**GibbsCAM Post Department**
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# New Post Checklist

Dear Customer,

The Post Department at GibbsCAM wants to ensure that the first delivery of your post is as close to how you program your machine as possible, within the programming requirements of the GibbsCAM software. We do not want to force you to conform to our G-code format. ***Instead, we feel that your familiarity with your code along with your local machine representative's guidance should inform us on how to output your code.***

In order to do that, we need information from you: how you program your machine, what requirements you have, how your machine was setup, etc. Please help us ***provide you*** with a post that outputs code you recognize by ***providing us*** with the following information:

- ☐ **Post Research Document** filled out for this machine
- ☐ **Sample Program(s)** that shows all the options you want your post to support
- ☐ **Machine Specs** for this machine
- ☐ **Machine Schematics** including Working Area and Reference Positions for each axis
- ☐ **Programming Manual** from the Machine Tool Builder for this machine

With this information, we will build a post processor for you that will run your machine and that your programmer and operator will recognize immediately. When we build the post for you, here's ***our commitment***: that with the format in your sample G-code, and the information found in the programming manual, we will deliver a working post, and fix any errors or format deviations for free.

In order to provide you that guarantee, we also need a ***commitment*** from you: that the information you provide is factual and complete; that it represents everything you need to run your machine.

After we deliver the post to you, any changes that may be requested will have to be evaluated against the original information provided. If the change deviates from the original information, then ***a fee may be imposed in order for us to change the post.***

| Agreed to by | Commited to by |
|---|---|
| | The Gibbscam Post Department Team |
| Customer Contact Name | GibbsCAM Post Department |

We look forward to working with you on this post processor project. If you have any questions or concerns, please contact us at post@gibbscam.com.

# Post Processor Research for Milling

Please fill out all pages that pertain to your post processor so that your post is accurate. If it is available, any schematics and other machine documentation can be very helpful and may be all that is required.

## GENERAL INFORMATION: Required

- ☐ 1. Customer Info
- ☐ 2. Post Info
- ☐ 3. Machine Specs

## POST OPTIONS: Only fill out options you need.

- ☐ 4. Rotary Table
- ☐ 5. Rotary Head
- ☐ 6. Additional Linear Axes
- ☐ 7. Right Angle Head and Swivel Head

# Post Research Document - MILLING

GIBBSCAM

## 1 Customer Info

### GENERAL CUSTOMER INFO

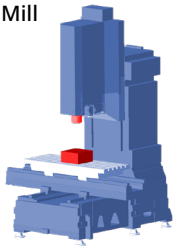
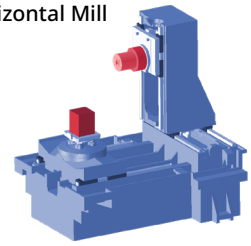
| | |
|---|---|
| Company Name: | Location: |
| Contact Person: | Contact Phone: |
| Email Address: | Date: |

### GENERAL MACHINE INFO

| | |
|---|---|
| Machine Make and Model: | |
| Machine Build Year: | Serial#: |
| Control Make and Model: | Software Version: |

Does your machine have rotary axes?

- ☐ NO
- ☐ A-axis (rotates around X-axis)
- ☐ B-axis (rotates around Y-axis)
- ☐ C-axis (rotates around Z-axis)
- ☐ Rotating Head
- ☐ Rotating Table

| | |
|---|---|
| Does your machine support additional linear axes? ◯ YES ◯ NO | Does your machine support swapping heads? ◯ YES ◯ NO |
| Machine Orientation: ◯ Vertical Mill  | ◯ Horizontal Mill  |

### GIBBSCAM OPTIONS

What GibbsCAM version will you use with this machine?

What GibbsCAM options should the new Post Processor support?

- ☐ Tombstone Management System
- ☐ 5-Axis Simultaneous Cutting
- ☐ Eccentric/Elliptical Turning
- ☐ Broaching
- ☐ GibbsCAM Probing
- ☐ Head Changing (swappable heads)

# 2 Post Info

## UTILITY OPERATIONS

Will you need the ability to program any Utility Operations, such as Tailstocks or Quills?
If so, please enter the names of the Utility Operations you will need, separated by commas.

## EXISTING POST AS EXAMPLE

Do you have an existing GibbsCAM post that should serve as an example of how you want the new post to output?
If so, please enter the name of the Post below.

