

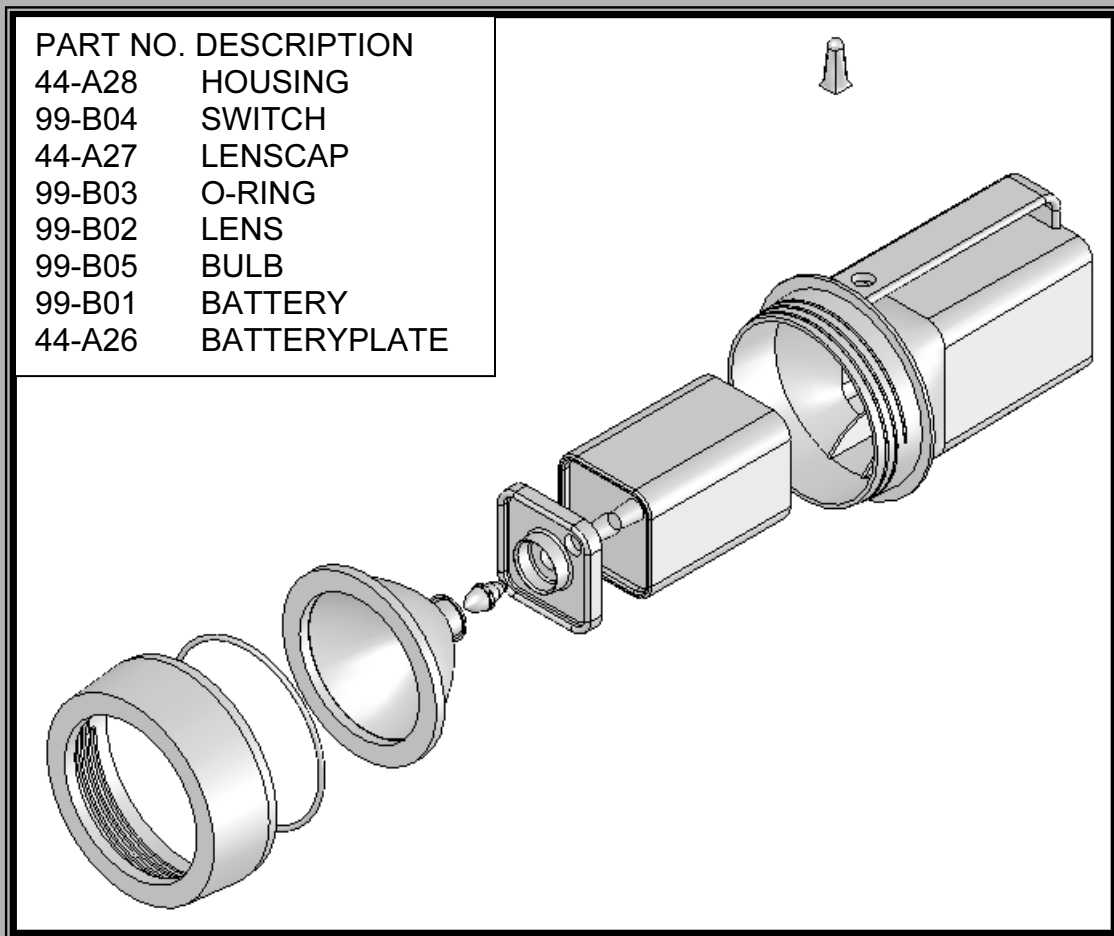
INSIDE:



