

# SOLIDWORKS EFFICIENCY HACKS

*featuring*

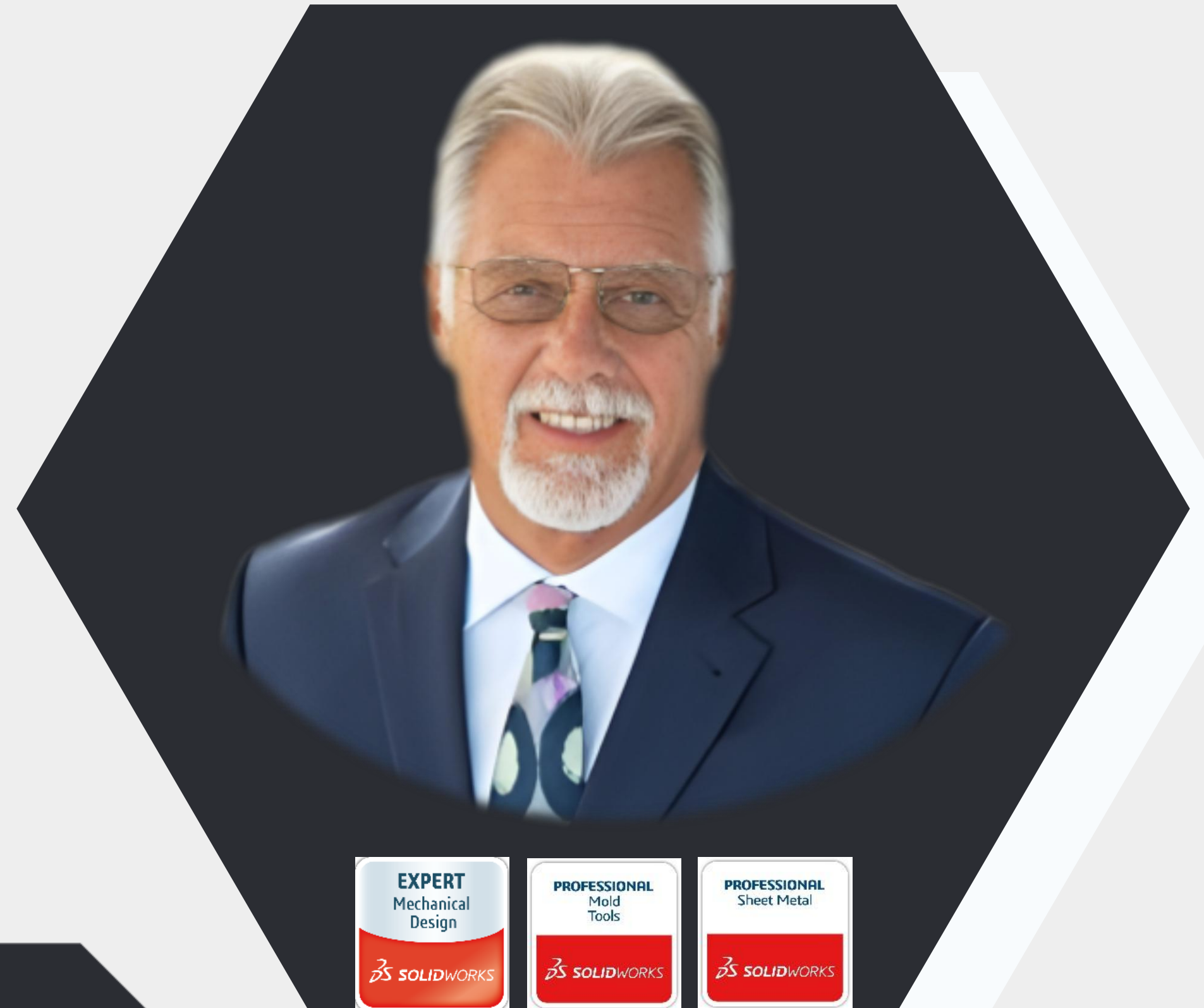
**Tim Humphrey**

Principal Mechanical Designer



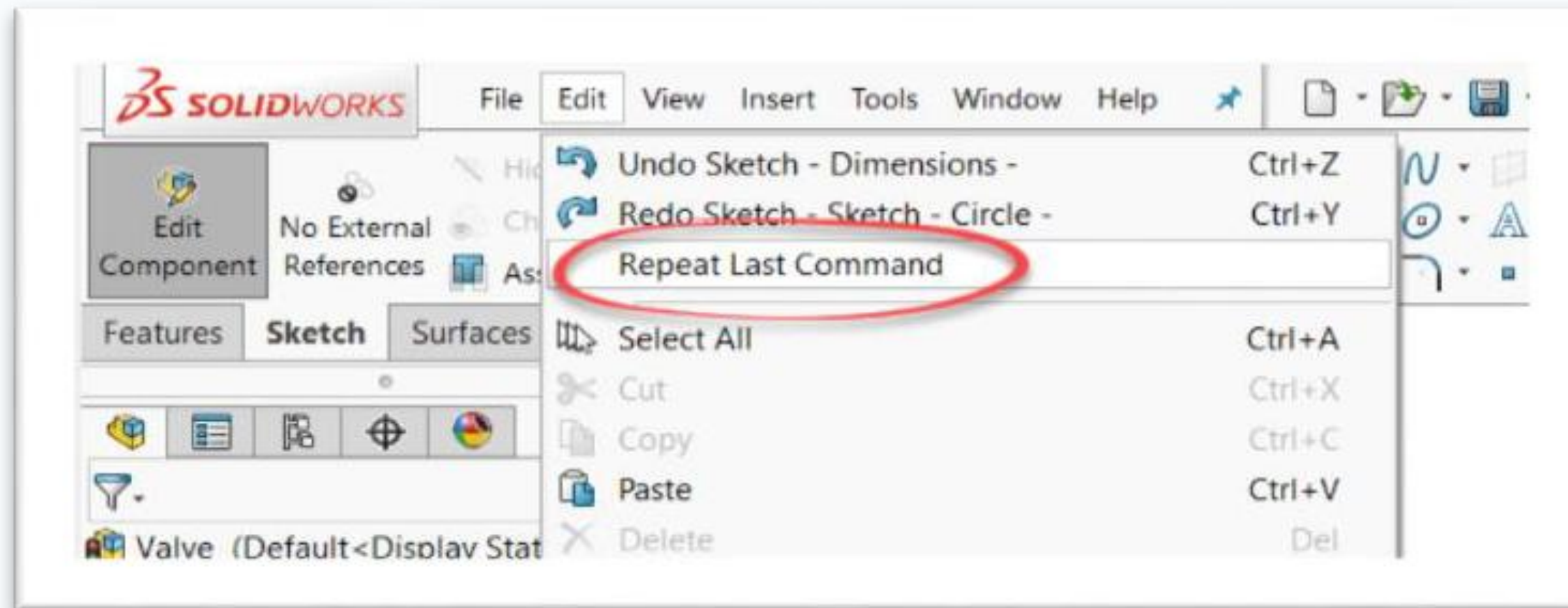
# *Tim Humphrey*

- 45 years in the Engineering field
- Lead Sr. Product Designer at Edwards Life Sciences for 9 years
  - Developed SolidWorks certification Program
  - Instructor for the learning center at Edwards
- President/Owner of Design Unlimited Engineering
- SolidWorks Certifications – CSWA, CSWP, CSWE
- SolidWorks and Creo users since 1990's



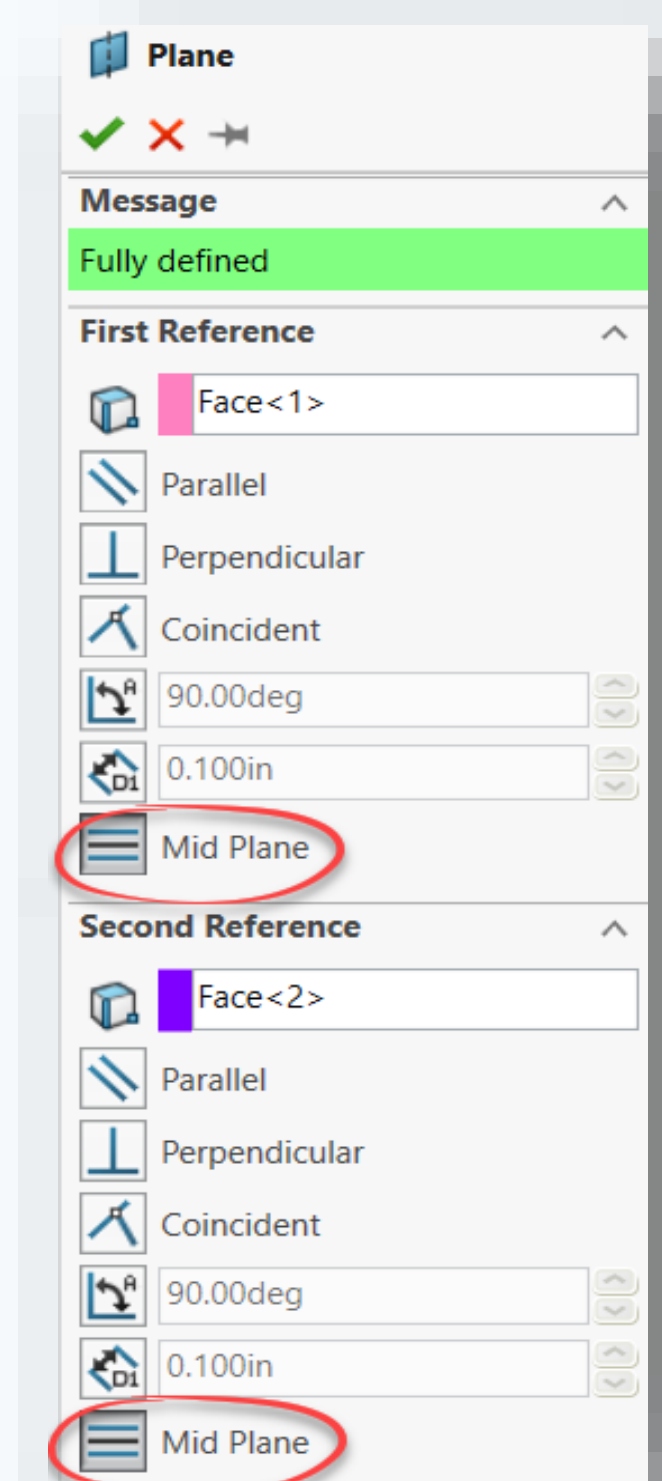
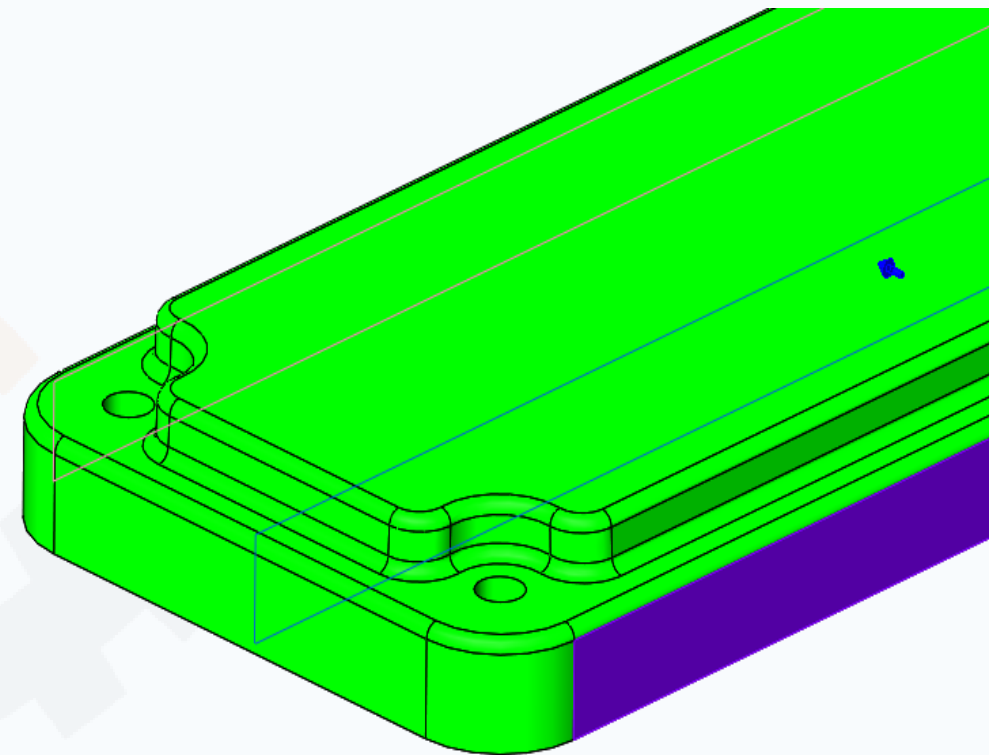
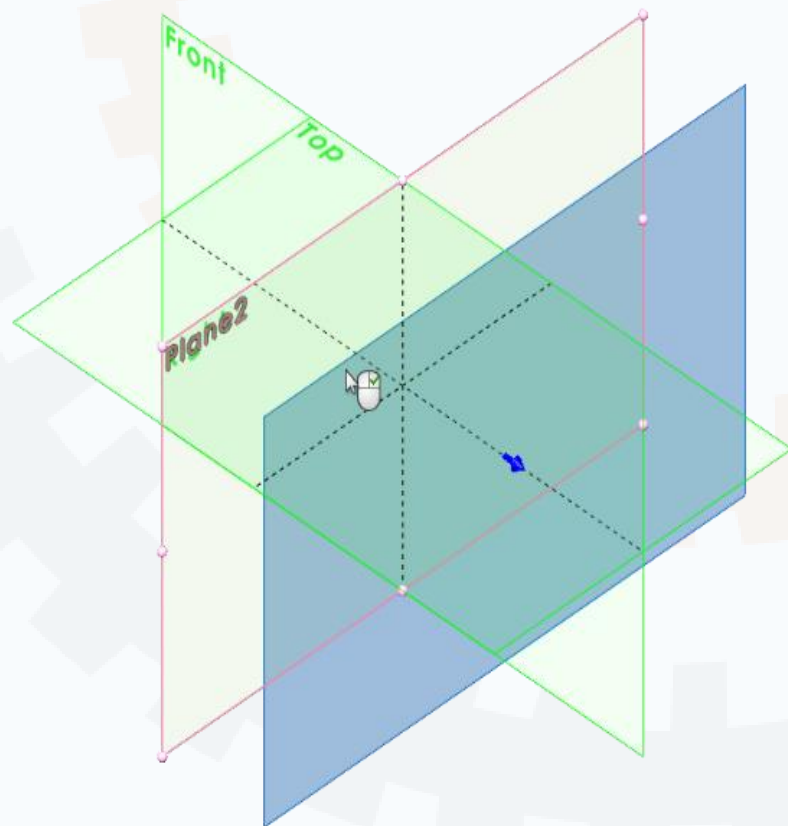
# Repeat Last Command

- Press ENTER to quickly repeat the last command used
- Available through the edit menu



