

NEGATIVE COLOR FILM PROCESSOR

F30

Maintenance Manual

This manual corresponds to the following versions:

System Version A

PREFACE

Thank you very much for purchasing this film processor. Before using the film processor, please read this manual for correct handling.

We hope the operator will keep this manual at hand and will utilize it whenever unaccustomed operations have to be carried out or any unforeseen trouble arises. If it is lost or damaged, please contact the nearest agent of our company or the dealer from which you purchased your machine.

If warning labels on this machine cannot be read or come off, replace them with new labels.

Never remove the warning labels.

Please read this manual and understand thoroughly before using the machine.

The safety alert symbols such as  **DANGER**,  **WARNING**, and  **CAUTION** in this manual or the warning labels are important areas for safety. Mishandling may cause an accident, resulting in death or serious injury, or a damage to machine. Be sure to observe the items described in this manual or warning labels.

Illustrations in this manual may vary depending on the model or manufacturing lot.

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- No part of this manual may be reproduced, stored in a retrieval system, or transmitted in any form or any means without prior written permission.
 - This manual is subject to change without prior notice.
 - If any portion of this manual seems unclear or inaccurate, or if you have any suggestions concerning this manual, please contact the nearest agent of our company or the dealer from which you purchased your machine.
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EXPLANATION OF WARNING (SIGNAL WORD)

- Signal words are represented by warning displays classified by degree of injury that show messages for safety actions.
- Warning displays are classified by signal words of DANGER, WARNING and CAUTION.
- Warning displays show the signal word, type of danger, degree of danger and avoidance of danger.
- Read the warning displays in this manual and the warning label. Be familiar with the message before carrying out the work.



..... This symbol indicates that if a dangerous situation is not avoided, imminent death or serious injury may occur.

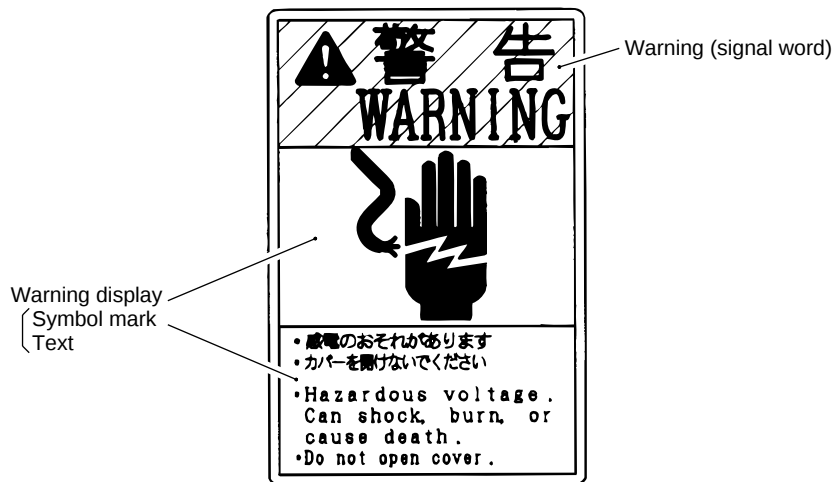


..... This symbol indicates that if a dangerous situation is not avoided, possible death or serious injury may occur.



..... This symbol indicates that if a dangerous situation is not avoided, light or medium injury may occur. This symbol is also used when property damage only may occur.

Example of warning label



EXPLANATION OF MANUALS

Types of manuals

The following five manuals are provided for this machine. It is strongly recommended that all these manuals be read, beginning with the Operator's Manual - Basic Operations -.

Operator's Manual - Basic Operations -

Read this manual first. This manual contains full information about daily developing and maintenance.

Operator's Manual - Additional Operations -

This manual explains applicable developing methods not covered in the Operator's Manual - Basic Operations -. It also explains various functions of this film processor.

Maintenance Manual

This manual contains items concerning maintenance necessary to create high quality products.

Troubleshooting Manual

This manual explains the countermeasures to be taken when an error message is displayed.

Parts List

Use this manual when ordering parts.

Option parts varies depending on the model. For item not described in the manual, refer to the separate manual.

About the chapters

1. INSPECTION LIST

This list describes how often this processor is checked or cleaned, or replacement of consumables is required.

2. PREPARATIONS FOR MAINTENANCE

This chapter gives precautions on performing inspection and maintenance work safely and also explains how to make preparations, such as, checking film and turning off the power.

3. REMOVING AND ATTACHING COVERS AND UNITS

This chapter explains how to handle the covers and units that need to be attached or removed when checking. Refer to this chapter when you are uncertain about how to handle a particular item.

4. WEEKLY CHECKS

Checks on weekly basis are explained. When the machine display shows “TODAY IS MAINTENANCE DAY”, carry out checks at the time of start up checks.

5. BIWEEKLY CHECKS

Checks on biweekly basis are explained.

6. MONTHLY CHECKS

Checks on a monthly basis are explained.

7. THREE-MONTH CHECKS

Explains checks that need to be made every three months.

8. ANNUAL CHECKS

Explains checks that need to be made every six months.

9. MISCELLANEOUS CHECKS

Miscellaneous checks on a weekly basis are explained. More frequent checks may be required depending on the amount of films processed.

Symbols used in this manual



This is the safety alert symbol mark.

The sentence with this symbol is critical for safety. Make sure to observe this.

This symbol is used with DANGER, WARNING or CAUTION in reference to injury or property damage.

Caution

Cautious points for operations and procedures, items to be observed and additional explanations are described.

Note

Useful points or functions to be noted are explained.



Manuals or sections for reference are indicated.

Abbreviations used in this manual

The following abbreviations are used in this manual. Some solutions are different from the following abbreviations.

CD Color developer

BL Bleach

FIX Fixing solution

STB Stabilizer

Consumables

The table below lists the consumables.

Failures caused by normal wear - and - tear of the following parts are not covered under warranty, even within the warranty period.

Item	Part No.	Description
Filter	H029042-00	Tank Unit
Air Filter	A045654-01	Control Box & Dryer Main Body Unit
Leader Card	A510260-01	
Splicing Tape	A662421-01	

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1. INSPECTION LIST

This list describes how often this processor is checked or cleaned, or replacement of consumables is required.

1.1 LIST OF INSPECTION TIME AND ITEMS

Time	Item	Remarks
WEEKLY CHECKS	Cleaning the air filters	 4.1
	Checking the chemical filter cartridge	 4.2
	Checking the dryer rack unit	 4.3
	Cleaning the loading rollers	 4.4
BIWEEKLY CHECKS	Replacing the chemical filter cartridge	 5.1
	Checking the processing racks	 5.2
MONTHLY CHECKS	Cleaning the processing racks	 6.1
	Greasing the rack gears	 6.2
	Cleaning and replacing the replenished pump strainers	 6.3
THREE-MONTH CHECK	Checking the float switch	 7.1
	Greasing the drying rack chain	 7.2
MISCELLANEOUS CHECKS	Cleaning the processing tank	 8.1
OTHER CHECKS	Cleaning the negative stocker	 9.1
	Cleaning the floppy disk drive	 9.2

Item	Standard inspection and replacement
Air filter	Checking every week(cleaning if dirty) Replace,if the filters damaged.
Chemical Filter cartridge	Checking every week Replace every two weeks.
Strainer	Cleaning every month Replace, if the valve is damaged.

2. PREPARATIONS FOR MAINTENANCE

This chapter gives precautions on performing inspection and maintenance work safely and also explains how to make preparations, such as checking film and turning off the power.

2.1 PRECAUTIONS WHILE CHECKING

Take these precautions when performing inspection and maintenance work.

- Do not touch unnecessary PCB or hoses whenever each cover is opened.
- Ventilate sufficiently and do not perform maintenance work in an enclosed place.
- Wear chemical resistant gloves when handling processing solutions. Put on work wear and safety goggles as much as possible.
- Wash the exposed surfaces of the skin with the acid soap or an equivalent at the end of the work.
- If processing solution or waste solution comes in contact with the skin, rinse well with a lot of water.
- If the event of contact with the eyes, rinse under running water and obtain medical care immediately.
- Processing solution, even mildly contaminated with another solution be used to develop films and must be completely replaced.
- The subtank and the dryer unit are equipped with the heaters. Check that their temperatures have fallen before working.

2.2 PRE-MAINTENANCE PROCEDURES

2.2.1 Preparations for maintenance work

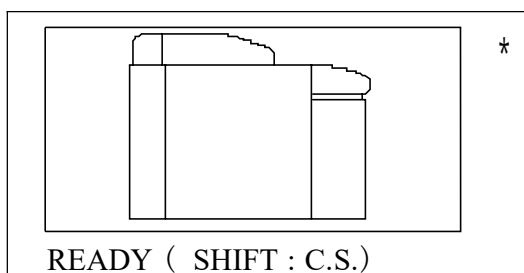
Explanation of work

Be sure to carry out the preparations for maintenance work according to the following procedures to carry out inspection safely and to keep this machine condition normal during inspection.

1. Make sure that, no film is still being processed.

Bring up the DEVELOPMENT or FILM POSITION display and make sure that, no film is being processed.

If film is being processed, wait until it comes out of the dryer unit.



2. Set the upper cover to ventilation.

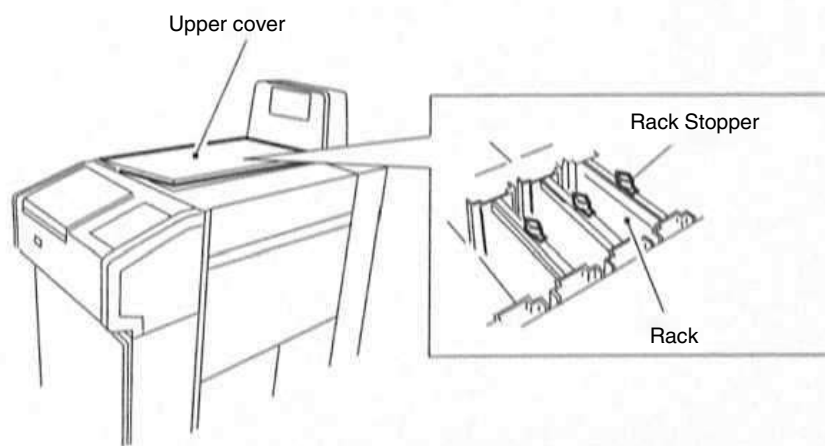
Remove the negative stocker and open the upper cover, and release the rack stoppers.

Close the upper cover carefully, but leave the cover slightly open.

 Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".

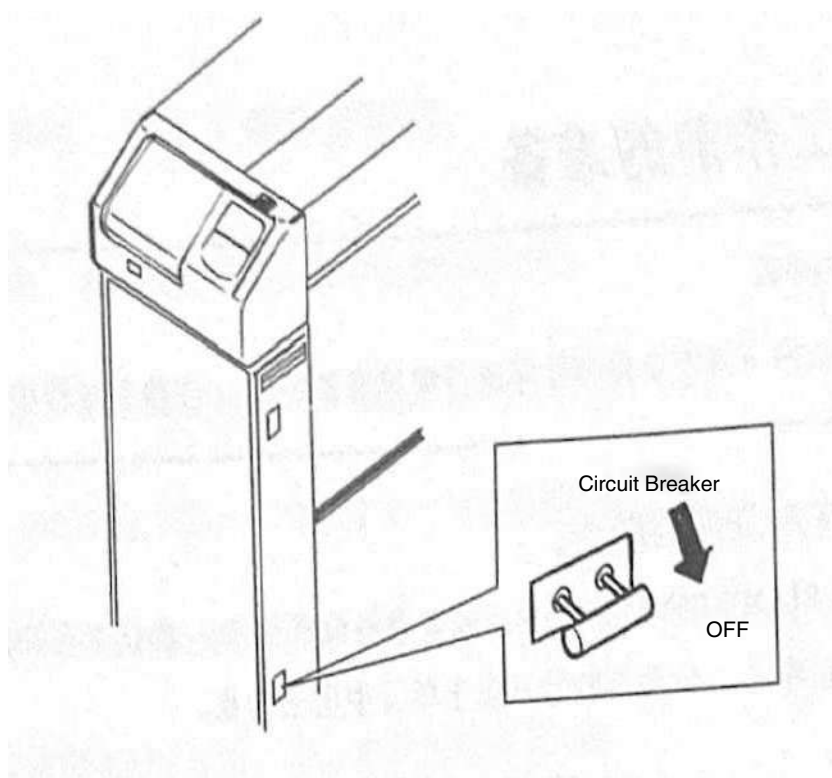
CAUTION

Your hand may be caught. Close the cover slowly while holding it with a hand. When caught, consult a physician.



3. *Turn off the power.*

Turn off the DRIVE switch and the circuit breaker of the film processor. After that, turn off the main power source.



3. *REMOVING AND ATTACHING COVERS AND UNITS*

This chapter explains how to handle the covers and units that need to be attached or removed when checking. Refer to this chapter when you are uncertain about how to handle a particular item.

