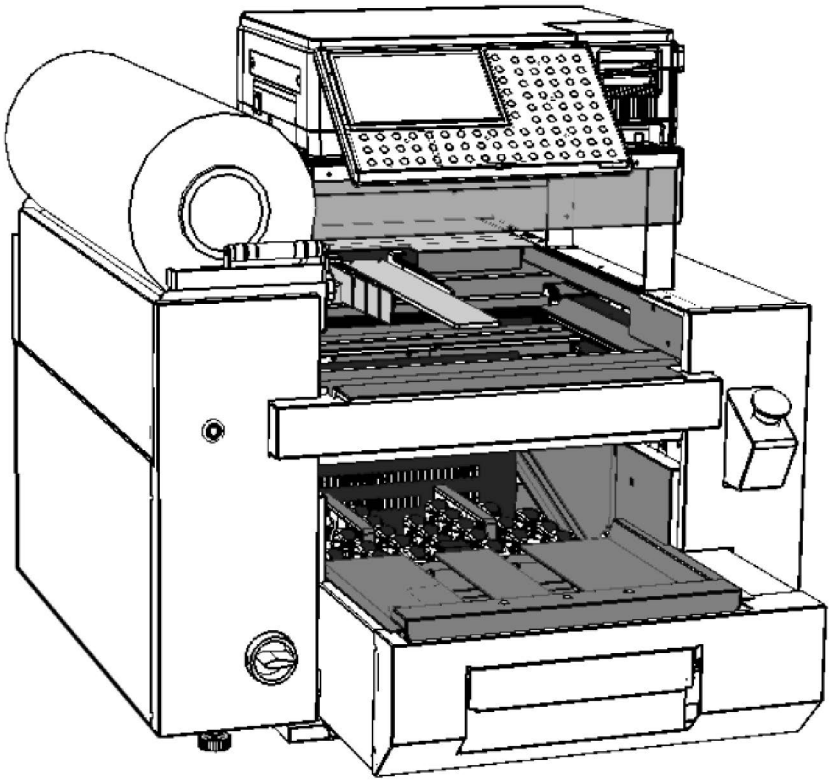
Ishida WM-Nano

Tabletop Wrapper
4th Edition

Service Manual



February 27, 2023

RICE LAKE RETAIL SOLUTIONS | ISHIDA

PN 154792 Rev A

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www.ricelake.com

Revision History

Version	Date	Description
1	April 2013	1st edition
2	August 2021	2nd edition • Added WARNING statements in "Introduction". • Added "1.2.2 Accessory". • Added the power cord and the power plug descriptions in "1.5. Power Supply". • Change steps 1 and 2 in "3.2.10 Adjusting Discharge Pusher Standby Position". • Added WARNING and CAUTION statements in "4.1 Electrical Unit Board Configuration".
3	October 2021	3rd edition ・Added Technical Reports as follows. -SC216128 ”Replacement of Film Detection Sensor” -SC216136”Replacement of terminal block in WM-AI WM-NANO” ・Added Notification about SC216136 at “1.5. Power Supply”.
4	February 2022	4th edition ・Changed Electric Wiring Diagrams in “Appendix3” to the searchable ones.
5	February 2023	・Reformatting, editing text, correcting images, cut pages not relevant

Introduction

- This service manual contains information necessary for servicing the machine.
- Do not carry out installation, operation, service, or maintenance until thoroughly understanding the contents of this manual.
- These service instructions are for use by qualified service personnel who fully understand the potential hazards involved. To avoid any possible danger, do not perform any service procedures unless qualified to do so. To ensure personal safety, do not perform any service procedures that are not specifically mentioned in this manual.
- Names of parts in this manual use functional expressions. Therefore, they might be different from names of parts in the parts list.
- Signal Words

  This machine is manufactured for use according to proper procedures by a qualified person and only for the purposes described in this manual. The following conventions are used to indicate and classify precautions depending on the level of danger, or seriousness of potential injury. Always heed the information provided in this manual and the stickers put on the machine. Failure to heed precautions may result in personal injury or property damage.

1. Precautions

Signal Word	Meaning
⚠ DANGER!	Indicates a potentially hazardous situation, which, if not avoided, will result in severe injury or death.
⚠ WARNING	Indicates a potentially hazardous situation, which, if not avoided, could result in severe injury or death.
⚠ CAUTION	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury or in property damage.

2. Information

Signal Word	Meaning
NOTE:	Indicates information that needs to be noted or emphasized.
 INFORMATION	Indicates the reference information.
 REFERENCE	Indicates the reference page.

⚠ WARNING
- **Make sure to shut off the power supply before performing maintenance.**
- **Make sure to confirm the correct behavior of the machine, the electromagnetic contactors, the safety switches, and the emergency switches after performing maintenance.**

Table of Contents

Technical Reports

Information			
Replacement of Film Detection Sensor			
Document No:	SC216128	Category	WM-NANO (L TYPE)
Issue date:	6 October 2021	Approved:	T. Ando
Checked:	A. Hattori	By:	N. Izumi

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[Summary]
Due to a shortage of parts supply for film detection sensor, the film detection sensor is replaced with a replacement.
To secure the accuracy to detect film, the sensor bracket is also replaced at the same time along with this replacement.
Since the new film detection sensor should NOT be used with the previous one together in a machine, be sure to replace the front/rear sensor together.

[Details]
The machine after replacing the film detection sensor: No. 100556002 or later

- **For the following machines, the previous sensor is installed with the new bracket in view of sensor obtaining circumstances.**
  No. 100556380, 100556381, 100556382, 100556383, 100559638, 100559639, 100559640, 100559642, 100559643, and 100559644

Part code and appearance of the film detection sensor

Description	Previous part code	New part code	Notes
SENSOR AS::	000-144-0992-04	100-047-3317-00	Front detection sensor
SENSOR AS::	000-144-0993-08	100-047-3318-00	Rear detection sensor
			* Difference between the front sensor and rear one: Only the connector No. is different.

Maintenance support

Use the previous sensor for the machines equipped with the previous sensor and use the new sensor for the machines equipped with the new sensor.

To use the previous sensor in stock, be sure to use the ones without connector No.

(Connection destination: B14 for front side and B15 for rear side)

Description	Part code		New description	New part code	Notes
SENSOR AS::	000-144-0992-04		SENSOR AS::	000-141-6232-07	No connector No.
SENSOR AS::	000-144-0993-08		SENSOR AS::	000-141-6232-07	No connector No.

<Note>

When replacing the sensor, two pieces of cable ties and threadlocker for sensor fixing screws are required. See [Sensor positioning procedure] in the next page or later.

[Sensor positioning procedure]

The sensor detection range for the new sensor is stricter than before, which requires additional sensor positioning. See the following procedure to adjust/check the position after replacing the sensor.

- New sensor: SICK: GTB2F-N1111 (Part code: 100-047-3317-00 and 100-047-3318-00)

1. Tighten (3) to (1) temporarily while moving toward the red arrow (Fig. 1).

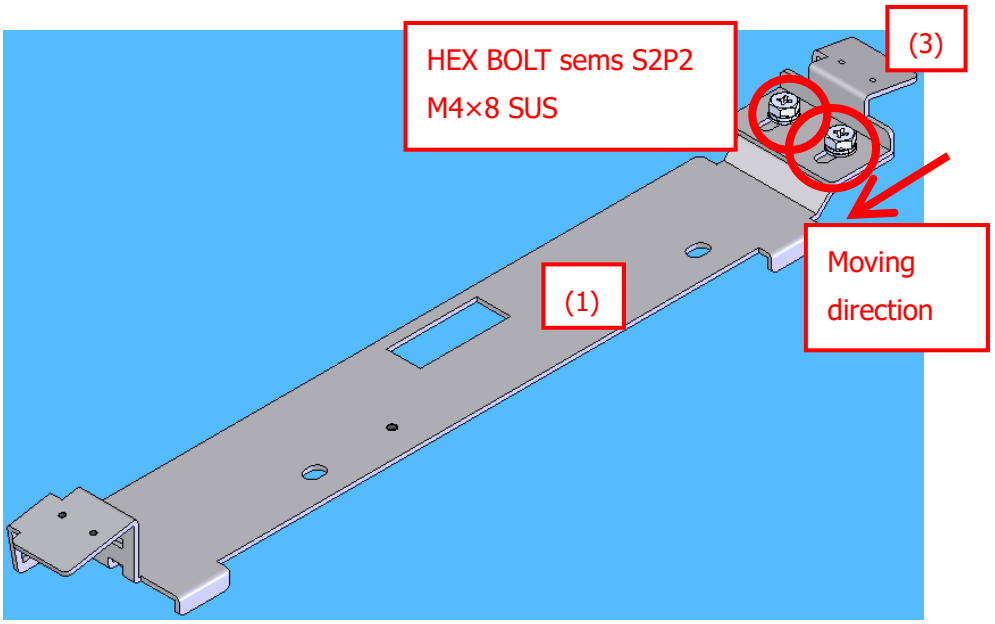


Fig. 1 Temporary tightening of (3) to (1)

2. Attach the front and rear sensors (Fig. 2).

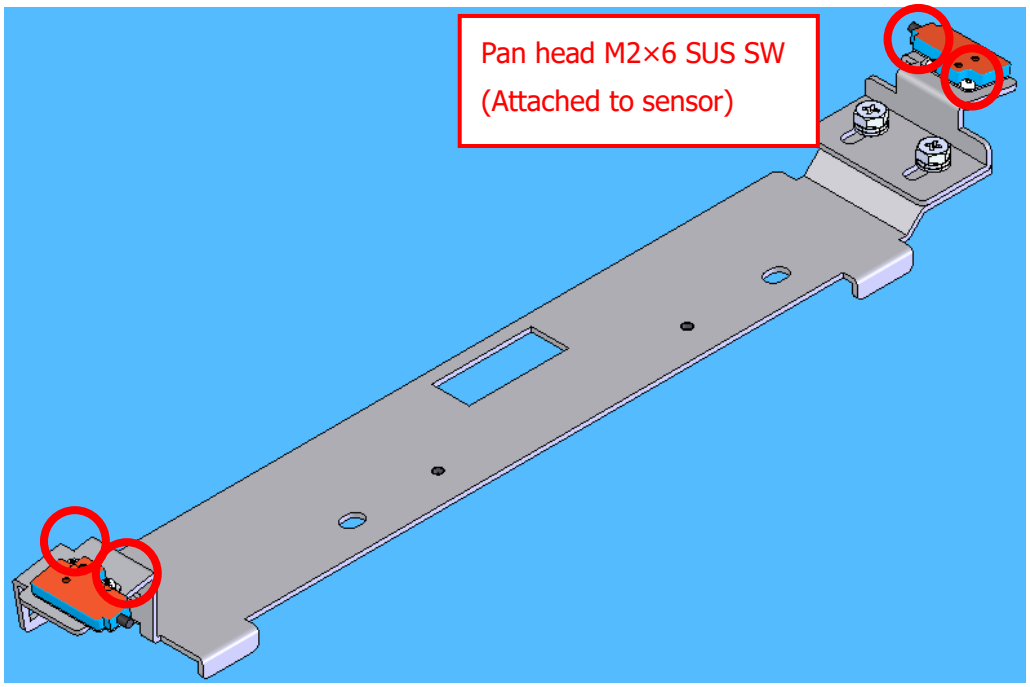


Fig. 2 Attach the front and rear sensor

3. Attach harnesses in the same way as before and attach (2) to (1) (Fig. 3).

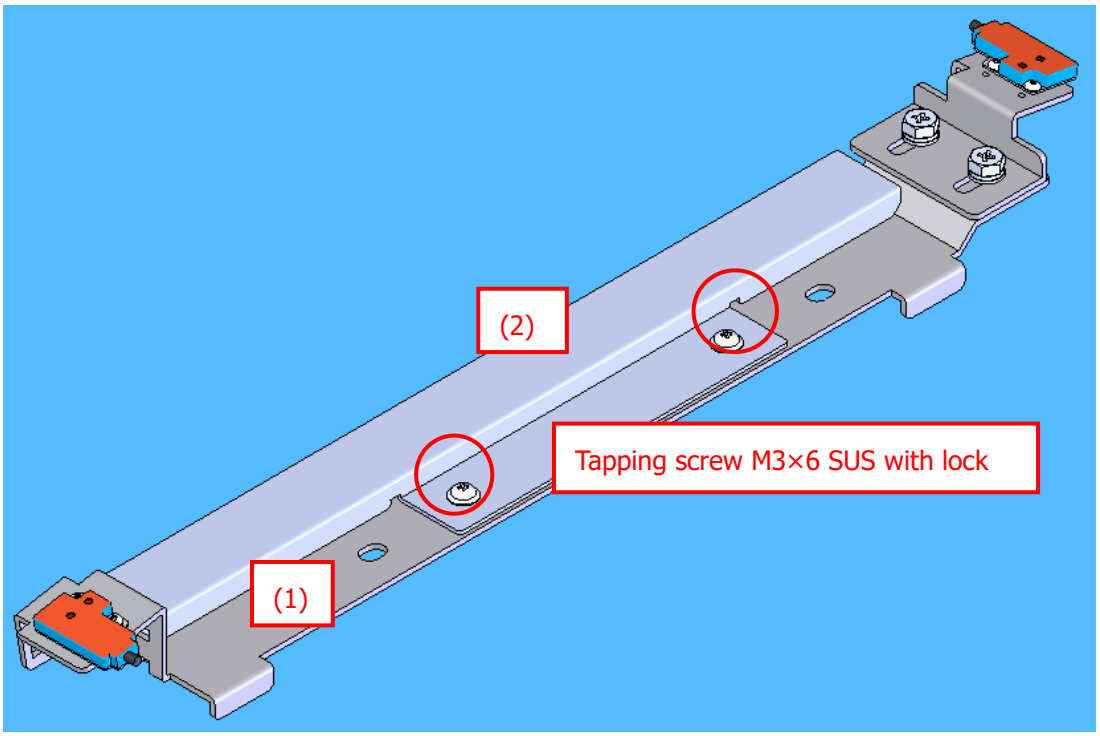


Fig. 3 Attach (2) to (1)

4. Attach (1) to the main body frame while moving toward the red arrow (Fig. 4).

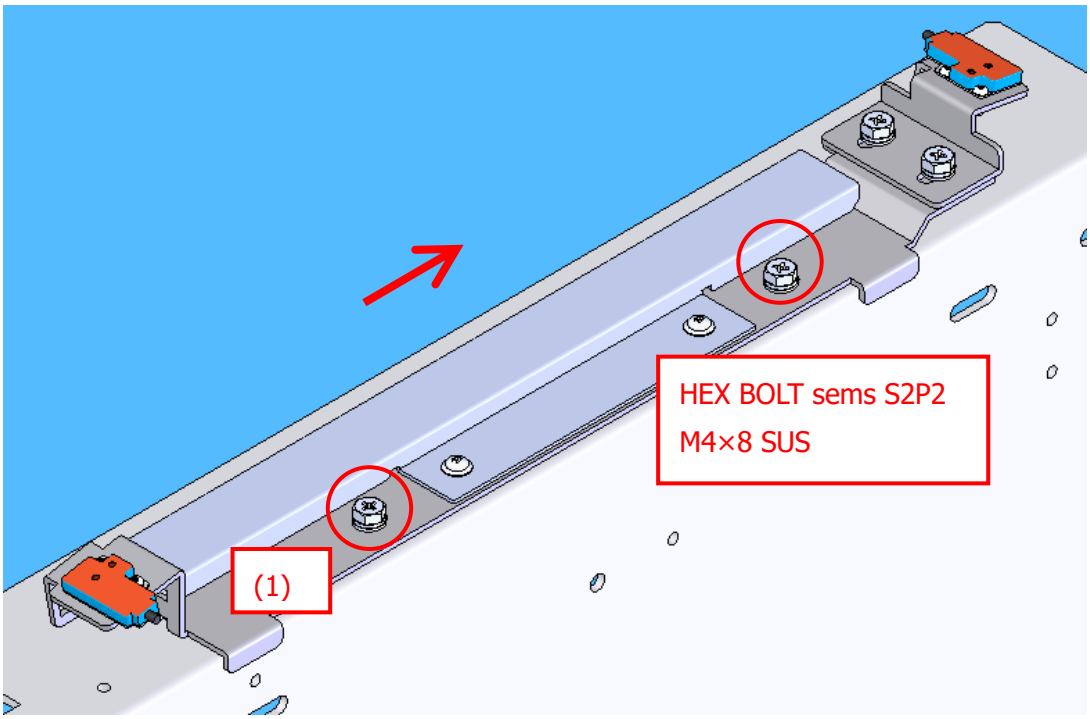


Fig. 4 Attach (1) to the main body frame

5. Connect the sensor connector with the board side and turn ON the power of the machine.

6. Confirm the front sensor is NOT being blocked while the right/left wrapping plates are on the original position. If the sensor is being blocked, move the bracket (1) toward the red arrow until the sensor is NOT being blocked, and fix it after additionally moving 0.5 - 1.0mm (Fig. 5).

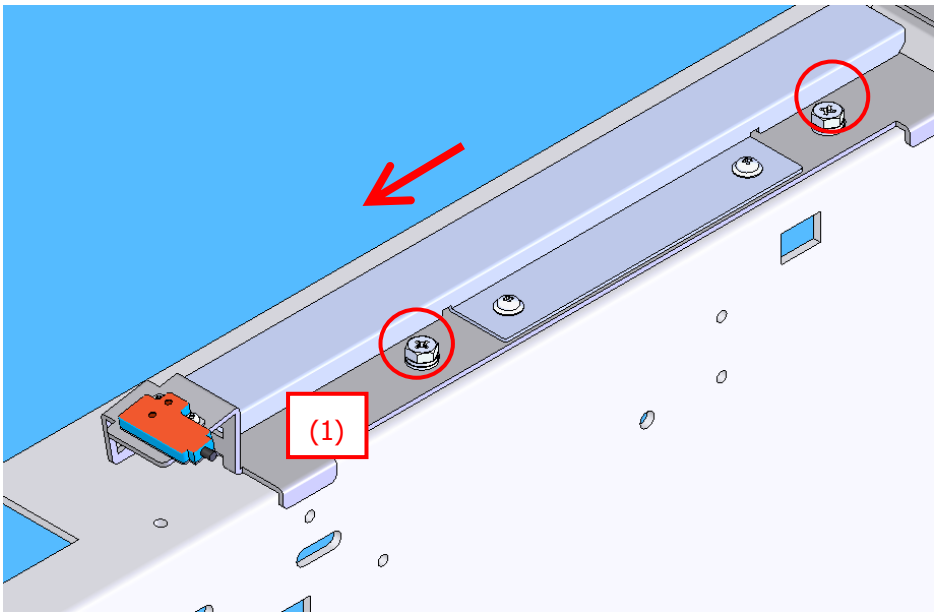


Fig. 5 Positioning of (1)

7. Move (3) toward the red arrow while the right/left wrapping plates are on the original position to search the position where the rear sensor is being blocked. Move (3) more toward the arrow until the sensor is NOT being blocked. Fix it after additionally moving 0.5 - 1.0mm (Fig. 6).

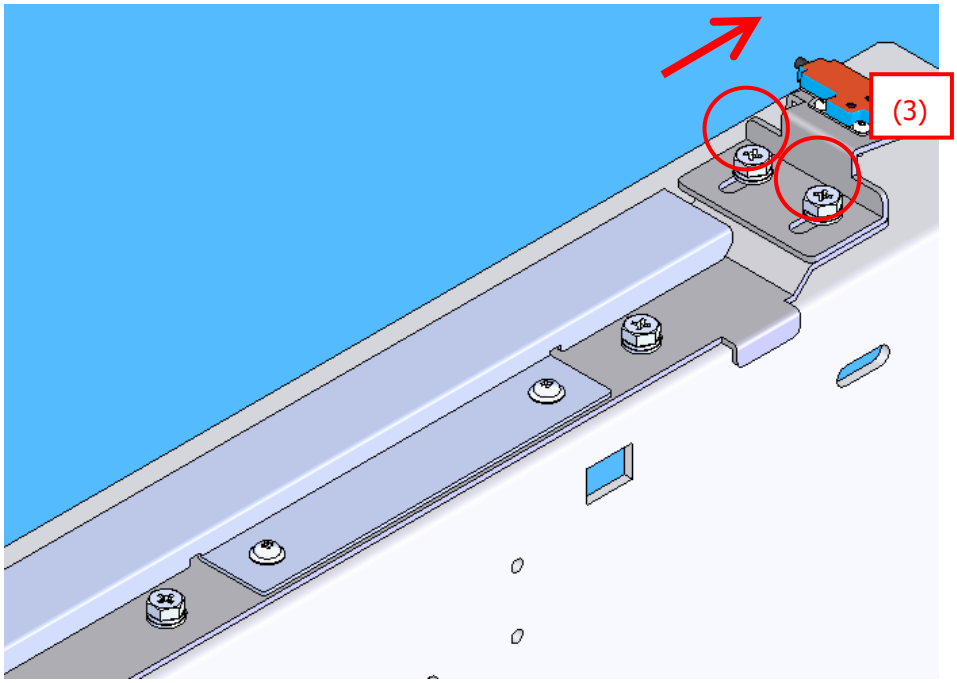


Fig. 6 Positioning of (3)

Operation check procedure after attaching the sensor

8. Feed film 10 times to confirm that both the front/rear sensors are NOT being blocked without film and that sensor condition at film feeding is stable.

- Previous sensor: OPTEX EL-15NL (Part code: 000-144-0992-04 and 000-144-0993-08)

1. Attach (3) to (1) so that the distance between the arrows would be 20.5mm. This position is the same as that of the bracket before replacement (Fig. 7).

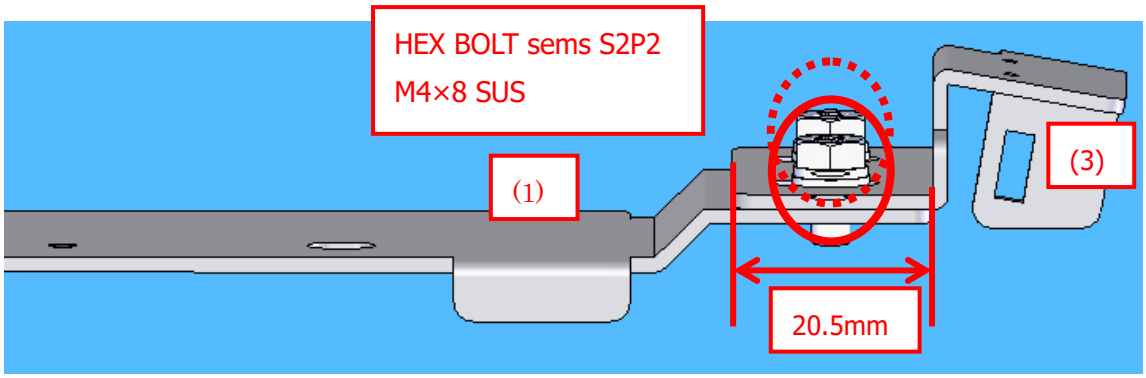


Fig. 7 Attach (3) to (1)

2. Attach the front/rear sensors (Fig. 8).

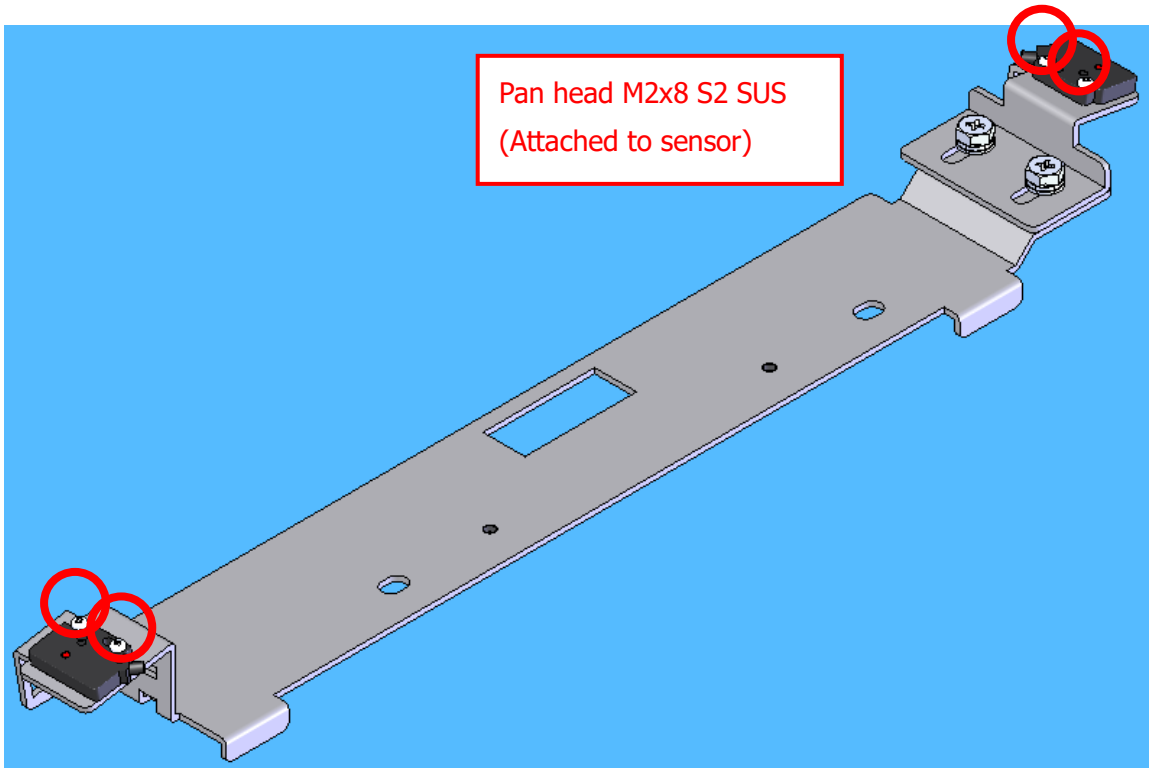


Fig. 8 Attach the front/rear sensors

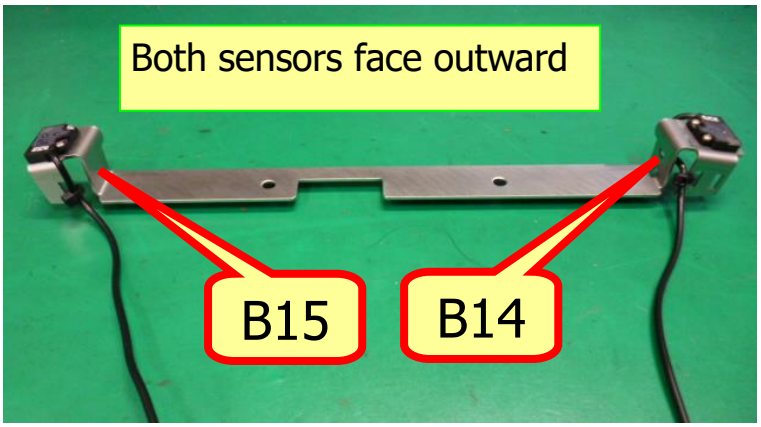
[Notes for replacing the sensor]

Caution: Do NOT use the new/previous sensors together.

Be sure to use the enclosed screws (M2x6 Pan head SUS and SW) to fix the sensors.

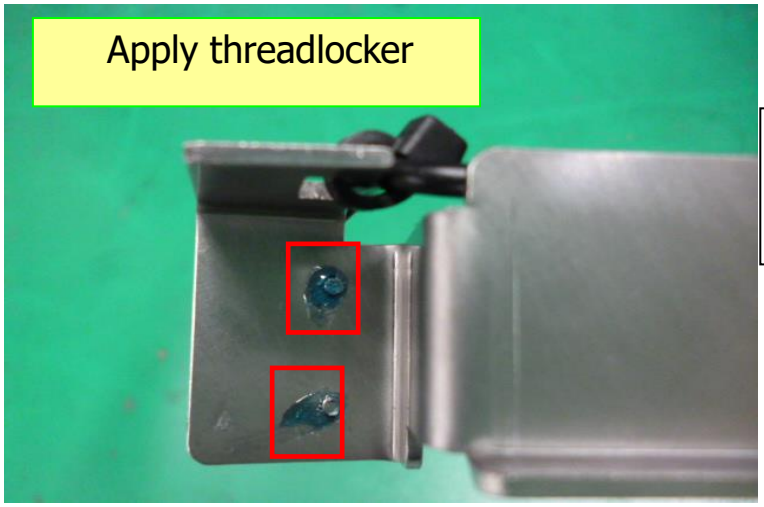
After tightening the screws, be sure to apply threadlocker 1401B.

* Do NOT use the enclosed plain washers and nuts.

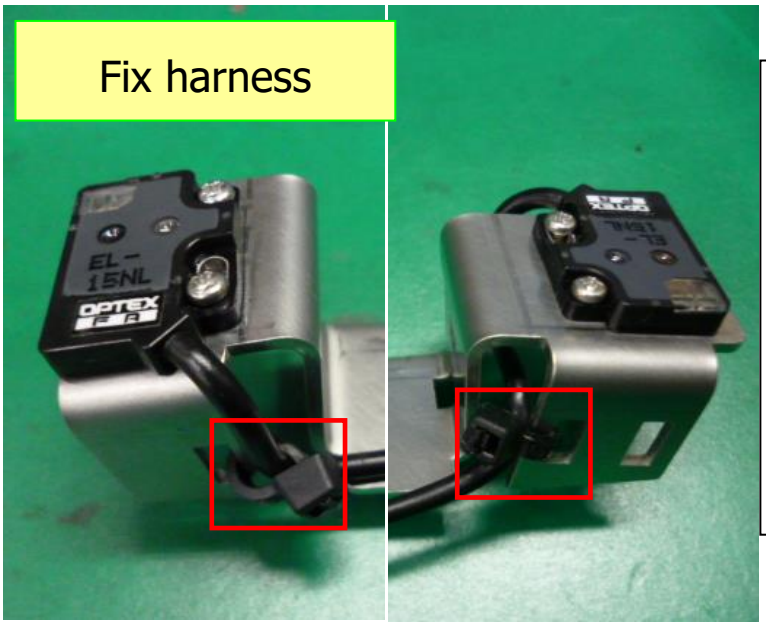


B14: Front sensor
B15: Rear sensor

Fix the sensors in the same direction when the brackets are removed.



Be sure to apply threadlocker to the red boxes.



Pull the sensor harness slightly so that it would NOT protrude from the top surface of the sensor to fix the harness.
After fixing the harness with a cable tie in the red box,
re-confirm the harness does NOT protrude from the top surface of the sensor.

➢ **The above photo shows the previous sensor.**

Technical Reports

Information			
Replacement of terminal block in WM-AI, WM-NANO			
Document No:	SC216136	Category	WM-AI, WM-NANO
Issue date:	11 October 2021	Approved:	T. Ando
Checked:	N. Izumi	By:	N. Odahara

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[Contents]

Due to a shortage of parts supply, the currently used terminal block BTBH15LC2 is replaced with a replacement from the machine manufactured in October 2021 or later.

[Details]

Although the terminal pitch of the existing terminal block is 8.5mm, that of the replacement is 8mm. When attaching a power cable, be careful with the size of the round terminal.

WM-AI Power receiving terminal

■Existing terminal block

■Replacement TXUM10 02

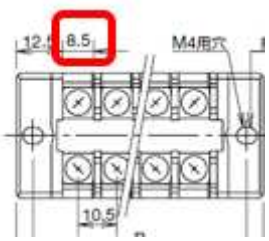
WM-NANO Power receiving terminal

■Existing terminal block

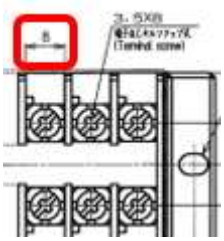
■Replacement TXUM10 02

Terminal pitch

■Existing terminal block: 8.5mm



■Replacement TXUM10 02: 8mm



<Reference information>

WM-AI POP, BW, B

The followings are reference photos of the terminal block in POP labeler.

■Existing terminal block

■Replacement TEU8 03

■Difference from the existing terminal block:
The number of terminals is changed from 2 terminals to 3 terminals, and the terminal in the middle is open.

Chapter 1 Overview

1.1. Specifications

1.1.1 General Specifications

<table>
<tr><th>I t e m</th><th>D e t a i l s</th></tr>
<tr><td>Product Name</td><td>WM-NANO</td></tr>
<tr><td>Product Category</td><td>Stretch Wrapper</td></tr>
<tr><td>Product Lineup</td><td>Single Film Wrapping</td></tr>
<tr><td>Environmental Conditions</td><td>Temperature: 5°C to 35 °C
Humidity: 20 to 85% (no condensation)</td></tr>
<tr><td>Dimensions</td><td>
<table>
<tr><th></th><th>M Type</th><th>L Type</th></tr>
<tr><td>Width</td><td>Within 653 mm</td><td>Within 698mm</td></tr>
<tr><td>Depth (including infeed block)</td><td>Within 756 mm</td><td>Within 865 mm</td></tr>
<tr><td>Depth (excluding infeed block)</td><td>Within 640 mm</td><td>Within 720 mm</td></tr>
<tr><td>Infeed Block Height</td><td>Within 150 mm</td><td>Within 150 mm</td></tr>
<tr><td>Discharge Block Height</td><td>Within 365 mm</td><td>Within 365 mm</td></tr>
<tr><td>Overall Height</td><td>Within 572 mm</td><td>Within 572 mm</td></tr>
</table>
* Excluding operation unit and film
</td></tr>
<tr><td>External Facing</td><td>Stainless Steel with Plastic</td></tr>
<tr><td>Power Supply</td><td>200 to 240 VAC (Single Phase) 50/60 Hz
No component change required for change of power supply frequency</td></tr>
<tr><td>Packs Per Minute</td><td>Up to 15 packs/min.</td></tr>
<tr><td>Wrapping Capacity</td><td>M Type: 20 to 1500 g
L Type: 20 to 3500 g</td></tr>
<tr><td>Weighing Capacity</td><td>0.04 to 15kg</td></tr>
<tr><td>Weight</td><td>Wrapper Block: M Type: 94.6 kg, L Type: 102.4 kg or less
UNI-7 RP: 10 kg or less</td></tr>
<tr><td>Noise</td><td>73 dB or less</td></tr>
</table>

1.1.2 Wrapper Specifications

<table>
<tr><th>I t e m</th><th>D e t a i l s</th></tr>
<tr><td>Wrapping Method</td><td>Stretch Wrapping</td></tr>
<tr><td>Wrapping Size</td><td>M Type:
Width: 150 to 330 mm (5.9 to 13") (bottom 120 mm (4.72") or more)
Depth: 90-210 mm (3.5 to 8.3") (bottom 60 mm (2.36") or more)
Height: 10-130 mm (0.4 to 5.1")
(Tray height of 45 mm (1.8") or less)
L Type:
Width: 150 to 350 mm (5.9 to 13.7")
(Bottom 120 mm (4.72") or more)
Depth: 127 to 254 mm (5 to 10") (bottom 80 mm (3.15") or more)
Height: 10 to 130 mm (0.4 to 5.1")
(Tray height of 45 mm (1.8") or less)
It may not be possible to achieve all three maximum dimensions at the same time on the machine.
MAP-M: A 10 x 14" tray cannot be wrapped.</td></tr>
</table>

Item	Details
	Ishida Wrap (Type M only): Content height of a tray must be up to 100 mm.
Wrapping Tray Material	PSP, PP
Wrapping Tray Shape	Rectangle (PSP, PP) Legged, soft, and/or atypical trays are not supported.
Film Size	M Type: 350/400/450 mm (13.7/15.75/17.7") L Type: 400/450/500/550/560 mm (15.7/17.72/19.69/21.65/22")
Film Roll Length	External Film Diameter: ・M Type: 165 mm (6.3") or less (Ishida Wrap Super: 1200 m roll, others: 1000 m roll) ・L Type: 200 mm (7.8") or less (1500 m roll)
Film Type	Polyolefin, polyvinyl chloride (for machine winding)
Recommended Film	Ishida Wrap (Polyvinyl chloride) Ishida Wrap Super (Polyolefin)
Infeed & Conveyor	Conveyor by latch (fixed speed)
Film Replacement	To be set on the roller and replaced from the side
Film Transfer Method	Belt-Transfer Full-Cut
Film Weld	Roller type with cartridge heater * Do not leave a tray on the heater If sealing strength is not enough, press it on the roller again.
Cleanability	Detachable lift head (water washable, except for the movable block of the head) Detachable weighing table (water washable) Detachable garbage plate of the weighing block (water washable)

1.1.3 Operation Unit Specifications

Item	Details
Operation Unit	UNI-7 RP
Option	Wand scanner * Must not be attached by the customer
Standard input/output	USB x 1 OF slot x 1 Ethernet x 1 Output for cash drawer x 2 * RS232C is used for a link to the wrapper.

1.1.4 Weighing Unit Specifications

Item	Details
Weighing Capacity	M Type: 6 kg/15 kg L Type: 15 kg
Scale Interval	0 to 6 kg: Scale interval of 2 g 6 to 15 kg: Scale interval of 5 g (multi-range)
Weighing Precision	1/3000 (Precision class based on new the measurement standard in Japan: Class III)

1.1.5 Options

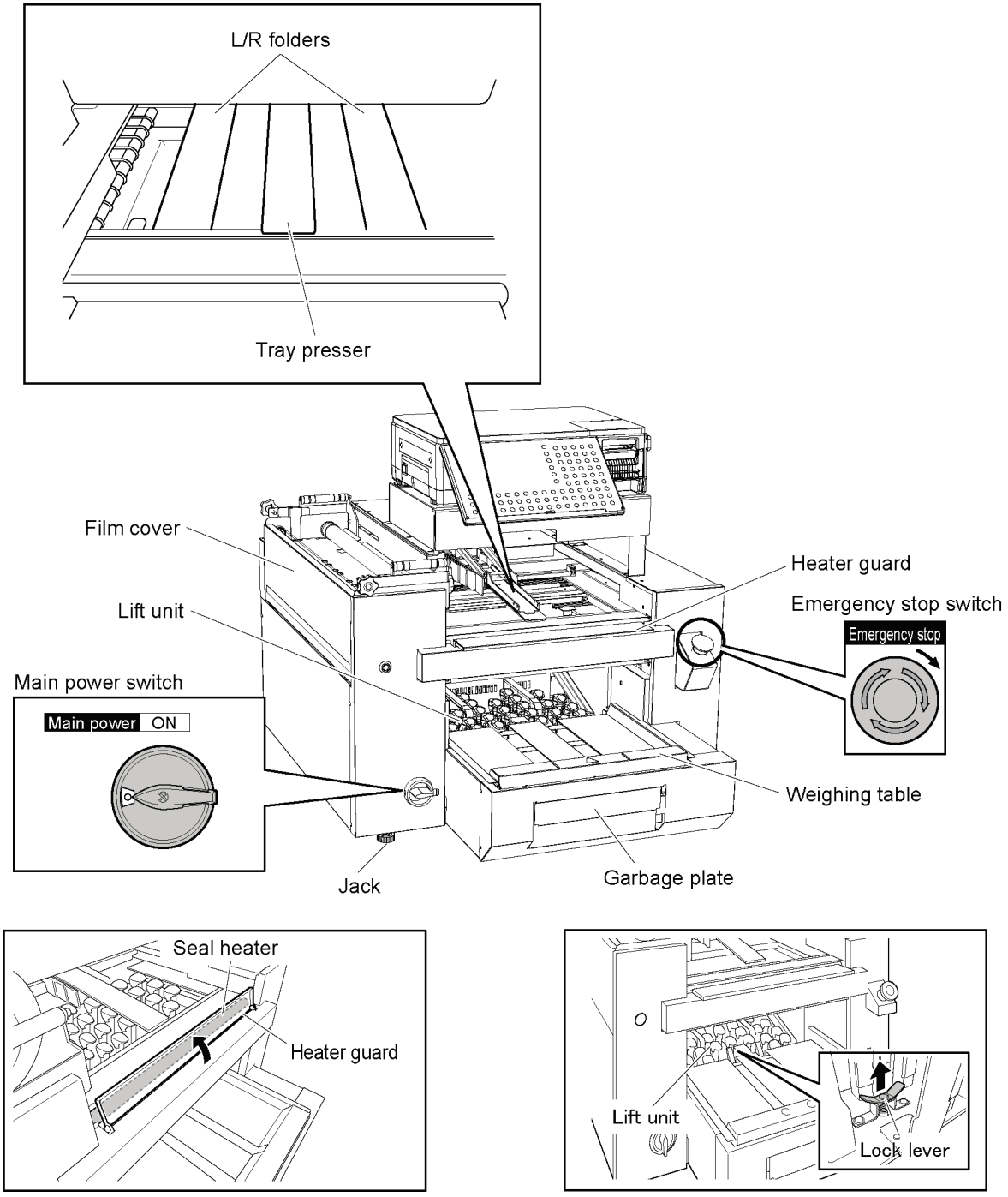
Item	Details
Option	Dedicated Stand Garbage Plate

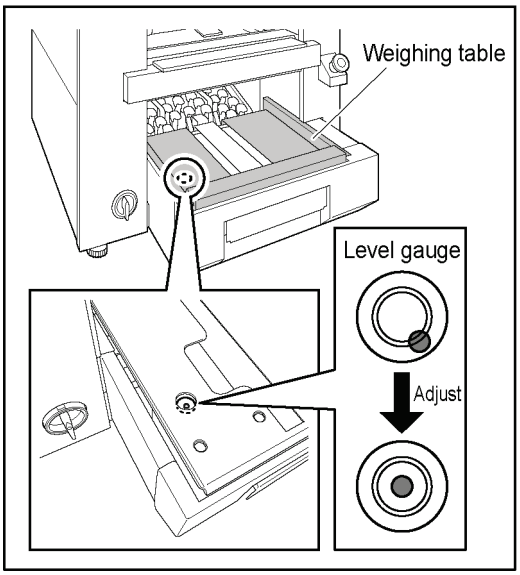
1.1.6 Reliability/Service Life

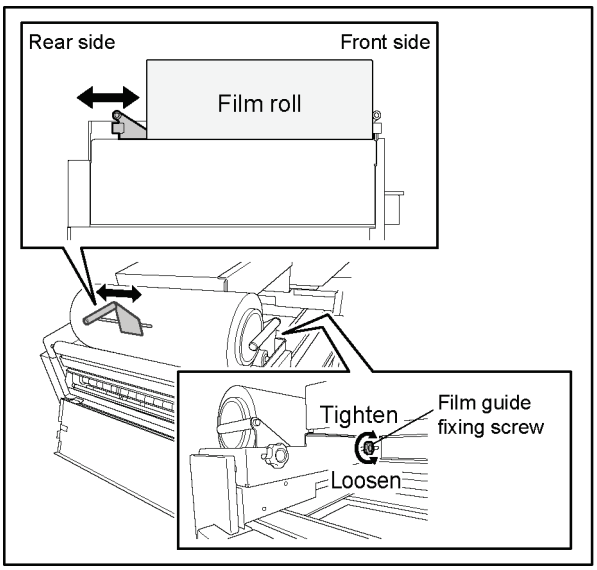
Item	Details
Service Life	5 years (except for consumables) Conditions: Operating at 1000 packs/day, 350 days/year (4200 hours) 1.75 million packs for 5 years (21000 hours)
Safety	Complying to Ishida's product safety and warning indication standards, ETL, CE, C-Tick
Standards	Ishida's product standards and measurement laws of specified countries

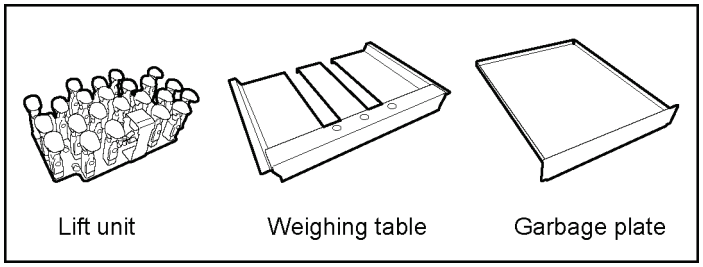
1.2. Part Names

1.2.1 Appearance





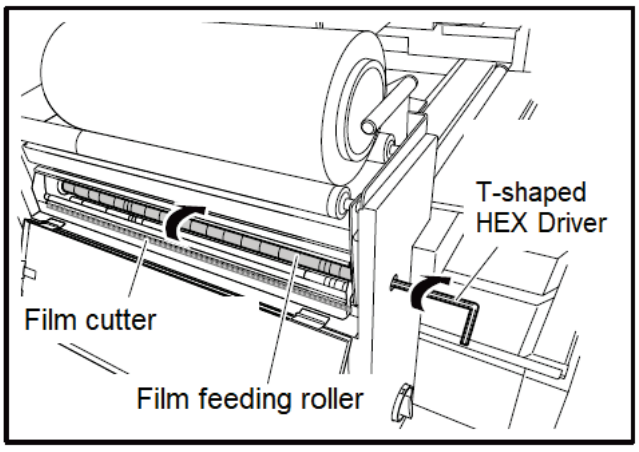




1.2.2 Accessory

DRIVER:HEX:T TYPE

Use for removing tangled film on film feeding roller.

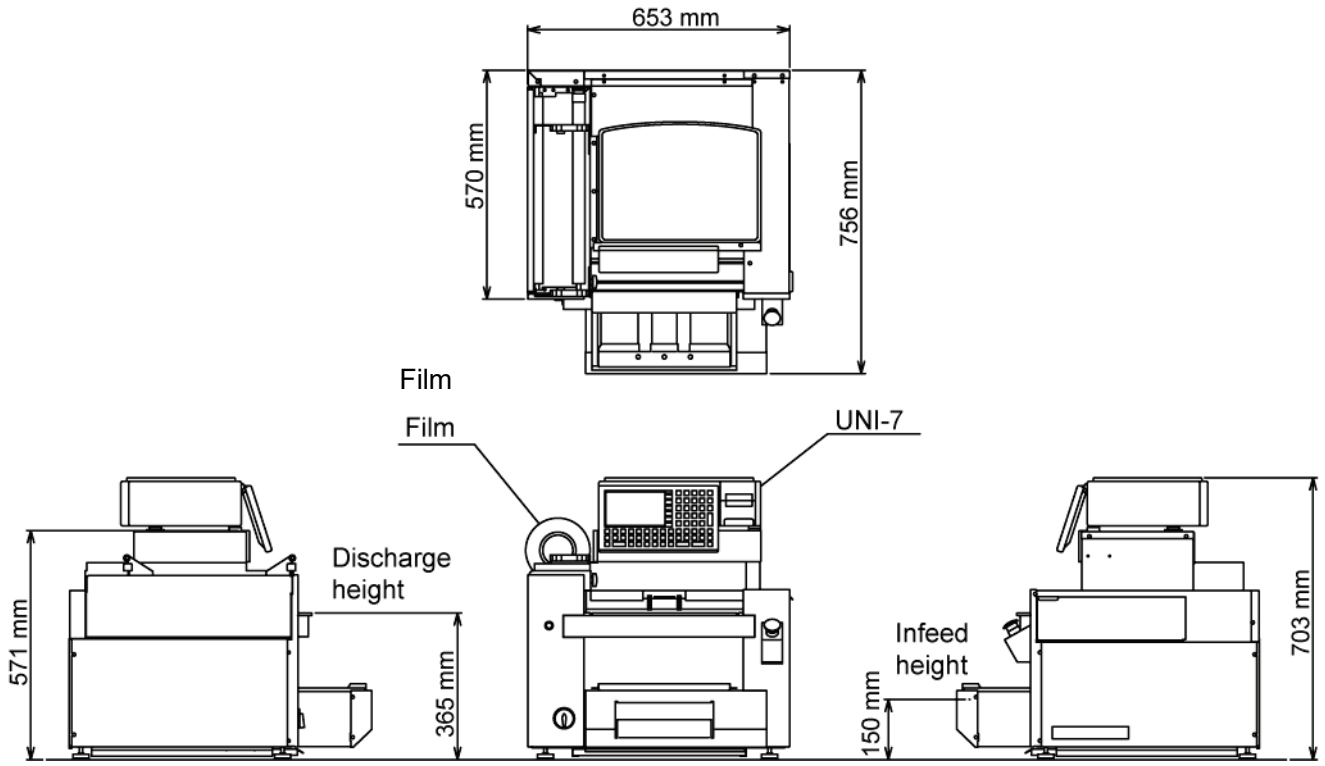


1.3. Outline Dimensional Drawings

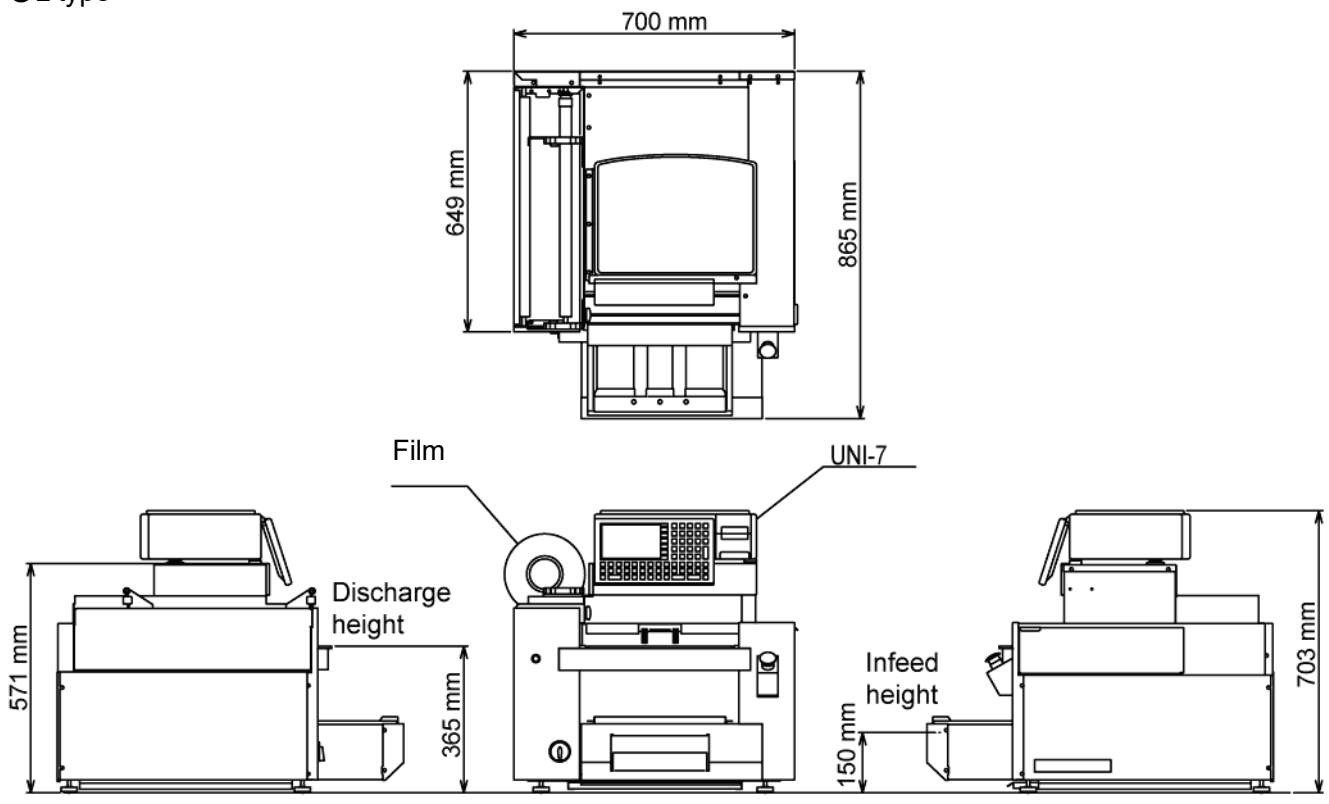
1.3.1 Dimensions

Dimensions are shown below.
Provide enough space for carry-in route, setup and maintenance.

●M type

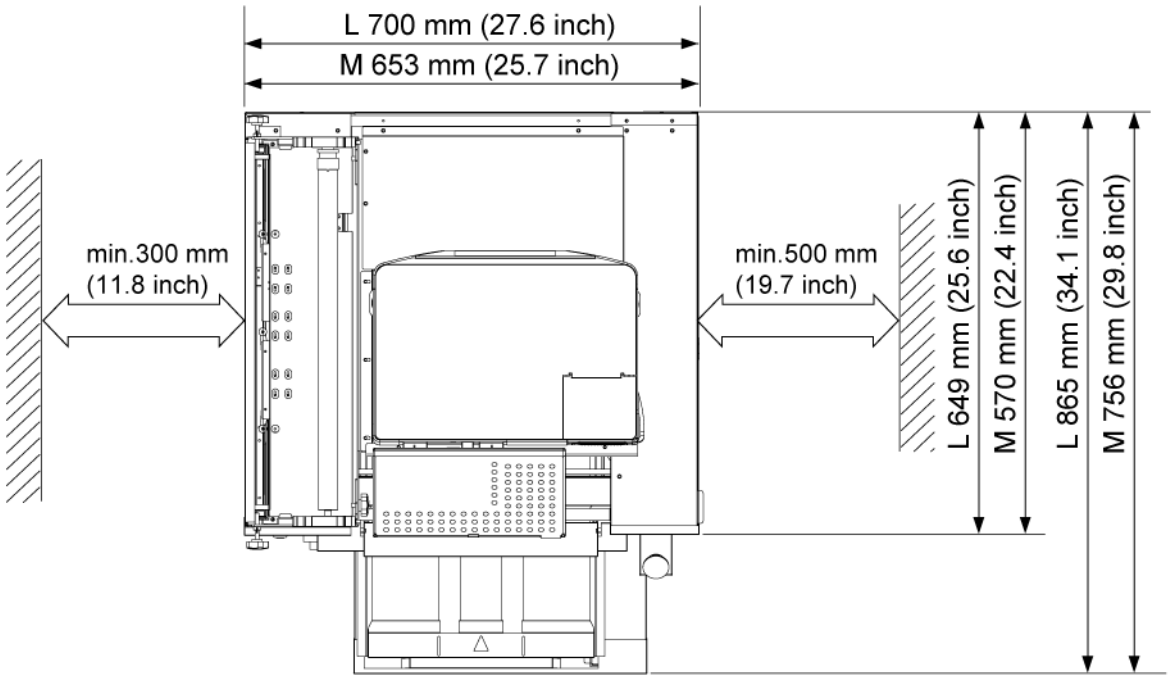


●L type



1.4. Installation Space

- Provide enough working space for both sides of the machine.



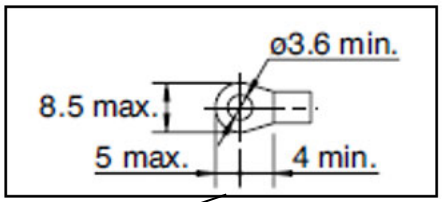
1.5. Power Supply

WARNING **HEED THE FOLLOWING PRECAUTIONS ABOUT POWER SUPPLY:**

- **Use a power supply with rated voltage ground.**
  Prepare a dedicated power source.
- **A power supply that generates voltage variation may cause a malfunction.**
- **Do not stand on the power cord, and do not place anything heavy on the cord.**
  Doing so may damage the cord, resulting in accident or trouble.

- Power cord
  Power cord is not supplied with the machine.
  Prepare a power cord that satisfies the rating below.
  - Wire rod AWG#14 or thicker (Equivalent to VCT)
  - Single phase earth
  - Rated voltage 600V or more
  - Cord OD ø11-13.5mm
  - Crimping terminal dimensions (Refer to Fig.1)
  - Tightning torque 1.0 to 1.3 N·m
- Power plug (When required)
  - Rated voltage 250V or more
  - Rated current 20A or more

Fig. 1



NOTE: **Refer to SC216136 “Replacement of terminal block in WM-AI WM-NANO” at the beginning.**

1.6. Cautions for Unpacking

<Before Unpacking>

<After Unpacking>

CAUTION **Do not use a lift under the product to carry. The product must be carried by hand.**

Insert hands to the holes red-circled in the picture below to lift and carry the product after unpacking.

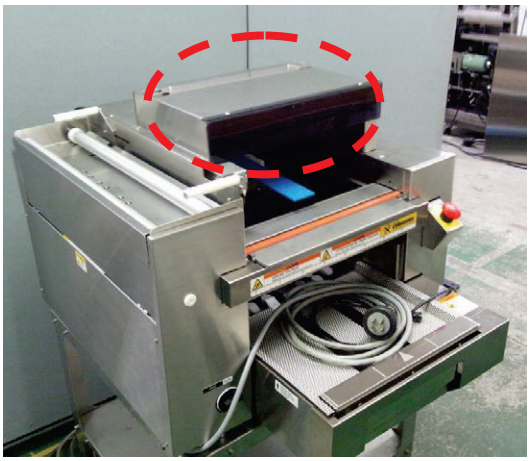
1.7. Instruction for Carrying and Setting

- The capacity for the stand of WM-NANO should be more than 200 kg(440 lb). Please make sure that customers' stands or tables have same or more durability than the example written in this document before the setup.
- Please remove the controller (Uni-7 RP) when you carry the machine for the safety purpose.
- The weight of WM-NANO itself is approximately 100 kg (220 lb). *excluding Uni-7 RP
  Please be careful not to get injured by dropping the machine when you carry the machine.

* While the stand in the pictures below is the older type, instructions for carry and installation are not changed.

1.7.1 Handling of Controller (Uni-7 RP)

Please always remove the controller (Uni-7 RP) when you move the machine for the safety purpose.

