Kodak

Punch Conveyor

Hardware and Software Installation Guide

English

731-01343A-EN Rev A

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Introduction

The Punch Conveyor Hardware and Software Installation Guide describes how to unpack and install a Kodak® punch conveyor at a customer site.

Before you unpack and install the punch conveyor, verify that the site is ready according to the *Magnus 400 II and Magnus 400 II Quantum Site Preparation Guide* (731-01214A).

The punch conveyor is a factory-assembled standalone unit.



Figure 1: Punch conveyor

To install and connect the punch conveyor to the platesetter, you need to perform the following tasks:

- Unpack the punch conveyor
- (Optional) Adjust the height of the punch conveyor
- Install the punch conveyor guides
- Install the CAN board in the PC
- Install the punch cover and connect the air pressure tube
- Connect the inter-connection cables from the punch conveyor to the platesetter
- Install the punches
- Define the punch conveyor configuration in the Magnus 400 Controller software
- Define punches
- Test the defined punches
- Test the punch conveyor
- Calibrate the alignment system
- (Optional) Install the processor adapter plate
- (Optional) Install the plate slider brackets and plate slider

Unpacking the Punch Conveyor

Important: Read this entire section before you unpack the platesetter.

Throughout the unpacking process, handle all packing material with care. These materials will be used again in the future to transport the punch conveyor.

Requirements

- Forklift
- Hex key set
- Wrench

Before Unpacking

Before you unpack the punch conveyor, verify the following conditions:

- The shipping container is not damaged.

  Important: If the container is damaged in any way, notify the shipping agent immediately and do not unpack the punch conveyor.
- The temperature where you are unpacking the punch conveyor is not less than 0°C and not more than 30°C.
- The room is air-conditioned (in case of very humid weather).
- There is ample space to easily maneuver the punch conveyor.
  - ❒ There is space for the forklift to lower the punch conveyor from the shipping pallet.
  - ❒ The doorway clearance is adequate for the punch conveyor and forklift.



WARNING: Do not unpack the punch conveyor if these conditions are not met.

Device	Width	Length	Height	Weight
Punch conveyor	1010 mm (39.76 in.)	1170 mm (46.06 in.)	1020 mm (40.16 in)	60 kg (132.3 lb)
Platesetter with loading tray and punch conveyor	2120 mm (83.46 in.)	2920 mm 114.96 in.)	2360 mm (92.91 in.)	810 kg (1785.7 lb)

Removing the Punch Conveyor From the Packaging

At least two people and a forklift are required to unpack and lower the punch conveyor from its shipping pallet.

1. Using the forklift, lift the shipping container, and place it at the unpacking site.

   Important: See the label on the shipping container to make sure that you lift the container from the correct side.

2. Carefully cut the steel bands that surround the carton.



Figure 2: Steel bands on packing carton

3. Open the top flaps of the carton.
4. Remove the entire carton.



Figure 3: Removing the packing carton

5. Remove the top support struts and the side support struts.

   Important: If signs of ice appear on the punch conveyor, do not touch any of the mechanical parts. Wait at least 24 hours (preferably 48 hours) for the punch conveyor to reach room temperature.

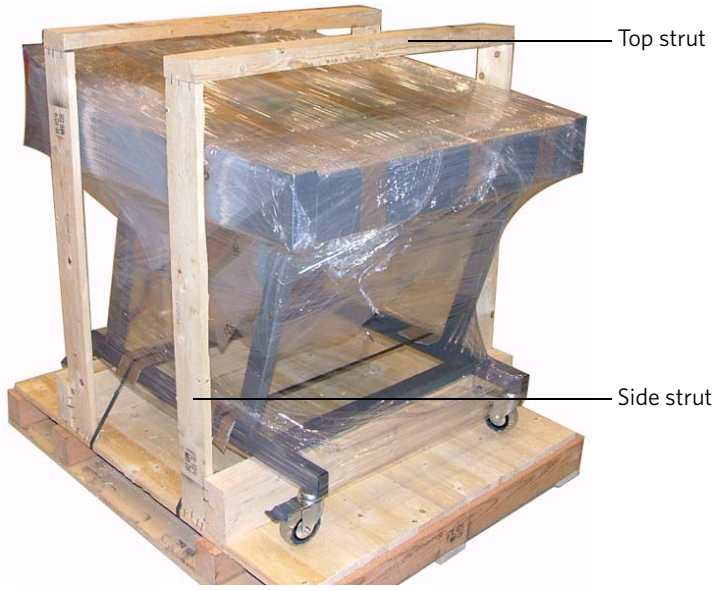


Figure 4: Removing the top and side support struts

6. Remove the steel bands that secure the punch conveyor to the shipping pallet.

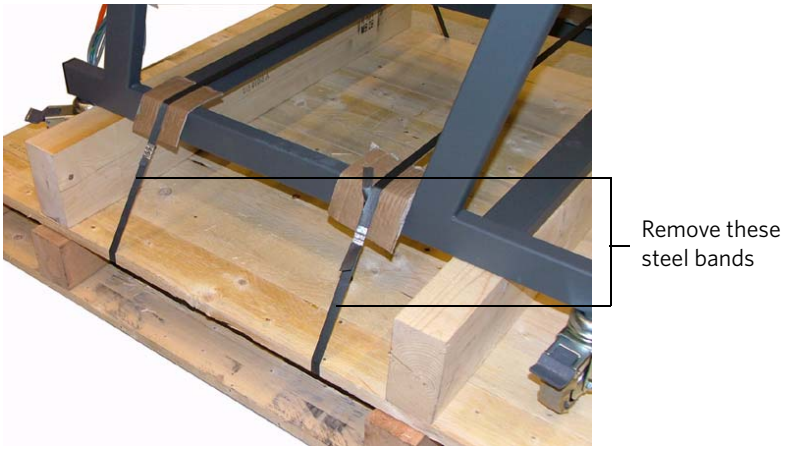


Figure 5: Removing the steel bands that secure the punch conveyor to pallet

7. Remove the nylon wrapping from the punch conveyor. Be careful not to scratch the punch conveyor.



Figure 6: Removing the nylon wrapping

Note: Two plastic bags containing the CAN board and the slider brackets are attached to the underside of the punch conveyor. Remove the bags after the punch conveyor reaches it final location.



CAN board attached to punch conveyor mainframe



Slider brackets attached to punch conveyor mainframe

Figure 7: CAN board and slider brackets attached to mainframe

The processor adapter plate (for platesetters with processor configurations) is also shipped with the punch conveyor unit (wrapped separately in bubble wrap).

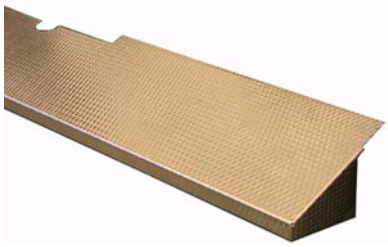


Figure 8: Processor adapter plate

8. Using the forklift, lift the punch conveyor off of the shipping pallet, and then carefully lower it down to the floor.
9. Roll the punch conveyor to its final location.

Parts Checklist

For a parts list, see the *GCL* forms attached to the punch conveyor packaging.

(Optional) Adjusting the Height of the Punch Conveyor

The height of the punch conveyor is determined by the height of the processor used with the platesetter configuration. The standard processor accommodates the default factory-assembled punch conveyor height. For higher processors, you must adjust the height of the punch conveyor.

1. Under the punch conveyor, remove the eight screws that secure the punch conveyor height brackets to the punch conveyor unit (two on each bracket), and set aside.



Figure 9: Removing the height brackets

2. Remove the cables that are secured (with cable ties) along the leg of the punch conveyor. Wind the cables into a coil. Secure the coil with a cable tie and attach it to the punch conveyor under the mainframe.



Figure 10: Removing cables along the leg of the punch conveyor

3. Carefully lift the punch conveyor unit off of the legs, and set aside.
4. Remove the remaining eight screws that secure the punch conveyor height brackets to the legs (two on each leg), and set aside.
5. Rotate the four punch conveyor height brackets 90°.
6. Reinstall the punch conveyor unit on the legs and secure the punch conveyor height brackets to the unit with the eight screws (two on each bracket) that you removed in step 1, and tighten the screws.



Figure 11: Securing the height brackets

7. Insert the remaining eight screws that secure the punch conveyor height brackets to the legs (two on each leg), and tighten the screws.

Installing the Punch Conveyor Guides

The location of the punch conveyor guides (on the rear panel of the platesetter) is determined by the height of the processor that is used with the platesetter and punch conveyor configuration. The standard processor accommodates the default factory-assembled punch conveyor height. For higher processors, you must install the punch conveyor guides to accommodate the height of the punch conveyor.

1. On the left and right sides of the rear panel of the platesetter, insert the three screws that secure the punch conveyor guides (one on each side of the rear panel) to the platesetter so that the height of the punch conveyor matches the height of the punch conveyor guides.

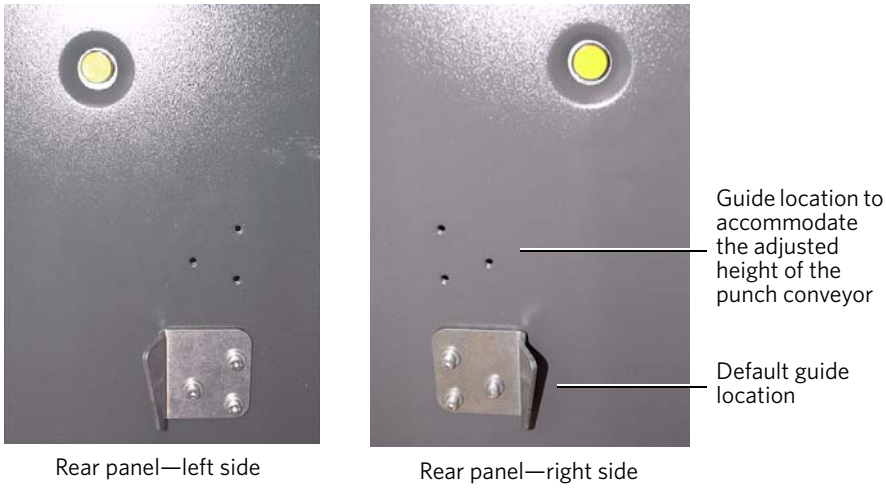


Figure 12: Punch conveyor guides

2. Push the punch conveyor back toward the platesetter, and position it between the punch conveyor guides.

Installing the CAN Board

This section describes how to install the CAN board on the computer (PC) inside the platesetter.

1. Shut down the Magnus 400 II system.

   Note: To shut down the system, quit the Magnus 400 Controller software and turn off the platesetter.

2. On the platesetter, remove the rear panel.
3. From the loading direction, open the right side door and remove the four screws from the PC side cover. Remove the PC cover and set the screws aside.

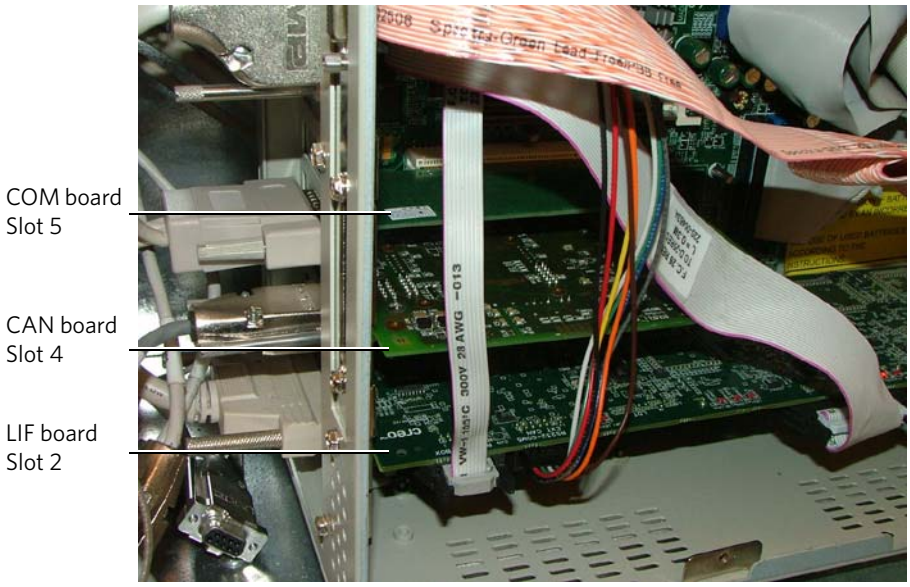


Figure 13: CAN board location in the PC

4. Remove the two screws that secure the board protection bracket to the PC chassis and remove the bracket and set both the screws and bracket aside.
5. Install the CAN board in slot 4 and, on the port side of the PC, make sure that the two DIP switches are set to **ON**.

