Appendix H: Updating Centering, X and Y motors values

A closed circuit loop was added to Lotem Controller software version 3.80.16. This enabled the following enhancements:

- Accurate control over the centering motor and X,Y movements
- Increased stability
- Increased movement flexibility
- Reduced margin of error

In order for the enhancement to work correctly, it is necessary to adjust the Virtual Home Position application detector values, as described below.

Procedure:



Important: This procedure must be performed prior upgrading to software version 3.80.160.

1. **X motor**
    - Move the **X motor** to **position 350** at a speed of **10**.
    - Use a ruler to measure the distance from the loading system to the front beam of the main frame as shown in the pictures below (old and new mainframe).



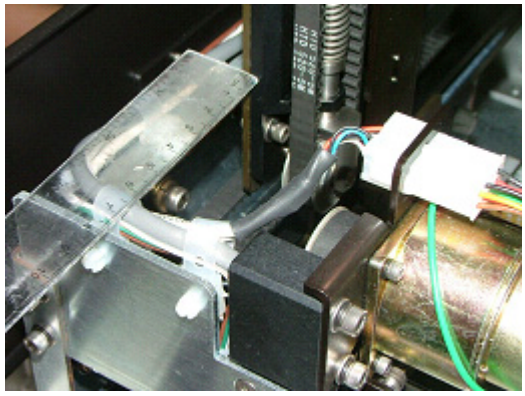


Figure 12: Old main frame





Figure 13: New main frame

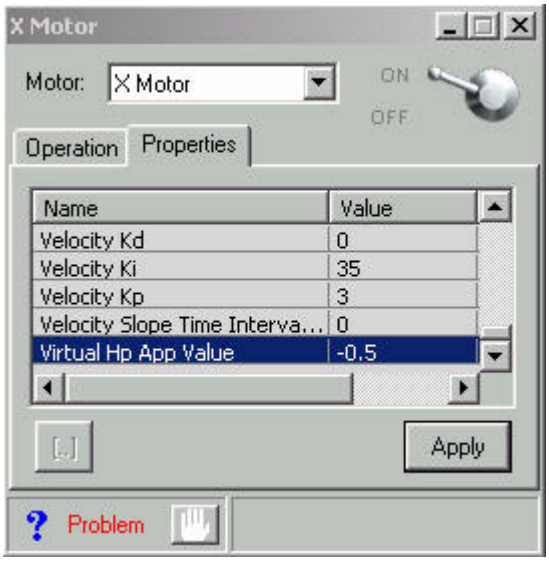
- Move the **X motor** back to the **home position detector** or peform X-Y init.
- Repeat step 1 five times and then calculate the average measurement.

2. **Y motor**
   - Move the X motor to position 170 at a speed of 10.
   - Move the Y motor to the bar flag detector at a speed of 10.
   - In Lotem Controller, white down the **Pos. value** (encoder measurement) displayed at the bottomof the window.
   - Move the **Y motor** back to the **home position detector** or peform X-Y init.
   - Repeat step 2 five times and then calculate the average measurement.

3. After upgrading to software version 3.80.16, repeat step 1, and then do the following:

   Navigate to the **X** and **Y Motor** dialog boxes. In the Properties tab, scroll down to the **Virtual HP App Value** and in the **Value** column, enter the delta value of the measurements before and after the upgrade (refer to **Example** below to calculate delta value).
   The final number will usually be a negative number, as shown in the example below:

   Example:
   Average value before upgrade: **A** = 65 mm
   Average value after upgrade: **B** = 64.5 mm
   Delta: **B - A** = (64.5 - 65) = -0.5 mm
   Virtual Hp App Value=-0.5



4. In order for the enhancement to work correctly, it is necessary to adjust the **Virtual Hp App Value** (virtual home position application detector value) of the centering system:

   For more information, see **Adjusting the Centering System Factor Parameter in the Registry**

   - Attach a plate to the punch beam's short pins (as described in the procedure **Centering home position virtual value adjustment**).
   - Send the centering motor to **EP Det (cent/Pch)** at a speed of **3**.
   - From within Lotem Controller, read the **Pos**. value (encoder measurement).
   - Add/subtract the delta value to/from the actual plate size value entered into the Pos. field (in the Virtual App. Det. dialog box).
   - Make sure that the amended Pos. value reflects the actual size of the plate.

Note: The centering measurement tolerance is ±3 mm, between the plate's actual size and the measurement.

5. Adjusting the X after gripper parameter.
   Path: **IO OBJECTS\Loading System\Load Plate\From drum entry to drum stage**
   Parameter: **X after gripper**

   While the XY system moves to **X = 352** to pick a new plate, we need to verify that the **paper plate on disposal detector** is on **OFF** status.

   – Move the XY system to **Y = 0** and X to the value of the **X after gripper** (between 350 and 354). Check the status of the **paper plate on disposal detector** and make sure that the status is **OFF.** If the status is **ON**, change value of X, making sure that the status changes to **OFF** and update**X after gripper** with this new value.

   – Move the XY system ±2 mm, from the **X after gripper value**, Y **= 0**. Make sure the **paper plate on disposal detector** is **ON**. If the detector's status is not **ON**, then change the value in the registry as described above.