

Part Modeling II

Using Autodesk Inventor

- Features
- Options
- Properties

Inventor Features

- Extrude
- Taper

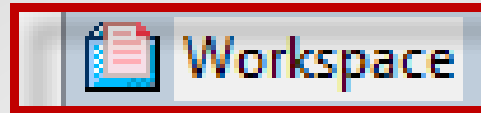
Note: Continued from Sketch Constraints I

EXAMPLE 1

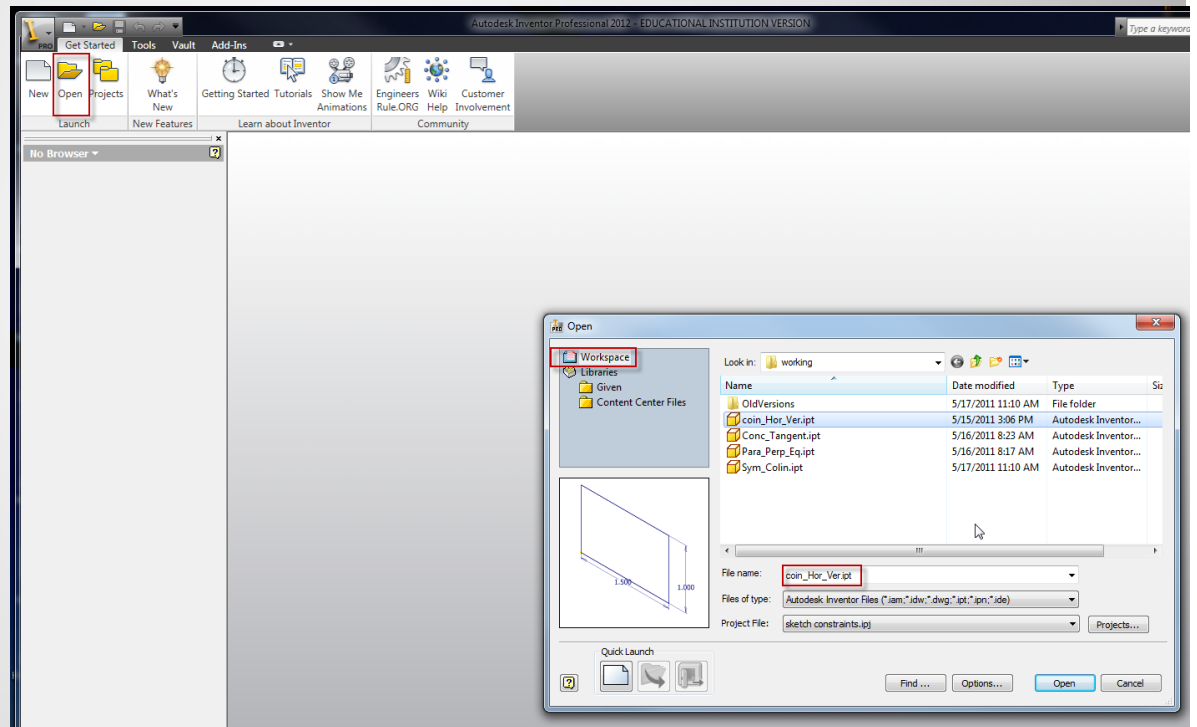
- Open



- Workspace:

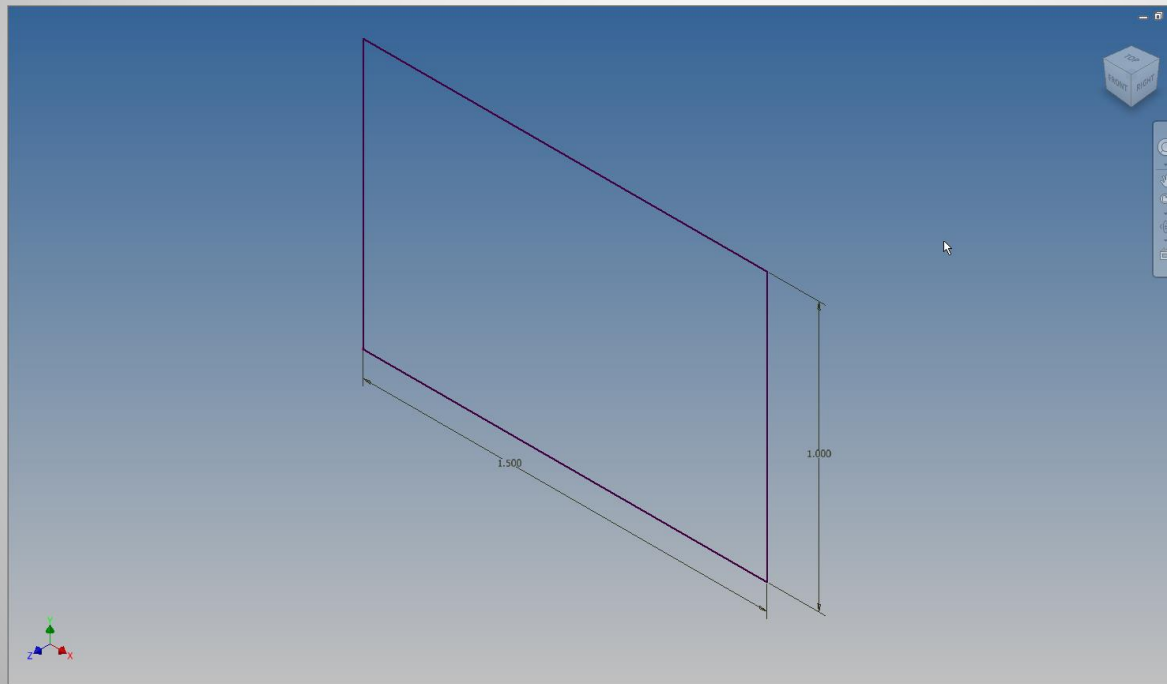


- File: From Sketch Constraints I



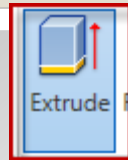
a. Open (previous file)

- Save:



b. Save (frequently)

✓ Extrude



✓ Distance: 1 in.

