



Industrial Press, Inc. | Newsletter

Focus On Manufacturing: Machinery's Handbook, 30th, Plus!

A Word from Our Editor

Since 1883, Industrial Press, Inc., has been publishing essential resources for the machining community and related manufacturing industries. The *Machinery's Handbook*, our flagship product, is now out in an historic 30th edition, along with a wide array of related works in a multitude of formats (print, CD-ROM, ebook, and with a high-end calculator) to appeal to every type of reader.

This newsletter focuses on the *Machinery's Handbook* and other manufacturing titles, featuring some of the most current technologies being used on the shop floor, including CNC programming, HMIs, and PLCs. Learn more about these emerging topics from the "Q&As" with our expert authors. Our next newsletter will feature the cutting-edge methodology known as "Demand Driven Material Requirements Planning," or DDMRP, which is taking the supply chain management world by storm. We hope you enjoy the newsletter. And as always, we look forward to hearing your comments. —*Judy Bass, Editorial Director*



Machinery's Handbook

The Top Reference for More than 100 Years

We asked Chris McCauley to tell us about the history of this invaluable reference and how it has evolved during his time as Editor. His unwavering dedication to constantly improving this acclaimed work has spanned a period of almost 25 years and seven editions.

I started working for Industrial Press in January 1992, just about the time the 24th Edition of the *Machinery's Handbook* was released (2,560 pages). At that time, the *Handbook* was only printed in the standard toolbox size, which is 4.6 x 7 inches. The only option was a version with thumb tabs for \$10 more.

The organization of the *Handbook* began to change after the 24th Edition. Previously, it had featured a mildly detailed table of contents of the entire book at the beginning and a fairly comprehensive index at the end. In the 25th Edition, each section was given its own detailed contents pages. The "Mechanics" and "Strength of Materials" sections were combined, and the "Plastics" section was absorbed into the "Properties on Materials" section, reducing the thumb tabs by two.

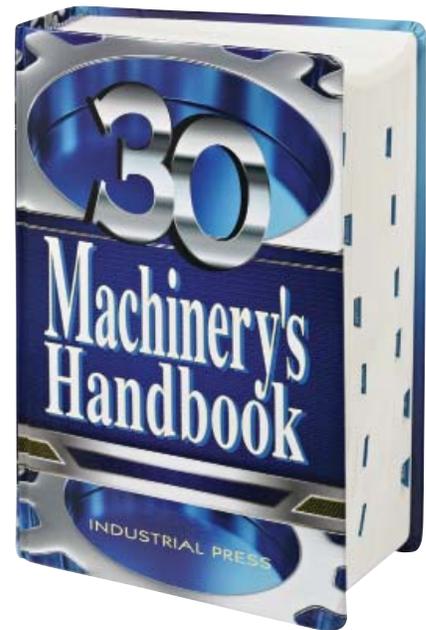
The 25th Edition (2,560 pages) came out in 1996, and all of the books had thumb tabs. By popular demand, the large print version was made available for the first time. It is identical to the toolbox version, except it is 7 x 10 inches, 140 percent of the original size.

In 1998, the first CD-ROM version was produced, based on the 25th Edition. It included all of the 25th Edition, plus content from previous editions of the *Handbook* no longer available in the print book. While it used a reader application called DynaText, and its appearance differed considerably from the book, this initial CD version was a success.

In early 2000, the 26th Edition (2,640 pages in print) came out in the two sizes, toolbox and large print, along with the CD version. This was the first CD version in PDF format, with the advantage that pages of the *Handbook* and the CD were identical in appearance. The 26th Edition CD—and all later CD editions—continued the practice of including additional material that could not be included in the print book.

In 2004, the 27th Edition (2,704 pages in print) was released, again with the toolbox, large print, and CD version in PDF format.

The 28th Edition (2,704 pages in print) came out in 2008. Later that year, a special International Metric Edition was released. The metric edition was an enhanced, paperback edition of the 28th Edition with a great deal of added metric conversion. It was



limited to sales outside the United States and intended for foreign markets, such as Asia and Africa, where the cost of the traditional hardcover was prohibitive. The added metric content was included for international users who rely on the SI system of units.

