CreoScitex

VLF Trendsetter AL
Y-axis Gripper Upgrade and Setup Procedure

1. PARTS

- Y-axis gripper mechanism (50-2053B)
- Plug (55-0162)
- Self-adhesive cable tie pad (18-3061)
- Zip straps (18-3049)
- 4 mm dia. black pneumatic tubing, 1 meter in length
- 4mm tubing coupling (55-0423)

Note: This procedure will take one person about one hour to complete.

2. REMOVE THE OLD GRIPPER MECHANISM

1. Remove the 2 socket head capscrews that secure the y-axis cover. There is one capscrews at each end of the cover. See Figure 1.



Figure 1: Removing the y-axis cover

2. Remove the 2 socket head capscrews and washers from the front of the old y-axis gripper mechanism.

3. Pull the old gripper free from the aluminum track mounting blocks. The gripper will still be attached to the p-door by the 2 coiled hoses.

4. Lay the old gripper on the table, in the center close to the p-door. See Figure 2.



Figure 2: Old gripper mechanism removed

5. Type `pdoor open` in Procomm or HyperTerminal to open the p-door.

6. Raise the hood.

7. Type `pdoor close` to close the p-door.

8. Standing at the back of the p-door, remove the zip straps that bundle together the base machine's pneumatic tubes and electrical cables. See Figure 3.

9. Disconnect the 2 coiled black pneumatic hoses from the old gripper mechanism at their couplings. Leave the couplings attached to the base machine's pneumatic tubes.

10. Type `pdoor open` to open the p-door.

11. Close the hood.

12. Type `pdoor close` to close the p-door.

13. Standing at the front of the machine, pull the coiled tubing that you detached in Step 8 out through the p-door hole.

14. Lift the old y-axis gripper mechanism off the table and set it aside.

3. INSTALL THE NEW GRIPPER MECHANISM

1. Lay the new y-axis gripper mechanism in the center of the table, close to the p-door.
2. Standing at the front of the machine, feed the black 17mm diameter coiled y-axis tubing from the new gripper mechanism through the p-door hole. Push 5 coils or so through to the backside of the p-door.
3. Type `pdoor open` in Procomm or HyperTerminal to open the p-door.
4. Raise the hood.
5. Type `pdoor close` to close the p-door.
6. Standing at the back of the p-door, attach the 4mm tubing coupling provided to the end of the coiled tubing that you pushed through the p-door hole. See Figure 3.
7. Attach the 1 meter length of black tubing provided to the open end of the 4mm tubing coupling. See Figure 3.
8. Trim the black tubing to a length appropriate for installing the free end of the tubing into the base machine coupling. This coupling will already be connected to a black tube. See Figure 3.
9. Plug the other base machine coupling, the one already connected to a red tube. Use the plug provided. See Figure 3.
10. Type `yaxis clamp on` to close the gripper clamps.

    The clamps on the new gripper should close, accompanied by the sound of escaping air. See Figure 4(a).

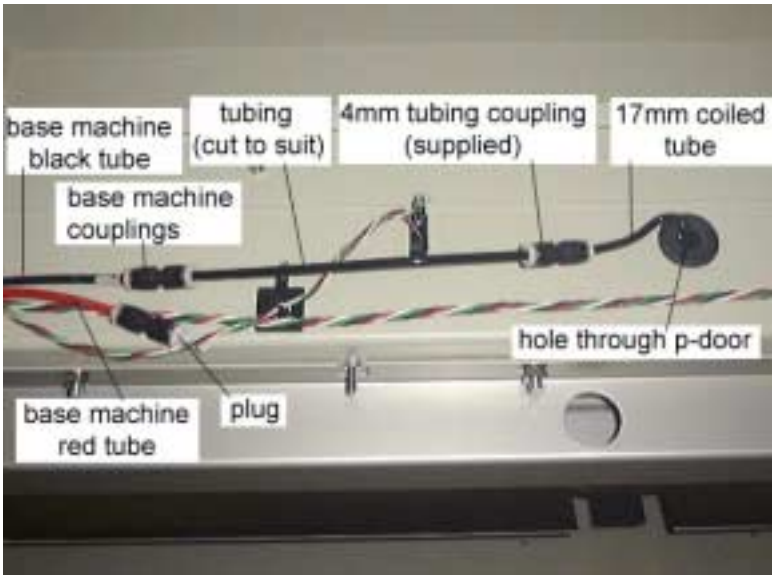
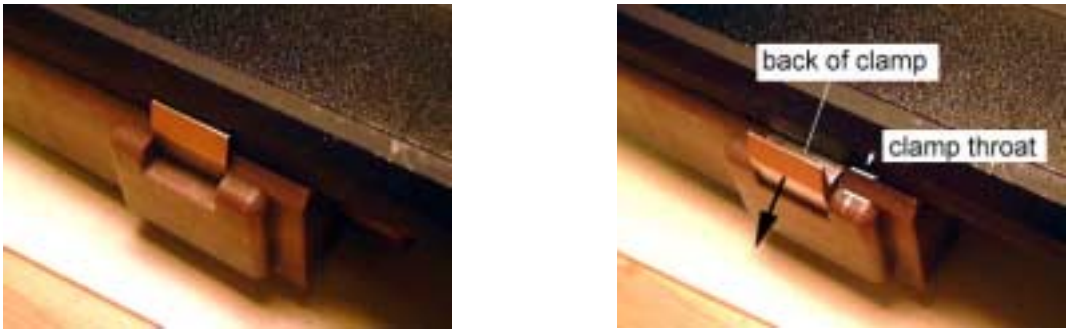