*(NOTE: All new GibbsCAM posts are made from the latest template. We will not modify an existing post.*
*Instead, we will make sure that the new post outputs in a similar way to the existing post.*

## OUTPUT OPTIONS

Which Output Modes will your post need to support? *(Post Department may need to contact you for additional information.)*
(Check all that apply)

- ☐ Multiple WFOs (G54-G59, G505-G599.Cycle 247)
- ☐ Workplanes (G68.2, Cycle 800, Plane Spatial)
- ☐ Dynamic Work Fixtures (G54.2, CALL 0088, G254)
- ☐ TCP (G43.4, TRAORI, M128)
- ☐ 3D CRC (Tool Tip) Adjustment

## SUB PROGRAM MANAGEMENT

Sub Program:

How does the post call a Sub Program?

- ◯ Sub Program:
- ◯ Sub Routine:
- ◯ No Subs:

Sub Location must be:

- ◯ Below the main program in the same file
- ◯ In a separate file

By default we increase the Number from the Main program:

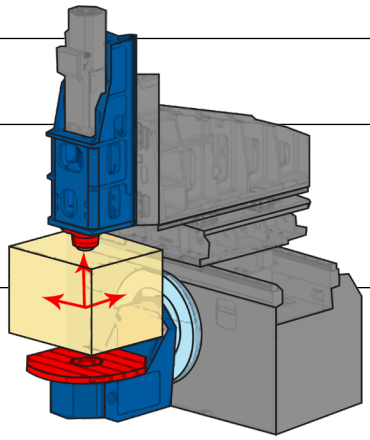
- ◯ Use the default (increase Subs by 1 from the Main program)
- ◯ Start numbering from:

# 3 Machine Specs

## MACHINE SPECS

Distance from the center of table in each direction [mm.]:

X-axis: Y-axis: Z-axis:



Linear axes: Specify what moves when the axis is moved?

| | | |
|---|---|---|
| X-Axis: | ◯ Tool | ◯ Part |
| Y-Axis: | ◯ Tool | ◯ Part |
| Z-Axis: | ◯ Tool | ◯ Part |

Minimum and Maximum travel distance for each axis [mm.]:

| | | |
|---|---|---|
| X-axis: | Minimum | Maximum |
| Y-axis: | Minimum | Maximum |
| Z-axis: | Minimum | Maximum |

## MILLING SPINDLE

Speed [in RPMs]: Minimum Maximum

Tool holder type and size [HSK, CAT40]:

| | |
|---|---|
| Number of tool positions: | Tool changing time [Seconds from tool to tool]: |

Maximum cutting feedrate [mm./minute]:

| | | |
|---|---|---|
| X-axis: | Minimum | Maximum |
| Y-axis: | Minimum | Maximum |
| Z-axis: | Minimum | Maximum |

Rapid feedrate [mm./minute]:

| | | |
|---|---|---|
| X-axis: | Minimum | Maximum |
| Y-axis: | Minimum | Maximum |
| Z-axis: | Minimum | Maximum |

## COOLANT OPTIONS

| Name | On | Off |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

**Example**

| Name | On | Off |
|---|---|---|
| 1 Flood | M8 | M9 |
| 2 Thru Spindle | M7 | M9 |
| 3 Pulse | M25 | M28 |

# 4 Rotary Table

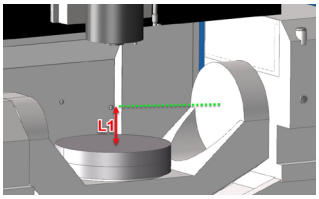
☐ **YES, this post needs to support a Rotary Table. If NO, please skip this page.**

NOTE: If you provide Schematics for your Rotary Table or Indexer, please skip the rest of this page.

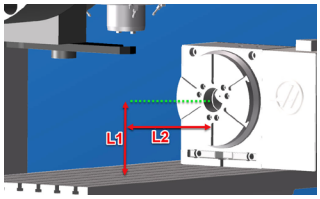
Some machines orient the rotating axes by either the part or the tool. Some machines have these rotary axes on the table, or on the tool, or on both simultaneously. Your Post Developer needs additional information on which linear axes the rotary axes rotates around, the distance from the table to the center of rotation, and the direction of the positive direction.

1. My Rotary Axes rotate along the (choose all that apply):
   - ☐ A-axis (rotates around X-axis)
   - ☐ B-axis (rotates around Y-axis)
   - ☐ C-axis (rotates around Z-axis)

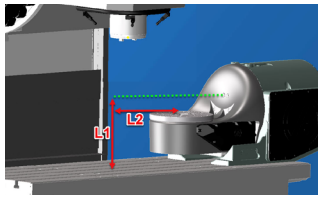
2. Type of Rotary Table (Choose a, b, or c):




◯ 2a. Integrated 5-axis rotary axes
L1: Distance from top of table to center of rotation:
L1 (in mm.):




