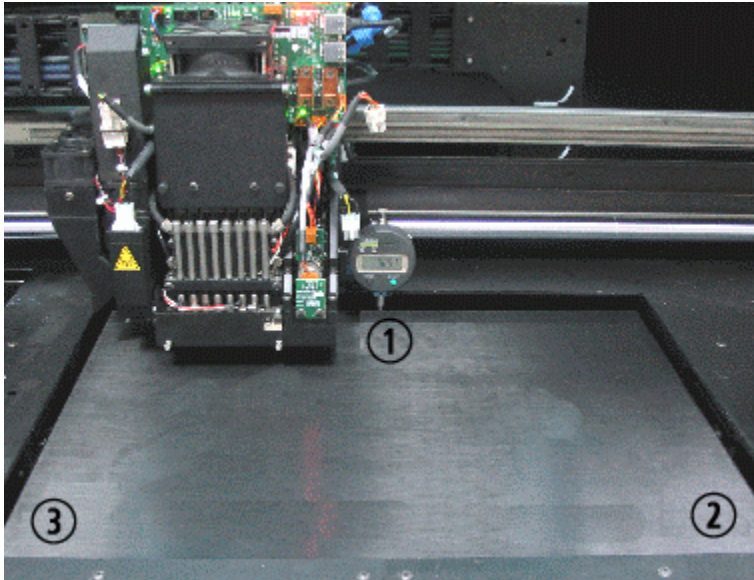# Tray Calibration Wizard

Accurate model printing requires the build tray to remain parallel to the print head as the print head moves along the X and Y axes.

The height of the tray is controlled by the three vertical rods that support it. During this procedure, you measure the distance from the tray to the print block at these points.

Point 1 is the reference point, and is not adjusted. If the tray is not level, you adjust the height of points 2 and 3 so that all points are within 50 microns of each other.

Tools Required

- Digimatic indicator (precise distance-measuring tool) with ball tip

- Jig for attaching the indicator to the printer (JIG-01006)

- M2.5, M3, M4 Allen keys
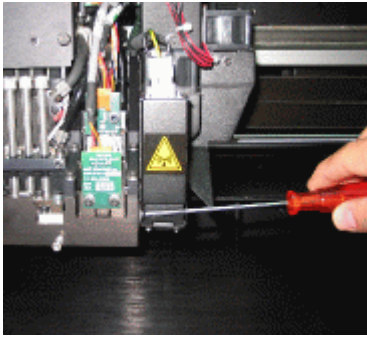
- Screwdriver

- M4 screw

Attaching the measuring device

Lower the tray
Use the arrow ▼ in the wizard screen to lower the tray
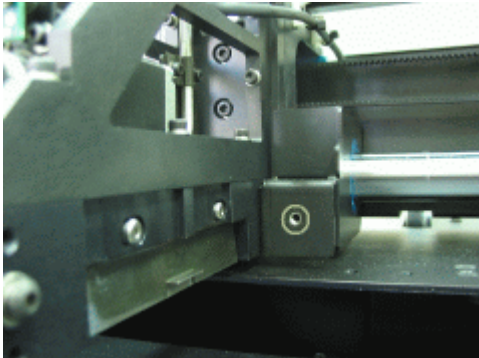(approximately 5 cm / 2 inches).

Remove the right UV lamp
1. Disconnect the power and fan cables to the right UV lamp.
2. Release the screw securing the UV-lamp assembly to the print block, and remove
   the assembly.

Attach the measuring device
1. Attach the jig that holds the measuring device to the print block, at the rear of
   the lamp bracket, using the M4 screw.

2. Tighten the measuring device to the holder, while ensuring that the probe
   remains perpendicular to the tray.

Prepare the measuring device

1. Turn on the measuring device.
2. Zero the measuring device.
3. Push the probe upward and look at the value displayed on the measuring device . The value should be positive (that is, the minus "-" sign should not be displayed). If the minus sign is displayed, press the +/- button on the device.
4. In the wizard screen, raise the tray so that the probe on the measuring device is pushed about halfway into the unit.

To continue :

In the wizard screen, select **Indicator is in place** and click **Next**.

The print head moves to the first measurement point, and the next wizard screen appears.

Measuring Point 1

- To begin, reset the measuring device to zero and click **Next**.
- If you adjusted the tray level in this procedure, re-check the tray level at all points before closing the wizard.
- If all measurement points are within 50 microns of each other and you did <u>not</u> adjust the tray level in this procedure, click **Done**.

Measuring Point 2

Look at the reading on the measuring device.
A reading of **less than 50 microns** is within operating specifications.

- To test the tray level at the next measurement point, click **Next**.

  Make sure that all measurement points are within 50 microns of each other.
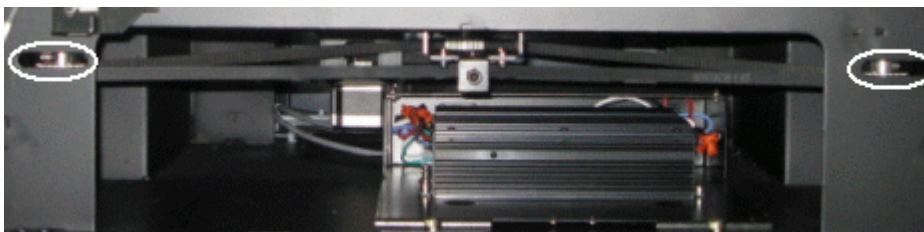
  If you adjust the tray level in this procedure, re-check the tray level at all points before closing the wizard.

