



MODIFICATION INSTRUCTIONS
for the
Kodak X-Omat 270 RA PROCESSOR
Service Code: 3059
Modification No. 14
and for the
Kodak X-Omat 180 LP PROCESSOR
Service Code: 3227
Modification No. 1

Type 1 Required

- Purpose:** (1) To prevent the disabling of safety circuits by checking for the correct positions of the JUMPERS on the 500 CIRCUIT BOARD.
- (2) To install a new style AIR FLOW SWITCH in the DRYER PLENUM, 270 RA only.
- (3) To check the position of the WIRE HARNESS for the DRYER HEATER.
- (4) To prevent malfunction of the LEVEL SENSING PROBES by installing new WASHERS, 270 RA only.
- (5) To prevent binds in the GEARS of the WASH RACK by installing new GEARS.

IMPORTANT

Use qualified personnel to install this modification.

Service Effects:	None
Special Requirements:	None
Serial Numbers:	270 RA S101 - S781, 180 LP 100 -147
Installation Time:	Modification No. 14 approximately 1½ hour, Modification No. 1 approximately 1 hour
Special Tools:	None
Parts Status:	Available through Service Parts Management
Parts Requirements:	See the Parts List on page 2.

PLEASE NOTE

The information contained herein is based on the experience and knowledge relating to the subject matter gained by Eastman Kodak Company prior to publication.

No patent license is granted by this information.

Eastman Kodak Company reserves the right to change this information without notice, and makes no warranty, express or implied, with respect to this information. Kodak shall not be liable for any loss or damage, including consequential or special damages, resulting from the use of this information, even if loss or damage is caused by Kodak's negligence or other fault.

CAUTION



This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

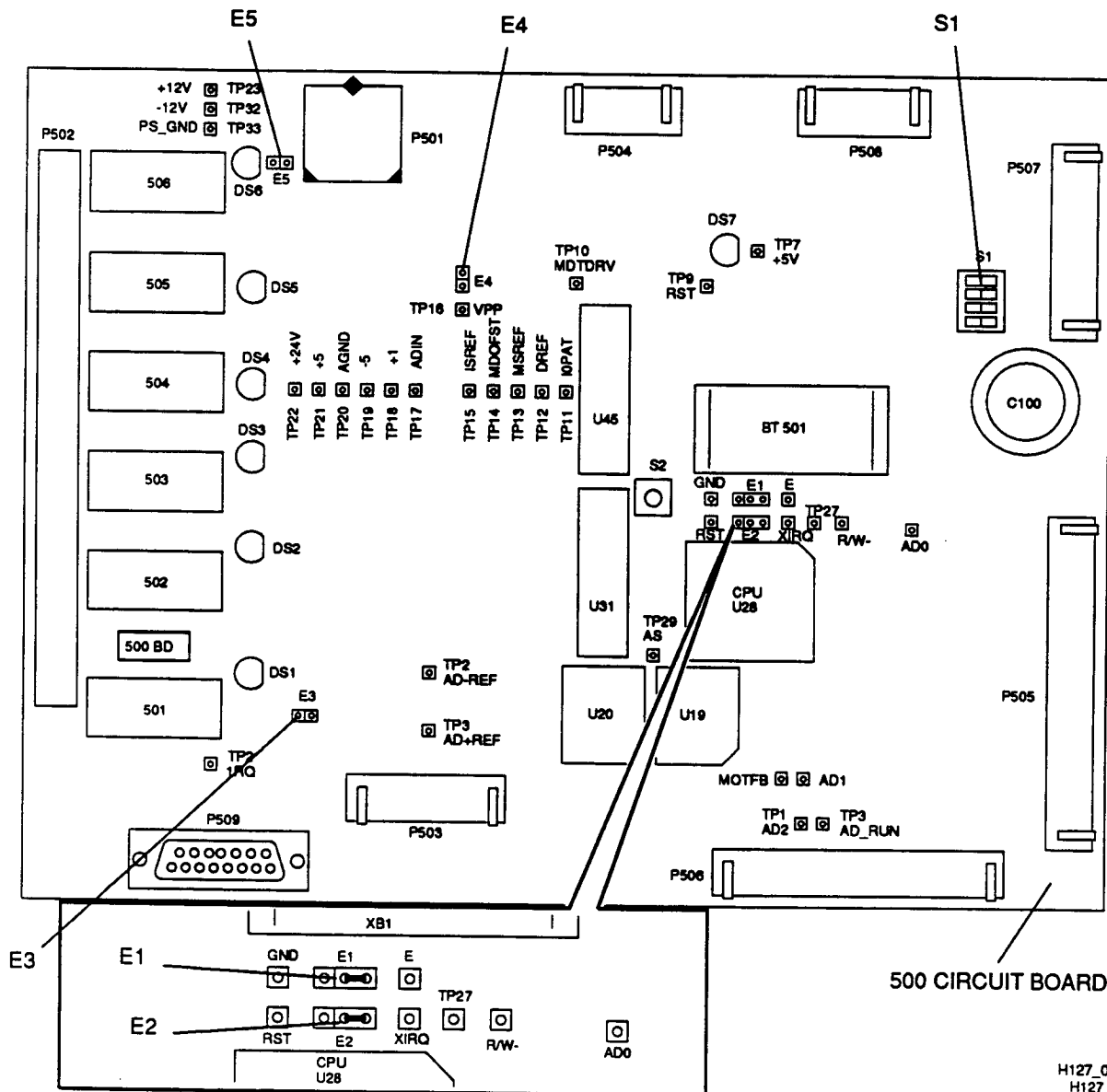
Parts List for this Modification Kit, Part No. 696443:

Part No.	Description	Quantity
968781	ADAPTER - HARNESS	1
943400	BRACKET	1
651107	E-RING	22
779028	GEAR	5
493246	JUMPER	2
699611	MODIFICATION INSTRUCTIONS	1
699809	PM CHECKLIST	1
556032	SCREW - 4-40 x 3/8	2
575820	SCREW - 6-32 x 5/8	2
331320	SPADE - SPRING	2
474239	SPRING	6
943375	SWITCH - AIR FLOW, S3	1
191098	WASHER - LOCK	2
748043	WASHER - SEALING	2

Checking the Configuration of the 500 CIRCUIT BOARD

WARNING

- Dangerous Voltage
 - Incorrect installation of the JUMPERS will disable important safety mechanisms in the PROCESSOR.
- [1] Move CB1 on the PROCESSOR to the "O" position.
 - [2] Move the wall CIRCUIT BREAKER to the "OFF" position.
 - [3] Lift the TOP COVER.
 - [4] Remove EXIT PANEL from the 270 RA PROCESSOR or the DRIVE SIDE PANEL from the 180 LP PROCESSOR.



Jumper and Switch Positions on the 500 CIRCUIT BOARD

Note: Earlier 500 CIRCUIT BOARDS may have slightly different configurations. See the illustration on the next page.

H127_0142DCA
H127_0142DA

- [5] On the 270 RA PROCESSOR, extend the ELECTRICAL BOX from the PROCESSOR to access the 500 CIRCUIT BOARD.

CAUTION

Possible damage from electrostatic discharge.

- [6] Open the ELECTRICAL BOX.
- [7] Check the positions of the JUMPERS on the 500 CIRCUIT BOARD. See the illustrations below and on page 3.

- (a) Check that all positions are "OFF" on SWITCH S1.

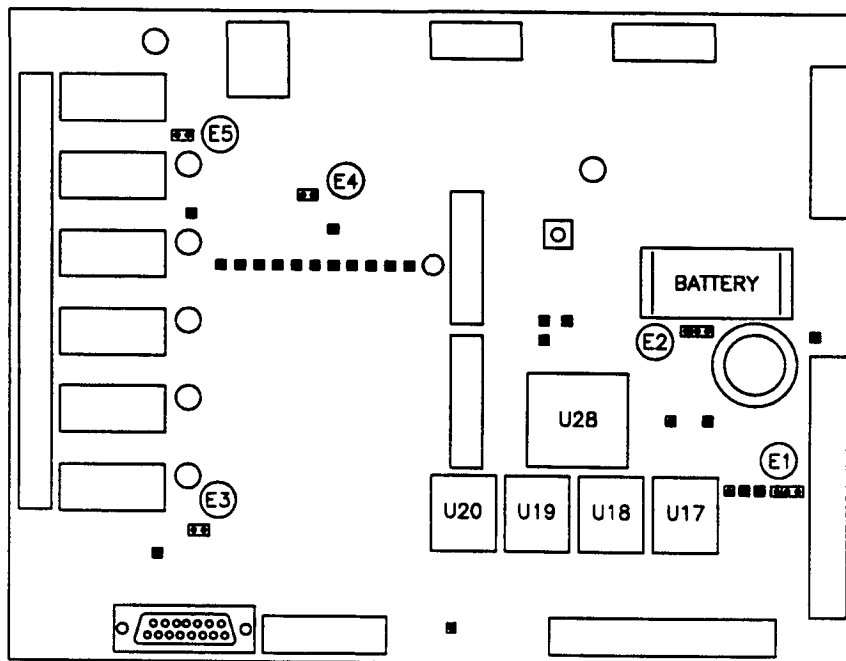
- (b) Check that the positions of the JUMPERS are correct:

Location	Jumper Positions
E1	Pins 1 and 2
E2	Pins 1 and 2
E3	No Jumper
E4	No Jumper
E5	No Jumper

- (c) Discard any JUMPERS that are not used.

- [8] Close the ELECTRICAL BOX.

- [9] On the 270 RA PROCESSOR, insert the ELECTRICAL BOX into the PROCESSOR.



