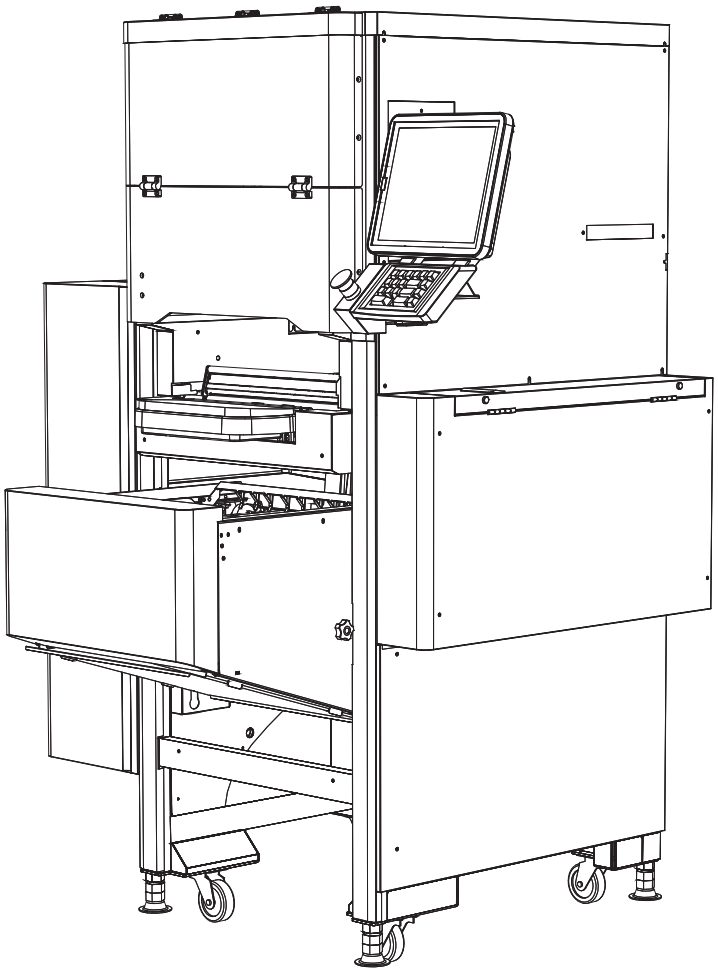
ISHIDA WM-Ai

Automatic
Wrapper 28th
Edition

Service Manual



August 19, 2025

RICE LAKE RETAIL SOLUTIONS | ISHIDA

PN 212727 Rev B

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Revision History

Version	Date	Description
1	Feb. 2015	1st edition
2	May 2015	Reflected specifications changes. Corrected erroneous description.
3	Jul. 2015	Revised Chapter 2 Mechanical Adjustment
4	Sep. 2015	Revised Chapter 2 Mechanical Adjustment
5		Skipped of unifying a Japanese version.
6	May 2016	Corrected erroneous description.
7	Sep. 2016	Corrected erroneous chapter 1 Specifications. Added Chapter 2 Disassembling, Assembling, and Adjusting the suction unit. Added Chapter 3 Parts number. Changed contents in each chapter.
8		Skipped of unifying a Japanese version.
9	Mar. 2017	Added Chapter 1 Installation, Chapter 2 Lift unit and Cutter unit.
10	Jan. 2019	1.8 Installation • Divided into a check sheet (for the power on) and a setup. • Revised the procedure for the change of check sheet. • Added the explanation for Jack up. 1.9 Setup • Added the check sheet and revised the procedure. • Revised the procedure for the change of check sheet. 2.2.2.1 Checking the coiled cord mounting status • Added check items. 2.2.2.4 Automatically adjusting the suction position using label size • Added check items. 2.2.3.3 Countermeasures to “Insertion open/close is not set” errors • Added Subsubsection 2.2.3.3 Countermeasures to “Insertion open/close is not set” errors. 2.2.10.4 Adjusting the film cutter • Added 2.2.10.4 Adjusting the film cutter.
11	Mar. 2019	Added Section 1.7 Power Supply. Moved Chapter 6 Troubleshooting to HTML version and deleted from this service manual.
12	Oct. 2019	Changed the last two digits of the part numbers described in this manual to **. 1.9.2 Check sheet • Deleted the specifications without mount in step 19. 1.10 Upgrading the Program • Deleted "1.10.2 Backing up the device software". 2.2.11 Roll Hold Unit • Added "2.2.11.2 Change of BEARING UNIT:FLANGE: for Film Holding Rod". • Added "2.2.11.3 How to Replace the Bearing Unit". 2.3.3 Film feeder unit • Added "2.3.3.6 Change of Feeder Flat Belt" • Added "2.3.3.7 Installation of Rail Warp Countermeasure Parts"
13	Apr. 2020	4.14.1 Operation Setting • Added "Torque Wrapping PLU”.
14	July. 2020	8.3 Wiring Diagrams • Wiring Diagrams are replaced.

Version	Date	Description
15	July. 2020	7.3.2 Installation Procedure • Figure of Step.2 is replaced. 8.3 Wiring Diagrams • Wiring Diagrams are refined.
16	Nov. 2020	Revised the overall structure of the manual. Chapter 1 1.1.4 Operation Unit • Corrected the model number of the main board. Chapter 2 Changed the structure of this chapter. 2.4 Installation • Added the description about the carry-in frontage. 2.5.6 Film Roll Brake Setting • Corrected the contents of this section. 2.5.7 Camera Adjustment • Corrected the contents of this section.. Chapter 3 3.1.1 Label Applicator Unit • Added the description about the names of movement axes of the label applicator. 3.1.3 Camera Unit • Added the internal names of the camera detector. 3.1.5 Electromagnetic Brake • Added the description about the lift drive electromagnetic brake. 3.2.1 Printer Unit • Added the description about changing the position of the printer label sensor. • Added the description about changing the label guide roller position. • Added the description about the label size error. • Added the description about the label standby roller. 3.2.2 Label Applicator Unit • Added the description about the adjustment of the suction part. 3.2.11 Roll Hold Unit • Added the description about the tray presser. • Added the description about how to adjust the torque limiter. • Added the description about changing the bearing unit: flange. 3.3.2 Label Applicator Unit • Added the description about how to disassemble/assemble the label applicator's suction unit. 3.3.3 Film Feeder Unit • Added the description about how to replace the feeder belt. • Added the description about the rail warp countermeasure parts. 3.3.6 Heater Unit • Added the description about how to replace the tray bottom heater. Chapter 4 4.1 Electric Unit Configuration • Corrected the contents of this section. • Added the description about electric parts. 4.2 Printed Circuit Boards • Added the description about the board type and compatibility. • Added the description about how to replace the main board. Chapter 5 5.1 Startup 5.3 Password (Operate) • Changed the contents of these sections.

Version	Date	Description
16	Nov. 2020	Chapter 6 6.1 Startup 6.3 Touch Screen 6.7 Firmware Details 6.8 Memory Clear 6.9 Printer 6.13 Option Checks 6.14 Wrapping Machine 6.15 Camera 6.16 Label Applicator 6.17 Unit Action • Changed the contents of these sections.
17	May 2021	Added Technical Reports SC216107 to the beginning of this manual. Consolidated four WM-AI service manuals into a single volume by dividing it into four parts as follows: Part 1: Automatic Weighing / Wrapping / Labeling Part 2: POP Printer Part 3: Bottom Label Part 4: Automatic Infeed / Back Updated electrical wiring diagrams. Improved the clarity of electrical wiring diagrams by changing from bitmap data to vector data.
18	Jun. 2021	Added Part1 Section 6.15.2 CAMERA(ADJUSTMENT) "■ Adjustment procedure".
19	Aug. 2021	Introduction • Added note. 2.3 Power Supply • Corrected the description about voltage. 2.3.1 Cable length from terminal block to skin top • Added the dimentions of crimped terminal. • Added the description of tightening torque. 2.4.1 Check Sheet • Revised the sequences. • Added the description of discommissioning. 3.2.9, 3.2.10, 3.3.6, 3.3.7 • Added cautions. Chapter 4 • Added notes. 4.1.3 Machine (Right side) • Reivised the description of power supply for always energizing circuit. • Added dangers • Added the circuit diagram 4.2.2 Main board Replacement • Added the description of disposal.
20	Sep 2021	Part 1 6.10 Calibration Added the procedure for scale (span) adjustment. Added the following items to Part 2 through Part 4: Gathered the separate manuals into one volume. Added "Part 2: POP Printer" Added "Part 3: Bottom Label" 3.1.1 Assist Roller and Platen Roller Installation • Added the description about the installation of the assist roller. 3.2.1 Under Printer • Added precautions for installation and description of grease application. 3.2.2 Pasting Unit • Added the description of checking the parallelism. Added "Part 4: Automatic Infeed / Back"

Version	Date	Description
21	Nov. 2021	Added Technical Reports SC216131, SC216134, and SC216136 to the beginning of this manual.
22	Apr. 2022	Added the procedure for replacing the electromagnetic brake.
23	May 2022	Added Technical Reports SC226103 to the beginning of this manual.
24	July 2022	Added Technical Reports SC226109 and SC226113 to the beginning of this manual.
25	Aug.2022	Added Technical Reports SC226118 to the beginning of this manual.
26	Sep.2022	Added Technical Reports SC226125 to the beginning of this manual.
27	Dec.2022	Added notes about software writing in Part 1, "4.2.2 Main board Replacement".
28	Feb. 2023	Corrected spacing, reformatting, updating tables, removed pages not applicable
28 Rev B	Aug. 2025	Corrected errors 0421 and 0477

Introduction

● Purpose of this Manual

The purpose of the manual is to provide useful information for performing delivery, installation, repair and maintenance on this machine to service personnel.

● Target Readers

This manual is intended for use by our service personnel and those authorized to carry out maintenance work of this machine.
The use of this manual by any person other than the above is strictly prohibited.

● Signal Words

The following signal words 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.

Signal Word	Meaning
DANGER	Indicates an imminently hazardous situation which, if not avoided, is likely to result in serious injury or may result in death.
WARNING	Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.
CAUTION	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury or in property damage.

● Symbols

The following symbols are used in this manual.

Symbol	Meaning
NOTE	Indicates information that needs to be noted or emphasized.
REFERENCE	Indicates the reference page related to performance of an operation.
INFORMATION	Indicates information useful for the better understanding of the machine.

CAUTION

- 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 emergency switches after performing maintenance.

Notes on Software

Dedicated software is installed in this machine to meet the customer's needs.
Software can be divided into the following two programs:

● Application Program

"Application program" independently designed by our company runs to execute actual operations of this machine such as key input, display and printing in accordance with the predetermined procedures.

● Notice and licenses for software used in this machine

This machine contains software that is subject to the following GNU General Public License("GPL") or GNU Lesser General Public License ("LGPL"). These establish that customers have the right to acquire, modify, and redistribute the source code of said software in accordance with the items of the GPL or the LGPL.

Package List
Linux Kernel, Ubuntu, freetype, lxde, PCMan File Manager, Leafpad, openbox, MPlayer, Xarchiver, ibus, anthy, ALSA, curl, CurlFtpFS, Qt, libusb

The source code for the above listed software is available. Please access the following

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https://www.ishida.com
Phone: +81 75 771 4141

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Technical Reports

Information			
Replacing LCD Display Parts			
Document No:	SC216107	Category	AL-AI/FDP-AI/IL-AI/OL-AI/WM-AI
Issue date:	6 May 2021	Approved:	T. Ando
Checked:	N. Izumi	By:	N. Odahara

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[Summary]
Since MITSUBISHI LCD display has been discontinued, the parts contained in the display have been replaced. Along with that, maintenance parts have been also changed. Refer to [Attachment] in the next page for the details of the replacement parts.

[Details]
Since some additional parts are required to replace from the previous display to the new one, a maintenance kit has been arranged as shown below.

Item code	Description	Parts structure
100-035-2328-00	DISPLAY:LCD:TFT With junction board	New display + Junction board + Junction harness

The parts included in 100-035-2328-00 DISPLAY:LCD:TFT With junction board:

Item code	Description	Qty
100-035-2327-00	DISPLAY:LCD:TFT	1
100-032-6893-00	PWB'P-1178'	1
100-032-5677-00	HARNESS:S2:	1

Keeping 100-035-2328-00 DISPLAY:LCD:TFT With junction board in your stock can also support all of AL-AI, FDP-AI, IL-AI, OL-AI, and WM-AI.

Be sure to use the following Display Unit for the machines that are equipped with the new display unit.

Item code	Description
100-035-2327-00	DISPLAY:LCD:TFT

<Replacement timing >
The new LCD display has been used in the machine shipped in the beginning of February 2020 from Serial number: 100469513.

Refer to the Technical report issued in the past for IP-AI, UNI-9, and WPL-AI as shown below:
IP-AI: SC196111, UNI-9: SC196109, WPL-AI: SC206108
Maintenance parts for IP-AI only: 100-037-1463-01 MAINTENANCE:DISPLAY:
Maintenance parts for UNI-9 only: 100-037-1462-00 MAINTENANCE:DISPLAY:
Maintenance parts for WPL-AI only: 100-035-2328-00 DISPLAY:LCD:TFT With junction board

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Technical Reports

<Attachment: SC216107>

1. Replacement of LCD display

Old 000-135-4850-12 DISPLAY:LCD:TFT AC121SA02_

-> New 100-035-2327-00 DISPLAY:LCD:TFT AC121SA02

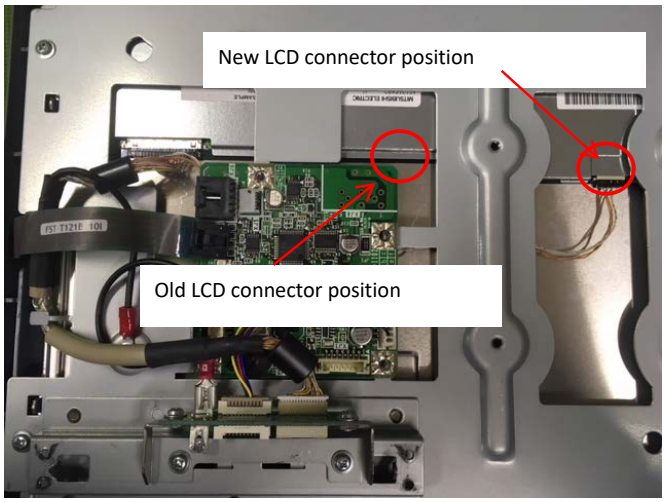
1-1: How to distinguish the old/new display

Old type

New type

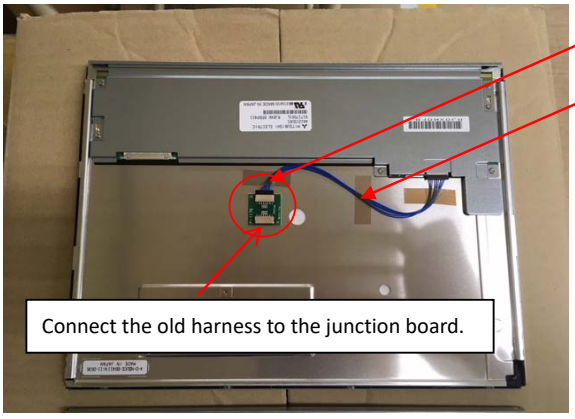
1-2: Connector position and harness

Since the new LCD connector position has been changed, the harness has been extended.



2. Maintenance parts: New display + Junction board (100-035-2328-00)

Maintenance parts (100-035-2328-00) contains a new display + Junction board + Junction harness.



Be sure to connect the old harness to the junction board.

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Technical Reports

Information			
About the version change of P-1111 board			
Document No:	SC216131	Category	UNI-9, IP/WM-AI, IZ-7000, MS-AcroII
Issue date:	6 October 2021	Approved:	T. Ando
Checked:	A. Hattori	By:	N. Izumi

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[Contents]
Due to the shortage of parts supply, the A/D board used in each weigher's scale board (P-1111) will be replaced with an alternative A/D board.

[Details]
Refer to the table below for the compatibility with the current Item Code.
Although the Item Code will be changed, compatible boards can be replaced in the same way as before.
Notes: The board with a different branch number (A-5, 6, 7) cannot be used.
Be sure to use a compatible board.

We will inform you as soon as the change is complete for devices that have not yet been changed.

Before replacement			After replacement			Product
Item Code	Board Name	Branch No.	Item Code	Board Name	Branch No.	Model
000-130-7000-65	P-1111	A	100-047-9979-00	P-1111	**A-5**	IZ-7000(S,IT,IW) UNI-9(weigh unit 30kg), IP-AI (overseas: 30kg), IZ-7000(M), MS-Acro2
000-139-2566-18	P-1111	A-1	100-047-9980-00	P-1111	**A-6**	UNI-9 (weigh unit other than 30Kg)
100-003-3404-04	P-1111	A-2	100-047-9981-00	P-1111	**A-7**	WM-AI, IP-AI

The change has been made sequentially from the machines manufactured around the end of August. For maintenance parts, the changed board will be shipped as soon as current one run out of stock.

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Technical Reports

Information			
Replacement of power supply unit for POP (Except ETL standards)			
Document No:	SC216134	Category	WM-AI
Issue date:	8 October 2021	Approved:	T. Ando
Checked:	A. Hattori	By:	N. Izumi

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[Summary]

Due to a shortage of parts supply for COSEL power supply unit used in POP unit of WM-AI-P (POP specification), the existing power supply unit is replaced.

[Details]

Power supply unit (100-010-4289-00) for POP unit (100-011-1999-00), printer (U400) and APPLICATOR UNIT:2 LANE (U401) has been replaced with the same one for APPLICATOR UNIT: 1 LANE (000-148-4466-05).

Although the existing power supply unit is low leakage current, the specification has no problem after replacing the unit. Attaching procedure, numbering, and the number of pins are the same as before.

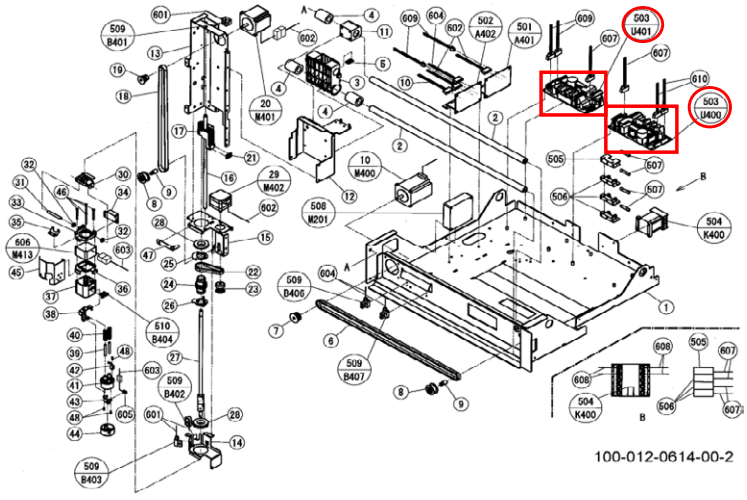
Part code	Description
000-148-4466-05	**POWER SUPPLY SWITCHING:**

Only power supply unit (000-148-4466-05) is available for parts order from now on.

However, already ordered power supply unit (100-010-4289-00) can be used without any problem.

Note: The machines with ETL standards are excluded from the replacement this time.

100-011-1999-00 APPLICATOR UNIT:2 LANE:POP



[Action]

The new replacement power supply unit (000-148-4466-05) has been installed in the machines shipped around 22 September 2021.

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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

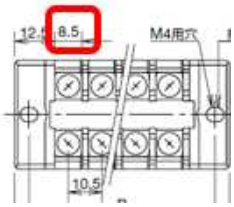
WM-NANO Power receiving terminal

■Existing terminal block

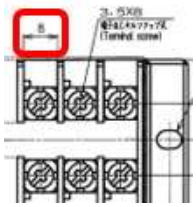
■Replacement TXUM10 02

Terminal pitch

■Existing terminal block: 8.5mm



■Replacement TXUM10 02: 8mm



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Technical Reports

<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.

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Information			
Replacement of motor in Applicator/Transfer Unit			
Document No:	SC226103	Category	WM-AI
Issue date:	20 April 2022	Approved:	A. Hattori
Checked:	N. Izumi	By:	N. Odahara

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[Summary]
The motor used for X-axis in Applicator Unit and for switching of Transfer Unit will be replaced due to discontinuation.

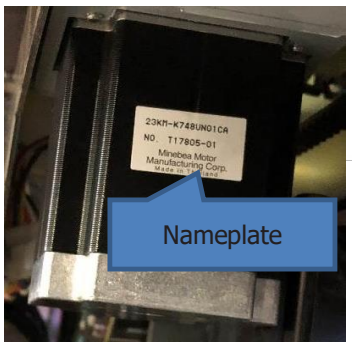
[Details]
Although the current motor is common to both units, different motors will be used for each unit after replacement.

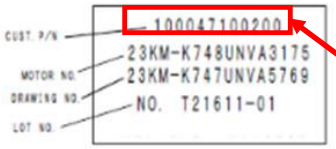
	Part code	Description	Manufacturer model No.	Unit
Old	000-138-2122-08	MOTOR AS:STEPPING:X	23KM-K748UN01CA	Applicator/Transfer

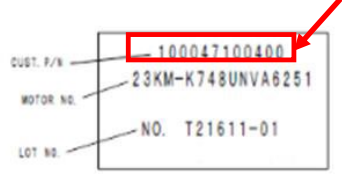
New	**100-047-1002-00**	**MOTOR AS:STEPPING:X:**	**23KM-K748UNVA3175**	**Applicator Unit**
	100-047-1004-00	**MOTOR AS:STEPPING:**	**23KM-K748UNVA6251**	**Transfer Unit**

Note) When the stock of the old part runs out, new parts will be shipped.

If an incorrect motor is attached, operation failure may occur. See the part code on the nameplate to use the correct motor.







Part code is added.
(NOT printed on the nameplate of the current motor)

Motor for Applicator Unit:
100-047-1002-00
Motor for Transfer Unit:
100-047-1004-00

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Information			
Replacement of Tray detection sensor			
Document No:	SC226118	Category	PS-AI
Issue date:	22 July 2022	Approved:	A. Hattori
Checked:	Y. Fujiwara	By:	N. Izumi

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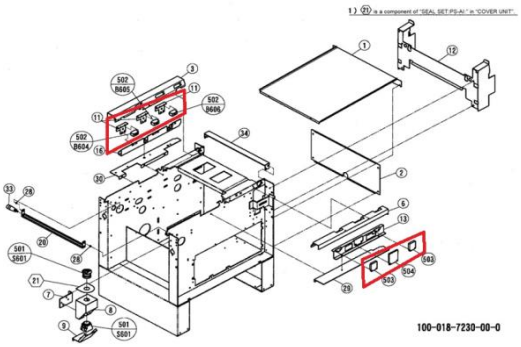
[Summary]

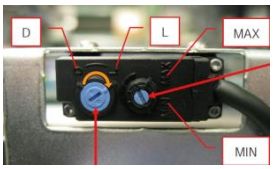
The following sensor will be replaced from Serial No. 100607676 or later due to the shortage of parts supply.
Tray detection sensor used in 3 places of Inside Unit

[SENSOR BRACKET / REFLECTOR BRACKET / REFLECTOR] are replaced at the same time as the sensor replacement. Be sure to confirm the sensor and the reflector are made by the same manufacturer for maintenance.



Sensor sensitivity volume position will be changed.

Original: Backside



Replacement: Side

[Action]

Drawing No. 100-018-7230-00-0 Replacement of No. 502 SENSOR AS::

	Part code	Description	Note
Original	000-123-2421-24	SENSOR AS::	KEYENCE
Replacement	100-052-7035-00	SENSOR AS::	OPTEX

For maintenance:
Serial No. 100607675 or earlier: Use 000-123-2421-24 SENSOR AS::
Serial No. 100607676 or later: Use 100-052-7035-00 SENSOR AS::

When the stock of the original sensor runs out, replace SENSOR AS, REFLECTOR and SENSOR BRACKET at the same time.

How to adjust sensor:
1) Confirm Light ON / Dark ON switch is Light ON side.
2) Be sure to adjust the replacement sensor in the same way as the original one. Please note the adjustment volume position is different.
   - Refer to the excerpt of Service Manual in the last page.

The adjustment procedure of sensor optical axis for the special shaped tray is different along with the replacement of SENSOR AS. The details are described in [Replacement of Bracket reflector].

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Technical Reports

[Details]

Serial No. 100607676 or later

Bracket sensor changed at the same time as the sensor replacement

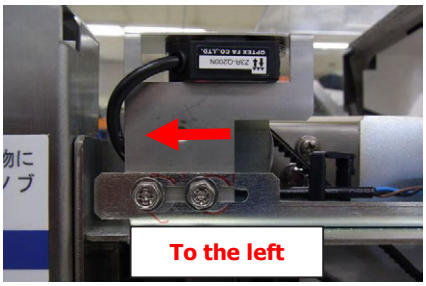
Drawing No. 100-018-7230-00-0		Part code	Description	Qty
No. 11	Shape change	100-052-6184-00	BRACKET:SENSOR:TRANSPARENCE	3
No. 503	Shape change	100-052-6717-00	REFLECTOR::	2
No. 504	Shape change	100-052-6717-00	REFLECTOR::	1

Replacement of Sensor bracket

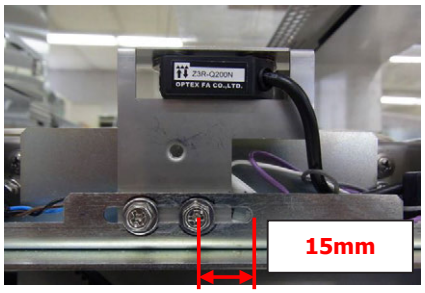
There is no screw hole for optical axis adjustment in the replacement (*The photo shows a prototype bracket).
The attaching direction of only Tray stop sensor to the bracket is reverse.
(This is because workability to the adjustment volume is considered)

Standard attaching position of Sensor bracket

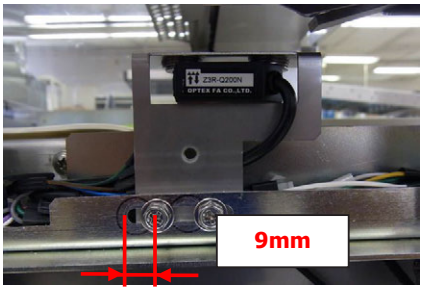
Tray stop sensor
Attaching position: Align the sensor to the left. The direction of the cable is left/right reversed to the original one.



Transport bar ON sensor
Attaching position: From the end of the long hole – the center of the screw is 15mm



Tray separation sensor
Attaching position: From the end of the long hole – the center of the screw is 9mm



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Technical Reports

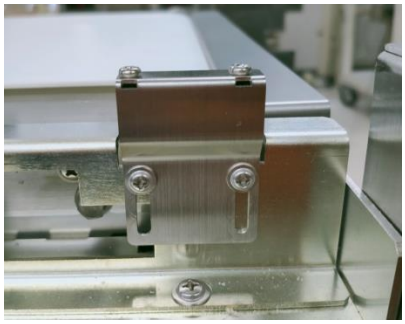
Replacement of Bracket reflector

	Part code	Description	Qty
Tray stop sensor Tray separation sensor	100-052-6663-00	BRACKET:REFLECTOR:	2
Transport bar ON sensor	100-052-6661-00	BRACKET:REFLECTOR:UPPER	1
Transport bar ON sensor	100-052-6662-00	BRACKET:REFLECTOR:UNDER	1

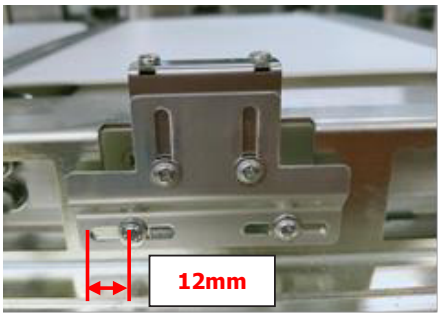
The standard attaching position of BRACKET REFLECTOR: Align REFLECTOR to the bottom to attach it.
Align REFLECTOR for Transport bar ON at 12mm from the end of the long hole to the center of the screw for horizontal position and align it to the bottom for vertical position to attach it.

Two places

(Tray stop/Tray separation)



One place (Transport bar ON)



When the tray shape is special with raised bottom and the optical axis of the sensor repeats ON/OFF while trays are transported, be sure to raise the attaching height of Reflector bracket to adjust the sensor position.

Serial No. 100607675 or earlier

When the replacement (100-052-7035-00 SENSOR AS) is used, the following parts are required. Although replacing all three places is NOT required, the manufacturer of the reflector should be the same as that of the replaced sensor.

Tray stop/Tray separation sensor (common)

Drawing No. 100-018-7230-00-0	Part code	Description	Qty
No. 11	100-052-6184-00	BRACKET:SENSOR:TRANSPARENCE	1
No. 503	100-052-6717-00	REFLECTOR::	1
	100-052-6663-00	BRACKET:REFLECTOR:	1
Screw to fix Bracket	000-010-0725-06	TAPPING SCREW:: 3x6	2

Transport bar ON sensor

Drawing No. 100-018-7230-00-0	Part code	Description	Qty
No. 11	100-052-6184-00	BRACKET:SENSOR:TRANSPARENCE	1
No. 504	100-052-6717-00	REFLECTOR::	1
	100-052-6661-00	BRACKET:REFLECTOR:UPPER	1
	100-052-6662-00	BRACKET:REFLECTOR:UNDER	1
Screw to fix Bracket	000-010-0725-06	TAPPING SCREW:: 3x6	4

Note: When the sensor replacement period ends, the replacement is expected to be returned to the original one. Keeping the removed brackets is recommended.

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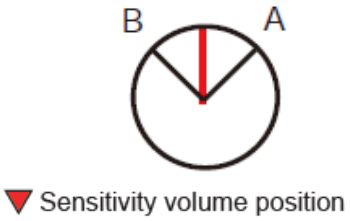
Technical Reports

How to adjust sensor sensitivity (Excerpt of Service Manual)

Refer to [WM-AI_Service_Manual_22th_Edition Part4: 4.1.4 Adjusting the tray sensor] for details.

Adjustment procedure	Description
1	Place the tray on the optical axis, gradually increase the sensitivity volume (clockwise) from the "MIN" position, and then memorize the position (Position A) where the sensor is ON (non-detection). When the sensor does not turn on after setting to the "MAX" position, let the "MAX" position be Position A.
2	Remove the tray, gradually decrease the sensitivity volume (counterclockwise) from the "MAX" position, and then memorize the position (Position B) where the sensor is OFF (detection). When the sensor does not turn off after setting to the "MIN" position, let the "MIN" position be Position B.
3	Set the sensitivity volume to the intermediate position between Position A and Position B. The proper rotation angle for Position A and Position B is 20 degrees or more. If the rotation angle between Position A and Position B is narrow, the optical axis is expected to be deviated. Check the following items and then readjust the sensor. (1) If the flat belt conveyor is installed in a floating state (2) If the sensor or mirror is dirty (3) If the sensor cover is installed in a floating state (4) If there is any problem with the parts (sensors, brackets, etc.). 

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Technical Reports

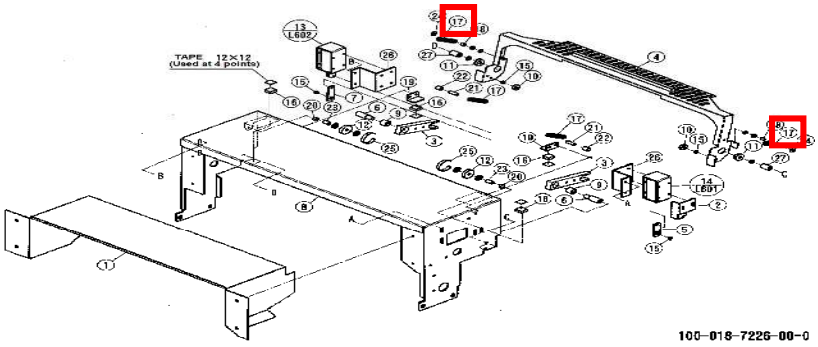
Information			
Attaching direction of spring hook on Transport bar side			
Document No:	SC226125	Category	PS-AI, PS-UNI
Issue date:	1 September 2022	Approved:	A. Hattori
Checked:	Y. Fujiwara	By:	N. Izumi

Technical Reports are issued for our agencies/distributors. Please handle carefully not to pass them directly to customers.

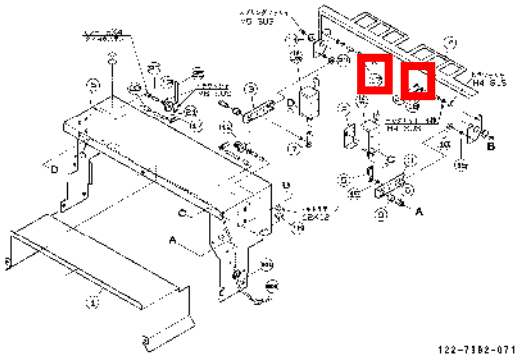
[Summary]
We received a report that a spring was damaged because attaching direction of spring hook on Transport bar side was incorrect.
Due to the above, the attaching direction of spring hook has been uniformed as one common to enhance safety.

[Details]
The machines equipped with the above measure are as follows:
PS-AI: From Serial No.100607674　PS-UNI : From Serial No.100613402

In PS-AI, the attaching direction of the hook enclosed in red in the figure below is uniformed.
Drawing No.100-018-7226-00-0　(17) 000-137-0611-08 SPRING:COIL:TENSION



In PS-UNI, the attaching direction of the hook enclosed in red in the figure below is uniformed.
Drawing No.000-122-7992-07-1　(17) 000-137-0611-08 SPRING:COIL:TENSION



[Action]
Check the attaching direction of the hook at maintenance or periodic inspection. If the attaching direction is incorrect in actual machines, follow the procedure below to correct the direction.
The spring hook attaching part is where White Alcom Grease (food-safe lubricant) should be applied.
Apply White Alcom Grease during maintenance or periodic inspection procedure.
Recommended grease:　GREASE:WHITE ALCOM:　Part code: 000-018-2849-00

For PS-UNI, since the structure of the spring hook is different, applying the grease is not required.

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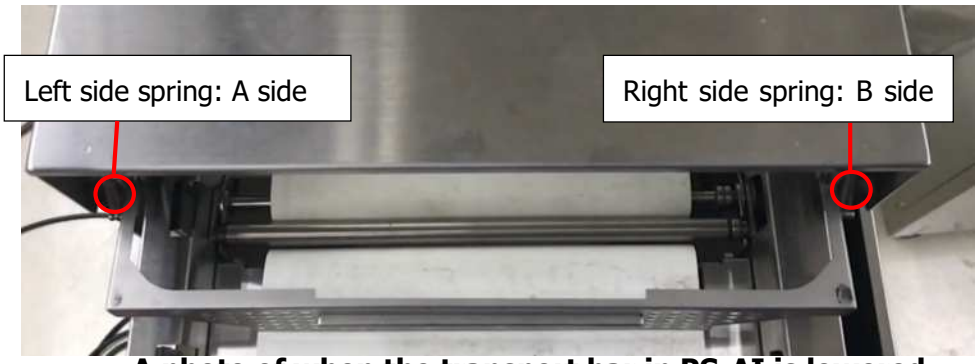
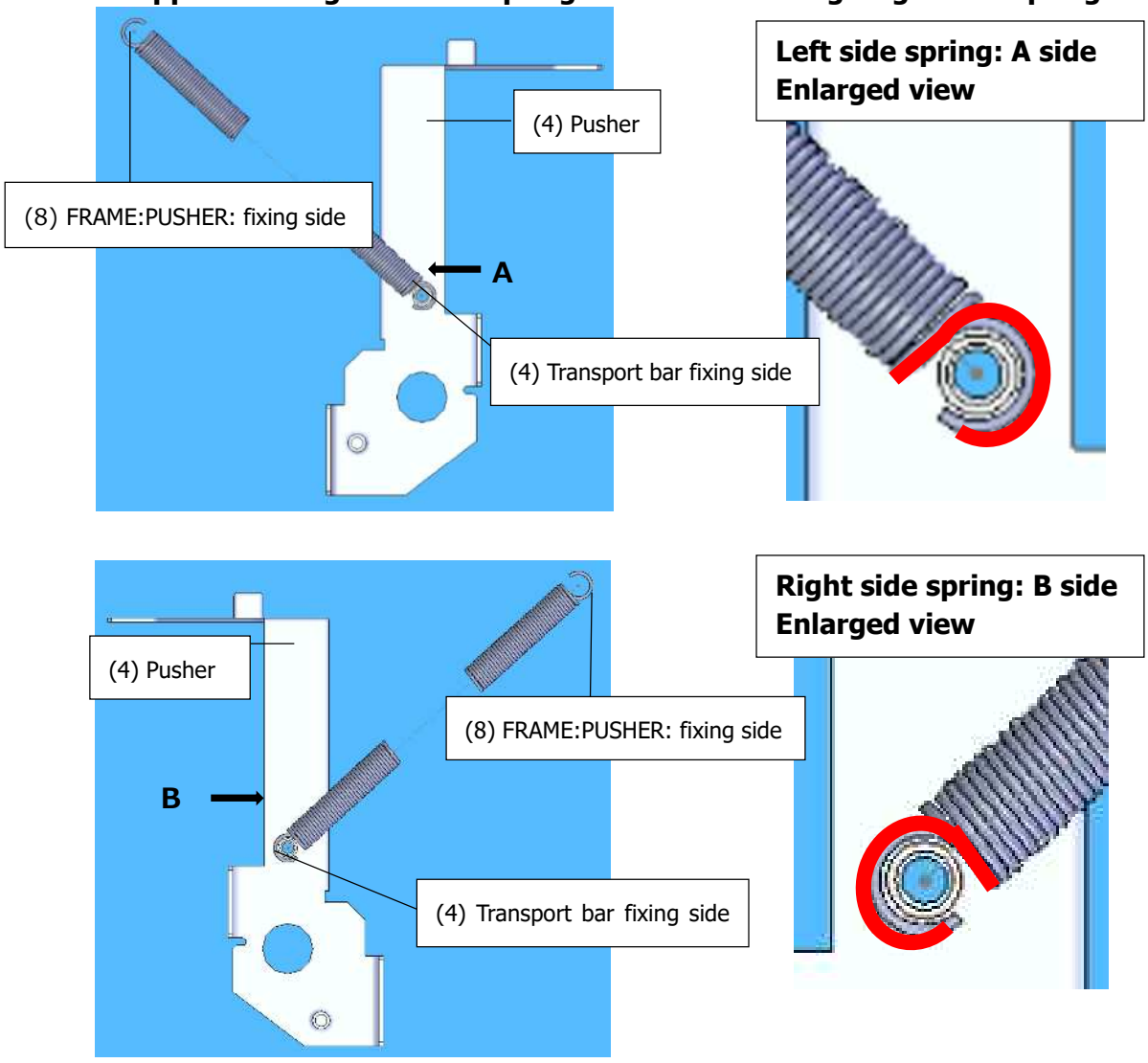
The details are described as follows using PS-AI as an example.



A photo of when the transport bar in PS-AI is lowered

Attach the spring so that the spring hook on Transport bar side would face the direction shown in the enlarged view below.

Typical drawing for attaching direction of the spring
Upper drawing: Left side spring Lower drawing: Right side spring



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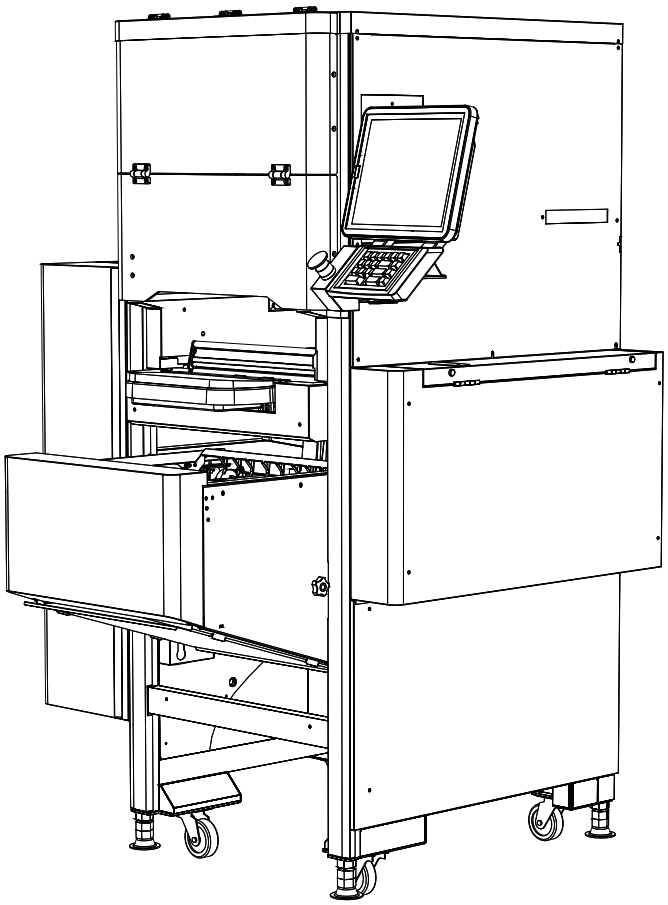
ISHIDA

WM-AI

Service Manual

Part 1

Automatic Weighing/Wrapping/Labeling



Chapter 1

Overview

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1.1 Specifications

1.1.1 General specifications

Item	Specification
Model	□ WM-AI
Product category	□ Auto scale wrap price labeling system (push-up type stretch wrapper)
Product lineup	□ Dual film, Printer dual auto labeling type (AT2) □ Single film, Printer dual auto labeling type (AT1) □ Dual film, Printer single auto labeling type (AS2) □ Single film, Printer single auto labeling type (AS1) The JR (front stock and right discharge) type is prepared for each.
Environmental conditions	□ Temperature: 5ºC to 35ºC □ Humidity: 20% to 85% (without condensation)
Dimensions	□ Width: 1000 mm (standard type), 1130 mm (J type, R turn) □ Depth: 1120 mm / main body frame: 800 mm □ Height: 1635 mm (when caster grounded) Jack up +50 mm
Exterior	□ Stainless (partly resin molded)
Power supply	□ Single phase 200 to 240 VAC (+5% / -10%) 10 A (max. in normal operation) □ No need to change parts in accordance with the power supply frequency.
Packs per minute	□ 35 packs per minute (max.)
Weight for wrapping capacity	□ 0.100 lb to 13.000 lb <North America>
Weight for weighing capacity	□ 0.100 lb to 30.00 lb <North America> □ 20 g to 6 kg <Europe>
Machine weight	□ 800 lb / 363 kg (AT2) □ 890 lb / 404 kg (AT2JR)
Noise	□ 74.6 dB

1.1.2 Wrapping unit

Item	Specification
Wrapping method	□ Prestretch wrapping method
Wrapping size	□ Width: 95 to 380 mm (bottom 60 mm or more) Depth: 80 to 260 mm (bottom 60 mm or more) Height: 10 to 130 mm (tray height: 70 mm or less) □ Wrapping not available in some combinations. However, wrapping is possible for 1014 tray (360 x 254 x 30 mm) and 25SH tray (378 x 205 x 30 mm)
Tray material	□ PSP, CTF, PP, PET, paper
Tray shape	□ Rectangle, corner cut, fan-shaped, round-shaped, tray with legs, bottom raising tray. □ A tray with legs and bottom raising tray may not be able to be used depending on their shapes and dimensions.
Film size	□ Nominal Width: 250 / 300 / 350 / 400 / 450 / 500 / 533 mm (21 inch) □ Max. stretch Width: 600 mm □ Max. film feeding length: 700 mm □ Stretch of general recommended film: 30% □ The maximum stretch amount for Ishida UP grade is up to 100%. There is a limit depending on the film type.
Outside diameter of the film	□ Polyethylene film: 200 mm max. □ Polyvinyl chloride film: 200 mm max. □ Internal diameter of paper tube: 76 mm
Film type	□ Polyolefin, polyvinyl chloride (for winding machine)
Recommended film	□ DIAWRAP MS-I □ DIAWRAP SUPER □ DIAWRAP A50
Infeed carrier method	□ Push bar carrier method (with tray centering mechanism)
Film switching method	□ Upper / lower two films automatic switching
Lift changeover method	□ Auxiliary lift connection method (depth direction) Lift: large or small are selectable.
Film carrier method	□ Belt carrier, Film all cut method
Film welding	□ Heater compression method
Cleaning	□ Lift head is detachable (washable except for moving parts of the head) □ Platter is detachable (washable) □ Centering conveyor is detachable □ Heater dust saucer is detachable (washable) □ Infeed unit is drawable
Operability	□ Wrap setting □ Setting data that contains film name and size information for wrapping can be input / output in CSV file.

1.1.3 Tray Detector Performance

Item	Specification
Tray detection method	□ Dimension detection method by color CMOS camera
Tray detection range	□ Long side x short side x height: 380 mm x 260 mm x 70 mm □ Rectangle tray except blue and transparent trays * Circular and fan shape are not supported. □ A tray may not be detected if the edge of the tray is hidden by a product. □ For a tray with the height of 50 mm or higher, the placement position of the width direction is limited.
Light for tray detection	□ 2 white LEDs

1.1.4 Operation unit

Item	Specification
Display	□ 12.1 inch TFT color SVGA LCD (800 × 600)
Input unit	□ Analog touch panel of thin film resistive system. □ Stroke keys (up to 24 keys)
No. of registration items	□ 10000 product masters
Standard input/output	□ 1000BASE-T LAN: 1 channel □ USB 2.0: 4 channels
Main board	□ P-1100 board
OS	□ Linux
Location of the operation unit	□ At the right side of the machine

1

1.1.5 Printer Unit

<table>
<tr><th>Item</th><th colspan="2">Specification</th></tr>
<tr><td>Print speed</td><td colspan="2">□ 120 mm/sec</td></tr>
<tr><td>Label size</td><td>Printer No.1 (left)
□ Width: 35 to 80 mm
□ Top / Bottom: 27 to 105 mm</td><td>Printer No.2 (right)
□ Width: 35 to 80 mm
□ Top / Bottom: 27 to 60 mm</td></tr>
<tr><td>Maximum print width</td><td colspan="2">□ Spec. with label mount: Width 76 mm</td></tr>
<tr><td>Thermal head</td><td colspan="2">□ 3 inch (960 dots), 12 dots/mm thermal head</td></tr>
<tr><td>Diameter of label roll</td><td colspan="2">□ Internal diameter of paper tube: 76 mm
□ Maximum external diameter: 230 mm</td></tr>
<tr><td>No. of storage label</td><td colspan="2">□ Spec. with label mount: 6000 labels
(Top / Bottom 37 mm, label pitch 2.2 mm)</td></tr>
<tr><td>Recommended label</td><td colspan="2">Ishida specific label</td></tr>
<tr><td>Printing accuracy</td><td colspan="2">
<table>
<tr><th>Vertical</th><th>Write position</th><th>Expansion & contraction</th><th>Shift amount = Write position + Expansion & contraction</th><th>Meander</th></tr>
<tr><td>27 to 60</td><td>±0.5</td><td>±0.5</td><td>±1.0</td><td>±0.5</td></tr>
<tr><td>60 to 105</td><td>±0.5</td><td>±1.0</td><td>±1.5</td><td>±0.5</td></tr>
</table>
Unit: mm
□ Two-dimensional codes are 4 dots/cell. * It may not be able to be recognized depending on the quality of the label.
</td></tr>
</table>

1.1.6 Weighing unit

<table>
<tr><th>Item</th><th>Specification</th></tr>
<tr><td>Scale weight</td><td><North America> 15 kg (Canada)
0 g or more and less than 6000 g – scale interval of 2 g,
6000 g or more and up to 15000 g – scale interval of 5 g (multi-interval)
<North America> 30 lb (USA)
0 lb or more and less than 15 lb – scale interval of 0.005 lb,
15 lb or more and up to 30 lb – scale interval of 0.01 lb (multi-interval)
<Europe> 6 kg
0 g or more and less than 3000 g – scale interval of 1 g,
3000 g or more and up to 6000 g – scale interval of 2 g (multi-interval)</td></tr>
<tr><td>Weighing accuracy</td><td>□ 1/3000 (Precision class based on new measurement standards in Japan: Class III)</td></tr>
</table>

1.1.7 Label Applicator Performance

Item	Specification
Labeling method	□ Motor arm method (Arm rotation type)
Applicator moving method	□ XY table carrier method
Labeling position	□ To the horizontal: Four corners To the left vertical: Four corners The attachment position is limited depending on the label length.
Product size for labeling	□ Same as the wrapping size
Applicable label	□ Width: 35 to 80 mm □ Top / Bottom: 27 to 105 mm The suction part does not need to be changed regardless of the label size.
Software Specifications	□ Standard Specifications (Specifications vary for each store.)
ASP (Application Service Provider)	Cloud enabled - Machine information collection - Remote maintenance
Remote maintenance	Machine settings can be checked and changed from the PC.
Compatibility with old machines	Performed using SLP (Service Location Protocol)
Communication with higher level devices	SLP supported
Sleep mode	The unit goes into sleep mode after a certain period of time if unused.

1.1.8 Options

Item	Specification
Option	□ Wand scanner can be connected (USB connected scanner) □ Product name file stand □ Sub printer can be connected (Printer by BIXOLON) □ Wireless LAN (WiPort) □ Human detection sensor □ Built-in lighting

1.1.9 Reliability / product life / standard

Item	Specification
Product life	□ 5 years for use (consumable parts excluded) □ Condition: 3000 packing/day, 350 operating days (4200 hours) 5.25 million packing in five years.
Safety	□ Conforming to Ishida machine safety standards and warnings display standard. □ Conforming to overseas standards <North America> ETL certified <Europe> CE marking compliant
Standards	□ Conforming to Ishida product standards □ Conforming to overseas standards <North America> ETL certified <Europe> CE marking compliant

1.1.10 Memories

The following table shows free space for saving one master data (one record). The following master has memory area that is found by subtracting the area used in this program (4 KB for fixed header) from 4 MB of SRAM size.

Master name	Minimum size [BYTE]	Maximum size [BYTE]	Description
PLU	135	1251	The required size depends on the length of PLU name to be programmed. *"Minimum size" required when not programming character string of PLU name. "Maximum size" required when programming the max. of characters (510 characters).
UNIT PRICE	78		A unit price master is created for each product.
STORE	120	264	The required size depends on the character string length of store name and address to be programmed. *"Minimum size" required when not programming strings of store name and address. "Maximum size" required when programming the max. of characters (47 characters) for store name and address.
INGREDIENT	43	1159	The required size depends on the character string length of ingredient to be programmed. *"Minimum size" required when not programming character string of ingredient. "Maximum size" required when programming the max. of characters (510 characters).
POP	43	115	The required size depends on the character string length of POP to be programmed. *"Minimum size" required when not programming character string of POP. "Maximum size" required when programming the max. of characters (38 characters).
COMMENT	43	1159	The required size depends on the character string length of comment to be programmed. *"Minimum size" required when not programming character string of comment. "Maximum size" required when programming the max. of characters (510 characters).
PRODUCTION AREA	43	115	The required size depends on the character string length of original position to be programmed. *"Minimum size" required when not programming character string of original position. "Maximum size" required when programming the max. of characters (38 characters).
STOREGE TEMPERATURE	43	295	The required size depends on the character string length of storage temperature to be programmed. *"Minimum size" required when not programming character string of storage temperature. "Maximum size" required when programming the max. of characters (118 characters).
STORAGE METHOD	43	295	The required size depends on the character string length of storage method to be programmed. *"Minimum size" required when not programming character string of storage method. "Maximum size" required when programming the max. of characters (118 characters).

Master name	Minimum size [BYTE]	Maximum size [BYTE]	Description
FIX PRICE SYMBOL	43	43	This is a variable length string; however, the required size remains unchanged as its programmable characters are up to 32 bytes. (No. of registered characters doesn't affect the required size)
CALORIE	43	1159	The required size depends on the character string length of calorie to be programmed. *"Minimum size" required when not programming character string of calorie. "Maximum size" required when programming the max. of characters (510 characters).
FREE	44	1160	The required size depends on the character string length of free to be programmed. *"Minimum size" required when not programming character string of free. "Maximum size" required when programming the max. of characters (510 characters).
PACK DATE TITLE	43	43	The required size depends on the character string length of free to be programmed. *"Minimum size" required when not programming character string of free. "Maximum size" required when programming the max. of characters (510 characters).
STORE TITLE	43	43	This is a variable length string; however, the required size remains unchanged as its programmable characters are up to 32 bytes. (No. of registered characters doesn't affect the required size)
CATEGORY	43	43	This is a variable length string; however, the required size remains unchanged as its programmable characters are up to 32 bytes. (No. of registered characters doesn't affect the required size)
TRAY	295	295	This is a variable length string; however, the required size remains unchanged as its programmable characters are up to 32 bytes. (No. of registered characters doesn't affect the required size)
FREE	43	43	This is a variable length string; however, the required size remains unchanged as its programmable characters are up to 32 bytes. (No. of registered characters doesn't affect the required size)
MEMO	7		
FORMAT	2065		
LABEL	32		
CASSETTE	7		
LABEL COMB.	154		
SALES PROMOTION	56		
ERROR LOG	27		
PRODUCTION AREA HISTORY	19		

Master name	Minimum size [BYTE]	Maximum size [BYTE]	Description
PASSWORD	5		
ACTUAL RESULT	297		
TOTAL SALES	136		
TOTAL PER ITEM	48		
TOTAL PER HOUR	15		
TRAY TOTAL	35		
INDIVIDUAL HISTORY	24		
LOT HISTORY	34		
HISTORY PER ITEM	102		
RETENTION	96		
RETAINED UNIT PRICE	78		
QR	51	2319	Currently unused

Fixed length master

1.2 Features

■ Enhanced tray wrapping performance
This machine uses trays of the sizes and shapes that correspond to market trends.

■ Genius wrapping
The torque control motor for driving wrapping plates enables a higher wrapping performance. A tray can be prevented from being crashed in a wrapping route. The dedicated film can be stretched up to 200%.

