Kodak

Automatic Pallet Loader

Picker Gantry Series 4 Upgrade Procedure

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Revision History

Revision	Date	Author	Comments
1	04 Jan 2008	S.Damiano	First draft
2	29 Jan 2008	A.Blignaut	Revised and edited
3	20 Feb 2008	A.Blignaut	Hard stop procedure removed and put into a separate doc.
4	09 Apr 2008	A.Blignaut	Changed sensor setting numbers for wide APLs.

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1. OVERVIEW

This document describes how to upgrade the APL picker gantry to Series IV readiness. The upgrade includes installing a new plate handoff sensor and sensor cable, and replacing the Y-axis motor with a new motor.

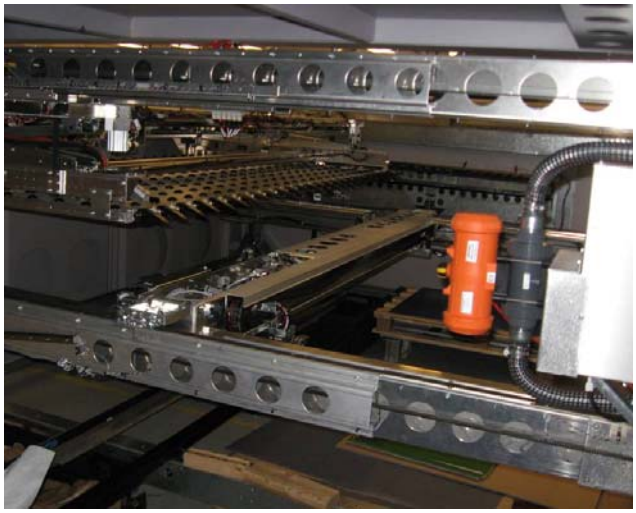
2. PARTS/TOOLS NEEDED

Upgrade kit – 518-03108A

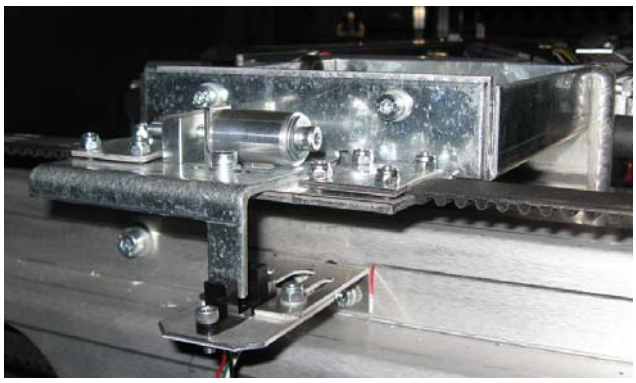
3. UPGRADING THE PICKER GANTRY

3.1 Installing the Plate Handoff Sensor

1. Initialize the APL. Type `>>apl init .`
2. Type `>>apl pusher y move 1055` for 51 in. APLs OR `>>apl pusher y move 1351` for 63 in. APLs.

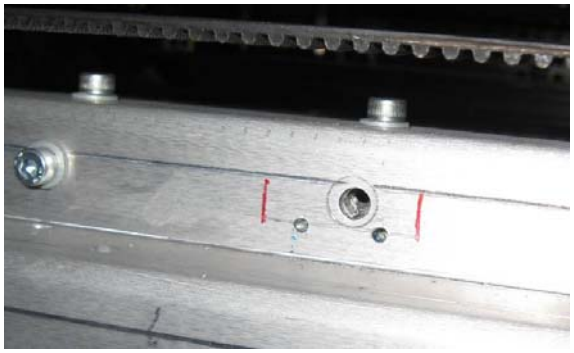


3. At the picker gantry Y-drive motor side, center the new sensor bracket so that the tab is in the middle of the sensor. Mark around the sensor bracket on the gantry beam.

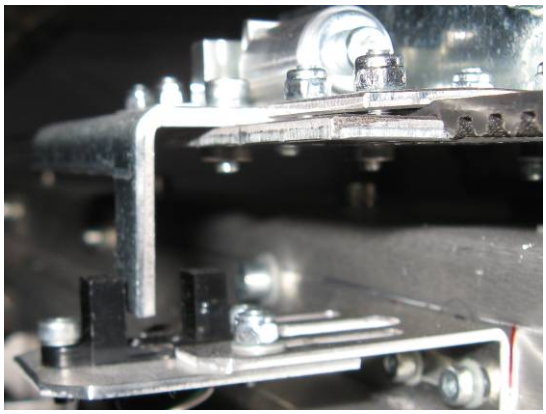


4. Idle the picker gantry Y-drive. Type `>>apl pusher y idle .`

5. Move the pusher out of the way by hand so that you can mount the sensor bracket onto the gantry beam.
6. Remove and discard the M5 SHCS where the sensor bracket will be installed.



