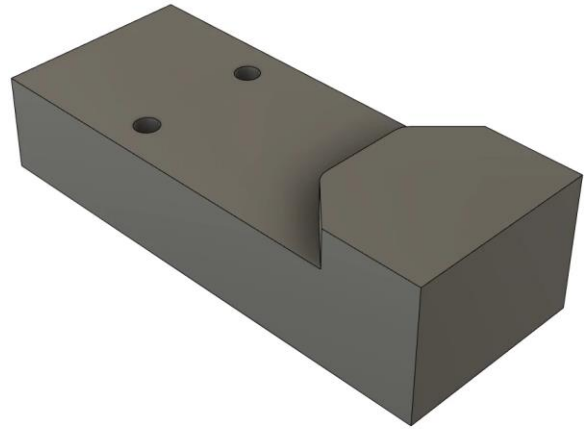


Lesson: Understand Modification and Direct Editing Tools

In this lesson, you'll edit 3D geometry using direct editing tools.

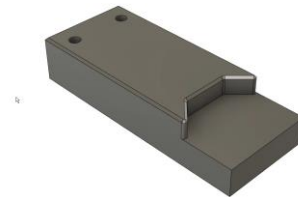
Learning Objectives

- Modify hole locations.
- Use Delete to remove chamfers.
- Use Press Pull to change a fillet radius.

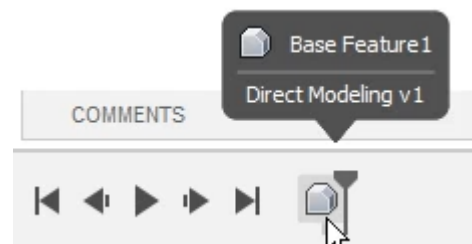


The completed exercise

1. Upload and open the supplied *Direct Modeling* file and make sure you are in the Design workspace's Solid tab.



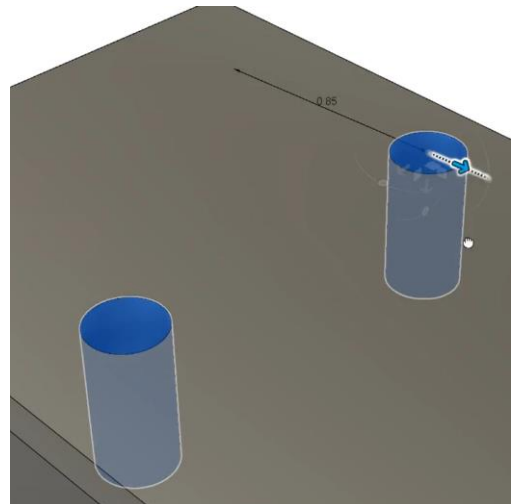
2. Notice in the timeline that the file has no history to document the creation of its geometry. Only a Base Feature is in the timeline. Even though there are no features in the timeline, this does not mean that the model's geometry cannot be edited.



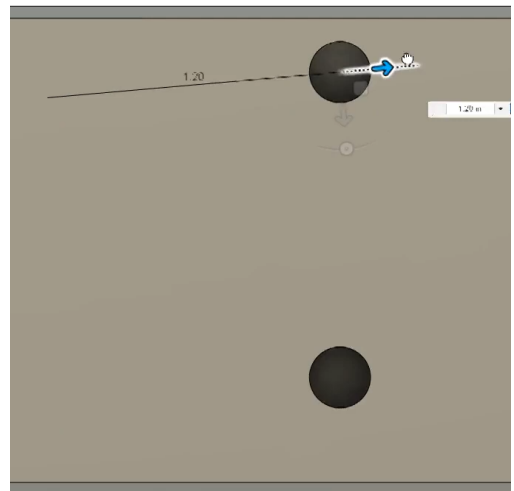
3. Click Modify> Move/Copy.



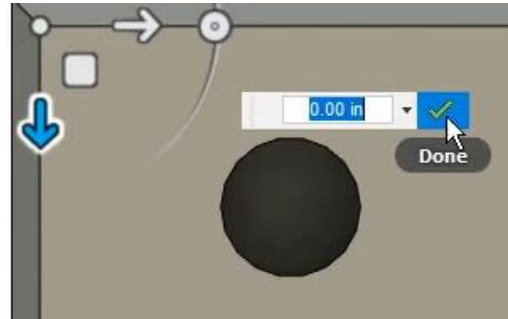
4. In the dialog, choose the Faces option from the Move Object menu. Choose the faces inside the two hole features, then use the on-screen manipulator to drag the selections to a new location.



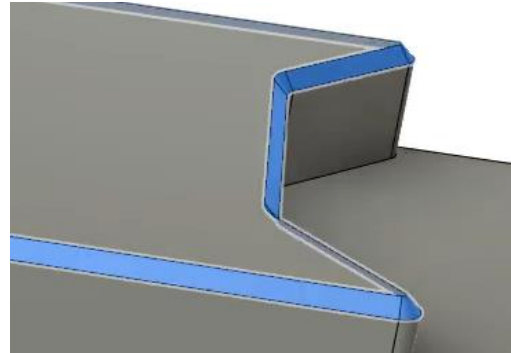
5. Navigate to a top view of the model and notice that the holes are not being dragged parallel with the model's sides.