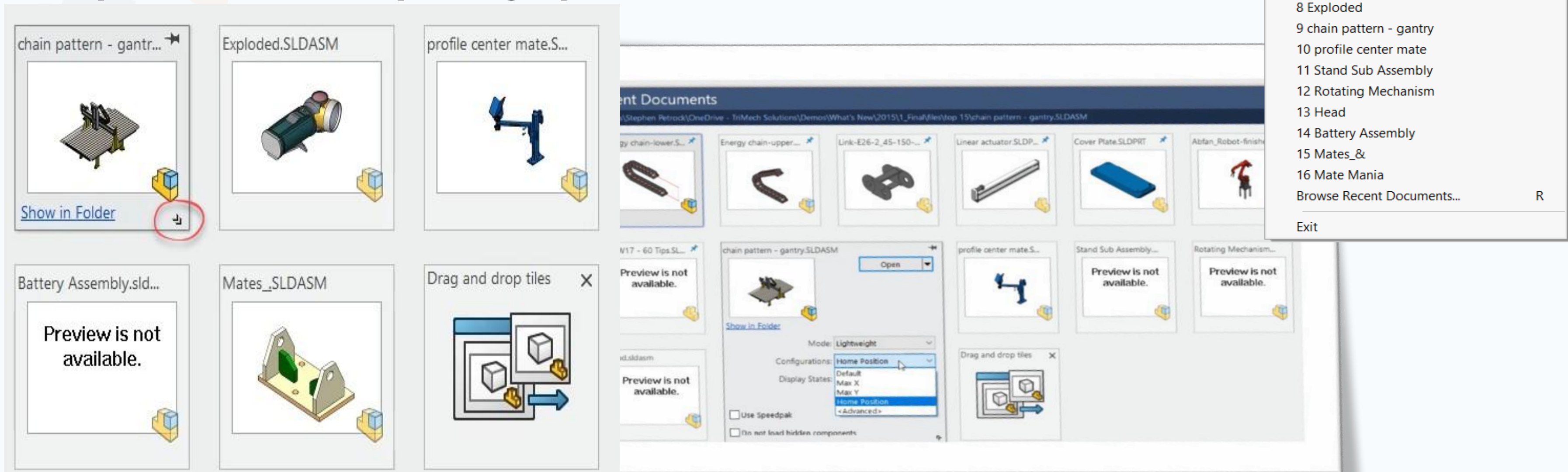
# Reference Planes

1. Create an offset plane on the fly
  - CTRL + Drag an existing plane to create a new Reference Plane at an offset
2. Quickly create a Mid Plane
  - Preselect 2 parallel faces and launch the Reference Plane Command



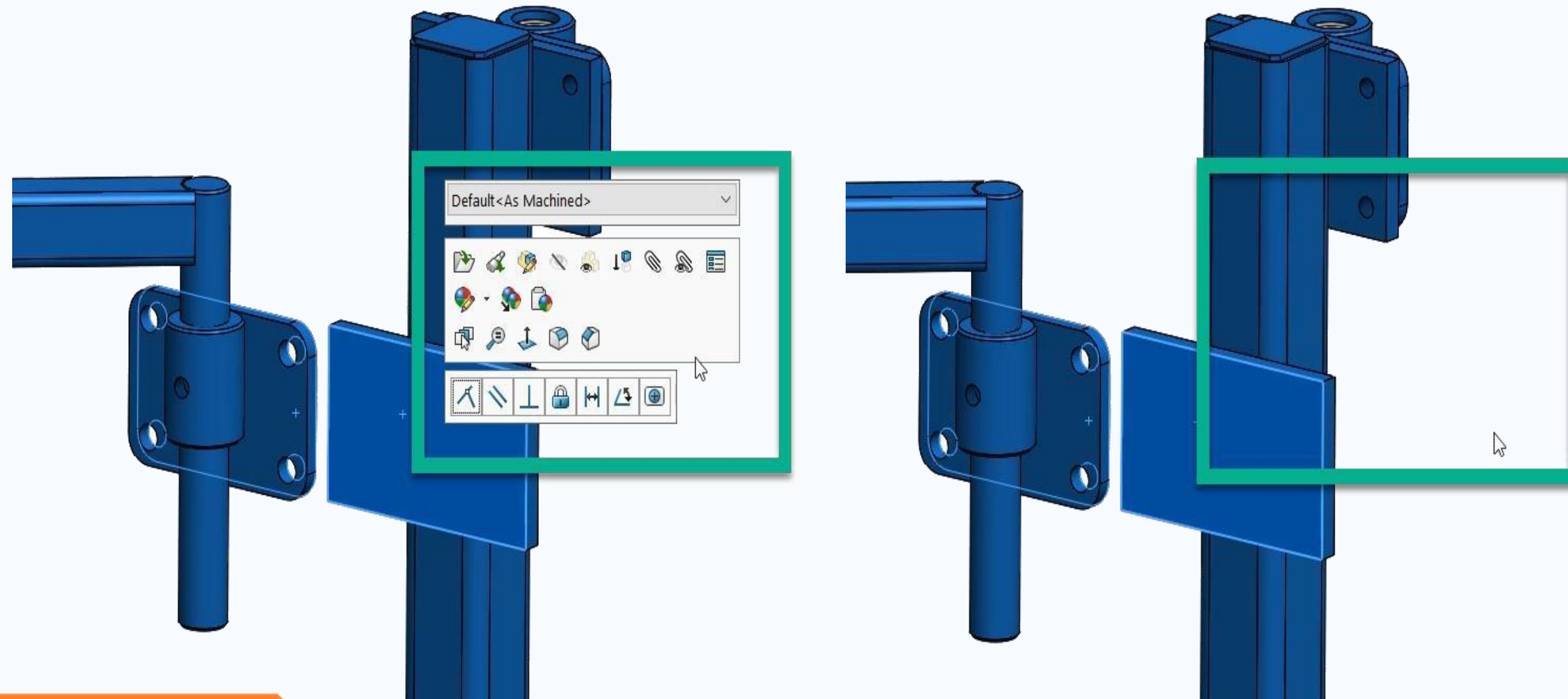
# Recent Files

- Browse recent documents from the file menu or “R”
- Click “Pin” to add favorites to the list
- Expand for more opening options



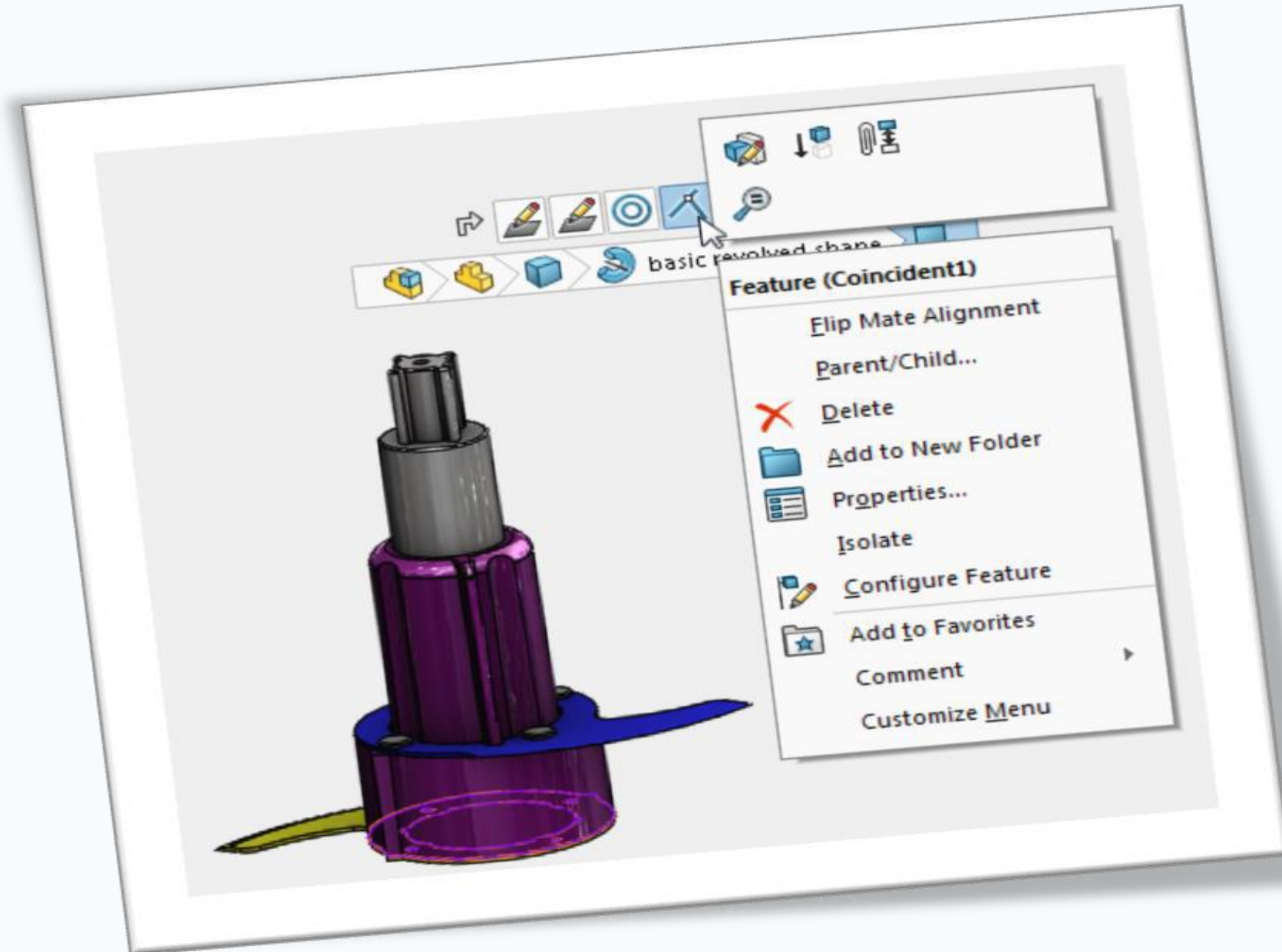
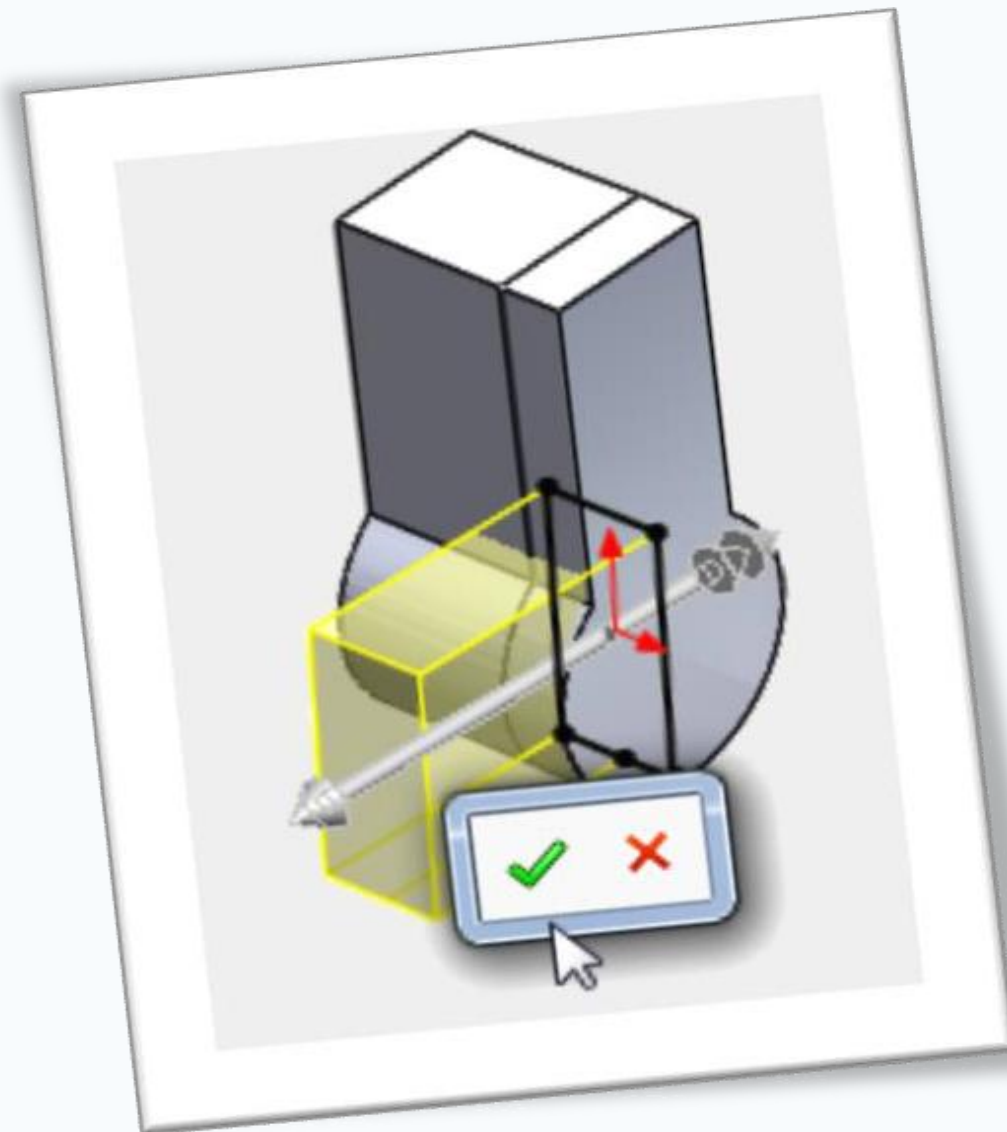
# Context Menu

- Context toolbars disappear when your mouse moves away from them
- Show the toolbar again by pressing CTRL in the area it was



