

Machinery Handbook Digital Edition

The most comprehensive, authoritative and widely cited reference on photovoltaic solar energy Fully revised and updated, the Handbook of Photovoltaic Science and Engineering, Second Edition incorporates the substantial technological advances and research developments in photovoltaics since its previous release. All topics relating to the photovoltaic (PV) industry are discussed with contributions by distinguished international experts in the field. Significant new coverage includes: three completely new chapters and six chapters with new authors device structures, processing, and manufacturing options for the three major thin film PV technologies high performance approaches for multijunction, concentrator, and space applications new types of organic polymer and dye-sensitized solar cells economic analysis of various policy options to stimulate PV growth including effect of public and private investment Detailed treatment covers: scientific basis of the photovoltaic effect and solar cell operation the production of solar silicon and of silicon-based solar cells and modules how choice of semiconductor materials and their production influence costs and performance making measurements on solar cells and modules and how to relate results under standardised test conditions to real outdoor performance photovoltaic system installation and operation of components such as inverters and batteries. architectural applications of building-integrated PV Each chapter is structured to be partially accessible to beginners while providing detailed information of the physics and technology for experts. Encompassing a review of past work and the fundamentals in solar electric science, this is a leading reference and invaluable resource for all practitioners, consultants, researchers and students in the PV industry.

Part I: Process design -- Introduction to design -- Process flowsheet development -- Utilities and energy efficient design -- Process simulation -- Instrumentation and process control -- Materials of construction -- Capital cost estimating -- Estimating revenues and production costs -- Economic evaluation of projects -- Safety and loss prevention -- General site considerations -- Optimization in design -- Part II: Plant design -- Equipment selection, specification and design -- Design of pressure vessels -- Design of reactors and mixers -- Separation of fluids -- Separation columns (distillation, absorption and extraction) -- Specification and design of solids-handling equipment -- Heat transfer equipment -- Transport and storage of fluids.

The Handbook of Natural Language Processing, Second Edition presents practical tools and techniques for implementing natural language processing in computer systems. Along with removing outdated material, this edition updates every chapter and expands the content to include emerging areas, such as sentiment analysis. New to the Second Edition Greater

Optimize plant asset safety and reliability while minimizing operating costs with this invaluable guide to the engineering, operation and maintenance of rotating equipment Based upon his multi-volume Rotating Equipment Handbooks, Forsthoffer's Best Practice Handbook for Rotating Machinery summarises, expands and updates the content from these previous books in a convenient all-in-one volume. Offering comprehensive technical coverage and insider information on best practices derived from lessons learned in the engineering, operation and maintenance of a wide array of rotating equipment, this new title presents: A unique "Best Practice" and "Lessons Learned" chapter framework, providing bite-sized, troubleshooting instruction on complex operation and maintenance issues across a wide array of industrial rotating machinery. Five chapters of completely new material combined with updated material from earlier volumes, making this the most comprehensive and up-to-date handbook for rotary equipment currently available. Intended for maintenance, engineering, operation and management, Forsthoffer's Best Practice Handbook for Rotating Machinery is a one-stop resource, packed with a lifetime's rotating machinery experience, to help you improve efficiency, safety, reliability and cost. A unique "Lessons Learned/Best Practices" component opens and acts as a framework for each chapter. Readers not only become familiar with a wide array of industrial rotating machinery; they learn how to operate and maintain it by adopting the troubleshooting perspective that the book provides Five chapters of completely new material combined with totally updated material from earlier volumes of Forsthoffer's Handbook make this the most comprehensive and up-to-date handbook for rotary equipment currently Users of Forsthoffer's multi-volume Rotating Equipment Handbooks now have an updated set, with expanded coverage, all in one convenient, reasonably-priced volume

