

Operator's Manual Part No. 2E8257

KODAK PROSTAR
Archive Processor 220-240 V

KODAK PROSTAR
Archive Processor 120 V

Before using the KODAK PROSTAR Archive Processor 220-240 V or the KODAK PROSTAR Archive Processor 120 V, review all of the health and safety information contained in the Material Safety Data Sheet(s) (MSDS) for the chemical product(s) used with this processor.

MSDS(s) for Kodak products may be obtained by calling the Kodak Information Center at 1-800-242-2424 or by downloading them from the Internet at www.kodak.com.



To avoid hazardous conditions, keep floors and floor coverings around your Archive Processor and associated drains clean and dry at all times. Any accumulation of fluids from the mixing tank, drain lines, etc., should be cleaned up immediately. In the event of an accumulation of liquid due to backup, overflow, or other malfunction of the drain associated with your Archive Processor, call a plumber or other contractor to correct any problem with the drain.

Eastman Kodak Company accepts no responsibility or liability whatsoever for the serviceability of any drain connected to or associated with an Archive Processor. Such drains are the sole responsibility of the customer. Drains must be made of chemically resistant, non-corrosive material.

For safe operation, please observe the following safety warning label.



CAUTION: MOVING PARTS, AVOID CONTACT.

Follow all local regulations for the disposal of chemicals and cleaning supplies used during the operation, maintenance, or service of the Archive Processor.

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.

Contents

Introduction	1
Specifications.....	2
Archive Processor Overview.....	4
Front	4
Rear	5
Start-up Procedures.....	6
Daily Start-up	6
Uncovering the Processing Section	6
Filling the Fixer Tanks	7
Filling the Developer Tank.....	8
Installing the Processing Racks	9
Installing the Dryer Rack.....	9
Adjusting the Inlet Water Temperature	10
Adjusting the Developer Temperature Control.....	11
Reading the Developer Temperature	11
Changing the Developer Temperature Control Setpoint Value	12
Checking the Dryer Temperature	13
Adjusting the Dryer Temperature	13
Checking the Film Transport	14
Operating the Archive Processor.....	15
Attaching Film to a Take-up Reel	15
Using a Trailer Holder	15
Looping the Film	16
When to Start Processing	17
Single-Strand Processing.....	17
Dual-Strand Processing	21
Long-Length Processing.....	26
Beginning Long-Length Processing	26
Procedure 1	28
Procedure 2 (A).....	31
Procedure 2 (B).....	34

Replenishing the Archive Processor	37
Replenishment Tables.....	37
Mixed Film Sizes.....	37
Changing Chemicals during Processing.....	37
Replenishment Unit.....	39
Maintenance	40
Cleaning the Archive Processor (Daily)	40
Cleaning the Archive Processor (Periodic Cleaning)	42
Cleaning the Developer Racks and Tank	42
Cleaning the Fixer Racks, Wash Racks, and Fixer Tanks	43
Changing the Air Filter	44
Troubleshooting.....	45
Clearing a Film Jam	45
Troubleshooting Chart.....	46
Accessories and Supplies	48
Electromagnetic Compliance Statements	50
New Equipment Warranty.....	51

Introduction

The KODAK PROSTAR Archive Processor 220-240 V and the KODAK PROSTAR Archive Processor 120 V are room-light-loading processors that process 16 mm and 35 mm silver halide microfilms with KODAK PROSTAR Chemicals (or equivalent). The Archive Processors are self-threading, tabletop units with roller transport.

The Archive Processors feature an energy conservation package that automatically turns off the film transport, rinse water, and film drying system after processing is complete.



**KODAK PROSTAR Archive Processor with
the optional Long-Length/dual-strand kit**

Specifications

	Archive Processor 220-240 V	Archive Processor 120 V
Power Requirements	220 to 240 VAC, 50 Hz, single phase, 7.5 amp Two-prong electrical plug with ground connection	120 VAC, 50 Hz, single phase, 12 amp 120 VAC, 60 Hz, single phase, 12 amp Three-prong electrical plug with ground connection
Dimensions and Weight	Height: 91 cm (36 in.) with the cover open Length: 76 cm (30 in.) with reel on take-up spindle Depth: 56 cm (22 in.) with the cover open Weight: 45.4 kg (100 lb) empty 56.7 kg (125 lb) with chemicals, water, and processing racks Support: Table or stand between 53 and 68 cm (21 and 27 in.) high	Height: 91 cm (36 in.) with the cover open Length: 99 cm (39 in.) without reel on take-up spindle 110 cm (43 in.) with large reel on take-up spindle Depth: 61 cm (24 in.) with the cover open Weight: 52.2 kg (115 lb) empty 63.5 kg (140 lb) with chemicals, water, and processing racks Support: Table or stand between 53 and 68 cm (21 and 27 in.) high
Operating Environment	Ambient Temperature: 18.5 to 30°C (65 to 86°F) Relative Humidity: 20 to 76%	Ambient Temperature: 18.5 to 30°C (65 to 86°F) Relative Humidity: 20 to 76%
Heat Emission	Maximum: 5100 BTU (5380 Kjoules) Standby: 350 BTU (366 Kjoules) Processing Film: 4100 BTU (4325 Kjoules)	Maximum: 4400 BTU (4536 Kjoules) Standby: 350 BTU (366 Kjoules) Processing Film: 3400 BTU (3587 Kjoules)
Noise Emission	Operator Position Standby Mode <ul style="list-style-type: none"> Sound Pressure Level (L_A): 51.2 dB(A) Operator Position Full System Operating Mode <ul style="list-style-type: none"> Sound Pressure Level (L_A): 59.3 dB(A) Instantaneous Peak Values ≥ 130 dB(C): None Sound Power Level (L_{WA}) <ul style="list-style-type: none"> Standby: 63.4 dB(A) Full System: 69.6 dB(A) 	Operator Position Standby Mode <ul style="list-style-type: none"> Sound Pressure Level (L_A): 51.2 dB(A) Operator Position Full System Operating Mode <ul style="list-style-type: none"> Sound Pressure Level (L_A): 59.3 dB(A) Instantaneous Peak Values ≥ 130 dB(C): None Sound Power Level (L_{WA}) <ul style="list-style-type: none"> Standby: 63.4 dB(A) Full System: 69.6 dB(A)

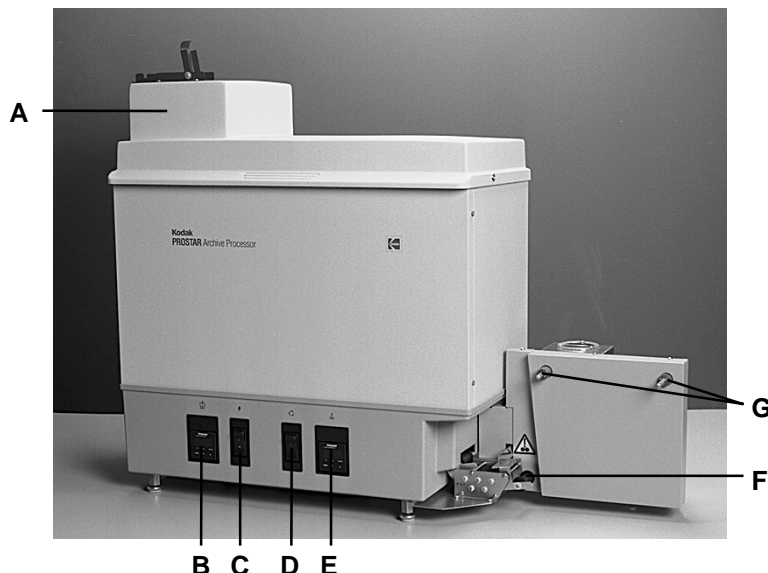
Specifications (continued)

	Archive Processor 220-240 V	Archive Processor 120 V
Water Supply	NOTE: An auxiliary hot water heater should be located within 6 m (20 ft) of the Archive Processor to provide consistent water temperature.	
	To Mixing Valve: <ul style="list-style-type: none"> Hot Water 46°C (114°F) minimum Cold Water 24°C (75°F) maximum Pressure 276 to 621 kPa (40 to 90 psi) 	To Mixing Valve: <ul style="list-style-type: none"> Hot Water 46°C (114°F) minimum Cold Water 24°C (75°F) maximum Pressure 276 to 621 kPa (40 to 90 psi)
	From Mixing Valve: <ul style="list-style-type: none"> Mixed Water 34.5 to 36.5°C (94 to 98°F) Pressure 207 kPa (30 psi) minimum 	From Mixing Valve: <ul style="list-style-type: none"> Mixed Water 34.5 to 36.5°C (94 to 98°F) Pressure 207 kPa (30 psi) minimum
	Drain: Minimum 22.7 L/min (6 gal/min) capacity floor drain or wall drain located a minimum of 20 cm (8 in.) lower than the Archive Processor to prevent wash water from backing up	Drain: Minimum 22.7 L/min (6 gal/min) capacity floor drain or wall drain located a minimum of 20 cm (8 in.) lower than the Archive Processor to prevent wash water from backing up
	Water Consumption: 1.9 L/min (0.5 gal/min) while processing	Water Consumption: 1.9 L/min (0.5 gal/min) while processing
Film Widths	16 mm or 35 mm single strand With the optional Long-Length/dual-strand kit: 16 mm dual strand in lengths up to 65.5 m (215 ft)	16 mm or 35 mm single strand 16 mm dual strand in lengths up to 65.5 m (215 ft)
Film Lengths and Thicknesses	30.5 m (100 ft) of 0.14 mm/5.2 mil-thick film 38.1 m (125 ft) of 0.11 mm/4.2 mil-thick film 65.5 m (215 ft) of 0.07 mm/2.7 mil-thick film 16 mm single strand long roll lengths with externally mounted magazines, cartridges, or cassettes: 381 m (1250 ft) of 0.14 mm/5.2 mil-thick film 732 m (2400 ft) of 0.07 mm/2.7 mil-thick film	30.5 m (100 ft) of 0.14 mm/5.2 mil-thick film 38.1 m (125 ft) of 0.11 mm/4.2 mil-thick film 65.5 m (215 ft) of 0.07 mm/2.7 mil-thick film 16 mm single strand long roll lengths with externally mounted magazines, cartridges, or cassettes: 381 m (1250 ft) of 0.14 mm/5.2 mil-thick film 732 m (2400 ft) of 0.07 mm/2.7 mil-thick film
Film Transport Speed	3 m/min. (10 ft/min)	3 m/min. (10 ft/min)
Film Processing Time	30.5 m (100 ft): 11 minutes 65.5 m (215 ft): 22.5 minutes 381 m (1250 ft): 125 minutes (2 hr., 5 min.) 732 m (2400 ft): 240 minutes (4 hr.)	30.5 m (100 ft): 11 minutes 65.5 m (215 ft): 22.5 minutes 381 m (1250 ft): 125 minutes (2 hr., 5 min.) 732 m (2400 ft): 240 minutes (4 hr.)
Process Duration	Approximately 55 seconds for the self-threader to exit from the Archive Processor	Approximately 55 seconds for the self-threader to exit from the Archive Processor
Film Loading	Room-light conditions (same as used for loading and unloading microfilmers)	Room-light conditions (same as used for loading and unloading microfilmers)

Archive Processor Overview

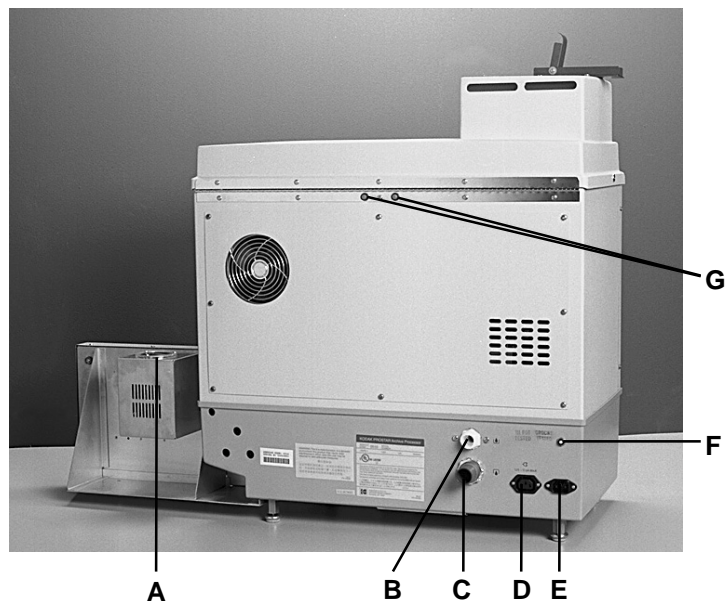
Shown throughout this manual is an Archive Processor equipped with the optional Long-Length/dual-strand kit.