P108_0172DA

Jumper Positions on Earlier 500 CIRCUIT BOARDS

Checking the WIRE HARNESS for the DRYER HEATER and Installing a New AIR FLOW SWITCH

WARNING

The PLENUM COVER may be hot.
Allow it to cool before you remove it.

[1] Remove:

- NON-DRIVE SIDE PANEL
- DRYER SIDE PANEL, on the 180 LP PROCESSOR
- 6 SCREWS
- 6 LOCK WASHERS
- 6 WASHERS
- PLENUM COVER

[2] Check the WIRE HARNESS. If the wires are charred, install a new DRYER HEATER.

[3] Check the location of the WIRE HARNESS for the DRYER HEATER.

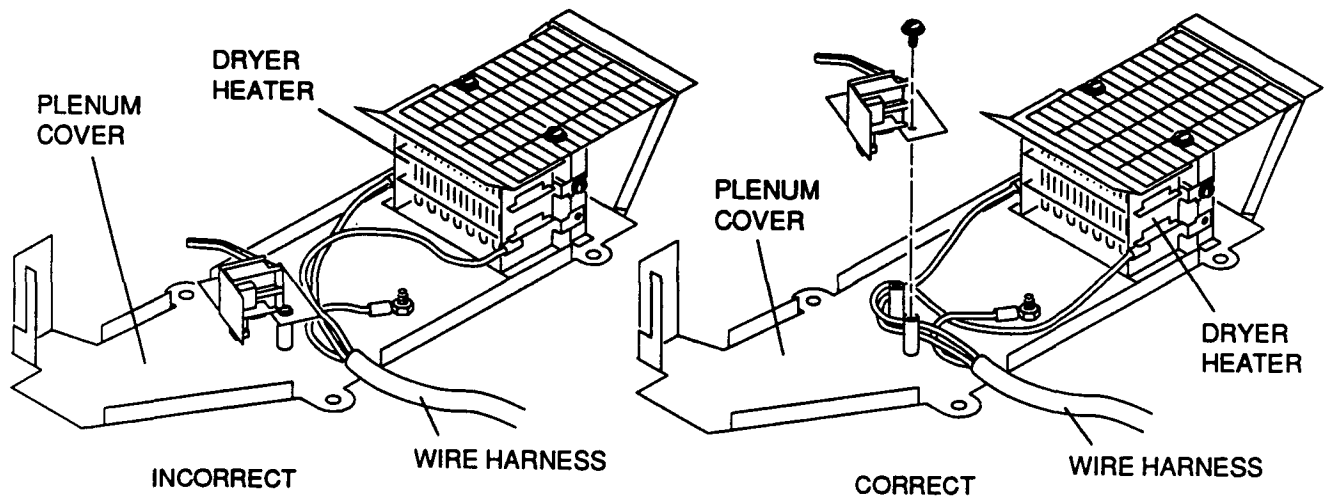
CAUTION

If the wires are placed too close to the DRYER HEATER, the insulation on the wires may be damaged.

[4] Move the wires of the WIRE HARNESS away from the DRYER HEATER to the correct positions. The illustration on the right below has the correct positions.

NOTE

- If the PROCESSOR is a 180 LP PROCESSOR, advance to page 9. All 180 LP PROCESSORS have the new WASHERS installed. You will not need the SEALING WASHERS 748043 or the SCREWS 575820 in the Modification Kit.
- Some of the 270 RA PROCESSORS have the new AIR FLOW SWITCH. Continue with step 5 if the PROCESSOR is a 270 RA PROCESSOR.



H104_0387BCA
H104_0387BA

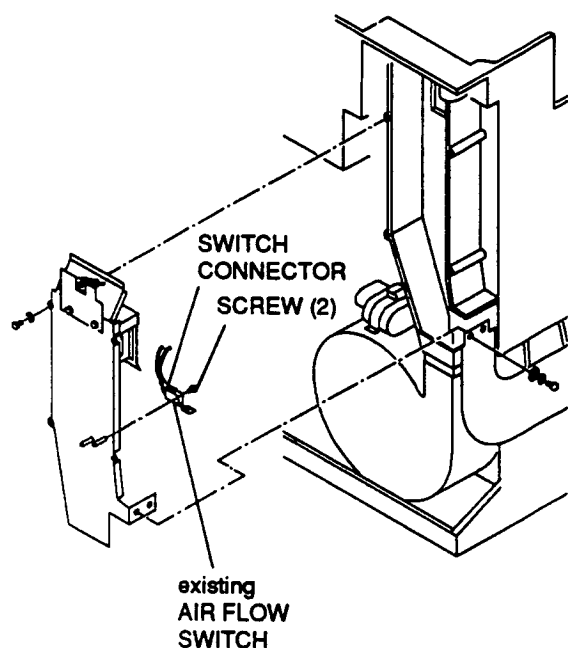
Checking the Positions of the Wires inside the PLENUM COVER

[5] Check that the 270 RA PROCESSOR has the new style AIR FLOW SWITCH.

