

Simplifying Parts and Assemblies

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Premium Partners:



Microsoft

Simplifying Parts and Assemblies

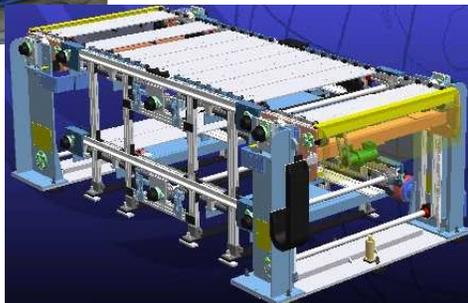
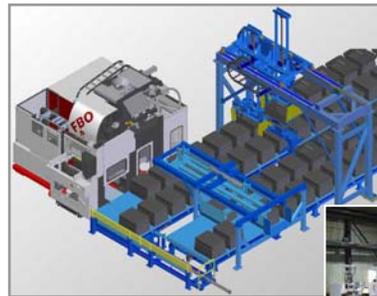
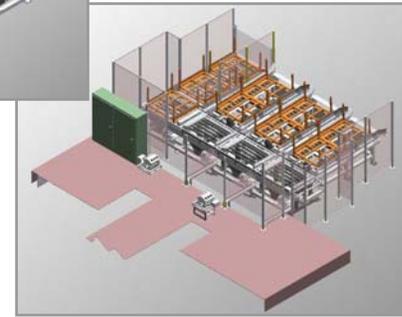
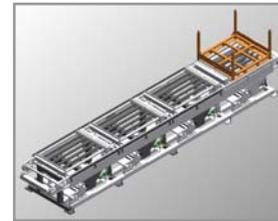
- Introduction to Roberts Sinto Corporation
- Simplifying Parts
- Working with Simplified Parts
- Simplifying Assemblies
- Working with Simplified Assemblies
- Best Practices for Simplifying Parts and Assemblies

Roberts Sinto Corporation

- A world leader in the foundry industry
- Manufactures foundry systems and machinery
- Works closely with clients to provide solid, practical solutions to foundry operations and automated material handling problems
- Has a customer client list that encompasses all of the major automotive groups

