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| Nota di contenuto | Front Cover; Aeronautical Engineer's Data Book; Copyright Page; Contents; Preface; Acknowledgements; Disclaimer; Chapter 1. Important regulations and directives; Chapter 2. Fundamental dimensions and units; 2.1 The Greek alphabet; 2.2 Units systems; 2.3 Conversions; 2.4 Consistency of units; 2.5 Foolproof conversions: using unity brackets; 2.6 Imperial-metric conversions; 2.7 Dimensional analysis; 2.8 Essential mathematics; 2.9 Useful references and standards; Chapter 3. Symbols and notations; 3.1 Parameters and constants; 3.2 Weights of gases; 3.3 Densities of liquids at 0°C<br>3.4 Notation: aerodynamics and fluid mechanics3.5 The International Standard Atmosphere (ISA); Chapter 4. Aeronautical definitions; 4.1 Forces and moments; 4.2 Basic aircraft terminology; 4.3 Helicopter terminology; 4.4 Common aviation terms; 4.5 Airspace terms; Chapter 5. Basic fluid mechanics; 5.1 Basic properties; 5.2 Flow equations; 5.3 Flow regimes; 5.4 Boundary layers; 5.5 Isentropic flow; 5.6 Compressible 1D flow; 5.7 Normal shock waves; 5.8 Axisymmetric flows; 5.9 Drag coefficients; Chapter 6. Basic aerodynamics; 6.1 General airfoil theory; 6.2 Airfoil coefficients<br>6.3 Pressure distributions6.4 Aerodynamic centre; 6.5 Centre of pressure; 6.6 Supersonic conditions; 6.7 Wing loading: semi-ellipse |

assumption; Chapter 7. Principles of flight dynamics; 7.1 Flight dynamics-conceptual breakdown; 7.2 Axes notation; 7.3 The generalized force equations; 7.4 The generalized moment equations; 7.5 Non-linear equations of motion; 7.6 The linearized equations of motion; 7.7 Stability; Chapter 8. Principles of propulsion; 8.1 Propellers; 8.2 The gas turbine engine: general principles; 8.3 Engine data lists; 8.4 Aero engine terminology; 8.5 Power ratings
Chapter 9. Aircraft performance9.1 Aircraft roles and operational profile; 9.2 Aircraft range and endurance; 9.3 Aircraft design studies; 9.4 Aircraft noise; 9.5 Aircraft emissions; Chapter 10. Aircraft design and construction; 10.1 Basic design configuration; 10.2 Materials of construction; 10.3 Helicopter design; 10.4 Helicopter design studies; Chapter 11. Airport design and compatibility; 11.1 Basics of airport design; 11.2 Runway pavements; 11.3 Airport traffic data; 11.4 FAA-AAS Airport documents; 11.5 Worldwide airport geographical data; 11.6 Airport reference sources and bibliography
Chapter 12. Basic mechanical design12.1 Engineering abbreviations; 12.2 Preferred numbers and preferred sizes; 12.3 Datums and tolerances-principles; 12.4 Toleranced dimensions; 12.5 Limits and fits; 12.6 Surface finish; 12.7 Computer aided engineering; Chapter 13. Reference sources; 13.1 Websites; 13.2 Fluid mechanics and aerodynamics; 13.3 Manufacturing/materials/structures; 13.4 Aircraft sizing/multidisciplinary design; 13.5 Helicopter technology; 13.6 Flying wings; 13.7 Noise; 13.8 Landing gear; 13.9 Aircraft operations; 13.10 Propulsion
Appendix 1. Aerodynamic stability and control derivatives

Sommario/riassunto

This is an essential handy guide containing useful up to date information regularly needed by the student or practising engineer. Covering all aspects of aircraft, both fixed wing and rotary craft, this pocket book provides quick access to useful aeronautical engineering data and sources of information for further in-depth information.Quick reference to essential dataMost up to date information available