SolidWorks 2008: The Basics with Multimedia CD

**A Working Knowledge of SolidWorks using a
Step-by-Step Project Based Approach**

Planchard & Planchard



SDC
PUBLICATIONS

Schroff Development Corporation



www.schroff.com
www.schroff-europe.com

TABLE OF CONTENTS

Introduction	I-1
About the Cover	I-2
About the Authors	I-2
Dedication	I-3
Contact the Authors	I-3
Note to Instructors	I-3
Trademarks, Disclaimers, and Copyrighted Material	I-4
References	I-4
Table of Contents	I-5
What is SolidWorks?	I-9
Design Intent	I-11
Design Intent in the Sketch	I-11
Design Intent in the Feature	I-12
Design Intent in the Part	I-13
Design Intent in the Assembly	I-14
Design Intent in the Drawing	I-14
Overview of Projects	I-15
Project 1: Extruded Boss/Base Features	I-15
Project 2: Revolved Boss/Base Features	I-15
Project 3: Swept Boss/Base and Loft Boss/Base Features	I-15
Project 4: Assembly Fundamentals: Bottom-up method	I-15
Project 5: Drawing Fundamentals	I-16
About the Book	I-16
Windows Terminology in SolidWorks	I-17
Project 1-Introduction to Part Modeling	I-1
Project Overview	I-3
File Management	I-4
Start a SolidWorks session	I-5
SolidWorks UI and CommandManager	I-6
Menu bar toolbar	I-6
Menu bar menu	I-6
Drop-down menu	I-7
Right-click Pop-up menu	I-7
Flyout tool buttons / Consolidated menu	I-7
System feedback icons	I-7
Confirmation Corner	I-8
Heads-up View Toolbar	I-8
CommandManager	I-10
FeatureManager Design Tree	I-11
Flyout FeatureManager	I-13
Task Pane	I-14
Design Library	I-14
File Explorer	I-15
Search	I-15
View Palette	I-15
RealView	I-16

Document Recover	1-16
Motion Study tab	1-16
Create a New Part	1-17
Heads-up View toolbar	1-20
Design Intent	1-22
Sketch	1-22
Feature	1-23
Part	1-24
Assembly	1-24
Drawing	1-24
Part Template	1-25
PART-IN-ANSI	1-25
PART-MM-ISO	1-26
BATTERY Part	1-30
BATTERY Part-Extruded Base Feature	1-31
BATTERY Part-Fillet Feature	1-35
BATTERY Part-Extruded Cut Feature	1-37
BATTERY Part-Second Fillet Feature	1-39
BATTERY Part Extruded Boss Feature	1-40
BATTERYPLATE Part	1-45
Save As, Delete, Modify, and Edit Feature	1-46
BATTERYPLATE Part-Extruded Boss Feature	1-48
BATTERYPLATE Part-Fillet Features: Full Round, Multiple Radius Options	1-49
BATTERYPLATE Part-Chamfer Feature	1-52
Multi-body Parts and Extruded Boss Feature	1-54
Project Summary	1-54
Project Terminology	1-56
Questions	1-59
Exercises	1-61
Project 2-Revolved Features	2-1
Project Overview	2-3
LENS Part	2-4
LENS Part Revolved Base Feature	2-7
LENS Part-Shell Feature	2-8
LENS Part-Extruded Boss Feature and Convert Entities Sketch Tool	2-9
LENS Part-Extruded Boss Feature	2-9
LENS Part-Hole Wizard Feature	2-10
LENS Part-Revolved Boss Thin Feature	2-12
LENS Part-Extruded Boss Feature and Offset Entities	2-15
LENS Part-Extruded Boss Feature and Transparent Optical Property	2-17
LENS Part-Transparent Optical Property	2-17
BULB Part	2-19
BULB Part-Revolved Base Feature	2-20
BULB Part-Revolved Boss Feature and Spline Sketch Tool	2-22
BULB Part-Revolved Cut Thin Feature	2-24
BULB Part-Dome Feature	2-26
BULB Part-Circular Pattern Feature	2-26
BULB Part-Seed Cut Feature	2-27
BULB Part-Extruded Cut Feature	2-28
BULB Part-Circular Pattern Feature	2-29

