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CUST224: The Power of Positioning Assemblies in Creo View

Bill Ryan PACCAR Vehicle Integration Engineer

June 11th, 2013 – 4:00-4:45PM Room 203A *All presentations are subject to change

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PACCAR Company Information







Windchill/Creo View 2/Creo Parametric 2

Outline

- Statistics and Video
- What is a Positioning Assembly
- Why
- Big Picture
- Creo View Settings
- Publishing
- Benefits
- Needs





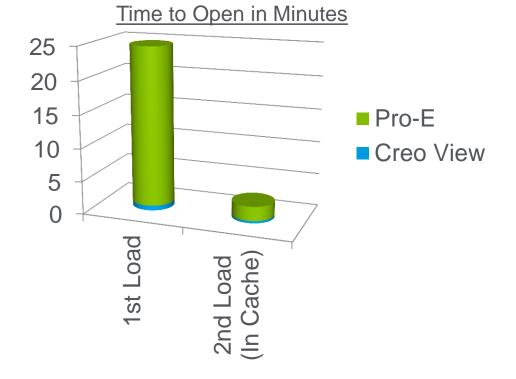
Positioning Assemblies - Statistics

Opening Simplified Reps/Viewables/Annotations

- Simplified Rep Created in Top Level Assembly
- Auto Load in Creo View M040

- Enhancement in M040 Driven by PACCAR





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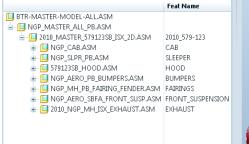
Positioning Assemblies - Statistics



Opening Simplified Reps/Viewables/Annotations

Pro-E 1^{st} Load = 1440 sec

2^{nd} Load = 130 sec (Cache)





Creo View

1^{st} Load = 44 sec

- 13 sec for links - 31 sec for models 2nd Load = 20 sec (Cache Enabled)

- 13 sec for links

- 7 sec for models

- Be 🛛 🗊



- 💓 579123sb_hood.asm, A.6 HOOD
- 🛄 ngp_aero_pb_bumpers.asm, A.1 🛛 BUMPERS
- 🛄 ngp_mh_pb_fairing_fender.asm, A.47 🛛 FAIRINGS In
- g ngp_aero_sbfa_front_susp.asm, A.5 FRONT_SUSPENSION Image: Strategy and Strategy
- (click to expand)



Assembly Statistics: Over 600,000 Required Dependents 216 - Assemblies Loaded 233 - Parts Loaded

Video

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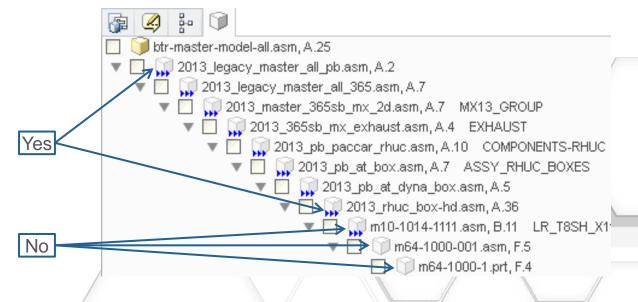
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What is a Positioning Assembly

- A Positioning Assembly is a High-Level Assembly that is Used to Fix the Relative Location (Position) of its Child Assemblies.
- Icon Definition in Creo View Tree Structure

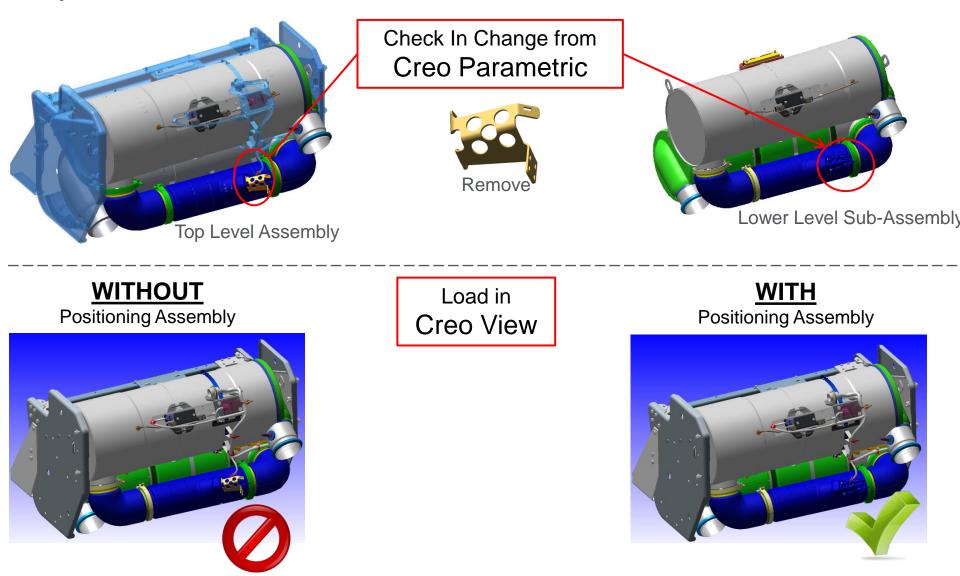
Indicates Parent Assembly is **Published** as a Positioning Assembly