7. Line up the sensor bracket with the marks you made earlier and mark the sensor bracket holes through the bracket.
8. Center punch the marks and drill two 2.5 mm holes. Tap the two holes with a M3 tap. Clean up the metal debris from the drilling and tapping process.
9. Install the sensor bracket assembly (500-05318A) using two M3X8 SHCS.
10. Slowly move the pusher by hand until the pusher tab aligns with the newly installed sensor.
11. Center the tab in the sensor slot and tighten the two M3 Nylock nuts to lock the sensor bracket in place.

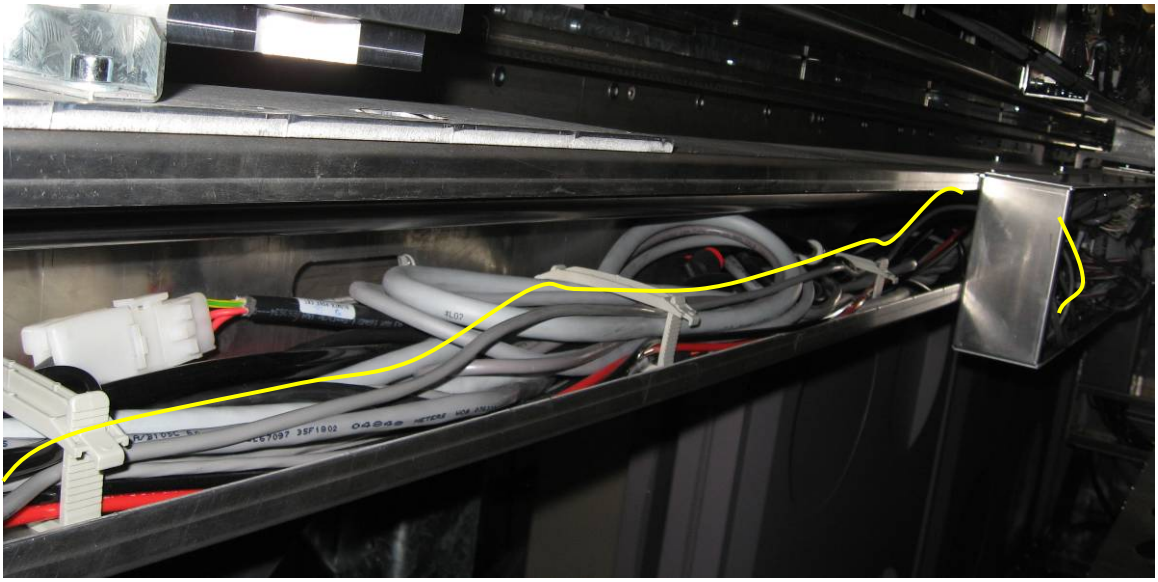


3.1.1 Installing the Sensor Cable

1. Add the sensor cable's (220-02556A) four pins to connector J4 (cable 220-01785B) on GENINE 6. See Appendix A for details on adding the pins to J4.

2. Route the cable from GENINE 6 to the newly installed sensor:

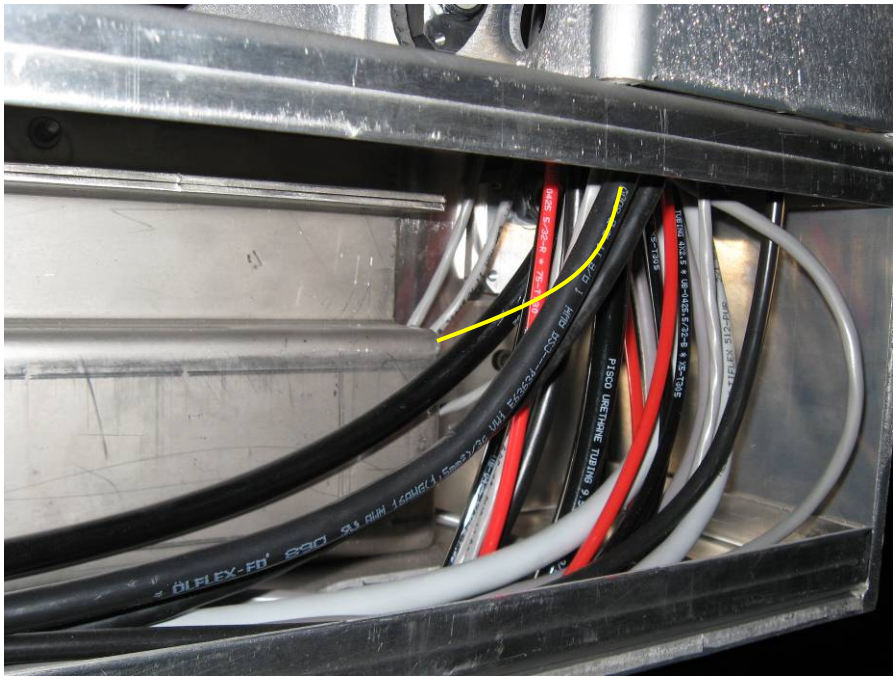
   a) From the GENINE, run the cable towards the left, out through the grommet hole and into the rear gantry beam. Route the cable under the cable clamps along with the other cables and tubes.



