

Overview

Fusion 360 organizes and manages data using a centralized, cloud-based, collaboration platform. This enables designers and engineers to work more easily and efficiently together. Use this powerful and secure set of tools to dramatically improve the way you design, visualize, simulate, and share your work, on demand.

Learning Objectives

In this section you will learn how to:

- *Create Fusion 360 designs and save versions*
- *Create and manage Fusion 360 Group Projects*
- *Add and remove users from Fusion 360 Group Projects*
- *Find, view, and manage files within Fusion 360's collaborative web browser environment and the in-application dashboard*
- *Access Fusion 360 data from a mobile device*
- *Import and export files from Fusion 360*
- *Publicly share data with external stakeholders.*

Setup

To complete this exercise:

- *If you haven't already downloaded the Fusion 360 Onboarding Dataset, use this link to download:*
<https://myhub.autodesk360.com/ue29c9141/shares/public/SH7f1edQT22b515c761e12e3a50ab9cda319>
- *Follow the video posted to youtube: <http://youtu.be/lu1KHm6p1Gc>*
- *(OPTIONAL) To complete the mobile section of the tutorial install the Autodesk 360 App to your iPhone or iPad (Android is not yet supported)*
- *(OPTIONAL) Partner up with a friend who also has Fusion 360. There is an exercise where you have the option to grant access to your project.*
- *(OPTIONAL) We recommend installing Google Chrome to best utilize the collaborative capabilities of Fusion 360 (the in-browser 3D viewer is not yet supported for IE, Firefox, and Safari)*

Estimated Time to Complete: 30 minutes

Create and Manage Fusion 360 Group Projects: In this section you will use data from an existing group project to create, setup, and manage a new group project in Fusion 360. You will control who has access to this project. You will create a new design, create multiple versions and determine where your new design will be stored. Once finished you will then share a specific version publicly so that those not part of your project can access, inspect and review.

Fusion 360 allows you to securely access data from anywhere. You also control who else has access. The main way Fusion 360 controls access is by using “group projects.” Group projects are the control mechanism for how you define who has access to specific sets of information. Group projects ensure that only the correct collaborators have access to your data.

Group projects are like folders in that they allow you to organize partitions of data, but they have the unique ability within Fusion 360 to explicitly define who may access data within it. Projects are unique locations where teams keep all related information in one shared place. People can share and access design data, discuss challenges and successes, and stay current with project activities. Each project has its own data, people, calendar, and wiki.

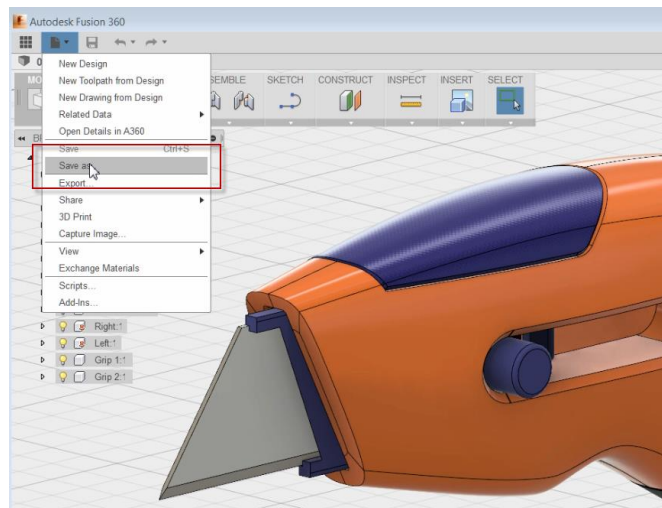
Common Configurations:

Some companies like to use group projects to separate between different jobs or work orders. Others prefer to use group projects to separate between different customers. Students commonly segment by specific assignments or by class. Whatever your configuration Fusion 360 offers flexibility to adjust and adapt as you evolve in your requirements.

Let's explore using group projects by creating a new one:

Step 1 – Create a New Project

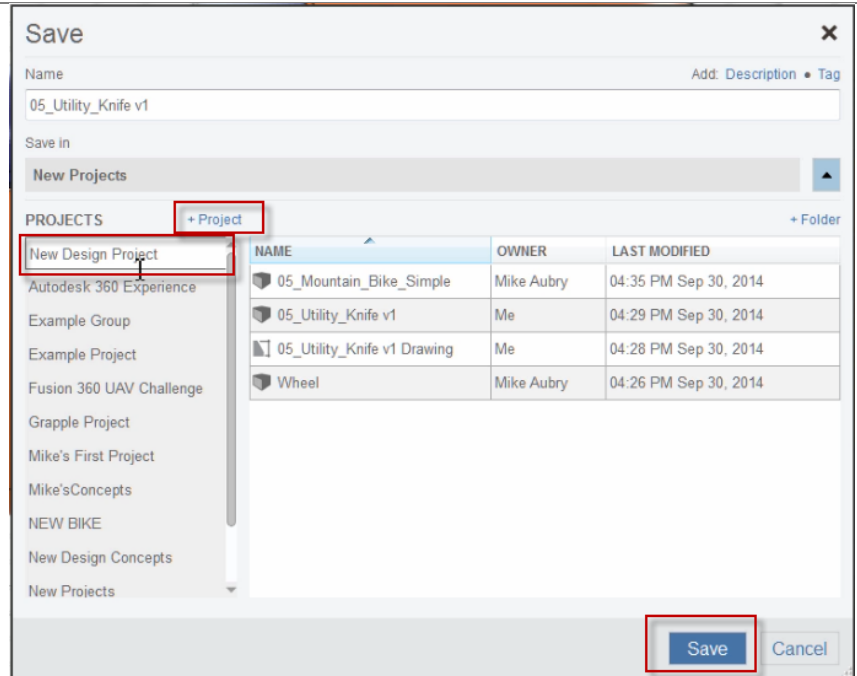
1. Open 05_Utility_Knife
2. Select File/Save As



Video: <http://youtu.be/Iu1KHm6p1Gc>

Autodesk Fusion 360: Dashboard and File Management

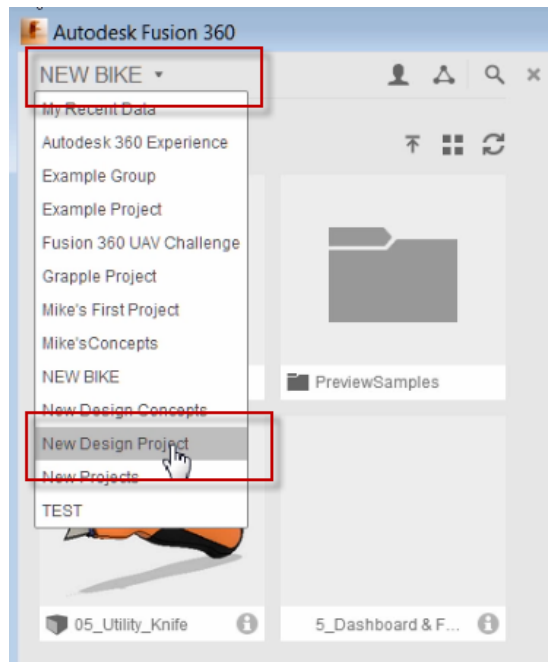
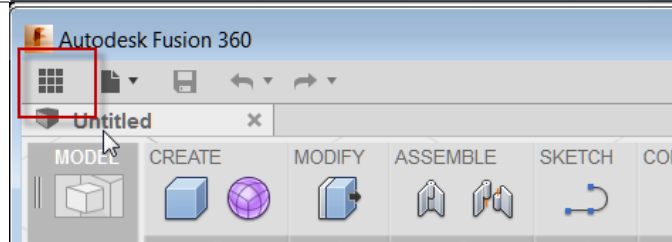
3. Create a New Project
4. Name the project “New Design Project”
5. Select Save



Step 2 – Upload Data

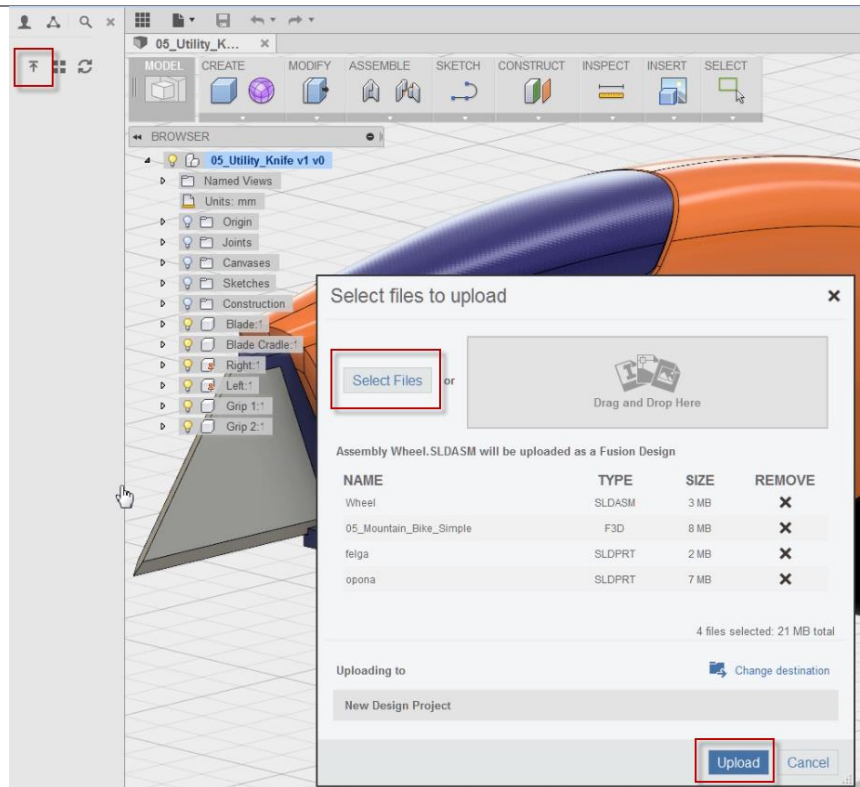
Fusion 360 translates data from many sources including Autodesk Inventor, Dassault Solidworks, and PTC Creo.

