Scitex Graphic Arts

Installation Procedures for New X-Y System on Lotem 800V

English Version 1.0

Catalog No. 39921N878A



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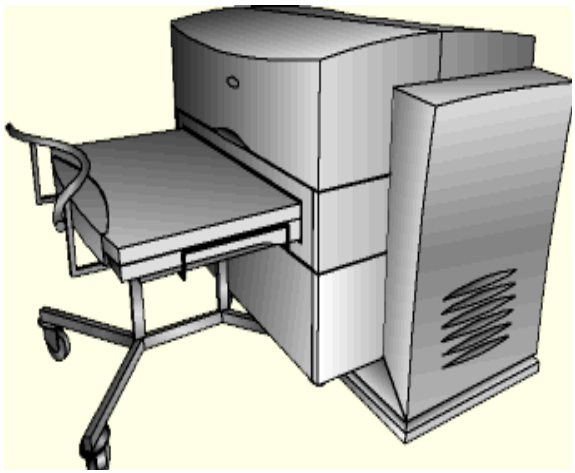
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5.119.440	5.122.871	5.124.547	5.150.225	5.153.769	5.155.782	5.157.516	5.200.816	5.208.888
5.221.997	5.227.895	5.247.174	5.247.352	5.296.935	5.299.020	5.313.278	5.323.248	5.325.217
5.328.032	5.331.439	5.333.064	5.339.176	5.343.059	5.355.446	5.359.458	5.367.388	5.384.648
5.384.899	5.412.491	5.412.737	5.420.702	5.473.733	5.481.379	5.488.906	5.497.252	5.508.828
5.509.561	5.519.792	5.519.852	5.526.107	5.526.143	5.532.728	5.561.691	5.568.595	5.576.754
5.579.115	5.592.309	5.594.556	5.600.448	5.608.822	5.615.282	5.623.001	5.636.330	5.649.220
5.650.076	5.652.804	5.691.823	5.691.828	5.696.393	5.699.174	5.708.736	5.739.819	5.742.743
5.764.381	5.771.794	5.785.309	5.813.346	5.861.904	5.875.288	5.894.342	5.900.981	5.934.196
5.940.099	5.942.137	5.946.426						



New X-Y System- Installation Procedure

Abstract:

The new loading system was developed to improve the reliability of the previous system and incorporates better rigidity, parallel motion, longer lasting belts and X motor.

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Requirements:

This procedure is quite complicated and time consuming; Take your time to read the instruction in advance and verify you have all the tools and parts needed.

Tools:

- Allen keys set
- Philips screwdrivers
- Large and small flat screwdrivers
- Special right angle adjustment tool
- Long adjustment rod (P/N299A2R971)(Inc. In kit)
- Short adjustment rod (P/N 299A2R972)(Inc.in kit)
- Open-end wrenches 3/8, 7/16

Parts:

See attached list. *Please note* that there are extra screws, washers etc.included in case some are lost during the installation.

Disassembling Old X-Y system

1. Release loading cassette, open front, rear and side doors and shut the machine main power off. **Turn air supply valve off**.
2. Take off the 2 panels above the paper doors, the front and rear upper panels and the 2 black light shields from the sides (Allen key 9/64).
3. Release the wires to the front emergency button;
4. Disconnect the 2 connectors on the left side and carefully cut the tie-wraps that secure the wires to the chassis (Small cutter)

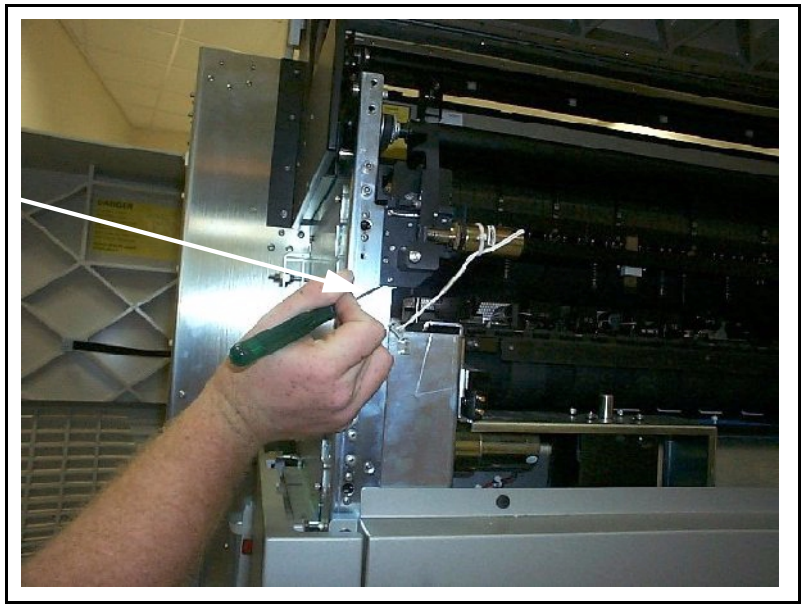
Releasing wires of front emergency button from chassis



5. Remove the front beam (RHS). (Allen key 5/32).

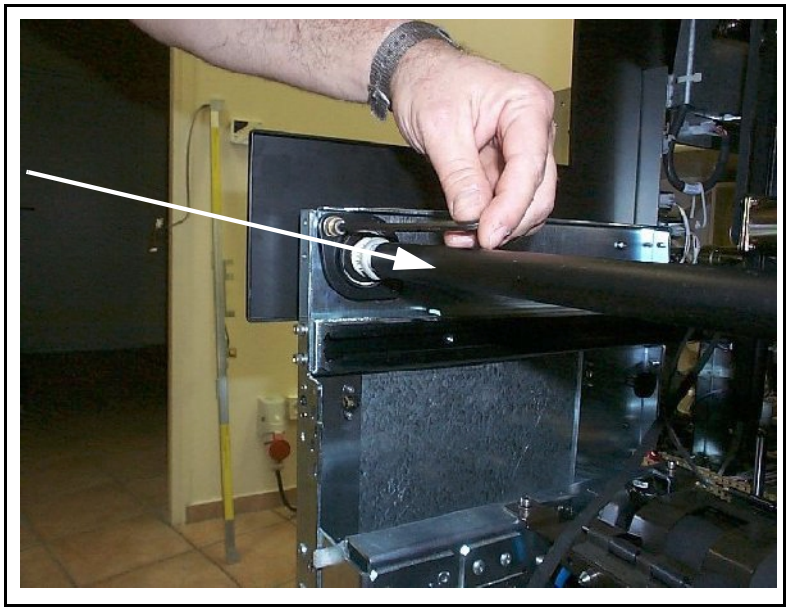
6. Remove the 2 front door locks. **Mark their position precisely** on the chassis before removing, use a sharp tool or a pencil (Allen key 5/32.)

