Trendsetter Autoloader/NEWS
Planned Maintenance Procedure

Customer:_____ Unit #:_____ Date:_____

Serial number:_____ Service Rep:_____

Note: This checklist is specific to the Autoloader function. Refer to the *Trendsetter 400/800 Planned Maintenance Procedure* or the *Trendsetter 3230 (TS4) Planned Maintenance Checklist* to perform maintenance on the base device. See the *Maintenance* page in TechPlanet.

Perform this procedure at least every 6 months on every customer device. Increase the frequency to 3 months at "high risk" sites.

Schedule regular planned maintenance (PM) visits with each customer in your region. When you are unable to honor the scheduled visit, do the PM within a reasonable period from the scheduled time.

PM Servicing Kit
Ship PM kit to site for performing every P.M:

PM Kit for Autoloaders with Picker 3—50-2394A
PM Kit for Autoloaders with Picker 2—50-2400A

Prior to Starting:

- Check for any needed FCO upgrades, and arrange to have the parts shipped to the site.
- Ensure that you have the current Controlled Release available (MPE or MCE).
- Obtain permission from the customer to do the PM on the system.

Total Time Required: approx 2 hours (plus approx 8 hours for base PM)

An estimated two hours will be needed to do a thorough job. This estimate will increase if a Controlled Release upgrade is required, if FCOs must be installed, or if the PM inspection reveals that the Trendsetter needs to be repaired.

If possible, work with an operator or maintenance person while doing your work. Explain proper maintenance of the system to them, and point out any lack of regular maintenance that you notice. Ask the operator about any unusual conditions (noises, etc) that they might have noticed. Take inventory of any spares on site as well as parts that should be returned to Creo.

1. LOGGING GENERAL INFORMATION

1. Check with the customer to ensure that all information in Creo's current database is correct and up to date (supervisor/operator names, phone/fax/modem line numbers, address information, Creo Workstation login names/passwords, etc.).
2. Verify the customer is performing regular system backups of pertinent files on the Workstation computer.
3. Use Service Shell to check the status of the laser (using the **`laser`** command) and record the result below:

   Exposure head serial number TH_____

   Laser Power: _____

   Current: _____

4. Make a copy of the NVS values (using the **`fsave all`** command). Save these backups in the workstation service directory (E:\service). You should also keep a copy on your laptop computer.

2. GENERAL MAINTENANCE

1. Ensure the customer is performing all general maintenance found in the *Maintenance* chapter of the operator manual/guide at the intervals specified.
2. Check for water or oil in water trap of air filters.
3. Check TechPlanet for the latest Controlled Release and perform upgrades if necessary. Record the information below.

   Current Controlled Release version _____ or

   original MPE fw _____ original head fw_____

   current MPE fw _____ current head fw_____

4. Use **`SET AL`** to see if all sensors are enabled.
   Replace any sensors that are disabled.
5. Move the picker up and then clean the load ramp sensor with alcohol.
6. Replace the warning light indicator bulbs.
   Access is through the cap on the top of the housing.
7. Check that the separator arms are contacting the center of the limit switches.
   - Adjust the top of the separator arm flange if necessary.
   - If you are working on a Version 3 Picker, do not adjust the front bushing, as it will require re-adjusting the picker. Instead adjust the bushing attached to the load table back.

8. Check for tightness of the upper load ramp cylinders where they attach to the standoff that attaches to the engine side plate.

9. Ensure that FCO CA04191 has been completed. Kit number 512-00129A provides the parts and procedure for replacing the plate bay door hinges and struts. These hinges and struts were factory-installed starting at SA906 (except 912 or 913), NM209, and TM399. See FCO CA04191 in TechPlanet for more details.

10. Check upper bay door hinges for wear.

11. Look at how the large bay door engages the locking latch:

    - **`PICKER LOCK ON`**
    - Use a credit card or ruler to unlock the door.
    - Close the door and observe how well the latch hooks up.
      File the door hook smooth if necessary.
    - **`PICKER LOCK OFF`**

12. Check on how the large bay door engages the interlock safety switch.

    - Listen for the solenoid actuating as the key enters the switch.
    - Shim the key in or out with washers if engagement is not reliable.