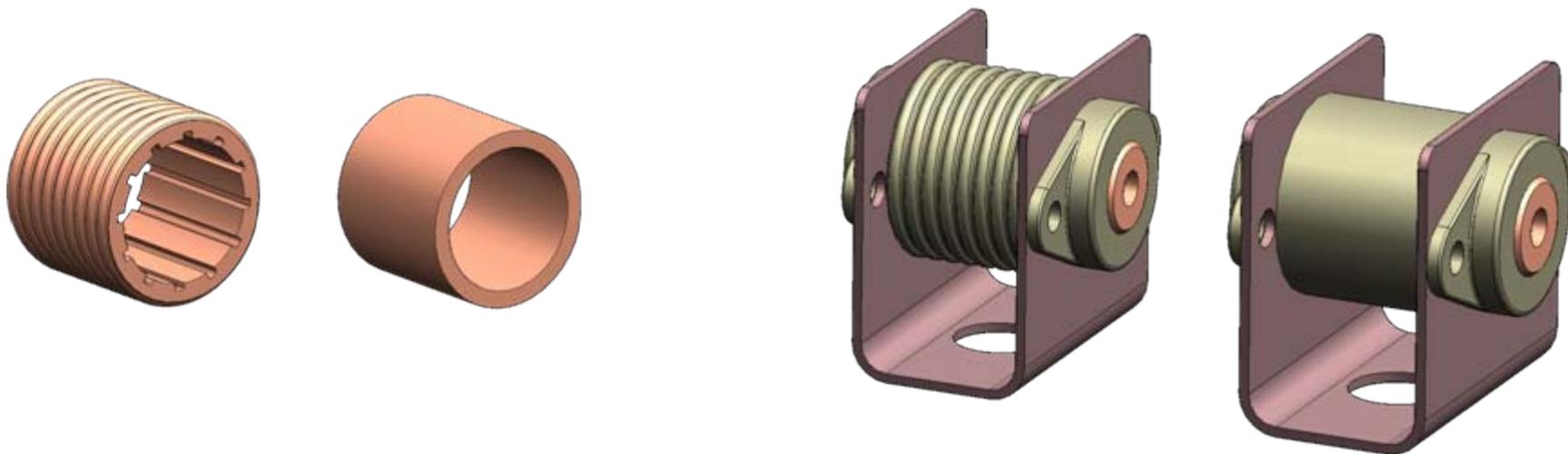
Roberts Sinto Products

- Material Handling
- Molding Machines
- Mold Handling Systems
- Sand Reclaimers



Simplifying Parts

- Simplify parts as they are created
- Show the simplified version of parts in the assembly file for faster view processing



Delete Faces



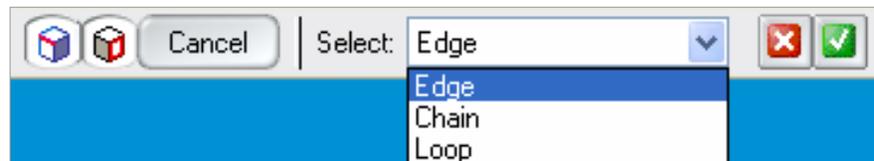
- Select faces to be removed
- Heal option
- Clear selected faces with the red X
- Accept selected faces with the green check



Delete Regions



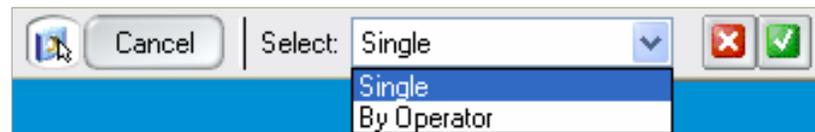
- Select a closed set of edges that surrounds the region
- Select a face that lies inside of the region
- Clear selected edges or faces with the red X
- Accept selected edges or faces with the green check



Delete Holes



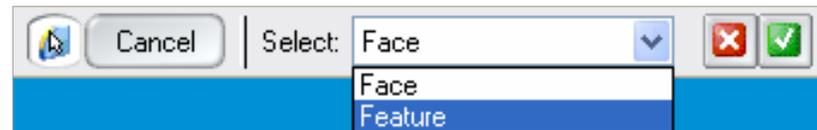
- Select holes to delete
- Clear selected holes with the red X
- Accept selected holes with the green check
or
- Define a size to select all holes less than or equal to



Delete Rounds



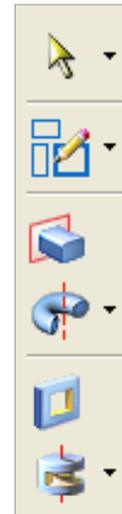
- By face or by feature
- Clear selected rounds with the red X
- Accept selected rounds with the green check



Note: when selecting rounds by feature, selections can be made in the feature Pathfinder

Additional Features

- Additional features can be used to further simplify models
 - protrusion
 - revolved protrusion
 - cutout
 - revolved cutout



Using Simplified Parts in an Assembly

- Choose to use the simplified or designed version of parts each time the assembly is opened

The image shows a software dialog box with the following options:

- Hide all components
- Apply activation override to parts
 - Activate all
 - Inactivate all
- Apply simplify override to parts
 - Use all design
 - Use all simplified
- Apply simplify override to subassemblies
 - Use all design
 - Use all simplified

A red rectangle highlights the "Apply simplify override to parts" section. A "Save As Default" button is located at the bottom right of the dialog box. Below the dialog box is a "Configuration:" label followed by a dropdown menu.