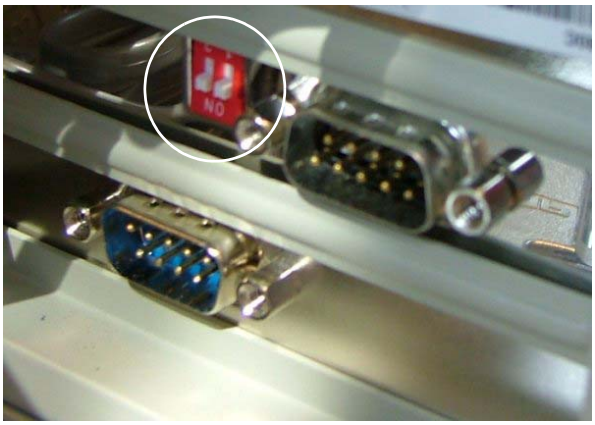


Figure 14: DIP switches

6. Tighten the slot 4 screw to secure the CAN board to the PC chassis.
7. Reinstall the board protection shield.
8. Reinstall the PC cover.

Installing the Punch Cover

When the punch conveyor is shipped, the punch cover is wrapped separately in bubble wrap and secured either on top of the punch conveyor or to the shipping pallet. After you roll the punch conveyor to its permanent location, you need to remove the bubble wrap from the punch cover and install the cover on the punch conveyor.

1. Remove the bubble wrap from the punch cover.
2. With two hands, lift the punch cover and insert the steel rod it into the grooves (one on each side) on the punch cover frame.

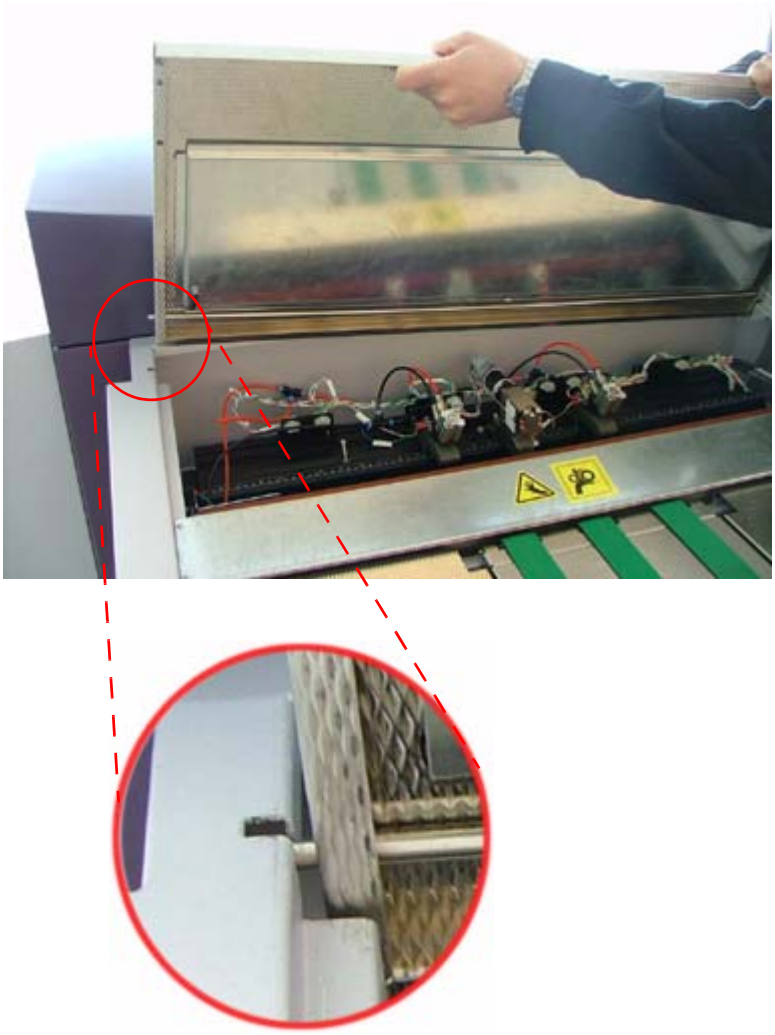


Figure 15: Inserting the punch cover

3. On the underside of the punch cover, connect the orange tube to the air pressure connection.

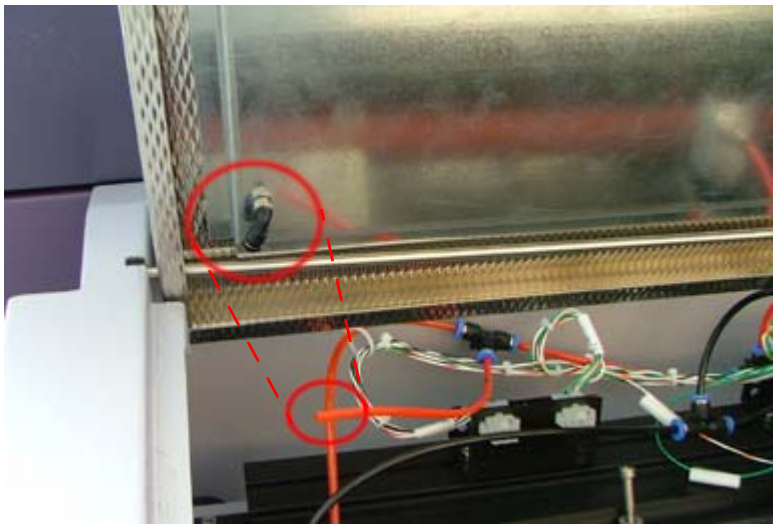


Figure 16: Connecting the air tube

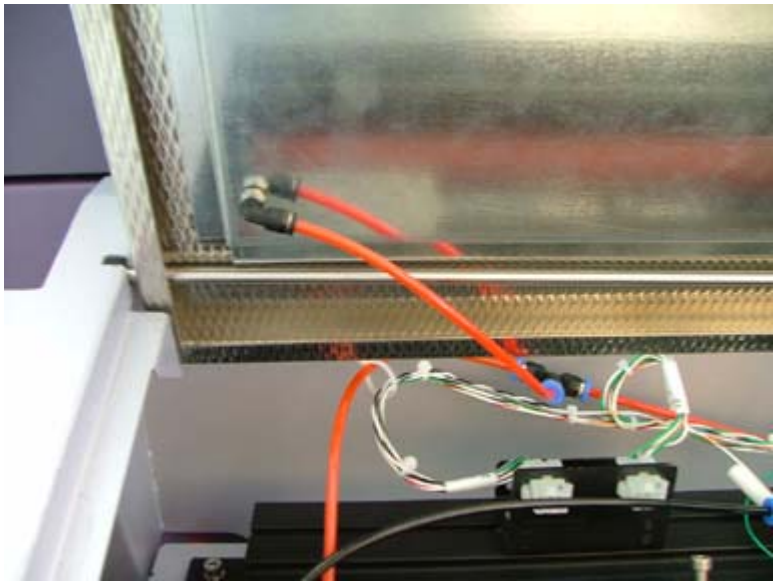


Figure 17: Air tube connected

Connecting the Inter-Connection Cables

This section describes how to connect the cables from the punch conveyor to the cable connections on the platesetter.

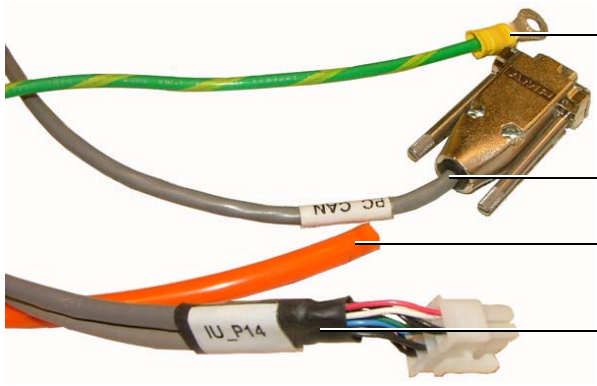


Figure 18: Inter-connection cables

Route the cables from the punch conveyor to the platesetter through the opening on the left side of the rear trapezoid.

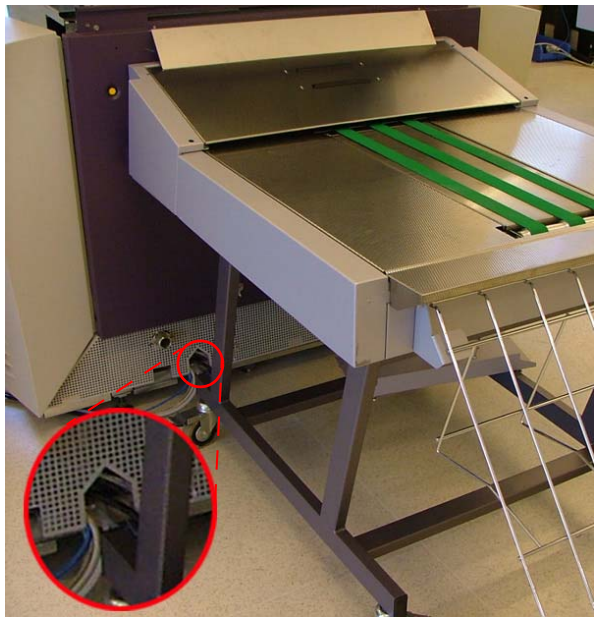


Figure 19: Opening on rear trapezoid for routing cables

1. Route the PC CAN cable on the punch conveyor through the opening on the left side of the rear trapezoid, and then behind the PC. Connect the PC CAN cable to the CAN bd port (slot 4).

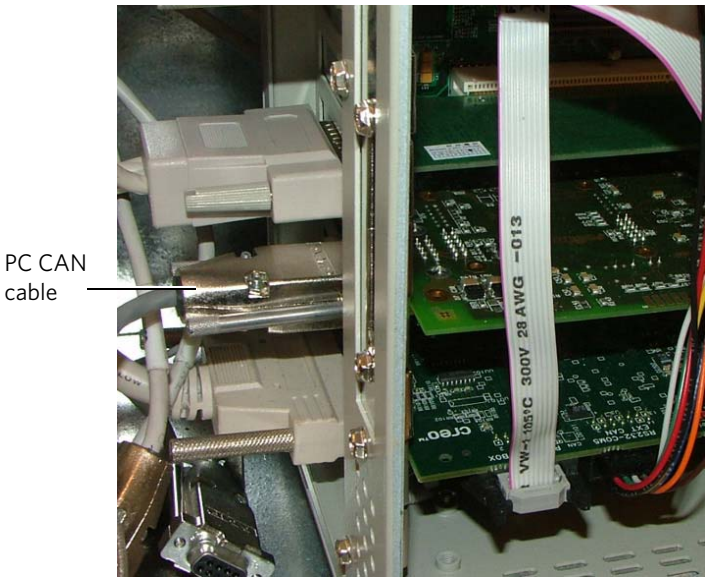


Figure 20: PC CAN cable

2. Route the orange air pressure tube on the punch conveyor through the same opening on the rear trapezoid (see Figure 19 on page 15), and connect it to the main air hose connection on the platesetter:

   a. On the platesetter, remove the orange tube connected to the main air hose connection.

