

SolidWorks
WORLD 2009



Understanding Toolbox

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Caution!

Before following the steps outlined in this tutorial, make sure you are working with a copy of your company's Toolbox. Only after you have completed the tutorial, are comfortable with the steps it describes, and have planned the customizations you want to make, should you proceed with making changes to your company's Toolbox.

To make a copy:

- 1) Open Windows Explorer
- 2) Locate your Toolbox folder (typically named "SolidWorks Data")
- 3) Copy that folder and all of its contents to a new location
- 4) Start SolidWorks and Open the **Tools – Options** dialog
- 5) Select Hole Wizard/Toolbox and browse to the folder that was created during the copy operation
- 6) Close the Tools – Options dialog

SolidWorks is now pointed at the copied Toolbox and it is now safe to proceed with this tutorial.

For more information about setting up Toolbox, refer to the PDF titled "Toolbox_Setup".

Important words from the author to the reader...

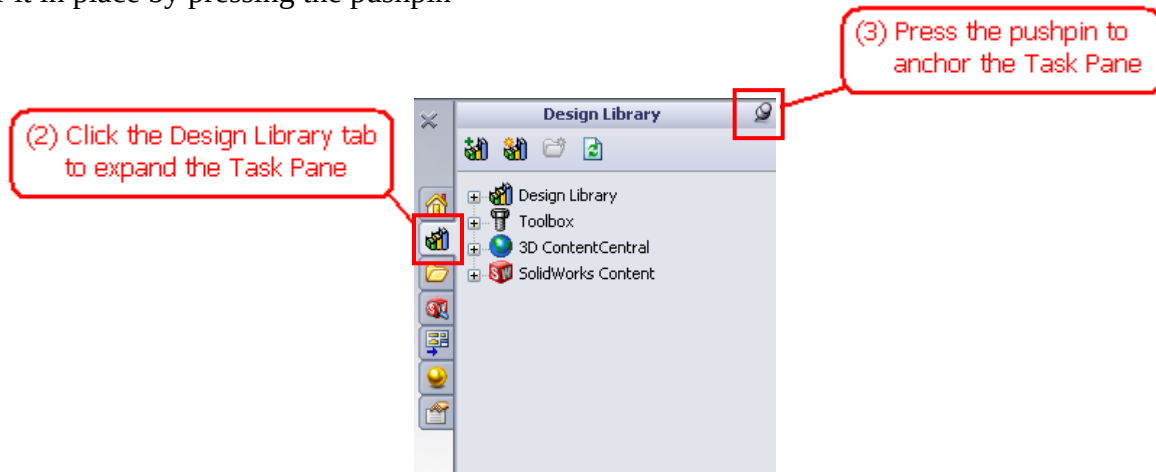
This tutorial was written as a guide to accompany the hands-on presentation I gave at SolidWorks World. It was written such that it could be a self contained document that exposes users to the possibilities available in Toolbox. What it doesn't contain, however, are the explanations I would provide before attendees would try each exercise. Because that data is missing, you may find that after completing this tutorial you are comfortable with "How" to do things in Toolbox, but lack the understanding of "Why" you might do certain things. If that is the case, please post a thread to the Toolbox discussion forum and I (as well as other members of the community) will try my best to answer those questions.

Exercise 1 – Customizing Content

- 1) Select **File, New...** - choose any assembly template and click 
 - a. Cancel the “Begin Assembly” PropertyManager (if it appears)

- 2) Expand the Design Library by clicking on its tab in the Task Pane 

- 3) Anchor it in place by pressing the pushpin

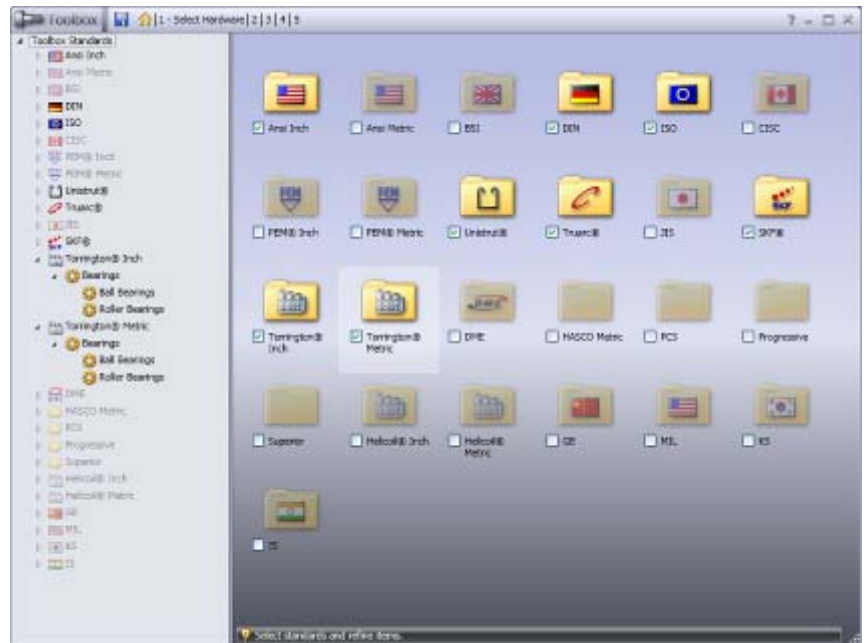


- 4) Select the Toolbox node in the upper portion of the Task Pane, then click “Add in now”
- 5) Select **Toolbox – Configure...** to open the Toolbox Setup Utility

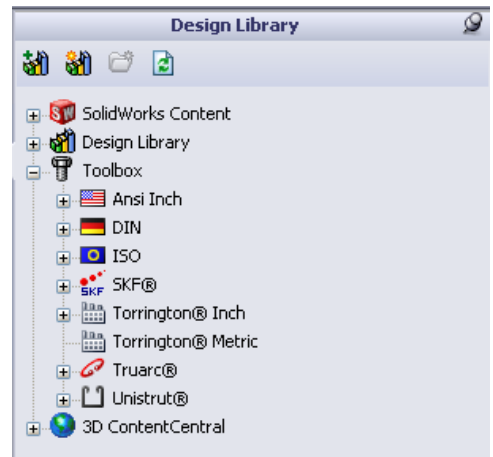


- 6) Select page 1 and disable all the standards except the following by clearing the checkmark to the left of their name:

- a. **ANSI Inch**
- b. **DIN**
- c. **ISO**
- d. **SKF**
- e. **Both Torrington Standards**
- f. **Truarc**
- g. **Unistrut**



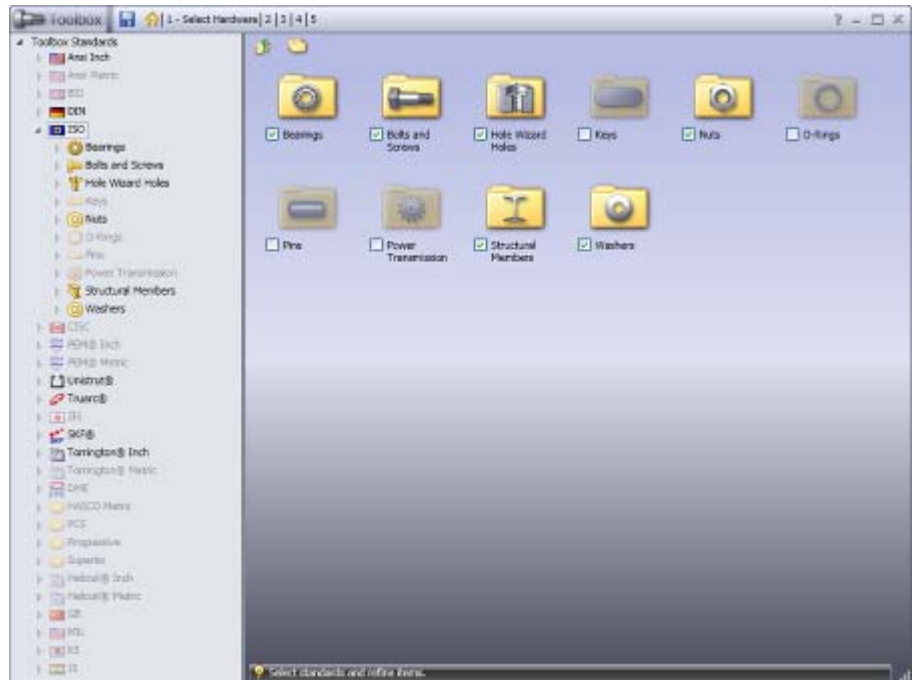
- 7) Click the **Save** button in the Toolbox Setup Utility and observe the updated Toolbox node in the Design Library



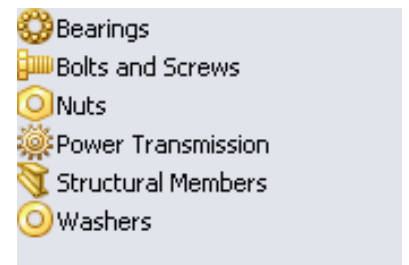
- 8) Select the **ISO** standard in the upper half of the Task Pane and observe the number of categories available in the lower half of the Task Pane



- 9) Expand the **ISO** standard and disable the following categories:
- Pins**
 - Power Transmission**
 - Keys**
 - O-rings**



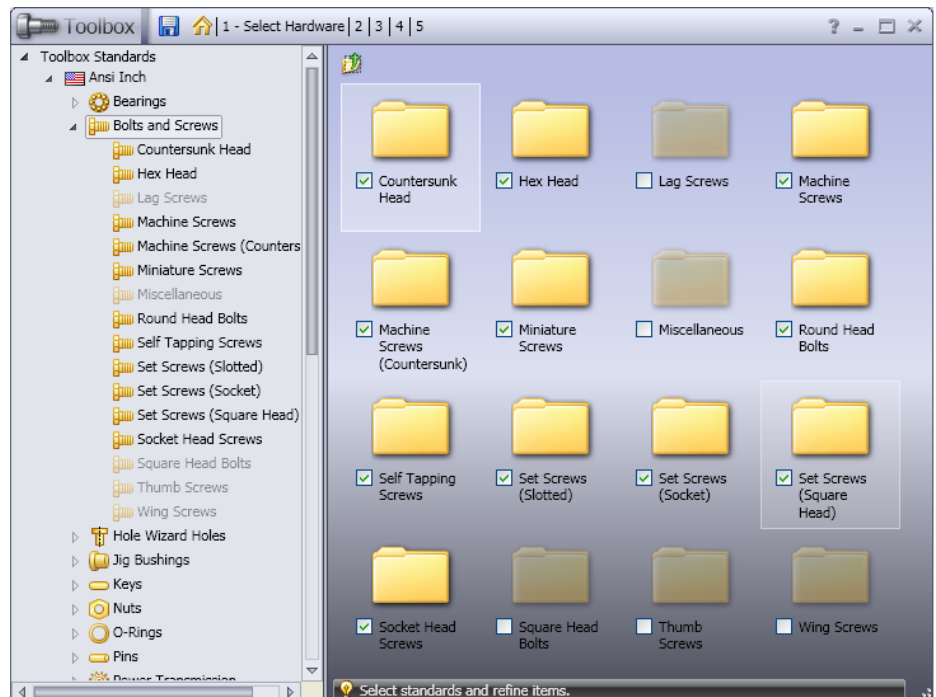
- 10) **Save** the Toolbox data and observe the updated list of categories in the Task Pane