13. Check the manual bypass:

    - Make sure that the plate does not catch on anything as it is lowered onto the drum pins.
    - Adjust the rubber bumpers on the load table to move the door in or out.

14. Check the edge detect strip "chamfer" for burrs.
    Remove the edge detect strip and sand off any burrs.

15. Use a ruler to check for correct alignment of the load ramp to the plate ledge (surfaces within 1mm). Contact chris.morely@creo.com if misalignment is required for correct operation.

16. Check the film guide gap:

    - The gap between the film guide and the drum should be 2-3mm.
      See *Procedures* page on TechPlanet.

17. Check LEC firmware position for Loading.
    See *Procedures* page on TechPlanet.

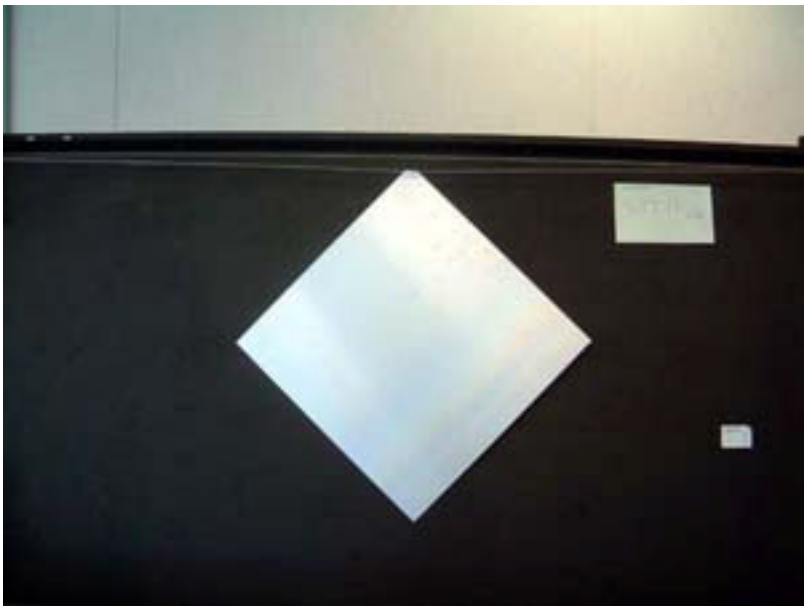
18. Use **`LIST STATS`** and record:

    Number of images run: _____
    Number of double picks: _____

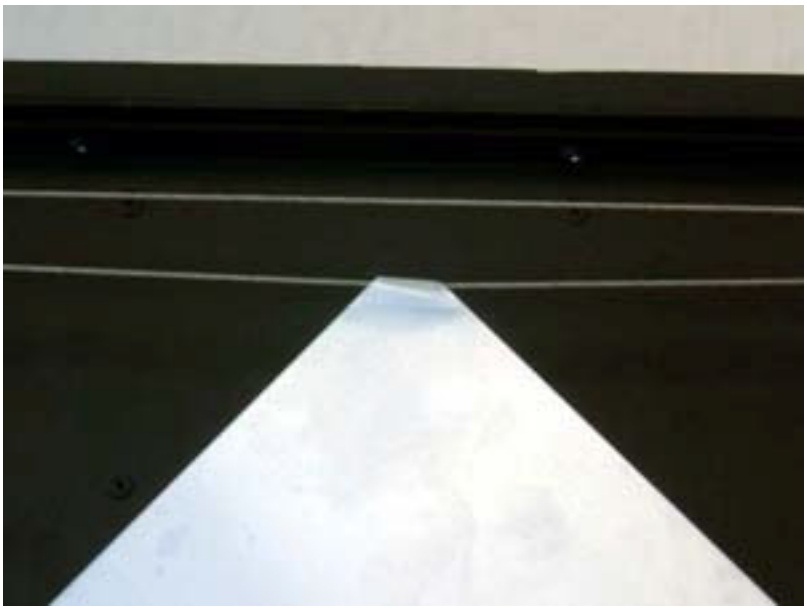
3. VERSION 2 PICKER - *NOT APPLICABLE TO NEWS DEVICES*

