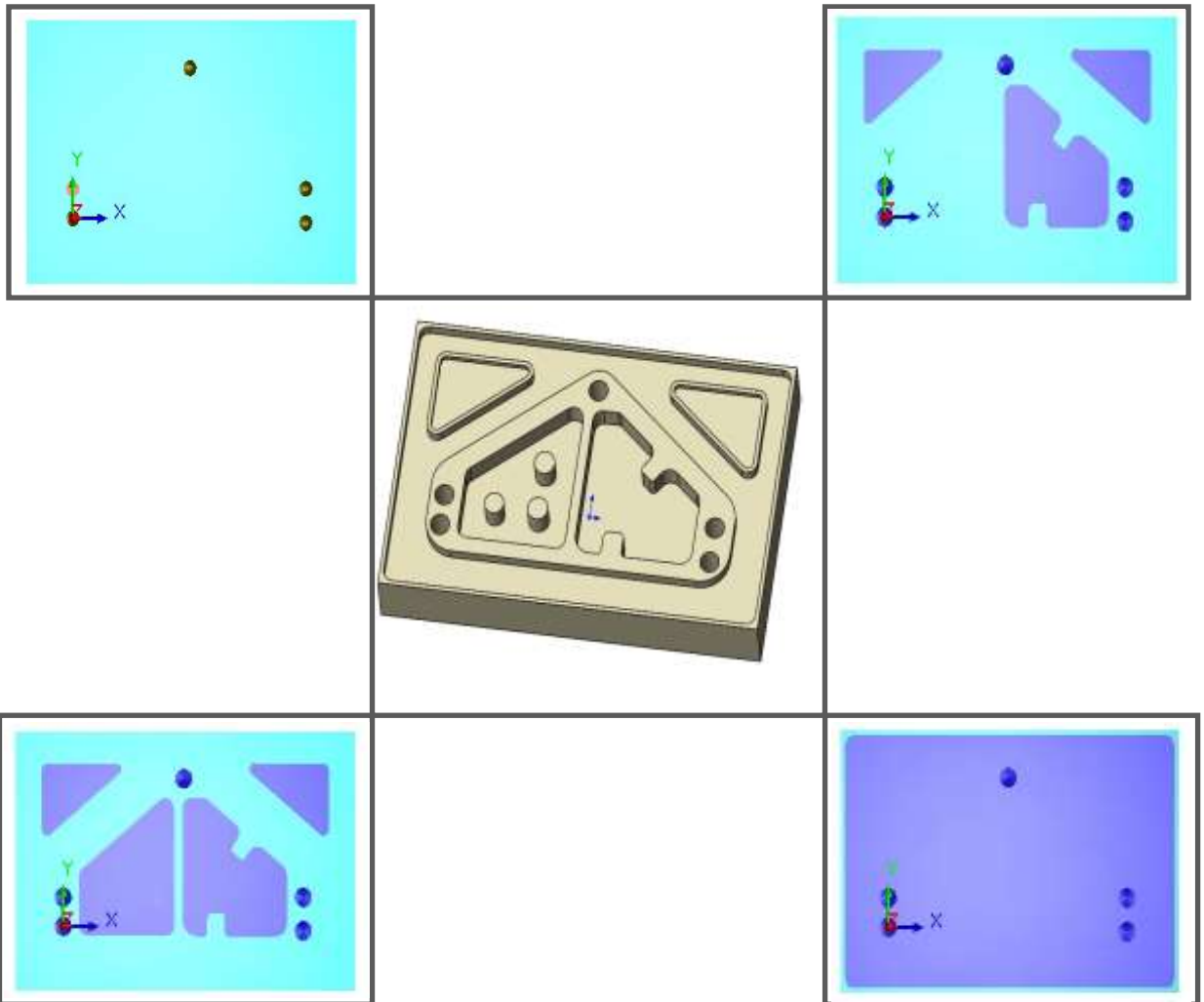


Setup Sheets Tutorial



SOLIDWORKS CAM 2020

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The **3DEXPERIENCE**® Company

Product Name: SOLIDWORKS CAM 2020

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IMPORTANT NOTE FOR USERS

This document contains numerous references to the SOLIDWORKS CAM UI.

Users are therefore expected to have at least a basic-level understanding of how toolpaths and NC codes are generated using the SOLIDWORKS CAM application.

In case they aren't, then depending on their machining requirements, it is recommended that they go through the SOLIDWORKS CAM manuals (such as *Mill Tutorial*, *Turn Tutorial*). These manuals can be accessed from the SOLIDWORKS *Help* menu by clicking on the *Help* menu and selecting *SOLIDWORKS CAM>>Tutorials*.

Skill Sets Acquired from this Manual

- Generating XML-based Setup Sheets
- Viewing Saved Setup sheets
- An understanding of the differences between Setup Sheet command executed at SOLIDWORKS CAM NC Manager Level and Setup level
- An understanding of the settings for Setup Sheets in SOLIDWORKS CAM Options Dialog box
- An understanding of the settings available in the Setup Sheet Options dialog box
- Customizing/Editing Style Sheet Templates

Skill Sets Required for creating Templates

- To create/edit customized Style sheet templates for XML-based Setup Sheets, an intermediate-level proficiency in XSL (Extensible Style Sheet language) and HTML is necessary.

1. SETUP SHEETS: AN INTRODUCTION

What are Setup Sheets?

A 'Setup Sheet' is a printable file that contains information that the CNC Machinist (machine tool operator) can use to set up the part and the tools required to machine that part. It provides an overview of the NC program for the CNC Machinist.

A Setup Sheet usually includes the following information:

- i. Machine details
- ii. Setup details such as Setup origin and Setup Name
- iii. Controller
- iv. Estimated machining time
- v. Part material and Stock size
- vi. Operations
- vii. Feeds, Speeds, Z Feed Rate
- viii. Tooling information for Tools used to machine the part

Setup Sheet Feature of SOLIDWORKS CAM

The 'Setup Sheet' feature of SOLIDWORKS CAM allows you generate Setup Sheets for a solid part/assembly for which CAM data has been generated. This feature for generating Setup sheets is provided in two forms:

- i. Auto-generation of a simple text file
- ii. Generating Setup Sheets documents by executing commands associated with the 'Setup Sheet' feature.

Types of Setup Sheets generated in SOLIDWORKS CAM

1. Setup Sheet in Simple Text File Format with *.set file extension

During post processing, SOLIDWORKS CAM automatically creates a simple text file with the same name as the NC program and a *.set extension.

2. XML-based Setup Sheets

With XML-based setup sheet, SOLIDWORKS CAM generates the WIP images (depending on the options selected) and transfers the machining information about each operation to an XML file that can be displayed as an HTML file in the *Internet Explorer* web browser. An XSL style sheet will be used to merge the XML content with HTML formatting to determine the appearance of the web page.

Pre-requisites for generating XML-based Setup Sheets

- If generating a Setup Sheet at *Mill Part Setup* or *Turn Setup* level, then toolpaths must be generated for all the operations listed under that *Mill Part Setup* or *Turn Setup*.

- If generating a Setup Sheet at *SOLIDWORKS CAM NC Manager* level, then toolpaths must be generated for all the operations for the current part/assembly. This includes operations listed under different *Mill Part Setups* and *Turn Setups*.
- The *Internet Explorer* web browser must be installed as XML-based Setup Sheets can only be viewed in this browser.

2. SOLIDWORKS CAM TEMPLATES FOR XML-BASED SETUP SHEETS

Default Style Sheet Templates for XML-based Setup Sheets

A Style sheet template is used to define the visual layout (style) an HTML or XML-based document.

A set of default Style Sheet templates is provided within the SOLIDWORKS CAM application. These templates are UI-language specific and further classified to be machine specific. Whenever an XML-based Setup Sheet is generated, a Style Sheet has to compulsorily be associated with it. Once the XML-based Setup Sheet is generated, its visual layout is determined by the associated Style Sheet file.

File Format of the Style Sheets

The default Style Sheets files are in XSL (*Extensible Stylesheet Language*) format. SOLIDWORKS CAM supports only XSL-based Style Sheet templates for the XML-based Setup sheets. In case you define any customized Style Sheet template, then that file too should be in the XSL format.

Location of the Default Style Sheet Template Files available in SOLIDWORKS CAM

The Style Sheet files are located deep within the SOLIDWORKS CAM Installation folder.

- A UI-language specific version of each Style Sheet template is provided within SOLIDWORKS CAM. Hence, the location of Style Sheet files is language specific i.e. it depends on which language mode SOLIDWORKS CAM is currently being run.

For example, if the installed SOLIDWORKS CAM application can be run in English, French, German and Japanese mode, then the corresponding language versions of each Style Sheet will be available. These Style Sheets are located within a language-specific folder within the SOLIDWORKS CAM Installation folder.

- Present within the language-specific sub-folder of the SOLIDWORKS CAM Installation folder is the *Setup_Sheet_Templates* sub-folder. As Style sheet templates are machine specific, two sub-folders named *Mill* and *Turn* are provided within this folder. These folders contain Style sheet template files specific to Mill and Turn modules respectively.

Examples

For the English language mode of SOLIDWORKS CAM, the folder location of the Style sheets files for Mill module will be:

Drive: \Program Data\SOLIDWORKSCAMData\Lang\English\Setup_Sheet_Templates\Mill

For the French language mode of SOLIDWORKS CAM, the folder location of the Style sheets files for Turn module will be:

Drive: \Program Data\SOLIDWORKSCAMData\Lang\French\Setup_Sheet_Templates\Turn

Customized XSL Style Sheet Templates

Though a set of Style Sheet templates is already provided within SOLIDWORKS CAM, you can define your own customized Style Sheet templates to suit your Facility's/ Firm's requirements. Alternatively, you can edit the already available Style Sheets to suit your requirements.

Refer [**Chapter 7: Customized XSL Style Sheet Templates**](#) of this document to:

- Gain a thorough understanding how to edit the default Style Sheet template files to suit your Facility's/ Firm's requirements by referring the code snippets provided for all the part-related parameters.
- Refer the syntax/reference code for retrieving values for various CAM and CAD parameters while editing/creating a customized Style Sheet template.

