



**MODIFICATION INSTRUCTIONS**  
**for the**  
***Kodak X-Omat* MULTILOADER 300**  
**Service Code: 3058**  
**Modification No. 25,**  
***Kodak X-Omat* 270 RA PROCESSOR**  
**Service Code: 3059**  
**Modification No. 17,**  
***Kodak X-Omat* 180 LP PROCESSOR**  
**Service Code: 3227**  
**Modification No. 4**  
**Type 1 Selective**

**Purpose:** To reduce maintenance requirements of the WASH RACK.

**IMPORTANT**

Use qualified personnel to install this modification.

<b>Service Effects:</b>	None
<b>Special Requirements:</b>	None
<b>Serial Numbers:</b>	S/N 101 - 846 for the 180 LP PROCESSOR S/N S101 - S1650 for the 270 RA PROCESSOR S/N M101 - M803 for the MULTILOADER 300
<b>Installation Time:</b>	Approximately 1 hour
<b>Special Tools:</b>	ELECTRIC DRILL TL-1466, 7/16 in. DRILL BIT, 1/8 in. DRILL BIT, 11/64 in. DRILL BIT, and THICKNESS GAUGE TL-3134
<b>Parts Status:</b>	Available through Service Parts Management
<b>Parts Requirements:</b>	None

**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**

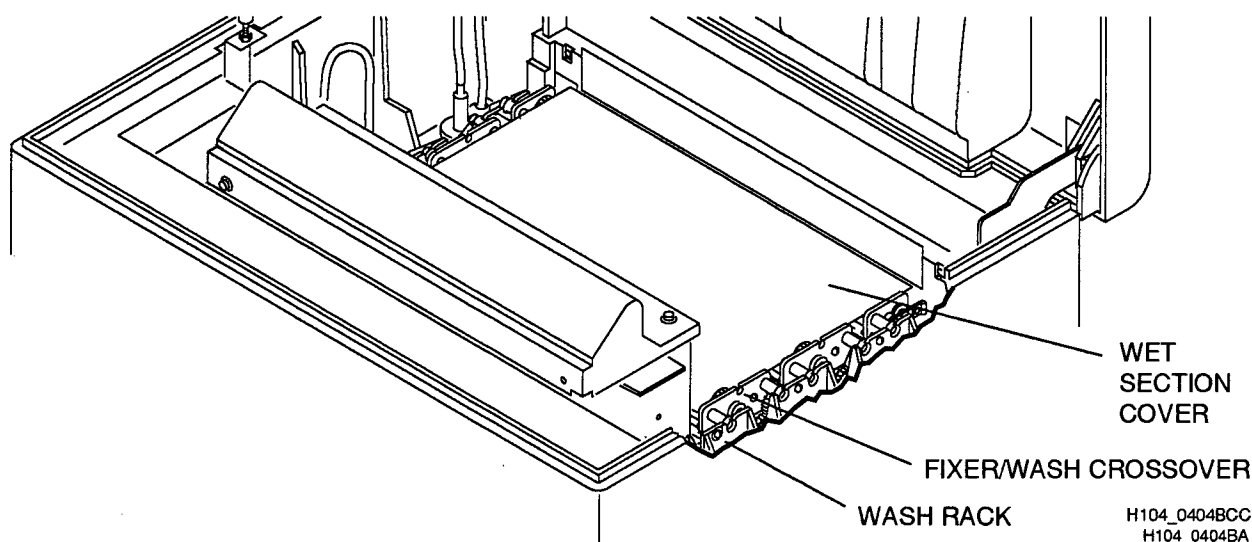


This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

**Parts List: Modification Kit, 1C4963, includes:**

Part No.	Description	Quantity
1C4391	WATER MANIFOLD	1
1C0998	TUBING BRACKET	1
1C4385	YOKE HOSE	1
1C4398	TUBING ASSEMBLY	1
1C4383	YOKE SUPPLY TUBE	1
182590	WIRE TIE	2
1C4968	DOLE VALVE	1
852807	SCREW	2
651107	E-RING	2
852522	SCREW	4
458219	TIE ROD	1
539180	STAR WASHER	1
1C7399	YOKE	1
1C7642	TUBING ASSEMBLY COVER	1
1C7643	FASTENER	3

