Kodak

Trendsetter AL and NEWS

Adjusting the Autoloader to Avoid Image Skew

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Revision History

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1. SCOPE

This document describes how to identify and fix the causes of skewed images on plates on the Kodak® Trendsetter® NEWS™ and Autoloader thermal platesetters.

2. INVESTIGATING POSSIBLE CAUSES OF SKEWED IMAGES

Before you begin, make sure that the image is skewed on the plate by measuring the distance from the image to the leading edge of the plate, at both the home end and the away end.

If these measurements show that the image is straight on the plate, any registration problems on press must be related to the punch, the bender, the press mounting system, or a misinterpretation of the image orientation. Make sure that the Trendsetter, punch, and press use the same edges for their registration points (the leading edge and the home edge).

If the image is skewed or shifted on the plate, identify the direction of the shift.

- Intermittent subscan shifts (along the drum) can be caused by carriage problems or inconsistent edge detection due to bad plate edges like burrs or emulsion defects at the edge.
- Intermittent mainscan shifts (around the drum) can be caused by electronic problems like faulty head cabling, encoder issues, or MPE/MCE/GMCE board problems.

In the vast majority of cases, skewing of images on plates is related to plate loading where the plate doesn't drop properly onto the registration blocks on the drum. This can be caused by the following conditions:

- Plates have a bent corner from improper handling or storage.
- There is debris on one or more registration blocks.
- The leading edge clamp (LEC) gap is too wide or too narrow.
- The plate drop from picker incorrect (too high or too low).
- The plate drop is being obstructed (by a picker vacuum line, for example).
- The plate angle is incorrect as it is dropped into the LECs.
- The plate is rubbing against the picker suction cups as it is dropped into the LECs.

3. VERIFYING AND CORRECTING COMMON CAUSES OF SKEWED IMAGES

Important: It is mandatory to follow safe lockout procedures during troubleshooting and maintenance activity. For safety requirements, see the *Safety Policies for Service Engineers* at http://techplanet.creo.com/output/computer_to_plate/all_ctp/nav/safety.htm.

1. Inspect the plates that have the skewed images to determine whether they have any signs of bent corners. Also look for plates with bent corners in the bay, and verify that the operator also looks for this problem when loading the bay.
2. Check that the registration blocks on the drum and the area underneath the LECs are clean and free from debris.

3. Using feeler gauges, make sure the gap of the LEC is as follows for the six open clamps:

   1.4 mm 1.3 mm 1.2 mm 1.2 mm 1.3 mm 1.4 mm

   - If the gap is smaller than the above measurements for one or more clamps, the plate may encounter too much friction when entering the LECs and not settle properly on the registration blocks. In some cases, the plate may even drop on top of the clamps.
   - If the gap is larger than the above measurements for one or more clamps, the plate may drop between the registration block and the clamp or onto the raised edge of the registration block.

   If necessary, correct the LEC gaps by either turning the rod end on the LEC cylinder shaft to make a change for multiple clamps, or by changing the shims under the plastic clamp openers on the LEC backbone to make a change in individual clamps.

   See Adjusting the LEC Gap/Actuator Timing on the 3244 Engine on the Trendsetter 400/800 TechPlanet site's Procedures page for more information.

4. Follow steps a to d to verify that the height of the plate drop onto the registration blocks is 2–2.5 mm for the last plate in the bay (that is, when there is just one plate in the bay).

   Note: The plate-drop distance is greater when the autoloader picks plates from a full bay or from bay 2 of a Trendsetter NEWS machine with the Dual-bay option and NELA plate preloader.

   a. Pick a plate (or two broadsheets from a dual stack) by entering the following commands:

      ```
      Picker up
      Picker in
      Picker vac on
      Picker wrist in
      Picker wrist out
      Picker out
      Picker down
      ```

   b. Open the front door and draw a line with a sharp object on the plate over top of the LECs.

   c. Enter the command:

      ```
      Picker vac off
      ```

      The plate drops onto the registration blocks on the drum.

   d. Draw another line on the plate over top of the LECs and take the plate out to look at the distance between the two lines. This is the plate-drop height, which should be 2–2.5 mm for the last plate in the bay.

