

## Instructions for Setting the Z Axis to a Zero Offset on an AC Motor

### Introduction

Setting the Z Axis for your AC Motor does not need to be difficult or require a service technician. You can complete this procedure using the simple step-by-step process described below in as little as 10-15 minutes.

### Getting Started

To ensure these instructions are effective, it is always a good idea to start the process with a clean slate; therefore, you must cold start your Fadal CNC Machine.

Begin by going into the Command Mode and typing the SV Command, and then pressing the ENTER key. This action will take you to the [X] Axis Current Survey Settings. When this screen comes up, type Z, to pull up the Z Axis screen.

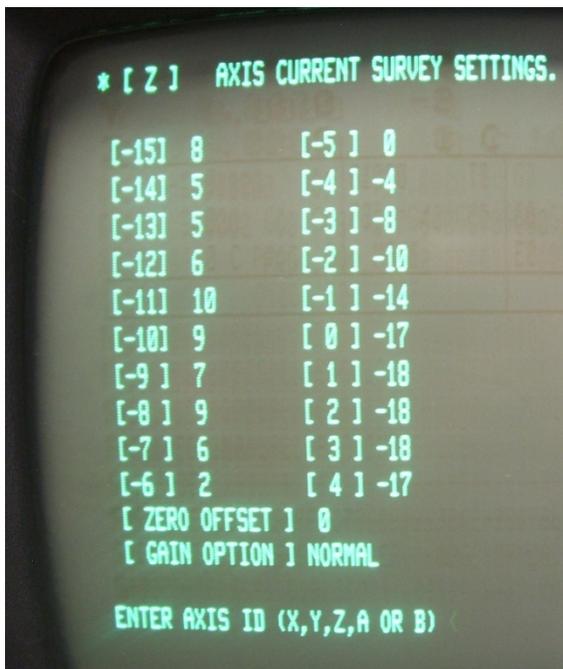


Figure 1: The [Z] Axis Current Survey Settings screen

On the [Z] Axis Current Survey Settings screen (see Figure 1), navigate down the screen by pressing the D key until you reach the ZERO OFFSET line. Once there, enter 0 [zero character], and press the ENTER key.

You will now need to exit to the Main Screen by pressing the MANUAL button. Jog the machine over as needed to line up and align your cold start marks, then enter the CS Command, and press the ENTER key.

Next, go into the Manual Data Input (MDI) Mode and load a tool into the spindle. While still in MDI, enter a M19 Command for the spindle orientation, followed by pressing the MANUAL button to escape MDI.

You will next need to enter Jog Mode. Once there, manually bring the tool changer to the spindle by pushing the upper Geneva Arm with a long screw driver at the end of the cover (or removing the cover) to get the carousel started. (see Figure 2)



Figure 2: Using a long screw driver, manually bring the tool changer to the spindle by pushing the upper Geneva Arm

Now push the carousel in by hand until the ATC clip is close to the tool holder, but not touching it. You will need to jog the Z Axis until the tool holder groove lines up with the ATC clip, and note the position on the Jog Mode screen with the correct, accompanying sign (Ex: - or +).

## Concluding Steps

Before the next step, ensure you are clear of the tool changer.

Once clear of the tool changer, exit Jog Mode, and then re-enter Jog Mode (this will send the tool changer to the home position).

Go back to the [Z] Axis Current Survey Settings screen and enter the number previously noted from the Jog Mode screen into the ZERO OFFSET line.

*[NOTE: The number entered is in .0001 of an inch, so if your position in Jog Mode was -.1320 then you would enter -1320 as an integer.]*

You will then press the MANUAL button to escape the [Z] Axis Current Survey Settings screen.

Now cold start your Fadal CNC Machine, and verify the alignment one more time manually (see Step 10) to ensure success.

If alignment is correct, you are good to go!

*[Note: The X and Y Axis are set in the same manner.]*

## Troubleshooting

If you become stuck or confused, don't panic. Simply contact us at 208.855.9426 and one of our friendly service technicians will be happy to assist you.

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*Instructions written by Austin Watts, one of the talented Service Technicians at FadalCNC.com, that puts in hundreds of hours of hands-on experience in the field each year.*