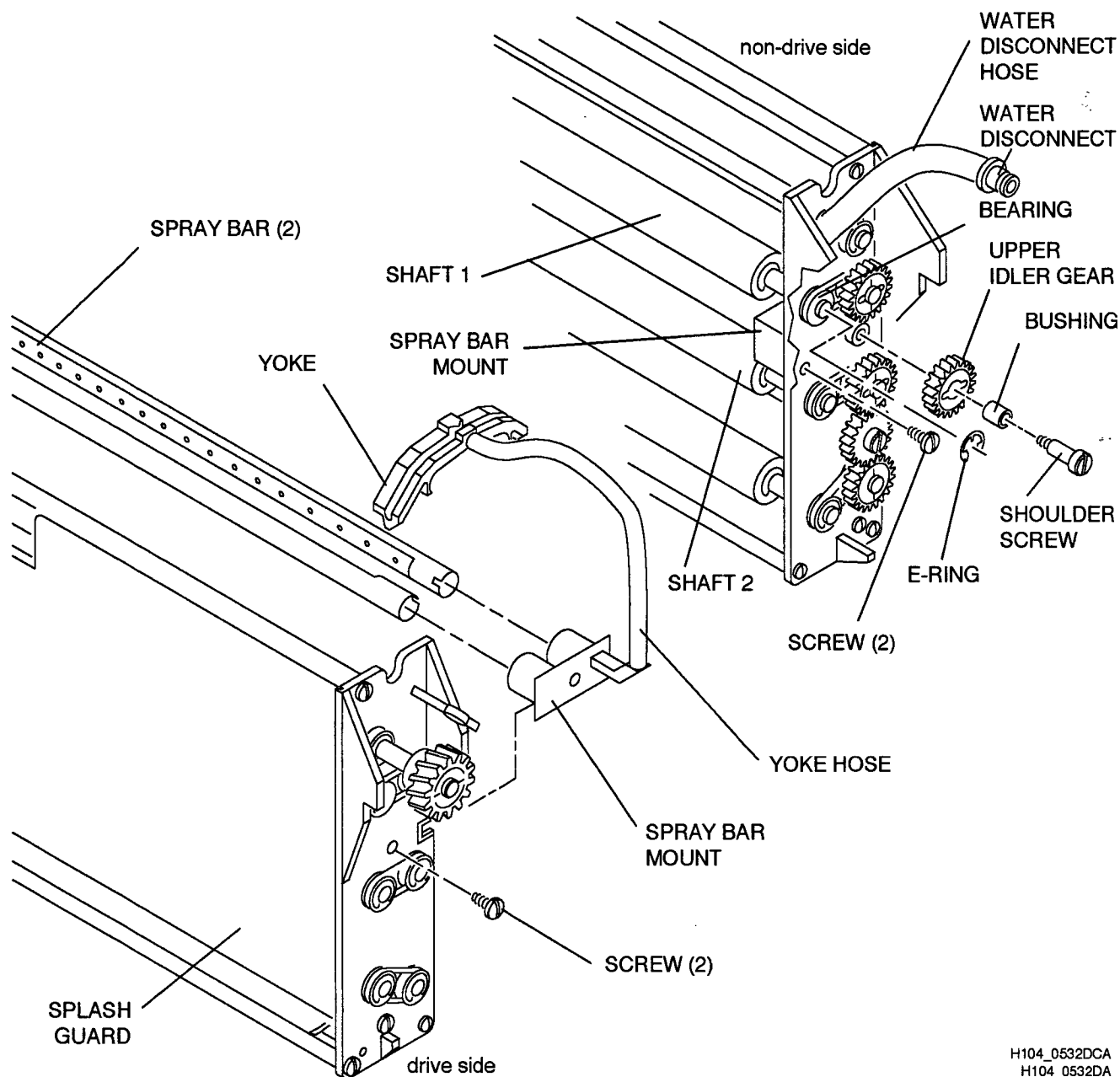
- [1] Move the main wall CIRCUIT BREAKER to "OFF" and the main CIRCUIT BREAKER for the PROCESSOR to the "O" position.
- [2] Turn off the water supply to the PROCESSOR.
- [3] For access to the processing section, lift the TOP COVER or extend the PROCESSOR.
- [4] From the PROCESSOR, remove:
  - WET SECTION COVER
  - EVAPORATION COVER
  - FIXER/WASH CROSSOVER
  - WASH RACK



**Figure 1 Identifying Parts on a 270 RA PROCESSOR**

- [5] From the WASH RACK, remove the parts listed below. See Figure 2.
  - SPLASH GUARD and discard
  - SHOULDER SCREW
  - BUSHING
  - UPPER IDLER GEAR
- [6] Remove and discard the 2 SCREWS that secure the SPRAY BAR MOUNT on the drive side of the WASH RACK.
- [7] Remove and discard the following parts from the WASH RACK by sliding them out of the drive side SIDEPLATE:
  - SPRAY BAR MOUNT
  - SPRAY BARS - pull and rotate to remove
  - YOKE HOSE and YOKE

- [8] For easier removal of the WATER DISCONNECT HOSE, cut the HOSE close to the DISCONNECT on the non-drive side of the WASH RACK.
- [9] Remove and discard the WATER DISCONNECT HOSE and the WATER DISCONNECT.



**Figure 2 Identifying Parts on the WASH RACK**

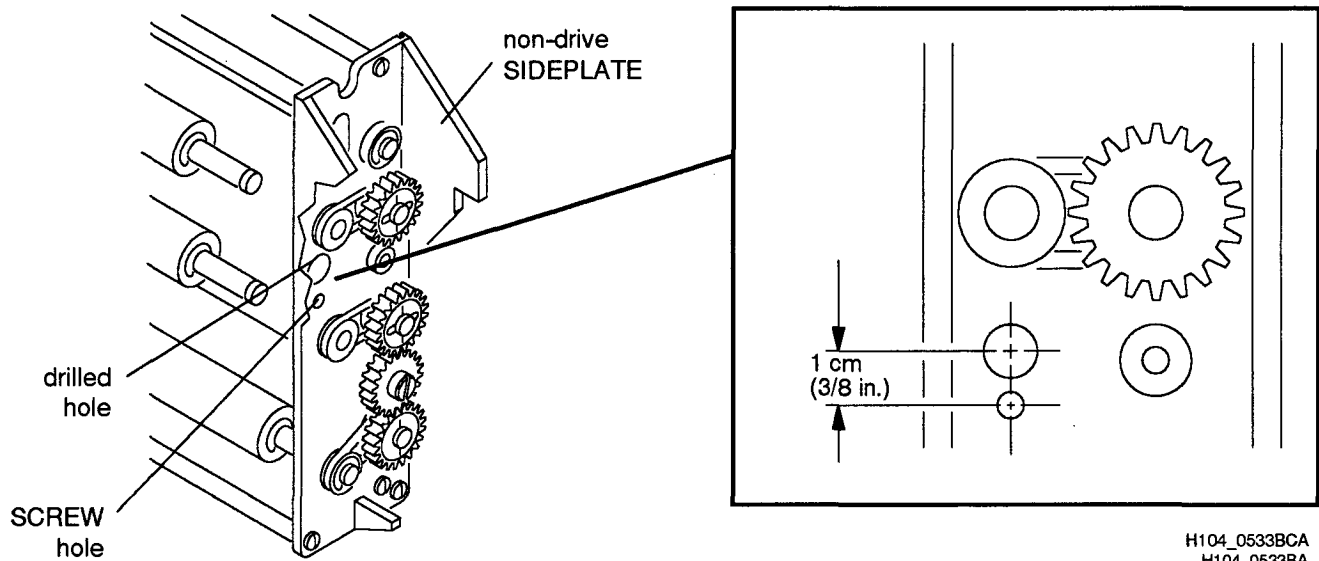
- [10] Remove and discard the 2 SCREWS that secure the SPRAY BAR MOUNT on the non-drive side of the WASH RACK.
- [11] Remove and discard the E-RING from the non-drive end of SHAFT 1. See the figure.