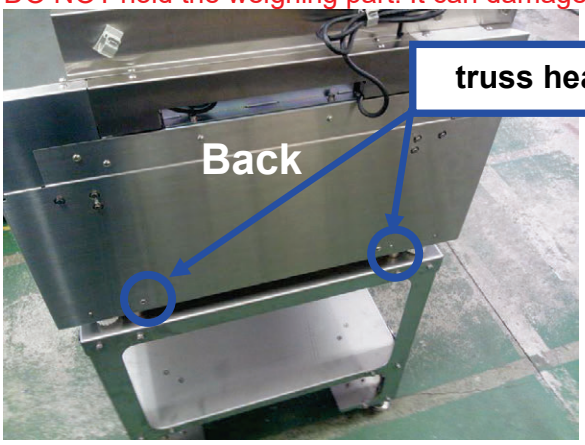


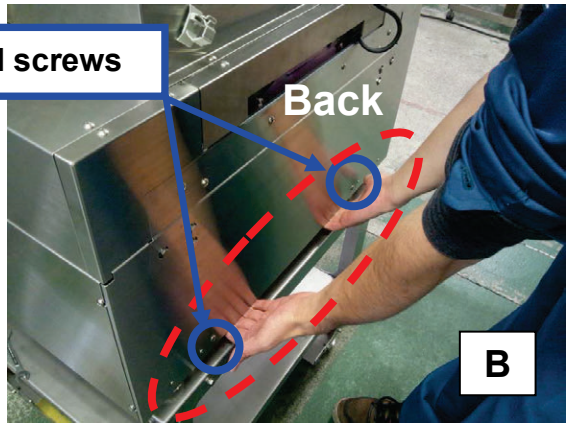
1.7.2 Carrying the Machine

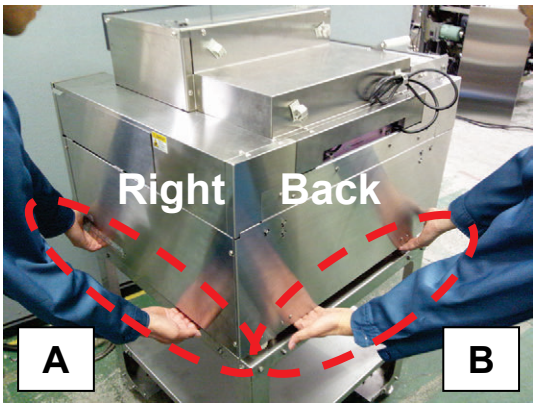
When carrying the machine, please hold the part between the truss head screws (below picture) at the back (B), and the bottoms of left & right side (A&C). (red circled part at below picture).

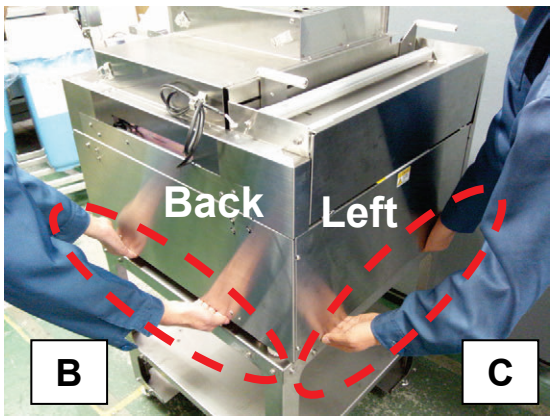
⚠CAUTION

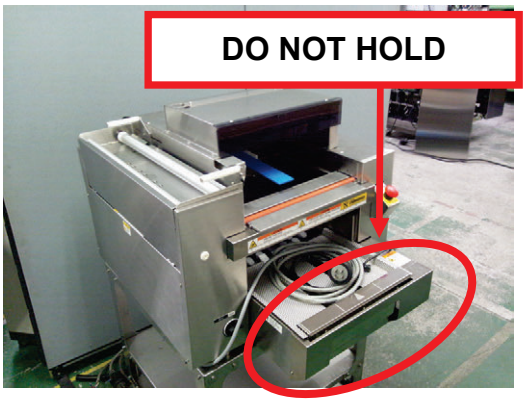
Excluding Uni-7 RP, the weight of WM-NANO itself is approximately 100 kg (220 lb).
Please be careful not to get injured by dropping the machine when you carry the machine.
DO NOT hold the weighing part. It can damage the scale or cause mis-weighings.





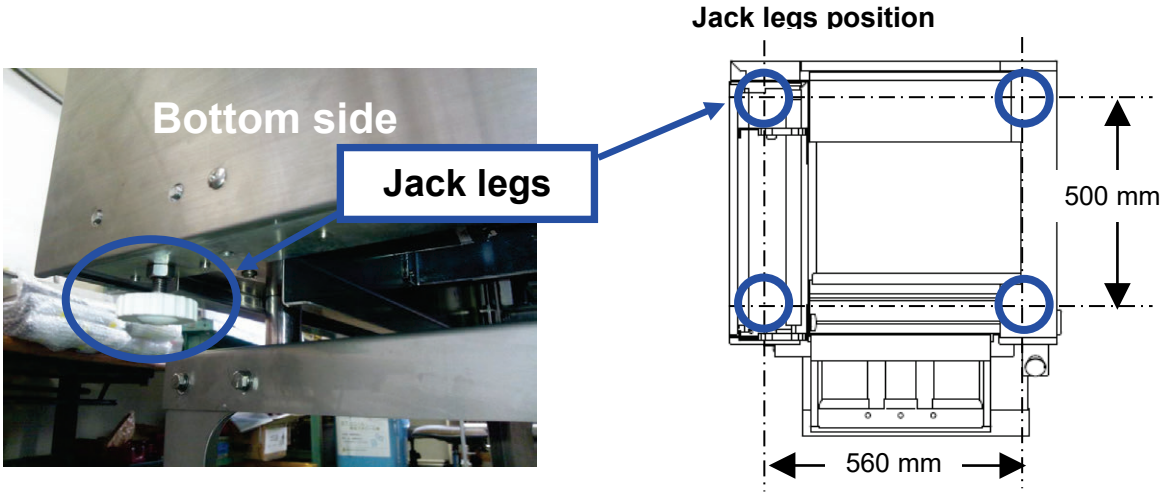






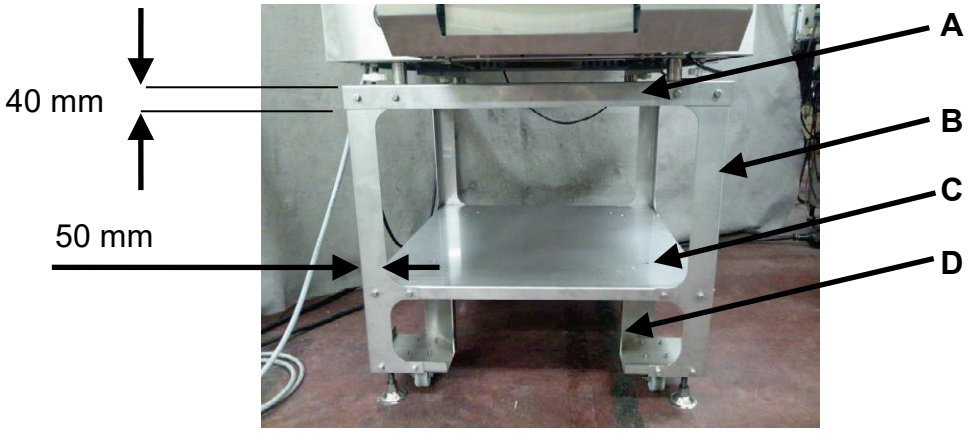
When moving the machine by a trolley, please put it on a flat surface trolley.

Note:
Please make sure that the jack legs of the machine at the bottom side are on the trolley.



1.7.3 Setting on the Stand or the Table

Note:
The capacity for the stand of WM-NANO should be more than 200kg(440lb). Please make sure that customers' stands or tables have same or more durability than the constitution example written below before the setup.



Constitution example

Material of each part:
A : SUS board thickness 2mm (0.08") Boxed type shape
B : SUS board thickness 2mm (0.08") L shape
C : SUS board thickness 2mm Boxed type shape
D : SUS board thickness 3mm

⚠CAUTION
Please be careful not to pinch your hands between the stand or the table and the machine when you put the machine on.

1.7.4 Setting on the Ishida Stand

<Setting on the stand>

⚠CAUTION

Please be careful not to pinch your hands between the stand especially the pronging part of the top table (red-arrow parts) and the machine when you put the machine on.

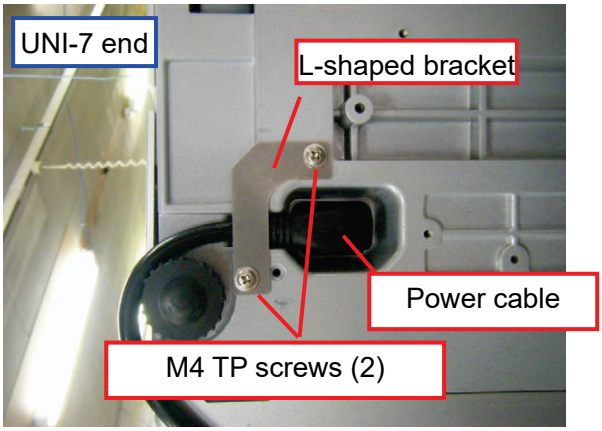
Adjust the leveling legs on the WM-Nano and the stand to level the scale and prevent any rocking motion.

1.7.5 Cabling between UNI-7 and Wrapper

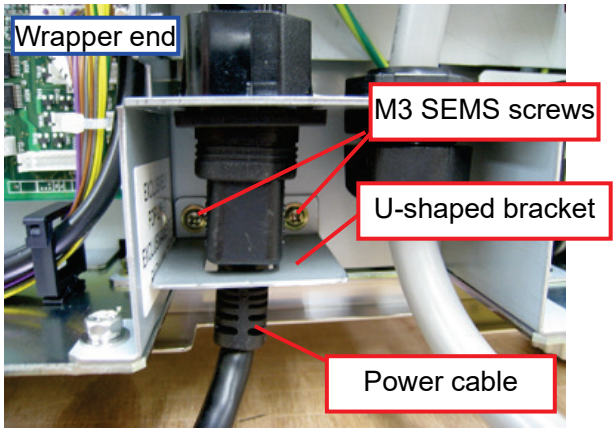
Connect three (3) cables between UNI-7 and the wrapper unit.

●UNI-7 Power Cable

1) Attach the power cable to UNI-7.
To secure the power cable, attach the L-shaped bracket (accessory of WM-NANO) with M4 TP screws (accessory of WM-NANO).

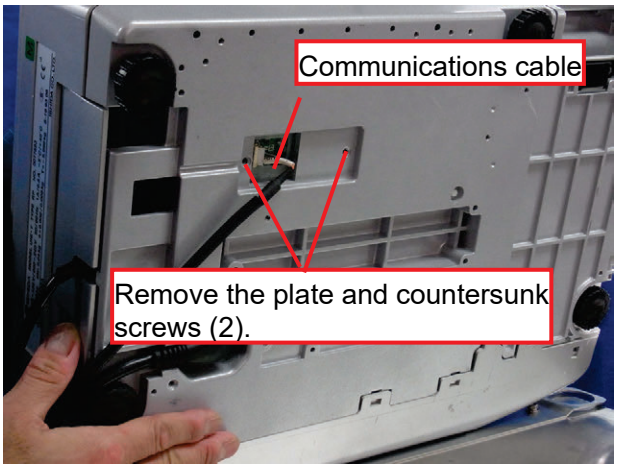


2) Connect the power cable to the wrapper unit.
To secure the power cable, use the U-shaped bracket (accessory of WM-NANO) with M3 SEMS screws (accessory of WM-NANO).

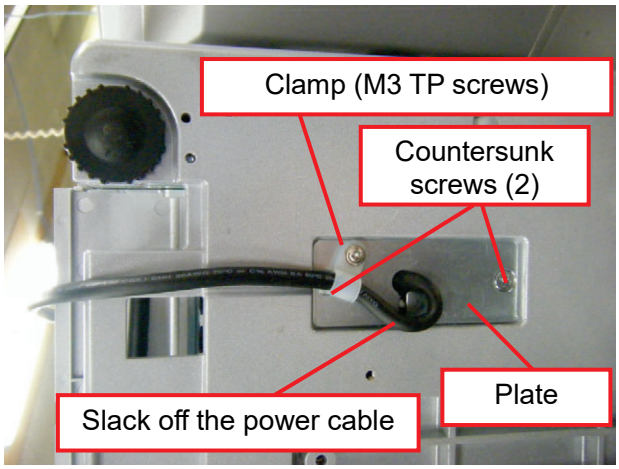


●Communications Cable for Wrapper

1) Remove the plate and (2) countersunk screws, and attach the communications cable to UNI-7.

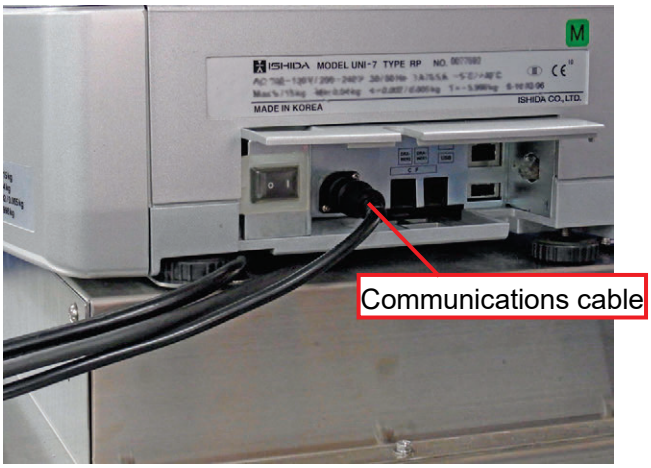


2) Attach the plate with the (2) countersunk screws.
Slack off the communications cable and use with the clamp (with M3 TP screws, accessory of WM-NANO) to secure the cable on the plate.



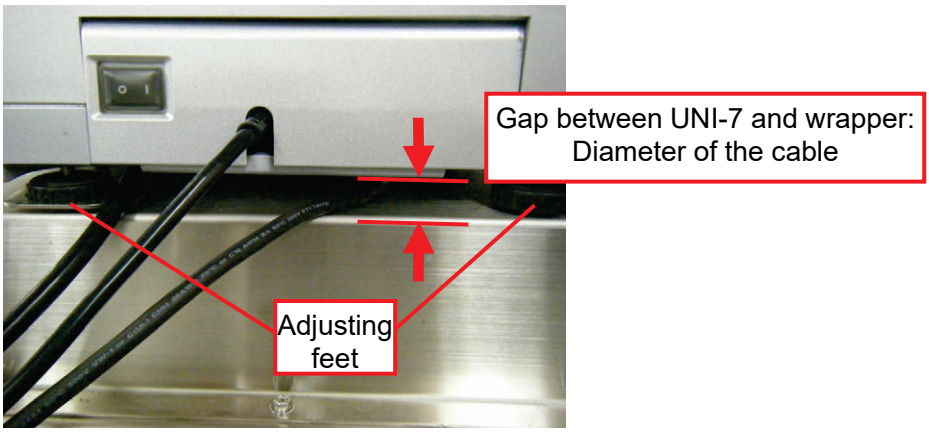
●Communications Cable for Weighing Unit

Attach the communications cable for the weighing unit to the side of UNI-7.



●Adjusting Gap between UNI-7 and Wrapper

Rotate UNI-7's adjusting feet to adjust the height so that the gap between UNI-7 and the wrapper unit should be about the diameter of the cable.



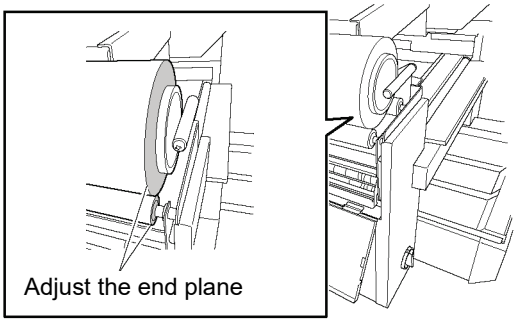
⚠CAUTION

If the gap between UNI-7 and the wrapper is insufficient, the cable may be damaged due to stress.

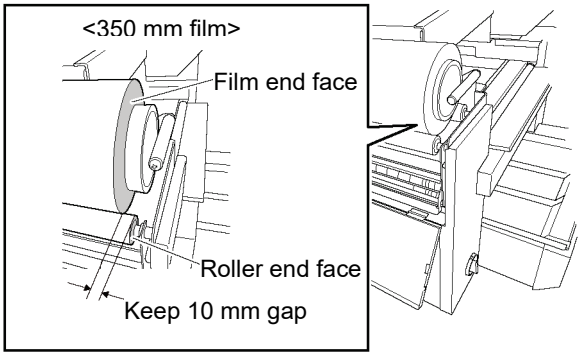
1.7.6 Setting the Film

Refer to the instruction manual for setting the film.
This section describes important points for film setting.

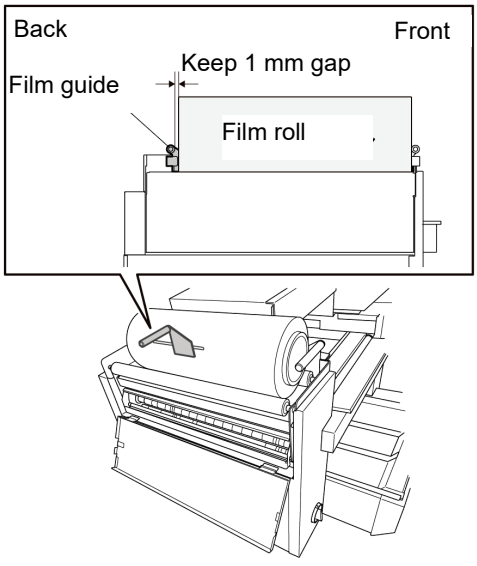
- On the front end, set the film so that the end face of the film should be on the plane of the roller's end face.



<If setting 350 mm film to M type>
Shift the film's end face by 10 mm to the back from the roller's end face to set the film.



- After adjusting the front end, keep 1 mm gap between the film roll and the film guide surfaces on the back end. Too much force on the film roll by the film guide may interfere with film roll rotation.



Chapter 2 Functions for Each Mode

This section describes additional functions available when connected to WM-NANO.
For other functions, see UNI-7 service manual and instruction manual.
Shown below are available functions:

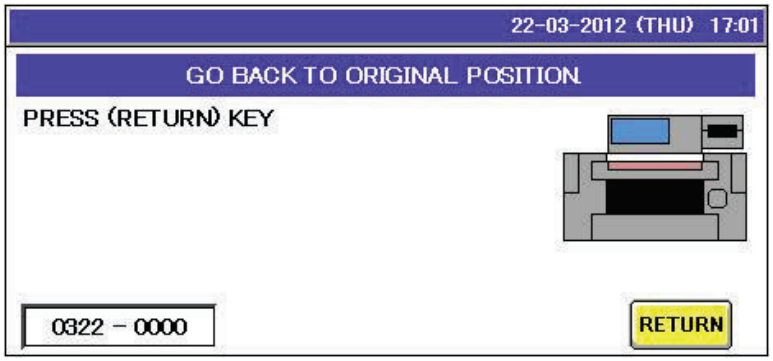
Mode	Function
Normal Mode	Return Process at Power ON
	How to Use Preset Keys
PROGRAM Mode	WRAP Tab Added to PLU
	Preset Keys Added
	TRAY Added to Menu
SETUP Mode	FUNCTION KEY Items Added to KEY LOCK
	Items Added to PLU OVERWRITE
	WRAP Tab Added to PLU INITIAL DATA
	Items Added to PLU UPDATE
	COUNTRY (MISC) Screen Added
	Tray Master Added to FILE SAVE / LOAD
ADJUST Mode	MEMORY CLEAR Items Added
	SUB Tab Added to DOWN LOAD
	WRAPPER Added to Menu
	UNIT TEST Added to Menu
	WM-NANO Added to MODEL

NOTE:
When switching to Service Mode, press the [Mode] button in Normal Mode. The [MENU SELECT] screen appears.

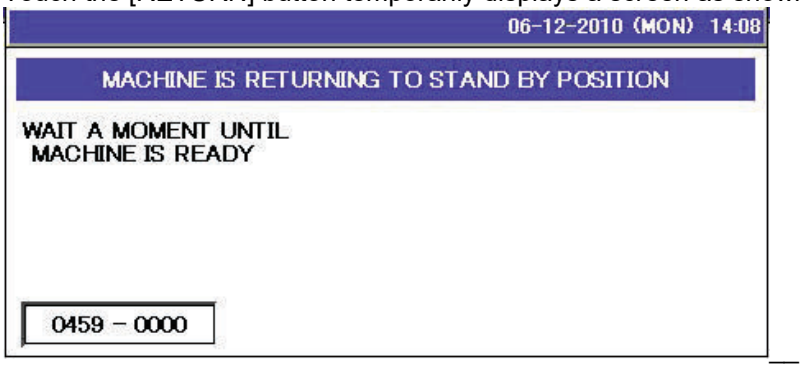
2.1 Normal Mode

2.1.1 Return Process at Power ON

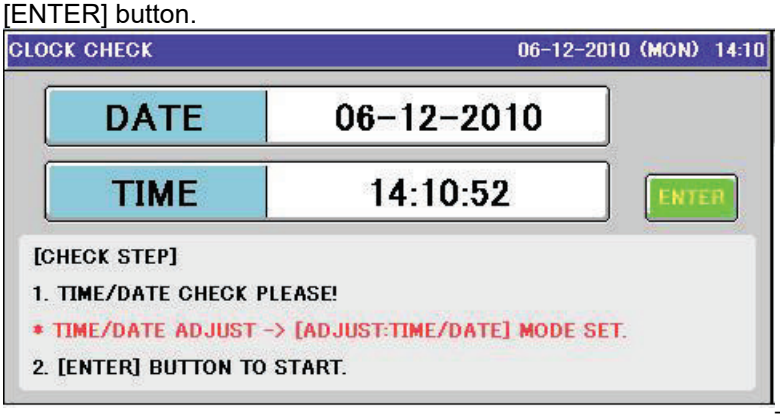
1. A screen appears when the power is turned on that requires confirmation for the return process of each drive unit.



2. Touch the [RETURN] button temporarily displays a screen as shown below.



3. A screen appears that requires confirmation of the clock. Check the date and time, then touch the [ENTER] button.



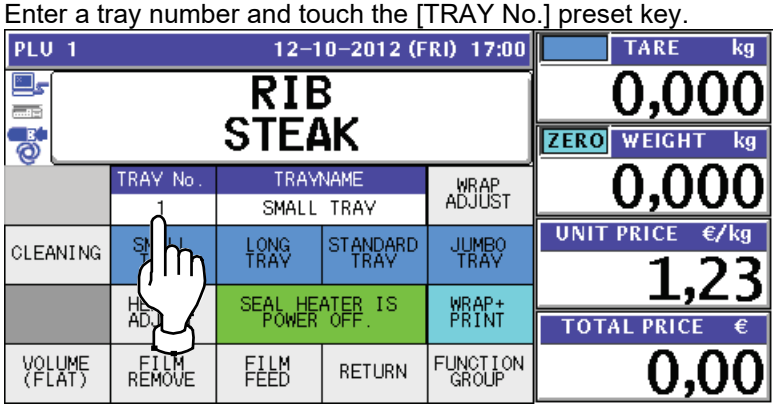
2.1.2 How to Use Preset Keys

The following preset keys are available after connecting to WM-NANO.

TRAY No. / WRAP ADJUST / CLEANING / HEATER ADJUST / WRAP STATUS / WRAP MODE / VOLUME / FILM REMOVE / FILM FEED / RETURN /

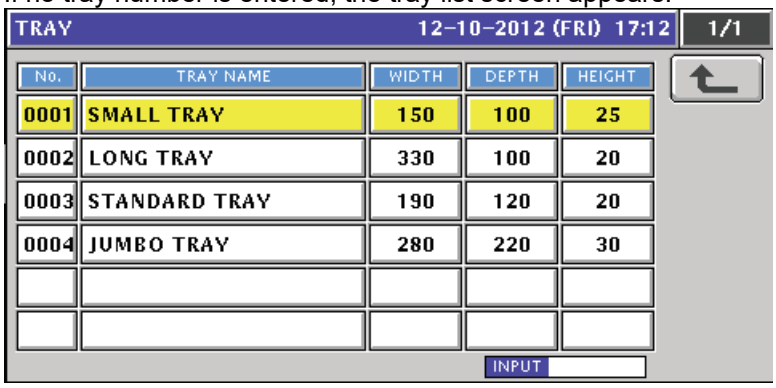
●TRAY No

Enter a tray number and touch the [TRAY No.] preset key.



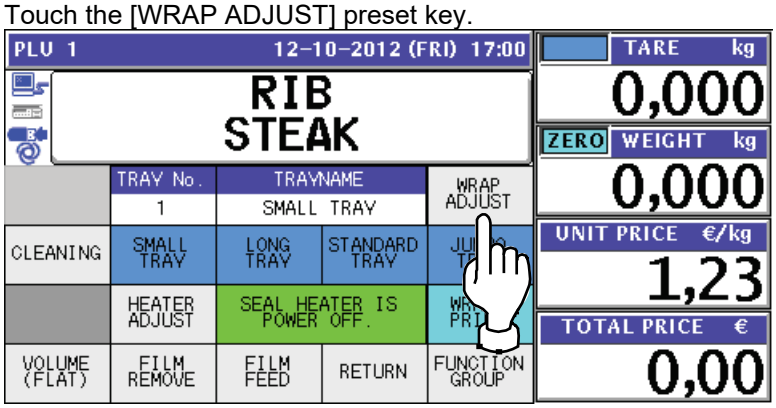
A screen for the specified tray appears.

If no tray number is entered, the tray list screen appears.

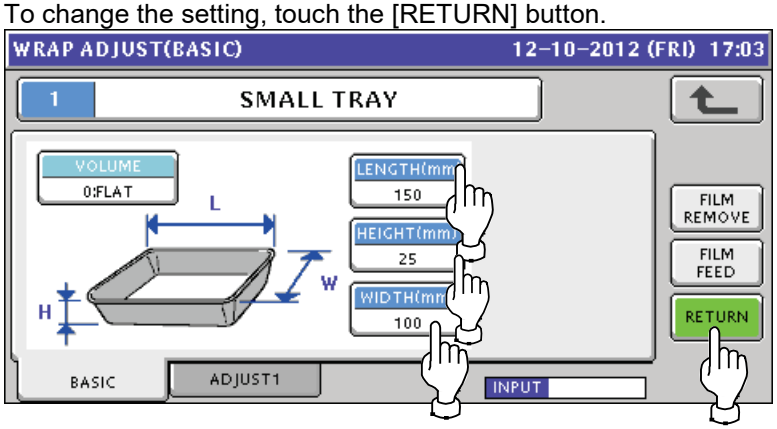


●WRAP ADJUST

Touch the [WRAP ADJUST] preset key.

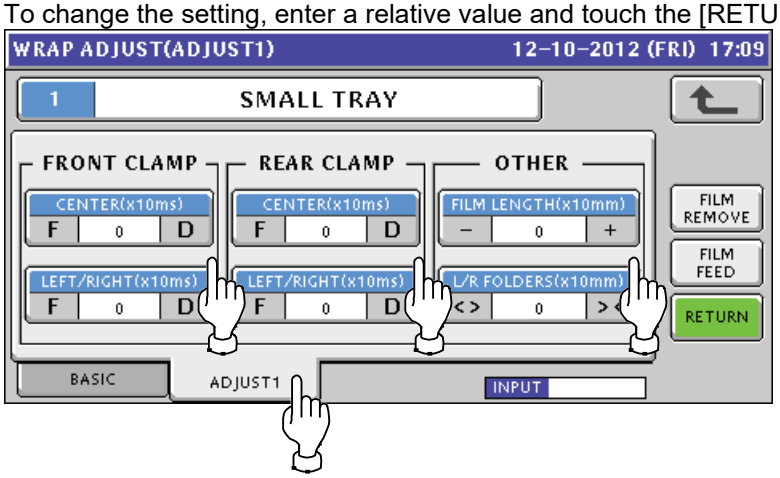


The [WRAP ADJUST] screen appears. You can configure tray width, height, and depth.
To change the setting, touch the [RETURN] button.



VOLUME	Indicates the height of the tray content. You cannot specify a value here.
LENGTH(mm)	Configures the tray width.
HEIGHT(mm)	Configures the tray height.
WIDTH(mm)	Configures the tray depth.

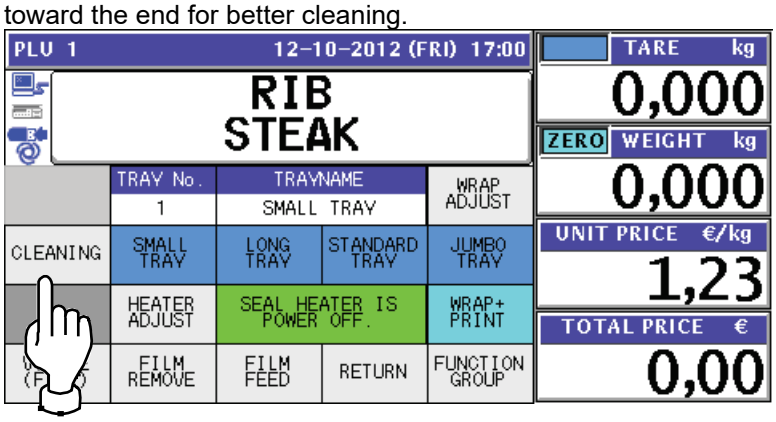
Selecting the [ADJUST1] tab allows adjustment of tray setting.
To change the setting, enter a relative value and touch the [RETURN] button.



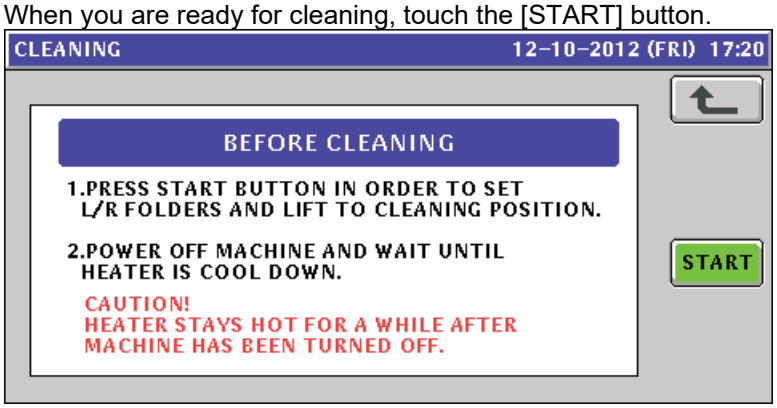
FRONT CLAMP	Adjusts the film tension with the front clamp. The larger the clamping time (larger + value), the larger the film tension becomes. The smaller (larger - value), the smaller the tension becomes.
REAR CLAMP	Adjusts the film tension with the back clamp. The larger the clamping time (larger + value), the larger the film tension becomes. The smaller (larger - value), the smaller the tension becomes.
OTHER	FILM LENGTH: Adjusts the film cut length. L/R FOLDERS: Adjusts the movement (squeezing amount) of the left and right squeezing plates. <> buttons: Squeeze outside, >< buttons: Squeeze inside

●CLEANING

Touching the [CLEANING] preset key moves up the lift and the left and right squeezing plates move toward the end for better cleaning.

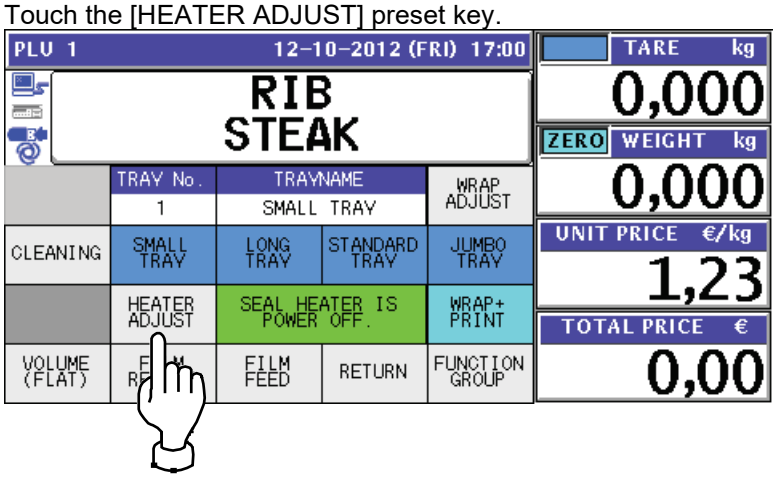


When you are ready for cleaning, touch the [START] button.



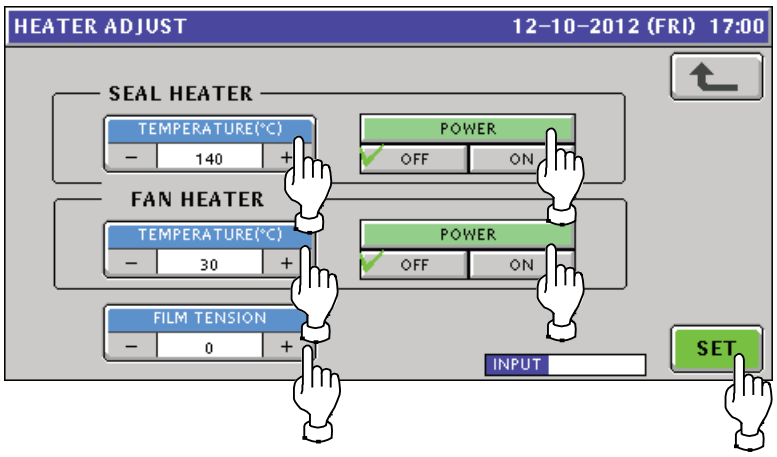
●HEATER ADJUST

Touch the [HEATER ADJUST] preset key.



The [HEATER ADJUST] screen appears.

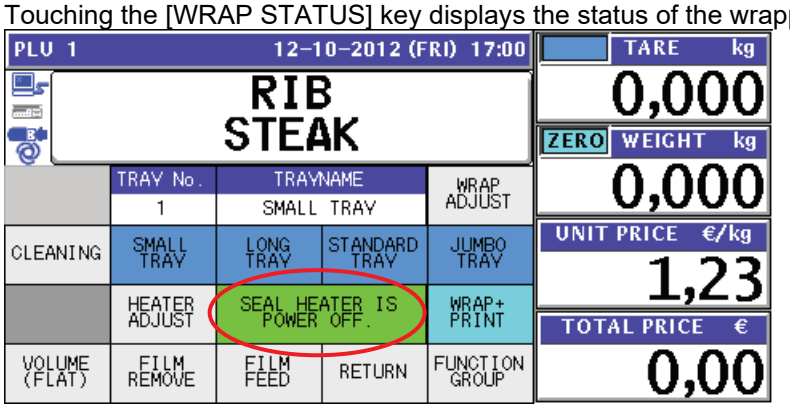
To change the setting, enter a value and touch the [SET] button.



SEAL HEATER	TEMPERATURE(°C): Configures the film sealing heater temperature. (Value range: 80 to 170℃) POWER: Switches on/off the film sealing heater power.
FAN HEATER	TEMPERATURE(°C): Configures the fan heater temperature. (Value range: 0 to 40°C) POWER: Switches on/off the fan heater power.
FILM TENSION	Adjusts the film tension. Enter a relative value. (Value range: -4 to +4)

●WRAP STATUS

Touching the [WRAP STATUS] key displays the status of the wrapper.

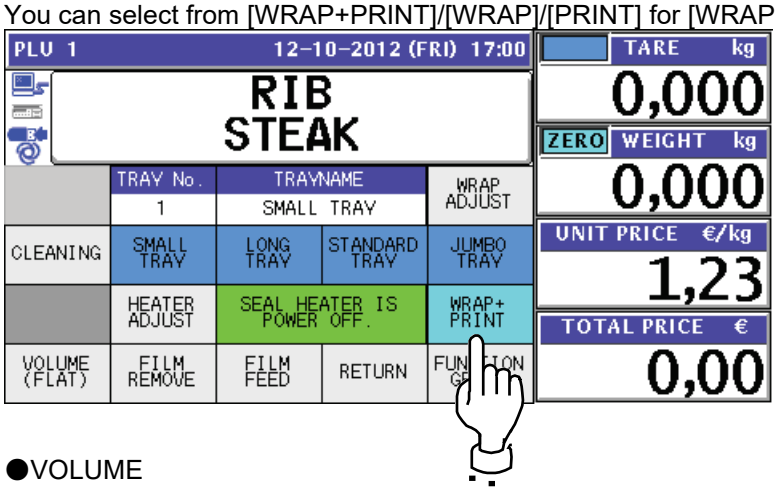


SEAL HEATER IS POWER OFF.	The film sealing heater is off.
EMRG. BTN IS PUSHED.	The emergency stop button pressed.
SEAL HEATER IS POWER ON (xxxF)	The film sealing heater is on. The programmed temperature is displayed. The key color indicates the detected temperature range. *Blue: Low, Green: Normal (programmed value +/- 18°F or 10°C), Red: High

●WRAP MODE

Touching the [WRAP MODE] preset key allows you to switch between wrapping modes of the product master.

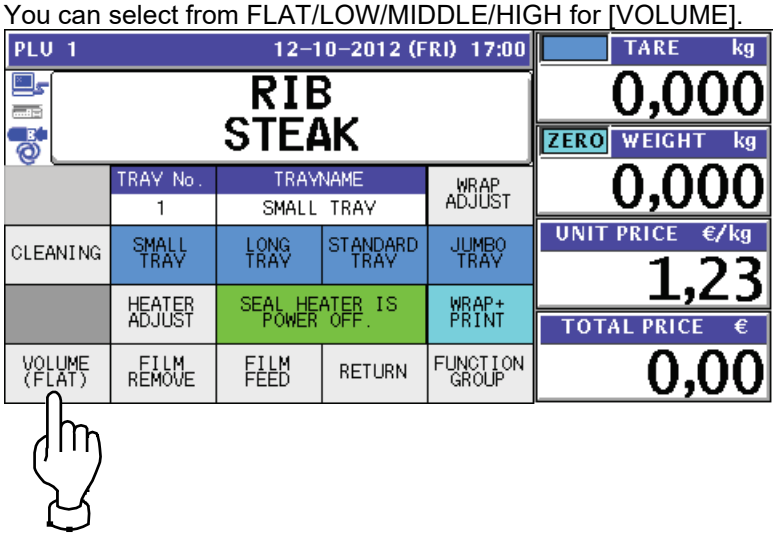
You can select from [WRAP+PRINT]/[WRAP]/[PRINT] for [WRAP MODE].



●VOLUME

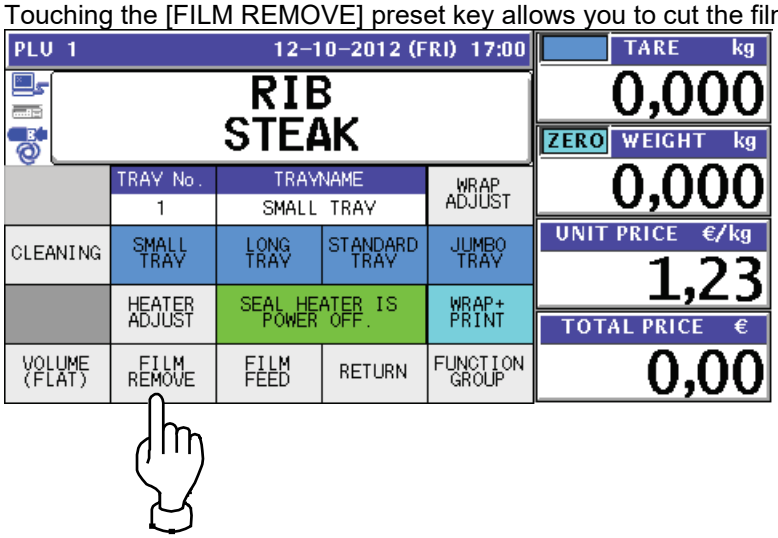
Touching the [VOLUME] preset key allows you to switch between volumes the product master.

You can select from FLAT/LOW/MIDDLE/HIGH for [VOLUME].



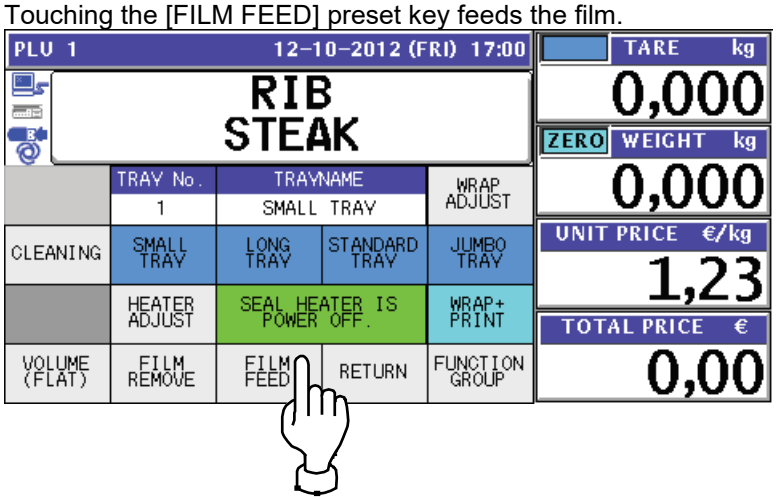
●FILM REMOVE

Touching the [FILM REMOVE] preset key allows you to cut the film and remove it from the wrapper.



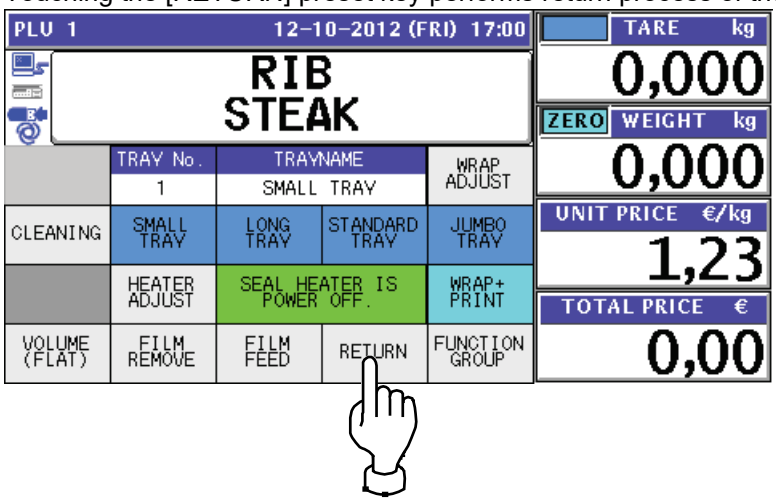
●FILM FEED

Touching the [FILM FEED] preset key feeds the film.



●RETURN

Touching the [RETURN] preset key performs return process of the drive units.

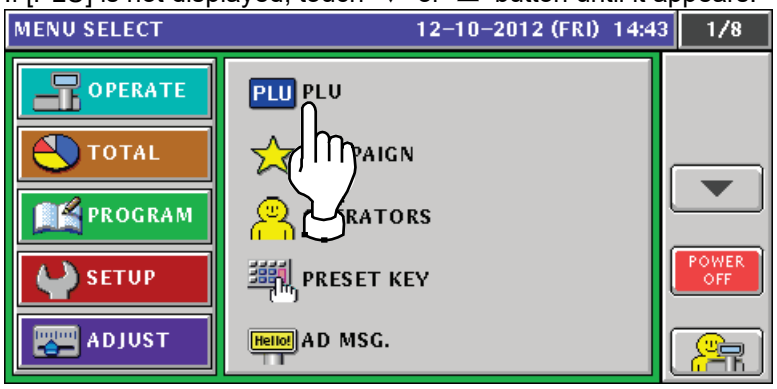


2.2 PROGRAM Mode

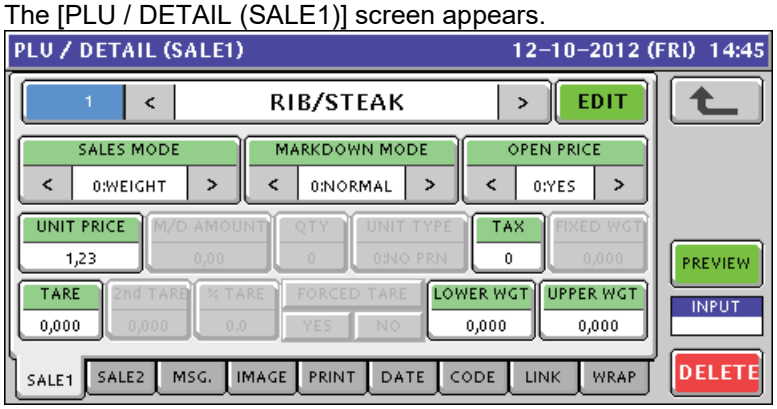
2.2.1 WRAP Tab Added to PLU

The WRAP tab has been added to PLU. In this screen, you can add [WRAP MODE], [TRAY No], and [VOLUME] to the product master.

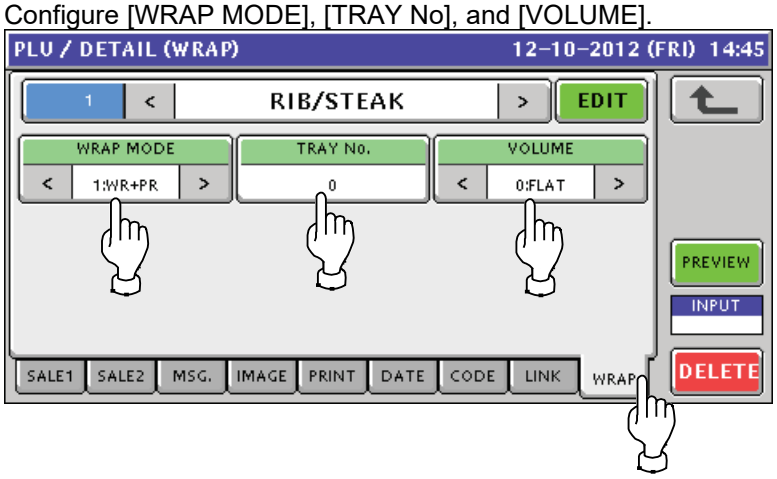
1. Touch [PLU] in the PROGRAM mode screen.
   If [PLU] is not displayed, touch ▼ or ▲ button until it appears.



2. The [PLU / DETAIL (SALE1)] screen appears.

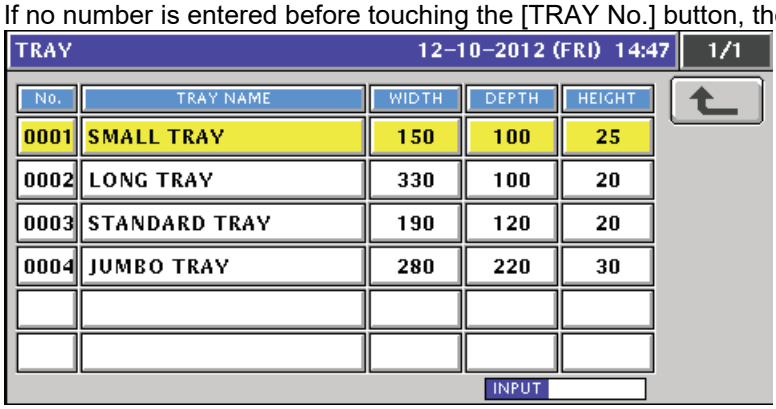


3. Touch the [WRAP] tab.
   Configure [WRAP MODE], [TRAY No], and [VOLUME].



WRAP MODE	Select from [1:WR+PR(initial value)]/[2:PRINT]/[3:WRAP].
TRAY No.	Specify a value in a range from 0 to 9999. The initial value is 0.
VOLUME	Select from [0:NON (initial value)]/[1:LOW]/[2:MIDDLE]/[3:HIGH].

If no number is entered before touching the [TRAY No.] button, the tray list screen appears.



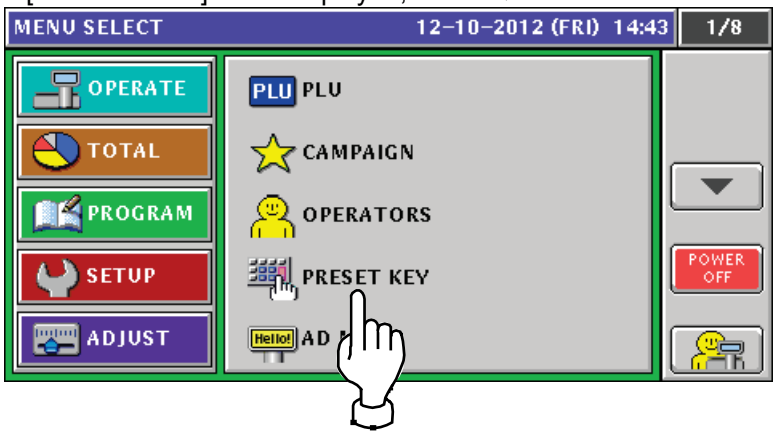
2.2.2 Preset Keys Added

Shown below are added preset keys:

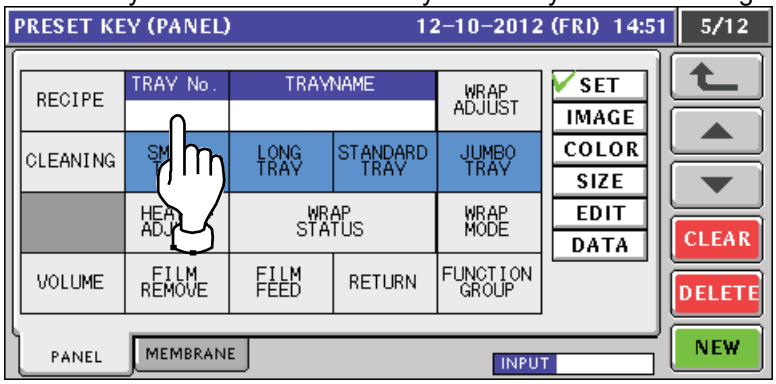
TRAY No. / WRAP ADJUST / CLEANING / HEATER ADJUST / WRAP STATUS / WRAP MODE / VOLUME / FILM REMOVE / FILM FEED / RETURN

For details of the added preset keys, see [] of the normal mode.

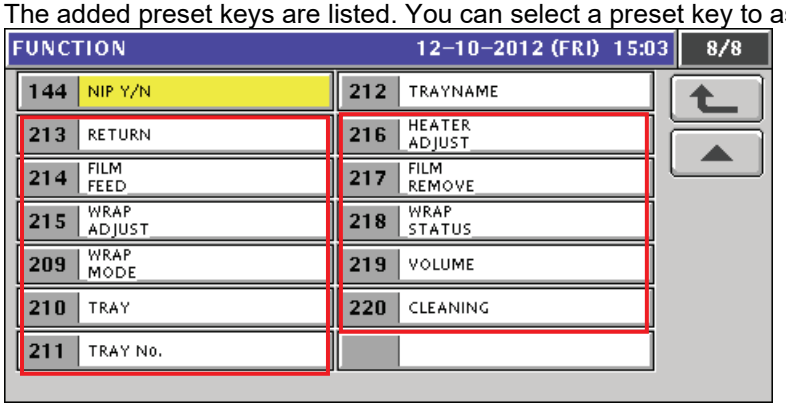
1. Touch [PRESET KEY] in the PROGRAM mode screen.
   If [PRESET KEY] is not displayed, touch ▼ or ▲ button until it appears.



2. The [PRESET KEY (PANEL)] screen appears.
   Enter a tray number and touch a key to which you want to assign the tray.

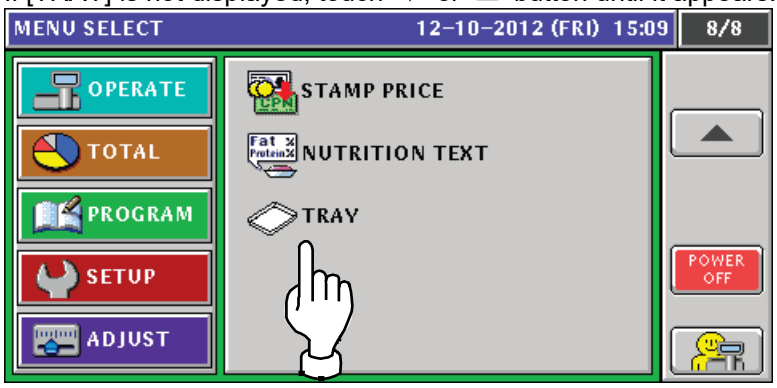


3. The [FUNCTION] screen appears.
   The added preset keys are listed. You can select a preset key to assign.

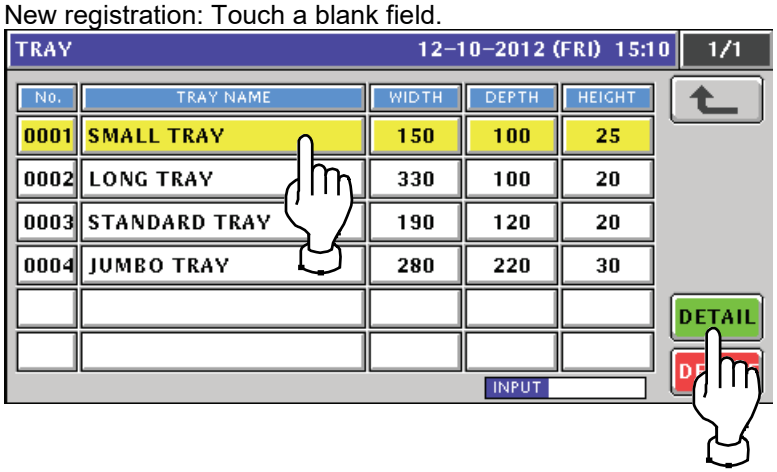


2.2.3 TRAY Added to Menu

1. Touch [TRAY] in the PROGRAM mode screen.
   If [TRAY] is not displayed, touch ▼ or ▲ button until it appears.

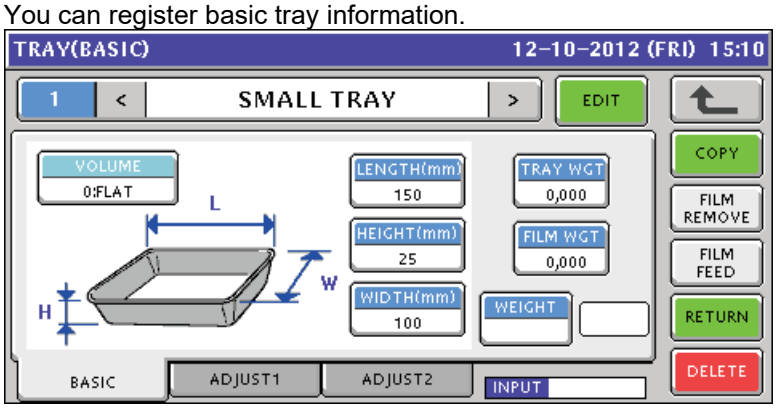


2. A list of registered trays appears in the [TRAY] screen.
   Change: Select a tray and touch the [DETAIL] button.
   New registration: Touch a blank field.



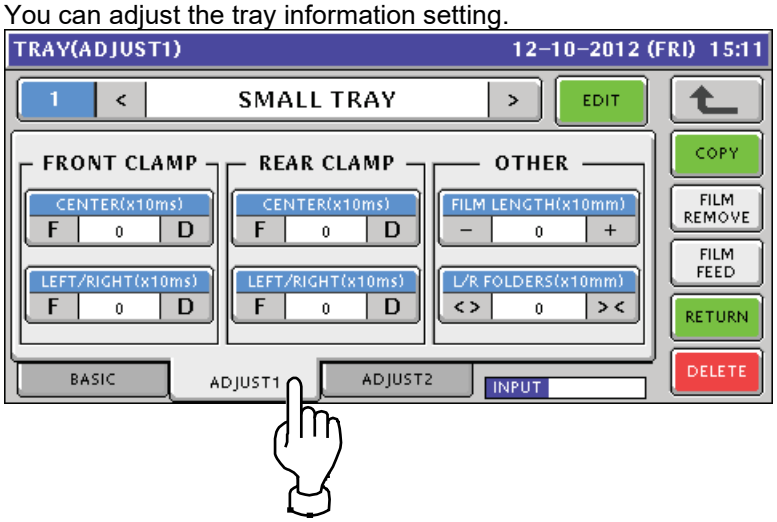
DETAIL	Displays the selected tray.
DELETE	Resets the selected tray information to the default.

3. The [TRAY(BASIC)] screen appears.
   You can register basic tray information.



VOLUME	Indicates the height of the tray content. You cannot specify a value here.
LENGTH	Configures the tray width.
HEIGHT	Configures the tray height.
WIDTH	Configures the tray depth.
TRAY WGT	Configures the tray weight.
FILM WGT	Configures the film weight.
WEIGHT	Displays the weight of the weighing target.
EDIT	Displays the tray name edit screen.
COPY	Copies the tray information acquired by entering the tray number to the current tray.
RETURN	Returns the mechanism to the initial positions.
DELETE	Deletes the tray being selected.

4. Touching the [ADJUST1] tab displays the [TRAY(ADJUST1)] screen.
   You can adjust the tray information setting.



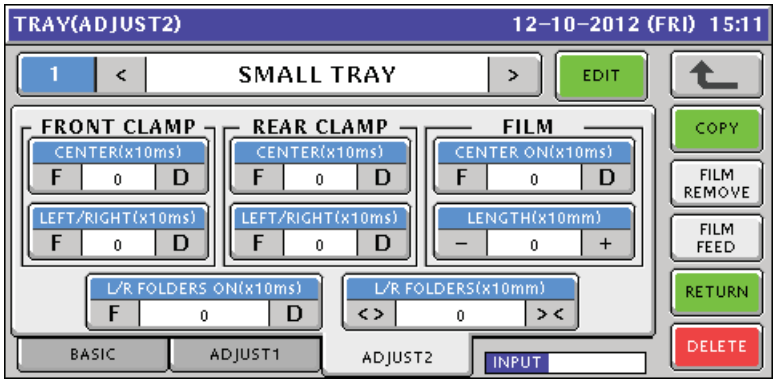
FRONT CLAMP	Adjusts the film tension with the front clamp. The larger the clamping time (larger + value), the larger the film tension becomes. The smaller (larger - value), the smaller the tension becomes.
REAR CLAMP	Adjusts the film tension with the back clamp. The larger the clamping time (larger + value), the larger the film tension becomes. The smaller (larger - value), the smaller the tension becomes.

