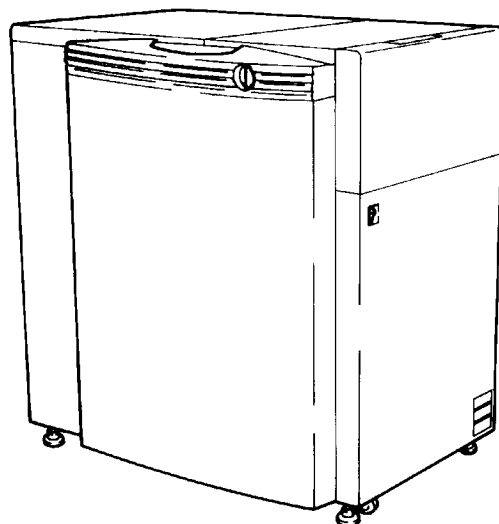


SILVER DIGIPLATER
SDP-Eco1630 II
USERS MANUAL
2nd Edition



Before attempting to operate this product, you should thoroughly read and fully understand all the contents of this manual.

Administrators and supervisors shall not instruct anyone to operate or inspect this machine unless he/she is familiar with all the contents of this document.

For Your Safety



- This manual must be thoroughly read and understood by all operators before they attempt to use SDP-Eco 1630 II.
- This manual provides general guidelines, precautions and warnings for the safe operation of this machine. Very serious accidents may occur if this machine is utilized without following this manual and we shall bear absolutely no liability or responsibility for the consequences.
- The warning labels for hazard prevention area attached to dangerous parts or areas of the machine. Study and understand all the specific dangers involved and how they can be avoided.
- Keep this manual available and near the machine at all times so that it can be immediately referred to whenever necessary.
- Look up the name, address and phone number of our nearest dealer or branch office (listed on the back page of this manual), and post the information prominently for quick reference.
- Please make sure that this manual reaches everyone charged with operating this machine.

Warning

Machine operators must thoroughly read Chapter 1. Do not turn on the machine's power supply until all of the precautions have been read and understood. Very serious accidents may occur if this instruction is not observed.

Administrators and supervisors shall not instruct anyone to operate or inspect the SDP-Eco 1630 II unless he/she is familiar with all the contents of this document.

Compliance with CISPR Rules

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

Compliance with FCC Rules

Notice for the USA

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

Changes or modifications not expressly approved by Mitsubishi Paper Mills Limited could void the user's authority to operate the machine.

Notice for Canada

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Unit Regulations.

Cet appareil numérique de la Class A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

When export the machine

International transfer of this product, any of its parts, components and/or software must be carried out in compliance with the relevant laws and ordinance of the country of export and the country of product end-use. We do not assume any responsibility of liability for product transferred without regard to proper export/import regulations or procedures.

Limit of responsibility

Please note that machine specifications are subject to change without notice for updates and improvements. This may cause inconsistencies between the contents of this manual and the machine you currently possess.

We shall not be held responsible for any damage caused by conditions beyond our control such as customer modification, disassembly or misuse of our machine, programs or software, or their use in a defective or deficient environment.

We assume no responsibility or liability for any damage or consequential and/or indirect losses resulting from any accident or malfunction that might occur during the operation of this machine.

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Introductory Note

Thank you very much for choosing our product. We sincerely hope that you will enjoy using the SDP-Eco 1630 II, and fully utilize all its functions and capabilities.

This users manual describes how to safely operate this machine and explains all the basic procedures for data setting, maintenance, inspections, etc.

As noted below, however, it is the client's obligation to obtain or prepare all the necessary material safety data sheets ("MSDS") for any chemical substances used during the client's operation on this machine. Although great care has been taken in preparing this manual, if you find that certain points seem unclear or in error, please contact Mitsubishi Paper Mills Limited.

This manual contains the following sections:

Chapter 1 "On Safety"

This chapter describes instructions to be observed for the safest possible operation of the product.

Please make sure to read this chapter before turning on the power to the product.

Chapter 2 to 6

These chapters provide relevant knowledge and reference information for machine operation.

Please read them carefully before attempting to operate the machine.

Chapter 7 to 9

These chapters describe daily maintenance procedures and troubleshooting methods as well as supplying various technical information. Please read through them as necessary.

About this manual

In this manual, important supplementary remarks are classified as either WARNINGS, CAUTIONs, Cautions, or Notes.

Since remarks under WARNING and CAUTION headlines call attention to conditions and operations that may result in accidents or physical injuries, be sure to thoroughly read and observe their instructions.



Warning

Indicates a potentially hazardous situation which, if not avoided or properly handled, could possibly result in death or serious injury.



Caution

Indicates a potentially hazardous situation which, if not avoided or properly handled, could possibly result in minor or moderate injury.

Caution

Indicates a situation that could either cause damage to the machine, destroy data necessitate extensive reduplicated effort. Strictly follow the noted instructions.

Note

Provides supplementary information or information to prevent incorrect operations.

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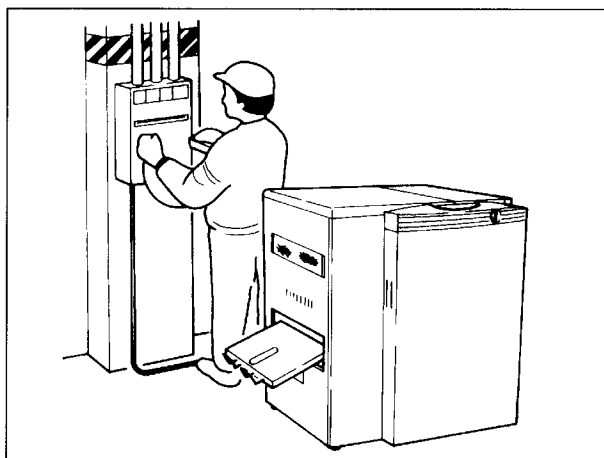
Chapter 1 On Safety

SDP-Eco 1630 II was designed and manufactured with special attention to safety considerations. However, it is impossible either to eliminate all potential sources of danger from such products or to anticipate all possible hazards and misuses. It is therefore critical that you both familiarize yourself, all your operators and other relevant personnel with all of the noted precautions, countermeasures and related procedures, and take maximum care when operating this machine.

1.1 When using the machine

● Grounding connection

- In order to prevent electric shock at the AC power supply unit, be sure to connect the ground in accordance with operation site regulations (resistance: less than 100 ohms) using the SDP-Eco 1630 II exclusive wire.
- Even when the user's present facility outlet can be with the SDP-Eco 1630 II power plug with ground, make sure that the ground pole on the outlet is connected with ground in accordance with operation site regulations (resistance: less than 100 ohms)



Warning

Following all relevant local wiring regulations, prepare a grounded (less than 100 ohms) power supply outlet that can accept this machine's power plug.

● Power supply

- Prepare a power supply that satisfies all the requirements stipulated in the specification sheet.
- Always provide circuit breakers for unit or devices that use water or chemicals.
- Please entrust all wiring, connections and other electrical work to an authorized electrician.

● Maintenance and safe passage during emergencies

A minimum of 60 cm clearance is required around the machine at all times to afford adequate space for maintenance and safe passage during emergencies. Never allow this space to become blocked with any objects, wires, or other obstacles.

● **This machine incorporates a power supply unit.**

Do not use a bubble type extinguisher when a fire occurs. It may cause electric shocks. Place a powder type extinguisher near the machine.

● **The SDP-Eco 1630 II is equipped with a leakage circuit breaker.**

If a short circuit occurs in the machine, the breaker is automatically activated and shuts off the circuit.



Warning

Occasionally the main unit will not activate when you turn ON the Power Switch because the leakage breaker inside the main unit has turned itself OFF.

In such a case, contact your local dealer where you purchased the machine and ask a service person to check out the condition.

● **This machine incorporates high current electrical circuits.**

Touching the electrical circuits of this machine with any part of your body can cause serious injury or death. Please contact the dealer where you purchased this machine when maintenance or inspections are required.

● **Safety switches**

To ensure operator safety, this machine is provided with safety switches. If a front door is opened while the machine is running, a safety switch is activated and operation is immediately stopped.

(Refer to "Chapter 2 Names of Machine Component and Parts".)

● LASER SAFETY.

The SDP-Eco1630 II is certified as a Class 1 laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. This means that the recorder does not produce hazardous laser radiation.

Since radiation emitted inside the SDP-Eco1630 II is completely confined within protective housings and external covers, the laser beam can not escape from the machine during any phase of user operation.

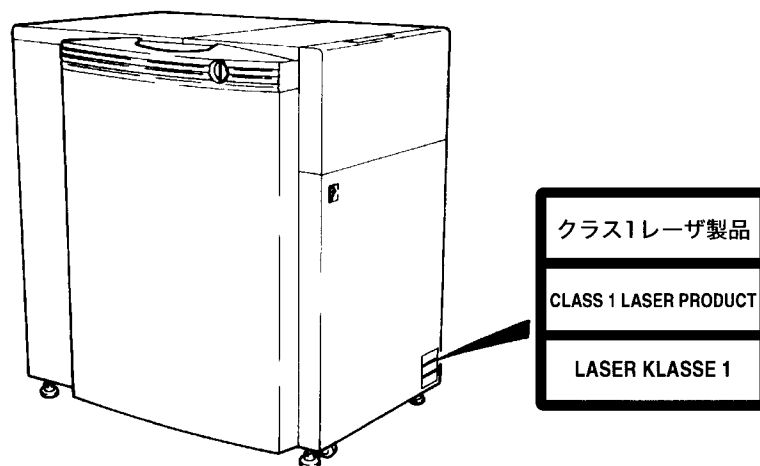
● CDRH REGULATIONS.

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. Compliance is mandatory for products marketed in the United States. The level shown in the figure indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

● For European model

The SDP-Eco1630 II is classified as a CLASS 1 LASER PRODUCT in accordance with IEC Pub 1.1 825 1984.

Ordinary operation will not release laser radiation into the work environment. Do not remove any of the safety covers for this product or release any of its interlock switches. Laser radiation may cause injuries to your body (e.g. weakened eyesight, skin cancer).



1.2 Warning labels and attachment positions

Warning labels are attached to dangerous parts or areas of the machine. All operators and maintenance personnel must follow the instructions written on these labels.

- Do not remove or deface any of these warning labels.
- Labels must always be clearly visible without any obstacles shielding or obscuring them.
- If a label is removed or defaced, replace it with a new warning label as soon as possible. Please contact the dealer where you purchased this machine for new labels.

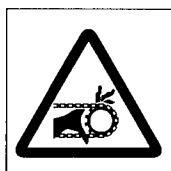
● Types of warning labels

(1) Caustic agent

	⚠ WARNING CAUSTIC AGENT	⚠ WARNUNG! ÄTZMITTEL	⚠ 警告 腐 食
---	-------------------------------	-------------------------	-------------

Hazard	Safe handling method
Contains processing chemicals. Direct contact with these chemicals due to splashing or overflow may result in skin irritation, blindness, or burns.	Always wear protective gear such as safety glasses, rubber gloves, masks, and rubber aprons. Read all instructions and warnings for processing chemicals.

(2) Hazardous Moving Section



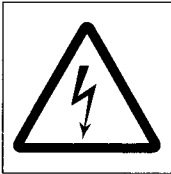
Hazard	Safe handling method
Hands or fingers may get caught.	Keep hands, fingers and the rest of the body away during operation. Always turn OFF the main power supply and the power switch on the machine before approaching.

(3) Caution



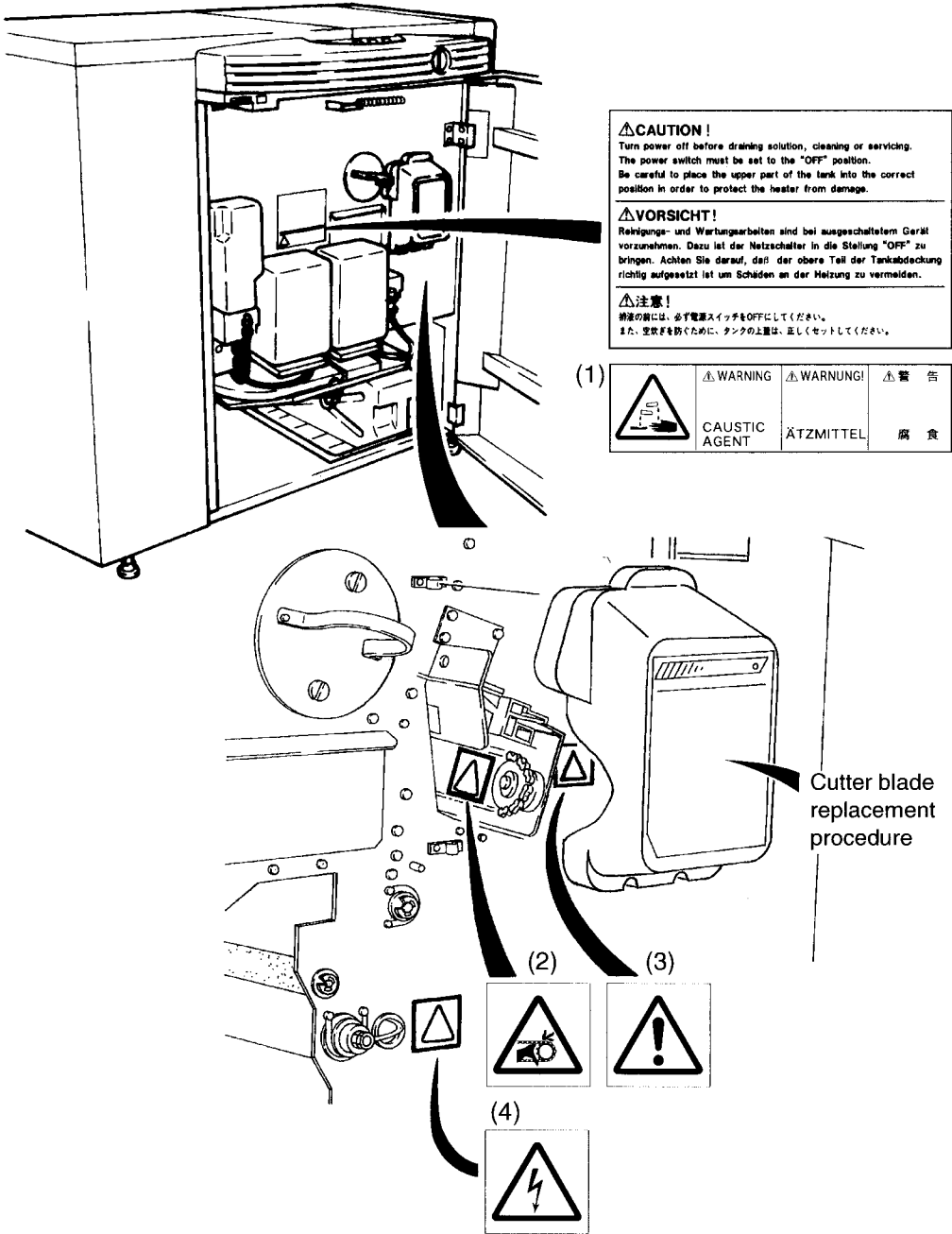
Hazard	Safe handling method
Sections marked with this label contain functions or components which could cause personal injury.	Keep hands, fingers and the rest of the body away from the machine while it is running. If you must physically touch the machine, always turn the power supply OFF beforehand.

(4) Electric shock



Hazard	Safe handling method
There are sections where the voltages are dangerously high. Direct contact with these sections (marked with this label) can cause severe shock and potentially fatal injuries.	The parts or sections marked with this label should be avoided. Be careful not to touch them with your bare hands or any part of your body.

● The locations of the machine's warning labels are shown below.



1.3 Handling processing chemicals

**Warning**

The SDP-Eco 1630 II uses processing chemicals to activate and stabilize exposed plates. The processing chemicals used in this machine are not generally dangerous to humans, but failure to use them in the correct manner is dangerous. Be sure to handle all processing chemicals with care.

■ Cautions for use of processing chemicals

**Caution**

Inflammation may occur if processing chemicals come in contact with the eyes or skin, so be sure to wear protective gear (safety goggles and rubber gloves) when handling the chemicals. Keep out of reach of children.

■ What to do in case of emergency

**Caution**

If chemicals come in contact with the eyes, immediately rinse with clean running water for at least 15 minutes. If the inflammation persists, consult an eye specialist.

If chemicals come in contact with the skin, immediately rinse under clean running water.

If chemicals are swallowed, immediately consult a physician. Report the ingredients of the chemical or solution to the physician.

■ Cautions for handling waste chemicals

**Caution**

These chemicals have high COD and pH levels (especially the activator) and cannot be disposed of by simply pouring them down the drain. Please have processing chemicals removed by a certified waste management specialist.

■ Processing chemical components

- Activator (SLM-EAC)
Mixture: (aqueous chemical)
pH: approx. 13.4

Composition	CAS No.	Percentage
Potassium hydroxide	1310-58-3	1–5
Potassium sulfite	7646-93-7	1–5
Sodium sulfite	7757-82-6	1–5
N-amino ethyl ethanolamine	111-41-1	1–5

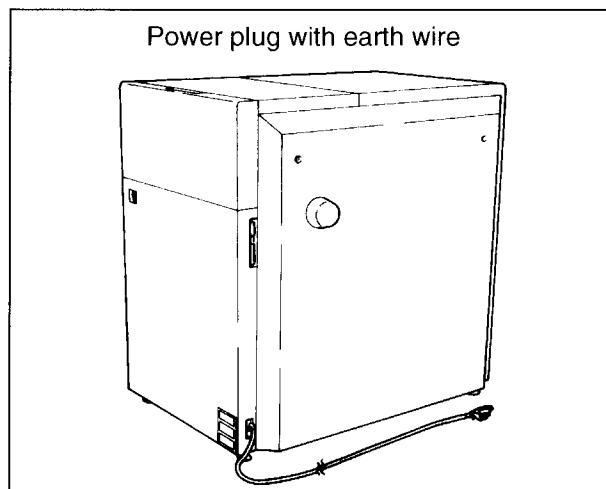
- Stabilizer (SLM-EST)
Mixture: (aqueous chemical)
pH: approx. 6.0

Composition	CAS No.	Percentage
Phosphate	7778-77-0	1–5
Tri-ethanol amine	102-71-6	<1
Heavy sodium sulfite	7631-90-5	<1
Water	7732-18-5	>90

1.4 Before connecting the power cable

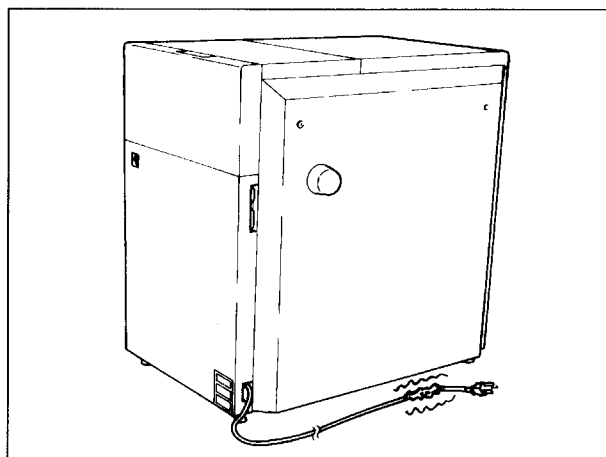
● Power supply

- Check that the power switch on the SDP-Eco 1630 II is turned OFF before connecting the power plug to the user's power outlet. (Refer to "Chapter 2: Names of Machine Component and Parts".)



● Power cables

- Always use grounded power cables when connecting to this machine.
- If you find anything that might indicate power cable damage such as unusual deformations or surface flaws, immediately turn OFF the power supply, pull the power plug from its outlet and contact the dealer where you purchased this machine.
- Do not place heavy objects or articles with sharp blades anywhere on the power cable or forcefully pull at it.
- Never connect the power cable to a shared or overloaded outlet or distribution socket.
- Please contact our nearest dealer before attempting to extend the power cable.

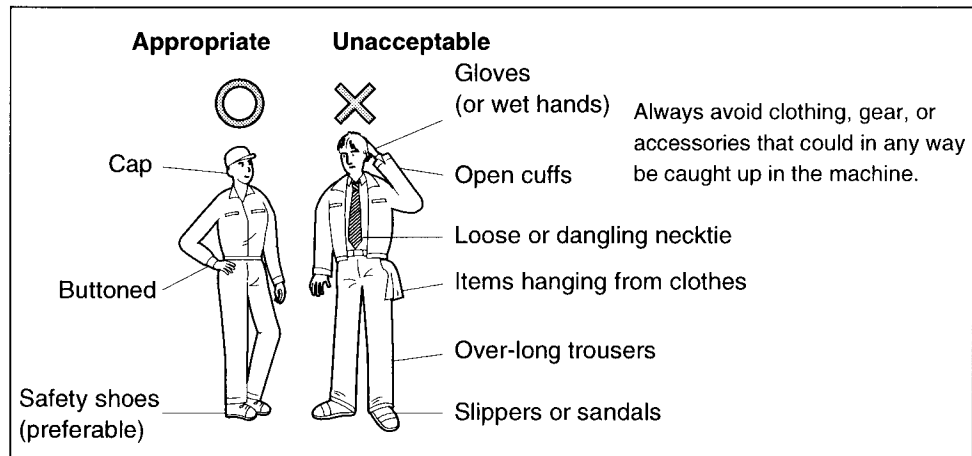


Warning

If you notice any problems with the power cable such as scratches or deformities, immediately turn OFF the main power supply switch and contact the dealer where you purchased this machine.

