

# Understanding the Power of Copy Design

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## Learning Objectives

- Understand the Copy Design feature
- Understand why Copy Design is used
- Learn how to use Copy Design to reuse existing designs
- Learn how to configure Copy Design for the best outcome

## Description

Copy Design is one of the most powerful features in Autodesk Vault. Engineers are leveraging existing designs in one way or another, where either you reuse the design completely to eliminate the design time, or by copying an existing design or updating the design which will take less time. Moreover, less time is less cost. Not only this, apart from the reduced modeling time, design reuse will further have its impact in the form of cost and time savings in the downstream engineering, manufacturing, and purchasing. The Copy Design feature, in Autodesk Vault 2020, has many enhancements which help engineers do more faster with existing designs. This class will discuss the enhancements to Copy Design and illustrate how to use Copy Design to be more productive.

## Your AU Expert(s)

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## Contents

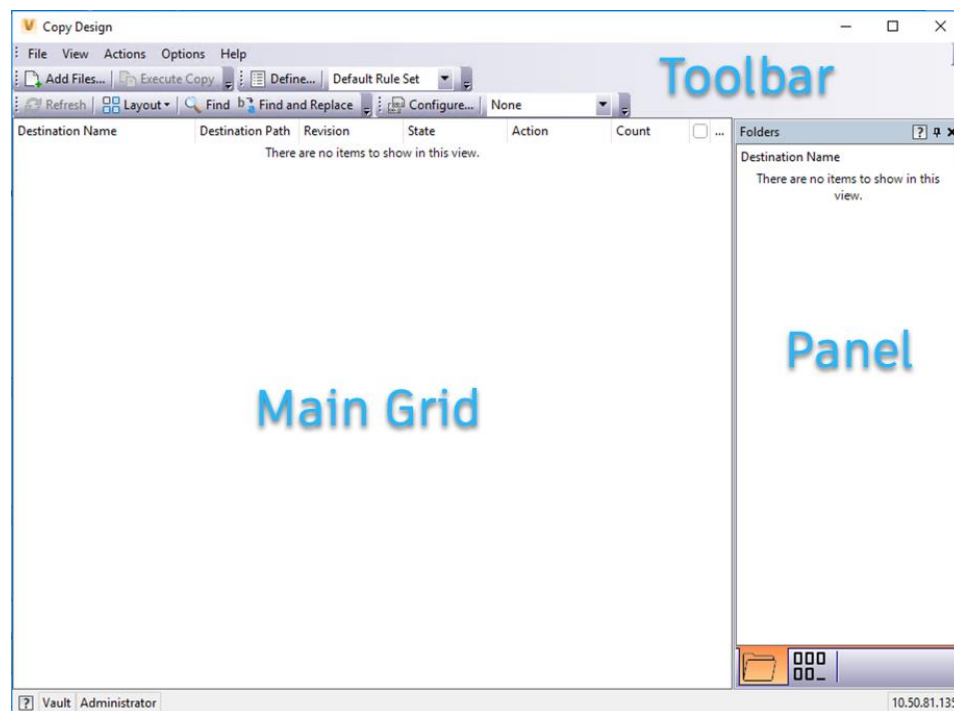
Learning Objectives .....	1
• Understand the Copy Design feature .....	1
• Understand why Copy Design is used .....	1
• Learn how to use Copy Design to reuse existing designs.....	1
• Learn how to configure Copy Design for the best outcome .....	1
Description .....	1
Your AU Expert(s) .....	1
Introduction.....	3
Dialog Overview .....	3
Menus & Toolbar .....	4
Main Grid .....	4
Right Panels.....	5
Copy Design Features.....	6
Main Grid Views .....	6
Tree View .....	6
List View.....	7
Folder View .....	8
Copy Design Actions .....	10
Copy Design Settings .....	12
Action Rules .....	13
Copy Design Report .....	15
Things to Know .....	16

