

617S PLATEMAKER

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6175 Platemaker

Operator's Guide



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This equipment has been-tested and found-to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Contents

Part 1

Basic Operation

Safety	3
Turning on the Platemaker	3
Warm Up	3
The Control Panel	4
Exposure Time	5
Plate Length	6
Size	6
Lights	6
Anti-Reflection Device	7
Making a Plate	8
Multiple Exposures	8
Base Exposure Time	8
Exposures at other Percentages	9
Size Computations	9
Error Messages	10
Plate Counter	10
Lighten and Darken	10
Repeat	11
Accessories	11

Part 2

Supplies

Plate Material	13
Chemicals	13
Tips on Supplies	13
Filling the Processor	14
Loading Plate Material	15
Material Storage	17
Output Guides	17
Processor Chemicals	18

Part 3

Special Techniques

Step-and-Repeat	21
Color in Originals	23
Color Filters	24
Controlling Densities	24
Increasing Density	24
Reducing Density	24

Part 4

Running Plates

Plate Etching	27
Fountain	28
Presses	28
Avoiding Specks	28
Avoiding Scratches	28
Deleting	28

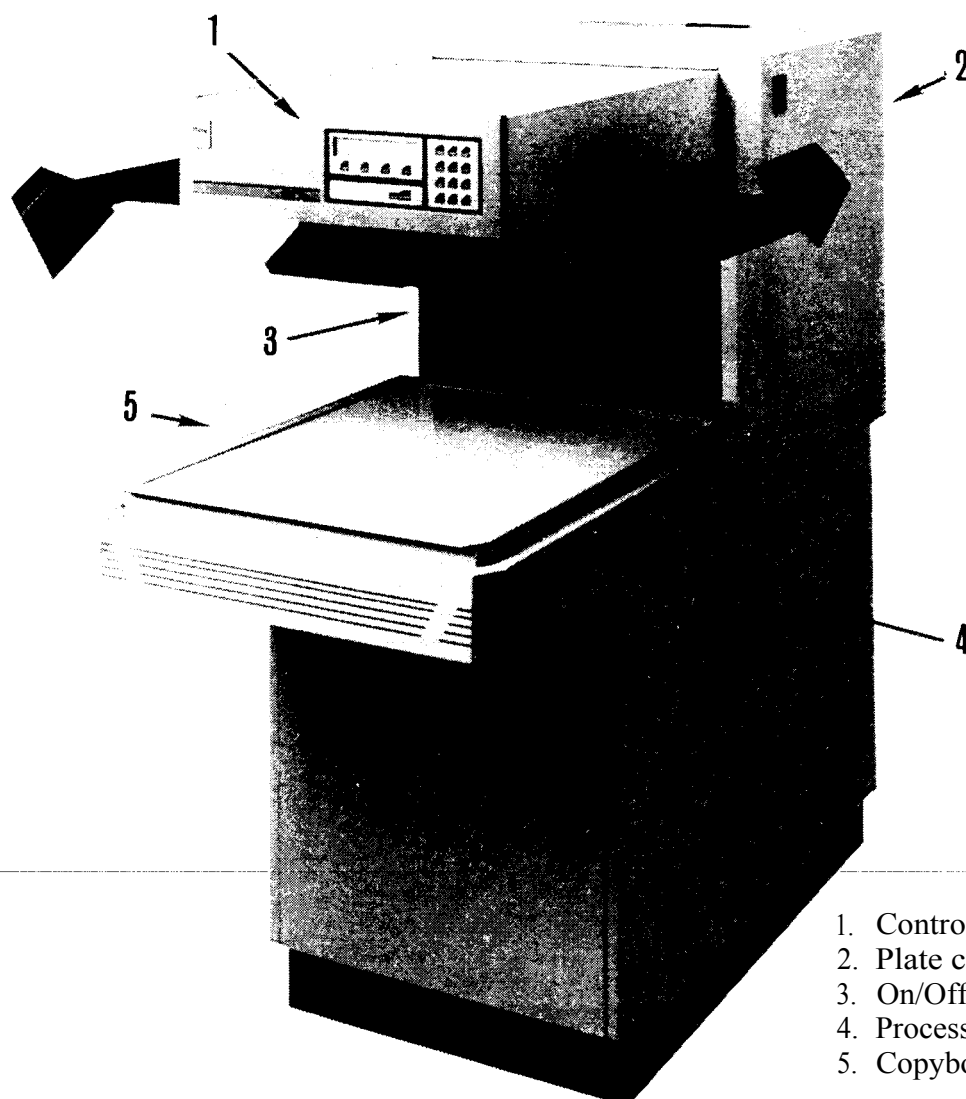
Part 5

Preventive Maintenance

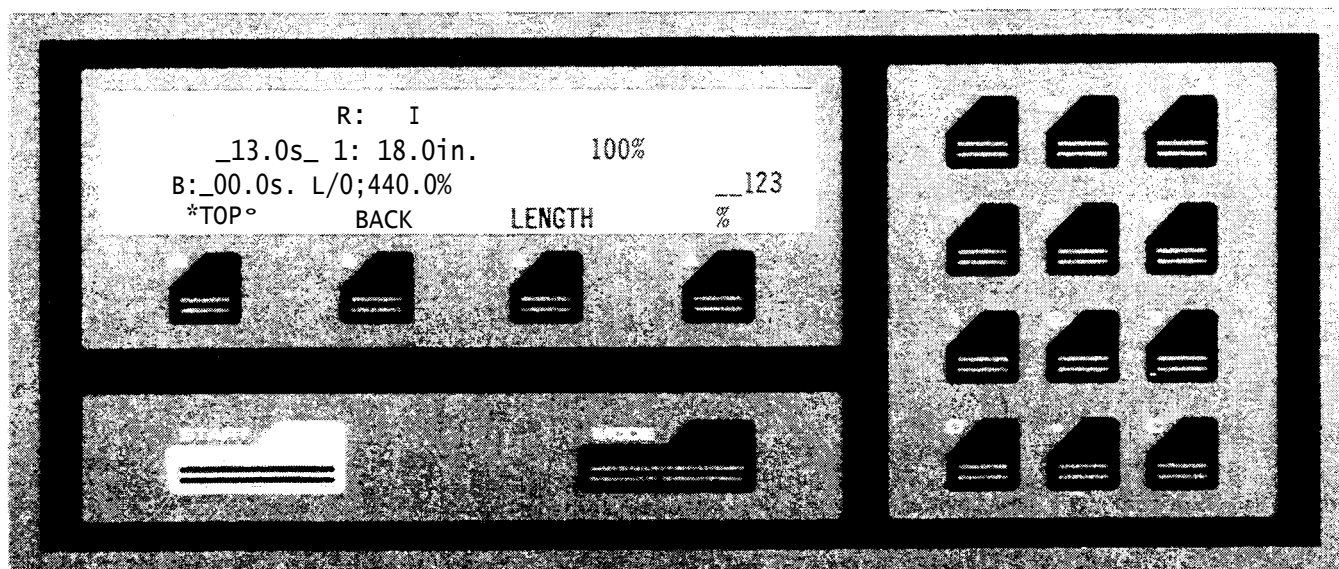
Cleaning the Processor	31
Lamp Replacement	34
Maintenance Tips	34
Display Messages	35
Important Safety Warnings	36

Part I

Basic Operation



- 1. Control panel
- 2. Plate compartment
- 3. On/Off switch
- 4. Processor
- 5. Copyboard



Control Panel

Safety

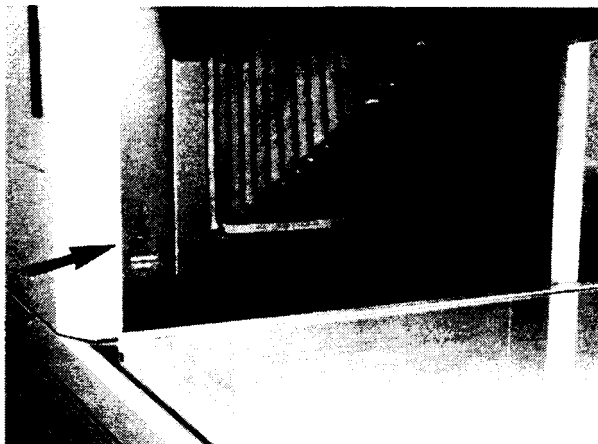
Protect yourself, others, and your equipment by observing all safety warnings contained in this booklet. Before attempting to operate the platemaker, be certain that each operator has read this guide and is thoroughly familiar with the operating instructions and safety warnings. You will find a summary of the safety data at the end of this book.

Turning On the Platemaker

The on/off switch for your platemaker is located just above the left-hand, rear corner of the glass covered copyboard.

Warning!

Never turn on the platemaker when the chemical tanks are empty. Failure to provide proper chemical levels will result in damage to the tanks.



