CNT Motion Series 1000 Router History

4th Owner - *Purchased In 2013*

- Original Owner Purchased In 2004 and Used Very Little
- Second Owner Purchased In 2010
  - ✓ Second Owner Sent Back To CNCT Motion for Operational Inspection and Computer Software Upgrade Before Delivery To Their Facility
  - ✓ Second Owner Used Very Little
- Third Owner Purchased in ~2012 and *Never Installed Router*
  - ✓ Remained In Warehouse
  - ✓ Never Connected to Electrical Service

CNT Motion Series 1000 Router

Issues:

- Machine 'Gets Lost' in X When Running a Program
- The Longer the Program (More Lines of G-Code), The More 'Error'
- Cummulative Error is Always in the 'X+' Direction
- Error Also Seems to be a Function of 'X' Distance From
  Either Machine Zero ('Home'/G28) or Local Zero,
  Depending Upon Whether In G90 or G92 Mode
- This Error First Manifested Itself When I Started Running Programs
  - Tool Change Positions Were The First Indication Of an Error
  - When I Began Machining Rigid Urethane Foam, the Machine
    Showed Similar Error
- If Running In Manual Mode, Tool Changes Are ***ALWAYS*** Accurate

Problem Statement

1) CNT Motion Router With WinCNC Control Software Loses Position In 'X'

2) The 'X' Error Is Realized:

    a) During The Execution Of The Program

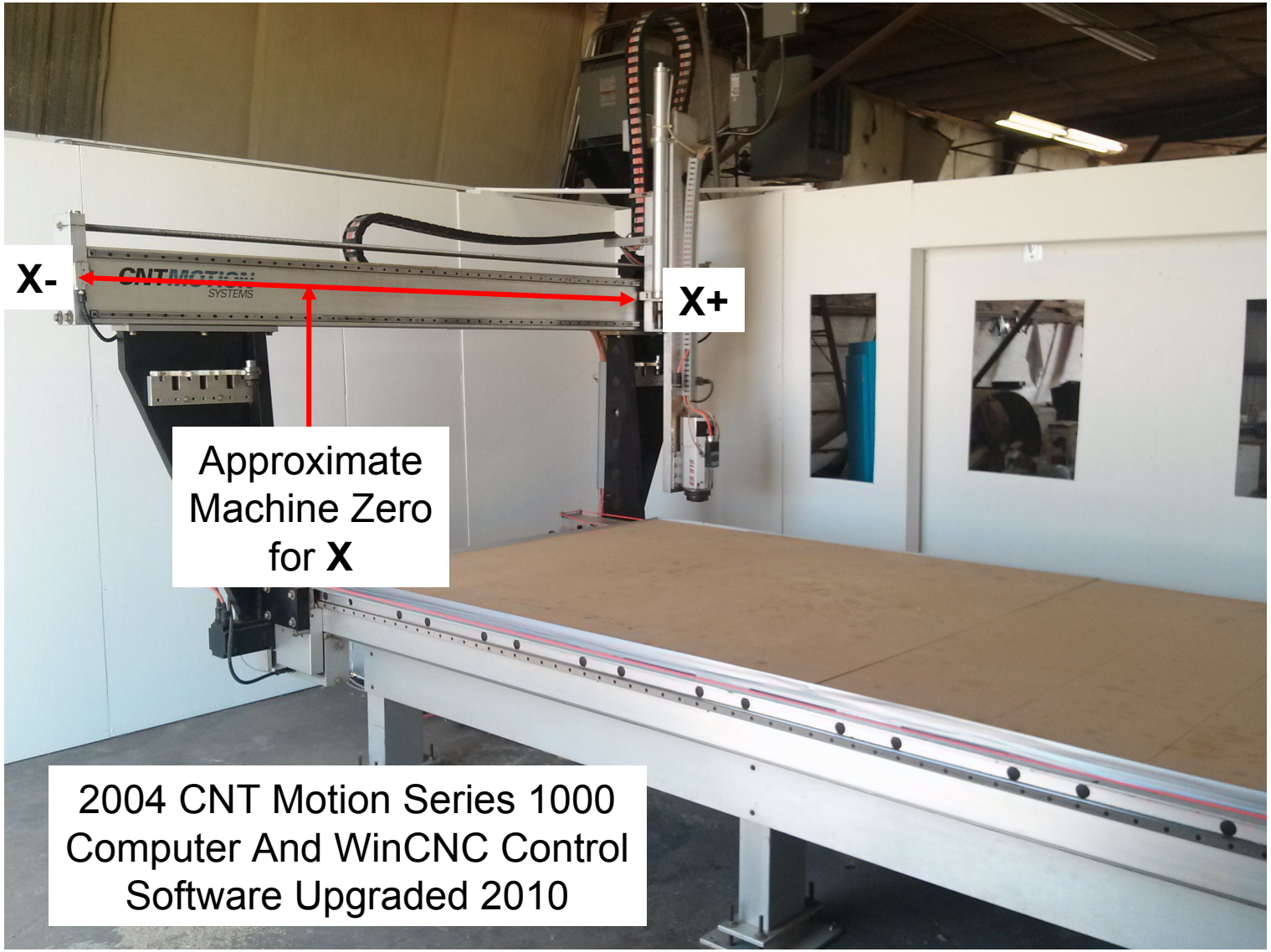
    b) At Tool Change

3) The Error Appears To Be Cumulative

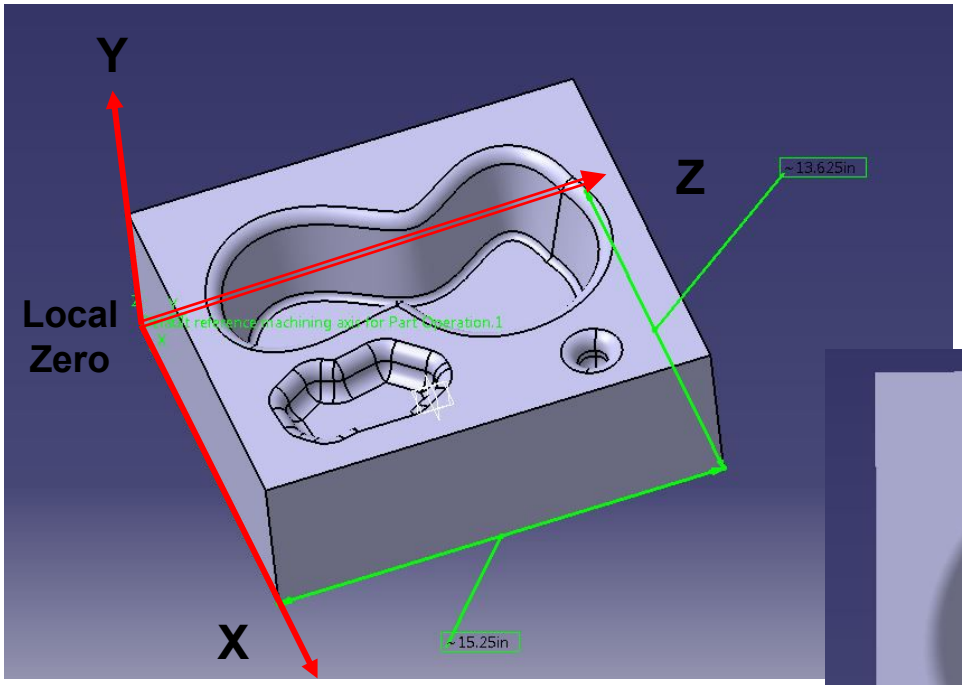
4) The Error Appears To Be A Function Of The Position Of Either

