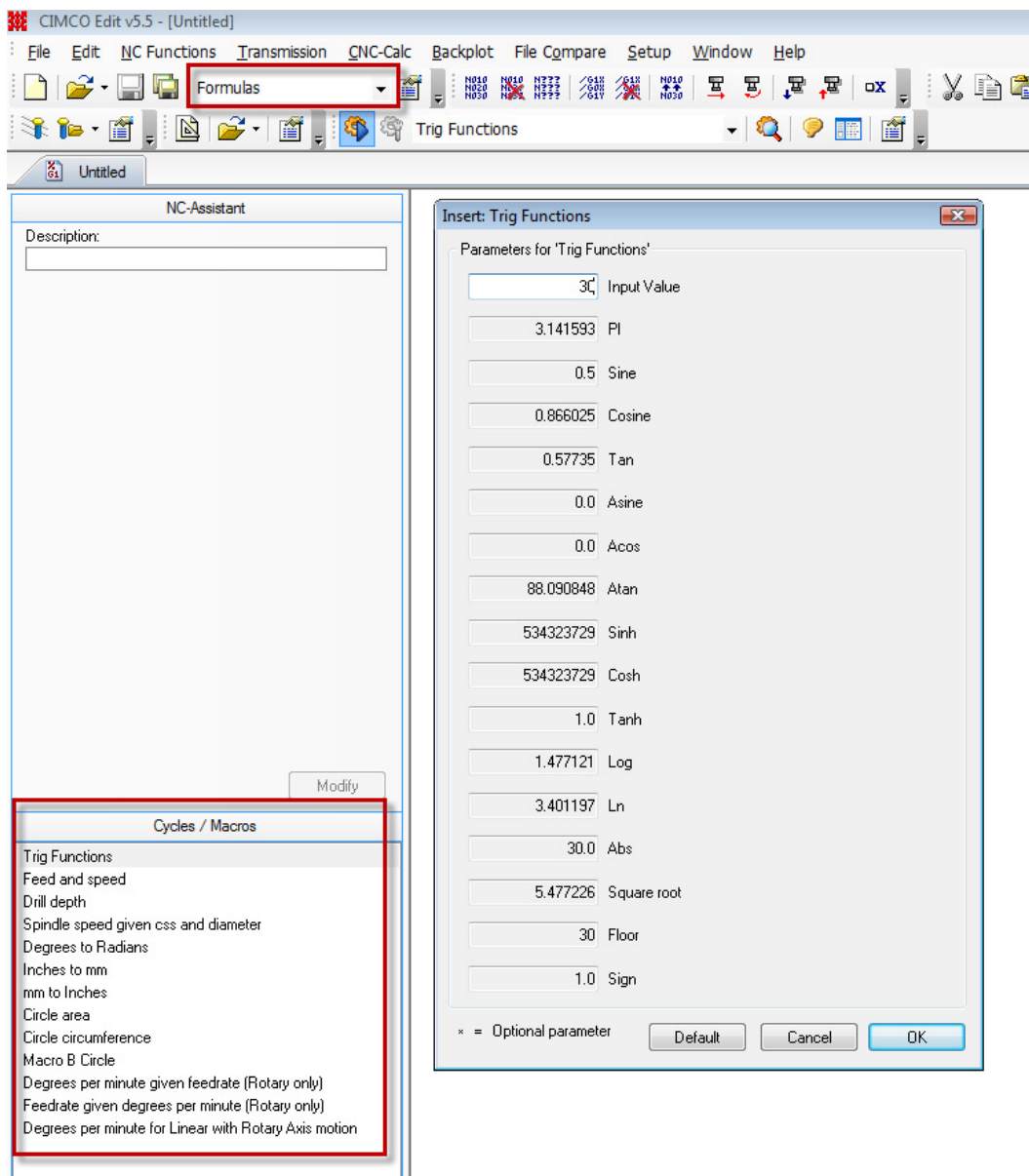


## Formulas in Macros

CIMCO Edit5 Professional can now calculate and output values based upon a user input value. This has many uses and increases the power of the macro function.