- [12] To remove the SPRAY BAR MOUNT from the non-drive side of the PROCESSOR, push SHAFT 1 toward the drive side of the WASH RACK until the SHAFT passes through the BEARING.

**NOTE**

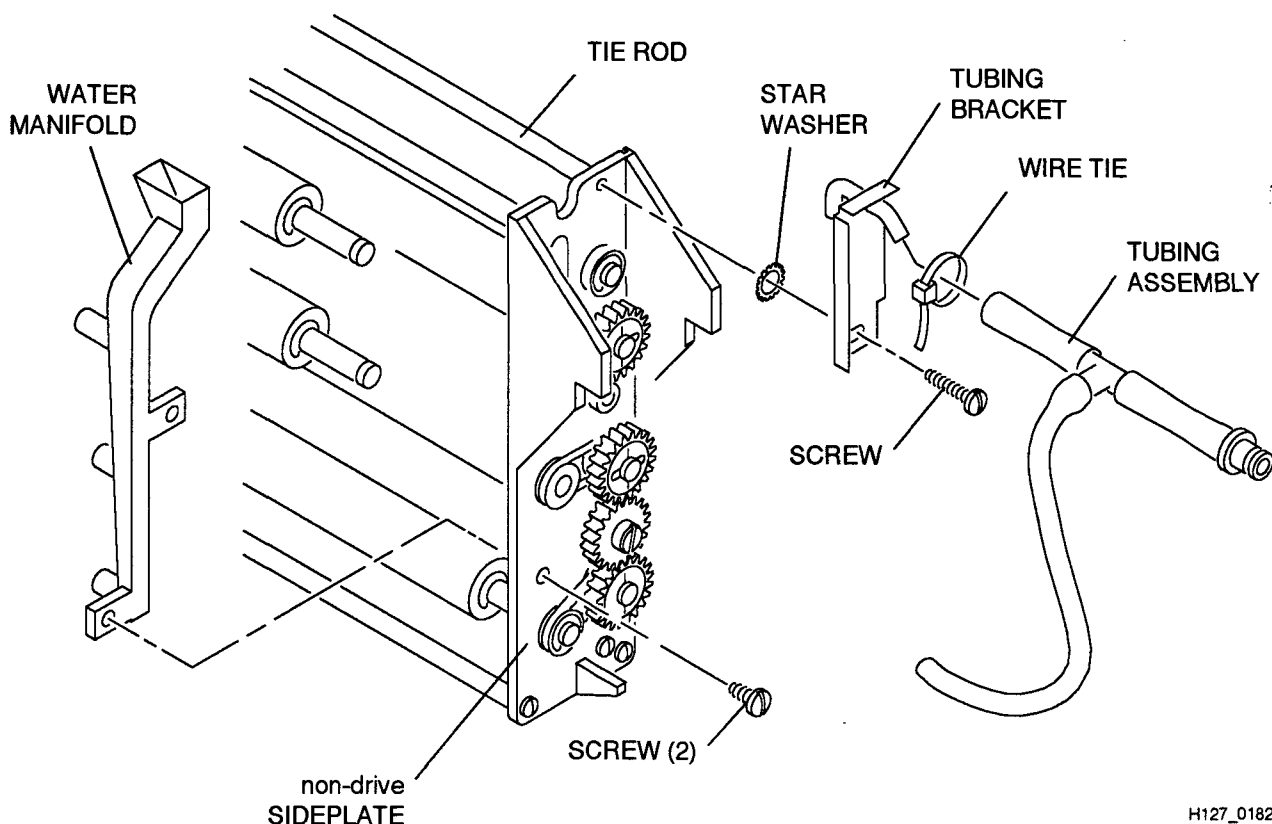
On some PROCESSORS, the SHAFT may not easily slide out of the ROLLER. If you cannot slide the SHAFT through the SIDEPLATE, you will need to remove the non-drive side SIDEPLATE from the WASH RACK

- [13] Remove and discard the SPRAY BAR MOUNT and remaining WATER DISCONNECT HOSE from the non-drive side of the WASH RACK.
- [14] Remove and discard the E-RING from the non-drive side of SHAFT 2.
- [15] Push SHAFT 2 toward the drive side of the WASH RACK until the SHAFT passes through the BEARING.
- [16] Drill a 8 mm (7/16 in.) hole in the non-drive SIDEPLATE 1 cm (3/8 in.)  $\pm$  1 mm (1/16 in.) above the existing SCREW hole for the SPRAY BAR MOUNT. See the figure.
- (a) Use a CENTER PUNCH to mark the hole.
  - (b) Use a DRILL BIT less than 8 mm (7/16) in. to begin the hole.
  - (c) Use a 8 mm (7/16 in.) DRILL BIT to finish the hole.