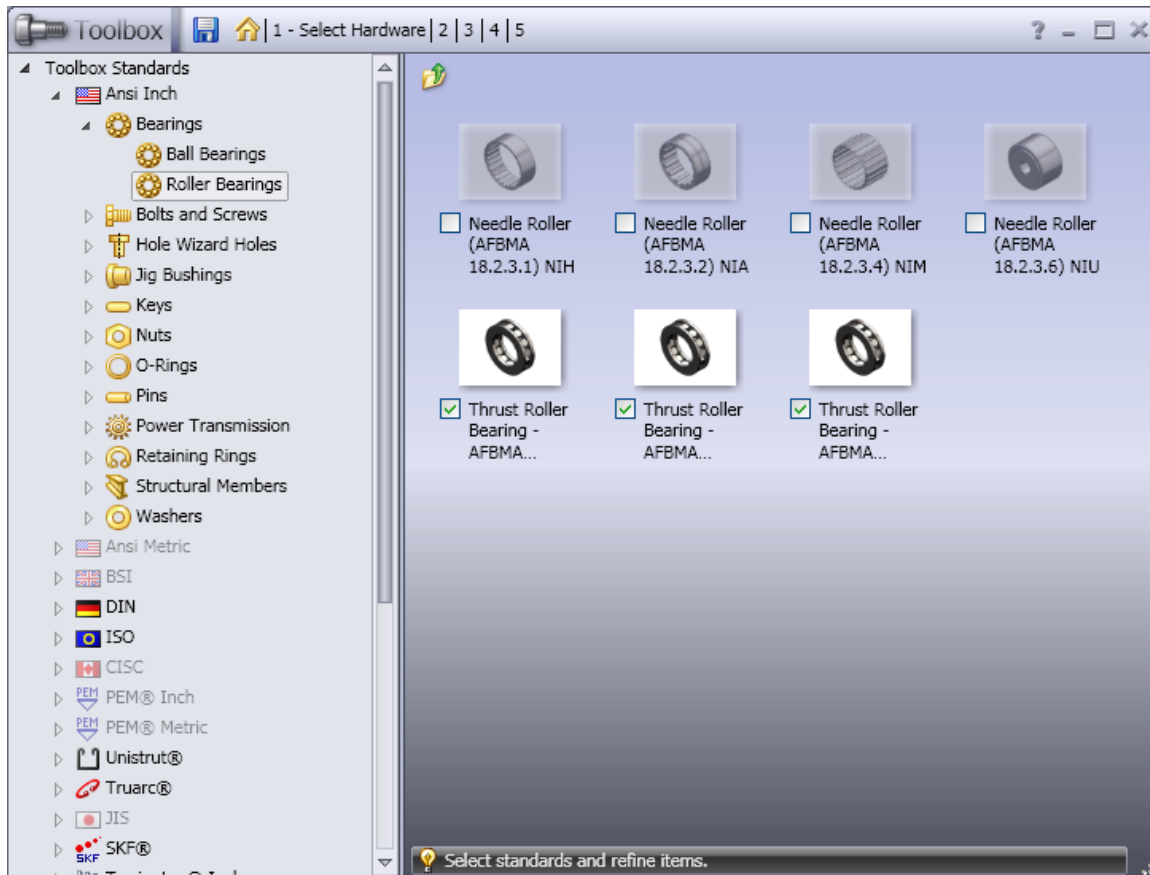
- 11) Select the **ANSI Inch – Bolts and Screws** category in the upper half of the Task Pane and observe the number of types available in the lower half of the Task Pane

- 12) Expand the **ANSI Inch – Bolts and Screws** category and disable the following types:

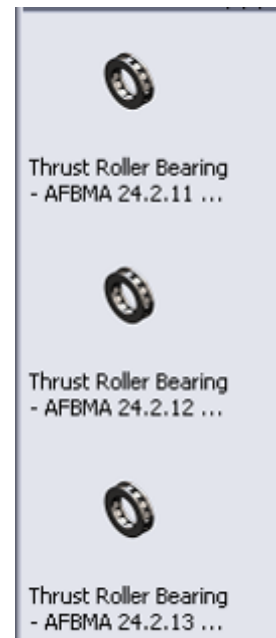
- Lag Screws**
- Miscellaneous**
- Square Head Bolts**
- Thumb Screws**
- Wing Screws**



- 13) **Save** the Toolbox data and observe the updated list of types in the lower half of the Task Pane
- 14) Select the **ANSI Inch – Bearings – Roller Bearings** type in the Task Pane and observe the number of items available in the lower half of the Task Pane.
- 15) Expand the **ANSI Inch – Bearings – Roller Bearings** type and disable all Needle Roller Bearings (4 total)



- 16) **Save** the Toolbox data and observe the updated list of items in the lower half of the Task Pane



17) Select Page 2 of the Toolbox Setup Utility

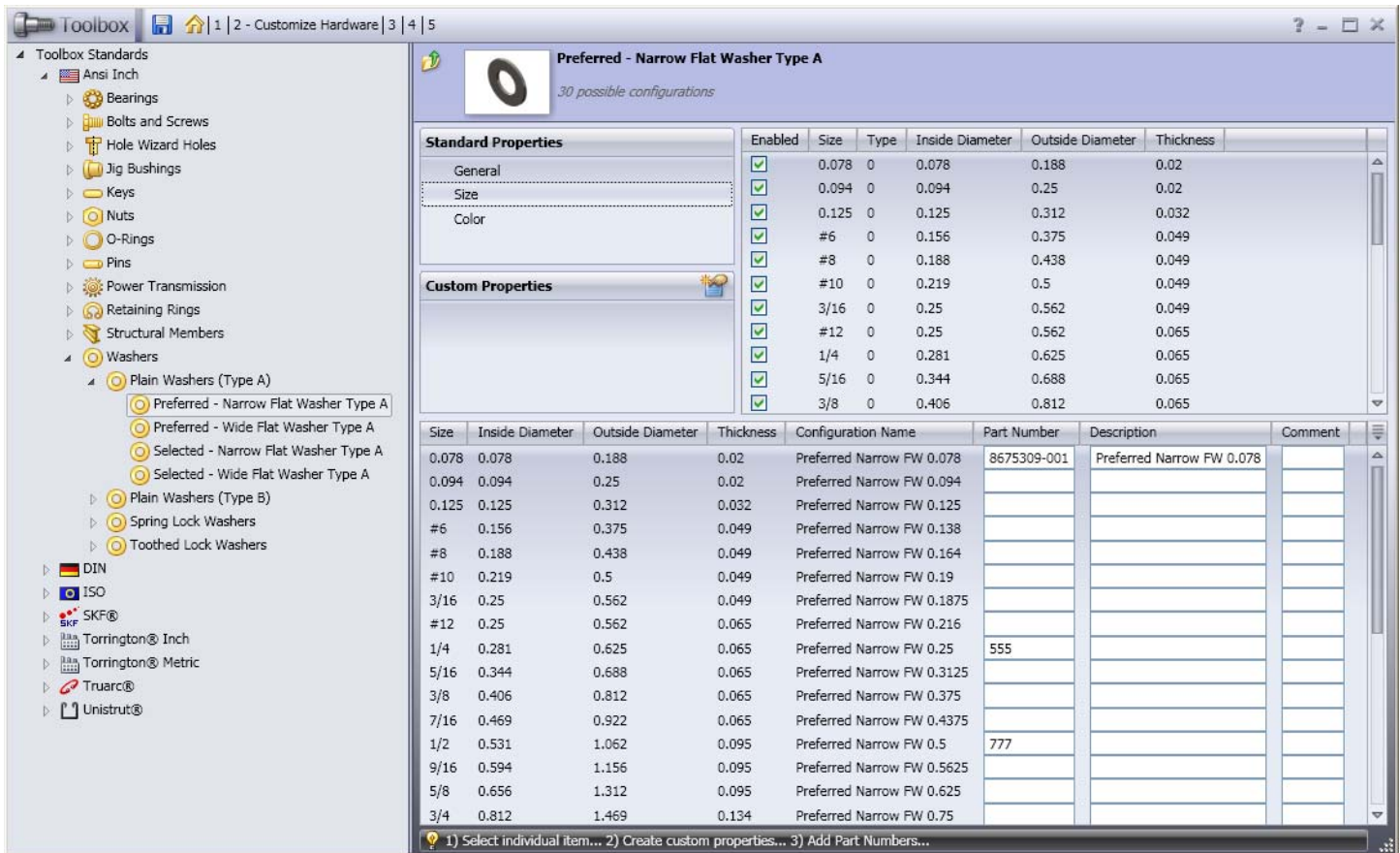
18) Navigate to the **ANSI Inch – Washers – Plain Washers (Type A) – Preferred – Narrow** item

19) Under Standard Properties select “Size”

20) Disable all sizes greater than 1” by clicking the checkmarks in front of the appropriate sizes

NOTE: To quickly select a range of sizes use Shift selection.

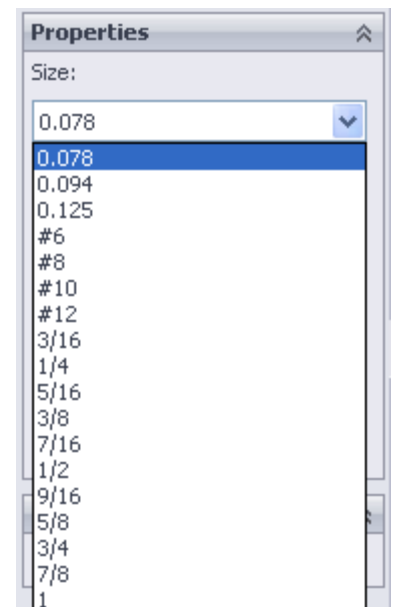
For example, select the checkbox for 1-1/8” then hold down SHIFT and select the checkbox for 3”



21) **Save** and close the Toolbox Setup Utility and drag the **ANSI Inch – Washers – Plain Washers (Type A) – Preferred - Narrow** from the Task Pane into the assembly.

22) Click the “Size” drop down in the Property Manager and notice that no sizes greater than 1” are available

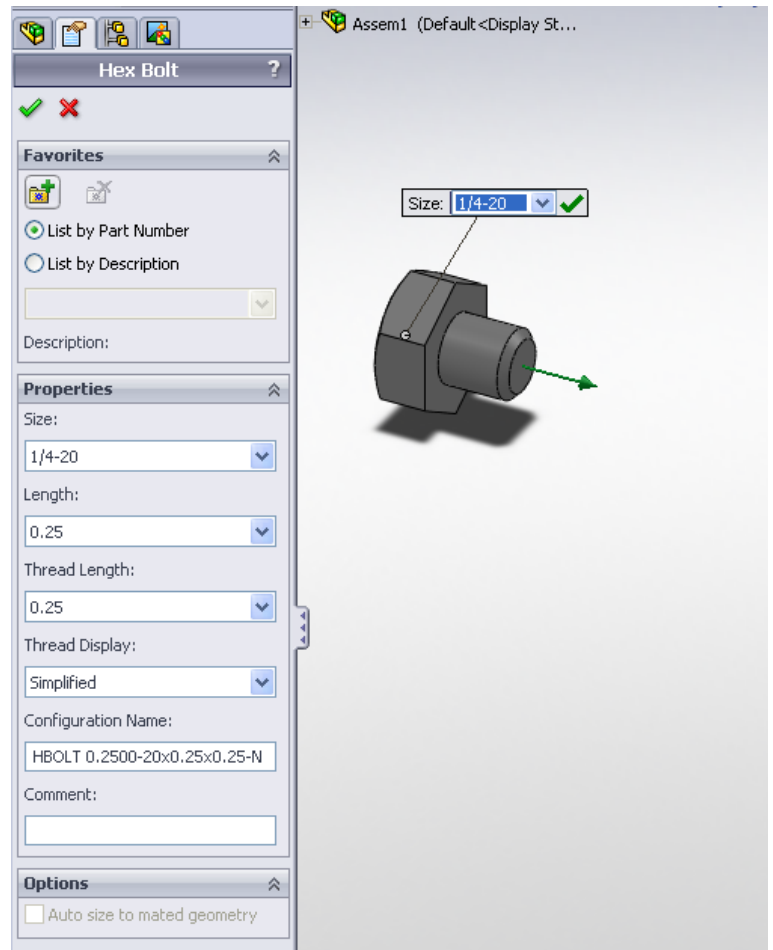
23) Click  in the Property Manager to cancel inserting the washer



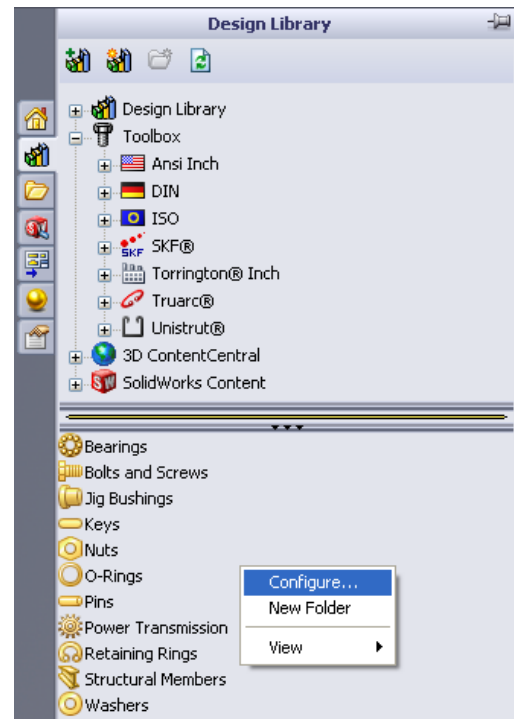
24) Drag the **ANSI Inch – Bolts and Screws – Hex Head – Hex Bolt** from the Task Pane into the assembly.