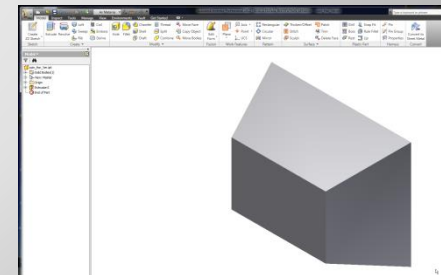
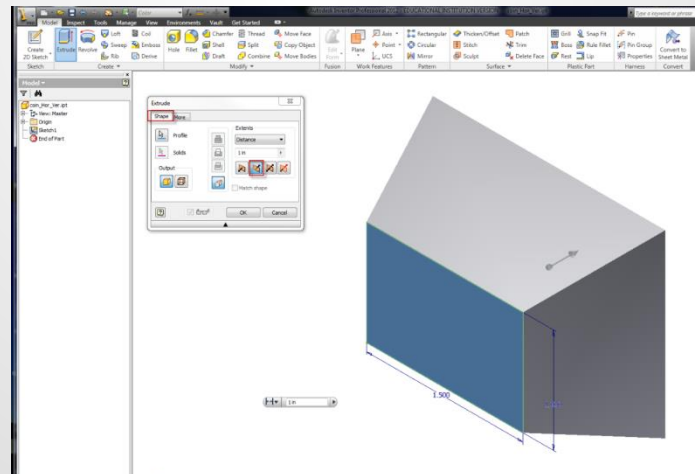
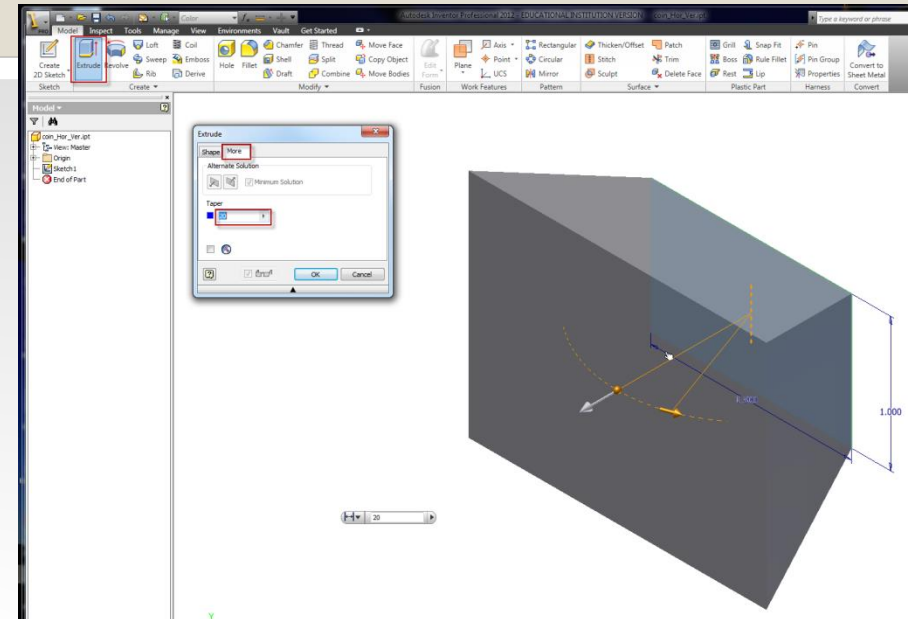
✓ More

✓ Taper:

✓ Shape

✓ Direction

• Verify:



c. Extrude - taper

- Pick:

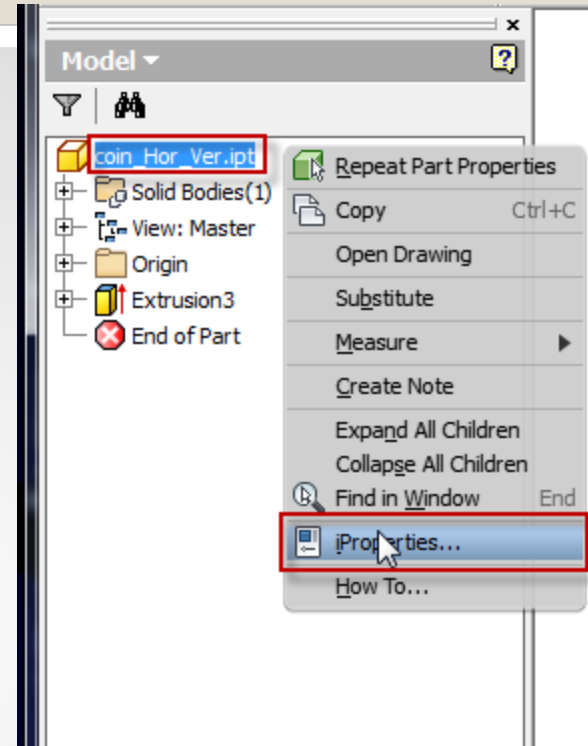
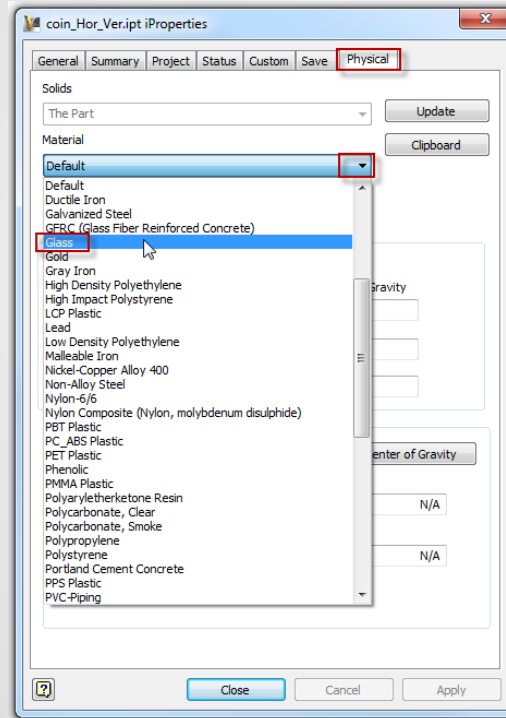
coin_Hor_Ver.ipt

iProperties...

Physical

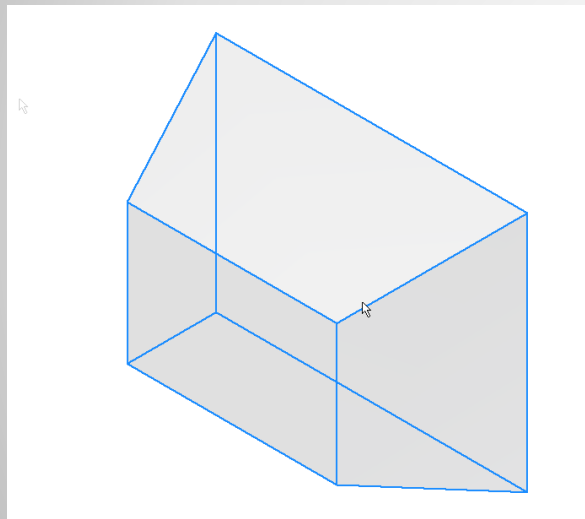
Glass

<rmb>



d. Specify Material

- Density
- General Properties
- Inertial properties:



e. Properties

coin_Hor_Ver.ipt iProperties

General Summary Project Status Custom Save Physical

Solids
The Part Update

Material
Glass Clipboard

Density 2.180 g/cm³ Requested Accuracy Low

General Properties

Center of Gravity

Mass 0.204 lbmass (Relative) X 0.750 in (Relative E)

Area 12.220 in² (Relative) Y 0.500 in (Relative E)

Volume 2.587 in³ (Relative) Z -0.576 in (Relative)

Inertial Properties

Principal Global Center of Gravity

Principal Moments

I1 0.051 lbmass in I2 0.079 lbmass in I3 0.098 lbmass in

Rotation to Principal

Rx 0.00 deg (Relative) Ry 0.00 deg (Relative) Rz 0.00 deg (Relative)

Close Cancel Apply

Inventor Features

- Revolve
 - Angle
 - Direction

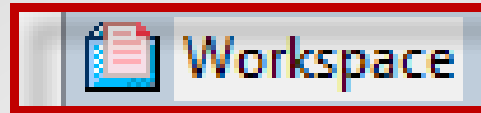
Note: Continued from Sketch Constraint II