1. Open the Data Panel by clicking on the icon located at the top left of the menu bar. The Data Panel will slide open.
2. Change your project location to New Design Project



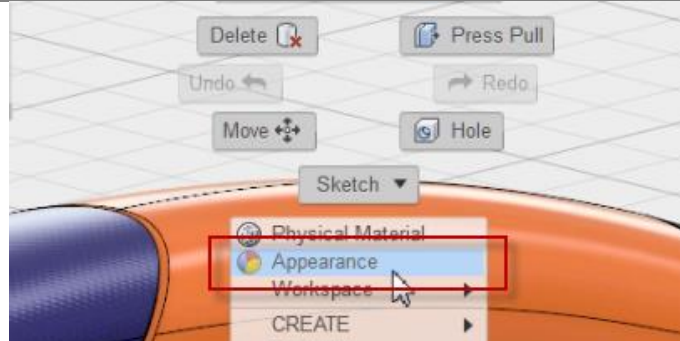
3. Select Upload
4. Choose Select Files and navigate to the Chapter 5 dataset and upload:
 - 05_Mountain_Bike_Simple.f3d
 - Wheel.SLDASM
 - Felga.SLDPRT
 - Opona.SLDPRT

5. Select Upload
 Uploading will continue in the background while you work.

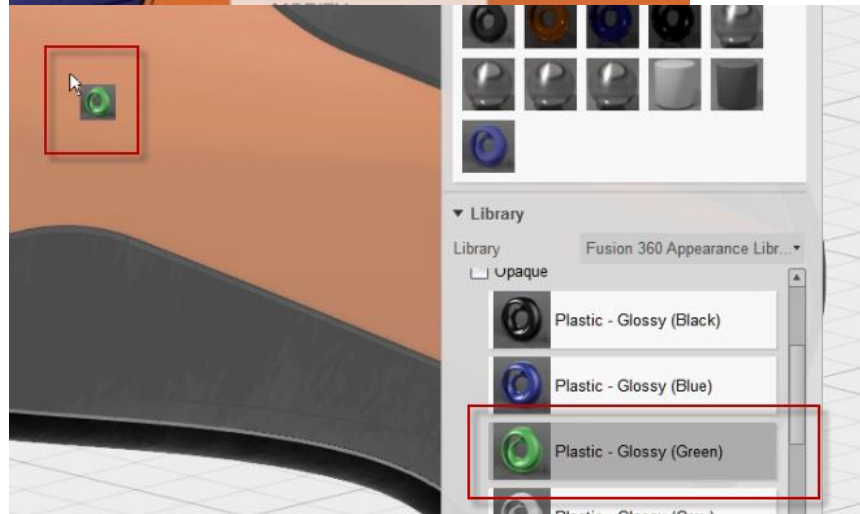


Step 3 – Create New Versions
 Fusion 360 manages and stores each version you create. Make a change to an existing model and save it as a new version.

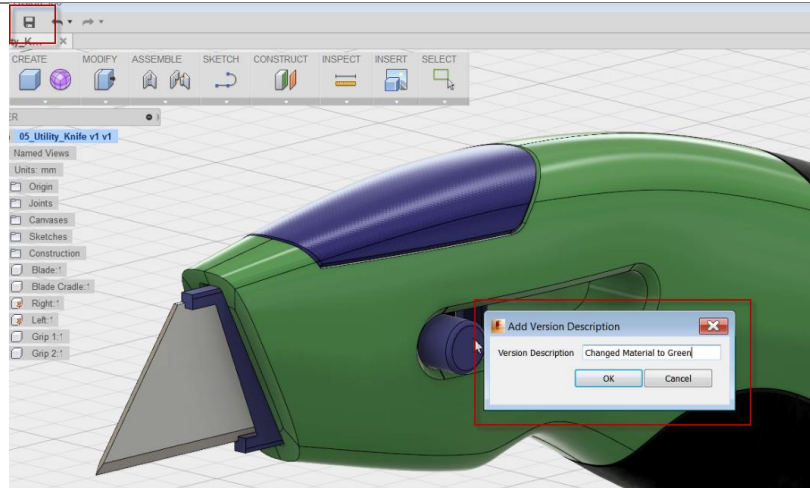
1. Right Click and Select Appearance.



2. Make a change to the model by dragging and dropping a new green plastic over the orange cover.
3. Select Close
4. Select Save



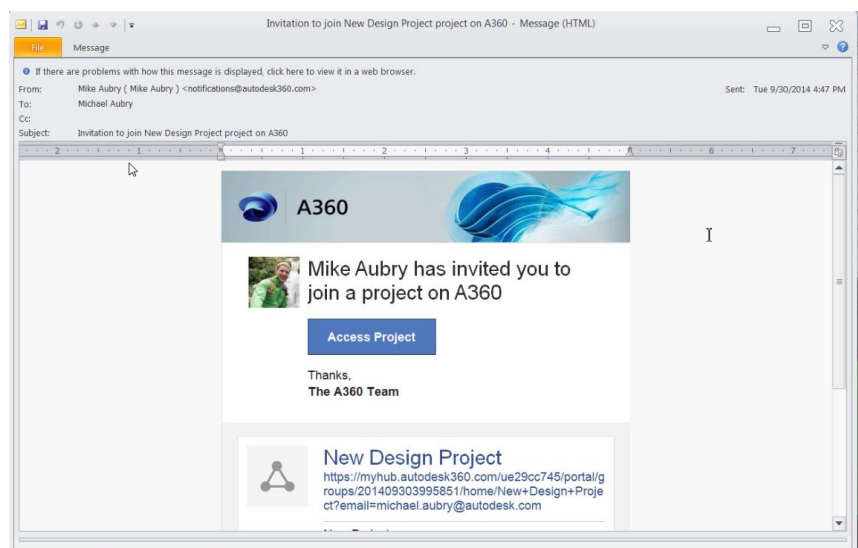
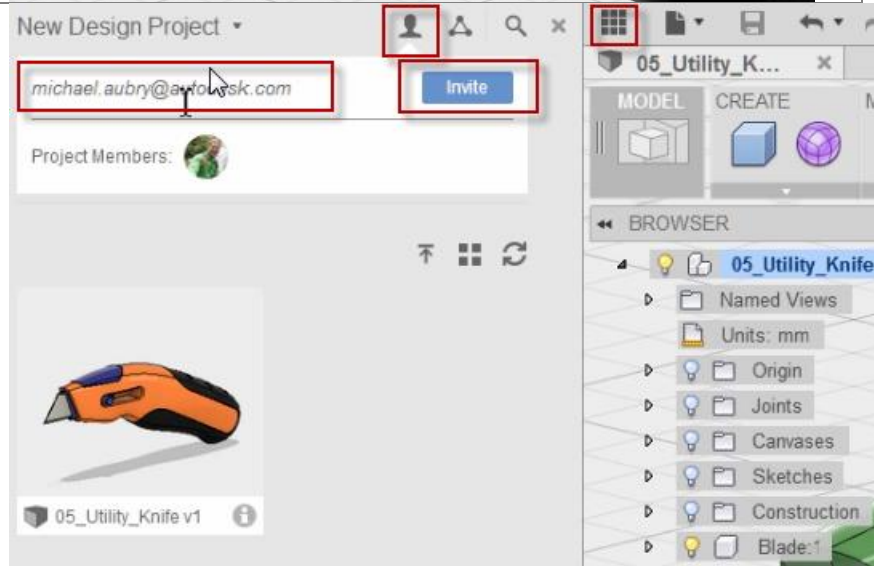
5. Enter the comment:
"Switched material
from orange to green."
 6. Select OK
- (We will explore where this
new version is stored shortly.)