25) Select the **Size**, **Length** and **Thread Display** pull downs in the Property Manager to observe the various options available

26) Click  in the Property Manager to cancel inserting the bolt

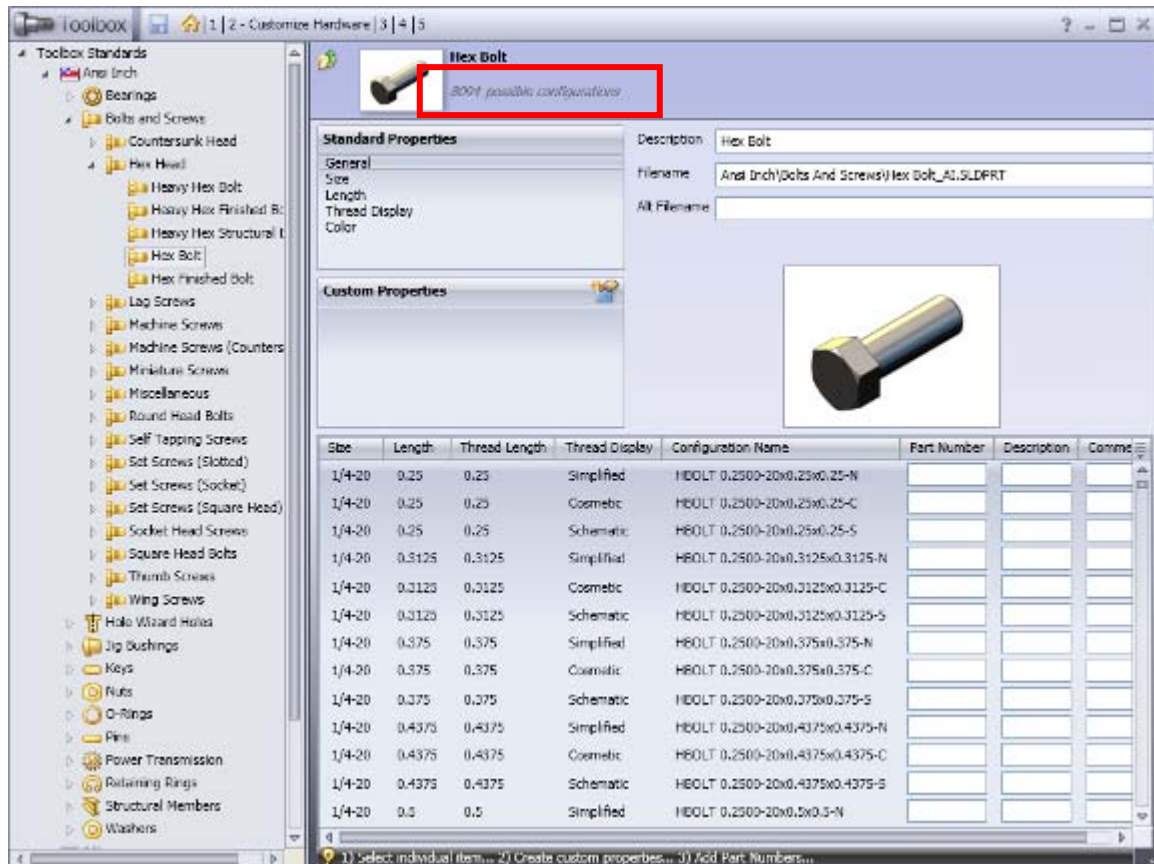


27) Right-click in the lower half of the Task Pane and choose **Configure...** from the shortcut menu to open the Toolbox Setup Utility again



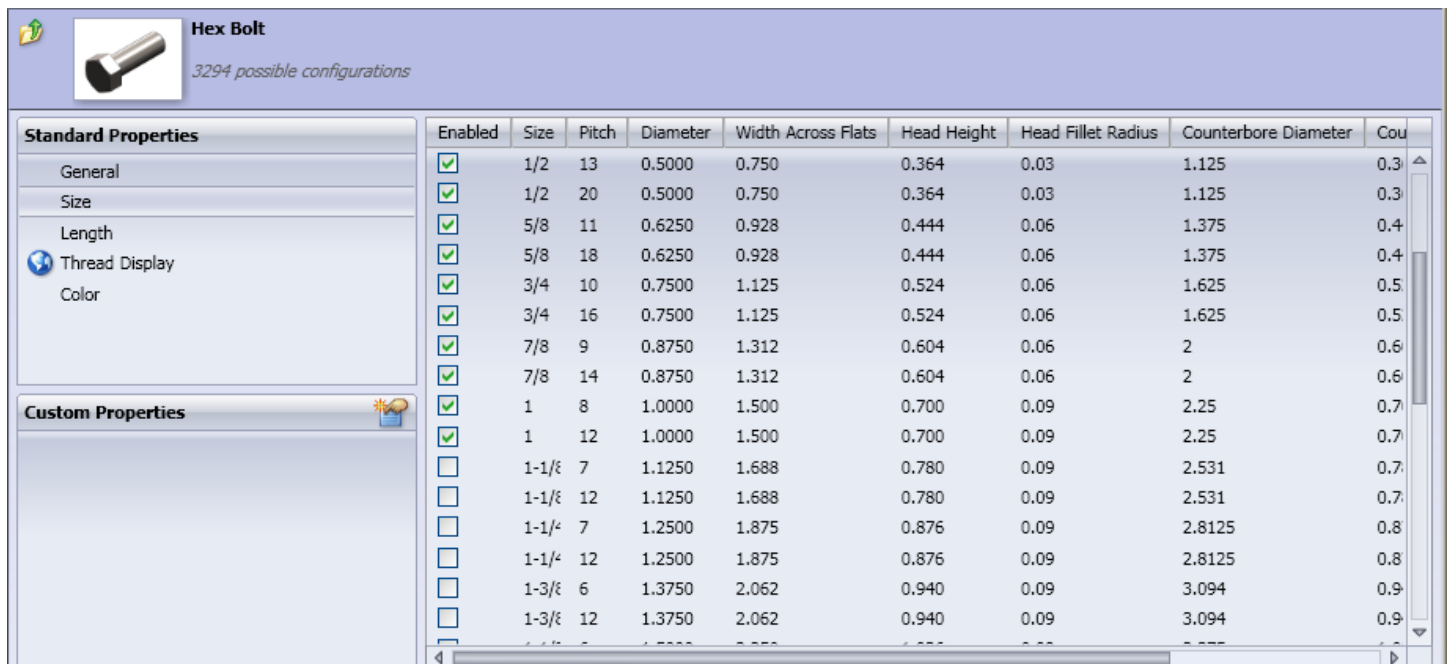
28) Select the “Customize Hardware” page, then select the **ANSI Inch – Bolts and Screws – Hex Head – Hex Bolt** item

29) Observe that there are over **8000** possible configurations!



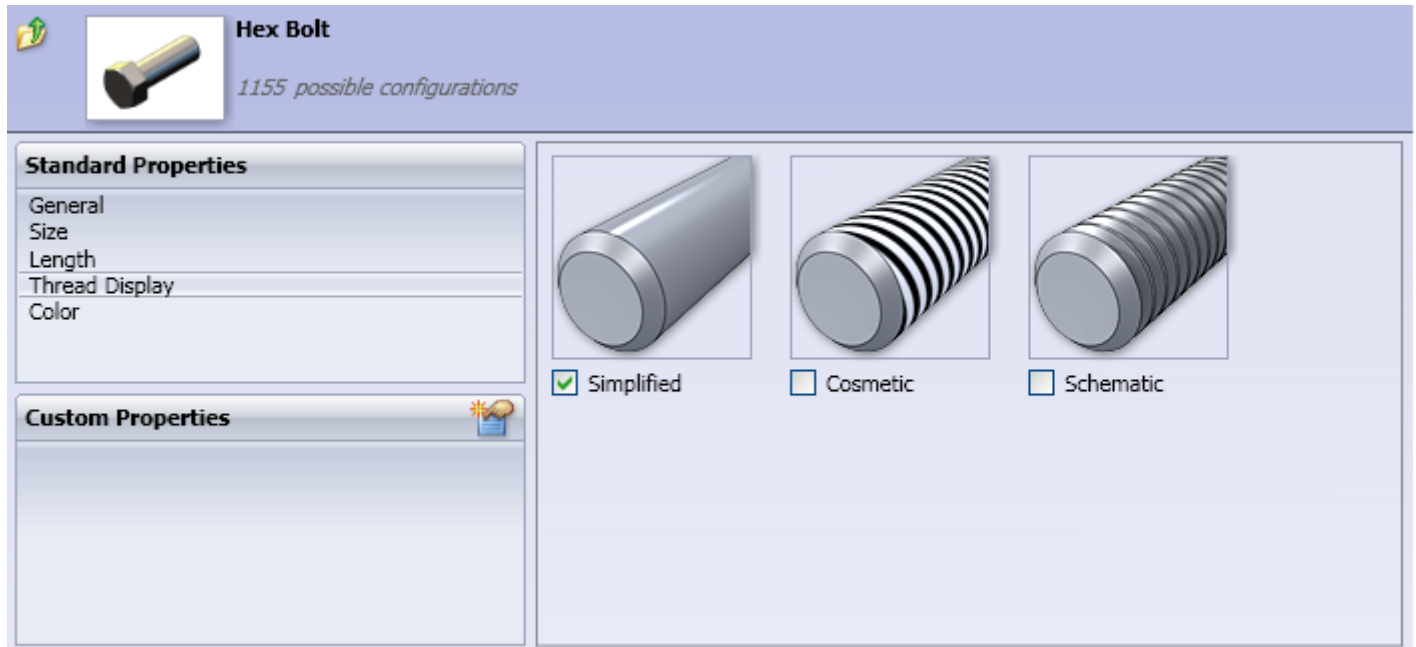
30) Activate the “Size” page and disable everything larger than 1”

31) Observe the change in the total number of configurations - just over **3000** possibilities now!



32) Activate the “Thread Display” page and disable all types except “Simplified”

*NOTE: “Thread Display” settings are **“global” across each standard** and will affect any threaded item*



33) Check the number of possible configurations again – only approximately **1000** possibilities now!

34) **Save** your settings and then close the Toolbox Setup Utility

35) Drag the **ANSI Inch – Bolts and Screws – Hex Head – Hex Bolt** from the Task Pane into the assembly

36) Select the **Size**, **Length** and **Thread Display** pull downs in the Property Manager and observe the effect of your settings.

