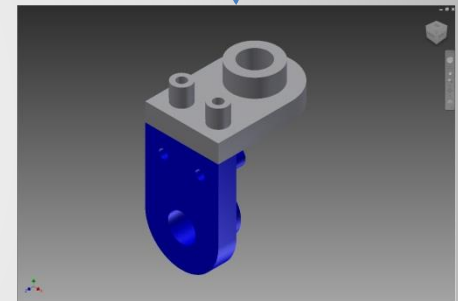
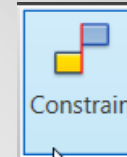
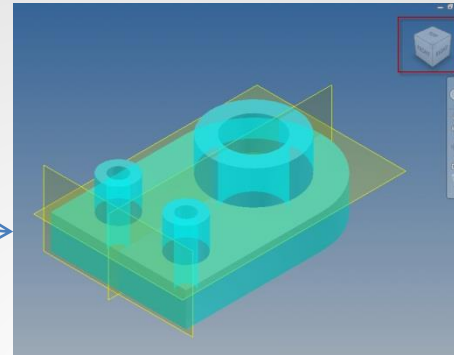
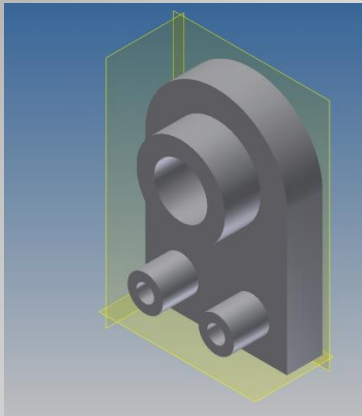


Assembly Modeling Part I: Intro

Using Autodesk Inventor
Level: Introduction



1. Initialize:

- Project, New Assembly

2. First Component

- Place, Constrain to origin

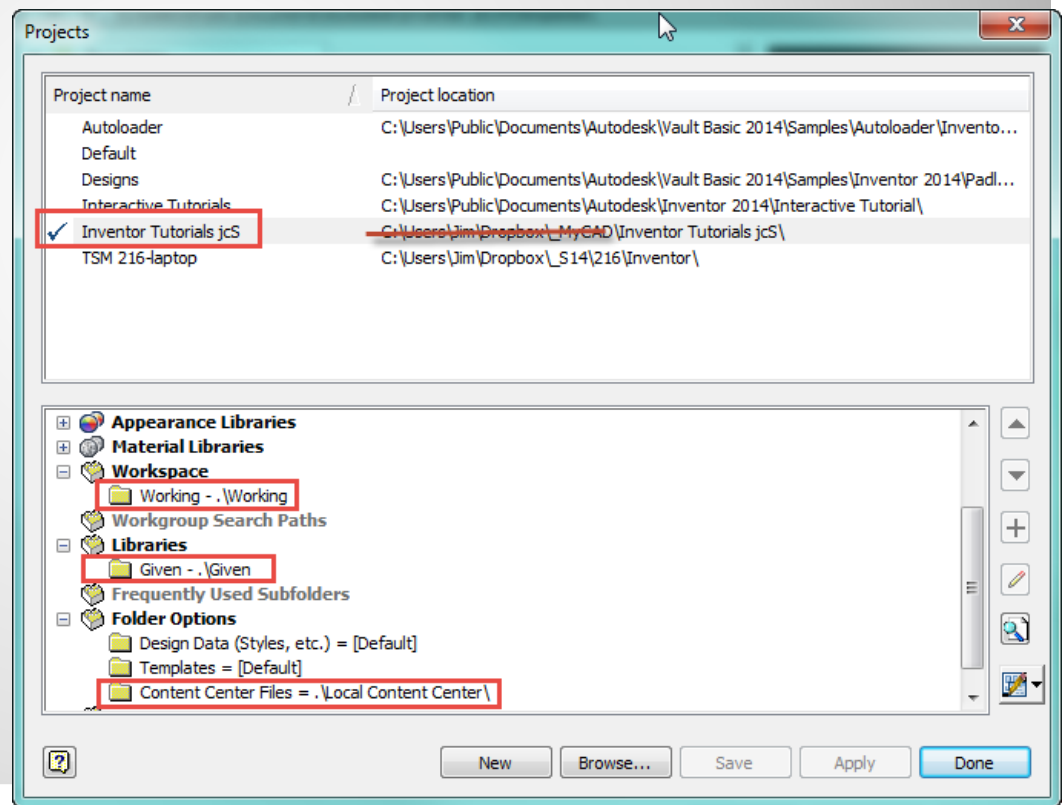
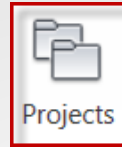
3. Second Component

- Constrain Planes, axes

0. OUTLINE

1.INITIALIZATION

- Start Inventor
- Verify project
 - Selected Project
 - Workspace
 - Libraries
 - Folder Options