3. GENERATING SETUP SHEETS

Generating Setup Sheets by executing commands

The command to generate Setup Sheets is provided in the SOLIDWORKS CAM UI. These commands are available as:

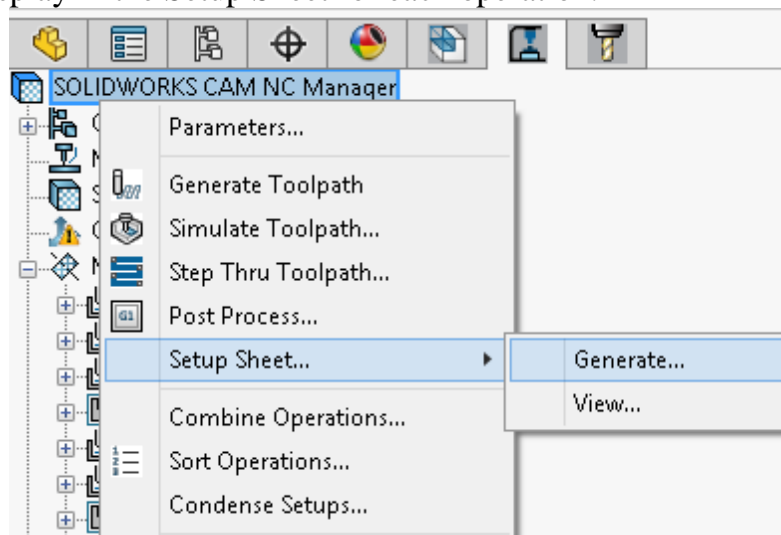
i. Setup Sheet Commands on SOLIDWORKS CAM NC Manager context menu

The *Setup Sheet* command is available on the context menu of the *SOLIDWORKS CAM NC Manager* item in the SOLIDWORKS CAM Operation tree.

After generating toolpaths for the solid model, right-click on the *SOLIDWORKS CAM NC Manager* item in the SOLIDWORKS CAM Operation tree and select *Setup Sheet* command on the context menu. You will observe that there are two commands available on the cascading menu i.e. *Generate* and *View*.

The *Setup Sheet>>Generate* command on the SOLIDWORKS CAM NC Manager context menu

When you select this command, under default settings, the [Setup Sheet Options dialog box](#) will be displayed. This dialog box allows you to set the options for generating WIP images to be display in the Setup Sheet for each operation.



Setup Sheet>>Generate command on the context menu of SOLIDWORKS CAM NC Manager

The Setup Sheet Options dialog box is discussed in detail in the [next chapter](#).

Disabling display of the Setup Sheet Options dialog box

You can disable the display of the *Setup Sheet Options* dialog box (whenever this command is executed). This can be done by:

- i. Removing the check mark from the *Show Options before generation option* on the General tab in the SOLIDWORKS CAM Options dialog box.

- OR
- ii. Selecting the [Do not show this dialog](#) option on the Setup Sheet Options dialog box.

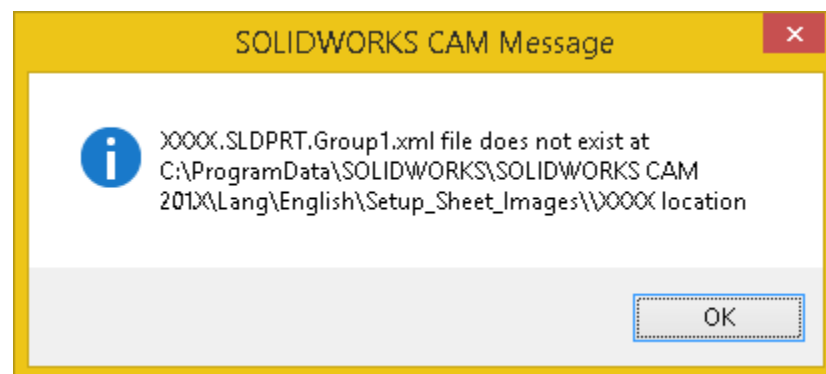
The Setup Sheet>>View command on the SOLIDWORKS CAM NC Manager context menu

The *Setup Sheet>>View* command on the context menu of the SOLIDWORKS CAM NC Manager item in the Operation tree allows you to view the Setup Sheet that has previously been generated for the solid part or assembly file.

Depending on whether the Setup Sheets have been generated or not, the Setup Sheet>>View command will yield different results.

Condition: No Setup Sheet has been generated before executing the View command

If no Setup Sheet was previously generated for the current part or assembly file, then on executing the *Setup Sheet>>View* command, a Warning message indicating the absence of the Setup Sheet will be displayed.



Warning Message displayed when Setup Sheet does not exist for the solid part file

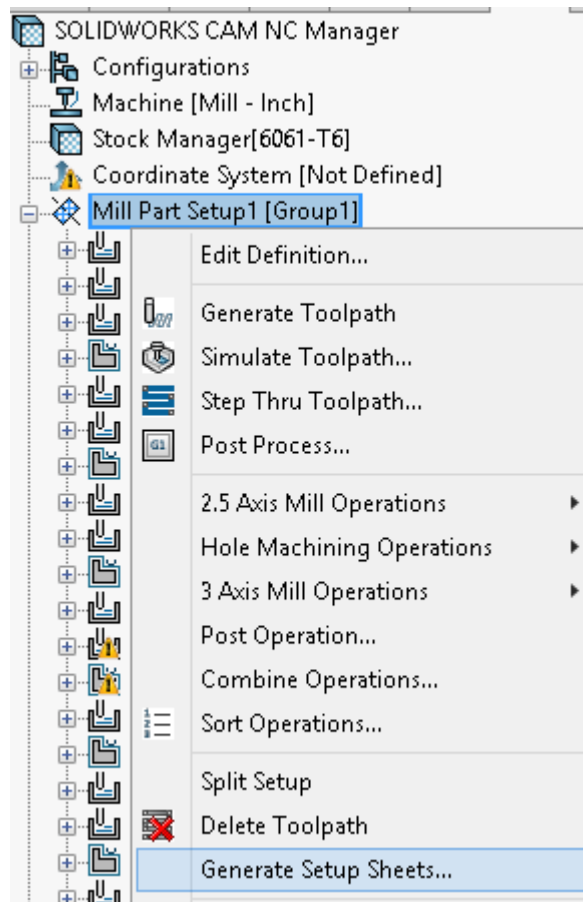
You need to generate a Setup Sheet with desired settings and then execute this command to view the Setup Sheet.

ii. The 'Generate Setup Sheets' command on context menu of Part Setup

The *Generate Setup Sheets* command is available in the context menu of the *Mill Part Setup/ Turn Setup* in the SOLIDWORKS CAM Operation tree. After generating toolpaths for the solid model in SOLIDWORKS CAM, right-click on the *Mill Part Setup* or *Turn Setup* item in the Operation tree and select *Generate Setup Sheets...* command on the context menu.

Executing this command displays the [Setup Sheet Options dialog box](#). Edit the settings as required and then click on the *OK* button in this dialog box to generate the Setup Sheet.

This command functions the same as the [Setup Sheet>>Generate command](#) in the context menu of the SOLIDWORKS CAM NC Manager item explained in the previous section.



Generate the Setup Sheet on Mill Part Setup context menu

Differences between Setup Sheet command at SOLIDWORKS CAM NC Manager Level and Setup Level

The differences between the Setup Sheet command executed at SOLIDWORKS CAM NC Manager Level and Setup level are:

a. Scope of operations covered

Executing the *Setup Sheet>>Generate* command at SOLIDWORKS CAM NC Manager level covers all operations under different Mill/ Turn Setups while executing the *Generate Setup Sheets...* command at Setup level covers only the operations under that particular Setup.

b. Nomenclature of generated XML-based Setup Sheets

If the *Setup Sheet>>Generate* command is executed at SOLIDWORKS CAM NC Manager level, then the name of the XML-based Setup Sheet will be identical to the solid part/ assembly for which it was generated.

If the *Generate Setup Sheets* command is executed at *Mill Part Setup* or *Turn Setup* level, then the nomenclature syntax for the XML-based Setup Sheet will be: '*Solid_Part_Name.Setup_Name*'.

Example:

If the name of the solid part is *Sample.sldprt* and the name of the Mill Part Setup level (at which the Setup Sheet command was executed) is *Group1*, then the name of XML-based Setup Sheet generated will be: "*Sample.Group1.xml*"

Settings for Setup Sheets in SOLIDWORKS CAM Options Dialog box

When you select the SOLIDWORKS CAM Options command on the SOLIDWORKS CAM Command Manager, the SOLIDWORKS CAM Options dialog box is displayed. Setup Sheet settings options are available in the *General* tab and *File Locations* tab of the SOLIDWORKS CAM Options dialog box.

In the General Tab

Show Options before generation

When this option is checked in the *General tab* of Options dialog box, the [Setup Sheet Options dialog box](#) displays when you select the Generate Setup Sheets command at the SOLIDWORKS CAM NC Manager or Mill Part Setup level.

When this option is not checked, the dialog box does not display.




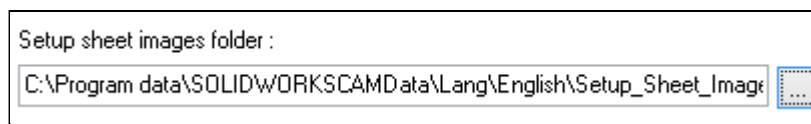
Setup sheets group box in the General tab of SOLIDWORKS CAM Options dialog box

In the File Locations Tab

Setup sheet images folder

Specifies the folder location where the XML based Setup Sheet images are stored when you [generate WIP images for Setup sheets](#).

If you wish to change this location, click on the  *Browse* button to the right of this field. Use the *Browse to Folder* dialog box to assign a location other than the default location.



