Lotem 400V

Plate Attachment to Head Pins

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Abstract:

To obtain good registration (in the high axis) all loaded plates should touch the two pins in the head gripper spoilers.

The sequence for loading a plate to the drum is performed in two steps:

- Moving the plate forward until it almost touches the pins in head gripper spoilers.
- Pressing the plate against the pins in the spoilers.

First step

At the first step the drum moves to a loading position (Parameter name - *Load Head Gripper Location* ~(-204)).

The actuators open the Head grippers.

The Loading stopper door opens.

The Loading motor moves the plate forward 3 mm away from the pins (Parameter name - *Load Plate to Drum Position* ~104).

Second step (Extra)

The Loading Motor moves the plate forward (with a deferent torque for each plate thickness). After 1.6 seconds, the head grippers are released and the plate is grasped by the head grippers. During the 1.6 seconds, the plate should reach the two pins and press against them, but without making any marks on the plate edges.

Parameters being used in the Procedure

Parameter Name	Default	Remark
Load Head Gripper Location	-204	Location of drum
Load Plate to Drum Position	104	Adjusted by this procedure
Loading Motor Moment For 0.15 Seq	15	The moment used in second step

Parameter Name	Default	Remark
Loading Motor Moment For 0.2 Seq	30	The moment used in second step
Loading Motor Moment For 0.3 Seq	80	The moment used in second step
Load Plate to Drum Speed	4	Loading motor speed in first step
Load Plate Extra to drum Speed	0.4	Loading motor speed in second step
Load Plate Extra to Drum (mm)	80	

Before performing any of the calibration procedures, the following actions should be taken:

Open the Password for Service Engineer as follows:

1. Open the *Utilities* window and click the **Users**.
2. In the Users window, open the User Type menu. Select **Service Engineer**, and in the Password field, enter AAA.
3. Select *Hardware* in the *Utilities* menu. In the *Hardware* window, open the *Loading System* menu, and below it *Loading System* is displayed again. Double click **Loading System** and the large *Loading System* window appears.
4. In this window click on **Init Drum (1)**, and wait for the action to be completed.

Prior to the procedure:

- ► It is recommended to perform this procedure after adjusting the pressure of the loading motor on the thinnest plate (0.15 mm plate is preferable).

Procedure

Note: This can only be performed after performing the gripper calibration procedure.

1. Open the *Drum System* menu and click on the *Drum Motor*.
   The **Drum Motor** window appears.
2. Open the *Gripper System* and click on the *Load Gripper Valve*.
   The **Load Gripper Valve** window appears.
3. Open the *Loading System* menu → *Loading Plate To Drum.* Click on the *Solenoids Valve* menu → *Loading Stopper Valve*.
   The **Loading Stopper Valve** window appears.
4. Open the Drum System → Gripper System → Load Gripper. Click on the Load Gripper Valve. The **Load Gripper Valve** window appears.
5. In the Hardware window, click on **Others**. Below it, **Lotem 400V** appears. Select this item and click the right-hand mouse button.
   A. Double click on IO Objects → Loading System, and then *Setup* in this window.
   B. Record the value of the *Load Head Gripper Location* (~-204).
   C. Close all windows opened in this step.

6. Open the front door and insert a motor cheater.

7. Place a plate of 0.3mm thickness on the loading tray and push it forward until it is stopped by the Loading Stopper.

8. Mark with a pen on the plate a line, parallel to the loading driver.

9. Move the drum to the position which you recorded on step 5.B (~-204) with speed of 100 RPM.

10. Switch on the ***Load Gripper Valve***.

11. Switch on the ***Loading Stopper Valve***.

Note: The Loading Stopper Valve has a time limit of 3 minutes.