Step 4 – Grant Access To Your Project

Fusion 360 allows you to control who has access to design and other data within projects. Invite another collaborator to access your project:

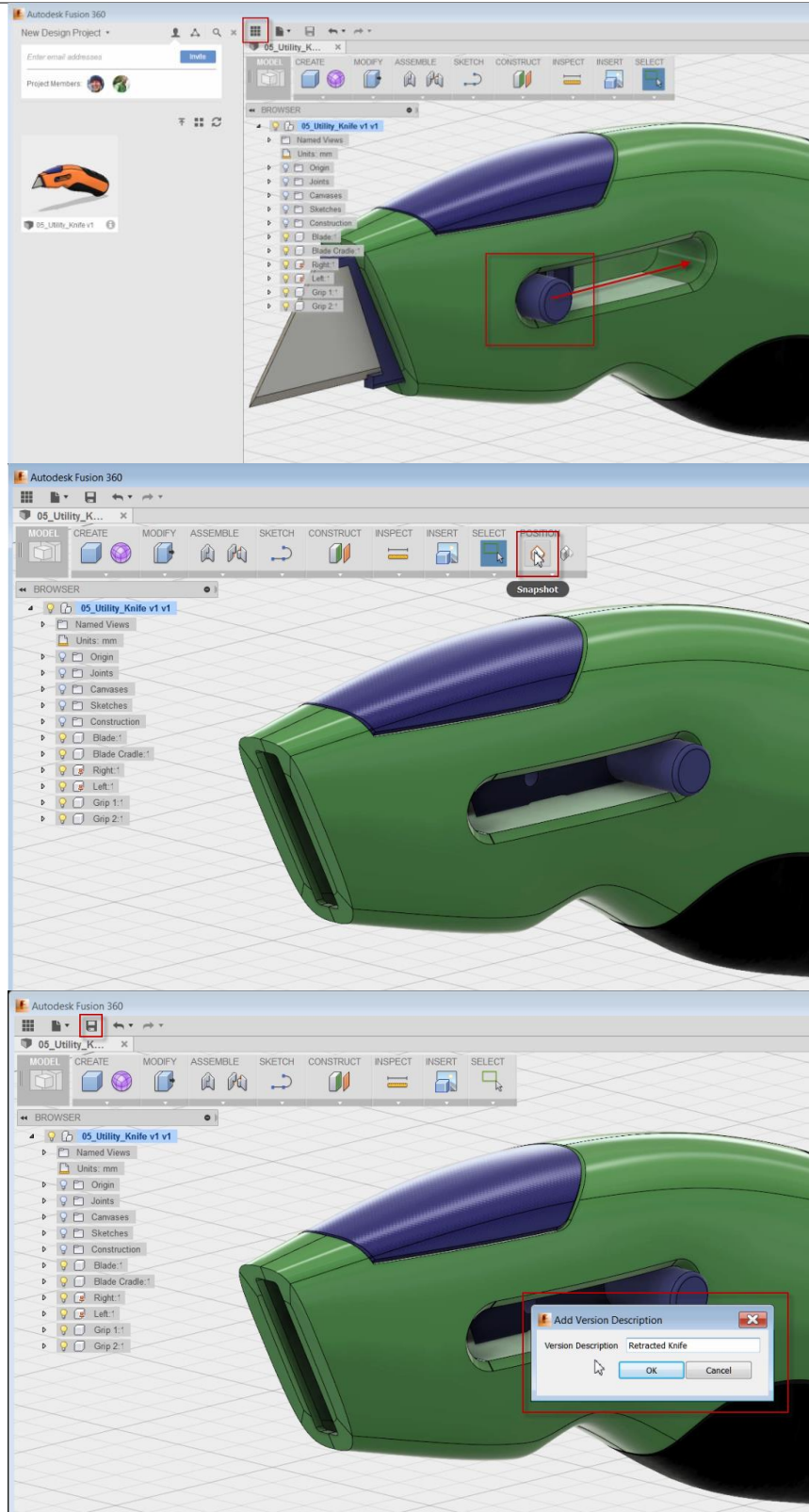
1. In the Fusion Data Panel Click the invite button (the head shaped icon)
2. Enter an email address of another Fusion user who you would like to have access. (If you don't have one feel free to use michael.aubry@autodesk.com)
3. (Once added, the user you will receive an email notifying him or her of their addition.)



Autodesk Fusion 360: Dashboard and File Management

Step 5 – Make a design change for the new user to see:

1. Retract the knife by dragging the slider to the right.
2. Create a Snapshot to secure its position.
3. Save a new version and add a comment: “Retracted knife”



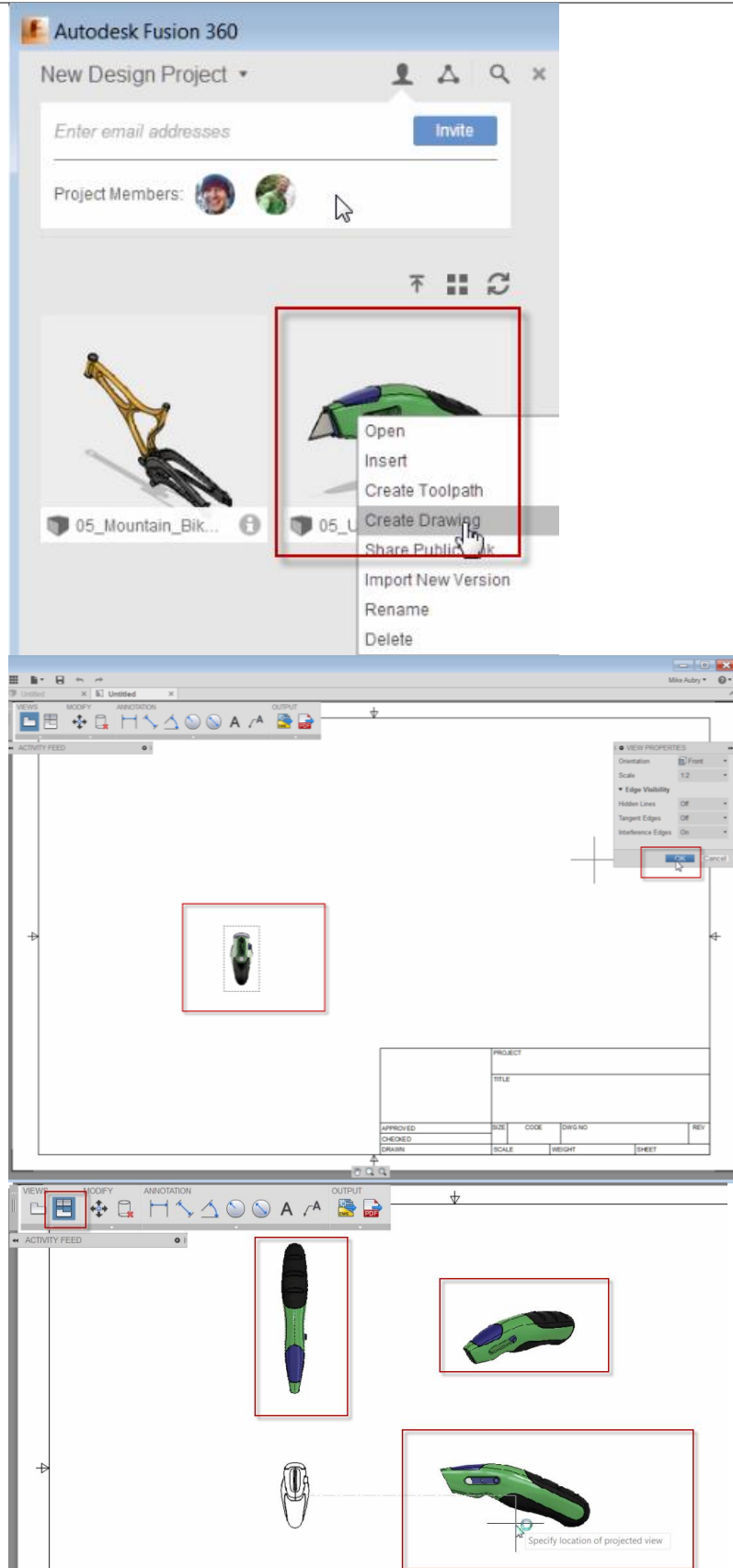
Step 6 – Create a Referenced Document

Fusion 360 maintains associative relationships between drawing and toolpath documents. What this means is if you change the Design the downstream drawing or tool path will be updated as well.

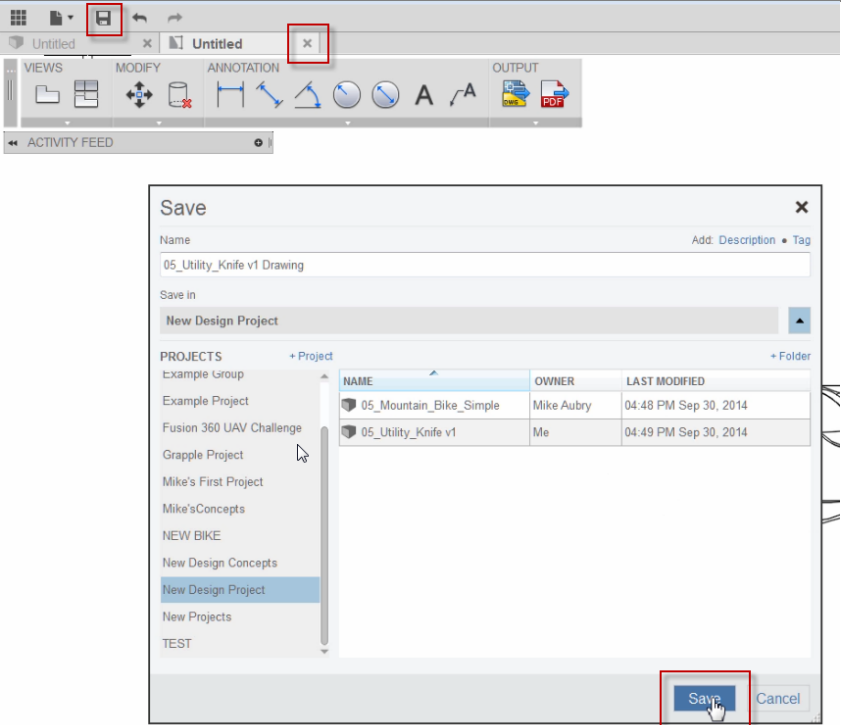
Create a new drawing to that references a current design:

1. Within the Fusion 360 Data Panel Right-click on the Utility Knife dataset
2. Create Drawing
3. Add a Top view
4. Create Iso metric Views
5. Save and close the document.

