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The Jet Engine Jet Engines Making Jet Engines in World War II Jet The Development of Jet and Turbine Aero Engines Model Jet Engines The Day of the Typhoon A Brief History of the Jet Engine and Jet Aircraft Jet Propulsion Jet Propulsion Engines Powering the World's Airliners The Jet Race and the Second World War Frank Whittle (Icon Science) Engine Revolutions The Jet Engine The Development of Jet and Turbine Aero Engines Aircraft Engine Design Genesis of the Jet The Jet Engine Jet-engine Fundamentals The Jet Race and the Second World War Jet Propulsion Thomas and the Jet Engine The Jet Engine German Jet Engine and Gas Turbine Development, 1930-45 The Jet Engine Jet Plane: How It Works Jet Engines The Jet Pioneers Thomas and Friends: Thomas and the Jet Engine (Thomas & Friends) Jet Engines Aircraft Propulsion and Gas Turbine Engines Pegasus, The Heart of the Harrier Roaring Thunder Jet Allison, the People and the Power The Evolution of the Jet Engine Jet Engine Performance Enhancement Through Use of a Wave-rotor Topping Cycle The History of North American Small Gas Turbine Aircraft Engines Gas Turbines for Model Aircraft

Powering the World's Airliners Oct 17 2022 From propellers to turbofans, this illustrated history of engines will be “of interest to modelers and aviation historians alike” (AMPS Indianapolis). The first efforts of man to fly were limited by his ability to generate sufficient power to lift a heavier-than-air machine off the ground. Propulsion and thrust have therefore been the most fundamental elements in the development of aircraft engines. From the simple propellers of the first airliners of the 1920s and 1930s, to the turboprops and turbojets of the modern era, the engines used in airliners have undergone dramatic development over a century of remarkable change. These advances are examined in detail by aeronautical engineer Reiner Decher, who provides a layman’s guide to the engines that have, and continue to, power the aircraft that carry millions of travelers across millions of miles each year. Decher also looks at the development of aero engines during the Second World War and how that conflict drove innovation and explains the nature of wing design, from the early twentieth century to the present. To enable an easy understanding of this intriguing subject, Powering the World’s Airliners is profusely illustrated, transporting readers back to the time of each major development and introducing them to the key individuals of the aero industry in each era. After reading this comprehensive yet engaging story of the machines that power the aircraft in which we fly, no journey will ever seem quite the same again.
Jet Propulsion Engines Nov 18 2022 Volume XII of the High Speed Aerodynamics and Jet Propulsion series. Partial Contents: Historical development of jet propulsion; basic principles of jet propulsion; analyses of the various types of jet propulsion engines including the turbojet, the turboprop, the ramjet, and intermittent jets, as well as solid and liquid propellant rocket engines and the ramrocket. Another section deals with jet driven rotors. The final sections discuss the use of atomic energy in jet propulsion and the future prospects of jet propulsion. Originally published in 1959. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.
The Evolution of the Jet Engine Jul 22 2020
Roaring Thunder Oct 25 2020 The story of the jet age of aviation revolves around remarkable geniuses--including Sir Frank Whittle, the British inventor of the jet engine; Hans von Ohain, a German jet engine designer who comes to work for the U.S.; famed aeronautical engineer Kelly Johnson; the daring test pilot Tex Johnston, and many more--brilliant men who conceived these early extraordinary airplanes and had the courage to fly them to new horizons. Roaring Thunder blends real life adventures of the industry giants with the fictional Vance Shannon and his aviation family. Shannon, a prototypical American test pilot, sees and guides the birth of American jet aviation, while his sons, Tom and Harry fly the new jets in combat. Their aviation careers are blessed by their skill and courage, and they help usher in the greatest advance in aviation history with the birth of the jet transport. The Shannons serve as counterparts to the real-life heroes, creating continuity and explaining the intricacies, successes, and setbacks of a brand new industry. The dramatic, totally accurate story of the beginning of the jet age is presented against a background of personalities, real and fictional who bring the story to life, and represent the first stage in the first ever fiction trilogy about the history of the aerospace industry. At the Publisher's request, this title is being sold without Digital Rights Management Software (DRM) applied.