On/Off Switch

Warm Up

The platemaker requires about ten minutes to warm up before use. and the message "Low Temperature" appears on the control panel display. For proper chemical processing, wait for this message to disappear before making plates. In an emergency you may bypass the warmup message and proceed by pressing the "C" (clear) key on the numeric keypad of the control panel. Just keep in mind that a plate made before the processor is warmed up may produce substandard results.

The Control Panel

The platemaker's control panel consists of a flat screen display and several touch-sensitive keys. The basic purpose of each is as follows.

- **DATA DISPLAY.** The first three lines of information on this screen show operating conditions and status messages. The bottom line provides labels for the four multi-function keys immediately below the display.
- **MODE.** Three main display "pages" are available, with the primary difference being in the labelling of the multi-function keys. The MODE key switches the display from page to page.
- **NUMBER KEYS.** Enter exposure times, plate length, and percentage of reproduction with these keys. One key allows entry of a decimal point. The "C" key lets you clear an entry.
- **START.** Pressing this key starts the platemaking process.

CT: _4	R: _1		
T : _13.0s.	L: 18.0in.		100%
B: _60.0s.	L/D: +10.0%		_123
TOP	BACK	LENGTH	%

Initial Display

Each control panel display provides four lines of information. (The numbers shown are samples for illustrative purposes. The actual numbers you use may differ.) Detailed procedures for each control are provided later in this guide.

- **CT: _4.** This number provides a running count of the number of plates made. The platemaker remembers the number when the power is turned off. The number may be returned to zero by pressing the CLEAR CT key (shown on next display).
- **R: _1.** Platemaking may be repeated to get multiple plates of one original. This display shows the number of repeat exposures and is controlled by the REPEAT key (page 3 display). The default number is one.
- **T: 13.0s.** The letter "T" marks the number of seconds the plate material will be exposed by light from the top lights. This number is automatically saved for future use when the platemaker is turned off.
- **L: 18.0 in.** This shows the length of the plate being made. This number is automatically retained for future use when the platemaker is turned off.
- **/00%.** The percentage of reproduction, from 64% to 105%, appears at the right-hand end of line two. This percentage is saved when the unit is turned off. When turned on, the platemaker goes to 100% and then to the previously selected size.
- **B: _00.0s.** This entry only appears if the optional backlit copyboard has been installed. The letter "B" and the number indicate the number of seconds the backlights will be on during an exposure.
- **LID: + _0.0%.** Exposures may be temporarily adjusted to lighten or darken plate images. This display shows the amount of change entered with the LIGHTEN and DARKEN keys (see page 3 display). For normal exposures this is set to zero.
- **_123.** The spaces at the right-hand end of this line show numbers as they are entered at the numeric keypad. This allows you to verify an entry before entering it as an exposure time, length, or percentage of reproduction.
- ***TOP*.** After keying in a number, press this button to have it entered as the top exposure time. Press this key, without first entering a number, to turn the top lights on or off. Asterisks flank the word TOP when the lights are selected. The asterisks disappear when these lights are turned off.
- **BACK.** This key label appears only if the optional backlit copyboard

has been installed. It works in the same way as the TOP key; use it to enter the backlight exposure time and to turn the backlights on and off.

- **LENGTH.** After keying in a number from 10.0 to 20.6, press this button to have it entered as the plate length.
- **%.** After keying in a number from 64 to 105, press this button to have it entered as the percentage of reproduction.

CT: _4	R: _1	
I : _13.0s.	L: 18.0in.	100%
B: _00.0s.	L/D: +10.0%	
MULTI	CLEAR CT	SIZECAL

"Page 2" Display

- **MULTI.** Press this key to make multiple exposures. Asterisks appear on both sides of the word when MULTI is on.
- **CLEAR CT.** Press this button to return the plate counter to zero.
- **SIZE CAL.** Press this button to make an enlargement or reduction calculation. The procedure is explained later in this section.

CT: _4	R: _1	
T : _13.0s.	L: 18.0in.	100%
G: _00.0s.	L/D: +10.0%	
LIGHTEN	DARKEN	REPEAT STEP

"Page 3" Display

- **LIGHTEN and DARKEN.** These keys allow darkening or lightening the image on the plate (decreasing or increasing the exposure time) without permanently changing the base exposure time. Change up to plus or minus 50% may be entered.
- **REPEAT.** This control lets you automatically make multiple plates of an original, with just one press of the START button.
- **STEP.** Turns the step-and-repeat on and off. See *Part 3* for detailed instructions.

Exposure Time

The platemaker's computer automatically calculates the proper exposure time once you've entered a reference time for an exposure at 100% (no enlargement, no reduction). The process for determining that time is provided under "Base Exposure Time" later in this section. This means that once you've put in the proper time at 100% you'll rarely have to concern yourself with the exposure time, even when making plates at other percentages, because the computer will have automatically calculated the new time. However, you may manually enter an exposure time adjustment at any percentage if you wish.

If the optional backlight accessory has been installed, the time the lights are on is also controllable.

To enter the toplight or backlight exposure time:

1. Key in numbers indicating the exposure time.
2. Press the TOP key or BACK key. The number entered displays after the corresponding letter T: or B: on the second or third line of the display.

CT: _4	R: 1	
I T : _13.0s.	L: 18.0in.	100%
	0.0s. L/D: 0.0%	
siOP*	BACK	LENGTH

- Automatically computed exposure times for all percentages are based only on the exposure entry at 100%.
- A manual entry at any percentage other than 100% will remain in use only until the size is changed. When a new percentage is selected the exposure time will revert to that calculated by the computer (based on

- the 100% entry).
- The TOP and BACK keys are dual-function. Beside entering the exposure times, these keys turn the top and back lights on or off. Asterisks around the key label indicate that the lights are in use. To turn these lights on and off, press the TOP or BACK key (do not enter a number first).

Plate Length

To select the plate length:

1. Key in a number to indicate the number of inches.
 2. Press the LENGTH key.
- Maximum plate length is 20.6 inches and minimum length is 10.0 inches.
 - The platemaker accepts measurements to the nearest tenth. Use the following decimal equivalents for fractions of an inch.

$1/16 = .1$	$9/16 = .6$
$1/8 = .1$	$5/8 = .6$
$3/16 = .2$	$11/16 = .7$
$1/4 = .3$	$3/4 = .8$
$5/16 = .3$	$13/16 = .8$
$3/8 = .4$	$7/8 = .9$
$7/16 = .4$	$15/16 = .9$
$1/2 = .5$	

CT: <u>4</u>	: <u>1</u>		
T : <u>13.0s.</u>	L: 18.0in.	100%	
8: <u>00.0s.</u>			
TOP	BACK	LENGTH	%

Size

To select the percentage of reproduction:

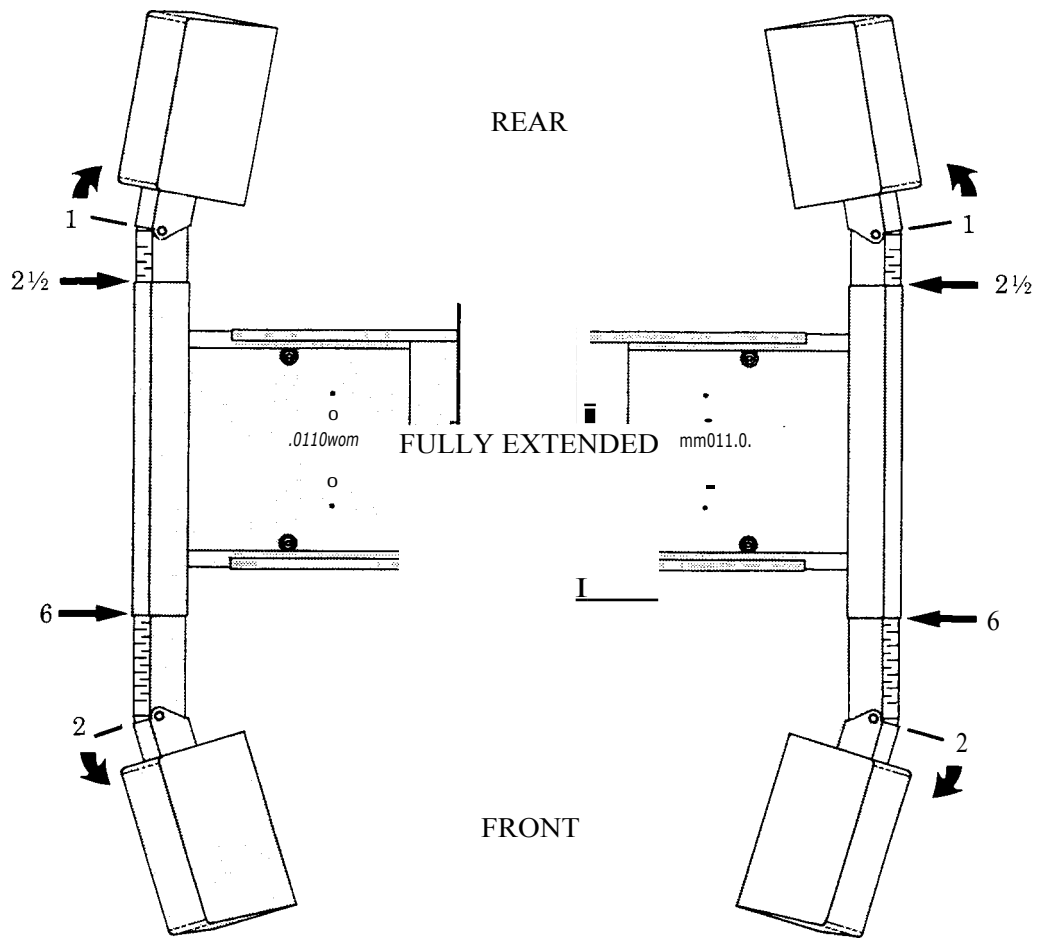
1. Key in a whole number from 64 to 105, to indicate the percentage of reproduction.
2. Press the % key.