## Introduction

Copy Design helps you to automate design re-use by automatically creating new files and linking everything together. Copy Design is one of the most widely used features in the Vault, and last year's polling within our Feedback Community indicated many customers were looking for improved usability and feedback during the copy process. Over the past year, we worked with several customers to transform Copy Design into a more powerful, easy-to-use tool. Copy Design is now a modeless dialog allowing access to information in the Vault client while setting up a copy. You can easily navigate back to the model in the Vault client by selecting the file in the main grid and selecting the new command Go To Source for or Go To Destination Folder after the copy operation completes. The Copy Design dialog can now also remain open while you use the Vault client for other commands. These changes make it much easier to set up, copy, and verify exactly what is being copied. Let's get into the details of the Copy Design feature.

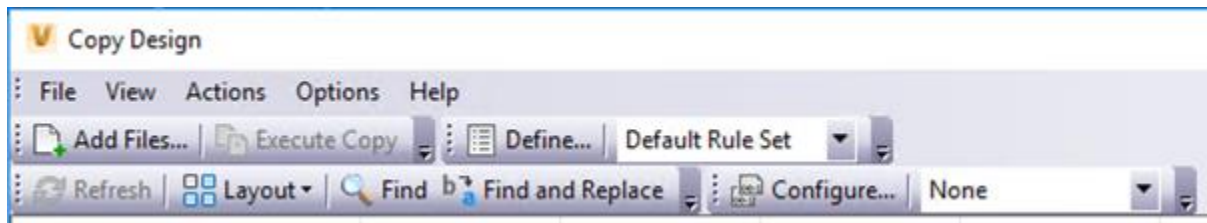
## Dialog Overview

The Copy Design contains three different sections, the menu & toolbar, the main grid, and the right panel.




















## Menus & Toolbar

The menu has been redesigned to make it more intuitive to the user and consistent with the Vault client user interface. Customize the toolbar and place the commands that are used often during the copy design operation.



## Main Grid

The main grid displays information about the files that are going to be involved in the copy process. The user sets a specific action on each of the files displayed in the grid for the copy operation. These actions will be described later in this document.

Destination Name	Destination ...	Revision	State	Action	Count		...
 <b>Copy of _Jet Engine Model.iam</b>	\$/Designs/J...	A	Work in Pro...	Copy	2		
 Documentation							
 _Jet Engine Model.idw		A	For Review	Exclude	1		
 _Jet Engine Model - Mar...		1	Work in Pro...	Remove	1		
 <b>Copy of Exhaust Assembly.iam</b>	\$/Designs/J...	A	Work in Pro...	Copy	1		
 Flare Lever-2.ipt		A	Work in Prog...		1		
 Blade-3.ipt		A	Work in Pro...	Replace	1		
 Copy of Heat Ring.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		
 Copy of Flare Base.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		