Jet May 24 2023 In 12 April 1937 Frank Whittle became the first person to successfully start and run a turbojet engine. In May 1941 the engine took to the air in an experimental Gloster-Whittle aircraft, but despite the RAF's desperate need for air supremacy over her enemies, little support was forthcoming from the military establishment. It was the enthusiasm of the American General 'Hap' Arnold that took the next stage of development to the USA and within six months Whittle's invention was powering more American Jets than British. This is the story of the genius throttled by British government bureaucracy, for even when in 1943 Rolls-Royce became involved with the successful design and manufacture of engines based on Whittle's concepts, his company was nationalised and banned from engine production! Although gagged for decades by the secrecy of that period, the story can now be told in full and these revelations provide a fascinating insight into the attitudes of the wartime government and military establishment, attitudes that led to one of the greatest inventions of all time being offered freely to those who were to become Britain's main aircraft manufacturing competitors. This book was previously known as "Genesis of the Jet: Frank Whittle and the invention of the Jet Engine." As part of this new release we have included a supplement by Ian Whittle and a copy of the patents submitted in Germany by Sir Frank Whittle back in 1932.
Frank Whittle (Icon Science) Aug 15 2022 The story of the jet engine has everything: genius, tragedy, heroism, a world war, the individual vs. the state, and an idea that would change the world. Frank Whittle always maintained that he was held back by a lack of government support. At the very moment in 1943 when his invention was unveiled to the world, his company, Power Jets, was forcibly nationalised. Yet Whittle's brilliance, charm and charisma helped him recruit major support from the British government and the RAF, who gave him the green light to build a jet engine at a time when to do so made little sense. Here is a story of what pushing technology to its limits can achieve - and the effect that such achievement can have on those involved.
Jet Propulsion Nov 06 2021 This is the second edition of Cumpsty's excellent self-contained introduction to the aerodynamic and thermodynamic design of modern civil and military jet engines. Through two engine design projects, first for a new large passenger aircraft, and second for a new fighter aircraft, the text introduces, illustrates and explains the important facets of modern engine design. Individual sections cover aircraft requirements and aerodynamics, principles of gas turbines and jet engines, elementary compressible fluid mechanics, bypass ratio selection, scaling and dimensional analysis, turbine and compressor design and characteristics, design optimization, and off-design performance. The book emphasises principles and ideas, with simplification and approximation used where this helps understanding. This edition has been thoroughly updated and revised, and includes a new appendix on noise control and an expanded treatment of combustion emissions. Suitable for student courses in aircraft propulsion, but also an invaluable reference for engineers in the engine and airframe industry.
The Jet Engine Jun 13 2022
Making Jet Engines in World War II Jun 25 2023 Our stories of industrial innovation tend to focus on individual initiative and breakthroughs. Hermione Giffard uses the case of the development of jet engines to offer a different way of understanding technological innovation, revealing the complicated mix of factors that go into any decision to pursue an innovative, and therefore risky technology.
The Jet Pioneers Mar 30 2021
Pegasus, The Heart of the Harrier Nov 25 2020 The conception of the Pegasus engine in 1957 upset all the conventions of aircraft design. It was previously usual for aircraft designers to seek a suitable engine, but this was an engine that sought an aircraft. The aircraft that resulted was the famous Harrier that is still in front-line service with air forces around the world including the RAF and US Marine Corps. This book takes an in-depth look at the engine's original design concept, initial production and flight testing. It then goes on to explain how the developments and improvements have been made over the ensuing years and includes experiences of operational combat flying, both from land and sea. The book is written in a non technical style that makes comfortable reading for all enthusiasts and historians and is copiously illustrated with many previously unseen photographs and diagrams.
Jet Engines Jan 28 2021 Broaden your knowledge of jet engine technology and its associated subjects. This is a technically comprehensive study of the components that constitute a gas turbine aero-engine and examines each part's design and function in practice. Concentrates on turbojet, turboprop and turbofan designs, and is applicable to civilian and military usage. Contains an overview of the main design types and fundamentals, and looks at air intakes, compressors, turbines and exhaust systems in great detail.
