

# 2008

*Spring / Summer*



***Helping Industry Build  
For Nearly A Century!***

# Industrial Press Proudly Announces Publication of Machinery's Handbook 28th Edition!

By Oberg, Jones, Horton, and Ryffel  
Editors: McCauley, Heald, and Hussain

Both print versions are: Thumb Indexed and 2,704 pages  
Toolbox: 5X7, 2,704 pages, Illustrated ISBN 978-0-8311-2800-5, \$89.95  
Large Print: 7X10 2,704 pages, Illustrated ISBN 978-0-8311-2801-2, \$110.00

Celebrating nearly 100 years as "The Bible of the Metalworking Industries," the 28th edition brings together volumes of knowledge, information and data gathered, revised and improved upon from experts throughout the mechanical industries. Extraordinarily comprehensive yet easy to use since it premiered, Machinery's Handbook provides mechanical and manufacturing engineers, designers, draftsmen, toolmakers, and machinists with a broad range material, from the very basic to the more advanced. It has always, and continues to provide industry fundamentals and standards while containing material reflecting technological advances and offering vast editorial improvements, making the 28th Edition the best tool...ever!

## NEW SECTIONS:

**Shaft Alignment:** Forms of misalignment, diagnosing, practical and systematic methods of aligning shafts.

**Fluid Mechanics:** Overview, viscosity, pressure, and hydrostatic pressure.

**Distinguishing Bolts from Screws:** Overview, primary and secondary criteria.

**Calculating Thread Dimensions:** Calculating, rounding, and truncating dimensions; formulas, thread form constants, and example calculations.

**Helical Coil Screw Thread Inserts:** Types, tapping holes for, dimensions, inspection, self locking types, etc.

**Manufacturing Data Analysis, Statistics and Applications:** Statistics theory and analysis, statistical curves, analyzing manufacturing data including indexable insert tool life and heat treating examples.

**Metric Hexagon Socket Head Screws:** Clearances for Metric Box Wrenches; Clearances for Metric Single and Double Headed Hexagon Sockets, Wrench openings for nuts.

## REVISED MATERIAL:

**Lubrication:** Theory including viscosity and film thickness, additives, synthetics, greases, lubrication selection criteria, applying oils and greases, contamination control, ISO cleanliness codes, and filtration systems.

**Sheet Metal, Punches, Dies and Presswork:** Design overview, clearances, blanking and punching, fine blanking, bending, deep drawing, effects of lubricants.

**CNC:** Coordinate geometry, programming format, structure and data, turning and milling G-codes tables, other codes and manual overrides, milling offsets, machining holes, turning and boring, thread cutting, subprograms, macros and parametric programming.

**Plastics:** Families and properties of thermoplastics and thermosets, structures of plastics, stress and strain differences between plastics and metals and their effects on product design, additives, ASTM standards for testing plastics characteristics, time and temperature-related properties, design analysis, manufacturing techniques, design for assembly, machining.

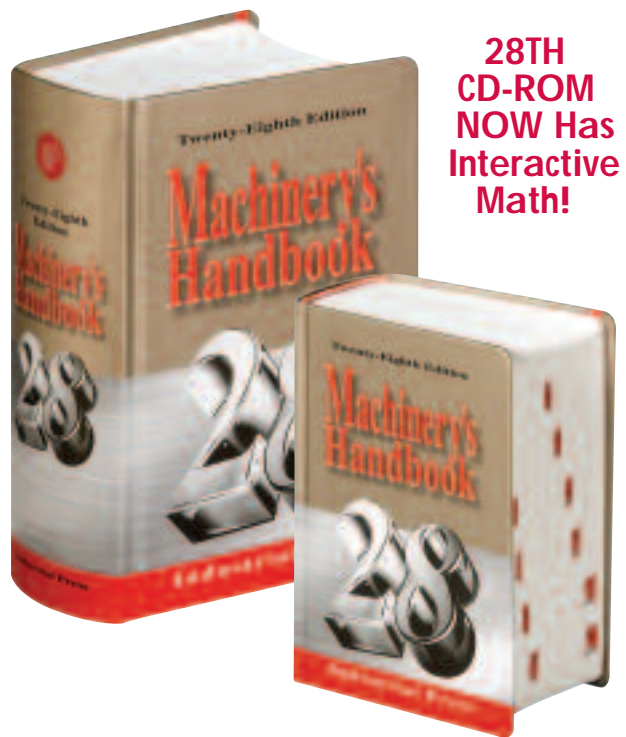
**Surface Finish Standards:** Differences between ANSI and ISO standards, graphic symbology, applications.

**Drafting:** Updates and differences between ANSI and ISO practices and orthographic projections, definitions, tolerance zone symmetry examples, datum referencing, positional tolerance interpretation, GD&T and CAD models, digital data interchange, and checklists.

**Taps:**

**Keys and Keyways:**

**Table of Contents** Mathematics. Mechanics and Strength of Materials. Properties, Treatment, and Testing of Materials. Dimensioning, Gaging, and Measuring. Tooling and Toolmaking. Machining Operations. Manufacturing Processes. Fasteners. Threads and Threading. Gears, Splines, and Cams. Machine Elements. Measuring Units. Index.



## Machinery's Handbook Guide 28th Edition

By Amiss, Jones, and Ryffel,  
Editors: McCauley, Heald and Hussain  
2008, 280 pages, ISBN 13: 978-0-8311-2899-9, \$14.50

Throughout the Guide, you will find useful information on how to make full use of the Handbook to solve problems encountered on the job. In addition to offering a wealth of time-saving data that can help in almost any situation, it includes over 500 examples and questions (with answers) specially selected for engineers and apprentices.

In addition, anyone purchasing the 28th Edition Machinery's Handbook CD will have the ability of accessing Machinery's Handbook Guide, Electronic Ed. with interactive Math for just \$14.50.\*

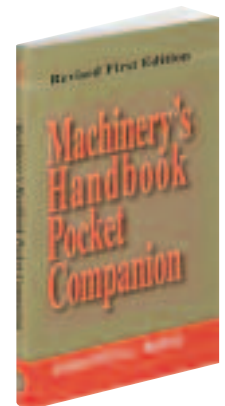
ISBN 13: 978-0-8311-2804-3

\*This is a print edition only. The Guide is also offered electronically on Machinery's Handbook CD, Activation Key for Electronic Edition with Math is a separate online purchase.

## Revised First Edition Machinery's Handbook Pocket Companion

By Richard P. Pohanish and  
Christopher McCauley  
2008, 352 p., illus.,  
ISBN 978-0-8311-2802-9, \$19.95

An extremely concise yet completely authoritative ready-reference which draws its content largely from Machinery's Handbook. This book is designed for anyone in the machine trades for whom convenient access to just the most basic data is at a premium. The Pocket Companion will not replace the Handbook but instead will serve as a handy complement to the latter's vastly larger compilation of data, standards, and text.



# For the First Time Ever... The Collector's Edition Everyone Has Been Asking For!

In commemoration of our **125th Anniversary**,  
we are proud to  
present the **Collector's Edition Replica**  
of the original first edition  
of **Machinery's Handbook**,  
published  
January, 1914.



Available February 2008

#### Collector's Edition Replica:

1,408 pages, letter cover, gilded edges on three sides,  
page holder ribbon, individually boxed.  
ISBN 978-0-8311-3370-2 Price: \$49.95

#### SPECIAL COMBO OFFER

\*Purchased in combination with the new 28th edition:  
With the Toolbox edition – ISBN 978-0-8311-3371-9, Price: \$119.95  
With the Larger Print Edition – ISBN 978-0-8311-3372-6, Price: \$129.95

(\*Only available to individuals in the United States, ordering directly from Industrial Press. Not available to resellers).

## MACHINERY'S HANDBOOK 28TH CD-ROM

CD: ISBN 978-0-8311-2888-3, \$89.95

Toolbox/CD Combo: ISBN 978-0-8311-2828-9, \$152.95

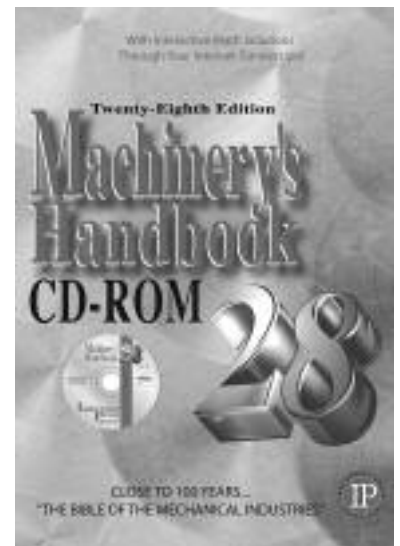
Large Print/CD Combo: ISBN 978-0-8311-2838-8, \$169.95

Get ready, get set...and take advantage of ready access to hundreds of critical math equations from the premier reference in its field with a push of a button! Now Machinery's Handbook 28th Edition CD provides what many of you have been asking for...INTERACTIVE MATH. With a simple internet connection you'll be able to instantly calculate cutting speeds, moments of inertia, the measurement of various screw threads, the center of gravity for any shape, hardness of material, volumes, taper angles, matrices, and much, much more. In addition, the new 28th Edition CD continues to combine the complete contents of the Handbook with the power, versatility, and convenience of Adobe PDF with Adobe Acrobat Reader, which is included free on this disk. Now more than ever the CD combined with the print edition is the most powerful tool you'll need to easily and effectively perform your job!

Combines the complete contents of the 28th edition of the world-renowned reference for the mechanical industries with the power, versatility, and convenience of Adobe Portable Document Format (PDF). Adobe PDF is acknowledged as the open de facto standard for electronic document distribution worldwide. PDF files are compact and can be viewed, navigated, and printed exactly as created by anyone with Adobe Acrobat Reader, which is included free on this disk.

Also available for separate online purchase is an Activation Key for the Electronic Edition of MACHINERY'S HANDBOOK GUIDE Illustrated, 280pp, ISBN: 978-0-8311-2804-3, \$14.50

This activation key unlocks the contents of the Guide on the Machinery's Handbook 28 CD. It includes over 100 additional interactive math solutions, and the entire Guide in PDF format, tightly integrated with the Handbook. Hundreds of cross references let you jump from topics in the Guide to related areas in the Handbook. It is available to registered 28th Edition CD owners only.



Visit our website or email us at [info@industrialpress.com](mailto:info@industrialpress.com) in the subject line to find out what you need to do to qualify for the upgrade program.



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## TO OUR CUSTOMERS

EVER since it was founded, Industrial Press has been true to its tradition of publishing the best technical and reference books for education and industry.

2008 marks the 125th Anniversary for Industrial Press and, in celebration, we are proud to present a collector's edition replica of the original Machinery's Handbook first published in January 1914. For nearly 100 years, Machinery's Handbook has been a world renowned reference and "the Bible" of the metalworking and mechanical industries. We are carrying on this tradition in 2008 with the publication of the 28th Edition which includes the most comprehensive and up-to-date practical technical information, data and standards for these industries.

Industrial Press also continues to expand its publishing program across a number of subject areas and offers a wide range of new titles from machining and metalworking to maintenance and AutoCAD.

It is our goal to provide the best resources to our customers in industry and education.

We appreciate your support and trust over all of these years and look forward to continuing to serve your needs in the years ahead.

A handwritten signature in black ink that reads "Alex Luchars".

Alex Luchars  
President



## CALL FOR AUTHORS

Industrial Press is continuing to expand its list of professional and educational titles and build a new program in electronic publishing. If you have any suggestions about what to publish, or actual writing plans of your own, we'd like to hear from you. We are seeking new authors in virtually all the subject areas found in this catalog.

Industrial Press provides specialized and personal assistance in all stages of book publishing, from writing the text, to layout, design, and marketing. We give authors the individualized attention needed in producing quality publications, and actively promote books to national and international markets.

For more information about submitting a proposal, including a copy of our suggested guidelines, please contact our editorial director:

John Carleo  
[jcarleo@industrialpress.com](mailto:jcarleo@industrialpress.com)



## The Industrial Press Electronic Library

A growing number of our titles are now available as e-books. These electronic editions are provided as fully-searchable PDF on CD-ROM.

# TOP PICKS

## CNC PROGRAMMING HANDBOOK, THIRD EDITION

By Peter Smid 2007, 640 pages, illustrated, ISBN13: 978-0-8311-3347-4, \$69.95

Here is only a partial listing of the many changes in the 3rd Edition:

- **NEW** - Fully functional shareware version of CNC toolpath simulator/editor, NCPlot(TM)
- **NEW** - More programming examples (both in printed text and on the CD-ROM)
- **NEW** - Image files of many actual parts, used as examples
- **NEW** - Detailed section on CNC lathes with live tooling, including examples
- **UPDATED** - Additional formulas, calculations, and handy reference material
- **UPDATED** - Fourth axis programming (indexing and rotary)
- **UPDATED** - CD-ROM based projects, including several as interactive PDF forms
- **UPDATED** - Many other minor improvements ...
- **UPDATED** - Improved index for better search of topics
- **UPDATED** - Optimized for the latest Fanuc and related control systems

The bestselling CNC Programming Handbook is now in its third edition and features a large number of updates and changes suggested by CNC programmers and operators in the field, making it even more tailored to the needs of programmers everywhere.



## Welding Essentials Second Edition

By William Galvery and Frank Marlow, 2007, 536 pp, illustrated, ISBN13: 978- 0-8311-3301-6 \$37.50

As a concise yet thorough introduction to the topic, this new edition of a bestseller makes welding easy for beginners and is a handy reference for professionals. Its unique, comprehensive question-and-answer format allows readers to quickly find what they are looking for and fully understand it. Eliminating non-essential items to prevent overloading readers, Welding Essentials addresses safety hazards and required precautions in detail and provides solutions to common problems for each process. Additionally, this valuable reference carefully explains step-by-step setup and shutdown procedures, along with why equipment grounding and GFI's are needed and the way in which they work.



## 100 Years in Maintenance and Reliability

Practical Lessons from Three Lifetimes at Process Plants

By V. Narayan, James W. Wardhaugh, Mahen C. Das  
2007, 350 pages, illustrated,  
ISBN 13: 978-0-8311-3323-8, \$49.95

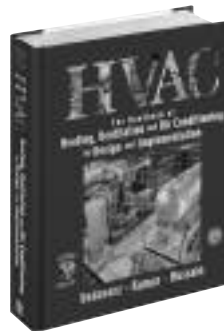
This unique and practical book describes 42 real-life events and/or situations in the careers of the three authors from which they gained insights into the applicable best practices in maintenance and reliability. The authors explain the underlying philosophies where relevant, drawing on the teachings of the leading thinkers in leadership and management. Designed to share knowledge and experience with the readers, in a readily accessible fashion, this resource does not tell the readers what to do or how to do it; it merely explains the event or situation the authors faced, and how they dealt with it. These stories are dynamic illustrations of real life situations which readers will recognize in their own work situations.

## Machine Shop Trade Secrets A Guide to Manufacturing Machine Shop Practices

By James A. Harvey

2005, 320 pp., illus., ISBN 13: 978-0-8311-3227-9, \$39.95

Written by an experienced machinist and plastic injection mold maker, this groundbreaking manual will have users thinking and producing like experienced machinists. Machine Shop Trade Secrets provides practical "how-to" information that can immediately be put to use to improve one's machining skills, craftsmanship, and productivity. It is sure to be used and referred to time and again.



## HVAC: The Handbook of Heating, Ventilation and Air Conditioning for Design and Implementation

By A. Vedavarz, S. Kumar and M. Hussain  
2007, 1008 pp., illus., Includes 2 CDs,  
ISBN13: 978- 0-8311-3163-0, \$125.00

This comprehensive handbook provides instant access to all the data, calculations, and equations needed for modern HVAC design and implementation. Detailing up-to-the-minute design methods, operation procedures, and energy conservation and efficiency tools, this essential reference provides a single volume solution to a myriad of HVAC design needs for both HVAC design engineers and senior mechanical engineering students. Two CD-ROMs are enclosed, Trace Load 700 from Trane Inc. and ESP PLUS from ITT Bell & Gossett.