OTHER	FILM LENGTH: Adjusts the film cut length. L/R FOLDERS: Adjusts the movement (squeezing amount) of the left and right squeezing plates. <> buttons: Squeeze outside, >< buttons: Squeeze inside

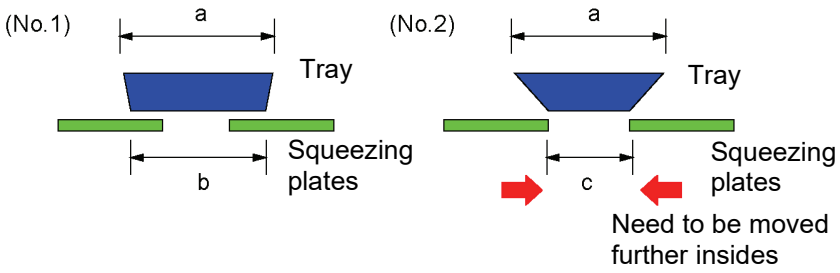
5. Touching the [ADJUST2] tab displays the [TRAY(ADJUST2)] screen.
You can fine-adjust the tray information setting than in the [TRAY(ADJUST1)] screen.

⚠CAUTION

The [TRAY(ADJUST2)] screen is provided specifically for the manufacturer. Incorrect setting may cause damage of the product or commodities. Do not change the setting unless you are qualified to do so. To display the [TRAY(ADJUST2)] screen, the password is required.



FRONT CLAMP	Adjusts the film tension with the front clamp. The larger the clamping time (larger + value), the larger the film tension becomes. The smaller (larger - value), the smaller the tension becomes.
REAR CLAMP	Adjusts the film tension with the back clamp. The larger the clamping time (larger + value), the larger the film tension becomes. The smaller (larger - value), the smaller the tension becomes.
FILM	CENTER ON: Adjusts the feeding film stop position. LENGTH: Adjusts the film cut length.
L/R FOLDERS ON	Adjusts the timing of the left and right squeezing plates to start moving. F button: Earlier, D button: Later

L/R FOLDERS	Adjusts the movement (squeezing amount) of the left and right squeezing plates. <> buttons: Squeeze outside, >< buttons: Squeeze inside For tray registration, enter the upper-end dimensions (wider/narrower side) "a" of the tray as shown in the figure below. The left and right squeezing plates operate based on the dimensions. If the bottom size of the tray is like the example (No.2), you must squeeze more than for the size "b". Otherwise the film may not be sufficiently attached to the bottom. In such a case, use L/R FOLDERS. 

- The default wrapping conditions are calculated based on the tray width, depth, and height.
- Specify a relative value from the default for each item. Specifying a +5 value for an item configures the operation as +5 timing or amount to its default value.
- Common items are linked between [TRAY(BASIC)], [TRAY(ADJUST1)], and [TRAY(ADJUST2)] screens. (A change of a value in one screen is reflected to the other screens)
- You can enter a value in a range from -99 to +99. Even if you enter a value over the limit for the item, the operation shall be done with the limit value.
- Limit values differ for the items. They differ for tray sizes and film widths as well.

2.3 SETUP Mode

2.3.1 Switching to Service Mode

To display all menu items of the SETUP mode, switch to the Service Mode.

1. In the SETUP mode screen, enter “495344" and touch the [PLU] key.

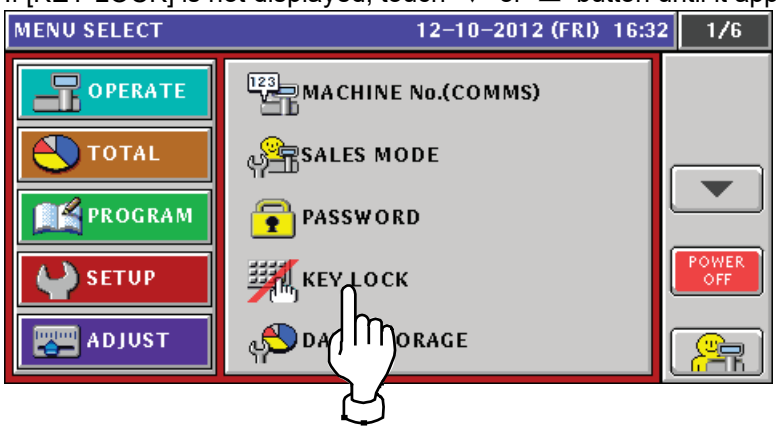
The hidden menu appears.

2.3.2 FUNCTION KEY Items Added to KEY LOCK

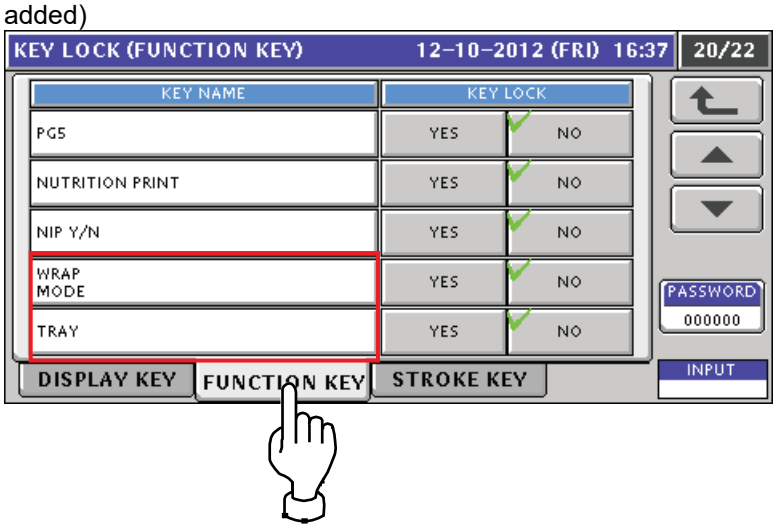
The following items are added to the [FUNCTION KEY] tab of [KEY LOCK].

WRAP MODE / TRAY / TRAYNo. / TRAYNAME / WRAP ADJUST / HEATER ADJUST / VOLUME / CLEANIG

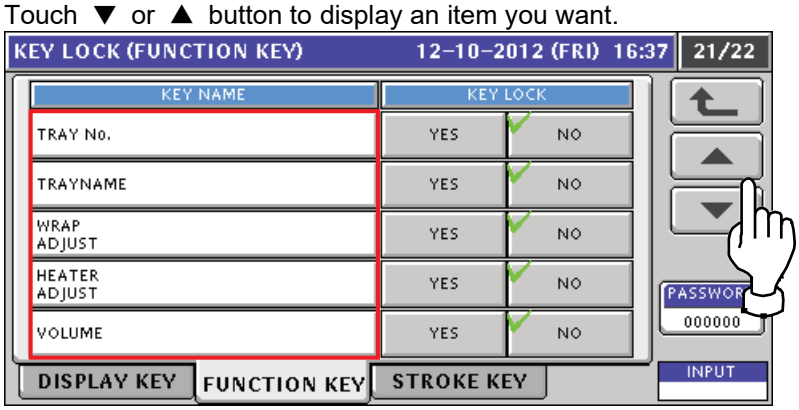
1. Touch [KEY LOCK] in the SETUP mode screen.
   If [KEY LOCK] is not displayed, touch ▼ or ▲ button until it appears.

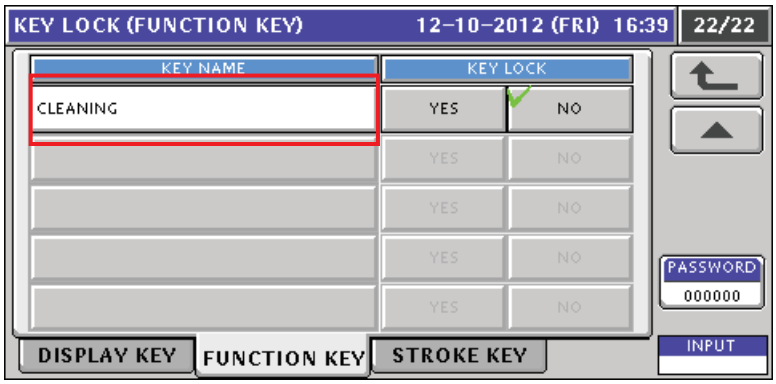


2. The [KEY LOCK (DISPLAY KEY)] screen appears.
   Touch the [KEY LOCK(FUNCTION KEY)] tab. (The items in the red frames shown below have been added)



Touch ▼ or ▲ button to display an item you want.



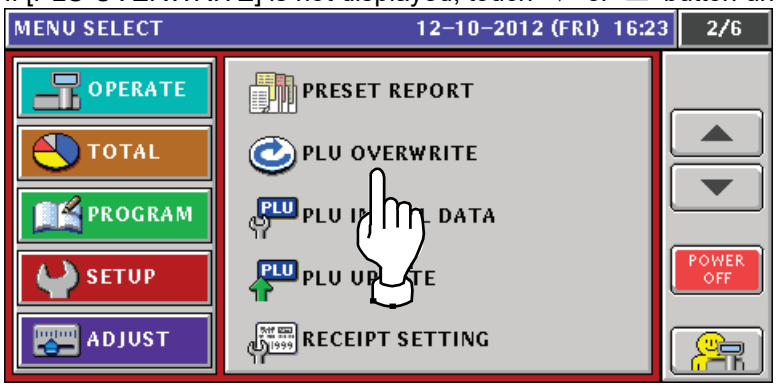


3. To change the KEY LOCK, touch [YES] or [NO] in the item.

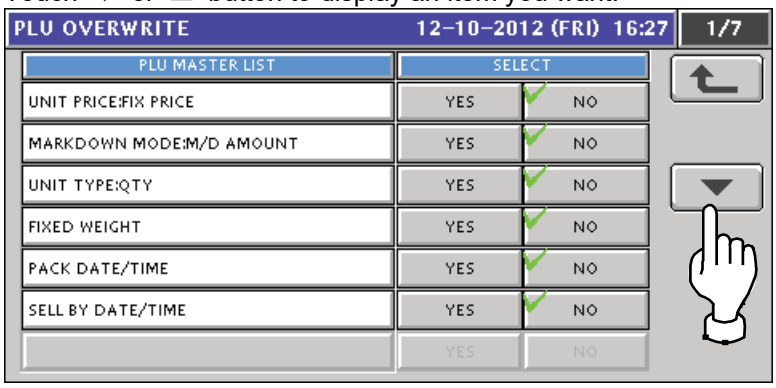
2.3.3 Items Added to PLU OVERWRITE

Items of TRAY No / WRAP MODE / VOLUME have been added to [PLU OVERWRITE].

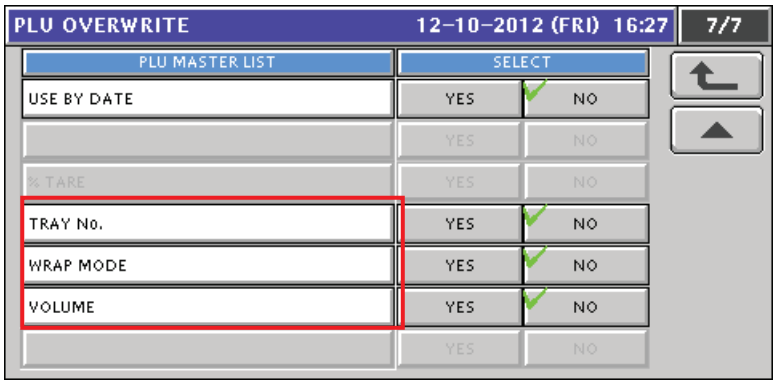
1. Touch [PLU OVERWRITE] in the SETUP mode screen.
   If [PLU OVERWRITE] is not displayed, touch ▼ or ▲ button until it appears.



2. The [PLU OVERWRITE] screen appears.
   Touch ▼ or ▲ button to display an item you want.



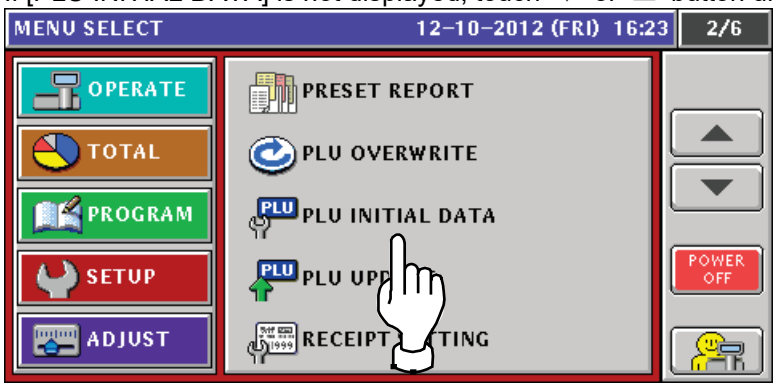
The items in the red frames shown below have been added.



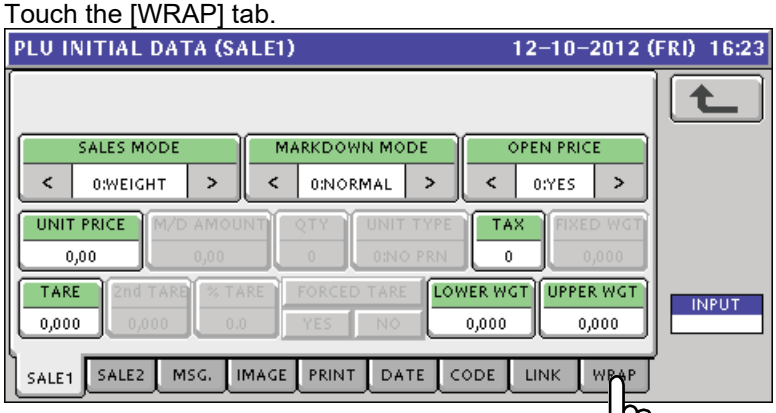
2.3.4 WRAP Tab Added to PLU INITIAL DATA

The WRAP tab (TRAY No / WRAP MODE / VOLUME) has been added to [PLU INITIAL DATA].

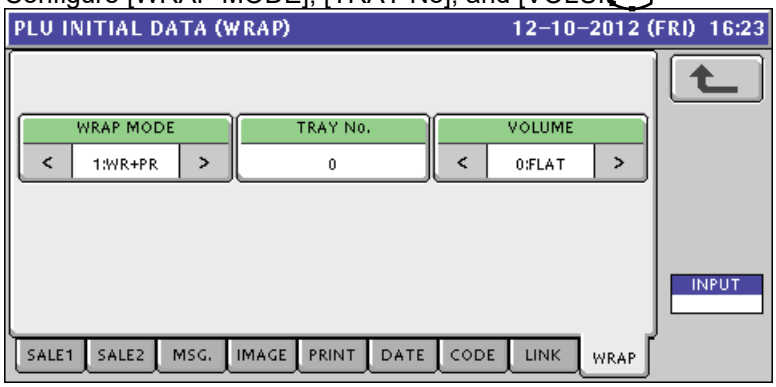
1. Touch [PLU INITIAL DATA] in the SETUP mode screen.
   If [PLU INITIAL DATA] is not displayed, touch ▼ or ▲ button until it appears.



2. The [PLU INITIAL DATA] screen appears.
   Touch the [WRAP] tab.

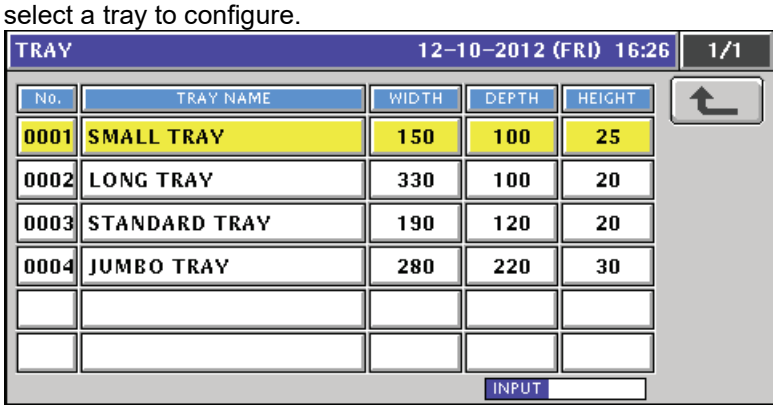


3. Configure [WRAP MODE], [TRAY No], and [VOLUME].



WRAP MODE	Select from [1:WR+PR(initial value)]/[2:PRINT]/[3:WRAP].
TRAY No.	Specify a value in a range from 0 to 9999. The initial value is 0.
VOLUME	Select from [0:FLAT (initial value)]/[1:LOW]/[2:MIDDLE]/[3:HIGH].

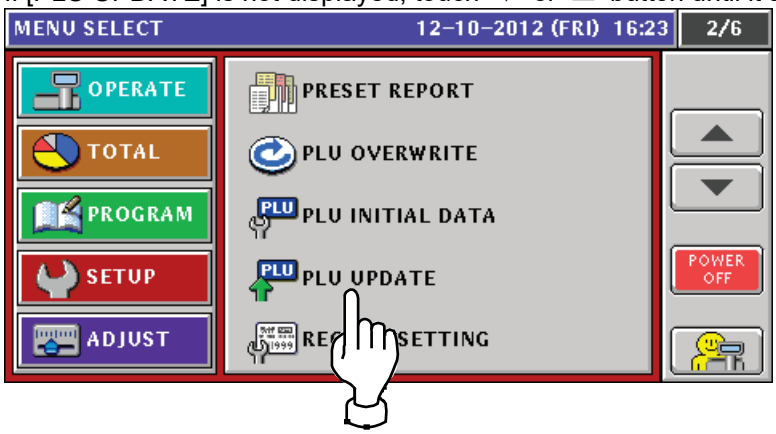
If no number is entered before touching the [TRAY No.] button, the tray list screen appears. You can select a tray to configure.



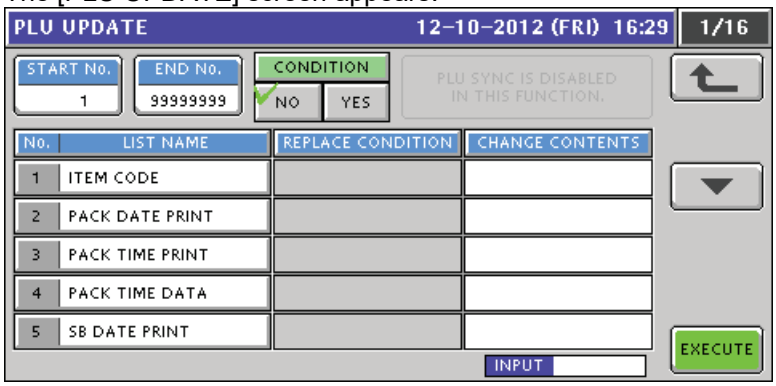
2.3.5 Items Added to PLU UPDATE

Items of TRAY No / WRAP MODE / VOLUME have been added to [PLU UPDATE].

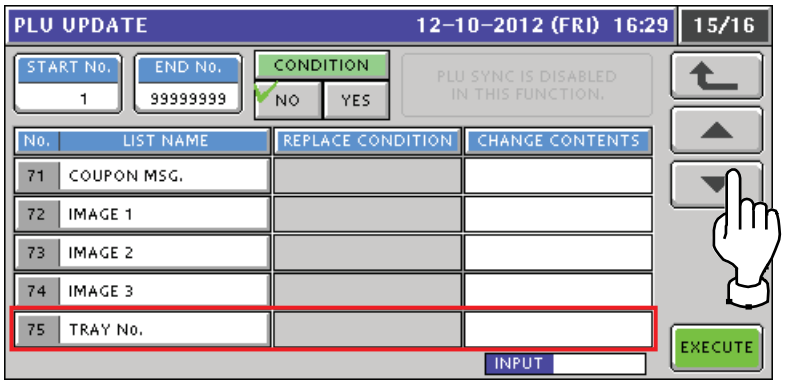
1. Touch [PLU UPDATE] in the SETUP mode screen.
   If [PLU UPDATE] is not displayed, touch ▼ or ▲ button until it appears.

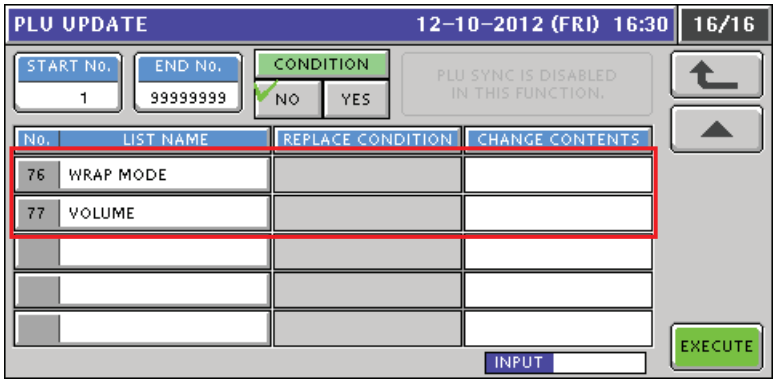


2. The [PLU UPDATE] screen appears.



3. Touch ▼ or ▲ button to display an item you want.
   The items in the red frames shown below have been added.



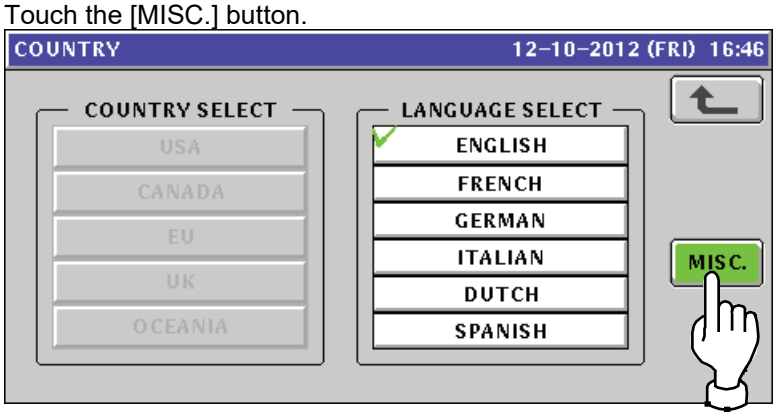


2.3.6 COUNTRY (MISC) Screen Added

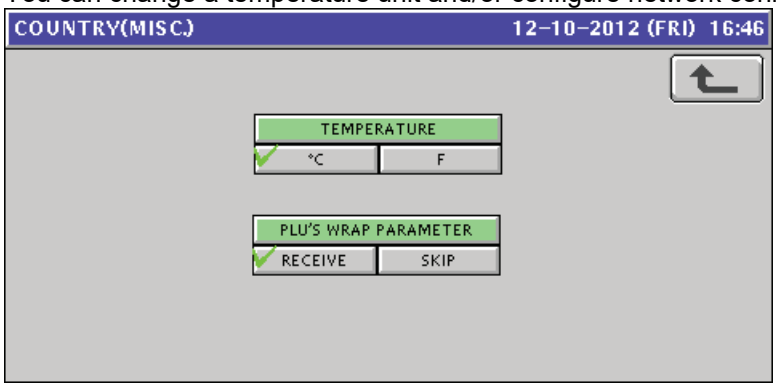
The [COUNTRY(MISC) WRAP] screen has been added to COUNTRY. You can change a temperature unit and/or configure network connection with the host system.

1. Touch [COUNTRY] in the SETUP mode screen.
   If [COUNTRY] is not displayed, touch ▼ or ▲ button until it appears.

2. The [COUNTRY] screen appears.
   Touch the [MISC.] button.



3. The [COUNTRY(MISC)] screen appears.
   You can change a temperature unit and/or configure network connection.



TEMPERATURE	Switches the temperature indication between °C (Celsius) and F (Fahrenheit).
PLU'S WRAP PARAMETER	RECEIVE: When the product master is sent from the host system, items related to the wrapper (*) are acquired. * Select this item if the host system supports WM-NANO.

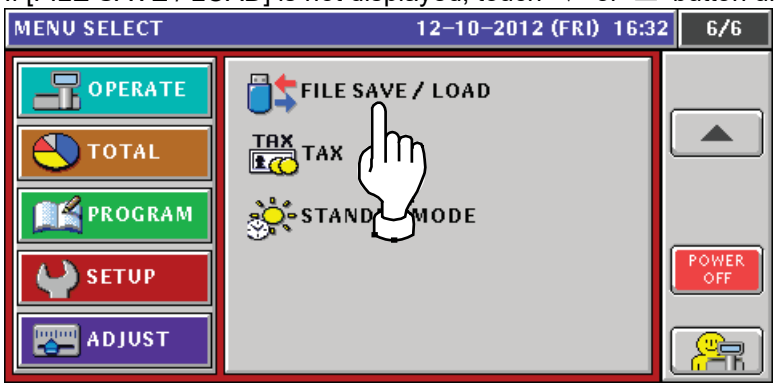
	SKIP: When the product master is sent from the host system, items related to the wrapper (*) are omitted. * Select this item if the host system does not support WM-NANO. (*) Items related to the wrapper = (TRAY No. / VOLUME / WRAP MODE)

2.3.7 Tray Master Added to FILE SAVE / LOAD

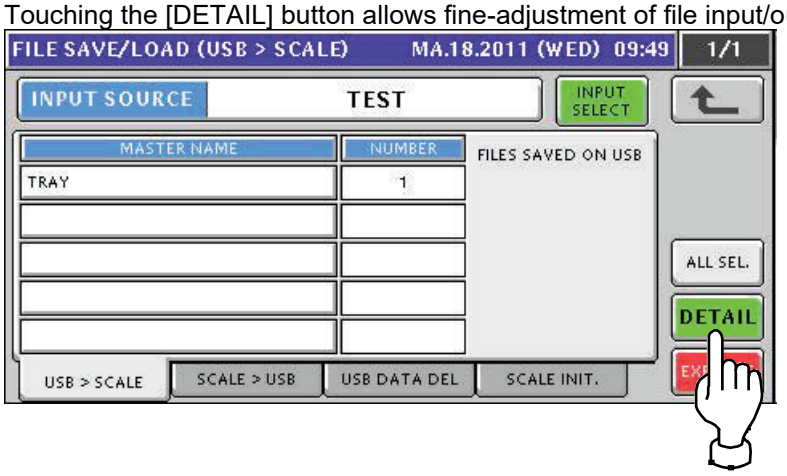
The tray master has been added to the master list of [FILE SAVE / LOAD].

1. Insert a USB memory stick to the USB connector.

2. Touch [FILE SAVE / LOAD] in the SETUP mode screen.
   If [FILE SAVE / LOAD] is not displayed, touch ▼ or ▲ button until it appears.



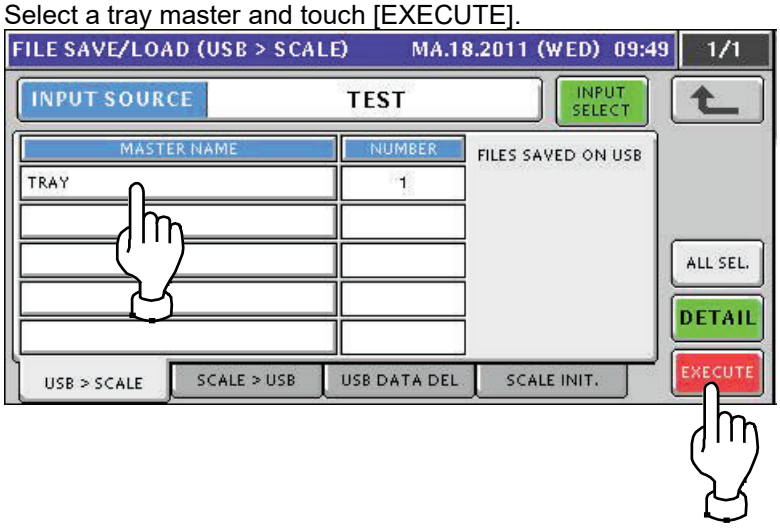
3. The [FILE SAVE / LOAD (USB > SCALE)] screen appears.
   Touching the [DETAIL] button allows fine-adjustment of file input/output.



4. Select a tab to perform file input/output of a tray master.

● To input a tray master from a USB memory stick

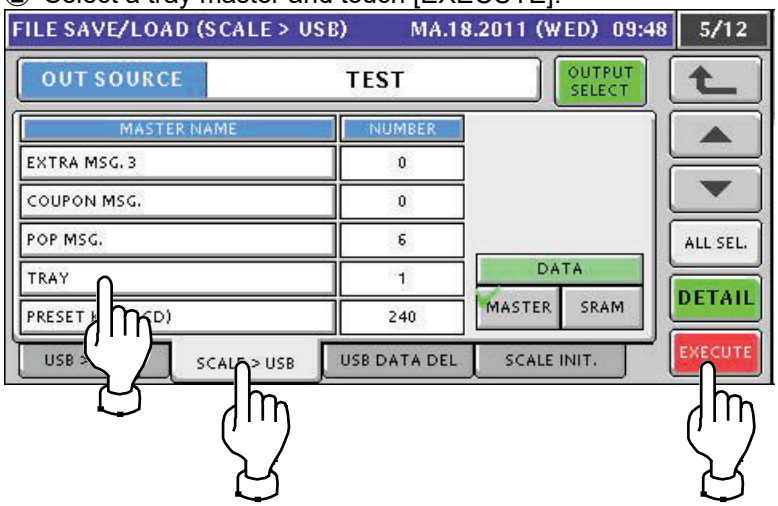
Select a tray master and touch [EXECUTE].



● To output to a USB memory stick

① Touch the [SCALE > USB] tab.

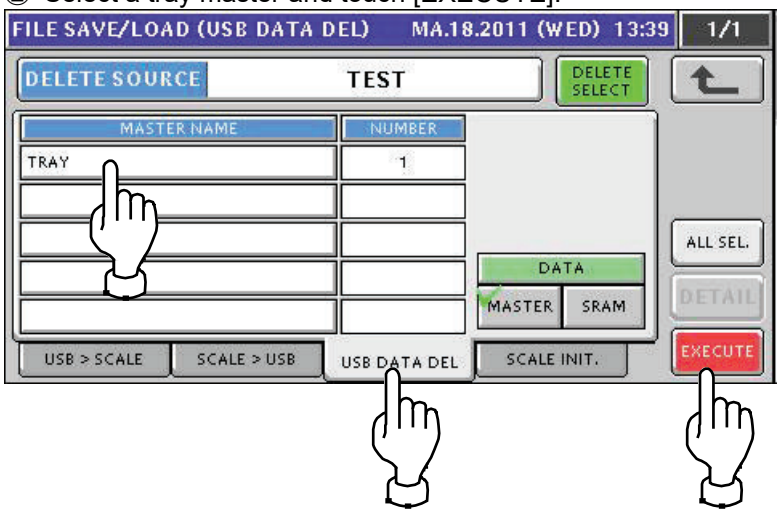
② Select a tray master and touch [EXECUTE].



● To delete a tray master in a USB memory stick

① Touch the [USB DATA DEL] tab.

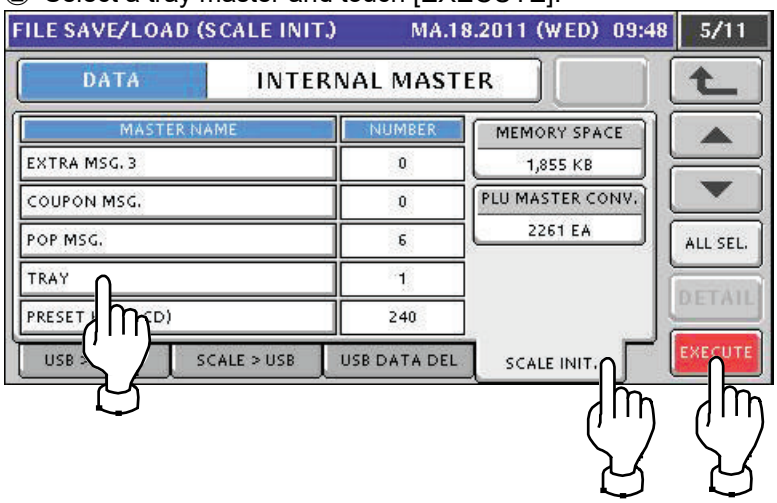
② Select a tray master and touch [EXECUTE].



● To initialize an internal tray master

① Touch the [SCALE INIT.] tab.

② Select a tray master and touch [EXECUTE].



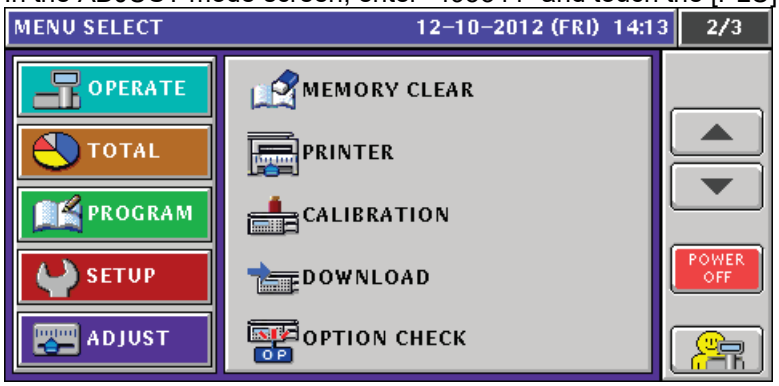
5. The confirmation screen appears. To execute, touch the [EXEC] button.

2.4 ADJUST Mode

2.4.1 Switching to Service Mode

To display all menu items of the ADJUST mode, switch to the Service Mode.

1. In the ADJUST mode screen, enter "495344" and touch the [PLU] key.

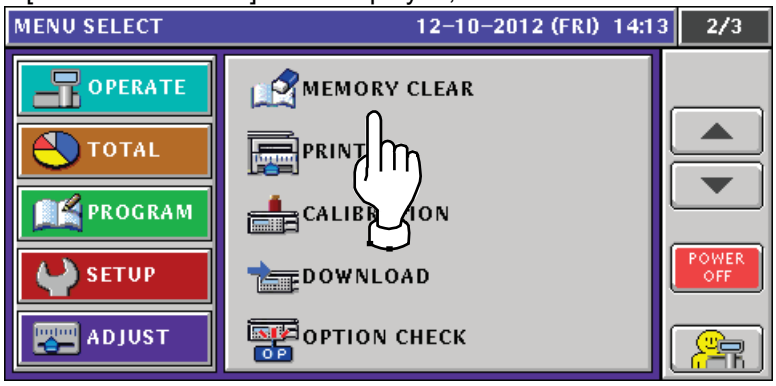


The hidden menu appears.

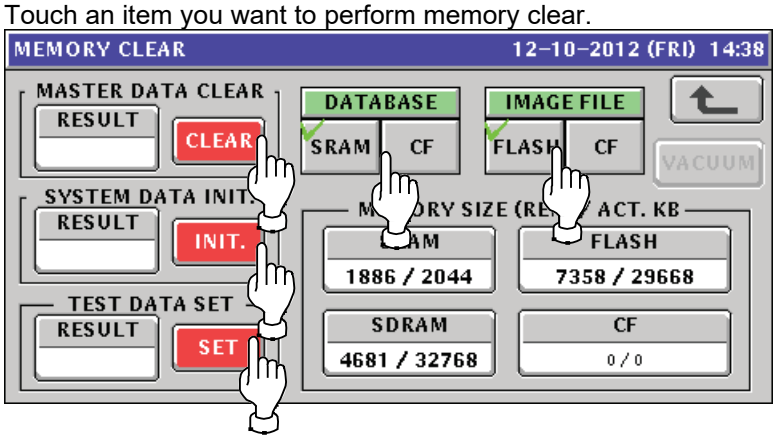
2.4.2 MEMORY CLEAR Items Added

The items of database and image files have been added to [MEMORY CLEAR].

1. Touch [MEMORY CLEAR] in the ADJUST mode screen.
If [MEMORY CLEAR] is not displayed, touch ▼ or ▲ button until it appears.



2. Touch an item you want to perform memory clear.



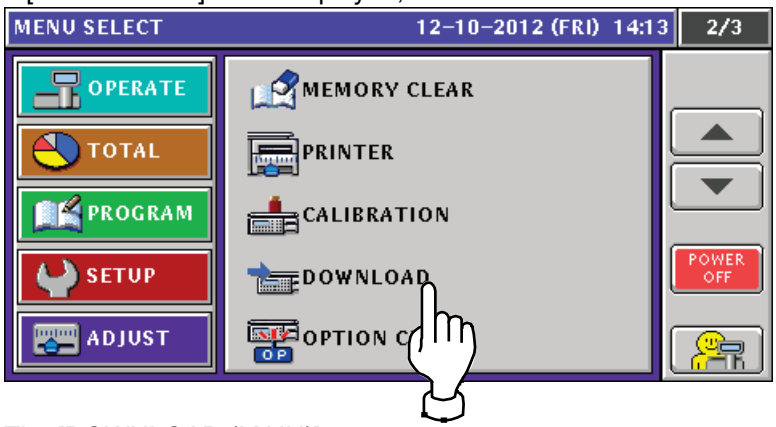
MASTER DATA CLEAR	RESULT: Displays the execution result of the master data clear. CLEAR: Clears master data other than the device-specific information and configures minimum required data for operation.
SYSTEM DATA INIT.	RESULT: Displays the execution result of the system data initialization. CLEAR: Initializes the system data.
TEST DATA SET	RESULT: Displays the execution result of the test data registration. SET: Registers test data for adjustment (product master/tray master).
DATA BASE	Specifies which memory should be used to create database. * After changing the setup, you need to restart the power and initialize the memory.
IMAGE FILE	Specifies which memory should be used to create image data.
MEMORY SIZE	Displays SRAM, FLASH, SDRAM, and CF memory.

3. The confirmation screen appears. To execute, touch [EXEC].

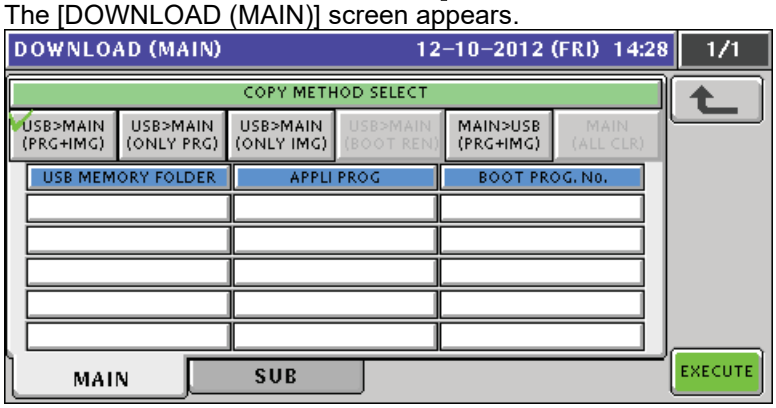
2.4.3 SUB Tab Added to DOWN LOAD

1. Insert a USB memory stick to the USB connector.

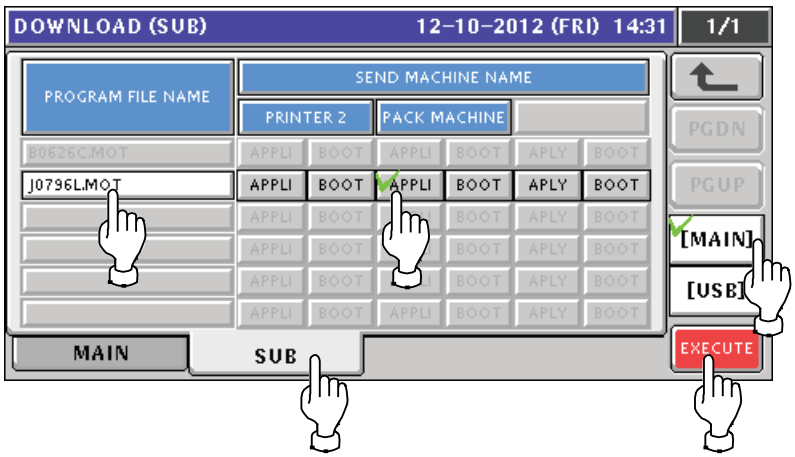
2. Touch [DOWN LOAD] in the ADJUST mode screen.
   If [DOWN LOAD] is not displayed, touch ▼ or ▲ button until it appears.



3. The [DOWNLOAD (MAIN)] screen appears.



4. Touch the [SUB] tab.
   Select a program, destination peripheral device, and copy source, and touch the [EXECUTE] button.



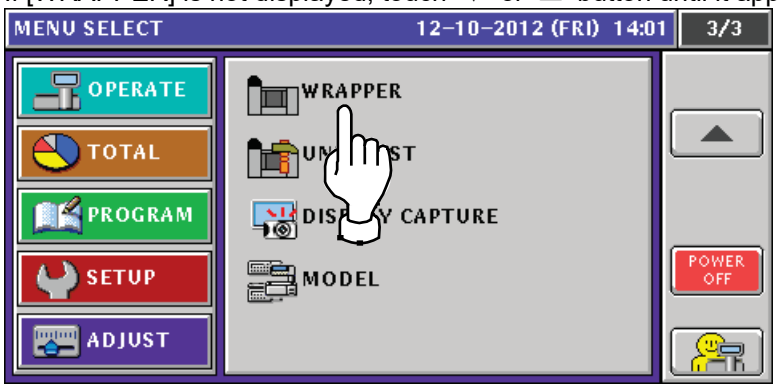
PROGRAM FILE NAME	Specifies a program.
SEND MACHINE NAME	Specifies a destination peripheral device for downloading.
MAIN	Specifies a program in the main unit's flash ROM as the source.
SUB	Specifies a program in the USB memory as the source.
EXECUTE	Executes download.

5. The confirmation screen appears. To execute, touch [EXEC].

2.4.4 WRAPPER Added to Menu

The [WRAPPER] has been added to the ADJUST mode menu. You can configure the wrapper setting through this function.

1. Touch [WRAPPER] in the ADJUST mode screen.
   If [WRAPPER] is not displayed, touch ▼ or ▲ button until it appears.

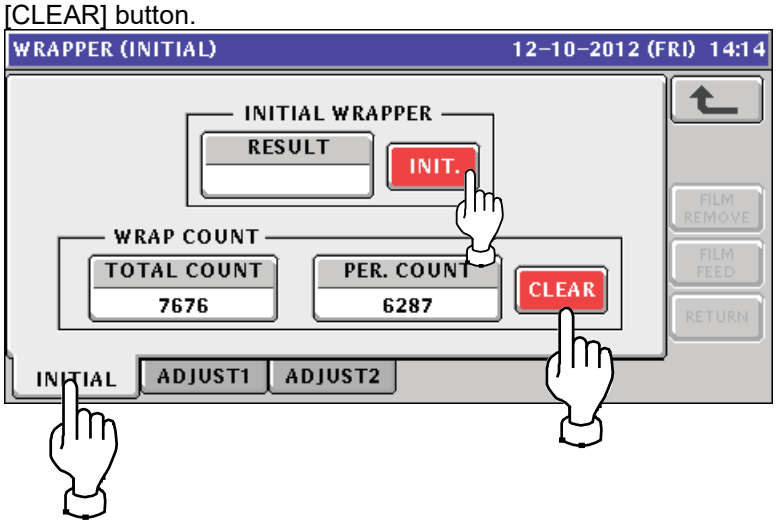


2. The [WRAPPER (INITIAL)] screen appears.
   You can configure the wrapper setting in each tab.

● To initialize wrapper setting or wrapping count

① Touch the [INITIAL] tab.

② To initialize the wrapper setting, touch the [INIT.] button. To clear the wrapping count, touch the [CLEAR] button.

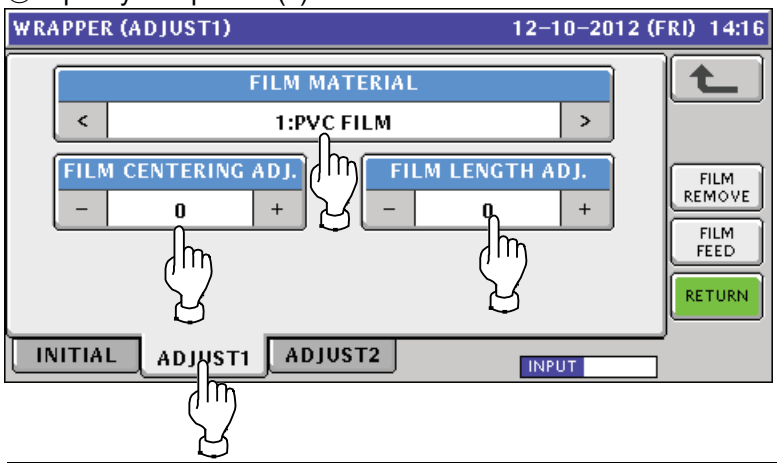


INITIAL WRAPPER	RESULT: Displays the execution result of the initialization. INIT. button: Initializes the wrapper setting data.
WRAP COUNT	TOTAL COUNT: Displays the accumulated wrapping count. PER. COUNT: Displays the wrapping count. CLEAR button: Clears the PER. COUNT wrapping count. * To clear the TOTAL COUNT wrapping count, enter "495344" and touch the [CLEAR] button.

● To configure film

① Touch the [ADJUST1] tab.

② Specify setup value(s).

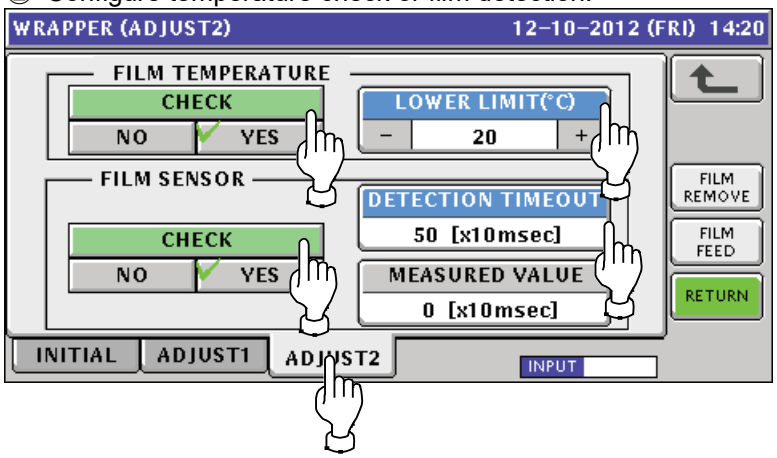


FILM MATERIAL	Touch < or > key to select a film material from: 1:PVC FILM* 2:PS FILM1* 3:PVC FILM2** * [1:PVC FILM] and [2:PS FILM1] have different setup temperatures of the sealing heater, while they are the same in the wrapping operation. ** [3:PVC FILM2] has a different film conveying operation. Use this setting if the film is hard to peel off from the roll.
FILM CENTERING ADJ.	Adjusts the stop position of the film for feeding. + Moving to the right (film conveying direction) - Moving to the left The input range is from -99 to 99. The initial value is 0.
FILM LENGTH ADJ.	Adjusts the length of the film for feeding. + Longer - Shorter The input range is from -99 to 99. The initial value is 0.

● To configure temperature check or film detection

① Touch the [ADJUST2] tab.

② Configure temperature check or film detection.

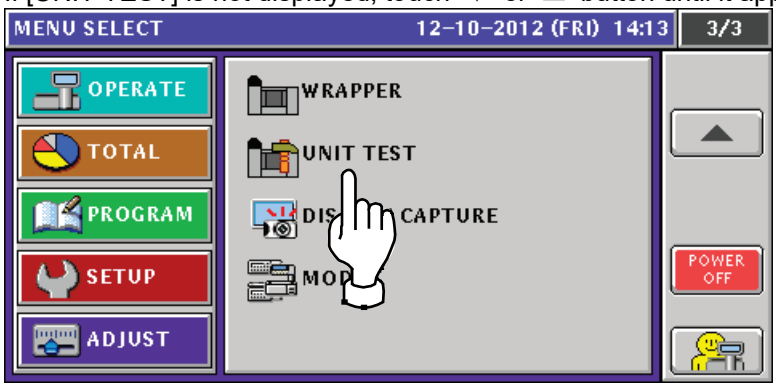


FILM TEMPERATURE	CHECK: Configures if the temperature in the wrapper should be checked before wrapping.
FILM SENSOR	CHECK: Specifies if the film existence should be detected for film feeding. DETECTION TIMEOUT: Specifies a time to determine that there is no film detected. MEASURED VALUE: Displays the actual time of film detection.

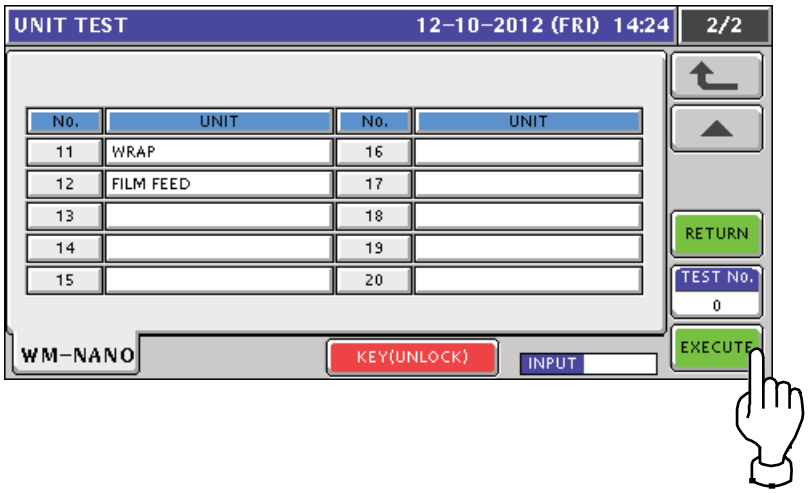
2.4.5 UNIT TEST Added to Menu

The [UNIT TEST] has been added to the ADJUST mode menu. You can use this function to operate the units for test.

1. Touch [UNIT TEST] in the ADJUST mode screen.
   If [UNIT TEST] is not displayed, touch ▼ or ▲ button until it appears.



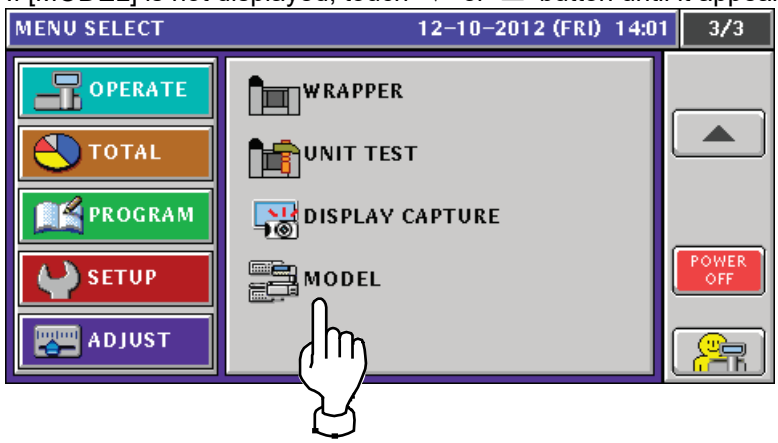
2. Select a unit you want to operate and touch [EXECUTE].
   If the unit is not displayed, touch ▼ or ▲ button until it appears.



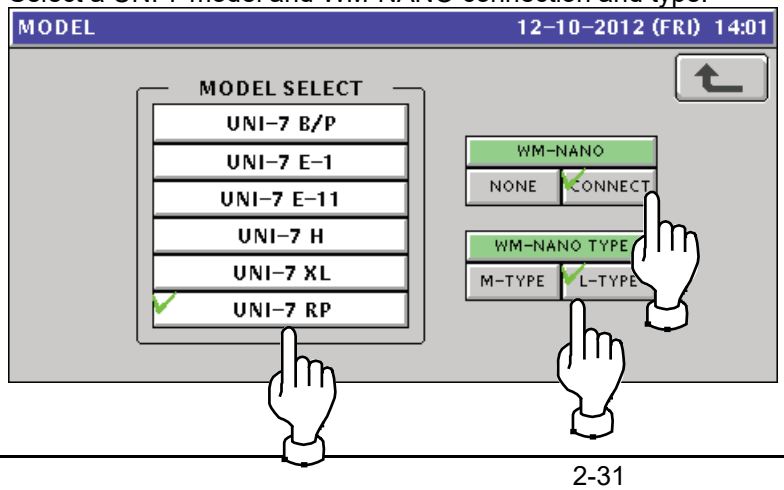
RETURN	Returns the mechanism to the initial positions.
TEST No.	Specifies a unit to operate. Enter a value to specify. (0 means operation stop)
EXECUTE	Operates the unit of the specified number.
KEY(UNLOCK) KEY(ONLY STOP)	KEY(UNLOCK) Releases the key lock. KEY(ONLY STOP) Locks the key.

2.4.6 WM-NANO Added to MODEL

1. Touch [MODEL] in the ADJUST mode screen.
   If [MODEL] is not displayed, touch ▼ or ▲ button until it appears.

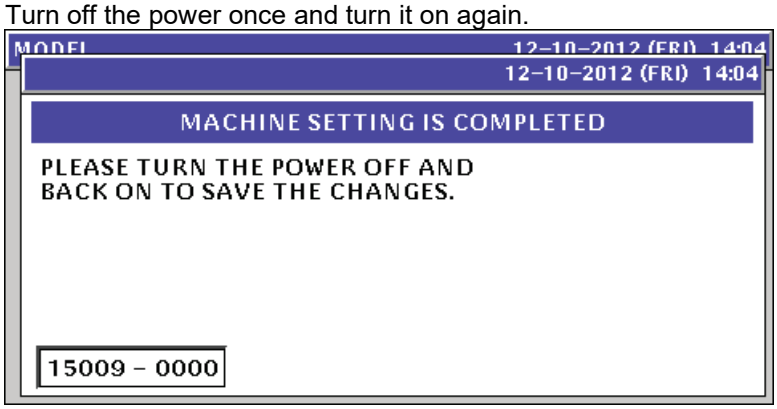


2. The [MODEL] screen appears.
   Select a UNI-7 model and WM-NANO connection and type.



MODEL SELECT	Select a UNI-7 model.
WM-NANO	Select whether WM-NANO is to be connected or not.
WM-NANO TYPE	Select a WM-NANO type.

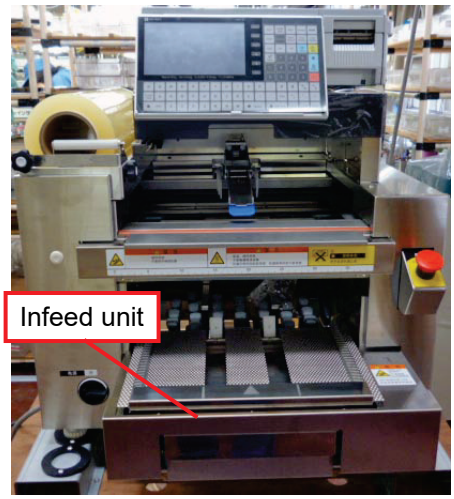
3. After configuration, switching the screen displays the following screen.
   Turn off the power once and turn it on again.

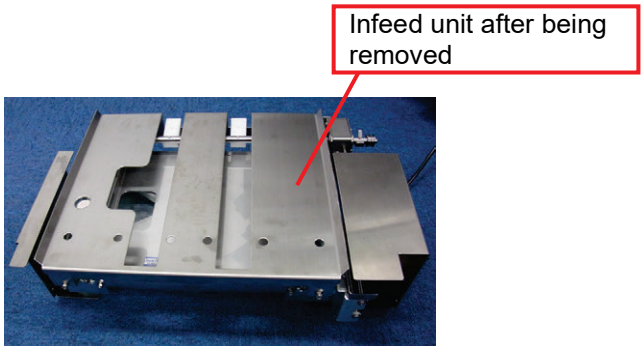


Chapter 3 Hardware (Mechanical)

3.1 Removing Units

3.1.1 Removing the Infeed Unit

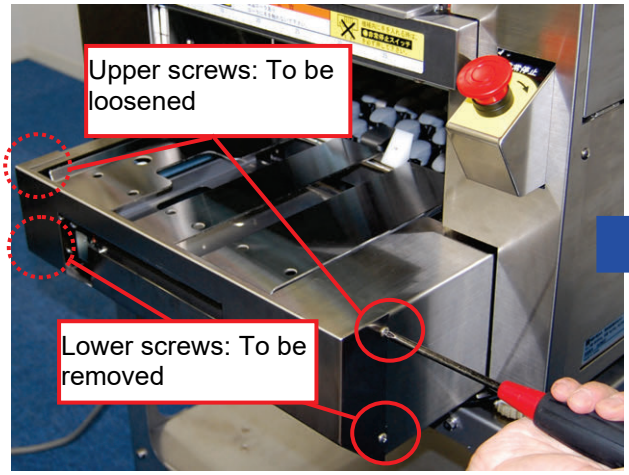


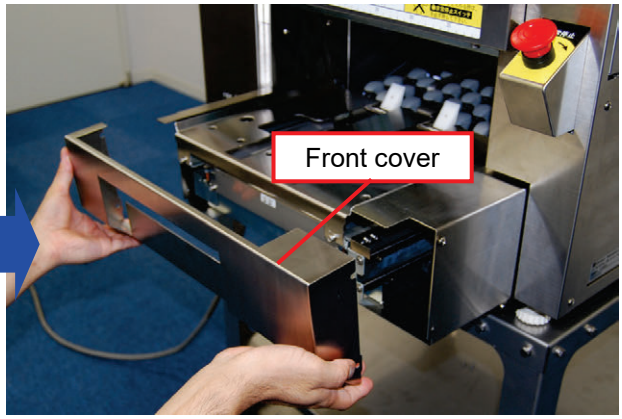


1）Remove the weighing table.

