

Engineering High School Outreach Program

Session # 4

Using the Model History Tree for Editing Sketches & Features

Agenda

- The Model History Tree
- Editing the Base Sketch
- Editing features

Reference

Inventor® R10, Chapter 2 & Session #4 slides

P. 1

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Learning How the Model History Tree Works

- Inventor keeps track of the steps that are taken to create a solid – sketches, extrusion, revolution
- These are recorded in the Model History Tree in the lower left corner of the screen
- Touching the icons on the Tree highlights the feature or sketch in the drawing
- Right clicking on the Tree icons brings up a menu allowing the feature or sketch to be edited

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Model History Tree for "Adjuster"

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Updating Sketch & Feature Names

Click on name "Sketch1" twice, slowly, to change name to "Base Sketch".

Similarly change names of other sketches and features.

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Showing Details of Object

Clicking on Sketch and/or Extrusion shows outline and dimension of object.

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Modifying an Existing Object

How do you go from this...

... to this?

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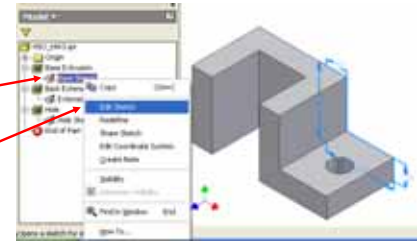
Use the Model History Tree to:

1. Edit Sketches
2. Edit Features

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Editing a Base Sketch

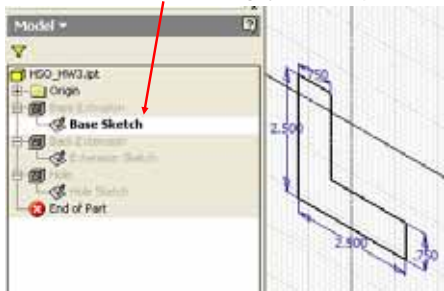
Right Click on Base Sketch to allow for editing of the Sketch



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Editing a Base Sketch

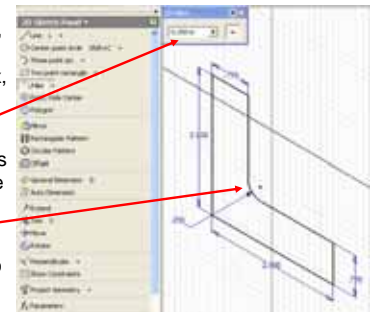
The feature (Base Extrusion) is removed temporarily to allow Editing the Sketch. Note that all other features are 'grayed' out except for the Base Sketch



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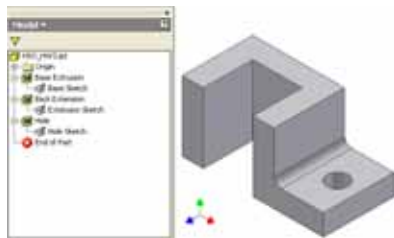
Adding Fillets

1. Left click on "Fillet"
2. In the 2D Fillet box, change radius of fillet to 0.250 in.
3. Select the two lines on the inside of the L-shaped block.
4. Fillet is created between those two lines.



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Updating an Edited Sketch

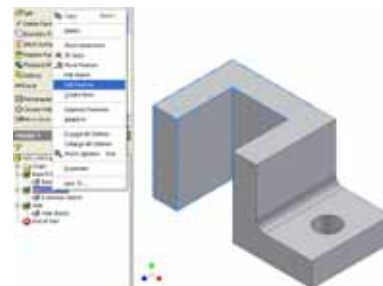


When you "Finish Sketch", the figure is **UPDATED AUTOMATICALLY** to include the new feature. All of the other features and their sketches are available for editing again.

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Editing Features

1. Right click on the desired featured and it will become highlighted.
2. Choose 'Edit Feature' from menu.



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Editing a Feature

Any extrusion property can be altered. Here the height is changed to 1 in.

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Updated Feature

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Adding New Features to a Sketch

On your own, Edit the "Hole Sketch" to create 2 circles as shown.

Circle Dia. = 0.50 in
Distance from center to edge = 0.75 in

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Automatic Updates Don't Always Work as Expected!

Right clicking on "Finish Sketch" will make second circle disappear!

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Changing Holes to Cylinders

Right Click on "Hole" feature to bring back the "Extrude" dialog box with the sketch of both circles.

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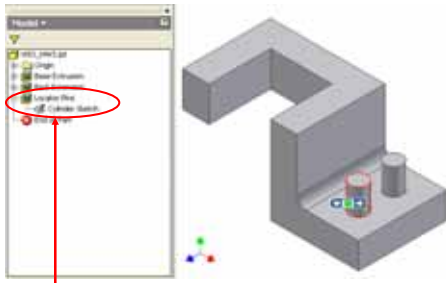
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Changing Holes to Cylinders

1. Click on "Profile" icon and select second circle.
2. Change type of extrusion to generate cylinders.
3. Direction of extrusion will change automatically.
4. Preview cylinders to be extruded.

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Final Edited & Updated "Adjuster"



Update the Model History Tree to reflect the new features.

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Today's Assignment:

- Start from the 3D model of the "Adjuster" from HW3.
- Follow instructions in the slides to edit sketches and features.
- Updated edited sketches to produce the revised "Adjuster" shown in slide 19.
- Add text information , save and print the model.

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