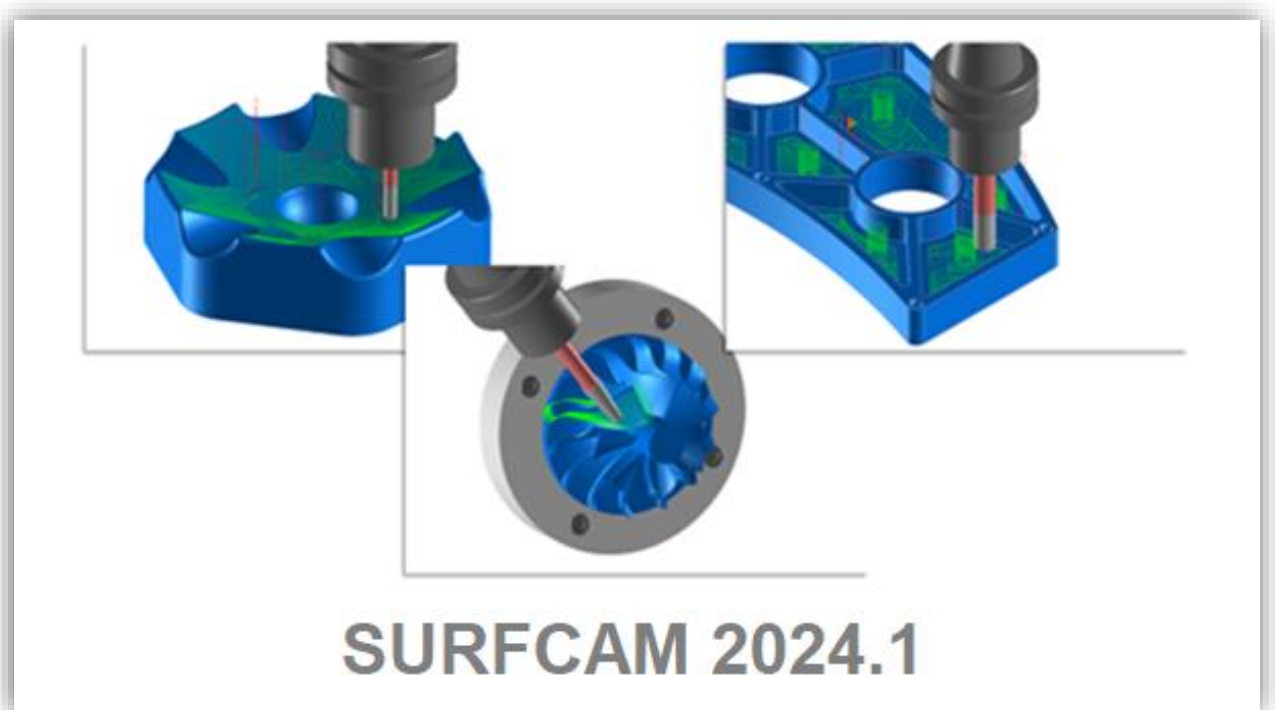




# HEXAGON

## SURFCAM 2024.1 – What's New



This document highlights new product features and enhancements in SURFCAM 2024.1  
To run SURFCAM 2024.1, the maintenance expiry date in the license must be April 2024 or later.

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## Installation Process

SURFCAM 2024.1 uses an updated Installation process which installs the required components and pre-requisites during the installation process. The installation will install:

- Core pre-requisites, DirectX, and the SolidWorks Document Manager
- CLS 2024.1 – The license manager updated for 2024.1. Now residing in the SURFCAM installation directory and no longer a tool tray item.
- SURFCAM and the 2024.1 Launcher
- SURFCAM Migration Tool
- SURFCAM Tool Library (SQL)

NOTE: The installation is fully contained within a single executable file included within the download. A splash screen will provide you with information about the latest version while it is being installed. Language specific versions of the SURFCAM products are still individually distributed.

For full SURFCAM installation procedure and details, please reference the 2024.1 Installation Instructions document.

This version of SURFCAM is focused on our core users' needs for general and advanced usage. From beginner to expert, we are working to advance customer experience and usability.

We are providing multiple tools our users can utilize and confirm the output they produce is ready to use on their machine tools. We are taking advantage of the broader Hexagon software portfolio to your benefit utilizing the latest toolpath libraries and resources including cooperative software such as NCSIMUL simulation and HxGN Manufacturing suite.

As always, your feedback and guidance are the main driver of our efforts, so please continue to provide your ideas and requests. You can easily request enhancements to the software through the Hexagon Customer Portal via a submitted support case. Do not forget to join our Customer Improvement program when installing the software!

Until our next Release,

-The SURFCAM Team.



## Release Highlights

Main highlights from this 2024.1 release include:

- Installation and Configuration changes
- HxGN Manufacturing Suite Release 2024.1
- Updated Tool Library (SQL Database)
- CLS Update
- 2024.1 Launcher update
- Migration Tool update
- Tool Library Application update
- Tool Database updates / Custom tables
- Add tool uses selected data
- 4 / 5 Axis Update for Shank / Holder Collision
- Operation Manager updates
- Multi fixture and stock update between setups
- Tool Holder info in APT output
- Operation Properties changes
- EditNC version 12.3
- Display and Graphics updates
- Data Exchange Translator updates
- Legacy DWG / DXF file update
- VDF Direct translator
- Solidworks 2024 file support
- CAM Engine updates
- Bug Fixes



## Important Information

### Operating System Support

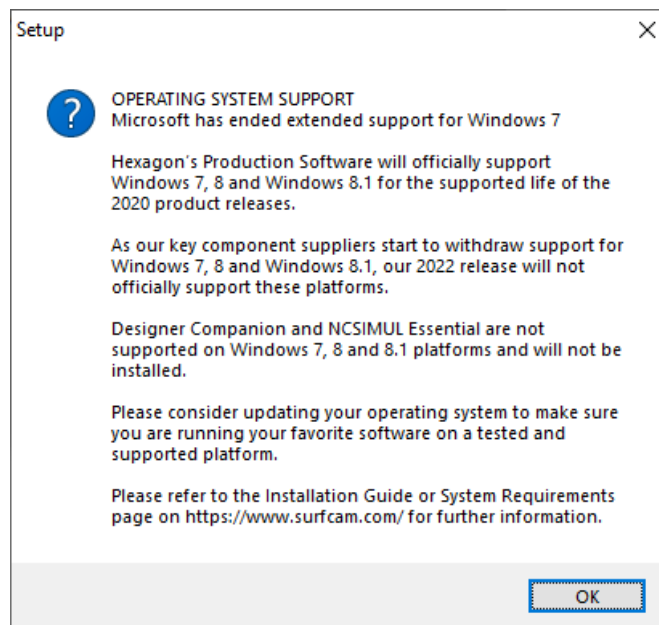
Microsoft ended extended support for Windows 7 in January 2020.

Hexagon's Production Software ended support for Windows 7 and Windows 8.1 at the end of the supported life of the 2020 product releases.

As our key component suppliers have withdrawn support for Windows 7, 8 and 8.1 operating systems, our 2021 / 2022 release does not support these platforms.

Please update your operating system to Windows 10/11 to make sure you are running your running on a tested and supported platform.

Please refer to the Installation Guide or System Requirements page on <http://surfcam.com> for further information.



### Minimum Maintenance Expiry Date

To run SURFCAM 2024.1, the maintenance expiry date in your license must be April 2024 or later.