- If the PROCESSOR has the new AIR FLOW SWITCH installed, discard the BRACKET, SCREWS 556032, LOCK WASHERS 191098, and AIR FLOW SWITCH in this Modification Kit. Advance to page 8.
- If not, continue with step 6 to install the AIR FLOW SWITCH in the Modification Kit.

[6] Remove the existing AIR FLOW SWITCH:

- (a) Disconnect the SWITCH CONNECTOR from the AIR FLOW SWITCH.



H104_0146CCC
P104_0146CA

The Existing AIR FLOW SWITCH

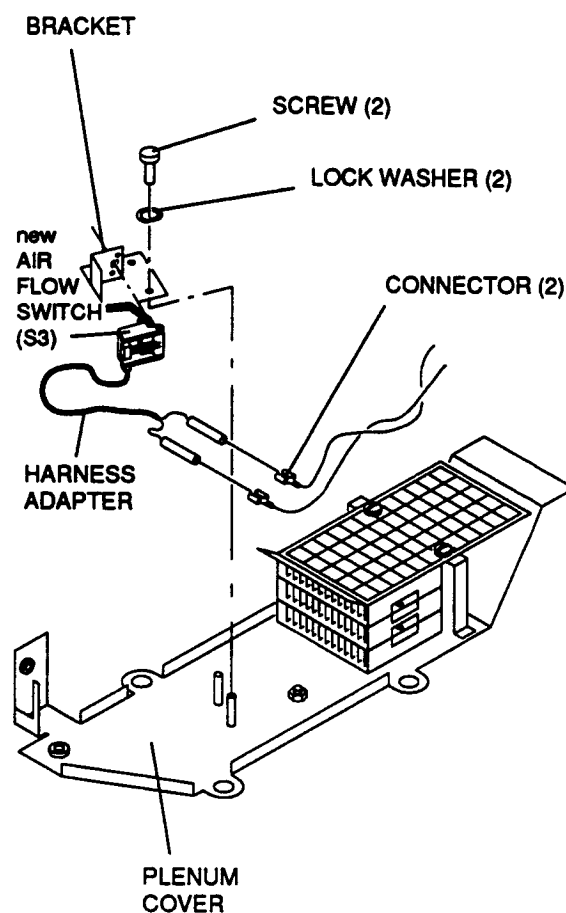
(b) Remove and discard:

- 2 SCREWS
- 2 LOCK WASHERS
- AIR FLOW SWITCH

[7] Press the new AIR FLOW SWITCH onto the new BRACKET from the Modification Kit.

[8] Install the BRACKET on the PLENUM COVER with the 2 LOCK WASHERS 191098 and the 2 SCREWS 556032 from the Modification Kit.

[9] Check that the AIR FLOW SWITCH and the BRACKET are in the correct position.



H104_0315CCB
H104_0315CA

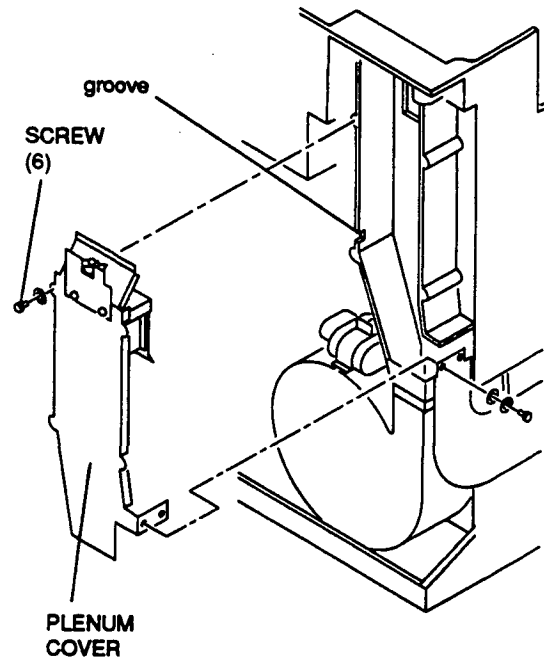
The New AIR FLOW SWITCH

- [10] Remove the 2 wires and the CONNECTORS from the CONNECTOR HOUSING.

