

Ponders Marine Diesel Engines And Gas Turbines Ninth Edition

This book covers the general engineering knowledge required by candidates for the Department of Transport's Certificates of Competency in Marine Engineering, Class One and Class Two. The text is updated throughout in this third edition, and new chapters have been added on production of fresh water and on noise and vibration. Reference is also provided to up-to-date papers and official publications on specialized topics. These updates ensure that this little volume will continue to be a useful pre-examination and revision text. - Marine Engineers Review, January 1992

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. This new edition has been completely re-written and re-structured, while retaining the directness of approach and attention to essential detail that characterised its predecessors. There are new sections covering principles and theory, and engine selection, and important developments such as the use of high speed diesel engines (for instance in fast ferry craft) are treated in full. In addition, numerous illustrations of all the listed types of engines appear in their relevant chapters.

Pounder's Marine Diesel Engines, Sixth Edition focuses on developments in diesel engines. The book first discusses theory and general principles. Theoretical heat cycle, practical cycles, thermal and mechanical efficiency, working cycles, fuel consumption, vibration, and horsepower are considered. The text takes a look at engine selection and performance, including direct and indirect drive, maximum rating, exhaust temperatures, derating, mean effective pressures, fuel coefficient, propeller performance, and power build-up. The book also examines pressure charging. Matching of turbochargers, blowers surge, turbocharger types, constant pressure method, impulse turbocharging method, and scavenging are discussed. The text describes fuel injection, Sulzer, MAN, and Burmeister and Wain engines. The selection also considers Mitsubishi, GMT, and Doford engines. The text then focuses on fuels and fuel chemistry; operation, monitoring, and maintenance; significant operating problems; and engine installation. Engine seatings and alignment, reaction measurements, crankcase explosions, main engine crankshaft defects, bearings, fatigue, and overhauling and maintenance are discussed. The book is a good source of information for readers wanting to study diesel engines.

Ship Resistance and Propulsion

Bio-Diesel

A Guide to Ship Design, Construction and Operation

New Technologies for Emission Control in Marine Diesel Engines

Marine Engineering (a Text-book)

The Gas Turbine Engineering Handbook has been the standard for engineers involved in the design, selection, and operation of gas turbines. This revision includes new case histories, the latest techniques, and new designs to comply with recently passed legislation. By keeping the book up to date with new, emerging topics, Boyce ensures that this book will remain the standard and most widely used book in this field. The new Third Edition of the Gas Turbine Engineering Hand Book updates the book to cover the new generation of Advanced gas Turbines. It examines the benefit and some of the major problems that have been encountered by these new turbines. The book keeps abreast of the environmental changes and the industries answer to these new regulations. A new chapter on case histories has been added to enable the engineer in the field to keep abreast of problems that are being encountered and the solutions that have resulted in solving them. Comprehensive treatment of Gas Turbines from Design to Operation and Maintenance. In depth treatment of Compressors with emphasis on surge, rotating stall, and choke; Combustors with emphasis on Dry Low NOx Combustors; and Turbines with emphasis on Metallurgy and new cooling schemes. An excellent introductory book for the student and field engineers A special maintenance section dealing with the advanced gas turbines, and special diagnostic charts have been provided that will enable the reader to troubleshoot problems he encounters in the field The third edition consists of many Case Histories of Gas Turbine problems. This should enable the field engineer to avoid some of these same generic problems

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.

This book describes the history and development of marine power plant. Problems of arrangement, general construction and parameters of marine power plants of all types are considered. It also introduces different characteristics of each type of marine power plant, matching characteristic for diesel propulsion. The book gives a clear idea about different marine power engines, including working principle, structure and application. Readers will understand easily the power system for ships since there are a lot of illustrations and instructions for each of the equipment. This book is useful for students majoring in "marine engineering", "energy and power engineering" and other related majors. It is also useful for operators of marine institution for learning main design and operation of ship plants.