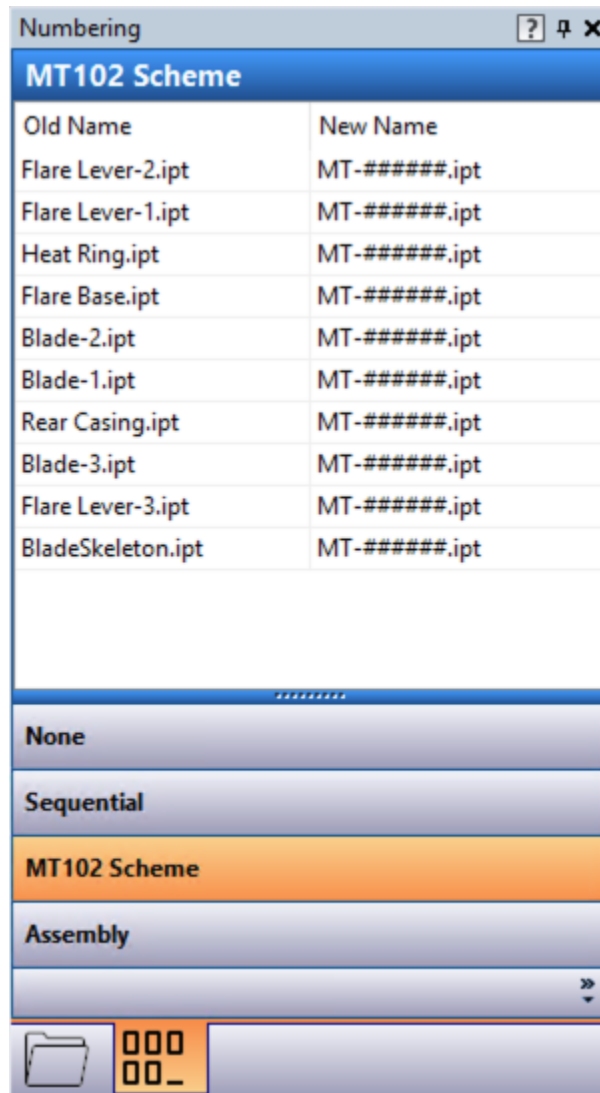
## Right Panels

The right panel has the Numbering panel shown by default.

The Numbering panel lists all of the files selected for the copy operation. It also shows the original and new file name for each selected file.

The grid displays the renaming options based on available numbering schemes.

In the Numbering Panel grid, you can edit certain fields and individual numbering schemes.



There is also a Where Used, Folders, and Actions panel which are hidden by default.

Display these panels by clicking the panel name in the View -> Panels menu. The features found in these panels can also be performed in the Main Grid.

## Copy Design Features






































In this section, we will cover the specific features in the Copy Design dialog and how you will benefit from this information

### Main Grid Views

The main grid has three different views for the user to use during the copy process. Change the views by clicking the view in the View -> Layout menu.

### Tree View

The Tree View displays the assembly in an organize configuration which shows the hierarchy of the assembly and associated files in the copy process. This view allows the user to understand the relationship of all files involved in the copy process. The following operations are available in the Tree View: Find, Find & Replace, edit the file name, edit the file path, Set Numbering Scheme, drag & drop to the Numbering panel, set Copy Action, and drag & drop to the Folder panel.

Destination Name	Destination ...	Revision	State	Action	Count		...
 A-#####.iam	\$/Designs/J...	A	Work in Pro...	Copy	2		
 Documentation							
 _Jet Engine Model.idw		A	For Review	Exclude	1		
 _Jet Engine Model - Marku...		1	Work in Pro...	Remove	1		
 A-#####.iam	\$/Designs/J...	A	Work in Pro...	Copy	1		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	3		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	3		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	3		
 MT-#####.ipt	\$/Designs/J...	A	Work in Pro...	Copy	1		
 A-#####.iam	\$/Designs/J...	A	Work in Pro...	Copy	2		
 A-#####.iam	\$/Designs/J...	A	Work in Pro...	Copy	1		

## List View

The List View displays all of the files associated with the file selected in the copy process. The following operations are available in the List View: edit the file name, edit the file path, Set Naming Scheme, set Copy Action, column filtering and grouping.

