

Motorcycle Chassis Design

The Theory And Practice

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Race Car Design - Derek Seward 2017-09-16
Based on the principles of engineering science, physics and mathematics, but assuming only an elementary understanding of these, this textbook masterfully explains

the theory and practice of the subject. Bringing together key topics, including the chassis frame, suspension, steering, tyres, brakes, transmission, lubrication and fuel systems, this is the first text to cover all the essential elements of race

car design in one student-friendly textbook. It avoids the pitfalls of being either too theoretical and mathematical, or else resorting to approximations without explanation of the underlying theory. Where relevant, emphasis is placed on the important role that computer tools play in the modern design process. This book is intended for motorsport engineering students and is the best possible resource for those involved in Formula Student/FSAE. It is also a valuable guide for practising car designers and constructors, and enthusiasts.

Ergonomics in the Automotive Design Process -

Vivek D. Bhise 2016-04-19

The auto industry is facing tough competition and severe economic constraints. Their products need to be designed "right the first time" with the right combinations of features that not only satisfy the customers but continually please and delight them by providing increased functionality, comfort,

convenience, safety, and craftsmanship. Based on **t Cycle World Magazine - 1984-01**

Semi-Active Suspension Control Design for Vehicles -

Sergio M. Savaresi 2010-08-13

Semi-Active Suspension Control Design for Vehicles

presents a comprehensive discussion of designing control algorithms for semi-active suspensions. It also covers performance analysis and control design. The book evaluates approaches to different control theories, and it includes methods needed for analyzing and evaluating suspension performances, while identifying optimal performance bounds. The structure of the book follows a classical path of control-system design; it discusses the actuator or the variable-damping shock absorber, models and technologies. It also models and discusses the vehicle that is equipped with semi-active dampers, and the control algorithms. The text can be viewed at three

different levels: tutorial for novices and students; application-oriented for engineers and practitioners; and methodology-oriented for researchers. The book is divided into two parts. The first part includes chapters 2 to 6, in which fundamentals of modeling and semi-active control design are discussed. The second part includes chapters 6 to 8, which cover research-oriented solutions and case studies. The text is a comprehensive reference book for research engineers working on ground vehicle systems; automotive and design engineers working on suspension systems; control engineers; and graduate students in control theory and ground vehicle systems. Appropriate as a tutorial for students in automotive systems, an application-oriented reference for engineers, and a control design-oriented text for researchers that introduces semi-active suspension theory and practice Includes explanations of two innovative

semi-active suspension strategies to enhance either comfort or road-holding performance, with complete analyses of both Also features a case study showing complete implementation of all the presented strategies and summary descriptions of classical control algorithms for controlled dampers

Electric Vehicle Technology Explained - James Larminie
2012-09-17

Fully updated throughout, *Electric Vehicle Technology, Second Edition*, is a complete guide to the principles, design and applications of electric vehicle technology. Including all the latest advances, it presents clear and comprehensive coverage of the major aspects of electric vehicle development and offers an engineering-based evaluation of electric motor scooters, cars, buses and trains. This new edition includes: important new chapters on types of electric vehicles, including pickup and linear motors, overall efficiencies and energy

consumption, and power generation, particularly for zero carbon emissions expanded chapters updating the latest types of EV, types of batteries, battery technology and other rechargeable devices, fuel cells, hydrogen supply, controllers, EV modeling, ancillary system design, and EV and the environment brand new practical examples and case studies illustrating how electric vehicles can be used to substantially reduce carbon emissions and cut down reliance on fossil fuels futuristic concept models, electric and high-speed trains and developments in magnetic levitation and linear motors an examination of EV efficiencies, energy consumption and sustainable power generation. MATLAB® examples can be found on the companion website www.wiley.com/go/electricvehicle2e Explaining the underpinning science and technology, this book is essential for practicing electrical, automotive, power,

control and instrumentation engineers working in EV research and development. It is also a valuable reference for academics and students in automotive, mechanical, power and electrical engineering.

Total Control - Lee Parks
2003-07-12

Today's super high-performance bikes are the most potent vehicles ever sold to the public and they demand advanced riding skills. This is the perfect book for riders who want to take their street riding skills to a higher level. Total Control explains the ins and outs of high-performance street riding. Lee Parks, one of the most accomplished riders, racers, authors and instructors in the world, helps riders master the awe-inspiring performance potential of modern motorcycles. This book gives riders everything they need to develop the techniques and survival skills necessary to become a proficient, accomplished, and safer street rider. High quality photos, detailed instructions, and professional diagrams highlight

the intricacies and proper techniques of street riding. Readers will come away with a better understanding of everything from braking and cornering to proper throttle control, resulting in a more exciting yet safer ride.