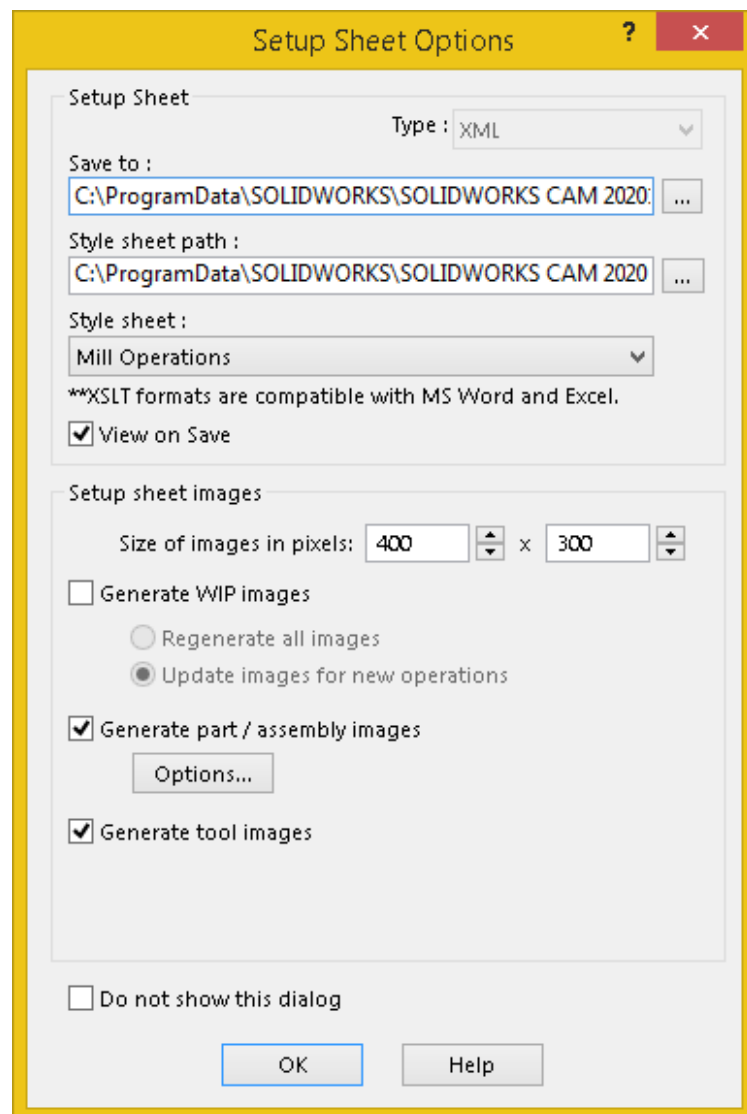
Setup sheet image folder path in the File Locations tab of SOLIDWORKS CAM Options dialog box

4. SETUP SHEETS OPTIONS DIALOG BOX

Displaying the Setup Sheets Options dialog box

The Setup Sheet Options dialog box is displayed when you select:

- i. The [Setup Sheet>>Generate](#) command in the context menu of the SOLIDWORKS CAM NC Manager item in the SOLIDWORKS CAM Operation tree.
- ii. The [Generate Setup sheets... command](#) in the context menu of the *Mill Part Setup* or *Turn Setup* items in the SOLIDWORKS CAM Operation tree.



Setup Sheet Options dialog box

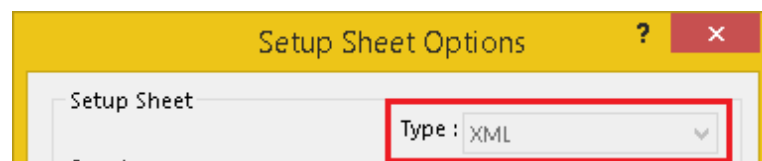
Settings available in the Setup Sheet Options dialog box

Following are the various settings available in the Setup Sheet Options dialog box:

Type


- **XML:** SOLIDWORKS CAM generates the WIP images (depending on the options selected) and transfers the machining information about each operation to an XML file that can be displayed as an HTML file in a web browser. An XSL style sheet will be used to merge the XML content with HTML formatting to determine the appearance of the web page.

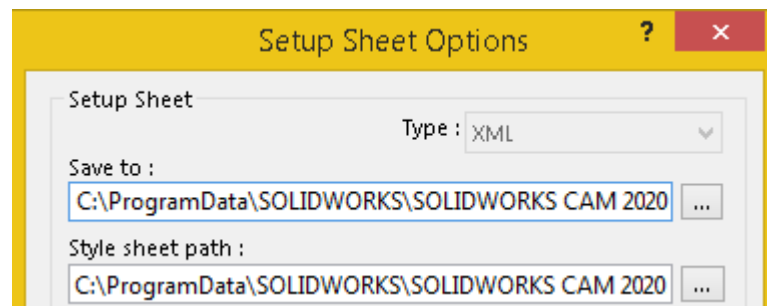
Note: XML-based Setup Sheets generated can only be viewed in the Internet Explorer web browser. They cannot be viewed using any other web browsers.



XML selected as Setup sheet Type

Save to

This field indicates the location where the Setup Sheet in XML format will be saved. Click on the  Browse button to the right of this field to choose a location other than the default location.



'Save to' field for indicating location of Setup Sheet

Style sheet path

This field indicates the [folder location where XSL-format Style sheet templates](#) are saved. The Style sheets available within this folder location are displayed in *Style sheet dropdown list*.

Default Style sheet path

Since a set of default Style sheet templates are available in SOLIDWORKS CAM, the *Style sheet path* will, by default, point to the folder location containing the Style sheet template files located within the SOLIDWORKS CAM Installation folder. This default *Style sheet path* is UI-language specific and machine-specific.

For more details, read the section: [Location of the Default Style Sheet Template Files available in SOLIDWORKS CAM](#) in Chapter 2 of this document.

Style sheet path for customized Style Sheet templates

In case you intend you use a [customized Style Sheet template](#) other than the default ones available in SOLIDWORKS CAM and they are stored in a folder location which is different from the folder location of the default Style Sheet files, then click on the *Browse* button next to the *Style sheet path* and set the folder location path. The Style sheet template(s) within the selected folder location will be displayed in the *Style sheet dropdown list*.

Style sheet dropdown list

This dropdown list contains the names of the XSL Style Sheet templates. These templates are files picked from the folder location indicated in the *Style sheet path* field. Since Style sheet templates are machine specific, only templates specific to the machine selected for the active part/assembly will be selected.

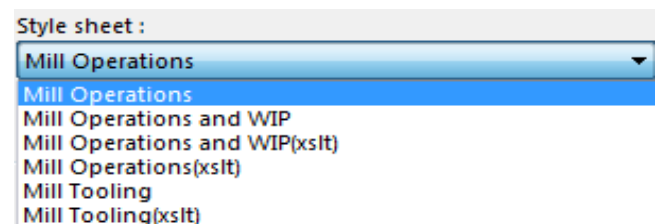
For example, if a Mill Machine is selected for the active solid part/assembly, then only Style sheet templates specific to Mill will be listed.

Click on the *Style Sheet dropdown list* to view the other available Style sheet templates. By default, the first template listed in the dropdown list will be selected. To select another Style Sheet template, click on the name of the desired Style sheet template from the dropdown list. The selected Style Sheet template will be used to merge the XML content with HTML formatting to determine the appearance of XML-based Setup Sheet.

Depending on the machine selected for the active solid part/ assembly, the following Style sheet templates are available in the Setup Sheet Options dialog box:

Style sheets for Mill Parts

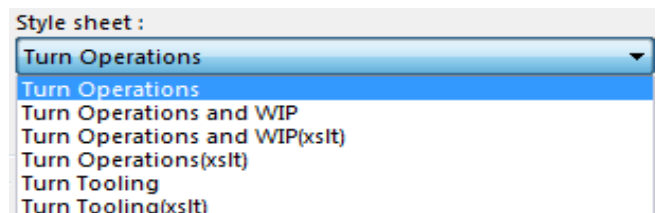
- Mill Operations
- Mill Operations and WIP
- Mill Operations and WIP(xslt)
- Mill Operations(xslt)
- Mill Tooling
- Mill Tooling(xslt)



Mill Style Sheet Templates

Style sheets for Turn Parts

- Turn Operations
- Turn Operations and WIP
- Turn Operations and WIP(xslt)
- Turn Operations(xslt)
- Turn Tooling
- Turn Tooling(xslt)



Turn Style Sheet Templates

‘View on Save’ option

When this option is checked, the Setup sheet is displayed immediately after it is generated.

Size of images in pixels

These settings are enabled only if the *Generate WIP images* option is checked. They allow you to determine the width and height of the WIP images.

‘Generate WIP Images’ option

WIP images for each operation can be created automatically by checking the *Generate WIP images option* in Setup Sheet Options dialog box.

If this option is checked, SOLIDWORKS CAM generates the Setup Sheet by running the Toolpath Simulation in the background and creating a WIP image of each operation based on the current solid part’s orientation and magnification.

When images are generated, the simulation runs in Tool mode to produce more accurate images and the Setup Sheet generation may take longer depending on the number and type of operations.

If the part contains multiple 3 axis toolpaths, it may take considerable time to simulate. If you want to avoid this, we recommend that you disable *Generating WIP images* option. Instead, generate the required images manually in Toolpath Simulation using Turbo mode.

‘Regenerate all images’ option

If an existing Setup Sheet has already been generated and this option is chosen, then all the WIP images will be regenerated. The regenerated images will replace all previous images generated automatically or manually.

‘Update images for new operations’ option

The *Update images for new operations* option will be disabled if the Setup Sheet is being generated for the first time. If the Setup Sheet for the current solid part already exists in the folder location for Setup Sheets, then this option will be enabled.

When a Setup sheet is generated, SOLIDWORKS CAM executes the toolpath simulation and images for newly added operations are generated. Use this option while regenerating the Setup Sheet.

Generate part / assembly images

The *Generate part / assembly images* option will generate images of the SOLIDWORKS part or assembly. Click on the *Option* button and select the desired orientation from the displayed list. These orientations will be applied on the setup levels. The default options for *Mill Part Setups* and *Turn Setups* are already defined in SOLIDWORKS CAM.

Machine / Setup level	Default Orientations
Mill	<ul style="list-style-type: none"> - Setup XY - Isometric
Turn	<ul style="list-style-type: none"> - Turn ZX - Isometric

The image are generated in a 'PartImages' sub-folder under the main folder with the name of the part or assembly file.

The default folder location path will be as follows:

Drive: \Program Data\SOLIDWORKSCAMData\Lang\<XXXX>\Setup_Sheet_Images
 \Example_1.SLDPRT\<Part Images>

When this option is unchecked, no part or assembly images will be generated in the Setup Sheets.