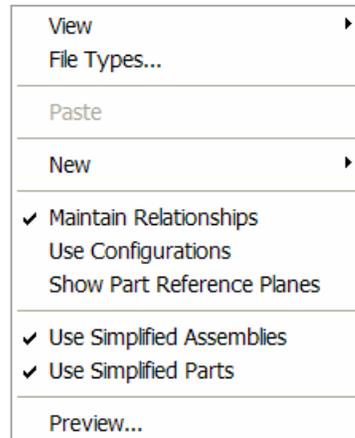
Using Simplified Parts in an Assembly

- Right-click on the part in the Assembly PathFinder to switch between the simplified and designed versions of the part after the assembly is opened



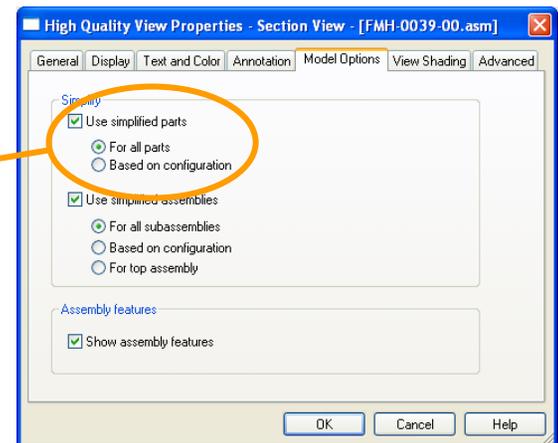
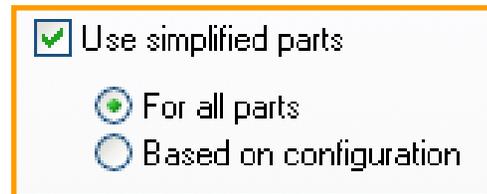
Using Simplified Parts in an Assembly

- In the Parts Library tab of the assembly PathFinder, tell Solid Edge to use the simplified version of parts as they are placed into the assembly



Using Simplified Parts in a Draft View

- Right-click on the drawing view
- From the short-cut menu select Properties
- On the Model Options tab, set the use simplified parts option



- Update the view

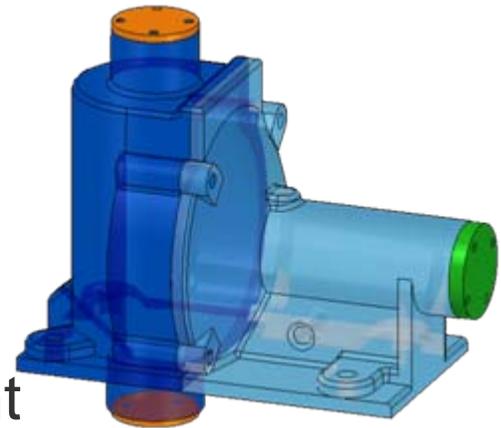
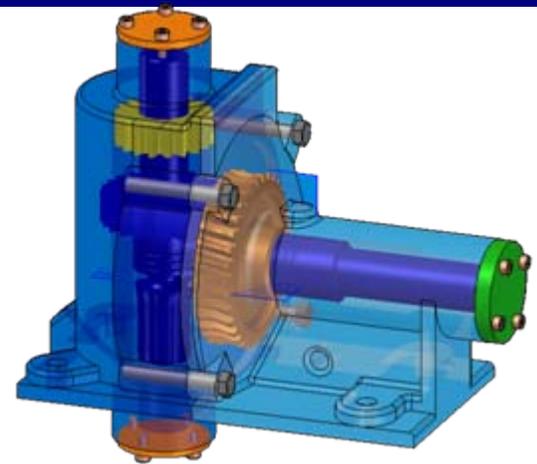


Simplifying Assemblies

- Gives users a quick and easy method to create a simplified representation of assemblies for faster file opening, display and drawing production time
- Preserves intellectual property by sharing designs without proprietary detail