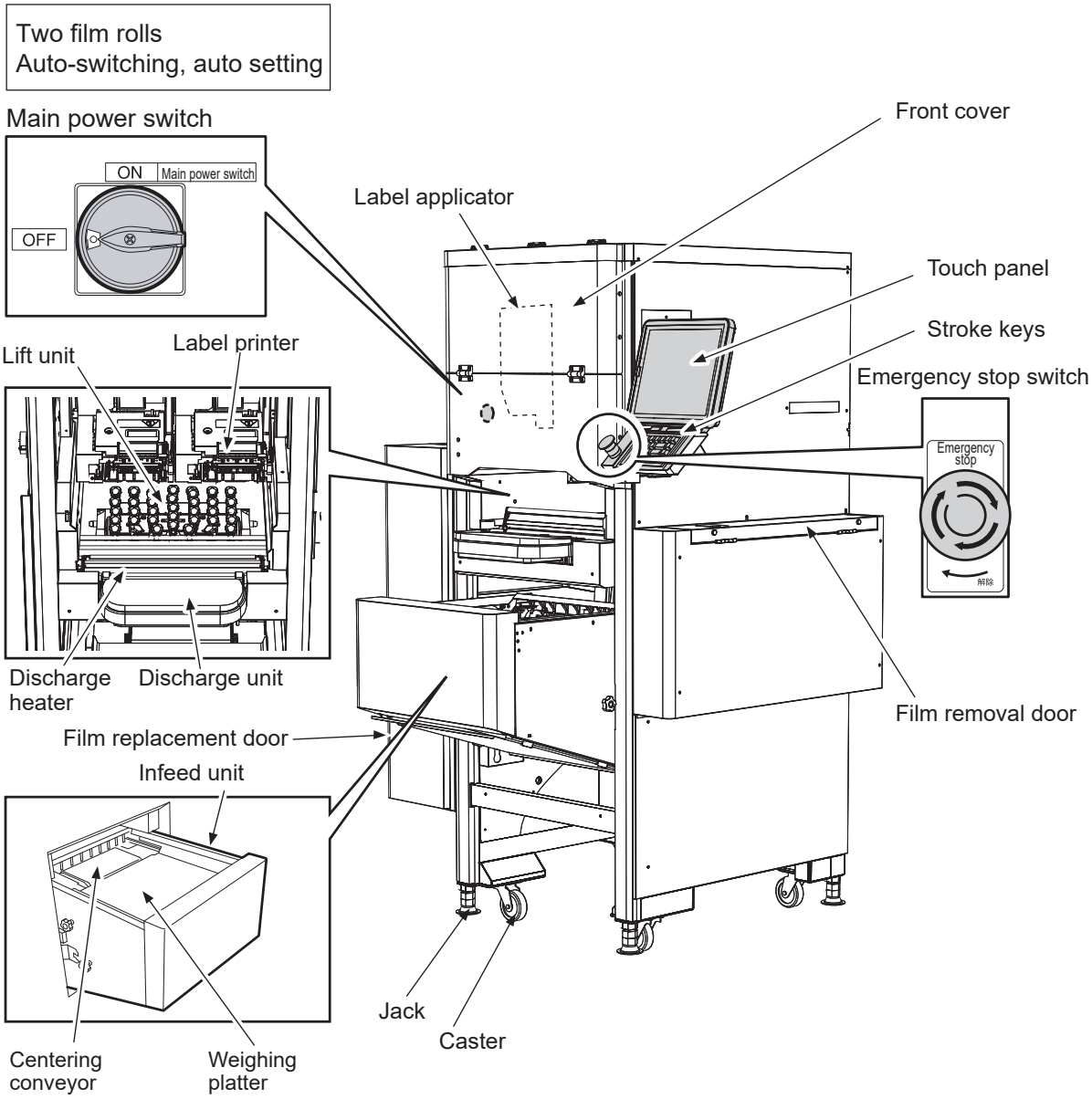
■ Ultra-stretch mechanism
By taking the advantage of dual film, high wrapping performance can be maintained without deterioration in wrapping. With more stretchable wrap, various trays in size, from small to big, can be wrapped.
*Use the dedicated wrap (Ishida wrap UP).

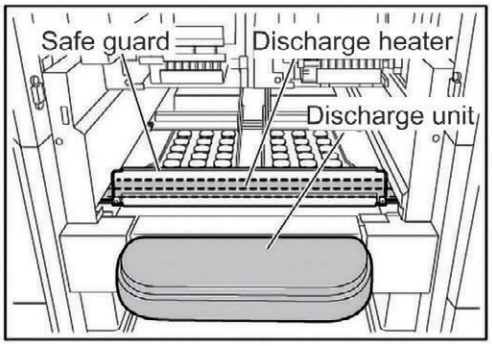
■ Easy tray setting
Automatic setting can be easily performed with the tray automatic detection with greater accuracy. A tab structure is also used on [PROGRAM] screen, which enables users to smoothly change the relevant screens one to another.

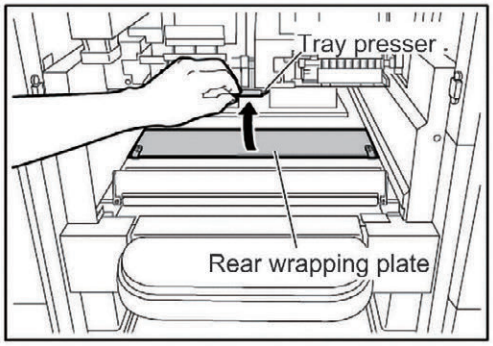
■ Around machine legs
Simple design for easy cleaning. The lift drive part is provided inside the cover so that the cleaning is made easier. Likewise, previous model, its tray conveyance route is detachable.

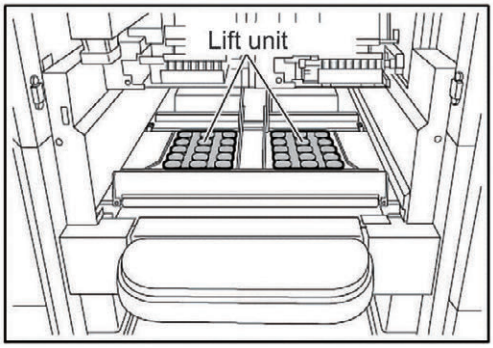
1.3 Names of Parts

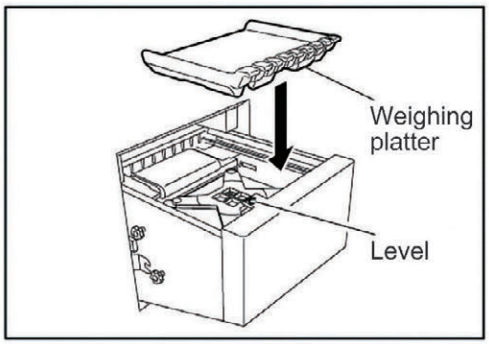
1.3.1 External appearance




Safe guard
Discharge heater
Discharge unit


Tray presser
Rear wrapping plate


Lift unit

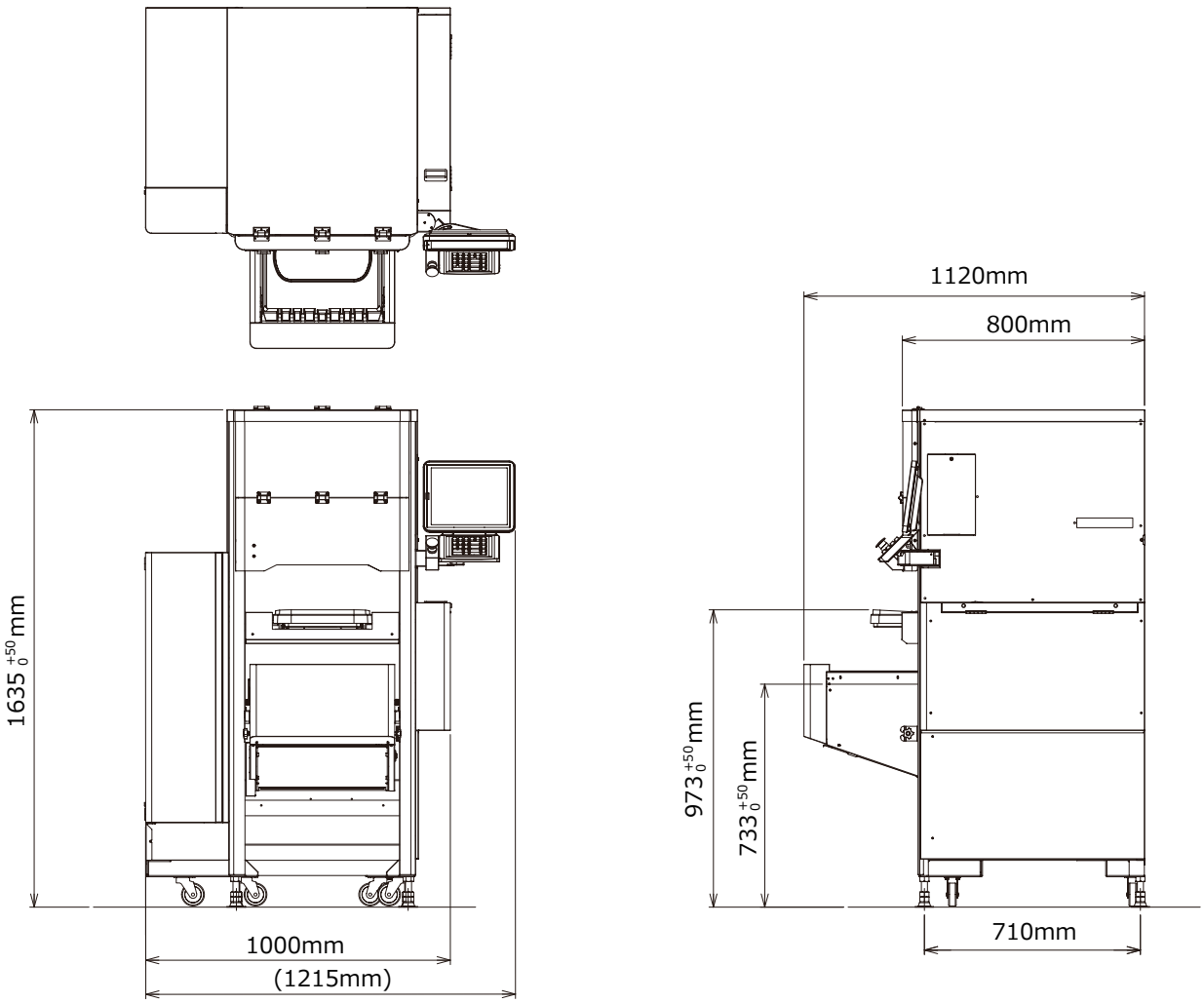

Weighing platter
Level

1.4 Dimensions

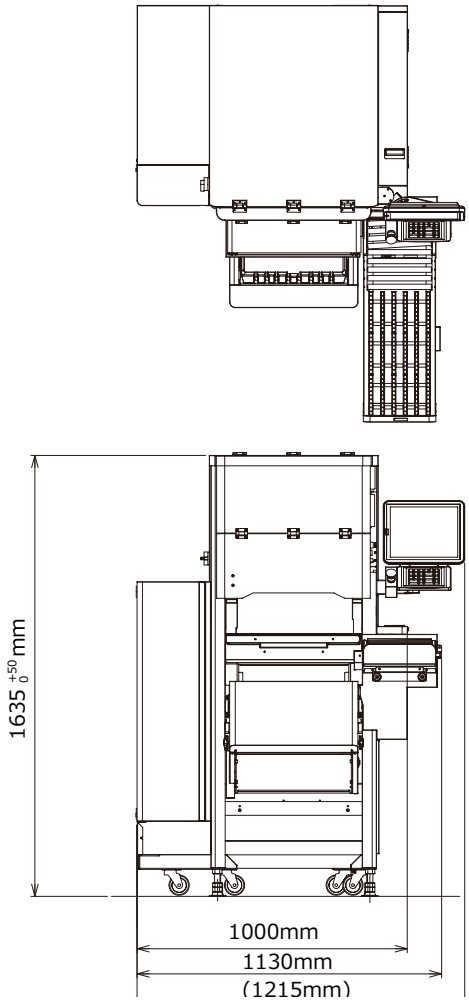
1.4.1 External dimensions

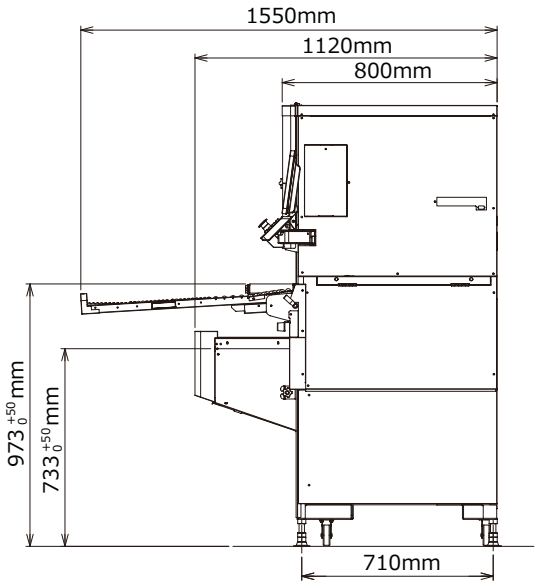
External dimensions are shown in the figures below. Secure a passage route and space for setup and maintenance.

■ Standard type external dimensions



■ JR type external dimensions





Chapter 2

Delivery and Installation

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2.1 Included Items

2.1.1 Included item check

No.	Item	Check
1	BRUSH: CLEANING	☐
2	CLEANER: THERMAL HEAD	☐
3	PACK: UNI-PACK:	☐
4	WEIGHT: CYLINDER:200 g	☐
5	EXPLANATION: WEIGHT:	☐
6	COVER TEN KEY AS:	☐
7	WIRE:	☐
8	WIRE:	☐
9	ACCESSORY: BUSH: SKINTOP	☐
10	ACCESSORY: LOCK NUT:	☐

2.2 Items Required For Installation

2.2.1 Installation tool check

No.	Item	Check
1	Wrench (opposite side 30 mm)	☐
2	Tools (tools usually carried by service personnel)	☐
3	Weight	☐

2.2.2 Installation Environment Check

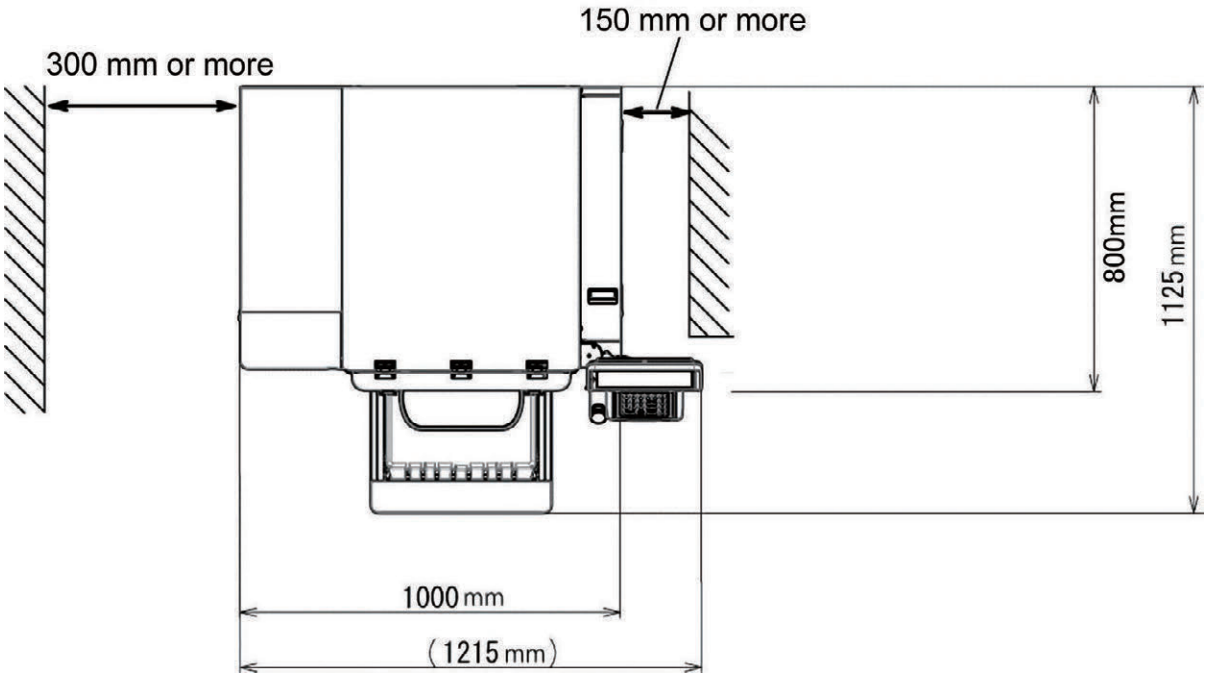
Make sure that the machine installation environment meets the conditions shown in the table below.

No.	Condition	Check
1	Places not exposed to direct sunlight	☐
2	Places not subject to splashing liquid or oil atmosphere	☐
3	Places not subject to considerable dust or dirt	☐
4	Places not subjected to floor vibrations	☐
5	Places where the ambient temperature is within the range between 5 ºC and 35 ºC	☐
6	Places where the humidity is within the range between 20% and 85% (without condensation)	☐
7	Places where the voltage fluctuation is minimal	☐
8	Places not exposed to direct cold air from cooling equipment	☐

2.2.3 Installation spaces

Be sure to allow ample installation space on either side of the machine to ensure easy access for maintenance.

■ Standard type



2.3 Power Supply

- Use a single-phase AC -200V to +240V 50/60Hz, capacity 10A (maximum during normal operation) for the power supply of this machine.
- A breaker needs to be installed in the building.

  The breaker built in the main body is made by Mitsubishi (model number NV-L22FYC 20 A 2P, 100 - 200 VAC, 30 mA). The overcurrent protection is 20 A and the leakage current protection is 30 mA.

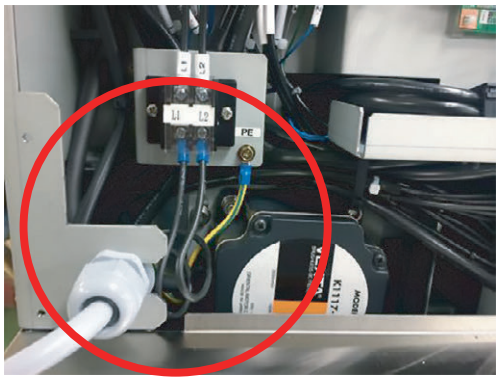
  Since this machine carries 10A of current during wrapping, it is necessary to install a power breaker in the building that can handle the current.

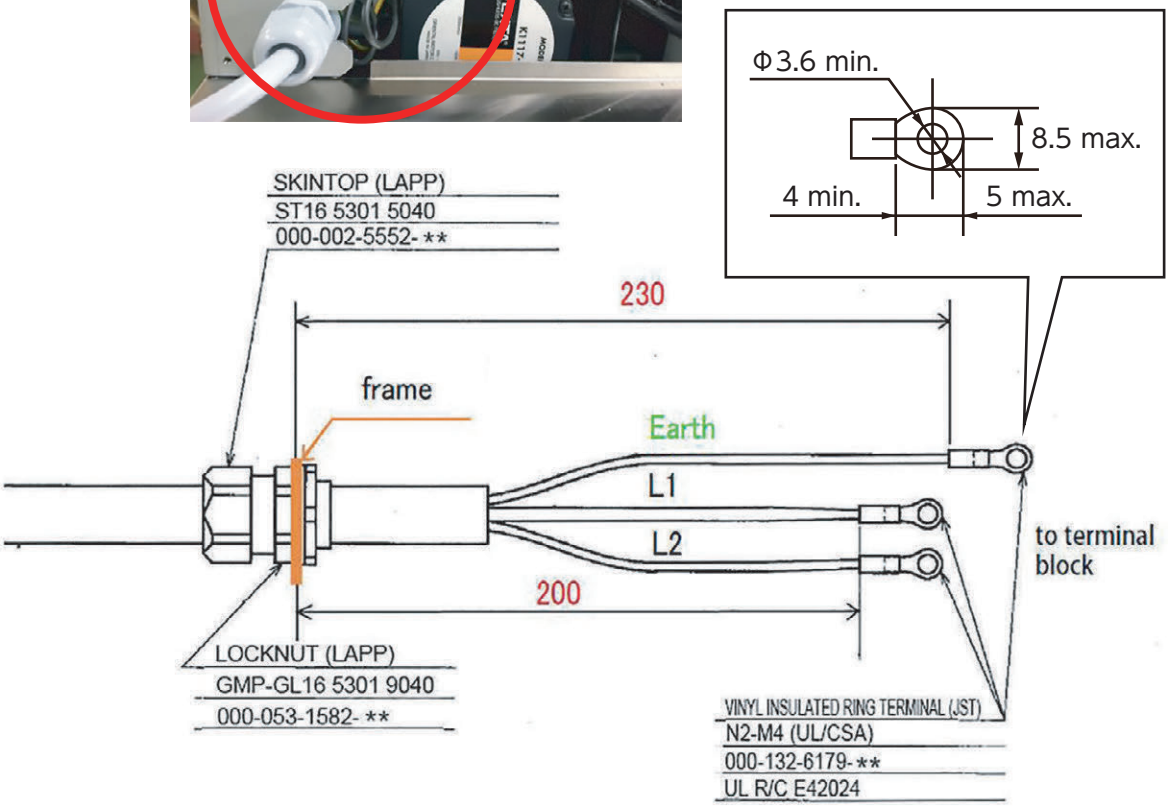
> ⚠ CAUTION
>
> Since this machine operates by switching operation using a servo amplifier and a servo motor, high frequency components are present in the machine. Therefore, a leakage current larger than that of a general commercial power source is generated. Considering leakage of harmonics, it is necessary to install a breaker compatible with harmonics in the building.

> ⚠ DANGER
>
> Electrical work must be performed by qualified personnel.

> ⚠ WARNING
>
> To avoid electric shock, the power supply must be connected to a protective ground.

2.3.1 Cable length from terminal block to skin top

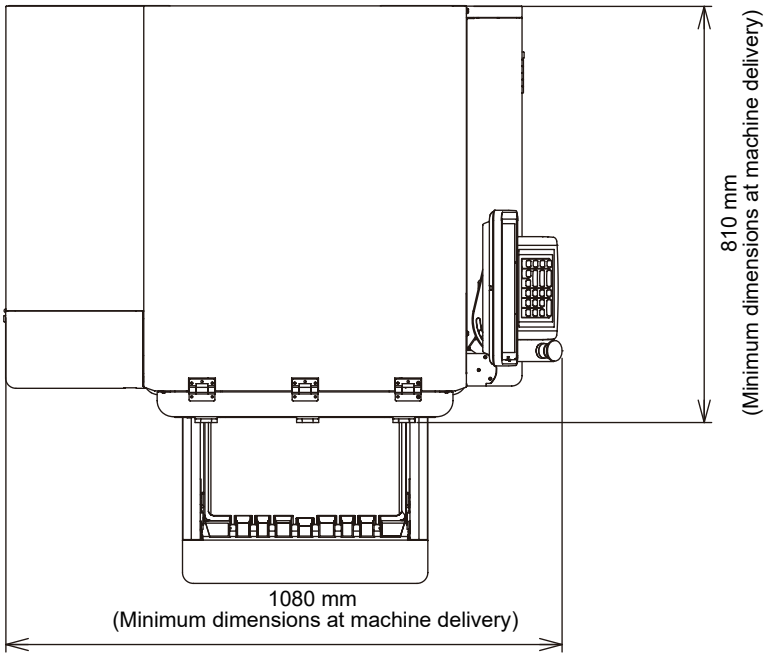




	Description	Remarks
1	The size of the AWG cable of the power supply cord connected to the client's facilities: AWG14	
2	The rated voltage of the cable of the power supply cord connected to the client's facilities: 600 V	
3	Stated that the screws with locking structure are used to mount PE of the power supply cord connected to the client's facilities.	The mounted screws should be used as the product has been shipped with SEMS screws mounted. Tightening torque: 1.0 to 1.3 N • m
4	Stipulation of the length of the ground wire and live wire from Skintop of the power supply cable to the terminal block. (The ground wire needs to be longer than other wires.)	Length of the live wire cable (guideline): 200 mm Length of the ground wire (guideline): 230 mm Skintop of the following model number is included in the machine and shipped. • Skintop: ST16 5301 5040 • Locknut: GMP-GL16 5301 9040

2.4 Installation

Without the infeed unit, the installation site must be at least 810 mm.



REFERENCE

If the machine cannot be carried in due to a narrow passage, remove the infeed unit from the main body. See 2.4.2 "Removing the infeed unit".

2.4.1 Check Sheet

Step	Details	Check
1	Import WM-AI • Assure the passage route • Check the installation site and the strength of the floor along the passage route • Caster diameter is 75 mm • If the machine cannot be carried in due to a narrow passage, remove the infeed unit (See 2.4.2 "Removing the infeed unit")	☐
2	• Remove the air cap sheet that covers the exterior during transport	☐
3	Remove the following protective materials • The rubber bands and cardboard from the feed unit • The air cap sheet and cardboard from the operations unit • The movable operations parts are secured in their shipping position, so remove the screws, insert into the other holes, and secure in the operations position	☐
4	Remove the secure packing materials • Film feeder unit securing cardboard • Insertion plate securing cardboard • Camera unit band • Label applicator left / right securing bands • Label applicator front / back securing cardboard	☐
5	• If the infeed unit has been removed, attach the infeed unit (See 2.4.2 "Removing the infeed unit") • Adjust the height of the 4 adjustment feet (jacks) so that the air bubble in the spirit level is positioned inside the circle (opposite sides of the spanner to be used: 30 mm) (See 2.4.3 "Jack up")	☐
6	• Check the outlet voltage	☐
7	• Mount any optional products	☐
8	• Connect the power supply plug to the single-phase 200 VAC outlet, and turn ON the power supply	☐

⚠ CAUTION

When shipping the machine again, install the packaging materials in the same way as the original shipment.

⚠ CAUTION

About Decommissioning:
When the product is temporarity not in use for diversion or disposal, keep the power cord unplugged and padlock the power switch.

2.4.2 Infeed Unit Removal

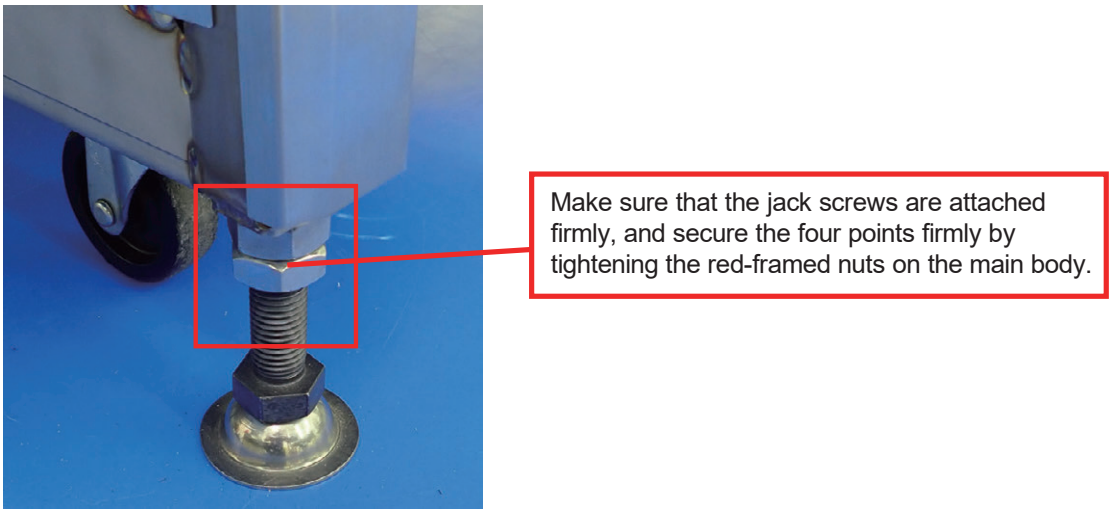
1. Open the cover of the infeed unit and remove the five connectors.
2. Remove both sides of the rail bolt with the hexagon socket M6×15, SW, PW.
   Carefully remove the bolt while holding the infeed unit in your hand, as the infeed unit may fall off if the bolt is removed completely.
3. Remove the infeed unit.
4. When mounting the unit, reverse the procedure.

> **WARNING**
>
> The weight of the infeed unit is approximately 30 kg. Make sufficient preparations before removing the unit.

> **CAUTION**
>
> When connecting the five connectors, make sure that the connectors are properly connected before turning on the power.

2.4.3 Jack up

1. Adjust the level using the spirit level assembly for the scale.
2. Use jack screws to secure it in place.



3. Make sure that the four jacks are firmly attached and the main body does not rattle.

NOTE

- If the screws of the jack are not firmly fixed, vibration of the machine may result in poor weighing stability.
- Raise the jack screw casters to a height where they can rotate freely.
- Install the jack screws in a position where they do not come into contact with the side groove lid, etc.

2.5 Machine Settings

2.5.1 Items required for setup

- USB flash drive (containing user data)
- Weight (6 kg, compatible with Class 2 standards)

2.5.2 Check sheet

Procedure	Item	Check
1	• Checking the clock	☐
2	• Software version updates, peripheral app version updates	☐
3	• Measurements check	☐
4	• Enter the license code and make the system settings	☐
5	• Enter the master data	☐
6	• Make the I2NET or LAN settings	☐
7	• Set the film	☐
8	• Age the film	☐
9	• Select the film type	☐
10	• Select the film width	☐
11	• Adjust the position at the front and back of the film roll (securing position)	☐
12	• Adjust the film roll brake	☐
13	• Adjust the spikes During shipping, the distance between the central pin spikes is set to 78.2 to 78.5 mm. (The standard Ishida Wrap paper tube diameter is 76 mm) Adjust the spikes if the force of the resistance when threading the spike is too great, or the paper tube slips during braking. See Chapter 2 "2.5.4. Film Spike Adjustment ■Adjusting the Projection Amount of the Pin Spike"	☐
14	• Adjust the film centering	☐
15	• Adjust the camera To improve detection accuracy, adjust the automatic recognition using the actual operating conditions. • See Chapter 6 "6.15.2 Camera (Adjustment)".	☐

16	• Adjust the sensors on the lift [Factory settings] Adjust the sensors using RISUPACK tray "GS 20-12C < Standard tray>" 200 x 120 x 20 mm. • If using the transparent tray and a plate tray at a height of 10 mm, etc., adjust the sensor sensitivity. See Chapter 3 "3.2.7. Lift Unit ■About the adjustment of the sensor on the lift"	☐
17	• Adjust the tray presser height	☐
18	• Set the labels See the user manual Chapter 1 "Setting the Labels"	☐
19	• Adjust the printer [Factory settings] Specifications with mount: width 60 mm, height from ground 37 mm, gap 2.2 mm If using a different label size from the factory default, make adjustments as described below 1) Adjust the label guide width 2) Adjust the distance of the label sensor hardware 3) Adjust the guide roller position 4) Adjust the label sensor sensitivity 5) Adjust the label printing and peeling	☐
20	• Adjust the suction	☐
21	• Adjust the pasting position	☐
22	• Tray registration and usage period	☐
23	• Adjust the aggregate adding. Clear the aggregate	☐
24	• Process the wiring	☐
25	• Check the labels	☐

⚠ WARNING

Be sure to disconnect the power supply plug from the outlet before removing the infeed unit and the adjustment mechanism.

⚠ CAUTION

Disconnect the power supply plug after at least one minute has elapsed after turning off the power switch.

2.5.3 Program update

■ Making preparations

1. Create a folder named "Soft" in the root directory of the USB flash drive. When entering a name, either lowercase or uppercase can be used because both letters are treated as identical.
2. Copy "AI software for upgrade" to the "Soft" folder in the USB flash drive.

> ⚠ CAUTION
>
> Do not turn off the power while copying programs.
> Do not remove the USB flash drive while copying programs.

■ Upgrading machine software

1. Select either “USB > MAIN (PRG + IMG)” or “USB > MAIN (ONLY PRG)”.
2. Select "Soft" from the programs displayed on the Main tab.
3. Touch the [EXEC] button.
4. A confirmation message appears, prompting you to download the program on your machine.
5. Touch the [EXEC] button to upgrade the program.
6. When a progress message appears, wait until the copy is complete.
7. A confirmation message appears, prompting you to restart the machine, remove the USB flash drive, and restart the machine.

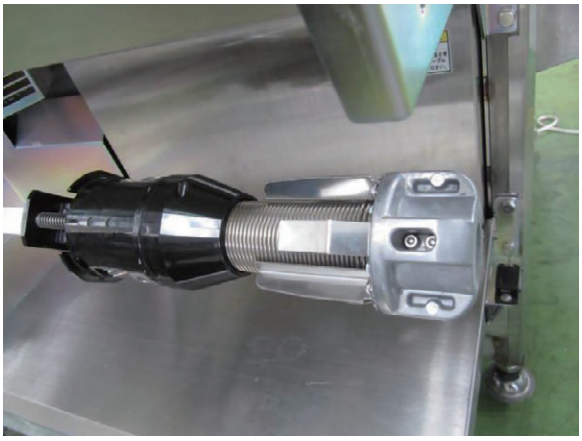
■ Upgrading sub-applications

1. Display the [DOWNLOAD] screen in ADJUST mode again.
2. Press the [Sub Apps] tab to display a list of sub-applications.
3. Select the latest software for the detector and wrapping machine. Multiple programs cannot be selected for the same sub-device. The default setting of the source copy program is [MAIN].
4. Press the [EXEC] button.
5. A confirmation message prompting you to download the sub-device program appears.
6. Press the [EXEC] button to upgrade the program.
7. Display the [FIRMWARE DETAILS] button in ADJUST mode to check the version of each software.

2.5.4 Film spike adjustment

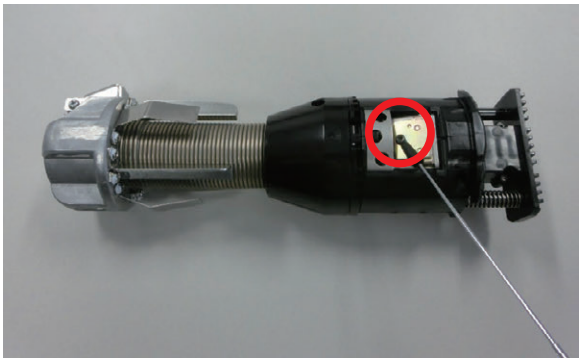
1

Remove the holding bar.



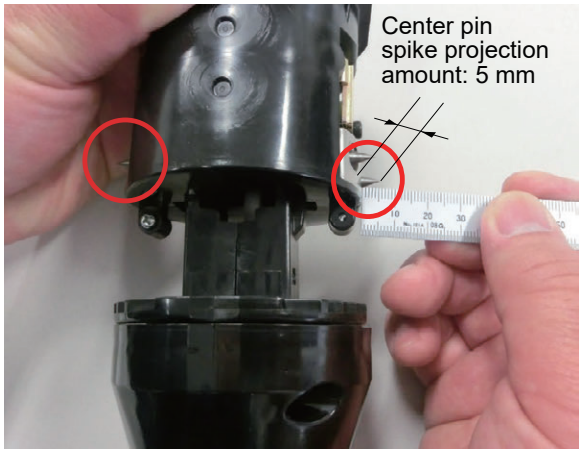
2

Adjust the projection amount of the pin spike by turning the hexagon socket adjustment screw.



3

Adjust so that the projection amount of the center pin spike out of the three spikes is 5 mm.



NOTE

If the film roll is idling or over-tense, adjust the projection amount of the pin spike to the optimum tension for the film roll. Adjust the projection amount of the pin spike based on genuine Ishida film roll.

NOTE

The projection amount of the pin spike is adjusted to 5 mm at the factory.

4

After the adjustment is complete, apply LOCTITE to the adjustment screws.

CAUTION

The pin spikes are sharp and should be handled with care to avoid injury.

2.5.5 Film roll front/back position adjustment

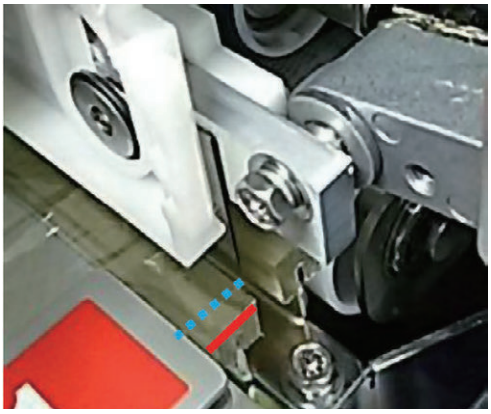
After repeating film feeding several times, adjust the setting position of the film roll so that the edge of the film is inside the blade of the cutter. Change the position of the shaft holder roll on the holding bar.

1

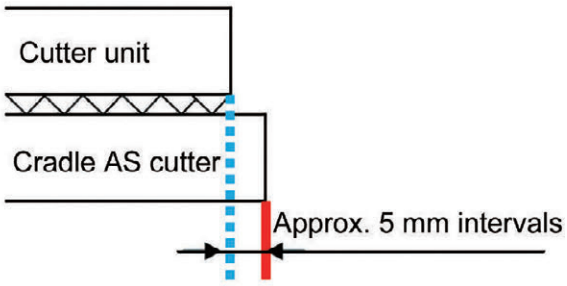
Insert the holding bar into the shaft in the correct direction.

2

There is a difference between the cutter cradle and the cutter blade, as shown in the diagram below. Make sure the edge of the film is inside the blade of the cutter (inside the dotted blue line).



As a benchmark, check that the film does not protrude from the resin plate on the cutter unit.
If the film protrudes, go to the next step to make adjustments.

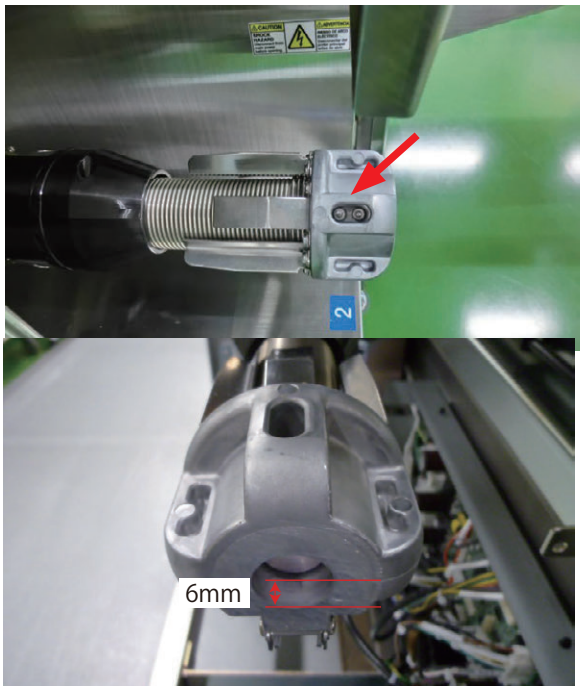


3

Adjust the position of the screw holes on the film holding bar in 5 mm units.

After adjustment, be sure to apply LOCTITE to the screws in this area to secure the tightening torque.

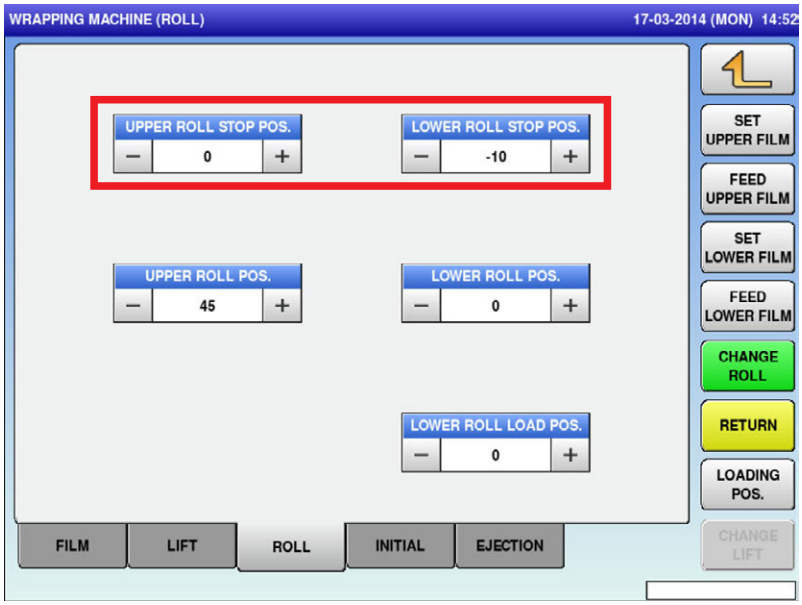
Note: At the time of shipment from the factory, the tip of the shaft is installed 6 mm from the folder assembly.



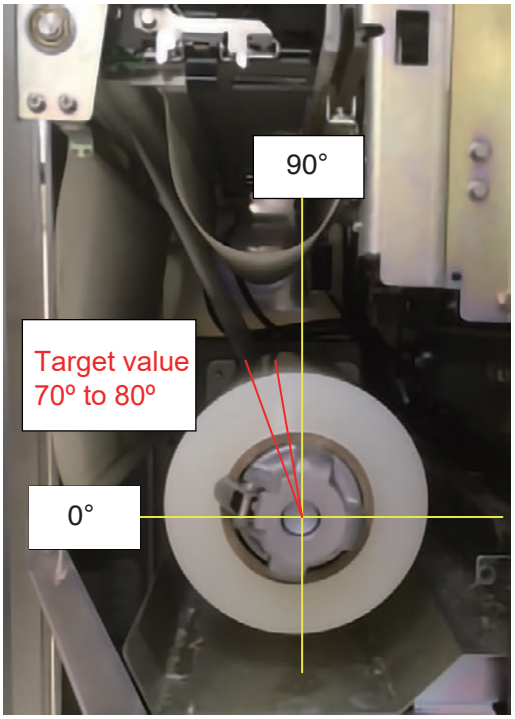
2.5.6 Film roll brake setting

NOTE

Failure to make adjustments may result in the following nonconformities.
- If there is almost no film left, the film may not reach to the right. (i.e., the film skews to the left without running straight)
- Failed to feed the film
- Wrinkles are likely to occur during wrapping

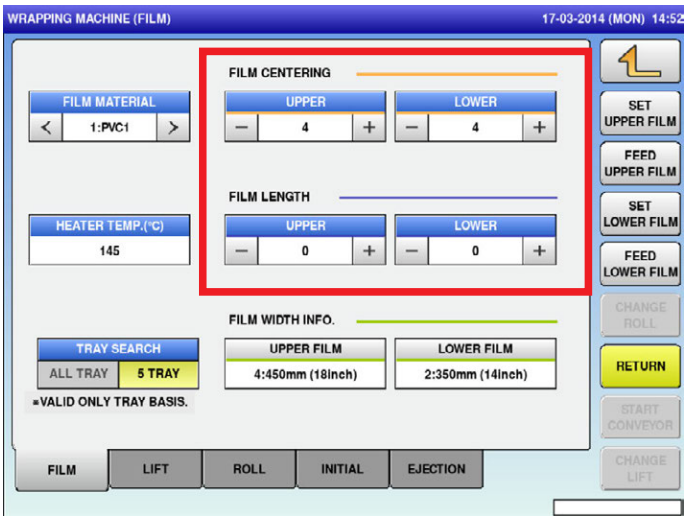


The factory default top (UPPER ROLL STOP POS.) and bottom (LOWER ROLL STOP POS.) roll stop positions are set to "0", so set a new film to be used by the user and adjust the film roll stop position (ROLL STOP POS.).



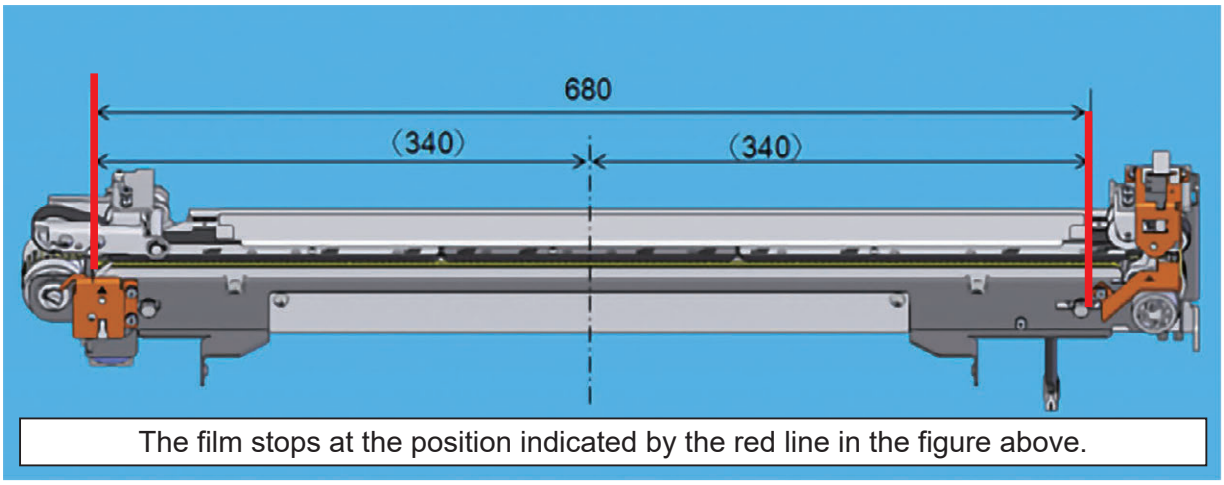
The initial feed of film after loading has no information on the film roll diameter (remaining film amount) at the time of the previous wrapping, so the film feed speed is slowed down to ensure stable feeding. At this time, the remaining amount of film is detected by the encoder installed on the back. Feed the new film 4 or 5 times before checking the roll stop value (film peeling position).
If the condition after feeding the film 4 or 5 times is within the range of the two red lines shown on the left photo, everything is normal.
If the film width is short, the inertia during film roll movement is small, so the brake settings are often negative values. Conversely, if the film width is long, the inertia during film roll movement is great, so the brake settings are often positive values.
If the peeling position exceeds 80º and the film diameter is great (the film is nearly new), the film will tear easily and the film feed will fail.
If the peeling position is less than 70º and the film diameter is small (there is almost no film left), the film will not reach to the right, the film feed will fail, and the film will wrinkle easily. (e.g., The film will get caught in the feeder and become stretched, then shrink when cut and not adhere to the cradle, so the next feed will fail.)

Adjust the fim centering and the film length.



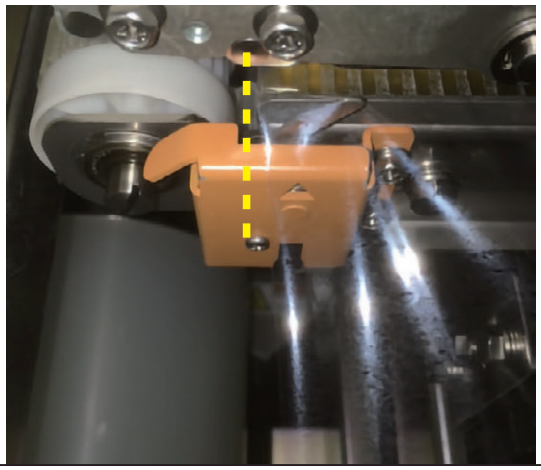
The factory default upper and lower roll stop positions are set to "0", so set a new film to be used by the user and adjust the film roll stop position.

The default adjustment values are set for the film centering and film length adjustments. Depending on the film, the stop position will vary greatly, so check and adjust again.

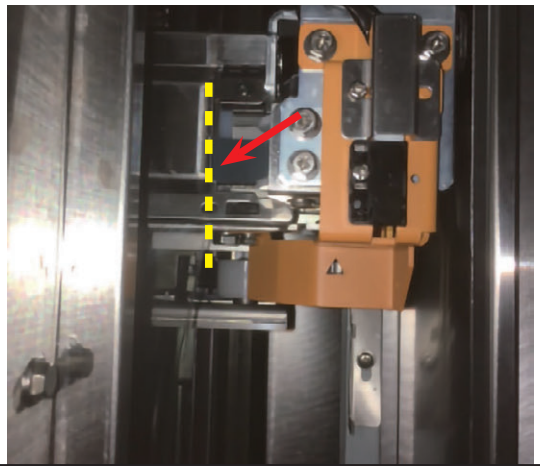


The film stops at the position indicated by the red line in the figure above.

Left side: Check the position indicated by the red arrow and adjust the film so that the edge of the film is directly under the edge of the cover (yellow dotted line).



Right side: Check the position indicated by the red arrow and adjust the film so that the edge of the film is directly under the edge of the cover (yellow dotted line).



Even if the machine is in normal condition, the film stop position will vary by approximately ±1 cm.

2.5.7 Camera adjustment

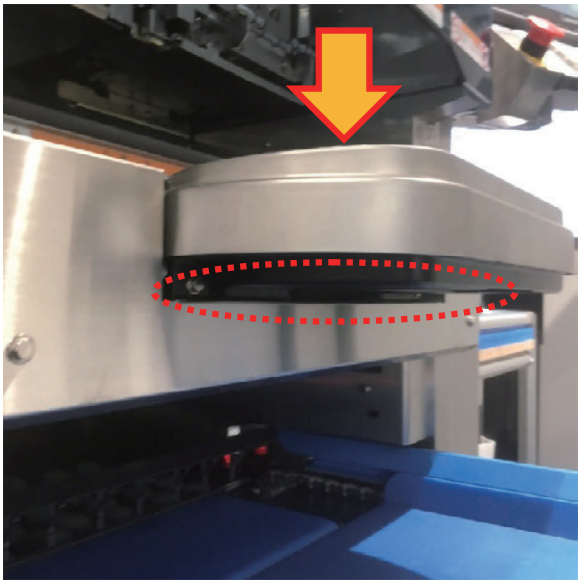
To improve the camera detection accuracy, perform automatic recognition adjustments under the following environment.

- Close all the covers on the wrapping machine.
  Making adjustments with the cover under the camera removed may make automatic adjustment impossible.
- Make adjustments after jacking up at the installation site.
- Make adjustments using the same level of lighting as the actual operation.
- After recovery, return the centering conveyor and the feed bar to their home positions.

■ Setting porcedure

1

Gently push the extruder (camera) down so that the camera makes firm contact with the frame.

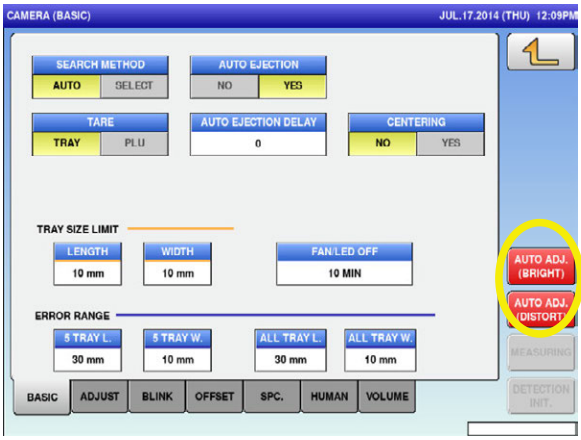


2

Perform automatic adjustment (brightness).

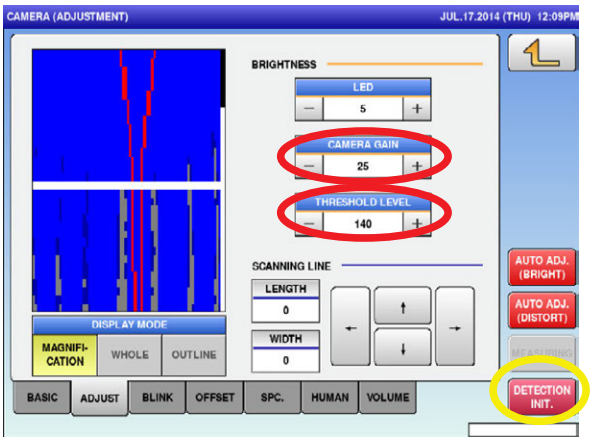
3

Perform automatic adjustment (distortion).



4

If the automatic adjustment fails in steps 2 and 3, perform full initialization of the detector (set the camera gain and threshold to "0" and press the [Detection Initialize] button) and then make settings from step 2 again.

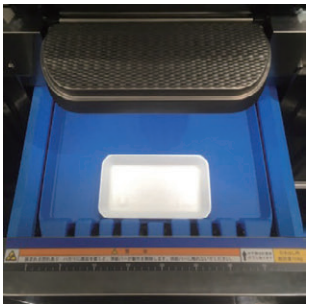


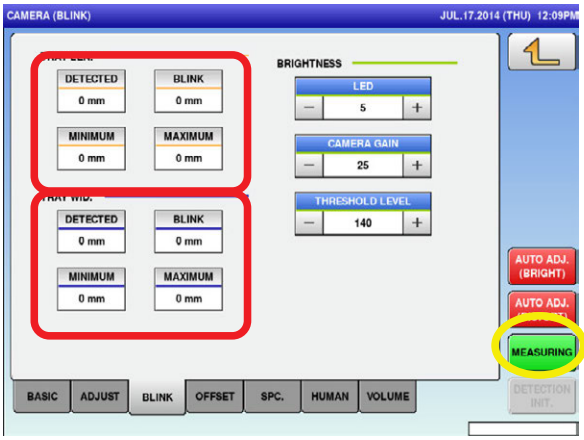
1

5.

Place the tray on the scale and press the [Measuring] button.
Wait about 10 seconds and then check the flicker width value.

If the width of the tray is 12 mm or less and the depth is 6 mm or less, the tray can be detected. If these values are exceeded, register the tray with the settings of "No tray detection" and "No centering".



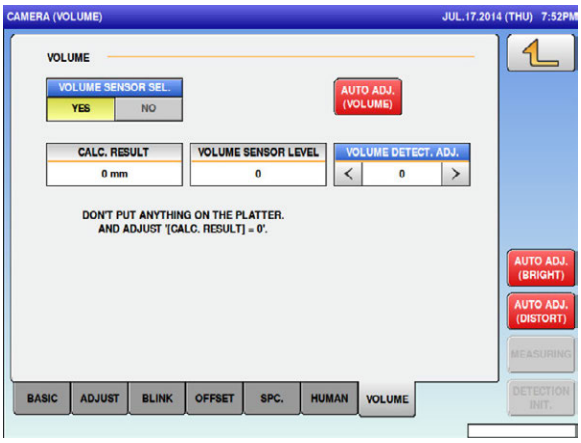


NOTE

Compensating for the detection of hard-to-detect trays increases the possibility of false detection of dirt on the scale, etc.

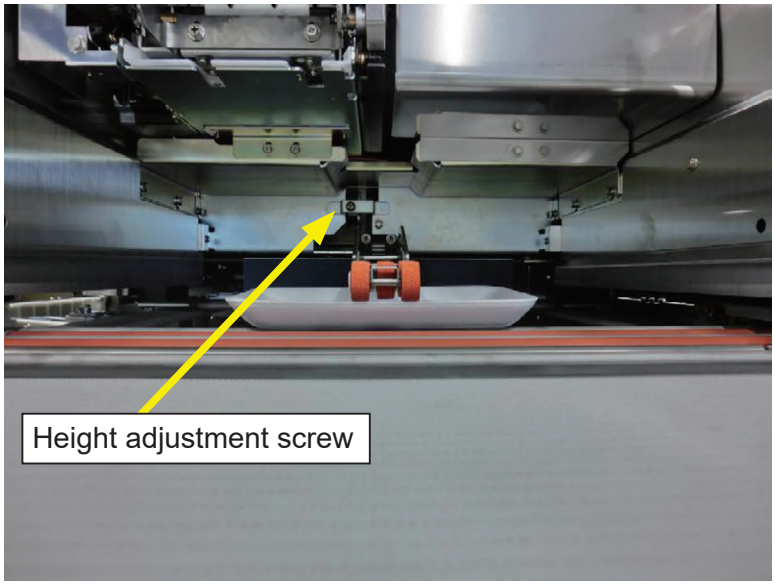
6

Press the [Automatic Adjust (Volume)] button.