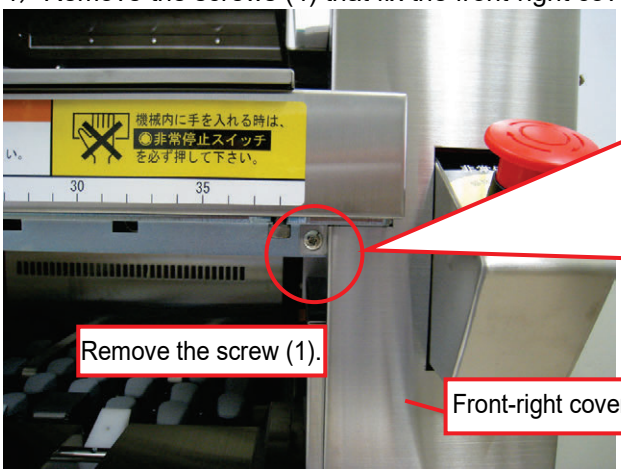
2）Remove the garbage tray.

3）Remove the screws (4) on both sides to remove the front cover.

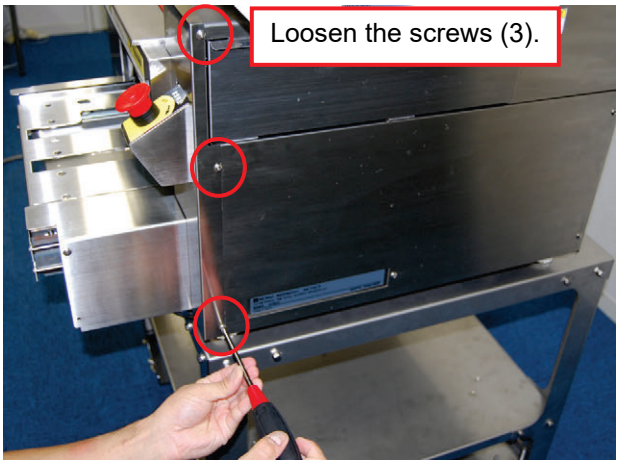




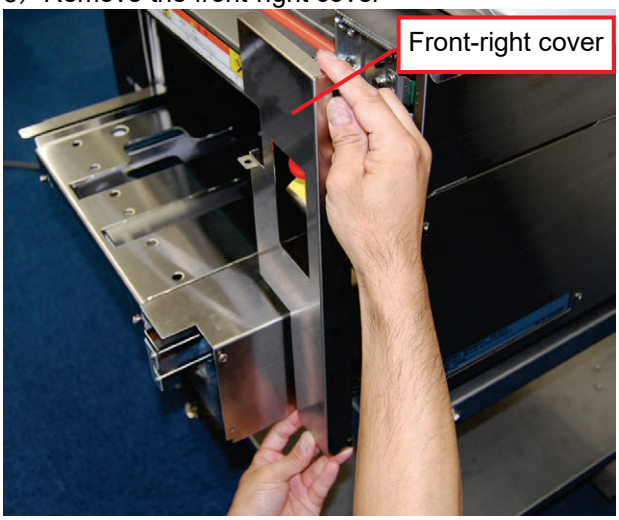
4）Remove the screws (4) that fix the front-right cover of the machine.



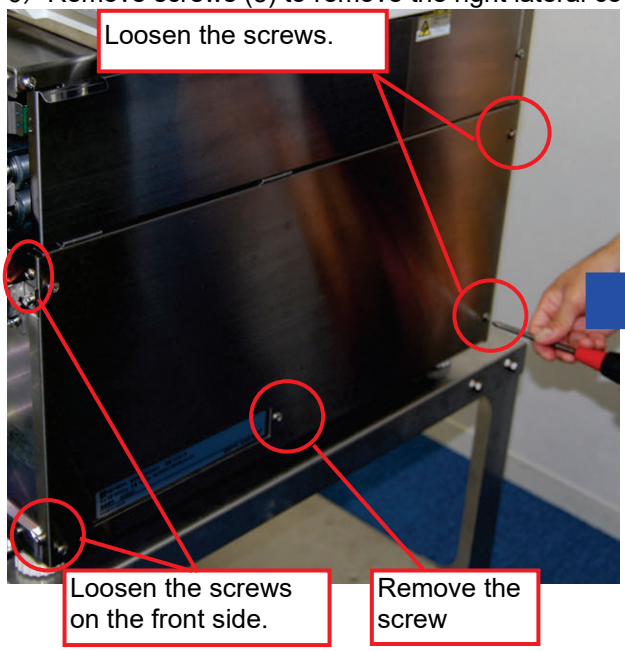
* The screw position of the front-right cover may differ depending on specifications. In the configuration shown below, remove the screw from the bottom.

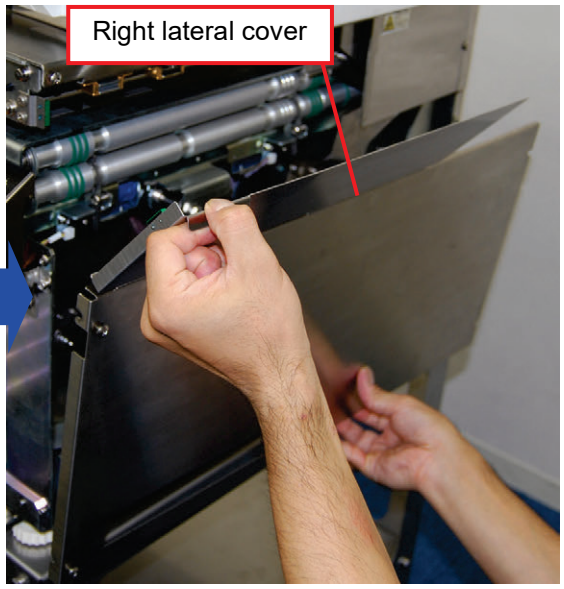


5）Remove the front-right cover



6) Remove screws (5) to remove the right lateral cover of the machine.

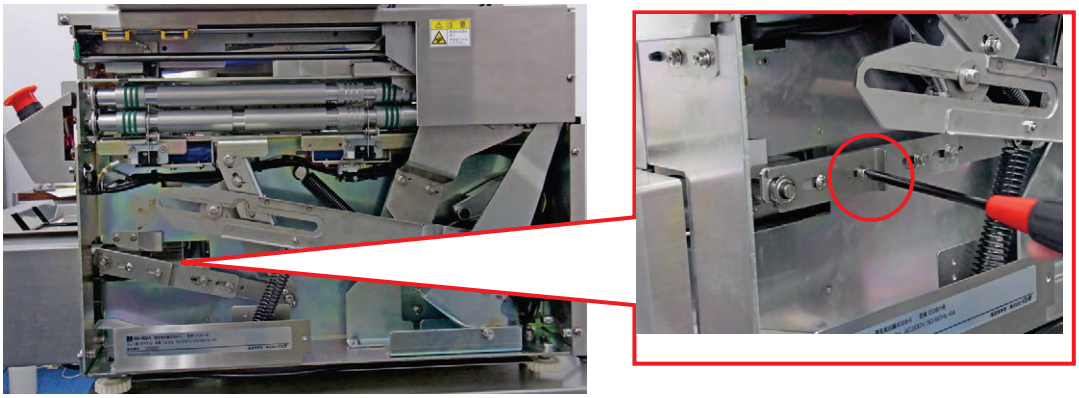




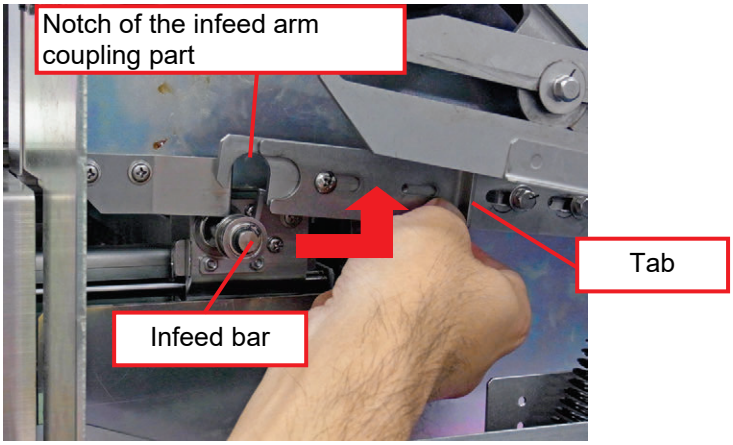
NOTE:
In removing the right-side cover, pay attention not to deform the hinge of the cover.

7) Release the coupling between the infeed arm and the infeed bar.

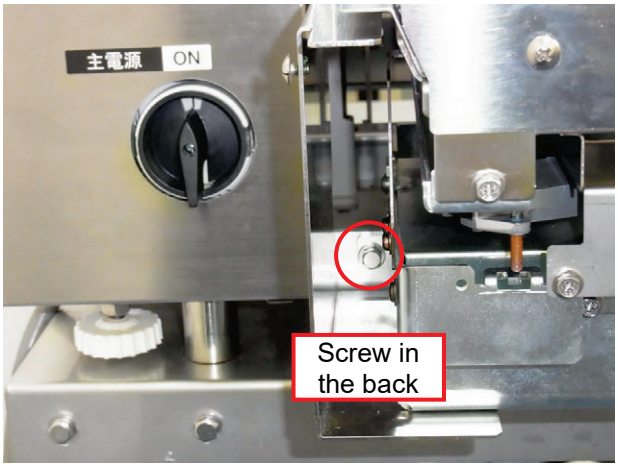
① Remove the screw (1) of the infeed arm.

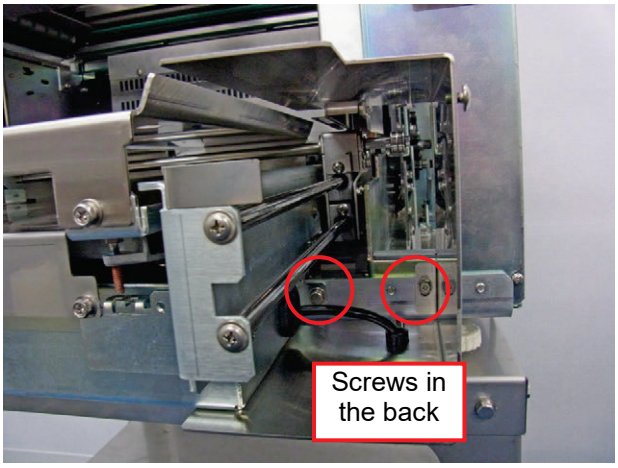


② Lift the notch of the infeed arm coupling part by sliding the notch to the right.

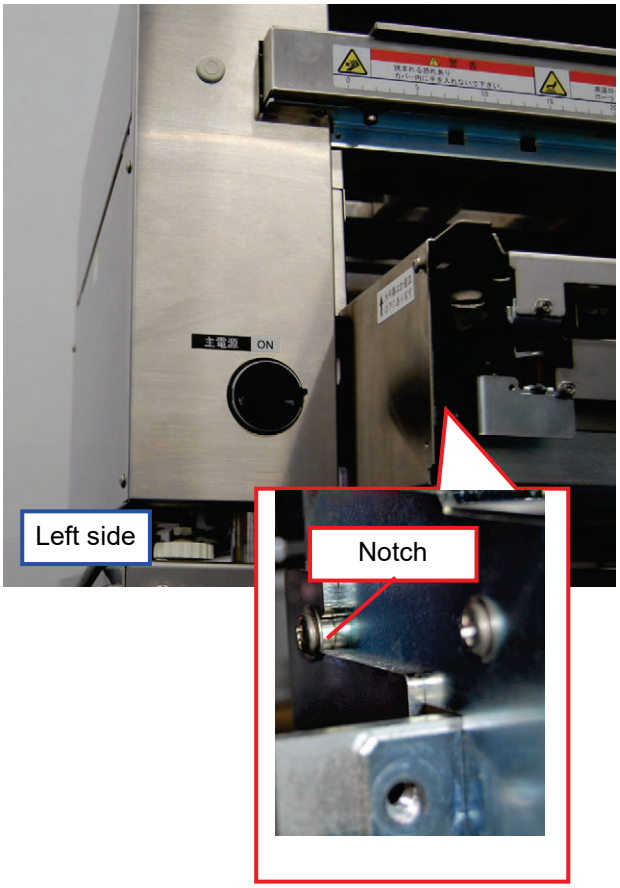


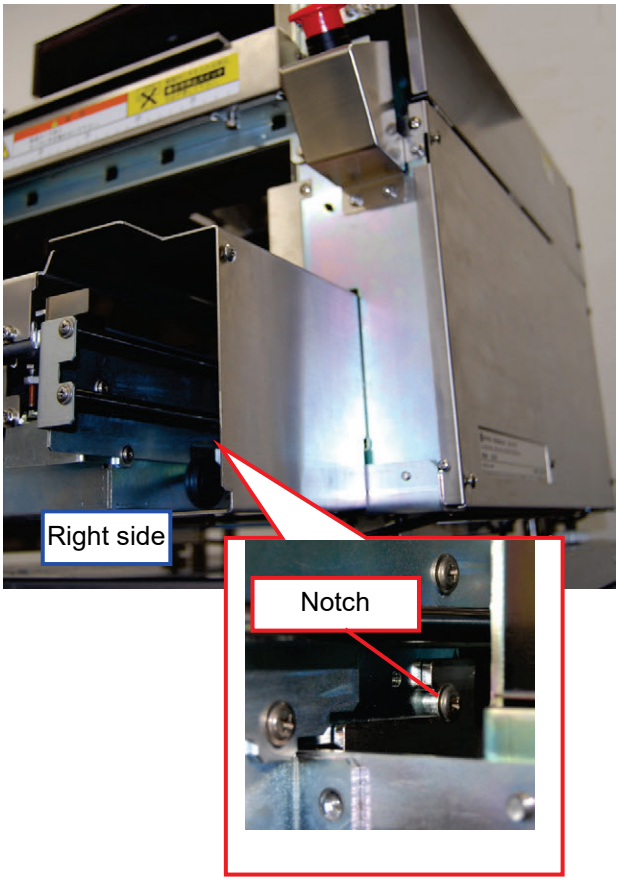
8）Remove left- and right-side screws (3) that fix the infeed unit to the machine body.



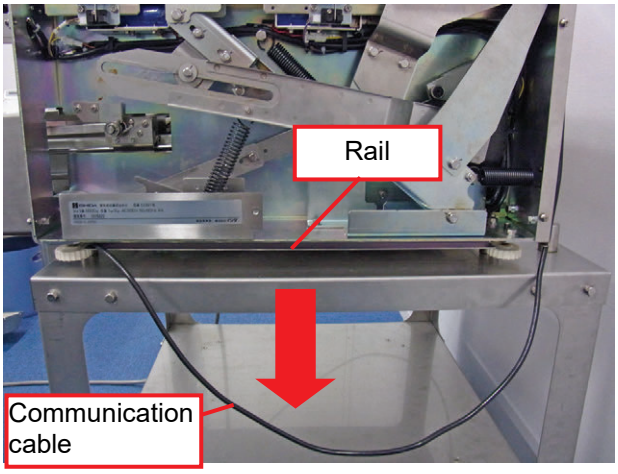


9） Remove the infeed unit from the left- and right-side notches in the back.

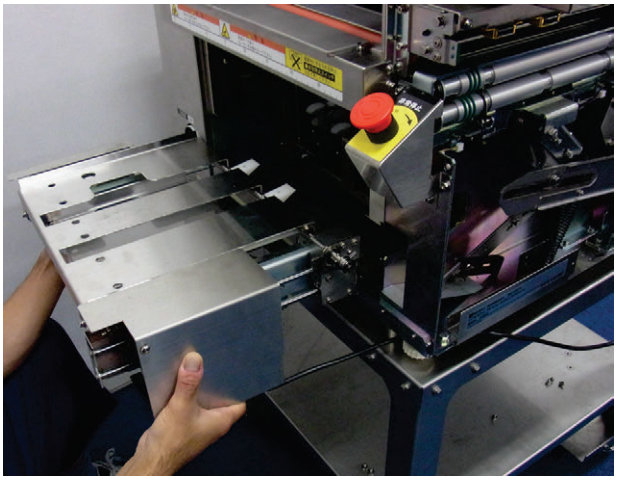




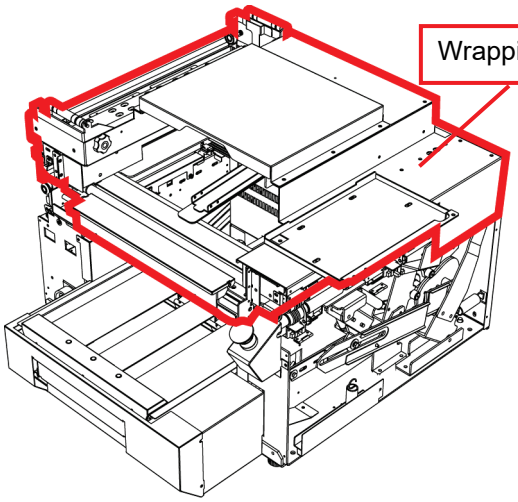
10）Remove the communication cable stored in the right lateral rail



11）Pull out the infeed unit from the machine body.



3.1.2 Removing the Wrapping Unit

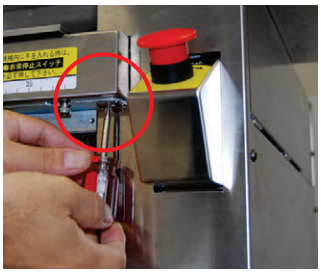



Wrapping unit after being removed

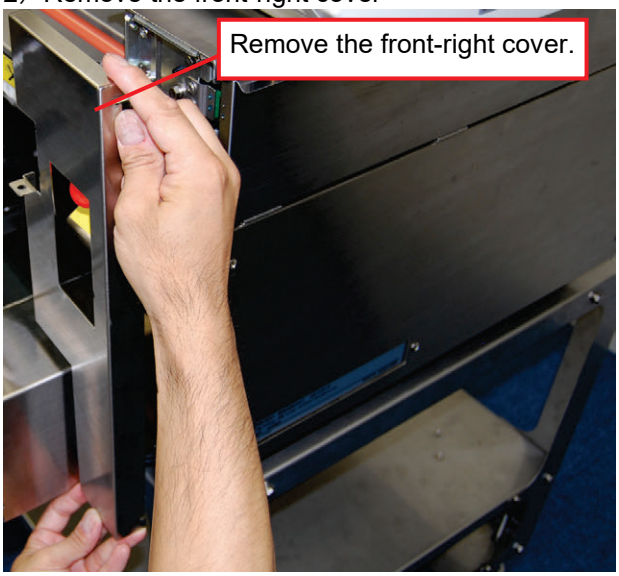
■ Removing the cover

1）Remove the screws (4) that fix the front-right cover to remove the cover.

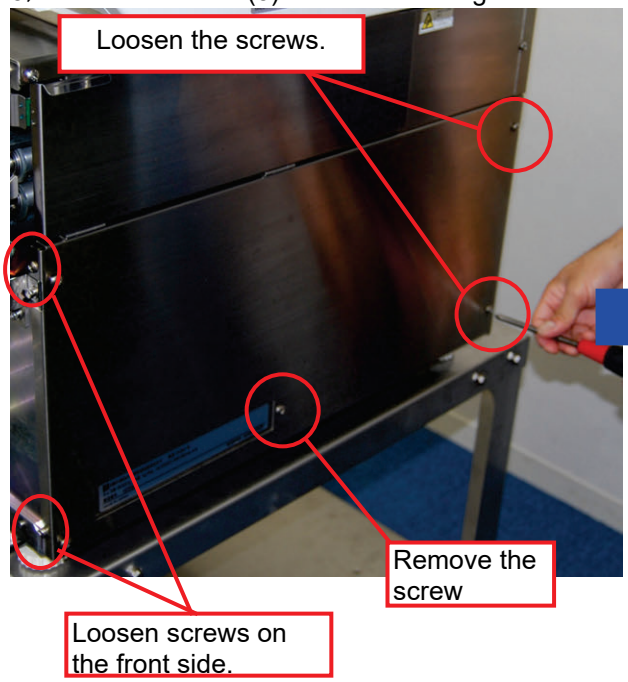
* The screw position of the front-right cover may differ depending on specifications. In the configuration shown below, remove the screw from the bottom.

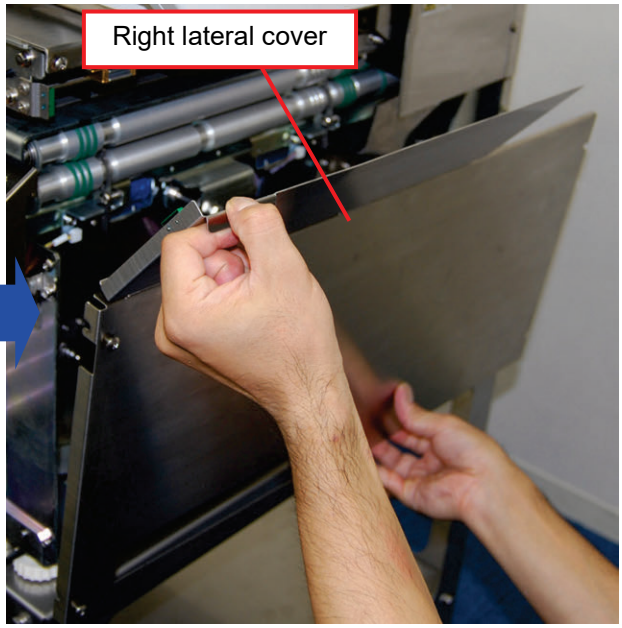


2）Remove the front-right cover



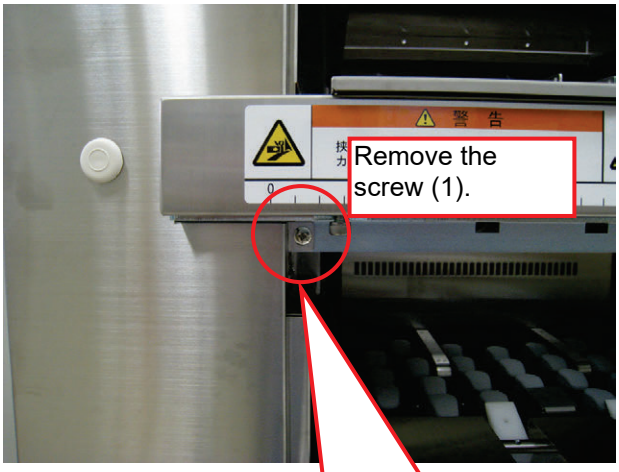
3）Remove screws (5) to remove the right lateral cover.

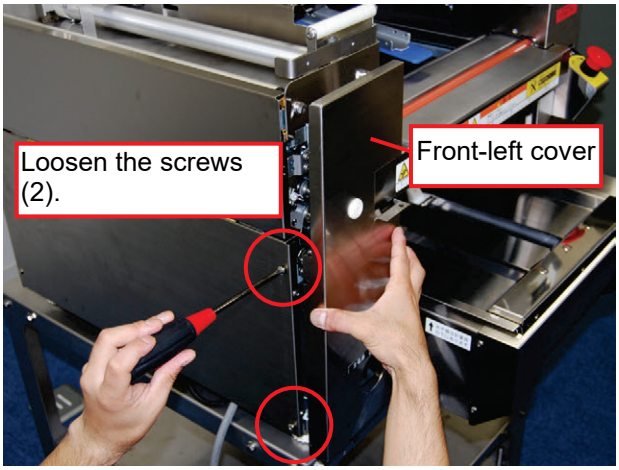




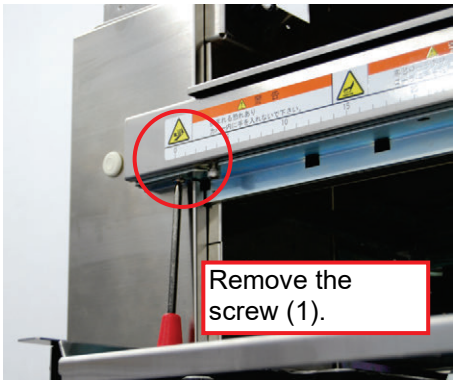
NOTE:
In removing the right lateral cover, pay attention not to deform the hinge of the cover

4）Remove screws (3) to remove the front-left cover.

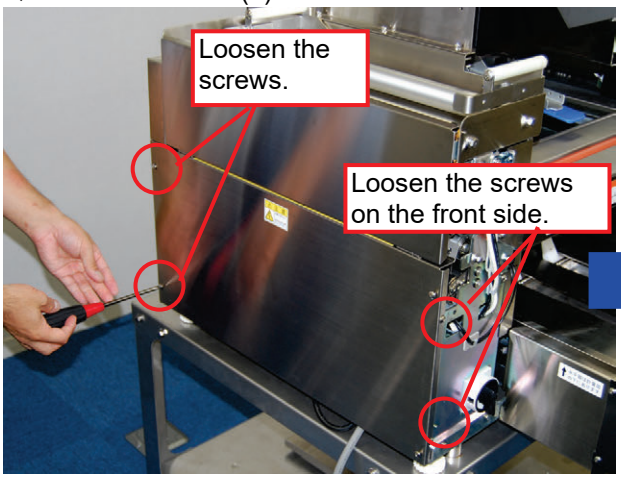




* The screw position of the front-left cover may differ depending on specifications. In the configuration shown below, remove the screw from the bottom.

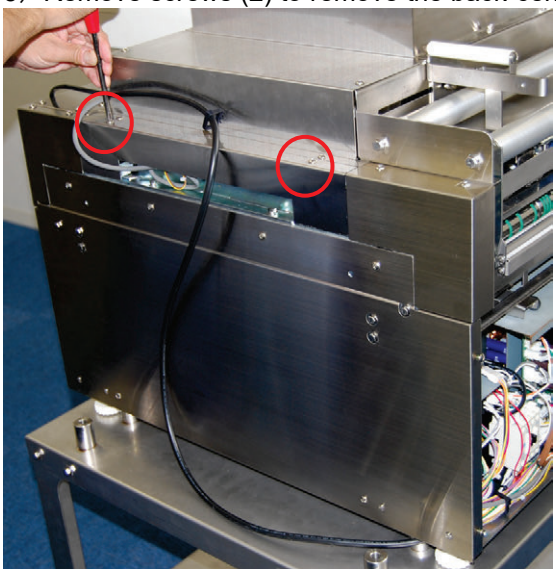


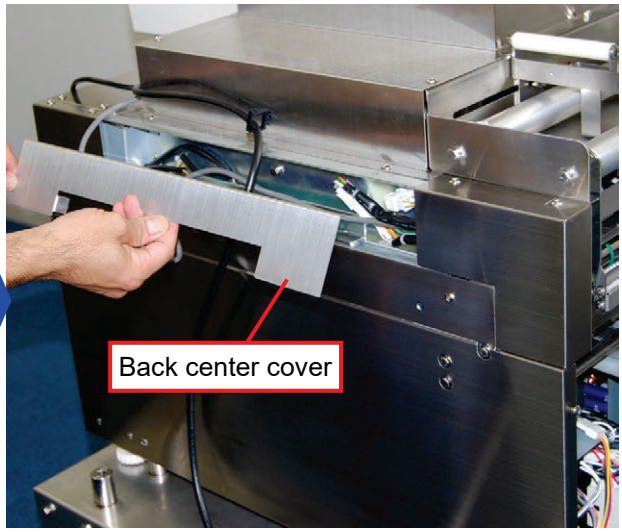
4）Remove screws (4) to remove the left lateral cover.



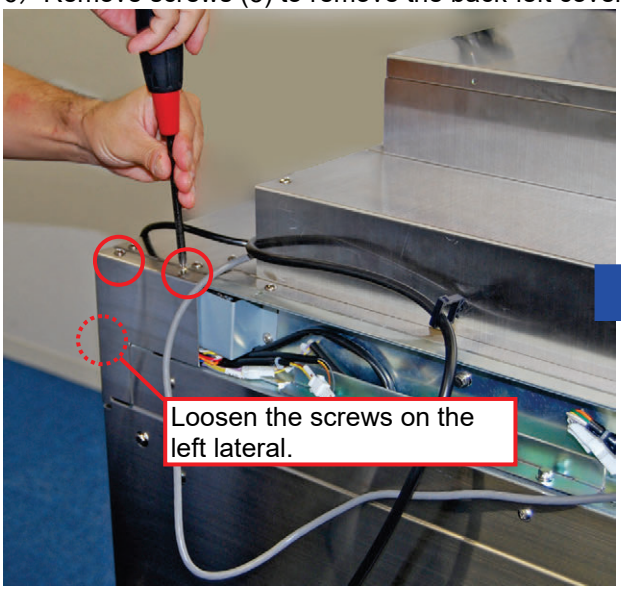
NOTE:
In removing the left lateral cover, pay attention not to deform the hinge of the cover.

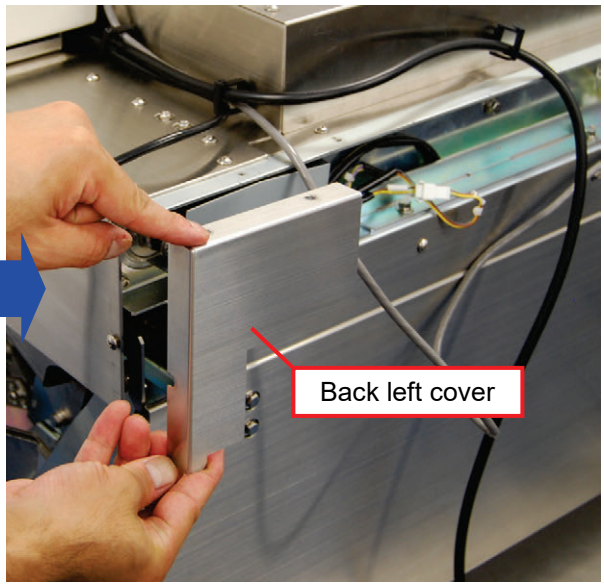
5）Remove screws (2) to remove the back-center cover.



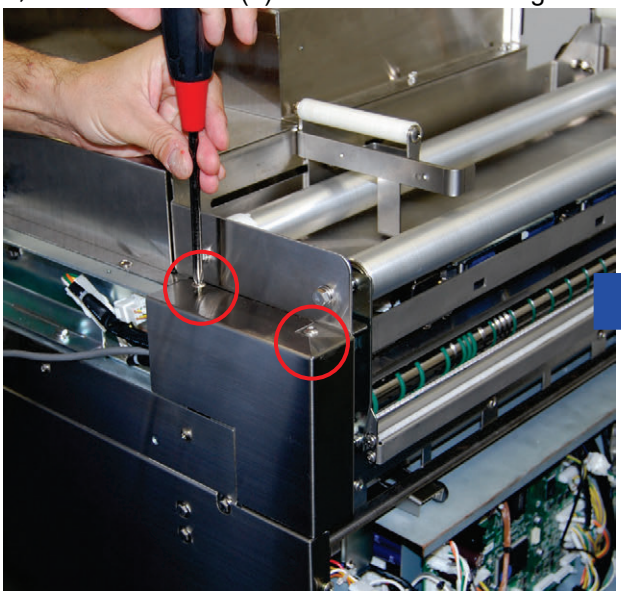


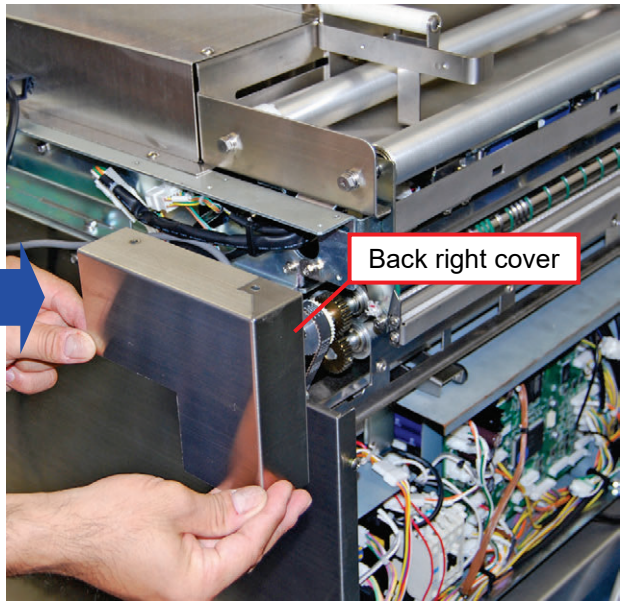
6) Remove screws (3) to remove the back-left cover.





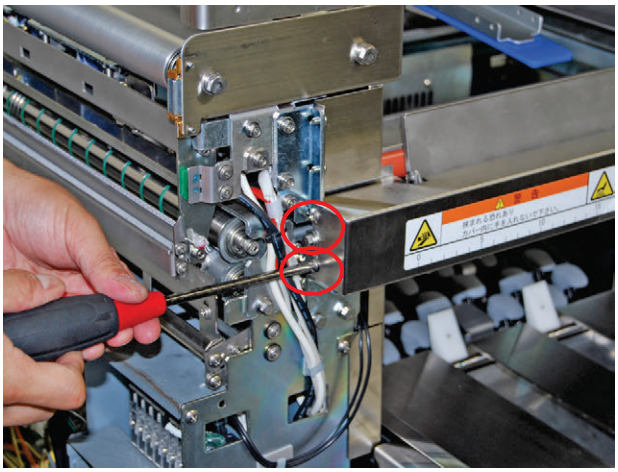
7) Remove screws (2) to remove the back-right cover.

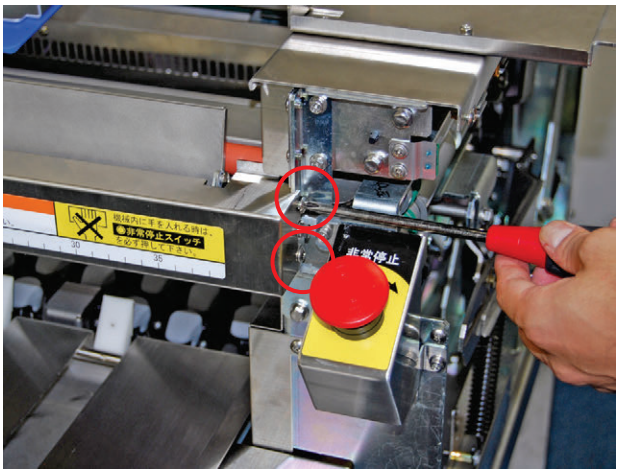




8) Loosen the screws (2) on the left side of the discharge unit's cover.

9) Loosen the screws (2) on the right side of the discharge unit's cover.

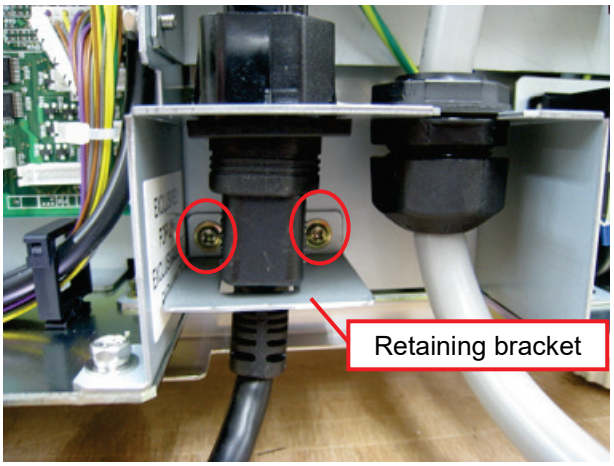




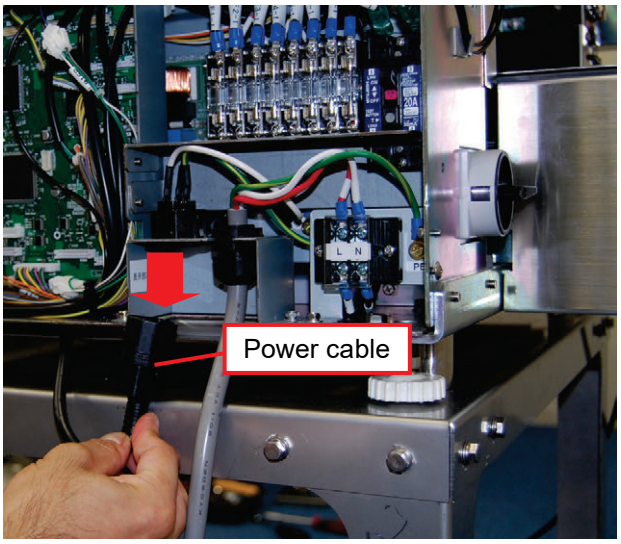
10）Remove the cover by turning it from the bottom.

■ Removing the operation unit

1) Remove the screws (2) to remove the power cable retaining bracket on the left lateral of the machine.

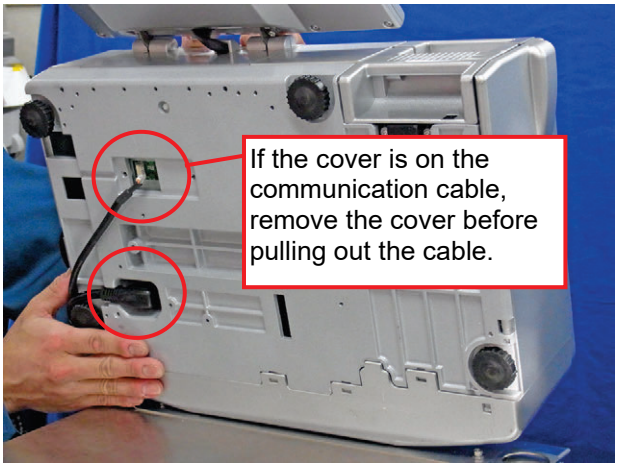


2) Pull out the power cable.



3) Pull out the communication cable at the operation unit side.

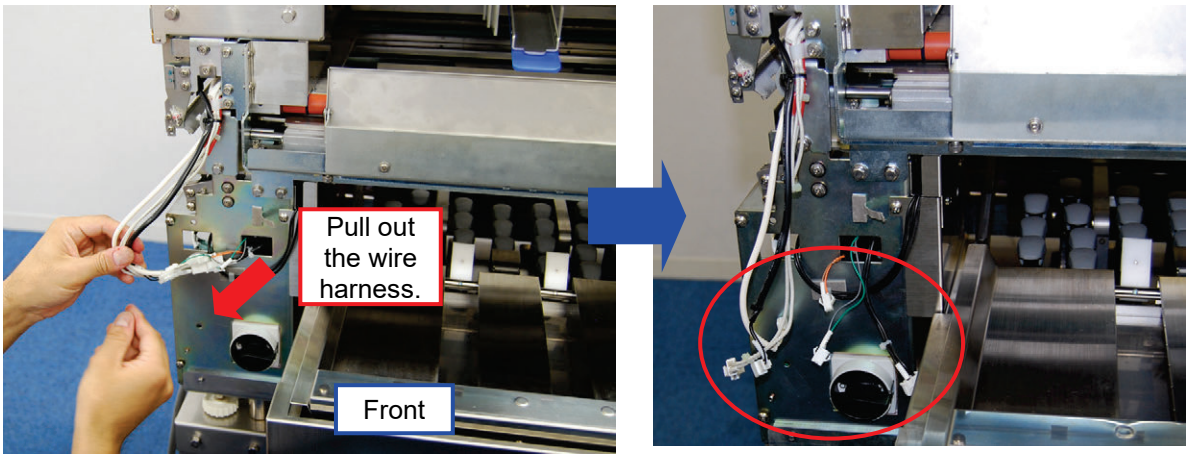
4) Pull out the communication cable and power supply cable at the back of the operation unit.



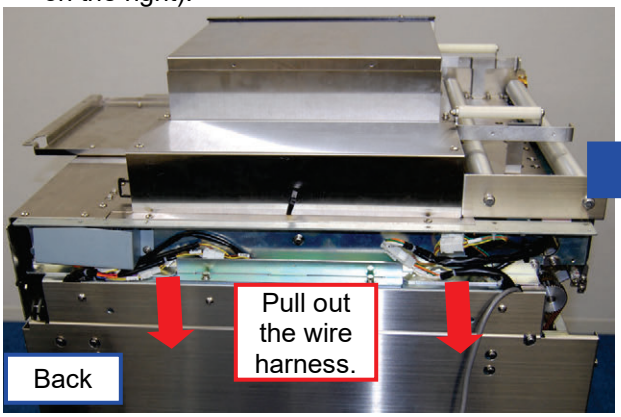
5) Lift and remove the operation unit.

■ Removing the Wrapping Unit

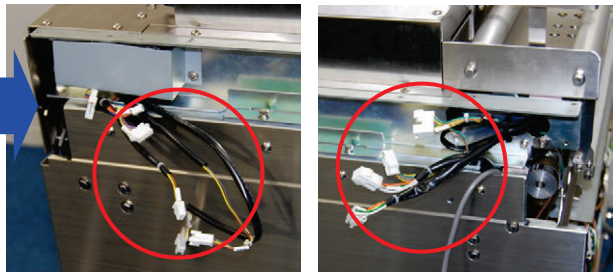
1）Remove the wire harness that connects the wrapping unit to the underneath machine body unit. First, pull out the wire harness stored in the front left side and disconnect the connectors (3 sets).



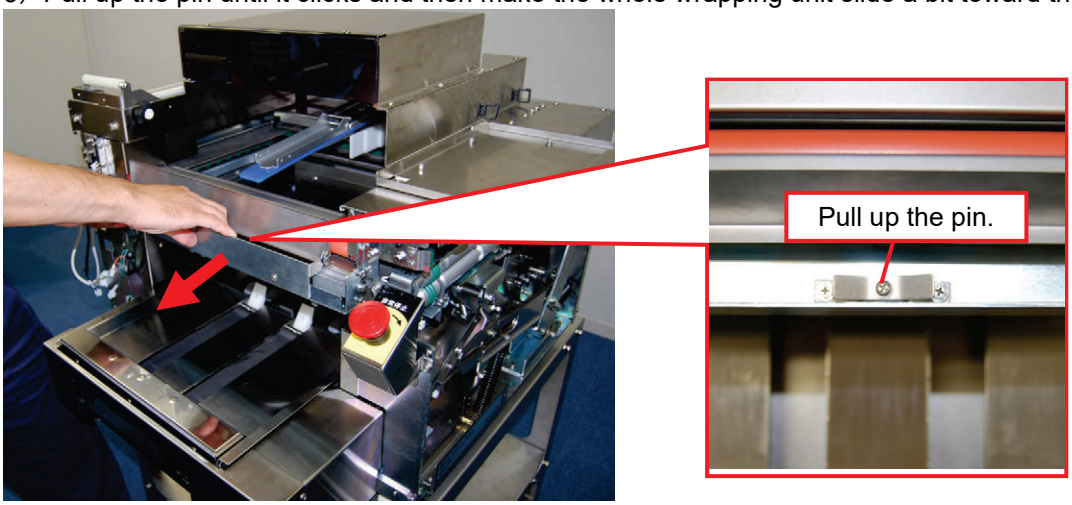
2）Pull out the wire harness stored in the back and disconnect the connectors (3 sets on the left and 2 sets on the right).



Left side: Three sets of connectors Right side: Two sets of connectors

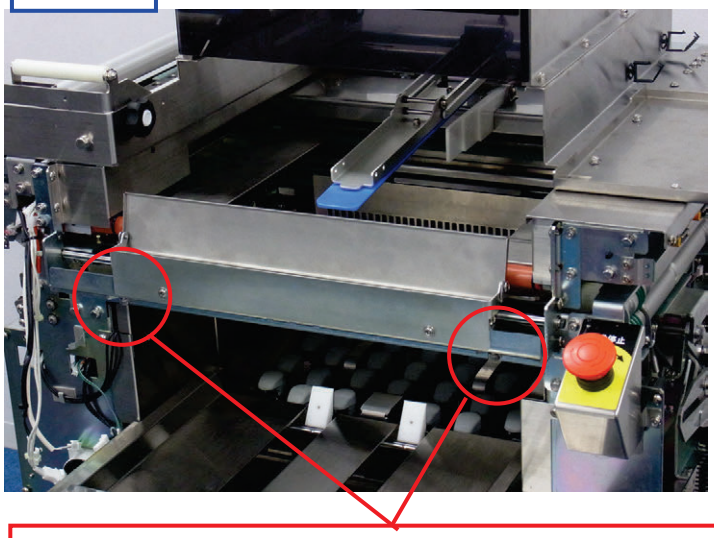


3）Pull up the pin until it clicks and then make the whole wrapping unit slide a bit toward the near side.

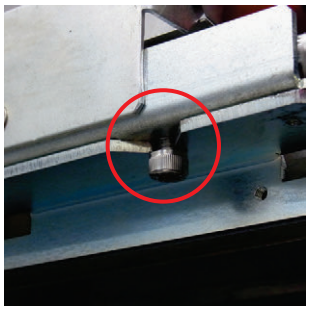


4）Check that the wrapping unit has slided properly.
The wrapping unit has slided properly to the removable position if the notches on the front and back are released.

Front

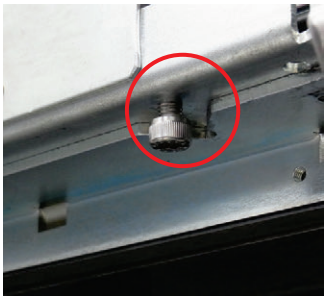


Before sliding



The notch is locked.

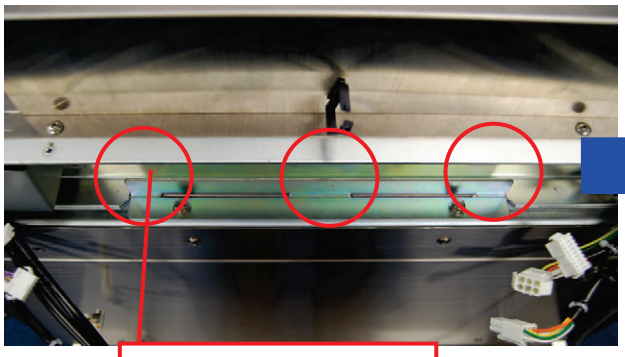
After sliding



The notch is released.

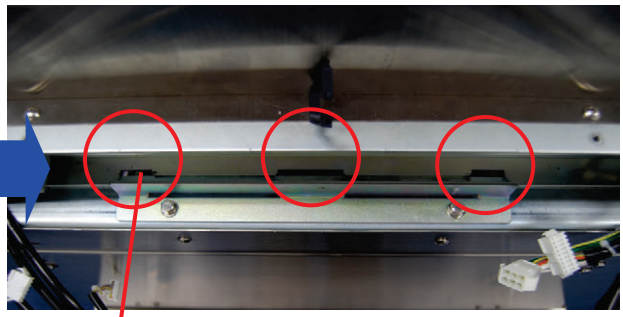
Back

Before sliding



The notches are locked.

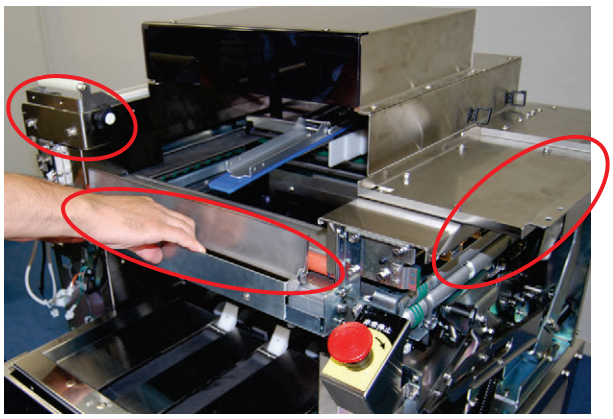
After sliding

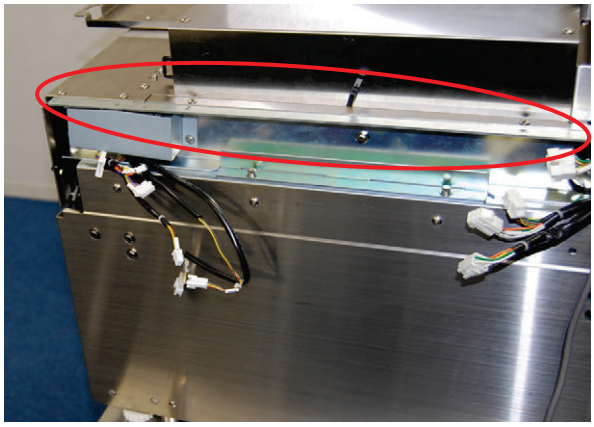


The notches are released.

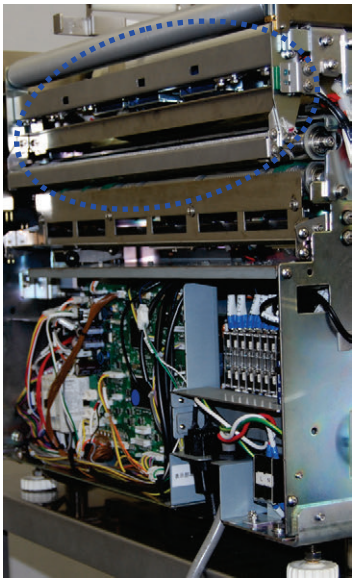
5）Lift and remove the wrapping unit.

When carrying the unit, hold the outside frame portions.





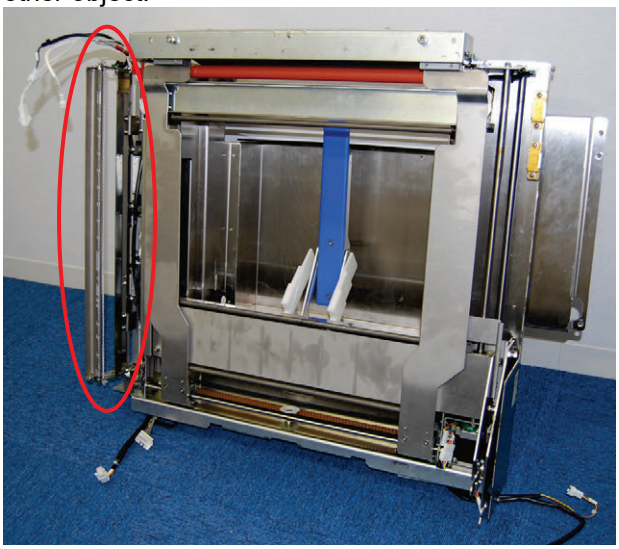
Do not hold the film arm portion on the left lateral.



6）Rest the wrapping unit against some object or place it horizontally.

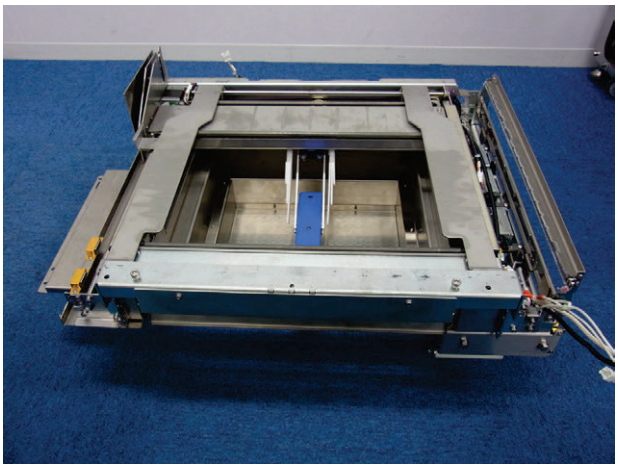
<Resting the unit against some object>

Rest the unit in the lateral direction against some other object.



<Placing the unit horizontally>

Place the unit upside down.



NOTE:

Do not place the unit with the left lateral film arm portion downside.

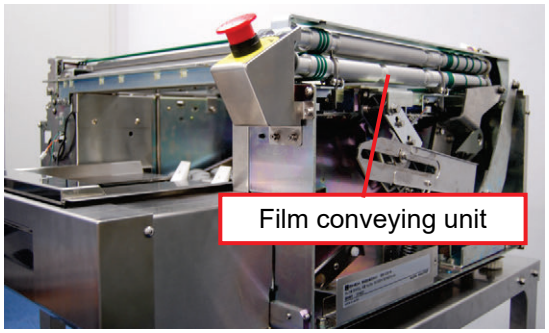
3.1.3 Dividing the Film Conveying Unit into Two

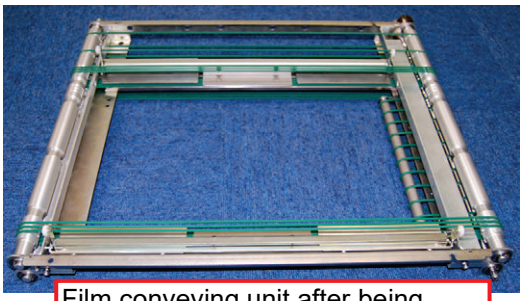
■ Removing the Film Conveying Unit

Procedure after removing the wrapping unit from the machine body is described below.

REFERENCE

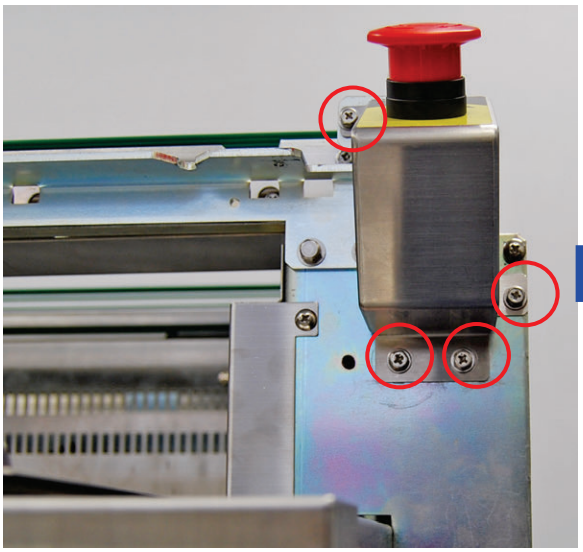
For procedures to disassemble the squeezing unit, refer to “Removing the Wrapping Unit.”

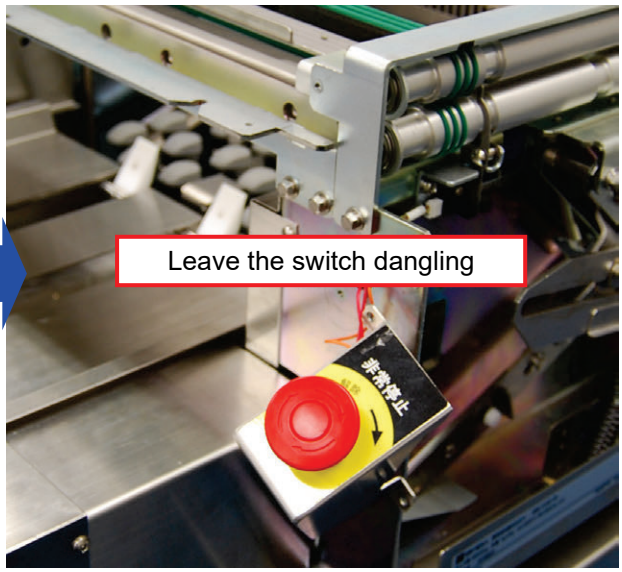




Film conveying unit after being removed

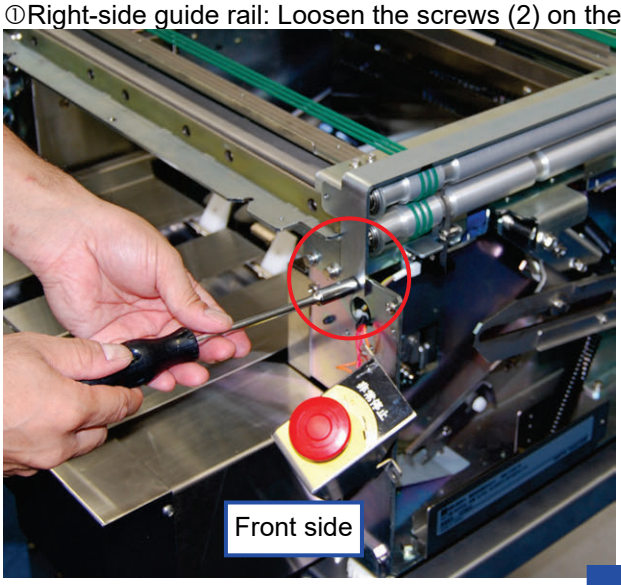
1）Remove screws (4) to remove the emergency stop switch.

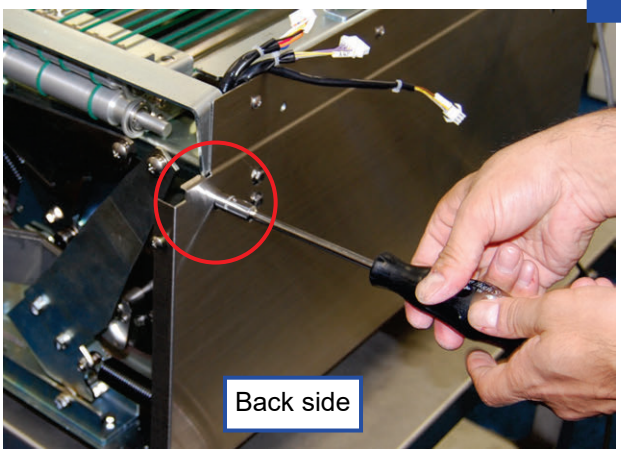


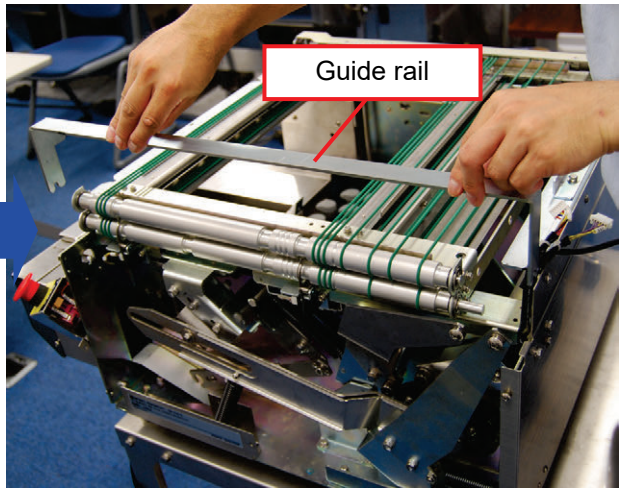


2）Remove the guide rails on the left and right sides.

