

AutoLab

ATL-1000

Automatic Processor Instruction Manual



**For Your
Best Image**

Introducing The Autolab ATL-1000

FEATURING:

QUALITY

- Fully automated via electronic control
- Consistent results batch to batch
- Each step of a process accurate to the second

ECONOMY

- Maximum efficiency of chemistry
- Built-in tempering of complete system

VERSATILITY

- Rapid Warm-up
- Multiple processes: C-41, E-6, B&W, EP-2, ...
- Formats including 120, 220, 35mm, 9 x 12 cm sheet film and 4 x 5 inch sheet film
- Paper from 3½ x 5 - 8 x 10

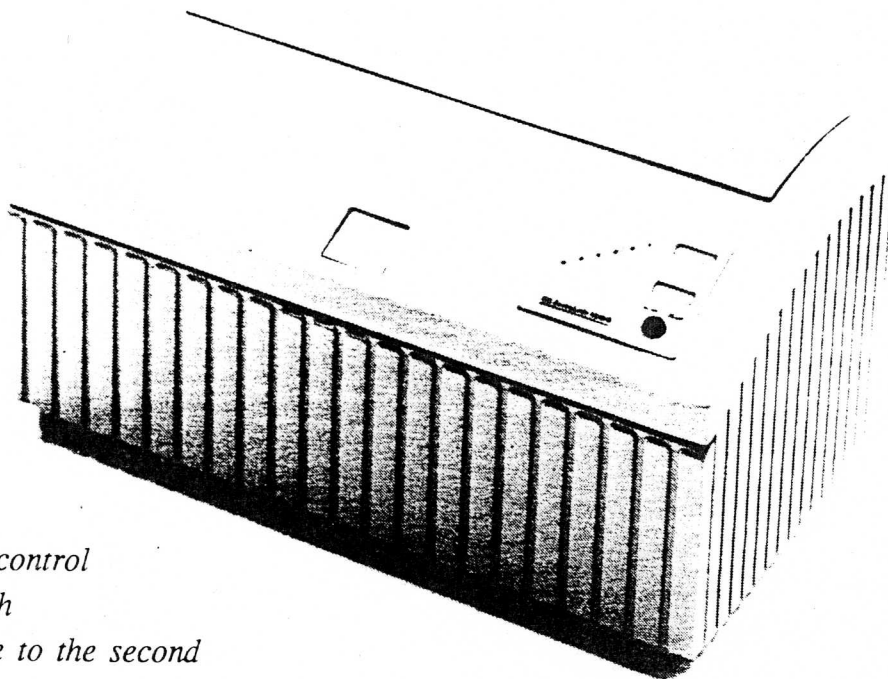
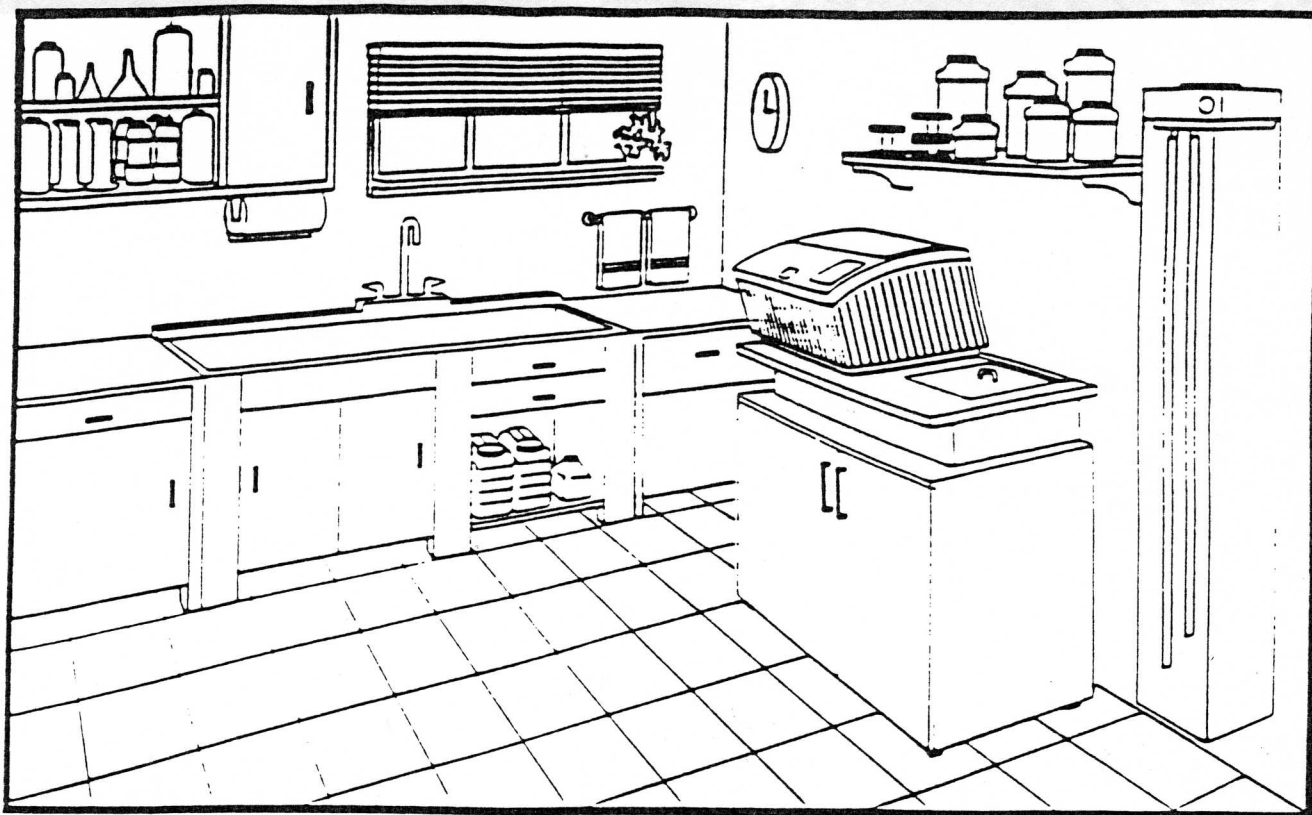


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This ATL-1000 Manual is part #60132 for units starting with serial #13191
Manual #60103 is for units with serial #13000 through 13190
Manual #66034 is for units with serial #12999 and lower



Welcome to the JOBO System

JOBO has been a leader in darkroom and processing technology for more than sixty years.

The Autolab ATL-1000 is the smallest, fully automated processing unit in the JOBO line. Since it comes with 15 of the most popular processes pre-programmed, you can process virtually any type of film and many popular paper processes easily and accurately in minutes. The ATL-1000 is versatile enough to be the main processor in your lab yet portable enough to be taken on location.

All the necessary functions (except drying) needed in photographic processing are fully automated with the ATL-1000. The working solution bottles and processing tanks or drums are kept at operating temperature with a water bath. Constant rotary agitation is maintained by the electronically controlled motor. Tempered chemistry is pumped from the stock bottles to the processing drum via an air pressure system. The ATL-1000 controls the timing of each chemical and rinse step, pumping in and dumping out at the appropriate times by following the programmed input to the second. Finally, the ATL-1000 offers you the option of reclaiming used chemistry separate from rinse water, reuse of developers for C-41 and B&W (with the addition of the JOBO Separator #4220), silver recovery or alternative disposal methods when necessary.

Technical Information

Height	11.9 in. (302 mm)
Height with top cover open	25.2 in. (640 mm)
Depth (Front to Back)	18.9 in. (480 mm)
Width	21.2 in. (540 mm)
Weight (empty)	24.25 lbs (11 kg)
Voltage	110-120 V/60hz or 220-240 V/50hz
Power Consumption	850 watts
Amps	7.42 Amps at 115 volts 3.9 Amps at 220 volts
Minimum Water Pressure	15 p.s.i. (1 bar)
Maximum Water Pressure	90 p.s.i. (6 bar)
Water Jacket Capacity	3.2 quarts (3.0 liters)
Process temperature	38°C for E-6/C-41 and 24°C* for B/W
Ambient room temperature range	50 to 86° F (10 - 30° C)
Maximum Film Format	4 x 5 inch
Maximum Print Format	8 x 10 inch (20 x 25 cm)
Max. Film Quantities	10 135-12 5 135-36 5 135-24 6 120 3 220 12 9 x 12 cm 12 4 x 5 inch
Max. Print Quantities	2 9 x 13 cm 2 3½ x 5 inch 2 4 x 5 inch 1 13 x 18 cm 1 5 x 7 inch 1 18 x 24 cm 1 20 x 25 cm 1 8 x 10 inch

* 24°C or room temperature, whichever is higher.

Max. Film Quantities

10	135-12
5	135-36
5	135-24
6	120
3	220
12	9 x 12 cm
12	4 x 5 inch

Max. Print Quantities

2	9 x 13 cm
2	3½ x 5 inch
2	4 x 5 inch
1	13 x 18 cm
1	5 x 7 inch
1	18 x 24 cm
1	20 x 25 cm
1	8 x 10 inch

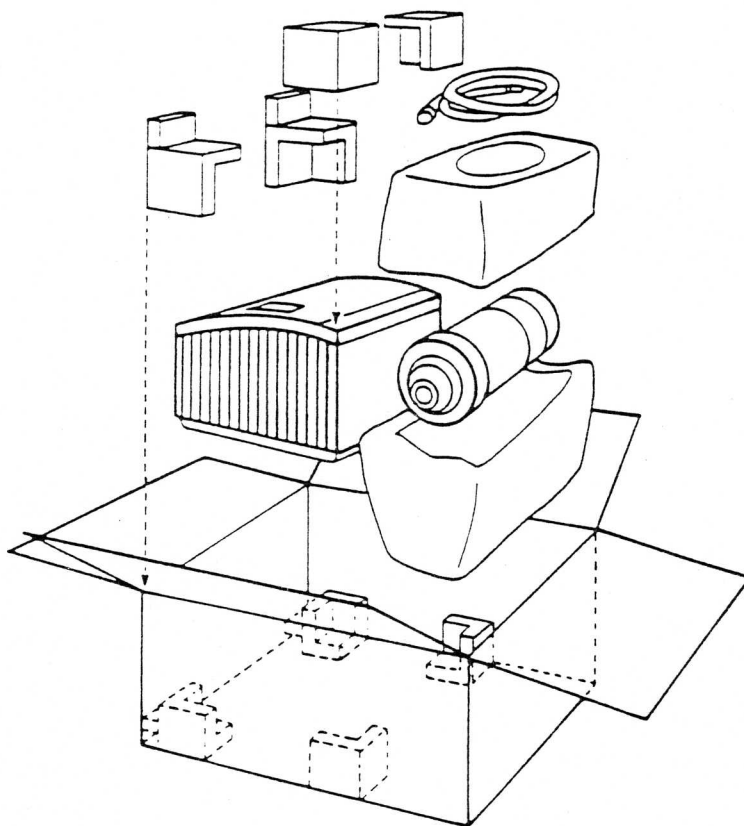
Unpacking

1

1.1 Removal from Carton

The unit will arrive in one carton. The shipping weight is 40 pounds (18.2 kg).

To unpack the ATL-1000, first cut open the top tape sealing the carton. Remove the packing material and then remove the ATL-1000 and all the accessories.



Check that all items listed in Section 1.4 are included in the package.

1.2 Hidden Damage

Check the processor for any damage and, if found, immediately contact the shipping company that delivered the unit or the dealer from whom you purchased the unit.

1.3 Packing Material

It is advisable to keep and store the carton and packing material for future shipping and/or moving of your ATL-1000 processor to prevent damage in transit.

1.4 Contents of Carton

The ATL-1000 package should contain the following items:

- 1- ATL-1000 Processor (Part #4210)
- 1- Instruction Manual (Part #66034)
- 1- Film/Print Tank (Part #4218)
- 1- Film/Print Drum (Part #4219)
- 2- Lids for Film/Paper Drum (Part # 91047)
- 5- Film Reels 35mm/120 (Part #2502)
- 1- Film Reel 4 x 5" including retaining plates (Part # 2509N)
- 1- Chemistry Displacement Device [Large Doughnut] (Part # 92066)
- 1- Pressure Hose for water hook-up (Part #16171)
- 1- Brass Hose Adaptor [North American Market only] (Part # 61003)
- 2- Stoppers for Film/Print Drum Lid (Part #15042)
- 1- Solenoid Valve Cap (Part #15023)
- 1- Rinse Water Pump Port Cap (Part #15024)
- 2- Tank Center Core (Part #04044)
- 1- Tank Center Core Extension (Part #04045)
- 4- Roller Block Rollers (Part #93023)

NOTE: The Solenoid Valve Cap (Part #15023) and Rinse Water Port Cap (Part #15024) are already installed on the back of the processor.

The Tank Center Cores (Part #04044) are shipped inside the Film/Print drums (#4218) and #4219) and the Tank Center Core Extension (Part #04045) is shipped inside the Film/Print Drum (Part #4219).

The lids (Part #91047) are shipped on the Film/Print Drums.

The reels (#2502 and #2509N) are shipped inside the Film/Print Drums. The Retaining plates for the 2509N reel are in slots in the lower grey packing material.

The Stoppers for Film/Print Drum Lids (Part #15042) and 2 of the Roller Block Rollers (Part #93023) are shipped inside the Film/Print Drum (Part #4218).

Pre-Installation Considerations

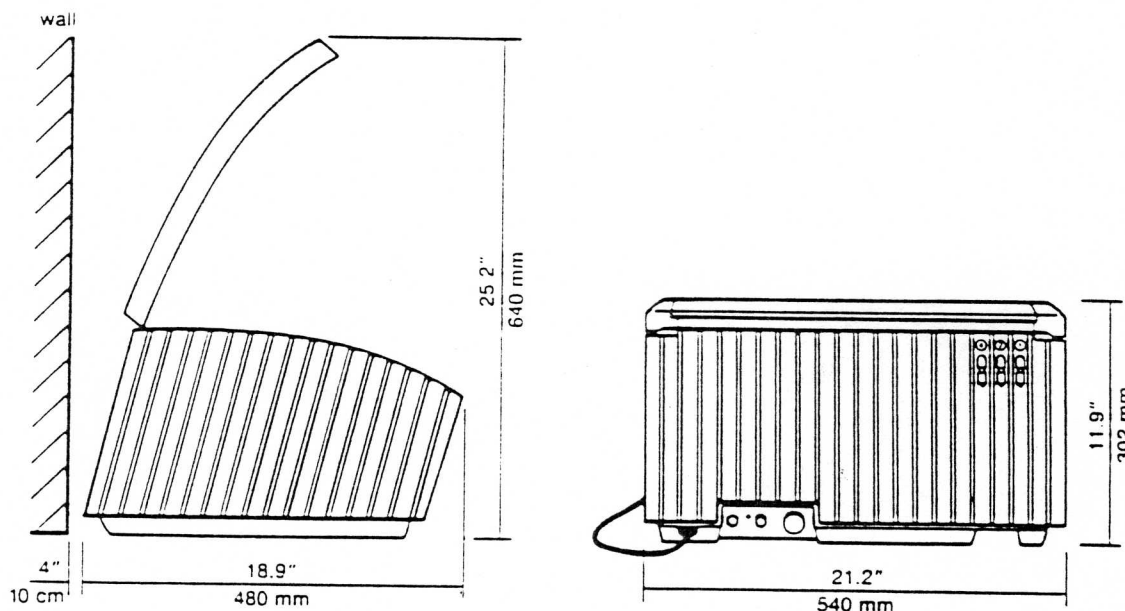
2

2.1 Location

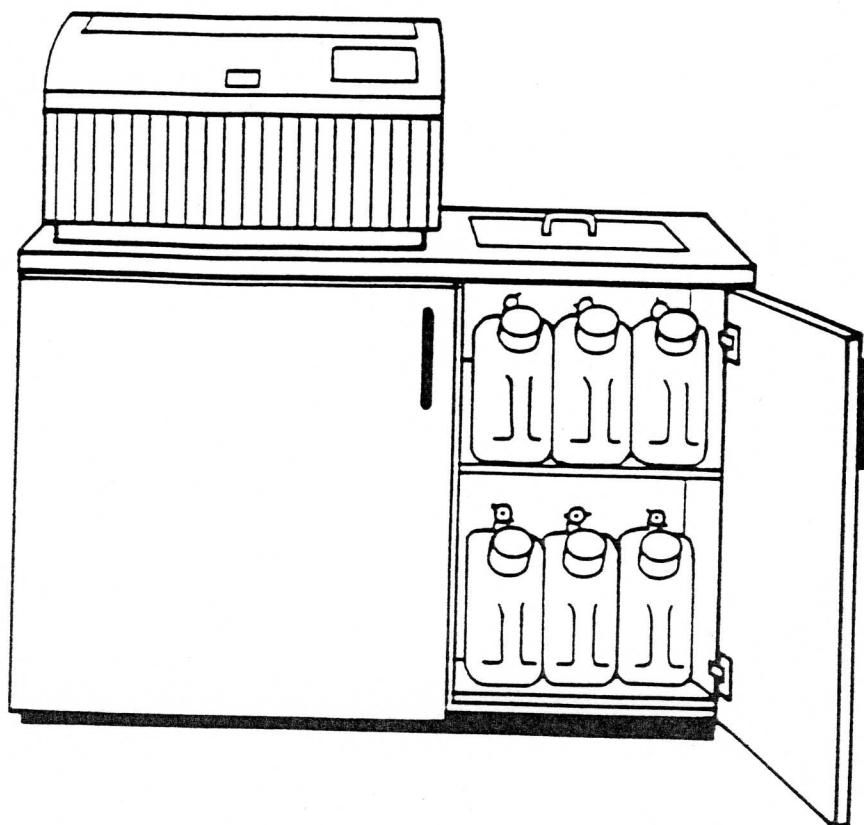
The ATL-1000 processor does not need to be located in a darkroom since all tanks and drums used with it are light-tight.

