

# SOLIDWORKS WORLD 2015

## FEBRUARY 8-11

PHOENIX CONVENTION CENTER | PHOENIX, AZ

# Configuring SOLIDWORKS Toolbox

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# Let's start with:

## What is the Toolbox?

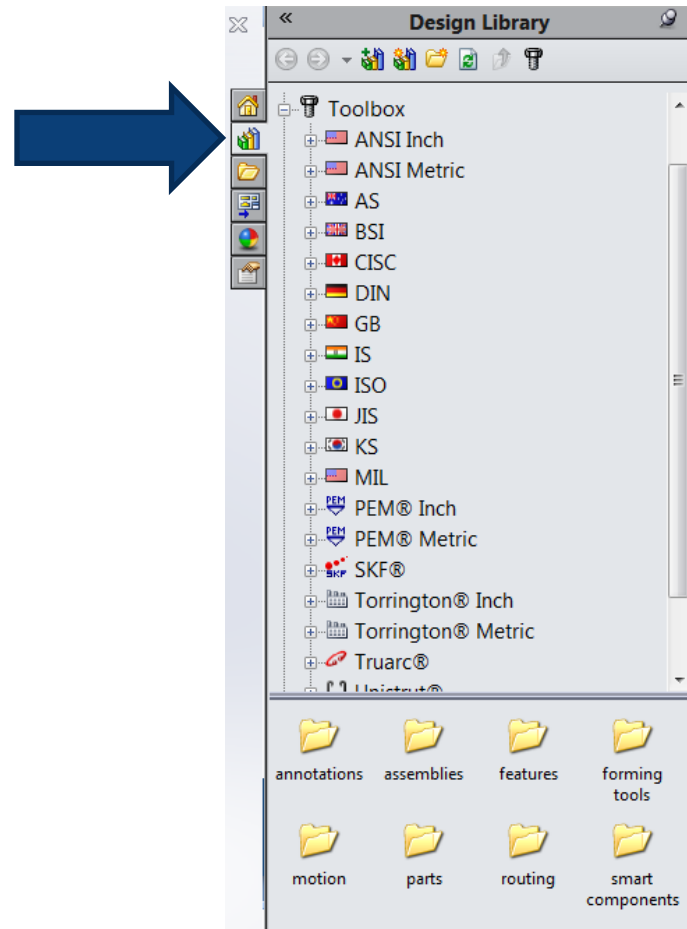
- Fully integrated inside of SOLIDWORKS
- Standard library of parts
- Drag and drop insertion into SOLIDWORKS
- Customizable data
- Available with SOLIDWORKS Professional and Premium

# Where is the Toolbox?

Location –

Design Library tab

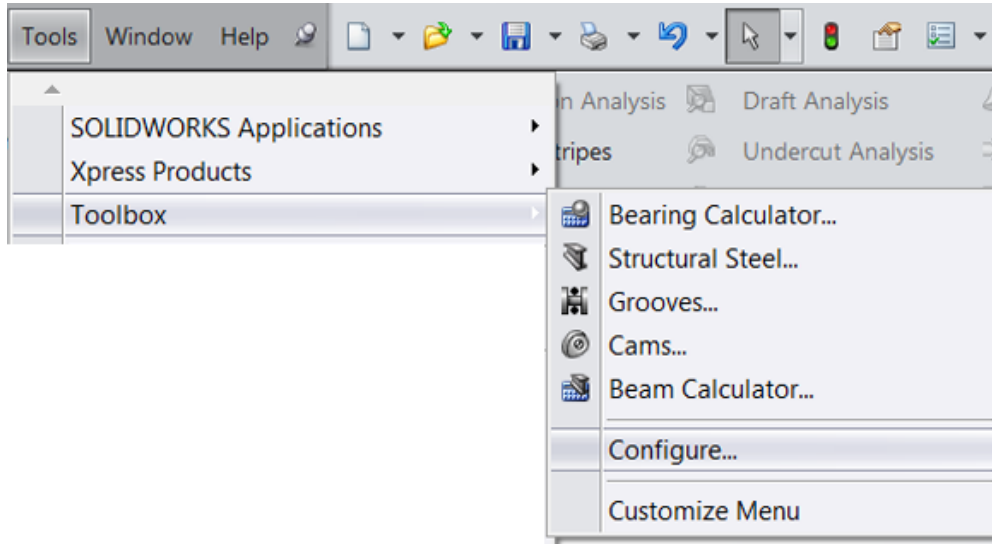
on the Task Pane



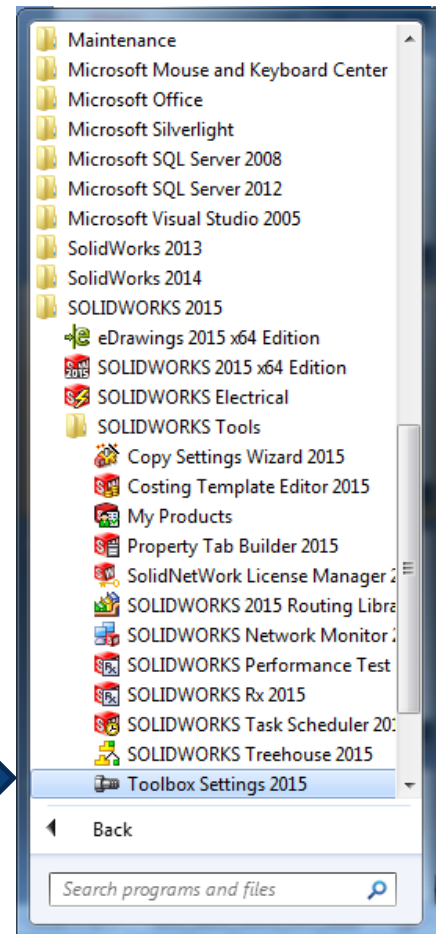
# How do we change it?

Locations for the configurator:

**Pull down Menu inside of SOLIDWORKS**



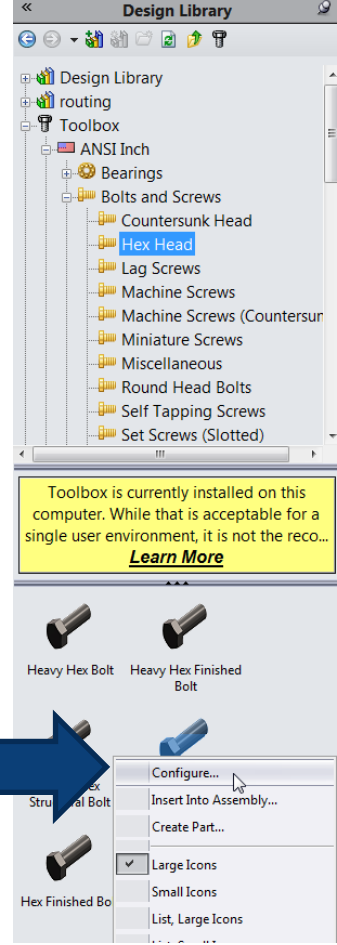
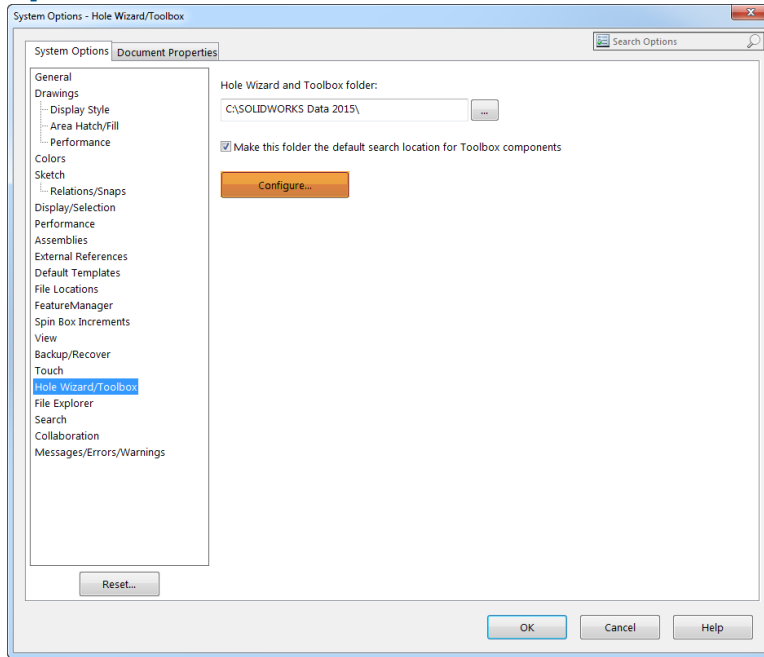
**Start Menu**



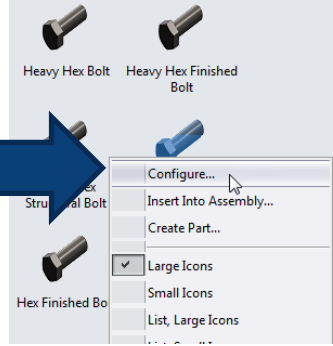
# Most commonly:

Locations to edit the Toolbox configuration:  
Options Menu inside of SOLIDWORKS OR

Right Mouse Button

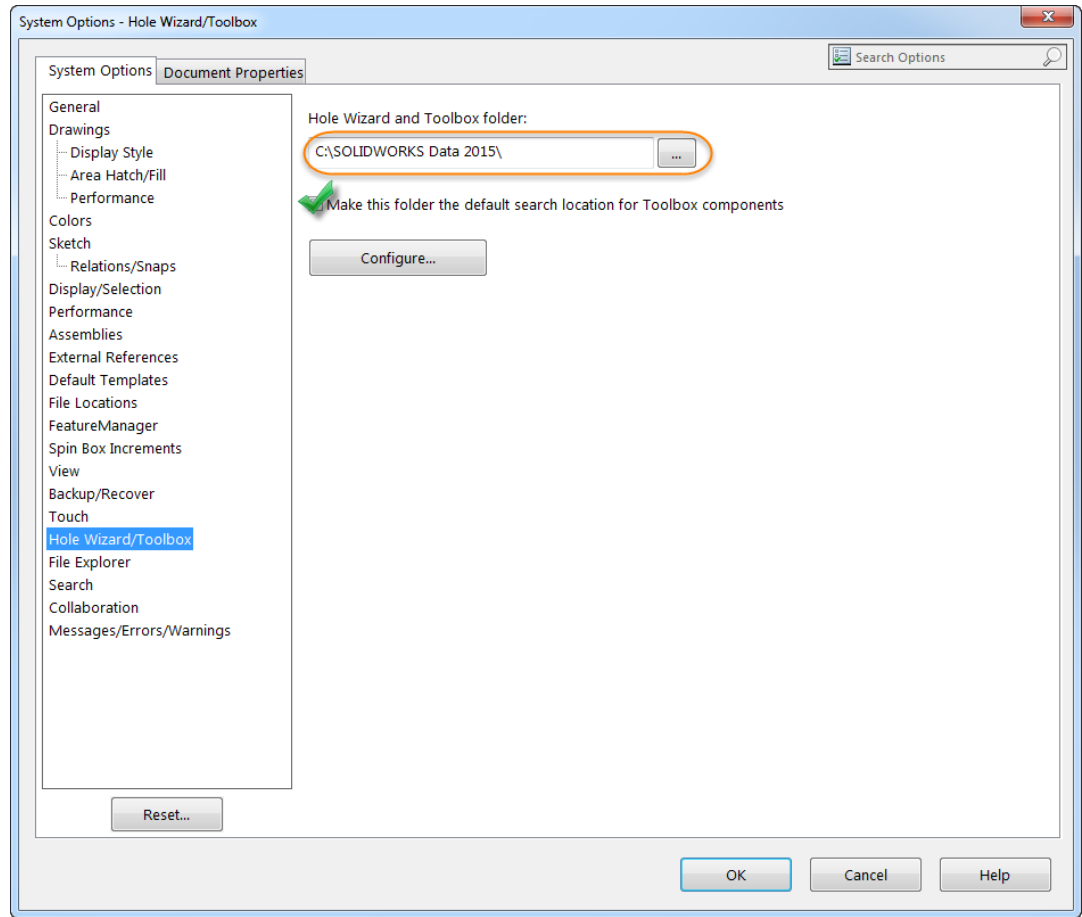


Toolbox is currently installed on this computer. While that is acceptable for a single user environment, it is not the reco...  
[Learn More](#)



# Toolbox Location

- Location where Toolbox is
- Default **search location** UNLESS...  
the Toolbox flag is removed from the part file.

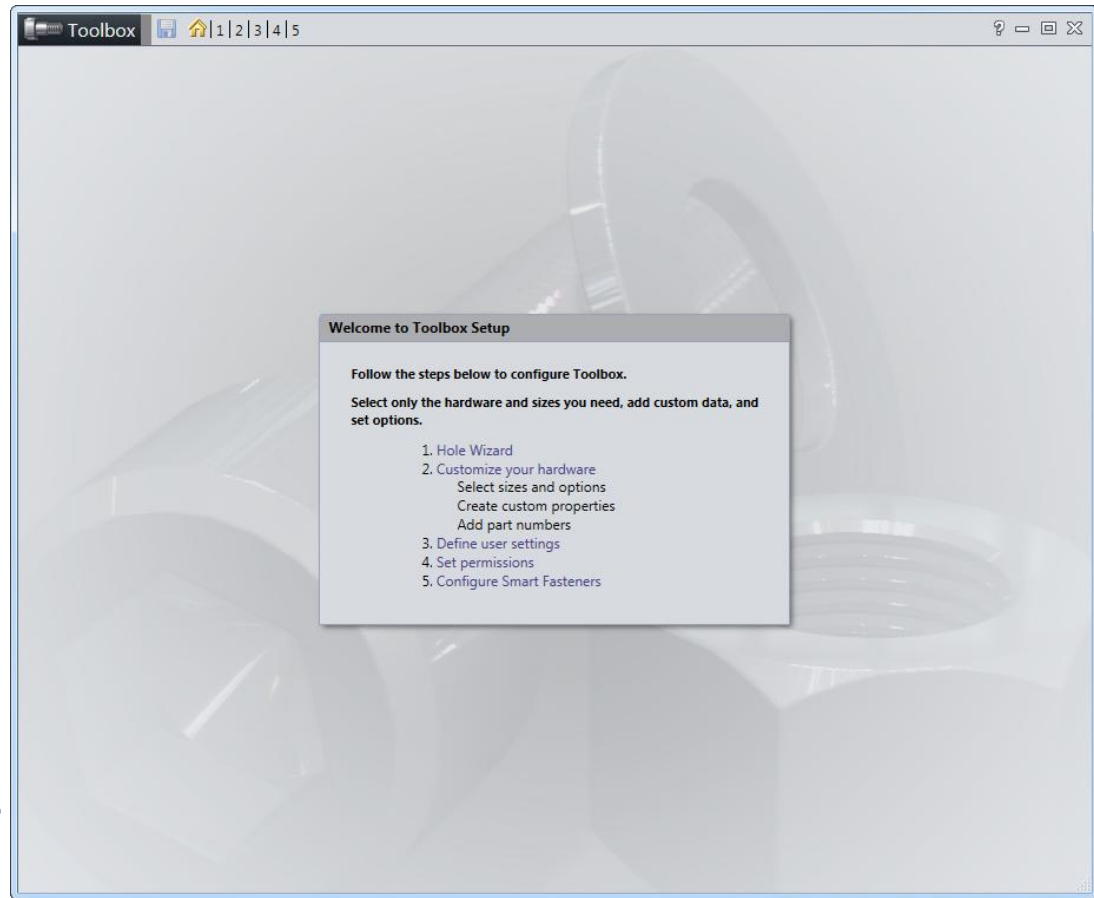


# A small bit of advice...

**\*\*As always please be sure to back-up your original Toolbox folder prior to making any changes. To be sure you have a good copy, make sure to take the whole SolidWorks Data folder..**

