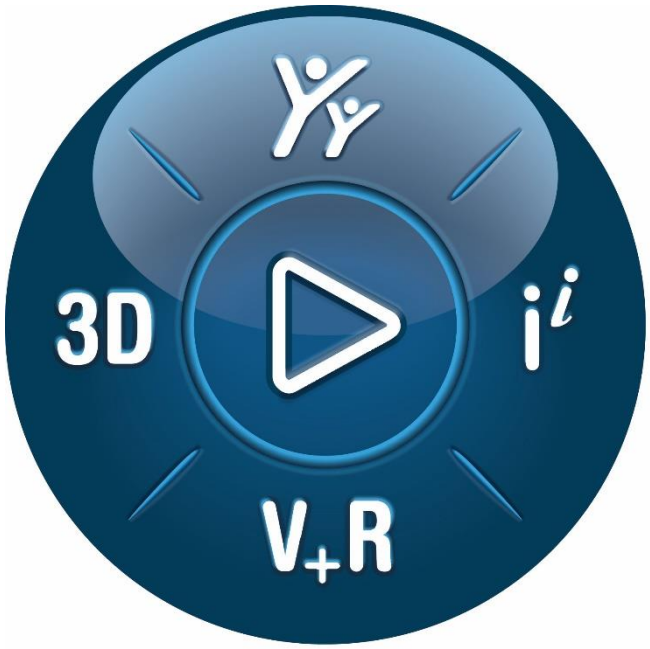
SolidPractices: Working with Toolbox

3DEXPERIENCE SOLIDWORKS®

Last Update: May 2023
Revision 3.1



3DEXPERIENCE®

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Revision History

Rev #	Date	Description
1.0	*Jun 2021*	*Document created.*
2.0	*Jun 2022*	*Modified and updated using R2022x FD02.*
3.0	*Apr 2023*	*Modified and updated using R2023x FD02.*
3.1	*May 2023*	*Added additional information using R2023x FD02.*

Note

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*This document was updated using **3D**EXPERIENCE platform R2023x FD02 on Cloud and **3D**EXPERIENCE SOLIDWORKS Premium. The content also applies to Collaborative Designer for SOLIDWORKS and SOLIDWORKS Premium 2023 SP2.0. If you have questions or need assistance in understanding the content, then contact your designated reseller. You can download the most current version of this document from https://my.solidworks.com/support/solidpractices.*

1) Preface

Seamless deployment of Toolbox components to the **3D**EXPERIENCE platform was implemented in **3D**EXPERIENCE R2021x FD04 on Cloud. Toolbox integration with **3D**EXPERIENCE provides easier access and management of Toolbox components to all the relevant SOLIDWORKS users within an organization.

When you open an assembly in SOLIDWORKS that contains references to Toolbox components, or you add new Toolbox components to it, the **3D**EXPERIENCE platform automatically recognizes those. The system enforces the generation of each Toolbox component as a part, to facilitate better collaboration through the platform.

This SolidPractices document provides information about Toolbox integration with **3D**EXPERIENCE in various scenarios.

References:

- **3D**EXPERIENCE Help Document: Working with the Toolbox Components
- SolidPractices Document: Setting up SOLIDWORKS Toolbox. Accessible from https://my.solidworks.com/support/solidpractices. This document provides more details on Toolbox functionality.

Your Feedback Requested

We would like to hear your feedback and suggestions for new topics. After reviewing this document, please take a few minutes to fill out a brief survey. Your feedback will help us create the content that directly addresses your challenges.

2) How Does Toolbox Integration Work?

Toolbox integration with **3D**EXPERIENCE supports the following scenarios:

- Save to **3D**EXPERIENCE existing assemblies referencing Toolbox components.
- Insert new Toolbox components in an assembly.

When you add Toolbox components to an assembly from the **Design Library** task pane tab, or open an assembly that includes Toolbox components, the integration automatically enforces the following:

- Parts for Toolbox components are imported to a designated **Collaborative Space**, or are retrieved from there if they already exist.
- **Maturity** state of the Physical Products created from the imported Toolbox parts are set to **In Work** or **Released**, based on the **ToolBox settings** deployed by the platform administrator.

To designate a **Collaborative Space** other than **Common Space**, you must set its visibility to **Public**.

Toolbox components imported to **3D**EXPERIENCE by one user become available for re-use by other users without any duplication, and from any connected SOLIDWORKS client computer.

Note: Toolbox integration with **3D**EXPERIENCE only supports the **Create Parts** option that automatically generates individual parts. This does not support managing Toolbox components as configurations.

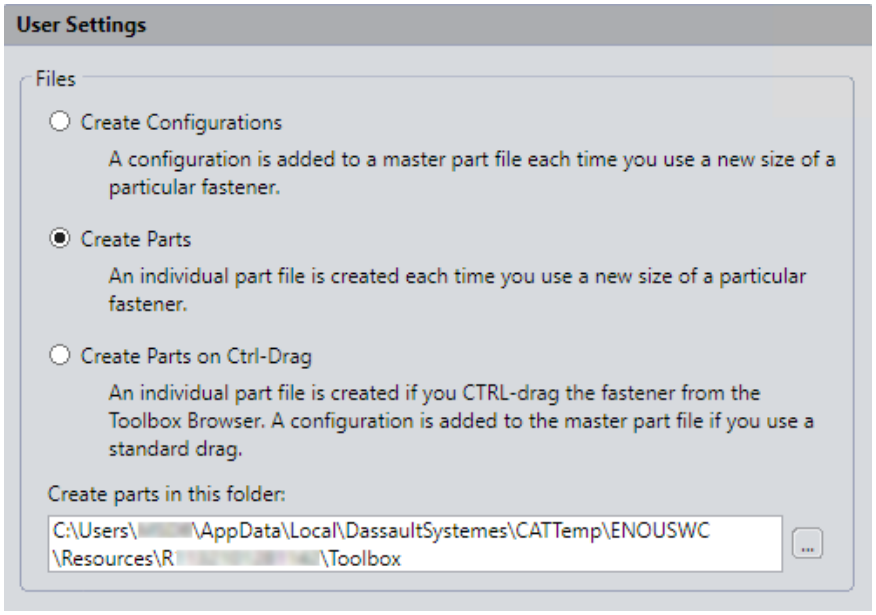
a) Design with SOLIDWORKS

The **Create Parts** option is available in the Toolbox **User Settings** for **Files** in the SOLIDWORKS desktop software that is used with the **Design with SOLIDWORKS** app (*Collaborative Designer for SOLIDWORKS* role).

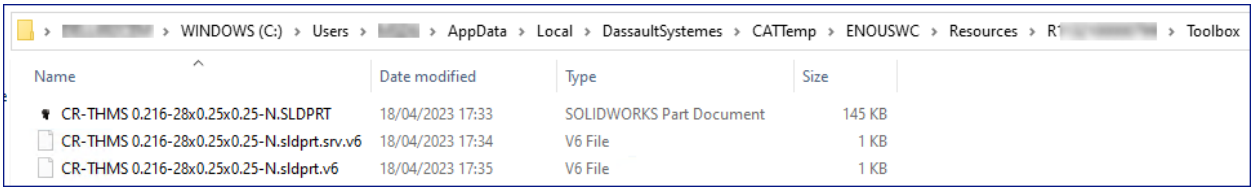
When you install this app, it automatically enforces the following in **User Settings** for **Files**:

- Activates the **Create Parts** option.
- Specifies the following file path in the **Create parts in this folder** field -

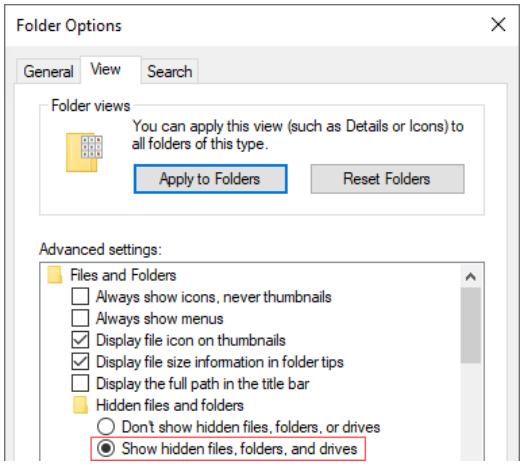
  %LOCALAPPDATA%\DassaultSystemes\CATTemp\ENOUSWC\Resources\[tenant ID]\Toolbox



The app generates *.sldprt files in this folder for each of the Toolbox components integrated with **3D**EXPERIENCE. For each of the *.sldprt files integrated with **3D**EXPERIENCE, the app also generates the required cache files, i.e. *.v6 and *.srv.v6, in the same folder.



However, these cache files are hidden by default, so only visible with the relevant folder option enabled.

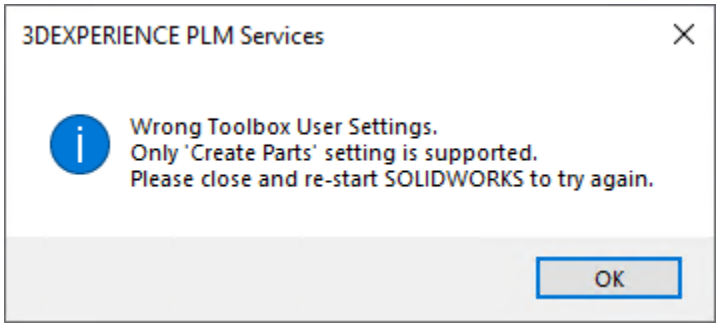


These cache files are essential for the Toolbox *.sldprt files to successfully integrate with **3D**EXPERIENCE. More details in the **Note:** below.