Indicates Parent Assembly is **Not Published** as a Positioning Assembly



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Why



Positioning Assemblies – Big Picture

Integration of Creo View, Creo Parametric and Windchill for Large Development Assemblies

- Development uses Combination Top-Down and Bottom-Up Design with 150% BOM Assemblies including many levels of gathering assemblies to organize each system of the vehicle
- Goal:
 - Navigate Large Assemblies and View Latest 3-D Cad Information Faster
- Solution:
 - Positioning Assembly Publishing



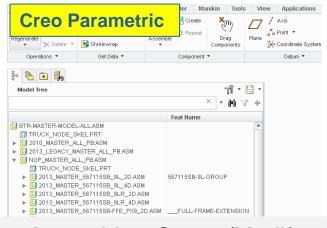
Positioning Assemblies – Big Picture

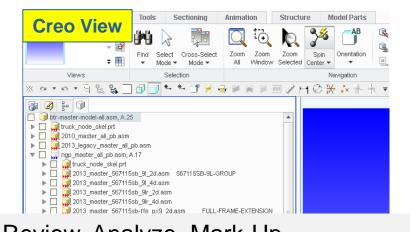


Big Picture - Integration of Creo & Windchill



Information & Publishing





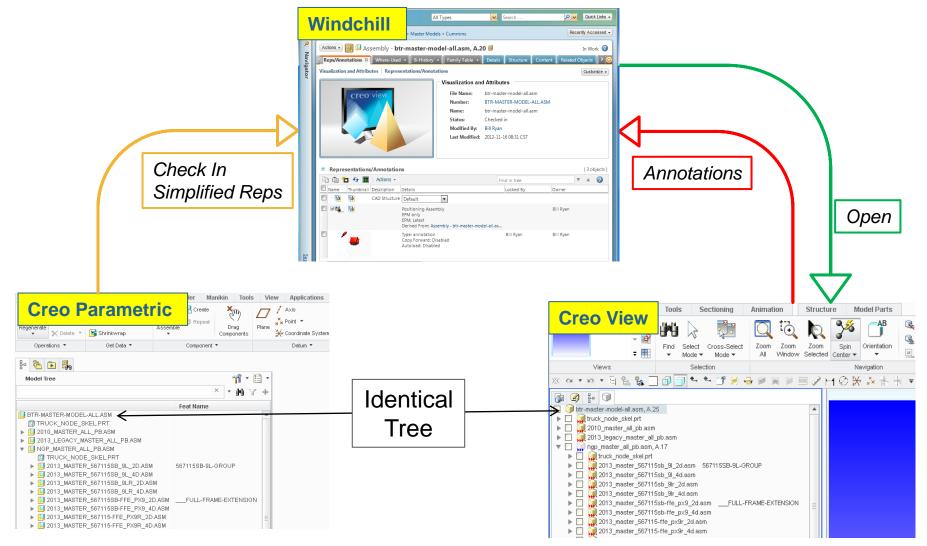
Assemble - Create/Modify Component Placement Defined

