

Submarine Design And The Development Of The Astute Class

This book has long been considered the definitive study of the fleet submarine, one of the most successful types of warships ever built. It presents a comprehensive analysis of the submarine's design, construction, and development. The author traces its metamorphosis from the T and V classes through wartime boats and postwar Guppy and other conversions up to the 1980s. Dozens of rare photos, profile line drawings, a detailed type plan, and statistical appendixes complement the text in this large format book. The book's wealth of technical data is offered in a frame of historical reference that will appeal to the general reader and World War II history buffs as well as serious students of the submarine.

Discusses the strategic role of Soviet submarines and provides technical information on each class of sub
Nuclear submarine design resources at the shipyards, their suppliers, and the Navy may erode for lack of demand.
Analysis of alternative workforce and workload management options suggests that the U.S. Navy should stretch out the design of the next submarine class and start it early or sustain design resources above the current demand, so that the next class may be designed on time, on budget, and with low risk.

Contents: (1) Intro.; (2) Background: Types of Sub_s. in the U.S. Navy; Attack Sub. Force Levels; Virginia (SSN-774) Class Program; Past and Planned Procurement; Changes in Planned Procurement Rates; Joint Production Arrangement; Cost-Reduction Effort; Sub Construction Industrial Base; Design and Engin. (D&E) Portion; Projected SSN Shortfall; Navy Study on Options for Mitigating Projected Shortfall; (3) Issues for Congress: 48-Boat Force-Level Goal and Planned SSN Procurement; (4) Options for Congress; (5) Legislative Activity for FY 2010. Appendices: Past SSN Force-Level Goals; Views Regarding 48-Boat SSN Force-Level Goal; Options for Funding SSNs; Maintaining Sub. D&E Base. A print on demand pub.

A new series of submarine hull fittings has been designed, built, and tested for use with RG-11A/U, RG-293/U, RG-295/U, and RG-297/U radio frequency coaxial cables. Included in the series are external plugs, hull feed-thru adapters, baseplate feed-thru adapters, and internal plugs. The external plugs are of a unique design which permits quick, simple, reliable, uniform field assemblies with only rudimentary tools. All hull feed-thru adapters assembly with standard submarine 2.6 in. hull inserts. Two models of each fitting were constructed. All fittings were tested to 3000 psi. Complete electrical and environmental test data, photographs, drawings, and illustrated assembly instructions are included. (Author).

Naval warfare in the Pacific changed completely with the Japanese attack on Pearl Harbor in 1941. The strategic emphasis shifted from battleships to much more lethal, far-ranging weapons systems; one of these was the submarine. This book details the design and development, classes, weapons and equipment, tactics and operational history of the US submarine in World War II. Detailed tables, photographs, and superb color plates depict the force that had an effect far beyond its size - the submarine accounted for 55% of all Japanese shipping losses, despite suffering the highest percentage loss of any unit of the United State Armed Forces in World War II.

The requirements for evaluating alternative conceptual submarine designs are presented. The morphology of a conceptual design evaluation tool is established and its basic components developed. Digital computer programs are used to facilitate analysis of design parameters. Representative parameters required by the design tool are determined for an existing submarine. A review of current research in the major areas of submarine design is presented. The effects of several of these technological advances are predicted for the example vessel through use of the design tool. (Author).

Explores the engineering and architectural aspects of submarine design.

Most ocean vessels are underactuated but control of their motion in the real ocean environment is essential. Starting with a review of the background on ocean-vessel dynamics and nonlinear control theory, the authors' systematic approach is based on various nontrivial coordinate transformations coupled with advanced nonlinear control design methods. This strategy is then used for the development and analysis of a number of ocean-vessel control systems with the aim of achieving advanced motion control tasks including stabilization, trajectory-tracking, path-tracking and path-following. Control of Ships and Underwater Vehicles offers the reader: - new results in the nonlinear control of underactuated ocean vessels; - efficient designs for the implementation of controllers on underactuated ocean vessels; - numerical simulations and real-time implementations of the control systems designed on a scale-model ship for each controller developed to illustrate their effectiveness and afford practical guidance.