Front



- A. Processing Section Cover—light-tight cover for the film processing section.
- B. Developer Temperature Control and Display—controls the developer temperature and displays a value relative to the water temperature surrounding the developer tank.
- C. Power Switch—turns the power on (I) and off (O).
- D. Mode Switch—the standby position (O) maintains the developer temperature. The run position (I) activates the film transport, rinse water, and film dryer blower.
- E. Film Dryer Temperature Control and Display—controls the dryer air temperature and displays the air temperature in the drying chamber.
- F. Tension Roller—loss of film tension after processing is complete causes the tension roller to be released, initiating a time delay prior to activating energy conservation mode. Once energy conservation is activated, the film transport, rinse water, and film dryer blower will all turn off.
- G. Take-Up Spindles—mechanisms that wind the processed film onto the take-up reel.

Rear



- A. Usage Meter—displays the total number of hours the film transport motors have been operating. You can use the usage meter to determine when to change the processing chemicals.
- B. Water Inlet—connection to thermostatic mixing valve.
- C. Water Outlet—connection to drain line.
- D. Accessory Receptacle—supplies power to the optional automatic Replenishment Unit accessory.
- E. Power Receptacle—connection for main power cord.
- F. Circuit Breaker—safety feature in case of electrical overload.
- G. Hose Input—connectors for the optional automatic Replenishment Unit accessory hoses.

Start-up Procedures

Daily Start-up

Follow these procedures when starting up the Archive Processor at the beginning of the day, assuming that the Archive Processor was properly shut down.

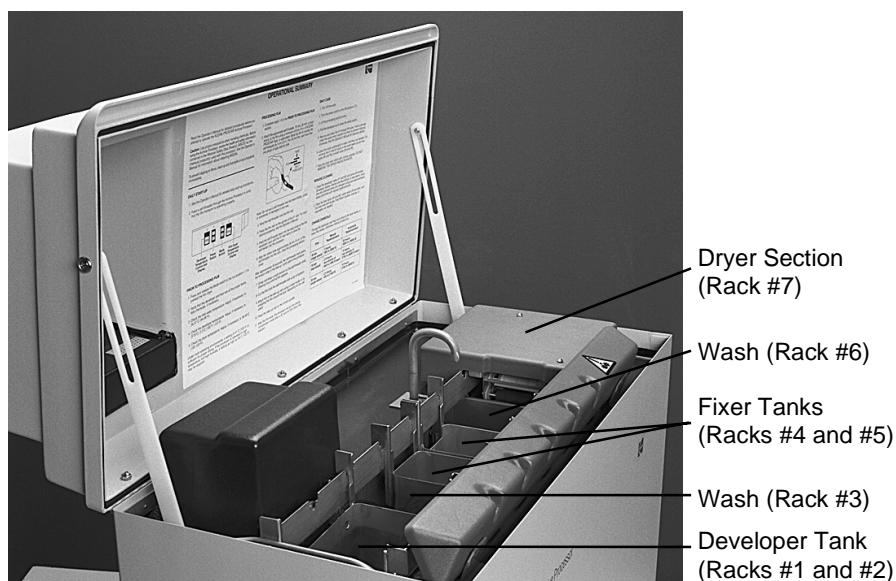
NOTE: The illustrations show an Archive Processor equipped with the optional Long-Length/dual-strand kit.

Uncovering the Processing Section

- Lift the processing section cover until it is in an upright position.



The inside of the Archive Processor is shown below without racks.



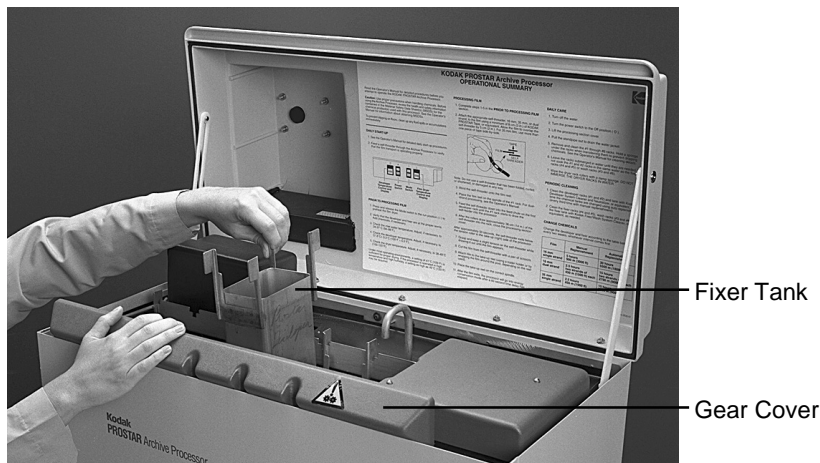
Filling the Fixer Tanks

If the Archive Processor is powered up, shut it off before you remove the fixer tanks or turn off the water. This reduces the possibility of water overflowing the water jacket later when you reinsert the tanks.

NOTE: Use proper precautions when using fixer. Review the MSDS for the fixer.

1. Pull the gear cover back and lift the fixer tanks out of the Archive Processor.

Each fixer tank is labeled with an **F**.



2. Fill the fixer tanks with KODAK PROSTAR Plus Fixer, or equivalent, until the level reaches the fill line (approximately $\frac{1}{4}$ gallon or 0.65 liters per tank).
3. Hold the gear cover back and **slowly** and **carefully** lower the fixer tanks into the fourth and fifth position in the Archive Processor.

NOTE: Make sure that the tanks are fully seated and level with the fill lines toward the rear of the Archive Processor.

Filling the Developer Tank

If the Archive Processor is powered up, shut it off before you remove the developer tank or turn off the water. This prevents water from overflowing the water jacket later when you reinsert the tank.

NOTE: Use proper precautions when using developer. Review the MSDS for the developer.

1. Pull the gear cover back and lift the developer tank out of the Archive Processor.

The developer tank is labeled with a **D**.



2. Fill the developer tank with KODAK PROSTAR Plus Developer, or equivalent, until the level reaches the fill line (approximately $\frac{1}{2}$ gallon or 1.3 liters).
3. Wrap the overflow tubing closely around the right side of the developer tank.
4. Hold the gear cover back and **slowly** and **carefully** lower the developer tank into the first position in the Archive Processor.

NOTE: Make sure that the tank is fully seated and level with the fill line toward the rear of the Archive Processor.

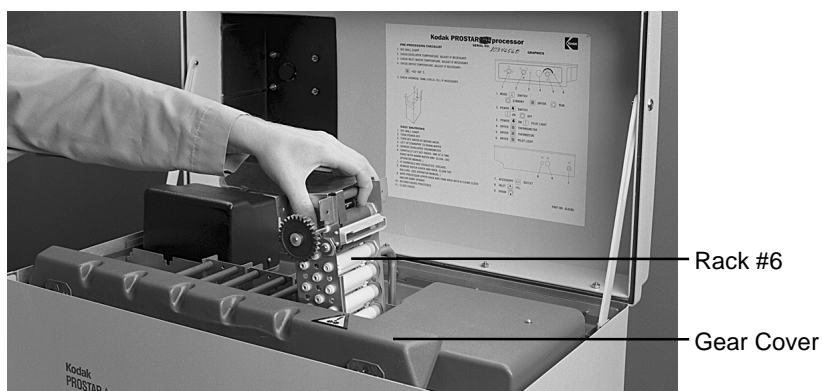
5. Fill the squeeze bottle with developer.

The squeeze bottle will be needed later to top off the developer tank between processing rolls of film.

Installing the Processing Racks

1. Make sure that the rollers of each rack turn freely when you rotate the drive gear.
2. Drain off any excess water if the racks were left submerged in water since the last time film was processed.
3. Hold the gear cover back and lower the processing racks into the processor (#6 rack first, then #5, #4, #3, #2, and #1).

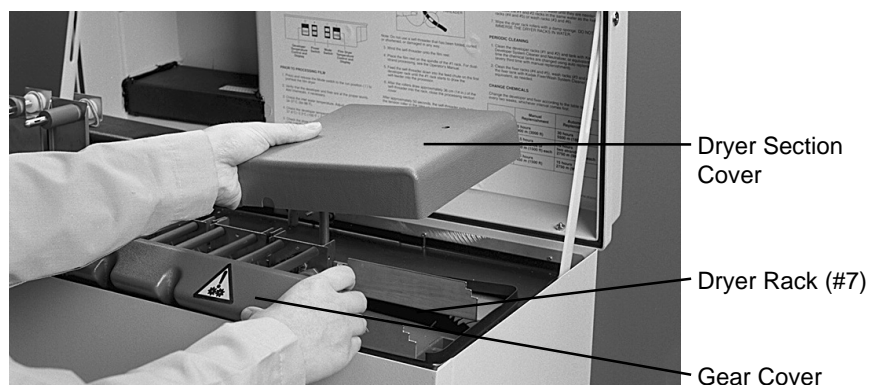
The rack number is located just above the drive gear.



CAUTION: Lower the racks *slowly and carefully* into the Archive Processor to avoid splashing any chemicals.

Installing the Dryer Rack

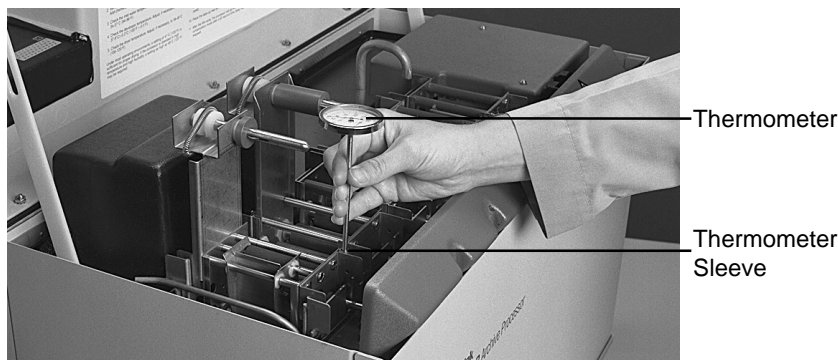
1. Lift off the dryer section cover.



2. Make sure that the rollers of the dryer rack turn freely when rotating the drive gear.
3. Pull the gear cover back and lower the dryer rack into the dryer section.
4. Replace the dryer section cover.

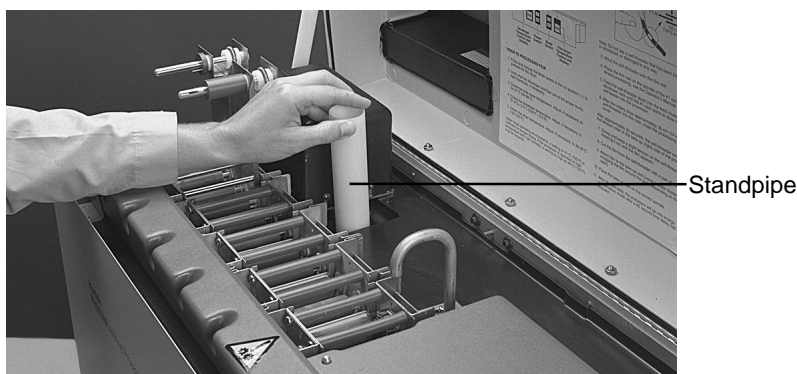
Adjusting the Inlet Water Temperature

1. Turn on the water supply using the thermostatic mixing valve.
2. Turn the power switch to the On position.
3. Insert the thermometer in the thermometer fixed measuring point sleeve located in the front right corner of the #1 rack.



4. Install the standpipe in the Archive Processor tank after the water temperature, indicated on the mixing valve, reaches 34.5 to 36.5°C (94 to 98°F).

Installing the standpipe after the water reaches the proper temperature at the mixing valve enables the developer solution to reach operating temperature sooner.



5. Route the tubing from the developer tank through the notch in the partition.
6. Insert the tubing into the standpipe.
7. Allow the water jacket to fill up.
8. A float switch automatically turns off the water flow when the water level is just below the top of the standpipe.
9. Close the processing section cover.
10. Allow approximately 25 minutes for the developer temperature to stabilize before you attempt to adjust the temperature control setting.