      If you need to correct the plate-drop height, do so by loosening all the small screws just above the plate ledge in the bay, and moving the ledge up or down as required.

5. Using the same steps you used for checking the plate-drop height, check the following aspects of the plates' descent onto the drum's registration blocks.

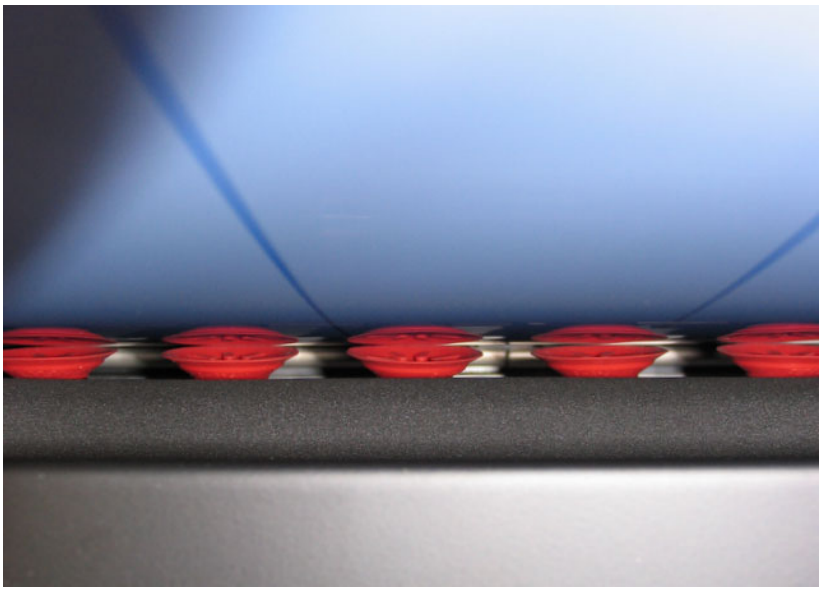
   a. Confirm that nothing is interfering with the plate as it drops into the clamps—for example, a protruding vacuum line on the picker head.

b. Confirm that there is no obstruction on the drum that would prevent the plate from sliding smoothly into the LECs—for example, burrs or a protruding edge detect strip.

c. Ensure that as the plate drops onto the drum, its leading edge is not catching the groove in the drum for the edge detect strip. If it is catching, determine whether it is because the angle of the picker head is incorrect upon release of the plate, or because the plates are curled towards the drum.

Note: Do not adjust the autoloader to compensate for curled plates, as this could cause problems with the next batch of (uncurled) plates.

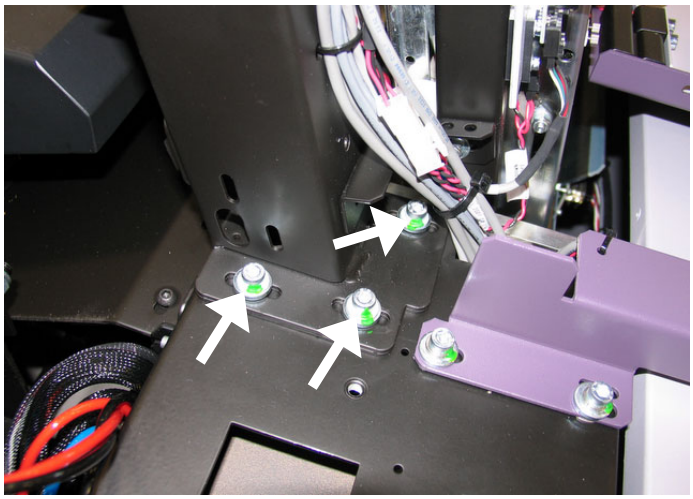
d. Check to see whether the plate is free from the suction cups after the picker vacuum is released. If the plate touches the cups, this can create enough drag that the plates are prevented from sliding into the clamps properly.