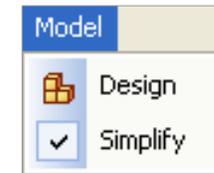
Simplifying Assemblies

- Automatically produces an “envelope” representation of the assembly
- User controls to refine/improve the solution
 - Exclude Parts (small or chosen)
 - Option to add additional faces
 - Uses simplified parts in the solution
- Results:
 - Associative collection of surfaces
 - Stored inside the assembly document



Simplifying Assemblies

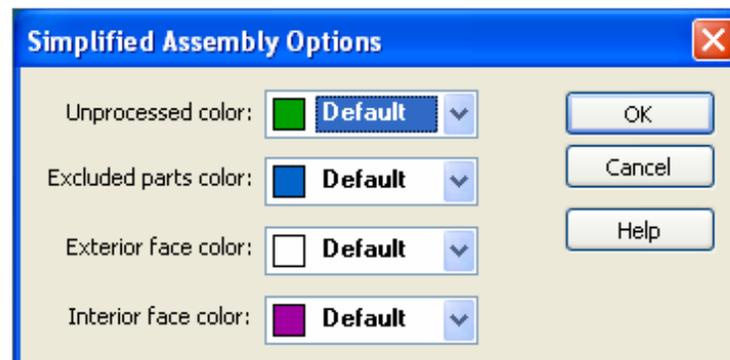
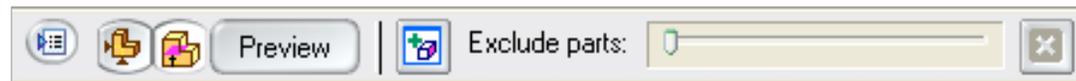
- Select Simplify from the Model pull-down menu
- Assembly Simplification Tools
 - create simplified assembly
 - update simplified assembly
 - save simplified as
- You choose which version to use in assemblies and drafts



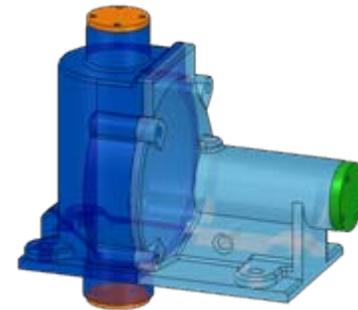
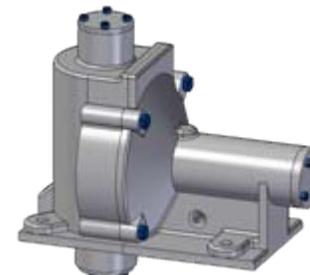
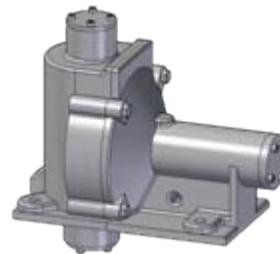
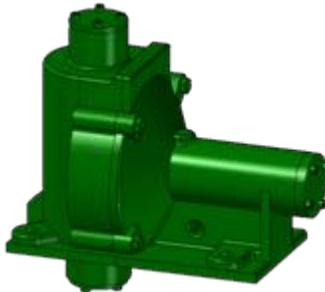
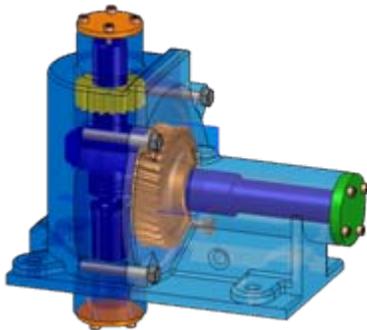
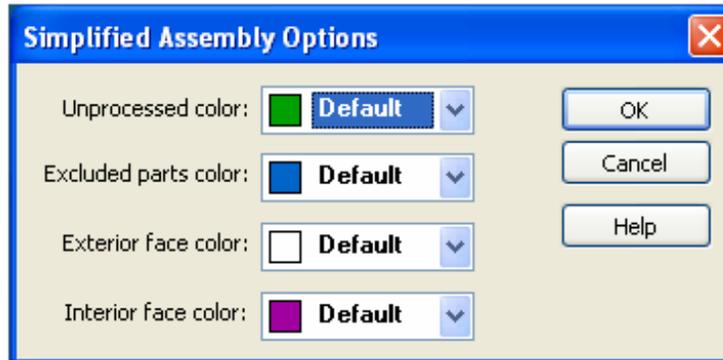
Create Simplified Assembly