Review, Analyze, Mark-Up Navigate and Open Similar to Creo Parametric

Positioning Assemblies – Big Picture



Workflow - Creo & Windchill



Positioning Assemblies - Settings



		Creo View Options					
Creo View S	ettinas	Showing: Global					
		 General Navigation 	General - Navigation				
	Creo View Options	Color Palette					
Showing: Global 🗸	1	Watermarks Startup	Part highlighting mode:				
	I	File Cache	Select using color:				
General	General - Loading	Loading Annotations	Secondary selection color:				
Navigation Color Palette		Stamps Tags	Enable Preselection Highlighting: Enable Assembly Highlighting				
Watermarks	Load Creo View data as: Autoload single file	▼ Model					
Startup		Tooltips Hidden Line Removal	Vse Drill Down in Specific Filters				
File Cache	Autoload branch links	Animation Materials	Navigation Model:				
Loading Annotations		Geometry Compare	Enable use of 3dconnexion devices				
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P	🖉 📴 🗊		
1	Model	×	Filter Model List
	▼ Name		Filter Model List
	Z-LW-TRUCK-579-SLEEPER		Show in model list :
	Z-LW-TRUCK-579-DAYCAB-LO		
	Z-LW-TRUCK-579-DAYCAB-EXTDR		Names matching
	X-NAVIGATION-SLPR-PB-NGP-SUB		Enter text to match *
	X-NAVIGATION-CAB-NGP_SUB		
	NAVIGATION_320-SERV-MOD_BB_SUB		Part names matching
	NAVIGATION_320-SERV-MOD_BB		Enter text to match *
	🛅 NAVIGATION-TRAN_AND_TRIM-PB_SUB		
	NAVIGATION-TRAN_AND_TRIM-PB		Only files attached to selected parts
1 NAVIGATION-SUSP-STEER-PB_SUB			
1 NAVIGATION-SUSP-STEER-PB			Make Default OK Cancel
🛅 NAVIGATION-ROUTING-PB_SUB			
<<	1 of 2 >> Selected(49 of 147)		

Show <u>Viewables</u> Associated with Selected Assembly

Positioning Assemblies – Windchill Publishing

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Publisher Settings

- See Positioning Assembly Section of Reference Guide
 - <u>http://www.ptc.com/WCMS/files/138204/en/WindchillVisualizationServicesGuide_10-1_M040.pdf</u>

Publishing Creo Parametric and CATIA V5

Assemblies as Positioning Assemblies

This topic explains how to configure Visualization to publish Creo Parametric and CATIA V5 assemblies as positioning assemblies.

• Settings in PACCAR WVS Properties File

publish.positioningassembly.ibaname=POSITIONING_ASSY
 publish.positioningassembly.publishchildren=false

Publisher and Background Method Server

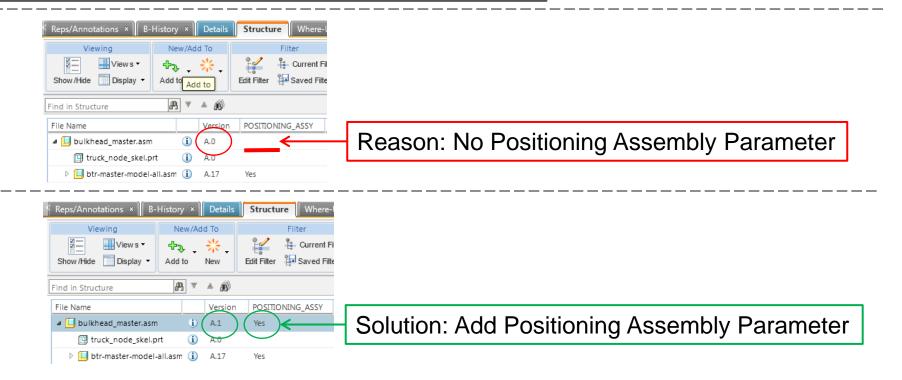
or	Q	Job		Job Status	Number		Name	Version
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D	L3	2,294,066	54	EXECUTING	CCR_CONSOLE_B	om.asm	ccr_console_bom	A.15
Σ	L4	2,285,964	54	EXECUTING	EPL_PX9_GRID_HE	EATER.ASM	epl_px9_grid_heater	A.0
ഗ	L2	2,285,800	54	EXECUTING	RAS_UNDERBOD	Y_LINES.AS	ras_underbody_lines	A.0
Š	L1	2,285,108	54	EXECUTING	579_DEMO-2_AER	ro.asm	579_demo-2_aero	A.13
\geq	L6	2,285,072	54	EXECUTING	S-TRUCK_MASTER	R_NGP_ISX	s-truck_master_ngp_isx_2d.asm	A.25