1.5 Operation precautions

- Do not turn the machine's power supply ON or start operation until this manual has been thoroughly read and fully understood.
- All operators must wear appropriate work clothing and should never wear necklaces, scarves, or other accessories which could be caught by moving parts and cause accidents.



- Do not operate the machine if you feel in anyway sick, nauseous or unsteady.
- If you notice that the machine is in any way abnormal, immediately report the situation to your supervisor for appropriate action.
- The SDP-Eco 1630 II can perform continuous automatic operation, but it must not be operated continuously without an operator in attendance. An operator trained to take appropriate initial corrective actions should always be in attendance to deal immediately with any emergencies that may arise.
- When your SDP-Eco 1630 II will not be operated for an extended period of time, be sure to unplug the power cord. Check for any dust or contamination in the outlet, power plug, and/or the AC power socket on your SDP-Eco 1630 II at least once a year.
- During operation, do not open any of the unit's doors or covers. Opening these doors or covers may be hazardous to the safety of operators and other persons working in the vicinity, and may also damage the machine.
- **Power failure**
If a power failure occurs due to an external reason, immediately turn OFF the power switch and the SDP-Eco 1630 II.
When power is recovered, supply power again, referring to "4.2 Turning ON the power switch".

1.6 Precautions during transport and installation

- The weight of the SDP-Eco 1630 II is described in "Chapter 9: Specifications"Make sure the floor is fully capable of handling 2500 N/m² (approx. 55 lbs/ft²) or heavier loading before installing the SDP-Eco 1630 II .

- **Transport and installation**

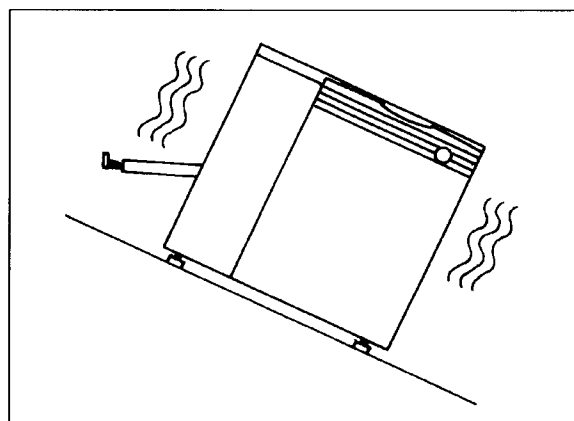
This machine's transport and installation must always be handled by engineers and contractors assigned by Mitsubishi Paper Mills Limited. We shall bear no responsibility whatever for any unit breakage, damage, or malfunctions caused by or during transport or installation performed by anyone other than the above specified personnel. Whenever your machine must moved, transferred, or reinstalled, please entrust all procedures to our nearest branch office or dealer.

1.7 SDP-Eco 1630 II Installation

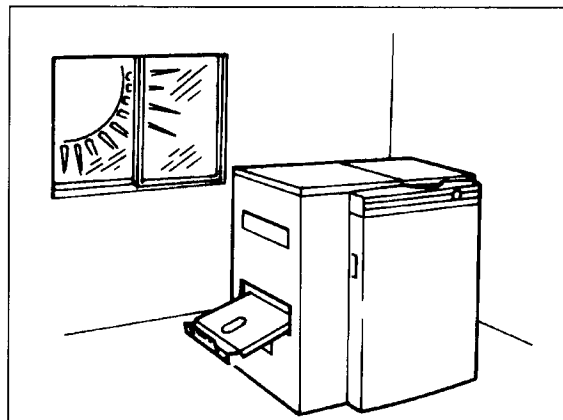
- **Installation environment**

Installing the machine in the following locations may cause machine damage or malfunctions. Do not install the machine anywhere that is exposed or subject to:

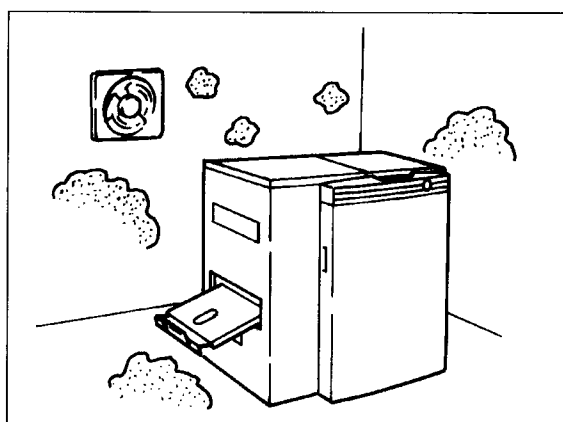
- * Locations with strong and/or persistent vibration
- * Locations with an uneven floor



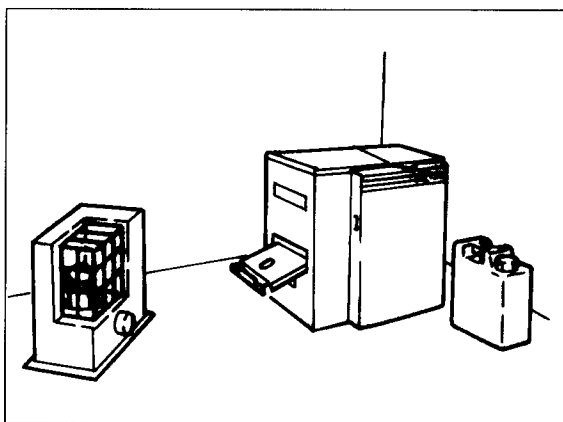
- * Locations in direct sunlight
- * Locations with high temperature and/or humidity (outside the normal range of Temp.: 18 to 28°C, Rel.humidity: 50 to 70%)
- * Locations where dew condensation is a factor
- * Locations with sudden, drastic temperature changes



- * Locations where excessive dirt, grime or dust are factors



- * Locations in the vicinity of flammable gases or liquids
- * Locations having corrosive chemical vapors, mists, or gases
- * Locations with a nearby heat source (such as a radiator or heater)
- * Locations with electrical interference such as voltage fluctuations or line noise.
- * Locations with devices which emit sparks or electromagnetic radiation

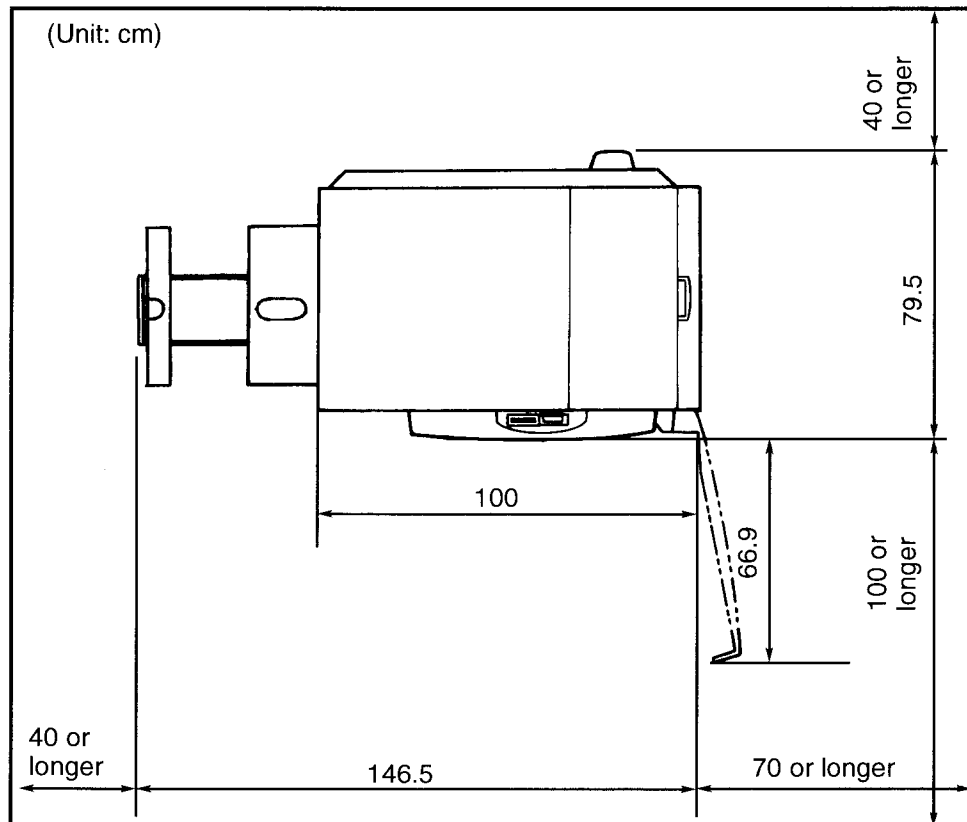


● Ventilation

Please ensure sufficient ventilation during the operation of the equipment to avoid odor in high density.

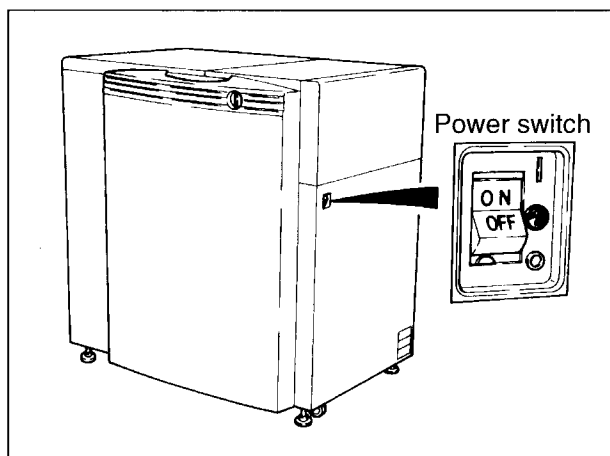
● Installation space

As shown in figure below, clearance is required around the machine at all times to assure adequate space for maintenance and safe passage during emergencies.



1.8 Maintenance

- Maintenance that requires tools may only be performed by persons who have been specially trained with our authorized curriculum.
- During machine maintenance, the operator must make it clear that the machine should not be turned ON and prevent any person other than our authorized technician(s) from touching the machine.
- Be sure to turn OFF the power switch and remove the power plug from the outlet before you start maintenance, cleaning or repairs.



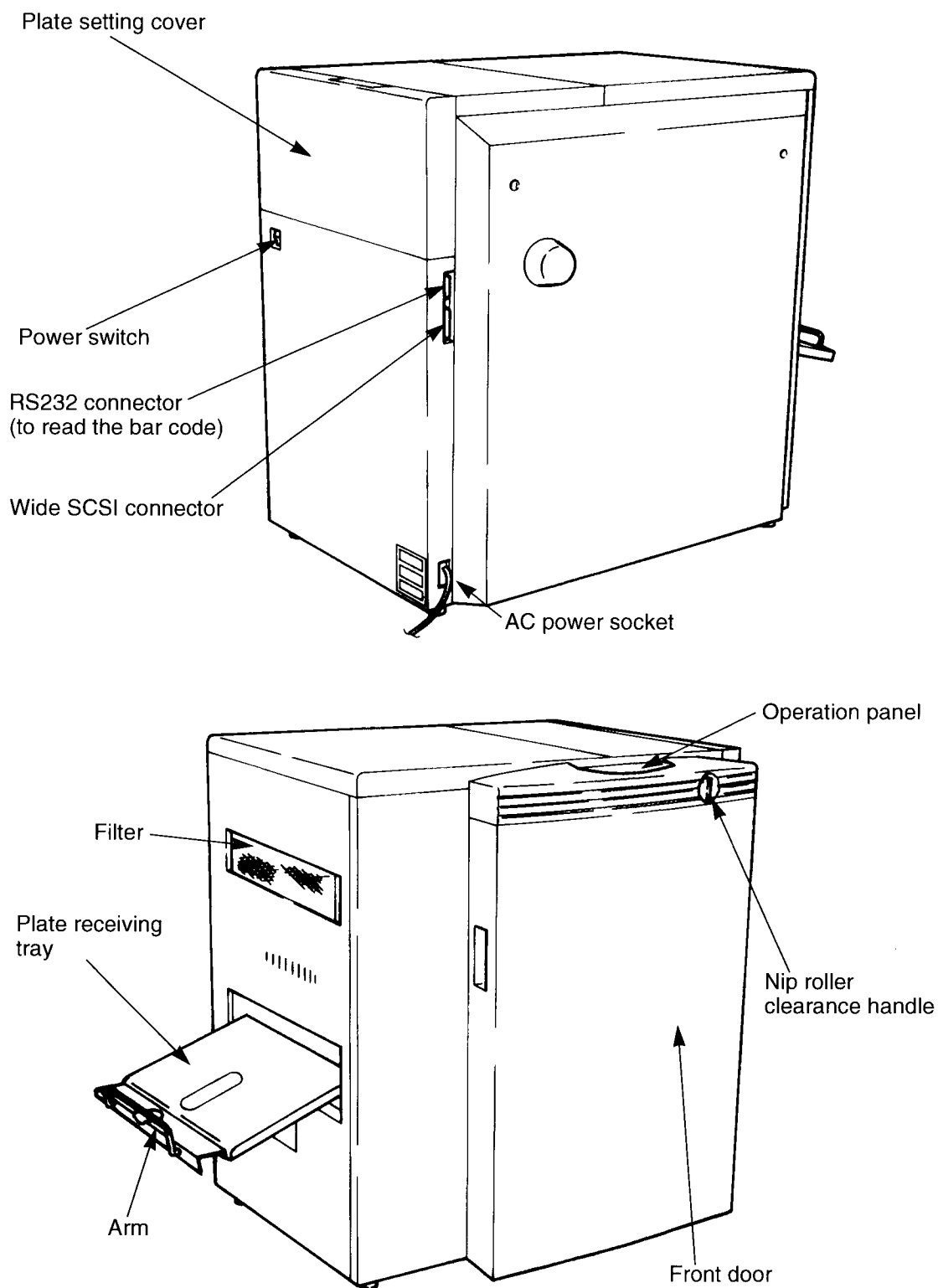
1.9 Machine disposal

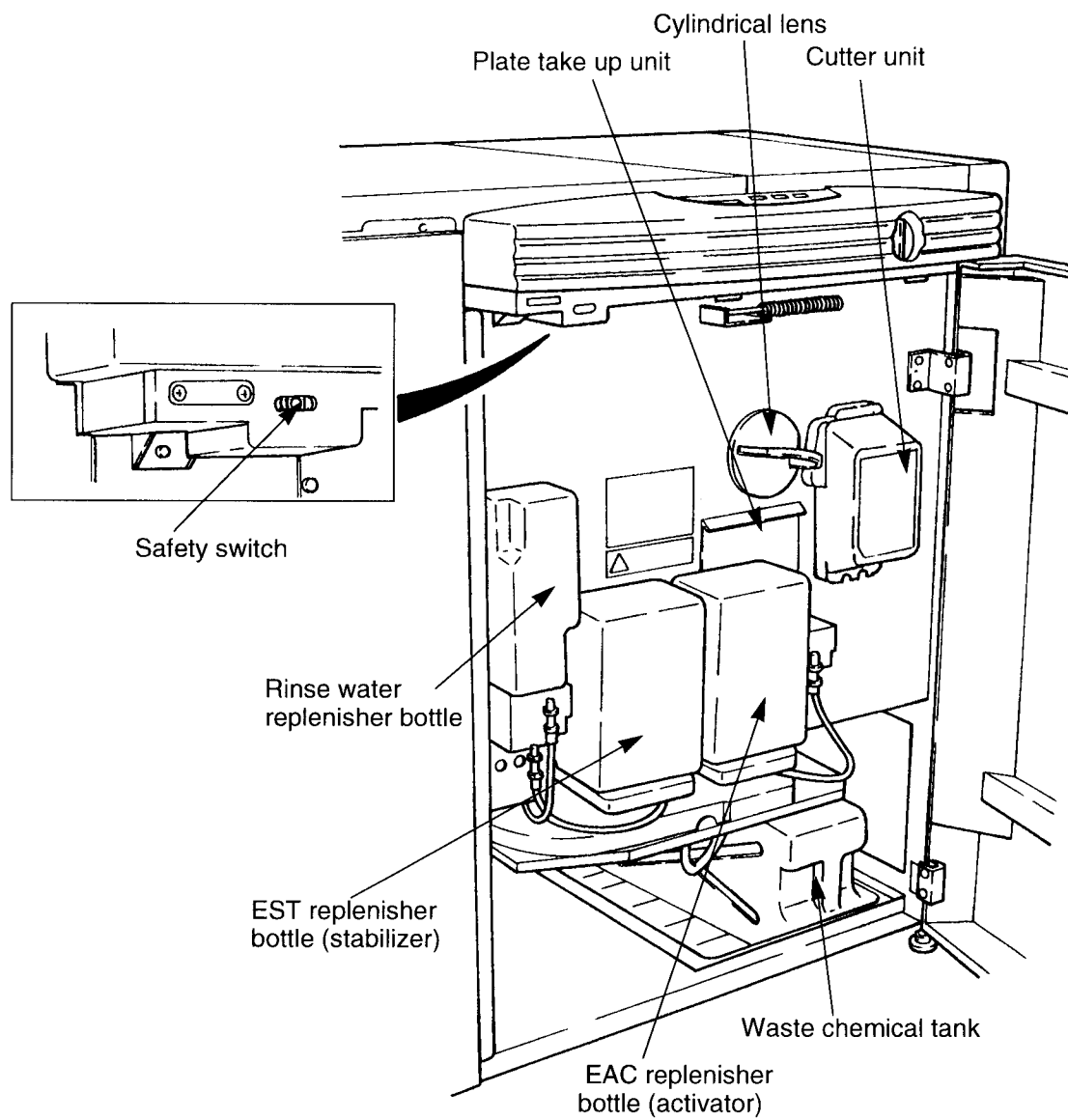
- To protect the environment, always commission a special authorized contractor to dispose of your old machine(s).
- Commission an ordinary contractor to dispose of parts discarded or replaced during the repair processing.

Chapter 2 Names of Machine Components and Parts

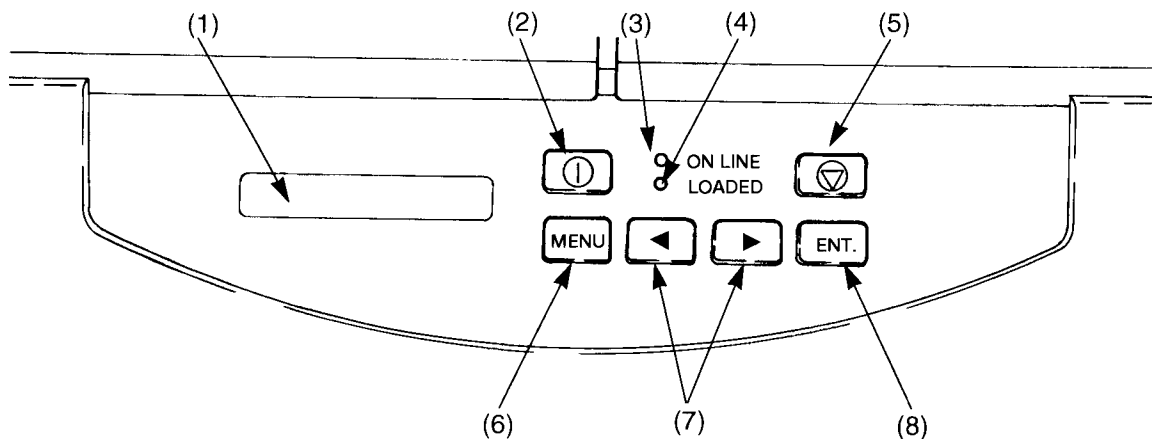
The SDP-Eco 1630 II consists of the following parts.

2.1 Main unit





2.2 Operation panel



- (1)  Display panel
The operation mode, error messages, and setting values for various parameters are displayed on this panel.
- (2)  Power ON/OFF key
The power ON/OFF key is used to turn OFF the power after a processor cleaning operation. This key is used for the usual ON/OFF operation.
- (3)  ON LINE lamp
The ON LINE lamp is lit during transmission or standby status between the SDP-Eco 1630 II and host computer.
- (4)  LOADED lamp
The LOADED lamp lights when a film is loaded and at its exposure position.
- (5)  Stop key (Reset)
The STOP key is used to interrupt the exposure of a plate. If the exposure is interrupted, the plate will be cut and discharged. This key is also used to cancel errors and to turn OFF the error buzzer.
- (6)  MENU key
The  key is used to switch the user's mode between remote and local. Also it returns the menu to the upper level.
- (7)   Select key
The SELECT key is used to move the cursor or change parameters.
- (8)  ENT. key
The  key is used to enter parameters or to execute various commands.