2.5.8 Tray presser height adjustment

The tray presser is calibrated for 25 mm high trays at the time of shipment from the factory. The tray presser is calibrated for 25 mm high trays at the time of shipment from the factory.
(The recommended value is the height at which a low backed tray can be pressed approximately 5 mm)
*If only trays with a height of 25 mm or more are used, no adjustment is necessary.



1

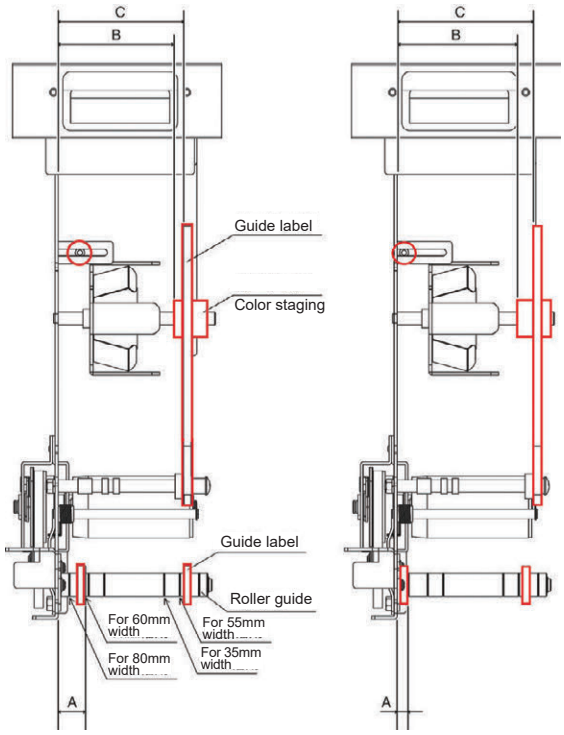
2.5.9 Printer adjustment

The relevant parts are shown below. For more information on adjustments and changes, see "Chapter 2. Mechanical Adjustments".
Set the format and issue patterns before making adjustments. (Enter the master using file I/O.)

1

Adjustment of label guide width

When shipped from the factory, the width is set for a 60 mm label (62 mm mount when mount is used). Adjust the width when other labels are used.



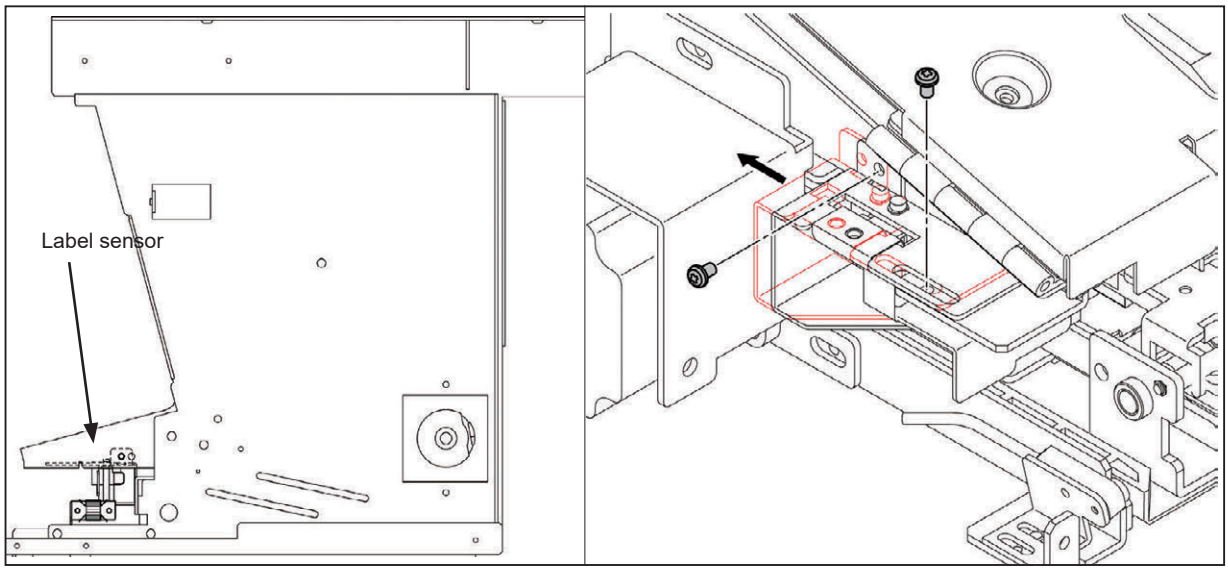
Label width
35mm to 70 mm

Label width
71 mm to 80 mm

2

Adjustment of label sensor distance hardware

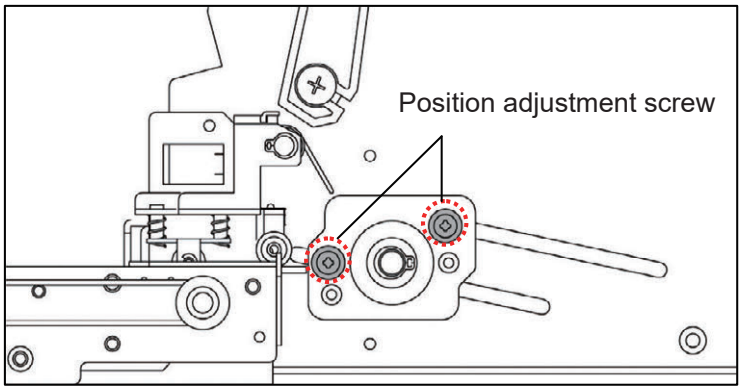
If the stop position of the label gap is below the label sensor after label feeding, adjust the label sensor position.
(If the gap stop position is bad, a label end error or a label size error is more likely to occur.)

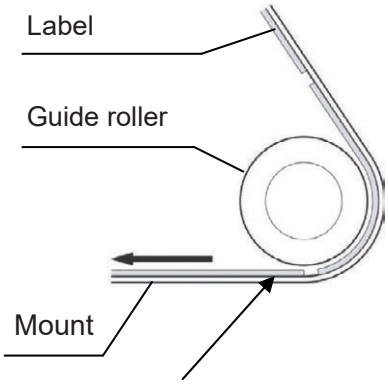


3

Adjustment of guide roller and pressing bracket position

Adjust the guide roller position to reduce the effect of the label's curl caused by the guide roller. Check the status immediately after idle-feeding.





To prevent curl from occurring on the back part of the label, adjust the back part to be straight.

4

Adjustment of label sensor sensitivity

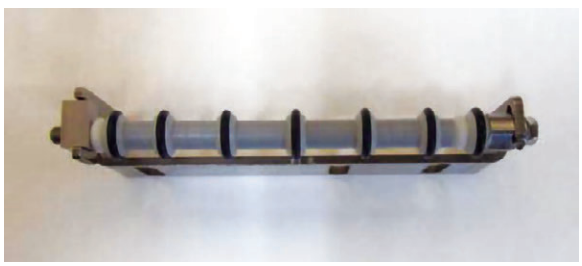
Select "Printer" → "Paper feed" tab, and press the [Detail] button to display the detail setting screen. Then make the following adjustments.

Increase the sensitivity of the label sensor so that the difference between the top of the wave pattern and the level ground is 100 or more. In addition, the top should be less than 255.

Adjust the front and back positions and the height of the label standby roller.

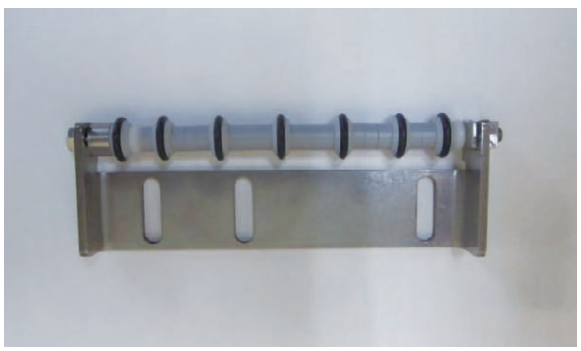
5

Change of roller layout (gap) of the label standby roller.



6

Adjustment of position and height before and after label wait roller

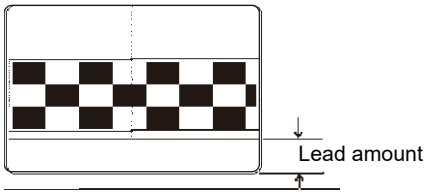


7

Adjustment of label printing and peeling

Follow the procedure below.

1) Input the actual gap size.
2) Input the lead amount.
   Regular printer: 9.5 mm - gap
   POP printer: 11.0 mm - gap
3) Input the lead stop amount.
   Regular printer: lead amount - 3 to 3.5
   POP printer: lead amount - 4
4) Set the label sensor distance. (It is set at the factory)
   Adjust the label line distance so that the distance between the horizontal line at the bottom of the label and the bottom edge is the same as the lead amount at the time of printing.



5) Check the peeling condition visually.
   Press the [PRINT] key after changing to use the two-step printing function (for operation check), and confirm that the first step is printed (up to the position where suction is being prepared).
   Then press the [PLU] key to ensure that the label is printed until it peels off completely (to the actual suction position).
   In this condition, make sure that the label is completely peeled off from the mount. In case of poor peeling, set the lead amount to +1 mm to ensure complete label peeling.

8

Recheck items 1 to 7.

Changing the gap amount, lead stop position, and label sensor distance changes the label stop position. Consequently, it may be necessary to readjust items 2 and 3.

2.5.10 Label applicator adjustment

Although the suction position is set at the factory, make the following adjustments if suction fails.

■ If the label remains on the standby roller

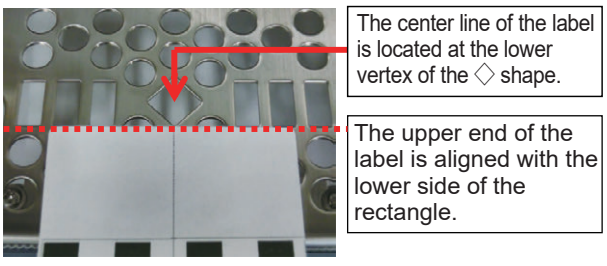
Adjustment	Advantage	Disadvantage
Raise the height of the standby roller unit.	Improved peeling condition	Increase in the risk of coming into contact with the label applicator just before the label is sucked because the label is raised
Lower the suction position of the label applicator by 0.5 mm from the ring of the standby roller.	Factory default position Improved peeling condition	Stronger adhesion to the standby roller
Lower the suction position of the label applicator by 1 mm from the ring of the standby roller.	Weakened adhesion to the stand-by roller because there is no pressure on the standby roller	Worsened peelability
Increase the lead stop amount by 1 to 2 mm.	Improved peeling condition	Labels are more likely to fall off before they are sucked.
Increase the lead amount by 1 mm.	Improved peeling condition	If the lead amount is increased too much, the label will be rolled up without being peeled and pressed against the standby roll-er, resulting in stronger adhesion.
Enter 10 for the label edge cut delay time of the printer	Improved peeling condition	Degraded capabilities

■ If the back of the label is in contact with the label applicator due to label warpage

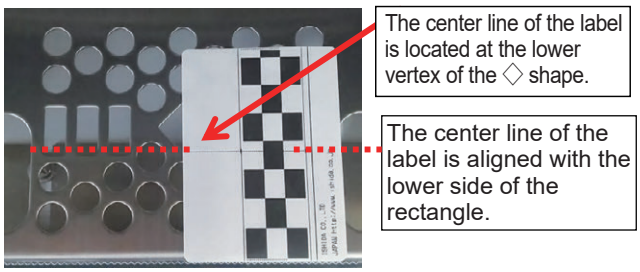
Adjustment	Advantage	Disadvantage
Lower the standby roller	The label lowers	Peeling becomes worse
Review the guide roller position of the printer unit	The warping position changes The warping angle changes	–

After the adjustment, stick 50 labels at 0º and -90º respectively on the continuous operation tab, and make sure that no suction error occurs and that the labeling position is not greatly displaced.

Check the label application at 0° and -90° on the position tab, and make sure it is applied at the following reference points.



Labeling at 0º



Labeling at -90º

NOTE

- The labeling position is slightly displaced each time labeling is performed, so it is not possible to label each time exactly as shown in the photo. This displacement should be taken into account when making adjustments.
- When changing the labeling control, use the initialization tab to change the height reference of the tray.

2.5.11 Operation check

■ Label printing check

Check the printing status with the labels used by the user.

■ Wrapping machine check

Check the wrapping status with the trays used by the user.

2.5.12 User's Manual

Explain to the user how to operate the machine and precautions for handling it based on the user's manual. Make sure that the customer has fully understood your explanation.

2.5.13 Warranty card

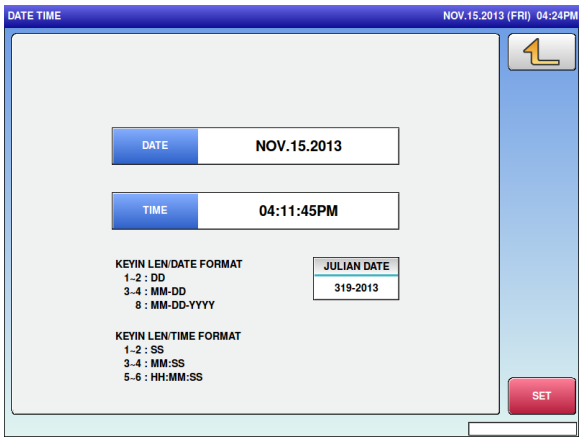
Fill out the warranty card and hand it over to the user.

2.5.14 Various settings

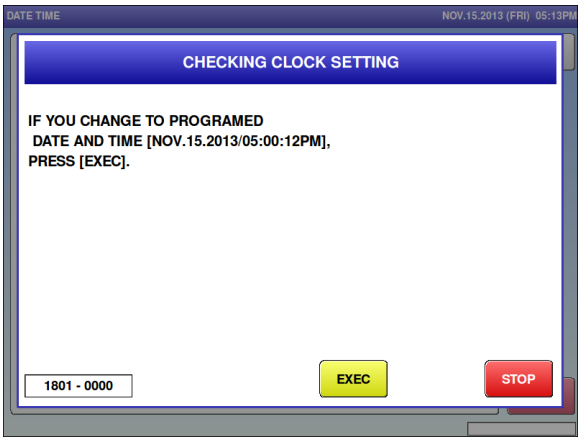
Make various settings "Setup Mode" and "Adjust Mode" on the maintenance screen with access rights managed by login.

REFERENCE

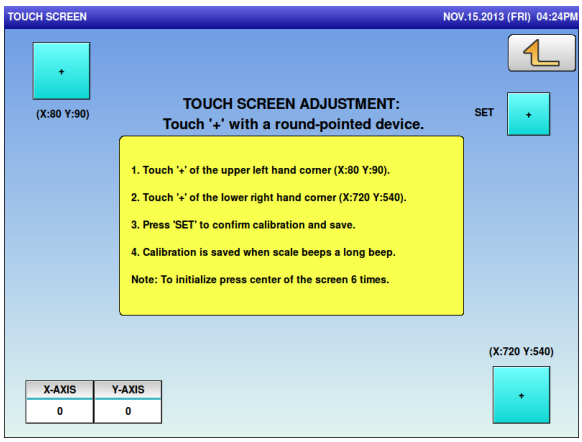
For the individual operations, refer to Chapter 5 Setup Mode and Chapter 6 Adjustment Mode.



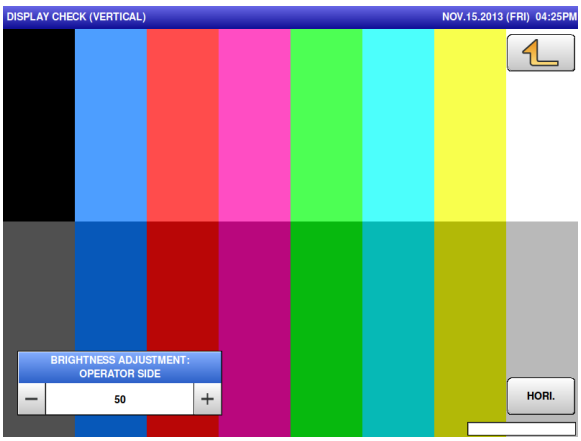
Screen 1: Date / Time



Screen 2: Checking clock setting

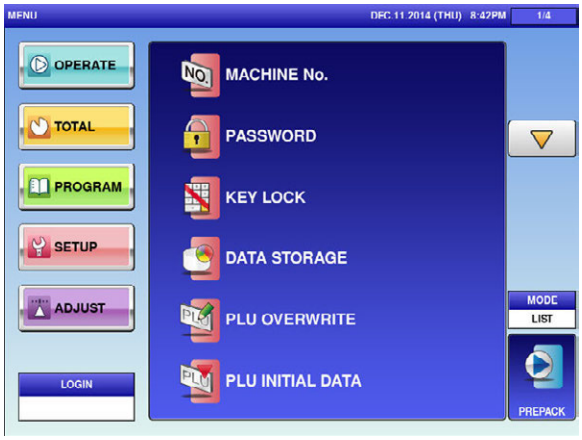


Screen 3: Touch screen

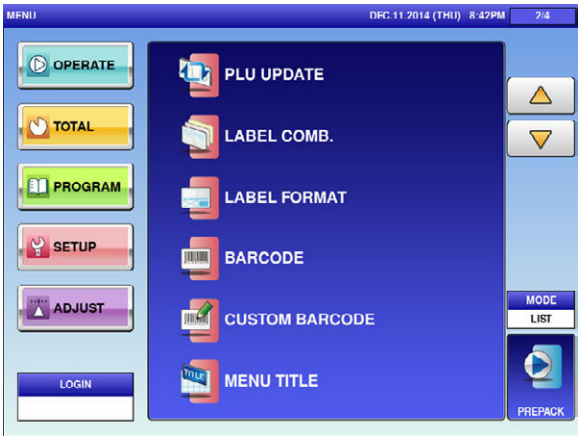


Screen 4: Display check (vertical)

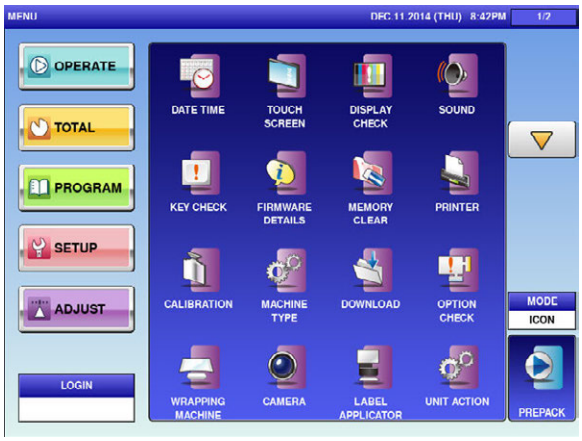
- The following settings can be made on the maintenance screens in "Setup Mode" and "Adjust Mode".
- To display the maintenance screen, enter the password "495344" using the numeric keypad and press the [LOGIN] button on the normal menu screen.



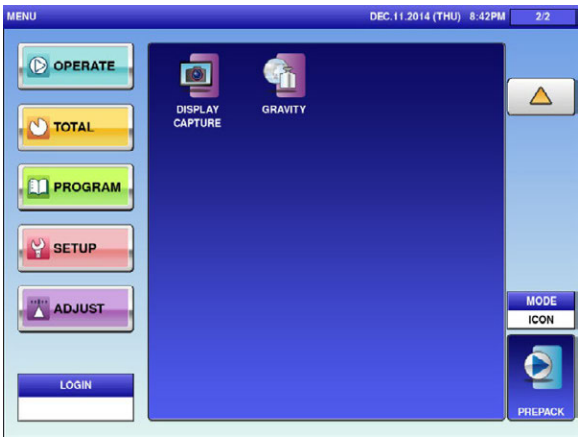
Screen 5: “Setup Mode” after login (1/2)



Screen 6: “Setup Mode” after login (2/2)



Screen 7: “Adjust Mode” after login (1/2)



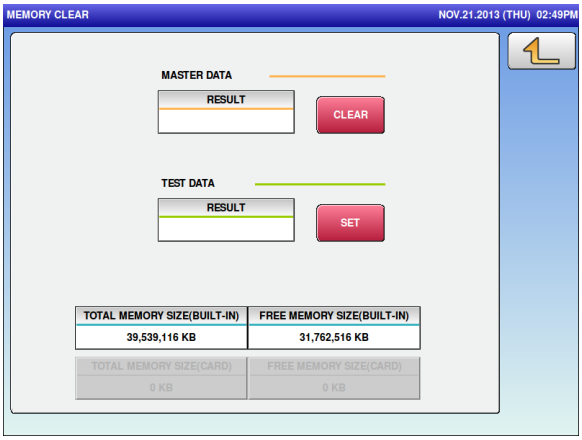
Screen 8: “Adjust Mode” after login (2/2)

1

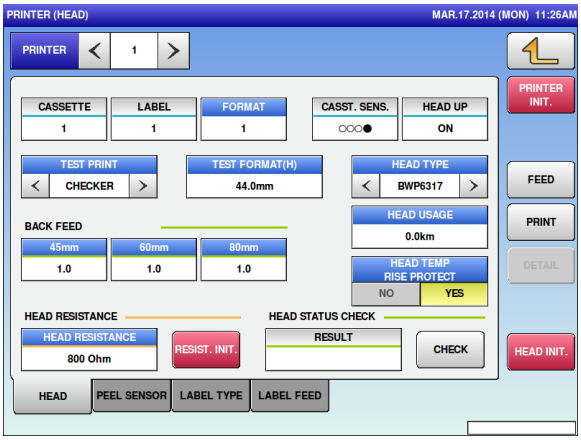
(1) Mandatory adjustment items

- MEMORY CLEAR (Adjust Mode) .....See screen 9.
- PRINTER (Adjust Mode).....See screens 10 to13.
- WRAPPING MACHINE (Adjust Mode) .....See screens 14 to 18.
- CAMERA (Adjust Mode) .....See screens 19 to 25, or Chapter 2 “2.1.4 Camera Unit”.
- PLU INITIAL DATA (Setup Mode) .....See screens 26 to 32.
- LABEL COMB. (Setup Mode) .....See screens 33, 34.
- LABEL FORMAT (Setup Mode).....See screens 35.
- ERROR PROCESS (Setup Mode).....See screens 36 to 38.

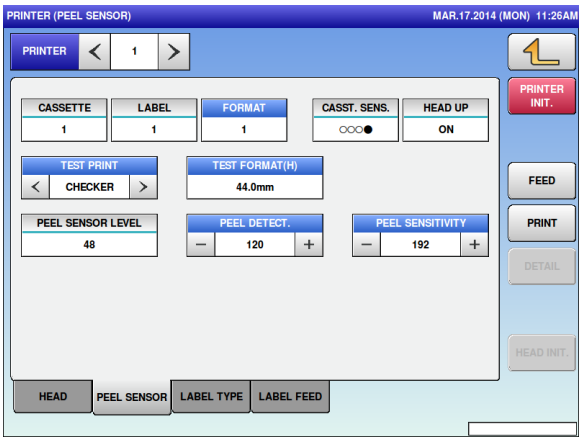
Mandatory adjustment item screens



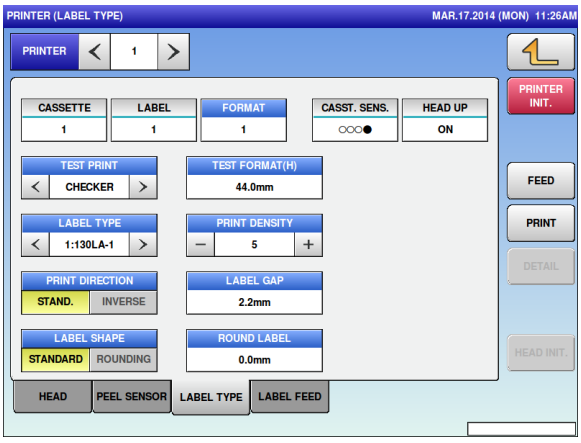
Screen 9: Memory clear



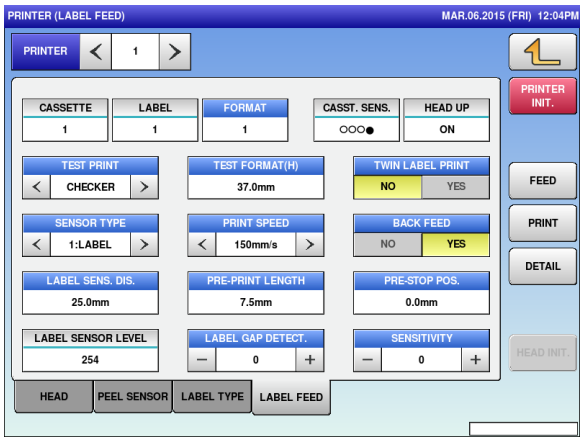
Screen 10: Printer (Head)



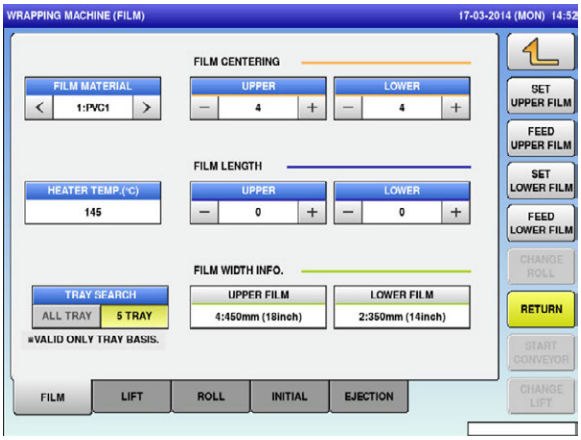
Screen 11: Printer (Peel sensor)



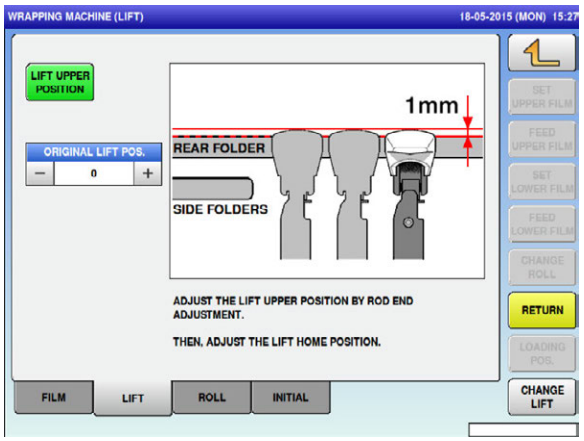
Screen 12: Printer (Label type)



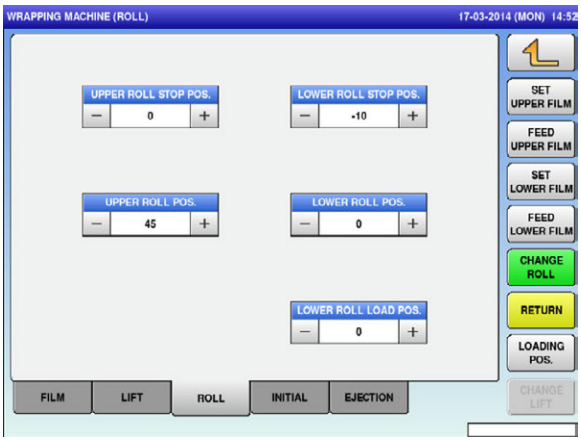
Screen 13: Printer (Label feed)



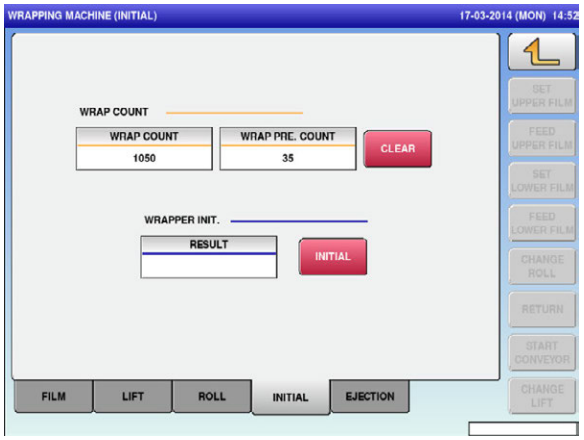
Screen 14: Wrapping machine (Film)



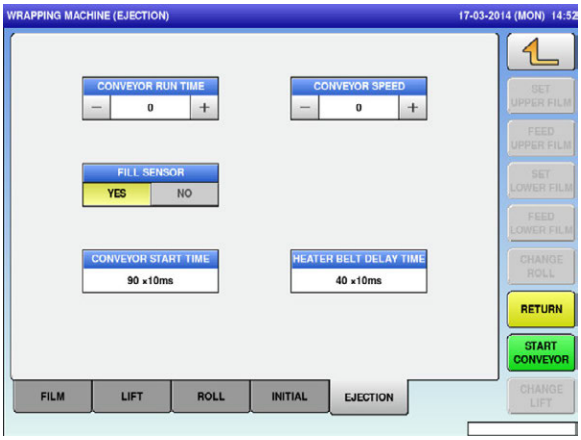
Screen 15: Wrapping machine (Lift)



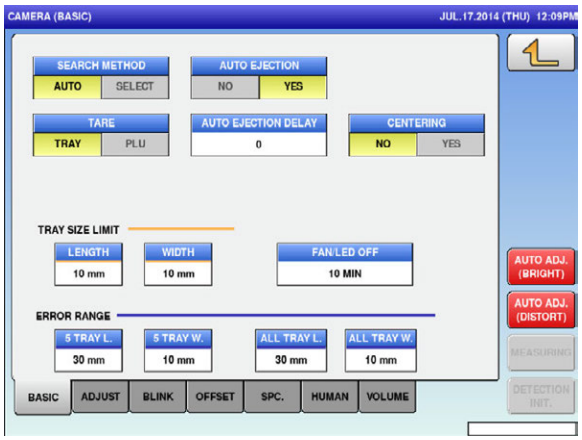
Screen 16: Wrapping machine (Roll)



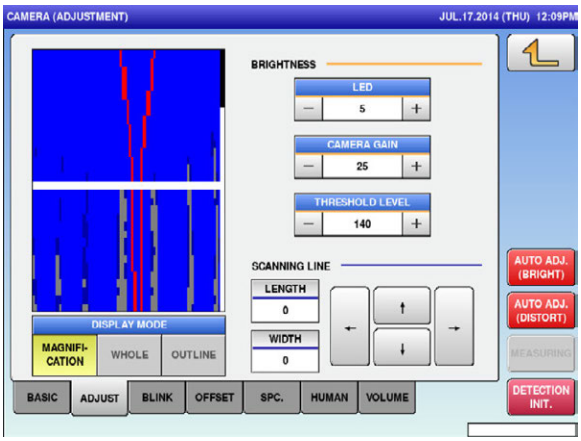
Screen 17: Wrapping machine (Initial)



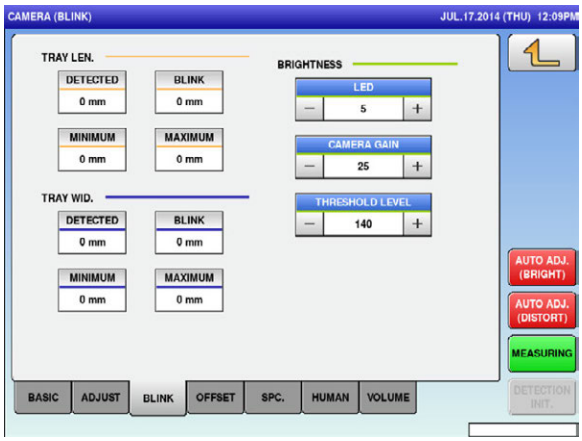
Screen 18: Wrapping machine (Ejection)



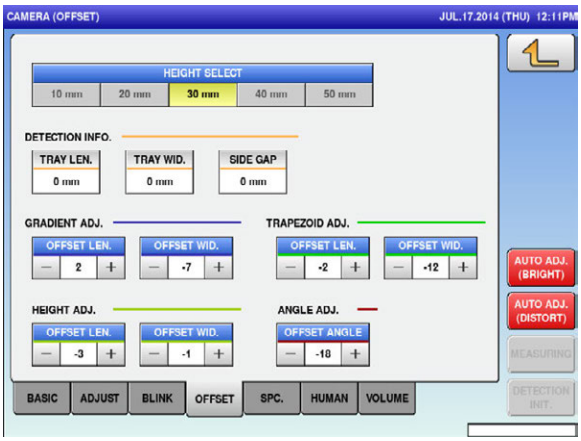
Screen 19: Camera (Basic)



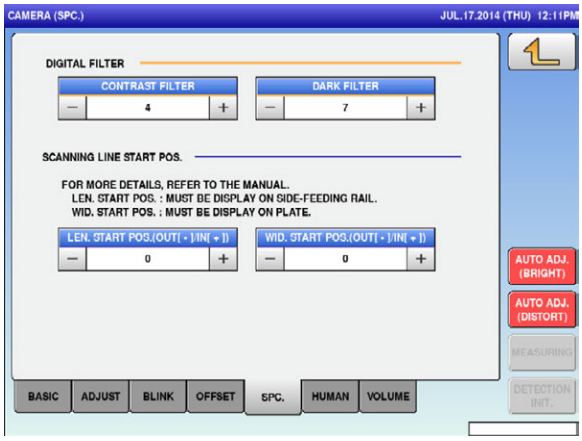
Screen 20: Camera adjustment



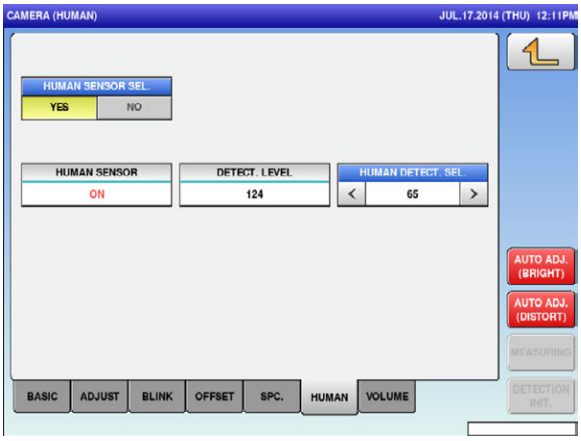
Screen 21: Camera (Blink)



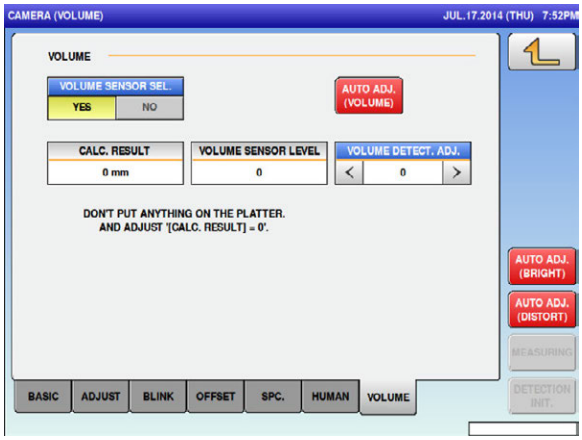
Screen 22: Camera (Offset)



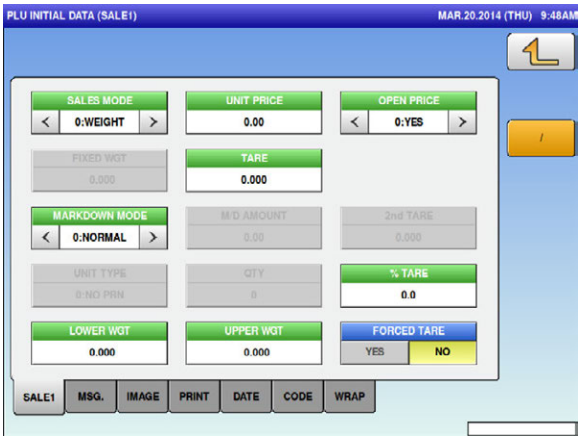
Screen 23: Camera (Spc.)



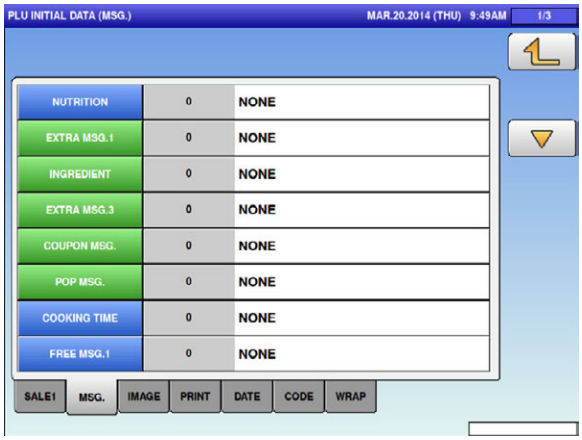
Screen 24: Camera (Human)



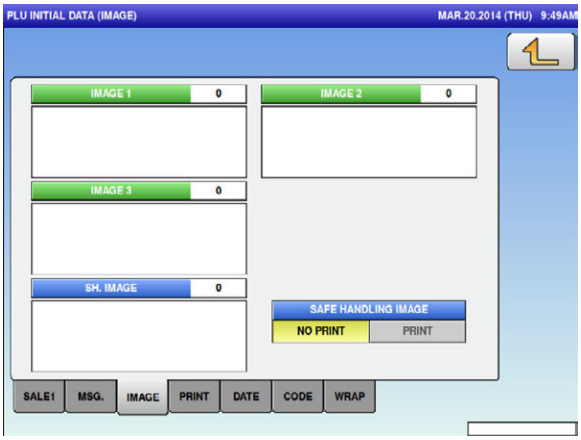
Screen 25: Camera (Volume)



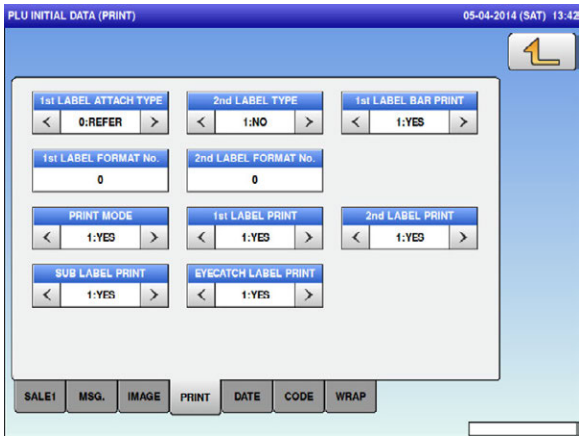
Screen 26: PLU initial data (Sale1)



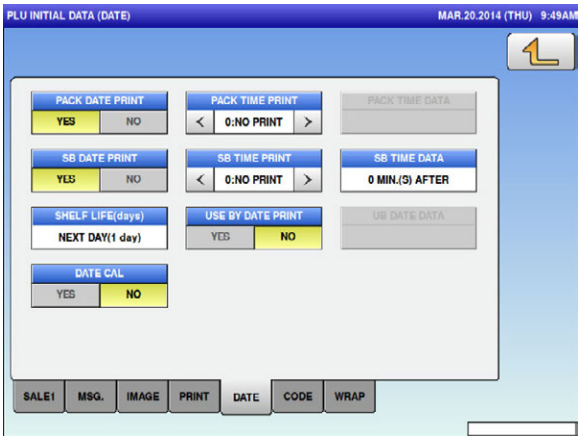
Screen 27: PLU Initial data (Msg.)



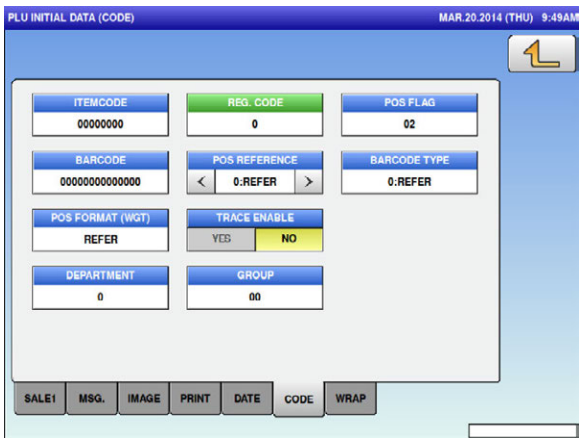
Screen 28: PLU initial data (Image)



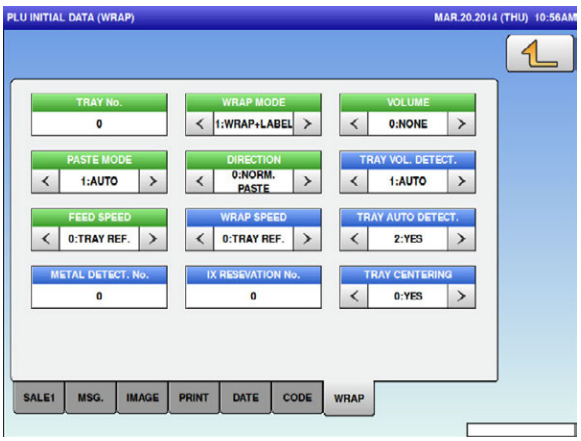
Screen 29: PLU initial data (Print)



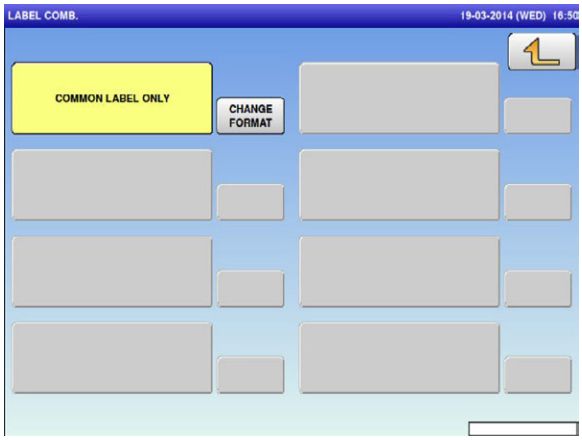
Screen 30: PLU initial data (Date)



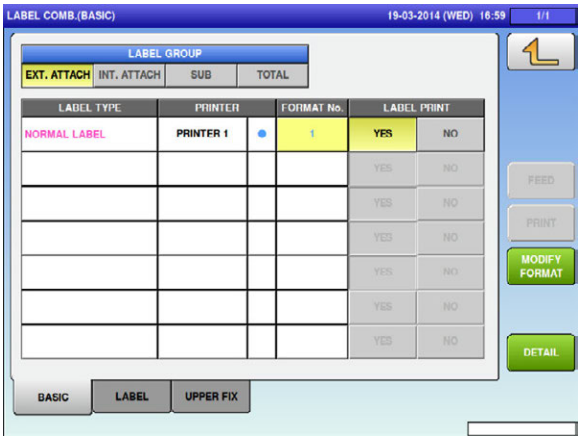
Screen 31: PLU initial data (Code)



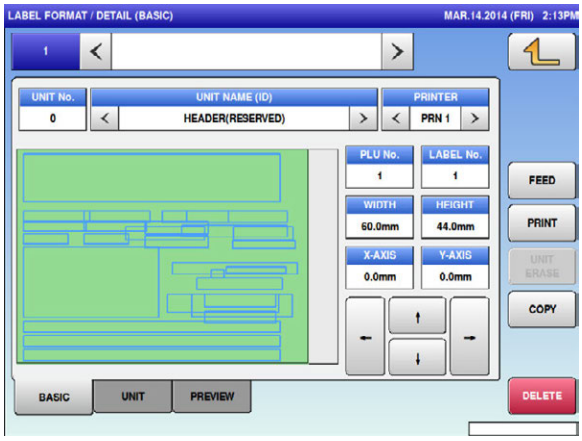
Screen 32: PLU initial data(Wrap)



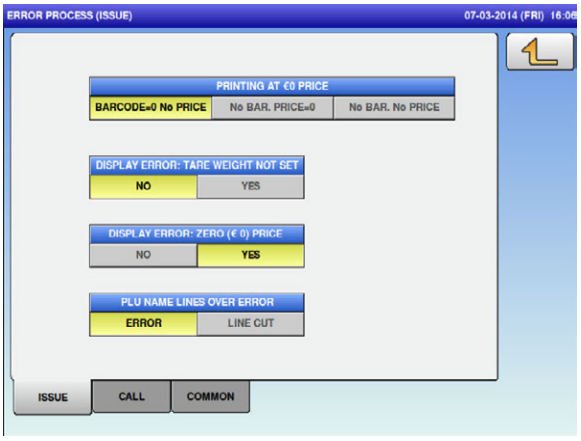
Screen 33: Label comb.



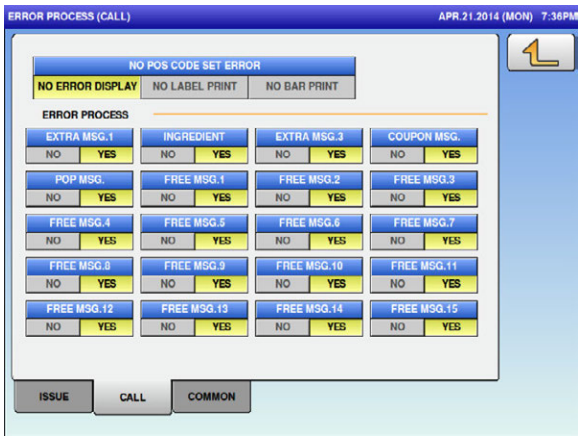
Screen 34: Label comb. (Basic)



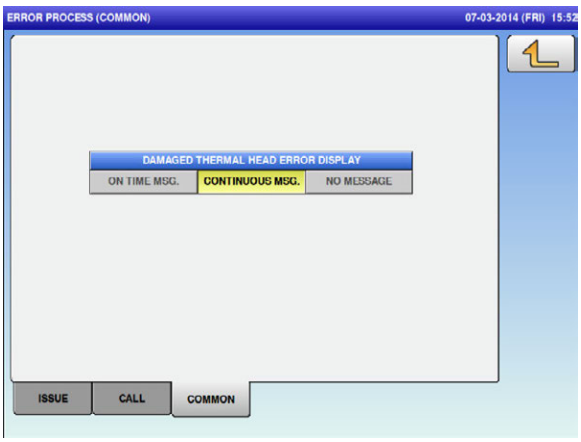
Screen 35: Label format (Basic)



Screen 36: Error process (Issue)



Screen 37: Error process (Call)



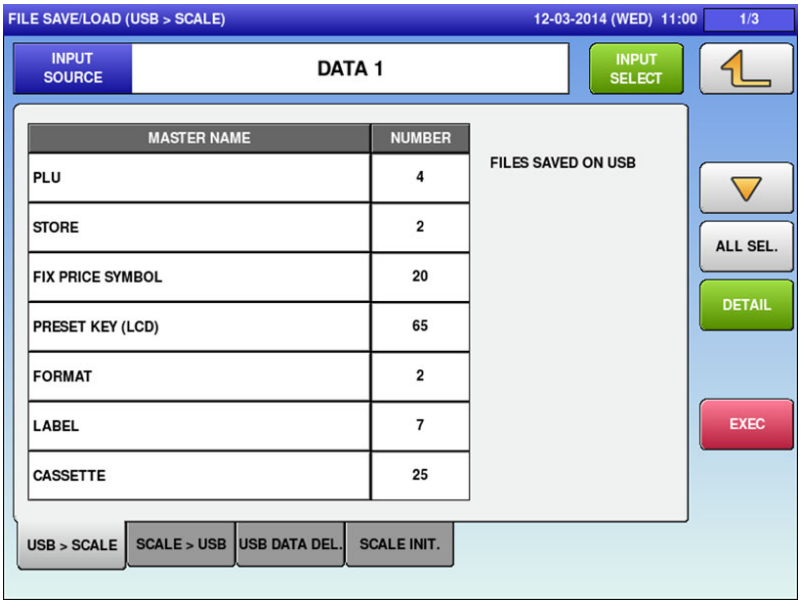
Screen 38: Error process (Common)

(2) Other general setting items (Setup Mode)

- MACHINE NO.
- DATA STORAGE
- BARCODE
- PASSWORD
- PLU OVERWRITE
- OPERATION SETTING
- KEY LOCK
- PLU UPDATE
- FILE SAVE / LOAD

(3) User data download

When using a USB flash drive that contains data for the user, download the data to the machine by executing [FILE SAVE/LOAD] → [USB→SCALE] tab.



To return to the menu screen after completing the settings, return to the Prepack screen temporarily.
Then press the button in the upper right corner of the screen, and press "LOGIN".

Chapter 3

Mechanical Adjustment

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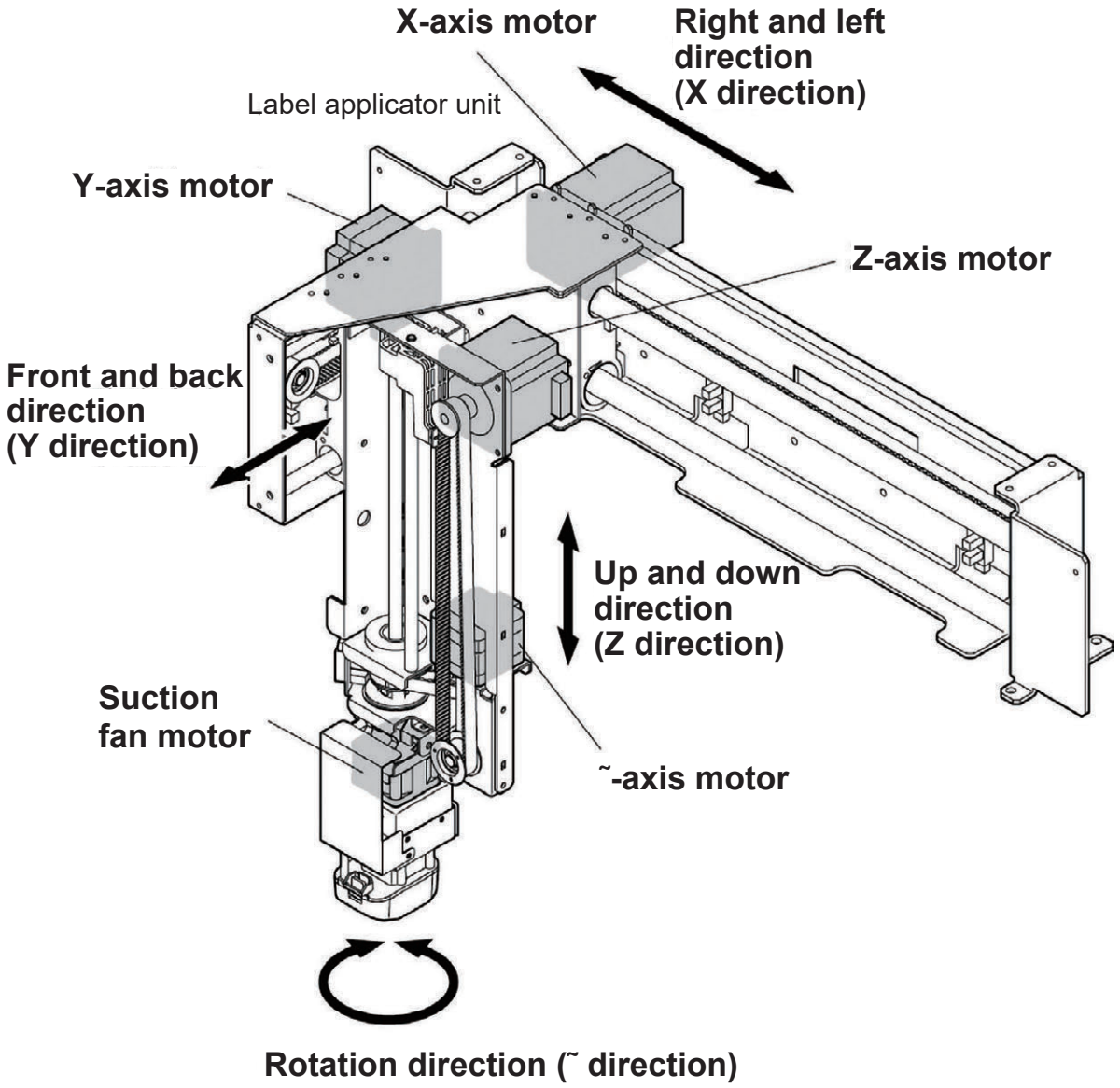
3.1 Overview

3.1.1 Label applicator unit

■ Structure

[Driving directions and motors]
The coordinates are as seen from above.

Right and left (X direction) / Up and down (Y direction) / Front and back (Z direction) rotation (θ)

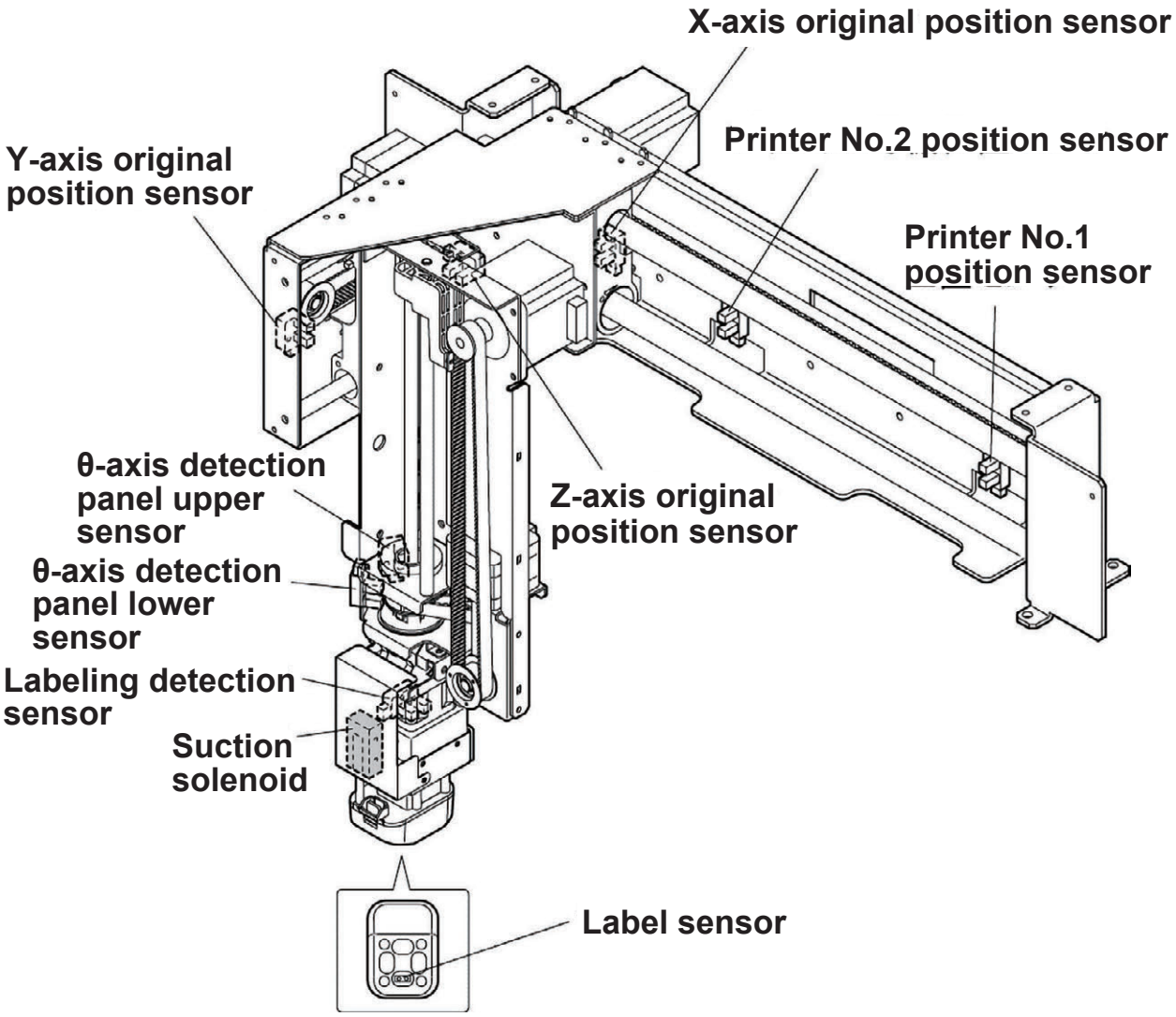


1

[Sensor Positions]

The coordinates are as seen from above.