6 Large Assemblies Publishing

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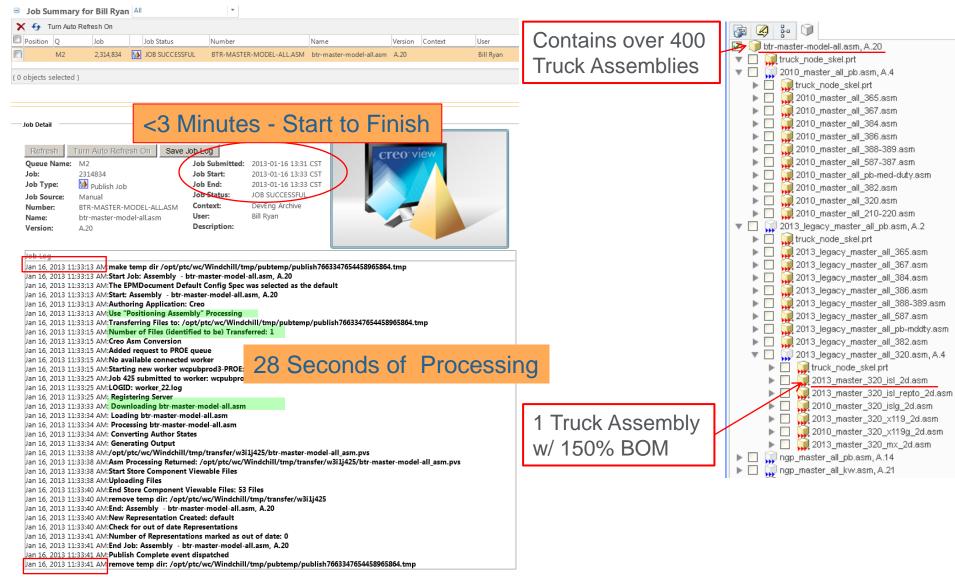
Backed up Jobs Issues: Unable to Release DWG BGMS Performance



Positioning Assemblies – Windchill Publishing



Publisher Statistics

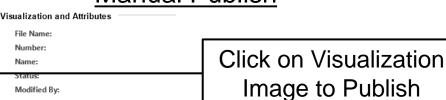


Positioning Assemblies – Windchill Publishing

Publishing Options from Windchill

Manual Publish







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Re-Publish

Locked By

Visualization and Attributes | Representations/Annotations



Visualization and Attributes
File Name:
Number:
Name:
Status:
Modified By:
Last Modified:

EPM: Latest

Derived From: Assembly - ngp_rear_partials_vert-v.

File Name: Number:

Modified By: Last Modified:

Name: statu

Representations/Annotations là 🛱 🔁 😏 🔣 Actions -Name Name Thumbnail Details 54 -X Delete Selected Default -🛋 🚺 Positioning Assembly Paste EPM only

Paste Selection

(1 objects selected)

New Representation G Refresh

WVS Job Monitor

Delete Current Representation Then Click on Visualization Image

Why: Reference Case 11046166

Positioning Assemblies – Creo Publishing

Publishing Options from Creo

Parameters		- 🗆 X	
File Edit Parameters Tools Show			
Look In Assembly			Parameter/Attribute
Filter By Default	v	Customize	Drives Publishing on Check-in
Name 🔻 Type Value Desi	Acce Sour Desc	Restr	
POSITIONING_ASSY Yes No YES	Full User-Defi		
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Open Auto Check In Upload and commit the current object to the	Models		Do Not Use
Check in Custom Check In	O Viewables	K	By-Pass Windchill Publisher
Save Custom check in Check ou Custom Check In Check ou Check ou i active object. Print Revise and check out Revise and check out in Windchill the CAD document of the active object.	Ok Cancel	s 	
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Benefits of Positioning Assemblies

- View the Latest Information
- Maximize Performance in Creo View with Windchill
- Decrease Windchill Publishing Time
- Reduced Background Method Server Load
- Engineering Processes
 - Consistent Method between View and Parametric to Find and Load Graphics
 - Maintain Current Inputs Structure, Assembly, Simplified Reps and Feature Names
 - Step towards Vision of "modify" in Parametric and "view" in View.
 - Less Objects in Parametric Workspace Performance

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What is Needed from PTC

- Windchill Publish Viewables for Simplified Reps using the Substitute Rule
- Related Information Documented Below:
 - Enhancement Request # 8086083
 - Case Number C10377918
 - https://www.ptc.com/appserver/cs/view/case.jsp?n=10377918
 - TPI Number 128154
 - <u>https://www.ptc.com/appserver/cs/view/solution.jsp?n=128154</u>
 - Related Ideas on the community site
 - http://communities.ptc.com/ideas/2030
 - http://communities.ptc.com/ideas/2548

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