Please copy Formulas.mac to C:\cimco\cimcoedit5\types. Start CIMCO Edit5 and select Formulas in the drop down list



The formulas are used much the same as variables, and are called @N as opposed to \$N, and allow the same formatting. To add a formula, enter the macro setup and press the “Add Formula button”. Build your formula inside the {}

Example of Circle area calculation

@2{\$1\*\$1\*PI}

This Formula takes the user input value \$1 and multiplies it by itself and then multiplies it by Pi.

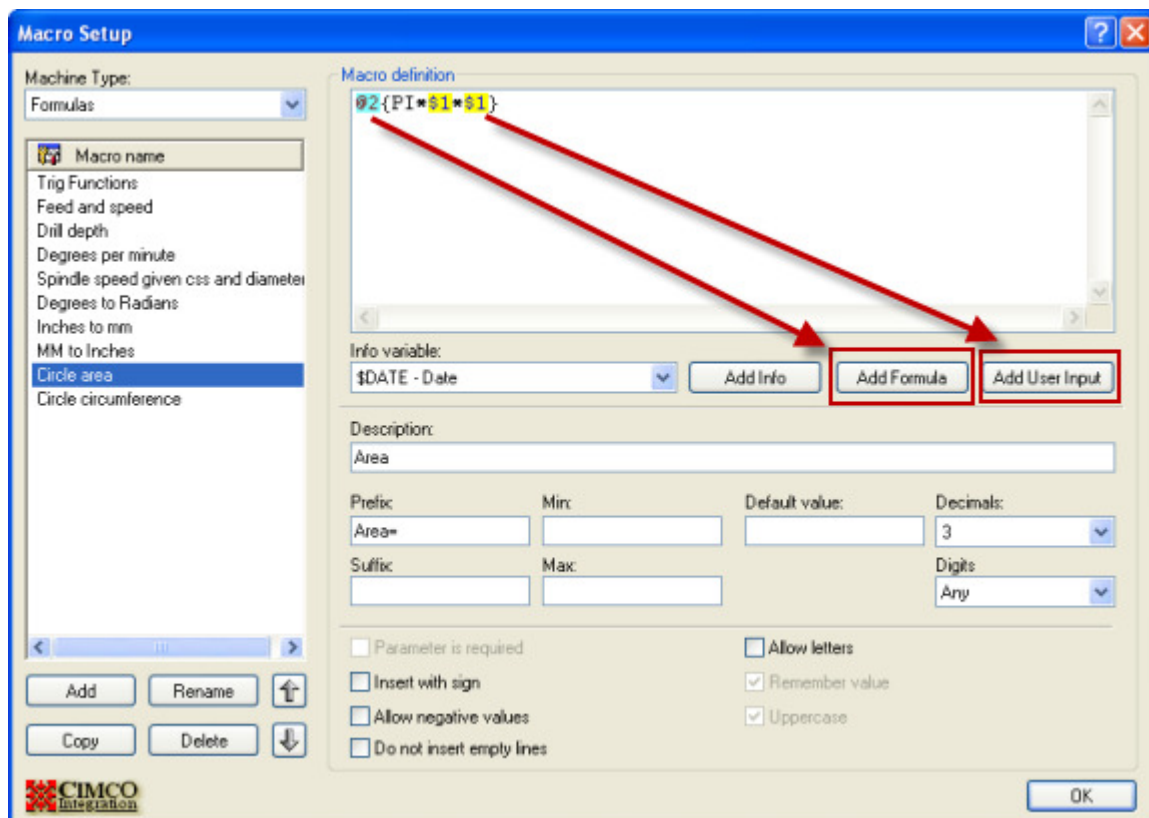
The formulas supports \* / + - % (for modulus), nested expressions using () and the following trigonometric functions: abs,acos,asin,atan,cos,cosh,floor,ln,log,sign,sin,sinh,sqrt,tan and tanh.