Since the first edition published more than 100 years ago, Machinery's Handbook has been acknowledged as an exceptionally authoritative and comprehensive, yet highly practical, and easy-to-use tool. The versatile Machinery's Handbook 31 Digital Edition makes access to this vast collection of information even easier and includes more than 1,200 additional pages. This value-added package includes: The complete contents of the printed Machinery's Handbook, 31st Edition, which has grown by nearly 100 pages, with thousands of revisions and updates since the last edition. Nearly 800 pages of additional archival content--still useful and interesting text, tables, and figures--extracted over time from previous editions of the Handbook. Table of contents and indexes for material only available in the Digital Edition. Useful indexes of standards and materials covered throughout this expanded edition. The complete contents of the companion volume Guide to the Use of Tables and Formulas in the Machinery's Handbook, 31st Edition, with handy links to Digital Edition pages. Features View and print text, tables, and graphics identical to the printed book. Zoom to magnify pages for a detailed view of complex and detailed data. Search the complete contents and access information you need with quick navigation aids: thousands of clickable links in the contents, text, and indexes. Choose online and offline viewing options on your PC, Mac, iPad, iPhone, and Android devices (download of provided reader required for offline viewing applications). Installation Note: While we have eliminated use of a CD-ROM drive, an Internet connection still is required for setup of the Machinery's Handbook 31 Digital Edition. This package includes detailed setup instructions and a unique access code to register a single-user digital product.

Includes sections on CAD & group technology.

Since the first edition published more than 100 years ago, Machinery's Handbook has been acknowledged as an exceptionally authoritative and comprehensive, yet highly practical, and easy-to-use tool, and the new 31st edition has grown to nearly 3,000 pages. The Guide to the Use of Tables and Formulas in the Machinery's Handbook, 31st Edition, is designed to maximize the enormous practical value of the latest, greatest edition of this invaluable engineering resource, offering useful information on how to make full use of the Machinery's Handbook in solving problems on the job. Features Revised to reflect numerous changes made in the new 31st edition, with specific cross references to quickly locate information in the far larger book, the Guide enables users to become familiar with the Handbook's vast range of vital content. Offering more than 150 worked-out examples and nearly 500 review questions (with answers) specially selected for engineers, apprentices, and students, the Guide addresses problems commonly encountered in manufacturing and metalworking. By following practical techniques explained in the Guide and cross-

referenced to the Handbook, readers will enhance their ability to reach specific information and solutions more quickly and easily. The Guide also is sold as a standalone eBook and is part of the Machinery's Handbook 31 Digital Edition, which includes the complete contents of the 31st edition, and more. For information on these digital versions, visit the Industrial Press eBookStore site at ebooks.industrialpress.com.

Introducing computers into production engineering has drastically reduced the "artisan skill" content traditionally required in manufacturing processes and replaced it with high-precision, computer-controlled machinery. While this reduces human error and variability in output, it does not eliminate the knowledge required of the professional engineering or shop floor worker. On the contrary, the reverse is true. Managers, engineers, and workers still need to understand the fundamentals while they need to acquire other skills. These highly-regarded authors combine more than 150 years of industrial and academic experience and expertise to provide readers with the fundamentals of the subject, from digital manufacturing with CNC machine tools and FMS up to Industry 4.0, emphasizing the increased importance of automated manufacturing based on computerized systems (CAD, CAM, CAQ, etc.). Features This groundbreaking work introduces readers to CNC fundamentals, followed by a number of chapters which explain how different components are applied in practice. This logical approach is extended to the study of CNC and drives, tooling, flexible manufacturing systems (FMS), and finally to NC-programming, DNC, digital manufacturing, Industry 4.0 and computer integrated manufacturing (CIM). Additional chapters cover industrial robots, additive manufacturing, energy-efficient manufacturing, simulation systems, state of the art of machine integrated measuring systems, and using touch probes and laser beams. Explains the functions and connections of all integrated components.