3.1 REMOVING AND ATTACHING THE SUBTANK UPPER COVER

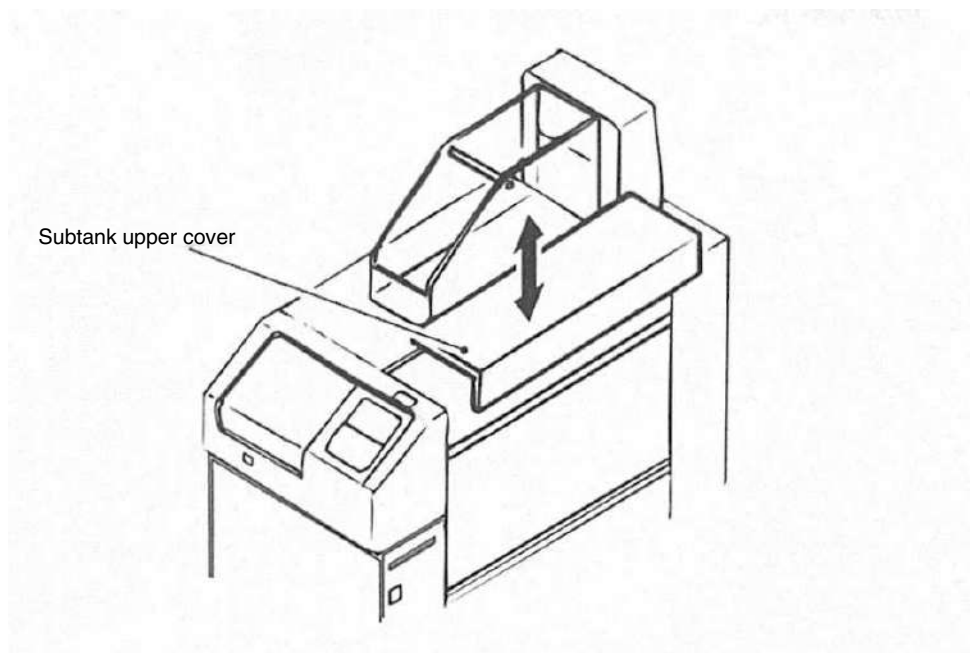
■ *Removing the subtank upper cover*

Lift and remove the subtank upper cover.

■ *Attaching the subtank upper cover*

Attach the subtank upper cover carefully.

Caution
When the subtank upper cover is removed or attached, be careful that your hand may not be caught.



3.2 OPENING AND CLOSING THE UPPER COVER

⚠ WARNING

Your eyes may be injured with the processing solution. Be sure to wear the safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.

⚠ CAUTION

Your skin may be injured with the processing solution. Be sure to wear the chemical resistant gloves. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

■ **Opening the upper cover**

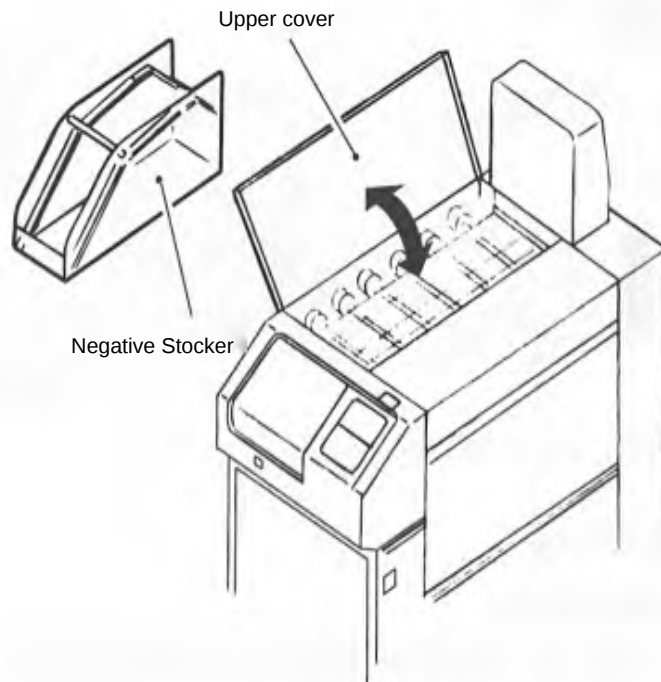
1. Remove the negative stocker.
2. Open the upper cover to the position where it does not fall.

■ **Closing the upper cover**

1. Close the upper cover carefully.
2. Return the negative stocker to its original position.

⚠ CAUTION

Your hand may be caught. Close the cover slowly while holding it with a hand. When caught, consult a physician.



3.3 OPENING AND CLOSING THE DRYER RACK UPPER COVER

⚠ CAUTION

You may get burned. Do not touch the drying rack while it is in use or immediately after use. If you get burned, cool the affected area with water and consult a physician as soon as possible.

■ **Opening the dryer rack upper cover**

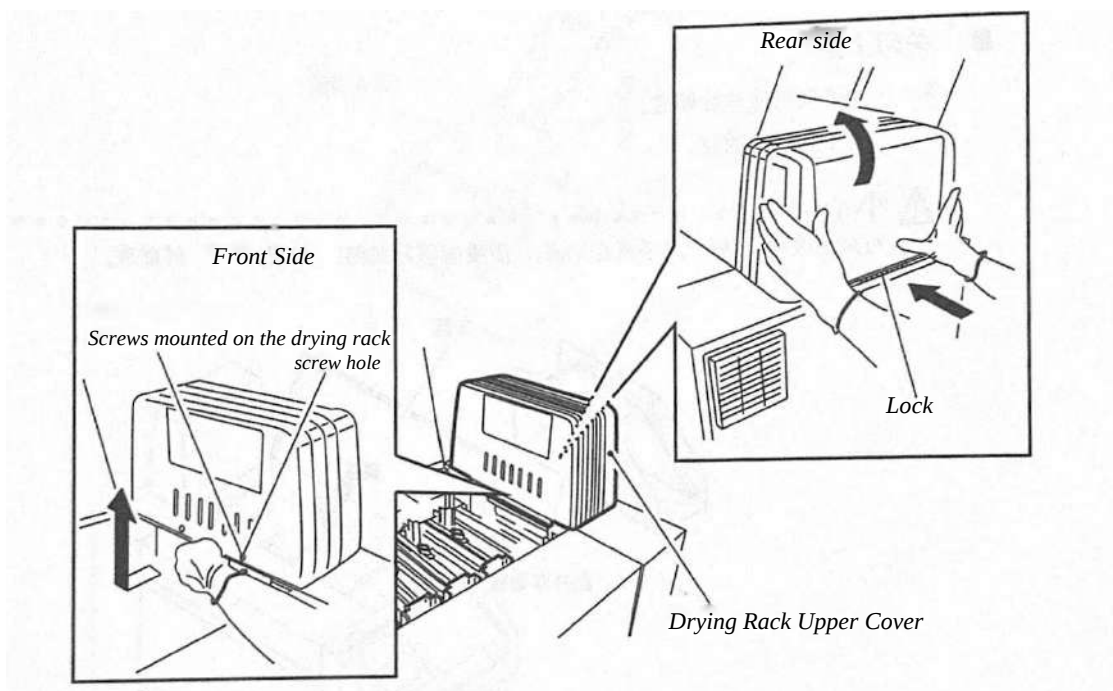
1. Open the upper cover to the position where it does not fall

 Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".

2. Removing the Drying Rack Upper Cover

(1) While pressing down the rear side of the drying rack upper cover, lift up its back section and disengage the hooks of the upper cover from the housing.

(2) Pull the front part of the drying rack upper cover toward yourself, then remove it.



■ **Install the dryer rack upper cover**

1. Install the drying rack upper cover

(1) Align the two holes on the front of the drying rack upper cover with the two screws on the drying rack for assembly.

(2) Press firmly against the rear surface of the drying rack and push down the rear side.

2. Close the upper cover.

 Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".

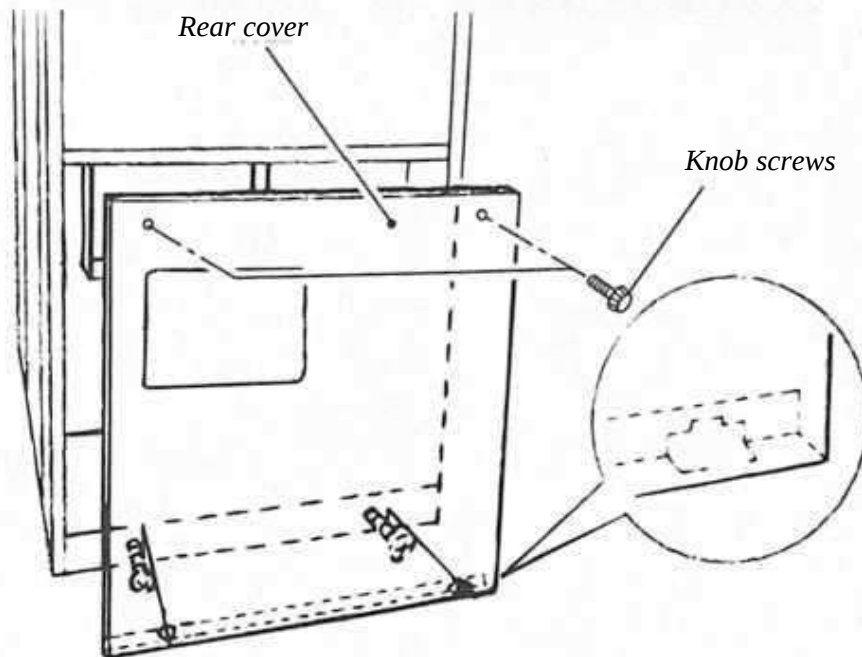
3.4 REMOVING AND ATTACHING THE REAR COVER

■ Removing the rear cover

Remove the two knob screws, then lift up and remove the rear cover.

■ Attaching the rear cover

Fit the locks of the rear cover onto the film processor, then tighten the two knob screws.



4. WEEKLY CHECKS

Checks on weekly basis are explained.

When the machine display shows “TODAY IS MAINTENANCE DAY”, carry out checks at the time of start up checks.

4.1 CLEANING THE AIR FILTERS

Explanation of work

The air filter is attached to the air intake for cooling the heating unit. When dirt and dust are accumulated in the air filter, the air intake of the machine is deteriorated and the adverse effect may be caused on the machine.

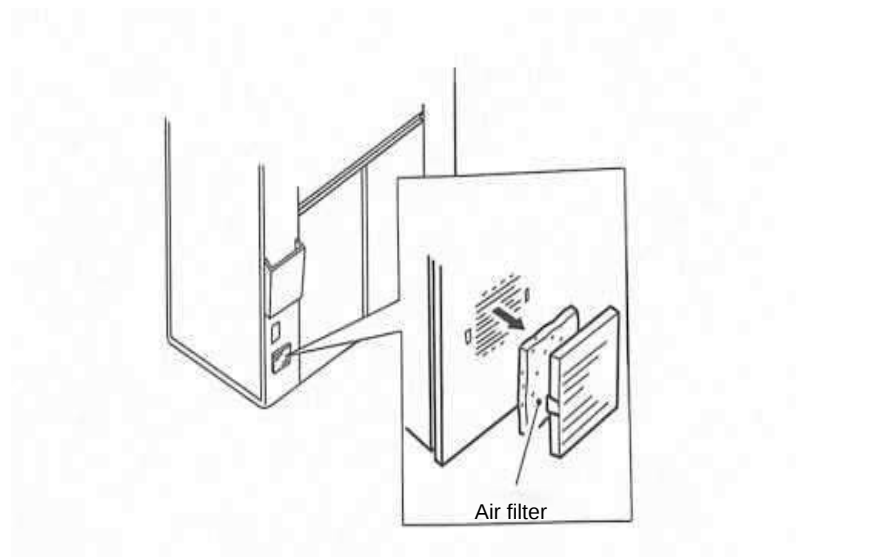
Caution

.....
Make sure to carry out preparation work before cleaning.

 Refer to section 2.2, "PRE-MAINTENANCE PROCEDURES".

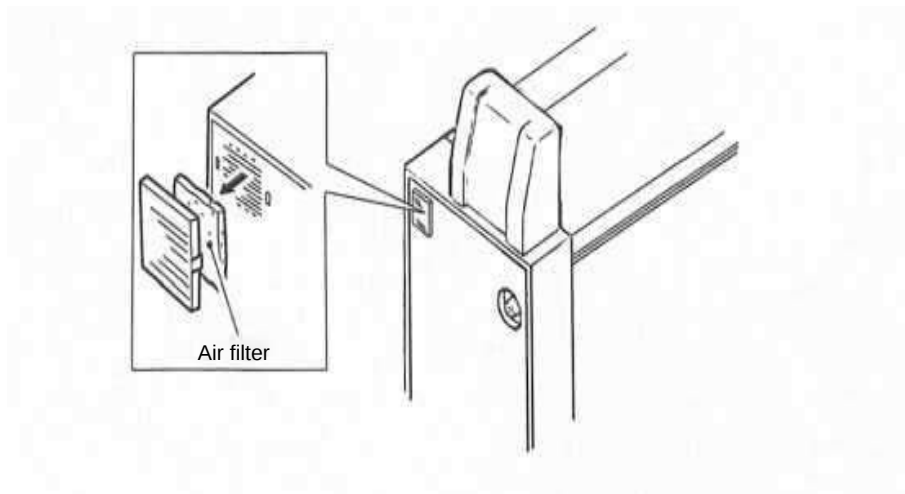
1. Remove the air filter from control box

Pull the air filter toward yourself to remove.



