Installation Guide

English

MCU for Lotem 400

653-01073A
Internal 731-00556A

www.creo.com

Copyright

Copyright © 2005 Creo Inc. All rights reserved. The Creo wordmark, Creo logo, and the names of the Creo products and services referred to in this document are trademarks of Creo Inc.

Adobe, Acrobat, Adobe Illustrator, Distiller, Photoshop, PostScript, and PageMaker are trademarks of Adobe Systems Incorporated. Apple, iMac, Power Macintosh, AppleShare, AppleTalk, TrueType, ImageWriter, and LaserWriter are registered trademarks of Apple Computer, Inc. Macintosh is a trademark of Apple Computer, Inc., registered in the U.S.A. and other countries. PANTONE, Hexachrome, PANTONE Hexachrome, and PANTONE MATCHING SYSTEM are the property of Pantone, Inc. PEARL, PEARLsetter, PEARLhdp, PEARLdry, and PEARLgold are registered trademarks of Presstek, Inc. XEROX®, The Document Company®, and the digital X® are trademarks of XEROX CORPORATION. Other brand or product names are the trademarks or registered trademarks of their respective owners.

No copying, distribution, publication, modification, or incorporation of this document, in whole or part, is permitted without the express written permission of Creo Inc. In the event of any permitted copying, distribution, publication, modification, or incorporation of this document, no changes in or deletion of author attribution, trademark legend, or copyright notice shall be made. No part of this document may be reproduced, stored in a retrieval system, published, used for commercial exploitation, or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the express written permission of Creo Inc. This document is distributed in Adobe Systems Incorporated's PDF (Portable Document Format). You may reproduce the document from the PDF file for internal use. Copies produced from the PDF file must be reproduced in whole.

Creo Inc.
3700 Gilmore Way
Burnaby, B.C., Canada
V5G 4M1
Tel: +1.604.451.2700
Fax:+1.604.437.9891

http://www.creo.com

Internal 731-00556A

Revised May 2005

Introduction 1
Before You Start 1
Required Parts List for Installing/upgrading to MCU for Lotem 400 3
Required tools 3
Backing Up Required Information 4
Updating the Software 5
Preparing the Lotem 400 for Upgrade 5
Removing the Lower Front Panel and the Loading Tray 6
Removing the Front Door 7
Removing the Plate Driver Assembly, Interlocks and Lockers 7
Upgrading to or Installing the MCU 9
Assembling the Location Pin 9
Updating the Harness 10
Replacing the Drum Vacuum Adapter 10
Bending the Platesetter Frame 11
Assembling the Punch and Centering System 13
Installing and Adjusting the Punches 15
Connecting Devices 16
Connecting the CPU 18
Connecting the Air Pressure Pipe 19
Connecting the MCU to the Platesetter 20
Leveling the MCU 24
Updating the Controller Software 25
Testing and Check List 27
Testing Centering 27
Testing Customer Plates 27
Customer Onsite Training Check List 28
Equipment Supplied By Customer 28

Introduction

This document describes the Lotem® 400 hardware and software installation procedures required to upgrade the Lotem 400 and Lotem 400 Quantum to the MCU (multi-cassette unit) configuration, or to install the MCU. For details on the site requirements of the Lotem 400 with MCU, see the *Lotem 400 Family Site Preparation Guidelines*.

The diagram on page 3 shows the tasks in the order you need to perform them for upgrading to or installing an MCU together with a platesetter.

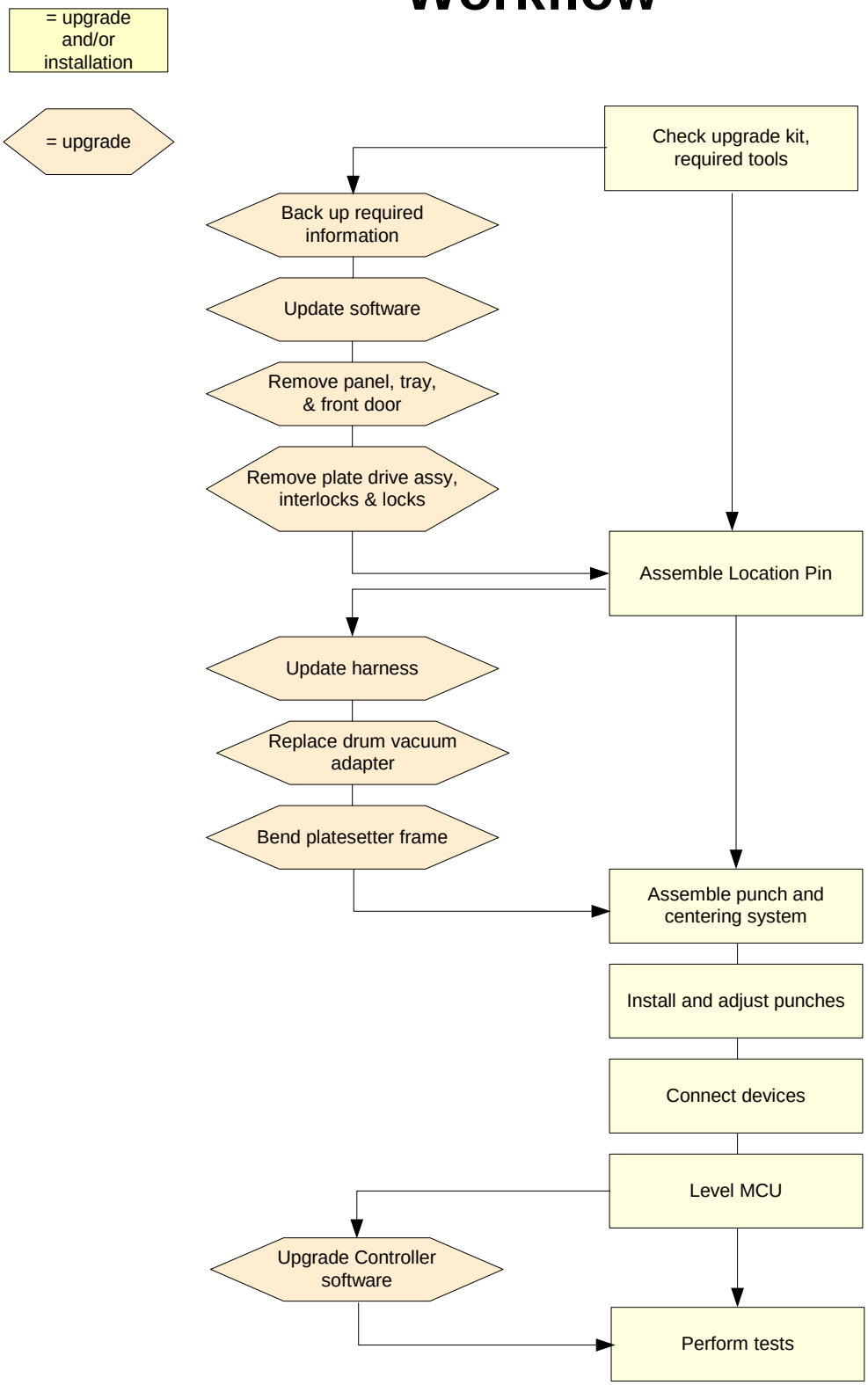
If you are installing the MCU in conjunction with the platesetter, you can skip the sections designated for upgrades only.