## Handbook of Manufacturing Processes

How Products, Components and Materials are Made

By James G. Bralla  
2007 864 pp., illus., ISBN 13: 978-0-8311-3179-1, \$115.00

In-depth compilation of the workings of more than 1500 different manufacturing processes in metalworking, chemicals, textiles, plastics, ceramics, electronics, wood and food industries; as well as how more than 600 important products, components, and materials are made. Anyone who has an interest in or needs to know about manufacturing operations and products will not easily find this anywhere else.



# NEW SPRING TITLES !

## Sink or Swim in the Machine Shop

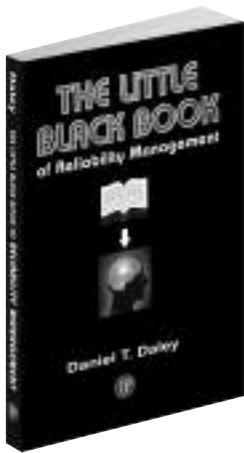
By Tom Lipton

June 2008, 300pp, illus., ISBN 13: 978-0-8311-3362-7, \$42.50

This collection of priceless tips, tricks, skills, and experiences from a veteran of the trade is presented in a way that captures the attention of users and engages them in the process of furthering the art. It includes shop-tested descriptions and illustrations of creative and unique skills and observations from almost 40 years in the metalworking trades. What's more, it offers enough material from several metalworking trades to start a great research and development shop. It is sure to be a valuable and time-saving resource for anyone involved in the fabrication of metal.

### Special Features

- Includes numerous photos and illustrative stories that help users easily understand the material presented and the techniques provided.
- Contains a chapter on flame straightening techniques.
- Offers many examples of special workholding techniques.
- Covers crossover skills like Welding/Machine, Sheetmetal/Welding, and Design/Management.



## The Little Black Book of Reliability Management

By Daniel T. Daley

2007, 200pp, illus.,

ISBN 13: 978-0-8311-3356-6, \$19.95

This practical book provides the reader with a fresh but comprehensive perspective on the subject of reliability management. It challenges the reader to consider "what he has a right to expect" based on his current reliability programs. And it describes the programs and discipline needed if the reader desires the "right to expect" a higher level of reliability performance. This unique resource is perfect for individuals working in plants and in other organizations that are dependent on the reliability of complex physical assets.

### Special Features

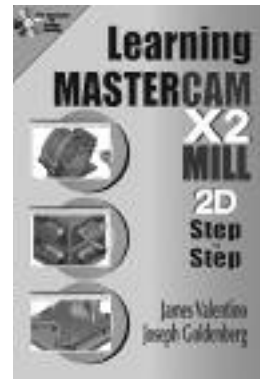
- Features a simple description of a number of reliability subjects and techniques in a manner that readers can easily understand.
- Describes the data that must be collected and the analysis that should be done at each phase during the lifecycle of a physical asset.
- Starts the user down the path of collecting data, mapping failures to causes and implementing the elements of a comprehensive reliability program in an order that best serves his needs.
- Devotes a chapter to pattern recognition and identification of the relationships between identified patterns and failures.
- Provides real-life examples.
- Contains examples of documents and spreadsheets needed to apply recommendations at the readers own plants and shops.

## Grinding Technology, Second Edition

By Stephen Malkin & Changsheng Guo

April 2008, 320pp., illus. ISBN 13: 978-0-8311-3247-7, \$69.95

Presenting a comprehensive and consistent treatment of grinding theory and its practical utilization, this new edition focuses on grinding as a machining process using bonded abrasive grinding wheels as the cutting medium. It starts with a description of abrasives and bonded abrasive cutting tools; then moves on to thermal analyses of the grinding process for conventional, creep feed, and superabrasive grinding; and ends with methods for enhancing and optimizing of grinding operations, simulation of grinding processes, and computer control of grinding machines. The perfect reference for practicing engineers involved in the grinding process, it will also be useful for researchers working in the field.



## Learning Mastercam X2 Mill 2D

### Step by Step

By James Valentino and Joseph Goldenberg

Feb, 2008, 600pp., illus.,

Includes X2 Demo CD

ISBN 13: 978-0-8311-3353-5

\$64.95

This unique text presents a thorough introduction to Mastercam X2 Mill for students with little or no prior experience. It can be used in virtually any educational setting -- from four-year engineering schools to community colleges and voc/tech schools to industrial training centers -- and will also serve as a reliable reference for on-the-job use or as a self-study manual. The award-winning authors have carefully arranged the contents in a clear and logical sequence and have used many hundreds of visuals instead of wordy explanations. It covers all of the important features incorporated into X2 such as file tracking, change recognition, quick masks, autocursor locking, fastpoint mode, and power keys. An enclosed CD contains Mastercam X Mill Demo and also includes examples and exercises from the text for student practice. Learning Mastercam X2 Mill 2D Step by Step is sure to become a valuable resource for anyone learning or using Mastercam X2 Mill.



## NEW SPRING TITLES !

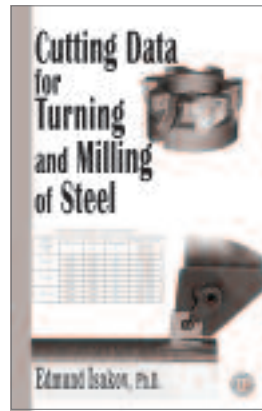


### Countersinking Handbook

By LaRoux Gilliespie  
Feb 2008, 250pp., illus.  
ISBN 13: 978-0-8311-3318-4 \$69.95

Countersinking Handbook is a 250 page handbook designed for shop users and manufacturing engineers. It provides total coverage of issues related to countersinking and chamfering holes. Its 13 chapters cover history of their use, design reasons for countersinking, basic cutter design of

over 100 different tool designs, discussion of all cutter material variations and options, feeds, speeds and coolants, tool holdres, applications including plastics, metals, wood, composites, ceramics, glass and dental materials. Side effects of countersinking including stress risers are discussed, optimum applications for specific tool use, gaging countersinks, economics, press working countersinks, nontraditional countersinking methods, and references to standards and other published works. It includes case histories, and practical tips and is filled with information to make process selection easier.



### Cutting Data for Turning and Milling of Steel

By Edmund Isakov Ph.D.  
May 2008, 250 pp, illus. ISBN13: 978-0-8311-3314-6 \$39.95

Machining is one of the most important manufacturing processes, which remove unwanted material in the form of chips from a workpiece. Material removal operations are among the most expensive; in the U.S. alone, more than \$100 billion were spent on machining in 1999. These high costs put tremendous economic pressures on production managers and engineers as they struggle to find ways to increase productivity.

Machining recommendations provided in this book, cover two major metalcutting processes - turning and face milling, since they allow removing more material per unit of time and consuming more power at the roughing operations than end milling, boring, or drilling. Machining recommendations

relate to cutting speeds, feed rates, and depth of cuts. Such recommendations depend on the workpiece material properties and the cutting tool material. Workpiece materials described in this book are the most commonly used grades of carbon, alloy, stainless, tool, and maraging steels. Cutting tool materials are cemented carbides, cermets, and ceramics.



### AutoCAD Pocket Reference 2008 Edition

By Cheryl R. Shrock  
January 2008, 304 pages, illus.,  
ISBN13: 978 0-8311-3354-2, \$19.95

This indispensable aid and handy reference provides easy access to all the important fundamental commands, concepts, and "How to" information for the everyday use of AutoCAD. Its convenient compact size allows you to take it with you anywhere. Now you don't need to memorize command steps! It's perfect for students, teachers, and all AutoCAD users who are on the go and who need an occasional reminder on how to use a command. Cover Releases 2008-2006.

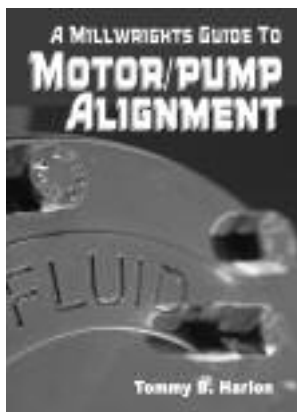


### Sustaining Continuous Innovation Through Problem Solving

By Stephen Armstrong  
2007, 352pp., illus.,  
ISBN: 978-0-8311-3275-0, \$49.95

This book demonstrates how Problem Solving and Process Management is at the heart of continuous business transformation. It introduces the reader to the domains of change and the process management body of knowledge (BOK)

and gives detailed instruction on how to creatively re-engineer processes, sustain innovation and continually improve an enterprise through proven repetitive methods. And unlike any book on the subject it offers a practical step-by-step approach that includes the steps, the templates, and the metrics to keep it on track.



### A Millwright's Guide to Motor / Pump Alignment

By Tommy B. Harlon  
April 2008, 250pp, illus., ISBN 978-0-8311-3315-3, \$29.95

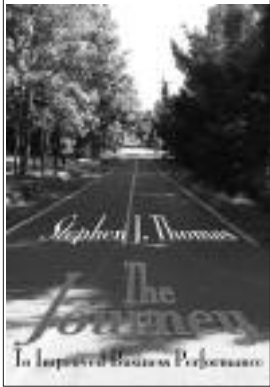
Written by a mechanic for mechanics in a mechanic's language, this book is a compendium of information, common sense tips, and methods and formulas that have been around for decades. As a unique resource it offers the "how-to's"; along with the drawings, the formulas, and mathematical examples that address the "who", "what", "when", "where", "why", and "how" in several dozen realistic incidents involving alignment work. Additionally, readers will find valuable hints, practical tips, comments, and cautionary notes throughout to drive home each point. Covering at least 99% of the field alignment problems encountered by most mechanics, it is sure to be valuable to novices and professionals alike!

# NEW SPRING TITLES !

## The Journey: To Improved Business Performance

By Stephen J. Thomas

May 2008, 220pp, illus., ISBN 13: 978-0-8311-3363-4, \$21.95



Written in a very engaging manner, this book teaches the essential concepts associated with change management in a highly unique manner. It is not a textbook, but rather a business novel in which the main character, Todd Bradley struggles to learn the skills necessary to save his company, his plant, and in many ways himself. While the storyline is a fictional account about business change made in a plant environment, readers will quickly realize that the tools found here can be successfully applied in all lines of business. Anyone working to make a change for the better in their business will benefit from this book.

### Special Features

- Written in a way that readers can quickly apply the knowledge gained.
- Features all of the concepts taught in the author's first two books Successfully Managing Change in Organizations and Improving Maintenance & Reliability Through Cultural Change.

**Table of Contents** Welcome to My World. Out of the Frying Pan Into the Fire. Life Gets More Interesting. The Vision and More Takes Shape. The Meeting. The Steering Team. The Goal Achievement Model. Line #3 Again and RCFA. The Game Plan (GAM with details) also Readiness. Line #1 Converts to Epsilon (also Owen diverts the crew). TAN on Resistance (Owen gets coached). Line #2 Converts (Owen leads the way). Lessons Learned/TAN on Spiral Learning and Assumptions – 3 & 4 to ABCD. The Web of Change. Change RCFA and Corrective Action. Sustainability. The Visit. The End Game. Epilog.

## Asset Maintenance Management: Second Edition

A Guide to Developing Strategy & Improving Performances

By Alan Wilson,

June 2008, 824pp., illus., ISBN 13: 978-0-8311-3331-3 \$69.95



Thoroughly updated and edited by an expert in the maintenance field, and with in-depth contributions from professionals, consultants, university instructors, and experts in specific maintenance techniques, this new edition contains a wealth of information never before gathered in one package! Providing companies with the methods, strategies, and practices that will help efficiently and effectively direct and shape their asset management operations, this comprehensive work is certain to be useful for anyone involved with or concerned about the maintenance of physical assets.

## Lean Maintenance

By Joel Levitt

May 2008, 160, illus., ISBN 978-0-8311-3352-8, \$44.95

Written for anyone in a leadership position in maintenance, storeroom or production, this unique book will also be found useful by vendors to the maintenance departments, including maintenance contractors, parts vendors, and various kinds of service providers. As a practical book, Lean Maintenance will take the reader on a journey from uncovering waste, designing projects to address the waste, selling the projects to management and delivering the projects. Every area in maintenance is covered, including your TPM effort, storeroom, PM tasking, work orders and computer systems. What's more, the user will be able to immediately use this book to start the process of saving money, energy, or time within just one hour!



## Maintenance and Reliability Best Practices

By Ramesh Gulati and Ricky Smith

June 2008, 250pp, illus.,

ISBN 13: 978-0-8311-3311-5, \$44.95

To manufacture quality products or provide services at competitive prices is essential to survive in today's business climate. We are forced to look for better ways of doing things on a continual basis. To meet customer's needs – on their schedule – requires (high) availability and reliability of equipment and systems when they are needed.

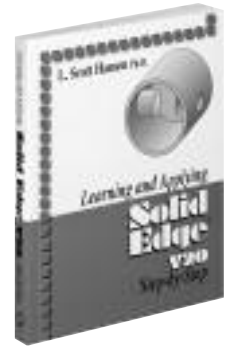
In the maintenance and reliability (M&R) field, professionals are constantly challenged to implement the best way to ensure equipment is available as and when it is needed at a reasonable cost. These are called "best practices." But it is not as simple as putting something into effect. To truly realize a best practice requires learning, re-learning, benchmarking and implementing better ways of ensuring high reliability and availability of equipment and systems.

Maintenance & Reliability Best Practices is designed to support that learning process. Written by professionals with 60 plus years of shop floor and management experience in a variety of industries, this practical resource will help seasoned professionals and novices understand the basic principles of maintenance and reliability. Written in an easy-to-read format, each chapter discusses the concepts with specific questions and answers. Each topic answers the what, why or how of the topic being presented. Understanding and implementing M&R practices in a cost-effective way is essential. This is the perfect book for all in the work force of an organization who need to have a solid understanding of M&R.

**Learning and Applying SOLIDEDGE v20 Step-by-Step**

By L. Scott Hansen, 2007, 500pp ISBN13:978-0-8311-3312-2 \$39.95

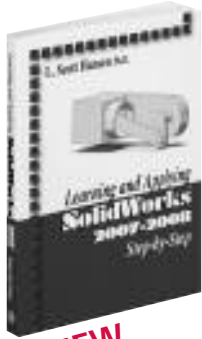
This unique text presents a thorough introduction to Solid Edge for anyone with little or no prior experience with this software. It can be used in virtually any educational setting -- from four-year engineering schools to community colleges and voc/tech schools to industrial training centers -- and will also serve as a reliable reference for on-the-job use or as a self-study manual that can be used 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's perfect for anyone interested in learning Solid Edge quickly and effectively.



**Learning and Applying SOLIDWORKS 2007-2008 Step-by-Step**

By L. Scott Hansen, 2007, 500pp illus.

ISBN 13:978-0-8311-3339-9 \$39.95



**NEW  
UPDATED  
2008**

This unique reference was written with the intention that users can learn Solidworks 2008 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's perfect for anyone enrolled in Engineering and Technology programs, as well as professionals interested in learning Solidworks.

**Applied SolidWorks 2003-2006**

By L. Scott Hansen, Ph.D. 2006, 400 pages, illus.,

ISBN 13: 978-0-8311-3292-7, \$34.95



Written with the intention that users can learn Applied Solidworks 2003 - 2006 on their own with little or no outside help, this unique reference provides step-by-step instructions along with numerous illustrations. Unlike other books of its kind, it

begins at a very basic level and ends at a fairly advanced level. Commands are shown in bold for those who would rather not read every word of instruction, and graphic illustration for each step is included for those who would rather learn visually. Small notes on most illustrations help to further clarify instructions. It's perfect for anyone enrolled in Engineering and Technology programs, as well as professionals interested in learning Applied Solidworks 2003 - 2006.



**Learning and Applying AUTODESK INVENTOR 2008 Step-by-Step**

By L. Scott Hansen,

2007, 400 pages, illus., ISBN 13: 978-0-8311-3340-5, \$39.95

Written with the intention that users can learn Inventor 2008 on their own with little or no outside help, this unique reference provides step-by-step instructions along with numerous illustrations. Unlike other books of its kind, it begins at a very basic level and ends at a fairly advanced level. Commands are shown in bold for those who would rather not read every word of instruction, and graphic illustration for each step is included for those who would rather learn visually. Small notes on most illustrations help to further clarify instructions. It's perfect for anyone enrolled in Engineering and Technology programs, as well as professionals interested in learning Inventor 2008.

