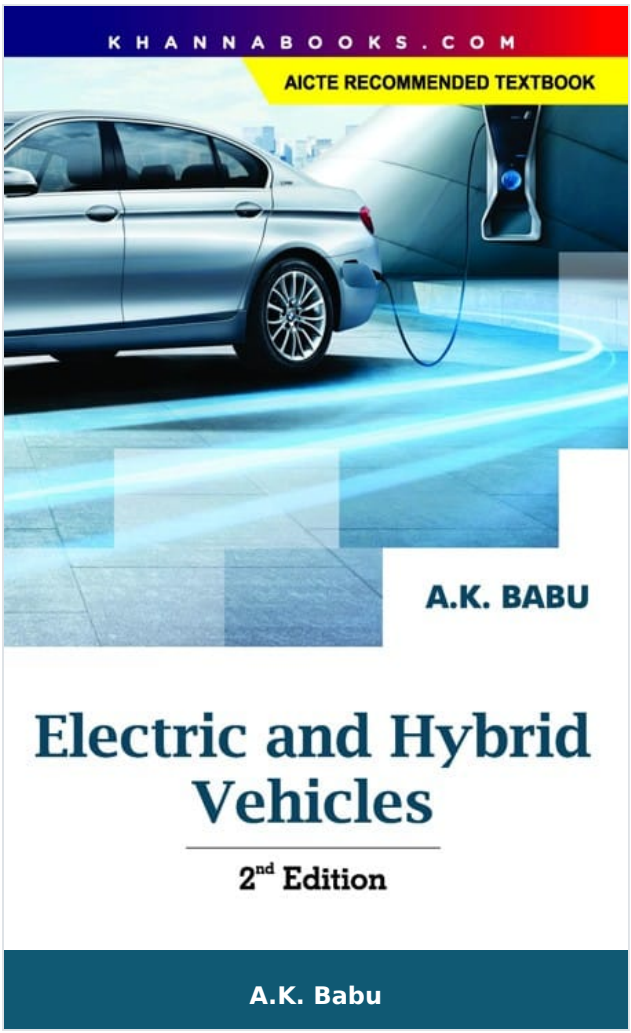

Electric & Hybrid Vehicles

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Product Description

This book is written to be easy to read and to meet the critical skill requirements of students studying Automobile Engineering, Mechanical Engineering and Electrical Engineering. The content is organized into 25 easy-to understand chapters. The fundamentals, electric vehicles (EVs), hybrid electric vehicles (HEVs), and fuel cell vehicles (FCVs) are all covered in this book. it covers the performance, configuration, and control strategy of several electric and hybrid electric vehicles in details. Colleges and technical universities offering core and elective subjects like Electric and hybrid Vehicles and New Generation Vehicles can utilize this course book as a textbook and major reference book.

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- Electric Vehicle Evolution
- History of Hybrid Vehicles
- Electric Vehicle
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- Performance of Electric Vehicles
- Charging
- Indian Electric Vehicles
- Hybrid Vehicles
- Hybridisation
- Drive Configuration of HEVs
- Performance of Hybrid Vehicles
- Fuel Cell Electric Vehicle (FCEV)
- Comparison
- Transmission in EVs
- Hybrid Cars in India
- Steering System for EVs and HEVs
- Suspension System for EVs And HEVs

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- Brake System For EVs
- Best Electric and Hybrid Cars.

Author

A.K. Babu

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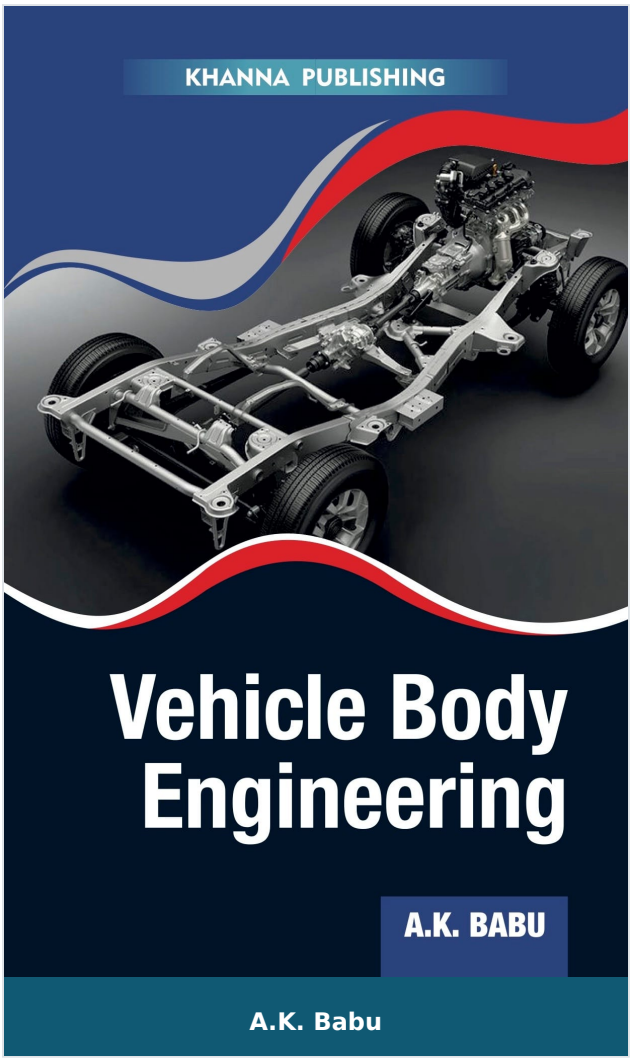