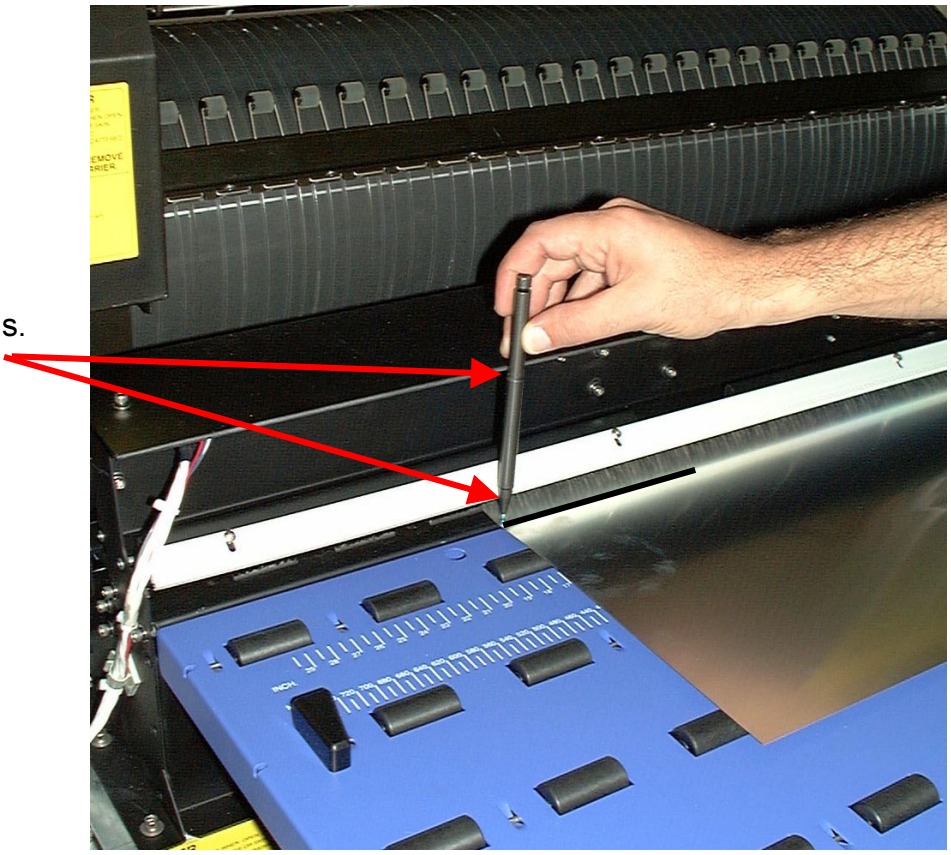
12. Press the plate forward until it reaches the pins in the Head grippers.

13. With a pen, mark a second line on the plate, parallel to the loading driver.

14. Pull out the plate and measure the distance between the two lines.

Note: At this position you can also check that the Plate Driving Unit is parallel to the Drum.

The pen should touch both panels.



15. Close the ***Loading Stopper Valve***.

16. Close the ***Load Gripper Valve.***

17. In the Hardware window, click on Others. Below it, Lotem 400V appears. Select this item and click the right-hand mouse button.

18. Double click IO Objects → Loading System, and then *Load Plate* in this window.

19. Copy the value you received in the previous step to **Load Plate to Drum Position <u>subtracting 3</u>**.

Test

1. Load a new plate and expose a Uni file or Grid.
   Check and measure that the top edge of the file is parallel to the edge of the plate.
2. Place a plate on the loading tray but with a small angle in reference to the drum.
   Check that during the second stage of the motor moves the plate parallel to the drum and touches both pins.
3. Load the thinnest plate (0.15 mm plate is preferable) and check that the loading motor does not damage the plate. If you see marks on the center of the plate than you need to adjust the pressure of the loading motor.

Troubleshooting

<u>Symptom</u>: Skew of 0.5 mm and higher.

<u>The fault</u>: The Head Gripper is closes before the plate reached the pins in the Head gripper spoilers.

<u>Solution</u>: Increase the first step by changing the parameter *Load Plate to Drum Position*.

<u>Test</u>: Load a plate and mark with a pen the location of the pins.
Unload the plate and check the edge of the plate (near the marks) for small marks made by the pins.

<u>Symptom</u>: Skew of 0.1 to 0.2 mm

<u>The fault</u>: The plate is crushed by the pins.

<u>Solution</u>:

- ► Decrease the moment for the relevant plate thickness.
- ► Verify that 0.12 pins are installed.
- ► Check the pressure of the loading motor.
- ► Check parallelism of Loading System to the optomech.