CT: <u>4</u>	R: <u>1</u>		
T : <u>13.0s.</u>	L: 18.0in.	100%	
8: <u>00.0s.</u>			
TOP	BACK	LENGTH	%

Lights

While the position of the lighting has a standard location, it may be moved to better illuminate special originals. The lights adjust in the following ways:

- A. Horizontal distance of the whole light assembly from the copyboard (in and out). Standard location for both assemblies is all the way out.
- B. Front extension distance. The lights near the front of the copyboard slide in and out from their mount. Standard location is at position 6 on the scale.
- C. Rear extension distance. The lights at the rear of the copyboard slide in and out from their mount a different amount than the front ones. Standard location is at position $2\frac{1}{2}$.
- D. Angle of front lights. These lights rotate, affecting the angle of the light striking the copyboard. Standard location is at position 2.
- E. Angle of rear lights. The lights nearest the body of the platemaker also rotate. Standard location is at position 1.
- F. The angle of each lamp pod may also be adjusted by turning a screw underneath the lamp arm. Accurate matching of lamp angles requires setting the angle of the pod with an inclinometer or measuring the outer shadow mark made by the lamps. Do not change these angles from the factory setting without the aid of qualified technical help.



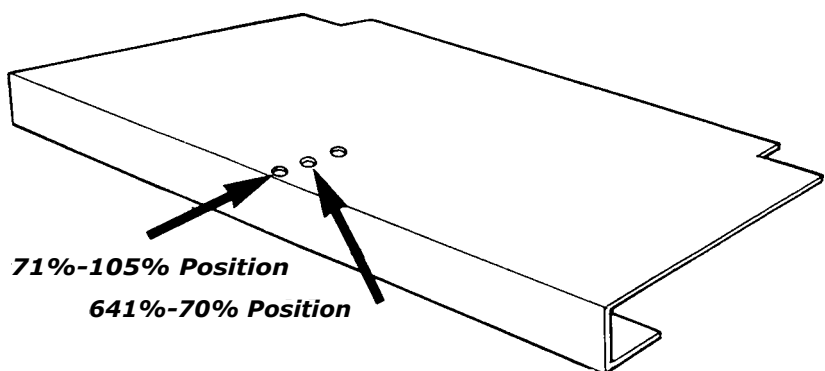
Standard Lamp Positions

Anti-Reflection Device

To eliminate "light bars" across the end of plates (caused by reflection of light by the copyboard glass) an anti-reflection device is mounted on the mirror above the copyboard. It's a sliding plate that merely lifts slightly and moves to the desired position. Three locating holes in the plate are used to position it for different percentages of reproduction.

To use the anti-reflection device:

1. When operating between 64% and 70%, position the device so the pin is in the center hole.
2. Between 71% and 105%, place the pin in the hole nearest the outer edge.



Anti-Reflection Device

Making a Plate

To make a plate:

1. When the platemaker is first turned on, enter the exposure time with the size set at 100%. See "*Base Exposure Time*" (below) to determine the time.
2. Select the plate length.
3. Select the size if other than 100%. If changing sizes, the exposure time will automatically be adjusted by the platemaker.
4. Place the anti-reflection device in the proper position.
5. Raise the copyboard cover and place your original on the copyboard chart. The chart is marked with boundary marks for different percentages of reproduction and your original should be centered within the appropriate area. Boundary lines nearest the front correspond with the lead edge of the image area. The platemaker automatically provides an additional gripper margin of $\frac{5}{8}$ inch. For a larger gripper margin, offset the original from the boundary mark the additional amount needed. Close the glass cover.
6. Press the START key.

Multiple Exposures

To make a multiple exposure:

1. Push MODE until the MULTI key displays. Then press MULTI.
 2. Press the START key to make an exposure. Move materials on the copyboard as you wish and press START again. Repeat as needed for subsequent exposures.
 3. Press the MULTI key again and the plate will be processed.
- This procedure is explained in more detail in *Part 3*.

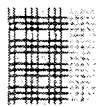
Base Exposure Time

To determine the base exposure time (exposure at 100%):

1. Set the platemaker for 100% reproduction.
2. Set the plate length for a size that can be run on your press.
3. Select a test exposure time. A good starting point is 7 to 10 seconds for top lights. Backlights require 15 to 20 seconds (or more) depending on the type of originals to be used.
4. Open the copyboard cover and place the "cameraman's sensitivity guide" (also called a "gray scale" or "step wedge") on the copyboard. Use the reflective, paper scale if the top lights will be the primary light source. Use the transparent, film scale if backlights are the primary source. Close the cover.

A note to backlight users: if most of your originals will be on a transparent material such as clear film, you can place the gray scale directly on the copyboard. However, if originals will have a translucent base such as vellum or matte drafting film, first place a clean example of the material on the copyboard. Then put the transparent gray scale on top of it. This will more accurately represent the amount of light transmitted through the original to the plate material under day-to-day working conditions.

5. Press the START key and make a plate.
6. Etch the plate.
7. Run the plate on your press until you get a good sample.
8. Examine the steps on the *printed copy* of the gray scale. Locate the first step that printed solid black. If step 5 is solid black, the test time is the proper exposure time. (The steps on the transparent scale are numbered. Step number 1 on the transparent scale is the step at the end of the scale that's nearly clear. If some other step is the first black step, consult the chart to determine the correct exposure.
 - a) Find the test exposure time at the left side of the chart.
 - b) At the top of the chart find words such as "Solid 4" or "Solid 6" that describe the black step on your scale.
 - c) Follow across from the test time and down from the step number to find the new, correct exposure time.
9. Enter the correct exposure time and begin platemaking.



1 2 3 .04 16 CO'



Seconds	<i>Solid</i> 1	<i>Solid</i> 2	<i>Solid</i> 3	<i>Solid</i> 4		<i>Solid</i> 6	<i>Solid</i> 7	<i>Solid</i> 8	<i>Solid</i> 9
1	4.0	2.7	2.0	.5					
2	8.0	5.7	4.0	2.7		1.5	1.0		
3	12.0	8.5	6.0	4.3		2.0	1.5	1.0	
4	16.0	11.3	8.0	5.7		2.7	2.0	1.5	1.0
5	20.0	14.0	10.0	7.0		3.5	2.5	1.7	1.3
6	24.0	17.0	12.0	8.5		4.3	3.0	2.0	1.5
7	27.5	19.7	14.0	10.0		5.0	3.5	2.5	1.7
8	31.5	22.5	16.0	11.3		5.5	4.0	2.7	2.0
9	35.5	25.3	18.0	12.7		6.5	4.5	3.3	2.3
10	40.0	28.0	20.0	14.0		7.0	5.0	3.5	2.5
11	43.5	31.0	22.0	15.5		7.7	5.5	4.0	2.7
12	47.5	34.0	24.0	17.0		8.5	6.0	4.3	3.0
13	51.5	36.5	26.0	18.5		9.3	6.5	4.5	3.3
14	55.5	39.5	28.0	20.0		10.0	7.0	5.0	3.5
15	60.0	42.0	30.0	21.3		10.5	7.5	5.3	3.7
16		45.0	32.0	22.5		11.3	8.0	5.7	4.0
17		48.0	34.0	24.0		12.0	8.5	6.0	4.3
18		51.0	36.0	25.5		12.7	9.0	6.5	4.5
19		53.5	38.0	26.7		13.5	9.5	6.7	4.7
20		56.5	40.0	28.3		14.0	10.0	7.0	5.0
21		59.0	42.0	30.0		15.0	10.5	7.5	5.3
22			44.0	31.0		15.5	11.0	7.7	5.5
23			46.0	32.5		16.3	11.5	8.3	5.7
24			48.0	34.0		17.0	12.0	8.5	6.0
25			50.0	35.5		17.7	12.5	9.0	6.3
26			52.0	37.0		18.5	13.0	9.3	6.5
27			54.0	38.5		19.3	13.5	9.5	6.7
28			56.0	39.5		20.0	14.0	10.0	7.0
29			58.0	41.0		20.5	14.5	10.5	7.3
30			60.0	42.5		21.3	15.0	10.7	7.5

Exposures at Other Percentages

When enlarging or reducing, more or less light is required for a proper plate exposure. Once the proper exposure time has been determined and entered at 100%, the platemaker's computer automatically adjusts the exposure for any other percentage of reproduction that you select.