Designing Embedded

Hardware - John Catsoulis
2002

Intelligent readers who want to build their own embedded computer systems-- installed in everything from cell phones to cars to handheld organizers to refrigerators-- will find this book to be the most in-depth, practical, and up-to-date guide on the market. Designing Embedded Hardware carefully steers between the practical and philosophical aspects, so developers can both create their own devices and gadgets and customize and extend off-the-shelf systems. There are hundreds of books to choose from if you need to learn programming, but only a few are available if you want to learn to create hardware. Designing Embedded Hardware provides software

and hardware engineers with no prior experience in embedded systems with the necessary conceptual and design building blocks to understand the architectures of embedded systems. Written to provide the depth of coverage and real-world examples developers need, Designing Embedded Hardware also provides a road-map to the pitfalls and traps to avoid in designing embedded systems. Designing Embedded Hardware covers such essential topics as: The principles of developing computer hardware Core hardware designs Assembly language concepts Parallel I/O Analog-digital conversion Timers (internal and external) UART Serial Peripheral Interface Inter-Integrated Circuit Bus Controller Area Network (CAN) Data Converter Interface (DCI) Low-power operation This invaluable and eminently useful book gives you the practical tools and skills to develop, build, and program your own application-specific computers.

The Automotive Chassis -

Giancarlo Genta 2019-12-24

This textbook draws on the authors' experience gained by teaching courses for engineering students on e.g. vehicle mechanics, vehicle system design, and chassis design; and on their practical experience as engineering designers for vehicle and chassis components at a major automotive company. The book is primarily intended for students of automotive engineering, but also for all technicians and designers working in this field. Other enthusiastic engineers will also find it to be a useful technical guide. The present volume (The Automotive Chassis - Volume 1: Component Design) focuses on automotive chassis components, such as:

- the structure, which is usually a ladder framework and supports all the remaining components of the vehicle;
- the suspension for the mechanical linkage of the wheels;
- the wheels and tires;
- the steering system;
- the brake system; and
- the transmission system, used to

apply engine torque to the driving wheels. This thoroughly revised and updated second edition presents recent developments, particularly in brake, steering, suspension and transmission subsystems. Special emphasis is given to modern control systems and control strategies.

Advanced Automotive Welding

- Gerald Utrachi 2012

With *Advanced Automotive Welding*, beginner to intermediate skill-level welders will be able to improve and complete more advanced projects. Using the techniques revealed in this book, you will be able to fabricate body panels, frames, and any number of structural and functional automotive components, and perform structural repair. Take your welding skills to the next level with this new Pro Series title.

Creating the Twentieth

Century - Distinguished Professor Department of Environment Vaclav Smil
2005-08-25

The two pre-World War I generations encompassed the

greatest innovative period in history. Technical inventions of 1867-1914 & their rapid improvement & commercialisation created new prime movers, materials, infrastructures & information means that provided the lasting foundations of the modern world.

Engine Testing - A. J. Martyr
2011-04-08

This book brings together the large and scattered body of information on the theory and practice of engine testing, to which any engineer responsible for work of this kind must have access. Engine testing is a fundamental part of development of new engine and powertrain systems, as well as of the modification of existing systems. It forms a significant part of the practical work of many automotive and mechanical engineers, in the auto manufacturing companies, their suppliers suppliers, specialist engineering services organisations, the motor sport sector, hybrid vehicles and tuning sector. The eclectic nature of engine, powertrain,

chassis and whole vehicle testing makes this comprehensive book a true must-have reference for those in the automotive industry as well as more advanced students of automotive engineering. * The only book dedicated to engine testing; over 4000 copies sold of the second edition * Covers all key aspects of this large topic, including test-cell set up, data management, dynamometer selection and use, air, thermal, combustion, mechanical, and emissions assessment * Most automotive engineers are involved with many aspects covered by this book, making it a must-have reference

Dynamical Analysis of Vehicle Systems - W.