a. Startup

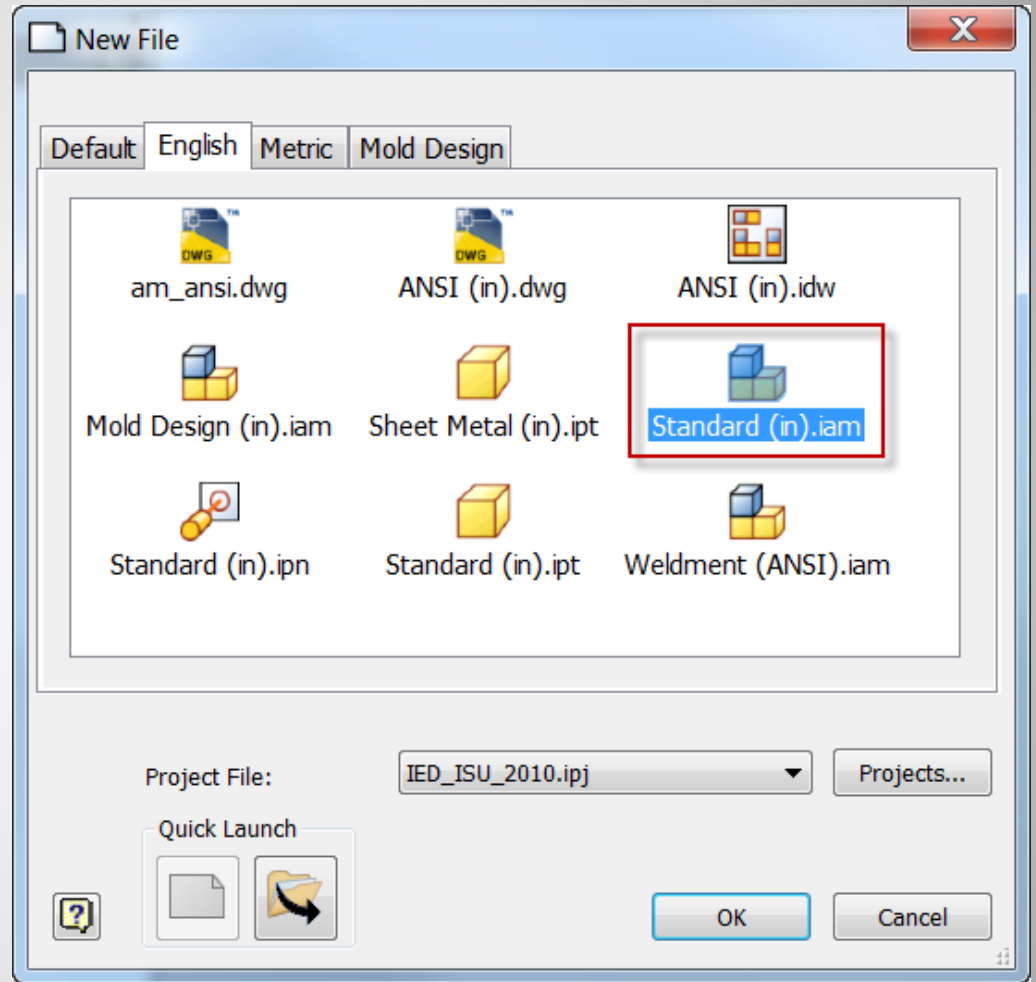
New



English



Standard
(in).iam

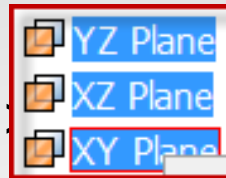


b. New Assembly Model

- Reference Planes

- Select: <Ctrl> + <Imb>

- Visibility



- View

- Home



- Other

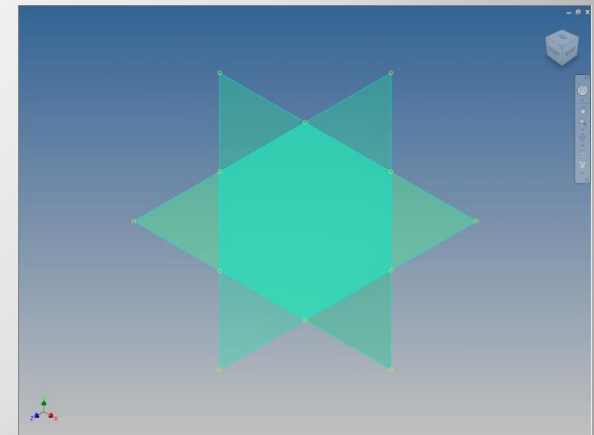
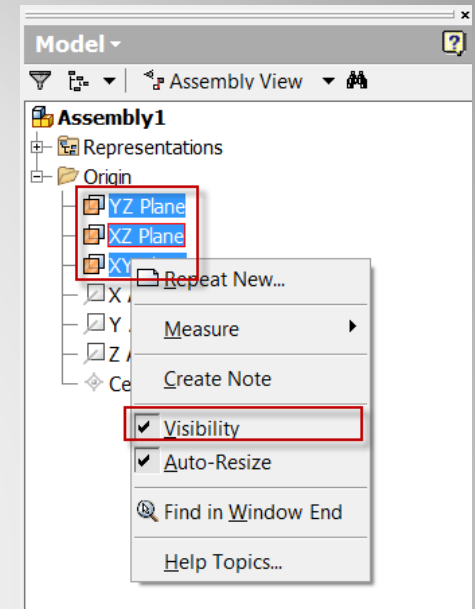
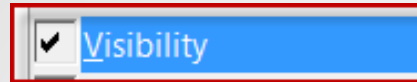
- ✓ Navigation

- ✓ Pan

- ✓ Zoom

- ✓ Orbit

- ✓ View Face



c. Adjust Display

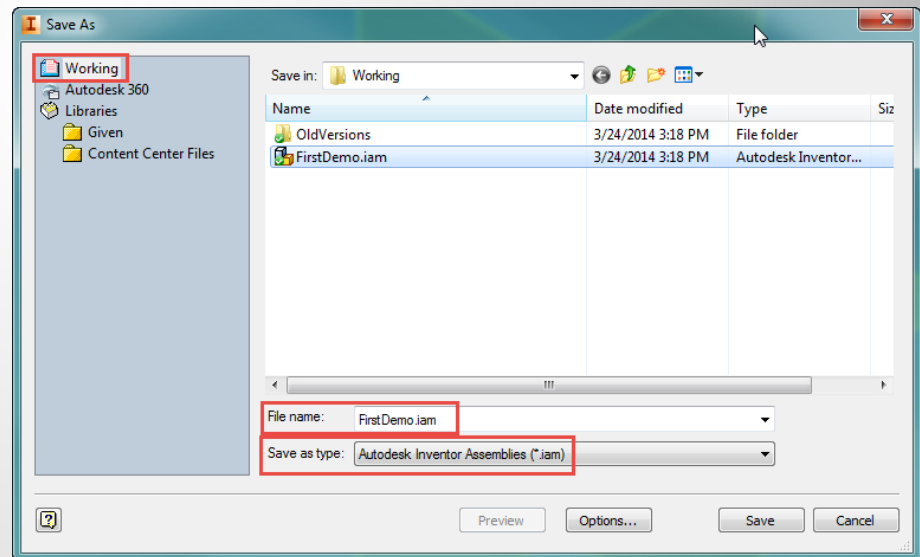
• Save



Workspace: Working

File name: FirstDemo.iam

Save as type: Autodesk Inventor Assemblies (*.iam)



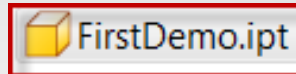
d. Save

2. FIRST COMPONENT

☑ Pick: Place

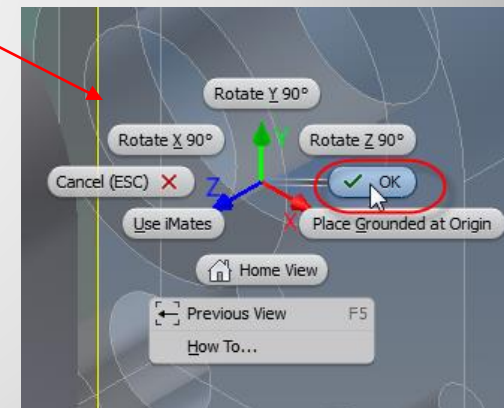
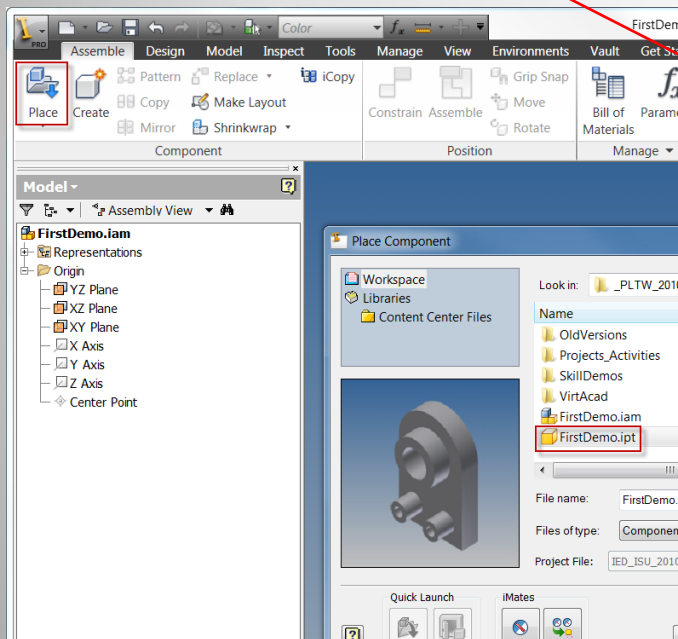
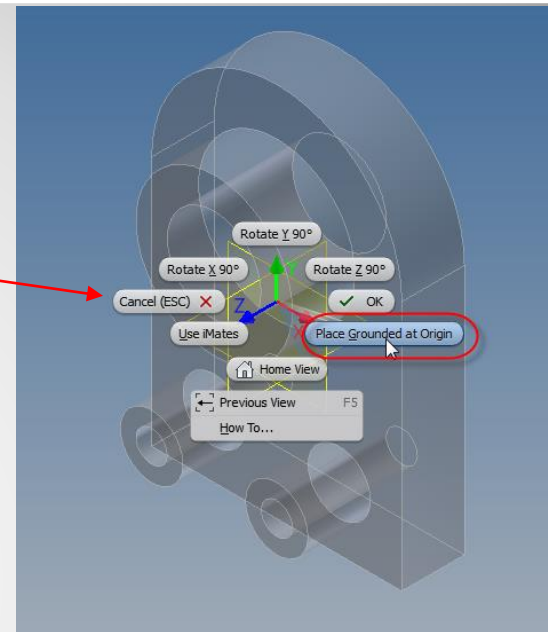


