

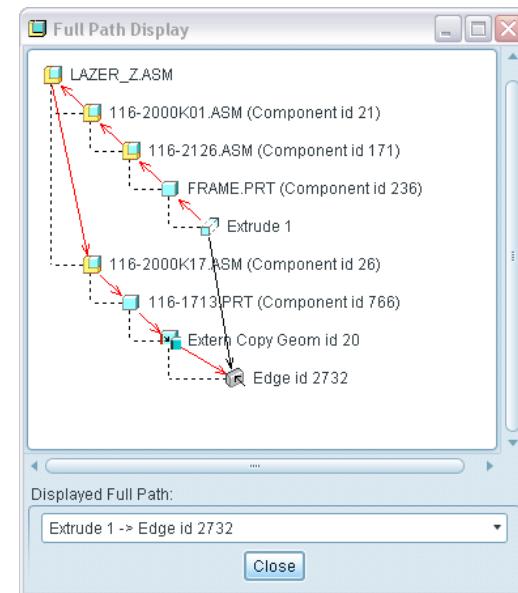
Caddarens guide till externa referenser

- ▶ Ordlista
- ▶ Utmärkande egenskaper
- ▶ Rekommendationer
- ▶ Exempel och visning av verktyg

Understanding External References

Basic Glossary

- External reference
 - A reference reaching outside a specific model
- Reference path
 - The sequence of components connecting the source and the target
- Model
 - The “physical” file. A part, assembly etc
- Component
 - This is an assembly feature that “holds” a solid model occurrence in the assembly
- Component in path
 - An assembly feature required for building the reference path
- Dependency
 - A dependency specifies a model required to maintain for instance a reference



Understanding External References

External References

- Are powerful
 - They help facilitate associative design by “connecting” geometry between models
- Can be “dangerous”
 - Incorrectly established external references can cause undesired dependencies to a large number of models
- Can be investigated
 - The reference viewer provides a graphical overview of references and dependencies
- Can be controlled
 - Reference control prevents unwanted external references
 - Data sharing features facilitate “clean” and more stable external references
 - The reference viewer allows breakage of certain dependencies

