This report explains the grounding of the United States oil tanker Exxon Valdez on March 24, 1989. Safety issues discussed include the navigation watch, role of human factors, manning standards, the company's drug/alcohol testing and rehabilitation program, vessel traffic service, and oil spill response. Includes safety recommendations, maps.

When it was first published some two decades ago, the original Handbook of Lubrication and Tribology stood on technology's cutting-edge as the first comprehensive reference to assist the emerging science of tribology lubrication. Later, followed by Volume II, Theory and Design and Volume III, Monitoring, Materials, Synthetic Lubricants, and Ap

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 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.
Today's shortages of resources make the search for wear and corrosion resistant materials one of the most important tasks of the next century. Since the surface of a material is the location where any interaction occurs, it is there that the hardest requirements on the material are imposed: to be wear resistant for tools and bearings; to be corrosion resistant for turbine blades and tubes in the petrochemical industry; to be anti-reflecting for solar cells; to be decorative for architectural panels and to combine several of these properties in other applications. Surface engineering is the general term that incorporates all the techniques by which a surface modification can be accomplished. These techniques include both coating and modification of the surface by ion implantation and laser beam melting. In recent years a continuously growing number of these techniques were developed to the extent that it became more and more difficult to maintain an overlook and to understand which of these highly differentiated techniques might be applied to resolve a given surface engineering problem. A similar development is also occurring for surface characterization techniques. This volume contains contributions from renowned scientists and engineers to the Eurocourse the aim of which was to inform about the
The main target of this book is to state the latest advancement in ceramic coatings technology in various industrial fields. The book includes topics related to the applications of ceramic coatings in engineering, including fabrication routes (electrophoretic deposition and physical deposition) and applications in turbine parts, internal combustion engines, pigments, foundry, etc.

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.
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- Intensive reviews of troubleshooting procedures
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- Starting and Generating Systems
- Cooling Systems
- Greener Diesels

Volume II of the manual that has been absolutely indispensable to the ship's engineer for over forty years was completely updated by a team of practicing marine engineers in 1991. Chapters on obsolete equipment were deleted; those on systems that are still current were updated; and new chapters were written to cover the innovations in materials, machines, and operating practices that evolved recently.

Now in its fourth edition, Introduction to Internal Combustion Engines remains the indispensable text to guide you through automotive or mechanical engineering, both at university and beyond. Thoroughly updated, clear, comprehensive and well-illustrated, with a wealth of worked examples and problems, its combination of theory and applied practice is sure to help you understand internal combustion engines, from thermodynamics and combustion to fluid mechanics and materials science.

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- Will be useful to practising engineers for an overview of the subject, or when they are working on particular aspects of internal combustion engines that are new to them
- Is fully updated including new material on direct injection spark engines, supercharging and renewable fuels
- Offers a wealth of worked examples and end-of-chapter questions to test your knowledge
- Has a solutions manual available online for lecturers at www.palgrave.com/engineering/stone

This book addresses the science and technology of the gasification process and the production of electricity, synthetic fuels and other useful chemicals. Pursuing a holistic approach, it covers the fundamentals of gasification and its various applications. In
addition to discussing recent advances and outlining future directions, it covers advanced topics such as underground coal gasification and chemical looping combustion, and describes the state-of-the-art experimental techniques, modeling and numerical simulations, environmentally friendly approaches, and technological challenges involved. Written in an easy-to-understand format with a comprehensive glossary and bibliography, the book offers an ideal reference guide to coal and biomass gasification for beginners, engineers and researchers involved in designing or operating gasification plants.

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.

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 Eyres * 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