What's New in NESTINGWorks

An HCL Technologies Product

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What's New in NESTINGWorks 2022 SP1

Supported Platforms

Solid Modeler:	- SOLIDWORKS 2022 - CAMWorks Solids 2022
Operating Systems:	The *64-bit versions of: - Windows 11 - Windows 10 [*Home Editions are not supported] **Note:** 32-bit versions of Operating Systems are not supported.

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Bug Fixes in NESTINGWorks 2022 SP1

Sr. No.	Issue ID	Help ID	Description
1.	CWNEST-1919	CSR-20749	When the 'Create Nest Job' command is executed for the specific customer part file, SOLIDWORKS crashes.
2.	CWNEST-1908	CSR-20212	'Decal Direction' and 'Decal Pattern' must be available as options for setting the Grain Direction. Also, an option must be provided for the default Normal Face Selection logic such that when this option is enabled, the face with SOLIDWORKS Decal property rather than the face with the largest surface area is selected.
3.	CWNEST-1891	CSR-20012	For Part angle list option for defining Rotation angle, the part angle list range is from between 0 to 360 degrees. This results in the value '0' is not accepted by NESTINGWorks. An error message regarding the incorrect range is displayed. An enhancement to ensure that value '0' is accepted must be implemented.
4.	CWNEST-1855	---	If the face selected as the Normal Face has a Texture with a pattern, then the grain direction must be based on the singular orientation for that pattern. Hence, 'Texture Pattern' must be made available as one of the options for setting the Grain Direction.
5.	CWNEST-1735	CSR-19803 CSR-19758	When 'Create Nest Job, command is executed for specific assemblies containing sub-assemblies with comprising parts having different quantities, it is observed that the Part Quantity column under *Part Data* tab of *Create Nesting Job* dialog box displays incorrect quantity values.

New Texture and Decal Options for Assigning Grain Direction

Purpose:

To provide additional options for defining grain direction for parts to be machined

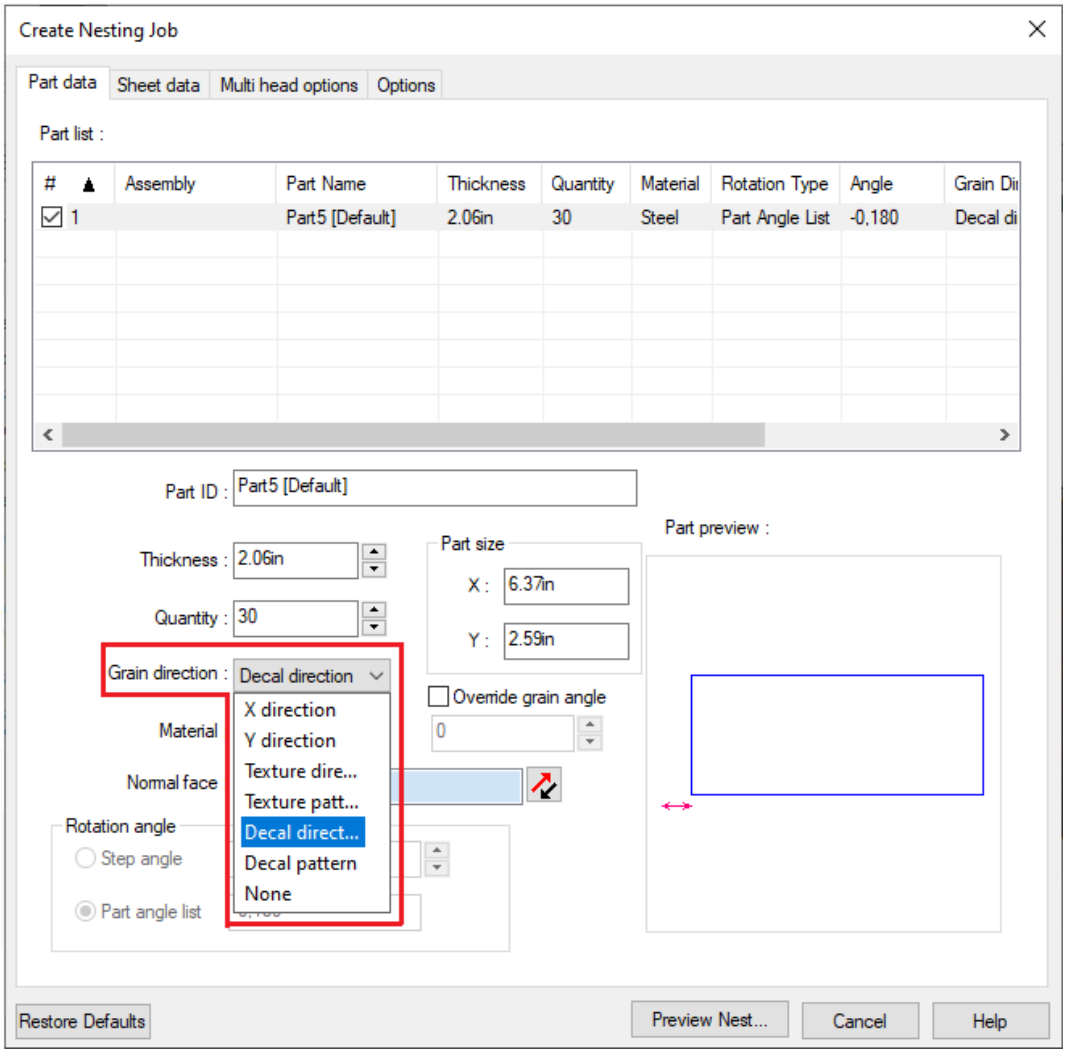
Implementation:

In previous versions of NESTINGWorks, only the following options were available for assigning Grain direction:

- X direction
- Y direction
- Texture Direction
- None

From *NESTINGWorks 2022 SP1* version onwards, the following additional options will be available for assigning grain direction:

- Texture Pattern
- Decal direction
- Decal Pattern



Grain Direction Dropdown list under Part Data Tab of 'Create Nesting Job' Dialog Box

Need for 'Decal Direction' and 'Decal Pattern' Grain Direction Options:

Previously, if any part with Decal object was selected as the Normal face, there were no options to ensure that correct grain angle was adhered to. Hence, the options *Decal Direction* and *Decal Pattern* have been provided.

Selecting the ***Decal Direction*** option allows two Rotations angles to be specified. These two angles will be 180 degrees apart. The first angle will be the grain angle and the second angle will be 180 degrees more than the first angle.

Selecting the ***Decal Pattern*** option allows only one Rotation angle to be specified. This Rotation angle will be the grain angle. This singular rotation angle ensures that all nested parts instances will have identical orientation.

Note:

The options of *Decal Direction* and *Decal Pattern* will be available in the *Grain Direction* dropdown list under *Part Data* tab only if the face selected as the Normal face has a Decal property assigned to it.

Need for 'Texture Pattern' Grain Direction Option:

For the existing *Grain Direction* option of *Texture Direction*, NESTINGWorks allows two Rotation angles that are 180 degrees apart to be specified. However, this option is not exactly useful for faces with texture patterns that exist on patterns.

For example, if the face of the part selected as the Normal face has texture is like fish scales, then all instances of this part that are nested on the sheet must maintain identical orientation to ensure that the fish scale pattern is correctly applied. Assigning the *Texture Direction* option is not feasible as it specifies two rotation angles for nested parts.

Hence, a new *Grain Direction* option of *Texture Pattern* has been made available. When this option is selected, only one Rotation angle (which is the grain angle) can be specified. This ensures that all nested parts instances will have identical orientation.

Note:

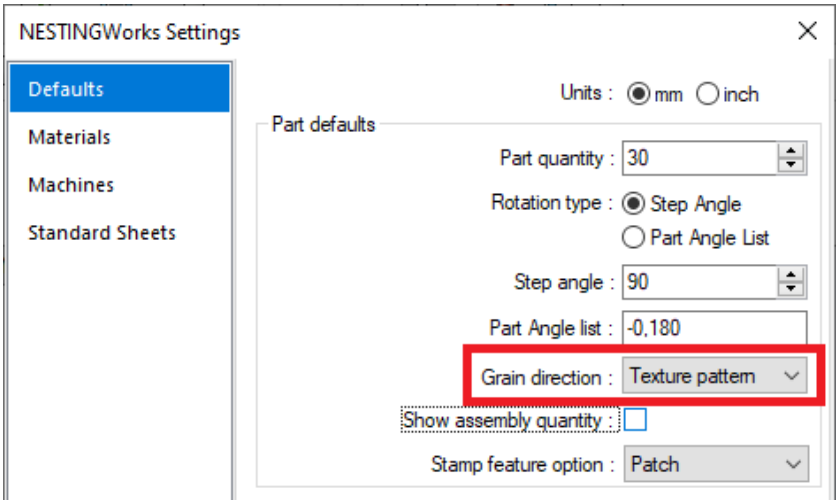
The options of *Texture Direction* and *Texture Pattern* will be available in the *Grain Direction* dropdown list under *Part Data* tab only if the face selected as the Normal face has a texture property assigned to it.

Assigning Default Grain Direction in NESTINGWorks Settings Dialog Box

The option for setting the default *Grain Direction* under *Defaults* tab of the *NESTINGWorks Settings* dialog box has been updated to include the new options available.

Note:

If the default *Grain Direction* is set to *Texture Direction*, *Texture Pattern*, *Decal Direction* or *Decal Pattern* and the *Create Nest Job* command is executed for a part whose Normal face doesn't have the corresponding texture or decal property, then the Grain Direction will be set to *None* under the *Part Data* tab of the *Create Nesting Job* dialog box.



Assigning Default Grain Direction in NESTINGWorks Settings Dialog Box

Option to Override Angle Associated with Grain Direction

Purpose:

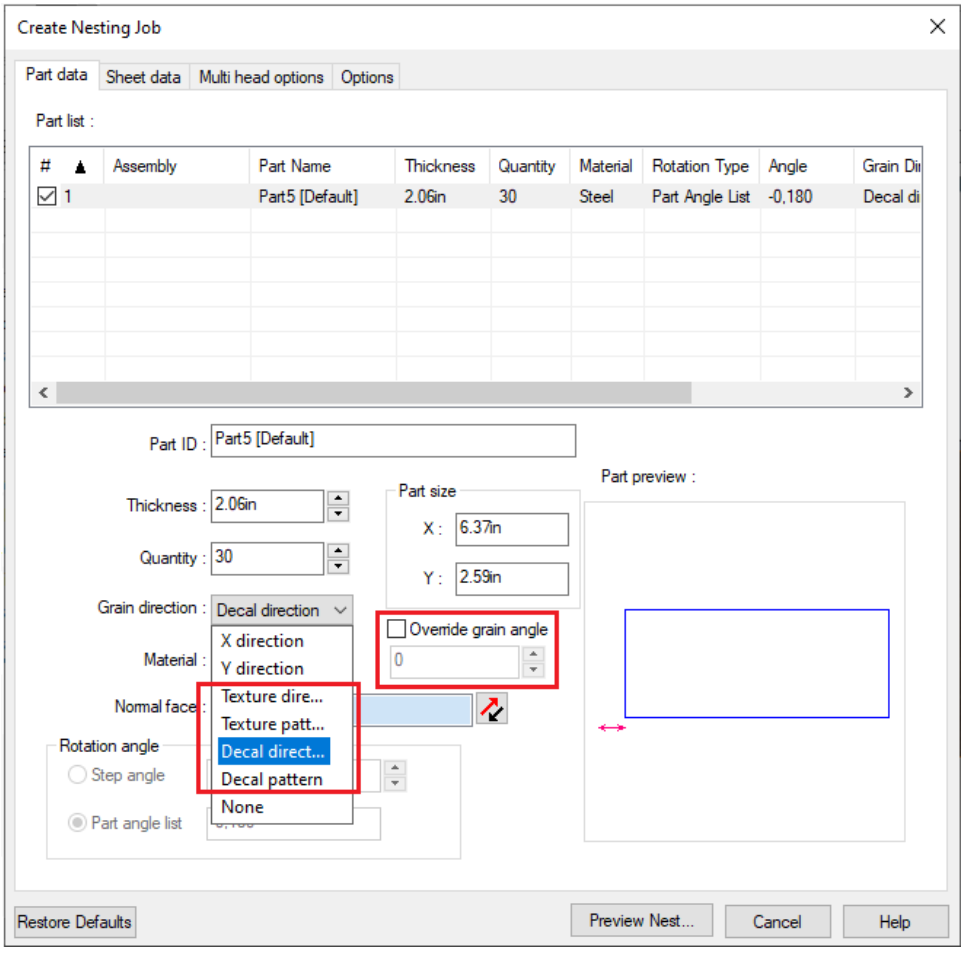
To provide an option for overriding the angle associated with the grain direction of parts to be nested

Implementation:

In previous versions of *NESTINGWorks*, there was no option to override the grain angle associated with the *Texture Direction* based Grain direction. Moreover, from *NESTINGWorks 2022 SP1* version onwards the following additional grain direction options will be available:

- Texture Pattern
- Decal direction
- Decal Pattern

All the above-mentioned grain direction options have a grain angle associated with them. This grain angle determines the Rotation angle(s). An option needs to be made available to override the grain angle associated with the assigned grain direction. This is provided in the form of the ***Override grain angle*** checkbox option and text field.



'Override grain angle' option under Part Data Tab of 'Create Nesting Job' Dialog Box

When is the 'Override Grain Angle' Option Enabled?

The *Override grain angle* checkbox option will be enabled only when a texture or decal based grain direction is assigned in the *Grain Direction* dropdown list.

When a check is placed in the *Override grain angle* checkbox option, the input field below it for assigning the angle for override will be enabled. Use this field to specify the override angle.

