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Siemens Digital Industries Software

User Documentation

for

Post Configurator Postprocessor

Automatic Retract

Summary

This document will help user to understand how to use the automatic retract layer to output auto retract and tool change based on tool use time.

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1 Introduction

This document explains the functionality enabled by the Automatic Retract layer.

1.1 What is it

The Automatic Retract layer enables to perform automatically a retract, tool change, and re-engage sequence when the maximum cutting time of a tool is reached. The layer includes tcl and psl files. Post writer can import this layer by PC layer manager to 3-axis machining postprocessors.
This layer only works for NX1899 and later versions.

About Layer manager, please reference NX help

- https://docs.plm.automation.siemens.com/tdoc/nx/1899/nx_help#uid:xid1128418:index_mfgpostconfig:xid1487919:xid1446295

2 Function

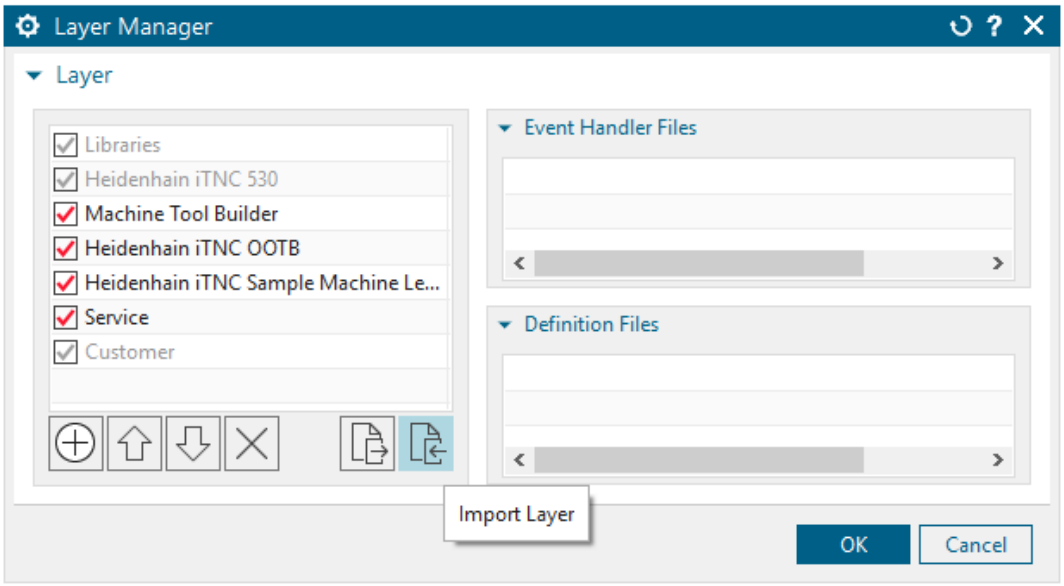
Once this layer is imported, the postprocessor will start to accumulate the cutting time for each tool, based on the “Cut Motion Types” defined.

- When the cutting time reaches the “minimum cut time”, the post processor will perform a retract, tool change, and re-engage sequence, given that the current motion type is not one of the “undesired tool change motion types”.
- If no retract was able to perform and the cutting time reaches the “maximum cut time”, the post processor will perform the retract, tool change, and re-engage sequence immediately regardless of motion types.
- Each time the sequence is performed, the current tool is replaced by the next available tool listed as in the “tool number” block.

3 How to use it

3.1 Import Layer

Click Import Layer button of Layer Manager, choose AutoRetract.psl file in browser.



3.2 Define Parameters

Define the parameters for performing the automatic retract.

3.3 Sample NC codes

```
…
N180 Z164.714 F660.
N190 X76.797 Y3.199
N200 G3 X76.451 Y3.273 I-0.21 J-0.136
N210 G2 X69.447 Y-0.854 I-52.781 J81.568 F1100.
N220 X31.367 Y-12.348 I-47.471 J88.446
N230 X19.902 Y-12.864 I-11.284 J123.058
N240 G1 X-45.685
N250 X-47.118 Y-12.851
N260 G2 X-76.451 Y-8.474 I0.262 J102.23
N270 G0 Z174.714
N280 T1 M6
N290 G17 G0 X-76.451 Y-8.474 Z174.714 S1629 D1 M3
N300 Z164.814
N310 G94 G1 G90 Z164.714 M9 F1100.
N320 G3 X-76.762 Y-8.641 I-0.072 J-0.239 K0.
N330 G1 X-84.451
N340 Z172.714
…
```

Retract, tool change, re-engage sequence

4 Software Versions

This document has been created and maintained for below versions,

NX Version	Comment
NX1899	

5 Documentation History

When	Who	What
14-Jul-2020	XY	Initial version