**Also Available Applied Inventor Releases 7-10**

By L. Scott Hansen, Ph.D. 2006, 400 pages, illus., ISBN 13: 978-0-8311-3291-0, \$34.95

**Applied CATIA v5**

By L. Scott Hansen, Ph.D. 2007, 400 pages, illus., ISBN 13: 978-0-8311-3313-9, \$38.50



Written with the intention that users can learn CATIA V.5 R15 on their own with little or no outside help, this unique reference provides step-by-step instructions along with numerous illustrations. It will provide a self-guided learning experience using CATIA V.5 R15. It is an excellent resource for anyone enrolled in Engineering Technology programs and professionals interested in learning CATIA V.5 R15.

**Arriving this  
Summer**

**Learning and Applying Pro/ENGINEER Step-by-Step**

By L. Scott Hansen, Ph.D. July 2008, 500pp, illus., ISBN 13: 978-0-8311-3357-3, \$39.95

This unique reference was written with the intention that users can learn Pro/Engineer 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's perfect for anyone enrolled in Engineering and Technology programs, as well as professionals interested in learning Pro/Engineer.

**Special Features**

- Provides step-by-step instructions along with numerous illustrations.
- Commands are shown in bold for those who would rather not read every word of instruction.
- Includes graphic illustration for each step for those who would rather learn visually.
- Contains small notes on most illustrations to further clarify instructions.
- Most chapters are all self contained, allowing users to start from most anywhere in the book.

# Maintenance STRATEGY SERIES

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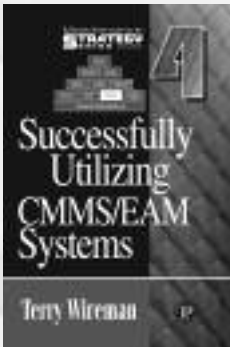
Volume 1  
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ISBN: 978-08311-3300-7 \$44.95



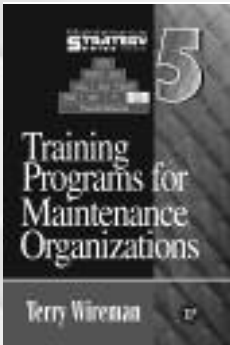
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Volume 3  
2007, 250 pages, illus.,  
ISBN: 978-08311-3300-6 \$44.95



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CMMS/ EAM Systems  
August 2008, 350 pages, illus.,  
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Organizations  
Nov. 2008, 350 pages, illus.,  
ISBN: 978-08311-3369-6, \$44.95

**FORTHCOMING TITLES in the Maintenance Strategy Series:** Predictive Maintenance for Equipment Reliability; Operations Support for Maintenance and Reliability; Reliability Centered Maintenance Strategies; Total Productive Maintenance: Continuous Improvement Techniques for Maintenance and Reliability.

The **first volume** in this series, Preventive Maintenance, begins by detailing the importance of preventive maintenance to an overall maintenance strategy. The text clearly illustrates how the components of any maintenance strategy are interlinked with dependencies and the performance measures necessary to properly manage the preventive maintenance program. A process flow diagram details the steps of developing the preventive maintenance program, and the appendixes contain numerous examples of preventive maintenance inspections for the readers to begin applying to their program immediately.

The **second volume** in the Maintenance Strategy Series, Inventory and Purchasing, shows the reader how to develop an inventory and purchasing program for MRO spares and supplies as part of an overall strategy. Specifically, the text focuses on the importance of a well-organized storage location and part inventory numbering system detailing to the reader the most effective ways to accomplish this goal. The receiving and parts issues disciplines are discussed in detail with a focus on the value proposition for spare parts controls and justification of storeroom overhead. In addition, the appendixes provide examples of parts and detail storage conditions that can be utilized in developing or refining an inventory storage location.

The **third volume** of the series, Maintenance Work Management Processes, focuses on developing a work management process that will support the maintenance strategy components. It outlines a financially cost-effective process that collects the data to use advanced strategies such as RCM and TPM. The text extensively details the maintenance organizational development process and then outlines nine basic work management flows. The nine flows are then detailed and the potential problems with executing the flows are examined along with solutions to the most common problems.

The **fourth volume** of the series, Successfully Utilizing CMMS/ EAM Systems, this text will show how CMMS/ EAM systems are necessary to support a maintenance and reliability organization in companies today. The text begins with the proper methodologies for selecting and implementing a CMMS/ EAM system. The text then discusses how to properly utilize the system to gain a maximum return on investment for the system. Finally, the text examines the organization and methodology to truly achieve Enterprise Asset Management – an elusive goal for most modern organizations.

The **fifth volume** of the series, Training Programs for Maintenance Organizations, this text will highlight the need for increased skills proficiency in maintenance and reliability organizations today. It begins with a discussion of the skills shortage, then progresses into how to develop cost-effective and efficient skills training programs. It focuses on modern tools for duty, task, needs analysis and how to convert that data into a complete skills development initiative. The reader will be able to use the information in this to develop or enhance a skills training program in their company.



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to give you outstanding on-the-job and classroom resources.



Society of  
Manufacturing  
Engineers



### Grinding Technology, Second Ed.

By Stephen Malkin & Changsheng Guo  
April 2007, 320pp., illus. \$69.95,  
ISBN 13: 978-0-8311-3247-7

Presenting a comprehensive and consistent treatment of grinding theory and its practical utilization, this new edition focuses on grinding as a machining process using bonded abrasive grinding wheels as the cutting medium. It starts with a description of abrasives and bonded abrasive cutting tools; then moves on to thermal analyses of the grinding process for conventional, creep feed, and superabrasive grinding; and ends with methods for enhancing and optimizing of grinding operations, simulation of grinding processes, and computer control of grinding machines. The perfect reference for practicing engineers involved in the grinding process, it will also be useful for researchers working in the field.



### Countersinking Handbook

By LaRoux Gilliespie  
Feb. 2008, 250pp., illus. \$69.95  
ISBN 13: 978-0-8311-3318-4

Designed for shop users and manufacturing engineers. It provides total coverage of issues related to countersinking and chamfering holes. 13 chapters cover history of their use, design reasons for countersinking, basic cutter design of over 100 different tool designs, discussion of all cutter material variations and options, feeds, speeds and coolants, tool holders, applications including plastics, metals, wood, composites, ceramics, glass and dental materials. Side effects of countersinking including stress risers are discussed, optimum applications for specific tool use, gaging countersinks, economics, press working countersinks, nontraditional countersinking methods, standards, case histories, and practical tips make process selection easier.



### Sustaining Continuous Innovation Through Problem Solving

By Stephen Armstrong  
2007, 352pp., illus., ISBN: 978-0-8311-3275-0, \$49.95

This book demonstrates how Problem Solving and Process Management is at the heart of continuous business transformation. It introduces the reader to the domains of change and the process management body of knowledge (BOK) and gives detailed instruction on how to creatively re-engineer processes, sustain innovation and continually improve an enterprise through proven repetitive methods. And unlike any book on the subject it offers a practical step-by-step approach that includes the steps, the templates, and the metrics to keep it on track.



### Value Analysis Tear-Down: A New Process for Product Improvement and Innovation

By Yoshihiko Sato and J. Jerry Kaufman  
2005, 216 pp., illus., ISBN 978-0-8311-3203-3, \$44.95

This truly one-of-a-kind book presents a new technology – value analysis tear-down – for improving products and innovating new and better product. It combines traditional tear-down with the technologies of value analysis and value engineering. The authors have originated a process that helps engineers and managers reduce product cost, improve quality, continuously improve existing products, and discover opportunities for innovative change.



### Guide to Hard Milling & High Speed Machining

By Dale Mickelson  
2006, 300 pp., illus., ISBN 13: 978-0-8311-3319-1, \$49.95

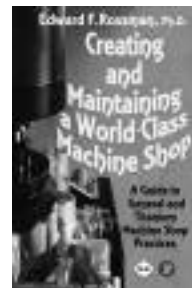
This volume is a continuation of the author's first book in which you will find yet more variables associated with the process of Hard Milling and High Speed Machining. Six machine manufacturers are covered in the first six chapters: Mikron, Okuma, Yasda, Roku Roku, Johnford and Moore, as well as two holder manufacturers; Heartech Precision and Big Kaiser, and one probe and laser manufacturer; Blum. It defines the current state of the art & also serves as a primer for companies getting started in high speed machining.



### Mass Finishing Handbook

By LaRoux K. Gillespie,  
2007 ISBN 13: 978-0-8311-3257-6 \$115.00

Compiled from the author's 40 years of research and experience this detailed handbook provides "how-to" details of all mass finishing/ loose abrasive finishing processes that experienced finishers will find as useful as the first-time user. It covers 16 basic mass finishing processes, including vibratory, centrifugal disc, magnetic abrasive, cryogenic, and chemical-assisted processes. Provides case histories, practical tips; it also discusses mass finishing economics, edge requirements, surface requirements, side effects, the impact of burr size and part definition, media, and compounds.



### Creating and Maintaining a World-Class Machine Shop

By Edward F. Rossman  
2007, ISBN 13: 978-0-8311-3299-6 \$39.95

This manual is about proven principles of success in metal fabrication. The material presented is practical and in-use, as the examples will show. While the primary focus of this book is on machining titanium, many of the items discussed could apply to any machining or manufacturing enterprise. If you own, manage, or work at a general or titanium machine shop, or at virtually any metal fabrication shop, you will find yourself referring to this manual over and over again!



### Manufacturing Processes and Materials Fourth Edition

By George F. Schrader and Ahmad K. Elshennawy  
2000, 842 pp, illus., ISBN 978-0-8311-3202-6, \$89.95

This is an invaluable source for anyone who needs a basic understanding of manufacturing processes and equipment. This book covers the basic processes and machinery used in the job shop, toolroom, or small manufacturing facility, and also describes advanced equipment used in larger production facilities. End-of-chapter questions and problems make this an ideal classroom text or self-study manual. An instructor's guide is available for qualified teachers.

# Acclaimed AUTOCAD WORKBOOKS and POCKET REFERENCE by Cheryl Shrock

## Exercise Workbook for Beginning AutoCAD 2008

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400pp ISBN: 978-0-8311-3341-2 \$36.95

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Totally updated for AutoCAD 2008 and 2008 LT including the new and enhanced Commands, Dimensioning, Hatching, Mtext, Dynamic Blocks, Dynamic Input and more. Ideal for classroom instruction or as a self-study tutorial, it provides only what you need without all of the jargon. It also includes 30 lessons with step-by-step instructions followed by exercises designed for practicing the commands learned within the lesson. Each lesson starts very simple and progresses to more complex. The approach taken is to familiarize users with the drawing commands first, and then teach users to create their own setup drawings. Each lesson is explained clearly and in a non-intimidating manner.

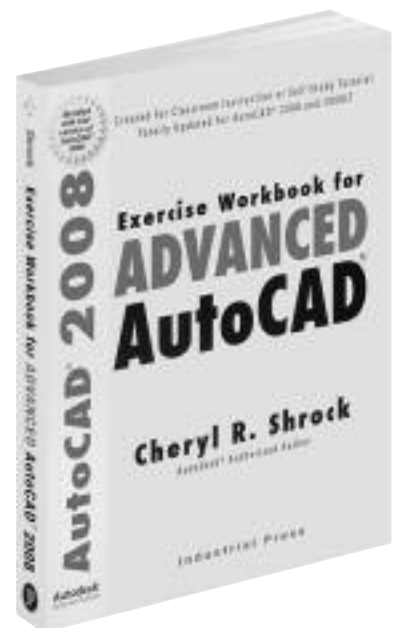
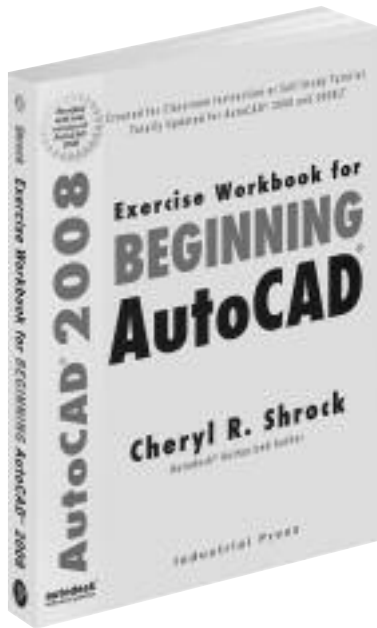
## Exercise Workbook for Advanced AutoCAD 2008

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400pp ISBN13: 978-0-8311-3342-9 \$36.95

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## AutoCAD Pocket Reference 2008 Edition

By Cheryl R. Shrock

2008, 304 pages, illus., ISBN13: 978 0-8311-3354-2, \$19.95

This indispensable aid and handy reference provides easy access to all the important fundamental commands, concepts, and "How to" information for the everyday use of AutoCAD. Its convenient compact size allows you to take it with you anywhere. Now you don't need to memorize command steps! It's perfect for students, teachers, and all AutoCAD users who are on the go and who need an occasional reminder on how to use a command. Cover Releases 2008-2006.



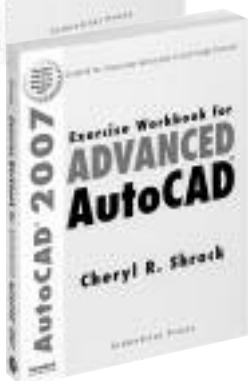
## Exercise Workbook for Beginning AutoCAD 2007

By Cheryl R. Shrock

July 2006, 440 pp., illus.,

ISBN 13: 978-0-8311-3302-3, \$36.95

Includes AutoCAD 2007 30-day trial software



## Exercise Workbook for Advanced AutoCAD 2007

By Cheryl R. Shrock

August 2006, 440 pp., illus.,

ISBN 13: 978-0-8311-3303-0, \$36.95

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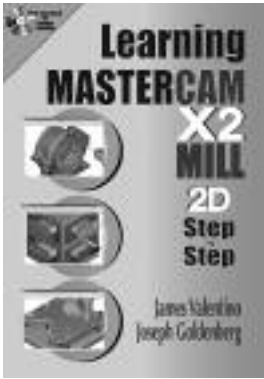
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# CAM



## Learning Mastercam X2 Mill 2D Step by Step

By James Valentino and Joseph Goldenberg

Feb. 2008 600pp., illus.,

ISBN 13: 978-0-8311-3353-5 \$64.95

This unique text presents a thorough introduction to Mastercam X2 Mill for students with little or no prior experience. It can be used in virtually any educational

setting -- from four-year engineering schools to community colleges and voc/tech schools to industrial training centers -- and will also serve as a reliable reference for on-the-job use or as a self-study manual. The award-winning authors have carefully arranged the contents in a clear and logical sequence and have used many hundreds of visuals instead of wordy explanations. It covers all of important features incorporated into X2 such as file tracking, change recognition, quick masks, autocursor locking, fastpoint mode, and power keys. An enclosed CD contains Mastercam X Mill Demo and also includes examples and exercises from the text for student practice. Learning Mastercam X2 Mill 2D Step by Step is sure to become a valuable resource for anyone learning or using Mastercam X2 Mill.

## Learning Mastercam X2 Lathe 2D Step by Step

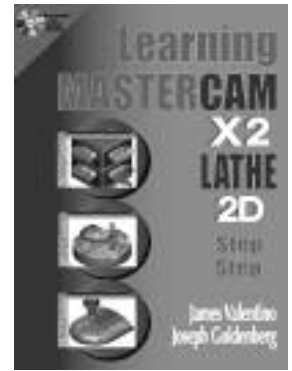
By James Valentino and Joseph Goldenberg

October 2008, 400pp, illus.,

ISBN 13: 978-0-8311-3205-7, \$64.95

This unique text presents a thorough introduction to Mastercam X2 Lathe for students with little or no prior experience. It can be used in virtually any educational setting -- from four-year

engineering schools to community colleges and voc/tech schools to industrial training centers -- and will also serve as a reliable reference for on-the-job use or as a self-study manual. The award-winning authors have carefully arranged the contents in a clear and logical sequence and have used many hundreds of visuals instead of wordy explanations. An enclosed CD contains Mastercam Lathe X2 Demo and also includes examples and exercises from the text for student practice. Learning Mastercam X2 Lathe 2D Step by Step is sure to become a valuable resource for anyone learning or using Mastercam X2 Lathe.