Right and left (X direction) / Up and down (Y direction) / Front and back (Z direction) rotation (θ)



3.1.2 Film feeder unit

■ Structure

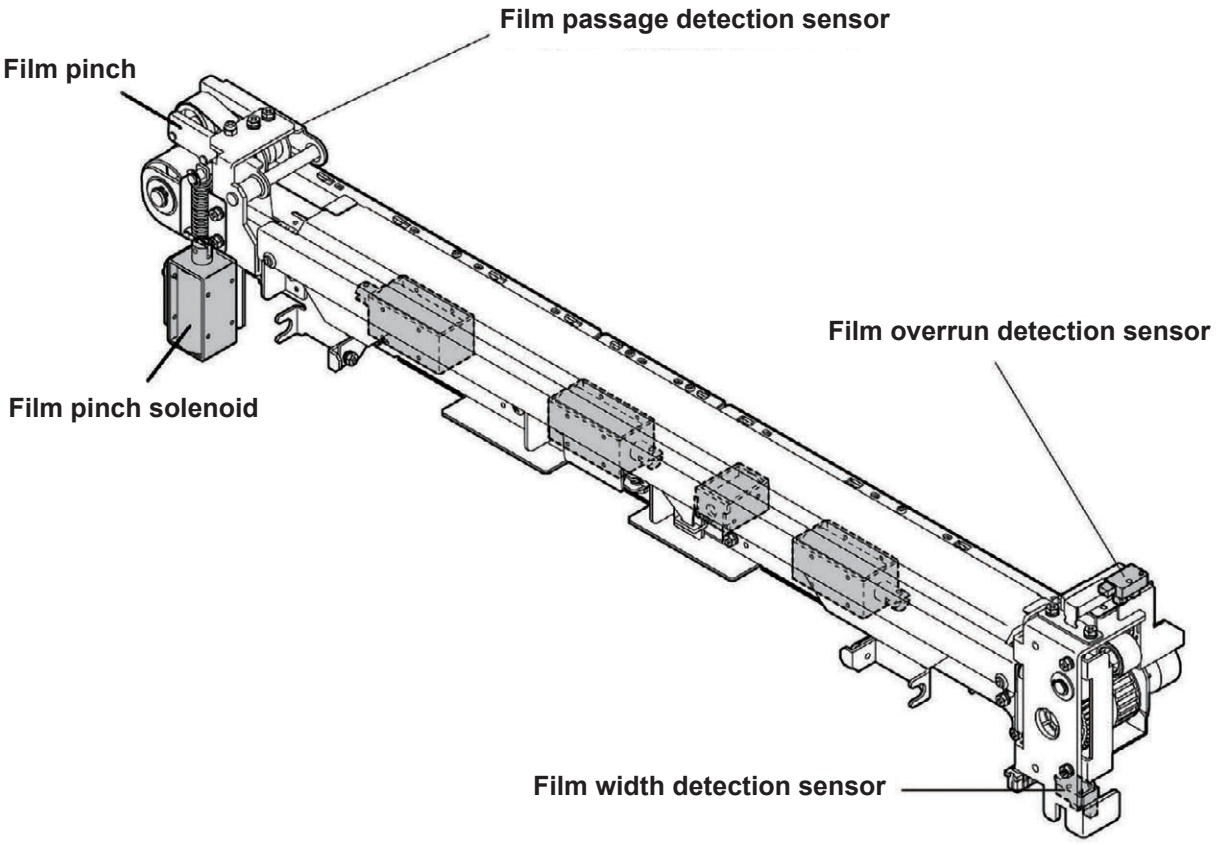


Figure 1: Film feeder (front)

■ Sensor

- Film overrun detection sensor
  This sensor detects film overrun.
  The detection principle is that the film comes into contact with the detection plate and the movement of the detection plate is detected by the photo-interrupter.

  • Normally: Dark-on
  • When film overruns or passes: Light-on

- Film passage detection sensor
  This sensor detects the passage of the film.

- Film width detection sensor
  This sensor detects the width of the film (original position).

Names of parts

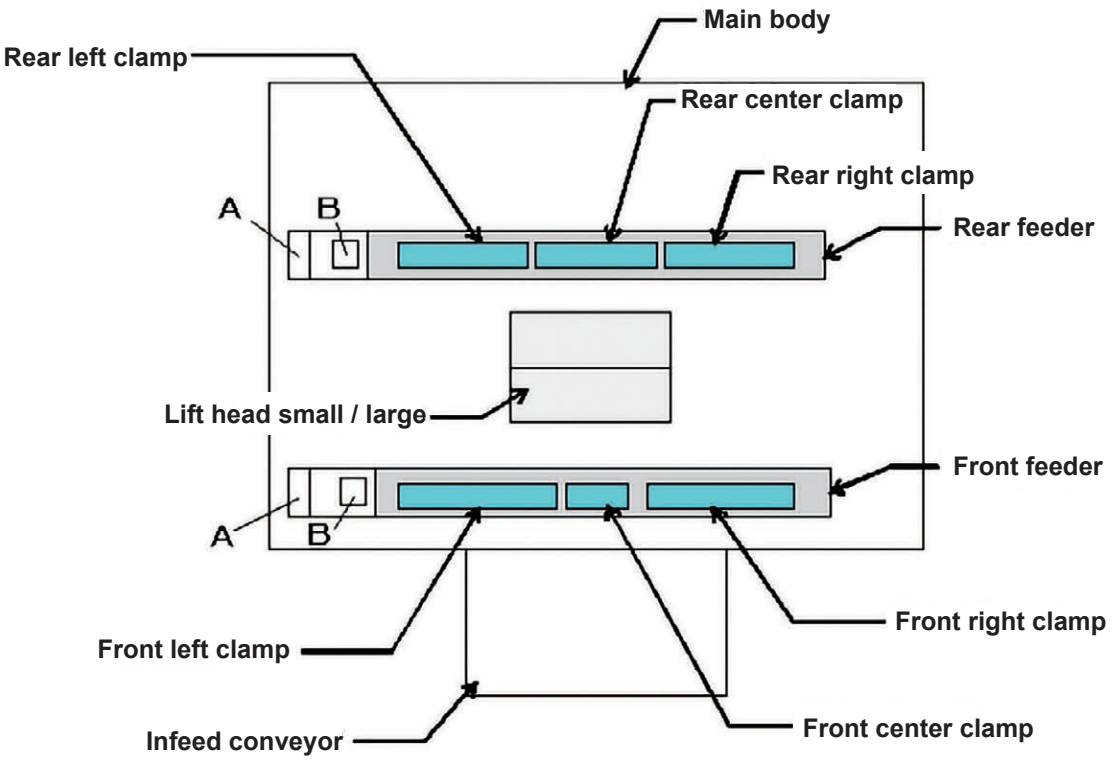


Figure 2: Film feeder unit (top view)

Operation

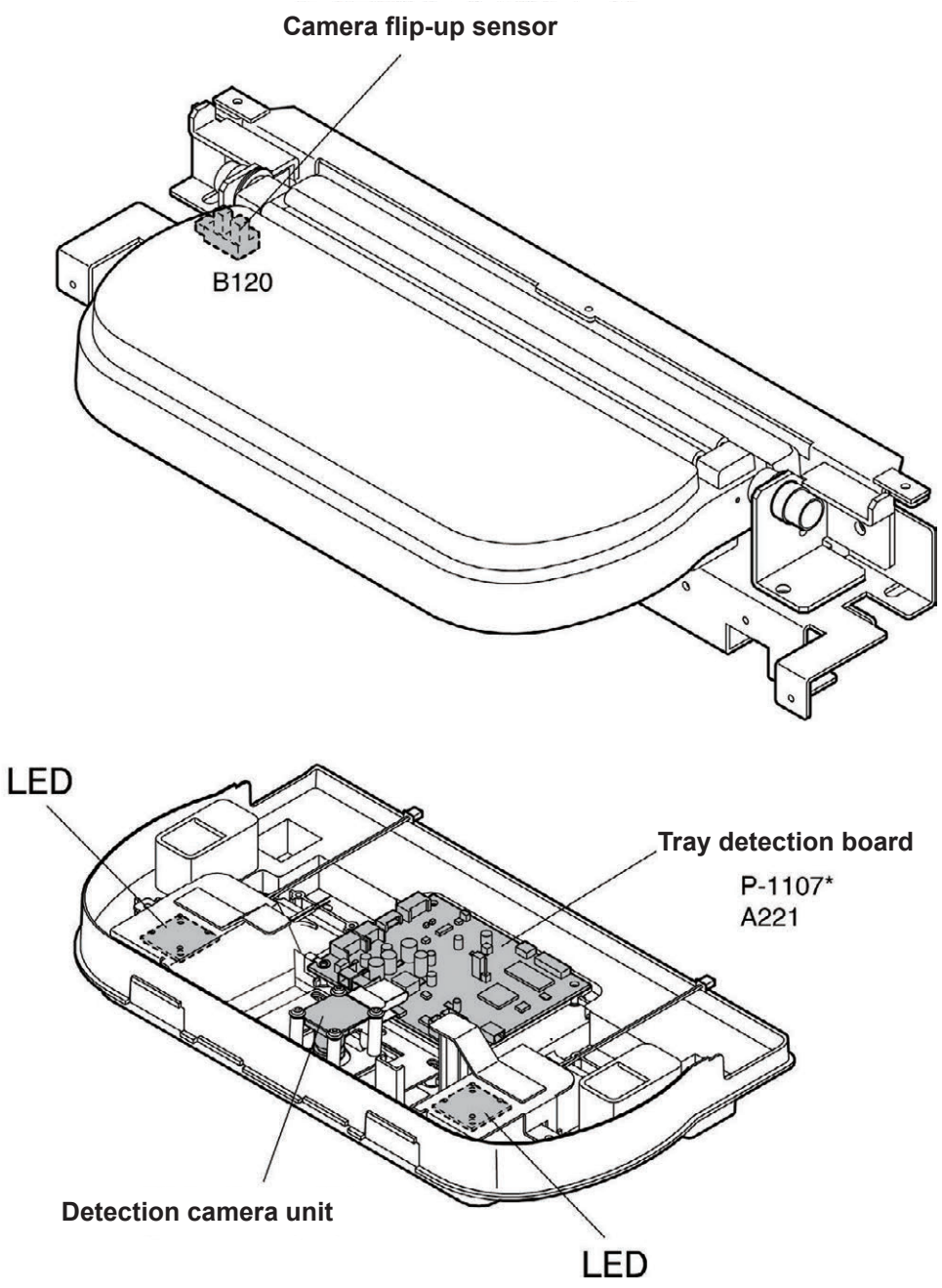
1. Film loading
   The delivery unit inserts the leading edge of film up to the A positions. Solenoids (B) operate and close the A parts to grab the edge of the film. The timing belt starts rotating to feed the film to the clamp. If the film is partially transported (because the detection plate of the rear side sensor is knocked over by the film or a timeout occurs), the distance between the front and rear feeders increases, the film is stretched, and excess film is cut. The film loading is completed when the operator removes the cut film.

2. Wrapping
   The delivery unit inserts the leading edge of film up to the A positions. Solenoids (B) operate and close the A parts to grab the edge of the film. The timing belt starts rotating to feed the required length of film. The clamps close and the product is lifted. Then, the clamps release the film when folding the film on the wrapping plates to wrap the product. At this time, the clamp operation timing determines the quality of wrapping. The WM-AI has three clamps on each of the rear and front feeders. Each feeder consists of a center clamp and right and left clamps.
   The clamp operation may change depending on the tray size and the film length.

3.1.3 Camera unit

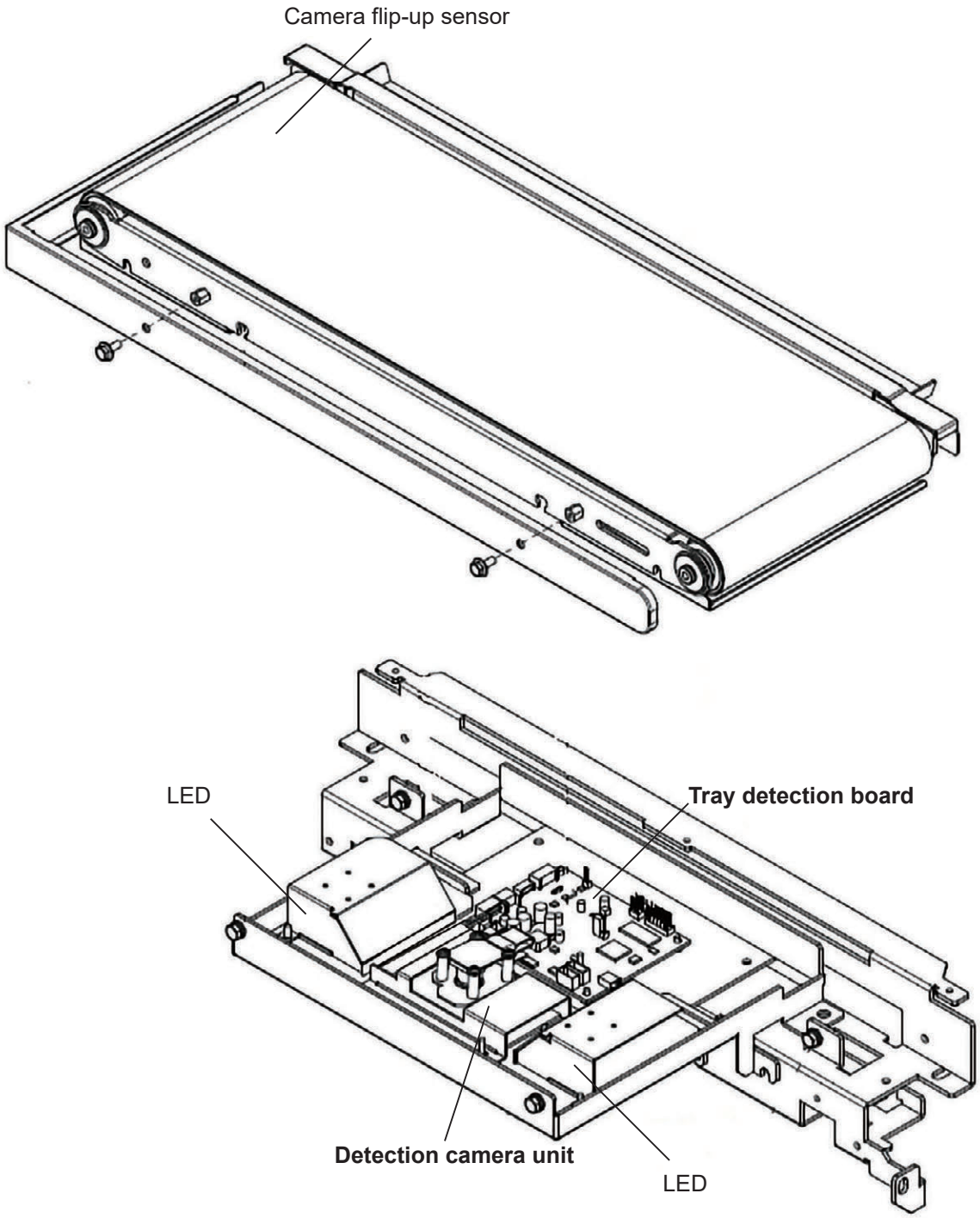
■ Standard type structure

The camera unit is located on the front side of the discharge unit.



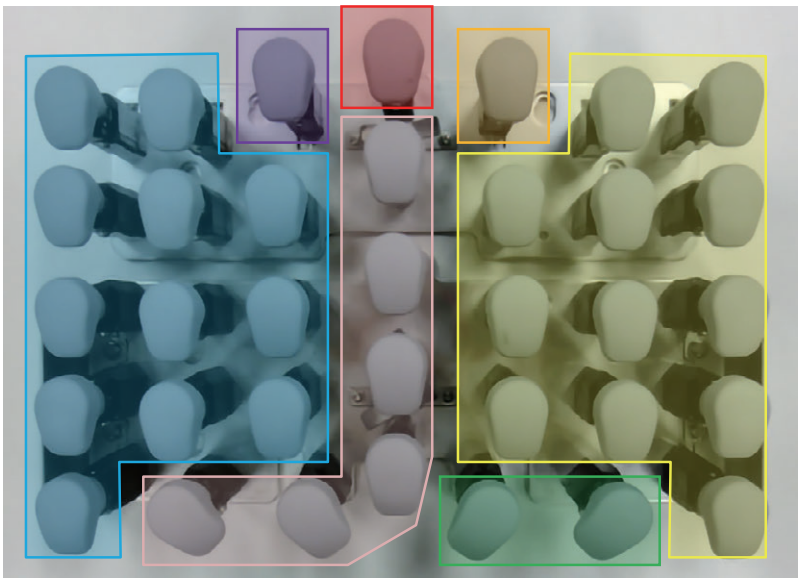
■ JR type structure

The camera unit is located in the discharge conveyor.



3.1.4 Lift unit

■ Standard setting



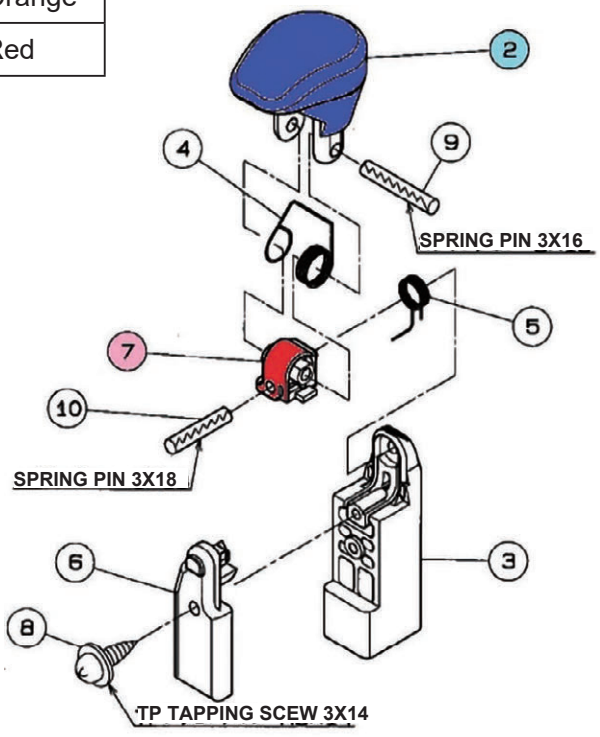
LF	000-112-6761-**		Pink
RF	000-112-6762-**		Green
L	000-112-6763-**		Blue
R	000-112-6764-**		Yellow
L with Blasting	000-150-7135-**		Purple
R with Blasting	000-150-7134-**		Orange
LF with Blasting	000-150-7136-**		Red

*Blasting

The red part (7) in the right figure has been blasted to improve the durability.

*Black head (optional)

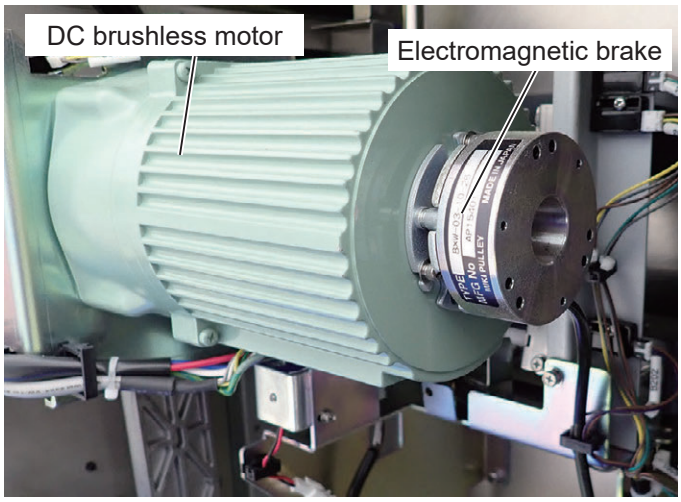
The blue part (2) in the right figure is made of POM material and has low friction with the tray.



3.1.5 Electromagnetic Brake

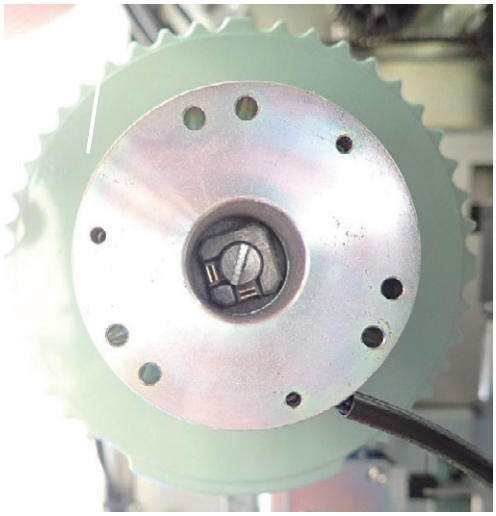
■ Function

- This machine is designed in such a way for safety reasons that the electromagnetic brake on the lift drive motor applies a brake to prevent the lift from descending when the lift stops in the middle of ascending or descending.
- The electromagnetic brake is a non-excitation (non-energized) actuated type electromagnetic brake that applies a brake when power is cut off, for example, when the emergency stop button switch is pressed or when a power failure occurs.



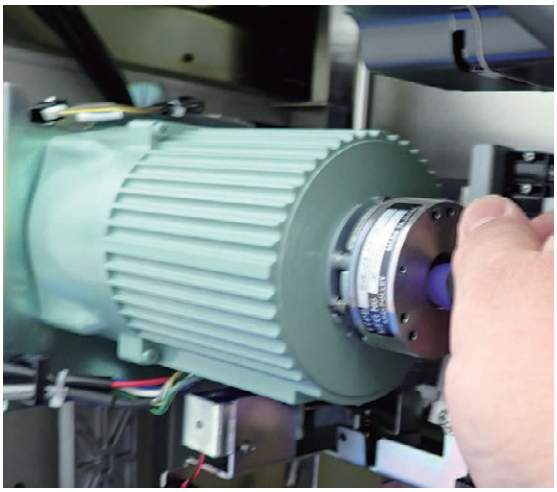
Gear motor model no. GMTA200-18U25
Brake model no.BXW-03-10-26

- A slot is provided so that the drive shaft of the DC brushless motor can be rotated with a slotted screwdriver.



Method of operation

- When the electromagnetic brake is applied, the lift does not descend even if it is pushed by hand. The lift can be manually moved up and down by inserting a flat-head screwdriver in the center of the electromagnetic brake installed on the back of the lift motor and turning the screwdriver.

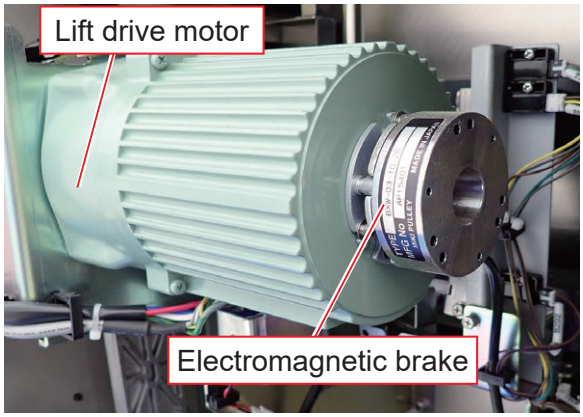


Structure

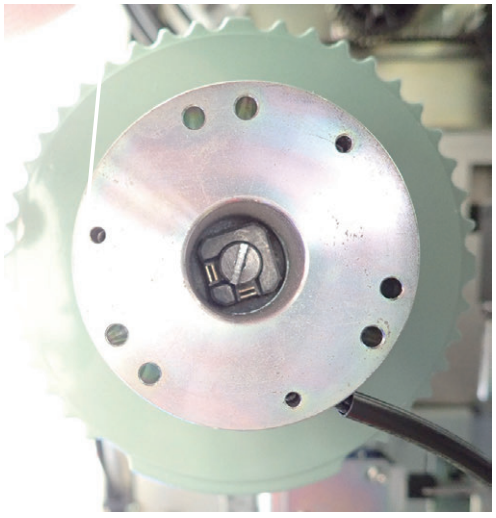
- The drive shaft of the DC brushless motor can be turned by a flat-head screwdriver. In this case, the electromagnetic brake is still applied.
- Due to the low braking force of the electromagnetic brake, the shaft can be rotated by hand.
- The rotation of the lift drive motor is decelerated by gears to move the lift up and down, so the lift does not move easily even if pushed by hand.
- The electromagnetic brake becomes non-excited when 24 VDC of the drive system is cut off, and operates by the force of the spring.

1

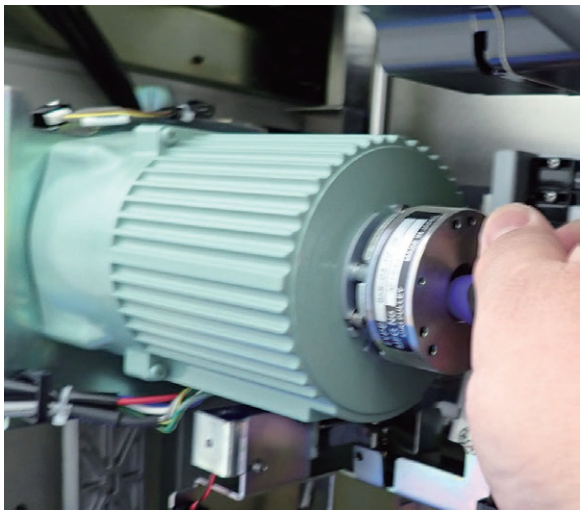
Structure



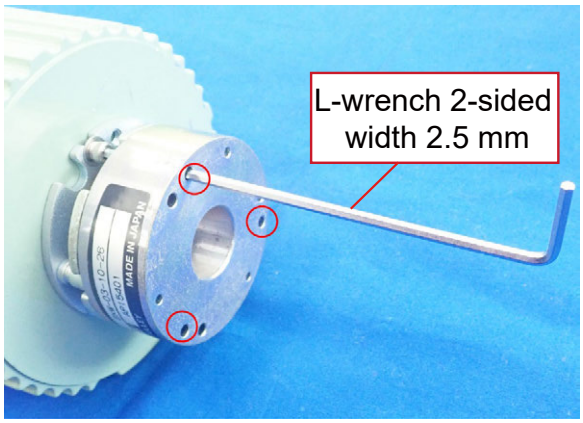
An electromagnetic brake is attached to the motor shaft to prevent the lift from lowering when the emergency stop button is pressed while the lift is in the raised position. This electromagnetic brake is designed to apply the brake when 24 VDC is cut off. During wrapping operation, 24 VDC is applied and the brake is released. In the event of a power failure, the electromagnetic brake will be applied in the same way as when the emergency stop button is pressed.



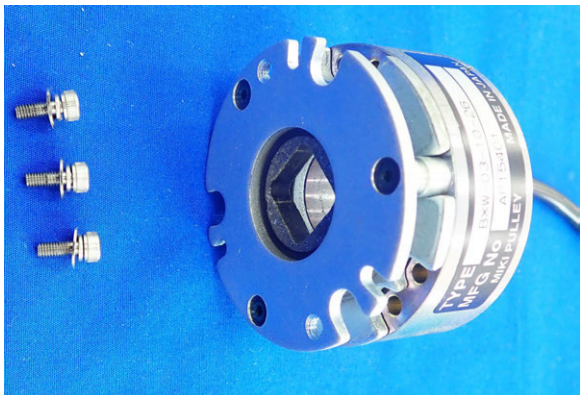
There is a slot where a flat-blade screwdriver can be inserted so that the motor shaft can be turned manually even when the electromagnetic brake is applied.



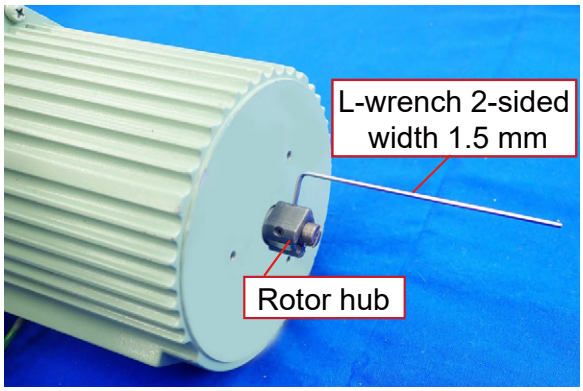
Pushing the lift by hand will not lower it when the brake is applied by the electromagnetic brake. To manually raise or lower the lift, insert a flat-blade screwdriver into the center of the electromagnetic brake attached to the back of the lift motor and turn it.



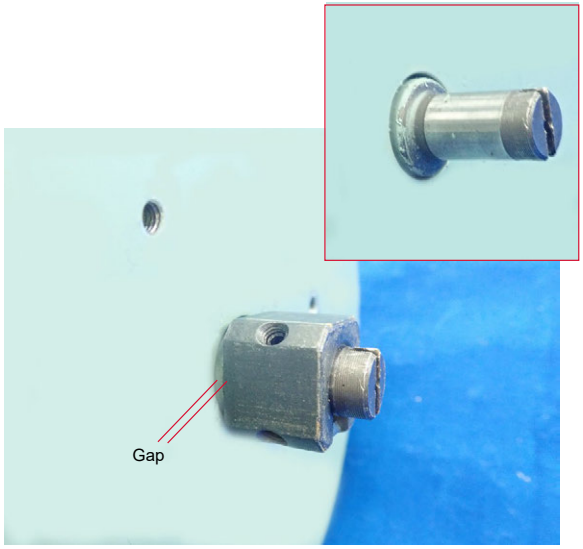
To install or remove the electromagnetic brake, insert the L-wrench into the hole shown by the red circle and turn the screw.



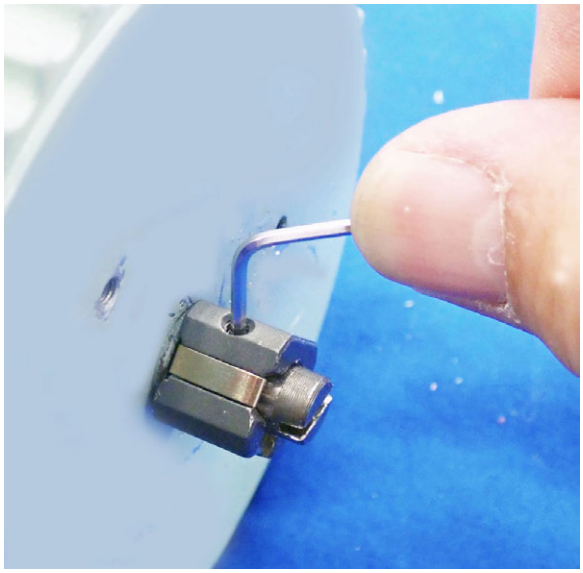
The electromagnetic brake is attached to the motor body with three hexagon socket screws.



A rotor hub is attached to the motor shaft to connect the electromagnetic brake to the motor shaft. The rotor hub is attached with two hexagon socket screws.



To install the rotor hub, insert the rotor hub firmly to the inner part of the motor shaft. The motor shaft is larger in diameter at the inner part, so the rotor hub will not come into contact with the motor frame.



Fix the rotor hub with an L-wrench. Tightening torque should be 0.78 N•m.
From October 2016 production onward, a sealing agent has been applied between the rotor hub and the motor shaft to strengthen the prevention of loosening.

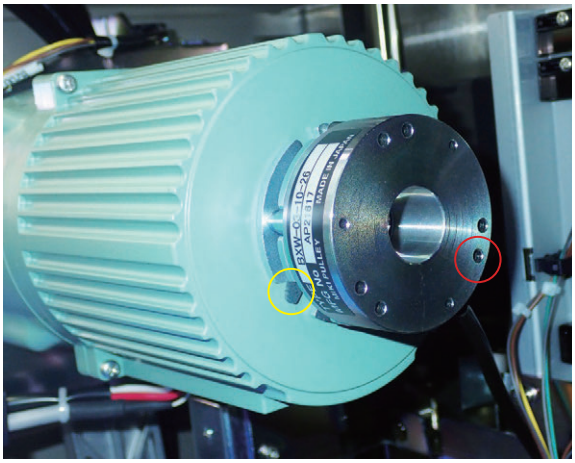
■ How to remove

> ⚠ CAUTION
>
> • Pull out the power plug.
> • Note that the lift goes down after the electromagnetic brake is removed.

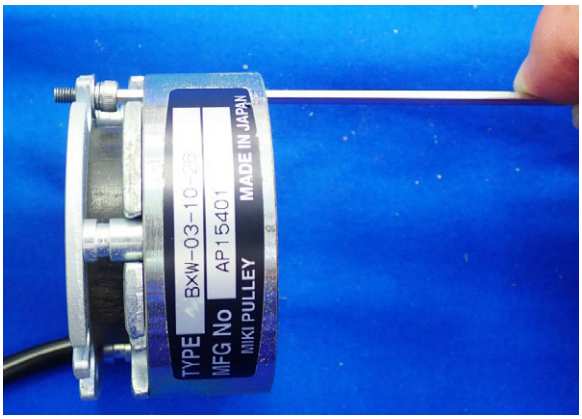
- Remove the electromagnetic brake by referring to the structure in the previous section.
- The electromagnetic brake can be removed by removing the three hexagon socket head bolts.
- The rotor hub that is fixed with the sealant cannot be removed.

■ How to install

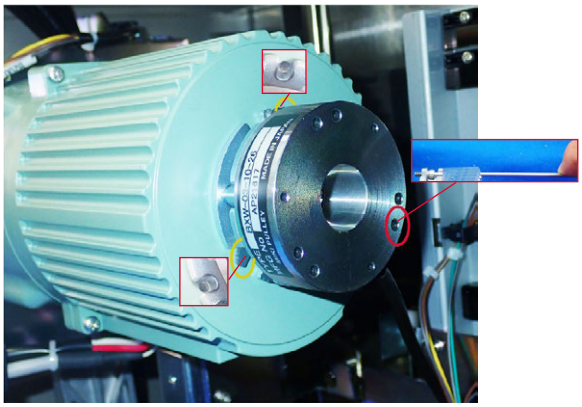
- Install the electromagnetic brake by referring to the structure described in the previous section.



Since the electromagnetic brake is installed while the motor is attached to the main body of the wrapping machine, first install the screw to be fastened through the hole shown by the red circle. Screws shown by the yellow circle should be fastened later.



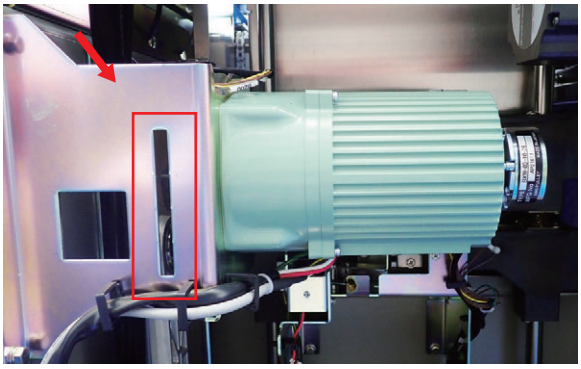
Set the hexagon socket head screw to be installed through the holes shown by the red circle as shown in the photo.



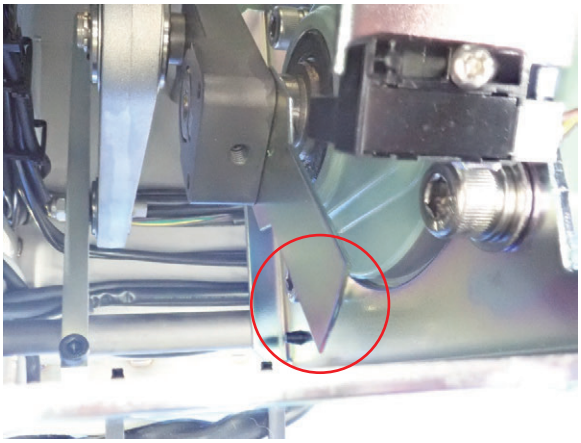
Position the hole shown by the red circle by aligning the two remaining screw holes shown by the yellow circle, which are visible from the back of the wrapping machine, with the mounting notches of the electromagnetic brake. After positioning, install the screw shown by the red circle, and then install the remaining two screws shown by yellow circles.

Install the three hexagon socket head screws using a tool. Tightening torque should be 1.98 N•m.

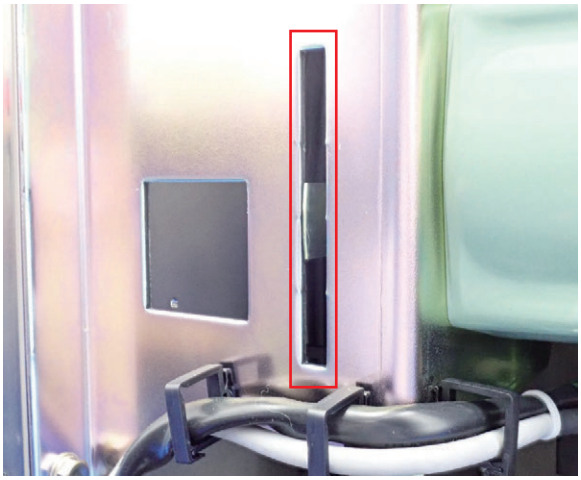
■ Precautions on manual elevation of the lift drive unit



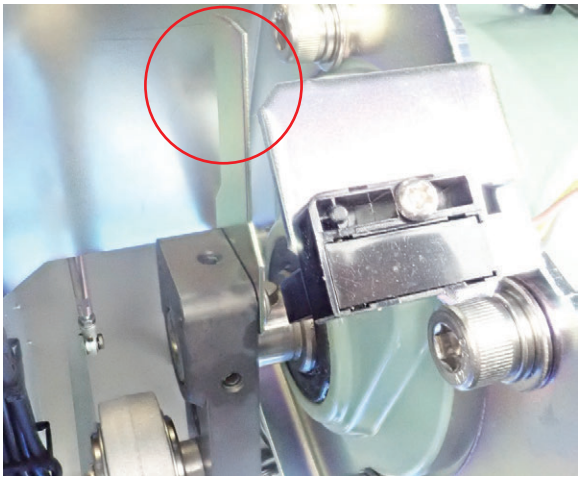
As the lift drive uses a link mechanism; do not turn it to the “no-good side area” when turning it manually.
While it is located in the “no-good side area” and a restore processing is performed, the lift and feeder come in contact with each other, resulting in malfunction.
From the area indicated by the arrow in the picture, check whether it is located in the “no-good side area” or not.



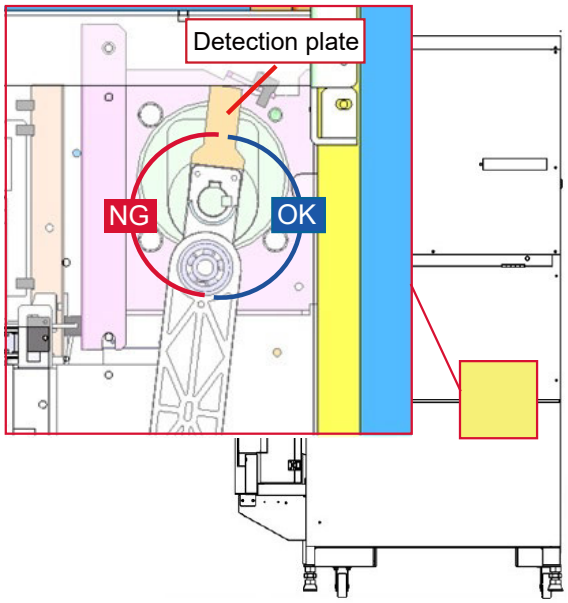
■OK/NG area judgment
It is OK if the detection plate attached to the motor crank is on the front side when viewed from the back.



It is also OK if the detector plate can be seen through the slit window of the motor bracket.

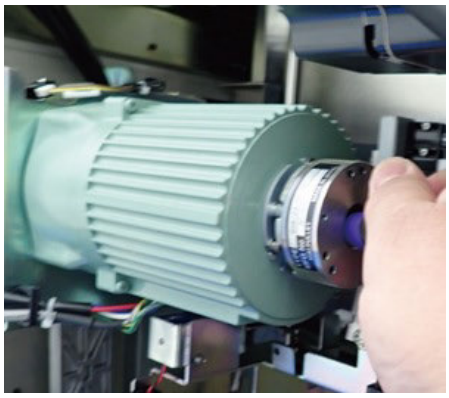


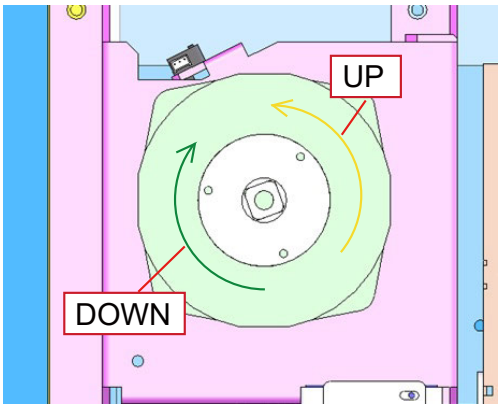
If the detection board mounted the motor crank is located in the backward side, it is located in the “no-good side area”.



This is a schematic diagram of the lift drive motor seen from the right side of the wrapping machine. Actually, the detection plate is not visible because of the frame, but the OK area and NG area are as shown in the schematic diagram.

If the detection plate is in the NG area, manually rotate the lift drive motor so that it is in the OK area. Turn the output axis at the back of the motor with the flat-head screwdriver when manually ascending the lift. Before operating manually, be sure to understand the rotation direction and relationship of the elevation shown below.



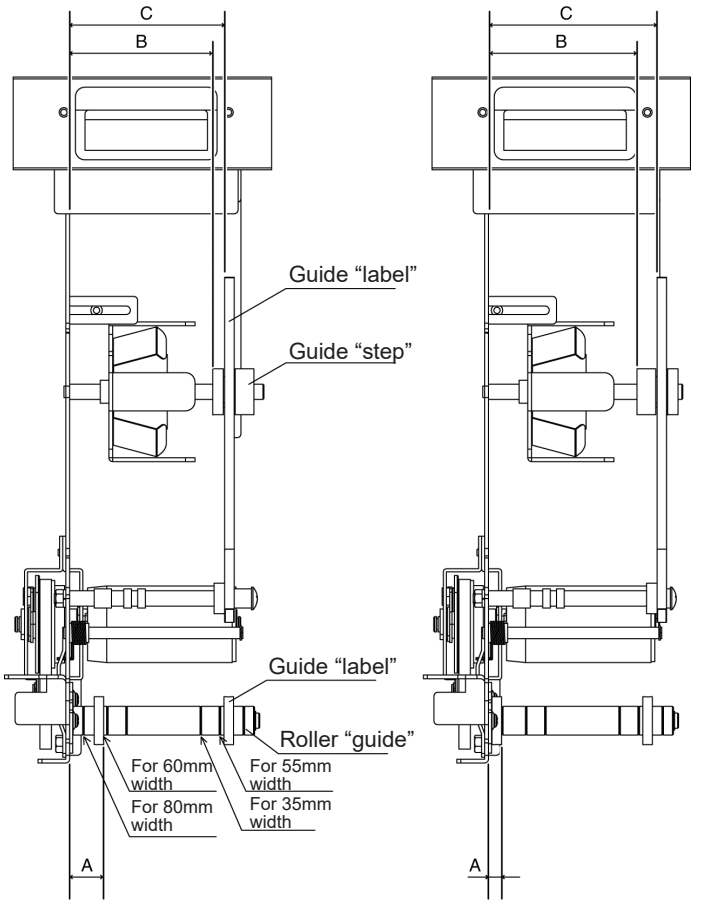


3.2 Mechanical Unit Adjustment

3.2.1 Printer unit

■ Adjusting the label guide width

The center of the label is set as the reference position. In accordance with the label width, change the guide positions as shown in the figure below.
When the label width is 71 mm or more and 80 mm or less, use the collar "step" inside out, swap the order of the roller “guide” and the guide “label”, and add flat washers.



For a 35 to 70 mm wide label

For a 71 to 80 mm wide label

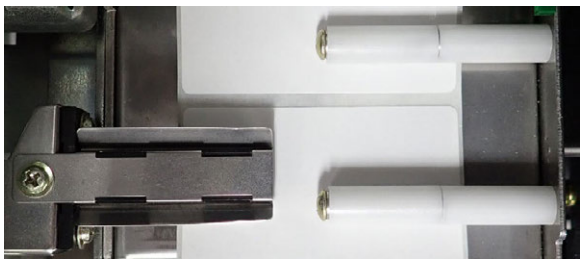
Label width	A	B	C
35mm	30.0mm	62.0mm	67.5mm
55mm	20.0mm	72.0mm	77.5mm
60mm	17.5mm	74.5mm	80.0mm
80mm	7.5mm	80.2mm	90.0mm

■ Changing the label sensor position

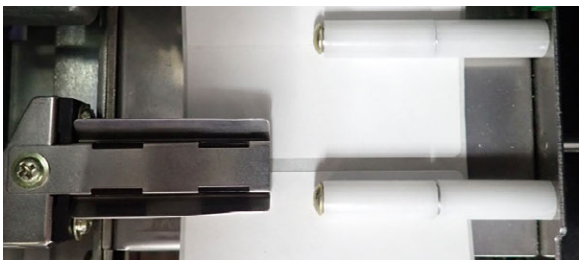
The label gap may stop at the position of the label sensor depending on the vertical dimension of the label and the gap dimension. In this case, stable sensing may not be possible because the detection value of the label sensor changes each time a label is issued. Examples of specific failures include an increase in the number of idle-feedings during label replacement and an error in the label size during normal label printing.

When the label stops after [FEED] is pressed:

"OK" if the label gap is not aligned with the label sensor

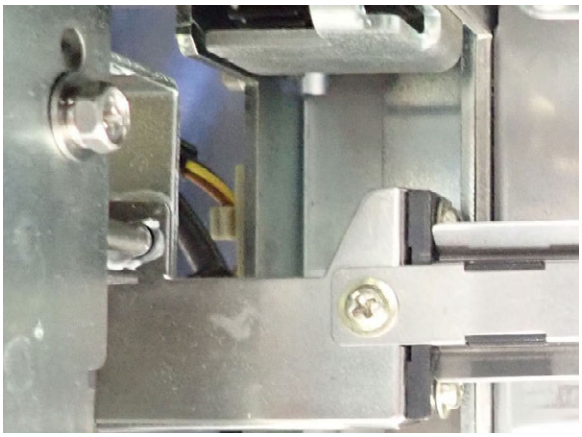


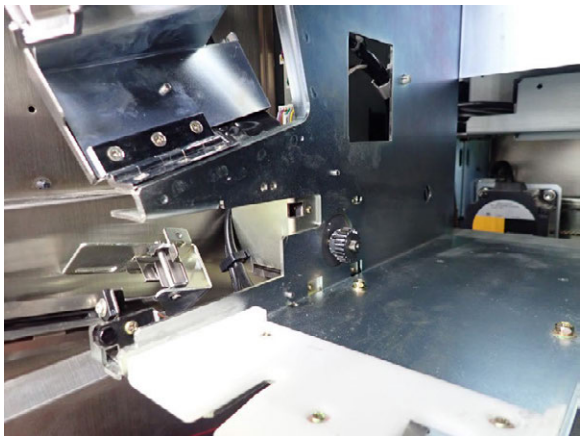
"NG" if the label gap is aligned with the label sensor



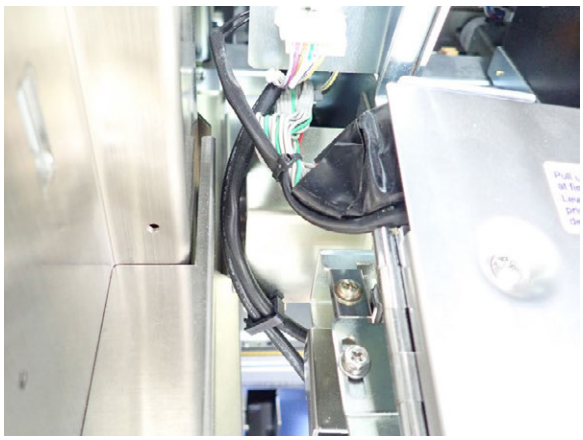
if the label gap is aligned with the label sensor, reposition the label sensor to the rear. The sensor can be installed 7 mm behind the factory default position.

The sensor is installed on the front when the machine is shipped from the factory.



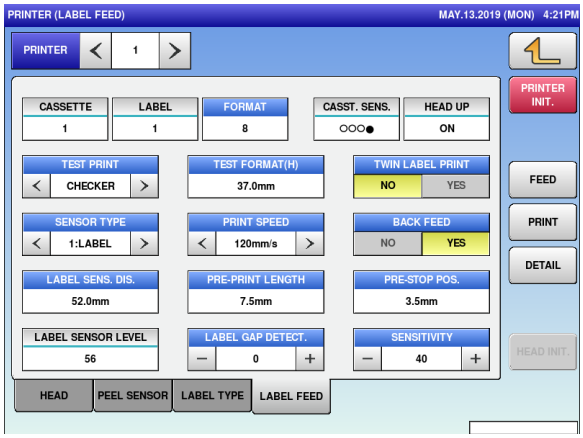


There are two screw holes for fixing the sensor at 7mm gap. The sensor can be installed 7mm rearward by mounting it in the rear hole.



The sensor bracket is fixed with two screws (one mentioned in the step above and the other shown in this photo), so both screws must be fixed after adjustment.

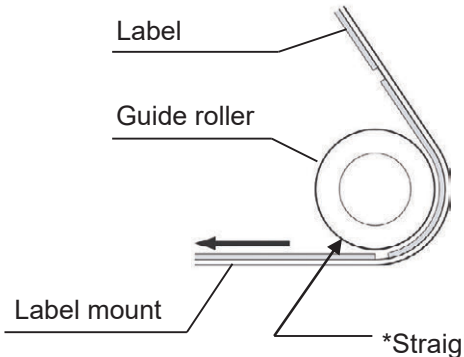
The label sensor needs to be installed horizontally on the frame so that the sensor moves smoothly and does not move significantly when a label is issued.



When the sensor is installed at the rear position, the distance between the thermal head heating element and the label sensor increases by 7mm.
Therefore, add 7.0 to the current value of the [LABEL SENS.DIS.]. The value set on the left screen is 52.0, so set it to 59.0.

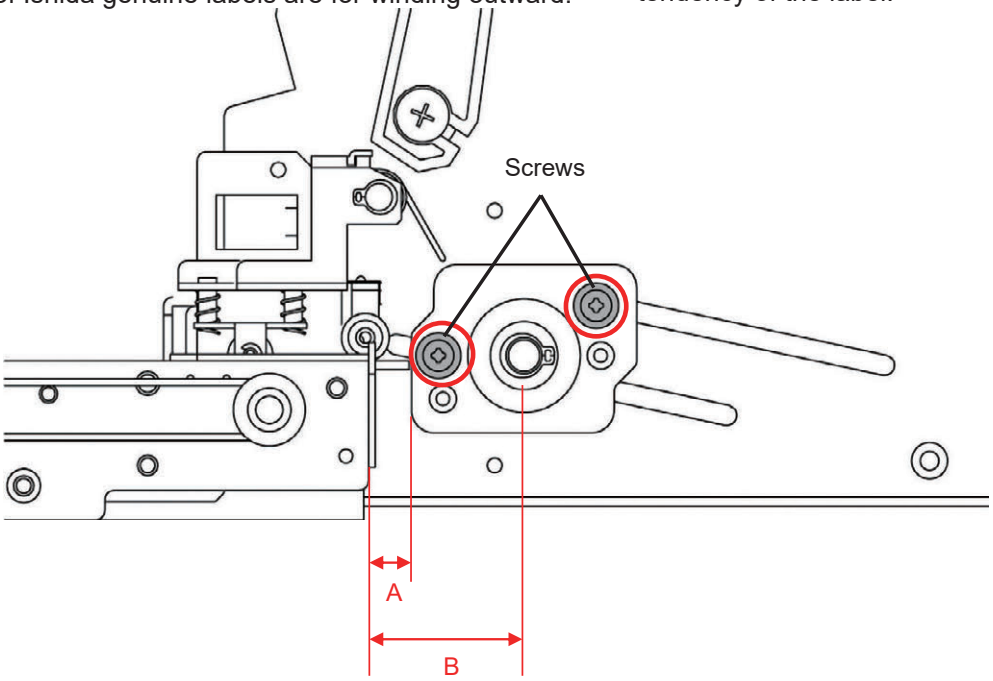
■ Changing the guide roller position

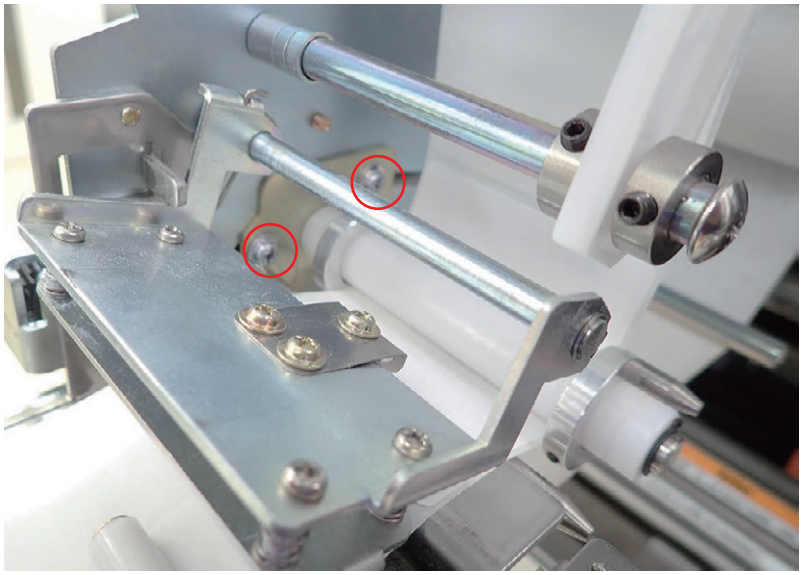
If the rear end of the label comes to the roller 'guide' during standby, the label may curl up and peels off on the peeling bar before it is sucked by the label applicator. When the label is stopped, adjust the position of the guide roller with two screws so that the rear end of the label does not stop near the guide roller. The position is determined by (label vertical dimension) + (label gap).