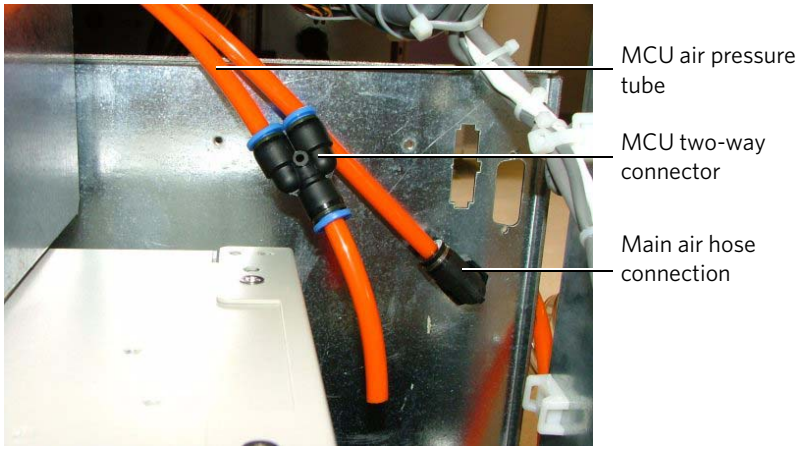


Figure 21: Installing the air pressure tube

   b. Remove the MCU two-way connector from the orange MCU air pressure tube.

c. Connect the MCU two-way connector to the main air hose connection.



Figure 22: Connecting the air pressure tube

d. Connect the orange air pressure tube from the punch conveyor to the right connection on the MCU two-way connector and connect the platesetter's orange air tube to the left connection on the MCU two-way connector.

Note: Route the MCU air tube so that it does not block or interfere with the other cables inside the platesetter.

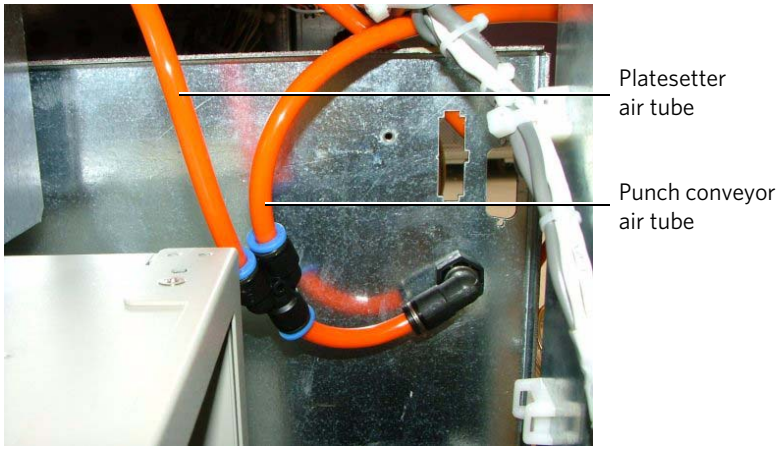


Figure 23: Air pressure tube connected

3. Remove the two screws that secure the front panel to the mainframe.
4. Remove the front panel.

5. Route the power cable on the punch conveyor behind the PC, and connect it to the MCU (P14) harness.

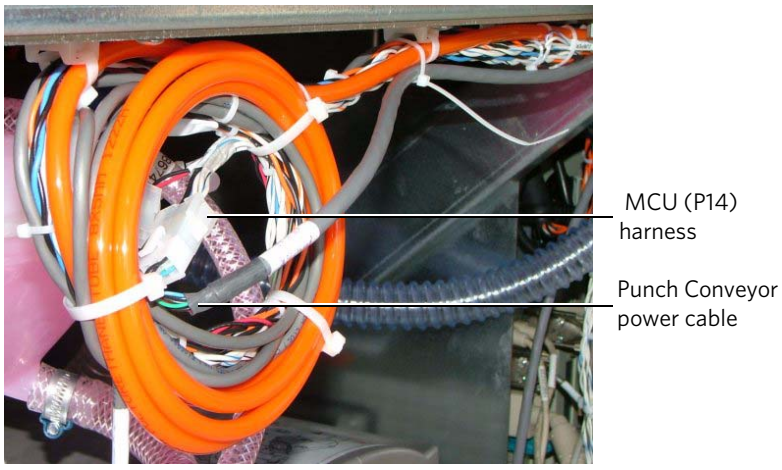


Figure 24: Routing the power cable

6. Secure the power cable to the other cables with cable ties.
7. Route the grounding cable on the punch conveyor through the opening on the rear trapezoid, and then attach it to the floor of the mainframe between the vacuum pump and the D-box.

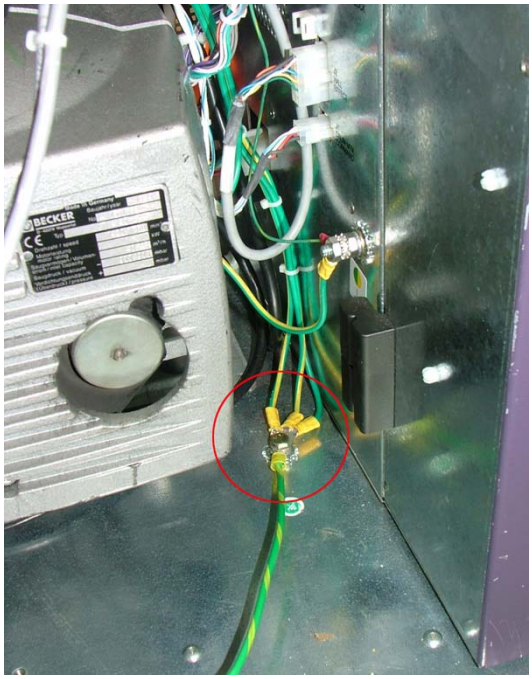


Figure 25: Attaching the grounding cable

8. Bundle all the excess cables and store inside the rear panel. Make sure the cables do not block the vacuum pump fan.
9. Reinstall the front panel.

Installing Punches

This section describes how to install punches on the punch conveyor's punch beam.

Punches are available in three different widths to accommodate single, double, and triple punch requirements with long punch guides.



Double/triple punch 69 mm (2.72 in.)	Double/triple punch 50 mm (1.97 in.)	Double punch 30 mm (1.18 in.)	Single punch 30 mm (1.18 in.)

Figure 26: Punch types

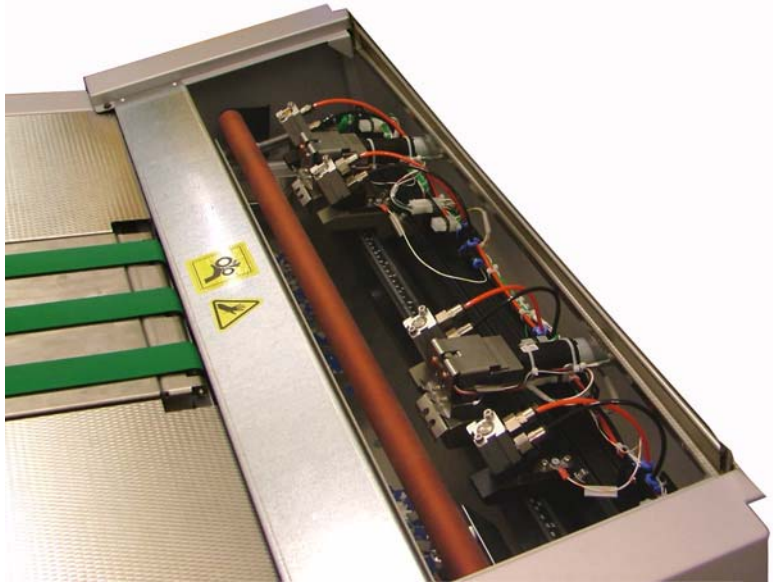


Figure 27: Punches installed on the punch conveyor's punch beam

1. On the underside of the punch cover, disconnect the orange air pressure tube.

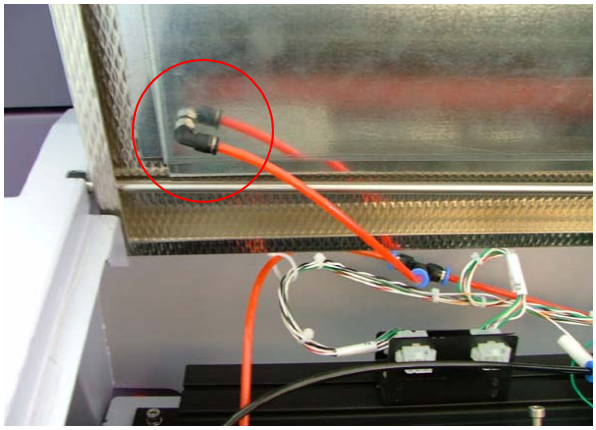


Figure 28: Air tube on underside of punch cover

2. With both hands, lift the punch cover up and off the conveyor, and set aside.

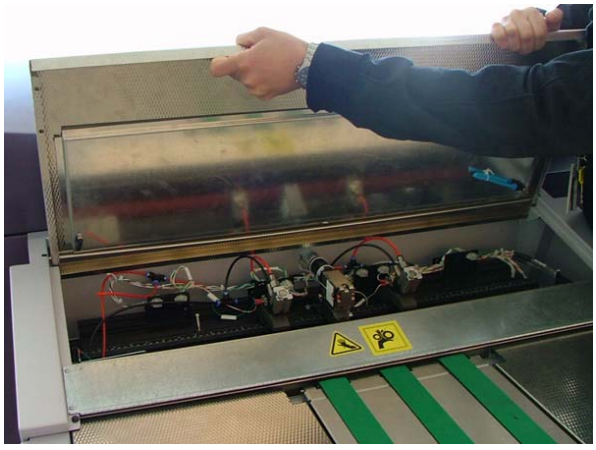


Figure 29: Lifting up the punch cover

3. Locate the spare T nut in the center of the punch beam, and then proceed to step 6.

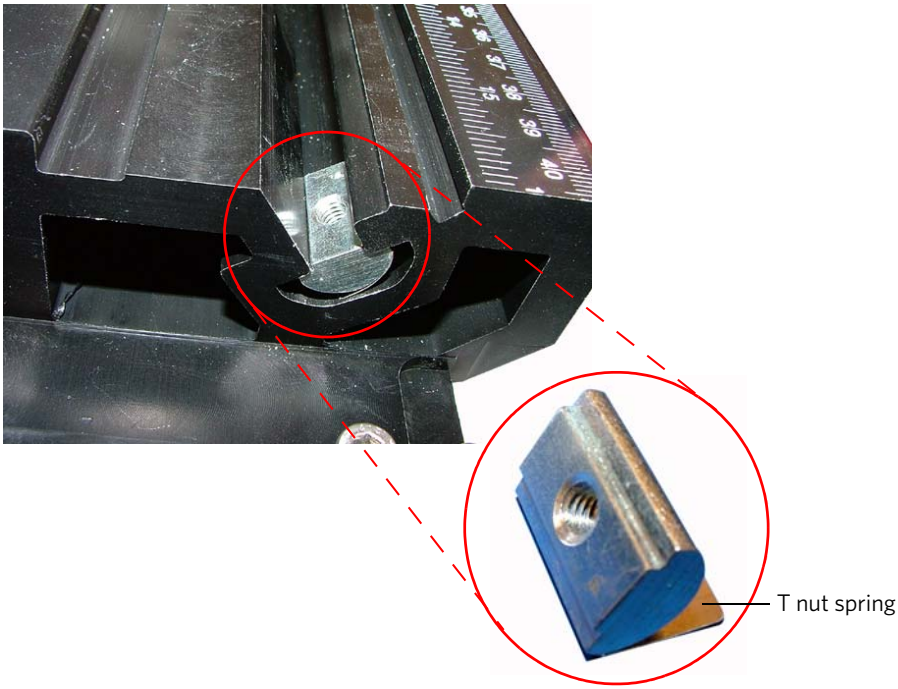


Figure 30: T nut

4. If a spare T nut is not available in the center of the punch beam, mark the location of each of the existing punches.
5. Remove the two punches on the left side of the middle punch, and then remove the middle punch.
6. Insert a T nut (spring-side down) into the groove, and slide it to the middle of the punch beam where the new punch will be installed.