**Figure 3 Drilling the Hole for the WATER MANIFOLD**

- [17] Install the WATER MANIFOLD onto the non-drive side of the RACK using the 2 new SCREWS provided.



H127\_0182HCA  
H127\_0182HA

**Figure 4 Positioning and Installing the WATER MANIFOLD and the TUBING BRACKET**

- [18] Install SHAFT 1 and SHAFT 2 into the non-drive side SIDEPLATE. If it was necessary for you to remove the SIDEPLATE, install the SHAFTS and install the SIDEPLATE.
- (a) Check that the BEARINGS and the SPRINGS are positioned correctly.
  - (b) Check that the GEARS on the ROLLERS mesh correctly.
- [19] Install the new 2 E-RINGS provided onto the 2 SHAFTS.
- [20] Remove and discard the SCREW securing the TIE ROD on the non-drive side of the WASH RACK.

#### **IMPORTANT**

See the figure for the correct location of the STAR WASHER.

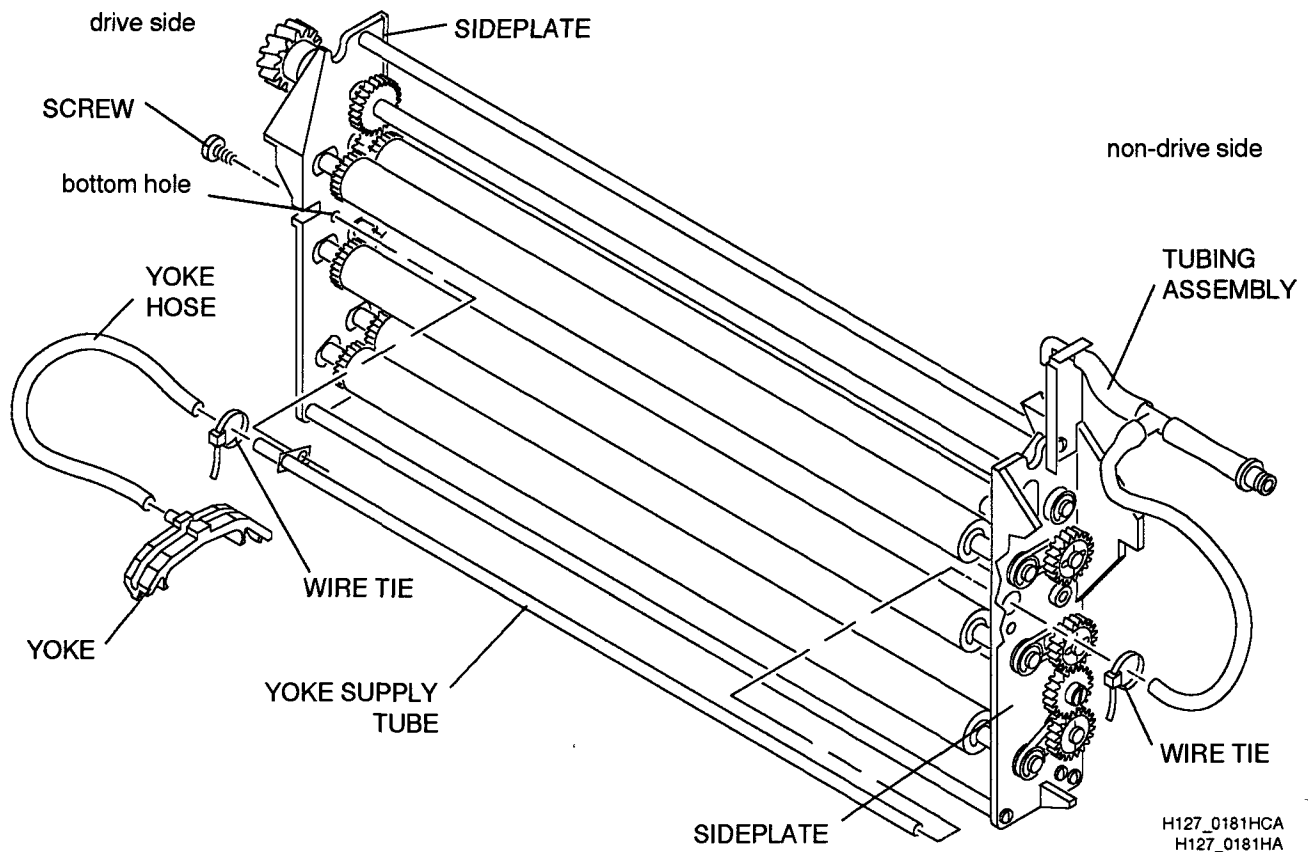
- [21] Using the new SCREW and STAR WASHER provided, install the TUBING BRACKET. See the figure for the correct location and orientation of the TUBING BRACKET.
- [22] Connect the TUBING ASSEMBLY to the TUBING BRACKET. Secure the TUBING ASSEMBLY with a WIRE TIE.

- [23] Install the metal YOKE SUPPLY TUBE through the hole drilled in the non-drive side SIDEPLATE.

**NOTE**

There are 2 holes in the drive side SIDEPLATE. Be certain to use the **bottom** hole when installing the YOKE SUPPLY.