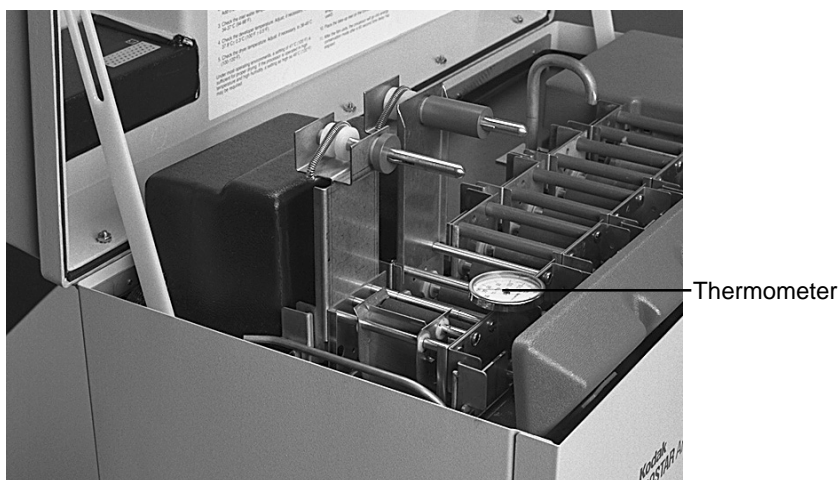
Adjusting the Developer Temperature Control

The Archive Processor's developer temperature control is factory set to a value of 88.0 to control the developer temperature at $37.8^{\circ}\text{C} \pm 0.3^{\circ}\text{C}$ ($100^{\circ}\text{F} \pm 0.5^{\circ}\text{F}$). The display values and setpoint value are arbitrary numbers and do not represent the temperature in degrees; they are values relative to the developer temperature.

Reading the Developer Temperature

The developer temperature must be read on the dial thermometer.

1. Lift the processing section cover.
2. Locate the dial thermometer in the front right corner of the #1 rack.



3. Read the value on the thermometer.

If the developer temperature thermometer value is not $37.8^{\circ}\text{C} \pm 0.3^{\circ}\text{C}$ ($100^{\circ}\text{F} \pm 0.5^{\circ}\text{F}$), you must make an adjustment. Adjust the developer temperature control setpoint value only if necessary. Refer to the next section, "Changing the Developer Temperature Control Setpoint Value."

4. Close the processing section cover.

Changing the Developer Temperature Control Setpoint Value

The developer temperature control is located on the left side of the control panel.

1. Press and release the PGM button on the developer temperature control.

The light to the left of the SP (setpoint) illuminates. The control is now in the setpoint mode.

2. Change the developer temperature:
 - Push and release the down arrow to lower the temperature.
 - Push and release the up arrow to raise the temperature.

The amount of change to the setpoint is equal to the amount of change to the developer temperature in degrees Celsius. For example, increasing the developer temperature setpoint by 1.2 will increase the developer temperature by approximately 1.2°C (2.2°F).

To increase or decrease the developer temperature by 1°F, increase or decrease the developer temperature setpoint by 0.56. For each degree Fahrenheit (°F) of desired change, multiply by 0.56 and round to the nearest tenth.

For example, if the dial thermometer reads 98.5°F, an increase of 1.5°F is required to obtain 100°F. Multiply 1.5°F by 0.56 and you get 0.84 ($1.5 \times 0.56 = 0.84$). Round 0.84 to the nearest tenth to get 0.8. Therefore, to increase the developer temperature 1.5°F, you must increase the developer temperature setpoint by 0.8.

3. Press and release the PGM button on the developer temperature control to return to display mode.

The green light indicator to the left of the SP is no longer illuminated. The current temperature is displayed.

The green light indicator illuminates when the temperature is at the setpoint and flashes when the temperature is above the setpoint. The light does not illuminate when the temperature is below the setpoint.

This light can be used to determine when the temperature has stabilized at the setpoint.

4. Wait 20 minutes between adjustments.
5. Lift up the processing section cover.
6. Read the developer temperature.

If the temperature is not 37.8°C \pm 0.3°C (100°F \pm 0.5°F), repeat steps 1 through 6 until the temperature stabilizes at the setpoint.

7. Close the processing section cover.

Checking the Dryer Temperature

1. Turn on the drying heater and blower:
 - If the water jacket is not full, fill the water jacket and press and release the Mode switch to the run position.
 - If the water jacket is full, press and release the Mode switch to the run position.
2. Check the temperature reading on the dryer control after it stabilizes (approximately 5 minutes).

If the drying temperature stabilizes (the displayed value stops climbing) before it reaches the setpoint, the room temperature may be too low or the specified setpoint is too high for the Archive Processor to obtain. The green light will be off. (See Operating Environment in the "Specifications" section.)

The Archive Processor is stabilized at the setpoint when the display temperature cycles (decreasing, then increasing) and the indicator light cycles (on, flashing, off).

3. Adjust the dryer temperature control (if necessary) so the dryer temperature falls within the acceptable temperature range of 38 to 52°C (100 to 125°F).

Under most operating environments, a setting of 48°C (118°F) is sufficient for proper drying. If the processor is operated in a high temperature and high humidity environment, a setting as high as 52°C (125°F) may be required.

Adjusting the Dryer Temperature

1. Press and release the PGM button on the dryer control (located on the right side of the control panel).

The light to the left of the SP (setpoint) illuminates. The control is now in the setpoint mode.
2. Change the dryer temperature:
 - Push and release the down arrow to lower the temperature.
 - Push and release the up arrow to raise the temperature.
3. The amount of change to the setpoint is equal to the amount of change to the dryer temperature.

For example, increasing the dryer temperature setpoint by 5 will increase the dryer temperature by 5°C on the Archive Processor 220-240 V or 5°F on the Archive Processor 120 V.

NOTE: The Field Engineer has the ability to change the control readout to either Fahrenheit (°F) or Celsius (°C).

4. Press and release the PGM button on the dryer control to return to display mode.

The light to the left of the SP (setpoint) is no longer illuminated. The current temperature is displayed.

5. Allow some time for the dryer chamber temperature to stabilize after each adjustment (approximately 5 minutes).

NOTE: Film must feel dry to the touch. If the dryer temperature is too high, film could stick to the rollers and cause a film jam. Also, a temperature setting that is too high can cause the film to stick together on the reel (bricking).

If the dryer temperature is too low, the film will not dry completely, causing it to feel tacky when it exits and stick together on the take-up reel.

Image quality defects will occur if the temperature setting is too low or too high.

6. Turn the dryer and the transport off by lifting and releasing the tension roller.

The dryer and transport will stop after a preset time delay has elapsed. (The factory preset is 60 seconds. The Field Engineer has the ability to change the time delay.)

Checking the Film Transport

1. Press and release the Mode switch to the run position.
2. Feed a self-threader into the feed chute on the #1 rack to make sure that all racks are fully seated and working properly.

Allow the self-threader to exit the processor.

3. Lift and release the tension roller to shut off the processor.

The processor will stop 60 seconds after the tension roller is released.

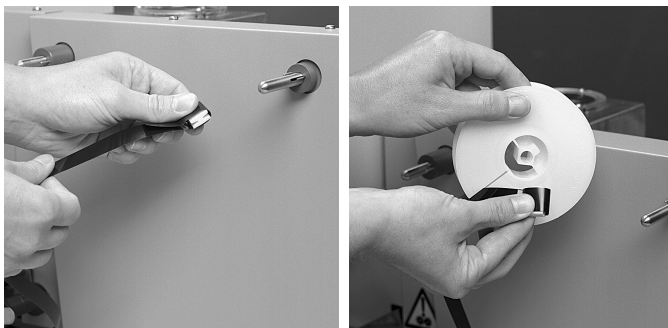
Operating the Archive Processor

Attaching Film to a Take-up Reel

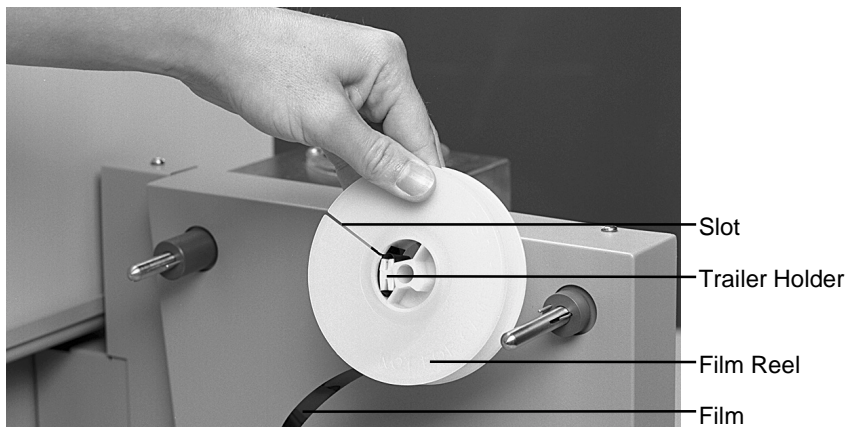
As processed film exits the Archive Processor, you must attach it to a take-up reel. There are different ways to attach film to a take-up reel, depending on the type of reel you are using. One way is to use a trailer holder (snubber). Another way is to wrap the film around the center of the reel. Both ways are described in this section.

Using a Trailer Holder

1. Wrap the film counterclockwise around a trailer holder (snubber).
2. Wrap the film around the trailer holder one more time.

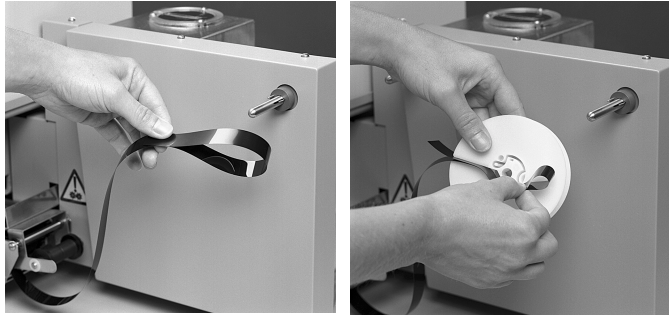


3. Insert the trailer holder (snubber) in the core of the take-up reel.
4. Insert the film in the slot of the take-up reel.

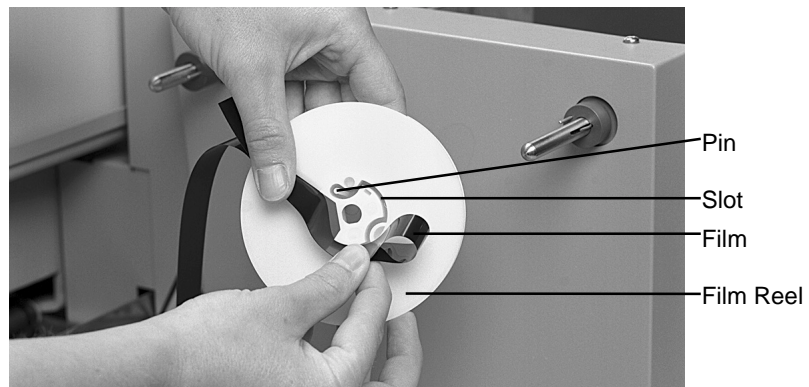


Looping the Film

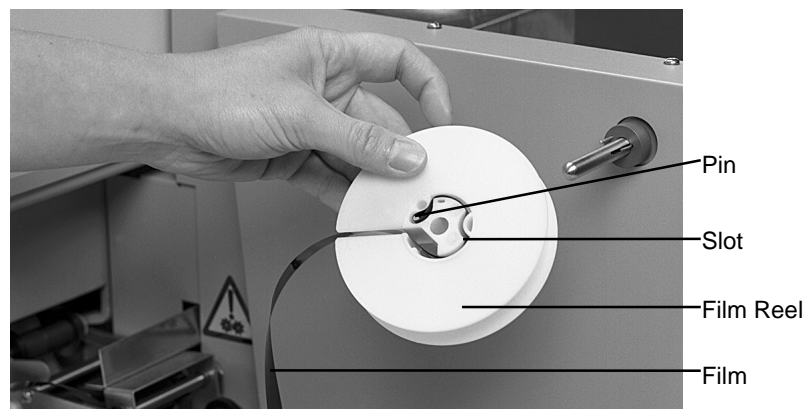
1. Make a loop of film about four inches long.



2. Insert the film loop in the slot of the take-up reel.
3. Push the film around core of the take-up reel and wrap the loop around the pin in the center of the take-up reel.



4. Pull the film gently to tighten it around the take-up reel.



When to Start Processing

When the developer, film dryer, and water have reached their acceptable operating temperatures, you may begin processing film. Leave the dial thermometer in the developer tank; this makes it easier to check the developer temperature before processing the next roll.

NOTE: When the Archive Processor is idle for an extended period, the solutions may evaporate. Check the solution levels and replenish the developer and fixer tanks as necessary.

Use the usage meter as a guide to changing chemicals. It displays the number of hours the film drive system has run. Replace the developer and fixer with fresh chemicals according to the frequency listed in "Replenishing the Archive Processor," or every two weeks, whichever interval comes first.

NOTE: Do not restrict the movement of the tension roller. The tension roller must be allowed to pivot freely for proper operation of the Archive Processor.

Single-Strand Processing

Make sure that you have completed all of the procedures in the "Daily Start-up" section and that you have familiarized yourself with the information in the "When to Start Processing" section before beginning processing.

NOTE: To prevent film jams, remove as much curl from the self-threader as possible by winding the self-threader in the opposite direction from the existing curl.

1. Press and release the Mode switch to the run position to pre-heat the film dryer.

IMPORTANT: *Always press and release the Mode switch to the run position, even if the transport is running. This prevents the film transport from stopping during processing.*

2. Lift the processing section cover.
3. Verify that the developer is at the proper level and add developer, if necessary.

