



# Advanced Assemblies with Sheetmetal 1/2

## 1: Top-Down Assembly Modeling

Top-Down Assembly Modeling  
Stages in the Process  
Building Virtual Parts  
Building Parts in an Assembly  
Assembly Features  
In-Context Features  
Propagating Changes  
Smart Fasteners  
Saving Internal Parts as External  
External References  
Breaking External References  
Removing External References

## 2: Advanced Mate Techniques

Advanced Mates  
Adding Mate References  
Design Library Parts  
Capture Mate References  
Configuration Publisher  
Smart Components  
Advanced and Mechanical Mate Types  
Summary: Inserting and Mating Components  
Multiple Mate Mode  
Using Copy with Mates  
Mate Options

## 3: Using Configurations with Assemblies

Using Configurations with Assemblies  
Stages in the Process  
Component Patterns  
Using Configure Component  
Creating Configurations Manually  
Using Design Tables with Assemblies  
Understanding Design Tables  
Manipulating the Design Table

## 4: Display States and Appearances

Display States  
Bulk Selection Tools  
Advanced Select  
Envelopes  
Appearances, Materials and Scenes

## 5: Assembly Editing

Assembly Editing  
Key Topics  
Editing Activities  
Replacing and Modifying Components  
Troubleshooting an Assembly  
Replacing Components Using Save As  
Mirroring Components  
Hole Alignment  
Controlling Dimensions in an Assembly  
Sensors

## 6: Layout-based Assembly Design

Key Topics  
Blocks  
Inserting Blocks  
Testing with the MotionManager  
Creating a Part from a Block

## 7: Large Assemblies

Large Assemblies  
Key Topics  
Lightweight Components  
Large Assembly Mode  
Selective Open with Hide  
Using Quick View / Selective Open  
Using SpeedPak  
Using Configurations with Large Assemblies  
Modifying the Structure of an Assembly  
Assembly Visualization  
Tips for Faster Assemblies  
Drawing Considerations  
SolidWorks Explorer  
Renaming Components

## 8: The MotionManager

MotionManager  
Using the Animation Wizard  
Free Motion  
Drag Motion  
Motors and Motion  
Visual Properties  
Interpolation Modes

View Orientation States  
Basic Motion  
Using Physical Dynamics

## 9: Modeling Sheet Metal Parts

Sheet Metal Methods  
Stages in the Process  
Sheet Metal Toolbar  
Designing with Sheet Metal Features  
Sheet Metal Features  
Miter Flanges  
Edge Flanges  
Bend Angles  
Adding a Tab  
Flat Pattern  
Cuts  
Sheet Metal Parts in Drawings

## 10: Sheet Metal Forming Tools

Standard Tools  
Creating a Custom Forming Tool

## 11: Additional Sheet Metal Features

Edge Flanges and Closed Corners  
Curved Edge Flanges  
Hems  
Designing in Flat  
Existing Rounds  
Using Symmetry  
Manual Relief Cut  
Break Corner  
Jog Feature  
Lofted Bends  
Bend Deviation

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### 12: Converting Parts to Sheet Metal

Sheet Metal Topics  
Convert to Sheet Metal Method  
Recognize Bends Method  
Convert to Sheet Metal  
Importing  
Using the Rip Feature  
Adding Bends in Place of Sharp Corners  
Sheet Metal Features  
Making Changes  
Adding a Welded Corner  
Unrolling Cones and Cylinders  
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### 14: Working with Pipes and Tubing

Working with Pipes and Tubing  
3D Sketching  
Weldments and Sheet Metal in Assemblies

### 13: Weldments

Weldments  
Structural Members  
Groups vs. Structural Members  
Manual Trimming of Structural Members  
Adding Plates  
Weld Beads  
Using Symmetry  
Gussets and End Caps  
Profile Sketches  
Working with Weldments  
Managing the Cut List  
Custom Properties  
Weldment Drawings