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With gas prices rising (always), alternative fuels look like an answer. Hybrids sound good, but what about the batteries? And fuel cells still seem to be pie-in-the-sky. Which leaves us with good old diesel. This book shows how to get the most out of the diesel engine, at a time when its fuel efficiency is almost as important as its massive torque. Although most diesel truck owners probably aren't planning to break any land speed records, advances in diesel technology, such as ultra-low-sulfur fuel, high-pressure common-rail fuel injection, electronic fuel management and variable geometry turbocharging, are bringing diesel engines into the performance arena. And this book is the ideal guide for making your diesel engine perform--adapting intake and exhaust, torque converters, engine electronics, turbochargers, and much more.

The most comprehensive guide to highway diesel engines and their management systems available today, **MEDIUM/HEAVY DUTY TRUCK ENGINES, FUEL & COMPUTERIZED MANAGEMENT SYSTEMS**, Fourth Edition, is a user-friendly resource ideal for aspiring, entry-level, and experienced technicians alike. Coverage includes the full range of diesel engines, from light duty to heavy duty, as well as the most current diesel engine management electronics used in the industry. The extensively updated fourth edition features nine new chapters to reflect industry trends and technology, including a decreased focus on outdated hydromechanical fuel

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systems, additional material on diesel electric/hydraulic hybrid technologies, and information on the principles and practices underlying current and proposed ASE and NATEF tasks. With an emphasis on today's computer technology that sets it apart from any other book on the market, this practical, wide-ranging guide helps prepare you for career success in the dynamic field of diesel engine service. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Presents instructions for diagnosing and fixing problems with diesel engines used in farm and lawn equipment, boats, air compressors, and generators, reviewing the basics of diesels, and discussing planned maintenance, fuel systems, cylinder heads and valves, engine mechanics, electrical fundamentals, and other topics.

This fully updated, money-saving guide shows, step by step, how to repair and maintain diesel engines Thoroughly revised to cover the latest advances, this resource equips you with the state-of-the-art tools and techniques needed to keep diesel engines running smoothly and in top condition. The book offers comprehensive and practical coverage of diesel technology and clearly explains new diesel/hydrogen and diesel/methane engines. Troubleshooting and Repairing Diesel Engines, Fifth Edition covers new engine technology, electronic engine management, biodiesel fuels, and emissions controls. This new edition contains cutting-edge information on recent developments, including turbocharging and changes in the composition of conventional

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fuel. You will find out how to successfully carry out repairs and get professional results while saving money. •Covers a broad range of diesel engine makes and models•Features helpful facts, specifications, and flow charts •Written by a master mechanic and bestselling author

Written by industry professionals, engineers, reconstructionists, and litigators experienced in the trucking field, this comprehensive guidebook provides a strong knowledge base of the trucking industry and serves as a how to for handling a commercial motor vehicle case from intake to trial. The book covers: the lawyer's role in a truck accident investigation; data collection, site, vehicle, and electronic evidence; spoliation of evidence; driving situations (weather conditions, hazardous materials, human factors); on-board electronics; tires, wheels and brakes; technology (what exists, how to use it, and admissibility in court); the plaintiff and defense perspectives; changes from the engineering perspective with respect to engine configuration, speed, and more; and the trial.

MODERN DIESEL TECHNOLOGY: LIGHT DUTY DIESELS provides a thorough introduction to the light-duty diesel engine, now the power plant of choice in pickup trucks and automobiles to optimize fuel efficiency and longevity. While the major emphasis is on highway usage, best-selling author Sean Bennett also covers small stationary and mobile off-highway diesels. Using a modularized structure, Bennett helps the reader achieve a conceptual grounding in diesel engine technology. After exploring

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the tools required to achieve hands-on technical competency, the text explores major engine subsystems and fuel management systems used over the past decade, including the common rail fuel systems that manage almost all current light duty diesel engines. In addition, this text covers engine management systems, computer controls, multiplexing electronics, diesel emissions and the means used to control them. All generations of CAN-bus technology are examined, including the latest automotive CAN-C multiplexing and the basics of network bus troubleshooting. ASE A-9 certification learning objectives are addressed in detail. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Harness the Latest Tools and Techniques for Troubleshooting and Repairing Virtually Any Diesel Engine Problem The Fourth Edition of Troubleshooting and Repairing Diesel Engines presents the latest advances in diesel technology. Comprehensive and practical, this revised classic equips you with all of the state-of-the-art tools and techniques needed to keep diesel engines running in top condition. Written by master mechanic and bestselling author Paul Dempsey, this hands-on resource covers new engine technology, electronic engine management, biodiesel fuels, and emissions controls. The book also contains cutting-edge information on diagnostics...fuel systems...mechanical and electronic governors...cylinder heads and valves...engine mechanics...turbochargers...electrical basics...starters and generators...cooling