External Reference Best Practice

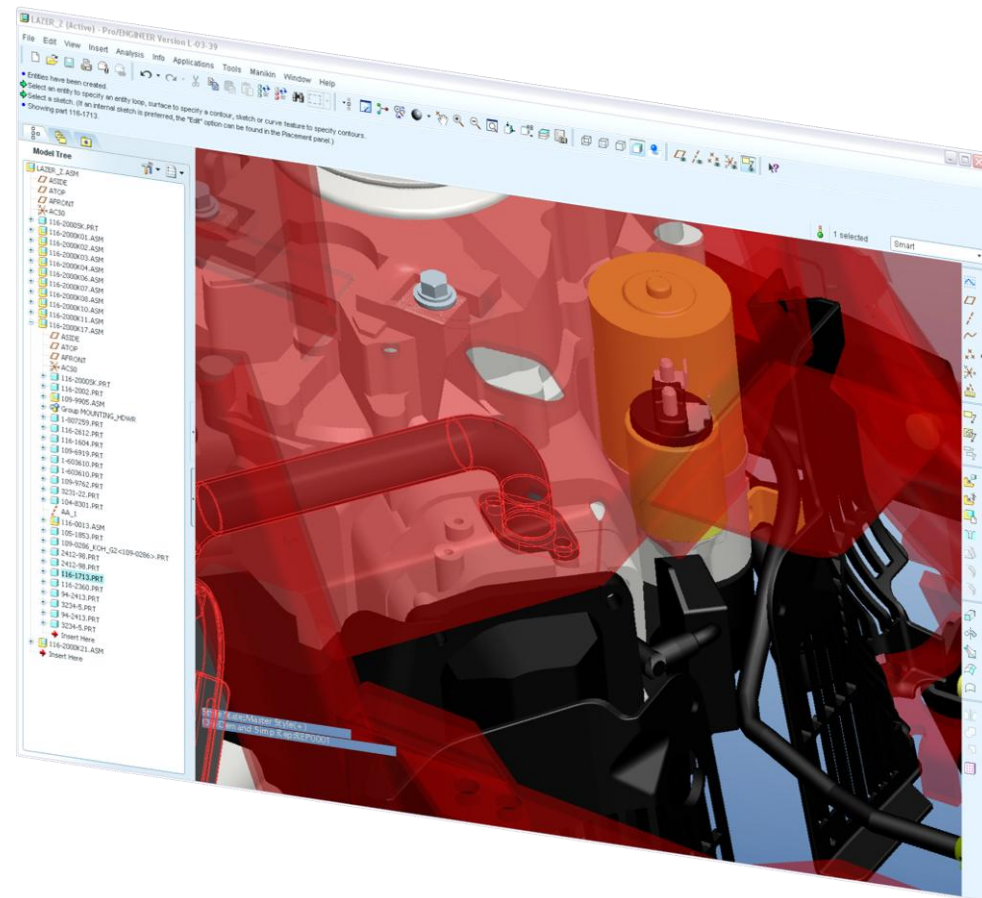
Eliminate undesired dependencies

- Consider what level of automation you desire when referencing an external model
 - Are you looking for both geometry and placement of the geometry?
 - Are you interested in maintaining a “link” to the reference model? Or could you “cut it loose”?
- Make an educated choice of “referencing vehicle”
 - An assembly context “use edge” reference is quick, simple and powerful. It can however come with an unexpected number of dependencies
 - Choosing a purpose built Data Sharing Feature (DSF), e.g. External Copy Geometry, will provide greater control and more stable models
- Prepare your models
 - By applying Reference Control to template models you can eliminate unintended external references
- Check your model for un-desired references/dependencies
 - Regularly use the Reference Viewer to ensure you only created the references you need

External Reference Best Practice Demo

Let's look at some examples.

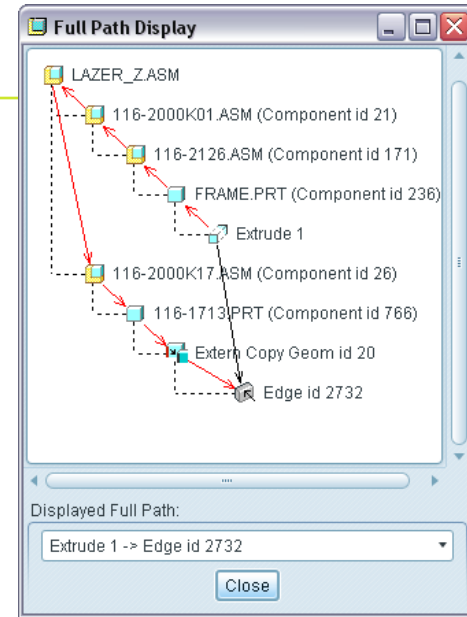
- Task
 - Using references from part 116-1713.PRT (The exhaust system), create a dependent cut in part FRAME.PRT
- Precondition
 - The parts are located in assembly branches that meet at the top level assembly
 - Reference created in a simplified representation of the assembly



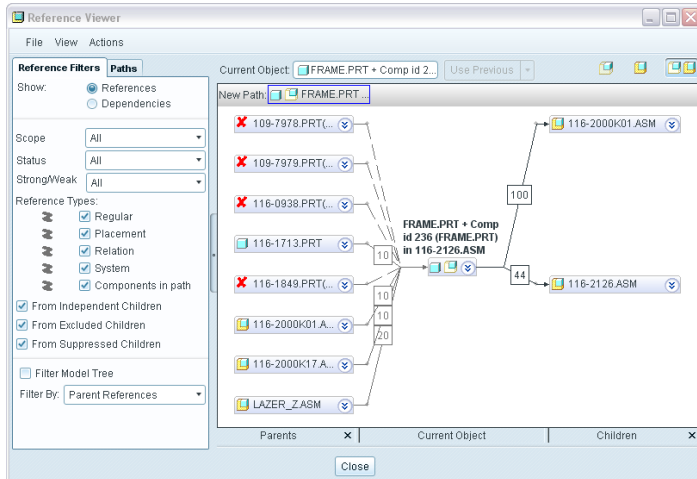
External Reference Best Practice Demo

Example 1. Assembly Context “Use Edge”