You may manually override the computed exposure time by entering a number and pressing TOP or BACK. At all percentages except 100%, this change only remains until the size is changed again or the machine is turned off. An entry made at 100% is a change in the base exposure time and will remain until manually changed again. In other words, a manual entry at 100% is permanent and affects exposure times at all percentages. A manual entry at any percentage other than 100% is temporary and has no effect on the times computed for the other percentages.

Size Computations

The amount an original must be reduced or enlarged can be computed by the platemaker, using the following procedure.

To calculate the percentage of reproduction needed:

1. If necessary, push MODE until the SIZECAL key displays. Press SIZECAL and a special calculation display appears.
2. Enter a number that represents the size of the original that you have and press SIZE IN.

3. Enter a number that represents the size that the image should appear on the plate and press SIZE OUT. The calculated size of reproduction displays.
4. If the calculated percentage is satisfactory, press the ENTER key. If the percentage is not what you want, you may enter new sizes or exit the procedure by going to the next step.
5. Press the RETURN key to go back to the normal control display.

```

CT: _4      R: _1
T : _13.0s. L: 18.0in.      100%
13: _00.0s. LID: _0.0%
MULTI          CLEAR CT    SIZECAL

```

```

1
SIZE IN: 11.0      SIZE OUT: 8.50
Calculated Size.SIZEOUT+SIZEIN=_77.3
SIZE IN SIZE OUT ENTER RETURN

```

Error Messages

If a plate jam or other problem occurs, a message appears on the control panel display. Most of these messages are self explanatory. A few refer you to this guide. In those cases, look at the final pages where you'll find a chart of messages and actions to take.

Plate Counter

The plate counter keeps track of the number of plates made. To reset the counter to zero, press the CLEAR button.

```

CT: _4      R: _1
T : _13.0s. L: 18.0in.      100%
6: _00.0s. LID: _0.0%
MULTI          CLEAR CT    SIZECAL

```

PlateCounterandClearButton

Lighten and Darken

The LIGHTEN and DARKEN keys let you darken or lighten the printed image without changing the platemaker's base exposure time. This allows temporary changes when you have an original that's out of the ordinary.

To decrease the exposure time (darken the printed image):

1. Press the MODE key until the third display page is shown on the control panel.
2. Enter a number from one to fifty. This indicates a one to fifty percent change in the exposure time.
3. Press the DARKEN key. The value appears after the LID: label on the third line of the display and the exposure time (or times, if top and back lights are both in use) decreases to the new time.

```

CT: _4      R: _1
T : _13.0s. L: 18.0in.      100%
13: _00.0s. L/D:+10.0%
LIGHTEN DARKEN REPEAT STEP

```

To increase the exposure time (lighten the printed image):

1. Press the MODE key until the third display page is shown on the control panel.
2. Enter a number from one to fifty.

3. Press the LIGHTEN key. The value appears after the LID: label on the third line of the display and the exposure time (or times if top and back lights are in use) increases to the new time.
- The value entered remains in effect until cancelled. To do this, enter the number zero and press either the DARKEN or LIGHTEN key.
- A manual exposure time entry (using TOP or BACK) will override the exposure time generated by the lighten/darken function. Lighten/darken returns to use if the size is changed.
- Darken or lighten adjustments continue until cancelled (or the platemaker is turned off) and automatically adjust the exposure at all percentages of reproduction.

Repeat

Several plates may be made from the same original without operator attendance. This is useful when several presses are running the same job or where several plates are needed for an extended run length.

To use the repeat capability:

1. Press the MODE key to get the third display page.
2. Press the REPEAT key.
3. A message display appears. Follow the instructions shown and enter the number of copies desired.
4. Press the STORE key.
5. Press the START key and the number of plates will be made.
- The exposure cycle may be stopped at any time by pressing the "C" key on the numeric keypad.
- After all plates have been made, the repeat value returns to the number you selected. To return to regular, single plate exposures, enter the number one and press REPEAT.

Accessories

Optional accessories for the platemaker include a copyboard with backlighting, an inline plate dryer, and a special material adaptor.

The backlit copyboard helps make better plates from troublesome originals like blueprints and items on dirty or discolored paper. It's also perfect for transparent originals like engineering drawings on film and overhead transparencies. This accessory includes a translucent copyboard with positioning scales for easy registration of originals.

For those who want their plates dry when they leave the unit an optional plate dryer may be added to the platemaker.

A special adaptor is also available for those who have an Itek Graphix 430 Camera-Processor. This adaptor allows cartridges of plate material from a 430 to be used in the platemaker.

Part 2

Supplies

Plate Material

Three types of plate material are available for your platemaker. Mega plate material (paper) is a silver-emulsion, paper-base plate material capable of running 10,000 impressions and reproducing fine-line work, including halftones up to 120 line. It requires Mega processing chemicals and etch.

Mega Plus provides a silver-emulsion plate material with a film base for excellent dimensional stability. Mega Plus (8 mil thickness) runs up to 50,000 impressions and you can also get a 5 mil type that runs up to 25,000 impressions. Both handle up to 120 line pre-screened halftones. Mega Plus uses the same chemicals as paper-based Mega material.

Note: run lengths are recommended maximums. The actual number of impressions may be more or less, depending on printing variables.

Chemicals

Chemicals for Mega and Mega Plus are identical. However, never use these plate materials with chemicals designed for other plate systems. Always use the correct material and chemical combination. Furthermore, Mega materials must be processed at a specific temperature. The processor is set at this temperature at the factory. Call A.B.Dick Service to have it adjusted if you want to try to use a different plate material.

Plate material requires two processing chemicals — *developer and stabilizer*. These come in concentrated form and you simply mix them with water before using them in the processor of the platemaker.

Plate etch for Mega plates is wiped on a plate, full strength, before the plate is run. It prepares the plate surface for proper acceptance of ink and water during printing. It may not be used as a fountain solution.

Fountain solution also comes in concentrated form and is mixed with water before it's placed in the water fountain of the press.

Use *deletion fluid* to mask or erase unwanted images on plates. Apply deletion fluid before the plate is etched.

Photographic *processor cleaner* removes chemical deposits and stains from the processor trays and rollers.

Warning!

Use only Itek Graphix brand materials and chemicals for optimum results and equipment life. The use of other brands, that results in damage to the equipment, may void warranty protection and result in termination or nonrenewal of any maintenance agreement.

Tips on Supplies

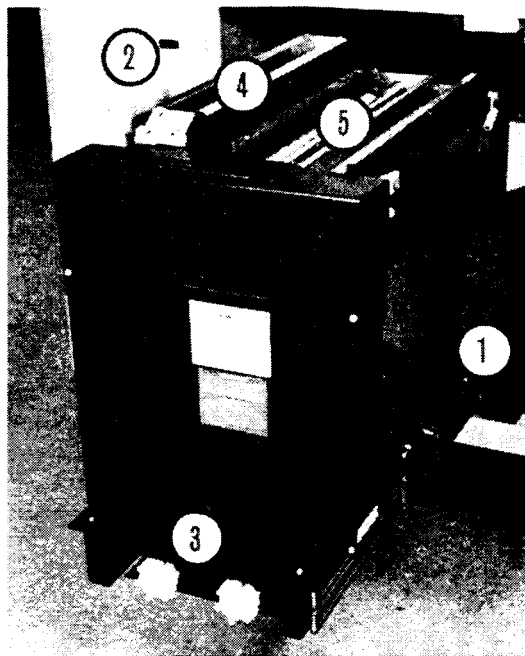
- Maintaining the proper level of chemicals in the processing tanks is very important. Check replenishment bottles regularly and keep them filled.
- Mega Plus rolls come with spool ends already attached. Do not remove these. The spool ends provided with the platemaker's reloadable cartridge mount over them.
- Always remove the replenishment bottles before removing roller assemblies from the processor. If not removed, the bottles will drain into the tanks when the rollers are removed. Then, when the rollers are put back in, the chemicals will overflow the processing tanks.
- Plate material *is light sensitive*. Always store it in its original containers (plastic bag and box).
- When storing rolls of plate material, keep them in an upright position on their ends. Never store material on its side.
- Avoid placing heavy objects on top of material.

- Store plate material away from sources of excessive heat, like radiators and direct sunlight.
- When your platemaker is not going to be used for extended periods of time, remove the plate material and store it in its bag and box.
- Avoid touching the printing surface of plates.
- Use Itek Graphix developer, stabilizer, etch, and fountain solution for best results.
- Use good quality papers. Low grade papers generate paper dust and loose fibers that can contaminate a printing system.
- Store paper in its original container and away from excessive heat.
- Rotate stock, using oldest materials first.

Filling the Processor

To fill the processor tanks with chemicals:

1. Open the processor door, pull back the latch on the right-hand side of the processor, and pull out the processor.
2. Remove the replenishment bottles.