Before You Start

Before you begin the upgrade, do the following:

- Confirm that the upgrade kit contains all of the items in the list on page 3.
- Confirm that you have all the required tools in the list on page 3.
- If you are upgrading, back up the registry file, database folder, and Controller TCP/IP address (see page 4).

Workflow


= upgrade and/or installation
= upgrade
Check upgrade kit, required tools
Back up required information
Update software
Remove panel, tray, & front door
Remove plate drive assy, interlocks & locks
Assemble Location Pin
Update harness
Replace drum vacuum adapter
Bend platesetter frame
Assemble punch and centering system
Install and adjust punches
Connect devices
Level MCU
Upgrade Controller software
Perform tests

Required Parts List for Installing/upgrading to MCU for Lotem 400

Verify that all items on the list are included in the kit.

Catalog Number	Quantity	Part Name
292A9L160	1	Left light cover - small
510K1P355 —Lotem 400 with MCU accessory kit		
290A2P842	2	Location pin for NEW frames (loader centering pin)
290B2P841	1	Location pin bracket right (loader spacer right)
290B2P840	1	Location pin bracket left (loader spacer left)
290A2P847	2	Punch beam adapter (punch beam spacer)
380G06020	6	Screws for punch spacer (Phillips 10-32*1/2)
380A06101	3	Screws for punch Assy to spacer (10-32*3/4)
382D13000	3	Spring 10
382A14001	3	Flat washer 10
344D25800	1	T connector for air supply
344F10133	2 M	Air supply pipe
380A12140	2	Screws for connecting Automatic loader to Lotem 400V
382A23000	2	Flat Washer ST 3/8*.049"
382D23001	2	Spring L/W ST 3/8
510V1N168E	1	Lotem 400 applic S/W 1.50.08
634-00070A	1	S/W kit Lotem 400 application V 1.60.09
For Upgrade only		
298A2P757	1	Upper light guard
504L3E001	1	2 WIRS J(4) to P(10)
296A2T694	1	Drum vacuum hose adapter vacuum tube weldment
290A2U461	2	Location pin for OLD frames
605E00250	1	Panel for old P.C trays (Com 2)
290A6B219	2	Omron interlock bracket (supplied for Omron type)
	1	Motor Interlock
	1	Laser interlockInterlock

Required tools

You will require the following tools to perform the installation/upgrade procedures:

- Set of hex keys (imperial, not metric)
- Phillips® head screw driver
- 16 mm open ring
- 29 mm open ring
- Frame bending jig (for upgrades only)

Backing Up Required Information



Note: If you are not upgrading a manual platesetter, proceed to *Assembling the Location Pin* on page 9.

If you are performing an upgrade, we recommended that you back up the following information in advance:

- Registry file
- DataBase folder
- Controller TCP/IP address

To Save the Registry File



Note: The saved registry file is applicable to Controller software versions 1.60.09 and 1.50.08.

1. Turn on the Lotem 400 platesetter.
2. Start the Controller application.
3. Manually open the right side door of the platesetter.
4. Insert a formatted write-enabled floppy diskette into the floppy diskette drive.



Note: You can save both the registry file and the database folder on this diskette.

5. From your computer, access Regedit. To access Regedit, select **Start** > **Run**, type `regedit` and click **OK**.
6. Export the Lotem 400 **Registry** file. To export the **Registry** file, select **Registry** > **Export Registry File**.
7. Save the **Registry** file on the floppy diskette.
8. Exit the registry.
9. Leave the diskette in the drive for saving the DataBase folder.

To Save the DataBase Folder

1. Confirm that the write-enabled diskette is in the floppy drive.
2. Copy the **DataBase** file. To copy the file, in Windows Explorer, navigate to **C** > **Lotem** > **Lotem**400 > **DataBase**. Right-click the **DataBase** file and select **Copy**.
3. Save the **DataBase** file on the floppy diskette.
4. Close Windows Explorer, and then remove the diskette from the floppy drive.

To Save the Controller TCP/IP Address

1. Open the Control Panel: select **Start** > **Settings** > **Control Panel**.
2. In the Control Panel, select **Network**.
3. In the Network dialog box, select the **Protocols** tab, and then double-click **TCP/IP Address**.

4. Write down the following information:
   - ❒ IP Address
   - ❒ Subnet Mask
   - ❒ Default Gateway
5. Click **OK** twice, and then close the Control Panel window.

Updating the Software



Note: If you are not upgrading a manual platesetter, proceed to *Assembling the Location Pin* on page 9.

The MCU is supported by Controller software version 1.60.09 (fiberhead) or 1.50.08 (Quantum) and higher. Make sure that you update the software to the latest available version.



For additional information on software versions, see the product site on TechPlanet, under reference (release notes) or downloads.

1. Install the newest software version on the Lotem 400.
2. In Controller, select **Hardware** > **Loading System** > **Manual**.
3. To verify that the new software is operating correctly, do the following:
   - ❒ Perform a laser calibration procedure.
   - ❒ Perform an edge detection sequence.
   - ❒ Load and unload a plate from the device.
4. Save the registry file on a floppy diskette.

Preparing the Lotem 400 for Upgrade



Note: If you are not upgrading a manual platesetter, proceed to *Assembling the Location Pin* on page 9.

1. Before upgrading the hardware, ensure that you have followed the steps on page 5.
2. Verify that the platesetter is leveled properly on all four legs. (See the *Lotem 400 Installation Guide*.)
3. Turn off the platesetter.
4. Disconnect the platesetter from the main power supply.
5. Turn off the air supply.

Removing the Lower Front Panel and the Loading Tray

1. Open the front door. (Use the manual opening procedure as described in the *Lotem 400 Installation Guide*.)
2. Remove the lower front panel.
3. Unplug the harness from the support brackets.



Figure 1: Support bracket harness

4. Disconnect the molex connector from its location on the support brackets.
5. Remove the two spring screws located on the top part of tray, near the platesetter frame.
6. Remove the two hex screws from each support bracket, and then remove the tray.

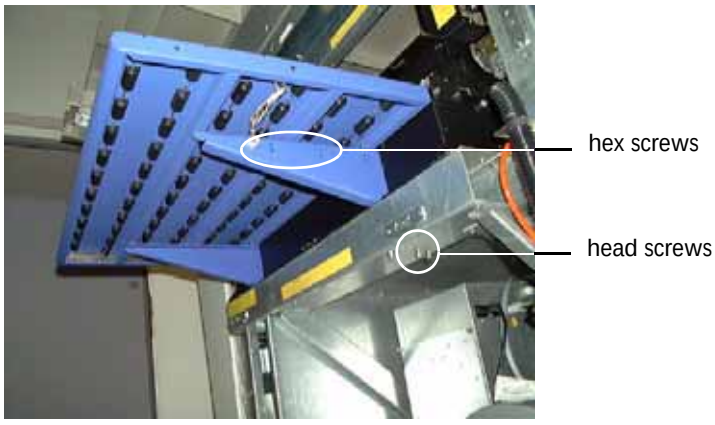


Figure 2: Removing loading tray

7. Remove the two bottom hexagonal head screws from each bracket, and then remove the support brackets.

Removing the Front Door

1. Remove the nine screws from the front door (four on the left side, four on the right side, and one in the center).



Figure 3: Front door screws, front view with door removed

WARNING: The next step, removing the front door, requires two people, as the door is very heavy.

