

F Vehicle Roll Dynamics Home Springer

Some extraordinary rats come to the aid of a mouse family in this Newbery Medal Award–winning classic by notable children’s author Robert C. O’Brien. Mrs. Frisby, a widowed mouse with four small children, is faced with a terrible problem. She must move her family to their summer quarters immediately, or face almost certain death. But her youngest son, Timothy, lies ill with pneumonia and must not be moved. Fortunately, she encounters the rats of NIMH, an extraordinary breed of highly intelligent creatures, who come up with a brilliant solution to her dilemma. And Mrs. Frisby in turn renders them a great service.

Various combinations of commercially available technologies could greatly reduce fuel consumption in passenger cars, sport-utility vehicles, minivans, and other light-duty vehicles without compromising vehicle performance or safety. Assessment of Technologies for Improving Light Duty Vehicle Fuel Economy estimates the potential fuel savings and costs to consumers of available technology combinations for three types of engines: spark-ignition gasoline, compression-ignition diesel, and hybrid. According to its estimates, adopting the full combination of improved technologies in medium and large cars and pickup trucks with spark-ignition engines could reduce fuel consumption by 29 percent at an additional cost of \$2,200 to the consumer. Replacing spark-ignition engines with diesel engines and components would yield fuel savings of about 37 percent at an added cost of approximately \$5,900 per vehicle, and replacing spark-ignition engines with hybrid engines and components would reduce fuel consumption by 43 percent at an increase of \$6,000 per vehicle. The book focuses on fuel consumption--the amount of fuel consumed in a given driving distance--because energy savings are directly related to the amount of fuel used. In contrast, fuel economy measures how far a vehicle will travel with a gallon of fuel. Because fuel consumption data indicate money saved on fuel purchases and reductions in carbon dioxide emissions, the book finds that vehicle stickers should provide consumers with fuel consumption data in addition to fuel economy information.

The International Conference on Engineering Research and Applications (ICERA 2018), which took place at Thai Nguyen University of Technology, Thai Nguyen, Vietnam on December 1–2, 2018, provided an international forum to disseminate information on latest theories and practices in engineering research and applications. The conference focused on original research work in areas including Mechanical Engineering, Materials and Mechanics of Materials, Mechatronics and Micro Mechatronics, Automotive Engineering, Electrical and Electronics Engineering, Information and Communication Technology. By disseminating the latest advances in the field, The Proceedings of ICERA 2018, Advances in Engineering Research and Application, helps academics and professionals alike to reshape their thinking on sustainable development.

Fundamentals of Vehicle DynamicsSAE International

The extraordinary #1 New York Times bestseller about the ability of books to feed the soul even in the darkest of times. Nominated as one of America's best-loved novels by PBS's The Great American Read. When Death has a story to tell, you listen. It is 1939. Nazi Germany. The country is holding its breath. Death has never been busier, and will become busier still. Liesel Meminger is a foster girl living outside of Munich, who scratches out a meager existence for herself by stealing when she encounters something she can't resist--books. With the help of her accordion-playing foster father, she learns to read and shares her stolen books with her neighbors during bombing raids as well as with the Jewish man hidden in her basement. In superbly crafted writing that burns with intensity, award-winning author Markus Zusak, author of I Am the Messenger, has given us one of the most enduring stories of our time. "The kind of book that can be life-changing." —The New York Times "Deserves a place on the same shelf with The Diary of a Young Girl by Anne Frank." —USA Today DON'T MISS BRIDGE OF CLAY, MARKUS ZUSAK'S FIRST NOVEL SINCE THE BOOK THIEF.

This textbook covers handling and performance of both road and race cars. Mathematical models of vehicles are developed always paying attention to state the relevant assumptions and to provide explanations for each step. This innovative approach provides a deep, yet simple, analysis of the dynamics of vehicles. The reader will soon achieve a clear understanding of the subject, which will be of great help both in dealing with the challenges of designing and testing new vehicles and in tackling new research topics. The book deals with several relevant topics in vehicle dynamics that are not discussed elsewhere and this new edition includes thoroughly revised chapters, with new developments, and many worked exercises. Praise for the previous edition: Great book! It has changed drastically our approach on many topics. We are now using part of its theory on a daily basis to constantly improve ride and handling performances. --- Antonino Pizzuto, Head of Chassis Development Group at Hyundai Motor Europe Technical Center Astonishingly good! Everything is described in a very compelling and complete way. Some parts use a different approach than other books. --- Andrea Quintarelli, Automotive Engineer

This book presents the proceedings of the second Vehicle Engineering and Vehicle Industry conference, reflecting the outcomes of theoretical and practical studies and outlining future development trends in a broad field of automotive research. The conference's main themes included design, manufacturing, economic and educational topics.