The Processor

1. Latch
2. Replenishment bottles
3. Drain valves
4. Developer Tank
5. Stabilizer Tank

3. Place a container under the drain valves and, one at a time, drain out the old chemicals. Each tank contains about 4 ³/₄ gallons. Watch the liquid level and turn off the drain at the appropriate time.

Caution

Plastic drain valves are used because they will not be ruined by chemicals. However, these valves can be damaged by opening them too far or closing them too tightly. Turn them until they are snug, but do not over tighten.

4. Clean the processor (described in detail in *Part 5*).

Warning

Obey all local laws when disposing of chemicals.

5. In a clean container, mix equal quantities of developer and warm water (83 ° -87 ° F).

Caution

Chemicals are particularly sensitive to mixing temperatures and care should be taken to meet the water temperature requirements. Also, always pour chemicals into the water, not the other way around.

A total of 2½ gallons (2 gal., 2 qt.) of developer and 2½ gallons of water are required. Stir thoroughly. (Do not pour developer and water separately into the developer tank. This will *not* result in proper mixing.

Caution

Developer and stabilizer can be contaminated by other chemicals or by one another, so always work with a container that is clean.

6. Insure that both drain valves are closed.
7. Pour the developer solution into the filling spout of the developer tank (where the replenishment bottle was removed.) Be very careful to pour the developer into the proper tank. Tanks are labeled on the outside. Fill until the chemical level reaches the base of the spout. *Don't over-fill.*
8. Fill the developer replenishment bottle, place the feeder cap on the bottle, and put the bottle in its holder.
9. Rinse the mixing container and stirring stick.
10. Repeat the mixing procedure for the stabilizer and fill the stabilizer tank and replenishment bottle. Put the replenishment bottle in its holder.

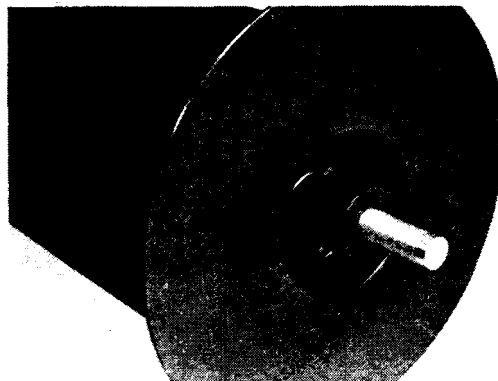
Stabilizer is mixed with one part stabilizer to three parts water. This means $\frac{11}{4}$ gallons of stabilizer and $3\frac{3}{4}$ gallons of water.

11. Clean the mixing container and utensils for their next use.
12. Close the processor and turn on the platemaker. When the machine is warmed up you are ready to begin operation.

Loading Plate Material

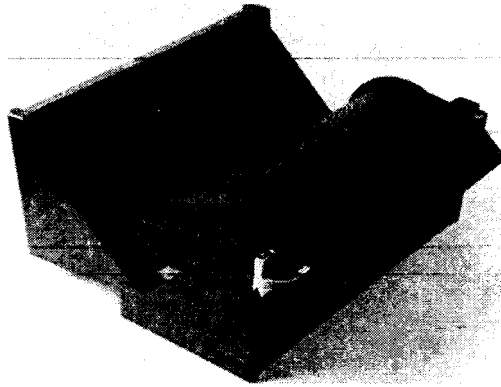
To load plate material:

1. In subdued light, remove the plate material from its container. With Mega paper—based material, pull the plastic inserts out of the ends of the roll. With Mega Plus material, leave the special end caps in place. These protect the material from exposure.
2. Press spool-ends into the ends of the roll of material. Fit these into the ends of the roll of Mega material or into the end caps of Mega Plus material.
3. Place the spool shaft through the holes in the spool-ends and roughly center the material on the shaft.
4. Place the locking nuts on the shaft, but do not screw them tightly onto the spool-ends at this time.



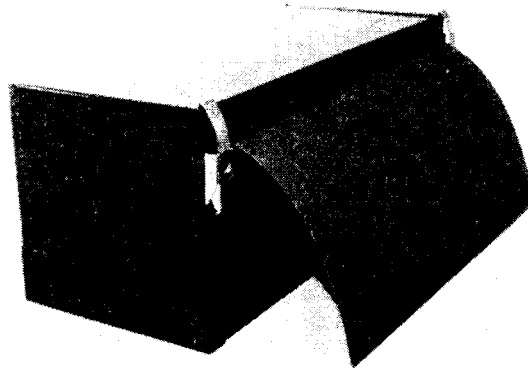
Spool Shaft, Spool-end, and Locking Nut

5. Unlatch and open the metal material cassette.
6. Place the roll of material in the cassette, with the material feeding off the top of the roll and out the exit slot.



Material in Cassette

7. Using the centering guide at the exit of the cassette, center the roll of material on the shaft and tighten the locking nuts.
8. Close and latch the cassette.
9. Pull the material out about eight inches. With the cassette setting on a table, the material will just reach the table's surface.



Cassette with Material Leader

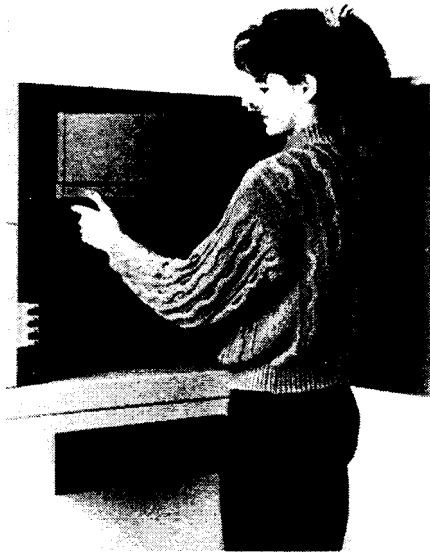
10. Open the rear door of the platemaker. Power should be on.

Warning!

Never turn on the platemaker if the chemical tanks are empty. Failure to provide proper chemical levels when the power is on will result in damage to the tanks.

11. Push forward the top panel of the platemaker.
12. A positioning scale can be seen in the area revealed by opening the top panel. This marks the setting of the side guides. These are needed only when environmental conditions cause the edges of the plate material to curl. When in use, the guides cover approximately 1/8 inch on the edge of the plate and no image may be exposed there.
If the side guides are needed, use the scale and adjust the guides to match the width of the material. The right side of the markers indicate the width selected. If the guides are not needed, push them all the way to the sides.

13. Lift up the pressure plate (revealed when the top panel was pushed open).
14. Set the cassette in position in the plate compartment. The material must feed over the curved entrance guide to the exposure area.



Loading Material

15. Lower the pressure plate.
16. Close the top panel.
17. Press the PREFEED button at the lower right-hand side of the plate compartment. A short length of exposed material will be fed out and held in the exposure area inside the platemaker.
18. Close the door of the plate compartment.
19. From the rear of the platemaker, go to the right-hand side of the machine and open the small access door to the exposure area.
20. Remove the trimmed piece from the top of the exposure area and discard it.
21. Close the access door.
 - The knife that cuts the plate material will not work if the top panel and the small access door are not completely closed.

Material Storage

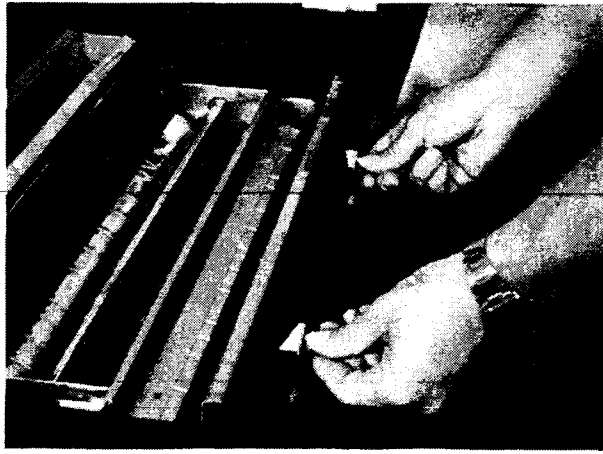
A shelf, provided in the material compartment, allows a second material cassette (option) to be stored in the platemaker for quick and easy exchanges of material sizes. This shelf is under the shelf provided for the cassette in use.

Output Guides

Whenever changing the width of plate material being used, you must adjust the position of the output guides of the processor.

To adjust the output guides:

1. Open the processor door and pull out the processor.
2. Locate, at the rear of the processor, the metal plate marked with numbers in inches and centimeters.
3. Attached to the metal plate are two adjustable guides. Loosen the locking screw on each guide and slide the guides into position. The outer edge of the guide should be aligned with the number that corresponds to the width of material to be used.



Adjusting the Output Guides

Processor Chemicals

Mega chemicals in the platemaker will process 1780 to 1800 square feet of material (about $5\frac{1}{4}$ rolls of 15 inch wide material) or will be good for four weeks, whichever comes first.

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Part 3

Special Techniques

Step-and-Repeat

Several images of an original may be placed on a plate using what is called the "step-and-repeat" multiple exposure procedure. Your plate-maker allows you to choose from two different step-and-repeat methods; one automatic and one manual.

