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The scope of engines covered includes general-purpose engines found in heavy commercial vehicles, railway locomotives and vehicles, electrical generators, prime movers, and marine engines. Such engines are technical precursors to automotive engines. This book is for all who deal with engine failures: those who work in repair shops, shipyards, engineering consultancies, insurance companies and technical oversight organizations, as well as R&D departments at engine and component manufacturers. Researchers, academics, and students will learn how even the theoretically impossible can—and will—happen.


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By Fuquan Zhao
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The first third of the book covers improvements to existing technologies—engines, transmissions, bodies and materials—for better fuel economy. The second portion of the book delves into alternate fuel sources for vehicles and associated technologies. The focus of the final third of the book is the emergence of the smart car. Readers will come away with a renewed understanding of the complicated set of trends that will affect the automotive industry for the next 20 years, and how to effectively address them.

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Author John German reviews the development history of hybrid vehicles and the current state of hybrid technology, including battery types and chemistries. He also highlights the cycles of fuel availability, fuel economy, and concern for environmental issues, and profiles government efforts to spur development of more efficient vehicles.

Future enhancements, including more sophisticated hybrid control strategies and integrating additional electrical components to improve efficiency, are also featured. Cost reduction, being a major barrier to mass market adoption, is also discussed. Finally, future sales and market forecasts are offered, including the belief that hybrid sales will rapidly increase after approximately 2020 and will capture about 75% of the market by about 2030.

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Authored by international experts from both industry and academia, they cover a wide range of cutting-edge subjects including powertrain electrification, alternative fuels, new emissions standards and remediation strategies, nanotechnology, sustainability, in-vehicle networking, and how various countries are also stepping up to the “green challenge”.

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By Iqbal Husain
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978-1-4398117-5-7, 523 pp., Hardbound 2010.
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The 27 papers included in this volume chronicle the best of Honda's documented technical advancements from October 2009 through April 2010 and cover automotive, motorcycle, power products, and other fundamental technologies.
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Dictionary of Automotive Engineering
By Ingo Stuben
Unlike standard dictionaries, this specialized dictionary provides valuable aid to the expert (engineer or mechanic), student, and other interested parties who seek a better understanding of technical terms and precise definitions specific to automobiles.
978-3-8169-2941-3, 328 pp., Paperbound 2010.
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