2. Loosen but *do not remove* the two remaining screws, as shown in Figure 3, and then slide the door upwards to remove it.
3. Remove the two screws from the front door.

Removing the Plate Driver Assembly, Interlocks and Lockers

Note: Before proceeding, verify that the air supply to the platesetter is turned off.

1. Disconnect the harness molex from the machine, as shown in Figure 4.
2. To disassemble the plate driver assembly:
   a. Remove the seven screws, as shown in Figure 4.

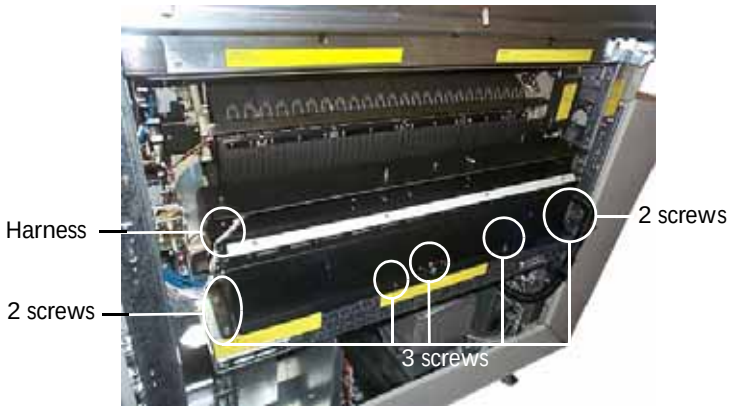


Figure 4: Plate driver assembly

b. Lift up the plate driver assembly, and then disconnect the two air pipes from the cylinder.

c. Remove the plate driver assembly.

3. To ensure that air does not escape during operation, fold the edges of the air pipes that you disconnected in step 2.b and close the adjusting screw in the manifold.

4. Remove the left and right door solenoids, as shown in Figure 5 and Figure 6.

5. On the left side, roll up the wiring, and then attach it to the harness.

Note: The solenoid wiring on the right side can remain loose, as it will be connected to the MCU.

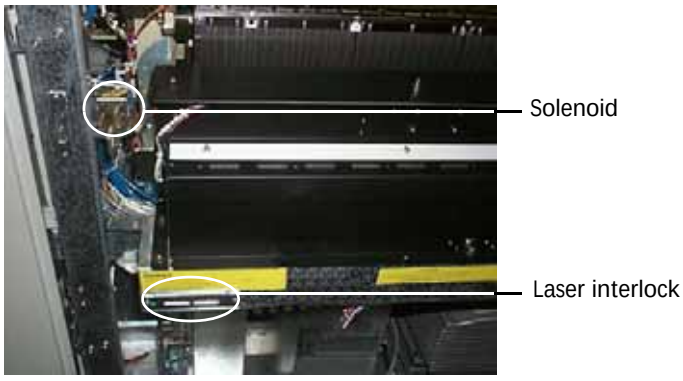


Figure 5: Front view, lower left side, non-Omron device

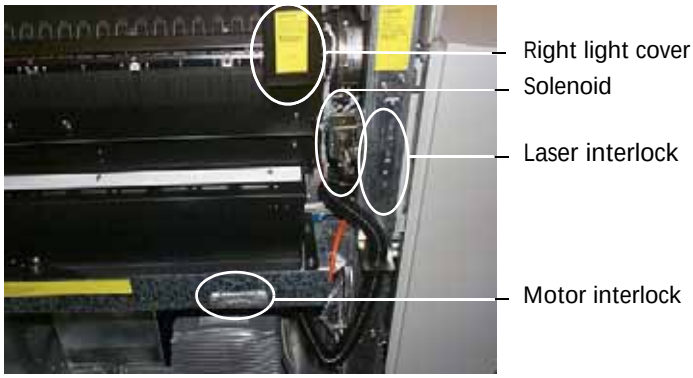


Figure 6: Front view, lower right side, non-Omron device

6. The existing right light cover extends too low and does not allow loading full size plages on the drum. Remove the existing light cover, shown in Figure 6, and install the light cover from the upgrade kit (part number 292A9C160).

7. Remove the left light cover, shown in Figure 7.

Upgrading to or Installing the MCU

Assembling the Location Pin

1. Attach the new upper light guard as shown in Figure 7, with the top part of it hanging over the screws, and then tighten the screws in the five existing holes.

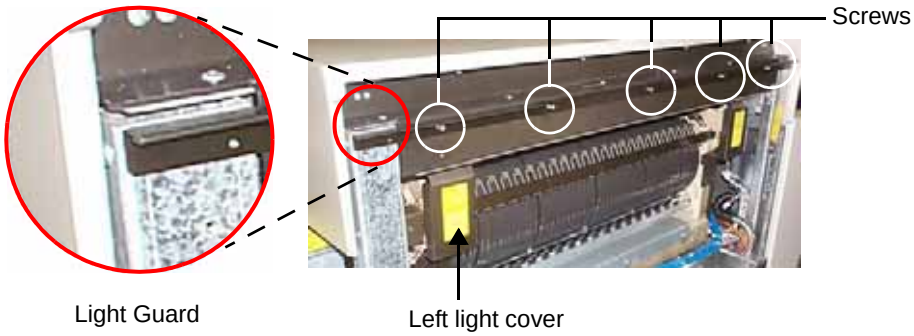


Figure 7: Front view, door removed

2. Assemble the location pin together with the left and right base, as shown in Figure 8.

Note: The kit includes two pins for old frames and two pins for new frames. If you are upgrading, assemble the location pin in the lower of the two holes.

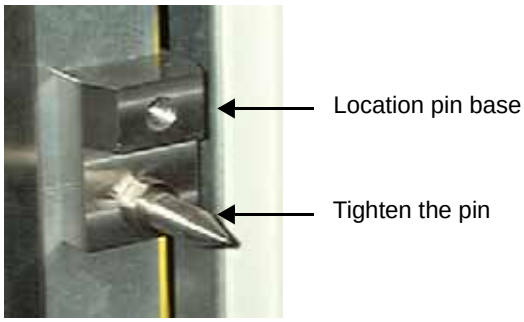


Figure 8: Location pin

Updating the Harness

Note: This procedure is for upgrades of *old* devices only. The new platesetter comes with the new harness installed. If you are not upgrading an *old* manual platesetter, proceed to page 13.

An adaptor harness is used for the upper door. Connect the pins at each end of the cable to the relevant molex, as follows:

- In the distribution box, connect the J4 molex to the following pins on the J4 end of the cable.
  - Pin 12 (white/gray)
  - Pin 6 (white/green)
- In the center of the platesetter, connect the P10 molex (located with all the other cables) to the following pins on the P10 end of the cable.
  - Pin 3 (white/gray)
  - Pin 11 (white/green)

Replacing the Drum Vacuum Adapter

Note: This procedure is for upgrades only. If you are not upgrading a manual platesetter, proceed to page 13.

