



Engineering Design with SolidWorks 2015 and Video Instruction

By David C. Planchard



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Engineering Design with SolidWorks 2015 and video instruction is written to assist students, designers, engineers and professionals. The book provides a solid foundation in SolidWorks by utilizing projects with step-by-step instructions for the beginner to intermediate SolidWorks user. Explore the user interface, CommandManager, menus, toolbars and modeling techniques to create parts, assemblies and drawings in an engineering environment.

Follow the step-by-step instructions and develop multiple parts and assemblies that combine machined, plastic and sheet metal components. Formulate the skills to create, modify and edit sketches and solid features.

Learn the techniques to reuse features, parts and assemblies through symmetry, patterns, copied components, Design Tables, Bills of Materials, Custom Properties and Configurations. Address various SolidWorks analysis tools and Intelligent Modeling techniques along with Additive Manufacturing (3D printing). Learn by doing not just by reading.

Desired outcomes and usage competencies are listed for each project. Know your objective up front. Follow the steps in Projects 1 - 9 to achieve the design goals.

Review Project 10 on Additive Manufacturing (3D printing) and its benefits and features. Understand the terms and technology used in low cost 3D printers.

Work between multiple documents, features, commands and custom properties that represent how engineers and designers utilize SolidWorks in industry.

Review individual features, commands and tools with the Video Instruction. The projects contain exercises. The exercises analyze and examine usage competencies. Collaborate with leading industry suppliers such as SMC Corporation of America, Boston Gear and 80/20 Inc.

Collaborative information translates into numerous formats such as paper drawings, electronic files, rendered images and animations. On-line intelligent catalogs guide designers to the product that meets both their geometric

requirements and performance functionality.

The author developed the industry scenarios by combining his own industry experience with the knowledge of engineers, department managers, vendors and manufacturers. These professionals are directly involved with SolidWorks every day. Their responsibilities go far beyond the creation of just a 3D model.

The book is designed to compliment the SolidWorks Tutorials contained in SolidWorks 2015.

View the provided videos in the book to enhance the user experience.

- SolidWorks Interface
- 2D Sketching, Sketch Planes and Sketch tools
- 3D Features and Design Intent
- Creating an Assembly
- Fundamentals in Drawings Part 1 & Part 2

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Editorial Review

About the Author

David Planchard is the founder of D&M Education LLC. Before starting D&M Education, he spent over 27 years in industry and academia holding various engineering, marketing, and teaching positions. He holds five U.S. patents. He has published and authored numerous papers on Machine Design, Product Design, Mechanics of Materials, and Solid Modeling. He is an active member of the SolidWorks Users Group and the American Society of Engineering Education (ASEE). David holds a BSME, MSM with the following professional certifications: CCAI, CCNP, CSDA, CSWSA-FEA, CSWP, CSWP-DRWT and SolidWorks Accredited Educator. David is a SolidWorks Solution Partner, an Adjunct Faculty member and the SAE advisor at Worcester Polytechnic Institute in the Mechanical Engineering department. In 2014, David's senior Major Qualifying Project team won the Provost award in Mechanical Engineering at WPI for design excellence.

David Planchard is the author of the following books:

- SolidWorks® 2015 Reference Guide, 2014, 2013, 2012, 2011, 2010, 2009 and 2008
- Drawing and Detailing with SolidWorks® 2014, 2012, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003, 2002 and 2001/2001Plus
- Engineering Design with SolidWorks® and Video Instruction 2015, 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003, 2001Plus, 2001 and 1999
- Engineering Graphics with SolidWorks® and Video Instruction 2015, 2014, 2013, 2012, 2011, 2010
- SolidWorks® 2015 in 5 Hours with Video Instruction, 2014
- SolidWorks® Tutorial with Video Instruction 2015, 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003 and 2001/2001Plus
- Official Certified SolidWorks® Associate Examination Guide, Version 4: 2012, 2011, 2010, Version 3: 2011, 2010, 2009, Version 2: 2010, 2009, 2008, Version 1: 2007
- Official Certified SolidWorks® Professional (CSWP) Certification Guide with Video Instruction, Version 3: 2014-2012, Version 2: 2013, 2012, Version 1: 2011, 2010
- Official Guide to Certified SolidWorks Associate Exams: CSWA, CSDA, and CSWSA-FEA, Version 2: 2015-2012, Version 1: 2013, 2012
- Assembly Modeling with SolidWorks® 2012, 2010, 2008, 2006, 2005-2004, 2003 and 2001Plus
- Applications in Sheet Metal Using Pro/SHEETMETAL & Pro/ENGINEER

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