3. Remove the air filter from dry rack

Pull the air filter toward you to remove.



3. *Clean the air filters*

Clean the air filters with a vacuum cleaner.

If the air filters are not cleaned, wash the filters with water. Attach the washed filters after drying. Replace the filter with a new one, if it damaged.

Caution

**Use a small brush or the like for washing and cleaning the filter. Do not scratch the air filter during cleaning.*

**If the air filter has been cleaned four to five times, replace it with a new one.*

4. *Reinstall the air filter and the air filter cover*

Caution

**If the air filter is cleaned with water, ensure it is fully dry prior to fitting. A wet air filter may cause damage to the machine.*

4.2 CHECKING THE CHEMICAL FILTER CARTRIDGE

Explanation of work

The chemical filter cartridge filters the processing solutions circulating between the processing solution tanks and their sub tanks. A dirty chemical filter cartridge adversely affects developing performance. Check the chemical filter cartridge and replace it if required. When to replace the chemical filter cartridge depends greatly on the amount of solutions filtered and other specific conditions.

Check the chemical filter cartridge regularly and replace it whenever it is found noticeably dirty, threatening smooth circulation of solutions. As a general rule, replace the chemical filter cartridge every two weeks.

Caution

- Make sure to carry out preparation work before checking.

 Refer to section 2.2, "PRE-MAINTENANCE PROCEDURES".

- Processing solution, even mildly contaminated with another solution be used to develop films and must be completely replaced.
- When handling the processing solution such as replenishment solution or effluent, the filter cartridges containing the solution, and their packages, follow the chemical manufacture's instructions and comply with the regional ordinance and regulation.

WARNING

Your eyes may be injured with the processing solution. Be sure to wear the safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.

CAUTION

Your skin may be injured with the processing solution. Be sure to wear the chemical resistant gloves. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

1. Remove the subtank upper cover.

 Refer to section 3.1, "REMOVING AND ATTACHING THE SUBTANK UPPER COVER".

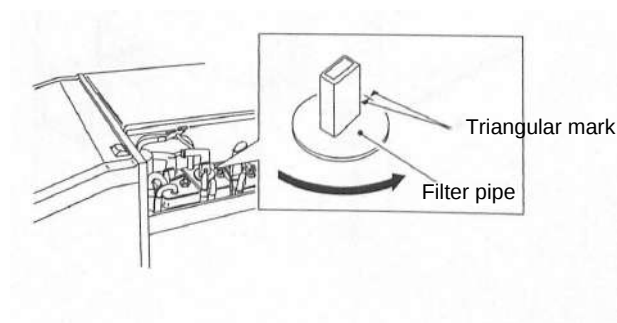
2. Take out the chemical filter cartridge.

Turn the chemical filter pipe in the direction of the arrow shown in the figure and remove it when its triangular mark is aligned with that of the sub-tank.

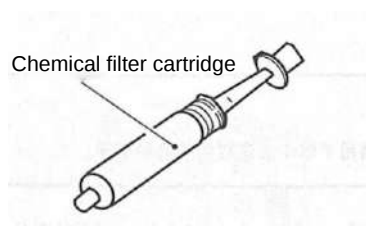
Caution

*Excessive force when pulling out the chemical filter pipe may cause the chemical liquid to splash out. Therefore, pull it out slowly.

*Check the chemical filter cartridge for each solution. Putting chemical filter cartridge with the wrong solution may cause solution contamination.



3. Check that the chemical filter cartridge is clean.

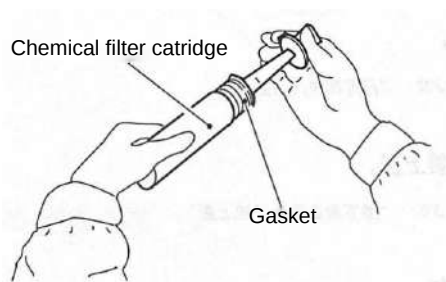


4. If the chemical filter cartridge is dirt, replace the filter with a new one.

Remove the chemical filter cartridge from the chemical filter pipe.

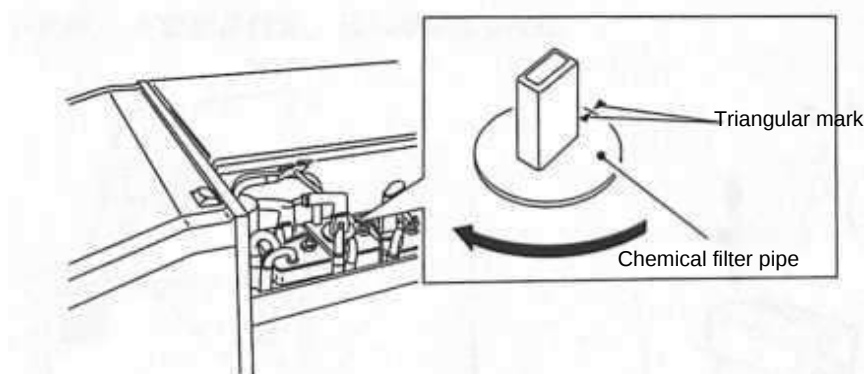
Attach the chemical filter cartridge to the chemical filter pipe after washing the powder on the new cartridge.

***Install it strictly at the position shown in the figure. Improper positioning may draw air into the circulation pump, resulting in chemical solution foaming.



5. Attach the chemical filter pipe to the subtank

Align the triangular mark on the chemical filter pipe with the triangular mark on the subtank and insert it slowly. Then rotate the chemical filter pipe in the direction of the arrow shown in the figure to secure it.



6. Check and replace the chemical filter cartridge of other processing solutions in the same manner.

Check the chemical filter cartridge of other solutions and replace them if necessary.

7. Attach the subtank upper cover.

 Refer to section 3.1, "REMOVING AND ATTACHING THE SUBTANK UPPER COVER".

4.3 CHECKING THE DRYER RACK UNIT

Explanation of work

Inspect and clean the rack used for drying the processed film after development.

Caution

- Complete preparation work prior to inspection.

 Refer to section 2.2, "PRE-MAINTENANCE PROCEDURES".

Caution

You may get burned. Do not touch the drying rack while it is in use or immediately after use. If you get burned, cool the affected area with water and consult a physician as soon as possible.

1. Opening the upper cover

 Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".

2. Removing the Drying Rack Upper Cover

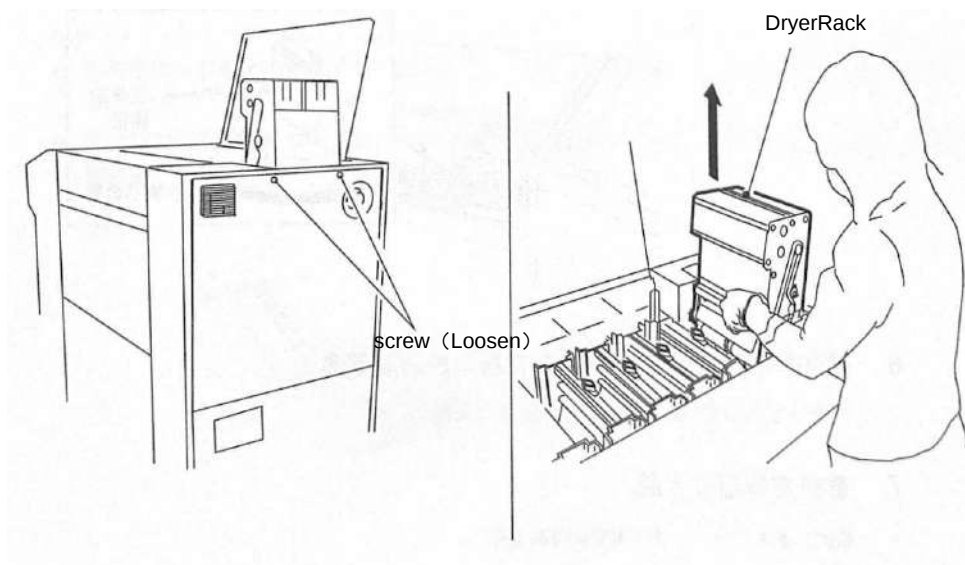
 Refer to section 3.3, "REMOVING AND ATTACHING THE DRYER RACK UPPER COVER".

3. Removing the Drying Rack

Loosen the two screws, then lift and remove the drying rack.

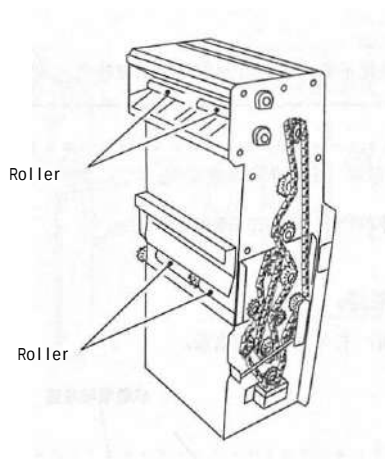
Caution

- Do not hold the chain, exit guide plate or rollers when removing the drying rack.



4. Checking the Drying Rack

- If the roller is free of damage.
- If the screw is securely fastened.



5. Clean the rollers of the drying rack

Wipe the rollers with a well-wrung damp cloth

6. Reinstall the drying rack and secure it with two screws.

7. Reinstall the Drying Rack Upper Cover

 Refer to section 3.3, “REMOVING AND ATTACHING THE DRYER RACK UPPER COVER”.

8. Closing the upper cover

 Refer to section 3.2, “OPENING AND CLOSING THE UPPER COVER”.

Caution

Risk of pinching hands. Hold the upper cover with one hand and close it slowly. Seek medical attention if your hand gets pinched.

4.4 CLEANING THE LOADING ROLLERS

Explanation of work

If the loading rollers are dirty, the leader card may not be fed normally and may adversely affect the development process.

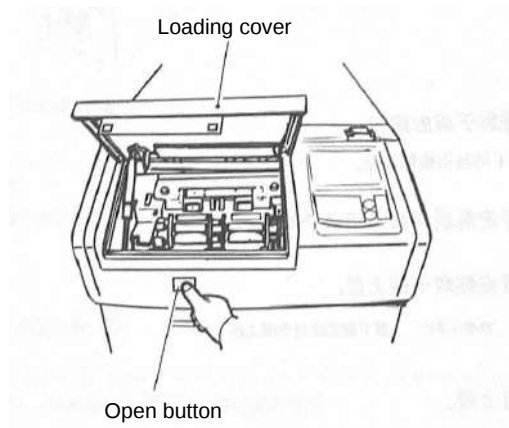
Caution

Make sure to carry out preparation work before cleaning.

 Refer to section 2.2, “PRE-MAINTENANCE PROCEDURES”.

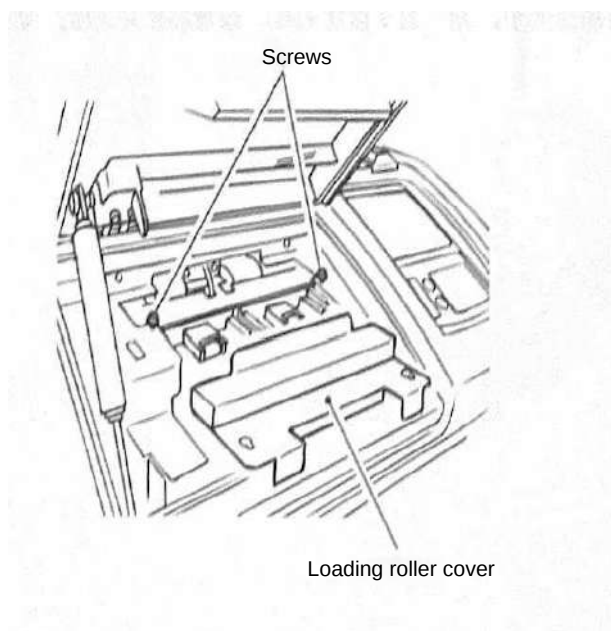
1. Open the loading cover.

Open the loading cover by pressing the open button.



2. Remove the loading roller cover.

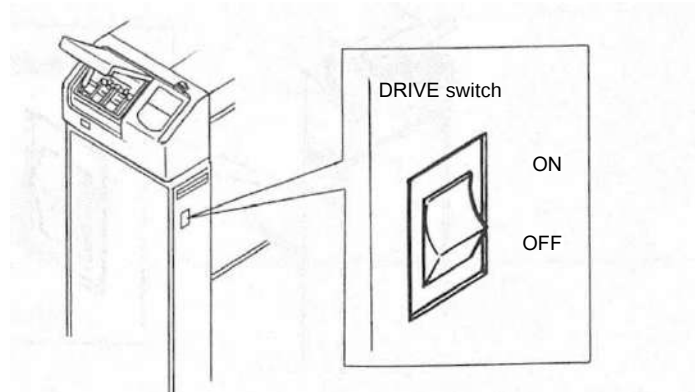
Loosen the two screws and remove the loading roller cover.