# Main Menu

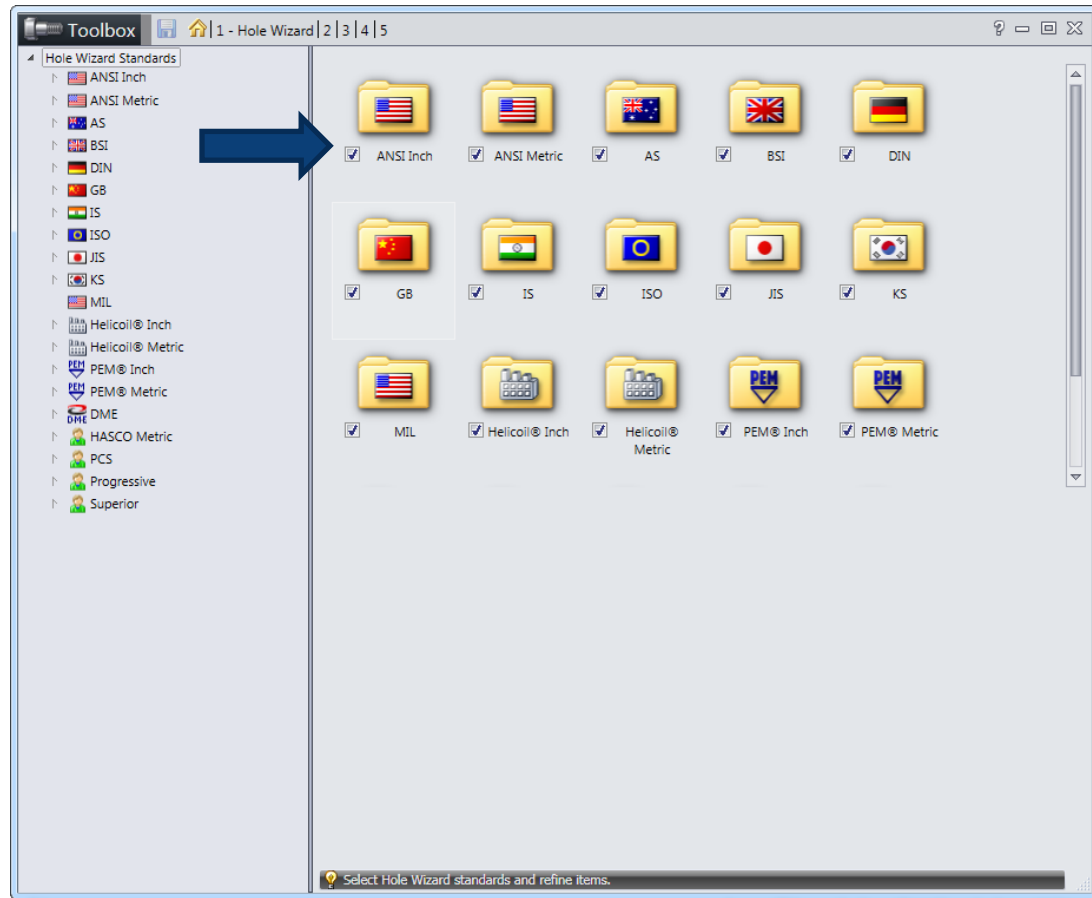
- Hole Wizard
- Customize your hardware
- Define user settings
- Set permissions
- Configure Smart Fasteners





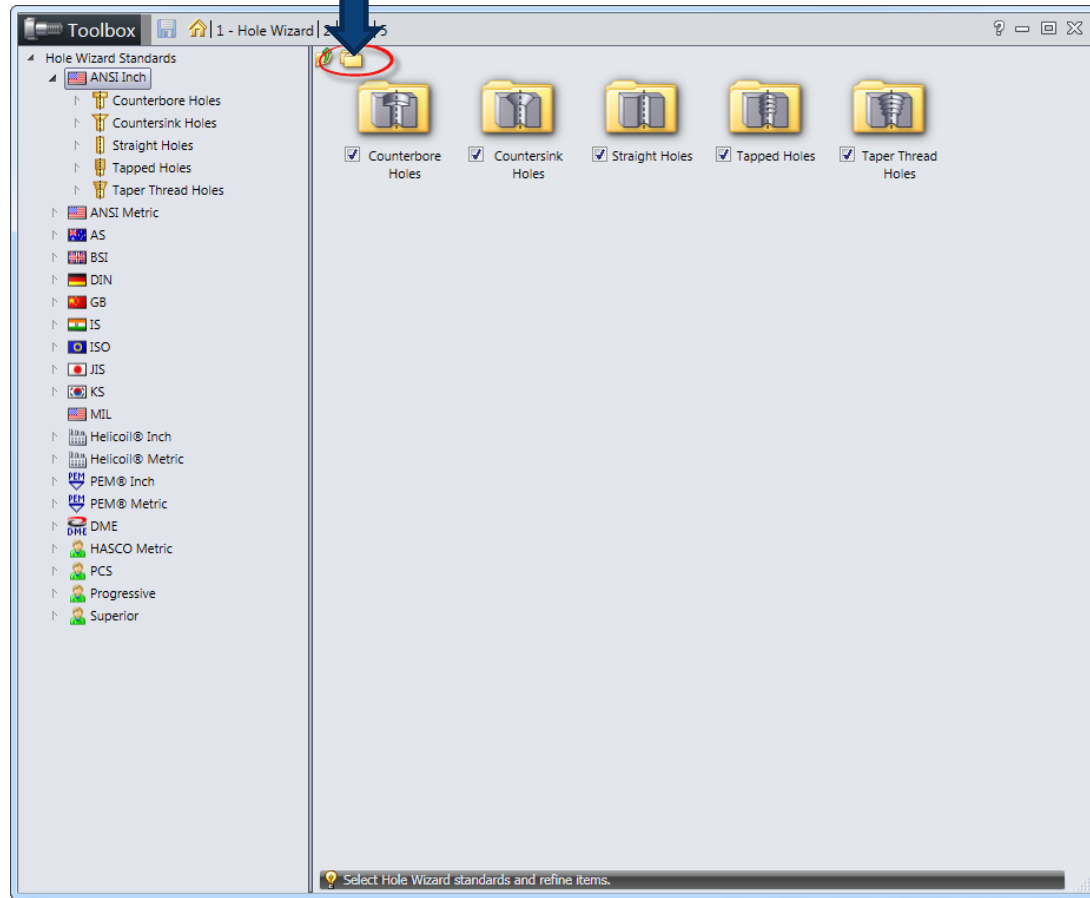
# Hole Wizard

- Controls Standards



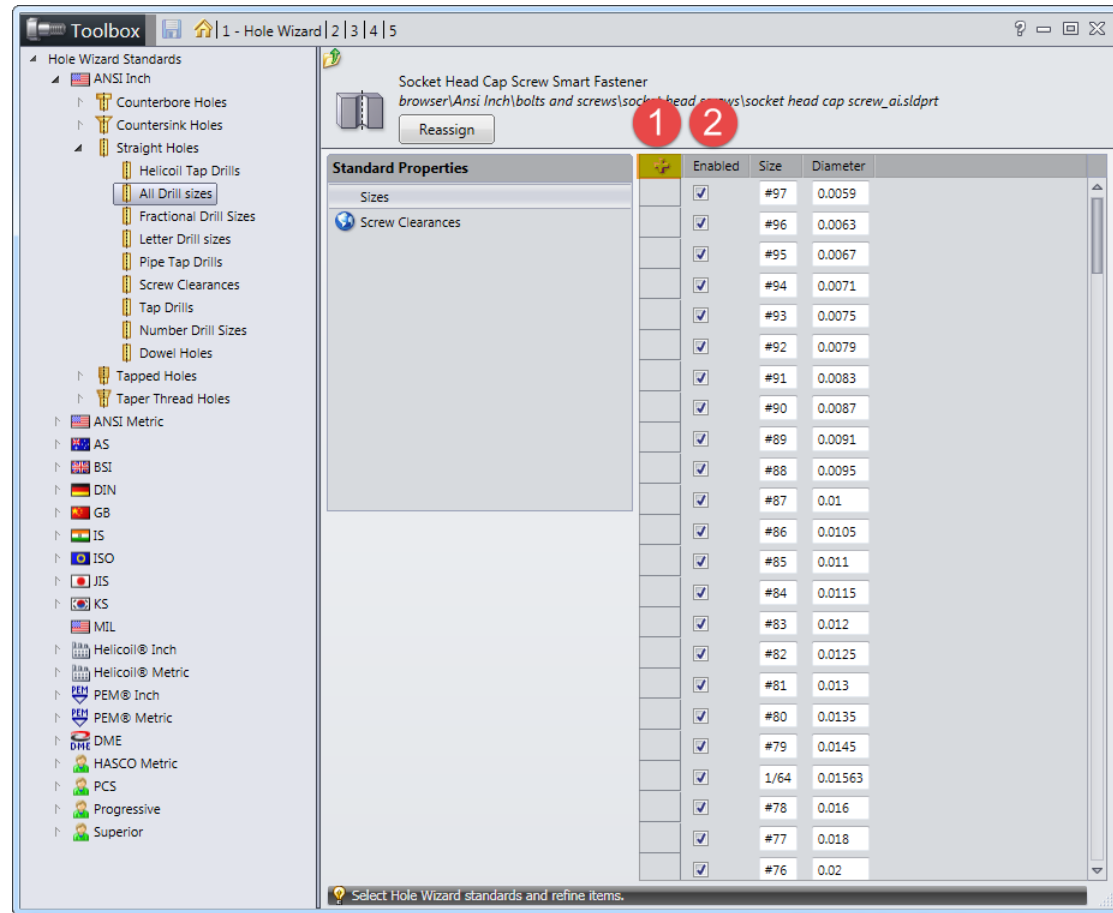
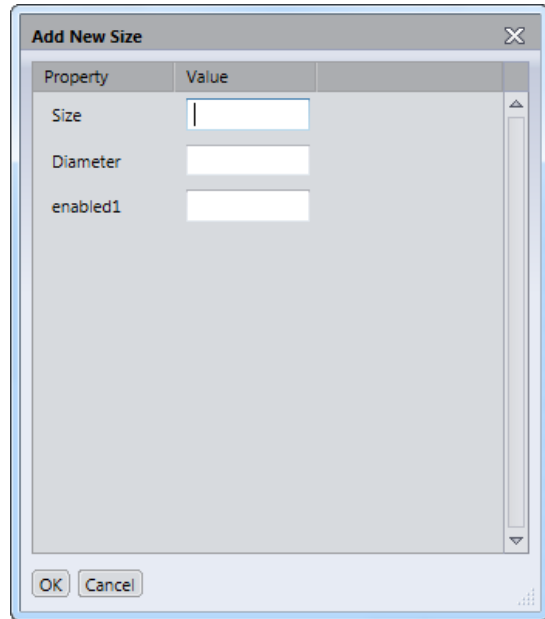
# Hole Wizard

- Controls hole type & allows copying of a standard adding a new set of custom sizes.



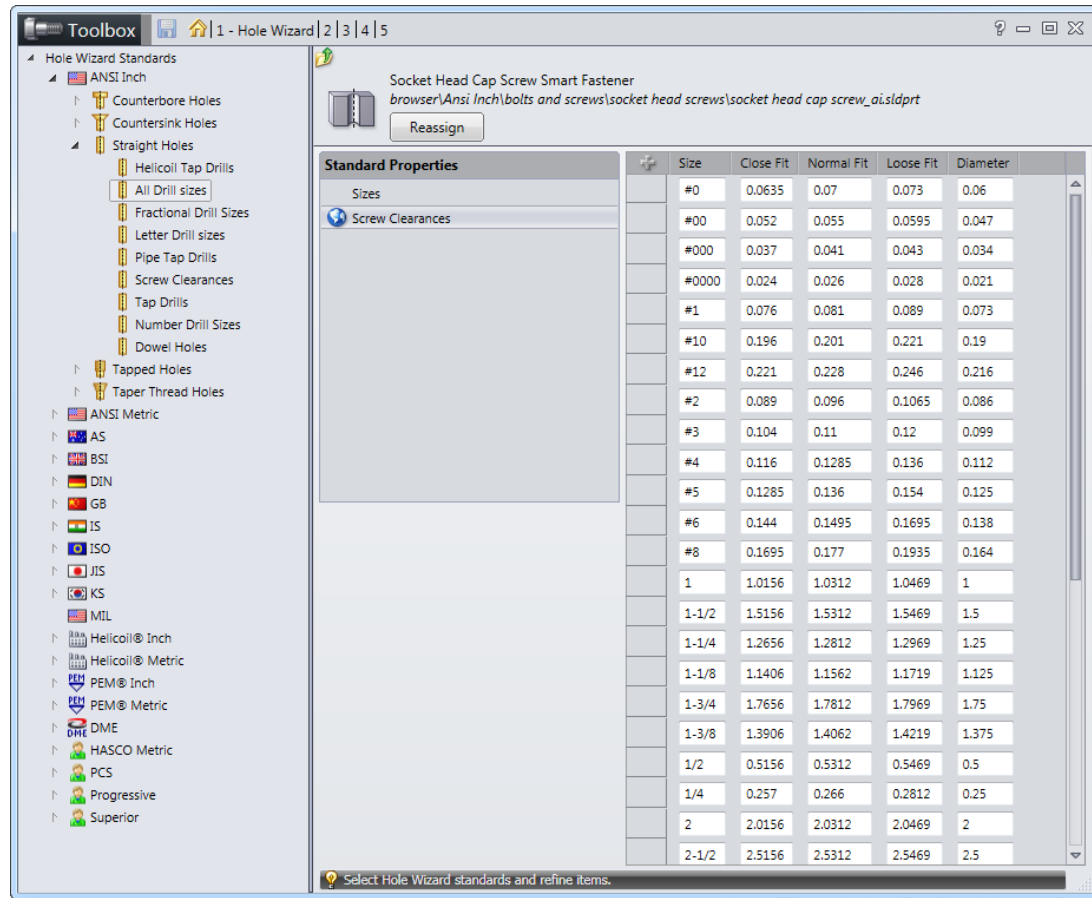
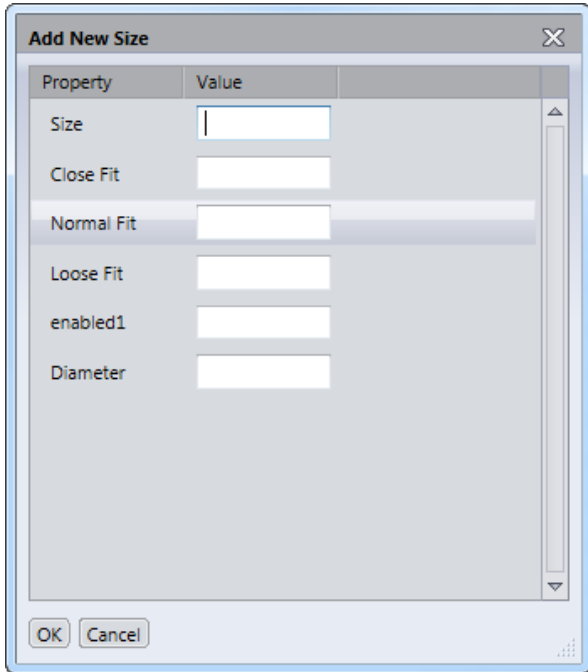
# Hole Wizard