Schiehlen 2009-05-21

This volume presents an integrated approach of the common fundamentals of rail and road vehicles based on multibody system dynamics, rolling wheel contact and control system design. The methods presented allow an efficient and reliable analysis of the resulting state

equations. The book provides also a better understanding of the basic physical phenomena of vehicle dynamics. Particular attention is paid to developments of future rail and road vehicles including motorcycles.

The United Nations Motorcycle Helmet Study -

United Nations Economic Commission for Europe
2016-03-31

This study examines issues, progress and challenges in efforts to improve the safety and wellbeing of motorcycle riders through the use of approved motorcycle helmets. The growth in motorcycles is accompanied by an increase in serious and fatal accidents. Evidence shows that once internationally harmonized helmet regulations, such as the UN Regulation No. 22 type-approval system for helmets, are in place and laws on helmet wearing are enforced, these trends tend to reverse. In examining the relationship of income growth and national motorcycle fleet expansion, this study argues the socio-

economic case for introduction of helmet regulations and their enforcement by delivering a benefit-cost analysis of taking such legislative actions.

Product Design and Development - Karl T. Ulrich
2003

Treating such contemporary design and development issues as identifying customer needs, design for manufacturing, prototyping, and industrial design, *Product Design and Development*, 3/e, by Ulrich and Eppinger presents in a clear and detailed way a set of product development techniques aimed at bringing together the marketing, design, and manufacturing functions of the enterprise. The integrative methods in the book facilitate problem solving and decision making among people with different disciplinary perspectives, reflecting the current industry trend to perform product design and development in cross-functional teams.

Vehicle Dynamics - Reza N. Jazar
2013-11-19

This textbook is appropriate for

senior undergraduate and first year graduate students in mechanical and automotive engineering. The contents in this book are presented at a theoretical-practical level. It explains vehicle dynamics concepts in detail, concentrating on their practical use. Related theorems and formal proofs are provided, as are real-life applications. Students, researchers and practicing engineers alike will appreciate the user-friendly presentation of a wealth of topics, most notably steering, handling, ride, and related components. This book also: Illustrates all key concepts with examples Includes exercises for each chapter Covers front, rear, and four wheel steering systems, as well as the advantages and disadvantages of different steering schemes Includes an emphasis on design throughout the text, which provides a practical, hands-on approach

PCB Design for Real-World

EMI Control - Bruce R.

Archambeault 2013-06-29

Proper design of printed circuit

boards can make the difference between a product passing emissions requirements during the first cycle or not.

Traditional EMC design practices have been simply rule-based, that is, a list of rules-of-thumb are presented to the board designers to implement. When a particular rule-of-thumb is difficult to implement, it is often ignored. After the product is built, it will often fail emission requirements and various time consuming and costly add-ons are then required. Proper EMC design does not require advanced degrees from universities, nor does it require strenuous mathematics. It does require a basic understanding of the underlying principles of the potential causes of EMC emissions. With this basic understanding, circuit board designers can make trade-off decisions during the design phase to ensure optimum EMC design. Consideration of these potential sources will allow the design to pass the emissions requirements the first time in the test laboratory. A number

of other books have been published on EMC. Most are general books on EMC and do not focus on printed circuit board is intended to help EMC engineers and design design. This book engineers understand the potential sources of emissions and how to reduce, control, or eliminate these sources. This book is intended to be a 'hands-on' book, that is, designers should be able to apply the concepts in this book directly to their designs in the real-world.
Cycle World Magazine - 1985-01

Cycle World Magazine - 1985-01

Cycle World Magazine - 1985-01

Cycle World Magazine - 1985-01

Motorcycle Maintenance Techbook - Editors of Haynes Manuals 2015-11-01
Motorcycle maintenance made easy: -- Aimed at the DIY mechanic and students

embarking on courses in motorcycle engineering -- Service tasks are described in detail and illustrated with over 900 color photographs -- Information on how to build up a toolkit and keep service records --Tools, testing and measuring equipment, oils and workshop equipment --Using a service schedule and keeping records --Engine: Oil and filter, valve clearances, compression test, air and fuel filters, carburetor balance, coolant, spark plugs, clutch and exhaust system --Chassis: Chain, sprockets, tires, disc brakes, drum brakes, wheel bearings, front forks, steering head bearings, rear shock, handlebars, swinging arm bearings, cables, footrests, stands and bodywork. -- Electrics: batter, fuses, bulbs, horn, switches and wiring -- Accessories: twin horns, fork gaiters, top box and drive chain oiler
Mechanics of Pneumatic Tires - United States. National Highway Traffic Safety Administration 1981