☑ Pick: FirstDemo.ipt




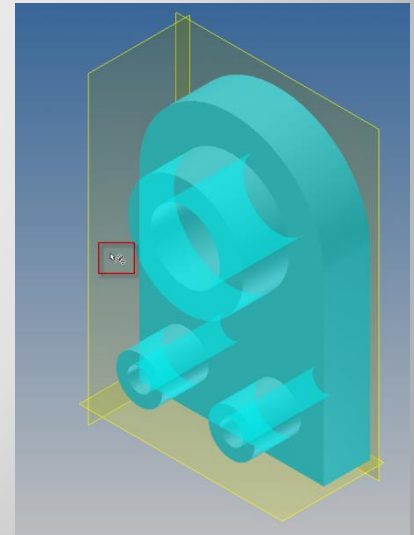
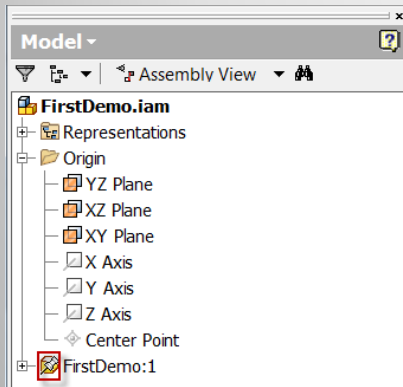
☑ <RMB> Place Grounded...

☑ <RMB> Ok



a. Place Component

- Grounded: 
 - Part XYZ planes match Assembly XYZ planes
- Move the part:
 - Pick: FirstDemo.ipt
 - Drag (Hold <LMB>): Move Cursor
 - No motion



b. Location

- Remove Ground

- <RMB> FirstDemo.ipt 

- Pick: Grounded 

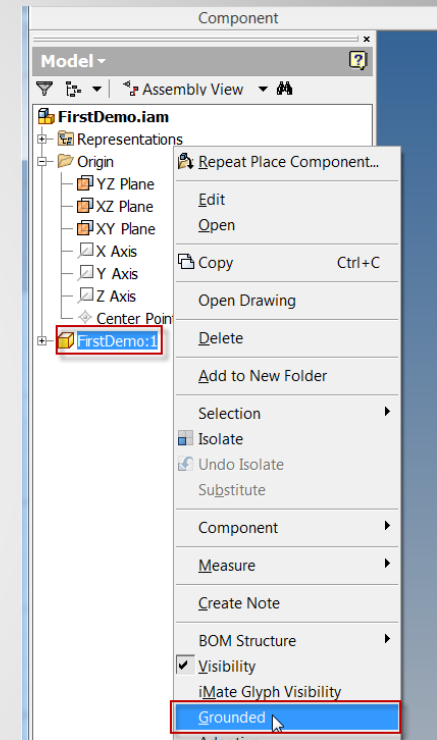
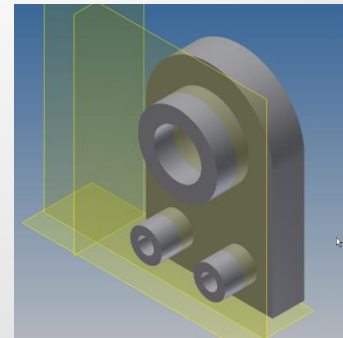
- Verify change:
 - Before: 

- After: 

- Move the part

- Pick: the component

- Drag: Free to move



c. Position

- Assemble:

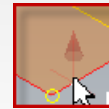
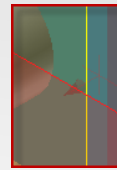
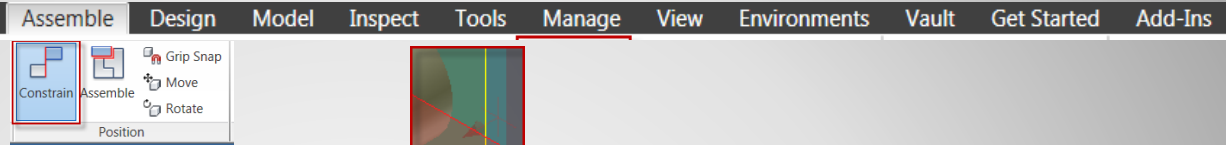
- Constrain

- Selection 1: Front Face

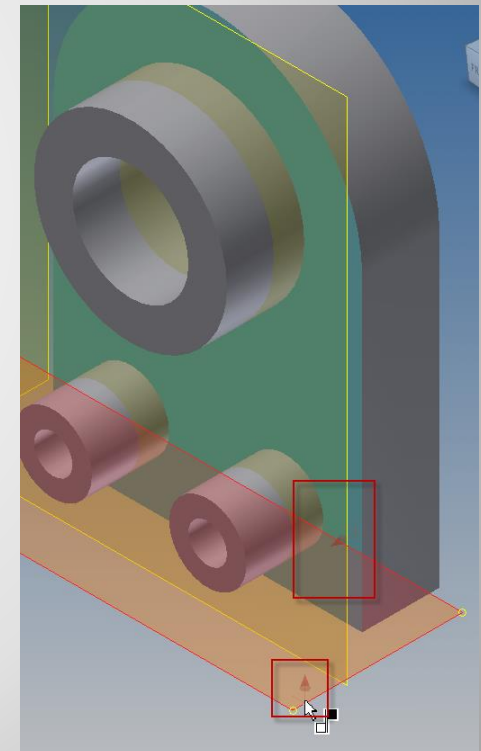
- Selection 2: XZ Plane

- Flush 

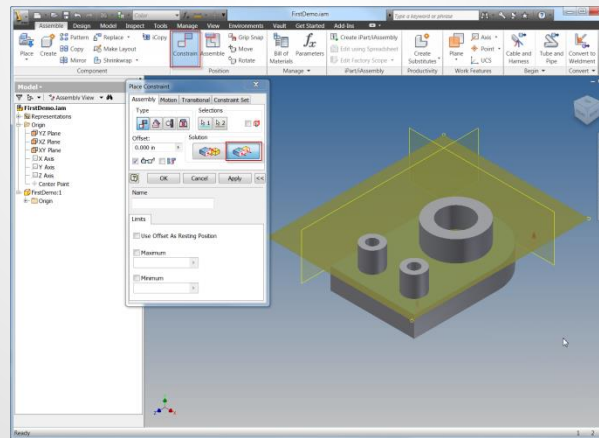
- Select: Apply | Close



Before:



After:

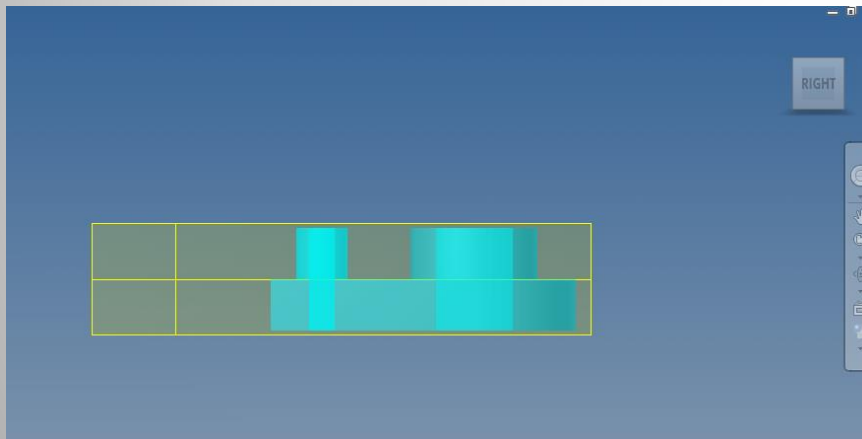
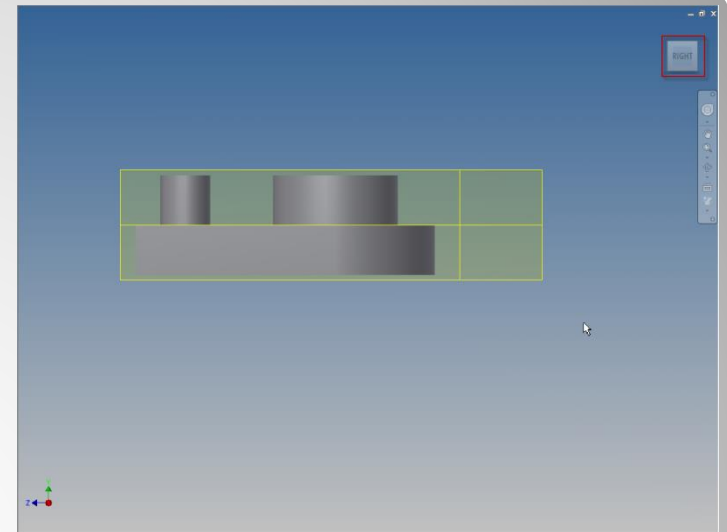


d. Reorient(first Constraint)

- Verify

- View: the component

- Drag:



e. Verify (First Constraint)

- Align Part to Assembly XYZ planes

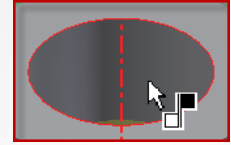
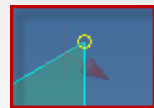
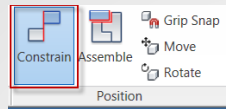
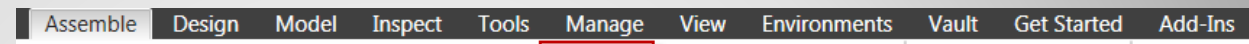
- Assemble:

- Constrain

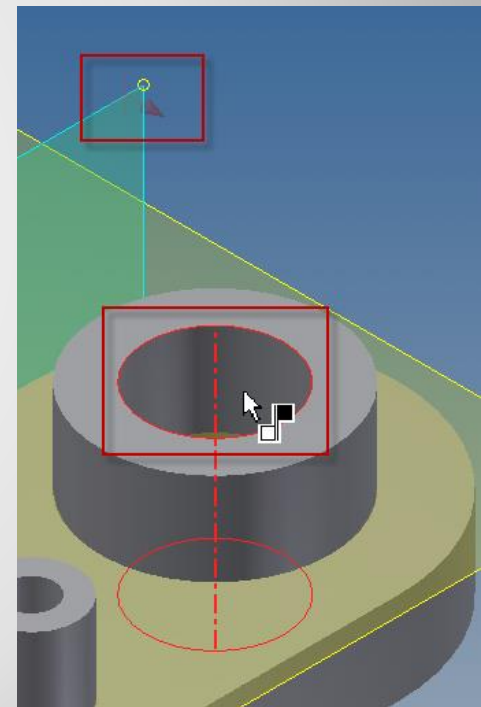
- Selection 1: YZ Plane

- Selection 2: Axis

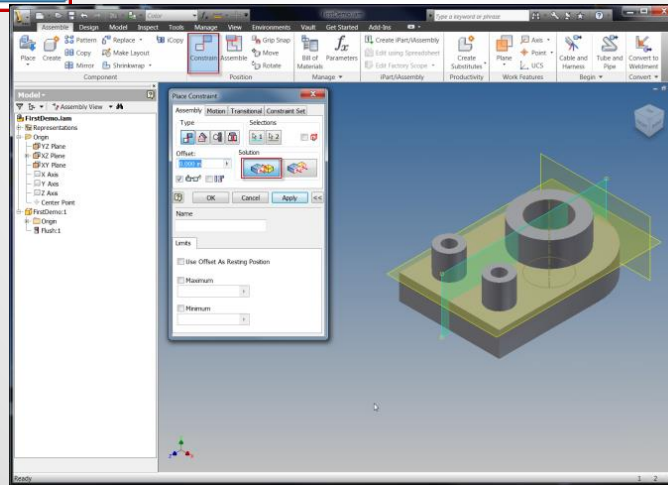
- Mate




Before:

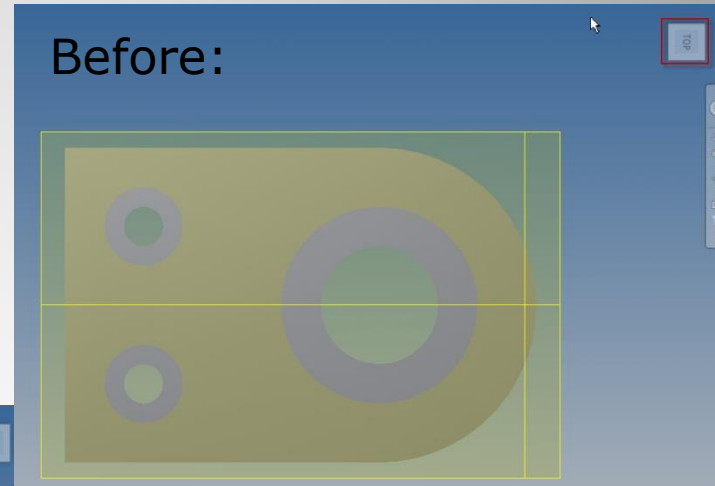
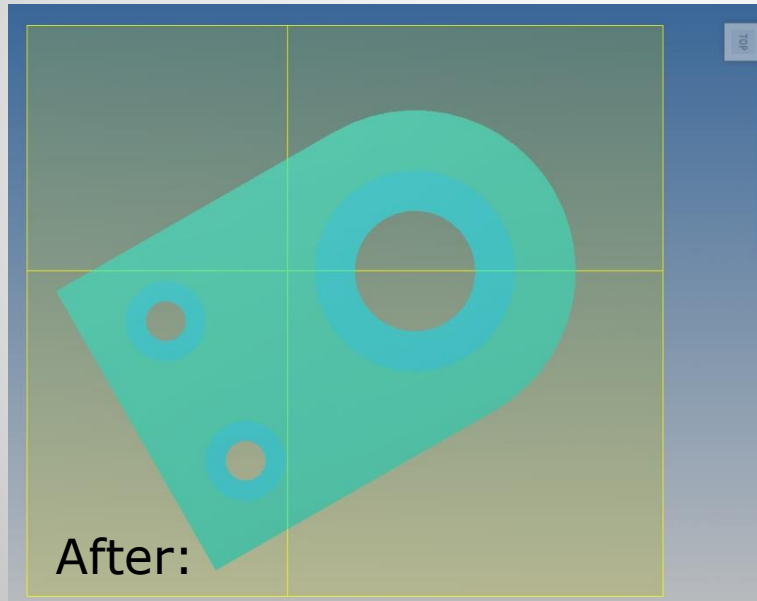