(We will see the association that was formed in Step 11.)



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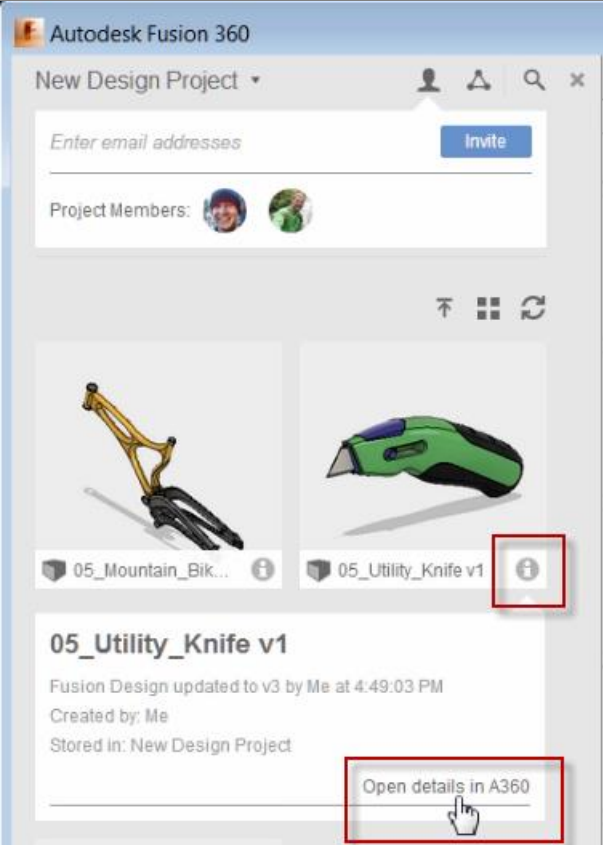


The screenshot shows the 'Save' dialog in Autodesk Fusion 360. The 'Name' field contains '05_Utility_Knife v1 Drawing'. The 'Save in' dropdown is set to 'New Design Project'. A list of projects is shown, including '05_Mountain_Bike_Simple' and '05_Utility_Knife v1'. The 'Save' button is highlighted with a red box.

Step 7 – Access Data Within Your Web Browser

Fusion 360 allows you to manage data centrally through your web browser. Navigate to where a design is stored by opening the web browser:

1. Select the “i” icon on the Utility Knife to expose details about the design.
2. Select Open Details in A360
3. (Suggestion: Consider using Google Chrome for this exercise as your default browser. Some features may not yet be supported for Safari, Firefox and Internet Explorer.)



The screenshot shows the Autodesk Fusion 360 web interface. The 'New Design Project' page displays a list of project members and two design thumbnails. The '05_Utility_Knife v1' thumbnail has an 'i' icon highlighted with a red box. Below the thumbnails, the details for '05_Utility_Knife v1' are shown, including the update history and a button labeled 'Open details in A360' which is also highlighted with a red box.

Step 8 – Explore Design History

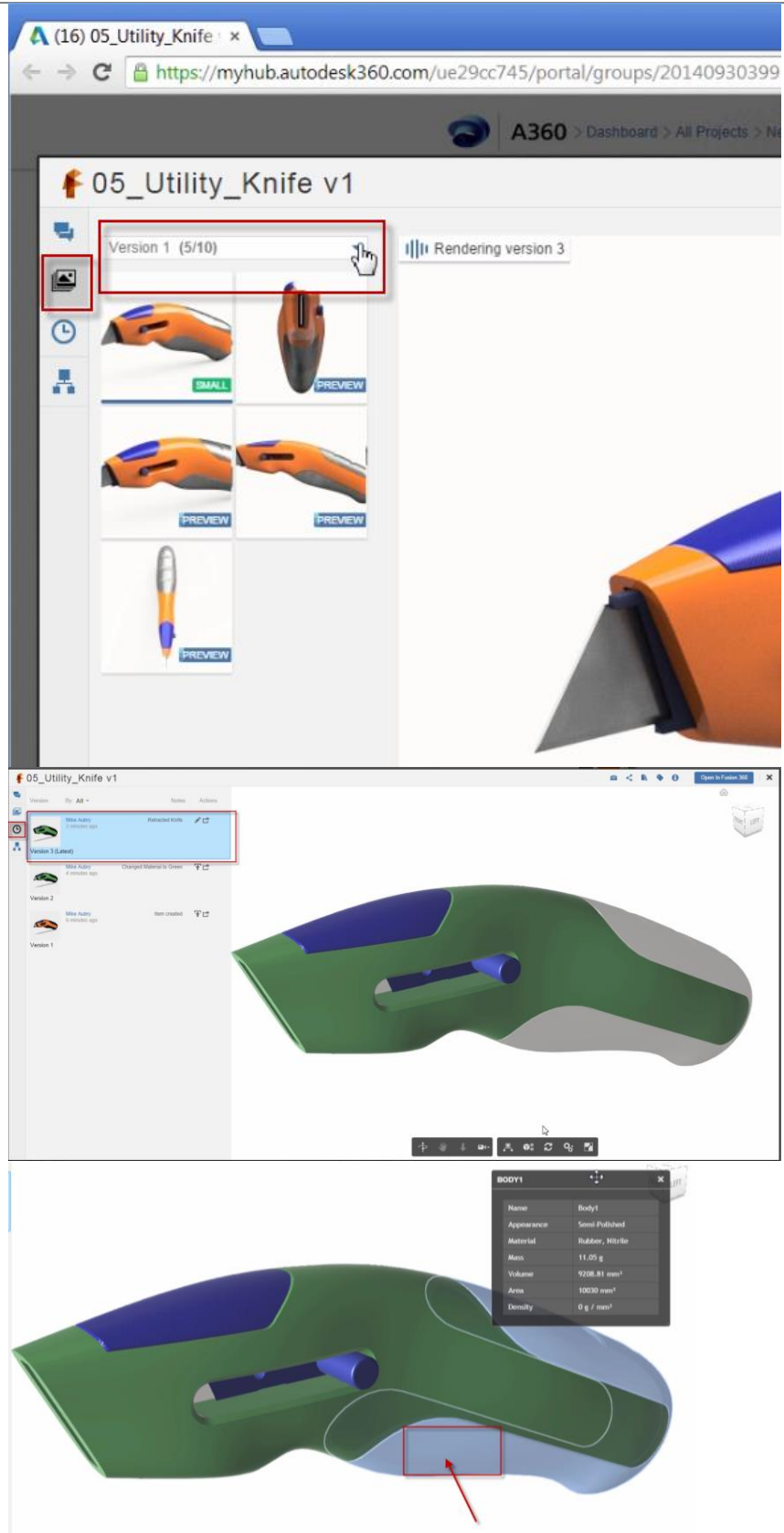
Each version that is saved is archived and stored by Fusion 360. View all three versions that were created for the Utility Knife:

1. Choose the Rendering icon and investigate previous versions that have been saved. The images were created automatically when you saved a new version in previous steps 3 and 5.

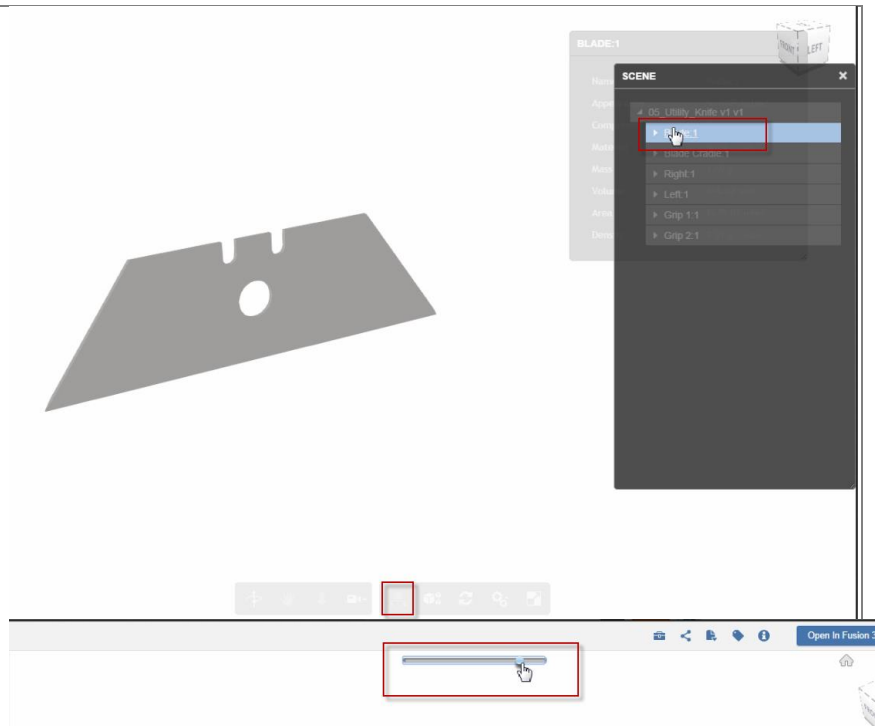
(Cloud based rendering is discussed in further in the Rendering tutorial.)

2. Select the Versions icon (the watch shaped icon) and choose between different versions to view 3D previews. Notice the comments that were entered in steps 3 and 5 are also available to read.