Current Air Quality Issues

Design of Propulsion and Electric Power Generation Systems

General Engineering Knowledge

Maintenance, Troubleshooting and Repair

Engineering Knowledge (Motor) for Marine Engineers

This book examines a broad range of advances in hydrogen energy and alternative fuel developments and their role in the energy transition. The respective contributions were presented at the International Symposium on Sustainable Hydrogen, held in Algiers, Algeria on November 27-28, 2019. The transition from non-renewable polluting energy to sustainable green energy requires not only new energy sources but also new storage techniques and smart energy management. This situation has sparked renewed interest in hydrogen and alternative fuels, as they could help meet these needs. Indeed, hydrogen can not only be used as a clean energy vector or as an alternative fuel, but also as a storage medium or as an intermediary that enables improved energy management. This text offers a valuable reference guide for those working in the professional energy sector, as well as for students and instructors in academia who want to learn about the state of the art and future directions in the fields of hydrogen energy, alternative fuels and sustainable energy development.

Marine Auxiliary Machinery, Seventh Edition, explains the correct operation and maintenance of marine auxiliary machinery. The book discusses topics such as the arrangements of the engine and boiler room; pipes and fittings and pumps; compressors and separators; and heat exchangers - its types, control of temperature, and maintenance. The book also talks about other machineries such as diesel engines, steam turbines, propellers, and gears; refrigeration and air conditioning systems; deck machinery, and safety equipment. The text is recommended for engineers in ships who would like to know more about the auxiliary machines onboard ships, how they are operated, and the principles behind them. This book focuses on design technologies and practical engineering applications in connection with cruise ports and terminals. After a brief introduction to cruise ships and global cruise ports, it addresses the location, structure and layout of cruise terminals, the technologies involved, cruise terminal buildings and supporting facilities. The book also explores practical engineering cases, including projects that the authors have worked on, such as the Shenzhen Prince Bay and Shanghai Musongkou International Cruise Terminal projects. Systematically discussing the design and engineering aspects of domestic and international cruise terminals, the book offers a practical reference guide for engineers, researchers, practitioners and policymakers in relevant fields.

Questions and Answers

Pounder's Marine Diesel Engines and Gas Turbines, Ninth Edition

Diesel Engine Transient Operation

Dual-Fuel Diesel Engines

and Gas Turbines

Traditionally, the study of internal combustion engines operation has focused on the steady-state performance. However, the daily driving schedule of automotive and truck engines is inherently related to unsteady conditions. In fact, only a very small portion of a vehicle's operating pattern is true steady-state, e. g. , when cruising on a motorway. Moreover, the most critical conditions encountered by industrial or marine engines are met during transients too. Unfortunately, the transient operation of turbocharged diesel engines has been associated with slow acceleration rate, hence poor driveability, and overshoot in particulate, gaseous and noise emissions. Despite the relatively large number of published papers, this very important subject has been treated in the past scarcely and only segmentally as regards reference books. Merely two chapters, one in the book Turbocharging the Internal Combustion Engine by N. Watson and M. S. Janota (McMillan Press, 1982) and another one written by D. E. Winterbone in the book The Thermodynamics and Gas Dynamics of Internal Combustion Engines, Vol. II edited by J. H. Horlock and D. E. Winterbone (Clarendon Press, 1986) are dedicated to transient operation. Both books, now out of print, were published a long time ago. Then, it seems reasonable to try to expand on these pioneering works, taking into account the recent technological advances and particularly the global concern about environmental pollution, which has intensified the research on transient (diesel) engine operation, typically through the Transient Cycles certification of new vehicles.

Everything you wanted to know about industrial gas turbines for electric power generation in one source with hard-to-find, hands-on technical information.

Pounder's Marine Diesel Engines and Gas Turbines, Tenth Edition, gives engineering cadets, marine engineers, ship operators and managers insights into currently available engines and auxiliary equipment and trends for the future. This new edition introduces new engine models that will be most commonly installed in ships over the next decade, as well as the latest legislation and pollutant emissions procedures. Since publication of the last edition in 2009, a number of emission control areas (ECAs) have been established by the International Maritime Organization (IMO) in which exhaust emissions are subject to even more stringent controls. In addition, there are now rules that affect new ships and their emission of CO2 measured as a product of cargo carried. Provides the latest emission control technologies, such as SCR and water scrubbers Contains complete updates of legislation and pollutant emission procedures Includes the latest emission control technologies and expands upon remote monitoring and control of engines

