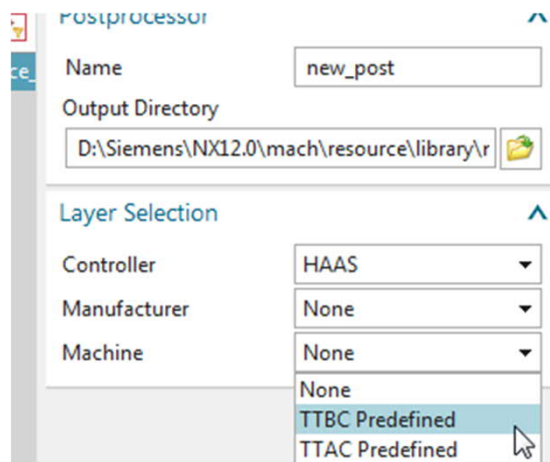# NX Post Configurator
## 010 – Layer II

# 5 - Additional kinematic layers
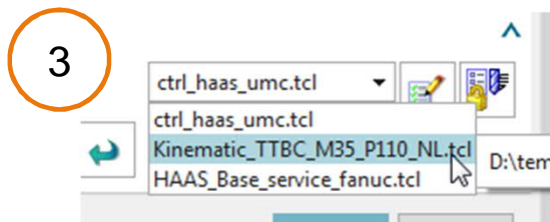
# 5.1 – General purpose

Post Configurator use MTB informations. If no model is loaded it will use a 45°-BC Headtable kinematic. To create Postprocessors without MTB but with preconfigured kinematics it's possible to add them during create process. These layers can be reused by different controllers.

# 5.2 – Additional kinematic layers (TTBC)
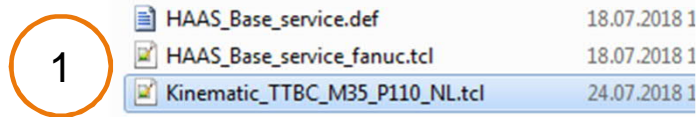


1. Create a new file with information about the kinematic, e.g. kinematic type _ MinLimit4th_MaxLimit4th_MinLimit5th_MaxLimit5th/ nolimits

2. Include this file in the temporary postprocessor behind the mtb layer. When a postprocessor will be created the new one created will be located here automtically

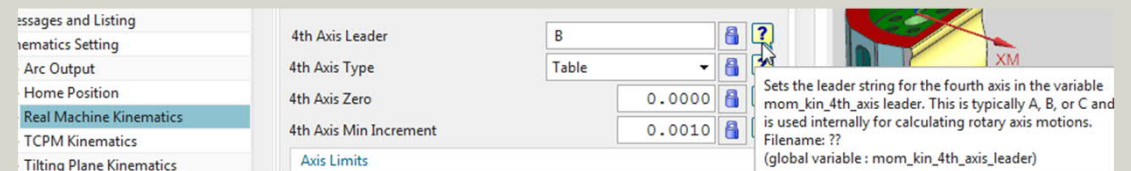3. Open Post Configurator and select the new created file and open it with the Tcl editor

# 5.3 – Additional kinematic layers (TTBC)

1. Add description of the layer and generic information about the kinematic type

2. Add all necessary mom-variables which are needed for the kinematics. The information which mom-variable is needed is located in the Tooltip help.