NOTE

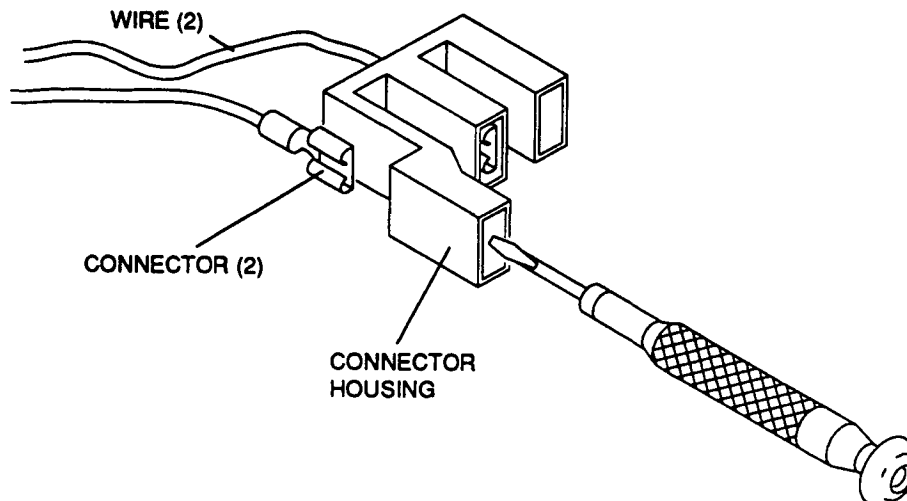
Use a small SCREWDRIVER to release the CONNECTORS.

- [11] Insert the 2 CONNECTORS into the HARNESS ADAPTER. Press the CONNECTORS fully into the HARNESS ADAPTER.
- [12] Insert the other end of the HARNESS ADAPTER into the AIR FLOW SWITCH. Press the HARNESS ADAPTER fully into the AIR FLOW SWITCH.
- [13] Route the HARNESS ADAPTER, with the WIRE HARNESS from the DRYER HEATER, through the groove in the illustration at the right.
- [14] Check that the CONNECTORS are outside the DRYER PLENUM and that all the wires are correctly in the groove, or the PLENUM COVER may cut them.
- [15] Install:
- PLENUM COVER
 - 6 WASHERS
 - 6 LOCK WASHERS
 - 6 SCREWS



H104_0356CCB
H104_0356CA

Routing the Wires Through the Groove



H104_0314BCA
H104_0314BA

Removing the CONNECTORS from the CONNECTOR HOUSING

Installing New WASHERS on the LEVEL SENSING PROBES

IMPORTANT

- Some of the 270 RA PROCESSORS have the new SEALING WASHERS installed. Check before you do this procedure. If the PROCESSOR has the new SEALING WASHERS, discard the new SEALING WASHERS 748043 and the SCREWS 575820 in the Modification Kit. Advance to page 9.
- This procedure will help prevent malfunctioning of the LEVEL SENSING PROBES and leakage from the holes in the sides of the fixer and developer TANKS.
- In 270 RA PROCESSORS that have 2 SCREWS for the LEVEL SENSING PROBES in the developer TANK, remove the SCREW that holds the SPRING SPADE for this procedure.

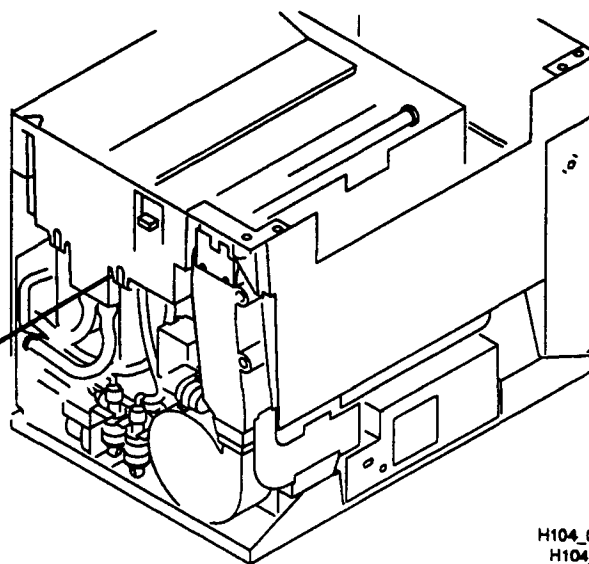
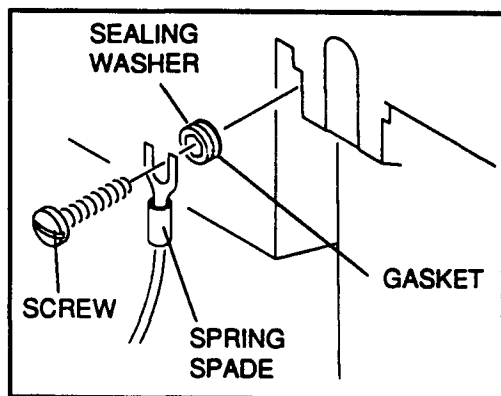
- [1] Remove and discard the SCREW for the LEVEL SENSING PROBE, that is in the side of the developer TANK.

- [2] Check the SPRING SPADE for corrosion. If necessary, install the new SPRING SPADE in the Modification Kit.

IMPORTANT

Install the side of the SEALING WASHER that has the GASKET against the TANK.