*Straighten the label at the back to prevent the development of the curl tendency of the label.

All of Ishida genuine labels are for winding outward.





1

■ Dealing with a label size error

Dealing with a label size error

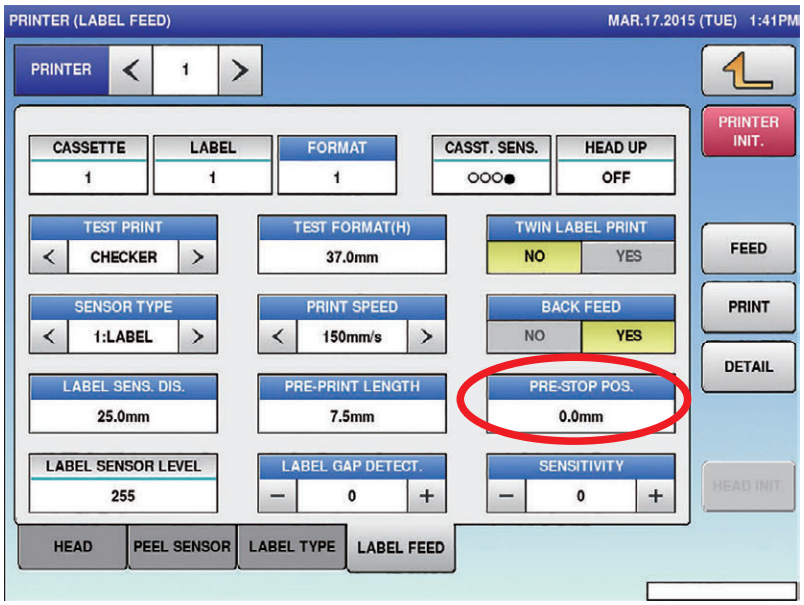
A label size error may occur if the label edge comes immediately under the label sensor “after idle-feeding” or “after back-feeding”. This is because the label sensor detects either a label or a gap, resulting in unstable sensing and a miscalculation of the label length.

Error handling methods

There are three error handling methods.
First of all, deal with the error after visually predicting whether false detection of the label sensor that may cause label size error occurs at the stop position after idle-feeding or at the stop position after back-feeding.

(1) Changing the label sensor position
Refer to "Changing the label sensor position".
This is effective as a countermeasure when the label edge is immediately under the label sensor after idle-feeding or after back-feeding.

(2) Changing the advanced feed stop (pre-stop) position



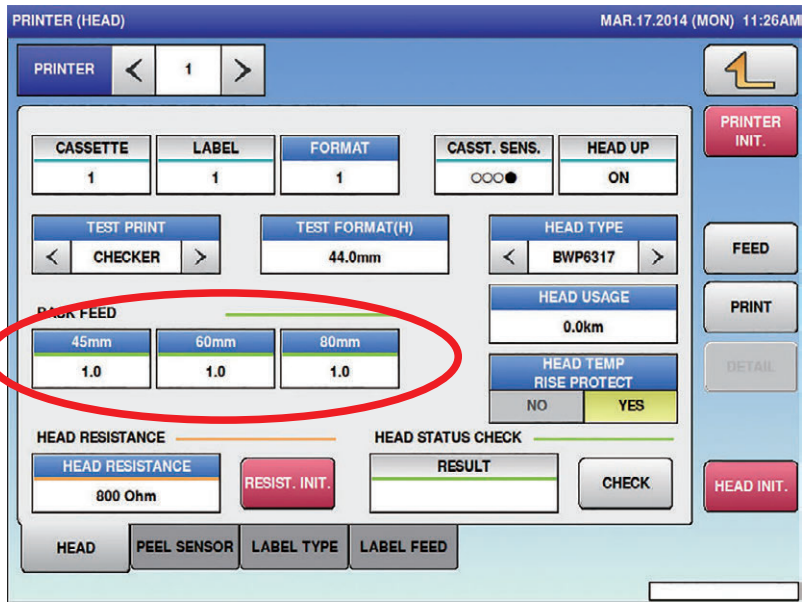
This is effective as a countermeasure when the label edge is immediately under the label sensor after idle-feeding. The purpose is to change the label stop position by changing the value of the advanced feed stop (pre-stop) position in the printer mode.

NOTE

The advanced feed stop position is used to adjust the amount of a label remaining on the peeling shaft. Change the value of advanced feed stop position within the range where the purpose is not hindered.

(3) Changing the back-feeding amount

This is effective as a countermeasure when the label edge is immediately under the label sensor after back-feeding. The purpose is to change the label stop position after back-feeding by changing the back feeding amount in the printer mode.

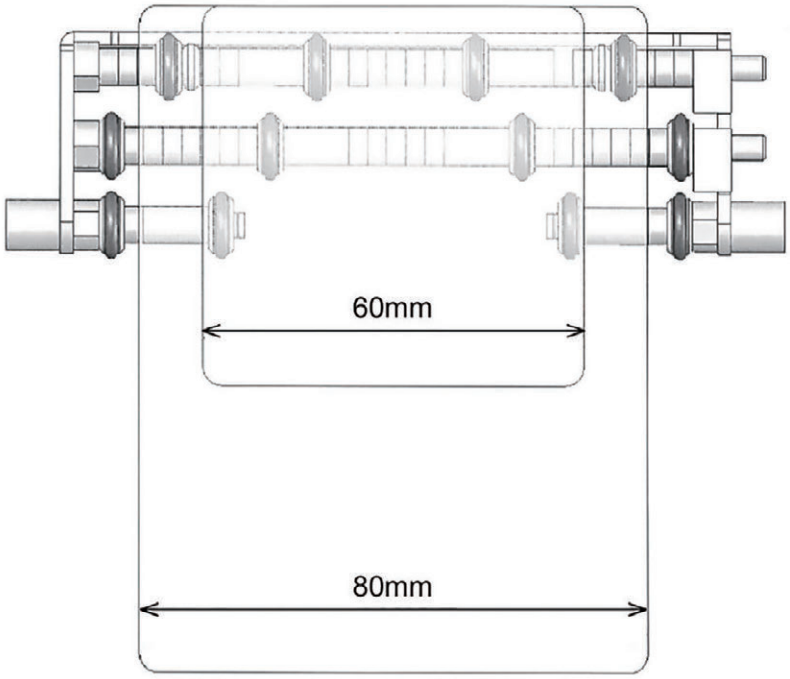


■ Changing the label standby roller gap

When the right and left edges of the label are located at the inclined part or the tip of the roller on the label standby roller, the edge of the label may be caught by the roller during label feeding, resulting in label tilt or suction error. In accordance with the label width, change the number of collars (3 mm wide) between the rollers.

< Printer No.1 >

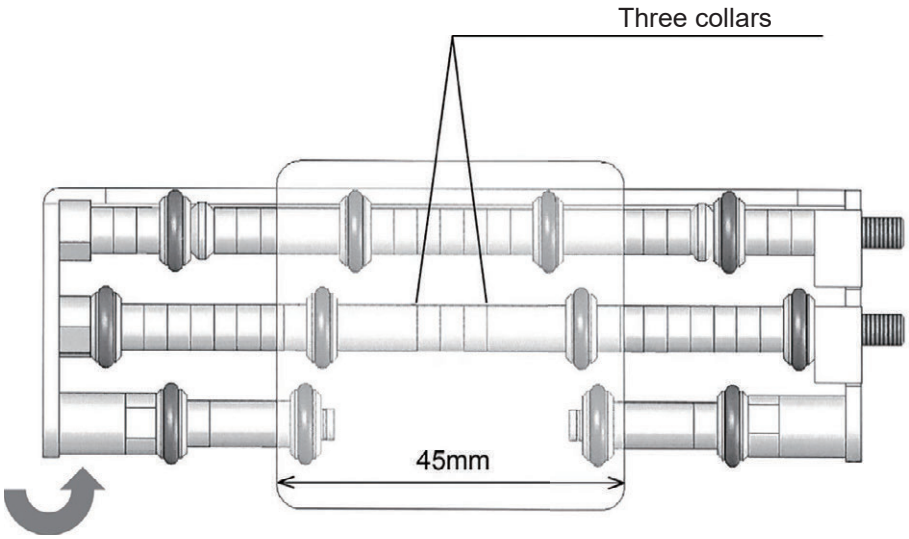
Label width: 60 to 80 mm



The above figure shows the default state. No change is required if the label width is 60mm or more and 80mm or less,

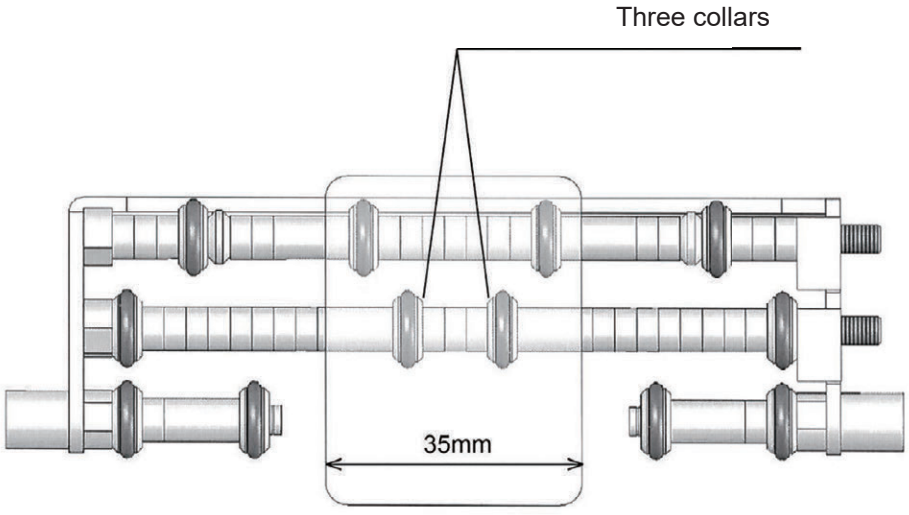
> ⚠ CAUTION
>
> The above figure explains a single label standby roller. The same applies to other standby rollers.

Label width: 45 mm or more but less than 60 mm



*If the label width is 45 mm or less than 60 mm, both sides of the metal collar installed on the outside of the standby roller need to be moved inside.

Label width: 35 mm or more but less than 45 mm

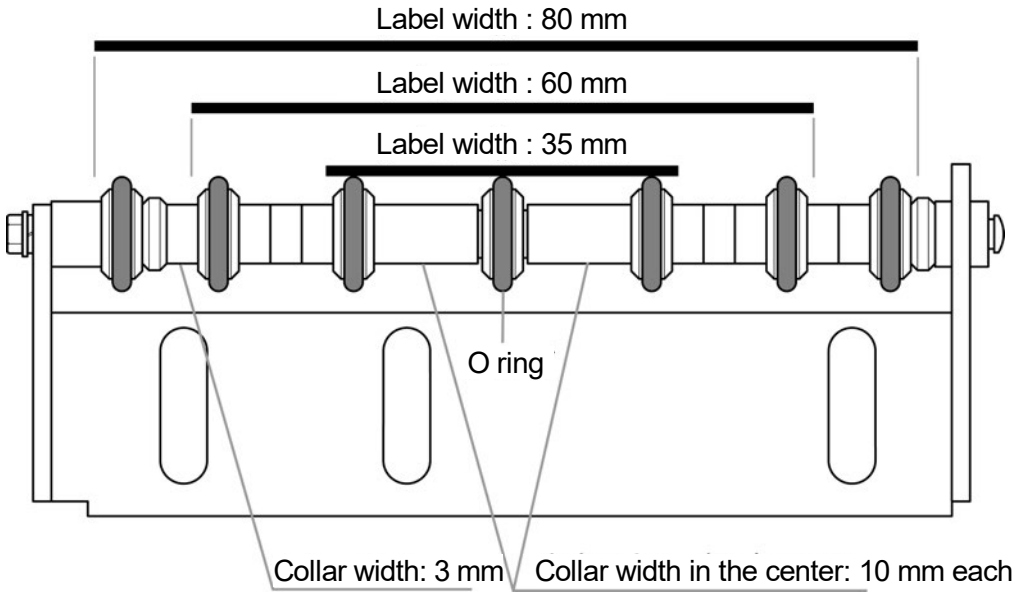


*If the label width is less than 45 mm, the third standby roller will not be used.

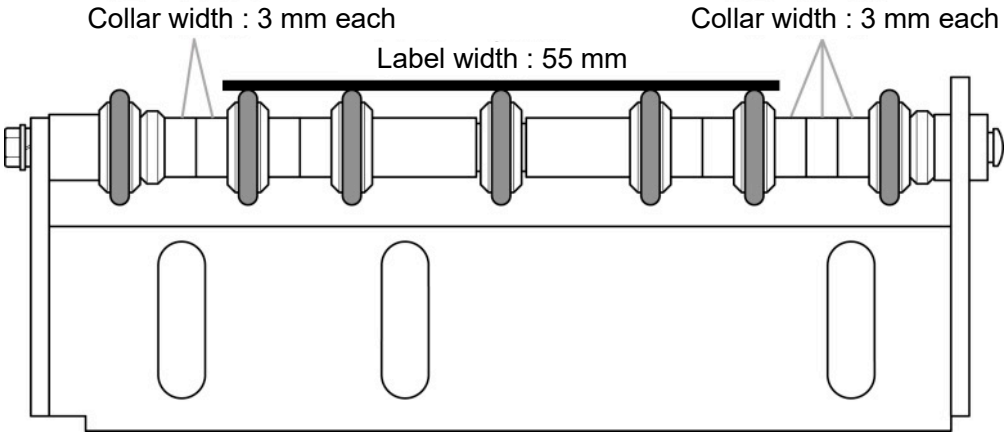
1

< Printer No.2 >

Label width: 35 mm/ 60 mm/ 80 mm



Label width: 55 mm



■ Adjusting the front and rear positions of the label standby roller

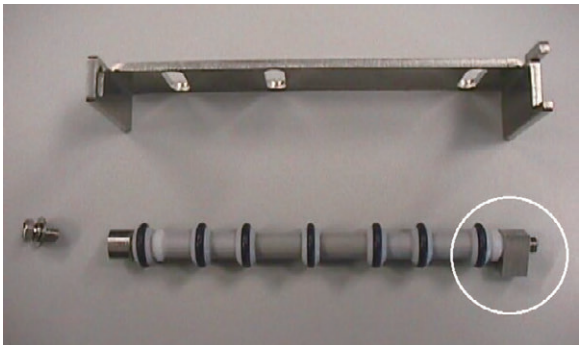
Reconfiguration of the front and rear positions of the standby roller for Printer 1 is not required.

If the top-to-bottom size of the label is 43 mm or more, reconfigure the standby roller as shown below.

1

Remove the standby roller from the bracket.

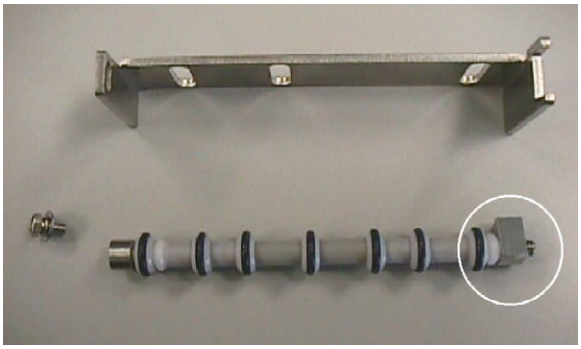
At this time, do not rotate the block A 'assist' to the D surface of the shaft 'step'. Doing so may cause the collar gap to change. If the gap is eliminated, the collar will not rotate smoothly, resulting in poor label feeding.



Label standby roller disassembly

2

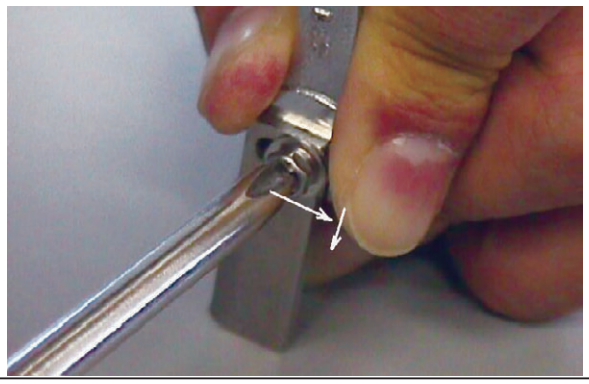
Half turn the roller unit without rotating the block A ’assist’ to the D surface of the shaft 'step' (make sure the screw is placed in front).



Label standby roller assembly

3

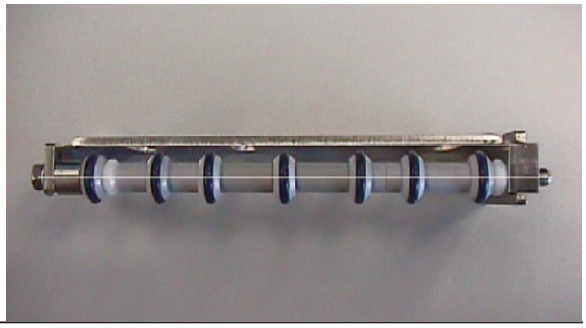
While maintaining the condition of step 2 above, attach the standby roller to the frame 'support'. Move the shaft 'step' down to the front and fix it.



4

Check the following points:
The standby roller and the frame 'support' are parallel.

The roller can rotate slightly (the gap between the rollers is 0.5 to 1.1 mm).
→ Adjustment method: Loosen the screw and rotate the shaft 'step' for fine adjustment.



5

Check the following points:
The lower surface of the block A 'assist' is aligned with the notch surface of the frame 'support'.

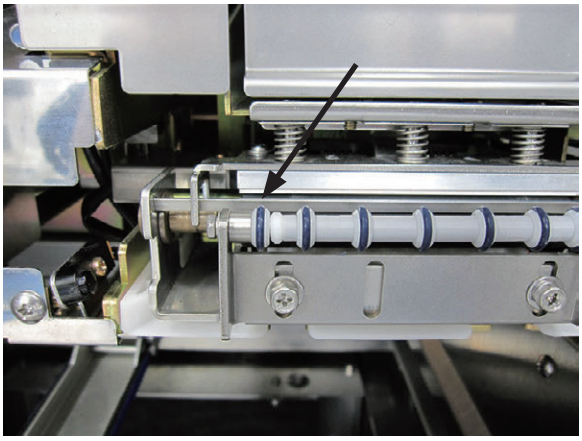
The layout of the O-ring is adjusted to the label width of 60 mm at the factory.

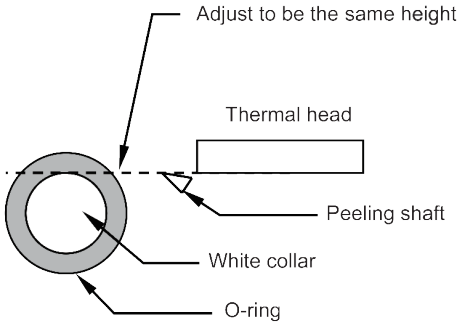
Standby roller assembly confirmation

■ Adjusting the vertical position of the label standby roller unit

To make it easier to check the adjustment status of the vertical position of the label standby roller, adjust the upper and lower positions using two white collars (indicated by arrows), one on the left side and one on the right side.

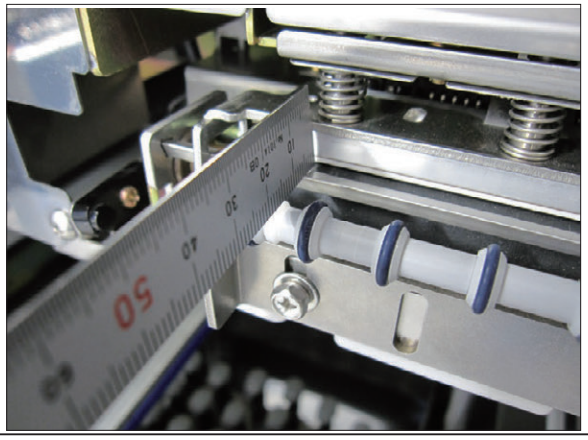
Fix the standby roller unit so that the top of the white collars are at the same height as the highest point on the tip of the peeling shaft.



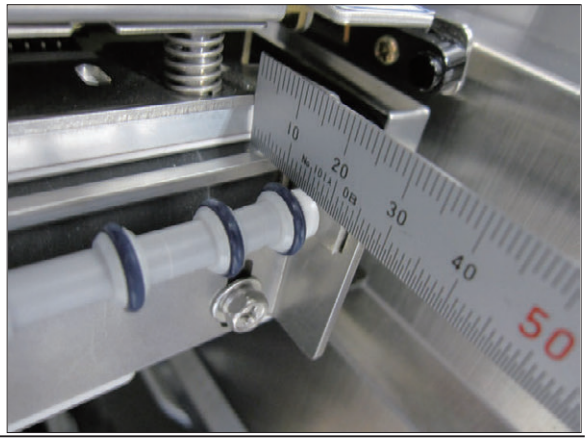


<Confirmation method>

- Place a metal ruler on the peeling shaft and check the gap between the collar and the ruler.
- The photo below shows the state where the top of the white color on the left side and the highest point of the peeling shaft are at the same height.



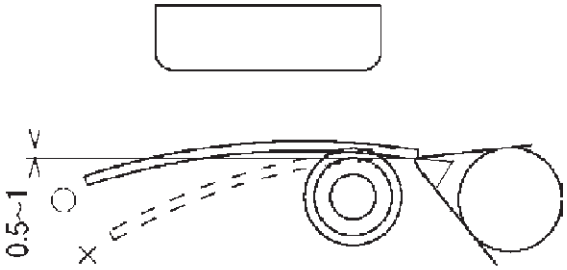
- The photo below shows the state where the top of the white color on the right side and the highest point of the peeling shaft are at the same height.



■ Adjusting the label standby roller unit

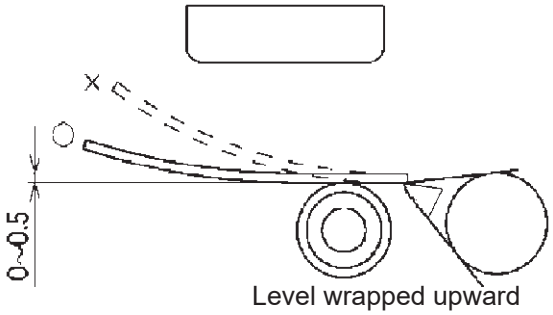
When printing a label, adjust the height of the label standby roller so that the part of the label that is sucked by the suction block is as horizontal as possible. If the whole is hanging, raise the height of the label standby roller.
If the label is warped upward, lower the height of the standby roller by about 0,05 mm from the peeling shaft, and adjust the area of the label sucked on the suction block so that it is as horizontal as possible.
For labels with a top-to-bottom dimension, warping of the labels can be minimized by increasing the value of the advanced feed stop amount and reducing the amount of the label left on the peeling shaft.
For warp-free labels, there is no problem when the top of the roller of the label standby roller is 0.5 to 1 mm above the peeling shaft.

Inward-facing labels (Ishida genuine parts)



Normal

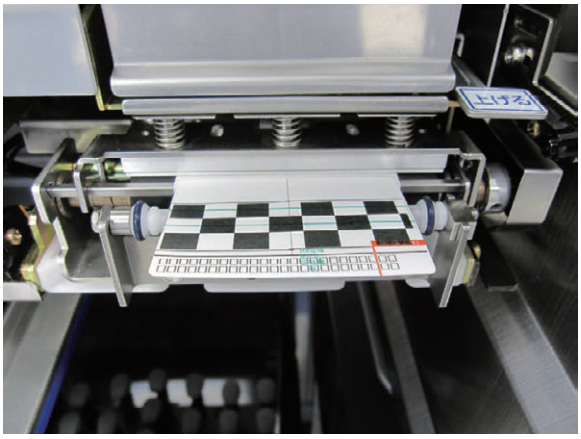
Outward-facing labels



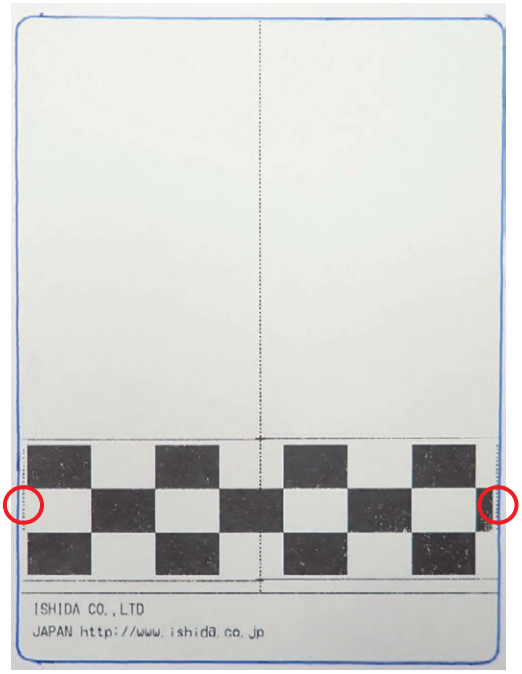
Level wrapped upward

■ Checking and adjusting the printing positions (right and left sides)

- Press [ADJUST] button → [PRINTER] button → [LABEL FEED] tab. Then, press the [PRINT] button on the screen, and check the status of the left and right print positions.
- Readjust the printer guide position so that the label is centered on the standby roller.
- If the print is misaligned to the left or right by 1 mm or more, adjust the left or right position of the thermal head. After the adjustment, check the contact (printing density) of the head.



- Adjust the printer guide position so that the broken lines (red circles) printed on the right and left sides of the check mark are printed evenly on the right and left sides of the label.
- Adjust the right and left mounting positions of the standby roller so that the printed standby position comes to the center of the standby roller.
- After making the above adjustments, perform the head contact adjustment (printing color).



■ Back-feeding availability

Press [ADJUST] button → [PRINTER] button → [LABEL FEED] tab, and select "YES" for "BACK FEED" on the screen for Printer No.1 and Printer No.2, respectively.

■ Inputting the label size and label gap

Depending on the label manufacturer, the size of the label punching die may differ slightly. If the actual size differs from the input value, a suction error will occur due to print position misalignment, label size error, false label end detection, or defective label edge cutting. Measure the length of the label actually used and the gap length.

Press [ADJUST] button → [PRINTER] button → [LABEL TYPE] tab, and input "TEST FORMAT (H)" and "LABEL GAP" on the screen for Printer No.1 and Printer No.2, respectively.

Standard specifications at factory shipment

	Label width	Label length (top-to-bottom)	Label gap
Printer No.1 (left)	**60 mm**	**55 mm**	**3.0 mm**
Printer No.2 (right)	**60 mm**	**37 mm**	**2.2 mm**

■ Inputting the advanced feed amount

Adjust the label edge cutting position considering the advanced feed amount. Whether the label edge can be cut smoothly or not depends on the qualities in label paper, label paste, label punching, label mount, and label surface condition.

Optimize the label edge cutting condition for both Printer No.1 and Printer No.2, respectively. Use the following equation to determine the advanced feed amount.

Advanced feed amount = (9.5 mm (distance from the print position to the tip of the peeling shaft)) − Label gap

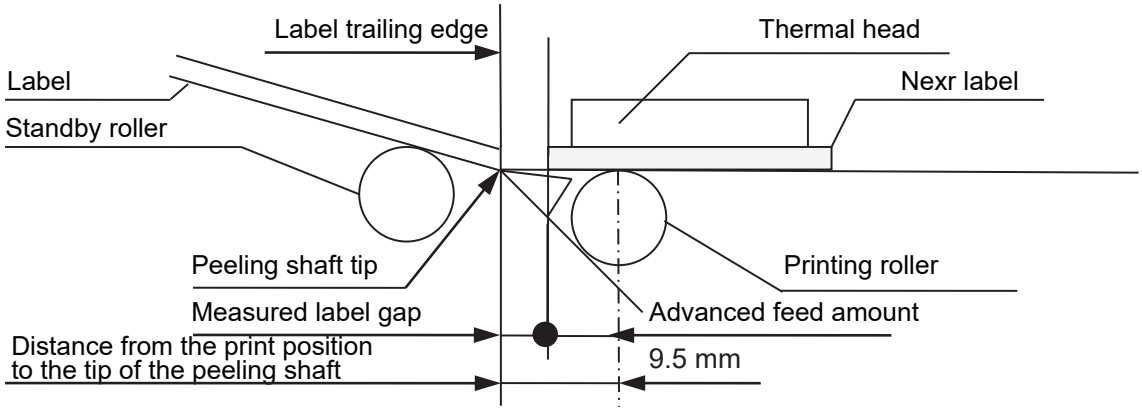
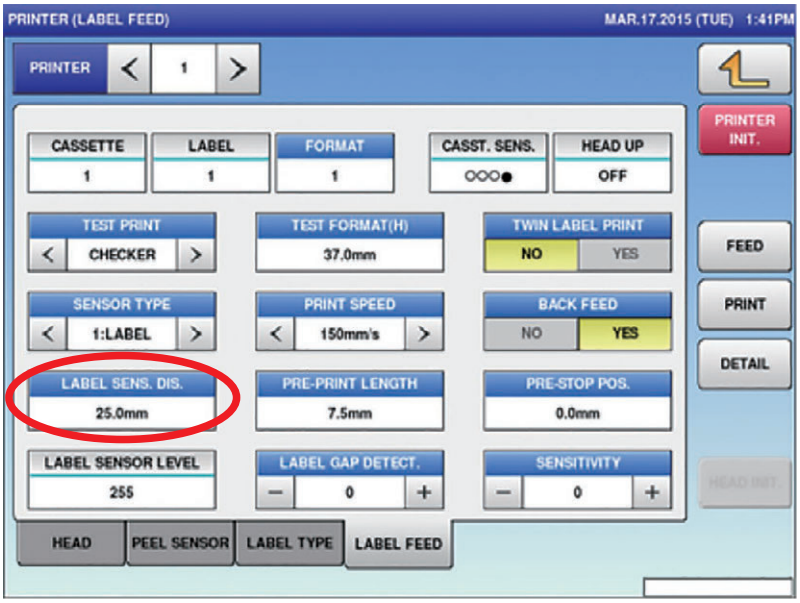


Figure 1

The optimum state is that the trailing edge of the label after printing comes to the tip of the peeling shaft as shown in Figure 1. (Do not feed the label too much)
In actual operation, it is normal if the distance measured from the leading edge of the next label to the tip of the peeling shaft matches the actually measured label gap value.

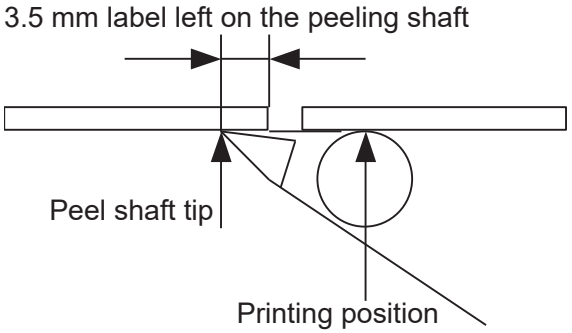
■ Setting the label sensor distance

Label sensor distance: Set TEST PRINT to "CHECKER" and measure the position of the ruled line of the thermal print above the address and store name from the bottom of the label. Enter a value in [LABEL SENS. DIS.] so that this dimension is the same as the input value for the advanced feed amount.



Input the advanced feed stop position
If an extremely large number (e.g., the same number as "Pre-print Length = 7.5 mm) is entered in the "Pre-stop Position", the label will be temporarily stopped before being sucked and will peel off from the label mount, which may cause an error that the label could not be sucked. To prevent this, make the following settings.

A label is left on the peeling shaft before being sucked.
Enter the "Pre-stop Position" (advanced feed stop position) for Printer No. 1 and Printer No. 2, respectively, so that the 3.5 mm trailing edge of the label is left on the peeling shaft.

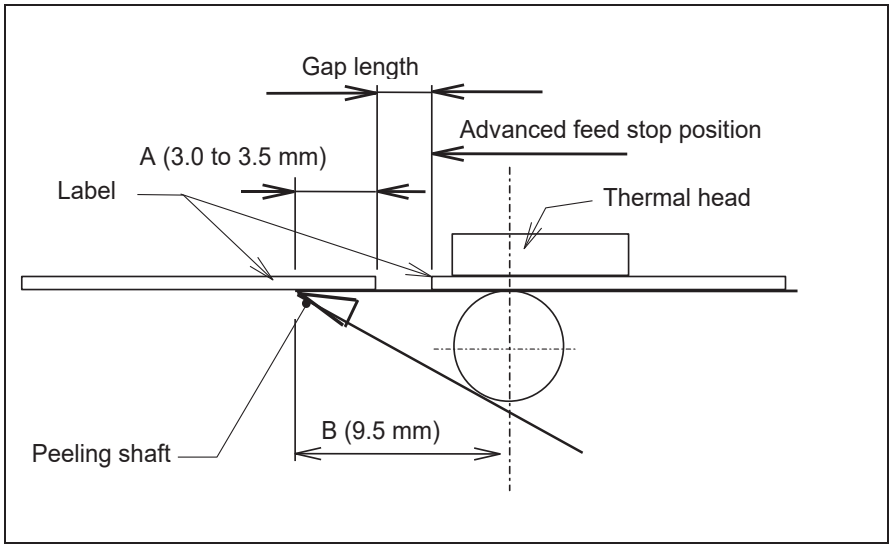


Advanced feed stop state

About "advanced feed stop position"

Set a value of advanced feed stop position in a range from Cmin to Cmax .
The value "C" is added or subtracted depending on how well the label peels from its mount.

Cmin : Advanced feed stop position (mm) = B (9.5 mm) − A (3.0 mm) − gap length
Cmax : Advanced feed stop position (mm) = B (9.5 mm) − A (3.5 mm) − gap length



Advanced feed stop position

To leave 3.5mm of label on the peel bar

[Advanced feed stop position] = [advanced feed amount] − (3.5 mm label left in peel shaft)

Here, set the "advanced feed stop position" in accordance with the "advanced feed amount" that is set to 0.
Note that the "advanced feed stop position" is set at the factory with the following reference value as a standard specification.

Printer No.1 [advanced feed stop position]: 7.3 − 3.5 = 3.8
Printer No.2 [advanced feed stop position]: 6.5 − 3.5 = 3.0

■ Setting the advanced feed amount and advanced feed stop position

Change the "advanced feed amount" value for adjustment. The higher the advanced feed value, the more labels are fed and stopped. To check the status of label edge cut, enter the same value as the advanced feed amount in the advanced feed stop amount field. Make sure the status is as shown in Figure 1.

After making it sure, set the correct value for the advanced feed stop amount.

■ Checking the level (optical axis) of the peel sensor

To check the peel sensor level, press [ADJUST] button → [PRINTER] button → [PEEL SENSOR] tab. It is normal if [PEEL SENSOR LEVEL] is 130 or more. If the value is less than 130, increase the PEEL SENSITIVITY setting to 130 or more. If this does not happen, adjust the front and rear positions of the left and right peel sensor brackets so that the PEEL SENSOR LEVEL is 130 or more. Also, check that the peel sensor value is 20 or less with the label on the label outlet.

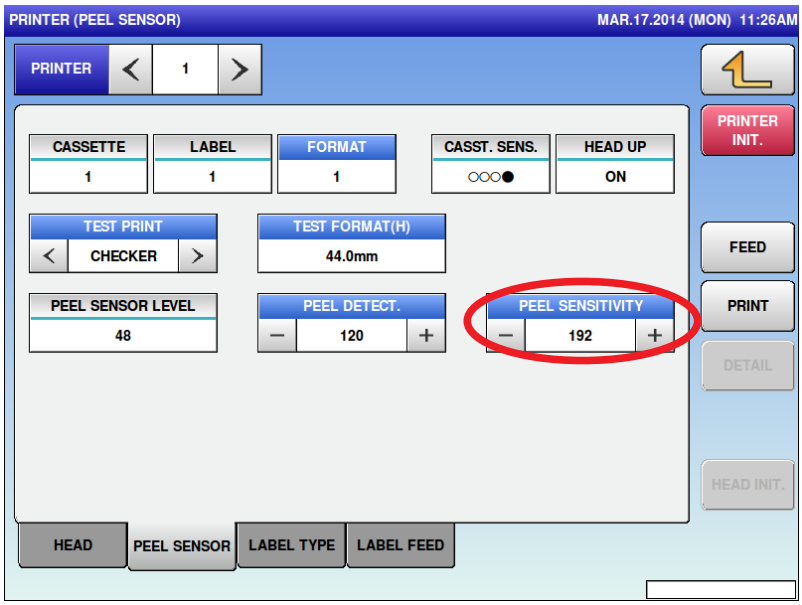


Figure 1

1

3.2.2 Label applicator unit

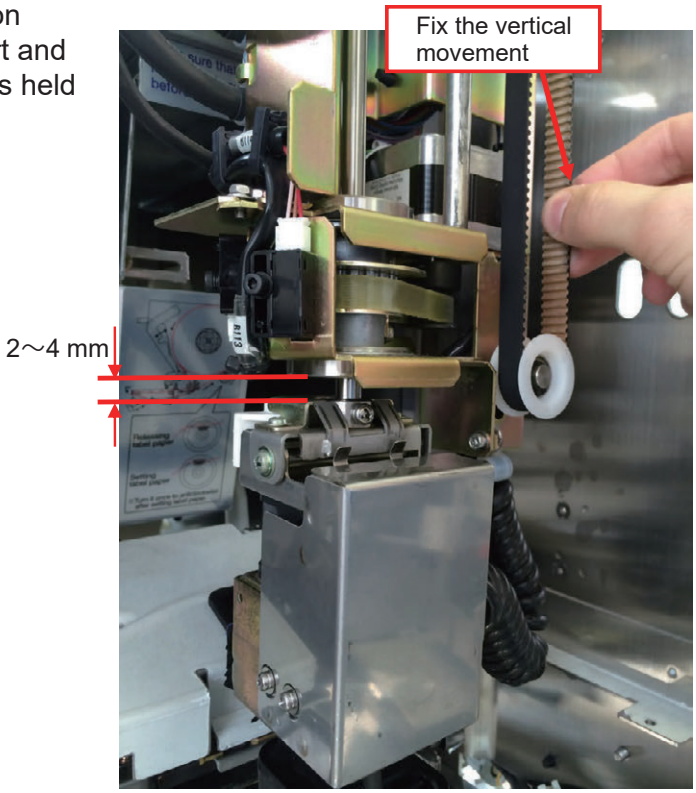
■ Checking the installation status of the curled cord

Follow the procedure below to check the installation status of the curled cord.

> ⚠ CAUTION
>
> Check the installation status with the emergency stop button pressed.

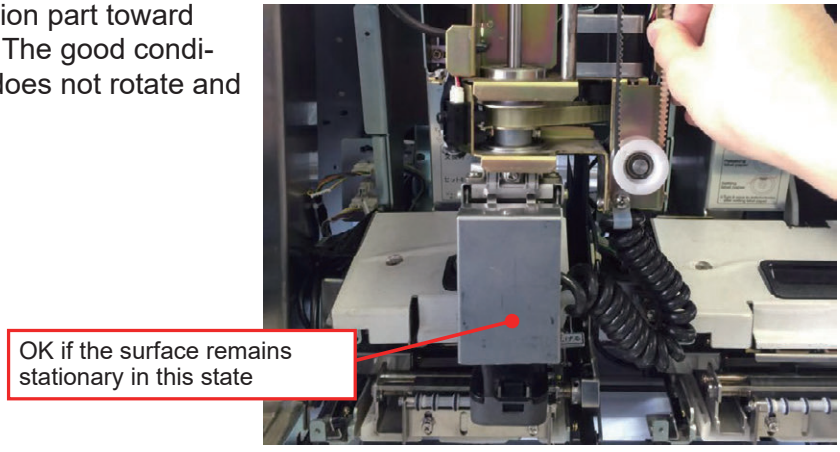
1

Fix the vertical movement at the position where the gap between the suction part and the bearing is about 24 mm. (The belt is held in the photo)



2

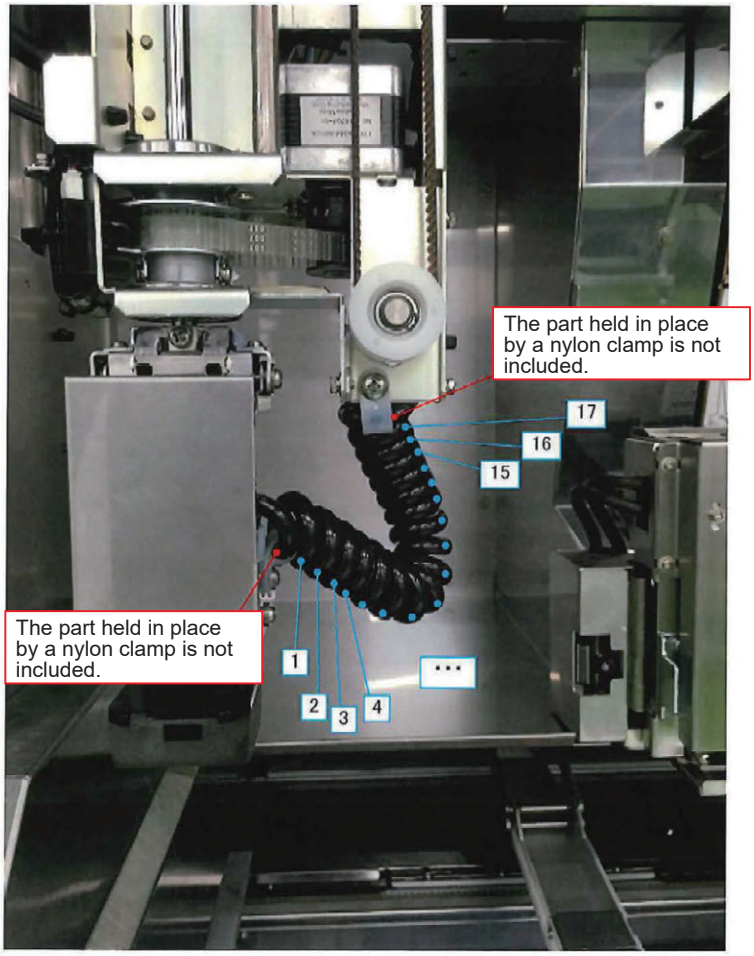
Face the surface of the suction part toward you and release your hand. The good condition is that the suction part does not rotate and stays still at that position.



3

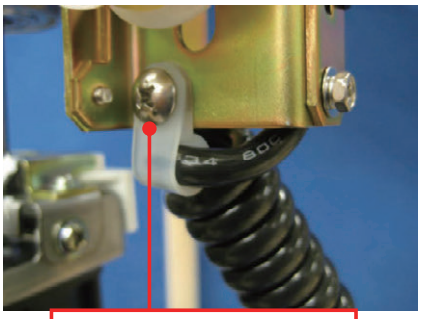
Fix the nylon clamp so that the free part of the curled cord has 17 turns.

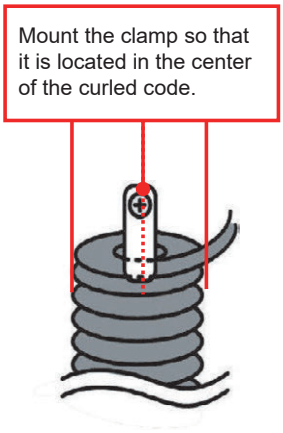
17 turns do not include the two parts where the cord is held in place with a nylon clamp.



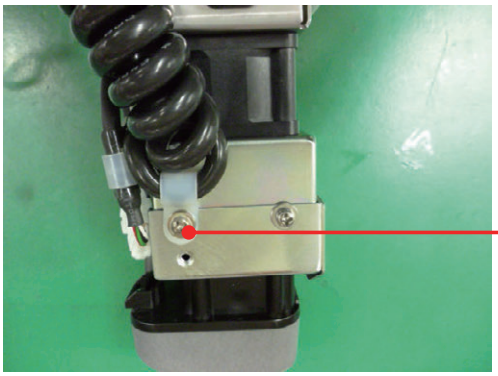
4

Attach the nylon clamps to the frame while paying attention to the orientation.



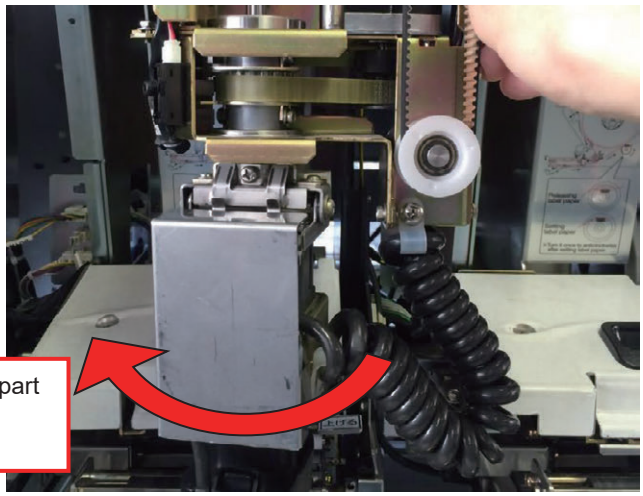


Precautions when mounting the clamp on the suction part side of the label applicator



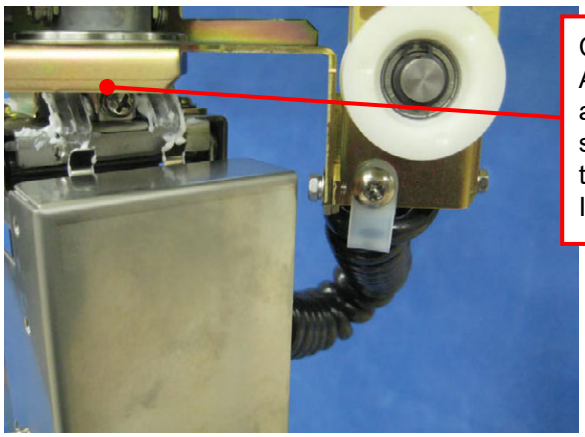
5

If the coiled cord is twisted, the suction part is rotated by being pressed by the cord as shown in the photo. Remove the clamp and insulation lock on the frame side, untwist the cord and reinstall them.



NG (no good) if the suction part rotates to the left by being pressed by the curled cord

How to check the wiring of the curled cord of the label applicator

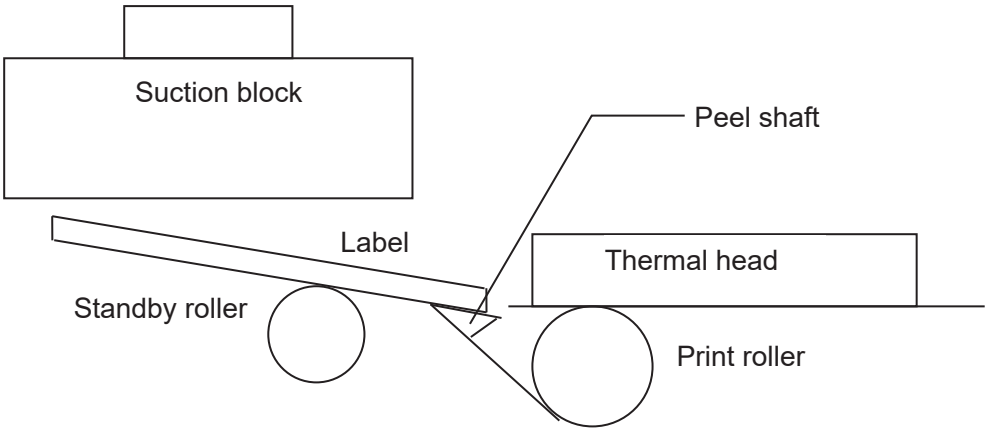


Checking the coiled cord
Align the top surface of the label applicator's suction part and the bottom of the bearing to 2 to 4 mm, and make sure that the suction part is not misaligned when facing toward you.
If it is misaligned, adjust the curled cord fixing position.

■ Suction method (outward-facing labels)

- The suction method is a method in which a label is placed between the standby roller and the suction block at the suction position, pulled out, and then transferred to the predetermined labeling position.
- The figure below shows the state of the label when being sucked. By holding down the label with the suction block, the trailing edge of the label can be raised and the edge of the label can be cut well.

Also, it has been confirmed to be effective against the propeller-like warping of labels. (Be sure to adjust the printer and label applicator correctly)



Leave 3.5 mm of label end temporarily in the label mount.

Figure 1: Advanced feed stop state

Feed the trailing edge of the label to the end of the peeling shaft again. At that moment, the label is pinched between the standby roller and the suction block, and then pulled out toward you.

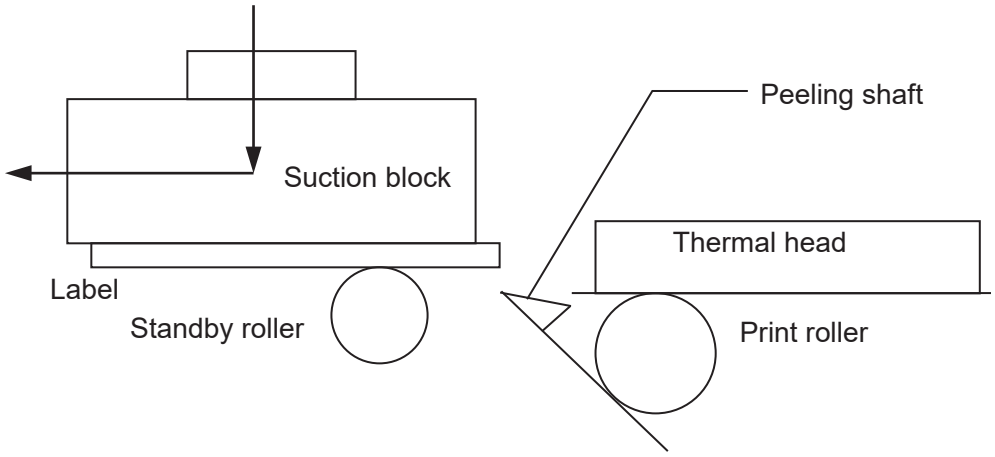


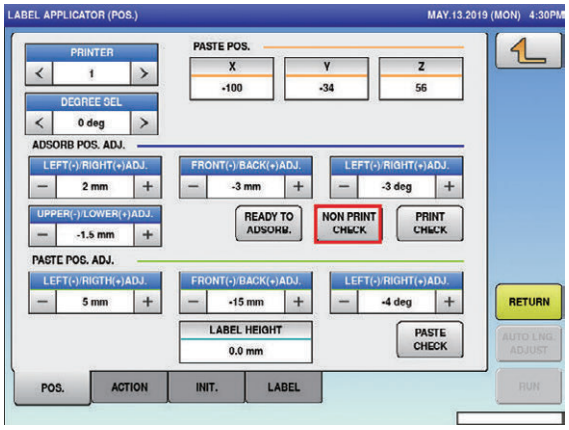
Figure 2 Suction operation

1

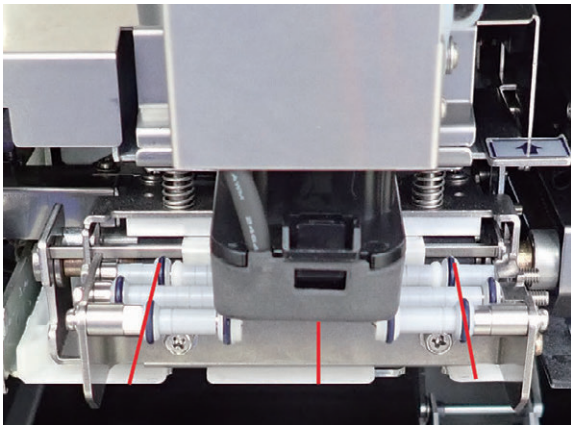
■ Adjusting the suction position

Right and left positions

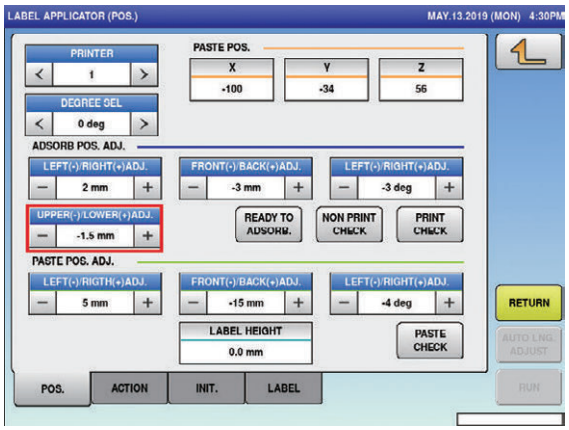
Check the right and left sides of the suction position on the [POS] tab screen of the LABEL APPLICATOR screen.
Press [NON PRINT CHECK].



The suction unit moves to the currently set label suction position.

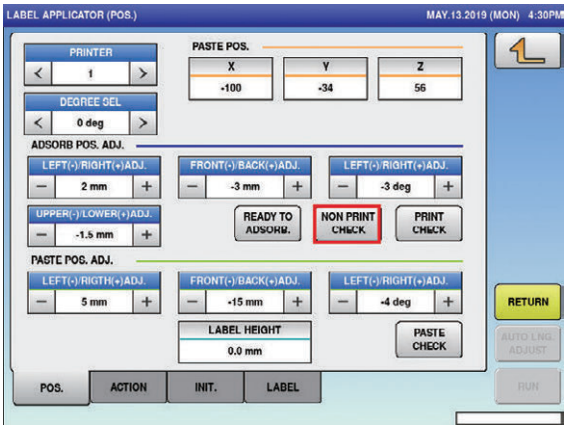


Press [-] or [+] in the [LEFT(-) / RIGHT(+)ADJ] field so that the suction unit comes to the center of the standby roller. Pressing [-] moves the suction unit to the left, while pressing [+] moves it to the right.
When [NON PRINT CHECK] is pressed after the change, the suction unit moves back to the suction position where the setting has been changed.
Repeat the right and left position adjustment several times so that the suction unit comes to the center of the right and left of the standby roller.

