



# Industrial Press, Inc. | NEWSLETTER

Focus on Design and Print Reading

## A WORD FROM OUR EDITOR

Since 1883, Industrial Press, Inc. has been publishing essential resources for the machining community and related manufacturing industries. This issue focuses on *Autodesk® Revit Basics Training Manual* and the long-awaited fourth edition of *Blueprint Reading Basics*. Each text/reference will effectively get students and professionals up to speed with clear explanations, numerous examples, and tons of visuals. Learn more about these books from the “Q&As” with our experts. We hope you enjoy this newsletter, and, as always, look forward to hearing your comments. - *Judy Bass, Editorial Director*



## Revit is the Future!



*A conversation with commercial designer, Revit/BIM Specialist, and corporate trainer, Brian W. Clayton.*

*IP: You've worked with AutoCAD® for more than 20 years. What led you to include the use of Autodesk® Revit in your professional life?*

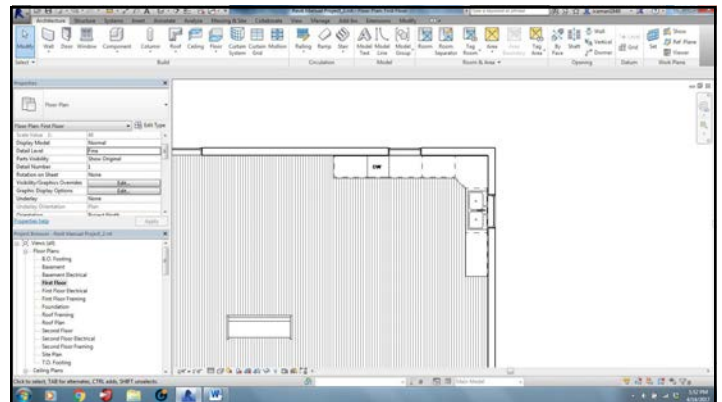
**Clayton:** I was first introduced to Revit software when I was asked to include it in my curriculum in the Advanced 3D course I was teaching at Guilford Technical Community College. When I was studying the Building Information Modeling (BIM) software while receiving formal training from Autodesk, I knew Revit was going to cut design time down by 50-70% and become the industry standard. Since mastering Revit seven years ago, it is the only software I use to design a building, or any upfits, remodels or building measuring.

*IP: I'm sure you've come across many challenging projects in your career. How did your use of Revit help you achieve your end goal?*

**Clayton:** As a commercial designer and corporate trainer, I can say without a doubt that Revit makes every job I perform, design, and create so much easier because I am able to see what the finished product will look like or what issues may arise if parts of the building do not come together correctly. For example, if a client needs to see the building design in a 3D view rather than a flat, 2D view, Revit allows me to show the client the finished product as they are looking at it in real life. The ability to provide this additional visualization to clients is how Revit has helped me achieve a successful result.

*IP: Revit is a relatively young software program. What is Revit specifically used for, and who are its users?*

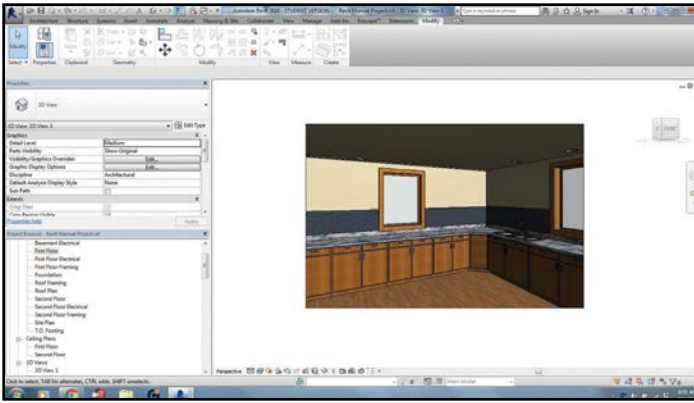
**Clayton:** Revit is used for building a realistic model that ALL disciplines—Architects, Structural, Mechanical, Electrical and Plumbing Engineers—can work on the same project simultaneously either in-house/office, or on the other side of the world with no downtime. Revit wasn't used for this purpose when it was originally installed into firms as the new design software. Architects and engineers began using Revit as a new design software just like they did AutoCAD for in-house/office drawings only; not in collaboration with other firms. Many architectural firms and engineers weren't very confident about how the Revit/BIM software worksharing of projects would work. And even today, as the technology is continuously improving, some are slow to get on board.