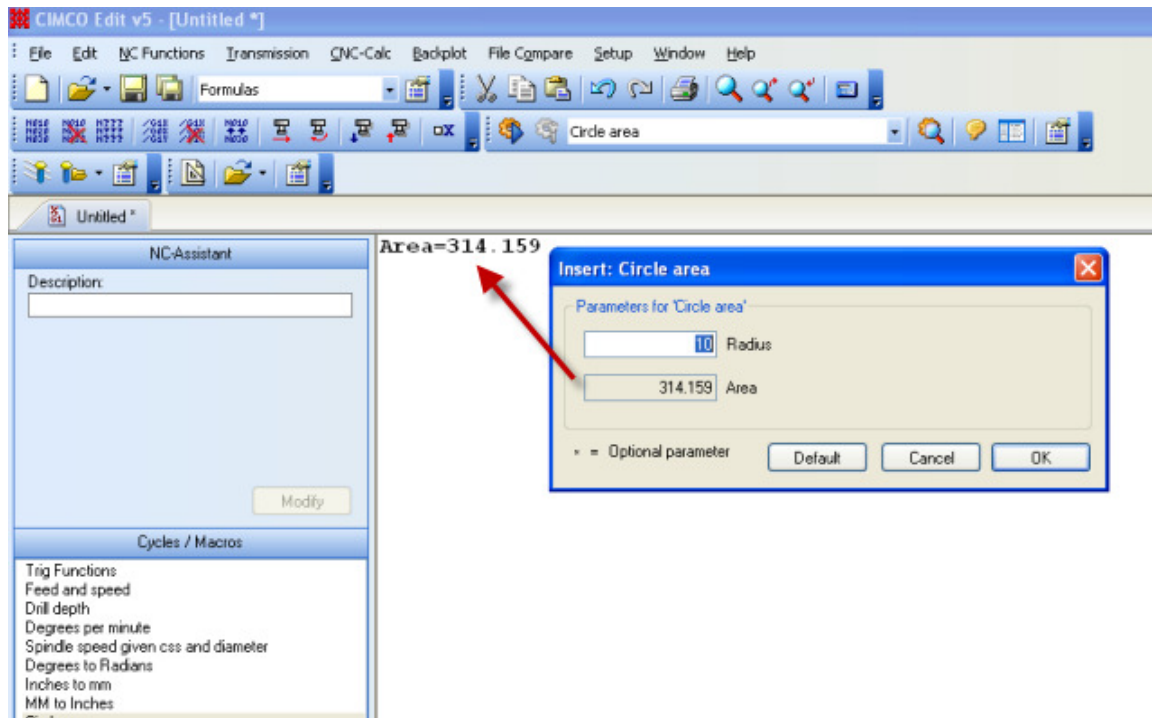
PI can be used instead of entering 3.1415.

Angles are in degrees