Vehicle Body Engineering

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ISBN 10 :	9390779014
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Edition :	First
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Product Description

This book is designed for students undertaking a subject 'Vehicle Body Engineering/Auto Body Engineering' in the undergraduate and postgraduate programme of Automobile Engineering as per the latest revised syllabus of all Indian Universities. The book Provides a clear explanation of vehicle body parts and systems with unique illustrations. Each chapter takes the reader systematically through the details of each type of vehicle body such as car body, bus body, commercial vehicle body, etc. Key topics are emphasized and are reinforced by numerous illustrations. The book should also be a valuable source of information and reference.-

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- Commercial vehicle details
- Vehicle aerodynamics
- Body materials, trim, mechanisms and body repair
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- Index

Author

A.K. Babu

A.K. Babu A.K.Babu is working as Associate Professor in the Department of Automobile Engineering, SRM Easwari Engineering College, Chennai, India. He has over 18 years of experience in teaching, research and industry. A.K.Babu, completed his Master Degree in Automobile Engineering from Madras Institute of Technology (M.I.T.), Anna University (1997). He has served in other countries like Malaysia, Ethiopia and Eritrea for more than 5 years. A.K.Babu has published considerable number of research papers in international journals and conferences. His research paper published in SAE Journal of Fuels and Lubricants awarded one the most outstanding papers in the year 2003.

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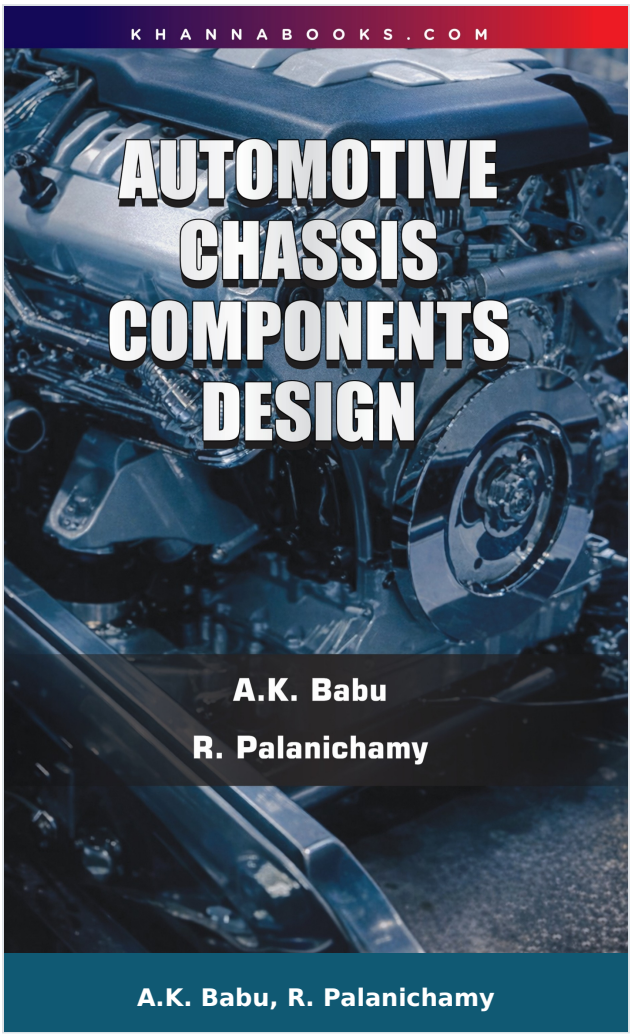

Automotive Chassis Components Design

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Product Description

Automotive Chassis Components Design

Automotive Chassis Components Design is a comprehensive academic and professional guide dedicated to the intricate engineering of a vehicle’s skeletal and foundational systems. Authored by A. K. Babu, the text serves as a vital bridge between theoretical mechanics and practical automotive design, focusing on the five basic components that define a modern automobile: the power plant, chassis, power train, body, and accessories. The book provides an in-depth exploration of the “running gear,” including the frame, suspension, steering, brakes, and wheels—systems that directly impact riding comfort, vehicle stability, and safety.