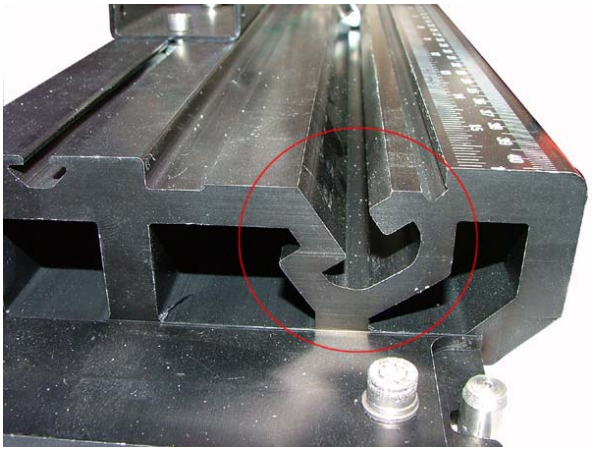


Figure 31: Inserting a T nut into the punch beam

7. On the punch beam, install the punch according to the customer's punch configuration and tighten the metric socket head cap screw into the T nut.

   Note: Use the customer's reference plate with emulsion side up to determine the correct punch positions.

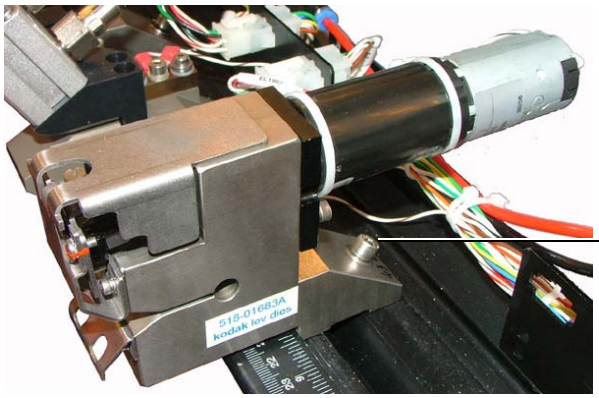


Figure 32: Installing a punch on the punch beam

8. Connect the punch connector to the punch Molex™ connector.
9. If one of the plate holders is located over a T nut, move the plate holder to another location on the punch beam.

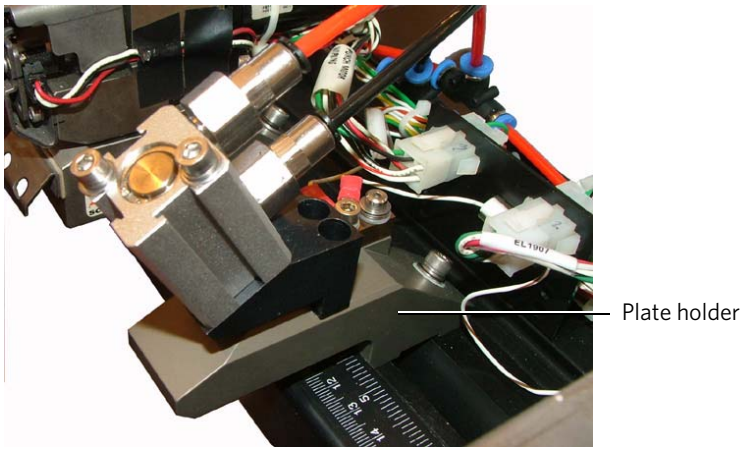


Figure 33: Plate holder

10. On the punch beam, re-position the plate holders so that they are as far apart as possible from each other (with the maximum width allowable between them), but within the permitted boundaries for the smallest plate width that you want to punch.

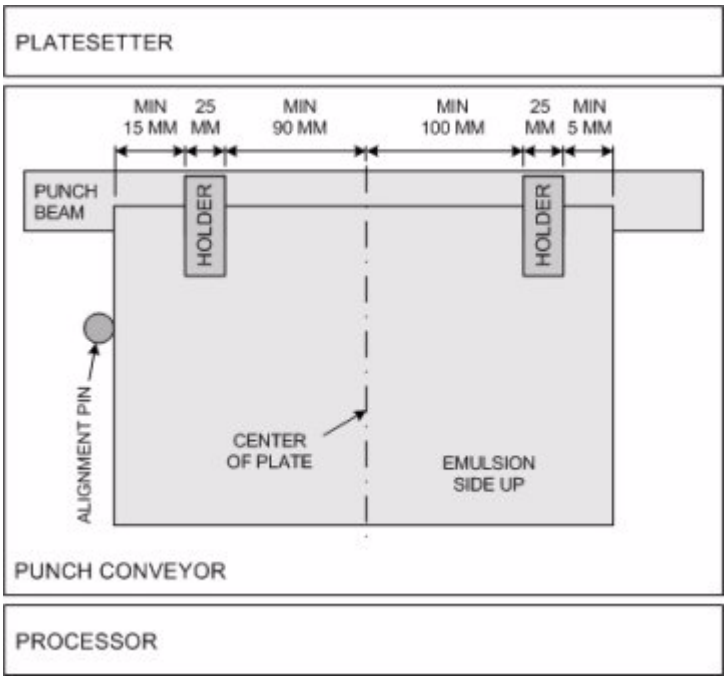


Figure 34: Plate holder positions

- The minimum plate size that should be punched is 265 mm.
- To punch a variety of plate sizes where the difference between the smallest plate and largest plate is more than 350 mm (in plate length along the drum), install outer plate holders (part number 518-03316A).

  Note: To install outer plate holders, see *Plate Holders* on page 24.

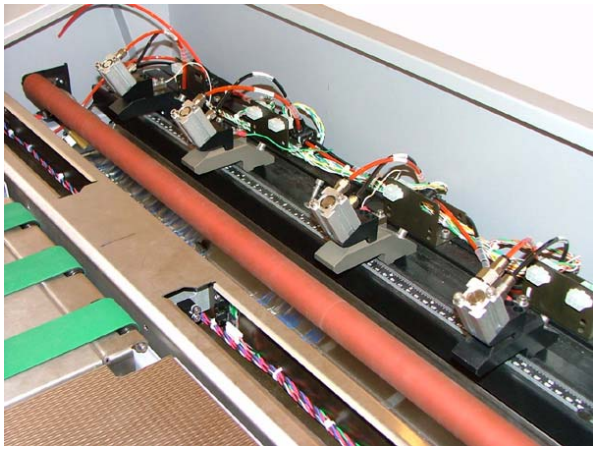


Figure 35: Outer punch holders installed on punch beam

11. Reinstall the punch cover.
12. On the underside of the punch cover, reconnect the orange air pressure tube.

Plate Holders

The standard punch conveyor configuration includes two inner plate holders (right and left). The inner plate holders are factory-installed on the punch beam. Plate-holder wires are connected to the plate holders and color-coded for easy identification: the right inner plate-holder wire is white and yellow, and the left inner plate-holder wire is green.

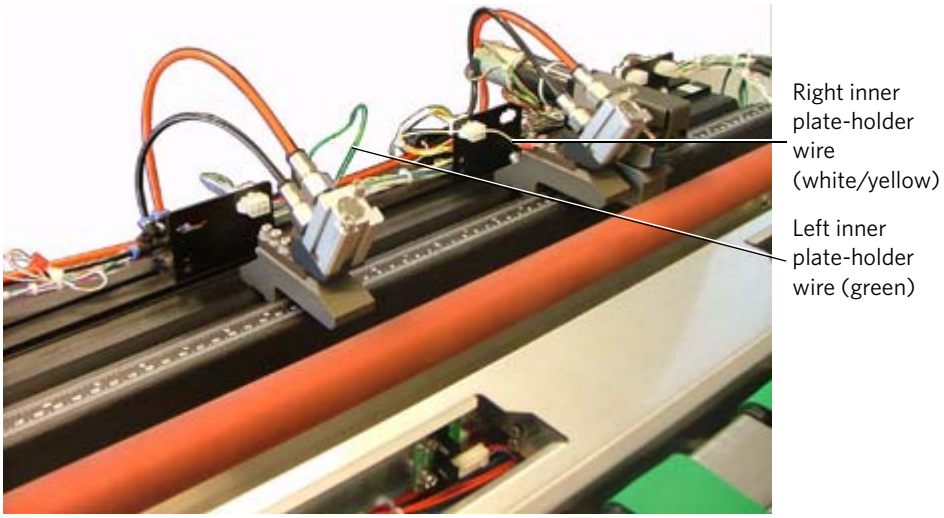


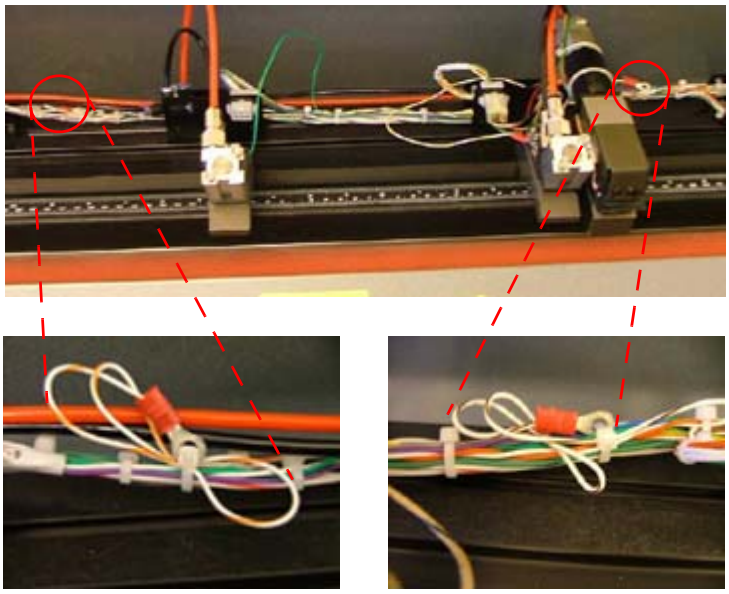
Figure 36: Factory-installed inner plate holders

Attention: To punch plates where the difference in size (along the drum) between the smallest and largest plate is up to 350 mm, you must connect both the inner plate-holder wires and the outer plate-holder wires to the inner and outer plate holders.

To install the plate holders:

1. For plates that are 625 mm and smaller (along the drum), position the inner plate holders according to Figure 34 on page 23.
2. On the punch beam, install the outer plate holders on either side of the inner plate holders and tighten the metric socket head cap screws into the T nuts.
3. For all plates more than 625 mm (along the drum), position the outer plate holders according to Figure 34 on page 23.

4. From the punch and plate-holder wire harness, locate the left (white and orange) and right (white and brown) outer plate-holder wires and connect them to the left and right outer plate holders.



Left outer plate-holder wire (white and orange)

Right outer plate-holder wire (white and brown)

Figure 37: Connecting the outer plate-holder wires

(Optional) Changing the Location of the Detector Wiring

Note: When two punches are positioned too close to each other, you need to change the location of the punch detector wiring before adjusting the punch detector.



Figure 38: Punch detector wiring in Molex connector

1. Disconnect the Molex® connector that contains the punch detector wiring from the punch detector.
2. On the punch, remove the two #3 screws that help to secure the detector holder to the punch, and set aside.
3. Remove the two #2 screws that help secure the detector holder to the punch, and set aside.
4. Turn the punch detector upside down, and reconnect the Molex connector and wiring to the punch detector.

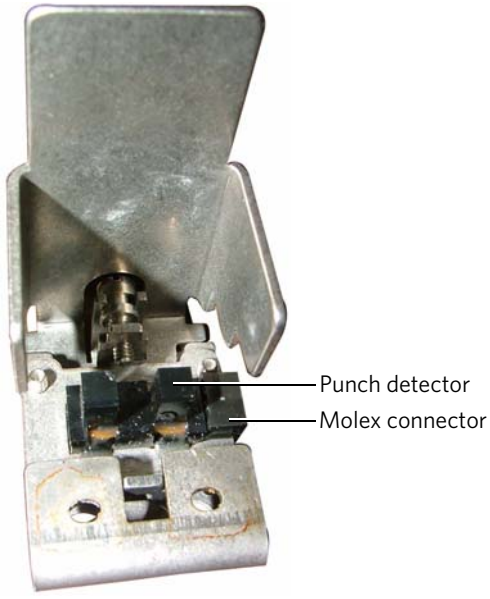


Figure 39: Upside down view of punch detector

5. Insert the two #2 screws, and tighten.

6. Insert the two #3 screws, and tighten.
7. (Optional) On the side of the punch, place a sticker over the exposed wires so that they do not interfere with the smooth operation of the punches.

