



Chapter 2

Hardware Installation

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2.1 Unpacking Platesetter

Handle all packing materials with care. These materials will be used again if you need to transport the platesetter in the future. Use **only** the fork lift to lift the shipping container and place it at the unpacking site.

- Shipping container size: length - 2060 mm (82.5 inch), width - 1140 mm (45.5 inch), height - 1160 mm (46.5 inch).
- Platesetter size: length - 920 mm (36.22 inch), width - 1760 mm (69.29 inch), with doors open 2700 mm (106 inch);
  height - 1340 mm (52.76 inch), with doors open 1950 mm (77 inch).

Before unpacking, ensure that the site is large enough to allow easy maneuvering of the platesetter. For example, check the following:

- Available space for the fork lift to lower the platesetter from the shipping pallet
- Doorway clearance for the platesetter and fork lift

2.1.1 Checking for Damage



Check that the shipping container is undamaged. Do not proceed with the unpacking if it is damaged in any way and notify the shipping agent immediately.

2.1.2 Precautions

Observe the following precautions before unpacking:

- Do not unpack the platesetter in extreme heat or cold (above 30°C or below 0°C).
- If there are any signs of ice on the machine, do not touch any of the mechanical parts. Wait 24 hours (preferably 48 hours) for the platesetter to gradually reach room temperature.

- Do not unpack the platesetter in a non-conditioned room in case the weather is very humid.

2.1.3 Parts Checklist

For parts list, *GCL* forms attached to the platesetter packaging.

2.1.4 Removing the Platesetter

At least two (2) people and a fork lift are required to unpack and lower the platesetter from its shipping pallet. The unpacking process is shown in Figure 15 on page 52. The numbers in the instructions below refer to the item numbers shown in the figure.

1. Carefully cut the two (2) steel bands [1] surrounding the outer carton container [2].
2. Open the top flaps of the outer carton container [2].
3. Remove the staples that secure the carton [2] to the wooden shipping pallet [7] and to the wooden support struts [5].
4. Remove the entire carton container [2].
5. Remove all the parts that are tied to the shipping pallet in back of the platesetter.
6. Remove the top wooden support struts [3] and the side wooden support struts [5].
7. The platesetter is secured to the shipping pallet by four (4) screws, brackets and washers [8]. Remove the screws, brackets and washers from underneath the pallet.
8. Using the fork lift, lift the platesetter from the shipping pallet. Make sure the platesetter is lifted **only** at the designated locations, marked on pallet chassis.
9. Lower the platesetter from the shipping pallet
10. Remove the nylon wrapping from the platesetter.
11. In order to move the platesetter, you need to lift its legs so that the machine can be rolled on its wheels. Close the nut of each leg by turning it counter-clockwise.
12. Roll the platesetter to its final location.

13. Lower the four legs of the platesetter by turning the nut of each leg clockwise.

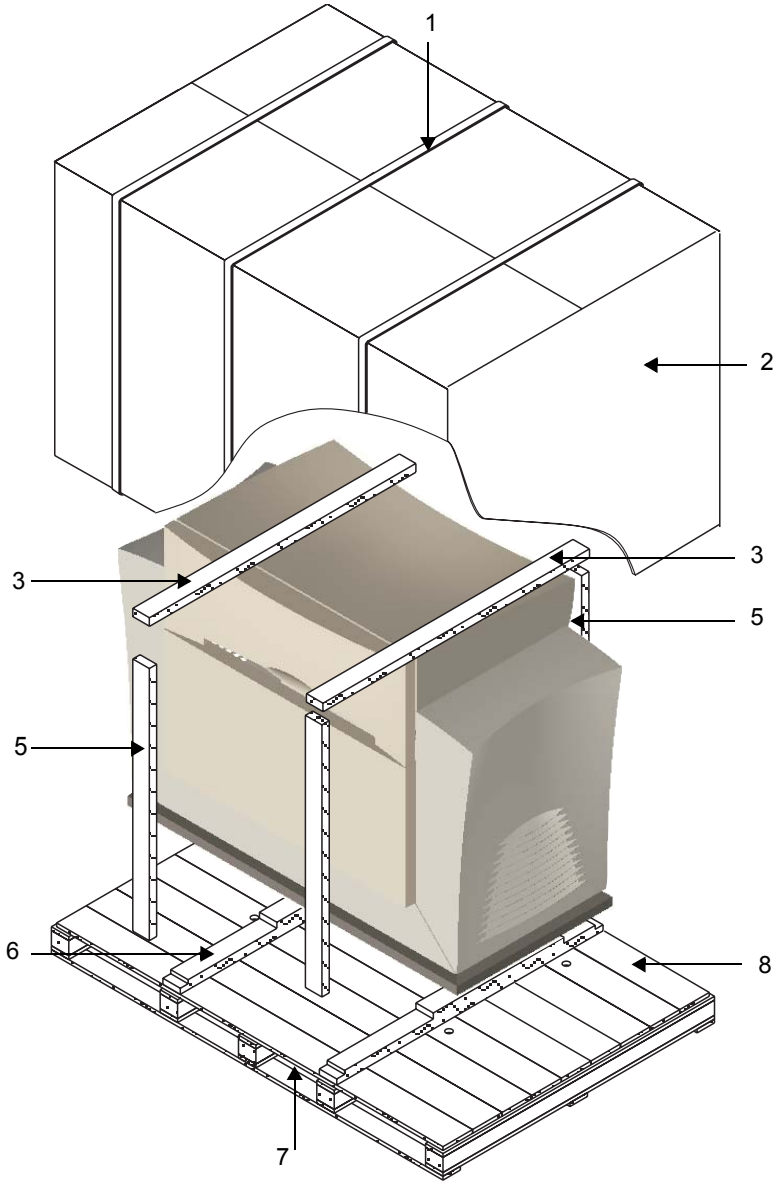


Figure 15. Unpacking the platesetter

2.2 Opening Doors and Removing Panels

2.2.1 Opening Doors

The upper door is opened first, then the side doors and finally the front door.

1. To open upper door: insert an allen key (5/32”) into the two holes of the upper rear cover. Make sure to insert it at least 6 cm (2.5”). Turn the key to the right. (On the left side, turn the key to the left).See Figure 16 on page 53.



Figure 16. Inserting allen key to open upper door

2. To open the side doors: press the spring latch for each door. The latch is located on the side door toward the front of the platesetter.

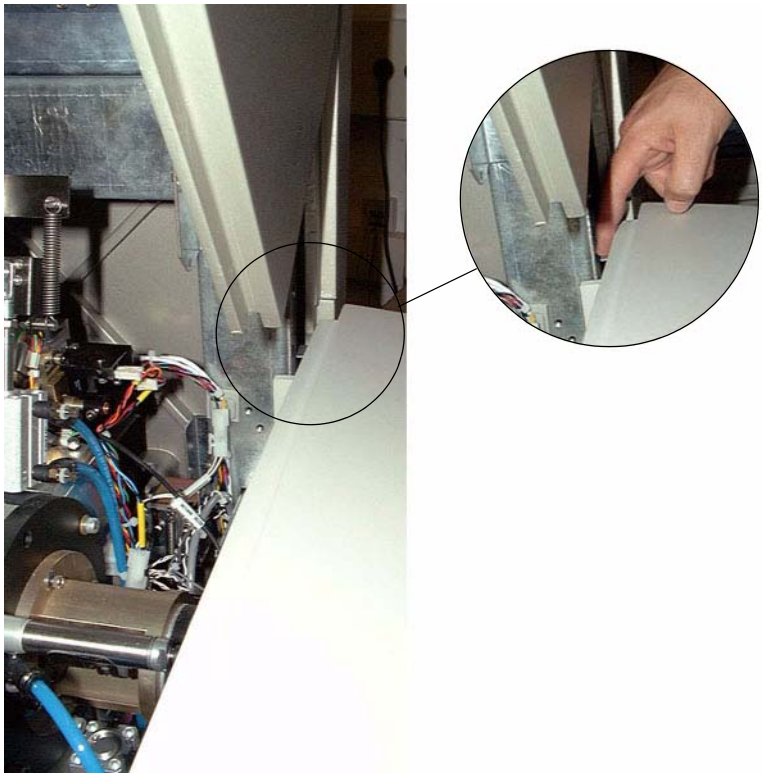


Figure 17. Opening side doors

3. When the upper and side doors are open, perform the following to open front door: on left and right sides of front door, push the hook upward - perform this twice (that is, in two stages) for each side. You can then fully open the front door. Figure 18 on page 55 shows the location of the hook used to open the front door.