File Name	Revision	State	Action	Destination ...	Destination Path	<input type="checkbox"/> ...
_Jet Engine Model.idw	A	For Review	Exclude	_Jet Engine ...		<input checked="" type="checkbox"/>
Main Axis.idw	A	For Review		Main Axis.idw		<input checked="" type="checkbox"/>
Turbine Assembly.idw	A	Work in Prog...		Turbine Asse...		<input checked="" type="checkbox"/>
<b>_Jet Engine Model.iam</b>	<b>A</b>	<b>Work in Pro...</b>	<b>Copy</b>	<b>A-#####.iam</b>	<b>\$/Designs/Jet ...</b>	<input checked="" type="checkbox"/>
_Jet Engine Model - Markup.idw.pdf	1	Work in Pro...	Remove	_Jet Engine ...		<input checked="" type="checkbox"/>
Main Axis.iam	A	Work in Pro...	Copy	A-#####.iam	\$/Designs/Jet ...	<input type="checkbox"/>
Exhaust Assembly.iam	A	Work in Pro...	Copy	A-#####.iam	\$/Designs/Jet ...	<input type="checkbox"/>
Combustion Stage.iam	A	Work in Pro...	Copy	A-#####.iam	\$/Designs/Jet ...	<input type="checkbox"/>
Heat Ring.ipt	A	Work in Pro...	Copy	MT-#####....	\$/Designs/Jet ...	<input type="checkbox"/>
Flare Lever-1.ipt	A	Work in Pro...	Copy	MT-#####....	\$/Designs/Jet ...	<input type="checkbox"/>
Flare Lever-2.ipt	A	Work in Pro...	Copy	MT-#####....	\$/Designs/Jet ...	<input type="checkbox"/>
Flare Base.ipt	A	Work in Pro...	Copy	MT-#####....	\$/Designs/Jet ...	<input type="checkbox"/>
Blade-2.ipt	A	Work in Pro...	Copy	MT-#####....	\$/Designs/Jet ...	<input type="checkbox"/>
Blade-1.ipt	A	Work in Pro...	Copy	MT-#####....	\$/Designs/Jet ...	<input type="checkbox"/>
Rear Casing.ipt	A	Work in Pro...	Copy	MT-#####....	\$/Designs/Jet ...	<input type="checkbox"/>
Blade-3.ipt	A	Work in Pro...	Copy	MT-#####....	\$/Designs/Jet ...	<input type="checkbox"/>
Flare Lever-3.ipt	A	Work in Pro...	Copy	MT-#####....	\$/Designs/Jet ...	<input type="checkbox"/>
Front Compression Cap.ipt	A	Work in Pro...	Copy	Copy of Fro...	\$/Designs/Jet ...	<input type="checkbox"/>
Core Plate.ipt	A	Work in Pro...	Copy	Copy of Cor...	\$/Designs/Jet ...	<input type="checkbox"/>
Bearing2.iam	A	Work in Pro...	Copy	Copy of Bea...	\$/Designs/Jet ...	<input type="checkbox"/>
Main Axis Shaft.ipt	A	Work in Pro...	Copy	Copy of Mai...	\$/Designs/Jet ...	<input type="checkbox"/>
Main Axis Bearing.iam	A	Work in Pro...	Copy	Copy of Mai...	\$/Designs/Jet ...	<input type="checkbox"/>
Mid Compression Assembly.iam	A	Work in Pro...	Copy	Copy of Mid ...	\$/Designs/Jet ...	<input type="checkbox"/>
Rear Compression Assembly.iam	A	Work in Pro...	Copy	Copy of Rea...	\$/Designs/Jet ...	<input type="checkbox"/>
Nose Cone.ipt	A	Work in Pro...	Copy	Copy of Nos...	\$/Designs/Jet ...	<input type="checkbox"/>



## Folder View

The Folder View displays the destination folder where the new files will be placed after the copy process is complete. The following operations are available in the Folder View: Find, Find & Replace, edit the file name, edit the file path, drag & drop to the Numbering panel, set Copy Action, and drag & drop to the Folder panel.