2.3 Safety switch

This machine is equipped with a safety interlock switch which detects the front door's open/closed status.(See page 16) If this switch detects that the front door is open, this machine cannot perform any operations.

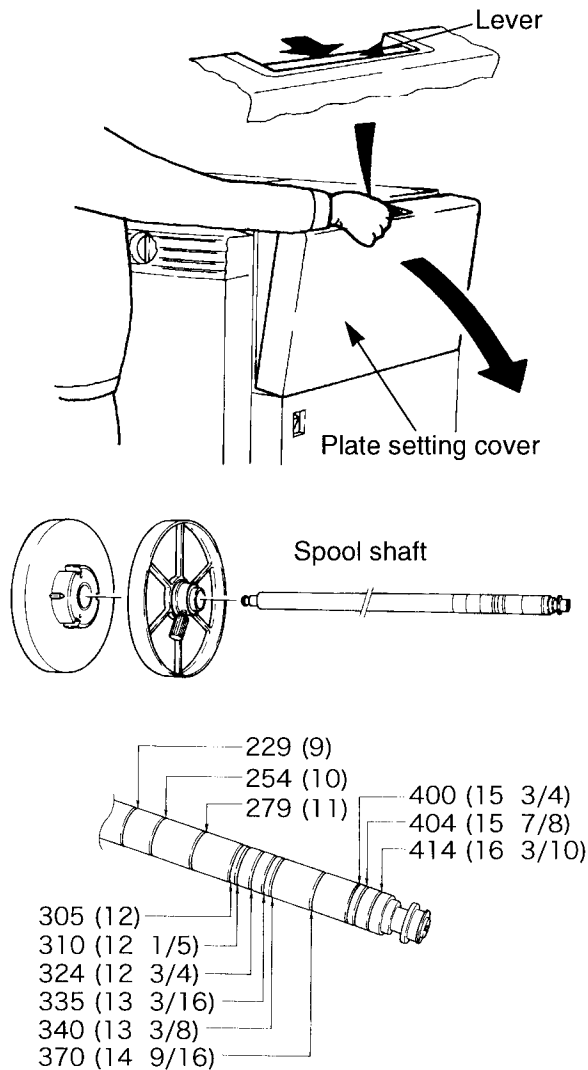
Caution If the front door is opened during data transmission from the host computer, image exposure or plate transfer, all machine operations stop. This will cause problems with data transfer and in the image data.

**Warning**

Use of controls or adjustment or performance of procedures other than those specified herein may result in hazardous radiation exposure. Operations or adjustments other than those specified herein may result in damage to your body(e.g.weakend eyesight, skin cancer).

Chapter 3 Handling plates

3.1 Plate setting

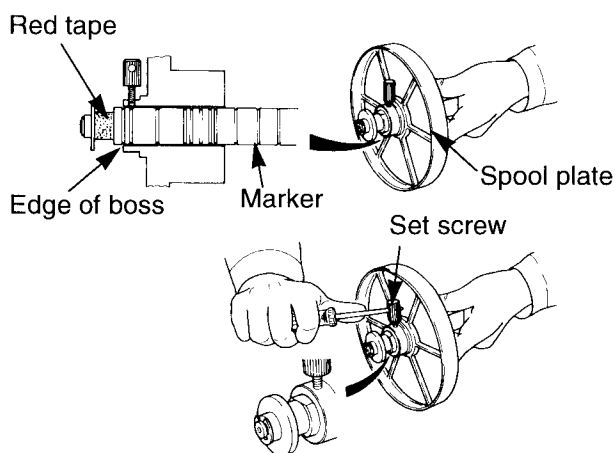


- 1) Open the plate setting cover and, holding the lever with your thumb, take the spool shaft out.

- 2) Refer to your plate width, and align the edge of the spool plate boss to the groove in the spool shaft. The spool shaft grooves are numbered from outer side in the following order: 414, 404, 400, 370, 340, 335, 324, 310, 305, 279, 254, and 229.

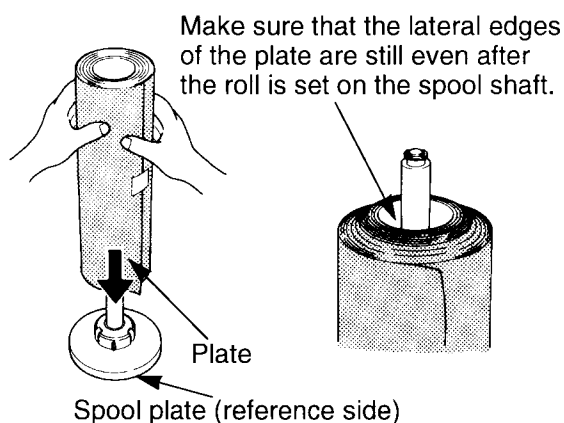
Caution

Red tape is affixed to the reference side of the spool shaft.



- 3) To prevent the reference side of the spool plate from shifting from its designated position, insert a screw driver into the set screw hole and firmly fix the set screw to the spool shaft.

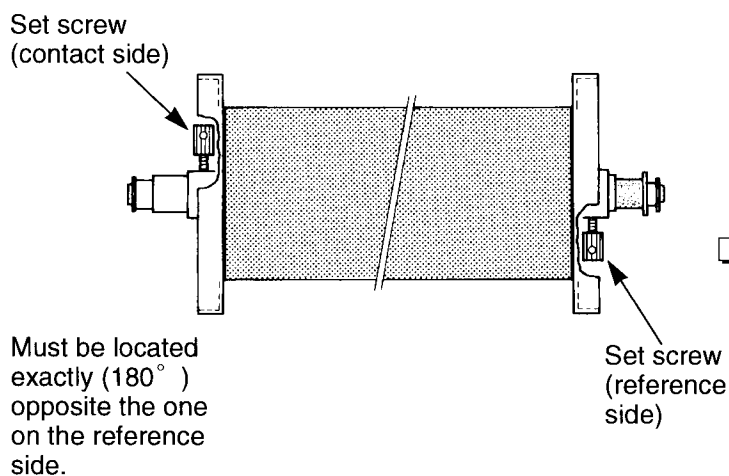
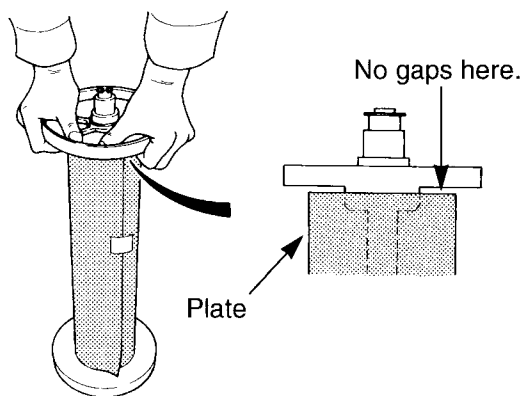
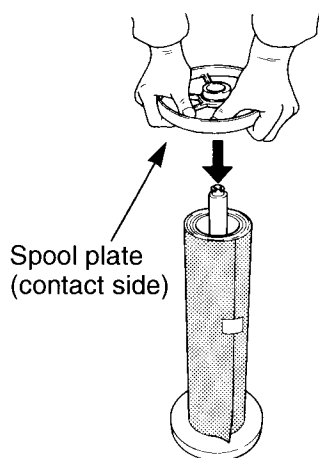
Always fix the set screw on the flat side of the spool shaft.



- 4) Lower a roll of plate (wound in the same direction as in the figure on the left) down over the spool shaft. (The shaft should be standing vertically with the reference side of the spool plate as its base.)

Firmly press the edge of the plate roll against the spool plate (reference side) until they touch equally all around the periphery of the roll.

- 5) Firmly snap the contact side of the spool plate down over the spool shaft and continue pressing the plate (contact side) downward to the edge of the plate roll until there are no intervening gaps.

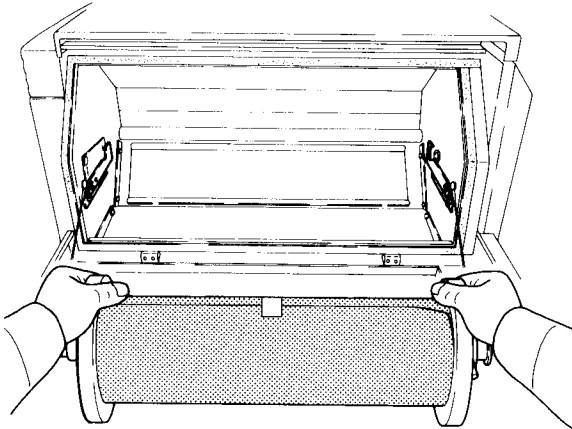


Position the contact side of the spool plate so that its set screw is positioned 180° opposite the one on the reference side.

Note

The two set screws are fixed 180° opposite each other to prevent rotational imbalance due to the weight of the screws.

Confirm that there is no gap between the plate roll and the spool plate and that the set screw is placed in the correct position and then tighten the set screw.

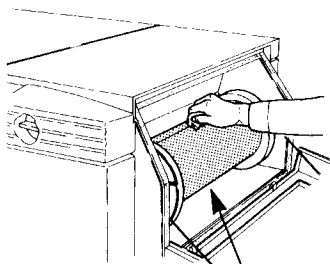


- 6) Turn ON the power switch to the main unit. After completion of the initialization process, grab the handle on the right side, open the magazine cover, and load a plate roll which has been mounted on a spool shaft.

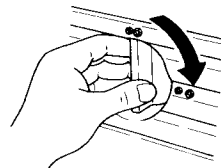
Note Refer to "4.1 Cable connection check", "4.2 Turning ON the power switch" and "4.3 Initialization" in Chapter 4 "Operation" when turning ON the main power switch.

- 7) Put the spool shaft holder on the spool set guide and set the guide into the SDP-Eco 1630 II. Position the shaft with its red mark toward the back of the machine (on the right side).

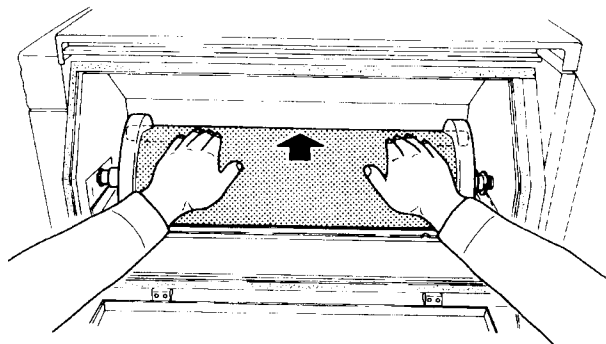
- 8) Turn the nip roller clearance handle (located at the panel bottom) until it is horizontal. This cancels the main roller nipping. Gently insert the plate into the clearance in the guide roller.



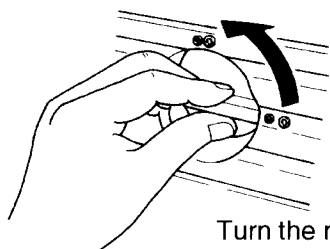
Gently insert the plate.



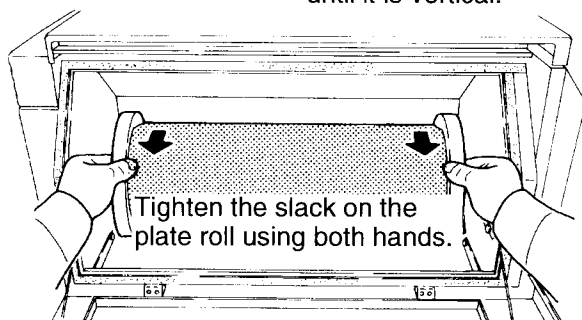
Turn the nip roller clearance handle until it is horizontal.



Insert the plate edge until the second buzzer sounds and secure it there.

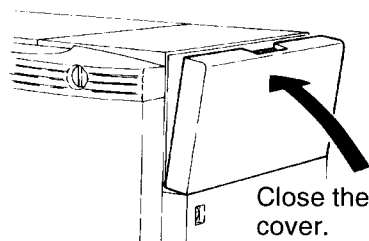


Turn the nip roller clearance handle back until it is vertical.



Tighten the slack on the plate roll using both hands.

Hold the spool plate to rewind the plate.



Close the plate setting cover.

A buzzer sounds when you start inserting the plate. Insert the plate further until a second buzzer sounds. At the position where the buzzer sounds, turn the nip roller clearance handle back to its vertical position to close the nip.

Caution

Insert the plate edge until the second buzzer sounds. If you insert it too far (30 mm or more), the plate may jam.

Finally, gently holding the right and left ends of the spool plate rewind the plate to take up any slack. Close the plate setting cover. The plate setting is now completed.

Caution

Skewing or meandering may occur during feeding depending on how carelessly the plate was inserted.

Always insert the plate evenly, holding its left and right edges with both hands.

Follow the procedures "4.4 Data input for the set plate" and "4.5 Execution of Pre. Feed command" to input data for the set plate. To prepare for the exposure: Remove any section of the plate that has been fogged by friction during preliminary feeding.

3.2 Plate end processing

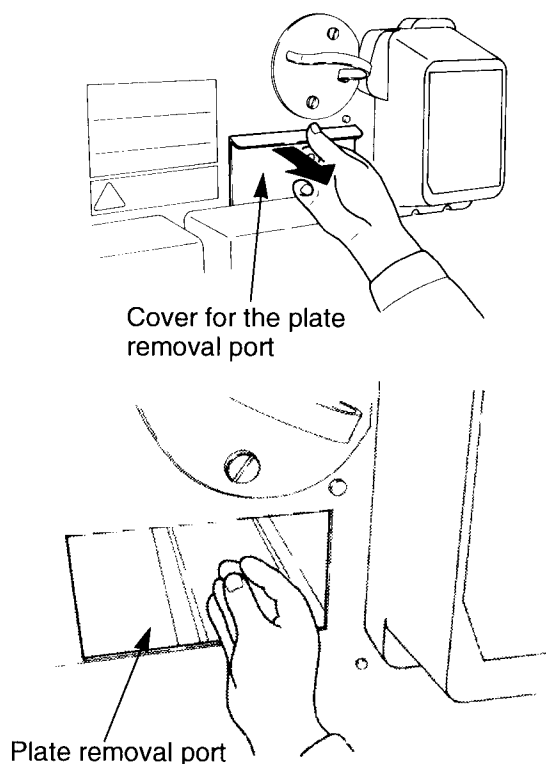
When plate end is displayed, remove the plate and re-set a new one following the procedure below.

- 1) When [Plate End] is displayed on the panel:

The plate ended during exposure, so it is discharged from the processor.

Stop the buzzer by pressing the  (reset) key.

After the plate is discharged, press the MENU key to shift to the local mode, and mount a new plate following the procedure mentioned in "3.1 Plate setting".



Note Whether or not data will be exposed depends on the amount of exposure data remaining when the plate end is detected.

- 2) When [Pick up plate] is displayed on the panel:

Plate ended at the beginning of an exposure, so the remainder is shorter than the processor's minimum transfer length. Please remove the plate.

1. Open the front door and remove the plate through the plate removal port.
2. Close the door and press the  key to return to the local mode.
3. Re-set the plate following the procedure mentioned in "3.1 Plate setting".

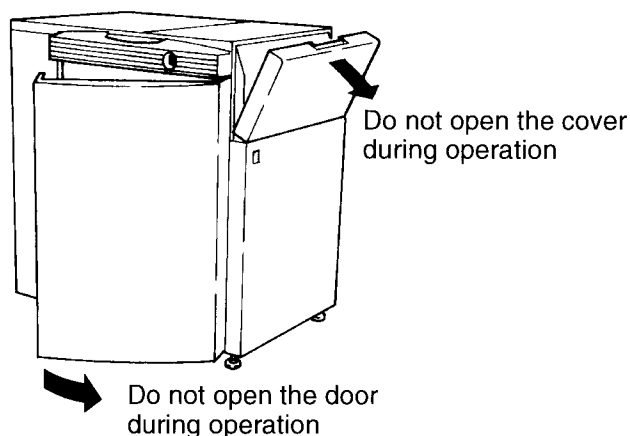
Chapter 4 Operation

The SDP-Eco 1630 II is a SCSI device. Turn ON the power switch for this machine first, and complete its initialization routine. Then turn ON the power switch to the host computer (RIP computer).

Be sure to turn OFF the power switch to the host computer (RIP computer) when turning OFF the power switch for this machine.

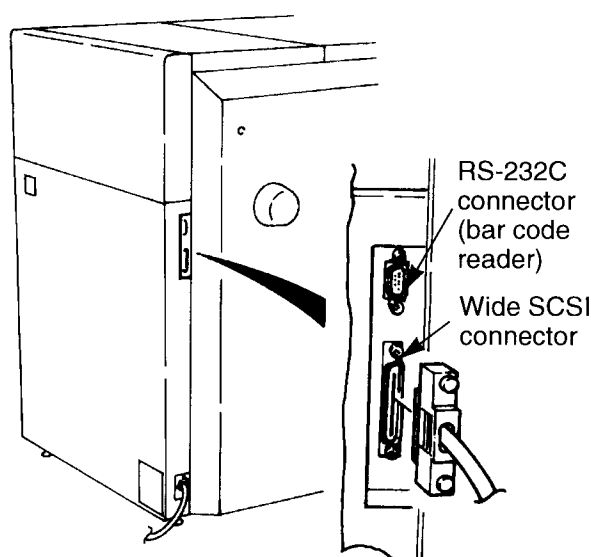
Caution

Never open the front door or plate setting cover unnecessarily. Do not open the plate setting cover except when replacing the plate roll. Otherwise, the plate being processed may be adversely exposed. If the front door is opened while the plate is being fed, it will adversely affect the plate's image quality and feed state.



4.1 Cable connection check

After checking that the entire system including the host computer (RIP computer) is shut down, check that all cables are connected correctly. The figure below shows cable connections and locations. The cables used here should be SCSI connection dedicated cables.



Do not use cables other than the provided SCSI cables.

If the cable must be extended, please purchase the optional differential unit. This machine is incorporated with an active terminator, so that this differential unit can be mounted internally.

An RS232C cable can also be connected for the bar code reader (optional).

4.2 Turning ON the power switch

Before you turn ON the power switch of the main unit, check the following points.

- 1) Processing chemical has been properly supplied to the processor.
- 2) The front door and plate setting cover are securely closed and the covers are properly mounted.

Caution

In a SCSI, the power switch must be turned ON from the peripheral unit. First, check that the power switch for the host computer (RIP computer) is shut down. Then, turn ON the machine power switch.

Note

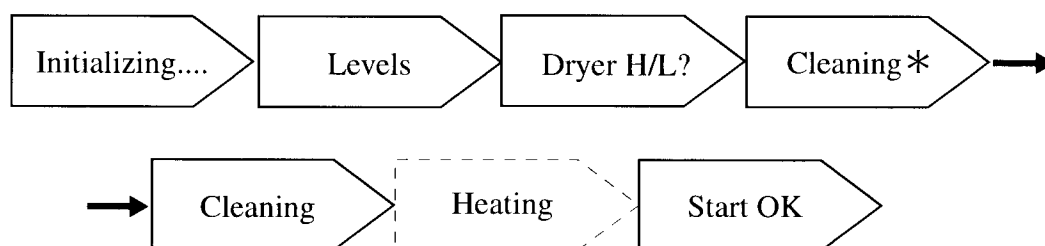
If any error is detected during initialization after turning ON the power switch, it is immediately displayed.

4.3 Initialization

When the power switch to the SDP-Eco 1630 II is turned ON, the machine performs an initialization sequence which includes a number of routines to confirm that it is ready for normal operation. Checked items include:

- Internal setting check
- Plate mounting check
- Polygon mirror function check
- Waste chemical tank level check
- Activator (EAC) level check
- Stabilizer (EST) level check
- Home position check for each moving part

● Panel display flow after machine startup



Note

- You can cancel the operations after "Cleaning", during the sequence of this process, by using the  key.
- The "Heating" window informs you if a heater has not yet reached the specified temperature. ("P" signifies the process heater, and "R", the roller heater.)

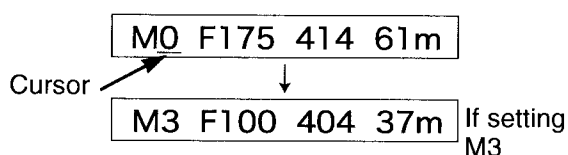
4.4 Data input for the set plate (This procedure is necessary when loading the plate.)

- (1) Press the **[MENU]** key to display the **[<Plate Data>]**.
- (2) Press the **[ENT.]** key to display **M0 R175 414 00m**, which is a lower level of the **[<Plate Data>]** menu.
- (3) Use the **[▶]** key to select the data registration number, plate type, plate width, or length of plate roll, then press the **[ENT.]** key to flash the cursor (indicating mode change).
- (4) Press the **[ENT.]** key after changing the data using the **[◀]** or **[▶]** key.