Use the right tool the right way Here, fully updated to include new machines and electronic/digital controls, is the ultimate guide to basic machine shop equipment and how to use it. Whether you're a professional machinist, an apprentice, a trade student, or a handy homeowner, this fully illustrated volume helps you define tools and use them properly and safely. It's packed with review questions for students, and loaded with answers you need on the job. Mark Richard Miller is a Professor and Chairman of the Industrial Technology Department at Texas A&M University in Kingsville, Texas. * Understand basic machine shop practice and safety measures * Recognize the variations in similar tools and the purposes they serve * Learn recommended methods of mounting work in different machines * Obtain a complete working knowledge of numerically controlled machines and the operations they perform * Review procedures for safe and efficient use of cutting tools and cutters * Expand your knowledge with clear, step-by-step illustrations of proper equipment set-up and operation

The perfect handbook for the machine shop, tool room, and drafting room.

Strengthen family and community engagement to promote equity and increase student success! When schools, families, and communities collaborate and share responsibility for students' education, more students succeed in school. Based on 30 years of research and fieldwork, this fourth edition of a bestseller provides tools and guidelines to use to develop more effective and equitable programs of family and community engagement. Written by a team of well-known experts, this foundational text demonstrates a proven approach to implement and sustain inclusive, goal-oriented programs.

Readers will find: Many examples and vignettes Rubrics and checklists for implementation of plans CD-ROM complete with slides and notes for workshop presentations

Contemporary Nonlinear Optics discusses the different activities in the field of nonlinear optics. The book is comprised of 10 chapters. Chapter 1 presents a description of the field of nonlinear guided-wave optics. Chapter 2 surveys a new branch of nonlinear optics under the heading optical solitons. Chapter 3 reviews recent progress in the field of optical phase conjugation. Chapter 4 discusses ultrafast nonlinear optics, a field that is growing rapidly with the ability of generating and controlling femtosecond optical pulses. Chapter 5 examines a branch of nonlinear optics that may be termed nonlinear quantum optics. Chapter 6 reviews the new field of photorefractive adaptive neural networks. Chapter 7 presents a discussion of recent successes in the development of nonlinear optical media based on organic materials. Chapter 8 reviews the field of nonlinear optics in quantum confined structures. Chapter 9 reviews the field of nonlinear laser spectroscopy, with emphasis on advances made during the 1980s. Finally, Chapter 10 reviews the field of nonlinear optical dynamics by considering nonlinear optical systems that exhibit temporal, spatial, or spatio-temporal instabilities. This book is a valuable source for physicists and other scientists interested in optical systems and neural networks.

"This easy-to-use pocket book contains a wealth of up-to-date, useful, practical and hard-to-find information. With 160 matt laminated, greaseproof pages you'll enjoy glare-free reading and durability. Includes: data sheets, formulae, reference tables and equivalent charts. New content in the 3rd edition includes; Reamer and Drill Bit Types, Taper Pins, T-slot sizing, Counterboring/Sinking, Extended Angles Conversions for Cutting Tapers, Keyways and Keyseats, Woodruff Keys, Retaining Rings, O-Rings, Flange Sizing, Common Workshop Metals, Adhesives, GD&T, Graph and Design Paper included at the back of the book. Engineers Black Book contains a wealth of up-to-date, useful, information within over 160 matt laminated grease proof pages. It is ideal for engineers, trades people, apprentices, machine shops, tool rooms and technical colleges." -- publisher website.

This giant reference, sponsored by the American Gas Association and written by a staff of 150 specialists, answers any general or specific engineering information requirement in regard to natural, liquefied petroleum, and manufactured gases. It presents in concise, orderly fashion all "working" facts and data on fuel gases needed by engineers, industry, and government personnel. The Handbook brings together in one volume and 125 chapters all conceivable engineering methods and operating data of the entire gas industry, from source to burner. Tables, graphs, charts, equations, and illustrations clarify and illuminate a text that is crammed with the kind of information that is virtually unobtainable elsewhere.

