

# Model Simplification – IP Sharing

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# About the speaker

Harpreet Waraich

Harpreet holds her diploma in Mechanical Engineering Technology- Automotive Manufacturing from Georgian College, Ontario, Canada. She has worked for several years as a mechanical designer/drafter in different companies. For the past 7 years, she has been working with IMAGINiT Technologies, where she provides training and consulting for different verticals of Inventor and AutoCAD. She also has her Autodesk Certified Instructor(ACI) Certification.



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# Introduction to Model Simplification

## Overview

### What is the need?

- Large Assembly management
- Incorporate placeholder geometry into an assembly
- Share IP across different softwares and different companies
- Collaborate and innovate for better designs
- Share models with Inventor and non-Inventor users
- Sharing models to satisfy the terms of a business deal

### Concerns with sharing

- Protecting your company's Intellectual property (IP) in your design.

# Learning Objectives

- Using Simplify tool to simplify the model
- Create a Derived part
- Simplify vs Derived
- Neutral files

Original Assembly



Simplified Assembly



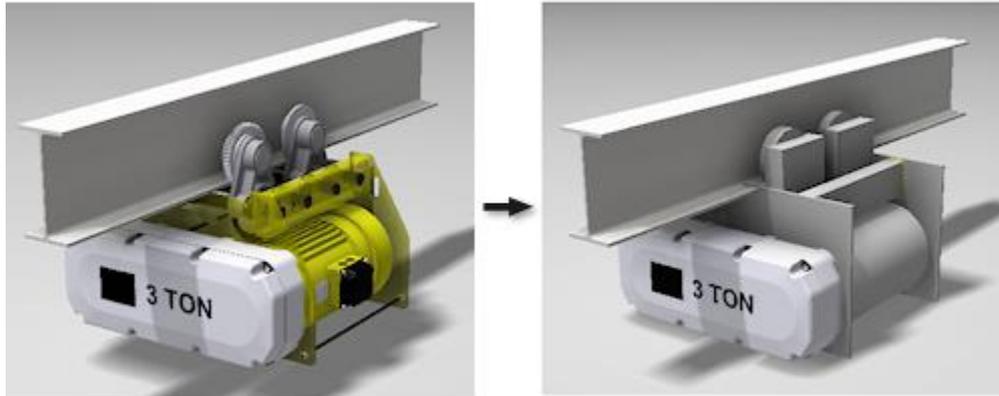
# Objectives

1. Using Simplify tool to simplify the model

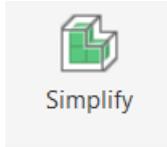
# Simplify Tool

## Overview

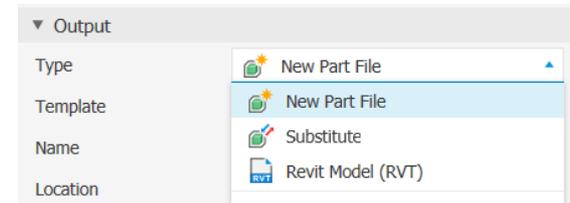
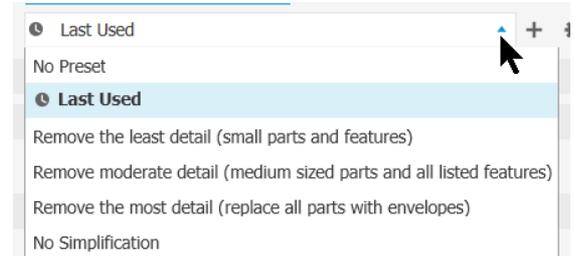
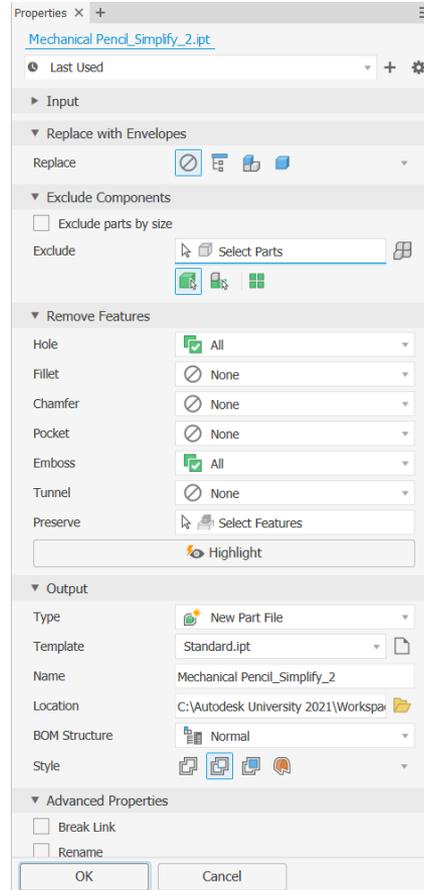
- The simplify tool can be used to create a derived part or Revit model that is a simplification of the original component, or it can create a substitute model state in a current assembly.