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systems...exhaust aftertreatment...and more. Packed with over 350 drawings, schematics, and photographs, the updated Troubleshooting and Repairing Diesel Engines features: New material on biodiesel and straight vegetable oil fuels Intensive reviews of troubleshooting procedures New engine repair procedures and tools State-of-the-art turbocharger techniques A comprehensive new chapter on troubleshooting and repairing electronic engine management systems A new chapter on the worldwide drive for greener, more environmentally friendly diesels Get Everything You Need to Solve Diesel Problems Quickly and Easily • Rudolf Diesel • Diesel Basics • Engine Installation • Fuel Systems • Electronic Engine Management Systems • Cylinder Heads and Valves • Engine Mechanics • Turbochargers • Electrical Fundamentals • Starting and Generating Systems • Cooling Systems • Greener Diesels Contains the proceedings of the Association.

Through a carefully-maintained “building block” approach, this text offers an easy-to-understand guide to automotive, truck, and heavy equipment diesel engine technology in a single, comprehensive volume. Text focus is on state-of-the-art technology, as well as on the fundamental principles underlying today's technological advances in service and repair procedures. Industry accepted practices are identified; and, readers are encouraged to formulate a sound understanding of both the “why” and the “how” of modern diesel engines and

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equipment. Thorough, up-to-date treatment of diesel technology encompasses major advancements in the field, especially recent developments in the use of electronics in heavy-duty trucks, off-highway equipment, and marine applications. The text's primary focus is on state-of-the-art "electronic fuel injection" systems such as those being used by such manufacturers as Caterpillar, Cummins, Detroit Diesel, Volvo, and Mack. A systematic, structured organization helps readers learn step-by-step, beginning with engine systems, and working logically through intake/exhaust, cooling, lubrication, and fuel injection systems, highlighting major changes in today's modern engines.

"Thoroughly updated and expanded, 'Fundamentals of Medium/Heavy Duty Commercial Vehicle Systems, Second Edition' offers comprehensive coverage of basic concepts building up to advanced instruction on the latest technology, including distributed electronic control systems, energy-saving technologies, and automated driver-assistance systems. Now organized by outcome-based objectives to improve instructional clarity and adaptability and presented in a more readable format, all content seamlessly aligns with the latest ASE Medium-Heavy Truck Program requirements for MTST." --Back cover.

John C. Payne is a professional marine electrical engineer with 23 years merchant marine and off-shore oil experience.

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Comprehensive, technically accurate, and up-to-date, HEAVY DUTY TRUCK SYSTEMS, 6E is the best-selling introduction to servicing medium- and heavy-duty trucks. Now in striking full color, the sixth edition helps users develop a strong foundation in electricity and electronics, power train, steering and suspension, brakes, and accessories systems and presents introductory material on servicing, safety, tools, and preventive maintenance. This edition is updated with full coverage of ASE Education Foundation competencies and the latest technology, including 2014 J1939 updates and access tools, Wingman radar, CMS, and Allison TC10 transmissions (introduced in 2013). The book's proven pedagogy is enhanced by extensive sets of review questions and over 1700 full-color photographs and pieces of art that help readers visualize key concepts and servicing procedures. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version. This fully updated edition presents practices and principles applicable for the reconstruction of automobile and commercial truck crashes. Like the First Edition, it starts at the very beginning with fundamental principles, information sources, and data gathering and inspection techniques for accident scenes and vehicles. It goes on to show how to analyze photographs and crash test data. The book presents tire fundamentals and shows how to use them in spreadsheet-based reverse trajectory