Marking position of front door locks



7. Cut off the X belts.(Large cutter.)

8. Remove the X (front) shaft; Open the 4 bolts that hold the bearings, release the set screws that fix the shaft and release one side of the shaft, then the other.
Make sure the spacers do not fall inside the machine.
(Allen keys 3/32, 3/16)

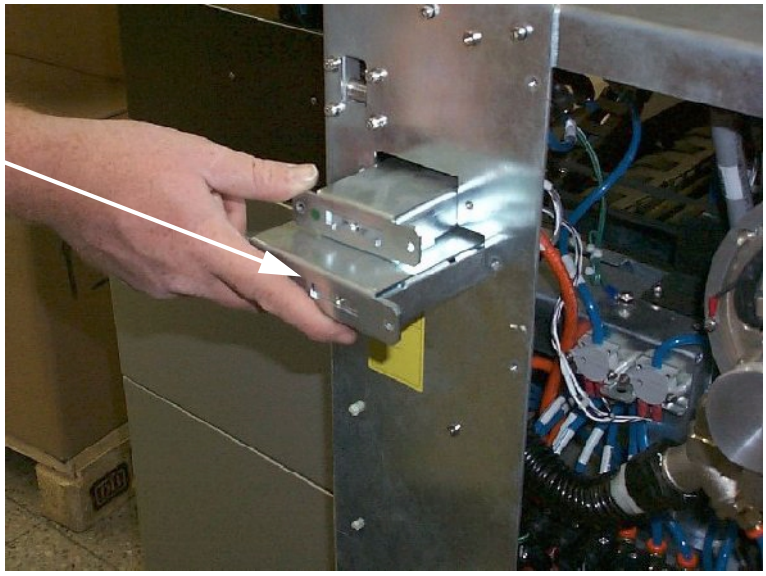


Removing X-axis shaft

Releasing Harness (cables and tubing):

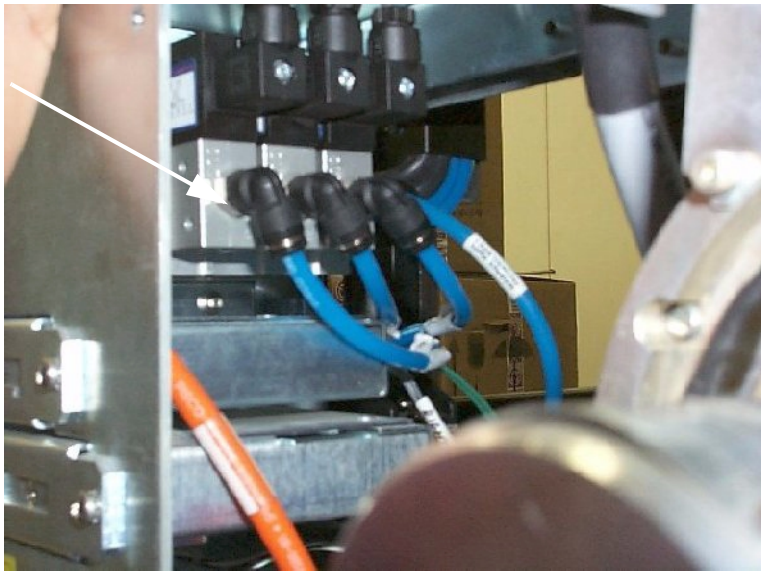
1. Remove the interlocks on the left side. (Philips screwdriver).

Removing left side interlocks



2. Disconnect the connector to the air valve labeled SOL (it has a gray cable.) The 3 valve console is located inside the machine in the upper right corner. (small screwdriver).

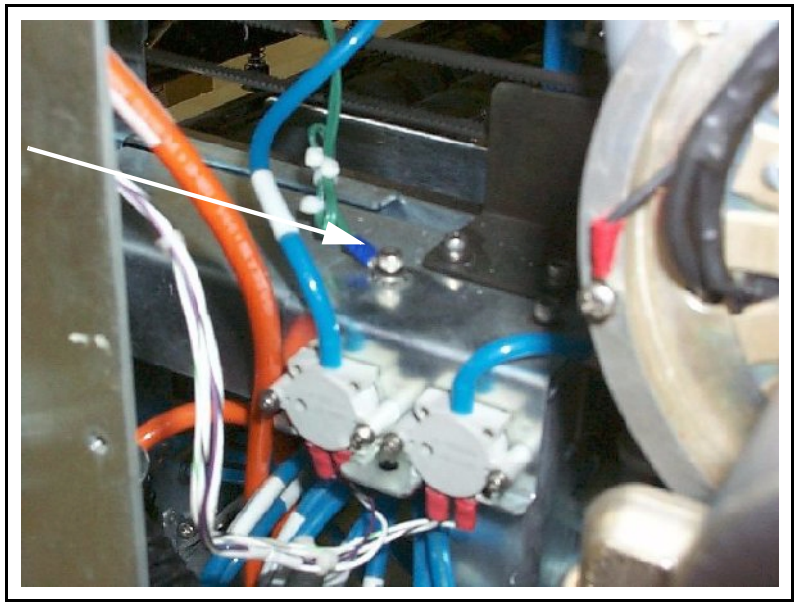
3 valve console



3. Disconnect the 3 blue vacuum tubes from the valves.

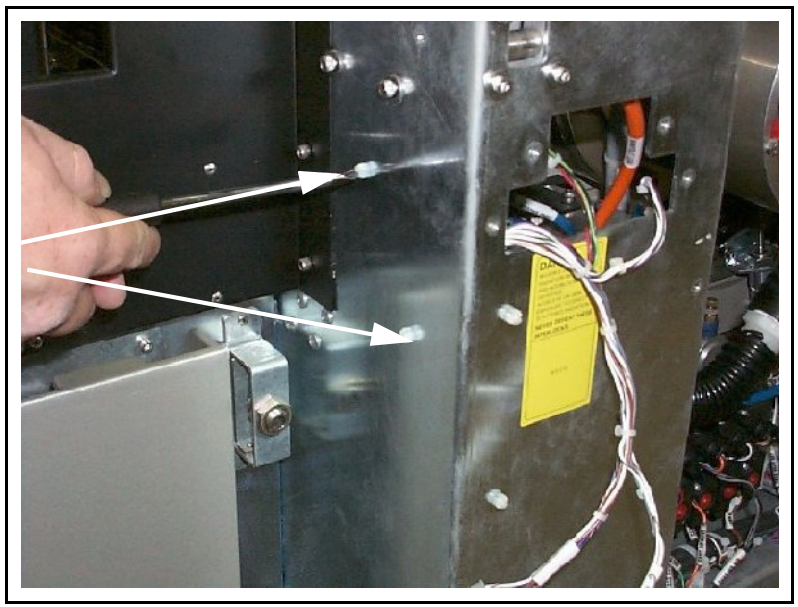
4. Release grounding wire.

Releasing grounding wire



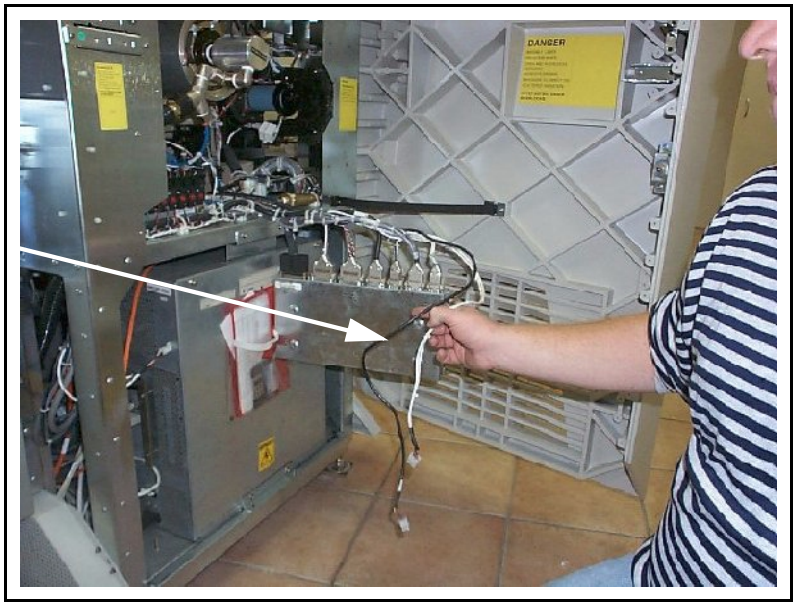
5. Release black vacuum hose from its holder inside the machine.
6. Push out 3 wire clamps that secure the harness.