The Jet Engine Jul 02 2021
Aircraft Engine Design Apr 11 2022 Annotation A design textbook attempting to bridge the gap between traditional academic textbooks, which emphasize individual concepts and principles; and design handbooks, which provide collections of known solutions. The airbreathing gas turbine engine is the example used to teach principles and methods. The first edition appeared in 1987. The disk contains supplemental material. Annotation c. Book News, Inc., Portland, OR (booknews.com).
German Jet Engine and Gas Turbine Development, 1930-45 Aug 03 2021 Developmental history of German jet engine including original design plans, photographs of prototypes, technical diagrams and graphs. It begins with the theoretical work of early designers but concentrates on turbojet, turboprop, ducted fan and hybrid types of engines and their applications in aircraft. Also included are pure gas turbine design used in tanks, military land vehicles and naval vessels.
Jet Engines Apr 30 2021 Please note that the content of this book primarily consists of articles available from Wikipedia or other free sources online. Pages: 113. Chapters: Jet engine, Turbine, Frank Whittle, Turboprop, Ramjet, Turbofan, Scramjet, Components of jet engines, Combustor, Airbreathing jet engine, Scramjet programs, Turbojet, Reaction Engines SABRE, History of the jet engine, Valveless pulse jet, Environmental Control System, Pulse detonation engine, Turbojet development at the RAE, Supercruise, Afterburner, Thrust-to-weight ratio, Thrust vectoring, Tizard Mission, Bleed air, De Laval nozzle, Propelling nozzle, Bypass ratio, Ellipse Law, Exoskeletal engine, Aurel Stodola, Precooled jet engine, Air turborocket, Flameout, Motorjet, Adaptive Versatile Engine Technology, The Hy-V Scramjet Flight Experiment, Turbine engine failure, Advanced Affordable Turbine Engine, Wide chord, Pump-jet, Gluhareff Pressure Jet, Lift jet, Aerotoxic Association, Specific thrust, Turbojet train, Jet engine performance, Heinkel HeS 1, Jet engine compressors, Integrated High Performance Turbine Engine Technology, Gas-dynamic, Huffer, T-stage, Core lock, Corrected flow, Project SQUID, ATREX, Rocket-based combined cycle, Core power, Swan neck duct, Rocket turbine engine, Zero-stage, Flame holder, Core size.
Jet Sep 23 2020 The invention of the jet engine had a profound social effect on the world. Commercial jet aircract revolutionized travel, opening up every corner of the planet. Few know the jet engine was invented by an Englishman in 1929, with the first jet airliner being the British de Havilland Comet.
Jet-engine Fundamentals Jan 08 2022
The Jet Race and the Second World War Dec 07 2021 In the 1930s, as nations braced for war, the German military build up caught Britain and the United States off-guard, particularly in aviation technology. The unending quest for speed resulted in the need for radical alternatives to piston engines. In Germany, Dr. Hans von Ohain was the first to complete a flight-worthy turbojet engine for aircraft. It was installed in a Heinkel-designed aircraft, and the Germans began the jet age on August 27, 1939. The Germans led the jet race throughout the war and were the first to produce jet aircraft for combat operations. In England, the doggedly determined Frank Whittle also developed a turbojet engine, but without the support enjoyed by his German counterpart. The British came second in the jet race when Whittle's engine powered the Gloster Pioneer on May 15, 1941. The Whittle-Gloster relationship continued and produced the only Allied combat jet aircraft during the war, the Meteor, which was relegated to Home Defense in Britain. In America, General Electric copied the Whittle designs, and Bell Aircraft contracted to build the first American jet plane. On October 1, 1942, a lackluster performance from the Bell Airacomet, ushered in the American jet age. The Yanks forged ahead, and had numerous engine and airframe programs in development by the end of the war. But, the Germans did it right and did it first, while the Allies lagged throughout the war, only rising to technological prominence on the ashes of the German defeat. Pavelec's analysis of the jet race uncovers all the excitement in the high-stakes race to develop effective jet engines for warfare and transport.