The ATL-1000 is most easily used when located near adequate drain facilities, hot and cold water sources, and electrical power. (With external pump accessory #4212 the ATL-1000 can be used without a pressurized water source. With Cord #4208 or Battery #4211 the ATL-1000 can be used without a permanent power source. See Section 3.4 for more information on these items.) If normal drain facilities are not available, the chemistry and rinse water can be collected in containers for later disposal. With the addition of the Chemical Separator (#4220), chemical disposal in compliance with your local EPA requirements is much easier, less costly, and easier to neutralize. Be sure to read the sections in this chapter on each of these items before choosing the location of the processor.

The ATL-1000 must be located on a level surface capable of supporting 51 lbs. (23.2 kg.) Due to the possibility of splashing, this surface should be water proof. The surface must be higher than the intended drain (or disposal containers) for the processor.



The JOBO ATL-1000 processor can be located on a counter-top, or on a specially designed JOBO support table (Part #4214). This table provides a convenient operating height for the processor, a covered sink adjacent to the processor for film stabilizing, storage for six 5 liter bottles (included), up to four 15 liter containers, and storage for tanks and reels.



Warning: For safety reasons do not place the ATL-1000 in any location where liquid could rise above the bottom of the processor. If the ATL-1000 is found in liquid above the bottom of the unit, immediately unplug the unit from the power source. Do not touch the liquid until all power is completely disconnected. Contact the service department of JOBO before again plugging in the ATL-1000.

2.2 Electrical Service

A grounded circuit of an ampere capacity equal or greater to that required by the ATL-1000 is required. To determine needed capacity see the Technical Specifications on Page 7 of this manual. (It is important to note that while your facility may have circuits rated above the requirements of the ATL-1000, if other devices are connected to the same circuit the total power consumption of all the devices may exceed the circuit capacity. If you have questions, contact a qualified electrician.)

It is advisable (and in some places required by local electrical code) to connect the ATL-1000 to a circuit that is "ground fault protected". (See a qualified electrician for more information.)

The length of the power cord on the ATL-1000 is approximately 5 feet (152 cm). Make sure an adequately rated electrical outlet is located within 5 feet (152 cm) of the proposed location of the ATL-1000.

Do not operate the ATL-1000 while connected to underrated extension cords or attached to overloaded circuits.

2.3 Water Pressure

Water pressure between 15 and 90 p.s.i. (1 to 6 bar) is required to fill the processor to the proper levels. Pressure of less than 15 p.s.i. may cause an exceptionally long fill time for the tempering bath and/or inadequate rinsing. Water pressure greater than 90 p.s.i. can damage the processor. (In the U.S.A. a pressure reducer [JOBO Part #61004] may be ordered from JOBO or your JOBO dealer if necessary.)

The ATL-1000 requires one water inlet hose which is supplied with the unit.

To avoid the possibility of water damage should the hose leak, always have faucets accessible and turn off faucets when the processor is not in use.

NOTE: See Section 3.3 for information on use of submersible pump #4212.

2.4 Water Temperature

The ATL-1000 requires a tempered water inlet. The tempered source should be set to within $\pm 1.0^{\circ}\text{F}$ (0.5°C) of your processing temperature. (In the U.S.A. a temperature control panel [JOBO Part #4190] may be purchased from your local JOBO dealer or directly from JOBO.)

The water inlet fills the water bath and is also the source of rinse water for the processes.

2.5 Drain Facilities

The ATL-1000 processor has two separate drain outlets; one for rinse water and the tempering bath, and another for used chemistry. Each drain outlet comes with a hose attached. The hoses are approx. 39 inches (100 cm) long and have a diameter of .86 inches (22 cm).

The ATL-1000 can be placed on a counter-top or on the specially designed support table from JOBO (Part #4214). (*See warning in Section 2.1*) In either case both processor drains must be routed to drains that are lower than the processor or alternately they can be routed to canisters. If the drain hoses are routed to canisters, it is important that the canisters have sufficient volume to handle the outflow of the processor. The drain hoses should be placed at a level that will insure that the end of the hoses will not be submersed in the liquid in the containers. This is important to insure siphoning does not occur. The largest amount of water supplied by one process would be 2.9 gallons (11 liters) which would be generated by the E-6 process. With draining of the tempering bath the total water output would be 3.7 gallons (14 liters). The largest amount of used chemistry generated in one processing run would be 1.2 gallons (4.5 liters). (6 bottles with 750 ml in each). If using the Chemical Separator (#4220) the chemical hose (yellow) is not utilized, but you will need 2 canisters to collect spent chemicals.

2.6 Room Temperature

While running any process the processor tempers the chemistry and processing tank with a recirculating water bath. The E-6 and C-41 processes will operate at 38°C (100°F). The B/W film processes and the two paper processes will operate at 75°F (24°C). Changes in room temperature between 50°F (10°C) and 86°F (30°C) will not affect the processor's ability to temper accurately (see Section 4.7 for details on how to adjust the processing for room temperatures out of this range).

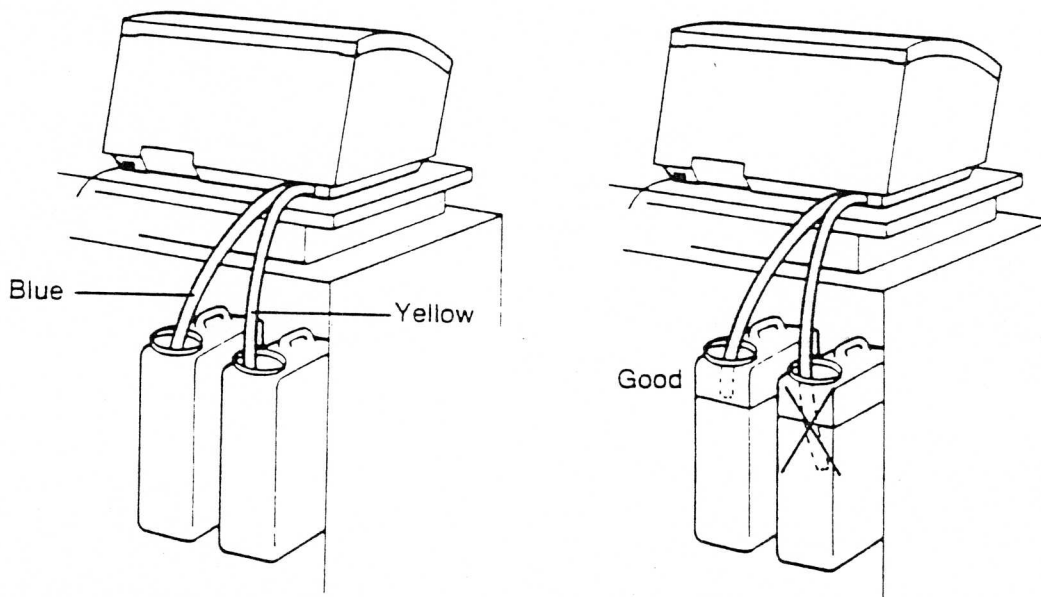
Installation Instructions 3

3.1 Placement of Processor

Place the ATL-1000 on the surface chosen for it (See Pre-Installation Considerations). The surface chosen should be as close to level as possible. The final level of the unit will be checked in Section 3.5. Failure to properly level the processor can result in poor processing results.

3.2 Drain Connection

The ATL-1000 is shipped with two drain hoses installed. They are each 39 inches (100 cm) long and .86 inch (22 mm) in diameter. The hose with a blue label is for all water drained from the processor. This includes water used during rinse steps in processes as well as water from draining the recirculating tempering bath. The hose with the yellow label is for draining used chemicals from the processes. Each of these hoses must be routed to drains or canisters lower than the bottom of the ATL-1000 processor. (See Environmental Warning below). It is important that the ends of both drain hoses not be submersed in the drained liquid. This prevents siphoning and possible damage to the processor. If canisters are used, they must have sufficient capacity to hold the amount of effluent that will be drained. The largest amount of rinse water drained by one process would be 3.7 gallons (14 liters) (11 liters of rinse water and 3 liters from the tempering bath). The largest amount of chemicals drained by a single process would be 1.2 gallons (4.5 liters). If using the Chemical Separator (#4220) the chemical hose (yellow) is not utilized, but you will need 2 canisters to collect spent chemicals.



IMPORTANT Blocking the hoses in any way could cause serious damage to the ATL-1000 processor. Be sure to place the hoses where nothing could be placed on top of them. It is also important that the ends of the hoses not be submersed in the drained liquid to prevent siphoning.

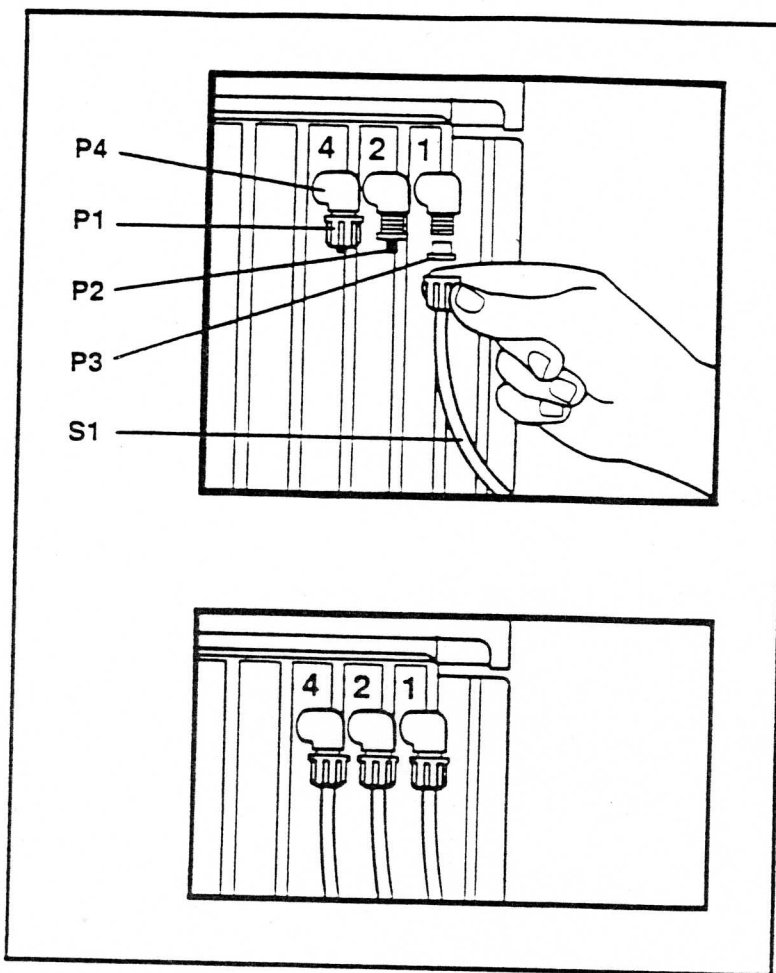
Environmental Warning Caution should be exercised in placing used photo chemistry down the drain. Local governmental regulations may limit your right to place certain chemicals into the sewage system of your facility. Check with local governmental authorities for more information on EPA regulations.

Utilizing the Chemical Separator

The Chemical Separator (#4220) allows you to collect used chemistry by separating acid and alkaline solutions.

Place the Separator on top of the collection containers. Guide the three air hoses (S1) from the separator to the back side of the ATL-1000. Unscrew the nut-ring band (P1) and remove plugs (P2).

Push nut-ring band (P1) and washer (P3) on to hoses (S1) (in that order). Attach the hoses (S1) to their designated separator connector (P4) and tighten the nut-ring band (P1). Set the switch to "A" when processing C-41, black & white, RA-4, or EP-2. Set the switch to "B" when processing E-6.



All the chemicals involved in developing (i.e. developer, first developer, color developer, and reversal) are routed into one container, and all the chemicals involved in stopping development or in retaining permanence (i.e. bleach, stop, fix, bleach-fix, and conditioner) are routed into another container. Now it is possible to reclaim developer for C-41 and black & white for reuse. In addition, it makes disposal of chemicals more simple, less costly and easier to neutralize for regions where EPA regulations are strict.

Note: When using the separator with E-6 three bath chemicals, an air hose must be repositioned in the ATL-1000. Please refer to the instructions included with the Separator for information on this procedure.