Push out wire clamps (x2)



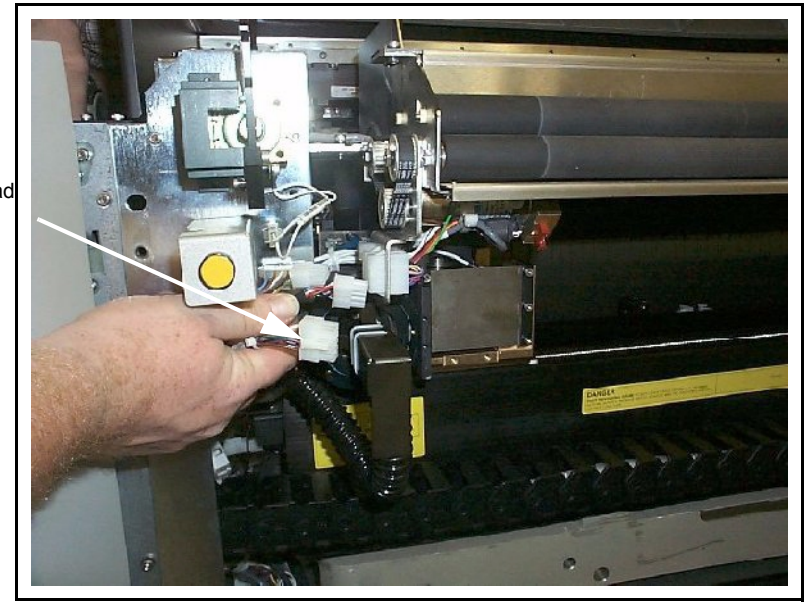
7. Take the Local box out and leave it hanging by the cables.

Local box



8. Release the 2 connectors from the Unloading Surface (labeled “Unload motor” and “Unload Det”) and carefully cut the tie-wraps that secure the wires to the chassis.

Unplugging “unload motor” and “unload det” from unloading surface

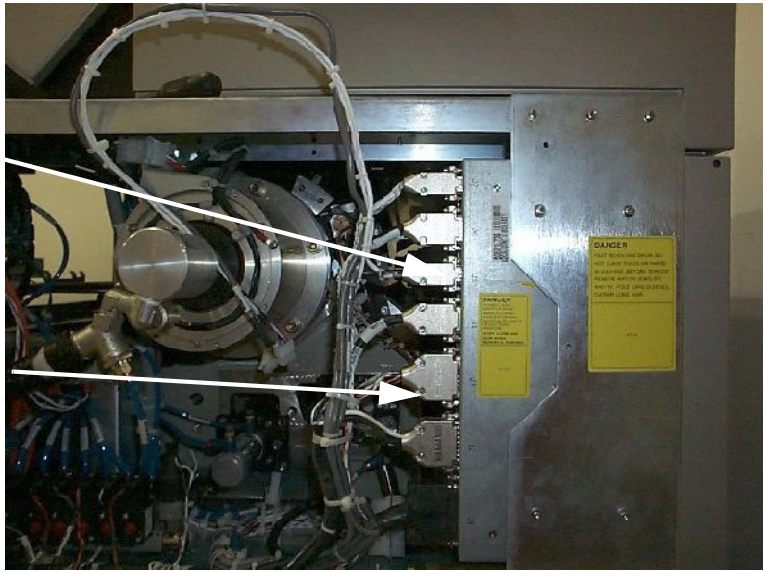


9. Disconnect connectors J2, J5 from Local Box (small screwdriver.)

J5

Unplugging connectors J2, J5 from Local box

J2

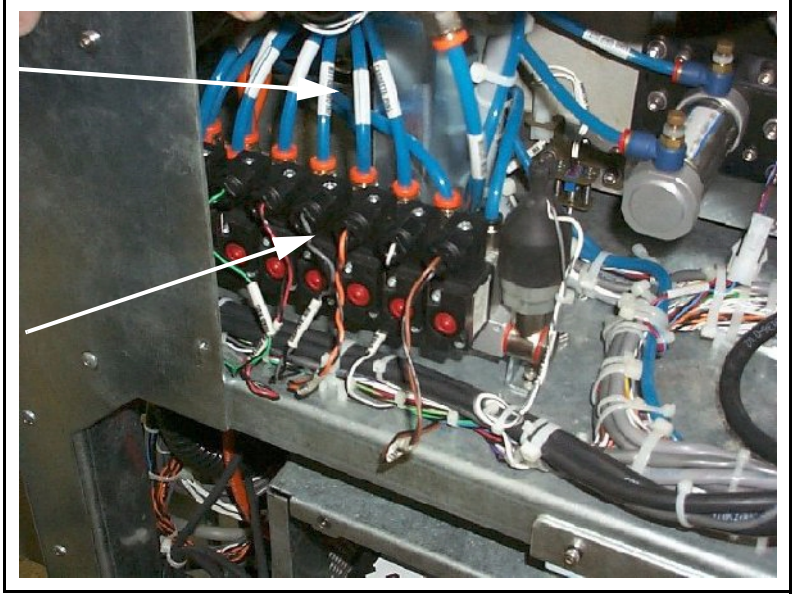


10. Disconnect all connectors to the lower valve console. (small screwdriver) **Make sure all connectors and valves are labeled** properly before you start !

Labels

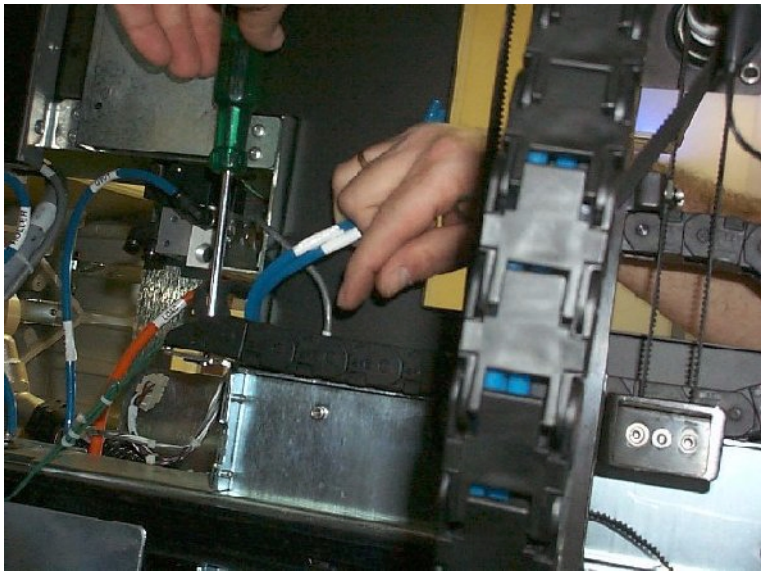
Lower valve console

Connectors



11. Carefully cut tie-wraps and release the harness from the chassis. (small cutter)

12. Release the harness black chain of the X axis on the right side: Remove 2 Philips screws that attach the chain to the chassis (Philips screwdriver.)