1. Remove and throw away the existing Mylar®.
2. Change all of the picker cups (55-0706).
3. Replace the following:
    - 12 small Tee fittings (55-0743)
    - four elbows (55-0643)
    - four 3mm to 1.5mm tube adapters (55-0744)
    - small blue tubing (56-3281)
    - large Tee fittings (55-0536)
4. Check how far the cup lips protrude from the foam face of the picker head (1 to 2 mm). Correct as follows:
    - Place the largest plate in the bay.
    - Move the picker using **PICKER UP** and **PICKER IN** and turn the **PICKER VAC ON**.
    - Loosen all top and bottom screws (6 top, 6 bottom) that attach the cup mount panel to the picker head. The vacuum can then pull the cups into the correct position.
    - Retighten all the bottom screws and then the top screws.
5. Replace the Mylar strips (57-7129A for top and 57-7130A for bottom). The bottom strip is the one with a large hole in the mid span of the Mylar.

    Refer to FCO D173 in TechPlanet for the procedure.
6. Check the picker wire cable tension: loose cables tend to jump off the pulley. Check both cables for equal displacement:
    - Set the cable tension by hanging a 14 mm wrench on one cable in the center of the span at the top of the load table.
      If you do not have a 14 mm wrench, you can use a 70 gram weight such as a fishing weight, a 305 mm x 305 mm 12 mil plate, a 330 mm x 330 mm 8 mil plate, or a 381 mm x 381 mm 6 mil plate for this test. See photo below.



- At the weight, the cable should deflect 25mm to 35mm below the other cable. See photo below.



- Adjust the tension at one end of the cable on the picker rail.

7. Look for worn or frayed areas on the cable (50-1616A) and replace if necessary.
8. Check the tightness of rod ends of the picker cylinders.
9. Observe the motion of the picker head in and out. It should be smooth without jerkiness. Jerky motion can result from burs or excessive wear of the picker head slots, worn out cylinders (have black oily residue) or air pressure problems (check fixed orifices).
10. Check the vacuum levels and thresholds:

    - **PICKER UP**

- **PICKER IN**
- **PICKER VAC ON** with no plate.
- **PICKER**
- Make a note of the **vac** level.
- Pick the smallest plate and make a note of the **vac** level.
  The value for **SET AL PVT** should be halfway between the readings for no plate and a small plate. If it isn't, set it to the halfway value.

11. Check for clearance between the separator arms and the picker move (up/down) cylinders. It should be greater than 3 mm.
12. Check the plate drop:
    - Pick a plate normally
    - Move the **PICKER DOWN**
    - Mark a line on the separator arm at the top of the plate
    - **PICKER VAC OFF**
    - Measure the distance between the top of the plate and the mark on the arm. With one plate in the bay, it should measure 7mm +/- 2mm and with 25 plates, 3mm +/- 2mm.
    - Adjust the plate drop by moving the plate ledge up or down.
13. Observe how the plate enters the LECs during a **PICKER DOWN** and **PICKER VAC OFF**:
    - Check that there is sufficient clearance (8mm) between the plate and the plate ledge just before the picker is moved down. Worst case is thin plates that tend to flex toward the table under their own weight.
    - Check for sufficient clearance (3mm) between the plate and the TECs as the **PICKER DOWN** command is performed. Worst case is thick plates that do not have adequate clearance.
    - The plate should hit the drum around 10 mm above the LECs.
    - All settings can be adjusted through the upper and lower picker head jackscrews. If you only have upper jackscrews, check the lower rubber bumpers for wear and replace if necessary.
14. Check the Version 2 picker max stroke:
    - Undo the upper picker brackets from the load table.
    - With no plates in the bay, move **PICKER UP** and **PICKER IN**.