This book attempts to find a middle ground by balancing engineering principles and equations of use to every automotive engineer with practical explanations of the mechanics involved, so that those without a formal engineering degree can still comprehend and use most of the principles discussed. Either as an introductory text or a practical professional overview, this book is an ideal reference.

This book covers the principles and applications of vehicle handling dynamics from an advanced perspective in depth. The methods required to analyze and optimize vehicle handling dynamics are presented, including tire compound dynamics, vehicle planar dynamics, vehicle roll dynamics, full vehicle dynamics, and in-wheel motor vehicle dynamics. The provided vehicle

dynamic model is capable of investigating drift, sliding, and other over-limit vehicle maneuvers. This is an ideal book for postgraduate and research students and engineers in mechanical, automotive, transportation, and ground vehicle engineering.

The book "Recent Developments in Optoelectronic Devices" is about the latest developments in optoelectronics. This book is divided into three categories: light emitting devices, sensors, and light harvesters. This book also discusses the theoretical aspects of device design for iridium complexes as organic light emitting diodes (OLEDs), strategies for developing novel nanostructured materials, silicon-rich oxide (SRO) electroluminescent devices, and multifunctional optoelectronic devices developed on resistive switching effects. The worldwide participation of authors has contributed to the unifying effect of science. Furthermore, interested readers will also find information on the screen printed technology using semiconductor devices, nonlinear phenomena in quantum devices, experimental set up of optoelectronics flexible logic gate to realize logic operations, autonomous vehicles, and the latest developments in perovskites as solar cells.

NOTE; NO FURTHER DISCOUNT ON THIS PRINT PRODUCT-- OVERSTOCK SALE -- Significantly reduced list price The technologies for the reentry and recovery from space might change over time, but the challenge remains one of the most important and vexing in the rigorous efforts to bring spacecraft and their crews and cargo home successfully. Returning to Earth after a flight into space is a fundamental challenge, and contributions from the NASA Aeronautics Research Mission Directorate in aerodynamics, thermal protection, guidance and control, stability, propulsion, and landing systems have proven critical to the success of the human space flight and other space programs. Without this base of fundamental and applied research, the capability to fly into space would not exist. Other related products: NASA Historical Data Book, V. 7: NASA Launch Systems, Space Transportation/Human Spaceflight, and Space Science can be found here: <https://bookstore.gpo.gov/products/sku/033-000-01309-4> Revolutionary Atmosphere: The Story of the Altitude Wind Tunnel and the Space Power Chambers can be found here: <https://bookstore.gpo.gov/products/sku/033-000-01342-6> Spinoff: Innovative Partnerships Program 2009 can be found here: <https://bookstore.gpo.gov/products/sku/033-000-01331-1> Spinoff 2010: NASA Technologies Benefit Society can be found here: <https://bookstore.gpo.gov/products/sku/033-000-01343-4> Spinoff 2015: Technology Transfer Program can be found here: <https://bookstore.gpo.gov/products/sku/033-000-01372-8> Aerospace, Astronomy & Space Exploration resources collection can be found here: <https://bookstore.gpo.gov/catalog/science-technology/aerospace-astronomy...> Other products produced by the U.S. National Aeronautics and Space Administration (NASA) can be found here: <https://bookstore.gpo.gov/agency/550>