The Wankel Engine: Design, Development, Applications

The Maritime Engineering Reference Book

Framing the Legal Context

Bio-degradable Alternative Fuel for Diesel Engines

Marine Auxiliary Machinery

Dual-Fuel Diesel Engines offers a detailed discussion of different types of dual-fuel diesel engines, the gaseous fuels they can use, and their operational practices. Reflecting cutting-edge advancements in this rapidly expanding field, this timely book: Explains the benefits and challenges associated with internal combustion, compression ignition, gas-fueled, and premixed dual-fuel engines Explores methane and natural gas as engine fuels, as well as liquefied petroleum gases, hydrogen, and other alternative fuels Examines safety considerations, combustion of fuel gases, and the conversion of diesel engines to dual-fuel operation Addresses dual-fuel engine combustion, performance, knock, exhaust emissions, operational features, and management Describes dual-fuel engine operation on alternative fuels and the predictive modeling of dual-fuel engine performance Dual-Fuel Diesel Engines covers a variety of engine sizes and areas of application, with an emphasis on the transportation sector. The book provides a state-of-the-art reference for engineering students, practicing engineers, and scientists alike.

The story of how diesel engines and gas turbines, used to power cargo ships and jet airplanes, made today's globally integrated economy possible. The many books on globalization published over the past few years range from claims that the world is flat to an unlikely rehabilitation of Genghis Khan as a pioneer of global commerce. Missing from these accounts is a consideration of the technologies behind the creation of the globalized economy. What makes it possible for us to move billions of tons of raw materials and manufactured goods from continent to continent? Why are we able to fly almost anywhere on the planet within twenty-four hours? In Prime Movers of Globalization, Vaclav Smil offers a history of two key technical developments that have driven globalizaton: the high-compression non-sparking internal combustion engines invented by Rudolf Diesel in the 1890s and the gas turbines designed by Frank Whittle and Hans-Joachim Pabst von Ohain in the 1930s. The massive diesel engines that power cargo ships and the gas turbines that propel jet engines, Smil argues, are more important to the global economy than any corporate structure or international trade agreement. Smil compares the efficiency and scale of these two technologies to prime movers of the past, including the sail and the steam engine. The lengthy processes of development, commercialization, and diffusion that the diesel engine and the gas turbine went through, he argues, provide perfect examples of gradual technical advances that receive little attention but have resulted in epochal shifts in global affairs and the global economy.

With all areas of transportation, solutions for economical and environmentally friendly technology are being examined. Fuel consumption, combustion processes, control and limitation of pollutants in the exhaust gas are technological problems, for which guidelines like 98/69/EC and 99/96 determine the processes for the reduction of fuel consumption and exhaust gas emissions. Apart from technological solutions, the consequences of international legislation and their effects on environmental and climate protection in the area of the transportation are discussed.

The History and Impact of Diesel Engines and Gas Turbines

Gas Turbine Engineering Handbook

A Technical and Historical Overview

Modeling and Control of EGR on Marine Two-Stroke Diesel Engines

Pounder's Marine Diesel Engines

In the early days of shipping and international maritime trade many more casualties occurred at sea. Ever since, ship owners liability for cargo claims has been increasing both in number and in cost in spite of the huge technical development in international maritime transport. In order to make it easier for ship owners to operate safely and efficiently the Protection and Indemnity appeared around 1870 as mutual marine insurance. Besides Hull & Machinery and Cargo Insurance offered on the international commercial market in insurance, Protection and Indemnity Insurance (Known under the acronym P&I) is a ship owners insurance cover for legal liabilities to third parties. This cover is generally achieved by entering the ship in a mutual insurance club. Nowadays, the mutuality is performed by an underwriter who endeavors to see that each owner carries his fair share of the risk. The members of P&I clubs are ship owners, charterers or ship management companies. At present, a major function of the Protection and Indemnity insurance is to cover the ship owner for legal and contractual liability for loss of cargo or damage to cargo if there has been a breach of the carriage contract. This liability is called Third party liability. The ship owner will handover the cargo claim to his P&I Club. In order to clarify this liability, Article 3, Paragraph 2 of the Hague Visby rules stipulates: Subject to the provisions of Article 4 the carrier shall properly and carefully load, handle, stow, carry, keep, care for and discharge the goods carried. Therefore, the focus in this research study is placed on the function of Protection and Indemnity insurance covering the ship owners liability for damage to cargo or loss of cargo.