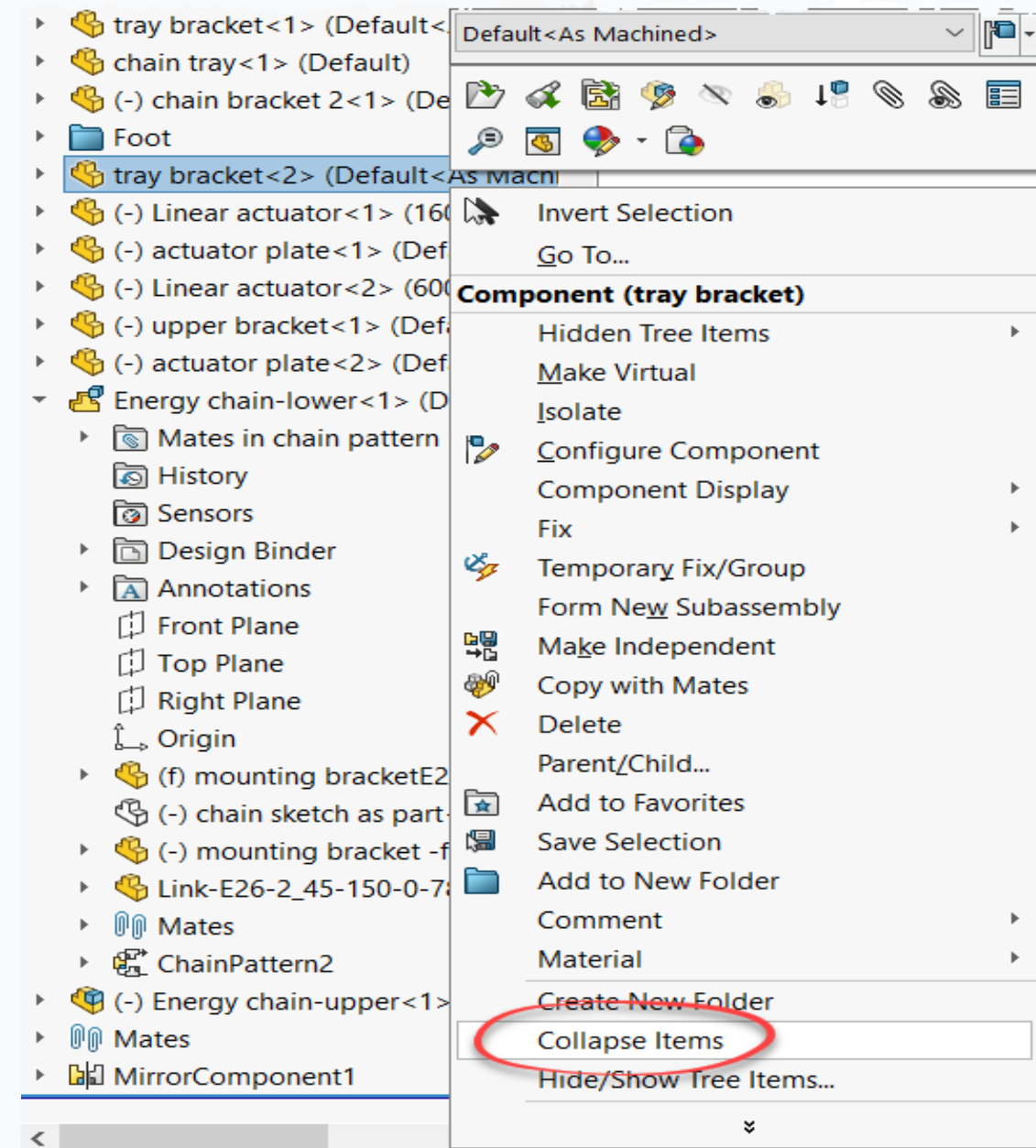
# D Key

- Move confirmation corner & Breadcrumbs to pointer location



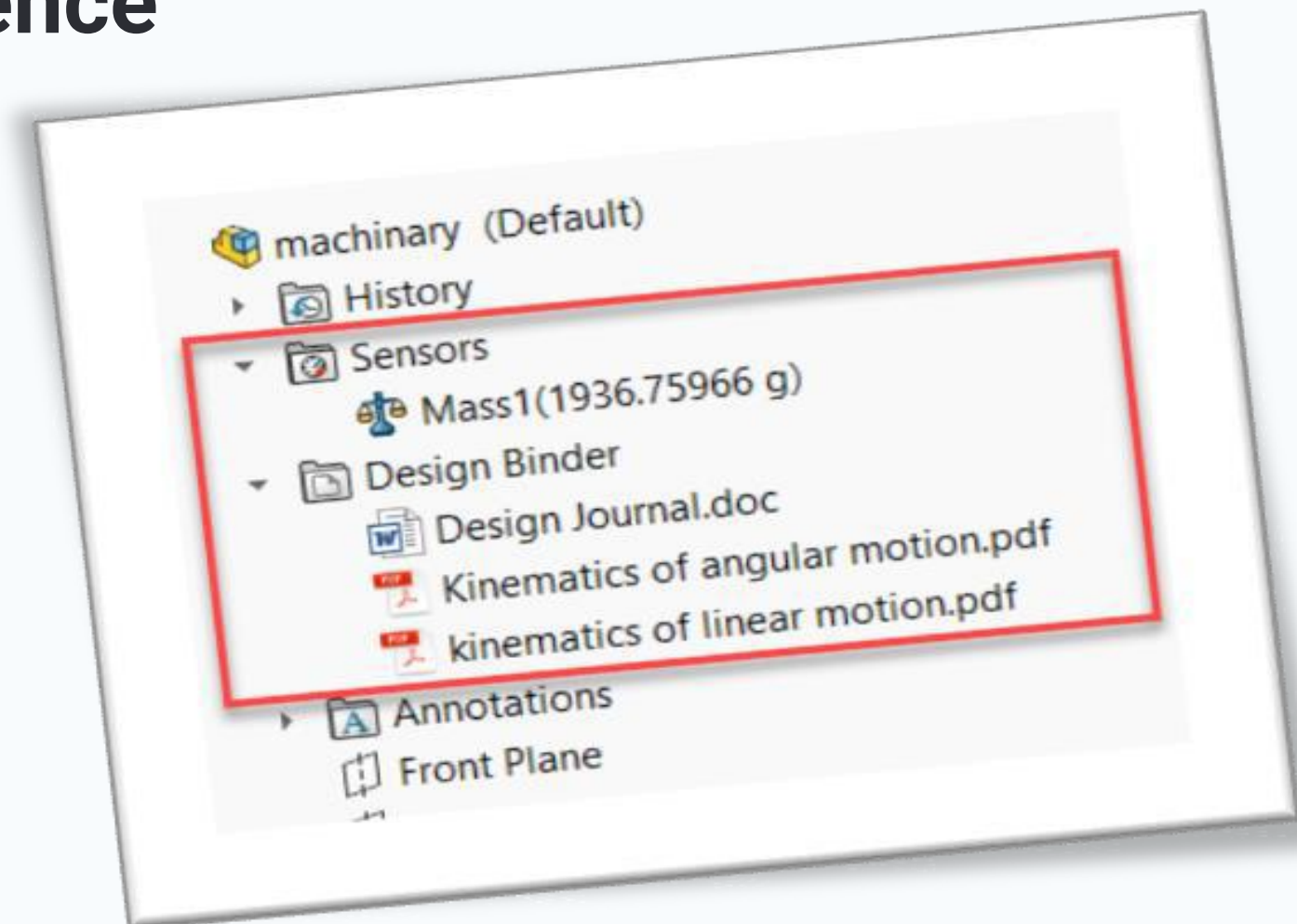
# Collapse Tree

- Collapse all expanded items in the Feature Manager Tree
- Shift + C, “Collapse Items”



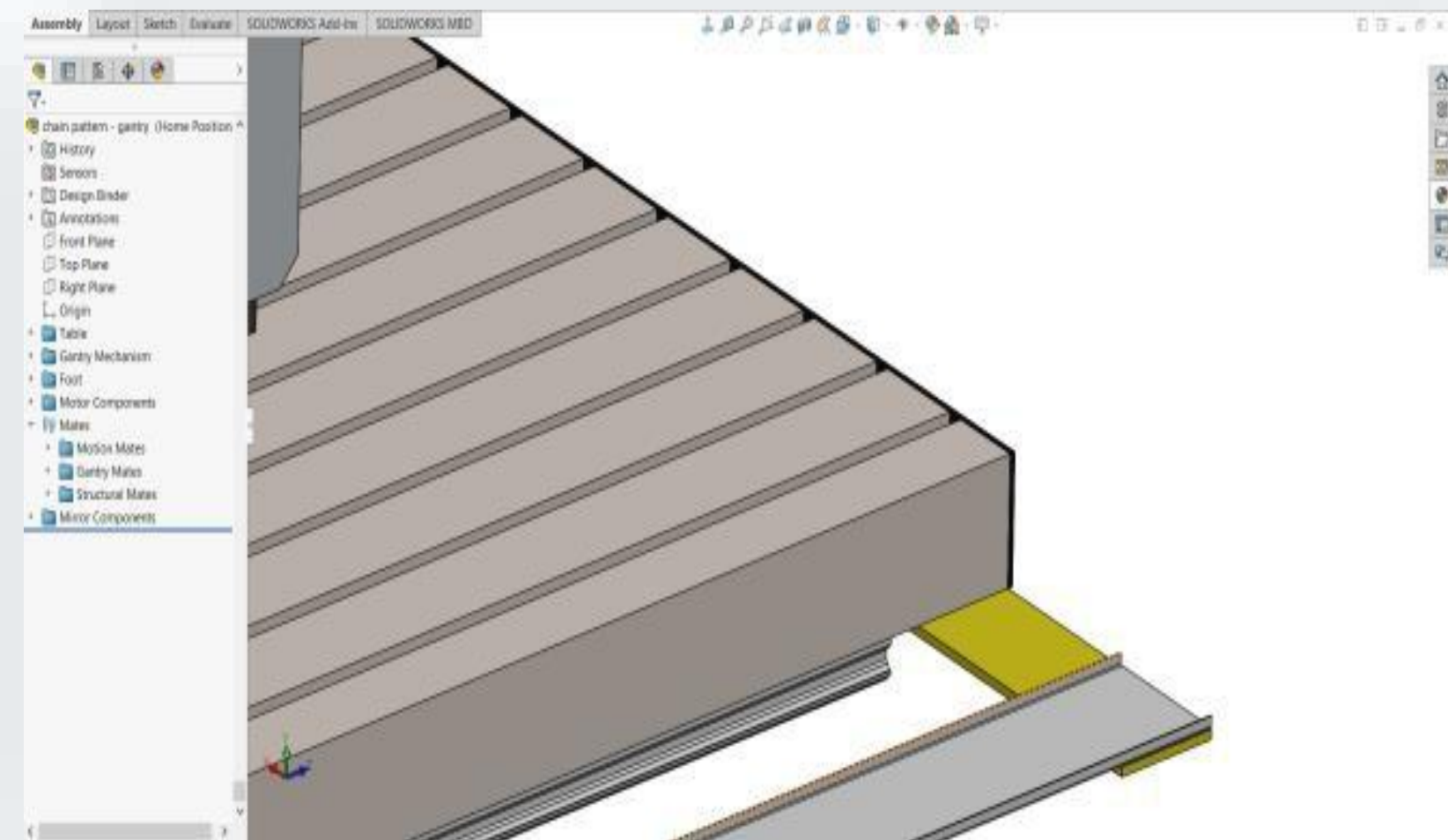
# ***Nuggets in the Tree***

- Tools that can help you easily keep track of design information
- **Sensors:** Display data measured from your model and add alerts
  - Mass, simulation results, dimensions
- **Design binder:** Add design notes to the “Design Journal” and embed documents to your model for quick reference

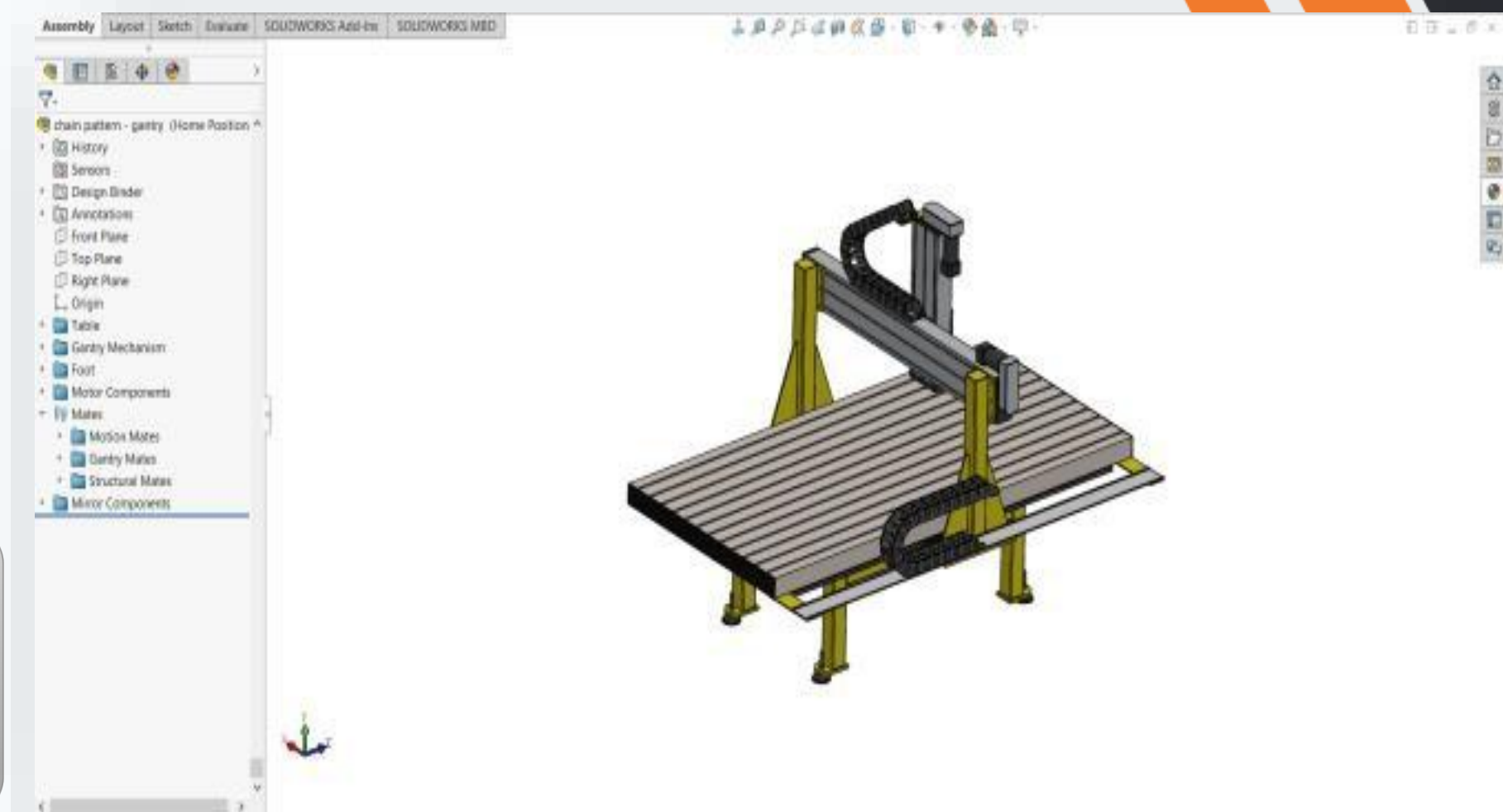


# ***Zoom to Fit***

- Double click middle mouse wheel, Press “F”

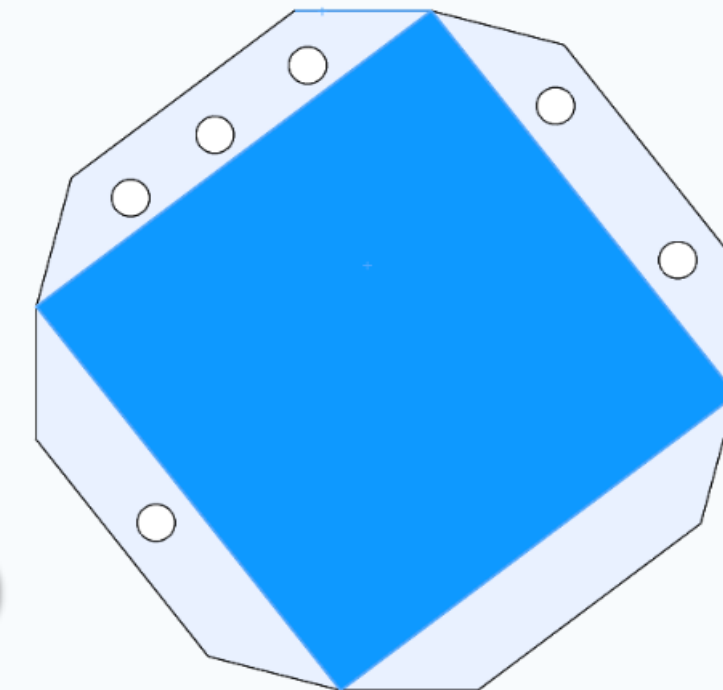
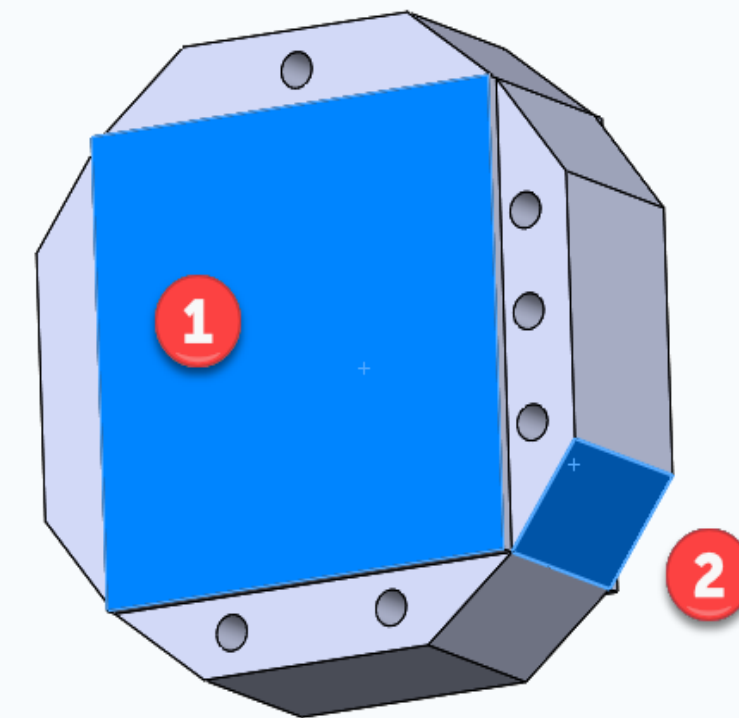
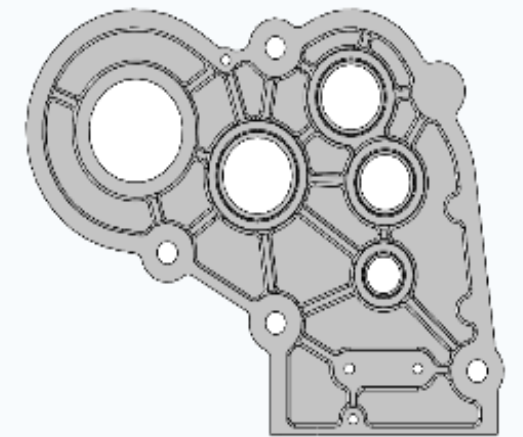
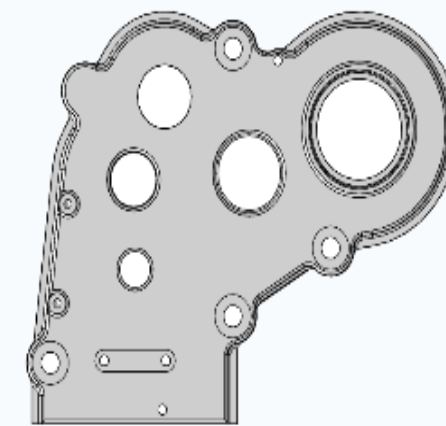