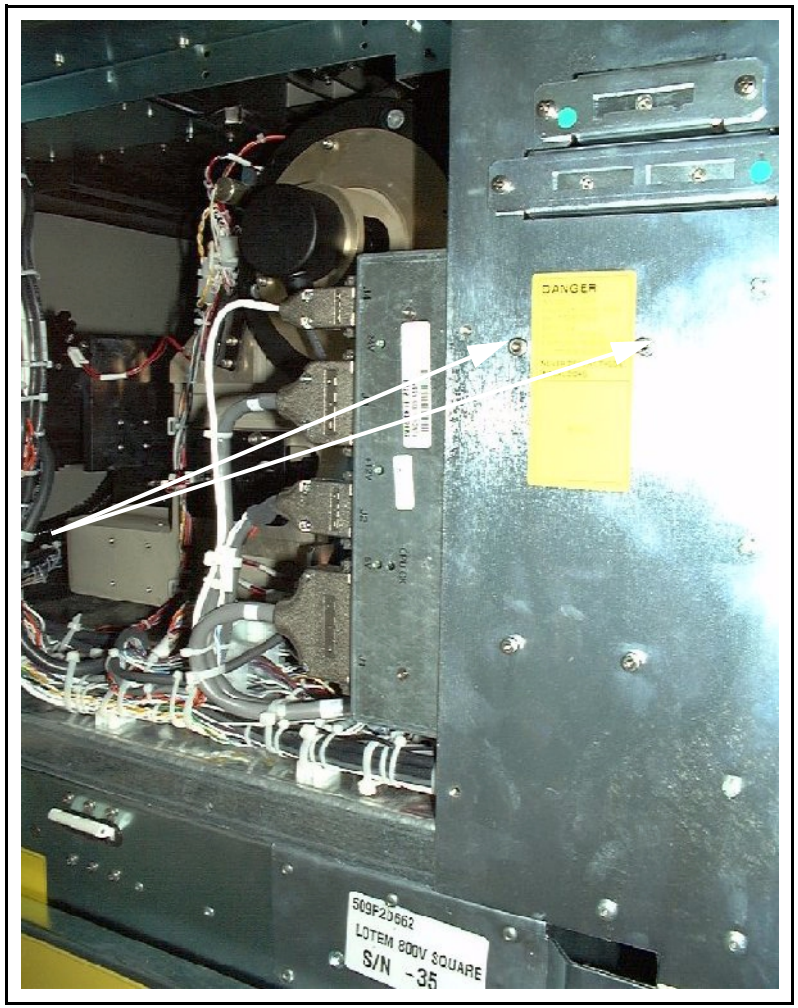


13. Pull the loading system out.

14. Take out the Punch Box to have access to the X motor.You can let the box hang out by its cables.(Allen key 9/64)

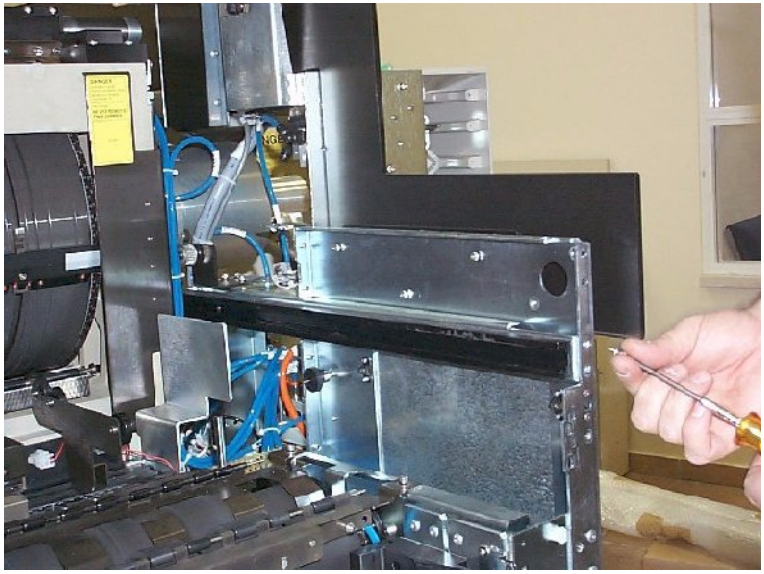
Punch Box

Screws



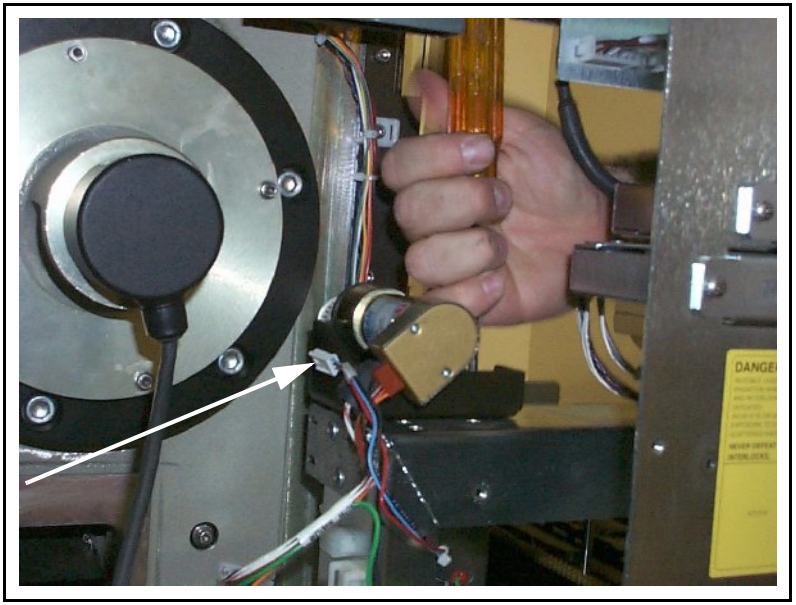
15. Disconnect the X H.P. sensor connector (Allen key 9/64)

16. Remove the two X axis rails; There are two bolts in front and two in the back of each rail (Allen key 9/64.)



Removing right axis rail

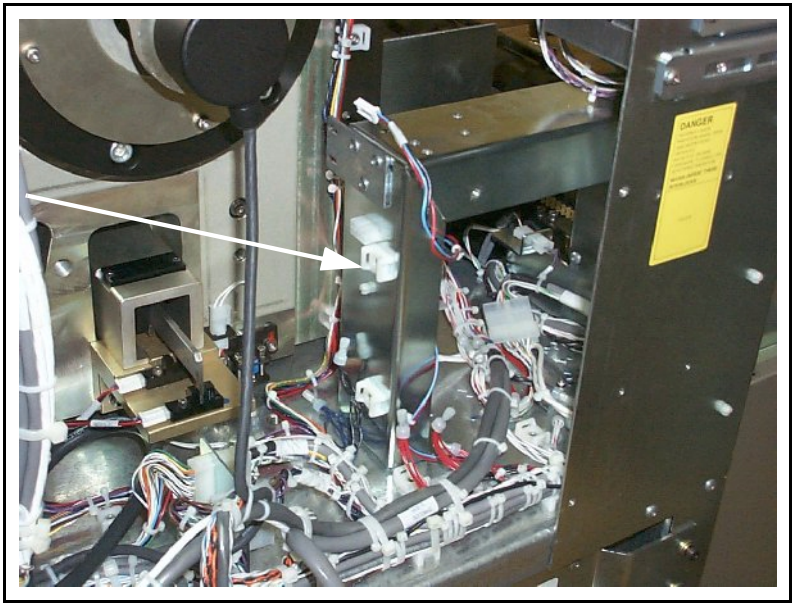
17. Remove X motor assembly; Disconnect motor connector and yellow/green grounding wire, open bolts that hold bracket. (Allen keys 5/32, 9/64)



Removing X-motor assembly

HP sensor connector

18. Push out the 8 pin Molex inlet from its bracket and release the white wire on the left side.



8 Pin Molex inlet for X-motor

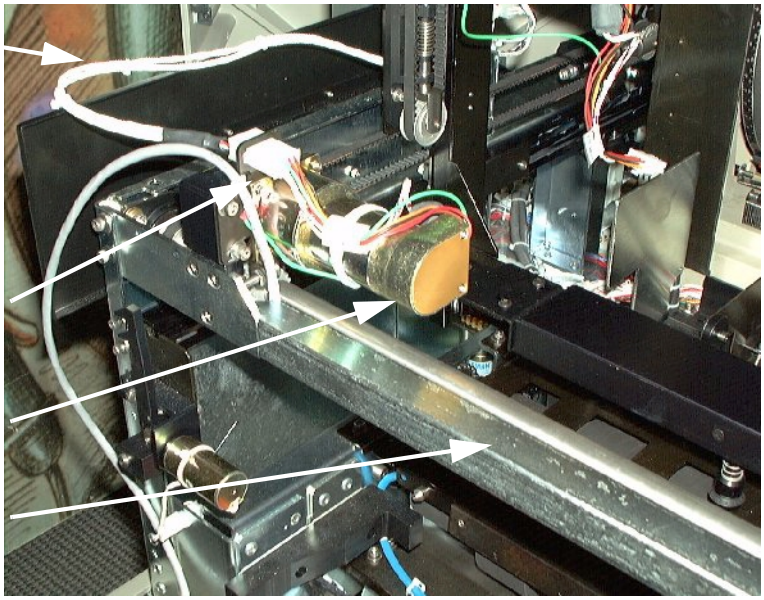
19. Use a small cutter to carefully cut the tie-wraps that secure the white cable so it reach the new X motor in its new location (small screwdriver)