To replenish the developer, place the neck of the squeeze bottle in the developer tank and squeeze the bottle until the solution level reaches above the middle of the first white roller located below the feed chute.



Squeeze bottle
of developer

4. Open the film box and remove the roll of exposed film.

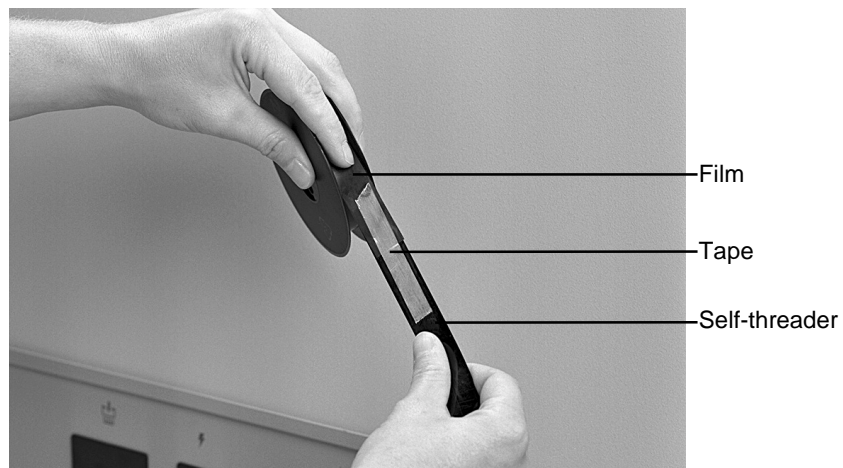
Do not let the film unwind.

IMPORTANT: Follow the next steps carefully to avoid film jams.

5. Using the reel flanges to guide you, line up a 16 mm self-threader (a special leader that helps prevent film jams) with the film edges.
6. Slide the self-threader, with the black side up, under the leading edge of the film and hold it in place with your index finger.

The film should overlap the self-threader by a minimum of 51 mm (2 in.) with the emulsion (light-colored) side of the film contacting the black side of the self-threader.

7. Fasten the leading end of the film to the self-threader using a minimum of 76 mm (3 in.) of KODAK PROSTAR Tape, or equivalent.



NOTE: For 35 mm film, place several pieces of tape side-by-side to fasten the leading edge of the film to the self-threader.

8. Wind the self-threader onto the film reel.

NOTE: Make sure the tape does not extend over the edges of the film or self-threader. Avoid leaving fingerprints on the adhesive side of the tape.

9. Verify that the temperatures of the developer, film dryer, and water are all within specification.

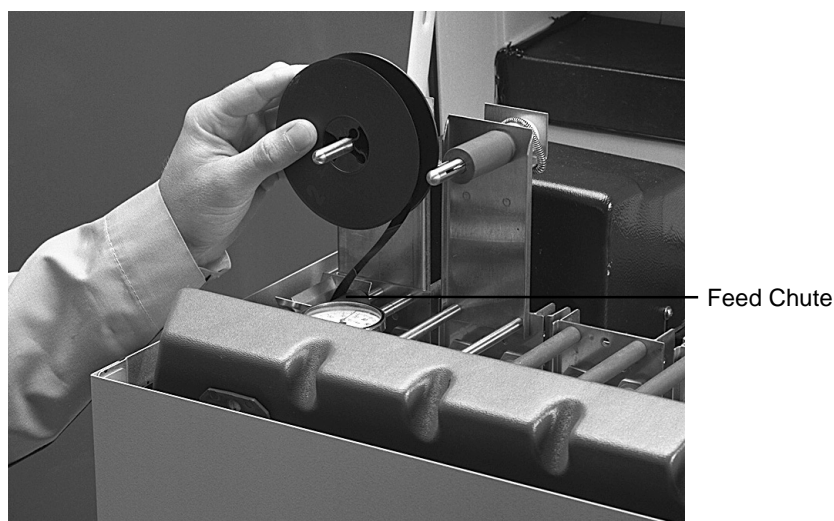
NOTE: Under normal operating conditions, the dryer will have reached the operating temperature by the time you have attached the self-threader.

If there is high humidity, low temperature, or low line voltage, the dryer may take longer to reach the acceptable operating temperature. In these situations, you may want to wait until all three operating temperatures are acceptable before you attach the self-threader.

10. Place the roll of film on the supply spindle of the #1 rack so the film unwinds off the right side of the reel (when you are facing the front of the Archive Processor).

The emulsion (dull) side of the film and the gray side of the self-threader both must face the left side of the Archive Processor.

11. Feed the self-threader down into the feed chute in the first developer rack until the #1 rack starts to draw the self-threader into the Archive Processor.



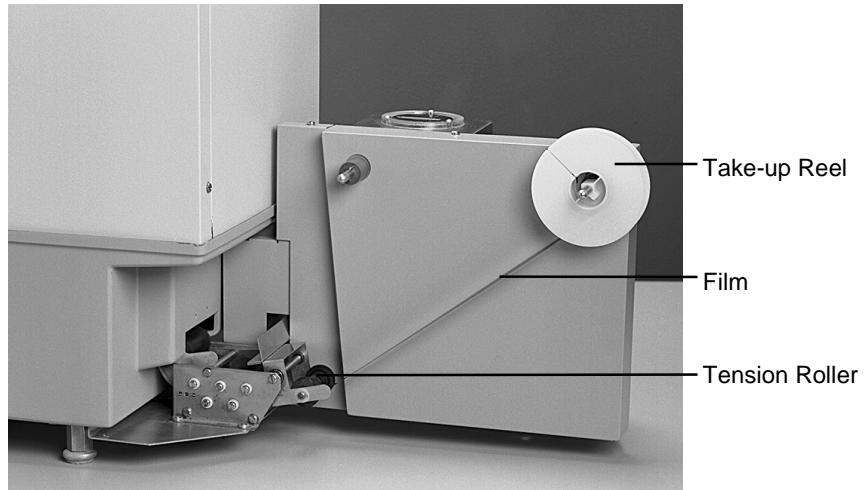
12. After the rollers draw the approximately 36 cm (14 in.) of the self-threader into the rack, close the processing section cover.

After approximately 50 seconds, the self-threader exits below the tension roller on the take-up (right) side of the Archive Processor.

IMPORTANT: As the self-threader exits the dryer, make sure that it does not catch on anything that will cause the film to back up and jam in the processor.

13. Grasp and keep a slight tension on the self-threader while drawing it out until the film appears.
14. Cut the film from the self-threader with a pair of scissors.
15. Attach the film to a reel using one of the methods described in "Attaching Film to a Take-up Reel."

16. Place the take-up reel on the spindle.



NOTE: If you pull on the self-threader or when you remove the self-threader from the film, you may unintentionally raise and lower the tension roller. Raising and lowering the tension roller activates the time delay for energy conservation mode, which causes the film transport to stop after 60 seconds (3 m or 10 ft of film).

If approximately 2.5 m (8 ft) of film has exited from the Archive Processor but has not yet been tensioned, lift and release the tension roller to reset the time delay for an additional 60 seconds.

If the film transport stops before the film is tensioned, immediately press and release the Mode switch to the run position or lift and release the tension roller bracket. This will restart the film transport. If film is left stopped in the processing chemicals, image quality problems will result.

Remove all film ends and tape before reusing the self-threaders. Do not use self-threaders that have been folded, curled or shortened. Store the self-threaders by hanging them from the prepunched hole in the end.

When the trailing end of the film leaves the dryer rack, tension is lost and the tension roller automatically lowers. The loss of tension activates the 60 second time delay for the energy conservation mode. Once energy conservation mode is activated, the film transport, rinse water, and dryer blower will all turn off.

17. Add developer to the developer tank if the Archive Processor operates in manual replenishment mode.

Add developer after 61 m (200 ft) of 0.14 mm/5.2 mil-thick film or 65.5 m (215 ft) of 0.07 mm/2.7 mil-thick film has been processed.

Dual-Strand Processing

If your Archive Processor is equipped with the KODAK PROSTAR Long-Length Kit (an accessory for the Archive Processor 220-240 V), follow the steps below to process two reels of film simultaneously. Make sure that you have completed all of the procedures in the “Daily Start-up” section and that you have familiarized yourself with the information in the “When to Start Processing” section before beginning processing.

NOTE: To prevent film jams, remove as much curl from the self-threader as possible by winding the self-threader in the opposite direction from the existing curl.

1. Press and release the Mode switch to the run position to pre-heat the film dryer.

IMPORTANT: Always press and release the Mode switch to the run position, even if the transport is running. This prevents the film transport from stopping during processing.

2. Lift the processing section cover.
3. Verify that the developer is at the proper level and add developer, if necessary.

To replenish the developer, place the neck of the squeeze bottle in the developer tank and squeeze the bottle until the solution level reaches above the middle of the first white roller located below the feed chute.



Squeeze bottle of developer

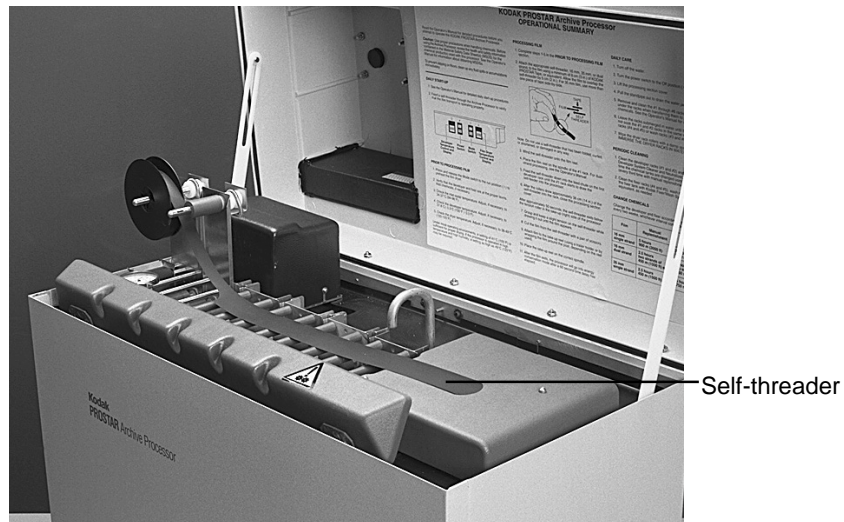
4. Open the film box and remove the roll of unexposed film.
Do not let the film unwind.

IMPORTANT: Follow the next steps carefully to avoid film jams.

5. Using the reel flanges to guide you, line up the narrow end of a dual-strand self-threader (a special leader that helps prevent film jams) with the film edges.
6. Slide the self-threader, with the black side up, under the leading edge of the film and hold it in place with your index finger.

The film should overlap the self-threader by a minimum of 51 mm (2 in.) with the emulsion (light-colored) side of the film contacting the black side of the self-threader.

7. Fasten the leading end of the film to the dual-strand self-threader with a minimum of 76 mm (3 in.) of KODAK PROSTAR Tape, or equivalent.



8. Wind the self-threader onto the film reel.

NOTE: Make sure the tape does not extend over the edges of the film or self-threader. Avoid leaving fingerprints on the adhesive side of the tape.

9. Verify that the temperatures of the developer, film dryer, and water are all within specification.

NOTE: Under normal operating conditions, the dryer will have reached the operating temperature by the time you have attached the self-threader.

If there is high humidity, low temperature, or low line voltage, the dryer may take longer to reach the acceptable operating temperature. In these situations, you may want to wait until all three operating temperatures are acceptable before you attach the self-threader.

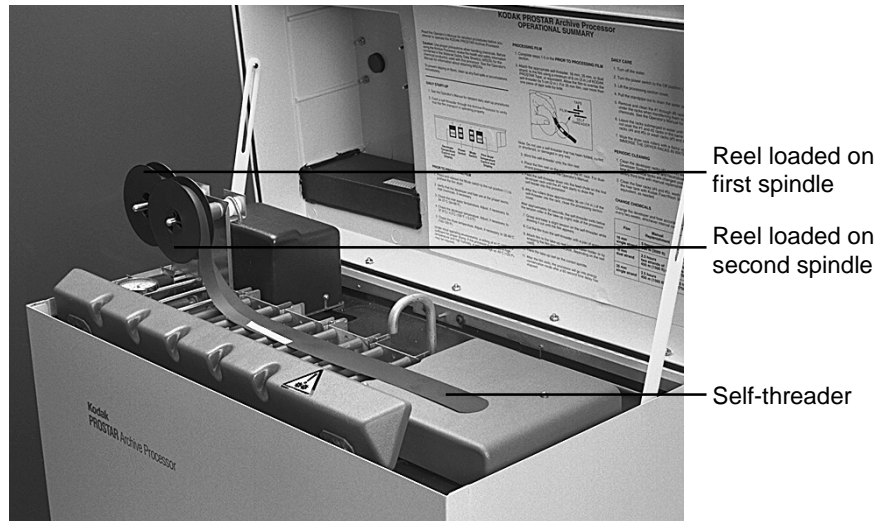
10. Place the roll of film on the supply spindle of the #1 rack so the film unwinds off the right side of the reel (when you are facing the front of the Archive Processor).