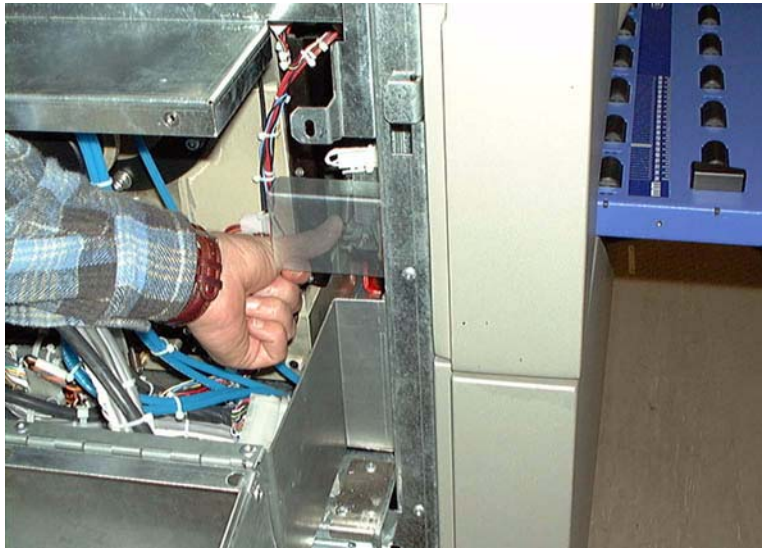


Figure 18. Opening front door (Lotem 400)

2.2.2 Removing Panels

To remove the panels on rear side (after upper door is open):

1. To remove the back panel, remove the two screws on each side, as shown in the following figure.



Figure 19. Removing back panel

2. To remove the back trapezoid, open the two side doors and then remove the two screws [1] shown in next figure. Then slide the panel left until it can be removed through the “key shaped opening” [2].

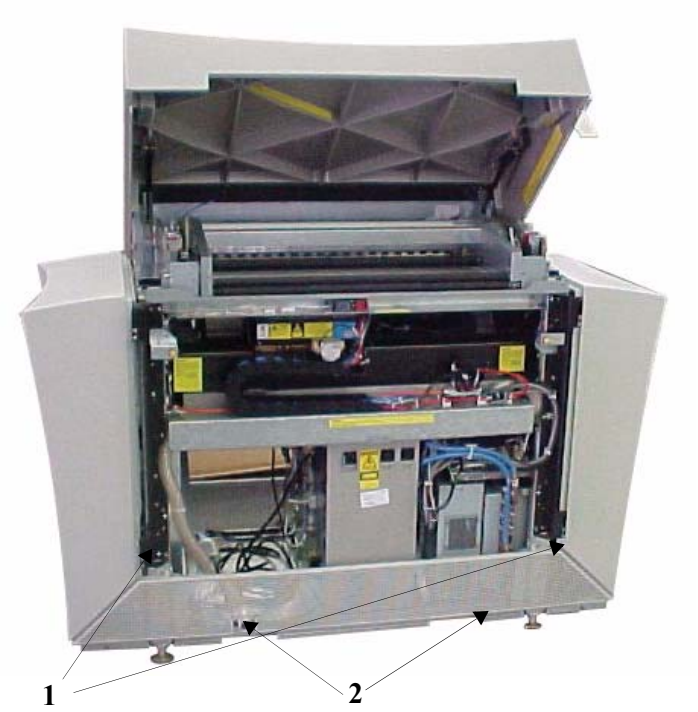


Figure 20. Removing back trapezoid

The rear side of the platesetter is now as shown below.



Figure 21. Rear view of platesetter after panels are removed

3. To remove the front trapezoid, remove the two screws [1] shown in next figure. Then slide the panel left until it can be removed through the “key shaped opening” [2].

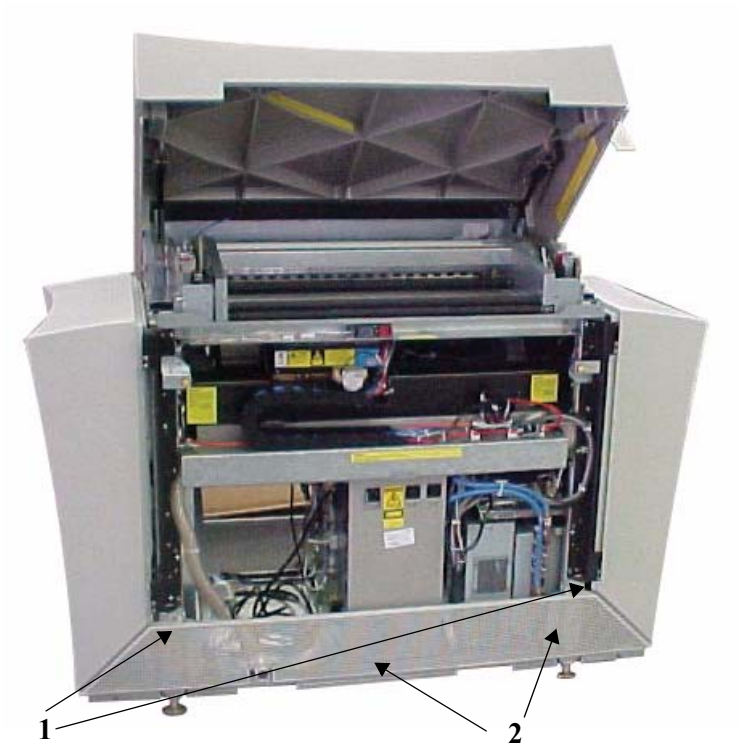


Figure 22. Removing front trapezoid

2.3 Height Adjustment

Final leveling means that the platesetter is situated on a uniform horizontal plane at all four corners, with all four wheels raised above the floor, and that the platesetter is adjusted for smooth loading of the plate.

1. Place a standard leveling instrument on the main frame side door, and verify that the front and rear of the platesetter are parallel.
2. If the front and rear are not parallel, adjust the rear legs. Open or close the adjusting nut of rear leg and turn it clockwise or counterclockwise. Then tighten the locking nut.

