

Interior Ballistics Of Guns

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MANNING WIGGINS

Know Your Ammo ! - the Ballistics and Technical Design of Ammunition CRC Press

Ballistic Imaging assesses the state of computer-based imaging technology in forensic firearms identification. The book evaluates the current law enforcement database of images of crime-related cartridge cases and bullets and recommends ways to improve the usefulness of the technology for suggesting leads in criminal investigations. It also advises against the construction of a national reference database that would include images from test-fires of every newly manufactured or imported firearm in the United States. The book also suggests further research on an alternate method for generating an investigative lead to the location where a gun was first sold: "microstamping," the direct imprinting of unique identifiers on firearm parts or ammunition. *A Numerical Method for Calculating Interior Ballistics* Hardpress Publishing

Unlike some other reproductions of classic texts (1) We have not used OCR(Optical Character Recognition), as this leads to bad quality books with introduced typos. (2) In books where there are images such as portraits, maps, sketches etc We have endeavoured to keep the quality of these images, so they represent accurately the original artefact. Although occasionally there may be certain imperfections with these old texts, we feel they deserve to be made available for future generations to enjoy.

Interior Ballistics CreateSpace

With new chapters, homework problems, case studies, figures, and examples, *Ballistics: Theory and Design of Guns and Ammunition*, Third Edition encourages superior design and innovative applications in the field of ballistics. It examines the analytical and computational tools for predicting a weapon's behavior in terms of pressure, stress, and velocity, demonstrating their applications in ammunition and weapons design. New coverage in the Third Edition includes gas-powered guns, and naval ordinance. With its thorough coverage of interior, exterior and terminal ballistics, this new edition continues to be the standard resource for those studying the technology of guns and ammunition.

Interior Ballistics with a Short Treatment of the More Common High Explosives Prepared as a Text Book & for Practical Use by Lieut. J.H. Glennon... John Wiley & Sons

Excerpt from *Interior Ballistics: A d104 Book for the Use of Cadets* at the U. S. Naval Academy In 1884, Sarrau's Researches on the Effects of Powder were translated and published in the Proceedings of the U. S. Naval Institute, Vol. X, No. 28, by the authors of this volume, and in that form were used in the Department of Ordnance and Gunnery at the Naval Academy for the instruction of Cadets. The edition having been exhausted, it has been thought proper to reproduce those portions of Sarrau's researches which are necessary for a practical understanding of the work of gunpowder in guns. Numerous examples have been introduced for work in the Section Room, and some extracts from

Sarrau's *Chargement des Bouches a Feu* have been added. About the Publisher Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at www.forgottenbooks.com This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page, may be replicated in our edition. We do, however, repair the vast majority of imperfections successfully; any imperfections that remain are intentionally left to preserve the state of such historical works.

Internal Ballistics CRC Press

The interior ballistic cycle of small guns (40 mm and below) has in the past been typically modeled with the use of lumped parameter codes that assume instantaneous ignition of the entire propelling charge followed by uniform combustion throughout the chamber at each instant in time, with the burning rate governed by an instantaneous space-mean pressure. In this study, a two-phase flow approach is employed to model the interior ballistics of a generic 5.56-mm gun, focusing on the ignition and flame-spreading dynamics in the gun chamber, the formation of gas and intergranular stress waves, and the ultimate effect of these processes on gun performance. Results suggest that the flame-spreading portion of the cycle plays a significant role in the overall phenomenology occurring within such guns, outside the scope of lumped parameter analysis. Approaches for exploiting this improved understanding of small-caliber interior ballistic phenomenology are identified, with respect to improved performance and safety.

Interior Ballistics of Guns Academic Press

With new chapters, homework problems, case studies, figures, and examples, *Ballistics: Theory and Design of Guns and Ammunition*, Third Edition encourages superior design and innovative applications in the field of ballistics. It examines the analytical and computational tools for predicting a weapon's behavior in terms of pressure, stress, and velocity, demonstrating their applications in ammunition and weapons design. New coverage in the Third Edition includes gas-powered guns, and naval ordinance. With its thorough coverage of interior, exterior and terminal ballistics, this new edition continues to be the standard resource for those studying the technology of guns and ammunition.

Interior Ballistics of Guns CRC Press

Resource added for the Criminal Justice - Law Enforcement 105046 and Professional Studies 105045 programs.

Flame-Spreading Processes in a Small-Caliber Gun CRC Press

Excerpt from *Interior Ballistics*, Vol. 1: Properties of Powders and Their Action in Closed Chambers and in Cannon In his desire to make the present work accessible to as large a group of readers as possible, the author has included in the course those laws of thermochemistry that are necessary for illustrating the action of powders and explosive substances in closed chambers and in the bores of guns. The contents of this work are shown in detail in the index, while references, as complete as possible, are given in the

text and show the sources from which the information was derived. About the Publisher Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at www.forgottenbooks.com This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page, may be replicated in our edition. We do, however, repair the vast majority of imperfections successfully; any imperfections that remain are intentionally left to preserve the state of such historical works.