Allowed Values for 'Override Grain Angle'

The range for assigning the Override Angle is 0 to 360 degrees. Only integer values within this range are allowed. (Decimal values are not allowed.)

Direction of the Computed 'Override Grain Angle'

The Override Angle assigned in the Override Grain Angle field will be computed from positive X direction (of the Coordinate System) in counterclockwise direction.

How 'Override Grain Angle' Options Affects Display of Grain Direction in Part Preview Window

The *Grain Direction* assigned for a part is displayed as a red arrow within the *Part Preview* window at its bottom left corner.

When the *Override Grain Angle* checkbox is checked, the arrow denoting the grain direction within the *Part Preview* window will be purple in color.

Illustrative Example of how the 'Override Grain Angle' Option Works and Determines Rotation Angle(s)

How the 'Override Grain Angle' Option Works when Grain Direction Assigned is 'Texture Pattern' or 'Decal Pattern'

Consider a part for which the angle associated with a *Texture Pattern* or *Decal Pattern* based *Grain Angle* is 55 degrees. The *Override Grain Angle* checkbox is checked and the value assigned in the *Override Grain Angle* field is 75 degrees.

The original Grain Angle value of 55 degrees will now be overridden by the value indicated in the *Override Grain Angle* field viz. 75 degrees.

This updated angle value will be displayed in the *Angle* field of the *Part List* grid and will be used for orienting the nested part instances. All part instances of the specific part selected for nesting will have identical orientation within the nested layout.

How the 'Override Grain Angle' Option Affects Rotation Angles Assigned when grain Direction Assigned is 'Texture Direction' or 'Decal Direction'

Consider a part for which the angle associated with a *Texture Direction* or *Decal Direction* based Grain Angle is 55 degrees. The *Override Grain Angle* checkbox is checked and the value assigned in the *Override Grain Angle* field is 75 degrees.

The original values of the *Rotation Angles* will have been 55 degrees and 235 degrees. (The two Rotation Angles for *Texture Direction* and *Decal Direction* are always 180 degrees apart.)

- The updated value for the first Rotation Angle will now be: 75 degrees.
- The updated value for the second Rotation Angle will now be: 75 + 180 = 255 degrees.

These updated *Rotation angle* values will be displayed in the *Angle* field of the ***Part List*** grid. All part instances of the specific part selected for nesting will have orientation within the nested layout based on these angles.

Options to Orient Major Part Face and Assign Part Face with Texture/Decal as Normal Face

Purpose:

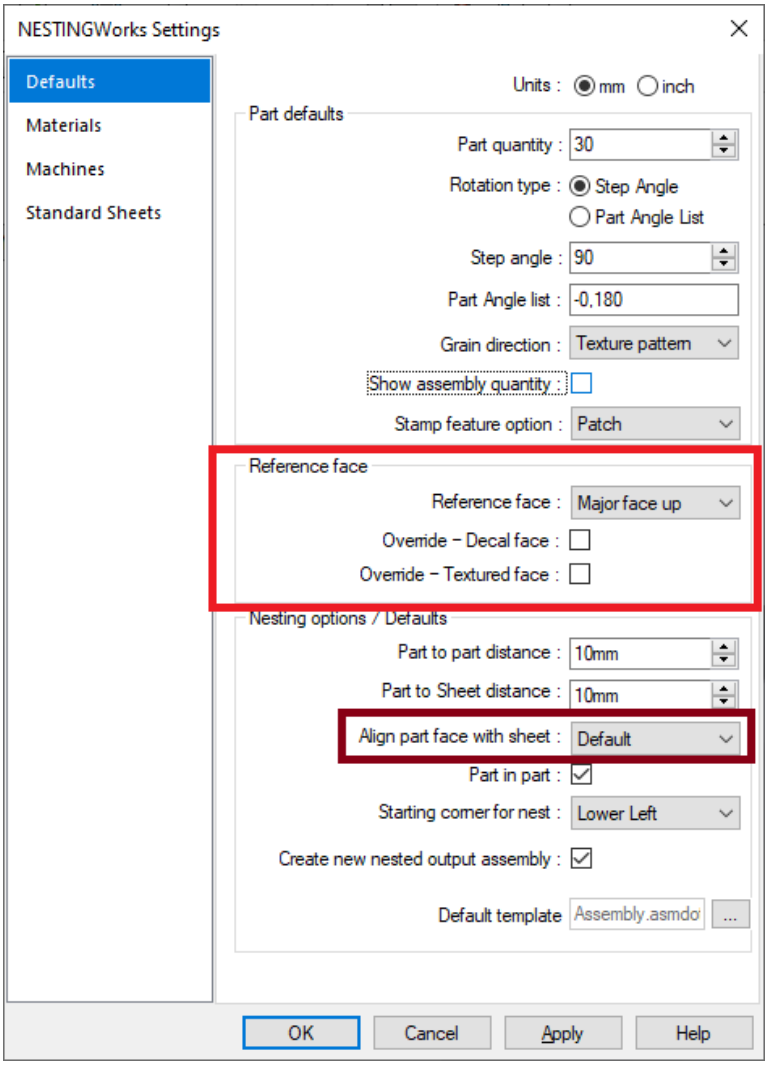
- To provide an option that enables selection of Part Face as Normal Face based on surface area
- To provide an option in the default settings for Normal Face Selection logic such that the Part Face having texture and/or Decal property is assigned as the default Normal face

Implementation:

Settings available within NESTINGWorks Settings Dialog Box that will Determine the Normal Face Selection Logic

From *NESTINGWorks 2022 SP1* version onwards, the default Normal Face Selection logic will be determined by the following parameters in the *NESTINGWorks Settings* dialog box:

- Reference Face (new option introduced in *NESTINGWorks 2022 SP1*)
- Override - Decal Face (new option introduced in *NESTINGWorks 2022 SP1*)
- Override -Textured Face (new option introduced in *NESTINGWorks 2022 SP1*)
- Align Part Face with Sheet (existing option available in previous NESTINGWorks versions)



New Parameters in Reference Face Group Box under Defaults Tab of NESTINGWorks Settings UI

Reference Face Dropdown List in Reference Face Group Box

The *Reference Face* dropdown list provides options for selecting the face that will serve as the reference for Normal Face selection. It provides the following two options:

- Major Face Up (Default Setting)
- Major Face Down

Note:

The *Reference Face* option is not the lone parameter that determines the Normal Face selection. It works in tandem with a combination of other settings listed in the table given below to determine which part face gets assigned as normal face.

Newly Introduced 'Override – Decal Face' and 'Override – Textured Face' Options

From *NESTINGWorks 2022 SP1* version onwards, the Normal Face Selection logic that is based on the settings within the *NESTINGWorks Settings* dialog box can be altered to ensure that part faces with texture and/or decal property get assigned as the Normal face. The new settings available in the *NESTINGWorks Settings* dialog box to ensure that such faces get selected are:

- Override - Decal Face
- Override - Textured Face

Note:

The ***Override - Decal Face*** and ***Override – Textured Face*** options will have no bearing on the Normal Face selection logic if the ***Align Part Face with Sheet*** is set to ***Top*** or ***Bottom***.
These override options will affect the Normal Face selection logic if the *Align Part Face with Sheet* is set to *Default* option.
Refer the table given below to understand how these newly introduced options (in tandem with other options) influence which part face gets assigned as the Normal Face.

Table of NESTINGWorks Settings Combinations and Resultant Normal Face Selection

Given in this table is an exhaustive list of all the various possible combinations of NESTINGWorks Settings that determine the Normal Face selection logic. The first column lists all the possible combinations while the second column explains the corresponding Normal Face selection logic.

Sr. No.	Combination of NESTINGWorks Settings	Normal Face Selection Logic
1.	• Reference Face =Major Face Up • Override - Decal Face is unchecked • Override - Textured Face is unchecked • Align Part Face with Sheet = Default	The part face with the largest surface area among all part faces normal to the Z direction will be selected as the normal face.
2.	• Reference Face =Major Face Up • Override - Decal Face is checked • Override - Textured Face is unchecked • Align Part Face with Sheet = Default	The part face with the largest surface area among all part faces normal to the Z direction which has a Decal property assigned will be selected as the normal face. If none of the part faces have any Decals, then the part face with the largest surface area will be selected as the normal face.
3.	• Reference Face =Major Face Up • Override - Decal Face is unchecked • Override - Textured Face is checked • Align Part Face with Sheet = Default	The part face with the largest surface area among all part faces normal to the Z direction which has a Texture property assigned will be selected as the normal face. If none of the part faces have texture property, then the part face with the largest surface area will be selected as the normal face.

Sr. No.	Combination of NESTINGWorks Settings	Normal Face Selection Logic
4.	• Reference Face =Major Face Up • Override - Decal Face is unchecked • Override - Textured Face is checked • Align Part Face with Sheet = Default	The part face with the largest surface area among all part faces normal to the Z direction which has a Decal property assigned will be selected as the normal face. If none of the part faces have any Decals, then the part face with the largest surface area will be selected as the normal face.
5.	• Reference Face =Major Face Down • Override - Decal Face is unchecked • Override - Textured Face is unchecked • Align Part Face with Sheet = Default	The Normal face will be the part face located extreme opposite to the part face with the largest surface area among all part faces normal to the Z direction.
6.	• Reference Face =Major Face Down • Override - Decal Face is checked • Override - Textured Face is unchecked • Align Part Face with Sheet = Default	The normal face will be the part face located extreme opposite to the part face fulfilling the following conditions: i. The part face has the largest surface area among all part faces normal to the Z direction. ii. The part face has a Decal property assigned to it. Note that if not a single face among part faces normal to the Z direction possesses the Decal property, then part face located extreme opposite to the part face with the largest surface area will be selected.
7.	• Reference Face =Major Face Down • Override - Decal Face is unchecked • Override - Textured Face is checked • Align Part Face with Sheet = Default	The normal face will be the part face located extreme opposite to the part face fulfilling the following conditions: i. The part face has the largest surface area among all part faces normal to the Z direction. ii. The part face has a Texture property assigned to it. Note that if not a single face among part faces normal to the Z direction possesses the texture property, then part face located extreme opposite to the part face with the largest surface area will be selected.
8.	• Reference Face =Major Face Down • Override - Decal Face is checked • Override - Textured Face is checked • Align Part Face with Sheet = Default	The normal face will be the part face located extreme opposite to the part face fulfilling the following conditions: i. The part face has the largest surface area among all part faces normal to the Z direction. ii. The part face has a Decal property assigned to it. Note that if not a single face among part faces normal to the Z direction possesses the Decal property, then part face located extreme opposite to the part face with the largest surface area will be selected.

What's New in NESTINGWorks 2022 SP0

Supported Platforms

Solid Modeler:	- SOLIDWORKS 2022 - CAMWorks Solids 2022
Operating Systems:	The *64-bit versions of: - Windows 10 [*Home Editions are not supported] **Note:** 32-bit versions of Operating Systems are not supported.

What's New in NESTINGWorks 2021 SP2

Supported Platforms

Solid Modeler:	- **SOLIDWORKS 2021** - **SOLIDWORKS 2020** - **CAMWorks Solids 2021** - **CAMWorks Solids 2020**
Operating Systems:	The *64-bit versions of: - Windows 7 (SP1 or higher) - Windows 8.1 - Windows 10 [*Home Editions are not supported] **Note:** 32-bit versions of Operating Systems are not supported.

Bug Fixes in NESTINGWorks 2021 SP2

Sr. No.	Issue ID	Help ID	Description
1.	CWNEST-1837	CSR-18813	In NESTINGWorks, when the "Remnant Output as DXF" option is selected for a nesting job and user attempts to open the DXF-format remnant sheet in the Sheet Data tab, then it remains unavailable for preview or selection unless the user opens the DXF file separately and saves it again in DXF format.
2.	CWNEST-1816	---	In NESTINGWorks, whenever a report is generated using the stylesheet named "Layout_With_Images.xlst", it causes the NESTINGWorks application to hang.

Option to Save NESTINGWorks Temporary Files in User Assigned Location

Purpose:

To provide an option whereby folders and files created for multi-body parts can be saved in a user-assigned location rather than the same folder location as the parts/assemblies being nested

Implementation:

When a nesting job is successfully executed, the temporary folders and files that are generated when nesting multibody parts are saved in the same folder location as those parts/assemblies that were selected for nesting.

From *NESTINGWorks 2021 SP2* version onwards, an option has been made available that users can activate to specify that these temporary folders and files are to be saved to a user defined folder. The option is provided in the form of a flag named "***IsUserDefinedFolderPath***" in the Configuration Settings file named ***DefaultValues.ini*** located in the following location:

C:\ProgramData\NESTINGWorksData\NESTINGWorks 2021x64\Config

By default, this flag "**IsUserDefinedFolderPath**" is set to the value "0".

```
IsUserDefinedFolderPath = 0
; User defined folder path
UserDefinedFolderPath = C:\tmp
```

"IsUserDefinedFolderPath" Flag in DefaultValues.ini Configuration Settings File

- When the value assigned to the "**IsUserDefinedFolderPath**" flag is set to "0", the current behavior of saving the temporary folders and files in the same folder location as the parts/assemblies being nested will continue.
- When the value assigned to the "**IsUserDefinedFolderPath**" flag is set to "1", then the temporary folders and files will be saved in the user-assigned folder location indicated in the line just below the flag. The path is indicated by the value assigned to the variable named **UserDefinedFolderPath**.

Example:

```
IsUserDefinedFolderPath = 1
; User defined folder path
UserDefinedFolderPath = C:\tmp
```

For purposes of illustration, refer to the above example. The flag has been assigned a value of "1" in order to enable the use of user-assigned folder location for saving the NESTINGWorks temporary folders and files. The folder path "**C:\tmp**" is assigned as the user-assigned folder location.)