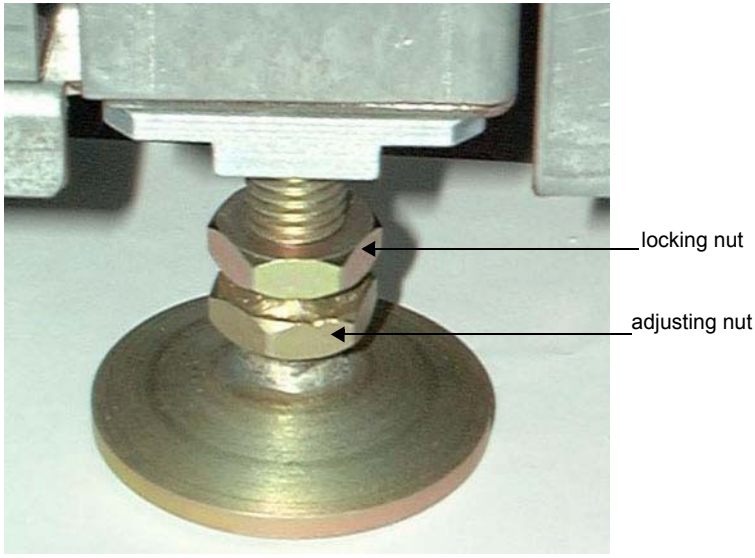


Figure 23. Adjusting leg height

3. After the platesetter is properly aligned, tighten the legs by closing the locking nut of all four legs.

2.4 Installing Skirts

The platesetter is shipped without skirts. If your platesetter is new, you do not need to install skirts, and you can proceed to *Removing Shipping Safeguards* on page 64.

If you are reinstalling a platesetter that has skirts, the following procedure describes the installation process.

1. To install the back skirting board, slide the skirt left until it can be inserted through the “key shaped opening”. Then insert the three screws as shown in next figure.



Figure 24. Installing back skirting board

2. To install the front skirting board, slide the skirt left until it can be inserted through the “key shaped opening”. Then insert the three screws as shown in figure.



Figure 25. Installing front skirting board

3. To install the left and right skirting boards, repeat instructions for the rear and front skirting boards, above. The figure below shows the left side skirting board and the location of its screws.



Figure 26. Installing side skirting boards

2.5 Removing Shipping Safeguards

The platesetter is shipped with several safeguards that prevent excessive movement of internal parts during transport. This section describes how to remove these safeguards.

2.5.1 Optomechanic to Chassis Locking Devices

Special locking devices secure the optomechanic and carriage assembly to the main frame during transport. There are six such locking devices - two on the sides of the platesetter, two on the rear side, and two on the carriage. The locking devices are red for easy identification. The following figures show the locking devices and their locations.

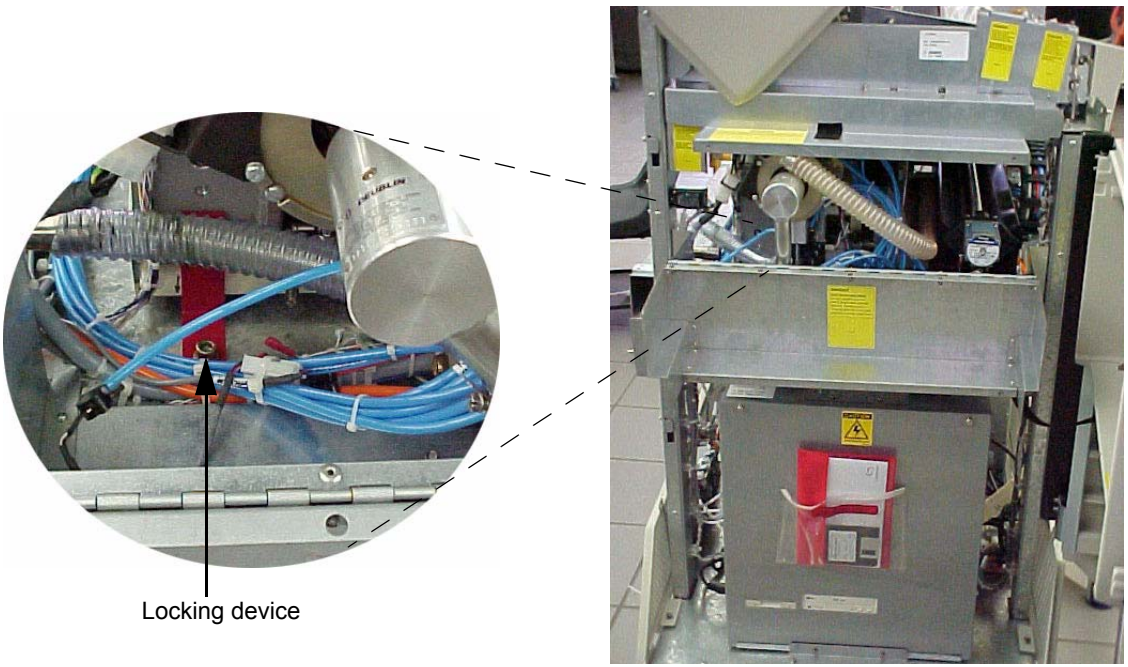


Figure 27. Optomechanic to chassis locking devices, right side view

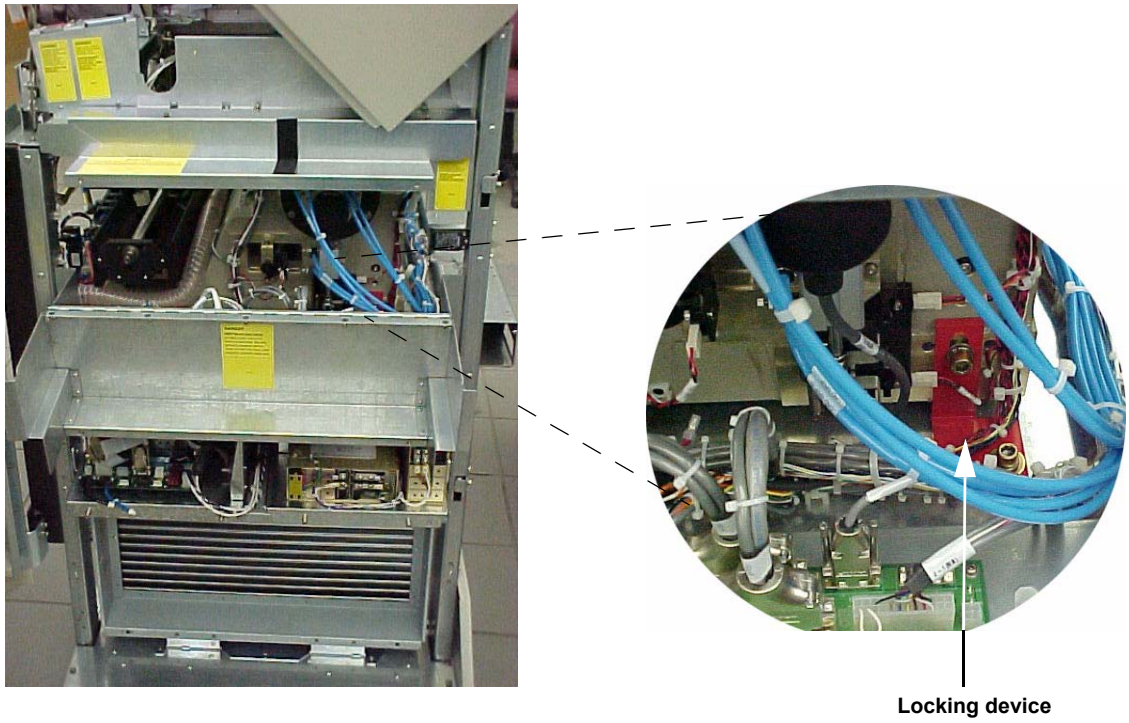


Figure 28. Optomechanic to chassis locking devices, left side view

2.5.2 Carriage to Optomechanic Locking Devices

Two locking devices secure the carriage to the V block during transport. There are two such locking devices - one in front of the carriage and one behind the carriage (accessed from the left side door). See Figure 29 on page 67.

1. The locking device located in front of carriage is accessed from the rear panel and is secured with six (6) screws. Use a 5/16” allen key to remove the screws, and then remove the locking device.
2. The locking device behind the carriage is accessed from the left side door, and is secured with five (5) screws. Use the allen key to remove the screws and then remove the locking device.