- Add or remove std. size
- Add custom value



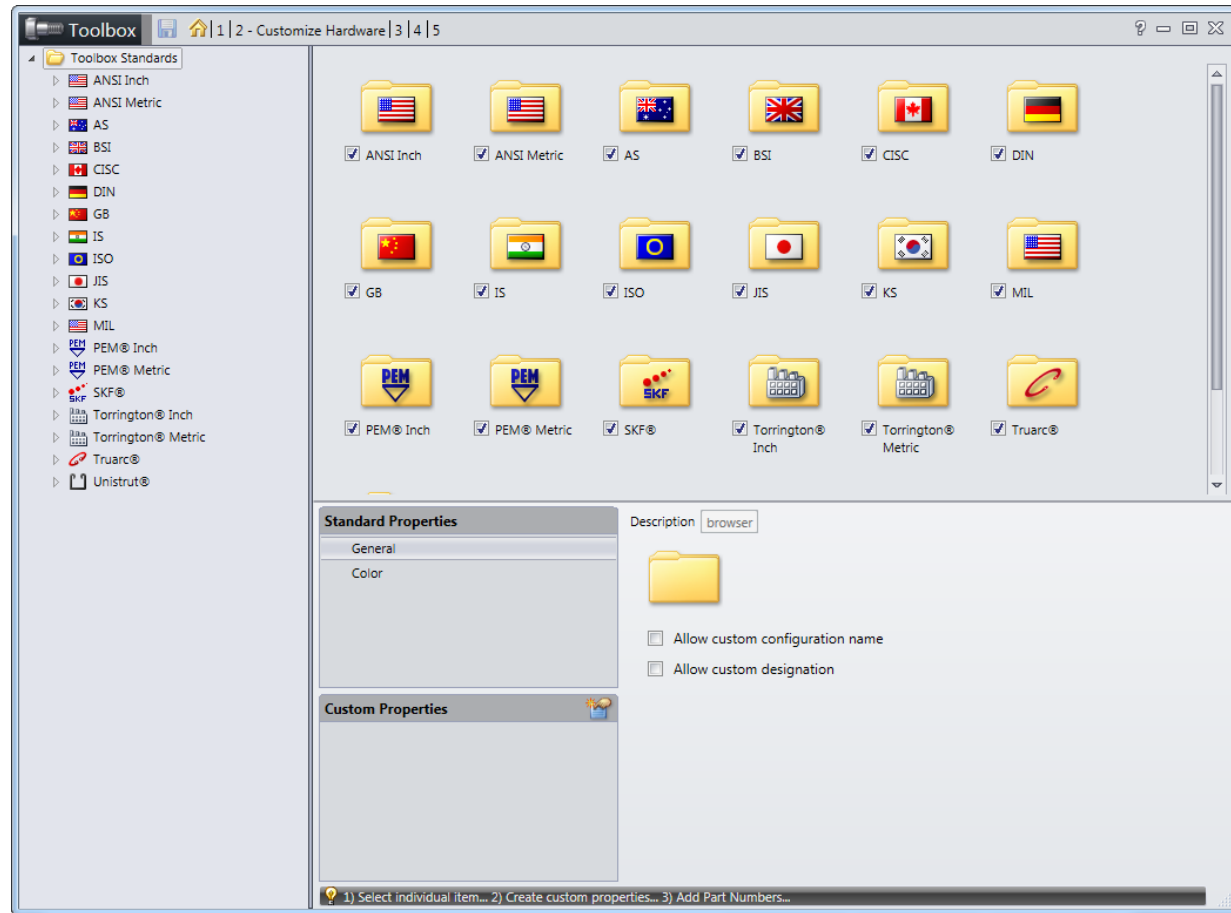
# Hole Wizard

- Screw Clearances



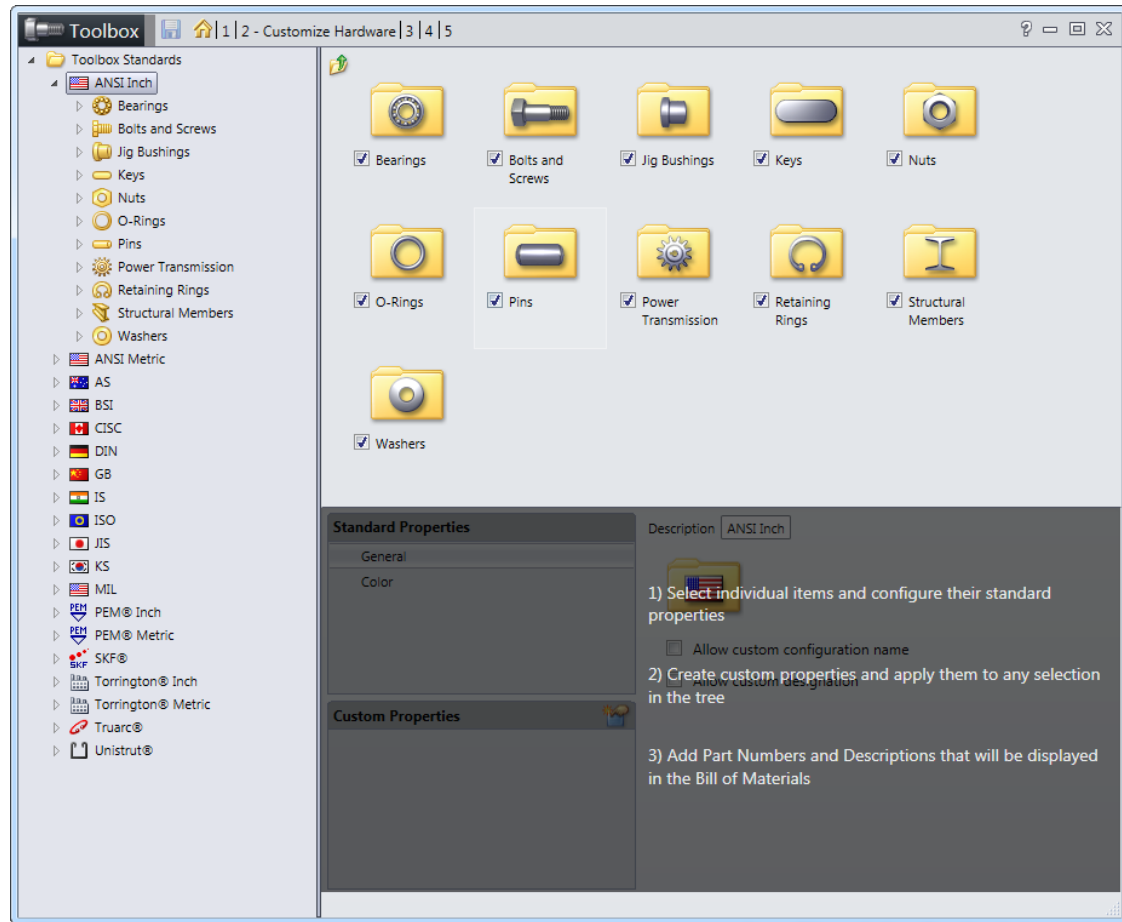
# Hardware

- Enable Standards



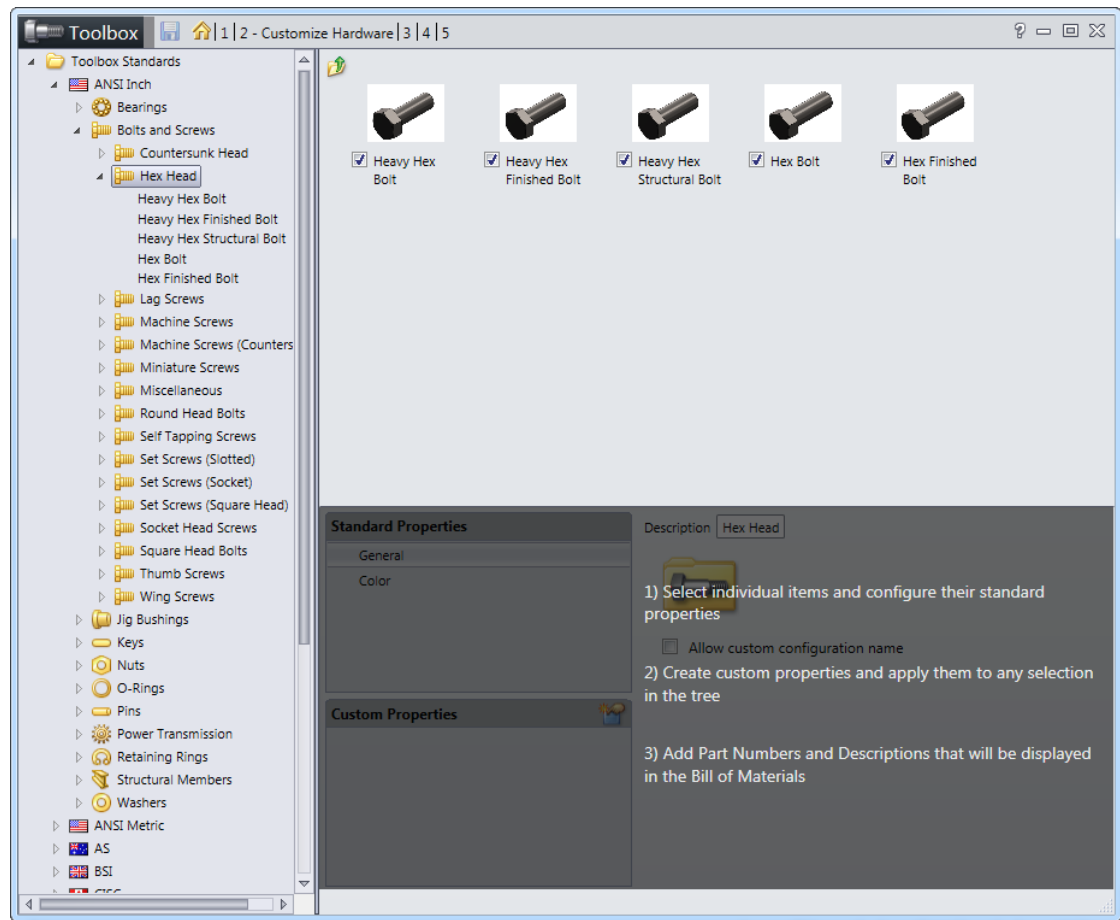
# Hardware

- Enable Components



# Hardware

- Select specific types



# Hardware

- General info

The screenshot shows the SolidWorks Toolbox interface for configuring a Hex Bolt. The left pane displays a tree view of hardware categories, with 'Hex Bolt' selected under 'ANSI Inch' > 'Bolts and Screws' > 'Hex Head'. The right pane shows the configuration options for the selected item, including a list of standard properties and a table of custom configurations.

**Hex Bolt**  
8094 possible configurations

**Standard Properties**

General

Description: Hex Bolt  
Filename: hex\_bolt\_ai.sldprt  
 Enabled  
 Allow custom configuration name

**Custom Properties**

|    | Size   | Length | Thread Length | Thread Display | Configuration Name              | Part Number | Description | Comment |
|----|--------|--------|---------------|----------------|---------------------------------|-------------|-------------|---------|
| 1  | 1/4-20 | 0.25   | 0.25          | Simplified     | HBOLT 0.2500-20x0.25x0.25-N     |             |             |         |
| 2  | 1/4-20 | 0.25   | 0.25          | Cosmetic       | HBOLT 0.2500-20x0.25x0.25-C     |             |             |         |
| 3  | 1/4-20 | 0.25   | 0.25          | Schematic      | HBOLT 0.2500-20x0.25x0.25-S     |             |             |         |
| 4  | 1/4-20 | 0.3125 | 0.3125        | Simplified     | HBOLT 0.2500-20x0.3125x0.3125-N |             |             |         |
| 5  | 1/4-20 | 0.3125 | 0.3125        | Cosmetic       | HBOLT 0.2500-20x0.3125x0.3125-C |             |             |         |
| 6  | 1/4-20 | 0.3125 | 0.3125        | Schematic      | HBOLT 0.2500-20x0.3125x0.3125-S |             |             |         |
| 7  | 1/4-20 | 0.375  | 0.375         | Simplified     | HBOLT 0.2500-20x0.375x0.375-N   |             |             |         |
| 8  | 1/4-20 | 0.375  | 0.375         | Cosmetic       | HBOLT 0.2500-20x0.375x0.375-C   |             |             |         |
| 9  | 1/4-20 | 0.375  | 0.375         | Schematic      | HBOLT 0.2500-20x0.375x0.375-S   |             |             |         |
| 10 | 1/4-20 | 0.4375 | 0.4375        | Simplified     | HBOLT 0.2500-20x0.4375x0.4375-N |             |             |         |
| 11 | 1/4-20 | 0.4375 | 0.4375        | Cosmetic       | HBOLT 0.2500-20x0.4375x0.4375-C |             |             |         |

