



SERVICE BULLETIN

KODAK X-OMAT Processor

Eastman Kodak Company, Health Imaging, Imaging Service Center, Rochester, New York 14650

SERVICE BULLETIN NO. 205

October 1994

Recommendations for All KODAK X-OMAT Processors

Retain Developer During Mammography Processor Preventive Maintenance

This recommendation is only for the Eastman Kodak Company, Health Imaging, Mammography Radiographic System which includes the processors, chemicals, cassettes, screens, and films.

Drain, clean, and refill the developer and fixer tanks monthly or as experience indicates. Specific site conditions may dictate more or less frequent cleaning. Follow the maintenance instructions in the Operator Manuals and Service Manuals. Be sure to follow all environmental regulations if the solutions are being disposed of.

Mammography customers are required, by the American College of Radiology (ACR), to maintain the processor they use for mammography film within certain limits for speed, contrast, and base + fog. The ACR maximum limits for speed and contrast are ± 0.15 Optical Density (OD). The ACR preferred limits however, are ± 0.10 (OD). The limit for base + fog is + 0.03 (OD). In facilities using a Kodak system and adequate replenishment rates¹, the maximum limits for speed Mid-Density (MD) should *rarely exceed* the ± 0.15 (OD) limits. It is normal for MD values between ± 0.10 (OD) and ± 0.15 (OD) to occur after a PM.

PROCESSOR QUALITY CONTROL (QC) RULES, UNDER THE MAMMOGRAPHY QUALITY STANDARDS ACT (MQSA) AND THE ACR MAMMOGRAPHY ACCREDITATION PROGRAM, PROHIBIT A FACILITY WHERE THE ± 0.15 (OD) LIMITS FOR MID-DENSITY (MD) AND/OR DENSITY DIFFERENCE (DD) ARE REACHED OR EXCEEDED FROM PROCESSING ANY MAMMOGRAPHY FILMS UNTIL THE PROCESSOR IS ADJUSTED TO PERFORM ACCORDING TO ACR REQUIREMENTS.

Mammography facilities should strictly adhere to this requirement. Merely documenting that the MD value reached or exceeded ± 0.15 (OD) because a PM occurred *is not acceptable*. Documentation must also reflect that the PM resulted in performance adjustments that satisfy the ACR's standards.

Various actions may be taken, by both the personnel in the facility and by the dealer service personnel, to maintain the processor more consistently within the preferred MD operating limits of ± 0.10 (OD). It is possible however, for MD values between ± 0.10 (OD) and ± 0.15 (OD) to occur after a PM. The previously mentioned actions include, but are not limited to:

1. Verifying the sensitometric results by creating and processing a second sensitometric strip.
2. Checking the temperature of the developer.
3. Checking the replenishment rates and adjusting, if necessary. ^
4. Retaining, for the purpose of reuse, rather than discarding the seasoned developer with each PM.

Procedure for Retaining the Developer During a Mammography Processor PM

If the processor sensitometry is within ACR QC parameters when the processor is scheduled for a routine PM, it is not necessary to “dump” the developer. The seasoned developer may be captured and reused. After the PM has been completed, return the developer to the developer tank in the processor. This procedure may be utilized indefinitely on processors with separate developer and fixer drains², as long as the processor remains within the ACR QC parameters and contamination of the developer does not occur. (If contamination occurs, follow all recommendations found in the processor service manual associated with a normal PM, including changing the developer filter, flushing the lines, and using fresh chemicals and developer starter.)

To reuse developer after a processor PM:

1. Run a processor quality control strip. Plot the results.
2. In processors with separate developer and fixer drains², carefully drain the developer from the processor tank into a clean receptacle. If an open receptacle is used, it should have a floating lid to prevent oxidation. Drain the fixer, according to your usual procedure.
3. Carefully remove the developer and fixer racks **avoiding** intermixing of solutions.
4. After the processor and racks are thoroughly cleaned, change the developer filter.
5. Pour or pump fresh fixer solution into the fixer tank of the processor. Make sure no fixer is splashed into the developer tank. **The use of the splash guard is recommended.**
6. Pour or pump the “captured developer” solution into the processor developer tank.
7. **DO NOT ADD ANY STARTER.**
8. Replace the developer and fixer racks.
9. Run another process control strip to make sure you are still “in control”
10. Verify that the control strip run after the captured developer was returned to the developer tank of the processor is within ± 0.05 of the strip run prior to the PM and that the processor is within the established control limits.
11. If the strips “match”, the processor is ready to resume operation.
12. If the strips do not match, drain the developer solution, clean the rack and tank, and refill as you would after a normal PM.

Note

¹Explanation of Film Usage by Volume for Mammography

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Usage (per 8 hours)	Dedicated*	Mixed**
Low Volume	less than 60 films***	less than 40 films ***
Medium Volume	60 to 150 films	40 to 115 films
High Volume	above 150 films	above 115 films

* Volumes are for 18 x 24 cm mammography film or the equivalent

** Volumes are for intermixed sizes and types of radiographic films.

*** Flooded replenishment may be required if QC results do not meet requirements or are inconsistent.

See Service Bulletin No. 30 for recommended replenishment rates.

Note

² Common vs Separate developer and fixer drains. There are two (2) options in processors with a drain common to the developer and fixer tanks.

Option 1. The seasoned developer may be left in the developer tank during the PM. Complete a normal PM on the processor at intervals of no greater than three (3) months.

- Replace Steps 2 and 3 on page 2 with this procedure:
 - Drain the fixer, according to your usual procedure.
 - Use a splash guard and **EXTREME CAUTION** when removing the fixer rack to avoid contamination caused by intermixing of solutions.
 - Carefully remove the developer rack from the processor developer tank, leaving the seasoned developer solution in the tank.
 - Clean the racks and all parts of the processor, except the processor developer tank.

Option 2. In processors with common developer and fixer drains, carefully **pump** the developer from the processor tank into a clean receptacle. (A decanter can be used to carefully dip the developer out of the processor tank to transfer it to the clean receptacle.) If an open receptacle is used, it should have floating lid to prevent oxidation. Drain the fixer, according to your usual procedure.

^Changing replenishment rates may require the recalculation of new QC baselines.

For More Information:

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