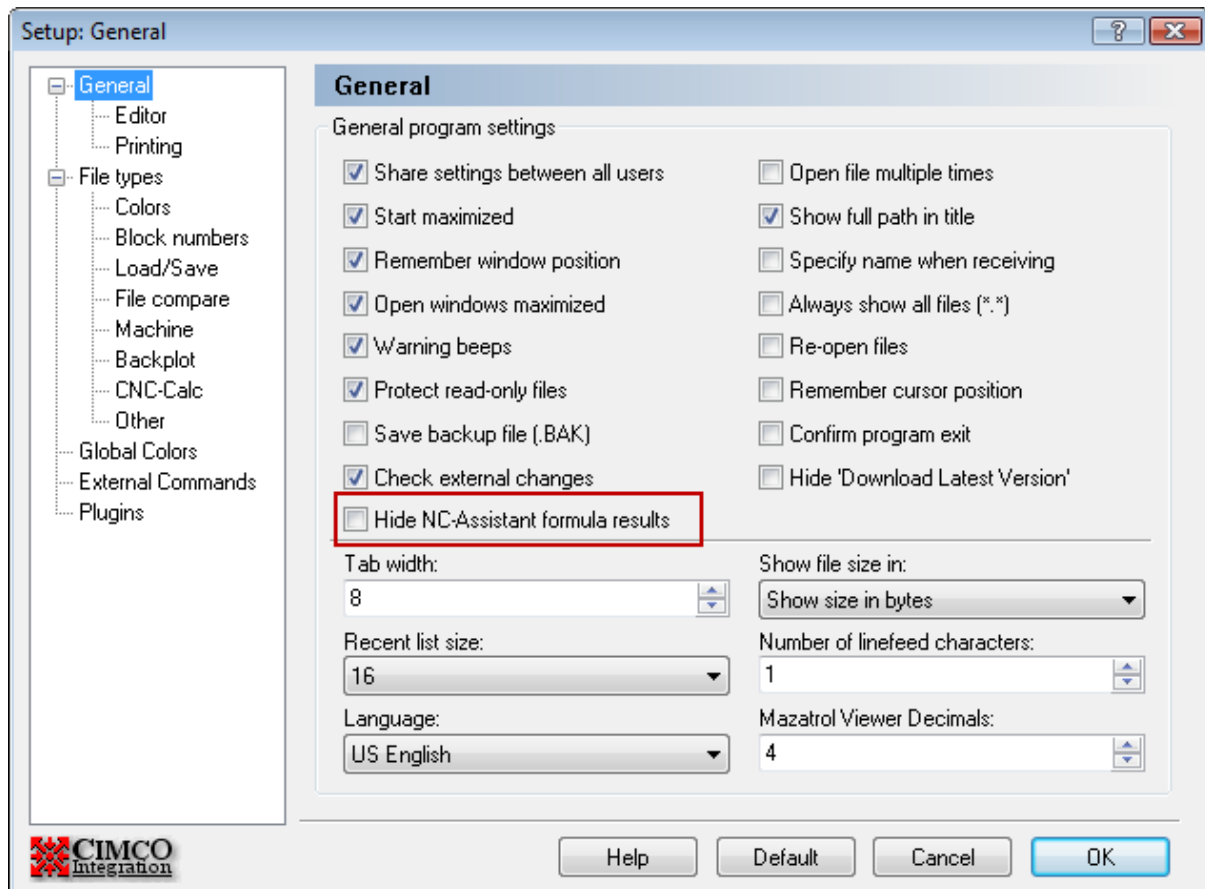
**Please use () for the input values in the trig functions eg sin(\$1)**