### HxGN Manufacturing Suite (2024.1)

HxGN Manufacturing suite has been updated to the latest 2024.1 release. This release is only supported on the Windows 10 and 11 platform. Windows 7, 8, and 8.1 platforms will not be installed.

### NCSIMUL Essential 2023.2

NCSIMUL Essential is another installation option for the 2023.2 release. NCSIMUL Essential is only supported on the Windows 10 platform / Windows 7, 8, and 8.1 platforms will not be installed.



## Installation and Configuration

New installer additions for the SURFCAM 2024.1 Installation process

### SURFCAM Tool Library Updates

SURFCAM Tool Library was initially updated in the 2022.1 release to Microsoft SQL Server. This update allows a much broader sharing of the tool library across a company's infrastructure and will allow for easier usage and new database management.

We have continued to build and expand the Tool Library functionality allowing for enhanced usage throughout the software. This release has some added functionality that will be explained in more detail below.

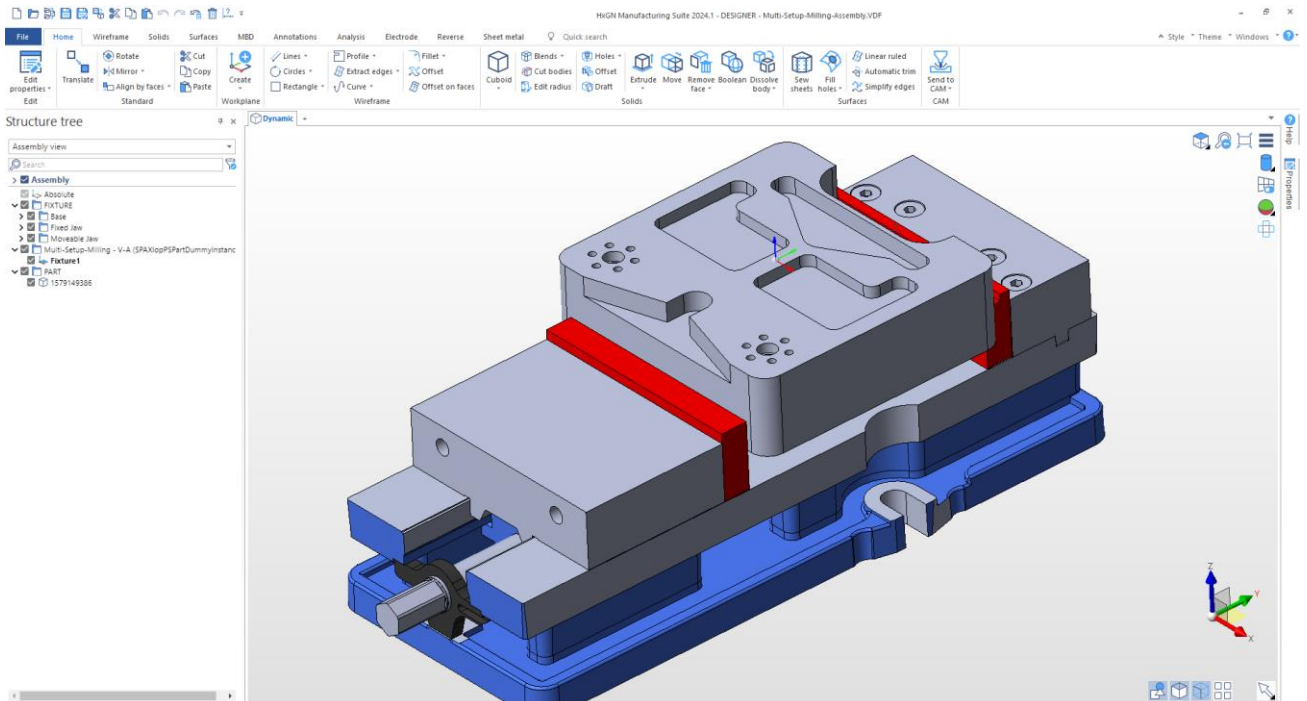
The updated database also enhances the network security required by IT to comply with stricter company standards.

SURFCAM Tool Library Manager has additional updates for this release to help migrate from any previous versions to the SQL Server, along with more options to help manage with the database connections.

### HxGN Manufacturing Suite 2024.1 (DESIGNER)

SURFCAM 2024.1 installer has the optional installation add-on for the HxGN Manufacturing Suite CAD/CAM solution. The application is a powerful direct modelling solution for CAD/CAM design, feature design updates and reverse engineering capabilities. More information on the latest release information can be found on the website.

<https://www.hexagonmi.com/en-US>



**NOTE:** You must be running supported Windows 10 and 11 Operating system for full installation - Win 7 and 8 platforms are not supported for this 2024.1 release. Please contact your local representative for any question regarding accessibility.

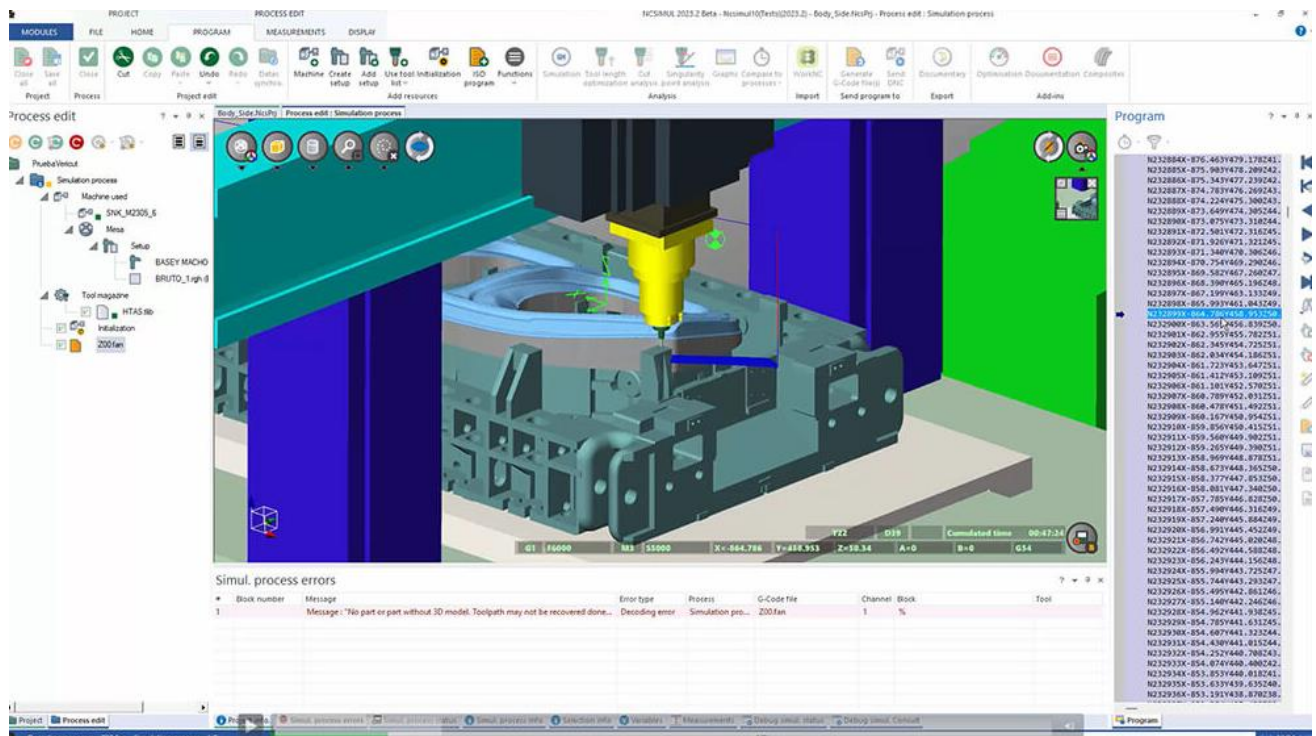


## DESIGNER – Key Features

- Import many popular CAD formats.
- Direct modelling allows modification without rebuild.
- Hole capping and feature removal.
- Quickly adjust blends, pockets and boss features.
- Handles cloud, mesh, wireframe, solid and surface models.
- Create new parts, fixtures, stock and machines.
- Modern user interface.
- Create 2D engineering drawings.
- Unfold sheet metal parts.
- Reverse Engineer parts from scan to CAD.
- Analyse and validate data for manufacture.