3. After finishing of set up the layer save and close the Tcl-editor.

# 5.4 – Additional kinematic layers (TTBC)
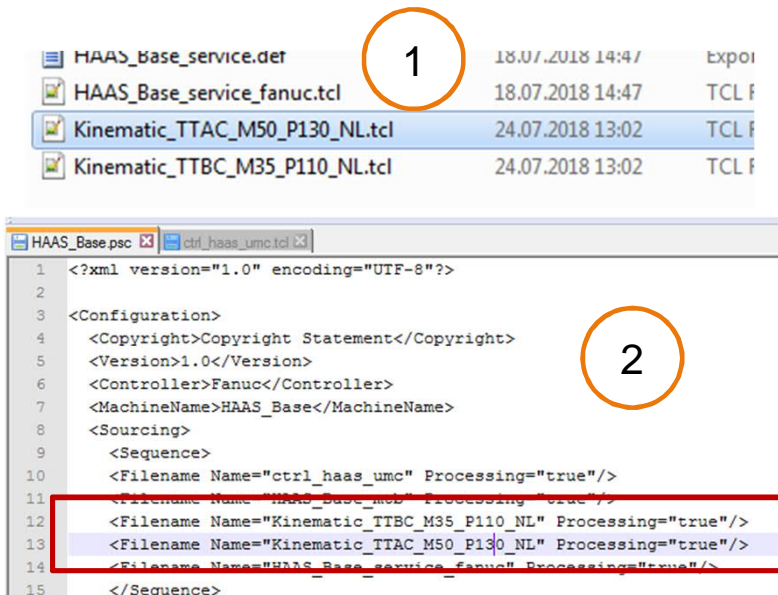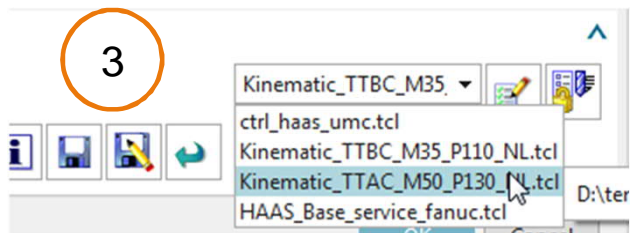
1. Now check that this layer is sourced correctly and all changed properties get now the new default value from the layer for the machine type.

2. Repeat this for all properties which was changed in the UI of Post Configurator (open lock).

# 5.5 – Additional kinematic layers (TTAC)



1. Now concept of reusing running very well. Copy the first created kinematic file

2. Add this file also in sourcing in psc file (Important: behind the TTBC-kinematic)

3. Open the file with Post Configurator

# 5.6 – Additional kinematic layers (TTAC)



1. Add additional information in header

2. Change general settings, e.g. leader

3. Change all needed mom-variables for 4th axis (leader, vector, limits, type)

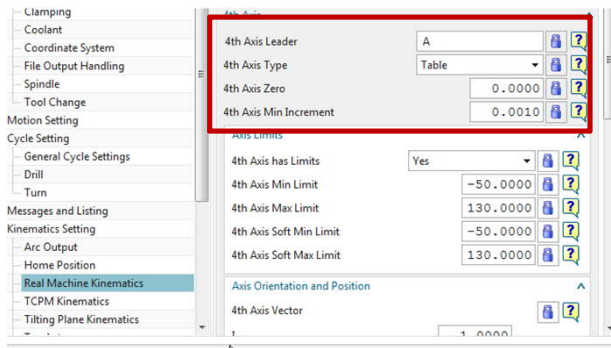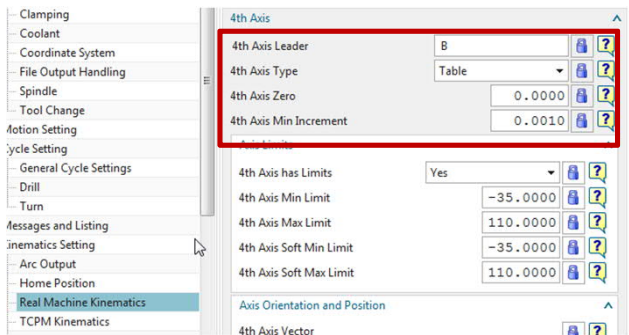# 5.7 – Additional kinematic layers (TTAC)



```
<Filename Name="HAAS_Base_mtb" Processing="true"/>
<Filename Name="Kinematic_TTBC_M35_P110_NL" Processing="true"/>
<Filename Name="Kinematic_TTAC_M50_P130_NL" Processing="false"/>
<Filename Name="HAAS_Base_service_fanuc" Processing="true"/>
```

Summary:

Now it's possible to switch the kinematics easily.

1. Postprocess an operation with TTAC kinematics file

2. In the psc-file turn off the processing of TTAC kinematics file

3. Reopen Post Configurator and postprocess again

Additional Background:

This can be reused for each predefined kinematic definition. In next topic this will be transferred into standard environment.

