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Autore	Mashadi Behrooz
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Sommario/riassunto

The powertrain is at the heart of vehicle design; the engine - whether it is a conventional, hybrid or electric design - provides the motive power, which is then managed and controlled through the transmission and final drive components. The overall powertrain system therefore defines the dynamic performance and character of the vehicle. The design of the powertrain has conventionally been tackled by analyzing each of the subsystems individually and the individual components, for example, engine, transmission and driveline have received considerable attention in textbooks over the past decades. The key theme of this book is to take a systems approach - to look at the integration of the components so that the whole powertrain system meets the demands of overall energy efficiency and good drivability. Vehicle Powertrain Systems provides a thorough description and analysis of all the powertrain components and then treats them together so that the overall performance of the vehicle can be understood and calculated. The text is well supported by practical problems and worked examples. Extensive use is made of the MATLAB (R) software and many example programmes for vehicle calculations are provided in the text. Key features:

- * Structured approach to explaining the fundamentals of powertrain engineering
- * Integration of powertrain components into overall vehicle design
- * Emphasis on practical vehicle design issues
- * Extensive use of practical problems and worked examples
- * Provision of MATLAB (R) programmes for the reader to use in vehicle

performance calculations. This comprehensive and integrated analysis of vehicle powertrain engineering provides an invaluable resource for undergraduate and postgraduate automotive engineering students and is a useful reference for practicing engineers in the vehicle industry.