"A big-hearted story that's as sweet as it is awesome." —R.J. Palacio, author of Wonder "An honest, emotionally rich take on disability, family, and growing up." —Kirkus Reviews (starred review) In the tradition of Wonder and Out of My Mind, this big-hearted middle grade debut tells the story of an irrepressible girl with cerebral palsy whose life takes an unexpected turn when she moves to a new town. Ellie's a girl who tells it like it is. That surprises some people, who see a kid in a wheelchair and think she's going to be all sunshine and cuddles. The thing is, Ellie has big dreams: She might be eating Stouffer's for dinner, but one day she's going to be a professional baker. If she's not writing fan letters to her favorite celebrity chefs, she's practicing recipes on her well-meaning, if overworked, mother. But when Ellie and her mom move so they can help take care of her ailing grandpa, Ellie has to start all over again in a new town at a new school. Except she's not just the new kid—she's the new kid in the wheelchair who lives in the trailer park on the wrong side of town. It all feels like one challenge too many, until Ellie starts to make her first-ever friends. Now she just has to convince her mom that this town might just be the best thing that ever happened to them!

What is that lyric in that one song? "The lure of easy money has a very strong appeal". Maybe you decided to get into the day trading business of investing and/or investing and trading because you saw some late-night TV commercial about day trading with flashy offers. Perhaps you received a spam e-mail touting some day trading method or system that said you could make easy money in the markets; I suggest you reconsider if that's the case. Death by Day Trading is for all beginning aspiring investors and traders who are just getting their head around doing the day trading business who go online and do a search to find information on how to do financial market trading and it should be the first book a brand new beginner reads before any other books on trading as far as I'm concerned and will be the most harsh and brutal day trading book they have ever read. Everyone has their own ideas of what they think day trading is and what it can do for them; you need to look at it from a realistic perspective from the start and Death by Day Trading is absolutely going to help you to do that. This book is for beginners and will detail many of the things that a brand new trader must learn not to do before they can become consistently profitable in the live markets. You're heard the saying "just say no to drugs", just say no to day trading and you and your account will be waaaaay ahead of the game to start off. Don't say I didn't warn you, OK, continue with your insanity and read the entire book to give yourself a fighting chance. Death by Day Trading can help you keep it simple and filter the huge amount of information out there down to only what you need to know right away and then can work towards adding more information and studies as you go. My trading philosophy is to start small and build on success have limited exposure while you hone your skills, then progress as you become more competent. You can use Death by Day Trading and the references, suggestions and tips in it to go further into your educational studies of the markets and there dynamics. Knowing market dynamics is going to be critical for you to have the winning edge you will need to be a successful market participant. By studying what this book suggests you will not become one of the 97% of the sheeple of the herd, don't become one of them.

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

This book on the dynamics of rail vehicles is developed from the manuscripts for a class with the same name at TU Berlin. It is directed mainly to master students with pre-knowledge in mathematics and mechanics and engineers that want to learn more. The important phenomena of the running behaviour of rail vehicles are derived and explained. Also recent research results and experience from the operation of rail vehicles are included. One focus is the description of the complex wheel-rail contact phenomena that are essential to understand the concept of

running stability and curving. A reader should in the end be able to understand the background of simulation tools that are used by the railway industry and universities today.

The second edition of Flight Stability and Automatic Control presents an organized introduction to the useful and relevant topics necessary for a flight stability and controls course. Not only is this text presented at the appropriate mathematical level, it also features standard terminology and nomenclature, along with expanded coverage of classical control theory, autopilot designs, and modern control theory. Through the use of extensive examples, problems, and historical notes, author Robert Nelson develops a concise and vital text for aircraft flight stability and control or flight dynamics courses.

Modern cars are more computerized than ever. Infotainment and navigation systems, Wi-Fi, automatic software updates, and other innovations aim to make driving more convenient. But vehicle technologies haven't kept pace with today's more hostile security environment, leaving millions vulnerable to attack. The Car Hacker's Handbook will give you a deeper understanding of the computer systems and embedded software in modern vehicles. It begins by examining vulnerabilities and providing detailed explanations of communications over the CAN bus and between devices and systems. Then, once you have an understanding of a vehicle's communication network, you'll learn how to intercept data and perform specific hacks to track vehicles, unlock doors, glitch engines, flood communication, and more. With a focus on low-cost, open source hacking tools such as Metasploit, Wireshark, Kayak, can-utils, and ChipWhisperer, The Car Hacker's Handbook will show you how to: –Build an accurate threat model for your vehicle –Reverse engineer the CAN bus to fake engine signals –Exploit vulnerabilities in diagnostic and data-logging systems –Hack the ECU and other firmware and embedded systems –Feed exploits through infotainment and vehicle-to-vehicle communication systems –Override factory settings with performance-tuning techniques –Build physical and virtual test benches to try out exploits safely If you're curious about automotive security and have the urge to hack a two-ton computer, make The Car Hacker's Handbook your first stop.

