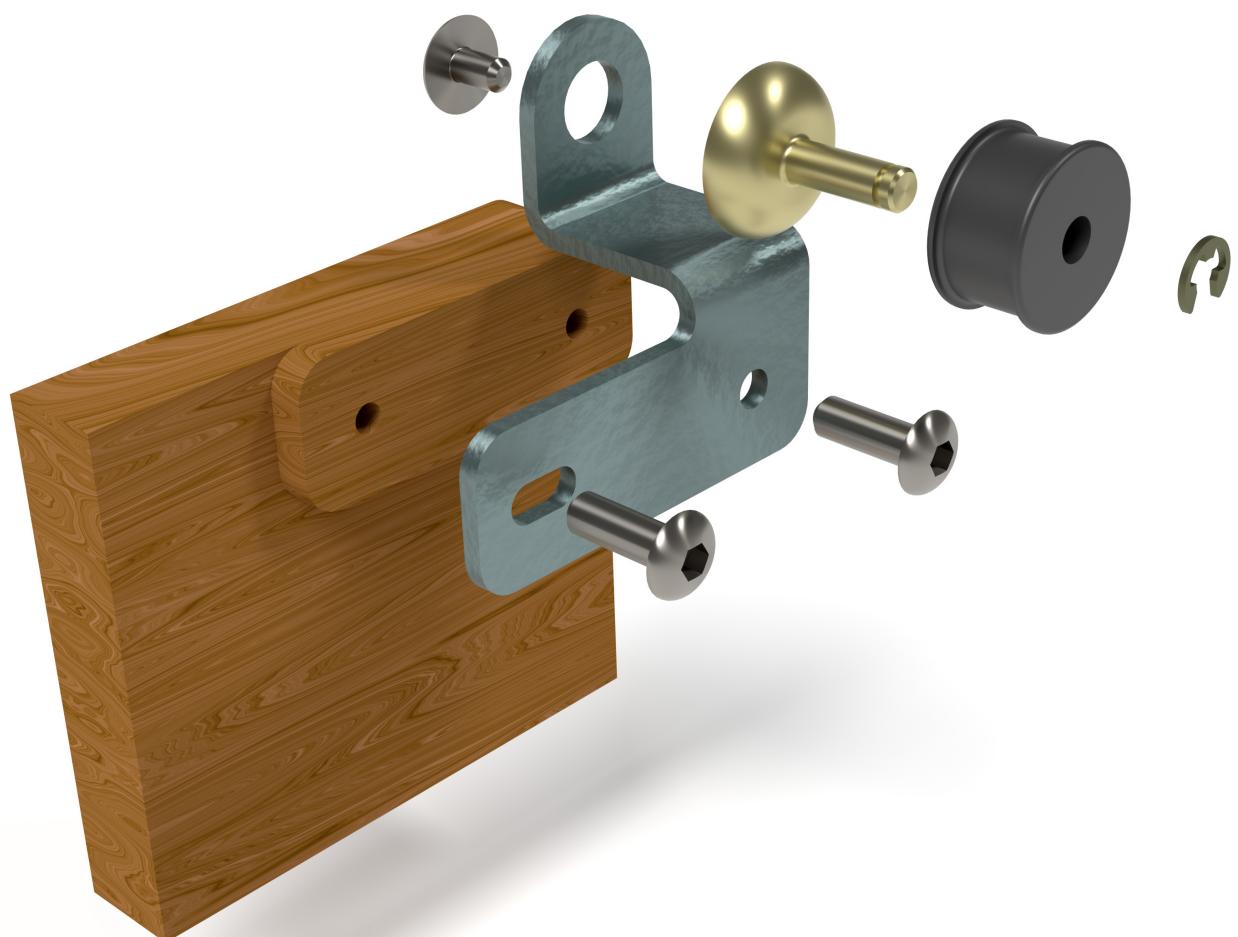


Designing with **SOLIDWORKS® 2024**



Michael J. Rider Ph.D.

Visit the following websites to learn more about this book:



Table of Contents

Chapter 1. Getting Started	1
Introduction.....	1-1
Chapter 2. Sketch Commands	2-1
Introduction.....	2-1
Sketch Commands Practice.....	2-11
Sketch Problems.....	2-14
Chapter 3. Extruded Boss/Base	3-1
Introduction.....	3-1
Extruded Boss/Base Practice	3-9
Extruded Boss/Base Exercise	3-13
Extruded Boss/Base Problems	3-19
Chapter 4. Revolved Boss/Base.....	4-1
Introduction.....	4-1
Revolved Boss/Bass Practice	4-7
Revolve Boss/Base Exercise.....	4-13
Revolved Boss/Base Problems	4-20
Chapter 5. Patterned and Mirrored Features.....	5-1
Introduction.....	5-1
Patterned Features Practice (Linear).....	5-7
Patterned Features Practice (Circular)	5-13
Patterned Features Exercise (Circular)	5-19
Patterned Features Problems.....	5-28
Chapter 6. Dimensioning	6-1
Introduction.....	6-1
Learn to Dimension Properly.....	6-2
Create a Custom Drawing Template.....	6-28
Creating a Detailed Engineering Drawing	6-37
Creating a Sectioned View.....	6-45
Creating an Auxiliary View	6-48
Dimensioning Problems.....	6-50

Chapter 7. Parametric Modeling using Equations	7-1
Introduction.....	7-1
Design Intent, Using Equations, and Patterns.....	7-9
Parametric Modeling Using Equations Problems	7-20
Chapter 8. Assemblies and Subassemblies.....	8-1
Introduction.....	8-1
Assembly Practice.....	8-3
Assembly Exercise.....	8-13
Assembly Problems	8-35
Chapter 9. Assembly Drawing.....	9-1
Introduction.....	9-1
Assembly Drawing Practice.....	9-4
Assembly Drawing Exercise.....	9-8
Assembly Drawing Problems	9-11
Chapter 10. Tolerancing and GD&T	10-1
Introduction.....	10-1
Tolerancing and GD&T Practice	10-13
Tolerancing and GD&T Exercise	10-21
Tolerancing and GD&T Problems	10-25
Chapter 11. Introduction to Finite Element Analysis	11-1
Introduction.....	11-1
Finite Element Analysis Practice	11-4
Finite Element Analysis Exercise	11-9
Finite Element Analysis Problems.....	11-14
Chapter 12. Appendices.....	12-1
Appendix A – Drill and Tap Chart	12-2
Appendix B – Number and Letter Drill Sizes.....	12-4
Appendix C – Surface Roughness Chart	12-5
Appendix D – Clevis Pin Sizes.....	12-6
Appendix E – Square and Flat Key Sizes	12-7
Appendix F – Screw Sizes	12-9
Appendix G – Nut Sizes	12-11
Appendix H – Setscrew Sizes	12-12
Appendix I – Washer Sizes.....	12-13

Appendix J – Retaining Ring Sizes	12-15
Appendix J – Basic Hole Tolerance.....	12-17
Appendix K – Basic Shaft Tolerance.....	12-18
Appendix L – Inch Tolerance Zones	12-19
Appendix M – Metric Tolerance Zones.....	12-20
Appendix N – International Tolerance Grades	12-21
Chapter 13. References.....	13-1