



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

### **ASSEMBLY PROCEDURES**

- I. UNPACK
- II. Y-AXIS SETUP
- III. MOUNT GANTRY, CABLE CARRIERS, TOOL CHANGER ACCESSORIES (if necessary) & CABLES
- IV. PICTURE OF COMPLETED LC SERIES 78120

#### **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. Forklift machine into permanent position and remove all (4) forklift guides.

**STEP 2:** Cut all metal tie wraps from around the machine. Remove all wood bracing that supports the ball screw and ball nut.

**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)

*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)

*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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## 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.

**STEP 2:** Mount the Lower U-channel Beam to the Y-Axis Bearing Blocks, making sure the word "front" is facing the vacuum table valves, and the word "rear" is facing the back of the machine. 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:** Push 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.

**STEP 4:** Move the Lower Beam Assembly to the front of the machine until it contacts the solid stops. Tighten the (4) screws that secure the ball nut to the Lower Beam.

**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.

**STEP 6:** Adjust the tension on the motor belt and tighten the Servomotor. Secure the Servomotor Power Cables to the Lower Beam.

**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.



### III. MOUNT GANTRY, AND TOOL HOLDER BEAM

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.

*The screws are different lengths; the eight screws toward the front of the machine are longer than the eight screws toward the rear.*

**STEP 2:** Push the Gantry to the center of the table, remove both black tool holder beam arms from the tool holder beam and hand-tighten them to the under side of the first table top extrusion on the front and rear of the machine.

**STEP 3:** Carefully guide the tool change beam through the opening in the appropriate angle bracket, making sure the tool holder stands are facing the machine's table.

**STEP 4:** Reconnect the tool holder beam to the black tool holder beam arms, and fully tighten them to the machine.

### IV. WIRING THE SERVOMOTORS & SPINDLE

This section will help you make the final connections necessary in reassembling your machine including the cable carriers, servomotor and spindle connections, e-stop box, etc. Use the pictures provided to help give you a visual reference of these connections.

**STEP 1:** Carefully unwrap the protective covering from the wiring harness, connect the large cable carrier to the Lower Beam Assembly.

**STEP 2:** Connect the Y-Axis cables and ground wire to the servomotor on the Lower Beam assembly using wire ties to secure them.

**STEP 3:** Run the remaining cables inside the plastic tube on the back of the tool holder angle bracket, and secure using wire ties.



**STEP 4:** Connect the x-axis cables and ground wire to the servomotor above the tool holder angle bracket, secure with wire ties. Reconnect the small cable carrier to the top of the x-axis slide using the screws provided.

*Using screws other than the ones provided with this assembly will cause severe damage to the x-axis slide.*

**STEP 5:** Connect the other end of the small cable carrier to the top of the z-axis slide., finish by connecting the z-axis cables and ground wire to the servomotor on the z-axis slide, secure with wire ties.

**STEP 6:** Use Picture X as a guide and connect the relay cable and relay hoses appropriately to the rear of the z-axis assembly.

**STEP 7:** Plug spindle power cord into top of spindle. The plug size and shape may vary according to the type of spindle ordered.

**STEP 8:** 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.

You are now ready to Power Up.

**STEP 9:** 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.***