Tyre and Vehicle Dynamics provides a complete reference on the mechanical behaviour of pneumatic tyres and their impact on vehicle performance. The comprehensive scope of the book includes developing an understanding of mathematical models of tyre behaviour, the incorporation of these models into vehicle models, and presenting an applied understanding of how the tyre influences vehicle behaviour. The book is supported by practical experimental observations and exercises. Written for practising and student engineers, this book is extremely useful and relevant for all automotive engineers and readers in any industry involving equipment with tyres.

The International Symposium on Dynamics of Vehicles on Roads and Tracks is the leading international gathering of scientists and engineers from academia and industry in the field of ground vehicle dynamics to present and exchange their latest innovations and breakthroughs. Established in Vienna in 1977, the International Association of Vehicle System Dynamics (IAVSD) has since held its biennial symposia throughout Europe and in the USA, Canada, Japan, South Africa and China. The main objectives of IAVSD are to promote the development of the science of vehicle dynamics and to encourage engineering applications of this field of science, to inform scientists and engineers on the current state-of-the-art in the field of vehicle dynamics and to broaden contacts among persons and organisations of the various countries engaged in scientific research and development in the field of vehicle dynamics and related areas. IAVSD 2017, the 25th Symposium of the International Association of Vehicle System Dynamics was hosted by the Centre for Railway Engineering at Central Queensland University, Rockhampton, Australia in August 2017. The symposium focused on the following topics related to road and rail vehicles and trains: dynamics and stability; vibration and comfort; suspension; steering; traction and braking; active safety systems; advanced driver assistance systems; autonomous road and rail vehicles; adhesion and friction; wheel-rail contact; tyre-road interaction; aerodynamics and crosswind; pantograph-catenary dynamics; modelling and simulation; driver-vehicle interaction; field and laboratory testing; vehicle control and mechatronics; performance and optimization; instrumentation and condition monitoring; and environmental considerations. Providing a comprehensive review of the latest innovative developments and practical applications in road and rail vehicle dynamics, the 213 papers now published in these proceedings will contribute greatly to a better understanding of related problems and will serve as a reference for researchers and engineers active in this specialised field.

Vehicle Dynamics and Control provides a comprehensive coverage of vehicle control systems and the dynamic models used in the development of these control systems. The control system applications covered in the book include cruise control, adaptive cruise control, ABS, automated lane keeping, automated highway systems, yaw stability control, engine control, passive, active and semi-active suspensions, tire-road friction coefficient estimation, rollover prevention, and hybrid electric vehicles. In developing the dynamic model for each application, an effort is made to both keep the model simple enough for control system design but at the same time rich enough to capture the essential features of the dynamics. A special effort has been made to explain the several different tire models commonly used in literature and to interpret them physically. In the second edition of the book, chapters on roll dynamics, rollover prevention and hybrid electric vehicles have been added, and the chapter on electronic stability control has been enhanced. The use of feedback control systems on automobiles is growing rapidly. This book is intended to serve as a useful resource to researchers who work on the development of such control systems, both in the automotive industry and at universities. The book can also serve as a textbook for a graduate level course on Vehicle Dynamics and Control.

An updated edition of the classic reference on the dynamics of road and off-road vehicles As we enter a new millennium, the vehicle industry faces greater challenges than ever before as it strives to meet the increasing demand for safer, environmentally friendlier, more energy efficient, and lower emissions products. Theory of Ground Vehicles, Third Edition gives aspiring and practicing engineers a fundamental understanding of the critical factors affecting the performance, handling, and ride essential to the development and design of ground vehicles that meet these requirements. As in previous editions, this book focuses on applying engineering principles to the analysis of vehicle behavior. A large number of practical examples and problems are included throughout to help readers bridge the gap between theory and practice. Covering a wide range of topics concerning the dynamics of road and off-road vehicles, this Third Edition is filled with up-to-date information, including: * The Magic Formula for characterizing pneumatic tire behavior from test data for vehicle handling simulations * Computer-aided methods for performance and design evaluation of off-road vehicles, based on the author's own research * Updated data on road vehicle transmissions and operating fuel economy * Fundamentals of road vehicle stability control * Optimization of the performance of four-wheel-drive off-road vehicles and experimental substantiation, based on the author's own investigations * A new theory on skid-

steering of tracked vehicles, developed by the author.