Marine Auxiliary Machinery, Seventh Edition is a 16-chapter text that covers the significant advances in marine auxiliary machinery relevant to the certification of competency examinations. The introductory chapters deal with the basic components of marine machineries, such as propulsion system, heat exchanger, valves, and pipelines. The succeeding chapters describe the pumps and pumping system, specifically the tanker and gas carrier cargo pumps. Considerable chapters are devoted to the operation of machinery ' s major components, including the propeller shaft, steering gear, auxiliary power, bow thrusters, and stabilizers. Other chapters consider the refrigeration, heating, ventilation, and air conditioning systems. The final chapters tackle the safety system of marine auxiliary machinery, particularly the fire protection, safety, instrumentation, and control systems. This book will prove useful to marine and mechanical engineers.

*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. This eighth edition retains the directness of approach and attention to essential detail that characterized its predecessors. There are new chapters on monitoring control systems and governor systems, gas turbines and safety aspects of engine operation. Important developments such as the latest diesel-electric LNG carriers that will soon be in operation. After experience as a seagoing engineer with the British India Steam Navigation Company, Doug Woodyard held editorial positions with 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 Seatrade, a contributing editor to Speed at Sea, Shipping World and Shipbuilder and a technical press consultant to Rolls-Royce Commercial Marine. * Designed to reflect the recent changes to SQA/Marine and Coastguard Agency Certificate of Competency exams. Careful organisation of the new edition enables readers to access the information they require * Brand new chapters focus on monitoring control systems and governor systems, gas turbines and safety aspects of engine operation * High quality, clearly labelled illustrations and figures*

Prime Movers of Globalization

A History of the Growth of the Steam-engine

Principles of Operation and Simulation Analysis

The Function of Protection & Indemnity Marine Insurance in Relation to Ship Owner S Liability for Cargo Claims

Design and Practice of Cruise Ports

Air pollution is thus far one of the key environmental issues in urban areas. Comprehensive air quality plans are required to manage air pollution for a particular area. Consequently, air should be continuously sampled, monitored, and modeled to examine different action plans. Reviews and research papers describe air pollution in five main contexts: Monitoring, Modeling, Risk Assessment, Health, and Indoor Air Pollution. The book is recommended to experts interested in health and air pollution issues.

*The Maritime Engineering Reference Book is a one-stop source for engineers involved in marine engineering and naval architecture. In this essential reference, Anthony F. Molland has brought together the work of a number of the world's leading writers in the field to create an inclusive volume for a wide audience of marine engineers, naval architects and those involved in marine operations, insurance and other related fields. Coverage ranges from the basics to more advanced topics in ship design, construction and operation. All the key areas are covered, including ship flotation and stability, ship structures, propulsion, seakeeping and maneuvering. The marine environment and maritime safety are explored as well as new technologies, such as computer aided ship design and remotely operated vehicles (ROVs). Facts, figures and data from world-leading experts makes this an invaluable ready-reference for those involved in the field of maritime engineering. Professor A.F. Molland, BSc, MSc, PhD, CEng, FRINA, is Emeritus Professor of Ship Design at the University of Southampton, UK. He has lectured ship design and operation for many years. He has carried out extensive research and published widely on ship design and various aspects of ship hydrodynamics. * A comprehensive overview from best-selling authors including Bryan Barrass, Rawson and Tupper, and David Eyles * Covers basic and advanced material on marine engineering and Naval Architecture topics * Have key facts, figures and data to hand in one complete reference book*

Diesel Engine System Design links everything diesel engineers need to know about engine performance and system design in order for them to master all the essential topics quickly and to solve practical design problems. Based on the author's unique experience in the field, it enables engineers to come up with an appropriate specification at an early stage in the product development cycle. Links everything diesel engineers need to know about engine performance and system design featuring essential topics and techniques to solve practical design problems Focuses on engine performance and system integration including important approaches for modelling and analysis Explores fundamental concepts and generic techniques in diesel engine system design incorporating durability, reliability and optimization theories