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



# Hardware

- Size modification

The screenshot shows the SolidWorks Toolbox Standards interface for a Hex Bolt. The left pane shows the hierarchy: Toolbox Standards > ANSI Inch > Bolts and Screws > Hex Head > Hex Bolt. The main area displays 8094 possible configurations. The 'Standard Properties' section includes a list of properties with checkboxes for 'Enabled'. The 'Custom Properties' section is currently empty. Below these sections is a table listing 11 configurations with columns for Size, Length, Thread Length, Thread Display, Configuration Name, Part Number, Description, and Comment.

|                | Enabled                             | Size | Pitch | Diameter | Width Across Flats | Head Height | Head Fillet Ra |
|----------------|-------------------------------------|------|-------|----------|--------------------|-------------|----------------|
| General        | <input checked="" type="checkbox"/> | 1/4  | 20    | 0.2500   | 0.438              | 0.188       | 0.03           |
| Size           | <input checked="" type="checkbox"/> | 1/4  | 28    | 0.2500   | 0.438              | 0.188       | 0.03           |
| Length         | <input checked="" type="checkbox"/> | 5/16 | 18    | 0.3125   | 0.500              | 0.235       | 0.03           |
| Thread Data    | <input checked="" type="checkbox"/> | 5/16 | 24    | 0.3125   | 0.500              | 0.235       | 0.03           |
| Thread Display | <input checked="" type="checkbox"/> | 3/8  | 16    | 0.3750   | 0.562              | 0.268       | 0.03           |
|                | <input checked="" type="checkbox"/> | 3/8  | 24    | 0.3750   | 0.562              | 0.268       | 0.03           |
|                | <input checked="" type="checkbox"/> | 7/16 | 14    | 0.4375   | 0.625              | 0.316       | 0.03           |
|                | <input checked="" type="checkbox"/> | 7/16 | 20    | 0.4375   | 0.625              | 0.316       | 0.03           |
|                | <input checked="" type="checkbox"/> | 1/2  | 13    | 0.5000   | 0.750              | 0.364       | 0.03           |

|    | Size   | Length | Thread Length | Thread Display | Configuration Name              | Part Number | Description | Comment |
|----|--------|--------|---------------|----------------|---------------------------------|-------------|-------------|---------|
| 1  | 1/4-20 | 0.25   | 0.25          | Simplified     | HBOLT 0.2500-20x0.25x0.25-N     |             |             |         |
| 2  | 1/4-20 | 0.25   | 0.25          | Cosmetic       | HBOLT 0.2500-20x0.25x0.25-C     |             |             |         |
| 3  | 1/4-20 | 0.25   | 0.25          | Schematic      | HBOLT 0.2500-20x0.25x0.25-S     |             |             |         |
| 4  | 1/4-20 | 0.3125 | 0.3125        | Simplified     | HBOLT 0.2500-20x0.3125x0.3125-N |             |             |         |
| 5  | 1/4-20 | 0.3125 | 0.3125        | Cosmetic       | HBOLT 0.2500-20x0.3125x0.3125-C |             |             |         |
| 6  | 1/4-20 | 0.3125 | 0.3125        | Schematic      | HBOLT 0.2500-20x0.3125x0.3125-S |             |             |         |
| 7  | 1/4-20 | 0.375  | 0.375         | Simplified     | HBOLT 0.2500-20x0.375x0.375-N   |             |             |         |
| 8  | 1/4-20 | 0.375  | 0.375         | Cosmetic       | HBOLT 0.2500-20x0.375x0.375-C   |             |             |         |
| 9  | 1/4-20 | 0.375  | 0.375         | Schematic      | HBOLT 0.2500-20x0.375x0.375-S   |             |             |         |
| 10 | 1/4-20 | 0.4375 | 0.4375        | Simplified     | HBOLT 0.2500-20x0.4375x0.4375-N |             |             |         |
| 11 | 1/4-20 | 0.4375 | 0.4375        | Cosmetic       | HBOLT 0.2500-20x0.4375x0.4375-C |             |             |         |

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

# Hardware

- Length modification

The screenshot shows the SolidWorks Toolbox interface for configuring a Hex Bolt. The left pane shows a tree view under 'ANSI Inch' > 'Bolts and Screws' > 'Hex Head' > 'Hex Bolt'. The right pane shows 'Standard Properties' and 'Custom Properties' with checkboxes for various attributes. Below these is a table of configurations.

|                   | Enabled                             | Size | Length | Thread Length |  |
|-------------------|-------------------------------------|------|--------|---------------|--|
| General           | <input checked="" type="checkbox"/> | 1/4  | 0.25   | 0.25          |  |
| Size              | <input checked="" type="checkbox"/> | 1/4  | 0.3125 | 0.3125        |  |
| Length            | <input checked="" type="checkbox"/> | 1/4  | 0.375  | 0.375         |  |
| Thread Data       | <input checked="" type="checkbox"/> | 1/4  | 0.4375 | 0.4375        |  |
| Thread Display    | <input checked="" type="checkbox"/> | 1/4  | 0.5    | 0.5           |  |
| Custom Properties | <input checked="" type="checkbox"/> | 1/4  | 0.5625 | 0.5625        |  |
|                   | <input checked="" type="checkbox"/> | 1/4  | 0.625  | 0.625         |  |
|                   | <input checked="" type="checkbox"/> | 1/4  | 0.75   | 0.75          |  |
|                   | <input checked="" type="checkbox"/> | 1/4  | 0.875  | 0.875         |  |
|                   | <input checked="" type="checkbox"/> | 1/4  | 0.875  | 0.75          |  |

|    | Size   | Length | Thread Length | Thread Display | Configuration Name              | Part Number | Description | Comment |
|----|--------|--------|---------------|----------------|---------------------------------|-------------|-------------|---------|
| 1  | 1/4-20 | 0.25   | 0.25          | Simplified     | HBOLT 0.2500-20x0.25x0.25-N     |             |             |         |
| 2  | 1/4-20 | 0.25   | 0.25          | Cosmetic       | HBOLT 0.2500-20x0.25x0.25-C     |             |             |         |
| 3  | 1/4-20 | 0.25   | 0.25          | Schematic      | HBOLT 0.2500-20x0.25x0.25-S     |             |             |         |
| 4  | 1/4-20 | 0.3125 | 0.3125        | Simplified     | HBOLT 0.2500-20x0.3125x0.3125-N |             |             |         |
| 5  | 1/4-20 | 0.3125 | 0.3125        | Cosmetic       | HBOLT 0.2500-20x0.3125x0.3125-C |             |             |         |
| 6  | 1/4-20 | 0.3125 | 0.3125        | Schematic      | HBOLT 0.2500-20x0.3125x0.3125-S |             |             |         |
| 7  | 1/4-20 | 0.375  | 0.375         | Simplified     | HBOLT 0.2500-20x0.375x0.375-N   |             |             |         |
| 8  | 1/4-20 | 0.375  | 0.375         | Cosmetic       | HBOLT 0.2500-20x0.375x0.375-C   |             |             |         |
| 9  | 1/4-20 | 0.375  | 0.375         | Schematic      | HBOLT 0.2500-20x0.375x0.375-S   |             |             |         |
| 10 | 1/4-20 | 0.4375 | 0.4375        | Simplified     | HBOLT 0.2500-20x0.4375x0.4375-N |             |             |         |
| 11 | 1/4-20 | 0.4375 | 0.4375        | Cosmetic       | HBOLT 0.2500-20x0.4375x0.4375-C |             |             |         |

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

# Hardware

- Thread Data

Toolbox | 1 | 2 - Customize Hardware | 3 | 4 | 5

Hex Bolt  
8094 possible configurations

**Standard Properties**

|                | Size  | Series | Thread Diameter | Advance | Thread Minor Diameter | Thread Minor |
|----------------|-------|--------|-----------------|---------|-----------------------|--------------|
| General        | #0    | UNF    | 0.06            | 0.0125  | 0.0451                | 0.0465       |
| Size           | #00   | NSC    | 0.047           | 0.0111  | 0.0326                | 0.0355       |
| Length         | #00   | NSF    | 0.047           | 0.0104  | 0.0334                | 0.0366       |
| Thread Data    | #000  | NSC    | 0.034           | 0.0083  | 0.0232                | 0.0256       |
| Thread Display | #0000 | NSC    | 0.021           | 0.0063  | 0.0128                | 0.0142       |
| Color          | #1    | UNC    | 0.073           | 0.0156  | 0.0544                | 0.0561       |
|                | #1    | UNF    | 0.073           | 0.0139  | 0.0565                | 0.058        |
|                | #10   | UNC    | 0.19            | 0.0417  | 0.1404                | 0.1449       |
|                | #10   | UNF    | 0.19            | 0.0312  | 0.1528                | 0.1562       |

**Custom Properties**

|    | Size   | Length | Thread Length | Thread Display | Configuration Name              | Part Number | Description | Comment |
|----|--------|--------|---------------|----------------|---------------------------------|-------------|-------------|---------|
| 1  | 1/4-20 | 0.25   | 0.25          | Simplified     | HBOLT 0.2500-20x0.25x0.25-N     |             |             |         |
| 2  | 1/4-20 | 0.25   | 0.25          | Cosmetic       | HBOLT 0.2500-20x0.25x0.25-C     |             |             |         |
| 3  | 1/4-20 | 0.25   | 0.25          | Schematic      | HBOLT 0.2500-20x0.25x0.25-S     |             |             |         |
| 4  | 1/4-20 | 0.3125 | 0.3125        | Simplified     | HBOLT 0.2500-20x0.3125x0.3125-N |             |             |         |
| 5  | 1/4-20 | 0.3125 | 0.3125        | Cosmetic       | HBOLT 0.2500-20x0.3125x0.3125-C |             |             |         |
| 6  | 1/4-20 | 0.3125 | 0.3125        | Schematic      | HBOLT 0.2500-20x0.3125x0.3125-S |             |             |         |
| 7  | 1/4-20 | 0.375  | 0.375         | Simplified     | HBOLT 0.2500-20x0.375x0.375-N   |             |             |         |
| 8  | 1/4-20 | 0.375  | 0.375         | Cosmetic       | HBOLT 0.2500-20x0.375x0.375-C   |             |             |         |
| 9  | 1/4-20 | 0.375  | 0.375         | Schematic      | HBOLT 0.2500-20x0.375x0.375-S   |             |             |         |
| 10 | 1/4-20 | 0.4375 | 0.4375        | Simplified     | HBOLT 0.2500-20x0.4375x0.4375-N |             |             |         |
| 11 | 1/4-20 | 0.4375 | 0.4375        | Cosmetic       | HBOLT 0.2500-20x0.4375x0.4375-C |             |             |         |

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

# Hardware

- Thread Display

The screenshot shows the SolidWorks Toolbox interface for configuring a Hex Bolt. The left pane shows a tree view under 'ANSI Inch' > 'Bolts and Screws' > 'Hex Head' > 'Hex Bolt'. The main panel displays 'Hex Bolt' with '8094 possible configurations'. Under 'Standard Properties', 'Thread Display' is selected, showing three options: 'Cosmetic' (disabled), 'Schematic' (disabled), and 'Simplified' (checked). Below this is a table of configurations.

|    | Size   | Length | Thread Length | Thread Display | Configuration Name              | Part Number | Description | Comment |
|----|--------|--------|---------------|----------------|---------------------------------|-------------|-------------|---------|
| 1  | 1/4-20 | 0.25   | 0.25          | Simplified     | HBOLT 0.2500-20x0.25x0.25-N     |             |             |         |
| 2  | 1/4-20 | 0.25   | 0.25          | Cosmetic       | HBOLT 0.2500-20x0.25x0.25-C     |             |             |         |
| 3  | 1/4-20 | 0.25   | 0.25          | Schematic      | HBOLT 0.2500-20x0.25x0.25-S     |             |             |         |
| 4  | 1/4-20 | 0.3125 | 0.3125        | Simplified     | HBOLT 0.2500-20x0.3125x0.3125-N |             |             |         |
| 5  | 1/4-20 | 0.3125 | 0.3125        | Cosmetic       | HBOLT 0.2500-20x0.3125x0.3125-C |             |             |         |
| 6  | 1/4-20 | 0.3125 | 0.3125        | Schematic      | HBOLT 0.2500-20x0.3125x0.3125-S |             |             |         |
| 7  | 1/4-20 | 0.375  | 0.375         | Simplified     | HBOLT 0.2500-20x0.375x0.375-N   |             |             |         |
| 8  | 1/4-20 | 0.375  | 0.375         | Cosmetic       | HBOLT 0.2500-20x0.375x0.375-C   |             |             |         |
| 9  | 1/4-20 | 0.375  | 0.375         | Schematic      | HBOLT 0.2500-20x0.375x0.375-S   |             |             |         |
| 10 | 1/4-20 | 0.4375 | 0.4375        | Simplified     | HBOLT 0.2500-20x0.4375x0.4375-N |             |             |         |
| 11 | 1/4-20 | 0.4375 | 0.4375        | Cosmetic       | HBOLT 0.2500-20x0.4375x0.4375-C |             |             |         |

# Hardware

- Color

The screenshot shows the SolidWorks Toolbox interface for configuring a Hex Bolt. The left pane shows a tree view of hardware standards, with 'Hex Bolt' selected under 'ANSI Inch' > 'Bolts and Screws' > 'Hex Head'. The main area displays a 3D model of a hex bolt and a 'Hex Bolt' configuration with 8094 possible configurations. Below the model are two property panels: 'Standard Properties' and 'Custom Properties'. The 'Standard Properties' panel includes fields for General, Size, Length, Thread Data, Thread Display, and Color. The 'Color' dropdown is currently set to 'Default Color', which is open to show a color palette. Below these panels is a table listing 11 configurations.

|    | Size   | Length | Thread Length | Thread Display | Configuration Name              | Part Number | Description | Comment |
|----|--------|--------|---------------|----------------|---------------------------------|-------------|-------------|---------|
| 1  | 1/4-20 | 0.25   | 0.25          | Simplified     | HBOLT 0.2500-20x0.25x0.25-N     |             |             |         |
| 2  | 1/4-20 | 0.25   | 0.25          | Cosmetic       | HBOLT 0.2500-20x0.25x0.25-C     |             |             |         |
| 3  | 1/4-20 | 0.25   | 0.25          | Schematic      | HBOLT 0.2500-20x0.25x0.25-S     |             |             |         |
| 4  | 1/4-20 | 0.3125 | 0.3125        | Simplified     | HBOLT 0.2500-20x0.3125x0.3125-N |             |             |         |
| 5  | 1/4-20 | 0.3125 | 0.3125        | Cosmetic       | HBOLT 0.2500-20x0.3125x0.3125-C |             |             |         |
| 6  | 1/4-20 | 0.3125 | 0.3125        | Schematic      | HBOLT 0.2500-20x0.3125x0.3125-S |             |             |         |
| 7  | 1/4-20 | 0.375  | 0.375         | Simplified     | HBOLT 0.2500-20x0.375x0.375-N   |             |             |         |
| 8  | 1/4-20 | 0.375  | 0.375         | Cosmetic       | HBOLT 0.2500-20x0.375x0.375-C   |             |             |         |
| 9  | 1/4-20 | 0.375  | 0.375         | Schematic      | HBOLT 0.2500-20x0.375x0.375-S   |             |             |         |
| 10 | 1/4-20 | 0.4375 | 0.4375        | Simplified     | HBOLT 0.2500-20x0.4375x0.4375-N |             |             |         |
| 11 | 1/4-20 | 0.4375 | 0.4375        | Cosmetic       | HBOLT 0.2500-20x0.4375x0.4375-C |             |             |         |

At the bottom of the interface, there is a status bar with the following text: "1) Select individual item... 2) Create custom properties... 3) Add Part Numbers..."

