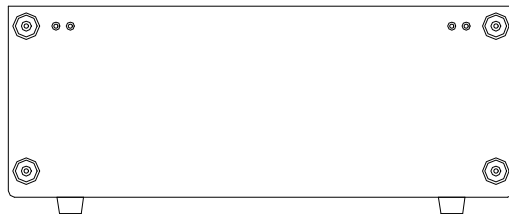
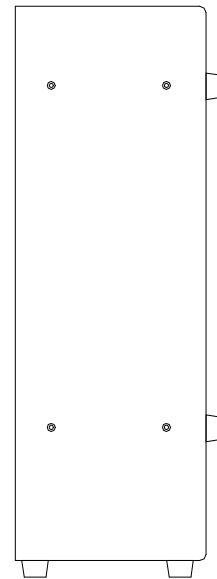
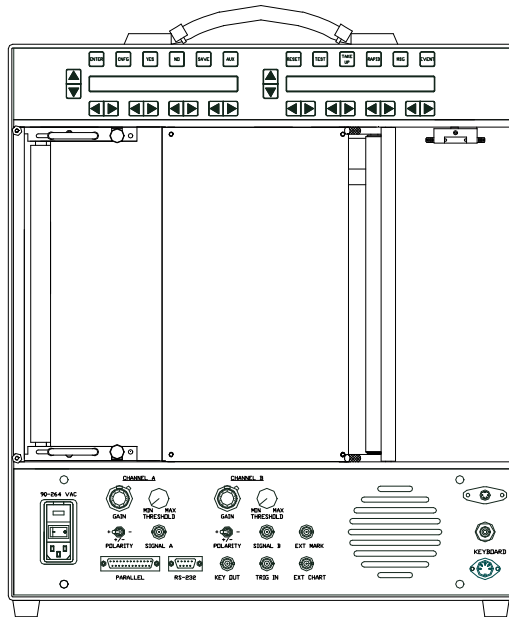


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Cover Sheet

1086 PRINthead UPGRADE PROCEDURE



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1. APPLICATION

This Service bulletin involves replacing the printhead in the 100 series of GSP-1086 recorders. The EPC PN 221800 will be replaced with the EPC PN 222151. This will involve a rather lengthy procedure.

2. PURPOSE

The EPC PN : 221800 - Thermal Printhead is no longer commercially available. Therefore, any 100 series with a defective thermal print head will have to use this upgrade procedure.

3. WHEN TO BE ACCOMPLISHED?

Upgrading the printhead should be considered a priority. The repaired unit should be returned to the customer as promptly as possible.

4. BY WHOM TO BE ACCOMPLISHED?

Unless otherwise approved, this Service Bulletin will be accomplished by EPC personnel.

5. WHAT IS REQUIRED?

a. SUPPLY INFORMATION AND REQUIREMENTS

(1) KITS REQUIRED PER GSP-1086 (EPC PN 802335)

The following will be furnished as a complete kit:

Part No.	Description	Quantity
222078	ROLLER ARM, I/O PANEL	1
222079	ROLLER ARM, CONTROL PANEL	1
222146	COVER PLATE ASSY	1
222151	THERMAL PRINTHEAD	1
222153	PLATE, IDLER	1
222217	SERVICE BULLETIN	1
255056	REFLECTOR, OPTIC SENSOR	1
802193	COVER PLATE ASSY	1
802336	CABLE ASSY., PH LOGIC	1
802337	CABLE ASSY., PH POWER	1
802338	CABLE ASSY., PRINTHEAD ERROR	1
802339	CABLE ASSY., PRINTHEAD +24 VOLTS	1
802340	CABLE ASSY., SENSOR	1

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(2) DISPOSITION OF REMOVED AND REPLACED PARTS

The original Parts should be kept on hand and dismantled and used for replacement parts.

(3) DRAWINGS REQUIRED

QTY	PART NO.	NOMENCLATURE
1	802335	1086 Printhead Upgrade Procedure
1	802336	Cable Assy., P.H. Logic
1	802337	Cable Assy., P.H. Power
1	802338	Cable Assy., Printhead
1	802339	CABLE ASSY., PRINTHEAD +24 VOLTS
1	802340	Cable Assy., Sensor
1	222151	Thermal Printhead
1	222217	Service Bulletin

(4) APPROXIMATE AVAILABILITY OF KITS AT RECORDER SUPPLY SOURCE

Kits will be stored in the stock room under the number 802335 - Retro-fit Kit or their appropriate part number.