    The Local Zero, Machine Zero, or Both -- ***Don't Know!***

CNT Motion CNC Router

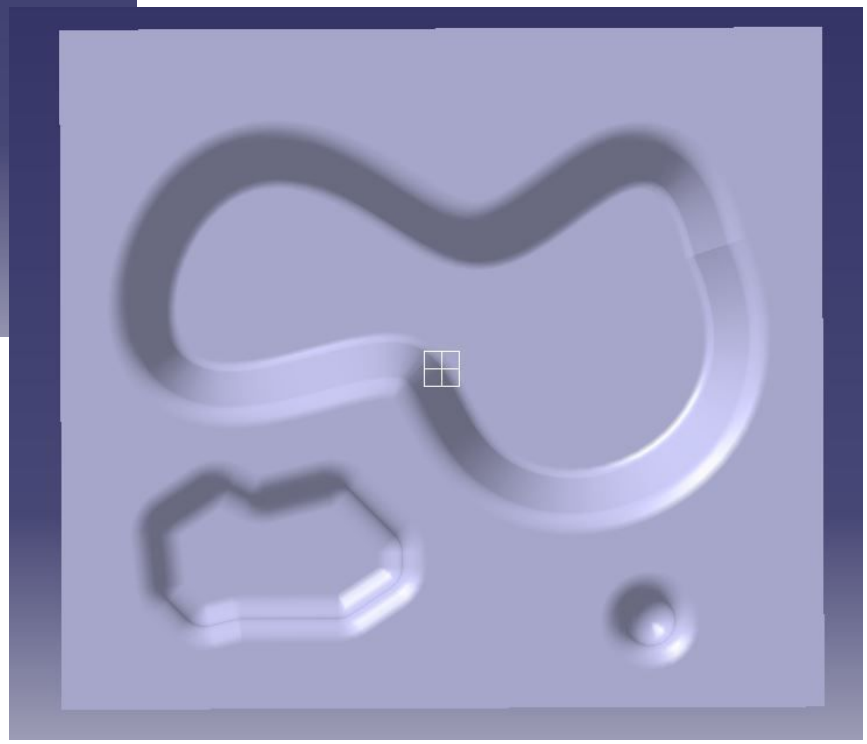


Test Block #1 Solid Model

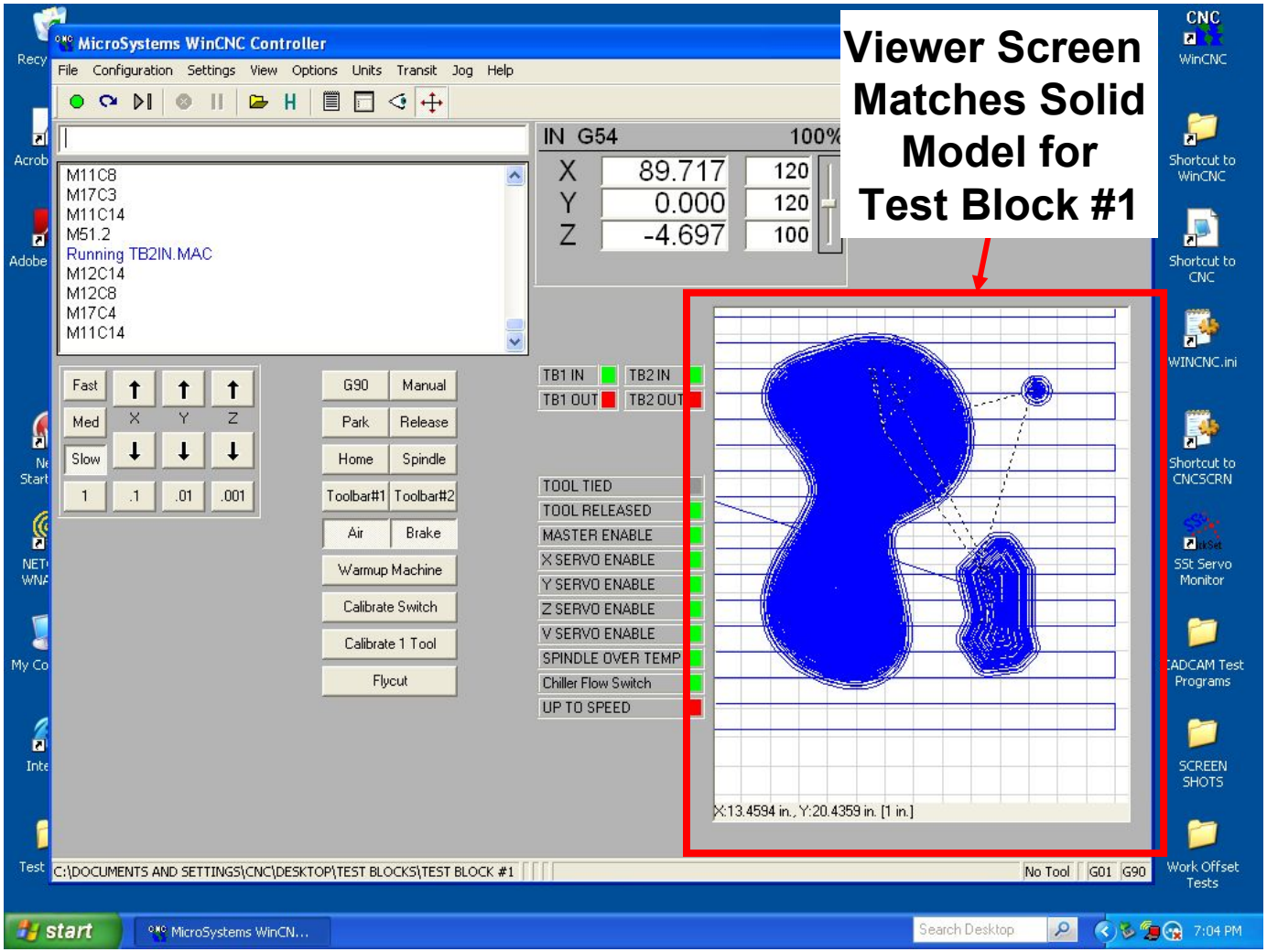


ISO View Showing
Local Zero/Work Offset