3. Turn on the main power source, circuit breaker and DRIVE switch.

Turn on the circuit breaker of the external power source, press the circuit breaker upward to turn on it at the right bottom of the left side of the main body.

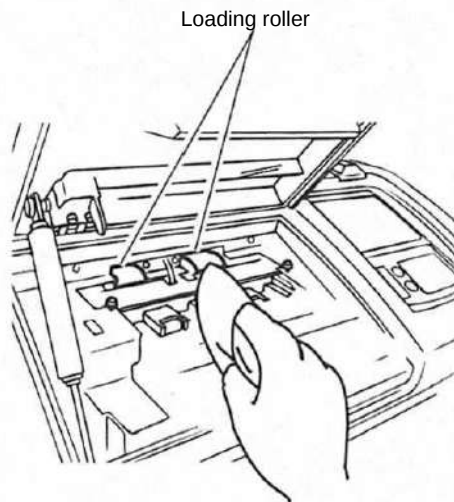
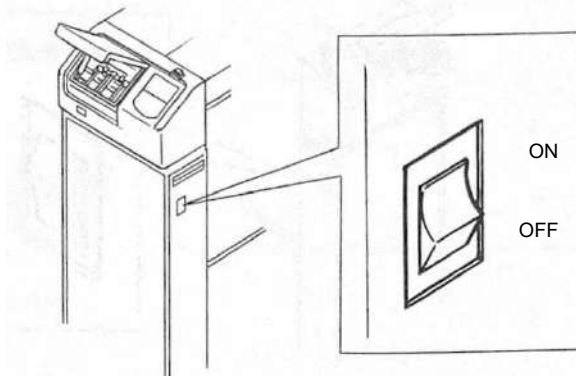
Then, turn on the DRIVE switch.

**4. Clean the loading rollers.**

Wipe the rollers with a damp, tightly squeezed cloth.

Caution

Be careful that the cloth is not caught by the loading rollers. If caught, turn off the DRIVE switch and remove it.

**5. Turn off the DRIVE switch.****6. Attach the loading roller cover.**

Engage the loading roller cover on the two screws and tighten the screws.

5. BIWEEKLY CHECKS

Checks on biweekly basis are explained.

5.1 REPLACING THE CHEMICAL FILTER CARTRIDGE

Explanation of work

Replace the chemical filter cartridge according to the method described in CHECKING THE CHEMICAL FILTER CARTRIDGE of WEEKLY CHECKS.

Important

.....
When handling the processing solution such as replenishment solution or effluent, the filter cartridges containing the solution, and their packages, follow the chemical manufacture's instructions and comply with the regional ordinance and regulation.

⚠ WARNING

.....
Your eyes may be injured with the processing solution. Be sure to wear the safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.

⚠ CAUTION

.....
Your skin may be injured with the processing solution. Be sure to wear the chemical resistant gloves. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

👉 *Refer to section 4.2, "CHECKING THE CHEMICAL FILTER CARTRIDGE".*

5.2 CHECKING THE PROCESSING RACKS

Explanation of work

Check the processing racks. If there are crystals or dirt on the processing racks, wash them with water.

Caution

- Make sure to carry out preparation work before checking.



Refer to section 2.2, "PRE-MAINTENANCE PROCEDURES".

- When attaching the upper turn guides or processing racks, be careful that drop of solution or overflowed solution does not mix with other solutions. A slight mixture of the subsequent solution in each solution disables development of the film. Entire solutions must be replaced.



WARNING

Your eyes may be injured with the processing solution. Be sure to wear the safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.



CAUTION

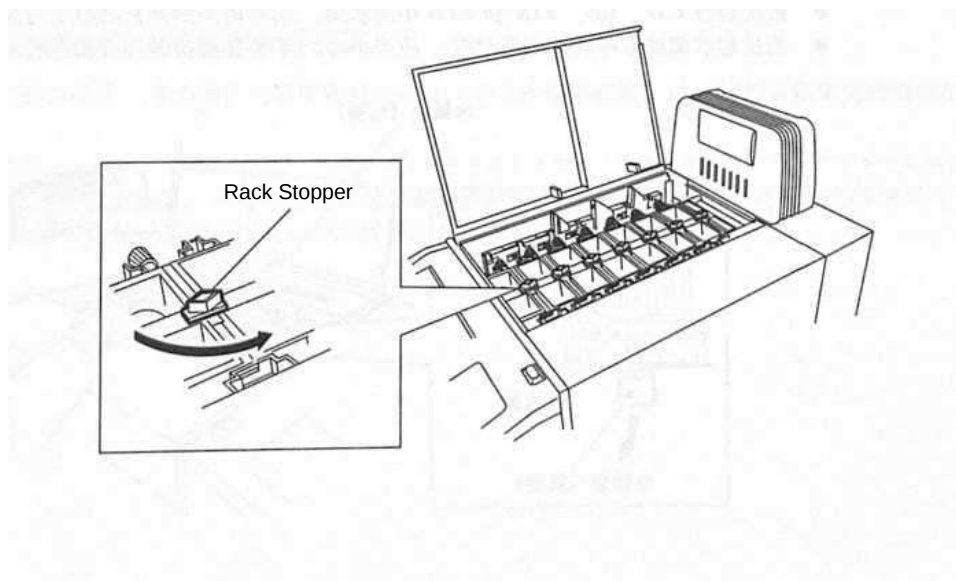
Your skin may be injured with the processing solution. Be sure to wear the chemical resistant gloves. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

1. Open the upper cover.



Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".

2. Loosen the rack stoppers that secure the inlet guide plate, bridge and outlet guide plate.

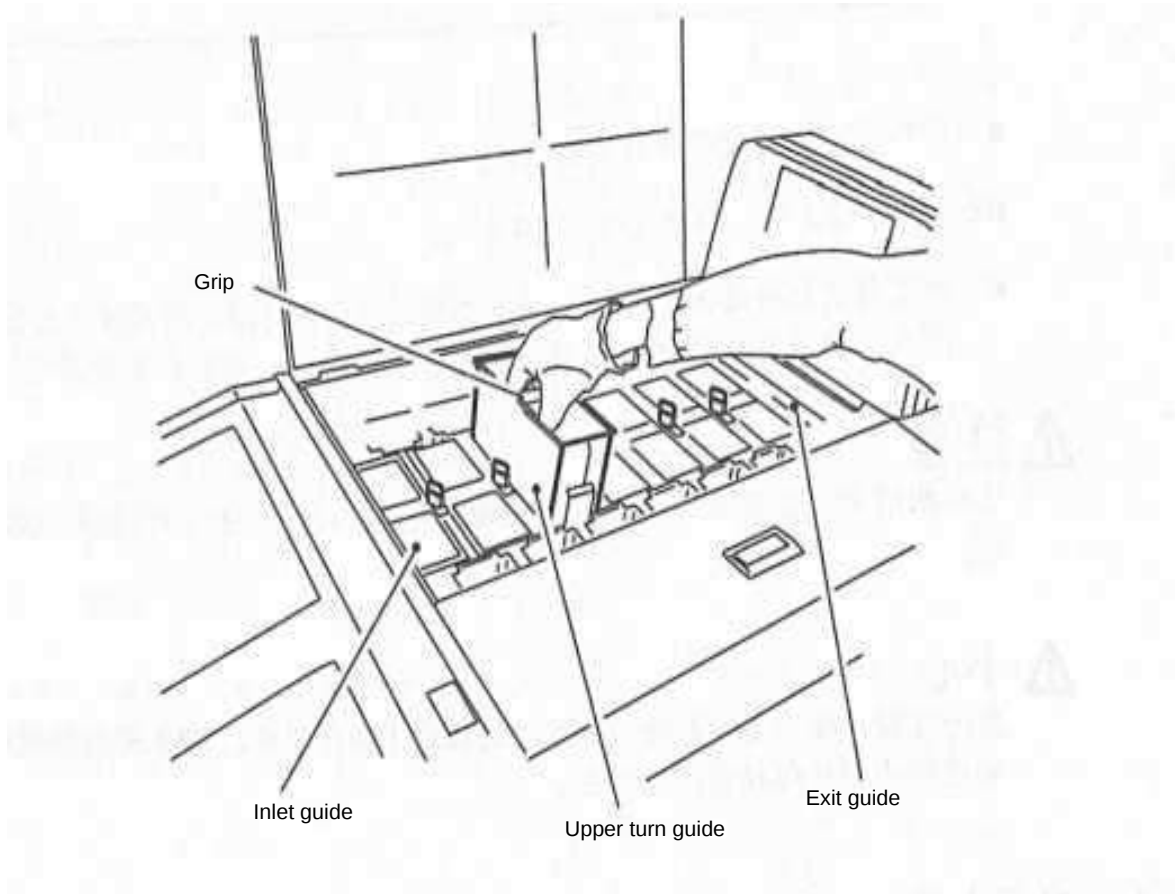


3. Remove the inlet guide and upper turn guides.

Remove the inlet guide and the upper turn guide.

Caution

- Be careful that drop of solution from the removed upper turn guide does not mix with other solutions in the processing tank.
- Remove the processing rack in the order of No. 1.

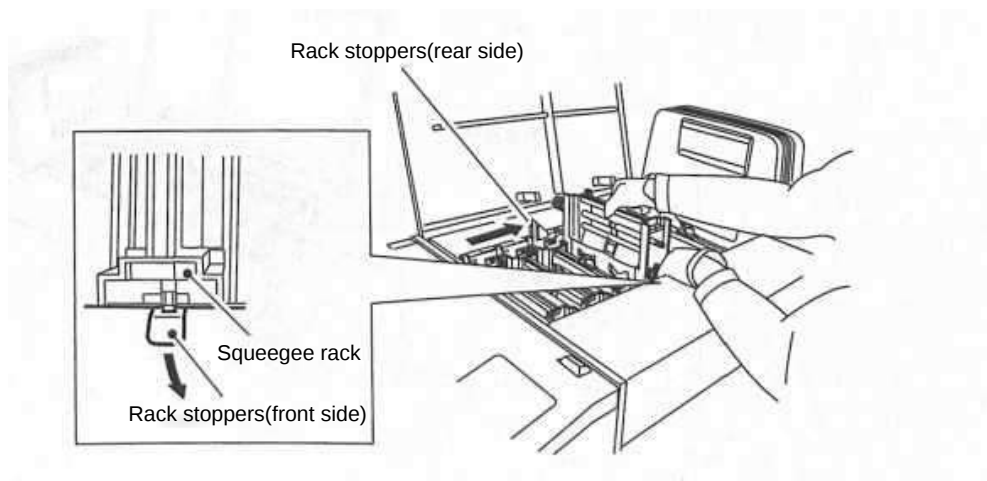


4. Remove the processing rack.

Release the rack stoppers, then lift and remove the processing rack slowly.

Caution

- Carry out checking of the processing rack for each solution. Wrong attachment to other tank may cause mixture of solutions.
- When lifting or returning the processing rack, carry it out carefully so that overflowed solution may not mix with other solutions.



5. Check the processing rack.

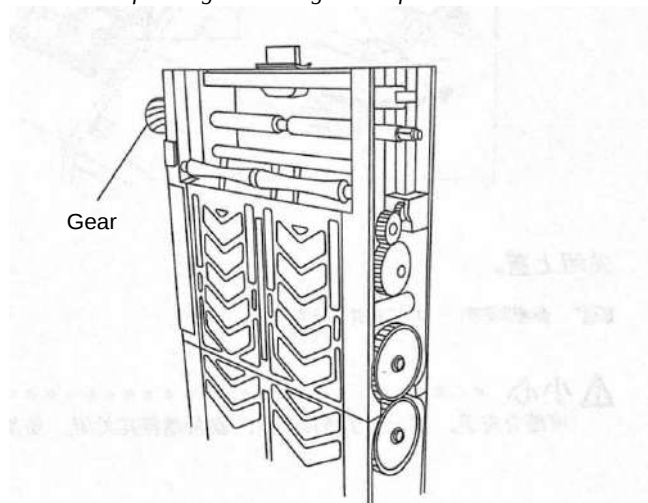
Caution

- Do not damage the film passing part.
- Handle each processing rack so that the grease does not stick to any parts. If you apply our specified grease or other grease to the resin parts other than the rack gears by mistake, the resin parts may get damaged. In such a case, wipe off the grease on them with alcohol immediately.

Note

Check each part of the processing rack as follows.

- Roller Check if there is any damage.
- Gear Check if it is not worn out or that C-ring is in place.
- Screw Check if it is tightened. Tighten it if loose.