- If all measurement points are within 50 microns of each other and you did <u>not</u> adjust the tray level in this procedure, click **Done**.

- To adjust the tray level…

1. Open the front doors of the printer and remove the front panel.
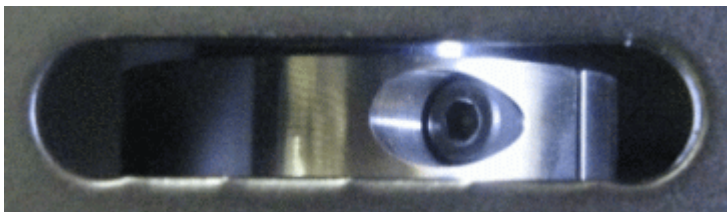

   Now, the pulleys are visible in the slots at the front of the printer chassis.

2. In the wizard screen, click **Disable Z**.

3. Turn the Z-axis rod (for this measurement point) so that you can access the pulley screw through the slot in the printer chassis.

   You can turn the rod by hand (using gloves) or with a screwdriver, through the hole in the surface next to the build tray.

   Note: The hole above this Z-axis rod is not accessible in newer printers with built-in UV sensors.

4. Using the M3 Allen key, loosen the screw that secures the pulley to the Z-axis rod.

5. Reset the measuring device to zero.

6. Slowly rotate the Z-axis rod until the indicator shows that you have corrected the tray level.

   For example, if the reading at the measurement point was -70, you must now raise the tray until the indicator displays +70.

   Note: It may be necessary to remove the lamp power supply to create suitable access.

7. Tighten the pulley's securing screw.

Measuring Point 3

Look at the reading on the measuring device.
A reading of **less than 50 microns** is within operating specifications.

- To test the tray level at the next measurement point, click **Next**.

  Make sure that all measurement points are within 50 microns of each other.
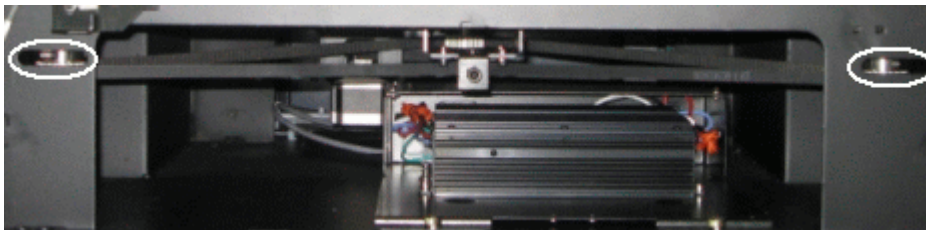
  If you adjust the tray level in this procedure, re-check the tray level at all points before closing the wizard.

- If all measurement points are within 50 microns of each other and you did <u>not</u> adjust the tray level in this procedure, click **Done**.

- To adjust the tray level...

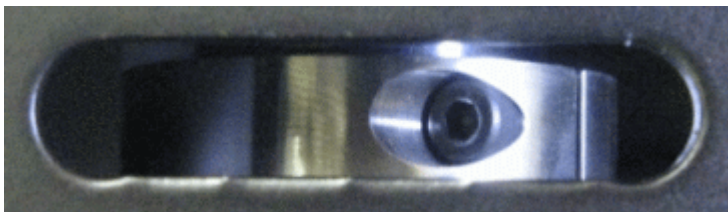1. Open the front doors of the printer and remove the front panel.

   Now, the pulleys are visible in the slots at the front of the printer chassis.

2. In the wizard screen, click **Disable Z**.

3. Turn the Z-axis rod (for this measurement point) so that you can access the pulley screw through the slot in the printer chassis.

   You can turn the rod by hand (using gloves) or with a screwdriver, through the hole in the surface next to the build tray.

4. Using the M3 Allen key, loosen the screw that secures the pulley to the Z-axis rod.

5. Reset the measuring device to zero.

6. Slowly rotate the Z-axis rod until the indicator shows that you have corrected the tray level.

   For example, if the reading at the measurement point was -70, you must now raise the tray until the indicator displays +70.

   Note: It may be necessary to remove the lamp power supply to create suitable access.

7. Tighten the pulley's securing screw.

Restoring the printer to working configuration

1. Remove the measuring device and its holder from the printer.

2. Re-attach the right UV-lamp assembly to the print block.

3. Re-connect the UV-lamp power and fan cables.

4. If you removed the front panel in this procedure, re-attach it.

Completing this Procedure

If you haven't already done so:

1. Re-attach the right UV-lamp assembly to the print block.

2. Re-connect the UV-lamp power and fan cables.

3. If you removed the front panel in this procedure, re-attach it.