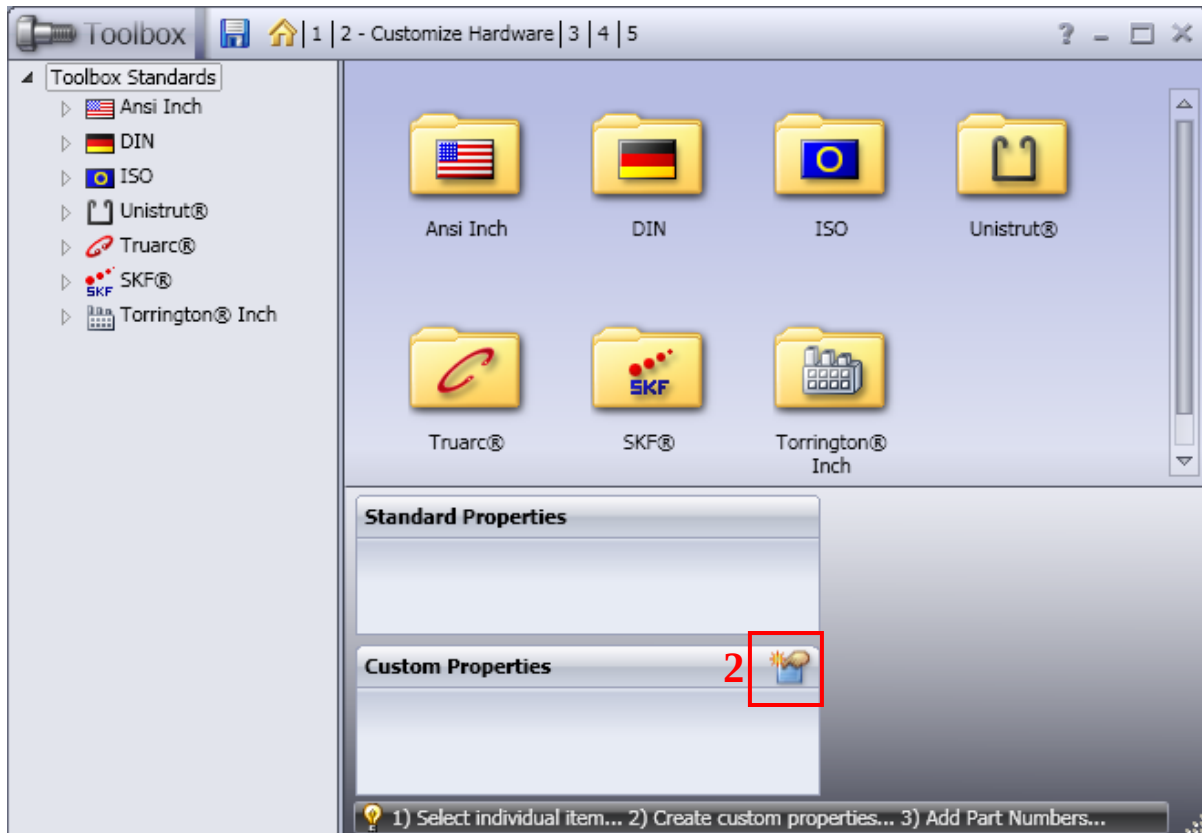
37) Click  in the Property Manager to cancel inserting the bolt



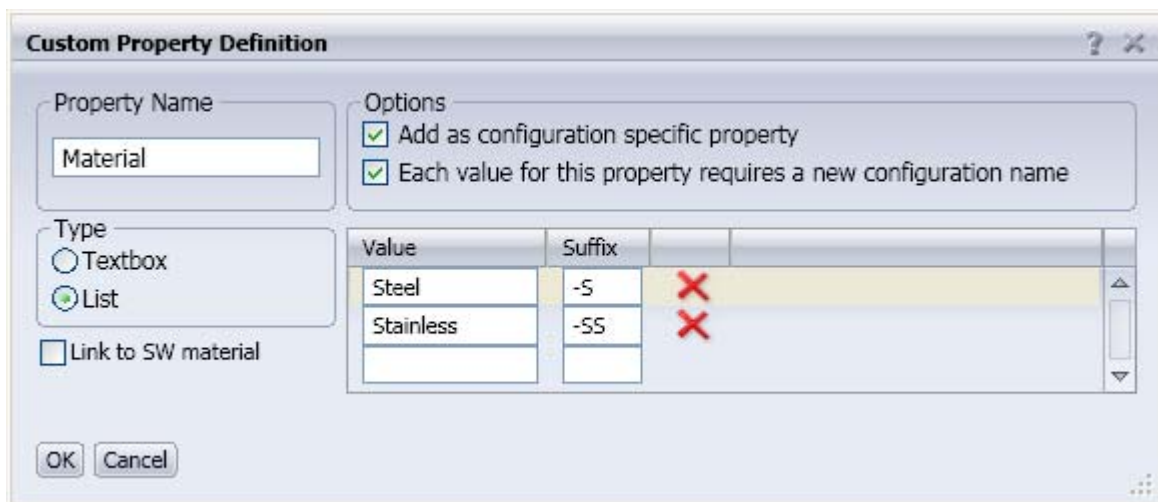
You have completed Exercise 1 !!!

Exercise 2 – Customizing Properties

- 1) Open the Toolbox Setup Utility and select Page 2 – Customize Hardware



- 2) Select the “Add new Custom Property” button 
- 3) In the Custom Property Definition dialog, type “Material” in the **Property Name** field and set the **Type** to “List”, then enable these options:
 - a. “Add as configuration specific property”
 - b. “Each value for this property requires a new configuration name”
- 4) Fill out the **Choice List Definition** table to match the image below



5) Click **OK** to complete the creation of the custom property – it will now appear in the Custom Properties list

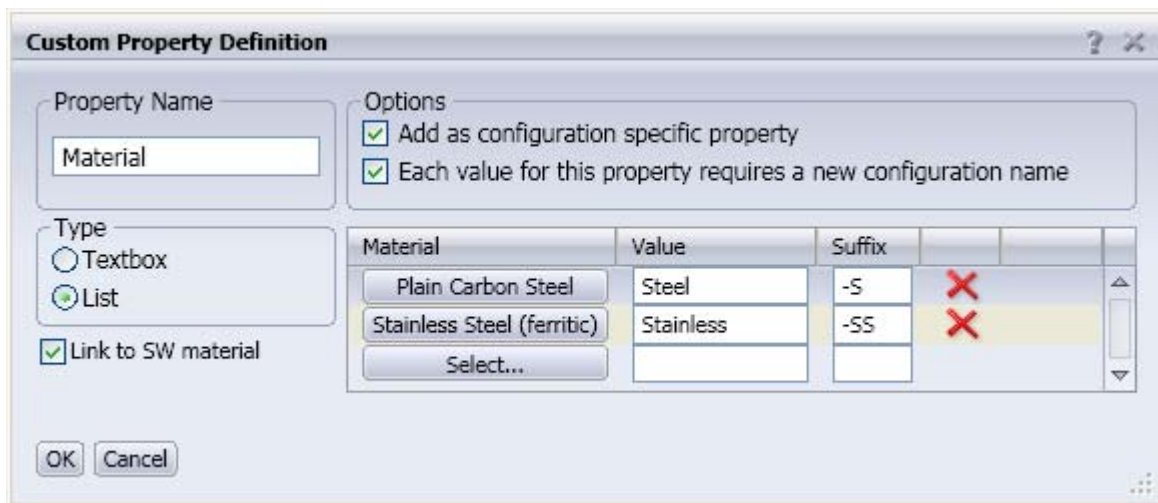


6) Select **ISO** from the tree on the left, then check the box next to “Material” to enable the property for this standard

7) Look at the “All configurations” table for any item in the **ISO** standard and notice that there is now two rows for each size – one for “Steel” and one for “Stainless”

8) Click the “Modify Custom Property” button 

9) Enable the “Link to SW Material” option and select the specific materials shown below



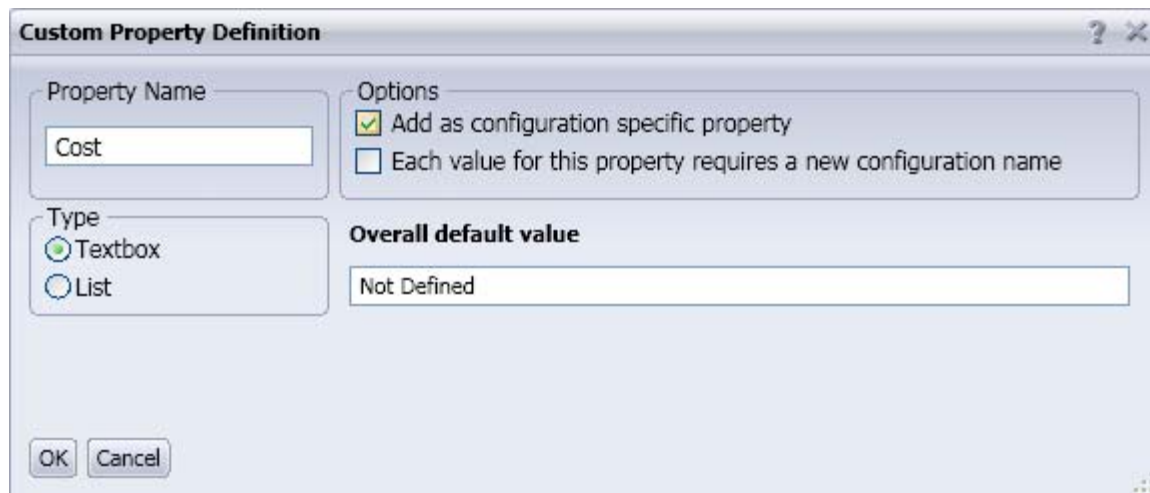
10) Click **OK** to complete editing the property then **Save** your changes.

11) Drag any item from the **ISO** standard into the assembly and change the “Material” selection. Notice that the visual qualities of the model change as you select Steel vs. Stainless Steel.

12) Click  in the Property Manager to cancel inserting the item.

13) In the Toolbox Setup Utility, select the “Add new Custom Property” button  and type “Cost” in the **Property Name** field

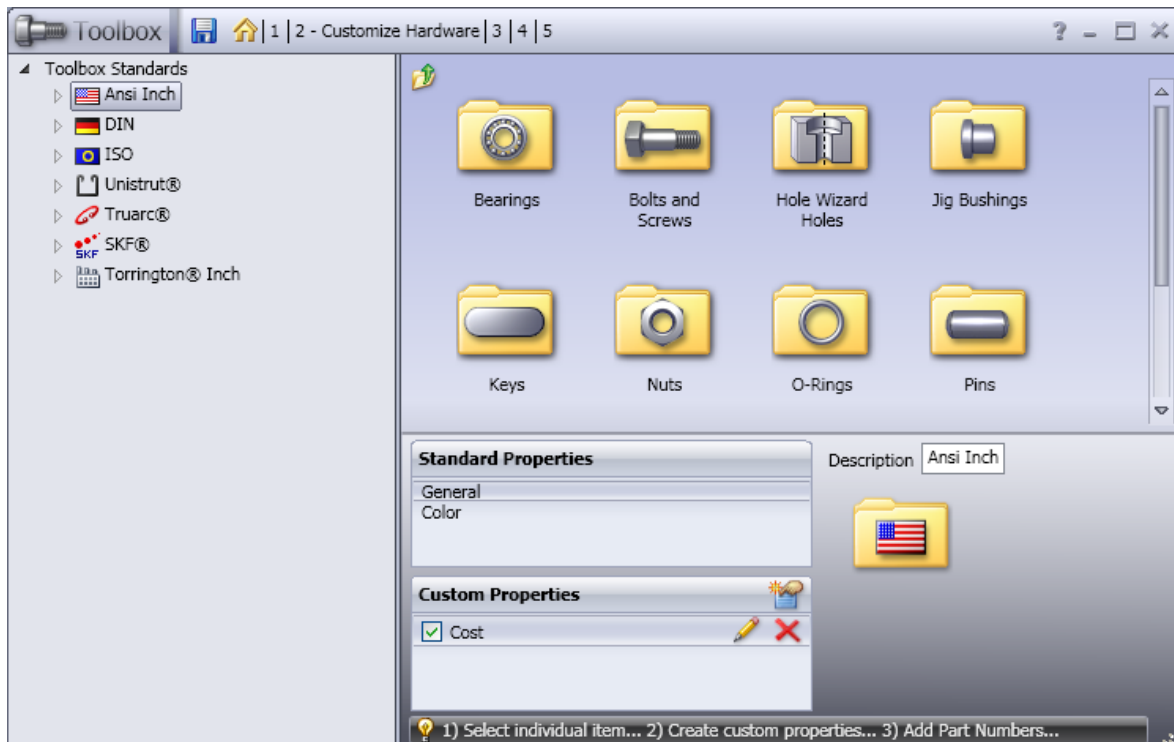
14) Set the **Type** to “Textbox”, then type “Not Defined” in the **Overall default value** field
a. Make sure the options are checked to match those below



15) Click **OK** to complete the creation of the custom property

16) Apply this property to the following standards by selecting the standard in the tree on the left then checking the box for “Cost” in the Custom Properties list

