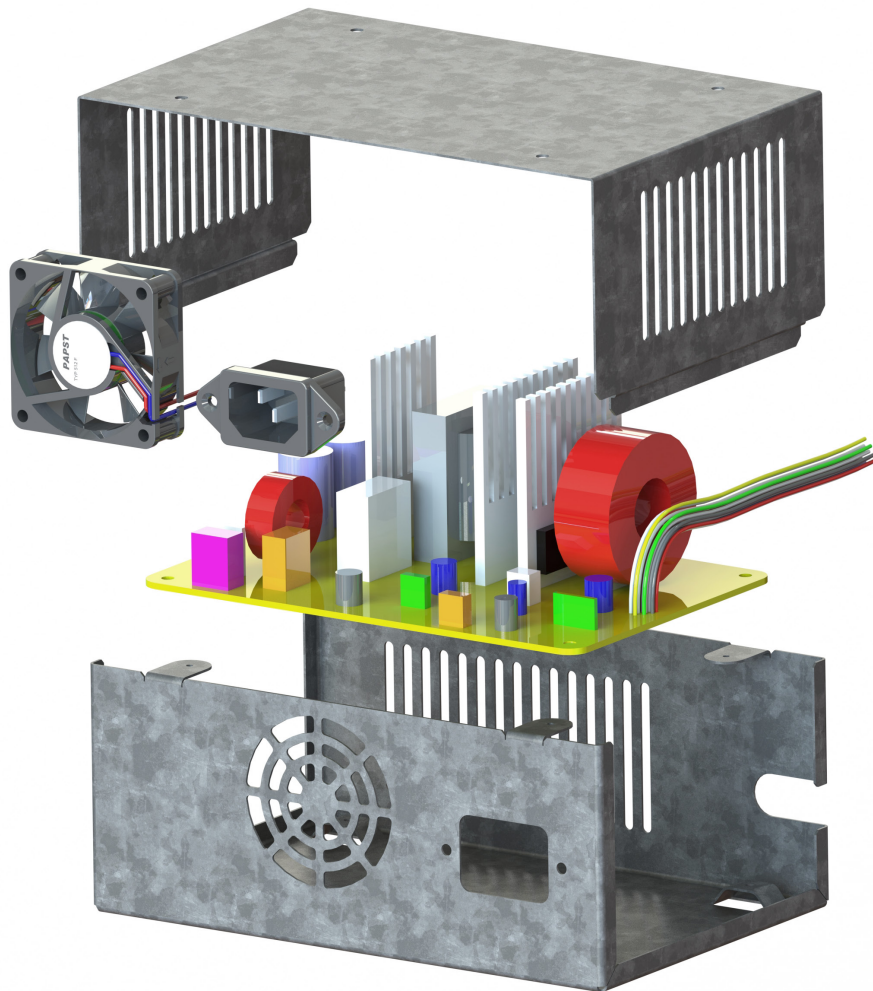


# Beginner's Guide to SOLIDWORKS® 2022 Level II

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



Alejandro Reyes MSME, CSWE, CSWI

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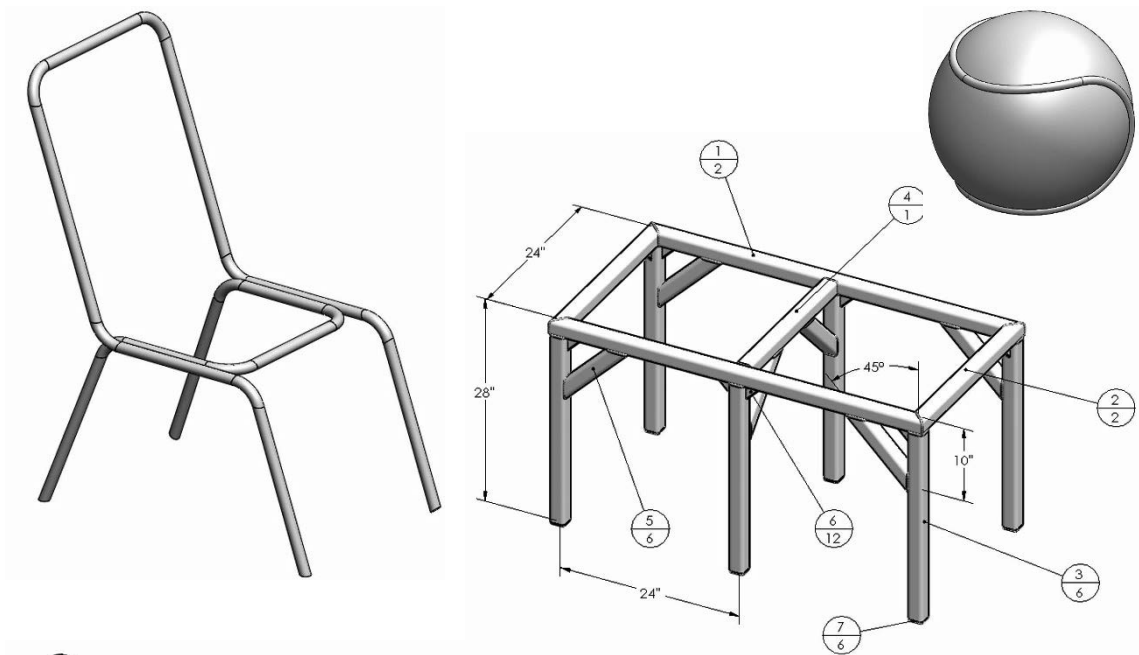
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List of commands introduced in each chapter. Note that many commands are used extensively in following chapters after they have been presented.