White cable

8 pin Molex connector

New X-motor location

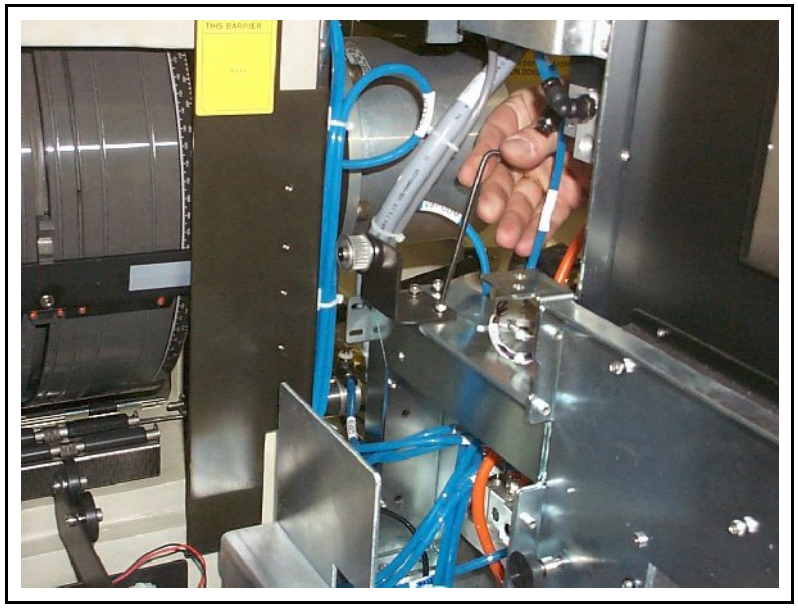
Front beam (RHS)



Note: In older machines this cable may be too short for this; An extension cable (P/N 504L3D034) is supplied with all kits. If you have to use this extension, **make sure** to connect the yellow/green grounding wire.

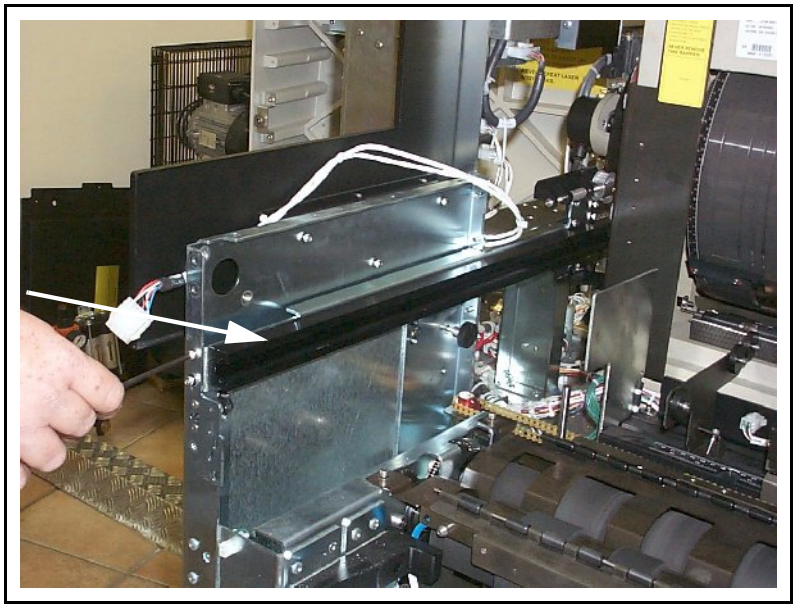
20. Remove the right pulley assembly (Allen key 5/32.)

Removing right pulley assembly



Assembling New X-Y System

1. Install the left rail (P/N507E3D277) with four 8/32x3/8 bolts, washers and spring washers. Use Loctite 242 (P/N 480C10192) to secure the bolts but do not tighten yet, (Allen key 9/64.)



Installing left axis rail

2. Align the rail to be in a right angle with the drum. Use the special tool supplied with the kit.



3. Install the left rail (P/N 507E3D278) as described above and adjust it parallel to the left rail using the **long** metal rod supplied (P/N 299A2R971). Check at 4 points to assure good parallelism -front, back, top and bottom.



Adjusting parallelism of X-rails rails with adjusting rod

Note: There is another, shorter rod (P/N 299A2R972) supplied for checking the parallelism of the Y rails.

4. Plug-in the X H.P. sensor.
5. Grease the rails with the grease supplied (P/N 480A40100).
6. Install the new X-Y system in the rails but **be careful not to damage the leaf springs**. Have someone help you with this. Slide the system back and forth to verify smooth movement.
7. Install back the front door locks; align precisely by the marks you made.(Allen key 5/8)

8. Install the new X shaft (P/N 507F2D166) as follows:

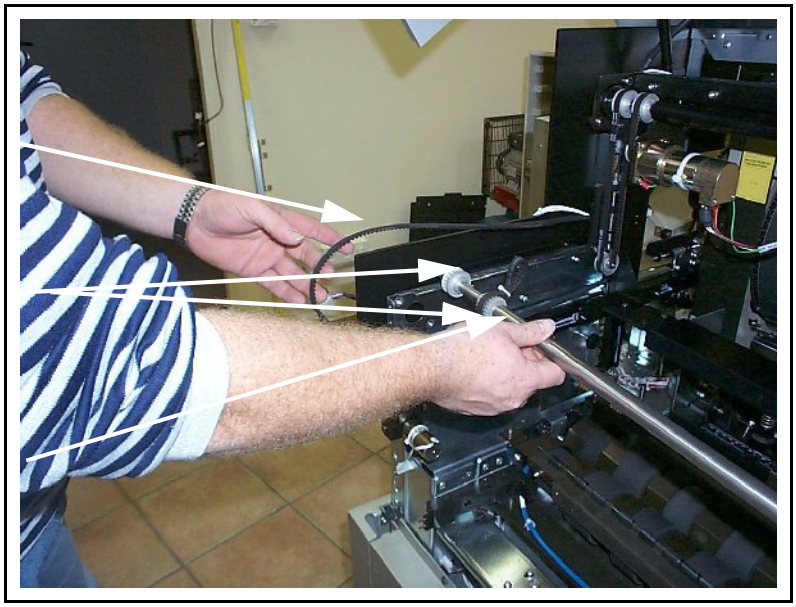
   1. Install the bearings on one side of the shaft with the set screws pointing outwards. Do not tighten yet.