# 6 – Merge into Post Configurator Environment

# 6.1 – Create structure
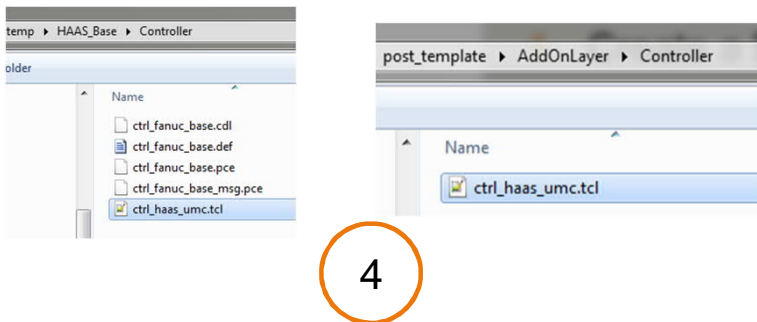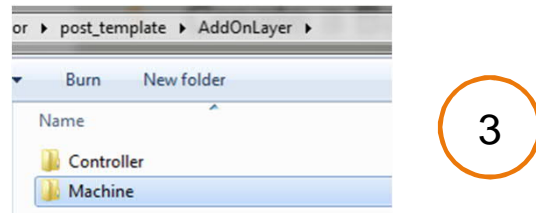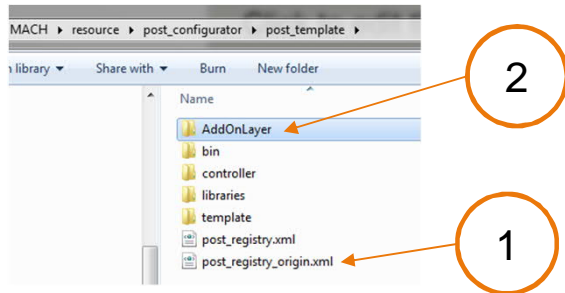


1. Create a Backup of your origin post_registry.xml

2. Create a new folder for the new created layers

3. In this folder create a sub structure, e.g. Controller, machine

4. Copy the created controller file from the temporary postprocessor into the folder
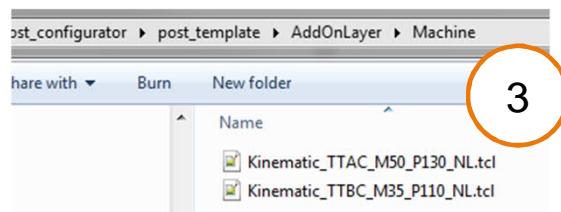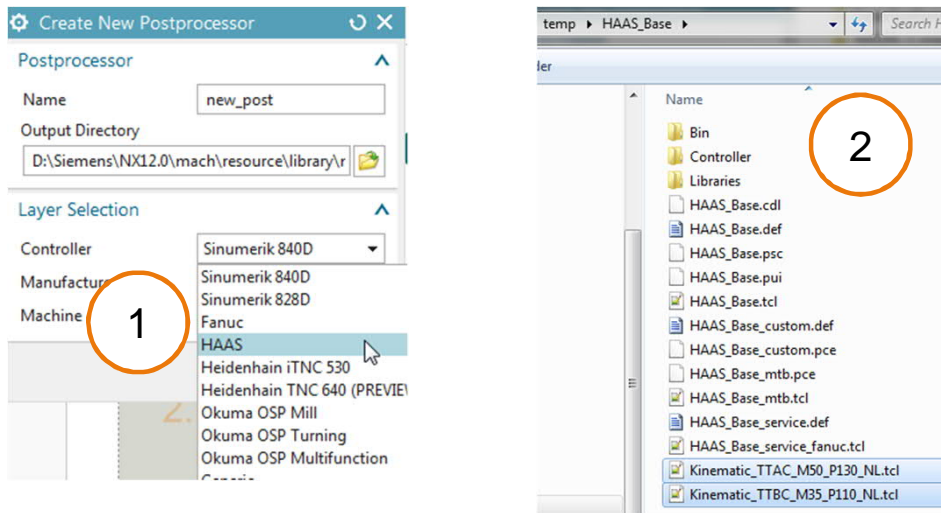
# 6.2 – Create structure