The emulsion (dull) side of the film and the gray side of the self-threader both must face the left side of the Archive Processor.

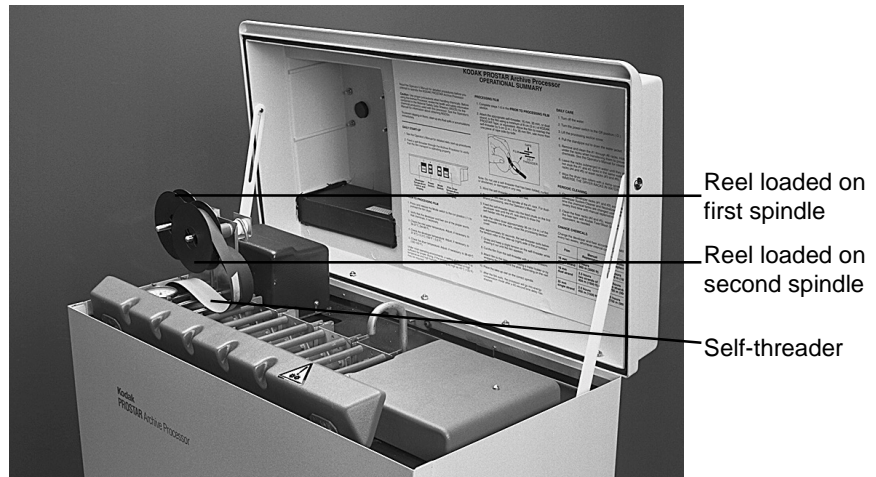
11. Place the self-threader on top of the racks.

12. Load the second roll of microfilm on the spindle of the #2 developer rack so that it unwinds from the right. Hold the film in place with your index finger to prevent the film from unwinding.

13. Place the film on top of the self-threader, overlapping it by 51 mm (2 in.), and fasten the end of the film to the black side of the dual-strand self-threader with a minimum of 76 mm (3 in.) of KODAK PROSTAR Tape, or equivalent.



14. Loop the leading edge of the self-threader to the left and beneath the reels.



NOTE: Make sure the tape does not extend over the edges of the film or self-threader.

15. Feed the self-threader down into the feed chute in the first developer rack until the rack starts to draw the self-threader into the Archive Processor.

16. After the rollers draw all of the self-threader into the rack, close the processing section cover.

After approximately 35 seconds, the self-threader exits below the tension roller on the take-up (right) side of the Archive Processor.

IMPORTANT: As the self-threader exits the dryer, make sure that it does not catch on anything that will cause the film to back up and jam in the processor.

17. Grasp and keep a slight tension on the self-threader while drawing it out until the first film appears.
18. Cut the first film from the self-threader with a pair of scissors.
19. Attach the first film to a reel using one of the methods described in "Attaching Film to a Take-up Reel."
20. Place the take-up reel on the spindle closest to the processor.



The first film goes on the reel closest to the processor

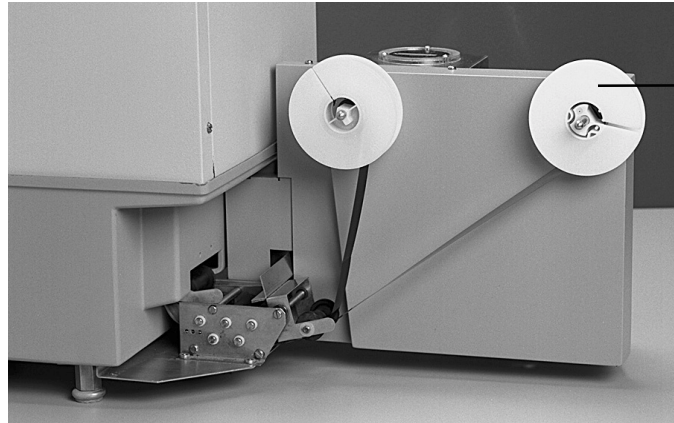
NOTE: If you pull on the self-threader or when you remove the self-threader from the film, you may unintentionally raise and lower the tension roller. Raising and lowering the tension roller activates the time delay for energy conservation mode, which causes the film transport to stop after 60 seconds (3 m or 10 ft of film).

If approximately 2.5 m (8 ft) of film has exited from the Archive Processor but has not yet been tensioned, lift and release the tension roller to reset the time delay for an additional 60 seconds.

If the film transport stops before the film is tensioned, immediately press and release the Mode switch to the run position or lift and release the tension roller bracket. This will restart the film transport. If film is left stopped in the processing chemicals, image quality problems will result.

Remove all film ends and tape before reusing the self-threaders. Do not use self-threaders that have been folded, curled or shortened. Store the self-threaders by hanging them from the prepunched hole in the end.

21. Continue to keep tension on the self-threader to keep the film moving until the second film appears.
22. Cut the second film from the self-threader with a pair of scissors.
23. Attach the second film to a reel using one of the methods described in "Attaching Film to a Take-up Reel."
24. Insert the take-up reel onto the spindle farthest from the processor.



The second film goes on the reel farthest from the processor

When the trailing end of the film leaves the dryer rack, tension is lost and the tension roller automatically lowers. The loss of tension activates the 60 second time delay for the energy conservation mode. Once energy conservation mode is activated, the film transport, rinse water, and dryer blower will all turn off.

25. Add developer to the developer tank if the Archive Processor operates in manual replenishment mode.

Add developer after 61 m (200 ft) of 0.14 mm/5.2 mil-thick film or 131 m (430 ft) of 0.07 mm/2.7 mil-thick film has been processed while in dual-strand operation.

Long-Length Processing

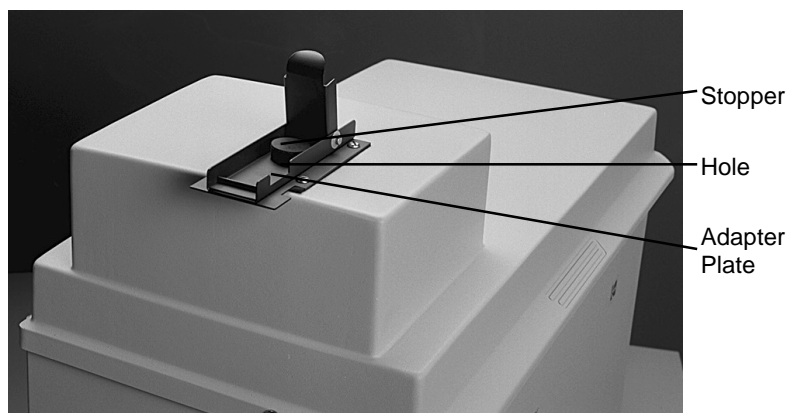
Beginning Long-Length Processing

If your Archive Processor is equipped with the KODAK PROSTAR Long-Length Kit (an accessory for the Archive Processor 220-240 V), follow the steps below to process long lengths of film. Make sure that you have completed all of the procedures in the “Daily Start-up” section and that you have familiarized yourself with the information in the “When to Start Processing” section before beginning processing.

You must use the KODAK PROSTAR Replenishment Unit when you are processing lengths of film over 65.5 m (215 ft).

Replace the developer and fixer with fresh chemicals according to the frequency listed in “Replenishing the Archive Processor,” or every two weeks, whichever interval comes first.

1. Pull the stopper out of the hole in the adapter plate.

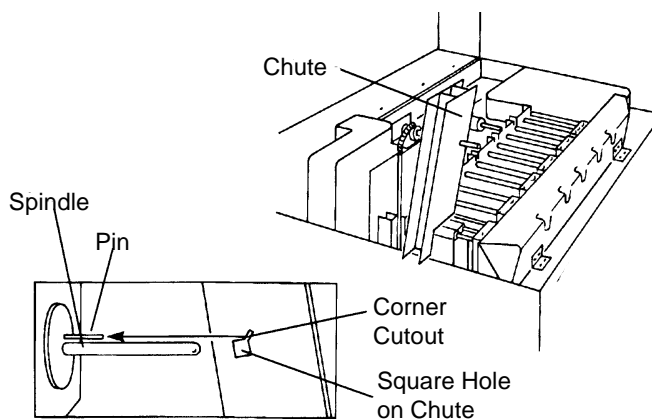


2. Open the processing section cover.
3. Verify that the developer is at the proper level and add developer, if necessary.

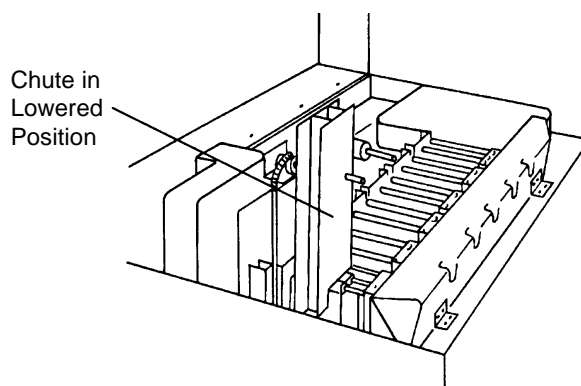
To replenish the developer, place the neck of the squeeze bottle in the developer tank and squeeze the bottle until the solution level reaches above the middle of the first white roller located below the feed chute.



4. Install the chute on the first developer rack spindle so that the pin on the spindle goes into the corner cutout of the square hole.



5. Lower the chute into the position shown in the diagram.



6. Close the processing section cover.
7. Press and release the Mode switch to the run position to pre-heat the film dryer.

IMPORTANT: Always press and release the Mode switch to the run position, even if the transport is running. This prevents the film transport from stopping during processing.

NOTE: To prevent film jams, remove as much curl from the self-threader as possible by winding the self-threader in the opposite direction from the existing curl.

8. Go to Procedure 1, Procedure 2 (A), or Procedure 2 (B).
 - Procedure 1—use to process KODAK KOM Film magazines, 16 mm Vought camera magazines, or other room-light transfer devices that are compatible with the Vought adapter plate.
 - Procedure 2 (A)—use to process KODAK PROSTAR Cassette Adapter with a Burroughs cassette or with a KODAK SCANNER-PACK B Cartridge.
 - Procedure 2 (B)—use to process KODAK PROSTAR Cassette Adapter with an IBM microfilm cassette.

Procedure 1

Use this procedure when you are processing with KODAK KOM Film magazines, 16 mm Vought camera magazines, or other room-light transfer devices that are compatible with the Vought adapter plate.

Make sure that you have completed the steps in the section entitled "Beginning Long-Length Processing" before performing Procedure 1.

1. Line up a 16 mm self-threader (a special leader that helps prevent film jams) with the film edges.
2. Slide the self-threader, with the black side up, under the leading edge of the film and hold it in place with your index finger.

The film should overlap the self-threader by a minimum of 51 mm (2 in.) with the emulsion (light-colored) side of the film contacting the black side of the threader. The self-threader must be aligned with the film edges.

3. Fasten the leading end of the film coming out of the magazine to the self-threader with a minimum of 76 mm (3 in.) of KODAK PROSTAR Tape, or equivalent.

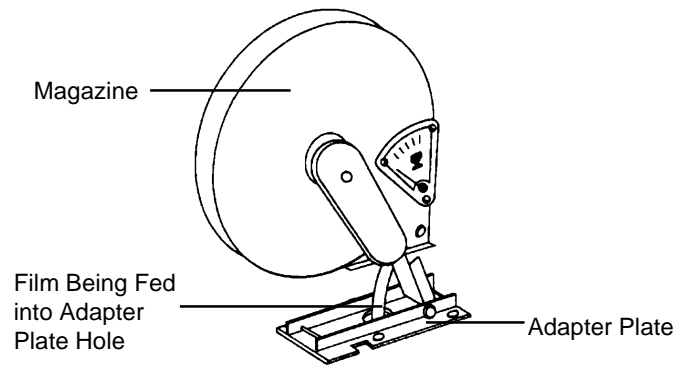
NOTE: Make sure the tape does not extend over the edges of the film or self-threader. Avoid leaving fingerprints on the adhesive side of the tape.

4. Verify that the temperatures of the developer, film dryer, and water are all within specification.

NOTE: Under normal operating conditions, the dryer will have reached the operating temperature by the time you have attached the self-threader.

