TB0447 ZX5 Setup - X Axis Beam Calibration

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Difficulty **Medium** | Duration **30 minute(s)**

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Introduction

The ZX5 has a moveable Beam on the Z axis. The design reason behind this is to keep the gripper arm short for reliability and stiffness, yet enable it to move out of the way for rear V notching
During the calculations for the machining bar recipe, the software has to work out if and when the beam needs to be moved:

- If there are no v notches on the bar, then machine all the operations without moving the beam. Beam moves at the very end when ejecting
- If there is a V notch, move the bar during the first X axis position where position > beamStrokeLength

Therefore, it is very important for the software to know how far the beam moves physically to offset all the positions to allow for it. The distance is measured and entered into parameter beamStrokeLength. It should be around 700mm.

Step 1 - Check End sensor adjustment

The out and home sensors must be adjusted so that the "just" come on at the end of the stroke.

> ...This is important because the physical end stop position will directly affect the positional accuracy. If the end stop is not reached by as little as 0.5mm, the end stop sensor should be the fail-safe to ensure the machine stops with an alarm.

Step 2 - Run a manual bar with a datum test

Run a manual bar with a datum test at 500mm and 1200mm and a V notch at 750mm. This ensures the first datum test is done with the beam “out”, then the V notch forces the beam to move before the second hole.

Step 3 - Measure distance

Measure the distance between the datum holes. The distance should be 700mm

Step 4 - Check the difference

If the distance > 700, reduce beamStrokeLength by the difference and vice-versa