Interior Ballistics Createspace Independent Publishing Platform Excerpt from Internal Ballistics Internal Ballistics was written by James Atkinson Longbridge in 1889. This is a 278 page book, containing 66418 words and 17 pictures. Search Inside is enabled for this title. About the Publisher Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at www.forgottenbooks.com This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page, may be replicated in our edition. We do, however, repair the vast majority of imperfections successfully; any imperfections that remain are intentionally left to preserve the state of such historical works.

Interior Ballistics Forgotten Books

The updated second edition of Handbook of Firearms and Ballistics includes recent developed analytical techniques and methodologies with a more comprehensive glossary, additional material, and new case studies. With a new chapter on the determination of bullet caliber via x-ray photography, this edition includes revised material on muzzle attachments, proof marks, non-toxic bullets, and gunshot residues. Essential reading for forensic scientists, firearms examiners, defense and prosecution practitioners, the judiciary, and police force, this book is also a helpful reference guide for undergraduate and graduate forensic science students.

Ballistics CRC Press

Even the earliest weapon developers faced the need to understand how and why guns and ammunition work in order to improve their effectiveness. As weapons became more sophisticated, the field of ballistics naturally divided into three main areas of specialization: interior, exterior, and terminal ballistics. Providing unique coverage of all three areas *Ballistics* National Academies Press

Providing new chapters, homework problems, case studies, figures, and examples, *Ballistics: Theory and Design of Guns and Ammunition, Second Edition* encourages superior design and innovative applications in the field of ballistics. It examines the analytical and computational tools used to predict a weapon's behavior in terms of pressure, stress, and velocity, demonstrating their applications in ammunition and weapons design. What's New in the Second Edition: Includes computer examples in Mathcad (available on the CRC website) Adds a section of color plates, to better help readers visualize the physical concepts of ballistics Contains sections on modern explosives equations of state for detonation physics modeling and on probability of hit Provides a solutions manual for those teaching college and training courses This book covers exterior ballistics, exploring the physics behind trajectories, including linear and nonlinear aeroballistics, and focuses on the effects of projective impact, including details on shock physics, shaped charges, penetration, fragmentation, and wound ballistics. Reviews and integrates the

fundamental science and engineering concepts involved in guns and ammunition Uses straightforward, easy-to-read style, and careful development of complex topics Shares insights rooted in the experience of renowned experts, many associated with the National Defense Industrial Association (NDIA) and International Ballistics Society The field of ballistics comprises three main areas of specialization: interior, exterior, and terminal ballistics. This book explains all three areas, offering a seamless presentation of the complex phenomena that occur during the launch, flight, and impact of a projectile.

Ballistic Imaging Forgotten Books

Part of the Army Material Commands series on gun design. This book is a must have for anyone interested in the actual design that goes into any firearm.

Parametric Study on the Interior Ballistics of 105 and 155 Mm Artillery Guns Gun Digest

The interior ballistics code IBHVG2 was used to calculate the muzzle velocity and peak acceleration of projectiles ranging in mass from 10 to 50 kg. The simulations were performed with both 105 and 155 mm guns. These were the C3 and LG1 (105 mm and 52-calibre M777 were also considered. Three propellants were investigated: the triple base M31, and two composite propellants, JA2 and the developmental propellant LCT. For every gun-propellant- projectile combination, the propelling charge mass and grain geometry (web) were optimized. The web was optimized to match the maximum breech pressure of the gun while the charge mass was optimized according to two different criteria: projectile travel at burn-out and peak muzzle velocity. The results provide a good overview of the performance of conventional artillery systems.