The 29th Edition (2,800 pages in print edition) was released in early 2012. It included enhancements to the metric content added in the metric 28th Edition, and then some. A new ebook version of the 29th Edition was released in 2014. This format enables us to offer the *Handbook* to readers with not only desktops and laptops, but also tablets, such as iPads and Androids.

The 30th Edition (2,896 pages in print edition) was just published in March 2016. It is more than twice the length of the first edition of the *Machinery's Handbook*, published more than 100 years ago, in 1914. The CD-ROM version includes additional material, plus the full text of the companion volume the *Guide*. This highly useful reference and the *Pocket Companion* are available in both print and ebook versions.

For more Handbook history, visit our Web page:
<http://new.industrialpress.com/resources/history>

Philosophy of the Machinery's Handbook According to Franklin D. Jones (1879–1967)

"The purpose of the *Handbook* is to provide directly usable material...qualified information, or the means of achieving it."

"Clarity of expression is at least as important as the technical content. The text should therefore be written so that it is clearly understandable."

"The *Handbook* supports the user's efforts. What the user needs to know is what a *Handbook* is all about."

A Large Family of Products

The large print and toolbox editions come separately, packaged with the CD-ROM, or with a useful Calc Pro 2 calculator. Ebook users can purchase the *Handbook*, *Guide*, and *Pocket Companion* separately or as part of an ebook package.

Machinery's Handbook, 30th Edition

Toolbox Edition, Hardcover, ISBN 978-0-8311-3091-6, \$105

Large Print Edition, Hardcover, ISBN 978-0-8311-3092-3, \$125

CD-ROM, ISBN 978-0-8311-3093-0, \$105

Toolbox and CD-ROM Set, ISBN 978-0-8311-3096-1, \$180

Large Print and CD-ROM Set, ISBN 978-0-8311-3097-8, \$199.95

CD-ROM Upgrade, ISBN 978-0-8311-3098-5, \$49.95

Toolbox and Calc Pro 2, ISBN 978-0-8311-3609-3, \$159.95

Large Print and Calc Pro 2, ISBN 978-0-8311-3610-9, \$179.95

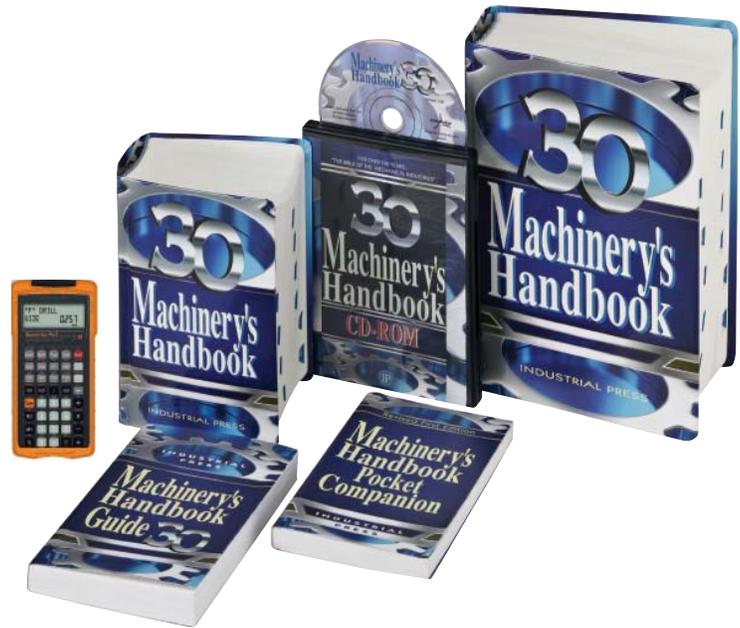
Guide, Softcover, ISBN 978-0-8311-3094-7, \$19.95

Pocket Companion, Softcover, ISBN 978-0-8311-3095-4, \$24.95

The Handbook, Guide, and Pocket Companion also are ebooks.