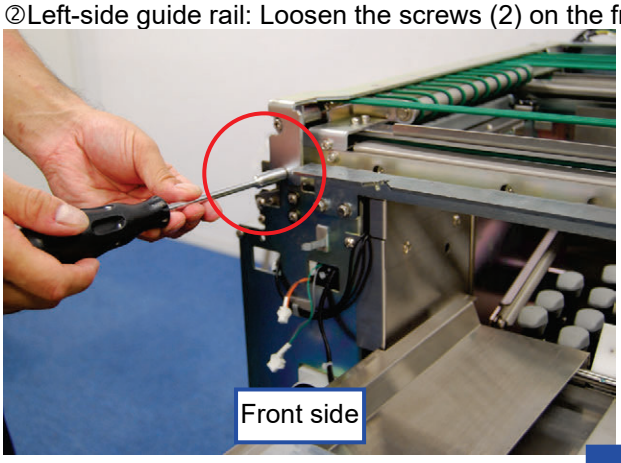
①Right-side guide rail: Loosen the screws (2) on the front and back sides.

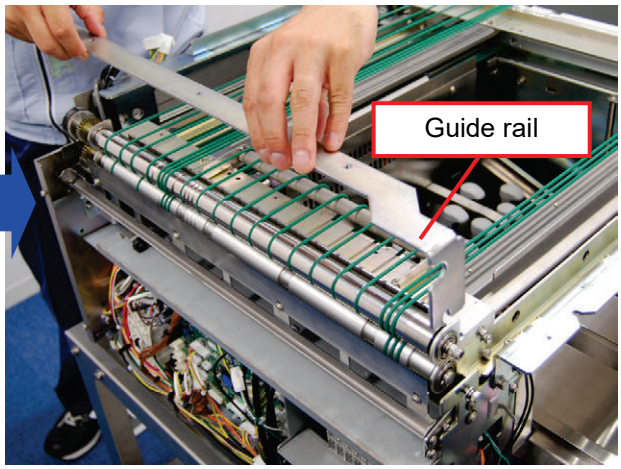


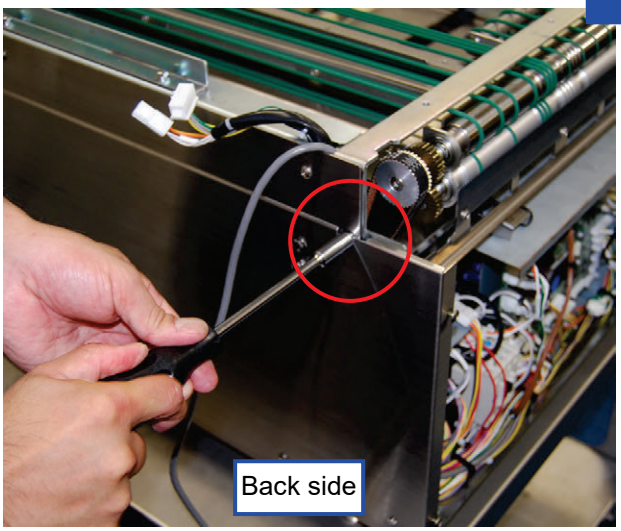




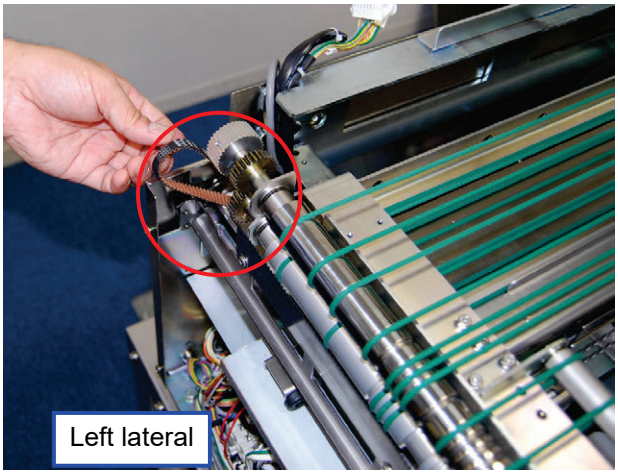
②Left-side guide rail: Loosen the screws (2) on the front and back sides.







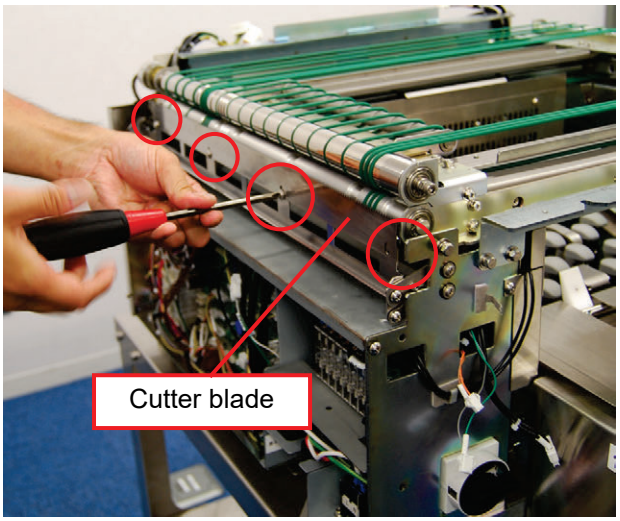
3）Remove the belt at the left side back from the roller.



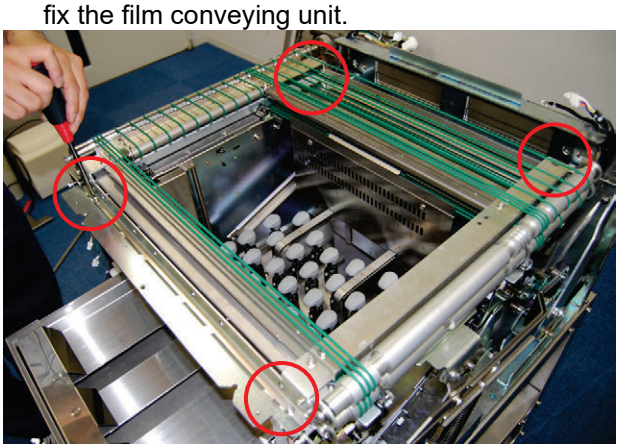
4）Remove screws (4) to remove the cutter blade.

⚠CAUTION

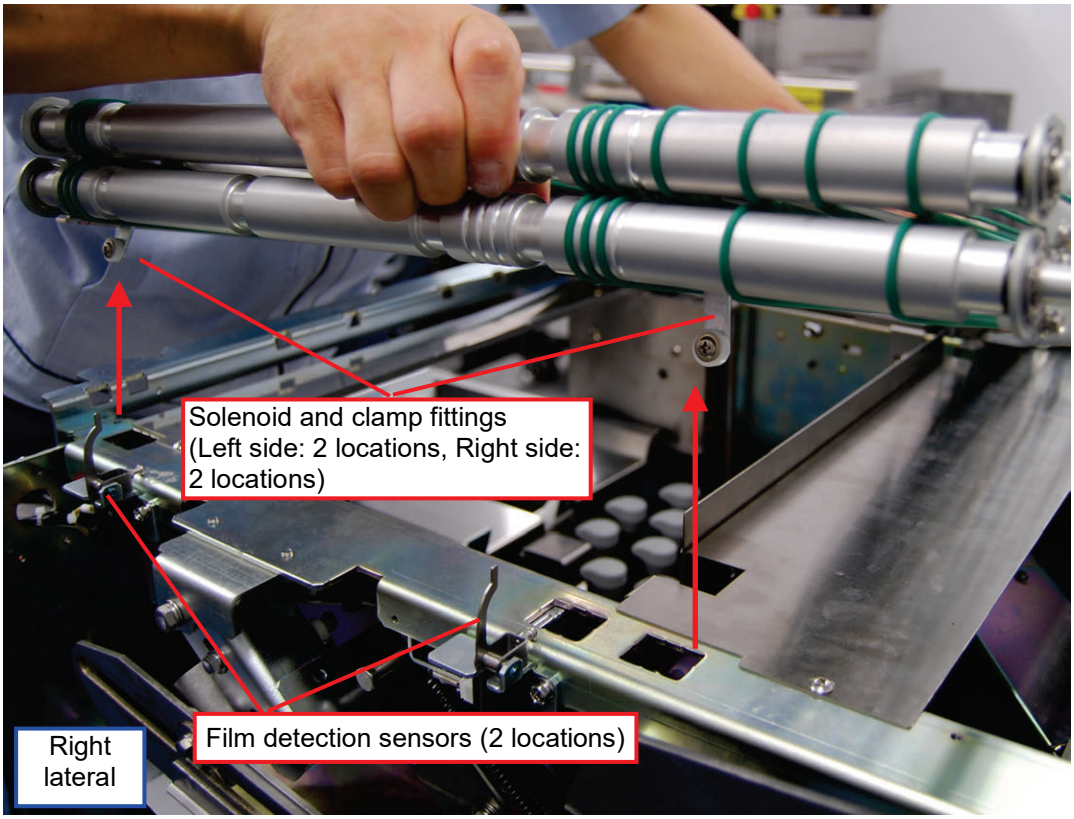
We recommend that the cutter blade be removed for safety. It might cause physical injury on removing the film conveying unit.



5）Remove the screws (4) at the four corners that fix the film conveying unit.



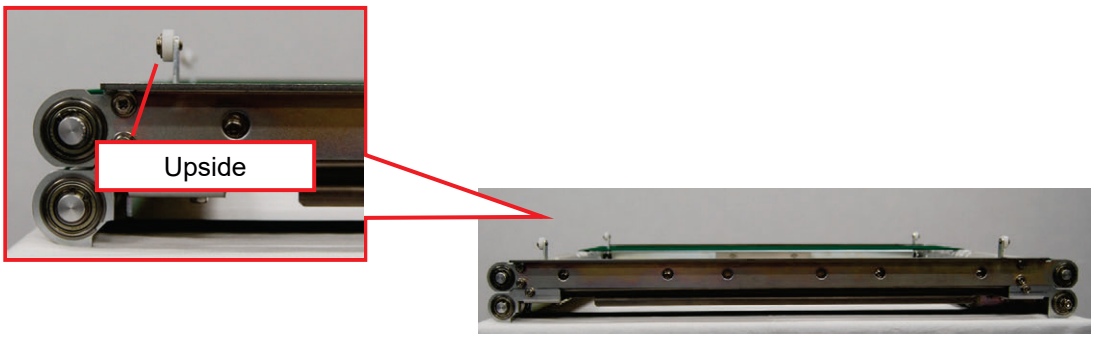
6）Remove the film conveying unit directly upward.



NOTE:
In removing the film conveying unit, pay attention not to hit the film detection sensors (at 2 locations).

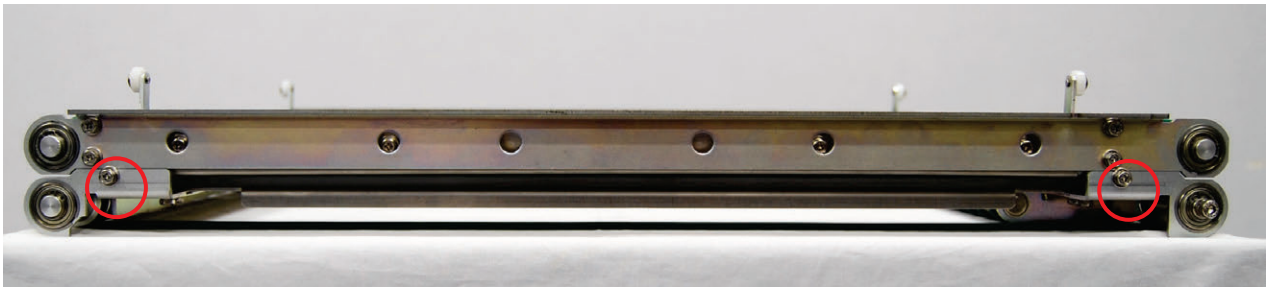
NOTE:
In removing the film conveying unit, lift the unit directly upward so that it does not get stuck with the solenoid and clamp fittings (left side: 2 locations, right side: 2 locations).

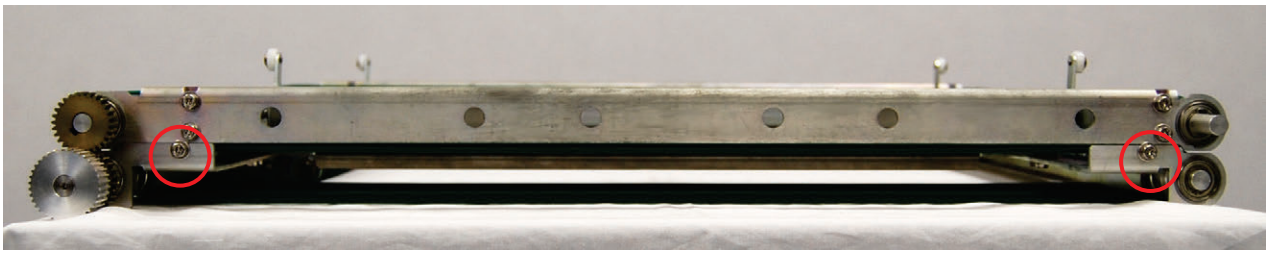
7）Place the film conveying unit upside down.



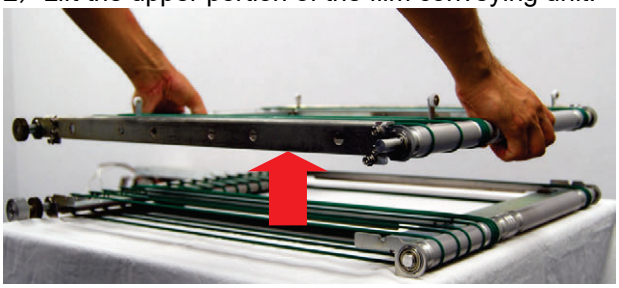
■ Dividing the Film Conveying Unit into Two

1）Remove the screws (4) at the four corners.





2）Lift the upper portion of the film conveying unit.

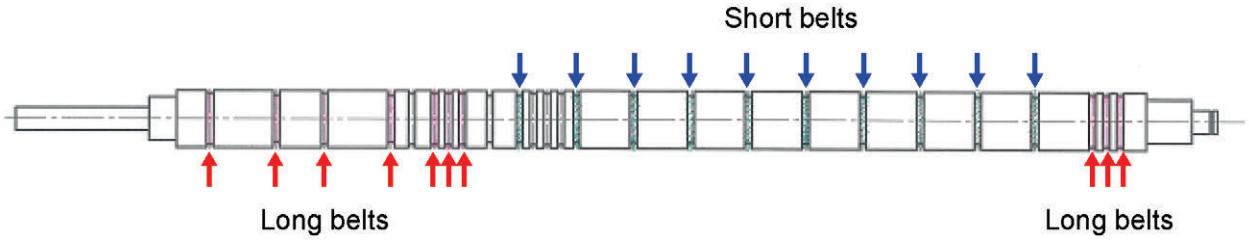


■ Replacing the round belts

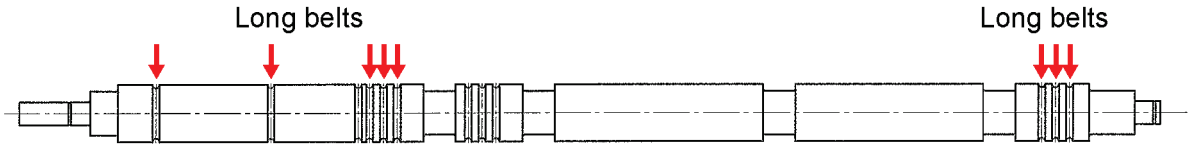
●Mounting positions for roller round belts

< M type>

Upper roller

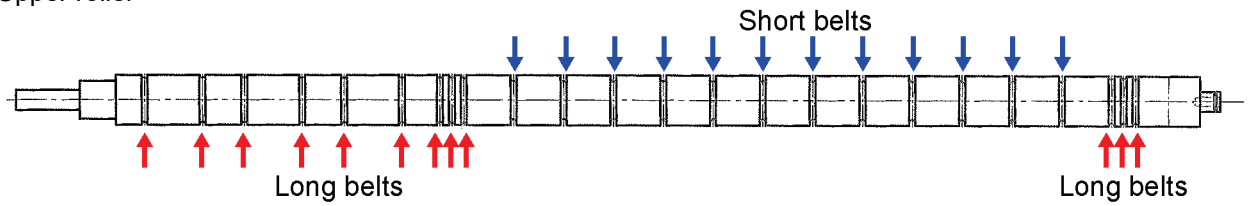


Lower roller

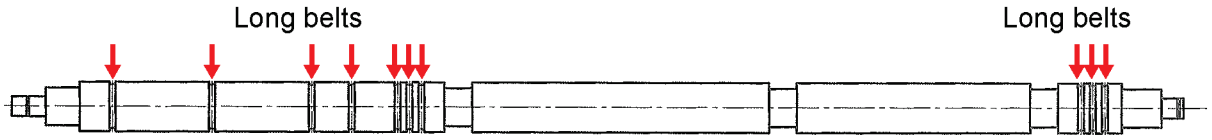


< L type>

Upper roller



Lower roller

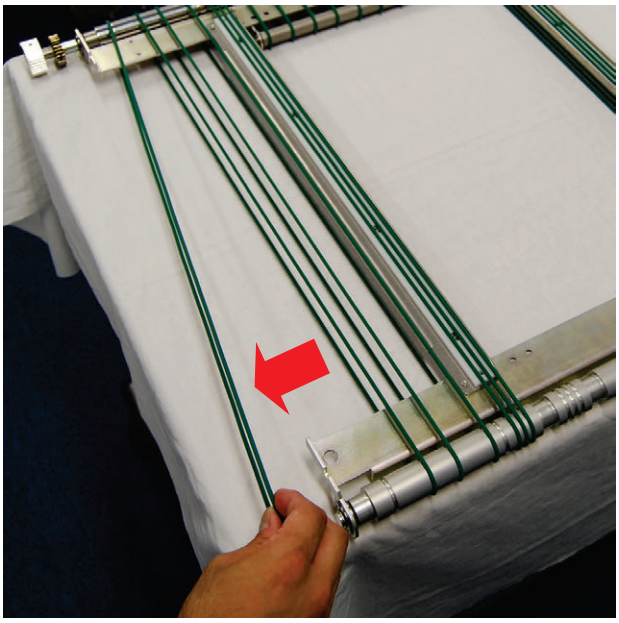


●Procedure to replace round belts

Length of round belts comes in two types: Long and short. Different replacement procedure is required for different length.

・For long round belts

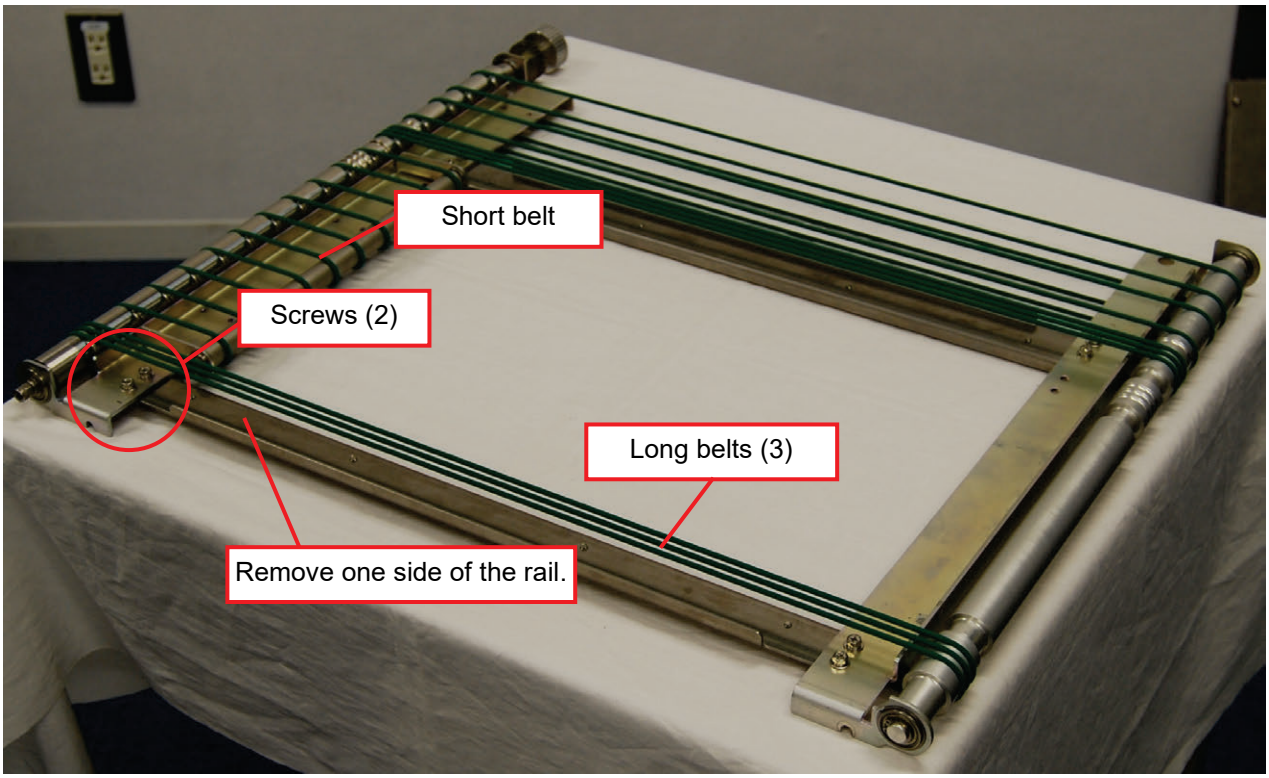
Remove the round belts from the roller for replacement.



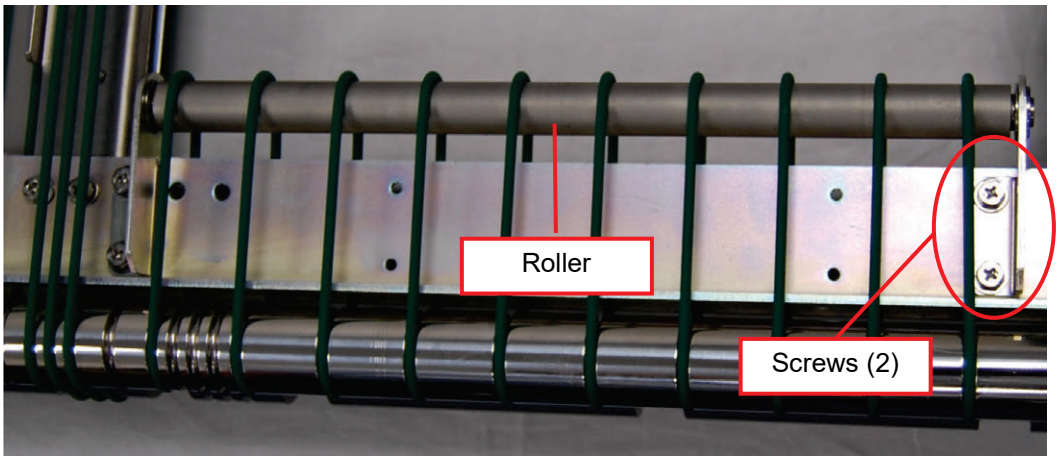
・For short round belts

1）Remove the outside long belts (3).

2）Remove the screws (2) on the short belt side to remove one side of the rail.



5）Remove screws (2) to remove one side of the roller of the short round belts.



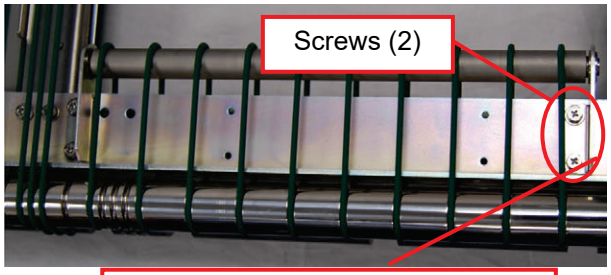
6）Replace the short round belts.

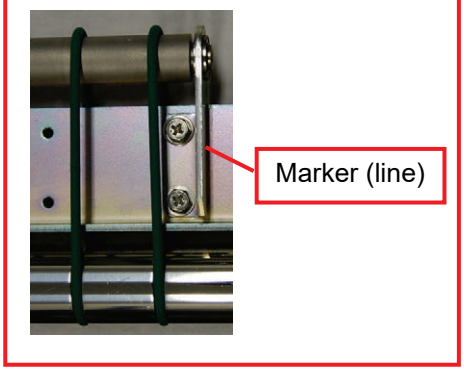
● Assembly after replacing the short belts

Assembly procedure follows in the reverse direction of the procedure for dividing the unit into two. If assembly is conducted with the unit lying flat, the film conveying unit may be deformed into a parallelogram shape.

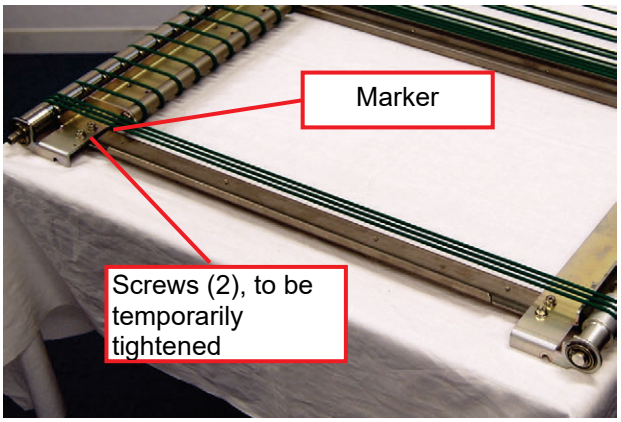
To prevent this from happening, follow the procedure described below.

1）Tighten the screws (2) on the removed side of the roller.
Adjust the mounting position according to the marker (line).

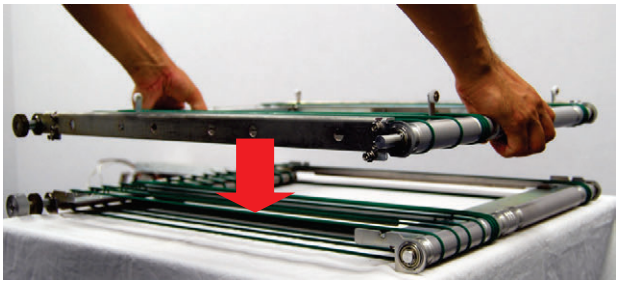




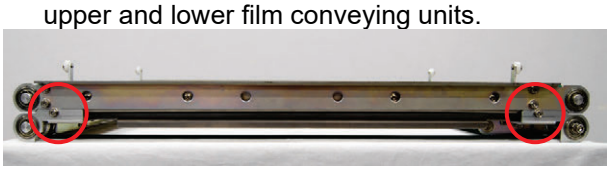
2）Temporarily tighten the screws (2) of the removed rail.
Adjust the mounting position according to the marker.



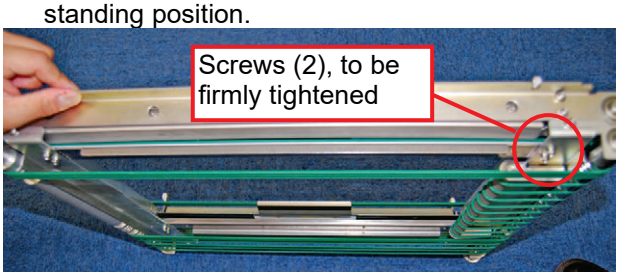
3）Adjust the upper and lower film conveying units to the proper position.



5）Tighten the screws at the four corners to fix the upper and lower film conveying units.

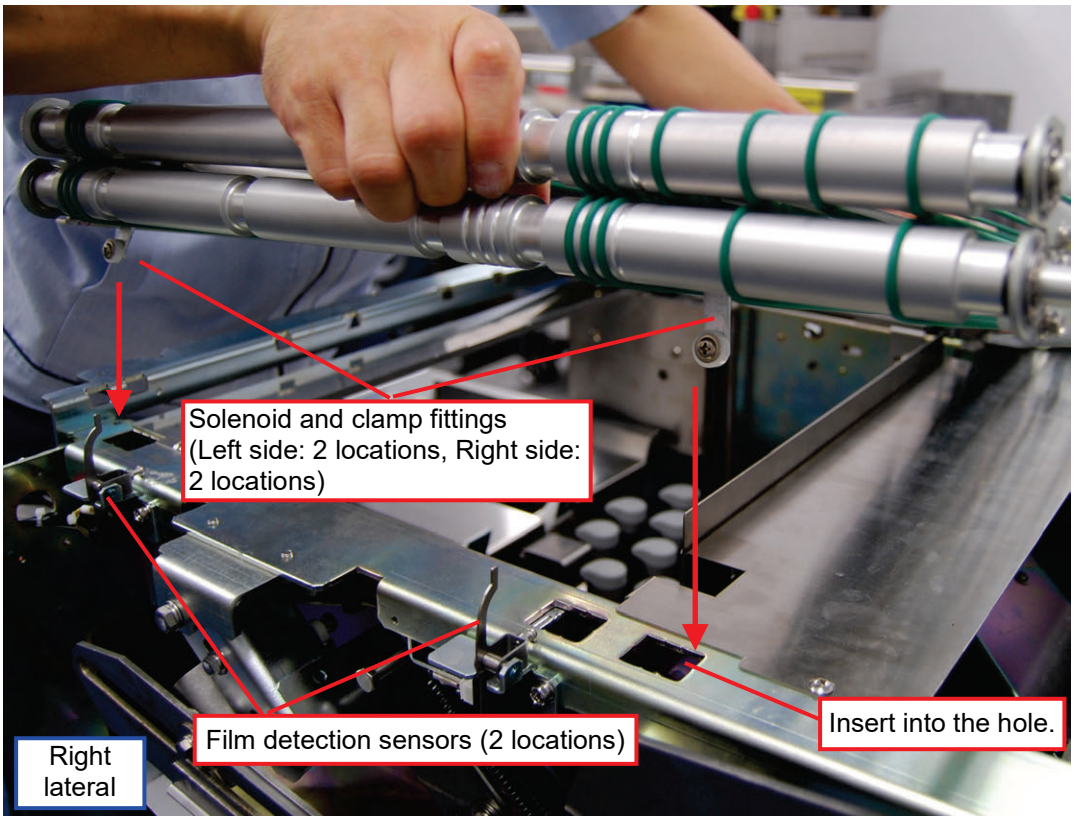


4）Firmly tighten the rail screws (2) that have been temporarily tightened with the unit held in the standing position.



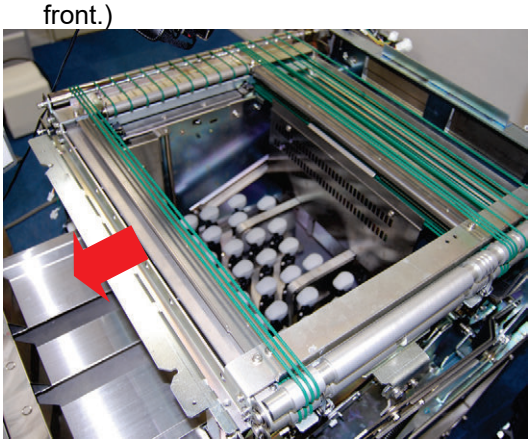
■ Mounting the Film Conveying Unit

1）Place the film conveying unit directly from the above.



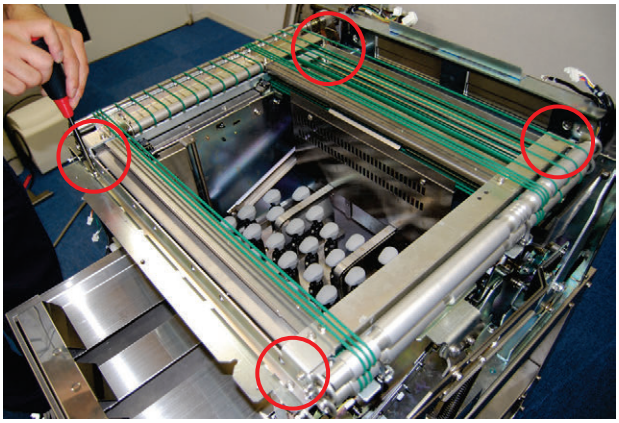
NOTE:
In mounting the film conveying unit, pay attention not to hit the film detection sensors (at 2 locations).

2）Pull out the film conveying unit into a full forward condition. (Close up the idle gap created in the front.)

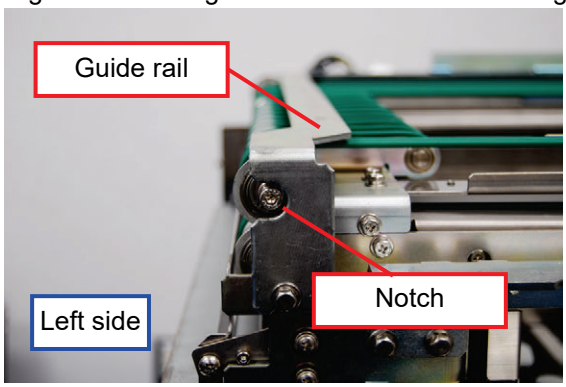


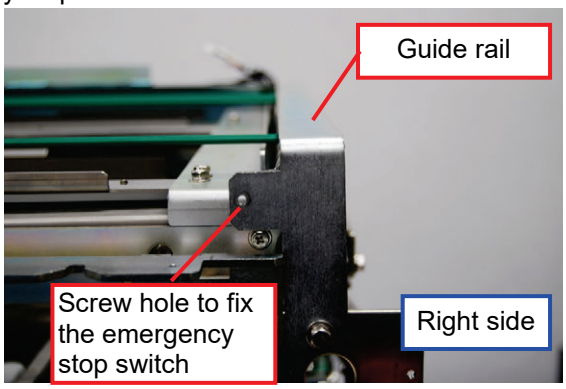
NOTE:
In mounting the film conveying unit, insert the solenoid and clamp fittings (left side: 2 locations, right side: 2 locations) into the solenoid holes.

3）Tighten the screws (4) at the four corners to fix the film conveying unit.

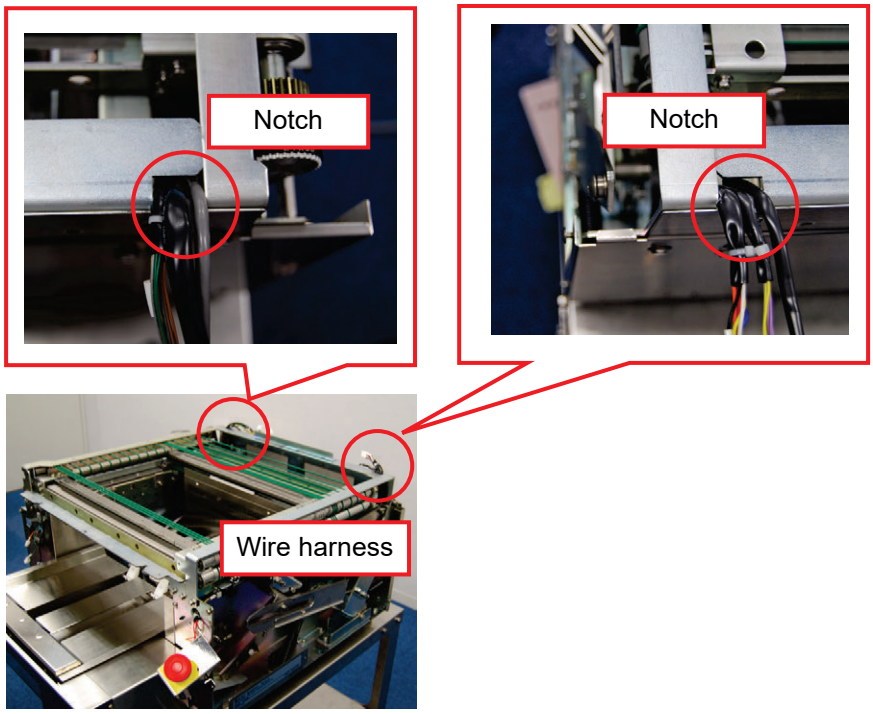


4) Tighten screws (4) to mount the left- and right-side guide rails.
In mounting the guide rails, identify their directions (left or right) as follows:
Left side: Having a notch
Right side: Having a screw hole to fix the emergency stop switch





5) Place the back side wire harness in the left- and right-side notches, respectively.

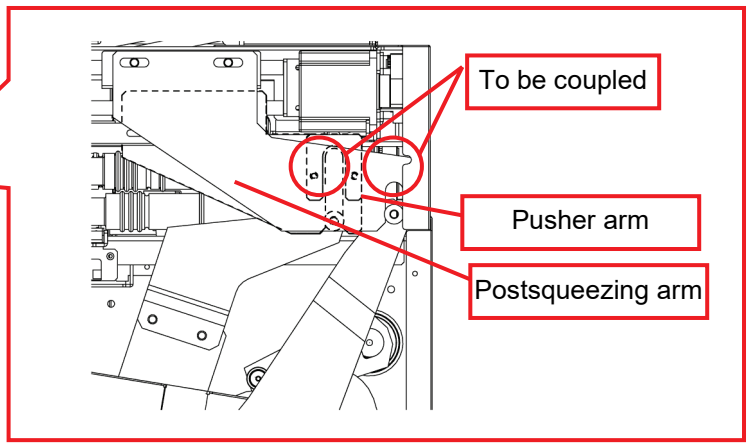


6) Mount the removed belt at the left side back again to the original roller.

3.1.4 Points for Unit Assembly

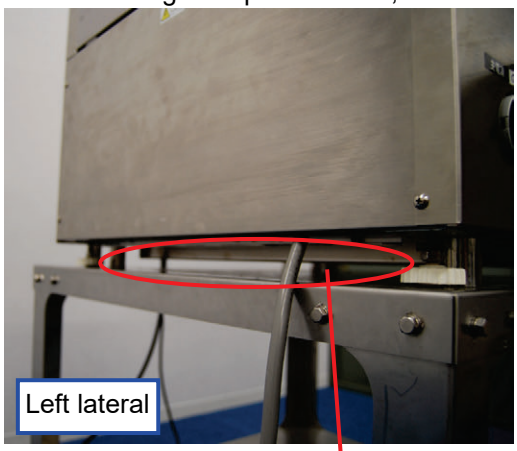
Carry out assembly basically in the reverse direction of disassembly.
Only main points are described below.

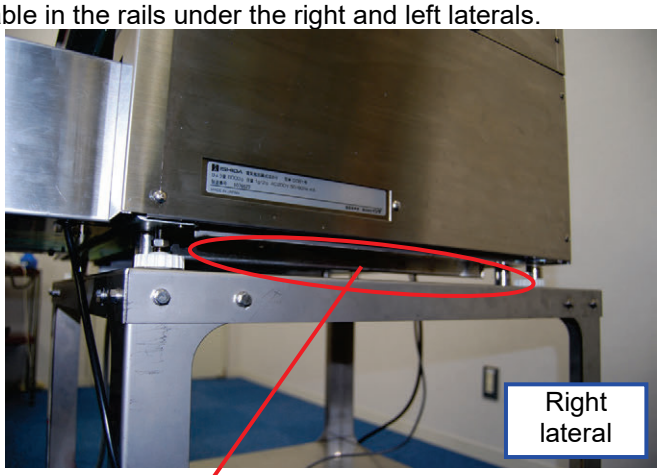
● In mounting the wrapping unit: Coupling arms
In placing the wrapping unit on the machine body, couple the postsqueezing arm and pusher arm up and down.



●Push the cable into the rail.
Push the power cable into the rail.

●After mounting the operation unit: Storing cable
After mounting the operation unit, store the cable in the rails under the right and left laterals.





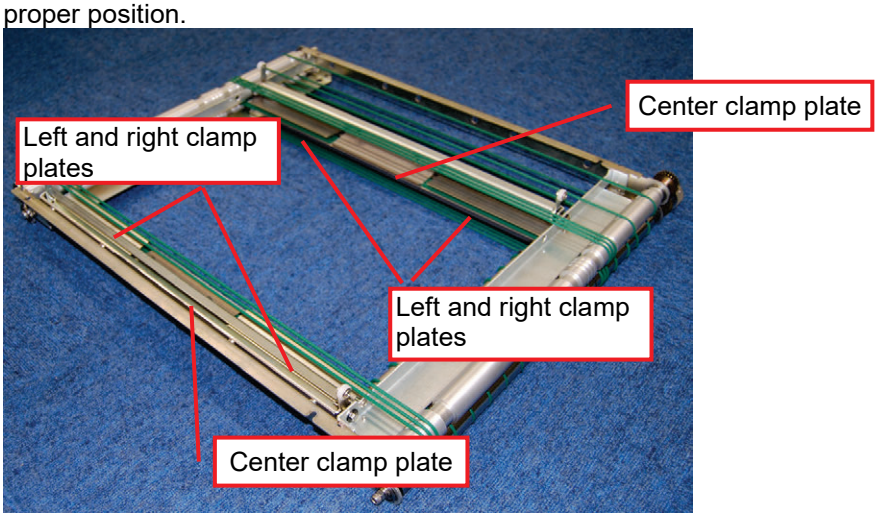
Store the cable in the rail.

3.2 Adjustment

3.2.1 Adjusting Clamp Position

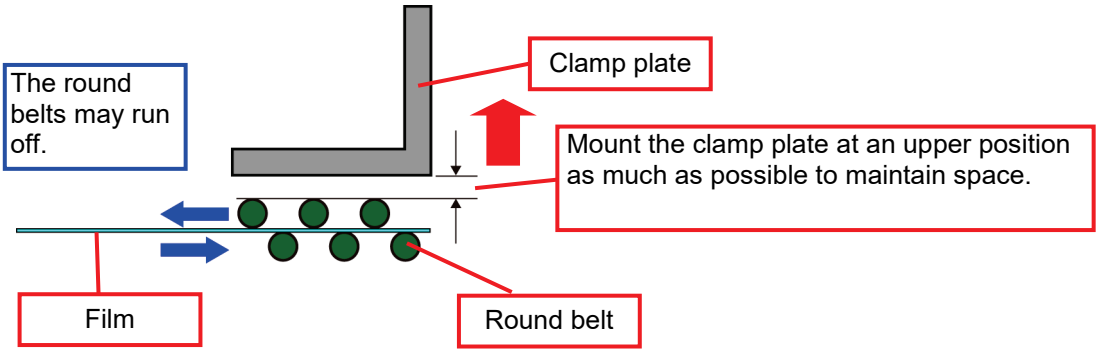
■ Clamp plate mounting position

When the clamp plate of the film conveying unit is removed or replaced, the clamp plate must be fixed in a proper position.

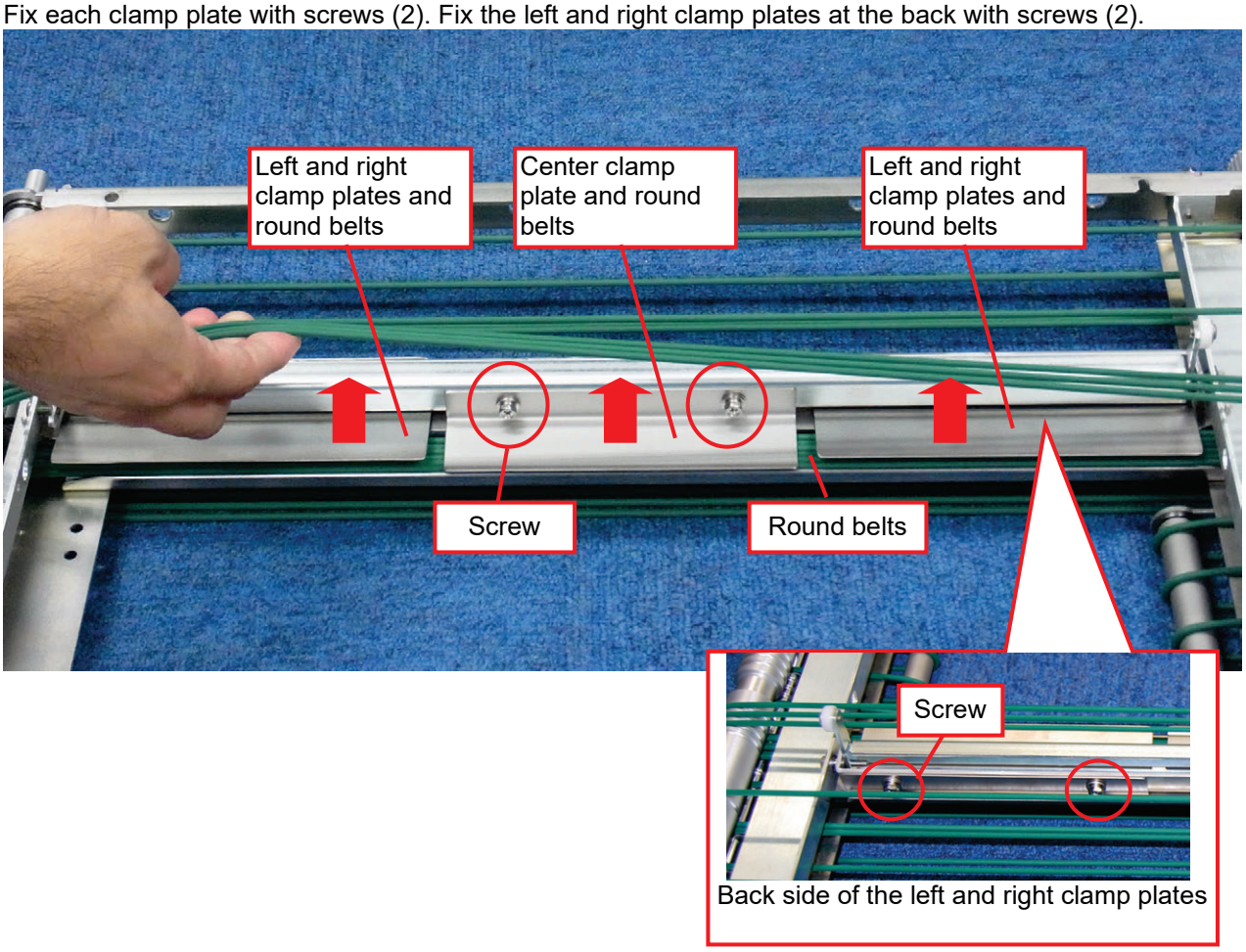


● Points of caution in mounting the clamp plate.

・Mount the clamp plate apart as much as possible from the round belts on the side of catching film.
Maintain space between the clamp plate and the round belts as much as possible. If space is insufficient, the round belts may run off the clamp plate and get stuck on the plate, making it impossible for the belts to return to their original positions



In the case shown in the photograph below, mount the clamp plates at a lifted position shown in the direction of arrows as much as possible.
Fix each clamp plate with screws (2). Fix the left and right clamp plates at the back with screws (2).

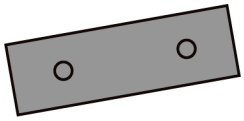


Back side of the left and right clamp plates

・Mount the clamp plate horizontally.
Tighten screws keeping the clamp plate in a horizontal position. Otherwise, film cannot be caught uniformly.

Good example: Mounted horizontally

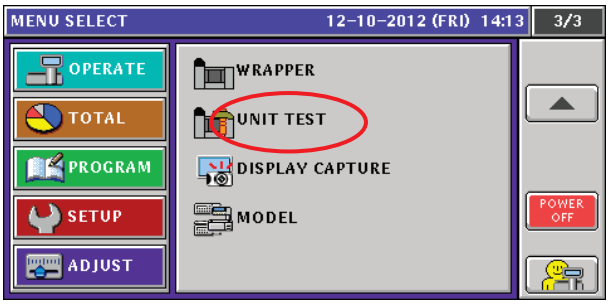
Bad example: Mounted at a tilt



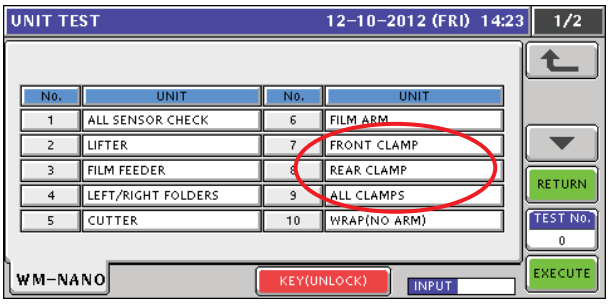
■ Checking the clamp

Check whether the clamp can catch film. Test run and check the clamp by using a piece of paper. Prepare a long and thin piece of paper.

1) Touch the [Unit Operation] in the Maintenance Adjustment Mode.



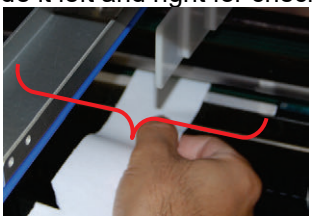
2) Select [FRONT CLAMP,] [REAR CLAMP,] or [ALL CLAMPS,] as required, before execution. The clamp starts the open-close operation.



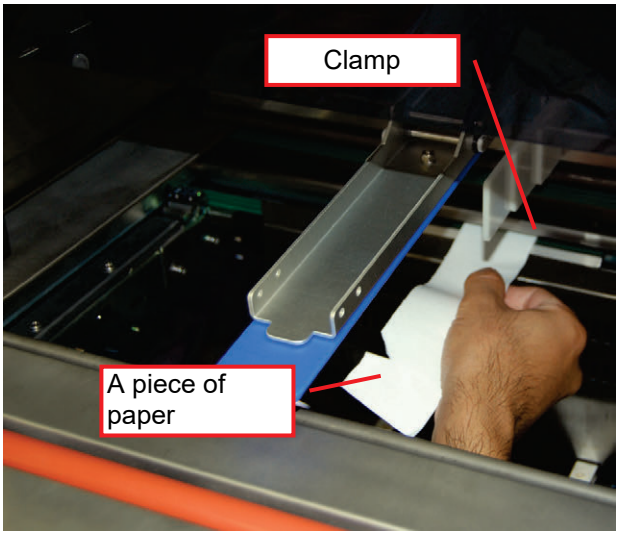
3) Insert the paper when the clamp is open. (The photograph shows the center clamp.)

Check the following two items.

- When the paper is caught, pull it and check whether the solenoid is located at a position where maximum resistance is given.
  For procedure to adjust the solenoid, see the next page.
- Check that resistance is uniformly given over the whole clamp width. When a thin piece of paper is used, slide it left and right for checking.



If resistance is not uniform, clamp is not fixed horizontally. Mount the clamp horizontally again.



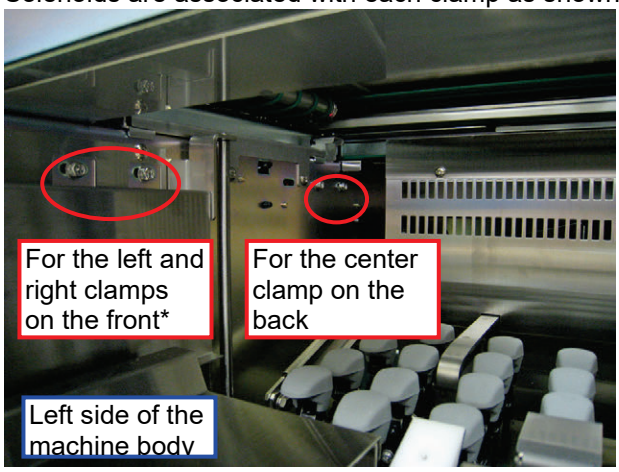
4) Conduct similar checks on other clamps by inserting a piece of paper. (Also check the clamps on the other side.)

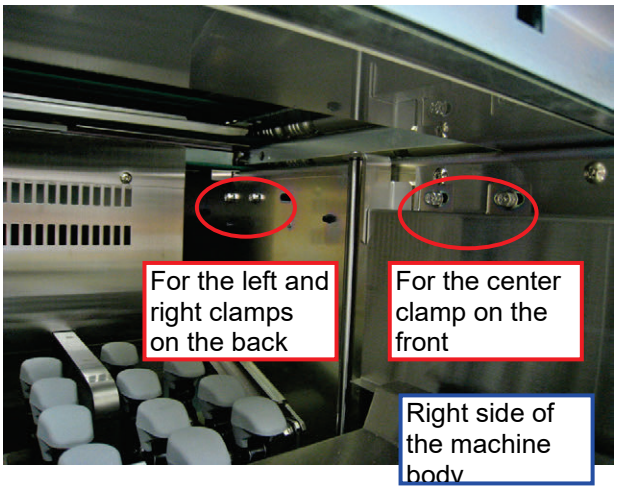
● Adjusting clamp solenoid

Adjust the solenoids that open and close the clamps. Four solenoids are used to open and close the front and back clamps.

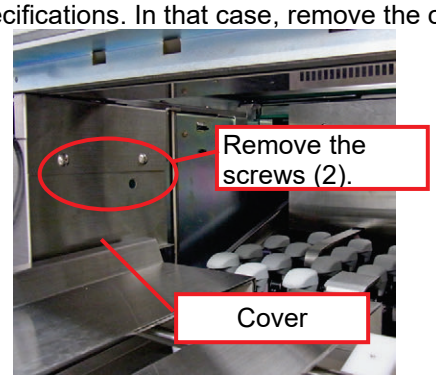
Screw holes are elongated so that position is adjusted with screws (2 screws for each solenoid).

Solenoids are associated with each clamp as shown below.





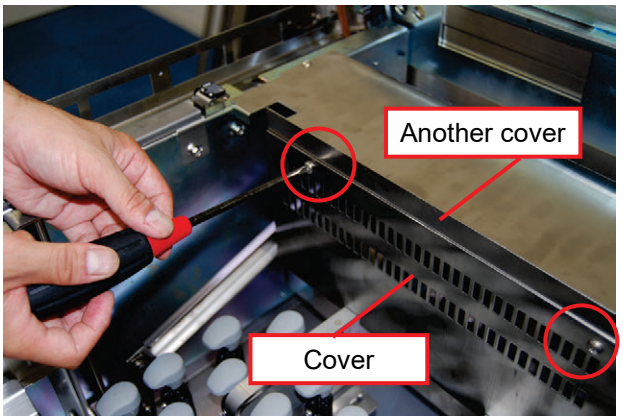
*The solenoids for the left and right clamps on the front may be provided with a cover depending on specifications. In that case, remove the cover before adjusting the solenoid screws.



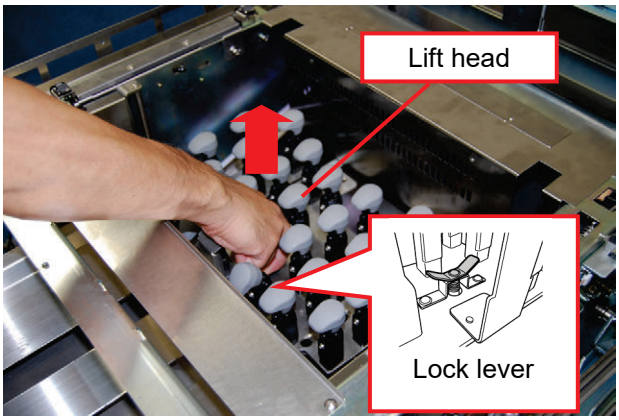
3.2.2 Adjusting Lift Height

Adjust the lift height with 4 mm hexagonal nuts. Prepare two 4 mm hexagonal nuts

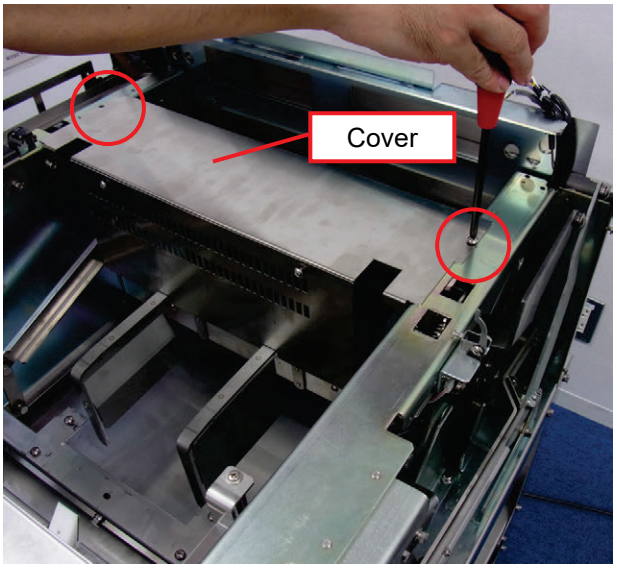
1) Remove the screws (2) on top side of the cover. Another cover in the back of the cover comes off.