3.3 Water Inlet Connections

Connection to normal water source

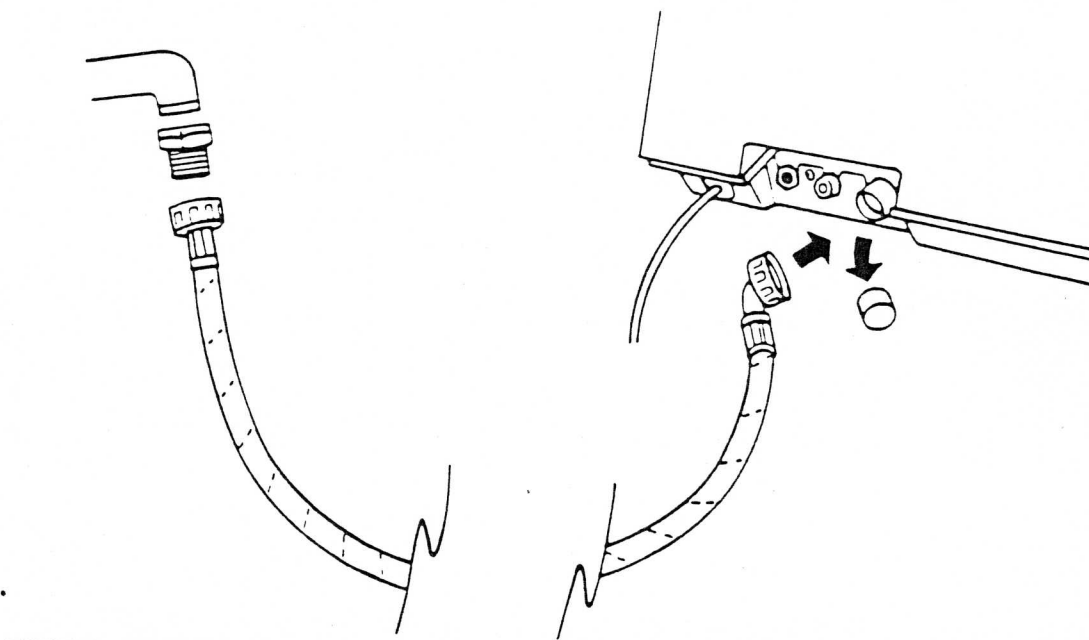
The ATL-1000 comes with a $\frac{3}{4}$ inch high pressure hose to hook up water to the processor. In order to hook up this hose, the cap must first be removed from the water input connection on the back of the processor. This cap should be retained as it is needed when the processor is used with the accessory external pump. The 90° end of the hose should be attached to the processor at the rear water connection. (See illustration below) The other end should be attached to the tempered water source. *(Note: This hose has a $\frac{3}{4}$ inch N.P.T. thread. This differs from the North American standard of $\frac{3}{4}$ inch "garden hose" thread. A brass adaptor is included with processors sold in North America. This adaptor should be used on the end of the hose between the hose and the water supply faucet or water tempering panel outlet.)*

When connecting the inlet hose to the water valve, be sure the hose connector is not cross threaded on the valve. Tighten the hose securely by hand. Do not over-tighten as this can strip threads on the water valve. The use of teflon plumbing tape on the threads can help to eliminate leaks.

The pressure of the water supply line must be between 15 and 90 p.s.i. (1 to 6 bar). Pressures lower than 15 p.s.i. will cause insufficient rinsing and pressures higher than 90 p.s.i. could cause damage to the ATL-1000. Use a pressure reducer (in U.S.A. order JOBO Part #61004) if necessary.

Once the connections are properly hand tightened and tested to insure no leaks occur, set the tempered water supply to within $\pm 1^{\circ}\text{F}$ (0.5°C) of the intended processing temperature.

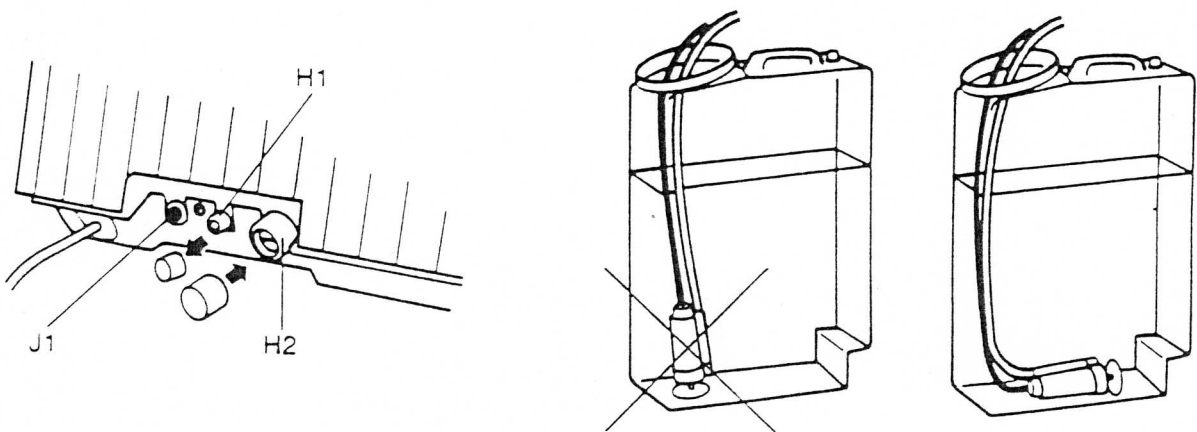
Note: Depending on the condition of the tap water in your area, you may consider installing a water filtration device. Particles in the rinse water can damage your film.



Utilizing a Portable Water Source

With the addition of the #4212 submersible pump it is possible to operate the ATL-1000 without attaching the processor to a pressurized water source. The pump is attached to the processor and placed into a container of tempered water. The ATL-1000 automatically draws water via the pump at any processing step that requires water. Water can be heated utilizing a portable heating rod #4216. To use the #4212 pump perform the following steps:

- #1 Plug the electrical connector from the pump into the ATL-1000 processor at connector J1.
- #2 Remove the cap from the hose connection H1.
- #3 Attach the pump hose at connector H1.
- #4 Place the cap over the $\frac{3}{4}$ inch solenoid valve connection (H2). The ATL-1000 is shipped with this cap in place but it may have been removed if the processor was originally used with a normal water source instead of the external pump.
- #5 Manually fill the tempering bath with water until the water level reaches the line (See illustration below Section 3.5) on the back wall of the inside of the processor.
- #6 Place the pump into the container with the proper amount of **tempered** water. The pump should lay flat on the bottom of the container. (See specific processes in Chapter 9 for required rinse water amounts)



Note: When using the portable pump, the water/rinse hose (#13) does not work when pressing the rinse water button (#9).

3.4 Electrical Connection

Observe ALL National Electrical Codes and Local Codes & Ordinances

Connection to A.C. Power

A grounded, fused electrical supply is required. See Technical Specification in the beginning of this manual for exact parameters. Do not use an extension cord unless it meets all requirements as outlined for grounding, polarizing, and current capacity.

It is recommended (and in some locales required) that the ATL-1000 be plugged into an outlet that is "ground fault protected". See a qualified electrician for more information.

Grounding

Important Safety Precautions

Warning- To prevent unnecessary risk of fire, electrical shock, or personal injury, all wiring and grounding must be done properly. (In U.S.A, all wiring and grounding should be done in accordance with the National Electrical Code ANSI/NFPA and local codes and ordinances.) It is the personal responsibility and obligation of the processor owner to provide adequate electrical service for this processor.

Electrical Ground is Required

Your processor must be grounded. In the event of malfunction or breakdown, grounding will reduce the risk of electrical shock by providing a path of least resistance for electrical current.

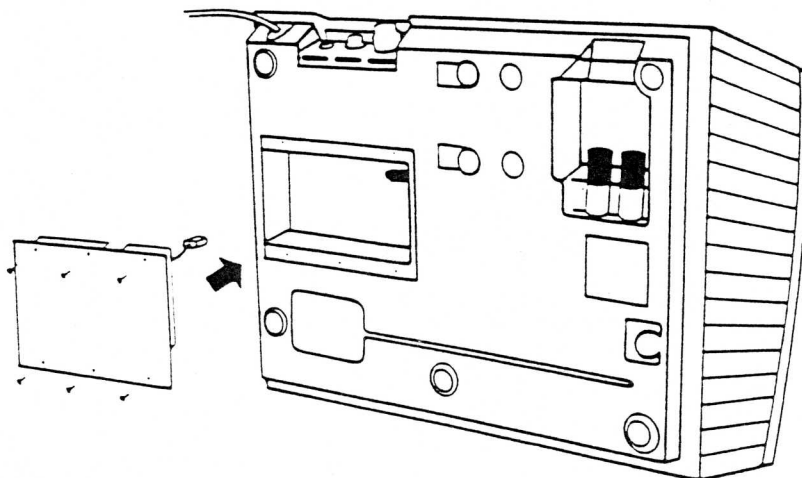
The processor is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not, under any circumstances, modify the plug provided with the processor. If it will not fit the outlet, have a proper outlet installed by a qualified electrician.

Do not plug in, operate, or test the processor until proper power and ground connections have been made. Consult JOBO with any questions.

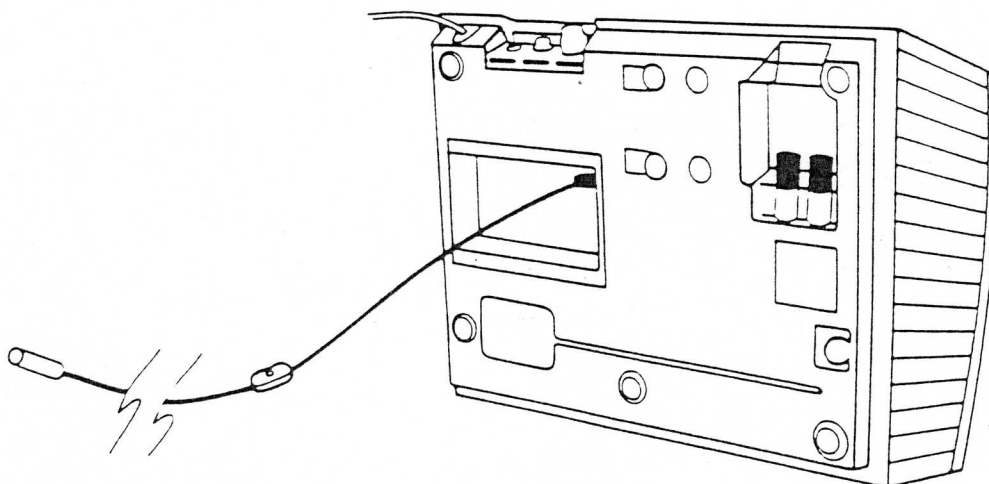
Battery Back-up for Power Failure

A specially designed battery power supply (JOB0 #4211) can be installed in the ATL-1000 for back-up in case of power failures. This battery allows completion of an already running process by providing all functions except heating. (Sufficient residual heat remains in the water bath to finish a running process.) The battery back-up is not intended for running actual processes but only as a back-up in case of power failure. The battery is automatically recharged by the ATL-1000 during normal operation. The back-up battery and charger are plugged into the special socket (#20) on the underside of the processor and then the unit is attached with the supplied screws. (See Illustration below.)



Mobile Power Supply Cord

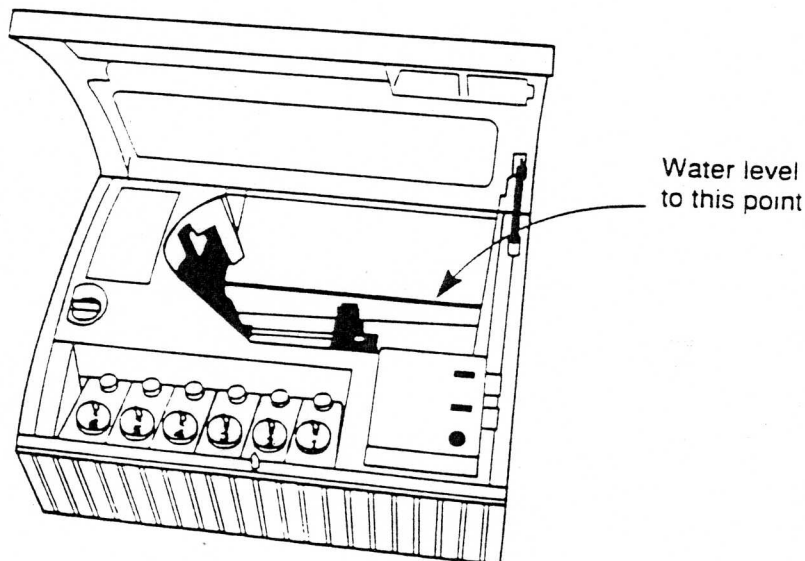
The ATL-1000 can be operated (without heating, for room temperature processes only) from a 12 volt power source. For this purpose a special cable (JOB0 #4208) is required. This 78 inch cable is attached to a connector (#20) on the underside of the ATL-1000 (See illustration below). The other end can be attached to a 12 volt power source. (Maximum amperage 3 Amps.) When this cable is in use the "ON/OFF" switch of the ATL-1000 does not function. To switch the unit on and off the switch on the cable is used.



3.5 Leveling the Processor

In order to assure even and complete processing of material in the ATL-1000 it is necessary for the machine to be level. To assure that the processor is level perform the following steps:

- #1 Turn the program selector knob (#7) to E-6.
- #2 Close all bottles lids and close drain valve (#11).
- #3 Close the top cover (#10) of the processor.
- #4 Press the ON/OFF button (#8) to turn on the machine.
- #5 Wait until the tempering bath of the processor is full. (Water filling sound will stop).
- #6 Press the ON/OFF button (#8) to turn off the machine.
- #7 Open the top cover (#10) of the processor.
- #8 Check that the top of the water line is parallel with the leveling line inscribed in the machine. (See illustration below.)
- #9 If the machine is not level place material under appropriate corners of the machine to level it.



3.6 Installation Check List

- Processor is properly grounded and plugged into a correctly polarized electrical outlet.
- Water is turned on and checked for leaks at faucets and at water valves.
- Drains are properly attached and routed.
- Processor has been leveled.
- Water inlet temperature is correct.

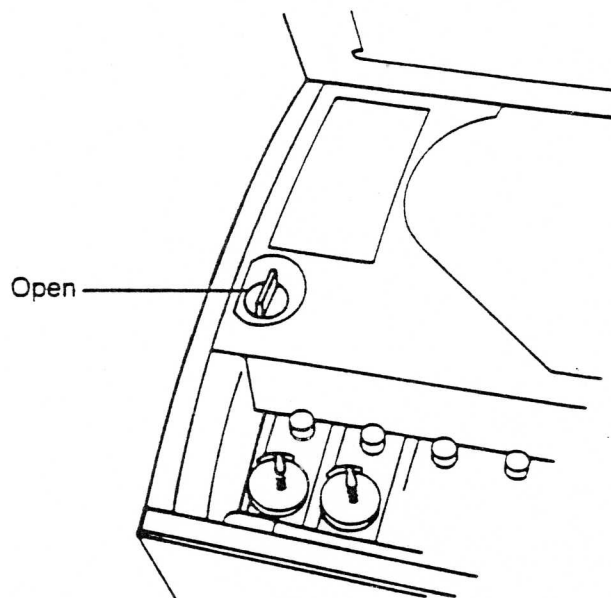
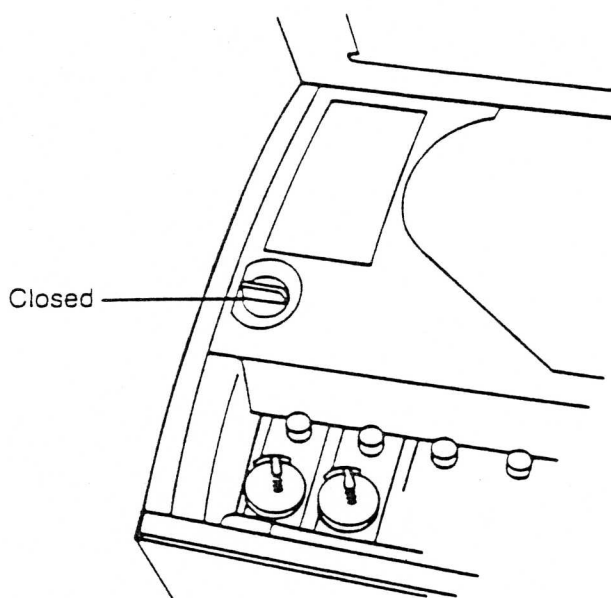
Preparing for Operation

4

NOTE: Numbers in parentheses refer to the legend found in the back of this manual.

4.1 Getting Started

- Turn on the tempered water supply.
- Make sure the drain valve (#11) is closed.