After removing the locking devices, visually inspect the components inside the machine to verify that they are undamaged.

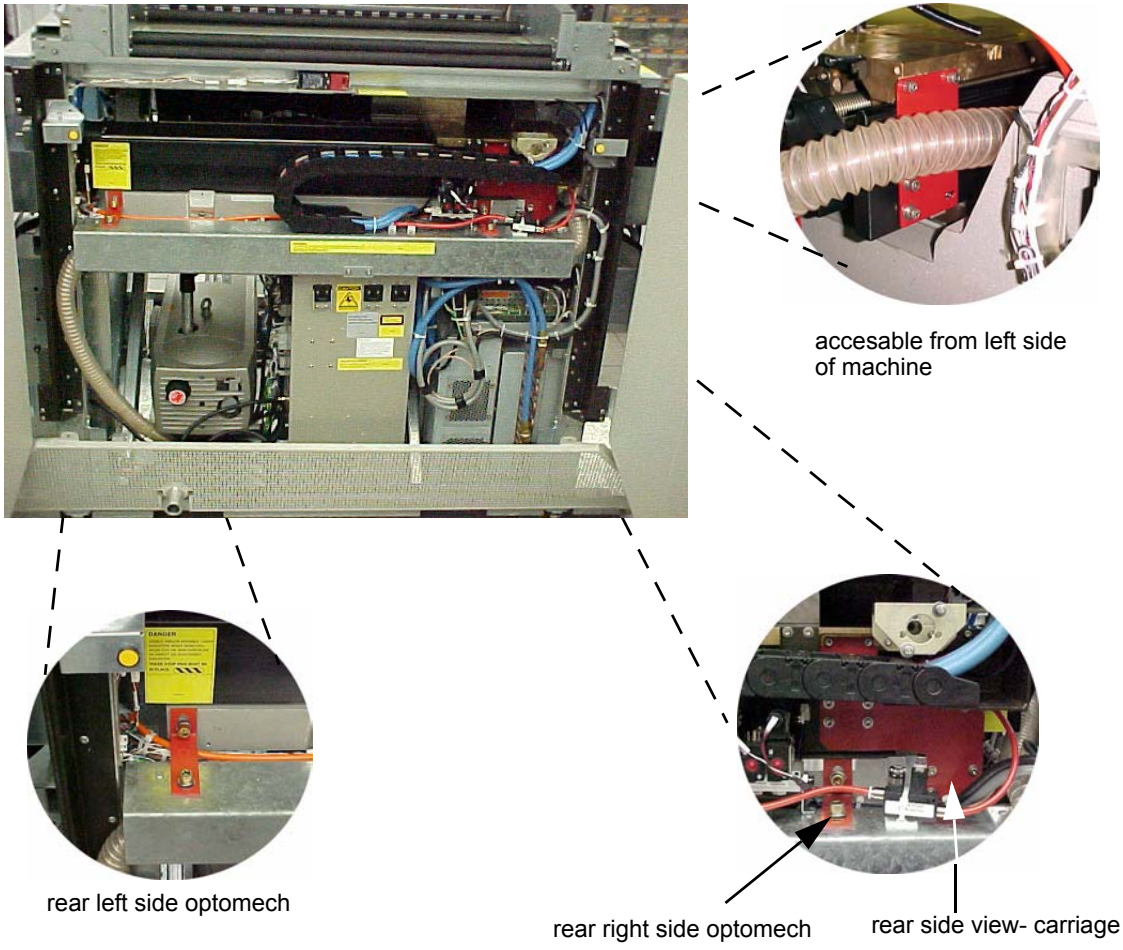


Figure 29. Optomechanic - chassis locking device rear view

2.6 Power Connection

2.6.1 Connecting Main Power Cable

The doors should be open and panels removed, as described in *Section 2.2* on page 53.

1. Locate the main power cable (black cable), and pull it out through the cable opening at the lower back of the platesetter (at rear trapezoid panel).

Electrical requirements:

See *Lotem 400 Family Site Preparation Guidelines,* 399Z1M151A.

- Line voltage at customer site should be 2 phase supply in 120V 25A configuration, or 1 phase in 230V 25A configuration.
- Supply voltage of 200-240 Vac ±10%; frequency variation up to 50/60 Hz ±2%.
- The cable connector (male, **6h 3-pin** - 2 phase & ground) is supplied with platesetter; customer should supply wall connector (female, **32A 6h, 3-pin** - 2 phase & ground).
- Three (3) power supply connections for Brisque, Brisque monitor and PC controller monitor – 120V ±10% or 230V ±10%, 16A.
- Additional isolated single-phase outlet for service purposes.
- Additional power is required for the **Processor**, **Pre-heat ovens**, **Baking ovens** and/or **Plate stacker**.

Perform the following:

1. Using a DVM, measure the actual line voltage.
2. Select the correct plug to be used on distribution box: when the actual measured voltage does not exist, round the value upwards to a value that is greater than actual measured voltage.
3. Connect your connector (male, 3-pin 6h - 2 phase & ground) to main power cable.

2.7 Data Connectivity

Install the Lotem 400 Quantum application on the PC controller **before** installing the Lotem on the Brisque. Verify that both the Brisque and the Lotem 400 Quantum are powered off.

The Lotem to Brisque connectivity consists of a cable connection for data transfer and a TCP/IP Link for communication between the Lotem and the Brisque.

- To connect the Brisque to a Lotem 400 Quantum, run the Data cable with connectors to the two TSP boards on the Brisque to the Lotem 400 Quantum at the TMCE board.

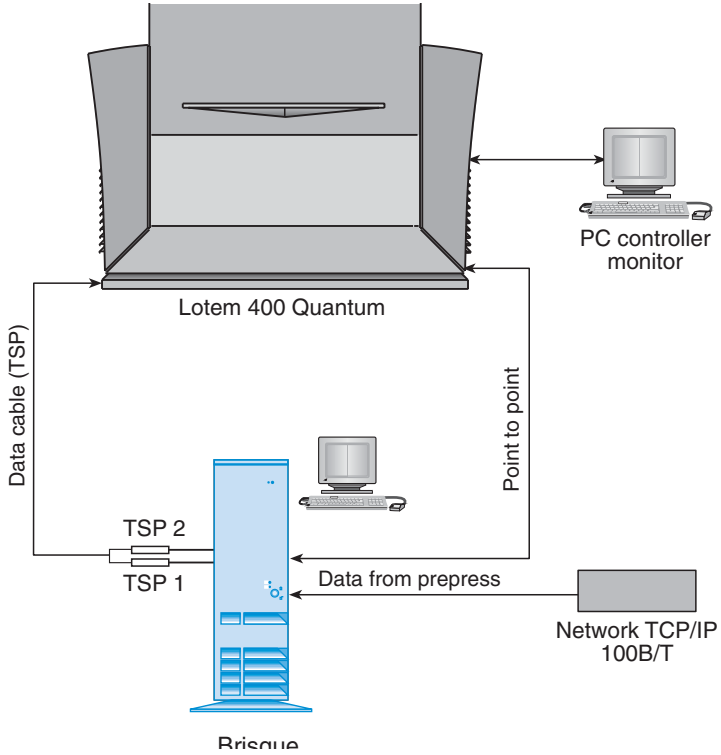


Figure 1. Connecting Tsp Cables

2.8 Air Compressor Connection

1. Connect the air pressure tube (orange tube) to the air plug located near the cable opening at the lower rear side of the platesetter (same as main power cable - see *Section 2.6* on page 68). The 5 m tube is supplied with the machine.
2. Carefully pull out the tube through the cable opening; make sure the tube does not crack as it is routed out of the machine.
3. Connect air pressure regulator, which includes air pressure filters and gauge, to air pressure tube (the regulator with the filter are supplied with platesetter).
4. Connect air pressure regulator to air pressure outlet on wall. See air compressor specifications in *Lotem 400 Family Site Preparation Guidelines,* 399Z1M151A.
5. Set the gauge to 6 ATM (90 psi).