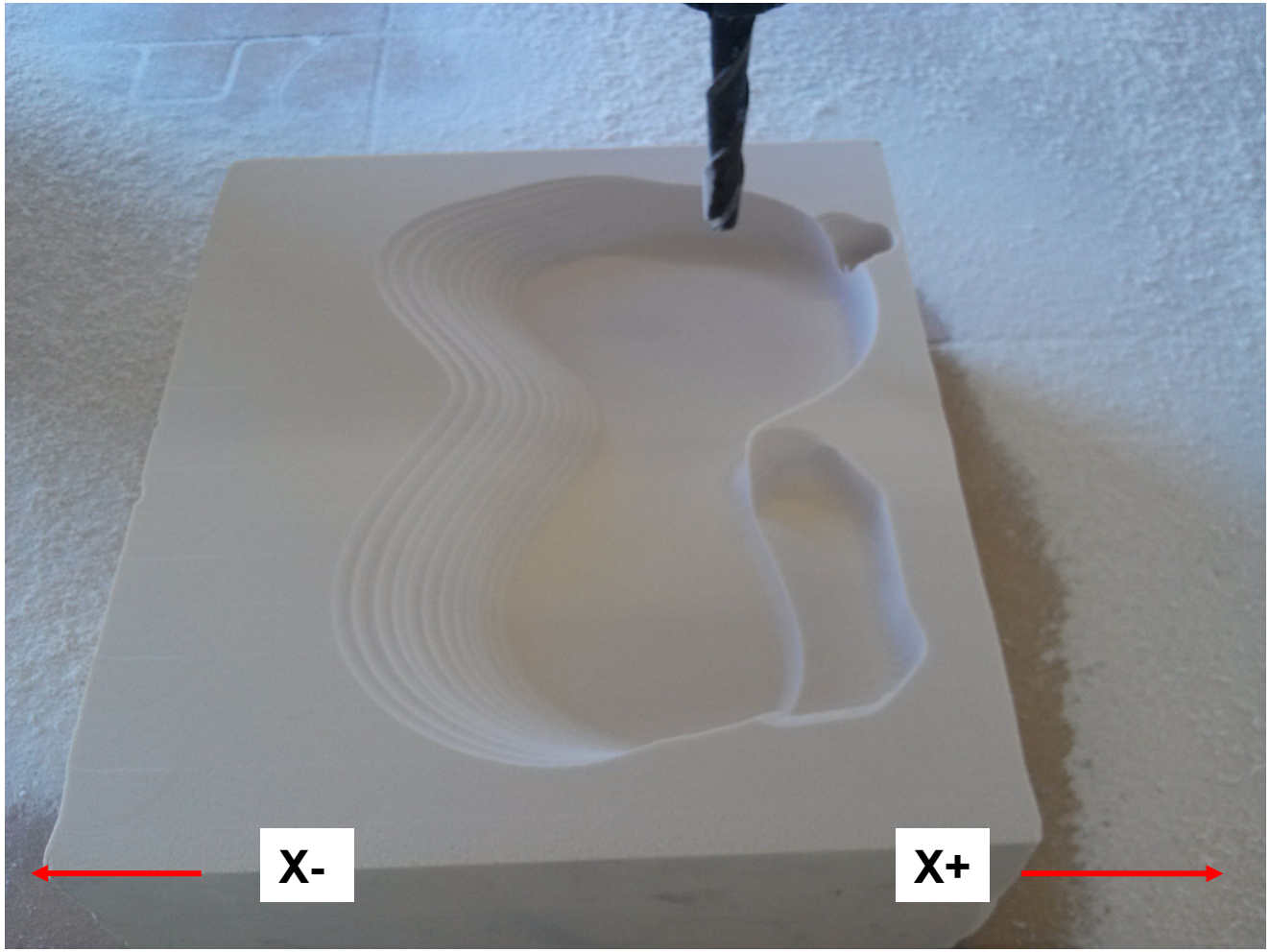
Plan-view



The Computer/WinCNC Viewer Screen Shows Proper Execution of the Program

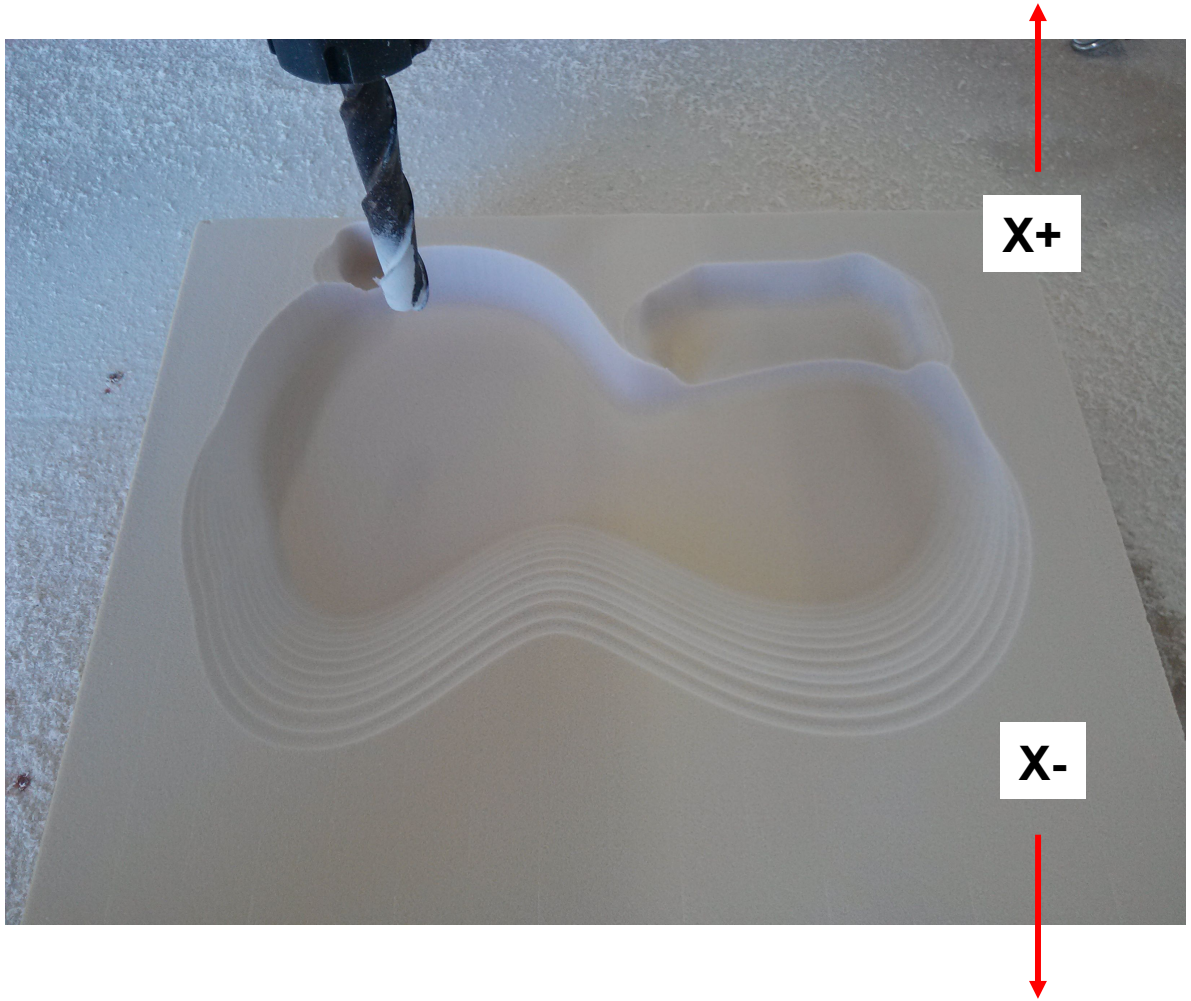


Test Block #1 During Roughing

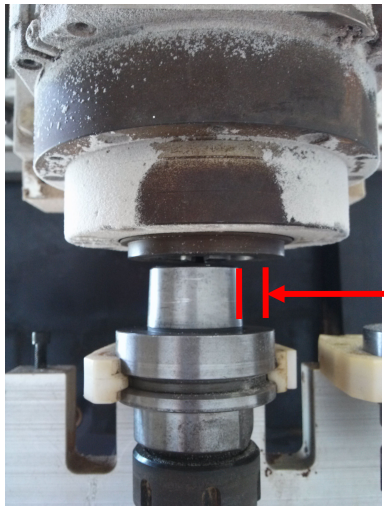