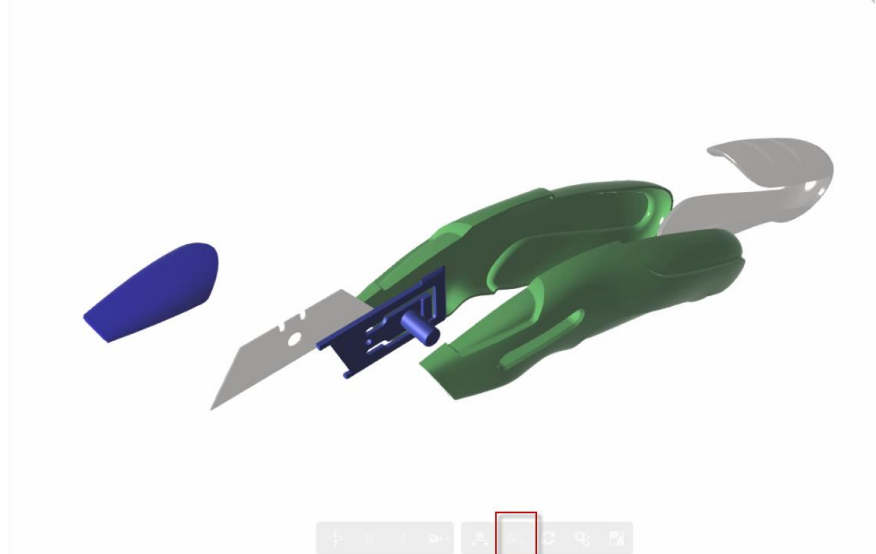
3. Use the left mouse button to rotating the 3D model previews.
4. Use the left mouse button to select and highlight specific bodies. Notice that information like the material and weight of the selected parts appear.



5. Select isolate button to more easily identify the chosen specific parts.



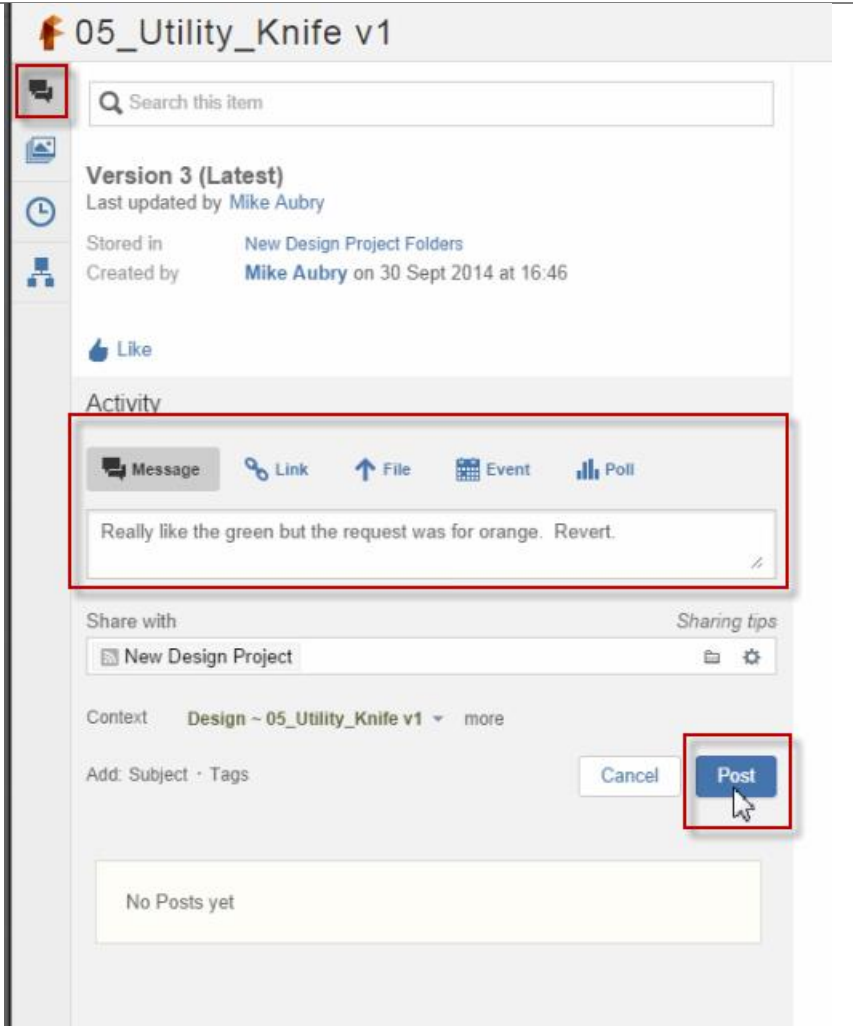
6. Select the Explode button and use the slider to expand and contract the assembly.



Step 9 – Document Activity

Fusion 360 allows you to collaborate and articulate design decisions within your design. Create a comment to describe to your team a design change you will make:

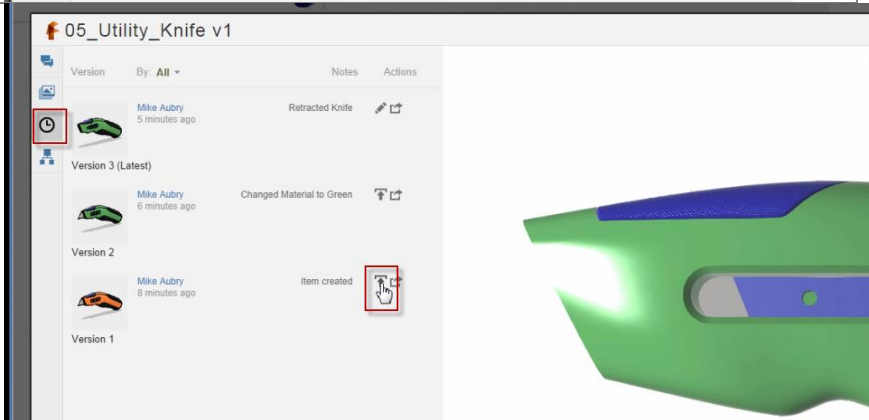
1. Add a comment to the Utility Knife: “Really like the green but the request was for orange. Revert.”
2. Post the comment.



Step 10 – Promote Previous Versions

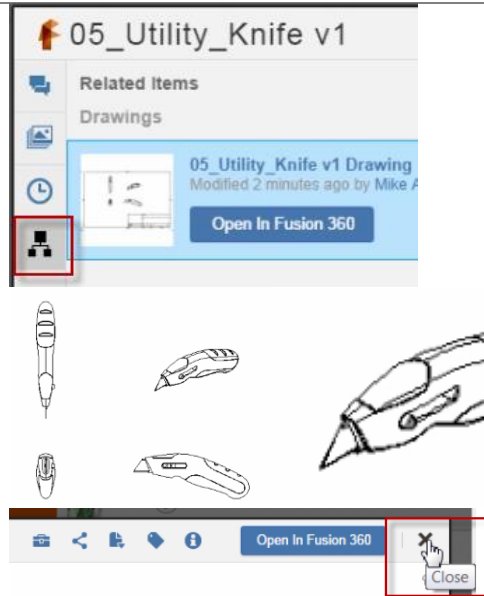
Fusion 360 stores and allows you to promote previous versions. Any archived version can be promoted back to the current version. Promote the orange Utility Knife back to being the current design:

1. Select the Versions icon (the watch shaped icon).
2. Select the Promote icon.



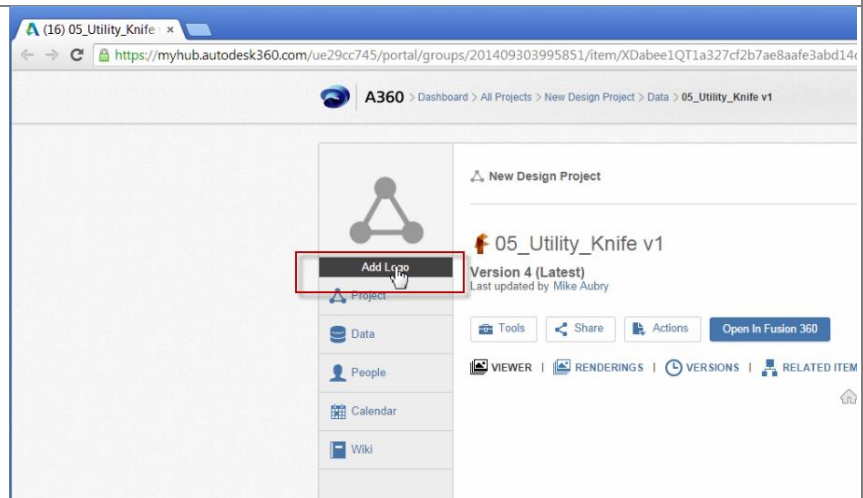
Step 11 – View Associated Documents
Fusion 360 manages associativity between referenced documents such as drawings and toolpaths. View the drawing that is updated to reflect the promotion of the previous version of the Utility Knife:

1. Select the Related Items icon.
2. Notice the previous version is restored and changes are reflected in the drawing preview.
3. Close the window.

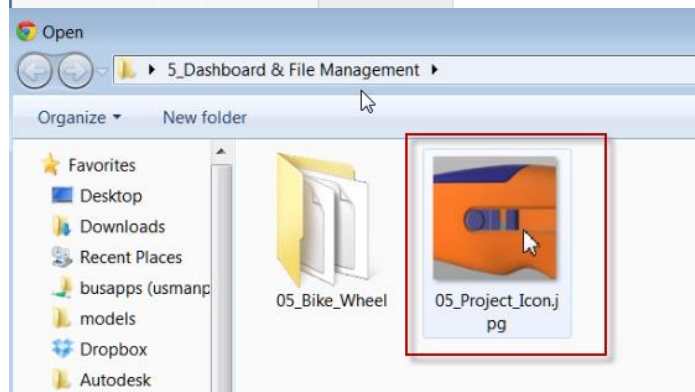


Step 12 – Customize Your Project. Add a logo to your project. This allows you to more easily differentiate between projects.