- [3] Install the SPRING SPADE, the SEALING WASHER, and the new SCREW 575820 to the LEVEL SENSING PROBE inside the developer TANK. See the illustration below.
- [4] Do this procedure for the SCREW and the SEALING WASHER for the LEVEL SENSING PROBE in the fixer TANK.



H104_0383BCA
H104_0383BA

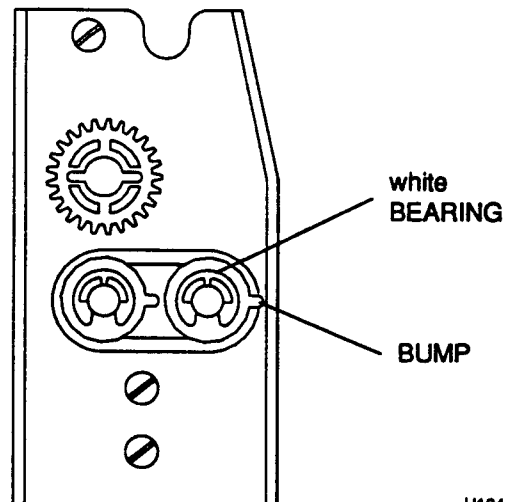
Installing the New SEALING WASHERS on the LEVEL SENSING PROBES

Installing New GEARS in the WASH RACK

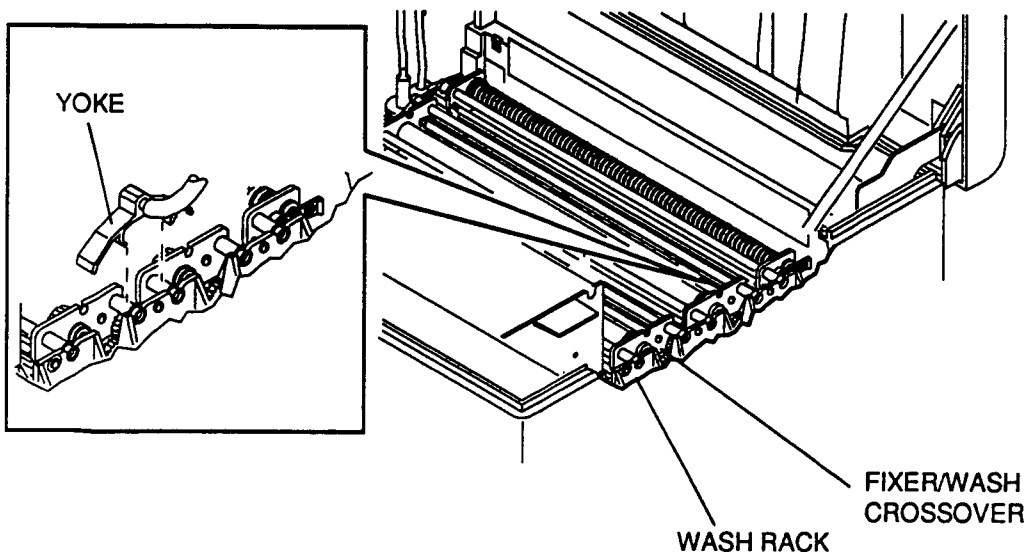
- [1] Close the WATER SUPPLY VALVE to stop the flow of water to the PROCESSOR.
- [2] Remove the WET SECTION COVER.
- [3] Remove the fixer EVAPORATION COVER.
- [4] Disconnect the WATER DISCONNECT on the nondrive side of the WASH RACK.
- [5] Lift the YOKE from the FIXER/WASH CROSSOVER.
- [6] Remove the FIXER/WASH CROSSOVER.
- [7] Lift the WASH RACK slowly from the PROCESSOR. Tilt the WASH RACK to drain the water.
- [8] Place the WASH RACK on a table.
- [9] Remove the 2 SHOULDER SCREWS, the 2 BUSHINGS, and the 2 IDLER GEARS from the nondrive side of the WASH RACK. Discard the 2 IDLER GEARS. See the illustration on page 10.
- [10] Remove and discard the E-RING on the drive side of SHAFT 1. See the illustration on page 10.
- [11] Move SHAFT 1 toward the nondrive side of the WASH RACK.
- [12] Remove the PIN from the nondrive side of SHAFT 1.
- [13] Remove and discard the GEAR from SHAFT 1.
- [14] Do steps 10 - 13 for SHAFT 2 and SHAFT 3.
- [15] Remove and discard the 6 SPRINGS.

NOTE

It may be necessary to cut the BUMP from the white BEARINGS to remove and install the SPRINGS.