## NCSIMUL Essential 2023.2

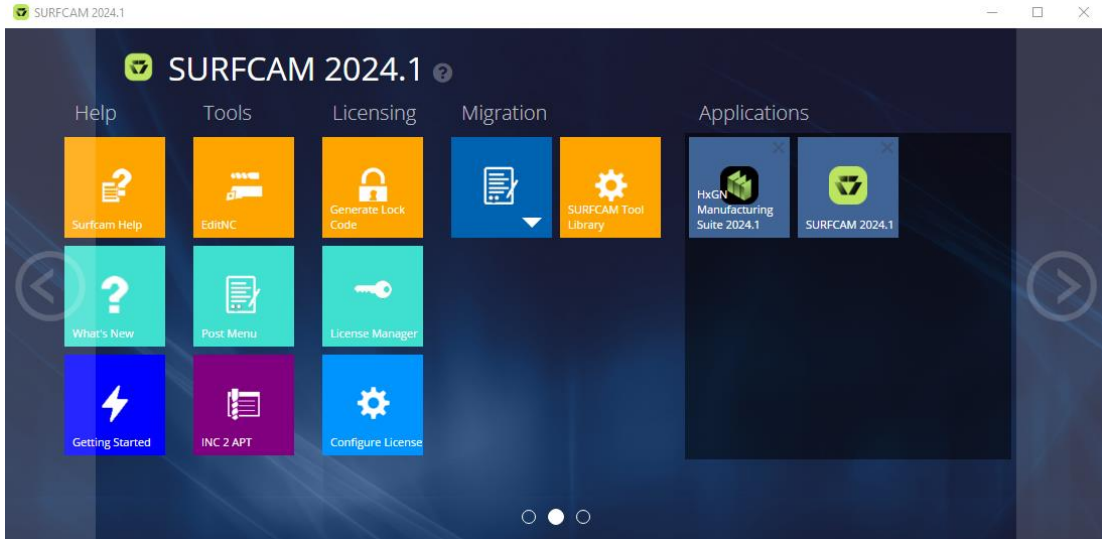
NCSIMUL Essential is an included installation option for the SURFCAM 2024.1 release. The latest NCSIMUL release is packaged together with the SURFCAM installer to bring you the latest updates and usability with a simple and seamless integration. This is a no-cost addition for all active on maintenance end-users. It uses the SURFCAM License Maintenance date for accessibility. More information on the latest release information can be found on the website.





## CLS Update

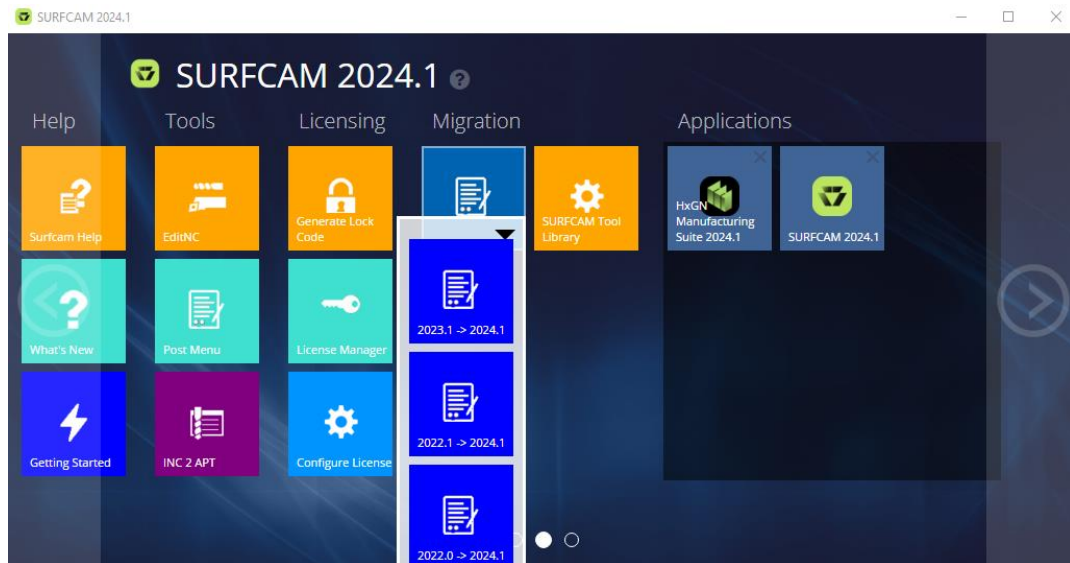
When installing SURFCAM 2024.1 an update to the License Manager is required. This will be installed as a part of the SURFCAM installation package, the CLS commands are included in the Launcher as shown below. Use this for license activation, license information, and updates:



Note: For customers who have a Sentinel RMS Network license, you must ensure that your Sentinel RMS License Manager is version now 9.7 or higher (9.7.0 is recommended) on server machine(s). This is provided for your convenience in "C:\Program Files\Hexagon\SURFCAM 2024.1\Apps\Security". Additionally, you can request the Instructions for License Server Installation via the Hexagon Support Portal.

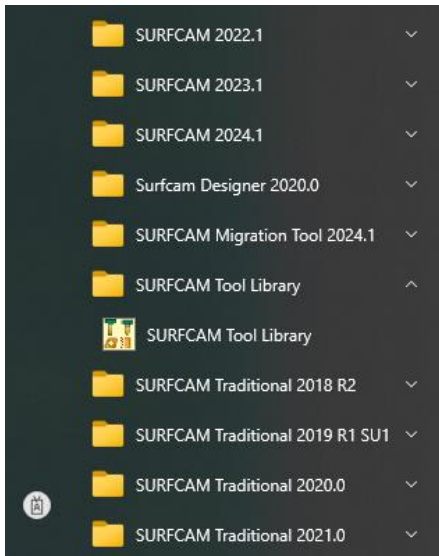
## SURFCAM Migration Tool

The updated Migration Tool included with the SURFCAM 2024.1 is designed to backup and help migrate all custom data from a previous version. The Migration Tool will bring your Machine Posts, Tool Library, custom Tool Profiles, Templates, Hole Processes as well as custom settings and hotkey definitions into SURFCAM 2024.1. The Migration Tool can be accessed from the SURFCAM 2024.1 Launcher where you can select the appropriate script for the version that you are updating from.