Driving Honda - Jeffrey

Rothfeder 2014-07-10

For decades there have been two iconic Japanese auto companies. One has been endlessly studied and written about. The other has been generally underappreciated and misunderstood. Until now. Since its birth as a motorcycle company in 1949, Honda has steadily grown into the world's fifth largest automaker and top engine manufacturer, as well as one of the most beloved, most profitable, and most consistently innovative multinational corporations. What drives the company that keeps creating and improving award-winning and bestselling models like the Civic, Accord, Odyssey, CR-V, and Pilot? According to Jeffrey Rothfeder - the first journalist allowed behind Honda's infamously private doors - what truly distinguishes Honda from its competitors, especially archrival Toyota, is a deep commitment to a set of unorthodox management tenets. The Honda Way, as insiders call it, is notable for

decentralization over corporate control, simplicity over complexity and unyielding cynicism toward the status quo and whatever is assumed to be the truth - ideas embedded in the DNA of the company by its colourful founder Soichiro Honda, sixty-five years ago. With dozens of interviews of Honda executives, engineers, and frontline employees, Rothfeder shows how the company has developed and maintained its unmatched culture of innovation, resilience, and flexibility - and how it exported that culture to other countries that are strikingly different from Japan, establishing locally controlled operations in each region where it lays down roots. For instance, Rothfeder reports on life at a Honda factory in the tiny town of Lincoln, Alabama. When the American workers were trained to follow the Honda Way as a self-sufficient outpost of the global company, their plant pioneered a new model for manufacturing in America. As Soichiro Honda himself liked to

say, "Success can be achieved only through repeated failure and introspection. In fact, success represents one percent of your work, which results only from the ninety-nine percent that is called failure."

**WALNECK'S CLASSIC
CYCLE TRADER, APRIL
2000** - Causey Enterprises,
LLC

**The Shock Absorber
Handbook** - John C. Dixon
2008-02-28

Every one of the many millions of cars manufactured annually worldwide uses shock absorbers, otherwise known as dampers. These form a vital part of the suspension system of any vehicle, essential for optimizing road holding, performance and safety. This, the second edition of the Shock Absorber Handbook (first edition published in 1999), remains the only English language book devoted to the subject. Comprehensive coverage of design, testing, installation and use of the damper has led to the book's acceptance as the authoritative

text on the automotive applications of shock absorbers. In this second edition, the author presents a thorough revision of his book to bring it completely up to date. There are numerous detail improvements, and extensive new material has been added particularly on the many varieties of valve design in the conventional hydraulic damper, and on modern developments such as electrorheological and magnetorheological dampers. "The Shock Absorber Handbook, 2nd Edition" provides a thorough treatment of the issues surrounding the design and selection of shock absorbers. It is an invaluable handbook for those working in industry, as well as a principal reference text for students of mechanical and automotive engineering.

*The Essential Guide to
Motorcycle Maintenance* -
Mark Zimmerman 2016-12-15
Popular motorcycle journalist
and author Mark Zimmerman
brings a comfortable,
conversational tone to his easy-

to-understand explanations of how motorcycles work and how to maintain them and fix them when they don't. This practical tutorial covers all brands and styles of bikes, making it a perfect companion to the owner's service manual whether you need to use the step-by-step instructions for basic maintenance techniques to wrench on your bike yourself or just want to learn enough to become an informed customer at your local motorcycle service department. This book includes more than 500 color photos and a thorough index to make it an especially user-friendly reference for home motorcycle mechanics of all skill levels.

Motorcycle Chassis Design - Tony Foale 1988

Automotive Chassis Engineering - David C Barton
2018-03-15

Written for students and practicing engineers working in automotive engineering, this book provides a fundamental yet comprehensive understanding of chassis

systems and requires little prior knowledge on the part of the reader. It presents the material in a practical and realistic manner, using reverse engineering as a basis for examples to reinforce understanding of the topics. The specifications and characteristics of vehicles currently on the market are used to exemplify the theory's application, and care is taken to connect the various topics covered, so as to clearly demonstrate their interrelationships. The book opens with a chapter on basic vehicle mechanics, which include the forces acting on a vehicle in motion, assuming a rigid body. It then proceeds to a chapter on steering systems, which provides readers with a firm understanding of the principles and forces involved under static and dynamic loading. The next chapter focuses on vehicle dynamics by considering suspension systems—tyres, linkages, springs, dampers etc. The chapter on chassis structures and materials includes analysis