### Special Features found in Both Mastercam X2 Mill and Mastercam X2 Lathe

- Student-friendly graphical displays are emphasized in lieu of long text and definitions.
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- Examples provide step-by-step instructions with graphical displays.
- Eliminates flipping between pages by featuring all explanations on the same page as the example.
- Contains exercises at the end of each chapter.
- Features a process plan for many machining exercises to indicate the machining operations to be performed and the tools to be used.
- Each enclosed CD contains a student version of program.



### Also Available Learning Mastercam Mill V9 Step by Step

By James Valentino and Joseph Goldenberg

2004, 600pp., illus., ISBN 13: 978-0-8311-3177-7, \$59.95

For Version 9!



### Also Available Learning Mastercam X Mill 2D Step by Step

By James Valentino and Joseph Goldenberg

2006, 600pp., illus., ISBN 13: 978-0-8311-3204-0, \$59.95

## Construction Services

### Marketing Construction Services

Paul Pryor

2000, 136 pp, ISBN 13: 978-0-8311-3145-6, \$27.50

Written by a professional with extensive experience in operations and business development, a unique blend of discipline-specific knowledge originating from the lending institution to the objective of the owner to the design professional, engineer or architect, to the general contractor to the construction manager to prime and subcontractors. Written for both seasoned professionals and industry novices, a comprehensive understanding of the projects, trades, money, and market processes. It is a "must read" for anyone working in and about this industry who wants to gain a better understanding of the various processes involved in acquiring and successfully completing a construction project.



# CNC

## Programming of CNC Machines, Third Edition

By Ken Evans 2007, 500 pages, illustrated, ISBN 978-0-8311-3316-0, \$44.95 Student Workbook ISBN 13: 978-0-8311-3317-7, \$19.95



Written in simple, easy-to-understand language by skilled programmers with years of experience teaching CNC machining to the industry and in formal education settings, full descriptions of many operation and programming functions and illustrates their practical applications through examples. In-depth information on how to program turning and milling machines, which is applicable to almost all control systems. It keeps all theoretical explanations to a minimum throughout so that they do not distort an understanding of the programming. Information about the selection of tools, cutting speeds, and the technology of machining, is sure to benefit engineers, programmers, supervisors, and machine operators.

**Distinctive Features**

- Includes a modern CNC controller representation in the Operation Section.
- Thoroughly describes mathematical formula usage necessary for creating programs manually.
- Provides practical examples and study questions throughout, allowing users to demonstrate their proficiency.
- Features improved blueprints and drawings created to ANSI standards in order to improve clarity.
- Offers a glossary of terminology and useful technical data and charts needed for effective programming
- Contains expanded sections on CAD/CAM and Conversational Programming that offer insight into the modern methods of CNC programming.
- Illustrates how to create each programming example through clear step-by-step presentations.
- The only textbook that covers edgeCAM CAD/CAM Programming. Project Lead the Way (PLTW) has adopted edgeCAM as the CAD/CAM program they use in their Computer Integrated Manufacturing (CIM) courses taught at high schools across the nation.
- Includes the latest version of Mastercam--Mastercam X

## CNC Programming Techniques: An Insiders Guide to Effective Methods and Applications

By Peter Smid 2006, 360 pp., illus., ISBN 13: 978-0-8311-3185-2 \$59.95



Written by the author of the bestselling CNC Programming Handbook and the recently released FANUC CNC Custom Macros, this practical and very useful resource covers dozens of special CNC programming techniques that can be applied to machining parts in an efficient way.

### Distinctive Features

- Presents detailed part programming suggestions for a variety of machining operations.
- Provides numerous illustrations, charts, tables, and practical examples, allowing users to fully understand all concepts.
- Many methods presented can also be adapted to programming methods using a CAM system.

## FANUC CNC Custom Macros Programming Resources for Fanuc Custom Macros Users

By Peter Smid 2005, 336 pp., illus., ISBN 13: 978-0-8311-3157-9 \$49.95

An invaluable companion to the author's best selling CNC Programming Handbook, this book is a general introduction to the subject of macros (known as Custom Macros or User Macros). Its purpose is to make you aware of what macros are, how to develop them, and how to use them effectively. It also explores important related subjects and identifies several other helpful topics in this increasingly important and exciting field of CNC programming.

**Distinctive Features**

- Provides the basis for exploring in great depth the extremely wide and rich field of programming tools that macros are.

- Numerous examples and sample programs are used throughout that serve as practical applications of the techniques presented and as the basis of ready-to-run macro programs.
- Includes a CD containing all of the sample programs.
- Offers many practical do's and don'ts while covering all the popular Fanuc control systems exclusively.



## CNC Simplified

Includes CD-ROM

By Steve Krar, Arthur Gill, and Peter Smid

2001, 448 pp., CD included, illus., ISBN 13: 978-0-8311-3133-3, \$59.95

This textbook is designed to take the mystery out of CNC by putting it into a logical sequence and expressing it in simple language that everyone can understand. Written by the authors of CNC Programming Basics: (A Primer for the Skills USA /VICA Championships). CNC Simplified covers everything from programming basics to bench-top teaching machines to industrial machines to milling and turning programming to an introduction to CAD/CAM. What's more, a CAD/CAM SOFTWARE PROGRAM, included in each book, makes it possible to design a part on the computer, generate machining codes, and simulate the tool path (cutting action) to check for programming errors.



## CNC Machining Handbook: Basic Theory, Production Data, and Machining Procedure

By James Madison 1996, 396 pp., ISBN 13: 978-0-8311-3064-0, \$54.95

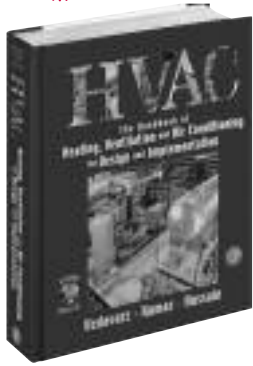
A comprehensive and authoritative reference on CNC machining centers and their capabilities, commonly used CNC commands, and CNC related tooling for the production of precision machined components. Written for programmers, engineers, and operators, it provides a ready reference for basic theory, production data, and machining procedure. Covering milling, boring, turning, grinding, and related CNC tooling, entire machining systems are analyzed.



STUDENT LAB MANUAL \$16.50 (ISBN 13: 978-0-8311-3147-0)  
INSTRUCTORS GUIDE ISBN 0-8311-3148-9 FREE to Adopters



## Design



### HVAC: The Handbook of Heating, Ventilation and Air Conditioning for Design and Implementation

By A. Vedavarz, S. Kumar and M. Hussain  
2007, 1008 pp., illus.,  
Includes 2 CDs,  
ISBN13: 978- 0-8311-3163-0, \$125.00

This comprehensive handbook provides instant access to all the data, calculations, and equations needed for modern HVAC design and implementation. Detailing up-to-the-minute design methods, operation procedures, and energy conservation and efficiency tools, this essential reference provides a single volume solution to a myriad of HVAC design needs for both HVAC design engineers and senior mechanical engineering students. Two CD-ROMs are enclosed, Trace Load 700 from Trane Inc. and ESP PLUS from ITT Bell & Gossett.

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Fundamentals. Psychrometry. Air Conditioning Processes. Indoor Air Quality and Ventilation. Load Estimating Fundamentals. Heating Load Calculation. Cooling Load Calculation. Duct Design. Pipe Sizing. Hydronic Heating and Cooling System. Energy Calculation. Combustion. Air Conditioning Systems. Air Handling and Ventilation. Steam Heating System Design. Noise and Vibration Control. Motors and Starters. Abbreviations and Symbols & Design Procedure. Climatic Design Information. U.S. Customary Unit System. U.S. System and Metric System Conversion. Metric Systems of Measurement.



### Roll Form Tool Design Fundamentals

By William Alvarez  
2006, 128 pages, illus., ISBN 13: 978-0-8311-3290-3, \$27.50

As the only book of its kind available on the subject, this insightful and handy reference acts as a supplement to on-the-job-training by presenting the fundamentals of roll tool design through theory and illustrative examples which include detail of the design calculations. It identifies design decisions that are judgment calls in design examples depicting certain ideas and concepts, thereby helping users develop a feel for the process. It is sure to be useful as a teaching aid for setup personnel and roll form machine operators, as well as a basic reference for tool design personnel.

### Gear Design Simplified, Third Edition

By Franklin D. Jones and Henry H. Ryffel  
1961, 151 pp., illus., ISBN 13: 978-0-8311-1159-5, \$32.95

Contains a series of simply diagrammed gear-designing charts, illustrating solutions to practical problems. Presents all of the rules, formulas, and examples applying to all types of gears. Aids design engineers and manufacturers involved in the production of gears.

### Die Design Fundamentals, Third Edition

By Vukota Boljanovic and J.R. Paquin  
2006, 320 pages, illus., ISBN 13: 978-0-8311-3119-7, \$39.95



Retaining its unique and much praised organization, this leading text has been revised to reflect the most recent developments in design tools. It provides balanced coverage of relevant fundamentals and real-world practices so that students, apprentices and on-the-job professionals can understand the important and often complex interrelationships between die design and the economic factors involved in manufacturing sheet-metal forming products. Following introductory material and a discussion of 20 types of dies in Chapter 2, the design process of a representative die is separated into seventeen distinct chapters. Each chapter is one step which is illustrated in two ways; first, as a portion of an engineering drawing, that is, as the component is actually drawn on the design. Second, the die design is shown pictorially in order to improve the user's visualization. In successive sections each step is detailed as it is applied to the design of the various types of dies listed in Chapter 2.

### Ingenious Mechanisms for Designers and Inventors

Volume I: Franklin D. Jones, 1930, 536 pp., illus., ISBN 13: 978-0-8311-1029-1, \$37.50

Volume II: Franklin D. Jones, 1936, 538 pp., illus., ISBN 13: 978-0-8311-1030-7, \$37.50

Volume III: Holbrook L. Horton, 1951, 536 pp., illus., ISBN 13: 978-0-8311-1031-4, \$37.50

Volume IV: John A. Newell and Holbrook L. Horton, 1977, 493 pp., illus., ISBN 13: 978-0-8311-1032-1, \$37.50

Set of 4: ISBN 13: 978-0-8311-1084-0, \$135.00



Each of the four volumes of Ingenious Mechanisms is an independent treatise on the subject of mechanisms. The books are similar in size and general character, but the contents are different. The mechanisms described are grouped into chapters according to general types. Together with the complete index, this arrangement by function makes it easy to find the class of movement desired and enables you to compare mechanisms which are similar in purpose but different in design. The descriptions and illustrations are confined to the important and fundamental elements, so that time is not wasted reading a lot of useless or irrelevant detail. You are told plainly and briefly what each mechanism consists of, how it operates, and the features which make it of special interest. The particular mechanisms have been selected because they have stood the test of actual practice. Among the mechanisms described and illustrated by working diagrams are: cam applications and special cam designs; intermittent motions from gears and cams; interlocking devices; valve diagrams; reversing mechanisms of special design; tripping or stop mechanisms; drives of crank type for reciprocating driven members; feeding mechanisms and auxiliary devices; feeding and ejecting mechanisms; and many more.

### Manual of Gear Design Sections I,II,III combined

By Earle Buckingham and Eliot K. Buckingham  
ISBN 0-8311-3116-6, \$49.95

This effective manual conveniently gathers together the necessary information required for solving a majority of gear problems.



## Metering Pump Handbook

By Robert E. McCabe, Philip G. Lanckton,  
and William V. Dwyer, All with Pulsafeeder Division/  
CLEVEPAK Corporation

1984, 280 pp., illus., ISBN 13: 978-0-8311-1157-1, \$37.50

An outstanding reference, the Handbook is designed for metering pump designers, and engineers working in all industries. It presents the basic principles of the positive displacement pump; develops in-depth analysis of the design of reciprocating metering pumps and their piping systems; and demonstrates the practical implementation of these concepts through examples of actual pump applications.

## The Valve Primer

By Brent J. Stojkov

1997, 180 pp., illus., ISBN 13: 978-0-8311-3077-0, \$32.95

Written for engineers, operators, and maintenance technicians in the power generation, oil, chemical, paper, and other processing industries, this book provides a basic knowledge of valve types and designs, materials used to make valves, where various designs should and should not be used, factors to consider in specifying a valve for a specific application, how to calculate flow through valves, and valve maintenance and repair. This book also explains the operational basics of the thousands of valves found in power stations, refineries, plants, and mills throughout the world.



## The Art of Gear Fabrication

By Prem H. Daryani

2001, 208pp., illus., ISBN 13: 978-0-3142-5, \$49.95

This in-depth guidebook places emphasis on teaching beginners and advanced planners how to process gears, and will enable manufacturing engineers familiar with machine shop practice to be specialists in the gear manufacturing field.



## Basic Fixture Design

By Paul Campbell

1994, 170pp Illus., ISBN 13: 978-0-8311-3052-7, \$34.95

This lavishly illustrated introduction to fixture design takes the reader from concept to building. It details the mechanics, materials used, commercially available components, design procedures, and economics in basic terms with a focus on actual tooling procedures. Basic Fixture Design provides a full understanding of the design and application of fixture tools and checking fixtures, welding fixtures and procedures, three-dimensional space in checking compound warped surfaces, measurement systems, and the simple mathematics required.



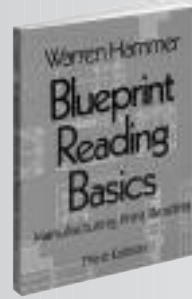
## Plastic Component Design

By Paul Campbell

1996, 250 pp., ISBN 13: 978-0-8311-3065-7, \$47.50

This book explains how different plastics are processed and contains extensive examples of common and unusual plastic components and products with an explanation of how they are manufactured. It also discusses how to choose the best processing method, what fastening or joining methods can be used, and how to use the characteristics of a plastic to judge its suitability for an application.

## Graphics / Drafting



## Blueprint Reading Basics, Manufacturing Print Reading Third Edition

By Warren Hammer

2001, 336pp., illus., ISBN 13: 978-0-8311-3125-8, \$29.95

Written by a seasoned professional with more than 50 years experience in manufacturing, the third edition of this widely-used text and self-training manual has been expanded to include many new and revised worksheets designed to facilitate the reader's ability to form a mental picture from a drawing. Blueprint Reading Basics reviews the subject in great detail using many illustrations and examples, as well as thoroughly reviewing all other aspects of print reading. It includes industry standards, practices, and copies of industrial prints throughout, providing a balanced presentation of blueprint reading theory and industry applications. It is the perfect text for students taking blueprint reading, machine shop, or tool and die courses, as well as machinists, mechanics, technicians, and inspectors.

Available to qualified instructors: Answers to the worksheets; additional Worksheets in Blueprint Reading Plus 5.

## "Como Leer Dibujos Industriales"

By Warren Hammer and Louis Ricardo, translator

2000, 164pp., illus., ISBN 13: 978-0-8311-3126-5, \$24.95

This Spanish-language text consists of the first six chapters of Blueprint Reading Basics, Second Edition. It is designed for students and apprentices whose primary language is Spanish, and may be used alone or as a companion to the English-language edition.



Special 2-Book Set: Blueprint Reading Basics in English & Spanish  
ISBN 0-8311-3144-6 \$40.00

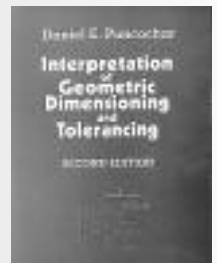
## Interpretation of Geometric Dimensioning and Tolerancing Second Edition

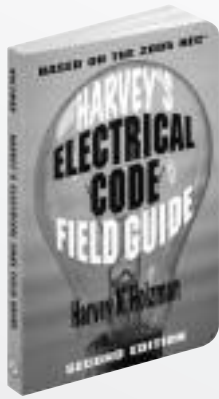
By Daniel E. Puncochar

1997, 160 pp., illus., ISBN 13: 978-0-8311-3072-5, \$29.95

Geometric Dimensioning and Tolerancing (GD&T) has become accepted around the world as the international symbolic language that allows engineers and machinists to use engineering drawings to communicate from the design stage through manufacturing and inspection. Deductively organized, this is a complete on-the-job reference that provides a thorough understanding of the complex ASME Y14M-1994 "Dimensioning and the Tolerancing" standard.