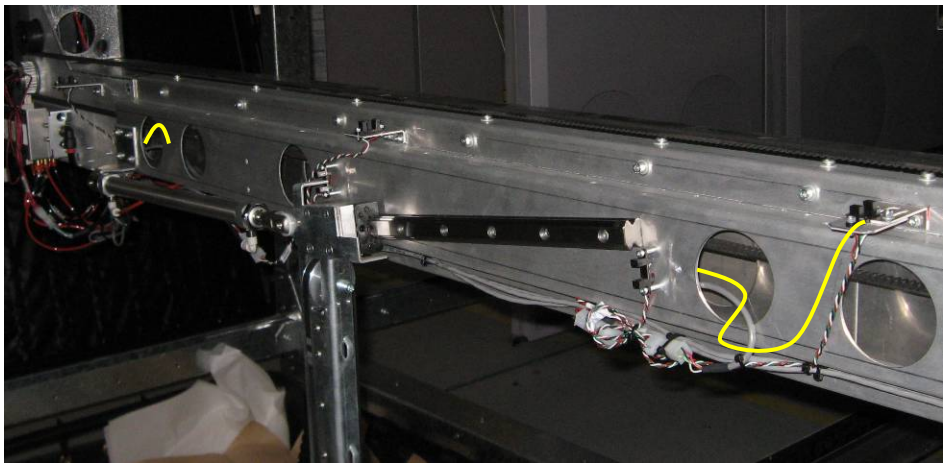
   b) From the rear gantry beam, run the cable down through the corner support...



c) …and into the gantry beam channel.



d) Run the cable through the inside of the gantry beam and out to the new sensor.

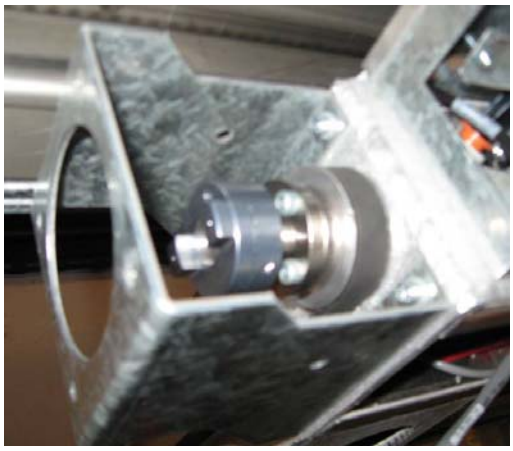


e) Use cable ties to secure the new cable along the entire route to ensure that it does not interfere with any moving parts or get pinched or damaged by moving parts.

3.2 Replacing the Picker Gantry Y-Axis Motor

In this procedure the picker gantry Y-axis motor (M5) will be replaced with a more efficient, smoother running motor.

1. Turn the APL power to OFF.
2. Unplug the picker gantry motor connection and cut any cable ties securing the motor cable.
3. Using a 4 mm hex key, loosen the four M5 SEMs that secure the motor to its bracket and remove the motor.



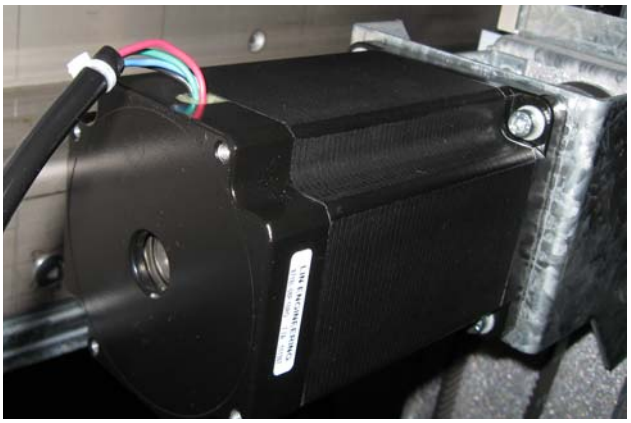
4. Loosen the setscrew on the shaft coupler and remove the shaft coupler from the motor.