Defining the Punch Conveyor Configuration in the Magnus 400 Controller Software

To operate the punch conveyor with the platesetter, you *must* reinstall the Magnus 400 Controller software and define the device with punch conveyor.

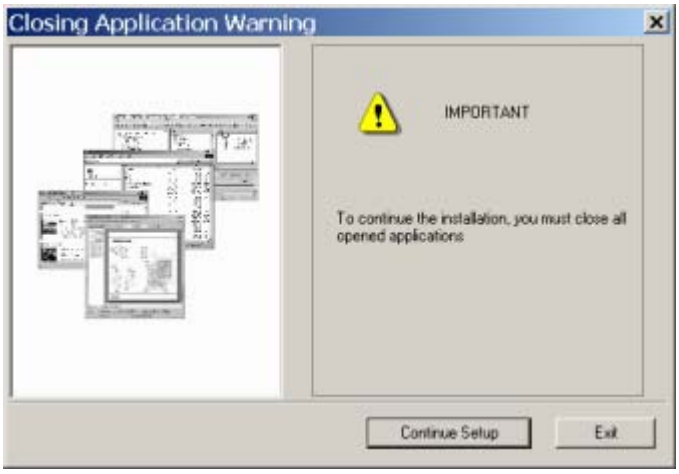
Before You Begin



1. Turn on the platesetter and start the Magnus 400 Controller software.
2. On the Microsoft® Windows® desktop, double-click the **MachineBackup** icon to save the registry and database files. See *Saving the Registry and Database Files* in the Magnus 400 Controller Cold Start Software Installation Guide (731-01206A).
3. On the Operations toolbar, verify that the status indicator is **Ready**.
4. To enable access to the PC, in the Magnus 400 Controller software, open the rear and right side doors of the platesetter.
5. Quit the Magnus 400 Controller software, Service Shell, and any other software that might be open on your client workstation.

Installing the Software on a Magnus 400/Magnus 400 II LDA Platesetter

1. Insert the **Magnus 400 Controller Version 1.05.394** CD (651-00902A) into the CD-ROM drive. When the Closing Application Warning dialog box appears, verify that all software is closed, and click **Continue Setup**.

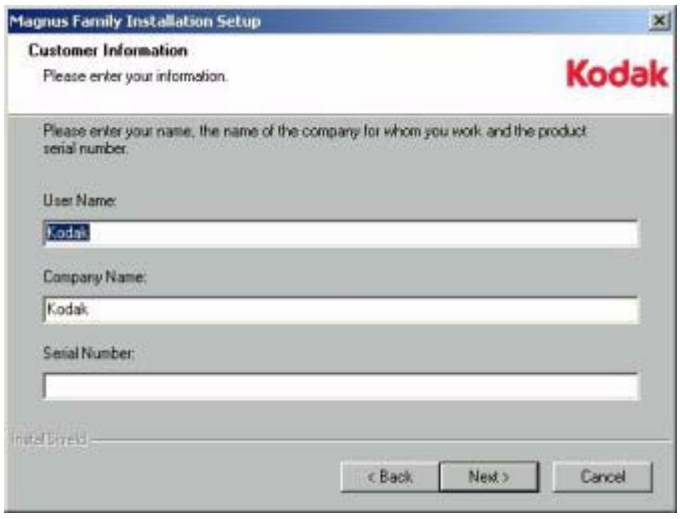


2. When the Welcome Maint dialog box appears, select **Install**, and click **Next**.



3. When the Magnus Family Installation Setup dialog box appears, click **Next**.

   The Customer Information screen appears.



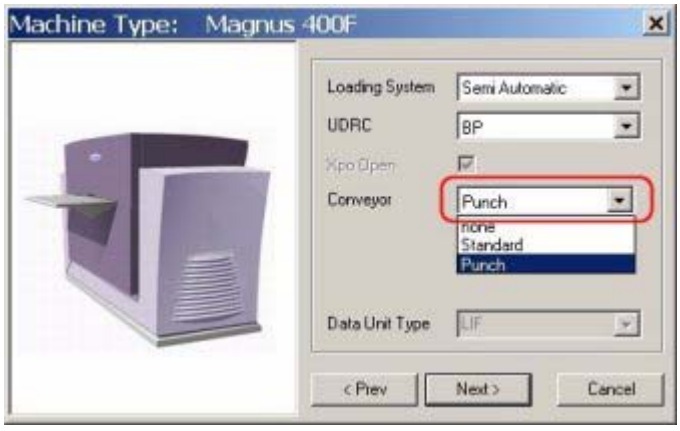
4. Type the following customer information, and then click **Next**.
   - User Name: Kodak (or customer's name)
   - Company Name: Kodak (or customer's name)
   - Serial Number: (the Magnus 400/Magnus 400 II platesetter serial number)

   The Machine Type dialog box appears.



5. Perform the following steps:
   a. The **Machine Revision** list is predefined and cannot be changed.
   b. In the **Machine Type** list, select your platesetter configuration.
   c. Click **Next**.

The Machine Type dialog box is refreshed, and the selected platesetter type appears in the title bar.



6. Perform the following steps:
   a. In the **Loading System** list, select **Semi Automatic**.
   b. In the **UDRC** list, select either **None**, **BP**, or **Other**.

      Note: If you select BP, verify that the UDRC BP cable and the nozzle vacuum detector and wiring are installed on the platesetter.
   c. The **Xpo Open** check box is predefined and cannot be changed.
   d. In the **Conveyor** list, select **Punch**.
   e. In the **Data Unit Type** list, **LIF** is predefined and cannot be changed.
   f. Click **Next**.

      A progress indicator appears and the following message appears.



   g. Click **OK**.

The Magnus 400 Controller software takes a few minutes to load.

After the software is successfully installed, the Reboot screen appears.



7. Remove the **Magnus 400 Controller Version 1.05.394** CD from the CD-ROM drive and close all open platesetter doors.
8. Select **No, I will restart my computer later**, and click **Finish**.
9. Shut down the Magnus 400 II system.

   Note: To shut down the system, quit the Magnus 400 Controller software and turn off the platesetter.
10. Start the Magnus 400 II system.

Verifying Firmware Versions on a Magnus 400/Magnus 400 II LDA Platesetter

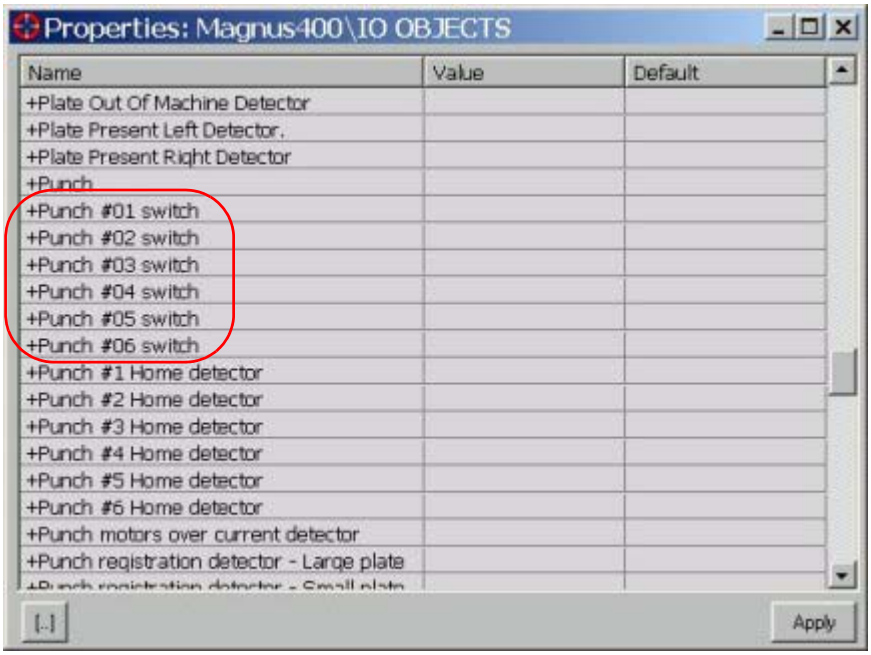
See *Verifying Firmware Versions on a Magnus 400/Magnus 400 II LDA Platesetter* in the Magnus 400 Controller 1.05.394 Release Notes and Software Installation Guide.

Defining Punches

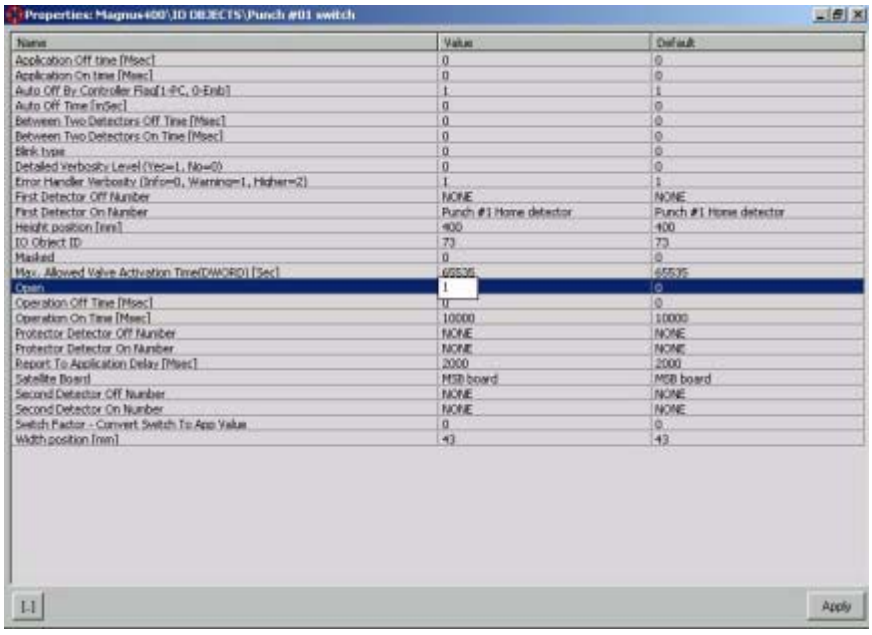
The punch conveyor accommodates up to six punches. The number of punches that you need to define depends on the customer's configuration.

Note: The punch numbering starts from the right and ends with Punch #6, which is located near the support roller motor side of the punch conveyor.

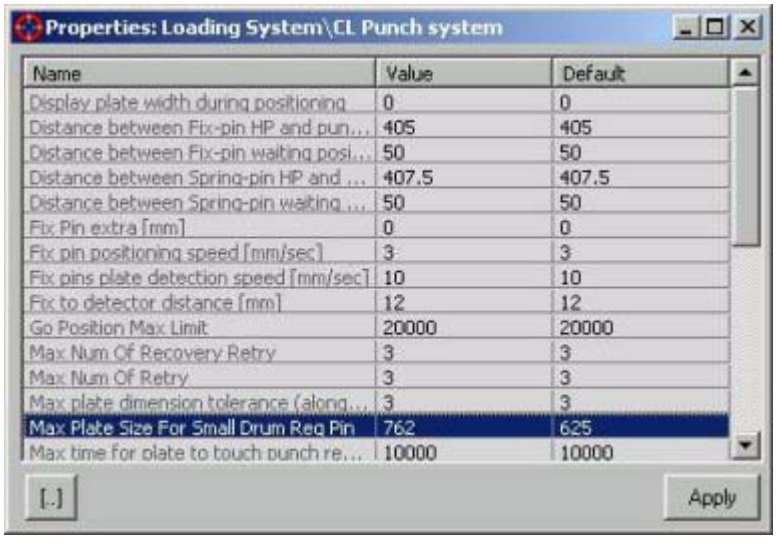
1. Start the Magnus 400 Controller software, and then click anywhere in the Magnus 400 Controller workspace and press CTRL+U to enter Expert mode.
2. In the Magnus 400 Controller software, select **Utilities > Hardware > Others** and right-click **Magnus400**, and select **Properties**.
3. In the Properties: Magnus 400 dialog box, double-click **+IO OBJECTS**.



4. In the Properties: Magnus 400\IO OBJECTS dialog box, double-click each punch that is defined in the customer's configuration, and then double-click the **Open** parameter. Change the Value to **1**, and click **Apply**.