**F**



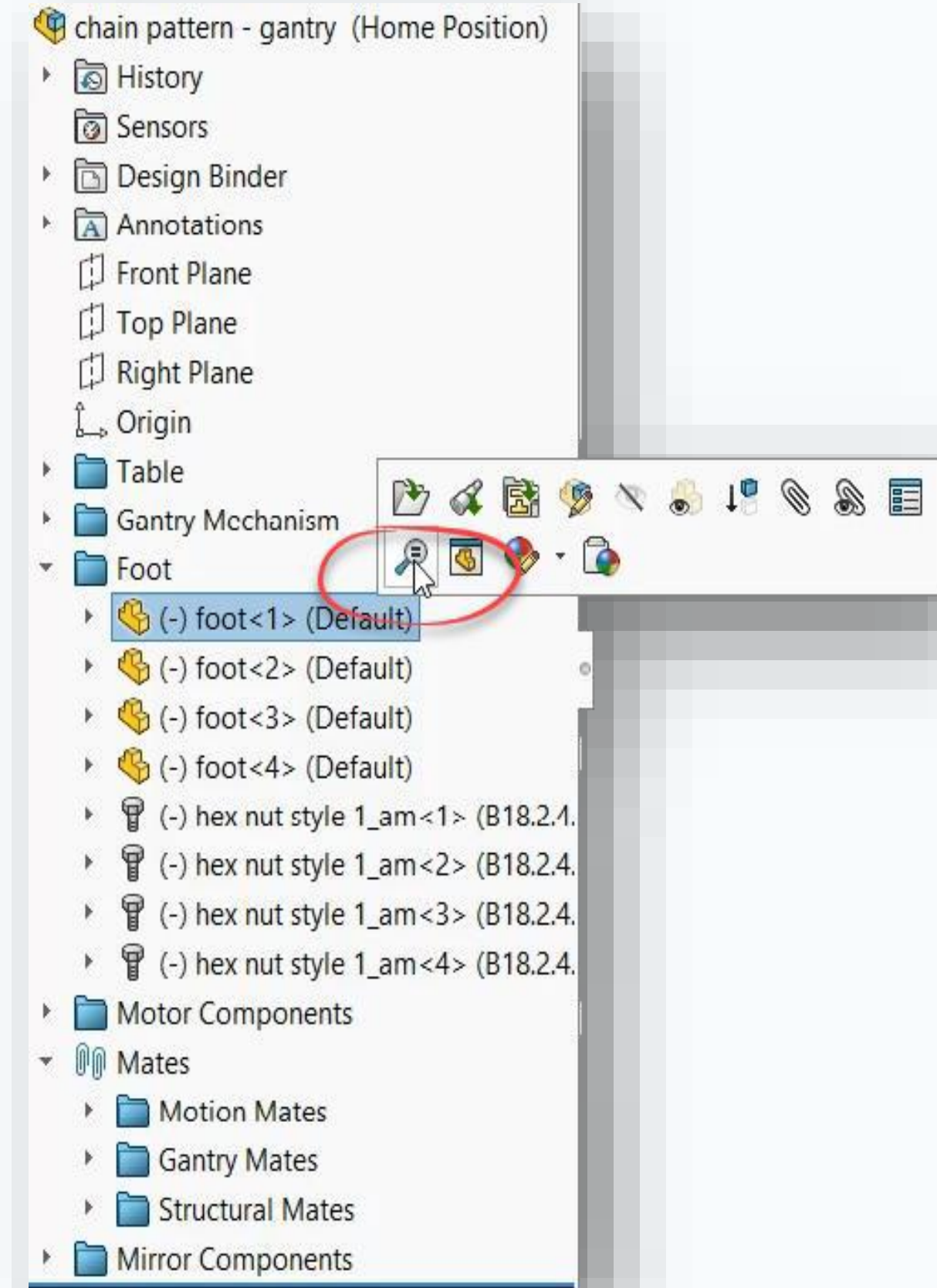
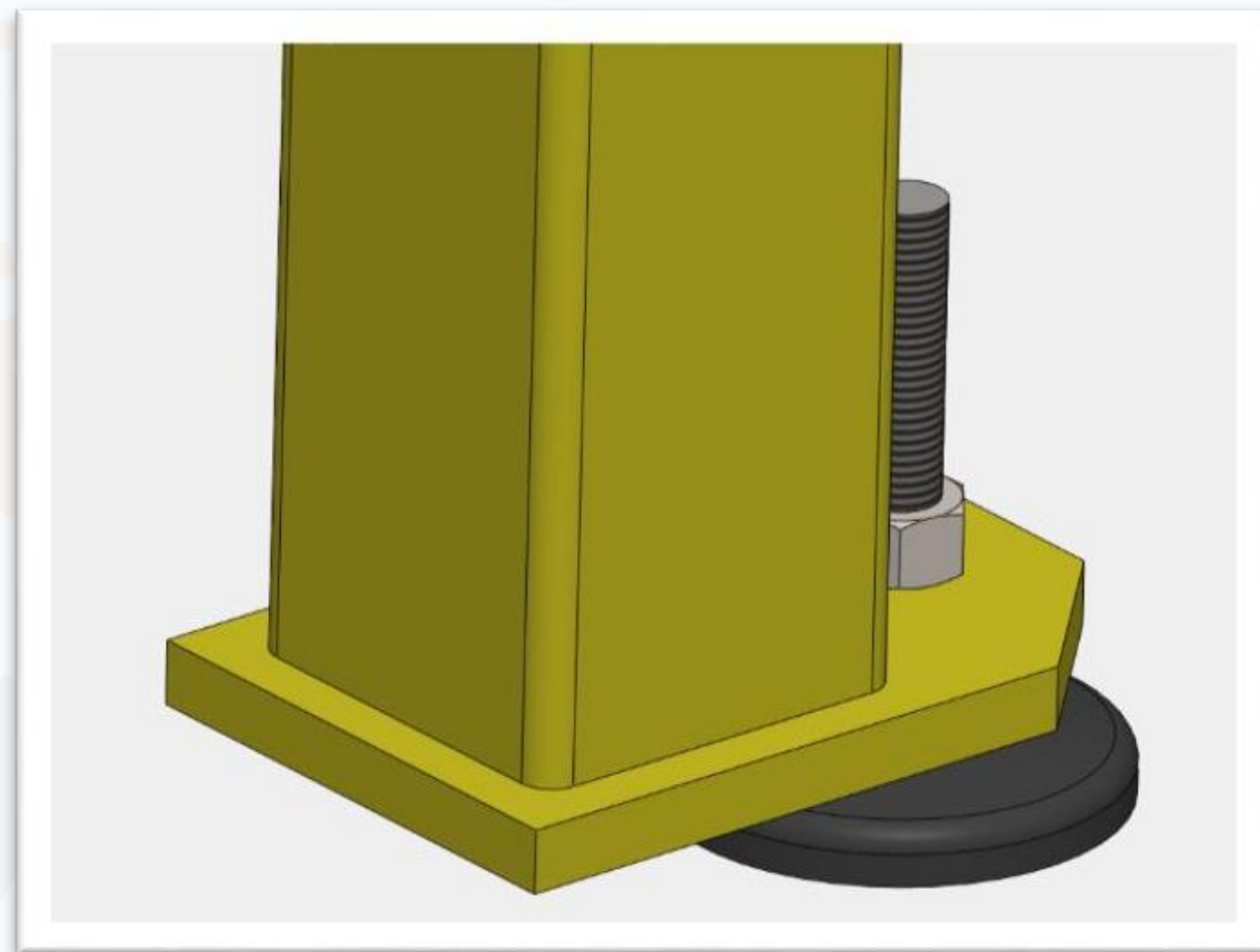
# Normal to

- “Normal to” once is Normal to positive
- “Normal to” again flips Normal to
- Normal to a face with in a custom orientation
  - 1st Face defines normal
  - 2nd face defines “up orientation”



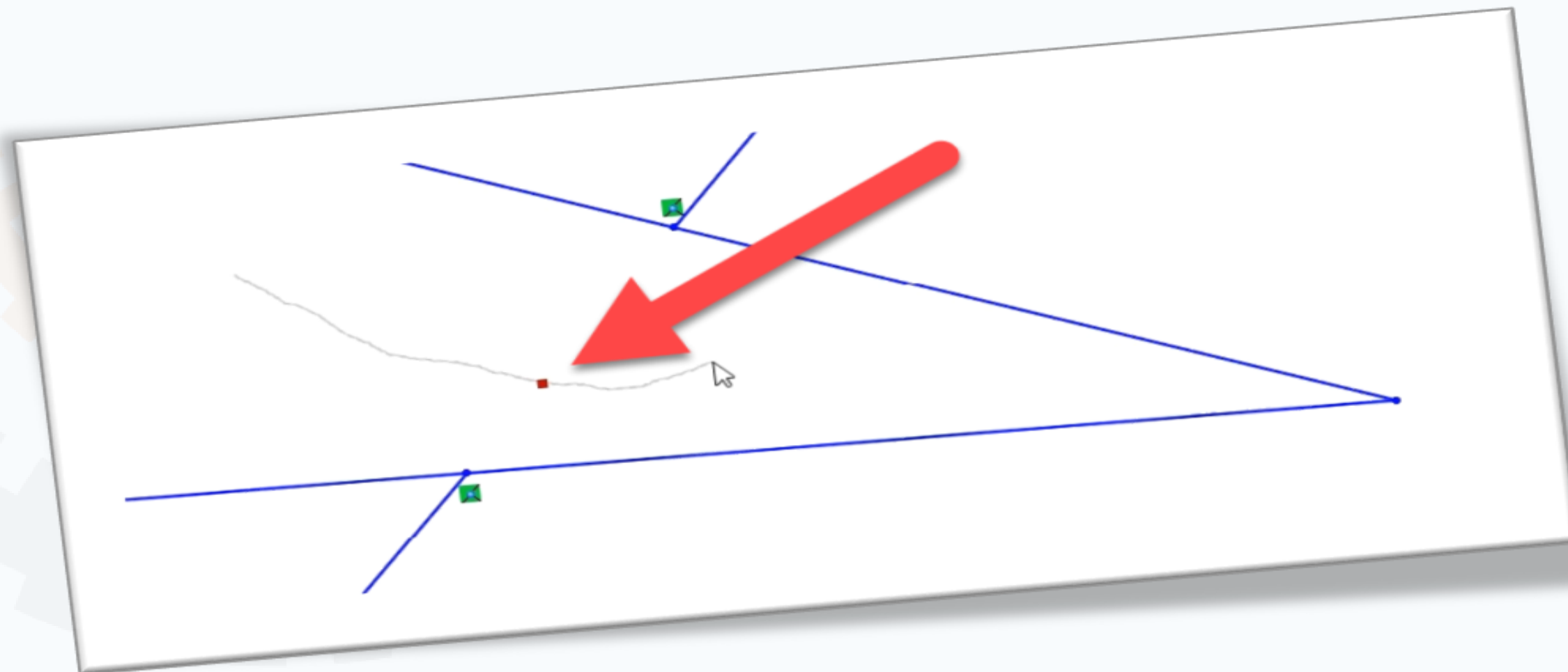
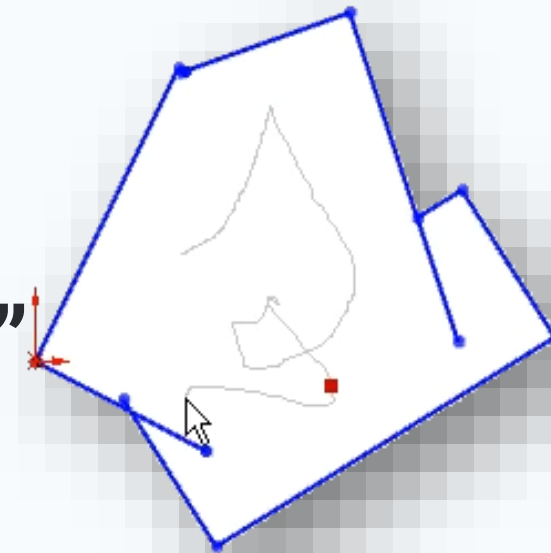
# Zoom to Selection

- Zooms to the selected portion of the model
- Helpful to find components in an assembly