◯ 2b: Bolt on 4-axis table
L1: Distance from top of table to center of rotation:
L1 (in mm.):
L2: Distance:from center of table to location of 4th axis:
L2 (in mm.):




◯ 2c: Bolt on 5-axis table
L1: Distance from top of table to center of rotation:
L1 (in mm.):
L2: Distance from center of table to location of 5th axis:
L2 (in mm.):

3. When looking from the positive side toward the negative direction, a positive angle rotates which direction?

| | | |
|---|---|---|
| A-axis: | ◯ Clockwise | ◯ Counterclockwise |
| B-axis: | ◯ Clockwise | ◯ Counterclockwise |
| C-axis: | ◯ Clockwise | ◯ Counterclockwise |

4. Many machines have limits on the rotary axes.
Enter this limit for each axis (e.g. A90° to A-90°). If the axis of rotation has NO limit, leave this field empty.

| | | | | |
|---|---|---|---|---|
| A-axis: | Min. | ° | to Max. | ° |
| B-axis: | Min. | ° | to Max. | ° |
| C-axis: | Min. | ° | to Max. | ° |

5. What is the Maximum Rapid Rate and Cutting Feedrate for your rotary axes [°/minute]?

| | | | | |
|---|---|---|---|---|
| A-axis: | Max. Rapid Rate | ° | Max. Cutting Feedrate | ° |
| B-axis: | Max. Rapid Rate | ° | Max. Cutting Feedrate | ° |
| C-axis: | Max. Rapid Rate | ° | Max. Cutting Feedrate | ° |

6. Do you use M<codes> to clamp the rotary axes?
   - ◯ NO, I do not have or do not want to use rotary clamping codes.
   - ◯ YES. Please using the following Clamping Codes for my machine:

| | | |
|---|---|---|
| A-axis: | On: | Off: |
| B-axis: | On: | Off: |
| C-axis: | On: | Off: |

# 5 Rotary Head

☐ **YES, this post needs to support a Rotary Head. If NO, please skip this page.**

NOTE: If you provide separate Schematics for your Rotary Head or Indexer, then please skip the rest of this page.

Rotary axes assigned to linear axes:

- A (rotates around the linear axis X)
- B (rotates around the linear axis Y)
- C (rotates around the linear axis Z)

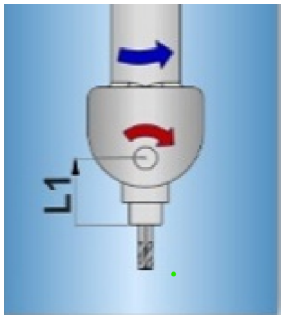
## ROTARY AXES ON HEAD

Choose one of the machine heads below and enter the measurement indicated:

◯ Head

L1 [in mm.]:

A-Axis:
B-Axis:
C-Axis:

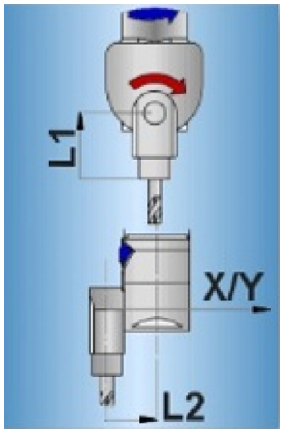



◯ Orthogonal Head

L1 [in mm.]:

L2 [in mm.]:

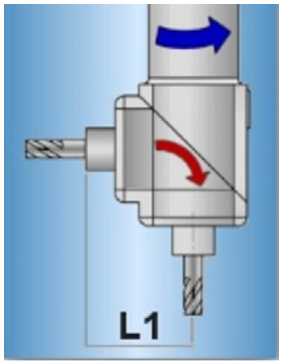
A-Axis:
B-Axis:
C-Axis:




◯ Head 45°

L1 [in mm.]:

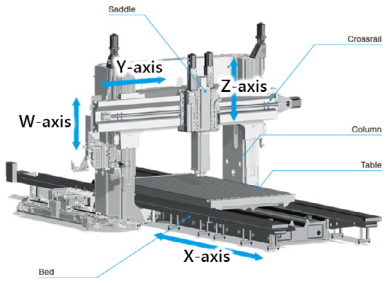
A-Axis:
B-Axis:
C-Axis:

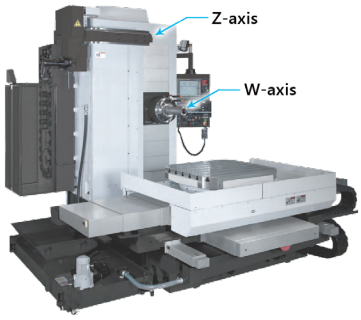


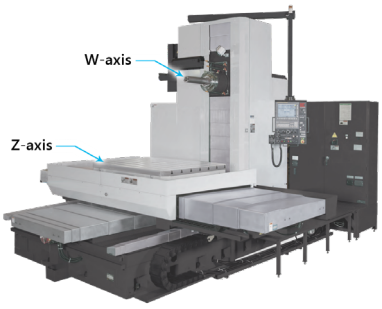
# 6 Additional Linear Axes

☐ **YES, this post needs to support Additional Linear Axes. If NO, please skip this page.**