1. On the right side of the platesetter, remove the existing drum vacuum hose adapter, and then install the drum vacuum hose adapter from the kit.
2. Secure the hose in place on both sides of the adapter with tie wraps.

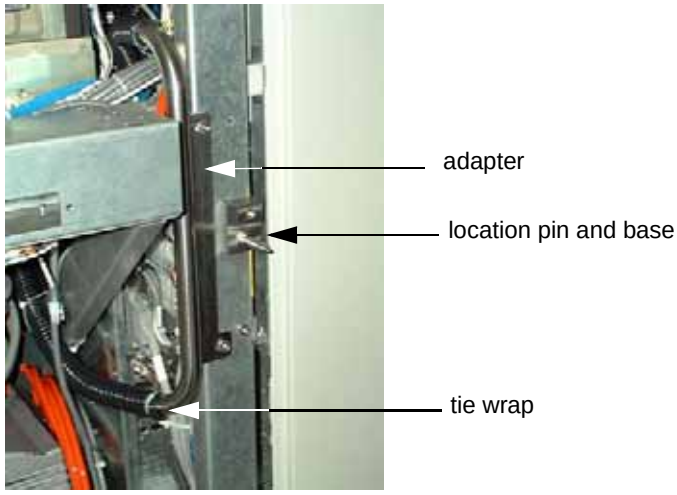


Figure 9: Drum vacuum hose

Bending the Platesetter Frame

Note: If you are not upgrading a manual platesetter, proceed to page 13. The new frame, shown following , consists of two removable parts.



Figure 10: New frame

If you are upgrading a manual platesetter, you must bend the frame located in the front of the platesetter, between the laser box and the distribution box.

1. Attach the frame bending jig to the mainframe and tighten the two screws.

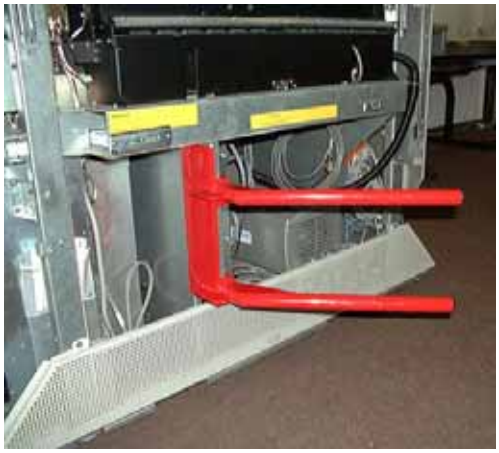


Figure 11: Bending jig installed on old frame

Note: If you need additional space for the next step, open the side door and rotate the laser box.

2. Bend the frame 90° clockwise in the direction of the laser box by pulling the jig to the left.

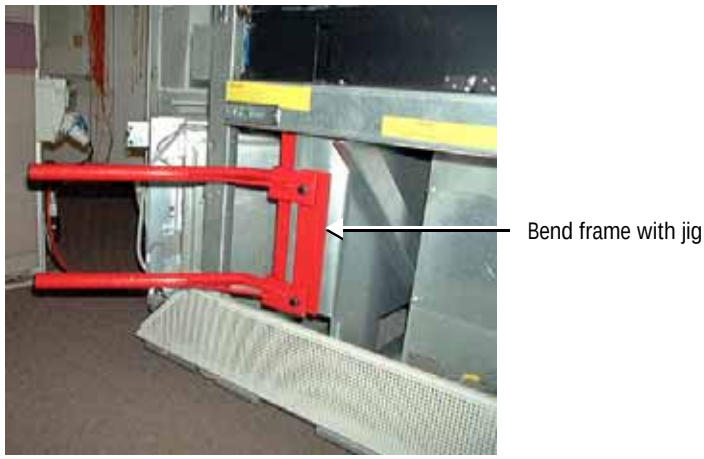


Figure 12: Old frame, bent

3. Remove the jig.

Assembling the Punch and Centering System

Note: From July 2003, all Lotem 400 MCU-ready machines are released with the punch and centering system assembled. If your machine was manufactured after June 2003, proceed to *Installing and Adjusting the Punches*, on page 15.

1. Connect the punch beam adaptors to the left and right sides of the platesetter, as shown in Figure 13.
   - ❒ Attach the left punch beam adaptor with two conical head screws, and then tighten both screws.
   - ❒ Attach the right punch beam adaptor with three conical head screws, and then tighten all three screws.

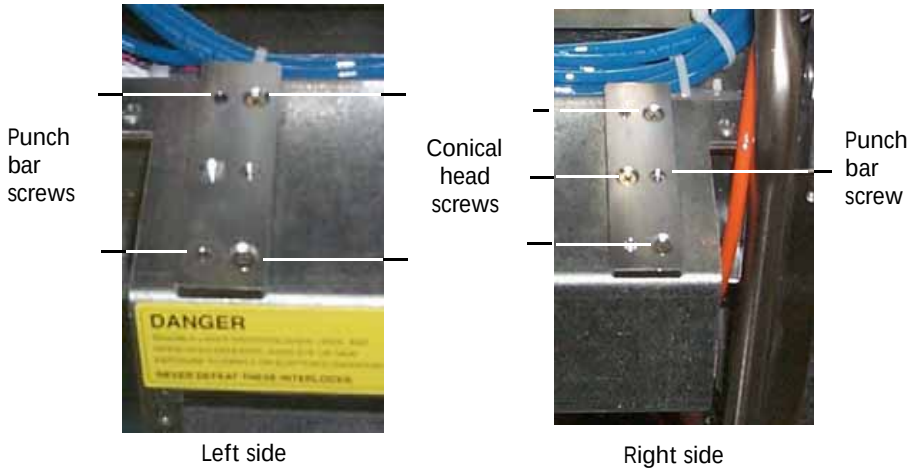


Figure 13: Punch beam adaptors

2. Place the punch and centering beam on top of the spacers, with the chain toward the front.
3. Insert the three punch bar screws as described below, but do not tighten the screws.
   - ❒ On the left, insert two punch bar screws as shown in Figure 13.
   - ❒ On the right, insert one punch bar screw as shown in Figure 13.
4. Measure the distance between the punch and centering system and the optomech on the left and right sides. The distance should be the same on both sides, with a tolerance of ± 0.5 mm. Adjust if required.

   Note: The holes are large enough to swivel the punch and adjust it so that it is parallel to the drum.

5. When the punch and centering system is correctly positioned, tighten the three punch bar screws.

6. Connect the green grounding cable from the far right side of the punch to the right light cover, as shown in Figures 14 and 15.