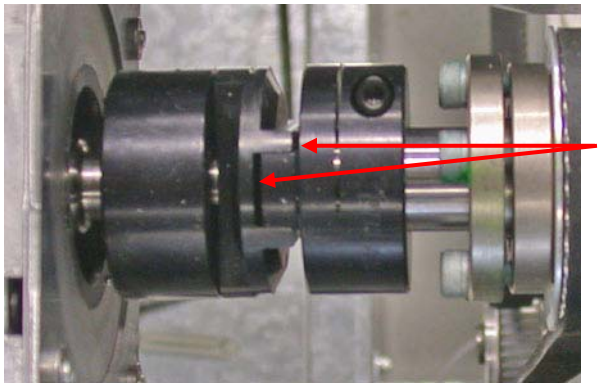
5. Install the shaft coupler on the new motor—it should be flush with the end of the motor shaft.



6. Using new longer M5x25 SEMs, install the new motor to the bracket—the motor leads must be at the top. When inserting the motor, the motor shaft must be turned so that the motor coupler and the belt pulley coupler fit into each other.



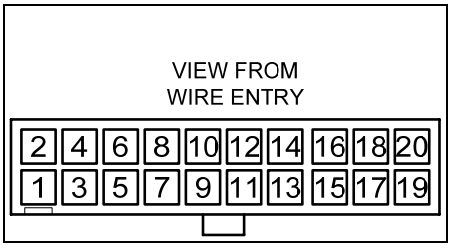
7. Look up from below to ensure that a small gap is present between the motor coupler and the belt pulley coupler—approximately 1 mm. If no gap is present, then adjust the motor coupler accordingly.



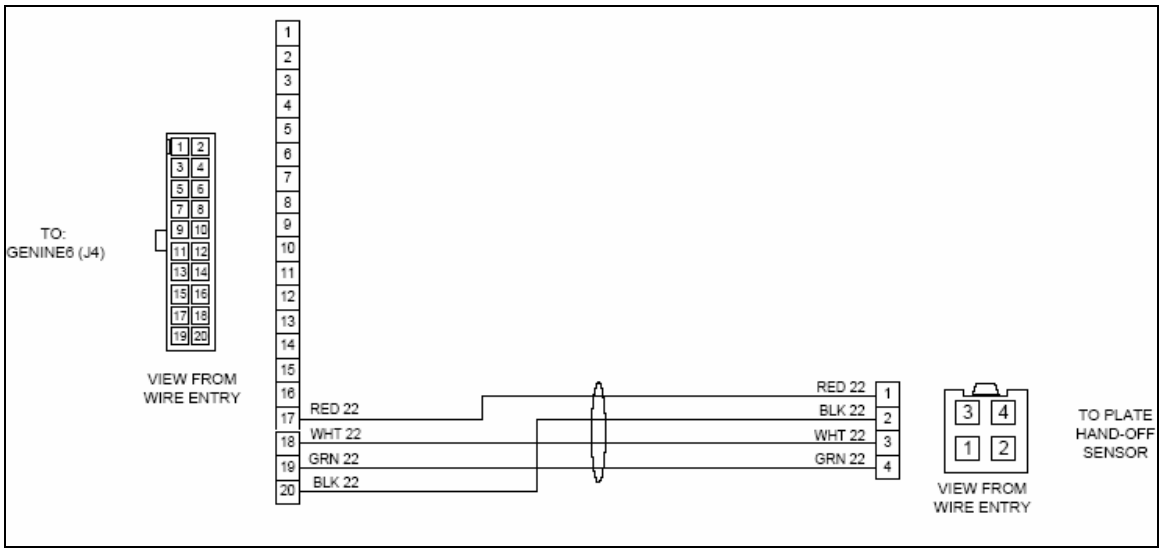
8. Connect the motor cable and secure the cable with cable ties.
9. Turn the APL power on.

4. APPENDIX A

1. Unplug cable 220-01785B from J4 on GENINE 6.
2. Using the pin removal tool (690-0032A), remove the pins from locations 17 to 20 on connector J4.



3. Insert the pins from sensor cable 220-02556A according to the diagram below. Ensure that the pins lock in place in the connector.



Note: If a pin does not lock in place, then the connector tab could have been damaged during the removal of the pins. If this happens, then connector J4 must be replaced with a new connector provided in the upgrade kit.
Using the pin removal tool, remove all 20 wires from the broken plug J4 and install them in the same location on the new plug. Move the wires one by one to avoid installing them in the wrong place.

4. Plug the connector back into J4 on GENINE 6.