Generate tool images

The *Generate part / assembly images* option will generate images of the tools used for every operation in the part or assembly file. The image are generated in a 'ToolImages' sub-folder under the main folder with the name of the part or assembly file.

The default folder location path will be as follows:

Drive: \Program Data\SOLIDWORKSCAMData\Lang\<XXXX>\Setup_Sheet_Images
 \Example_1.SLDPRT\<Tool Images>

When this option is unchecked, no tool images will be generated in the Setup Sheets.

Naming Convention of the folders

- <XXXX>: This sub-folder has a naming convention that indicates the language mode in which SOLIDWORKS CAM application was run when the Setup Sheet was generated.
- <Part name>: This sub-folder has a naming convention that indicates the name of the solid part for which the WIP images were generated. <Part name> folder thus indicates the name of the part.

Naming convention for WIP images

Each WIP image file name corresponds to the operation name. All the default Style sheet templates available in SOLIDWORKS CAM are designed to display WIP image files based on this naming convention.

Note: Do not rename a WIP image file generated for a Setup Sheet. If you rename the WIP image file, then that image will not be subsequently displayed in the Setup Sheet as the naming convention has been disturbed.

‘Do not show this dialog’ option

You can disable the display of the *Setup Sheet Options dialog box* by checking this option. To enable the display, check the [Show Options before generation](#) option on the [General tab](#) in the SOLIDWORKS CAM Options dialog box.

‘OK’ button

When you click on this button:

- If a Setup Sheet for the active part/assembly doesn’t exist, then the Setup Sheet will be generated and displayed.
- If a Setup Sheet for the active part/assembly was previously generated at the SOLIDWORKS CAM NC Manager level and is now generated at the Setup level or vice versa, then the Setup Sheet will be generated and displayed.
- If a Setup Sheet has already been generated for a part/assembly (even if a different Style sheet template was applied) and the command to generate a Setup Sheet is executed for the part/assembly once again, then a Warning Message will be displayed indicating that the Setup Sheet for the active part/assembly already exists.
 - i. Click *Yes* within the Warning Message dialog box to replace the existing Setup Sheet with a newly generated Setup Sheet.
 - ii. Click *No* within the Warning Message dialog box to retain the existing Setup Sheet. No new Setup Sheet will be generated.
 - iii. Click *Cancel* to cancel the Setup Sheet generation command.

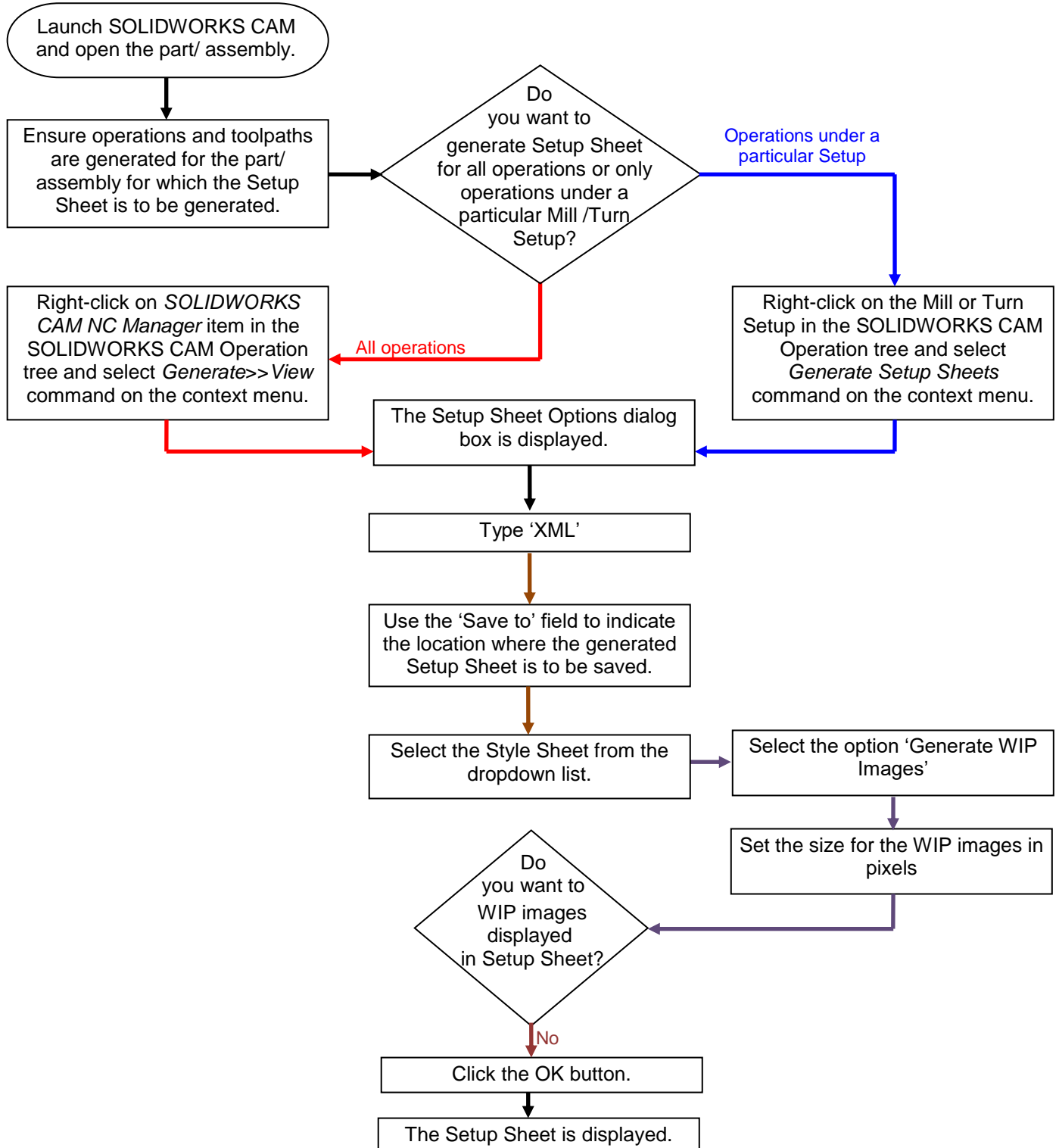
When an XML-based Setup Sheet is generated on clicking the *OK* button, the following two files are saved within the [target folder location](#) that was indicated in the Setup Sheets options dialog box:

- a. The Setup Sheet in XML file format.
- b. The Style sheet template for the Setup sheet in *.xsl format.

5. GENERATING SETUP SHEETS

This chapter contains tutorials to illustrate the generation of Setup Sheets.

Flowchart illustrating generation of Setup Sheets



Flowchart explaining steps for generating Setup Sheets using SOLIDWORKS CAM

Tutorials on Generating Setup Sheets

In this chapter, the provided **Tutorial** illustrates how to generate XML-based Setup Sheets containing 2D images of WIP. (2D images of WIP generated on applying default Style Sheet templates.)

Note: The steps to be followed for generating Setup Sheet in Mill and Turn mode are similar. For the purpose of conciseness, the tutorials illustrated in this document are for Mill parts only.

Tutorial : Generating XML-based Setup Sheet with 2D images of WIP

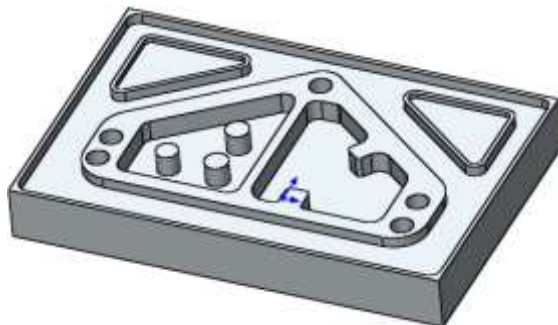
To generate a Setup Sheet, the toolpaths for all the operations must be generated.

For the purposes of illustration, in this tutorial, a sample Mill part for which toolpaths have already been generated will be used. The default Style sheet template will be applied to the XML-based Setup Sheet to be generated. Applying the default Style Sheet template results in generation of 2D images of stock, WIP and finished part in the Setup Sheet.

Steps to generate Setup Sheet

1. Open the part **Setup_Sheet_Sample.SLDPRT** present in the following folder location:

C:\Users\Public\Public Documents\SOLIDWORKS\SOLIDWORKS 201x\CAM Examples\Tutorial_Parts\Mill

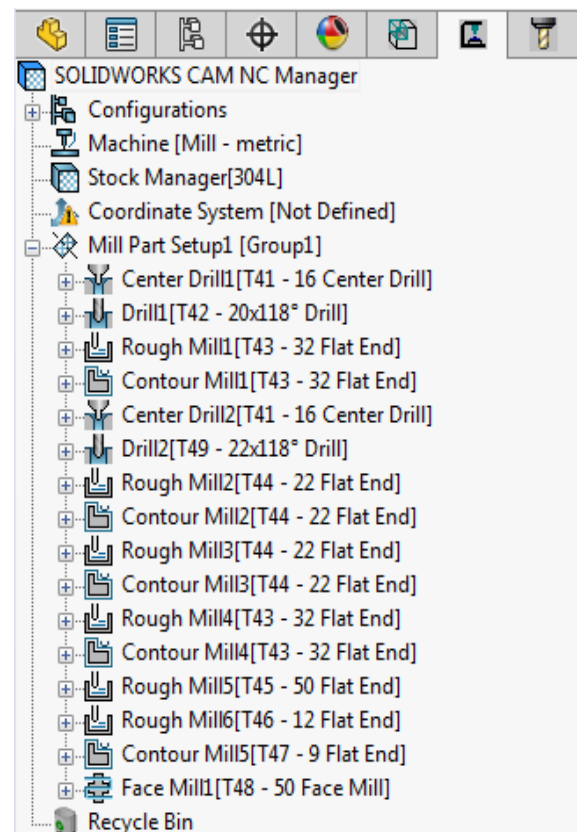


Setup_Sheet_Sample.SLDPRT

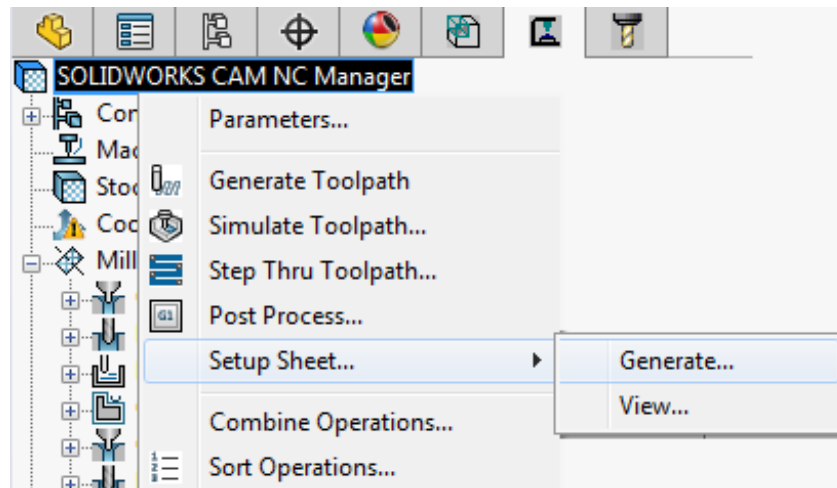
2. Click on the **SOLIDWORKS CAM Operation tree** tab.