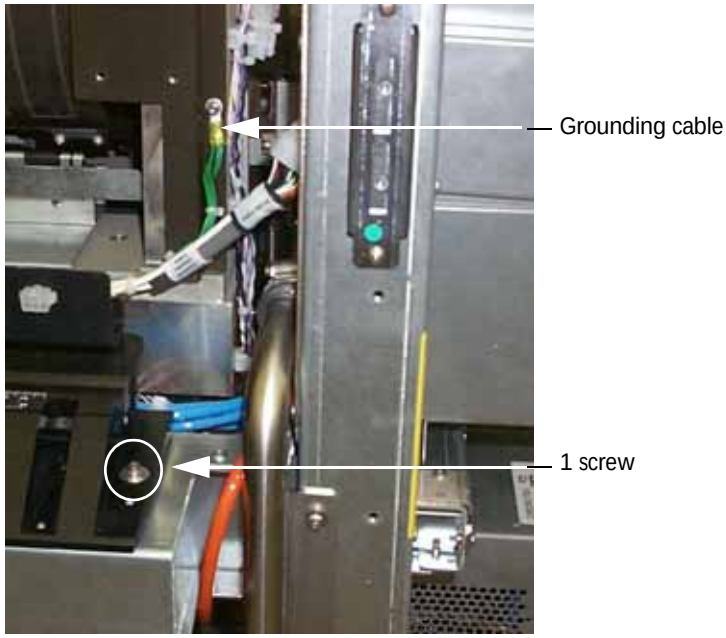


Figure 14: Punch system, right front, upgrade

7. Connect the centering motor and grounding cable, as shown, to any of the screws in the punch and centering system.

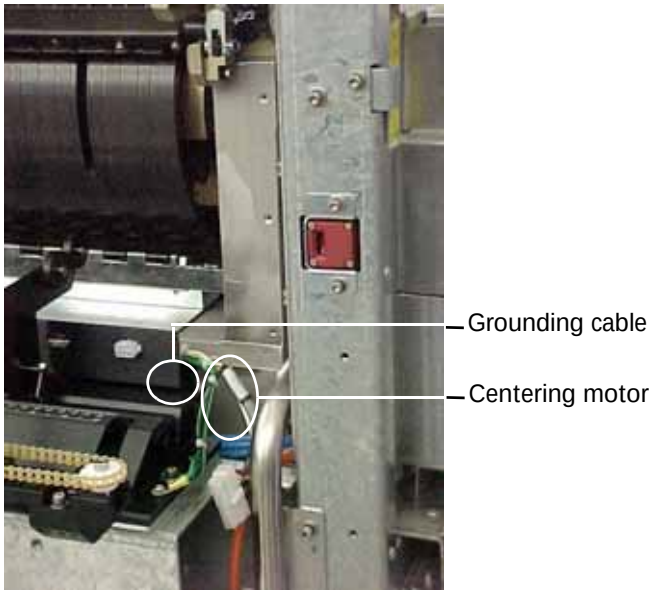


Figure 15: Punch system, right front, new

Installing and Adjusting the Punches

1. Install the punches with one hex screw each according to the device configuration (maximum six punches).

Note: Make sure to leave one roller in the center of the punch system in order to support thin plates.

2. Place a punched plate in front of the punch system.
3. Manually close the centering system.
4. Loosen the hex screw to adjust the punch positions according to the punch holes on the plate, and then tighten the hex screw.
5. Connect each punch to the nearest molex connector.

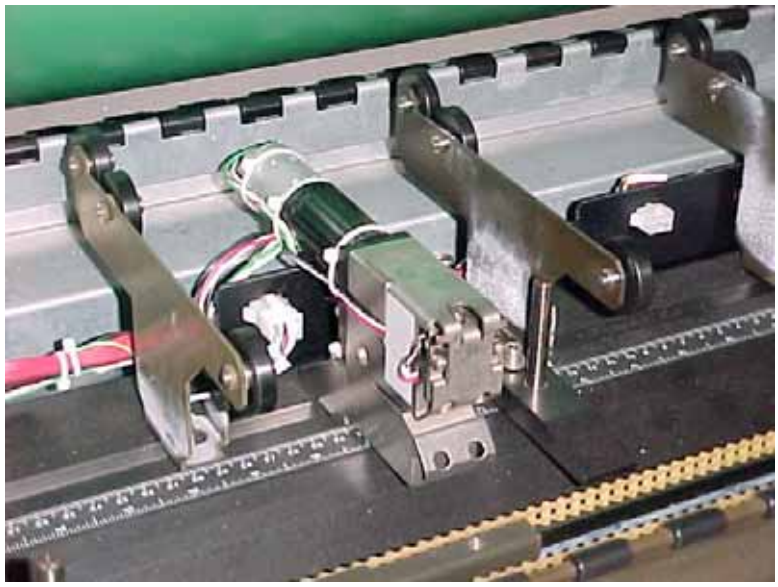


Figure 16: Punches

Note: After assembling the MCU, make any final adjustments to the punch system.

Connecting Devices

Note: To enable easy access, move the MCU to an approximately 45° angle from the platesetter.

1. In the right front (loading) side of the platesetter, disconnect the MCU jumper from the MCU(2) molex.

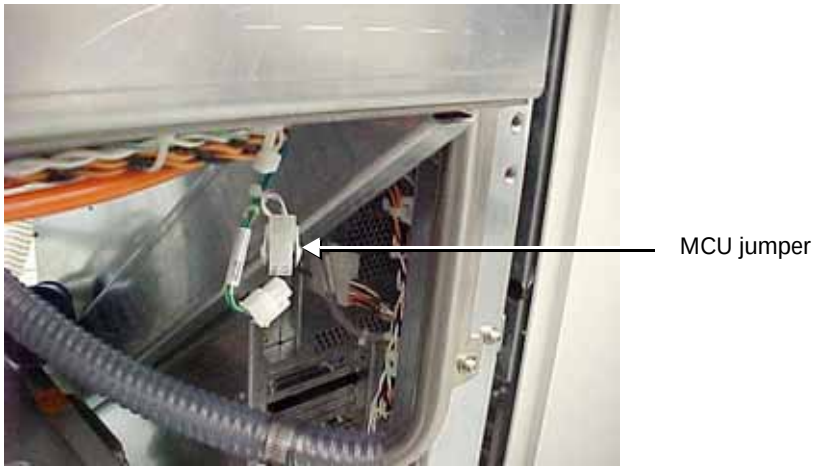


Figure 17: MCU jumper

2. Perform the following step according to your device type:

   - ❒ For Omron devices only—on the left side of the platesetter, disconnect the front panel molex (labeled FRONT PANEL) from the Omron interlock.
   - ❒ For non-Omron platesetters only—remove the laser and motor interlocks located in the lower frame of the platesetter, as shown in Figures 5 and 6).

Note: The harness that was connected to the laser and motor interlocks will be connected to the MCU. (See *Connecting the MCU to the Platesetter* on page 20.)

3. On the left front side of the platesetter, connect the Y interlock adaptor to the front panel molex (4 pins), the MCU connector, and the laser interlock connector, as shown.