tools (typically, finite element analysis) and design features that are used to reduce mass and increase occupant safety in modern vehicles. The final chapter on Noise, Vibration and Harshness (NVH) includes a basic overview of acoustic and vibration theory and makes use of extensive research investigations and practical experience as a means of addressing NVH issues. In all subject areas the authors take into account the latest trends, anticipating the move towards electric vehicles, on-board diagnostic monitoring, active systems and performance optimisation. The book features a number of worked examples and case studies based on recent research projects. All students, including those on Master's level degree courses in Automotive Engineering, and professionals in industry who want to gain a better understanding of vehicle chassis engineering, will benefit from this book.

Motorcycle Dynamics - Vittore Cossalter 2006

The book presents the theory

of motorcycle dynamics. It is a technical book for the engineer, student, or technically/mathematically inclined motorcycle enthusiast. *Motorcycle Dynamics* offers a wealth of information compiled from the most up-to-date research into the behavior and performance of motorcycles. The structure of the book and abundant graphs assist in understanding an exceptionally complicated subject. The book presents a large number of graphs and figures that make the understanding easy.

Fundamentals of Machine Component Design - Robert C. Juvinall 2020-06-23

Fundamentals of Machine Component Design presents a thorough introduction to the concepts and methods essential to mechanical engineering design, analysis, and application. In-depth coverage of major topics, including free body diagrams, force flow concepts, failure theories, and fatigue design, are coupled with specific applications to bearings, springs, brakes, clutches, fasteners, and more

for a real-world functional body of knowledge. Critical thinking and problem-solving skills are strengthened through a graphical procedural framework, enabling the effective identification of problems and clear presentation of solutions. Solidly focused on practical applications of fundamental theory, this text helps students develop the ability to conceptualize designs, interpret test results, and facilitate improvement. Clear presentation reinforces central ideas with multiple case studies, in-class exercises, homework problems, computer software data sets, and access to supplemental internet resources, while appendices provide extensive reference material on processing methods, joinability, failure modes, and material properties to aid student comprehension and encourage self-study.

Cycle World Magazine -
1994-01

**Vehicle and Engine
Technology** - Heinz Heisler

1999

Building upon the excellent first edition, 'Vehicle and Engine Technology, 2ed' covers all the technology requirements of motor vehicle engineering and has been rigorously updated to include additional material on subjects such as pollution control, automatic transmission, steering systems, braking systems and electrics. An ideal companion for anyone studying motor vehicle repair and servicing, 'Vehicle and Engine Technology, 2ed' provides the in-depth treatment required for technician-level students, but is presented in a way which will be accessible to craft students wanting more than the bare essentials of the subject matter. Several examples of each topic application are included, describing the variations encountered in practice, making the book a useful reference for students of motor vehicle engineering.

Engineering Materials 2 -
Michael F. Ashby 2014-06-28
Provides a thorough explanation of the basic

properties of materials; of how these can be controlled by processing; of how materials are formed, joined and finished; and of the chain of reasoning that leads to a successful choice of material for a particular application. The materials covered are grouped into four classes: metals, ceramics, polymers and composites. Each class is studied in turn, identifying the families of materials in the class, the microstructural features, the processes or treatments used to obtain a particular structure and their design applications. The text is supplemented by practical case studies and example problems with answers, and a valuable programmed learning course on phase diagrams.

Motorcycle Fuel Systems

TechBook - John Robinson
2015-09-01

Motorcycle fuel systems made easy: -- How fuel systems work and are tuned to suit all engine conditions -- Clearly captioned step-by-step pictures show precisely how to perform many tasks --The author, John

Robinson, has spent most of his life around bikes: testing, racing, tuning, talking to people who design/develop them and, of course, writing about them --Gas flow --Fuel and combustion chemistry -- Carburetor construction and overhaul --Fuel injection theory, adjustments and settings --Fuel pumps, sensors, catalytic converters --Intake and exhaust systems --Variable geometry --Turbochargers and superchargers --Special fuels -- Fault finding --Testing and tuning --Glossary of technical terms

Cycle World Magazine -
1985-01

Cycle World Magazine -
1985-01

Modern Electric, Hybrid Electric, and Fuel Cell Vehicles
- Mehrdad Ehsani 2018-02-02

