

TECHNICAL BULLETIN – 4X00 GANTRY SQUARING: Instruction Guide

Introduction: The purpose of this guide is to explain the procedure for resetting the 4x00 series machine gantry being square to the table, during the datum function. This process may become necessary in the event one or both **Datum Flags** are moved or bumped, or if a datum switch is replaced. The gantry being out of square will result in out of square cuts, datum errors, or the gantry binding and losing position.



Please Note:

- Datum Flags: the black metal pads the datum switches use to close the circuit. The switch closes when it detects the edge of the datum flag using a magnetic field.
- This guide can also be referenced when changing the Y axis datum switch(es).
- The following instructions are relevant to the 4400, 4800, and 4510 Torchmate models.

Updated on: 08/19/21

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Page 1 of 4

Required Tools:

- 1/8" Allen Wrench
- 3/32" Allen Wrench

Step 1:

The controller needs to be connected to the PC, but the motors should not have holding power.

- 1.) If the machine is already on and connected push in the E-Stop button above the touch screen, or flip the power switch on the Accumove controller to the off position. Let the controller sit without power for one minute then power back on. Upon the controller connecting, do not datum the table.
- 2.) If the machine is powered off, boot up the machine per the 4x00 User Guide but do not datum the table.



Step 2:

Unthread the (3) allen bolts that secure the gantry end cover with a 1/8" allen wrench. The bolts will remain in place on the black gantry flange because of the retaining clips that have been installed from the factory.



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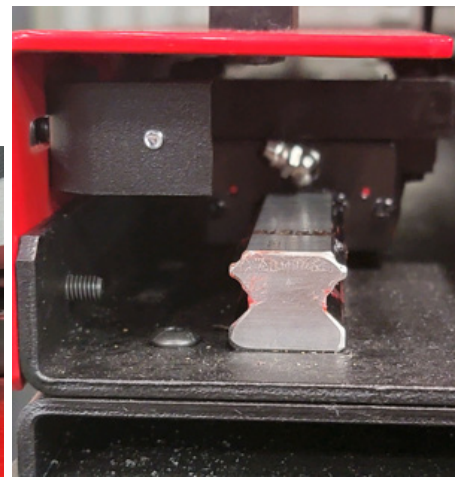
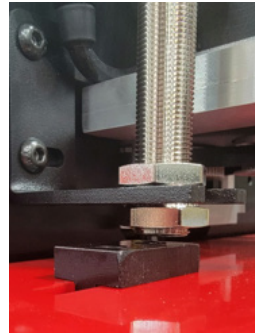
Page 2 of 4

Step 3:

Loosen the (2) allen head bolts for the right side datum pad with a 3/32" allen wrench. Since the right side pad is closest to the touch screen it will be easier to adjust and monitor the input status of the datum (as explained later).

**Step 4:**

Pull the gantry all of the way forward to the front of the machine. The gantry should hit the physical stops on the rails. This would be a good time to check the clearance between the datum switches and the pads. There should be a 0.030" (a credit card is the same thickness) gap.

**Step 5:**

Log on as Admin (password: 1234) and open the inputs tab in the configuration.wap window. This will show each input or Aux change status in real time.



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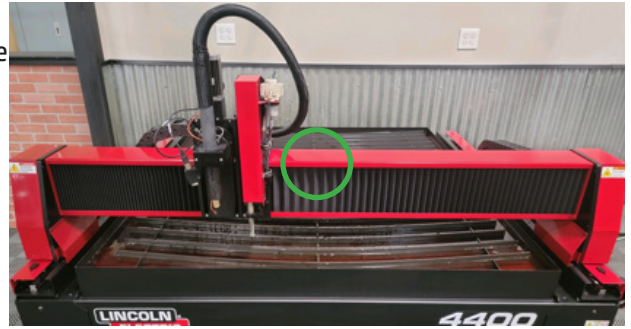
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Page 3 of 4
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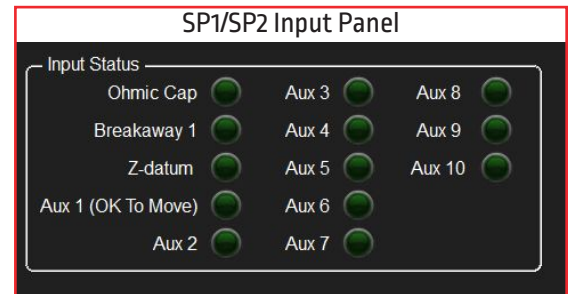
Step 6:

Push the gantry away toward the back of the table until Aux 3 [Aux 6 in VMD SP2.3] is not lit. Then pull the gantry toward the front until Aux 3/6 illuminates again. Move the gantry in very small increments by hand until Aux 2 changes status.

Push and pull from the center of the gantry as represented by the green circle.

**Step 7:**

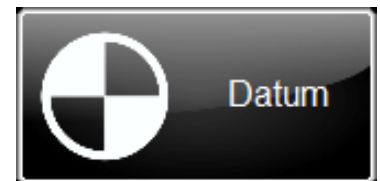
Move the right side datum pad by hand until Aux 4 [Aux 7 in VMD SP2.3] changes status. Again, the goal is to position the pad at the point when Aux 4 changes status. When in position, push the gantry away from the front of the table and tighten the (2) allen bolts on the pad with a 3/32" allen wrench to secure it in place.



SP2.3 Input Panel				
Input Setup				
#	Status	Type	Active Level	Debounce Time (ms)
1	<input type="checkbox"/>	Cap Sense	Low	5
2	<input type="checkbox"/>	Pause	High	150
3	<input type="checkbox"/>	Datum Z	Low	0
4	<input type="checkbox"/>	Cut Sense	High	25
5	<input type="checkbox"/>	Datum X	Low	0
6	<input type="checkbox"/>	Datum Y	High	0
7	<input type="checkbox"/>	Datum U	High	0

Step 8:

Datum the machine and jog the table to confirm if the issue is resolved.



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