- Specify face colors on the Options form
- Analyze assembly automatically determines interior and exterior faces
- Modify results allows users to override results and exclude parts by size



Create Simplified Assembly



Update Simplified Assembly

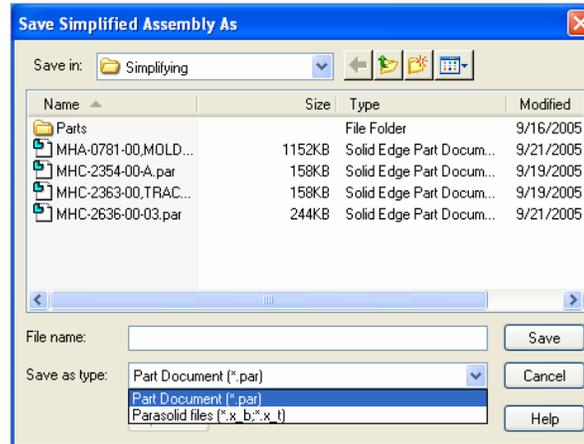


- Re-calculates the simple version of the assembly
- Run after modifying the simplified assembly results
- Run when the assembly has changed

Save Simplified As



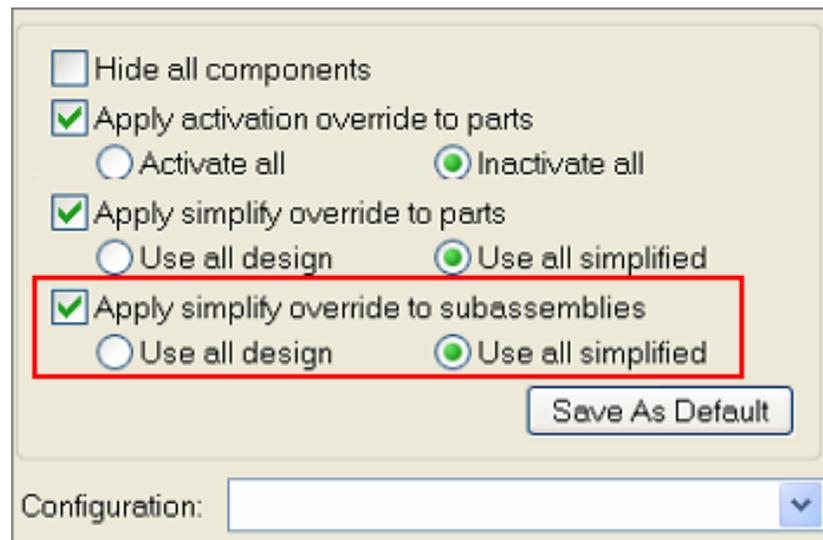
- Save the simplified version of the assembly as a parasolid or a Solid Edge part file



- Allows you to send your designs to third parties without including proprietary details

Using Simplified Assemblies in an Assembly

- Choose to use the simplified or designed version of assemblies each time the assembly is opened