# Hardware

- Drive type

**Socket Head Cap Screw**  
32988 possible configurations

**Standard Properties**

General  
Size  
Length  
Drive Type  
Thread Length  
Thread Display

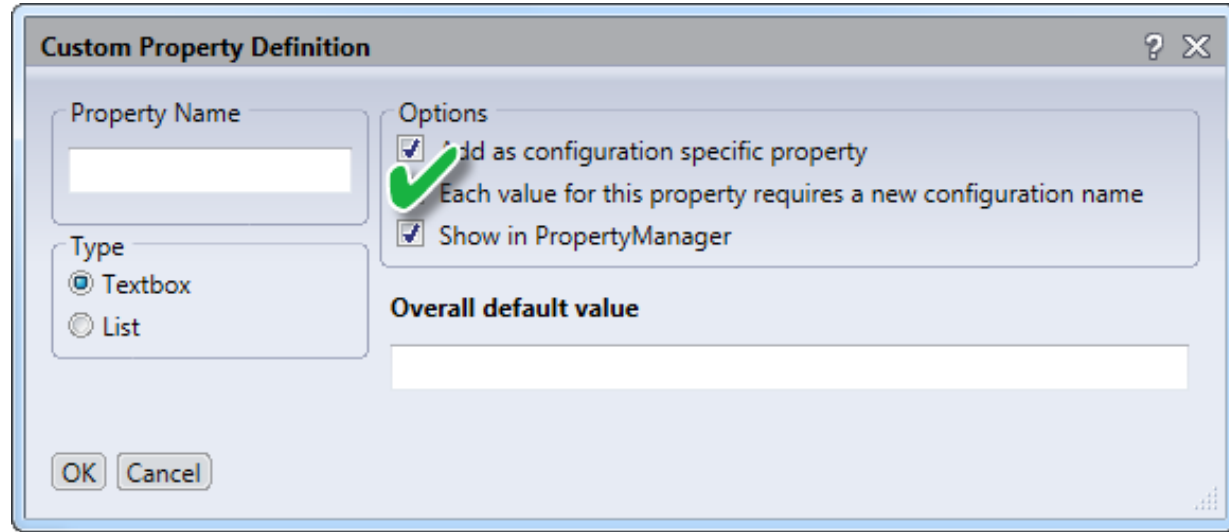
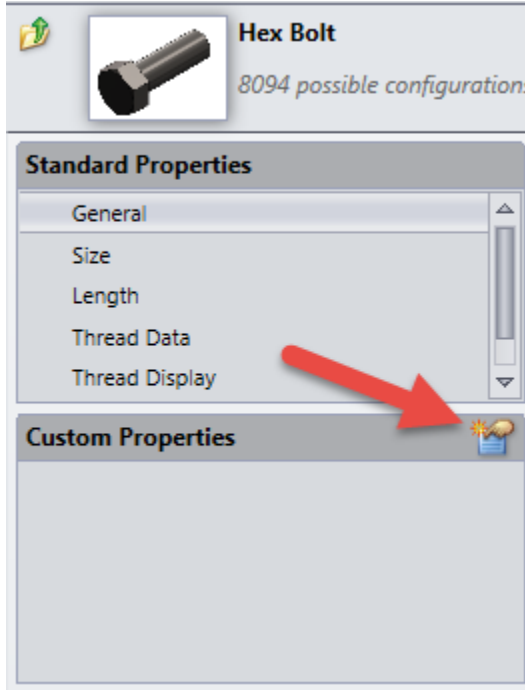
**Custom Properties**

|    | Size  | Length | Drive Type | Thread Length | Thread Display | Diameter | Configuration Name            | Part Number | Description |
|----|-------|--------|------------|---------------|----------------|----------|-------------------------------|-------------|-------------|
| 1  | #0-80 | 0.125  | Hex        | 0.125         | Simplified     | 0.06     | HX-SHCS 0.06-80x0.125x0.125-N |             |             |
| 2  | #0-80 | 0.125  | Hex        | 0.125         | Cosmetic       | 0.06     | HX-SHCS 0.06-80x0.125x0.125-C |             |             |
| 3  | #0-80 | 0.125  | Hex        | 0.125         | Schematic      | 0.06     | HX-SHCS 0.06-80x0.125x0.125-S |             |             |
| 4  | #0-80 | 0.125  | Spline     | 0.125         | Simplified     | 0.06     | SP-SHCS 0.06-80x0.125x0.125-N |             |             |
| 5  | #0-80 | 0.125  | Spline     | 0.125         | Cosmetic       | 0.06     | SP-SHCS 0.06-80x0.125x0.125-C |             |             |
| 6  | #0-80 | 0.125  | Spline     | 0.125         | Schematic      | 0.06     | SP-SHCS 0.06-80x0.125x0.125-S |             |             |
| 7  | #0-80 | 0.188  | Hex        | 0.188         | Simplified     | 0.06     | HX-SHCS 0.06-80x0.188x0.188-N |             |             |
| 8  | #0-80 | 0.188  | Hex        | 0.188         | Cosmetic       | 0.06     | HX-SHCS 0.06-80x0.188x0.188-C |             |             |
| 9  | #0-80 | 0.188  | Hex        | 0.188         | Schematic      | 0.06     | HX-SHCS 0.06-80x0.188x0.188-S |             |             |
| 10 | #0-80 | 0.188  | Spline     | 0.188         | Simplified     | 0.06     | SP-SHCS 0.06-80x0.188x0.188-N |             |             |
| 11 | #0-80 | 0.188  | Spline     | 0.188         | Cosmetic       | 0.06     | SP-SHCS 0.06-80x0.188x0.188-C |             |             |

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

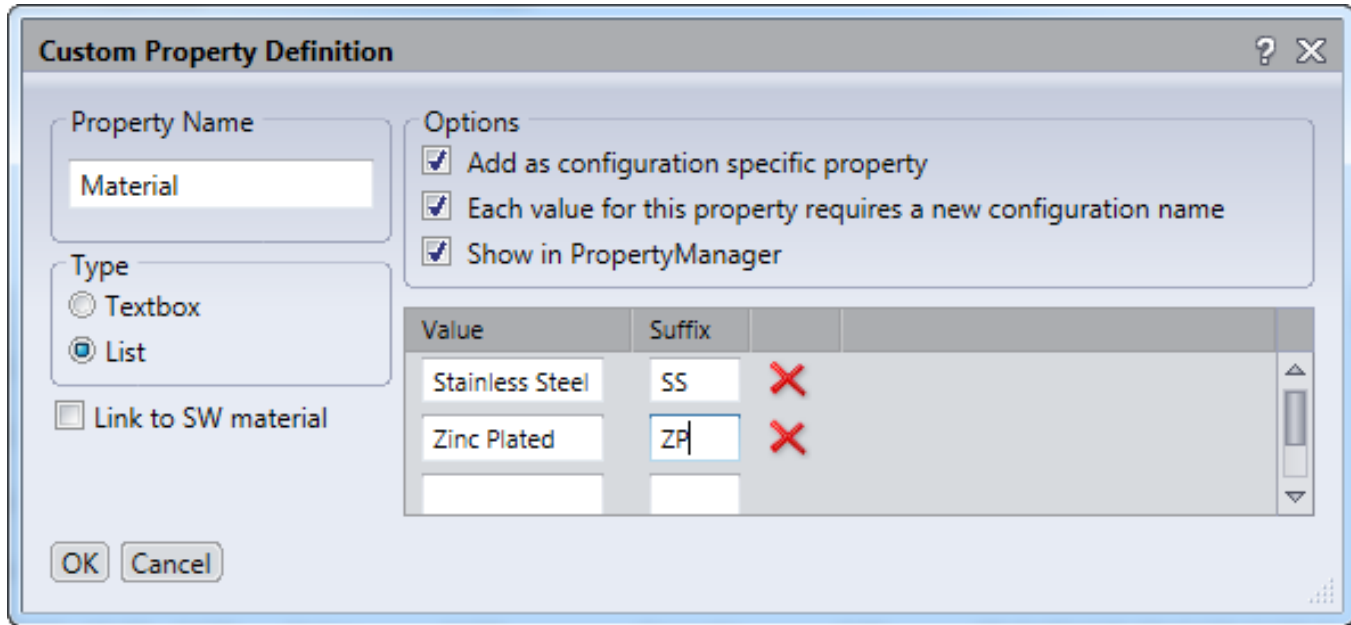
# Hardware

- Custom properties



# Hardware

- Adding the custom property to the hardware





# Hardware

- Custom properties

The screenshot shows the SolidWorks Hardware toolboxes. The left pane displays a tree view of hardware categories, with 'Socket Head Cap Screw' selected. The right pane shows the configuration options for this hardware type, including 'Standard Properties' and 'Custom Properties'. A table below the configuration options lists 11 different configurations for the 'Socket Head Cap Screw'.

|    | Size  | Length | Drive Type | Thread Length | Thread Display | Diameter | Configuration Name            | Part Number | Descripti |
|----|-------|--------|------------|---------------|----------------|----------|-------------------------------|-------------|-----------|
| 1  | #0-80 | 0.125  | Hex        | 0.125         | Simplified     | 0.06     | HX-SHCS 0.06-80x0.125x0.125-N |             |           |
| 2  | #0-80 | 0.125  | Hex        | 0.125         | Cosmetic       | 0.06     | HX-SHCS 0.06-80x0.125x0.125-C |             |           |
| 3  | #0-80 | 0.125  | Hex        | 0.125         | Schematic      | 0.06     | HX-SHCS 0.06-80x0.125x0.125-S |             |           |
| 4  | #0-80 | 0.125  | Spline     | 0.125         | Simplified     | 0.06     | SP-SHCS 0.06-80x0.125x0.125-N |             |           |
| 5  | #0-80 | 0.125  | Spline     | 0.125         | Cosmetic       | 0.06     | SP-SHCS 0.06-80x0.125x0.125-C |             |           |
| 6  | #0-80 | 0.125  | Spline     | 0.125         | Schematic      | 0.06     | SP-SHCS 0.06-80x0.125x0.125-S |             |           |
| 7  | #0-80 | 0.188  | Hex        | 0.188         | Simplified     | 0.06     | HX-SHCS 0.06-80x0.188x0.188-N |             |           |
| 8  | #0-80 | 0.188  | Hex        | 0.188         | Cosmetic       | 0.06     | HX-SHCS 0.06-80x0.188x0.188-C |             |           |
| 9  | #0-80 | 0.188  | Hex        | 0.188         | Schematic      | 0.06     | HX-SHCS 0.06-80x0.188x0.188-S |             |           |
| 10 | #0-80 | 0.188  | Spline     | 0.188         | Simplified     | 0.06     | SP-SHCS 0.06-80x0.188x0.188-N |             |           |
| 11 | #0-80 | 0.188  | Spline     | 0.188         | Cosmetic       | 0.06     | SP-SHCS 0.06-80x0.188x0.188-C |             |           |

# Hardware

- Custom properties

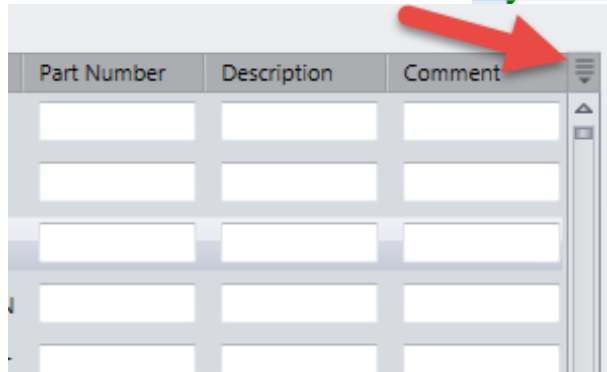
The screenshot shows the SolidWorks Toolbox interface for 'Socket Head Cap Screw'. The left pane shows a tree view of hardware categories, with 'Socket Head Screws' expanded. The main area displays a 3D model of a screw and indicates 65976 possible configurations. Below this are 'Standard Properties' and 'Custom Properties' sections. The 'Custom Properties' section has a 'Material' property checked. At the bottom, a table lists 11 configurations with columns for Size, Length, Drive Type, Thread Length, Thread Display, Diameter, Material, Configuration Name, Part Number, and Description.

|    | Size  | Length | Drive Type | Thread Length | Thread Display | Diameter | Material        | Configuration Name              | Part Number | Description |
|----|-------|--------|------------|---------------|----------------|----------|-----------------|---------------------------------|-------------|-------------|
| 1  | #0-80 | 0.125  | Hex        | 0.125         | Simplified     | 0.06     | Stainless Steel | HX-SHCS 0.06-80x0.125x0.125-NSS |             |             |
| 2  | #0-80 | 0.125  | Hex        | 0.125         | Simplified     | 0.06     | Zinc Plated     | HX-SHCS 0.06-80x0.125x0.125-NZP |             |             |
| 3  | #0-80 | 0.125  | Hex        | 0.125         | Cosmetic       | 0.06     | Stainless Steel | HX-SHCS 0.06-80x0.125x0.125-CSS |             |             |
| 4  | #0-80 | 0.125  | Hex        | 0.125         | Cosmetic       | 0.06     | Zinc Plated     | HX-SHCS 0.06-80x0.125x0.125-CZP |             |             |
| 5  | #0-80 | 0.125  | Hex        | 0.125         | Schematic      | 0.06     | Stainless Steel | HX-SHCS 0.06-80x0.125x0.125-SSS |             |             |
| 6  | #0-80 | 0.125  | Hex        | 0.125         | Schematic      | 0.06     | Zinc Plated     | HX-SHCS 0.06-80x0.125x0.125-SZP |             |             |
| 7  | #0-80 | 0.125  | Spline     | 0.125         | Simplified     | 0.06     | Stainless Steel | SP-SHCS 0.06-80x0.125x0.125-NSS |             |             |
| 8  | #0-80 | 0.125  | Spline     | 0.125         | Simplified     | 0.06     | Zinc Plated     | SP-SHCS 0.06-80x0.125x0.125-NZP |             |             |
| 9  | #0-80 | 0.125  | Spline     | 0.125         | Cosmetic       | 0.06     | Stainless Steel | SP-SHCS 0.06-80x0.125x0.125-CSS |             |             |
| 10 | #0-80 | 0.125  | Spline     | 0.125         | Cosmetic       | 0.06     | Zinc Plated     | SP-SHCS 0.06-80x0.125x0.125-CZP |             |             |
| 11 | #0-80 | 0.125  | Spline     | 0.125         | Schematic      | 0.06     | Stainless Steel | SP-SHCS 0.06-80x0.125x0.125-SSS |             |             |