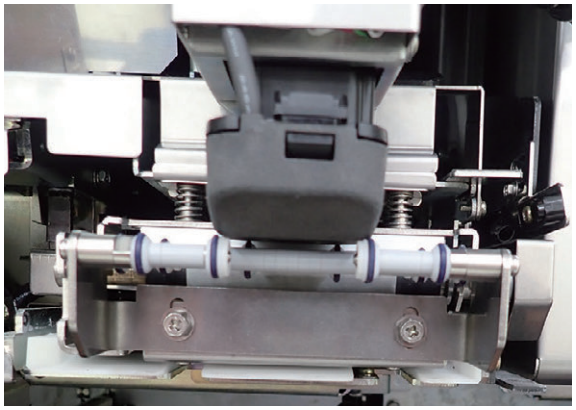


Upper and lower positions

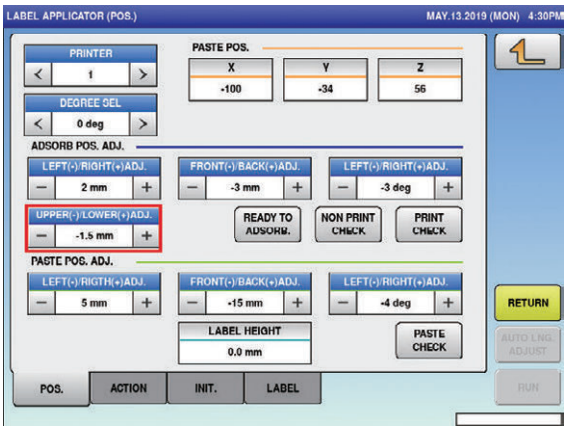
Check the top and bottom of the suction position on the [POS] tab screen of the LABEL APPLICATOR screen.
Press [NON PRINT CHECK].



The suction unit suction unit moves to the currently set position up to the label suction position.



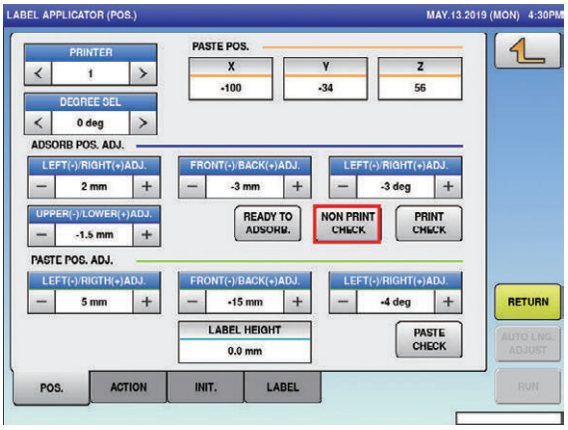
Adjust the position so that the bottom of the suction block comes lightly in contact with the top of O-ring.
Press [-] or [+] in the [UPPER(-) / LOWER(+) ADJ] field.
Pressing [-] moves up the suction unit, while pressing [+] moves it down.
When [NON PRINT CHECK] is pressed after the change, the suction unit moves back to the suction position where the setting has been changed.
Then, change the setting value so that it is 0.5 mm below where it is in contact with the O-ring. Add 0.5 to the current value.
If the upper and lower suction positions are not adjusted correctly, a suction error occurs due to a decrease in the suction force of the label applicator or deterioration of the O-ring caused by pressing the label too hard against the standby roller.



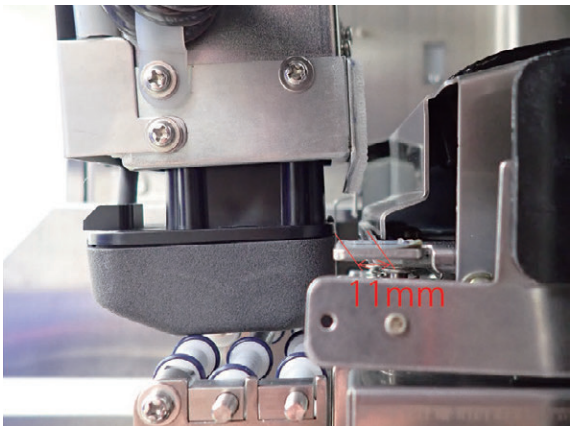
1

Front and back positions

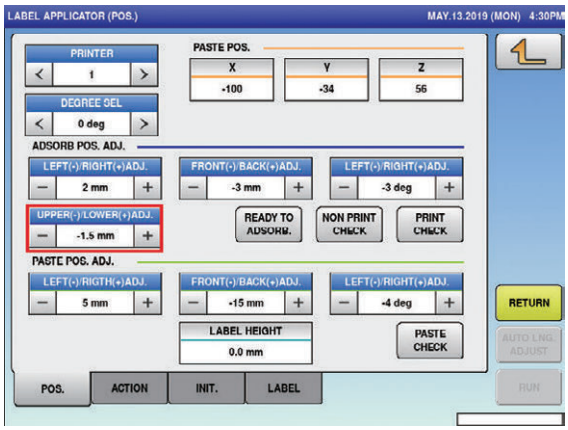
Check the top and bottom of the suction position on the [POS] tab screen of the LABEL APPLICATOR screen.
Press [NON PRINT CHECK].



When [NON PRINT CHECK] is pressed after the change, the suction unit moves back to the suction position where the setting has been changed.

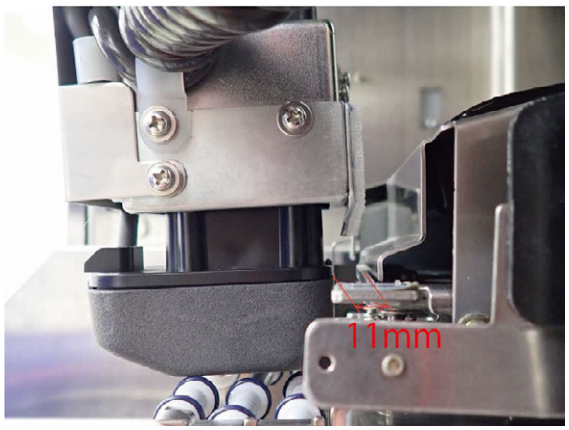


Set the gap at 1 mm between the butt of the printer head bracket and the back side of the suction unit.
Press [-] or [+] in the [FRONT(-) / BACK(+) ADJ] field.
Pressing [-] moves the suction unit to the front, while pressing [+] moves it to the back.
When [NON PRINT CHECK] is pressed after the change, the suction unit moves back to the suction position where the setting has been changed.
Repeat the front and back position adjustment several times to adjust the front and back positions of the suction unit.



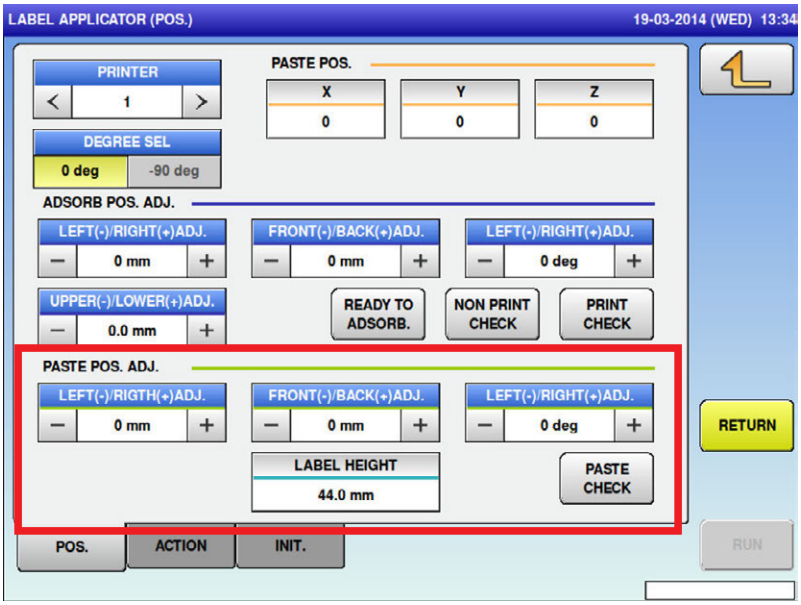
■ Adjusting front/back of label applicator when top-to-bottom size of the label exceeds 80mm

If the vertical dimension of a label exceeds 80mm, the suction position moves forward by 10mm both at 0° and -90° in order to secure labeling accuracy.
For labels with a vertical dimension of 80 mm or more, adjust the position so that it becomes 11 mm (1 mm + 10 mm) because the suction unit automatically moves 10 mm forward.

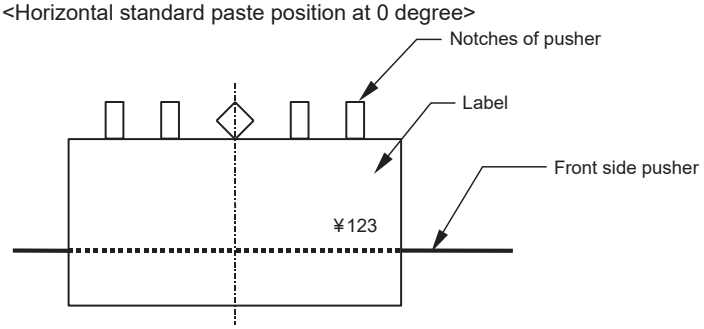


■ Adjusting the paste position

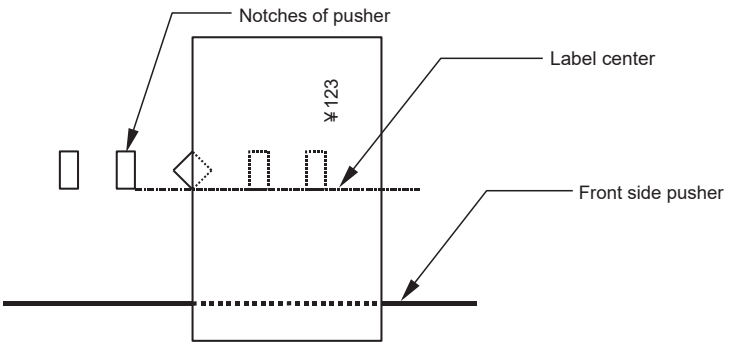
Press the [ADJUST] button → [LABEL APPLICATOR] button → [POS.] tab to adjust the standard paste position of No.1, and No.2 machines.



<Horizontal standard paste position at 0 degree>



<Right-angle standard paste position at 90 degree>



1

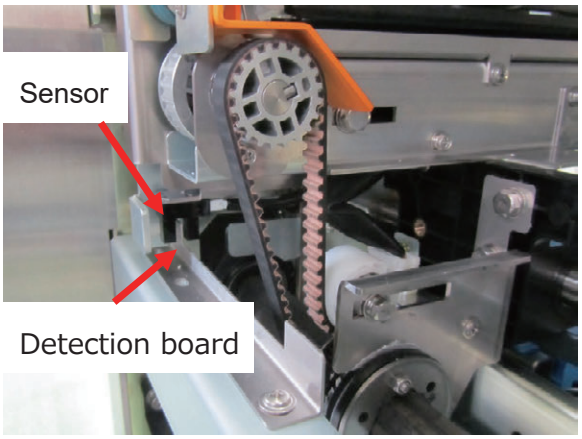
3.2.3 Film feeder unit

■ Adjusting the front feeder original position

Adjust the position of the front feeder pinch in the following order.

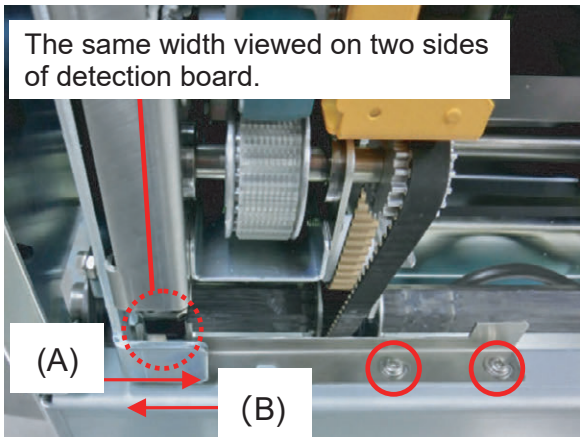
1. Adjust the front feeder original position.
2. Adjust the position of the insert plate notches and the front feeder pinch. (See the section of the delivery unit.)
3. Adjust the position of the insert plate notches and the rear feeder pinch. (See the section of the delivery unit.)

The detection board and the sensor for adjusting the front feeder original position

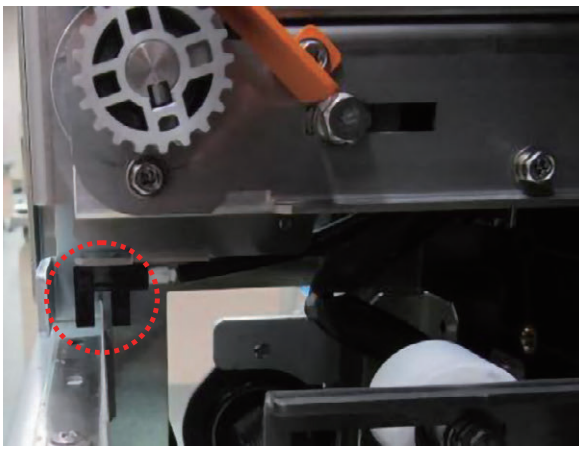


Adjusting front feeder original position

When more than 450 mm wide film is used for continuous wrapping, adjust this original position.
Touch [TEST MODE] → [FRONT FEEDER MOVE] to adjust the detection board so that the move (A) (front to back) and move (B) (back to front) are met in the same position.
Adjust the position with the two screws.



From the side view, check that the detection board is located
in the center of the sensor.



■ Film Conveyance Operation Check

●The solenoid for the belt presser operates as described below.

- The solenoid is OFF when the film is transported. (The belt presser is at the lower position.).
- After the film conveyance is completed (when wrapping), the solenoid is ON. (The belt presser is at the upper position.)
- When the film is loaded or removed, or when the return operation is executed, the solenoid is ON. (The belt presser is at the upper position.)
- When executing clamp operations on the Unit Action screen in the Adjustment mode, the solenoid for belt presser repeats ON and OFF.

●Check the following items when defective film conveyance has occurred.

- Is the setting of film width correct?
- Is the film roll inserted in the correct direction?
- Is the solenoid for pinching appropriately adjusted?
- Is the position between of the notch of the insertion plate and the feeder pinch correct?
- Is the film edge inside of the cutter blade?
- Is the flat belt correctly passed? (Is it passed under the clamp and belt presser?)
- Is the roll brake appropriately set?
- Does the holding bar rotate smoothly?
- Is the position between the insertion plate, the feeder, and the cutter base correct?

●Check the following items when an error indicating that the film has not been supplied occurs though the film has been successfully transported.

- Check whether the film passage detection sensor is normal or not with the sensor checker.
- When the film passage detection sensor is normal, install the sensor bracket at the upper-adjustment position and move the detection panel close to the film conveyance surface. (The sensor bracket is installed at the upper-adjustment position at the time of shipping.)

●Check the following items in case of failure to set the film.

- Is the setting of film width correct?
- Is the film roll inserted in the correct direction?
- Is the film type selected correctly?
- Has trimming been performed when setting the film?
- Is the film hung within the range of the film hanging range seal?

1

■ Countermeasures to "Insertion open / close is not set" errors

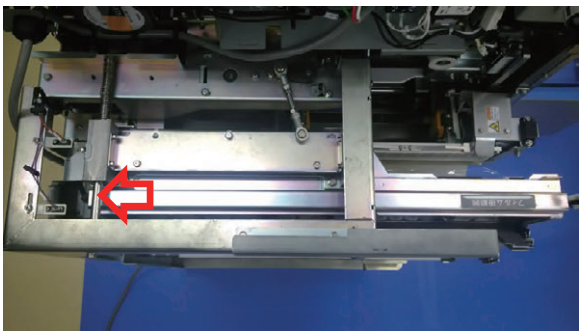
If used with no sag in the movable parts of the harness for the insertion open / close detection sensor, broken wires may occur easily in the areas secured by bundled bands in the harness.

Sensor replacement procedure

1

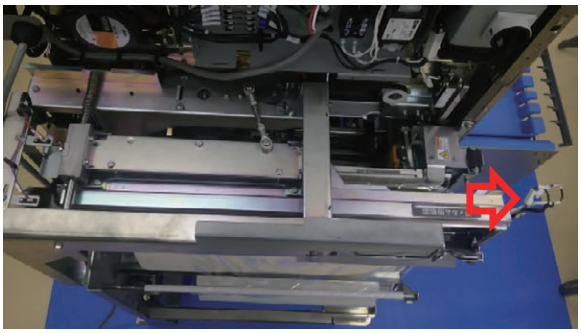
The sensor harness connector is housed inside the stay for the insertion unit. Further, the remaining cable can be pushed inside from the back.

When removing the harness, first pull out only the cable that has been pushed in from the back.



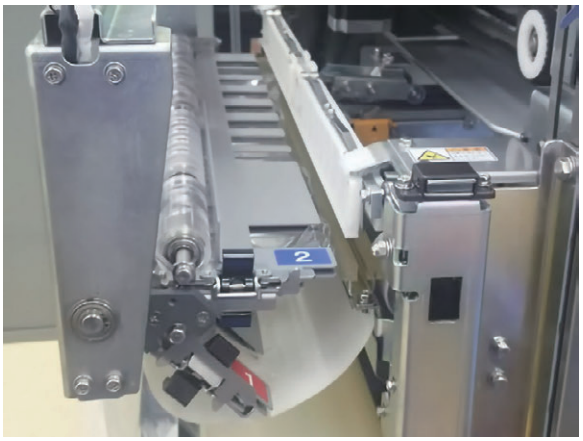
2

Pull the harness from the front, and remove the connector that comes out.



3

Set the insertion unit to the same angle as during lower film feed.

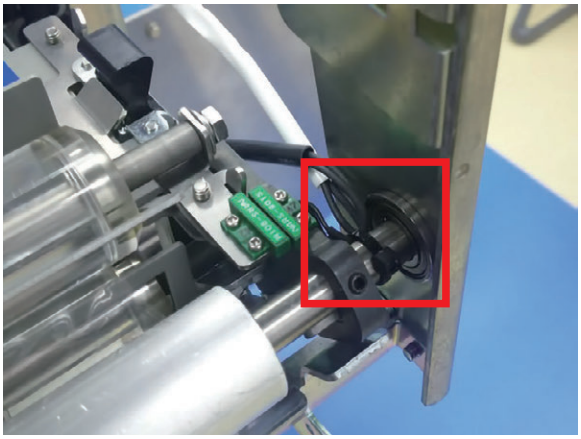


NOTE

Mount with a little amount of sag at the position where the harness is most taut.

4

Use bundling bands to secure the harness so that it does not move to the D cut position on the shaft.D cut position on the shaft.

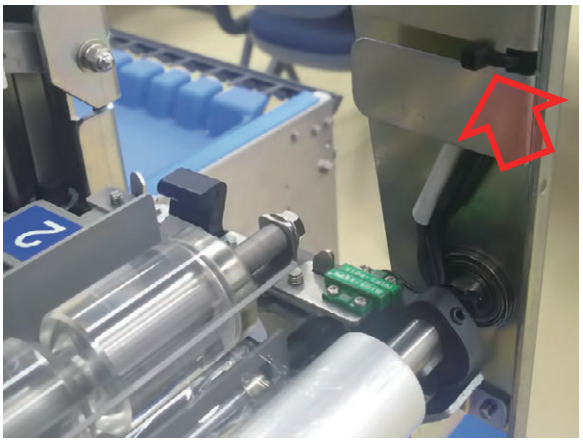


NOTE

The cable tie should be secured loosely enough to prevent the harness from becoming disconnected.

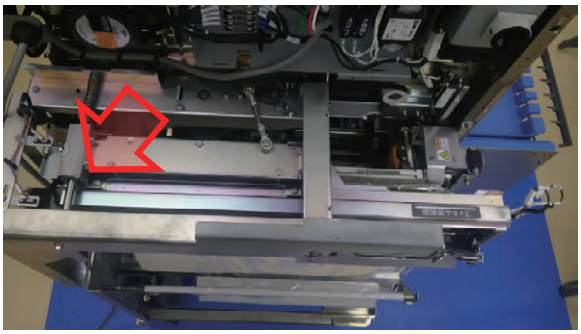
5

Create sufficient sag in the harness, and use bundling bands to secure the harness to the bracket.



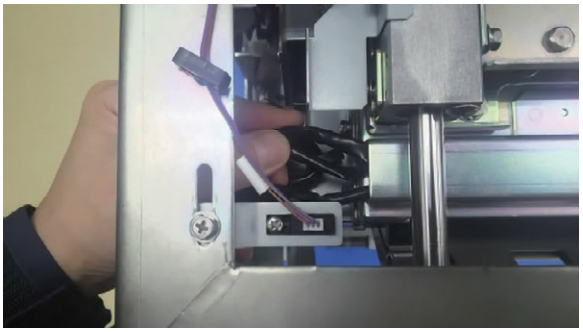
6

Connect the harness, and pull the cable from the back.



7

Fold up the cable as shown in the diagram on the left, and push the harness into the stay.



NOTE

Forcefully pushing the cable in from the front may disconnect the harness from the connector, and the connector will be pulled free on the inside.

NOTE

After mounting the sensor, check the following items.

- Make sure that the harness is not being pulled at the lower film feed position (If hanging 1, check the upper film feed position.)
- Make sure that the harness does not rub strongly against or catch on other parts when the insertion unit rotates from the lower film feed position to the upper film loading position.

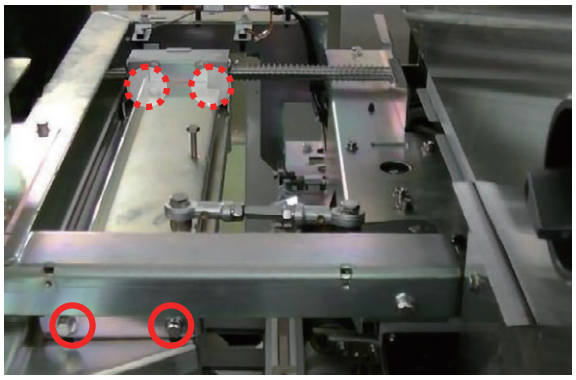
3.2.4 Delivery unit (Insertion Plate)

■ Adjusting the height of the delivery unit

1

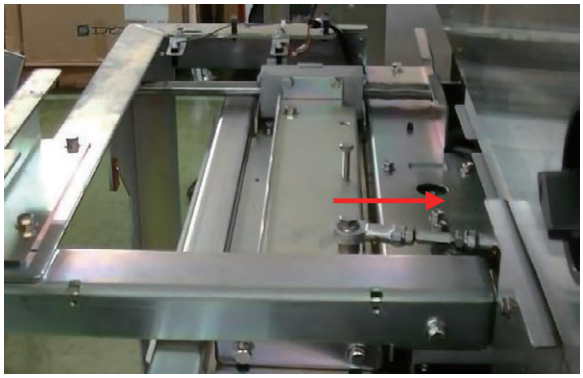
Loosen the screws on both ends.

After loosen the screws, delivery unit can be moved in the up/down positions.



2

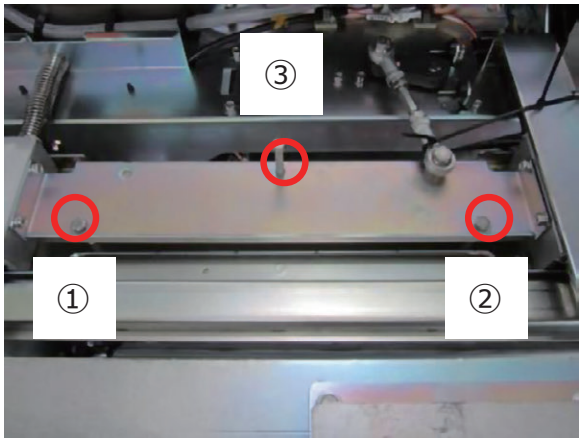
Push in the delivery unit.



3

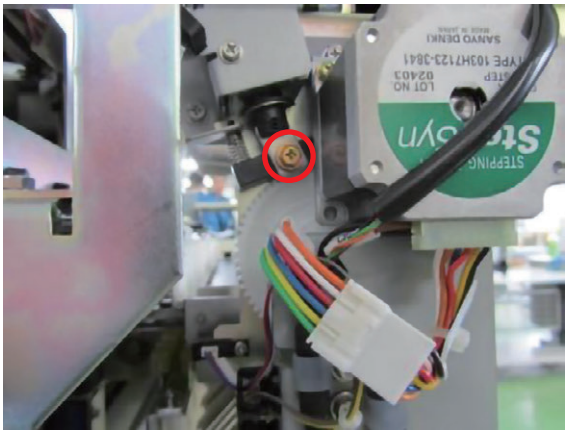
Adjust the height using three jack screws.

In the positions of (1) and (2) shown in the picture, perform the parallel adjustment of height and front / back positions.
In the position of (3), adjust right / left positions.



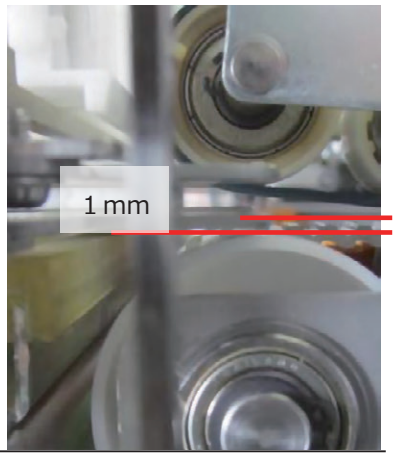
Performing fine adjustment for delivery unit

Perform fine adjustment for the delivery unit to set the insert plate (lower side) horizontally by moving the teeth of gear.
If it does not become horizontal, slightly move the fixed position of the supporting point.



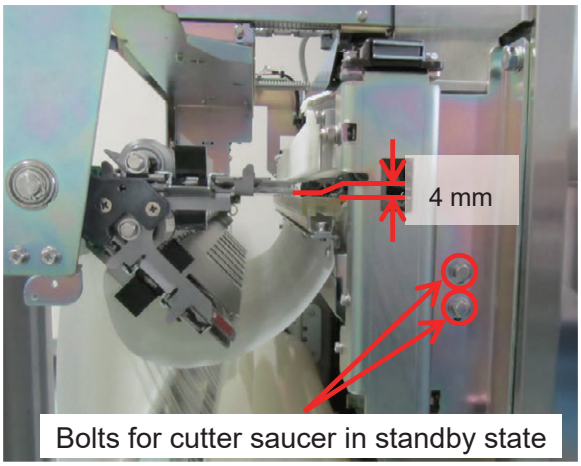
Referential value for height adjustment

Adjust to set the gap at 1 mm between the insert plate (lower side) and the feeder belt slave roller.
Check the other side roller.



■ Adjusting the height of the cutter saucer

Adjust the cutter saucer to set the gap at 4 mm between the insert plate (lower side) and the cutter saucer in standby state.

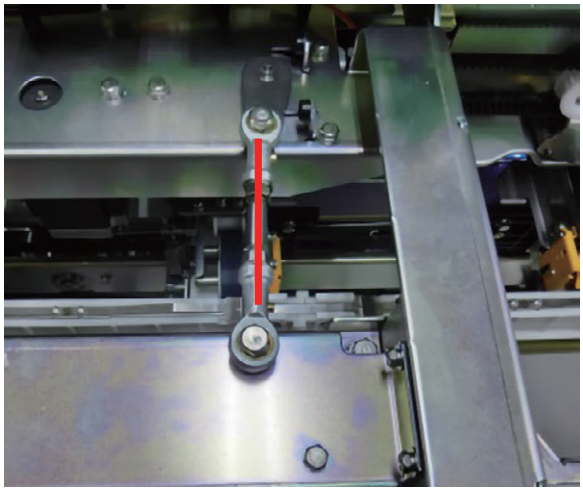


Bolts for cutter saucer in standby state

■ Adjusting the original position of the delivery unit

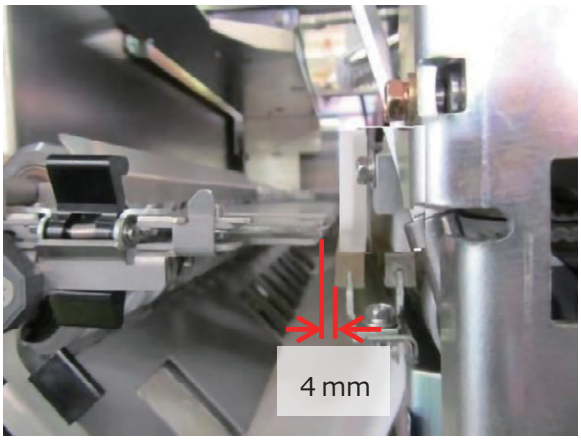
1

Shift the delivery unit to the position in which the rod end becomes straight.



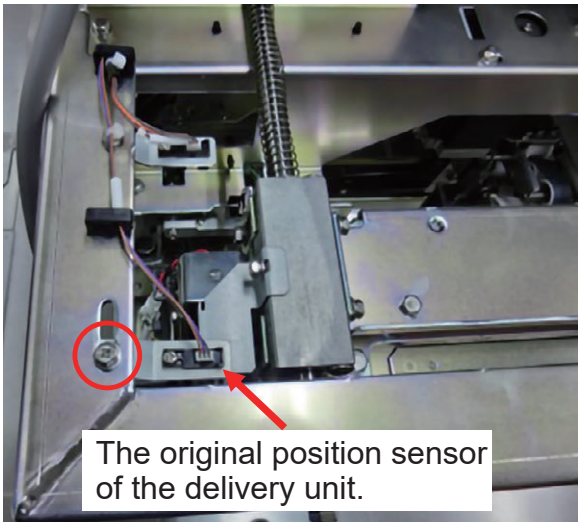
2

Adjust the rod end length to set the gap at 4 mm between the cutter saucer and the left side of the insert plate forefront.



3

Loosen the screws indicated in the circle in the picture, adjust the position of the delivery unit original position sensor to make the rod end straight at the original position. After returning to its original position, make sure that the distance between the cutter saucer and left side of the insert plate forefront is 4 mm.


The original position sensor of the delivery unit.

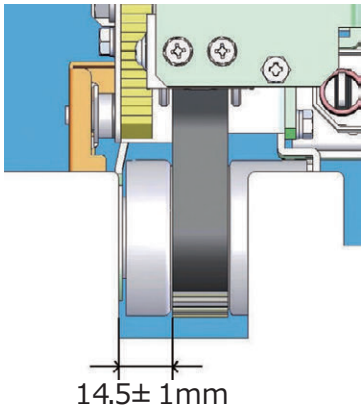
1

■ Adjusting the position of the insert plate notches and the front feeder pinch

Adjust the position of the insert plate notches and the front feeder pinch in the following order.

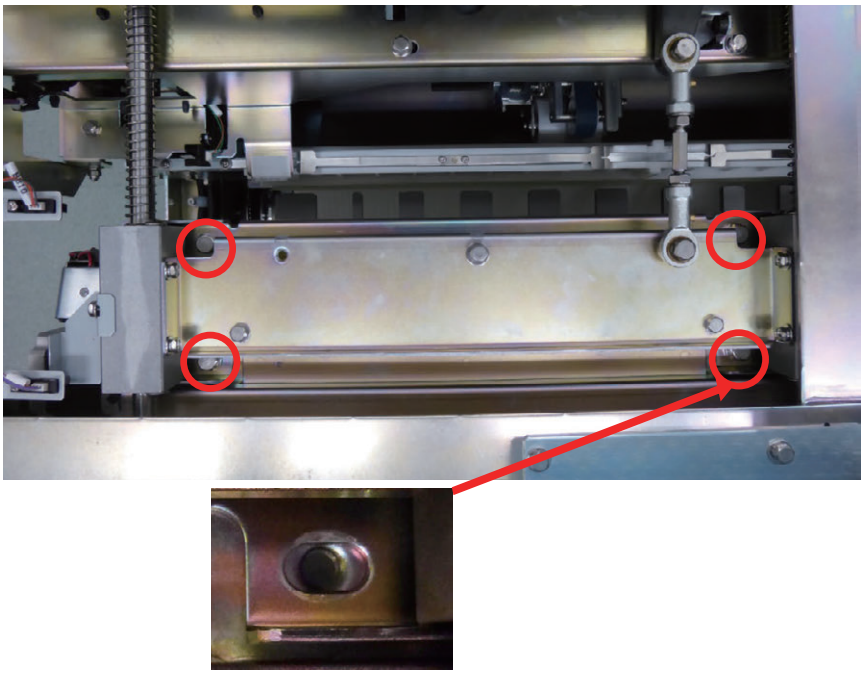
1. Adjust the front feeder original position. (See the section of the film feeder unit.)
2. Adjust the position of the insert plate notches and the front feeder pinch.
3. Adjust the position of the insert plate notches and the rear feeder pinch. (See the next section.)

After returning to its original position, measure the gap between the insert plate notches and front feeder belt.
If it is not within the range as indicated in the figure, adjust the position of the insert plate notches.



Adjusting the position of the insert plate notches

Move the insert plate by loosening the bolts indicated in the 4 circles in the picture.
Fix the insert plate to be set at the specified gap between the insert plate notches and feeder belt.



■ Adjusting the position of the insert plate notches and the rear feeder pinch

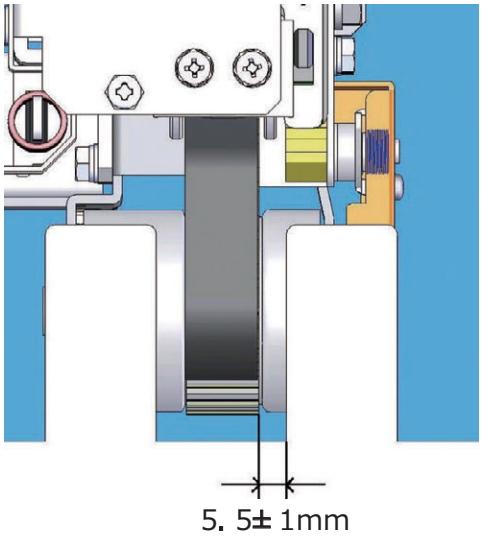
Adjust the position of the insert plate notches and the rear feeder pinch in the following order.

1. Adjust the front feeder original position. (See the section of the film feeder unit.)
2. Adjust the position of the insert plate notches and the front feeder pinch. (See the preceding section.)
3. Adjust the position of the insert plate notches and the rear feeder pinch.

After adjusting the front feeder pinch position, measure the gap between the insert plate notches and rear feeder belt in the following order.

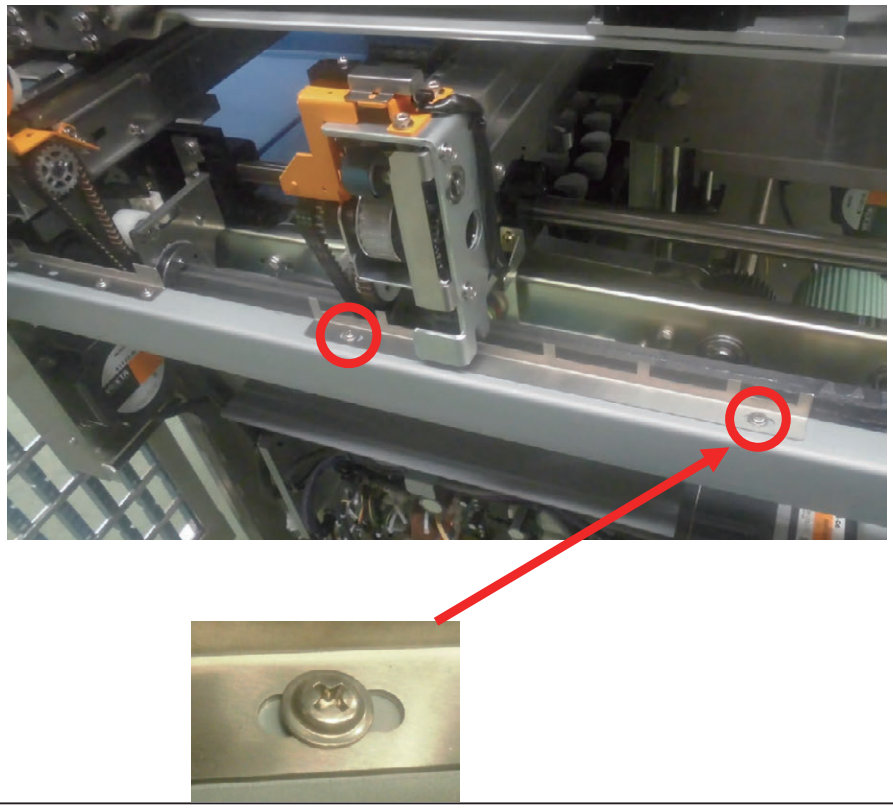
If it is outside range, adjust the installation position of the detection board of film width.

(1) Press the emergency stop switch.
(2) Move the rear feeder forward.
(3) Release the emergency stop and press the [RETURN] button.
(4) After the rear feeder is shifted to the front feeder side, it stops in the detection board position of film width.
(5) Check the gap between the notches and pinch.



Adjusting the detection board position of film width

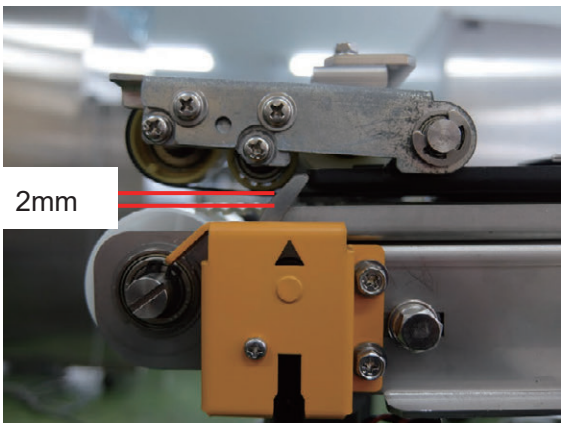
Move the detection board of film width by loosening the bolts indicated in the 2 circles in the picture.
Fix the insert plate to be set at the specified gap between the insert plate notches and feeder belt.

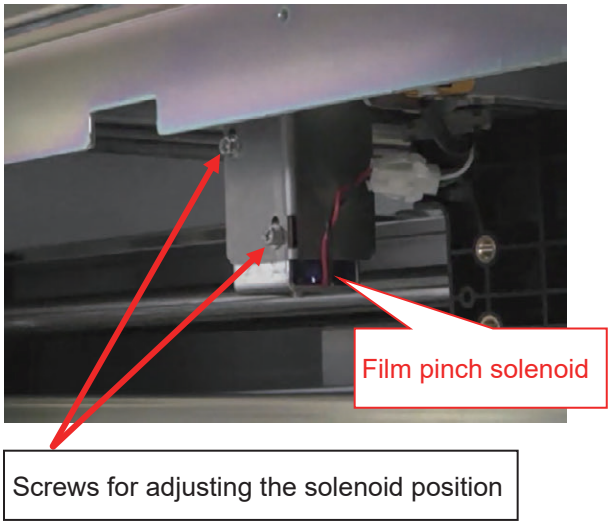


1

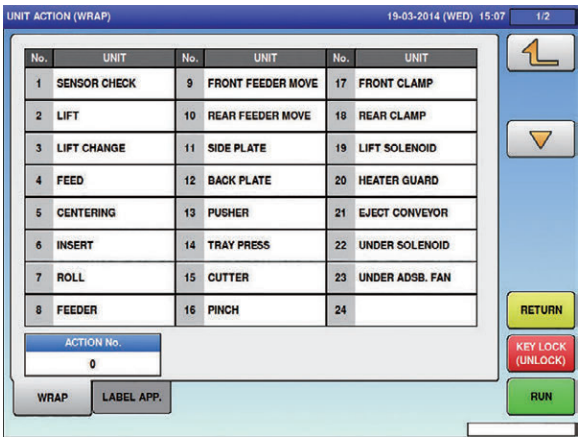
■ Adjusting the pinch

Compared to the conventional machines, the WM-AI uses strong suction power solenoid and the strong return spring for the film pinch. Therefore, the film pinching part may be released during film conveyance depending on the solenoid's adjustment position. Tightening the solenoid adjustment when the film pinching part is released worsens the condition of the pinch. Be sure to perform adjustment and check according to the procedure below.



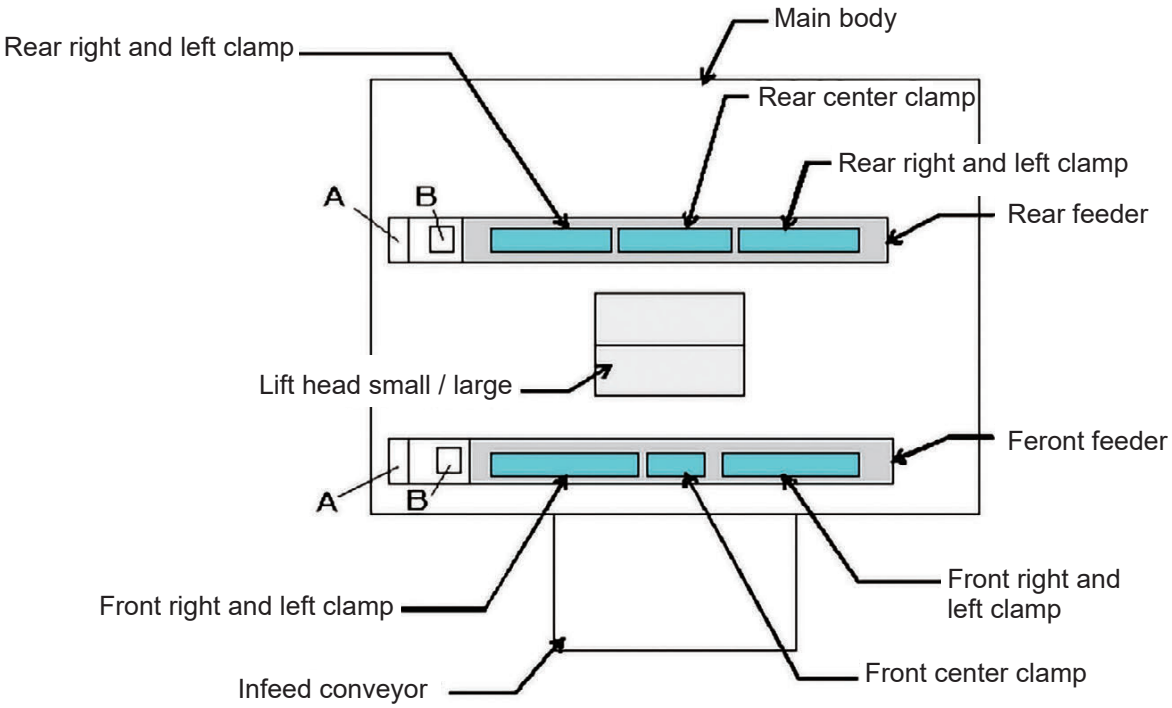


In the adjustment mode for maintenance, press, perform adjustment via "UNIT ACTION" → "WRAP" tab screen by following the procedures described below.



■ Adjusting the clamp

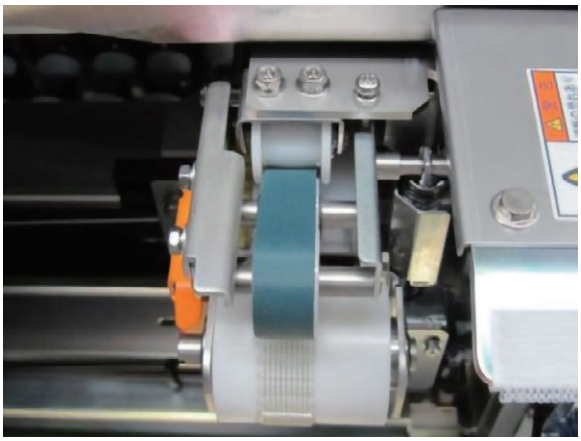
Clamp is used for holding a film during wrapping trays. Whether the wrapping is successful or not depends on the timing when the film is released by the clamp.
There are 3 clamps in each of rear feeder and front feeder, and are located as shown in the figure below. The right and left sides of each clamp must be moved at the same timing (up to 10 ms timing difference acceptable).
Make sure that the film is not come off when the film is stretched at the maximum.



Film feeder unit (top view)

■ Adjusting the meandering flat belt

Perform operation check on [8 FEEDER] in [UNIT ACTION].
Make this adjustment if the flat belt is meandering.
Use the two screws located on the surface of the flat belt for adjusting the flat belt.



⚠ CAUTION

Be sure to adjust the belt so that the flange of the idler pulley and flat belt do not contact each other during forward operation (film conveyance direction).
Be sure to check that the flange of the idler pulley and flat belt do not strongly contact each other (must not be deformed) during reverse operation.

⚠ CAUTION

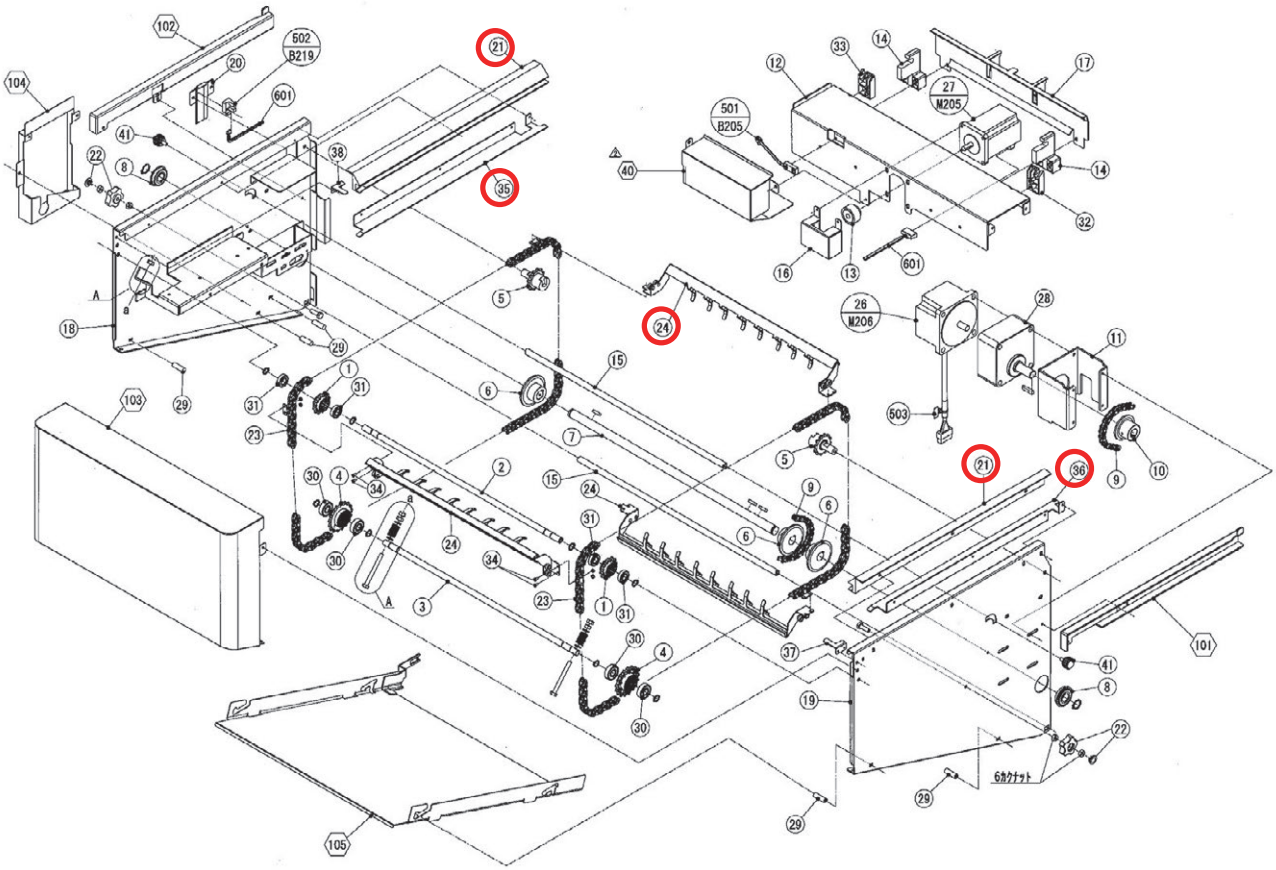
There is also a location for meander adjustment at the film overrun side.

3.2.5 Infeed unit

■ Checking the original position return of the conveyance bar

When replacing the supporter rail or the guide pusher, check the original position return of the infeed bar of the infeed conveyor unit.
(This is to check if the infeed conveyor unit and supporter rail are correctly mounted and the conveyance bar is not interfered.)
Perform checks after completing adjustment of each part.

1. a. In normal mode, press the return button and then push the emergency stop switch button.
2. b. Push the infeed conveyance bar (No.24 in the exploded view) into the rear of the machine until it is interfered with the lift head unit.
3. c. Press the return button.
4. d. Check that bar is returned to the original position without an error. If an error occurs check that the guide pusher (No.21 in the exploded view) and supporter rail (No.35 and 36 in the exploded view) are closely attached and mounted.



Exploded view

1

3.2.6 Camera unit

■ Adjusting the installation position of detection camera

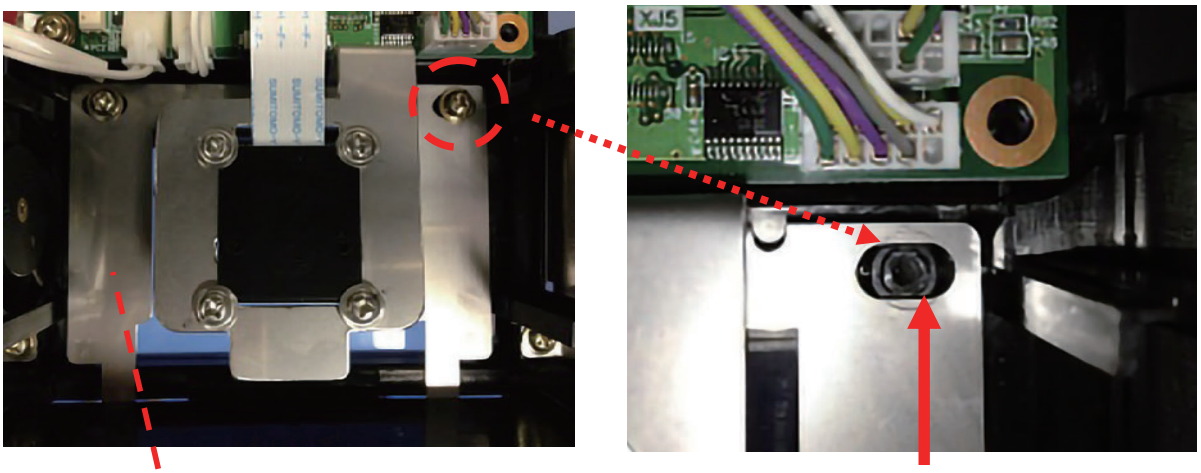
[Items to be adjusted]

Installation position of camera, gradient of camera bracket

[How to adjust and check]

1

Fix the camera installation bracket to be located in the center of the hole.



CAMERA UNIT STANDARD 100-004-6558-00

Use TP screws (M3-6 SUS) to fix the CAMERA: CMOS: COLLAR to the BRACKET: CAMERA. Tightening torque should be M3 standard torque (0.6Nm).
Check that BRACKET: CAMERA is not on the PLATE: FILTER: CAMERA as shown in Figure1.

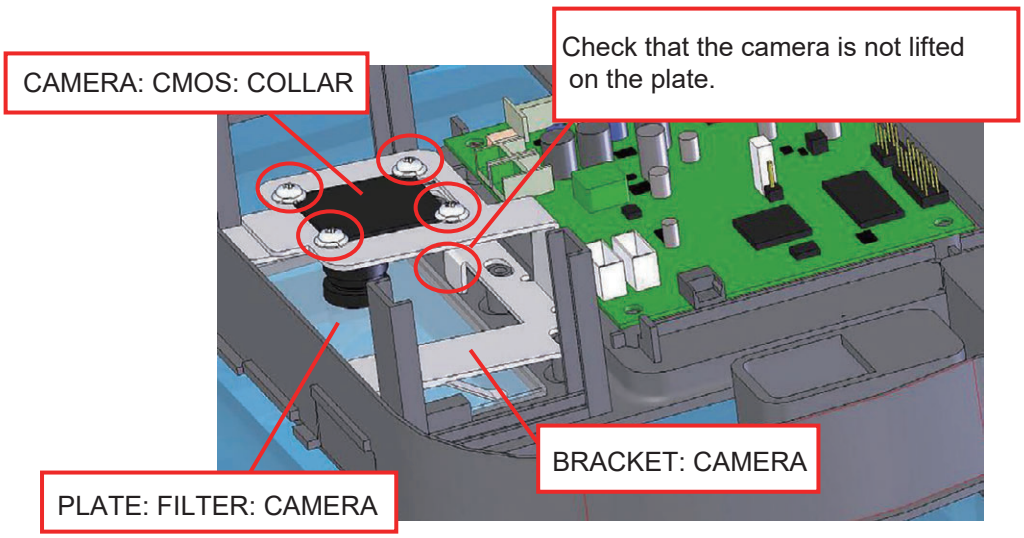


Figure 1

2

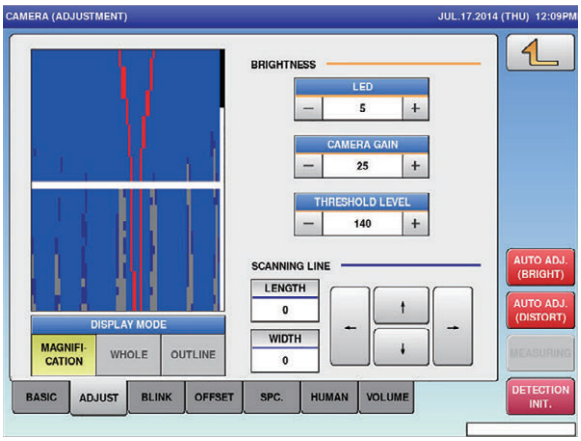
Adjust the camera after mounting the cover.

3

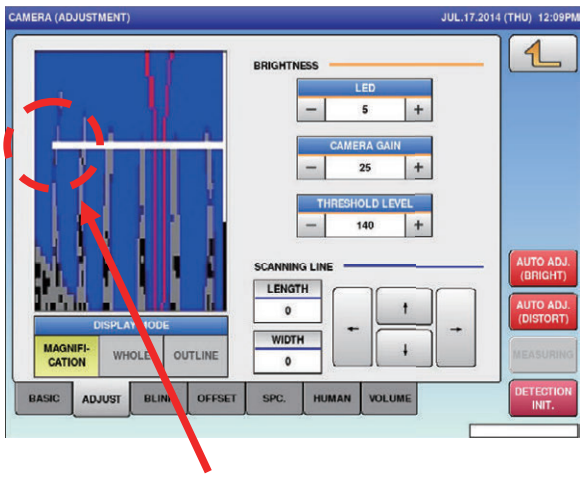
On the [CAMERA (ADJUSTMENT)] screen, display [DISPLAY MODE <WHOLE>] of ADJUST mode to check that the following four points are satisfied.