- Note**
- Input the plate data and press the **[ENT.]** key. Press the **[MENU]** key once to call up the **[<Plate Data>]** display and press the **[MENU]** key once more to call up the **[Start OK]** display and switch to the on-line mode.
 - You can easily input <Plate Data> using the optional bar code reader.

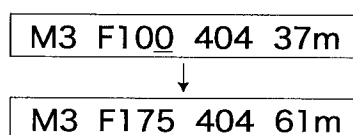
(Example)

1) Selection of Data Memory Channel (From M0 to M3)



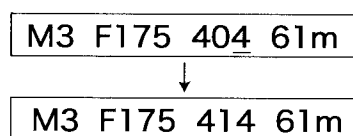
Press the **[ENT.]** key in order to start the cursor key flashing and select M0 to M9 using the **[◀]** key or the **[▶]** key. Press the **[ENT.]** key to register the data channel.

2) Selection of plate type (From F100 to F175)



Press the **[◀]** key or the **[▶]** key to move the cursor to the F100 display (plate type). Press the **[ENT.]** key to start the cursor flashing. Select the plate type (F175, R175) using the **[◀]** key or the **[▶]** key and press the **[ENT.]** key to register the plate type.

3) Selection of the plate width (From 404 to 414)



Press the **[◀]** key or the **[▶]** key to move the cursor to the 404 display (plate width). Press the **[ENT.]** key to start the cursor flashing. Select the plate width using the **[◀]** key or the **[▶]** key and press the **[ENT.]** key to register the plate width.

404mm - 15 7/8inch
414mm - 16 3/10inch

4) Inputting the value for the remaining amount of plate (61m to 46m)

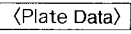
M3 F175 414 61m
↓
M3 F175 414 41m

Press the  key or the  key to move the cursor to the remaining amount display. Press the  key or the  key to start the cursor flashing. Change the remaining amount using the  key or the  key and register the value with the  key.

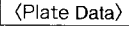
*Press the  key to return to the original menu when you finish changing settings.

4.5 Execution of Pre. Feed command (This procedure is necessary when loading the plate.)

Close the plate setting cover after the plate roll is set.

- (1) Return the menu to the upper level  menu using the  key.
- (2) Select Pre. Feed (preliminary feeding mode) using the  key.
Press the  key to move to the lower level menu for the preliminary feeding mode.
- (3) Use the  key to set the plate feeding number to either "1" or "3" -- for "Feed Count 1".
- (4) Start preliminary feeding with the  key.

Note

- Press the  key after the preliminary feeding. Press the  key once to call up the  display. Press the  key once more to call up the  display and switch to the on-line mode.
- Normally, a preliminary feeding must be performed to remove the fogged area after loading a new plate.

4.6 Exposure

The machine has two exposure modes: remote exposure which performs exposure using data provided from the host computer, and local exposure which performs laser test exposure and re-exposure.

● Remote exposure

After entering remote mode (ON LINE lamp is lit), give the exposure command through the host computer (RIP computer). While exposure is in progress, "Exposing ***%" is displayed on the panel display. "***%" indicates the percentage currently exposed.

[Display during remote exposure]

The panel display changes as shown below during the exposure.

Data transmission start } Data transmission end }	Data Transferring
Image data exposure start	Exposing 0%
Image data exposure end	Exposing 100%
Plate is being discharged	Discharging
Completion	Complete

● Local exposure

[Laser Test Expo.]

(1) Confirmation and input of the plate type, resolution and light intensity

- 1) Use the **[MENU]** key to call up **[<Plate Data>]** display.
- 2) Select **[<Laser>]** using the **[▶]** key and press the **[ENT.]** key.
- 3) Press the **[ENT.]** key while **[Laser Test Expo.]** is displayed.
- 4) Plate type, resolution and light intensity are displayed.
(Example) **[F175 (12) 200]** (F175 1200 dpi Light intensity 200)
- 5) Press the **[ENT.]** key to change the resolution. Select the desired resolution from among 12 (1200 dpi), 15 (1500 dpi) and 18 (1800 dpi) using the **[▶]** key. Register the resolution using the **[ENT.]** key.
- 6) Press the **[▶]** key to move the cursor to the light intensity value display and then press the **[ENT.]** key.
- 7) Change the light intensity value using the **[◀]** key or the **[▶]** key. Press the **[ENT.]** key to register the light intensity value.

Note

Press the **[MENU]** key to return to the previous menu if no change is necessary or setting is discontinued.

(2) Exposure

- 1) Press the **MENU** key to call up **Laser Test Expo.** display. Move the cursor to the Laser Test Expo. display and press the **ENT.** key.
- 2) After Laser Test Expo. display appears, Y N is displayed. Choose 'Y' with the cursor key and press the **ENT.** key. The laser test exposure will start. (Refer to '6-2 Laser menu')

Note

- When the cursor key is at 'N', press the **ENT.** key to call up the **Laser Test Expo.** display.
- After completion of the test exposure, press the **MENU** key once to call up the **<Laser>** display and press the **MENU** key once more to return to **Start OK**.
- When re-adjustment of the light intensity is necessary, change the light intensity value following step (1)-6 in the procedure above.

[Exposure Clear]

The image data which remains in the buffer memory will be re-exposed if exposure is interrupted during remote exposure (e.g., because of a plate end signal). It is possible for the hard disk to keep up to 2 separations of image data. Image data that has been exposed can be re-exposed.

1. Press the **MENU** key to call up the **<Plate Data>** display.
2. Select the **<Image Data>** key and press the **ENT.** key to move to the display for re-exposure.
3. Select **Exposure** in the **Exposure Clear** display. Pressing the **ENT.** key shows the display for selecting unexposed or exposed data.
4. Pressing the **▶** key in the **Unexposure EXEC>** display brings up the **<Exposed EXEC** display.

Unexposure EXEC.....Image data in the buffer memory, which has not yet been exposed.

Exposed EXEC.....Image data which has already been exposed.
Select EXEC and press the **ENT.** key to start exposure.

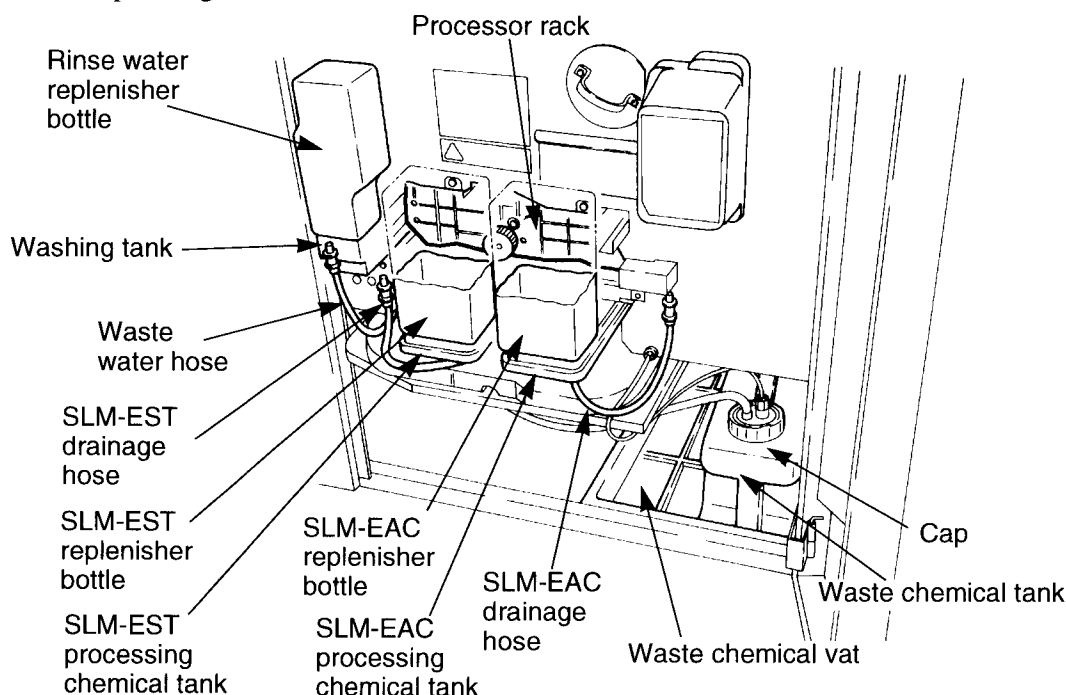
5. Select **Exposure Clear** and press the **ENT.** key to erase image data in the buffer memory.

Note

- When **Non Exposure Data** is displayed, use the  key (the red reset key) to return to the previous window. Then press the **MENU** key to return to the **<Plate Data>** window.

4.7 Processor section

The processing chemicals are applied to the plate while it is being transferred in the SDP-Eco 1630 II's built-in processor section. The processor section also includes a final rinsing process which cleans the developed plates and thus reduces paper media waste (from processing chemical stains) at the start of printing.



⚠ Caution You must thoroughly read "1.3 Handling processing chemicals".

● Preparing and pouring processing chemical

- 1) Fasten a replenishment cap on the replenisher bottle which contains the processing chemical and set it in the tank.

Caution

Be sure to set the bottle in the appropriate tank since the SLM-EAC and SLM-EST cause different (opposing) effects.

● Processing chemical replenishment

As the processing chemical decreases, the liquid level in the tank goes down and finally the "Empty EST" or "Empty EAC" message appears on the display (accompanied by a buzzer sound). Replenish the processing chemical following the procedure below.

Replenish the processing chemical and replace the processing bottle following the procedure below.

- 1) Press the  key to turn off the buzzer.
- 2) Open the front door.
- 3) Add processing chemical from the container (10 liters) to the replenisher bottle.
- 4) Put the cap back on the replenisher bottle and set it in the tank.

● Processing chemical replacement

Replace the processing chemical every three months regardless of the number of plates processed.

● Preparing rinse water

- 1) Pour approximately 1 liter of water into the rinse water replenisher bottle and set it in the washing tank.
- 2) Always make sure that the bottle is filled with water before turning ON the power switch.
- 3) After turning ON the power, reset the counter in the <Rinse> menu with the following operation.

Procedure

- (1) Push the MENU key to display <Plate Data>.
- (2) Select <Rinse> using the ◀ key, and then push the ENT. key.
- (3) Using the ▶ key, align the cursor to "CLR" in the Count 150 CLR menu.
- (4) Push the ENT. key to reset the counter.

Caution

If the washing tank becomes empty of water, this will adversely affect the plate's image quality. Replenish the rinse water everyday before starting operation.

Replace the water in the washing tank every month. Replacement frequency may vary depending on the quality of the water and the season.

● Confirming the remaining amount of rinse water and replenishment

When the rinse water is running out and needs to be replenished, the "Rinse Tank Check" message appears in the display, causing the buzzer to sound.

Confirm the remaining amount of rinse water and replenish it as necessary.

- 1) Press the ◻ key to turn the buzzer OFF.
- 2) Open the front door.
- 3) Remove the rinse water replenishing bottle and replenish it with rinse water.
- 4) Return the rinse water replenishing bottle to its original position, and then close the front door.

Note

- Pressing the ◻ key to delete the above message in the display does not reset the software counter, causing the message to appear in the display and the buzzer to sound a while after the key has been pressed. To reset the counter, open the front door, and then confirm the remaining amount of rinse water, or display the <Rinse> window in the users menu, and then perform a counter clearance operation. (For detailed operation, refer to the section "Preparing Rinse Water.")

- If the output data is sent from the host computer to the recorder while the above warning is being issued, the warning disappears, executing output operation. After output operation has been completed, the warning message appears and the buzzer sounds again.

● Handling waste liquid

Scale lines indicating capacity are marked on the waste chemical tank.

Observe the scale line carefully and dispose of the processing chemical before it reaches the 10-liter line.

When the waste chemical tank is full, the "Waste tank check" message appears and a buzzer sounds. (Images cannot be read at this time.)

Dispose of the processing chemical following the procedure below.

- 1) Press the  key to turn off the buzzer.
- 2) Remove the cap from the waste chemical tank and dispose of the waste chemical in the tank.
- 3) Put the cap back on the now empty tank and put it back in the waste chemical vat.



Caution

- The waste chemical tank weighs approximately 11 kilograms when it is full, so please be very careful when handling it. (Refer to "1.3 Handling processing chemicals".)
- Be careful when handling the hose attached to the waste chemical cap. Using a crimped or twisted hose can cause chemical leakage.

● If the machine is not used for a long period

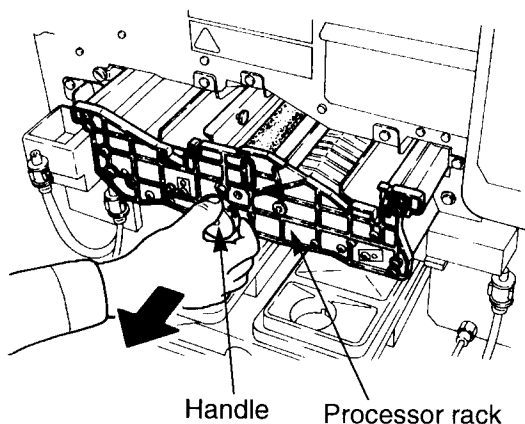


Caution

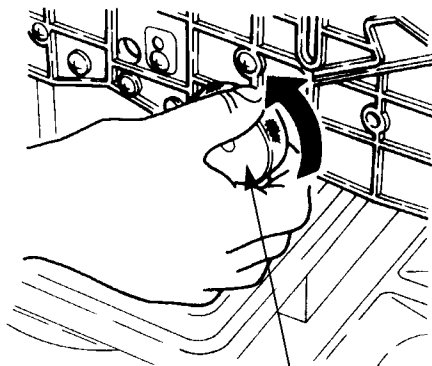
Before deactivating the machine for a long time (7 days or more), always drain the water in the rinse water replenisher bottle.

If the machine has not been used for a long time, the processor rack roller may stick and not rotate smoothly.

Follow the procedure below so that the processor rack roller will rotate smoothly.



- 1) Open the front door.
- 2) Remove the replenisher bottle from the tank.
- 3) Hold the handle in the processor rack section and slightly pull out the processor rack.



Rotate the roller with the handle.

- 4) To rotate the roller, turn the handle in the direction indicated by the arrow in the figure.

4.8 Collecting exposed plates

Exposed plates are discharged into the plate receiving tray. The SDP-Eco 1630 II discharges plates image-side down. Adjust the length of the discharge retainer arm to accommodate the maximum length of the plates used.



It is possible to continuously collect plates (up to 50 consecutive sheets). However, we cannot guarantee trouble-free collection of such large numbers of plates if the machine is indiscriminately discharging plates of different lengths or if the plate type is frequently being changed.

4.9 Turning OFF the power supply and inspection at shutdown

Always, before shutting down the machine, press the power ON/OFF key to perform the final inspection. When **Start OK** is displayed in the on-line mode, press the **MENU** key to return to the local mode and then press the power ON/OFF key.

The required final inspection includes checking the chemical level in the waste chemical tank and releasing the plate nip by turning the nip roller clearance handle to its vertical position. Roller cleaning is also performed during the final inspection. If this procedure is not followed, transfer errors may occur or masters exposed on the following day may be stained or marred. If this procedure is not followed, transfer errors may occur or plates exposed on the following day may be stained or marred.

It is not necessary to turn ON/OFF the main power for a weekday shut-down. For weekend inspections: at shut-down, first turn OFF the machine, completely clean the roller, and finally turn OFF the main power supply (at the breaker).

Note

When shutting down the machine by pressing the power ON/OFF key, the dehumidifying heater will automatically run unless the main power is also shut down. The dehumidifying heater attached below the plate setting section inhibits condensation in the machine by heating plates when humidity is high and temperature is low. The low temperature keeps the machine away from fire danger.

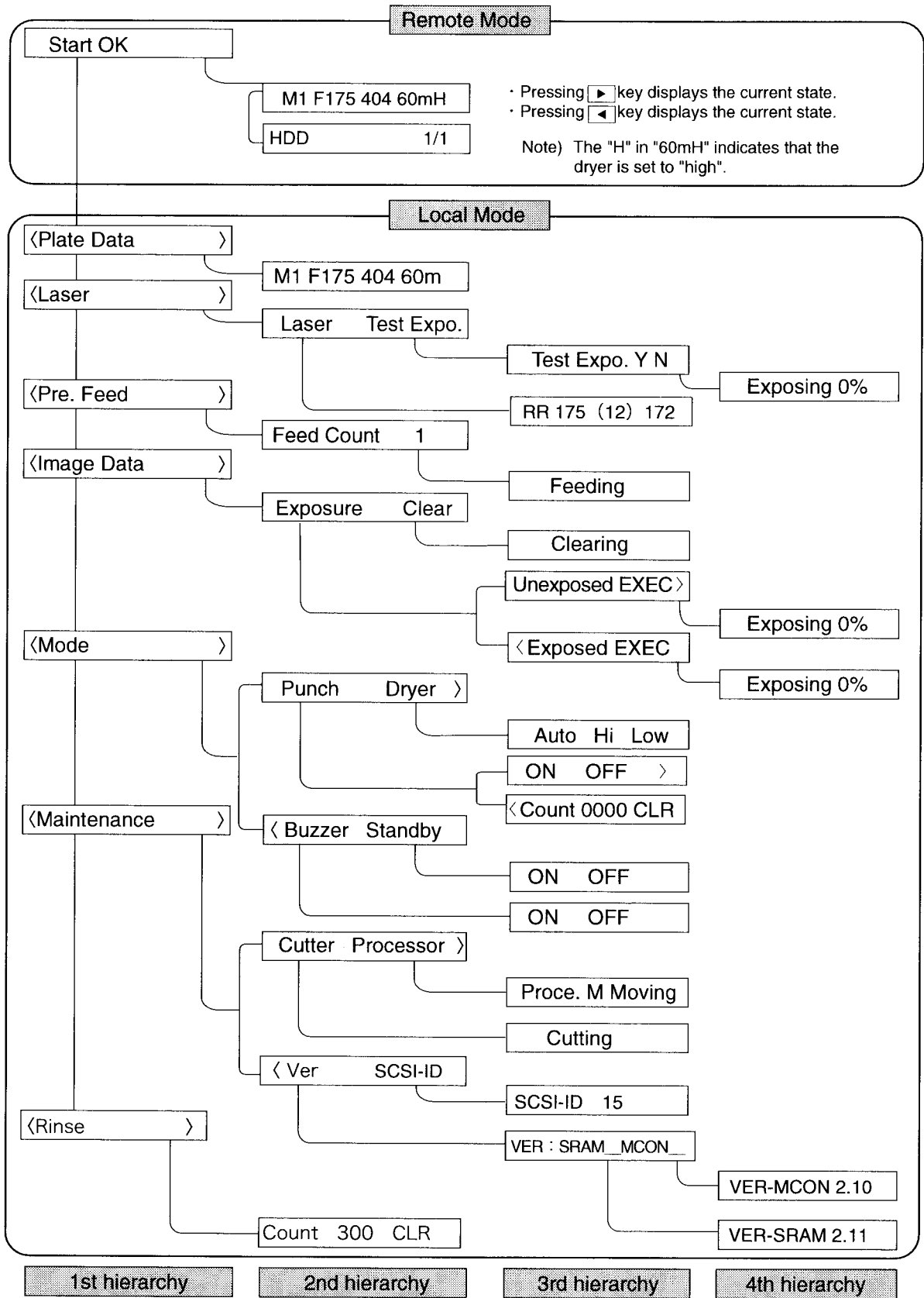
Caution

During the final inspection, do not open the front door until the display panel is turned off; otherwise the final inspection will stop in the middle of the operation.

Chapter 5 Menus and panel displays

The display panel shows the performance status of the SDP-Eco 1630 II, its error messages, etc.

5.1 User menu



● Operation status

[Remote and local]

In the remote mode, it is possible to expose data transferred from the host computer (RIP computer). In the local mode, exposure data from the host computer (RIP computer) cannot be accepted.

The local mode includes a "User menu" (including user maintenance functions) and a "Maintenance menu".

[User menu]

The "User menu" provides the basic commands necessary to operate the machine.

[Maintenance menu]

If a command or a dialog for a command that is not included in the User menu list appears, immediately press the  key several times to return to the User menu. (Do NOT press the  key.)

This menu is used to adjust the SDP-Eco 1630 II.

[Standby mode]

In remote mode, if no command is sent to the machine for 10 minutes, it enters the standby mode.

The standby mode will be canceled whenever a command is given or when any key on the panel except the  key is pressed.

Note

Recovery time will differ depending on whether the machine has been in standby mode for more than 10 minutes. If the machine was left idle for more than 10 minutes, recovery will take longer because a cleaning routine is performed for the processor roller.

[Auto power OFF]

When this machine is left in the local mode for two hours, a cleaning routine is performed for the processor roller and the power is turned OFF automatically.

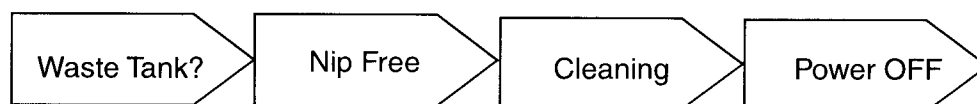
5.2 Panel operation

● Power ON/OFF key

Press this key to turn OFF the power supply to the machine and shut it down (after cleaning the processor roller). To re-start the machine, press the Power ON/OFF key again.