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LETTER	WORK PHASES	SKILL LEVEL	MAN HRS REQ. (hr.)
A	Decase recorder	Technician	.25
B	Disconnect Control Panel	Technician	.1
C	Disconnect the I/O panel	Technician	.1
D	Remove and rework PC brds		.5
E	Remove the PS Shield and thermal printhead	Technician	.25
F	Remove Pinhead Power cable	Technician	.1
G	Remove PH Logic cable	Technician	.1
H	Remove Rear Riser & replace w/new riser	Technician	.15
I	Remove the P2 Connector at the motor drive Board & Cable,rwk.	Technician	.1
J	Drill and Tap Riser	Mech. Technician	.5
K	Replace Idler Plate	Technician	.25
L	Attach P2 connector and wire in.	Technician	.25
M	Replace PC brds.	Technician	.1
N	Affix print head & cbls	Technician	.1
O	Attach new power shield	Technician	
P	Attach I/O and affix control panel	Technician	.25
Q	Check for "shorts"	Technician	.1
R	Perform a FAT test.	Technician	.5
S	Case the recorder & test	Technician	.15
	Perform a final FAT test	Technician	.5
total			4.65

b. PERSONNEL INFORMATION AND REQUIREMENTS

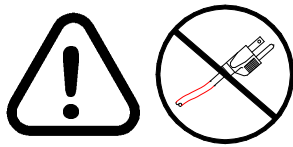
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c. SPECIAL TOOLS, JIGS AND FIXTURES REQUIRED

Special tools are not required with this Service Bulletin.

6. WORK TO BE ACCOMPLISHED BY SITE PERSONNEL

For each recorder do the following:



WARNING: UNPLUG RECORDER PRIOR TO PERFORMING THIS SERVICE BULLETIN !!

A. De-Case the recorder

1. Locate the the eight #6 countersunk screws (4- on either side of the GSP-1086 and remove them . In addition remove the view panel. (FIGURE 1).

2. Next, locate the six counter sunk screws by the handle which hold the control panel to the case. remove these screws.

3. On the I/O panel remove the two #10 SHCS which hold the I/O panel to the case.

4. Lift up the print roller assembly and grasp a hold of the pinch roller. The recorder should slide out of its case.

5. Set the recorder case aside.

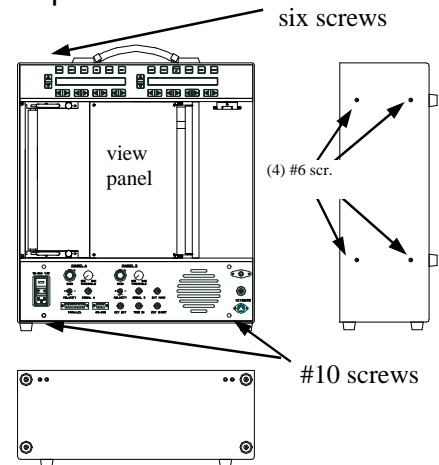


FIGURE 1- Decase the GSP-1086-2

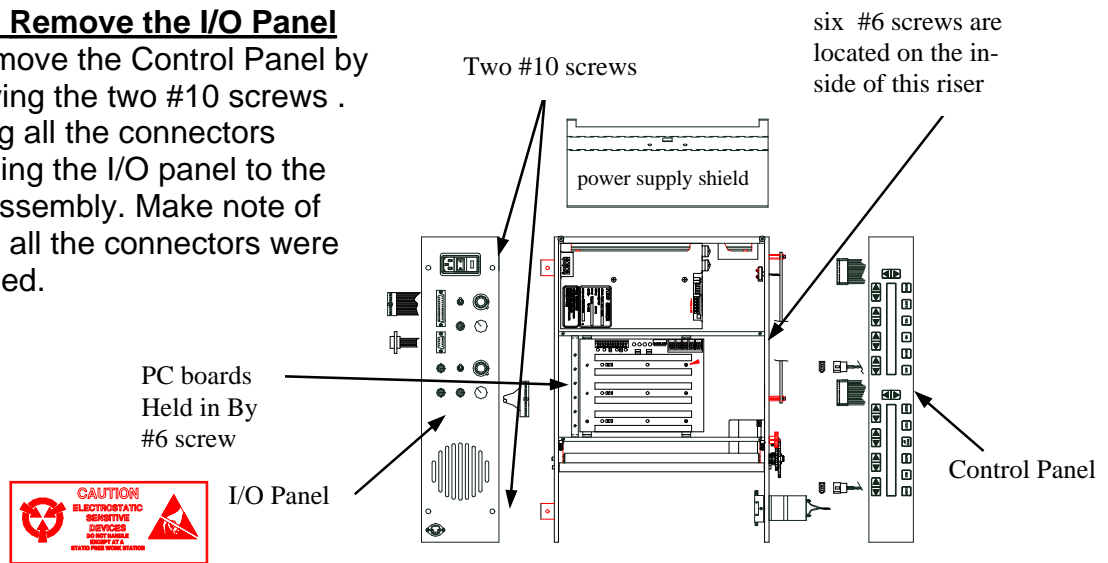
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B. Remove the Control Panel