After:



f. Reorient (Second Constraint)

- Select: Apply Close
- Verify
 - View: 
 - Drag:



g. Verify (Second Constraint)

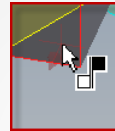
- Align Part to Assembly XYZ planes
- Assemble:

- Constrain

- Selection 1: XY Plane



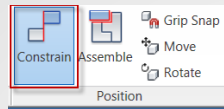
- Selection 2: Face



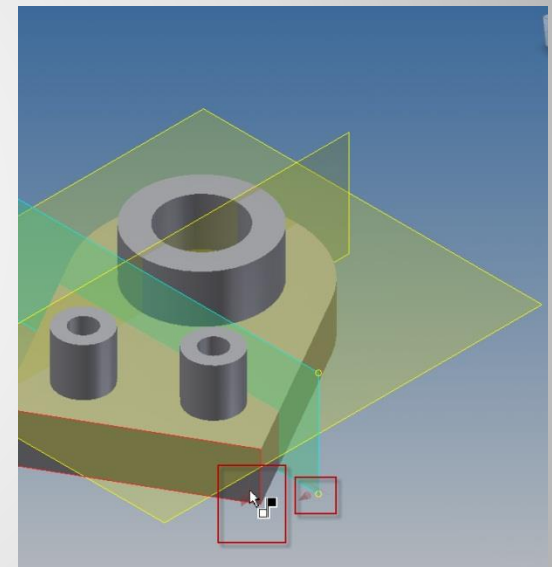
- Flush:



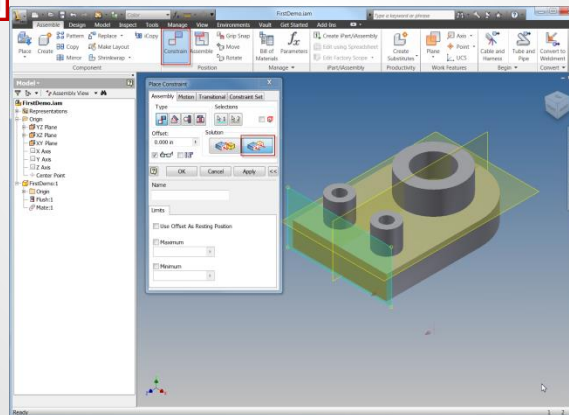
Assemble Design Model Inspect Tools Manage View Environments Vault Get Started Add-Ins



Before:



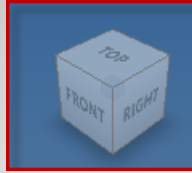
After:



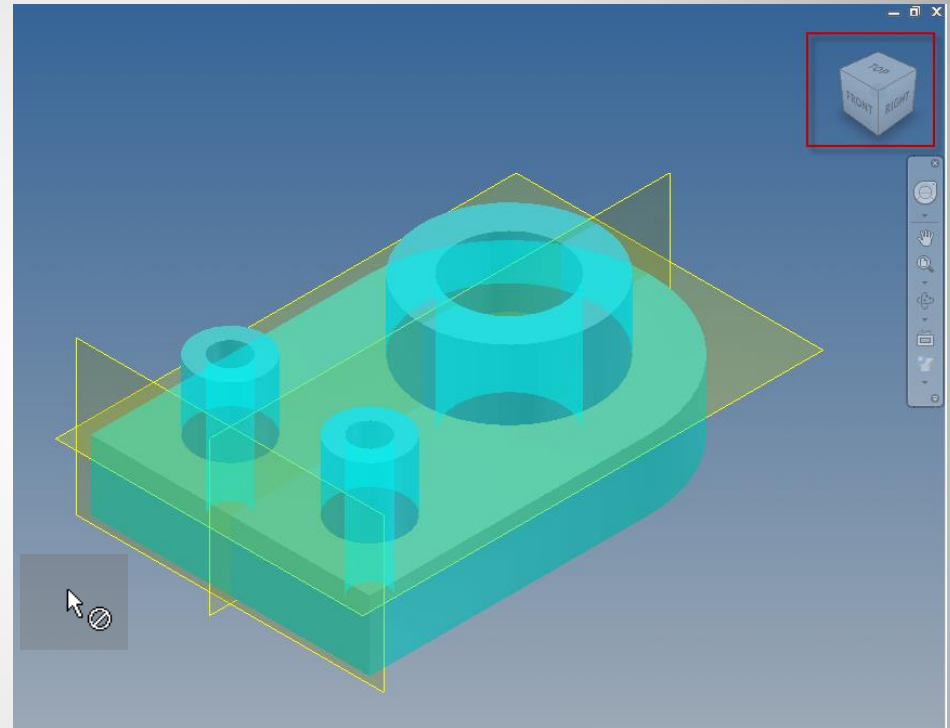
h. Reorient (Third Constraint)

- Verify

- View:



- Drag: No Motion



i. Verify (Third Constraint)

3. SECOND COMPONENT

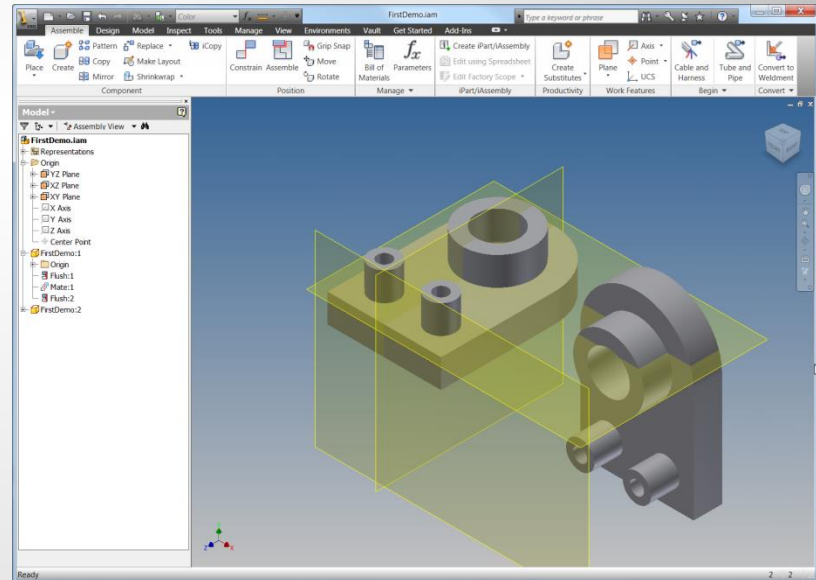
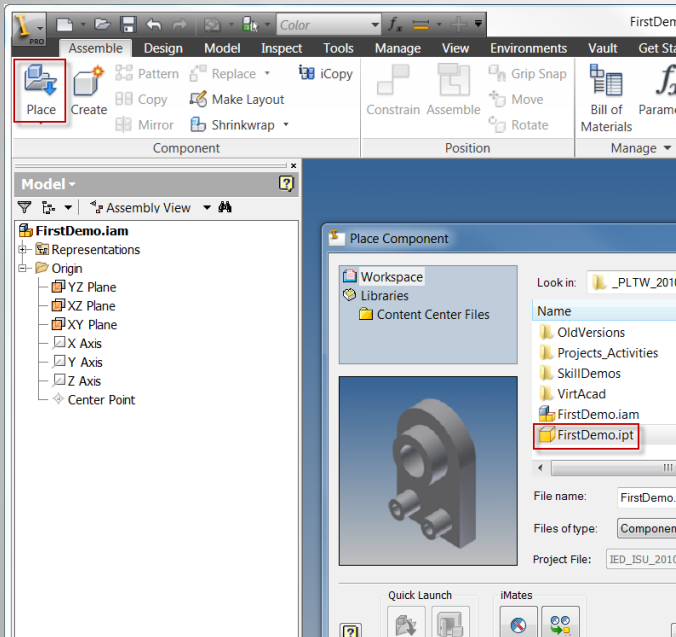
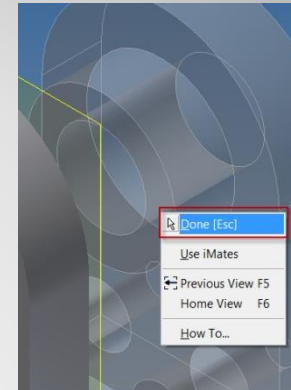
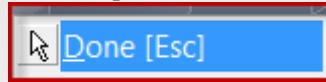
✓ Pick: Place