<p><b>Multi Body Parts</b></p> <ul style="list-style-type: none"> <li>Multi Body</li> <li>Local Operations</li> <li>Hide/Show Body</li> <li>Merge</li> <li>Feature Scope</li> <li>Delete Body</li> <li>Body Pattern</li> <li>Combine Bodies                             <ul style="list-style-type: none"> <li>Add</li> <li>Subtract</li> <li>Common</li> </ul> </li> <li>Bodies to keep</li> <li>Offset from Surface</li> <li>Sketch Picture</li> </ul> <p><b>Contour Selection</b></p> <ul style="list-style-type: none"> <li>Regions available</li> <li>Contour Selection</li> <li>Shared Sketch</li> <li>Start From: Condition</li> </ul> <p><b>Part Editing</b></p> <ul style="list-style-type: none"> <li>What's Wrong</li> <li>Parent/Child relations</li> <li>Sketch Editing</li> <li>Dangling Relations</li> <li>Delete Absorbed                             <ul style="list-style-type: none"> <li>Features</li> </ul> </li> <li>Sketch Relations</li> <li>Over Defined Sketch</li> <li>Not Solved Sketch</li> <li>SketchXpert</li> <li>View Sketch Relations</li> </ul> <p><b>Equations</b></p> <ul style="list-style-type: none"> <li>Rename Dimensions</li> <li>Pattern Seed Only</li> <li>Add Equations</li> <li>Edit Equations</li> <li>Delete Equations</li> <li>Link Values</li> </ul>	<p><b>Top Down Design</b></p> <ul style="list-style-type: none"> <li>New Part</li> <li>Edit In Context</li> <li>Assembly Transparency</li> <li>Internal Part</li> <li>Externalize Part</li> <li>Edit Assembly</li> <li>External References                             <ul style="list-style-type: none"> <li>In Context</li> <li>Out of Context</li> <li>Locked</li> <li>Broken</li> </ul> </li> <li>List External References</li> </ul> <p><b>Sheet Metal and Top Down Design</b></p> <ul style="list-style-type: none"> <li>Base Flange</li> <li>Sheet Metal Thickness</li> <li>Bend Radius</li> <li>Bend Allowance</li> <li>Bend Deduction</li> <li>K-Factor</li> <li>Auto-Relief                             <ul style="list-style-type: none"> <li>Rectangular</li> <li>Obround</li> <li>Tear</li> </ul> </li> <li>Flat Pattern</li> <li>Forming Tools</li> <li>Modify Sketch</li> <li>Link to Thickness</li> <li>Normal Cut</li> <li>3D Content Central</li> <li>Vent feature</li> <li>Miter Flange</li> <li>Unfold/Fold Bend</li> <li>Edge Flange</li> <li>Build Library Features</li> <li>Library Parts</li> <li>Mate Reference</li> <li>Break Corners</li> <li>Jog bend</li> <li>Flat Pattern Drawing</li> <li>Bend Notes</li> </ul>	<ul style="list-style-type: none"> <li>Convert to Sheet Metal</li> <li>Closed Corners</li> <li>Selection Filters</li> <li>Sketch Pattern</li> <li>Feature Driven Pattern</li> <li>Hem Feature</li> <li>Creating Forming Tools</li> <li>Component Pattern</li> <li>Collision Detection</li> <li>Flexible Sub Assemblies</li> <li>Assembly Features</li> </ul> <p><b>3D Sketch</b></p> <ul style="list-style-type: none"> <li>3D Sketch</li> <li>3D Sketch Relations</li> <li>Derived Sketch</li> <li>Projected Curve</li> </ul> <p><b>Weldments</b></p> <ul style="list-style-type: none"> <li>3D Sketch review</li> <li>Cut list</li> <li>Weldment feature</li> <li>Structural Member</li> <li>Corner Treatment                             <ul style="list-style-type: none"> <li>End Miter</li> <li>End Butt</li> </ul> </li> <li>Locate Profile</li> <li>Rotate Profile</li> <li>Trim/Extend</li> <li>Gusset</li> <li>End Cap</li> <li>Weld Beads</li> <li>Weldment Cut List</li> <li>Weldment Drawings</li> <li>Cut List Table</li> <li>Weld Table</li> <li>Weld Symbols</li> <li>Save Bodies to                             <ul style="list-style-type: none"> <li>Assembly</li> </ul> </li> <li>Structural Member</li> <li>Libraries</li> </ul>
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### **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