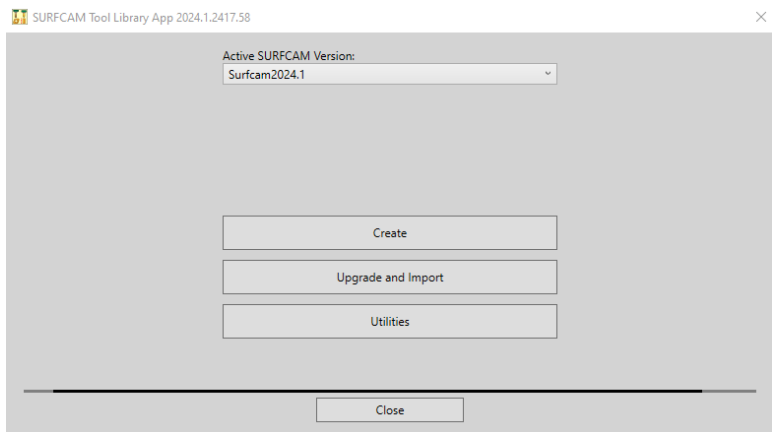


## SURFCAM Tool Library Application

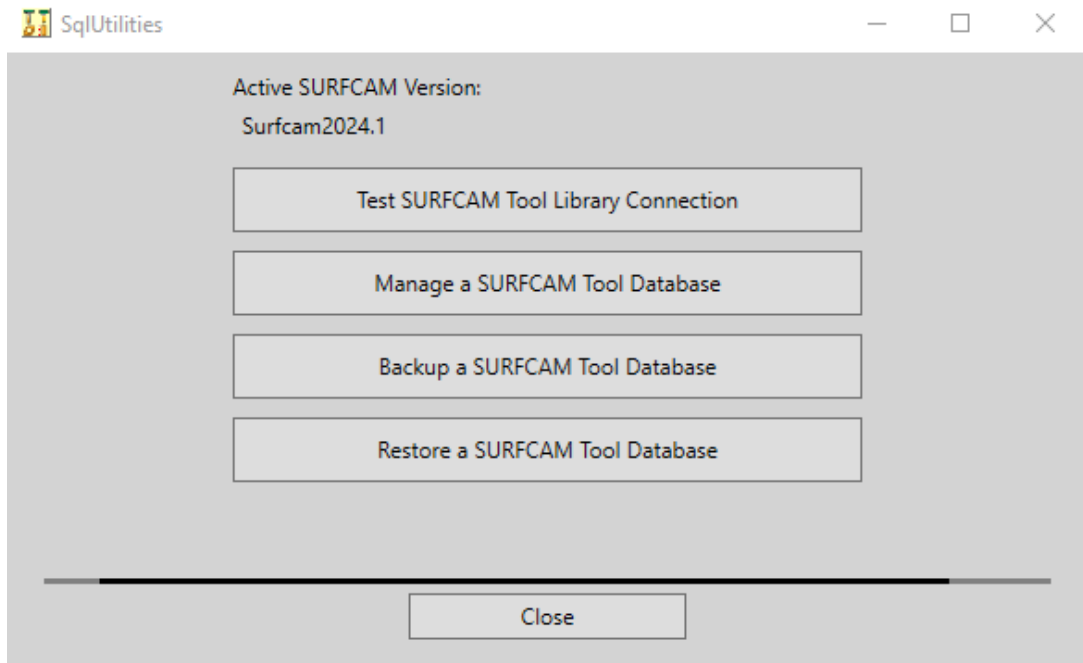
SURFCAM Tool Library application has an updated SQL tool database that is included with the default installation without need for accessing the app. Users wanting to bring forward or merge previous databases can do so with this application.



The new SURFCAM Tool Library application is located on the Windows Start menu for easy access.



Test / Manage / Backup / Restore with the SURFCAM Tool Database application.

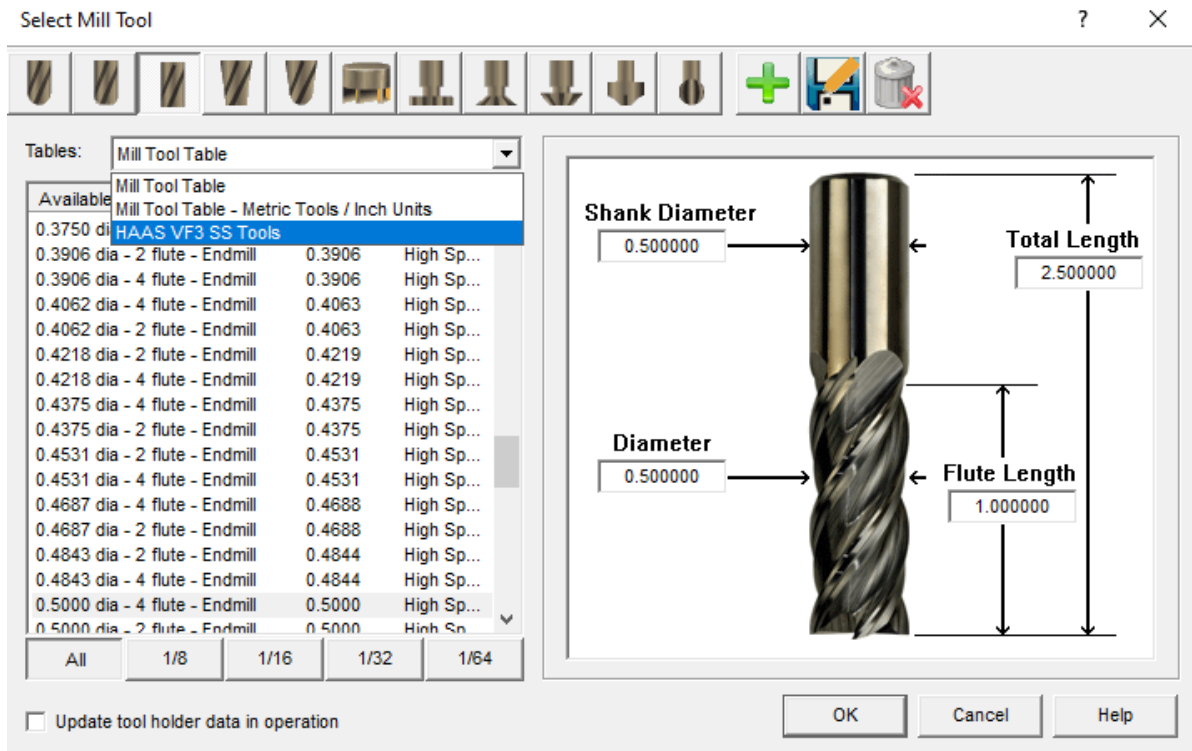
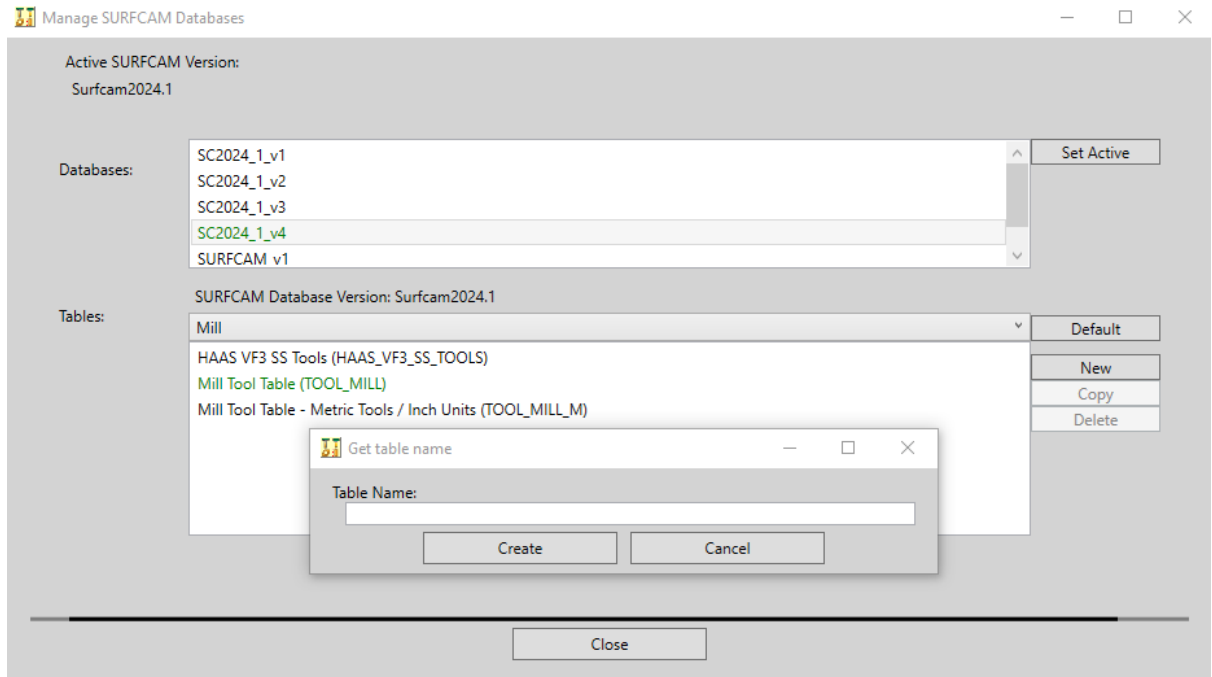