Find the Fault in the Machines Drawing on the author's more than two decades of experience with machinery condition

monitoring and consulting for industries in India and abroad, *Machinery Condition Monitoring: Principles and Practices* introduces the practicing engineer to the techniques used to effectively detect and diagnose faults in machines. Providing the working principle behind the instruments, the important elements of machines as well as the technique to understand their conditions, this text presents every available method of machine fault detection occurring in machines in general, and rotating machines in particular. A Single-Source Solution for Practice Machinery Conditioning Monitoring Since vibration is one of the most widely used fault detection techniques, the book offers an assessment of vibration analysis and rotor-dynamics. It also covers the techniques of wear and debris analysis, and motor current signature analysis to detect faults in rotating mechanical systems as well as thermography, the nondestructive test NDT techniques (ultrasonics and radiography), and additional methods. The author includes relevant case studies from his own experience spanning over the past 20 years, and detailing practical fault diagnosis exercises involving various industries ranging from steel and cement plants to gas turbine driven frigates. While mathematics is kept to a minimum, he also provides worked examples and MATLAB® codes. This book contains 15 chapters and provides topical information that includes: A brief overview of the maintenance techniques Fundamentals of machinery vibration and rotor dynamics Basics of signal processing and instrumentation, which are essential for monitoring the health of machines Requirements of vibration monitoring and noise monitoring Electrical machinery faults Thermography for condition monitoring Techniques of wear debris analysis and some of the nondestructive test (NDT) techniques for condition monitoring like ultrasonics and radiography Machine tool condition monitoring Engineering failure analysis Several case studies, mostly on failure analysis, from the author's consulting experience *Machinery Condition Monitoring: Principles and Practices* presents the latest techniques in fault diagnosis and prognosis, provides many real-life practical examples, and empowers you to diagnose the faults in machines all on your own.

Handbook of Agricultural and Farm Machinery, Third Edition, is the essential reference for understanding the food industry, from farm machinery, to dairy processing, food storage facilities and the machinery that processes and packages foods. Effective and efficient food delivery systems are built around processes that maximize efforts while minimizing cost and time. This comprehensive reference is for engineers who design and build machinery and processing equipment, shipping containers, and packaging and storage equipment. It includes coverage of microwave vacuum applications in grain processing, cacao processing, fruit and vegetable processing, ohmic heating of meat, facility design, closures for glass containers, double seaming, and more. The book's chapters include an excellent overview of food engineering, but also regulation and safety information, machinery design for the various stages of food production, from tillage, to processing and packaging. Each chapter includes the state-of-the art in technology for each subject and numerous illustrations, tables and references to guide the reader through key concepts. Describes the latest breakthroughs in food production machinery Features new chapters on engineering properties of food materials, UAS applications, and microwave processing of foods Provides efficient access to fundamental information and presents real-world applications Includes design of machinery and facilities as well as theoretical bases for determining and predicting behavior of foods as they are handled and processed

This activation key unlocks the content of the *Guide on the Machinery's Handbook 27 CD*. Requires the *Machinery's Handbook 27 CD*. When you order this product your activation key (OrderID) will immediately be sent by email. Just re-run the *Handbook CD* setup program to enter you OrderID and complete the installation of the *Guide*. Includes over 100 additional interactive math solutions, and the entire *Guide* in PDF format, tightly integrated with the *Handbook*. Hundred of cross references let you jump from topics in the *Guide* to related areas in the *Handbook*. Completely updated and revised to reflect the changes and additions made to the *Handbook*, this *Guide* will enable users to maximize the enormous practical value available from *Machinery's Handbook*.

Note: This edition is called "Large Print" as it is an enlarged (7" X 10") version of the original, smaller (4.6" x 7") Toolbox sized edition of this title. The text in this edition is the size of standard reference materials and is not enlarged print for individuals with partial sight. Since the first edition published more than 100 years ago, *Machinery's Handbook* has been the most popular engineering resource of all time. Universally considered the principal reference in the manufacturing and mechanical industries, the *Handbook* is the ultimate collection of essential information needed by engineers, designers, drafters, metalworkers, toolmakers, machinists, educators, students, and serious home hobbyists. From engineering and design departments, machine and metalworking shops, and a wide range of manufacturing and industrial facilities, to countless classrooms and workshops worldwide, this is the must-have technical reference.