This functionality may prove useful in case a PDM (Product Data Management) system is utilized for managing the design and engineering data of your organization and you do not want NESTINGWorks temporary folders and files to be stored in the same location as the design files (i.e., part or assembly files that were nested).

Option to Avoid Nesting of Hidden Parts/Sub-Assemblies of any Assembly to be nested

Purpose:

To provide an option while nesting an assembly file that ensures that components of the assembly that are ***Hidden*** will not be considered for nesting

Implementation:

In the ***FeatureManagerDesign*** tree of *SOLIDWORKS/CAMWorks Solids*, an option is available within the context menu to hide the component parts as well as sub-assemblies of an active assembly.

In previous versions of *NESTINGWorks*, whenever any assembly was selected for nesting, even its hidden component parts and sub-assemblies were listed in the ***Part Data*** tab of the ***Create Nesting Job*** dialog box for nesting purposes. Users had the option to deselect the listed parts that they did not want to be nested.

From the ***NESTINGWorks 2021 SP2*** version onwards, an option has been provided, which when enabled, will prevent hidden parts and sub-assemblies of the active assembly from getting listed in the ***Part Data*** tab. This option is provided in the form of a flag named ***HiddenOrSuppressedComponent*** in the ***DefaultValues.ini*** Configuration Settings file located in the following location:

C:\ProgramData\NESTINGWorksData\NESTINGWorks 2021x64\Config

By default, this flag "***HiddenOrSuppressedComponent***" is set to the value "0".

```
; To Avoid HiddenOrSuppressedComponent  = 1, To consider HiddenOrSuppressedComponent = 0
AvoidHiddenOrSuppressedComponent = 0
```

"**HiddenOrSuppressedComponent** " **Flag in DefaultValues.ini Configuration Settings File**

- When the value assigned to the "**HiddenOrSuppressedComponent**" flag is set to "0", Hidden components of the active assembly to be nested will be displayed in the ***Part Data*** tab of the ***Create Nesting Job*** dialog box. In case users do not want one or more such parts to be considered for nesting, then they need to deselect those listed parts.
- When the value assigned to the "**HiddenOrSuppressedComponent**" flag is set to "1", then the Hidden components of the active assembly to be nested will not be displayed in the ***Part Data*** tab of the ***Create Nesting Job*** dialog box.

License Activation Method: Online Activation using Activation IDs

Purpose:

The ***Online Activation*** method (introduced from ***NESTINGWorks 2021 SP2*** version onwards) employs 'Activation IDs' that functions as software keys for activating the ***NESTINGWorks*** application.

Implementation:

Online Activation method for license activation has been newly introduced in ***NESTINGWorks 2021 SP2*** version. It employs Activation IDs f*or* activating the license of the software applications.

These Activation IDs for the ***NESTINGWorks*** application are alphanumeric in nature and consist of 32 characters. When renewing/purchasing your *NESTINGWorks* subscription, you need to specify your license type (Nodelocked/Floating Network), the desired *NESTINGWorks* modules you wish to use and then pay the applicable license fees. HCL Technologies Ltd. (IP owners of the *NESTINGWorks* software application) will then provide you with one or more Activation IDs for activating the purchased products.

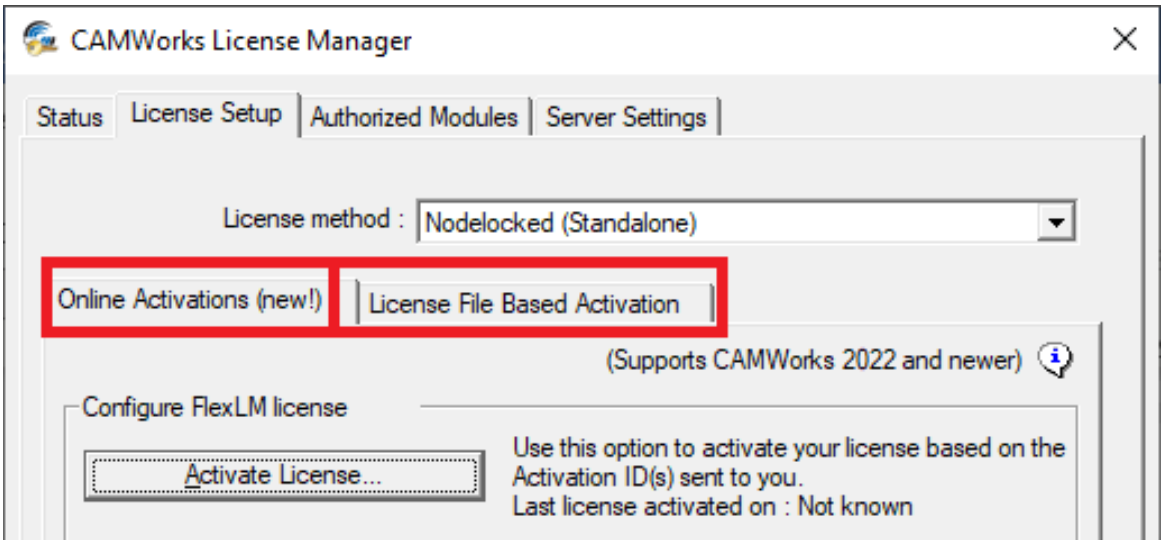
Once received, these Activation ID(s) must be input by you in the relevant user interface of the ***License Manager*** tool for license activation. These Activation ID(s) are then validated and verified online. If successfully verified, then the *NESTINGWorks* application (with specific modules paid for by you) will be activated.

Status of Previously Existing License Activation Method of 'License File Based Activation'

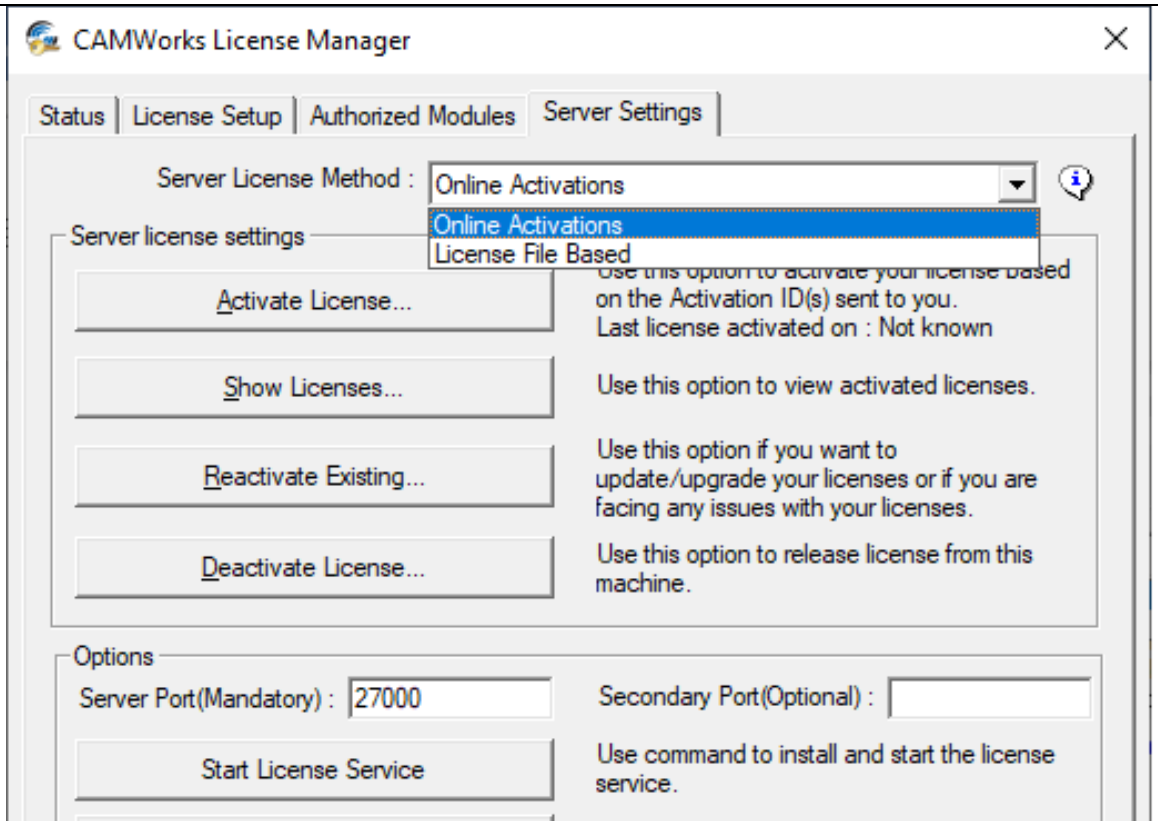
The previously existing *License file based* method for license activation will continue to remain available within the ***NESTINGWorks License Manager*** tool. However, do note that the license file based method for license activation will gradually be phased out.

As of now, in the *NESTINGWorks 2021 SP2* version, you will have the option to choose either the *Online Activation* or *License file based* method of license activation when purchasing/renewing your *NESTINGWorks* subscription.

We recommend that you switch to the more convenient *Online Activation* method.



Nodelocked License: **Separate Tabs in License Setup Tab for Online Activation and License File Based Activation**



Floating Network Server License: **Separate Options provided for License Activation in Server Settings Tab**

Activation Options For 'Online Activation' Method of License Activation

Depending on whether you have or do not have access to the Internet on the 64-bit Windows system (on which the *NESTINGWorks* license will be activated), following two options will be available for Online Activation

Automatic Method:

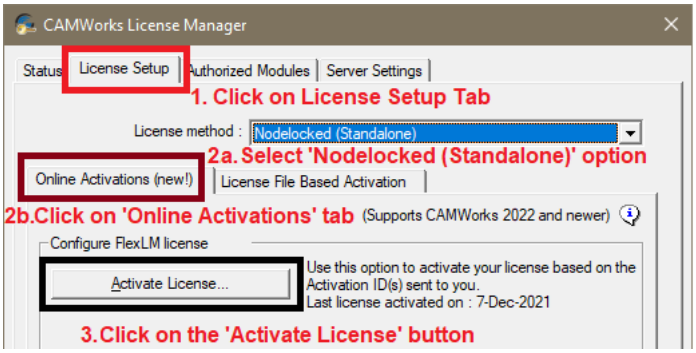
In *Automatic* method of ***Online license*** activation, a live Internet connection is required for activating the license. You need to input the Activation IDs provided to you and then have them validated. Once successfully validated, the activated *NESTINGWorks* product will be displayed within the *Product Activation - Currently Activated Products* dialog box.

Manual Method:

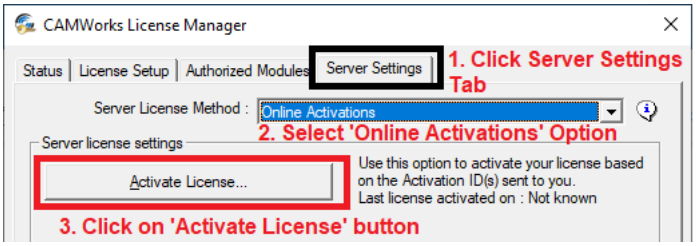
This option is recommended only if you do not have a live internet connection. In this method of ***Online License*** activation, you need to create a license request file using the Activation IDs (Entitlement IDs) provided to you and then email it to register@camworks.com. As a response, you will receive a response file attachment via email. You need to load this response file to activate your *NESTINGWorks* application. Once successfully validated, the activated application will be displayed within the *CAMWorks - Currently Activated Products* dialog box.

Steps to Activate Your NESTINGWorks Installation using 'Automatic' Option of Online Activation

Refer the steps accompanied by user interface images on the next two pages for details on how to activate license using *Automatic* option of ***Online Activation***.