Designed for students of automotive and mechanical engineering, as well as practicing professionals in the automotive industry, the book maintains a rigorous academic tone while ensuring concepts are accessible through detailed diagrams and solved problems. Its core theme revolves around the functional integration of components to withstand dynamic and static loads, optimize maneuverability, and ensure passenger comfort. From the design of heavy-duty truck frames to the precise gear ratios of synchromesh gearboxes, this text provides the analytical tools required to design safe and efficient modern vehicles.

Salient Features:

• **Comprehensive Frame Analysis**: Detailed study of conventional, integral, and semi-integral frames, focusing on materials like carbon steel and their resistance to vertical bending and torsion.

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• **Axle and Load Design**: Comprehensive design methodologies for front and rear axles, examining load distribution, stresses, and the mechanics of semi-floating vs. full-floating types.

• **Advanced Suspension Systems**: Practical insights into leaf and coil springs, including the design of torsion bars and methods to reduce inter-leaf friction for better handling.

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- Vehicle Frame
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- Driveline
- Final Drive
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- Rear Axie
- Suspension
- Steering

Author

A.K. Babu

A.K. Babu A.K.Babu is working as Associate Professor in the Department of Automobile Engineering, SRM Easwari Engineering College, Chennai, India. He has over 18 years of experience in teaching, research and industry. A.K.Babu, completed his Master Degree in Automobile Engineering from Madras Institute of Technology (M.I.T.), Anna University (1997). He has served in other countries like Malaysia, Ethiopia and Eritrea for more than 5 years. A.K.Babu has published considerable number of research papers in international journals and conferences. His research paper published in SAE Journal of Fuels and Lubricants awarded one the most outstanding papers in the year 2003.

R. Palanichamy

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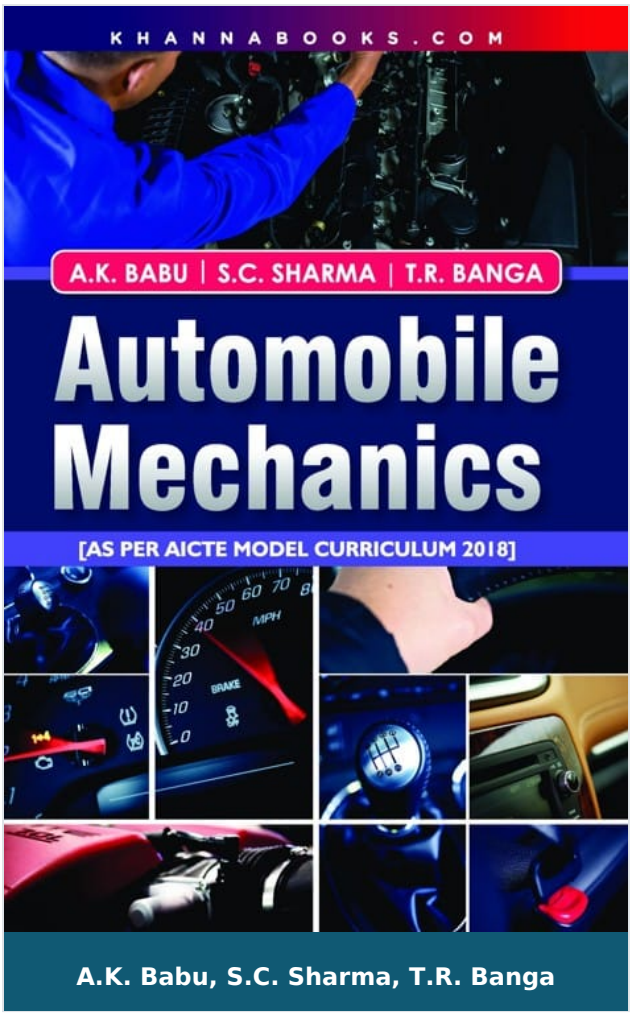

Automobile Mechanics

Author :	A.K. Babu, S.C. Sharma, T.R. Banga
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Product Description

The book is designed to become a valid source of information to assist the student both in and out of the classroom to attain his or her objective. the structure of the text book is as follows:

Chapter 1 is an introduction to the book, covering the basic information on automobiles.