To order and for more information, visit us at:

industrialpress.com; ebooks.industrialpress.com



“The Best Tool, Ever”

Comments on the *Machinery's Handbook* by Dr. Vukota Boljanovic, Contributor and Subject Matter Expert

The *Machinery's Handbook* has frequently been referred to as the “Machinist’s Bible.” It certainly has been the most popular reference work in metalworking, design, engineering, and manufacturing facilities, in related college programs, in technical schools, and in home shops, throughout the world, for more than a century.

The 30th Edition brings together volumes of knowledge, information, and data, all gathered, revised, and improved upon by experts throughout the mechanical industries. Extraordinarily comprehensive yet easy-to-use since it premiered, the *Machinery's Handbook* provides users with a broad range of materials, from the very basic to the more advanced. It always has and continues to provide industry fundamentals and standards.

At the same time, it has moved forward in the twenty-first century with materials reflecting technological advances and offering vast editorial improvements. This new edition has expanded in size and virtually every section has been carefully reviewed and updated to one degree or another. All of this makes the new edition of the *Machinery's Handbook* the best tool, ever.

Boljanovic's Perfect Pocket Guide

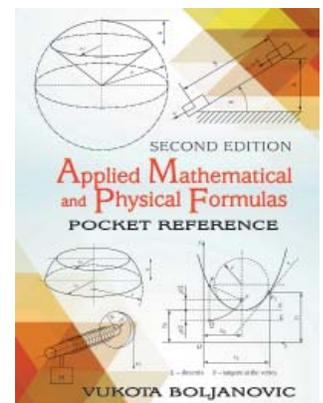
Every Equation, Formula, Definition, or Figure You Might Want

The new and revised version of this comprehensive pocket reference book is ideal for students, engineers, teachers, and anyone who deals with physics, mathematics, finance, and computer systems. Practical and authoritative, this book brings together in three parts more than 1,300 equations, formulas, definitions, and figures used in mathematics and physics to solve a problem at hand, simplify review, or refresh a memory of what was studied in school.

If a reader is in school now and does not have a lot of time but wants to excel in the subject area, this text is ideal for effectively learning and brushing up on this material. The author guides the reader through the book's content so that, through the instructions on how to use each formula, he or she can reach new depths in understanding the applied mathematical and physical sciences.

This invaluable text includes formulas, rules, examples, and figures related to arithmetic, algebra, geometry, trigonometry, analytical geometry, mathematics of finance, calculus, statistics, mathematical fundamentals of computer science, mechanics, mechanics of fluids, temperature and heat, electricity and magnetism, light, and wave motion and sound. It also features the International System of Units; metric units of measurement; U.S. units of measurements; units of measure in precious metals; and tables of equivalent metric and U.S. Customary System (USCS) units.

The second edition of this handy pocket guide features all-new figures, plus new sections, and more.



Mathematical and Physical Formulas, Pocket Reference, 2nd Edition

By Vukota Boljanovic

ISBN (print): 978-0-8311-3592-8

Pages: 480, Price: \$32.95

This title also is available as an ebook.

For more information and to order, visit us at industrialpress.com; ebooks.industrialpress.com.

CNC Programming for Everyone

Speaking with Ken Evans, Author and Industry Expert



Ken Evans is the author of the top-selling titles Programming of CNC Machines and the accompanying Student Workbook. His books are ideal for everyone working with CNC machines, from instructors and students to professionals in this field.

Industrial Press: *CNC programming is so essential in the manufacturing industry. What led you to become involved in the field? And what has been your experience teaching this subject?*

Evans: I was lucky enough to be exposed to wood shop and metalworking when I was in the seventh grade. In high school, I had the same instructor for shop classes in metals, machining, and welding. For me, it was a natural fit, and in my senior year, I acted as a student proctor/teacher's assistant. This was the beginning of a 40-year career in manufacturing.

I learned quickly that the CNC (computer numerical control) programmers were the ones who made the machines productive. At that time, algebraic and trigonometric calculations for the coordinates and feeds and speeds were done by hand. Important, exciting, and challenging—CNC programming became my ultimate goal.

Remembering what a difference my shop instructor made in my school years, I wanted to follow his example, so I applied for a position as a CNC programming instructor at a local technical center. As a teacher, the satisfaction of seeing the excitement my students got when the proverbial “light comes on” was a thrill every time. The job was part-time evenings, so I continued my day job as a CNC programmer, and the two jobs complemented each other.