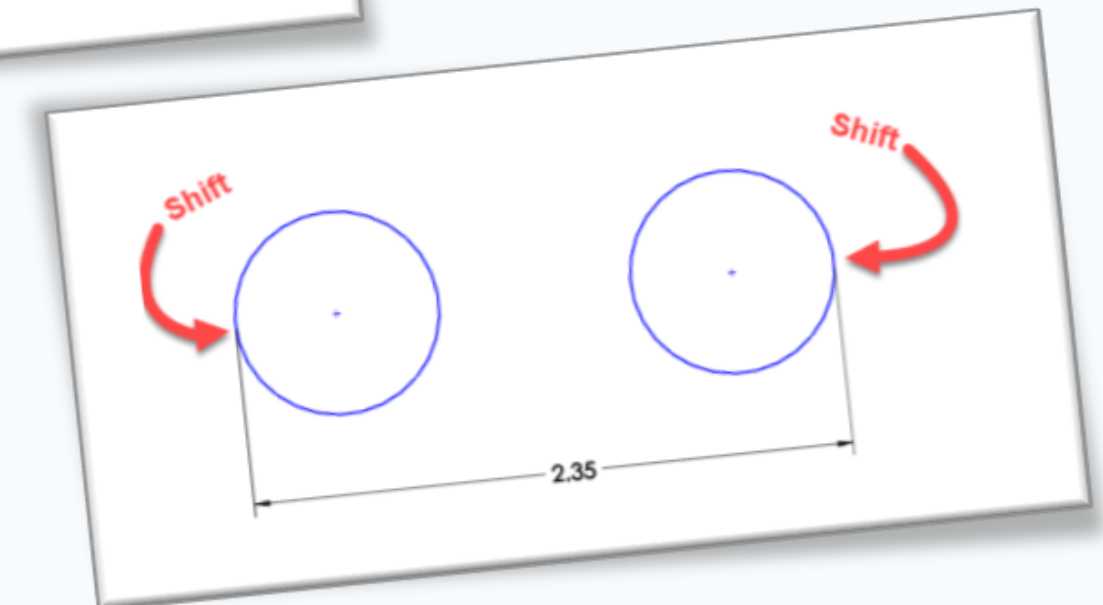
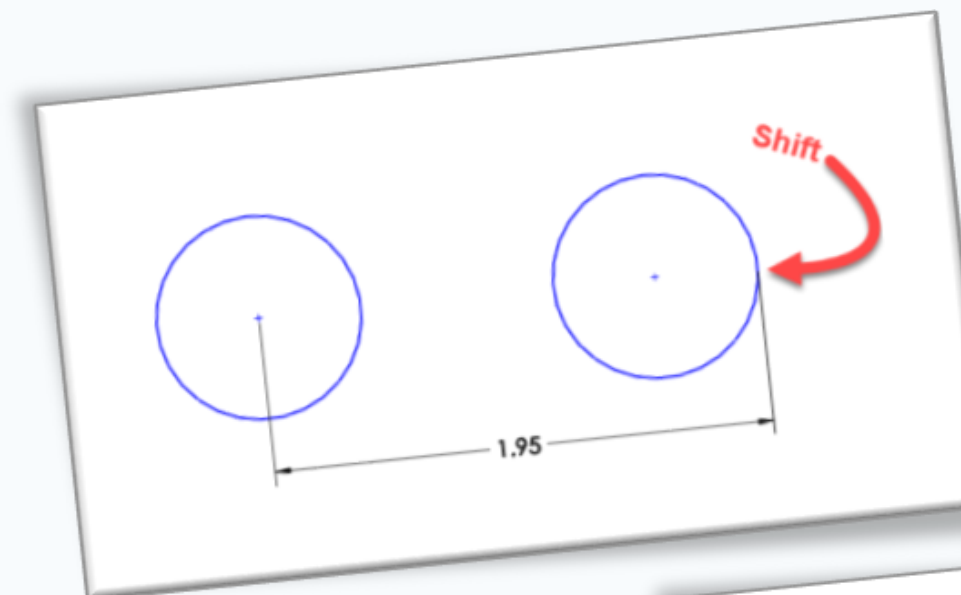
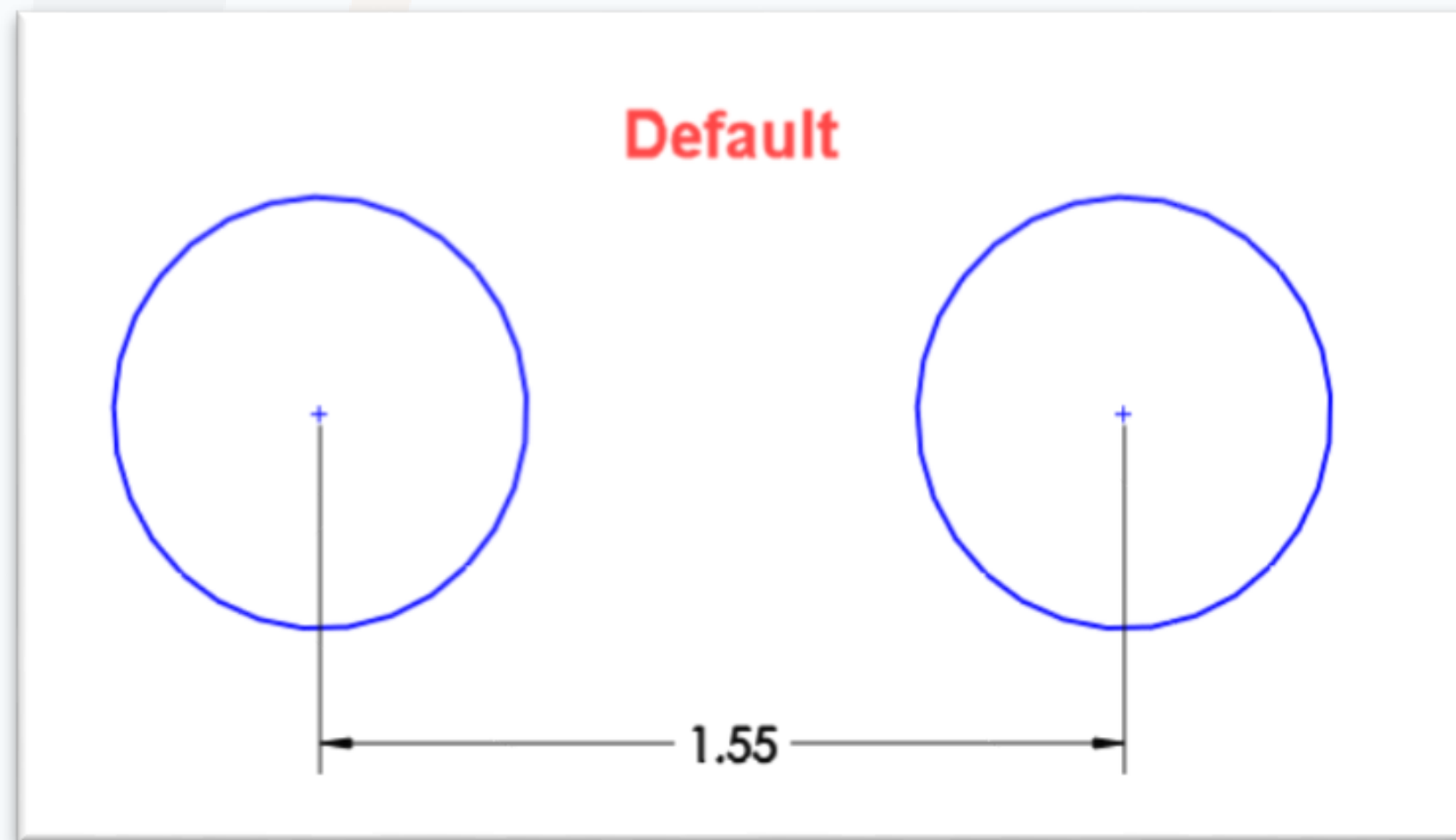
# Power Trim

- Trims to the nearest intersecting entity
- Drag the tool across entities to trim – “SOLIDWORKS Weed Whacker”
- Undo power trim by crossing over red squares left behind
- Power Extend: start on top of the entity to extend



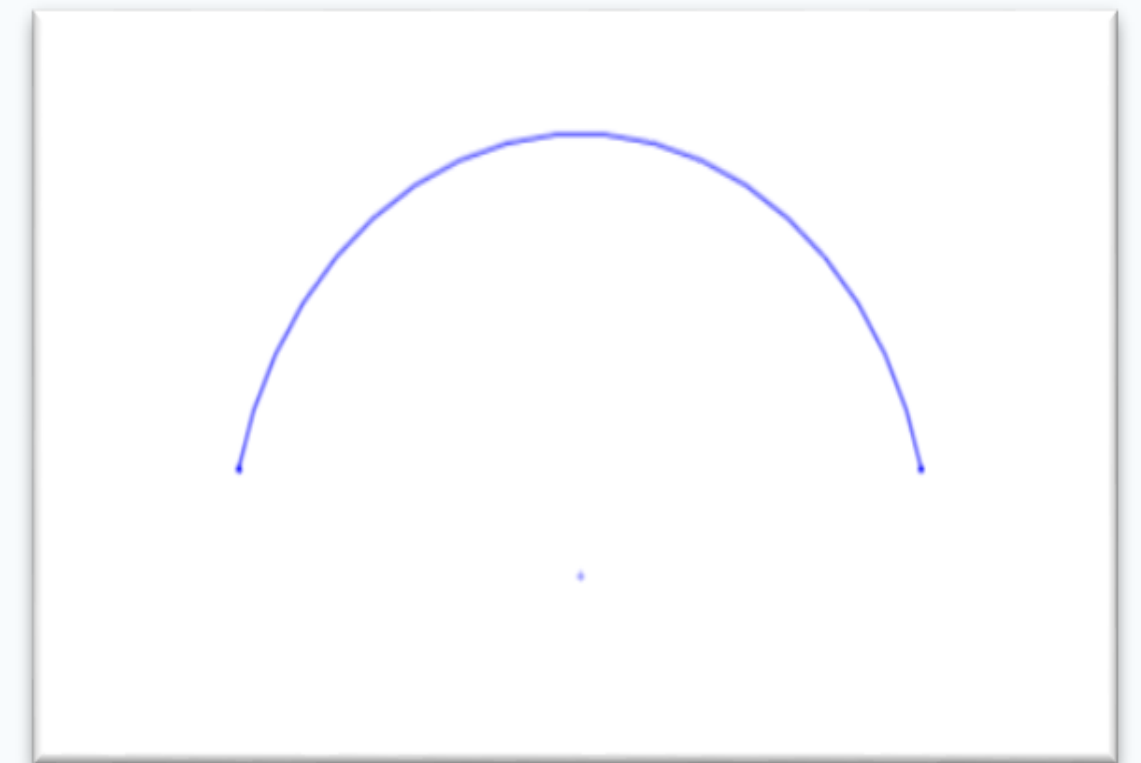
# ***Dimensions to Tangency***

- Dimension to a tangency using the shift key with Smart Dimensions
- Hold the shift key while selecting the entity to dimension as tangency



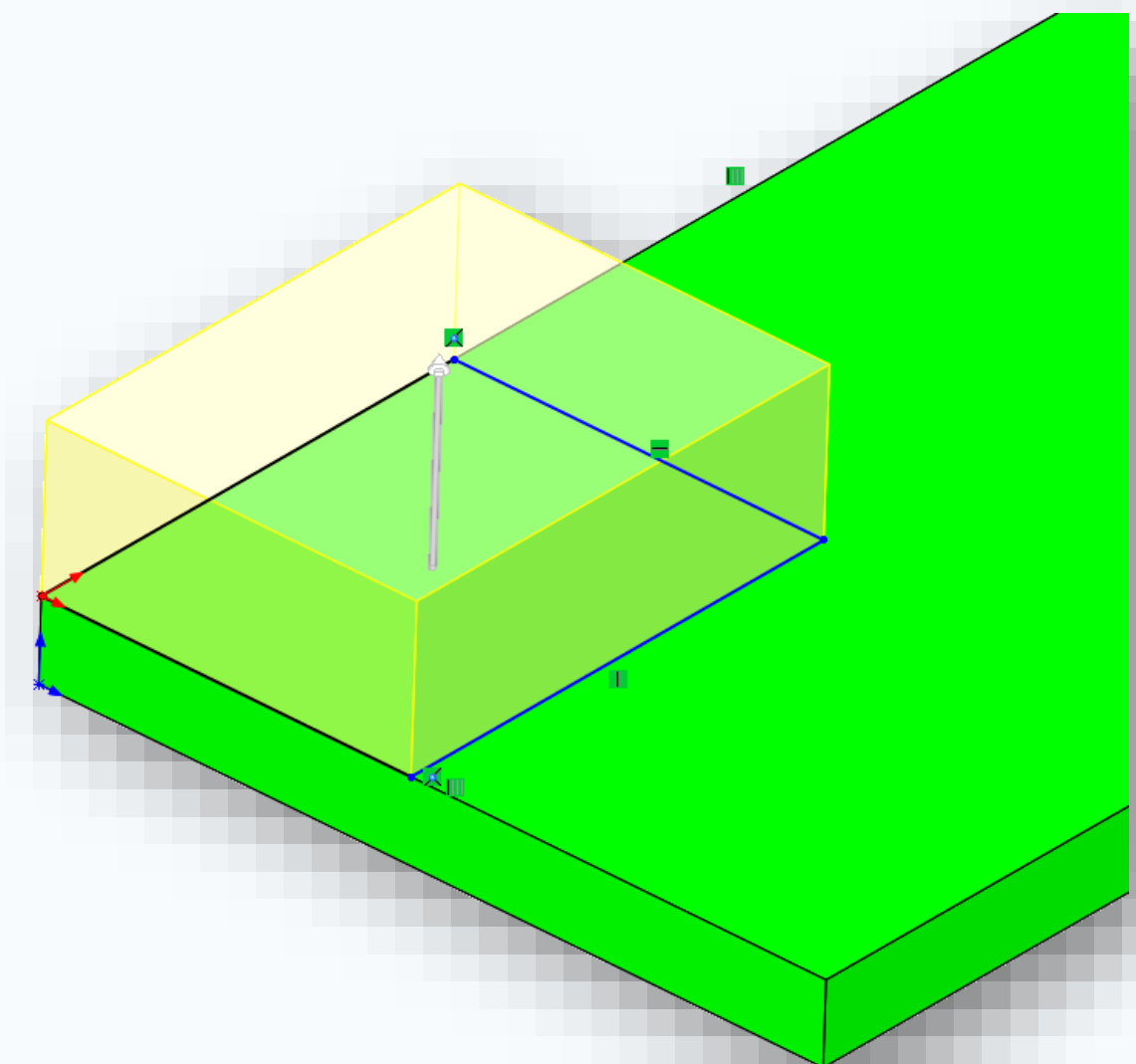
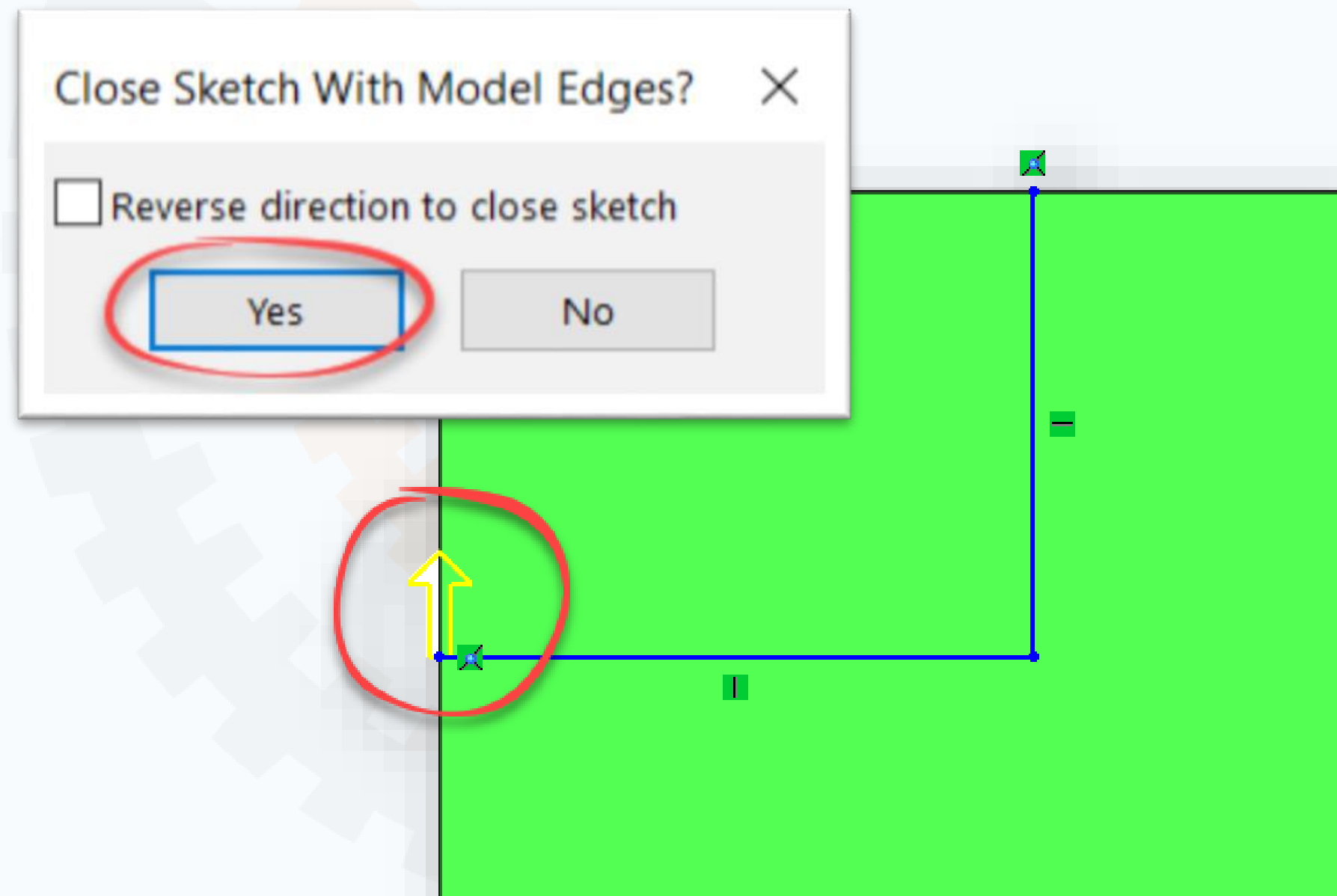
# ***Arc Dimension***