2024.1 release now has a version specific database backup (Scbak). When upgrading the tool database, there is an option to make a copy so that previously installed versions will continue to work without any issue.



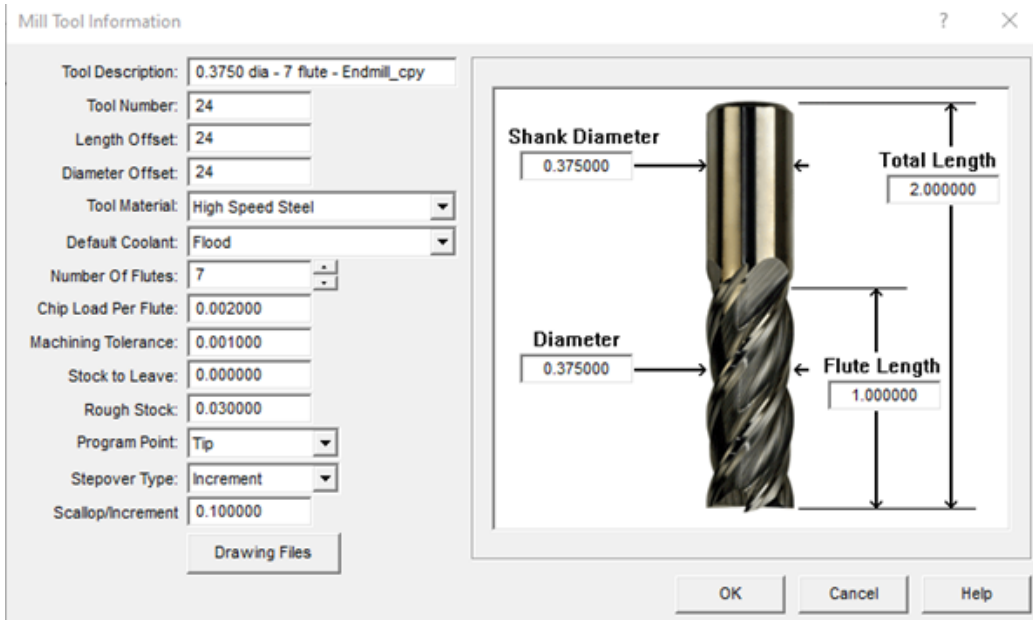
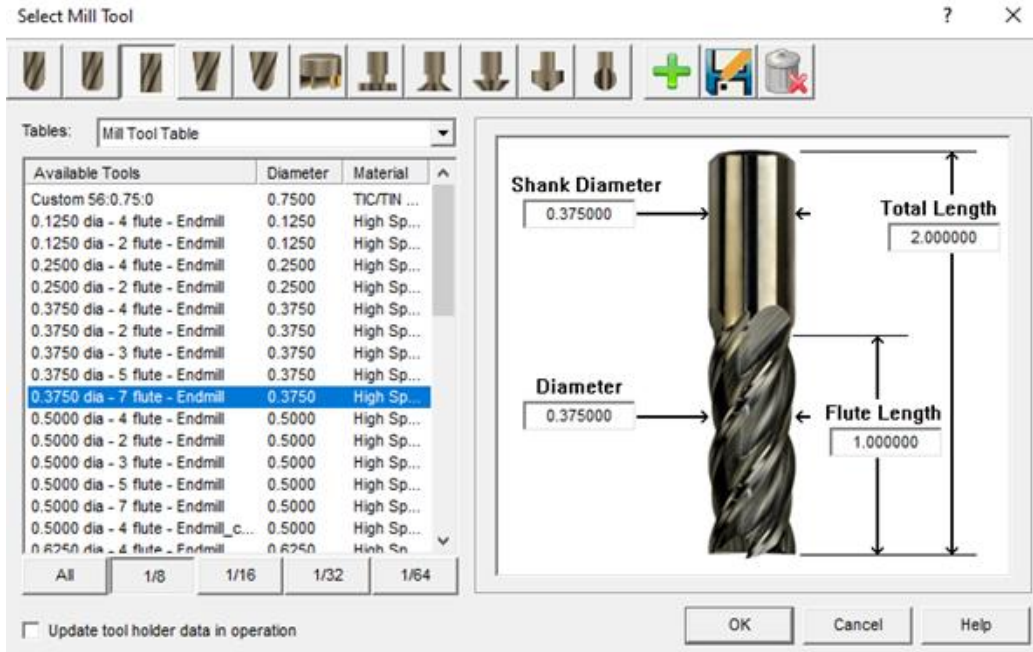
## SURFCAM Tool Library

SURFCAM Tool Library has been updated for the latest 2024.1 release and now has the upgraded ability to add customized user tables.



## Tool Library – Add Tool Update

Adding a new tool has been updated and will use previously selected tool data. Surfcam will now make a copy from original tool to allow user to edit as desired before adding. This help add tools faster with less user input.



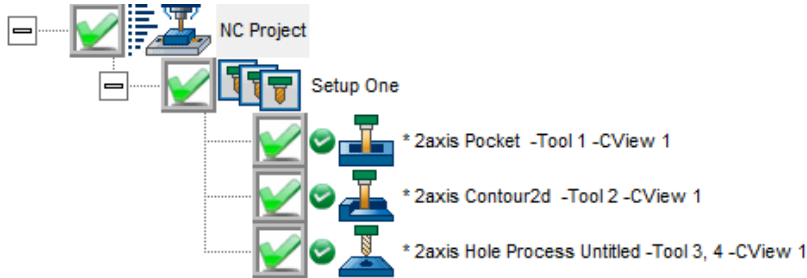
If user adds a new tool based off a selected tool – You will see that a \_cpy is added to the tool name automatically. This is to assure no default tools are accidentally overwritten.