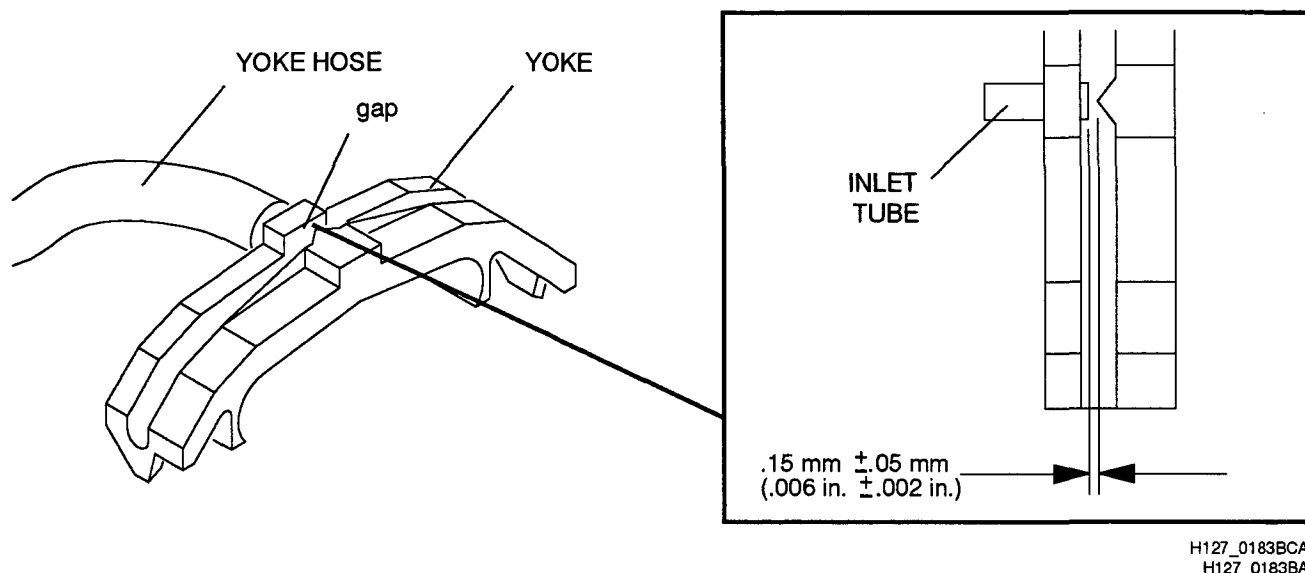
- [24] Position the other end of the metal YOKE SUPPLY TUBE in the drive side SIDEPLATE. Secure the YOKE SUPPLY TUBE to the bottom hole in the drive side SIDEPLATE with the new SCREW provided.
- [25] Install the new YOKE HOSE provided onto the drive side end of the metal YOKE SUPPLY TUBE. Secure the YOKE HOSE to the metal YOKE SUPPLY TUBE with a WIRE TIE.



**Figure 5 Positioning the Metal YOKE SUPPLY TUBE**

**[26]** Use THICKNESS GAUGE TL-3134 to measure the gap in the YOKE. See the figure.

- (a)** If the gap is not  $.15 \text{ mm} \pm .05 \text{ mm}$  ( $.006 \text{ in.} \pm .002 \text{ in.}$ ), adjust the position of the INLET TUBE as necessary.



**Figure 6 Measuring the Gap in the YOKE**

**[27]** Install the other end of the YOKE HOSE onto the new YOKE provided.

**[28]** Connect the TUBING ASSEMBLY to the non-drive side of the metal YOKE SUPPLY TUBE. Secure the TUBING ASSEMBLY with a WIRE TIE.

**[29]** Install into the WASH RACK the following parts that you removed in Step 5:

- SHOULDER SCREW
- BUSHING
- UPPER IDLER GEAR

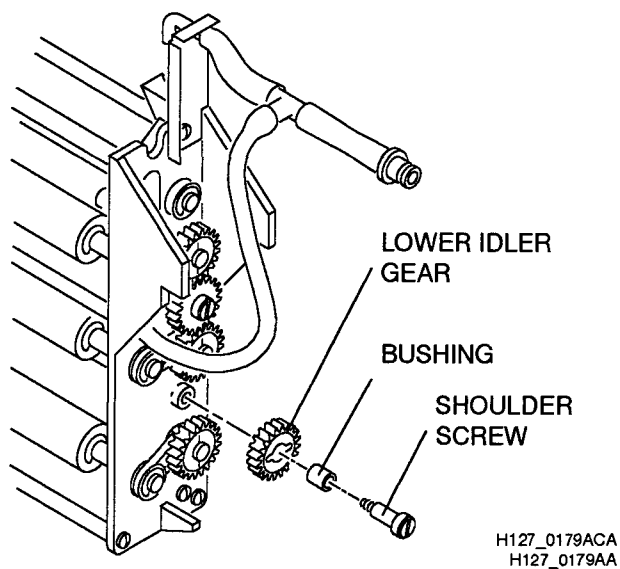


- [30]** Drill a 4.4 mm (11/64 in.) hole in the drive side SIDEPLATE as indicated in the figure. The tolerance for the position of the hole is  $\pm 2$  mm (1/16 in.).