Typical machines support up to 5 axes (XYZ ABC), but some support additional axes, like a W axis for a Quill, or a U-axis for a Head. Here are some examples:




1. What additional axes does your machine support?

| | | |
|---|---|---|
| Label: | ◯ Linear | ◯ Rotary |
| Label: | ◯ Linear | ◯ Rotary |
| Label: | ◯ Linear | ◯ Rotary |

2. Additional axes on machine are sometimes used for cutting, and sometimes only used for positioning. Can your machine cut with this additional axis?

◯ NO, it is only used for Positioning or Parking the axis.
◯ YES, my machine can cut while interpolating this axis.

3. What is the maximum cutting feedrate and maximum rapid rate for your additional axes [°/minute]?

| | | |
|---|---|---|
| Label: | Cutting Feedrate: | Rapid Rate: |
| Label: | Cutting Feedrate: | Rapid Rate: |
| Label: | Cutting Feedrate: | Rapid Rate: |

4. What is the distance of any additional axis/axes from the Home position to the table?

| | |
|---|---|
| Label: | Distance to table [in mm.]: |
| Label: | Distance to table [in mm.]: |
| Label: | Distance to table [in mm.]: |

5. What is the Minimum and Maximum travel distance of your additional axes [mm.]?

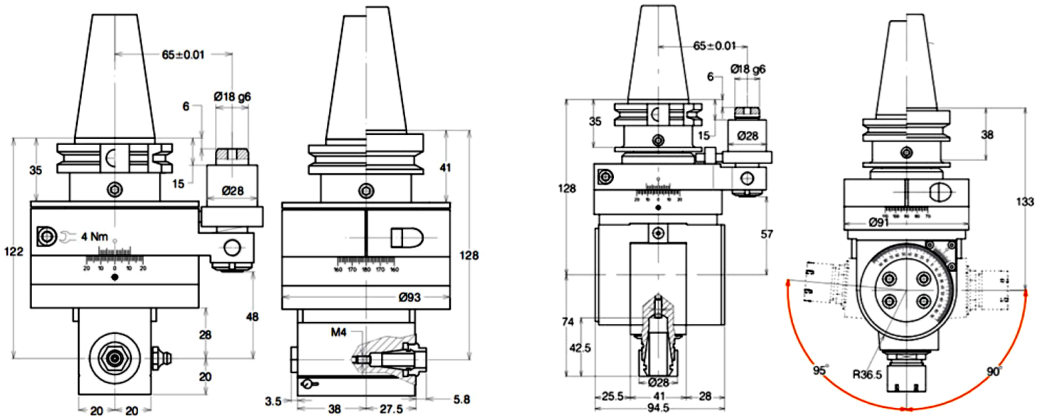
| | | |
|---|---|---|
| Label: | Minimum | Maximum |
| Label: | Minimum | Maximum |
| Label: | Minimum | Maximum |

# 7 Right Angle Head and Swivel Head

☐ **YES, this post needs to support a Right Angle Head. If NO please skip this page.**

REQUIRED: Please include schematics of the Right Angle Head
REQUIRED: Please provide sample g-code of Right Angle Head in cutting operations
REQUIRED: Please answer all questions below for an accurate display in GibbsCAM

GibbsCAM supports Right Angle Heads as a Toolblock. Here are examples of Right Angle Heads:




1. When the RAH tool block is mounted on your tool spindle, which direction is the tool pointed?
   - ◯ Towards the X+ direction
   - ◯ Towards the X– direction
   - ◯ Towards the Y+ direction
   - ◯ Towards the Y– direction

2. Does your Right Angle Head swivel, allowing you to orient the tool in different directions?
   - ◯ NO
   - ◯ YES. If Yes, is the direction of orientation programmed through the g-code or is it manual?
     - ◯ Manual
     - ◯ Programmable

3. Many controls do NOT have an X or Y offset register for tools; this means that the operator cannot enter in the geometry offsets for a Right Angle tool, and the output must be to the gage line of the tool spindle.
   Can your machine's control support XY geometry offsets for your Right Angle tool?
   - ◯ NO. My output needs to be to the gage line of the tool spindle.
   - ◯ YES. My output needs to be to the tool tip of the Right Angle tool.