If you only need to output the calculated value into the NC program include all your user input values inside the formula expression. When the Circle Area macro below is run only the @2 variable is output into the NC program

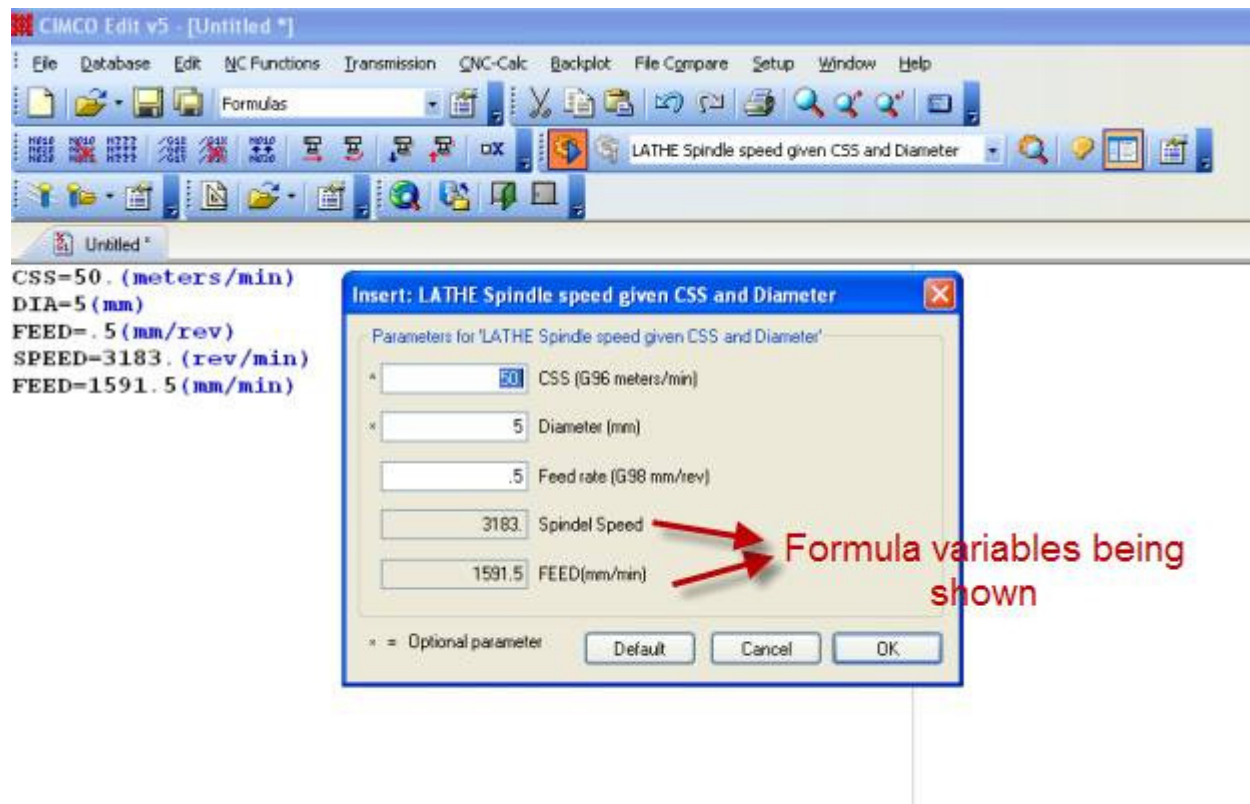




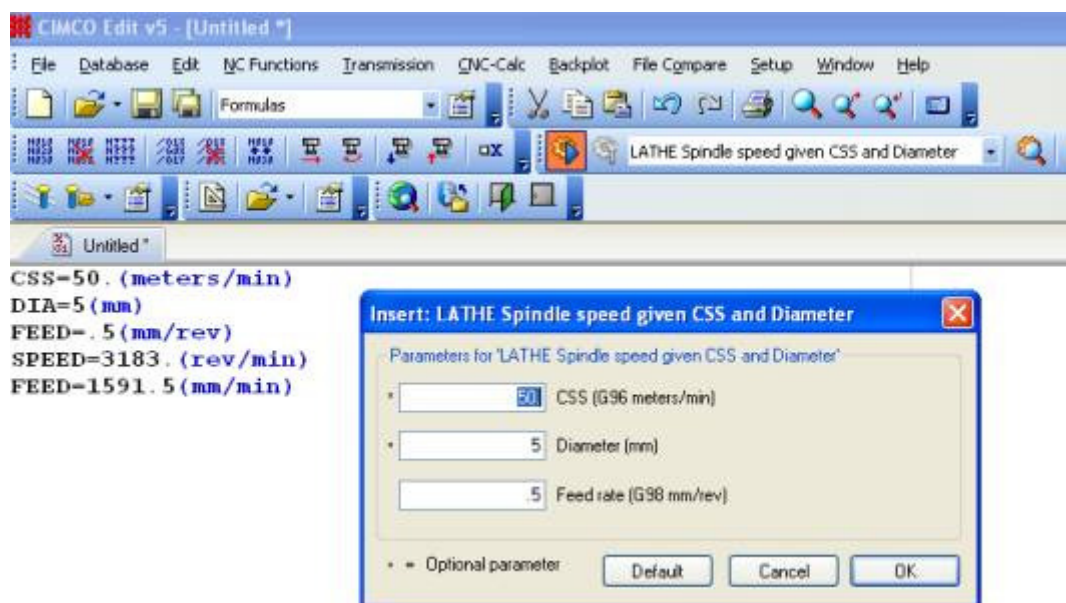
You can choose to hide the results of the calculations on the macro dialog. This is a global setting and all your macros will not show the results on the dialog