Installing bearings on new shaft

Set screw facing outwards



2. Insert the shaft into place (through the 2 X axis and the X motor belts!) with the two pulleys side on your left. Insert 1/4x1" bolts washers, spring washers, spacers and Loctite 242, but do not tighten yet. Make sure not to leave the spacers out. (Allen key 3/16)

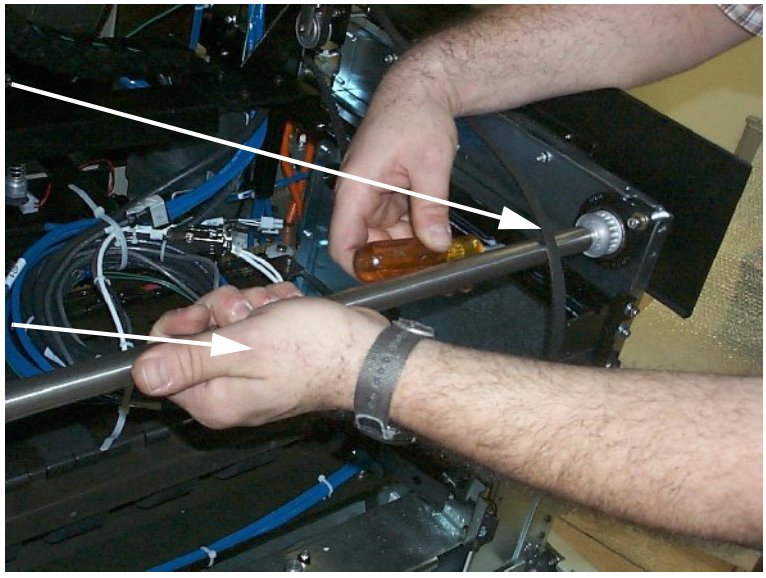


3. Install the other bearings and insert the other side into place.

4. Tighten the bolts on each side **while sliding the shaft inside the bearing** to ensure that no force is applied to the bearing and they roll smoothly afterwards.

X-axis belt

Moving the shaft

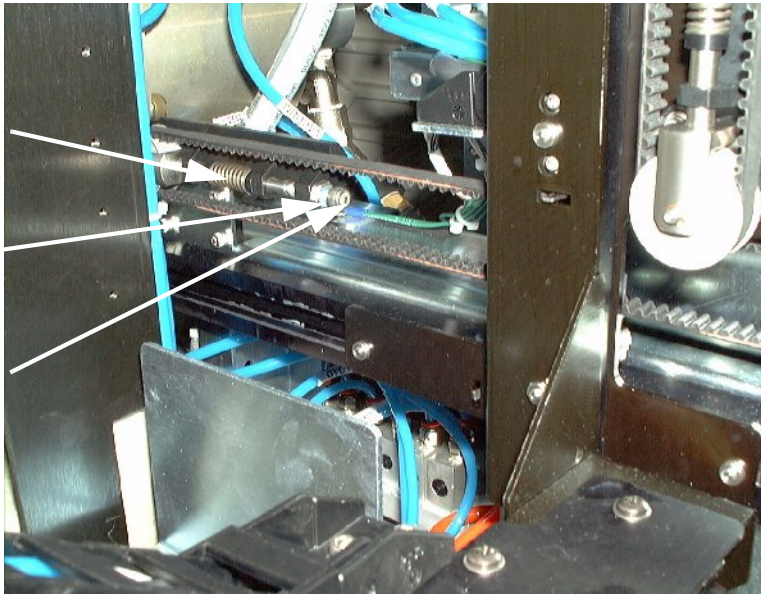


5. Compress the tension springs on each rail to the maximum by turning the screws clockwise.(Allen key 7/64)

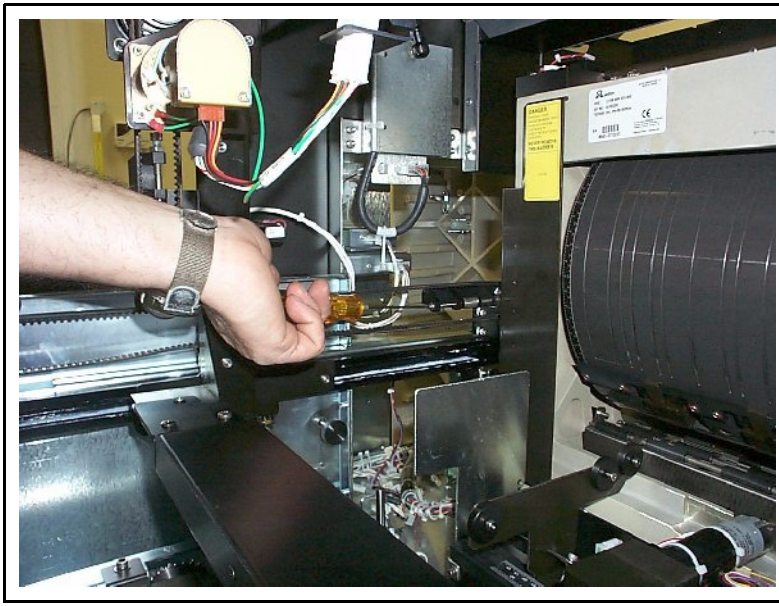
Tension spring

Locking nut

Stopper bolt



6. Lay the belts on the pulleys and take the tension bolts totally out to decompress the springs and to apply tension to the belts.

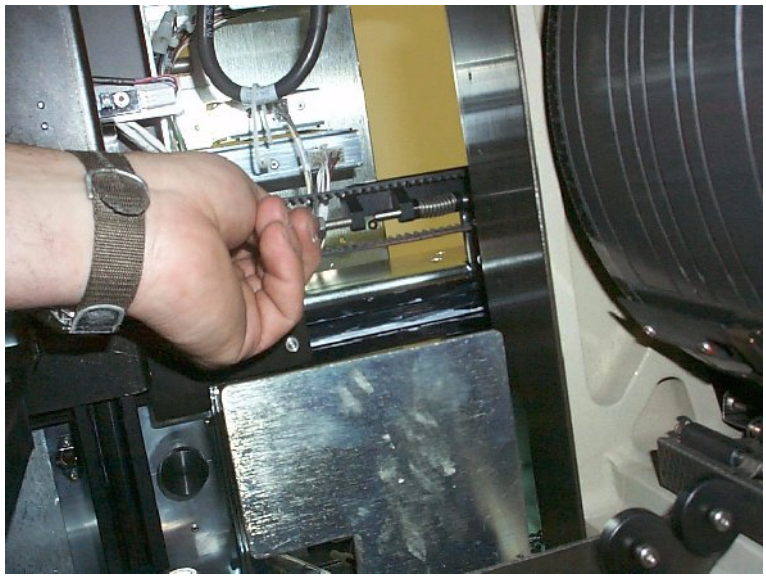


Removing tension bolts to decompress spring

7. Use a ruler to check parallelism of the suction caps bar to the drum (+/-1MM);If it is not parallel to the drum, put the tensioning screws back, compress the springs again and slide the belt over the corresponding pulley's teeth until you get satisfactory parallelism (one tooth is about 3 MM).