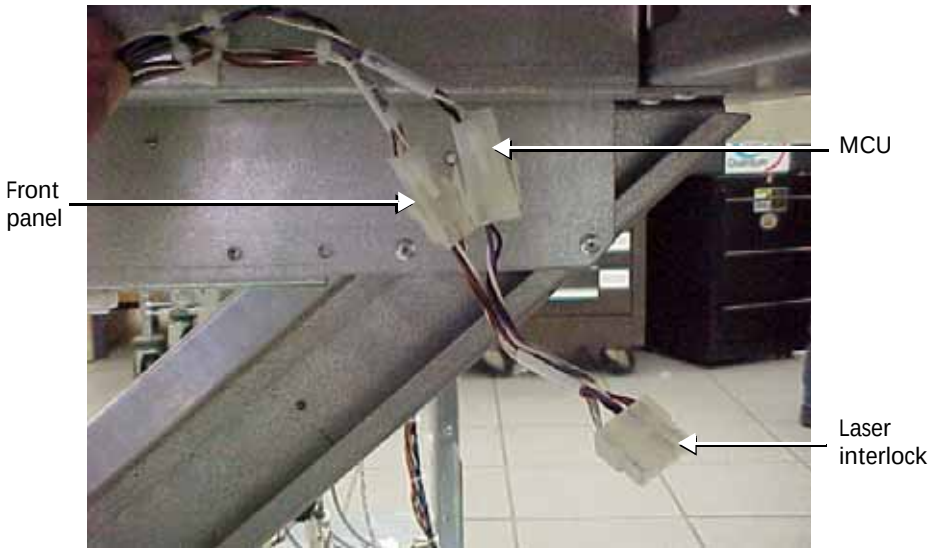


Figure 18: Y Interlock Adaptor

Connecting the CPU

1. On the platesetter, open the side door of the E-box.
2. If you are updating an early model machine, add the COM 2 port to the PC tray in the E-box.

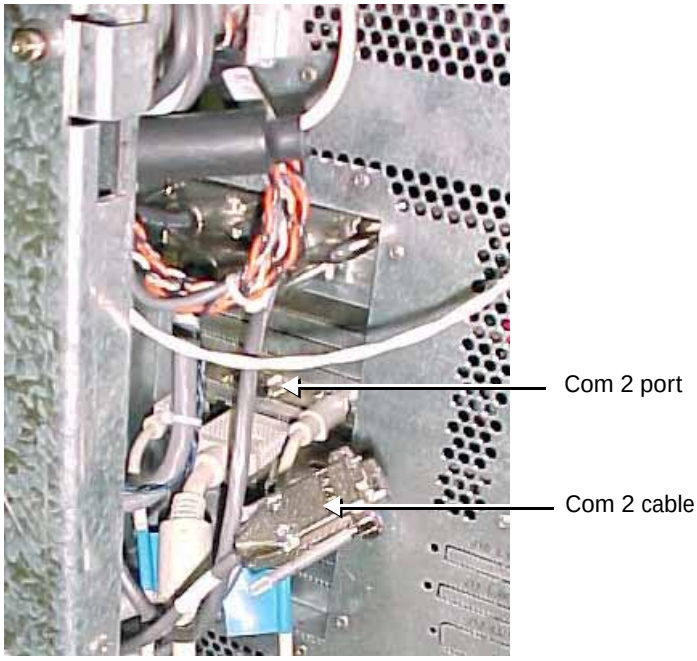


Figure 19: COM 2 port and cable

Note: The additional COM 2 port is supplied with the upgrade kit.

3. Connect the COM 2 cable to the COM 2 port.

Connecting the Air Pressure Pipe

1. Move the MCU approximately 50 cm away from the platesetter.
2. Plug one end of the air pressure pipe into the air pressure outlet in the wall.
3. If you are *not* upgrading, connect the air pipe into the MCU air outlet, and proceed to *Connecting the MCU to the Platesetter* on page 20.
4. For upgrades:
   a. Cut an 8 cm piece of air pipe.
   b. In the right back of the platesetter, attach one end of the 8 cm air pipe to the main air pressure outlet.
   c. Connect the other end of the 8 cm piece of air pipe to a Y connector, as shown in Figure 20.



Figure 20: Y connector and air pipes

   d. Connect a long piece of air pipe to the other side of the outlet on the Y connector, and route it toward the front of the platesetter.
   e. Connect the long air pipe to the MCU air outlet. Use tie wraps to secure the air pipe to the other cables.

Connecting the MCU to the Platesetter

Note: If your platesetter is a Quantum or Omron configuration, proceed to step 3 on page 21.

The MCU is shipped with interlock brackets that fit the Lotem 400 Quantum and Omron platesetters. Therefore, if your platesetter is not a Quantum or Omron configuration, you must first update the interlock brackets.

1. From the front side of the platesetter, remove the two interlock brackets, as shown in Figure 21.

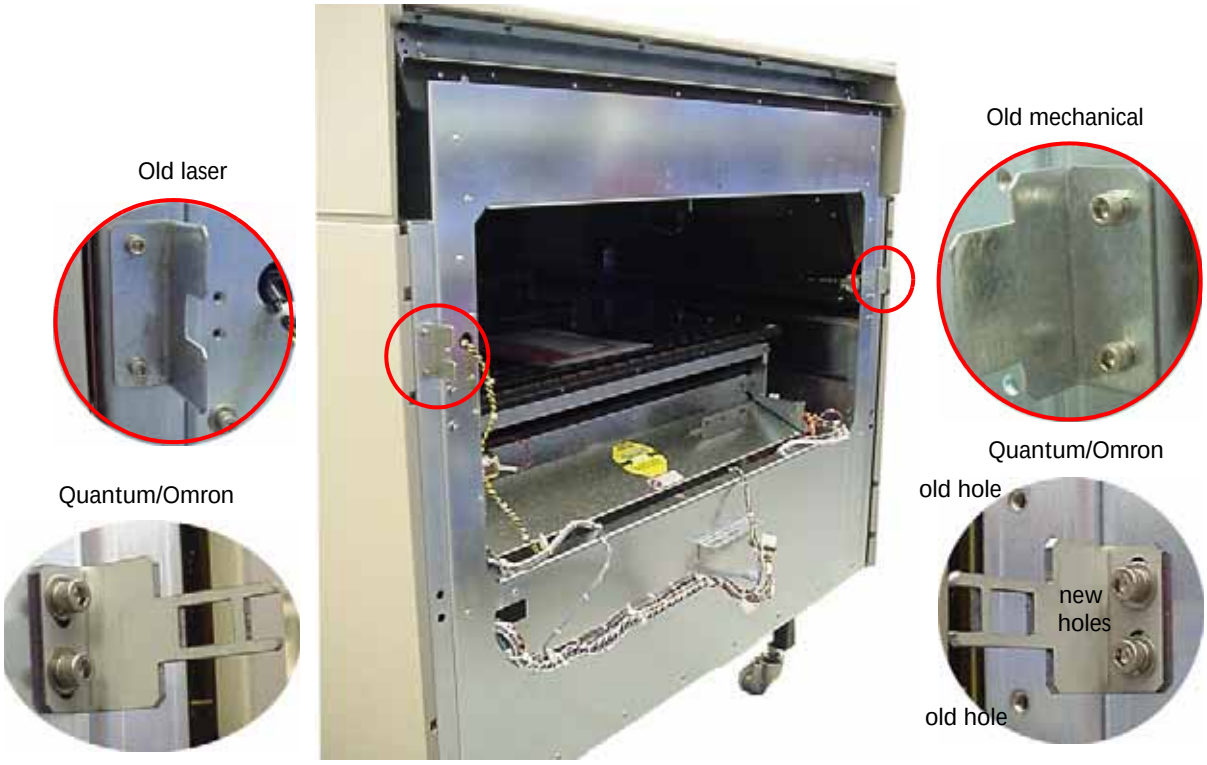


Figure 21: Lotem 400 fiberhead platesetter connection to MCU

2. On each side of the platesetter, install one Omron interlock bracket using the two new holes, as shown in Figure 21. Position the brackets so that the bracket extension faces out.