## Tool Material Displayed

When selecting tools – The Tool Material is now displayed in the table

## Operation Manager updates

Previously edited operation names that have been altered in previous versions are now tagged with \* to show operation has an edited comment. There is no issue when you see this, it is just a way to identify user altered string comments.



Fixed comments will not automatically update and show run times or other Operation Comment settings at file load. We have now added a “Use Fixed Discription” check box option in the operation properties. Selecting this check box will keep previous comments and changes as they were. Turning this off will allow the comments to reload and update upon a regeneration.



Dialog has also been extended to allow entire Operation file name and Description.

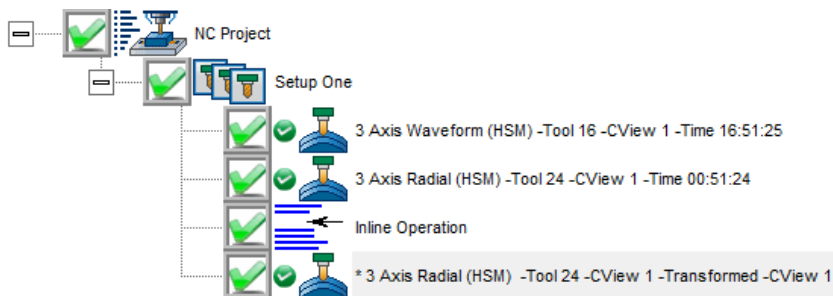
To resolve possible conflicts between changes and descriptions within the operation manager we no longer allow user to Edit the comment at the Op Man level. The user needs to RMB and select Properties to correctly update and manually change any operation descriptions.

Since we no longer allow the comment editing from Operation Manger level, we have now made left mouse click bring up the Edit Parameters. First left click to select operation – Second will bring up the Edit option.

## Additional Operation Manager updates

Inline Comments have been updated – Rename is available and we have resolved the bug for Time added.

Transform of operations now have correct label.



## Shank Collision Avoidance for 4/5 Axis Multi Cut Operations

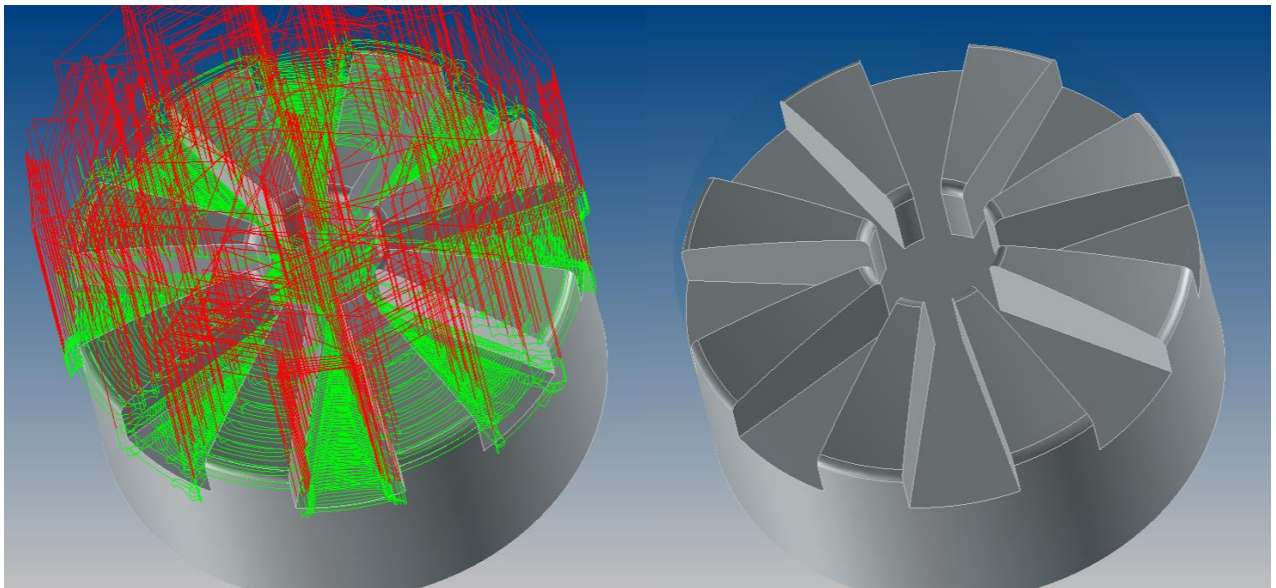
Surfcam 4/5 axis Multi Cut operations can now generate toolpaths with holder and shank collision avoidance. This feature will trim the output toolpath to allow clearance for both tool and holder. This helps to machine your parts with safe and effective toolpath cycles.

## 4 / 5 Axis library updates

The 4 and 5 axis internal toolkit has been updated to the latest release version. There is numerous bug fixes and better overall functionality to help bring out the best toolpath results and desired outputs.

## Hotkey function for Hide Toolpath

We have added a new hotkey function for hiding toolpath after creation or show. Using CTRL + H will give you a quick hotkey option to clear out the toolpath display.



## Tool Holder Name – Added to INC (SURFCAM API is needed)

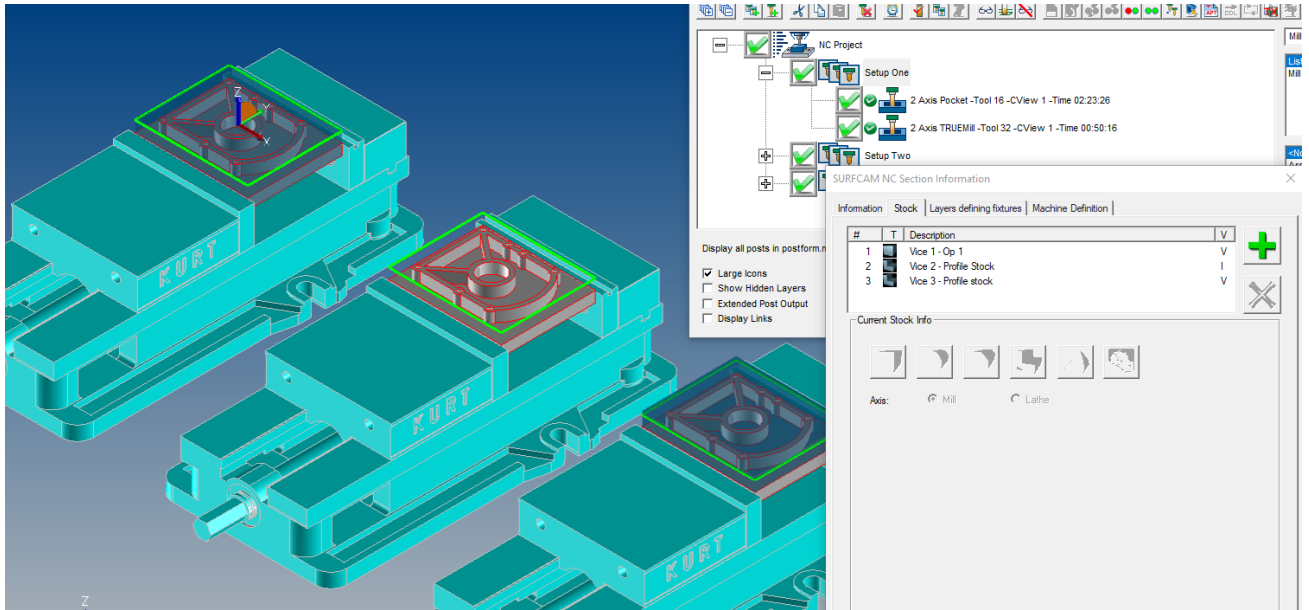
Tool Holder information can now be added to the INC file via the SURFCAM API function.

```
Tool Custom Data information stored in the operation :  
  Custom Data Type      : Mill Holder  
  Tool Distance to tip  : 1.0000  
  Tool file name       : Lyndex TG100 CAT 40_in.SCCTL
```