Does *NOT* Match WinCNC Viewer Image of Test Block #1!!!

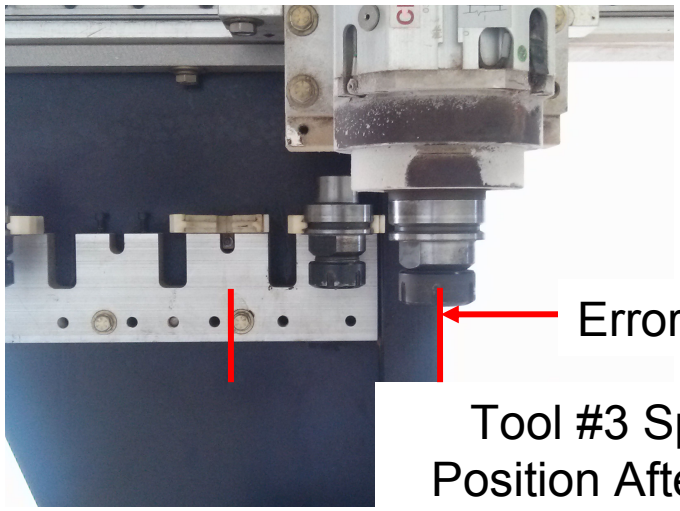
Test Block #1 During Roughing



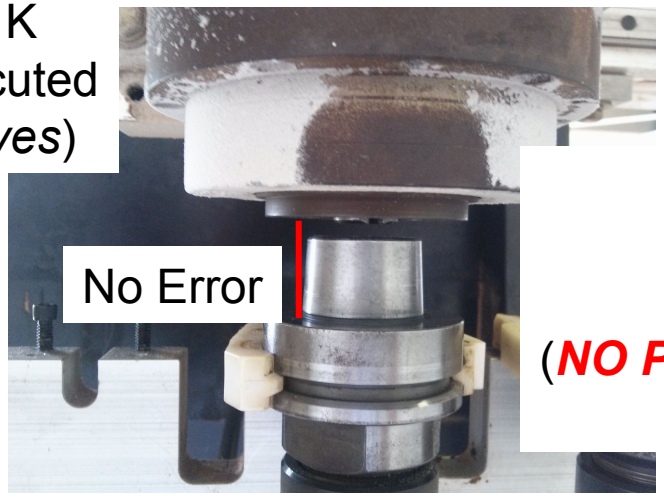
Tool #3



Tool #3 Spindle
Position After ~1K
G-Code Lines Executed
(*Mostly X-Y-Z Moves*)