# Simplify Tool



- Exclude components
- Remove Features
- Output
- Replace with envelopes
- Presets

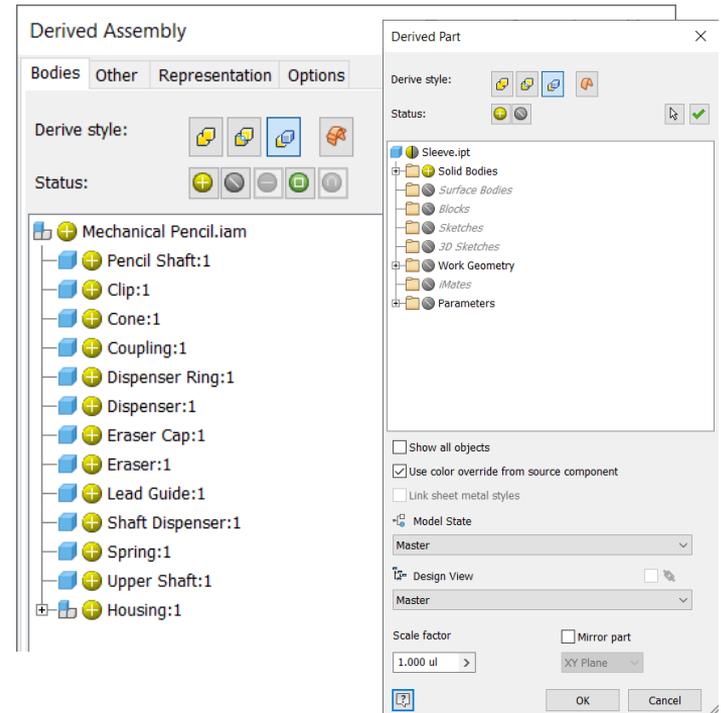
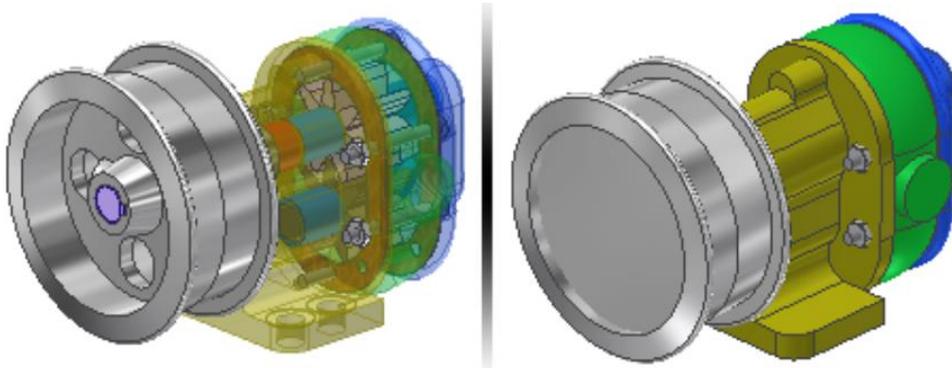