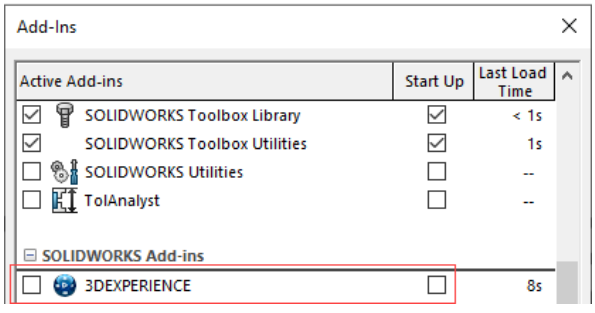
In **User Settings** for **Files**, the two other available options are not supported for Toolbox integration with **3D**EXPERIENCE:

Create Configurations
Create Parts on Ctrl-Drag

You should not change **User Settings** to either of these two options, as it will prevent the integration and will show the following message when you use a Toolbox component:

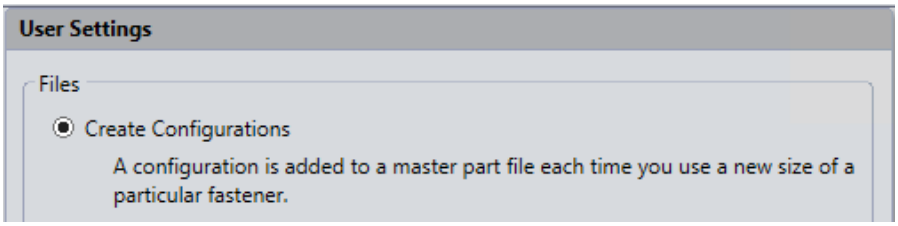


Note: After you install the Design with SOLIDWORKS app on a computer, if you disable the **3DEXPERIENCE** add-in,

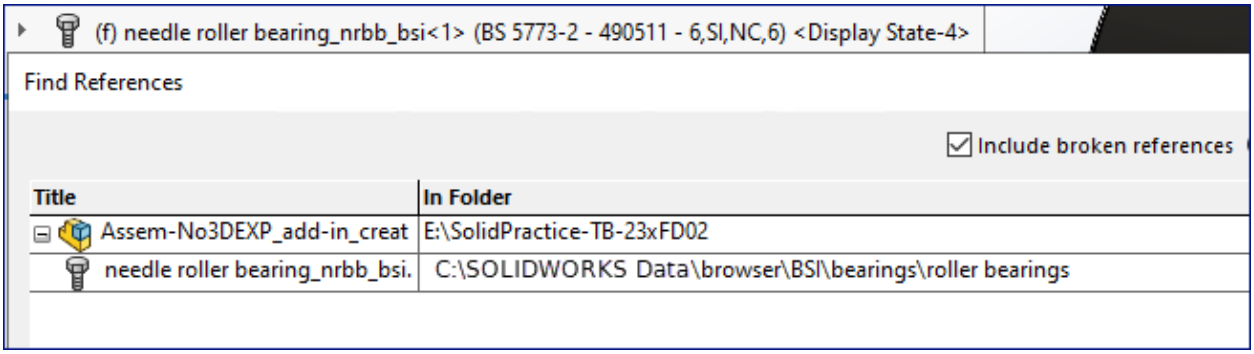


any new Toolbox component you insert into an assembly will follow the rules below:

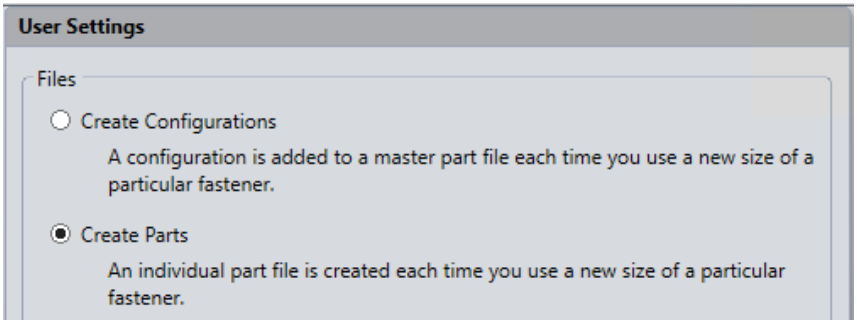
1. If you change the **User Settings** for **Files** to **Create Configurations** –



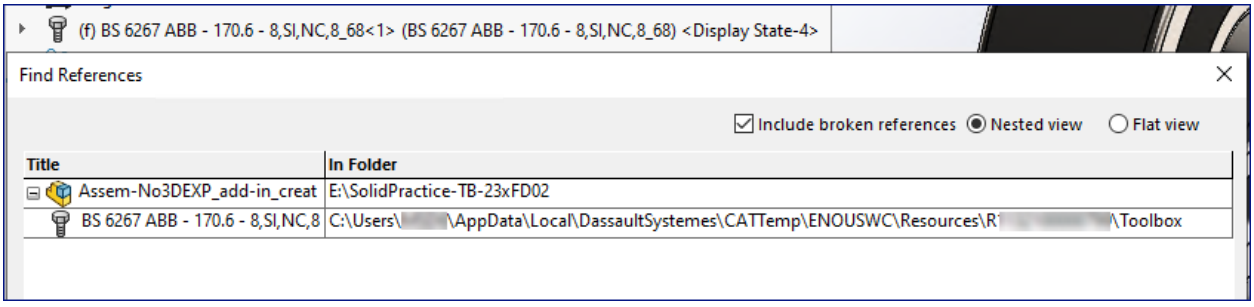
Toolbox components will be referenced from the SOLIDWORKS Data folder (default location 'C:\SOLIDWORKS Data').



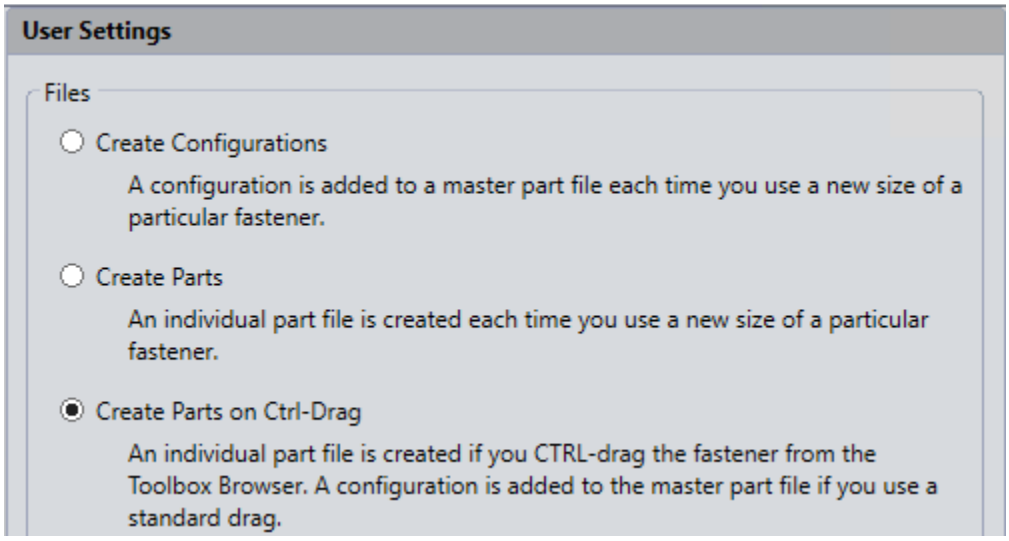
2. If you retain the **User Settings** for **Files** to **Create Parts** –



Toolbox components will continue to be referenced from the designated directory for **Create parts in this folder** mentioned in section a) above.

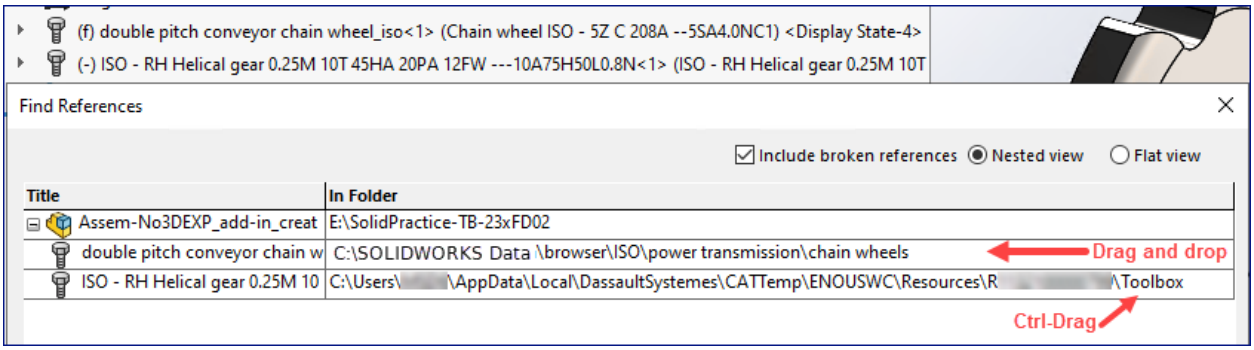


3. If you change the **User Settings** for **Files** to **Create Parts on Ctrl-Drag** –

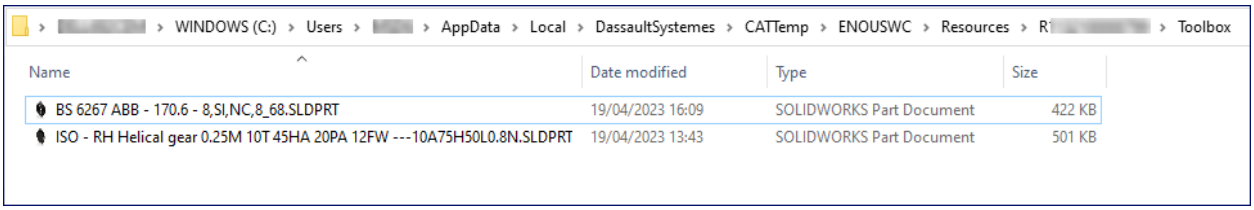


i) With Ctrl-Drag, Toolbox components will be referenced from the designated directory for **Create parts in this folder** mentioned in section a) above.