The automatic mode allows two images to be placed on a single plate. You don't have to move the original on the copyboard and exposures are handled automatically.

The manual mode allows you to put two or more images on the plate. However, this method requires that you move the original between exposures.

To Use the Automatic Step-and-Repeat Technique:

1. Ensure that the copyboard chart is secured to the copyboard assembly. The chart is usually taped to the platen glass.
2. Lay a tape measure or scale onto the chart and temporarily secure it with tape (see Diagram "A").
3. Make a plate of the tape measure or scale.
4. Identify the exact cut edge of the image area by referencing the tape measure or scale (see diagram "B").
5. Temporarily tape the "Step-and-Repeat" scale onto the copyboard chart with the "0" at the exact edge of the image area as identified in Step 4 (see Diagram "C"). There should be approximately 22-3/4" measurement from the rear of the copyboard.
6. Verify the exact edge by making a very low exposure of the scale. The lead edge of the plate should be at the "0" point. If the resulting plate shows accurate placement of the Step-and-Repeat scale, remove the backing from the scale and affix it to the copyboard chart.
7. All originals must be placed at "0" of the Step-and-Repeat scale as shown in Diagram "D".

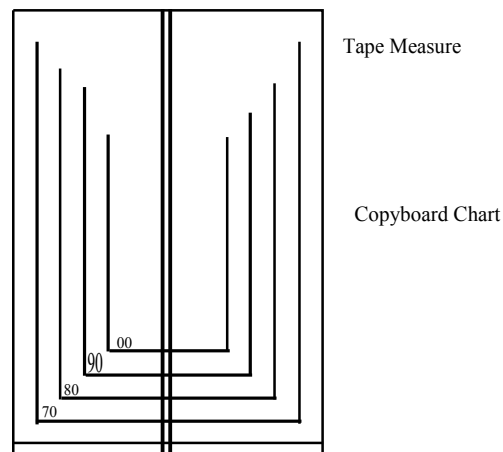


Diagram A

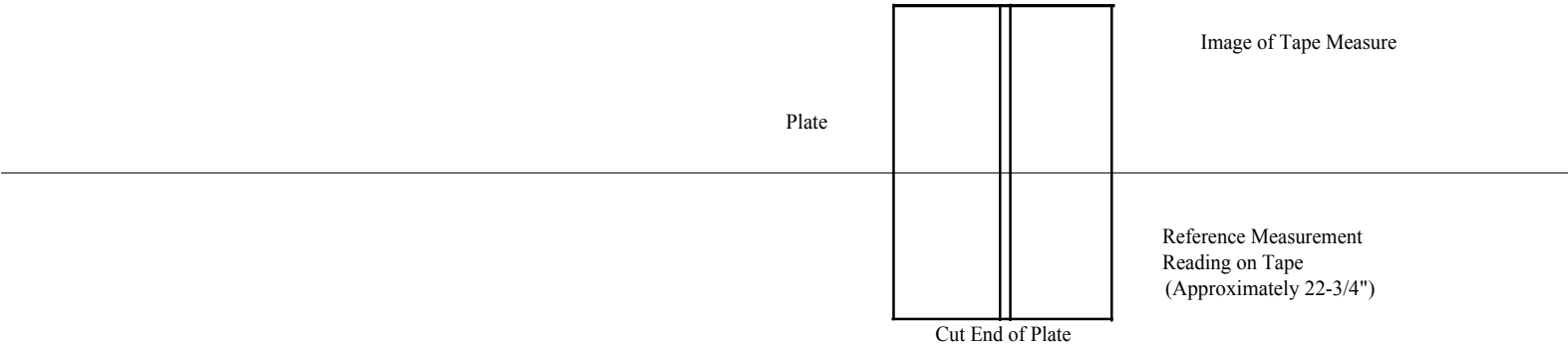


Diagram B

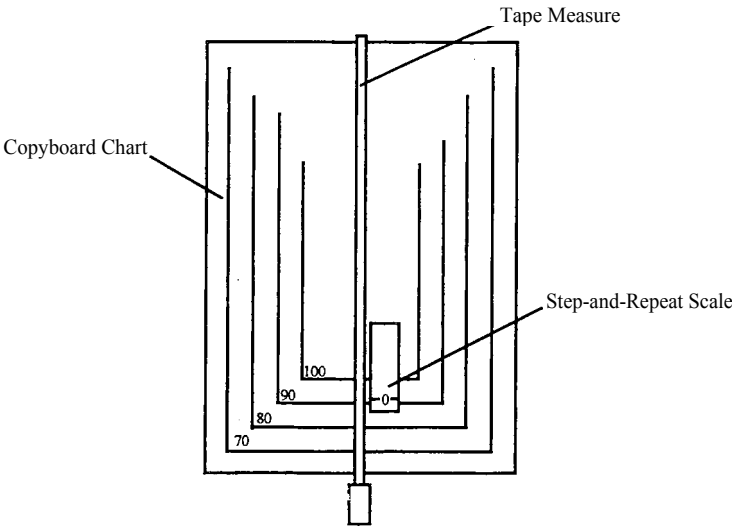


Diagram C

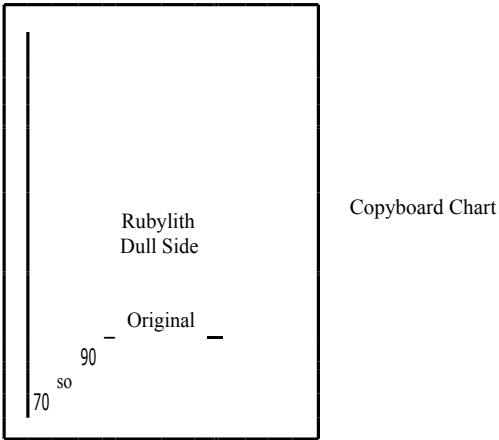


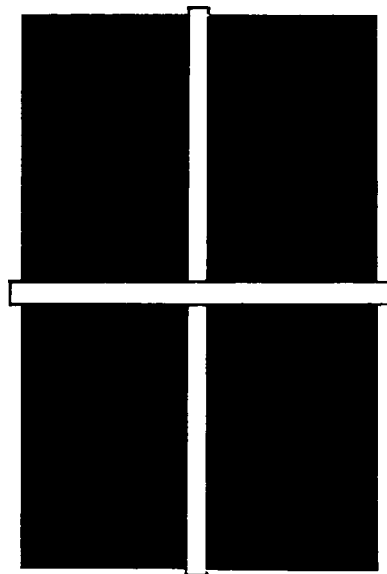
Diagram D

Making a Step-and-Repeat plate:

1. Place the original at "0" of the Step-and-Repeat scale. Lay a piece of light-absorbing material (ie, Rubylith with dull side up or a dull black material) about 1/32" from the trail edge of the original. Reference the Step-and-Repeat scale as to the length of the image.
2. Press the MODE key until "STEP" appears in the lower right corner of the display.
3. Press the "STEP" key.
4. Enter the plate length and then press the "LENGTH" key.
5. Determine the image length of the original; then enter the amount and press the "IMAGE" key. (Determined in step 1 using the step-and-repeat scale.)
6. Determine the lead edge gripper required; then enter the amount and press the "GRIP EDGE" key. Remember that the plate length entered must be equal to or greater than twice the image length plus the grip edge.
7. Press the "START" key.

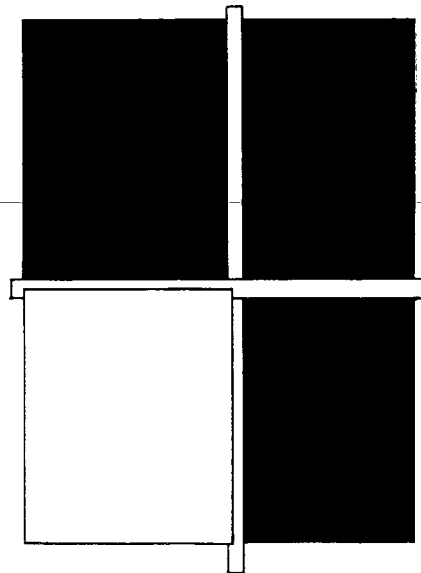
To use the manual step-and-repeat technique:

1. Using black ink, draw the outer shape of the original to be copied on the dull side of a sheet of black velour-surfaced or red graphic arts film. Do this several times, making the edges of the areas touch. For example, if you wanted to repeat a 2 X 3½" business card four times you would have a 4 X 7" rectangle divided into four 2 X 3½" segments.
2. Cover, with white paper, all areas of the film outside of the area you've marked.
3. Tape the film and paper combination to the copyboard chart. Take care to position the red area accurately for proper exposure.