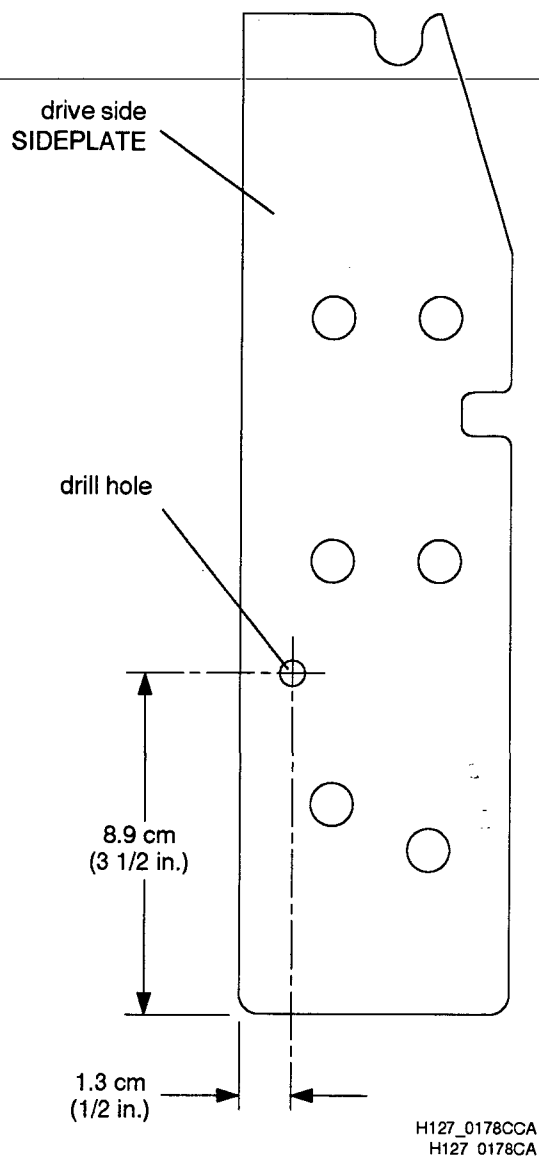
- (a) Use a CENTER PUNCH to mark the hole.
- (b) Use a DRILL BIT less than 4.4 mm (11/64 in.) in diameter to begin the hole.
- (c) Use a DRILL BIT 4.4 mm (11/64 in.) in diameter to finish the hole.

- [31]** Remove:

- SHOULDER SCREW
- BUSHING
- LOWER IDLER GEAR



**Figure 7 Removing the SCREW, BUSHING, and GEAR**



**Figure 8 Drilling the Hole in the Drive Side SIDEPLATE**

[32] Install the TIE ROD using the new 2 SCREWS provided.

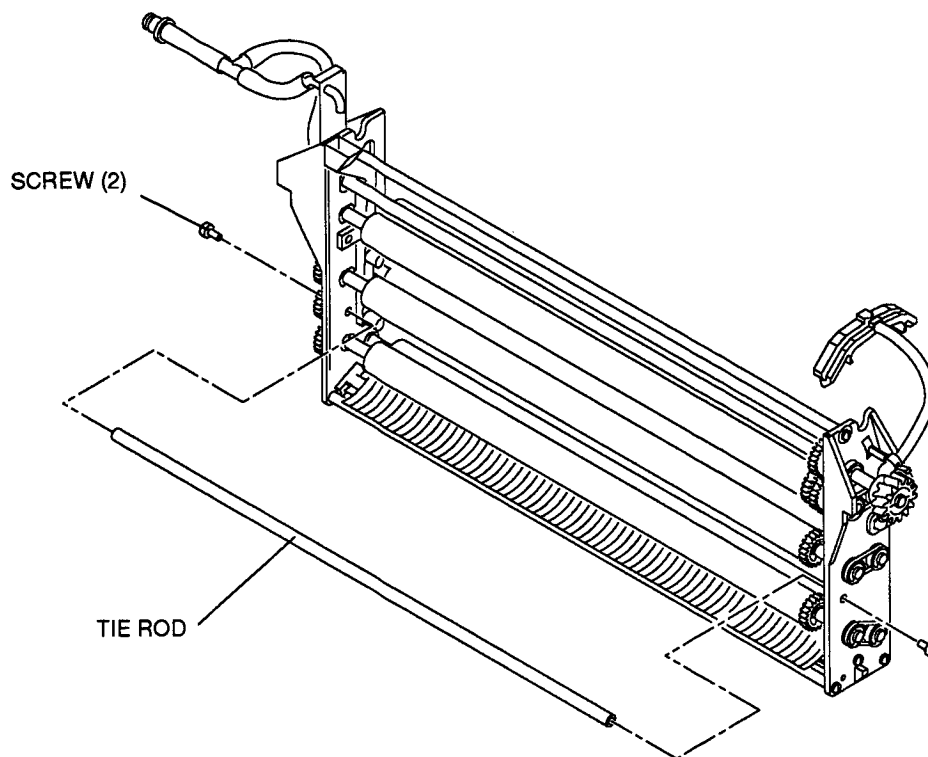


Figure 9 Installing the TIE ROD

[33] Install the following parts in the PROCESSOR:

- WASH RACK
- FIXER/WASH CROSSOVER
- EVAPORATION COVER

[34] Using TIN SNIPS or a HACK SAW, cut the WET SECTION COVER as shown in the figure.