Destination Name	File Name	Destination Path	Revision	State	Action		...
\$							
Designs							
Jet Engine							
Jet Engine Model - Mar...	_Jet Engine ...		1	Work i...	Remove		
A-#####.iam	_Jet Engine ...	\$/Designs/Jet Engine	A	Work i...	Copy		
A-#####.iam	Exhaust Ass...	\$/Designs/Jet Engine	A	Work i...	Copy		
A-#####.iam	Main Axis.ia...	\$/Designs/Jet Engine	A	Work i...	Copy		
A-#####.iam	Combustio...	\$/Designs/Jet Engine	A	Work i...	Copy		
A-#####.iam	Rear Comp...	\$/Designs/Jet Engine	A	Work i...	Copy		
A-#####.iam	Mid Compr...	\$/Designs/Jet Engine	A	Work i...	Copy		
A-#####.iam	Main Axis B...	\$/Designs/Jet Engine	A	Work i...	Copy		
A-#####.iam	Turbine Ass...	\$/Designs/Jet Engine	A	Work i...	Copy		
A-#####.iam	Turbine Lin...	\$/Designs/Jet Engine	A	Work i...	Copy		
A-#####.idw	_Jet Engine ...		A	For Re...	Auto		
A-#####.idw	Main Axis.idw		A	For Re...	Auto		
A-#####.idw	Turbine Ass...		A	Work i...	Auto		
Design Accelerator							
Front Compression Fan							
MT-#####.ipt	Flare Lever...	\$/Designs/Jet Engine	A	Work i...	Copy		
MT-#####.ipt	Flare Lever...	\$/Designs/Jet Engine	A	Work i...	Copy		
MT-#####.ipt	Heat Ring.ipt	\$/Designs/Jet Engine	A	Work i...	Copy		
MT-#####.ipt	Flare Base.ipt	\$/Designs/Jet Engine	A	Work i...	Copy		
MT-#####.ipt	Blade-2.ipt	\$/Designs/Jet Engine	A	Work i...	Copy		
MT-#####.ipt	Blade-1.ipt	\$/Designs/Jet Engine	A	Work i...	Copy		



Here is a chart showing the feature list and the various views:

Feature	Tree View	List View	Folder View
Find	X		X
Find & Replace	X		X
Edit the File Name	X	X	X
Edit the File Path	X	X	X
Set Numbering Scheme	X	X	
Drag & Drop to Folder Panel	X		X
Set Copy Action	X	X	X
Drag & Drop to Numbering Panel	X		X
Column Filtering		X	
Grouping		X	

## Copy Design Actions

The following list describes the actions that can be performed on files listed in the Copy Design dialog.

Action	Details
<b>Auto</b>	<p>The Auto action is set on a drawing, documentation file when the parent file's action is set to Copy.</p> <p>Note: the drawing receives the same new file name as the parent file and will be saved in the same location as the associated file when the copy operation completes.</p>
<b>Copy All</b>	Sets the Copy action on all files in the Copy Design dialog.
<b>Copy Top Nodes</b>	Sets the Copy action on all files at the top node in the Copy Design dialog.
<b>Copy</b>	Sets the Copy action on all selected files.
<b>Copy To</b>	<p>Sets the Copy action on all selected files, and the selected files will be placed in the specified folder.</p> <p>Note: The original folder structure will not be maintained for files with this action.</p>
<b>Copy Branch</b>	Sets the Copy action on the selected files and the entire file structure (branch) beneath it.
<b>Copy Branch To</b>	<p>Sets the Copy action on the selected files and the entire file structure (branch) beneath and sets the destination path to the specified folder.</p> <p>Note: When the copy operation completes, the copied files are placed to a specific folder maintaining the original folder structure.</p>
<b>Reuse</b>	<p>Sets the Reuse action on the selected files. The selected files are reused instead of creating a copy.</p> <p>Note: The Action column is cleared when this action is set.</p>
<b>Reuse All</b>	All files in the Copy Design dialog will be set to Reuse.
<b>Reuse Branch</b>	Sets the Reuse action to the selected file and the entire file structure beneath it.
<b>Replace</b>	Replaces the selected file with the specified file. The name of the original file changes to the replacement file's name.
<b>Exclude</b>	Sets the Exclude action on the selected files. This action can only be used on parent documentation files. If this is set on any other

	file in the structure, that file will be reused during the copy operation.
<b>Go To</b>	<p>You can go to the original file in the Vault Client using the Source Folder option.</p> <p>After the Copy operation, you can go to the newly copied file in the Vault client using the Destination option.</p>
<b>Edit</b>	The Edit action is set when a child of a file is set to Copy, and the parent is set to Reuse. The copy operation will edit, create a new version, of the parent file, and connect it to the newly copied child.
<b>Remove</b>	Removes the selected attachment