✓ Pick: FirstDemo.ipt

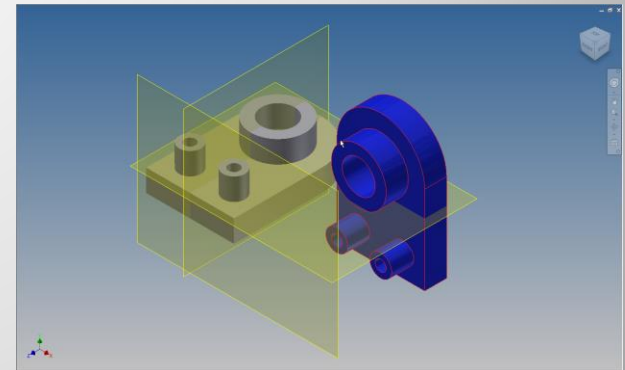
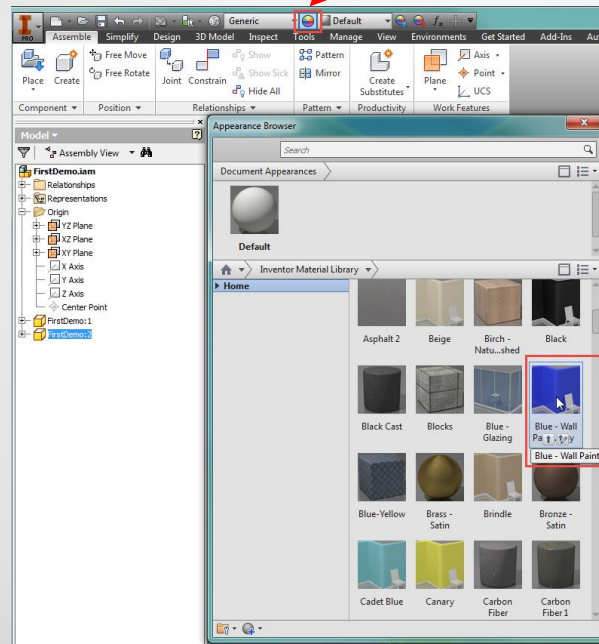
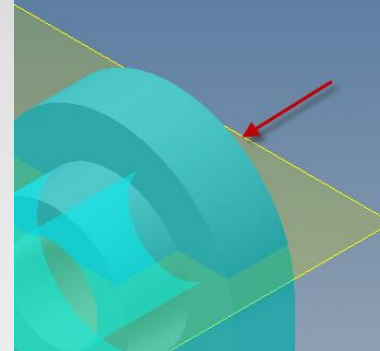


✓ <RMB> Done



a. Location

- Appearance:
 - Pick: Component
 - Pick: As Material
 - Pick: Blue

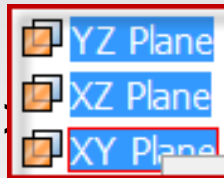


b. Color

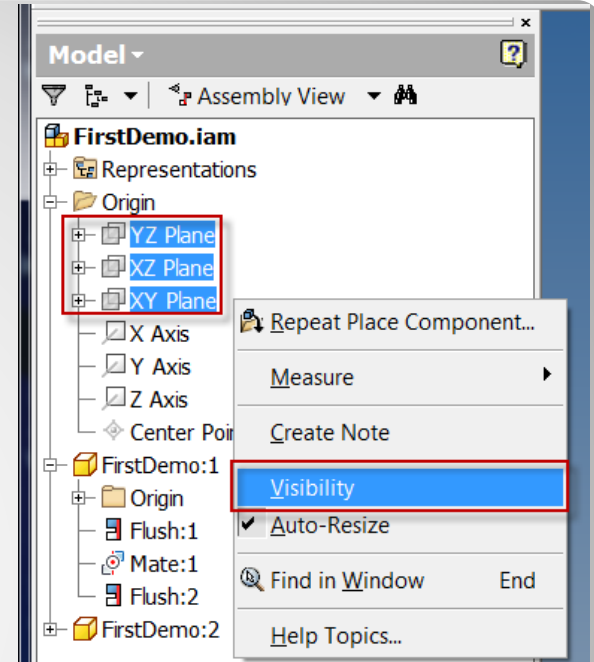
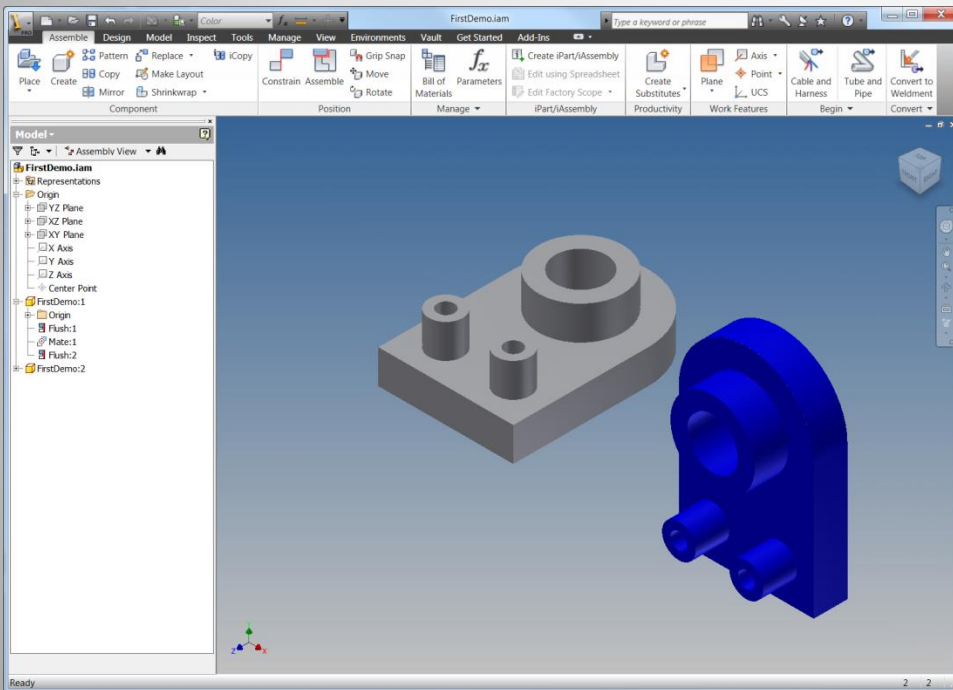
• Reference Planes