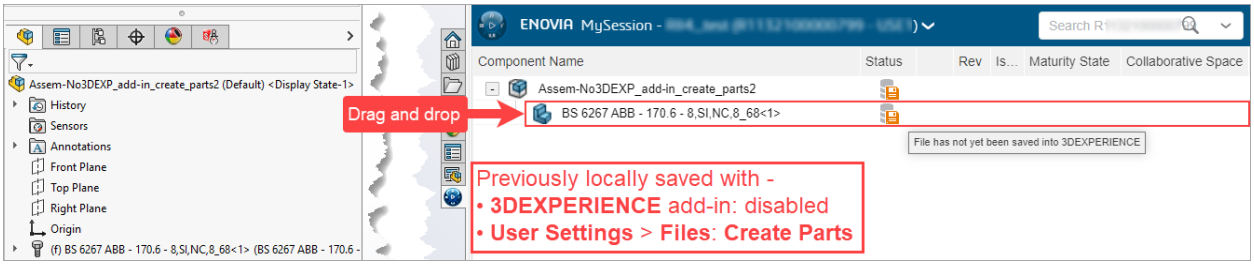
ii) With drag and drop, Toolbox components will be referenced from the SOLIDWORKS Data folder (default location 'C:\SOLIDWORKS Data').

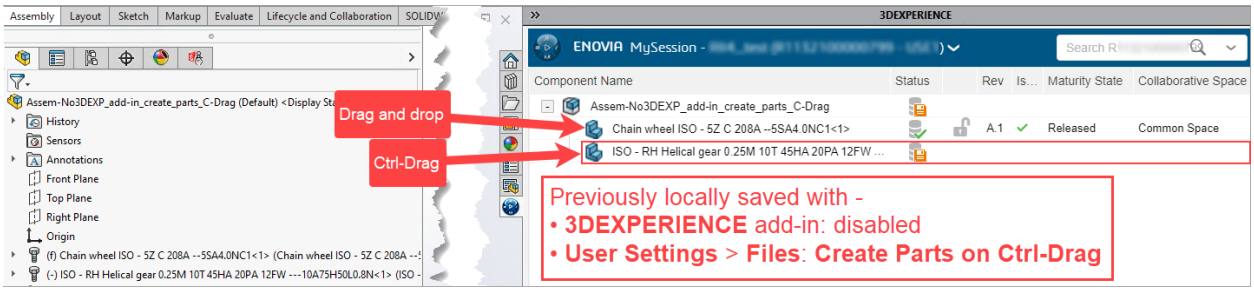


With the **3DEXPERIENCE** add-in disabled, the Toolbox *.sldprt files created in the designated directory for **Create parts in this folder** will not have the cache files necessary for successful integration with **3D**EXPERIENCE, e.g. in scenarios 2 and i) above.

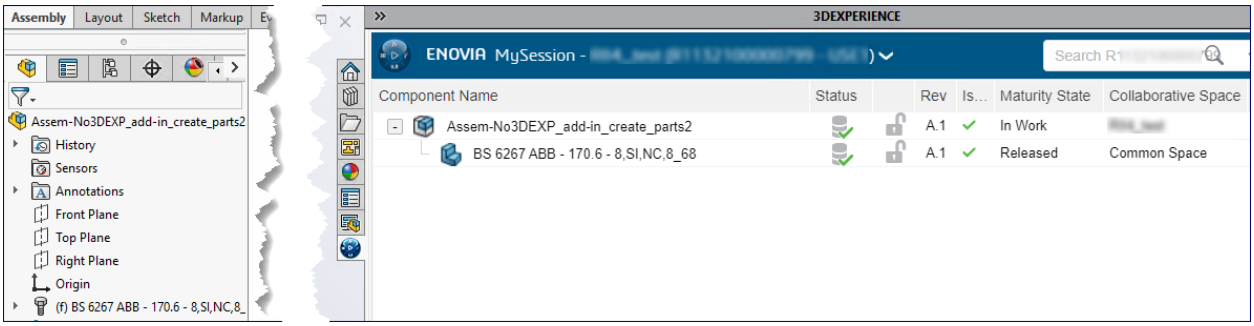


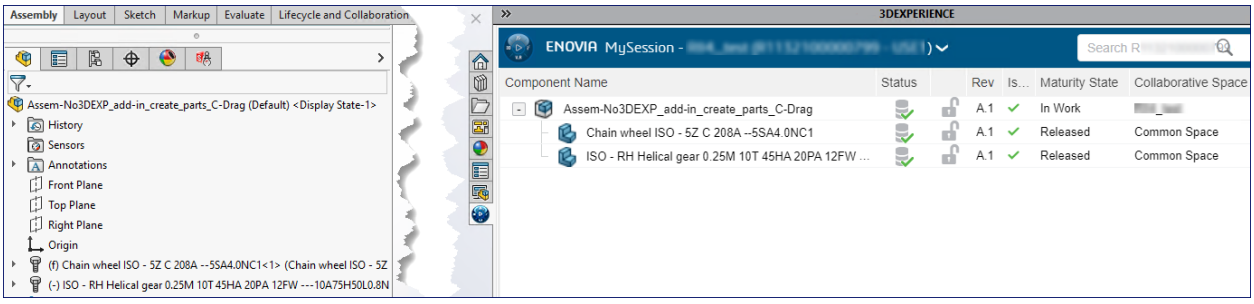
As a result, assemblies previously locally saved in these two scenarios, if later opened in SOLIDWORKS with the **3DEXPERIENCE** add-in enabled (and the **Create Parts** option activated for the add-in to work), will show the Toolbox components as not yet saved to **3D**EXPERIENCE, i.e. not yet successfully integrated with **3D**EXPERIENCE.

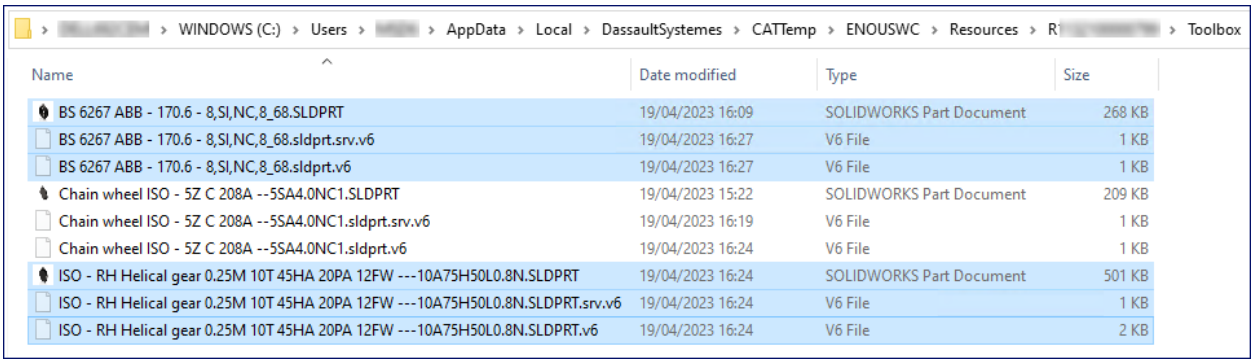




This can be easily resolved by simply performing the save to **3D**EXPERIENCE command on the assembly. This will generate the required cache in the designated folder, and will successfully integrate those Toolbox components with **3D**EXPERIENCE.



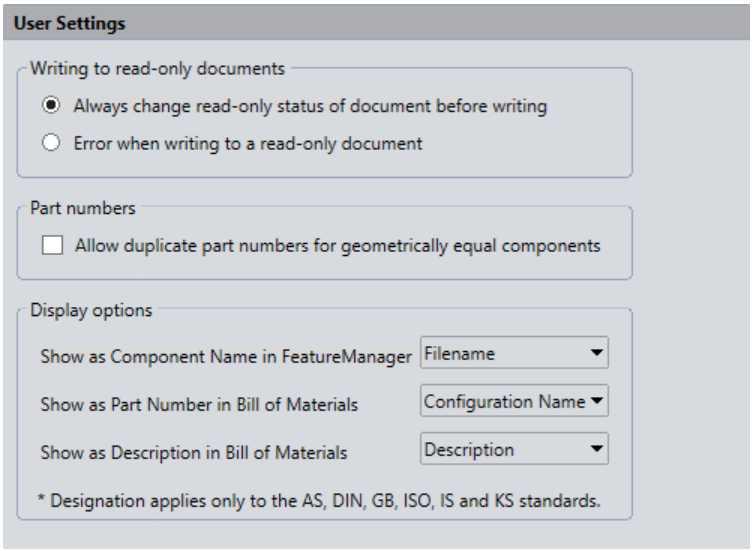




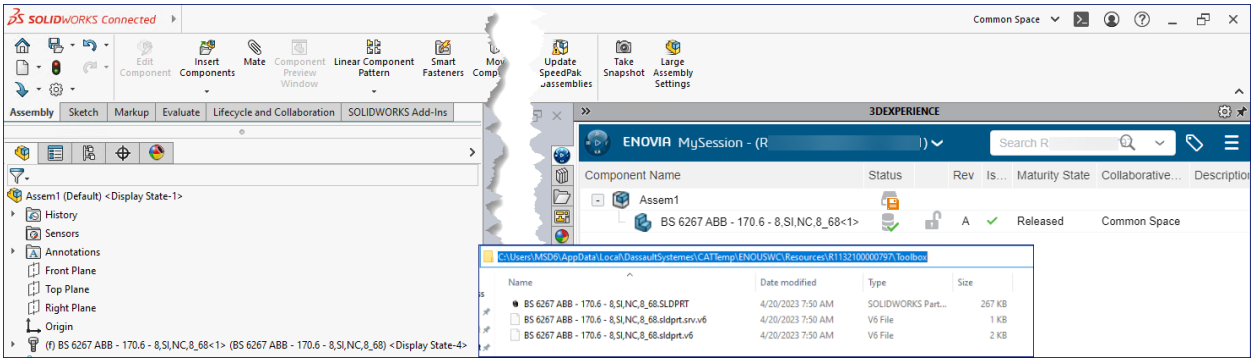
To avoid any unexpected complications, general recommendation is not to disable the **3DEXPERIENCE** add-in or to change the Toolbox **User Settings** from **Create Parts** to any of the other two options.