□ In [DISPLAY MODE <MAGNIFICATION>], check that the standard adjustment line (white line) in the width direction is not broken.
→If the line is broken, perform step 4 “Length direction offset”.

Normal (no adjustment required)



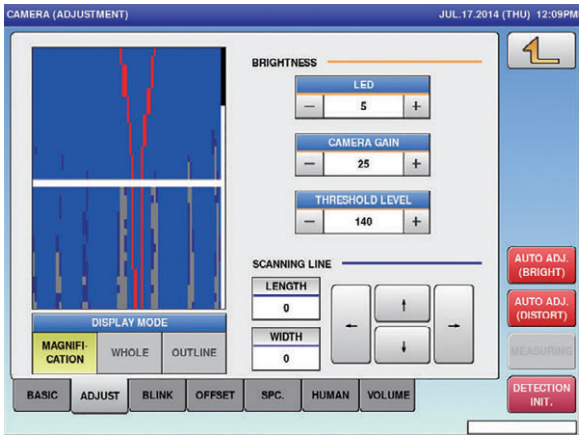
Platter is right-aligned (adjustment required)



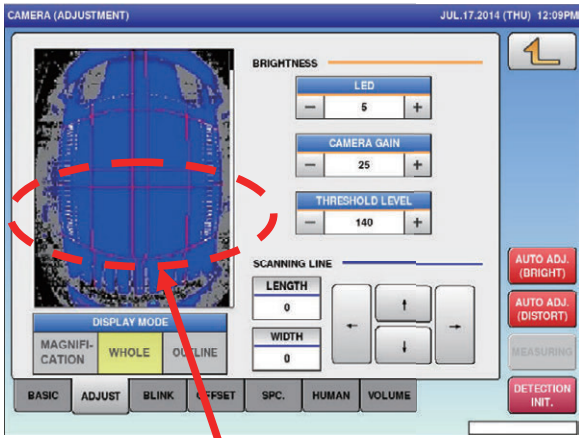
Standard adjustment line is broken

□ In [DISPLAY MODE <MAGNIFICATION>], check that the standard adjustment line (white line) in the width direction is not extremely aligned to the upper or lower side. (An adjustment line be far from the top and bottom indication frames more than 25 mm (actual value on the screen)).
→If the line is extremely aligned to the upper or lower side, perform step 5 “Width direction offset”.

Normal (no adjustment required)



Platter is lower-aligned (adjustment required)

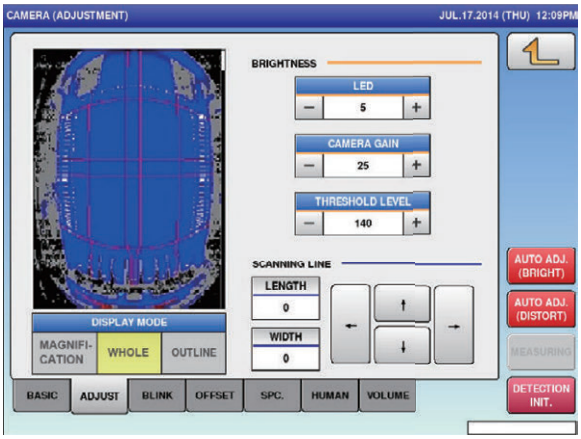


Standard adjustment line is extremely aligned to the lower side

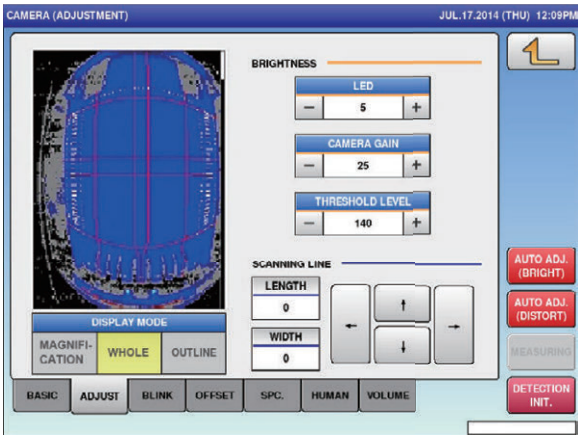
1

□ In [DISPLAY MODE <WHOLE>], check that the platter is displayed around in the center.
→If the platter is aligned to the right or left side, perform step 4 “Length direction offset".
If the platter is aligned to the upper or lower side, perform step 5 “Width direction offset”.

Normal (no adjustment required)

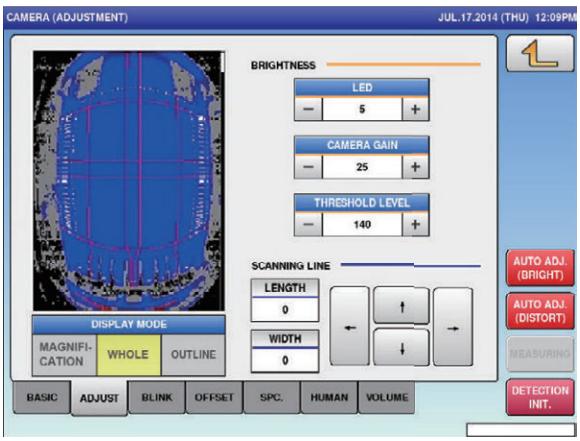


Platter is right-aligned (adjustment required)

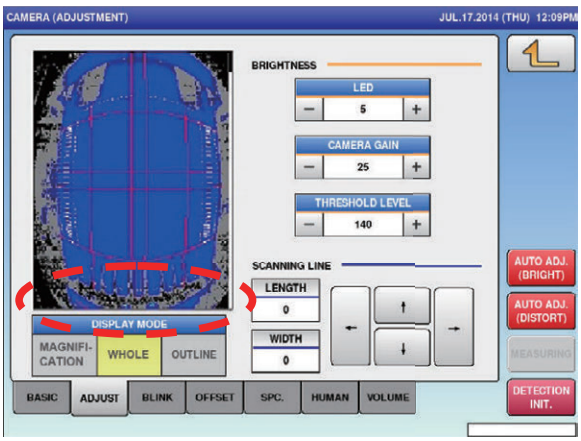


□ In [DISPLAY MODE <WHOLE>], check that the blue seal line of the Infeed frame unit is completely displayed.
*Make this adjustment when detecting a tray of more than 50 mm height
→If the blue seal line of the Infeed frame unit is not completely displayed and is broken, perform step 5 “Width direction offset”.

Normal (no adjustment required)



Platter is right-aligned (adjustment required)



4

Length direction offset

- Display the entire platter by pressing the [DISPLAY MODE <WHOLE>] button of ADJUST mode.
- To the display window of the detection image shown in the figure above, adjust the inclination of the bracket or move the camera installation bracket to the side on which the platter is aligned.
- Adjust the camera and check step 3.

5

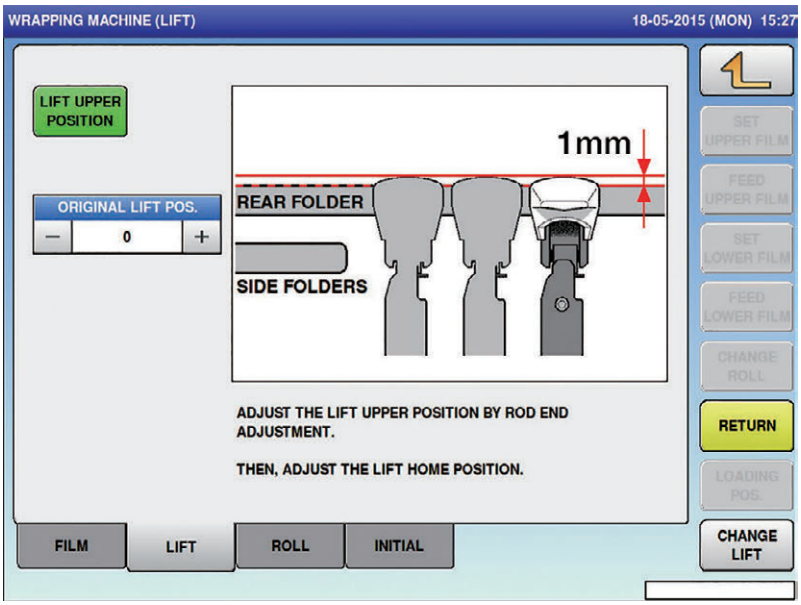
Width direction offset

- Display the entire platter by pressing the [DISPLAY MODE <WHOLE>] button of ADJUST mode.
- To the display window of the detection image shown in the figure above, adjust the inclination of the camera installation bracket so that the platter is placed in the center.
- Adjust the camera and check step 3.

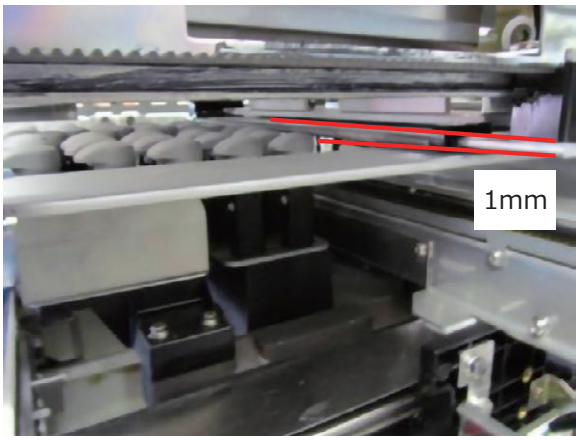
3.2.7 Lift unit

■ Adjusting the lift upper position

At the upper lift position, the relationship of the height between the lift head and rear wrapping plate needs to be adjusted.
To check this, press the [ADJUST] button → [WRAP] button → [LIFT] tab. The lift goes up by pressing the [UPPER LIFT POS.] button on the screen.



As the side wrapping plate and the rear wrapping plate can be moved by hand, pull the rear wrapping plate toward you, and adjust “rod end” so that the height of lift head is set 1 mm higher than the rear wrapping plate. The rod end can be found by opening the rear cover of the main machine body. After the lift upper position is completely adjusted, adjust any other positions.



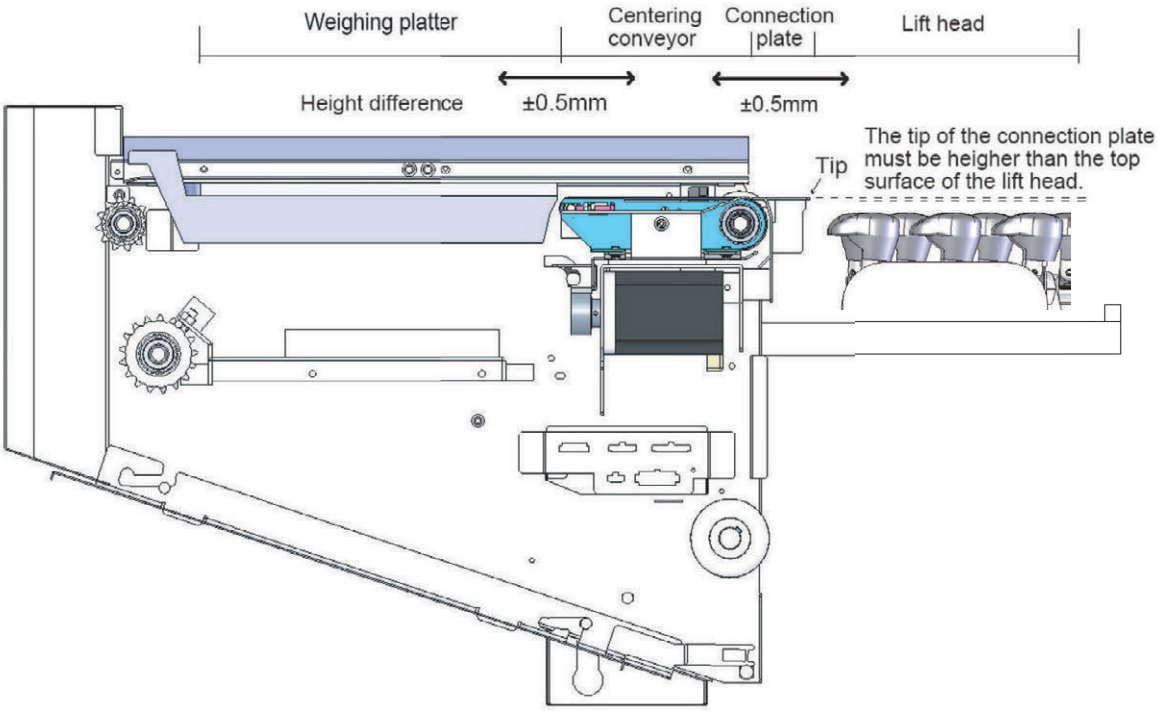
⚠ CAUTION

If the lift upper position is adjusted more than 1 mm higher than the rear wrapping plate, the lift head will be broken during operation.
When centering the side wrapping plate, if outside of the side wrapping plate is located inside of the lift head width, the lift head that has been felled will rise up, and the side wrapping plate cannot return to its original position. In this case, press the [RETURN] button.

1

■ Adjusting the lift original position

To check this, press the [ADJUST] button → [WRAP] button → [LIFT] tab. The lift goes down by pressing the [ORIGINAL LIFT POS.] button on the screen. Adjust the heights of the weighing platter, centering conveyor, infeed section (connection plate) and lift head to be within + / -0.5 mm.



And adjust the tip of the connection plate to be higher than the lift head.

If the lift lower position is adjusted, changing between the large and small lift also needs to be adjusted.

[Adjustment position]

Adjust the lift original position height such that the surface between the top of the centering conveyor and top of the lift head becomes flat (±0.5 mm). (Figure 1 and 2)

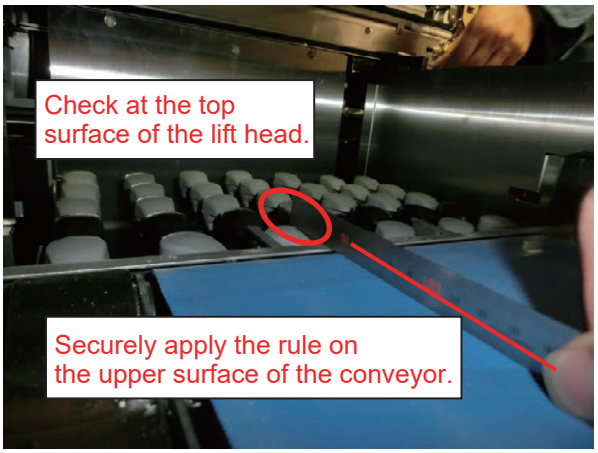


Figure 1

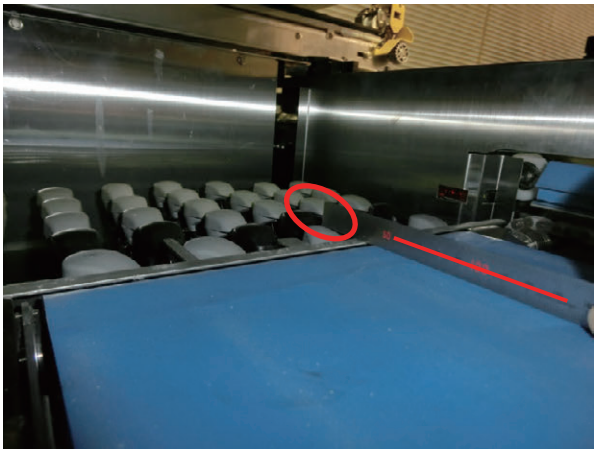


Figure 2

Do not check at the area where the connection plate is extended to the back. (Figure 3, 4, and 5)

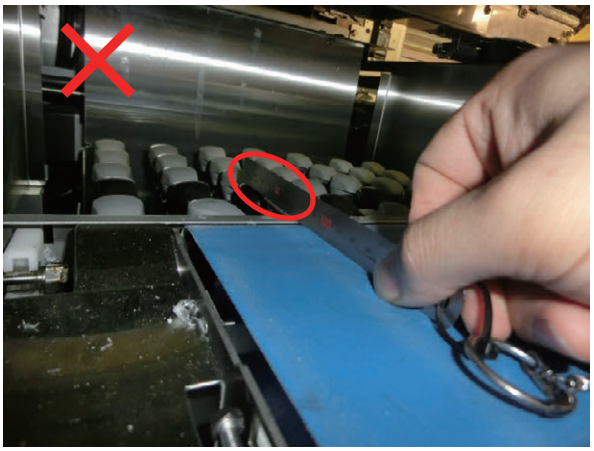


Figure 3

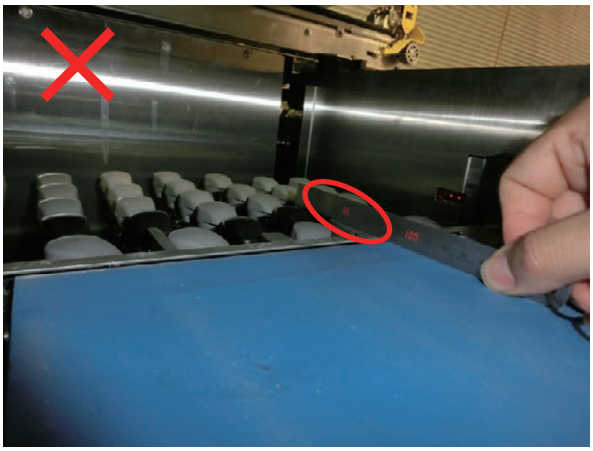


Figure 4

Figure 5

1

■ Changing between the large and small lift

The lift can be changed between large and small by inserting and removing the changeover latch.

By inserting the changeover latch, both large and small heads go up.

By removing the changeover latch, only the small head goes up.

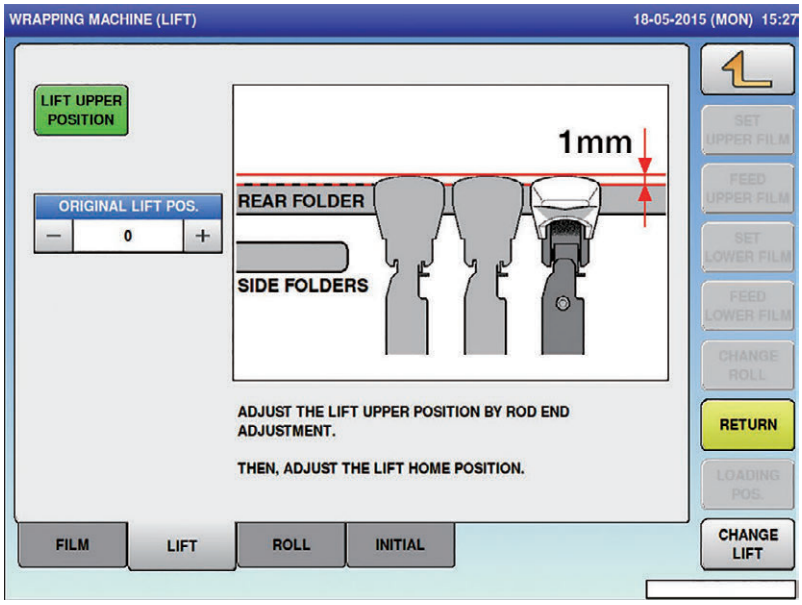
The latch is inserted and removed by the changeover solenoid.

When the solenoid is excited, latch pawl is hooked and the large lift becomes operational.

When the solenoid is not excited, the latch pawl is released and the small lift becomes operational.

The solenoid switches the large or small lift to use according to the [change lift] setting of the tray master. The unit can be found by removing the rear cover of the main machine body.

To check the lift change operation, press the [ADJUST] button → [WRAP] button → [LIFT] tab → [CHANGE LIFT] button.



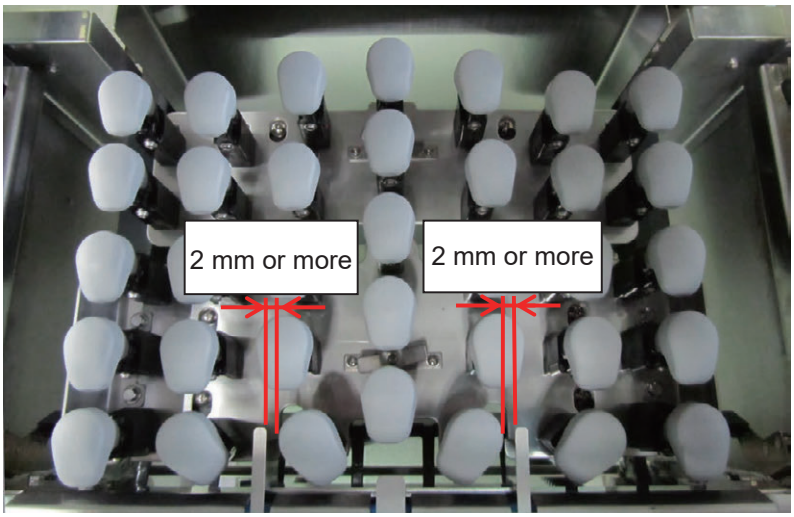
■ Checking the gap between connection plate's convex part and lift head, and between the weighing platter and conveyance bar

When the position of the lift unit and the infeed plate changes by replacing the connection plate or loading / unloading the infeed plate, check the following gaps.

1

Gap between the infeed unit connection plate's convex part and lift head

When the lift head is on the infeed position, the gap between the connection plate's convex part and lift head (Pic.1) must be 2 mm (design value is 4.3 mm).

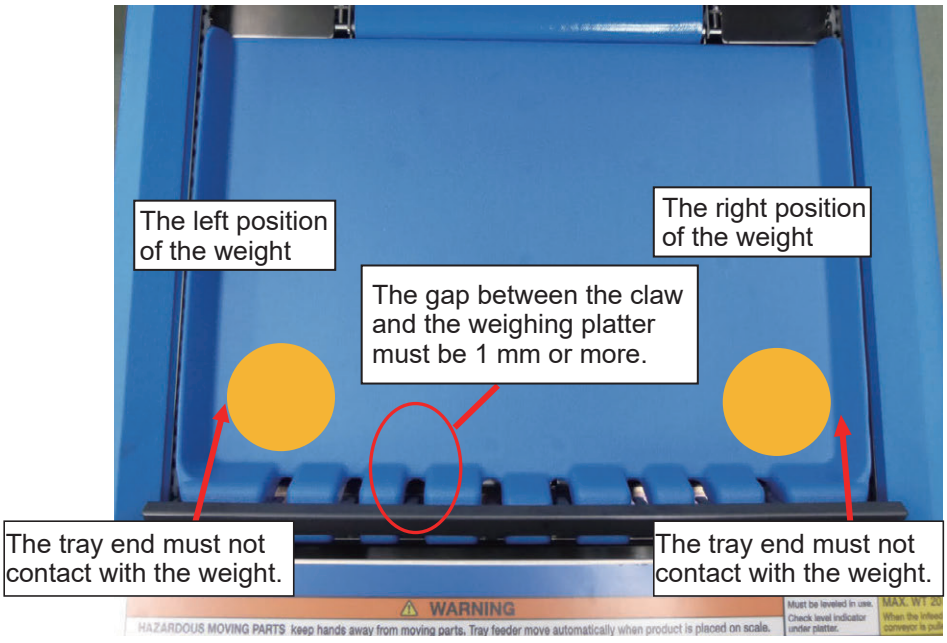


Picture 1: Gap between lift head and convex part of the connection plate

2

Gap between the infeed plate and infeed conveyance bar.

Place the weight of 6kg at the front corner of the weighing platter with the infeed conveyance bar manually moving to the position shown in Picture 2. The gap between the weighing platter and conveyance bar hook must be 1 mm or more. (The design gap with no load is 3 mm. When installing the weight, check the gap placing the weight in the front left corner and the front right corner respectively.

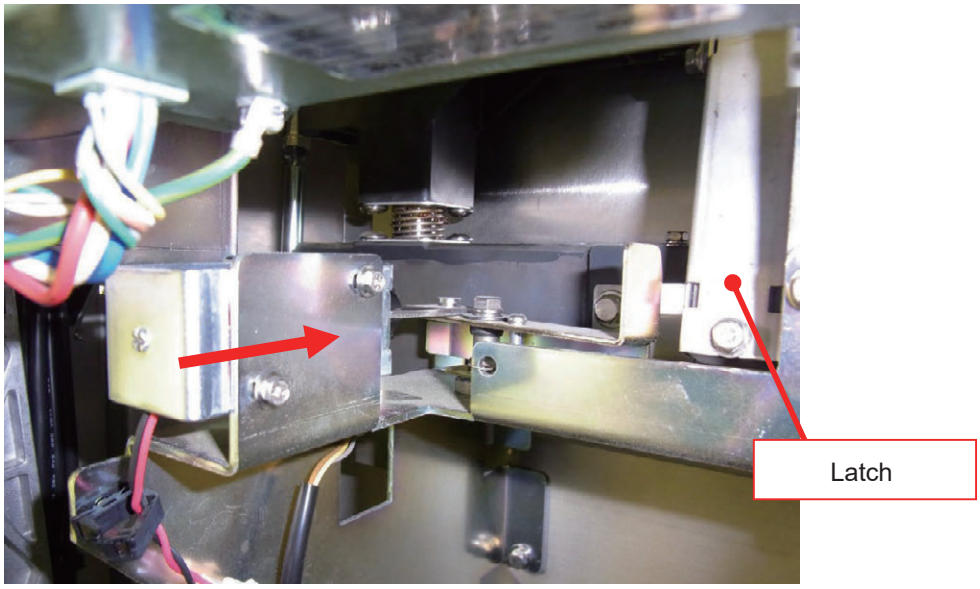


Picture 2: The gap between the weighing platter and infeed conveyance bar, and the position of the weight

1

■ Adjusting lift switch solenoid

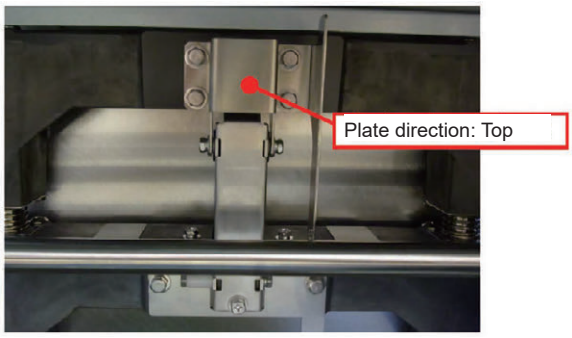
On the maintenance screen, go to "ADJUST MODE" → "WRAP" → "LIFT" tab, and then press the "CHANGE LIFT" button to operate lift switching operation.
Push the emergency stop switch button to stop operation before adjustment.
Hold the iron core of the solenoid to align the position of the solenoid to the position where the latch was pushed all the way through the back of the machine. The iron core of the solenoid must reach the bottom.
Move the position of the solenoid from the said position for 0.5 mm in the arrow direction.

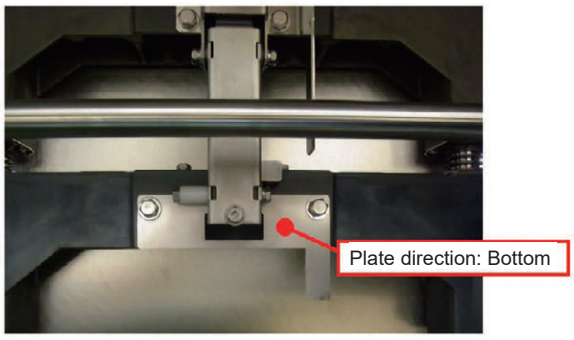


On the maintenance screen, go to "ADJUST MODE" → "UNIT ACTION (WRAP)" → "3. LIFT CHANGE" check the lift switching operation and confirm that the hook will not be disengaged.

■ About the Assembling of the lift head connection

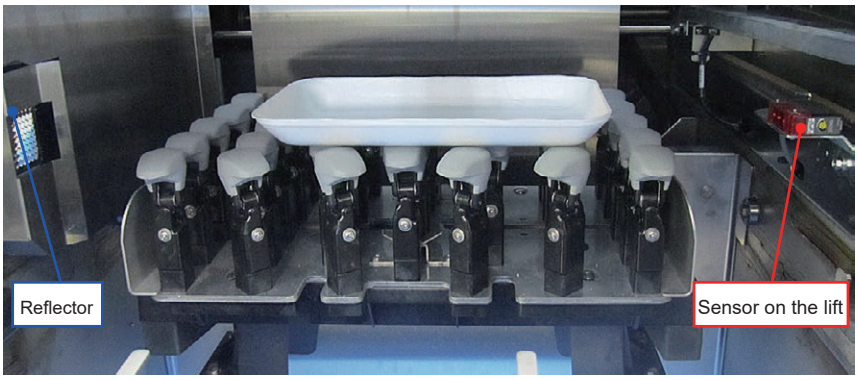
This section explains how to adjust the sub-lift head becoming higher than the main lift head when assembled.





About the adjustment of the sensor on the lift

At factory shipment, the sensitivity adjustment the sensor on the lift is adjusted using the GS-20-12C standard tray of the RISUPACK.



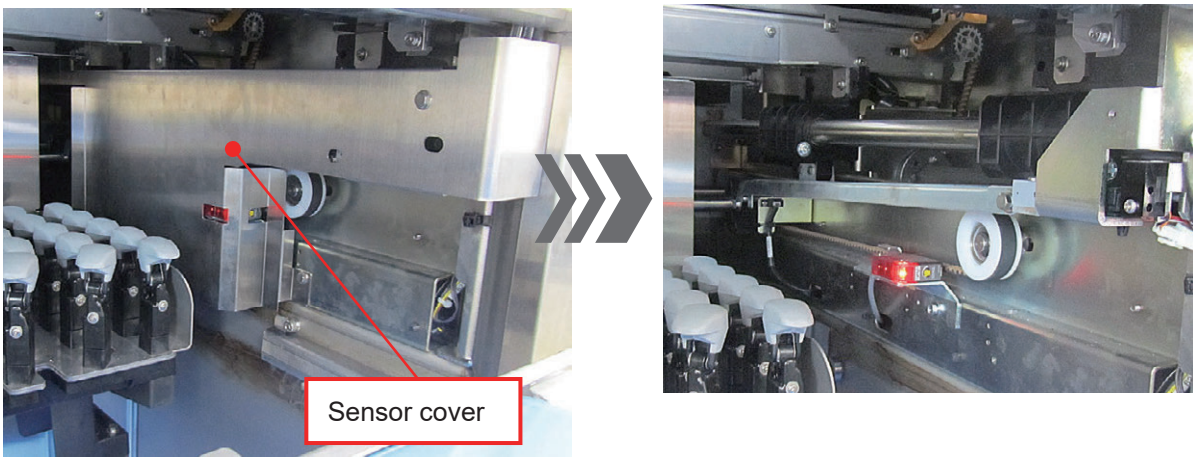
Make the sensitivity adjustment the sensor on the lift when a transparent tray or a tray less than 10 mm in height is used.

Sensitivity adjustment of the sensor

Adjust the sensor sensitivity using the tray which has highest transparency of customer's transparent tray.

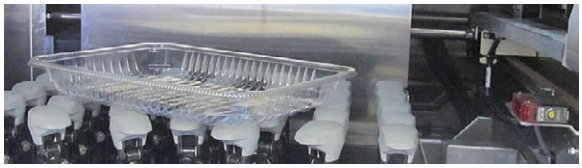
1

Remove the cover of the sensor.



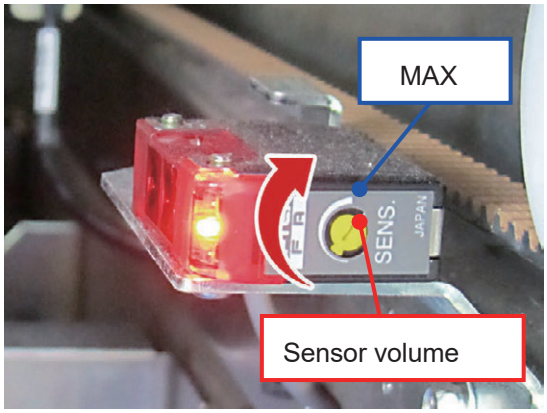
2

Place a high-transparency tray on the lift.



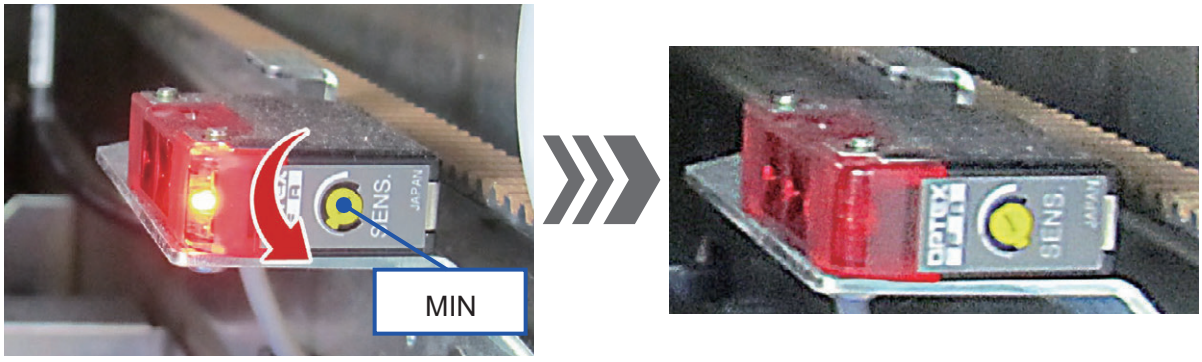
3

Turn the sensor volume to the MAX position.



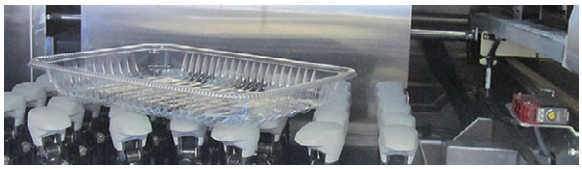
4

Turn the sensor volume to the MIN position until the sensor's LED is turned off.



5

If the tray surface is not flat and smooth, move and place the tray diagonally to check whether the sensor's LED will be turned on. If the LED turned on, perform the step 4. in the position where the tray is placed.



6

The volume position where the LED is not turned on shall be the position A.

7

With nothing on the lift, turn the sensor volume from the MAX position to the MIN position until the sensor's LED is turned off.

8

The volume position where the LED is turned off shall be the position B.

9

The optimal position occupy an intermediate position between the position A and the position B. Then turn the sensor volume to the optimal position.

NOTE

Position B is the minimum volume position that can be detected by the sensor. Therefore, the sensor volume must be set towards the MAX position from the position B.

10

Mount the cover of the senser.

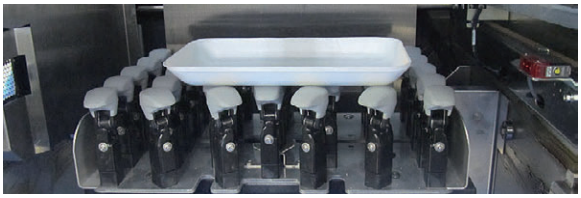
If the transparent tray does not exist, adjust the sensor sensitivity using customer's lowest tray.

1

Remove the cover of the sensor.

2

Place a lowest tray on the lift.



3

Turn the sensor volume at the MIN position.

4

Turn the sensor volume to the MAX position until the sensor's LED is turned on.

5

The volume position where the LED is turned on shall be the position A. If the LED is not turned on at the MAX position then the position A shall be the MAX position.

6

With nothing on the lift, turn the sensor volume from the MAX position to the MIN position until the sensor's LED is turned off.

7

The volume position where the LED is turned off shall be the position B. If the LED is not turned off at the MIN position then the position B shall be the MIN position.

8

The optimal position occupy an intermediate position between the position A and the position B. Then turn the sensor volume to the optimal position.

NOTE

Position B is the minimum volume position that can be detected by the sensor. Therefore, the sensor volume must be set towards the MAX position from the position B.

9

Mount the cover of the senser.

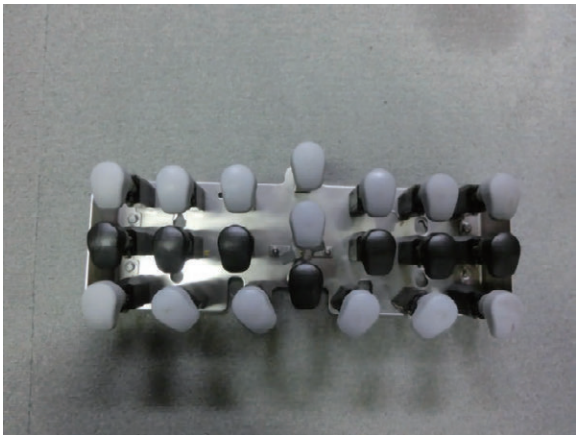
■ Adjusting the Tray Sliding State

Optional Lift Head（ = Shinny Surface ） for trays that don’t pass lift head smoothly
LF Black 000-125-5245-**
RF Black 000-125-5246-**
L Black 000-125-5247-**
R Black 000-125-5248-**

Recommended Positions at Replacement

Note: Change the 7 lift heads (for small tray) as shown in the photo (Black lift head).

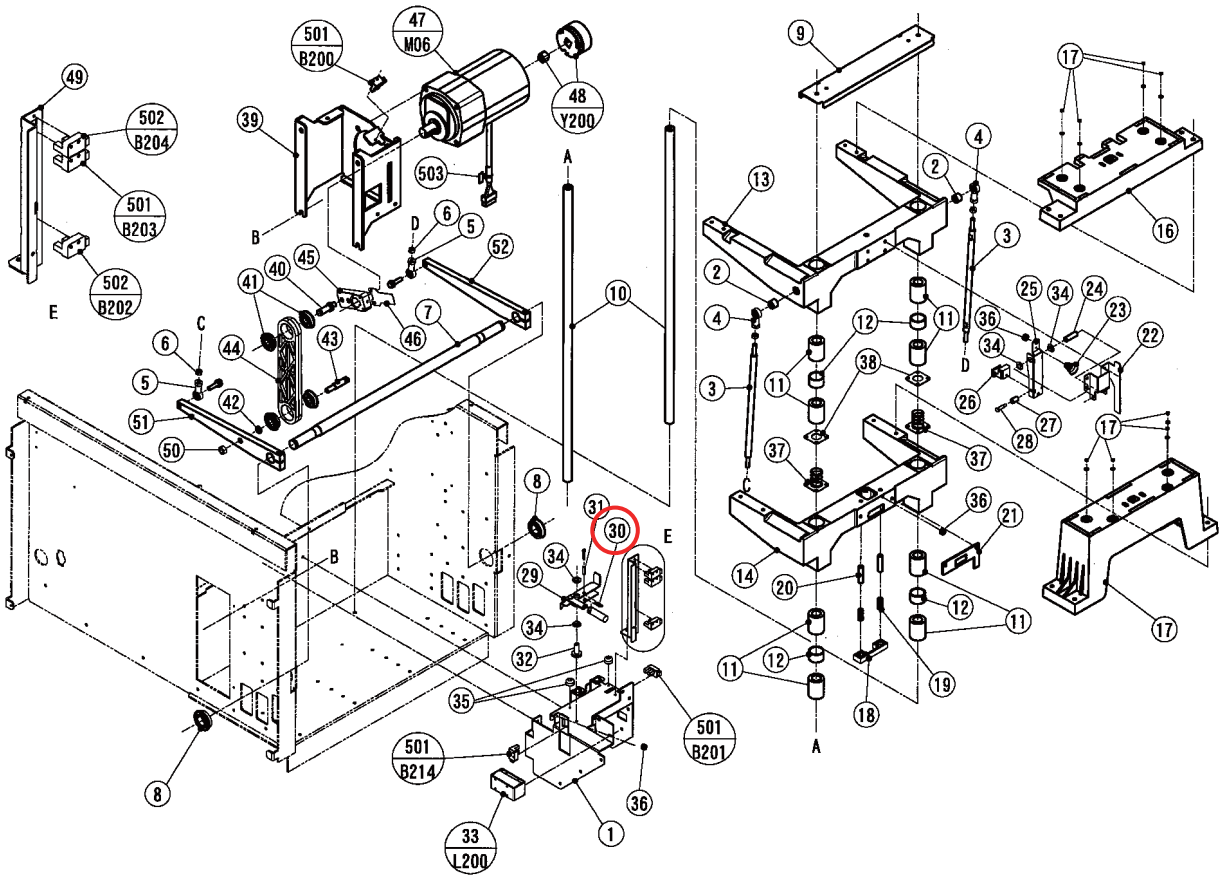
Lift head L
(000-125-5247-**) ： 3 pcs.
Lift head R
(000-125-5248-**) ： 3 pcs.
Lift head LF
(000-125-5245-**) ： 1 pc.
(As of May 2015)



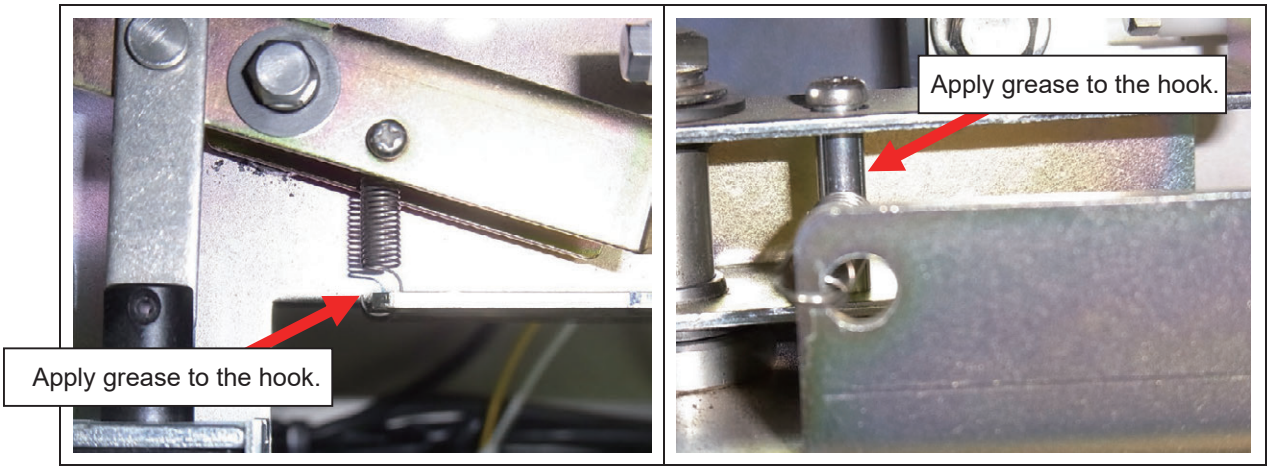
Changing the 1st-row heads to POM heads is minimally-effective because the connection plate exists. However, changing the 2nd-row heads to POM heads is effective.
(The head height against the connection plate must be correctly adjusted.)
Note that a tray may slip too much when changing heads at other positions to POM heads.

■ Applying grease to the spring

Applying the grease equivalent of "Shell Alvania Grease S" by Showa Shell Sekiyu to the spring reduces friction and prevents damage.
When replacing the SPRING: COIL: COMPRESSIVE of No.30 on the exploded view shown below, apply Alvania grease on both hooks.



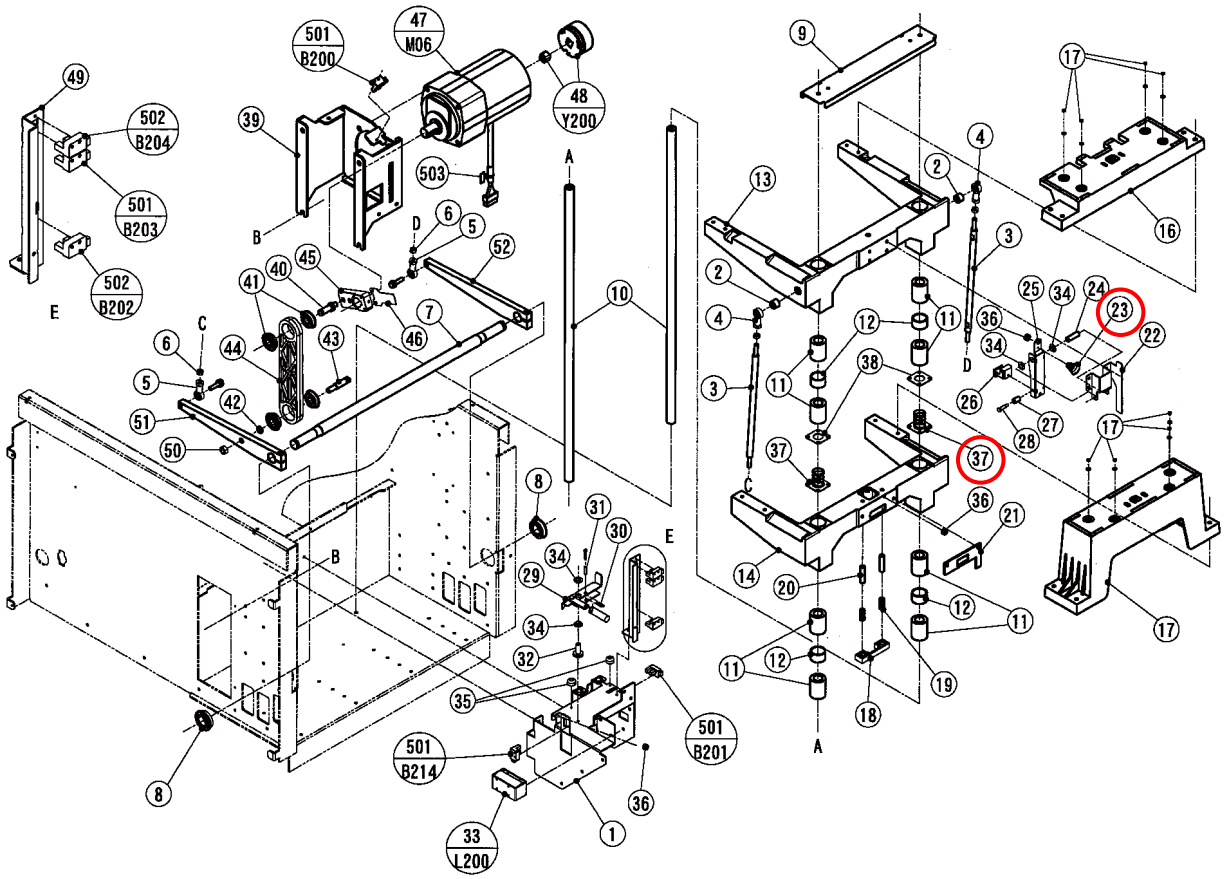
Exploded view



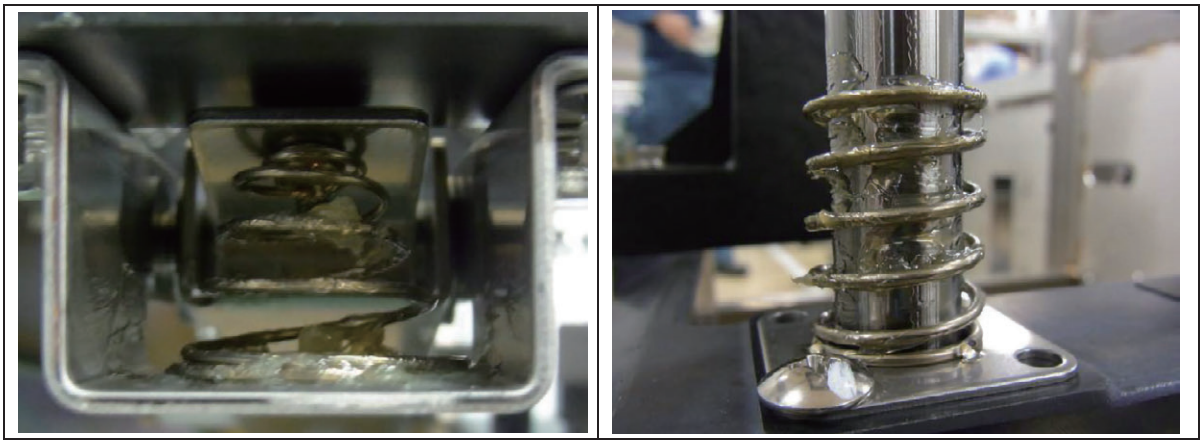
1

Apply the grease equivalent of "Shell Alvania Grease S" by Showa Shell Sekiyu to the springs of the lift drive unit shown below when replacing them.

SPRING: COIL: COMPRESSIVE x1 (No.23 on the exploded view shown below)
SPRING AS: COIL: COMPRESSIVE x2 (No.37 on the exploded view shown below)



Exploded view

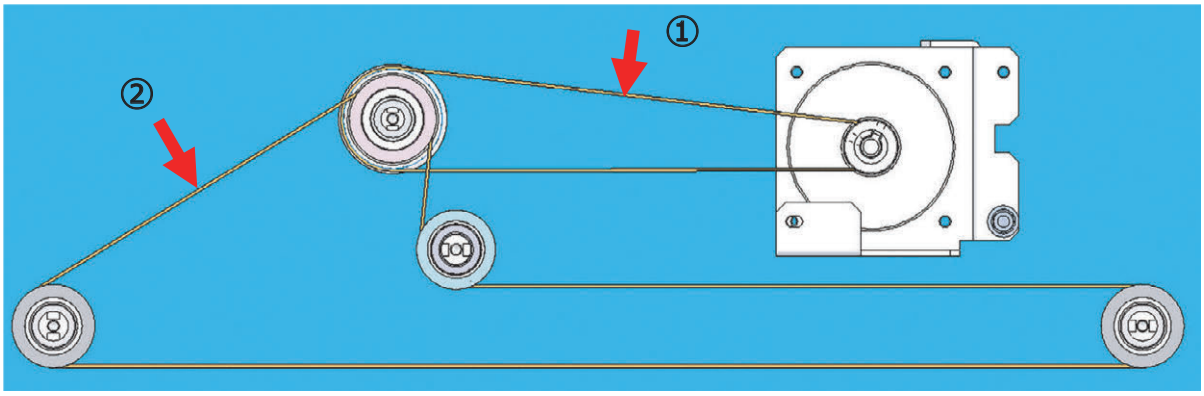


3.2.8 Wrapping unit

■ Adjusting the belt tension

Check the belt tensions in the middle positions of the straight lines as indicated in the following figures.

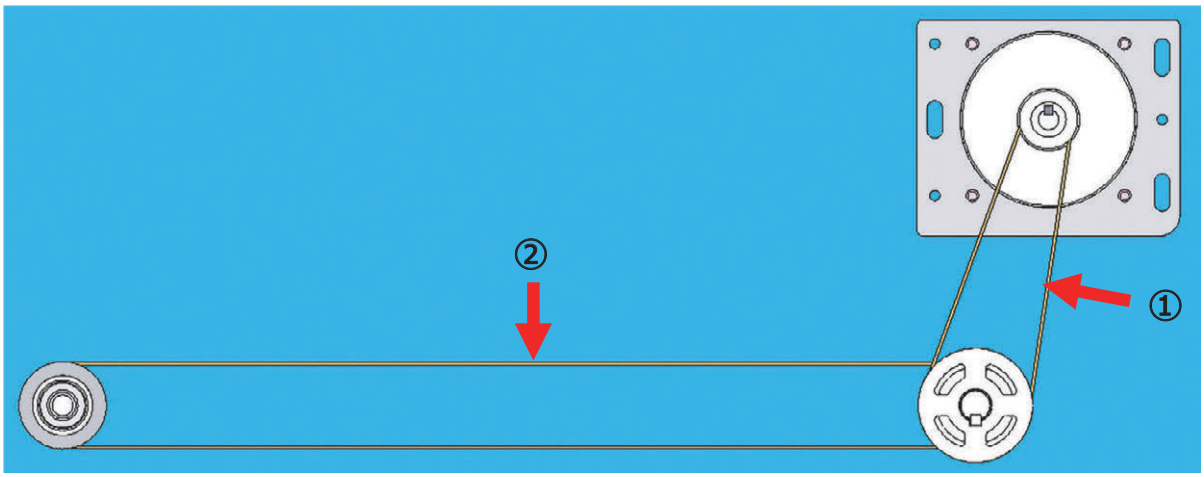
Side wrapping unit (rear view)



(1) Timing belt 'HPS5M' 100HPS5M600
When the belt deflection is at 3.9 mm, pressing force is 448 to 722 [gf].

(2) Timing belt 'S5M' 100S5M1350
When the belt deflection is at 3.2 mm, pressing force is 444 to 718 [gf].

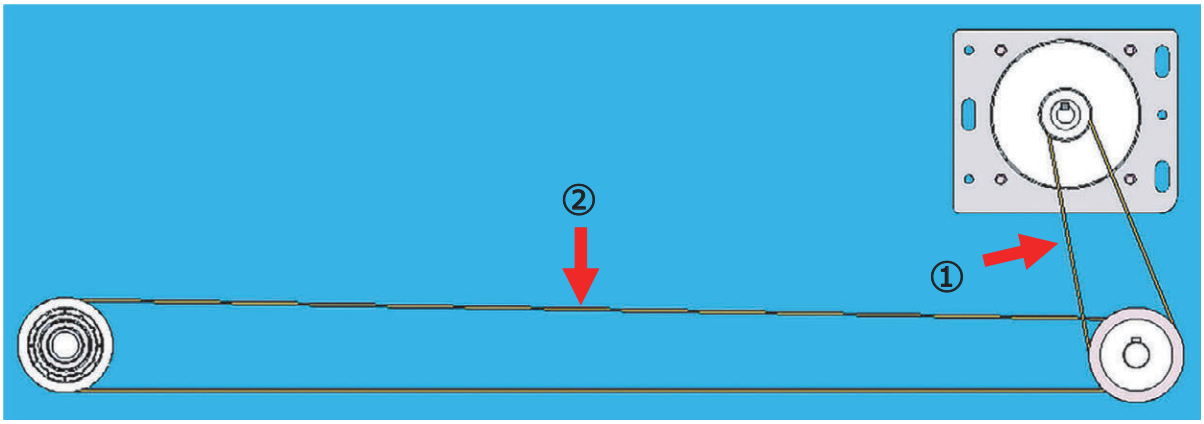
Rear wrapping unit (side view)



(1) Timing belt 'HPS5M' 100HPS5M400
When the belt deflection is at 2.3 mm, pressing force is 439 to 713 [gf].

(2) Timing belt 'S5M' 100S5M1000
When the belt deflection is at 7.0 mm, pressing force is 454 to 728 [gf].