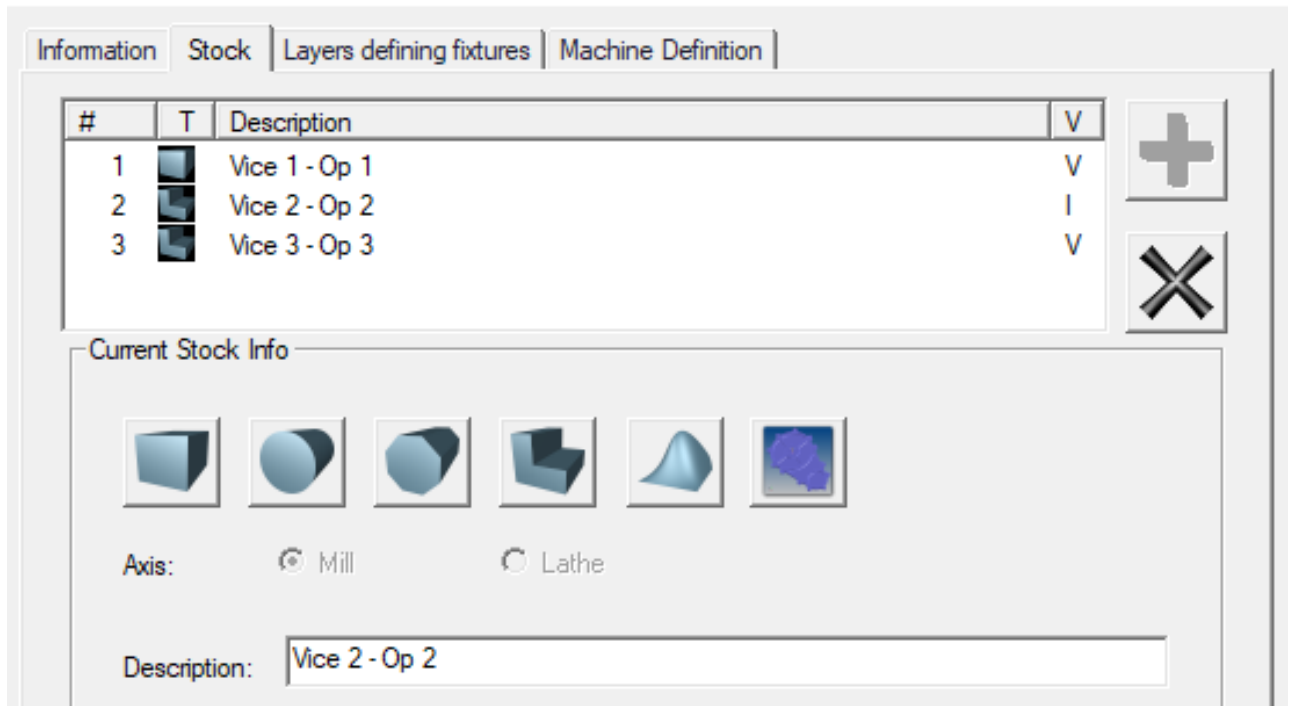
```
Cutter Ex information stored in operation:  
  Tool Library #       : 44  
  Tool type            : Mill  
  Tool Class           : End Mill  
  Tool material type   : 0
```

## Verification stock update

Stock display has been updated for the current version and will now need to be marked as visible to display and run within verify. The reason for this change was a requested feature to allow different setups to contain different stocks. We allowed different stocks to be displayed previously, but there was no control over what stock the user could display across the Project level. This should help to clear up and allow what stocks the user would like to use.