b) SOLIDWORKS Connected

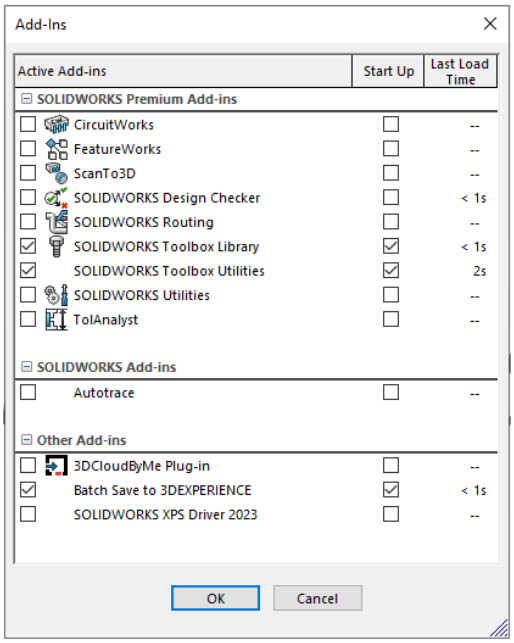
Unlike the SOLIDWORKS desktop software, the **SOLIDWORKS Connected** app (*3DEXPERIENCE SOLIDWORKS* role) does not include the options for **Files** in Toolbox **User Settings**. This is because only the **Create Parts** option is hardcoded in this app.



In the background, the Toolbox *.sldprt and **3D**EXPERIENCE cache files are generated in the same designated directory as mentioned in section a) above.



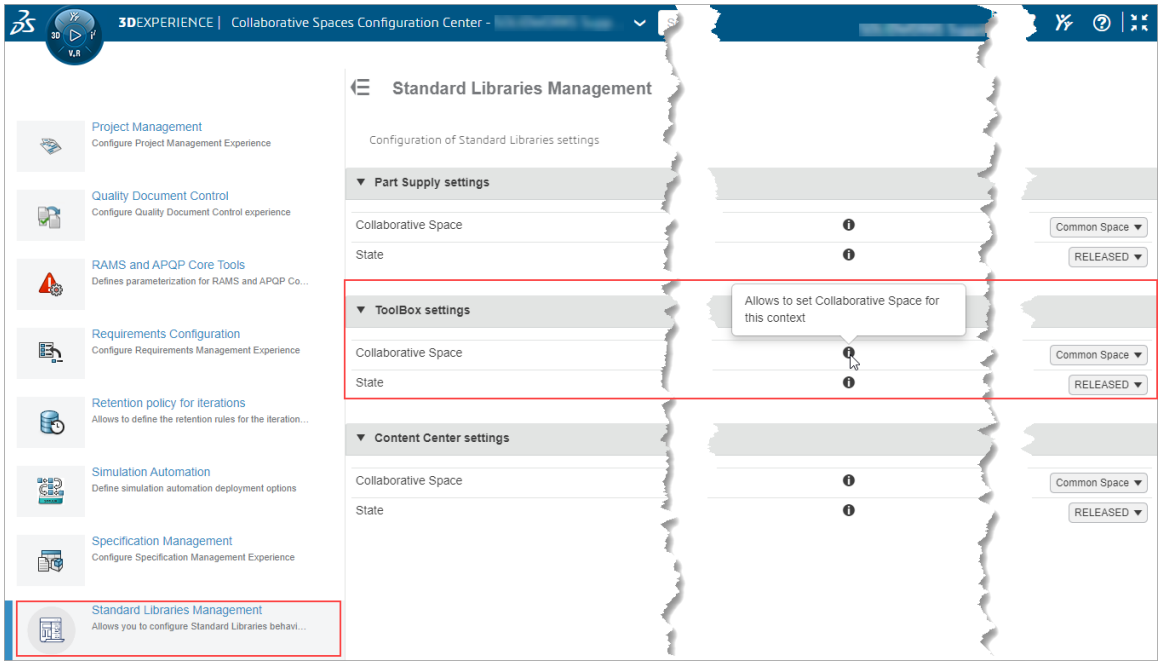
Also, unlike the SOLIDWORKS desktop software, the **Add-Ins** list in the **SOLIDWORKS Connected** app does not include the **3DEXPERIENCE** add-in, as this is hardcoded in online mode.



3) Platform Administrator Settings for Toolbox Components

The platform administrator can choose a designated **Collaborative Space** for Toolbox components. They can also set the initial **Maturity** state to either **In Work** or **Released**, for when those are uploaded to the designated **Collaborative Space** for the first time.

These settings are available in the **ToolBox settings** section of the **Standard Libraries Management** widget of **Collaborative Spaces Configuration Center**.



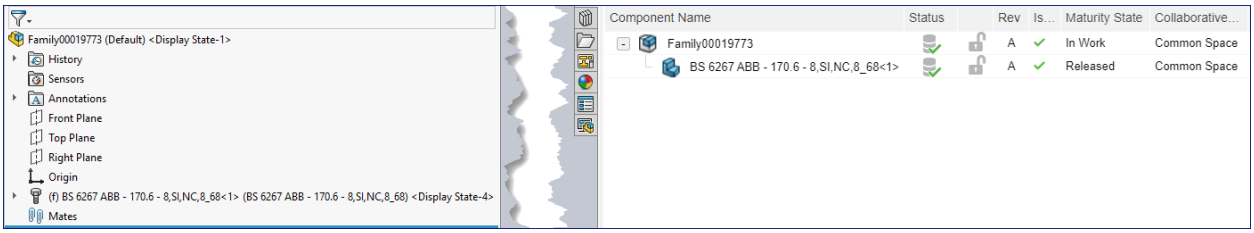
Out-Of-The-Box (OOTB) values for these settings are –

Collaborative Space = Common Space
State = RELEASED

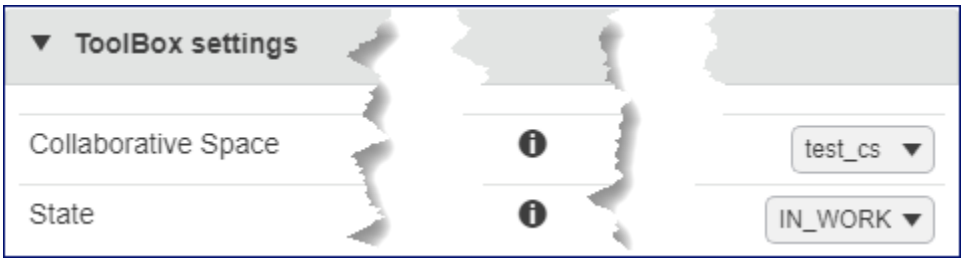
As mentioned in section 2), to designate a **Collaborative Space** other than **Common Space**, you must set its visibility to **Public**.

The values set in **ToolBox settings** only affect the Toolbox components that you upload after you define those values. This does not affect any Toolbox components that you previously uploaded.

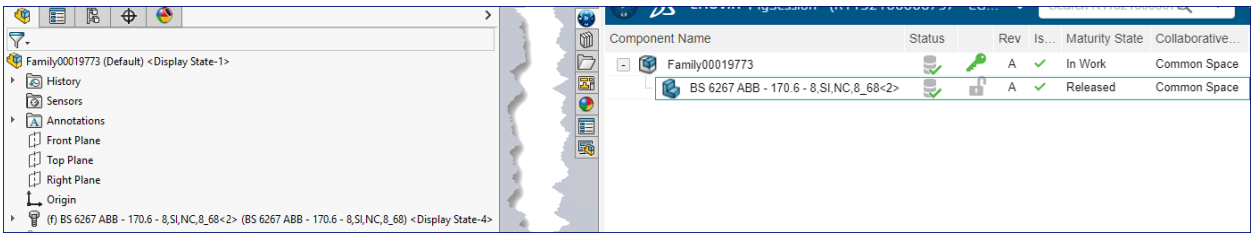
As an example, consider an assembly that you previously saved to **3D**EXPERIENCE with Toolbox components uploaded to Common Space as **Released**.