Jet Propulsion Dec 19 2022 This book is an introduction to the design of modern civil and military jet engines using engine design projects.
The Development of Jet and Turbine Aero Engines Apr 23 2023 Using language understandable to those without an engineering background and avoiding complex mathematical formulae, Bill Gunston explains the differences between gas-turbine, jet, rocket, ramjet and helicopter turbo shaft aero engines and traces their histories from the early days through to today’s complex and powerful units as used in the latest wide-bodied airliners and high performance military jets.
The Jet Engine Feb 09 2022
The Jet Engine Sep 04 2021
The History of North American Small Gas Turbine Aircraft Engines May 20 2020 This landmark joint publication between the National Air and Space Museum and the American Institute of Aeronautics and Astronautics chronicles the evolution of the small gas turbine engine through its comprehensive study of a major aerospace industry. Drawing on in-depth interviews with pioneers, current project engineers, and company managers, engineering papers published by the manufacturers, and the tremendous document and artifact collections at the National Air and Space Museum, the book captures and memorializes small engine development from its earliest stage. Leyes and Fleming leap back nearly 50 years for a first look at small gas turbine engine development and the seven major corporations that dared to produce, market, and distribute the products that contributed to major improvements and uses of a wide spectrum of aircraft. In non-technical language, the book illustrates the broad-reaching influence of small turbinesfrom commercial and executive aircraft to helicopters and missiles deployed in recent military engagements. Detailed corporate histories and photographs paint a clear historical picture of turbine development up to the present. See for yourself why The History of North American Small Gas Turbine Aircraft Engines is the most definitive reference book in its field. The publication of The History of North American Small Gas Turbine Aircraft Engines represents an important milestone for the National Air and Space Museum (NASM) and the American Institute of Aeronautics and Astronautics (AIAA). For the first time, there is an authoritative study of small gas turbine engines, arguably one of the most significant spheres of aeronautical technology in the second half o
The Development of Jet and Turbine Aero Engines May 12 2022 Traces the history and development of the jet engine
The Day of the Typhoon Feb 21 2023 This account of rocket Typhoon operations over Normandy in the weeks immediately following the D-Day Invasion of Europe aims to be all the more interesting for its authenticity. It is written by a former ground attack pilot who flew 73 missions with 245 Squadron over Northern France in 1944-45.
A Brief History of the Jet Engine and Jet Aircraft Jan 20 2023 One hundred plus years of aviation jet aircraft design and the jet engines that took the inventions to the sky.
Gas Turbines for Model Aircraft Apr 18 2020
Jet Plane: How It Works Jun 01 2021 The Caldecott Medal-winning creator of The Way Things Work introduces youngsters to the mechanical science of jet planes that recreates an airplane ride while explaining how powerful engines, specially designed wings and cockpit controls work together to enable a jet's flight. Simultaneous.
Jet Engines Jul 26 2023 This book is intended for those who wish to broaden their knowledge of jet engine technology and associated subjects. It covers turbojet, turboprop and turbofan designs and is applicable to civilian and military usage. It commences with an overview of the main design types and fundamentals and then looks at air intakes, compresors, turbines and exhaust systems in great detail.
Model Jet Engines Mar 22 2023
Engine Revolutions Jul 14 2022 Readers will be fascinated by Bentele's stories of the setbacks and the successes he encountered over the course of his acclaimed career. The dawn of the jet age, developments at the end of World War II, the development of automotive and aircraft gas turbines, and the rotary engine era are just some of the historical events which are recounted in this book.
Genesis of the Jet Mar 10 2022 This is the story of a genius throttled by British government bureaucracy. Although gagged for decades by the secrecy of that period, the story can now be told in full and these revelations provide a fascinating insight into the attitudes of the wartime government and military establishment, attitudes that led to one of the greatest inventions of all time being offered freely to those who were to become Britain's main aircraft manufacturing competitors.