Table of Contents: Introduction. Symbols and Abbreviations. Datums. Feature Control Frames. General Rules. Form and Orientation Tolerances. Virtual Condition. Tolerances of Location. Practical Application Appendices: Plus /Minus Positional Tolerancing, Symbols. Glossary. "Dimensioning and the Tolerancing" Standard.





## Harvey's Electrical Code Field Guide

By Harvey N. Holzman  
2005, 160 pp., illus.

ISBN 13: 978-0-8311-3191-3, \$14.95

Thoroughly updated for the 2005 NEC, this handy book is a "vest pocket" solution to the everyday problems a trade person encounters in the field. Harvey's is a very concise presentation of the basic formulas, tables and charts. Logically structured around the basic NEC code topics, it contains simple, clear illustrations to amplify, clarify and simplify the concepts presented. It's the perfect little guide for anyone who needs a quick and easy to use on-the-job review.

### Distinctive Features

- Completely updated to the 2005 NEC.
- Includes a section of terms with definitions, color codes and symbols.
- Contains simplified tables that are much easier to read.
- Enables you to find formulas fast.
- A unique organization that contains a simple table of contents and logical units organized around the broad NEC categories.



## Basic Industrial Electricity: A Training and Maintenance Manual

By Kenneth G. Oliver  
1990, 384 pp., illus.,

ISBN 13: 978-0-8311-3006-0, \$42.50

This is a basic training and maintenance manual written to explain the principles involved in the operation of electrical equipment in an average industrial plant. Basic Industrial Electricity offers a "hands-on" approach and will serve as a general guide for maintenance electricians. It will enable them to see how their equipment functions and what is required to maintain it.

## Maintaining & Troubleshooting Electrical Equipment

By Roy Parks and Terry Wireman  
1987, 179 pp., illus., ISBN 13: 978-0-8311-1164-9, \$27.50

Intended for industrial training for apprentices and in refresher courses for journeymen, this easy-to-understand book presents this technical subject in as non-technical language as possible. It moves rapidly from the basic laws of electricity to control components and machines, while providing valuable maintenance and troubleshooting hints.



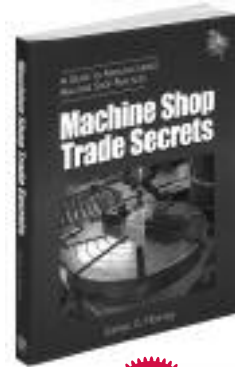
## Machine Shop Trade Secrets A Guide to Manufacturing Machine Shop Practices

By James A. Harvey

2005, 320 pp., illus., ISBN 13: 978-0-8311-3227-9, \$39.95

Written by an experienced machinist and plastic injection mold maker, this groundbreaking manual will have users thinking and producing like experienced machinists. Machine Shop Trade Secrets provides practical "how-to" information that can immediately be put to use to improve one's machining skills, craftsmanship, and productivity. It is sure to be used and referred to time and again. You will discover ways to:

- Surface grind blocks, pins and shapes.
- Work faster.
- Cut threads, knurl parts and eliminate warp.
- Choose realistic feeds, speeds and depths of cut.
- Select, make, and grind cutters.
- Remove broken taps, drill bits and other hardware.
- Improve indicating skills and develop a "feel" for machining.
- Apply proven CNC techniques to maximize output.
- Improve surface finishes and hold tighter tolerances.



## Hazardous Chemicals Safety and Compliance Handbook for the Metalworking Industries

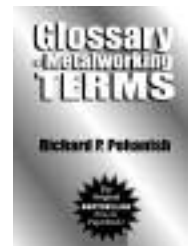
By Richard P. Pohanish and Stanley A. Greene  
2006, 530 pages, illus., ISBN 13: 978-0-8311-3261-3, \$89.95

This unique handbook provides operators and technicians in the metalworking, machining, and metal finishing industries with an easy-to-use, single-volume guide to the hazardous materials commonly found in the above sectors. Containing detailed information on nearly 450 chemical hazards, this work provides identifiers (foreign and domestic); trade names and chemical synonyms; physical properties; short- and long-term health effects; guidelines for exposure; respirators; warnings; incompatibilities; fire data; and OSHA, EPA, California, and Canadian safety recommendations and regulations. No other reference offers this kind of integrated compilation of safety and environmental compliance data or directory information related to these industries. You will need no other reference!

## Glossary of Metalworking Terms

By Richard P. Pohanish  
2003, 384pp, illus., ISBN 13: 978-0-8311-3241-5 \$24.95

As the only modern glossary of terms related to the fabrication and use of metals and metallurgy, Glossary of Metalworking Terms covers more than 4,000 essential general and functional terms used in all areas related to metalworking and manufacturing technology. Coverage includes CNC and some information on plastics. Entries are cross-referenced to make related topics instantly accessible. This handy glossary is sure to be a valuable tool for students and professionals working in any of the subdivisions of engineering, science, and related fields; for secondary school, public, college, military, and industrial libraries; and for management personnel in a wide variety of industrial areas, including sales and purchasing.



## Sheet Metal Forming Processes and Die Design

By Vukota Boljanovic

2004, 400 pp., illus., ISBN 13: 978-0-8311-3182-1, \$48.50

Written by an engineer with decades of practical manufacturing experience, this book is a complete modern guide to sheet metal forming processes and die design – still the most commonly used methodology for the mass-production manufacture of aircraft, automobiles, and complex high-precision parts. It illustrates several different approaches to this intricate field by taking the reader through the “hows” and “whys” of product analysis, as well as the techniques for blanking, punching, bending, deep drawing, stretching, material economy, strip design, movement of metal during stamping, and tooling. While concentrating on simple, applicable engineering methods rather than complex numerical techniques, this practical reference makes it easier for readers to understand the subject by using numerous illustrations, tables, and charts.



## Machine Shop Training Course, Fifth Edition

By Franklin D. Jones

Volume I: 1964, 570 pp., illus., ISBN 13: 978-0-8311-1039-0, \$23.50

Volume II: 1964, 566 pp., illus., ISBN 13: 978-0-8311-1040-6, \$23.50



Packed with facts and rules that students can put to use in the shop and toolroom, they include everything from underlying principles, to standards, to calculations for every specific task in shop training. Together, they provide an outstanding treatise on machine shop practice that includes: fundamental principles; methods of adjusting and using different types of machine tools – with typical examples of work-measuring instruments and gauges; cutting screw threads by different processes; thread grinding; gear cutting; precision toolmaking methods; typical shop problems with solutions; and miscellaneous facts relating to the art of machine construction and much, much more. No classroom or workshop where apprentices are being trained can afford to be without these valuable combination text and reference guides.

## The Metal Stamping Process

By James Szumera

2003, 224pp., CD Included, illus.

ISBN 13: 978-0-8311-3164-7, \$59.95



The Metal Stamping Process is an invaluable resource for anyone involved in or preparing for a career in the metal forming industry. It was written by an expert with over 30 years of practical experience, and it has been used for years as the core reference for what is widely regarded as the premier training program in this industry. With this book you will have immediate access to metalworking formulas, design standards, set up techniques, guidelines for designing and tolerancing parts, material choices, EDM, coatings, lubricants, problems and root causes, tooling tips, machine maintenance and mil standards. Also included is ProQuote, a complete and simple-to-use Excel program for cost estimating. It will help ensure that your calculations are correct and save you time besides.

## Metal Cutting Tool Handbook 7th Edition

United States Cutting Tool Institute

1989, 795 pp., illus., ISBN 13: 978-0-8311-1177-9, \$57.50

Combining theory with application to explain basic scientific and economic concepts of the subject, this in-depth reference explains how to intelligently select the most economical cutting tools, materials, and supplies, all unknowns to consider before making cutting decisions. It provides detailed examples of how to apply theory to application and contains 106 illustrative problems, 27 technical data tables, and 125 end-of-chapter problems.

## Advanced Metalcutting Calculators

Presented in U.S. and Metric Units Milling, Turning, Boring, Drilling, and Machining Time

By Edmund Isakov, Ph.D.

2005, CD-ROM, illus., ISBN 13: 978-0-8311-3211-8, \$74.95



This Software package contains four calculators, each for major metalcutting operations: Milling, Turning, Boring, Drilling, and one calculator for exact machining time when facing, cutting off, and deep grooving. All calculators are developed in Microsoft Excel, and execute all parameters in both U.S. and Metric units of measure. These calculators provide more accurate computations than any other calculators on the market. They are unique in computing cutting forces, torque values, and required machining power. Additionally, feed and radial cutting forces are calculated by the Turning and Boring Calculator (covered by U.S. Patent No. 6,836,697).

## Straightening Titanium Alloy Parts

By Edward F. Rossman August 2007, 80 pages, illustrated, ISBN 978-0-8311-3334-4, \$24.95



Unlike any other book, this practical and proven guide will provide you with a foundation for determining causes and remedies for warpage in titanium alloy part fabrication. It discusses methods for straightening titanium alloy and describes criterion for selecting the most appropriate straightening process. You'll never have to fight distortion or throw away warped titanium parts again!

### Distinctive Features

- Discusses in detail the causes of warpage of titanium alloy airframe parts.
- Provides proven steps that can be taken to prevent warpage.
- Offers recipes for straightening titanium parts—straightening in a gas furnace, straightening in an electric furnace, straightening in a vacuum furnace, straightening cold, straightening by shot peening, straightening using black smithing techniques.

## Engineering Formulas for Metalcutting

Presented in Customary U.S. and Metric Units

By Edmund Isakov, Ph.D. 2004, 208pp, illus.,

ISBN 13: 978-0-8311-3174-6, \$24.95



A unique and invaluable resource, this book enables users to calculate speeds, feeds, and required machining power in order to maximize the productivity of cutting in both U.S. and metric units. Providing information on formulas and their applications in a concise and clearly arranged form, it describes mechanical properties of the most popular work materials, such as steels, cast irons, and nonferrous alloys. It will be found especially useful in situations in which initial estimates are required for getting maximum productivity from machine tools.

## Special Offer Order Both for \$89.95

use ISBN 13: 978-0-8311-3212-5



## Jig and Fixture Design Manual

By Erik K. Henriksen

1973, 312 pp., illus., ISBN 13: 978-0-8311-1098-7, \$46.95

Written for the experienced engineer as well as the student, this comprehensive and easy-to-understand reference presents the fundamental principles for combining the components into successful fixtures. It includes metric conversion tables and appendices on transfer tolerances, measuring of tolerances, measuring of angles in radians, and the dimensioning of fixtures by stress analysis.

## Die Makers Handbook

By Jerry Arnold

2000, 224 pp., illus., ISBN 13: 978-0-8311-3132-6, \$27.95

Written, illustrated, and edited by an experienced die maker, this book is a compact, easy-to-use reference. Most of its very practical content was learned on the job, and it has been expressly prepared to help avoid the pitfalls associated with stamping designs, die designs and stamping die function. With numerous illustrations, this book is especially designed for advanced apprentices, journeymen and students of die design.



## The Tool Steel Guide

By James Szumera

2003, 80pp, illus., ISBN 13: 978-0-8311-3171-5, \$22.95

The Tool Steel Guide is packed with specifications, heat treatments and applications of all types of die and mold steels, as well as ideas and suggestions on how to prepare steels for machining and heat treatment. You will also find helpful information about avoidance techniques in design, finishing, grinding, electrical discharge machining and welding. This handy and convenient guide will go a long way in helping dispel the air of mystery that for many years has surrounded the selection, heat treatment and use of tool steels. It will be found useful by tool makers, die makers, mold makers, die and tool designers, mold designers, machinists and apprentices.



## Machine Shop Practice, Second Edition

By Karl H. Moltrecht

Volume I: 1981, 496 pp., illus. ISBN 13: 978-0-8311-1126-7 \$27.50

Volume II: 1981, 496 pp., illus. ISBN 13: 978-0-8311-1132-8 \$27.50

Everything the apprentice or on-the-job professional needs to know about the intelligent and efficient operation of machine tools is here. Enhanced by over 760 illustrations and 70 tables, these editions offer sections on numerical control; grinding wheels, single point cutting tools and tool wear; basic drilling machine setups; and formulas for estimating the power required for planing. Additionally, greater attention has been given to methods of setting up the workpiece on milling machines, horizontal boring machines, planers, and shapers.



## Shop Reference for Students and Apprentices, 2nd Edition

Edward G. Hoffman and Christopher J. McCauley, editors 2001, 544pp., illus., ISBN 13: 978-0-8311-3079-4, \$24.95

From the ability to understand and use shop mathematics to the reading and interpreting of shop drawings, the editors' intent is to provide the information and know-how that students will need as they prepare themselves for jobs in metalworking industries. It includes material taken from Machinery's Handbook and other authoritative sources and is presented in as clear, accurate, and easy-to-follow form as possible.



## Guide to World Screw Threads

Edited by P.A. Sidders

1969, 318 pp., illus., ISBN 13: 978-0-8311-1092-5, \$34.95

An excellent overview of all standards for users and producers of fasteners and equipment designers who must specify fasteners. Provides encyclopedic coverage of the different types of threads standardized throughout the world. Includes Unified and American thread series; American translational and American pipe threads; British threads of Whitworth and non-Whitworth forms; ISO metric threads; French automobile and German and Swiss metric.



## Machine Tool Technology Basics

By Steve Krar, Arthur Gill, Peter Smid and Paul Wanner

2003, 416 pp, illus., Includes CD, ISBN 13: 978-0-8311-3134-0, \$57.50



This text is designed for beginning machine trades students; industrial machine tool training; and practitioners who wish to review topics that they have not used for some time. Divided into three sections, it starts with basic metal-removal operations of conventional machines, progresses to CNC machines, and finishes with CAD/CAM. As an easy to understand and use reference, it keeps operations brief and highlights related information that is not part of the operation. It offers practical examples on basic operations, CNC programming and CAD/CAM designing in an easy-to-follow point form, and provides review questions at the end of each unit. It also contains a section on careers.

## Basic Machining Reference Handbook, Second Edition

By Arthur R. Meyers and Thomas Slattery

2001, 299 pp., ISBN 13: 978-0-8311-3120-3, \$39.95

As a comprehensive and easy-to-use hands-on source, Basic Machining Reference Handbook is intended to serve as a memory jog for the experienced, as well as a reference for programmers and others who will not do the machining but do need to know exactly what's involved in performing a given machining step, a series of steps, or a complete job. The second edition features expanded chapters on numerical control and computerized operations, additional speeds and feeds tables, general troubleshooting concepts, and a basic review of relevant computer terms and applications. Logically organized, this time-tested reference starts with those machining steps that most often begin the machining process and moves through the basic machining operations. It is a must-have resource for experienced machinists; programmers tooling, design and production engineers; and students.



## 100 YEARS IN MAINTENANCE AND RELIABILITY

Practical Lessons from Three Lifetimes at Process Plants

By V. Narayan, James W. Wardhaugh, Mahen C. Das Sept. 2007, 350 pages, illustrated, ISBN 13: 978-0-8311-3323-8, \$49.95



This unique and practical book describes 42 real-life events and/or situations in the careers of the three authors from which they gained insights into the applicable best practices in maintenance and reliability. The authors explain the underlying philosophies where relevant, drawing on the teachings of the leading thinkers in leadership and management. Designed to share knowledge and experience with the readers, in a readily accessible fashion, this resource does not tell the readers what to do or how to do it; it merely explains the event or situation the authors faced, and how they dealt with it. Readers can choose whether they wish to adopt or adapt the authors' examples. These stories are dynamic illustrations of real life situations which readers will recognize in their own work situations. With a vast potential for improvements in reliability and maintenance performance in industry, these well-proven approaches and best practices are sure to help stimulate improved performance on all fronts—safety and environmental, production, maintenance costs, and reputation!