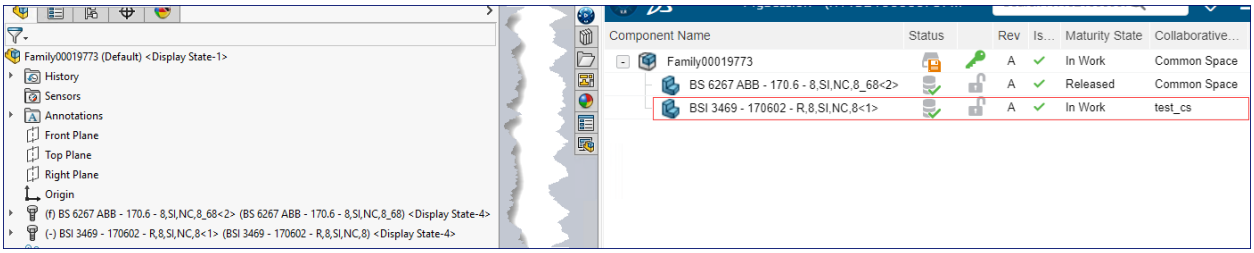
Then in **ToolBox settings**, you defined a different **Collaborative Space** and set **Maturity** state to **IN_WORK**. If you then open the assembly in SOLIDWORKS from **3D**EXPERIENCE -



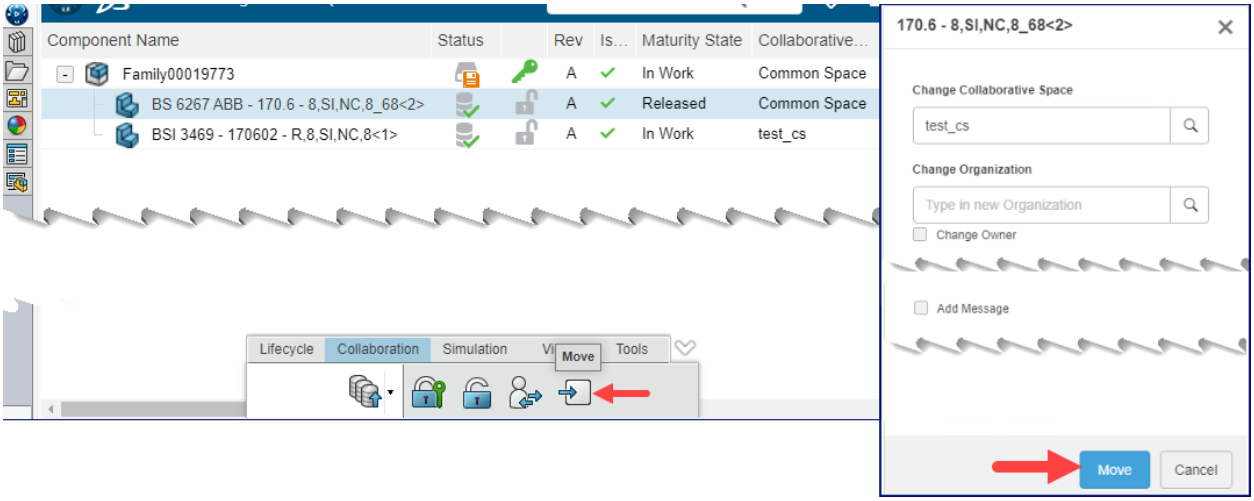
1. The previously saved Toolbox components will still be in Common Space as **Released**. This will still be the case even if you clear local cache for both the assembly and the Toolbox components. Any subsequent save command on the assembly will not change this.

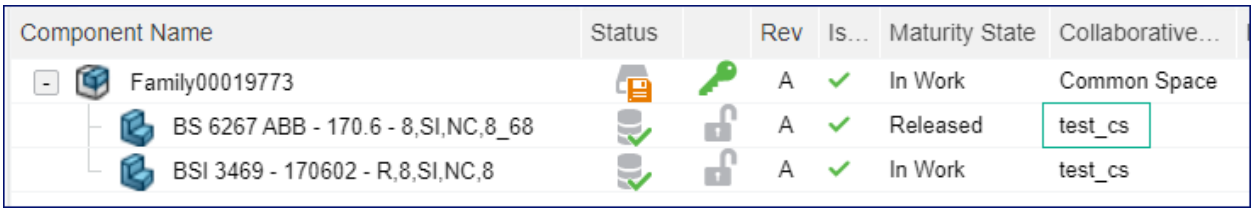


2. You insert new Toolbox components in the same assembly – only the new Toolbox components will be uploaded to the new **Collaborative Space** as **In Work**, as per your values defined in **ToolBox settings**.



3. You have the flexibility to move the previously uploaded Toolbox components from Common Space to another **Collaborative Space**, e.g. to the newly designated **Collaborative Space** in **ToolBox settings**.



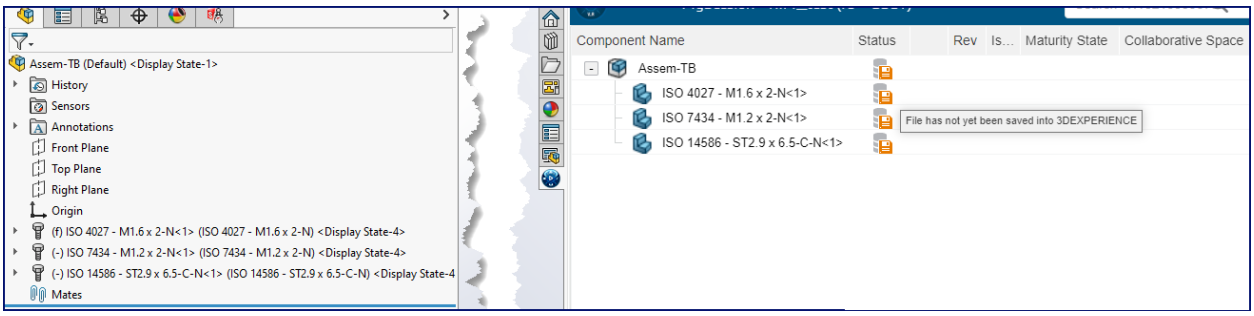


4) Saving Existing Assemblies Using Toolbox Components

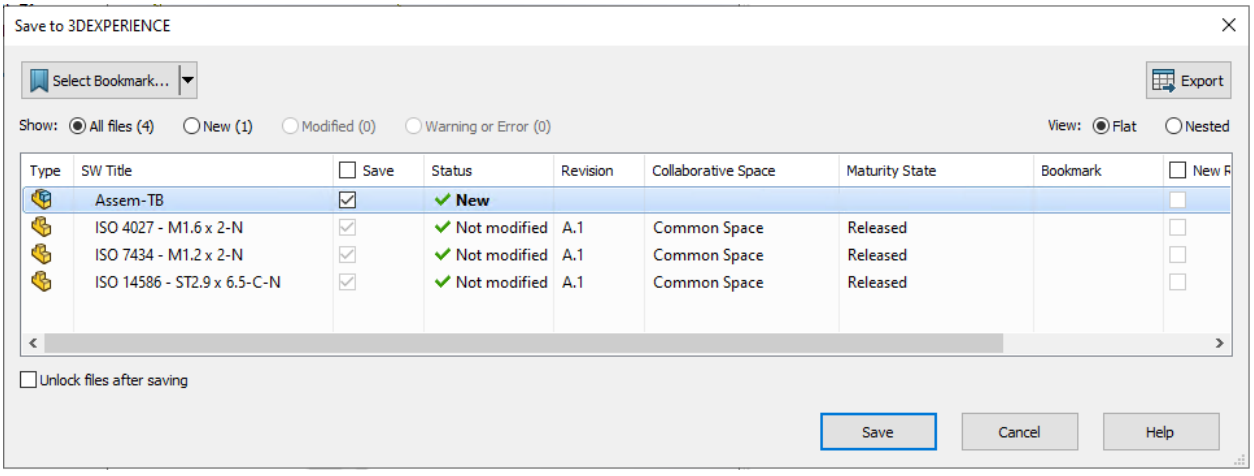
When you open an existing assembly referencing Toolbox components, regardless of the Toolbox **User Settings** originally used (applicable to SOLIDWORKS desktop software) to insert the Toolbox components, the **Create Parts** option takes effect. All Toolbox components are retrieved from and created inside the designated directory for **Create parts in this folder**, as described in section 2).

When you perform the save to **3D**EXPERIENCE command on the assembly, all Toolbox components are automatically imported to the **3D**EXPERIENCE platform before the save transaction itself.

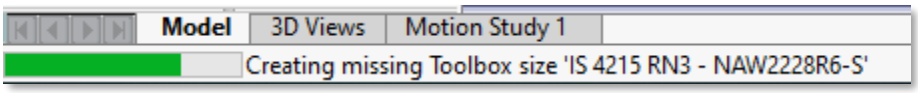
If you open the assembly without first establishing a connection to **3D**EXPERIENCE, the Toolbox components will appear in **MySession** with the status **File has not yet been saved into 3DEXPERIENCE**.



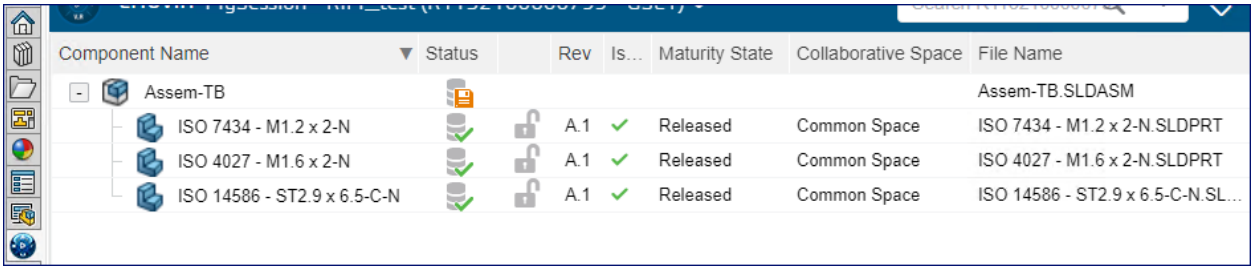
After establishing a connection, when saving to **3D**EXPERIENCE using the **Save with Options** command, the Toolbox components will appear in the **Save to 3DEXPERIENCE** dialog box with **Not modified** status, indicating that those have already been imported to the designated **Collaborative Space**. Toolbox integration with **3D**EXPERIENCE establishes this status by either importing the new Toolbox components to or retrieving the existing ones from the designated **Collaborative Space**.