Grid on Copyboard

4. Place the original on the copyboard, over one of the areas you marked on the film.



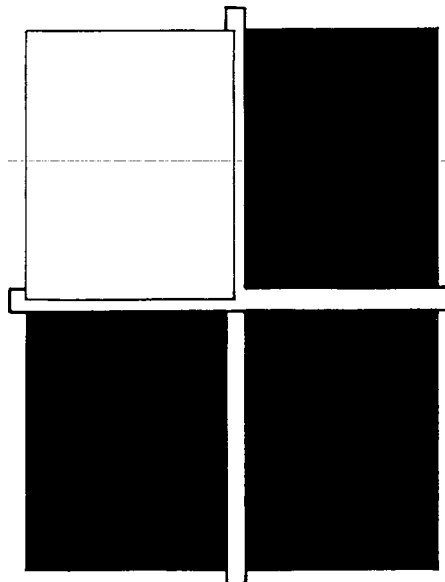
First Position of Original

5. Press the MULTI key.

CT: _4	R: _1	
T :_13.0s.	L: 18.0in.	100%
13:_00.0s.		
MULTI	*TOP*	BACK SIZE517

6. Press the START key.

7. Move the original to a second exposure area and press the START key again. Continue "stepping" the original and "repeating" the exposure.



Second Position

8. When you've made an exposure in each of the areas marked on the red film, press the MULTI key again to allow processing of the plate.
- Thin pieces of white paper can be placed along those lines where the images will meet, thus eliminating black lines where images butt together. Be careful to use strips thin enough so they do not overlap areas where there is an image on the original.

Color in Originals

Originals sometimes contain colored inks that will not reproduce on papers that are dark enough to cause a strong background image. In general, colors will reproduce as follows:

- Darker shades of most colors will reproduce.

- Medium shades of blue, purple, and red will reproduce, while medium shades of green and yellow will not reproduce.
- Lighter shades of most colors will not reproduce. Red, if not too light, will produce an image.

To adjust for the effect of color:

1. Increase the exposure to delete unwanted colors.

or

2. Decrease the exposure to increase the amount a color is reproduced.
 - The ability to compensate for color in originals is limited. It depends on the color or color combinations involved.
 - Flashing or dodging techniques (see below) can be used where there's color on only a portion of the original.

Color Filters

A red or magenta filter or overlay enhances yellow and, to a lesser extent, green. These are the most difficult colors to reproduce. No significant result will be obtained if other filters are used.

Controlling Densities

The overall density (blackness) of images on a plate may be increased by decreasing the exposure time. The overall density may be decreased by increasing the exposure time. Changing the overall density may sometimes be necessary when originals have pasteup marks, light or dark images, colored images or back grounds, or fine lines.

When the density of selected areas must be changed, "flashing" (decreasing density) or "dodging" (increasing density) techniques may be used.

Increasing Density (Dodging)

To increase the density of an area:

1. Place the original in the copyboard and select all the operating conditions. Press the MULTI key and select an exposure time about 25% of normal.
2. Tear out a piece of black paper and place it over the area to be darkened, on top of the copyboard glass. Be sure that the material covers only the part of the original you want to darken.
3. Press the START key.
4. When the exposure is over, remove the dodging material.
5. Enter the remaining 75% of the normal exposure time and press the START key again.
6. When the exposure is complete, press the MULTI key again and the plate will be processed.
7. If, when the plate is run, the dodged area is too light or too dark, make another plate and increase or decrease the amount of dodging time. The sum of the dodging time and the second exposure time should always add up to the time for a normal exposure.

Reducing Density (Flashing)

To reduce the density of an original:

1. Place the original in the copyboard and select all the operating conditions. Press the MULTI key and select an exposure time about 25% of normal.
2. Tear out a piece of white paper and place it over the area to be lightened, on top of the copyboard glass. Be sure that the material covers only the part of the original you want to lighten.
3. Press the START key.
4. When the exposure is complete, remove the flashing material.
5. Enter the remaining 75% of the normal exposure time and press the START key again.
6. When the exposure is complete, press the MULTI key again and the plate will be processed.

7. If, when the plate is run, the flashed area is too light or too dark, make another plate and increase or decrease the amount of flashing time. The sum of the flashing time and the second exposure time should always add up to the time for a normal exposure.
-

Part 4

Running Plates

Plate Etching

Etching helps the plate's background (non-image) area to accept fountain solution and repel ink. Follow the tips below when etching plates.

- Keep hands free of oil and ink.
- Be sure that the plate is thoroughly dry before you etch it.
- With Mega material, when doing many short runs, use fountain solution (one part fountain concentrate diluted with 9 parts water) to etch the plates. Plates may take slightly longer to "runup" but you will not be feeding frequent doses of etch into the system.
- Use etch or starter uniformly, evenly, and thoroughly. Wipe horizontally and vertically. Do not use excessive pressure because it will cause scratching of the plate surface.



Etching/Starting

Fountain

The fountain solution continues wetting the plate as the plate runs on the press.

- Use distilled water when possible.
- For Mega plates, mix fountain solution with 9 parts water to 1 part fountain concentrate.
- Drain and replace the fountain solution daily.

Presses

- After inking up the press, idle it at low speed with no solution in the fountain for 3 to 5 minutes to "mill in" the ink.
- Be sure that the ink is out to the end of all rollers, including the water rollers on integrated systems. This helps prevent "rooster-tailing" which causes emulsification of ink throughout the system.
- Obtain the proper water balance by setting the water adjustment lever to the middle position. Then back it off slowly until the background area begins to ink up. Gradually increase the water until the background ink disappears. Do not use excess water.
- Clean the ink system and fountain each night with a recommended blanket wash.
- Remove any residual etch film from the rollers with warm water and then rinse thoroughly.
- Deglaze the rollers and blanket with a recommended deglazing solution every two weeks.
- Make sure that the form rollers are not cracked or swollen.

Avoiding Specks

- Insure that plates are properly etched.
- Make sure that the fountain solution is the proper strength.
- Do not use low-grade papers.
- Avoid stopping the press in the middle of a run. If necessary, set to idle and turn off the ink. Do not let the plate dry out.
- Make sure the blanket has been deglazed properly.
- Keep the copyboard glass clean.

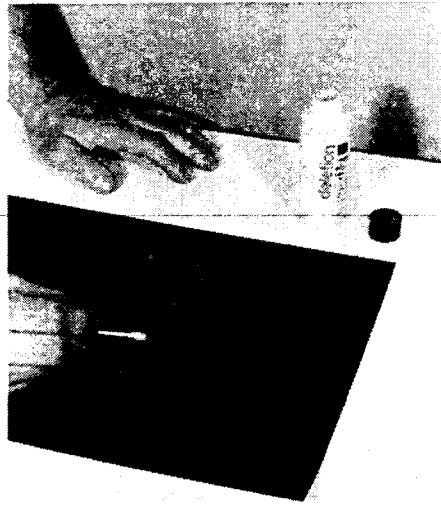
Avoiding Scratches

Weekly, clean both roller assemblies with warm water and a soft brush. See *Part 5* for detailed instructions on cleaning the processor.

Deleting

To mask unwanted images on plates:

1. Shake the bottle of deletion fluid before using.
2. Apply deletion fluid before etching
3. Use a fine paint brush or cotton-tipped swab to apply the deletion fluid over the unwanted image. *Mega fluid masks the image and does not erase. Do not rub hard or attempt to remove the image.*



Deleting (Masking)

4. Let the deletion fluid dry completely.
5. Etch the plate.

Part 5

Preventive Maintenance

Cleaning the Processor

Following the processing of 1780 to 1800 square feet of material or four weeks (whichever comes first) the platemaker processor must be cleaned. This insures optimum plate production and chemical life. Failure to properly clean the processor on a timely basis can result in improper processing, scratches on plates, jams, and reduced chemical life.

Warning

Turn off and unplug the platemaker before doing any maintenance.

To clean the processor:

1. Open the processor door, release the latch at the lower right, and pull out the processor.



Processor Latch

2. Remove the replenishment bottles.
3. Drain the developer and stabilizer tanks.

Caution

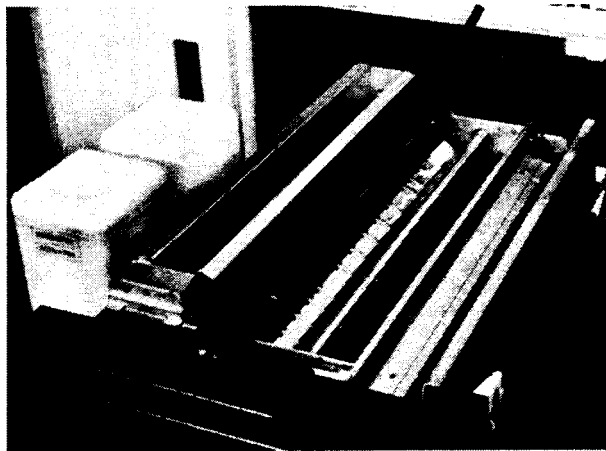
Plastic drain valves can be damaged by opening or closing them too tightly. Turn them until they are snug, but do not over tighten.

Warning

Obey all laws when disposing of chemicals.