This is the first book to combine classical vehicle dynamics with electronic control. The equation-based presentation of the theory behind vehicle dynamics enables readers to develop a thorough understanding of the key attribute to both a vehicle's driveability and its active safety. Supported by MATLAB tools, the key areas that affect vehicle dynamics are explored including tire mechanics, the steering system, vehicle roll, traction and braking, 4WS and vehicle dynamics, vehicle dynamics by vehicle and human control, and controllability. As a professional reference volume, this book is an essential addition to the resources available to anyone working in vehicle design and development. Written by a leading authority in the field (who himself has considerable practical experience), the book has a unique blend of theory and practice that will be of immense value in this applications based field. Get a thorough understand of why vehicles respond they way they do with a complete treatment of vehicle dynamics from theory to application Full of case studies and worked examples using MATLAB/Simulink Covers all variables of vehicle dynamics including tire and vehicle motion, control aspects, human control and external disturbances

Written by two of the most respected, experienced and well-known researchers and developers in the field (e.g., Kiencke worked at Bosch where he helped develop anti-breaking system and engine control; Nielsen has lead joint research projects with Scania AB, Mecel AB, Saab Automobile AB, Volvo AB, Fiat GM Powertrain AB, and DaimlerChrysler. Reflecting the trend to optimization through integrative approaches for engine, driveline and vehicle control, this valuable book enables control engineers to understand engine and vehicle models necessary for controller design and also introduces mechanical engineers to vehicle-specific signal processing and automatic control. Emphasis on measurement, comparisons between performance and modelling, and realistic examples derive from the authors' unique industrial experience . The second edition offers new or expanded topics such as diesel-engine modelling, diagnosis and anti-jerking control, and vehicle modelling and parameter estimation. With only a few exceptions, the approaches

From the Pulitzer Prize-winning author Lawrence Wright, whose bestselling thriller 'The End of the October' all but predicted our current pandemic, comes another momentous account, this time of COVID-19: its origins, its myriad repercussions, and the ongoing fight to contain it.

Engineering Mechanics: Combined Statics & Dynamics, Twelfth Edition is ideal for civil and mechanical engineering professionals. In his substantial revision of Engineering Mechanics, R.C. Hibbeler empowers students to succeed in the whole learning experience. Hibbeler achieves this by calling on his everyday classroom experience and his knowledge of how students learn inside and outside of lecture. In addition to over 50% new homework problems, the twelfth edition introduces the new elements of Conceptual Problems, Fundamental Problems and MasteringEngineering, the most technologically advanced online tutorial and homework system.

Developed from celebrated Harvard statistics lectures, Introduction to Probability provides essential language and tools for understanding statistics, randomness, and uncertainty. The book explores a wide variety of applications and examples, ranging from coincidences and paradoxes to Google PageRank and Markov chain Monte Carlo (MCMC). Additional

The story of one African-American family fighting to stay together and strong in the face of brutal racist attacks, illness, poverty, and betrayal in the Deep South of the 1930s.

In Don't Mess It Up: How Founders and Their Successors Can Avoid the Clichés That Inhibit Growth, author and six-time second CEO Les Trachtman offers his expertise on the most effective ways to successfully hand off your company to a worthy successor. He also has advice for those who are inheriting a business and want to take it to the next level, as well as for boards who are dealing with these leadership transitions. In his direct, no-nonsense approach, Les shows readers how seemingly harmless business clichés such as “get it right” and “be careful” can have a detrimental effect on a company's future by conveying that such imperative ingredients such as risk and innovation are things to now be avoided. Readers will learn how to:

- Understand the metamorphosis required to transition from great founder to great CEO
- Know when, and if, it's time to replace yourself
- Pick the right successor
- Prepare yourself and your company for the fragile transition
- Create a successful CEO transition
- Separate yourself from the company

There is likely no one more experienced in founder transitions than Les Trachtman. He has been an innovative and respected successor at six different companies; let his hard-won advice guide you through your transition and toward success.