- a. **ANSI Inch**
- b. **DIN**
- c. **ISO**



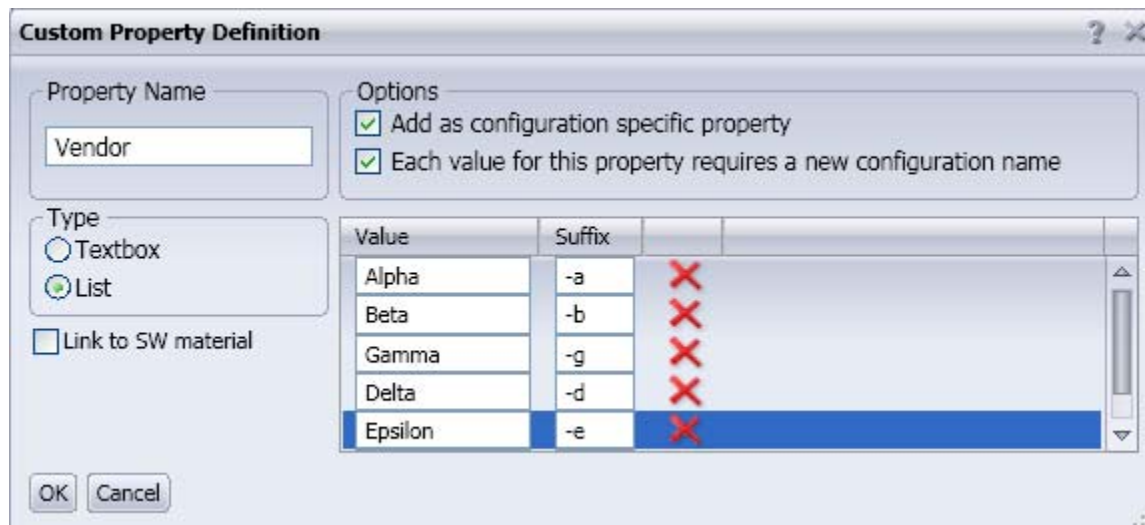
17) Create a third property with these characteristics:

- a. **Property Name** = “Vendor”
- b. **Type** = “List”

18) Enable these options:

- a. **“Add as configuration specific property”**
- b. **“Each value for this property requires a new configuration name”**

19) Fill out the **Choice List Definition** table to match the image below



Custom Property Definition

Property Name:

Type: ☐ Textbox ☒ List

☐ Link to SW material

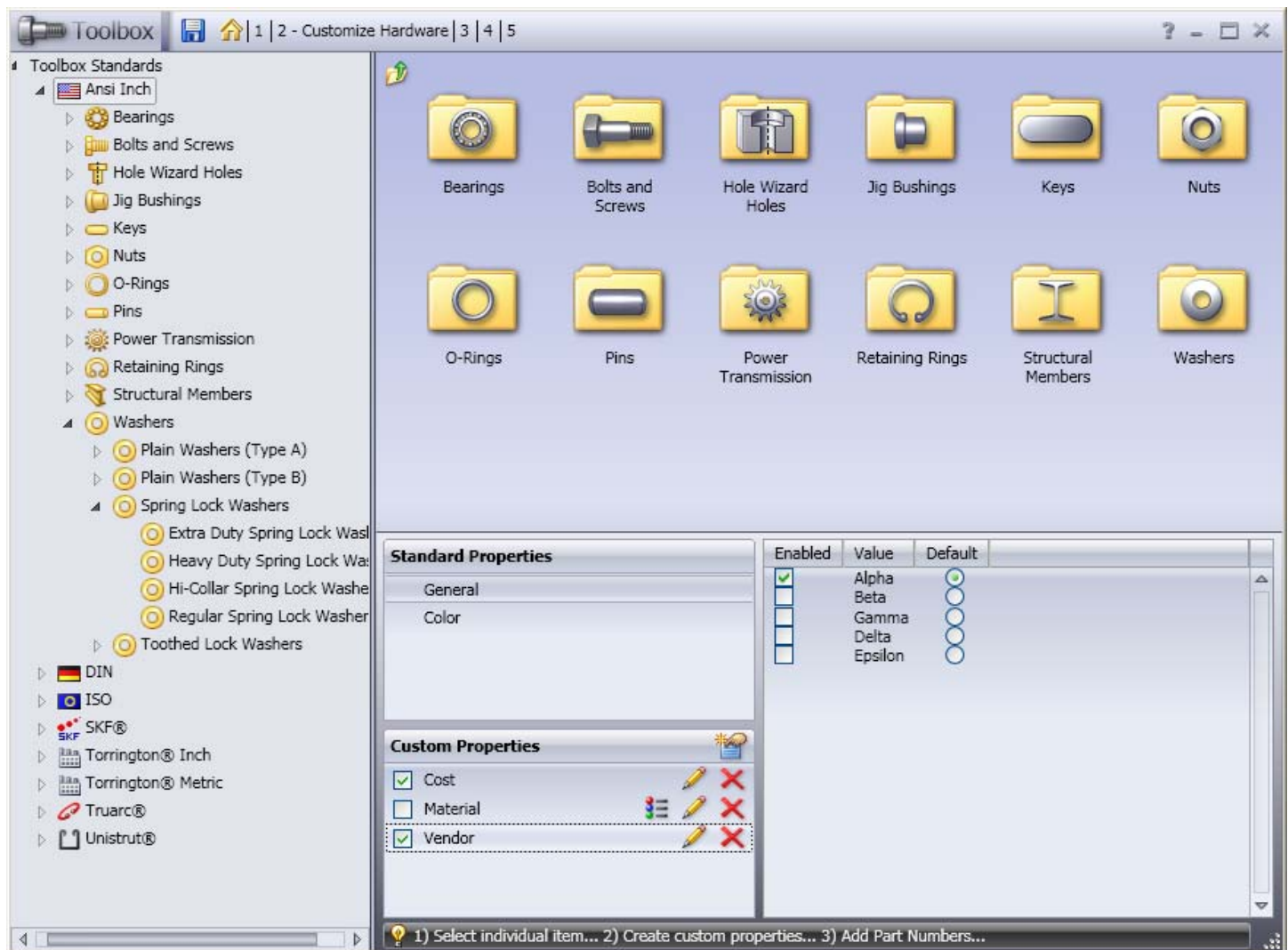
Options:

- ☒ Add as configuration specific property
- ☒ Each value for this property requires a new configuration name

Value	Suffix	
Alpha	-a	✗
Beta	-b	✗
Gamma	-g	✗
Delta	-d	✗
Epsilon	-e	✗

OK Cancel

20) Apply the “Vendor” property to **ANSI Inch** and disable the Beta, Gamma, Delta and Epsilon items



Toolbox Standards

- ANSI Inch
 - Bearings
 - Bolts and Screws
 - Hole Wizard Holes
 - Jig Bushings
 - Keys
 - Nuts
 - O-Rings
 - Pins
 - Power Transmission
 - Retaining Rings
 - Structural Members
 - Washers
 - Plain Washers (Type A)
 - Plain Washers (Type B)
 - Spring Lock Washers
 - Extra Duty Spring Lock Washer
 - Heavy Duty Spring Lock Washer
 - Hi-Collar Spring Lock Washer
 - Regular Spring Lock Washer
 - Toothed Lock Washers

- DIN
- ISO
- SKF®
- Torrington® Inch
- Torrington® Metric
- Truarc®
- Unistrut®

Standard Properties

Enabled	Value	Default
☒	Alpha	☒
☐	Beta	☐
☐	Gamma	☐
☐	Delta	☐
☐	Epsilon	☐

Custom Properties

- ☒ Cost
- ☐ Material
- ☒ Vendor

1) Select individual item... 2) Create custom properties... 3) Add Part Numbers...

21) Apply the “Vendor” property to **DIN**, disable the Delta and Epsilon items and set Beta to be the default

22) Apply the “Vendor” property to **ISO**, disable the Alpha and Beta items and set Delta to be the default

23) **Save** and close the Toolbox Setup Utility

24) Drag the **ANSI Inch – Washers – Plain Washers (Type B) – Wide Flat Washer** into the assembly

Notice that Alpha is the default vendor and only Alpha is available as an option

25) Click  in the Property Manager to cancel inserting the washer

26) Drag the **DIN – Retaining Rings – External – Circlip normal DIN 471** into the assembly

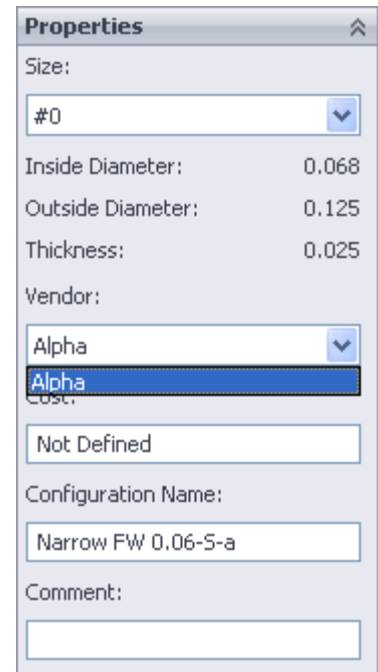
Notice that Beta is the default vendor and only Alpha, Beta and Gamma are available options

27) Click  in the Property Manager to cancel inserting the circlip

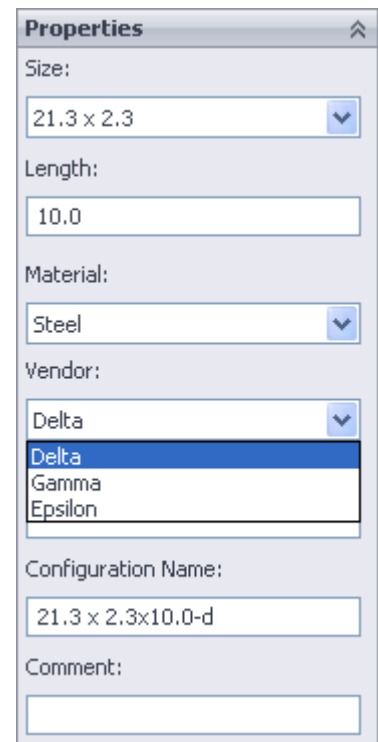
28) Drag the **ISO – Structural Members – Steel – Circular Tube** into the assembly

Notice that Delta is the default vendor and only Delta, Gamma and Epsilon are available options

29) Click  in the Property Manager to cancel inserting the tube



Properties	
Size:	#0
Inside Diameter:	0.068
Outside Diameter:	0.125
Thickness:	0.025
Vendor:	Alpha
Configuration Name:	Narrow FW 0.06-S-a
Comment:	



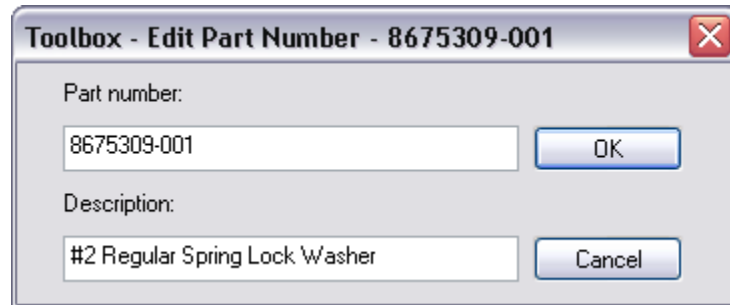
Properties	
Size:	21.3 x 2.3
Length:	10.0
Material:	Steel
Vendor:	Delta
Configuration Name:	21.3 x 2.3x10.0-d
Comment:	



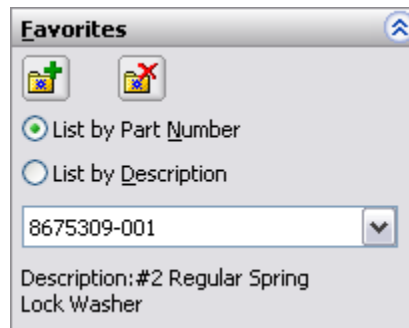
You have completed Exercise 2 !!!