Figure 3: Rear view of p-door (hood open, p-door closed)



(a) Gripper clamp closed *(b) Gripper clamp open*

Figure 4: Gripper clamp in the closed and open positions

11. Type `yaxis clamp off` to open the gripper clamps.

    The clamps on the new gripper should open. See Figure 4(b).

12. If the gripper clamps do not open and close properly, reverse the red and black tubing at the rear of the p-door.

13. Use the zip straps provided to tie up the tubing and electrical conductors on the rear of the p-door.

14. Type `pdoor open` in Procomm or HyperTerminal to open the p-door.

15. Lower the hood.

16. Type `pdoor close` to close the p-door.

17. Type `yaxis move 300` to move the y-axis mechanism out toward the center of the table.

    Note: You will need to help guide the tracks out onto the table, as they are no longer supported by the gripper mechanism.



Figure 5: Swivel direction of aluminum track mounting blocks

18. Check that the aluminum track mounting blocks (attached to the loose ends of the two y-axis black plastic tracks) are able to swivel in the direction indicated in Figure 5.

    Note: The block should not be able to swivel in the opposite direction. If they can, remove them and rotate 180° so that the swivel pin that was engaged at the top of the track is now engaged at the bottom of the track. Do this for both aluminum blocks, if necessary.

19. Install the new gripper mechanism using the 2 socket head capscrews and washers provided. Visually locate the capscrews in the center of the vertical slots, then fasten them. See Figure 6.

    Note: The capscrews may need to be adjusted later (see Section 4).

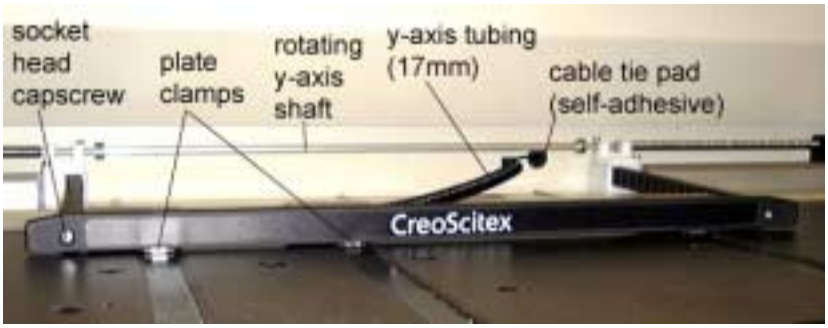


Figure 6: New y-axis gripper mechanism installed

20. Type `yaxis home` to move the y-axis mechanism to its home position.

4. ADJUST THE GRIPPER HEIGHT

Before adjusting the gripper height, it is essential that the plate drop distance is correct. Plate drop distance is governed by the position of the plate stop on the p-door, and is a base VLF Trendsetter requirement. Refer to http://intranet.creo.com/support/docs/plate_door_adjust.pdf to adjust the plate drop distance.

Note: The plate drop procedure is slightly diffferent for the Autoloader. The Autoloader's plate stop is two separate pieces that must be independently positioned, whereas the VLF Trendsetter plate stop is a single continuous piece.

1. Type `yaxis clamp off` to open the gripper clamps.
2. Put the y-axis at its home position.
3. Push a plate into the throat of the gripper clamps until it comes to rest against the p-door plate stop.

   Note: The plate should make contact with the back of the clamp (see Figure 4(b)) at approximately the same time as it makes contact with the p-door plate stop. If it doesn't,

an adjustment may be required to modify the y-axis home sensor trigger point (see Section 4.1).

4. With the plate positioned against the p-door stop, type `pdoor open` to open the p-door.

5. Type `pdoor close` to close the p-door and observe how the open clamps re-engage with the plate.

   The clamps should return to the table to completely capture the plate within the throat of the clamps. See Figure 4(b). If the clamp rides above the plate on one side, the gripper height on that side must be lowered. If it is high on both sides, then the gripper height on both sides will require lowering.