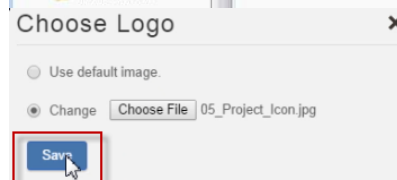
1. Select Add logo in the A360 web browser.



2. Navigate to the png image provided in the chapter 5 dataset or use any jpg or png under 200x200 pixels.



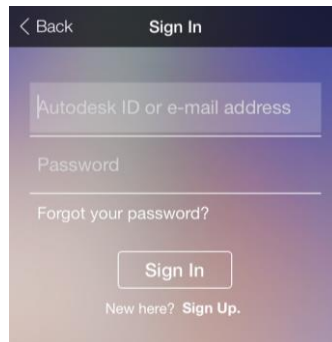
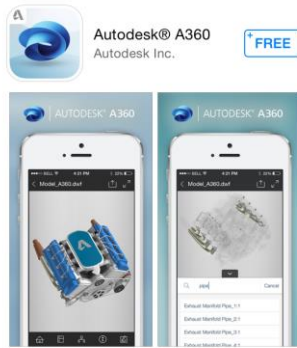
3. Save



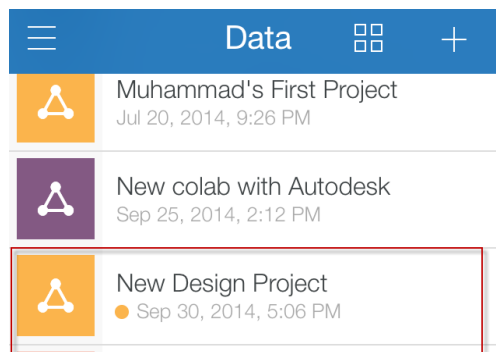
Step 13 – Access Data From a Mobile Device

Fusion 360 is accessible through your mobile devices (Presently just for Apple but Android support is coming soon!)

1. To access data from your apple mobile device install the free Autodesk A360 App via the iStore
2. Sign in to the App using your Fusion 360 login (it's the same account)



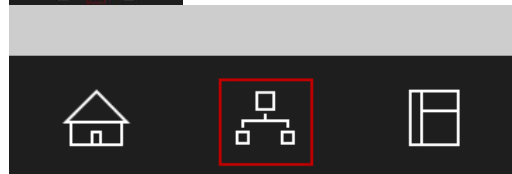
3. Scroll to the New Design Project and

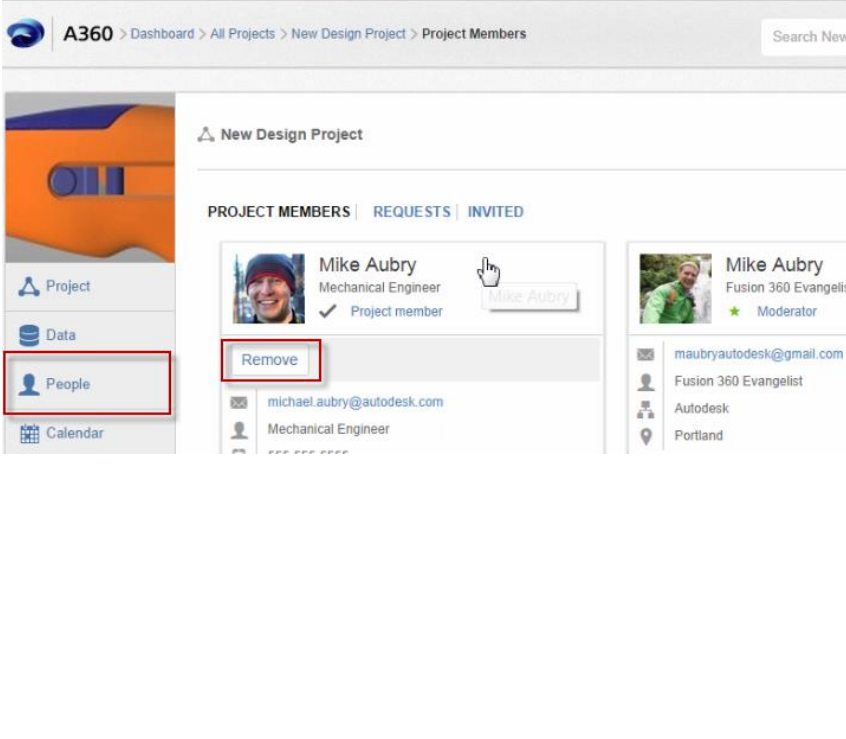


4. Open the Utility Knife.



5. Select the isolate icon.



<ol style="list-style-type: none"> Choose Blade Cradle to isolate the blade. Rotate the model by placing a finger and moving on the screen. Double tap on the model to change the rotation pivot point which will appear as a green sphere. Exit the app and return to your laptop to complete the remaining exercises 	
<p>Step 14 – Revoke Access From a Project</p> <p>Fusion 360 allows the moderator of a project to add or remove access to that project. Revoke the access of a project member:</p> <ol style="list-style-type: none"> Go to the web browser dashboard Select People. This shows all the members of the project. Select Remove. This removes the access of the user you added earlier in Step 4. The user no longer has access to the project from any device. 	

Step 15 – Manage Files

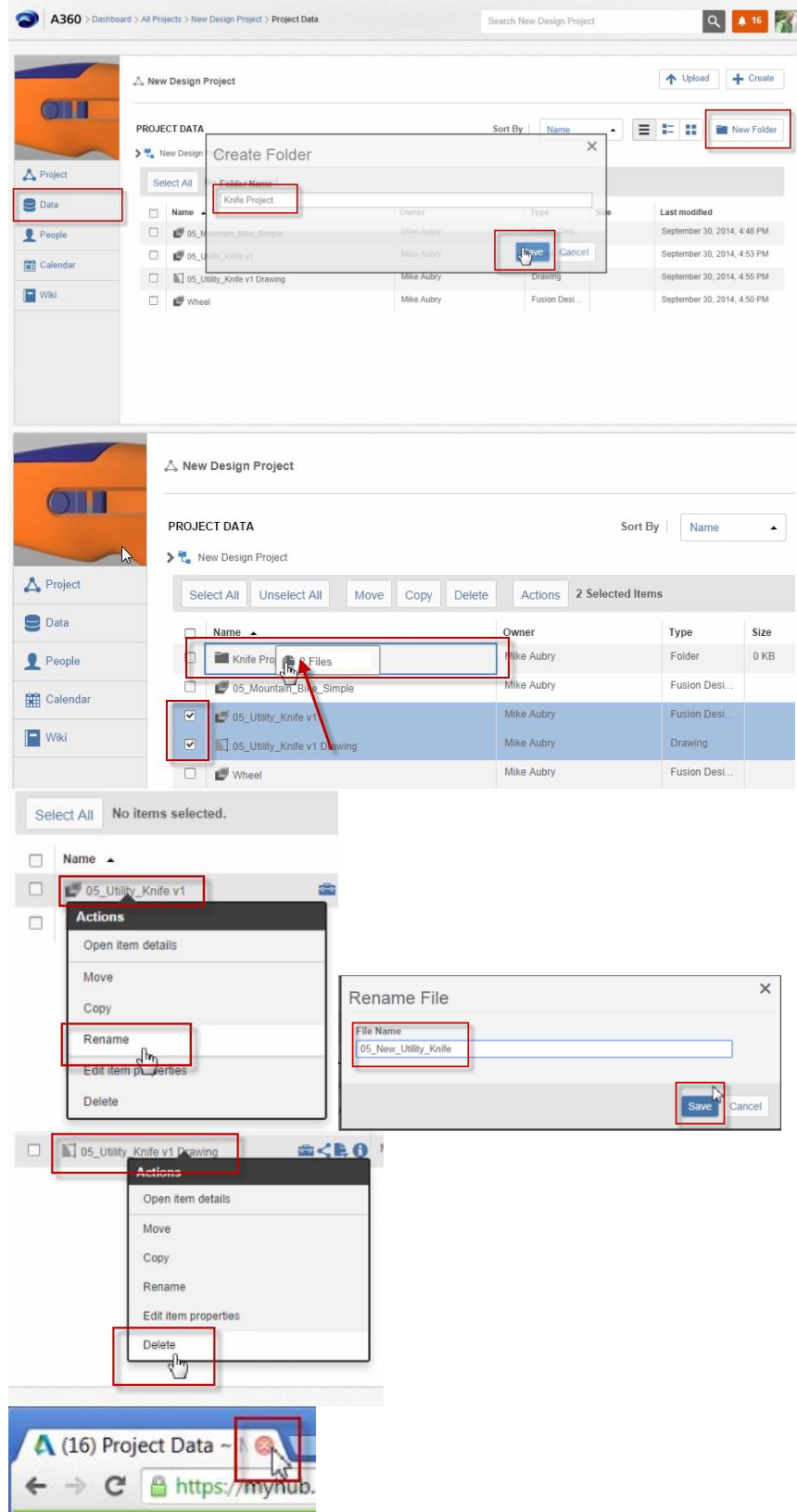
Familiarize yourself with common file management operations like move, rename and delete by moving the Utility Knife into a new folder:

1. Select Data to explore the folder hierarchy of the project.
2. To organize the Utility knife project create a new folder called “Knife Project.”
3. Move the model and drawing files into the new project by checking both and drag and drop the two into the folder.
4. Open the Knife Project Folder

5. Right click on the Utility Knife design and select Rename.
6. Rename to: “05_New_Utility_Knife”
7. Select Save

8. Right click on the Utility Knife Drawing and Delete the drawing file.

9. Close the web browser.

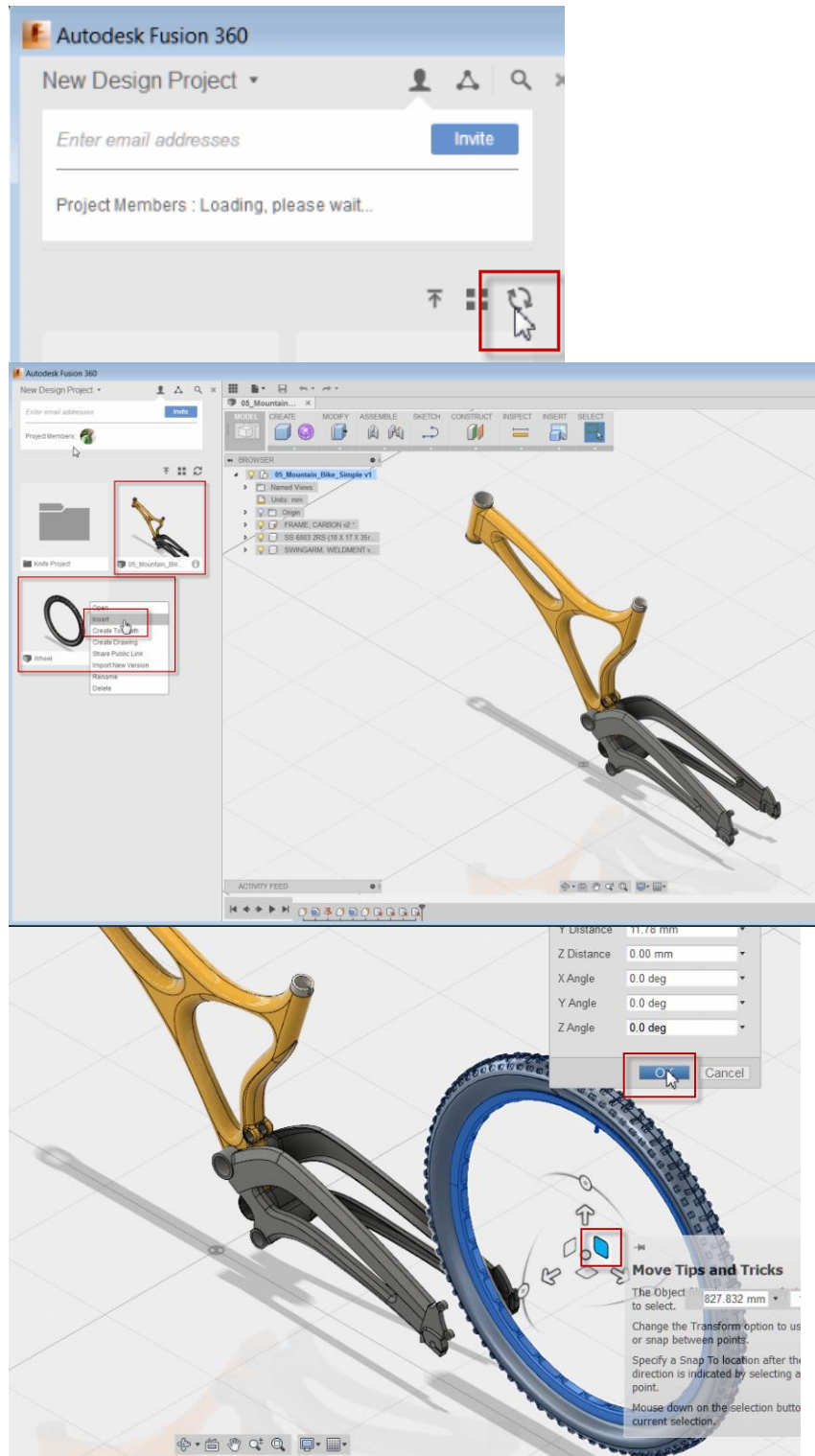


Step 16 – Insert Designs into Other Designs.

1. Return to the Fusion modeling environment and select Refresh the Data Panel. This will get the most current data and reflect the changes made in the web browser in the previous step.

(Notice that while you were completing the previous steps that Fusion 360 has fully uploaded the bike dataset and solidworks wheel dataset. The wheel is also combined into one single Fusion file.)

2. Open the Mountain Bike dataset by double clicking on its icon.
3. Right click on the wheel design and select Insert to insert the Wheel into the Bike Design.
4. Move the wheel into place

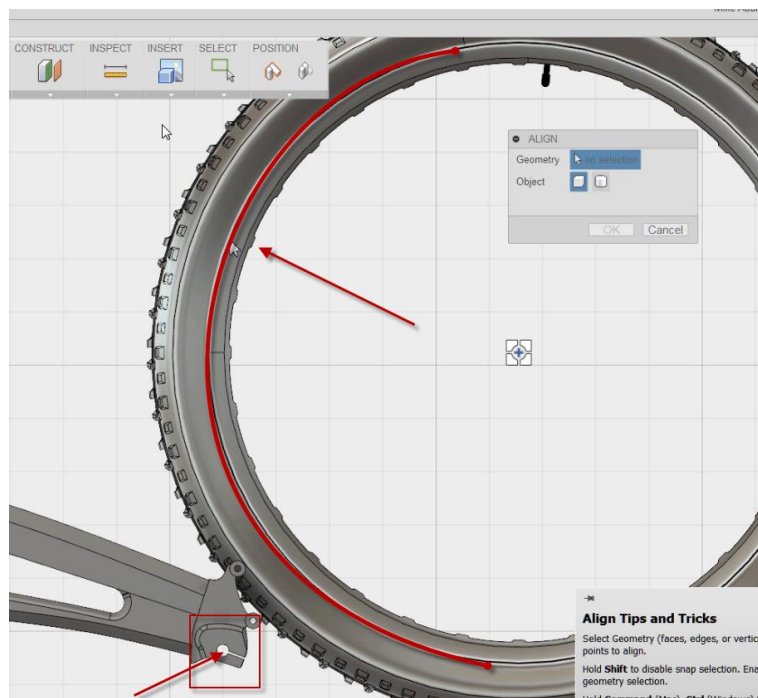
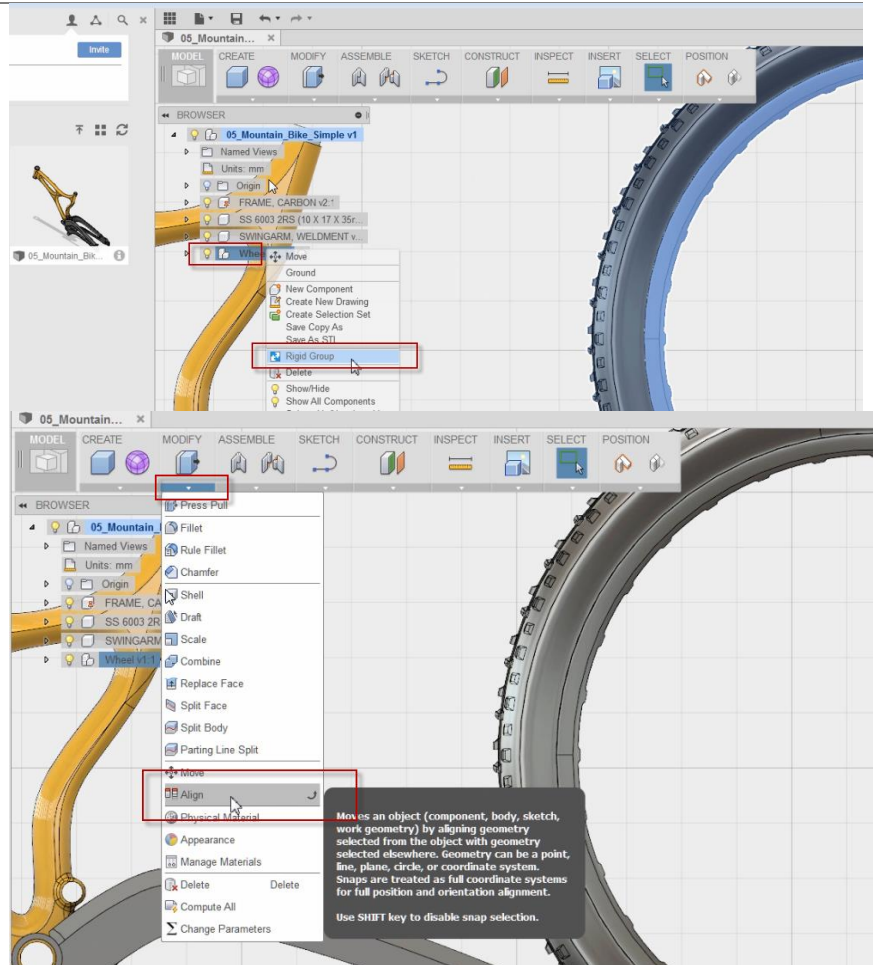


5. Right click to make the wheel assembly a Rigid Group.

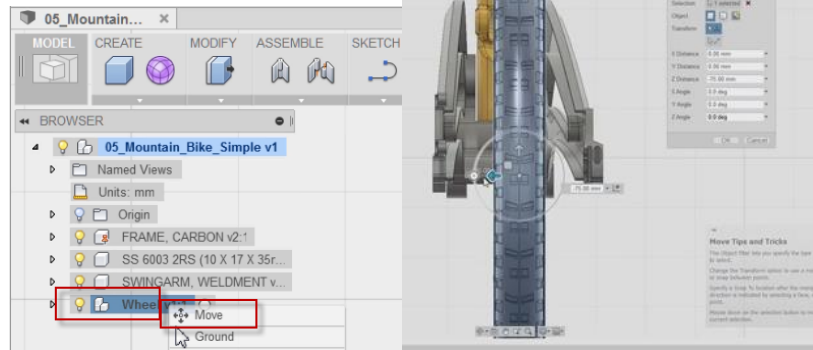
(Rigid groups move as one object. This will make it easier to align to the wheel with the bike in the next step.)