"This book is an introduction to automotive technology, with specific reference to battery electric, hybrid electric, and fuel cell electric vehicles. It could serve electrical engineers who need to know

more about automobiles or automotive engineers who need to know about electrical propulsion systems. For example, this reviewer, who is a specialist in electric machinery, could use this book to better understand the automobiles for which the reviewer is designing electric drive motors. An automotive engineer, on the other hand, might use it to better understand the nature of motors and electric storage systems for application in automobiles, trucks or motorcycles. The early chapters of the book are accessible to technically literate people who need to know something about cars. While the first chapter is historical in nature, the second chapter is a good introduction to automobiles, including dynamics of propulsion and braking. The third chapter discusses, in some detail, spark ignition and compression ignition (Diesel) engines. The fourth chapter discusses the nature of transmission systems.” —James Kirtley,

Massachusetts Institute of Technology, USA “The third edition covers extensive topics in modern electric, hybrid electric, and fuel cell vehicles, in which the profound knowledge, mathematical modeling, simulations, and control are clearly presented. Featured with design of various vehicle drivetrains, as well as a multi-objective optimization software, it is an estimable work to meet the needs of automotive industry.” —Haiyan Henry Zhang, Purdue University, USA “The extensive combined experience of the authors have produced an extensive volume covering a broad range but detailed topics on the principles, design and architectures of Modern Electric, Hybrid Electric, and Fuel Cell Vehicles in a well-structured, clear and concise manner. The volume offers a complete overview of technologies, their selection, integration & control, as well as an interesting Technical Overview of the Toyota Prius. The technical chapters are complemented with example

problems and user guides to assist the reader in practical calculations through the use of common scientific computing packages. It will be of interest mainly to research postgraduates working in this field as well as established academic researchers, industrial R&D engineers and allied professionals.”

—Christopher Donaghy-Sparg, Durham University, United Kingdom

The book deals with the fundamentals, theoretical bases, and design methodologies of conventional internal combustion engine (ICE) vehicles, electric vehicles (EVs), hybrid electric vehicles (HEVs), and fuel cell vehicles (FCVs). The design methodology is described in mathematical terms, step-by-step, and the topics are approached from the overall drive train system, not just individual components. Furthermore, in explaining the design methodology of each drive train, design examples are presented with simulation results. All the chapters have been updated, and two new

chapters on Mild Hybrids and Optimal Sizing and Dimensioning and Control are also included • Chapters updated throughout the text. • New homework problems, solutions, and examples. • Includes two new chapters. • Features accompanying MATLAB™ software.

American Motorcyclist - 1984-10

American Motorcyclist magazine, the official journal of the American Motorcyclist Association, tells the stories of the people who make motorcycling the sport that it is. It's available monthly to AMA members. Become a part of the largest, most diverse and most enthusiastic group of riders in the country by visiting our website or calling 800-AMA-JOIN.

Motorcycle Handling and Chassis Design - Tony Foale 2006

Performance Exhaust Systems - Mike Mavrigian 2014-08-15

To extract maximum performance, an engine needs an efficient, well-designed, and

properly tuned exhaust system. In fact, the exhaust system's design, components, and materials have a large impact on the overall performance of the engine. Engine builders and car owners need to carefully consider the exhaust layout, select the parts, and fabricate the exhaust system that delivers the best performance for car and particular application. Master engine builder and award-winning writer Mike Mavrigian explains exhaust system principles, function, and components in clear and concise language. He then details how to design, fabricate, and fit exhaust systems to classic street cars as well as for special and racing applications. Air/exhaust-gas flow dynamics and exhaust system design are explained. Cam duration and overlap are also analyzed to determine how an engine breathes in air/fuel, as the exhaust must efficiently manage this burned mixture. Pipe bending is a science as

well as art and you're shown how to effectively crush and mandrel bend exhaust pipe to fit your header/manifold and chassis combination. Header tube diameter and length is taken into account, as well as the most efficient catalytic converters and resonators for achieving your performance goals. In addition, Mavrigian covers the special exhaust system requirements for supercharged and turbocharged systems. When building a high-performance engine, you need a high-performance exhaust system that's tuned and fitted to that engine so you can realize maximum performance. This comprehensive book is your guide to achieving ultimate exhaust system performance. It shows you how to fabricate a system for custom applications and to fit the correct prefabricated system to your car. No other book on the market is solely dedicated to fabricating and fitting an exhaust system in high-performance applications.