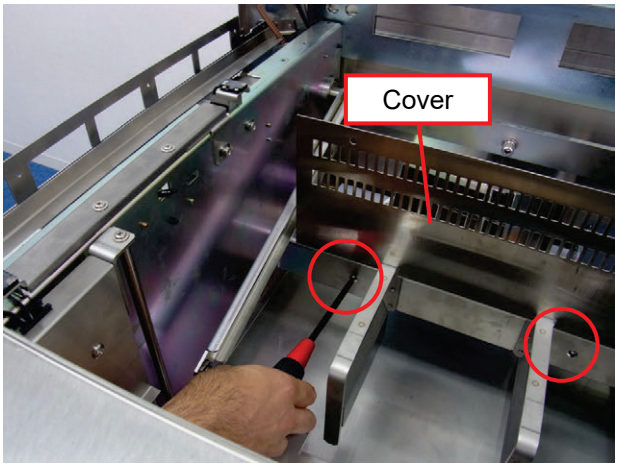
2) Release the lock lever to remove the lift head.



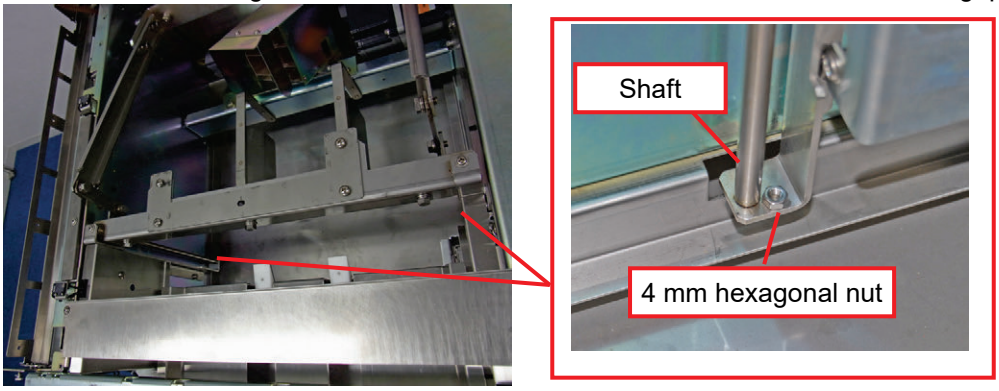
3) Remove screws (2) to remove the upper cover.



4) Remove screws (2) on the lower side to remove the cover.

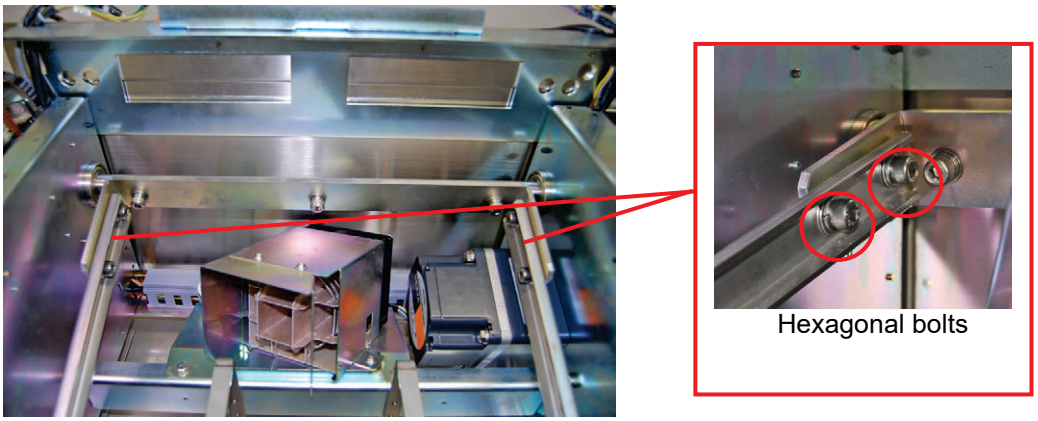


5) Place 4 mm hexagonal nuts under each shaft on both sides to create a 4 mm gap.



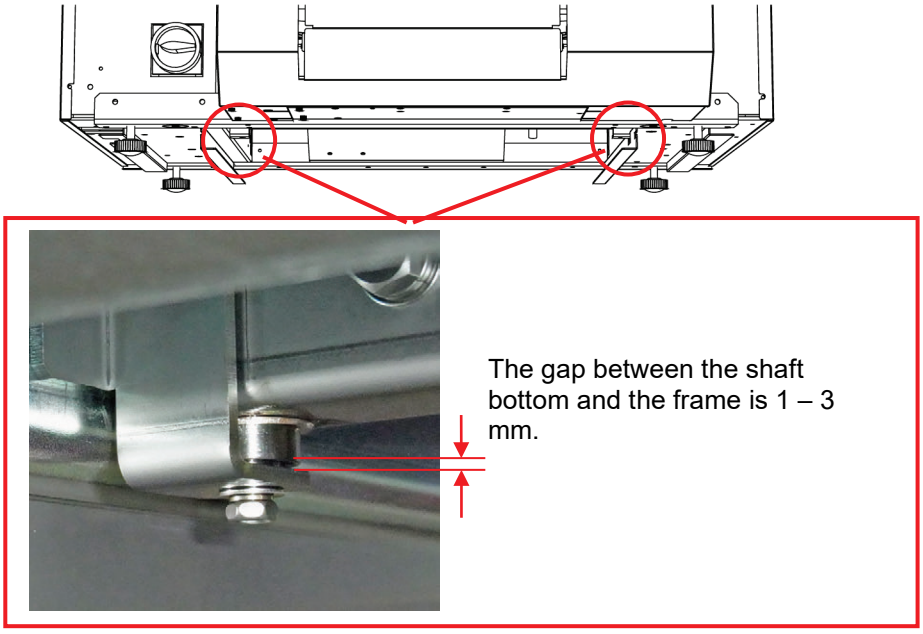
6）Lower the lift to the lowest position resting on the hexagonal nut. (Conduct adjustment in this position.)

7）Loosen hexagonal bolts on both sides (2 on the left and 2 on the right) to adjust height.

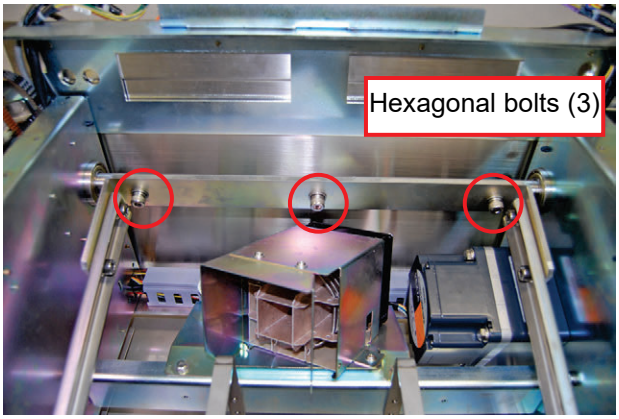


8）Remove the hexagonal nuts (2) placed under the shaft and set the lift head.

9）Check that the gap between the bottom of the shaft and the frame is 1 – 3 mm seen from under the machine body when the shaft is lowered in the lowest position.



10）If the gap is not 1 – 3 mm, repeat the above procedure 5 through 9 to adjust height.
If the gap still does not fall in the range of 1 – 3 mm, loosen the hexagonal bolts (3) in the back to adjust height in a similar way.



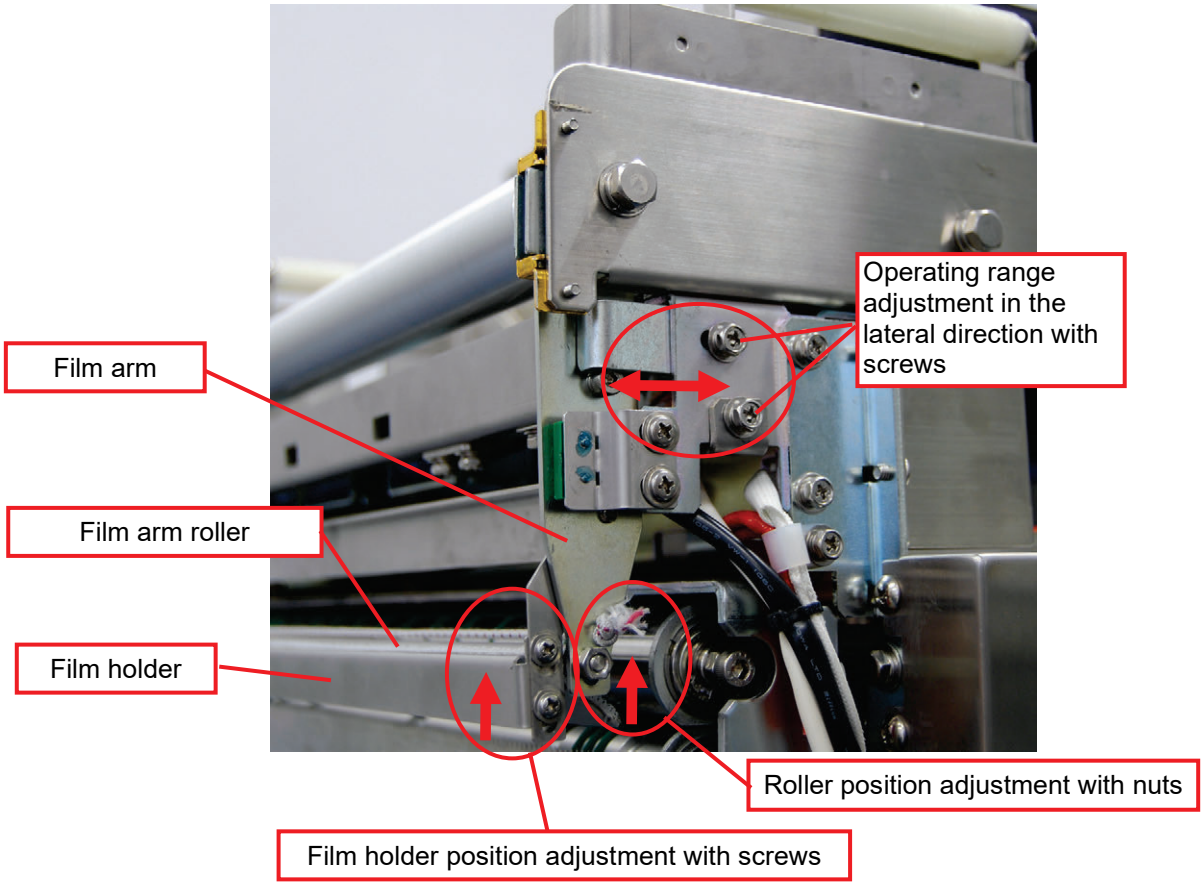
NOTE:

The check on the lift can be conducted by executing [Unit Operation] → [Lift] in the Maintenance Adjustment Mode.
In this case, check that the top end of the lift hits on the shaft. If you hear a sound when the lift goes up, the situation is OK.

3.2.3 Adjusting the Film Arm

Film arm adjustment includes the following items.

- •Operating range adjustment for the film arm in the lateral direction (inside - outside) (adjusted with screws)
- •Roller position adjustment for the film arm (adjusted with nuts)
- •Film holder position adjustment (adjusted with screws)



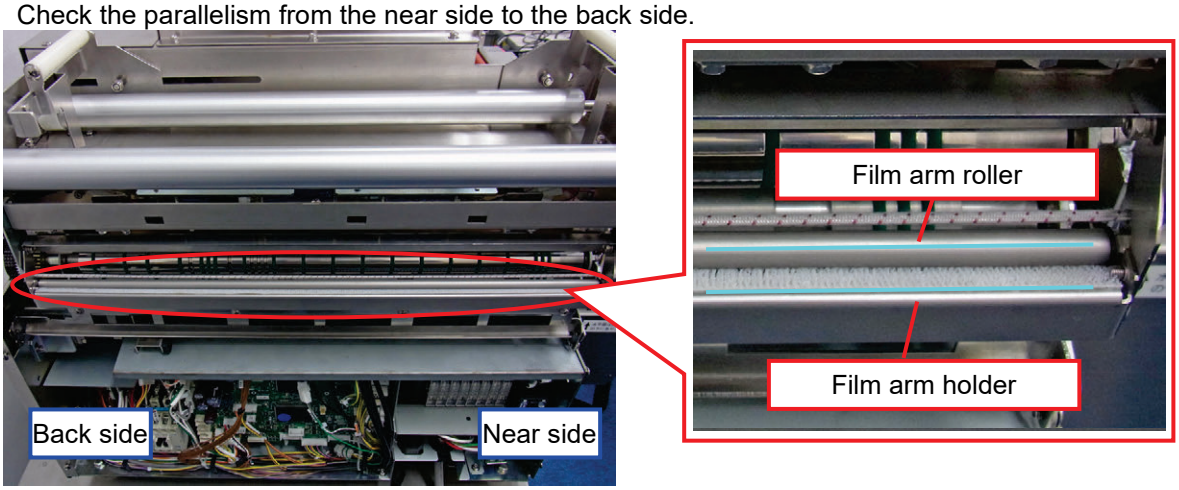
Follow the procedure [1] through [7] described below to adjust the film arm.

[1] Checking the film arm position

Check that the film arm is in the proper position before adjusting the film arm.

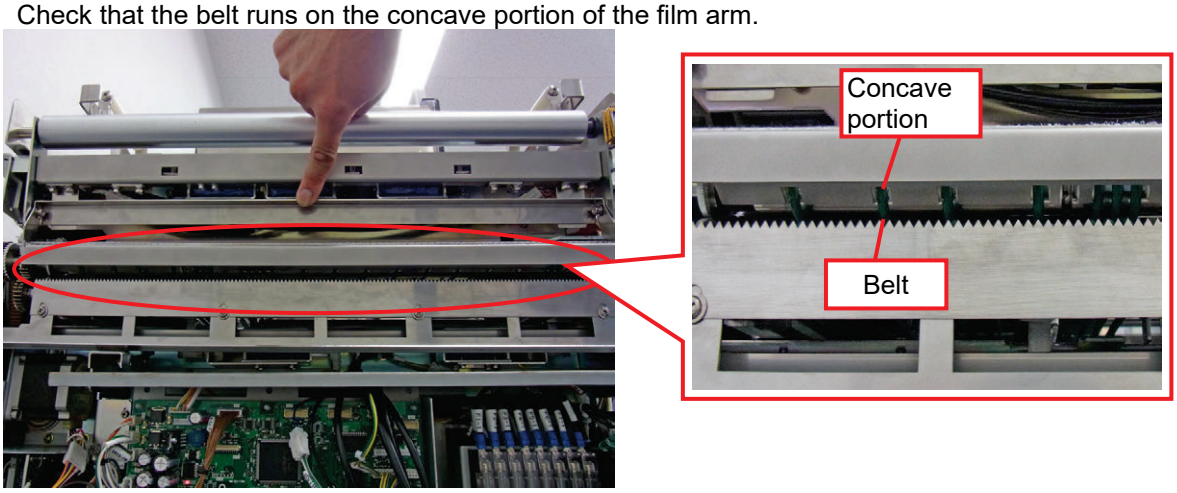
•Check that the film holder is parallel with the roller.

Check the parallelism from the near side to the back side.



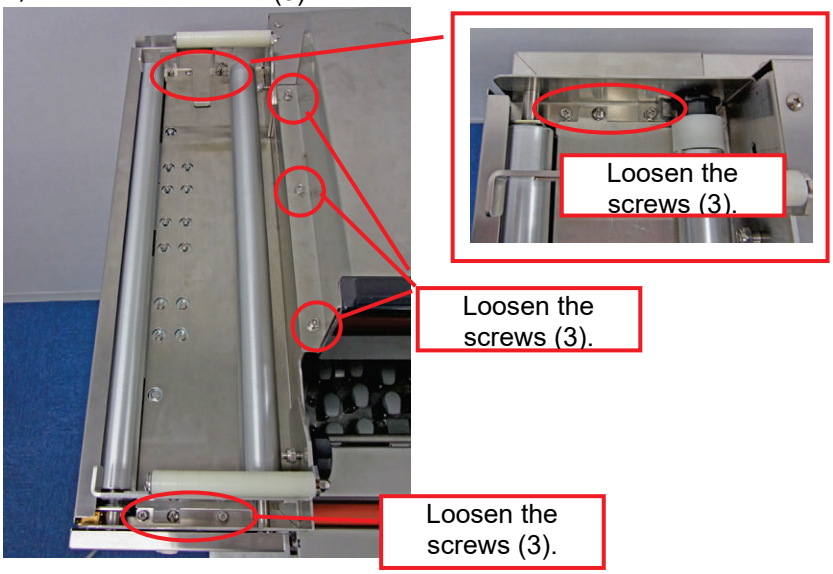
•Check that the film arm is not slipped in the horizontal direction.

Check that the belt runs on the concave portion of the film arm.

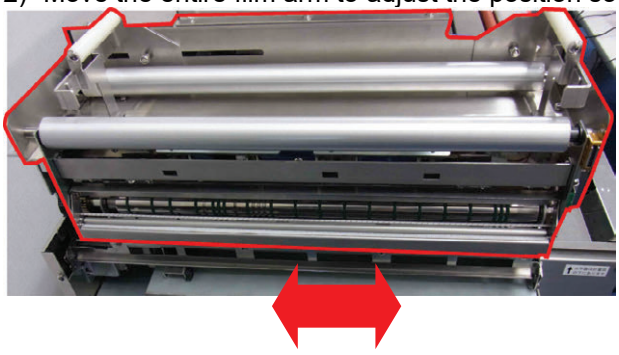


If the belt does not run on the concave portion, conduct adjustment in the following manner.

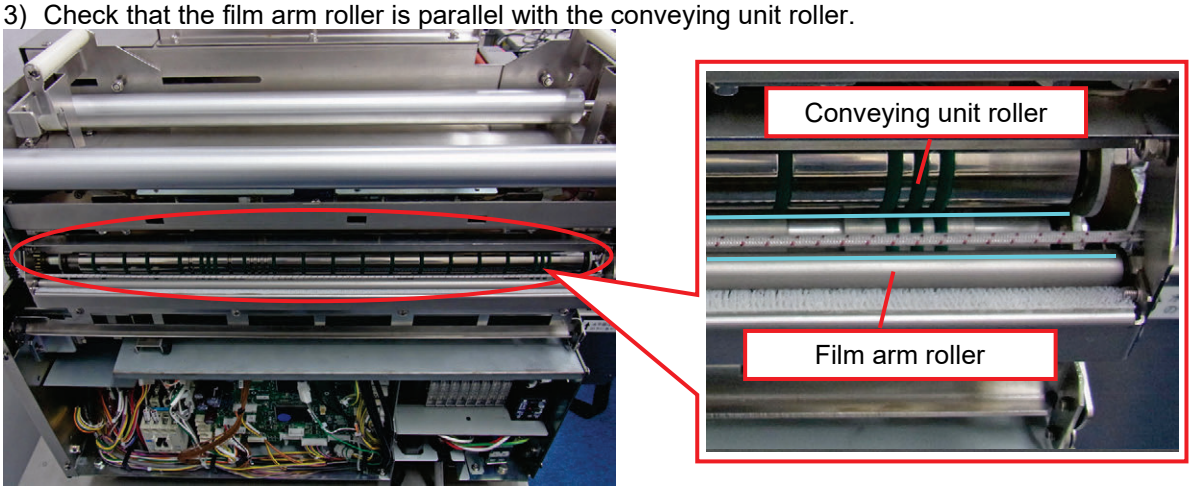
1）Loosen the screws (9) that fix the film arm.



2) Move the entire film arm to adjust the position so that the belt runs on the concave portion.



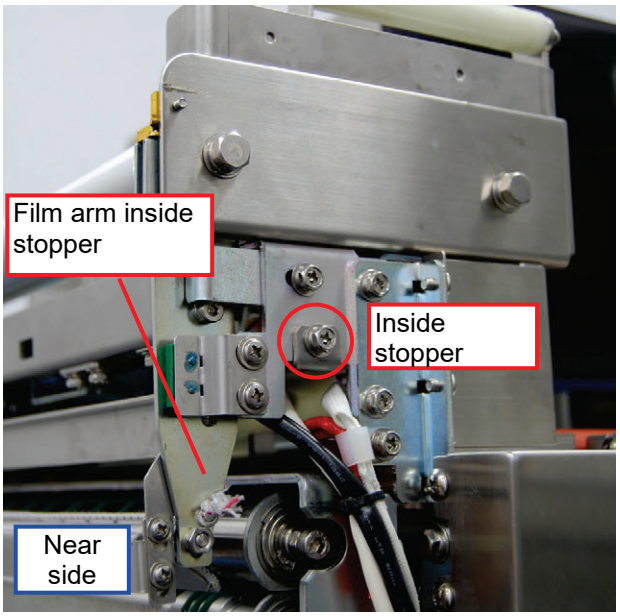
3) Check that the film arm roller is parallel with the conveying unit roller.



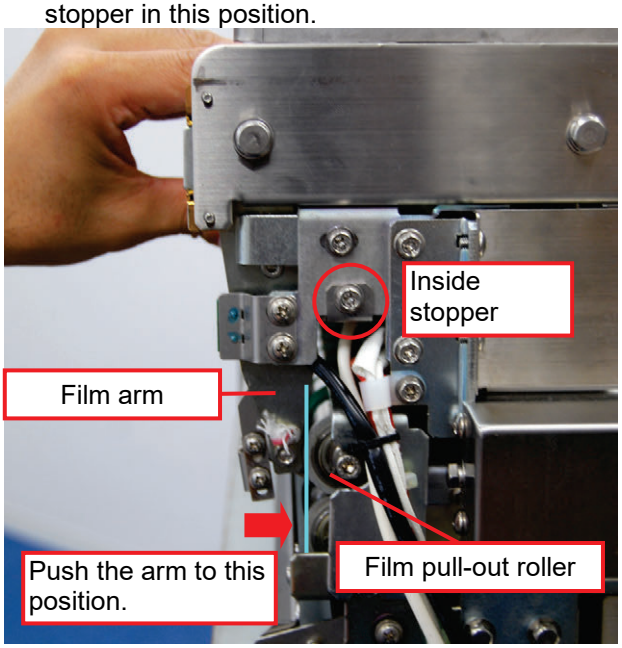
[2] Adjusting inside stopper position

Set the operating range of the film arm in the lateral direction. Set the inside limit position as follows:

1) Loosen the screw of the inside stopper (near side).

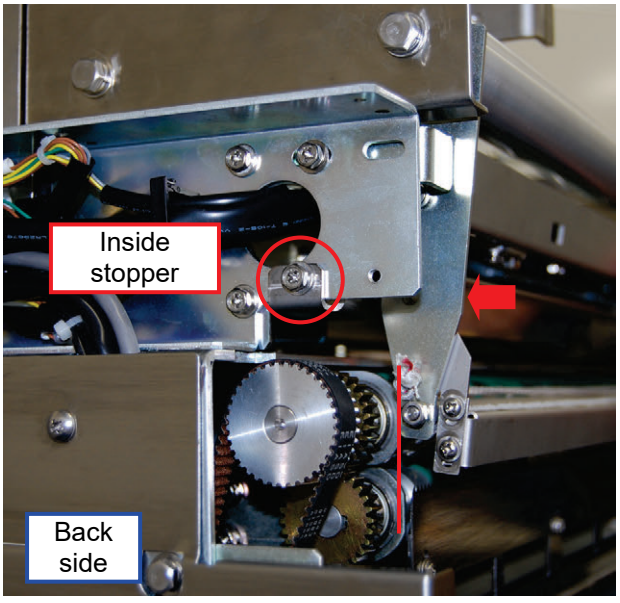


2) Push the film arm until the tip of the film arm touches the film pull-out roller. Fix the inside stopper in this position.

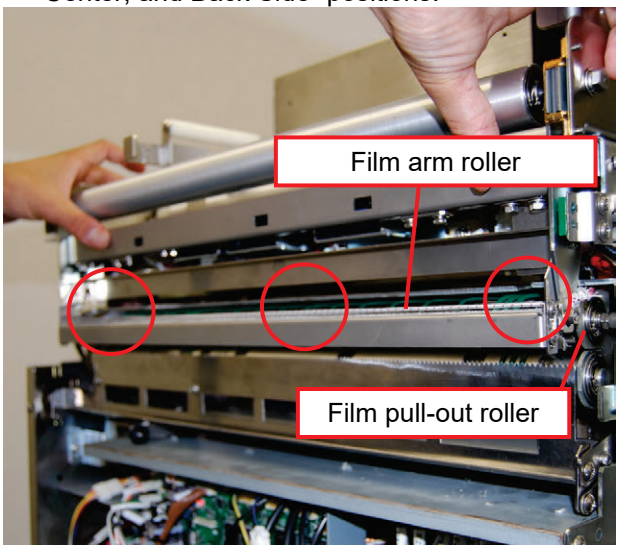


NOTE:
In the final check stage, the tip of the film arm and the film pull-out roller may sometimes overlap by 1 – 2 mm after re-adjustment.

3) Adjust the inside stopper in the back in a similar procedure as for the near side.

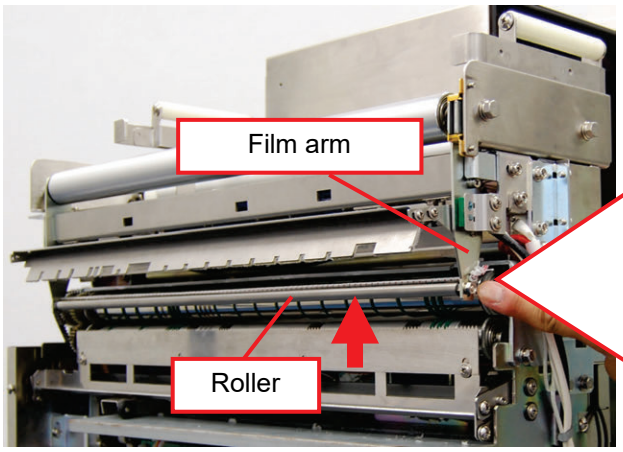


4) Check that the film arm roller is in parallel with the film pull-out roller.
Check parallelism while the film arm is being pushed into the farthest inside at its “Near Side, Center, and Back Side” positions.



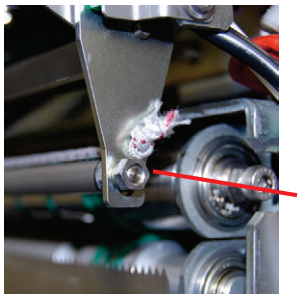
[3] Adjusting film arm roller position

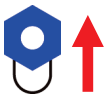
1) Set the film arm roller position at the top.



NOTE:
Pay attention for the case where the spring washer gets caught in the elongate hole, preventing the nut from moving to the top of the hole.

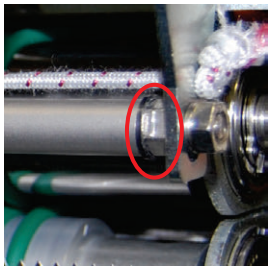
Loosen the outside nut and fix it at the uppermost position of the elongate hole (the roller is at the top position).





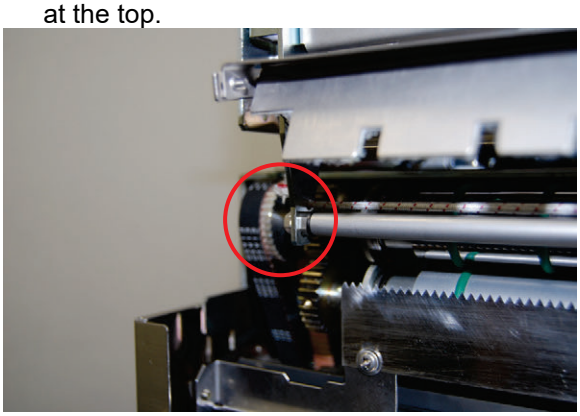
Fix the nut at the top position of the elongate hole.

At the same time, set one facet of the inside nut vertical as shown in the photograph. Under the condition that one facet of the nut is not vertical, the film holder may hit the nut.

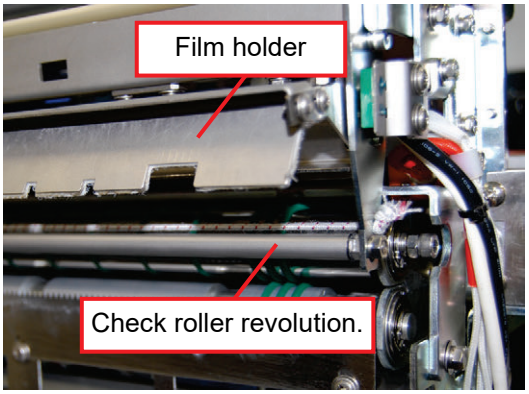


Set one facet in the vertical direction.

2) Similarly, set the roller position on the other side at the top.

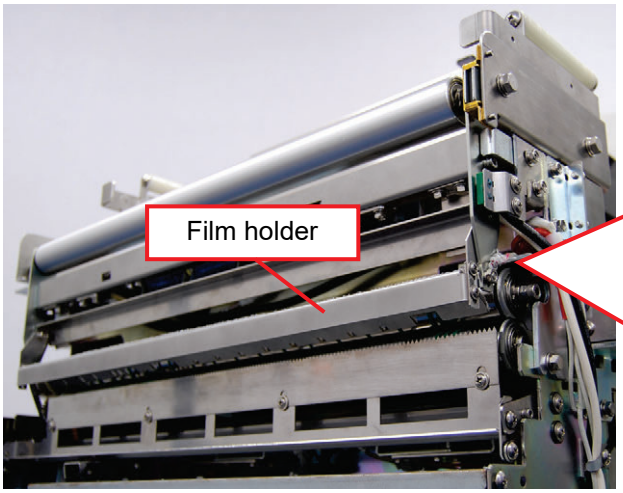


3) Check that the roller revolves smoothly while the film holder is lifted.

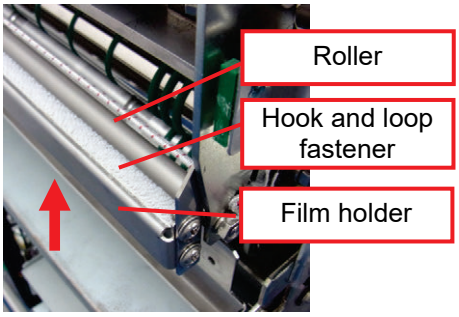


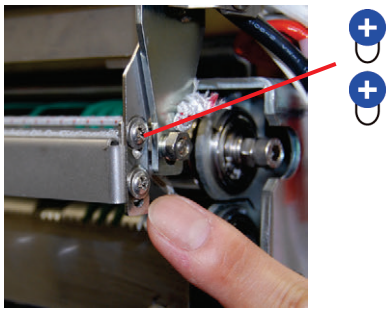
[4] Adjusting film holder position

1) Lower the film holder (set it at the origin position). Adjust the position in this condition and fix the holder with screws (2).

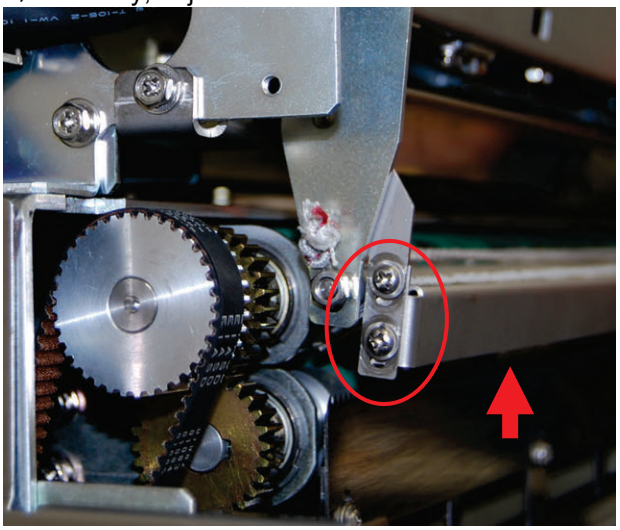


Lift the film holder until the roller and the hook and loop fastener hit each other lightly and fix the holder with screws (2).



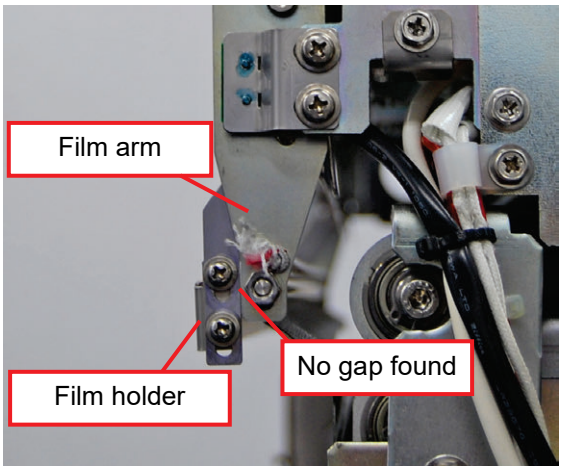


2) Similarly, adjust the film holder at the other side and fix it.

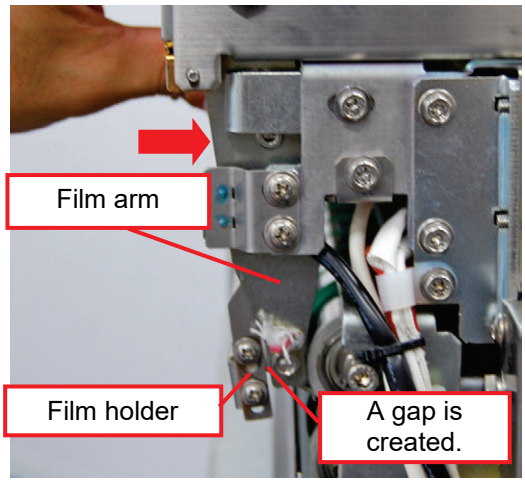


3) Check that adjustment is complete.

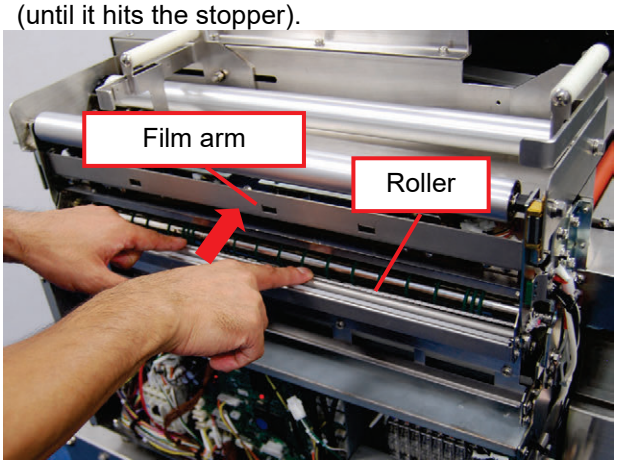
•Adjustment is OK if no gap is found between the film holder and the film arm with the film holder at the lowered position (origin position).
If any gap is found, re-adjust the film holder position.



•Adjustment is OK if a gap is created between the film holder and the film arm with the film arm in the pressed condition (conveying position).
If no gap is found, re-adjust the film holder position.

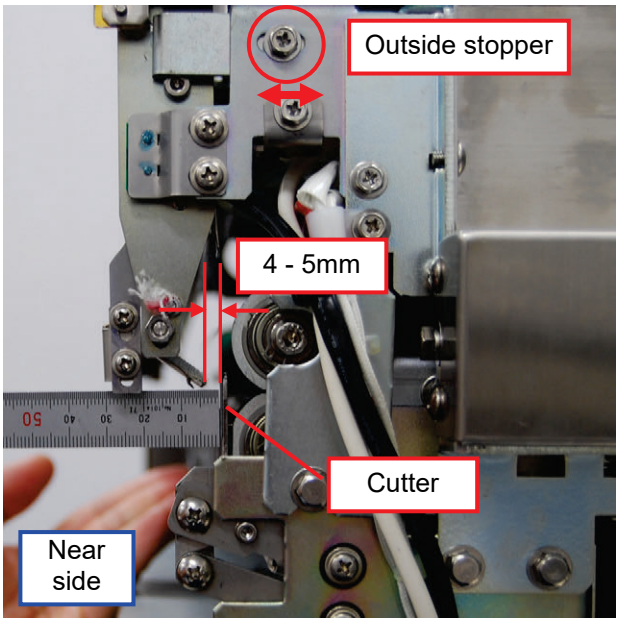


•Adjustment is OK if the roller revolves smoothly with the film arm pushed into the farthest back (until it hits the stopper).

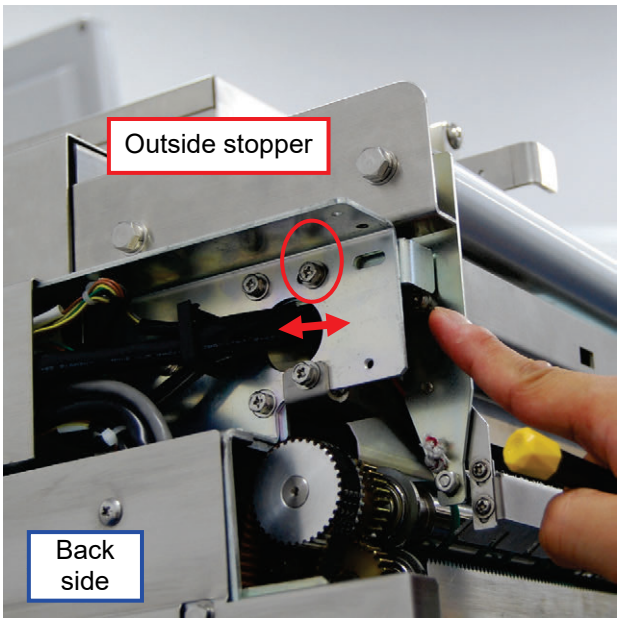


[5] Adjusting outside stopper position

1) Lift the cutter and adjust the outside stopper's position so that the gap between the tip of the film arm and the cutter is 4 – 5 mm, and then, fix the stopper.



2) In a similar way, adjust the stopper in the back to have the gap of 4 – 5 mm.

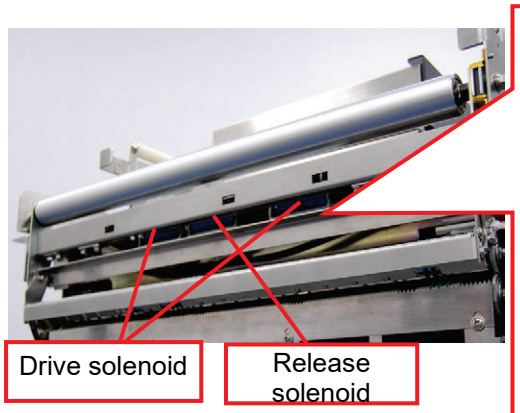


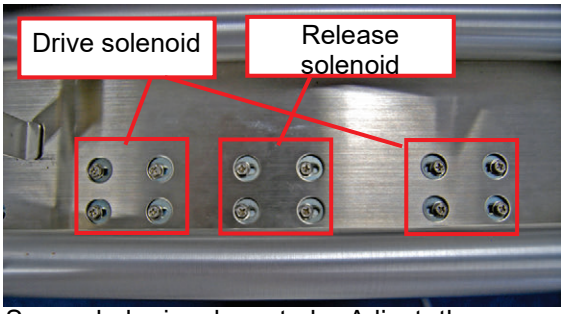
NOTE:

In mounting the left lateral cover, pay attention for the cover not to hit the film holder.

[6] Adjusting solenoid

1) Adjust each solenoid's position as follows.





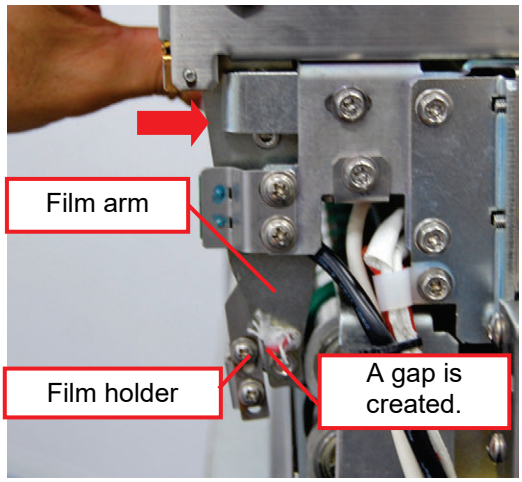
Screw hole is elongated.. Adjust the screw position so that the iron core is most inside the solenoid, and then, fix the screw.

Drive solenoid: It shifts the film arm toward inside (film conveying position).
Release solenoid: It shifts back the film arm toward outside (origin point).

NOTE:
If the release solenoid is not adjusted properly, the following trouble may occur:
•Film cutting operation is abnormal when film-over error is released.
•Film cutting operation is abnormal after film is conveyed.

2) Check that solenoid's position is properly adjusted.

•Adjustment is OK if a gap is created between the film holder and the film arm while the film arm is being pushed (conveying position).

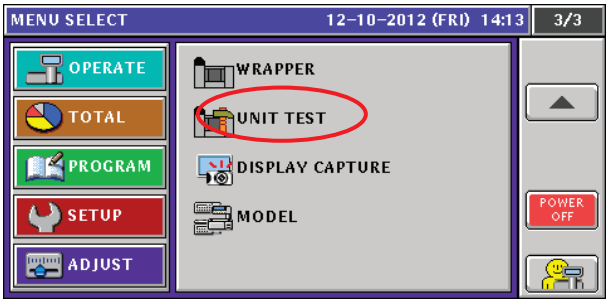


•If the front edge of the cut film does not stick out of the front end of the film holder, check the release solenoid's position.

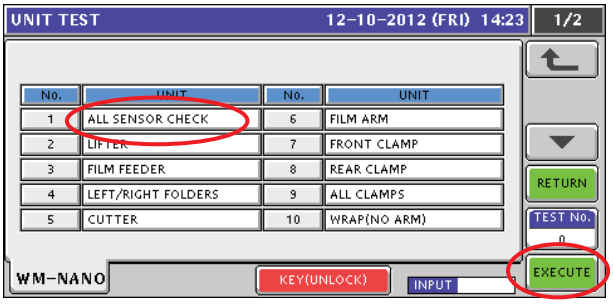
NOTE:
You can check the results of solenoid adjustment through actual operation by executing [Unit Operation] → [Film Arm] in the Maintenance Adjustment Mode.

[7] Adjusting the detection plate of the film conveyance origin point sensor (cutter safety sensor).
Before this adjustment, carry out “(4) Adjusting outside stopper position” to adjust the gap between the tip of the film arm and the cutter blade to 4 – 5 mm.

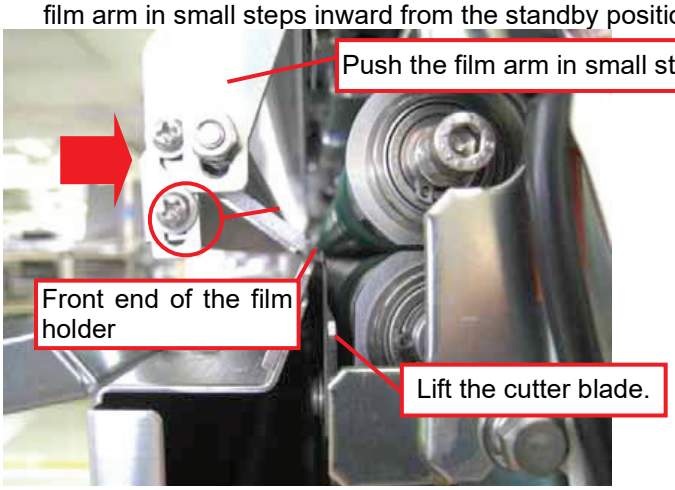
1) Touch the [UNIT TEST] in the Adjustment Mode.



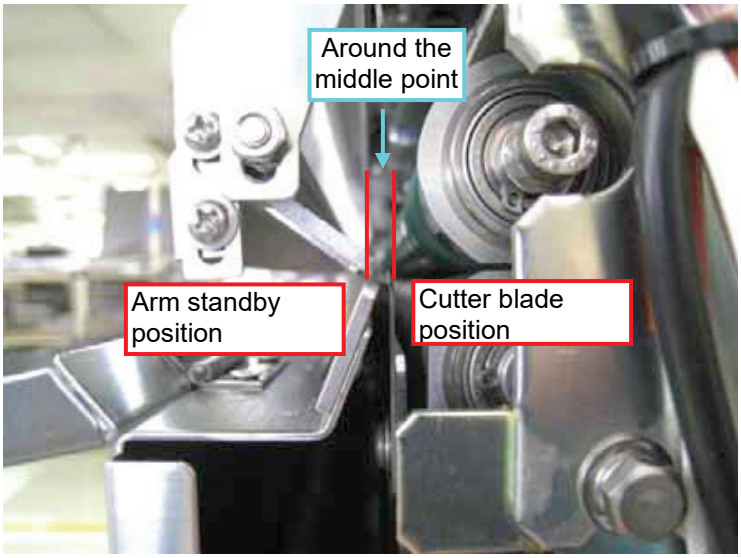
2) Select [ALL SENSOR CHECK] and touch [EXECUTE.]



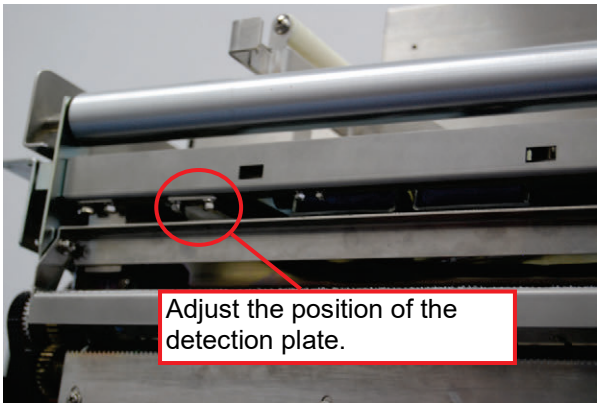
3) Lift and hold the cutter blade at the same height as that of the front end of the film holder, and push the film arm in small steps inward from the standby position (position with the film holder lowered).



4) Check the position where the sensor reacts sounding “pip-pip.”
If the reaction occurs at around the middle point between the arm standby position and the cutter blade, adjustment is OK. This completes detection plate adjustment.



5) If reaction does not occur at around the middle point, adjust the position of the detector plate. The screws (2) fixing the detection plate have elongated holes. Adjust the position of the elongated holes so that the sensor reacts at around the middle point.

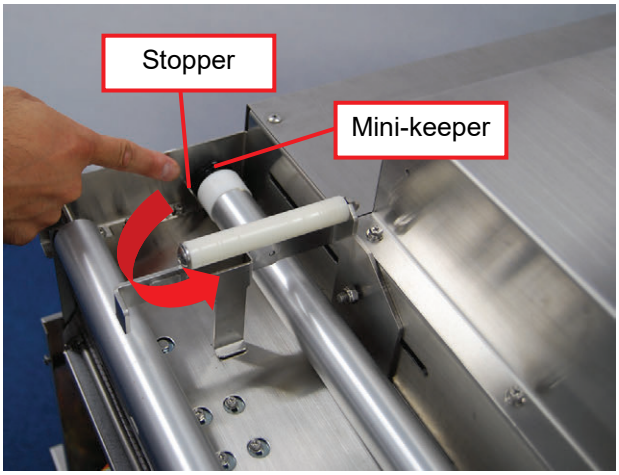


6) Repeat the procedure 3 – 5 until the sensor reacts at around the middle point.

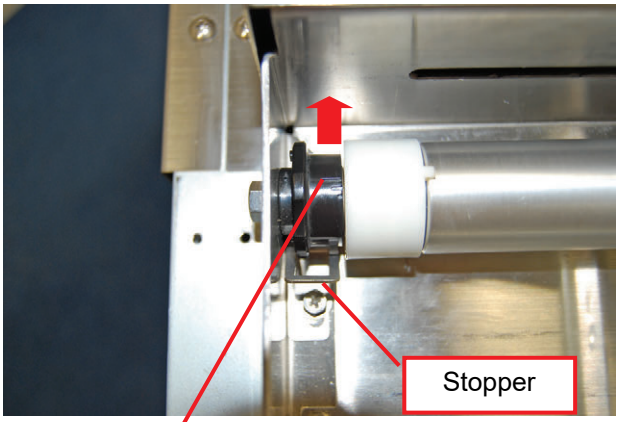
3.2.4 Adjusting the Mini-keeper

Mini-keeper adjusts revolving conditions of the film conveyer by applying load to the roller.
Set the mini-keeper to the position tightened by one revolution from the most loosened condition.

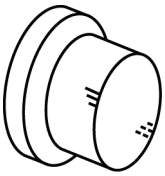
1) Pull the stopper and revolve the mini-keeper in the direction of the arrow to bring the mini-keeper in the most loosened condition.



2) Pull the stopper and revolve the mini-keeper in the direction of the arrow by one revolution. Two marks with three lines are provided at two locations with an interval of 180°. Adjust the amount of revolution based on this mark.

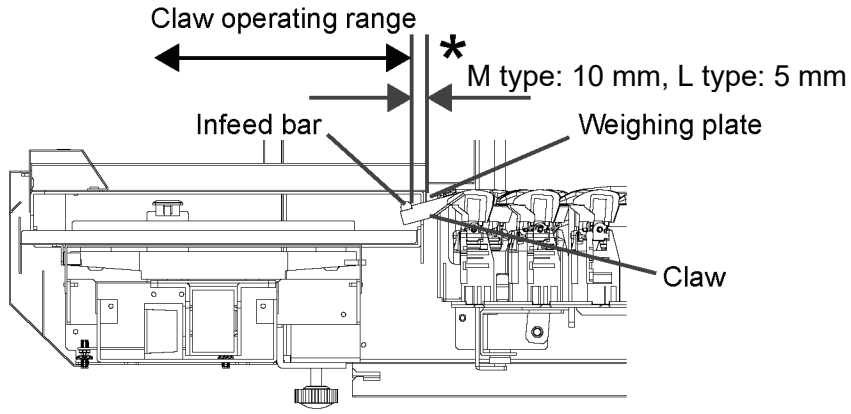


Mark with three lines

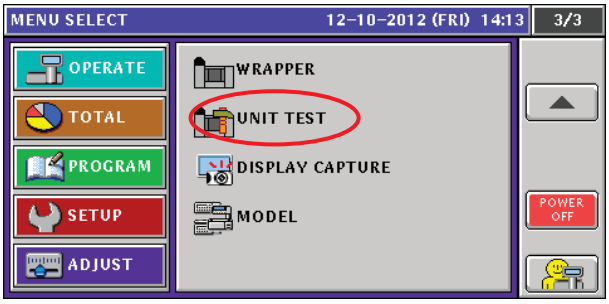


3.2.5 Adjusting the Operating Range of the Infeed Unit's Claw

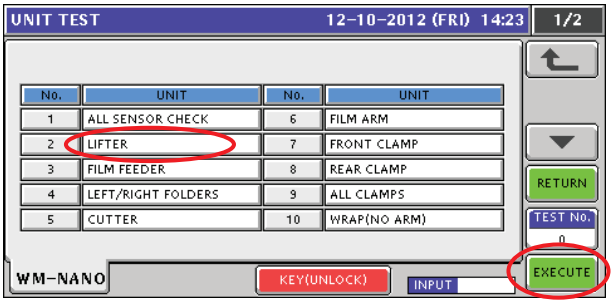
Adjust the claw operating range so that the gap between the infeed bar and the weighing plate is 10 mm when the infeed bar is at the farthest position in the back (farther back than the standby position).



1) Touch the [UNIT TEST] in the Adjustment Mode.



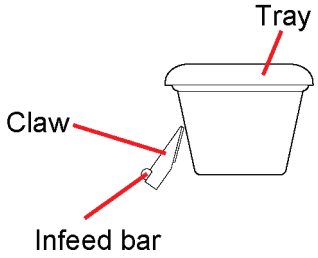
2) Select [LIFTER] and touch [EXECUTE.]



3) Check that the gap between the infeed bar and the weighing plate is 10 mm when the infeed bar moves to the farthest back.

NOTE:

<When the tray's infeed position on the lift needs to be farther back>



If the tray's position is too high or the tray's brim cannot be successfully pushed as shown in the figure on the left, reduce the dimension of the portion indicated by * in the figure above to move the infeed position on the lift toward farther back.

In changing the dimension of the portion indicated by mark *, check the following items.

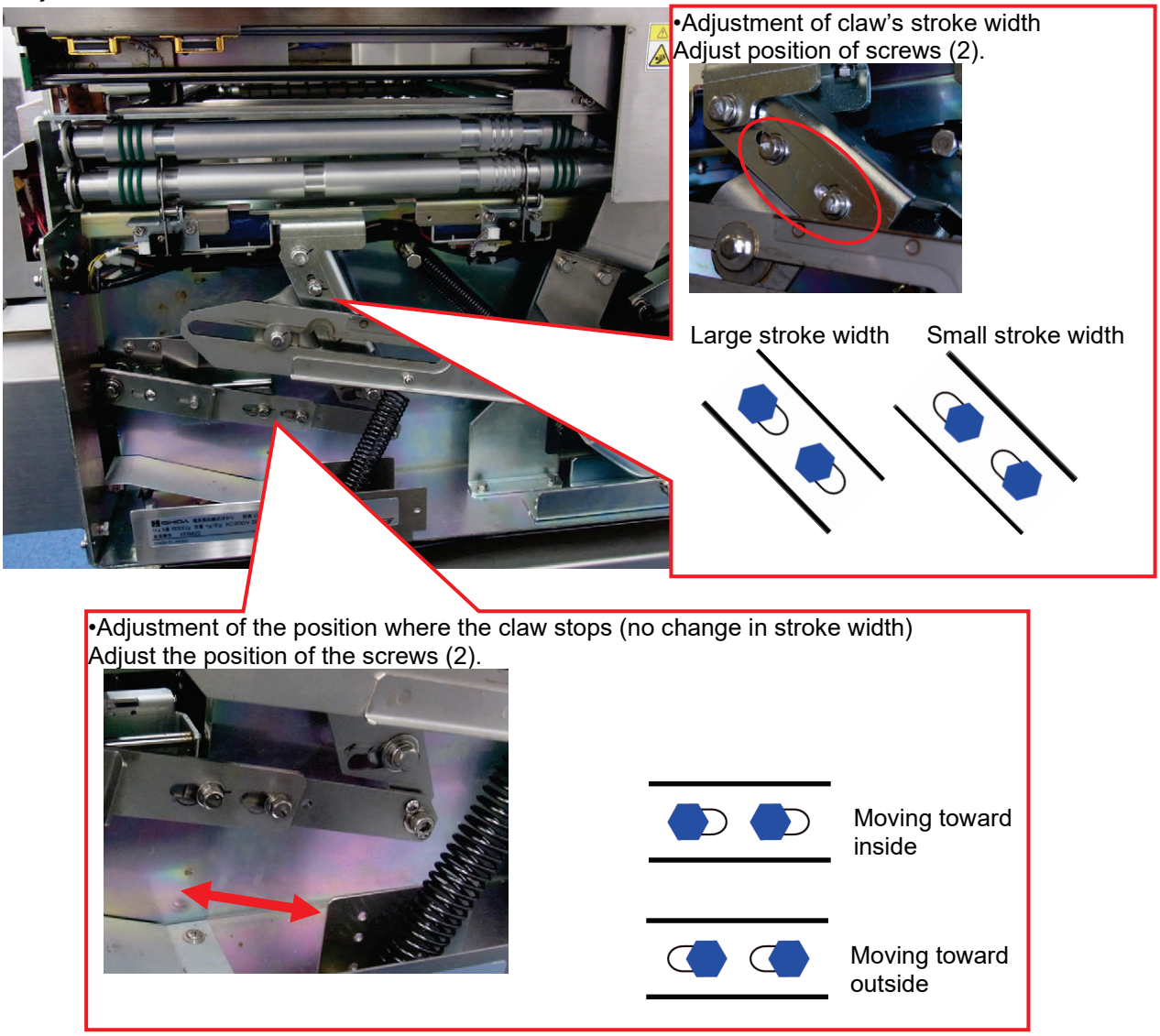
- The tray having the maximum depth dimension used by the customer shall not hit the cover inside the wrapping machine body.
- The infeed bar shall not hit the weighing plate holder.

4）If the dimension is not 10 mm, stop unit's operation and adjust the operation range of the infeed unit's claw.

Carry out two types of adjustment for the claw operation range as described below..

•Adjustment of the position where the claw stops (no change in stroke width)

•Adjustment of claw's stroke width



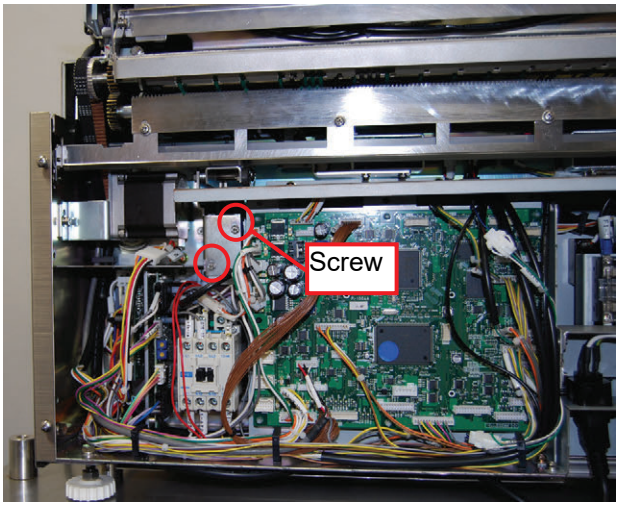
5）Conduct adjustment until the gap between the infeed bar and the weighing plate is 10 mm.