Chapter 2 deals with engines and their auxiliary units.

Chapters 3-10 cover several aspects of design of automobile components - SI system, background mathematics and advice on problem solving, particularly exam questions.

Chapters 11-15 cover essential theory part of support system for vehicles. Numerous designs and fully worked problems are provided at the end of the chapter. It is expected that as the student works through the examples and problems, he or she will develop a greater understanding of the mathematics required for engineering. To help the student develop a sound grasp of the principles covered there are many diagrams, notes and applications as an aid to develop knowledge and facilitate understanding.

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- Chapter-4. Clutch
- Chapter-5. Gearbox
- Chapter-6. Propeller-shaft Assembly
- Chapter-7. Final Drive and Differential Assembly
- Chapter-8. Axle
- Chapter-9. Steering
- Chapter-10. Suspension System
- Chapter-11. Brake System
- Chapter-12. Wheel and Tyre
- Chapter-13. Vehicle Electrical System
- Chapter-14. Instruments and Accessories

Author

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A.K. Babu A.K.Babu is working as Associate Professor in the Department of Automobile Engineering, SRM Easwari Engineering College, Chennai, India. He has over 18 years of experience in teaching, research and industry. A.K.Babu, completed his Master Degree in Automobile Engineering from Madras Institute of Technology (M.I.T.), Anna University (1997). He has served in other countries like Malaysia, Ethiopia and Eritrea for more than 5 years. A.K.Babu has published considerable number of research papers in international journals and conferences. His research paper published in SAE Journal of Fuels and

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S.C. Sharma

S.C. Sharma after graduation in 1966 joined as lecturer in Mechanical Engineering. He had been associated for more than 4 decades in various fields including learning and management of projects in India and abroad in different capacities. While working Hydro power projects for more than 15 years he has actively associated with various environmental and rehabilitation & resettlement issues and successfully resolved various complicated issues. He has also worked as consultant for matters related to safety, environment and R & R. He has written about a dozen books on subjects related to engineering and management including management of projects.

T.R. Banga

T.R. Banga He is Formerly Principal Govt. Polytechnic , Alwar Rajasthan

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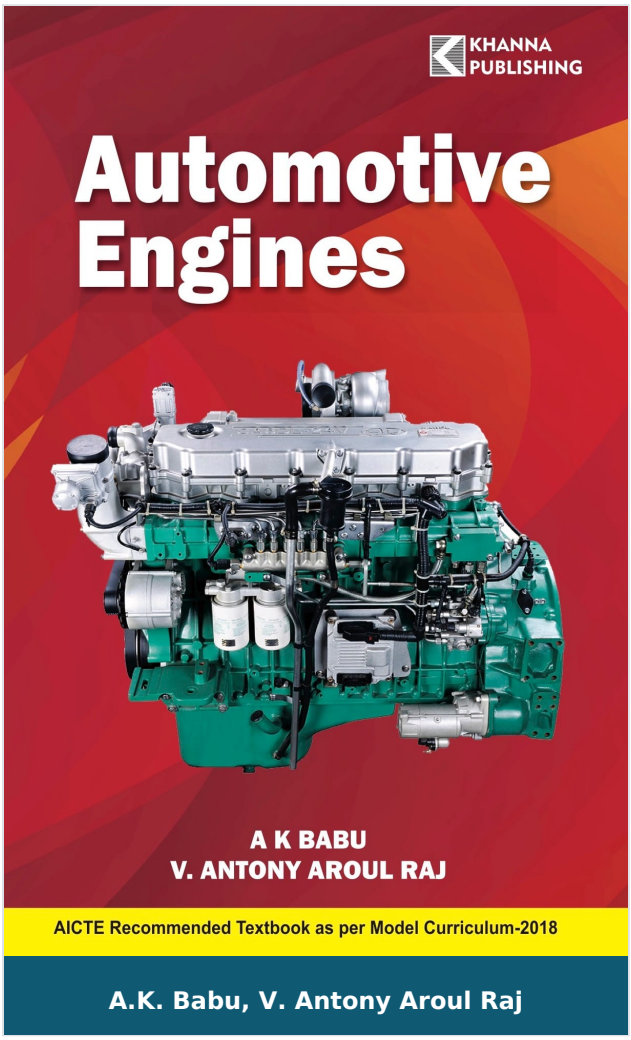

Automotive Engines

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Product Description

This book is designed to meet the requirements of the students of Mechanical Engineering and Automobile Engineering. It is based on the latest syllabi prescribed by different Technical Colleges and Universities in India. Each chapter is describes in simple, non-technical language and explains by clear illustrations that how engine parts and systems are constructed, how the part works, and what is required to maximize performance in terms of power, speed, economy and safety.

