



DO NOT PERFORM THIS ASSEMBLY ALONE. MAKE SURE YOU HAVE SEVERAL PEOPLE TO HELP. READ INSTRUCTIONS THOROUGHLY.

ASSEMBLY PROCEDURES

- I. UNPACK
- II. Y-AXIS SETUP
- III. MOUNT GANTRY, CABLE CARRIERS, TOOL CHANGER ACCESSORIES (if necessary) & CABLES

I. UNPACK

The machine ships in three main pieces:

1. the Table Base, 2. the Gantry and 3. the Lower Beam

If a Tool Changer Spindle was ordered than the fourth piece shipped will be the Tool Changer Arm and Mounting Brackets.

STEP 1: Remove shrinkwrap.

STEP 2: Cut all metal tie wraps from around the machine.

NOTE¹: There will be additional metal tie wraps that hold the ball screw (underneath the machine, **PICTURE 1**) in place. Cut these before proceeding.

STEP 3: Remove the Lower Beam from tabletop (if it was shipped on top of the machine table and not on a separate skid) and leave the Gantry on top of the machine. (**PICTURE 2**)

NOTE²: If the machine was shipped with the Gantry and Lower Beam on a separate skid follow the same directions as in **STEP 2** and leave the Gantry on the skid until instructed to remove it.

WARNING: Be very careful not to allow the Y-Axis Bearing Blocks to slide off the rails! (**PICTURE 3**)

NOTE³: The front of the machine is referenced throughout these instructions. To locate the front of the machine, locate the control box attached to a machine leg (**PICTURE 4**). The control box is located at the front of the machine.

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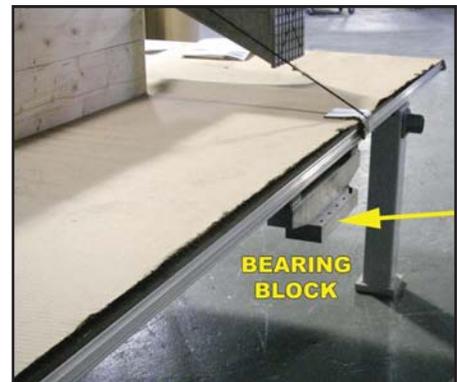
PICTURE 1



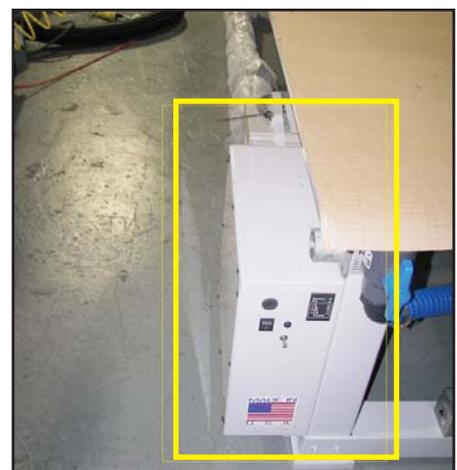
PICTURE 2



PICTURE 3



PICTURE 4



II. Y-AXIS SETUP

The long axis (running from the front to the back) located under the machine table is the Y-axis. These steps detail attaching the Lower Beam.

WARNING: Be very careful not to allow the Y-Axis Bearing Blocks to slide off the rails! Damage to the bearings will occur.

STEP 1: Unwrap the Y-Axis Ball Nut and Servomotor, located under the machine. (PICTURE 4) Bring both to the front of the machine by rotating the Ball Nut and moving the Servomotor at the same time.

STEP 2: Mount the Lower Beam to the Y-Axis Bearing Blocks. Use the pencil marks to adjust your left to right position. Make sure that the Limit Switch is facing up, and the Cable Carrier Bracket is facing the rear of the machine on the left side. Do not tighten the screws completely; hand tighten only.

STEP 3: Now move the Lower Beam Assembly to the rear of the machine until it comes in contact with the left and right **solid stop pins** (PICTURES 5 & 6). Holding pressure against these points, you can now tighten the screws on the left and right Bearing Blocks. Make sure the pencil marks are still visible on each side of the Bearing Blocks.

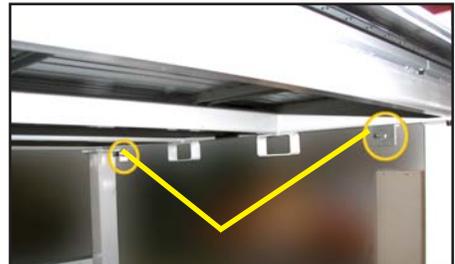
NOTE¹: High-speed LC Series machines will have a slightly different Y-axis motor setup on the Lower Beam. Refer to PICTURES 7a and 8a in the proceeding directions if machine is a high-speed LC Series.