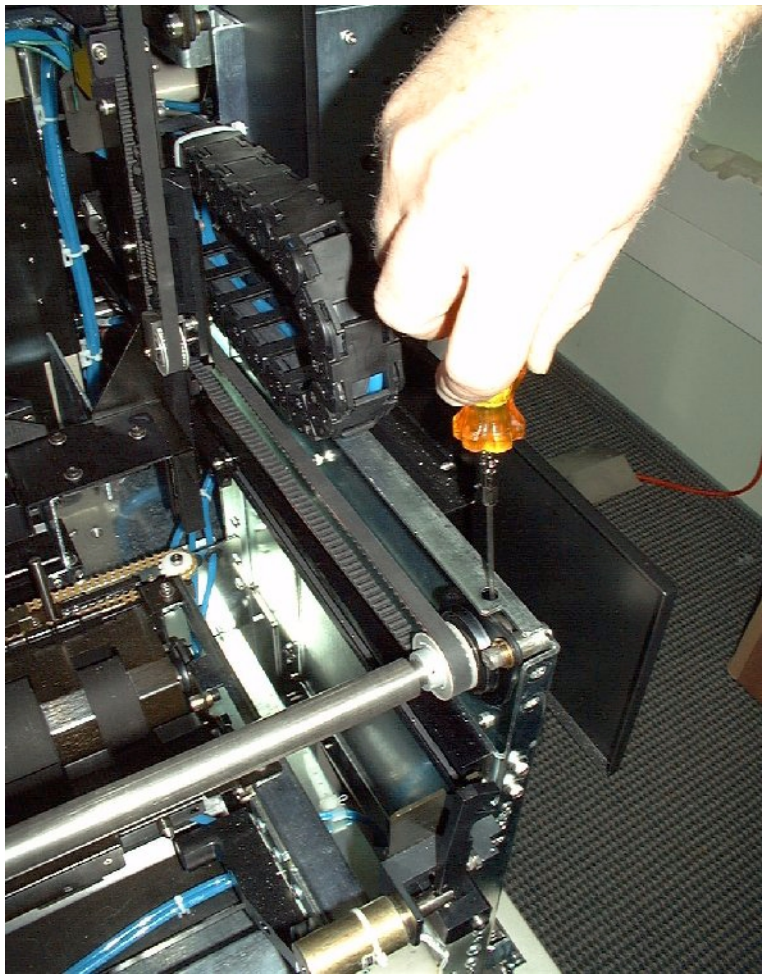
8. Install stopper screws(P/N 380A09140) and locking nuts (P/N 381A09000) on each tensioning assembly. Apply Loctite and lock the nuts to secure the screws. (Allen key 3/16, open-end wrench 7/16) **Please Note**! These screws are only to prevent the springs from moving back! **Do not tighten the screws against the springs** as this will apply extra tension to the belt.

Installing stopper bolt



9. Center the shaft (slide the shaft inside the bearing right or left) so the belts are parallel to the pulleys and there is no friction when the shaft and belts rotate.

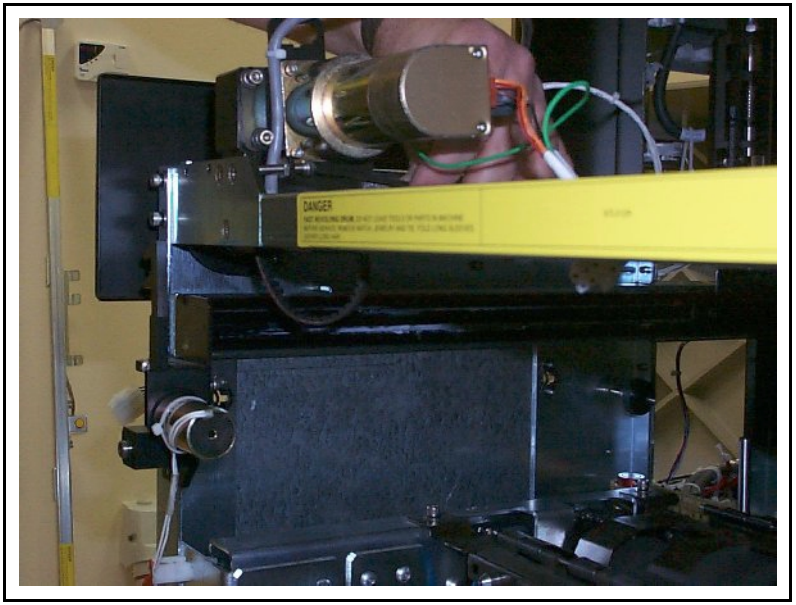
10. Tighten the set screws on both sides of the shaft;they should face the flat surfaces on the shaft ends. (Allen key 7/64.)



Tightening set screws for X-shaft

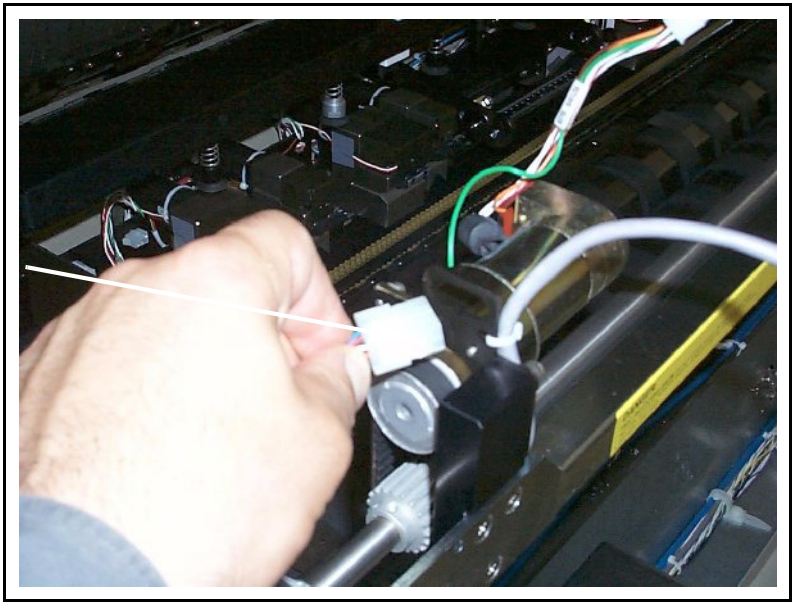
11. Install the new front beam (RHS) (P/N 507F3D276) with 10/32x3/8 bolts, washers and spring washers, (Allen key 5/32.)

12. Install the small belt from the X motor to the pulley on the shaft; Tighten bolt under motor to apply tension to the belt. **Do not tighten too tight.**



9. Tighten the locking nut and the 2 bolts securing the motor bracket . (Allen key 5/32, open-end wrench 3/8) Insert the motor inlet to its bracket and connect the plug into it.