Figure 30. Air compressor connection

2.9 Imagine Head Installation

2.9.1 Hardware Installation

Wear a static bracelet before installation.

1. Check that the optic window is clean. If it is not clean, then carefully clean it with alcohol and rice paper.

   Make sure the alcohol does not come into contact with the red seal.

2. Put grease on the following places before placing the head
   a. head rod
   b.carraige groove

   Make sure there is an o'ring seal.

3. Assemble the optic head on the carriage. Be careful not to damage the head.

4. Attach the two springs to the optic head on the left and right sides. See *Figure 2* on page 71 and *Figure 3* on page 72.

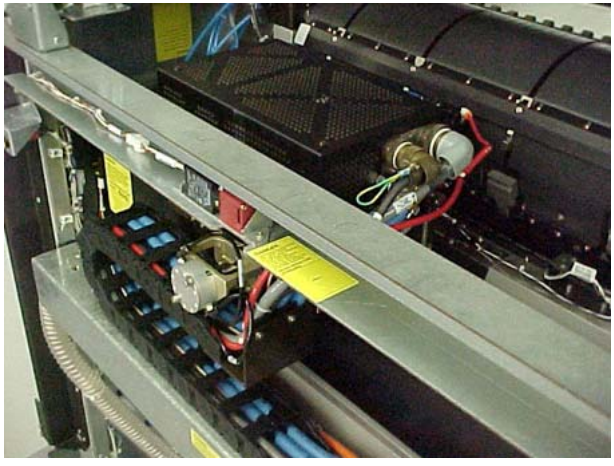


Figure 2. Right side tightening springs

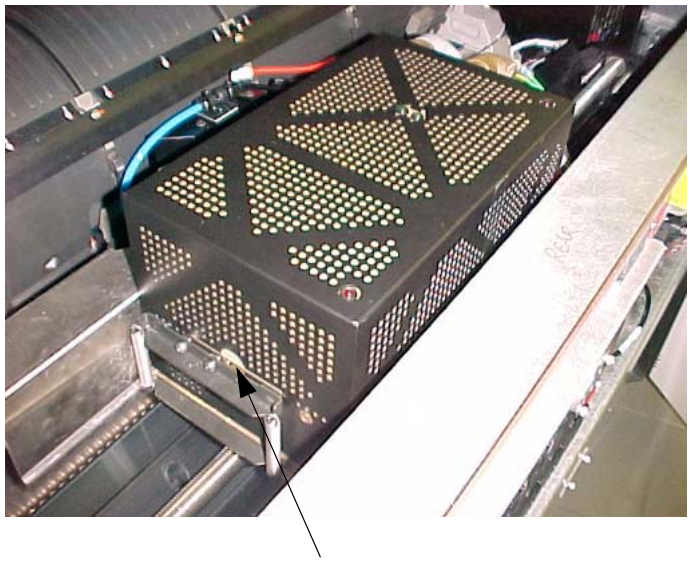
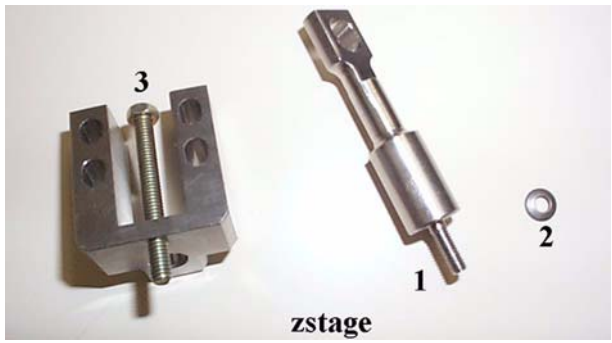


Figure 3. Left side tightening springs

5. Assemble the Z-Stage unit on the optic head and the carriage. Make sure there is distance between the drum and the head. See *Figure 4. on page 73*.



1. Loosen the 4 allen screws.
2. Screw the z-stage arm into the optic head.

Remember to use the fix spacer.

3. Connect the pneumatic unit to the carriage with two (2) allen screws 8:32:5/8.

4. Assemble the pin into the arm. Tighten it with the e-ring.

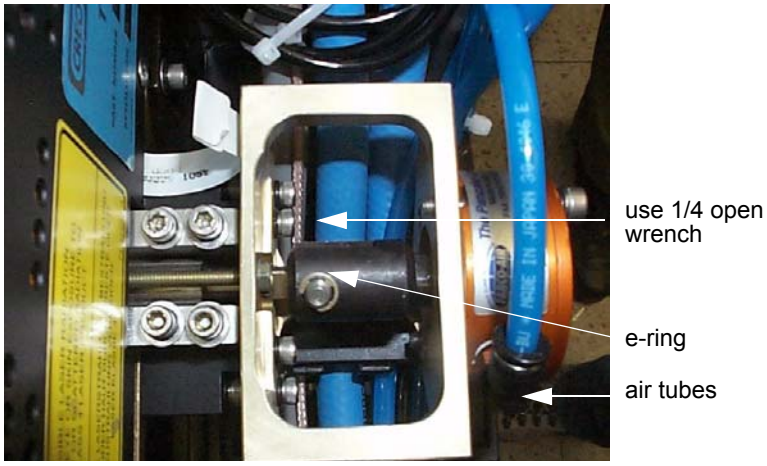


Figure 4. Adjustment jig

5. Connect the two (2) air tubes, according to the labels, from the main chain to the z-stage.

2.10 Routing the Imaging Head

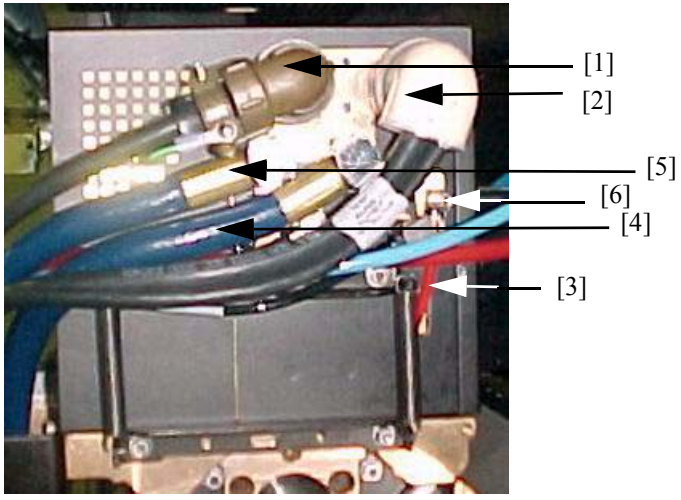


Figure 5. Cables in Imaging head.

1. Route cable 1 from the optic head to the TMCE to J-2.
   - Attach the ground cable to the connector lingula.
2. Route cable 2 from the optic head to the power supply.
   - Attach the ground cable to the connector lingula.
3. Route cable 3 from the optic head to the air valve.
4. Route cable 4 from the optic head to the cooling system at the outlet.
5. Route cable 5 from the optic head to the cooling system the inlet.
6. Route cable 6 from the optic head to the TMCE board to J-1.

In case the machine is using internal cooling unit rout cable 4 to inlet and cable 5 to the outlet.