Select: <Ctrl> + <Imb>

Visibility



Visibility



c. Adjust Display

- Rotate Component

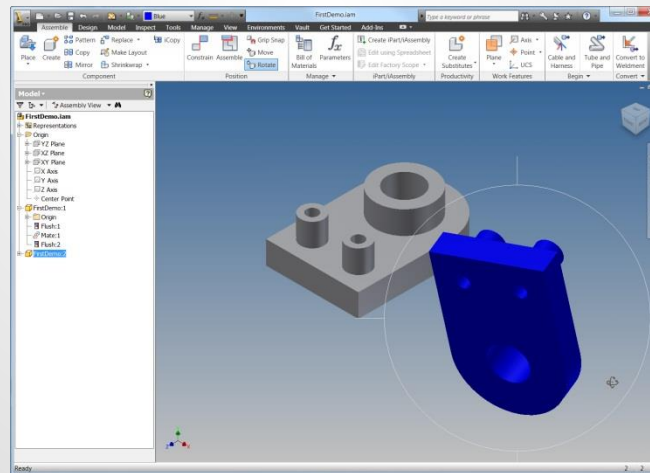
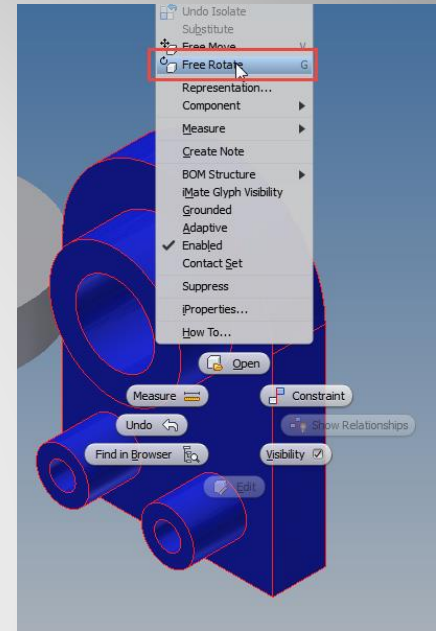
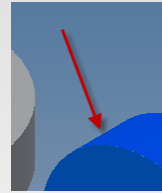
- Pick: Component

- <RMB>

- Pick: Component

- Pick: Free Rotate

- Drag: Component



d. Orient

- Align edges

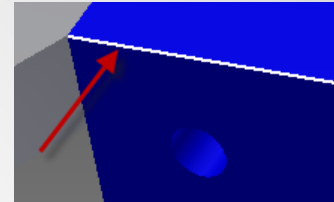
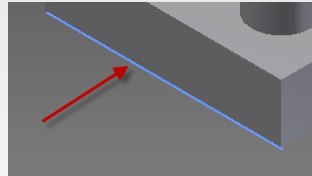
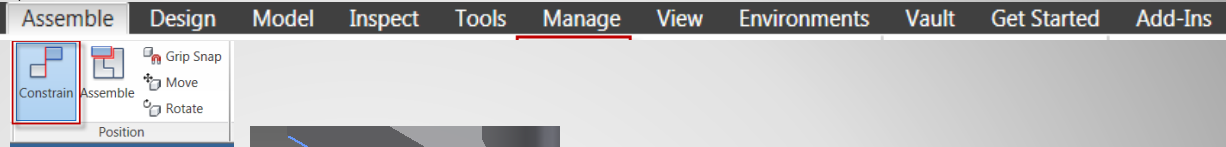
- Assemble:

- Constrain

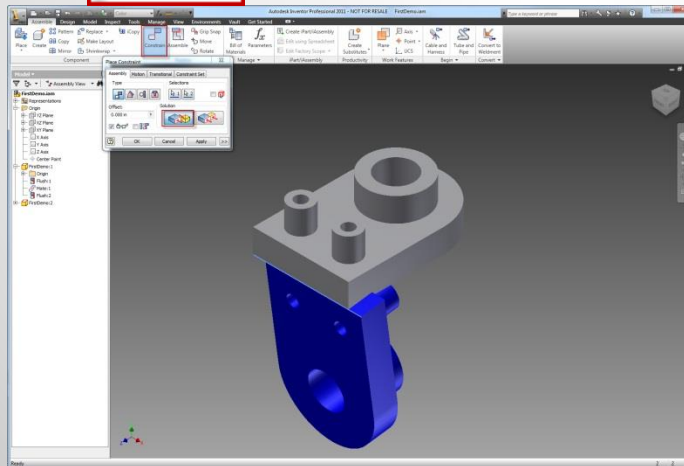
Selection 1: Edge

Selection 2: Edge

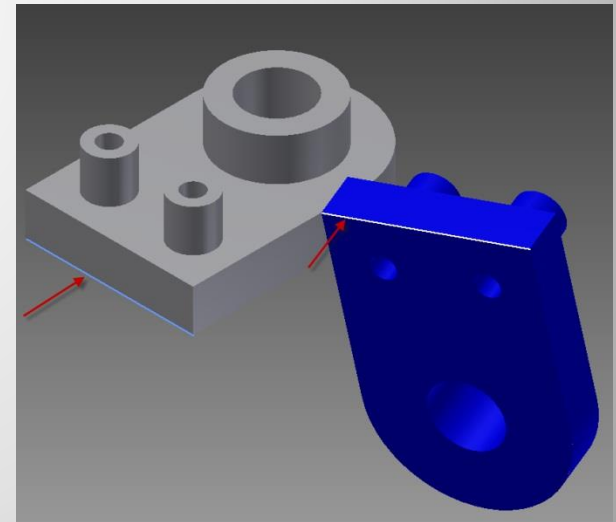
Mate



Before:

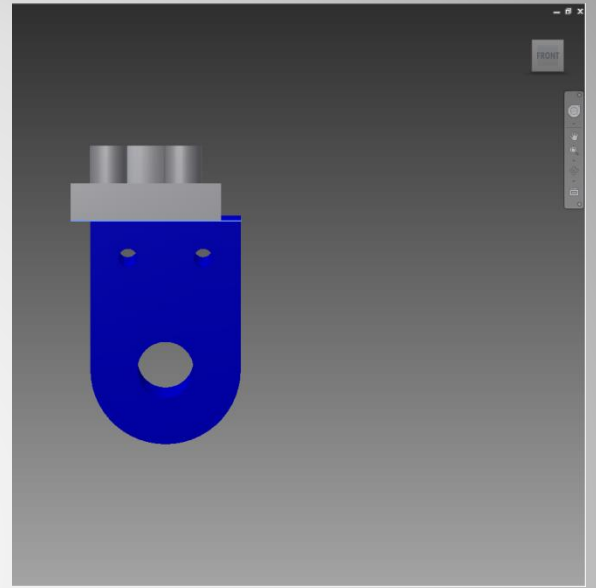
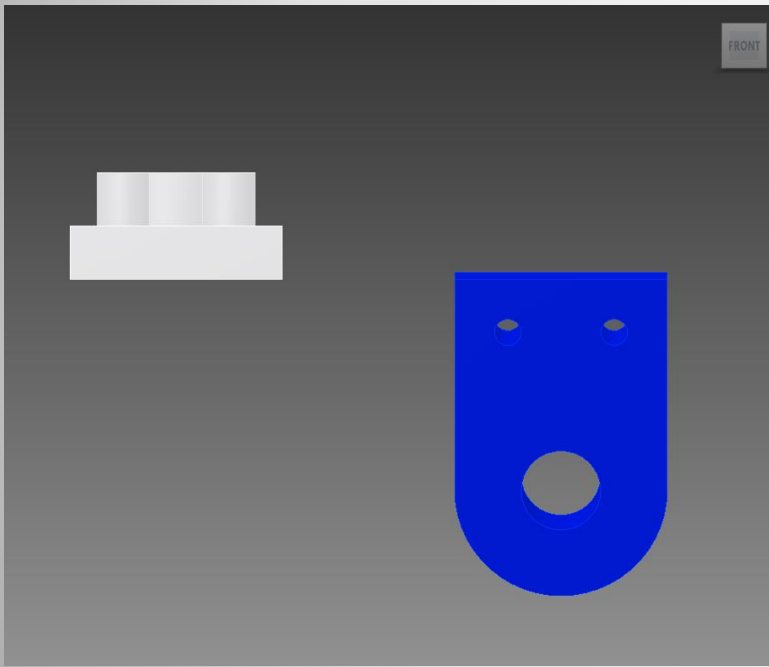


