

# Beginner's Guide to **SOLIDWORKS® 2019**

## Level II

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



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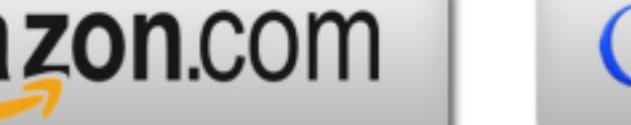


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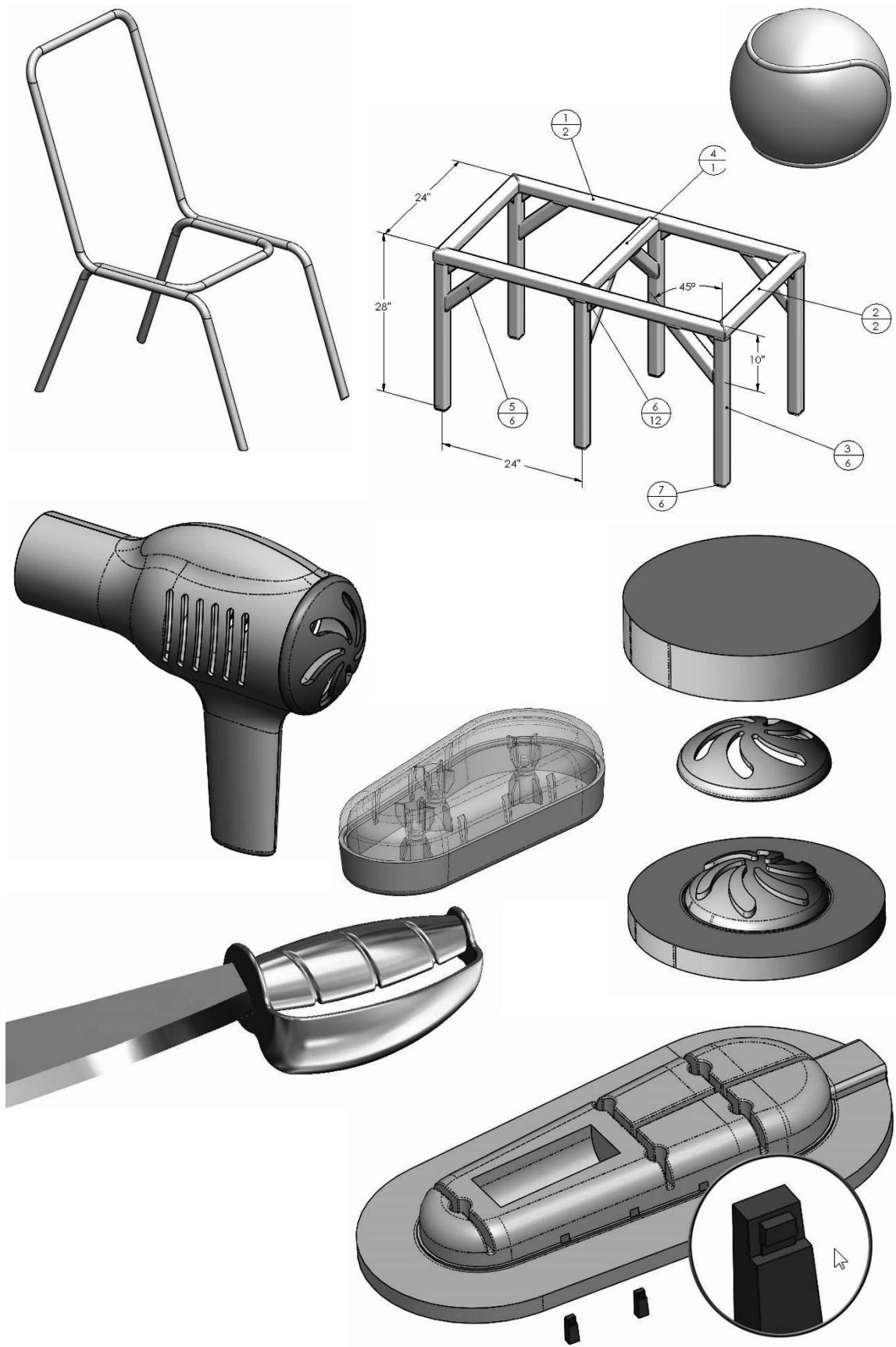
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List of commands introduced in each chapter. Note that many commands are used extensively in following chapters after they have been presented.