2.10.1 Routing the Universal Debris Removal Cabinet (UDRC)

1. Remove the rear panel assy.
2. Remove the distribution box panel.
3. Connect the UDRC air hose to the output device outlet. See *Figure 6* on page 75.



Figure 6. Air hose

Make sure the connecting hose lies in an area where it will not be disturbed.

4. Connect the data cable (labeled Local 2) connector to the UDRC. See the below figure.

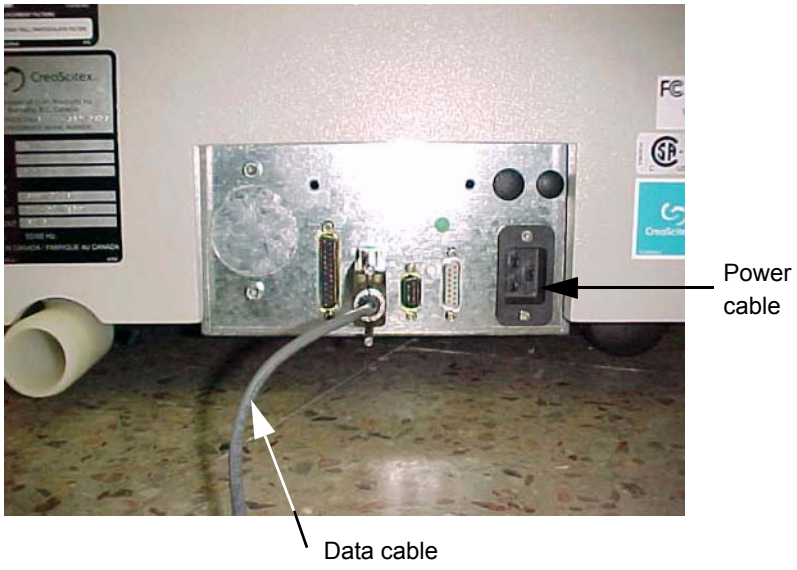


Figure 7. UDRC

The data cable (220-00008A) is 9 m (29.5 ft.) long. It is used to transfer data between the UDRC and the platesetter.

5. Connect the data cable (molex connector) to the J5 connector on the distribution box. See Figure 31 on page 77.

The data cabled is labeled ‘local 2’, however it is also used for local 3 machines.

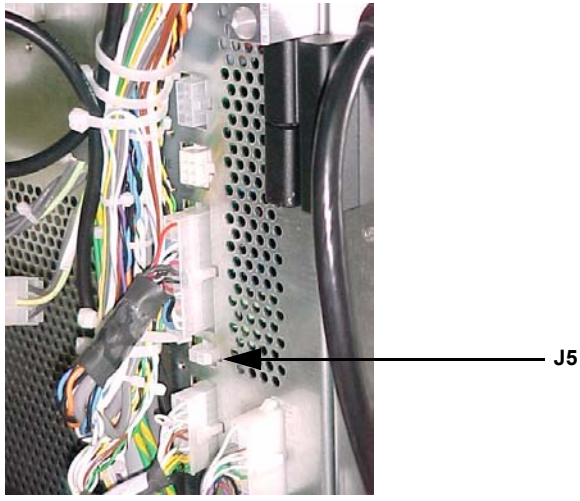


Figure 31. Distribution box

The debris removal unit should be located within 3 meters from the machine.

6. Connect the UDRC power cable.

7. On the PC controller, go to LOTEM400V\IO OBJECTS\DISTRIBUTION\SOLENOIDS SWITCH\Debrise Removal\Open. The default is 0, meaning this distribution solenoid is closed. Set it to 1, because through this solenoid the 24V power is supplied to the UDRC.

2.10.2 Filling up Cooling Liquid



Do n**ot** operate the platesetter until it is filled with cooling liquid.

- You must fill at least a gallon of cooling liquid into the container.
- Make sure to completely close the cap.
- If the cooling liquid does not arrive, you can use distilled water to begin the installation. You **cannot** continue the installation until you replace it with cooling liquid.

2.11 PC Controller Monitor & Electronic Box Connections

1. Place the PC controller monitor, its keyboard and mouse on the designated monitor table.
2. Connect the cables from the PC controller monitor, keyboard and mouse to the electronic box, as shown in figure below.
3. Connect main power cable of the PC controller monitor to the wall line voltage.

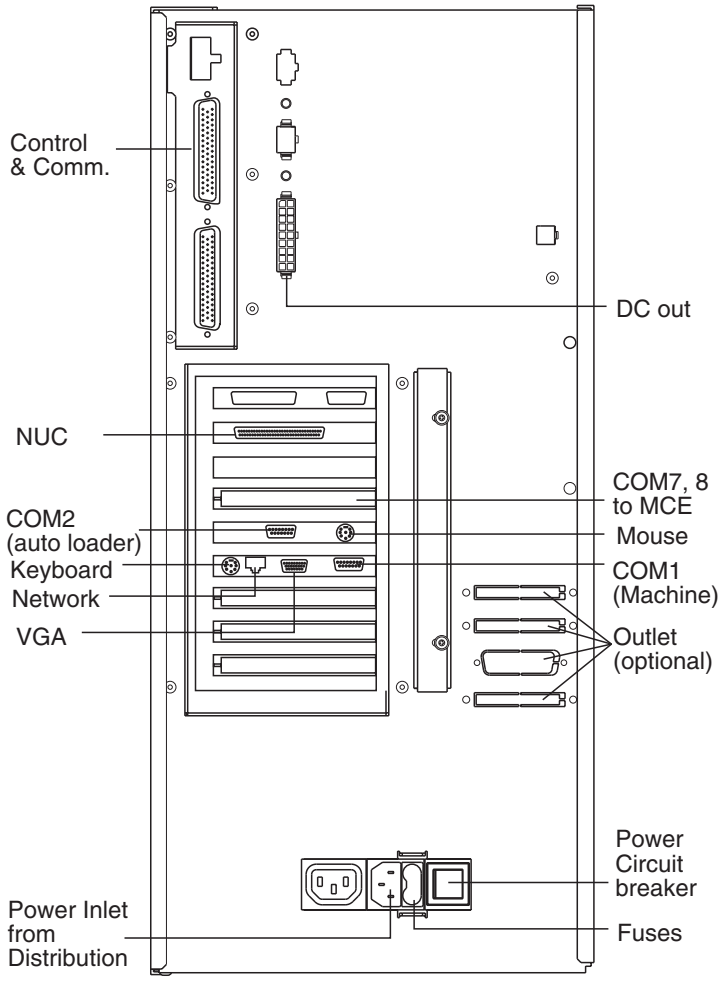


Figure 32. Electronic box connections

2.12 Connecting Plate Conveyor

The Plate conveyor is supplied in a separate package. We recommend that two (2) people unpack and assemble the conveyor. The following conveyor model is available:

- Round belt conveyor, see *Section 2.12.1* on page 80

2.12.1 Round Belt Conveyor

Refer to *Figure 33* on page 82 and *Figure 34* on page 83; the numbers in brackets in instructions below identify the parts shown in figures.

The Agfa processor is taller than other processors. This factor needs to be considered when attaching the legs, as described below.

1. For each leg, insert the four screws [1]. Use the set of holes that correspond to the required height. For all processors excluding Agfa, use the lower set of holes; for Agfa use the top set. **Do not tighten the screws**.
2. Secure the bottom tray [2] by inserting 2 screws [3] into each of the four wheels. Tighten the screws for all wheels with Locktit #242.
3. Tighten the screws [1] from step 1.
4. Connect the conveyor cable to the platesetter through the hole at the back trapezoid.
5. Disassemble the top cover [11].
6. Disassemble the side cover [5] (the cover with the hole for connecting the processor detector - see step 8).
7. Connect the processor detector to the conveyor - see in *Figure 35. on page 84*.
8. Route the processor detector cable through the hole located under the detector and secure it with cable ties.
9. Assemble the top and side covers.
10. Attach the plate tray between the platesetter to conveyor. For Agfa processor use tray [6]; for all others use tray [7]. Place the top of the tray so that the two screws at the sides of the platesetter fit the two holes of the tray.