EXAMPLE 2

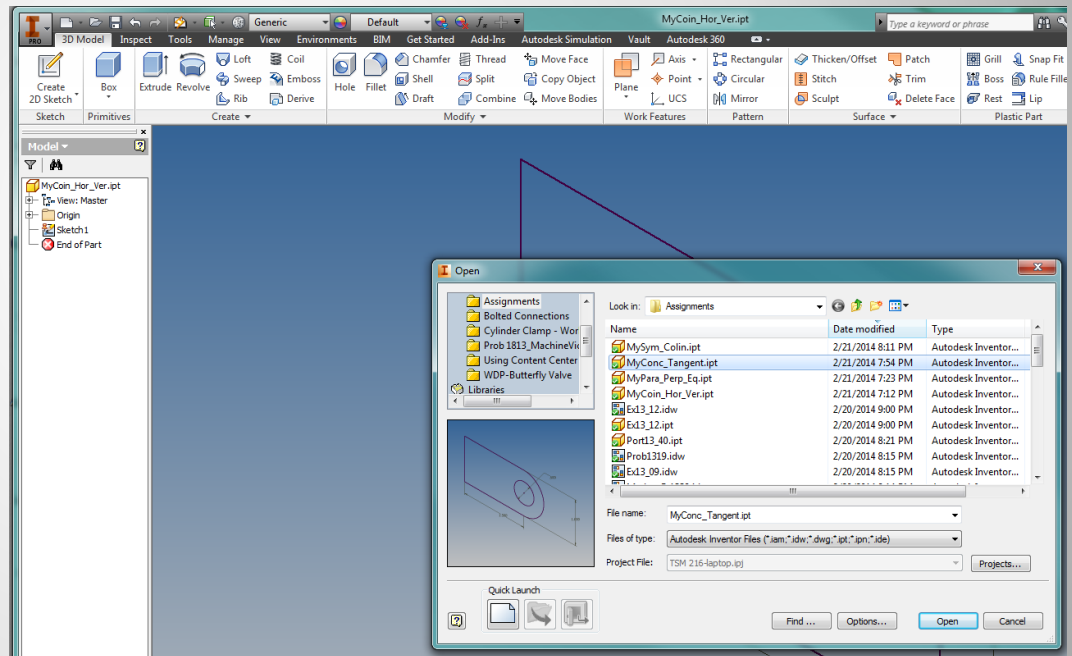
- Open



- Workspace:

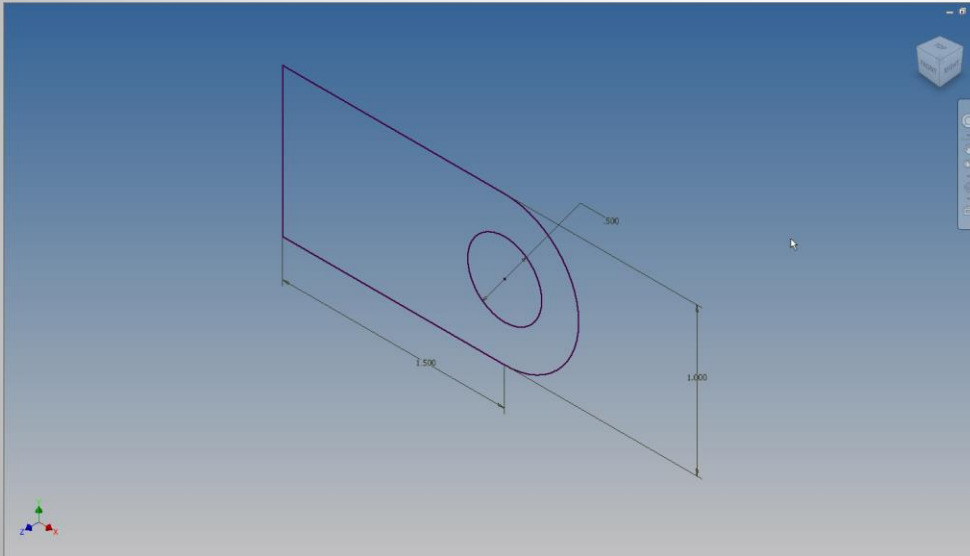
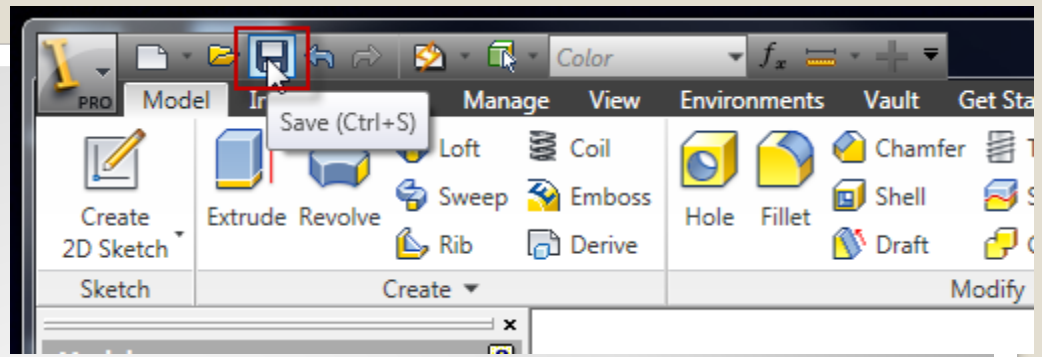


- File From Sketch Constraint II:



a. Open (previous file)

• Save:



b. Save (frequently)

☑ Revolve

☑ Profile

☑ Axis

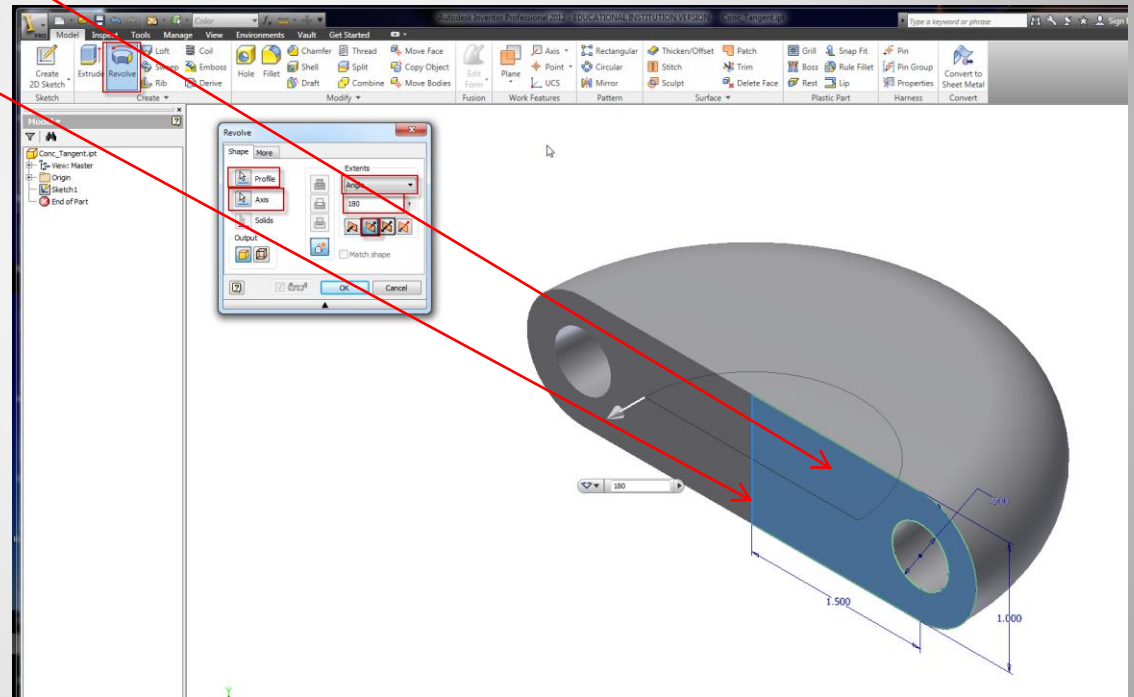
☑ Extents:

☑ Angle

☑ 180

☑ Direction

• Verify:



c. Revolve – angle / direction

- Pick:

- Conc_Tangent.ipt

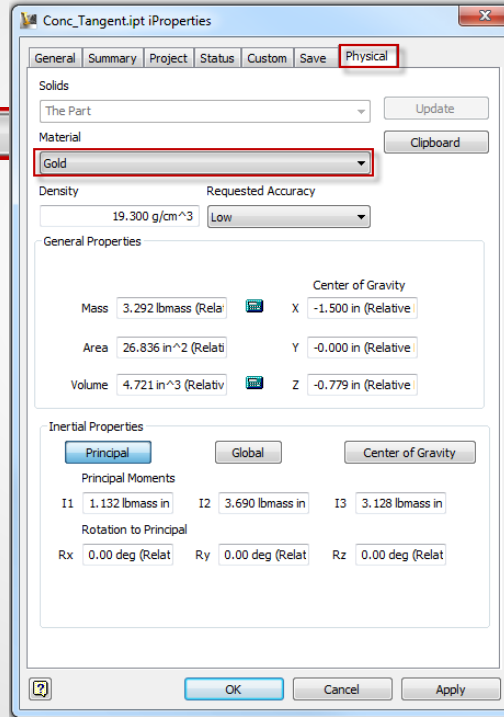
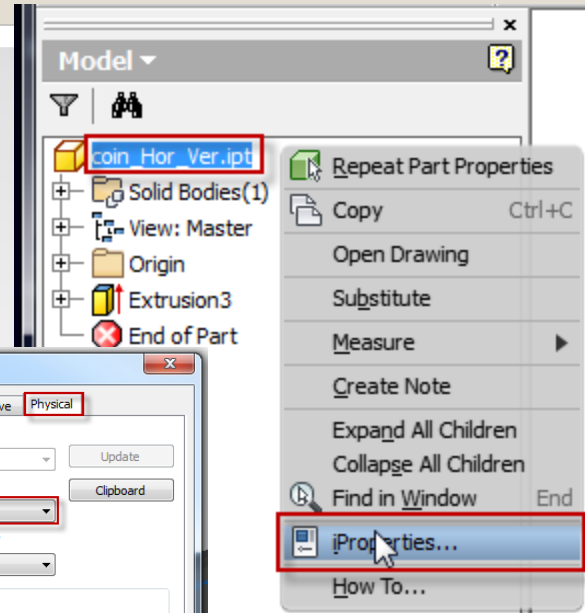
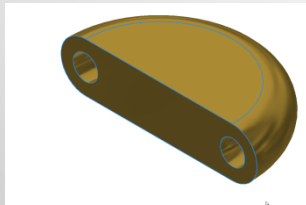
- iProperties... <rmb>

- Physical

- Gold

- Properties

- Density
- General
- Inertial



d. Material - Properties

- Continue From Sketch Constraints III
- Revolve
 - Axis
 - Angle
 - Direction

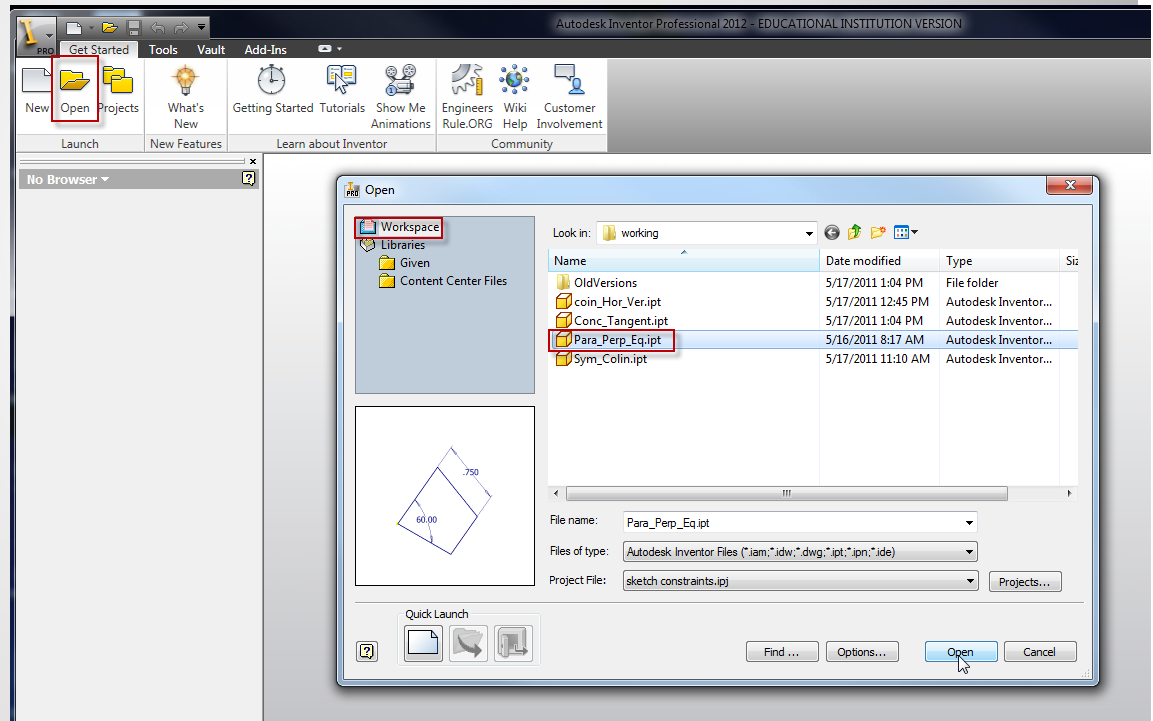
EXAMPLE 3:

- Open



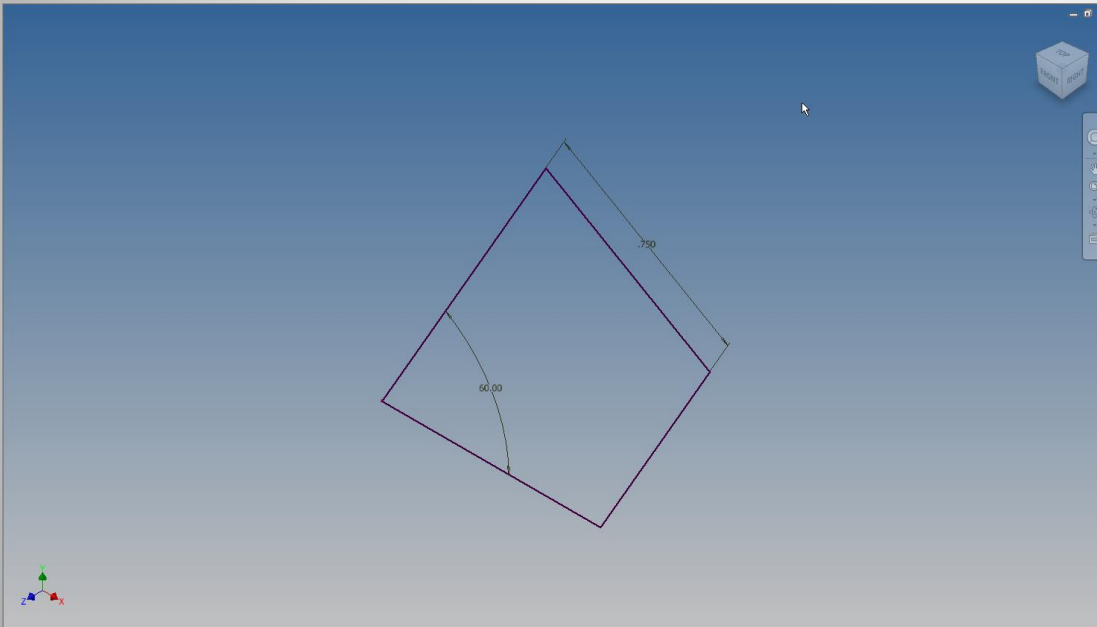
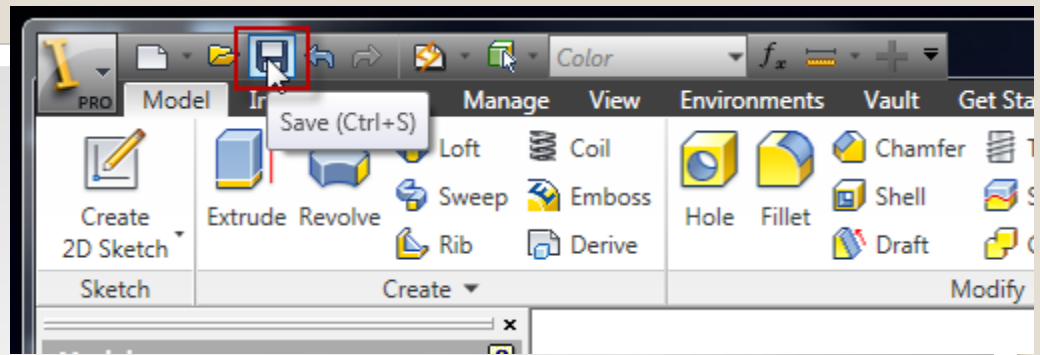
- Workspace:

- File: From Sketch Constraints III



a. Open (previous file)

• Save:



b. Save (frequently)

☑ Revolve

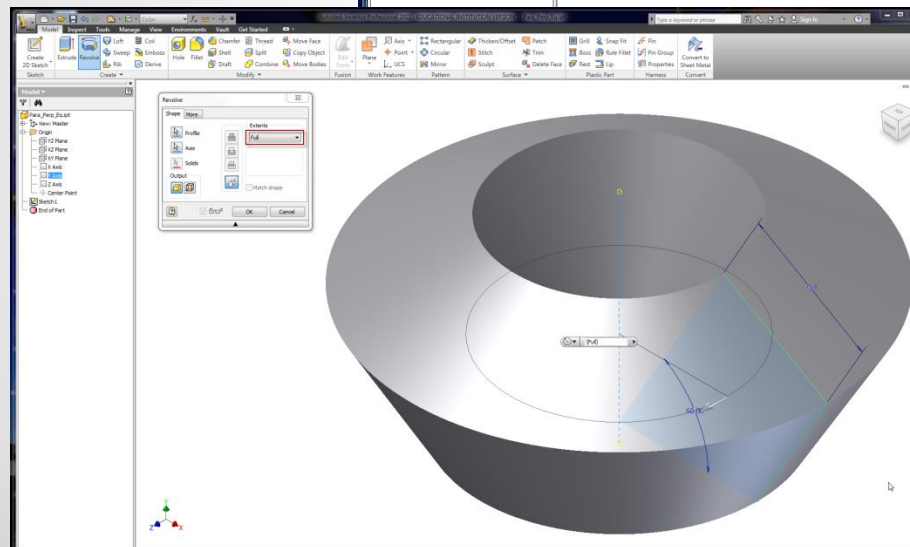
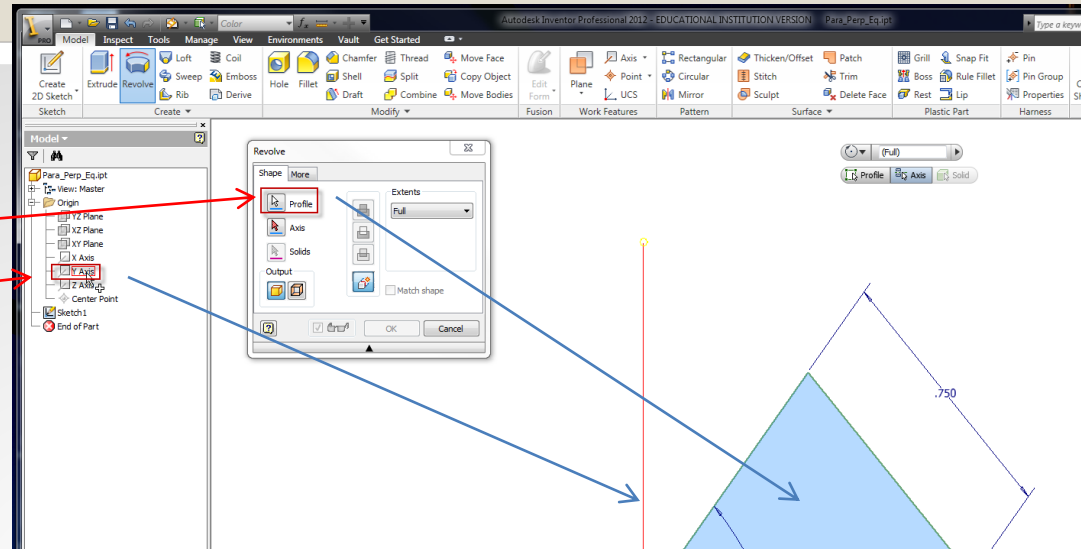
☑ Profile

☑ Axis

☑ Extents:

☑ Full

• Verify:



c. Revolve - axis

- Pick:

- Para Perp Eq.ipt

- iProperties...

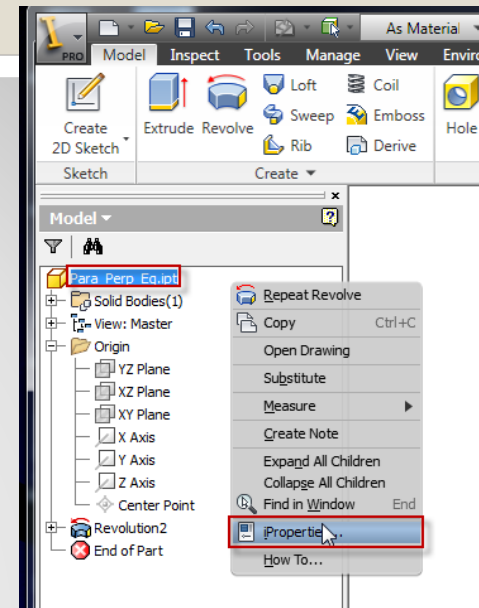
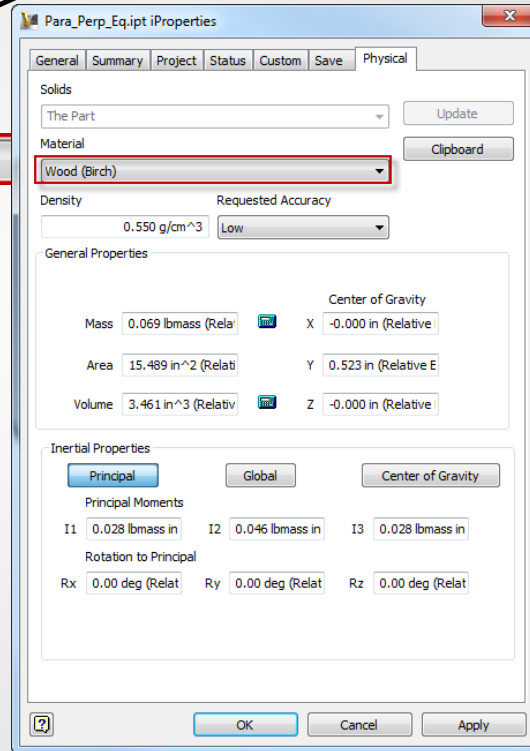
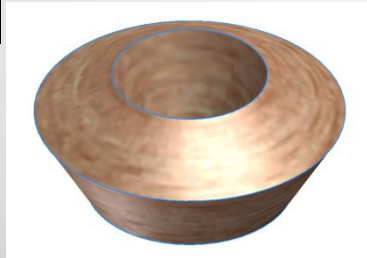
<rmb>

