

Missile configuration design.

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[Meeting Minutes](#)
[Awards](#)
[Technical References](#)
[Surveys](#)
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[APA Social Outing: 2017 Summer Conference - survey of Interest](#)
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This page contains a list of recommended technical references that will be fundamentally important to the field. Document types include two-fold: to offer a new worker in applied aerodynamics a list of favored references between applied aerodynamicists and the AIAA Applied Aerodynamics Technical Committee.

Vehicle Aerodynamics

- **Title:** *Missile Configuration Design*
Author: S.S. Chin
Format: Reference
Source: Out of print. Last reproduced by University Microfilms
Comment: Aerodynamics is given primary emphasis during the design process, slanted primarily towards the aerodynamicist in preliminary information.
- **Title:** *Fluid-Dynamic Lift*
Author: S. F. Hoerner and H.V. Borst
Format: Reference
Source: Hoerner Fluid Dynamics, P.O. Box 342, Brick Town, NJ
Comment: Information on lift and its derivatives

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- **Title:** *Fluid-Dynamic Drag*
Author: S. F. Hoerner
Format: Reference
Source: Hoerner Fluid Dynamics, P.O. Box 342, Brick Town, NJ
Comment: Theoretical, experimental, and statistical information
- **Title:** *Missile Aerodynamics*
Author: Jack N. Nielsen
Format: Reference
Source: University Microfilms International Ann Arbor, MI
Comment: The "Bible" of missile aerodynamics.
- **Title:** *Lift, and Center of Pressure of Wing-Body-Tail Combinations*
Author: Pitts, William C., Nielsen, Jack N., and Kaattari, G.
Format: *NACA Report*
Source: *NACA Report 1307, 1959*
Comment: *The fundamental work behind the "component method". Contains charts and equations for wing-body and wing-tail combinations. Includes similar documents and computer codes.*
- **Title:** *Aerodynamics of V/STOL Flight*
Author: McCormick, Barnes
Format: Textbook
Source: Academic Press, 1967
Comment: Aerodynamics and performance of a variety of V/STOL configurations, including propellers, fan-in-wing, augmented wings, and ground effect.
- **Title:** *Theory of Wing Sections*
Author: Ira H. Abbott and Albert E. von Doenhoff
Format: Paperback textbook
Source: Dover Publications, Inc., New York, 1959
Comment: Data source on 2D airfoil cross sections, including airfoil characteristics.

Flight Dynamics

- **Title:** *Dynamics of Atmospheric Flight*
Author: Bernard Etkin
Format: Text/reference
Source: John Wiley and Sons Inc., 1972
Comment: Good reference for general equations of motion, airfoil characteristics, and their effects on stability and control.
- **Title:** *Stability and Control of Airplanes and Helicopters*
Author: Seckel, Edward

Format: Textbook

Source: Academic Press, 1964

Comment: Excellent discussion of fundamental aerodynamics

Fluid Dynamics

- **Title:** *The Dynamics and Thermodynamics of Compressible Fluids*
Author: Ascher H. Shapiro
Format: Hardcover textbook
Source: The Ronald Press Company, New York, 1953.
Comment: Certainly one of the most widely used texts on compressible flow
- **Title:** *Basic Equations of Engineering Science*
Author: William F. Hughes and Eber W. Gaylord
Format: Paperback textbook
Source: Schaum Publishing Co., New York, 1964
Comment: Includes a good source for the Navier-Stokes equations
- **Title:** *Theoretical Hydrodynamics*
Author: L. M. Milne-Thompson
Format: Hardcover textbook
Source: The Macmillan Company, New York, 3rd ed, 1966
Comment: A good reference on the use of complex variables
- **Title:** *Shape and Flow (The Fluid Dynamics of Drag)*
Author: Ascher H. Shapiro
Format: Paperback
Source: Doubleday & Company, Inc., New York, 1961
Comment: A nonmathematical introduction to fluid flow
- **Title:** *Elements of Hypersonic Aerodynamics*
Author: R. N. Cox and L. F. Crabtree
Format: Hardcover textbook
Source: The English Universities Press LTD, London, 1961
Comment: Most of the basic analytical methods for hypersonic flow
- **Title:** *Computational Fluid Mechanics and Heat Transfer*
Author: John C. Tannehill, Dale A. Anderson, and Richard G. Street
Format: Hardcover textbook
Source: Taylor & Francis, Washington, 2nd ed, 1997
Comment: *The text on CFD.*
- **Title:** *Equations, Tables, and Charts for Compressible Flow*
Author: Ames Research Staff

Format: NACA Report

Source: U. S. Government Printing Office, 1953

Comment: Widely used classic on the basic 1D and quasi-equations for calorically perfect gas flow including oblique (shock cone), and Prandtl-Meyer flow. Includes some nonideal gas

- **Title:** *Convective Heat and Mass Transfer*
Author: William M. Kays and Michael E. Crawford
Format: Hardcover textbook
Source: McGraw-Hill Book Company, New York, 2nd ed., 1980
Comment: A practical and readable source for many of the results.
- **Title:** *Viscous Fluid Flow*
Author: Frank Mangrem White
Format: Hardcover textbook
Source: McGraw-Hill Book Company, New York, 1974
Comment: One of the most readable textbooks on fluid dynamics
- **Title:** *Applied Fluid Dynamics Handbook*
Author: Robert D. Blevins
Format: Hardcover textbook
Source: Van Nostrand Reinhold Company, New York, 1982
Comment: A large compilation of empirical data on fluid discharge coefficients, wake shear-layer spreading, atmospheric
- **Title:** *Boundary Layer Theory*
Author: Hermann Schlichting
Format: Hardcover textbook
Source: McGraw-Hill Book Company, New York, 7th ed., 1979
Comment:
- **Title:** *Gas Dynamics*
Author: Maurice J. Zucrow and Joe D. Hoffman
Format: Text/reference
Source: John Wiley and Sons, Inc., 1976
Comment: Covers the basics of gas dynamics. Includes the

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Author:

Format: *e.g., textbook, report, journal article, ...*

Source: *publisher, date*

Comment: *description of material if not obvious from title*