H104_0385ACA
H104_0385AA



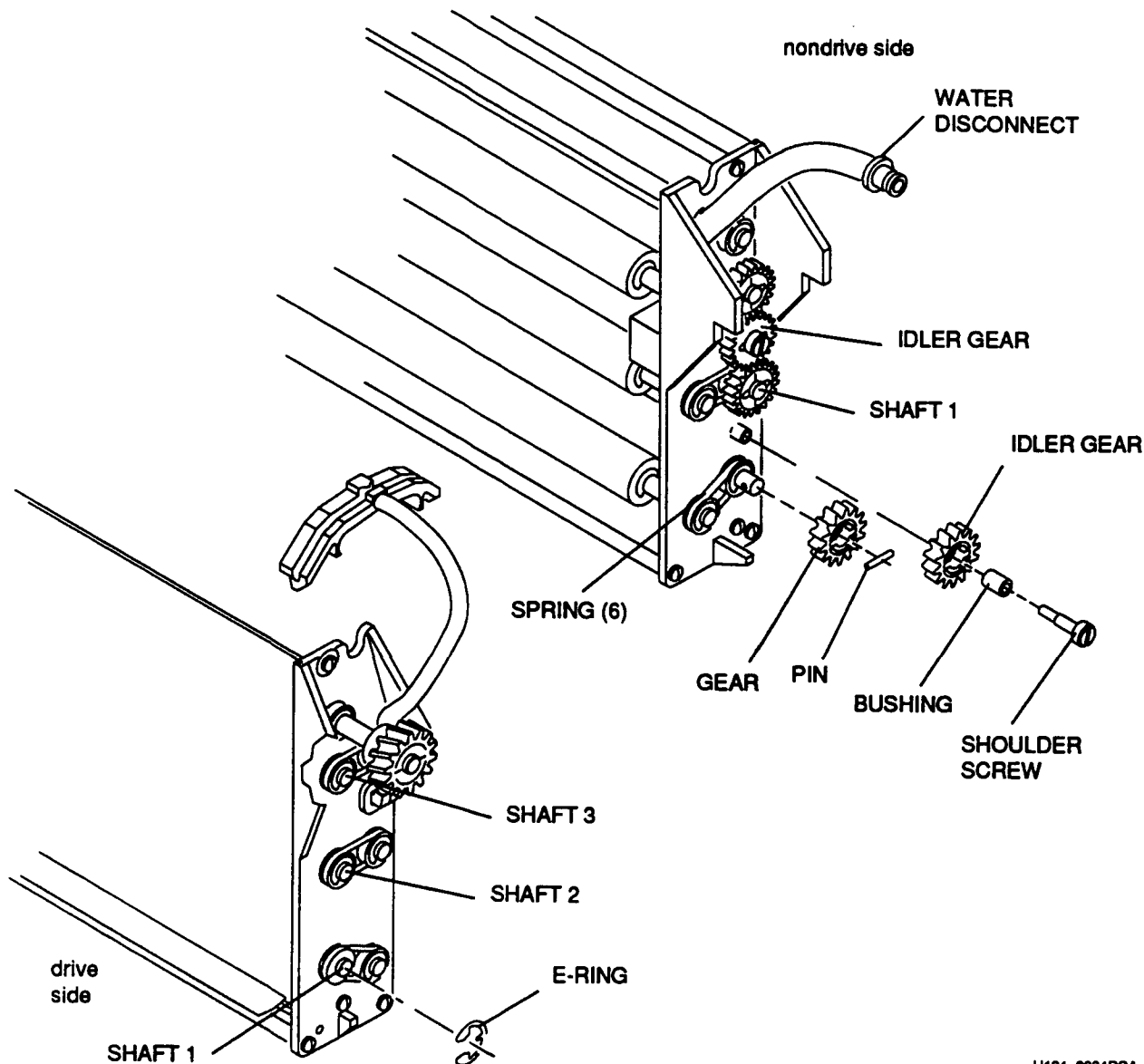
P104_0153DCB
P104_0153BA

- [16] Install the 6 new SPRINGS.
- [17] Install a new GEAR and the PIN on the nondrive side of SHAFT 1.

- [18] Move the SHAFT into position and install a new E-RING on the drive side of SHAFT 1.
- [19] Do steps 17 and 18 for SHAFT 2 and SHAFT 3.

NOTE

All 5 GEARS in this Modification Kit are the same.



H104_0384DCA
H104_0384DA

Changing the GEARS on the WASH RACK

- [20] Remove any E-RINGS with corrosion and install new E-RINGS.

IMPORTANT

The IDLER GEARS must be installed with the correct side toward the WASH RACK. See the illustration on page 10.

- [21] Install:

- 2 new IDLER GEARS
- 2 BUSHINGS
- 2 SHOULDER SCREWS

- [22] Check the squareness of the WASH RACK.

- (a) Place the entrance side of the WASH RACK on a smooth, flat surface.