- Physical

- Wood (Birch)

- Properties

- Density
- General
- Inertial



d. Material - Properties

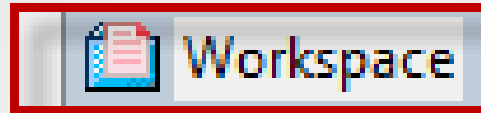
Revolve – Sketch Axis
Continued from Sketch Constraints IV

EXAMPLE 4

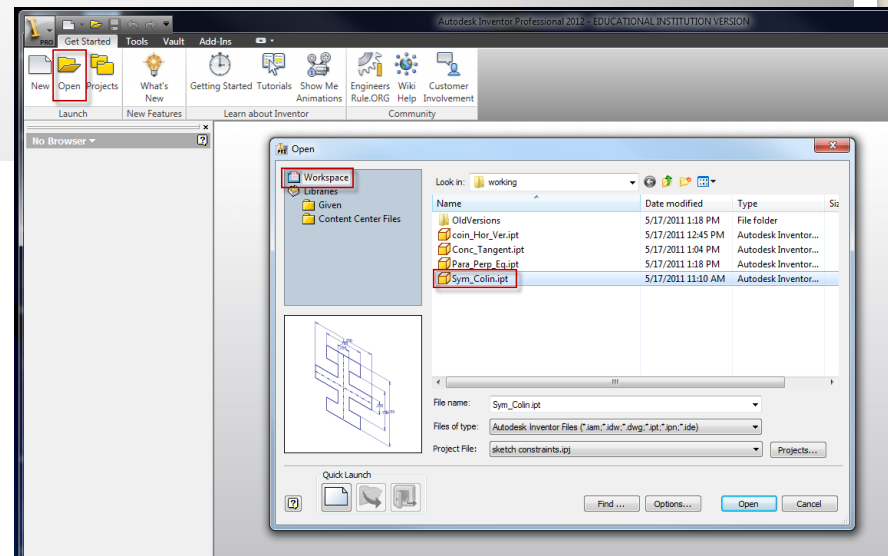
- Open



- Workspace:

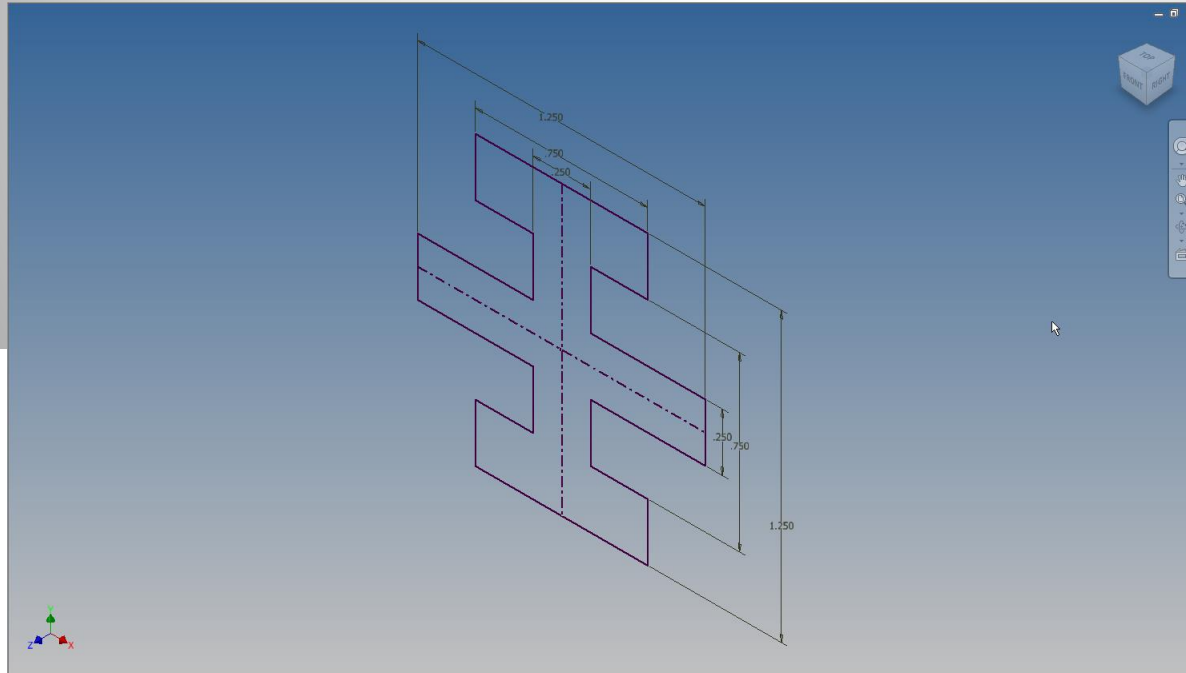


- File: From Sketch Constraints IV



a. Open (previous file)

- Save:

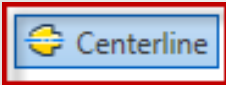


b. Save (frequently)

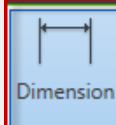
✓ Edit Sketch



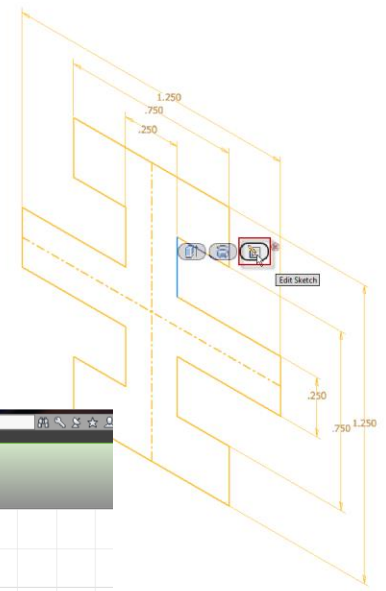
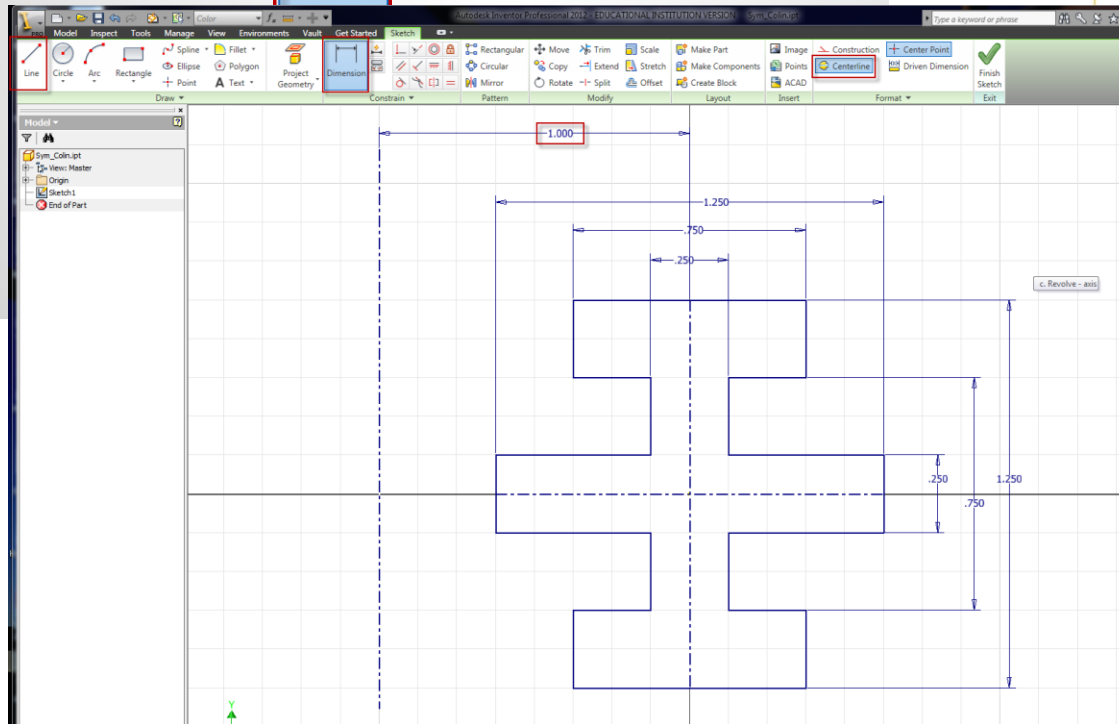
✓ Sketch Centerline