1. Open the post_registry.xml

2. Copy the existing Fanuc entry

3. Rename the copy to e.g. HAAS

4. Add the entry for the main-tcl file which will also source the Fanuc controller

5. Save the file

# 6.3 – Create structure







1. Open Post Configurator and check that post_registry works fine and the added controller level is visible

2. Add the additional two kinematics files into the AddonLayer/Machine folder from the temporary postprocessor

3. Open the post_registry.xml to add theses files as machine layers for this HAAS controller

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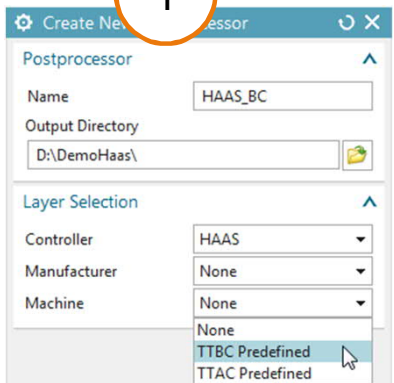# 6.4 – Create structure

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1. Copy an existing machine level, e.g. Fanuc

2. Give it a unique name and assign the Base_CTRL (logic which files will be shown when select a controller)

3. Repeat the step for the second predefined kinematic and save the post_registry.xml

```
<MACHINE>
    <Name>Fanuc Sample Machine Level</Name>
    <Path>${UGII_CAM_RESOURCE_DIR}post_configura___st_template/controller/fanuc/machine/machine_ootb_5ax_fanuc.pce</Path>    (1)
    <Base_CTRL>Fanuc</Base_CTRL>
</MACHINE>
<MACHINE>
    <Name>TTBC Predefined</Name>
    <Path>${UGII_CAM_RESOURCE_DIR}post_configurator/post_template/AddOnLayer/Machine/Kinematic_TTBC_M35_P110_NL.tcl</Path>    (2)
    <Base_CTRL>HAAS</Base_CTRL>
</MACHINE>
<MACHINE>
    <Name>TTAC Predefined</Name>
    <Path>${UGII_CAM_RESOURCE_DIR}post_configurator/post_template/AddOnLayer/Machine/Kinematic_TTAC_M50_P130_NL.tcl</Path>
    <Base_CTRL>HAAS</Base_CTRL>
</MACHINE>    (3)
```
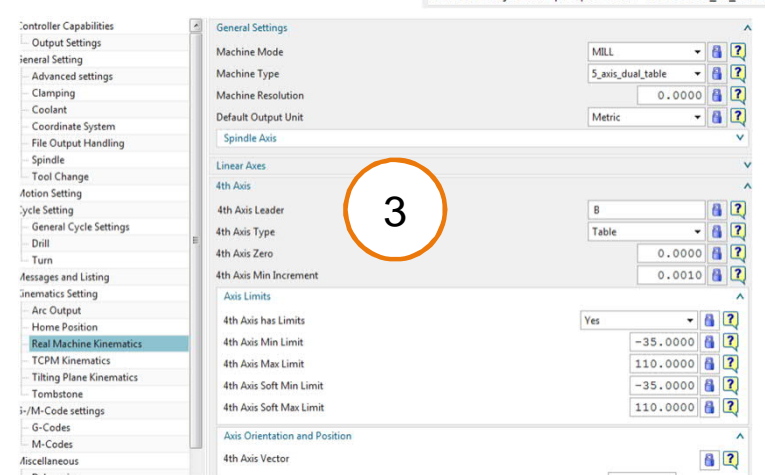
# 6.5 – Create structure



1. Check that everything is fine and open the Create Postprocessor Dialog

2. Create a new Postprocessor based on this data

3. Check/ recognize that kinematics are set directly correct

## Additional Background:

Even if a machine mdoel is loaded now, the predefined kinematics will be used. For this you can build a property which decides use machine model kinematics or not.