Machinery's Handbook is acknowledged as an exceptionally authoritative and comprehensive, yet highly practical, and easy-to-use tool. The 31st edition of the "Bible of the Mechanical Industries" continues in this tradition. New to the 31st Edition Additive Manufacturing: Expert discussions, exploring 3D printing materials, techniques, and workflow, compare traditional machining to today's additive manufacturing processes. Machine Elements and Operations: Updated and expanded coverage of CAD/CAM operations, boring, nontraditional cutting methods, o-rings and glands, and transmission chains. Manufacturing and Materials: Additional information on utilizing today's plastics, powder metallurgy standard and tool steels, manufacturing stresses, and preventing corrosion. Metal Casting and Molding: New information for working with iron, steel, nonferrous metals, and alloys, metal casting and molding processes, and modeling and design considerations. Math, Measurement, and Dimensioning: Reorganized, revised, and expanded sections provide ready access to clear information, essential formulas, and everyday calculations and conversions. Metalworking Processes: More on brazing, soldering, welding, nondestructive testing, forming sheet metal, mill finishes, passivation, electropolishing, and plating. Threads and Threading: The latest series and selected combinations for Unified Screw Threads. Hundreds of Standards Updates: All ASME and ANSI standards material has been reconfirmed and revised to provide the latest industry specifications, including the game-changing ASME Y14.5-2018 standard. Thousands of

Revisions: A world-class team of technical experts, educators, editors, and illustrators has contributed to new, revised, and updated text, tables, equations, figures.

A unique and handy resource, *Engineering Formulas for Metalcutting* will enable users to calculate necessary speeds, feeds, and required machining power in order to maximize the productivity of cutting. Providing information on formulas and their applications in a concise and clearly arranged format, it describes mechanical properties of the most popular work materials, such as steels, cast irons, and nonferrous alloys. And it offers numerous formulas for calculating speeds, feeds, cutting forces, and machining power. What's more, practical examples of calculating the variety of such cutting parameters will make this a valuable source of knowledge in training and practice.

The job of any reservoir engineer is to maximize production from a field to obtain the best economic return. To do this, the engineer must study the behavior and characteristics of a petroleum reservoir to determine the course of future development and production that will maximize the profit. Fluid flow, rock properties, water and gas coning, and relative permeability are only a few of the concepts that a reservoir engineer must understand to do the job right, and some of the tools of the trade are water influx calculations, lab tests of reservoir fluids, and oil and gas performance calculations. Two new chapters have been added to the first edition to make this book a complete resource for students and professionals in the petroleum industry: Principles of Waterflooding, Vapor-Liquid Phase Equilibria.

Now in its fifth edition, John C. Russ's monumental image processing reference is an even more complete, modern, and hands-on tool than ever before. *The Image Processing Handbook, Fifth Edition* is fully updated and expanded to reflect the latest developments in the field. Written by an expert with unequalled experience and authority, it offers clear guidance on how to create, select, and use the most appropriate algorithms for a specific application. What's new in the Fifth Edition? · A new chapter on the human visual process that explains which visual cues elicit a response from the viewer · Description of the latest hardware and software for image acquisition and printing, reflecting the proliferation of the digital camera · New material on multichannel images, including a major section on principal components analysis · Expanded sections on deconvolution, extended dynamic range images, and image enlargement and interpolation · More than 600 new and revised figures and illustrations for a total of more than 2000 illustrations · 20% more references to the most up-to-date literature Written in a relaxed and reader-friendly style, *The Image Processing Handbook, Fifth Edition* guides you through the myriad tools available for image processing and helps you understand how to select and apply each one.