4.2 Adjusting the Water Temperature

The water for the ATL-1000 is supplied by the tempered water inlet connected to the rear of the machine. The temperature of this incoming water must be adjusted with an external mixing valve and thermometer. (In U.S.A. a mixing panel specially designed for the ATL-1000 is available. Order Part #4190.) The incoming water must be within $\pm 1^{\circ}\text{F}$ (0.5°C) of the processing temperature. Adjust the rinse water accordingly for each process run. (See Chapter 9 for the temperature of each process.)

4.3 Determining Chemical Amount in Solution Bottles

The ATL-1000 allows processing of different types and amounts of film and paper. These combinations are all processed using one of two tank/drums supplied with the ATL-1000. Two methods may be used to determine the proper amount of chemistry to fill in to the solution bottles.

With the first method the actual amount of chemistry needed for any tank/film combination is filled into the bottles. This needed amount can be determined by utilizing Chart# 1 (below). These exact amounts can be measured with graduates and filled into the bottles before processing. (See Section 4.4 for details on actual filling of bottles.)

Chart #1

FILMS	Tanks										
											
	Reels										
	1x 2502 + 92066	1x 2502	2x 2502	1x 2509N	2x 2509N	2x 2502	3x 2502	4x 2502	5x 2502	1x 5x7" or 8x10" Print	2 3½x5" or 4 x 5" Prints
1x 135/36	170ml										
2x 135/36			250ml								
3x 135/36							500ml				
4x 135/36								500ml			
5x 135/36									600ml		
1x 120		125ml									
2x 120		250ml									
3x 120											
4x 120						500ml					
5x 120							550ml				
6x 120							660ml				
1x 220		250ml									
2x 220						500ml					
3x 220							660ml				
1 to 6x 4 x 5"				270ml							
6 to 12x 4 x 5"					560ml						
1x 5 x 7" Print										100ml	
1x 8 x 10" Print										100ml	
1x 3½ x 5" Print											40ml
2x 4 x 5" Print											40ml

The second method is much easier but may utilize a higher amount of chemicals to process a given type of material. This simpler method utilizes indicators (#12) built in to each of the solution bottles. With this method only three fill quantities are used, 170 ml (6 oz.), 300 ml (10 oz.) or 640 ml (22 oz.). The needed amount can be determined by utilizing Chart #2 (also found on a sticker on the ATL-1000). Viewing this chart will show that every possible combination requires one of the three solution amounts. (See Section 4.4 for details on actual filling of bottles and use of the level indicators.)

Chart #2

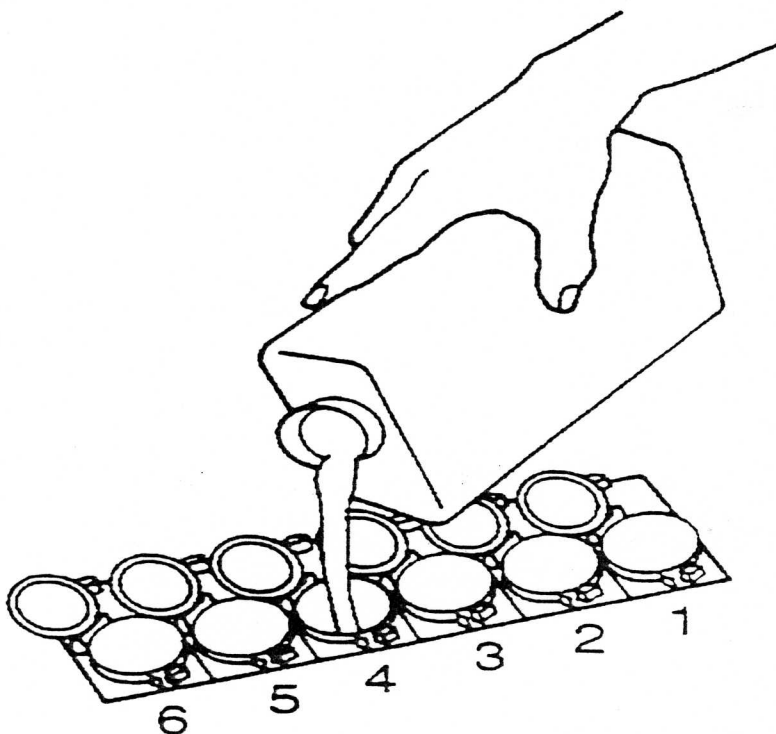
	1 x 135	
	6 x 4 x 5 2 x 135 2 x 120	
	2 x 4 x 5 1 x 120 1 x 3 1/2 x 5	
	12 x 4 x 5 5 x 135 6 x 120	
	3 x 120	
	1 x 5 x 7 1 x 8 x 10	

Note:

A doughnut shaped device (Part # 92066) is included with the ATL-1000. This device is used in the smaller tank when 1 roll of 35mm film is processed. The device must be placed in the bottom of the tank for proper processing.

4.4 Filling the Solution Bottles

After the required amount of chemistry has been determined, open the top cover (#10) by depressing latch. Open the lids (#14) on the 6 solution bottles and pour in the correct amount of chemistry according to the charts above (Under Section 4.3). See Chapter 9 for information on which chemical to put into each bottle according to the process to be run. To insure the most accurate tempering and reproducible results the chemistry being poured into the bottles should be less than 30°C (86°F) for E-6 and C-41 processes and chemicals for all other processes should be at room temperature.



E-6 and C-41 Film Processes:

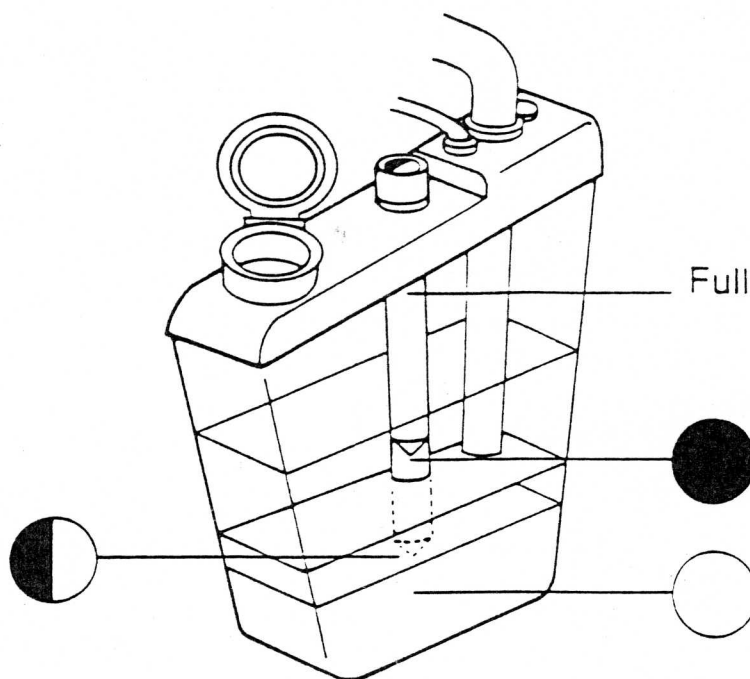
If the chemistry temperature is below 36.0°C, the water bath heats to 41.0°C. When the chemistry reaches 36.5°C the water bath cools to 38°C and maintains that temperature. When the Chemistry goes above 37.5°C the process starts.

It is *very important* to note that the machine will start if the chemistry is above 37.5°C. It could be 50.0°C and it would still start. It only senses that the temperature of the chemicals is above 37.5°C. Do not fill the processor with over heated chemistry. We recommend 30.0°C for the fill-in chemistry. This allows time for the chemistry to temper and also enough time to temper a tank.

B&W Film and All Print Processes:

These are processed at 24°C (75°F). Your processor will start these processes when it has heated the chemicals to 24°C. It is important to note that these programs will run at any temperature above 24°C.

When filling the solution bottles utilizing the second method the three possible required solution amounts are easily determined utilizing the optical fill indicators on each bottle. (See Illustrations at right.) When the bottle has less than 170 ml the indicator will first be light on both sides. (See Illustration at right.) As the solution amount in the bottle reaches 170 ml one half of the indicator will turn dark. (See Illustration at right.) As the solution amount reaches 300 ml both halves of the indicator turn dark. (See Illustration at right) When the bottle is filled to one inch below the neck it contains 640 ml. (See Illustration at right.) The bottles in the ATL-1000 will hold 750 ml when completely filled, however, no process run in the ATL-1000 requires more than 660 ml.



4.5 Chemical Reclaiming

The ATL-1000 automatically separates used chemicals and rinse water during the drain cycles of the program. All rinse water is routed to one outlet hose (blue label) and all used chemicals are routed to another outlet hose (yellow label). (See Sections 2.5 and 3.2 for description of drain outlets.) If the water and chemicals will not be routed to a drain facility, it is necessary to provide storage containers large enough to handle the output of the machine. The largest amount of liquid that would be discharged in one process run is 3.7 gallons (14 liters) of water and 1.2 gallons (4.59 liters) of used chemicals.

Before starting the process, either route both hoses to a drain facility or make sure they are routed to canisters large enough to hold the outflow of the process.

With the addition of the Chemical Separator (#4220), you can collect used chemistry by separating acid and alkaline solutions. All the chemicals involved in developing (i.e. developer, first developer, color developer, and reversal) are routed into one container, and all the chemicals involved in stopping development or in retaining permanence (i.e. bleach, stop, fix, bleach-fix, and conditioner) are routed into another container. This makes it possible to reclaim developer for C-41 and black & white for reuse. In addition, it makes disposal of chemicals more simple, less costly and easier to neutralize for regions where EPA regulations are strict.

WARNING: Government regulations can affect your right to put chemistry into drains in your facility. Consult the proper authorities for regulations affecting your installation before proceeding.

4.6 Selecting the Program

The ATL-1000 comes pre-programmed with 15 of the most popular processes and one cleaning program. The programs are listed below. (For more detail on each process including times and descriptions see Chapter 9.) To select a program turn the program selector knob (#7) until the proper program appears in the window next to the knob.

<u>PROGRAM #</u>	<u>PROGRAM NAME</u>
1	E-6 Six Bath (Standard)
2	E-6 Six Bath (Push one stop)
3	E-6 Six Bath (Pull one stop)
4	E-6 Three Bath (Standard)
5	E-6 Three Bath (Push one stop)
6	C-41 Standard (Kodak Chemistry)
7	C-41 Two Bath Standard Program
8	C-41 Two Bath (Push one stop)
9	B/W Film (Five minute developer)
10	B/W Film (Seven minute developer)
11	B/W Film (Nine minute developer)
12	B/W Film (Eleven minute developer)
13	B/W Film (Fourteen minute developer)
14	Printmaster EP-2
15	RC B/W Print
16	Cleaning

4.7 Time Adjustment Switch

The Time Adjustment Knob (#5) allows variation in the process times of any of the 15 programs. The knob is normally set to the "NORMAL" position. In this position programs run the times listed in Chapter 9 of this manual. Occasionally need arises to vary the process times due to used or atypical chemistry. The processing times can be increased or decreased as a percentage of the overall time by selecting various plus or minus options on the switch. Changes in the Time Variation Knob affect all steps of the process being run.

The Time Adjustment Knob can also be used to "fine tune" B/W film developing. See the chart in Section 9.4 for a list of possible B/W developing times utilizing the 5 B/W programs and the Time Adjustment Knob.

4.8 Loading Film Reels and Tank/Drum

One of the most important aspects of preparing to process with the ATL-1000 is loading the material to be processed. Both film and paper can be processed in the two tank/drums provided with the ATL-1000. See the next chapter for information on loading the reels, and tank/drums.

Loading Tanks/Drums and Reels

5

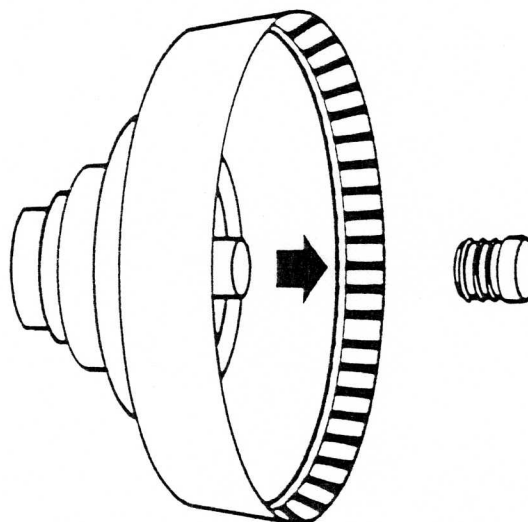
5.1 Loading 35mm, 120 and 220 film.

Using the chart in Section 4.3 choose the proper tank for the amount of film you intend to process.

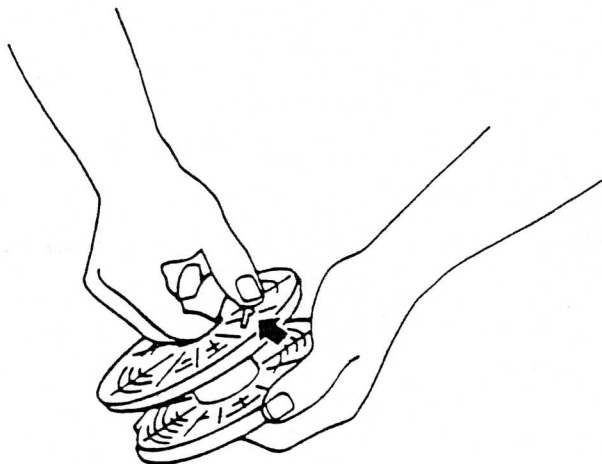
With lights still on, open a clean, dry, tank by pulling up red sealing ring and removing lid.



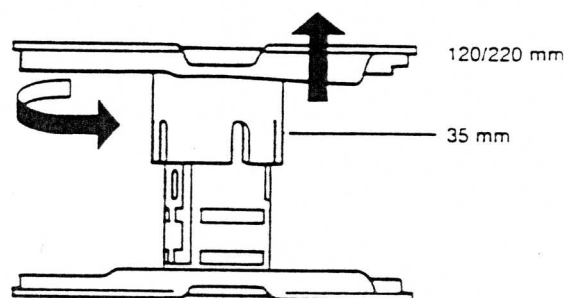
Check that the stopper used for print processing (#15042) is removed from the funnel.



Pull out red film separator clip from reel groove.

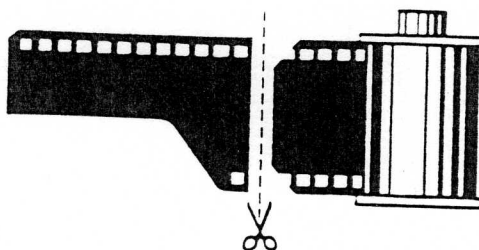


Set the reel(s) to the proper size. Rotate the upper flange counter-clockwise past a resistance and lift to the required height. Lock the reel flanges back together by rotating the reel clockwise past the resistance.



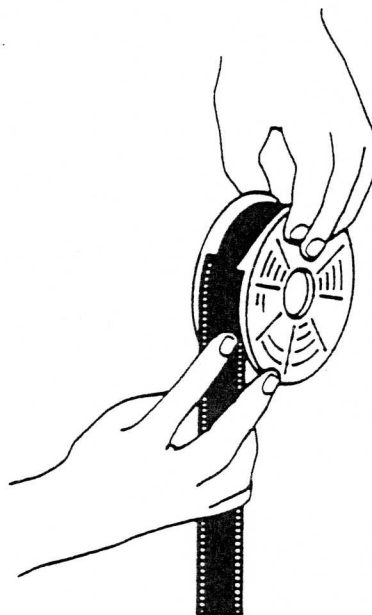
In total darkness:

35mm Cut off 35 mm film straight and round off corners.