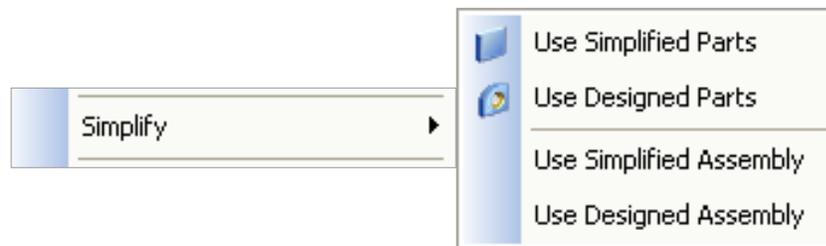
The image shows a software dialog box with a light beige background. It contains several options with checkboxes and radio buttons. The options are:

- Hide all components
- Apply activation override to parts
 - Activate all
 - Inactivate all
- Apply simplify override to parts
 - Use all design
 - Use all simplified
- Apply simplify override to subassemblies
 - Use all design
 - Use all simplified

A red rectangular box highlights the 'Apply simplify override to subassemblies' section. Below the options is a 'Save As Default' button. At the bottom, there is a 'Configuration:' label followed by a text input field and a dropdown arrow.

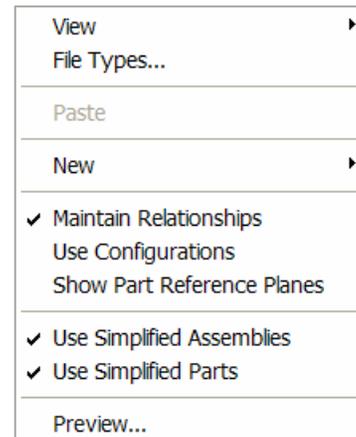
Using Simplified Assemblies in an Assembly

- Right-click on the assembly in the Assembly PathFinder
- From the short-cut menu select Simplify
- On the Simplify fly out, select which version of the assembly to use



Using Simplified Assemblies in an Assembly

- In the Parts Library tab of the assembly PathFinder, tell Solid Edge to use the simplified version of assemblies as they are placed into the assembly

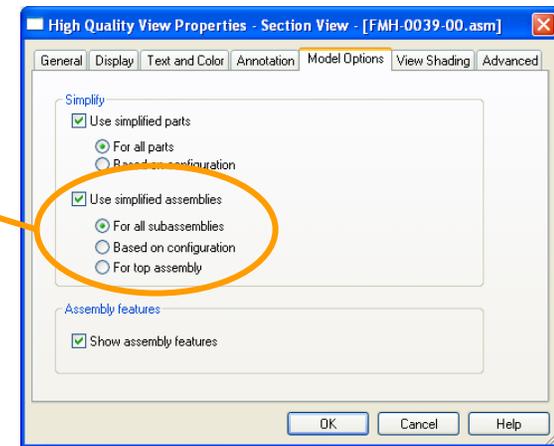
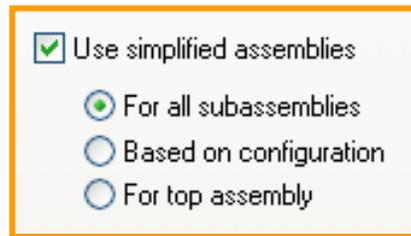


Using Simplified Assemblies in a Draft View

- Right-click on the drawing view
- From the short-cut menu select Properties
- On the Model Options tab, set the use simplified assemblies options