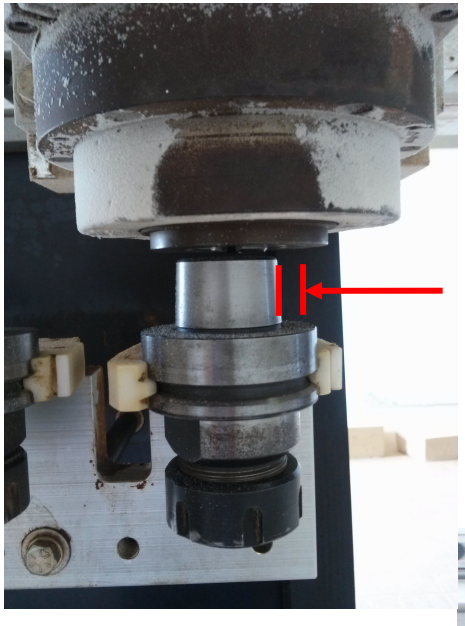


Tool #3 Spindle
Position After ~50K
G-Code Line Executed
(*Mostly X-Y-Z Moves*)

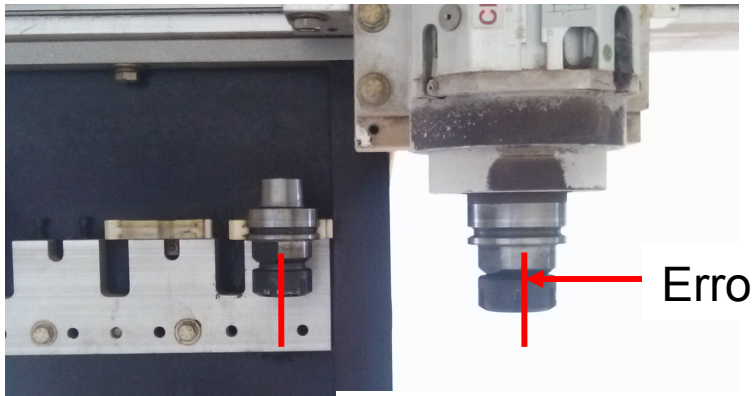


Tool #3 Spindle
Position After Fresh
G28/'HOME'
(***NO Programmed*** *X-Y-Z Moves*
After G28)

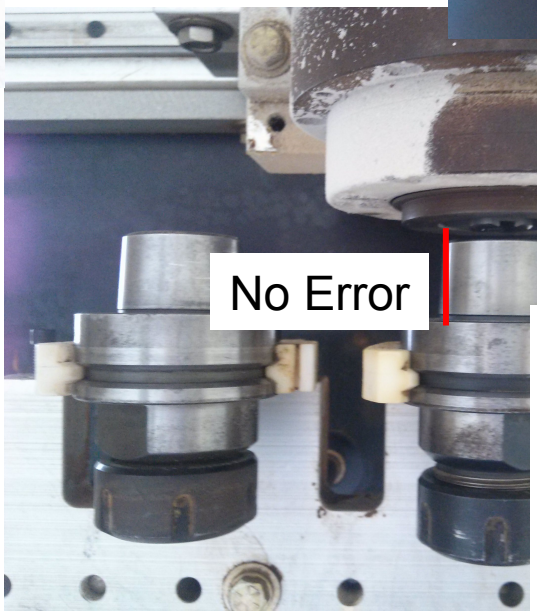
Tool #4



Tool #4 Spindle
Position After ~1K
G-Code Lines Executed
(*Mostly X-Y-Z Moves*)

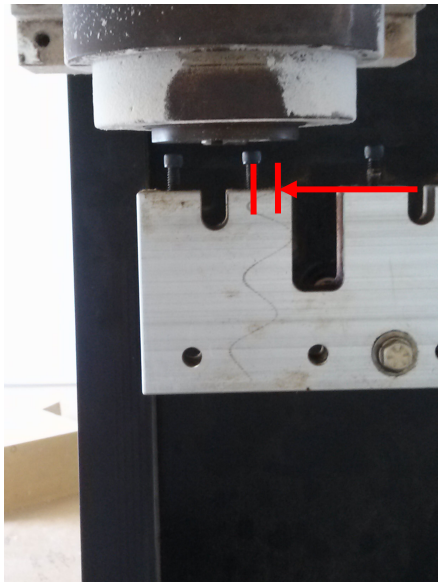


Tool #4 Spindle
Position After ~50K
G-Code Line Executed
(*Mostly X-Y-Z Moves*)



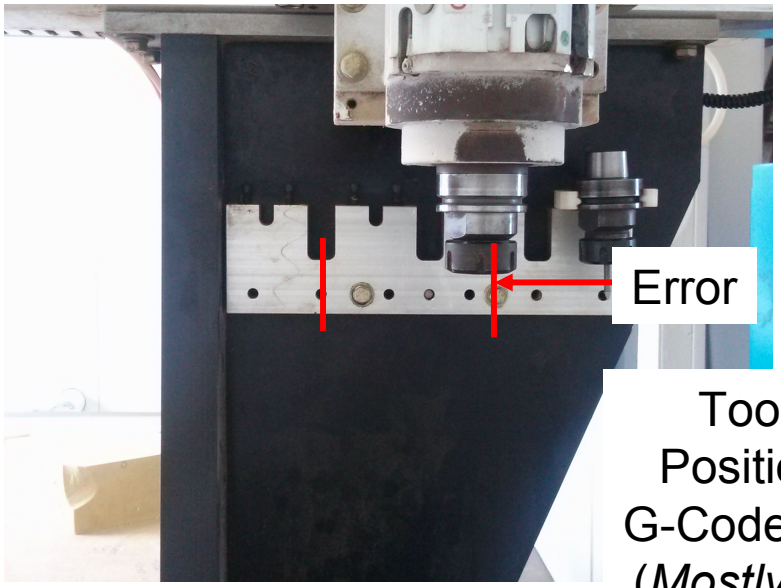
Tool #4 Spindle
Position After Fresh
G28/'HOME'
(***NO Programmed*** *X-Y-Z Moves*
After G28)