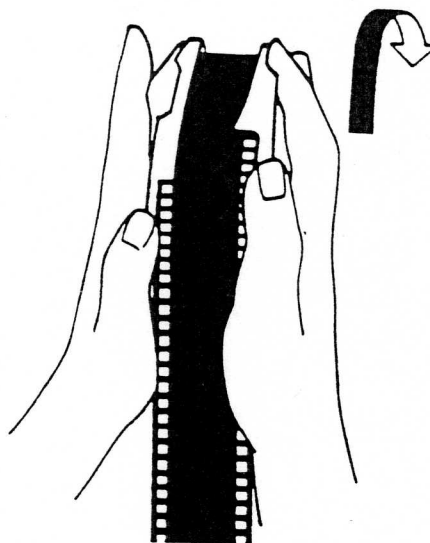


120 or Remove backing paper and
220 film round corners.

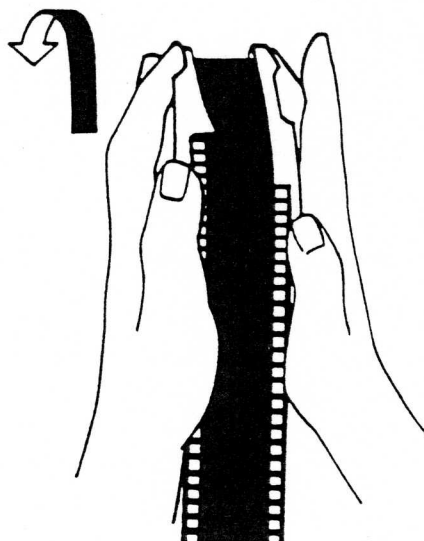
Push the beginning of the film into the first groove of the reel.



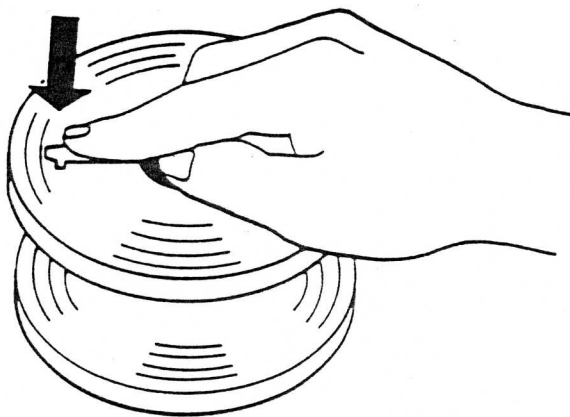
Place the right index finger on the film edge in the recess in the side of the reel. Turn the right reel flange clockwise to it's stop. Lift off the right index finger and ...



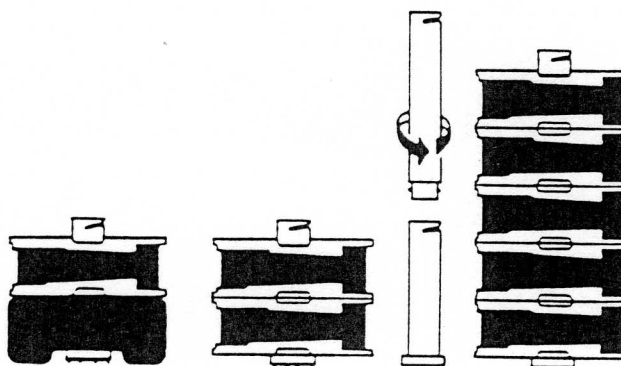
... repeat with the left hand reel flange. Draw the film into the spiral groove by alternate rotation of the left and right flanges. Continue rotating until the film is drawn completely to the center of the reel.



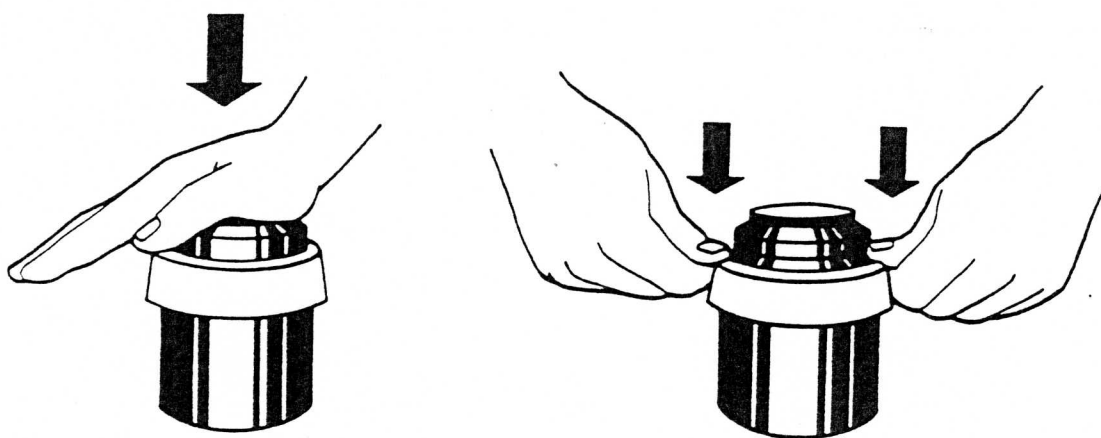
The reel can hold one 35mm film, one 220 film or 2 rolls of 120 film. To load a second 120 film, press in the red film separator clip after loading the first film all the way to the center of the reel. Then load a second film in the same manner as the first. For all other films except 120 ignore this step and proceed to the next step.



Still in total darkness, push the loaded reel(s) over the center tube. This is important to eliminate light leaks into the tank. (When processing one roll of 135 in the small tank place the Chemistry Displacement Device on the center core first.)



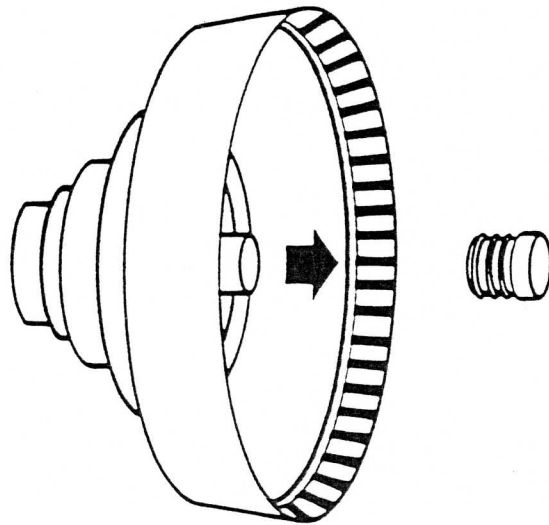
Still in the dark, insert the reel(s) and center tube into the tank, push down the lid firmly with the palm of your hand and then press down sealing ring. The sealing ring will lock tightly when properly connected. Check to assure the lid is properly connected before continuing.



5.2 Loading the Sheet Film reel.

Using the chart in Section 4.3 choose the proper tank for the amount of film you intend to process.

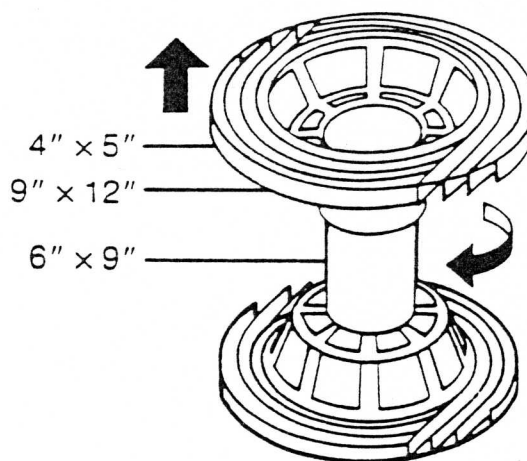
Check that the stopper used for print processing (#15042) is removed from the funnel.



With lights still on, open a clean, dry, tank by pulling up red sealing ring and removing lid.

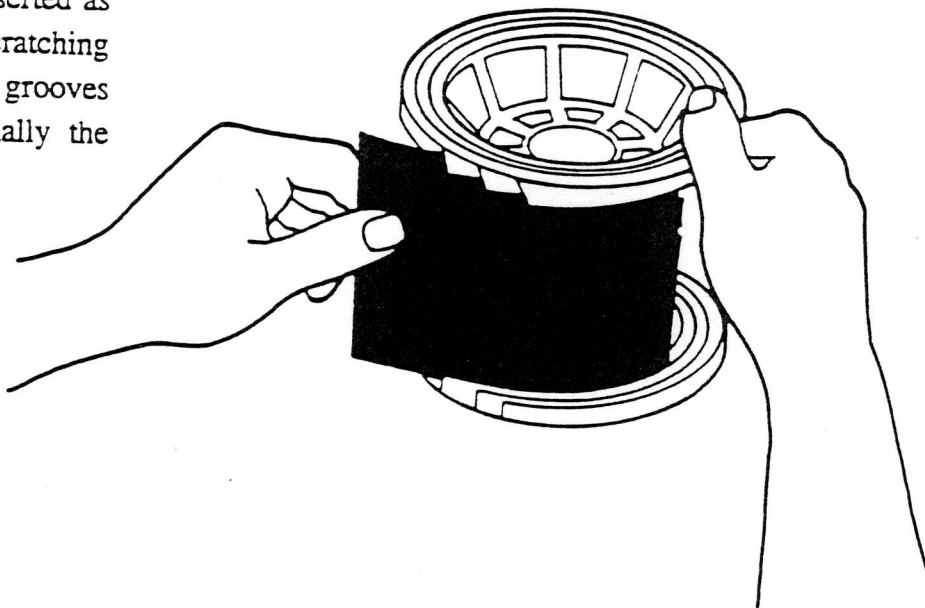


Adjust the reel to the proper film size (4x5", 6x9 cm or 9x12 cm) by holding one half in each hand and rotating the left spiral clockwise until it can be slid to the proper width for the film to be loaded.

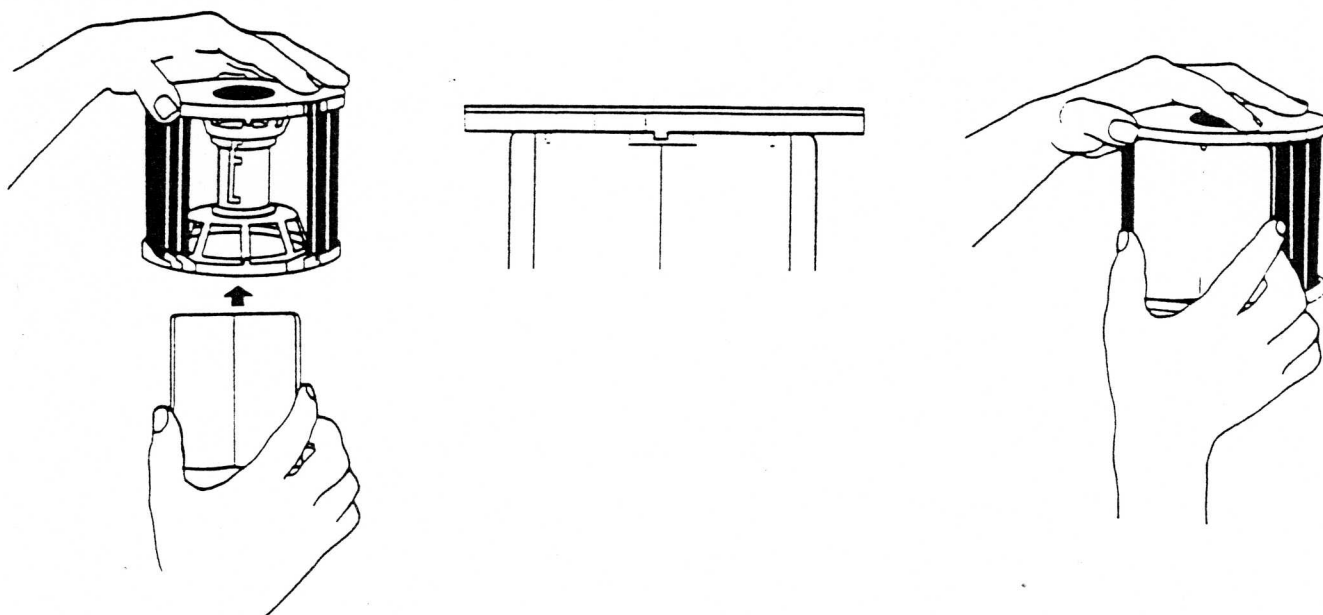


In Total Darkness:

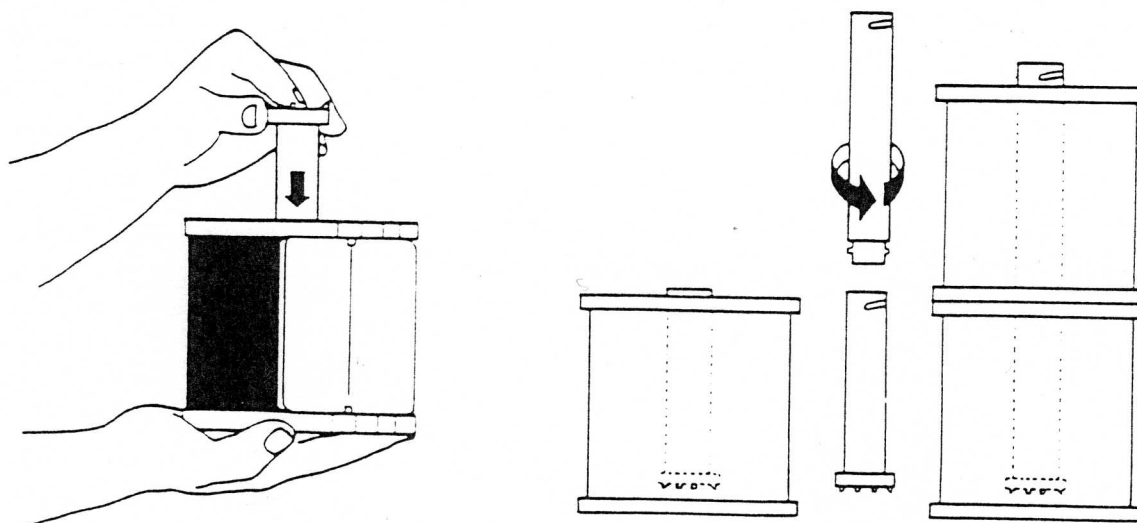
Insert films into the grooves with the emulsion facing inward toward the center core. Film should be inserted as far as it will go. To avoid scratching always load the innermost grooves first, then the middle and finally the outer grooves.



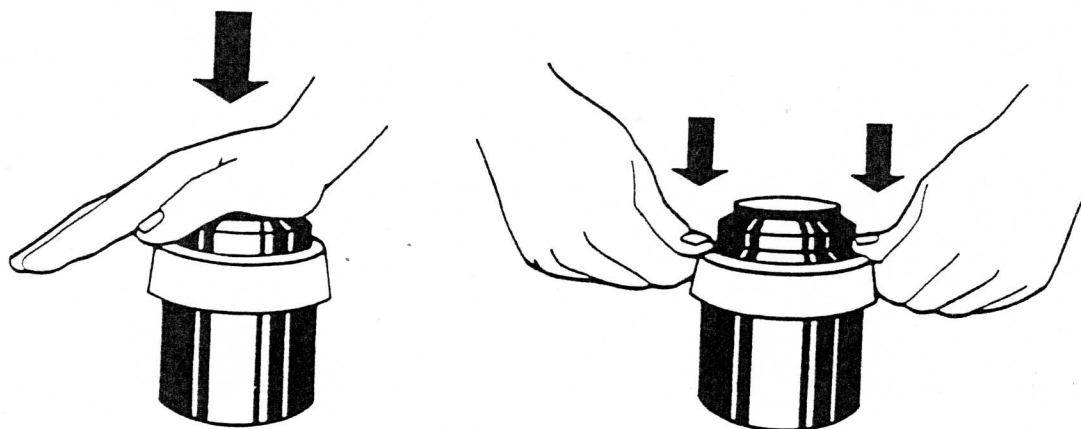
After all sheets have been loaded, snap the retaining plates into each side of the reel. On each side of the reel, on both the top and bottom flanges, are three studs. The center stud is fit into the notch on the retaining plate and the two smaller studs remain behind the plate.