The important short and long review questions which the are included at the end of each chapter are taken from previous semesters question papers of various Technical colleges and Universities. This book is intended to be used as a Text and for Reference by colleges and technical universities offering subjects like Automotive Engines and Internal Combustion Engines.

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- Engine Testing
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- Emission and Control
- Review Question

Author

A.K. Babu

A.K. Babu A.K.Babu is working as Associate Professor in the Department of Automobile Engineering, SRM Easwari Engineering College, Chennai, India. He has over 18 years of experience in teaching, research and industry. A.K.Babu, completed his Master Degree in Automobile Engineering from Madras Institute of Technology (M.I.T.), Anna University (1997). He has served in other countries like Malaysia, Ethiopia and Eritrea for more than 5 years. A.K.Babu has published considerable number of research papers in international journals and conferences. His research paper published in SAE Journal of Fuels and Lubricants awarded one the most outstanding papers in the year 2003.

V. Antony Aroul Raj

V. Antony Aroul Raj Dr.V.Antony Aroul Raj is a Professor in the Department of Mechanical Engineering, SRM Easwari Engineering College, Chennai, India. He has over 15 years of research and teaching experience. Dr.V.Antony Aroul Raj obtained B. E. Degree in Mechanical Engineering from the Pondicherry Engineering College (1993) and a Ph.D in

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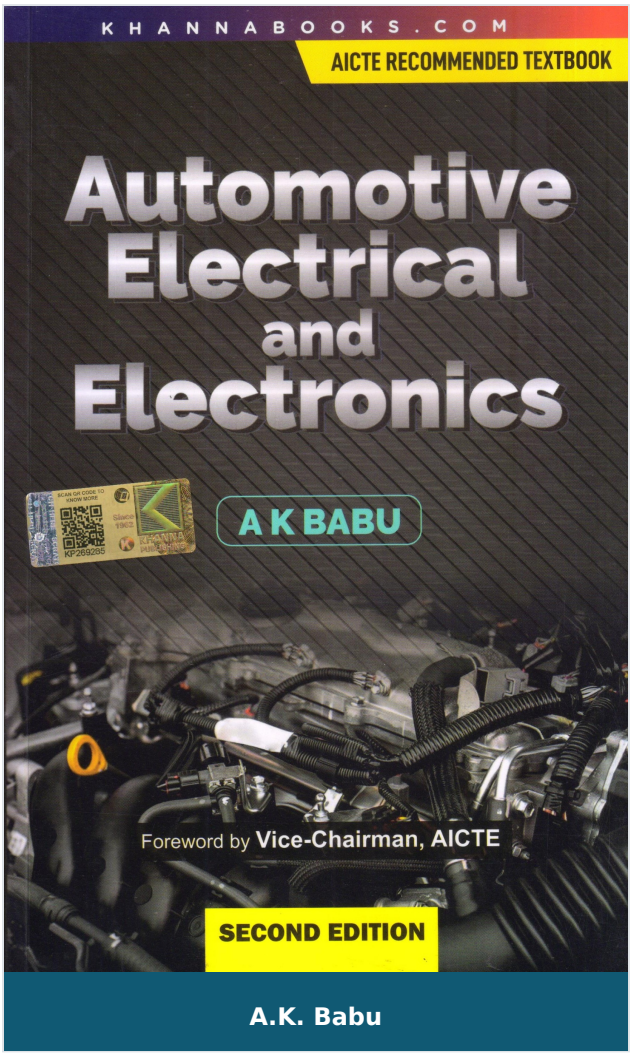

Automotive Electrical and Electronics

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Product Description

Automobile engineering is a field that has been witnessing tremendous technological developments in recent years, noteworthy among them being next generation hybrid cars and self-driving cars. This book is designed for students who take up the study of the subject 'Automotive Electrical and Electronics' as part of the curriculum requirements of the Automobile Engineering Degree as per the latest revised syllabus of all Indian Universities. The book offers a clear introduction to the Electrical and Electronics Components and Systems used in modern today's vehicles with the aid of several illustrations to facilitate easy comprehension and full understanding. It is anticipated that this comprehensive book will be a valuable source of information and reference to not only undergraduate and postgraduate students but also to the teaching fraternity. Key topics are given due emphasis and important concepts are reinforced with the help of numerous illustration enabling better understanding. It is sincerely hoped that this resource and reference book, written with the intention to provide a sound grounding, will ignite young minds and spark the desire for learning.

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- Microcomputer Controlled Devices
- Index

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