5. If your punch conveyor configuration includes *only* the standard pair of factory-installed inner plate holders, in the Properties: Loading System dialog box, double-click **+CL Punch system** and change the value of the **Plate Size For Small Drum Reg Pin** parameter from 625 to **762**.

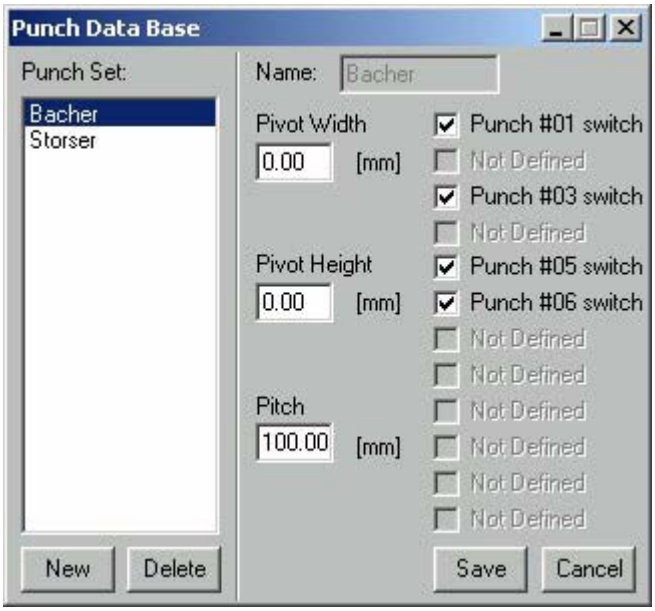


6. For your changes to take effect, restart the Magnus 400 Controller software.

Defining a Custom Punch System in the Database

1. In the Magnus 400 Controller software, select **Utilities > Hardware > Database** and double-click **Punch**.
2. In the Punch Data Base dialog box, select the check box next to each punch that you want to include in the custom punch system, and then select the punch set name that you want to use for the custom punch set.

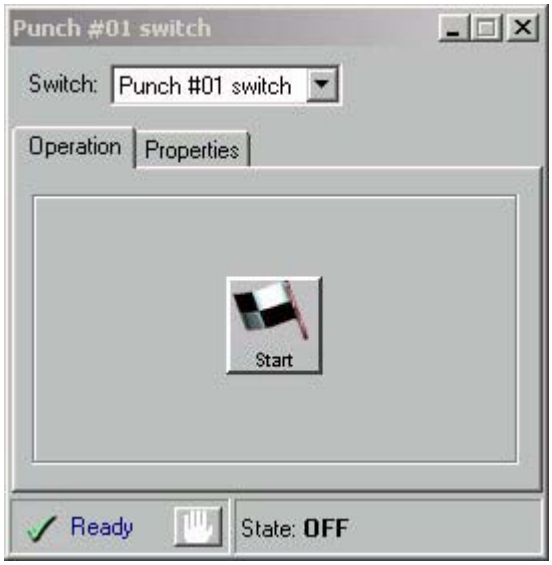
   Note: You can add new punch set names, as required—for example, to define a specific set of customer punches or for a specific customer configuration.



3. Click **Save**.

Testing the Defined Punches

1. In the Magnus 400 Controller software, open all the punches that you defined in the system and their corresponding punch detector dialog boxes:
   - For the punches, select **Utilities > Hardware > Punch Conveyor System > Punch System > Punch System Switches** and open the first punch switch that is defined in the system—for example, Punch #01 switch.



   - For the punch detectors, select **Utilities > Hardware > Punch Conveyor System > Punch System > Punch System Detectors** and open the relevant punch detector—for example, Punch #1 Home detector.



2. In the Punch switch dialog box, click **Start**.

   The status in the Punch detector dialog box should change from **ON** to **OFF** and back to **ON**. This indicates that the punch home position is working correctly. If not, see *(Optional) Adjusting a Punch Detector* on page 37.

3. Repeat steps 1 and 2 for each punch defined in the system.

(Optional) Adjusting a Punch Detector

Important: When adjusting a punch detector, do not touch the two #3 screws.

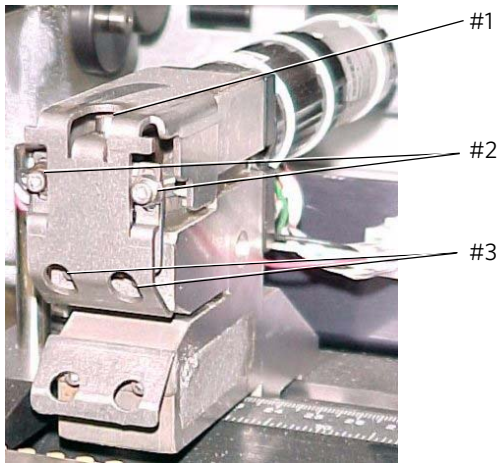
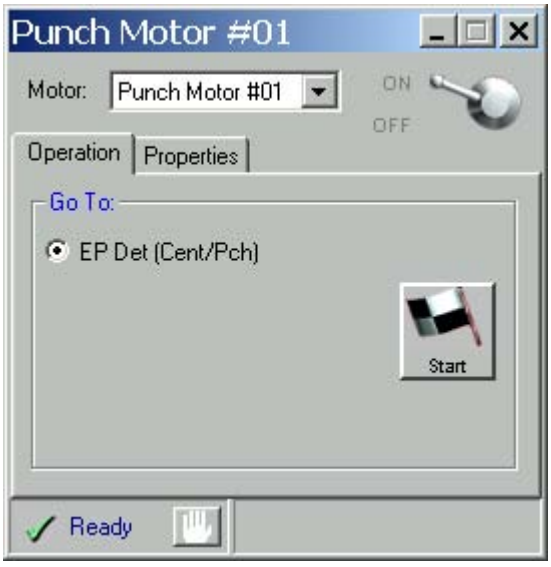


Figure 40: Punch and screws

1. On the punch, loosen the two #2 screws.
2. In the Magnus 400 Controller software, select **Utilities > Hardware > Punch System > Punch Motors**. Double-click the relevant punch motor, and click **Start**.



3. Rotate screw #1 clockwise, until the punch motor is running smoothly without interruption, and then rotate the screw counterclockwise, until the punch motor stops.
4. After the motor stops, thoroughly rotate screw #1 counterclockwise another one and a half rotations.
5. Tighten the two #2 screws.
6. Activate the punch, and verify that it is working properly. Make sure that the punch rod is not blocking the punch plate slot.

Testing the Punch Conveyor

Important: For punch conveyor configurations with only the standard pair of inner plate-holders installed on the punch beam, verify that the value of the **Max Plate Size For Small Drum Reg Pin** parameter is **762**. See step 5 in *Defining Punches* on page 33.

1. In the Magnus 400 Controller software, select **Utilities > Hardware > Loading System** and double-click **Loading System**.
2. In the Loading System Dialog dialog box, in the **Select Media** list, select the appropriate plate type.
3. Click **Select Punch**.
4. In the Punch System dialog box, select the punch set that you want to use and click **Select**.
5. Load a plate.
6. After the plate is loaded, in the Loading System Dialog dialog box, click **Unload**.
7. Verify that the punches defined in the selected punch set punched the plate according to the customer's reference plate.
8. In the Hardware tree, go to **Loading System > Loading System**. Right-click the Loading System node and select **Properties**.
9. In the Properties: Loading System dialog box, double-click **+Unload Plate**.
10. In the Properties: Unload Plate dialog box, locate the **Second Conveyor Motor Speed** parameter and double-click in the **Value** column to adjust the speed to synchronize with the processor entry speed.
11. If the punch conveyor is connected to a plate slider, set the value of the **Second Conveyor Motor Speed** parameter to **50**.

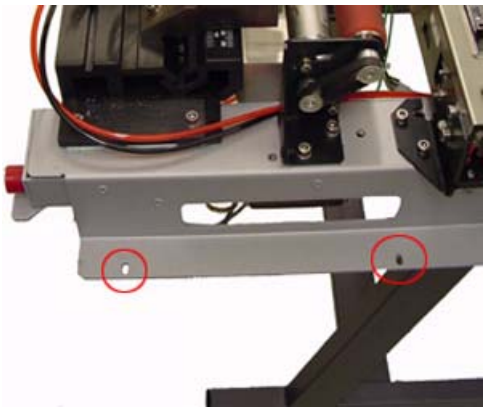
Adjusting the Height of the Support Roller Bar

In some cases, when trying to punch thin plates (0.15 mm) with the punches installed close to the zero mark on the punch beam, the alignment system fails to properly position the plate for punch. In such cases, you need to adjust the height of the support roller bar assembly by inserting shims.

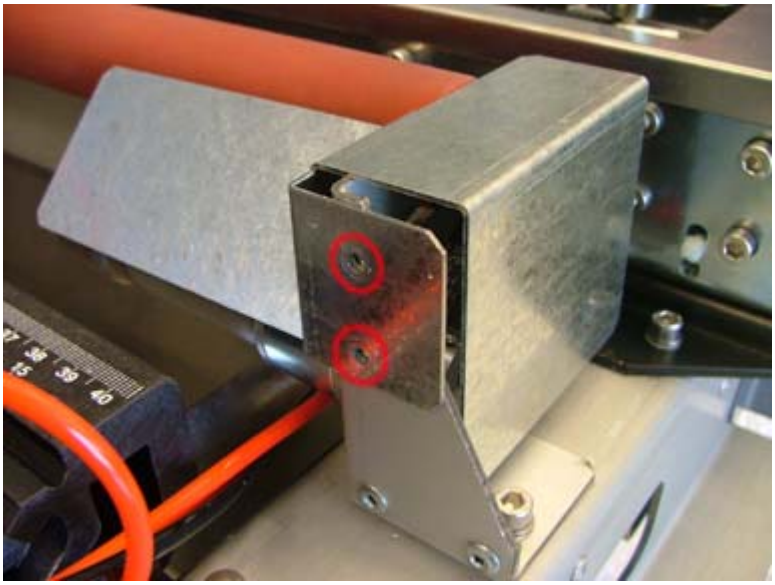
1. Quit the Magnus 400 Controller software, and turn off the platesetter.
2. On the underside of the punch cover, disconnect the orange air pressure tube.
3. With both hands, lift the punch cover up and off the conveyor, and set aside.

4. Remove the four screws (two on each side) that secure the punch cover frame to the punch conveyor, and remove the punch cover frame.

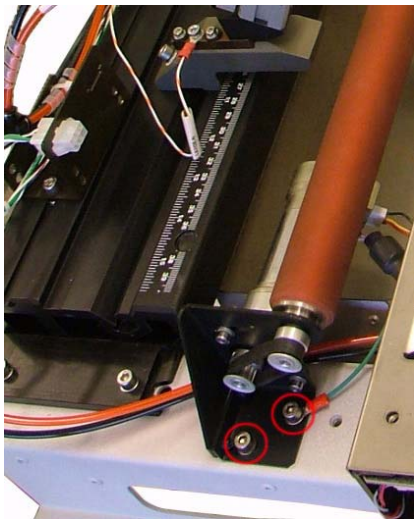
WARNING: Do not restart the platesetter or software with the punch cover frame removed. The detectors do not function properly when exposed to ambient lighting and can cause MSB_C communication errors.



5. On the left side of the punch conveyor (fixed-pin side), remove the two screws that secure the support roller motor guard to the left support roller assembly bracket, and remove the guard.



