# A GUIDE TO SETTING UP SOFT LIMITS

BY PHIL JOHNSON

This is just one way to do it. There maybe others that are simpler, but this works.

Start

1.Launch Easel

Do you have homing activated?

If so go to step 4

If not, go to step 2

2.go to the command console. Machine->Advanced->Machine inspector.... or Ctrl+Shift+D.

3.Type "$22=1" in the console prompt and hit enter.

*If stock Z axis, make sure that $23=3 which will make the home position Z=up, X=left, and Y=front*

4.Type "$H" in the console prompt and enter to start homing sequence. (see note 1 at bottom if you want an easy, but less accurate way of finding your max travel)

5.After homing, note the machine position (not the work position) and write it down.

6.Exit the machine inspector and hit carve.

7.Use the jogging arrows to move machine to the furthest x, y position you are comfortable with.

8.Exit carve leaving the spindle all the way back and right.

9.Open the Machine inspector (ctrl+shift+D) and take note of the current machine position.

If homed position was negative and the current position is positive, (i.e. homed X= -690.00, current X= 20.000), add the two

together to get your total travel distance from home (i.e. total travel for X= 720.00mm).

If homed position was negative and the current position is still negative, (i.e. homed X= -690.00, current X= -20.000), subtract the two

numbers to get your total travel distance from home (i.e. total travel for X= 670.00mm).

If homed position was positive or close to zero (i.e. homed X= 1.00), then the current position is your total travel distance from home.

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continued

10.In the command console Type "$20=1" and hit enter. This activates soft limits. the machine will now use your $130-$132 numbers to limit

your spindle travel. If you try and jog out of bounds, it will trigger a soft limits alarm and you must close the port, reopen the port and rehome

in order to use the machine again. If you try and jog lets say 50 inches, it will actually not move at all and just alarm. you can always check

the current status in the machine inspector (ctrl+shift+D).

Now you need to set the proper max travel distance. Take the numbers you came up with in steps 4 thru 9.

11.In the console type "$130=(distance you came up for X axis)" and hit enter.

12.In the console type "$131=(distance you came up for Y axis)" and hit enter.

13.Hit the refresh button (arrows circling) and verify the changes took. if so, exit the machine inspector.

NOTE 1:

you can also just measure the distance from homed by measuring the distance from the furthest right V wheel on the carriage to the x axis

end plate and subtract a half inch for safe measures. the same with the rear most v wheel on the X axis end plate to the Y axis end plate.