Sensing, Control and Reduction of Emissions

Modern Marine Internal Combustion Engines

Marine Power Plant

Decreasing Fuel Consumption and Exhaust Gas Emissions in Transportation

Pounder's Marine Diesel Engines and Gas Turbines

New Technologies for Emission Control in Marine Diesel Engines provides a unique overview on marine diesel engines and aftertreatment technologies that is based on the authors' extensive experience in resarch and development of emission control systems, especially plasma aftertreatment systems. The book covers new and updated technologies, such as combustion improvement and after treatment, SCR, the NOx reduction method, Ox scrubber, DPF, Electrostatic precipitator, Plasma PM decomposition, Plasma NOx reduction, and the Exhaust gas recirculation method. This comprehensive resours is ideal for marine engineers, engine manufacturers and consultants dealing with the development and implementation of aftertreatment systems in marine engines. Includes recent advances and future trends of marine engines Discusses new and innovative emission technologies for marine diesel engines and their regulations Covers aftertreatment technologies that are not widely applied, such as catalysts, SCR, DPF and plasmas

Nigel Calder, a diesel mechanic for more than 25 years, is also a boatbuilder, cabinemaker, and machinist. He and his wife built their own cruising sailboat, Nada, a project they completed in 1984. Calder is author of numerous articles for Yachting Monthly and many other magazines worldwide, as well as the bestselling Boatowner's Practical and Technical Cruising Manual and Boatowner's Mechanical and Electrical Manual, both published by Adlard Coles Nautical. Here, in this goldmine of a book, is everything the reader needs to keep their diesel engine running cleanly and efficiently. It explains how diesel engines work, defines new terms, and lifts the veil of mystery that surrounds such engines. Clear and logical, this extensively illustrated guide will enable the reader to be their own diesel mechanic. As Nigel Calder says: 'there is no reason for a boatowner not to have a troublefree relationship with a diesel engine. All one needs is to set the engine up correctly in the first place, to pay attention to routine maintenance, to have the knowledge to spot early warning signs of impending trouble, and to have the ability to correct small ones before they become large ones.'

Ship Resistance and Propulsion provides a comprehensive approach to evaluating ship resistance and propulsion. Informed by applied research, including experimental and CFD techniques, this book provides guidance for the practical estimation of ship propulsive power for a range of ship types. Published standard series data for hull resistance and propeller performance enables practitioners to make ship power predictions based on material and data contained within the book. Fully worked examples illustrate applications of the data and powering methodologies; these include cargo and container ships, tankers and bulk carriers, ferries, warships, patrol craft, work boats, planing craft and yachts. The book is aimed at a broad readership including practising naval architects and marine engineers, seagoing officers, small craft designers, undergraduate and postgraduate students. Also useful for those involved in transportation, transport efficiency and ecologists who need to carry out reliable estimates of ship power requirements.

Marine Diesel Engines, By C.C. Pounder [and Others]. With 230 Illustrations, Etc

Diesel Engine System Design

Marine Diesel Engines

Advances in Renewable Hydrogen and Other Sustainable Energy Carriers

Gas Turbines for Electric Power Generation

The Diesel Engine Reference Book, Second Edition, is a comprehensive work covering the design and application of diesel engines of all sizes. The first edition was published in 1984 and since that time the diesel engine has made significant advances in application areas from passenger cars and light trucks through to large marine vessels. The Diesel Engine Reference Book systematically covers all aspects of diesel engineering, from thermodynamics theory and modelling to condition monitoring of engines in service. It ranges through subjects of long-term use and application to engine designers, developers and users of the most ubiquitous mechanical power source in the world. The latest edition leaves few of the original chapters untouched. The technical changes of the past 20 years have been enormous and this is reflected in the book. The essentials however, remain the same and the clarity of the original remains. Contributors to this well-respected work include some of the most prominent and experienced engineers from the UK, Europe and the USA. Most types of diesel engines from most applications are represented, from the smallest air-cooled engines, through passenger car and trucks, to marine engines. The approach to the subject is essentially practical, and even in the most complex technological language remains straightforward, with mathematics used only where necessary and then in a clear fashion. The approach to the topics varies to suit the needs of different readers. Some areas are covered in both an overview and also in some detail. Many drawings, graphs and photographs illustrate the 30 chapters and a large easy to use index provides convenient access to any information the readers requires.