This key only works in the first local status display and does not work at all in the remote status.

[Final inspection display]



Caution Final inspection
Always press the Power ON/OFF key when the operation ends.

● Remote mode display

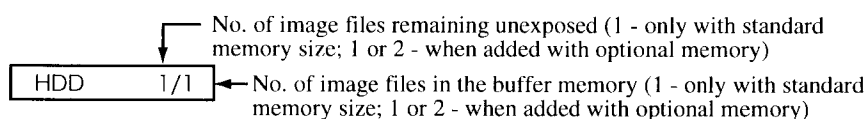
The following display appears on the panel while the remote mode is selected.

START OK

The ON LINE lamp is lit while this is displayed.

Pressing the key shows the current state of the plate.

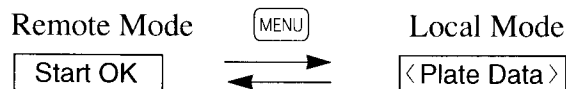
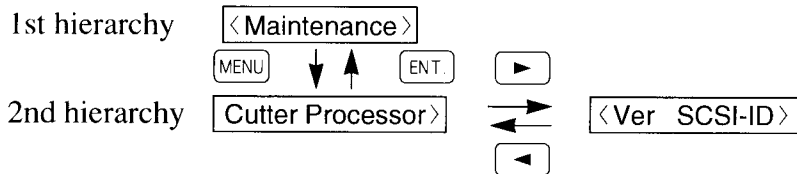
Pressing the key shows the number of images in data remaining in the buffer memory.



● Menu/command selection

Use the key, keys, and key to select menus or commands. The key brings up the menu level in the remote and local modes. The keys switch the menu level between remote and local. The keys are used to shift between commands. Selectable commands appear with one of their letters underlined. You can select commands on the right by pressing the right key and commands on the left with the left key.

Pressing the key when a ">" mark is shown at the right edge of the menu display shows the next (hidden) menu to the right. (Simply reverse this step to move to hidden menus on the left.) When you find the desired menu, press the key. Proceed to the next menu.

● Switch the mode between remote and local**● Shift between commands (Example)****● Command execution**

There are two types of commands: one which activates machine functions such as preliminary feeding and cutter-processor commands, and one which is used, for example, to set numerical values.

For commands in which numerical values can be changed (Example: Referring to P27 "4.4 Data input for the set plate")

Use the **▶** to move the cursor to the numerical value display. Press the **ENT.** key to start the display flashing and change the displayed value. (In some modes the numerical value display starts flashing from the time it is first displayed.)

The **▶** or **◀** key increases/decreases a numerical value.

Press the **ENT.** key when the desired number appears.

If you wish to reset a value or interrupt the setting procedure, press the **MENU** key to return to the upper menu level without changing the currently set value and re-start the setting procedure from the beginning by selecting the same command.

For commands in which numerical values can not be changed (Example: Referring to P28 "4.5 Execution of Pre. Feed command")

Use the **▶** to select the desired command. Then press the **ENT.** key to execute it.

Repeatedly press the **MENU** key until **Start OK** is displayed to return to the on-line mode.

Chapter 6 User menu

It is possible to set values affecting the machine's operation state from the user menu. Note that some settings from the host computer are given priority and they will be automatically changed if the host computer resets them.

Note Refer to '5.2 Panel operation' for details on key operation.

6.1 Plate data

The **<Plate Data>** command is used to enter information on the plate to be loaded.

Sample panel display

Data channel	Plate type	Platewidth	Remaining amount
M1	F175	404	60m

● Data channel

The data channel stores the plate information. 10 different sets of plate parameter data can be stored (from M0 to M9). The plate information consists of plate type, plate width, remaining amount, and the set laser (depends on the resolution for the respective plate type).

● Plate type

You can only use the following three types of plates.

Panel display	Plate model	Remarks
F175	SDP-FR175	Polyester base t 0.175 mm
F100	SDP-FR100	Polyester base t 0.100 mm
R175	SDP-RR175	Paper base t 0.175 mm

● Plate width

Each plate can be set to the following widths (displayed in mm).

Plate width(mm)	Plate width(inch)
229	9
254	10
279	11
305	12
310	12 1/5
324	12 3/4
335	13 3/16
340	13 3/8
370	14 9/16
400	15 3/4
404	15 7/8
414	16 3/10

● Remaining amount of plate

The remaining amount of plate should be set in meter units when you use a new plate.

The initial setting value is 0 meter.

The remaining amount of plate is shown in 1 meter increments (0 to 99 meters) in the remote mode display

The remaining amount value is calculated by subtracting the exposed plate length from the plate length set by the operator. The plate length for preliminary feeding is also subtracted.

However, the accuracy of the remaining length measurement is not guaranteed. Please regard this value simply as a reference guide.

6.2 Laser menu

The laser menu contains a command to set the laser for exposing the current plate.

Sample panel display

Plate type	Resolution	Laser value
F 1 7 5	(1 2)	2 0 0

● Resolution setting

(12)1200dpi

(15)1500dpi

(18)1800dpi

● Laser setting

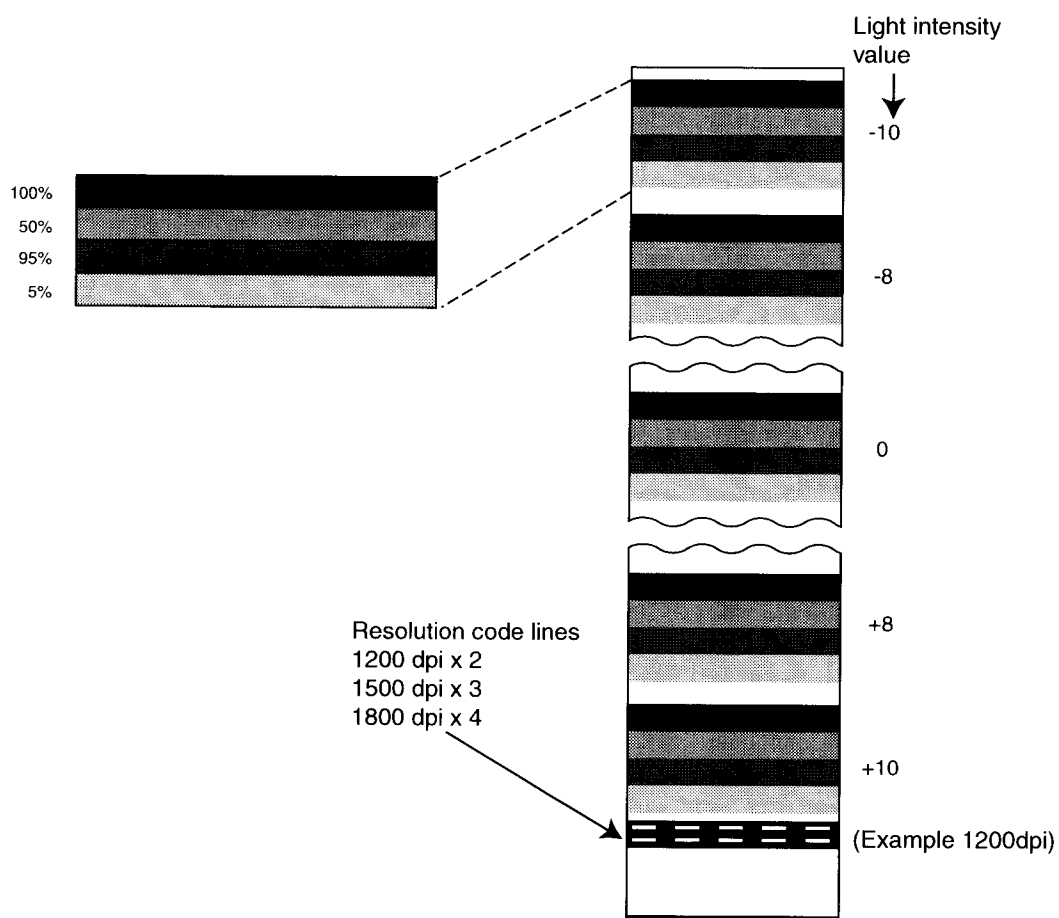
From the panel, you can set the exposure laser for each resolution to be used with the current plate.

1) Set the resolution and laser value.

2) If necessary, expose a trial sheet to adjust the laser.

● Laser test exposure

The plate is exposed using a specific pattern to determine the most suitable laser for each resolution. (The selected resolution is displayed on the panel display.) The table on the previous page shows the exposure resolution pattern. Resolution code lines are shown at the bottom of the exposed pattern.



6.3 Pre. Feed menu

Whenever you set a new plate, a "Pre. Feed" operation is performed to eliminate any fogged sections at the leading edge.

From the display panel, you can select whether to feed 1 or 3 sheets for this operation. The length of each sheet is 500 mm, so if you perform a 3-sheet preliminary feed, 1500 mm of plate will be cut, fed and disposed of.

If there are still darkened or fogged areas on the plate, perform another preliminary feed.

6.4 Image Data menu

The SDP-Eco 1630 II incorporates a buffer memory to avoid idle time due to differences in calculation speed between itself and the host, and to enable quick re-exposure after an exposure was interrupted (e.g., if you use the stop key or the plate ends).

Data written into the buffer memory can be exposed or erased in the local mode.

Select the "Exposure" command to expose the data and the "Clear" command to erase it.

6.5 Mode menu

In this menu, you can operate the punch (option), select a dryer level, set the buzzer response for different key operations, and turn the stand-by mode ON or OFF.

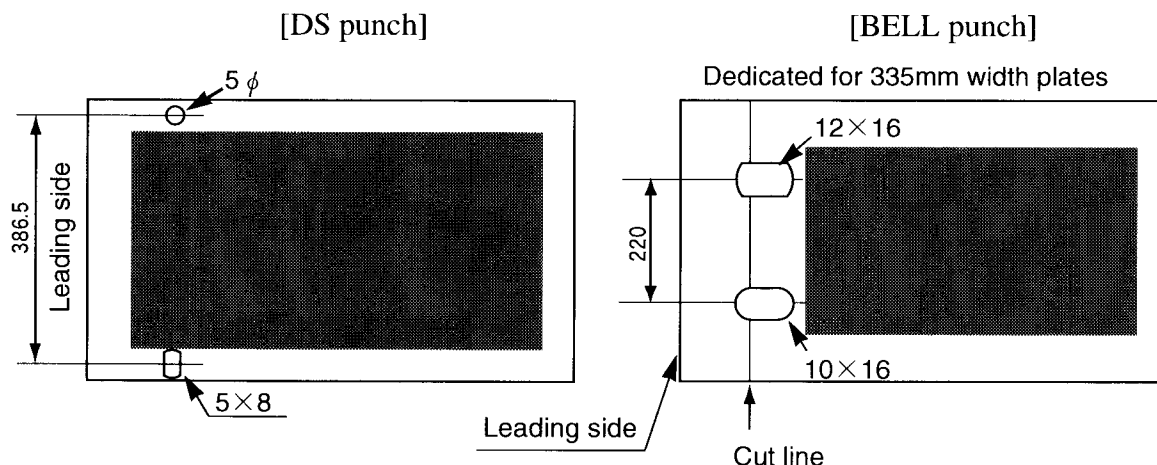
Set the punch to ON to punch plates before image exposure or set it to OFF if punching is not necessary.

If the machine does not contain a punch unit, the "Un-mounted" message appears.

● Punch specifications

Two types of punch unit options can be set: the DS punch (for alternately positionable punch) and the BELL punch.

Note The distance between punch holes is fixed, so it is impossible to change the distance depending on the plate width.



● **Dryer level selection**

When setting the dryer temperature, you can select either automatic or manual (Hi or Low). Select the temperature setting which suits your plate type and the environmental conditions.

If you select automatic setting, the dryer temperature will be set to "Hi" for FR100 and FR175 plates, and "Low" for RR175.

● **Stand-by mode ON/OFF**

Either activate (ON) or deactivate (OFF) the stand-by mode as follows.

ON: The Stand-by mode is active.

OFF: The Stand-by mode is inactive.

6.6 Maintenance menu

This menu is used when a plate is jammed, the processor is operating, etc.

● **Cutter**

If a plate is jammed in the machine, the cutter can often be used to help free and discharge the plate. The cutter returns to its original position after cutting a plate.

● **Processor**

The processor can be activated independently of the exposure unit.

● **VER**

This command displays the version numbers of the software in the machine (MCON software which controls SDP-Eco 1630 II operations and SRAM software which controls the SCSI interface).

● **SCSI-ID**

This command allows you to set/reset SCSI-IDs. Note that after changing a SCSI-ID setting, you must turn OFF the power and reboot the entire system including the SDP-Eco 1630 II itself.

6.7 Rinse

The machine is provided with the software counter that functions to warn operators when the rinse water lowers than the designated level. The warning is issued in a message and does not prevent output operations.

Note

- When the recorder has received the exposure data from the host computer (RIP computer) while the "Rinse Tank Check" message is displayed, this message disappears, and then the exposure is performed. After the exposure has been finished, the "Rinse Tank Check" message is displayed again.

- The alarm function in this machine has been set to OFF before shipment at the factory.
(Settings 000 = OFF)
- The consumption rate of rinse water may be different depending on the settings in the machine. Set the consumption rate with the following procedure.

[Procedure] (In cases where the current values are changed to "150".)

- (1) Push the **[MENU]** key to display the **[<Plate Data>]** window.
- (2) Select **[<Rinse>]** with the **[◀]** key, and then push the **[ENT.]** key.
- (3) When **[Count 150 CLR]** is displayed, make sure that the cursor is placed under the setting, and then push the **[ENT.]** key.
- (4) Push either the **[▶]** key (Increase) or the **[◀]** key (Decrease) to set the settings to "150".
- (5) After changing the setting, push the **[ENT.]** key to confirm the setting.
- (6) Push the **[MENU]** key two times to display the **[<Plate Data>]** window.

Note

Use "120 to 160" as a reference value. Adjust the rate of rinse water reduction depending on the installation conditions of the machine.
(Adjustable range: 50 to 300. Note that using "000" deactivates this function.)

[Notes for adjustment]

- (1) When the "Rinse Tank Check" message is displayed.
If the replenishing bottle is empty, decrease the setting.
If there is a lot of rinse water left in the bottle, increase the setting.
- (2) To deactivate the software counter function, use "000" as a setting value.
Be sure to reset the counter by "CLR" after you have adjusted the setting.

6.8 Option (Bar code reader)

It is possible to attach a bar code reader to read plate information. A plate information bar code is printed on the plate packaging and includes information on the plate type, width, and winding length.

[How to input]

Select **[<Plate Data>]** from the user menu and change the panel display to the lower level menu using the **[ENT.]** key. Bar code input is available when **[M0 F175 404 60m]** is displayed regardless of the cursor position. Scan the bar code while pressing the bar code reader button. A buzzer sounds once if the data is correctly input. If input fails or the data contains an error, the buzzer will not sound. Scan the bar code again. If the data is not appropriate, an "Illegal Data" message will appear on the panel. In this case, press the **[⏏]** key to cancel and retry, or manually input the data.

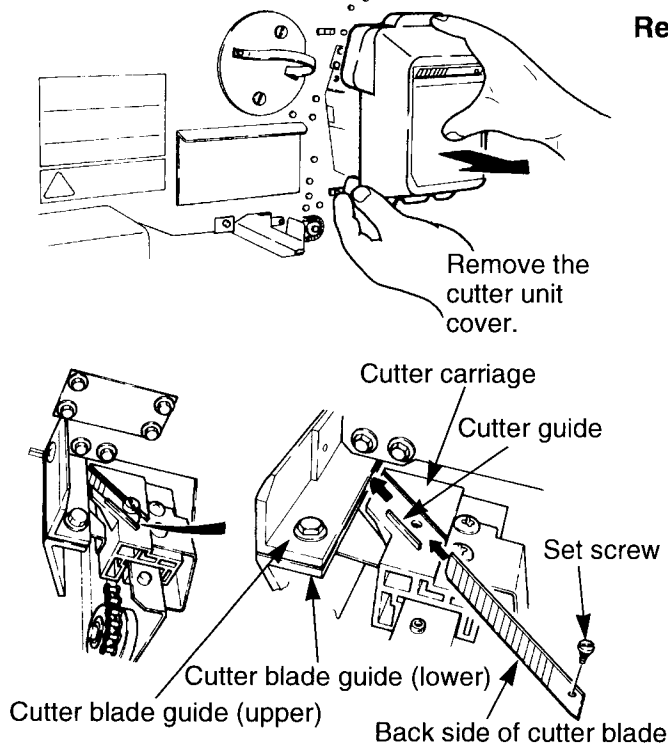
Chapter 7 Maintenance

7.1 Cutter blade replacement

If the edge of the cutter becomes notched, chipped or curved after cutting a plate, the blade must be replaced.

The cutter blade should be replaced regularly both to prevent transfer jams and problems due to cutting errors, and to maximize the machine's overall performance.

Always replace the blade after cutting two plate rolls and/or every 30 days regardless of the number of plates cut.



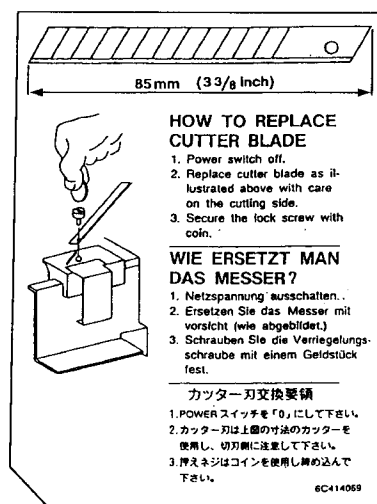
Replacement procedure

- 1) Turn OFF the power switch.
- 2) Open the front door.
- 3) Remove the cutter unit cover.
- 4) Insert the cutter blade between the cutter blade guides (upper and lower) in the direction indicated by the arrow in the figure and secure it in the designated position.

Caution

- Use the accompanying cutter blade or NT cutter blades (85 mm), which are commercially available.
- Align the back side of the cutter with the cutter carriage guide and tighten the set screw with a coin.

- 5) Return the cutter unit, cover, and front door to their original positions. Turn ON the power switch and check the cutter's performance in the maintenance mode.



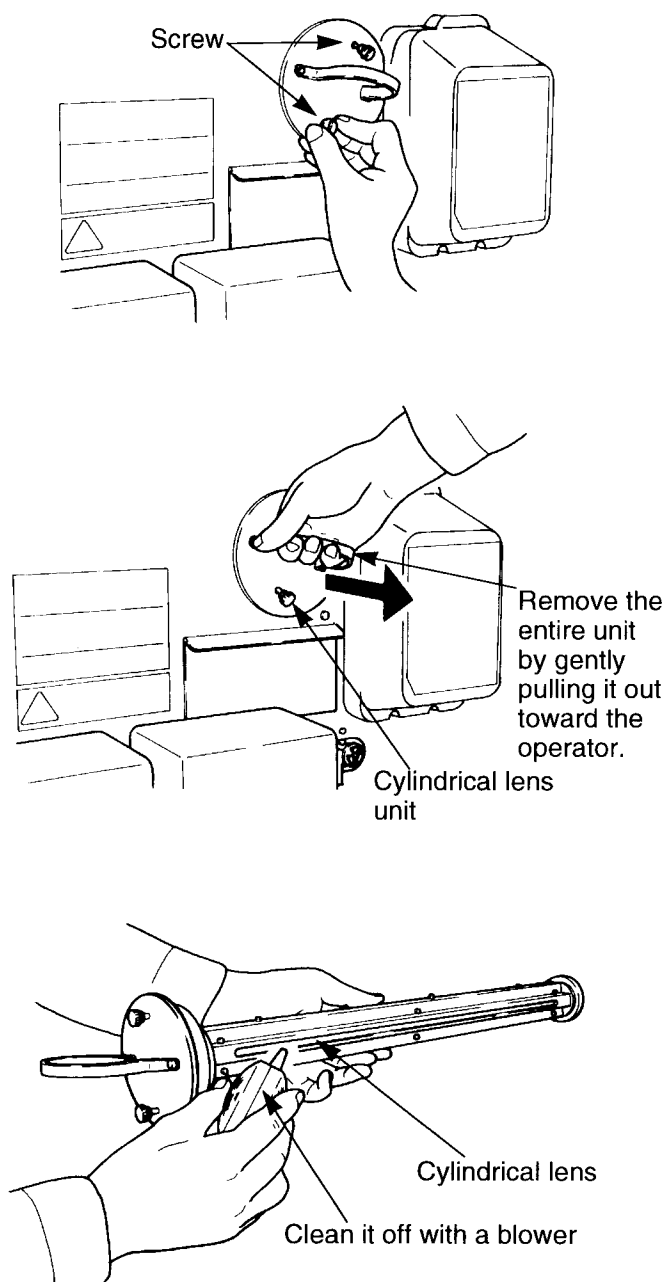
Cutter blade replacement procedure label



Caution

Always be careful when handling the cutter blade. Wear safety gloves to protect your hands from being cut.