3.2.6 Adjusting Cutter Solenoid Position

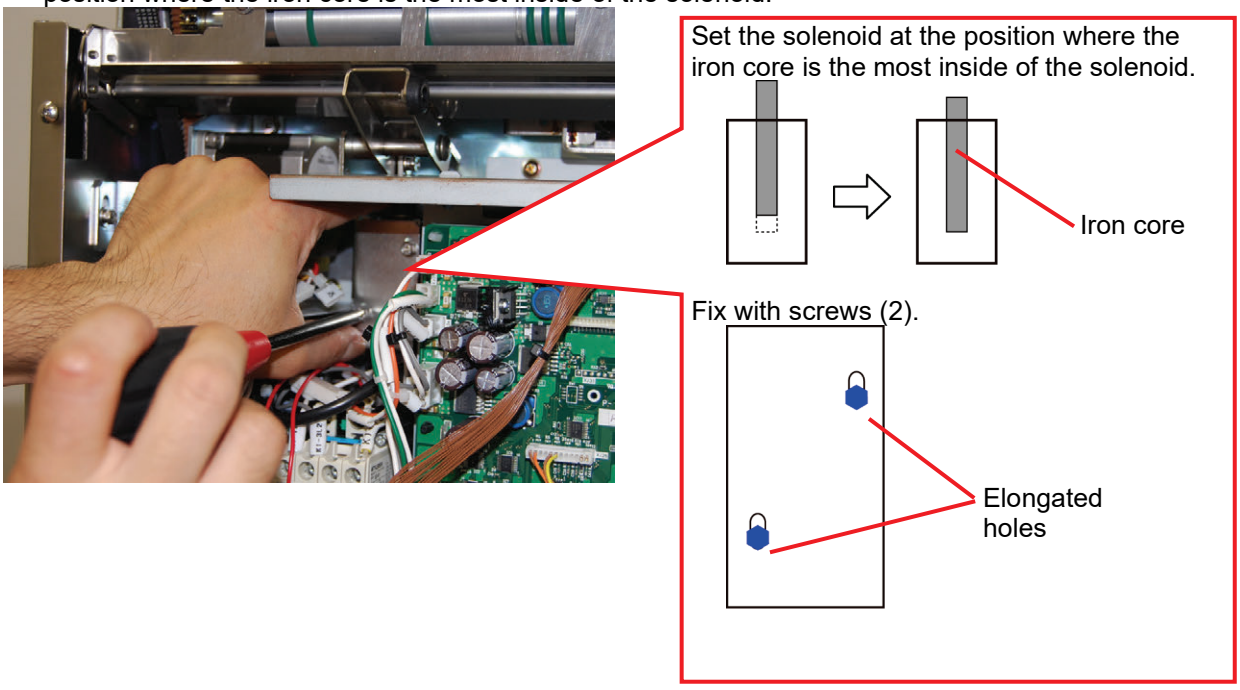
Fix the cutter solenoid with screws (2) at the position where the iron core is the most inside of the solenoid.

1）Turn the machine power switch OFF.

2）Loosen the screws (2) that fix the cutter solenoid.



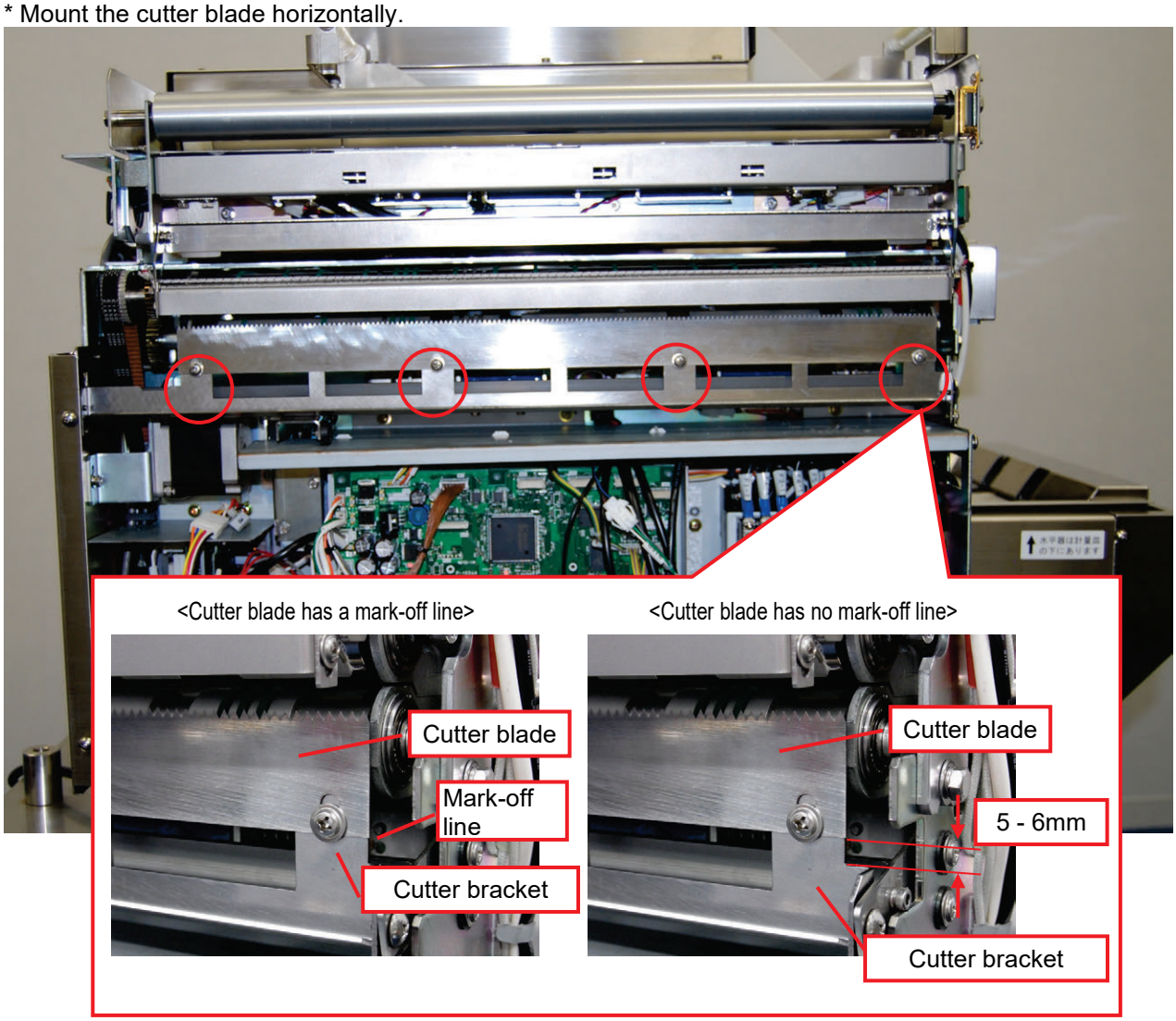
3）Screw holes are elongated allowing vertical position adjustment. Fix the solenoid with screws (2) at the position where the iron core is the most inside of the solenoid.



3.2.7 Adjusting Cutter Blade Position

Adjust the cutter blade position when cutter blades are replaced or the unit is disassembled.
Screw holes are elongated allowing vertical adjustment. Fix the cutter blade position with screws (4).

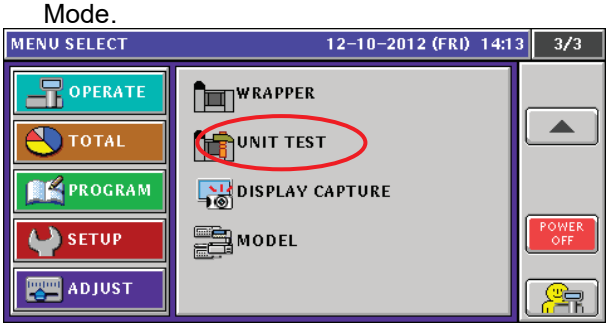
Adjust the cutter blade position in a manner described below.
•If the cutter bracket has a mark-off line, adjust the cutter blade to the mark-off line.
•If the cutter bracket has no mark-off line, set the gap between bottom end of the cutter blade and the cutter bracket to 5 – 6 mm.
* Mount the cutter blade horizontally.



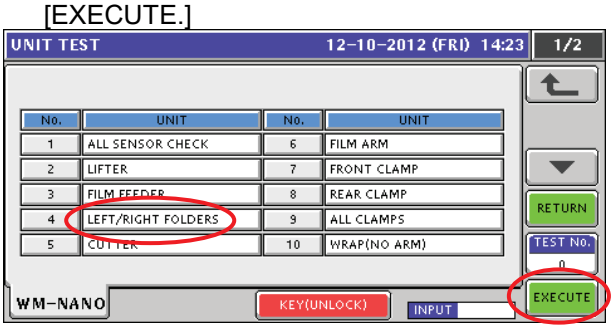
3.2.8 Adjusting Left and Right Squeezing Plates Widening Amount

Adjust the widening amount between the left and right squeezing plates to 366 – 369 mm.

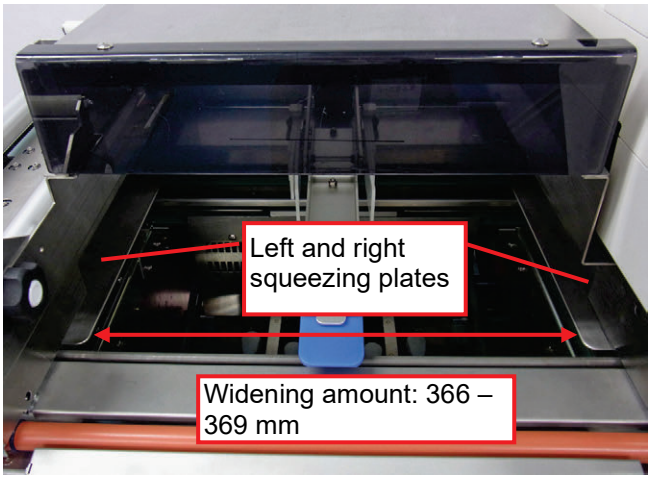
1) Touch the [UNIT TEST] in the Adjustment Mode.



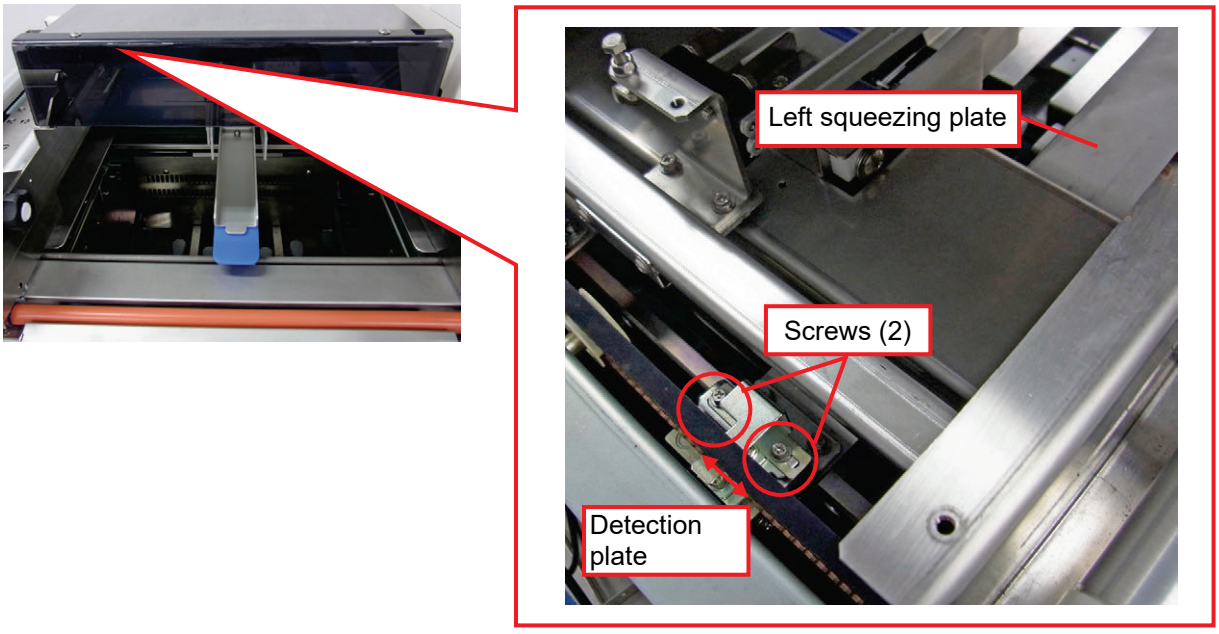
2) Select [LEFT/RIGHT FOLDERS] and touch [EXECUTE.]



3) When the left and right squeezing plates reach the both ends, check that their widening amount is 366 – 369 mm.



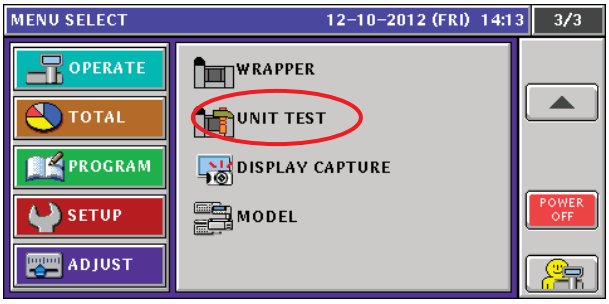
4) If the widening amount is not 366 – 369, adjust the amount with screws (2) on the detection plate attached on the left squeezing plate.



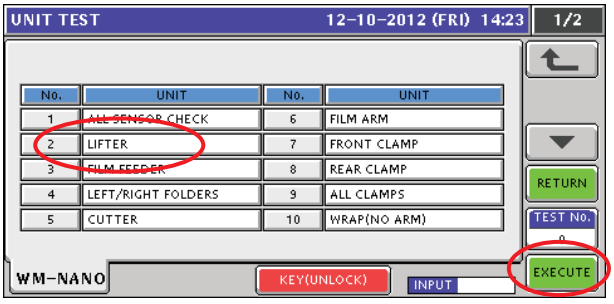
3.2.9 Adjusting Squeeze Amount of the Postsqueezing Plate

Adjust the squeeze amount of the postsqueezing plate in such a way that the gap created by the postsqueezing plate when the postsqueezing plate moves toward the nearest position is within 5 mm ± 1 mm.

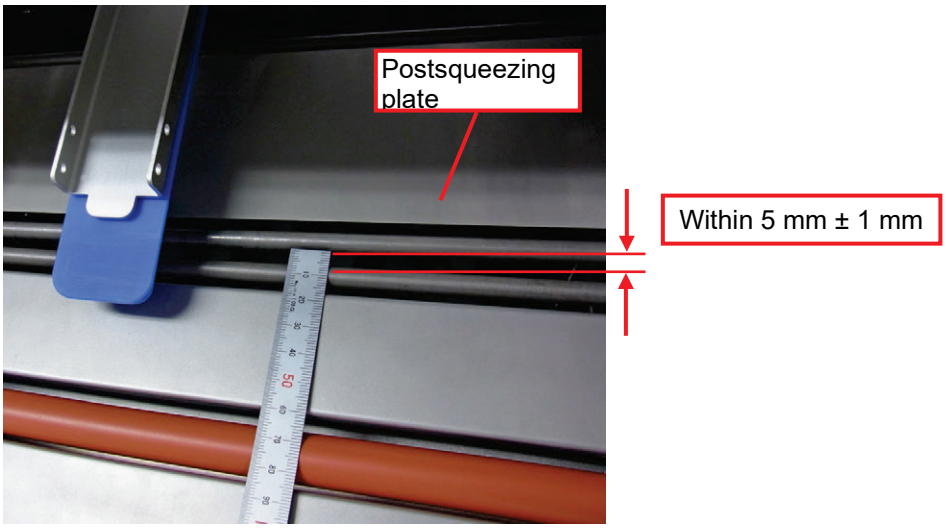
1) Touch the [UNIT TEST] in the Adjustment Mode.



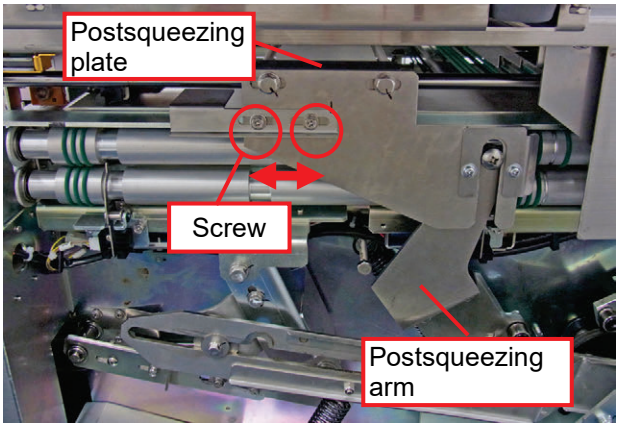
2) Select [LIFTER] and touch [EXECUTE.]



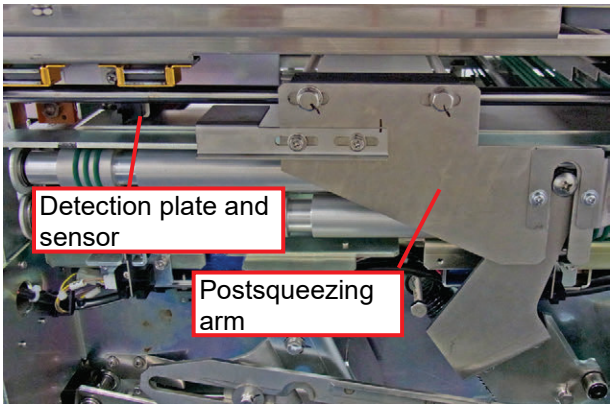
3) Check that the gap is within 5 mm ± 1 mm when the postsqueezing plate moves toward the nearest position.



4) If the gap is not within 5 mm ± 1 mm, adjust the gap with the screws (2) of the postsqueezing arm on the right lateral.



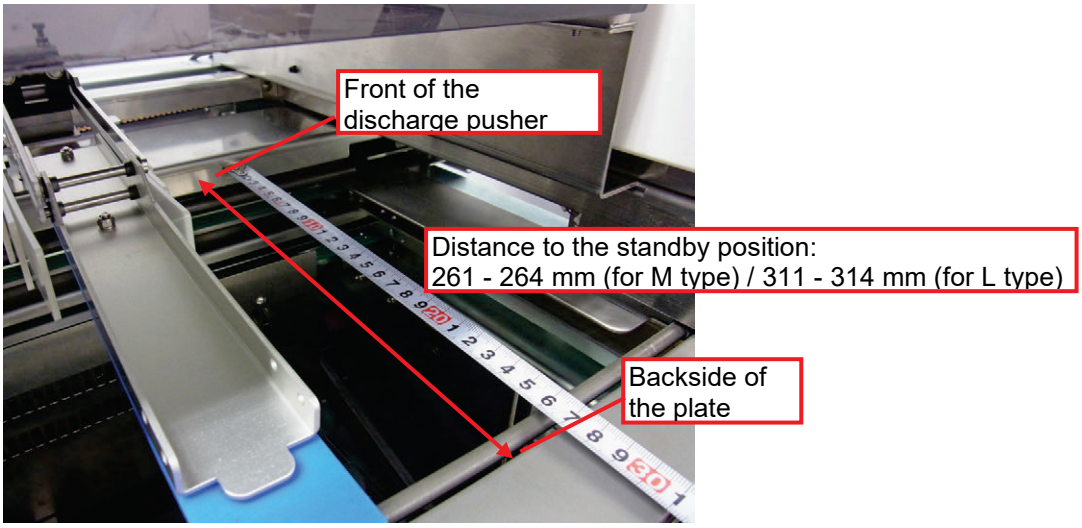
5) Move the postsqueezing plate back and forth once and check that the postsqueezing arm does not hit the detection plate and the sensor.



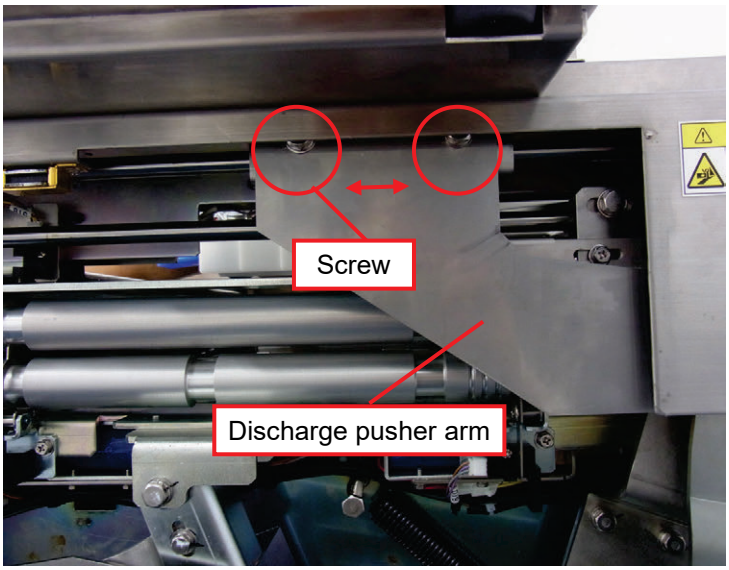
3.2.10 Adjusting Discharge Pusher Standby Position

Adjust the standby position of the discharge pusher as follows:

1) Check that the standby position of the discharge pusher (from the front of the discharge pusher to the backside of the plate).



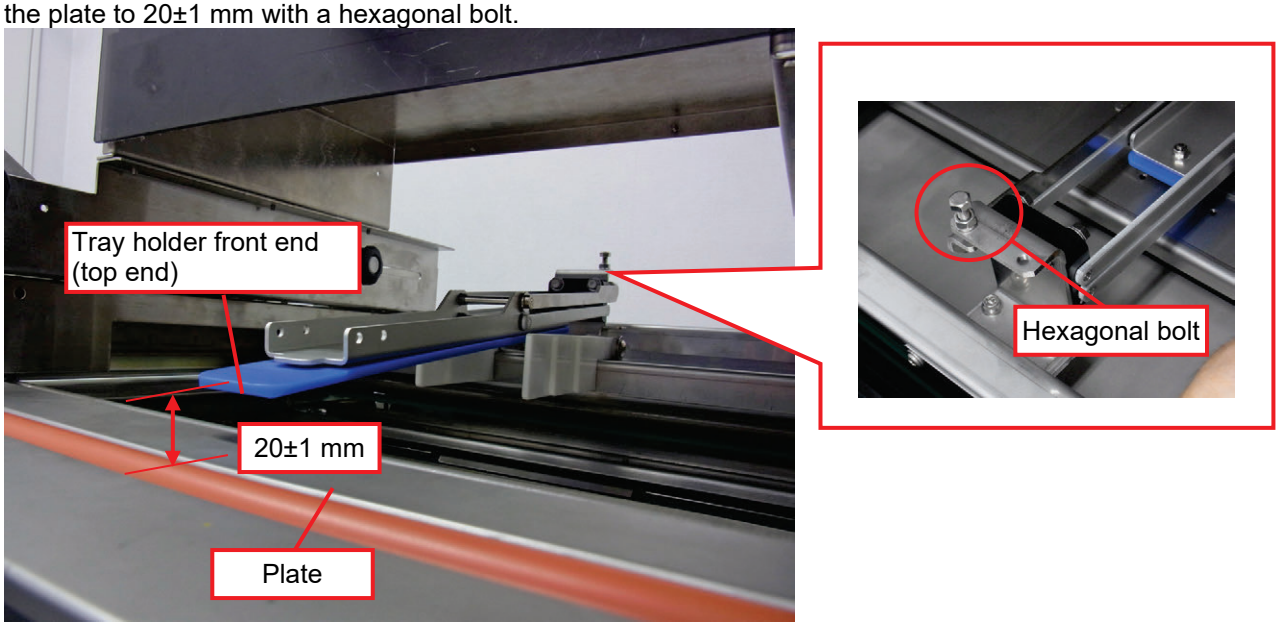
2) If the standby position is incorrect, adjust the position with screws (2) on the discharge pusher arm at the right lateral.



3) After adjustment, activate the discharge pusher and check again the distance to the standby position.

3.2.11 Adjusting Tray Holder Height

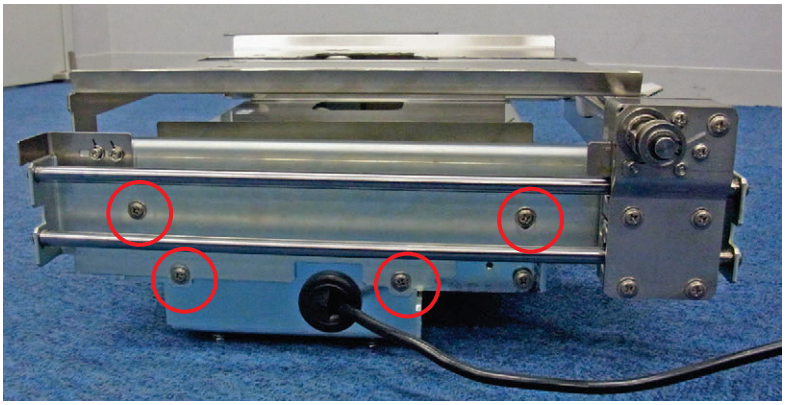
Adjust the height of the tray holder as follows: Adjust the space between the front end of the tray holder and the plate to 20±1 mm with a hexagonal bolt.



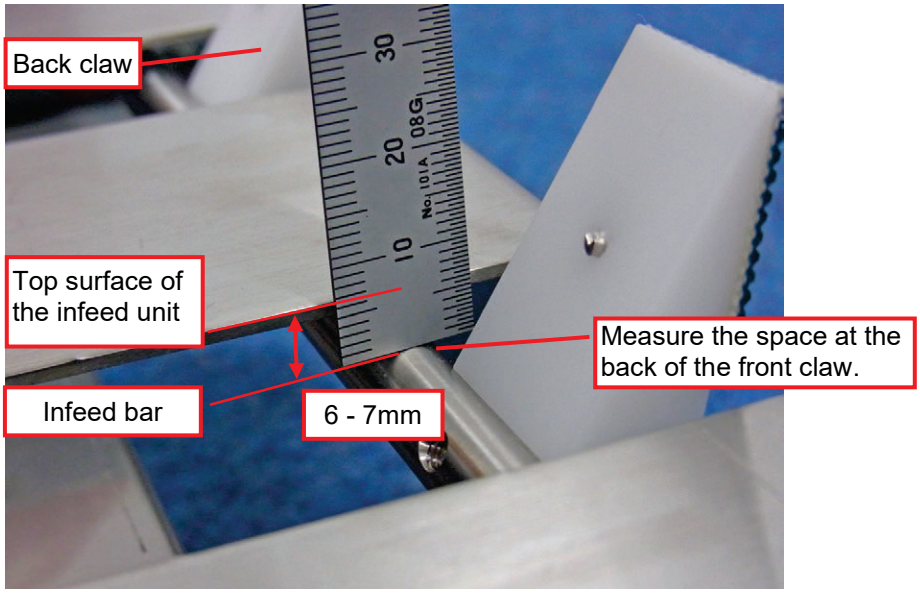
3.2.12 Adjusting Claw Height of the Infeed Unit

Adjust the claw height of the infeed unit as follows:

1) Loosen the screws (4) on the right lateral of the infeed unit.



2) Adjust the space between the top surface of the infeed unit and the infeed bar to 6 - 7 mm.
Measure the height at the back of the front claw on the right lateral of the infeed unit as shown in the photograph below.



Chapter 4 Hardware (Electrical)

4.1 Electrical Unit Board Configuration

⚠ DANGER! **When a worker put his/her hand inside the machine body, be sure to press the emergency stop switch.**

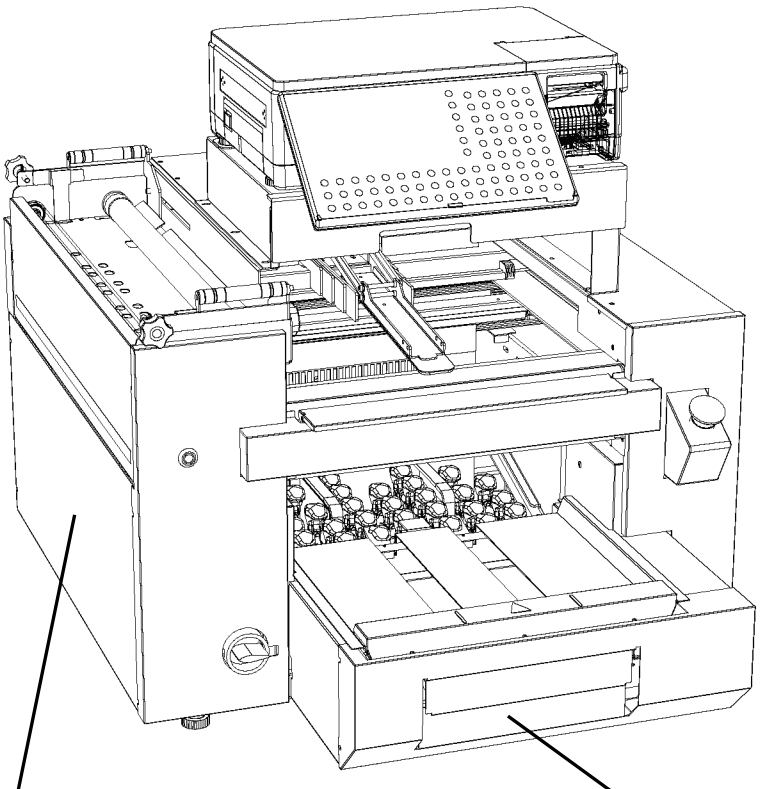
⚠ WARNING
- **Lock out the power so that it does not turn ON while you are working, and keep the key with you.**
- **During maintenance, attach a tag indicating "Work in progress" or have another operator monitor it.**
- **Electrical wiring work must be performed by a legally qualified person.**

⚠ CAUTION **Pay full attention that the DC 24V power source for the logic system does not turn off even though the emergency stop button is pressed.**

⚠ CAUTION **When the fuse blew off, be sure to replace the fuse with the specified one.**

⚠ CAUTION **When replacing PK-260 (Main board on UNI-7), please follow local regulation on its disposal because it contains lithium battery.**

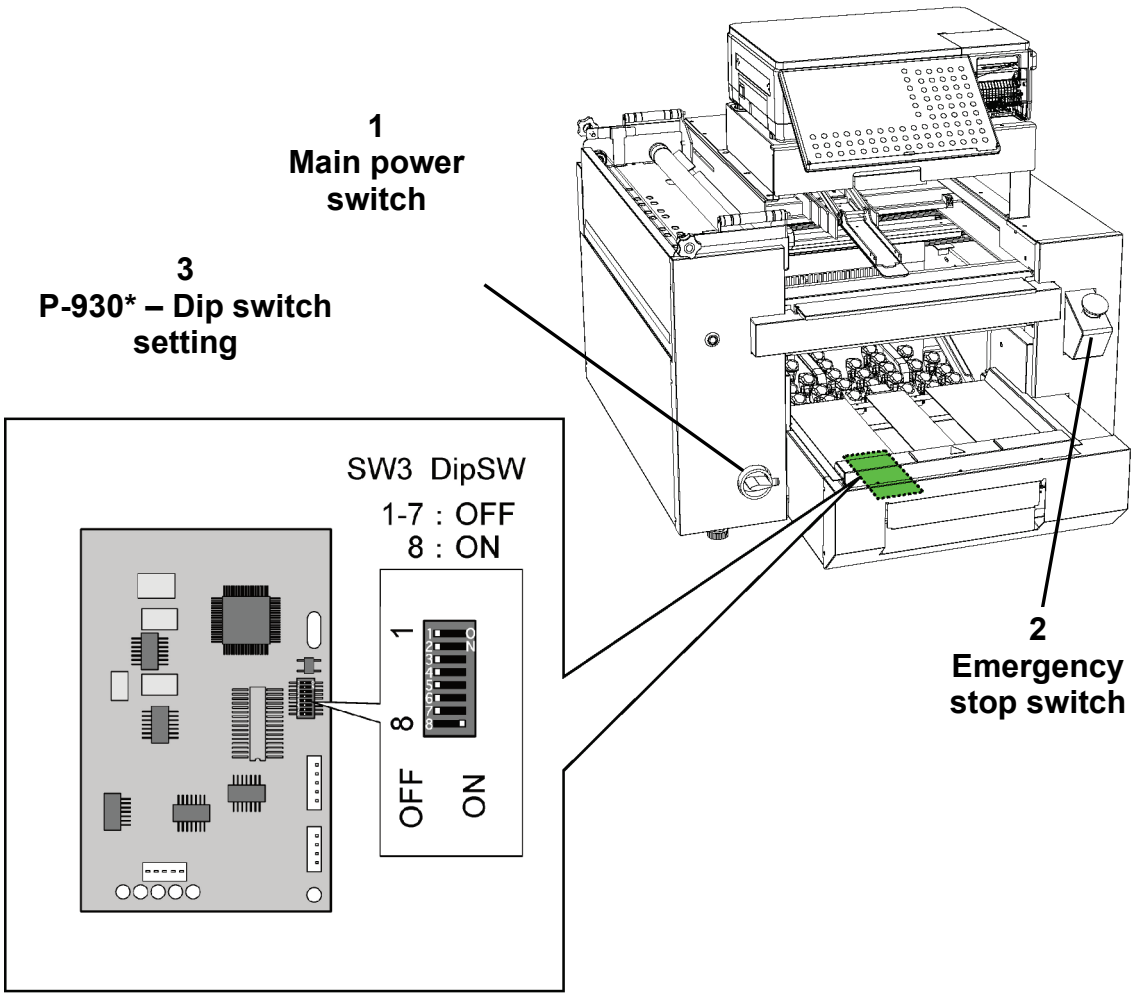
4.1.1 Alignment of Each Control Unit



Wrapping control unit

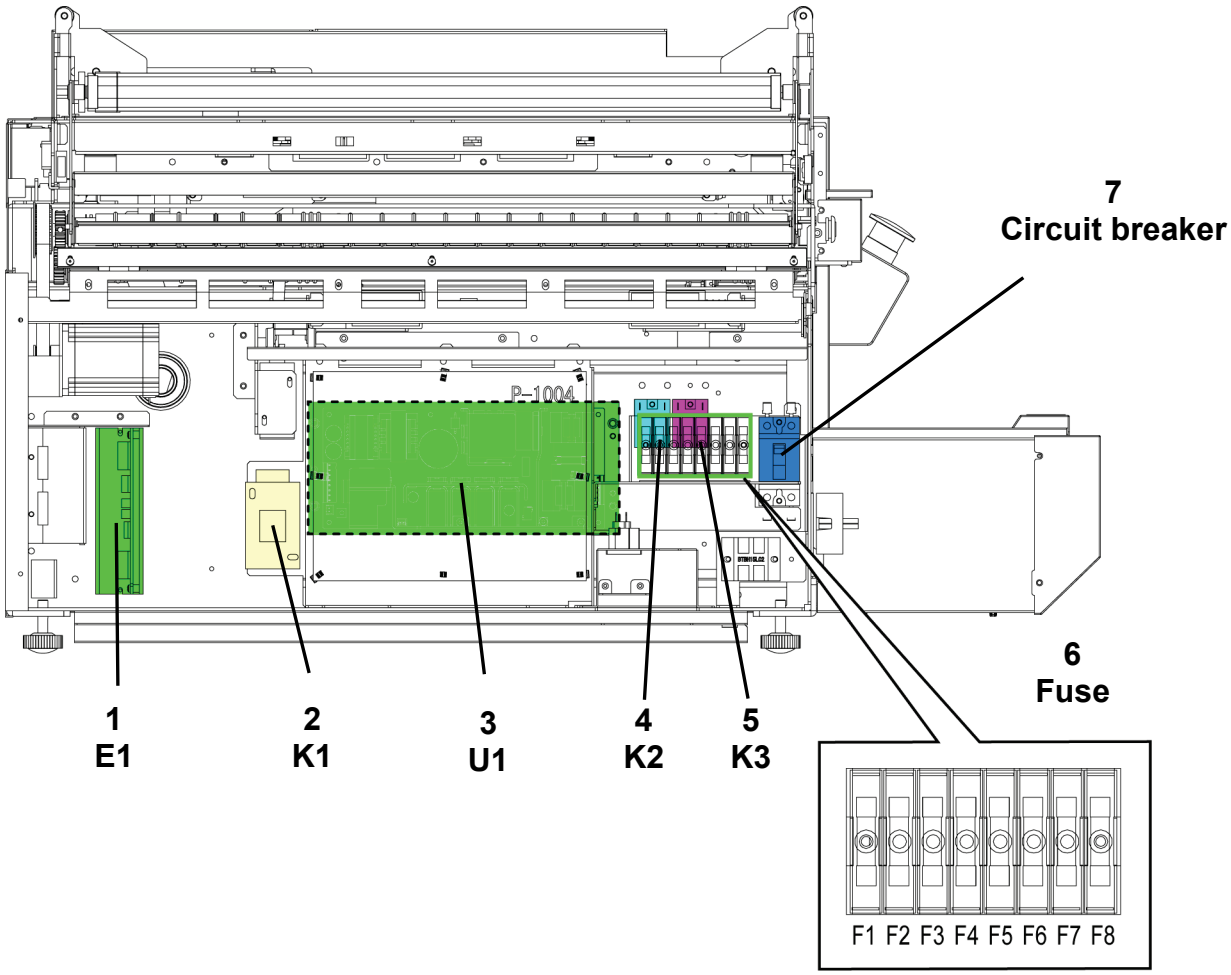
Front: Weighing unit (inside)

4.1.2 Front Weighing Unit



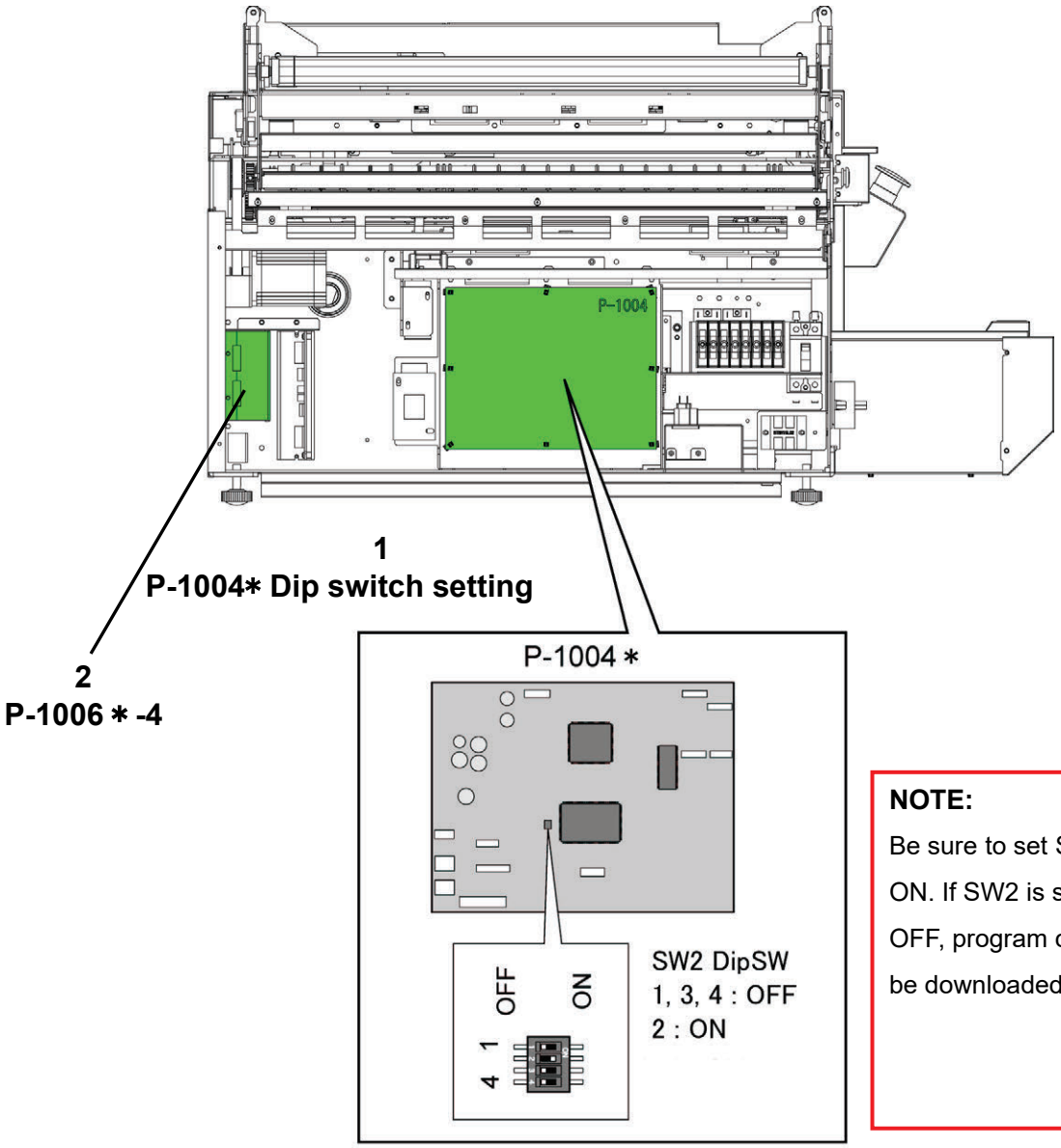
No.	Board Name / Parts Name	Function
1	Main power switch	◇Main power switch of the machine
2	Emergency stop switch	◇Pressing the switch activates the electromagnetic contactor and shuts off the power source for the drive system. To recover the power source, turn the switch clockwise.
3	A/D conversion board (P-930*)	◇It measures product mass and sends signals to the main control board.

4.1.3 Wrapping Control Unit (1/2)



No.	Board Name / Parts Name	Function
1	E1 DC Brushless motor driver board (BLHD100K-K12)	◇For the main cam motor
2	K1 Electromagnetic contactor	◇It controls the 24V system power supply by ON/OFF operation of the emergency stop switch for DC 24V.
3	Switch power source for U1 drive (ZWS240PAF-24/JL)	◇Input voltage supports Ac100V –AC240V. ◇Output voltage is DC24V.
4	K2 SSR	◇SSR (Solid State Relay) for seal heater ON/OFF operation
5	K3 SSR	◇SSR for fan heater ON/OFF operation
6	Fuse	◇F1, F2: Switch power source ◇F3, F4: Interlocking cord with the operation unit ◇F5, F6: Seal heater ◇F7, F8: Fan heater
7	Built-in circuit breaker of the machine	◇It uses Type NV-L22FYC 20A 2P 100-200V 30MA. Rating Overcurrent protection: 20A, Leakage protection: 30 mA

4.1.4 Wrapping Control Unit (2/2)



NOTE:
Be sure to set SW2 to ON. If SW2 is set to OFF, program cannot be downloaded.

No.	Board Name / Parts Name	Function
1	Wrapping control board (P-1004 *)	◇It implements wrapping machine control. ◇The board is connected to the main control board, performing communication and storing programs to flash ROM. **NOTE:** P-1004 board has restriction on its versions. Use the board having the version of Product No. 111-8341-82 or higher. (For boot program, J0671C or later)
2	Safety circuit control board(P-1006*-4)	◇It turns ON/OFF the coil of the electromagnetic contactor. ◇M2: It drives the film conveying motor. ◇M3: It drives the left/right squeezing motor. ◇M4: It turns ON/OFF the fan for the fan heater.

Chapter 5 Troubleshooting

5.1 Operation as IP (Scale and Printer)

This section describes the procedure to use the wrapper as an IP (scale or printer only) in case that the wrapper is disabled due to a trouble, etc.

1 Turn OFF the main power of the wrapper unit.
2 Turn ON the main power of the wrapper unit.
3 At the Go Back to the Original Position screen (0322-0000), press the emergency stop button of the wrapper unit.
4 Press the [RETURN] key on the screen 11 times. The screen in fig. 1 will be released and returned to the normal screen.
5 The wrapper unit can be used as an IP (weigh price labeler).

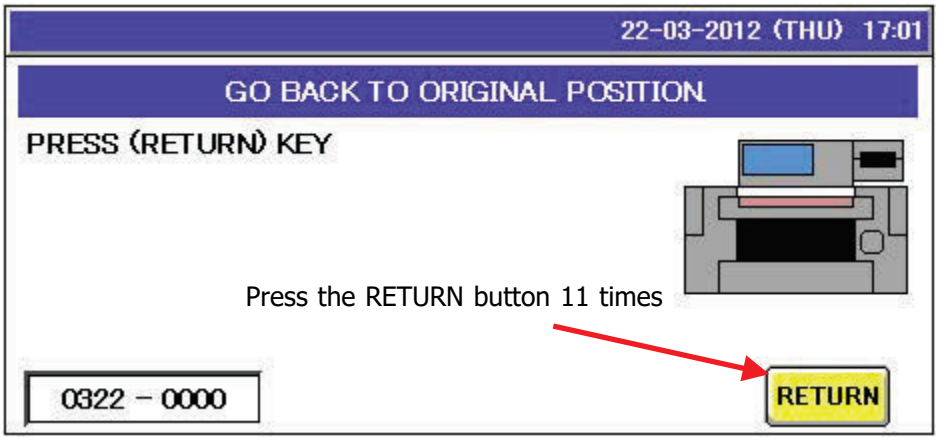


Fig 1. Screen when the power is ON.

5.2 Error Messages

5.2.1 Error Display

When the machine detects an error, the error message and error number shown below are displayed. Depending on the error type, the machine may be recovered by performing only button operations, simple procedure and button operations, or maintenance such as parts replacement.

When there is an inquiry from the user, be sure to check the error number. The action to be taken may differ even if the messages are alike.

The error number consists of a main number (four digits) and sub number (four digits). If there is only one type of a sub number, only the main number is shown on the error message list.

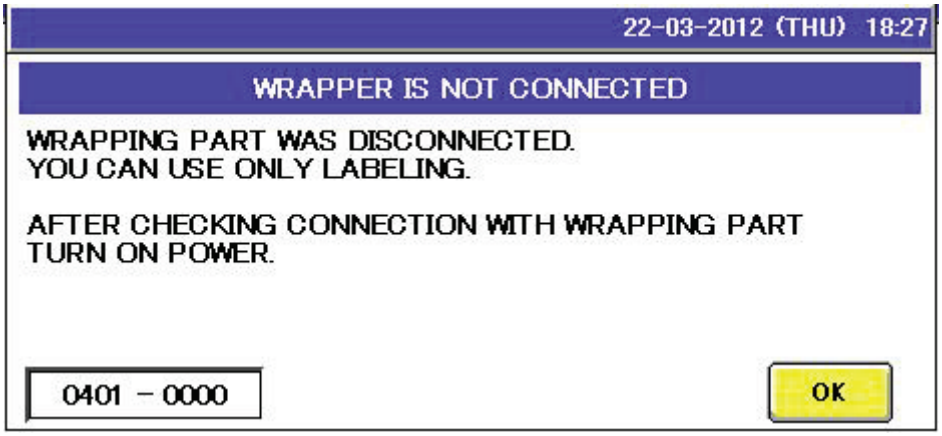


Fig. An example of an error display

5.3 Error List

5.3.1 Error relates to System (Code 100s)

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0101	SYSTEM ERROR	System became unstable. It could not implement the dynamic allocation (malloc) in the memory. (The memory for program to work became full.) Memory leak occured.	REBOOT
0102	SEQUENCE ERROR	There was a sequence break of the machine. The machine is managing the wrapping/printing movement by putting the sequence numbers on each product. But, at this time, the declination of management of sequence number occurred between the main software and peripheral devices, and the machine could not continue wrapping movement.	[RETURN]
0103	PRINTER 1 ERROR	The machine tried to connect to the printer No. that does not exist. <SUB ERROR No.> 0000 : Printer 1 0001 : Printer 2 0002 : Printer 3 0003 : Printer 4	[RETURN]
0105	INITIALIZATION FAILED	The machine failed to initialize the memory. After the board is replaced, the memory initialization has not been implemented.	[OK] Perform memory initialization. [Adjust menu > 495344 + PLU > Memory Clear]
0106	BATTERY IS FAULT	Either the battery is consumed or switch for the battery is OFF.	[OK] When the battery switch is OFF, turn ON the battery switch. When the battery switch is ON, as the battery is consumed, the replacement of the board is necessary. (The battery is embedded to the board.)
0107	TOUCH SCREEN ADJUSTMENT IS NOT COMPLETED YET	The adjustment of the touch panel is not completed. After the board is replaced, the adjustment of touch panel is not implemented yet.	[OK] Calibrate the touch screen. [Adjust menu > 495344 + PLU > Touch Screen]

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0108	CLOCK SETTING IS NOT COMPLETED YET	The setting of the clock is not completed. After the board is replaced, the setting of the clock has not been implemented yet.	[OK] Set the clock as needed. [Adjust menu > 495344 + PLU > Date Time].
0109	PRINTER 1 INITIALIAZATION WAS NOT DONE YET	The initialization of printer is not completed. After the board is replaced, the initialization of the printer has not been implemented yet. The initialization of the printer is necessary. <SUBERROR No.> 0000 : Printer 1 0001 : Printer 2 0002 : Printer 2 0003 : Printer 4	[OK] Initialize the printer. [Adjust menu > 495344 + PLU > Printer > Printer Initial]
0110	MACHINE SETTING IS NOT COMPLETED	Machine setting is not completed. After the board is replaced, the setting of the machine has not been implemented yet.	[OK] Machine setting is necessary. [Adjust menu > 495344 + PLU > Model]
0111	THE DISPLAY CONFIRMATION IS NOT COMPLETED	The display confirmation is not completed. After the board is replaced, the confirmation of the display has not been implemented yet.	Confirmation of the display is necessary. [Adjust menu > 495344 + PLU > Display Check.]
0112	CONFIRM OPERATION OF THE TACTILE KEYBOARD	Operation of the tactile keyboard is not confirmed yet. After the board is replaced, the confirmation of the tactile keyboard has not been implemented yet.	Confirmation of operation of the tactile keyboard is necessary. [Adjust menu > 495344 + PLU > Key Check.]
0114	DATA COMPOSITION IS DIFFERENT	Data composition is different. The database version is not the proper one to be used by the program.	[OK] The database version that the program can use and the actual database version is not same. Memory initialization is necessary. * When you implement the memory initialization, database will be re-built with the proper version that the program can use.
0116	THE COUNTRY HAS NOT BEEN SELECTED	The selection of the country is not completed. After the board is replaced, the setting of the country has not been implemented yet.	The country setting is necessary. [Setup menu > Country > 951753 + PLU]
0117	CF CARD IS NOT INSERTED	CF card is not inserted. This message only appears when the saving place of TOTAL data is setup to CF card.	[OK] Insert CF card.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0118	USB MEMORY STICK IS NOT INSERTED	USB memory stick is not inserted. This message only appears when the saving place of TOTAL data is setup to USB memory.	[OK] Insert USB memory.
0190	DATABASE RECOVERY	Database was recovered. As the database was abnormal, the database was recovered from the back data.	Reboot the machine.
0191	Database error	Database was being abnormal, and it could not be recovered even from the backup.	[OK]
0192	WM-NANO TYPE IS DIFFERENT	The model of WM-NANO type (M type/L type) is different. <SUBERROR No.> 0000:Wrapper = M type / Main = L type 0001:Wrapper = L type / Main = M type 0002:Hardware = M type / Wrapper = L type 0003:Hardware = L type / Wrapper = M type	[OK] In case SUBERROR is 0000/0002, setup the machine to L type. In case SUBERROR is 0001/0003, setup the machine to M type. Check P-1004 XJ8 jumper for model identification: No: M-type, Yes: L-type

5.3.2 Error relates to Memory (Code 200s)

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0202	PLU MASTER IS NOT PROGRAMMED	PLU that was called up is not programmed in the PLU master. Called PLU does not exist in the internal memory. The number of PLU that was called up appears on the display.	[OK]
0203	POP MASTER IS NOT PROGRAMMED	POP message that was called up is not programmed in the POP master. Called POP message does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the POP message of the PLU.
0210	TRAY MASTER IS NOT PROGRAMMED	Tray No. that was called up is not programmed in the Tray master. Called Tray No. does not exist in the internal memory.	[OK]
0212	FREE MSG. 1 MASTER ISN'T PROGRAMMED	Free Message 1 that was called up is not programmed in the Free Message 1 master. Called Free Message 1 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 1 of the PLU.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0213	FREE MSG. 2 MASTER ISN'T PROGRAMMED	Free Message 2 that was called up is not programmed in the Free Message 2 master. Called Free Message 2 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 2 of the PLU.
0214	FREE MSG.3 MASTER ISN'T PROGRAMMED	Free Message 3 that was called up is not programmed in the Free Message 3 master. Called Free Message 3 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 3 of the PLU.
0215	FREE MSG.4 MASTER ISN'T PROGRAMMED	Free Message 4 that was called up is not programmed in the Free Message 4 master. Called Free Message 4 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 4 of the PLU.
0216	FREE MSG.5 MASTER ISN'T PROGRAMMED	Free Message 5 that was called up is not programmed in the Free Message 5 master. Called Free Message 5 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 5 of the PLU.
0223	COUPON MASTER IS NOT PROGRAMMED	Coupon that was called up is not programmed in the Coupon master. Called Coupon No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Coupon No. of the PLU.
0224	LABEL SETTING MASTER IS NOT PROGRAMMED	Label No. that was called up is not programmed in the Label setting master. Called Label No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 4 of the PLU.
0226	AMOUNT OF INTERNAL MEMORY IS SHORT	There is not enough memory remaining. Memory is full. -When showing the lists, the machine failed to reserve the memory for the list data. -Full-Memory Error at database occurred.	[OK] Check the remaining memory. [Adjust menu > Memory Clear > SRAM]
0227	AMOUNT OF INTERNAL MEMORY FOR TOTAL IS FULL	Amount of internal memory for the totals is full. Since the data for TOTAL is full, it could not add new record. Full-Memory Error at database occurred when the machine tried to add new TOTAL record.	[OK] Clears the totals. [Total menu > Total Clear]

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0229	FILE SYSTEM IS ABNORMAL	A problem has occurred with the file system. Access to the database failed.	[OK] It is necessary to do Memory Initialization. [Adjust menu > Memory Clear]
0266	FILE INPUT ERROR	It failed to input the file. It failed to input the data at the file input/output operation.	[OK]
0267	FILE OUTPUT ERROR	It failed to output the file. It failed to output the data at the file input/output operation. <SUB ERROR No.> 0: Master file output 1: SRAM output 2: All data output	[OK]
0268	FILE DELETE ERROR	It failed to delete the file. It failed to delete the data in USB at the file input/output operation. <SUB ERROR No.> 0: Master file delete 1: SRAM delete 2: Each folder delete 3: All folder delete	[OK]
0271	INITIALIZE ERROR	It failed to initialize the file. It failed to initialize the data at the file input/output operation.	[OK]
0275	EXTRA MSG. 1 MASTER IS NOT PROGRAMMED	Extra Message 1 No. that was called up is not programmed in the Extra message master. Called Extra Message 1 does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Extra Message 1 of the PLU.
0276	EXTRA MSG. 2 MASTER IS NOT PROGRAMMED	Extra Message 2 No. that was called up is not programmed in the Extra message master. Called Extra Message 2 does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Extra Message 2 of the PLU.
0277	EXTRA MSG. 3 MASTER IS NOT PROGRAMMED	Extra Message 3 No. that was called up is not programmed in the Extra message master. Called Extra Message 3 does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Extra Message 3 of the PLU.
0281	TARE LIMIT OVER	Tare value was beyond the limit. (except for USA) Programmed tare (total tare) went beyond of maximum tare value.	[OK]

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0282	TARE WEIGHT IS 0kg	Error that tare value was not programmed. (Except for USA) Tare value is not programmed.	[OK]
0283	TARE LIMIT OVER (MAX 9.990lb)	Tare value was beyond the limit. (USA) Programmed tare (total tare) went beyond of maximum tare value.	[OK]
0284	TARE WIGHT IS 0LB	Error that tare value was not programmed. (USA) Tare value is not programmed.	[OK]
0286	FREE MSG. 6 MASTER ISN'T PROGRAMMED	Free Message 6 that was called up is not programmed in the Free Message 6 master. Called Free Message 6 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 6 of the PLU.
0287	FREE MSG.7 MASTER ISN'T PROGRAMMED	Free Message 7 that was called up is not programmed in the Free Message 7 master. Called Free Message 7 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 7 of the PLU.
0288	FREE MSG. 8 MASTER ISN'T PROGRAMMED	Free Message 8 that was called up is not programmed in the Free Message 8 master. Called Free Message 8 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 8 of the PLU.
0289	FREE MSG.9 MASTER ISN'T PROGRAMMED	Free Message 9 that was called up is not programmed in the Free Message 9 master. Called Free Message 9 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 9 of the PLU.
0290	FREE MSG.10 MASTER ISN'T PROGRAMMED	Free Message 10 that was called up is not programmed in the Free Message 10 master. Called Free Message 10 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 10 of the PLU.
0291	FREE MSG.11 MASTER ISN'T PROGRAMMED	Free Message 11 that was called up is not programmed in the Free Message 11 master. Called Free Message 11 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 11 of the PLU.
0292	FREE MSG. 12 MASTER ISN'T PROGRAMMED	Free Message 12 that was called up is not programmed in the Free Message 12 master. Called Free Message 12 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 12 of the PLU.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0293	FREE MSG.13 MASTER ISN'T PROGRAMMED	Free Message 13 that was called up is not programmed in the Free Message 13 master. Called Free Message 13 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 13 of the PLU.
0294	FREE MSG.14 MASTE ISN'T PROGRAMMED	Free Message 14 that was called up is not programmed in the Free Message 14 master. Called Free Message 14 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 14 of the PLU.
0295	FREE MSG. 15 MASTER ISN'T PROGRAMMED	Free Message 15 that was called up is not programmed in the Free Message 15 master. Called Free Message 15 No. does not exist in the internal memory.	[SET] → Only releasing the error message. [DELETE] → Deletes the Free Message 15 of the PLU.
0296	LINK PLU ERROR	Link PLU error Called Link PLU does not exist or the setting of Link PLU is not correct.	[OK]
0297	FILM IS NOT GETTING WARM MACHINE IS WARMING UP	Film is not getting warm. 1. Operator tried to start the production before the film get warmed up after turning on the power of the machine. 2. Setting of the fan heater is not proper. (Ex. Turned Off, Set temperature is too low, etc.) 3. Setting of temperature check function is not proper. (Ex. Yes/ No, the minimum temperature is too high, etc) 4. The temperature does not rise up due to the broken fan heater.	[OK]: Release the error with maintaining the function ON. [CANCEL]: Release the error with turning off the function. 1. Confirm the fan heater is heating up. 2. Check continuity of the fan heater heating element, p/n 164373 3. Check the F7 and F8 fuses on the left side of the wrapper, p/n 47075 4. Check the voltage to confirm 220V. 5. Check the Film Temperature Check setting, reduce if too high. [Adjust menu > Wrapper > Adjust2 tab]

5.3.3 Error relates to checking (Code 300s)

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0301	EMERGENCY SWITCH HAS BEEN PUSHED	Emergency switch is pressed when the machine started moving.	[OK] and release Emergency switch
0306	RIGHT SIDE COVER IS OPEN	Right side cover is open when the machine started moving.	[OK] and close the right side cover Check right side magnetic proximity cover switch [B13], p/n 125709
0307	LEFT SIDE COVER IS OPEN	Left side cover is open when the machine started moving.	[OK] and close the left side cover Check left side magnetic proximity cover switch [B12], p/n 125710
0312	LABEL IS REMAINING	Label is remaing when the machine started moving. <SUB ERROR No.> 0: Printer 1: Except for printer (Ex. Applicator) *The wrapper picture will not be shown with Uni-7.	[OK] and remove the label 1. Remove labels 2. Check the peel sensor levels [Adjust menu > Printer > Peel Sensor tab] 3. Replace the peel sensors. Left p/n 87534 or 193674, Right p/n 87535 or 193674
0313	PRINTER THERMAL HEAD IS UP	Thermal head is up when the machine started moving. <SUB ERROR No.> 0: IP 1:WM	[OK] and set the thermal head
0316	MARK DOWN PRICE IS MORE THAN ORIGINAL PRICE	Mark down price is more than original price.	[OK]
0318	MARK DOWN UNIT PRICE IS MORE THAN ORIGINAL PRICE	Mark down unit price is more than original price.	[OK]
0320	CAMPAIGN SETTING ERROR	The setting for campaign is not correct. <SUB ERROR No.> 0: Sales mode is not correct. 1: Price/Unit Price is not correct (Price/Unit Price =0) 2. Price/Unit price is not correct (Price/Unit Price≠0)	[OK]

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0321	PRICE IS NOT PROGRAMMED	Price is not programmed. <SUB ERROR No.> 0: No Price 1: No Weight 2: No Unit Price 3: When campaign is [9:S.P. ARB.], the quantity is not matching the programmed quantity in campaign setting. (Ex. Unit is set to 2 in the campaign but actual quantity is 3.) When it is set not to show error message at [Error Process] even price is 0, this will not appear.	[OK]
0322	The machine moves the parts to original (home) position.	The machine moves the parts to original (home) position. It appears only when the machine is turned ON.	[OK]
0325	WEIGT OVER LIMIT	Weight value is out of the set limitation (Over or Under). <SUB ERROR No.> 0: Actual weight is out of range 1: Fixed Weight is out of range	- When actual weight is out of range:[PRINT]: Will not be an error [STOP]: Will not check the weight until the item is called up next time Membrane key is pressed: Error display will close - Fixed Weight is out of range: [OK] Please check the weight value.
0338	PROMOTION IS BEING SET	This is to confirm whether the promotion is fine to start or not.	[ACCEPT]: Execute the promotion. [CANCEL]: Do not execute the promotion. Select whether to execute the campaign or not.
0339	LOWER VALUE IS LESS THAN FIXED WEIGHT	Under limitation is set to less than fixed weight.	[EXEC]: It overwrites the lower limitation with the fixed weight and release the error. [STOP]: Release the error. Confirm the under limitation value and fixed weight value.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0341	PRODUCT IS REMAINING ON THE LIFT	The product is remaining on the lift. The operation that was prohibited during the production was implemented when there was an item in produce around the scale to the lift.	[OK] Discharge the item inside by pressing PLU key, and then start the operation.
0342	POS CODE IS NOT PROGRAMMED	POS CODE is not programmed. When it is set [NO LABEL PRINT] at [Error Process] when POS Code is not programmed, this will appear. Program POS Code of items at the programming menu.	[OK]
0343	POS CODE IS NOT PROGRAMMED	POS CODE is not programmed. When it is set [NO BAR PRINT] at [Error Process] when POS Code is not programmed, this will appear. Program POS Code of items at the programming menu. * When the machine is used without programming, the barcode will not be printed.	[OK]
0344	CASSETTE FOR PRINTER IS WRONG	The cassette for printer 1 is wrong. <SUB ERROR No.> 0: Cassette for the LABEL is inserted even it is setup to RECEIPT printing. 1: Cassette for the RECEIPT is inserted even it is setup to LABEL printing.	[OK] Please check the cassette setting.
0348	SCALE PLATTER IS OUT	The scale platter is out of the position. This can appear when the [RETURN] key is pressed while the platter is out of position or touching other places which causes the minus weight value.	[OK] Please check the platter and set it properly again.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0350	TRAY No. IS NOT PROGRAMMED	Tray No. is not programmed to the product. When you operate [WRAP] or [WRAP + PRINT], selecting the tray is necessary. When you operate only [PRINT], change the [WRAP MODE] to [PRINT]. When you operate [WRAP] or [WRAP +PRINT], selecting the tray is necessary.	[OK]
0351	LABEL IS REMAINING	Label is remaining. The operation that was prohibited during the production was implemented when there was an item in produce around the lift to the discharging part.	[OK] Wait until the item is discharged and remove the item and a label at the printer.
0352	DRAWER OPEN LOG ERROR	It failed to add the drawer open log record. Usually, it records when and who opened the drawer but it failed.	[EXEC]: Retry adding the log. [CANCEL]: Do not write the log.
0355	TRAY No. IS NOT PROGRAMMED	Tray No. is not programmed. The tray No. that is programmed at PLU does not exist in the tray master. Select the tray No. when you operate [WRAP] or [WRAP+PRINT]. * When the tray No. is not programmed in the tray master, it is necessary to program the tray additionally. When you operate only printing, change the [WRAP MODE] to [PRINT]. When you operate [WRAP] or [WRAP +PRINT], selecting the tray is necessary.	[OK]
0361	POWER IS ON	It is the error for recording the log for turning on the machine. No error display	[OK]
0383	POS FORMAT CHECK ERROR	Error for setting the wrong POS format.	[OK] Check barcode settings. [Setup menu > Barcode]
0384	POS TYPE CHECK ERROR	Error for setting the wrong POS type.	[OK] Check barcode settings. [Setup menu > Barcode]

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0393	TRACEABILITY	It has changed the Lot No. that was programmed on the memory. It changed the Lot No. that has been used before (=that is programmed on the memory).	[EXEC]: Validate the change. [STOP]: Invalidate the change.
0396	USB Memory stick is not inserted.	USB Memory stick is not inserted or the inserted USB Memory stick cannot be recognized.	[OK] Insert the USB Memory stick. If USB Memory stick is already inserted, retry it again.
0397	NO USB MEMORY	USB Memory stick is not inserted. USB Memory stick is not inserted or the inserted USB Memory stick cannot be recognized. (Only when saving TOTAL. Except for this, it becomes Error 396.)	[OK] Insert the USB Memory stick. If USB Memory stick is already inserted, retry it again.

