

Mirrlees Engine

Nineteenth-century Cuba led the world in sugar manufacture and technological innovation was central to this. Through the story of a group of forgotten migrant workers who anonymously contributed to Cuba's development, this book explores the development of the Cuban sugar industry and how the country became bound into global networks. 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

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need to know.

This book is based on a study of 84 technological innovations that won Queen's Awards in 1966 and 1967. Nearly 40 of these are presented as well-documented but readable case histories. The topics range from new antibiotics to fast patrol boats, from an improved way of making bread to aircraft equipment, from new building materials and techniques to scientific instruments, from automatic gearboxes to guided missiles. Many points of interest are covered in the discussion. Is innovation more often 'pushed' by scientific or technological discoveries or more often 'pulled' by the needs of the market or of management? Is it true that outstanding individuals are necessary for success? Is it true that the time-lag between discovery and exploitations is shortening? Can one specify optimum sizes for research teams? What is the role of basic research? These are some of the issues raised in the course of a wide-ranging discussion of factors affecting technological innovation.

Pounder's Marine Diesel Engines and Gas Turbines
Butterworth-Heinemann

The story of The Making of India begins in the seventeenth century, when a small seafaring island, one tenth the size of the Indian subcontinent, despatched sailing ships over 11,000 miles on a five-month trading journey in search of new opportunities. In the end they helped build a new

nation. The sheer audacity and scale of such an endeavour, the courage and enterprise, have no parallel in world history. This book is the first to assess in a single volume almost all aspects of Britain's remarkable contribution in providing India with its lasting institutional and physical infrastructure, which continues to underpin the world's largest democracy in the twenty-first century. Restructured to start at the head of navigation at Kempston, upstream of Bedford, this guide takes you downstream along the full length of the navigable River Great Ouse and then up its accessible river tributaries. This sixth edition has been expanded to include an extra 60 miles of navigable waterways not previously detailed, including the tidal section to Kings Lynn and gems such as the Cambridge Backs World Heritage site. Imray's popular inland waterways guides are being revised with experienced boat-owners and navigators from the Inland Waterways Association. This new guide has been written by Chris Howes, Deputy National Chairman, Eastern Region Chairman and past Peterborough Branch Chairman of the IWA. Chris has spent much of his life living on or near the River Great Ouse and is a knowledgeable enthusiast for the area. His navigation notes are the result of his most recent on-the-water research, enriched with supplementary narrative and photographs highlighting numerous

points of interest. With a completely new design and layout, information on moorings, facilities and services is enhanced with quick reference tables alongside the plans. For anyone planning to explore these waterways, this is your invaluable, don't-leave-home-without-it guide.

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 turboblowers, blower 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 Doxford 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.

New Scientist magazine was launched in 1956 "for all those men and women who are interested in scientific discovery, and in its industrial, commercial and social consequences". The brand's mission is no different today - for its consumers, New Scientist reports, explores and interprets the results of human endeavour set in the context of society and culture. In an earlier album titled BR Diesel Locomotives in Preservation Fred Kerr detailed the many classes of BR diesel locomotives that had been preserved and noted that some purchases had been made with the hope of operating them on the national network. The Railways Bill 1993 provided an opportunity for this to happen and this album shows such locomotives at work during the early part of the 21st century up to December 2016. During this period many new train operators entered the market and their early operations used elderly locomotives withdrawn from service by their original operators until their business(es) were established and new locomotives could be bought. On occasion these new companies were prepared to hire preserved locomotives with main line access to service short-term contracts and these, mainly freight, services provided much of the variety of locomotive operations that offset the

increasing sight of multiple unit train services that epitomize the modern railway. The author has chosen to consider heritage traction as any locomotive older than twenty years, which therefore includes electric locomotives but excludes those of that age which are still operated by their owners as at April 1 1994 when British Railways (BR) was privatized. This results in the Class 59 fleet being excluded because its ownership has been constant but the Class 60 fleet being included because of purchases by Colas Railfreight after that date.