Observe that there are 16 operations listed under the Mill Part Setup. The black-colored font of the operation names indicate that toolpaths have already been generated for the solid part.

3. Right click on the **SOLIDWORKS CAM NC Manager** item in the SOLIDWORKS CAM Operation tree and select **Setup Sheet...** from the context menu. Further, select **Generate...** from the cascading menu.





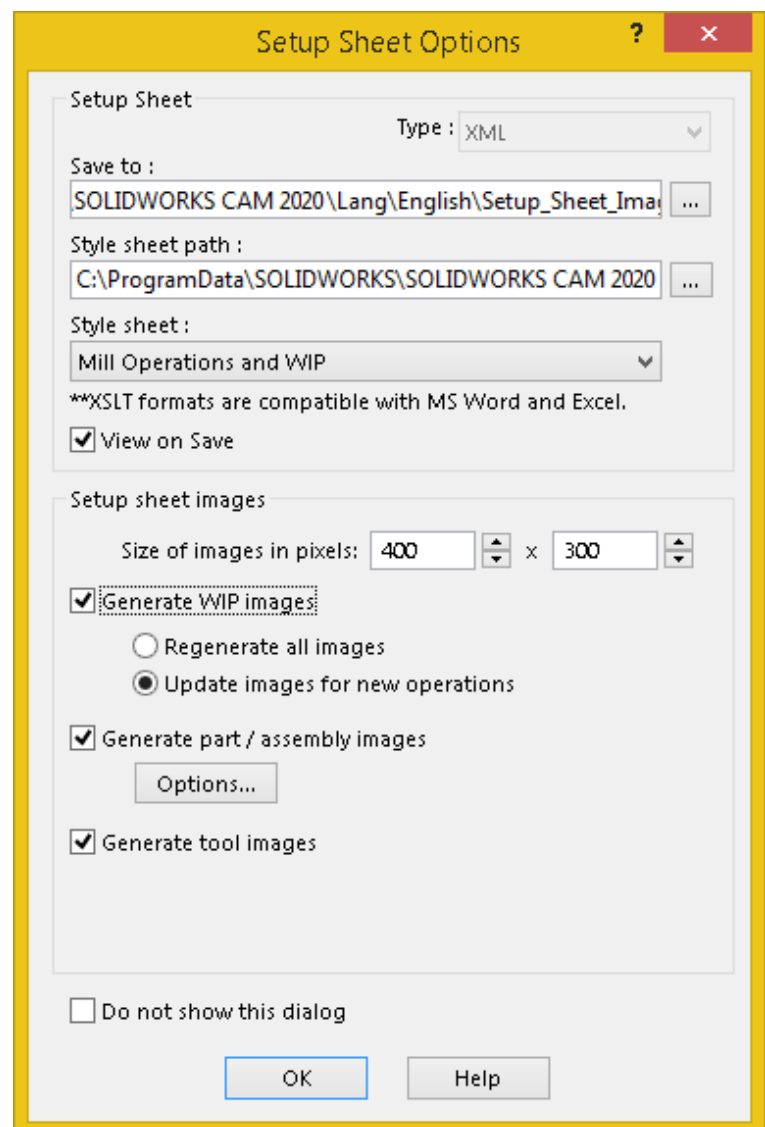
Operations listed in the SOLIDWORKS CAM Operation



Selecting Generate command from the cascading menu

4. The Setup Sheet Options dialog box is displayed. In this dialog box, set the following parameters:

- Type is set as *XML*.
- The *Save To:* field indicates the default location where the generated Setup Sheet will be saved. If you wish to change this location, click on the  *Browse* button to the right of this field. The *Browse to Folder* dialog box will be displayed. Use this dialog box to assign the desired location for saving the Setup Sheet.
- The *Style sheet path:* field indicates the default location of the folder containing SOLIDWORKS CAM Style Sheet templates. If the location is displayed in the field, proceed to the next step. In case this field is blank, click on the  *Browse* button to the right of this field and specify the default location of the folder containing Style Sheet templates.
- The *Style sheet:* dropdown list displays the list of Style Sheet



Setup Sheets Options Dialog box

templates available for the Mill module of SOLIDWORKS CAM. Select the **Mill Operations and WIP** template as the Style sheet from this dropdown list.

- Ensure that the *View on Save* option is checked.
 - Ensure that the [Generate WIP Images](#) option is checked.
 - Ensure that the [Generate part / assembly images](#) and [Generate tool images](#) options are checked.
5. Click on the **OK** button to generate the Setup Sheet.
 6. The generated Setup Sheet will be displayed in the *Internet Explorer* web browser.
 7. The top part of the generated setup sheet displays the general information (Material, Stock size, Unit, Date, Setup name, Setup origin, etc.).
 8. For operations listed in the Setup Sheet, details displayed include Speed, Feed, Z Feed Rate, Tool Description, etc.

Generated Setup Sheet

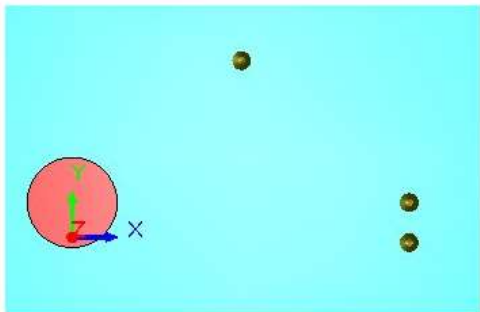

SOLIDWORKS CAM (Powered by CAMWorks) Setup Sheet

Material	304L	Author		Units	MM
Stock Size	402.000, 262.000, 52.000	Keywords		CNC Mach	Mill - metric
Company		Comments		Programmer	
Date/Time	7/28/2017 10:43:46 AM	Title		Subject	

Machine Posting Parameters	
Program number	1
Part Thickness	25.40000mm
Saxis Arc Deviation	0.02540mm

Setup No.	Setup Name	Setup Origin	Mach Time (MIN)
1	Group1	-144.880, -55.454, 50.000	173.646

Operation	Center Drill1	
Operation Desc	Center Drill	
Speed (RPM)	2000.000	
Feed	N.A.	
Z Feed Rate	100.000	
Tool Protrusion Length	N.A.	
Tool Station no.	41	
Tool Description	16MM 60 DEG CARB CENTERDRILL	
Holder Description		
Holder Number	Default	
Absolute Incremental	Absolute	
Coolant	Flood	
Mach Depth	14.700	
	Minimum	Maximum
X:	0.000	284.880
Y:	-4.546	149.204
Z:	-14.700	2.000
Tip Len	697.190	
Time (MIN)	0.815	

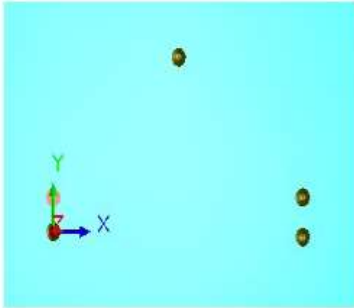
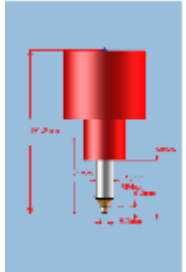
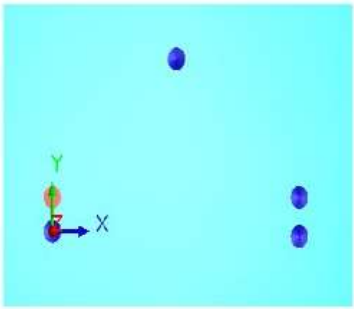
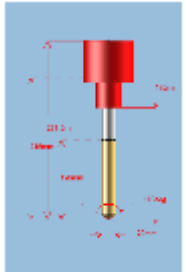
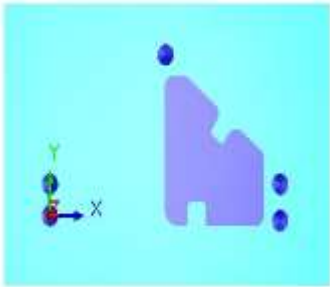
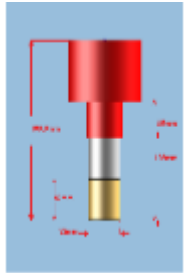

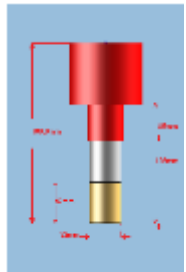




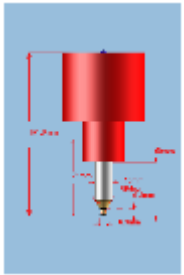

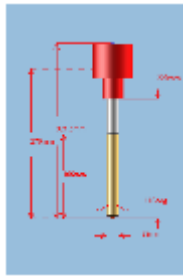

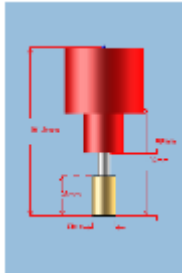
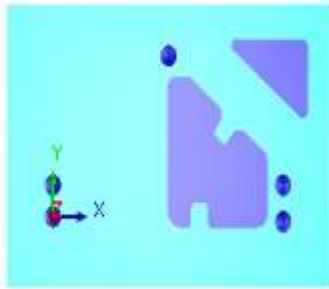
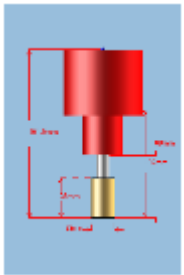
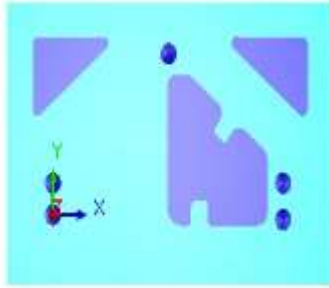
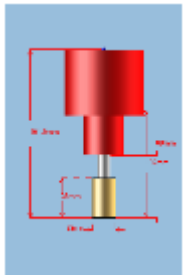
Partial display of the generated Setup Sheet