Exercise 3 – Part Numbers

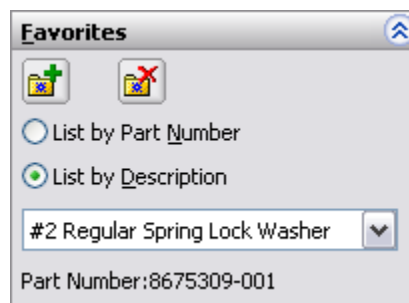
- 1) Drag **ANSI Inch – Washers – Spring Lock Washers – Regular Spring Lock Washer** into the assembly
- 2) Click the Add/Update button  in the Favorites group box
- 3) Enter “**8675309-001**” as the Part number and “**# 2 Regular Spring Lock Washer**” as the Description



- 4) Click “OK”
Notice that the Part Number and Description are listed in the Favorites group box



- 5) Change the “Size” to **1/4**
Notice that the Part Number pull down shows no number (since one is not yet assigned)
- 6) Select the “**List by Description**” option in the Favorites group box
- 7) Pick the “**#2 Regular Spring Lock Washer**” from the pull down list
Notice that the Properties group box is updated with the appropriate settings



- 8) Click OK  in the Property Manager to insert the washer into the assembly

9) Click Cancel  in the Insert Components PropertyManager

10) Open the Toolbox Setup Utility

11) On page 2 – Customize Hardware- navigate to **ANSI Inch – Washers – Spring Lock Washers – Regular Spring Lock Washer**

Notice that the “All Configurations” table shows the Part Number and Description you just entered in the PropertyManager

Size	Inside Diameter	Outside Diameter	Thickness	Material	Vendor	Configuration Name	Part Number	Description	Comment
#2	0.094	0.172	0.02	Steel	Alpha	Regular LW 0.086-S-a	8675309-001	#2 Regular Spring Lock Washer	
#2	0.094	0.172	0.02	Stainless	Alpha	Regular LW 0.086-SS-a			
#3	0.107	0.195	0.025	Steel	Alpha	Regular LW 0.099-S-a			
#3	0.107	0.195	0.025	Stainless	Alpha	Regular LW 0.099-SS-a			
#4	0.12	0.209	0.025	Steel	Alpha	Regular LW 0.112-S-a			
#4	0.12	0.209	0.025	Stainless	Alpha	Regular LW 0.112-SS-a			

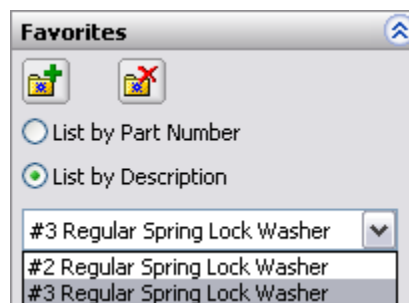
12) Fill out the Part Number and Description for the **LW 0.099-a** configuration as shown below

Size	Inside Diameter	Outside Diameter	Thickness	Vendor	Configuration Name	Part Number	Description
#2	0.094	0.172	0.02	alpha	Regular LW 0.086-a	8675309-001	#2 Regular Spring Lock Washer
#3	0.107	0.195	0.025	alpha	Regular LW 0.099-a	8675309-002	#3 Regular Spring Lock Washer
#4	0.12	0.209	0.025	alpha	Regular LW 0.112-a		

13) **Save** your settings

14) Drag the **Regular Spring Lock Washer** into the assembly again

15) Select the **#3 Regular Spring Lock Washer** from the Favorites pull down then click OK 



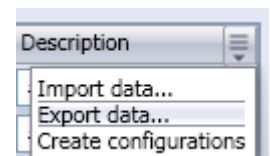
16) Click Cancel  in the Insert Components Property Manager

17) Go back to the “All configurations” tab of the **ANSI Inch – Washers – Spring Lock Washers – Regular Spring Lock Washer** again

18) Using the button in the upper right corner of the table, select “Export data”

19) **Save** the Excel spreadsheet to the Desktop as **AI_Regular Spring Lock Washer.xls**

20) Start Excel and open the **RegSpringLW.xls** file



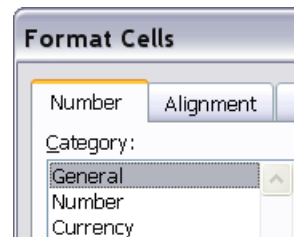
21) Drag-select the two cells containing the Part Numbers you've already entered (cells **G5** and **G6**)

22) Drag the fill handle (the black square in the lower-right corner of a cell) down to the 1-1/2" size (cell **G33**)

	A	B	C	D	E	F	G	H	I
1	Fastener Name	Regular Spring Lock Washer							
2	Fastener ID	LWS4_AI_WASHERS_PN							
3									
4	Size	Inside Diameter	Outside Diameter	Thickness	Vendor	Configuration Name	Part Number	Part Description	Comment
5	#2	0.094	0.172	0.02	Beta	LW 0.086-a	8675309-001	#2 Regular Spring Lock Washer	
6	#3	0.107	0.195	0.025	Beta	LW 0.099-a	8675309-002	#3 Regular Spring Lock Washer	
7	#4	0.12	0.209	0.025	Beta	LW 0.112-a			
8	#5	0.133	0.236	0.031	Beta	LW 0.125-a			
9									
32	1-7/16	1.462	2.314	0.359	Beta	LW 1.4375-b			
33	1-1/2	1.524	2.409	0.375	Beta	LW 1.5-a			
34									
35								8675309-029	

23) Select column H, then Click **Format – Cells...**
(or **Ctrl+1** on your keyboard)

24) Change the Category to **“General”**



25) Type the following into the cell beneath the **#3 Regular Spring Lock Washer** description (cell **H7**)
Be sure to use an equal sign at the beginning of the equation and a space between the quote and Regular

=CONCATENATE(A8, “ Regular Spring Lock Washer”)

	A	B	C	D	E	F	G	H	I
1	Fastener Name	Regular Spring Lock Washer							
2	Fastener ID	LWS4_AI_WASHERS_PN							
3									
4	Size	Inside Diameter	Outside Diameter	Thickness	Vendor	Configuration Name	Part Number	Part Description	Comment
5	#2	0.094	0.172	0.02	alpha	LW 0.086-a	8675309-001	#2 Regular Spring Lock Washer	
6	#3	0.107	0.195	0.025	alpha	LW 0.099-a	8675309-002	#3 Regular Spring Lock Washer	
7	#4	0.12	0.209	0.025	alpha	LW 0.112-a	8675309-003	=CONCATENATE(A7, " Regular Spring Lock Washer")	
8	#5	0.133	0.236	0.031	alpha	LW 0.125-a	8675309-004		

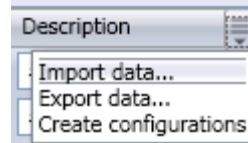
26) Press **Enter** and see that the Description reads **#4 Regular Spring Lock Washer**

27) Select cell **H7** again and drag the fill handle to cell **H33**, automatically filling out all descriptions

	A	B	C	D	E	F	G	H
1	Fastener Name	Regular Spring Lock Washer						
2	Fastener ID	LWS4_AI_WASHERS_PN						
3								
4	Size	Inside Diameter	Outside Diameter	Thickness	Vendor	Configuration Name	Part Number	Part Description
5	#2	0.094	0.172	0.02	Beta	LW 0.086-b	8675309-001	#2 Regular Spring Lock Washer
6	#3	0.107	0.195	0.025	Beta	LW 0.099-b	8675309-002	#3 Regular Spring Lock Washer
7	#4	0.12	0.209	0.025	Beta	LW 0.112-b	8675309-003	#4 Regular Spring Lock Washer
8	#5	0.133	0.236	0.031	Beta	LW 0.125-b	8675309-004	#5 Regular Spring Lock Washer
9								
30	1-3/16	1.355	2.124	0.320	Beta	LW 1.3125-b	8675309-026	1-3/16 Regular Spring Lock Washer
31	1-3/8	1.399	2.21	0.344	Beta	LW 1.375-b	8675309-027	1-3/8 Regular Spring Lock Washer
32	1-7/16	1.462	2.314	0.359	Beta	LW 1.4375-b	8675309-028	1-7/16 Regular Spring Lock Washer
33	1-1/2	1.524	2.409	0.375	Beta	LW 1.5-b	8675309-029	1-1/2 Regular Spring Lock Washer

28) **Save** and close the Excel document

29) In the Toolbox Setup Utility select “Import data”



30) Select the **RegSpringLW.xls** file

31) Press Open

Notice that the Part Numbers and Descriptions are imported into the All Configurations table

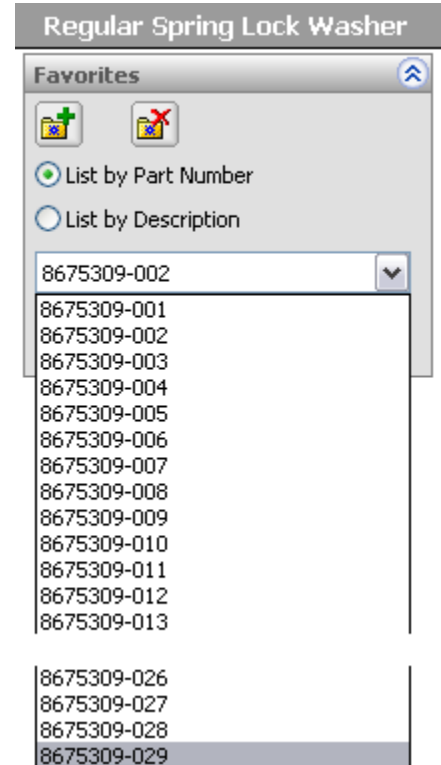
32) **Save** the Toolbox data

33) Drag the **Regular Spring Lock Washer** into the assembly again

34) Click the pull down in the Favorites group box

35) Observe the Part Numbers and Descriptions you just entered

36) Click Cancel  in the Property Manager

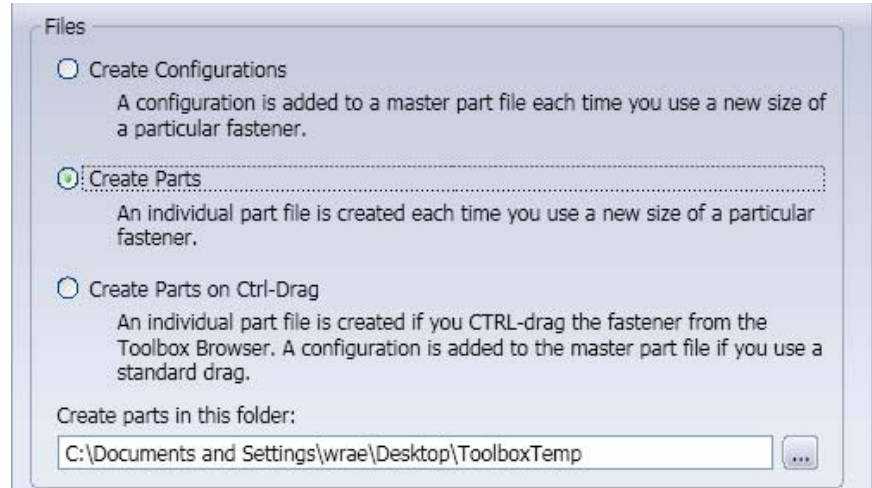


You have completed Exercise 3 !!!