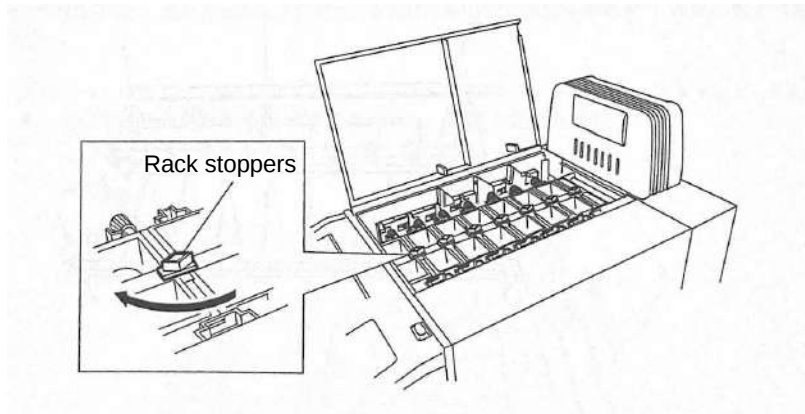


6. Reinstall the processing rack.

Hold the grip of the processing rack, and reinstall it carefully in the tank so that the processing solution may not overflow.

Caution

When reinstalling the processing rack, be careful that drop of solution or overflowed solution does not mix with other solutions. A slight mixture of the subsequent solution in each solution disables development of the film. Entire solutions must be replaced.

7. Reassemble the components as they were.**8. Fix all rack stoppers. Attach the inlet guide and the upper turn guides.****9. Close the upper cover.**

 Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".

⚠ CAUTION

Your hand may be caught. Close the cover slowly while holding it with a hand. When caught, consult a physician.

6. MONTHLY CHECKS

Checks on a monthly basis are explained.

6.1 CLEANING THE PROCESSING RACKS

Explanation of work

Wash the processing racks in the processor unit.

Caution

- Make sure to carry out preparation work before cleaning.



Refer to section 2.2, "PRE-MAINTENANCE PROCEDURES".

- When attaching the upper turn guides or processing racks, be careful that drop of solution or overflowed solution does not mix with other solutions. A slight mixture of the subsequent solution in each solution disables development of the film. Entire solutions must be replaced.



WARNING

Your eyes may be injured with the processing solution. Be sure to wear the safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.



CAUTION

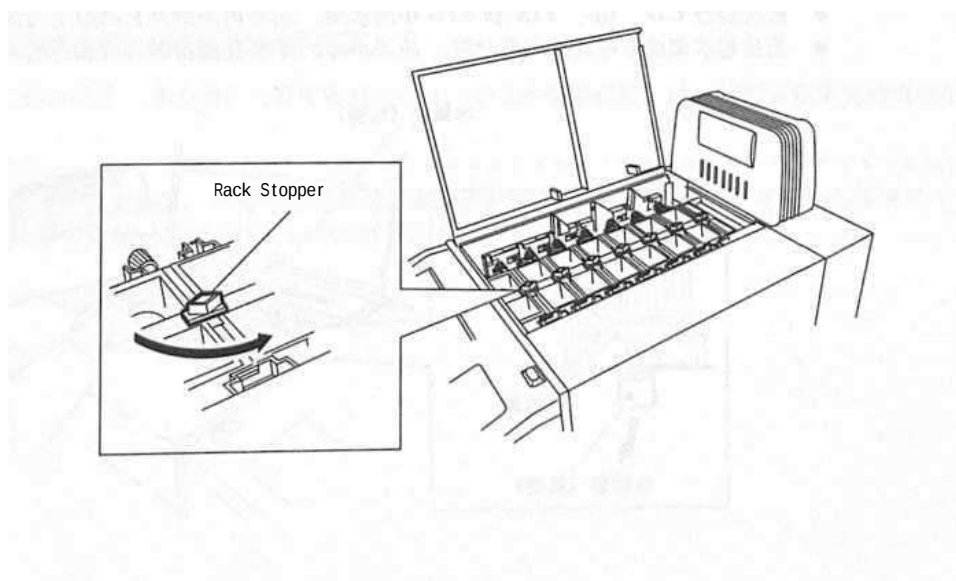
Your skin may be injured with the processing solution. Be sure to wear the chemical resistant gloves. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

1. Open the upper cover.



Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".

2. Loosen the rack stoppers that secure the inlet guide plate, bridge and outlet guide plate.

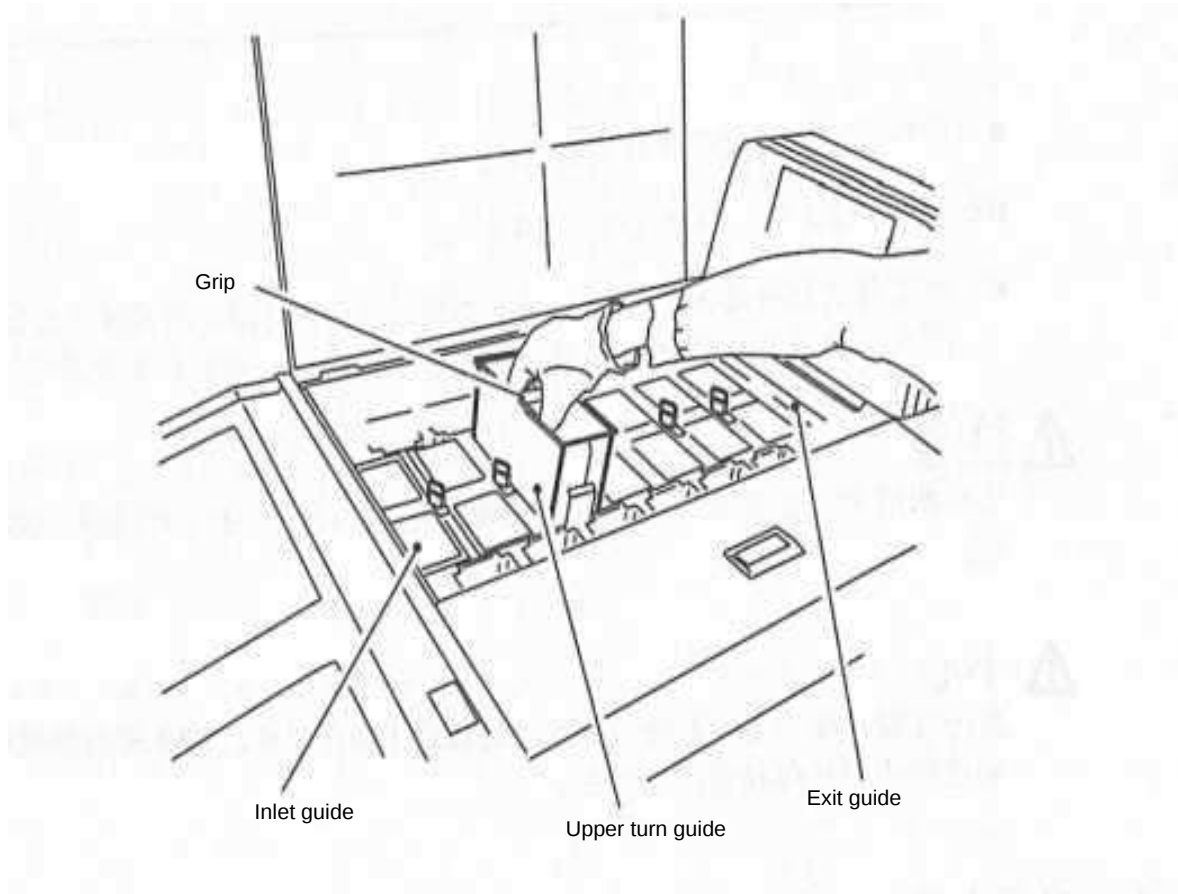


3. ***Remove the inlet guide and upper turn guides.***

Remove the inlet guide and the upper turn guide.

Caution

- *Be careful that drop of solution from the removed upper turn guide does not mix with other solutions in the processing tank.*
- *Remove the processing rack in the order of No. 1.*

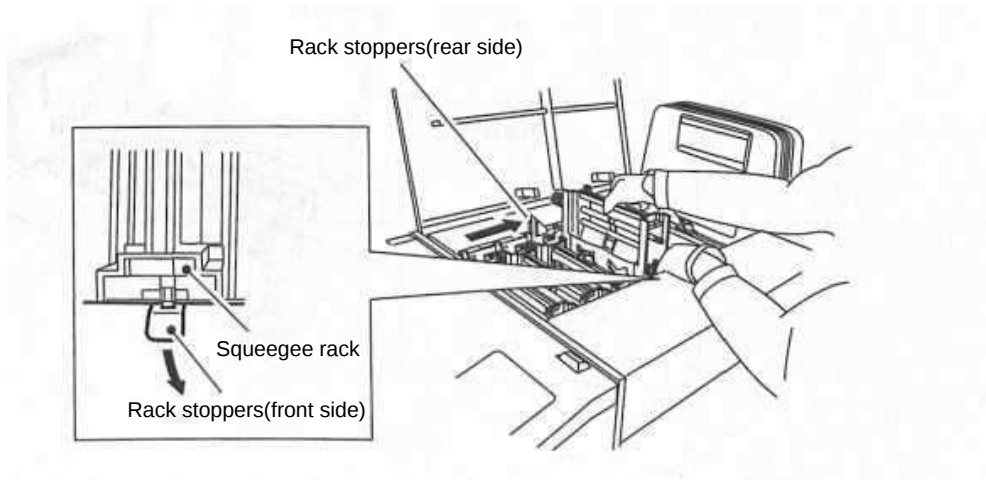


4. Remove the processing rack.

Release the rack stoppers and remove the processing rack.

Caution

- Carry out checking of the processing rack for each solution. Wrong attachment to other tank may cause mixture of solutions.
- When lifting or returning the processing rack, carry it out carefully so that overflowed solution may not mix with other solutions.



5. Check the processing rack.

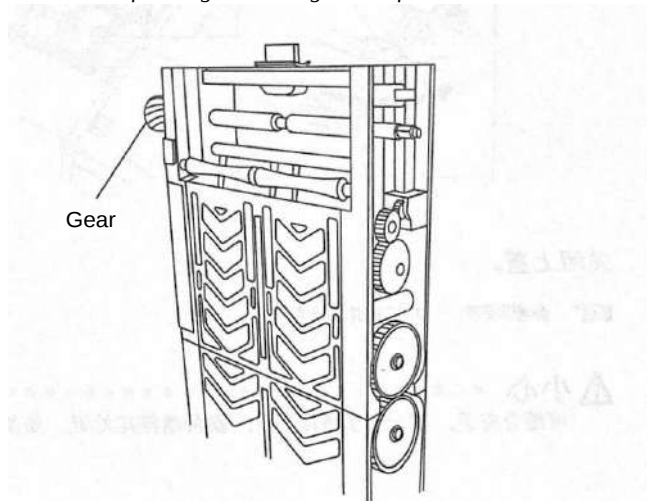
Caution

- Do not damage the film passing part.
- Handle each processing rack so that the grease does not stick to any parts. If you apply our specified grease or other grease to the resin parts other than the rack gears by mistake, the resin parts may get damaged. In such a case, wipe off the grease on them with alcohol immediately.

Note

Check each part of the processing rack as follows.

- Roller Check if there is any damage.
- Gear Check if it is not worn out or that C-ring is in place.
- Screw Check if it is tightened. Tighten it if loose.

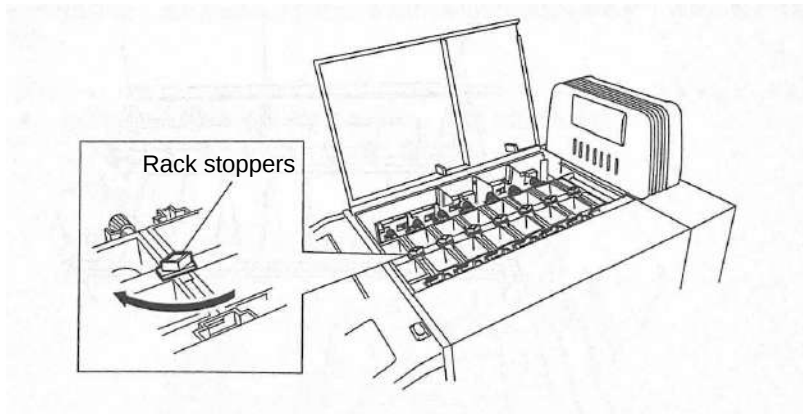


6. Reinstall the processing rack.

Hold the grip of the processing rack, and reinstall it carefully in the tank so that the processing solution may not overflow.

Caution

When reinstalling the processing rack, be careful that drop of solution or overflowed solution does not mix with other solutions. A slight mixture of the subsequent solution in each solution disables development of the film. Entire solutions must be replaced.

7. Reassemble the components as they were.**8. Fix all rack stoppers. Attach the inlet guide and the upper turn guides.****9. Close the upper cover.**

 Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".

⚠ CAUTION

Your hand may be caught. Close the cover slowly while holding it with a hand. When caught, consult a physician.

6.2 GREASING THE RACK GEARS

Explanation of work

Check the rack gears which feeds the film and grease them. If greasing is not carried out, machine operation does not go smooth, resulting in failure.

Caution

Make sure to carry out preparation work before checking.



Refer to section 2.2, "PRE-MAINTENANCE PROCEDURES".

