

# Modifying the braking characteristics of your Cutler Hammer VFD

## First, a few words of warning...

DO NOT use the emergency-stop button for routine stopping of the lathe. It removes the power from the controller and Cutler Hammer engineers says that it is not a good thing to do with the motor running. Let the motor stop, then use the emergency stop as a main power switch. In the event of a real emergency, though, ignore this advice.

Do not even think of adding a braking resistor to the VFD. The braking of the controller is well suited to our needs and adding a braking resistor will likely result in your experiencing a chuck or faceplate spontaneously unscrewing with a heavy load or one of large diameter. There is always a risk of this happening during braking but a resistor assures that it will happen.

As shipped, the Cutler Hammer controller uses dynamic braking: it will adjust the braking to the load on the lathe. The advantage of this method is that the lathe will not free-wheel with a heavy load or one of large diameter. Many find, though, that it takes too long to slow and stop the machine when the load is light.

## Now for what you can do to change it...

The following will give you a fixed, 5 second stop time. However, if the piece is heavy the setting may cause the lathe to free-wheel.

Using the keypad on the controller and assuming that you have not used the keypad at all since power up...

In the following, '**←**', '**→**', '**↑**' and '**↓**' mean the left, right, up, down arrows on the keypad. We are going to change parameter 50.53 which is the one which selects which braking method to use.

Hit '**→**' -- will display 20. This gets us to the first page of parameters.

Hit '**↑**' until display is '50'. This is the page we need to look at.

Hit '**→**' -- will display '50.01' Displays first parameter on page 50.

Hit '**↑**' or '**↓**' until display is '50.53' -- the parameter we are going to change.

Hit '**→**' -- will display value of parameter 50.53 which will be 2.

Hit '**enter**' to indicate that we are going to change the value.

Hit '**↓**' to change it to '1'.

Hit '**enter**' again to effect the change.

The easiest way to get the display back to normal is to kill the power, let it wind down and then restart.

Restoring parameter 50.53 to a 2 will go back to the slower deceleration.