Performance Vehicle Dynamics: Engineering and Applications offers an accessible treatment of the complex material needed to achieve level seven learning outcomes in the field. Users will gain a complete, structured understanding that enables the preparation of useful models for characterization and optimization of performance using the same Automotive or Motorsport industry techniques and approaches. As the approach to vehicle dynamics has changed over time, largely due to advances in computing power, the subject has, in practice, always been computer intensive, but this use has changed, with modeling of relatively complex vehicle dynamics topics now even possible on a PC. Explains how to numerically and computationally model vehicle dynamics Features the use of cost functions with multi-body models Learn how to produce mathematical models that offer excellent performance prediction

Dynamics of Writing: An Exercise Guide gives students multiple opportunities to practice their writing skills in-class or as take-home assignments. Each chapter focuses on a different aspect of the newswriting process and offers short-answer, multiple-choice, and writing-prompt activities to help students master the concepts and skills presented in Vincent F. Filak's comprehensive book. Additional exercises built around the unique demands of online newswriting will prepare students to meet the demands of a changing media landscape. Key Features: "Writing Exercises" enable students to recall & demonstrate their understanding of various elements found in each chapter in Dynamics of News Writing and Reporting. "Practice Writing" exercises empower students to apply their knowledge in a safe, in-class environment. "Live-Action Exercises" encourage students to expand their knowledge and experience through out-of-class reporting and writing opportunities. Bundle this workbook with Dynamics of News Writing and Reporting and save! Your students save when you bundle this text with a corresponding student workbook. Order using bundle ISBN 9781544321554. Learn more. 9781544321554 9781544321554

Chassis Engineering for HP Cars Manual Chassis Design Covers Center Of Gravity And Roll Center Enhancing Road Handling Ability Step-By-Step Guide Tire Technology And Front and Rear Suspensions Brakes; Shocks And Springs.

For a century, almost all light-duty vehicles (LDVs) have been powered by internal combustion engines operating on petroleum fuels. Energy security concerns about petroleum imports and the effect of greenhouse gas (GHG) emissions on global climate are driving interest in alternatives. Transitions to Alternative Vehicles and Fuels assesses the potential for reducing petroleum

consumption and GHG emissions by 80 percent across the U.S. LDV fleet by 2050, relative to 2005. This report examines the current capability and estimated future performance and costs for each vehicle type and non-petroleum-based fuel technology as options that could significantly contribute to these goals. By analyzing scenarios that combine various fuel and vehicle pathways, the report also identifies barriers to implementation of these technologies and suggests policies to achieve the desired reductions. Several scenarios are promising, but strong, and effective policies such as research and development, subsidies, energy taxes, or regulations will be necessary to overcome barriers, such as cost and consumer choice.

Modelling, Dynamics and Control of Electrified Vehicles provides a systematic overview of EV-related key components, including batteries, electric motors, ultracapacitors and system-level approaches, such as energy management systems, multi-source energy optimization, transmission design and control, braking system control and vehicle dynamics control. In addition, the book covers selected advanced topics, including Smart Grid and connected vehicles. This book shows how EV work, how to design them, how to save energy with them, and how to maintain their safety. The book aims to be an all-in-one reference for readers who are interested in EVs, or those trying to understand its state-of-the-art technologies and future trends. Offers a comprehensive knowledge of the multidisciplinary research related to EVs and a system-level understanding of technologies Provides the state-of-the-art technologies and future trends Covers the fundamentals of EVs and their methodologies Written by successful researchers that show the deep understanding of EVs

As cool as classic muscle cars might be, they're only as good as the automotive technology of their era. That's where this book comes in. With clear, easy-to-follow instructions, this guide shows how to give your car all the muscle of today while preserving the classic styling of your muscle car. In this updated and fully illustrated edition of his popular handbook, veteran overhauler and automotive writer Jason Scott takes readers through the step-by-step improvements that will add more power, style, and handling capability to any classic muscle car. Full-color photos accompany Scott's detailed instructions, covering bodywork and interior restoration, engine enhancements, transmission and axle swaps, suspension, steering, chassis and brake upgrades as well as many other changes that will restore-or maintain-a muscle cars identity while making it perform as if it were built only yesterday.