# Objectives

1. Using Simplify tool to simplify the model
2. Create a Derived part
3. Simplify vs Derived
4. Neutral files

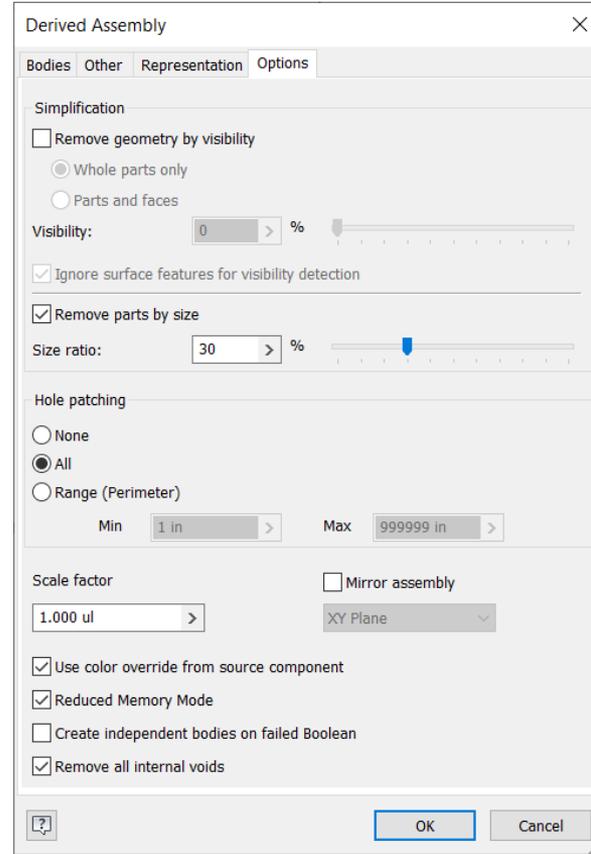
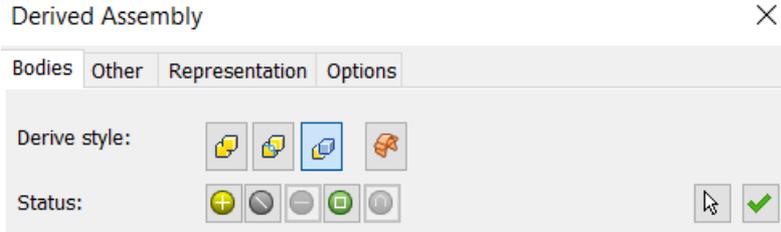
# Create a Derived Part

- Derive Component Tool  to create a Derived Part or Derived Assembly



# Derived Assembly

- Remove geometry by visibility
- Remove parts by size
- Patch Holes
- Scale or mirror



# Objectives

1. Using Simplify tool to simplify the model
2. Create a Derived part
3. Simplify vs Derived
4. Neutral files

# Simplify vs Derived

## Simplify

- You can select components individually for inclusion or exclusion
- You specify the components and features you want to remove
- Protect intellectual property
- Simple to use
- You can use built – in presets.
- Create a part from an assembly
- Create an .ipt or .rvt or create a substitute model state