*Kitchen Layout 2D Design*

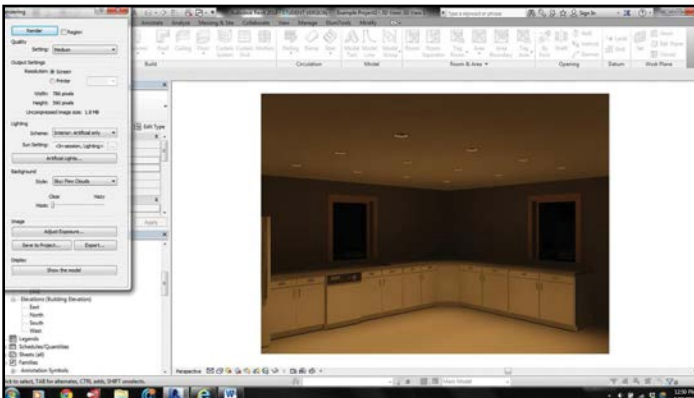
*IP: There are several books out there that claim to help users “master” this program. What makes Autodesk® Revit Basics Training Manual unique?*

**Clayton:** Some of the Revit books available are continually published year after year with little or no real content change; just a title change reflecting the year of the most recent Revit software available. In some cases, the updated version of the software may no longer use the command, or may have combined commands



*Kitchen 3D Perspective Split Wall Design*

that these textbooks may reference. In my manual, I go directly to the heart of the software, regardless of the version or year of the Revit software. *Autodesk® Revit Basics Training Manual* features carefully laid out steps and screen shots that direct the user right to the point of using the software, while they get familiar with Revit and become comfortable with 3D design. This is the same material I use to train individuals at the Small Business Center department at Forsyth Technical Community College in Winston-Salem, as well as corporate professionals.



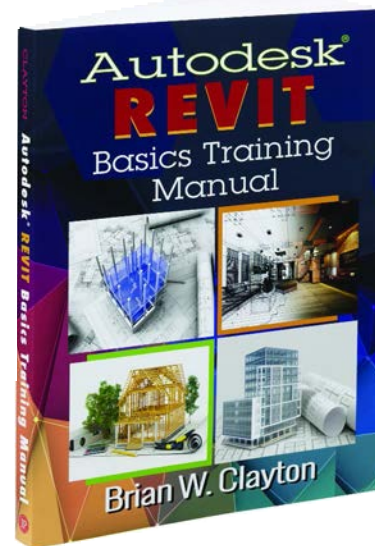
*Kitchen 3D Rendering*

**IP:** *Where do you see the future of Revit software over the next few decades? And how important is it for students and professionals to be educated in its use?*

**Clayton:** With Revit being a very young software, only nine to ten years old, we are not even close to seeing its full potential. I believe this software will continue to expand what it can produce in terms of design and the information it can provide regarding material take-offs, collaboration, schedules, and time and cost savings. Each year we see vast improvements in the program; the materials library is expanded, the templates are improved, and the graphics are enhanced. In turn, this adds to the complexity of the software, making it more difficult for the user to stay current. Along with this learning curve, there is the added pressure of

learning how to use Revit to workshare with other companies and other disciplines in different locations. To that end, I see Revit being around for decades, especially because, to date, every federally funded project is now being required to be designed using Revit.

Since it is becoming the standard within the design industry, it would be most beneficial for universities and colleges to make Revit an integral part of their curriculum as soon as possible. Professionally, I've implemented it at Guilford Technical Community College in 2009 and in the Small Business Center at Forsyth Technical Community College in 2015. It is critical that students, universities, and colleges are on the same page as industry so they can begin to close the skills gap in the design/engineering world. What's more, as this software continually evolves it is even more important for technical schools to keep pace with the changes and to offer continuing education training for all professionals and students. Providing the education on software improvements and information about the Revit software BIM Specialist positions being created are key to the long-term success of Revit. ■



### **AUTODESK® REVIT BASICS TRAINING MANUAL**

By Brian W. Clayton

Pages: 336, Softcover, Full Color

ISBN (print): 978-0-8311-3621-5

Price: \$49.95

ISBN (ebook): 978-0-8311-94581-1

Price: \$36.75

## Remastering a Classic!



*A conversation with machine design engineer, Charles A. Gillis, about the long-awaited revision of **Blueprint Reading Basics**.*

*IP: **Blueprint Reading Basics** has been a bestselling text for nearly three decades. What does it mean to you to take on the role of revising a work with such an impressive legacy?*

**Gillis:** Initially I couldn't fully appreciate the popularity of the book since I learned print reading (and writing) on the job without formal training. In seeking to understand more about the book, I discovered it is praised for its complete coverage of the basics, for its ease of understanding, and for giving learners opportunities to practice what they have learned. I do feel I have a responsibility to Warren Hammer to ensure the revised book retains the qualities of the original: simple, direct, down-to-earth, and friendly.

