



TMC 4th Axis - Set Backlash

This guide details how to set the backlash constant procedure for the 4th Axis.

Written By: Trent Plungas



INTRODUCTION

These procedures cover the basic hardware kit installation on Step 1. Additional steps help the Factory or FST with the complete 4th Axis installation on a TMC. Here are the steps along with the Dozuki Guide References:

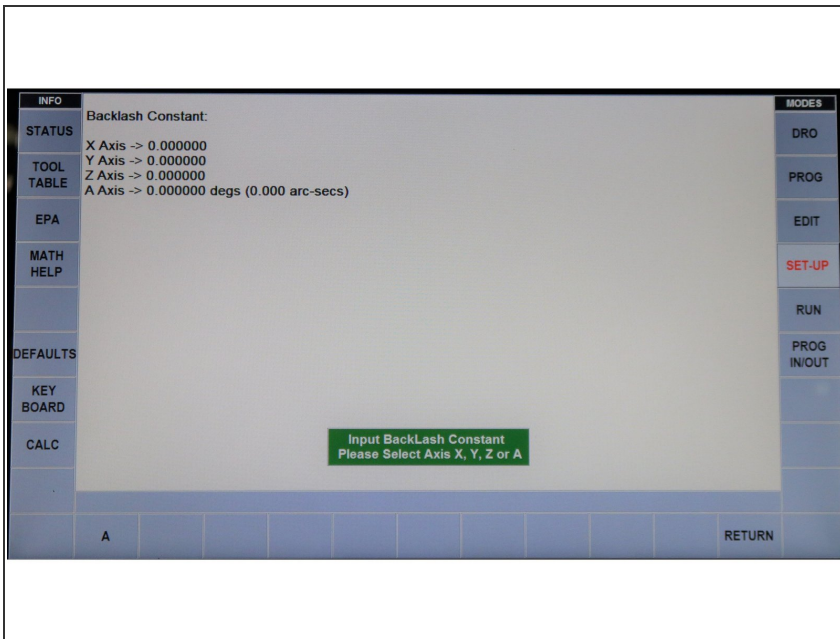
Please make sure to load software version 2.3.0 or higher prior to 4th axis installation.

1. Install on TMC - TMC 4 Axis 31538: Install Hardware "Ready Kit" & Test -- Steps 1 - 7 are the hardware "Ready Kit", Steps 8 onward start testing the hardware install when the 4th Axis unit is available.
2. Y, Z Offset, Base Tool - TMC 4 Axis 31538: FST Install & Test
3. Backlash - TMC 4 Axis 31538: Set Backlash

Reference Document:

A pdf version of drawing 31538 is attached to the end of this document. It covers the location of all items, how the parts are assembled, and the part numbers used to build the drive.

Step 1 — Overview of Code 128: Input Backlash Constant



- Service Code 128 allows you to enter a backlash compensation for each axis. The A axis backlash is to be entered in a decimal angle.

Step 2 — Mount Indicator on 4th Axis



- Mount an indicator on the 4th axis unit as shown on the left image.

Step 3 — DRO Mode and Set Zero



- Go to DRO mode and load your indicator a few thousandths or 50 microns from one direction and set zero on your indicator and on your DRO.
- It is best to use the .0001" or 0.002 mm button when using the EHW for this.

Step 4 — Rotate 4th Axis



- Rotate the 4th axis in the same direction until you see a few thousandths or 50 microns of movement on the indicator.

Step 5 — Reverse Axis and Go Back to Zero on Indicator



- Reverse the axis and go back to zero on the indicator.
- The amount of error you see on your DRO screen is your backlash.

Step 6 — Enter into Service Code 128



- Enter this into service code 128.

Step 7 — Repeat



- Now redo this procedure and make sure the DRO and indicator both come back to zero.
- Adjust as necessary.