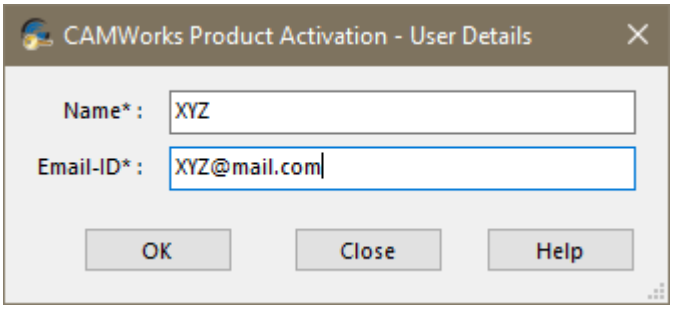


Steps 1-3: Click 'Activate License' Button in License Setup Tab [FOR NODE-LOCKED LICENSE]

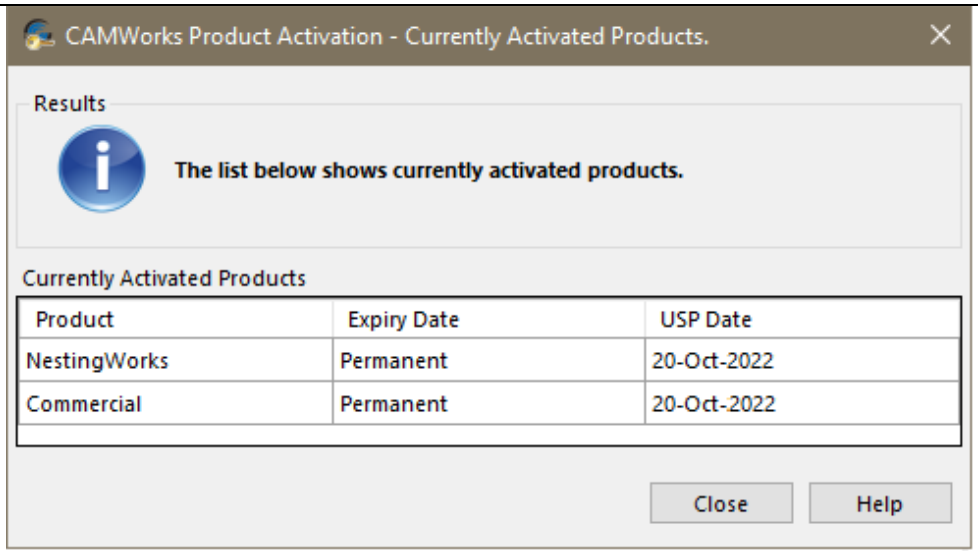


Steps 1-3: Click 'Activate License' Button in Server Settings Tab [FOR FLOATING NETWROK SERVER LICENSE]

Step 4-9: In the next UI that is displayed, select 'Automatic' option, input Activation ID(s), Agree to Licensing Terms and click Activate My Products… Button



Step 10: In the next UI, input user details and click OK

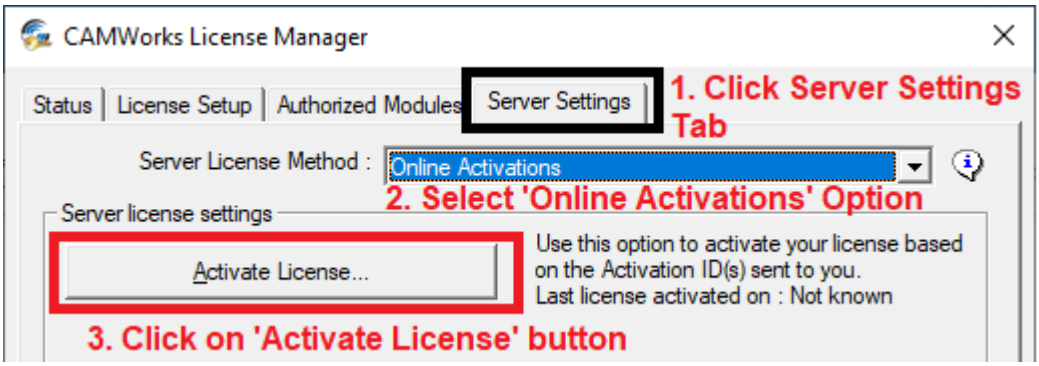


Step 11: **In the next UI, the products successfully activated will be displayed. Click Close to exit.**

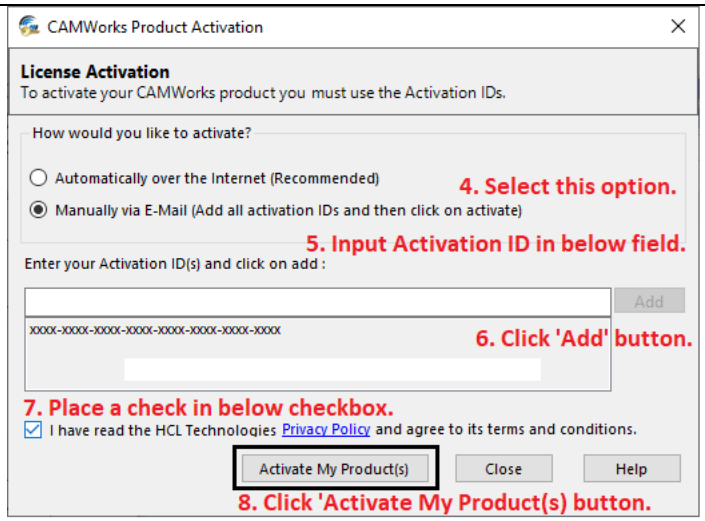
Steps to Activate Your NESTINGWorks Installation using 'Manual' Option of Online Activation

Refer the following steps accompanied by user interface images for details on how to activate license using *Manual* option of ***Online Activation***.

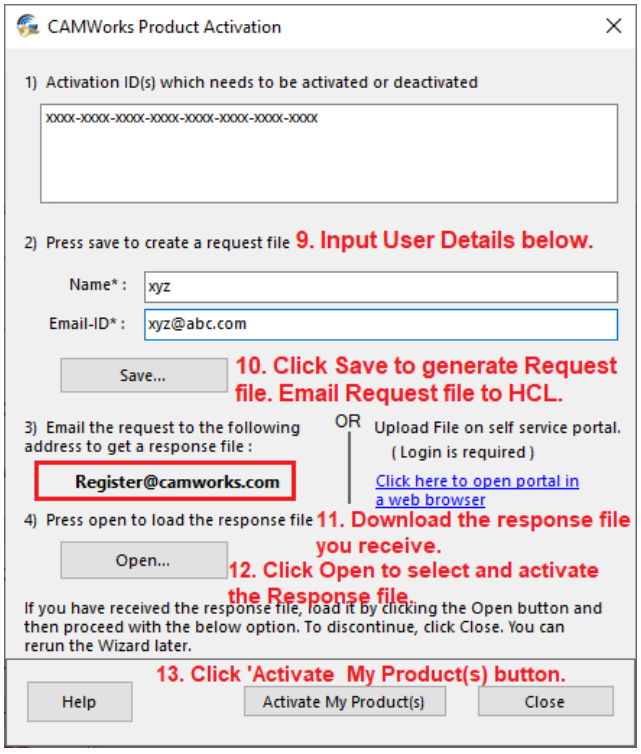
Note for Steps 1-3:
For Node-locked and Floating Server licenses, the steps 1 to 3 for ***Manual*** option are identical to Steps 1-3 for 'Automatic' Method.



Steps 1-3: **Click 'Activate License' Button in Server Settings Tab (For Floating Network Server License)**



Step 4-8: **In the next UI that is displayed, select 'Manual' option, input Activation ID(s), Agree to Licensing Terms and click 'Activate My Products…' Button**



Step 9-13: **In the next UI that is displayed, input user details, save and email the request file. Use the 'Open' button to browse and select the response file you receive. Activate this file by clicking the 'Activate My Products…' button.**

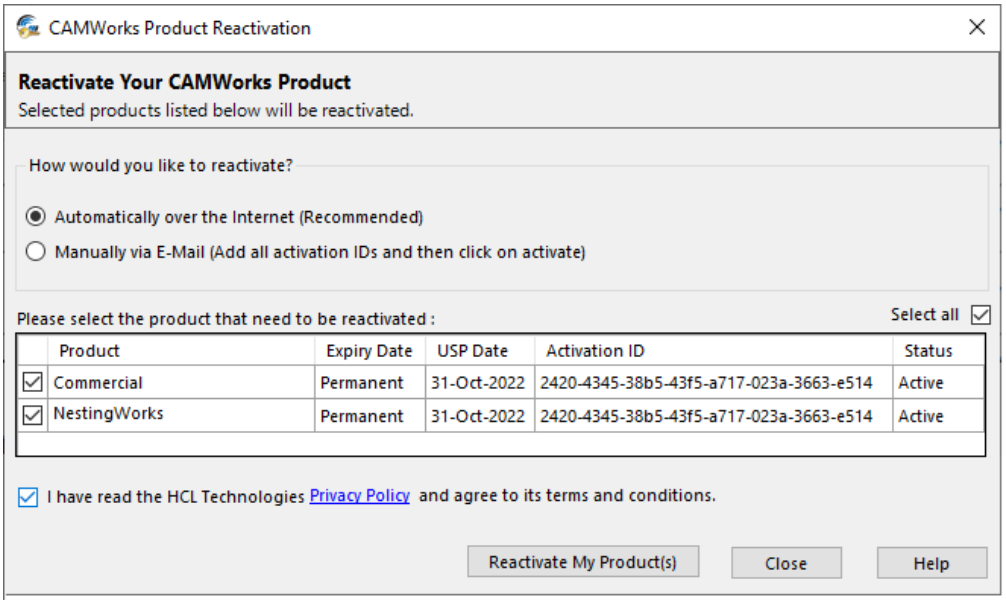
License Activation on Clients of a Floating Network Installation

(After License Activation/Reactivation via Online Activation Method)

The process of license activation on Client machines (by inputting the *License Server* Host name and Port Number details in *License Setup* tab of the ***License Manager*** tool) remains identical to the License File Based method of license activation.

Reactivating your License using Online Activation Method

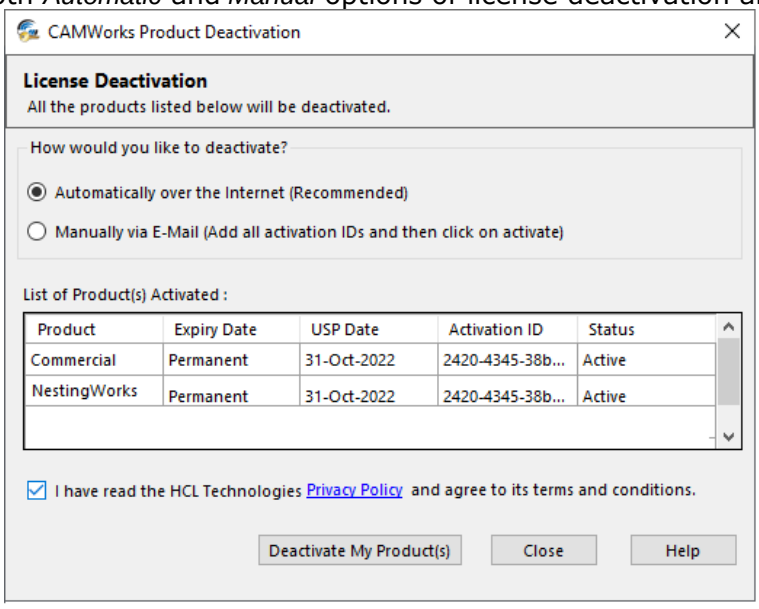
If you wish to upgrade or renew your *NESTINGWorks* license, the *Online Activation* method provides separate *Product Reactivation* user interfaces within the ***License Manager*** tool to reactivate your license using your existing Activation IDs. (Both *Automatic* and *Manual* options of license reactivation are available.)



User Interface for Reactivating your License via Online Activation Method

Advantages of 'Online Activation' Method of License Activation – Prompt Deactivation and Activation

In the previously used *License file based* method, users had to inform support about the intention to switch system, raise a new license request file from the new system, then wait for one business day to get the license file required for product activation. Consequently, shifting a ***Nodelocked*** or ***Floating Network*** installation from one system to another was a bit cumbersome.
This issue is addressed with the ***Automatic*** option of ***Online Activation***. To switch from one system to another, use the *Product Deactivation* UIs available within the ***License Manager*** tool to deactivate your products from the current system and then activate it on another system (using the *Product Activation* UIs). This process requires no intervention from NESTINGWorks Support or waiting for any email replies. (Both *Automatic* and *Manual* options of license deactivation are available.)



User Interface to Deactivate your NESTINGWorks License

What's New in NESTINGWorks 2021 SP1

Supported Platforms

Solid Modeler:	- **SOLIDWORKS 2021** - **SOLIDWORKS 2020** - **CAMWorks Solids 2021** - **CAMWorks Solids 2020**
Operating Systems:	The *64-bit versions of: - Windows 7 (SP1 or higher) - Windows 8.1 - Windows 10 [*Home Editions are not supported] **Note:** 32-bit versions of Operating Systems are not supported.

Bug Fixes in NESTINGWorks 2021 SP1

Sr. No.	Issue ID	Help ID	Description
1.	CWNEST-1777	CSR-16947	When blind holes are created in the part file and nesting is performed with selection as "Bottom" under Align face to part sheet, it should nest with the face having the blind holes, as seen for blind features.
2.	CWNEST-1775	CSR-16931	Multibody parts are not getting nested when generated from assembly.
3.	CWNEST-1769	CSR-16273	Unable to create nest job from Multibody parts, it requires SOLIDWORKS to be restarted.
4.	CWNEST-1764	-----	The default.ini values are not observed when nesting two or more parts.
5.	CWNEST-1750	CSR-15319	In NESTINGWorks, it is not possible to set the default nesting method to Optimal. The .ini file has been modified but still reverts to Fast nesting.
6.	CWNEST-1748	-----	The NESTINGWorks option "Nesting type" for "Fast nesting" or "Optimal nesting" does not save as a system default.
7.	CWNEST-1745	-----	The assembly with multi-body parts used to nest in NESTINGWorks 2020 version gives an error in NESTINGWorks 2021 version that multi bodies are not supported.
8.	CWNEST-1699	-----	NESTINGWorks crashes when multiple quantities are nested.

Sr. No.	Issue ID	Help ID	Description
9.	CWNEST-1697	CSR-13013	NESTINGWorks doesn't nest some radial parts.
10.	CWNEST-1667	CSR-11433	Arcs in saved out DXF file import as splines from Nested layout DXF.
11.	CWNEST-1660	CSR-11226	Part doesn't Nest with extruded circular cut.
12.	CWNEST-1631	CSR-10360	Part doesn't nest with interior geometry.

What's New in NESTINGWorks 2021 SP0

Supported Platforms

Solid Modeler:	- **SOLIDWORKS 2021** - **SOLIDWORKS 2020** - **CAMWorks Solids 2020** **Note:** CAMWORKS Solids 2021 will be supported when released.
Operating Systems:	The *64-bit versions of: - Windows 7 (SP1 or higher) - Windows 8.1 - Windows 10 [*Home Editions are not supported] **Note:** 32-bit versions of Operating Systems are not supported.