- Measure the gap between the table and the bracket - it should be greater than 3mm.
  Shim if necessary where the bracket attaches to the rail.

- Recheck the alignment of the separator arms to their micro switches.

4. VERSION 3 PICKER:

1. [Not applicable to NEWS devices] Remove and throw away the existing Mylar.
2. Change all the picker cups (55-0706).
3. Replace the following:

   - Six small Tee fittings (55-0743)
   - Two elbows (55-0643)
   - Four 3mm to 1.5mm tube adapters (55-0744)
   - small blue tubing (56-3281)
   - large Tee fittings (55-0536)

4. Replace the following:

   - Two check valves (55-1071)
   - Two 0.1mm speed controls (55-0807)
   - 0.2mm speed control (55-0806)

   Refer to FCO D388 in Techplanet for check valve and speed control orientation procedure.

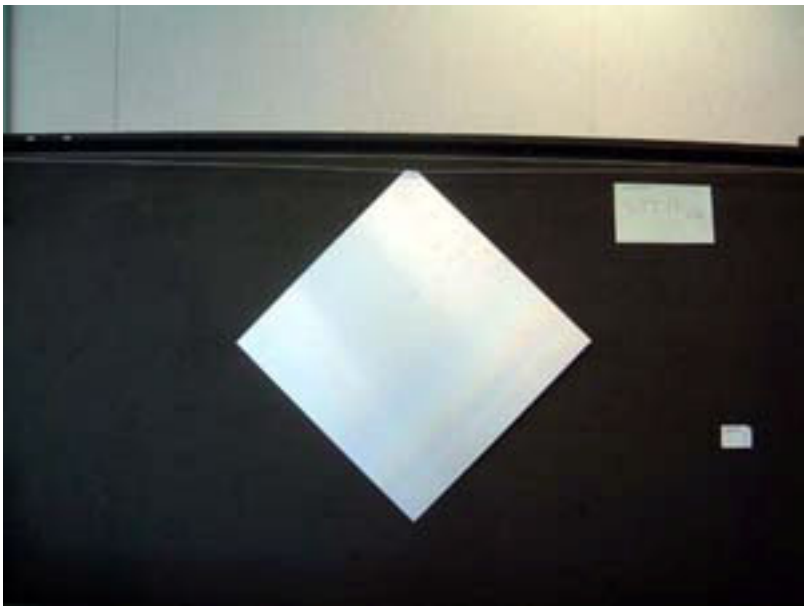
5. [Not applicable to NEWS devices] Replace the Mylar (57-6640A).

   Refer to FCO D174 for the procedure. For devices using Fuji LH-PI plates, use part number 252-08408A.

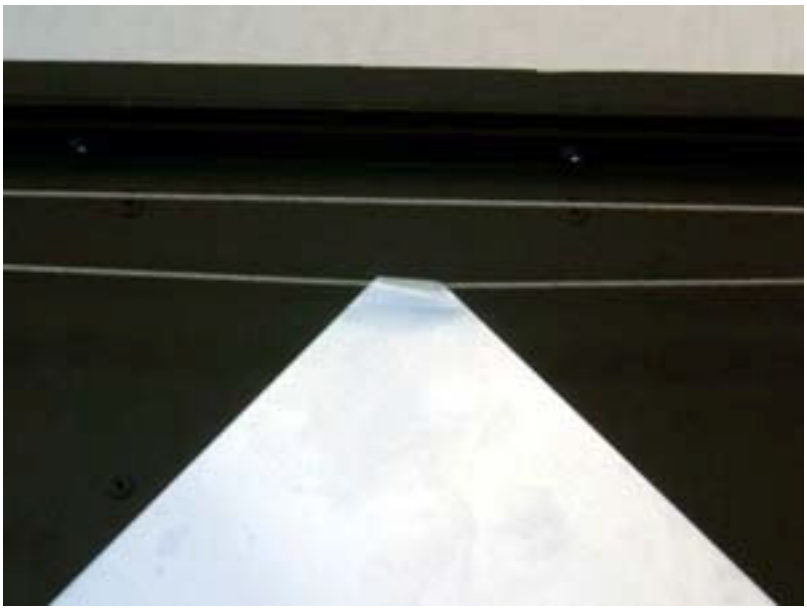
6. Look for worn or frayed areas on the picker wire cable (50-1765A) and replace if necessary.
7. Check the picker wire cable tension: loose cables tend to jump off the pulley.
   To check both cables for equal displacement:

   - Remove the picker vacuum muffler (Thomas air muffler - 55-0569) that is located near the center of the picker.
     If the picker does not have a Thomas air muffler, you can use a 70 gram weight such as a fishing weight, a 305 mm x 305 mm 12 mil plate, a 330 mm x 330 mm 8 mil plate, or a 381 mm x 381 mm 6 mil plate for this test.

   - Set the cable tension by hanging the picker vacuum muffler or weight on one cable in the center of the span at the top of the load table. See photo below.

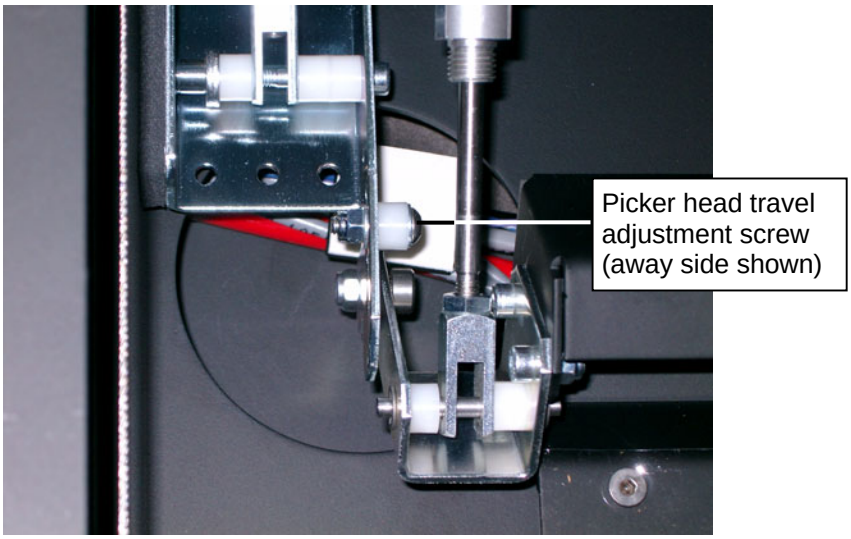


- At the weight, the cable should deflect 25mm to 35mm below the other cable. See photo below.



- Adjust the tension at one end of the cable on the picker head/scissor. Check tightness of rod ends of the picker cylinders.

8. Move the picker up and issue the command **`PICKER IN`**. After **`PICKER IN`** has finished its motion, there should be a 25–30 mm gap between the load table and the curved foam pad on the cup bar. If the gap is less than 25–30 mm, increase it by adjusting the position of the slot-mounted nylon wrist stops on either side of the picker head.



There should be approximately 3–5 mm showing between each nylon stop and the top of the slot. After adjusting the wrist stop position, move the wrist out and picker out and then in again to verify that the there is a 25–30 mm gap between the load table and the curved foam pad on the cup bar.

9. Check the vacuum levels and thresholds:

    - **`PICKER UP`**
    - **`PICKER IN`**
    - **`PICKER WRIST IN`**
    - **`PICKER VAC ON`** with no plate.
    - **`PICKER`**
    - Make a note of the **`vac`** level.
    - Pick the smallest plate and make a note of the **`vac`** level.
      The value for **`SET AL PVT`** should be halfway between the readings for no plate and a small plate. If it isn't, set it to the halfway value.