6. Remove the screws that secure the support roller bar assembly brackets to the mainframe.

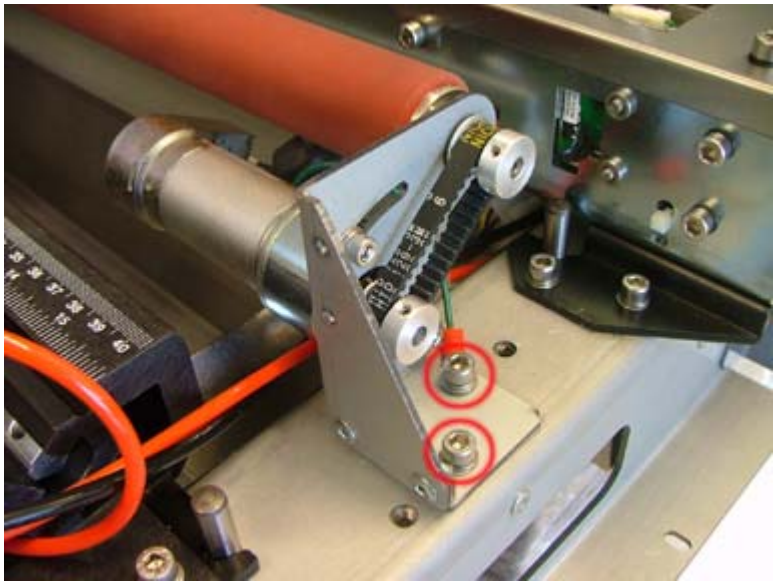


Left support roller bracket (fixed-pin side)

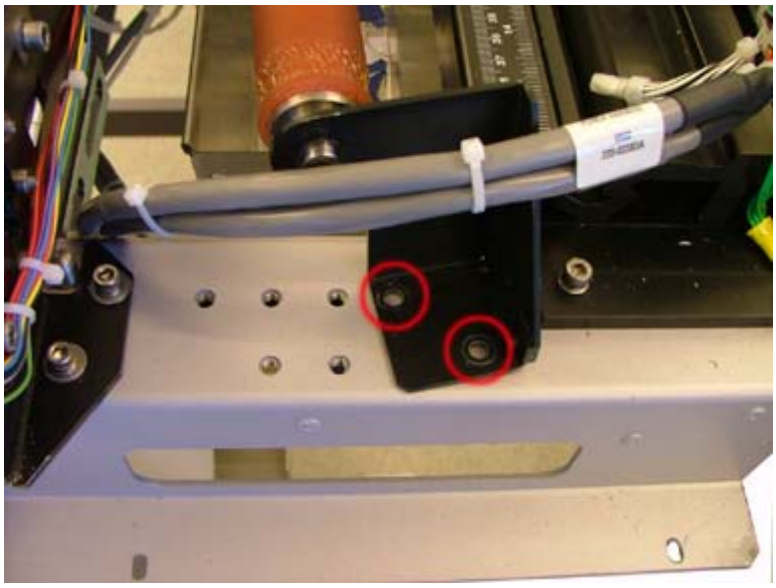


Right support roller bracket (spring-pin side)

a. On the left side of the punch conveyor (fixed-pin side), remove the two screws that secure the left support roller bracket to the mainframe, and set the screws aside.



b. On the right side of the punch conveyor (spring-pin side), remove the two screws that secure the right support roller bracket to the mainframe, and set the screws aside.

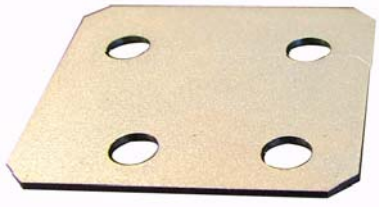


c. Move the support roller assembly brackets away from the bracket holes.

7. Insert shims.



Thin shim (0.5 mm)



Thick shim (1.0 mm)

a. On the mainframe, over the holes where the left support roller bracket was installed, place a thin shim (0.5 mm), and align it with the holes on the mainframe.



b. Reinstall the left support roller bracket, and secure it to the mainframe with the two screws that you removed earlier.

c. Repeat steps 6a and 6b for the right support roller bracket.

8. Load a plate for each plate size that is defined for the customer, and verify that it reaches the punches and is successfully punched.
9. If one of the plates does not reach the punches, remove the thin shims from under the support roller brackets.
10. Repeat steps 5 to 7, and insert the thicker (1.0 mm) shims under the support roller brackets.

Fine-Tuning the Distance Between Punches

Note: Always use the zero mark on the punch beam as your reference point when performing the fine adjustment.

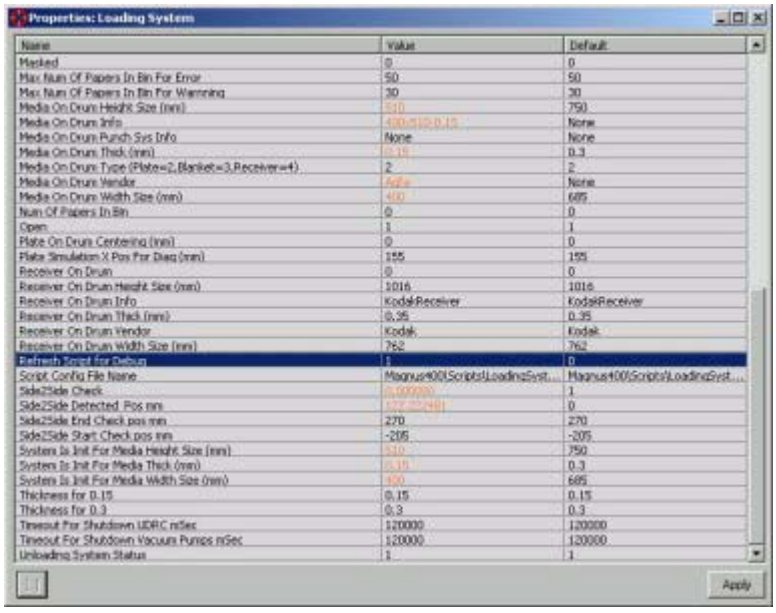
1. Load a plate and perform punch.
2. Adjust the relative punch positions according to the punch results.

Calibrating the Alignment System

The alignment system is responsible for correctly aligning a plate before it is punched.

Changing the Refresh Script for Debug Parameter Value

1. Start the Magnus 400 Controller software, and then click anywhere in the Magnus 400 Controller workspace and press CTRL+U to enter Expert mode.
2. In the Hardware tree, select **Others > Magnus400**. Right-click **Magnus400** and select **Properties**.
3. In the Properties: Magnus 400 dialog box, double-click **+IO OBJECTS**, and then in the Properties: Magnus400\IO OBJECTS dialog box, double-click **+Loading System**.
4. In the Properties: Magnus400\IO OBJECTS\Loading System dialog box, do the following actions:
   a. Locate the **Refresh Script for Debug** parameter and double-click in the **Value** column.



   b. Change the value from 0 to **1**, and click **Apply**.

Preparing a Test Plate

1. Verify that punches are defined in the Magnus 400 Controller software, and then load a test plate onto the drum.
2. Unload the plate. When the plate exits the platesetter, manually transfer it from the plate exit to the conveyor belts on the punch conveyor.

   The conveyor belts transport the plate to and from the punch beam.

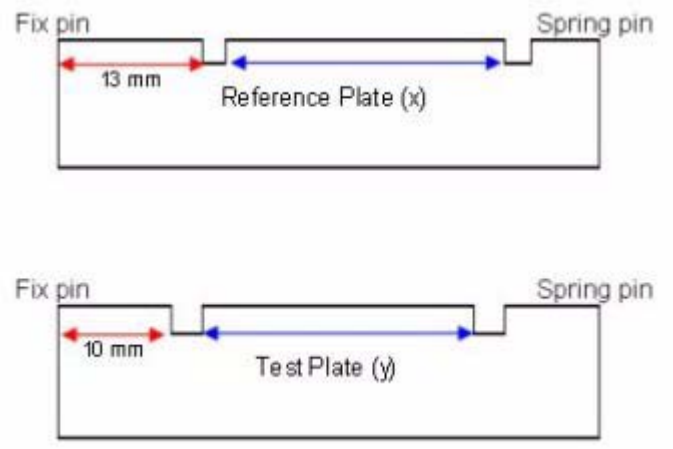
   Use the punched test plate and the customer's reference plate to adjust the alignment system to match the customer's punch configuration.

Adjusting Alignment System Parameters

Important: The distance between the punches on the test plate must be according to the customer's punch configuration and must match the distance between the punches on the punched reference plate.

Note: The values in the following procedure are for example purposes *only*.

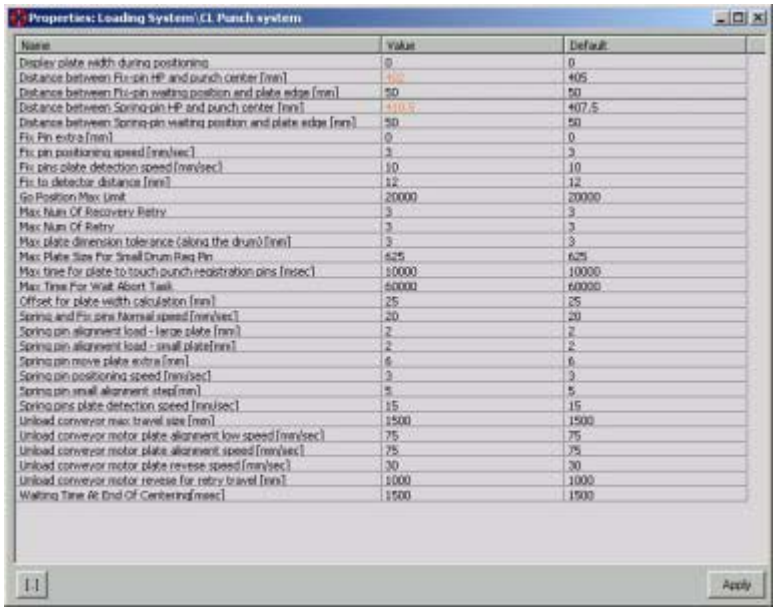
1. On the punched reference plate, measure the distance between the edge of the plate (fix pin position) and the edge of the punch, and then measure the same distance on the test plate.
2. To move the punch position further from the fix-pin position on the punch conveyor, subtract the Reference Plate distance (x=13) from the Test Plate distance (y=10) to reach the difference (z=3) that you need to change to correct the alignment (x-y=z), as shown in the following example.



   a. In the Hardware tree, go to **Loading System > Loading System**.

   b. Right-click **Loading System** and select **Properties**.

c. In the Properties: Loading System dialog box, **double-click +CL Punch system**.

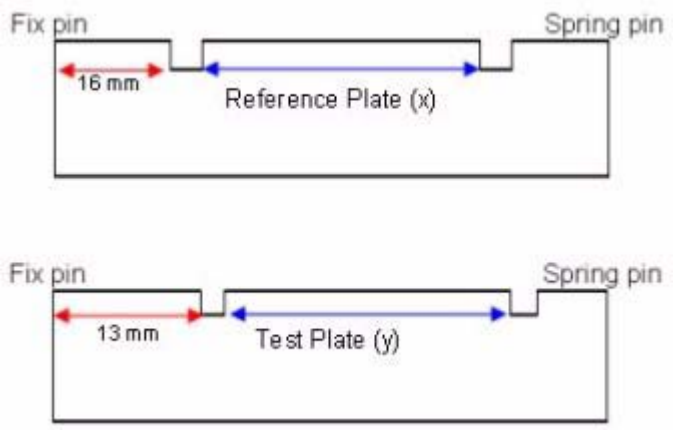


d. In the Properties: Loading System\CL Punch system dialog box, locate the **Distance between Fix-pin HP and punch center [mm]** parameter.

e. Double-click in the **Value** column and reduce the value according to the difference (z) measured between the punched reference plate and the test plate.

f. Double-click in the **Value** column of the **Distance between Spring-pin HP and punch center [mm]** parameter and increase the value according to the difference (z) measured between the punched reference plate and the test plate.

3. To move the punch position closer to the fix-pin position on the punch conveyor, subtract the Reference Plate distance (x=16) from the Test Plate distance (y=19) to reach the difference (z=–3) that you need to change to correct the alignment (x-y=z), as shown in the following example.



   a. In the Properties: Loading System\CL Punch system dialog box, locate the **Distance between Fix-pin HP and punch center [mm]** parameter.

   b. Double-click in the **Value** column and increase the value according to the difference (z) measured between the punched reference plate and the test plate.