Still in total darkness, push the loaded reel(s) over the center tube. This is important to eliminate light leaks into the tank.



Still in the dark, insert the reel(s) and center tube into the tank, push down the lid firmly with the palm of your hand and then press down sealing ring.

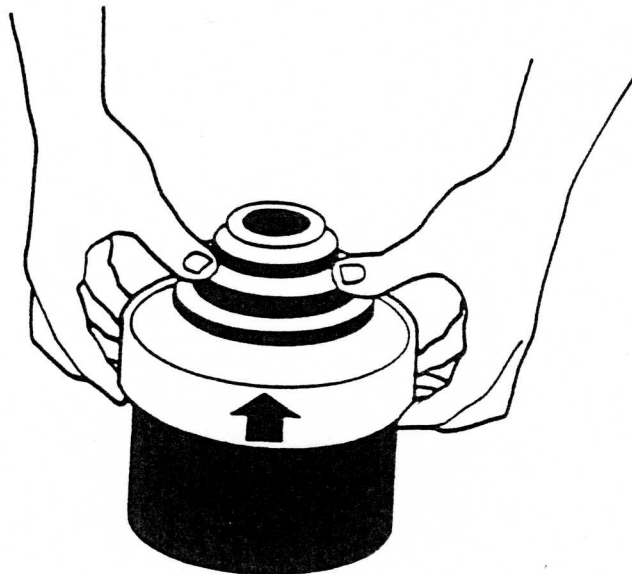


The #2508 loader and guide #2512 for 4x5" inch film are also available for loading the #2509N reel.

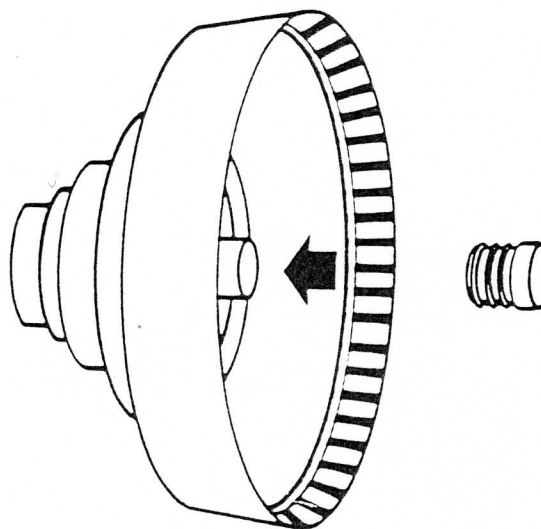
5.3 Loading paper.

Photographic paper can be processed in the ATL-1000 processor utilizing the tank/drums. For 3½ x 5" or 4 x 5" paper use the small drum (#4218). For 5 x 7" and 8 x 10" paper use the large drum (#4219).

With lights still on, open tank by pulling up red sealing ring and removing lid.

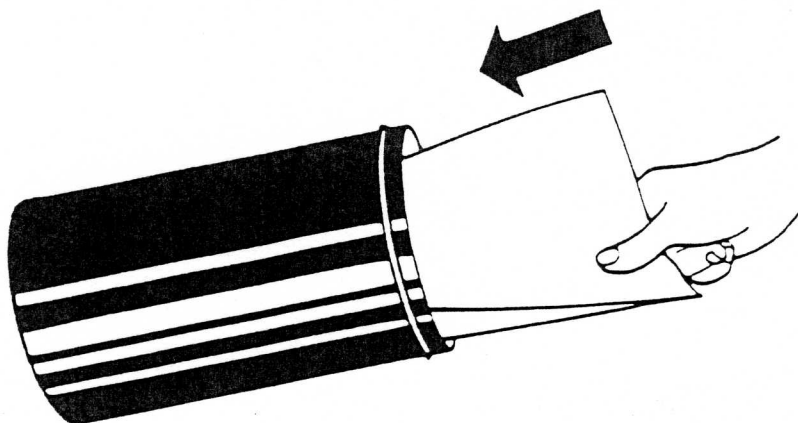


Place stopper (Part #15042) into the funnel to prevent light leaks. (The center core is not used when processing prints.)

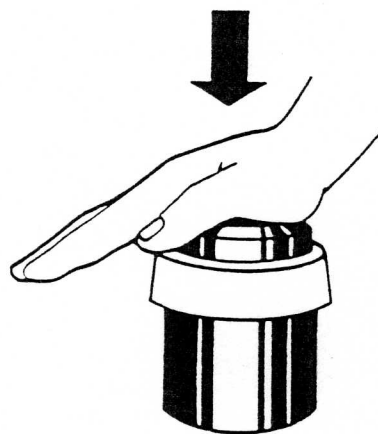
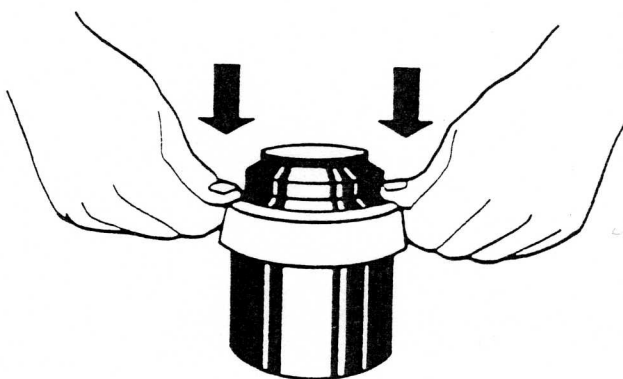


In Total Darkness

To load paper, place 3½ x 5" or 4 x 5" paper in the small drum with the 3½" (or 4") width top to bottom, place 5 x 7" paper in the large drum with the 5" width top to bottom and to load 8 x 10" paper place it in the large drum with the 8" width top to bottom. In each case the other dimension should be curled around the inside wall of the drum with emulsion side facing in.



Push down the lid with palm of your hand and then press down sealing ring.



Running a process

6

NOTE: Numbers in parentheses refer to the legend found in the back of this manual.

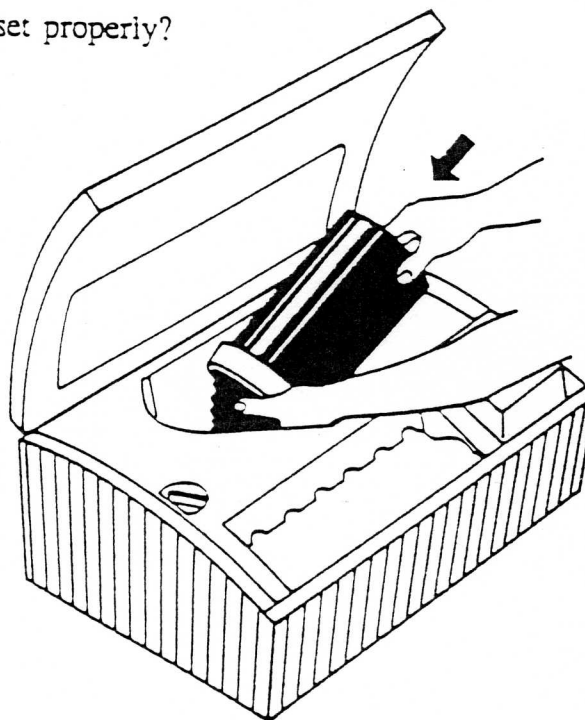
6.1 Check Preparation List

The first step before running a program is to verify that all preparation items have been completed. (See Chapter 4 for preparation.) Use the following checklist as a reminder.

- Is tempered water supply on?
- Is drain valve closed?
- Is incoming water correct temperature?
- Do solution bottles contain proper type and amount of chemistry?
- Are solution bottle lids all closed?
- Do chemical and rinse water collection containers have sufficient empty space?
- Is the proper program selected?
- Is the Time Adjustment Switch set properly?
- Is the tank/drum loaded?

6.2 Attach tank/drum

- Snap tank/drum into place.
(See illustration at right.)



6.3 Power-Up

- Close top cover (#10) on ATL-1000.
- Depress On/Off switch (#8).
- With all 15 processes the ATL-1000 will begin to automatically fill with water.
- Film/Print Drum will begin to rotate immediately.
- Once the proper operating temperature is achieved (38°C or 24°C), the ATL-1000 will begin the program automatically. (This will take from 5 to 25 minutes depending on solution quantities and temperature.
- With the B&W Film, EP-2, and B&W print processes, the unit will **not** fill the trough with water if the temperature of the chemistry is above 24°C.

E-6 and C-41 Film Processes:

If chemistry is below 36.0°C the water bath heats to 41.0°C. When the chemistry reaches 36.5°C the water bath is now allowed to cool to 38°C and maintains that temperature. When the Chemistry goes above 37.5°C the process starts.

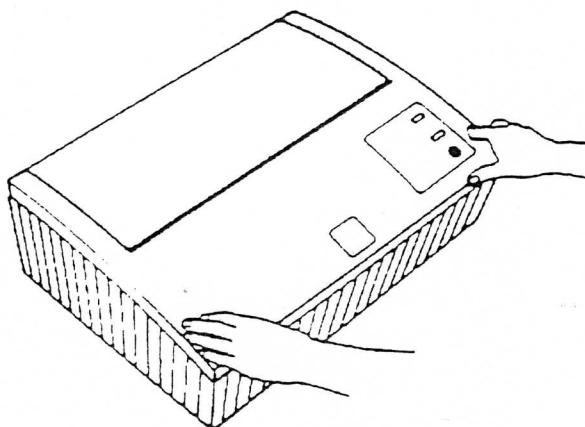
It is very important to note that the machine will start if the chemistry is above 37.5°C. It could be 50.0°C and it would still start. It only senses that the temperature of the chemicals is above 37.5°C. Do not fill the processor with over heated chemistry. We recommend 30.0°C for the fill-in chemistry. This allows time for the chemistry to temper and also enough time to temper a tank that has been placed on the machine.

B&W Film and All Print Processes:

These are processed at 24°C (75°F). Your processor will start these processes when it has heated the chemicals to 24°C. It is important to note that these programs will run at any temperature above 24°C.

6.4 Interrupting a process.

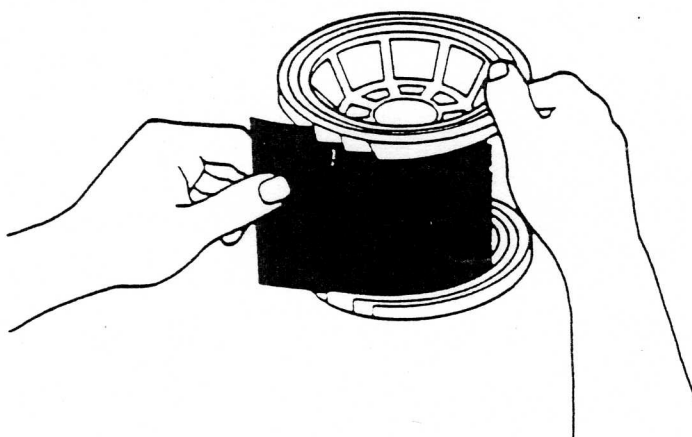
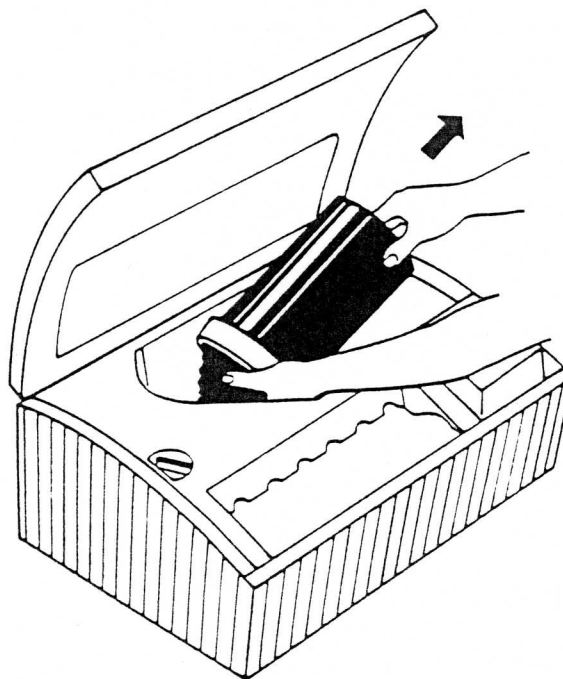
Opening the top cover of the ATL-1000 during a process will stop the process. When the top cover is closed the process will restart again where it left off. The top cover should not be opened when chemistry is being pumped or rinse water is running. (Pumping of chemistry or running of rinse water can only be determined by the sound that occurs when these functions are operating.)



6.5 End of Process

When the process is completed the ATL-1000 will beep. At this time proceed with the following steps:

- Turn power off with ON/OFF switch (#8)
- Open top cover. (#10)
- Remove the tank from the processor by grasping it at the bottom and pulling up and toward you. The tank will make a snapping sound when it disengages from the lift. This is normal.
- Remove lid from tank by pulling up on red ring and then lifting cap off of the main body.
- Remove reel(s) and center tube from tank and slide reels off the center tube. When processing prints carefully remove the print from the wall of the drum.
- When using #2509N Sheet Film Reel remove both retaining plates.
- Remove film from reels by pulling the individual sheets from the reel.



- Place film in stabilizer solution or wetting agent if required.

Note: It is recommended that stabilizers or wetting agents not be used in the processor or on the reels. Both chemicals rinse off the tanks and reels with difficulty and create a foam if agitated. When a wetting agent or stabilizer is used at the end of a process, remove the film/prints from the tank and reels before placing them in the agent. If you do use them in the processor, be sure to clean all the apparatus thoroughly before the next run. Even a small buildup will hinder the loading of film on the reels and it may "carry over" and contaminate future processes.

- Hang film to dry. (JOBO recommends the Mistral II dryer for this purpose.)
- Refill bottles for continued processing or run the cleaning program (see Chapter 7) if the machine will not be used again immediately.

Cleaning Program

7

7.1 When to run the Cleaning program?

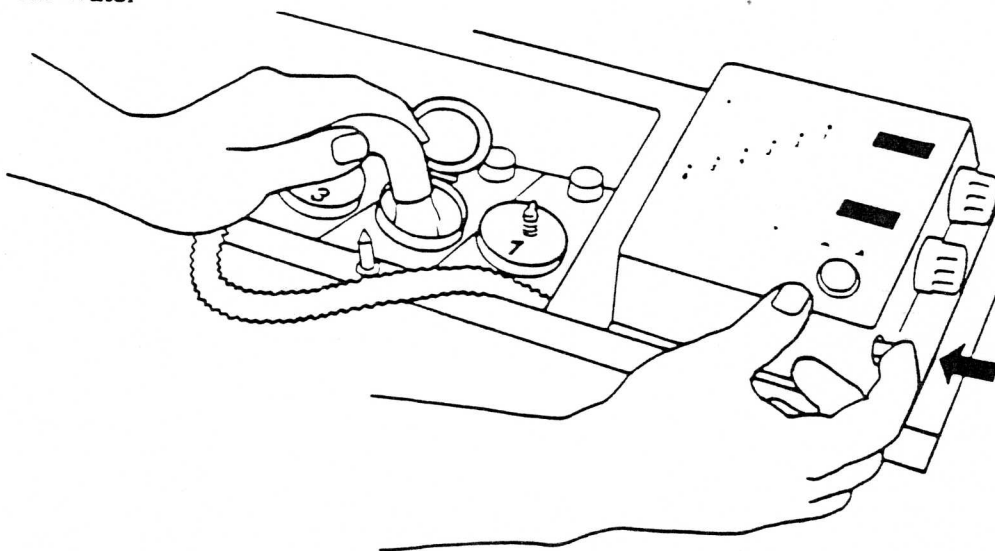
The ATL-1000 should be cleaned at the end of each processing session or when changing from one process to another. It is not necessary to clean it when repeating a process immediately after running that same process.

