



# Engineering Design with SolidWorks 2014 and Video Instruction

By David C. Planchard



## Engineering Design with SolidWorks 2014 and Video Instruction By David C. Planchard

Engineering Design with SolidWorks 2014 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: SimulationXpress, Sustainability/SustainabilityXpress and DFMXpress and Intelligent Modeling techniques. 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 Project 1 - 8 to achieve the design goals. 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 design to compliment the SolidWorks Tutorials contained in SolidWorks 2014.

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### Editorial Review

#### From the Author

Classroom support materials for this book (presentations, projects, avi files, labs, quizzes, and initial and final SolidWorks model files) are available to instructors.

#### 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 and degrees. 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.

David Planchard is the author of the following books:

- A Commands Guide for SolidWorks® 2013, 2012, 2011, 2010, 2009 and 2008
- Assembly Modeling with SolidWorks® 2012, 2010, 2008, 2006, 2005-2004, 2003 and 2001Plus
- 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 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003, 2001Plus, 2001 and 1999
- Engineering Graphics with SolidWorks® and Video Instruction 2014, 2013, 2012, 2011, 2010
- SolidWorks® The Basics with Multimedia CD 2009, 2008, 2007, 2006, 2005, 2004 and 2003
- SolidWorks® Tutorial with Video Instruction 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003 and 2001/2001Plus
- The Fundamentals of SolidWorks®: Featuring the VEXplorer robot, 2008 and 2007
- 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 2: 2013, 2012, Version 1: 2011, 2010
- Official Guide to Certified SolidWorks Associate Exams: CSWA, CSDA, and CSWSA-FEA, Version 1: 2013, 2012
- Applications in Sheet Metal Using Pro/SHEETMETAL & Pro/ENGINEER

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