## Copy Design Settings

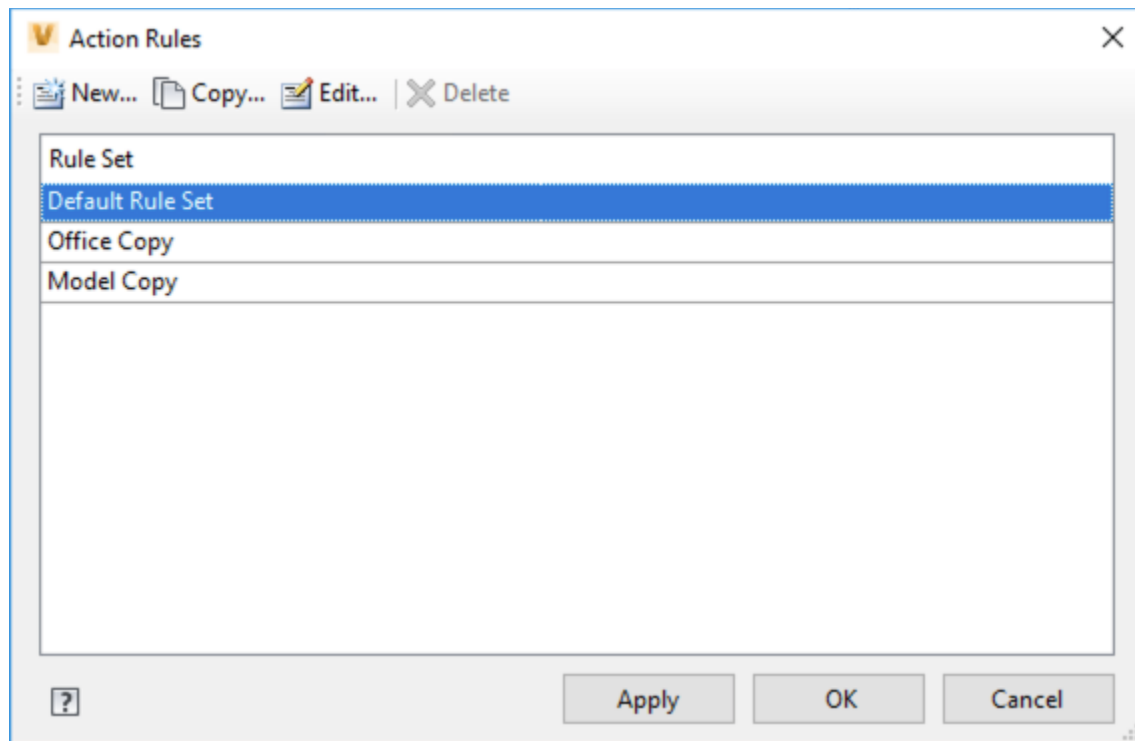
Copy Design has several settings which affects the copy process. This section outlines these settings with details of how they are used.