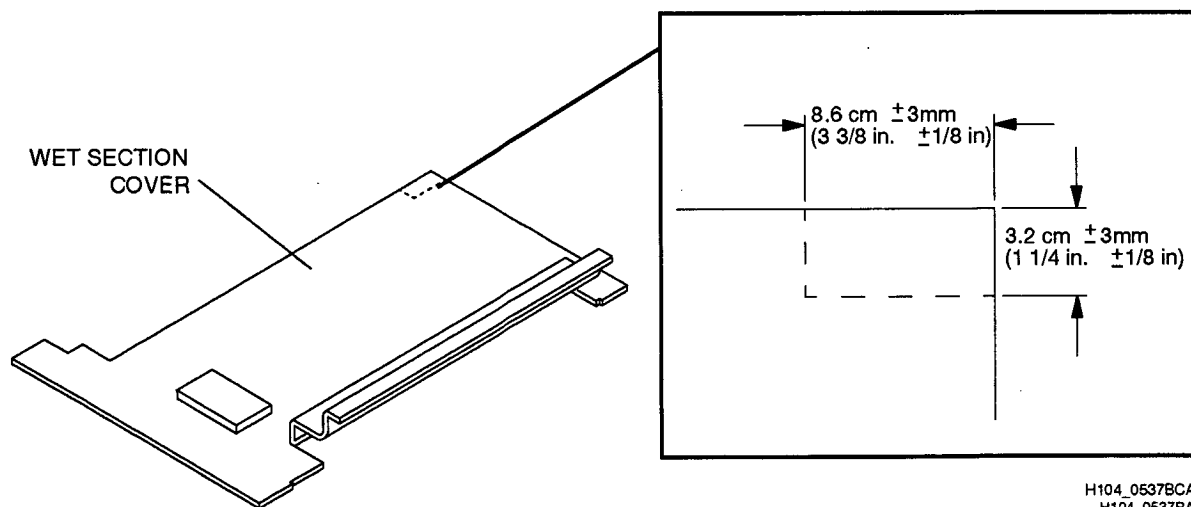
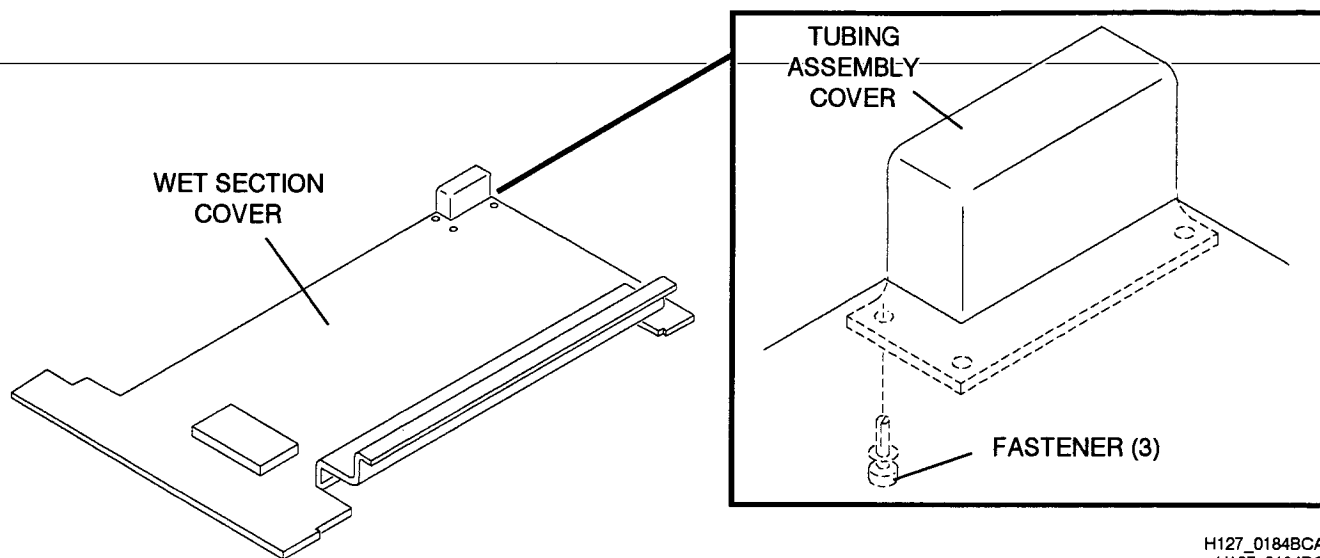


Figure 10 Cutting the WET SECTION COVER

**[35]** Align the TUBING ASSEMBLY COVER with the WET SECTION COVER as shown.

**(a)** Check that the LIP of the TUBING ASSEMBLY COVER is under the WET SECTION COVER.



H127\_0184BCA  
H127\_0184BC

**Figure 11 Installing the TUBING ASSEMBLY COVER**

**[36]** Using the TUBING ASSEMBLY COVER as a template, drill 3 holes that are 3.2 mm ( $\frac{1}{8}$  in.) in diameter in the WET SECTION COVER.

**(a)** Use a CENTER PUNCH to mark the holes.

**(b)** Use a DRILL BIT less than 3.2 mm ( $\frac{1}{8}$  in.) to begin the holes.

**(c)** Use a 3.2 mm ( $\frac{1}{8}$  in.) DRILL BIT to finish the holes.

**[37]** Using the 3 FASTENERS provided, install the TUBING ASSEMBLY COVER to the WET SECTION COVER.

**(a)** Install the FASTENERS up through the bottom of the WET SECTION COVER.

## IMPORTANT

Because the new WASH RACK requires less water flow, you need to install the new 3/4 gallon/min DOLE VALVE provided. The old and new DOLE VALVES are not interchangeable. Do not use the old 1 gallon/min DOLE VALVE in a newly modified WASH RACK.

[38] To gain access to the existing DOLE VALVE, do the appropriate steps below:

- (a) For a MULTILOADER 300, remove the non-drive side SAFETY COVER.
- (b) For a 270 RA PROCESSOR, remove the non-drive side ACCESS PANEL.
- (c) For a 180 LP PROCESSOR, remove the drive side ACCESS PANEL and swing out the ELECTRICAL BOX.