# Hardware

- Tables

|    | A             | B              | C             | D              | E                               | F           | G           | H       |
|----|---------------|----------------|---------------|----------------|---------------------------------|-------------|-------------|---------|
| 1  | Fastener Name | Hex Bolt       |               |                |                                 |             |             |         |
| 2  | Fastener ID   | HBOLT_AI_BS_PN |               |                |                                 |             |             |         |
| 3  |               |                |               |                |                                 |             |             |         |
| 4  | Size          | Length         | Thread Length | Thread Display | Configuration Name              | Part Number | Description | Comment |
| 5  |               |                |               |                |                                 |             |             |         |
| 6  | 1/4-20        | 0.25           | 0.25          | Simplified     | HBOLT 0.2500-20x0.25x0.25-N     |             |             |         |
| 7  | 1/4-20        | 0.25           | 0.25          | Cosmetic       | HBOLT 0.2500-20x0.25x0.25-C     |             |             |         |
| 8  | 1/4-20        | 0.25           | 0.25          | Schematic      | HBOLT 0.2500-20x0.25x0.25-S     |             |             |         |
| 9  | 1/4-20        | 0.3125         | 0.3125        | Simplified     | HBOLT 0.2500-20x0.3125x0.3125-N |             |             |         |
| 10 | 1/4-20        | 0.3125         | 0.3125        | Cosmetic       | HBOLT 0.2500-20x0.3125x0.3125-C |             |             |         |
|    |               | 0.3125         | 0.3125        | Schematic      | HBOLT 0.2500-20x0.3125x0.3125-S |             |             |         |
|    |               | 0.375          | 0.375         | Simplified     | HBOLT 0.2500-20x0.375x0.375-N   |             |             |         |
|    |               | 0.375          | 0.375         | Cosmetic       | HBOLT 0.2500-20x0.375x0.375-C   |             |             |         |
|    |               | 0.375          | 0.375         | Schematic      | HBOLT 0.2500-20x0.375x0.375-S   |             |             |         |
|    |               | 0.4375         | 0.4375        | Simplified     | HBOLT 0.2500-20x0.4375x0.4375-N |             |             |         |
|    |               | 0.4375         | 0.4375        | Cosmetic       | HBOLT 0.2500-20x0.4375x0.4375-C |             |             |         |
|    |               | 0.4375         | 0.4375        | Schematic      | HBOLT 0.2500-20x0.4375x0.4375-S |             |             |         |
|    |               | 0.5            | 0.5           | Simplified     | HBOLT 0.2500-20x0.5x0.5-N       |             |             |         |
|    |               | 0.5            | 0.5           | Cosmetic       | HBOLT 0.2500-20x0.5x0.5-C       |             |             |         |
|    |               | 0.5            | 0.5           | Schematic      | HBOLT 0.2500-20x0.5x0.5-S       |             |             |         |
|    |               | 0.5625         | 0.5625        | Simplified     | HBOLT 0.2500-20x0.5625x0.5625-N |             |             |         |
|    |               | 0.5625         | 0.5625        | Cosmetic       | HBOLT 0.2500-20x0.5625x0.5625-C |             |             |         |
| 23 | 1/4-20        | 0.5625         | 0.5625        | Schematic      | HBOLT 0.2500-20x0.5625x0.5625-S |             |             |         |
| 24 | 1/4-20        | 0.625          | 0.625         | Simplified     | HBOLT 0.2500-20x0.625x0.625-N   |             |             |         |
| 25 | 1/4-20        | 0.625          | 0.625         | Cosmetic       | HBOLT 0.2500-20x0.625x0.625-C   |             |             |         |
| 26 | 1/4-20        | 0.625          | 0.625         | Schematic      | HBOLT 0.2500-20x0.625x0.625-S   |             |             |         |
| 27 | 1/4-20        | 0.75           | 0.75          | Simplified     | HBOLT 0.2500-20x0.75x0.75-N     |             |             |         |
| 28 | 1/4-20        | 0.75           | 0.75          | Cosmetic       | HBOLT 0.2500-20x0.75x0.75-C     |             |             |         |
| 29 | 1/4-20        | 0.75           | 0.75          | Schematic      | HBOLT 0.2500-20x0.75x0.75-S     |             |             |         |



# Hardware

- Copy data

The screenshot shows the SolidWorks Toolbox interface. The left pane displays a tree view of hardware standards, with 'ANSI Inch' > 'Bolts and Screws' > 'Socket Head Screws' selected. The main pane shows the 'Socket Head Cap Screw' configuration, which has 65976 possible configurations. A table below lists various configurations with columns for Size, Length, Drive Type, Thread Length, Thread Display, Diameter, Material, Configuration Name, Part Number, and Description. A context menu is open over the table, with 'Copy' selected.

|    | Size  | Length | Drive Type | Thread Length | Thread Display | Diameter | Material        | Configuration Name              | Part Number | Description |
|----|-------|--------|------------|---------------|----------------|----------|-----------------|---------------------------------|-------------|-------------|
|    | 0-80  | 0.125  | Hex        | 0.125         | Simplified     | 0.06     | Stainless Steel | HX-SHCS 0.06-80x0.125x0.125-NSS |             |             |
|    | 0-80  | 0.125  | Hex        | 0.125         | Simplified     | 0.06     | Zinc Plated     | HX-SHCS 0.06-80x0.125x0.125-NZP |             |             |
|    | 0-80  | 0.125  | Hex        | 0.125         | Cosmetic       | 0.06     | Stainless Steel | HX-SHCS 0.06-80x0.125x0.125-CSS |             |             |
| 4  | #0-80 | 0.125  | Hex        | 0.125         | Cosmetic       | 0.06     | Zinc Plated     | HX-SHCS 0.06-80x0.125x0.125-CZP |             |             |
| 5  | #0-80 | 0.125  | Hex        | 0.125         | Schematic      | 0.06     | Stainless Steel | HX-SHCS 0.06-80x0.125x0.125-SSS |             |             |
| 6  | #0-80 | 0.125  | Hex        | 0.125         | Schematic      | 0.06     | Zinc Plated     | HX-SHCS 0.06-80x0.125x0.125-SZP |             |             |
| 7  | #0-80 | 0.125  | Spline     | 0.125         | Simplified     | 0.06     | Stainless Steel | SP-SHCS 0.06-80x0.125x0.125-NSS |             |             |
| 8  | #0-80 | 0.125  | Spline     | 0.125         | Simplified     | 0.06     | Zinc Plated     | SP-SHCS 0.06-80x0.125x0.125-NZP |             |             |
| 9  | #0-80 | 0.125  | Spline     | 0.125         | Cosmetic       | 0.06     | Stainless Steel | SP-SHCS 0.06-80x0.125x0.125-CSS |             |             |
| 10 | #0-80 | 0.125  | Spline     | 0.125         | Cosmetic       | 0.06     | Zinc Plated     | SP-SHCS 0.06-80x0.125x0.125-CZP |             |             |
| 11 | #0-80 | 0.125  | Spline     | 0.125         | Schematic      | 0.06     | Stainless Steel | SP-SHCS 0.06-80x0.125x0.125-SSS |             |             |

# User settings

- Create Configurations
- Create Parts
- Create Parts on Ctrl-drag
- Create Parts in this folder:

The screenshot shows the 'User Settings' dialog box with the following sections and options:

- Files**
  - Create Configurations  
A configuration is added to a master part file each time you use a new size of a particular fastener.
  - Create Parts  
An individual part file is created each time you use a new size of a particular fastener.
  - Create Parts on Ctrl-Drag  
An individual part file is created if you CTRL-drag the fastener from the Toolbox Browser. A configuration is added to the master part file if you use a standard drag.
- Create parts in this folder:
- Writing to read-only documents**
  - Always change read-only status of document before writing
  - Error when writing to a read-only document
- Part numbers**
  - Allow duplicate part numbers for geometrically equal components
- Display options**
  - Show as Component Name in FeatureManager:
  - Show as Part Number in Bill of Materials:
  - Show as Description in Bill of Materials:
- \* Designation applies only to the AS, DIN, GB, ISO, IS and KS standards.

# User settings

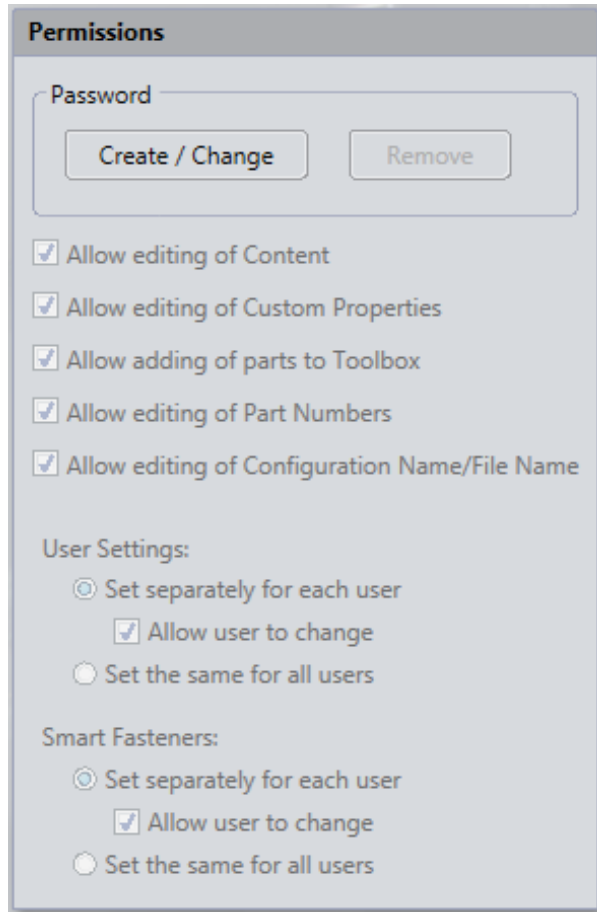
- Writing to Read-only files
- Always change
- Error when writing
- Allow duplicate part numbers
- Show as Component Name in Feature manager, Show part no. in BOM, and Show description in BOM

The screenshot shows the 'User Settings' dialog box with the following sections and options:

- Files**
  - Create Configurations  
A configuration is added to a master part file each time you use a new size of a particular fastener.
  - Create Parts  
An individual part file is created each time you use a new size of a particular fastener.
  - Create Parts on Ctrl-Drag  
An individual part file is created if you CTRL-drag the fastener from the Toolbox Browser. A configuration is added to the master part file if you use a standard drag.
- Create parts in this folder: [Text Field] [Browse]
- Writing to read-only documents**
  - Always change read-only status of document before writing
  - Error when writing to a read-only document
- Part numbers**
  - Allow duplicate part numbers for geometrically equal components
- Display options**
  - Show as Component Name in FeatureManager: [Filename] [v]
  - Show as Part Number in Bill of Materials: [Configuration Name] [v]
  - Show as Description in Bill of Materials: [Description] [v]
- \* Designation applies only to the AS, DIN, GB, ISO, IS and KS standards.

# Permissions

- Allow editing Content
- Allow editing Custom Properties
- Allow adding parts to Toolbox
- Allow editing of Part Numbers
- Allow editing of Config/File name



The screenshot shows the 'Permissions' dialog box in SolidWorks. At the top, there is a 'Password' field with two buttons: 'Create / Change' and 'Remove'. Below this, there are five checked checkboxes for permissions: 'Allow editing of Content', 'Allow editing of Custom Properties', 'Allow adding of parts to Toolbox', 'Allow editing of Part Numbers', and 'Allow editing of Configuration Name/File Name'. Under the 'User Settings' section, the 'Set separately for each user' radio button is selected, and the 'Allow user to change' checkbox is checked. The 'Smart Fasteners' section also has the 'Set separately for each user' radio button selected and the 'Allow user to change' checkbox checked.

# More user settings

- Set up actions for one or all users regarding user settings and Smart Fasteners

The screenshot shows the 'Permissions' dialog box in SolidWorks. It is divided into several sections:

- Password:** A text input field with two buttons: 'Create / Change' and 'Remove'.
- Permissions:** A list of five checked checkboxes:
  - Allow editing of Content
  - Allow editing of Custom Properties
  - Allow adding of parts to Toolbox
  - Allow editing of Part Numbers
  - Allow editing of Configuration Name/File Name
- User Settings:** A radio button selected for 'Set separately for each user', with a checked checkbox for 'Allow user to change'. The 'Set the same for all users' option is unselected.
- Smart Fasteners:** A radio button selected for 'Set separately for each user', with a checked checkbox for 'Allow user to change'. The 'Set the same for all users' option is unselected.



# Smart Fasteners

- Washer specification
- Automatic fastener change
- Default fastener to use with non-hole wizard holes

**Smart Fasteners**

Washer sizes

Show washer sizes that match fastener criteria

Exact match

Greater than tolerance >  %

Unrestricted

Automatic fastener change

Change fastener length to ensure minimum thread engagement

Threads beyond a nut

x diameter into a tapped hole

Change stack components when fastener size is changed

Fastener to use with Non-Hole Wizard holes

Socket Head Cap Screw

C:\SOLIDWORKS Data 2015\browser\Ansi Inch\bolts and screws\socket head screws\socket head cap screw\_ai.sldprt

...

# Here's a trick!

Removing the Toolbox flag – how and where?