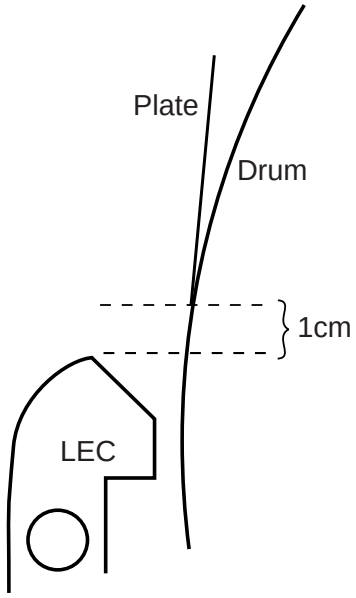
10. Check the plate drop:

    - Pick a plate normally
    - Move the **`PICKER DOWN`**
    - Mark a line along the length of the plate just above the film guide or LEC
    - **`PICKER VAC OFF`**
    - Mark a second line as above.

- Pull the plate out and measure the distance between the two lines.
  The distance should be 2mm to 3mm apart and the lines should be parallel. This gap does not depend on the number of plates on the load table.
- Adjust the plate drop by moving the plate ledge up or down.

11. Check on plate entering LEC:

- Check that when the plate contacts the drum, it is no more than 1cm above the LEC.
- Check that the leading edge of the plate is entering the LEC without hitting the film guide.
- Adjust the rod ends on the wrist cylinders to angle the plate in (coarse adjustment) or move the picker rails in the slots in the bottom bracket (fine adjustment).



12. Check to see if the picker is rubbing on the operator door:

- Check for paint on the picker or damage to the operator door.
- Adjust the door if necessary.

5. UNLOAD TABLE

1. Clean the unload table plate sensor with alcohol.
2. Check that the plate is being rotated 90 degrees during the unload sequence:

- Adjust the rod end to correct for straight pushing.
- Adjust the jam nut to correct rotation. (**Rotating devices only**)

3. Check that plates are centered after rotation.
   See *Plate Centering* procedure on TechPlanet. (**Rotating devices only**)

4. Check the unload traveler belt tension:

   - Move the traveler to the Home position using **`TABLE MOVE HOME`**.
   - Place a 10 mm hex key in the center of the belt and measure the distance between the top and bottom belt.
     It should be 18 mm.

5. If you have an old style cable track, check to see if it has been zip-tied to the side of the pan with a sticky backed anchor (18-3061). Add zip tie if necessary.

Note: You have a new style cable track if 100 Label #22 is marked off on SA serial numbers and #5 on TA serial numbers.

6. Make sure the plate pusher is actuating:

   During an unload sequence, the plate pusher only actuates when the vacuum reading indicates that no plate is being held by the unload table vacuum cups.

   - Record the current **`SET AL UVT`** value
   - Set the **`SET AL UVT`** to a very high value (1000) to simulate this condition.
   - Check for plate pusher actuation. Then reset **UVT** to its previous value.

7. Check the **`UNLOAD VAC`** with and without a plate as you did in the Picker section.
   `SET AL UVT` to a value halfway between the two values.

8. Check the unload table cups for excessive wear - brittleness, tears or flatness.
   Replace if necessary (55-0541).

9. Replace the unload cylinder rod ends and clevis pin.
   Grease the clevis pin to reduce wear to the assembly.

   Refer to FCO E100 for more information.

10. Align the bridge panels when the unload table is in the down position:

    - Make sure all panels are in the same plane within 2mm.
    - Check the gap between the panels.

11. Check the alignment of the unload table with the processor (conveyor).

12. Check that the unload table velocity is slightly slower than the processor speed.
    See *Adjusting eject speed and distance* procedure on TechPlanet.

13. Check the alignment of the load ramp with the unload table panels:

    - **`RAMP IN`**
    - **`TABLE UP`**

- Use a ruler to check that both surfaces are on the same plane.

14. If total images run exceeds 100,000:

- Replace the unload cup cylinders (55-0257).
- Replace unload traveler cable (10-3773C non-rotator and 10-3678C rotator).