Industrial Press: *Your new editions are written in easy-to-understand language that highlights lessons with key examples. What makes your work the industry standard?*

Evans: The presentation of examples in my books are similar to those in other texts. But when the main text is used along with the *Student Workbook*, the reader can greatly improve his or her grasp of the subject matter.

CNC instructors also can use the two books as an entire curriculum for basic CNC operation and programming. The material gives them the ability to review the concepts with the students, demonstrate the steps, and

then give the students a chance to apply and practice what they have learned. To receive the full benefit of the instructions, it is recommended that the programming in each practice exercise be input to a CNC simulator and/or actual CNC machine tool.

Industrial Press: *Programming CNC Machines covers conversational programming, which is unusual in a CNC text. What is this, and why did you include it?*

Evans: Conversational programming (sometimes called “shop-floor programming”) comes standard on some CNC machine tools and is available on many others. The most common conversational programming graphical user interfaces are FANUC NC Guide i and Mazatrol. Both enable the CNC machinist to program and control the machine.

Industrial Press: *What exciting new features can readers find in the 4th editions? How might professionals and students use both the main text and the accompanying Student Workbook?*

Evans: Here are just a few of the new features of the main text: “CNC Machine Operation,” is now based on the popular FANUC Oi controller. “Computer-Aided Design and Computer Aided Manufacturing (CAD/CAM)” is expanded and features step-by-step examples for mill and lathe using Mastercam. “Introduction to Feature-Based Machining,” is a brand-new chapter. “FANUC NC Guide Programming” presents conversational (shop-floor) programming. Finally, the *Student Workbook* coordinates with the main text by reinforcing the reader's comprehension through practical application, completing the circle of learning.

Industrial Press: *In addition to being a critical text for the CNC programmer, how can your texts be used as a reference for others working in the industry?*

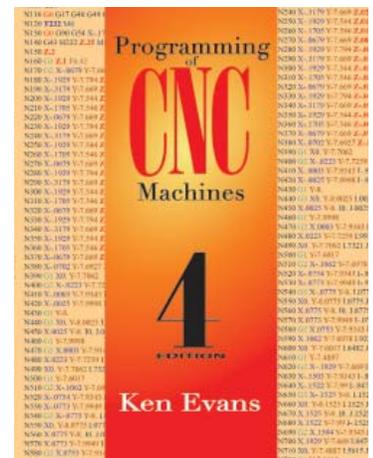
Evans: Engineers and supervisors can use the books as a reference during programming applications and for training their workforce. Operators can use the books to help them understand the controller functions and how to apply specific skills.

Industrial Press: *In today's political climate, we hear a lot about bringing manufacturing jobs back to the United States.*

What suggestions do you have for how we can support increased domestic manufacturing and the industry overall?

Evans: As an American craftsman myself, I believe in keeping manufacturing jobs here. With the resources now at our disposal, we can train a new workforce more quickly than ever before. We need a paradigm shift, not the “old iron” of manual machining.

The basic skills of turning and milling can be taught on CNC equipment, and blueprint reading should be taught while using CAD to create designs. We also need more emphasis on the schools teaching the most up-to-date technology, such as subtractive manufacturing, additive manufacturing, automation, and robotics.



Programming of CNC Machines

By Ken Evans

ISBN: 978-0-8311-3524-9

Pages: 474 Price: \$49.95

Student Workbook

ISBN: 978-0-8311-3600-0

Pages: 352, Price: \$24.95

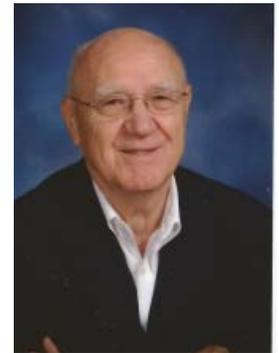
Both titles also are available as ebooks and as a set.