## Lubrication for Industry, 2nd Ed.

By Kenneth E. Bannister

2006, 256 pp, illus., ISBN 13: 978-0-8311-3278-1, \$37.50



With over 70% of bearing failures attributed to ineffective lubrication practices, no one involved in asset management can afford to pass up this new edition. As a clear, concise, practical introduction to the world of industrial lubrication, the second edition dispels the myths surrounding lubrication and helps users develop a keen sense and understanding of how lubrication directly and indirectly impacts machine reliability, availability, and ultimately, the bottom line. Readers will find practical advice that will allow them to put in place a viable lubrication management program and effectively troubleshoot lubrication related problems immediately, while offering essential information required to significantly reduce equipment downtime and increase life cycle management. Vital information and practical methods not currently taught in apprenticeship and engineering programs.

Readers will find practical advice that will allow them to put in place a viable lubrication management program and effectively troubleshoot lubrication related problems immediately, while offering essential information required to significantly reduce equipment downtime and increase life cycle management. Vital information and practical methods not currently taught in apprenticeship and engineering programs.

## Appraising Management Performance

### The Bubble Management Approach

By Eugene C. Moncrief and Kevin M. Curran

2006, 352 pages, illus., ISBN 13: 978-0-8311-3279-8, \$49.95



This is the only reference of its kind that addresses the use of probability theory to quantify the management appraisal process. Using Value-Based Risk Management (VBRM) it illustrates how

management executives set quantitative goals and monitor the goals using tactical plans and unique control charts. Once preliminary goals are set, the probability of achieving them is determined and the attention of management is directed to actions that can improve opportunities and reduce bottom-line risks. In addition, it includes numerous case studies showing how the Process can be used to appraise management against goals in production, service, and not-for-profit enterprises, as well as concise tactical plans for controlling management and employee activities, "close-line" charts for monitoring performance, probability profiles, management action charts, and much more.

## Managing Factory Maintenance 2nd Ed.

By Joel Levitt

2005, 298pp., illus., ISBN 13: 978-0-8311-3189-0, \$44.95

This new edition of a classic first educates readers about the globalization of production and the changing of the guard of maintenance leadership, and then gives them real usable ideas to aid in these areas. Completely reorganized so that material is presented within the context of major sections, the second edition tells the story of maintenance management in factory settings. It provides: potential problems and new opportunities, what bosses really want, specifics to improvement of maintenance and production, World Class Maintenance Management revisited and revised, evaluating current maintenance practices, quality improvement, maintenance processes, maintenance process aids, maintenance strategies, maintenance interfaces, and personal development.



## Production Spare Parts: Optimizing the MRO Inventory Asset

By Eugene C. Moncrief, Ronald M. Schroder, and Michael P. Reynolds

2006, 350pp., illus., ISBN 13: 978-0-8311-3228-6, \$44.95

The overall objective of this book is to instruct readers in how to optimize their company's spare parts asset. This compilation of the best techniques and practices for optimizing MRO inventory offers numerous case studies showing the best and not so good ways to improve plant inventory performance. Practical solutions to everyday inventory problems, it uses simple, but useful metrics for setting and monitoring goals.

## Maintenance Management & Regulatory Compliance Strategies

By Terry Wireman

2003, 208pp, illus., ISBN 13: 978-0-8311-3127-2, \$42.50

Written by a recognized expert and unlike any other resource in the field, Maintenance Management and Regulatory Compliance Strategies is designed to create awareness of how a company's maintenance management function can contribute or detract from its compliance with regulatory requirements. Featuring an overview of the four major compliance programs, this unique reference provides a cross-section of regulations for each program that maintenance may impact, including some little-known regulations of which many companies may be surprised to find themselves in violation. It is sure to be a valuable asset to anyone in a maintenance organization responsible for their maintenance program, as well as those individuals responsible for compliance issues in a company.



## The Maintenance Scorecard Creating Strategic Advantage

By Daryl Mather

2005, 320 pp, illus., ISBN 13: 978-0-8311-3181-4, \$44.95

This is the first book to seriously tackle the subject of bringing Asset Management into line with other areas of corporate activity. Through a unique adaptation of the balanced scorecard approach to asset management, it provides a structured approach for both the development of strategy and its implementation. Additionally, readers will find a catalogue of indicators along with their uses and weaknesses, a definitive guide to measuring the success of RCM programs, and a logical format that leads them from start to finish with information and hints on each phase of the maintenance scorecard approach. If your company needs to manage physical assets, you need this book!





## A New Strategy For Continuous Improvement: 10 STEPS TO LOWER COSTS AND OPERATIONAL EXCELLENCE

By Phillip Slater 2006, 150 pp., illus., ISBN 13: 978-0-8311-3320-7, \$39.95

Developed from the author's own practical experience, this unique resource details a proven, 10-step approach to cost reduction, and provides a series of tools to help you achieve sustainable cost reduction in your business while avoiding the damage of "slash and burn". A New Strategy for Continuous Improvement presents a new 'Operations Improvement Cycle'. This cycle provides the benchmark, priority and guidance that were missing in the original cycle. This is achieved through a three-stage process involving 10 specific steps. Additionally, it explores the issues with the traditional approach to continuous improvement and cost reduction and then takes you through the three stages and the '10 Steps' in detail. Working with this manual will change your approach to cost reduction forever. Not only will you save money on an ongoing basis, but these proven techniques will have an impact almost immediately!



## Smart Inventory Solutions

7 Actions for MRO and Indirect Inventory Reduction

By Phillip Slater 2006, 150 pp., illus., ISBN 13: 978-0-8311-3321-4, \$39.95

Smart Inventory Solutions is the result of the author's time spent working with clients and studying the issues people face in trying to achieve their inventory reduction. This landmark manual shows you the seven Actions for Inventory Reduction so you can easily, efficiently, and sustainably achieve your inventory reduction, free up cash, and reduce your costs without risk and impact on your capability. Additionally, it shows you the author's self-developed Inventory Cash Release Process™ to follow, the mistakes to avoid and a sure fire approach that minimizes your workload. In fact you'll learn how to generate better results for these types of inventory.

## COMMITTED TO YOUR MAINTENANCE NEEDS!



# INDUSTRIAL PRESS INC.

Maintenance and Reliability

# The Journey to Improved Business Performance

By Stephen J. Thomas May 2008, 220pp, illus., ISBN 13: 978-0-8311-3363-4, \$21.95

Written in a very engaging manner, this book teaches the essential concepts associated with change management in a highly unique manner. It is not a textbook, but rather a business novel in which the main character, Todd Bradley struggles to learn the skills necessary to save his company, his plant, and in many ways himself. While the storyline is fictional account about business change made in a plant environment, readers will quickly realize that the tools found here can be successfully applied in all lines of business. Anyone working to make a change for the better in their business will benefit from this book.



## Special Features

- Written in a way that readers can quickly apply the knowledge gained.
- Features all of the concepts taught in the author's first two books—Successfully Managing Change in Organizations and Improving Maintenance & Reliability Through Cultural Change.



## Improving Reliability and Maintenance From Within: How To Be an Effective Internal Consultant

By Stephen J. Thomas Available, 2007 350 pages, illustrated, ISBN13: 0-978-0-8311-3332-0, \$44.95

This unique book is perfect for those who are internal consultants...and may not know it... recognize the value of their efforts and help them learn the skills required to optimize their performance. It explains the internal consultant's role and describes the various tasks in which they become engaged. What's more, it provides information that will enable users to improve their performance and deliver greater value. Also included is the Internal Consultant's Web of Change—a tool that will help individuals recognize their strengths and their areas that need improvement. This practical resource does more than start internal consultants on the road to improvement, it accompanies them on the journey! Upper management looking to understand internal consulting, middle tier reliability and maintenance management, and those who hold "special projects" positions will find Improving Reliability and Maintenance From Within extremely useful.



## Improving Maintenance & Reliability Through Cultural Change

By Stephen J. Thomas 2005, 256 pp., Illustrated, ISBN 13: 978-0-8311-3190-6, \$43.95

This unique and innovative book explains how to improve your maintenance and reliability performance at the plant level by changing the organization's culture. It is specifically intended for middle managers in the manufacturing and process industries. This book demystifies the concept of organizational culture and links it with the eight elements of change: leadership, work process, structure, group learning, technology, communication, interrelationships, and rewards. If you want to break the cycle of failed improvement programs and instead use cultural change to help make significant and lasting improvements in plant performance, this book will show you how.



## Workbook for Improving Maintenance & Reliability Through Cultural Change

By Stephen J. Thomas 2006, 400 pages, illus., ISBN 13: 978-0-8311-3276-7, \$24.95

- Contains exercises that will provide an in-depth understanding of the material as it relates to the specific circumstances of your organization.
- Logically organized, so that the workbook chapters complement the corresponding chapters in the book.
- Works as an effective group-learning tool to use with your peers and managers to help you collectively think about the book's key concepts and relate them to your efforts.
- Provides chapter summaries through definitions, charts, and lists.
- Includes valuable forms that can be copied and used to work through the change process.
- Contains numerous writing exercises, checklists and work activities, helping to clarify the issues that exist within your organization.



## Successfully Managing Change in Organizations: A User's Guide

By Stephen J. Thomas 2001, 256 pp., illus. ISBN 13: 978-0-8311-3149-4, \$44.95

Written by a user for users, Successfully Managing Change in Organizations: A User's Guide is designed for all managers who have been given the difficult task of bringing change to their organizations and making it stick. Unlike other books of its kind, it draws on the author's wealth of practical and proven experience and demonstrates that eight key elements of change are interrelated, and that they constitute a Web of Change.

### Successfully Managing Change in Organizations:

GRAPHICS DISK 2002, CD-ROM illus., ISBN13: 978-0-8311-3161-6, \$29.95

Successfully Managing Change in Organizations: WORKBOOK 256 pp, illus., ISBN 13: 978-0-8311-3156-2, \$27.50

COMBO SET: Book, workbook, Disk, ISBN13: 978-0-8311-3176-5, \$89.95





## Managing Maintenance Shutdowns and Outages

By Joel Levitt

2004, 208 pp, illus., ISBN 13: 978-0-8311-3173-9, \$44.95

Lower costs immediately just from reading and using this unique reference! Originally designed as an intensive course and then honed over many years, *Managing Maintenance Shutdowns and Outages* organizes the details of maintenance shutdown into a manageable form by introducing all of the steps to a successful shutdown or

outage. It includes detailed steps for each phase (initiation, planning, execution, closeout, lessons learned), massive master lists of everything users will need to do for each phase of shutdown, and numerous checklists that can immediately be put to use. With many examples, maintenance managers, project engineers, supervisors, maintenance engineers, planners and clerks working in any heavy maintenance environment will find this to be a useful and practical guide.



## Complete Guide to Predictive and Preventive Maintenance

By Joel Levitt,

2003, 256pp., illus., ISBN 13: 978-0-8311-3154-8, \$42.50

A culmination of 15 years of research, teaching, and consulting, *Complete Guide to Predictive and Preventive Maintenance* shares the best practices, mistakes, victories, and essential steps for success which the author has gleaned from working with countless organizations. Unlike other books that only focus on the engineering issues (task lists) or management issues (CMMS), this in-depth resource is the first to give true emphasis to the four aspects of success in preventive maintenance systems—engineering, management, economic, and psychological. This in turn will give you a balanced view and understanding of what is happening in your organization. Blending concrete actionable steps and structures with the theory behind the steps, *Complete Guide to Predictive and Preventive Maintenance* is sure to be valuable to maintenance directors, maintenance managers, maintenance engineers, planners, maintenance Supervisors, PM group leaders, and PM mechanics.



## Total Productive Maintenance Second Edition

By Terry Wireman

2004, 224pp, illus., ISBN 13: 978-0-8311-3172-2, \$42.95

Written for anyone who is considering implementing or currently using TPM or looking for ways of improving their current process, the second edition focuses on the financial approach to the subject—a methodology that produces quantifiable results allowing a TPM program to be sustainable. Completely revised and updated, this classic reference is the most flexible and comprehensive approach documented to date. Additionally, it offers a significant amount of new material, such as:

1. Various case studies that show how to explain the value of OEE to everyone in the organization from the senior executive to the shop floor personnel. 2. OEE discussions showing how to “dollarize” results and present the financial terms to executive financial personnel. 3. A clarification of the goals and objectives of TPM, allowing TPM Champions to clearly present a TPM business case to their organizations. 4. The pitfalls that may be encountered during TPM implementation and how to avoid or correct these problems.



## Maintenance Planning, Scheduling & Coordination

By Don Nyman and Joel Levitt

2001, 320pp., illus., ISBN 13: 978-0-8311-3143-2, \$44.95



Well-planned, properly scheduled, and effectively communicated jobs accomplish more work, more efficiently, and at a lower cost. This work will disturb operations less frequently, and be accomplished with higher quality, greater job satisfaction, and higher organizational morale than jobs performed without proper preparation. *Maintenance Planning, Scheduling and Coordination* focuses on and deals specifically with the preparatory tasks that lead to effective utilization and application of maintenance resources. It is a vital training document for planners, an educational document for those to whom planners are responsible, and a valuable guide for those who interface with the planning and scheduling function and are dependent upon the many contributions of planning and scheduling operational excellence.

## Reliability-Centered Maintenance, Updated Second Edition, v 2.3

By John Moubray 1997, 448 pp., illus., ISBN 13: 978-0-8311-3146-3, \$58.50

Widely recognized by maintenance professionals as the most cost-effective way to develop world-class maintenance strategies, reliability-centered maintenance is a process used to determine, systematically and scientifically, what must be done to ensure that physical assets continue to do what their users want them to do. The author and his associates have helped users apply RCM and its more modern derivative, RCM2, at more than 600 sites in 32 countries. The second edition has been comprehensively revised to incorporate more than 100 pages of new material on condition monitoring, the analysis of functions and failures, human error, the management of risk, failure-finding, and the measurement of maintenance performance. This book will be of immense value to maintenance managers, and to anyone else concerned with the reliability, productivity, safety, and environmental integrity of physical assets.



## Maintenance Management Auditing In Search of Maintenance Management Excellence

By Anthony Kelly

2006, 308 pages, illus., ISBN 13: 978-0-8311-3267-5, \$49.95

In this book, Anthony Kelly explains the unique procedure he's developed for auditing the management of the maintenance of both productive plant and infrastructures: for example, of petrochemical processing installations and of vehicle fleets. Case studies demonstrate the application of this procedure to comprehensive audits of several weeks duration, to fingerprint audits taking perhaps a day or so, and to benchmarking exercises.

Industrial managers absorbing the ideas and procedures presented in this book will be better able to audit for themselves their own maintenance departments, or to specify such audits when they are to be undertaken by external consultants. Such investigations will highlight existing problems and identify their causes – a necessary process before embarking on major organizational or system change.



## Benchmarking Best Practices in Maintenance Management

By Terry Wireman 2004, 228pp., illus.,  
ISBN 13: 978-0-8311-3168-5, \$44.95



Maintenance is a unique business process. To be successfully managed, it requires an approach different from other business processes. Unlike any other reference in its field, this book provides a framework for managing maintenance with options that allow decision makers to select the most successful ways to manage their businesses. In a concise and easy-to-use format, it provides users with all the necessary tools and information needed to properly benchmark their maintenance function.

## Effective Maintenance Management: Risk and Reliability Strategies for Optimizing Performance

By V. Narayan  
2004, 264 pp, illus., ISBN 13: 978-0-8311-3178-4, \$47.50



Providing readers with a clear rationale for doing maintenance management, this unique guide is written in a language and style that practicing engineers and managers can understand and apply easily. Effective Maintenance Management examines the role of maintenance in minimizing the risks relating to safety or environmental incidents, adverse publicity, and loss of efficiency. In addition to discussing risk reduction tools, it explains their applicability to specific situations so readers can select the tool that fits their requirements. Helping to bridge the gap between designers/maintainers and reliability engineers, this guide is sure to help businesses utilize their assets effectively, safely, and profitably.

## The Handbook of Maintenance Management

By Joel Levitt  
1997, 477 pp., ISBN 13: 978-0-8311-3075-6, \$59.95



This unusually comprehensive book is intended to be used in different ways by different groups. It was designed as a complete survey of the field for students or maintenance professionals, as an introduction to maintenance for non-maintenance people, as a review of the most advanced thinking in maintenance management, as a manual for cost reduction, a primer for the stockroom, and as an element of a training regime for new supervisors, managers and planners.