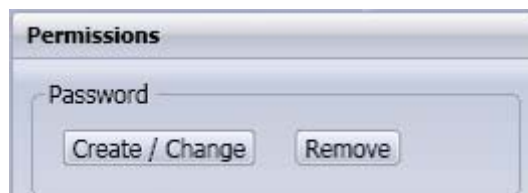
Exercise 4 – Settings

- 1) Minimize SolidWorks
- 2) Create a folder on your desktop named **ToolboxTemp**
- 3) Open the Toolbox Setup Utility
- 4) Select page 3 – User Settings
- 5) Select the **Create Parts** option

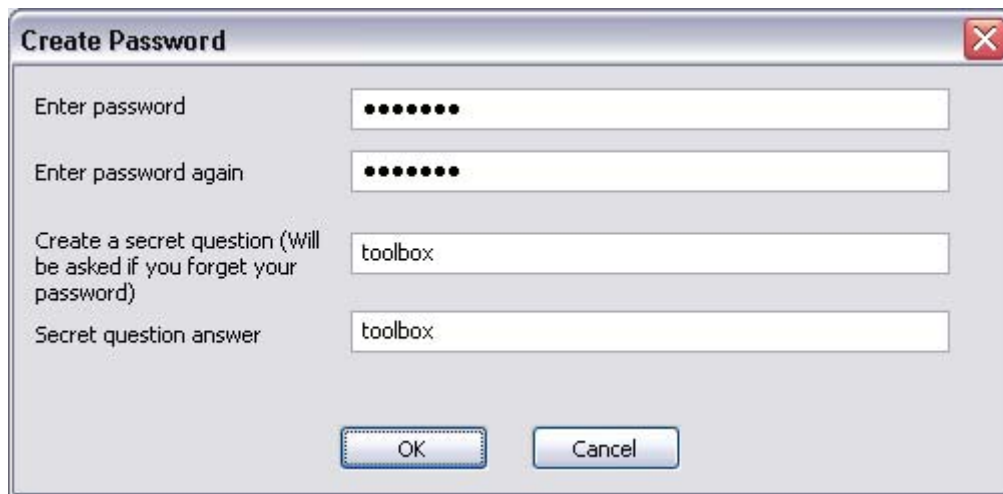
- 6) Use the ellipsis  to browse to the **ToolboxTemp** folder you just created
Your path should look like this (with the exception of the username)



- 7) **Save** the Toolbox data
- 8) Drag the **Regular Spring Lock Washer** into the assembly again
*Notice that the text box towards the bottom of the Property Manager is now labeled **File Name***
- 9) Select the **1/4 Regular Spring Lock Washer** from the Favorites pull down
- 10) Click OK  to insert the washer into the assembly
- 11) Click Cancel  in the Insert Components Property Manager
- 12) Open the **ToolboxTemp** folder and observe that a file named **LW 0.25-a.sldprt** was created.
- 13) Open the Toolbox Setup Utility and select page 4 - Permissions
- 14) Click the Create/Change button in the User Access Control



15) Type the word “toolbox” in all four fields

A dialog box titled "Create Password" with a close button (X) in the top right corner. It contains four text input fields. The first two fields are labeled "Enter password" and "Enter password again", both containing seven black dots. The third field is labeled "Create a secret question (Will be asked if you forget your password)" and contains the text "toolbox". The fourth field is labeled "Secret question answer" and also contains the text "toolbox". At the bottom, there are two buttons: "OK" and "Cancel".

Create Password

Enter password

Enter password again

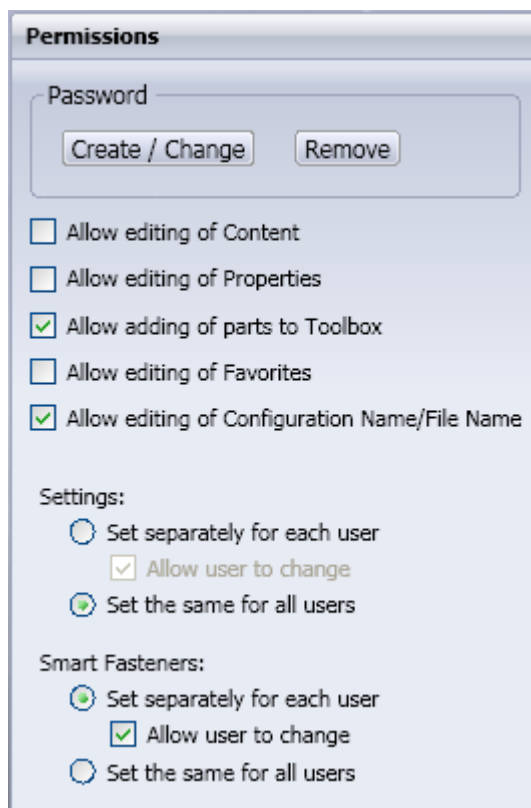
Create a secret question (Will be asked if you forget your password)

Secret question answer

OK Cancel

16) Click **OK** and observe that the **User Access Control** options are now available

17) Set the options to match the following image

A dialog box titled "Permissions" with a close button (X) in the top right corner. It has a "Password" section with "Create / Change" and "Remove" buttons. Below this are five checkboxes: "Allow editing of Content", "Allow editing of Properties", "Allow adding of parts to Toolbox" (checked), "Allow editing of Favorites", and "Allow editing of Configuration Name/File Name" (checked). The "Settings:" section has two radio buttons: "Set separately for each user" (selected) and "Set the same for all users". Under "Set separately for each user" is a checked checkbox "Allow user to change". The "Smart Fasteners:" section has two radio buttons: "Set separately for each user" (selected) and "Set the same for all users". Under "Set separately for each user" is a checked checkbox "Allow user to change".

Permissions

Password

Create / Change Remove

☐ Allow editing of Content

☐ Allow editing of Properties

☒ Allow adding of parts to Toolbox

☐ Allow editing of Favorites

☒ Allow editing of Configuration Name/File Name

Settings:

☐ Set separately for each user

☒ Allow user to change

☒ Set the same for all users

Smart Fasteners:

☒ Set separately for each user

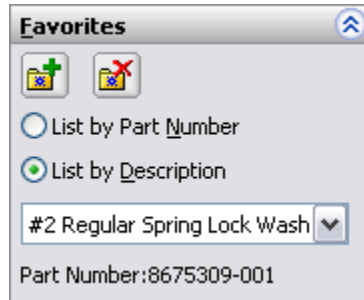
☒ Allow user to change

☐ Set the same for all users

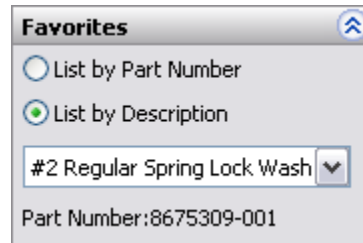
18) **Save** and close the Toolbox Setup Utility

19) Drag **Regular Spring Lock Washer** into the assembly again

Notice that the Add/Update and Delete buttons have been removed from the Favorites group box



Before



After

20) Click  in the Property Manager to cancel inserting the washer

21) Open the Toolbox Setup Utility

22) Notice that most of the options are grayed out to show that they cannot be changed



23) Click “Please Login”

24) Enter “toolbox” and click OK

25) On page 4 – Permissions – uncheck the **Allow editing of Configuration/File Name** option

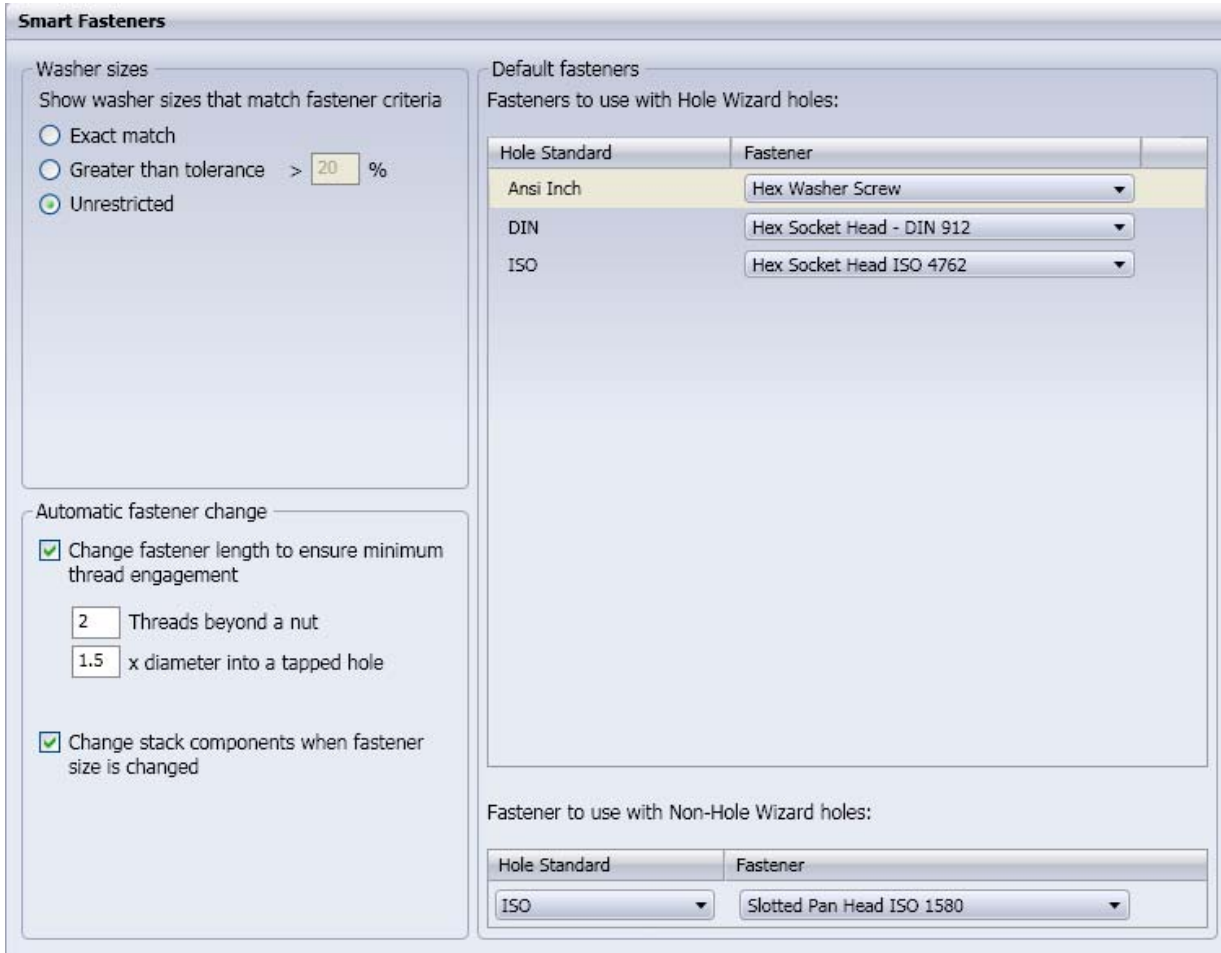
26) **Save** and close the Toolbox Setup Utility



You have completed Exercise 4 !!!

Exercise 5 – Smart Fasteners

- 1) Open the Toolbox Setup Utility
- 2) Open page 5 – Smart Fasteners
- 3) Make sure the “Washer sizes” and “Automatic fastener change” options to match the image below



Smart Fasteners

Washer sizes
Show washer sizes that match fastener criteria

☐ Exact match
☐ Greater than tolerance > 20 %
☒ Unrestricted

Automatic fastener change

☒ Change fastener length to ensure minimum thread engagement

2 Threads beyond a nut
1.5 x diameter into a tapped hole

☒ Change stack components when fastener size is changed

Default fasteners
Fasteners to use with Hole Wizard holes:

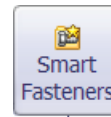
Hole Standard	Fastener
Ansi Inch	Hex Washer Screw
DIN	Hex Socket Head - DIN 912
ISO	Hex Socket Head ISO 4762

Fastener to use with Non-Hole Wizard holes:

Hole Standard	Fastener
ISO	Slotted Pan Head ISO 1580

- 4) In the “Fasteners to use with Hole Wizard holes:” table:
 - Set the ANSI Inch “Type” to **Machine Screws - Hex Washer Head**
- 5) In the “Fasteners to use with Non-Hole Wizard holes:” table:
 - Set the “Hole Standard” to **ISO**
 - Set the “Type” to **Slotted Head Screws - Pan (1580)**
- 6) **Save** and close the Toolbox Setup Utility
- 7) Open the **Smart Fasteners.SLDASM** located in **C:\SWW Hands On Toolbox**
- 8) Review the annotations and note that there are three different holes into which fasteners will be added
- 9) Click **View, All Annotations** to turn off the notes