Internal Ballistics (Classic Reprint) CRC Press

"Know Your Ammo" is designed to show the "best of the best" ballistics and loading data. The manual is also designed to compare the performance and design characteristics of over 200 popular rounds of ammunition based on maximum muzzle velocity. The manual gives an introduction to the following : 1.) The background, notes, assumptions and formulas used when calculating the ballistic characteristics of ammunition. 2.) Individual tables of ammunition characteristics for over 200 calibers or rounds of ammunition. 3.) A Chart of Gun Powder burn rates. 4.) An Overview of Explosives. 5.) Several Emergency and Survival Preparedness Guides The Following Characteristics are explained and listed in the manual for ease of comparison between rounds (for example - comparing the Optimum Take-down Weight of a .223 vs. 7.62 x 39 mm): Bullet Weight (Grains) : Cartridge Charge (Grains) : Muzzle Speed (feet per second) : Actual Chamber Pressure in (CUP's) : Maximum Allowable SAAMI Pressure (CUP's) : Accurate Powder™ Type : Bullet Type (i.e. FMJ, JHP, SWG, etc.) : Maximum Cartridge Length (inches) : Brass Length (inches) : Bullet Length (inches) : Bullet Width (inches) : Muzzle Energy (foot-pounds) : Recoil Impulse I (pound-seconds) : Free Recoil Speed VG (feet per second) : "Kick" - Free Recoil Energy EG (foot-pounds) : Minimum Length of Twist Required for Optimum Stability (inches) : Density of Loading : The Rotational Speed in RPM (Revolutions per second) : Prof. Hunter John Taylor's Knockout Blow : Sectional Density : Editor John Wooter's L-factor : Ballistic Expert Ed Matuna's Optimum Takedown Game Weight (pounds) : Momentum (pounds - feet per second) : Maximum Potential Energy of Ignited Powder (foot-pounds) : Efficiency of Maximum Energy Produced (%) : Average Speed of Bullet in the Barrel (feet per second) : Average Pressure on the Bullet in the Barrel (CUP's) : Average Energy of the Bullet in the Barrel (foot-pounds) : Approximate Ballistic Coefficient : Absolute Effective Range at Sea Level (feet) : Absolute Effective Range with 10 mph Tail Wind (feet) : Representative Weight of Weapon (pounds)

:Ratio of Muzzle Energy to Weight of Weapon (%) :Bullet Drop at various ranges :

Interior Ballistics, Vol. 1

Providing new chapters, homework problems, case studies, figures, and examples, *Ballistics: Theory and Design of Guns and Ammunition, Second Edition* encourages superior design and innovative applications in the field of ballistics. It examines the analytical and computational tools used to predict a weapon's behavior in terms of pressure, stress, and velocity, demonstrating their applications in ammunition and weapons design. What's New in the Second Edition: Includes computer examples in Mathcad (available on the CRC website) Adds a section of color plates, to better help readers visualize the physical concepts of ballistics Contains sections on modern explosives equations of state for detonation physics modeling and on probability of hit Provides a solutions manual for those teaching college and training courses This book covers exterior ballistics, exploring the physics behind trajectories, including linear and nonlinear aeroballistics, and focuses on the effects of projective impact, including details on shock physics, shaped charges, penetration, fragmentation, and wound ballistics. Reviews and integrates the fundamental science and engineering concepts involved in guns and ammunition Uses straightforward, easy-to-read style, and careful development of complex topics Shares insights rooted in the experience of renowned experts, many associated with the National Defense Industrial Association (NDIA) and International Ballistics Society The field of ballistics comprises three main areas of specialization: interior, exterior, and terminal ballistics. This book explains all three areas, offering a seamless presentation of the complex phenomena that occur during the launch, flight, and impact of a projectile.

Ballistics

This book initiates with the story of the evolution of firearms to enable the reader to appreciate the sequence of the development of firearms. It discusses different classes of small arms, their

mechanics, internal and external ballistics. Further, it covers the design idea of barrels and actions, various operating principles and relevant discussion on ammunition and propellants. The principle of quality in the design of the small arms is also elaborated in the desired degree. The book brings out the relevance of modern manufacturing technologies like MIM and various surface treatments, and polymers for enhancement of product quality. To appreciate the sophistication of the architecture, the book presents the anatomical details of a few small arms of repute. Provides complete understanding of overall small weapon systems Explores mechanics and physics of small arms Discusses proper design, quality control, and manufacturing process selections for a good weapon Covers common type of weapon failures and catastrophic failure Includes relevance of manufacturing processes The book is aimed at professionals and graduate students in Mechanical Design, Armament Design, Gun Design including personnel in the military, paramilitary, police, and all other armed forces and their maintenance crews.

Engineering Design Handbook Gun Series

Dr. H. S. Tsien (also known as Dr. Qian Xuesen), is celebrated as the leader of the research that produced China's first ballistic missiles, its first satellite, and the Silkworm anti-ship missile. This volume collects the scientific works of Dr. H. S. Tsien (also known as Dr. Qian Xuesen) and his co-authors, which published between 1938—1956 when he was studying and working in the United States as a graduate student, scientist and professor, when aeronautic exploration stepped up from low speed to high speed regimes and astronautic technology entered its infant stage. The author is one of the most significant Chinese scientists in the past 70 years. Focuses on a series of key problems in aerodynamics, stability of shells, rocket ballistics and engine analyses. Collects Tsien's work as author and co-author from his time working in the US.

Internal Ballistics

Handbook of Problems in Exterior Ballistics