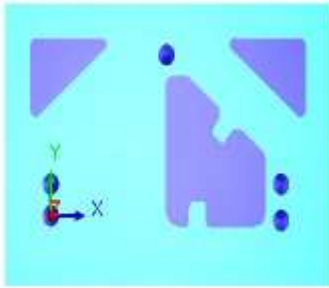
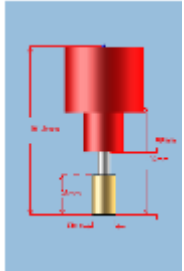

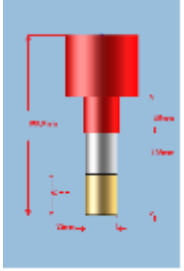

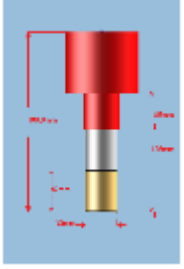
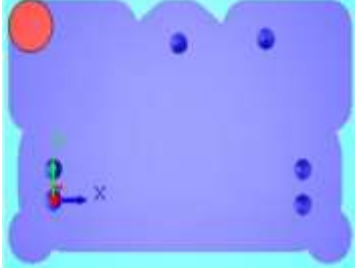
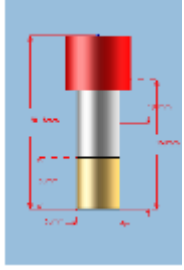
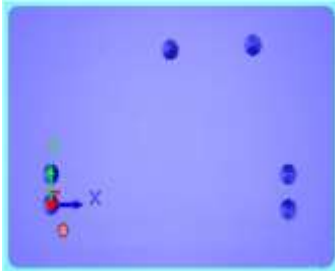
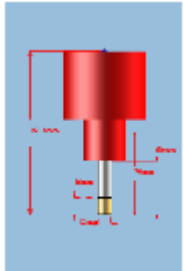
WIP Models in the Setup Sheet

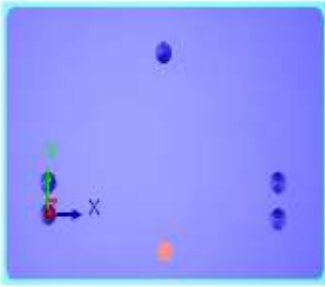
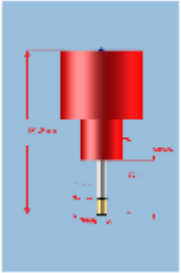
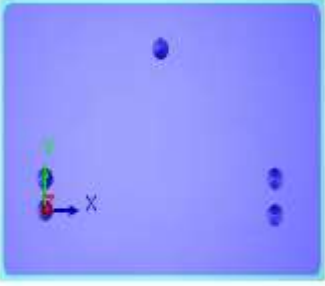
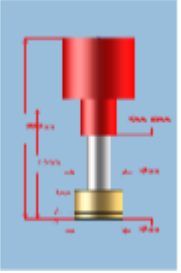
For the solid part used in this tutorial, sixteen operations with corresponding toolpaths have been defined. Whenever a Setup Sheet is generated, the WIP model after the execution of each operation listed in the Operation tree will be displayed in it.

The below table illustrates the 16 WIP models displayed in the Setup sheet for the example part (**Setup_Sheet_Sample.SLDPRT**) under consideration.

Sr. No.	OPERATIONS	2D VIEW OF WIP MODEL	TOOL USED
1.	Center Drill 1		
2.	Drill 1		
3.	Rough Mill 1		
4.	Contour Mill 1		

Sr. No.	OPERATIONS	2D VIEW OF WIP MODEL	TOOL USED
5.	Center Drill 2		
6.	Drill 2		
7.	Rough Mill 2		
8.	Contour Mill 2		
9.	Rough Mill 3		

Sr. No.	OPERATIONS	2D VIEW OF WIP MODEL	TOOL USED
10.	Contour Mill 3		
11.	Rough Mill 4		
12.	Contour Mill 4		
13.	Rough Mill 5		
14.	Rough Mill 6		

Sr. No.	OPERATIONS	2D VIEW OF WIP MODEL	TOOL USED
15.	Contour Mill 5		
16.	Face Mill 1		

6. VIEWING SAVED XML-BASED SETUP SHEETS

Location of XML-based Setup Sheets

[XML-based Setup Sheets generated](#) are saved in the [target folder location](#) indicated in the [Setup Sheet Options dialog box](#).

Folder location of XML-based Setup Sheets

The default folder location where XML-based Setup Sheets are saved is:

Drive: \Program Data\SOLIDWORKSCAMData\Lang\<xxxx>\Setup_Sheet_Images

Where:

<xxxx>: This sub-folder has a naming convention that indicates the language mode in which SOLIDWORKS CAM application was run when the Setup Sheet was generated.

Since the nomenclature for an XML-based Setup Sheet is based on the solid part/assembly for which it was generated, it can be easily distinguished from other Setup Sheets within the folder location.

Viewing XML-based Setup Sheets

Within the folder location containing Setup sheets, the desired XML-based Setup Sheet can be viewed in the *Internet Explorer* web browser.

Deleting XML-based Setup Sheets

If you wish to delete an unwanted Setup Sheet from the folder location, you need to delete both the Setup Sheet file (*.xml) and the folder containing its WIP images. The folder containing the WIP images can be identified easily as its folder name is identical to the name of the solid part/assembly file for which the Setup Sheet was generated.

7. CUSTOMIZED XSL STYLE SHEET TEMPLATES

Though a set of [Style Sheet templates](#) is already provided within SOLIDWORKS CAM, you can define your own customized Style Sheet templates to suit your facility's/ firm's requirements. Alternatively, you can edit the already available Style Sheets to suit your requirements.

This chapter provides the syntax/reference code for retrieving values for various CAM and CAD parameters while editing/creating a customized Style Sheet template.

Note: At least an intermediate-level knowledge of XSL (Extensible Style Sheet language) and HTML is necessary for editing the code within existing Style Sheet templates.

Location of the Style Sheet Templates

Location of the Default Style Sheet Templates

The default Style Sheet templates are located deep within the SOLIDWORKS CAM Installation folder in the *Setup_Sheet_Templates* sub-folder.

- For the English language mode of SOLIDWORKS CAM, the default folder location of the Style Sheet templates for Mill module will be:

Drive:\Program

Data\SOLIDWORKSCAMData\Lang\English\Setup_Sheet_Templates\Mill

- For the French language mode of SOLIDWORKS CAM, the default folder location of the Style Sheet templates for Turn module will be:

Drive:\Program

Data\SOLIDWORKSCAMData\Lang\French\Setup_Sheet_Templates\Turn

Location of Style Sheet associated with generated Setup Sheet

When an XML-based Setup Sheet is generated after clicking the *OK* button in the Setup Sheet Options dialog box, two files are saved within the [target folder location](#) that was indicated in this dialog box:

- a. The Setup Sheet in XML file format.
- b. The associated Style sheet template for the Setup sheet in *.xsl format.

Note: Once an XML-based Setup Sheet is generated, a copy of the Style Sheet template associated with it is saved in the same folder location as the Setup Sheet. The visual rendering and formatting of the XML-based Setup sheet will be based on this copy of the Style sheet template.

Renaming/Reassigning Style Sheet applied to an XML-based Setup Sheet

Whenever an XML-based Setup Sheet is generated, the copy of the Style Sheet template (*.xsl) applied to the Setup Sheet is saved to the same folder location. The visual rendering,

formatting and parametric values displayed within the XML-based Setup Sheet will be based on this copy of the Style Sheet template.

Renaming a Style Sheets associated with an XML-based Setup Sheet

If another XML-based Setup Sheet is generated after applying the same Style Sheet template and saved to the same location, then the existing copy of the Style Sheet template within this folder is overwritten.

While this is not an issue if the default templates were used, it certainly would be if the customized Style Sheet template meant for particular Setup Sheet were to be overwritten. It can lead to assigned parametric values/dynamically derived values being overwritten.

The simplest solution would be to ensure that every Setup Sheet is generated and saved within separate folder locations.

An alternative solution would be to rename the associated Style Sheet template in order to prevent the overwriting of the template. Once renamed, the coding of the XML-based Setup Sheet must be updated to refer to the renamed Style Sheet.

Following are the steps:

- i. Open the folder location where the XML-based Setup Sheet file is saved.
- ii. Rename the Style Sheet file (*.xsl) file associated with the Setup Sheet. It should be preferably renamed to bear the same name as the Setup Sheet so as to enable easier identification.
- iii. Right-click on the *XML-based Setup Sheet* and select *Open with>>WordPad*.
- iv. Observe the second tag within the displayed code. This tag references the Style Sheet name.

```
<?xml-stylesheet type="text/xsl" href="StyleSheetName.xsl"?>
```

- v. Replace the Style Sheet name within the quotes.
- vi. Save and close the file.

Reassigning a Style Sheets associated with an XML-based Setup Sheet

The time required for generating the Setup Sheet for some complex solid parts is high. If you want to assign a customized Style Sheet template to an XML-based Setup Sheet, then instead of regenerating the Setup Sheet after applying the desired Style Sheet template, the alternative and simple solution would be to change the referenced Style sheet template within the XML-based Setup Sheet's code.