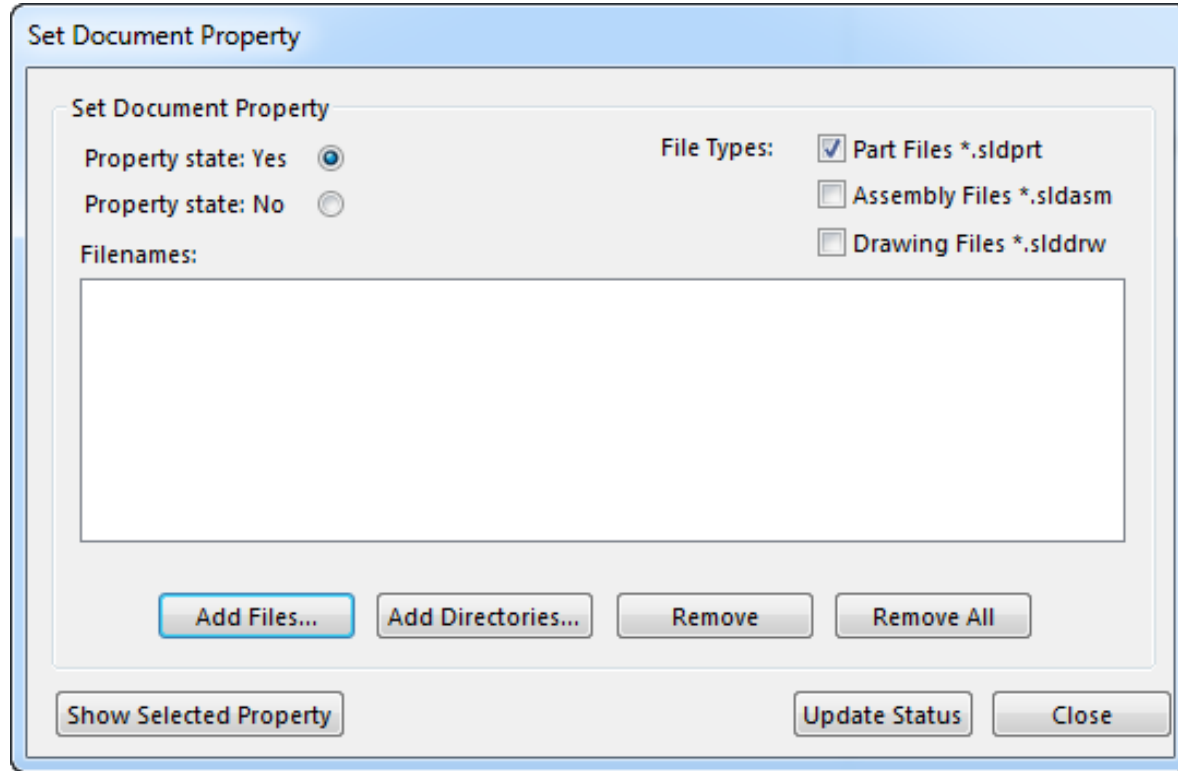
How? By using SOLIDWORKS attribute tool called setdocprop.exe

This command removes the Toolbox file property from a Toolbox component to allow the file to be saved off as a separate component that Toolbox will no longer recognize as a Toolbox component.

Where? In your standard SOLIDWORKS installation location.

C:\Program Files\SOLIDWORKS Corp.\SOLIDWORKS\Toolbox\Data Utilities

# setdocprop.exe



# Manual Updating the Toolbox

- Best idea EVER???

**BACK UP  
YOUR  
TOOLBOX  
FIRST!!**

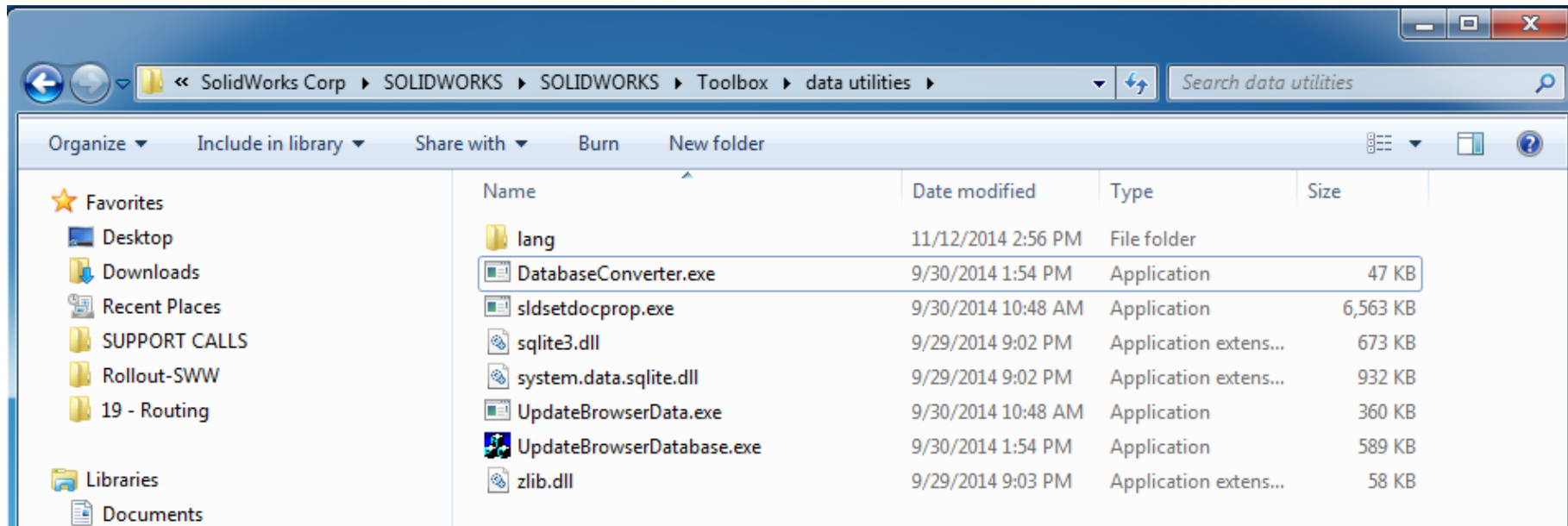
**Default location is:**

**C:\SOLIDWORKS Data**

**...or C:\SolidWorks Data(2)  
(3) (4) etc.**

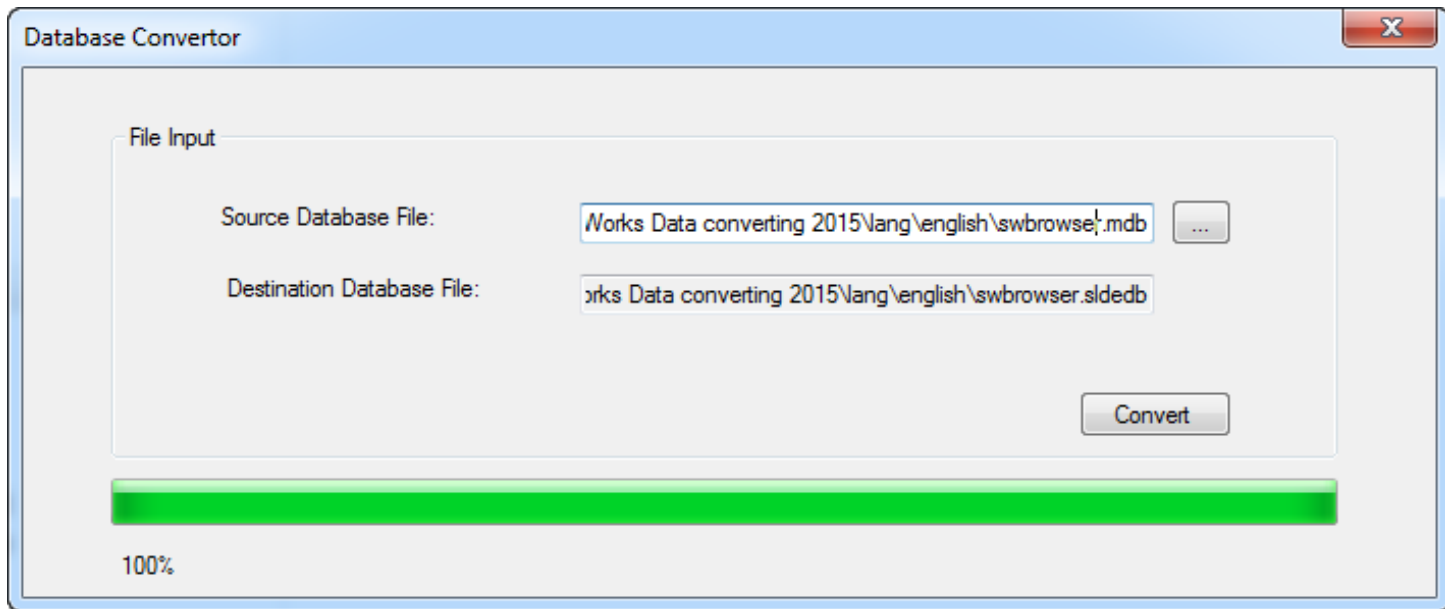
# Manual Updating the Toolbox

- Convert 2014 or earlier to 2015



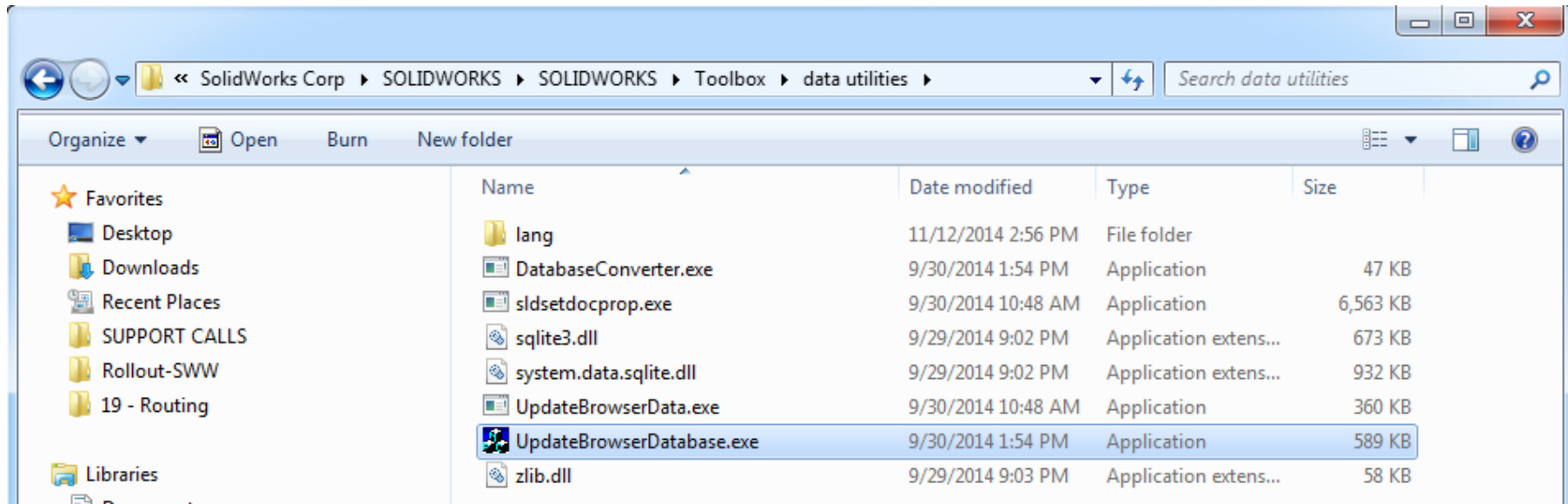
# Inside the convertor

- Convert 2014 or earlier to 2015



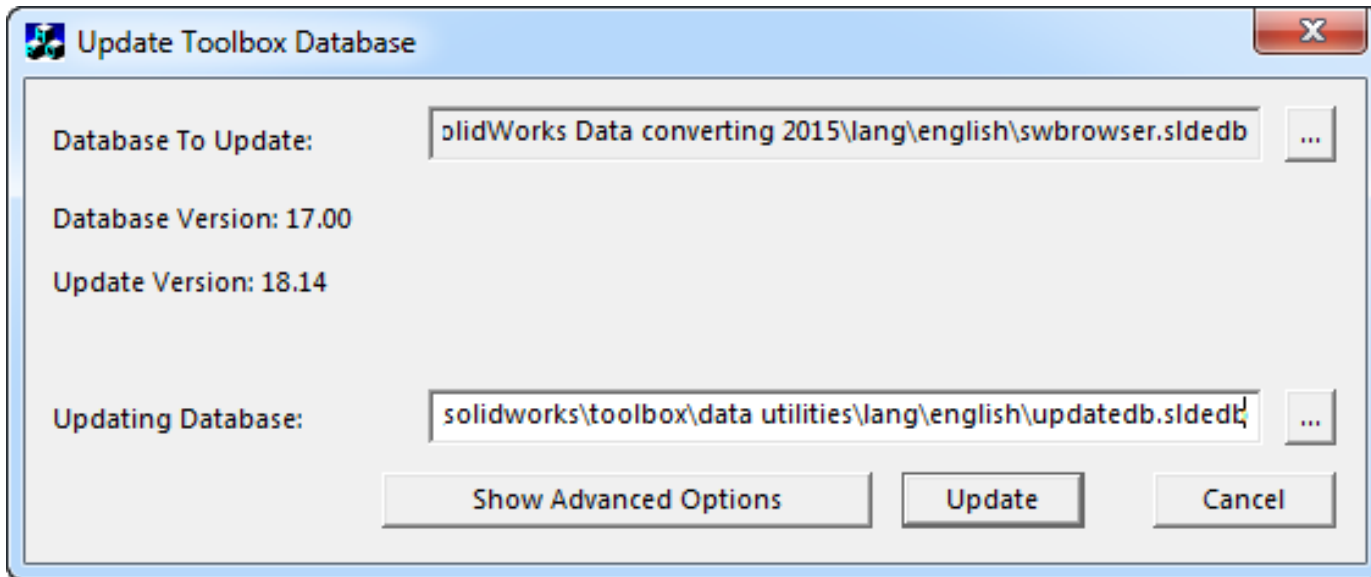
# Updating the database

- Update the 2014 or earlier to 2015



# Inside the update tool

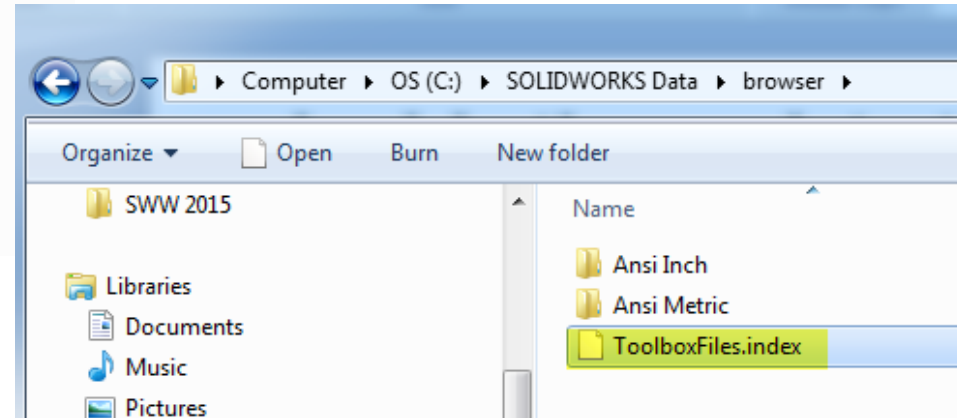
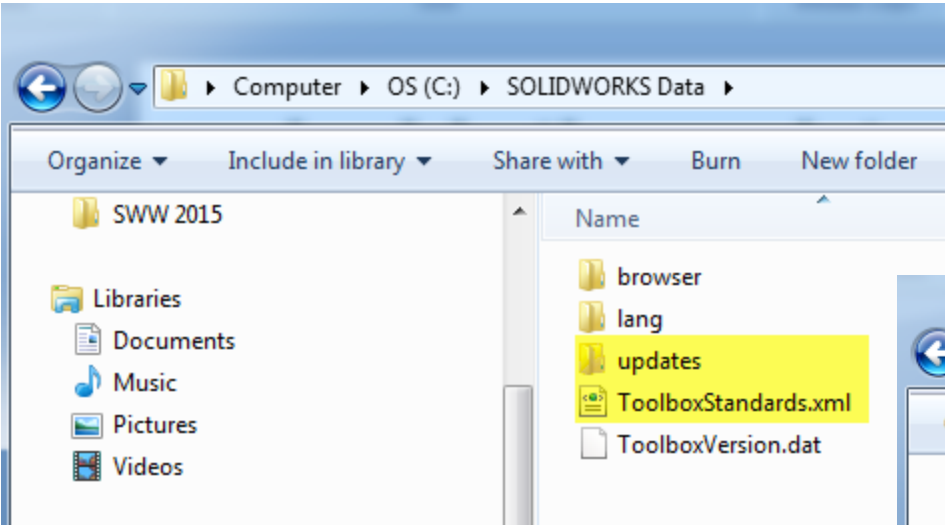
- Update the 2014 or earlier to 2015