7.2 Cylindrical lens cleaning



The SDP-Eco 1630 II incorporates a highly accurate optical system in which the lens is positioned extremely close to the exposed surface.

Therefore, if the lens is soiled with dirt or dust due to environmental conditions, for example, it may show up as a vertical line (white or black).

If a vertical line appears, open the front door, loosen the two screws on the cylindrical lens unit, and remove the entire unit by gently pulling it out toward the operator.

Inspect the lens under a bright fluorescent light to check its cleanliness and, if there is any dirt or dust, clean it off with a blower.

Caution Do not use compressed air when cleaning the lens.

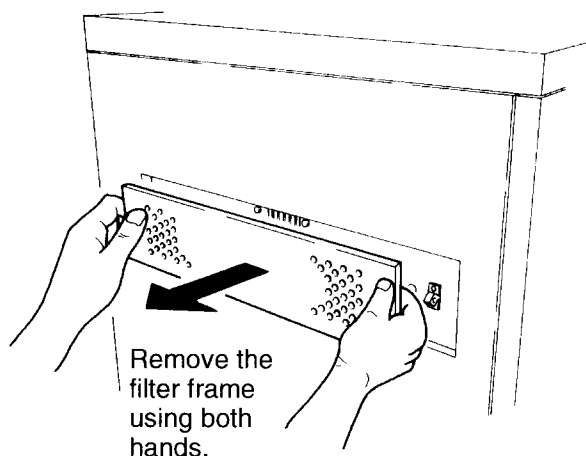
Never touch the lens with your hand or any kind of tool. These lens can be easily scratched and may require replacement.

Caution The plate will be fogged after you replace the lens. Before the next operation, feed one sheet through the machine.

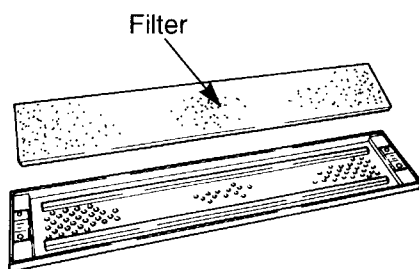
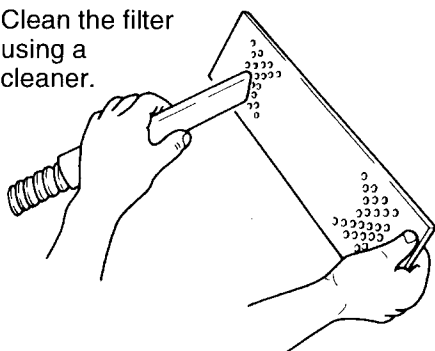
Re-assemble the cylindrical lens unit, reversing the previous procedure. Be sure to firmly re-insert the unit as far back as it will go into the machine chassis.

7.3 Filter cleaning

Since a clogged filter mesh will seriously affect exposure results, clean the filter at least every three months.



Clean the filter using a cleaner.



- 1) Turn OFF the power supply.
- 2) Remove the filter frame from the machine.

- 3) Remove the filter and cleanse it with the cleaner (with the frame attached).

- 4) Remount the filter frame back in its original position.

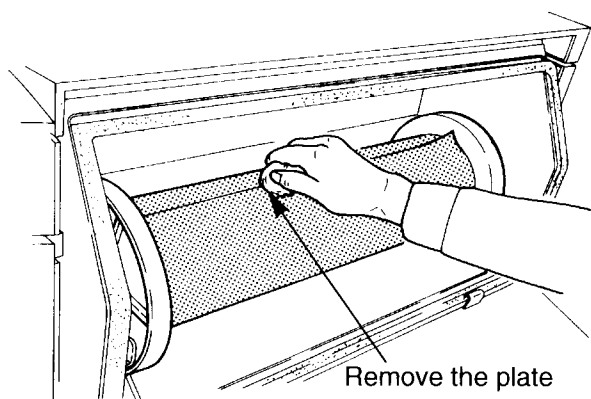
Caution

If the filter is not mounted, the cylindrical lens will immediately be soiled with dust and dirt. Also, the plate surface will become scratched.

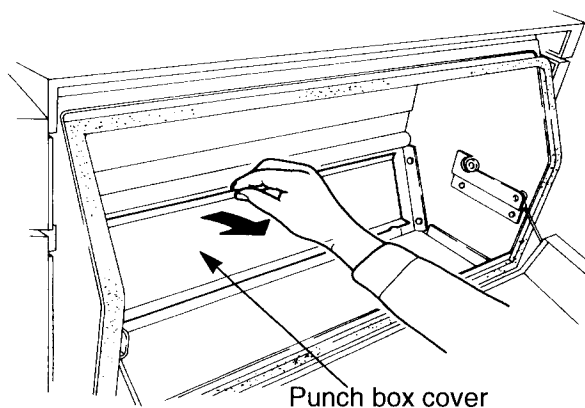
7.4 Punch dust removal

When the punch unit (option) is mounted, it is necessary to periodically remove the accumulated punch dust. Too much punch dust may cause trouble. Be sure to remove the punch dust following the steps below.

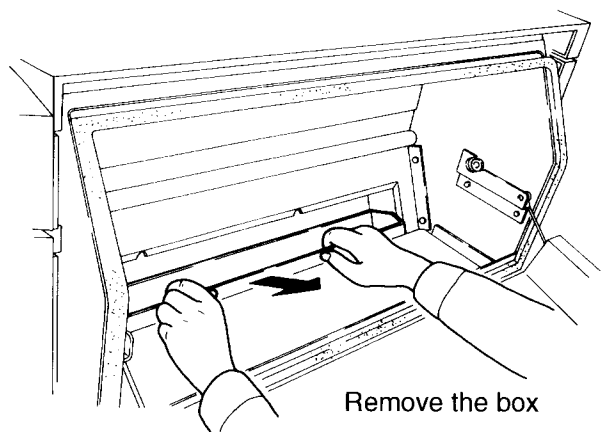
Caution If the "Punch Dust Check" warning message is displayed on the operation panel, be sure to remove the punch dust (punching has been performed more than 1000 times).



- 1) Open the plate setting cover and turn the upper nip roller handle until it is horizontal to rewind the plate. Remove the plate.



- 2) Remove the punch box cover at the bottom of the entrance roller where the plate is inserted. The cover is only attached with a magnet, so it can be easily removed by manually pulling on it.



- 3) The punch dust is collected in the punch box. Carefully remove the box and discard the dust.
- 4) Re-assemble the punch unit by reversing the above procedure.

● Resetting the punch counter

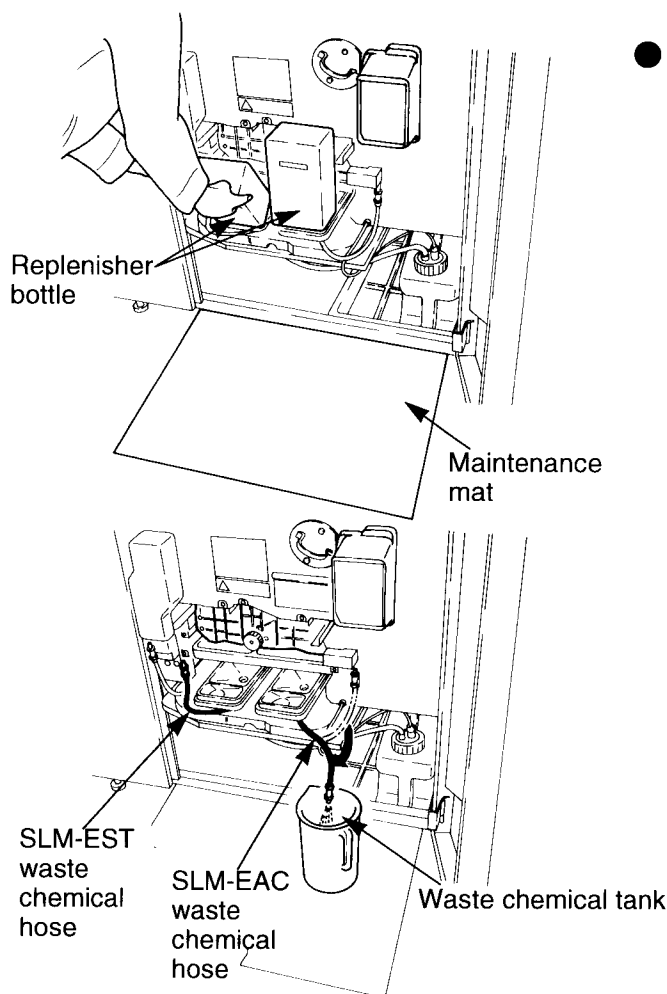
- 1) Pressing the **MENU** key bring up the **<Plate Data>** window on the display panel.
- 2) Press the **▶** key to select the **<MODE>** and then Press the **ENT.** key.
- 3) Press the **ENT.** key when **PUNCH DRYER** is displayed.
- 4) When **<MODE>** is displayed, press the **▶** key to bring up the **<COUNT***CLR>** display and then select CLR.
- 5) Press the **ENT.** key resets the punch counter.

7.5 Cleaning the processor section

After repeated prepress operations, silver residue from plates, paper dust, chemicals, etc. may stick to the tank and/or processor rack, and stain subsequent separations.

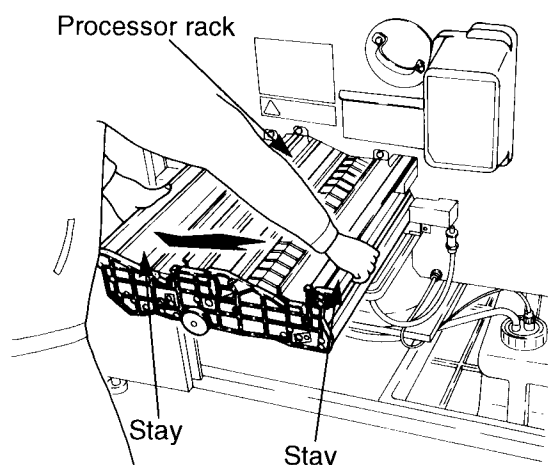
- Note**
- Always clean the sections shown below when you replace the processing chemical every three months.
 - Always follow the procedures in "4.9 Turning OFF the power supply and inspection at shutdown" on page 34 before shutting down the machine.

Caution You must thoroughly read "1.3 Handling processing chemicals".



● Cleaning the processor rack

- 1) Turn OFF the main power switch.
- 2) Lay out the maintenance mat.
- 3) Open the front door and remove the replenisher bottle.
- 4) Discard the SLM-EAC and SLM-EST into the waste chemical tank.
- 5) Hold the handle for the processor rack section and pull out the processor rack until it touches the stopper.

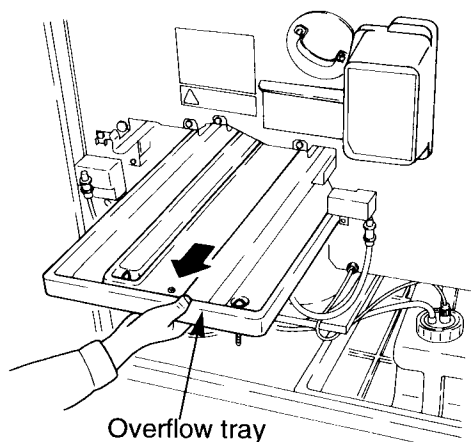


- 6) Grip the left and right stay rails on the processor rack to remove the rack, and carry it to the place you have prepared for the cleaning operation.

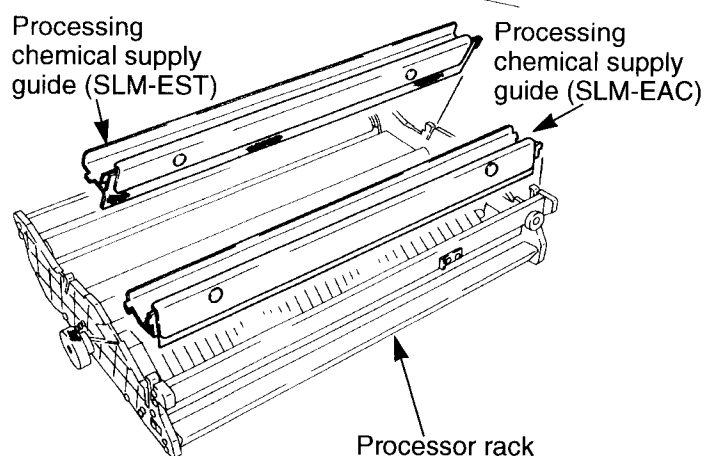


Caution

The processor rack weighs approximately 6.5 kg(14.3 lbs), so please be very careful when handling it.



- 7) Remove the overflow tray.

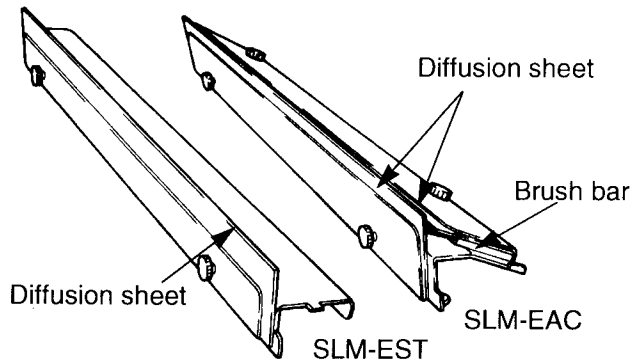


- 8) Remove the supply guides for SLM-EAC and SLM-EST from the processor rack.



Caution

The processing chemical supply guide must face upward toward its diffusion sheet. If it faces downward, the sheet may become curved or bent, and cause an activation error.

**Note**

If the diffusion sheet is curved or bent, loosen the sheet retainer on the processing chemical supply guide and replace the sheet with a standard diffusion sheet.

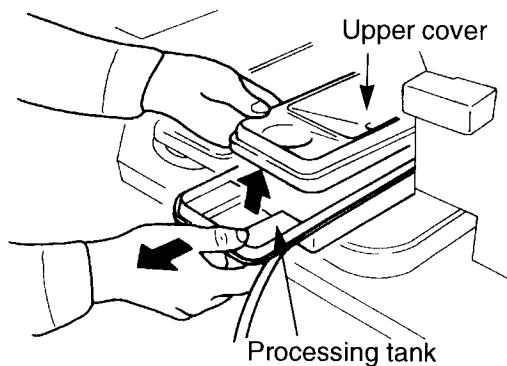
- 9) Wash the processing chemical supply guide diffusion sheets (SLM-EAC x 2, SLM-EST x 1) with water and wipe them dry with a clean cloth.
- 10) Wash the processor rack and overflow tray with water.

Note

The synthetic rubber used for the processor rack roller is susceptible to high temperatures, so don't wash it with water that is warmer than 40°C. Never use detergent or other cleaning solutions.

- 11) Re-attach the supply guides to the processor rack.

● Cleaning the processing chemical tank and filter

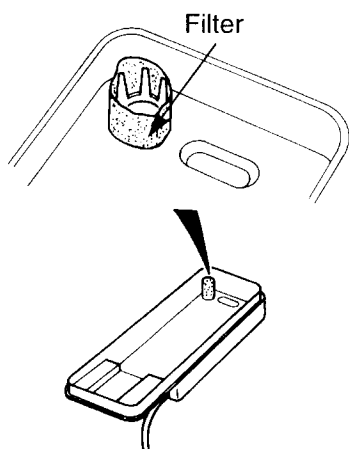
**Note**

Always clean the processing chemical tank and filter when you replace the processing chemical every three months or after processing 1000m² of plates.

- 1) Lift the upper cover for the processing tank and pull out the tank.

Caution

- The upper cover for SLM-EAC is attached to a panel heater, so it may be very hot. Be very careful when performing this operation.
- Sensor cords are connected to the upper cover. Do not forcibly pull at these cords.



- 2) Remove the filter installed in the processing chemical tank.
- 3) Wash the filter and processing chemical tank with water.
- 4) Re-install the filter in the processing chemical tank.

Note Pull the cylindrical filter down over the filter attachment section in the processing chemical tank.



Caution

The filter must always be installed. If you attempt to operate this machine without a filter, the processing chemical supply pipe will become clogged and seriously affect subsequent results.

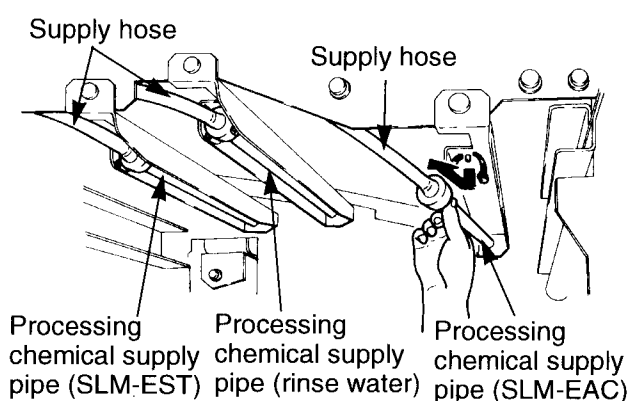
- 5) Return the processing chemical tank to its original position and replace its upper cover.



Caution

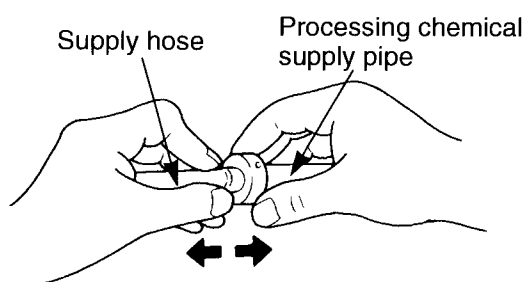
Since the heater is attached to the tank's upper cover, be sure the cover is properly seated into the top of the tank to prevent the heater from overheating.

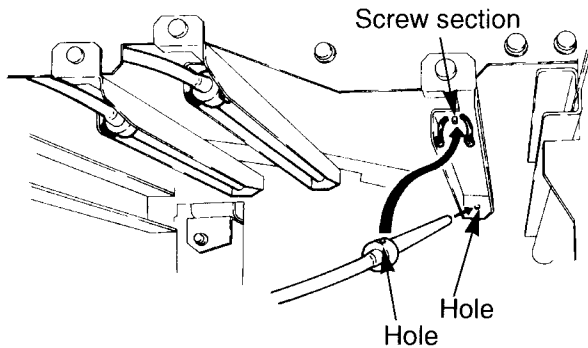
● Cleaning the processing chemical supply pipe



Note Always clean the processing chemical supply pipe when you replace the processing chemical every three months.

- 1) Remove the processing chemical supply pipes (for SLM-EAC, rinse water, and SLM-EST).
- 2) Remove the supply hose from the processing chemical supply pipe.
- 3) Clean the processing chemical supply pipe.





- 4) Attach the supply pipe to the processing chemical supply hose.
- 5) Install the processing chemical supply pipe.

Caution

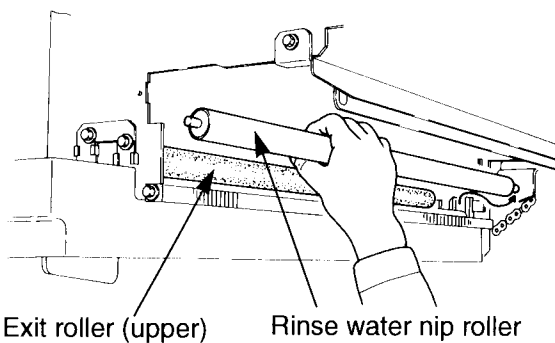
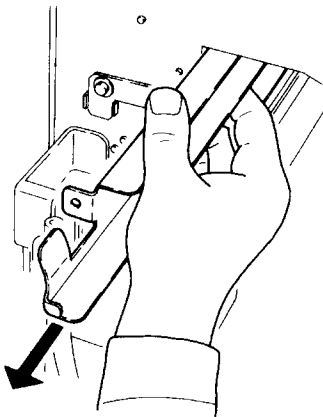
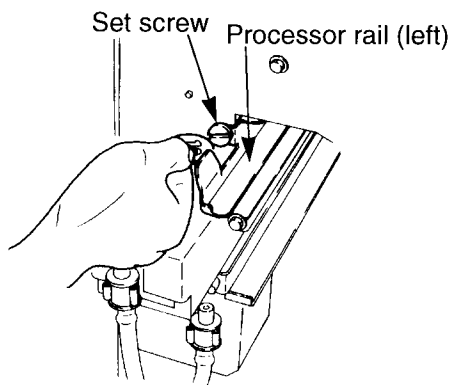
When the processing chemical supply pipe is clogged, clean the pipe regardless of the time elapsed.

● **Cleaning the nip roller and exit roller (upper)**

Note

Always clean the rinse water nip roller and upper exit roller after processing 1000 plates or every month.

- 1) Loosen the set screw (with a coin) to remove the left processor rail.
- 2) Pull out the left processor rail toward the operator side.
- 3) Lift up and remove the rinse water nip roller.