Autonomous unmanned air vehicles (UAVs) are critical to current and future military, civil, and commercial operations. Despite their importance, no previous textbook has accessibly introduced UAVs to students in the engineering, computer, and science disciplines--until now. Small Unmanned Aircraft provides a concise but comprehensive description of the key concepts and technologies underlying the dynamics, control, and guidance of fixed-wing unmanned aircraft, and enables all students with an introductory-level background in controls or robotics to enter this exciting and important area. The authors explore the essential underlying physics and sensors of UAV problems, including low-level autopilot for stability and higher-level autopilot functions of path planning. The textbook leads the student from rigid-body dynamics through aerodynamics, stability augmentation, and state estimation using onboard sensors, to maneuvering through obstacles. To facilitate understanding, the authors have replaced traditional homework assignments with a simulation project using the MATLAB/Simulink environment. Students begin by modeling rigid-body dynamics, then add aerodynamics and sensor models. They develop low-level autopilot code, extended Kalman filters for state estimation, path-following routines, and high-level path-planning algorithms. The final chapter of the book focuses on UAV guidance using machine vision. Designed for advanced undergraduate or graduate students in engineering or the sciences, this book offers a bridge to the aerodynamics and control of UAV flight.

Multibody Systems Approach to Vehicle Dynamics aims to bridge a gap between the subject of classical vehicle dynamics and the general-purpose computer-based discipline known as multibody systems analysis (MBS). The book begins by describing the emergence of MBS and providing an overview of its role in vehicle design and development. This is followed by separate chapters on the modeling, analysis, and post-processing capabilities of a typical simulation software; the modeling and analysis of the suspension system; tire force and moment generating characteristics and subsequent modeling of these in an MBS simulation; and the modeling and assembly of the rest of the vehicle, including the anti-roll bars and steering systems. The final two chapters deal with the simulation output and interpretation of results, and a review of the use of active systems to modify the dynamics in modern passenger cars. This book intended for a wide audience including not only undergraduate, postgraduate and research students working in this area, but also practicing engineers in industry who require a reference text dealing with the major relevant areas within the discipline. * Full of practical examples and applications * Uses industry standard ADAMS software based applications * Accompanied by downloadable ADAMS models and data sets available from the companion website that enable readers to explore the material in the book * Guides readers from modelling suspension movement through to full vehicle models able to perform handling manoeuvres

Millions of users create and share Excel spreadsheets every day, but few go deeply enough to learn the techniques that will make their work much easier. There are many ways to take advantage of Excel's advanced capabilities without spending hours on advanced study. Excel Hacks provides more than 130 hacks -- clever tools, tips and techniques -- that will leapfrog your work beyond the ordinary. Now expanded to include Excel 2007, this resourceful, roll-up-your-sleeves guide gives you little known "backdoor" tricks for several Excel versions using different platforms and external applications. Think of this book as a toolbox. When a need arises or a problem occurs, you can simply use the right tool for the job. Hacks are grouped into chapters so you can find what you need quickly, including ways to: Reduce workbook and worksheet frustration -- manage how users interact with worksheets, find and highlight information, and deal with debris and corruption. Analyze and manage data -- extend and automate these features, moving beyond the limited tasks they were designed to perform. Hack names -- learn not only how to name cells and ranges, but also how to create names that adapt to the data in your spreadsheet. Get the most out of PivotTables -- avoid the problems that make them frustrating and learn how to extend them. Create customized charts -- tweak and combine Excel's built-in charting capabilities. Hack formulas and functions -- subjects range from moving formulas around to dealing with datatype issues to improving recalculation time. Make the most of macros -- including ways to manage them and use them to extend other features. Use the enhanced capabilities of Microsoft Office 2007 to combine Excel with Word, Access, and Outlook. You can either browse through the book or read it from cover to cover, studying the procedures and scripts to learn more about Excel. However you use it, Excel Hacks will help you increase productivity and give you hours of "hacking" enjoyment along the way.

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