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# 6.6 – Create structure
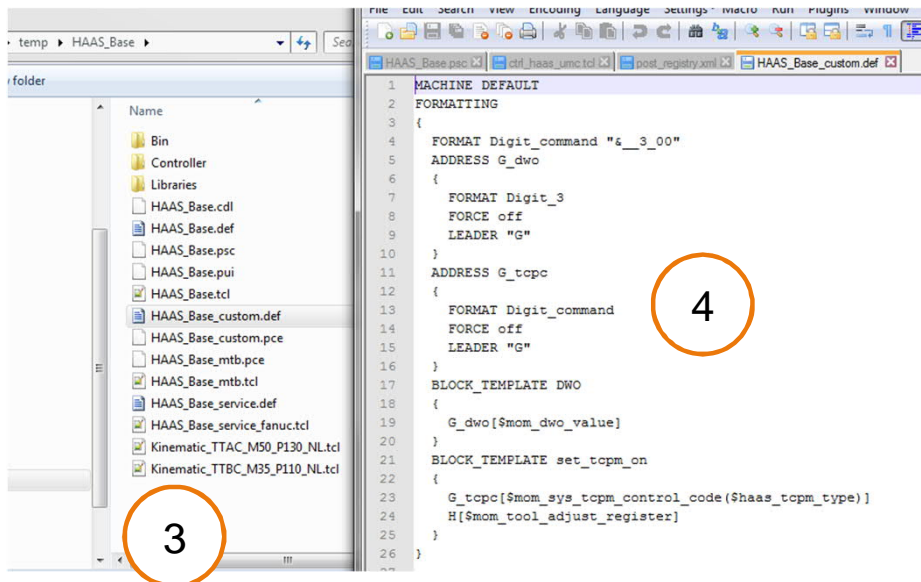
1. Select an operation and try postprocessing. You should get an error ☺.

2. Thinking…

3. Remember, we defined additional Blocktemplates and address.

4. Open the custom.def-file from the temporary postprocessor.

Additional Background:

All customization for address, Blocktemplates, Formats will be written in the xx_custom.def file of the postprocessor. To reuse it we have to copy the content in a def-file controller layer

# 6.7 – Create structure
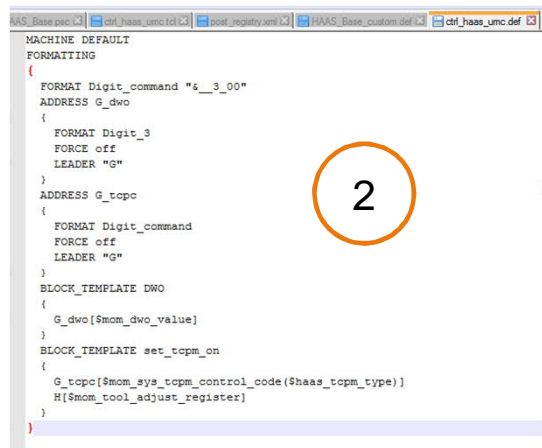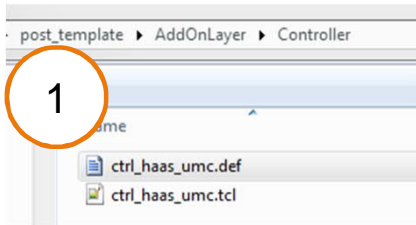


1. Create a new def-file in the AddOnLayer/Controller folder

2. Copy the content from temporary postprocessor/ custom def-file into that file

3. Link this file to the controller. Be aware of sourcing order if you overwritten Blocktemplates then the origin layer must be sourced before.
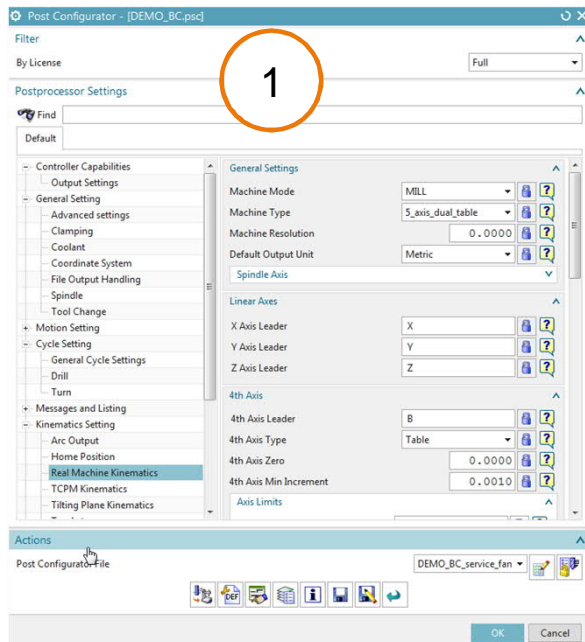
Additional Background:

The same is possible for cdl-files which contains UDE's.

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# 6.8 – Create structure

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1. Create a new postprocessor again

2. After creation postprocess an operation.

3. Done.

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