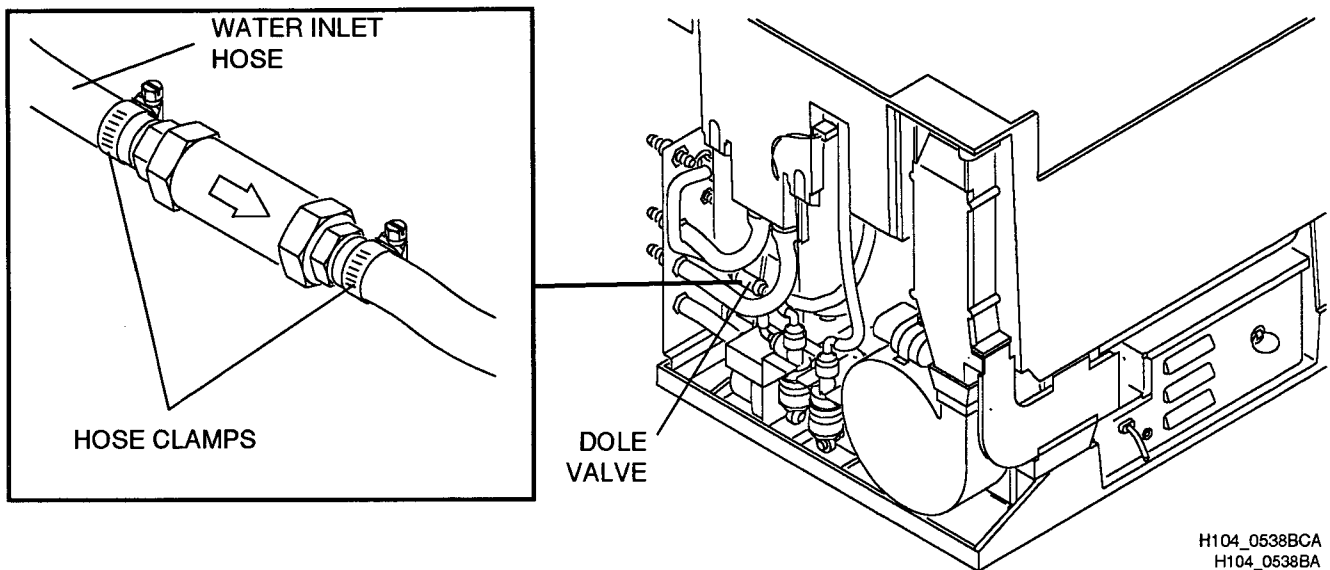


Figure 12 Identifying Parts on the 270 RA PROCESSOR or MULTILOADER 300

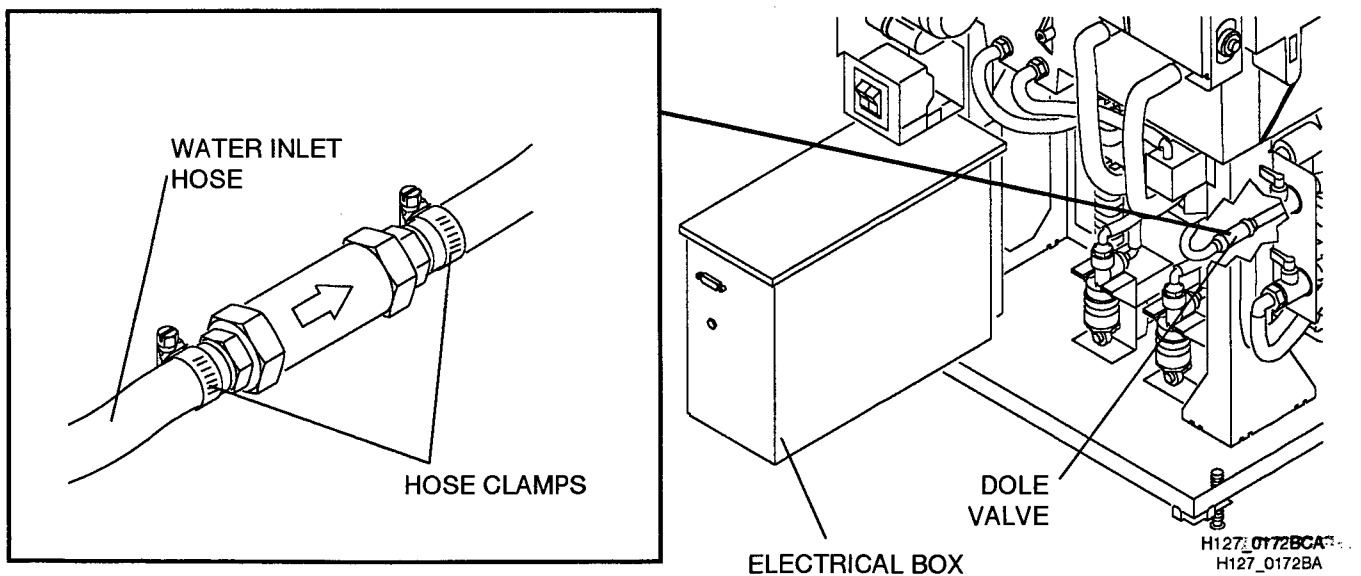


Figure 13 Identifying Parts on the 180 LP PROCESSOR

**[39]** From the WATER INLET HOSE, remove:

- 2 HOSE CLAMPS
- DOLE VALVE

**IMPORTANT**

Orient the VALVE so that the arrow points in the direction of the water flow.

**[40]** Install the DOLE VALVE.

**[41]** Install the ACCESS PANEL.

**[42]** Check for correct operation of the PROCESSOR.

**[43]** Check that the water flows out of the TUBING BRACKET into the middle of the WATER MANIFOLD.  
If necessary, bend the TUBING BRACKET.

**[44]** Circle the appropriate number on the MODIFICATION STICKER.

**[45]** Install all COVERS and ACCESS PANELS.

**Table 1 Publication Change Notice Table**

Print Date	Pub. No.	ECO No.	Affected Pages	File Name	Notes
June 1994	1C7063	2592-279	Not Applicable	3059mi_i.txt	

3059mi\_i.txt

*Kodak and X-Omat are trademarks.*

Printed in USA

EASTMAN KODAK COMPANY • ROCHESTER, N.Y. 14650

Health Sciences Division