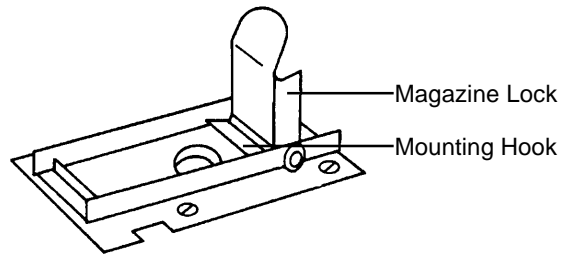
If there is high humidity, low temperature, or low line voltage, the dryer may take longer to reach the acceptable operating temperature. In these situations, you may want to wait until all three operating temperatures are acceptable before you attach the self-threader.

5. Hold the magazine firmly with your left hand and feed the self-threader so that the light side of the self-threader faces left into the adapter plate hole.

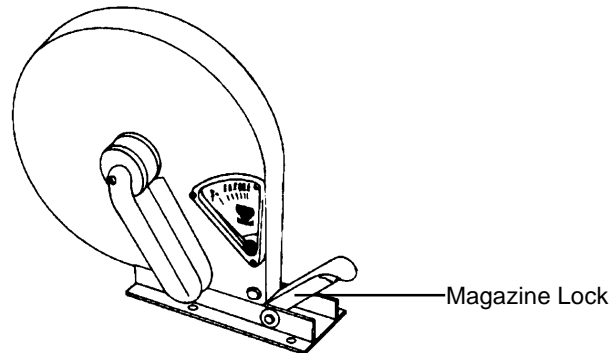


The film begins feeding into the Archive Processor.

6. After all of the self-threader enters the Archive Processor, pull down and hold the magazine lock while sliding the end of the magazine mounting plate under the mounting hook on the adapter plate.
7. Lower the magazine onto the mounting plate.



8. Release the magazine lock.



It returns to its original position.

After approximately 35 seconds, the self-threader exits below the tension roller on the take-up (right) side of the Archive Processor.

IMPORTANT: As the self-threader exits the dryer, make sure that it does not catch on anything that will cause the film to back up and jam in the processor.

9. Grasp and keep a slight tension on the self-threader while drawing it out until the film appears.
10. Cut the film from the self-threader with a pair of scissors.
11. Loop the film and insert it into the slot in the center of the take-up reel.
12. Place the take-up reel on the spindle farthest from the processor.

NOTE: If you pull on the self-threader or when you remove the self-threader from the film, you may unintentionally raise and lower the tension roller. Raising and lowering the tension roller activates the time delay for energy conservation mode, which causes the film transport to stop after 60 seconds (3 m or 10 ft of film).

If approximately 2.5 m (8 ft) of film has exited from the Archive Processor but has not yet been tensioned, lift and release the tension roller to reset the time delay for an additional 60 seconds.

If the film transport stops before the film is tensioned, immediately press and release the Mode switch to the run position or lift and release the tension roller bracket. This will restart the film transport. If film is left stopped in the processing chemicals, image quality problems will result.

Remove all film ends and tape before reusing the self-threaders. Do not use self-threaders that have been folded, curled or shortened. Store the self-threaders by hanging them from the prepunched hole in the end.

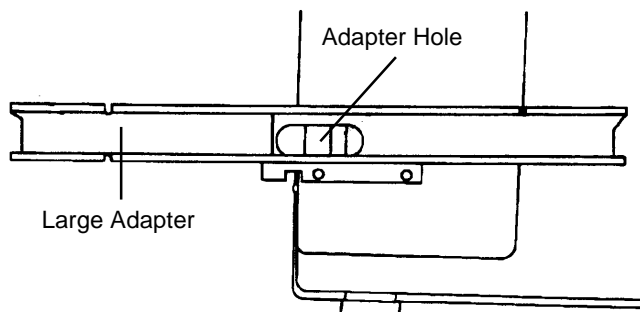
When the trailing end of the film leaves the dryer rack, tension is lost and the tension roller automatically lowers. The loss of tension activates the 60 second time delay for the energy conservation mode. Once energy conservation mode is activated, the film transport, rinse water, and dryer blower will all turn off.

Procedure 2 (A)

Use this procedure when you are processing with a KODAK PROSTAR Cassette Adapter with a Burroughs cassette or a KODAK SCANNER-PACK B Cartridge.

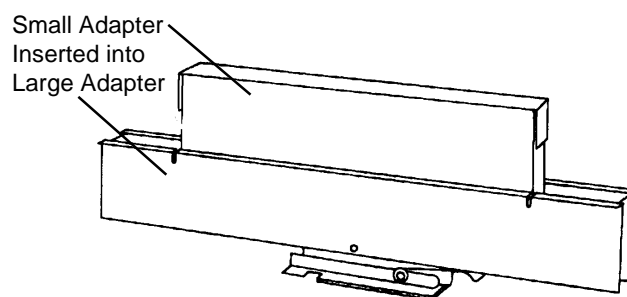
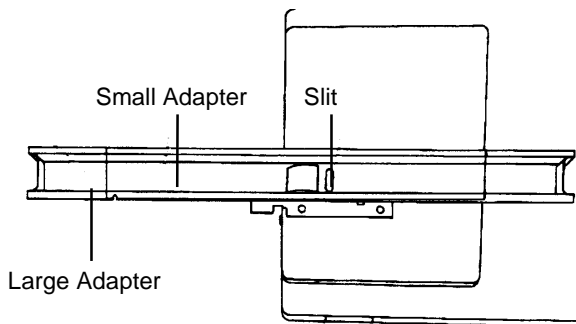
Make sure that you have completed the steps in the section entitled "Beginning Long-Length Processing" before performing Procedure 2 (A).

1. Pull down and hold the magazine lock while sliding the large adapter into the adapter plate until the front edge slides over the hook of the adapter plate and locks into position.



The hole in the adapter must be over the hole in the processing section cover.

2. Insert the small adapter into the large adapter.



A slit is formed over the hole in the processing section cover.

3. Cut the film near the right side of the cartridge.
4. Line up a 16 mm self-threader (a special leader that helps prevent film jams) with the film edges.
5. Slide the self-threader, with the black side up, under the leading edge of the film and hold it in place with your index finger.

The film should overlap the self-threader by a minimum of 51 mm (2 in.) with the emulsion (light-colored) side of the film contacting the black side of the threader. The self-threader must be aligned with the film edges.

6. Fasten the leading end of the film coming out of the cartridge to the self-threader with a minimum of 76 mm (3 in.) of KODAK PROSTAR Tape, or equivalent.

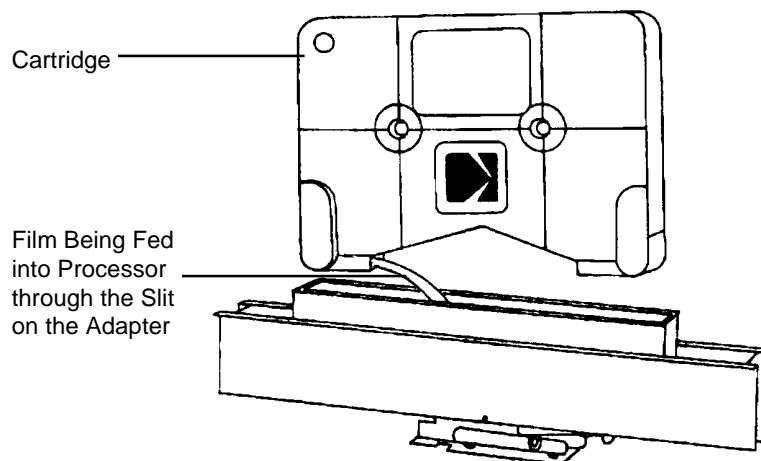
NOTE: Make sure the tape does not extend over the edges of the film or self-threader. Avoid leaving fingerprints on the adhesive side of the tape.

7. Verify that the temperatures of the developer, film dryer, and water are all within specification.

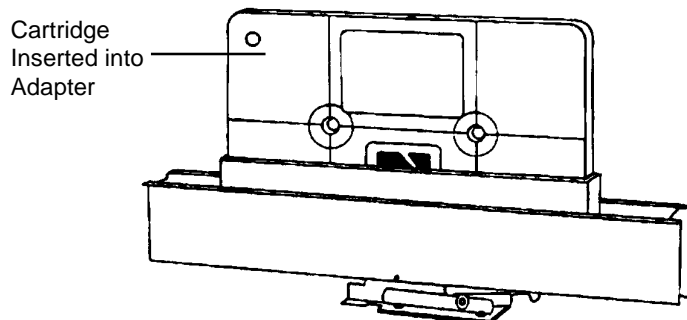
NOTE: Under normal operating conditions, the dryer will have reached the operating temperature by the time you have attached the self-threader.

If there is high humidity, low temperature, or low line voltage, the dryer may take longer to reach the acceptable operating temperature. In these situations, you may want to wait until all three operating temperatures are acceptable before you attach the self-threader.

8. Hold the cartridge above the adapter and feed the self-threader down through the slit in the adapter so that the light side of the self-threader faces left into the adapter plate hole.



9. Hold the cartridge above the adapter until all of the self-threader is pulled into the processor.
10. Lower the cartridge into the adapter.



NOTE: The heavy end of the cartridge (the end with the exposed film) must be to the left when placed into the adapter on the Archive Processor.

After approximately 35 seconds, the self-threader exits below the tension roller on the take-up (right) side of the Archive Processor.

IMPORTANT: *As the self-threader exits the dryer, make sure that it does not catch on anything that will cause the film to back up and jam in the processor.*

11. Grasp and keep a slight tension on the self-threader while drawing it out until the film appears.
12. Cut the film from the self-threader with a pair of scissors.
13. Loop the film and insert it into the slot in the center of the take-up reel.
14. Place the take-up reel on the spindle farthest from the processor.

NOTE: If you pull on the self-threader or when you remove the self-threader from the film, you may unintentionally raise and lower the tension roller. Raising and lowering the tension roller activates the time delay for energy conservation mode, which causes the film transport to stop after 60 seconds (3 m or 10 ft of film).

If approximately 2.5 m (8 ft) of film has exited from the Archive Processor but has not yet been tensioned, lift and release the tension roller to reset the time delay for an additional 60 seconds.

If the film transport stops before the film is tensioned, immediately press and release the Mode switch to the run position or lift and release the tension roller bracket. This will restart the film transport. If film is left stopped in the processing chemicals, image quality problems will result.

Remove all film ends and tape before reusing the self-threaders. Do not use self-threaders that have been folded, curled or shortened. Store the self-threaders by hanging them from the prepunched hole in the end.

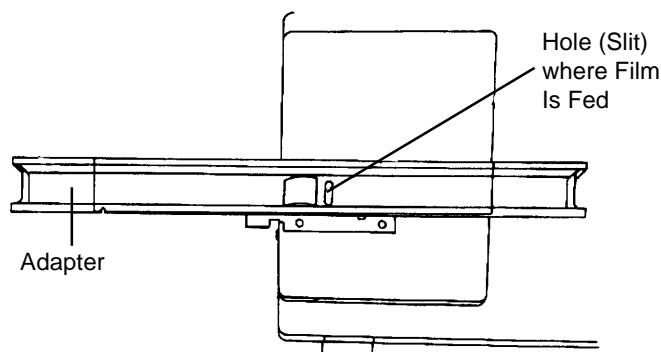
When the trailing end of the film leaves the dryer rack, tension is lost and the tension roller automatically lowers. The loss of tension activates the 60 second time delay for the energy conservation mode. Once energy conservation mode is activated, the film transport, rinse water, and dryer blower will all turn off.

Procedure 2 (B)

Use this procedure when you are processing with a KODAK PROSTAR Cassette Adapter with an IBM microfilm cassette.

Make sure that you have completed the steps in the section entitled "Beginning Long-Length Processing" before performing Procedure 2 (B).

1. Pull down and hold the magazine lock while sliding the large adapter into the adapter plate until the front edge slides over the hook of the adapter plate and locks into position.



The hole in the adapter must be over the hole in the processing section cover.

2. Cut the film near the right side of the cartridge.
3. Line up a 16 mm self-threader (a special leader that helps prevent film jams) with the film edges.
4. Slide the self-threader, with the black side up, under the leading edge of the film and hold it in place with your index finger.

The film should overlap the self-threader by a minimum of 51 mm (2 in.) with the emulsion (light-colored) side of the film contacting the black side of the threader. The self-threader must be aligned with the film edges.

5. Fasten the leading end of the film coming out of the cartridge to the self-threader with a minimum of 76 mm (3 in.) of KODAK PROSTAR Tape, or equivalent.

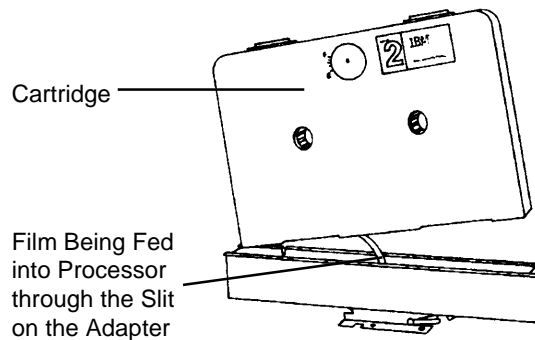
NOTE: Make sure the tape does not extend over the edges of the film or self-threader. Avoid leaving fingerprints on the adhesive side of the tape.