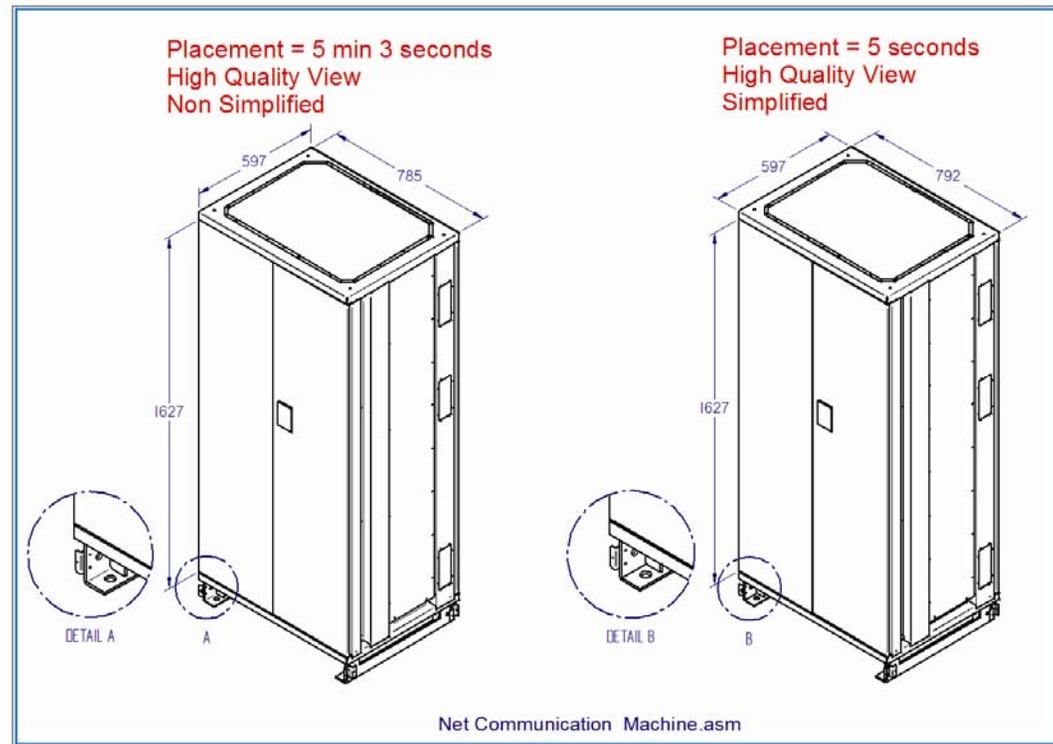


- Update the view



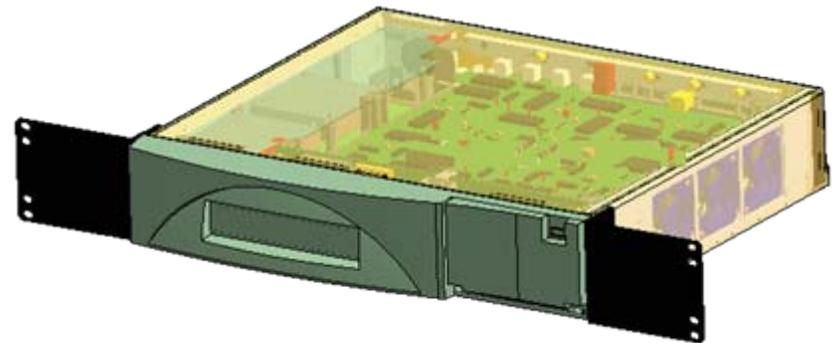
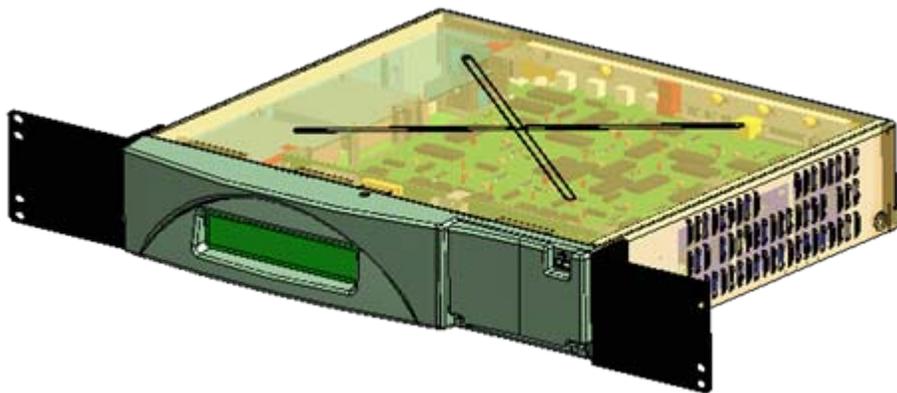
Using Simplified Assemblies in a Draft View