Aircraft Propulsion and Gas Turbine Engines Dec 27 2020 The escalating use of aircraft in the 21st century demands a thorough understanding of engine propulsion concepts, including the performance of aero engines. Among other critical activities,gas turbines play an extensive role in electric power generation, and marine propulsion for naval vessels and cargo ships. In the most exhaustive volume to date, this text examines the foundation of aircraft propulsion: aerodynamics interwoven with thermodynamics, heat transfer, and mechanical design. With a finely focused approach, the author devotes each chapter to a particular engine type, such as ramjet and pulsejet, turbojet, and turbofan. Supported by actual case studies, he illustrates engine performance under various operating conditions. Part I discusses the history, classifications, and performance of air breathing engines. Beginning with Leonardo and continuing on to the emergence of the jet age and beyond, this section chronicles inventions up through the 20th century. It then moves into a detailed discussion of different engine types, including pulsejet, ramjet, single- and multi-spool turbojet, and turbofan in both subsonic and supersonic applications. The author discusses Vertical Take Off and Landing aircraft, and provides a comprehensive examination of hypersonic scramjet and turbo ramjet engines. He also analyzes the different types of industrial gas turbines having single-and multi-spool with intercoolers, regenerators, and reheaters. Part II investigates the design of rotating compressors and turbines, and non-rotating components, intakes, combustion chambers, and nozzles for all modern jet propulsion and gas turbine engine systems, along with their performance. Every chapter concludes with illustrative examples followed by a problems section; for greater clarity, some provide a listing of important mathematical relations.

Jet Engine Performance Enhancement Through Use of a Wave-rotor Topping Cycle Jun 20 2020

Allison, the People and the Power Aug 23 2020 A Commemorative Edition Pictorial History, written by Joan Zigmunt, tells of how the Allison Engine Company revolutionized the aircraft engine business

The Jet Race and the Second World War Sep 16 2022 In the 1930s, as nations braced for war, the German military build up caught Britain and the United States off-guard, particularly in aviation technology. The unending quest for speed resulted in the need for radical alternatives to piston engines. In Germany, Dr. Hans von Ohain was the first to complete a flight-worthy turbojet engine for aircraft. It was installed in a Heinkel-designed aircraft, and the Germans began the jet age on August 27, 1939. The Germans led the jet race throughout the war and were the first to produce jet aircraft for combat operations. In England, the doggedly determined Frank Whittle also developed a turbojet engine, but without the support enjoyed by his German counterpart. The British came second in the jet race when Whittle's engine powered the Gloster Pioneer on May 15, 1941. The Whittle-Gloster relationship continued and produced the only Allied combat jet aircraft during the war, the Meteor, which was relegated to Home Defense in Britain. In America, General Electric copied the Whittle designs, and Bell Aircraft contracted to build the first American jet plane. On October 1, 1942, a lackluster performance from the Bell Airacomet, ushered in the American jet age. The Yanks forged ahead, and had numerous engine and airframe programs in development by the end of the war. But, the Germans did it right and did it first, while the Allies lagged throughout the war, only rising to technological prominence on the ashes of the German defeat. Pavelec's analysis of the jet race uncovers all the excitement in the high-stakes race to develop effective jet engines for warfare and transport.

The Jet Engine Aug 27 2023 The Jet Engine provides a complete, accessible description of the working and underlying principles of the gas turbine. Accessible, non-technical approach explaining the workings of jet engines, for readers of all levels Full colour diagrams, cutaways and photographs throughout Written by RR specialists in all the respective fields Hugely popular and well-reviewed book, originally published in 2005 under Rolls Royce’s own imprint

Thomas and Friends: Thomas and the Jet Engine (Thomas & Friends) Feb 26 2021 Gordon loves to remind everyone that he is the fast and important train. But one day, Thomas is given a very special job: he is taking a jet engine to the airport. When the engine is switched on by accident, suddenly Thomas is the very fast and very important train! Beginning readers will enjoy the simple text full of action words (zip!) and action sounds (zoom!). From the Trade Paperback edition.

Thomas and the Jet Engine Oct 05 2021 When the jet engine that Thomas the Tank Engine is transporting to the airport accidentally gets switched on, Thomas suddenly becomes the fastest engine on the island.