others etc without the necessity of understanding complicated equations etc. I guess I will just continue to search :)

Not too much needs to be said. Johnson is an expert in the field and the book is ridiculously thorough. Often overly analytical in terms of reading but this is geared towards engineers for sure. Read this book and understand it: you'll be able to build a helicopter. Sweet, right?

Figured this would be a good way to learn the principles behind helicopter flight... I have never been so wrong. This is a book for aeronautical engineers. It is not for the layman/enthusiast. It's as long as The Lord of The Rings, but with calculus and differential equations. I'm sure this is a good book, just not for me

I bought this book because I have flown helicopters in the past and wanted to learn a bit more about them. Good book.

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