- Allows faster drawing view placement



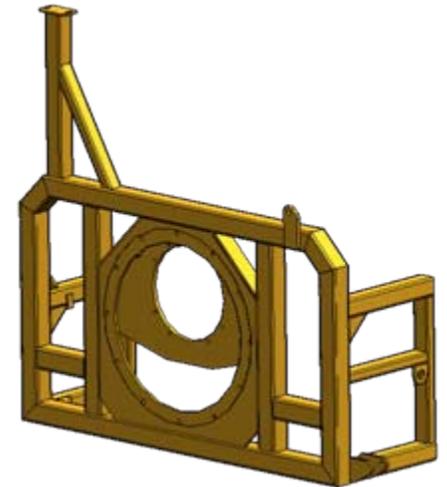
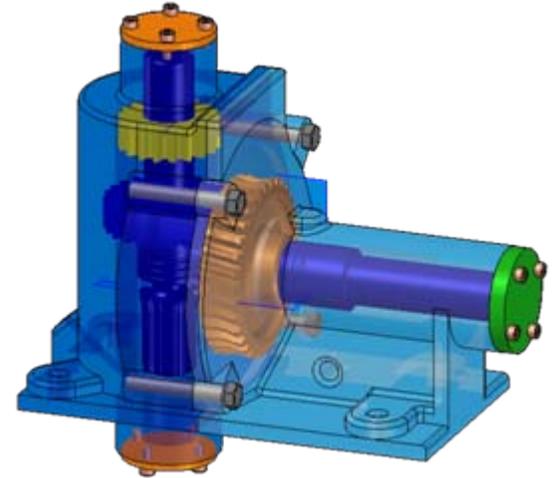
Best Practices

- Use Simplified Parts with Simplified Assemblies results in:
 - Faster Simplified Assembly Creation
 - Better Visibility Solution
 - Smaller Simplified Representation
 - Smaller Assembly File Size
 - Faster Performance



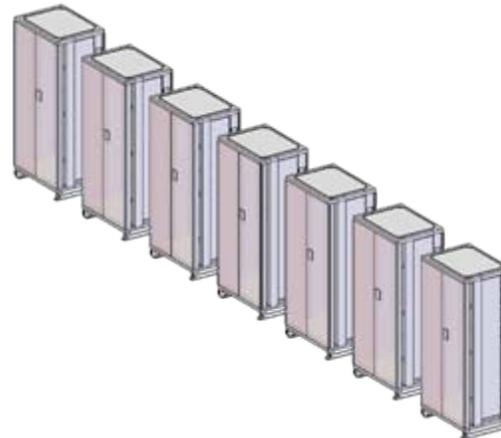
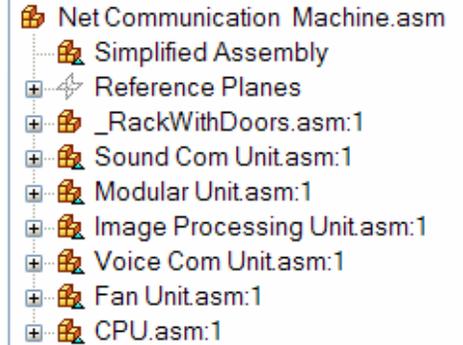
Best Practices

- Proper Selection of Assemblies for Simplification
- Some assemblies are more suited for simplification
 - Products with Enclosures have good results
 - Products not enclosed (ie. Frames) become large



Best Practices

- Simplifying top level assembly requires additional memory/resources for open
- Top level is always opened as designed
- More common to simplify major subassemblies rather than top level



Simplifying Parts and Assemblies

Questions?