Creating custom threads and thread standards in Fusion 360

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Dec 26 2022

Issue:

A nonstandard thread or a thread larger than a specific diameter is not available as a predefined thread type for Fus 360. Is there an add-on or a way to create and use a custom/nonstandard thread? Is there a way to define an entire custom thread standard?

Solution:

Use a 3rd party addin

To create a custom threaded screw in Windows, use the Custom Screw Creator plugin for Fusion 360.

Modify the thread library

Use the following steps to set custom thread parameters and have them appear in the Create > Thread menu in Fusi 360:

1. Allow access to hidden files and directories.
    - How to turn on hidden files and folders on Windows
    - How to Access Hidden User Library folder on Mac OS
2. Browse to the following directory:

    Windows:
    %localappdata%\Autodesk\webdeploy\Production\<version ID>\Fusion\Server\Fusion\Configuration\ThreadDa

    macOS:
    Macintosh HD> Users> *[Username]* > Library > Application Support > Autodesk > Webdeploy > production > *[Version specific ID]* > Then right click "Autodesk Fusion 360" and choose Show Package Contents > Conten Libraries > Applications > Fusion > Fusion > Server > Fusion > Configuration >ThreadData
    A video showing how to find this location in Finder is linked here.
3. Create a copy of the XML thread family that needs to be customized and rename file, for instance:

    "ACMEScrewThreads.xml" copy to "CustomACMEThread.xml"
4. Open the copied file "CustomACMEThread.xml". Use an application like Notepad++ or Microsoft Visual Studio to

5. Modify the name line for the custom thread.

   (For example, Change "<Name>ACME Screw Threads</Name>" to "<Name>My Customize Threads</Name>")
   Note: all names must be unique.
6. Customize other parameters such as pitch, diameters, etc.
7. Save the XML.

Notes:

- If this design file is used in Fusion 360 when there is no access to the customized XML file, the following error message may appear:

  "...the current thread family has no suitable type..."
- When modifying a standard thread type, the design file will be modified back to the standard settings if the featur recomputed on a machine without access to the customized thread XML file.
- When using this procedure to create a custom thread in Fusion 360, the XML specific formatting is very important XML typos or syntax errors can cause problems in which standard threads are removed from Fusion, and preven the custom thread from being used in the program. Using an XML Parser such as this one can help to confirm tha syntax is correct.