11. For Horsell processor, you need to attach an additional plate tray from conveyor to processor [8]. Before attaching it, connect the bracket [9] to the conveyor at location [10] using 2 screws. Attach the bracket at both sides. Then attach the plate tray [8] to brackets. Place the top of the tray so that the two screws at the sides of the conveyor fit the two holes of the tray.

Figure 36. on page 84 shows the conveyor connected to platesetter (the additional plate tray connected for Horsell processor is not shown).

After conveyor assembly and connection, perform the parameters settings, see *Section 2.12.2* on page 85.

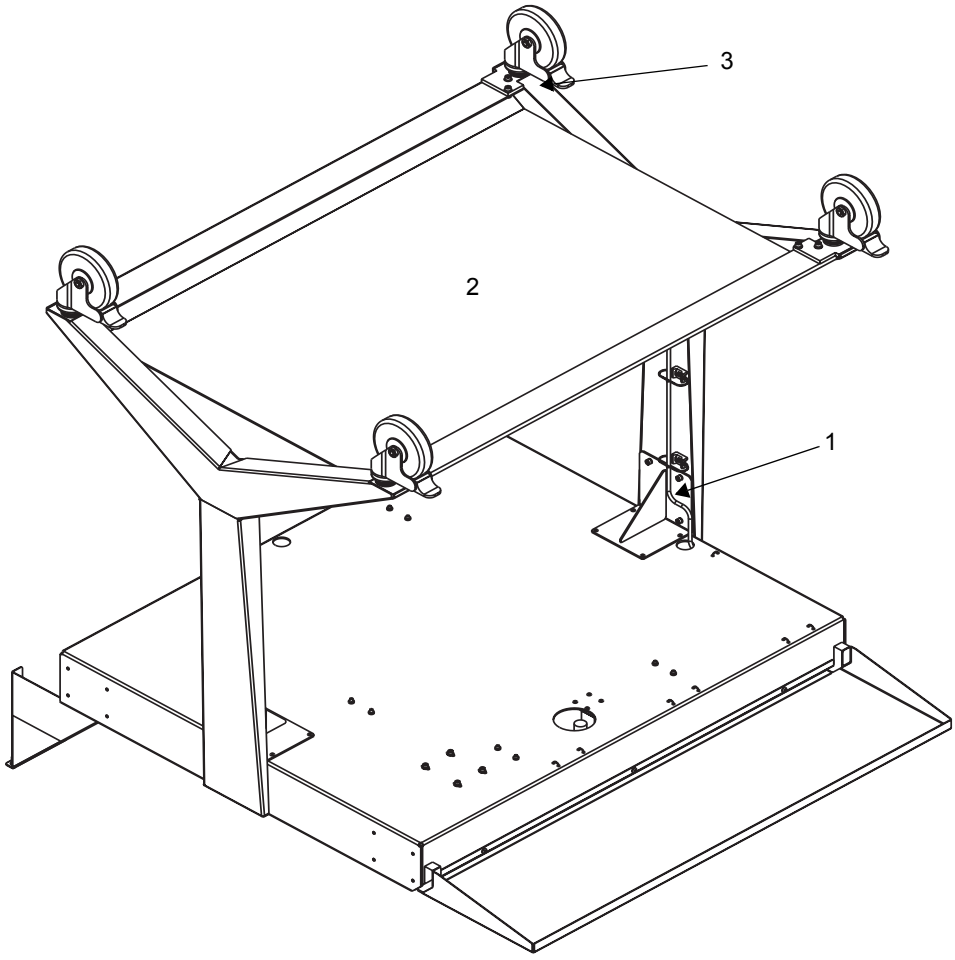


Figure 33. Round belt conveyor assembly (1)

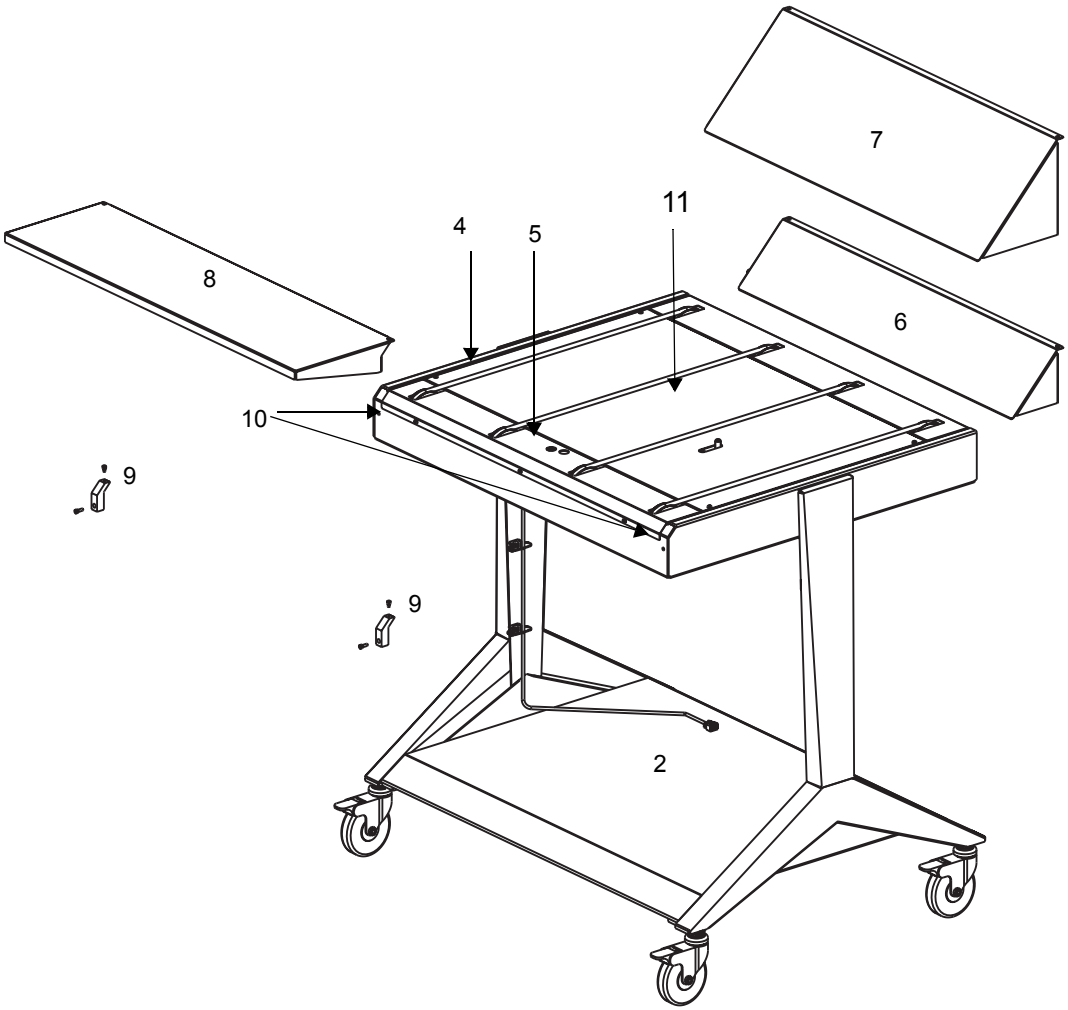


Figure 34. Round belt conveyor assembly (2)