1. Open the upper cover.



Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".

2. Removing the Drying Rack Upper Cover



Refer to section 3.3, "REMOVING AND ATTACHING THE DRYER RACK UPPER COVER".

3. Grease the rack gear.

Wipe the rack gear (white) at the inner end and apply specified grease.

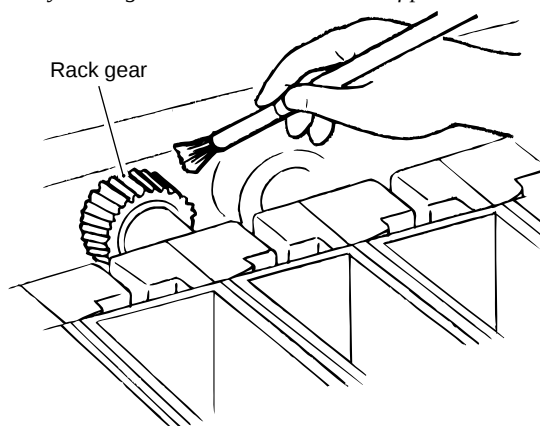
Wipe the excessive grease off.

Caution

- Apply grease only to the rack gear, not to the processing rack.
- Make sure to wipe off the excessive grease with alcohol. Grease may spread during operation and adhesion on the film may occur.
- If you apply our specified grease or other grease to the resin parts other than the rack gears by mistake, the resin parts may get damaged. In such a case, wipe off the grease on them with alcohol immediately.

Note

- Rotate the rack gear by turning the knob located at rear of processor and grease around the gear.



4. Reinstall the Drying Rack Upper Cover



Refer to section 3.3, "REMOVING AND ATTACHING THE DRYER RACK UPPER COVER".

5. Close the upper cover.



Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".



CAUTION

Your hand may be caught. Close the cover slowly while holding it with a hand. When caught, consult a physician.

6.3 CLEANING AND REPLACING THE REPLENISHER PUMP STRAINERS

Explanation of work

Each replenisher pump delivers a replenisher solution from a replenisher tank to the subtank. Dust accumulated on the strainer could disable normal pump functioning, resulting in a failure.

Caution

Make sure to carry out preparation work before cleaning.



Refer to section 2.2, "PRE-MAINTENANCE PROCEDURES".



WARNING

Your eyes may be injured with the processing solution. Be sure to wear the safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.



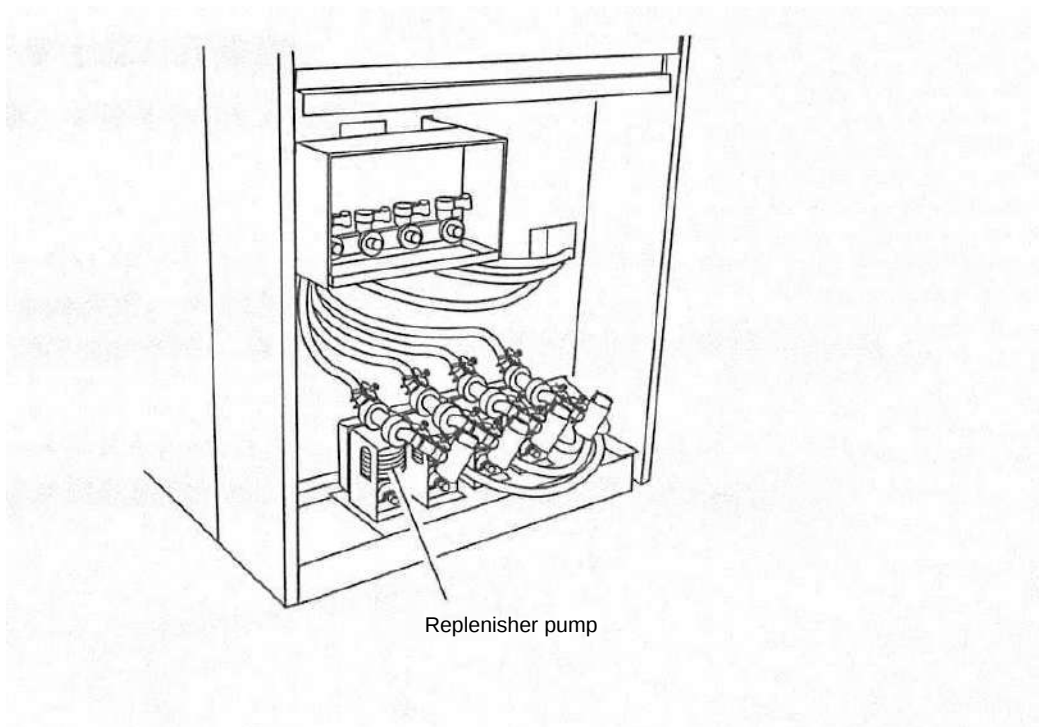
CAUTION

Your skin may be injured with the processing solution. Be sure to wear the chemical resistant gloves. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

1. Remove the rear cover.

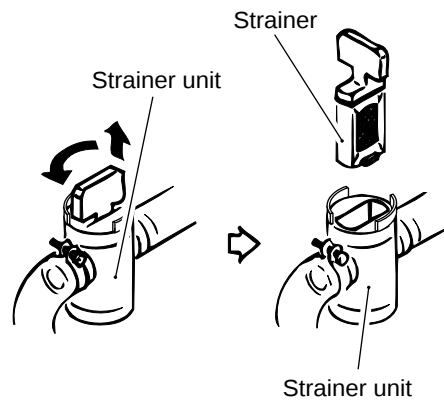


Refer to section 3.4, "REMOVING AND ATTACHING THE REAR COVER".



2. Clean the strainer.

Rotate the strainer 180° to remove it, and wash it with water. Replace it if it is damaged.

**3. Attach the strainer.**

Fit the strainer into the strainer unit, and rotate it 180° to reattach it.

4. Attach the rear cover. (Models A and B)

 Refer to section 3.6, "REMOVING AND ATTACHING THE REAR COVER".

Attach the replenisher tank cover. (Model C)

 Refer to section 3.4, "REMOVING AND ATTACHING THE REPLENISHER TANK COVER".

7. THREE-MONTH CHECKS

Explains checks that need to be made every three months.

7.1 CHECKING THE FLOAT SWITCH

Explanation of work

The float switch checks the solution level of the processing solution by the upward and downward movement of the float. The float may not move up and down if crystals of the processing solution adhere to the float. If the float does not move up and down, the increase and decrease of the processing solution cannot be sensed properly.

Caution

- Make sure to carry out preparation work before checking.
 Refer to section 2.2, "PRE-MAINTENANCE PROCEDURES".
- If even a tiny amount of the later-stage processing solutions become mixed with an earlier-stage processing solution, the solution becomes contaminated and cannot be used for developing. Any contaminated solution must be completely replaced.

WARNING

Processing solution can cause eye irritation. Wear safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.

CAUTION

Processing solution can cause skin irritation. Wear rubber gloves and clothing for workwear. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

1. Remove the subtank upper cover.

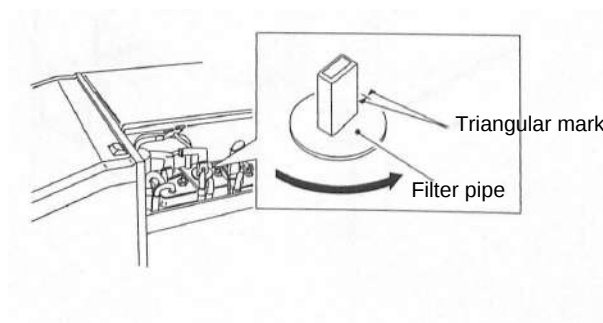
 Refer to section 3.1, "REMOVING AND ATTACHING THE SUBTANK UPPER COVER".

2. Remove the chemical filter pipe.

Turn the chemical filter pipe in the direction of the arrow shown in the figure and remove it when its triangular mark is aligned with that of the sub-tank.

Caution

- Excessive force when pulling out the chemical filter pipe may cause the chemical liquid to splash out. Therefore, pull it out slowly.
- Remove the pipes one by one in the order of CD, BL, FIX, and STB. If a filter pipe is attached in the wrong position, that processing solution is contaminated by the other solution.



3. Shine a flashlight through the filter insertion to check the float position.

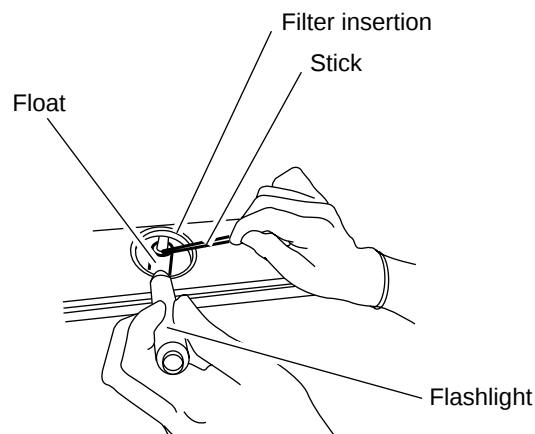
4. Use a stick to sink the top of the float by approximately 15 mm and check to see if the float moves up and down.

If the float moves up and down, the float switch will operate normally.

In the following cases, contact us or your place of purchase.

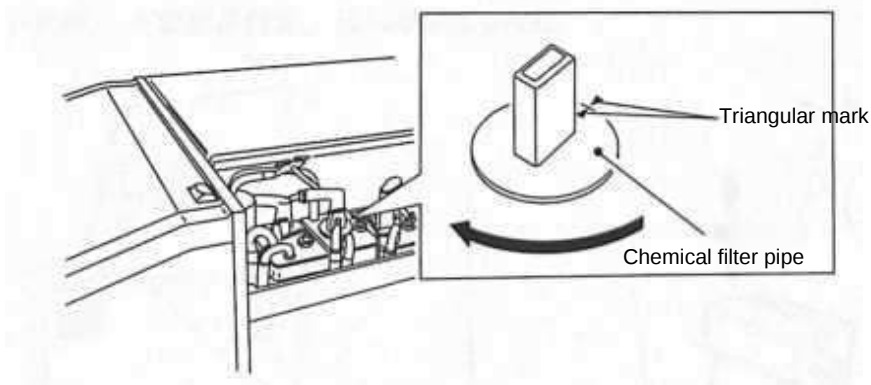
- The float does not move.
- The float does not rise to the surface immediately.
- The float does not go down smoothly.

When sinking the float, do not press it with much force because the float may be damaged.



5. Attach the chemical filter pipe to the subtank.

Align the triangular mark of the chemical filter pipe with that on the sub-tank and insert it slowly. Rotate it in the direction of the arrow shown in the figure to secure it.



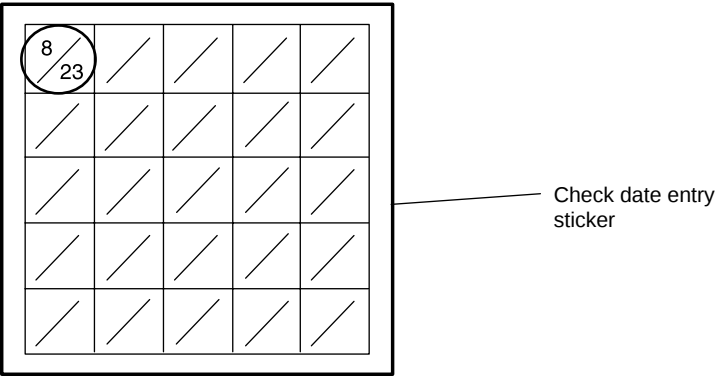
6. Check the next float successively.

Check the floats in the order of CD, BF and STB.

7. Reattach the sub-tank top cover as it was.

 Refer to section 3.1, "REMOVING AND ATTACHING THE SUBTANK UPPER COVER".

8. Put the date of operation check of the float switch to check date entry sticker.



7.2 GREASING THE DRYING RACK CHAIN

Explanation of work

GREASING THE DRYING RACK CHAIN

Caution

- Complete preparation work prior to inspection.

 Refer to section 2.2, "PRE-MAINTENANCE PROCEDURES".

Caution

You may get burned. Do not touch the drying rack while it is in use or immediately after use. If you get burned, cool the affected area with water and consult a physician as soon as possible.

1.Opening the upper cover

 Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".