Bug Fixes in NESTINGWorks 2021 SP0

Sr. No.	Issue ID	Help ID	Description
1.	CWNEST-1734	CSR-14660	NESTINGWorks fails to nest cylindrical part models with through hole features.
2.	CWNEST-1711	CSR-13233	Specific part model fails to get auto captured as part for nesting unless user manually intervenes and selects the part. Even post manual selection, thickness of "0" is assigned instead of actual thickness, thereby causing the nesting process to fail.
3.	CWNEST-1676	CSR-11869	When nesting multiple parts on multiple custom-size sheets using 'Nest by folder' command, NESTINGWorks does not allow addition of Custom Sheets after previewing if the dimension of the custom sheet is smaller than one of the parts.
4.	CWNEST-1667	CSR-11433	When nested layout is exported in DXF format for specific part/assemblies, small arched fillets in the original file end up getting recognized as splines instead of arcs.
5.	CWNEST-1626	CSR-10130	When the part to be nested contains a boss-extrude feature beyond a specific thickness, NESTINGWorks fails to execute the nesting job.
6.	CWNEST-1609	CSR-9645 CSR-14047	When the nested payout is generated for a perfectly rectangular part, some of the parts are nested at odd angles.

Sr. No.	Issue ID	Help ID	Description
7.	CWNEST-1555	CSR-7961 CSR-8169	When user exports nested layouts in DXF format, polylines are observed on arcs and splines. Post processing cannot be done in such a case.
8.	CWNEST-1537	CSR-6640	If user modifies the default values present in the defaultvalues.ini settings file, then NESTINGWorks fails to retrieve updated default values from this file and display them in the user interfaces.
9.	CWNEST-1438	CSR-3688	User ins unable to execute nesting job for assembly comprising both multibody parts and virtual parts.
10.	CWNEST-1344	CSR-2441	When user attempts to executes the nesting process for multibody parts with the "Create Separate Assembly" option enabled, the nesting process fails.
11.	CWNEST-1240	CSR-1390	If all the parts selected for nesting are not nested or if the specified quantity for parts is not nested, then an Error message must be displayed upon previewing the nested layout.
12.	CWNEST-1213	11-6677	Nesting job fails up on attempt execution for specific part file.
13.	CWNEST-1208	11-6625	NESTIG Job cannot be successfully for parts in the specific assembly if those parts contain suppressed extruded features (as they cause disruption in profile recognition).
14.	CWNEST-1176	NA	When unfolding a sheet metal part using 'Intelligent Unfold' option, when an incorrect value is input for 'K-factor' parameter, the header of the displayed Error message is incorrect.
15.	CWNEST-1171	NA	Within the 'Part Data' tab of the 'Create Nesting Job' user interface, when user selects 'Step Angle' option instead of 'Part Angle' option, the Part Angle List field associated with the alternate option must be disabled.
16.	CWNEST-1168	NA	Within the 'Part Data' tab of the 'Create Nesting Job' user interface, when user assigns Step Angle as 45 degrees for multiple parts and shifts focus to a blank row, the step Angle gets reset to 1 degree.
17.	CWNEST-1137	NA	Configuration files and Help files associated with the NESTINGWorks application are present at two locations after installation causing a lot of confusion.
18.	CWNEST-621 CWNEST-529	NA	When user attempts to execute nesting job for a specific assembly comprising of folded parts, then some of the parts are not successfully unfolded by the Auto-unfold option. The layout generated ends up having overlapping parts and nested parts outside sheet boundaries.
19.	CWNEST-501	NA	NESTINGWorks allows users to get proceed ahead with the nesting steps if he/she clicks the Browse button even if special characters (invalid) are input in the 'Save Output as dxf' field.

Sr. No.	Issue ID	Help ID	Description
20.	CWNEST-472	NA	The Summary Report generated after successful execution of a NESTING job doesn't contain critical information such as Part Material, Part Thickness, Part Quantity in each sheet, total utilized area of sheet, remnant area of a sheet and area of unutilized sheet.
21.	CWNEST-75	NA	If the thickness and material associated with a part (for which a nesting job has successfully been executed previously) is updated with new values, then nesting layout generated on re-executing the nesting job is based on previously assigned thickness and material values.
22.	CWNEST-31	10-6069	When Nesting job is executed for the specific assembly with 'Optimal Nesting' enabled and nesting time specified, NESTINGWorks crashes and SOLIDWORKS stops responding.

Option to Convert Arcs and Splines into Polylines in Nested Layout DXF Output

Purpose:

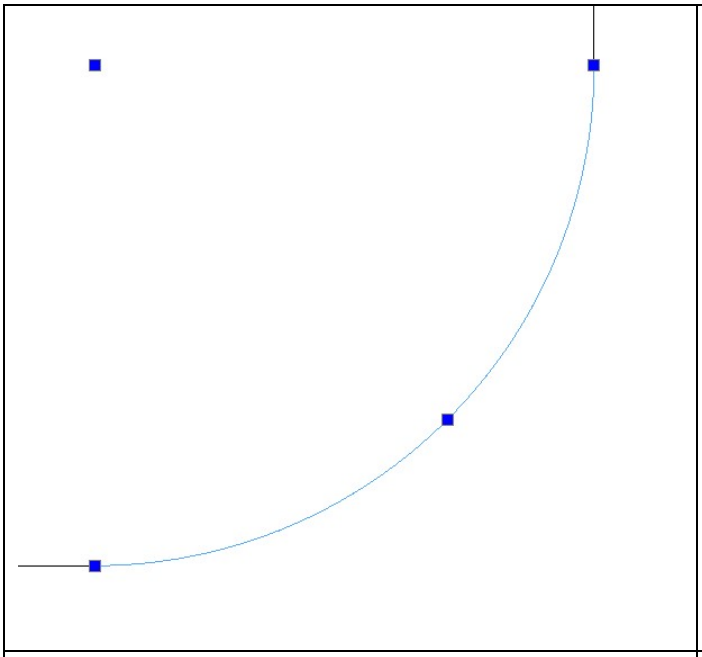
To provide the option to convert arcs and lines present in the nested layout components (nested part, sheet, bend lines, remnant sheet, etc.) into polylines in order to facilitate easier parametric editing within DXF supported software applications.

Implementation:

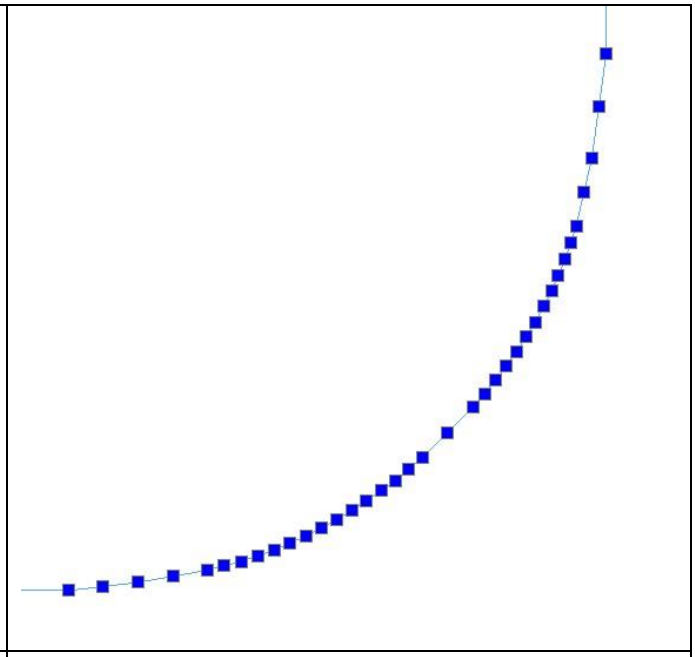
Current Function

In NESTINGWorks, the functionality to output various layers comprising the nested layouts (such as sheets, profile of nested parts, bend lines, bends limits, remnant sheets) in the 2D DXF format is available in the form of the ***DXF Output Options*** dialog box. Nested layouts thus generated in DXF format can be viewed and edited in software applications that support this format (such as ***eDrawings***).

The perimeter geometry of these layers may comprise lines, arcs and/or splines. When the nested layouts are opened in software applications that support DXF format, arcs and splines present in the perimeter geometry cannot be as easily edited as lines. However, if the arcs and splines present in the nested lay out are converted to polylines before generating the nested layout in DXF format, then parametric editing becomes much easier.



Arc present on Profile

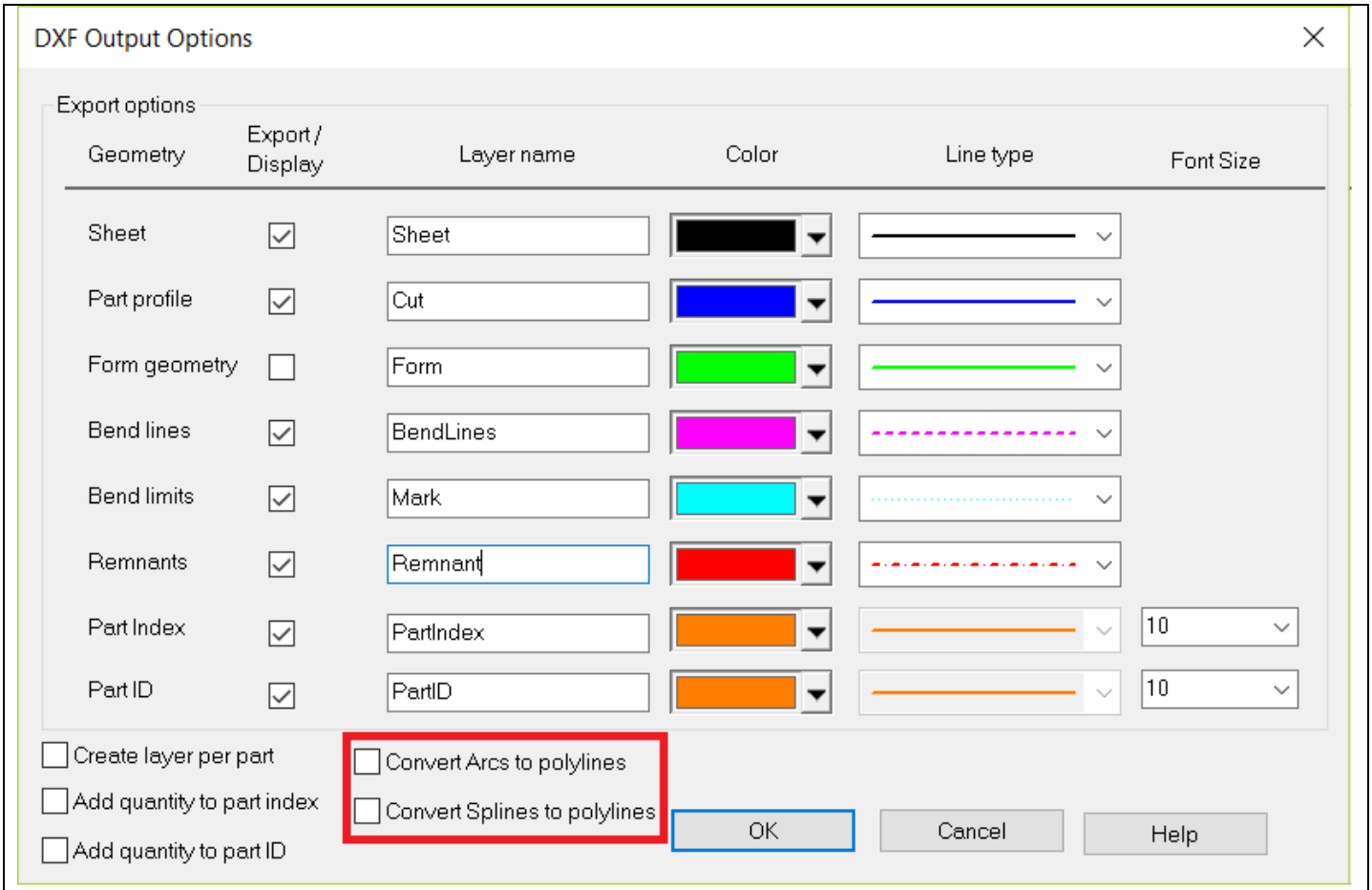


Arc present on Profile after Conversion to Polyline

New UI Parameters Added

From *NESTINGWorks 2021* version onwards, the following two new checkbox options will be available in the ***DXF Output Options*** dialog box.

- **Convert Arcs to polylines:** When this option is checked, then all arcs present in the profiles of layers selected for being output in the nested layout in DXF format will be converted into polylines.
- **Convert Splines to polylines:** When this option is checked, then all splines present in the profiles of layers selected for being output in the nested layout in DXF format will be converted into polylines.



New Checkbox options in DXF Output Options Dialog Box

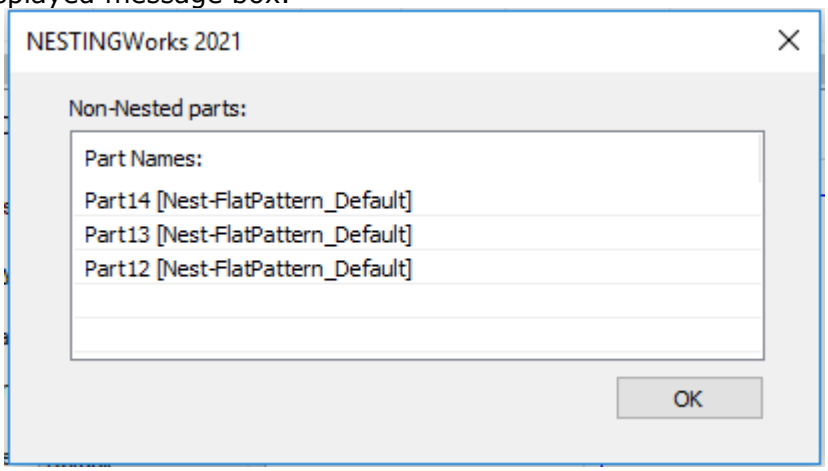
Message listing Non-Nested Parts up on Previewing Nested Layout

Purpose:

To communicate to the users about parts not considered for nesting when users preview nested layouts

Implementation:

When users assign settings and parameters within the *Create Nesting Job* user interface and execute the *Preview Nest…* command to view the nested parts, they have no way of knowing whether all the parts selected for nesting got nested or not. No warning is given.
Users end up receiving information on incomplete/partial nesting only after nested layouts are generated and summary report is viewed.
From *NESTINGWorks 2021* version onwards, this issue has been addressed in the form of a warning message that gets displayed when users execute the command for previewing nested layouts. In case of one or more parts not being considered on executing a nesting job, a warning message listing the names of all the parts that were not nested at all will be listed.
The Nesting Preview window and nested layout preview will be displayed only after you click the *OK* button within the displayed message box.



