Arc Bug Corrected (Between CamBam 0.9 and Mach3), version 1.0

By R. G. Sparber

Copyleft protects this document.¹

Background

Please refer to <u>http://rick.sparber.org/ARC.pdf</u> for an explanation of arcs defined in G-code. Pay special attention to page 10 where I deal with the conflict between G90 and G91.1 as processed by Mach3.

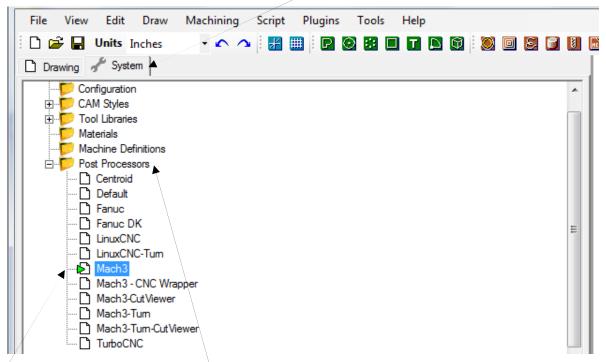
Conclusion

By making a small change to your CamBam post processors, G90 and G91.1 are placed on separate lines and no longer conflict. Failure to do this can cause the arc function to act in unwanted ways as it is interpreted by Mach3.

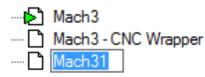
¹ You are free to distribute this article but not to change it.

The Procedure

Start CamBam 0.9. Then click on the System tab.



Find the Post Processors file. If there is a "+" in front, click it and you should see "-" and a list of possible post processors. The one with the green triangle is your default. Note that Mach3 is my default. If your default is not outlined in blue, click on it.



Then hold down the Ctrl button and press "C". Let go. Next hold down the Ctrl button and press "V" and let go. You should then see a copy of your default post processor with a "1" on the end. Type the name of

your new post processor and then press Enter.

Mach3
Mach3 - CNC Wrapper
Mach3 - corrected header
I called mine "Mach3 - corrected header"

| — ∐ Macn3 | - CINC VVrapper | _ | |
|-----------|--------------------|---------|---|
| | Set as defa | ult 🖣 👘 | - |
| 🗋 Mac | New post processor | | |
| 🗅 Mad | Save | | |
| Basic | Reload | | |
| | Cut | Ctrl+X | |
| | Сору | Ctrl+C | |
| | Paste | Ctrl+V | |
| • | Delete | DEL | e |
| | Rename | |) |

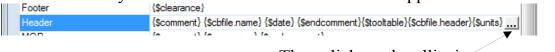
Right click on the new post processor and click on "Set as default".

The green triangle should then show to the left of the name.

Now we can safely modify our copy without risking damage to the original post processor.

| Mach3- corrected header Mach3-CutViewer Mach3-Tum Mach3-Tum-CutViewer Mach3-Tum-CutViewer TurboCNC | With the new post processor selected, look in the window below it and find the "Header" entry. |
|---|--|
| 2↓ Basic I | |
| 🖃 (Main) | |
| End Cut | |
| Footer {\$clearance} | |
| Header < {\$comment} {\$cbfile.name} {\$date} {\$e | iendcomment} |

Click anywhere on the Header line to see this appear.



Then click on the ellipsis.

| z | EditText [{Scomment} {Scbfile.name} {Sdate} {Sendcomment} {Stooltable} {Scbfile.neader} {Sunits} {Sdistancemode} {Sarccentermode} {Svelo- {Stoolchange(first)} {Sclearance} } |
|---|--|
| | Cancel OK |
| - | <pre>EditText EditText EditText EditText EditText EditText Escontent {ScoptibleBace} {ScoptibleBacePaceWoold ScoptibleBaceWoold StopltAnage(first)} {Sclearance}</pre> |
| | ۲ |

Up pops a window that lets us modify the header.

Locate the space between {\$distancemode} and {\$arccentermode}. Click in this space and then press Enter.

{\$arccentermode} should now start a new line. You may need to press Backspace to remove any blanks.

Press OK.

All that is left is to use the new post processor. New work will pick up the corrected post processor because it is now the default. But current files will need to have their post processor changed:

| File View Edit Draw | Machining Script Plugins Tools | ; Help | | |
|----------------------|--------------------------------|-----------|---------|-------------------------|
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| 🖃 🎔 SN 00001 | | | | click on Machining. |
| E-15 Default | | | | \mathcal{B} |
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| | | Default | | post processors |
| Tool Diameter | | Fanue | | should come up. |
| | | Fanue DK LinuxCNC | | - |
| Tool Library | | LinuxCNC-Tum | | Click on the one you |
| Tool Number | | Mach3 | | • |
| Tool Profile | | Mach3 - CNC Wrapper Mach3 - corrected header Mach3-Cut Viewer | | just created. |
| Post Processor | | Mach3-Tum | | * |
| | uitiona ora b | Mach3-Tum-CutViewer | | |
| Post processor defin | nuons can b | LINDOCINC | | |

| | Post Processor | | |
|--|-----------------------|-------------------------|--|
| | Post Processor | Mach3- corrected header | |
| | Post Processor Macros | | |

In my case, I selected "Mach3- corrected header".

I tested this change by generating some G-code:

(T0 : 0.0) G20 G90 G91.1 G64 G40

Now G90 and G91.1 are on separate lines!

Acknowledgments

Thanks to kvon and EddyCurrent of the CamBam Forum for showing me how this is done.

I welcome your comments and questions.

If you wish to be contacted each time I publish an article, email me with just "Article Alias" in the subject line.

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