## Energy Reduction Through Improved Maintenance Practices

By Kenneth E. Bannister  
1999, 128 pp, illus., ISBN 13: 978-0-8311-3082-4, \$29.95



This book focuses on the use of various predictive or condition-based maintenance tools and methods intended to highlight the loss of electrical energy in industry. It also provides many quick tips for energy savings, often at little or no cost or capital outlay. The author has broad experience as a consultant to industry and is an editor for Plant Engineering Magazine.

## Developing Performance Indicators for Managing Maintenance, Second Edition

By Terry Wireman  
2005, 288 pp, illus., ISBN 13: 978-0-8311-3184-5, \$41.95



This book is designed to provide the key details on how to measure and improve one of the most important functions in an organization today: Equipment or Asset Maintenance Management. As one of only a handful of comprehensive collections of performance indicators for managing maintenance in print today, this book is distinguished by its use of techniques based on a variety of management measurement systems, such as the Balanced Scorecard approach. While the previous edition primarily concentrated on the basic indicators for managing maintenance and how to link them to a company's financials, this new edition goes further by also addressing recent advancements in the management of maintenance. This book is an invaluable tool for any company that wants to effectively measure and manage the entire spectrum of maintenance activities to help achieve competitive advantage. Such companies view maintenance as a way to reduce costs of producing their product or providing their services and are intent on using this cost advantage to lower prices, improve profit margins, and improve shareholder value.

## Overall Equipment Effectiveness: A Powerful Production Maintenance Tool for Increased Profits

By Robert C. Hansen  
2001, 256 pp., illus., ISBN 13: 978-0-8311-3138-8, \$44.95

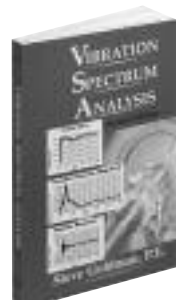
Written primarily for those responsible for the reliability of equipment and the production operation, this innovative book centers on developing and measuring true Overall Equipment Effectiveness (OEE). The author demonstrates that true OEE correlates with factory output, provides a methodology to link OEE with net profits that can be used by reliability managers to build solid business cases for improvement projects, and draws on his own experience by presenting successful improvement applications in every chapter.



## Vibration Spectrum Analysis, Second Edition

By Steve Goldman  
1990, 272 pp, illus., ISBN 13: 978-0-8311-3310-8, \$42.50

Written in a clear, understandable style, this second edition of Vibration Spectrum Analysis includes new information on current instrumentation, as well as additional appendices, case histories and practice questions. Vibration analysts, predictive maintenance specialists, and field mechanics will find valuable information on using the latest techniques of spectrum analysis in solving problems and enhancing machine reliability in this key reference text. A book good for both engineers and non-engineers alike.



Now in Paperback!



# Manufacturing

## Handbook of Manufacturing Processes

How Products, Components and Materials are Made

By James G. Bralla

2007 864 pp., illus., ISBN 13: 978-0-8311-3179-1, \$115.00

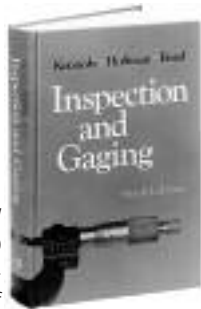


In-depth compilation of the workings of more than 1500 different manufacturing processes in metalworking, chemicals, textiles, plastics, ceramics, electronics, wood and food industries; as well as how more than 600 important products, components, and materials are made. Anyone who has an interest in or needs to know about manufacturing operations and products will not easily find this anywhere else.

## Inspection and Gaging Sixth Edition

By Clifford W. Kennedy, Edward G. Hoffman, and Steven D. Bond

1987, 654 pp., illus., ISBN 13: 978-0-8311-1149-6, \$42.95

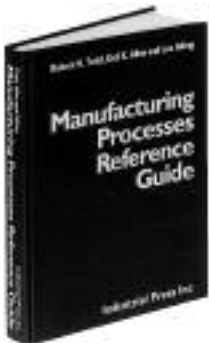


This comprehensive reference provides the many phases of inspection work and their applications to manufacturing operations through a practical, down-to-earth presentation. Analyzing the methods and duties of inspectors, this highly acclaimed training manual discusses a range of manual and automatic measuring devices along with their specific functions and the specialized functions involved in their use. It is appropriate for inspection supervisors, plant managers, quality control engineers, and subcontractors.

## Manufacturing Processes Reference Guide

By Robert H. Todd and Dell K. Allen, both Brigham Young University, and Leo Alting, Technical University of Denmark

1994, 512 pp., illus., ISBN 13: 978-0-8311-3049-7, \$54.95



Arguably the most informative reference book about manufacturing to appear since 1914 and the publication of Machinery's Handbook! Written by a team of educators with unmatched experience, in collaboration with a consortium of industrial representatives

from Black and Decker, Boeing, Caterpillar, General Motors, Grumman, Tektronix, Texas Instruments, Westinghouse, and Xerox, it provides thorough descriptions of 126 of the most important processes available to industry today. Organized in families based on their common characteristics, each process is comprehensively illustrated, defined, and explained to give the reader a full understanding of the process and its applications. In over 500 oversized pages, this important resource encompasses the entire spectrum of manufacturing, from "Abrasive Jet Machining" to "Wire Drawing." When used with Fundamental Principles of Manufacturing Processes, it provides all the information needed to choose a process ideally suited to your specific manufacturing requirements.

## Industrial Control Handbook 3rd Ed.

By E.A. Parr 1999, 896 pp, illus., ISBN 13: 978-0-8311-3085-5, \$74.95



A standard reference work for practicing engineers. If you are a maintenance engineer trying to solve a problem, or if you want to work out practical solutions without recourse to advanced mathematics. Theoretical structures and mathematics are strictly part of the engineer's toolkit—not an end in themselves. The third edition includes new chapters on the increasingly important topic of industrial safety and the emergent subject of mechatronics.

## CAM Design and Manufacturing Handbook

By Robert L. Norton

2001, 640pp., illus., ISBN 13: 978-0-8311-3122-7 \$89.95



Written by a professional with extensive practical and teaching experience in mechanical engineering, The Cam Design and Manufacturing Handbook brings together up-to-date cam design technology and cam research in one volume for the design and manufacturing of cam-follower systems. Beginning at an introductory level and progressing to more advanced topics, this comprehensive handbook includes complete coverage of:

Proper Cam Design. Single and Multi Dwells. Classical Cam Functions. Polynomial Cams. Spline Functions. Pressure Angles & Radius of Curvature. Radial and Barrel Cams. Translating & Oscillating Followers. Roller & Flat-Faced Followers. Forward & Inverse Dynamics. Residual Vibrations. Polydyne & Splinedyne Cams. Cam Profile Definition. Cutter Compensation. Conjugate Cams. Cam Materials & Manufacturing Techniques. Analysis of the Cam Follower Joint. Lubrication of the Cam Follower Joint. Measurement of Cam Follower Dynamics. Case Studies from Automotive & Automated Manufacturing. Bibliography.

## Exploring Advanced Manufacturing Technologies

By Steve Krar and Arthur Gill

2003, 448 pp., illus., ISBN 13: 978-0-8311-3150-0, \$54.95



Manufacturers wishing to survive over the long term must strive to become world-class competitors. These firms should be replacing obsolete methods, processes, and systems with a structure based on the latest technology and best human resource utilization. As a unique ready reference, this title provides information on many new technologies and is designed for those who do not have time to undertake the necessary research. Each topic addresses the following points:

1) a brief description of the technology and where it is used 2) the underlying theory and principles and how the technology works 3) where the technology can be used and what conventional process it may replace 4) the requirements necessary to make it work and some possible pitfalls 5) advantages and disadvantages.

## Assembly Automation: A Management Handbook, Second Edition

By Frank J. Riley 1996, 320 pp., ISBN 13: 978-0-8311-3041-1, \$55.00



This book provides a thorough overview of management, engineering, and machine operator considerations necessary to ensure successful specification, procurement, design, manufacture, installation, and sustained productivity of new assembly systems. Additional emphasis has been placed on how corporations can employ an integrated systems approach to automatic assembly to respond to issues of growing importance including product quality, productivity, global manufacturing competitiveness, and increasingly aggressive consumerism.

## Fundamental Principles of Manufacturing Processes

By Robert H. Todd and Dell K. Allen both Brigham Young University, and  
Leo Alting, Technical University of Denmark  
1994, 176 pp., illus., ISBN 13: 978-0-8311-3050-3, \$38.50



The key to understanding how to produce products with low response time, low inventory, and flexibility can be found in this important text. Using a systematic approach, this unique analysis of contemporary manufacturing processes identifies family characteristics of individual processes to facilitate learning. In all, six families of SHAPING processes that change the basic geometry of shape of a workpiece (Mechanical, Mass Reducing, Thermal Mass Reducing, Chemical Mass Reducing, Mass Conserving, Consolidation, and Joining) and four families of NON-SHAPING processes that modify the engineering and aesthetic properties of materials (Hardening, Softening, Surface Preparation, and Surface Coatings) are identified and studied. This classification, or taxonomy, now used in the United States and Europe, is a valuable tool in identifying processes and their capabilities. Using the same classification system, detailed descriptions of each individual process can be found in the Manufacturing Processes Reference Guide by the same authors.

## Purchasing For Manufacturing

By Harry E. Hough  
1996, 208 pp., ISBN 13: 978-0-8311-3066-4, \$45.00

Written by the founder of the American Purchasing Society, this authoritative introduction to industrial purchasing emphasizes the unique aspects of securing specialized materials utilized in manufacturing. Topics covered in depth include the criteria for the selection of products, purchasing dynamics, the organization of the purchasing function, how to determine need, how to evaluate a source, obtaining and analyzing bids, and required forms. Negotiating, what is negotiable, how flexible is the seller, commercial terms used in purchasing, contract law, the importance of the Uniform Commercial Code, antitrust laws and patent rights, and different types of warranties are all presented under one title.

## Mechanical Engineering and M.E. Technology

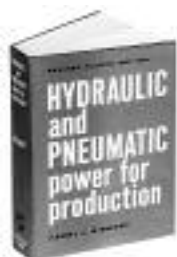


### Materials Selection and Applications in Mechanical Engineering

By Dr. Aravamudhan Raman, LSU, Baton Rouge  
2006, 512 pages, illus., ISBN 13: 978-0-8311-3287-3, \$74.95

A complete and in-depth coverage on materials of use, their principles, processing and handling details; along with illustrative examples and sample projects. It clearly depicts the needed topics and gives adequate coverage with ample examples so that ME students can appreciate the relevance of materials to their discipline.

Featuring the basic principles of materials selection for application in various engineering outcomes, the contents of this text follow those of the common first-level introductory course in materials science and engineering. Directed toward mechanical engineering, it introduces the materials commonly used in this branch, along with an exhaustive description of their properties that decide their functional characteristics and selection for use, typical problems encountered during application due to improper processing or handling of materials, non-destructive test procedures used in maintenance to detect and correct problems, and much more. Numerous examples and project-type analyses to select proper materials for application are provided. With the use of this unique text, teaching a relevant second-level course in materials to ME majors has never been easier!



### Hydraulic and Pneumatic Power for Production Fourth Edition

By Harry L. Stewar  
1977, 435 pp., illus.,  
ISBN 13: 978-0-8311-1114-4, \$47.50

This widely used and acclaimed reference demonstrates how air and oil equipment can be applied to the manual and automatic operation of all types of production machinery.



### Properties of Engineering Materials, Second Edition

By R.A. Higgins  
1994, 480 pp., ISBN 13: 978-0-8311-3055-8, \$43.95

Employing a technological rather than a scientific approach, this edition continues to provide a descriptive and quantitative treatment of materials science for engineers. Much new material has been added, particularly in the areas of microalloyed steels, plastics, composites, and ceramics. The book includes many worked examples in each chapter. Knowledge of chemistry is not required and a practical engineering approach is stressed throughout.

### Fuel Oil Manual, Fourth Edition

By Paul F. Schmidt 1986, 240 pp., illus., ISBN 13: 978-0-8311-1166-3, \$39.95

The fourth edition of a standard reference presents a much broader scope of fuel oil technology. Using both English and Metric units throughout, it features the properties of fuel oils, the possibilities and limitations of each grade, and fuel oil impurities and how they affect combustion. It also examines methods that can be used to assure uniform quality and efficient combustion and discusses how to diagnose and solve problems.

## Plastics Extrusion Technology Handbook

### Second Edition

By Sidney Levy and Dr. James F. Carley  
1989, 398 pp., illus., ISBN 13: 978-0-8311-1185-4, \$49.95

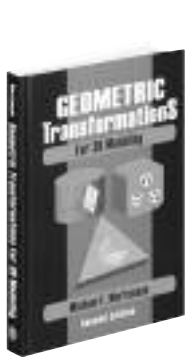
Presenting an overview of extrusion technology as applied to the operation of extrusion systems and the design of tooling and equipment for use in the process, this practical handbook provides basic technical information on the behavior of polymer and plastics materials in the extrusion process.

## Mechanics of Machines, Second Edition

By G.H. Ryder and M.D. Bennett  
1990, 350 pp., illus., ISBN 13: 978-0-8311-3030-5, \$49.95

This book uses applications and numerical examples that offer a realistic appreciation of actual system parameters and performance. Its logical two-part organization allows the individual principles to be readily identified and systematically studied. As a self-contained book it will serve as an excellent source for mechanics students and mechanical engineers.

## Mathematics



### Geometric Transformations For 3D Modeling

By Michael E. Mortenson 380 pages, illus., ISBN 978-0-8311-3338-2, \$59.95

Written from a mathematical standpoint accessible to students, teachers, and professionals studying or practicing in engineering, mathematics, or physics, the new edition is a comprehensive introduction to the theory and application of transformations. Presenting the more abstract foundation material in the first three chapters, Geometric Transformations for 3D Modeling reduces the clutter of theoretical derivation and development in the remainder of the text and introduces the operational and more application-oriented tools and concepts as the need arises. It assumes the reader has already taken analytic geometry and first-year calculus and has a working knowledge of basic matrix and vector algebra. This self-contained resource is sure to appeal to those working in 3D modeling, geometric modeling, computer graphics, animation, robotics, and kinematics.

### Guide to Mathematical Modelling, Second Edition

By Dilwyn Edwards and Michael Hamson Available 2007, 320 pages, illustrated, ISBN 13: 978-08311-3337-5, \$37.50

A basic introduction to Mathematical Modeling, this book encourages readers to participate in the investigation of a wide variety of modeling examples. These are carefully paced so that readers can identify and develop the skills which are required for successful modelling. The examples also promote an appreciation of the enormous range of problems to which mathematical modeling skills can be usefully applied.

**Distinctive Features** • Contains 12 examples that are completely new and have been used by student groups.

- The chapter on difference equations is new to this edition.
- Presents modeling methodology in detail and includes the essential skills for producing a successful model.
- Provides coverage of 'discrete' models where the outcome is needed at discrete time intervals, such as hourly, daily, and yearly.
- Investigates models in which the variables are continuous functions of time, such as often occurs in physics and engineering problems.
- Covers problems that include a random feature that demand some statistical analysis.
- Presents a collection of more demanding examples, some of which are fully developed while others are left for students to process.
- Offers a chapter on communication skills, enabling students to explain the ideas behind the model to other people.

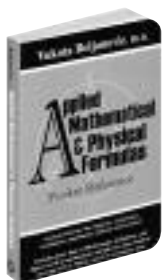


### Applied Mathematical and Physical Formulas Pocket Reference

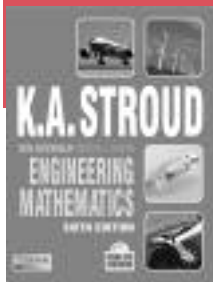
By Vukota Boljanovic 2006, 416 pgs, illus.,  
ISBN 13: 978-0-8311-3309-2, \$17.50

This desktop reference shows how to solve every kind of math and physics problem you're likely to encounter in school and business, and it explains simply and easily how to find answers fast, learn key formulas and definitions, study quickly and learn more effectively--from fundamental mathematical rules to physical definitions and constants. It is the perfect reference for students who need to brush up on their skills, learn key formulas, and find answers fast; as well as for professionals to use as an everyday reference.