STEP 4: Rotate the Ball Nut to the Lower Beam and mount it between the pencil marks. **HAND TIGHTEN ONLY.** Do the same for the Servomotor. Also, **HAND TIGHTEN ONLY.** (PICTURE 7/PICTURE 7a)

PICTURE 4



PICTURE 5



PICTURE 6



PICTURE 7



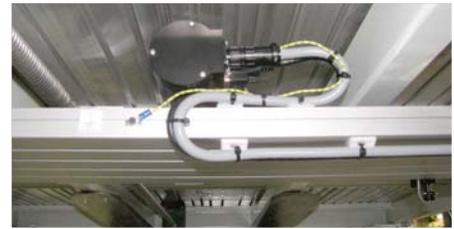
PICTURE 7a
High-Speed



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STEP 5: Rotate the Ball Nut until the Lower Beam is approximately 1/2" away from the **solid stop pins**. Now tighten the Ball Nut.

PICTURE 8



STEP 6: Adjust the tension on the motor belt and tighten the Servomotor. Secure the Servomotor Power Cables to the Lower Beam. (PICTURE 8/PICTURE 8a)

STEP 7: Adjust the Y-Axis Limit Switch if needed, so that it is activated approximately 1/2" before the Lower Beam would contact the solid stop pins in the front and rear of the machine.

PICTURE 8a - High-Speed



III. MOUNT GANTRY, CABLE CARRIERS & CABLES

The Gantry consists of the X- and Z-axes with the X-axis attached to two Angle Brackets. The Angle Brackets get mounted on top of the Lower Beam with the spindle facing the machine front.

STEP 1: Mount the Gantry to the Lower Beam, using the pencil marks as a guide for your left to right location. Tighten all screws securely.

NOTE 1: The screws are different lengths; the eight screws toward the front of the machine are longer than the eight screws toward the rear. (PICTURE 9)

PICTURE 9



STEP 2: Unwrap the cable carriers and mount them to the Lower Beam, X-axis Slide, and Z-axis Slide. (PICTURES 10 & 11)

PICTURE 10



STEP 3: Attach all servo cables and wires. Use wire ties to secure in place. Connect and secure the Limit Switch wire on the X,Y, and Z-axes and attach the X,Y, and Z servo ground wires (if applicable).

PICTURE 11



STEP 4: (Proceed to **STEP 6** if Microdrop Coolant System was not ordered) Connect the 3/8" airline to the Microdrop Coolant Unit. Make sure there are no kinks anywhere in the line. Secure with wire ties. (PICTURE 12)

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STEP 5: (Proceed to STEP 6 if Tool Changer w/Tool Stands was not ordered) Feed the Tool Changer Arm through the opening of the left upright. Make sure the tool stands are facing up and toward the front of the machine. (PICTURE 13)

Secure the two black mounting brackets under the table top extrusion at the front and rear using the screws that are still connected to the top extrusion. (PICTURE 14)

NOTE²: When the Tool Changer Arm is secured to the table correctly it should not come in contact with the upright at any time.

The Tool Stand locations must be retight before attempting to change tools. Refer to section III. **Tool Stand Locations Tutorial of 0325_Techno CNC Servo GCODE Interface Manual** for instructions to do so.

STEP 6: Plug spindle power cord into top of spindle. The plug size and shape may vary according to the type of spindle ordered.

STEP 7: Attach E-Stop Start/Stop Box under the table top extrusion at the front of the machine. The two screws needed are in position under the table top extrusion where the box will be attached.

NOTE³: You are now ready to Power Up.

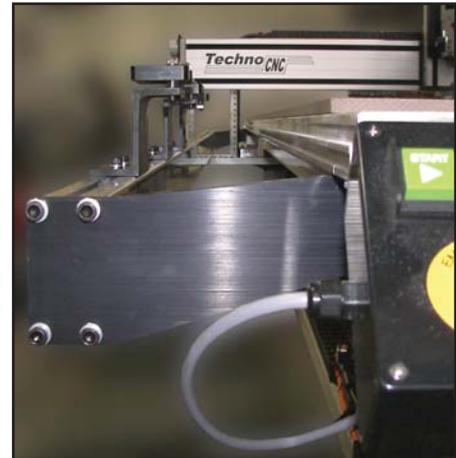
STEP 8: Home all axes and make sure they move smoothly.

If all went well, the machine should be close to being square. If not follow the Re-Indication Directions enclosed with these reassembly instructions.

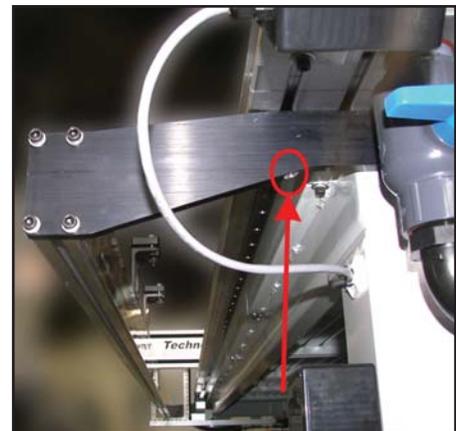
PICTURE 12



PICTURE 13



PICTURE 14



PICTURE OF A COMPLETED LC SERIES 78120 MACHINE