After:



e. Orient(first Constraint)

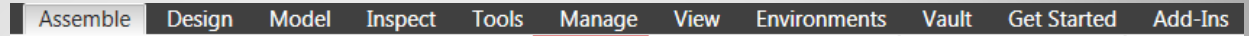
- Verify
 - View:
 - Drag:



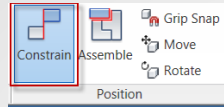
f. Verify (First Constraint)


- Align Part edges

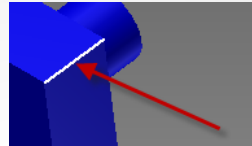
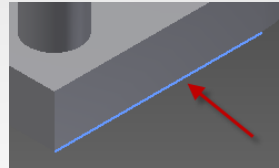
- Assemble:



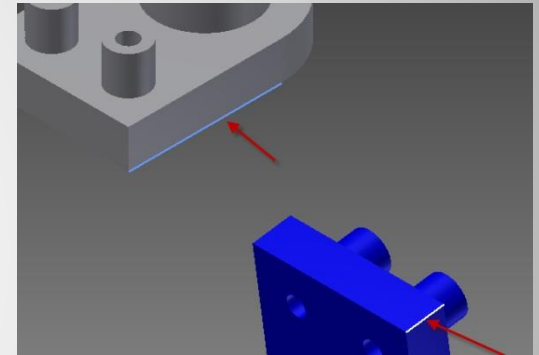
- Constrain



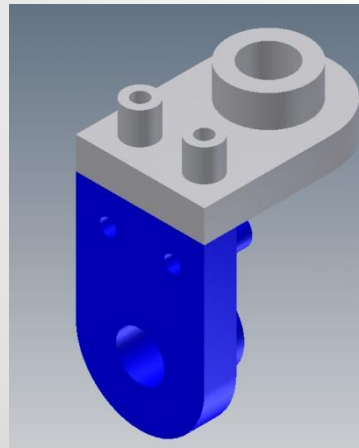
- Selection 1: Edge
- Selection 2: Edge
- Mate: 



Before:



After:

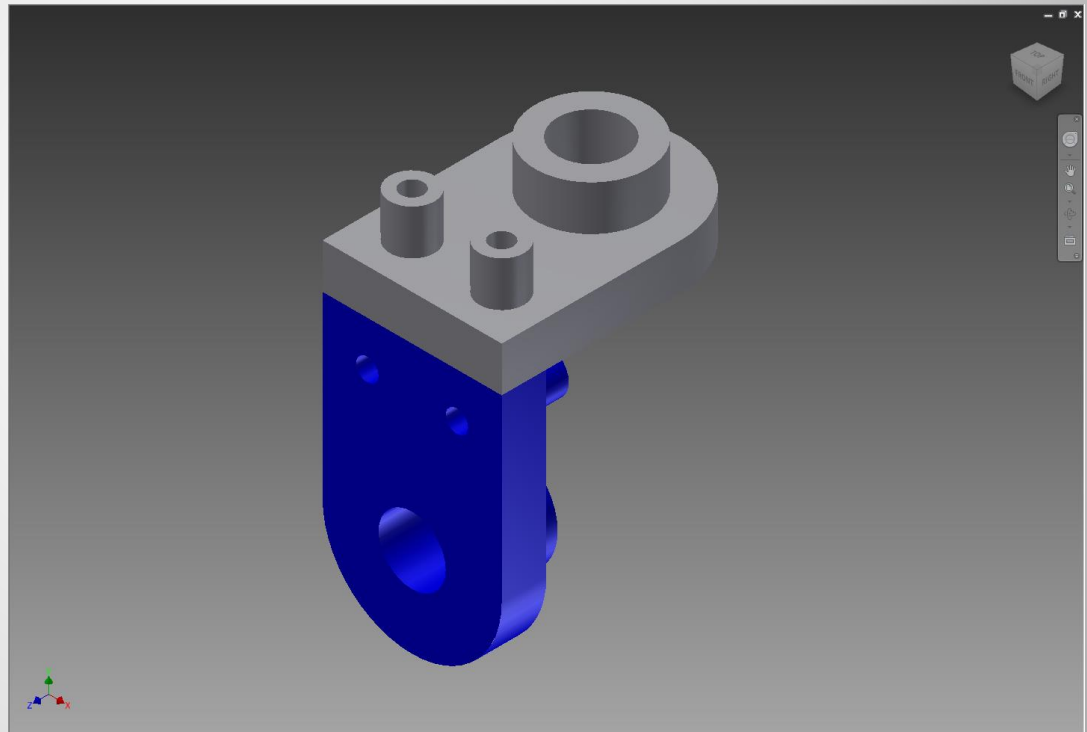


g. Orient (Second Constraint)

- Verify

- View:

- Drag: No Motion

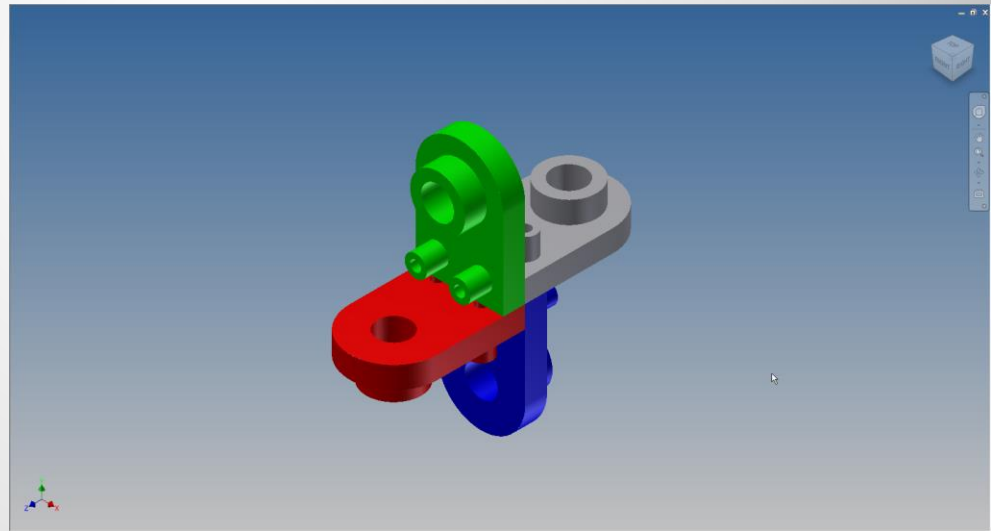


h. Verify (Second Constraint)

Add additional components and constraints

3. PRACTICE

- Continue
 - Place component:
 - Constraints
 - Verify - Drag: No Motion



a. Additional components

4. FINISH

- Save



a. Save the assembly