Caution

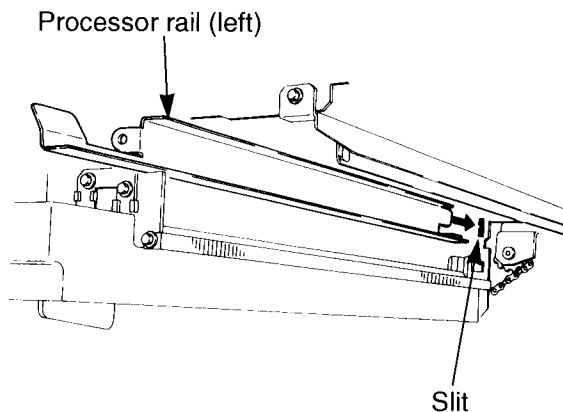
The rinse water nip roller weighs approximately 2 kilograms, so please be very careful when handling it.

- 4) Lift up and remove the upper exit roller.
- 5) Clean the rinse water nip roller and upper exit roller.
- 6) Wipe the rinse water nip roller until dry. Wring water lightly from the upper exit roller. Re-attach both in their original positions.

**Caution**

Always attach the upper exit roller on the left.

If it is mistakenly attached on the right, the plate might dry unevenly or a drying error might occur.



- 7) Re-attach the overflow tray in its original position.
- 8) Insert the back side of the left processor rail in the slit in the side panel.
- 9) Secure the left processor rail using the set screw.

**Caution**

Securely fix the set screw using a coin.

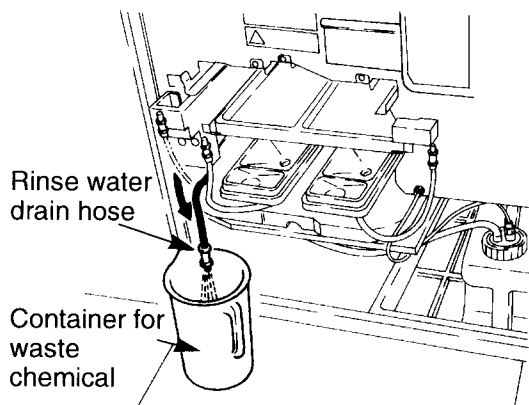
- 10) Re-attach the processor rack back in its original position.

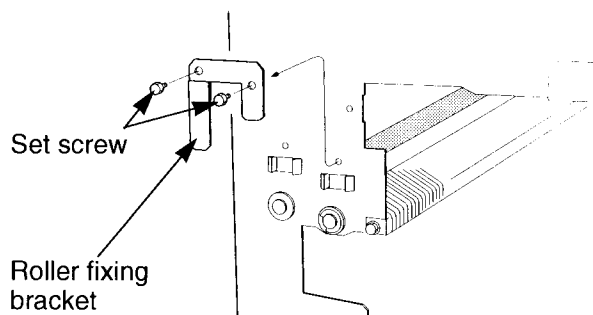
● Cleaning the exit roller (lower)

Note

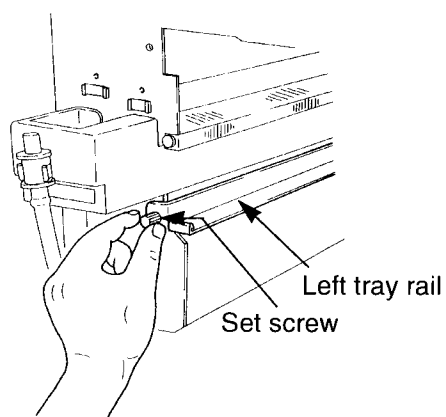
Always clean the rinse water nip roller and upper exit roller after processing 1000 plates or every month.

- 1) Follow the previous steps from "1)" through "4)" to clean the upper exit roller as well as the rinse nip roller. Leave the machine with the upper exit roller removed.
- 2) Drain the water in the washing tank into the waste chemical container.

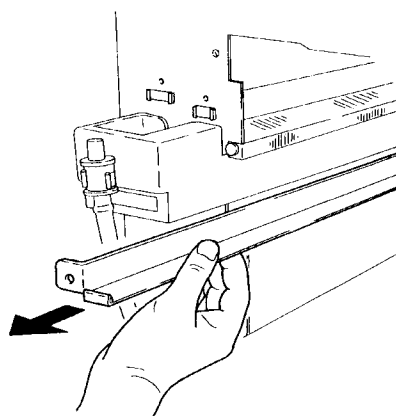




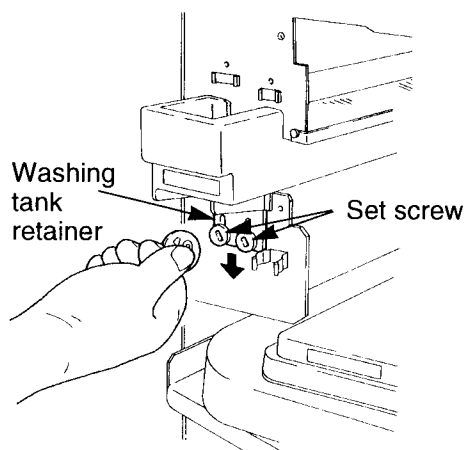
- 3) Remove the two set screws, and then the roller fixing bracket



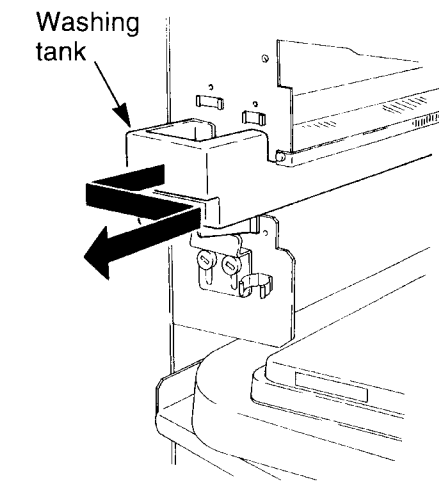
- 4) Remove the overflow tray.
- 5) Loosen the set screw to remove the left tray rail.



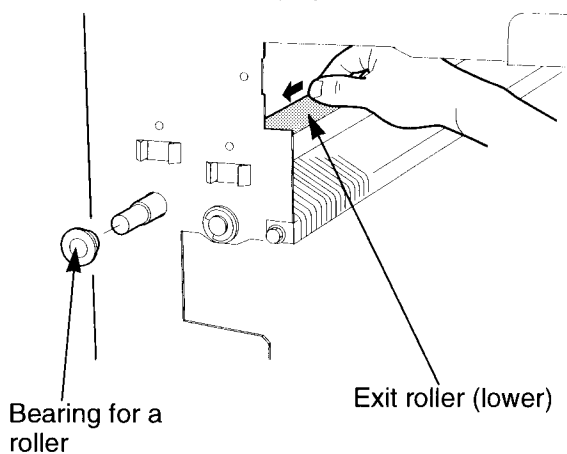
- 6) Pull out the left tray rail toward the operator side.



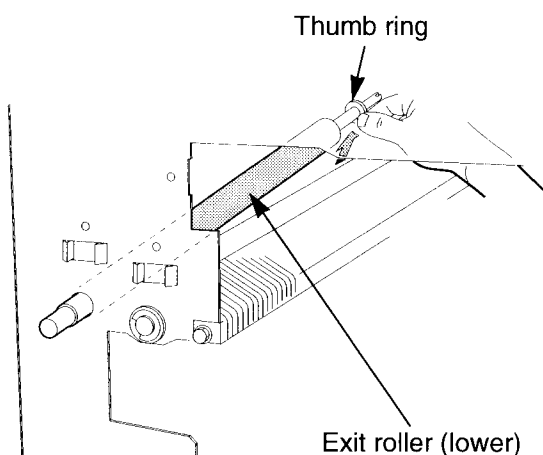
- 7) Slightly loosen the two set screws for the washing tank retainer using a coin.
- 8) Move the washing tank retainer to a lower position.



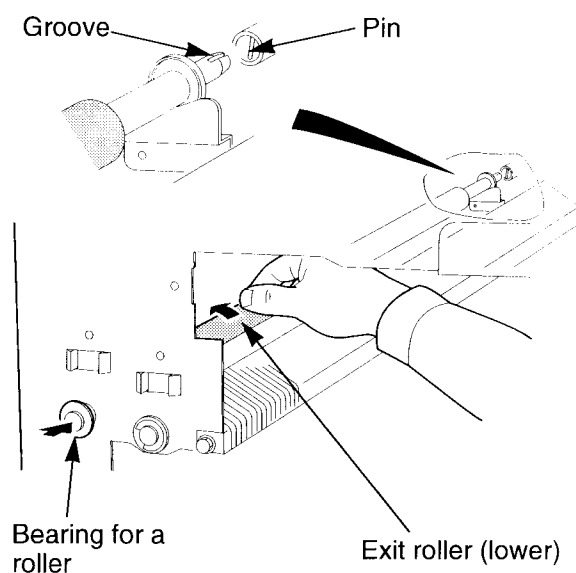
- 9) Pull out the washing tank 30 to 40 mm toward the operator side and remove it (toward the right).



- 10) Pull the lower exit roller toward you. Now you can remove the bearing for a roller.



- 11) Remove the lower exit roller by lifting the thumb ring installed to the roller.
- 12) Clean the lower exit roller.
- 13) Wipe the roller until they are dry, and re-attach them back in their original positions.



14) Attach the bearing for a roller to the lower exit roller.

15) Install the lower exit roller by slightly rotating it in such a manner that the pin in the coupling properly engages the groove in the lower exit roller.

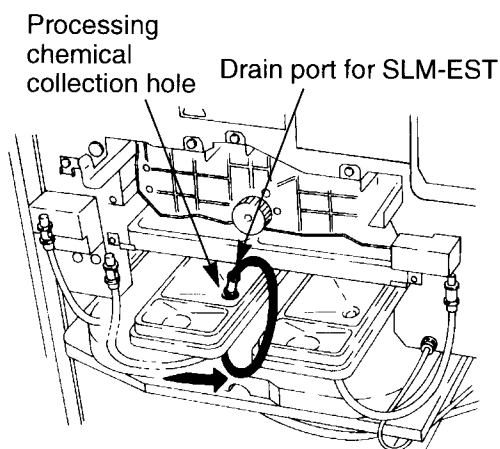
Note If the groove in the lower exit roller properly engages the pin in the coupling, the lower exit roller rotates only counterclockwise.

16) Install the other necessary parts reversing the order of steps you followed when you removed them.

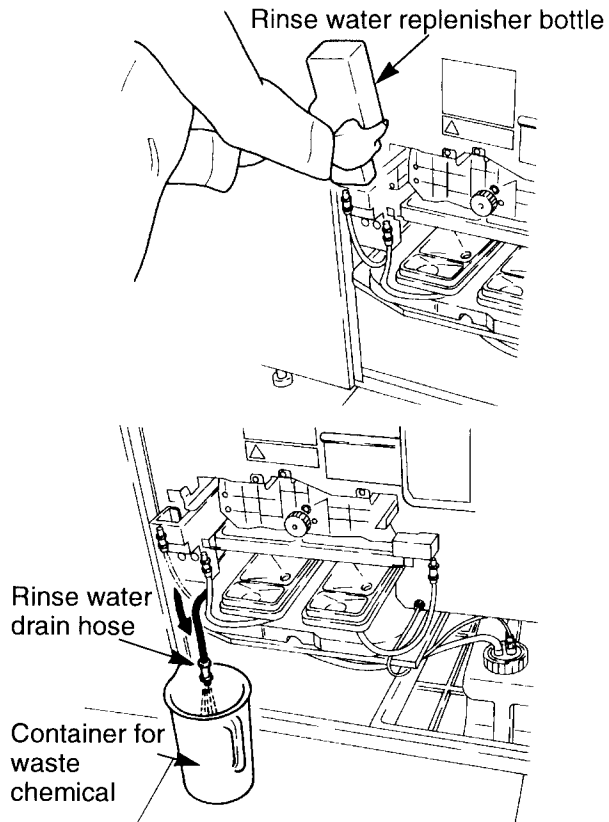
7.6 Cleaning the washing tank

Clean the washing tank every one month to prevent contamination with slime or mold.

Caution You must thoroughly read "1.3 Handling processing chemicals".



- 1) Turn OFF the main power switch.
- 2) Lay out the maintenance mat.
- 3) Open the front door and remove the replenisher bottle.
- 4) Insert the SLM-EST drain port in the processing chemical collection hole (located in the upper cover of the tank).

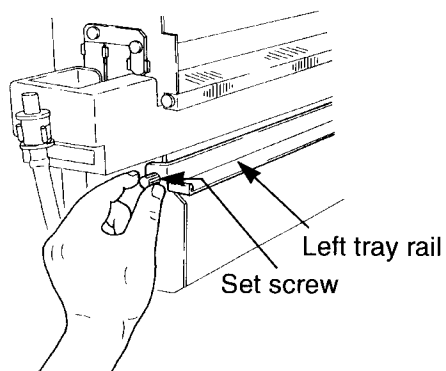


- 5) Remove the rinse water replenisher bottle and drain the water in the washing tank into the waste chemical container.

- 6) Hold the handle on the processor rack section and pull out the processor rack until it touches the stopper.
- 7) Grip the left and right stay rails along the sides of the processor rack to remove it, and carry it to a convenient work place.

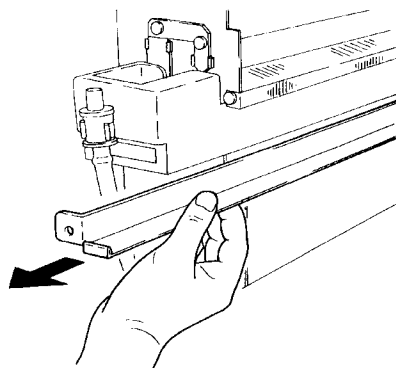
**Caution**

The rinse water nip roller weighs approximately 6.5 kg(14.3 lbs), so please be very careful when handling it.

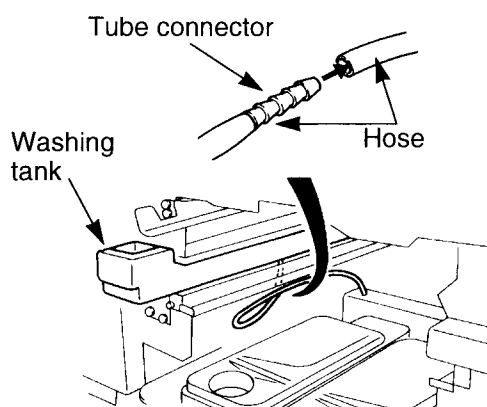


- 8) Remove the overflow tray.
- 9) Loosen the set screw to remove the left tray rail.

- 10) Pull out the left tray rail toward the operator side.



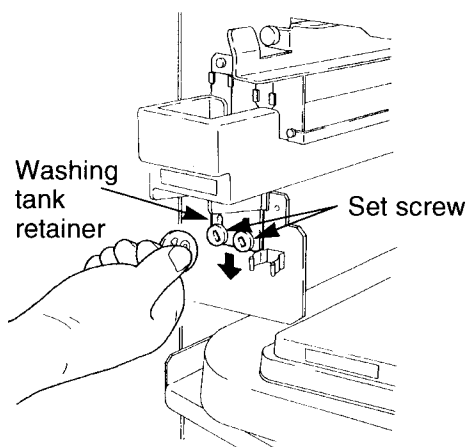
- 11) Remove the hose in the lower side of the washing tank from the tube connector section.

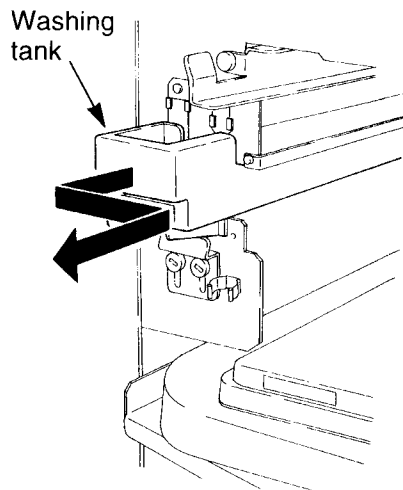


Caution

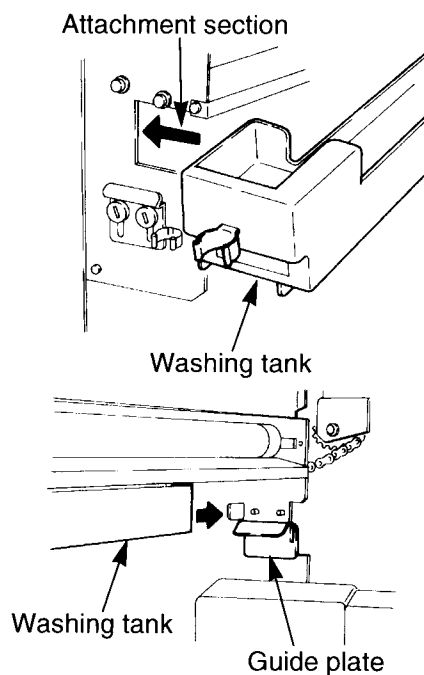
The hose usually still contains water, so be careful not to spatter it around when you remove the hose.

- 12) Slightly loosen the two set screws for the washing tank retainer using a coin.
- 13) Move the washing tank retainer to a lower position.





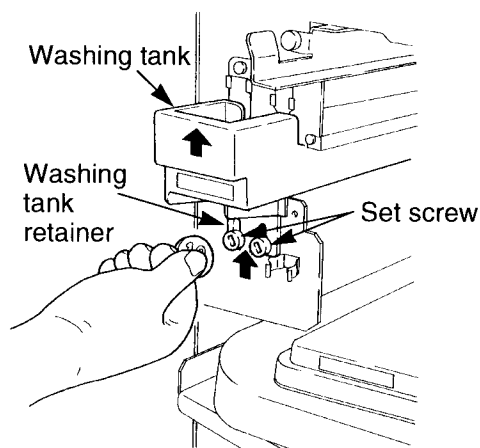
- 14) Pull out the washing tank 30 to 40 mm toward the operator side and remove it (toward the right).
- 15) Clean the washing tank with water.



- 16) Insert the operator side of the washing tank into the rectangular slot in the processor. (See illustration on the left.)

Note Slide the washing tank in horizontally.

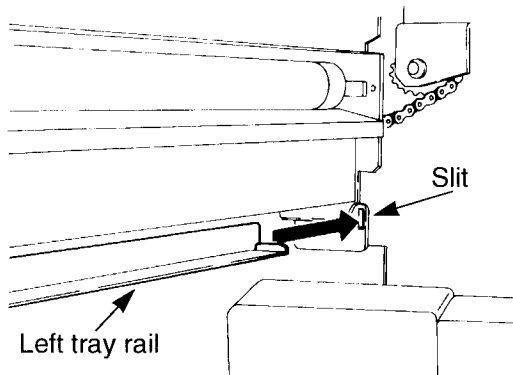
- 17) Set the back of the washing tank on the guide plate and insert the washing tank pressing it against the left side of the guide.



- 18) Secure the operator side of the tank with the washing tank retainer.

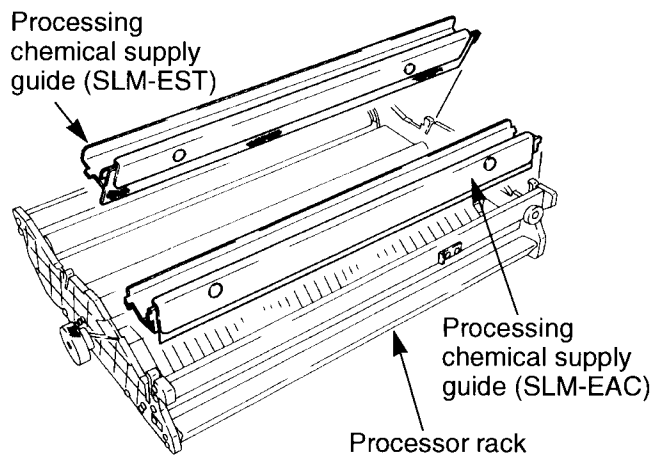
⚠ Caution

- Before securing the washing tank, lift the near end of the tank and its retainer as high up as possible
- Securely tighten the set screws using a coin.

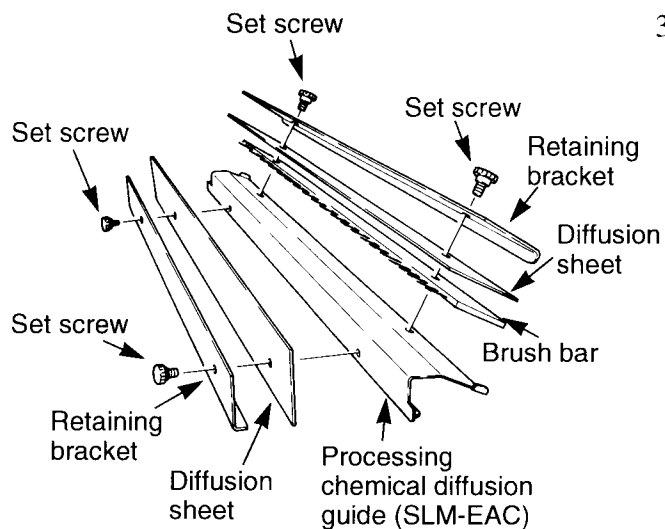


- 19) Plug the removed hose back into the tube connector.
- 20) Insert the back of the left tray rail into the slit in the guide plate.
- 21) Secure the left tray rail with set screws.