Warning Message Box displayed on executing the Preview Nest… command if only Partial Nesting takes place

What's New in NESTINGWorks 2020 SP1

Supported Platforms

Solid Modeler:	- **SOLIDWORKS 2020** - **CAMWorks Solids 2020**
Operating Systems:	The *64-bit versions of: - Windows 7 (SP1 or higher) - Windows 8.1 - Windows 10 [*Home Editions are not supported] **Note:** 32-bit versions of Operating Systems are not supported.

Bug Fixes in NESTINGWorks 2020 SP1

Sr. No.	Issue ID	Description
1.	CWNEST-1658 (CSR-10994)	When executing Nesting Job for an assembly, users cannot increment the quantity for Assembly in ***Part*** tab of ***Create Nesting Job*** dialog box.
2.	CWNEST-1612 (CSR-11995)	In the NESTINGWorks Ribbon bar, the label for the ***Create Nest Job*** command is incorrectly displayed as ***User Defined Route***.

Support for Hardware Dongle based Licensing Method

Purpose:

To provide users the option to opt for Single-User License of *NESTINGWorks* using Hardware Dongle Licensing

Implementation:

In all prior versions of NESTINGWorks, the only licensing method available was the *FlexLM Software Encryption* method for both single-user (Standalone/Node-locked) and multi-user (Floating Network) installations.

From *NESTINGWorks 2020 SP1* version onwards, the **Hardware Dongle** method of licensing too will be available. This licensing method will be available for single-user installations only.

If you opt for this licensing method, then your Reseller will provide you with the following:

i. A Hardware Dongle that fits on the USB port of your Windows machine.
ii. A license file with **.cod* extension

Software Utilities Required to Use the Hardware Dongle Licensing Method

In order to use the Hardware Dongle licensing Method on a Windows machine (on which the NESTINGWorks application is installed), the following two programs needs to be installed:

- CAMWorks License Manager
- Sentinel Protection Installer

Both these software programs are automatically installed when you install/upgrade the *NESTINGWorks* application. You can alternatively download and install these software programs from the Downloads Area of the CAMWorks website.

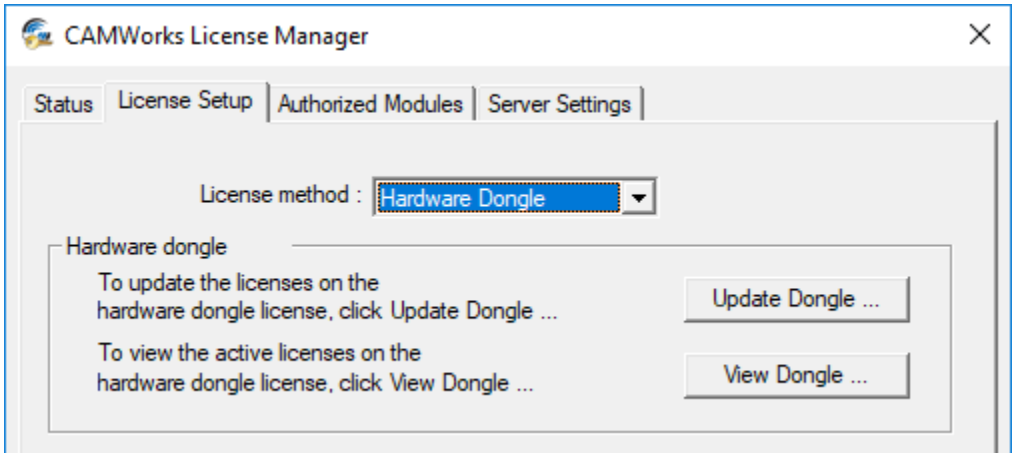
Advantage of Using the Hardware Dongle Licensing Method

The advantage of using this licensing method is that you can use it on any Windows machine that has the *NESTINGWorks 2020 SP1* or higher version installed as long as the ***CAMWorks License Manager*** and ***Sentinel Protection Installer*** too are installed. (These programs are automatically installed when NESTINGWorks application is installed using the *.exe file provided in the Installer Package.)

Settings to be assigned in CAMWorks License Manager for using Hardware Dongle based Licensing

Follow the steps given below to activate your license in case you use a Hardware Dongle.

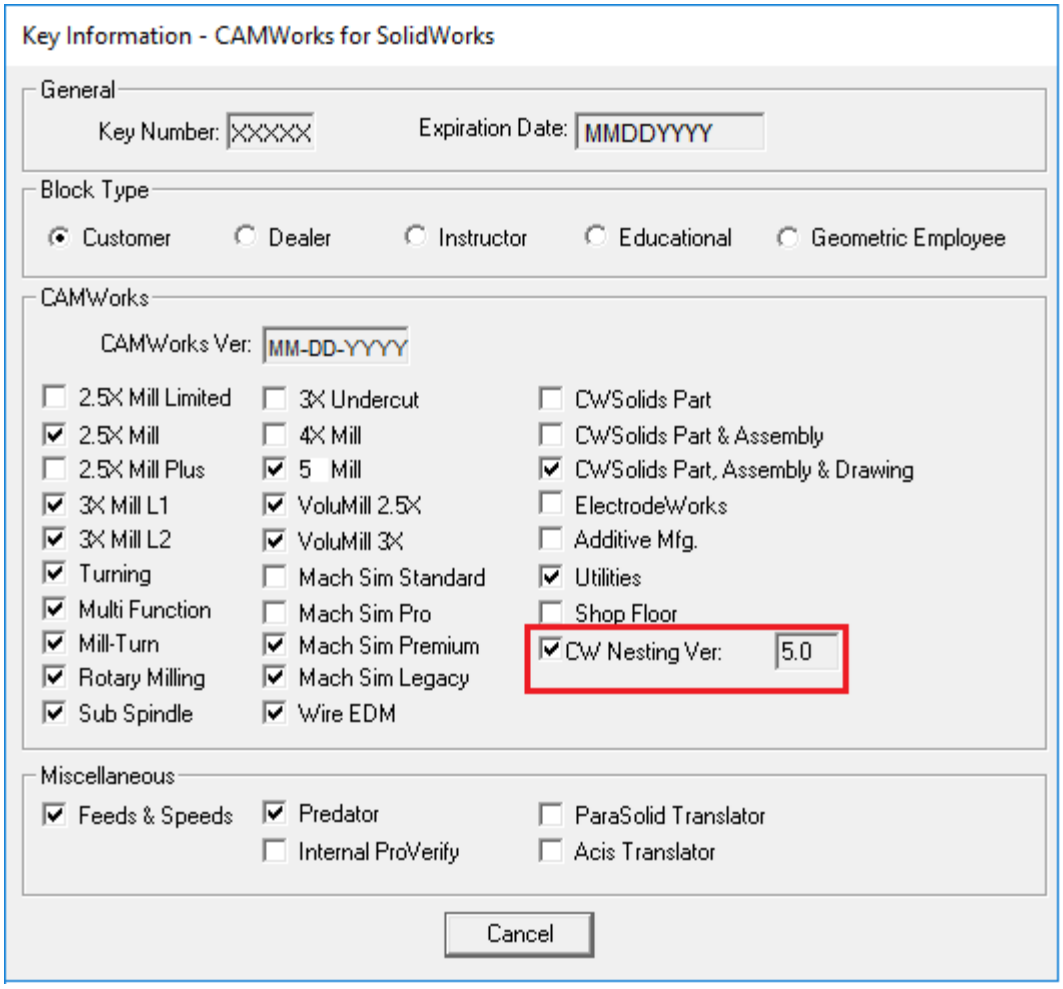
1. Attach the Hardware Dongle to the USB port of your computer.
2. Your Reseller will have provided you with a *license file (*.cod)* for your hardware dongle. Save this file to your Windows machine for activation.
3. Launch the ***CAMWorks License Manager*** program with Admin-level rights.
4. The ***License Manager*** dialog box will be displayed. Click on the ***License Setup*** tab.
5. For the License method, ensure that the ***Hardware Dongle*** option is selected. This action activates the ***Hardware Dongle*** group box.



Select 'Hardware Dongle' as the License Method

6. Click on the ***Update Dongle*** button. The ***Open COD File*** dialog box will be displayed. Browse to the location where the ****.cod*** file provided by your reseller is saved.
7. Select the ****.cod*** file and click ***Open***.
8. The ***Update Protection Block*** dialog box will be displayed. This dialog box contains all information with respect to the license such as key number, authorized modules, authorized versions etc. Click on the ***Update*** button in this dialog box to activate/update the cod file and associate it with Hardware Dongle attached to the USB Port.

9. Once the ****.cod*** file is successfully updated/activated, the message ***"Security Protection Block updated successfully"*** will be displayed.
10. Your Hardware Dongle License is now activated. You can now use it on any Windows machine on which ***NESTINGWorks 2020 SP1*** or higher version is installed (provided ***CAMWorks License Manager*** and ***Sentinel Protection Installer*** programs too are installed).
11. If you click the ***View Dongle*** button in the ***License Setup*** tab, the ***Key Information – CAMWorks for SOLIDWORKS*** dialog box will be displayed. This dialog box displays the licensing information associated with the Hardware Dongle.



Key Information – CAMWorks for SolidWorks Dialog Box

What's New in NESTINGWorks 2020 SP0

Supported Platforms

Solid Modeler:	- **SOLIDWORKS 2020** - **CAMWorks Solids 2020**
Operating Systems:	The *64-bit versions of: - Windows 7 (SP1 or higher) - Windows 8.1 - Windows 10 [*Home Editions are not supported] **Note:** 32-bit versions of Operating Systems are not supported.

Bug Fixes in NESTINGWorks 2020 SP0

Sr. No.	Issue ID	Description
1.	CWNEST-1647 (CSR-10685)	For a specific nesting job, a sketch-based sheet and Custom sheet have been assigned for nesting the parts. On executing on the nesting job, the parts get nested only in the sketch-based sheet multiple times (though *Quantity* assigned was 1) while completely ignoring the custom sheet.
2.	CWNEST-1618 (CSR-6640)	When user sets defaults for the *'Part Angle List'* and *'Step Angle'* parameters in the Default Values.ini file and proceeds with a new nesting job, the updated default values are not displayed in the NESTINGWorks UI.
3.	CWNEST-1641 (CSR-10634)	For the specific nesting job, the NESTINGWorks application does not allow users to reassign the Normal face in the *Part Data* tab of *Create Nesting Job* dialog box by selecting a face from the graphics area.

Option in Save Report for an Executed NESTINGWorks Job in PDF Format

Purpose:

To provide users an option to save the report generated an executed NESTINGWorks Job in PDF format

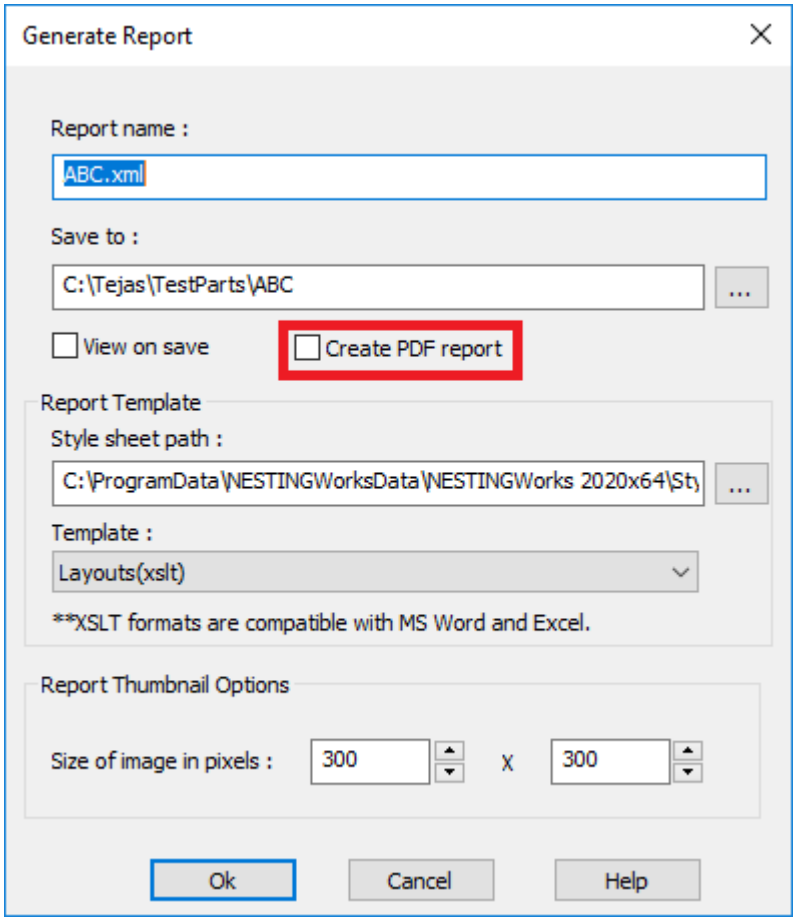
Implementation:

NESTINGWorks provides the option to generate and view the results for an executed nesting job in the form of a report. Clicking on the ***Generate Report*** command button in the ***Nesting Preview Window*** displays the ***Generate Report*** dialog box. The controls within this dialog box are used to edit the settings for generating reports.