Following are the steps:

- i. Open the folder location where the XML-based Setup Sheet file is saved.
- ii. Place a copy of desired Style Sheet template file (*.xsl) within this folder location file associated with the Setup Sheet.
- iii. Right-click on the XML-based Setup Sheet and select *Open with>>WordPad*.
- iv. Observe the second tag within the displayed code. This tag references the Style Sheet name.

```
<?xml-stylesheet type="text/xsl" href="StyleSheetName.xsl"?>
```

- v. Replace the Style Sheet name within the quotes with the name of the new Style Sheet.

- vi. Save and close the file.

Editing the Style Sheet Templates

Editing Info displayed in XML-based Setup Sheet

To edit the values displayed within the XML-based Setup Sheet, you need to edit the Style Sheet template file (*.xsl) associated with it. The Style Sheet template associated with an XML-based Setup Sheet contains code to dynamically retrieve part-related and CAM data-related parametric values from the solid part/ assembly.

While editing/creating Style Sheet templates, you might need to:

- i. Edit/insert code for Parameter labels;
- ii. Edit/insert code for dynamically retrieving values for the parameters;
- iii. Assign static values to parameters where dynamically retrieved values are not required.

Choosing the Style Sheet template to be edited

If you are editing one of the default Style Sheet templates available in SOLIDWORKS CAM to suit your firm's requirements, you can edit it at two levels:

- If you want to assign values to parameters that are to be reflected in all future Setup Sheets which will be generated, you need to edit the applicable Style Sheet template within the *Setup_Sheet_Templates* sub-folder of the SOLIDWORKS CAM Installation folder.
- If you want to assign values to parameters that are to be reflected only for a particular Setup Sheet and not to any other Setup Sheet, then you need to edit the copy of the Style Sheet template that was applied to the Setup Sheet.

Displaying Company's Name in the Setup Sheet Heading Section

The default Style Sheets present within SOLIDWORKS CAM can be edited to display your company name.

- If you want your Company Name to be reflected in all future Setup Sheets generated by applying default Style Sheet templates, then edit those Style Sheet templates present in the SOLIDWORKS CAM Installation folder.

The typical location of the default Style Sheet Templates is:

Drive:\Program Data\SOLIDWORKSCAMData\Lang\English\Setup_Sheet_Templates

- If you want your Company Name to be reflected only in a specific Setup Sheet, then, after the Setup Sheet is generated, edit the copy of the Style Sheet template associated with that Setup Sheet. This template copy is always present in the same folder location as the generated XML-based Setup Sheet that it renders.

The default folder location where XML-based Setup Sheets are saved is:

Drive:\Program Data\SOLIDWORKSCAMData\Lang\English\Setup_Sheet_Images

Editing a default Style Sheet to display Company Name

- i. a. If you wish your Company name to appear in all future Setup Sheets, browse to the default folder location of the Style Sheet templates.
- b. If you wish your Company name to only for a particular Setup Sheet, then generate the Setup Sheet and browse to the folder location where the Setup Sheet has been saved.
- ii. Right-click on the Style Sheet template file (*.xsl) and select Open with>>WordPad.
- iii. Observe the tags containing the first body section immediately after the <head> tag section ends. A sample section is shown below:

```
<TR align="center">
    <TD style="FONT: 23pt Times">
        Your Company Name here
    </TD>
</TR>
```

- iv. Replace the text (highlighted in blue) between the tags with your Company name.
- v. Save and close the file.
- vi. The changes will be reflected when you open/refresh the XML-based Setup Sheet file.

Editing Part Related Info displayed in Setup Sheet

Following are the part-related parameters displayed within the Setup Sheet:

- Company
- Date/Time
- Material
- Stock Size
- Author
- Keywords
- Comments
- Title
- CNC Machine
- Programmer
- Units
- Subject

Reference Code in Style Sheet template for Part Related Parameters

The below table provides reference to the code within the Style Sheet template file (*.xsl) for the part-related parameter labels and their dynamically retrieved values.

This reference code is useful if you plan to edit an existing Style Sheet template or create your own customized Style Sheet template.

Legend

- Red font in the reference code indicates the beginning and end tags for the section of code associated with part-related information.
- Brown font indicates static text which the label name of the particular parameter. Note that these label names can be edited to suit your requirements by editing just one line of code. That one line of code is indicated in brown color font in the below table.

For example: To change the label "Material" to "Stock Material", edit the code as follows:

Original line of Code: `<td>Material</td>`

Edited line of Code: `<td>Stock Material</td>`

- Blue font indicates dynamic parametric values retrieved from the solid part and assigned to parameter.

Parameter's Label within XML Setup Sheet	Reference code within Style Sheet template (*.xsl) for the Parameter label and its dynamically retrieved value
Company Name	<pre> <xsl:for-each select="*"> <xsl:if test="name() = 'rep_CustomInfo'"> <tr> <td>Company</td> <td> <xsl:value-of select="@CustomInfoCompanyName"/> </td> </xsl:if> </pre>
Date/Time	<pre> <xsl:if test="name() = 'rep_CustomInfo'"> <tr> <td>Date/Time</td> <td> <xsl:value-of select="@CustomInfoDateTime"/> </td> </tr> </xsl:if> </pre>
Material	<pre> <xsl:if test="name() = 'rep_WorkPiece'"> <tr> <td>Material</td> <td> <xsl:value-of select="@WorkPieceMaterial"/> </td> </tr> </xsl:if> </pre>
Stock Size	<pre> <xsl:if test="name() = 'rep_WorkPiece'"> <tr> <td>Stock Size</td> <td> <xsl:value-of select="@WorkPieceLength"/>, <xsl:value-of select="@WorkPieceWidth"/>, <xsl:value-of select="@WorkPieceHeight"/> </td> </tr> </xsl:if> </pre>
Author	<pre> <xsl:if test="name() = 'rep_CustomInfo'"> <tr> <td>Author</td> <td> <xsl:value-of select="@CustomInfoAuthor"/> </td> </tr> </xsl:if> </pre>

Keywords	<pre> <xsl:if test="name() = 'rep_CustomInfo'"> <tr> <td>Keywords</td> <td> <xsl:value-of select="@CustomInfoKeywords"/> </td> </tr> </xsl:if> </pre>
Parameter's Label within XML Setup Sheet	Reference code within Style Sheet template (*.xsl) for the Parameter label and its dynamically retrieved value
Comments	<pre> <xsl:if test="name() = 'rep_CustomInfo'"> <tr> <td>Comments</td> <td> <xsl:value-of select="@CustomInfoComments"/> </td> </tr> </xsl:if> </pre>
Title	<pre> <xsl:if test="name() = 'rep_CustomInfo'"> <tr> <td>Title</td> <td> <xsl:value-of select="@CustomInfoTitle"/> </td> </tr> </xsl:if> </pre>
CNC Machine	<pre> <xsl:if test="name() = 'rep_MchParams'"> <tr> <td>CNC Mach</td> <td> <xsl:value-of select="@MchName"/> </td> </tr> </xsl:if> </pre>
Programmer	<pre> <xsl:if test="name() = 'rep_CustomInfo'"> <tr> <td>Programmer</td> <td> <xsl:value-of select="@CustomInfoProgrammer"/> </td> </tr> </xsl:if> </pre>
Units	<pre> <xsl:if test="name() = 'rep_Doc'"> <tr> <td>Units</td> <td> <xsl:value-of select="@Unit"/> </td> </tr> </xsl:if> </pre>

Subject	<pre> <xsl:if test="name() = 'rep_CustomInfo'"> <tr> <td>Subject</td> <td> <xsl:value-of select="@CustomInfoSubject"/> </td> </tr> </xsl:if> </xsl:for-each> </pre>
---------	---

Replacing dynamically retrieved values with Static values

While editing/creating Style Sheet templates, you can replace the dynamically retrieved parametric value with static values wherever required. This is especially useful if the dynamically retrieved values are null values and you wish to assign values to such parameters.

For example, the dynamically retrieved value displayed for the Parameter ‘Company’ is usually a null value. You can assign static text string value (for example, “*Dassault Systemes*”) by replacing the one line of code as follows:

Original Code within Style Sheet template

```
<td><xsl:value-of select="@CustomInfoCompanyName"/></td>
```

Edited Code within Style Sheet template with Static value

```
<td>Dassault Systemes</td>
```

Setup Info and Machining Time

The below table provides a reference to the code within the Style Sheet template file (*.xsl) for the dynamically retrieved values of Setup Sheet parameters. This reference will be useful if you choose to edit the code for Setup-related parameters within an existing Style Sheet template or when you create a new Style Sheet template.

Legend

- Red font indicates the beginning and end tags for the section of code associated with Setup-related information.
- Blue font indicates dynamic parametric values retrieved from the solid part and assigned to parameter.

Parameter within XML Setup Sheet	Reference code within Style Sheet template (*.xsl) for dynamically retrieving the parametric value
Setup No.	<pre> <xsl:if test="name() = 'MillSetupSheetAttr'"> <xsl:for-each select="*"> <xsl:if test="name() = 'rep_SetupAttr'"> <xsl:value-of select="@SetupAttrSetupNo"/> </pre>
Setup Name	<pre> <xsl:value-of select="@SetupAttrSetupName"/> </pre>
Setup Origin	<pre> <xsl:value-of select="@SetupAttrCoordX"/>, <xsl:value-of select="@SetupAttrCoordY"/>, <xsl:value-of select="@SetupAttrCoordZ"/> </pre>

Machine Time (Mill)	<code><xsl:value-of select="@SetupAttrMachTime"/></code> <code></xsl:if></code>
---------------------	--

Details of the Operations (Mill, Turn)

The next table provides a reference to the code within the Style Sheet template file (*.xsl) for the dynamically retrieved values of Operation parameters. This reference will be useful if you choose to edit the code associated with Operation parameters in an existing Style Sheet template or when you create a new Style Sheet template.

Legend

- Red font in the reference code indicates the beginning and end tags for the section of code associated with Setup-related information.