1. Unscrew the six #6 SHCS which attach the control panel to the riser. Unplug all the connectors attaching the control panel to the final assembly. Make note of where all the connectors were attached.

C. Remove the I/O Panel

1. Remove the Control Panel by removing the two #10 screws. Unplug all the connectors attaching the I/O panel to the final assembly. Make note of where all the connectors were attached.



D. Remove the Printed Circuit Boards -

FIGURE 2- 1086 (100) Series Final Assembly

1. Remove the PC boards by Removing the #6 screws which hold them in place. (set them aside)

Note:

2. The Micro-Processor board will have to be re-programmed with the **A7** revision software. The Control Board will also have to be reworked. Do this by running a small jumper wire from the positive side of C35 to JP1-8. Then change resistor **R6** from 10k (EPC PN 471032) to 30k (**EPC PN 471043**).

E. Remove the power supply shield & printhead -

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1. Unscrew the two screws which hold the power supply shield to the printhead riser. Remove the PC boards (set them aside) and remove the remaining 3 screws which hold the power supply shield to the paper feed chamber riser. Carefully, remove the power supply shield and disconnect the sensor connector attached to the shield. The micro-switch and the paper out cable will be attached to this assembly - un-screw the micro-switch from the side of the machine.

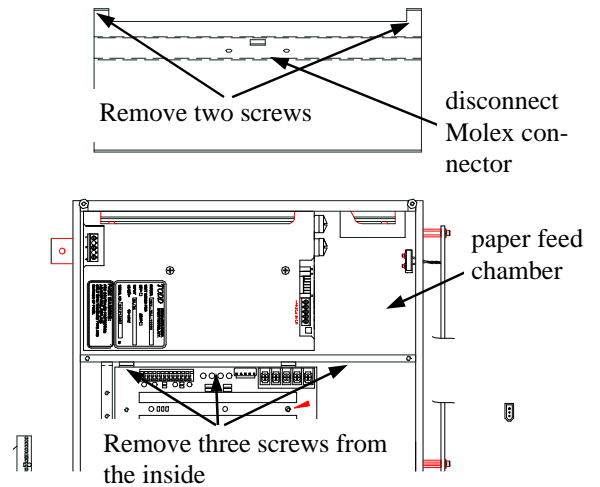


FIGURE 3- Remove power shield

F. Remove the Printhead Power Cable -

1. Un-plug the PH Power cable from the printhead. Then unscrew all the lugs from the relay and disconnect the printhead power cable from the printhead

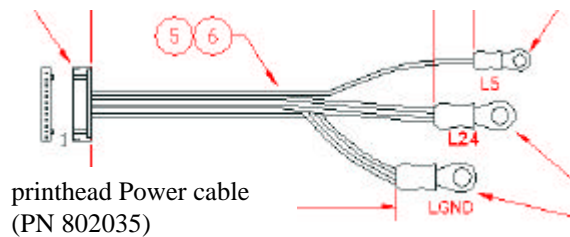


FIGURE 4 - 1086 (100) Series PH power cable

G. Remove Printhead Logic Cable -

1. Unplug the PH logic cable from the printhead, the other end of the cable should already be removed from the control board.

printhead logic cable (PN 802034)

H. Remove the Rear Riser -

1. Unscrew the two #8 screws which hold the power Supply in place. Then remove the four #6 screws which hold the Rear riser onto the two side risers.

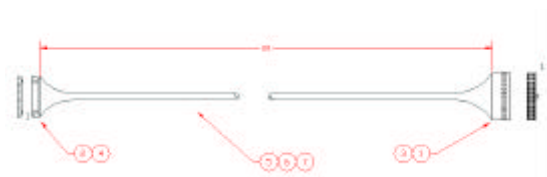


FIGURE 5 - 1086 (100) Series PH logic cable

Also, disconnect and remove the relay at this time. Affix the new riser in its place and reattach the power supply.