The Royal Navy's greatest contribution to the Allied success in World War II was undoubtedly the defeat of the U-boat menace in the North Atlantic, a victory on which all other European campaigns depended. The underwater threat was the most serious naval challenge of the war so it was not surprising that captured German submarine technology became the focus of attention for the British submarine service after 1945. It was quick to test and adopt the schnorkel, streamlining, homing torpedoes and, less successfully, hydrogen-peroxide propulsion. Furthermore, in the course of the long Atlantic battle, the Royal Navy had become the world's most effective anti-submarine force and was able to utilise this expertise to improve the efficiency of its own submarines. However, in 1945 German submarine technology had also fallen into the hands of the Soviet Union and as the Cold War developed it

became clear that a growing Russian submarine fleet would pose a new threat. Britain had to go to the US for its first nuclear propulsion technology, but the Royal Navy introduced the silencing technique which made British and US nuclear submarines viable anti-submarine assets, and it pioneered in the use of passive – silent – sonars in that role. Nuclear power also changed the role of some British submarines, which replaced bombers as the core element of British Cold War and post Cold War nuclear deterrence. As in other books in this series, this one shows how a combination of evolving strategic and tactical requirements and new technology produced successive types of submarines. It is based largely on unpublished and previously classified official documentation, and to the extent allowed by security restrictions, also tells the operational story – HMS Conqueror is still the only nuclear submarine to have sunk a warship in combat, but there are many less well known aspects of British submarine operations in the postwar era. Although some of the Cold War activities of British submarines have come to light in recent years, this book will be the first comprehensive technical history of the submarines themselves, their design rationale, and the service which operated them.

British Rail Main Line Locomotives Specification Guide identifies the major detail differences and livery variations that have appeared on all British

Rail, ex-British Rail and privatized railway diesel and electric main line classes from 14 to 92. The book provides a record of the main specifications of each class of locomotive, and details of variations, including: numbers, liveries, headcodes, headlights, wheel arrangements and bogies, brakes, names and - where appropriate - details of refurbishment programmes. Diesel locomotives are a relative newcomer to the railway enthusiast and modelling scenes, and this book brings together information on detail changes in a coherent reference form for the first time, illustrated with photographs of major changes. A useful resource for modellers and those with an interest in the differences that have occurred to the British Rail fleet. Superbly illustrated with around 300 colour photographs.

During the mid-1980s, in a drive for greater efficiency, British Rail required another heavy freight locomotive, some of the earlier Type 5 freight locomotives being outdated and no longer regarded as suitable for heavy freight duties. The new Class 60 locomotive was to be constructed using lessons learned from the Classes 56 and 58. Six organisations were invited to tender but only three did so. The contract was awarded to Brush Electrical Machines (today, Brush Traction, part of the Wabtec Rail Group) for a powerful 60mph Type 5 Co-Co design, which resulted in an order being placed for one hundred Class 60 diesel-electric locomotives.

Using original research from the National Archives, *British Rail Class 60 Locomotives* is a high illustrated guide that explores the commissioning of the Class 60s and their construction, testing and running. It undertakes an in-depth technical appraisal of the class and details names, liveries, modifications and preservation and includes the 'Super 60' refurbishment programme and acquisition of ten Class 60s for Colas Rail UK, bringing the timeline to the present day. Of interest to all diesel loco enthusiasts and railway modellers, this book is lavishly illustrated with 280 colour and black & white photographs, many previously unpublished.

"The Eternal Expatriate Part Two is a story in its own right, about a twenty-year-old Slovene, Tony Ayles, arriving into the realm of H.M. Queen Elisabeth II. He was a freshly qualified technician, who sought and found employment but could not resist the English roses he encountered. Having been promoted to a Service Engineer, he was sent to Mauritania, West Africa to a place with a fateful name: Place de Diable. Upon return to England, he married one of the English roses and had a daughter. Due to his insatiable quest for progress at work, he then went to Germany, taking his wife and daughter with him and where he settled down, and is still there today. A memorable story, informative and entertaining, it takes the reader through several countries with principal events taking place in England and

Germany."

This 1938 survey of the district of Cambridge provides an overview of physical and human geography within the Cambridge area.

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