3. From the back left side of the MCU:

   - ❒ Connect the yellow/black cover solenoid cable (labeled COVER SOL) to the corresponding cable in the platesetter. This cable is wrapped inside the MCU, so you must release it first.
     (See *Removing the Plate Driver Assembly, Interlocks and Lockers* on page 7).
   - ❒ Connect the punch motor molex (labeled PUNCH MOTOR) to the punch system (labeled PUNCH MOTOR).
   - ❒ Connect the MCU motor interlock molex to the MCU(2) molex on the platesetter (that you disconnected from the jumper, see page 16).

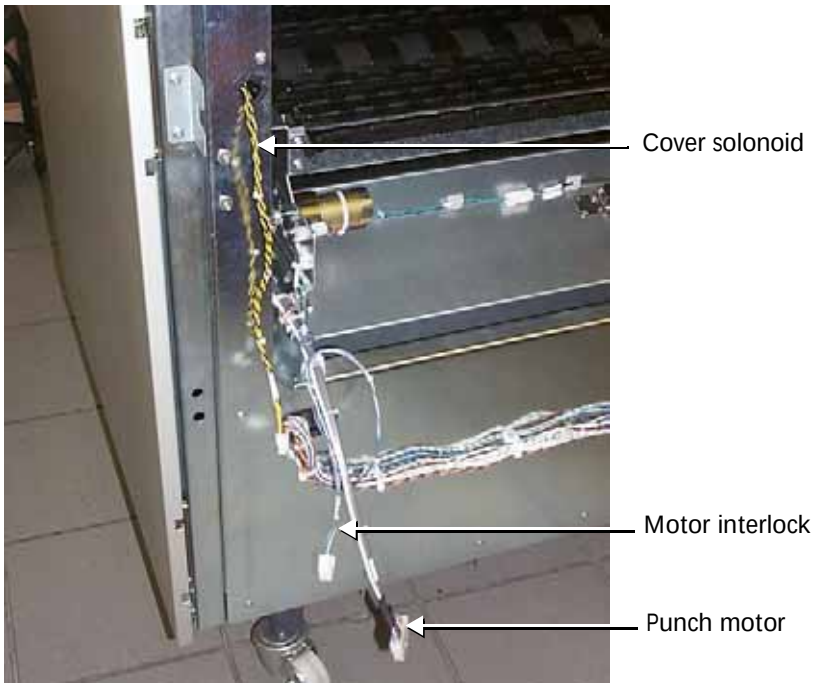


Figure 22: Cables and interlocks

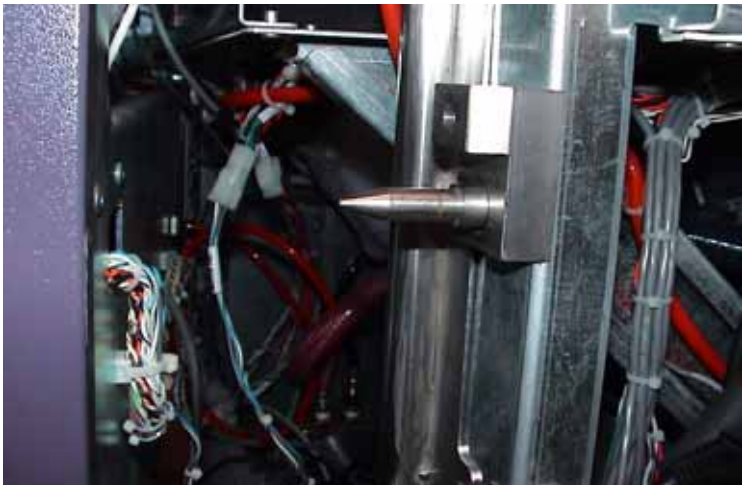


Figure 23: Motor interlock connected to MCU(2) connector

4. From the platesetter, route the communication cable (labeled FA COM) along the bottom of the platesetter to the J-8 connector on the Local3 board in the MCU.

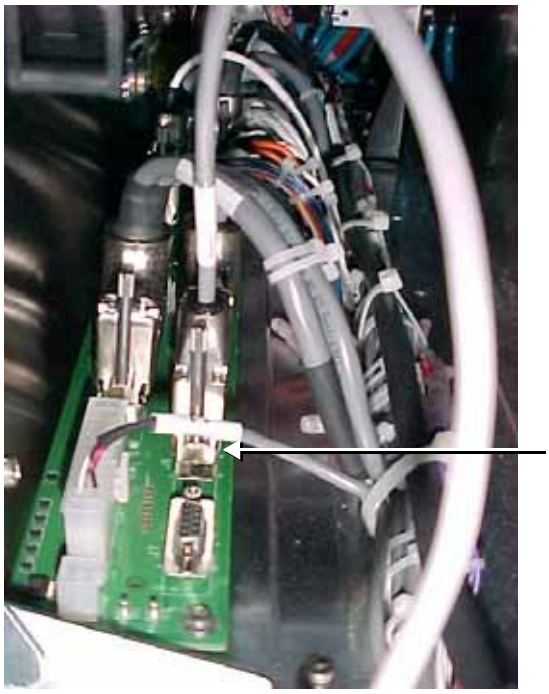


Figure 24: J-8 connector on Local3 board

5. From the center of the MCU, connect the four molexes (P-1, P-14, P-10, and the laser interlock) to the platesetter, as shown in Figure 25.

6. From the back right side of the MCU:
   - ❒ Connect the home position (HP) cable to the HP detector on the centering system on the platesetter.
   - ❒ Connect the centering motor cable (CENT MOTOR) to the motor (MOTOR WIRING) of the centering system.
   - ❒ Connect the centering pin cable (CENT PIN) to the molex on the two gray cables attached to the centering pins.
   - ❒ Connect the punch detector cable (PUNCH DET) to the punch system molex on the platesetter.