In previous versions of NESTINGWorks, the reports were supported in the following four formats:

i. *.doc (Corresponding report to be viewed in the MS Word application)
ii. *.xls (Corresponding report to be viewed in the MS Excel application)
iii. *.xml (Corresponding report to be viewed in the Internet Explorer web browser)
iv. *.html (Corresponding report to be viewed in the Internet Explorer web browser)

From *NESTINGWorks 2020* version onwards, the report will also be supported in the PDF format. Generating the report in PDF format will be optional. An additional checkbox option ***Create PDF report*** has been provided in the ***Generate Report*** dialog box for this purpose. The report in PDF format will be generated only if this checkbox option is checked. It will be saved in the same location as the reports in other formats i.e., the folder location indicated in the ***Save to*** field of the ***Generate Report*** dialog box.



'Create PDF report' Checkbox Option in 'Gernate Report' Dialog Box

Full-fledged API Support for NESTINGWorks Application

Purpose:

To provide the ability to customize NESTINGWorks application via an open *Application Programming Interface (API)* platform

Implementation:

COM API Interface for NESTINGWorks

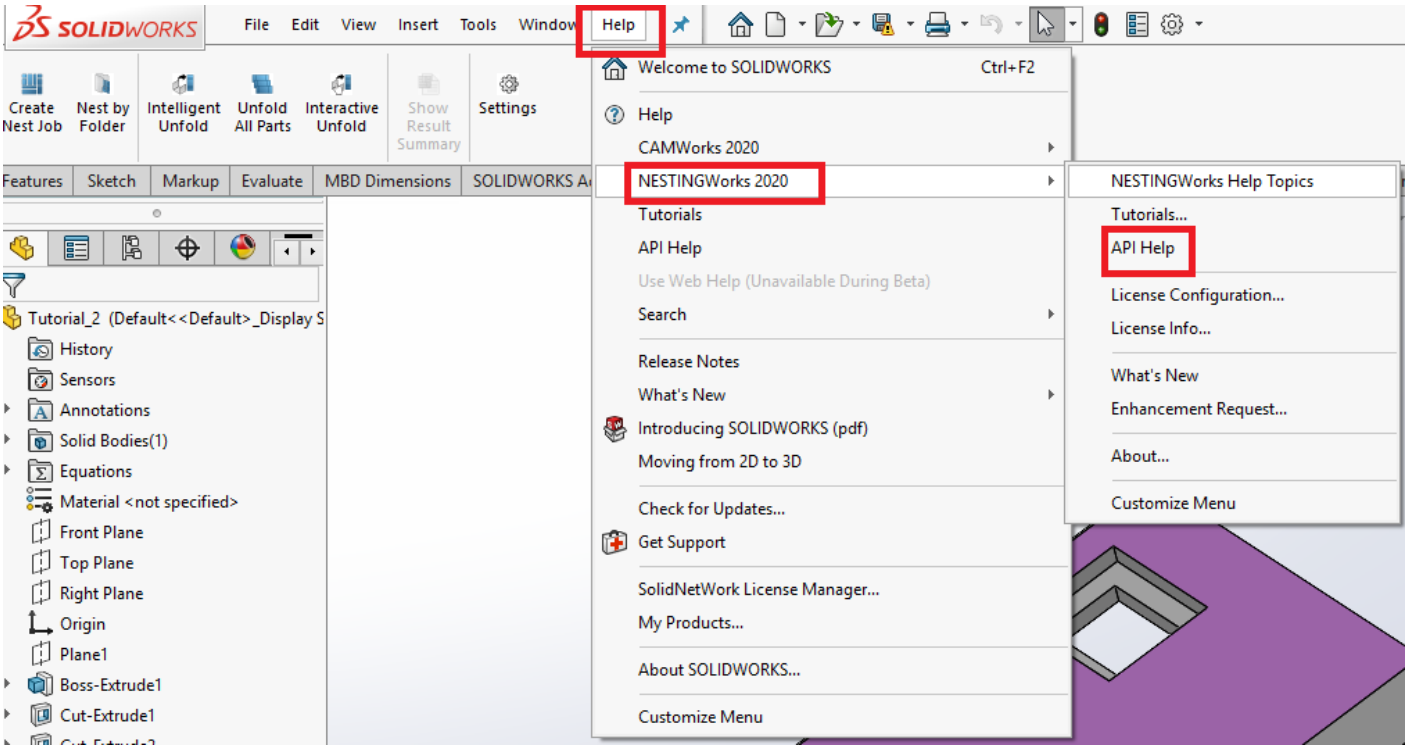
From *NESTINGWorks 2020* version onwards, a Component Object Model (COM) API interface for customizing NESTINGWorks is available.
You can write your own macros and scripts in VB, C++, etc., to execute a NESTINGWorks Command OR series of commands through the COM API interface. All commonly used commands required for executing nesting jobs using the NESTINGWorks application are supported by the NESTINGWorks API.

Accessing API Help

Information about the NESTINGWorks API is available in API Help file named ***NESTINGWorks_API.chm***. Once *NESTINGWorks 2020* is installed, you can access this file from the following folder location:

C:\Program Files\NESTINGWorks 2020x64\CWN_VC141\Lang\English

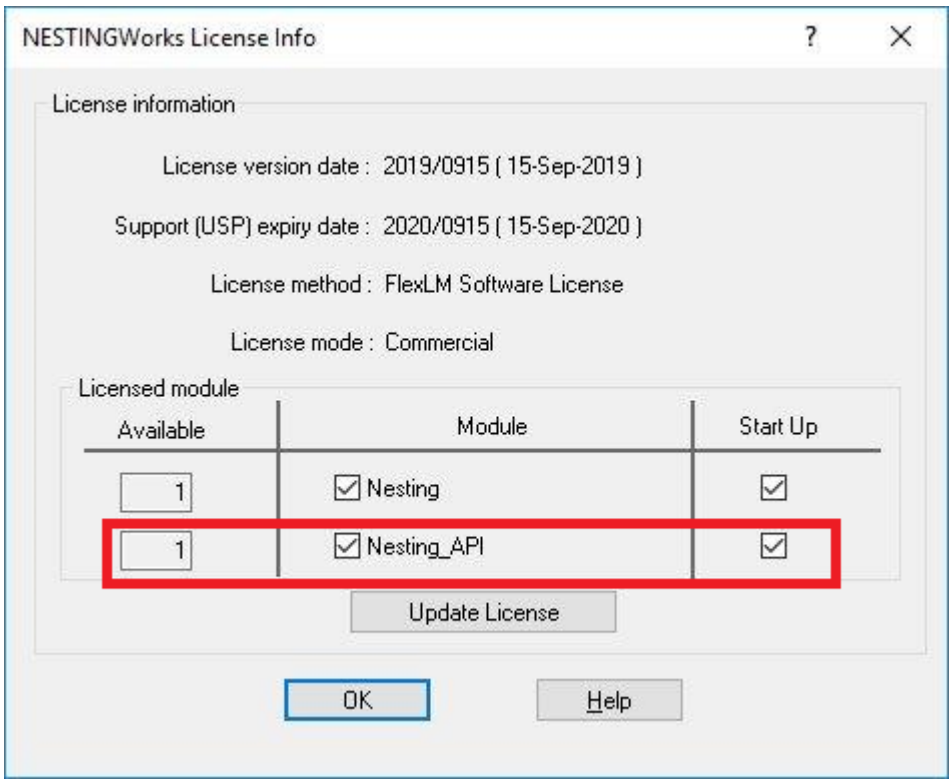
Alternatively, when the NESTINGWorks application is run as an Add-In within *SOLIDWORKS/ CAMWorks Solids*, this Help file can be accessed from the ***Help*** menu by selecting *NESTINGWorks 2020>>API Help* in the dropdown menu.



Accessing the NESTINGWORKS API Help File via the Help Menu of SOLIDWORKS UI

Licensing for NESTINGWorks API

The newly introduced API functionality within NESTINGWorks requires a valid license in order to be exercised. Your NESTINGWorks license needs to be re-configured to support this functionality. Contact your NESTINGWorks reseller to procure the requisite license by paying the applicable licensing fees. Once you receive the license file from your reseller, activate the license using the *NESTINGWorks License Manager* application. (For steps involved in license activation, refer the ***NESTINGWorks License Activation Guide***. This document can be accessed from the *Windows Start menu* by selecting ***NESTINGWorks 2020x64>>License Activation Guide***.
After your *NESTINGWorks* license is activated, you can verify whether it is configured to run the NESTINGWorks API functionality by viewing the License Info dialog box. This dialog box can be accessed from the ***Help*** menu of the ***SOLIDWORKS/CAMWORKS Solids*** user interface by selecting *NESTINGWorks 2020>>License Info…* in the dropdown menu. The license for the NESTINGWorks API functionality, if available, will be listed in this dialog box.



License Info Dialog Box

Sample APIs shipped with NESTINGWorks

Sample Macros and C++ code snippets created using NESTINGWorks APIs will be available in the following folder location once NESTINGWorks 2020 is installed:

C:\ProgramData\NESTINGWorksData\NESTINGWorks 2020x64\API

Additional API Requests

Additional API functionality will be developed based on users' requests and priority. If you have questions or requests for additional API functions, contact your Reseller.

Note:

Getting custom API functionalities created for your NESTINGWorks needs is a paid service.

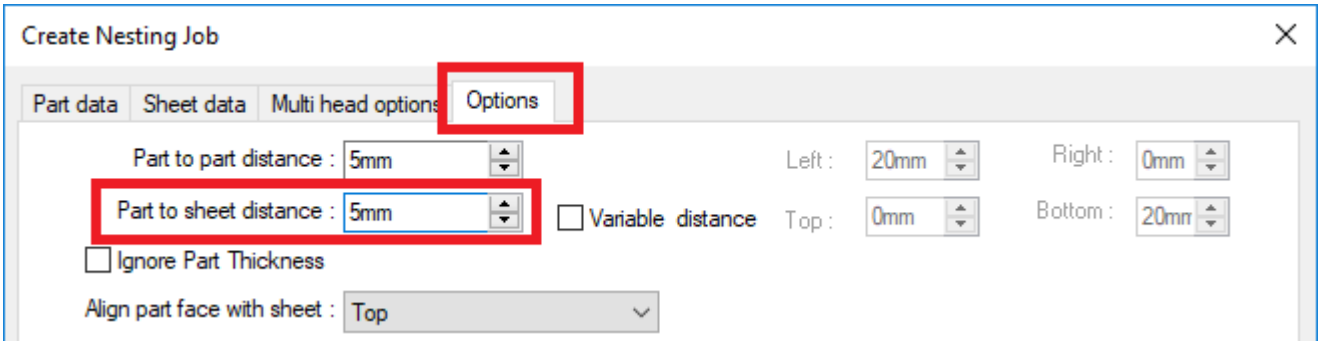
'Variable Distance' Parameter in Options tab of Create Nesting Job Dialog Box

Purpose:

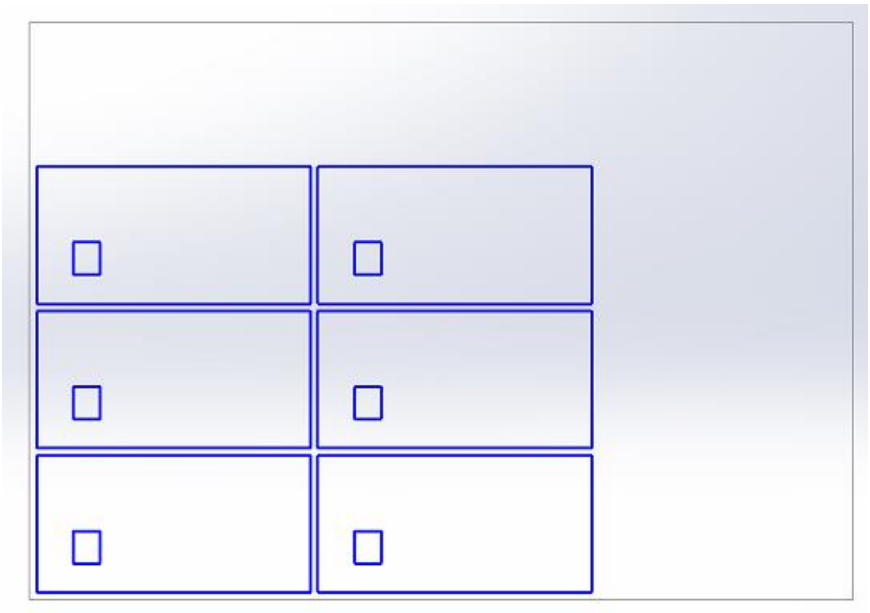
To provide users the option to indicate the distance to be maintained between the parts being nesting and the right, left, top and bottom sheet edges.

Implementation:

The ***Part to Sheet*** parameter in ***Options*** tab of the ***Create Nesting Job*** dialog box was used to indicate the distance to be maintained between part being nested and the edge of the sheet. When a distance value is specified for this parameter, this distance will be maintained from the left, right, bottom, and top edges of the sheet and the nested parts.