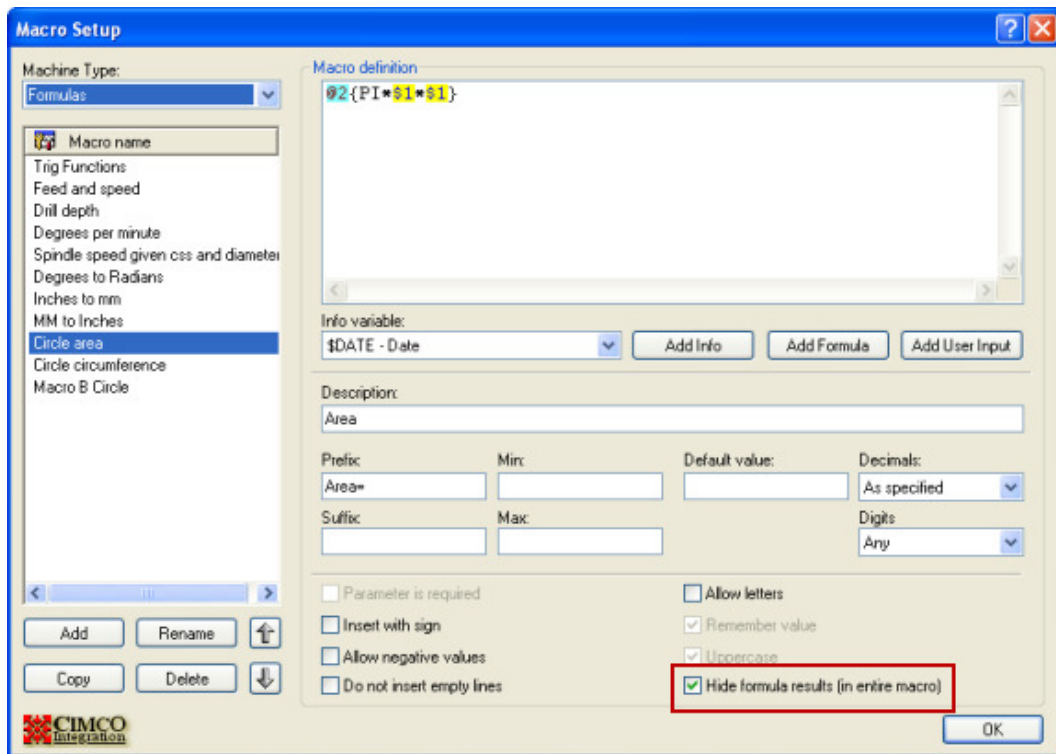
Here is a macro with the results being shown



This is the same macro without the results being shown. The output is the same in the NC file but the dialog does not show the calculated values. This can be useful if you have many calculated values in the macro.

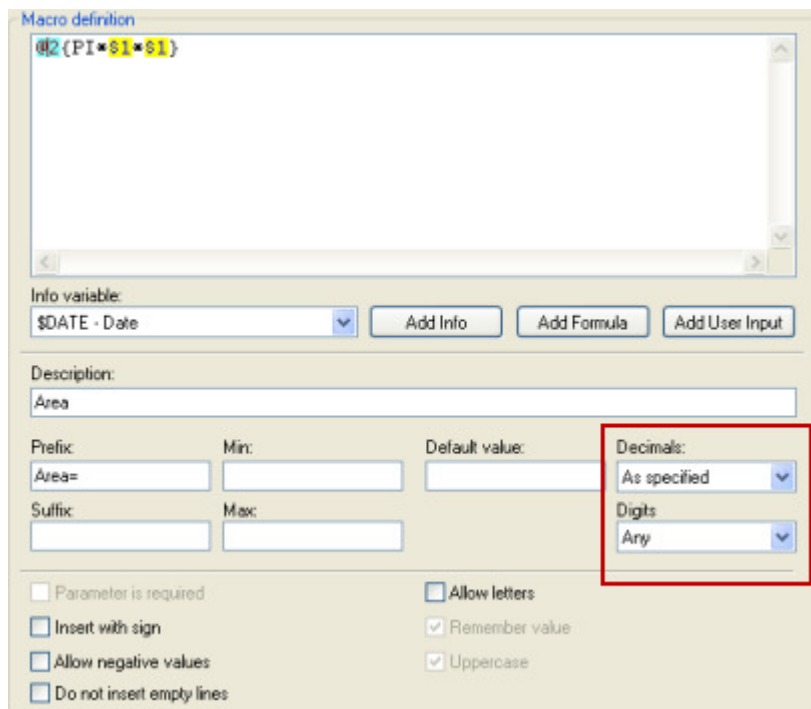


There is an option to display the formula results for each macro individually. If the “Hide NC Assistant formula result” is ticked in General settings it will override the macro setup option



### Formatting of formula values

The formatting of formula values is the same as for normal user input values



You can also select “as specified” for the number of decimals for formula values. If you enter 10 (no decimal point) as the user input the formula value will be formatted with no decimal point when it is output in the NC file. If you enter 10. (with decimal point) the formula value is output with the decimal point.

Please check the results of the formulas carefully to make sure you are getting the correct value and format.

### Outputting Fanuc macro B variables.

The macros can output any text. If you need to output a Fanuc Macro B variable eg #1 you may need to include an extra # in front of the variable. The # symbol is used by the macros to output a line number and by putting an extra # it stops the line number being output. Please see the Macro B Circle macro in the supplied file