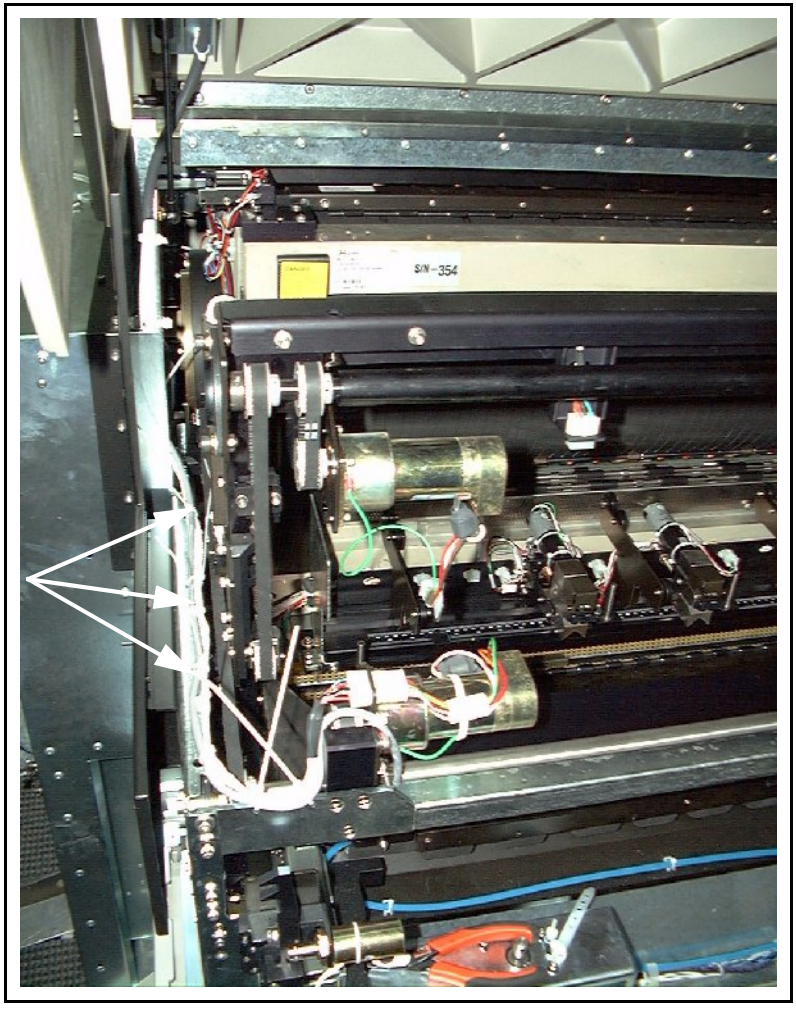
Inserting X-motor inlet into bracket



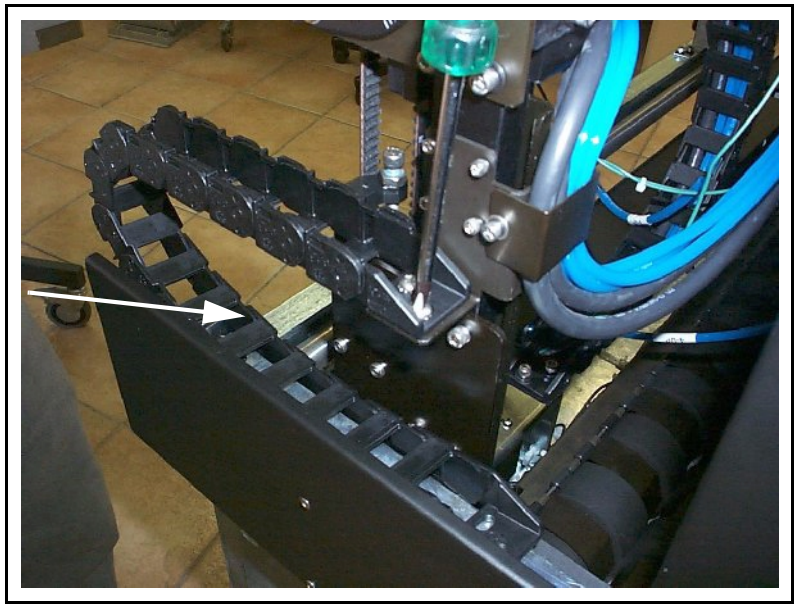
10. Connect 2 plugs of the safety button to their connector on the chassis. Secure the wires to the chassis with tie-wraps.

Securing wires to chassis

Tie wraps



11. Attach the harness black chain of the axis(P/N203C00941) to its bracket on the frame with 2 Philips screws. Open the chain cover and insert the cables and tubes into it. Put the cover back and attach the other end to the chassis.



Attaching harness chain to its bracket on X-Y system

12. Lay the harness inside the chassis and secure with wire clamps (supplied).
13. Connect the yellow/green grounding wire.
14. Plug in the valve connector labeled SOL (Note that a new rubber gasket is supplied- use only one and do not put it on top of the old one !)
15. Plug in connectors labeled "Unload Motor" and "Unload Det" to the unloading tray.
16. Install the Local box back and plug in connectors J2, J5.
17. Secure the harness along the chassis with tie-wraps.
18. Plug in the 3 blue tubes to the valve console in the upper corner as follows: 8UP - to Large Suc., 4UP – to Valve, SOL – to SOL
19. Plug in all valve connectors of the lower valve console. Make sure to follow the labels on the air tubes

20. Put the black vacuum hose back into its holder.

21. Put back the Punch Box, black light shields, front and rear upper panels and side covers.

22. Update the following parameters in the **Registry**:

    1. Under ‘Loading System/Loading Plate to Drum/X System/ X Motor “Min Speed App Value”: –127
       “Pos Factor”: -0.00569353 …
       /Y Motor “Pos Factor”: 0.00565667

    2. Under …/Loading System/Loading System “X H.P. Speed" : -127

    3. You may have to change the following parameter: …/Paper Disposal Stage “X for Open Paper Clamp”: 397

Adjusting the Optic Paper/Metal Detector

Note: Avoid direct light on the plate or paper during the adjustment.

- There are two LED's on the sensor, green and red, to indicate the reading of the sensor.
- The "Sens" screw is for sensitivity adjustments.
- The "Mode" should be in L position ("Light On").

1. Open the top cover of the cassette. The front door should be open as well.
2. Open "Paper/Metal detector" dialog box in the GUI.
3. Bring the X-Y bar down manually so the suckers touch a plate. Apply enough force to fully load the sucker springs.
4. Adjust the sensitivity of the sensor as follows:
    1. Optic sensor status should be "ON" when it detects a plate. The red led and the green led should lighten up.
    2. Optic sensor status should be "OFF" when it detects a paper The green led should be ON and the red led should be OFF. Repeat step 3 with paper to check this.

Note: If you find that the reading is "OFF" for a plate and "ON" for a paper, flip the "Sens" screw 180 degrees. Ensure that there is no interference in the beam way from detector to plate.

5. Ensure that the sensor indications are correct when the suction cups are 20-30 mm above a plate or a paper.

Test Procedure:

1. Perform **X-Y Init** ,load a plate in **A,B,C** steps and then load continuously for couple of times to verify good performance.
2. Check paper disposal sequence. Improve loading parameters if necessary.

Parts List

Cat #	Description	Qty Reqrd
203A10010	Intrm.Cable Tie 370mm	15
203A10030	Mini Cable Tie 140mm	15
203C00491	Cabl.Sup.Plas.Chain 15 Links	1
203C10321	Cable Clamp Adj. 1/4"-/4"	10
299A2R971	Xy Slides Adjustment Jig X	1
299A2R972	Xy Adjustment Jig Y	1
344F10036	Tubing Tygon Plas.Od=1/4 D=1/8	1
358E55000	Mount.Ball Id=1/2"Pres.St.Hous	2
380A03041	Soc Hd Cap Stst 6-32*3/8"	4
380A03140	Soc Hd Cap Stst 6-32*1"	2
380A05041	Soc Hd Cap Stst 8-32*3/8"	16
380A09140	Soc Hd Cap St1/4-20*1"	6
381A09000	Hex Nut Stst1/4-20*3/16"	2
382A07001	Flat Washer Stst #6s	6
382A11000	Flat Washer St St #8l	16
382A16003	Flat Wash Stst 17/64*9/16*.049	4
382D07000	Spring L/W St St #6	4
382D11000	Spring L/W St St #8	16
382D17002	Spring L/W Stst 1/4"(Med)	4
383A09130	Round Spac.L=7/16 Id=1/4 Od=.5	4
480C10192	Adh.Ret.10cc Loctite 242	1
480C43500	Adhesive Rapid Cure 3 Gr	1
504L3D034	X-Motor Extender Cable L=1m.	1
507E3D277	Right Slide Assy For Fco	1
507E3D278	Left Slide Assy For Fco	1
507F2D166	X Shaft Assy	1
507F3D276	Rhs+Motor Assy For Fco	1
507F2D786	Loading System	1

Cat #	Description	Qty Reqrd
350G01123	Htd Pit.5 W=9 L=200mm 40 Groov	1
480A40100	Grease For Lin.Guid.&Ball Scr.	1
203C10020	Cable Clamp Adhesive	5
203C10040	Cable Clamp Adhesive	5
344F10131	HOSE BLUE OD=6,ID=4mm POLYURE.	5
374A7L412A	Danger Fast Revolving Dr	2
380A06061	Soc Hd Cap Stst10-32*1/2"	8
380J06067	Phil.Pan Hd.Sst.Sems 10-32x1/2	4
382D14000	Spring L/W Stst.#10	12
382J11000	Ext Tooth L/W St St #8	2
382A14001	Flat Washer Stst #10l	12

Reusable Parts

Some parts of the old X-Y System are worth disassembling;

Please take some time after successfully completing the installation to remove the following parts for reuse:

- Suction Caps
- Paper Clamps
- Optic Detector and its electronic board (if installed)
- X-shaft bearings and bearing housings
- Harness chains
- Harness- to be shipped back !