6. If the gripper height needs adjusting, loosen the socket head capscrews in the gripper's vertical slots and adjust as necessary.

7. Re-tighten the capscrews.

8. Place the smallest size of plate that the customer uses onto the Autoloader table. Center the plate on both the y-axis and the x-axis grooves.

9. Type `yaxis move 300` to move the y-axis out. 300 represents the absolute distance in mm that the y-axis gripper will move away from its home position toward the operator.

   If the gripper doesn't reach the plate, increase the `yaxis move` distance. If the gripper pushes the plate too far, decrease the `yaxis move` distance. Keep adjusting until you have selected a number that will move the gripper until it hits the front edge of the plate, then move it slightly further so that the plate squares up with the gripper clamps.

10. Type `yaxis clamp on` then `yaxis home`.

    The y-axis should clamp the plate then move it into the p-door plate stop. If either one of the clamps fails, then the gripper is too high on that side and must be readjusted.

11. Repeat Steps 1 to 10 to confirm that the clamps are operating properly.

12. Replace the y-axis cover and fasten the 2 socket head capscrews (one at each end).

4.1 Adjusting the Home Sensor

When a plate is positioned against the p-door plate stop in Step 3 above, it should contact the back of the y-axis clamp at about the same time as it contacts the plate stop. If it does not, the y-axis home sensor may need adjustment.

The home sensor is located on the y-axis track guide, on its left side when viewed from the operator's position.

1. Remove the cover that protects the y-axis leadscrew by removing the 2 socket head capscrews that hold it in place. These screws are located close to the ends of the gripper mechanism, with their heads pointing toward the ceiling.

2. Loosen the nylon-tipped setscrew in the leadscrew block. See Figure 7.

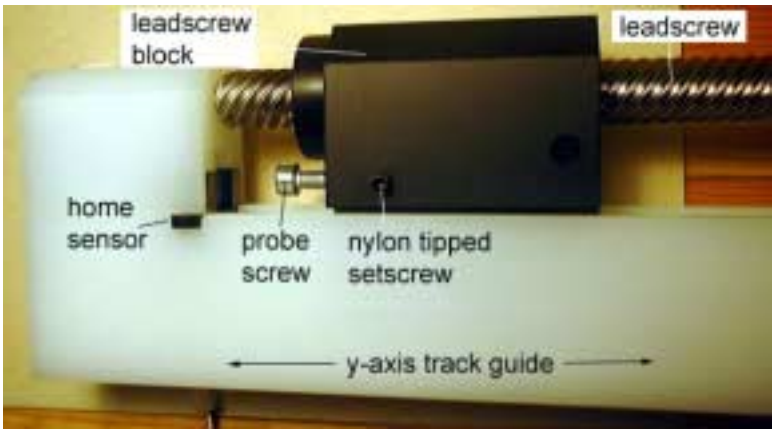


Figure 7: Adjustment screws for y-axis home sensor

3. Adjust the y-axis gripper as follows:
   - To move the y-axis gripper closer to the p-door, thread the probe screw clockwise (when viewed from the large end of the screws).
   - To stop the y-axis gripper further away from the p-door, rotate the probe screw counterclockwise.

   Note: When properly adjusted, the y-axis gripper in the home position will pull the plate exactly to the plate stop on the p-door, or stop the plate edge approximately 0.5mm away from the plate stop.

4. Tighten the nylon-tipped setscrew in the leadscrew block. See Figure 7.

5. Replace the cover that protects the y-axis leadscrew and fasten the 2 socket head capscrews that hold it in place.

5. TROUBLESHOOTING

Problem	
The y-axis gripper mechanism tries to traverse the gap between the p-door and the table leading edge, but jams on the table leading edge. This stalls the y-axis stepper motor.	
Possible Cause 1 The p-door angle may be tilted downward, directing the y-axis mechanism into the slot between the p-door and the table leading edge.	**Solution to Cause 1** Check that the bottom edge of the p-door is horizontal, or pointing slightly upward (i.e., parallel to the Autoloader table along the table's width). To adjust the angle of the p-door, reposition the mounting blocks that maintain the tail position of the p-door cylinders inside the hood. **Note:** A radical change in the angle of the p-door can alter the plate drop distance and may affect plate registration. To check the plate drop distance, refer to

	http://intranet.creo.com/support/docs/plate_door_adjust.pdf . If the plate drop distance does adversely affect plate registration, the p-door plate stop must be re-positioned and the y-axis home sensor trigger point must be re-adjusted.
Possible Cause 2 The table leading edge may be bent upward. When a straight edge is held across the table's arborite surface and the table leading edge, the leading edge should be the same height as the table surface, or slightly lower.	**Solution to Cause 2** Bend the table leading edge downward so that it does not project above the table's arborite surface.