6. Verify that the temperatures of the developer, film dryer, and water are all within specification.

NOTE: Under normal operating conditions, the dryer will have reached the operating temperature by the time you have attached the self-threader.

If there is high humidity, low temperature, or low line voltage, the dryer may take longer to reach the acceptable operating temperature. In these situations, you may want to wait until all three operating temperatures are acceptable before you attach the self-threader.

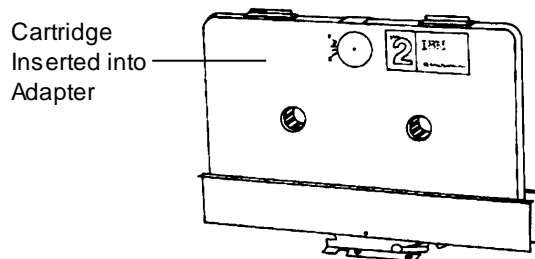
7. Hold the cartridge above the adapter and feed the self-threader down through the slit in the adapter so that the light side of the self-threader faces left into the adapter plate hole.



8. Hold the cartridge above the adapter until all of the self-threader is pulled into the processor.

9. Lower the cartridge into the adapter.

NOTE: The heavy end of the cartridge (the end with the exposed film) must be to the left when placed into the adapter on the Archive Processor.



After approximately 35 seconds, the self-threader exits below the tension roller on the take-up (right) side of the Archive Processor.

IMPORTANT: As the self-threader exits the dryer, make sure that it does not catch on anything that will cause the film to back up and jam in the processor.

10. Grasp and keep a slight tension on the self-threader while drawing it out until the film appears.
11. Cut the film from the self-threader with a pair of scissors.
12. Loop the film and insert it into the slot in the center of the take-up reel.
13. Place the take-up reel on the spindle farthest from the processor.

NOTE: If you pull on the self-threader or when you remove the self-threader from the film, you may unintentionally raise and lower the tension roller. Raising and lowering the tension roller activates the time delay for energy conservation mode, which causes the film transport to stop after 60 seconds (3 m or 10 ft of film).

If approximately 2.5 m (8 ft) of film has exited from the Archive Processor but has not yet been tensioned, lift and release the tension roller to reset the time delay for an additional 60 seconds.

If the film transport stops before the film is tensioned, immediately press and release the Mode switch to the run position or lift and release the tension roller bracket. This will restart the film transport. If film is left stopped in the processing chemicals, image quality problems will result.

Remove all film ends and tape before reusing the self-threaders. Do not use self-threaders that have been folded, curled or shortened. Store the self-threaders by hanging them from the prepunched hole in the end.

When the trailing end of the film leaves the dryer rack, tension is lost and the tension roller automatically lowers. The loss of tension activates the 60 second time delay for the energy conservation mode. Once energy conservation mode is activated, the film transport, rinse water, and dryer blower will all turn off.

Replenishing the Archive Processor

Replenishment Tables

Replace the developer and fixer with fresh chemicals according to the frequency listed in the table below, or every two weeks, whichever interval comes first.

NOTE: Change the developer and fixer at least every two weeks.

Film	Manual Replenishment	Automatic Replenishment
16 mm single strand	5 hours 900 m (3000 ft)	30 hours 5500 m (18000 ft)
16 mm dual strand	2.5 hours two strands of 450 m (1500 ft) each	15 hours two strands of 2750 m (9000 ft) each
35 mm single strand	2.5 hours 450 m (1500 ft)	15 hours 2750 m (9000 ft)

Mixed Film Sizes

If you are processing both 16 mm and 35 mm film, use a combination of the chemical replenishment guidelines. The chemical usage ratio for 35 mm to 16 mm film is 1:2.

For example, with manual replenishment, you can process 457 m (1500 ft) of 16 mm film and 230 m (750 ft) of 35 mm film before you need to change the chemicals.

Changing Chemicals during Processing

Use proper precautions when using processing chemicals. Review the MSDSs for the developer and fixer.

1. Power down the Archive Processor or turn off the water.
This reduces the possibility of the water jacket overflowing later when you reinsert the tanks.
2. Hold the gear cover back and remove the processing racks from the processor (#1 rack first, then #2, #3, #4, and #5).
The rack number is located just above the drive gear. Hold a sponge under the racks when transferring them to the sink. This avoids chemicals dripping on surrounding work areas or the floor and possible cross-contamination of chemicals.
3. Pull the gear cover back and lift the fixer tanks out of the Archive Processor.
Each fixer tank is labeled with an **F**.

4. Pull the gear cover back and lift the developer tank out of the Archive Processor.

The developer tank is labeled with a **D**.

5. Empty the developer tank.
6. Fill the developer tank with KODAK PROSTAR Plus Developer, or equivalent, until the level reaches the fill line (approximately ½ gallon or 1.3 liters).
7. Wrap the overflow tubing closely around the right side of the developer tank.
8. Hold the gear cover back and **slowly** and **carefully** lower the developer tank into the first position in the Archive Processor.

NOTE: Make sure that the tank is fully seated and level with the fill line toward the rear of the Archive Processor.

9. Route the tubing from the developer tank through the notch in the partition.
10. Insert the tubing into the standpipe.
11. Empty the fixer tanks.
12. Fill the fixer tanks with KODAK PROSTAR Plus Fixer, or equivalent, until the level reaches the fill line (approximately ¼ gallon or 0.65 liters per tank).
13. Hold the gear cover back and **slowly** and **carefully** lower the fixer tanks into the fourth and fifth position in the Archive Processor.

NOTE: Make sure that the tanks are fully seated and level with the fill line toward the rear of the Archive Processor.

14. Hold the gear cover back and lower the processing racks back into the processor (#5 rack first, then #4, #3, #2, and #1).

The rack number is located just above the drive gear. Hold a sponge under the racks when transferring them from the sink. This avoids chemicals dripping on surrounding work areas or the floor and possible cross-contamination of chemicals.

CAUTION: Lower the racks *slowly* and *carefully* into the Archive Processor to avoid splashing any chemicals.

15. Close the processing section cover.
16. Power up the Archive Processor or turn the water on, depending on the action that you performed in Step 1.
17. Allow approximately 25 minutes for the developer temperature to stabilize before attempting to adjust the temperature control setting.

18. Press and release the Mode switch to the run position.
19. Feed a self-threader into the feed chute on the #1 rack to make sure that all racks are fully seated and working properly.

Allow the self-threader to exit the processor.

20. Lift and release the tension roller to shut off the processor.

The processor will stop 60 seconds after the tension roller is released.

Replenishment Unit

If your Archive Processor is equipped with the KODAK PROSTAR Long-Length Kit (an accessory for the Archive Processor 220-240 V), you must use the KODAK PROSTAR Replenishment Unit when you are processing lengths of film over 65.5 m (215 ft).



When using freshly mixed chemicals in the replenishment unit:

- 1300 ml (43.9 oz.) fills the tanks.
- The balance of the gallon (approximately 2400 ml) allows you to process 915 m (3000 ft) of 16 mm microfilm.
- Each additional gallon (3785 ml) allows you to process 1525 m (5000 ft) of 16 mm microfilm.

To avoid low film density resulting from low developer levels, change the replenisher bottles when the solution level reaches the level indicated in the operator's manual for the replenisher unit.

Maintenance

Follow the recommended cleaning procedures to provide continued quality film processing and reliable operation, and to extend the life of the Archive Processor.

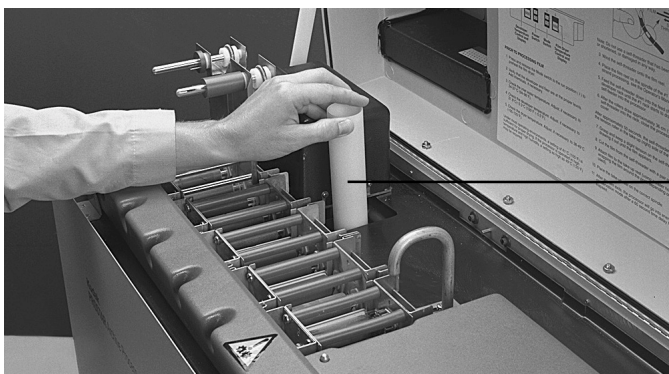
Cleaning the Archive Processor (Daily)

At the end of each day's processing, clean the Archive Processor as follows:

1. Turn off the water at the thermostatic mixing valve.
2. Turn the power switch to the Off position (O).
3. Lift the processing section cover.



4. Pull the standpipe out to drain the water jacket.



5. Hold the gear cover back and remove the processing racks from the processor (#1 rack first, then #2, #3, #4, #5, and #6).

The rack number is located just above the drive gear. Hold a sponge under the racks when transferring them to the sink. This avoids chemicals dripping on surrounding work areas or the floor and possible cross-contamination of chemicals.

6. Rinse the racks thoroughly in water while turning the drive gear.
7. Lightly rub the rollers with a clean cloth while rinsing to remove any deposits from processing.

To remove difficult stains, use a nonabrasive cloth that will not scratch the roller surface. Discoloration of the rollers is normal and causes no harm.

8. Clean the developer racks (#1 and #2) thoroughly.
9. Leave the developer racks (#1 and #2) submerged in clean water until they are needed.

Do not store the developer racks (#1 and #2) in the same water as the fixer racks (#4 and #5).

CAUTION: When removing and rinsing the fixer racks (#4 and #5), do not splash the developer racks with fixer or drip fixer into the developer tanks.

Hold a sponge under the racks when transferring them to the sink.

10. After thoroughly cleaning the remaining four processing racks, leave them submerged in water until they are needed.

NOTE: Do not let the racks sit in water containing minerals that can form a coating on the racks.

11. If the chemicals are exhausted, remove the developer and fixer tanks, empty and rinse them out with water.
12. If the chemicals are not exhausted, the tanks can be left in the Archive Processor.
13. Remove the dryer section cover and the dryer rack (#7).

14. Clean the dryer rack rollers with a clean, damp cloth.
Do not rinse the dryer rack with water.

15. Clean the recirculator cover, the area around the recirculator assembly, and the drip tray with a damp sponge.

Do not remove the probe or pull out the wire from the recirculator.

16. Close the processing section cover and let the Archive Processor stand as is until it is time to start it up again.

Cleaning the Archive Processor (Periodic Cleaning)

Clean the developer racks with Kodak Developer System Cleaner and Neutralizer, or equivalent, every time the chemical tanks are changed using automatic replenishment (every third time with manual replenishment) to remove silver and chemical deposits.

Cleaning the Developer Racks and Tank

1. Mix the Kodak Developer System Cleaner and Neutralizer, or equivalent, according to the instructions on the bottle.

If a smaller volume is needed, mix proportional amounts of chemicals and water.

CAUTION: Follow the safe-handling instructions printed on the label.

2. Turn the power switch to the Off position (O).
3. Lift the processing section cover.



4. Lift out the developer racks (#1 and #2).
5. Rinse the developer racks thoroughly with water and place them in a plastic container.
6. Fill the plastic container with mixed Kodak Developer System Cleaner and Neutralizer, or equivalent, until the developer racks are covered, then rotate the drive gears until the deposits are removed.

Allow a maximum of 30 minutes to clean heavily coated racks.

NOTE: Do not soak the racks longer than 30 minutes or at temperatures above 32°C (90°F).

7. Remove the developer racks and rinse them thoroughly while rotating the drive gears.

There may be some discoloration on the rollers; this is normal.

8. Place the developer racks in a container large enough to hold them standing up and submerged; rinse them for at least 30 minutes in running water.
9. Soak the developer racks overnight in clean water.

NOTE: Do not use Kodak Developer System Cleaner and Neutralizer on the fixer racks (#4 and #5) and wash racks (#3 and #6) or on the dryer rack (#7). The daily maintenance procedure is usually sufficient for these racks (refer to "Cleaning the Archive Processor (Daily)"). If deposits have formed, refer to "Cleaning the Fixer Racks, Wash Racks, and Fixer Tanks.")

10. Immerse the developer tank in the Kodak Developer System Cleaner and Neutralizer, or equivalent.
11. Soak the developer tank until the deposits have been removed.
12. Rinse the developer tank thoroughly with running water.
13. Close the processing section cover and let the Archive Processor stand as is until it is time to start it up again.

Cleaning the Fixer Racks, Wash Racks, and Fixer Tanks

1. Mix the Kodak Fixer/Wash System Cleaner, or equivalent, according to the instructions on the bottle.

If a smaller volume is needed, mix proportional amounts of chemicals and water.

CAUTION: Follow the safe-handling instructions printed on the label.