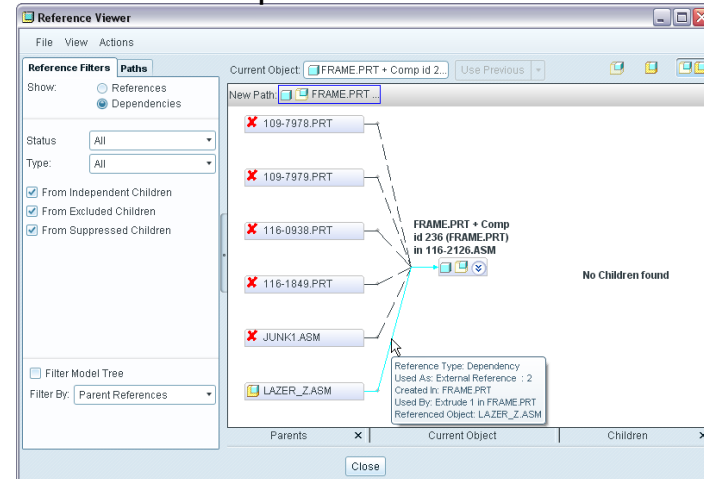
- Activating frame.prt in the context of the assembly and using edges from 116-1713.PRT
 - This is fast and simple, but it creates a reference path thru the top level assembly
 - FRAME.PRT is now dependent on the top level assembly



External references



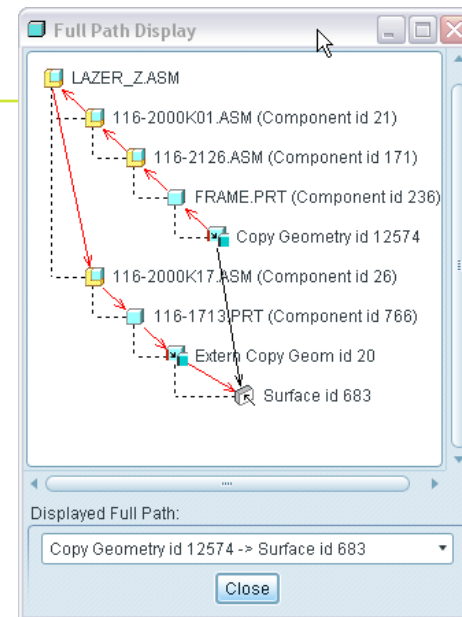
Dependencies



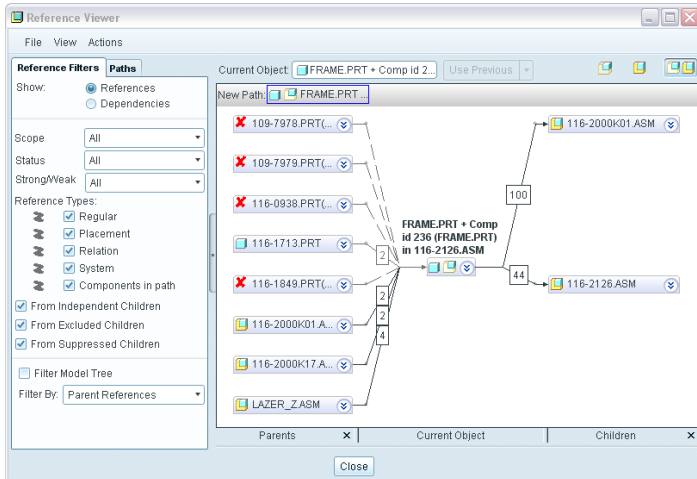
External Reference Best Practice Demo

Example 2. Copy Geometry Feature (CG)

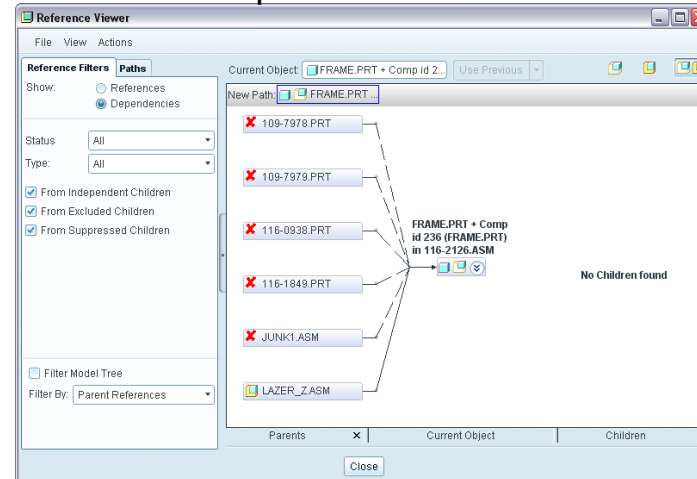
- Activating frame.prt in the context of the assembly, inserting a copy geom feature and then using edge
 - An extra step and still a reference path thru the top level assembly
 - Frame.prt still dependent on top level assembly
 - The Copy Geom feature however provides more control
 - And it can be converted to an External CG!