Part to Sheet Distance parameter assigned a value of 5mm in Options tab

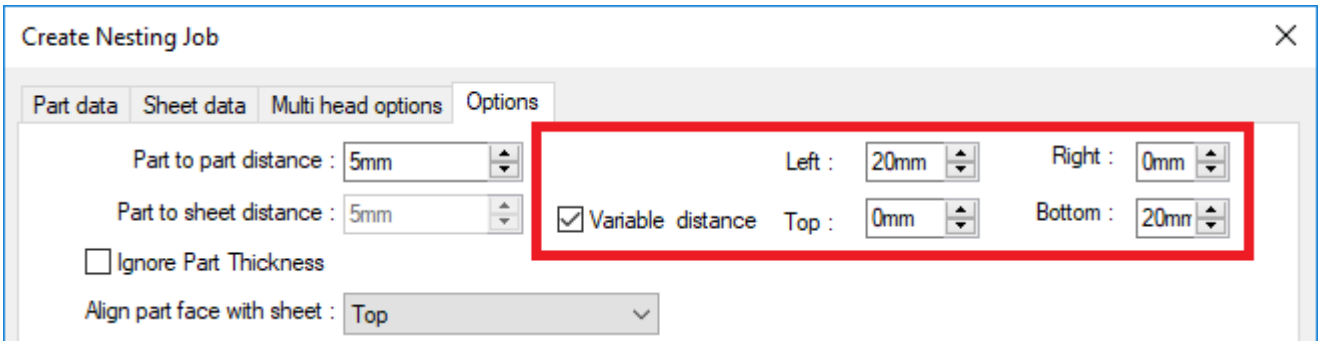


Observe that the Parts in the Nested Layout maintain a Distance of 5mm from the Sheet Edge (Left and Bottom Edges)

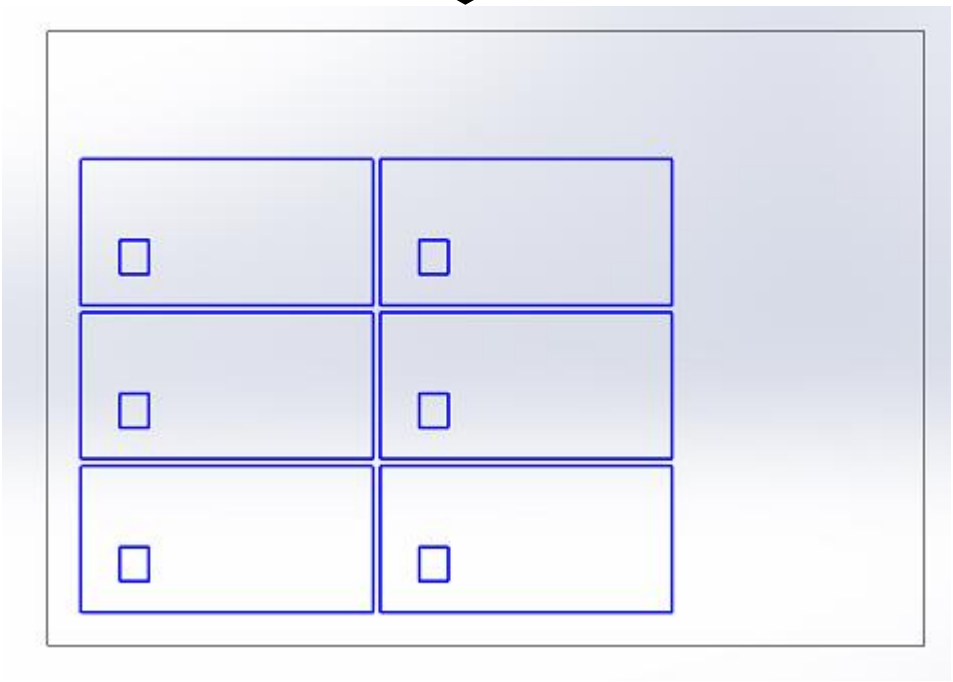
From *NESTINGWorks 2020* version onwards, a new parameter ***Variable Distance*** is available in the ***Options*** tab. This parameter is an alternative to the ***Part to Sheet Distance*** parameter allows to maintain a uniform distance from the sheet edges, the ***Variable Distance*** parameter allows you to specify the distance to be maintained from the left, right, top and bottom edges of the sheet and the parts being nested.

To peruse the ***Variable Distance*** parameter, place a check in the ***Variable Distance*** check box. Placing a check in this checkbox disables the ***Part to sheet distance*** parameter and enables the ***Left***, ***Right***, ***Top*** and ***Bottom*** parameters adjacent to this checkbox. Use these parametric fields to indicate the distance to be maintained from the corresponding sheet borders by the nested parts.

An illustrative example is given below:



'Variable Distance' parameter assigned in Options tab of 'Create Nesting Job' Dialog Box



Observe that the Parts in the Nested Layout maintain a Distance of 20mm from the Sheet Edge (Left and Bottom Edges)

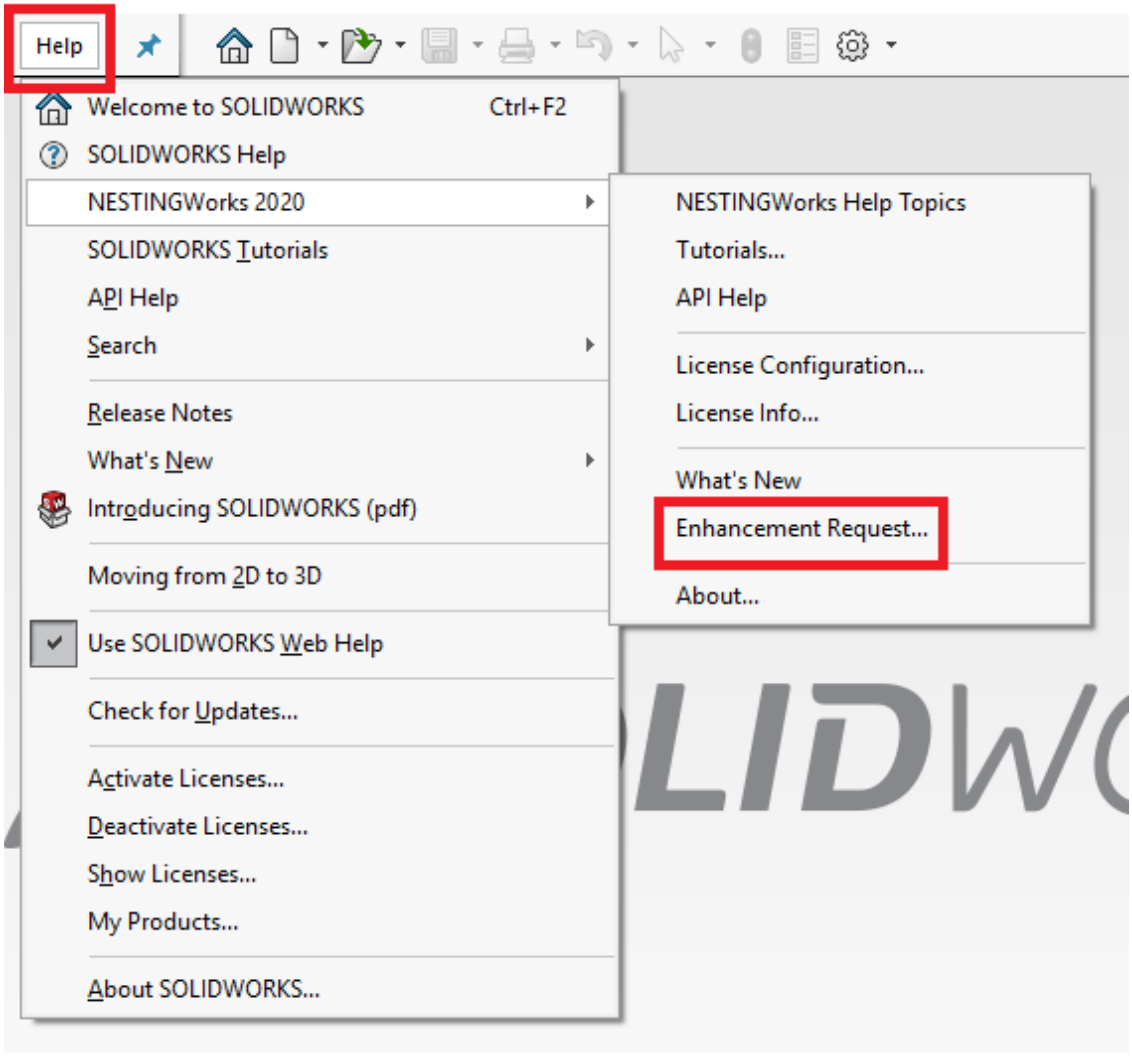
Enhancement Request Form for requesting enhancements in NESTINGWorks

Purpose:

To provide an interface to users for requesting new functionalities/ bug fixes/ enhancements in the NESTINGWorks application

Implementation:

From *NESTINGWorks 2020* version onwards, users can submit enhancement requests for improving/ enhancing the *NESTINGWorks* application or providing comments/observations regarding the *NESTINGWorks* application. The request for enhancements, new functionalities or bug fixes can be made by submitting an *Enhancement Request* form.
This *Enhancement Request* form is an online request form, the link to which can be accessed from the NESTINGWorks user interface. When the *NESTINGWorks* application is run as an Add-In within *SOLIDWORKS/ CAMWorks Solids*, this link can be accessed from the ***Help*** menu by selecting *NESTINGWorks 2020>>Enhancement Request…* in the dropdown menu.



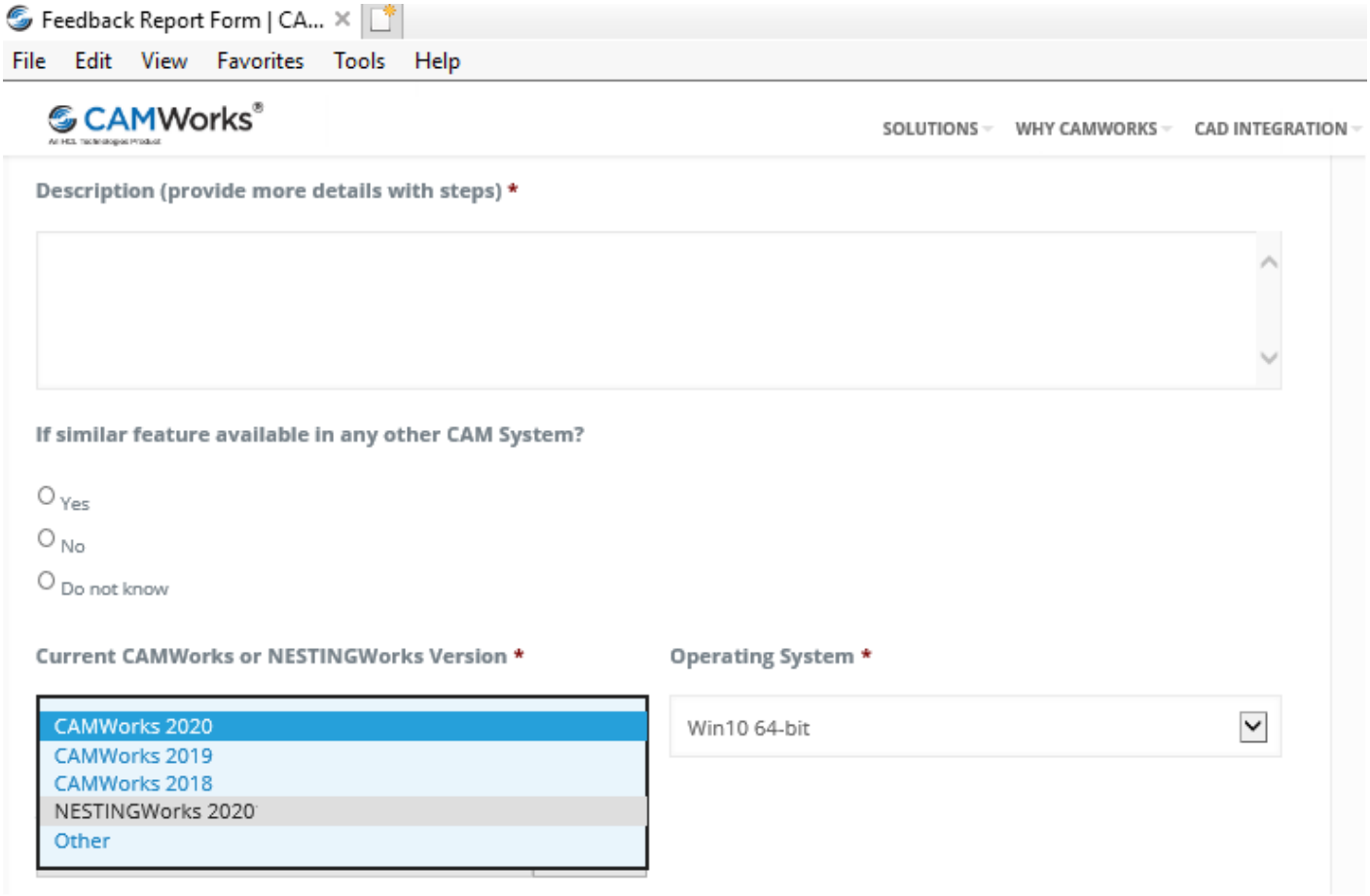
Accessing the Enhancement Request form via the Help Menu of SOLIDWORKS UI

Clicking on the ***Enhancement Request*** form menu option opens your web browser and displays a Feedback Report Form (provided you have an active Internet connection).

You need to fill the following information within this form:

- Your Name
- Company Name
- Email ID
- Feedback Type
  - Enhancement
  - Observation/Comment
- Summary (A summary about the enhancement/observation/comment/ bug.
- Description (Details/steps about the enhancement/observation/comment/ bug)
- NESTINGWorks version currently used
- Windows version which NESTINGWorks version is run
- File Attachment (Part/ Assembly file or video; max permissible size is 20MB.)
- Agreeing to HCL Privacy Policy

Once you submit the form, the NESTINGWorks Customer Support team will get back to you on the status of your request.



Screen grab of the Feedback Report Form