Other New Manufacturing Titles from Industrial Press

Talking with Dr. Samuel Guccione, Co-Author, with James McKirahan, of *Human Machine Interface*

Industrial Press: *Why is the topic of your book so important in current and future manufacturing?*

Guccione: Information currently found on the Internet indicates that Human Machine Interfaces (HMIs) could become much more important in the future of manufacturing, production, and other processes. Our new book, *Human Machine Interface: Concepts and Projects*, is unique in that it contains introductory and advanced laboratories in HMI, using hands-on and step-by-step teaching methodologies. It thus provides a solid learning experience in real programming and application of HMI.



Industrial Press: *What is HMI and how is it used?*

Guccione: Human Machine Interface is an integrated system of software and hardware that presents data and other information to a human operator who could be monitoring and controlling a machine, a process, or a production line—to name just a few. The hardware device for HMI is typically a “Graphic Terminal” screen, which is often called an “Operator Terminal.” A Windows-based computer of any kind could be used as an HMI screen as well.

The heart of HMI is the specialized software that is used to create and program various graphical pictures. This is used to program the information in several formats that are visually displayed. When the operator views the Graphic Terminal or computer screen, he or she might be seeing any number of different graphical depictions on the screen. For example, a data count of how many products are being made may be displayed in a graph. Or the operator may see an actual picture of the process, showing status ON or OFF, for example. Beyond just seeing information, the operator also can use the HMI graphics to control and monitor the process.

Industrial Press: *Why are PLCs important and how does this book address them?*

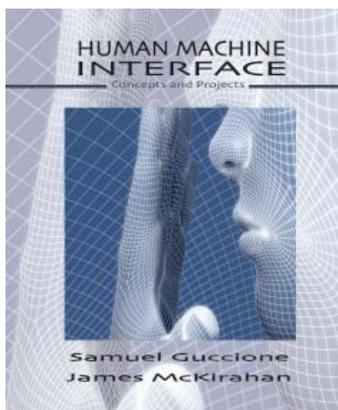
Guccione: A Programmable Logic Controller (PLC) is an automation-based computer device that is essential in communicating between the HMI and the manufacturing process, between the HMI and the production line, and so on. A common prerequisite of learning HMI programming is having previous experience with PLCs.

Most industrial and other production operations use both PLCs and HMI as major parts of automation, and a primary goal of this book is to teach automation job skills involving both. This text provides the user with instructions on and experience in how to use and program a PLC. And each HMI lab includes the PLC programming needed to interface with the HMI being programmed.

Industrial Press: *What level is your book and who can make the best use of it?*

Guccione: It should be pointed out that we start with the essentials and build from there. For instance, the first lab in the book is entitled “Basic Motor Starter”; it explains and shows how an electric motor in a machine is controlled using HMI and how programming of a PLC interfaces with the HMI.

This book is designed for use in both academia and industry—with levels ranging from novice to advanced. High school students in career and technology, industrial technology, engineering, or industrial arts programs can use this book to develop basic experience in the field of automation with HMI. This text also is ideal for introducing students in technical colleges and universities, as well as workers in the field of automation. This is a unique and valuable work for anyone who seeks experience in the field of HMI in automation.



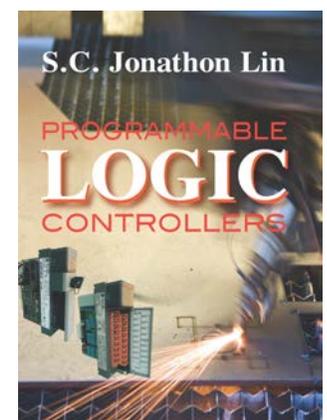
Human Machine Interface: Concepts and Projects

By Samuel Guccione
and James McKirahan
ISBN (print): 978-0-8311-3592-9
Pages: 246, Price: \$59.95

*You also may be
interested in this
cutting-edge text...*

Programmable Logic Controllers

By S.C. Jonathon Lin
ISBN (print):
978-0-8311-3507-2
Pages: 456, Price: \$89.95



Industrial Press, Inc., 32 Haviland Street, Suite 3, South Norwalk, CT 06854

Phone: 203-956-5593, Toll-Free in USA: 888-528-7852, Fax: 203-354-9391, Email: info@industrialpress.com.

For more information and to order, visit us at industrialpress.com; ebooks.industrialpress.com.