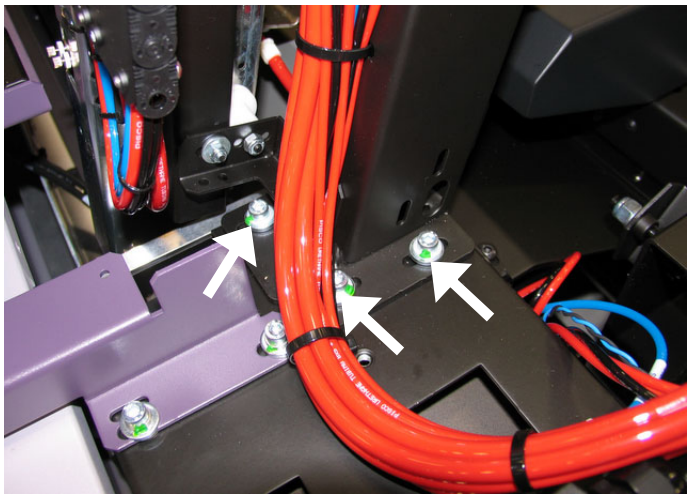


If the plates are dragging against the picker suction cups or catching on the edge detect strip's groove in the drum (and this is not a result of the plate's being curled), follow the autoloader setup procedure in Section 4.

4. ALIGNING THE AUTOLOADER ASSEMBLY

1. Lower the unload table and remove the shoulder panels and the side panels from the bay.
2. Loosen, but do not remove, the three bolts on each side of the autoloader that hold the autoloader assembly to the Trendsetter frame.