If you open the same assembly with an established connection to **3D**EXPERIENCE, the status bar at the bottom of the SOLIDWORKS window will show the progress of part creation for Toolbox components that have not yet been uploaded to **3D**EXPERIENCE.

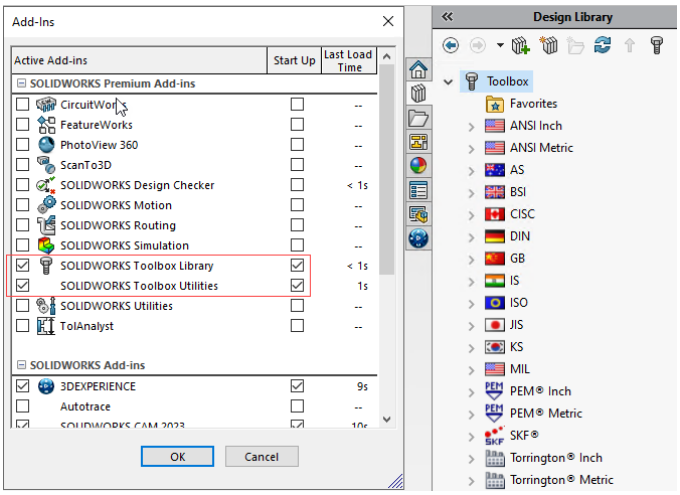


Once the assembly is fully open, the Toolbox components will appear in **MySession** as already saved to **3D**EXPERIENCE, with the values defined in **ToolBox settings** for **Collaborative Space** and **Maturity** state.



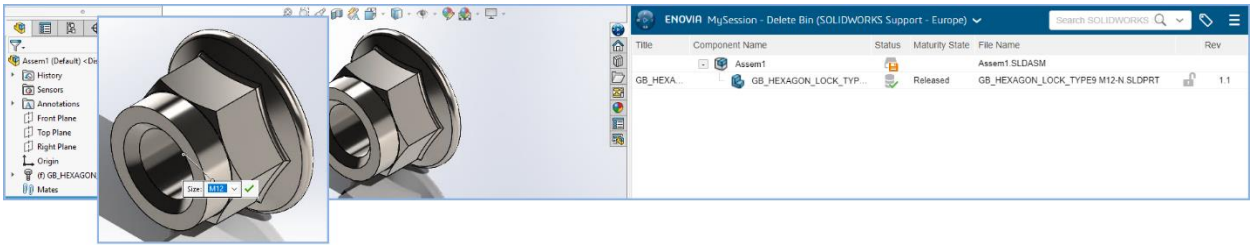
5) Inserting New Toolbox Components Into An Assembly

To insert new Toolbox components into an assembly, use the Toolbox add-in and the **Design Library** task pane tab.



As you insert each Toolbox component into an assembly, the software completes one of the following two actions:

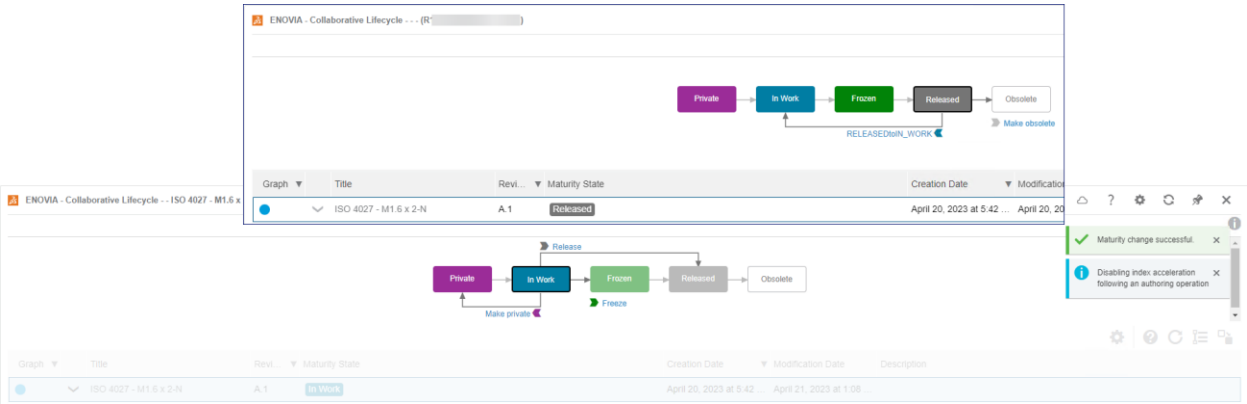
1. If the Toolbox component already exists in the designated **Collaborative Space**, the software retrieves the component information, and adds the part to the assembly.
2. If the Toolbox component does not exist in the designated **Collaborative Space**, the software generates a new part file automatically, and saves it to **3D**EXPERIENCE as per the values defined in **ToolBox settings**.



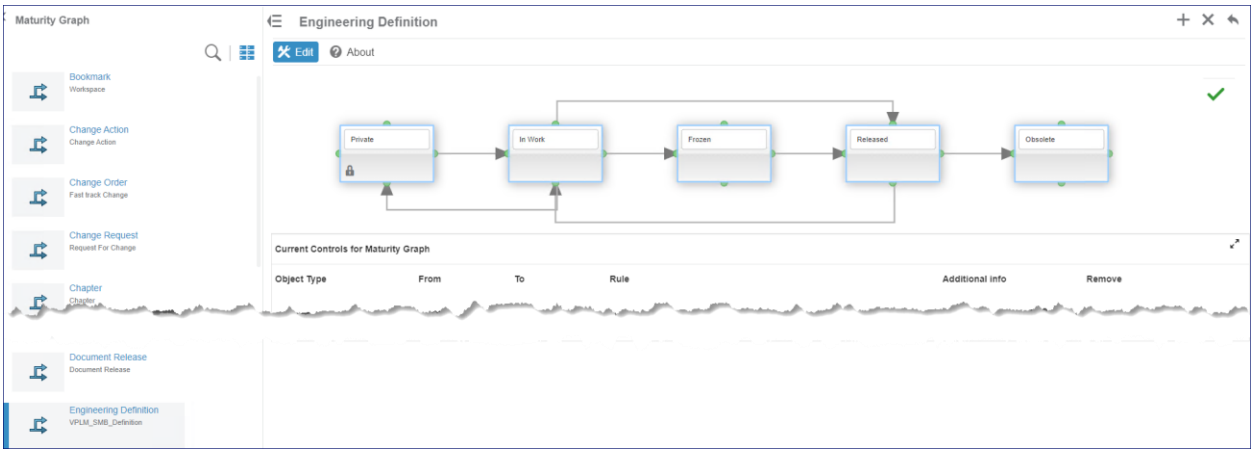
6) Physical Product Characteristics for Toolbox Components

a) Maturity State

The platform administrator can change the **Maturity** state of existing Toolbox component Physical Products from **Released** to **In Work**.



For this, the platform administrator must ensure that the **Maturity** transition from **Released** to **In Work** is correctly applied to **Engineering Definition** of the **Maturity Graph** widget.

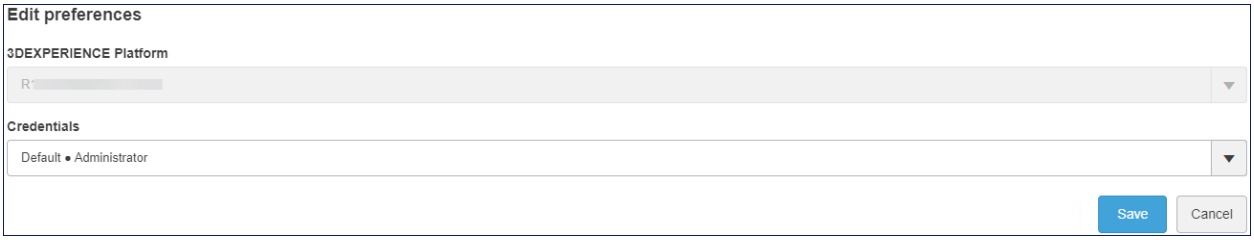


The platform administrator will need to have the required credentials for these. More details on this are documented in the following **User Assistance** topics:

Changing the Maturity of Objects

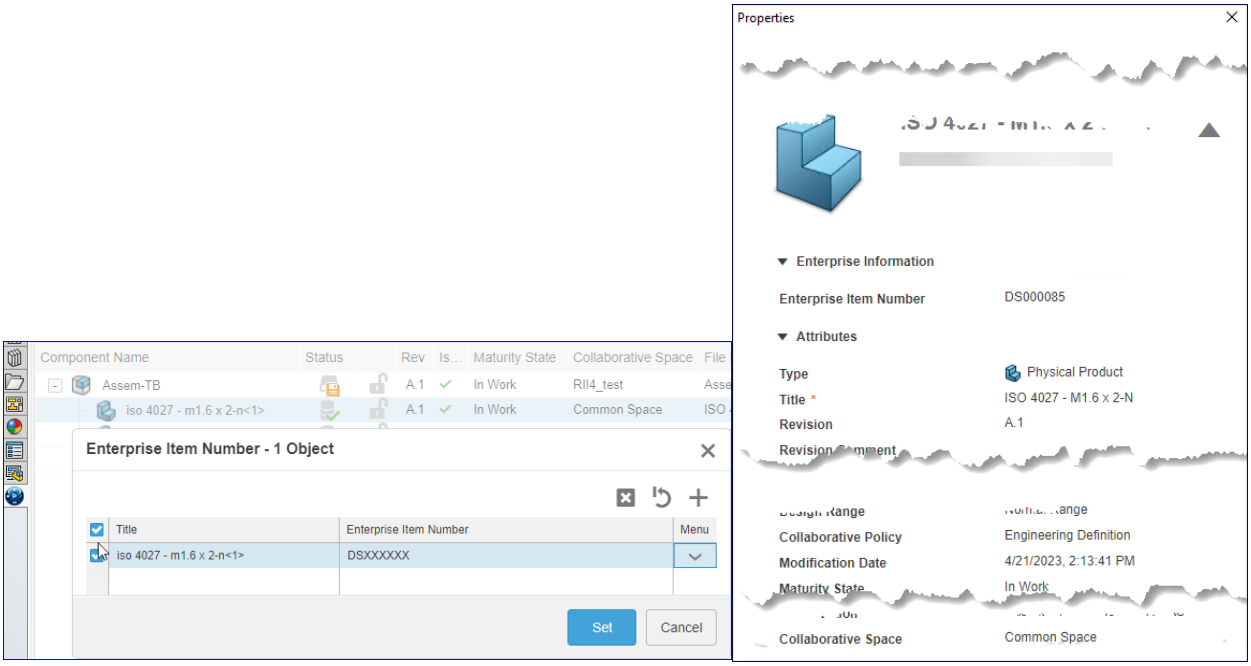
Configuring Maturity Graphs

The platform administrator can also use the **Default • Administrator** credentials for this.

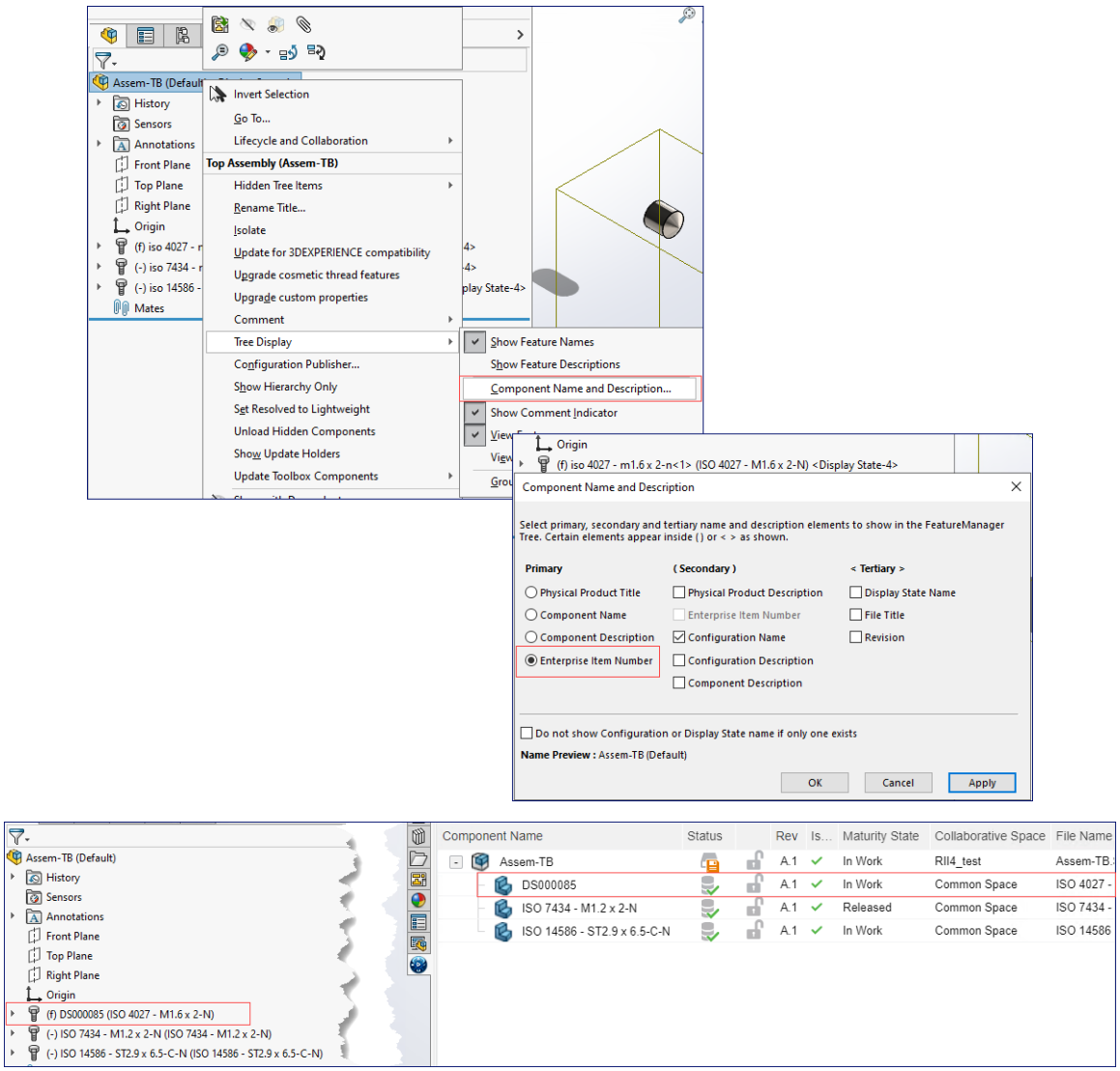


b) Enterprise Item Number

You can assign **Enterprise Item Number**s (EIN) to Toolbox component Physical Products that are in **In Work Maturity** state.



You can also customize your assembly **Tree Display** to show EIN as the **Primary** name, which will also appear in the **Component Name** column of **MySession**.



c) Delete

You can delete existing Toolbox components from a **Collaborative Space**.

1. If a Toolbox component is in **In Work Maturity** state, you can delete it as the **Leader** of the **Collaborative Space**.

2. If it is in **Released Maturity** state, the platform administrator can delete it with the **Default • Administrator** credentials. Alternatively, they can demote the **Maturity** state to **In Work** first, and then you can delete it as the **Leader** of the **Collaborative Space.**

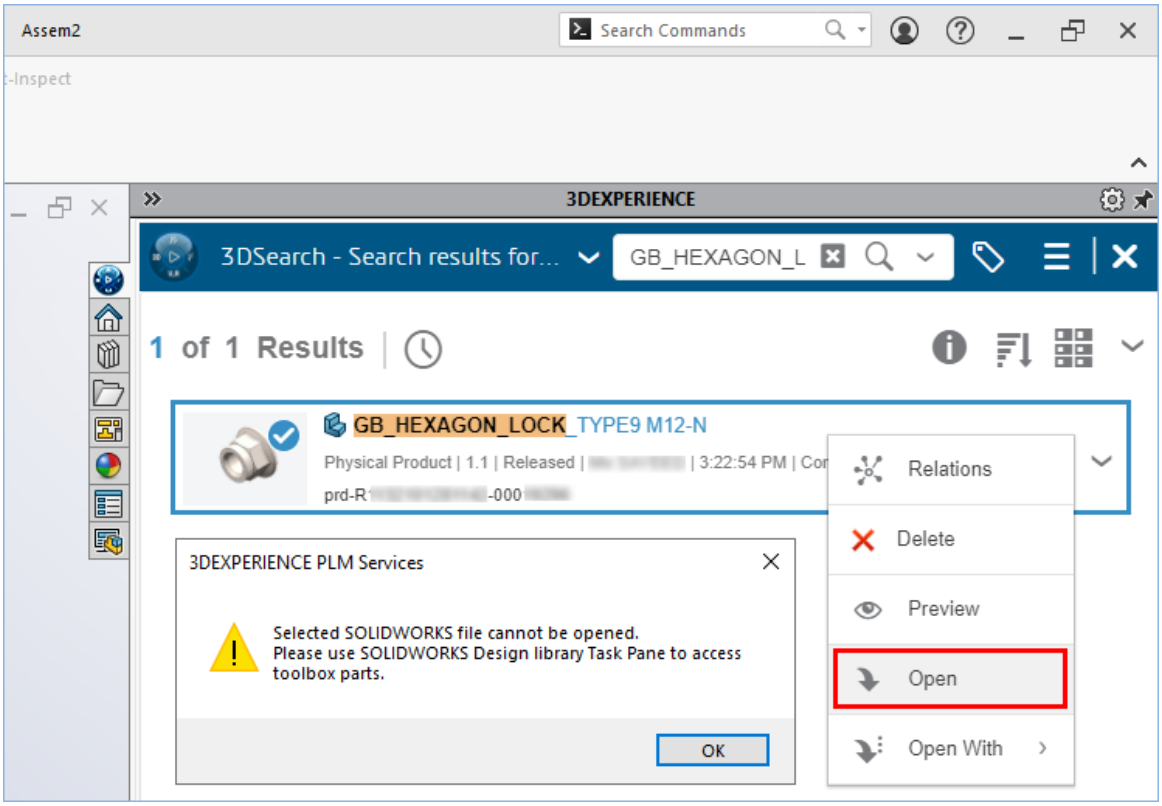
More details on delete permissions with different access roles are documented in the **User Assistance** topic Baseline Responsibilities.

For Toolbox components, changing the **Maturity** state, moving to a different **Collaborative Space** or deleting those will affect all the users within a platform tenant. It is therefore recommended that only a designated Toolbox administrator performs these activities, and with caution.

7) Opening Toolbox Components

- As mentioned in section 2), when you open an assembly referencing Toolbox components, the Toolbox components are downloaded to the designated local folder, and not to your local work folder.