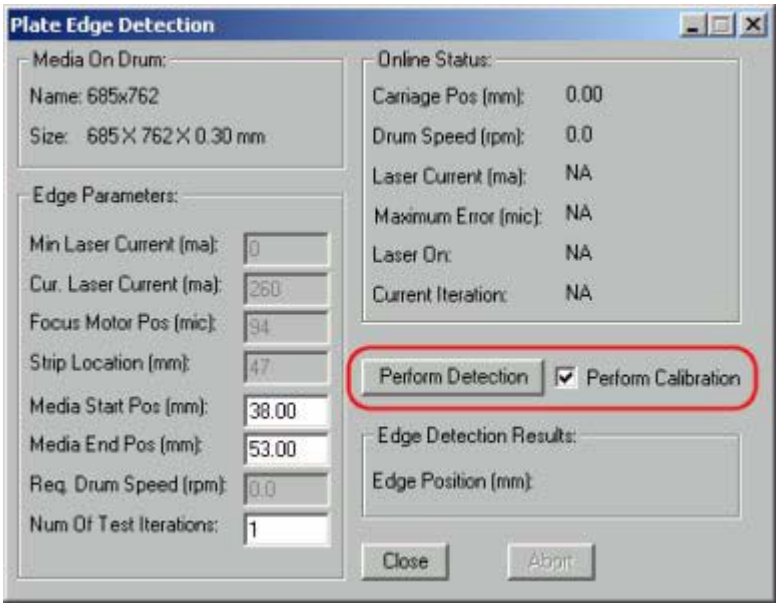
   c. Double-click in the **Value** column of the **Distance between Spring-pin HP and punch center [mm]** parameter and reduce the value according to the difference measured between the punched reference plate and the test plate.

4. Click **Apply** and close the dialog boxes.
5. In the Hardware tree, open the Properties: Magnus400\IO OBJECTS\Loading System dialog box and change the value of the **Refresh Script for Debug** parameter back to **0**.
6. Restart the Magnus 400 Controller software for changes to take effect.

Calibrating Edge Detection

After you calibrate and adjust the alignment system on the punch conveyor, you *must* perform an edge detection sequence to calibrate edge detection on a rotating drum.

1. Load a customer's plate onto the drum.
2. In the Magnus 400 Controller software, select **Settings > Edge Detection**.
3. In the Plate Edge Detection dialog box, select the **Perform Calibration** check box, and click **Perform Detection**.



4. After the edge detection calibration process has finished, click **Close**, and unload the plate.

(Optional) Installing the Processor Adapter Plate

The processor adapter plate is an optional feature and can be installed when a processor is used in-line with the punch conveyor.

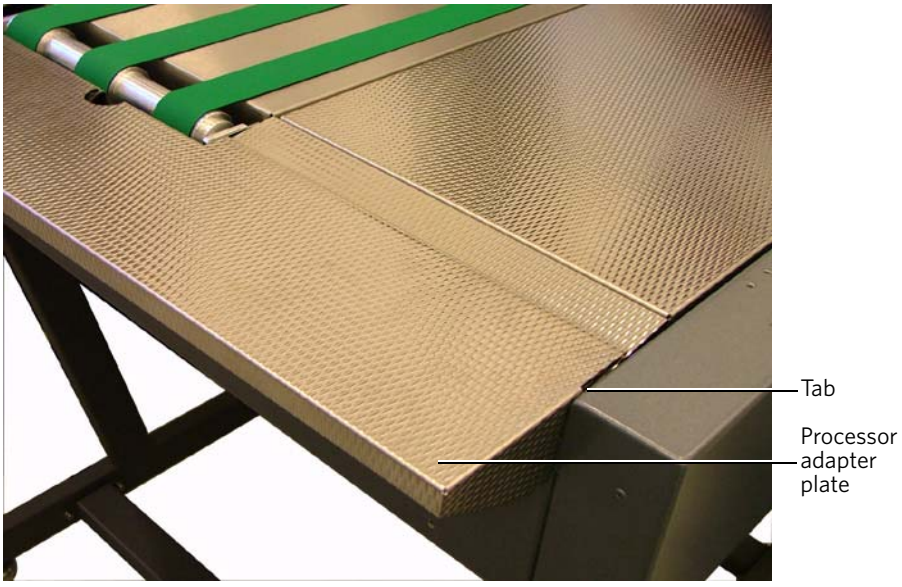


Figure 41: Installing the processor adapter plate

➢ Insert the tabs on the processor adapter plate into the slots (one on each side of the processor adapter plate) near the plate exit side of the punch conveyor.

(Optional) Installing the Plate Slider and Plate Slider Brackets

The plate slider is an optional feature and can be installed to collect the plates as they exit the punch conveyor.

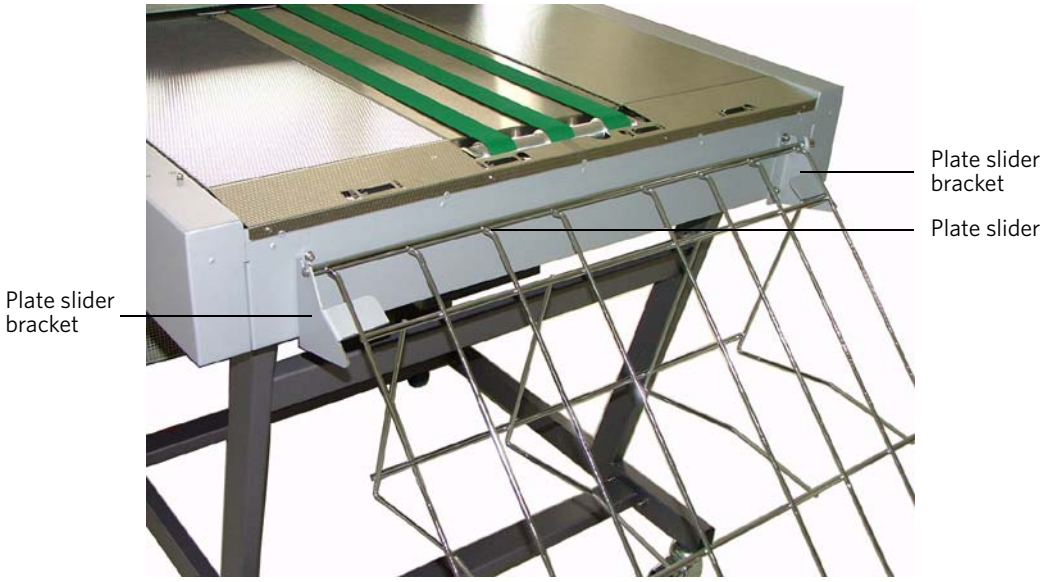


Figure 42:

- Insert the hex screws (two on each bracket) that secure the plate slider brackets to the punch conveyor, and then place the plate slider on the brackets.

Packing the Punch Conveyor

At least two people and a forklift are required to pack the punch conveyor and place it on the shipping pallet.

1. Disconnect all the electrical cables from the punch conveyor.
2. Disconnect the air pressure tube from the underside of the punch cover.

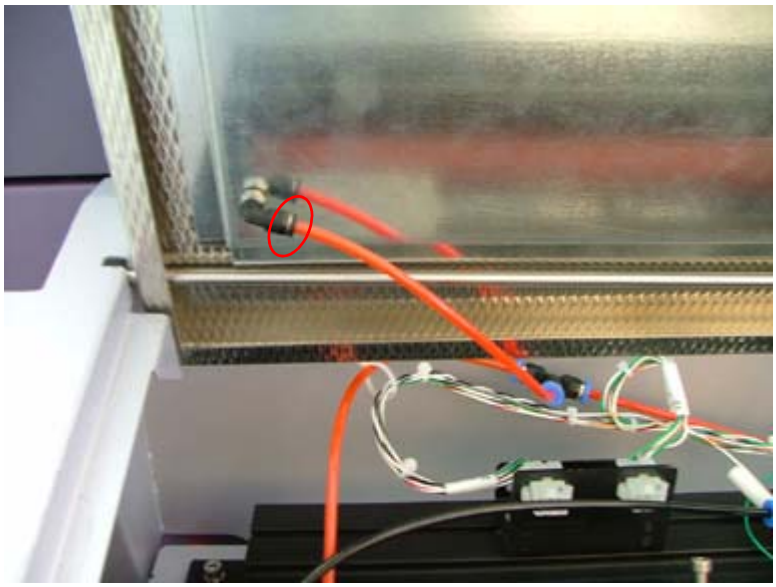


Figure 43: Disconnecting the air pressure tube

3. With two hands, lift the punch cover up and off of the punch conveyor.

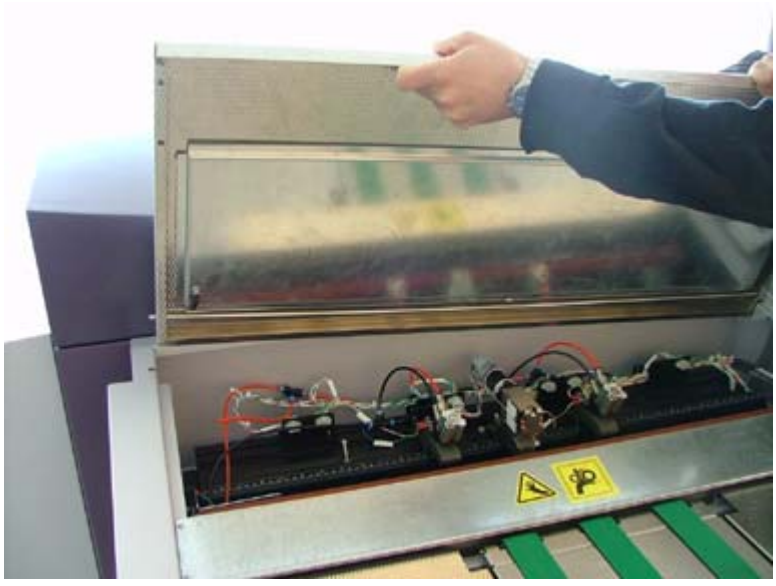


Figure 44: Removing the punch cover

4. Wrap the punch cover in bubble wrap, and secure it either on top of the punch conveyor or to the shipping pallet.

5. (Optional) Remove the plate slider.
6. (Optional) Remove the processor adapter plate.
7. Remove the CAN board from the platesetter computer. Wrap the board in bubble wrap and insert it into a plastic bag, and then attach the plastic bag to the underside of the punch conveyor.
8. Roll the punch conveyor to the shipping pallet.
9. Using the forklift, lift the unit onto the shipping pallet and secure with steel bands.
10. After confirming that the punch conveyor is positioned and secured properly, cover it with nylon wrapping and secure with plastic tape.



Figure 45: Punch conveyor wrapped on shipping pallet

11. Staple the side and top wooden support struts to the shipping beams.

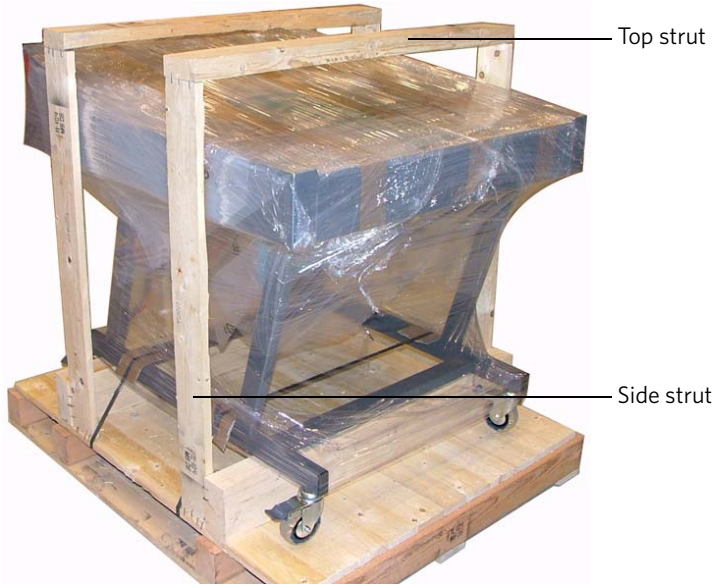


Figure 46: Securing the support struts on the shipping pallet

12. Place the carton container on the punch conveyor. Use staples to secure the carton to the shipping pallet.



Figure 47: Placing the shipping carton over the punch conveyor

13. Close the top flaps of the carton and secure with plastic tape.
14. Secure the carton to the shipping pallet with steel bands.



Figure 48: Punch conveyor packed for shipment