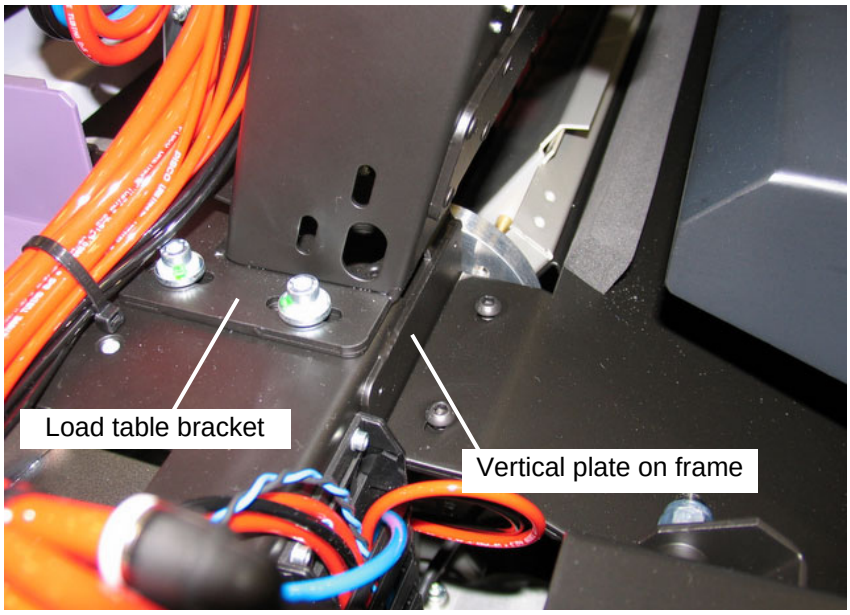




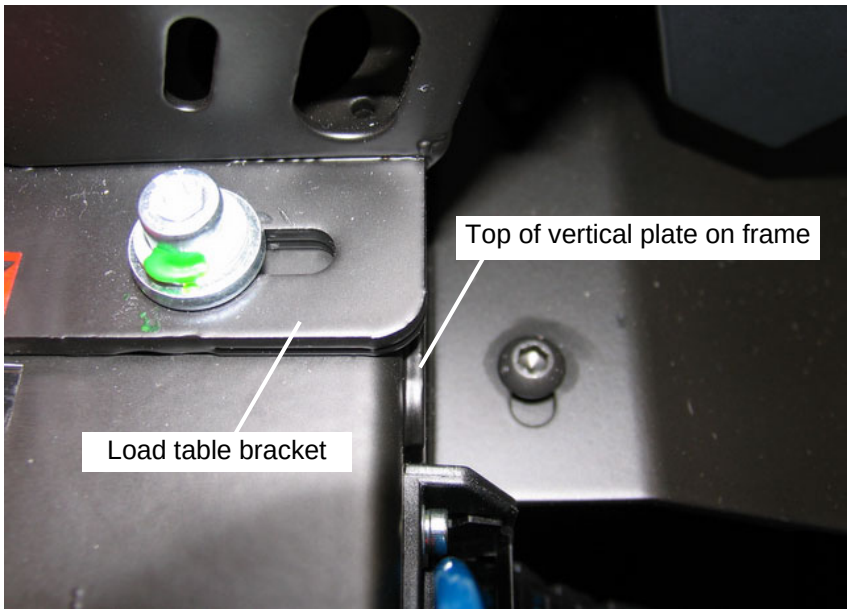
3. Check the alignment of the load table and adjust it if necessary. If the machine has a narrow plate ledge, skip to step 4.

   If the machine has a wide plate ledge, check the alignment of the load table brackets on each side of the autoloader assembly with the vertical plates attached to the frame. The following illustrations show the incorrect and correct alignment of these items.

Incorrect alignment for machines with wide plate ledge:



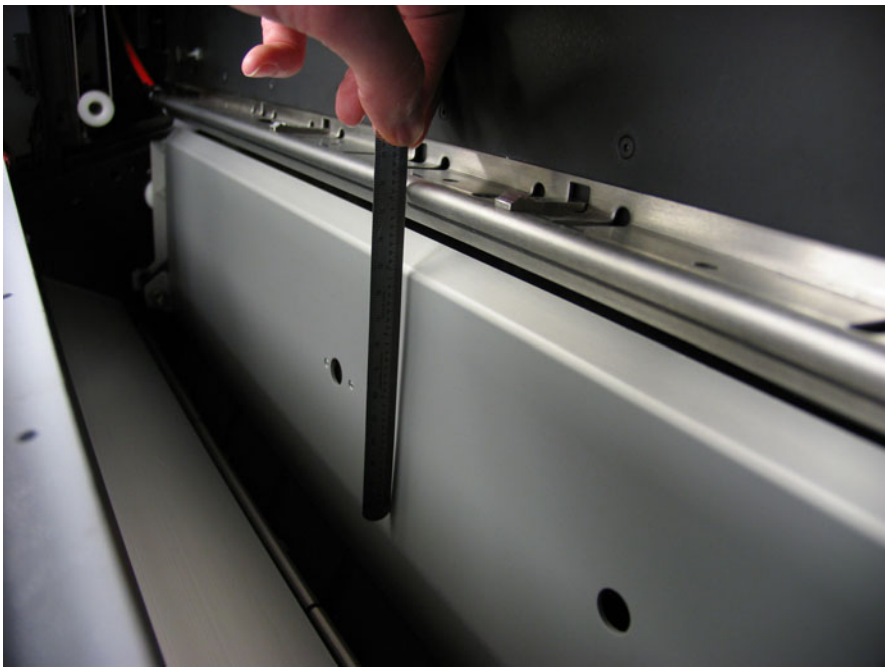
Correct alignment for machines with wide plate ledge:



4. If the machine has a narrow plate ledge, check the load table alignment as follows:

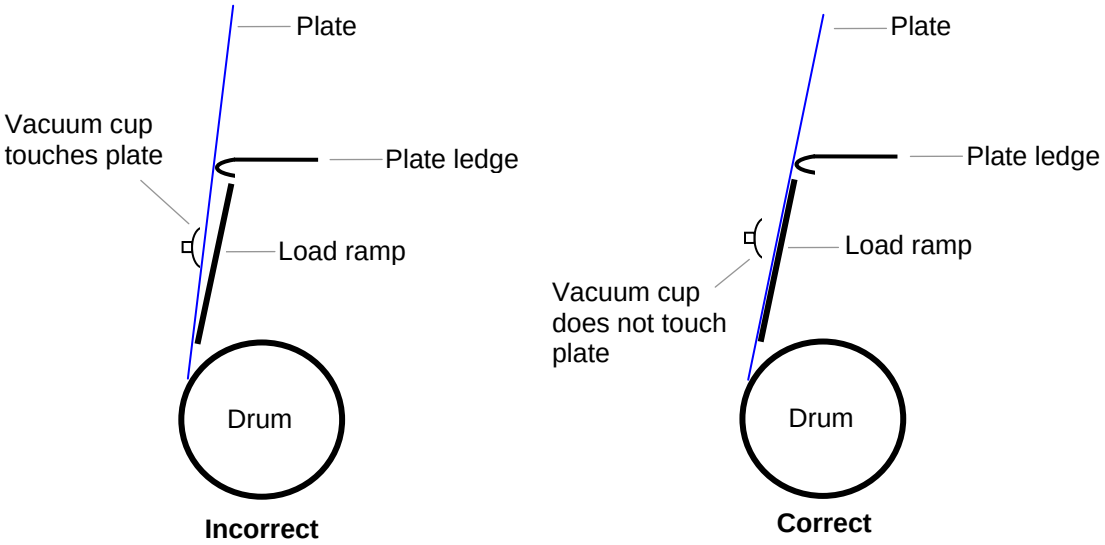
   a. Make sure that the load ramp is fully out, at its end of its travel.

   b. Use a ruler to see whether it follows a straight line along the load ramp and the front of the plate ledge.



   In the picture above, the autoloader (including the plate ledge) must be moved back slightly for correct alignment.

5. If necessary, realign the autoloader so that the plate follows the angle of the load ramp and it is free from the suction cups after the picker vacuum is released.



Note: With the wide plate ledge, this alignment is impossible to achieve, because the autoloader would need to be moved too far back. This would create unload problems where the plate hits the underside of the plate ledge on unloading. Therefore, as a compromise on machines with the wide plate ledge, the autoloader mounting bracket is aligned instead.

When the entire autoloader assembly has been moved back, the picker head is closer to the drum, which means that when the picker moves down, the leading edge of the plate makes contact with the drum at a position too high above the clamps.

The leading edge of the plate should touch the drum just above the clamps (less than 25 mm (approximately 1 in.).

To correct this problem, move the picker guide rails out towards the front of the machine, after ensuring that the wrist cylinders are set up correctly, as described in steps 6 and 7.

6. Make sure that the wrist cylinders are set up correctly, as described in *Replacing the Picker Wrist Cylinders*, downloadable from the Trendsetter NEWS or AL TechPlanet sites' Procedures pages.

   - Trendsetter AL
     http://techplanet.creo.com/output/computer_to_plate/trendsetter_al/nav/proced.htm
   - Trendsetter NEWS
     http://techplanet.creo.com/output/computer_to_plate/trendsetter_2637/nav/proced.htm

   Note: The former practice of adjusting the wrist cylinder rods so that three threads were visible above the clevis is no longer valid. See the revised document for the correct setup, in which the end of the cylinder shaft is flush with the clevis. This ensures that the extended cylinder length is equal on both the home and away sides. (It may still turn out that three 3 threads are visible, but this is not an accurate and reliable measure by itself.)

7. Move the picker guide rails out so that the leading edge of the plate makes contact with the drum just before entering the LECs.