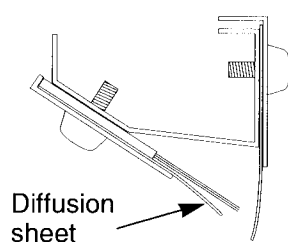
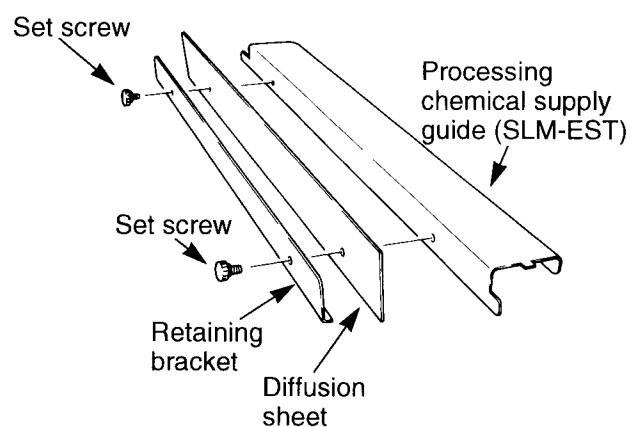
7.7 Replacing the diffusion sheet (SLM-EAC, SLM-EST)



- 1) Remove the processing chemical supply guides from the processor rack.
- 2) Loosen the two set screws for each processing chemical supply guide to remove the diffusion sheet.

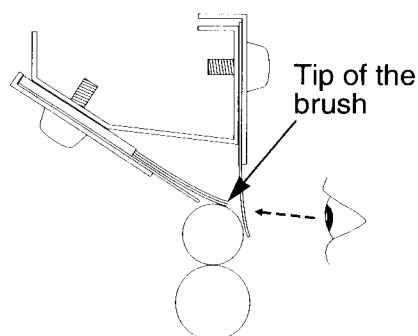


- 3) Put the accompanying diffusion sheet between the processing chemical supply guide and retaining bracket, then re-secure the guides with set screws again. Re-attach the brush bar in its original position.



Note

If the diffusion sheet (ELM-EAC) is curved, mount it as shown in figure on the left.



Caution

When a processing chemical supply guide (SLM-EAC) is attached, make sure the tip of the brush bar touches the roller.

7.8 List of expendable parts

Parts name	Parts code	Unit	When to replace
NT cutter blade	200400107	1 set (contains 10 blades)	After cutting two plate rolls.
Pump unit (EAC)	U1105011	1 set	After completing 25000 prepress processes.
Pump unit (EST)	U1105012	1 set	After completing 25000 prepress processes.

Note

- After 25000 prepress processes, a "Pump Check" message appears on the display panel when the power switch is turned ON.
This indicates that it is time to replace the pump, so please contact the serviceman and request a pump replacement.
Always replace the pump units for EAC and EST at the same time.
Clear this panel display by pressing the RESET key and continue the initial inspection.
- Average lifetime varies depending on the usage condition (input voltage, ambient environment, temperature, humidity, and daily maintenance).
- When expendable parts noted in the list must be replaced, customers will be charged for labor and parts costs even if the equipment is still within its warrantee period.

7.9 How to order parts

The SDP-Eco 1630 II has many parts, some of which users can replace on their own and some which require service personnel to replace. If you wish to order any parts, please do the following:

- (1) Indicate whether you just need the parts, or whether you need to have them replaced by service personnel.
- (2) Information from your warranty or machine name plate
 - i) Model: SDP-Eco 1630 II
 - ii) Serial number
- (3) Names and numbers of necessary parts, quantities, date required

Caution

- Please be aware that new models may be developed and specifications may change without notice, so parts may differ from those listed in this operation manual.
- Mitsubishi Paper Mills Ltd. takes no responsibility for improvements users may undertake on their own or in collaboration with another company.

Supervisor

Item	Procedure	Date Day Period	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31																														
NT cutter blade	Replace the blade following the noted replacement procedure.																																
Cylindrical lens	Blow the dust and dirt off the lens with a blower. (Be careful not to scratch the lens.)	As necessary																															
Filter cleaning	Remove the filter and clean it.	Every three months.																															
Optional punch unit	Discard the punch dust. (An alert message appears after every 1000 punches.	As necessary																															
Processor section cleaning	Thoroughly read the instruction manual.	Every three months.																															
Washing tank cleaning	Thoroughly read the instruction manual.	Every one month																															
Processing chemical tank cleaning and chemical replacement	Thoroughly read the instruction manual.	Every three months or after processing 1000m ² of plates																															
Processing chemical supply pipe cleaning	Thoroughly read the instruction manual.	Every three months																															
Upper and lower exit roller and rinse water nip roller cleaning	Thoroughly read the instruction manual.	Every month or after processing 1000 plates																															
Rinse water	Thoroughly read the instruction manual.	Every day																															

1. Please read the instruction manual carefully. 2. Mark the date when the inspection is performed. 3. Copy this sheet and use this same form every month.

Chapter 8 Message

8.1 Message

The SDP-Eco 1630 II displays three kinds of messages: status messages, warning messages and error messages.

[Status message]

Status messages indicate the machine's current operation status.

[Warning message]

Warning messages indicate a problem which has no effect currently but may have adverse effects in the near future. These messages are displayed when the power is turned ON.

Pressing the  key allows you to continue processing.

[Error message]

Error messages indicate a problem or error which is now occurring during operation. If an error message is displayed, a buzzer sounds and the machine will not operate. Pressing the  key while an error message is displayed stops the buzzer sound.

The following pages contain a listing of common error codes, their meanings, and corrective measures.

8.2 Displaying and clearing errors

When a problem or error occurs during operation, an error message is displayed on the display panel and all moving parts, such as the motor, stop. The machine will not operate while an error message is displayed.

[Error clearance]

Message	Contents
ME1 ME2 JAM1 JAM2 JAM3	First, stop the buzzer sound by pressing the  key and open the front door. After all required processes are completed, close the front door and press the  key. This clears the error message. *Do not turn OFF the main power when JAM1, JAM2, JAM3 errors occur.
ME3	Turn the nip roller clearance handle until it is vertical (locked) and then press the  key to reset the error.
Others	Eliminate the error with the  key.

8.3 Status display

Status displays indicate the machine's current operation status.

Message	Operation status
Initializing	Machine is being initialized.
Start OK	Remote operation is ready.
Cleaning	Processor is being cleaned.
Heating	Processor is being heated.
Exposing	Machine is exposing an image.
Recovery	Machine is in recovery.
Discharging	Plate is being discharged.

8.4 Warning display

Message	Warning contents
Pump Check	This indicates that it is time to replace the pump, so please contact the dealer where you purchased this machine and request a pump replacement. Press the  key to clear this display and continue processing.
Punch Dust Check	This indicates that the punch box is full of dust. Open the plate setting cover and take out the punch box to dispose of the dust. Pressing the  key resets the punch counter to "0".
Rinse Tank Check	Check the remaining amount of rinse water in the rinse water replenishing bottle. Push the  key to delete the message. Be sure to reset the software counter in the machine. Open the front door, and then close it to reset the counter. For detailed information, refer to section "6.7 Rinse".

8.5 List of error messages

The following is a list of error messages, and steps that can be taken.

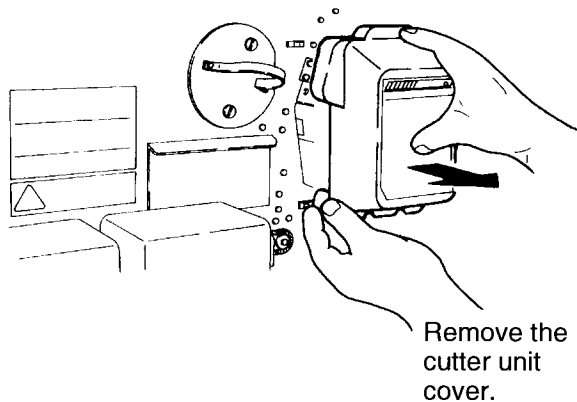
Message	Error contents
Serial error	An internal communication error occurred. Re-boot the machine. If this error occurs frequently, please contact the dealer where you purchased this machine.
JAM1	The plate is jammed. Remove the plate following the jam removal procedure.
JAM2	The plate is jammed. Remove the plate following the jam removal procedure.
JAM3	The plate is jammed. Remove the plate following the jam removal procedure.
I/F error1	A SCSI communication error occurred. Re-boot the machine. If this error occurs frequently, please contact the dealer where you purchased this machine.
ME1	The cutter does not return to its initial position. Turn ON the power switch again.
ME2	The cutter is not located at its initial position. Turn ON the power switch again.
ME3 Nip free	The nip roller is open. Close the nip roller clearance handle.
ME4	An internal communication error occurred in the machine. If this error occurs frequently, please contact the dealer where you purchased this machine.
ME5	An internal communication error occurred. Re-boot the machine. If this error occurs frequently, please contact the dealer where you purchased this machine.
ME6	The laser does not light. It may be caused by low laser, but if it occurs even after you boost the laser, please contact the dealer where you purchased this machine.
ME7	A problem occurred in the polygon mirror. Please contact the dealer where you purchased this machine.
ME8	A problem occurred in the processor heater. Please contact the dealer where you purchased this machine.

Message	Error contents
ME9	A problem occurred in the heat roller. Please contact the dealer where you purchased this machine.
ME10	A problem occurred when the punch unit was activated. Please contact the dealer where you purchased this machine.
Punch Un-mounted	The punch is not mounted.
Close front door	The front door is open. Shut the door.
Width not enough	The width of the plate is insufficient for the exposure width. Replace the plate with one as wide as the exposure.
Image Error	An internal data transmission error occurred in the SDP-Eco 1630. Re-boot the machine. If this error occurs frequently, please contact the dealer where you purchased this machine.
Plate Set error	The plate has not been set correctly. Re-set the plate.
Plate End	The plate ran out. Load a new plate.
Pick up plate	Open the front door and remove a strip type plate through the plate removal port.
Waste Tank Check	The waste chemical tank is full.
Empty EAC	The EAC chemical ran out. Replenish it.
Empty EST	The EST chemical ran out. Replenish it.
Tray check	The overflow tray has not been set. Set the tray.
I/F error4	An error has occurred in the SCSI communication. If the error frequently occurs even after the system has been rebooted, contact your local dealer where you purchased this machine.
Please set plate	A plate has not been set. Set the plate.
SRAM BOARD ERR #1	A problem exists in the I/F board. Contact the local dealer where you purchased the product.
SRAM BOARD ERR #2	A problem exists in the I/F board. Contact the local dealer where you purchased the product.
SRAM BOARD ERR #3	A problem exists in the I/F board. Contact the local dealer where you purchased the product.
NO SUPPORT DIMM	A problem exists in the buffer memory. Contact the local dealer where you purchased the product.
MEM VERIFY ERR	A problem exists in the buffer memory. Contact the local dealer where you purchased the product.
3.3V REG. ERR NN	A problem exists in the I/F board. Contact the local dealer where you purchased the product.

8.6 Jam removal procedure

● Removing Plate jam 1 and 2

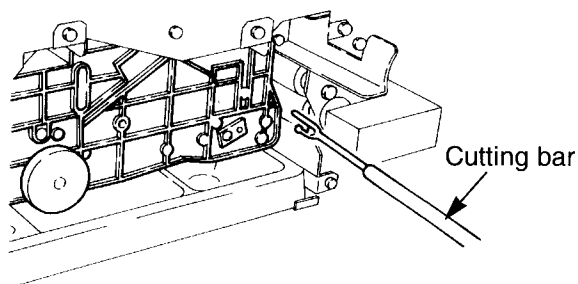
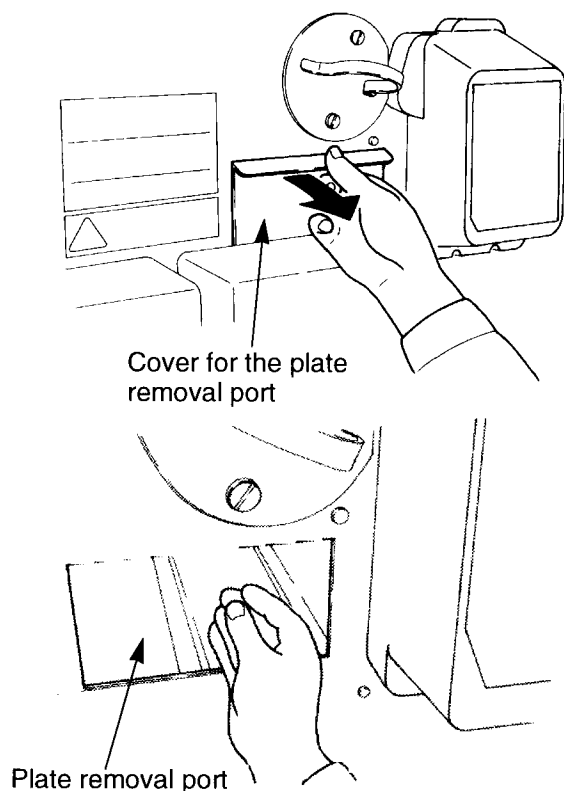
- Plate jam1 is displayed when the cutter stops a plate cutting operation midway.
- Plate jam2 is displayed when the plate can not be cut and is continuously discharged.



- 1) Press the  key. This stops the buzzer sound and returns the cutter to its home position.
- 2) Open the front door and remove the cutter cover.
- 3) Confirm that the cutter blade is not worn or bent. If it is, replace it with a new blade.
- 4) Re-attach the cutter cover and close the front door.
- 5) Press the  key again and run the cutter from the maintenance screen to cut the plate.
- 6) When the cutting operation is completed, run the processor to discharge the plate.

● Removing Plate jam 3

- Plate jam3 is displayed when the plate is not discharged.



- 1) Press the  key. This stops the buzzer and returns the cutter to its home position.
- 2) Open the front door and remove the cutter cover.
- 3) Remove the plate in the transfer section.
- 4) If the plate is not in the transfer section, remove the processor rack.
- 5) If the processor rack cannot be removed, cut the visible plate using a cutting bar.

Caution

Do not use the cutting bar except to cut and remove jammed plates. After using the cutting bar, store it in the designated location with its cap on.

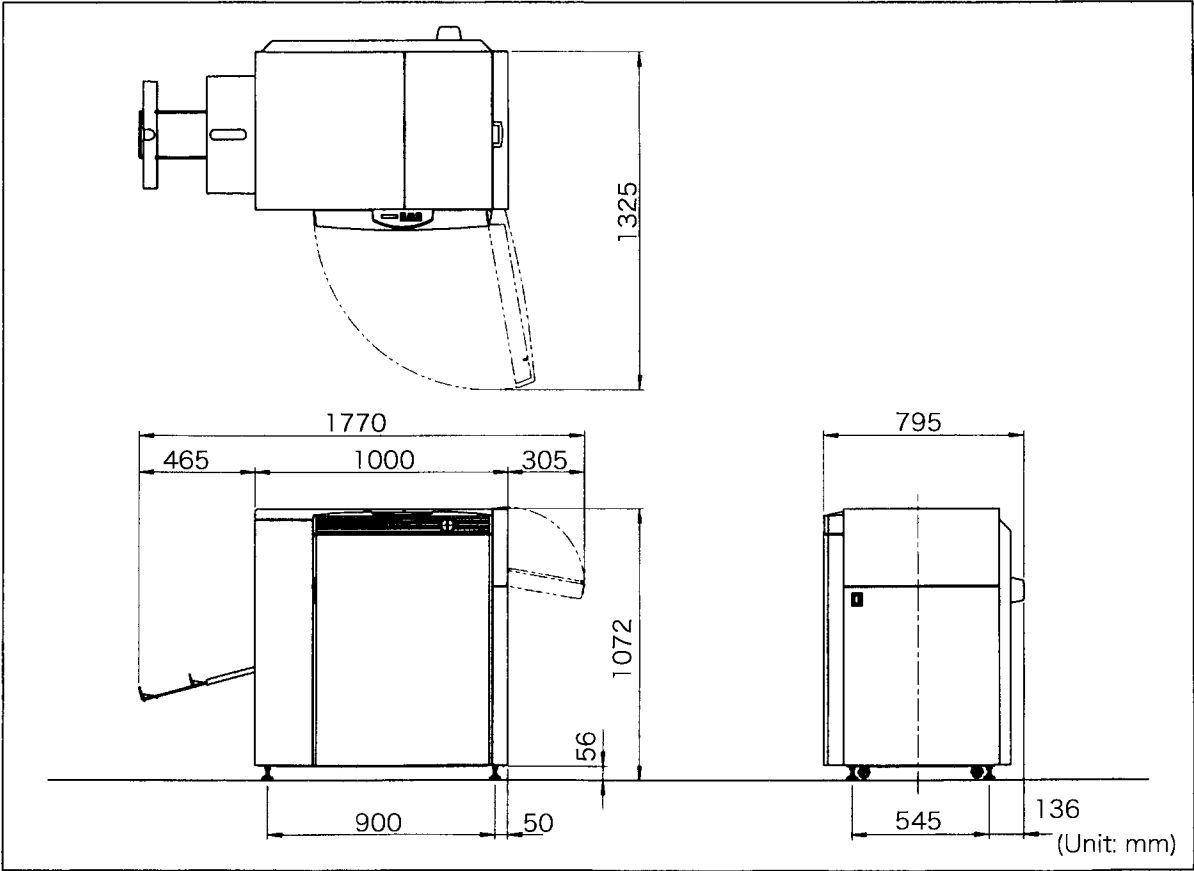
- 6) Remove the processor rack and then the plate.
- 7) With the processor rack removed, close the front door and run the processor. Remove the plate discharged from the roller after the processor stops running.
- 8) Re-set the processor rack.

Chapter 9 Specifications

9.1 Basic specifications

· Recording system	...	Flatbed scanning system
· Light source	...	635 nm laser diode
· Resolution	...	1200 dpi, 1500 dpi 1800 dpi,
· Exposure speed	...	1236 mm/min (1200 dpi) 791 mm/min (1500 dpi) 552 mm/min (1800 dpi)
· Plates	...	SDP-FR100 (Winding length: 75 meters) SDP-FR175 (Winding length: 61 meters) SDP-RR175 (Winding length: 75 meters)
· Plate width [cm (inches)]	...	22.9 (9), 25.4 (10), 27.9 (11), 30.5 (12), 31.0 (12 1/5), 32.4 (12 3/4), 33.5 (13 3/16), 34.0 (13 3/8), 37.0 (14 9/16), 40.0 (15 3/4), 40.4 (15 7/8), 41.4 (16 3/10)
· Effective exposure width	...	404 mm
· Maximum exposure width	...	424 mm
· Plate cut length	...	220 to 580 mm
· Cutter	...	Slide cutter
· Plate joint detector	...	Panel display, automatic over cut
· Dehumidifier	...	Panel heater
· Activation method	...	Coating (Ecology adapted model)
· Tank capacity	...	SLM-EAC 0.55 liters, SLM-EST 0.6 liters
· Processing chemicals	...	SLM-EAC, SLM-EST (2 liters per bottle)
· Rinse water tank	...	0.26 liters
· Rinse water	...	Rinse water replenisher bottle 1.0 liters
· Processor speed	...	15 mm/sec.
· Original speed	...	114 sec. (1200 dpi 450 mm long)
· Cycle time	...	46 sec. (1200 dpi 450 mm long)
· Solution temperature control	...	140W (AC 115V) panel heater 30 to 34 °C
· Plate preheater	...	140W (AC 115V) heat roller
· Dryer	...	600W (AC 115V) fin heater Thermocontroller switch system (H or L)
· Interface	...	FAST WIDE SCSI (16 bit)
· Power supply capacitance	...	Single phase 100 to 120V, 10A, 1.2 kW, 50/60 Hz Single phase 200V 6A/ 220V 5.5A/ 230V 5.5A 240V 5A/ 1.2 kW 50/60 Hz
· Machine size (mm)	...	W 1000 x D 795 x H 1070
· Weigh	...	100 to 120V type: 185 kg 200/220/230/240V type: 207 kg
· Installation environment	...	Temperature 23 ± 5°C, Humidity 50 to 70%
· Noise	...	60 dB (A) or lower
· Option	...	Pen type bar code reader (CODE-39) I/F RS-232C Expansion memory module Differential unit (Cable 20 meters) DS punch unit (Alternately positionable) BELL punch unit

9.2 Overview diagram



SILVER DIGIPLATER
SDP-Eco1630 II
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