Recognizing the opportunity to modernize and expand the text to make it useful to students in the modern workforce that a fourth edition presented, I attempted to follow the guiding principle of retaining the positive qualities of the original.

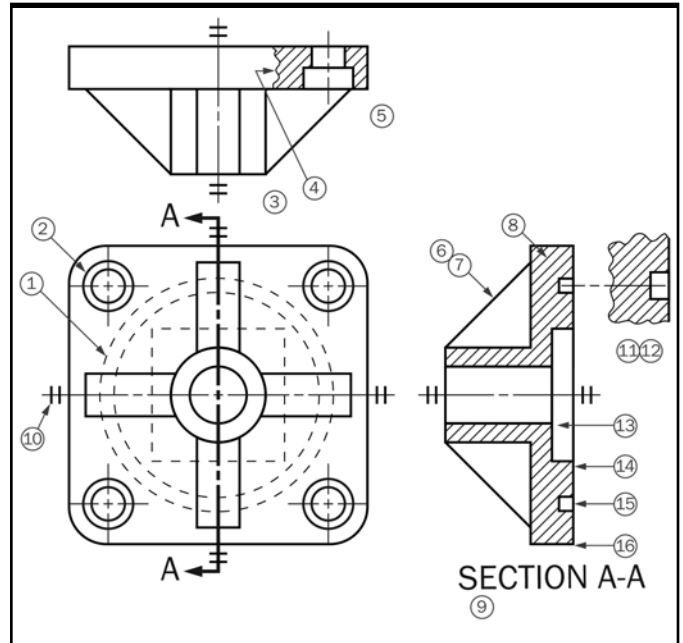
*IP: The last revision of this text was in 2001. In the years leading up to this revision, what would you consider to be the most interesting developments in industry where blueprint reading is required?*

**Gillis:** Prints are used by so many different industries across the manufacturing sector that it's difficult to form even a short list of technologies. I do think the rapid proliferation of low-cost additive manufacturing technologies (AM) has been very interesting. Once confined to prototype work (it was formerly called "rapid prototyping" for a reason), applications for AM have exploded, with a commensurate rise of interest in manufacturing.

While this is great for engineers, it has also been great for those with only a casual interest in engineering who may lack a full appreciation for engineering design issues such as specifications, variation, and tolerance. Complete engineering requirements have always found a home on the print, but the ability to download a CAD file and send it to the 3D printer makes it hard to appreciate the need for engineering requirements, let alone the need to document them. Herein lies the challenge for educators to foster the interest of the hobbyist and transform him or her into the engineer.

*IP: What are some of the new features users can expect to find in the fourth edition?*

**Gillis:** Before you even begin to read the book, you'll notice the three most important features: 100% of the hand-drawn artwork has been replaced with computer-generated drawings, there is full and equal coverage of English and metric prints, and the book contains 50% more artwork than the third edition.

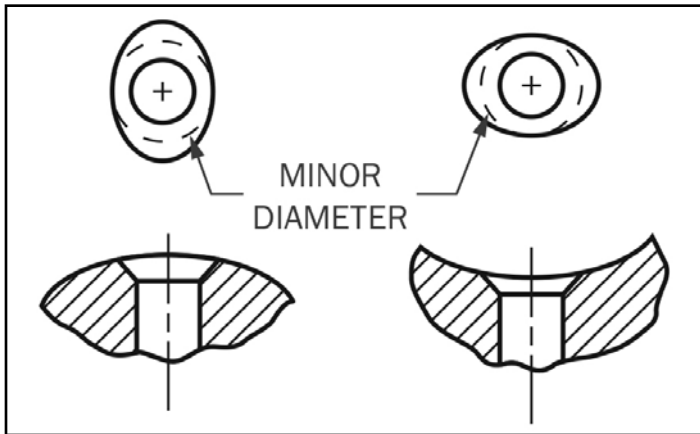


*Worksheet Example*

Getting into the content, several chapters have been expanded and material has been rearranged for better presentation. Chapters 2, 3, and 4 expand coverage of technical drawings and the total print with additional types of views and engineering drawing practices. Chapters 5 and 6 expand the treatment of dimensioning and tolerancing techniques with more illustrated examples. Geometric Dimensioning & Tolerancing has been re-written and moved to follow in Chapter 7 to better integrate this material with the rest of the book. Chapters on surface texture and treatments, threads, and gears have all been expanded. New material has been added to existing chapters covering splines and cam prints. New chapters have been added covering cast, forged, and molded plastic parts; and welded and sheet metal parts. A few topics not core to print reading have been trimmed.