2.Removing the Drying Rack Upper Cover

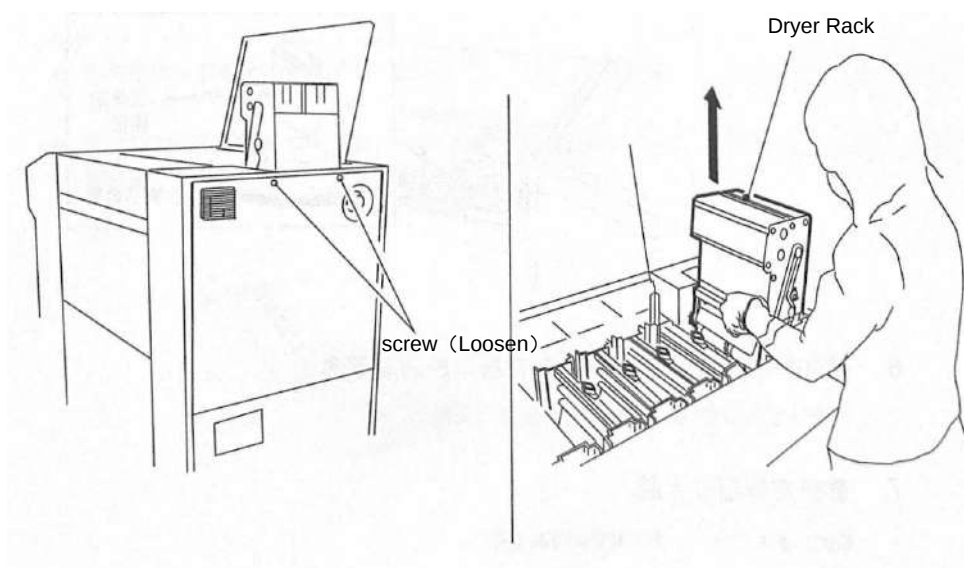
 Refer to section 3.3, "REMOVING AND ATTACHING THE DRYER RACK UPPER COVER".

3.Removing the Drying Rack

Loosen the two screws, then lift and remove the drying rack.

Caution

- Do not hold the chain, exit guide plate or rollers when removing the drying rack.

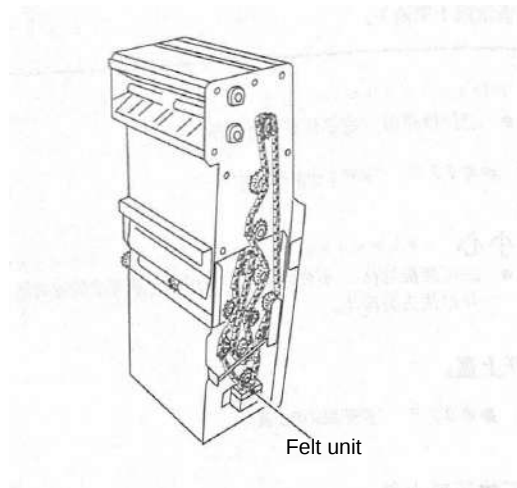


4. Greasing the felt unit inside the drying rack.

Grease to the felt until it is completely wetted.

Caution

- *Make sure to wipe off the excessive grease with alcohol. Grease may spread during operation and adhesion on the film may occur.*



6. Reinstall the drying rack and secure it with two screws.

7. Reinstall the Drying Rack Upper Cover

 Refer to section 3.3, “REMOVING AND ATTACHING THE DRYER RACK UPPER COVER”.

8. Closing the upper cover

 Refer to section 3.2, “OPENING AND CLOSING THE UPPER COVER”.

Caution

Risk of pinching hands. Hold the upper cover with one hand and close it slowly. Seek medical attention if your hand gets pinched.

8. ANNUAL CHECKS

Explains checks that need to be made every years.

8.1 CLEANING THE PROCESSING TANK

Explanation of work

When the entire solutions are replaced after the designated period of the photosensitive material manufacturer is expired, clean each processing tank as follows.
Follow the instructions of the photosensitive material manufacturer for mixture of solutions.

Caution

- *Make sure to carry out preparation work before cleaning.*



Refer to section 2.2, “PRE-MAINTENANCE PROCEDURES”.

- *When handling the processing solution such as replenishment solution or effluent, the filter cartridges containing the solution, and their packages, follow the chemical manufacture's instructions and comply with the regional ordinance and regulation.*

8.1.1 Draining the processing solution (CD)

Explanation of work

Drain the processing solution (CD) in the processing tank with the drain valve of the processor unit.

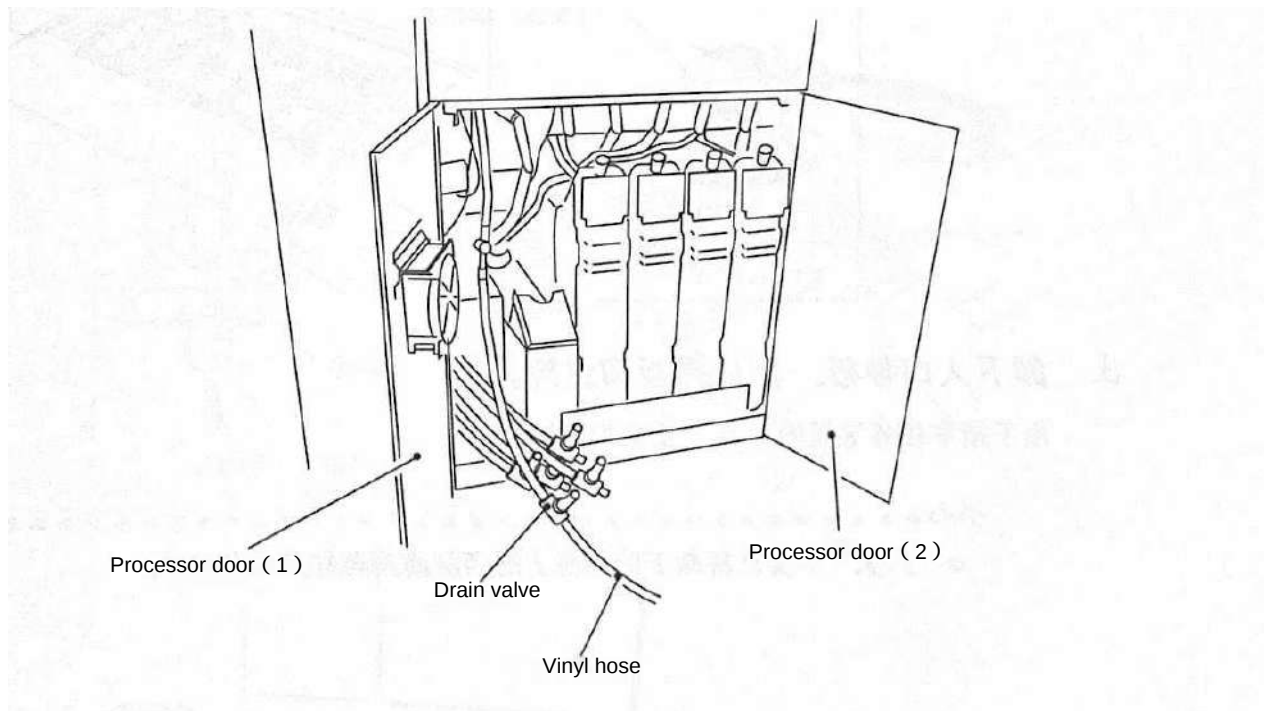
⚠ WARNING

Your eyes may be injured with the processing solution. Be sure to wear the safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.

⚠ CAUTION

Your skin may be injured with the processing solution. Be sure to wear the chemical resistant gloves. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

1. **Open processor door(1) & processor door (2)**
2. **Prepare the container for solution. Connect the standard vinyl hose to the solution outlet. Open the drain valve to drain the processing solution.**
3. **Close the drain valve.**
4. **Repeat procedures 2 to 3 and drain the processing solution from another valve as well.**



8.1.2 Removing the processing racks and squeegee rack

Explanation of work

Remove all processing racks and squeegee rack.

⚠ WARNING

Your eyes may be injured with the processing solution. Be sure to wear the safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.

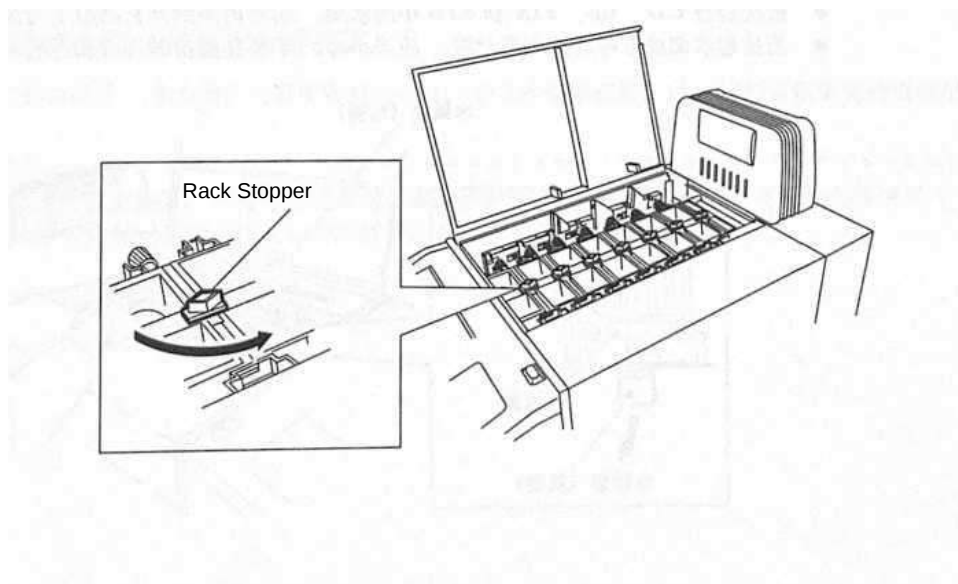
⚠ CAUTION

Your skin may be injured with the processing solution. Be sure to wear the chemical resistant gloves. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

1. Open the upper cover.

 Refer to section 3.2, “OPENING AND CLOSING THE UPPER COVER”.

2. Loosen the rack stoppers that secure the inlet guide plate, bridge and outlet guide plate.

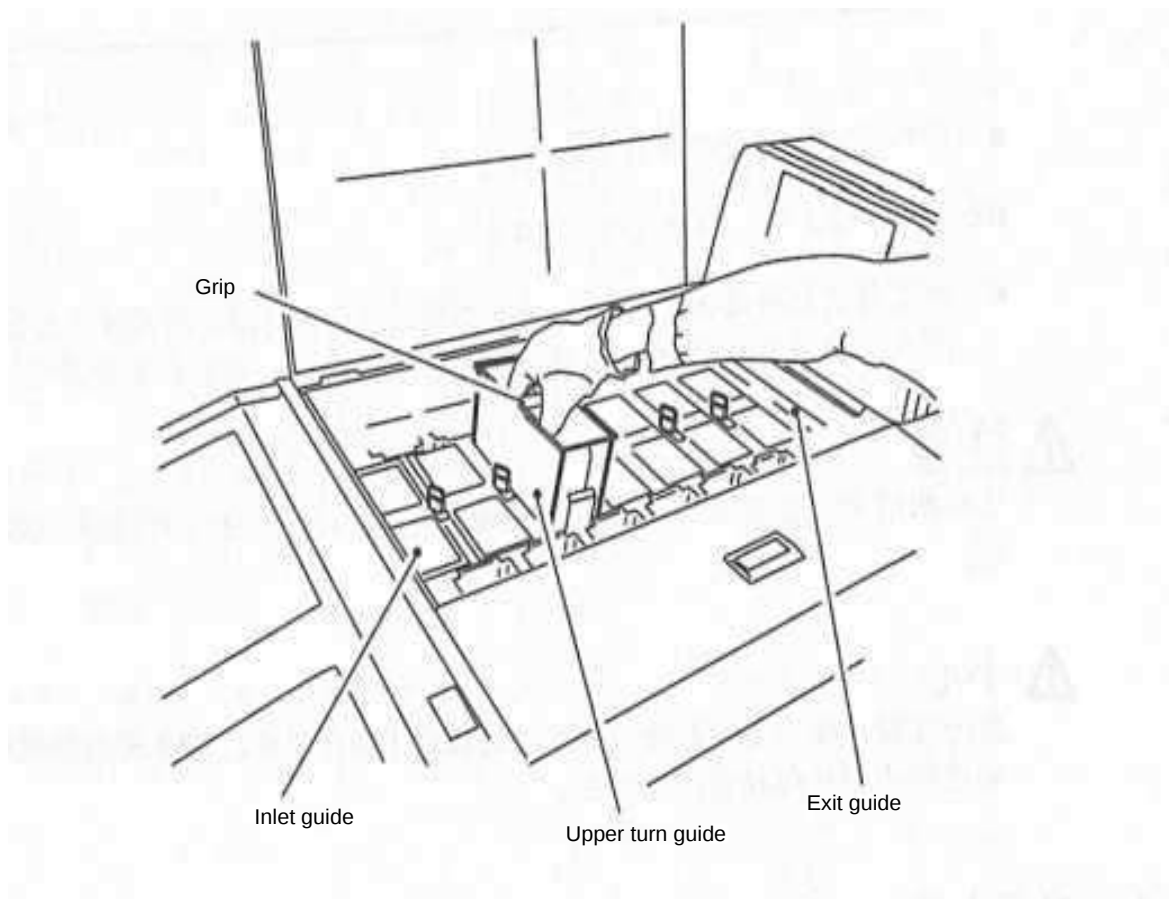


3. Remove the inlet guide, upper turn rack and exit guide.

Hold the upper part of the inlet guide, upper turn rack and exit guide plate with your fingers and remove them.