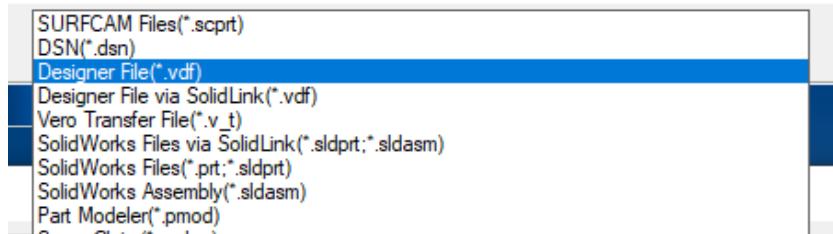
SURFCAM NC Section Information



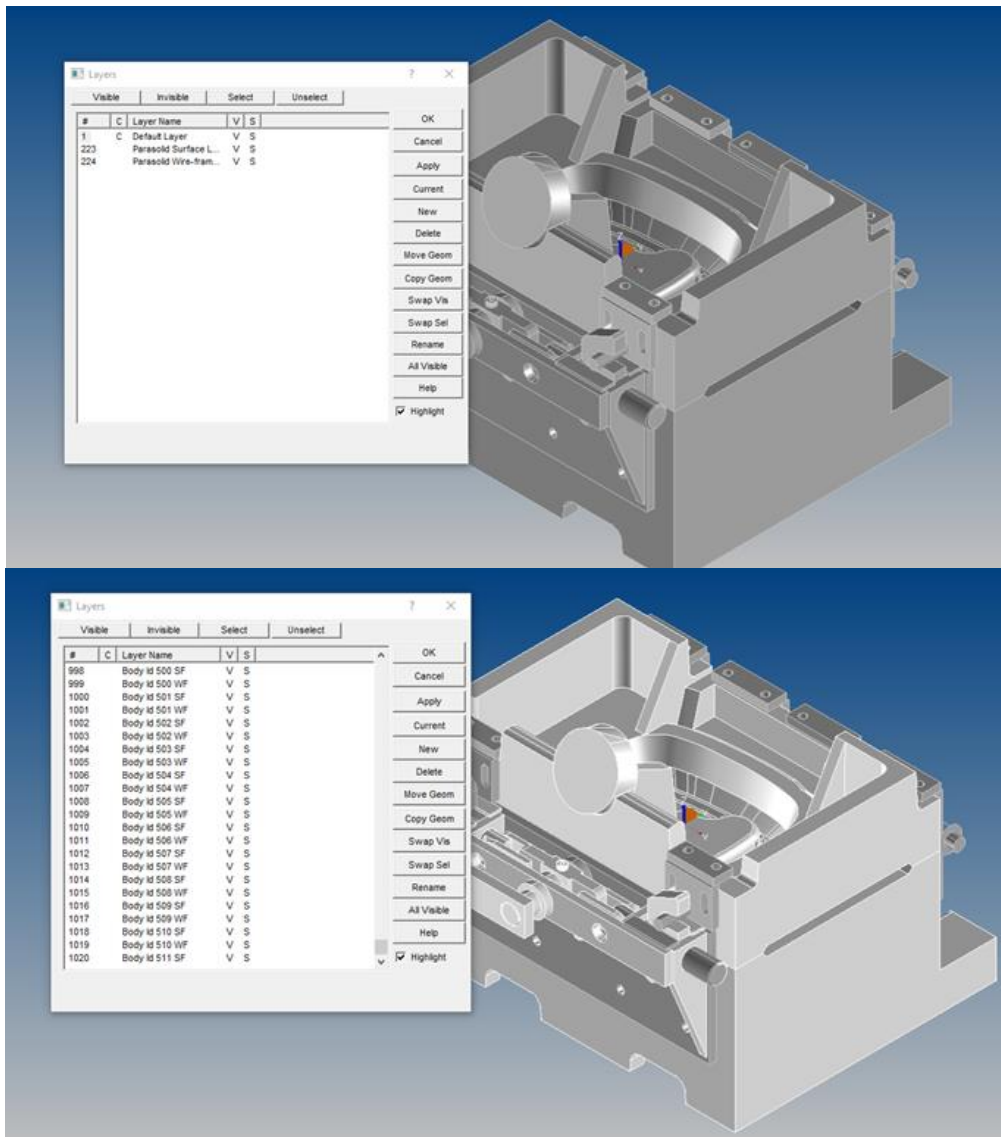


## VDF Direct translator

There is a new alternate direct translator option for Designer VDF file import. This direct option gives some additional user to controls for import options.



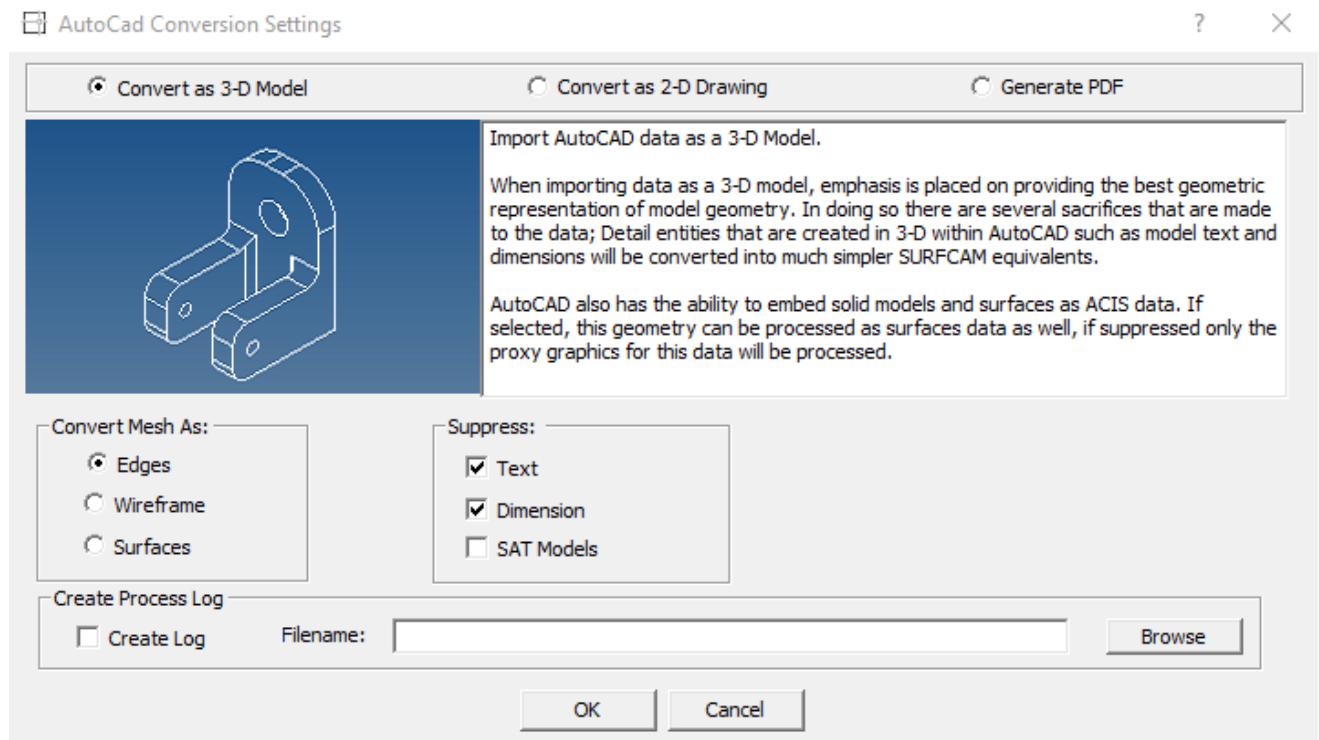
We have added two new settings to import files with alternate Layer options . When importing VDF and other supported file types, there is now the option for simplified layers – or separated geometry on separate layers – This is set through the Tools / Options / File / Read / SW / Solidlink page.



## DXF / DWG Direct translator Update

Legacy DXF / DWG libraries have been updated to the latest 2024.1 libraries.

Legacy DXF/DWG import is now defaults to Convert as 3-D Model. This is the desired import setting and will automatically switch to 2D if the 3D import option is not supported for the specific file.



## Additional Tool database updates

- Tool Database for lathe – Can now add / delete tools
- Tool Database – EDM / Groove tool / SRM - Corrected
- Tool Database – Ability to create custom thread tools added

## Additional Verification Updates

- Verification - Threaded tool display has been updated
- Verification - Compare settings are now saved to INI
- Verification – Circular stock orientation / fit to screen issues resolved





## Translator Updates

Supported CAD File Versions

TRANSLATOR	EXTENSION	VERSION
<b>DXF/DWG</b>	*.dxf, ^.dwg	AutoCAD 2023
<b>IGES</b>	*.igs, *.iges	Up to 5.3
<b>Rhino</b>	*.3dm	Versions 1-5
<b>STL</b>	*.stl	Not version specific
<b>STEP</b>	*.stp, *.step	AP203, AP214, AP242 E2
<b>Part Modeler</b>	*.pmod	2020
<b>DESIGNER</b>	*.VDF, *.v_t	Up to 2024.1
<b>ACIS</b>	*.sat, *.sab, *.asat, *.asab	2023.1.0.1.38
<b>Parasolid</b>	*.x_t, *.x_b	36.0.156
<b>SOLIDWORKS</b>	*.sldprt, *.sldasm	1998-2024
<b>Solid Edge</b>	*.par	2024
<b>Spaceclaim</b>	*.scdoc	Up to 19.2
<b>Mastercam</b>	*.mc, *.mcx)	Version from 8-X7
<b>VDA-FS</b>	*.vda	1.0, 2.0
<b>CADL Files</b>	*.cdl	
<b>Autodesk Inventor</b>	.ipt V6, iam V11	2024

The Following CAD file versions require an additional license module for SURFCAM

TRANSLATOR	VERSION
<b>CATIA V4</b>	.model, .exp V4.1.9 – V4.2.4
<b>CATIA V5</b>	.CATPart, .CATProduct V5 R15 – V5-6 R2023
<b>CATIA V6</b>	.CATPart, .CATProduct up to V6 R2022x
<b>Pro/E - Creo</b>	.prt, .asm, .asm., .prt. Pro/E 2000i – Creo 10.0
<b>Unigraphics/NX</b>	UG V10 –15 to NX 1953 Series up to NX 2000