A resource for individuals responsible for siting decisions, this guidelines book covers siting and layout of process plants, including both new and expanding facilities. This book provides comprehensive guidelines in selecting a site, recognizing and assessing long-term risks, and the optimal lay out of equipment facilities needed within a site. The information presented is applicable to US and international locations. Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

Machinery's Handbook 31 Digital Edition An Easy-Access Value-Added Package

"Many contributors have submitted for publication in *Machinery's* columns most of the mechanical movements described."

Process Plant Machinery provides the mechanical, chemical or plant engineer with the information needed to choose equipment best suited for a particular process, to determine optimum efficiency, and to conduct basic troubleshooting and maintenance procedures. *Process Plant Machinery* is a unique single-source reference for engineers, managers and technical personnel who need to acquire an understanding of the machinery used in modern process plants: prime movers and power transmission machines; pumping equipment; gas compression machinery; and mixing, conveying, and separation equipment. Starting with an overview of each class, the book quickly leads the reader through practical applications and size considerations into profusely illustrated component descriptions. Where necessary, standard theory is expertly explained in shortcut formulas and graphs. Maintainability and vulnerability concerns are dealt with as well. Fully updated with all new equipment available Comprehensive Coverage Multi-industry relevance

Discover BIM: A better way to build better buildings Building Information Modeling (BIM) offers a novel approach to design, construction, and facility management in which a digital representation of the building product and process is used to facilitate the exchange and interoperability of information in digital format. BIM is beginning to change the way buildings look, the way they function, and the ways in which they are designed and built. *The BIM Handbook, Third Edition* provides an in-depth understanding of BIM technologies, the business and organizational issues associated with its implementation, and the profound advantages that effective use of BIM can provide to all members of a project team. Updates to this edition include: Information on the ways in which professionals should use BIM to gain maximum value New topics such as collaborative working, national and major construction clients, BIM standards and guides A discussion on how various professional roles have expanded through the widespread use and the new avenues of BIM practices and services A wealth of new case studies that clearly illustrate exactly how BIM is applied in a wide variety of conditions Painting a colorful and thorough picture of the state of the art in building information modeling, *The BIM Handbook, Third Edition* guides readers to successful implementations, helping them to avoid needless frustration and costs and take full advantage of this paradigm-shifting approach to construct better buildings that consume fewer materials and require less time, labor, and capital resources.

Grounding design and installation is critical for the safety and performance of any electrical or electronic system. Blending theory and practice, this is the first book to provide a thorough approach to grounding from circuit to system. It covers: grounding for safety aspects in facilities, lightning, and NEMP; grounding in printed circuit board, cable shields, and enclosure grounding; and applications in fixed and mobile facilities on land, at sea, and in air. It's an indispensable resource for electrical and electronic engineers concerned with the design of electronic circuits and systems.

Many of the engineering problems of particular importance to railways arise at interfaces and the safety-critical role of the wheel/rail interface is widely acknowledged. Better understanding of wheel/rail interfaces is therefore critical to improving the capacity, reliability and safety of the railway system. *Wheel-rail interface handbook* is a one-stop reference for railway engineering practitioners and academic researchers. Part one provides the fundamentals of contact mechanics, wear, fatigue and lubrication as well as state-of-the-art research and emerging technologies related to the wheel/rail interface and its management. Part two offers an overview of industrial practice from several different regions of the world, thereby providing an invaluable international perspective with practitioners' experience of managing the wheel/rail interface in a variety of environments and circumstances. This comprehensive volume will enable practising railway engineers, in whatever discipline of railway engineering – infrastructure, vehicle design and safety, and so on – to enhance their understanding of wheel/rail issues, which have a major influence on the running of a reliable, efficient and safe railway. One-stop reference on the important topic of wheel rail-interfaces Presents the fundamentals of contact mechanics, wear, fatigue and lubrication Examines state-of-the-art research and emerging technologies related to wheel-rail interface and its management