| <b>Multi Body Parts</b>  | <b>Top Down Design</b>                 |                         |
|--------------------------|--|-------------------------|
| Multi Body               | New Part                               | Convert to Sheet Metal  |
| Local Operations         | Edit In Context                        | Closed Corners          |
| Hide/Show Body           | Assembly Transparency                  | Selection Filters       |
| Merge                    | Internal Part                          | Sketch Pattern          |
| Feature Scope            | Externalize Part                       | Feature Driven Pattern  |
| Delete Body              | Edit Assembly                          | Hem Feature             |
| Body Pattern             | External References                    | Creating Forming Tools  |
| Combine Bodies           | In Context                             | Component Pattern       |
| Add                      | Out of Context                         | Collision Detection     |
| Subtract                 | Locked                                 | Flexible Sub Assemblies |
| Common                   | Broken                                 | Assembly Features       |
| Bodies to keep           | List External References               |                         |
| Offset from Surface      |  | <b>3D Sketch</b>        |
| Sketch Picture           |  | 3D Sketch               |
|                          | <b>Sheet Metal and Top Down Design</b> | 3D Sketch Relations     |
|                          | Base Flange                            | Derived Sketch          |
|                          | Sheet Metal Thickness                  | Projected Curve         |
| <b>Contour Selection</b> | Bend Radius                            |                         |
| Regions available        | Bend Allowance                         | <b>Weldments</b>        |
| Contour Selection        | Bend Deduction                         | 3D Sketch review        |
| Shared Sketch            | K-Factor                               | Cut list                |
| Start From: Condition    | Auto-Relief                            | Weldment feature        |
|                          | Rectangular                            | Structural Member       |
| <b>Part Editing</b>      | Obround                                | Corner Treatment        |
| What's Wrong             | Tear                                   | End Miter               |
| Parent/Child relations   | Flat Pattern                           | End Butt                |
| Sketch Editing           | Forming Tools                          | Locate Profile          |
| Dangling Relations       | Modify Sketch                          | Rotate Profile          |
| Delete Absorbed Features | Link to Thickness                      | Trim/Extend             |
| Sketch Relations         | Normal Cut                             | Gusset                  |
| Over Defined Sketch      | 3D Content Central                     | End Cap                 |
| Not Solved Sketch        | Vent feature                           | Weld Beads              |
| SketchXpert              | Miter Flange                           | Weldment Cut List       |
| View Sketch Relations    | Unfold/Fold Bend                       | Weldment Drawings       |
|                          | Edge Flange                            | Cut List Table          |
| <b>Equations</b>         | Build Library Features                 | Weld Table              |
| Rename Dimensions        | Library Parts                          | Weld Symbols            |
| Pattern Seed Only        | Mate Reference                         | Save Bodies to          |
| Add Equations            | Break Corners                          | Assembly                |
| Edit Equations           | Jog bend                               | Structural Member       |
| Delete Equations         | Flat Pattern Drawing                   | Libraries               |
| Link Values              | Bend Notes                             |                         |

| <b>Surfacing</b>         | <b>Mold Tools</b>     |
|--------------------------|-----------------------|
| Revolved Surface         | Draft Analysis        |
| Lofted Surface           | Direction of Pull     |
| Extruded Surface         | Positive Draft        |
| Direction of Extrusion   | Negative Draft        |
| Extrude with Draft       | Draft                 |
| Trim Surface             | Neutral Plane         |
| Mutual Trim              | Rollback/Roll Forward |
| Planar Surface           | Scale                 |
| Filled Surface           | Parting Line          |
| Knit Surface             | Parting Surface       |
| Constant Width Fillet    | Tooling Split         |
| Thicken                  | Composite Curve       |
| Body Split               | Swept Surface         |
| Face Fillet              | Shut Off Surfaces     |
| Extend Surface           | Move/Copy body        |
| Extrude From             | Delete Face           |
| Mirror Bodies            | Face Classification   |
| Swept Surface            | Manual Parting Line   |
| Twist Along Path         | Selection             |
| Sweep Cut                | Select Open Loop      |
| Master Model             | Rib                   |
| Mounting Boss Feature    | Side Core             |
| Lip/Groove Feature       |                       |
| Snap Hook/Groove Feature |                       |