# Beginner's Guide to SolidWorks 2015 Level II

Sheet Metal, Top Down Design, Weldments, Surfacing and Molds



Alejandro Reyes MSME, CSWP, CSWI



# Visit the following websites to learn more about this book:



amazon.com





## **Table of Contents**

Introduction	
Multi Body Parts, Sketch Editing and Other Tools	
Multi Body Parts	5
Contour Selection	43
Part Editing	51
Equations	81
Top Down Design and Sheet Metal Understanding Top Down Design	
More about external references	115
Sheet Metal and Top Down Design	119
Sheet Metal Drawings	197
Sheet Metal Locker Top Down Design	203
3D Sketch and Weldments	
Weldments	
Structural Member Libraries	
Surfacing and Mold ToolsSurface Modeling	
Master Model	399
Fastening Features	405
More about Surfaces	441
Mold Tools	455
Final Comments	541
Index	

List of commands introduced in each chapter. Note that many commands are used extensively in following chapters after they have been learned.

### **Multi Body Parts**

Multi Body **Local Operations** Hide/Show Body Merge

Feature Scope Delete Body **Body Pattern Combine Bodies** 

bbA Subtract Common Bodies to keep

Offset from Surface Sketch Picture

### **Contour Selection**

Regions available Contour Selection Shared Sketch Start From: Condition

### Part Editing

What's Wrong Parent/Child relations Sketch Editing **Dangling Relations** Delete Absorbed **Features** Sketch Relations Over Defined Sketch Not Solved Sketch SketchXpert View Sketch Relations

### **Equations**

Rename Dimensions Pattern Seed Only Add Equations **Edit Equations Delete Equations** Link Values

### **Top Down Design**

New Part Edit In Context Assembly Transparency Internal Part Externalize Part Edit Assembly **External References** In Context Out of Context Locked Broken

### Sheet Metal and Top Down Design

List External References

Base Flange **Sheet Metal Thickness** Bend Radius Bend Allowance Bend Deduction K-Factor Auto-Relief Rectangular Obround Tear Flat Pattern Forming Tools Modify Sketch Link to Thickness Normal Cut 3D Content Central Vent feature Miter Flange Unfold/Fold Bend Edge Flange **Build Library Features Library Parts** Mate Reference **Break Corners** Jog bend

Convert to Sheet Metal Closed Corners Selection Filters Sketch Pattern Feature Driven Pattern Hem Feature **Creating Forming Tools** Component Pattern Collision Detection Flexible Sub Assemblies **Assembly Features** 

### 3D Sketch

3D Sketch 3D Sketch Relations **Derived Sketch Projected Curve** 

### Weldments

3D Sketch review Cut list Weldment feature Structural Member **Corner Treatment End Miter End Butt** Locate Profile Rotate Profile Trim/Extend Gusset End Cap Weld Beads Weldment Cut List Weldment Drawings Cut List Table Weld Table Weld Symbols Save Bodies to Assembly Structural Member Libraries

Flat Pattern Drawing

**Bend Notes** 

### Surfacing

Revolved Surface Lofted Surface Extruded Surface Direction of Extrusion

Extrude with Draft

Trim Surface

Mutual Trim

Planar Surface Filled Surface

Knit Surface Constant Width Fillet

Thicken
Body Split
Face Fillet
Extend Surface
Extrude From
Mirror Bodies

Swept Surface

Twist Along Path

Sweep Cut Master Model

Mounting Boss Feature

Lip/Groove Feature Snap Hook/Groove

Feature

### **Mold Tools**

Draft Analysis
Direction of Pull
Positive Draft
Negative Draft

Draft

**Neutral Plane** 

Rollback/Roll Forward

Scale

Parting Line
Parting Surface
Tooling Split
Composite Curve
Swept Surface
Shut Off Surfaces
Move/Copy body
Delete Face

Face Classification Manual Parting Line

Selection

Select Open Loop

Rib

Side Core