The cleaning program should be repeated three times when changing from one process to another to eliminate any chance of contamination.

7.2 Filling bottles with water

The first step in running the cleaning program of the ATL-1000 is filling all the bottles with water. This is accomplished by performing the following steps:

- Remove water/rinse hose (#13) from the storage position.
- Place nozzle of hose in bottle #1 and depress rinse water button (#9) until the bottle is full to the top.
- Repeat the previous step for all six bottles.
- Replace the hose into the storage position. (NOTE: It is important that the hose be securely placed into its holding position.)
- When using the portable pump, the Water/Rinse Hose does not operate. Manually fill the bottles with water



7.3 Running the Cleaning Program

After filling all bottles with water perform the following steps:

- Select the cleaning program (#16) with the Program Selector Knob (#7).
- Set the Time Adjustment Knob (#5) to "Norm".
- Close all bottle lids.
- Check that rinse water hose has been returned to the storage position.
- Attach large tank/drum to processor.
- Close the top cover (#10) of the processor.
- Check that sufficient space remains in any drain canisters to hold the washing water.
- Press the On/Off Button (#8).
- Wait for beep that signals the end of the process.

Troubleshooting

8

Fault Indicators

Indication	Cause	Remedy
1. Water bath does not heat up.	Water Jacket not filled.	Open water supply or in case of external pump #4212, make sure pump is connected properly and placed into a container filled with water.
	Unit is running on battery back-up.	Check power connections and supply.
2. No LED's lit.	ON/OFF Switch (#8) off.	Depress ON/OFF Button (#8)
	No power to ATL-1000.	Check plug, socket, and household fuse or circuit breaker.
	Circuit Breaker tripped.	Turn off ATL-1000 for 5 minutes.
3. Bottles not empty after process is complete.	Bottle not air tight.	Replace bottle seal. (Part # 07253)
	Bottle was not closed before process was run.	Close all bottles before closing the top cover to start a process.
4. Processor will not start.	Top Cover not closed.	Switch off the processor, close the cover, wait 5 seconds, switch processor on.
	If using the external pump the tempering bath may not be completely filled.	Fill the water jacket with water until it reaches the level line. (See Section 3.3 "Utilizing a Portable Water Source")
5. Results vary between small and large tank/drums.	Tempering bath recirculation pump failure.	Call JOBO Service.

Fault Indicator (con't)

Indication	Cause	Remedy
6. Bleach remaining on print/film after process is completed.	Water not turned on.	Turn on water supply to ATL-1000.
7. High-pitched continuous beep.	Lid not closed.	Close lid.
8. Water leaking from processor.	Cover missing from external pump connector or water solenoid connector.	Replace cover(s).

Specific Processing Instructions

9

9.1 Introduction to Processing

This chapter details the steps pre-programmed into the ATL-1000 for running specific processes. JOBO has made every reasonable effort to be sure that this information is accurate, however the various manufacturers can and do change their specifications for these processes. You should always confirm the processing procedure (and mixing instructions) by referencing the instructions packaged with the chemistry. Check for rotary-specific instructions.

Before processing valuable photo materials we strongly suggest that you become familiar and are satisfied with the quality of any process used!

The developer times listed are suggested starting points for proper processing. Due to a great many variables involved in any photo process, these times should only be considered approximately correct. For best results and personal preference, the development times may need to be adjusted. See Section 4.7 for information on making adjustments.

Included with the information on the processes to follow are bottle location numbers (from right to left). It is important to fill the proper chemical step into the proper bottle number for correct processing.

9.2

Processing Process Control Strips

The use of the process control strips is not strictly necessary; however, their use is the best assurance of correct processing and is strongly suggested for critical commercial work.

Pre-exposed process control strips are available from Kodak and other manufacturers. They can be purchased through photographic supply dealers. Control strips can be processed in the Autolab and compared against a strip pre-processed by the manufacturer. Variations between a control strip processed on the Autolab, and the manufacturer's pre-processed strip will determine what adjustments (if any) need to be made to the process times or chemistry. Control strips should be stored in a freezer and individually thawed thoroughly before processing.

Use a densitometer to make accurate evaluations of control strips. Read the density steps of each processed control strip. Log the results and compare them to charts provided by the control strips' manufacturer.

If the readings obtained do not vary from the chemistry manufacturer's tolerance specifications, then the process is "in control" and your film will be processed correctly. If readings are out of the chemistry manufacturer's specified range, refer to the chemistry manufacturer's process manual for corrective action(s). After adjustments are made, process another control strip. A control strip should be run periodically to verify an "in-control" process. A control strip should be run when new chemistry is mixed, or any change is made in the process.

Note #1: If you are unfamiliar with the use of a densitometer, see your local industrial photographic dealer or contact JOBO for information on the JOBO Densitometer 6355.

Note #2: Process control strips are the most accurate system for assuring that all the parts of the process are working to produce the expected final product. Judgment must be used, however, to ensure that the end result is acceptable to the end-user. If you are processing for yourself, then you are the "judge and jury" of what is acceptable. When processing for others, having a process that is documented as standard or "in control" will alleviate potential problems with your customer and will help to determine what may have caused undesirable results in the customer's film. When the process is "in control", other non-processing related areas should be examined for possible cause.

9.3 ATL-1000 Programs

The ATL-1000 processor comes pre-programmed with 15 processes and one cleaning program. (See Chapter 12 for information on "Custom Programs") Following are the pre-programmed times for each process. These are the times that will be used if the Time Adjustment Knob (#5) is set to "Normal.

PROGRAM #1 E-6 Six Bath Standard Program

This program can be used with PhotoTechnology Master Class E-6, Kodak E-6 Processing Chemistry and other compatible processes, such as Unicolor E-6, Tetenal E-6, Agfa AP44 to process E-6 compatible films.

The following is a brief description of each processing step.

Temperature: 38.0°C.

Required rinse water quantity: approximately 11 liters

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
First Developer	1	6:30	
Rinse		3:00	
Reversal Bath	2	2:00	(See Note #1 at end of section.)
Color Developer	3	5:00	(See Note #2 at end of section.)
Conditioner	4	2:00	
Bleach Bath	5	6:00	(See Note #3 at end of section)
Fix Bath	6	4:00	
Final Rinse		4:00	
Stabilizer Bath			(See Note #4 at end of section)

PROGRAM #2 E-6 Six Bath Push 1 Stop Program

This program can be used with PhotoTechnology Master Class E-6, Kodak E-6 Processing Chemistry and other compatible processes, such as Unicolor E-6, Tetenal E-6, Agfa AP44 to process E-6 compatible films. The times are for 1 stop "push" processing.

The following is a brief description of each processing step.

Temperature: 38.0°C.

Required rinse water quantity: approximately 11 liters

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
First Developer	1	8:30	
Rinse		3:00	
Reversal Bath	2	2:00	(See Note #1 at end of section.)
Color Developer	3	5:00	(See Note #2 at end of section.)
Conditioner	4	2:00	
Bleach Bath	5	6:00	(See Note #3 at end of section)
Fix Bath	6	4:00	
Final Rinse		4:00	
Stabilizer Bath			(See Note #4 at end of section)

PROGRAM #3 E-6 Six Bath Pull 1 Stop Program

This program can be used with PhotoTechnology Master Class E-6, Kodak E-6 Processing Chemistry and other compatible processes, such as Unicolor E-6, Tetenal E-6, Agfa AP44 to process E-6 compatible films. The times are for 1 stop "pull" processing.

The following is a brief description of each processing step.

Temperature: 38.0°C.

Required rinse water quantity: approximately 11 liters

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
First Developer	1	4:30	
Rinse		3:00	
Reversal Bath	2	2:00	(See Note #1 at end of section.)
Color Developer	3	5:00	(See Note #2 at end of section.)
Conditioner	4	2:00	
Bleach Bath	5	6:00	(See Note #3 at end of section)
Fix Bath	6	4:00	
Final Rinse		4:00	
Stabilizer Bath			(See Note #4 at end of section)

PROGRAM #4 E-6 Three Bath Standard Program

This program can be used with PhotoTechnology Chrome-Six 3 Bath, Kodak E-6 Hobby-Pak, and Unicolor Rapid E-6 processing chemistry and other compatible products to process E-6 compatible films.

The following is a brief description of each processing step.

Temperature: 38.0°C.

Required rinse water quantity: approximately 11 liters

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
First Developer	1	6:30	
Rinse		3:00	
Color Developer	2	5:00	(See Note #2 at end of section.)
Rinse		2:00	
Bleach/Fix Bath	3	10:00	(See Note #3 at end of section)
Final Rinse		5:00	
Stabilizer Bath	(Optional with some (See Note #4 at end of section) processes.)		

PROGRAM #5 E-6 Three Bath Push 1 Stop Program

This program can be used with PhotoTechnology Chrome-Six 3 Bath, Kodak E-6 Hobby-Pak, and Unicolor Rapid E-6 processing chemistry and other compatible products to process E-6 compatible films. The times are for 1 stop "push" processing.

The following is a brief description of each processing step.

Temperature: 38.0°C.

Required rinse water quantity: approximately 11 liters

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
First Developer	1	8:30	
Rinse		3:00	
Color Developer	2	5:00	(See Note #2 at end of section.)
Rinse		2:00	
Bleach/Fix Bath	3	10:00	(See Note #3 at end of section)
Final Rinse		5:00	
Stabilizer Bath	(Optional with some (See Note #4 at end of section) processes.)		

PROGRAM #6 C-41 Standard Program (Kodak Chemistry)

This program can be used with Kodak C-41 and Kodak Hobby-Pak C-41 processing chemistry processing C-41 compatible films.

The following is a brief description of each processing step.

Temperature: 38.0°C.

Required rinse water quantity: approximately 6 liters

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
Color Developer	1	3:15	
Bleach Bath	2	6:00	
Fix Bath	3	6:00	
Final Rinse		5:00	
Stabilizer Bath	(Optional with some (See Note #4 at end of section) processes.)		

PROGRAM #7 C-41 Standard Program (Two Bath Processes)

This program can be used with PhotoTechnology Photocolor II, Beseler CN2, Unicolor K2 processing chemistry and other compatible two-step processes for processing C-41 compatible films.

The following is a brief description of each processing step.

Temperature: 38.0°C.

Required rinse water quantity: approximately 6 liters

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
Color Developer	1	3:15	
Bleach/Fix Bath	2	10:00	
Final Rinse		5:00	
Stabilizer Bath	(Optional with some (See Note #4 at end of section) processes.)		

PROGRAM #8 C-41 (Two Bath Processes) Push 1 Stop

This program can be used with PhotoTechnology Photocolor II, Beseler CN2, Unicolor K2 processing chemistry and other compatible two-step processes for processing C-41 compatible films. The times are for "push" 1 stop processing.

The following is a brief description of each processing step.

Temperature: 38.0°C.

Required rinse water quantity: approximately 6 liters

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
Color Developer	1	4:00	
Bleach/Fix Bath	2	10:00	
Final Rinse		5:00	
Stabilizer Bath	(Optional with some (See Note #4 at end of section) processes.)		

PROGRAM #9 Black and White Film 5 Minute Developer Program

This program can be used with B/W developer dilutions that require a developer time of 5 minutes at a 24.0°C processing temperature.

The following is a brief description of each processing step.

Temperature: 24.0°C or room temperature, whichever is higher.

Required rinse water quantity: approximately 10 liters.

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
Pre-rinse		5:00	(See Note #5 at end of section.)
Developer	1	5:00	(See Note #6 at end of section.)
Stop Bath	2	1:00	
Fix Bath	3	6:00	Kodak Rapid Fixer, Monofix RC or equal
Rinse		2:00	
Wash Aid	4	3:00	Kodak Hypo Clearing agent, Speedwash, or equal (or water can be used in bottle 4.)
Final Rinse		5:00	

PROGRAM #10 Black and White Film 7 Minute Developer Program

This program can be used with B/W developer dilutions that require a developer time of 7 minutes at a 24.0°C processing temperature.

The following is a brief description of each processing step.

Temperature: 24.0°C or room temperature, whichever is higher.

Required rinse water quantity: approximately 10 liters.

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
Pre-rinse		5:00	(See Note #5 at end of section.)
Developer	1	7:00	(See Note #6 at end of section.)
Stop Bath	2	1:00	
Fix Bath	3	6:00	Kodak Rapid Fixer, Monofix RC or equal
Rinse		2:00	
Wash Aid	4	3:00	Kodak Hypo Clearing agent, Speedwash, or equal (or water can be used in bottle 4.)
Final Rinse		5:00	

PROGRAM #11 Black and White Film 9 Minute Developer Program

This program can be used with B/W developer dilutions that require a developer time of 9 minutes at a 24.0°C processing temperature.

The following is a brief description of each processing step.

Temperature: 24.0°C or room temperature, whichever is higher.

Required rinse water quantity: approximately 10 liters.

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
Pre-rinse		5:00	(See Note #5 at end of section.)
Developer	1	9:00	(See Note #6 at end of section.)
Stop Bath	2	1:00	
Fix Bath	3	6:00	Kodak Rapid Fixer, Monofix RC or equal
Rinse		2:00	
Wash Aid	4	3:00	Kodak Hypo Clearing agent, Speedwash, or equal (or water can be used in bottle 4.)
Final Rinse		5:00	

PROGRAM #12 Black and White Film 11 Minute Developer Program

This program can be used with B/W developer dilutions that require a developer time of 11 minutes at a 24.0°C processing temperature.

The following is a brief description of each processing step.

Temperature: 24.0°C or room temperature, whichever is higher.

Required rinse water quantity: approximately 10 liters.

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
Pre-rinse		5:00	(See Note #5 at end of section.)
Developer	1	11:00	(See Note #6 at end of section.)
Stop Bath	2	1:00	
Fix Bath	3	6:00	Kodak Rapid Fixer, Monofix RC or equal
Rinse		2:00	
Wash Aid	4	3:00	Kodak Hypo Clearing agent, Speedwash, or equal (or water can be used in bottle 4.)
Final Rinse		5:00	

PROGRAM #13 Black and White Film 14 Minute Developer Program

This program can be used with B/W developer dilutions that require a developer time of 14 minutes at a 24.0°C processing temperature.

The following is a brief description of each processing step.

Temperature: 24.0°C or room temperature, whichever is higher.

Required rinse water quantity: approximately 10 liters.

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
Pre-rinse		5:00	(See Note #5 at end of section.)
Developer	1	14:00	(See Note #6 at end of section.)
Stop Bath	2	1:00	
Fix Bath	3	6:00	Kodak Rapid Fixer, Monofix RC or equal
Rinse		2:00	
Wash Aid	4	3:00	Kodak Hypo Clearing agent, Speedwash, or equal (or water can be used in bottle 4.)
Final Rinse		5:00	

PROGRAM #14 Room Temperature RA-4 Program

This program can be used with chemistry intended for room temperature processing of photographic paper compatible with RA-4 processing. This program is useable only when the ambient room temperature is approximately 75° F (24°C). Processing at other temperatures will affect density and color balance.

The following is a brief description of each processing step.

Temperature: 24.0°C or room temperature, whichever is higher.

Required rinse water quantity: approximately 10 liters.