Customizing Toolbars and Short Cut Keys	2-30
Project Summary	2-32
Project Terminology	2-32
Questions	2-34
Exercises	2-35
Project 3-Swept, Loft, and Additional Features	3-1
Project Overview	3-3
O-RING Part	3-4
O-RING Part-Swept Base Feature	3-4
SWITCH Part	3-7
SWITCH Part-Loft Base Feature	3-8
SWITCH Part-Shape Feature	3-12
Four Major Categories of Solid Features	3-14
LENSCAP Part	3-15
LENSCAP Part-Extruded Base Feature	3-16
LENSCAP Part-Extruded Cut Feature	3-16
LENSCAP Part-Shell Feature	3-16
LENSCAP Part-Revolved Cut Thin Feature	3-19
LENSCAP Part-Thread Path Feature	3-20
LENSCAP Part-Helix/Spiral Curve Feature	3-20
LENSCAP Part-Swept Boss Feature	3-20
HOUSING Part	3-26
HOUSING Part-Extruded Base Feature	3-27
HOUSING Part-Loft Boss Feature	3-29
HOUSING Part-First Extruded Boss Feature	3-33
HOUSING Part-Shell Feature	3-34
HOUSING Part-Second Extruded Boss Feature	3-35
HOUSING Part-Draft Feature	3-36
HOUSING Part-Thread Feature	3-37
HOUSING Part-Swept Boss Feature	3-37
HOUSING Part-Handle Swept Boss Feature	3-41
HOUSING Part-Extruded Cut Feature with UpToSurface Option	3-46
HOUSING Part-First Rib Feature	3-48
HOUSING Part-Linear Pattern Feature	3-48
HOUSING Part-Second Rib Feature	3-51
HOUSING Part-Mirror Feature	3-54
Project Summary	3-56
Project Terminology	3-56
Questions	3-58
Exercises	3-59
Project 4-Assembly Modeling	4-1
Project Overview	4-3
Assembly Modeling Overview	4-4
FLASHLIGHT Assembly	4-6
Assembly Techniques	4-7
Assembly Template	4-8
Assembly Templates-ANSI	4-8
Assembly Templates-ISO	4-9
LENSANDBULB Sub-assembly	4-9

BATTERYANDPLATE Sub-assembly	4-13
CAPANDLENS Sub-assembly	4-15
FLASHLIGHT Assembly	4-19
FLASHLIGHT Assembly-Interference Issues	4-25
FLASHLIGHT Assembly-Exploded View	4-27
FLASHLIGH Assembly-Export Files and eDrawings	4-30
Project Summary	4-33
Project Terminology	4-33
Questions	4-35
Exercises	4-37

Project 5-Fundamentals of Drawing**5-1**

Project Overview	5-3
New Drawing and the Drawing Template	5-4
Title Block	5-7
Company Logo and Save Sheet Format	5-11
BATTERY Drawing	5-15
BATTERY Drawing-Insert a View	5-16
BATTERY Drawing-Detail View	5-19
BATTERY Drawing-View Display	5-20
BATTERY Drawing-Insert Model Items and Move Dimensions	5-21
BATTERY Drawing-Insert a Note	5-23
New Assembly Drawing and Exploded View	5-25
FLASHLIGHT Drawing-Bill of Materials	5-27
FLASHLIGHT Drawing-Balloons	5-29
Part Numbers	5-29
FLASHLIGHT Drawing-ConfigurationManager	5-30
FLASHLIGHT Drawing-Update the Bill of Materials	5-30
O-RING Part-Design Table	5-32
O-RING Drawing	5-34
O-RING Drawing-Design Table	5-35
Project Summary	5-36
Project Terminology	5-36
Questions	5-38
Exercises	5-39

Appendix

ECO Form	A-1
Types of Decimal Dimensions (ASME Y14.5M)	A-2
SolidWorks Keyboard Shortcuts	A-3
Windows Shortcuts	A-3
CSWA Certification information	A-5
Intended audience	A-5
CSWA exam content	A-6
Why the CSWA exam?	A-10
How to obtain the CSWA Certification?	A-10
Exam day	A-11
What do I get when I pass?	A-12
Helpful On-Line information	A-13

Index