Options Menu	
<b>Numbering Schemes</b>	Set which numbering schemes will be available to set on files during the copy design process. You can also set the default numbering scheme to be used when the Copy action is set on a file.
<b>Action Rules</b>	Select to create, edit, and delete rules that apply to your copy operations. Each Rule Set can contain several property behaviors which are applied to the copied file when the tested condition is met.
<b>Automatically Copy Parents</b>	When selected, parents of child components with the Copy action set will automatically set the Copy action to the parent file.  <b>Note:</b> When this option is not selected, the Edit action is set on the parent file.
<b>Link Drawings with Models</b>	When selected, the drawing connected to a model is copied to the same location and shares the same new file name as the model. The Auto action is set on the drawing  <b>Note:</b> If more than one drawing is associated with the model, the copy process will prompt with an error stating that both drawings cannot have the same name, and the copy process will not execute. Exclude or rename one of the drawings to resolve the error.
<b>Remove All Attachments</b>	When selected, all attachments are removed from the newly created files. By default, all file attachments will get attached to the new file.
<b>Remove BOM Objects</b>	When selected, the BOM information inside of the newly created files will be removed during the copy operation.  <b>Note:</b> These files will not be able to be assigned to an Item until they are updated inside of the CAD application.
<b>Select References</b>	By default, all component references are copied. When Select References is turned on, you can choose which references of a component are copied.  <b>Note:</b> Multi-select is not enabled when using Select References view. Any reference that is selected must have a unique action.

## Action Rules

Action Rule sets are a collection of rules which define property behaviors on newly created files during the copy process.

Open the Action Rules by clicking Action Rules > Define in the Options menu. A new rule can be created, or an existing rule can be copied or edited in the Action Rules dialog.



While editing a rule within a rule set, define the condition a rule must meet before the property behaviors are executed. If multiple conditions are defined for a rule, all conditions must be met before the property behaviors are executed. In the Rule Condition Builder section of the dialog, select a property, condition and set a value the rule will check when executed. In the Property Behavior section, select a property, action, and set a value that will be executed when the condition is met.

### Rule Condition Builder

Property  
File Name

Condition  
contains

Value  
IDW or DWG

Add Replace Remove

Rule Criteria
File Name contains ipt OR iam

### Property Behavior

☐ Reset All

Property  
Part Number

Action  
Set Blank

Value

Add Replace Remove

Property Name	Action
Part Number	Set Blank
Category Name	Reset





	1	2	3	4	5	A	B	C	D	E	F	G	H
	1					Destination Name ▾	Destination Path ▾	Revision ▾	State ▾	Action ▾	Count ▾	Category Glyph ▾	Copy Design Status ▾
	2	A-00015.iam					\$/Designs/Engine 2	A	Work in Progress	Copy	2	Engineering	Successfully Copied
	3	Documentation											
	4	A-00015.idw						A	For Review	Auto	1	Drawing Files	Successfully Copied
	5	A-00016.iam					\$/Designs/Engine 2	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	6	A-00019.ipt					\$/Designs/Engine 2/Front Compression Fan	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	7	A-00020.iam					\$/Designs/Engine 2/Design Accelerator	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	8	A-00021.ipt					\$/Designs/Engine 2/Front Compression Fan	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	9	A-00022.iam					\$/Designs/Engine 2/Front Compression Fan	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	10	A-00049.iam					\$/Designs/Engine 2/Design Accelerator	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	11	A-00050.ipt					\$/Designs/Engine 2/Front Compression Fan	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	12	A-00051.ipt					\$/Designs/Engine 2/Front Compression Fan	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	13	A-00052.ipt					\$/Designs/Engine 2/Front Compression Fan	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	14	A-00053.ipt					\$/Designs/Engine 2/Front Compression Fan	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	15	A-00023.ipt					\$/Designs/Engine 2/Front Compression Fan	A	Work in Progress	Copy	1	Engineering	Successfully Copied
	16	A-00017.iam					\$/Designs/Engine 2	A	Work in Progress	Copy	1	Engineering	Successfully Copied

## Things to Know

- Unless attachments are set to Remove in the Copy Design process, they will get attached to the new parent file.
- The Exclude action can only be set on documentation files when the Link Drawings with Model option is unchecked in the Options menu.
- The Remove action can only be set on attachments.
- Newly created files will be placed in the same folder as the file it was copied from unless the destination path is changed.
- Add the Original File Name column to the main grid see the original file name.
- PDF files created by the Job Processor will not appear in the Copy Design dialog and are ignored by the copy process.