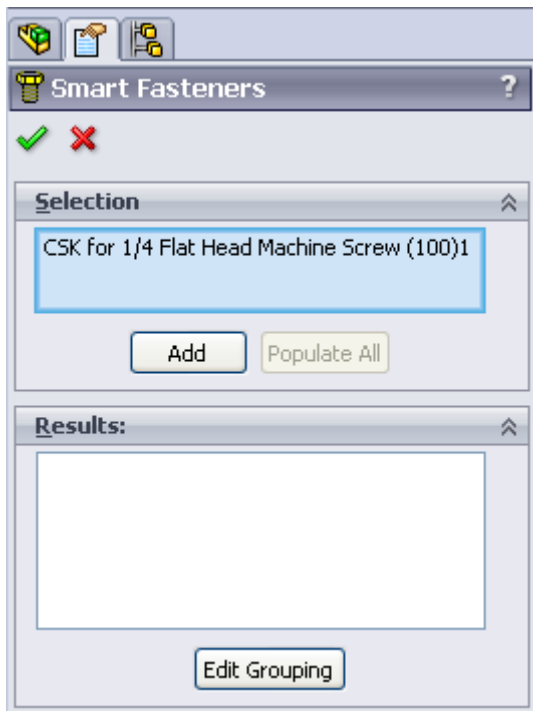
10) Click **Insert, Smart Fasteners** or click the Smart Fasteners icon on the Assemble tab of the Command Manager



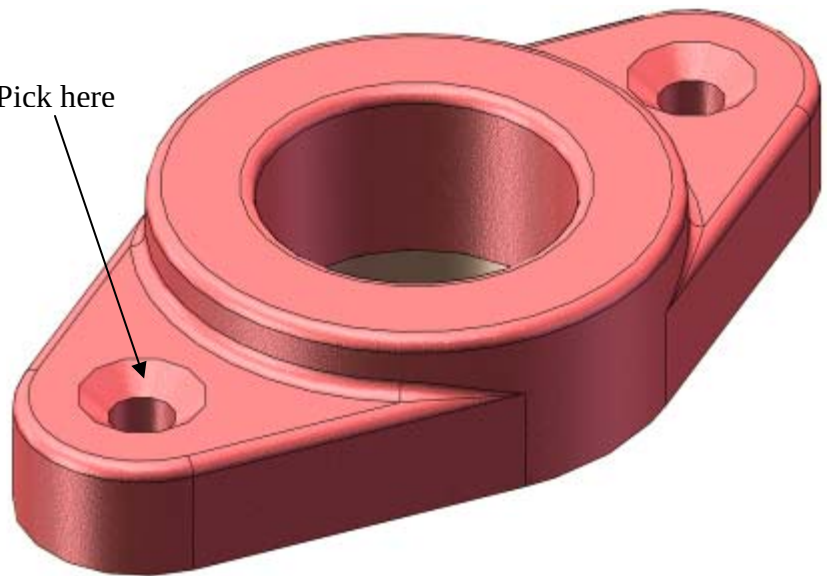
11) Click **Don't ask me again** then **OK** in dialog that appears informing about Lightweight components

Smart Fasteners
Adds fasteners to the assembly using the SolidWorks Toolbox library of standard hardware.

12) Select the conical face of the countersink hole in the TensionerBase (the red component)
Notice that the Selection group box is populated with the name of the feature – in this case a hole drilled for a specific size and type of fastener



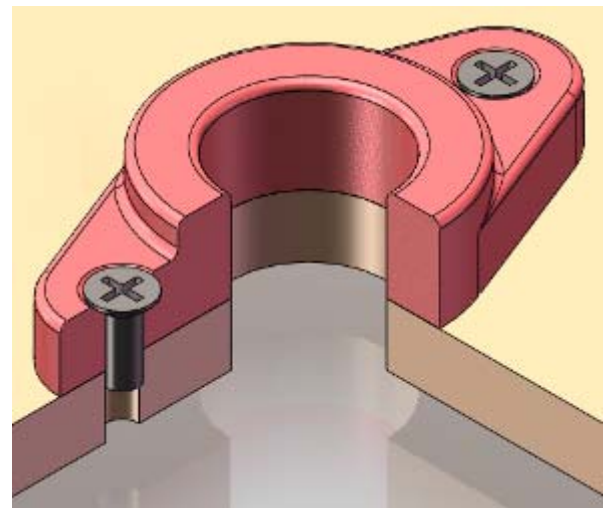
Pick here



13) Press **Add**

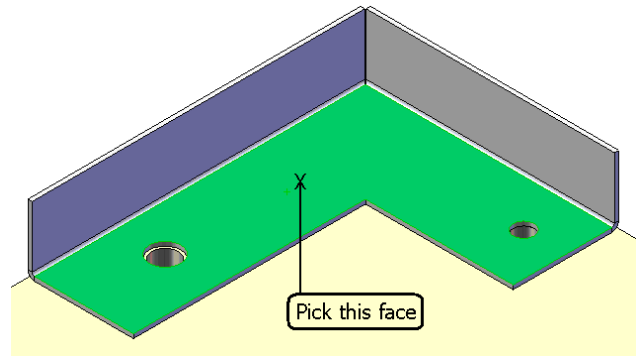
14) Observe that, two Flat Head Machine Screws were inserted in one step, because both countersink holes were created with the same feature

Note: cutaway view shown for clarity. If you wish to see your assembly in this manner, unsuppress the Cut-Extrude1 assembly feature.



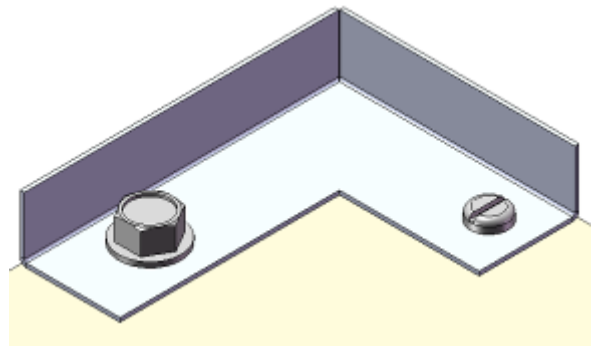
15) Click OK  in the Smart Fastener Property Manager

16) Select the face of the Sheetmetal part into which the holes are drilled

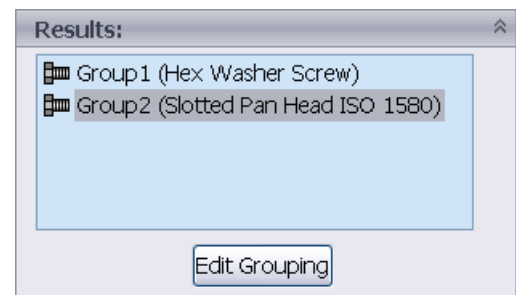


17) Launch the Smart Fasteners command again
Notice that two fasteners were automatically inserted

18) Rotate the model so you are looking at the bottom of the two fasteners that were just inserted



19) In the “Results” group box, select the **Slotted Pan Head ISO 1580** item

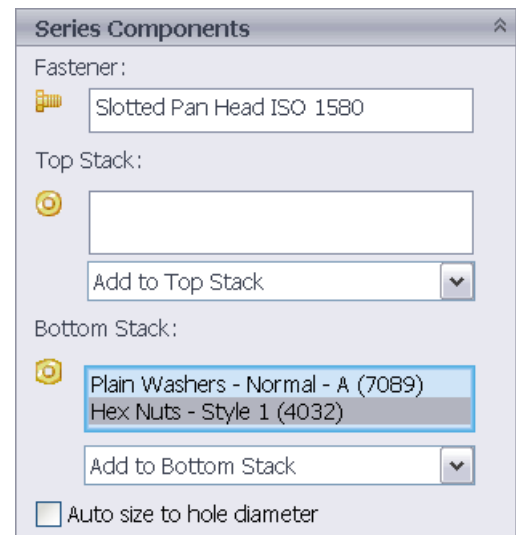


20) In the “Series Components” group box, click the “Add to Bottom Stack” combo box and select the following hardware:

- Plain Washers – Normal – A (7089)

- Hex Nuts – Style 1 (4032)

Notice that the two components are added and the screw is lengthened



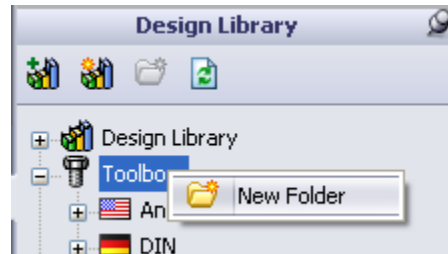
21) Click OK  in the Smart Fastener Property Manager



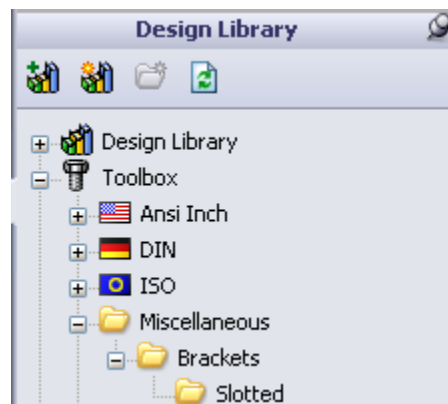
You have completed Exercise 5 !!!

Exercise 6 – Adding your own models

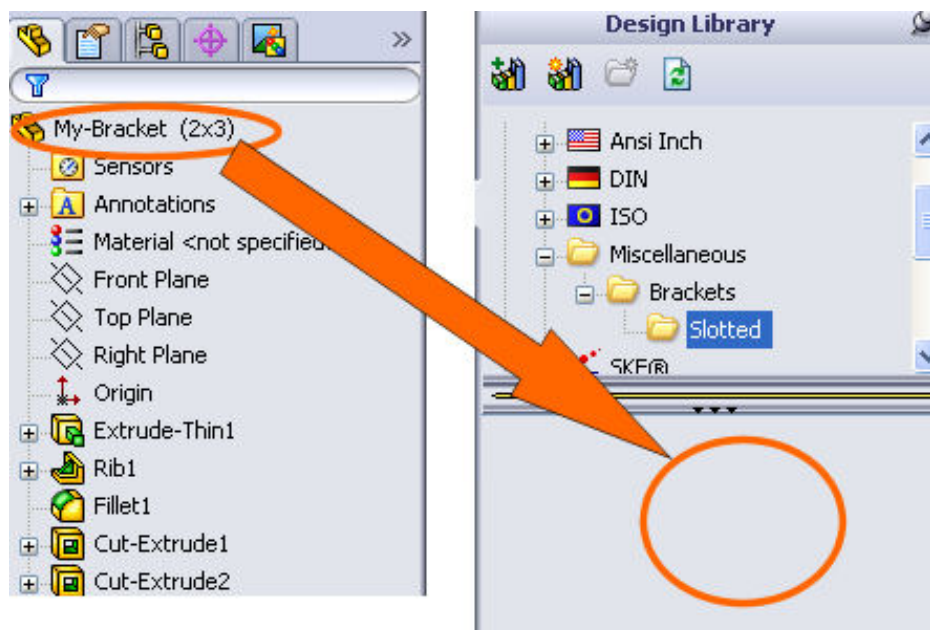
- 1) Open the **My-Bracket.SLDPRT** located in **C:\SWW Hands On Toolbox**
Notice that it has existing configurations
- 2) Right-click on the Toolbox node in the Design Library and choose **New Folder** from the shortcut menu



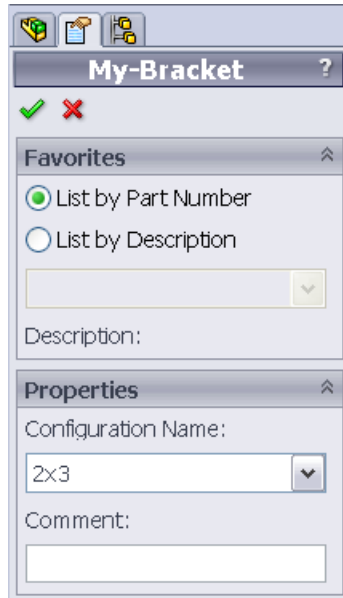
- 3) Name the folder **Miscellaneous** and repeat the process to create the two subfolders pictured below



- 4) Select the Slotted folder that you just created, then drag the part icon at the top of the Feature Manager into the lower half of the Task Pane – this will launch the **Add to Library** Property Manager



- 5) Click OK  to close Add to Library Property Manager
- 6) Close the **My-Bracket** part
- 7) Drag the My-Bracket thumbnail from the Task Pane into the background of your assembly
Notice that a Toolbox-like Property manager appears



- 8) Select various configurations from the pull down
Notice that the preview automatically updates
- 9) Click OK  to close Property Manager



You have completed Exercise 6 !!!