- Dimension the true length of an arc with smart dimension
  - Select the arc
  - Hold ctrl and select the two arc endpoints



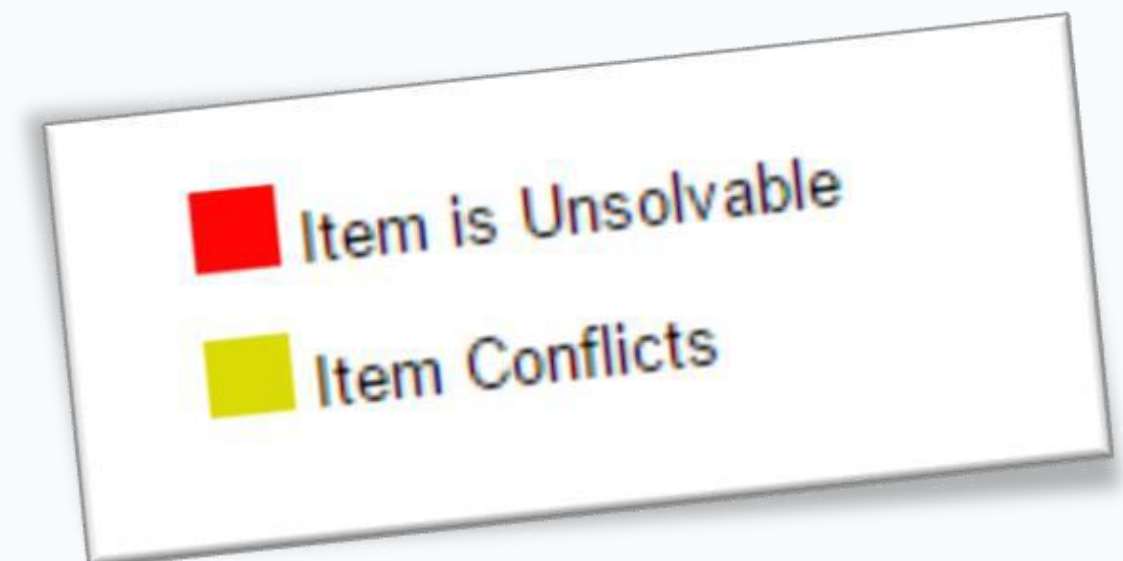
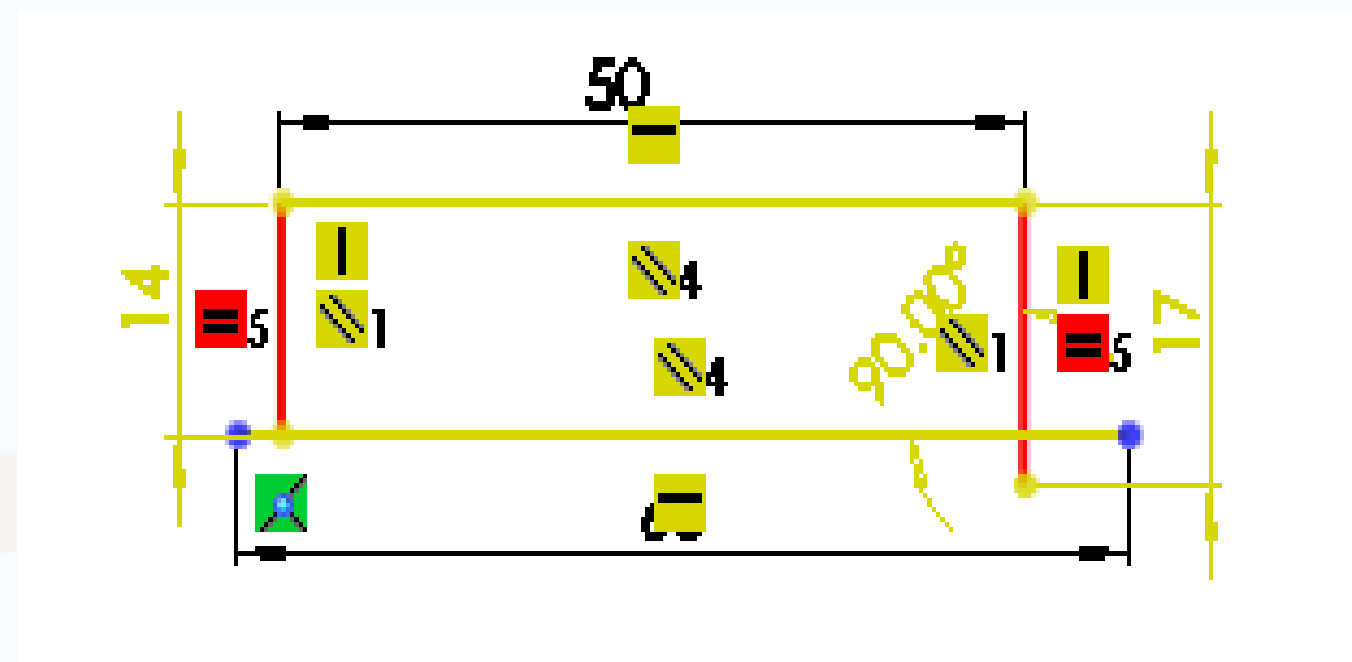
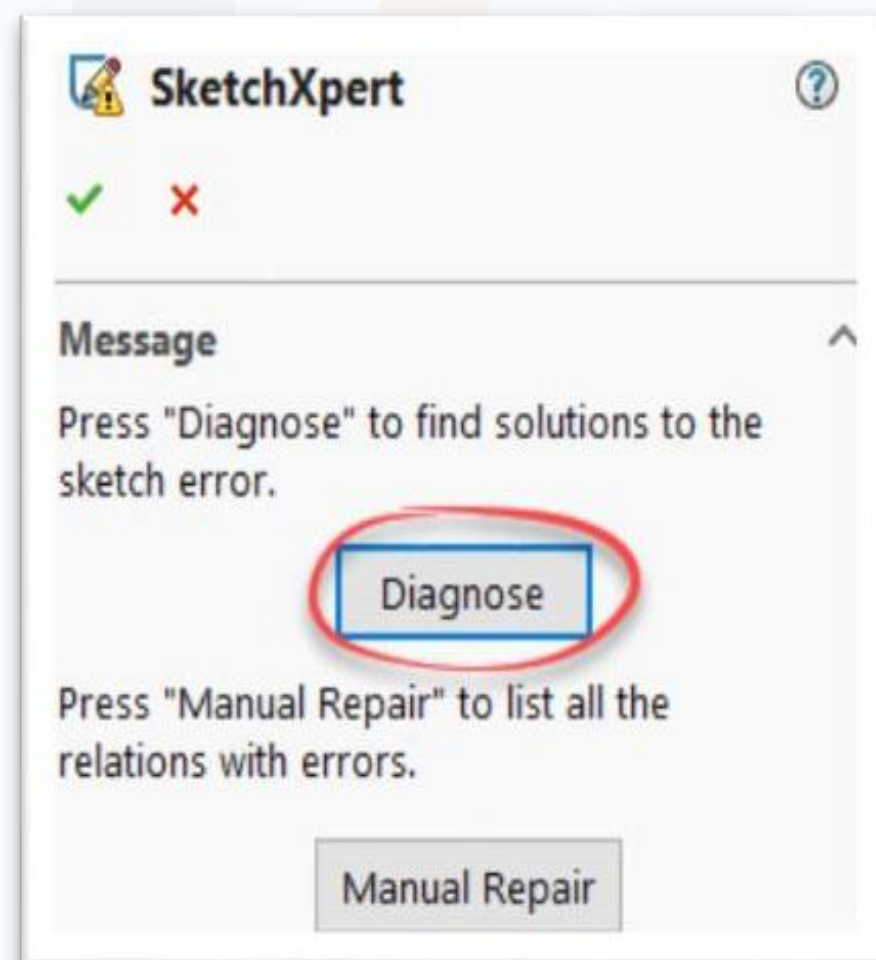
# Close Sketch to Model

- Use model edges to close a sketch profile for an Extrude feature



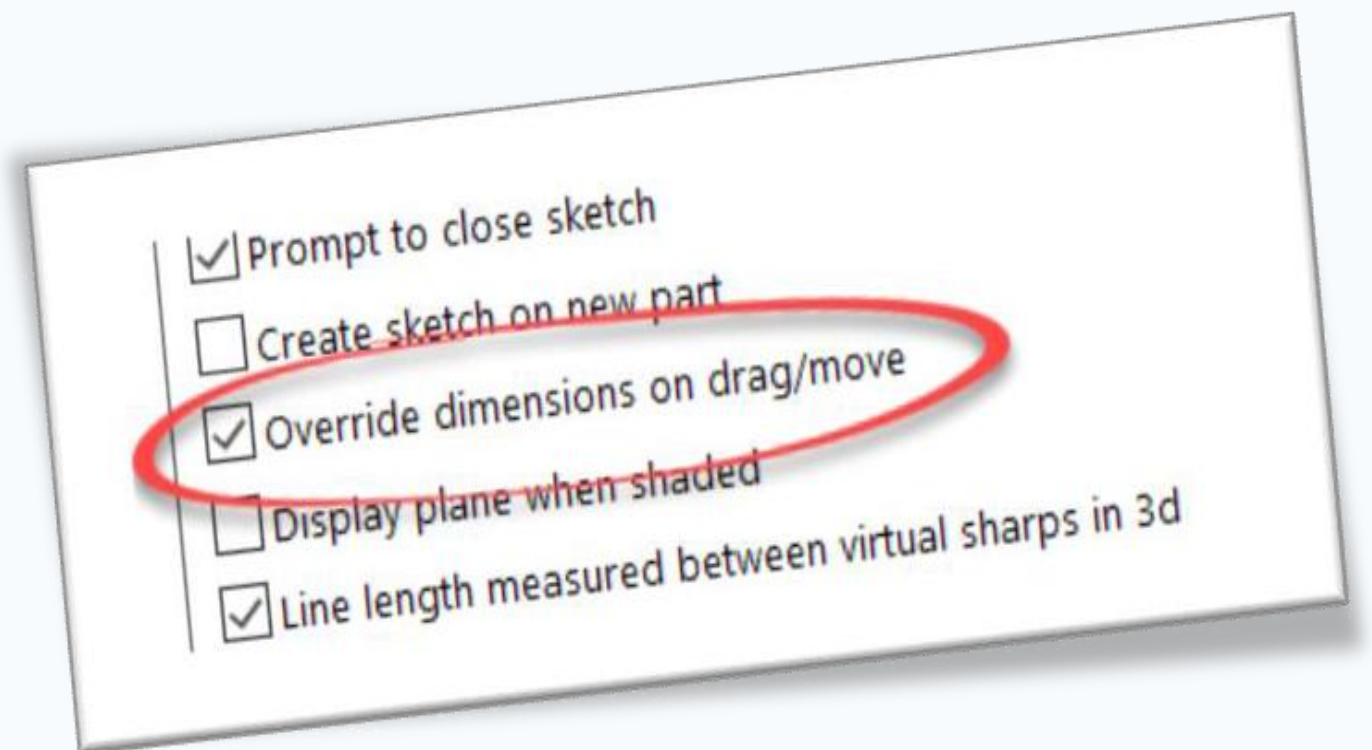
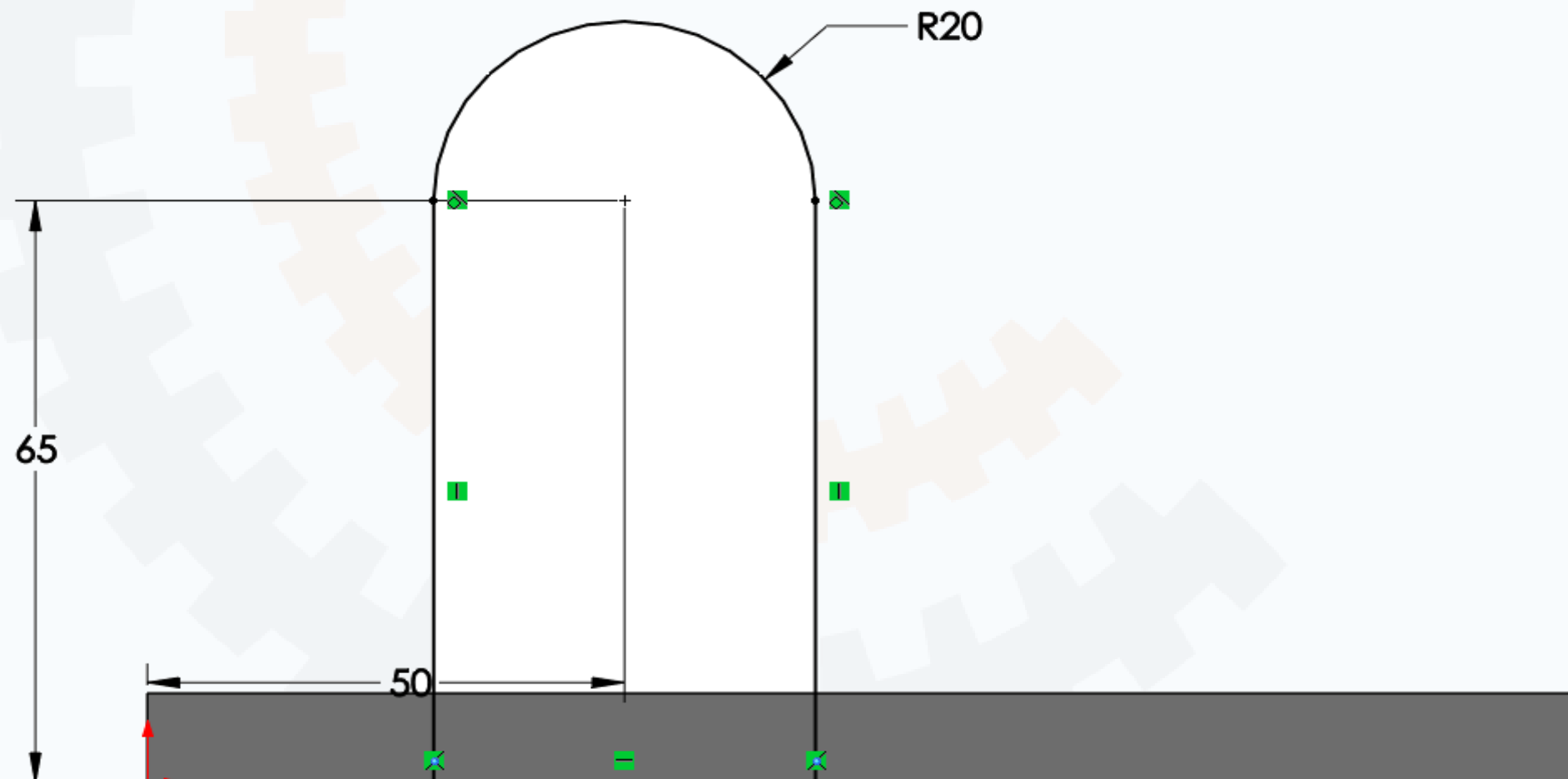
# SketchXpert