   To check this:

   a. Make sure that you have straight plates in the bay, without any curl.

   b. Use your service key to turn the safety interlock override (SIO) key switch to the Interlock Override position.



WARNING: Beware of moving parts and/or the potential movement of mechanical parts whenever the safety interlock override (SIO) key switch is in the Interlock Override position. To prevent death or serious injury, always keep your hands and other body parts out of the danger zones and follow the safety precautions in the *Safety Policies for Service Engineers* document on TechPlanet:
http://techplanet.creo.com/output/computer_to_plate/all_ctp/nav/safety.htm

   c. Have the engine initialized so the leading edge clamps are opened by the LEC backbone, ready to load a plate.

   d. Remove the drum roller to enable you to see the plate loading process more clearly.

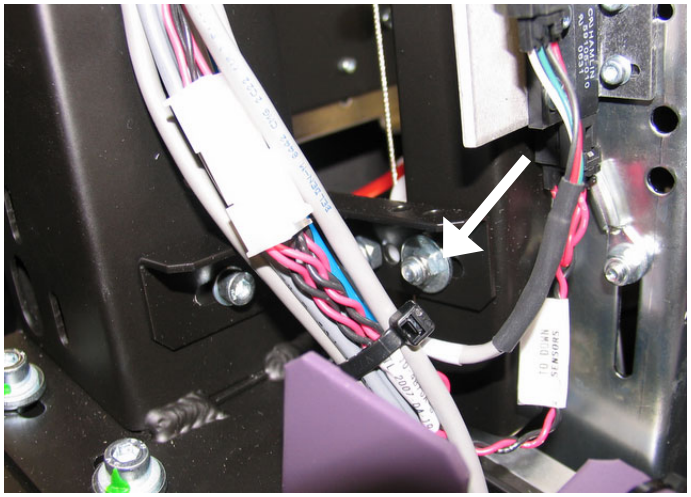
e. Enter the commands:

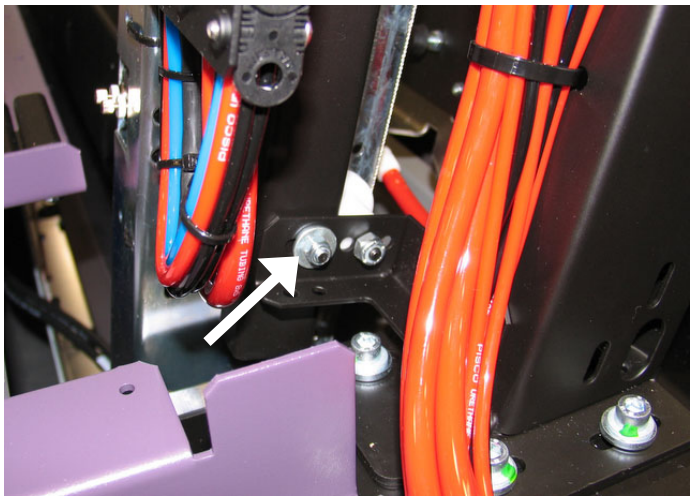
```
picker up
picker in
picker vac on
picker wrist in
picker wrist out
picker out
```

f. Start a loop test for picker up/picker down with 6000-ms time intervals.

g. Observe the point at which the plate touches the drum and determine whether it's equal from left to right.

8. To adjust the picker guide rails, loosen the single nut on each side of the assembly, as shown in the pictures below.





If you can't move out the picker rails far enough to achieve the correct contact point, you may have to shim the picker rail brackets, as shown in the following picture.



9. Reinstall the drum roller and automatically load a plate on the drum to check operation.
10. Verify that the plate is free from the suction cups after the vacuum is released with the same method you used when checking the plate drop.
11. Remove the SIO key switch.
12. Reinstall the panels.
13. Run approximately 10 plates through the machine to make sure everything runs properly.