6. Use the Align tool to orient the wheel

7. Select the circumference of the wheel and select the circumference of the bike frame's dropout. (The wheel will axially align with the bike dropout)



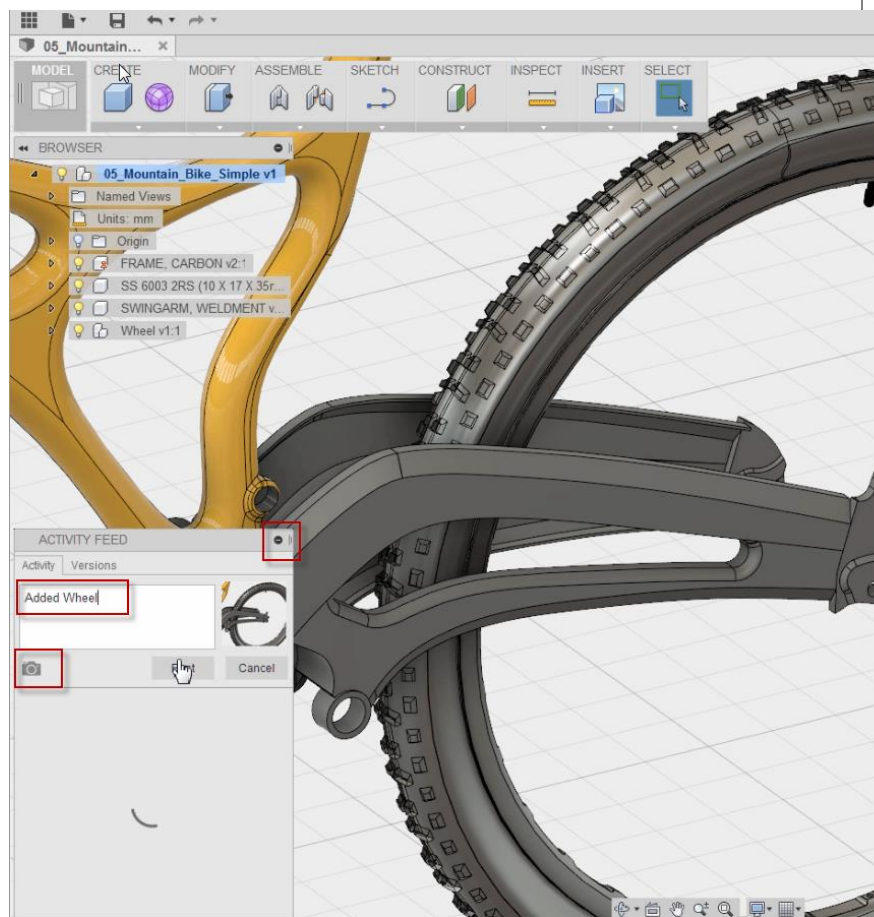
8. Use the move command center the wheel. (The Assemblies tutorial will show how to be more precise using joints)



9. Open the Activity Feed

(The activity feed is where you'll see recent activity in the design.)

10. Click the Photo icon to create a Snapshot of the screen to show progress you have made on the design.
11. Add a comment to document the change as well.



Step 17 – Share data with

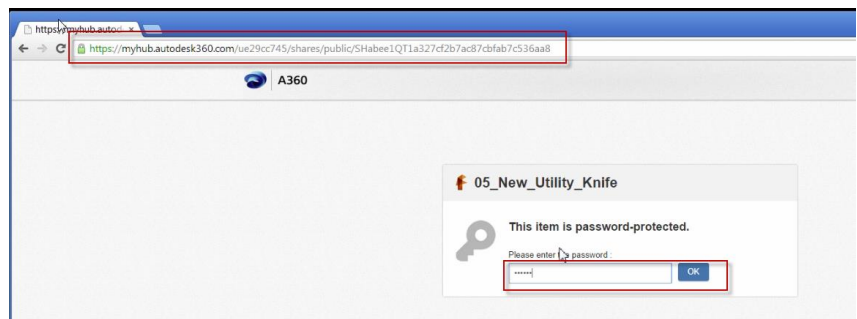
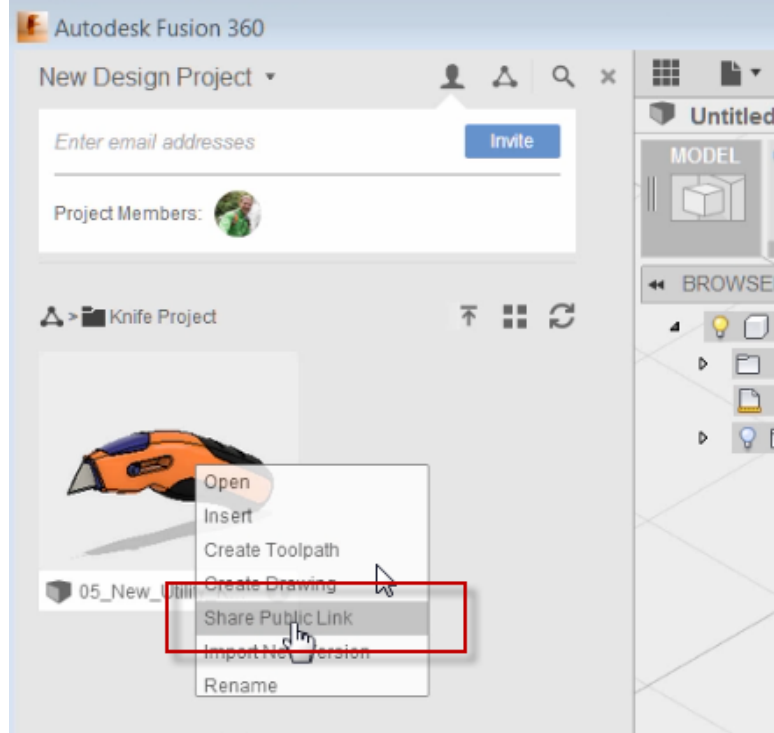
External Stake Holders

Regardless of whether a user has a Fusion ID, you are still able to share and make designs available to download. Share a design using a public web link:

1. Open the Fusion Data Panel and browse to the Utility Knife
2. Right click on the Utility Knife and choose Share Public Link

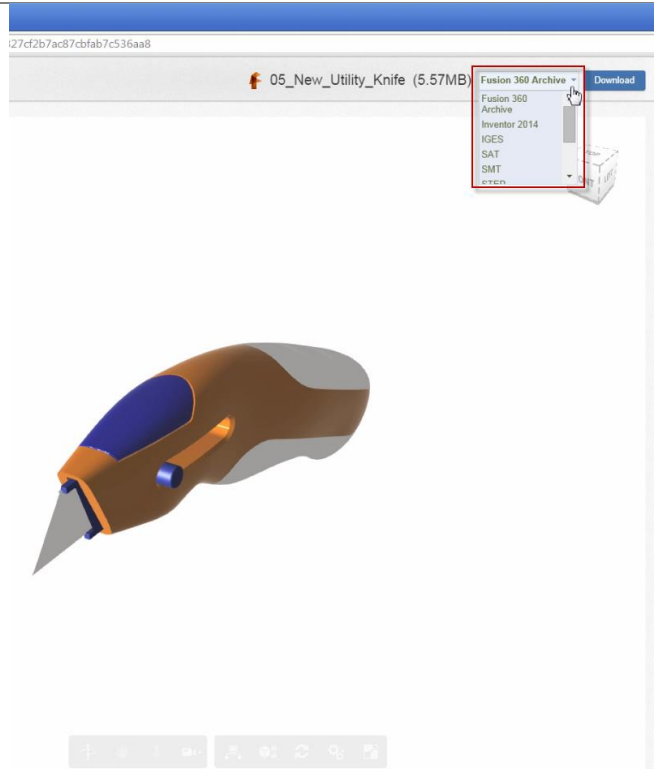
3. Check the following:
 - Share the latest version with anyone using this public link
 - Allow the item to be downloaded
 - Require a password
4. Enter “Fusion!” as your password.
5. Copy the link to your clipboard
6. Close the Share Public Link Menu

7. Open your web browser
8. Paste in the copied URL
9. Enter the password, “Fusion!”



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10. A preview is made available.
11. Use the download tab to choose from multiple cad formats.



This concludes the Manage Tutorial.