External references



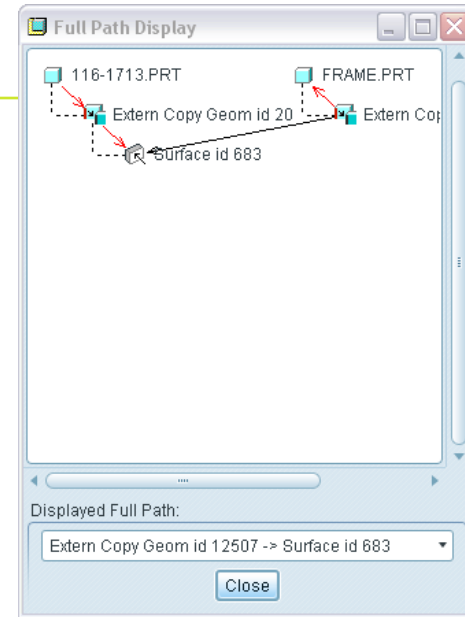
Dependencies



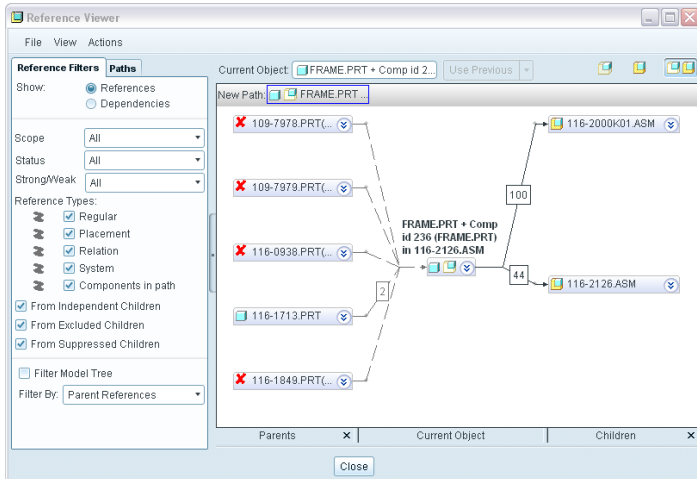
External Reference Best Practice Demo

Example 3. Convert To External Copy Geometry Feature

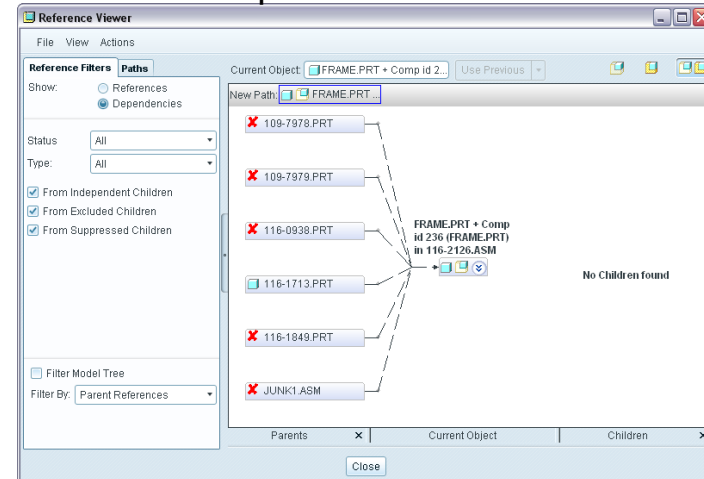
- o Converting the Copy Geom feature to a External Copy Geom feature
 - This allows you to keep the current position
 - “Direct” reference to 116-1713.prt
 - Frame.prt is no longer dependent on top level assembly
 - Position is however frozen



External references



Dependencies



External Reference Best Practice Demo

Reference Control

- Reference control can be set up to:
 - Disallow some or all external references
 - Warn against external references and create a "Geometry Backup" that can be converted to a copy geom/external copy geom feature