- A tool to help diagnose and resolve over-defined sketches
- Diagnoses: Visualize the potential changes needed to resolve the sketch
- Manual Repair: List all the relations with errors



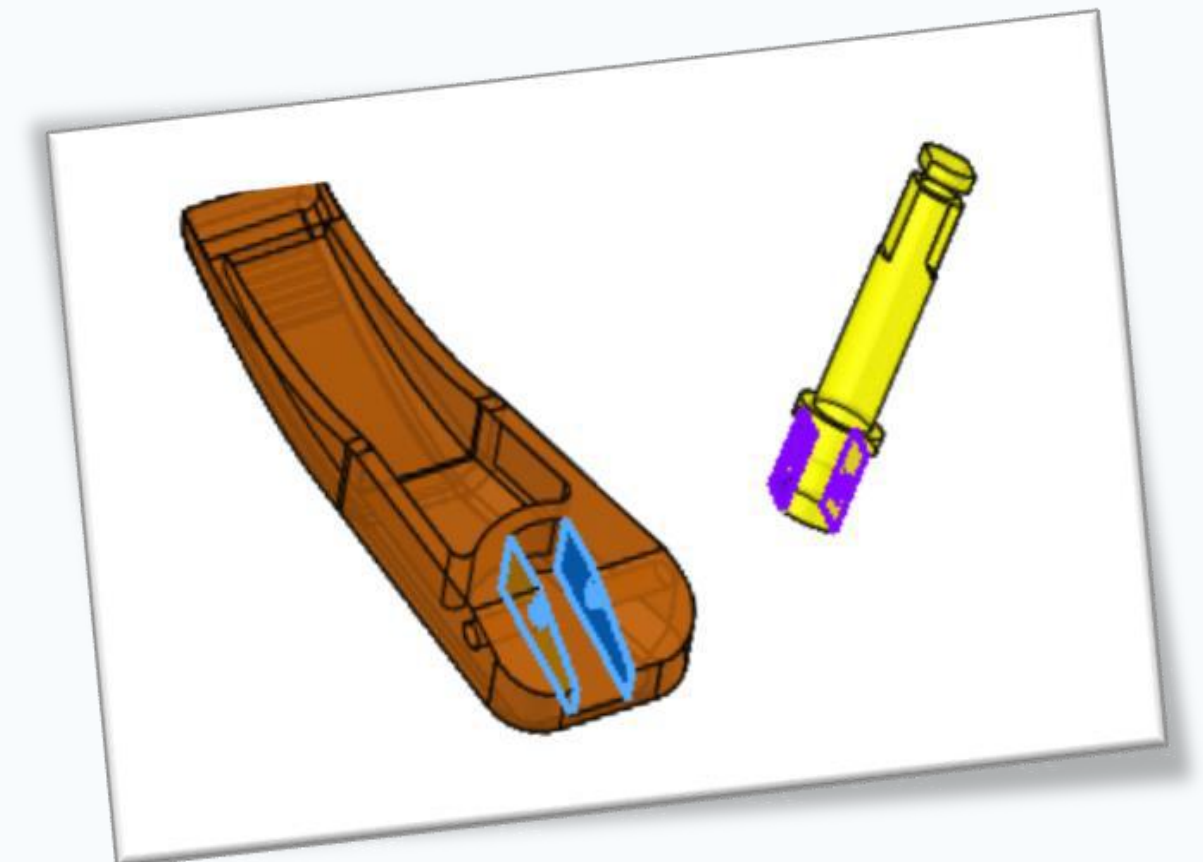
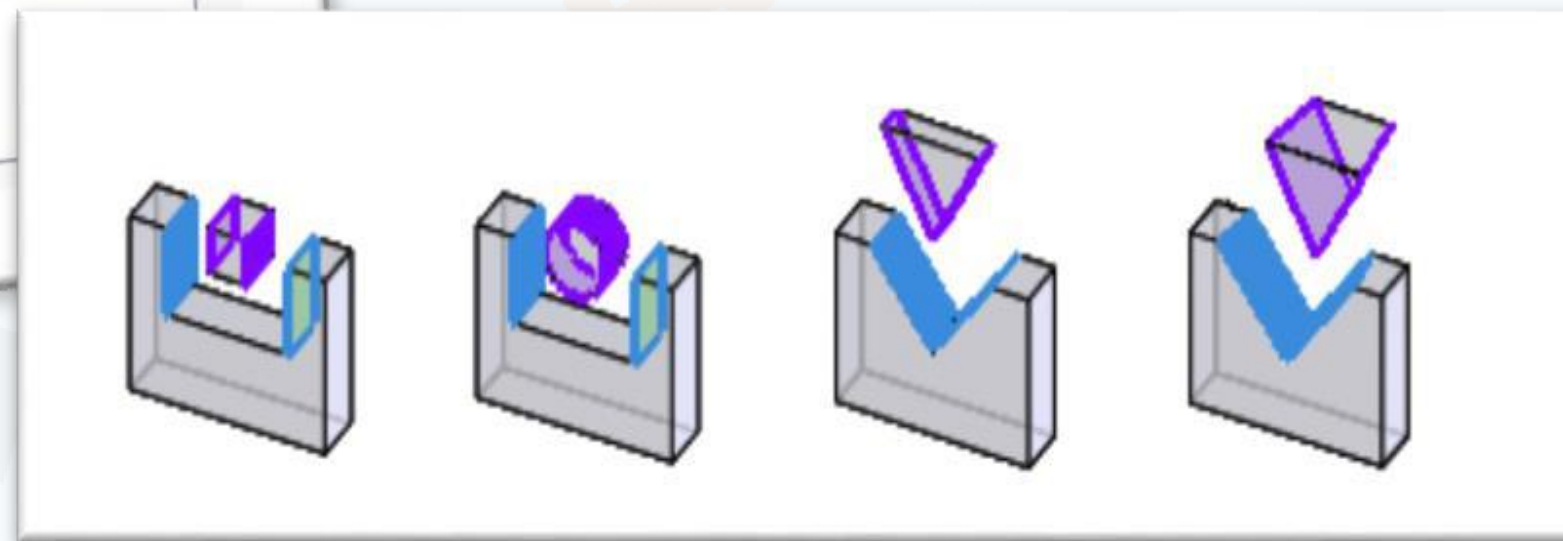
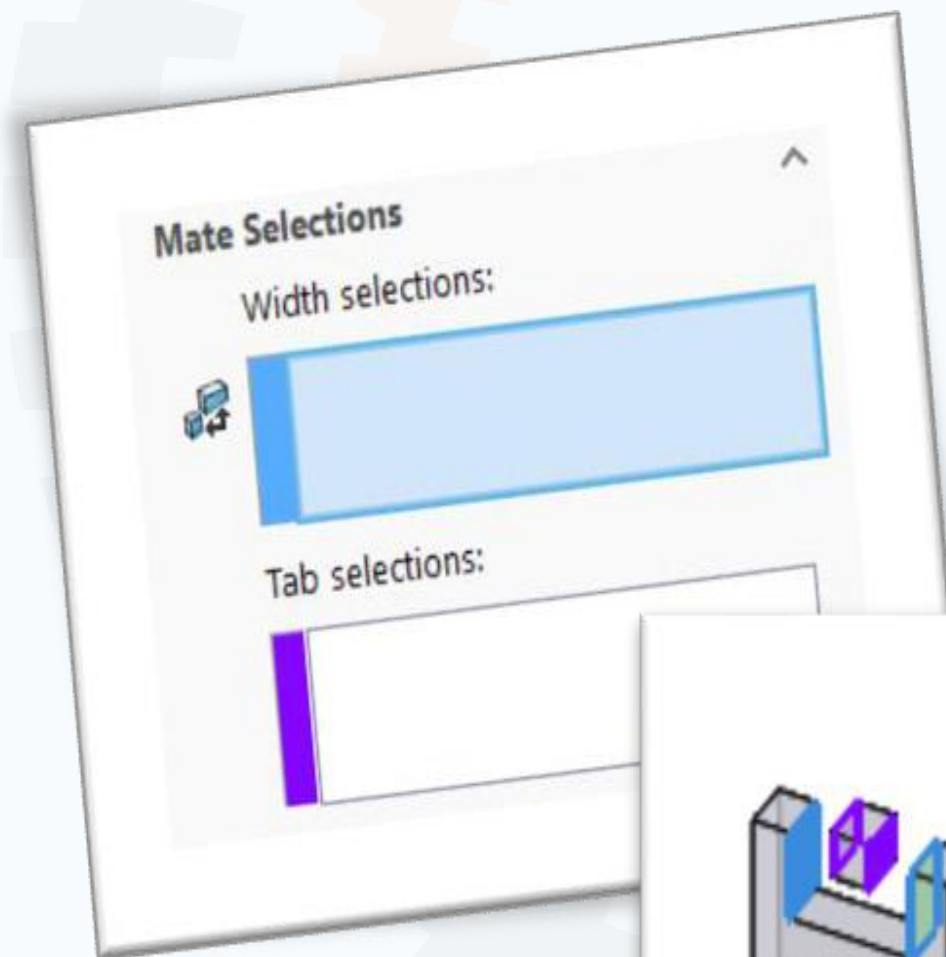
# Override Dims on Drag/Move

- A Sketch Setting that allows you to drag and move defined sketches
- Overrides dimensions when you drag sketch entity and updates dimensions after the drag is complete



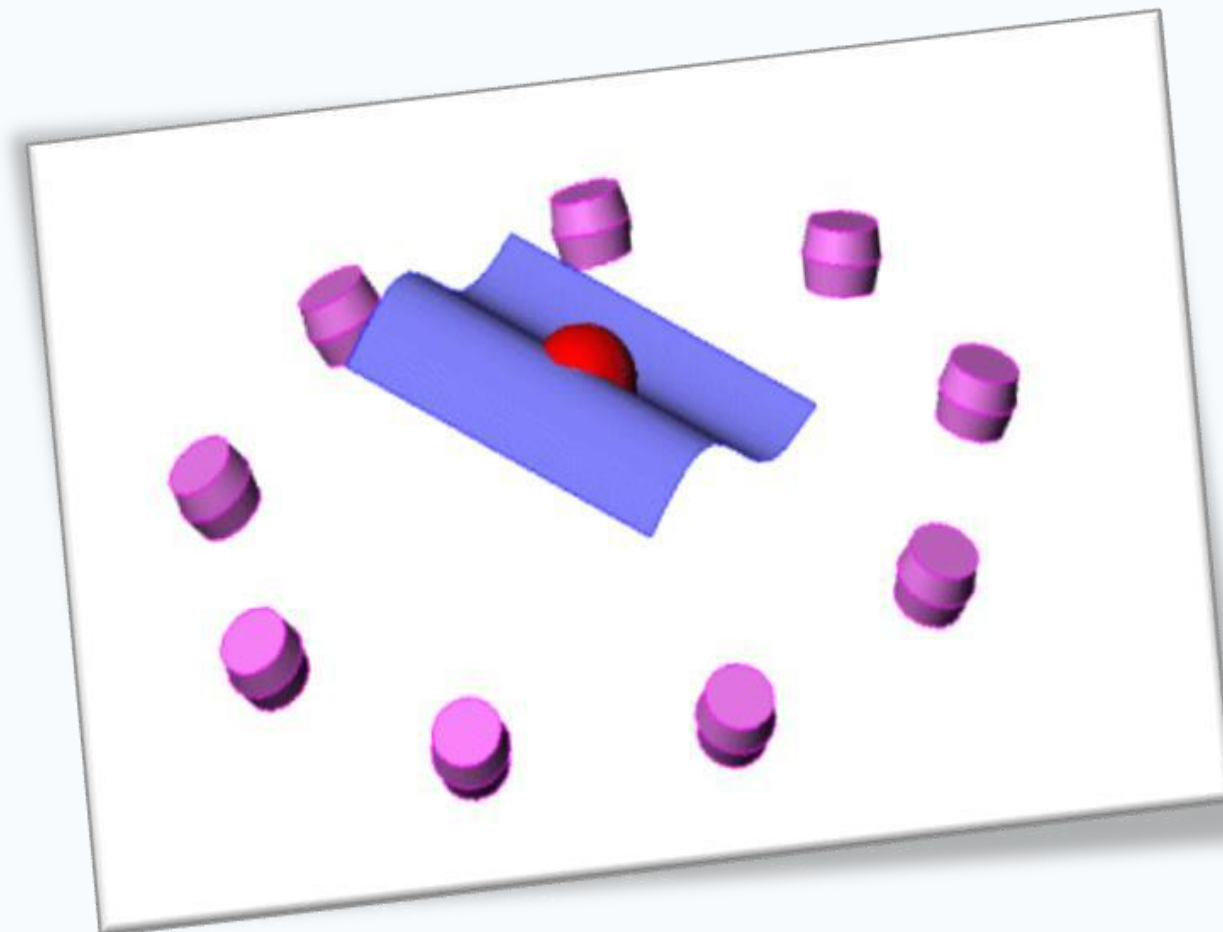
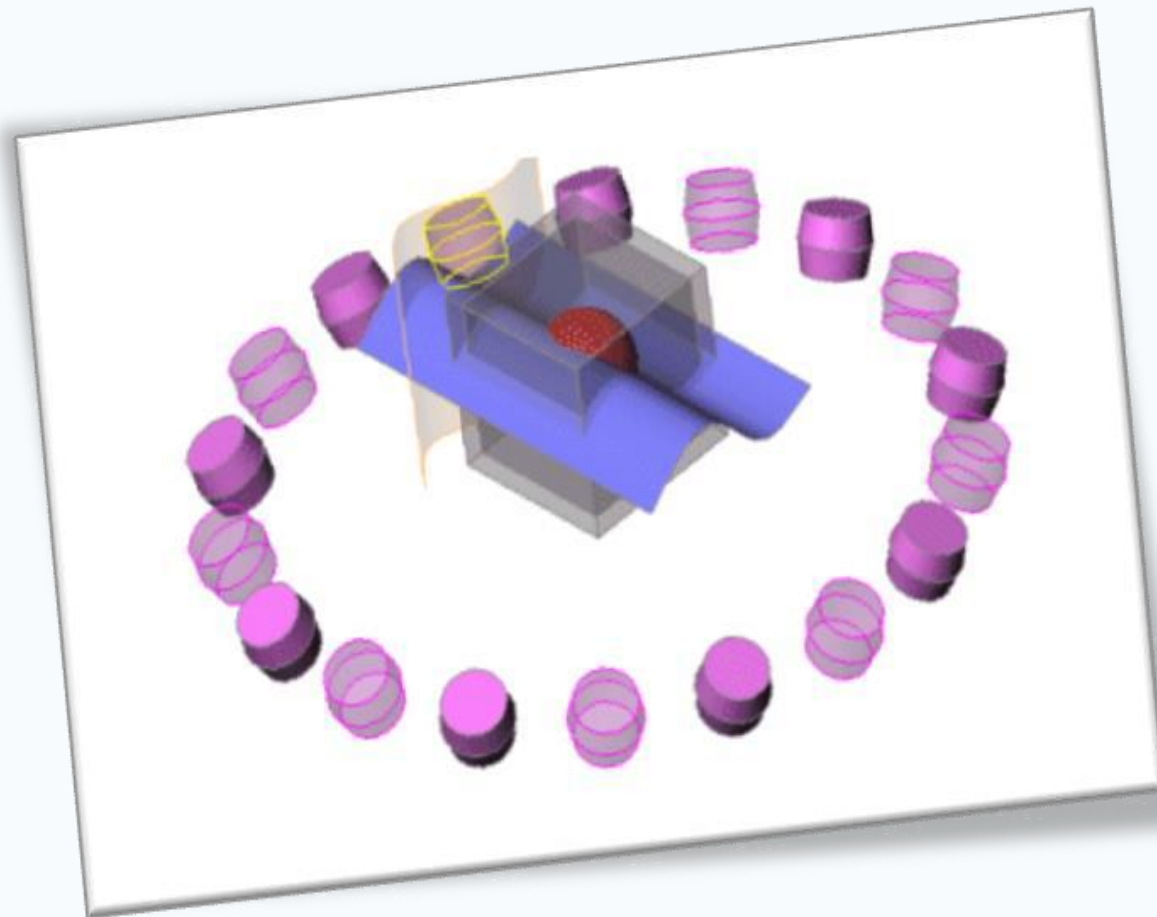
# ***Width Mate***