I. Remove the Sensor Cable. -

1. Remove the sensor cable from the P2 position on the Motor drive board. Modify the cable by extending the LR1 and LR2 cables to 24 inches long. Plug the cable back in.

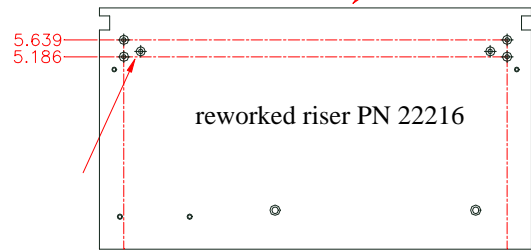


FIGURE 6 - Modified PH riser

J. Drill and Tap the new holes for the Relay -

1. Drill and tap the holes indicated in the drawing. Locate and affix both the relay and the capacitor as shown in the drawing. Use the Relay as a template to mark a good mounting location. Like wise with the capacitor (PN 151131 and the Resistor PN471418).

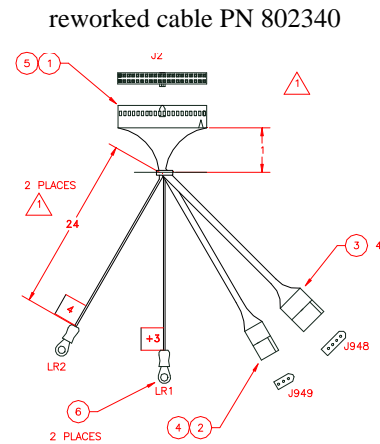


FIGURE 7 - reworked cable

K. Replace Idler plate -

1) Remove and replace the idler plate in the recorder by following the instructions on print 802335.

L. Attach P2 connector to MDB-

1) After modifying the Sensor cable, (old part PN: 802132; new PN: 802340), re-attach it to the recorder. Now attach LR2 to the #4 Terminal on the relay and LR1 to the #3 terminal on the relay.

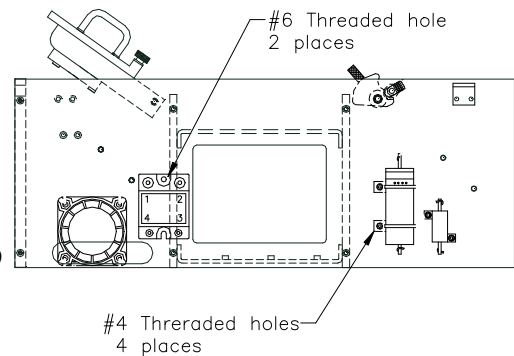


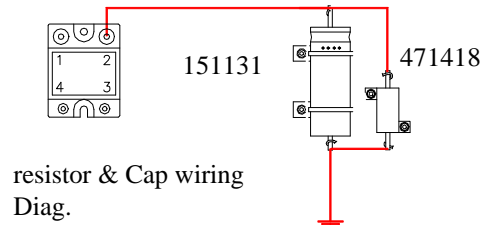
FIGURE 8 - Drill and tap riser

M. Replace Boards and plug in PH

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Logic Cable -

1) Place the PC boards back into the mother board. (keeping the same order as before. Secure the boards with screws.) Plug in the printhead logic cable (To the Control PCB - PN : 802336)



N. Plug in PH Cables and Affix Printhead -

1) Connect the new printhead power cable to the printhead. Pins 1,2,3 and 4 from the printhead connector are together in one lug which gets connected to lug #1 on the Relay (+24 volts). Pins 5,6,7,8 and 9 are together in another lug (Ground) which gets connected to the screw which mounts the Relay to the riser. Pin #10 from the printhead power connector is a single wire with a lug that gets connected to the relay pin #3. Add a jumper wire from +24 to lug on the power supply to pin #2 on the relay.

O. Attach new power Supply shield -

1) Attach the connector to the paper out sensor. Remove the three screws on the top of the power supply case. Use these screws to secure the new power supply shield to the top of the power supply.

P. Attach both I/O and Control Panels to Recorder -

1) Attach the panels to the recorder (hardware and connectors)

Q. Check for “short “ circuits -

1) Use an ohm meter to check between ground and power points to ensure that there are no short circuits in this assembly. Start by checking for a short in the power entry. Then check for shorts on the DC voltages.

R Turn on Recorder and Perform FAT test -

1) Perform a standard EPC F.A.T. test.

S Case the recorder and perform a FAT test -

1) If the recorder passes the FAT test then fill out repair report and forward to finish goods.

