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## 04 - Creating a Turning Post

Welcome to this series of *CAM-POST FOUNDATION* video tutorials. In this video we will demonstrate the creation and validation of a custom post-processor for an “**OKUMA LB-35**” 2-axes lathe.

To configure the post, we will launch the *CAM-POST FOUNDATION Quest* module from the shortcut on the desktop.

...Press “**OK**” to remove the splash screen.

In the left window pane, we see the default database, in which we have already created the “**HAAS\_VF1**” milling post-processor. The new turning post will be added to the same database.

Let’s begin by clicking the “**New Post Wizard**” button on the top bar.

We are configuring a post for an “**OKUMA LB-35-2**” turning center. Therefore we will name our post-processor **OKUMA\_LB35**... We won’t require an ID number, so we’ll set the **Post ID** to “**Not Available**”... For traceability purposes, you can enter your name in the field if you want...

The **machine type** is “**Lathe**”, and we will set the **post units system** as “**Millimeters**”...

As previously seen, *CAM-POST FOUNDATION* comes with a built-in library of basic post-processors. These are templates you can use as a starting point when building your posts... For our machine, we will use the “**OKUMA**” ... “**OSP Series L**” template. Again, this will take care of all the control-specific options.

For the **machine defaults**, we will choose the “**LATHE 2H**” template, for a 2-axes horizontal lathe... A diagram explains the kinematics.

Next, we enter the **Machine Options** dialog, where several tabs are available to configure options that are either machine-specific or reflect the personal preferences of the programmer... Again, by simply hovering the mouse on top of various fields, you can pop-up some explanations...

Let’s go to the **Sequence Numbers** tab to enter some personal preference settings. We’ll enter 5 as the “**initial block number**” ...and 5 as an **increment**.

In the **COOLANT** tab, we will set how do we want the coolant to be output. Answer “**Yes**” to the question “**Output coolant with next motion**”, so that the M8 code will show on the same block as the first move.



In the **Feedrate** tab, subsection **units-per-minute** (G94), we'll set the maximum feedrate to 15000 mm/min. No changes in the **units-per-revolution** section (G95).

In the **Tape** tab, we will verify some options related to the output format: messages will begin with an open parenthesis and end with a closed one, the program will use spaces between registers, it will only contain uppercase characters... and so on.

In the **Spindle** tab, we will set the maximum RPM to 3200 RPM... We will also verify the settings in the **Constant Surface Speed** subsection: G96 for SMM, G50 for MAXRPM...

Next, we will go to the **Turret** tab to set the **total number of tools** to 12... We'll leave the **number of tool offsets** to 9999.

Finally, we'll take a quick look at the **Registers** tab, to see a list of all the letter addresses used by the post along with their specific designation...

The **Post customization** dialog will, once again, contain *some* customization which was pre-defined in the OSP template file. The four main areas where you can apply customization are: at the **Start of the program**, **Before a toolchange**, **After the toolchange**, and at the **End of the program**.

With this, the post configuration is completed. Prior to exiting the wizard, we will select the option to **Generate** the post. This option compiles the post into the database and validates there are no conflicts in the settings... And we'll click "**Complete**".

Back to the *CAM-POST FOUNDATION Questionnaire*, let's take a look in the **Database** tab on the left pane... Notice that now there are two posts: the pre-existent HAAS\_VF1 milling post-processor, and the first version of the new turning post, OKUMA\_LB35.200;1.

Now, it is time to test the post. Click the **Start** button on the top menu bar. In the launch panel, click next to the CL file to select a turning test file produced by the CAM system. In this case, we will use a Mastercam NCI file named "2-axis\_turning"...

We'll click the **CAM** button to verify the CAM interface is set to "**Automatic**". This will tell *CAM-POST FOUNDATION* to automatically recognize the CAM interface...

Click "**OK**" to exit the CAM selection, and click "**OK**" to launch the post-processor. Note that we're running the post-processor currently loaded in memory.



The **Gener** window is launched. On the left pane, we can see the input which the post “translated” from the Mastercam NCI file. On the right, we see the output codes that are being produced by the post... Notice the output of a toolchange... We can click in any of these partitions to go one-step-at-a-time.

Let’s click the **Play** button to run the program completely... then scroll up to the top. It would be nice to have a tooling list at the beginning of the program...

No problem; without closing Gener, we return to the Questionnaire, select the **Machine Startup Macro**, scroll down through the list of built-in actions until we find a pre-defined customization item labeled **“Print Tooling Summary”**. Select and push it to the right by clicking the **“Add”** button... Then press **“OK”**...

We’ll return to Gener, rewind the process, then run the post again. Since the post is in memory, the latest changes will apply... Notice the list of tools which is extracted automatically by scanning the NCI file...

We’ll run the program to the end... Then exit Gener.

Back to the Questionnaire, let’s **Generate** the post with the new changes... The name, again, is **“OKUMA\_LB35”**.

The database will now show two versions of the Okuma post, numbered 1 and 2. We can discard the older one by right-clicking the node name of the post and selecting **“Purge”**... There is an option to rename the last revision back to 1, or leave it as it is. We’ll leave it as is, so we’ll press **“No”**. Our post is now finished and ready for production.

This concludes our video tutorial on creating a 2-axes turning post in *CAM-POST FOUNDATION*. Thank you for watching.