Parameter within XML Setup Sheet	Reference code within Style Sheet template (*.xsl) for dynamically retrieving the parametric value
Operation	<code><xsl:if test="name() = 'MillOperation'"></code> <code><xsl:for-each select="*"></code> <code><xsl:if test="name() = 'rep_Operation'"></code> <code><xsl:value-of select="@OperationName"/></code> <code></xsl:if></code>
Tool Station No.	<code><xsl:if test="name() = 'rep_Tool'"></code> <code><xsl:value-of select="@ToolStnNo"/></code> <code></xsl:if></code>
Operation Desc	<code><xsl:if test="name() = 'rep_Operation'"></code> <code><xsl:value-of select="@Description"/></code> <code></xsl:if></code>
Tool Description	<code><xsl:if test="name() = 'rep_Tool'"></code> <code><xsl:value-of select="@ToolComment"/></code> <code></xsl:if></code>
Holder Description	<code><xsl:if test="name() = 'rep_MillHolderLibrary'"></code> <code><xsl:value-of select="@HolderComment"/></code> <code></xsl:if></code>
Holder Number	<code><xsl:if test="name() = 'rep_MillHolderLibrary'"></code> <code><xsl:value-of select="@HolderNumber"/></code> <code></xsl:if></code>
Speed (RPM)	<code><xsl:if test="name() = 'rep_MillOperParams'"></code> <code><xsl:value-of select="@MillSpindleSpeed"/></code> <code></xsl:if></code>
Feed	<code><xsl:if test="name() = 'rep_MillOperParams'"></code> <code><xsl:value-of select="@XYFeedRate"/></code> <code></xsl:if></code>
Z Feed Rate	<code><xsl:if test="name() = 'rep_MillOperParams'"></code> <code><xsl:value-of select="@ZFeedRate"/></code> <code></xsl:if></code>
Lead in Type	<code><xsl:if test="@LeadinType != 'N.A.'"></code> <code><xsl:value-of select="@LeadinType"/></code> <code></xsl:if></code>
Lead in Amount	<code><xsl:if test="@LeadinAmt != 'N.A.'"></code> <code><xsl:value-of select="@LeadinAmt"/></code> <code></xsl:if></code>

Lead in Amount(%)	<code><xsl:if test="@LeadinAmtPercent != 'N.A.'"> <xsl:value-of select="@LeadinAmtPercent"/> </xsl:if></code>
Additional Lead in Amount	<code><xsl:if test="@LeadinAdditionalAmt != 'N.A.'"> <xsl:value-of select="@LeadinAdditionalAmt"/> </xsl:if></code>
Lead in Overlap	<code><xsl:if test="@LeadinOverlap != 'N.A.'"> <xsl:value-of select="@LeadinOverlap"/> </xsl:if></code>
Parameter within XML Setup Sheet	Reference code within Style Sheet template (*.xsl) for dynamically retrieving the parametric value
Lead in Overlap(%)	<code><xsl:if test="@LeadinOverlapPercent != 'N.A.'"> <xsl:value-of select="@LeadinOverlapPercent"/> </xsl:if></code>
Additional Lead in Overlap	<code><xsl:if test="@LeadinOverlapAdditionalAmt != 'N.A.'"> <xsl:value-of select="@LeadinOverlapAdditionalAmt"/> </xsl:if></code>
Lead in Arc Radius	<code><xsl:if test="@LeadinArcRadius != 'N.A.'"> <xsl:value-of select="@LeadinArcRadius"/> </xsl:if></code>
Lead in Arc Radius(%)	<code><xsl:if test="@LeadinArcRadiusPercent != 'N.A.'"> <xsl:value-of select="@LeadinArcRadiusPercent"/> </xsl:if></code>
Additional Lead in Arc Radius	<code><xsl:if test="@LeadinArcRadiusAdditionalAmt != 'N.A.'"> <xsl:value-of select="@LeadinArcRadiusAdditionalAmt"/> </xsl:if></code>
Lead in Arc Angle	<code><xsl:if test="@LeadinArcAngle != 'N.A.'"> <xsl:value-of select="@LeadinArcAngle"/> </xsl:if></code>
Lead out Type	<code><xsl:if test="@LeadoutType != 'N.A.'"> <xsl:value-of select="@LeadoutType"/> </xsl:if></code>
Lead out Amount	<code><xsl:if test="@LeadOutAmt != 'N.A.'"> <xsl:value-of select="@LeadOutAmt"/> </xsl:if></code>
Lead out Amount(%)	<code><xsl:if test="@LeadoutAmtPercent != 'N.A.'"> <xsl:value-of select="@LeadoutAmtPercent"/> </xsl:if></code>
Additional Lead out Amount	<code><xsl:if test="@LeadoutAdditionalAmt != 'N.A.'"> <xsl:value-of select="@LeadoutAdditionalAmt"/> </xsl:if></code>
Lead out Overlap	<code><xsl:if test="@LeadoutOverlap != 'N.A.'"> <xsl:value-of select="@LeadoutOverlap"/> </xsl:if></code>

Lead out Overlap(%)	<code><xsl:if test="@LeadoutOverlapPercent != 'N.A.'"> <xsl:value-of select="@LeadoutOverlapPercent"/> </xsl:if></code>
Additional Lead out Overlap	<code><xsl:if test="@LeadoutOverlapAdditionalAmt != 'N.A.'"> <xsl:value-of select="@LeadoutOverlapAdditionalAmt"/> </xsl:if></code>
Lead out Arc Radius	<code><xsl:if test="@LeadoutArcRadius != 'N.A.'"> <xsl:value-of select="@LeadoutArcRadius"/> </xsl:if></code>
Parameter within XML Setup Sheet	Reference code within Style Sheet template (*.xsl) for dynamically retrieving the parametric value
Lead out Arc Radius(%)	<code><xsl:if test="@LeadoutArcRadiusPercent != 'N.A.'"> <xsl:value-of select="@LeadoutArcRadiusPercent"/> </xsl:if></code>
Additional Lead out Arc Radius	<code><xsl:if test="@LeadoutArcRadiusAdditionalAmt != 'N.A.'"> <xsl:value-of select="@LeadoutArcRadiusAdditionalAmt"/> </xsl:if></code>
Lead out Arc Angle	<code><xsl:if test="@LeadoutArcAngle != 'N.A.'"> <xsl:value-of select="@LeadoutArcAngle"/> </xsl:if></code>
Lead in clearance	<code><xsl:if test="@LeadinClearance != 'N.A.'"> <xsl:value-of select="@LeadinClearance"/> </xsl:if></code>
Lead in clearance(%)	<code><xsl:if test="@LeadinClearancePercent != 'N.A.'"> <xsl:value-of select="@LeadinClearancePercent"/> </xsl:if></code>
Additional Lead in clearance	<code><xsl:if test="@LeadinClearanceAdditionalAmt != 'N.A.'"> <xsl:value-of select="@LeadinClearanceAdditionalAmt"/> </xsl:if></code>
Lead out clearance	<code><xsl:if test="@LeadoutClearance != 'N.A.'"> <xsl:value-of select="@LeadoutClearance"/> </xsl:if></code>
Lead out clearance(%)	<code><xsl:if test="@LeadoutClearancePercent != 'N.A.'"> <xsl:value-of select="@LeadoutClearancePercent"/> </xsl:if></code>
Additional Lead out clearance	<code><xsl:if test="@LeadoutClearanceAdditionalAmt != 'N.A.'"> <xsl:value-of select="@LeadoutClearanceAdditionalAmt"/> </xsl:if></code>
Pass clearance	<code><xsl:if test="@PassClearance != 'N.A.'"> <xsl:value-of select="@PassClearance"/> </xsl:if></code>

Pass clearance(%)	<code><xsl:if test="@PassClearancePercent != 'N.A.'"> <xsl:value-of select="@PassClearancePercent"/> </xsl:if></code>
Additional Pass clearance	<code><xsl:if test="@PassClearanceAdditionalAmt != 'N.A.'"> <xsl:value-of select="@PassClearanceAdditionalAmt"/> </xsl:if></code>
Mach Depth	<code><xsl:if test="name() = 'rep_Relation'"> <xsl:value-of select="@RelationMachDepth"/> </xsl:if></code>
Parameter within XML Setup Sheet	Reference code within Style Sheet template (*.xsl) for dynamically retrieving the parametric value
Bottom Allowance	<code><xsl:if test="name() = 'rep_MillOperParams'"> <xsl:if test="@BottomAllowance != 'N.A.'"> <xsl:value-of select="@BottomAllowance"/> </xsl:if> </xsl:if></code>
Side Allowance	<code><xsl:if test="name() = 'rep_MillOperParams'"> <xsl:if test="@SideAllowance != 'N.A.'"> <xsl:value-of select="@SideAllowance"/> </xsl:if> </xsl:if></code>
Tool Protrusion Length	<code><xsl:if test="name() = 'rep_MillOperParams'"> <xsl:value-of select="@MinToolProtusionLength"/> </xsl:if></code>
Minimum X Maximum X Minimum Y Maximum Y Minimum Z Maximum Z	<code><xsl:if test="name() = 'rep_Relation'"> <xsl:value-of select="@MinX"/> <xsl:value-of select="@MaxX"/> <xsl:value-of select="@MinY"/> <xsl:value-of select="@MaxY"/> <xsl:value-of select="@MinZ"/> <xsl:value-of select="@MaxZ"/> </xsl:if></code>
Tip Len	<code><xsl:if test="name() = 'rep_Relation'"> <xsl:value-of select="@RelationTlpLen"/> </xsl:if></code>
Time (MIN)	<code><xsl:if test="name() = 'rep_Relation'"> <xsl:value-of select="@RelationTime"/> </xsl:if> </xsl:if></code>

WIP Images and Tool Images

The next table provides a reference to the code within the Style Sheet template file (*.xsl) for the inserting images of WIP and tool used for each operation. This reference will be useful if you choose to edit the display code for images within an existing Style Sheet template or when you create a new Style Sheet template.

Parameter within XML Setup Sheet	Reference code within Style Sheet template (*.xsl) for dynamically retrieving the parametric value
Image of WIP	<pre> <xsl:for-each select="*"> <xsl:if test="name() = 'rep_Operation'"> <xsl:variable name = "imageUrl"> <xsl:value-of select="@ImagePath"/> </xsl:variable> </xsl:if> </xsl:for-each> </pre>
Image of Tool	<pre> <xsl:for-each select="*"> <xsl:if test="name() = 'rep_ToolImagePath'"> <xsl:variable name = "imageUrl"> <xsl:value-of select="@ToolImagePath"/> </xsl:variable> <xsl:if test="\$imageUrl != ''"> </xsl:if> </xsl:if> </xsl:for-each> </pre>

Note: You can also insert code within the Style Sheet template to display user-defined images.

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