A practical course in the fundamentals of machinery diagnostics for anyone who works with rotating machinery, from operator to manager, from design engineer to machinery diagnostician. This comprehensive book thoroughly explains and demystifies important concepts needed for effective machinery malfunction diagnosis: (A) Vibration fundamentals: vibration, phase, and vibration vectors. (B) Data plots: timebase, average shaft centerline, polar, Bode, APHT, spectrum, trend XY, and the orbit. (C) Rotor dynamics: the rotor model, dynamic stiffness, modes of vibration, anisotropic (asymmetric) stiffness, stability analysis, torsional and axial vibration, and basic balancing. Modern root locus methods (pioneered by Walter R. Evans) are used throughout this book. (D) Malfunctions: unbalance, rotor bow, high radial loads, misalignment, rub and looseness, fluid-induced instability, and shaft cracks. Hundreds of full-color illustrations explain key concepts, and several detailed case studies show how these concepts were used to solve real machinery problems. A comprehensive glossary of diagnostic terms is included.

Prairie Avenue evolved into Chicago's most exclusive residential street during the late 19th century, when the city's wealthiest and most influential citizens built lavish homes here. The area began to decline around 1900, but experienced a renaissance in the late 20th century.

Improve Your Manufacturing Skills Machinery's Handbook Made Easy This is a time-saving navigational tool for Machinery's Handbook for experienced professionals and beginners alike. You will learn how to quickly find exactly what you need from the Handbook's vast compilation of data, standards and text. The contents are organized in an intuitive, easy-to-follow manner and are cross-referenced to the 29th and 28th editions. Keep it open right alongside your Handbook at all times as a guide to maximum efficiency.

This unique reference is intended to help users learn SolidWorks on their own with little or no outside help. Unlike other books of its kind, it begins at a very basic level and ends at a fairly advanced level. It has been updated to include all new features of SolidWorks 2010 - 2011. And it's perfect for anyone enrolled in Engineering and Technology programs, as well as professionals interested in learning SolidWorks.

Understanding why and how failures occur is critical to failure prevention, because even the slightest breakdown can lead to catastrophic loss of life and asset as well as widespread pollution. This book helps anyone involved with machinery reliability, whether in the design of new plants or the maintenance and operation of existing ones, to understand why process equipment fails and thereby prevent similar failures.

Finally, a comprehensive book about packaging machinery. The Packaging Machinery Handbook is the first book covering the range of packaging machinery in common use. It includes chapters on filling, capping, labeling, cartoning, inspecting and more. The chapter on packaging line design provides a framework for developing a new packaging line from initial idea to production. More than 120 illustrations allow readers to see inside the machines and what makes them tick. A companion website at www.packmachbook.com includes links to hundreds of videos of these machines in action. The book is designed for the newcomer who wants to learn about machinery, for the package designer who needs to understand how their package will be produced and for the seasoned professional who wants a handy reference. What the experts are saying: "Experience is the best teacher. But if you can't wait 10 years and don't want to learn the hard way, read John Henry's Packaging Machinery Handbook Through a fast-moving conversational writing style - from big-picture "here's why it's done" to nitty-gritty "here's how it's done" - John transfers his extensive packaging knowledge nearly as effortlessly as a Vulcan mind-meld." Lisa McTigue Pierce, packaging journalist since 1982 "From his wealth of practical experience, John has put together a great resource for anyone who is thinking about buying a piece of packaging machinery or who is engaged in putting together a packaging operation. It will help even the most seasoned veterans avoid some common pitfalls." Larry Luciano, President, Luciano Packaging Technology "John Henry's Packaging Machinery Handbook will be the definitive work he day it is published. This is the book we in the field will reach for when we need insight into packaging machinery. His technical integrity gives us a book of great utility. This book is first rate and badly needed. Bravo to John Henry!" Iver Phallen, President, Oden Corporation

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