- You can search for Toolbox components in **3D**EXPERIENCE using **3DSearch**. However, the **Open** or drag operations into an assembly, or as a part, will return the following message:



  You should always use the **Design Library** task pane tab to insert Toolbox components into an assembly.

- Toolbox integration with **3D**EXPERIENCE, as described in section 2), only works within an assembly environment. If you open a Toolbox component on its own as a part, using the drag operation from the **Design Library** task pane tab, it will open from the folder location specified for **Hole Wizard and Toolbox folder** in SOLIDWORKS **System Options**. In this case, the automated integration with **3D**EXPERIENCE will not work. You should avoid opening Toolbox components on their own as individual parts to save those to **3D**EXPERIENCE.

8) Assemblies with Toolbox Components Last Saved Prior to 3DEXPERIENCE R2021x FD04

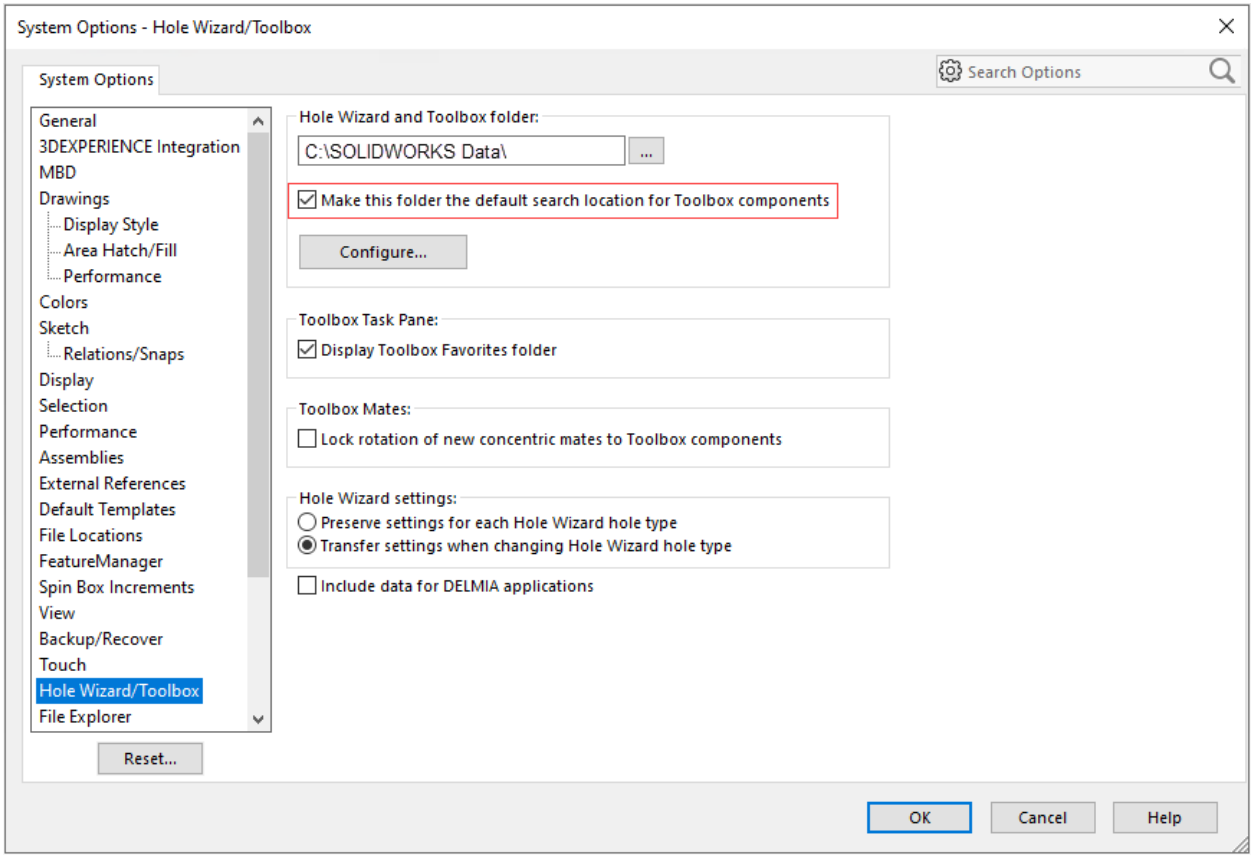
You may have existing assemblies referencing older version Toolbox components that were last saved before the release of the **3D**EXPERIENCE R2021x FD04 update. When you open these assemblies and save in session the next time, the legacy Toolbox components automatically convert to imported Toolbox parts, and are saved to the designated **Collaborative Space**. The software maintains the 'where used' references of the Toolbox components.

If you do not save those assemblies in session, those continue to reference the older version Toolbox components.

9) Additional Recommendations

- Toolbox integration with **3D**EXPERIENCE is designed to work when the following Toolbox option is active in SOLIDWORKS desktop software:

  System Options > **Hole Wizard/Toolbox** > **Make this folder the default search location for Toolbox components**.



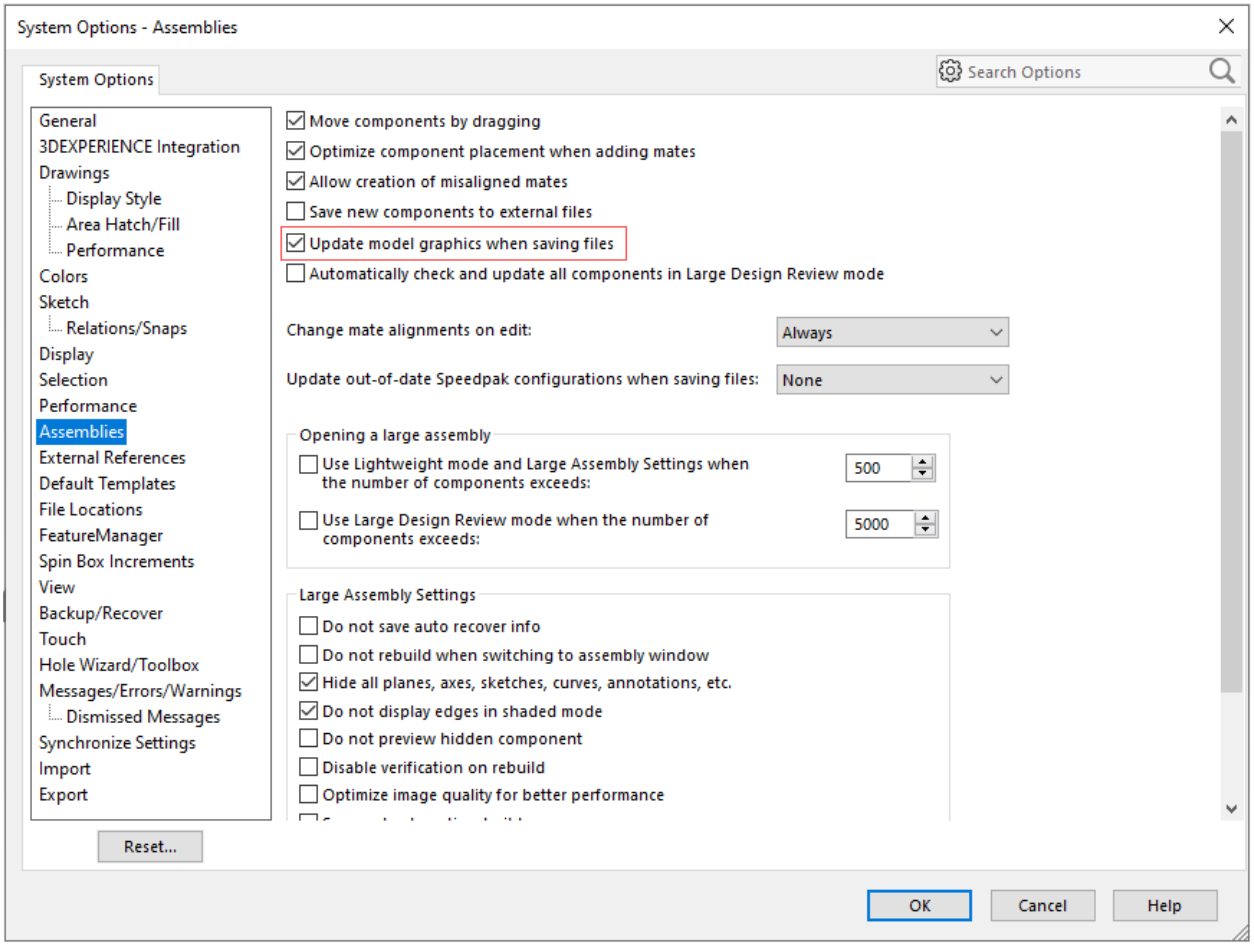
  This setting is automatically enforced with the **Design with SOLIDWORKS** app installation, although users can later disable it. You should avoid disabling this option, as this can lead to unexpected behavior.

  For **SOLIDWORKS Connected Premium** and **Professional** (that include the Toolbox add-in), this option is greyed out.

- You should not attempt to revise Toolbox components, as it is currently not supported.
- It is possible to generate duplicates of Toolbox components using the **Duplicate** command from supported ENOVIA apps (e.g. **Collaborative Lifecycle**). It is also possible to open those duplicates in SOLIDWORKS from **3D**EXPERIENCE, using the drag operation from **3DSearch** into an assembly. Duplicates should only be generated when strictly necessary and with caution, to avoid unwanted complications managing Toolbox components.

- To ensure that model graphics for each Toolbox component size is generated, and is viewable on the **3D**EXPERIENCE platform, it is recommended that the following SOLIDWORKS option is enabled:

  System Options > **Assemblies** > **Update model graphics when saving files**.



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