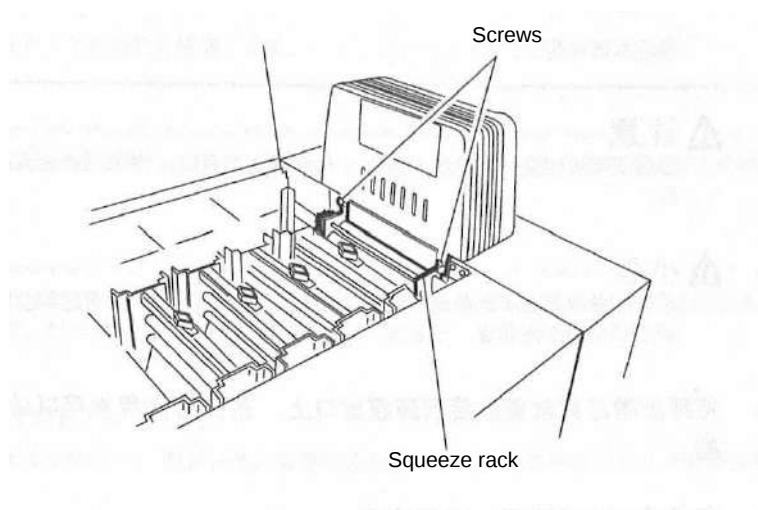
Caution

- Be careful that drop of solution from the removed upper turn guide does not mix with other solutions in the processing tank.
- Remove the processing rack in the order of No. 1.



4. Remove the squeeze rack.

Release the two screws and remove the squeeze rack.

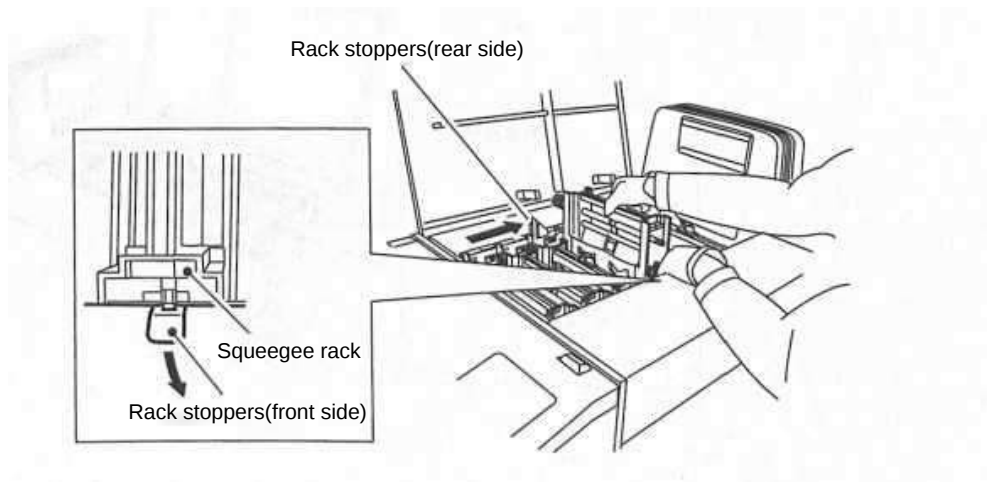


5. Remove the processing rack.

Release the rack stoppers , then lift and remove the processing rack slowly

Caution

- When lifting or returning the processing rack, carry it out carefully so that overflowed solution may not mix with other solutions.



8.1.3 Cleaning the processing tank

Explanation of work

Wash the processing tank with water.

⚠ WARNING

Your eyes may be injured with the processing solution. Be sure to wear the safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.

⚠ CAUTION

Your skin may be injured with the processing solution. Be sure to wear the chemical resistant gloves. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

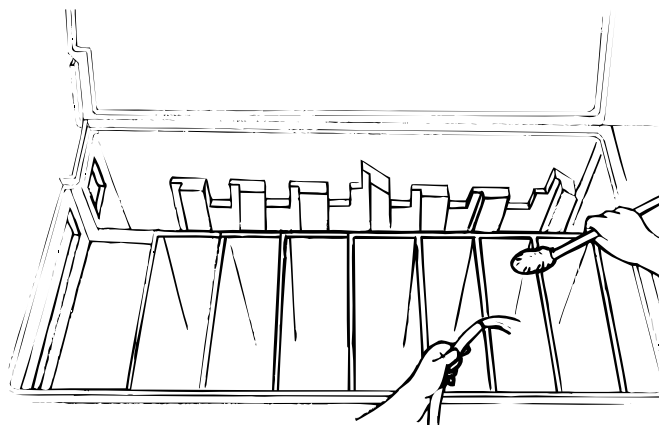
1. **Connect the vinyl hose as a standard accessory to the solution outlet of the tank so that the water used for cleaning can flow from the drain outlet to another container.**
2. **Open the drain valve of the tank for cleaning.**
3. **Wash the inside of the processing tank.**

Wash the inside of the tank with water, and remove dirt using the tank cleaning brush (sold separately).

When excessive crystals and fur of the solution are visible at the upper end of the overflow pipe, wash the pipe with a small brush carefully.

Caution

Any damage in the tank may cause adhesion of crystals. Be careful not to damage the tank.



4. **Close the drain valve.**
5. **Repeat procedures 1 to 4 for each tank.**

8.1.4 Pouring the processing solutions

Explanation of work

Pour the processing solutions prepared in another tank into the processing tank.

⚠ WARNING

Your eyes may be injured with the processing solution. Be sure to wear the safety goggles. If the solution comes in contact with your eyes, wash with water and consult a physician as soon as possible.

⚠ CAUTION

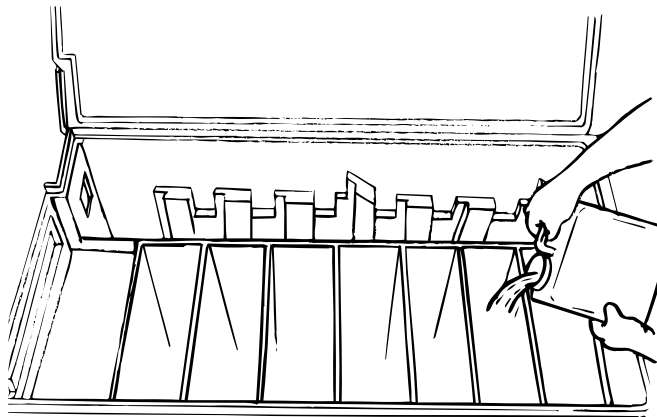
Your skin may be injured with the processing solution. Be sure to wear the chemical resistant gloves. If the solution comes in contact with your skin, wash it with water. If any abnormality is observed on your skin, consult a physician.

1. Pour each processing solution into each tank.

When the processing rack is attached, measure and pour the required amount of solution for each tank so that each solution is filled to the upper end of the overflow pipe.

Caution

Make sure that the processing solution drain valve is closed before pouring the solution.



8.1.5 Attaching the processing racks and squeegee rack

Explanation of work

Attach all processing racks and squeegee rack.

1. Reinstall the processing racks.

Hold the grip of the processing rack, and reinstall it carefully in the tank so that the processing solution may not overflow.

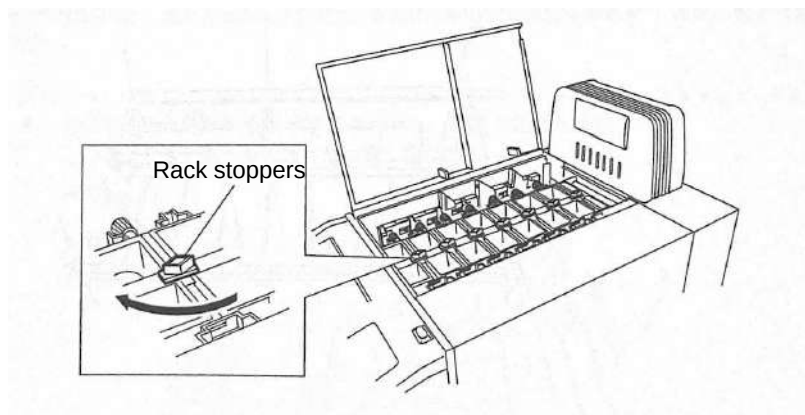
Caution

When reinstalling the processing rack, be careful that drop of solution or overflowed solution does not mix with other solutions. A slight mixture of the subsequent solution in each solution disables development of the film. Entire solutions must be replaced.

2. Attach the squeegee rack.

3. Attach the inlet guide , upper turn guides and exit guide.

4. Fix all rack stoppers.



5. Close the upper cover.



Refer to section 3.2, "OPENING AND CLOSING THE UPPER COVER".



CAUTION

Your hand may be caught. Close the cover slowly while holding it with a hand. When caught, consult a physician.

9. MISCELLANEOUS CHECKS

Miscellaneous checks on a weekly basis are explained.

More frequent checks may be required depending on the amount of films processed.

9.1 CLEANING THE NEGATIVE STOCKER

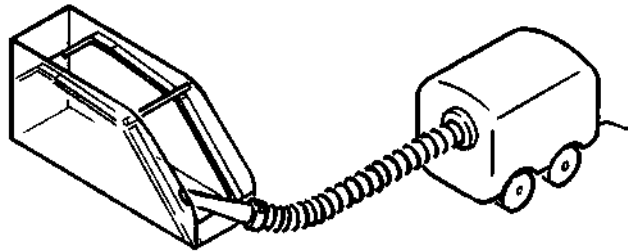
Explanation of work

If there is dirt or dust in the negative stocker, the film may be damaged. Clean dirt or dust in the negative stocker if any.

1. Clean the negative stocker.

Lower the negative stocker and clean the inside of the negative stocker with a vacuum cleaner.

After cleaning, put the negative stocker as it was.



9.2 CLEANING THE FLOPPY DISK DRIVE

Explanation of work

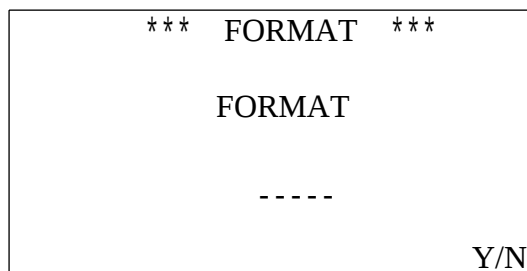
If dust or dirt is accumulated in the floppy disk drive, the disk may be damaged. A damaged floppy disk will disable reading and writing the data.

1. Turn on the main power source and the circuit breaker.

Turn on the circuit breaker of the external power source, press the circuit breaker upward to turn on it at the right bottom of the left side of the main body.

Method of display

1. Select "FLOPPY" on the MAIN MENU display.
↓
2. Select "FLOPPY DISK" on the FLOPPY display.
↓
3. Select "FORMAT" on the FLOPPY DISK display.

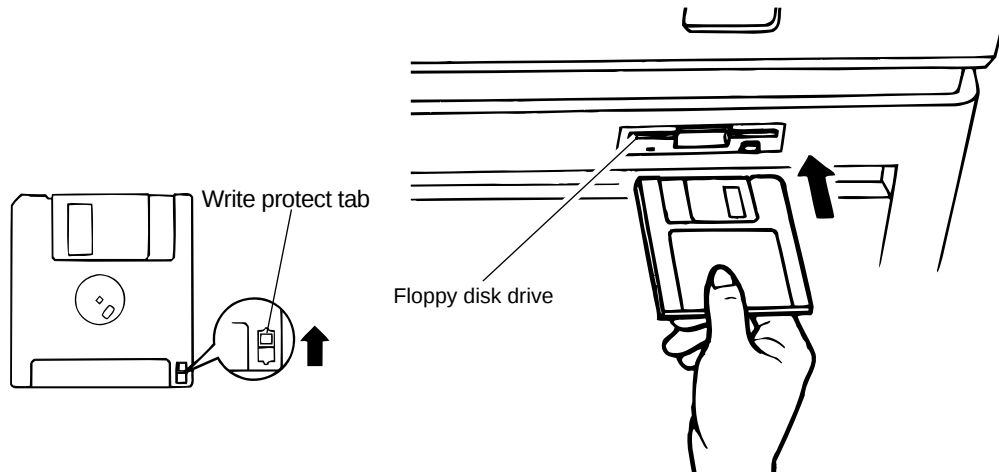


2. Insert the cleaning floppy disk which is commercially available.

Press the **YES** key on the FORMAT display. After "INSERT FLOPPY DISK" is displayed, insert the cleaning floppy disk commercially available into the floppy disk drive.

Caution

Slide the write protect tab of the cleaning disk fully upward so that the square hole is closed, and then insert the disk. If a cleaning disk without a write protect tab is to be used, the square hole at the corner as shown in the figure below must be closed using a piece of tape. The disk is then inserted. Ensure that the tape covering the hole is properly adhered to the surface of the disk and is not likely to peel off.



3. Clean the floppy disk drive.

Press the **YES** key and format the cleaning floppy disk.

When "FLOPPY DISK FORMAT. ERROR" is displayed, cleaning is complete.

4. Eject the floppy disk.

Press the eject button and eject the cleaning floppy disk.