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analysis. Such methods are also applied to reconstructing rollover crashes. Impacts with narrow fixed objects are discussed. Impact mechanics, structural dynamics, and conservation-based reconstruction methods are presented. The book contains a comprehensive treatment of crush energy and how to develop structural stiffness properties from crash test data. Computer simulations are reviewed and discussed. Extensively revised, this edition contains new material on side pole impacts. It has entirely new chapters devoted to low-speed impacts, downloading electronic data from vehicles, deriving structural stiffness in side impacts, and incorporating electronic data into accident reconstructions

Since its first appearance in 1950, Pounder's Marine Diesel Engines has served seagoing engineers, students of the Certificates of Competency examinations and the marine engineering industry throughout the world. Each new edition has noted the changes in engine design and the influence of new technology and economic needs on the marine diesel engine. Now in its ninth edition, Pounder's retains the directness of approach and attention to essential detail that characterized its predecessors. There are new chapters on monitoring control and HiMSEN engines as well as information on developments in electronic-controlled fuel injection. It is fully updated to cover new legislation including that on emissions and provides details on enhancing overall efficiency and cutting CO₂ emissions. After experience as a seagoing engineer with the British India Steam Navigation Company, Doug Woodyard held editorial positions with

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the Institution of Mechanical Engineers and the Institute of Marine Engineers. He subsequently edited The Motor Ship journal for eight years before becoming a freelance editor specializing in shipping, shipbuilding and marine engineering. He is currently technical editor of Marine Propulsion and Auxiliary Machinery, a contributing editor to Speed at Sea, Shipping World and Shipbuilder and a technical press consultant to Rolls-Royce Commercial Marine. * Helps engineers to understand the latest changes to marine diesel engines * Careful organisation of the new edition enables readers to access the information they require * Brand new chapters focus on monitoring control systems and HiMSEN engines. * Over 270 high quality, clearly labelled illustrations and figures to aid understanding and help engineers quickly identify what they need to know.

Precision agriculture is now 'main stream' in agriculture and is playing a key role as the industry comes to terms with the environment, market forces, quality requirements, traceability, vehicle guidance and crop management. Research continues to be necessary - and needs to be reported and disseminated to a wide audience. These proceedings contain reviewed papers presented at the 10th European Conference on Precision Agriculture, held at the Volcani Centre, Israel. The papers reflect the wide range of disciplines that impinge on precision agriculture - technology, crop science, soil science, agronomy, information technology, decision support, remote sensing and others. The broad range of research topics reported will be a valuable resource for

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researchers, advisors, teachers and professionals in agriculture long after the conference has finished.

Volume 2 of the two-volume set *Advanced direct injection combustion engine technologies and development* investigates diesel DI combustion engines, which despite their commercial success are facing ever more stringent emission legislation worldwide. Direct injection diesel engines are generally more efficient and cleaner than indirect injection engines and as fuel prices continue to rise DI engines are expected to gain in popularity for automotive applications. Two exclusive sections examine light-duty and heavy-duty diesel engines. Fuel injection systems and after treatment systems for DI diesel engines are discussed. The final section addresses exhaust emission control strategies, including combustion diagnostics and modelling, drawing on reputable diesel combustion system research and development. Investigates how HSDI and DI engines can meet ever more stringent emission legislation Examines technologies for both light-duty and heavy-duty diesel engines Discusses exhaust emission control strategies, combustion diagnostics and modelling

MODERN DIESEL TECHNOLOGY: DIESEL ENGINES, Second Edition, provides a thorough, reader-friendly introduction to diesel engine theory, construction, operation, and service. Combining a simple, straightforward writing style, ample illustrations, and step-by-step instruction, this trusted guide helps aspiring technicians develop the knowledge and skills they need to service modern, computer-controlled diesel engines. The book provides an overview of essential topics such as shop safety, tools and equipment, engine construction and operation,

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major engine systems, and general service and repair concepts. Dedicated chapters then explore engine, fuel, and vehicle computer control subsystems, as well as diesel emissions. Thoroughly revised to reflect the latest technology, trends, and techniques—including current ASE Education Foundation standards—the Second Edition provides an accurate, up-to-date introduction to modern diesel engines and a solid foundation for professional success.

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Thoroughly updated and expanded, Fundamentals of Medium/Heavy Diesel Engines, Second Edition offers comprehensive coverage of basic concepts and fundamentals, building up to advanced instruction on the latest technology coming to market for medium- and heavy-duty diesel engine systems.

Illustrates and explains the complete workings of the diesel engine and its fuel injection systems

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