✓ Dimension



• Verify:

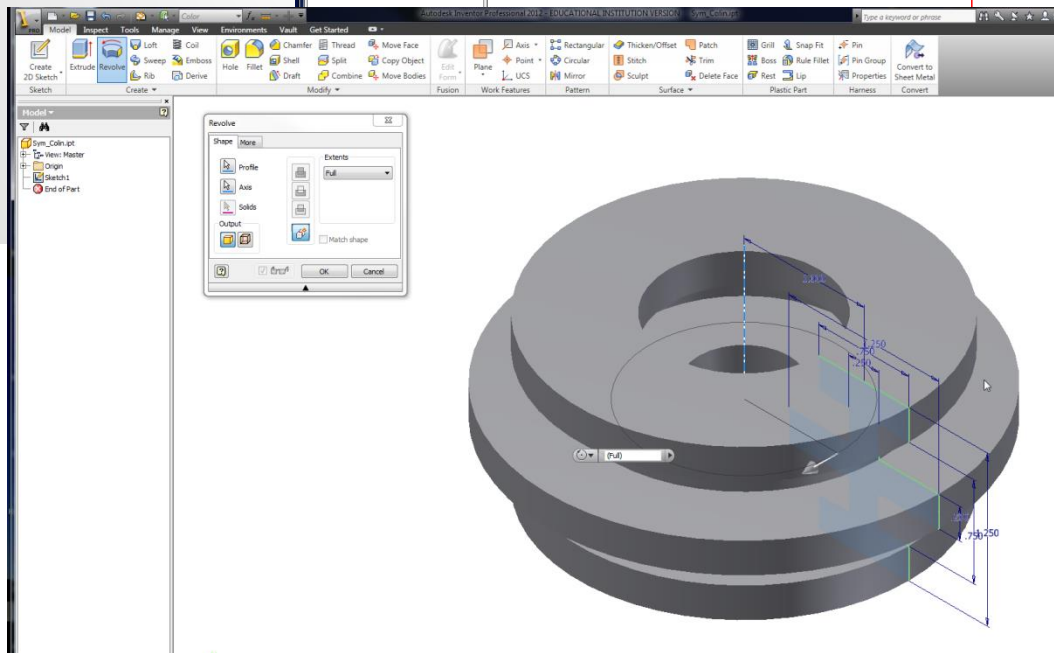
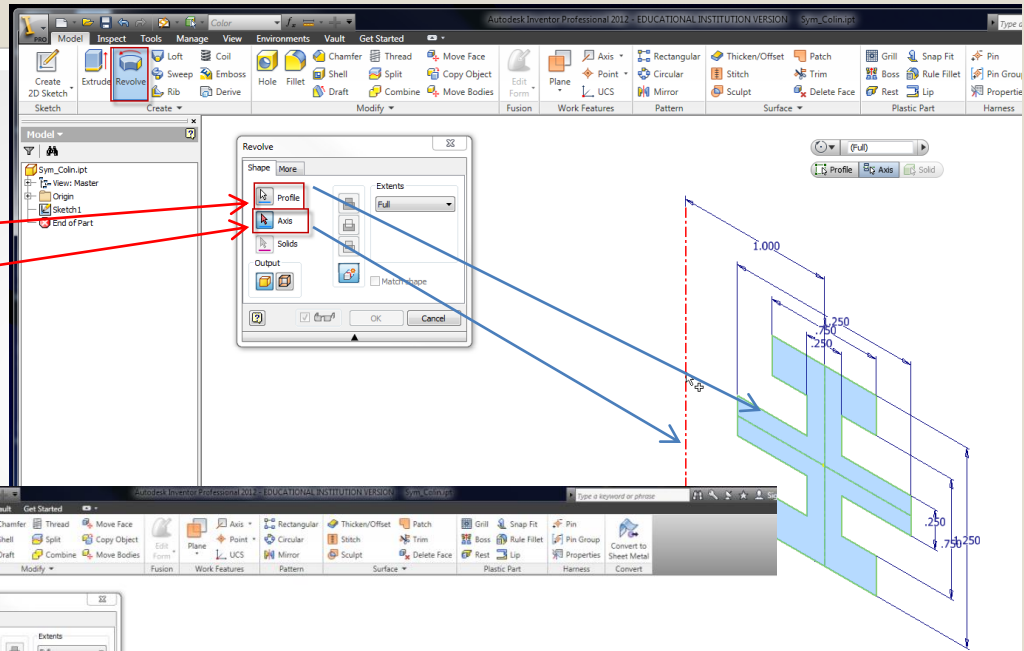


c. Sketch - axis

- ✓ Revolve
- ✓ Profile
- ✓ Axis
- ✓ Extents:

✓ Full

- Verify:



c. Revolve - axis

- Pick:



Sym_Colin.ipt iProperties



iProperties...

