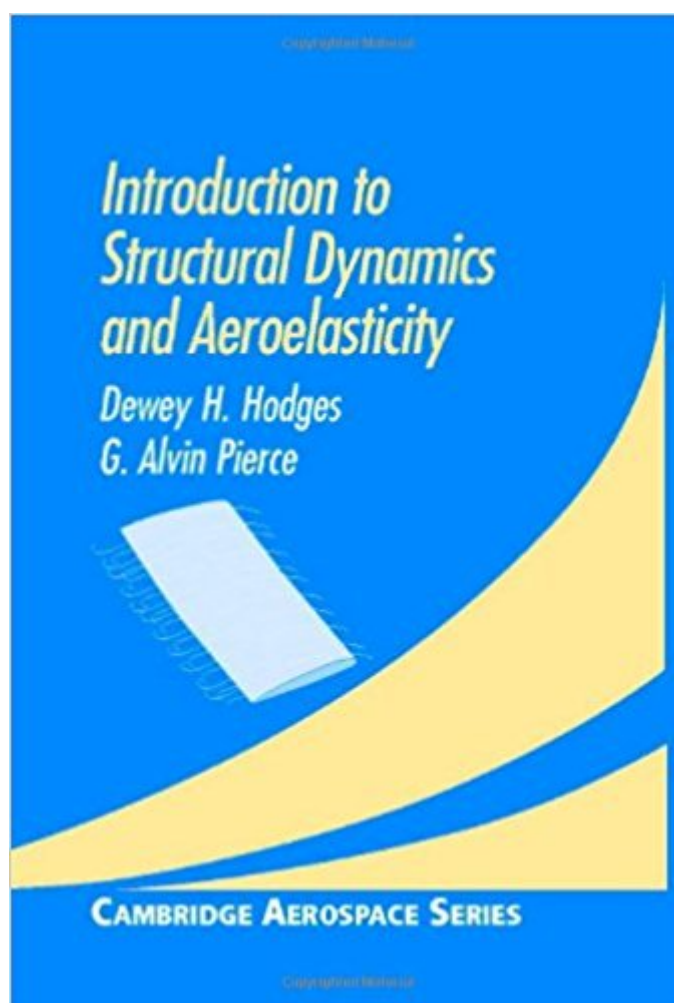


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# Introduction To Structural Dynamics And Aeroelasticity (Cambridge Aerospace Series)



## Synopsis

Here is an introduction to structural dynamics and aeroelasticity, with an emphasis on conventional aircraft. The primary areas considered are structural dynamics, static aeroelasticity and dynamic aeroelasticity. Aeroelastic phenomena discussed include divergence, aileron reversal, airload redistribution, unsteady aerodynamics, flutter and elastic tailoring. Over one hundred illustrations and tables help clarify the text, while more than fifty problems enhance student learning.

## Book Information

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## Customer Reviews

"Wonderfully written and full of vital information by two unequalled experts on the subject, this text meets the need for an up-to-date treatment of structural dynamics and aeroelasticity for advanced undergraduate or beginning graduate aerospace engineering students." *Current Engineering Practice*"Hodges and Pierce have written this significant publication to fill an important gap in aeronautical engineering education. Highly recommended." *Choice*"...a welcome addition to the textbooks available to those with interest in aeroelasticity.... As a textbook, it serves as an excellent resource for advanced undergraduate and entry-level graduate courses in aeroelasticity.... Furthermore, practicing engineers interested in a background in aeroelasticity will find the text to be a friendly primer." *AIAA Bulletin*

This text provides an introduction to structural dynamics and aeroelasticity, with an emphasis on conventional aircraft. The primary areas considered are structural dynamics, static aeroelasticity, and dynamic aeroelasticity. The structural dynamics material emphasizes vibration, the modal representation, and dynamic response. Aeroelastic phenomena discussed include divergence, aileron reversal, airload redistribution, unsteady aerodynamics, flutter, and elastic tailoring. More than one hundred illustrations and tables help clarify the text, while upwards of fifty problems enhance student learning. This text meets the need for an up-to-date treatment of structural dynamics and aeroelasticity for advanced undergraduate or beginning graduate aerospace engineering students.

This book does a decent job displaying the theories and equations for introductory structural dynamics. However it is lacking detailed explanation and step by step processes of how to derive and use the theories displayed. I wouldn't recommend buying it unless you needed it for a class, or you were doing graduate level work that did not require a lot of explanation.

The book is successfully condensed for the subject material. It is a wonderful book for engineers and scientists. Robert C. Tsao

The item was as described, clean and really looks new, and was shipped very fast.

Was very easy to install. The only cons for this item I can think of are that it is a bit expensive and that to open the basket, the front side needs to be bent outwards and only then can the bottom hook go through.

The book gives the beginning analyst a grasp of the math behind the most common flutter analysis methods. It is a short book, only about 150 pages. This means that you get a lot of understanding for very little reading. The "k" method and the method is described in sufficient detail in the book and the problems to enable the reader to perform the task on a simple model. The "p-k" method seems doable but it isn't as cook book. The "g" method is not covered. It does not cover nonlinear flutter. If it included a chapter on limit cycle oscillations it would give the beginning analyst a fairly complete understanding of the math behind flutter.

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