Engineering prints made to current practices rely much more on symbols than English words to convey design requirements so anyone across the globe can understand them, regardless of where they were made. Throughout the fourth edition students will find symbols and standards currently used and commonly encountered on prints, alongside examples made according to prior practices that students are still likely to encounter.

Finally, digging a little bit deeper, both students and instructors



Sample CAD drawing

will also find that the numerous worksheets at the end of every chapter represent a more helpful knowledge check covering the full breadth of content of that chapter.

**IP:** For the first time in its history there will be an online Instructor's Resource Kit available for purchase. Please share how this kit will enhance an instructor's teaching experience.

**Gillis:** The Instructor's Resource Kit includes a wealth of information to enable instructors to plan and teach their course. Whether the course is included in a high school, vocational school, community college, undergraduate program curriculum, or for professional development, instructors can begin teaching *Blueprint Reading Basics* from the textbook immediately.

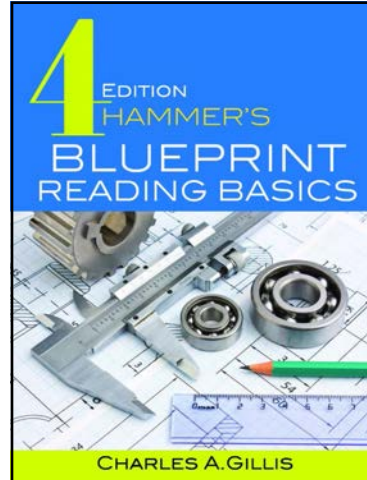
This kit boasts more than 600 PowerPoint presentations for using the textbook material in a classroom setting. And since the order of the presentations mirrors that of the textbook, content can be customized, enabling the instructor to present the course mate-

rial to his or her students in a meaningful and visually interesting manner.

Instructors will also find several *Blueprint Reading Course* recommended syllabi. Whether the course is a one-day seminar or 15-week course, instructors can find a syllabus which could be used as-is, or customized to suit their needs. Additionally, Lesson

Plans for all chapters provide a roadmap to planning learning objectives, resources, and assessments.

What's more, there are a number of resources for in-class handout and sharing with students: individual PDF files for selected figures & tables from the textbook, individual PDF files for all Review Questions & Answers, and individual PDF files for all Worksheet Problems & Solutions. ■



**HAMMER'S BLUEPRINT READING BASICS, 4TH EDITION**

By Charles A. Gillis and Warren Hammer (deceased)

Pages: 450 pages, Softcover

ISBN (print): 978-0-8311-3614-7, Price: \$39.95

ISBN (ebook): 978-0-8311-9431-4, Price: \$31.95

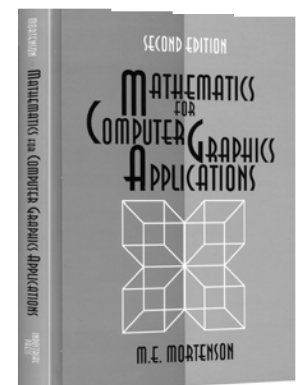
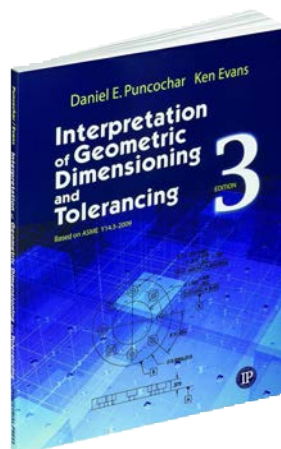
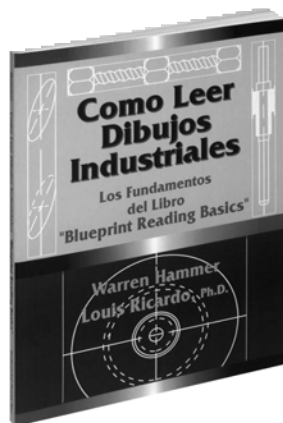
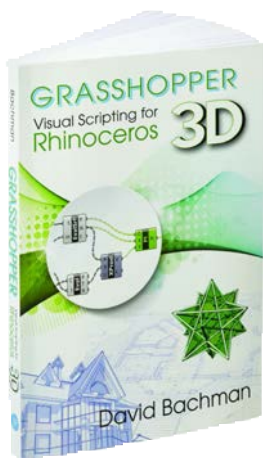
**BLUEPRINT READING BASICS INSTRUCTOR'S RESOURCE KIT**

By Charles A. Gillis

ISBN (ebook only): 978-0-8311-9434-5

Introductory Price: \$249.00

**POPULAR DESIGN AND GRAPHICS RESOURCES**



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