- **Centering Mate**
- **Preselect the 4 faces and click Mate to quickly add a Width Mate**



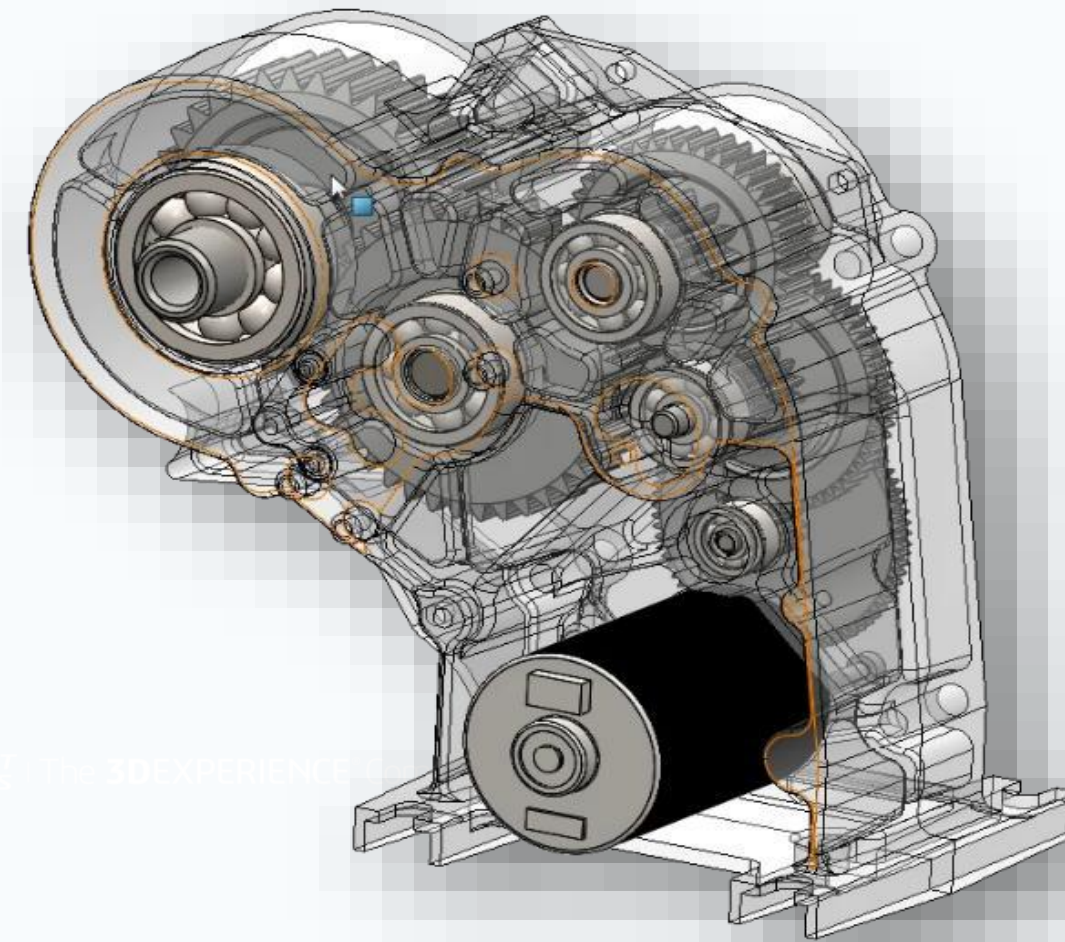
# ***Hide & Show Components***

- **Hide & show components using Tab & Shift + Tab**
- **Hover over a shown component and press Tab to hide**
- **Hover over hidden components and press Shift + Tab to show**



# ***Shift + Select Transparent Geometry***

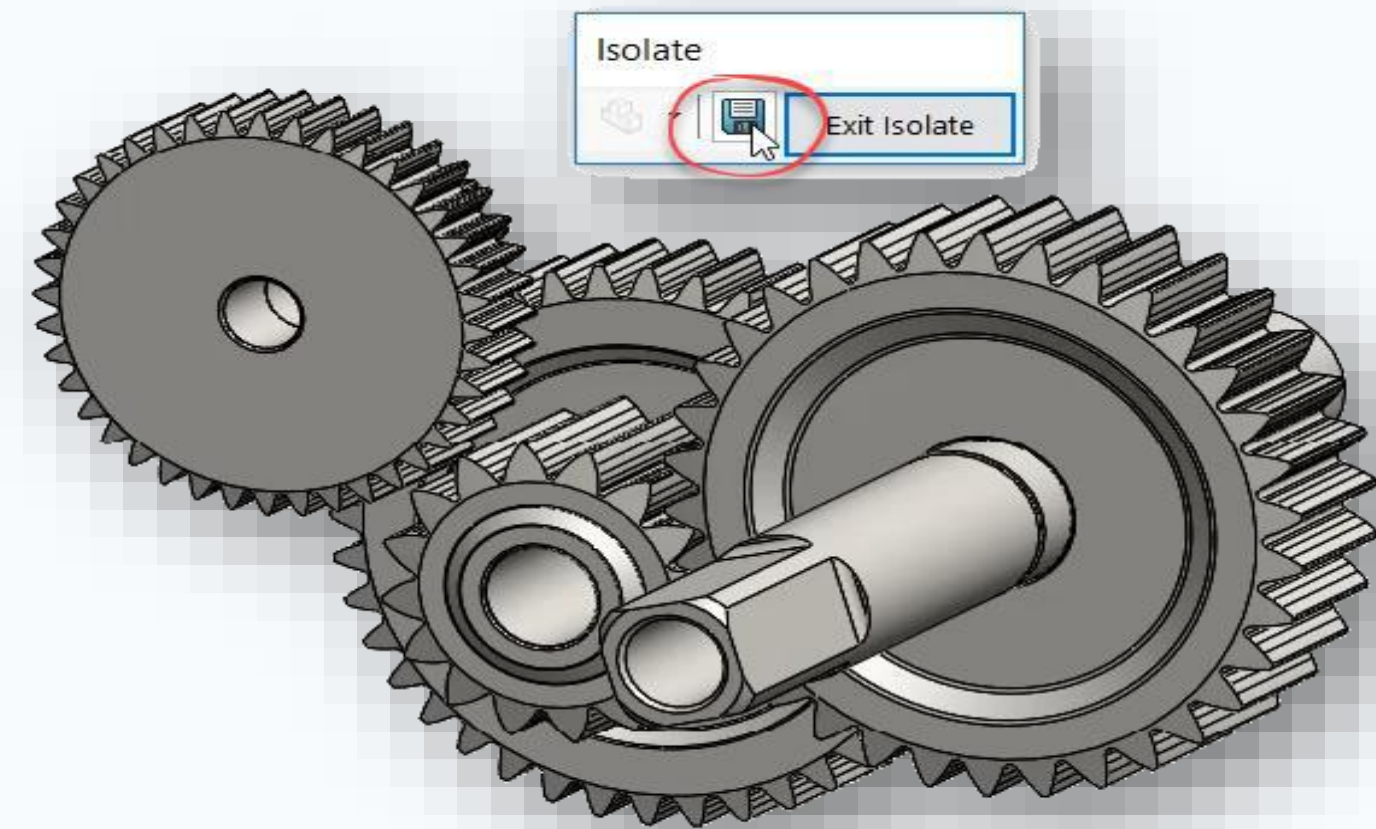
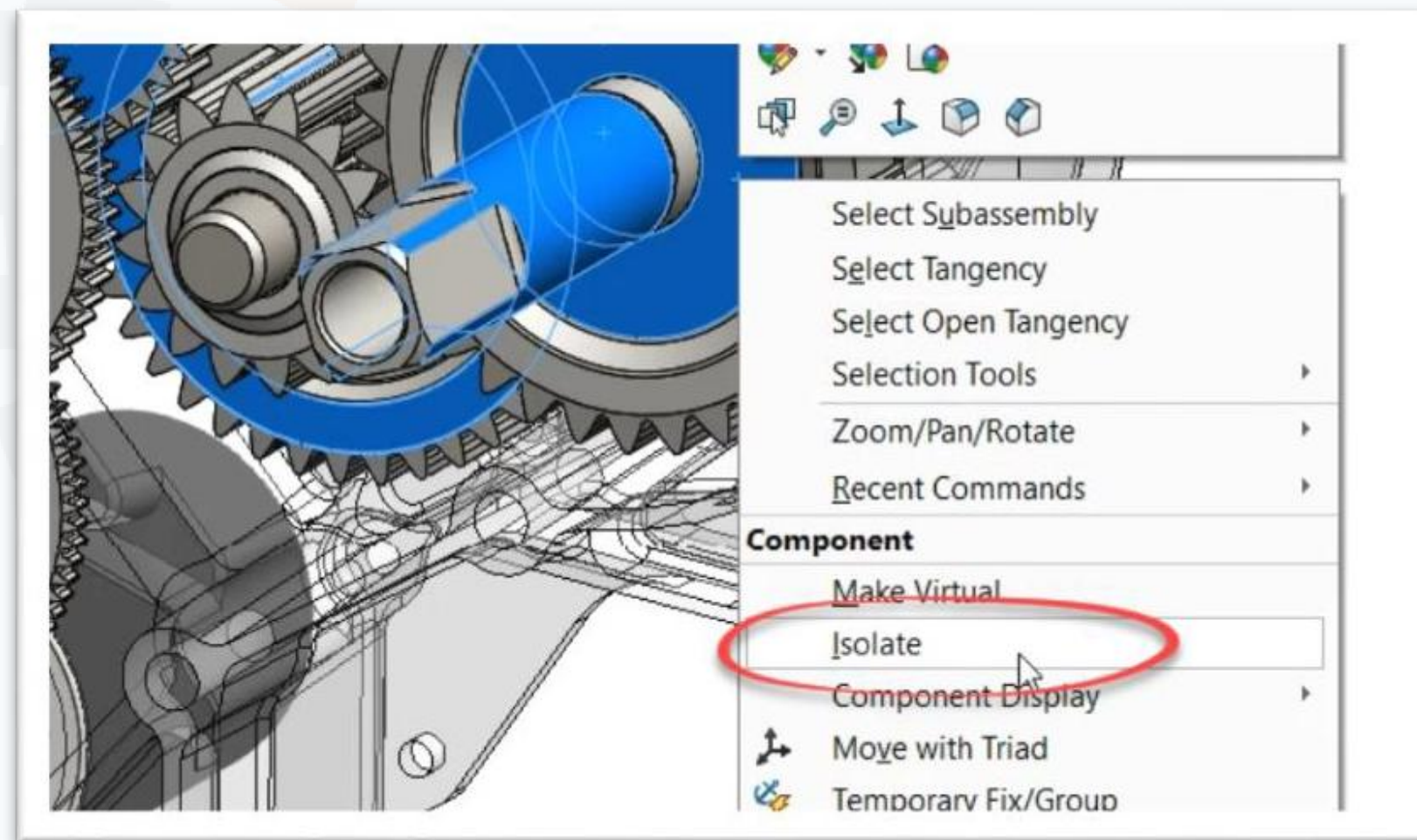
- Transparent parts are invisible to the cursor if there is anything behind it
- Transparent parts can be selected if there is no geometry behind it
- Hold shift and select transparent components like normal



3D SYSTEMS THE 3DEXPERIENCE

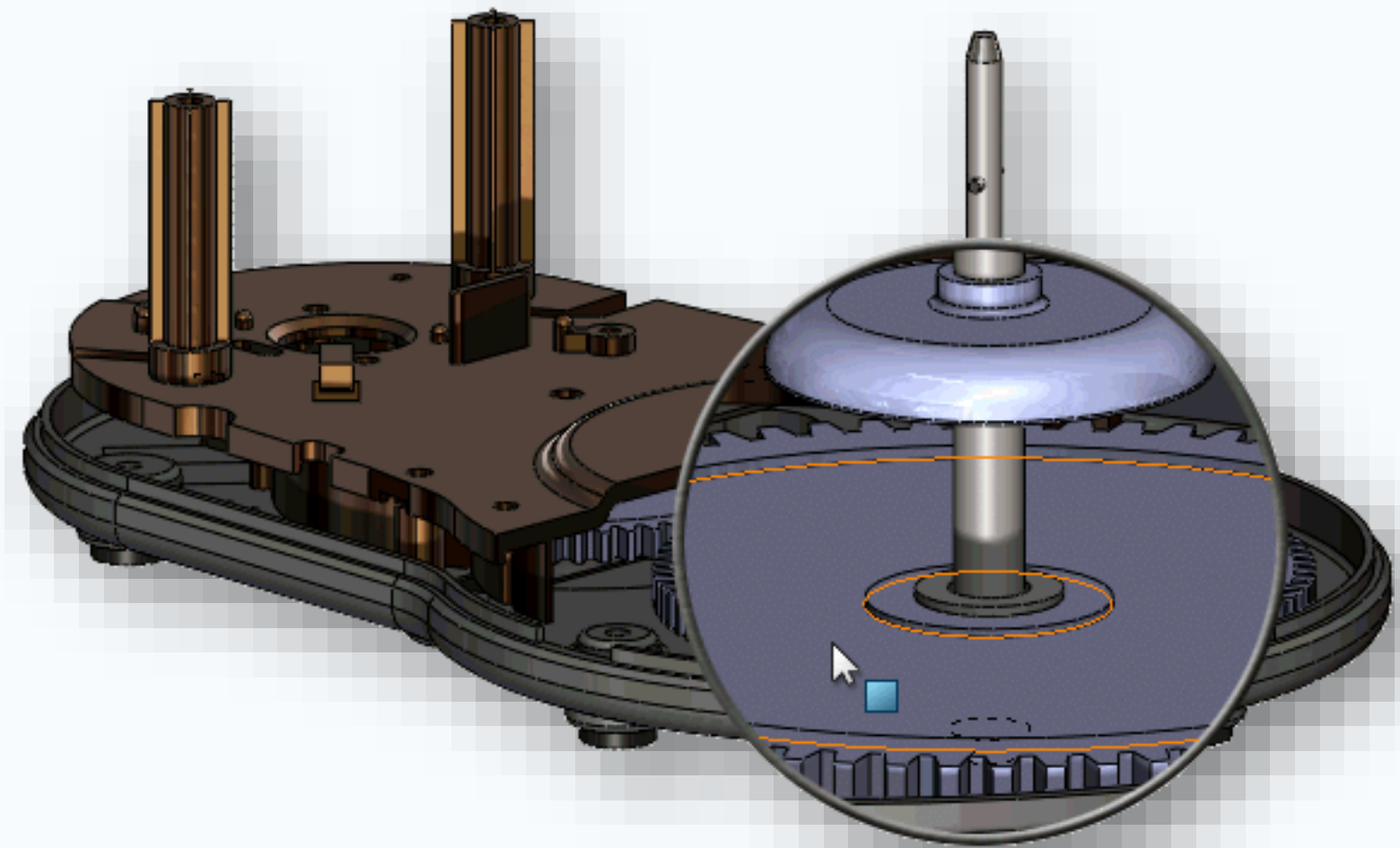
# Isolate & Display States

- Isolate components to hide all other parts
- Display States can be created within Isolate to save the current hide/show state



# ***Magnifying Glass***

- Use the magnifying glass to inspect a model and make selections without changing the overall view
- Select entities for operations such as creating mates
- “G” keyboard shortcut



***Questions?***