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
Developer	1	1:30	
Stop Bath	2	:30	
Fix Bath	3	2:00	
Rinse		2:00	

PROGRAM #15 RC Black and White Prints Program

This program can be used to process RC B/W prints.

The following is a brief description of each processing step.

Temperature: 24.0°C, time adjustment knob set to -20%.

Required rinse water quantity: approximately 4 liters.

<u>Process Step</u>	<u>Bottle</u>	<u>Time</u>	<u>Comment</u>
Pre-rinse		1:00	
Developer	1	1:30	
Stop Bath	2	:30	
Fix Bath	3	1:00	
Rinse		2:00	

Note 1: Kodak recommends diluting their E-6 reversal bath to 60% of the working solution (i.e. 1.6 gal. for use from 1 gal. of normal working strength chemistry), when using a rotary processor.

Note 2: Hand processing of E-6 films normally would require a 6:00 minute color developer time. JOBO tests have shown that decreasing the E-6 color developer time from 6:00 to 5:00 minutes produces best results with the ATL-1000.

Note 3: The bleach needs to be aerated to work effectively. Unlike developers which are degraded by too much oxygen, the bleach needs to be fully oxygenated. This is accomplished by making sure that air is introduced while mixing the bleach. This can be accomplished several ways, for example, mixing in a larger container than the volume of bleach and stirring or shaking (while capped) vigorously. On a large scale, air can be bubbled through the bleach with a pump.

Note 4: Stabilizer should always be used outside of the processor to avoid contaminating tanks and reels. Use a separate container for stabilizing film and remove the film from the reel before stabilizing. Stabilizer is very difficult to remove entirely from reels and tanks. If it is carried over into the next process, developing can be affected.

Note 5: JOBO tests have shown that B/W film processing in a rotary processor such as the ATL-1000 is most even and consistent when a 5 minute pre-wet is used.

Note 6: See Section 9.4 for information on processing B/W film at times other than those automatically programmed in the ATL-1000.

9.4 Adjustments in Black and White Film Developing Times

The ATL-1000 is pre-programmed for five different B/W film development times. These five programs will cover most B/W film processing needs. If the five pre-programmed times do not cover a more specific need please refer to the following chart (next page) for details on how to combine the use of the B/W programs with the Time Adjustment Knob (#5) for more exact development times.

TIME	PROGRAM	TIME VARIATION KNOB SETTING
4'0"	BW-5	-20%
4'30"	BW-5	-10%
4'45"	BW-5	-5%
4'53"	BW-5	-2.5%
5'00"	BW-5	NORMAL
5'08"	BW-5	+2.5%
5'15"	BW-5	+5%
5'30"	BW-5	+10%
5'36"	BW-7	-20%
6'00"	BW-5	+20%
6'18"	BW-7	-10%
6'39"	BW-7	-5%
6'50"	BW-7	-2.5%
7'00"	BW-7	NORMAL
7'11"	BW-7	+2.5%
7'12"	BW-9	-20%
7'21"	BW-7	+5%
7'42"	BW-7	+10%
8'06"	BW-9	-10%
8'24"	BW-7	+20%
8'33"	BW-9	-5%
8'47"	BW-9	-2.5%
8'48"	BW-11	-20%
9'00"	BW-9	NORMAL
9'14"	BW-9	+2.5%
9'27"	BW-9	+5%
9'54"	BW-9	+10%
10'27"	BW-11	-5%
10'44"	BW-11	-2.5%
10'48"	BW-9	+20%
11'00"	BW-11	NORMAL
11'12"	BW-14	-20%
11'17"	BW-11	+2.5%
11'33"	BW-11	+5%
12'06"	BW-11	+10%
12'36"	BW-14	-10%
13'12"	BW-11	+20%
13'18"	BW-14	-5%
13'39"	BW-14	-2.5%
14'00"	BW-14	NORMAL
14'21"	BW-14	+2.5%
14'42"	BW-14	+5%
15'24"	BW-14	+10%
16'48"	BW-14	+20%

Cleaning & Maintenance

10

10.1 Long Term Storage

If you don't plan to use the ATL-1000 within the next 24 hours, drain the trough completely and run a complete cleaning program (see Chapter 7).

10.2 Cold Weather Storage

If the ATL-1000 is to be stored where it would be subject to freezing, the following precautions should be taken:

1. Drain water tempering bath by opening drain valve.
2. Turn off water supply, remove and drain water inlet hoses.
3. Remove and drain all drain hoses.
4. Drain all rinse hoses.

10.4 Finish

All exterior surfaces of the ATL-1000 processor are made of plastic. Periodic cleaning is recommended with a damp cloth and mild detergent solution. Do not use caustic, abrasive, or solvent cleaners.

10.5 Algae Control

Do not add bleach or chlorine based chemicals to the recirculating water bath to prevent algae build-up. Chlorine will cause the recirculating pump and heating element to deteriorate and eventually fail. The best method for preventing algae build-up is frequent changing of the tempering bath water or by using Processor Clean (Item #4181).

11.1 Overload Reset

The AutoLab ATL-1000 does not contain any replaceable fuses. In case of overload an internal circuit breaker will automatically switch off power to the unit. To reset the circuit breaker switch the ATL-1000 off with ON/OFF switch (# 8) and wait a few minutes. The unit can then be switched back on. If the ATL-1000 continues to blow the circuit breaker unplug the unit and contact JOBO service.

11.2 JOBO Hot Line

Please refer any servicing needs to JOBO Fototechnic at 1-800-525-2821, identify yourself as an ATL-1000 owner, and ask for the Service Department.

12.1 What are Custom Programs?

The ATL-1000 comes pre-programmed with 15 of the most popular photographic processes. Certain individuals may want to utilize the ATL-1000 to process material that requires a process not pre-programmed. For these instances it is possible to purchase a new memory module that contains user-defined custom programs for the ATL-1000.

12.2 Parameters for Custom Programs

- The ATL-1000 can contain 8 tempered 100°F (38°C) processes, 7 room temperature processes, and a cleaning program.
- Each process can contain a pre-rinse, up to 6 chemical steps with a rinse between each and a final rinse.
- The maximum time for any program is 68 minutes.

12.3 How to Order Custom Programs

- Fill out the following form completely.
- Contact JOBO or your JOBO Dealer for information on fees for Custom Programming.
- Take the completed form and the required fee to your JOBO dealer or mail both directly to JOBO.
- Allow 8-12 weeks for return of your custom programmed memory module and installation instructions.

Use this form to specify custom programming for the ATL-1000 processor. Please fill out the entire form and mail it to:
 Jobo Fototechnic, Inc., PO Box 3721, Ann Arbor, MI 48106
 Credit card orders may send form by fax: 313-995-8886

Name:		
Address:		
City:	St:	Zip:
Daytime Phone:		
Serial Number of ATL-1000:		

Please call 313-995-4192 for a price quote on the special program chip. You can prepay by certified check, money order, Visa, or Master Card. If paying by check, please enclose with form. If paying by credit card, please fill in the box below.

Visa / Master Card (Circle one) Number:	-	-	-	-	Expires:	/
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The chart below represents the programs in the ATL-1000. Please fill in all boxes except the program number boxes. First, determine the order you wish the programs to appear on the selector dial and write them in the first row. Then, fill in each program column with the times for each step from Pre-Rinse to last Rinse. If you desire to skip a rinse, please indicate with a "-" or "0" in those boxes.

- NOTES: 1) Each program has a maximum process time of 68 minutes. Do not exceed 68 minutes per program.
 2) Programs 1 - 8 are set for 38° C. Programs 9 - 15 are set for room temperature.

PROGRAM NAME (LIMIT 8 CHARACTERS)								
TEMP (IN °C)	38° C	38° C	38° C	38° C	38° C	38° C	38° C	38° C
PROGRAM #	1	2	3	4	5	6	7	8
PRE-RINSE								
CHEMICAL 1								
RINSE								
CHEMICAL 2								
RINSE								
CHEMICAL 3								
RINSE								
CHEMICAL 4								
RINSE								
CHEMICAL 5								
RINSE								
CHEMICAL 6								
RINSE								

Please continue with the set of room temperature programs on the reverse side of this form.

PROGRAM NAME (Limit 8 characters)								
TEMPERATURE	24°C	24°C	24°C	24°C	24°C	24°C	24°C	ROOM TEMP
PROGRAM #	9	10	11	12	13	14	15	16
PRE-RINSE								-
CHEMICAL 1								1:00
RINSE								-
CHEMICAL 2								1:00
RINSE								-
CHEMICAL 3								1:00
RINSE								-
CHEMICAL 4								1:00
RINSE								-
CHEMICAL 5								1:00
RINSE								-
CHEMICAL 6								1:00
RINSE								-

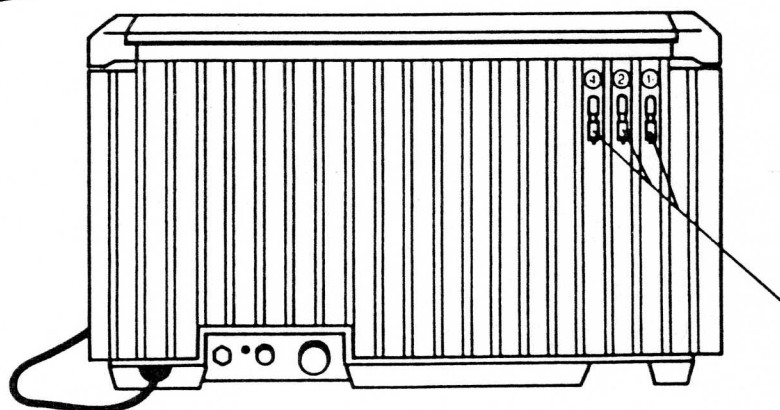
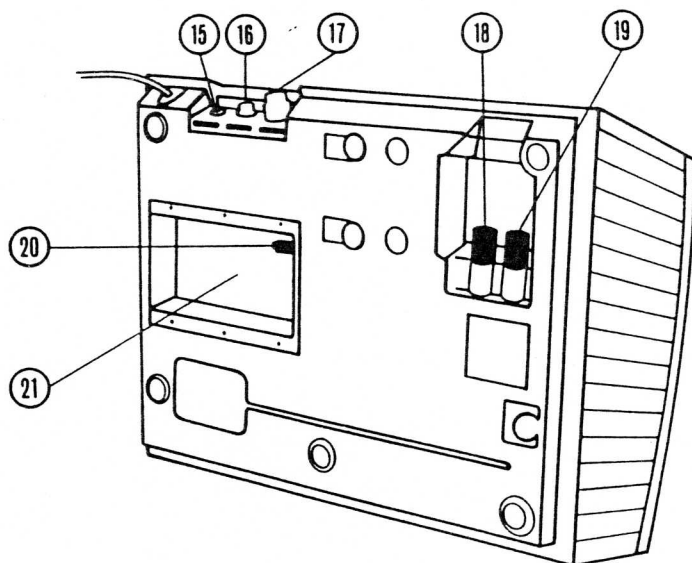
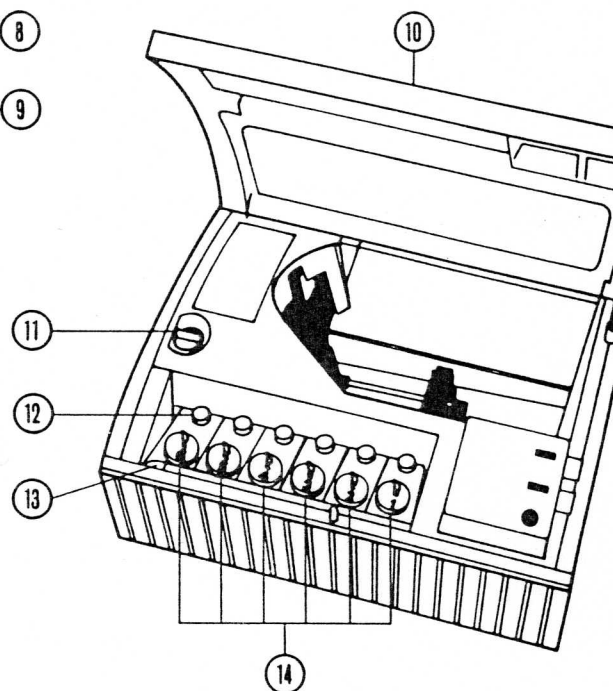
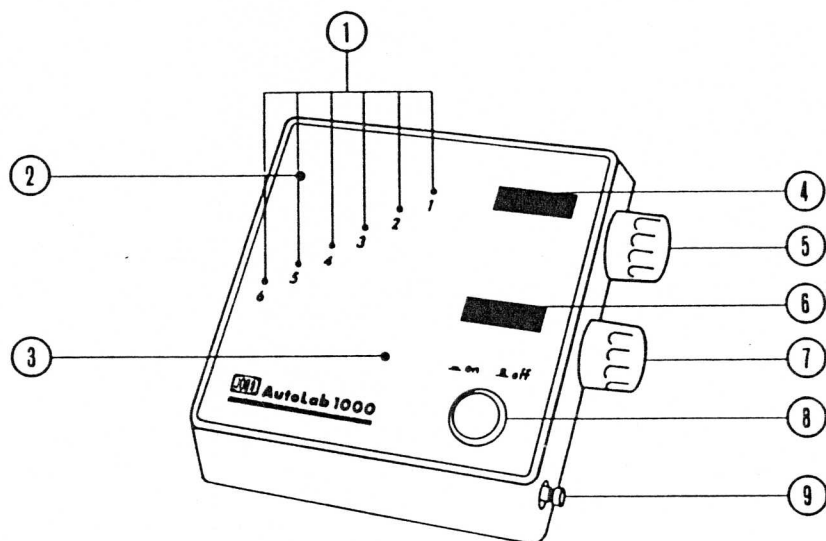
If you have questions or require assistance in setting up the special program chip, please call the JOBO Technical Service department at (313) 995-4192 (eastern time).

Please complete all program columns. The special chip will be prepared exactly as you outline above.

The price you will be quoted includes shipping and handling. Please allow 8 to 12 weeks for preparation and delivery. Instructions for installations will be included with the special program chip.

LEGEND

- 1 Program Step LED's
- 2 Rinse Indicator
- 3 Power Indicator
- 4 Time Adjustment Display
- 5 Time Adjustment Knob
- 6 Program Display
- 7 Program Selector Knob
- 8 On/Off Button
- 9 Rinse Water Button
- 10 Processor Top Cover
- 11 Drain Valve
- 12 Solution Level Indicators
- 13 Water/Rinse Hose
- 14 Bottle Lids
- 15 Electrical Connector for External Pump (J1)
- 16 Hose Connector for External Pump (H1)
- 17 Hose Connector for Water Source (H2)
- 18 Water Drain Outlet
- 19 Chemistry Drain Outlet
- 20 External Power Connector
- 21 Back-up Battery Compartment
- 22 Chemical Separator Drain Connections (P4)



LEGEND

- 1 Program Step LED's
- 2 Rinse Indicator
- 3 Power Indicator
- 4 Time Adjustment Display
- 5 Time Adjustment Knob
- 6 Program Display
- 7 Program Selector Knob
- 8 On/Off Button
- 9 Rinse Water Button
- 10 Processor Top Cover
- 11 Drain Valve
- 12 Solution Level Indicators
- 13 Water/Rinse Hose
- 14 Bottle Lids
- 15 Electrical Connector for External Pump (J1)
- 16 Hose Connector for External Pump (H1)
- 17 Hose Connector for Water Source (H2)
- 18 Water Drain Outlet
- 19 Chemistry Drain Outlet
- 20 External Power Connector
- 21 Back-up Battery Compartment
- 22 Chemical Separator Drain Connections (P4)

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