A unique and outstanding military and industrial achievement, the Collins class submarine project was also plagued with difficulties and mired in politics. Its story is one of heroes and villains, grand passions, intrigue, lies, spies and backstabbing. It is as well a story of enormous commitment and resolve to achieve what many thought impossible. The building of these submarines was Australia's largest, most expensive and most controversial military project. From initiation in the 1981–2 budget to the delivery of the last submarine in 2003, the total cost was in excess of six billion dollars. Over 130 key players were interviewed for this book, and the Australian Defence Department allowed access to its classified archives and the Australian Navy archives. Vividly illustrated with photographs from the collections of the Royal Australian Navy and ASC Pty Ltd, *The Collins Class Submarine Story: Steel, Spies and Spin*, first published in 2008, is a riveting and accessibly written chronicle of a grand-scale quest for excellence.

This book examines the historic role of professional and demanding military customers in industrial development. Particular emphasis is paid to public procurement of military equipment as a catalyst for innovation; and the civilian commercialization of military technologies (from gunpowder and cannons to submarines, missiles and aircraft) is documented by many case illustrations that show how macro-level productivity advance has been generated. A complementary volume to *Advancing Public Procurement as Industrial Policy* (2010), which focused on the spillover effects of the Swedish combat aircraft, Gripen, in this book Gunnar Eliasson widens the perspective to cover product development across the Swedish defense industry, with an emphasis on regional economic development and macro-economics, inter alia through the involvement of Saab (aircraft) and Kockums (submarines) in partnership ventures in

Australia, Norway and Brazil. The volume is organized into four parts. Part one examines the historical transformation of the Swedish economy over the past three centuries from agriculture and raw materials to an advanced industrial economy. Part two presents detailed case studies to illustrate the spillover effects of procurement projects and military-industrial partnerships. Part three explains the spillover phenomenon theoretically within a dynamic micro- to macro-economic perspective. Particular emphasis is placed on the empirical credibility of model-based economy-wide and dynamic cost-benefit calculations. The book concludes with a section on fostering industrial development through public procurement. The result is a book that will appeal to economists in the industrial economics and management fields; to technical, marketing and purchasing executives in business; and to policy makers in public procurement concerned with innovation and long-run industrial development.

Submarines had a vital, if often underappreciated, role in the superpower navies during the Cold War. Their crews carried out intelligence-collection operations, sought out and stood ready to destroy opposing submarines, and, from the early 1960s, threatened missile attacks on their adversary's homeland, providing in many respects the most survivable nuclear deterrent of the Cold War. In *Cold War Submarines*, Norman Polmar and K. J. Moore provide the definitive history of the design and construction of these undersea fleets.

In the tradition of his acclaimed warship design histories, Norman Friedman describes the forces--technical, political, and operational--that shaped a vital element of U.S. sea power. For example, he examines the evolution in missions, such as forward-based antisubmarine warfare and strategic deterrence, that transformed the submarine from its former subsidiary role to the center of national power. *U.S. Submarines Since 1945* is also the story of a technological revolution: first the emergence of fast diesel-electric craft, then the shock of nuclear power, followed by the appearance of submarine-launched ballistic missiles. Nowhere else can a reader find so complete or sophisticated an account of the development of the U.S. submarine force, including not only the hulls, but also the weapons and sensors they carry. The book details what submarines were ordered, what weapons and propulsion systems they had, how they performed, and what sonars and combat systems were developed. This illustrated design history contains more than 100 photographs and more than 100 line drawings, including specially commissioned artwork from technical illustrator James L. Christley. These exclusive illustrations, along with the incisive text, capture the excitement of a revolutionary period in submarine development. Enthusiasts and professionals alike will welcome the abundance of information offered. In this revised edition, Norman Friedman explores what has happened since the Cold War, which means both new classes and new technology (some of it applied to existing submarines). New material includes weapons and sensors as they have developed since 1995. This new technology is explained in the context of very different post-Cold-War priorities. In

addition, Friedman includes new information that has become available on submarines described in the earlier edition. Never-before-published, first-hand accounts of undersea action presented with a summary of torpedo tactics illustrate how a submarine's crew can hit a target that is determined to avoid being hit. Legendary figures in American submarine history come to life in actual logs of undersea warfare, and in accounts of sailors who were in the van of torpedo tactics development. The technology is explained in detail, offering insight into how American subs have been so successful in their hundred-year history. Outlandish gags and pranks of submarine skippers are included, showing just how brazen this elite group of super-competent sailors could be. The reader travels through World War II and the Cold War as submarines and torpedoes enter the nuclear age. Filled with diagrams and illustrations the narration carries the reader into the attack center as "battle stations torpedo!" resounds through a submarine's compartments.

[Copyright: f3f119a9fdb7e47e20c6c28dc0eaa977](#)