<rmb>



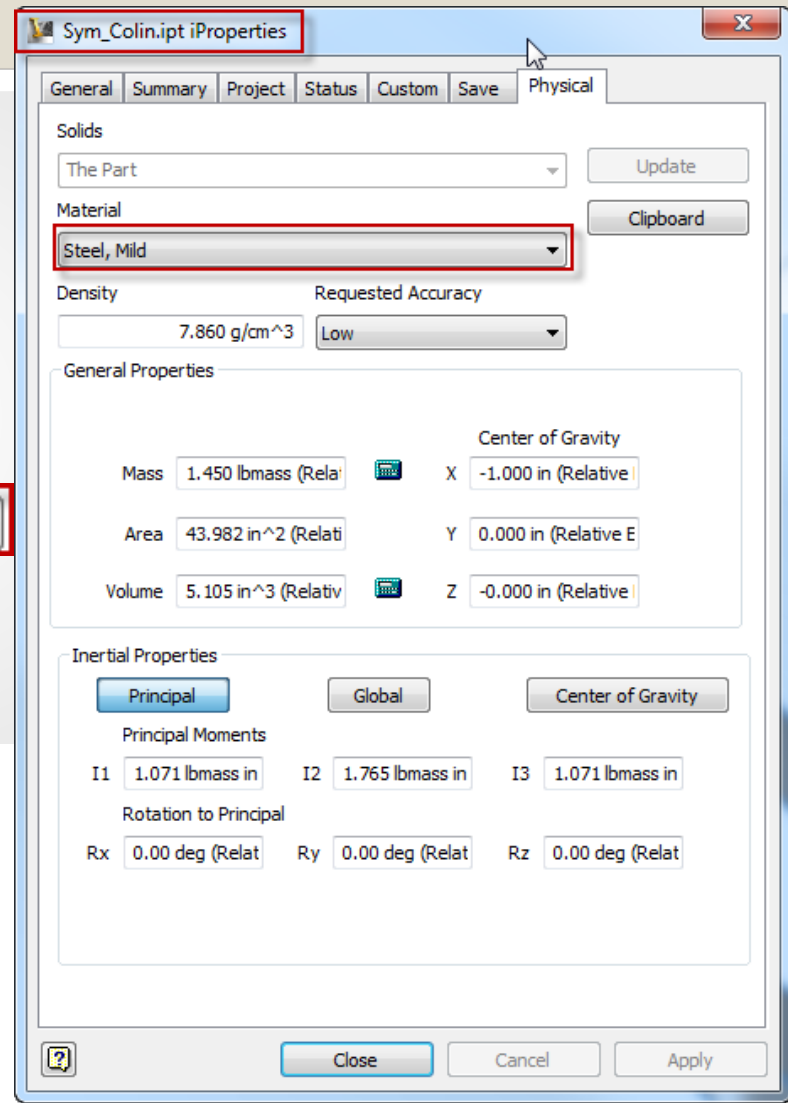
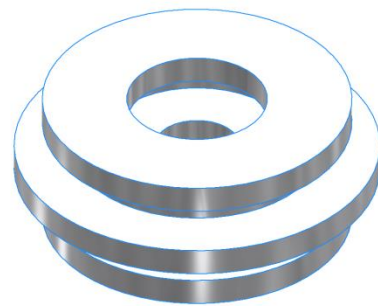
Physical



Steel, Mild

- Properties

- Density
- General
- Inertial



d. Material - Properties

- Pick:



Sym_Colin.ipt iProperties



iProperties...

<rmb>



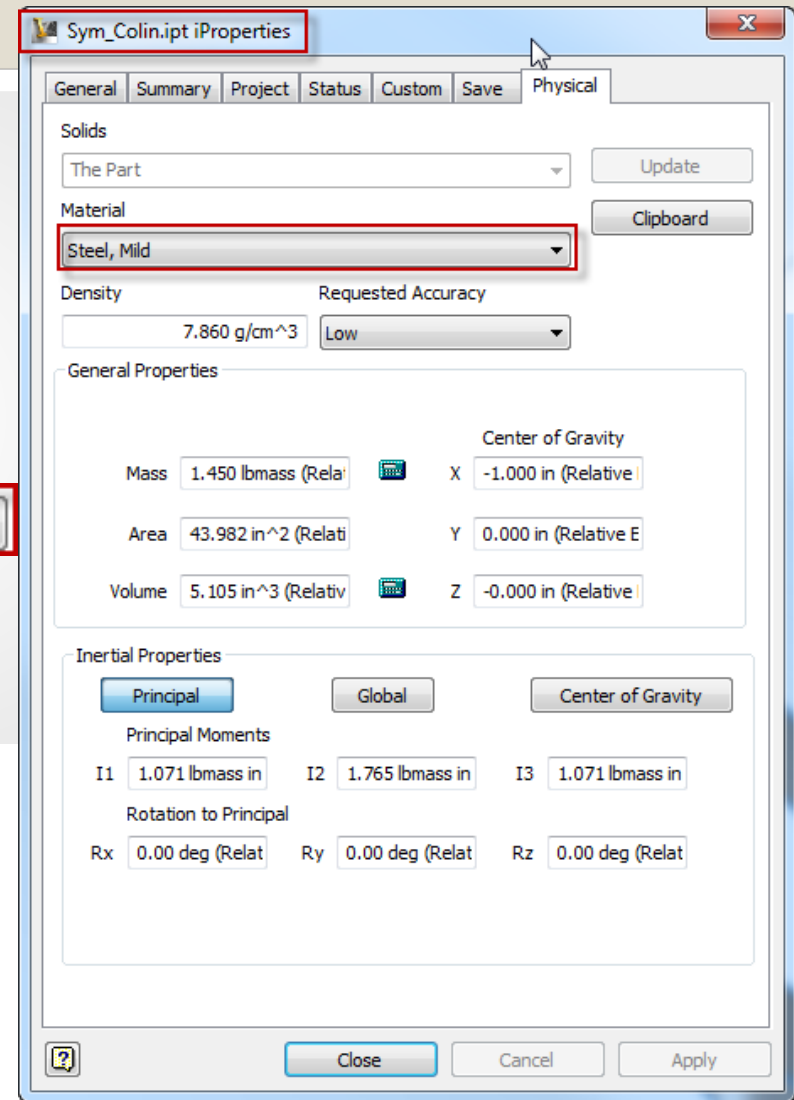
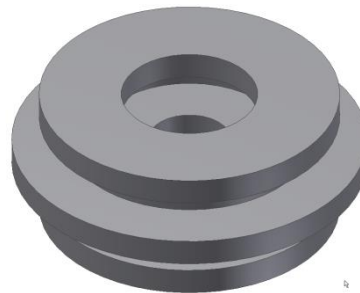
Physical



Steel, Mild

- Properties

- Density
- General
- Inertial

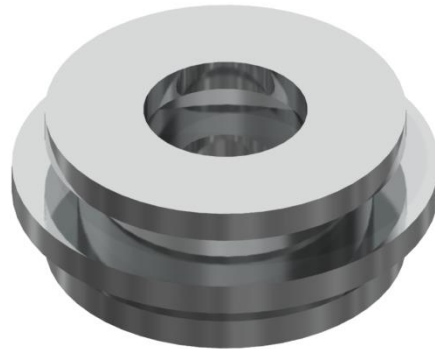
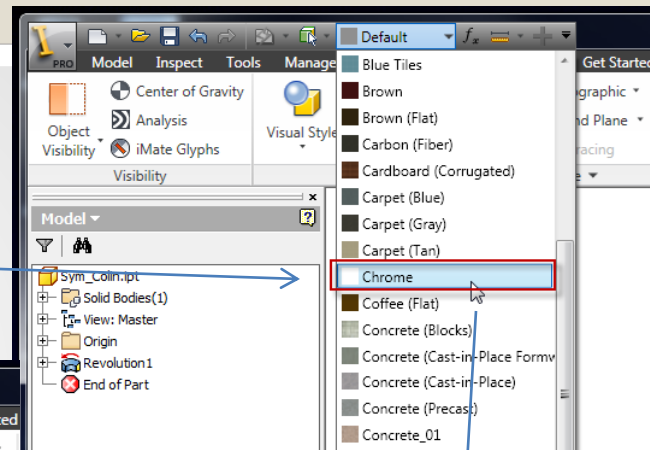
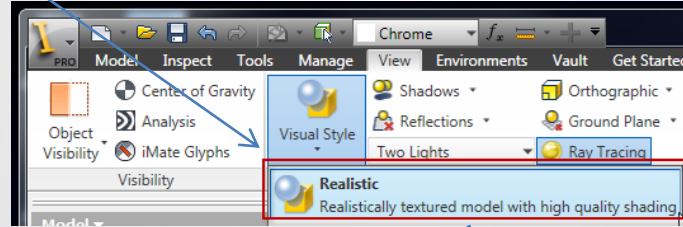


d. Material - Properties

- Pick:

- Chrome

- Realistic



d. Appearance – Visual Style