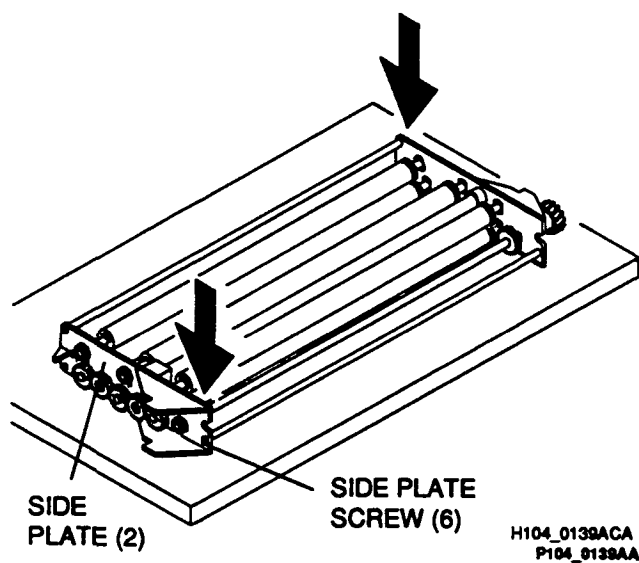
- (b) Check that the 2 SIDE PLATES are flat on the surface.

- (c) If necessary, adjust for squareness:

1. Loosen the 6 SIDE PLATE SCREWS.
2. Apply pressure to the SIDE PLATES.
3. Check for squareness.
4. Tighten the 6 SIDE PLATE SCREWS.

- [23] Return the WASH RACK slowly and carefully into position in the PROCESSOR.

- [24] Connect the WATER DISCONNECT.



Checking the Squareness of the WASH RACK

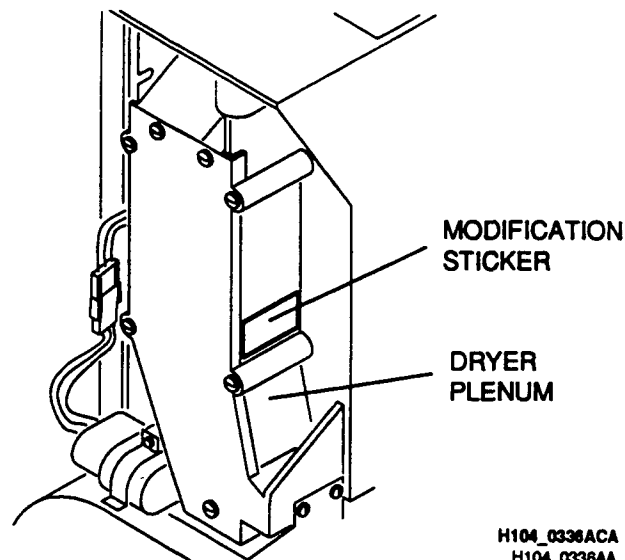
[25] Install:

- FIXER/WASH CROSSOVER
- YOKE
- EVAPORATION COVER
- WET SECTION COVER

[26] On the **270 RA PROCESSOR**, circle the "14" on the MODIFICATION STICKER. Install the EXIT PANEL and the NON-DRIVE SIDE PANEL.

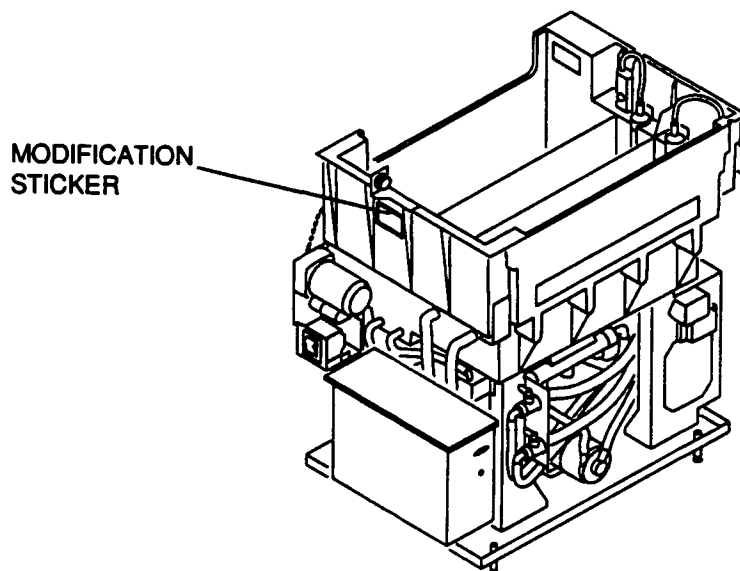
On the **180 LP PROCESSOR**, circle the "1" on the MODIFICATION STICKER. Install the DRIVE SIDE PANEL and the NON-DRIVE SIDE PANEL.

[27] Restore the PROCESSOR to correct operating condition.



H104_0336ACA
H104_0336AA

MODIFICATION STICKER
on the 270 RA PROCESSOR, Modification No. 14



H127_0159BCA
H127_0159BA

MODIFICATION STICKER
on the 180 LP PROCESSOR, Modification No. 1

3059mi_e.txt

Kodak and X-Omat are trademarks.

Printed in USA

EASTMAN KODAK COMPANY • ROCHESTER, N.Y. 14650

Health Sciences Division

