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Titolo	Aircraft propulsion systems technology and design [[electronic resource] /] / edited by Gordon C. Oates
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Descrizione fisica	1 online resource (535 p.)
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Altri autori (Persone)	OatesGordon C
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Soggetti	Aircraft gas-turbines Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Note generali	The last of three texts on aircraft propulsion technology planned by Gordon C. Oates. Other titles: Aerothermodynamics of gas turbine and rocket propulsion (c1988); Aerothermodynamics of aircraft engine components (c1985).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""Cover""; ""Title""; ""Copyright""; ""Foreword""; ""Table of Contents""; ""Chapter 1. Design and Development of Aircraft Propulsion Systems""; ""1.1 Introduction""; ""1.2 Engine Design Objectives""; ""1.3 Effect of Thermodynamic Variables on Engine Performance""; ""1.4 Development of Thrust""; ""1.5 Off-Design Performance of Gas Turbine Propulsion Engines""; ""1.6 Losses in Available Energy""; ""1.7 Interrelations Among Aerodynamic Components""; ""1.8 Interaction with Other Specialties""; ""1.9 Advanced Flow Calculations""; ""1.10 Biography of a Typical Engine"" ""Chapter 2. Turbopropulsion Combustion Technology""""2.1 Introduction""; ""2.2 Combustion System Description/Definitions""; ""2.3 Component Considerations""; ""2.4 Design Tools""; ""2.5 Future Requirements""; ""2.6 Conclusions""; ""Chapter 3. Engine/Airframe Performance Matching""; ""3.1 Introduction""; ""3.2 Mission Analysis""; ""3.3 Optimization of Engine/Airplane Match""; ""3.4 Sensitivity and Influence Coefficients""; ""3.5 Computer Simulation of Gas Turbine Engines""; ""Chapter 4. Inlets and Inlet/Engine Integration""; ""4.1

Introduction"

"4.2 Elements of a Successful Inlet/Engine Integration Program""4.3

Definition of Subsonic Inlet/Engine Operational Requirements"; "4.4

Definition of Supersonic Inlet/Engine Operational Requirements"; "4.5

Engine Impact on Inlet Design"; "4.6 Inlet Impact on Engine Design";

"4.7 Validation of Inlet/Engine System"; "Chapter 5. Variable

Convergent-Divergent Exhaust Nozzle Aerodynamics"; "5.1

Introduction"; "5.2 Nozzle Concept"; "5.3 Performance Predictions";

"5.4 Aerodynamic Load Predictions"; "Chapter 6. Engine Operability";

"6.1 Introduction"; "6.2 Definitions"

"6.3 Stability Assessment""6.4 Aerodynamic Interface Plane"; "6.5

Total Pressure Distortion"; "6.6 Total Temperature Distortion"; "6.7

Planar Waves"; "6.8 Recoverability"; "6.9 Analytical Techniques";

"6.10 Summary"; "Chapter 7. Aeroelasticity and Unsteady

Aerodynamics"; "7.1 Introduction"; "7.2 Overview of Turbomachinery

Flutter"; "7.3 Brief Survey of Turbomachinery Flutter Regimes"; "7.4

Elementary Considerations of Aircraft Wing Flutter"; "7.5 Fundamental

Differences Between Turbomachinery Flutter and Wing Flutter"

"7.6 Fundamental of Unsteady Aerodynamic Theory for Isolated

Airfoils""7.7 Unsteady Aerodynamic Theory for Cascaded Airfoils";

"7.8 Dynamic Stall-Empiricism and Experiment"; "7.9 Coupled Blade-

Disk-Shroud Stability Theory"; "Subject Index"; "A"; "B"; "C"; "D";

"E"; "F"; "G"; "H"; "I"; "K"; "L"; "M"; "N"; "O"; "P"; "R";

"S"; "T"; "U"; "V"; "W"

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