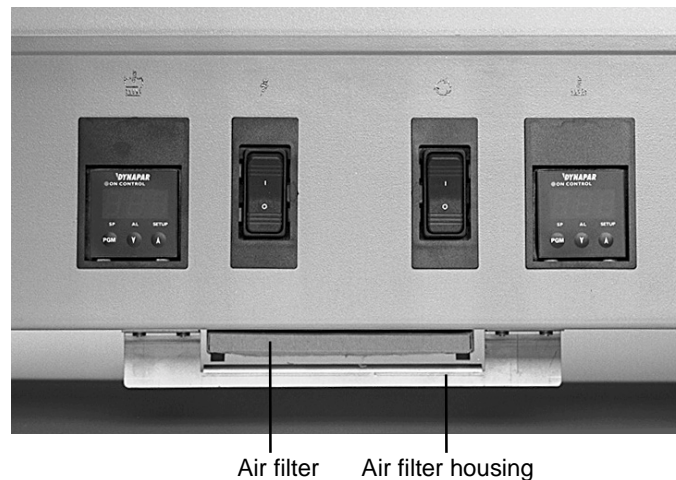
2. Lift out the fixer racks (#4 and #5) and the wash racks (#3 and #6).
3. Rinse the fixer racks and wash racks thoroughly with water and place them in a plastic container.
4. Fill the plastic container with Kodak Fixer/Wash System Cleaner, or equivalent, until the fixer racks and wash racks are covered. Soak the racks until the deposits are removed.

NOTE: Do not soak the racks longer than 30 minutes or at temperatures above 38°C (100°F).

5. Remove the fixer racks and wash racks and rinse them thoroughly.
6. Place the fixer racks and wash racks in a container large enough to hold them standing up and submerged; rinse them for at least 30 minutes in running water.
7. Soak the racks overnight in clean water.
8. Immerse the fixer tanks in the Kodak Fixer/Wash System Cleaner, or equivalent.
9. Soak until the deposits have been removed.
10. Rinse the fixer tanks thoroughly with running water.
11. Close the processing section cover and let the Archive Processor stand as is until it is time to start it up again.

Changing the Air Filter

Change the air filter every six months. The air filter is located under the Archive Processor. It is accessible from the front of the processor.



1. Pull the air filter toward you and out of the air filter housing.
2. Hold a new air filter so that the air flow arrow on the edge of the filter points up.
3. Slide the new air filter into the air filter housing.

Troubleshooting

Clearing a Film Jam

If the jam occurs either before or after the film is tensioned on the take-up reel, follow the procedure below.

1. Turn the power switch to the off (O) position.
2. Lift the processing section cover.
3. Hold the supply spool to keep the film from unwinding.
4. Cut the film where it enters the first rack.
5. Remove the reel of film and immediately put it in the film box.
6. Lift off the dryer section cover.
7. In sequence, starting with the dryer rack, partially raise each rack and cut the film where it enters the rack.

NOTE: Do not drip fixer from the fixer racks on the developer racks or into the developer tank.

8. Lift each rack out of the Archive Processor and carefully pull the film from the rack.

If film has wrapped around the rollers and cannot easily be pulled from the rack, use scissors to carefully cut the film free from the rollers. Remove all pieces of film from the rack.

NOTE: Do not scratch the rollers.

9. Thoroughly rinse all racks except the dryer rack and put them back in the Archive Processor.
10. Turn the power switch to the On position (I).
11. Press and release the Mode switch to the run position.
12. Feed a self-threader through the Archive Processor two times to check for further jamming problems.

If the self-threader exits from the Archive Processor without problems, resume processing.

13. Lower the processing section cover.

Troubleshooting Chart

Problem	Possible Cause	Remedy
Archive Processor does not power up	Power switch is set to the Off (O) position Main power supply is off Electrical plug is not firmly connected in an outlet or at the rear of the Archive Processor Circuit breaker is tripped	Turn power switch to the On (I) position. Call a qualified electrician to check the power source. Check the electrical plug connection in the outlet and at the rear of the Archive Processor. Reset the circuit breaker (to locate the circuit breaker, see the illustration at the top of Page 5).
Film images are too light or dark	Incorrect developer temperature Developer is exhausted Developer tanks are not filled to the correct level	Adjust the thermostatic-mixing valve so that the incoming water temperature is between 34 and 37°C (94 and 98°F) Adjust the developer temperature control to a nominal 37.8°C (100°F). Replenish the developer. To replenish the developer, place the neck of the squeeze bottle in the developer tank and squeeze the bottle until the solution level reaches above the middle of the first white roller located below the feed chute.
Film jam	Self-threader is incorrectly taped to the film Self-threader is not full length Self-threader is damaged Self-threader is curled Racks are not fully seated Self-threader catches on the table when exiting from the Archive Processor Film is loaded backward Dryer chamber is too hot Film is tacky, sticks to the dryer rack	Clear the film jam (refer to "Clearing a Film Jam"). Reattach or replace the self-threader (refer to "Operating the Archive Processor"). Clear the film jam (refer to "Clearing a Film Jam"). Replace the self-threader (refer to "Operating the Archive Processor"). Clear the film jam (refer to "Clearing a Film Jam"). Replace the self-threader (refer to "Operating the Archive Processor"). Clear the film jam (refer to "Clearing a Film Jam"). Reverse wind the self-threader until it lies flat (uncurled). Clear the film jam (refer to "Clearing a Film Jam"). Check that all racks are properly seated and that all drive gears are properly engaged. Clear the film jam (refer to "Clearing a Film Jam"). Move the Archive Processor toward the right edge of the table so the film clears the table edge. Clear the film jam (refer to "Clearing A Film Jam"). Place the film on the supply spindle so it unwinds from the right side with the emulsion side (light color) of the film facing to the left. Refer to "Checking the Dryer Temperature." Clear the film jam (refer to "Clearing a Film Jam"). Lower the dryer temperature.

Troubleshooting Chart (continued)

Problem	Possible Cause	Remedy
Layers of film (convolutions) stick together on the take-up reel	Dryer chamber is not hot enough to dry the film (film feels damp)	Raise the dryer temperature.
Film is scratched, has digs or abrasions	Racks and tanks need cleaning Make sure that the trouble is not caused by the microfilming equipment in which the film was exposed	Refer to "Maintenance."
Developer temperature does not reach 37.8°C in the required 30 minutes	Developer temperature needs adjusting Incorrect wash-water temperature	Adjust the developer temperature (refer to "Adjusting the Developer Temperature Control"). Adjust the thermostatic mixing valve (refer to "Adjusting the Inlet Water Temperature").
Self-threader separates from the film	Fingerprints on the adhesive side of the splicing tape Adhesive tape is too short	Reattach or replace the self-threader (refer to "Operating the Archive Processor"). Avoid leaving fingerprints on the adhesive side of the splicing tape. Reattach or replace the self-threader using a minimum of 76 mm (3 in.) of tape (refer to "Operating the Archive Processor").
Film quality is poor	Chemicals are exhausted Developer is contaminated by system cleaner or fixer	Change the chemicals. Wash the racks and change the chemicals.
Film stops before it is tensioned on the take-up reel.	The time delay of 60 seconds passed before the film could be tensioned	Train the operator to tension film in less than 60 seconds. Lift the tension arm or press and release the Mode switch to the run position immediately to reset the 60 second time delay for energy conservation mode (refer to "Operating the Archive Processor").

Accessories and Supplies

Item	Catalog Number
Kodak Thermostatic Mixing Valve Designed to control the water temperature to the Archive Processor at a flowrate of 1.9 to 7.6 liters/minute (0.5 to 2 gal/min).	142 3698
Kodak Processor Cabinet The top of the cabinet has space for the Archive Processor and a chemical replenishing unit. There is storage space inside the cabinet. The unit is 107 cm (42 in.) long, 64 cm (25 in.) deep, and 64 cm (25 in.) high.	144 4256
KODAK PROSTAR Cabinet Sink A sink, along with the cabinet, provides a complete workstation for operating and maintaining the Archive Processor. The unit is 91 cm (36 in.) long, 64 cm (25 in.) deep, and 94 cm (37 in.) high.	144 4413
KODAK PROSTAR Replenishment Unit Automatically replenishes the developer and fixer in the Archive Processor.	809 0755
KODAK PROSTAR Long-Length Kit Permits the processing of: <ul style="list-style-type: none"> • Single-Strand 16 mm film (up to 366 m/1200 ft of 0.14 mm/5.2 mil-thick film or 732 m/2400 ft of 0.07 mm/2.7 mil-thick film) • Dual-Strand 16 mm film (up to 30.5 m/100 ft for 0.14 mm/5.2 mil thick film and 65.5 m/215 ft for 0.07 mm/2.7 mil film) 	110 9412
KODAK PROSTAR Cassette Adapter The adapter makes it possible to process film from camera-sorter microfilmers in room light.	131 6165

Accessories and Supplies (continued)

Supplies	Catalog Number
KODAK PROSTAR Plus Developer	102 2490
KODAK PROSTAR Plus Fixer	102 2656
Kodak Developer System Cleaner and Neutralizer	150 0719
Kodak Fixer/Wash System Cleaner	139 5110
Kodak Solid Flange Return Reel (16 mm)	144 2193
Kodak Solid Flange Return Reel (35 mm)	144 2433
Carton, 16 mm x 100 ft (30.5 m)	108 6867
Carton, 35 mm x 100 ft (30.5 m)	841 8741
KODAK PROSTAR 16 mm Self-Threader	199 0993
KODAK PROSTAR 16 mm Dual-Strand Self-Threader	146 5194
KODAK PROSTAR 35 mm Self-Threader	199 1009
KODAK PROSTAR Tape and Dispenser	199 0977
KODAK Trailer Holders (bag of 150)	105 9468
Supplies	Part Number
Kodak Movie Reel 16 mm x 1200 ft (365.8 m) (for Long-Length processing)	592284
KODAK PROSTAR Air Filter	321984

Electromagnetic Compliance Statements

For the United States

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For Japan

This equipment is in the Class A category (Information Technology Equipment to be used in commercial and/or industrial areas) and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment aimed at preventing radio interference in commercial and/or industrial areas.

Consequently, when used in a residential area or in an adjacent area thereto, radio interference may be caused to radio and TV receivers, etc.

Read the instructions for correct handling.

この装置は、第一種情報処理装置（商工業地域において使用されるべき情報処理装置）で商工業地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会(VCCI)基準に適合しております。

従って、住宅地域またはその隣接した地域で使用すると、ラジオ、テレビジョン受信機等に受信障害を与えることがあります。

取扱説明書に従って正しい取り扱いをして下さい。

For Taiwan

WARNING: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

警告使用者:

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

New Equipment Warranty

For Installations in the United States

KODAK PROSTAR Archive Processor 120 V

Kodak warrants the processor to function properly for three months from date of initial installation, when installed within one year from date of shipment. This warranty covers the purchaser of this equipment as well as anyone else who owns it during the warranty period.

Warranty Repair Coverage

If this equipment does not function properly during the warranty period, a Kodak Global Customer Service and Support (GCSS) Field Engineer will provide on-site repair service during Kodak's normal working hours. Such repair service will include any adjustments and/or replacement of parts necessary to maintain the equipment in good working order. Off-hours service is available at overtime rates.

Days and Hours of Coverage

Warranty coverage is available Monday through Friday during Kodak's normal working hours (usually 8:00 a.m. to 5:00 p.m.), excluding holidays celebrated locally.

How to Obtain Service

Call your nearest Kodak GCSS Office.

Limitations

Standard warranty service is limited to the contiguous United States, the island of Oahu in Hawaii, and certain areas of Alaska.

This warranty does not cover: circumstances beyond Kodak's control; service or parts to correct problems resulting from the use of attachments, accessories, or alterations not marketed by Kodak; service required as the result of relocation; unauthorized modifications or service; misuse; abuse; failure to follow Kodak's operating instructions; or supply items (such as glass and lamps).

KODAK MAKES NO OTHER WARRANTIES, EXPRESS, IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE FOR THIS EQUIPMENT.

Repair or replacement without charge are Kodak's only obligations under this warranty. **KODAK WILL NOT BE RESPONSIBLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES RESULTING FROM THE SALE, USE, OR IMPROPER FUNCTIONING OF THIS EQUIPMENT, REGARDLESS OF THE CAUSE.** Such damages for which Kodak will not be responsible include, but are not limited to, loss of revenue or profit, downtime costs, loss of use of the equipment, cost of any substitute equipment, facilities, or services or claims of your customers for such damages.

This limitation of liability will not apply to claims for injury to persons or damage to property caused by the sole negligence or fault of Kodak or by persons under its direction or control.

For Installations outside the United States of America

For installation in countries other than the United States, the terms and conditions of the new equipment warranty will be provided by the Kodak company in the country in which the sale is finalized, or by a Kodak-appointed distributor in those countries where Kodak does not have direct sales representation.

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