- Reviews the fundamentals of algebra, geometry, trigonometry, and analytical geometry.
- Presents the application of differential equations and integral calculus.
- Solves problems concerning simple interest, compound interest, effective rate, annuity, amortization of loans, and sinking fund payment.
- Shows the comparative advantages of binomial distribution, standard distribution, Poisson distribution, and normal distribution.
- Includes most used definitions and formulas of kinematics, dynamics, statics, mechanics of fluids, thermal variable of state, thermodynamics, electricity and magnetism, light, and basic definition of atomic and nuclear physics.
- Offers most used fundamentals of physical constants.



# Advanced Mathematics in a Programmed Learning Format



## Engineering Mathematics, 6th Ed.

By K.A. Stroud and Dexter J. Booth 1200pp.,  
2007 ISBN 13: 978-0-8311-3327-6 \$64.50

A groundbreaking and comprehensive reference that's been a bestseller since it first debuted in 1970, the new sixth edition of Engineering Mathematics has been thoroughly revised and expanded. An interactive Personal Tutor CD-ROM is included with every book. Providing a broad mathematical survey, this innovative volume covers a full range of topics from the very basic to the advanced. Whether you're an engineer or a student who needs an in-depth self-study guide, Engineering Mathematics is sure to come in handy time and time again.

### Distinctive Features...

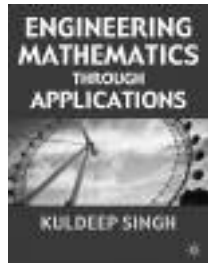
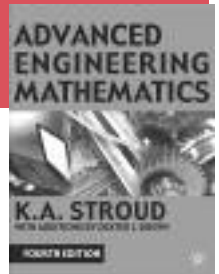
- Offers a unique programmed approach that takes users through the mathematics in a step-by-step fashion with a wealth of worked examples and exercises.
- Contains Quizzes, Learning Outcomes and Can You? Checklists that guide readers through each topic and focus understanding.
- Extra Bonus! Visit Personal Tutor Online at [www.palgrave.com/stroud](http://www.palgrave.com/stroud), the companion website maintained by this book's British publisher, where you'll find: 100+ mathematical questions set in engineering and scientific contexts, online access to the Personal Tutor, and useful weblinks.

## Advanced Engineering Mathematics, 4th Edition

K.A. Stroud and D.J. Booth  
1280 pp., illus., ISBN 13: 978-0-8311-3169-2, \$64.50

Revised, expanded, and extremely comprehensive, this best-selling reference is almost like having your own personal tutor. You proceed at your own rate and any difficulties you may encounter are resolved before you move on to the next topic. With a step-by-step programmed approach that is complemented by hundreds of worked examples and exercises, this is an ideal for professionals or students.

**Table of Contents:** Numerical Solution of Equations and Interpolation. Laplace Transforms Part 1. Laplace Transforms Part 2. Laplace Transforms Part 3. Z Transforms. Fourier Series. Introduction to the Fourier Transforms. Power Series Solutions of Ordinary Differential Equations. Numerical Solutions of Ordinary Differential Equations. Partial Differentiation. Partial Differential Equations. Matrix Algebra. Numerical Solutions of Partial Differential Equations. Multiple Integration 1. Multiple Integration 2. In-tegral Functions. Vector Analysis 1. Vector Analysis 2. Vector Analysis 3. Complex Analysis 1. Complex Analysis 2. Complex Analysis 3. Optimization and Linear Programming. Appendix. Answers. Index



## Engineering Mathematics Through Applications

By Kuldeep Singh 2003, 784 pp., illus., ISBN 13: 978-0-8311-3170-8 \$62.50

A comprehensive reference and self-study guide for professionals and students, this text uses applications from a wide range of technical disciplines to help teach the subject matter and convey its relevance. The mathematics is developed through detailed step-by-step examples rather than formal proofs.

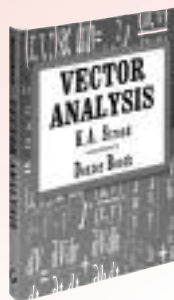
**Table of Contents:** Arithmetic for Engineers. Engineering Formulae. Visualizing Engineering Formulae. Functions in Engineering. Trigonometry and Waveforms. Logarithmic, Exponential and Hyperbolic Functions. Differentiation. Engineering Applications of Differentiation. Integration. Engineering Applications of Integration. Complex Numbers. Matrices. Vectors. First Order Differential Equations. Second Order Linear Differential Equations. Partial Differentiation. Probability and Statistics. Solutions. Appendix: Standard Normal Distribution Table. Index

## STROUD and BOOTH Series

### Vector Analysis

By K.A. Stroud and Dexter J. Booth  
2005, 448 pp., illus., ISBN 13: 978-0-8311-3208-8, \$36.95

**Table of Contents:** Partial Differentiation. Application of Partial Differentiation. Polar Coordinates. Double and Triple Integrals. Differentials and Line Integrals. Vector Integration. Curvilinear Coordinates. Surface and Volume Integrals. Vectors. Vector Differentiation.



### Complex Variables

By K.A. Stroud and Dexter J. Booth  
2007, 320 pp., illus.,  
ISBN 13: 978-0-8311-3266-8, \$36.95)

**Table of Contents:** Functions Complex Numbers. Polar Form. Hyperbolic Functions. Complex Mappings. Partial Differentiation. Integration. Complex Calculus. Residues.

### Differential Equations

By K. A. Stroud and Dexter J. Booth  
2005, 416 pp., ISBN 13: 978-0-8311-3187-6, \$36.95

**Table of Contents:** First-Order Differential Equations. Second-Order Linear Equations. Series 1. Series 2. Power Series Solutions of Ordinary Differential Equations. Introduction to LaPlace Transforms. LaPlace Transforms 2. LaPlace Transforms 3. Z Transforms. Matrix Algebra. Numerical Solutions of Ordinary Differential Equations.

## Due in August 2008 Linear Algebra

By K.A. Stroud and Dexter J. Booth

## Advanced Metalcutting Calculators

Presented in U.S. and Metric Units

Milling, Turning, Boring, Drilling, and Machining Time

By Edmund Isakov, Ph.D.



2005, CD-ROM, illus., ISBN 13: 978-0-8311-3211-8, \$74.95

Advanced Metalcutting Calculators contains four calculators, each for major metalcutting operations: Milling, Turning, Boring, Drilling, and one calculator for exact machining time when facing, cutting off, and deep grooving. All calculators are developed in Microsoft Excel, and execute all parameters in both U.S. and Metric units of measure. These calculators provide more accurate computations than any other calculators on the market. They are unique in computing cutting forces, torque values, and required machining power. Additionally, feed and radial cutting forces are calculated by the Turning and Boring Calculator (covered by U.S. Patent No. 6,836,697). Any metalworking professional is sure to find these calculators handy, especially for maximizing productivity of cutting by selecting such parameters at which nominal power of the machine tools can be effectively utilized.

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By Michael Mortenson 1999, 416 pp., illus., ISBN 13: 978-0-8311-3111-1, \$49.95

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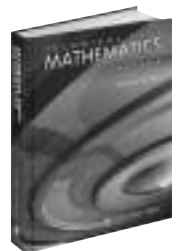
## Technical Shop Mathematics, Third Edition

By Thomas Achatz and John G. Anderson, Kathleen McKenzie contributing ed.

2006, 561pp, illus, ISBN 13: 978-0-8311-3086-2, \$44.95

Completely revised and updated, this new edition is intended as a text for technical trades students or as an on-the-job reference. Retaining and building on the strengths which have made this book a standard for more than 25 years, Technical Shop Mathematics begins with arithmetic followed by basic mathematical manipulations, geometry, elementary trigonometry, and graphing; and ends with fundamentals of Statistical Process Control for those interested in manufacturing and quality control. Practical explanations, problem solving techniques, examples, and exercises are provided throughout; and emphasis is placed on applications—making it an ideal resource for standard lecture courses or guided self-paced study.

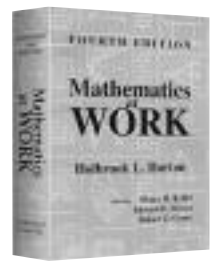
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By Paul Campbell

1995, 208 pp., illus., ISBN 13: 978-0-8311-3060-2, \$30.50

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By Leonard A. Doty 1989, 307 pp., illus., ISBN13: 978 0-8311-3024-4, \$37.50



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### Quality, Reliability, and Process Improvement, Eighth Edition

By Norbert L. Enrick 1985, 396 pp., illus., ISBN 13: 978-0-8311-1125-0, \$32.50

Thoroughly revised and updated, this widely acclaimed reference/ text is both an ideal teaching source and a succinct working manual for organizing effective quality-reliability programs in any industrial plant. Its purpose is to achieve practicality within a framework of prevailing technology.

### Dimensional Management: A Comprehensive Introduction

By Mark A. Curtis 2002, 224 pages, CD included, illus., ISBN 13: 978-0-8311-3073-2, \$44.95



As a complete treatise on the subject of dimensional management this book provides the reader with a comprehensive systems approach to all facets of dimension and tolerance development, analysis, inspection and documentation. It features a chapter devoted to state-of-the-art computer-aided tolerance techniques. This chapter is complemented by a CD included with the book demonstrating a family of Sigmund software products through a detailed user-friendly Power Point presentation. These proprietary computer-aided tolerancing products were developed and are sold by Varatech Engineering Consultants, and are quite possibly the most refined and powerful software available on the market today. Expressly written for college level engineering and technology students and working professionals, Dimensional Management can be used as both a primer and a handbook for those wishing to optimize the interchangeability of multi-component manufactured products through the study and use of various sophisticated manual and computer-aided dimensioning and tolerancing techniques.

# Welding / Pipefitting

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By William Galvery and Frank Marlow, 2007, 536 pp, illustrated, ISBN13: 978- 0-8311-3301-6 \$37.50

As a concise yet thorough introduction to the topic, this new edition of a bestseller makes welding easy for beginners and is a handy reference for professionals. Its unique, comprehensive question-and-answer format allows readers to quickly find what they are looking for and fully understand it. Eliminating non-essential items to prevent overloading readers, *Welding Essentials* addresses safety hazards and required precautions in detail and provides solutions to common problems for each process. Additionally, this valuable reference carefully explains step-by-step setup and shutdown procedures, along with why equipment grounding and GFI's are needed and the way in which they work.



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## Welding Fabrication and Repair: Questions and Answers

By Frank M. Marlow 2002, 320 pp., illus., ISBN 13: 978-0-8311-3155-5, \$34.95

Presenting welding students with a broad range of methods from different specialties, focusing on how to use welding and how to solve welding and fabricating problems that arise on the job. With a basic knowledge of welding he shows what tools and supplies can help the welder. A competent welder must have after he can weld, it covers the most basic fabricating tools the welder will use in the shop. Unlike any other book, *Welding Fabrication and Repair* provides in-depth coverage of the capabilities of oxygen and exothermic lances; flame bending, flame straightening, line heating and panel shrinking; industrial threaded fasteners; specialized welding clamps, fixtures, welding platens, cutting pyramids, and solutions to common welding problems. What's more, it looks closely at vehicle welding and truck frame repair, structural steel welding and bolting practice, general metal fabrication, metal bending tools, and shipbuilding plate work.

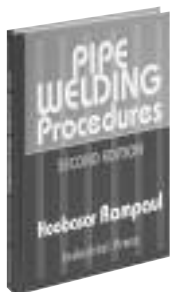


## Pipe Welding Procedures, Second Edition

By Hoobasar Rampaul

2003, 256pp., illus., ISBN 13: 978-0-8311-3141-8, \$37.50

A standard reference for decades, this new edition of *Pipe Welding Procedures* continues to reinforce the welder's understanding of procedures. Drawing on his extensive practical and teaching experience in the field, the author describes in detail the manipulating procedures used to weld pipe joints. Readers will find useful information on heat input and distribution, essentials of shielded metal-arc technology, distortion, pipe welding defects, welding safety, essentials of welding metallurgy, and qualification of the welding procedure and the welder.



## Welding: A Management Primer and Employee Training Guide

By Robert O'Con 2000, 208pp., illus., ISBN 13: 978-0-8311-3139-5, \$39.95

Concise yet thorough, this in-depth resource will aid those in welding management with supervision and control of their welding operations, while offering apprentices and industrial practitioners in-depth instruction on the basic manipulative welding and cutting processes. The first section presents managers and small shop owners with the technical background and practical expertise needed to implement and manage their specific welding operations. In the second section, readers will find a complete curriculum for self or in-plant welder training. Easy to use, this program provides all the information and practical training regimens for each of the processes described.



## Pipefitters Handbook Third Edition

By Forrest R. Lindsey 1967, 464 pp., illus., ISBN 0-8311-3019-0, \$26.50

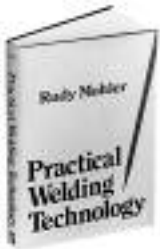
Compact and pocket-sized, this handy reference contains thousands of facts and figures relevant to pipefitters, steamfitters—anyone concerned with layout and installation of pipe. Providing answers to all sorts of problems indigenous to power and industrial pipebending and the fabrication of weld fittings in both shop and field, it logically categorizes all material according to job description, supporting each working table with a clear example of how to use it. A special reference section that gives instant data on the 24 most useful on-the-job- subjects is included.



## Practical Welding Technology

By Rudy Mohler 1983, 220 pp., illus., ISBN 0-8311-1143-4, \$36.95

This title describes in detail the technology and manipulative procedures for making successful welds in all welding positions, types of joints, and metals. Also, it offers hundreds of hints on how to solve every on-the-job welding problem.



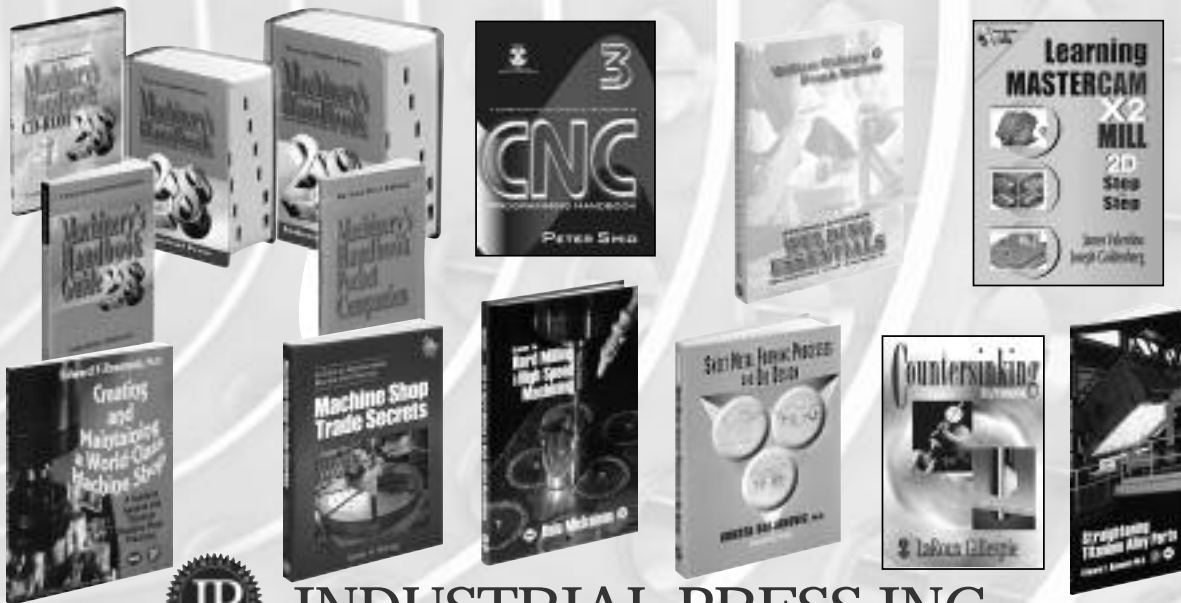
## Automating The Welding Process

By James Berge 1994, 220 pp., ISBN 0-8311-3051-0, \$44.95

Learn how world class manufacturers have achieved success with automated welding and how welding automation can be an important step toward prosperity. These variables are expertly explained and there are also details on how to estimate startup costs and calculate returns on robotic and automated machinery investments. Anyone interested in increasing welding output, quality, consistency, and safety, this book provides the principles that will allow you to optimize performance and maximizing the profitability.



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