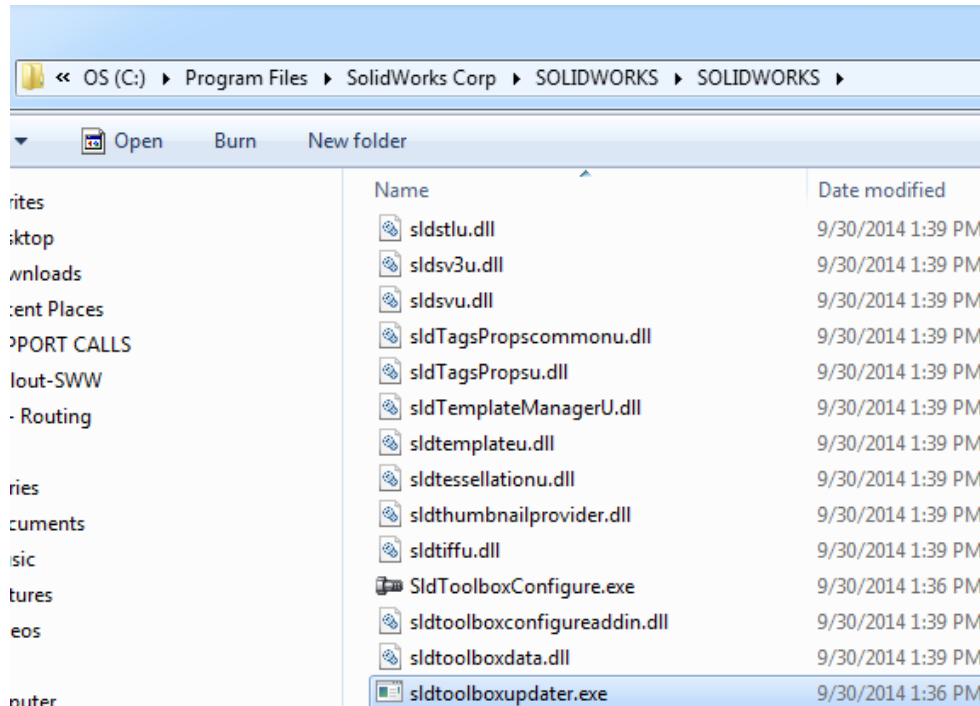
# Important steps

- The next tool may work best if the next few items are renamed.



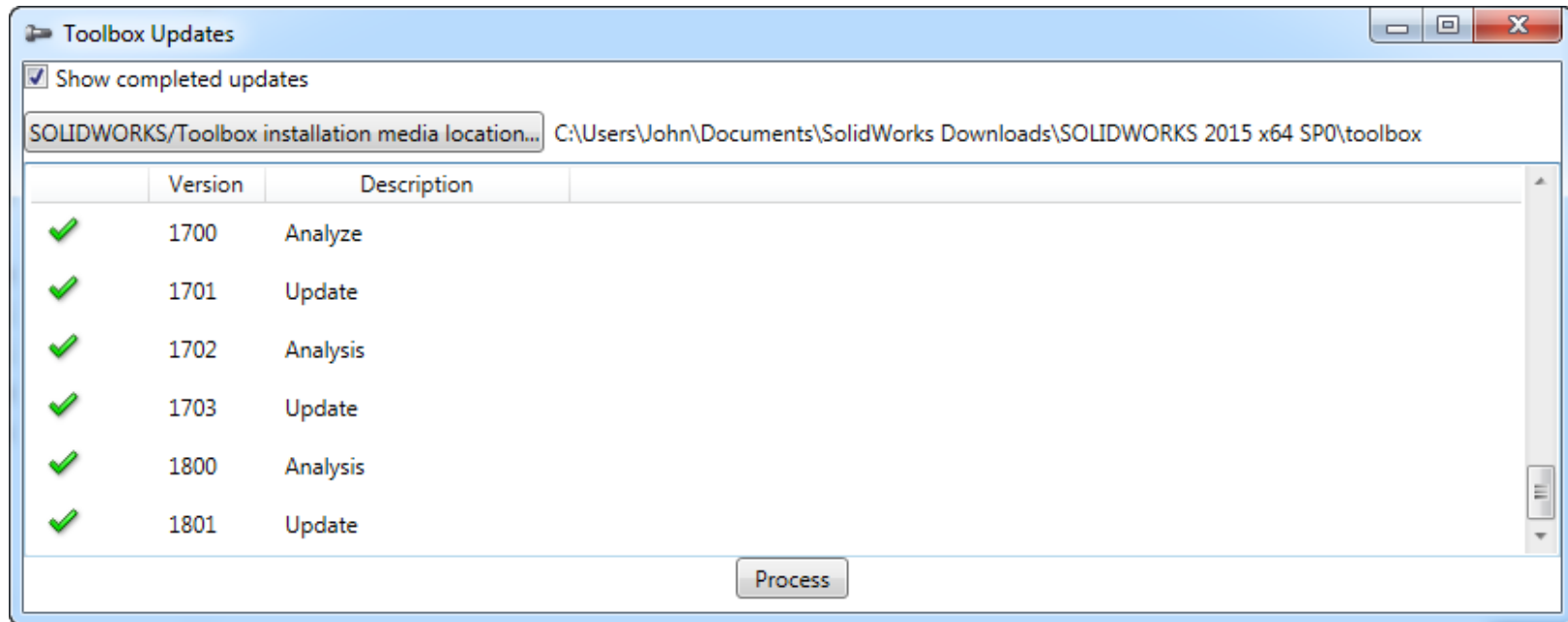
# Sldtoolboxupdater.exe

- Run this tool to update the components.



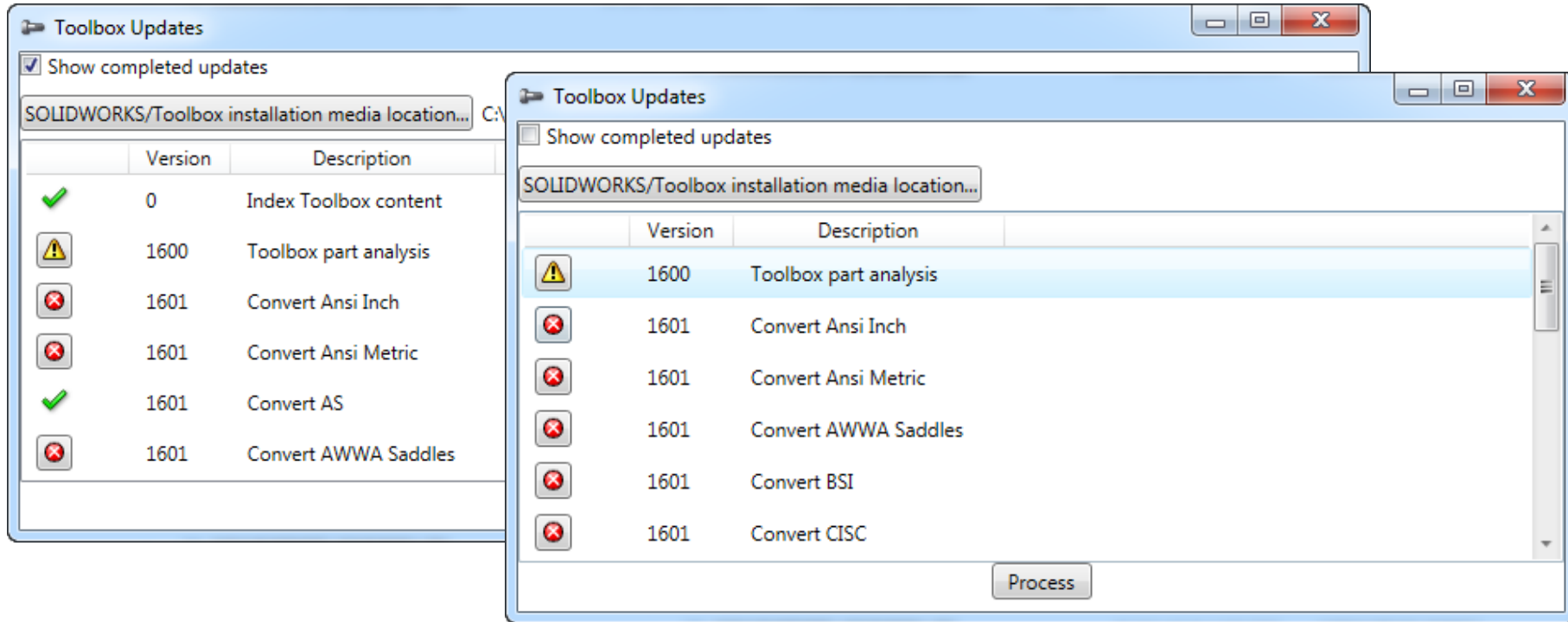
# Inside the Sldtoolboxupdater.exe

- Runs on current toolbox location
- Must have download or DVD with toolbox folder in it.



# Xs and Uh Ohs!!

- Click the icons to read the warnings



# EPDM

## A brief note on EPDM and your toolbox...

If you have entered your toolbox into your PDM system a few things must happen.

1. All users should check in all assemblies before upgrading toolbox.
2. All users should close SW to prevent any file in use errors
3. Toolbox will need to be checked out in whole. (**great time to make a copy**)
4. You will need to force SW to point to the checked out toolbox to manually update it. This is done with the tools options in SW or by modifying the registry (get some VAR help with registry settings)
5. Check it back in when the update is finished.

????

# Questions?

????

# CATI and InFlow Presentation Schedule

## Monday February, 9th

- **Discovering and Understanding SOLIDWORKS Dismissed Messages** - 1:30pm-2:30pm - Room TBD, Bryan Pawlak and Phil Whitaker
- **SOLIDWORKS Composer: As Easy as Building with Legos** - 1:30pm-2:30pm – Room North-225B, Brian Reel
- **Achieving Extreme SOLIDWORKS Performance: Hardware/Configuration** - 2:45-3:45pm - Room North-121A-C, Adrian Fanjoy and Josh Altergott
- **Configuring SOLIDWORKS Toolbox** - 2:45-3:45pm - Room North-124A/B, John Van Engen
- **Successfully Prepare for Your EPDM File/Data Migration** - 2:45-3:45pm - Room North-120D, Jeff Barker

## Tuesday February, 10th

- **SOLIDWORKS Duct Tape & Bailing Wire: Creative Solutions to Everyday Problems**- 1:30-2:30pm - Room North 128A/B, Josh Altergott and Adrian Fanjoy
- **Drawings: Setup of Templates and Sheet Formats**- 1:30-2:30pm - Room North-221, Jim Krivoshein
- **EPDM Web: Implementing and Configuring** - 1:30pm-2:30pm - Room TBD, Justin Webster
- **How to Build and Maintain Effective Design Tables** - 2:45-3:45pm - Room North-226B, Josh Altergott
- **DriveWorksXpress Essentials Hands-On Lab** – 4:30pm-6:00pm - Room North-227C, Ryan Dally

## Wednesday February, 11th

- **SOLIDWORKS Composer: As Easy as Building with Legos** - 1:30pm-2:30pm – Room North-225B, Brian Reel
- **Achieving Extreme SOLIDWORKS Performance: Modeling Methodology** - 2:45-3:45pm - Room North-120D, Josh Altergott, and Adrian Fanjoy
- **Sharing Assemblies—Without Giving It All Away**- 2:45-3:45pm - Room North-221, Jim Krivoshein

For a copy of all CATI and InFlow presentations please go to <http://www.cati.com/sww2015>

# CATI and InFlow Presentation Schedule

## Monday February, 9th

- **Discovering and Understanding SOLIDWORKS Dismissed Messages** - 1:30pm-2:30pm - Room TBD, Bryan Pawlak and Phil Whitaker
- **SOLIDWORKS Composer: As Easy as Building with Legos** - 1:30pm-2:30pm – Room North-225B, Brian Reel
- **Achieving Extreme SOLIDWORKS Performance: Hardware/Configuration** - 2:45-3:45pm - Room North-121A-C, Adrian Fanjoy and Josh Altergott
- **Configuring SOLIDWORKS Toolbox** - 2:45-3:45pm - Room North-124A/B, John Van Engen
- **Successfully Prepare for Your EPDM File/Data Migration** - 2:45-3:45pm - Room North-120D, Jeff Barker

## Tuesday February, 10th

- **SOLIDWORKS Duct Tape & Bailing Wire: Creative Solutions to Everyday Problems**- 1:30-2:30pm - Room North 128A/B, Josh Altergott and Adrian Fanjoy
- **Drawings: Setup of Templates and Sheet Formats**- 1:30-2:30pm - Room North-221, Jim Krivoshein
- **EPDM Web: Implementing and Configuring** - 1:30pm-2:30pm - Room TBD, Justin Webster
- **How to Build and Maintain Effective Design Tables** - 2:45-3:45pm - Room North-226B, Josh Altergott
- **DriveWorksXpress Essentials Hands-On Lab** – 4:30pm-6:00pm - Room North-227C, Ryan Dally

## Wednesday February, 11th

- **SOLIDWORKS Composer: As Easy as Building with Legos** - 1:30pm-2:30pm – Room North-225B, Brian Reel
- **Achieving Extreme SOLIDWORKS Performance: Modeling Methodology** - 2:45-3:45pm - Room North-120D, Josh Altergott, and Adrian Fanjoy
- **Sharing Assemblies—Without Giving It All Away**- 2:45-3:45pm - Room North-221, Jim Krivoshein

For a copy of all CATI and InFlow presentations please go to <http://www.cati.com/sww2015>