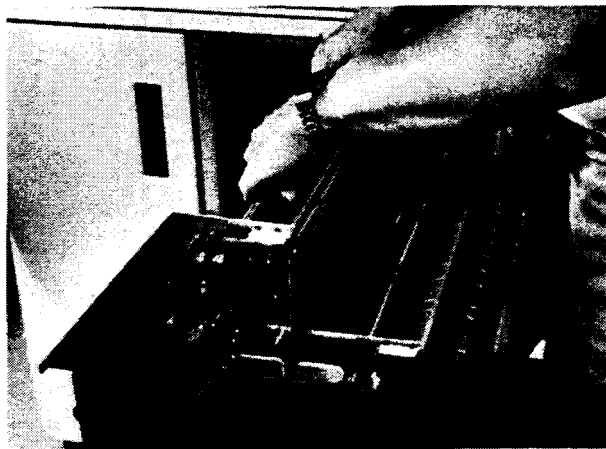
5. Lift out the plate chute. It is the metal guide nearest the front of the processor.

4. Remove the center turnaround guide by opening the hinged safety cover, pressing on the spring clip near the outer end of the guide, and lifting out the assembly.



Center Turnaround Guide

6. Lift the roller assemblies out of the developer and stabilizer tanks, tipping them to insure that all chemicals are drained off before removing the assemblies from the tanks. These assemblies are different, so be sure to note which is which.



Removing a Roller Assembly

7. Insure that the valves are closed or a container is under the drain hoses. Wash out the inside of both processor tanks with warm water. A sponge or cloth can be used to scrub with, but *do not* use any cleaners, abrasives, soap, etc. Drain and rinse again if necessary.

A special processor cleaner is available from A.B.Dick. Specific directions for use are packaged with the chemical.

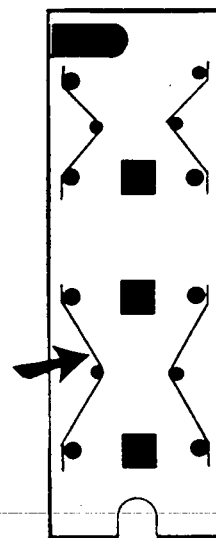
8. When the processor tanks are cleaned and drained, check to see that the drain valves are closed. Do not overtighten the valve handles.
9. Wash each roller assembly with warm water. Scrub lightly if necessary, and turn the sprocket wheel at the end of the frame to move the rollers. This allows cleaning of all surfaces.

Do not use any cleaning agents unless they are specified by A.B.Dick. Residual cleaners will pollute the processor chemicals.

10. Pull gently out (a short distance only) on each roller and allow it to softly snap back. Inspect the springs on both ends of the assembly. Each roller should be held by V-shaped springs. The springs should be positioned as shown below. Note also that the springs have different tensions and should not be interchanged.



Pulling Out On Rollers



Position of Springs

11. Replace each roller assembly. The sprocket at the end should rest in the center of the drive chain at the end of the tanks.
12. Wash and dry the plate chute. The chute must be dry or plates will stick to it as they try to enter the processor. Replace the chute in the processor.
13. Wash the turnaround guide and replace it in the center of the processor. It will snap into place. Close the safety cover.
14. Wipe the squeegee rollers, at the rear of the processor, with a damp cloth.



Wiping the Squeegee Rollers

15. Refill the processor tanks and replenishment bottles with chemicals.
16. Replace the replenishment bottles, release the processor latch, roll in the processor, close the processor door, and turn on the platemaker. After the warmup period the unit will be ready to make plates.

Lamp Replacement

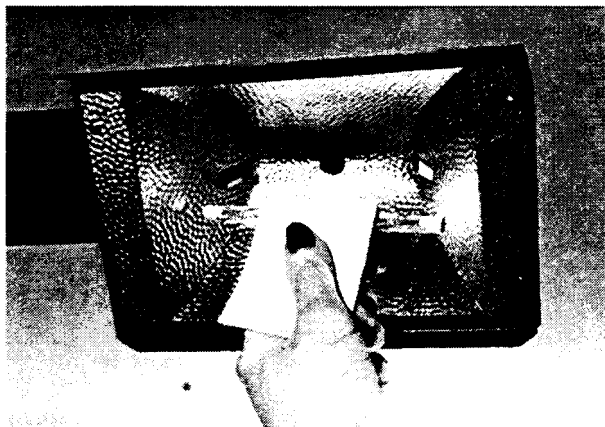
Replace lamps in sets. If one goes bad, replace them all. Failure to do so will result in uneven illumination because the lamps "age" and their output changes.

Warning

Turn off and unplug the platemaker before performing any maintenance. Wait until the lamps are cool before removing them.

To change a lamp:

1. Push lamps gently toward one end and then pull out the other end. Lamps are fragile, so do not exert unnecessary pressure, particularly in the center.
2. *Do not touch the new lamps with bare fingers.* Fingerprints will cause light imbalances and shorten the life of a lamp. Fold a sheet of paper in half two times and loop it around a lamp to hold it.



Replacing a Lamp

3. With the bump on the center of the lamp facing toward the light fixture, press one end of the lamp against its retaining clip, push gently, and place the other end in position. Repeat for the other three lamps.
4. Turn the power on. When you make the next plate verify that all the lamps are working.

Maintenance Tips

Copyboard

- Remove pieces of paste-up wax, correction fluid, tape, and other materials from both sides of the copyboard glass with a single-edged razor blade.
- Clean both sides of the copyboard glass with a glass cleaner. Dry thoroughly with a clean, lint-free cloth.
- Remove smudges and fingerprints from the copyboard chart with a mild household cleaner. Abrasive cleaners and vigorous rubbing may erase parts of the positioning lines.

Copyboard Lights

- Cleaning is only necessary if the lamps have been touched with bare fingers or exposed to other dirt.
- Clean lamps by lightly buffing them with a clean, lint-free cloth and alcohol.
- If necessary, gently clean the reflectors with a soft cloth and alcohol. The reflectors are thin metal, so take care not to bend them when cleaning them.

Magazine

- Keep the plate compartment free of plate material dust.

Processor

- If you need to take a roller assembly out of a processor tank, be sure to remove the replenishment bottles first. Failure to do so will cause the replenishment system to feed extra chemicals into the tank. Then, when the roller assembly is put back in, the chemicals will overflow the tank.

Dryer (optional accessory)

- Clean the rubber transport rings in the dryer with a clean cloth dampened with water. To gain access to the dryer, tip the rear panel of the platemaker down. Remove the dryer cover.

Warning

The dryer and internal parts will be hot if the platemaker has been in operation. Use the insulated handle to remove the cover and take care not to touch hot parts.

Display Messages

Display panel messages aid in operation by prompting operator action, noting platemaker status, or signalling problems. Most messages are self-explanatory. The following list explains messages that say "see operator manual" and those requiring further information.

Message	Action
Feed Jam	Turn off machine. Clear paper path. Turn machine back on.
Knife Jam	Turn off machine. Verify that the top cover panel is completely closed. Clear material from the knife. Turn on machine.
Transport Jam	Turn off machine. Clear paper path (particularly at entry of processor). Turn machine back on.
Optics Jam	Optics are either at their limits, obstructed by a foreign object, or the electrical system for optics has failed. Turn off machine. Check for obstruction. Turn machine back on. If the problem persists, call service. If an obstruction caused the jam, the machine may <i>need</i> to be refocused. Call service.
Memory Failure Memory Failure Before Optics Move Memory Failure After Optics Move	A CPU malfunction or electrical surge caused the machine to lose focus information. Turn off machine and call service.
Line Voltage Out of Range	Line voltage to machine is too high or too low. Turn machine off and then back on. If the problem persists, call service or local power authority.

Important Safety Warnings

- Before attempting to operate the platemaker, be certain that each operator has read this guide and is thoroughly familiar with the operating instructions and safety warnings.
- Always unplug the machine before undertaking repair, service, or maintenance.
- Never remove, alter, disable, or disengage any safety covers, interlocks, or other factory-installed safety devices, and under no circumstances attempt to operate the machine without all safety covers, interlocks, and other safety devices in their original, factory-installed condition.
- Check light bulbs to see if they are cool before replacing them.
- Obey all laws concerning the disposal of developing and processing chemicals, and other substances, in your area.
- A.B.Dick recommends that repair and servicing of your machine be performed only by an A.B.Dick Service Representative or an Authorized A.B.Dick Dealer. Repair or servicing of the equipment by owners, operators, or unauthorized service personnel is not advised due to safety risks posed and the possibility of voiding applicable warranty coverage.
- Use only A.B.Dick brand materials and chemicals for optimum results and maximum equipment life. The use of other brands that results in damage to the equipment may void warranty protection and result in termination or nonrenewal of any maintenance agreement.
- Use great care in cleaning the lens. Lens coatings are easily scratched. Use only liquid cleaners formulated for optical components. It is recommended that maintenance of the lens be done only by an A.B.Dick Service Representative.
- Never turn on the platemaker when the chemical tanks are empty. Failure to provide proper chemical levels will result in damage to the tanks.
- Dryer parts are hot. Use caution when working in the dryer area.



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