## Derived Component

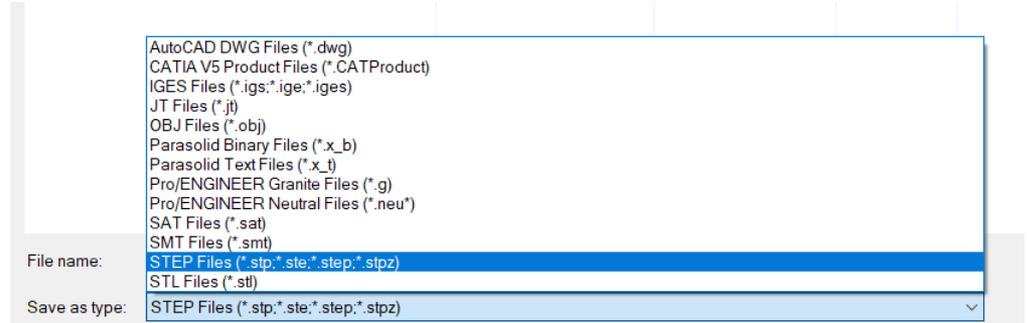
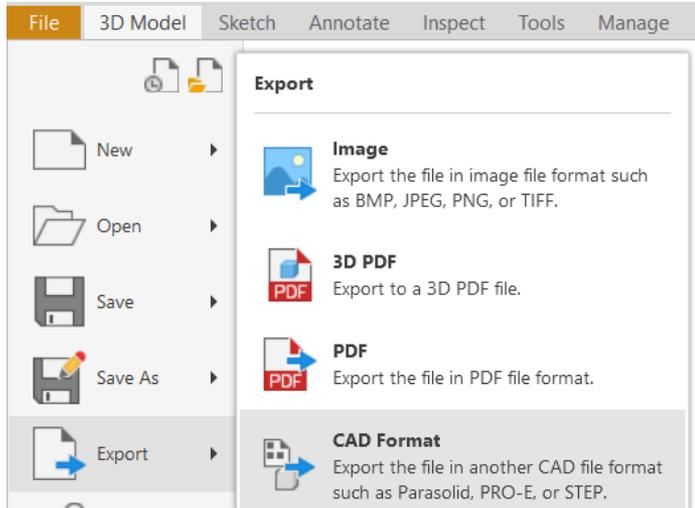
- Select elements to add, exclude or subtract from the resulting derived component.
- you can remove parts by size or visibility, and you can patch holes
- Protect intellectual property
- Create a part by referencing existing parts or assemblies as base components
- Create an .ipt file

# Objectives

1. Using Simplify tool to simplify the model
2. Create a Derived part
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4. Neutral files

# Neutral files

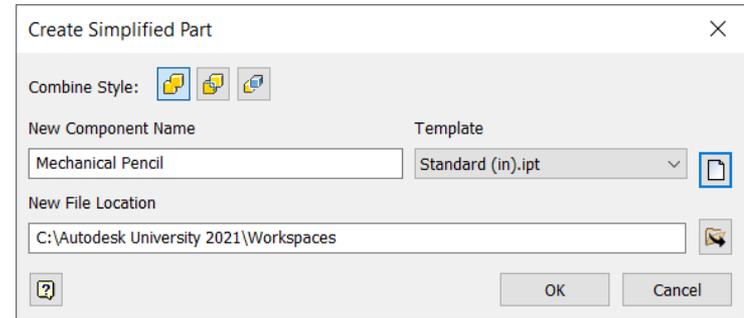
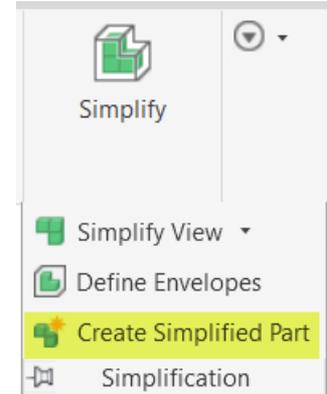
- Export Assembly to a neutral 3D CAD files i.e., IGES or STEP files.



# Create a simplified part (bonus material)

## Other Simplification tools

- Create a simplified view to pick the components to include
- Define Envelopes
- Create a simplified part
- Edit a simplified part



# Summary of Learning Objectives

- Using Simplify tool to simplify the model
- Create a Derived part
- Simplify vs Derived
- Neutral files

Original Assembly



Simplified Assembly



# THANK YOU!

Don't forget to "Like" my class!



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The background of the slide is black with several large, metallic, 3D-rendered geometric shapes in shades of grey and silver. These shapes are angular and faceted, resembling architectural or industrial components. They are positioned in the corners and along the sides, creating a sense of depth and modernity. The central text is white and stands out prominently against the dark background.

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