TOOLROOM SOLUTIONS

OFFICE
8824 Old Block House Ln
Spotsylvania,VA 22551-3512

PHONE
+1-540-940-5977

EMAIL
ed@toolroom.solutions

Setting the Z-axis zero position in a machine with the HMC 500/600 control

Attention: This procedure is for trained service personnel only!

A mistake could cause severe mechanical damage to the machine!

To proceed, the following tools are necessary:

- Keyboard must be attached to the MMI control
- Machine calibration arbor and calibration disk must be available
- Review the technical documentation "Setting the motor encoder zero position on HMC 500 & 600 Indramat Diax 04 drives" and "Turn off the laser compensation"

Procedure :

1. Follow the procedure to "Turn off the Laser Compensation"
2. Power up the machine with the key switch in manual position. **"Do not** reference the machine!" All movements have to be done in manual mode.
3. Install the test bar in the workhead and check the runout. (Runout should be less than 0.01 mm at the end of the bar.) If the runout is greater than 0.01 mm rotate the bar in the chuck by 90° and check again. If the runout is still greater than than 0.01 mm, check your chuck and collet. If the runout is still greater than 0.01 mm your A-axis needs to be repaired!
4. Install the calibration disk on spindle 1
5. With the C-axis at the home position (parallel with the X-axis) move the Y- and the X-axes into position to allow the Z-axis to move to the right so the measuring disk can touch off the left side of the test bar. Touch off carefully!!
6. Set a relative position for the Z-axis only

7. Move the Y-axis up and remove the calibration disk from spindle 1

8. Move the Z-axis over to the right and install the calibration disk on spindle 2

9. With the C-axis at the home position (parallel with X axis) move the Y- and the X-axis into position to allow the Z-axis to move to the left so the measuring disk can touch off the right side of the test bar. Touch off carefully !!

10. Check the value on the Z-axis position, take this value and divide it by 2.

11. Move the Y-axis up to a position where the calibration disk can't hit the test bar.

12. Move the Z-axis negative the amount calculated in step 10 (center between spindle ends in the center of the A axis)

13. Now follow the procedure "Setting the motor encoder zero position on HMC 500 & 600 Indramat Diax 04 drives "

14. Reference the machine with a 20% feed rate and "Ref All Move"

15. Set absolute zero with "ABS All Set"

16. Re-qualify at least the Z-axis, preferably the whole machine