Tool #5

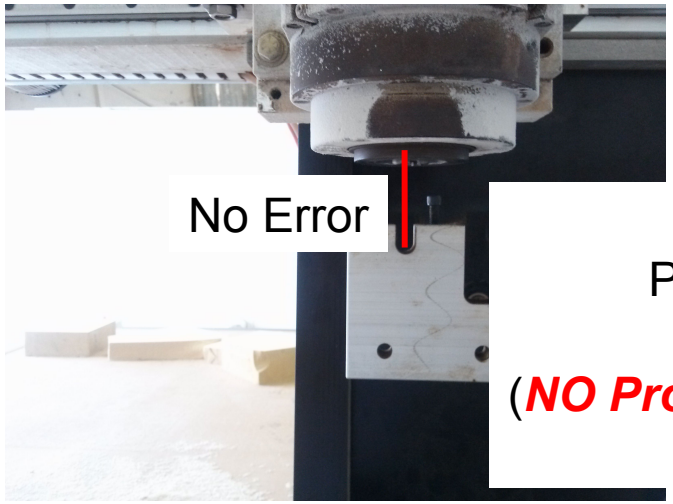


Error
(*Est.*)

Tool #5 Spindle
Position After ~1K
G-Code Lines Executed
(*Mostly X-Y-Z Moves*)

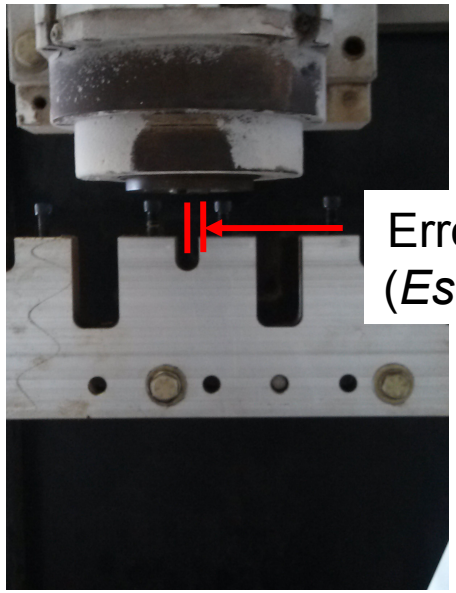


Tool #5 Spindle
Position After ~50K
G-Code Line Executed
(*Mostly X-Y-Z Moves*)

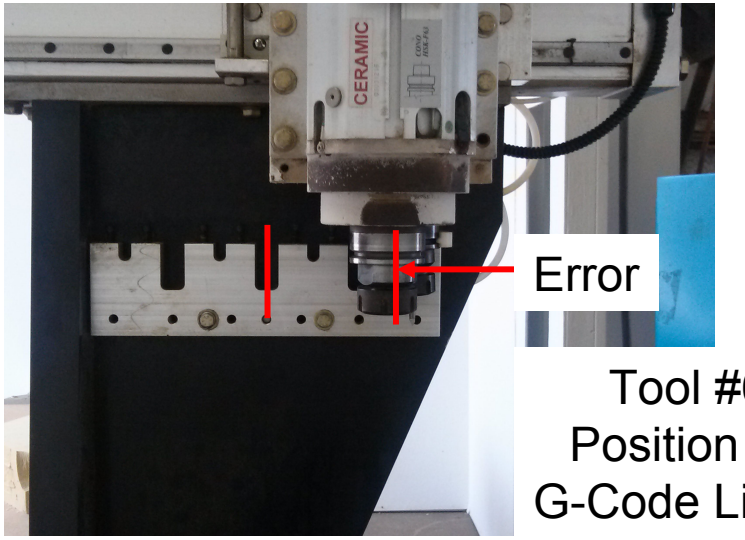


Tool #5 Spindle
Position After Fresh
G28/'HOME'
(***NO Programmed*** *X-Y-Z Moves*
After G28)