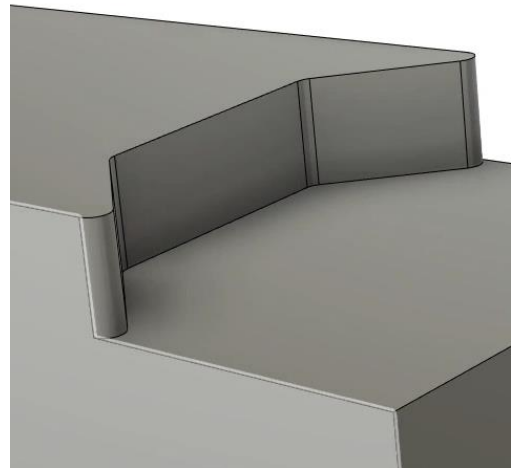
6. In the dialog, activate the Set Pivot option. Choose the part's top left corner, then click the green checkmark Done icon next to the value field. Use the on-screen manipulator to drag the holes 1 inch to the right and notice that they are now moving parallel to the model's sides. Click OK in the dialog to accept the modification.



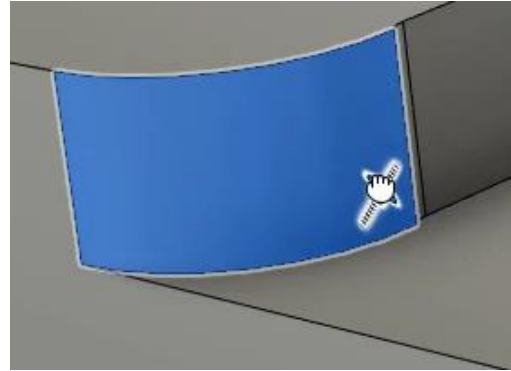
7. Hold down Ctrl and select all of the model's chamfered edges.



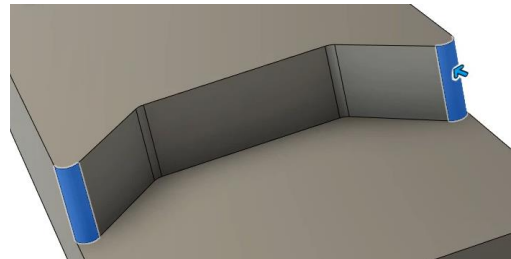
8. Click Modify> Delete to remove the selected faces and patch the geometry.



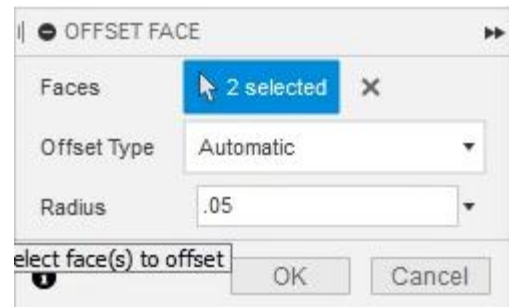
9. Click Modify> Press Pull. Select one of the model's fillets, then use the on-screen manipulator to adjust its radius.



10. Multiple faces can be added to the selection by holding the Ctrl key. Modifying the radius of one fillet will automatically modify the second fillet as well.



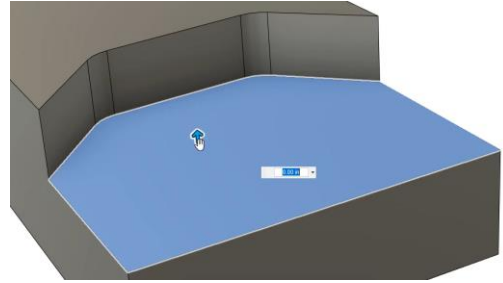
11. Specify a radius of **0.05** inches by typing this value into the Radius value field.



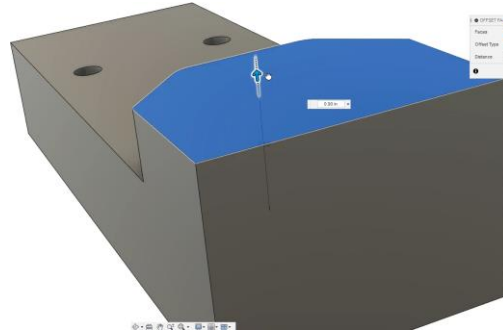
12. Select the part's external fillets and delete them by pressing the delete key on the keyboard.



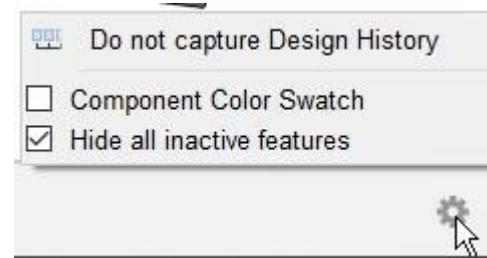
13. Click Modify> Press Pull. Select the part's large face as shown in the image on the right, then use the on-screen manipulator to raise it to a new height.



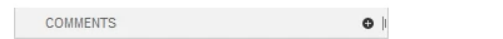
14. Notice that a warning dialog appears in the lower right corner of the Canvas. Choose the New Offset option from the dialog's Offset Type menu, then use the on-screen manipulator to drag the selection above the part's top face. Click the dialog's OK to accept the changes.



15. You can toggle whether or not features are captured in a file's design history. To toggle this feature, click the gear icon in the screen's lower right corner, then click Do not capture Design History. Click Continue in the dialog that appears in the Canvas.



16. The timeline is removed from the file and any new modifications to the model will not be recorded.



17. Click the Undo button in the screen's top left corner to begin capturing the design history again. Alternately, you can select the Browser's top level, right-click it, then choose the Capture Design History option from the menu. Save the file and continue to the next module.