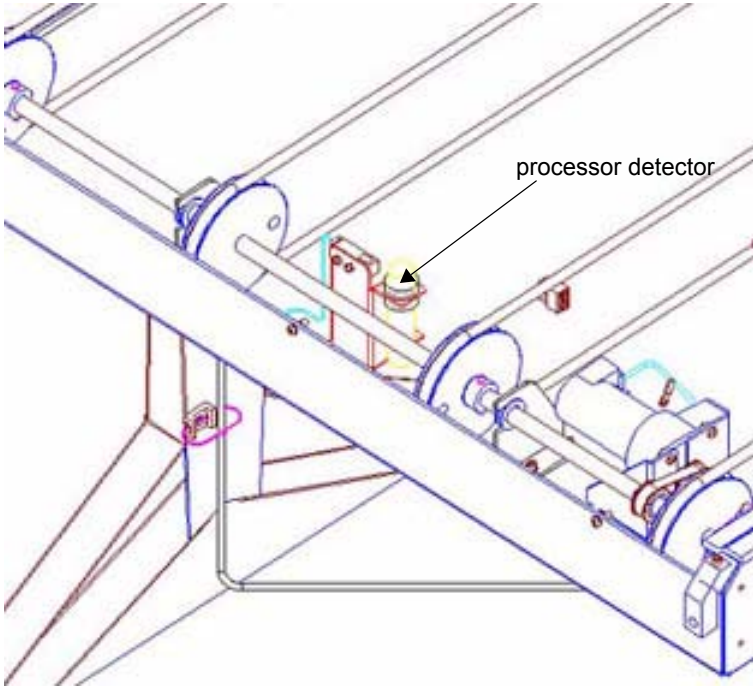


Figure 35. Processor detector installed on conveyor



Figure 36. Conveyor connected to platesetter

2.12.2 Parameter Settings in the Platesetter

1. Click on **Tools** in the **Utilities** menu.
2. Enter the Service password in the Password window.
3. On the extended **Utilities** menu, click **Hardware** to open the Hardware window.
4. In the Hardware window, click **Others** and then right-click on **Lotem 400 Quantum**.
5. Double-click on **IO objects**.
6. Double-click on **Plate out of conveyor detector** to open it.
7. Select **Open** and set the value to **1**. Click **Save** and then **Send**.
8. Double-click on the **Unload Conveyor motor** to open it.
9. Select **Open** and set the value to **1**. Click **Save** and then **Send**.
10. Restart the application.
11. Re-open the Hardware window and click **Unloading system**.
12. Open **Detectors** and verify that **Plate out of conveyor detector** is listed.
13. Open **Motors** and verify that **Unload conveyor motor** is listed.

Perform the following adjustments:

1. To adjust the **Conveyor** speed:
    1. Open the **Loading System** and then right-click.
    2. Select and double-click on **Unload plate**.
    3. Adjust the speed by the Conveyor Motor Speed parameter.
2. Adjust the time required for the Conveyor motor to stop turning after the detector is operated:
    1. In above screen, select **Timeout For Stop Unload Conveyor**.
    2. The numbers are in milliseconds, that is, 1000 msec is 1 second.

2.13 Packing-up the Platesetter for Shipment

A minimum of two (2) people and a fork lift are required to pack-up and place the platesetter on its shipping pallet. Refer to *Figure 37* on page 87. The numbers in the instructions below refer to the item numbers shown in the figure.

1. Disconnect all the electrical cables from the platesetter and remove the skirting boards from the front, rear and sides.
2. Disassemble the loading tray and brackets (item 2 in *Figure 37* on page 87).
3. If the fork lift cannot be moved to the platesetter location, roll the platesetter to the shipping pallet. To do so, close the nut of each leg counter-clockwise to maximum position until the wheels touch the floor and then roll the platesetter.
4. Place the two lower shipping beams [6] on the shipping pallet [7] above the main shock absorbing beams.
5. Using the fork lift, lift the machine and place it on the shipping beams, aligned according to the securing bracket holes.
6. Secure the machine to the shipping pallet using the four brackets, screws and washers [8].
7. After performing a final check to assure that the platesetter is positioned and secured properly, cover the platesetter with nylon wrapping.
8. Pack the skirting boards in bubbled nylon and place behind the platesetter. Secure with plastic tape [1].
9. Staple the side wooden struts [5] to the shipping beams [6].
10. Staple the top wooden struts [3] to the side wooden struts [5].
11. Place an outer carton container [2] on the platesetter. Insert staples to secure the outer carton to the shipping pallet [7] and side wooden struts.
12. Close the top flaps of the outer carton.
13. Close the outer carton with plastic tape and with two steel bands.

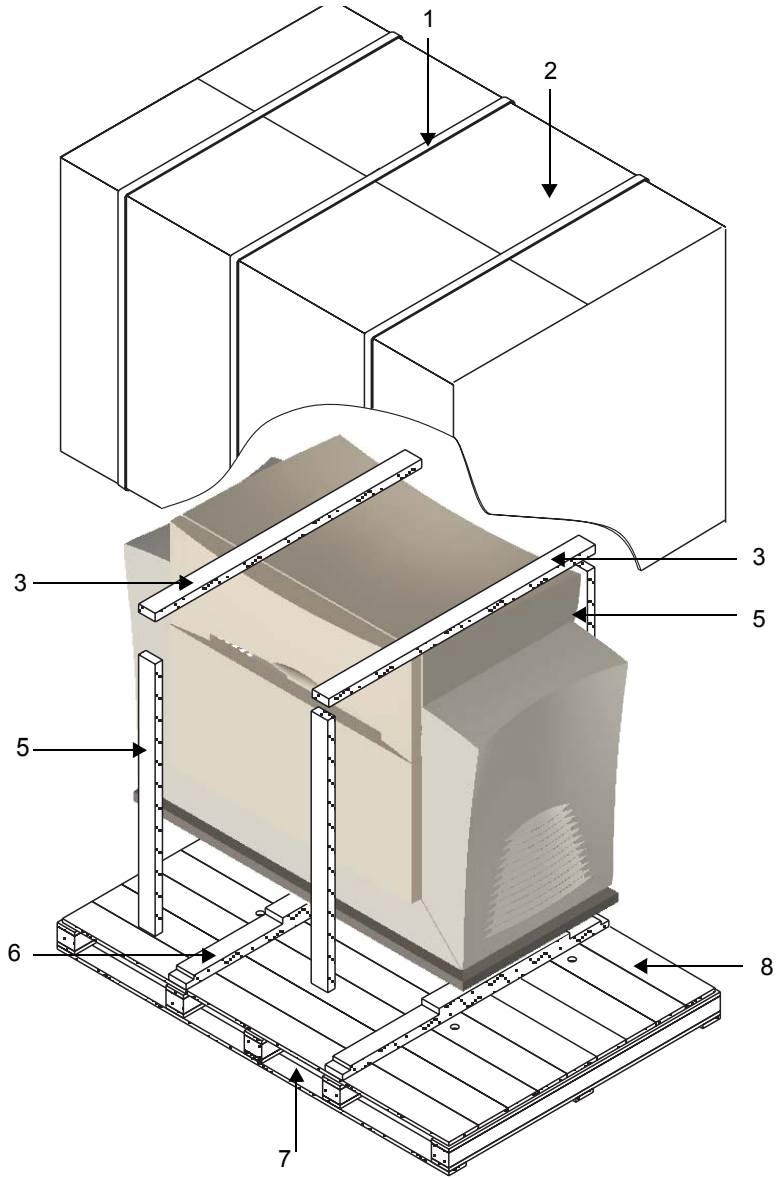


Figure 37. Packing up the platesetter