5.3.4 Error relates to wrapper (Code 400s)

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0401	WRAPPER IS NOT CONNECTED	Wrapper is not connected. (Communication error before the power for wrapper is ON.) Connection to wrapper was cut. After confirming the connection, re-boot is necessary.	[OK] Once the error is released with [OK], it can only work with PRINT mode. Use the main power switch on the wrapper. Always leave the power switch on the Uni-7 controller set to the ON position.
0402	NO RESPONSE FROM WRAPPER	No response from the wrapper. (Communication error before the power for wrapper is ON.) Connection to wrapper was cut. After confirming the connection, re-boot is necessary.	[OK] Once the error is released with [OK], it can only work with PRINT mode. 1. Confirm connection at P1004 XJ24 and XJ33. 2. Check the cable harness between the Uni-7 controller and WM-Nano wrapper body, p/n 151677. 3. P-1004 DIP SW2 sw #2 must be set as ON.
0403	PROBLEM CAUSED ON WRAPPER	A communication problem with the wrapper occurred. Send and Receive commands do not match each other.	REBOOT Check the software versions of main and wrapper.

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0405	FIFO FOR WRAPPER IS FULL	FIFO for wrapper is full. The wrapper software is managing the wrapping movement by putting the sequence numbers on each product. But, at this time, the declination of management of sequence number occurred, and the machine could not continue wrapping movement. It is not the main software but the wrapper software that cause FIFO over.	REBOOT
0406	WRAPPER DETECTED TEMPORARY BLACKOUT	Temporary blackout occurred at the wrapper side. CPU at the wrapper control unit was reset.	REBOOT The wrapper software received other commands than power is ON command when the machine got powered ON.
0407	TEMPORARY BLACKOUT ON CONSOLE	Temporary blackout occurred at the console (=printer side). CPU at the console (=printer side) was reset.	1. REBOOT. 2. The Uni-7 Controller was powered off/on and lost connection to the WM-Nano CPU. Always use the main power switch on the WM-Nano to power the system on/off. 3. Confirm power is stable. 4. Confirm earth ground is good. 5. Confirm the power cord from the wrapper to the Uni-7 controller is fully seated at both ends. 6. Confirm the RS232 cable on the bottom of the Uni-7 controller is fully.
0410	LIFT MOTOR IS ABNORMAL	Lift motor error Lift motor did not move properly. <SUB ERROR No.> 0001: The movement protection timer ended, but actual movement is not completed. 0002: Cannot detect the speed pulse signal from DCB driver board. 0004: DCB Driver alarm that the wires between the motor and the driver board are damaged. 0999: The speed pulse from the DCB Driver became lower than 600rpm. (It appears when the package is jammed between rear folder and the discharge unit, or when the emergency stop button is pressed during operation.)	[RETURN] <Check Point> 1. DCB driver [E1], p/n 125703 2. DCB motor [M1], p/n 125716 3. Lift home position sensor [B1] 4. Check the wiring of the electro magnetic unit [K1] (1L1, 2T1, 3L2, 4T2) 5. Cable between XJ17 of P-1004 and DCB driver (E1-CN2), p/n 204205 6. Cable between XJ11 of P-1004 and lift home position sensor [B1], p/n 181064 7. Cable between electro magnetic unit and DCB driver

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0415	REAR FOLDER IS NOT ORIGINAL POSITION	Rear folder is not at the original position. (SUB ERROR No.:0010) When the rear folder starts moving, the rear folder home position sensor did not detect the rear folder. <SUB ERROR No.> 0010: Without the Rear folder home position sensor (no connection between P-1004 XJ13 18 pin and 20 pin), as the confirmation function of rear folder home position becomes ineffective, this error does not appear. 0011: Rear folder does not reach the front limit sensor in the allotted time. 0012: When the rear folder starts moving, the rear folder home position sensor detected the rear folder. Without the Rear folder home position sensor (no connection between P-1004 XJ13 25 pin and 26 pin), as the confirmation function of rear folder home position becomes ineffective, this error does not appear.	[RETURN] <Check Point> 1. Check operation of the rear folder front limit sensor [B16], p/n 104239 2. Check XJ10 of P-1004 [A1].

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0416	MOTOR FOR L/R FOLDERS IS ABNORMAL	Error for the motor of L/R folders The motor for L/R folders did not move properly. <Sub-error No.> 0001: The movement did not complete even after protection timer finished. Cannot return to home position. 0010: L/R folders are not at the home position when L/R folders tried to move. 0020: L/R folders are not at the home position when main cam motor tried to move. 0101: It normally returns to the home position before it starts the unit test movement, but L/R folders are not at the home position even after a certain time. 0103: L/R folders are not at the home position even after a certain time when the unit test movement of L/R folders returning.	[RETURN] <Check Points> 1. L/R folders motor driver P-1006 [A2], p/n 125705 2. L/R folders motor [M3], p/n 125714 3. L/R folders home position sensor [B2], p/n 104239 4. Connection of P-1004 and P-1006 5. Check if P-1006 is P-1006*-4. 6. Confirm the product discharge detection sensors are working and not blocked by the interior covers. [B5] emitter side, p/n 125711 [B8] receiver side, p/n 125712 Discharge unit hand insertion sensor [B4] emitter side, p/n 125711 [B7] receiver side, p/n 125712 7. XJ7 of P-1004
0417	OUTFEED PUSHER IS NOT ORIGINAL POSITION	Out-feed pusher is not at the home position. When the out-feed pusher starts moving, the out-feed pusher's home position sensor did not detect the out-feed pusher Without the out-feed pusher home position sensor (no connection between P-1004 XJ14 18 pin and 20 pin), as the confirmation function of out-feed pusher home position becomes ineffective, this error does not appear.	[RETURN]

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0418	FEEDER MOTOR IS ABNORMAL	Error for the film feeder motor The motor for film feeder did not move properly. <SUB ERROR No.> 0001: The movement protection timer ended, but actual movement is not completed	[RETURN] <Check Point> 1. Film feed motor driver P-1006 [A2], p/n 125705 2. Film feed motor [M2], p/n 125714 3. Connection of P-1004 and P-1006 [A2] 4. Check if P-1006 is P-1006*-4.
0425	FILM HEATER HAS PROBLEM	There is a problem at the film heater. An error occurred at the film heater, and heater cannot be used. <SUB ERROR No.> 0001: Break of thermister 0100: Abnormal movement of fan at fan heater (Ex. Fan is not turning, or break of fan cable) 0101: Fan is not turning (Cable between P-1004 ➔➔P-1006 is broken)	[RETURN] <Check Point> 1. Thermistor for fan heater [R141], p/n 172632 2. Check if the fan [M4] is rotating normally, p/n 164374 3. Check the connection of P-1004 and P-1006. 4. Check the connection of XJ26 of P-1004. 5. Check the connection of XJ5 of P-1006.
0440	EMERGENCY SWITCH HAS BEEN PUSHED	Emergency switch was pressed during the operation. This appears when the emergency switch is pressed during the operation and stopped the machine.	Press [RETURN] after releasing the emergency stop button.
0441	RIGHT SIDE COVER IS OPEN	Right side cover was opened during the operation. This appears when the right side cover is opened during the operation and stopped the machine.	Press [RETURN] after closing the right film cover. Check right side magnetic proximity cover switch [B13], p/n 125709
0442	LEFT SIDE COVER IS OPEN	Left side cover was opened during the operation. This appears when the left side cover is opened during the operation and stopped the machine.	Press [RETURN] after closing the left film cover. Check left side magnetic proximity cover switch [B12], p/n 125710
0448	DON'T PUT YOUR HANDS INTO THE MACHINE	The safety sensor at the in-feed part was cut during the operation. This appears when the safety sensor is cut (by hands or products) during the operation and stopped the machine. If an error occurs during film feed and if the film has not been cut, add 1000 to the sub error.	After checking there is no products or some objects inside, press [RETURN]. Also, check the setting of the volume of the products. Right: Photo interrupter, transmitter, high volume [B3], p/n 125711 Left: Photo interrupter, receiver, high volume [B6], p/n 125712

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0449	DON'T PUT YOUR HANDS INTO THE MACHINE	The safety sensor at the out-feed part was cut during the operation. This appears when the safety sensor is cut (by hands or products) during the operation and stopped the machine. If an error occurs during film feed and if the film has not been cut, add 1000 to the sub error.	After checking there is no products or some objects inside, press [RETURN]. 1. Check sensors B4, B5, B7, and B8 are clean, aligned and functioning. Emitters [B4], [B5], p/n 125711 Receivers [B7], [B8], p/n 125712 2. Check if the interior covers are blocking the exit sensors. 3. Confirm in-line connections X3 (rear left) and X4 (rear right).
0459	MACHINE IS RETURNING TO STAND BY POSITION	Wrapper units are returning to the home position. Wait until each unit returns to the home position. It is showing wrapper units are returning to the home position.	After it returned to home position, this error message will disappear automatically.
0461	FILM OVER ERROR	Film went too far to the right side. During the film feeding, film was detected by the sensor at the right side of the machine. <SUB ERROR> 0001: It detected excess film feed at the front when operation started 0002: It detected excess film feed at the rear when operation started. 0003: It detected the film by the sensor at the front side. 0004: It detected the film by the sensor at the rear side.	After removing the film, press [RETURN]. Remove the film then start operation. <Check Point> 1. Film over run at the front right sensor [B9], p/n 104239 2. Film over run at the rear right sensor [B10], p/n 104239 3. Check the connection of XJ11 of P-1004.
0470	THERE IS PROBLEM ON WRAPPING CONTROLLER	The initialization of the wrapper is not completed. The initialization of E2ROM of the wrapper is not completed. * Check sum value of E2ROM memory data is NG.	[OK] Initialize the wrapper. [Adjust menu > Wrapper > Initial tab]

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0471	THERE IS PROBLEM ON WRAPPING CONTROLLER	There is a problem at the wrapper controller unit. The controller board of wrapper has a problem. <SUB ERROR> 0002: External RAM problem 0003: E2ROM writing problem 0088: Communication IC problem 0999: Overdrive. Unexpected writing happened and internal reset was implemented.	Reboot the machine
0473	THERE IS PROBLEM ON SEAL HEATER	The sealing heater at the discharge unit has a problem. The thermostat that controls the temperature of the sealing heater has a problem. <SUB ERROR> 0000: The temperature does not go up even it is heating. 0001: Thermister error (disconnection or short) Once this error occurs, it automatically turns off the sealing heater.	[RETURN] 1. Check continuity of the seal heater element [E2] (approx. 130 ohm), p/n 153658 2. Check the seal heater fuses on the left side of the wrapper [F5], [F6], p/n 47075 3. Check the voltage to confirm 220V. (The seal heater may function at the minimum 176 F with 110V.) 4. Check continuity of the seal heater thermistor [R1] (approx. 3.1K ohm), p/n 153657 NOTE: remove fuses when checking continuity.

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0480	FILM IS REMAINING	Film is remaining. 1. It started wrapping or feeding the film with the film remaining inside of the wrapper. → Remove the film inside. 2. It misunderstood that the film is remaining either because film-detecting sensor is broken, or some dirt is on the sensor. →Clean the sensor. If the error still comes up after cleaning, replace the sensor. <SUB ERROR> 0100: When it tried to move, both front and rear side film-detecting sensors are detecting the film. 0101: When it tried to move, the front side film-detecting sensor is detecting the film. 0102: When it tried to move, the rear side film-detecting sensor is detecting the film. When film-detecting function is set to OFF, this error will not happen.	[RETURN]

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0482	FAILED TO FEED FILM	It failed to feed the film. 1. When the cutter tries to move, the film set arm is not back to the home position. The film set arm home position sensor is cutting the sensor when the cutter tries to move. (Sub-error No. 0, 9,10,11and 12 happens.) 2. Film is not set, or film wraps around the film feeder roller and film was not fed. →Sub-error 100 – 102 happens. 3. Film detect sensor is broken and cannot detect the film properly. →Sub-error 100 – 102 happens. <SUB ERROR> 0000/0001: Film set arm is not back at the home position when the cutter started to move at normal wrapping/Film feeding. 0009/0012: Film set arm is not back at the home position when the cutter started to move at RETURN/REMOVE. 0010: Film set arm is not back at the home position when the cutter started to move at UNIT TEST. 0100: Both film-detecting sensors at front and rear did not detect the film between the film feeding started and time out of the detection. 0101: Film-detecting sensor at front did not detect the film between the film feeding started and time out of the detection. 0102: Film-detecting sensor at rear did not detect the film between the film feeding started and time out of the detection.	[RETURN] - When sub-error No. is 100 –102, it is necessary to open the left side cover to release the error. - When the film-detecting sensor is set to OFF, this error does not happen. - Check and adjust the Film Detection Timeout setting. [Adjust menu > Wrapper > Adjust 2 tab]. - Check the following if slow film feeding is causing the Film Detection Timeout. • Polished Roller is cold • Polished Roller is dirty • Incorrect film • Film Loading Arm is misaligned • Film Roll Brake is too strong - When sub-error No. is 0000/0001 or 1000/1001. • Check the tension of the Film Arm roller shaft and the Velcro bar and loosen as needed. • Check the strength of the center solenoid that pushes the Film Arm open.

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0485	AUXILIARY FOR MAGNETIC CONTACT IS ABNORMAL	A sub connecting problem of electro magnetic unit Contradiction between “status for the sub connecting of electro magnetic unit that controls power line” and “status for emergency button or covers being out/close” happened during the wrapping or happened for more than 5 seconds when the machine is not moving. Ex .It happens when the power line does not shut down In spite of the cover being open. <SUB ERROR> 0000:Electro magnetic got shut off in spite of all the cover being closed. 0128:Electro magnetic got shut off in spite of the emergency button being released.	[RETURN] This error tends to happen when the cover is not closed completely. <Check Point> 1. Connection of emergency stop [S2], p/n 72899 2. Connection of electro magnetic unit [K1], p/n 116272 3. Connection of XJ9 of P-1004 4. Check 24VDC at P-1006, XJ1 (Pin 1: 24V, Pin 2: Gnd)
0492	FILM REMOVAL IS COMPLETED	Film removal is completed. Remove the film following the below steps. 1. Press emergency stop button. 2. Remove film. 3. Release emergency stop button.	[OK] If there is remaining film, the message to encourage the user to remove the film is displayed and [OK] is not accepted.
0493	REMOVING FILM	Removing film Receiving a return request (when film removal is needed) or a film removal request, the machine started film removal operation.	When it completes the film removal, it clears automatically.

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0494	PROBLEM ON WRAPPING PART	A problem happened at wrapper side. The wrapper software is not downloaded. Or the wrapper software cannot be recognized. (It could not download properly.) * The machine can work as Printer only after releasing the error. <SUB ERROR> 0000: Check SUM for application program does not match. 0001: Failed to transfer to application. 0009: Check SUM for flash memory program does not match.	[OK] Download the wrapper application. - Wrapper application 1 when sub-error is 0000. - Wrapper application 2 when sub-error is 0009. <Check Point> 1. Check if the model setting is correct. [Adjust menu > Model] 2. Check P-1004 XJ8 jumper for model identification. No: M-type, Yes: L-type 3. P-1004 DIP SW2 sw #2 must be set as ON to download f/w to a new CPU board.
0495	SUM VALUE FOR RECEIVING IS ABNORMAL	SUM value was abnormal when downloading the wrapper. SUM values between Program data that wrapper received and Code do not match.	[OK] Retry downloading.
0496	WRITING FOR FLASH ROM IS BUSY	It took too long to complete writing Flash ROM. It does not complete writing into Flash ROM when downloading the wrapper application even after a certain time.	[OK] Retry downloading.
0497	FAILED IN WRITING IN FLASH ROM	Failed in writing in flash ROM when downloading wrapper program. It failed to write in flash ROM when downloading wrapper program. <SUB ERROR No.> 0001: Failed to delete flash ROM. 0002: Failed to write application program in flash ROM. 0003: Failed to write application program SUM value in flash ROM. 0004: Code sequence before writing flash ROM slipped. 0005: It received the download command even it is not at the boot mode when application program is running.	[OK] Retry downloading.

NOTE: If an error occurs during film feeding and if the film has not been cut, 1000 is added to the sub-error.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0498	PROBLEM ON WRAPPING PART	System error for wrapper. A bug happened at wrapper program.	Reboot.

5.3.5 Error relates to wrapper (Code 500s)

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0524	FAILED TO OUTFEED THE ITEM	Failed to discharge item. It did not cut the sensor for detecting the item at the discharge unit at wrapping the item. - Item dropped inside of the wrapper during the discharging movement. - Wrapper movement was done when there is no item inside of the wrapper. Ex) removed the item before it was discharged.	[RETURN] Remove the item inside, and press [RETURN]. <Check Point> 1. Product discharge detection sensor [B5] emitter side (p/n 125711) and [B8] receiver side (p/n 125712) 2. XJ7 of P-1004
0598	REMOVE PRODUCT	Forgot to remove the item at the discharge unit. Tried to wrap the next item without taking the item at the discharge unit. Or, tried to discharge the item left on the lift unit.	[OK] Remove the product at the discharge unit. (auto release) <Check Point> Check points for the case in which an error occurs when there is no product. 1. Product discharge detection sensor [B5] emitter side (p/n 125711) and [B8] receiver side (p/n 125712) 2. Discharge unit hand insertion sensor [B4] emitter side (p/n 125711) and [B7] receiver side (p/n 125712) 3. XJ7 of P-1004

5.3.6 Error related to printer (Code 700s)

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0701	CANNOT COMMUNICATE WITH PRINTER 1	Cannot communicate with printer Printer is not connected. Error has happened at the communication with printer.	[REEXEC] button → Re-check the communication with printer [STOP] button → Release the error After [STOP] button is pressed, the machine can work without printer.
0703	PRINTER 1 HAS PROBLEM	System error at printer Printer motion is controlled by putting sequence No. to each command to printer. This error is caused due to this controlling has become abnormal. Ex. Due to some problems, actual sequence may be reversed or command remained even the motion is uncompleted.	Reboot the machine
0706	IT DETECTED BLACKOUT FROM PRINTER1	Printer has blackout temporary Printer has received the different command before receiving the version command	Reboot the machine
0707	PRINTER 1 IS NOT INITIALIZED	Printer Is not initialized Printer was forced to move before the printer was initialized	[OK] Initialization on printer is necessary
0710	NO LABEL FOR PRINTER 1	Label of printer has run out. - Label of printer has run out - Adjustment of label sensor is not correct and label cannot be detected	[OK] - Pull out the cassette, and set the label roll if it runs out - If label has not run out, adjust the label gap sensor [Adjust menu > Printer > Label Feed tab > Detail]
0711	LABEL SIZE ERROR FOR PRINTER 1	Label size error at printer - Size for actual label and label format does not match - Adjustment of printer is not correct (ex. Label gap) - Label is not set at the correct position when it starts printing	[OK] - Make sure the cassette, label size, and format size are correct. - Adjust the printer - Press feed key and bring the label to the correct start position
0712	NO CASSETE FOR PRINTER 1	Cassette is not inserted correctly. Printer tried to move while cassette is not fully inserted.	[OK] Insert the cassette again
0713	TOO MANY CHARACTERS ON FORMAT FOR PRINTER 1	Deployment error of printing data As the printing data were too much, all data cannot be printed in the printing unit of the label format. Sub-error No. is a No. of printing ID.	[OK]

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0714	REMAINING LABEL ON PRINTER 1	Label is remaining. -Printer tried to move even when a label is remaining on the printer -Adjustment of peel sensor is not correct and it misunderstands the label is remaining at the printer.	[OK] -Remove the label -Adjust the peel sensor
0715	THERMAL HEAD IS WORN OUT FOR PRINTER 1	Thermal head is worn out. <SUB ERROR No.> 0007: The worn out place does not have influence on printing 0008: The worn out place is inside of printing area 0009: The worn out place is at the barcode	[OK] Replace the thermal head, p/n 119169
0716	THERMAL HEAD FOR PRINTER 1 UP	Thermal head is up Printer tried to move while cassette is not fully inserted. - Head-up detection is detecting the status of cassette sensor. - The picture does not show up	[OK]
0717	CONTROL BOAD FOR PRINTER 1 IS FAILED	Control board for printer is abnormal. Cut-in signal from control board could not be detected.	[OK]
0724	No second label printing	Nutrition message is not correctly set to link when it set [YES] at Nutrition printing with preset key [NIP Y/N]. Program EXTRA MSG 2 No and EXTRA MSG 3No. - This is for Nutrition of New Zealand	[OK]

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
0725	No second label printing	Cannot print the second label. The 2nd label format No. is not being [36 (Nutrition Format)] when it set [YES] at Nutrition printing with preset key [NIP Y/N]. Program the 2nd label format No. to [36]. - This is for Nutrition of New Zealand	[OK]

5.3.7 Error related to scale (Code 1600s, 1800s, 11000s)

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
1600	VALUE FOR SCALE MEMORY IS WRONG	Memory setting of the scale is abnormal. Setting contents between scale side and console side do not match.	[OK]
1601	SPAN ADJUTMENT FOR SCALE IS NOT COMPLETED	Span adjustment for scale is not completed.	[OK]
1602	SCALE INITIALIZATION IS NOT COMPLETED	Initialization for scale is not completed.	[OK]
1620	SCALE IS BLACKOUT	Scale is blackout temporary.	[OK] Reboot the machine. *
1621	NO RESPONSE FROM SCALE	There is no response from the scale.	[OK] Reboot the machine after confirming the connection of the scale. *
1622	CANNOT COMMUNICATE WITH SCALE	Cannot communicate with the scale.	[OK] Reboot the machine after confirming the connection of the scale. *
1623	CANNOT COMMUNICATE WITH SCALE	Cannot communicate with the scale.	[OK] Reboot the machine after confirming the connection of the scale. *
1624	DATA SET ERROR	Error for setting tare weight. Entered vale was not following the scale division or over the maximum tare value. <Sub-error> 0000:USA 0001:Others	[OK] When entering the tare value, it must be lower than the maximum tare value and following the scale division.

* 1. Check the C5 harness between the Uni-7 console and the scale, p/n 164716.
  2. Check the scale P-930 A/D board, p/n 125713.

ID NO.	TITLE	ERROR CONTENTS	SOLUTION
1625	TAKE ITEM OFF THE PLATTER	Remove the item from the scale platter. It appears when the tray or wrapping mode is changed while there is something on the scale (or when the scale is not at [ZERO] point) with the tare value set. *This only appears until B0684D version.	[OK] Please remove the item from the scale platter. The load cell has been overloaded. Recalibrate the scale to reset the zero starting counts. [Adjust menu > Calibration] If the error returns, replace the load cell, p/n 47030
1626	WRAP WEIGHT LIMIT ERROR	Remove the item from the scale platter. It appears when an item is too heavy to wrap. (M: 1.5kg, L: 3.5kg) <Sub-Error> 0000:M type 0001: L type	[OK] It is available to function only with [Print] mode.
1627	TARE CANCEL CHECK	Confirmation of canceling the Tare value. It appears when the lighter tray is selected compared to the tray that is set now.	[EXEC] button: Cancels the tare value and tray No. [STOP] button: Will not change the tare and return to the operation mode Before changing the tare value to the lighter value, please make sure if it is fine to cancel the tray that is set now.
1802	PRODUCT ON THE LIFT	Operation was interrupted or an error occurred during wrapping.	[EXEC] button: Continue operation. [STOP] button: Cancel the error. If an error occurred it will be displayed after pressing [STOP].
11038	INFEED SAFETY SENSOR IS INVALID	The infeed safety sensor has been disabled for tall items.	The message is displayed when the operator changes the volume to 3: HIGH which disables the "Hand in Wrapper" safety sensor.

Appendix1 Periodic Replacement Parts

■ Parts needing periodic Replacement

1: Periodic replacement parts(Replacement cycle differs depending on usage status.)

No.	Parts Name (Common Name)	Remarks	Expected Damage	Replacement Cycle (approximate)
1	Printing roller	Printer	Deterioration of gripping force due to wear	2 years and 6 months
2	Thermal head (Single color)	Printer	Missing letter shape due to waste	MTBF about 60 km

Real life of parts differs depending on usage conditions.
STAR thermal paper(same with varnished labels) and YUPO paper(synthetic paper), etc. have shorter run due to wear of the head surface.
The life of thermal head is limited by two factors: Wear of the thermal head and Waste of heat elements.
The life of heat elements corresponds to the number of applied pulses of one hundred million.
As for a thermal head with a resolution of 8 dots/mm, the life reaches its limit first due to wear of the thermal head surface when used for format design of common weighing labels.
With a format design that has all black color portions or vertical ruled lines, the heat elements may sometimes reach their life limit first.

NOTE: MTBF(Mean Time Between Failures) is an average interval of failures given as a rough standard.
The numerical values of MTBF and life do not guarantee the corresponding parts.

2: Parts expected to be needed replacement in 5 years(parts needed in an overhaul)

No.	Parts Name (Common Name)	Remarks	Expected Damage
1	Timing belt in the drive system	Left and right squeezer Feeder drive	Snag, break, broken teeth
2	Bearing in the linear system	Postsqueezer Ejecting pusher Lift drive Left and right squeezer	Rust, looseness, abnormal noise
3	Bearing in the radial system DU bushing	Each power transmission unit	Rust, looseness, abnormal noise
4	Turn-in roller Receiving bushing	Postsqueezer	Luster, wear, looseness
5	Cutter blade	Film cutter	Rust, dullness, nicked edge
6	Solenoid	Feeder Cutter Film arm	Wear, powder generation, delay in operation
7	Roll brake(Torque keeper)	Roll holding	Film overrun

Appendix 2 Wrapping by WM-NANO

2.1 PART NAMES

Names of each part are given in Figures 1 and 2.

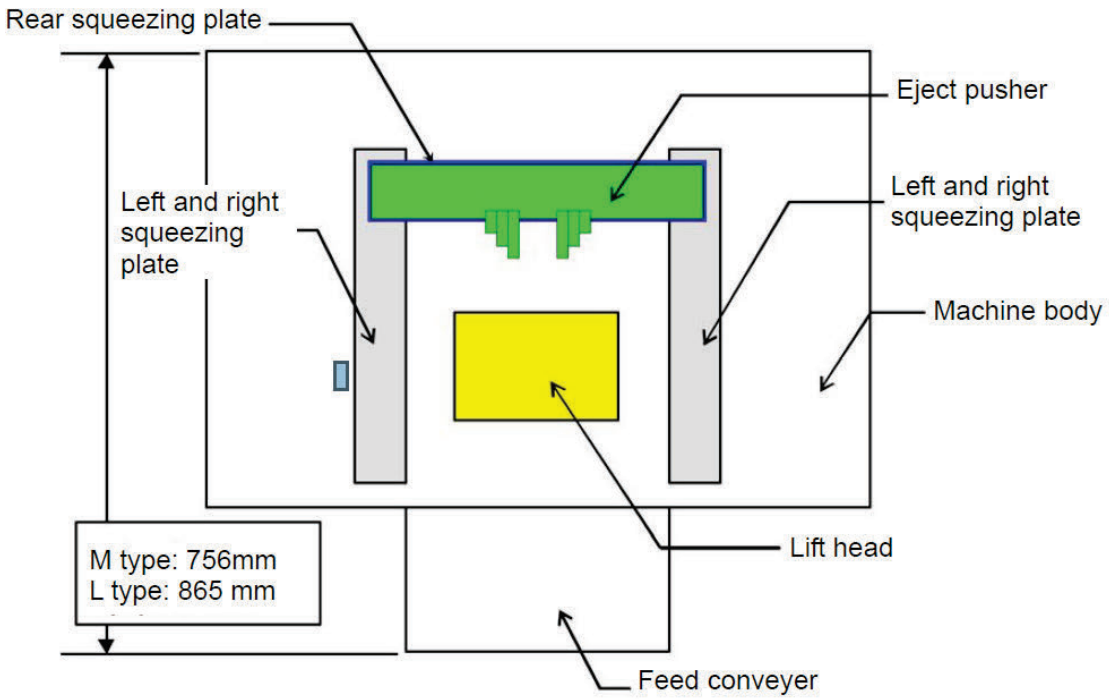


Figure1 Names of the wrapping unit(overhead view)

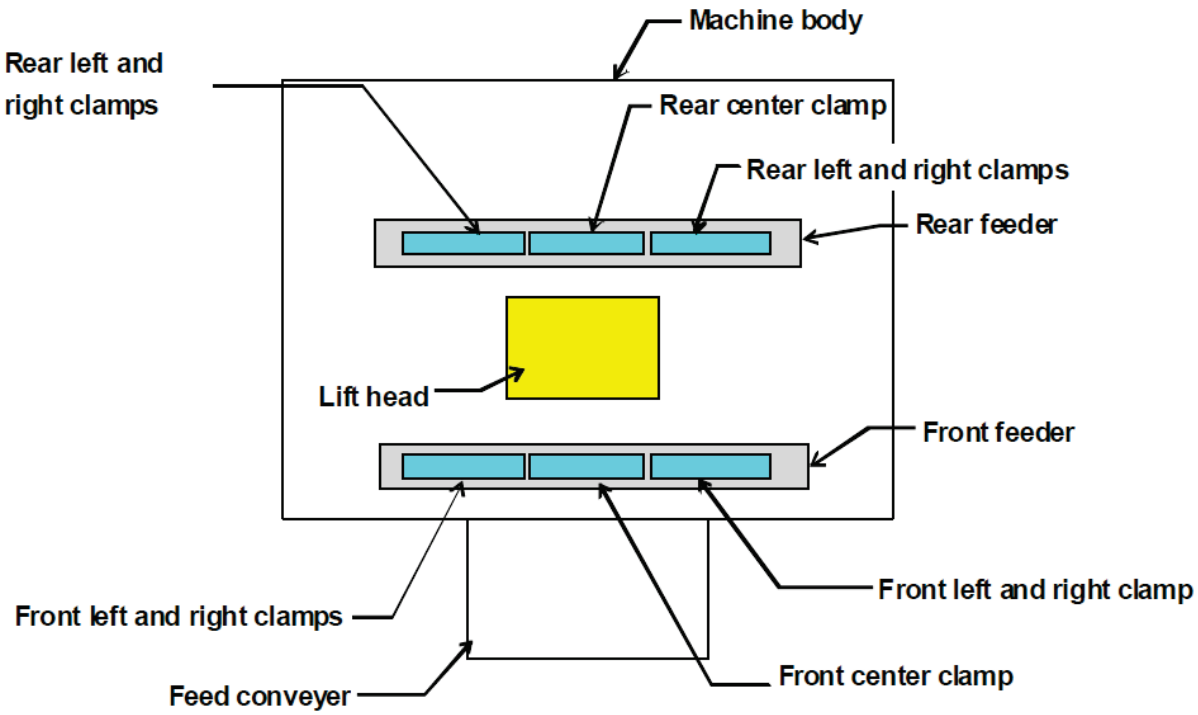


Figure2 Names of the feeder unit(overhead view)

2.2 WRAPPING OPERATION

1) Basic steps of wrapping operation

1. After the scale has stabilized, start film conveying and tray feeding.
2. After completing film conveying, start lift elevation.
3. After completing lift elevation, left and right wrap plates squeeze in (Figure 4).
4. After the wrap plates reach the position to hold the tray, the lift starts descending (Figure 5).
5. After the lift starts descending, the left and right wrap plates and rear wrap plate squeeze in (Figure 5)
6. The eject pusher ejects the tray (figure 6).

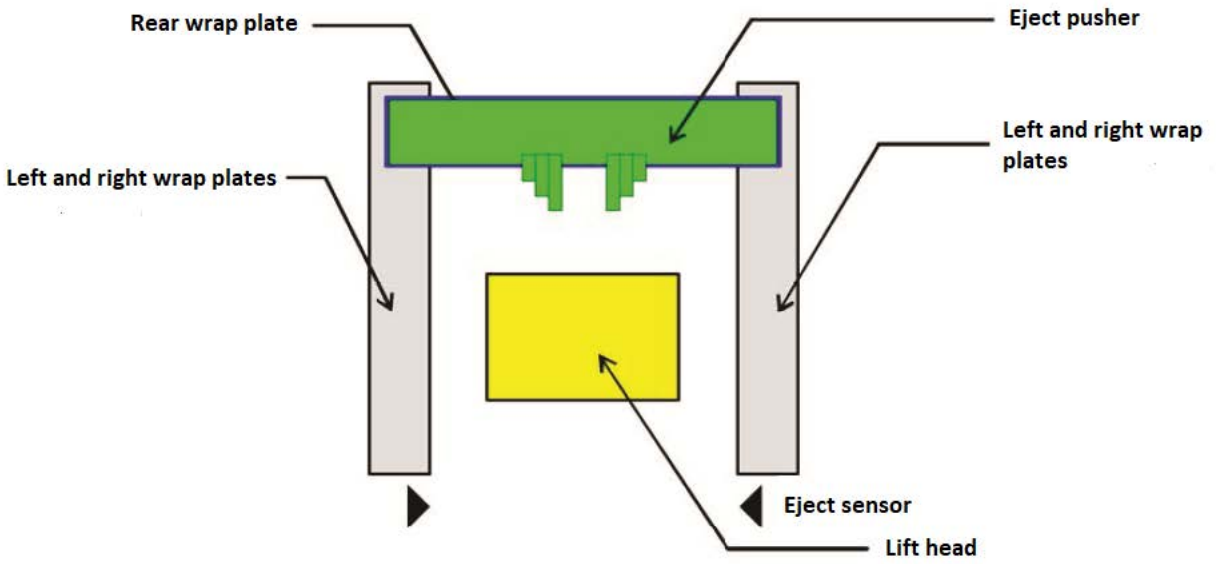


Figure 3 Original position

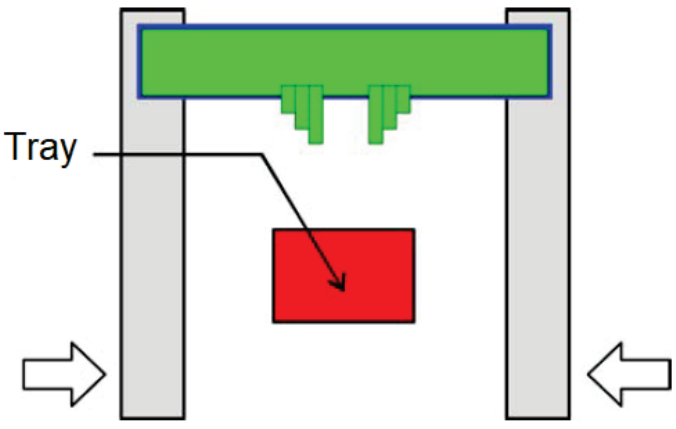


Figure 4 Lift elevation complete

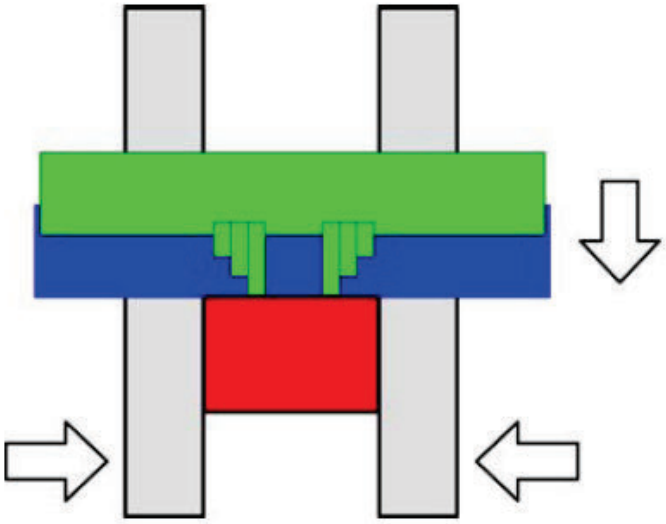


Figure 5 Lift starts descending.

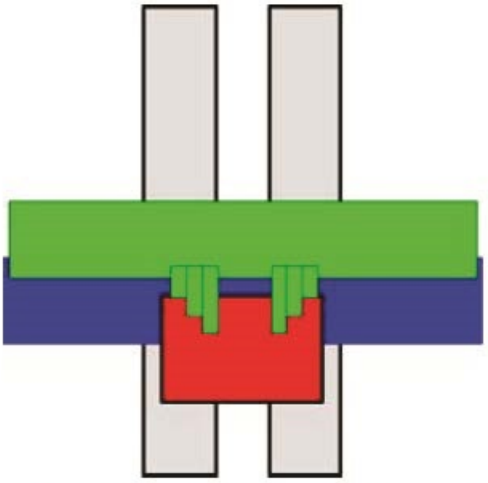


Figure 6 Left and right wrap plates and rear wrap plate finish squeezing.

Possible range of wrapping

- Possible ranges of wrapping for each film width are given in Figures 7 through 12 under the condition of selected film material: vinyl chloride (MS-1), wrapping capability: high speed, and tray shape: standard.
- Film material selection: Possible range of wrapping is almost the same for “Poly 1”.

Ishida Wrap / Ishida Wrap Super: Film width 350mm

Trays with good wrapping condition | Trays impossible for wrapping ●:Verified for wrapping feasibility by tests

Long side of the tray [mm]

Short side of the tray [mm]	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330
210																			
200																			
190																			
180																			
170																			
160																			
150						●					●								
140											●					●			
130	●										●								
120	●			●		●					●								
110						●													
100	●		●			●					●					●			●
90																			

Figure 7

Ishida Wrap / Ishida Wrap Super: Film width 400mm

Trays with good wrapping condition | Trays impossible for wrapping

●:Verified for wrapping feasibility by tests

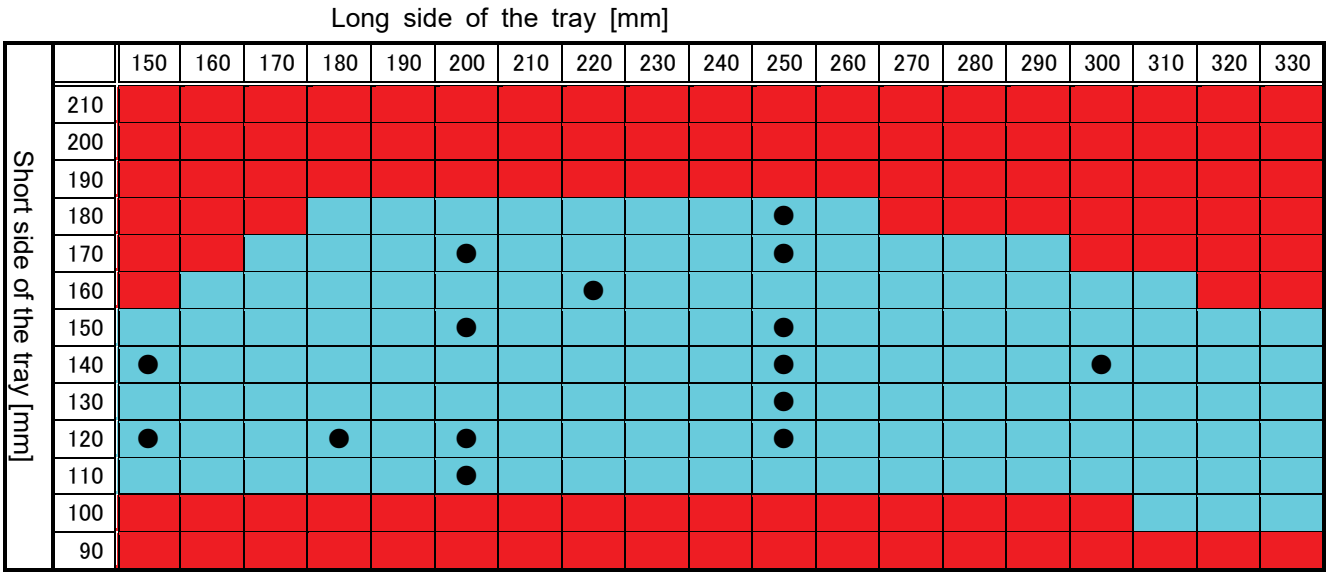


Figure 8

Ishida Wrap / Ishida Wrap Super: Film width 450mm

Trays with good wrapping condition | Trays impossible for wrapping

●:Verified for wrapping feasibility by tests

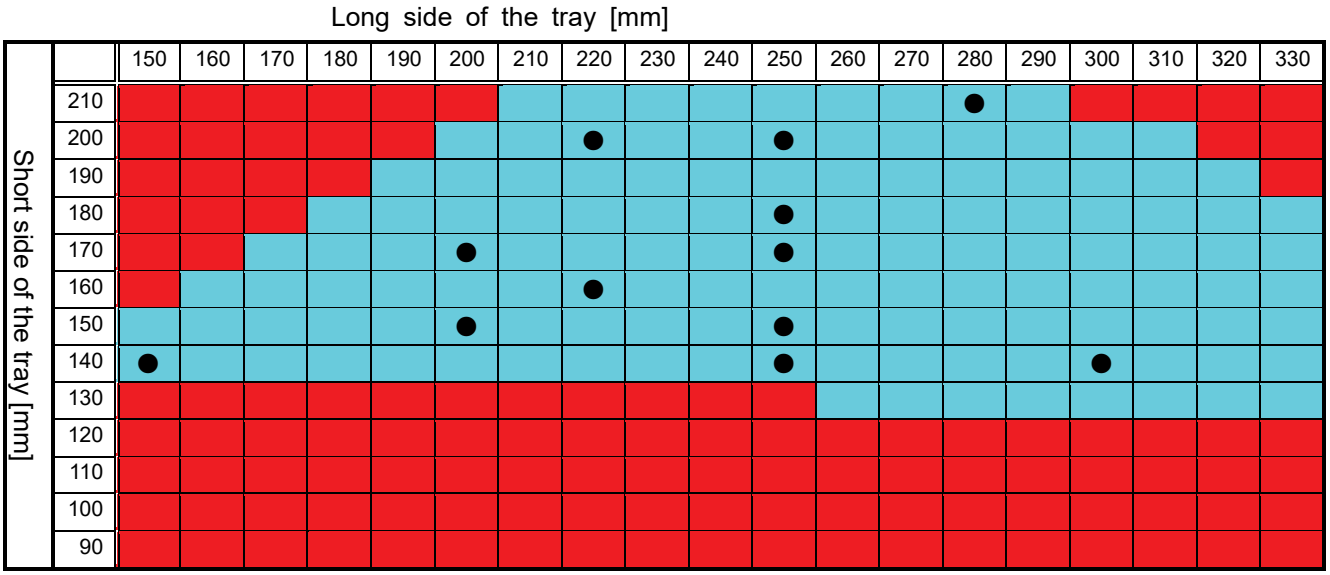
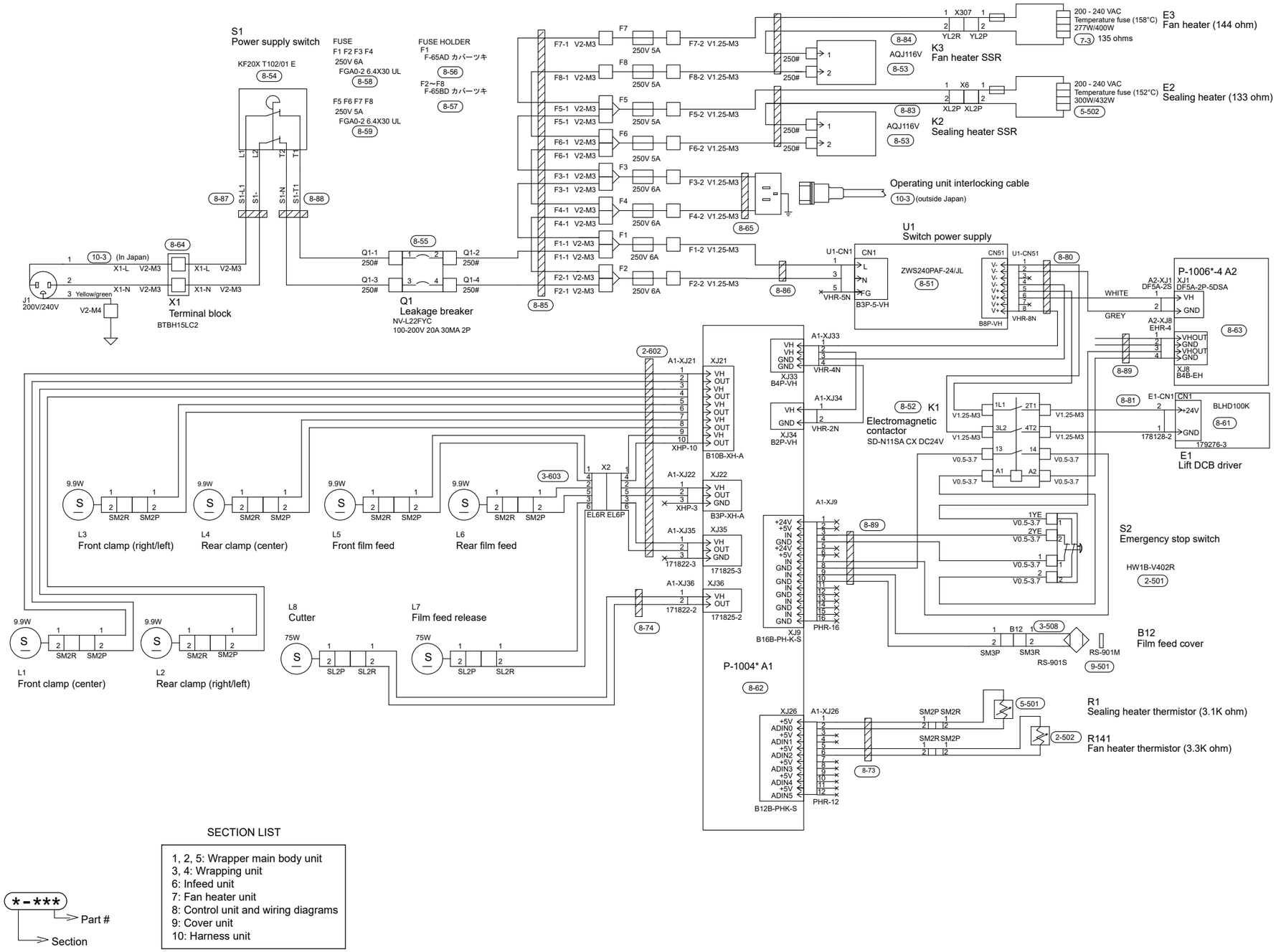


Figure 9

Appendix3 Wiring Diagram Page 1

Wiring Diagram, 1 of 2



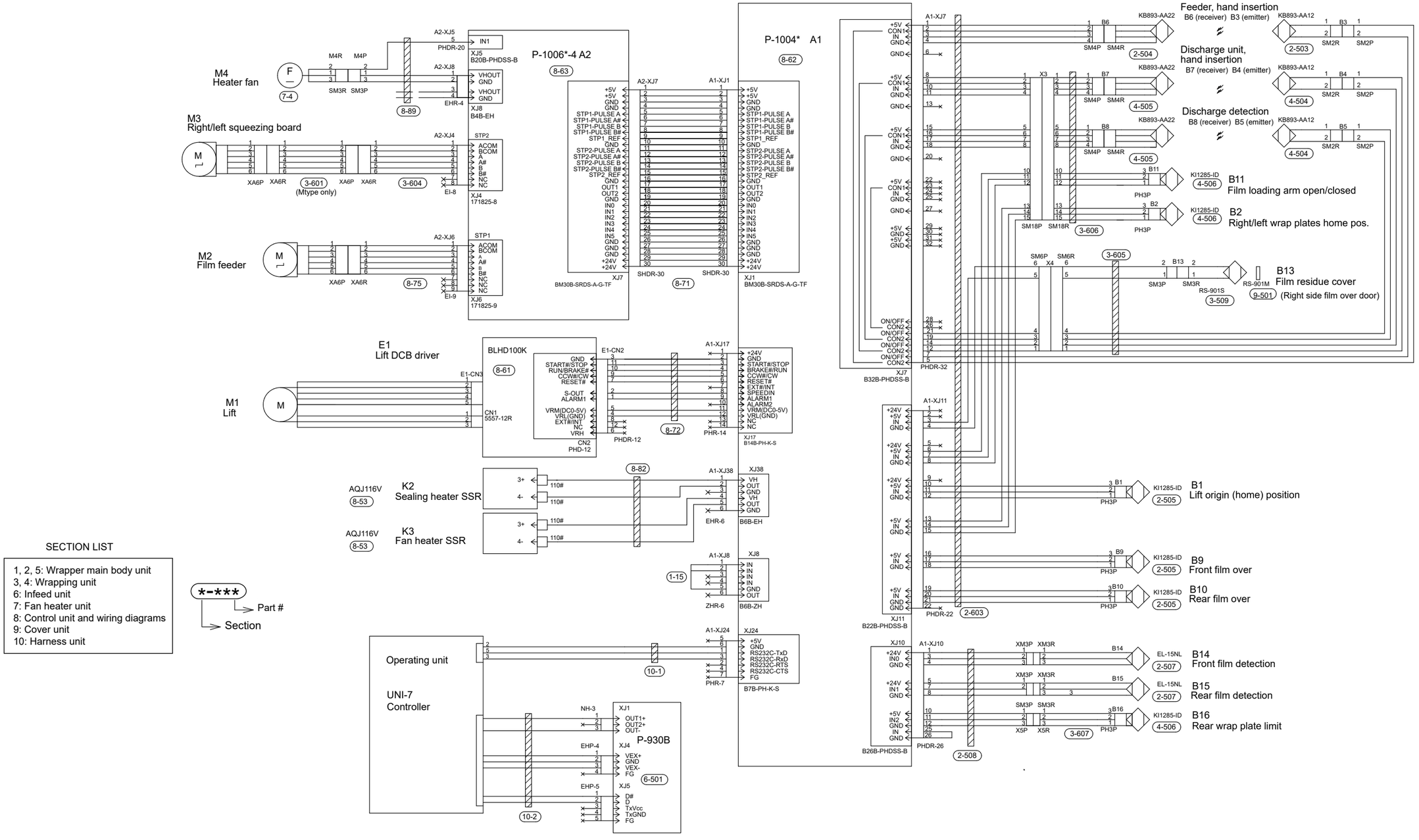
SECTION LIST

1, 2, 5: Wrapper main body unit
3, 4: Wrapping unit
6: Infeed unit
7: Fan heater unit
8: Control unit and wiring diagrams
9: Cover unit
10: Harness unit

*-***
Part #
Section

Appendix3 Wiring Diagram Page 2

Wiring Diagram, 2 of 2



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Section

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