This is a well known fact that the reserves of mineral oils are depleting day-by-day, and the cost of exploration of the remaining reserves is bound to escalate. Moreover, the burning of fossil fuels increases the level of carbon-dioxide in the atmosphere causing the 'Green House' effect. In this context, a viable and sustainable alternative fuel is necessary to cater to a large fleet of automobiles across the world. The advent of bio-diesel has come to the rescue in such a warranting situation. Efforts are being made to streamline the systems to produce bio-diesels at economically viable rates and apply them in running the diesel engines in lieu of petro-diesel. And the present study is an attempt in this direction. It seeks to exploit non-edible oil plants, especially Jatropha, manua and palm, to replace diesel oil usage in the conventional diesel engines. Providing transesterification procedure for all the three non-edible oils, it deals with the heat release rate calculations based on the pressure data collected in the combustion chamber. It also extends discussion on the instrumentation and experimentation, as well as the results of the findings.

The international marine shipping industry is responsible for the transport of around 90% of the total world trade. Low-speed two-stroke diesel engines usually propel the largest trading ships. This engine type choice is mainly motivated by its high fuel efficiency and the capacity to burn cheap low-quality fuels. To reduce the marine freight impact on the environment, the International Maritime Organization (IMO) has introduced stricter limits on the engine pollutant emissions. One of these new restrictions, named Tier III, sets the maximum NOx emissions permitted. New emission reduction technologies have to be developed to fulfill the Tier III limits on two-stroke engines since adjusting the engine combustion alone is not sufficient. There are several promising technologies to achieve the required NOx reductions, Exhaust Gas Recirculation (EGR) is one of them. For automotive applications, EGR is a mature technology, and many of the research findings can be used directly in marine applications. However, there are some differences in marine two-stroke engines, which require further development to apply and control EGR. The number of available engines for testing EGR controllers on ships and test beds is low due to the recent introduction of EGR. Hence, engine simulation models are a good alternative for developing controllers, and many different engine loading scenarios can be simulated without the high costs of running real engine tests. The primary focus of this thesis is the development and validation of models for two-stroke marine engines with EGR. The modeling follows a Mean Value Engine Model (MVEEM) approach, which has a low computational complexity and permits faster than real-time simulations suitable for controller testing. A parameterization process that deals with the low measure data availability, compared to the available data on automotive engines, is also investigated and described. As a result, the proposed model is parameterized to two different two-stroke engines showing a good agreement with the measurements in both stationary and dynamic conditions. Several engine components have been developed. One of these is a new analytic in-cylinder pressure model that captures the influence of the injection and exhaust valve timings without increasing the simulation time. A new compressor model that can extrapolate to low speeds and pressure ratios in a physically sound way is also described. This compressor model is a requirement to be able to simulate low engine loads. Moreover, a novel parameterization algorithm is shown to handle well the model nonlinearities and to obtain a good model agreement with a large number of tested compressor maps. Furthermore, the engine model is complemented with dynamic models for ship and propeller to be able to simulate transient sailing scenarios, where good EGR controller performance is crucial. The model is used to identify the low load area as the most challenging for the controller performance, due to the slower engine air path dynamics. Further low load simulations indicate that sensor bias can be problematic and lead to an undesired black smoke formation, while errors in the parameters of the controller flow estimators are not as critical. This result is valuable because for a newly built engine a proper sensor setup is more straightforward to verify than to get the right parameters for the flow estimators.

Harland and Wolff – Burmeister and Wain Marine Diesel Engines and the Influence of C.C. Pounder on the Development of the Two-stroke Marine Diesel Engine

Fundamentals of Medium/Heavy Duty Diesel Engines

Diesel Engine Reference Book

Practical Estimation of Propulsive Power

This book offers a comprehensive and timely overview of internal combustion engines for use in marine environments. It reviews the development of modern four-stroke marine engines, gas and gas-diesel engines and low-speed two-stroke crosshead engines, describing their application areas and providing readers with a useful snapshot of their technical features, e.g. their dimensions, weights, cylinder arrangements, cylinder capabilities, rotation speeds, and exhaust gas temperatures. For each marine engine, information is provided on the manufacturer, historical background, development and technical characteristics of the manufacturer's most popular models, and detailed drawings of the engine, depicting its main design features. This book offers a unique, self-contained reference guide for engineers and professionals involved in shipbuilding. At the same time, it is intended to support students at maritime academies and university students in naval architecture/marine engineering with their design projects at both master and graduate levels, thus filling an important gap in the literature.

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