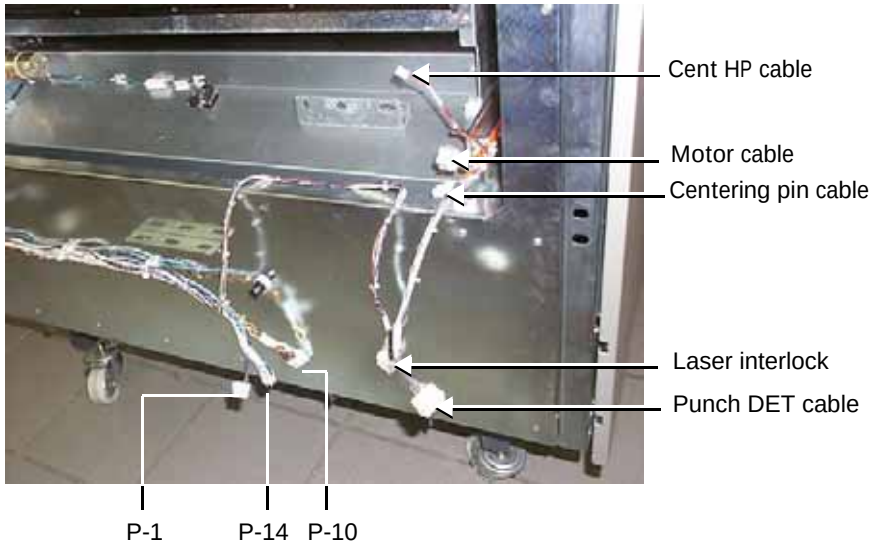


Figure 25: Molexes and cables, center and left side

7. Check that all the cables are neatly tied with white tie wraps so that they do not block the XY system.

Leveling the MCU

1. Carefully move the MCU close to the platesetter.



Note: Be careful not to disconnect or damage the cables while moving the machine.

2. To verify that the MCU is level on both axes, place a bubble level on the center front of the device, as shown, and then on the right side, and verify that it shows that the MCU is level.

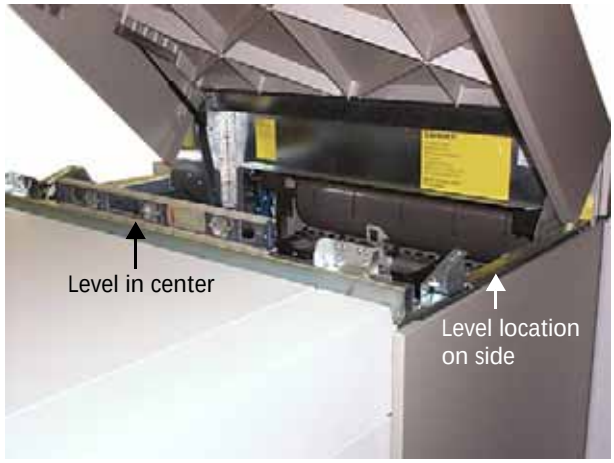


Figure 26: Bubble levels, center and right side

3. Open the side doors of the MCU.
4. To connect the MCU to the platesetter, adjust the height and level of the MCU using its four wheels. Ensure that the platesetter and the MCU are exactly the same height so that the location pins on the Lotem 400 slide into the holes in the mainframe of the MCU without touching the edges of the holes. (See Figure 8.)
5. Verify that the distance between the top of the platesetter and the top of the MCU is 16-18 mm.

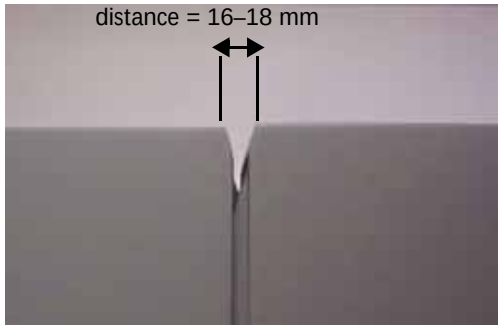


Figure 27: Top doors of platesetter and MCU

6. To verify that the weight of the MCU is evenly distributed on all four wheels, jiggle each wheel. If the wheels wobble, re-adjust the height of the MCU, and then use a bubble level to verify leveling.

7. Tighten the two connecting screws (part number 380A12140) on each side of the MCU mainframe.

Updating the Controller Software



Note: If you are not upgrading a manual platesetter, proceed to *To update Controller for the punch system* on page 26.

After the MCU is properly connected to the platesetter, continue with the software update.

To update Controller for MCU configuration:

1. Reinstall the new Controller software.
2. In Controller, select **Loading System** > **Multi Cassette**.
3. Run the application.
4. Restart the application.
5. To verify that the MCU system is functioning properly, perform the loading sequence. Calibrate if required.
6. To verify that the new software functions properly, calibrate the laser and verify that the plate definition is loaded correctly.
7. Save the **Registry** file on a floppy diskette (see *To Save the Registry File* on page 4).
8. Update the database according to customer requirements.
9. Save the database folder (see *To Save the DataBase Folder* on page 4).

To save NVS and Flash parameters from TMCE to the disk for Quantum platesetters



Note: If your platesetter is not a Quantum configuration, proceed to *To update Controller for the punch system* on page 26.

1. In Splot, after Quantum >>, type `PRM DIFF`.
2. Copy the table and save it as a text file. The NVS Parameters from TMCE are saved to the disk.
3. From the DOS Prompt, type
   `C:\TH2\Tools\Bload F=File Name_flash.bin p = x; b = 57600; d = flash; i = NVS upload`
   Wait until the Flash parameters file is saved.



Note: The file must be saved under the same directory as the Bload program.

To update Controller for the punch system

Note: In some cases, the MCU is sent with the punch system installed. If this is the case, proceed to *Testing and Check List* on page 27.

1. From the Main screen, access the punch parameters: Select **Utilities** > **Hardware** > **Other** > **Lotem 400** > **IO objects**.
2. For each punch motor and punch detector, change the **Open** status from 0 to **1**.

   Note: Select the relevant punch motor and punch detector according to the number on the molex connector on the punch system.

3. Restart the Controller Application.
4. Configure the punch motors according to customer requirements.

Testing and Check List

This section describes the tests you must perform, and provides a final checklist of procedures to explain to the customer.

Testing Centering



Note: Before beginning the tests described in this section, attach all translated labels (attached to the platesetter) in the language required.

1. Load a plate in the lowest cassette of the MCU. Make sure that the plate is centered in the cassette.
2. Insert the cassette and close the loader door.
3. In the Controller application, load the plate onto the drum.
4. Open the rear door and make sure that the distance between the plate and the edge of the drum is the same on both the left and right sides, with no more than 1 mm tolerance.
5. If the distance between the plate and the edge of the drum on the left and right sides varies by more than 1 mm, adjust the centering system assembly.

Testing Customer Plates

Test each plate type that the customer intends to use to verify that all plate types load properly.

1. Load a plate on the drum.
2. Operate all punch motors.
3. Check that all the punches are adjusted properly according to customer requirements.
4. Expose a test file and check registration.

Customer Onsite Training Check List

Explain the following basic operations to the customer, using the VRG as reference. Before leaving the site, verify that the customer understands and can perform these operations:

- Observing safety precautions
- Operating the Controller application
- Loading plates on all trays
- Removing plates from the XY system
- Removing paper from the paper disposal
- Initiating the XY system
- Exposing and media definition setup
- Performing basic maintenance (PM)
- Troubleshooting common customer-level problems

Equipment Supplied By Customer

Verify that customer has, or is aware that it is the responsibility of the customer to supply the following equipment:

- Light Table
- Plate measuring
- Plates
- Desk for monitor