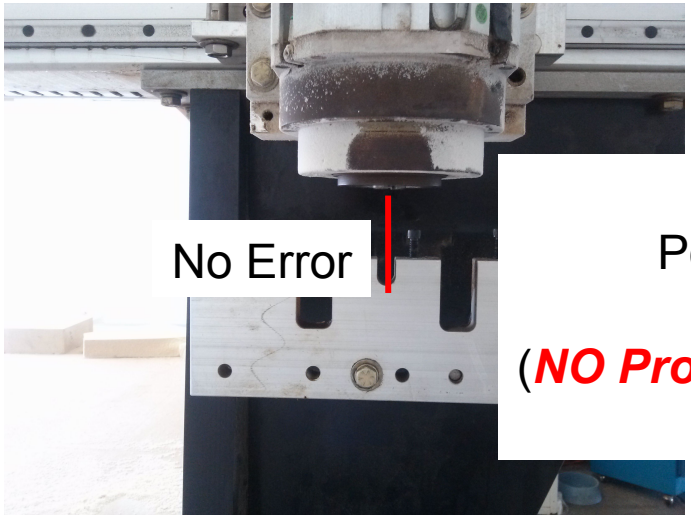
Tool #6



Tool #6 Spindle
Position After ~1K
G-Code Lines Executed
(*Mostly X-Y-Z Moves*)

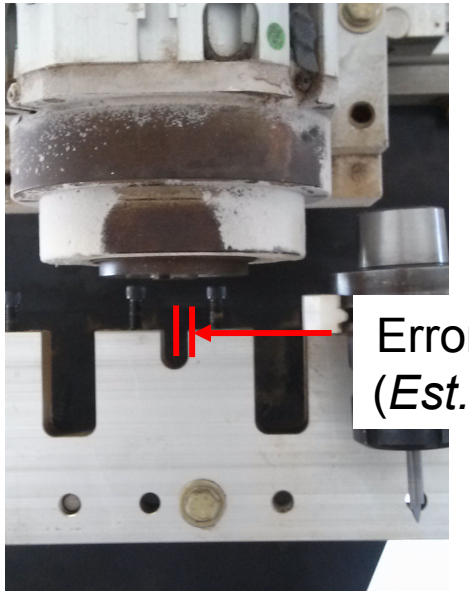


Tool #6 Spindle
Position After ~50K
G-Code Line Executed
(*Mostly X-Y-Z Moves*)

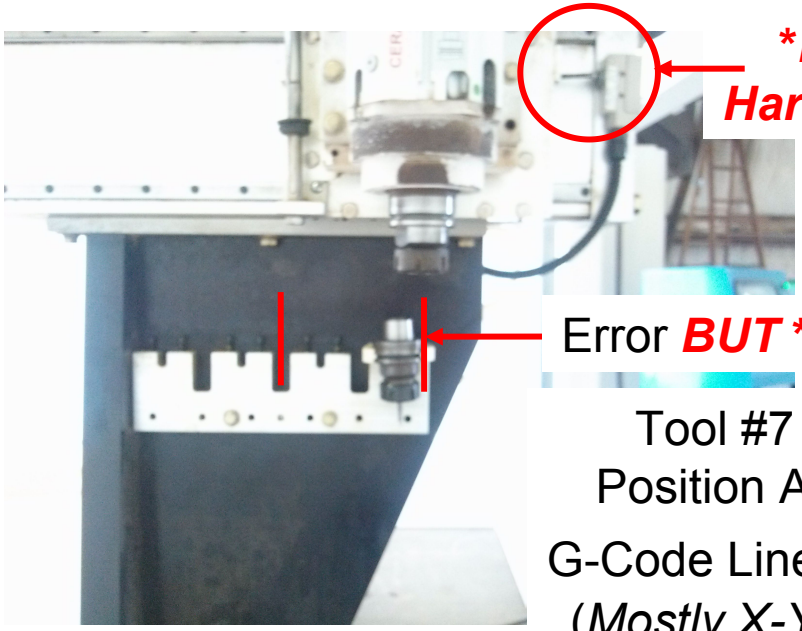


Tool #6 Spindle
Position After Fresh
G28/'HOME'
(***NO Programmed*** *X-Y-Z Moves*
After G28)

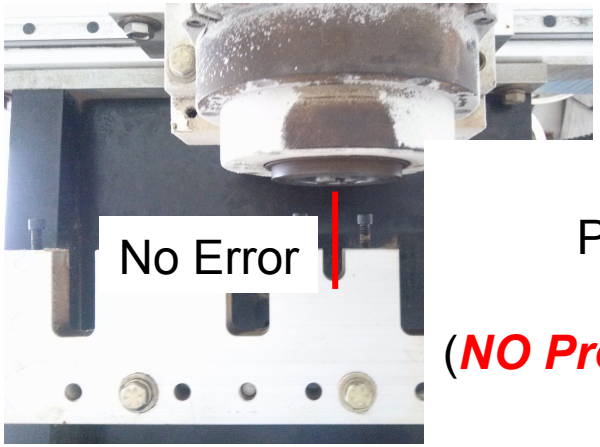
Tool #7



Tool #7 Spindle
Position After ~1K
G-Code Lines Executed
(*Mostly X-Y-Z Moves*)



Tool #7 Spindle
Position After ~50K
G-Code Line Executed*
(*Mostly X-Y-Z Moves*)



Tool #7 Spindle
Position After Fresh
G28/'HOME'
(***NO Programmed*** *X-Y-Z Moves*
After G28)

Any Ideas?

Any Solutions??

Thanks To All Who Have Helped!

I Appreciate All Your Inputs, Comments, and Suggestions!!