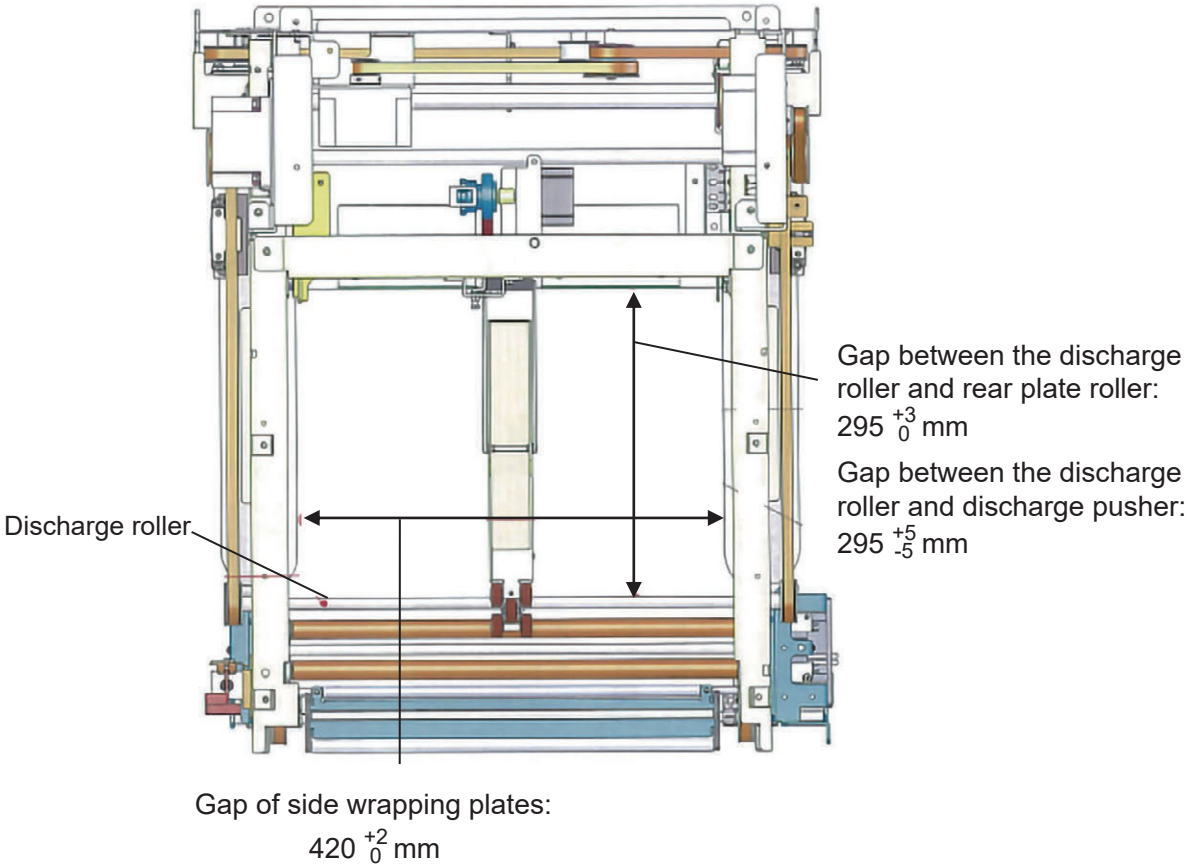
Discharge pusher unit (side view)

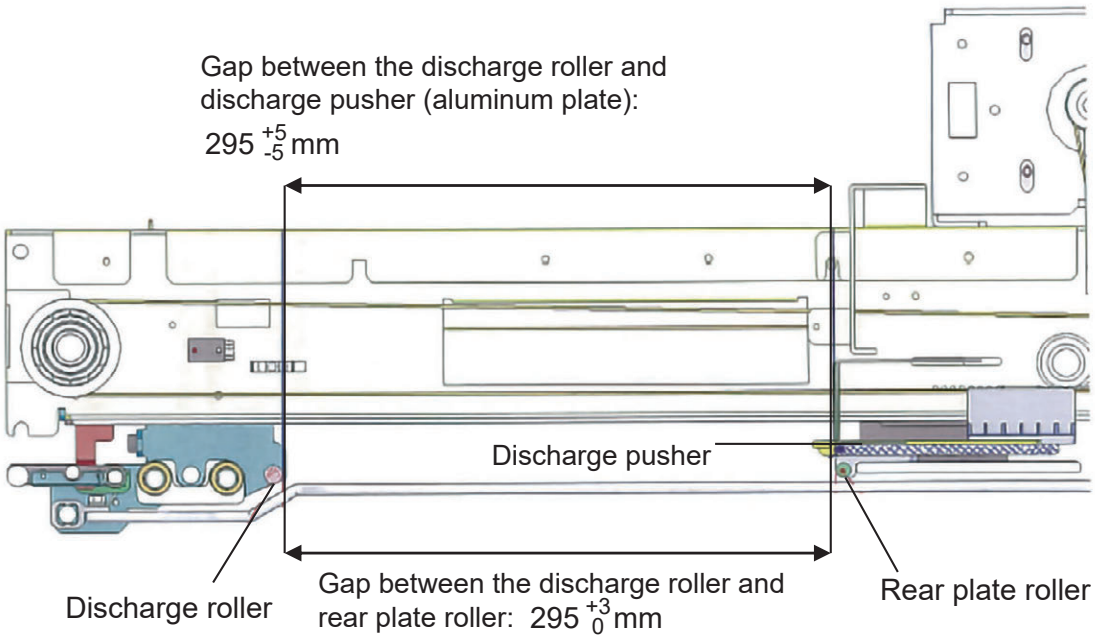


(1) Timing belt 'HPS5M' 100HPS5M400
When the belt deflection is at 2.3 mm, pressing force is 439 to 713 [gf].

(2) Timing belt 'S5M' 100S5M1350
When the belt deflection is at 9.7 mm, pressing force is 456 to 730 [gf].

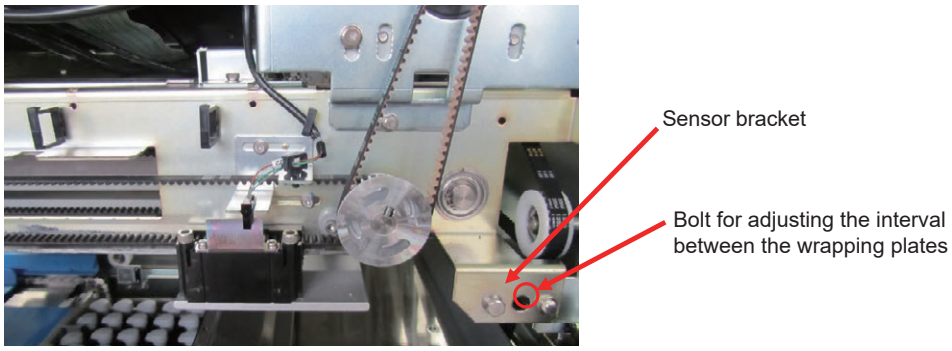
■ Wrapping station (dimension)





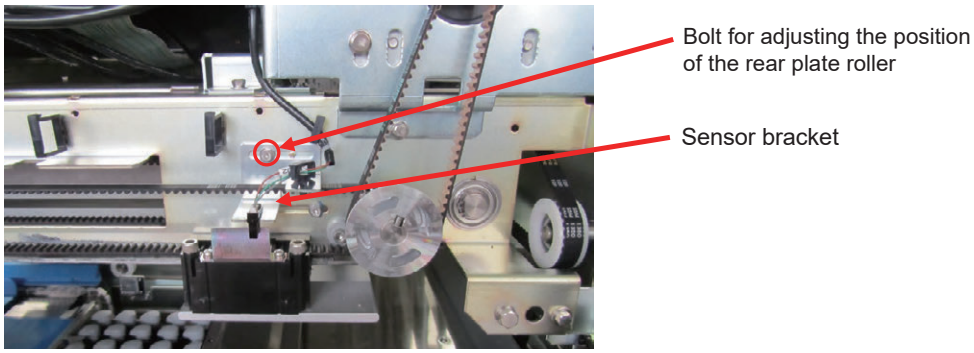
■ Gap between the side wrapping plates

Adjust the position of the sensor bracket to be set at the specified gap between the wrapping plates.



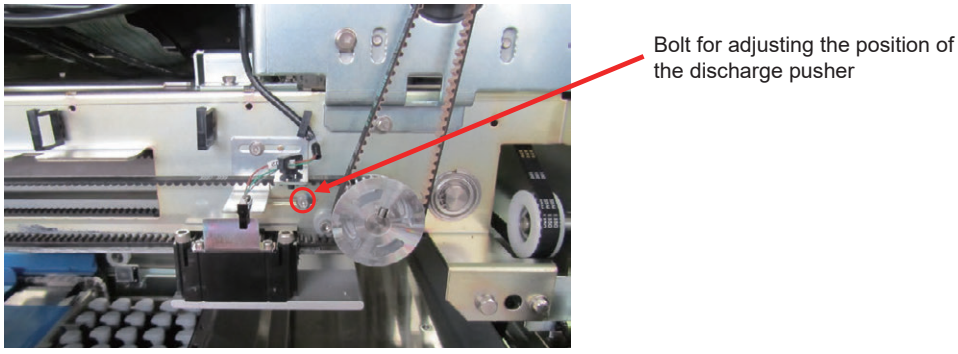
■ Gap between the discharge roller and the rear plate roller

Adjust the position of the sensor bracket to be set at the specified gap between the discharge roller and the rear plate roller.



■ Gap between the discharge roller and discharge pusher

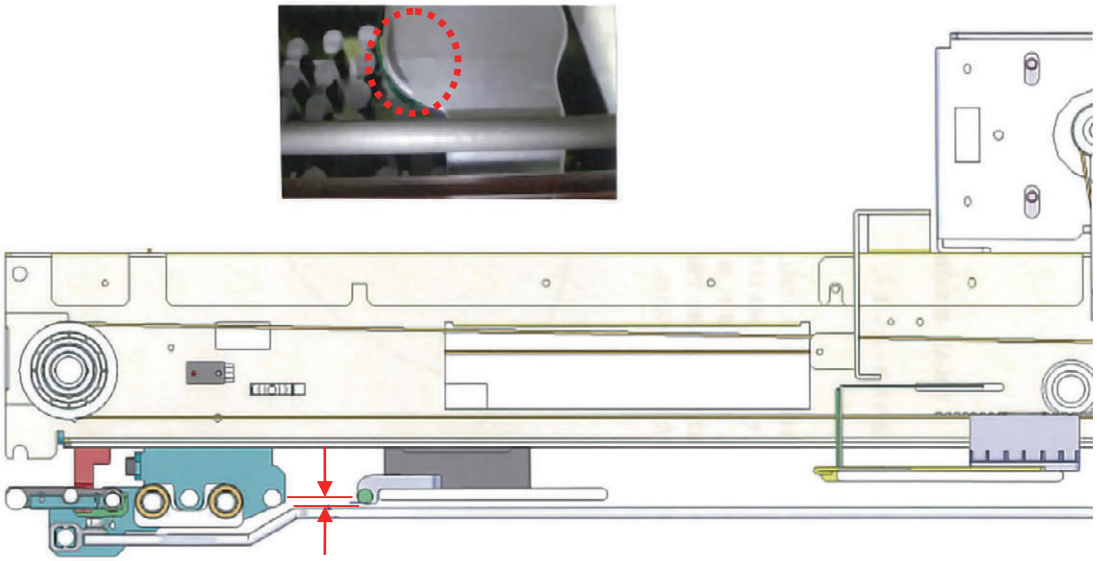
Adjust the position of the sensor bracket to be set at the specified gap between the discharge roller and discharge pusher.



■ Gap between wrapping plates

Place a 2.5 mm length board between the side wrapping plate and rear plate roller. Adjust the rear plate roller as not to come into contact with the 2.5 mm length board when rotating the roller by hand.

In addition, make sure that a 3 mm length board cannot be entered.
If the gap of wrapping plates becomes narrower than 2 mm, the side wrapping plates will be worn down and results in gloss to appear on the plates.



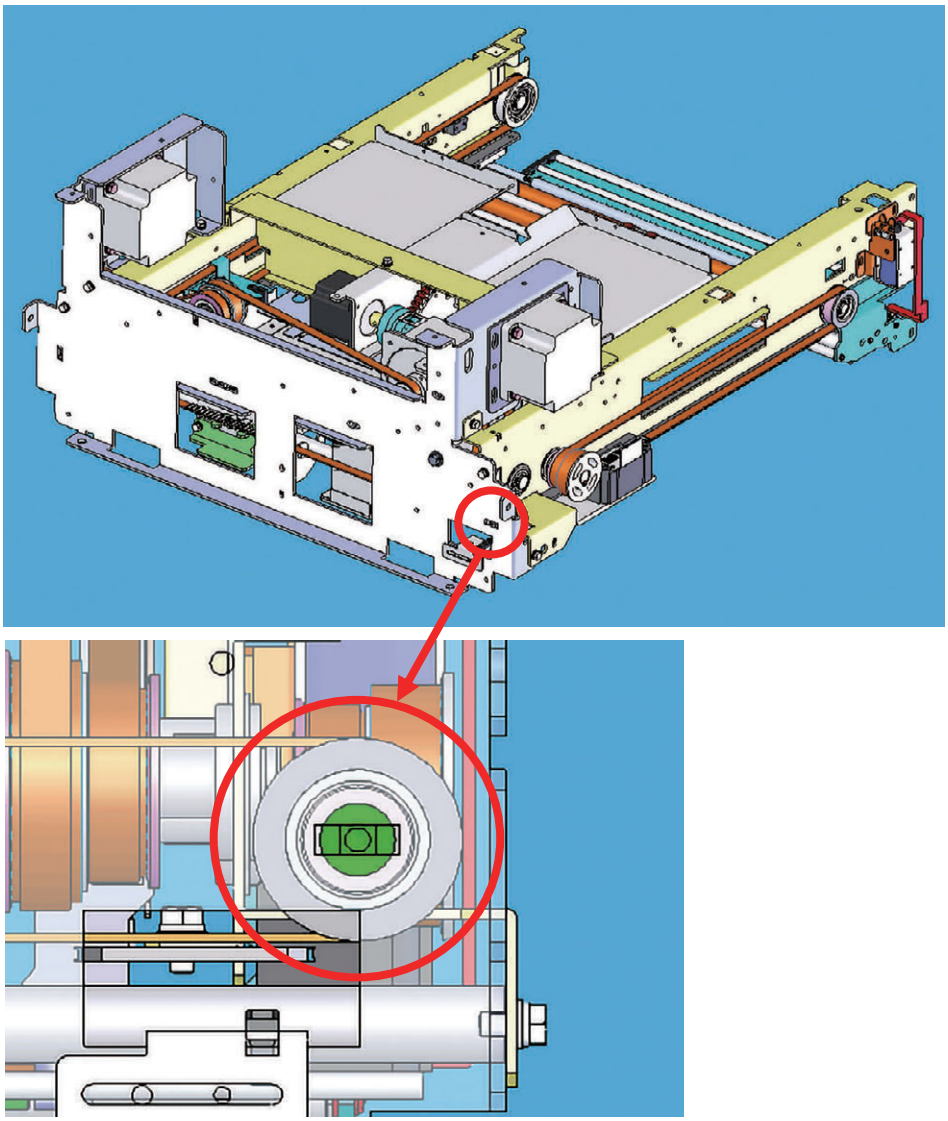
Gap between the side wrapping plate and rear plate roller
Adjustment range: $2.5\ ^{+0.5}_{0}$ mm

■ Adjusting the positional relationship of the right and left wrapping plates (Reference)

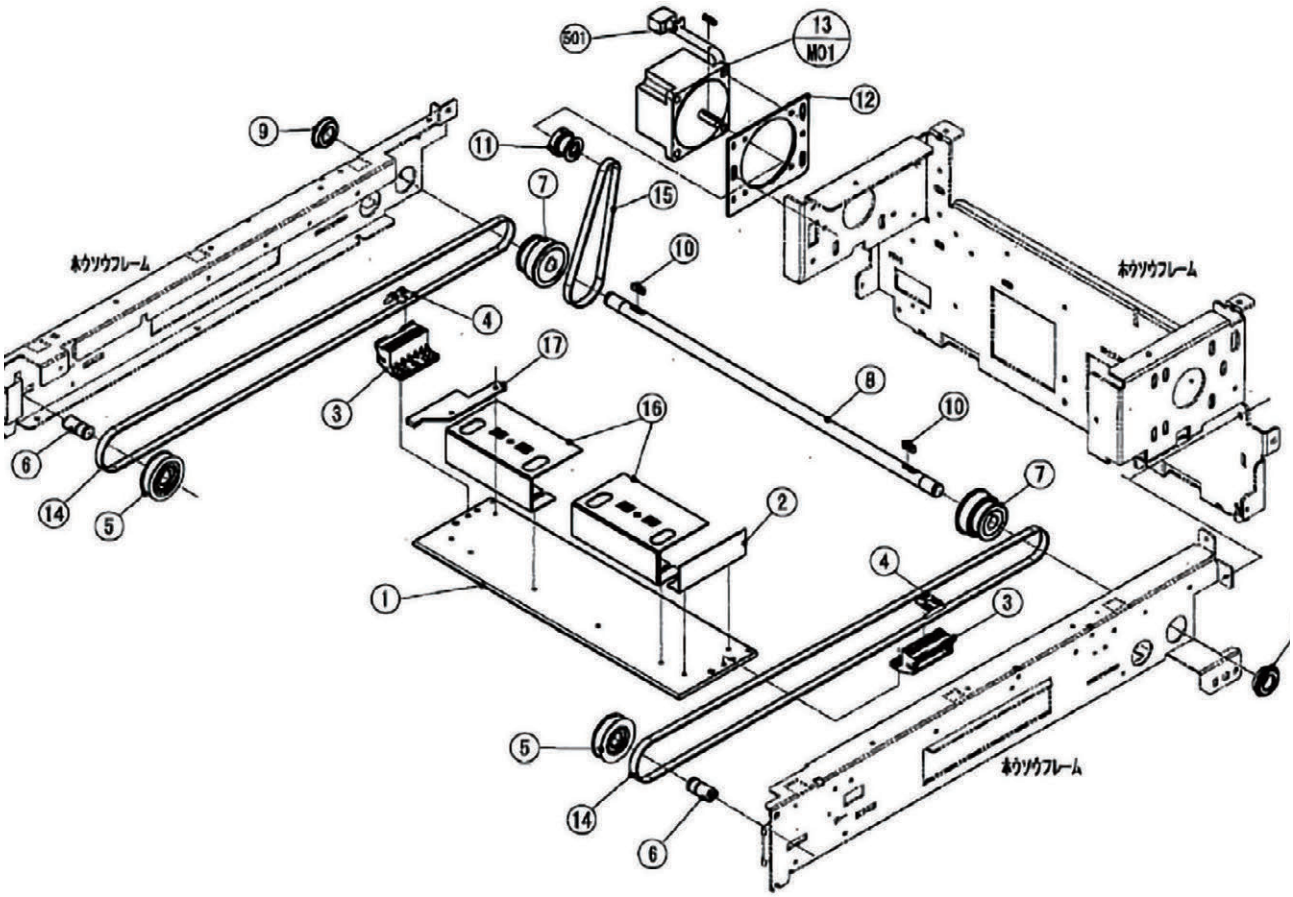
The positional relationship of the right and left wrapping plates are affected by the stretch and variation of the timing belt. This section describes how to adjust the positional relationship when the right and left wrapping plates are asymmetrical.
As the minimum pitch of the mounting adjustment to the timing belt is 5 mm, adjustment should be performed at the place circled in the red circle as shown in the figure below when the pitch of less than 5 mm is required.

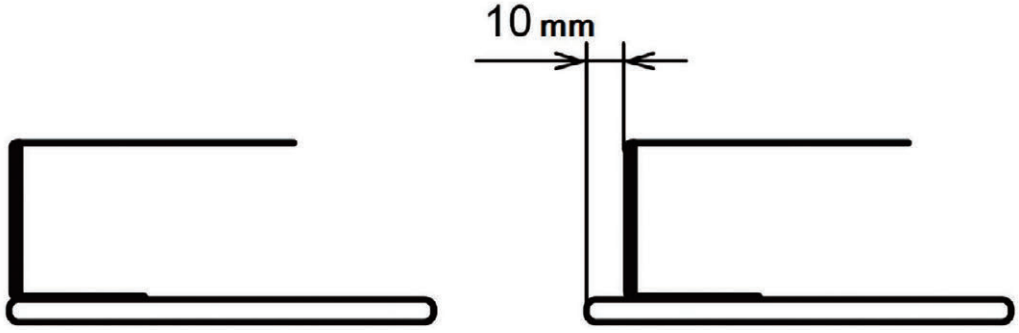
NOTE

After performing adjustment at this position, readjust the stretch of the timing belt for the right and left wrapping plates, and the opening between the right and left wrapping plates.



■ About the discharge pusher plate mounting position (reference figure)



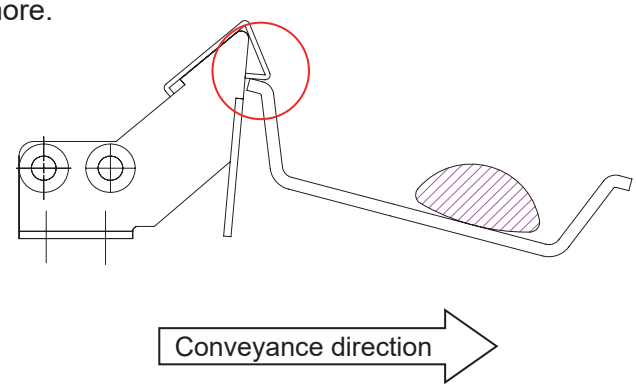


J type Standard type

■ Setting Required for Activating Infeed Bar Overturning Suppressing Mechanism

Infeed Bar Overturning Suppressing Mechanism

By catching the rear edge of a tray by the support located at the top of the infeed bar when the tray rolls over and falls in the forward direction, this mechanism prevents the tray from rolling over any more.



Setting Required for Effectively Activating an Overturning Suppressing Mechanism

Perform the following setting when needed in order to correctly supply and transport a commodity or a tray with the weight balance that may activate an overturning suppressing mechanism.
Set the feed position to "back" on the tray program screen.

- **Reason**

  If the overturning suppressing mechanism is activated and a tray is supplied and transported in an inclined state, the inclined state may be kept when the infeed bar performs the back-feeding after the tray is transported to the feed position. In this case, the tray moves back with the back-feeding of the infeed bar, which may cause the tray coming in contact with the infeed bar or the discharge roller when the lift is elevated.

- **Trays of which feed position should be set to "back"**
  - Tray to which the occurrence of overturn is anticipated during conveyance (e.g. lengthy tray for sauries, low-stack tray)
  - Commodity with a high center of gravity
  - Commodity with the gravity to the front from the center of the tray

● State where the feed position should be set to "Innermost"

•

- Lengthy tray
- The gravity balance is located forward

- Low-stack tray
- The gravity balance is located backward

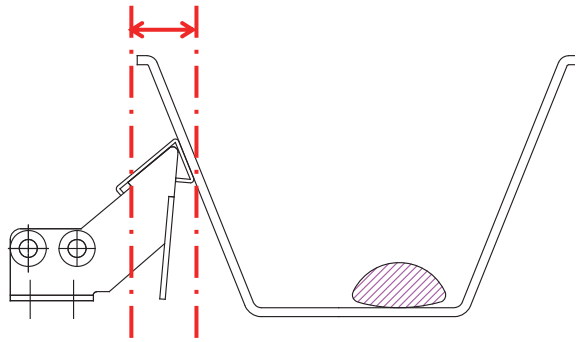
- Lengthy tray
- The gravity balance is high and forward

- The gravity balance is located forward

●Other use conditions in which the feed position is recommended to be set to "Innermost"

- Cases where the tray height is 50 mm or more

Note: If the tray height is 50 mm or more, the tray end cannot be conveyed to an appropriate position because the infeed bar cannot push the upper end of the tray.



- Cases where the ultra-stretch film is used and the stretch amount has been set large. (150% or more as a guide: Amount of the feeder movement for wrapping is more than 50% of film width.)

Note: By separating the distance between the front clamp and the tray, the film tension on the front feeder side will be eased, which prevents the film from being easily torn.

●Possible problems caused by the activation of the overturning suppressing mechanism and the coping method.

As possible problems caused by the activation of the overturning suppressing mechanism, damages of a try such as cracking and folding may be caused after supply and conveyance of the tray. If the tray is supplied and transported in an inclined state while the overturning suppressing mechanism is being activated, the tray gets into a state where the conveyance is braked due to the force of friction between the head surfaces and the tray when the tray runs on the lift heads, and pushing in the tray with the infeed bar in this state will cause damages to the tray.

Countermeasures to a case that such a phenomenon occurs are described below.

- Confirm that the height of lift heads is lower than the connection plate.
- Replace the heads at predetermined position with POM heads to reduce the friction between the lift heads and the tray.
- Instead of the POM heads, the standard lift heads with their surfaces filed and roughened with sandpaper can be used as an emergency measure.

●Easily damageable trays

Trays of which surface is laminated as typified by eco-trays manufactured by FP Corporation.

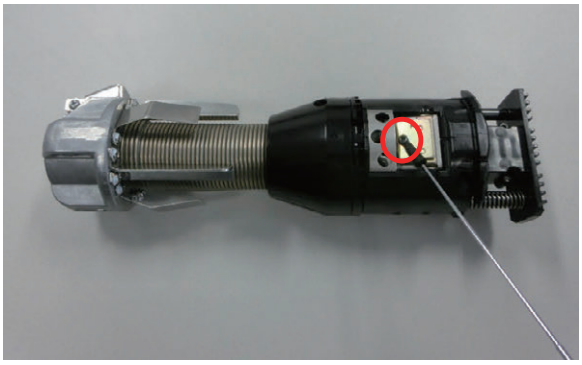
■ Adjusting the Projection Amount of the Pin Spike

1

Remove the holding bar.

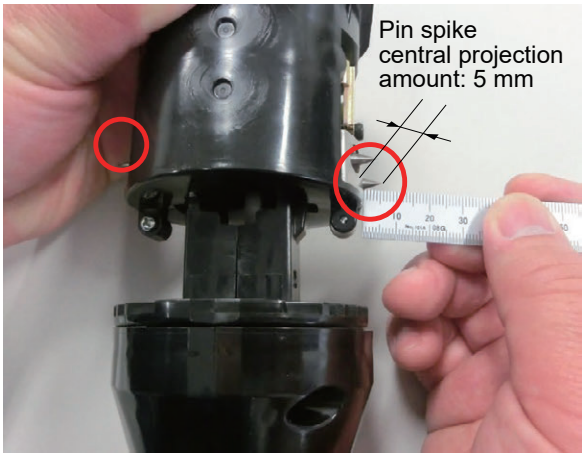
2

Turn the hexagon socket adjustment screw to adjust the projection amount of the “pin spike”.



3

Adjust the projection amount of the pin spike at the center among three spikes to be 5 mm.



4

Upon completion of the adjustment, apply thread locker to the adjustment screw.

NOTE

In the event of the idle or uneven rotation of the film roll, adjust the projection amount of the pin spike to optimize the film roll rotation.
The projection amount of the pin spike has been adjusted based on Ishida's original film roll.

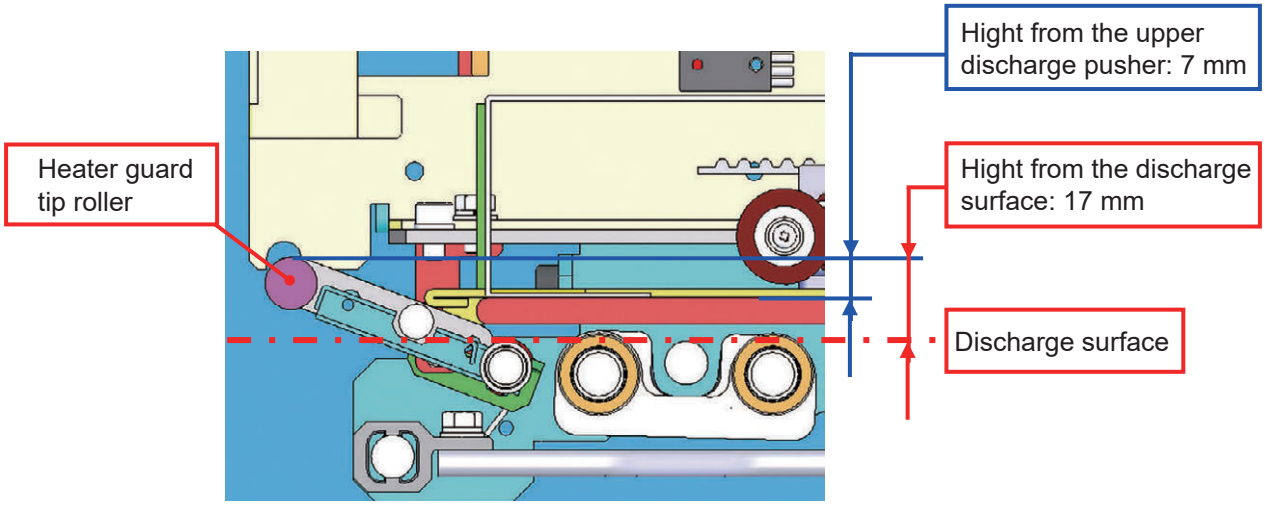
1

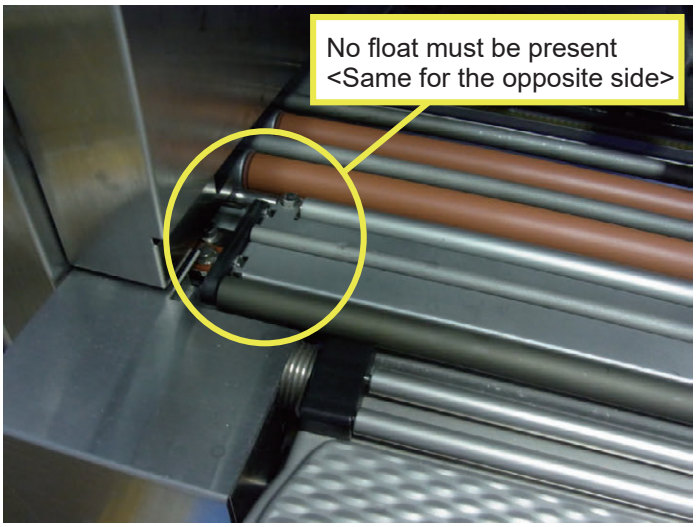
3.2.9 Heater unit

■ Adjusting the solenoid for heater guard

Perform adjustment of the solenoid for heater guard according to the following method.

1. Manually pull the discharge pusher until it becomes the condition as shown in Figure 1.
2. With the condition shown in Figure1, perform solenoid adjustment satisfying the following conditions.
   - Turn ON / OFF the emergency stop switch, and the heater guard operates with the condition as shown in Figure 1.
   - With the emergency stop switch OFF, the heater guard must not be floated with the condition shown in Figure 1. (Refer to Picture 1.)





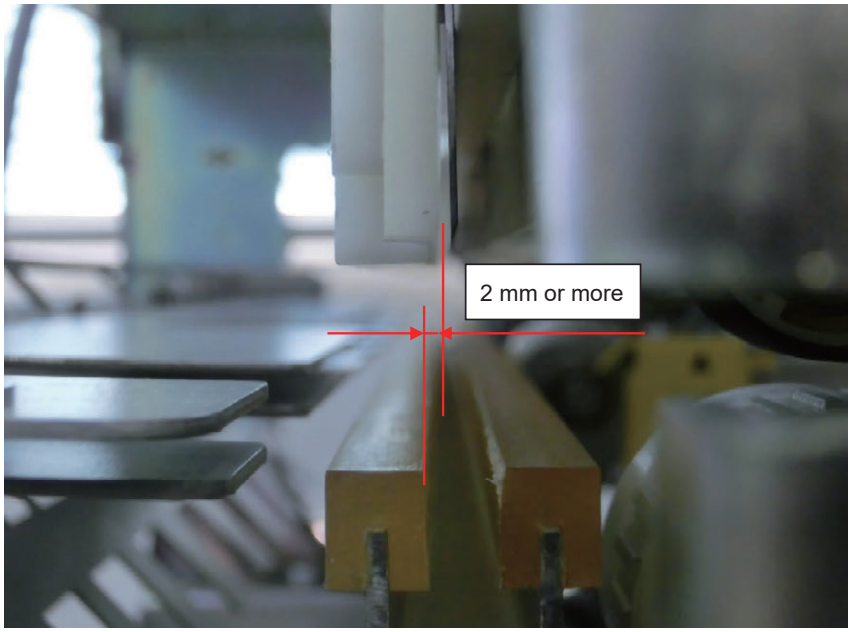
Picture 1: Heater guard

> ⚠ CAUTION
>
> Do not touch the heating rollers until they cool down.

3.2.10 Cutter unit

■ Gap between cutter base and cutter

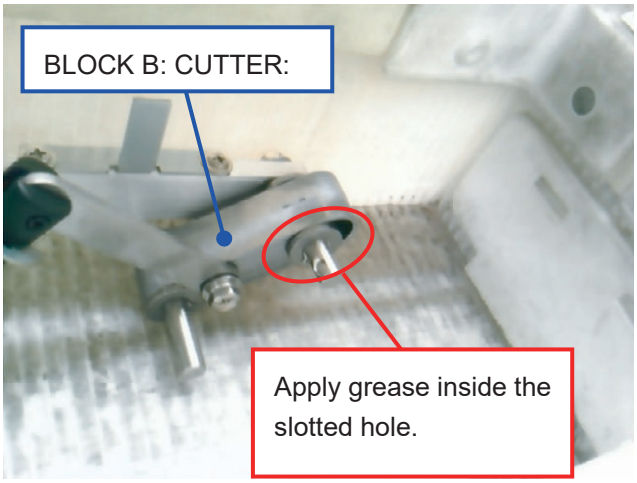
Adjust the gap between the cutter base and rubber part to be 2 mm or more as shown in the figure below. (Design value: 3 mm)



Gap between the cutter base and cutter

■ Applying grease on the cutter block

Apply the grease equivalent of "Shell Alvania Grease S" by Showa Shell Sekiyu on the area shown on the figure below.



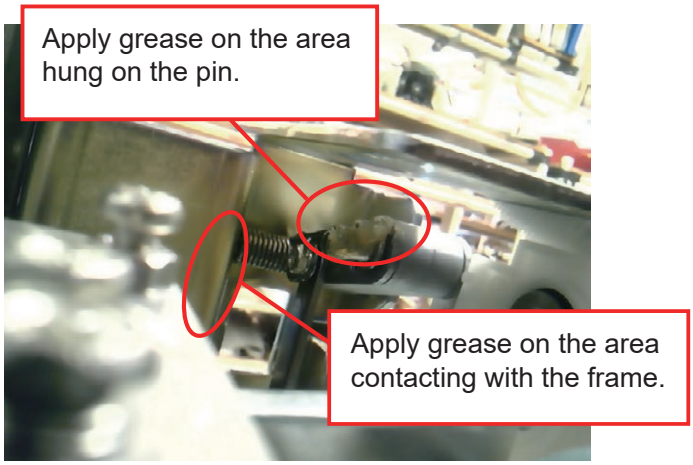
> ⚠ CAUTION
>
> Be careful not to cut your hands or fingers when replacing the cutter saw blade.

1

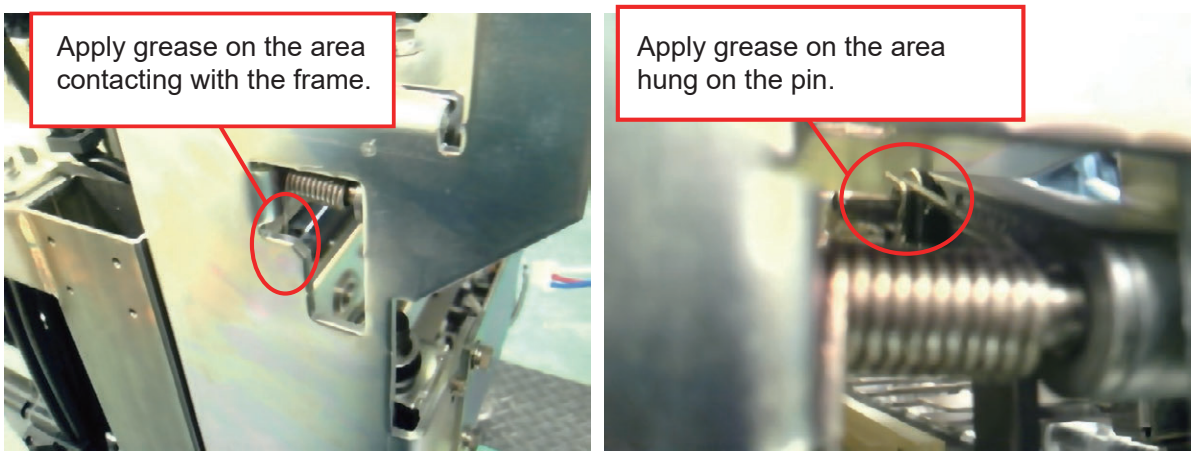
■ Applying grease on the cutter spring

Apply "Shell Alvania Grease S" by Showa Shell Sekiyu on the spring area of the cutter unit. (Refer to the figure below.)

<Spring at the front of the machine>



<Spring at the back of the machine >



■ Adjusting the film cutter

NOTE

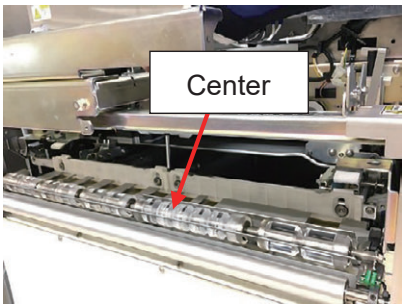
Compared to during a film feed, when cutting during film loading, the film tension is slack, and cutting is difficult and, further, wide films have great resistance to the cutting blade, so before shipping, checks are made to see that cutting during film loading is possible using a 500mm-wide Ishida Wrap Super I-FA film (Polyfilm).
During repairs, use a wider film to check that cutting is possible during film loading.

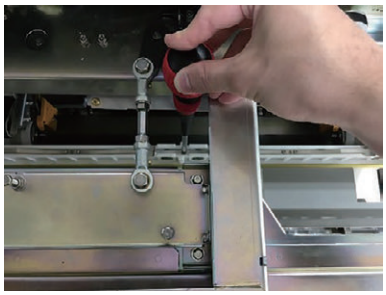
1

Loosen the screws that secure the cutter solenoid front and back, and lower the solenoid to its lowest position. (i.e., lower the cutter blade to its lowest position.)

2

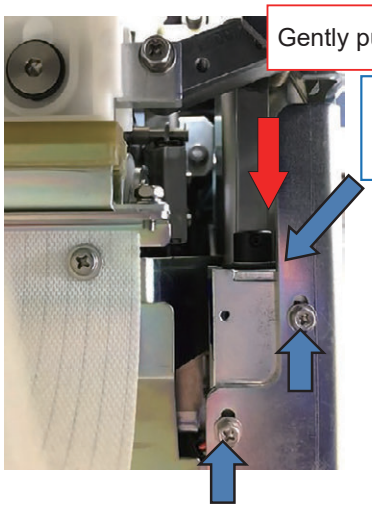
Push the center of the aluminum block using a screwdriver, and lower the cutter blade to its lowest position.





3

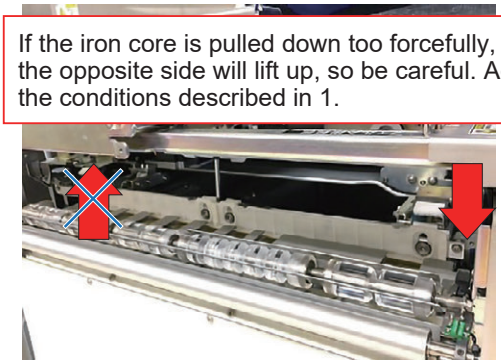
Gently push down the iron core under the conditions in step 2., and adhere and secure the iron core and the solenoid in this position.



Gently push up the iron core, and lower and align the link gutter only

Adhere and secure the iron core and the solenoid
Adhere to the extent that the rubber washer does not rotate

If the iron core is pulled down too forcefully, there is a possibility that the opposite side will lift up, so be careful. Adjust while maintaining the conditions described in 1.



NOTE

During adjustments, the cutter unit may move, so be careful. Make sure to maintain the conditions described in step 2. during adjustment.

CAUTION

Be careful not to cut your hands or fingers when replacing the cutter saw blade.

4

Adjust the back solenoid in the same way.

1

3.2.11 Roll hold unit

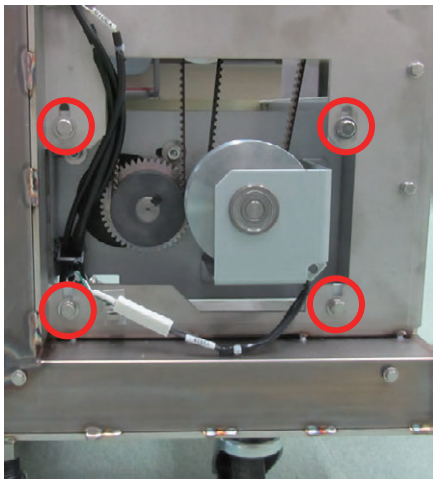
■ Adjusting the belt tension of roll hold unit

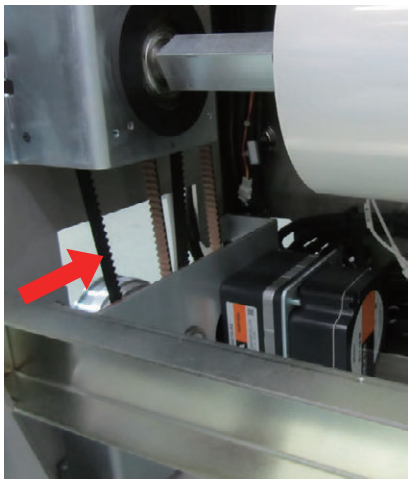
Adjust the belt tension of the lower roll.

Loosen the 4 bolts indicated in the circle in the picture, adjust the position in the vertical direction to set the belt deflection and pressing force at the specified value.

Belt deflection is at 3.4 mm

Pressing force is 438 to 712 gf



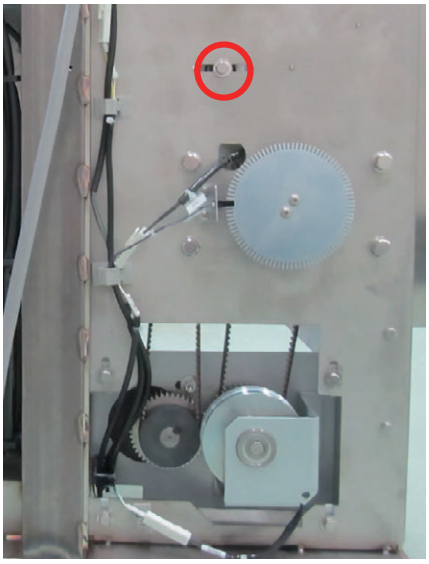


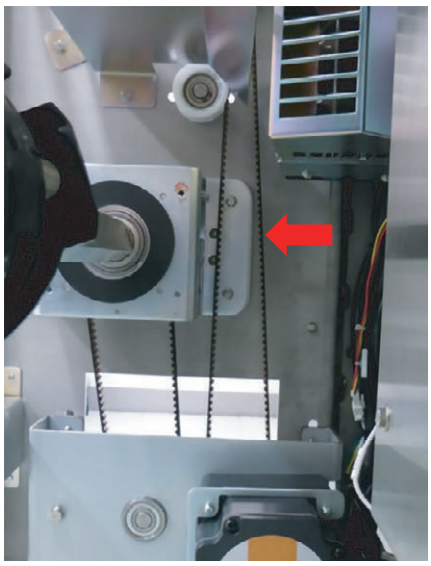
Adjust the belt tension of the upper roll.

Loosen the bolts indicated in the circle in the picture, adjust the idler pulley in the right-left direction to set the belt deflection and pressing force at the specified value.

Belt deflection is at 7.3 mm

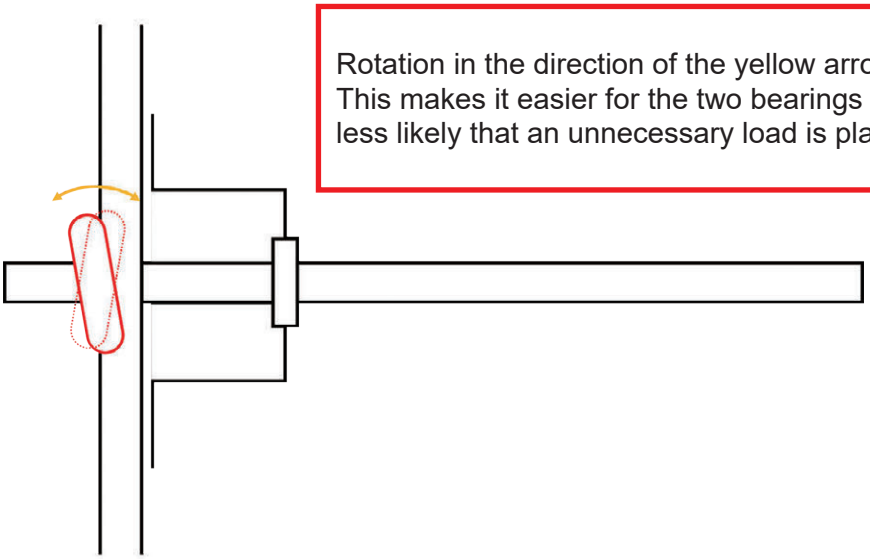
Pressing force is 450 to 724 gf





■ Change of bearing unit:flange: for film holding rod

The BEARING UNIT:FLANGE: that fixes the last part of the film holding rod has been changed to one that can more easily rotate the spherical outer ring. It is now easier to align the two bearings that support the shaft of the holding rod, and ensure smooth rotation during assembly.



Rotation in the direction of the yellow arrow is now smooth.
This makes it easier for the two bearings to be parallel, making it less likely that an unnecessary load is placed on the shaft.

Old part number	Name		New part number	Name
000-030-6417-**	BEARING UNIT:FLANGE:	→	000-032-6744-**	BEARING UNIT:FLANGE:
			100-021-1579-**	COLLAR A::

REFERENCE

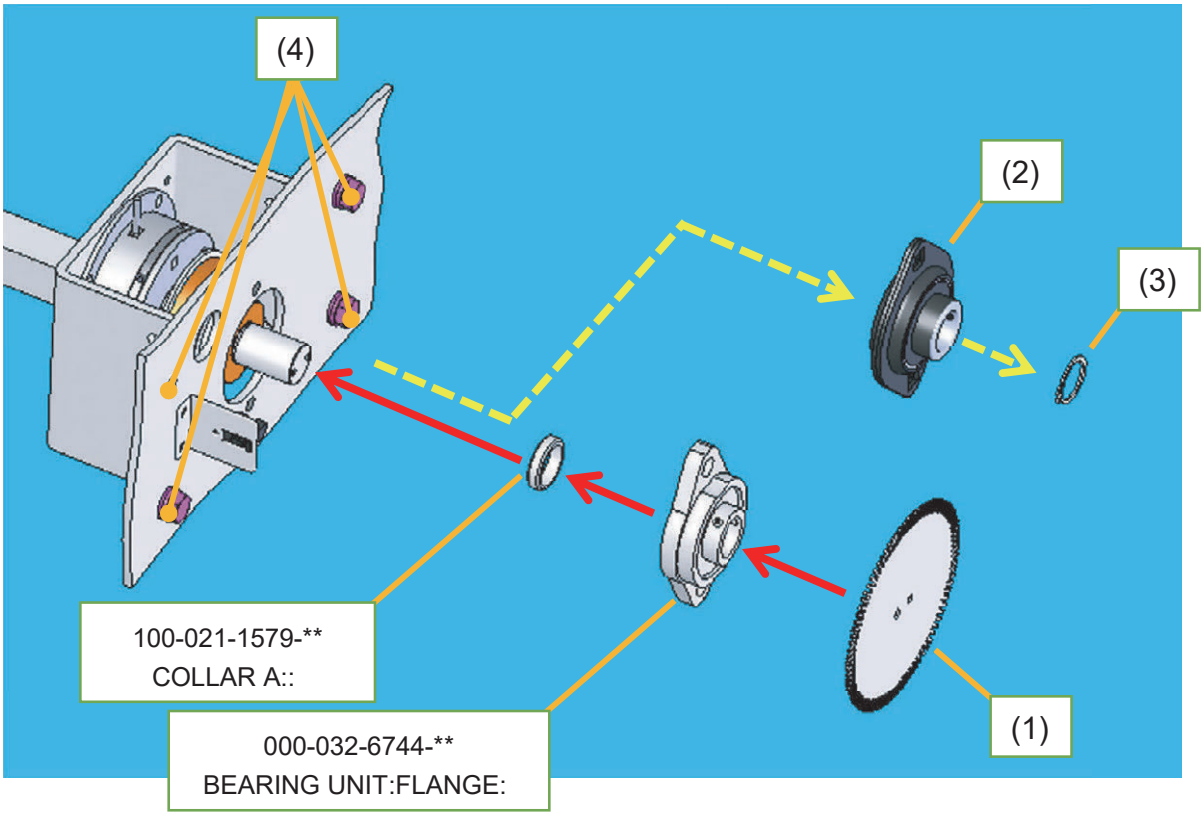
Old parts can be used and supplied, but new parts are recommended to improve functionality. The new BEARING UNIT:FLANGE: can be used on the film holding rod before the change by adding a collar.

1

■ How to replace the bearing unit

<When installing a new type bearing on an old type shaft>

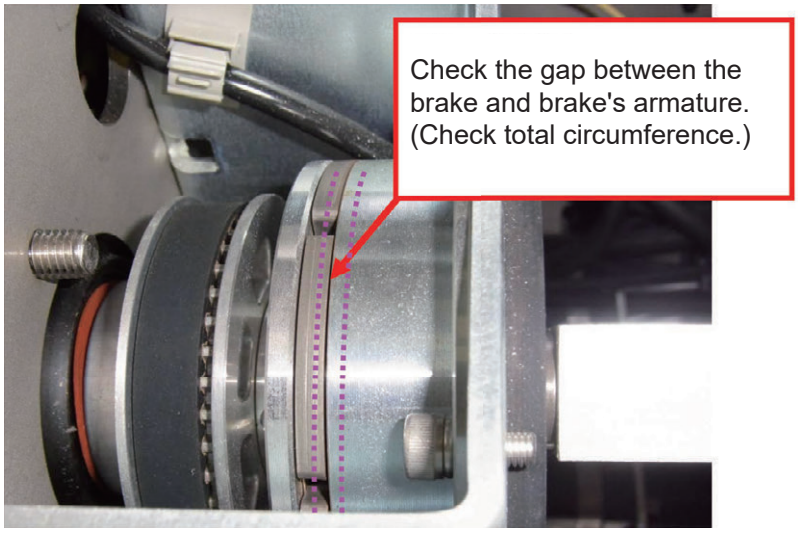
1. Loosen the drive belt tension.
2. Remove the parts (1) to (3) shown in the figure below. Discard (2) and (3).
3. Install 100-021-1579-** COLLAR A:: and 000-032-6744-** BEARING UNIT:FLANGE: to the holding rod shaft.
   Temporarily tighten the BEARING UNIT:FLANGE: bolts.
4. Adjust the holding rod brake gap and fully tighten the BEARING UNIT:FLANGE: bolts. (The gap gauge tool of 0.2 mm thickness must pass the gap without any resistance. The gap gauge tool of 0.3 mm thickness must not pass the gap, or there must be resistance when inserted.)
5. If you cannot set the brake gap correctly, loosen the fixing bolts (4), fix the bracket to the top, and adjust the brake gap again.
6. Fully tighten the BEARING UNIT:FLANGE: screws and attach (1). Adjust the drive belt tension.



■ Adjusting the break gap

Perform gap adjustment to satisfy the following condition for the gap between the brake and armature. Refer to Pic.1 for the gap to be checked.

1. 0.2 mm The gap gauge tool of 0.2 mm thickness must pass the gap without any resistance.
2. 0.3 mm The gap gauge tool of 0.3 mm thickness must not pass the gap, or there must be resistance when inserted.

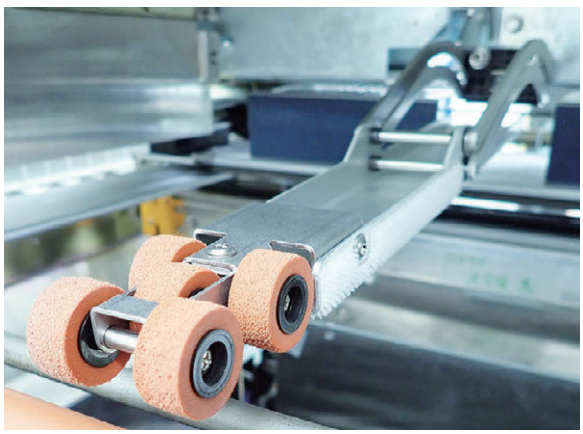


Picture 1: Check the brake gap

■ Tray presser unit

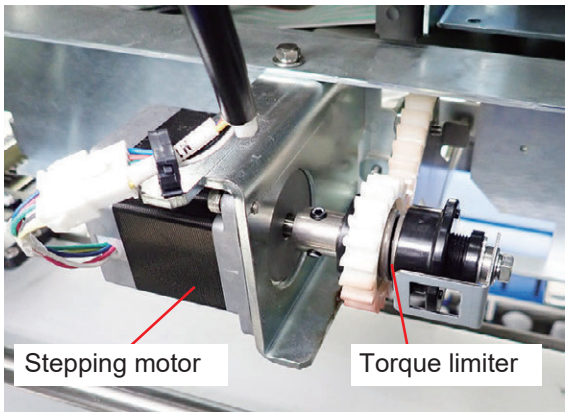
1

The tray presser holds the tray (product) pushed up by the lift to prevent it from falling over during wrapping operation.
Then, the presser holds the tray (product) again so that the bottom seal is firmly attached to the tray bottom heater.
The timing and duration of pressing is set in the tray master.
The pressure to be applied can be adjusted with the torque limiter.
This section describes the procedure for adjusting the tray presser pressure with the torque limiter.



2

Tray presser pressure converts the rotation of the stepping motor to the tray holding pressure using the torque limiter.

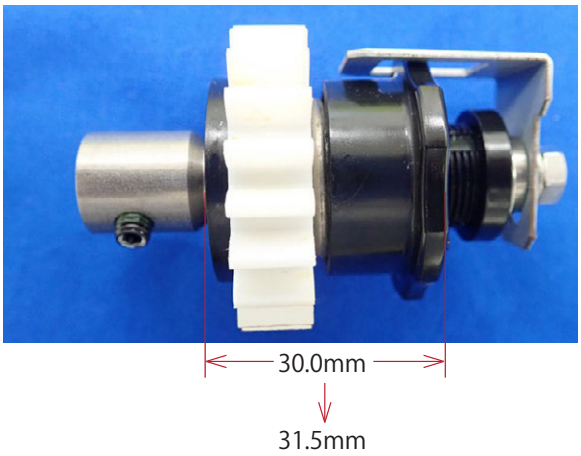


■ Adjusting the torque limiter

The strength of the tray presser is adjusted with a torque limiter at the factory. If the torque increases due to variations in the torque limiter or deterioration over time, exceeding the torque limit of the stepping motor may cause the motor to step out.

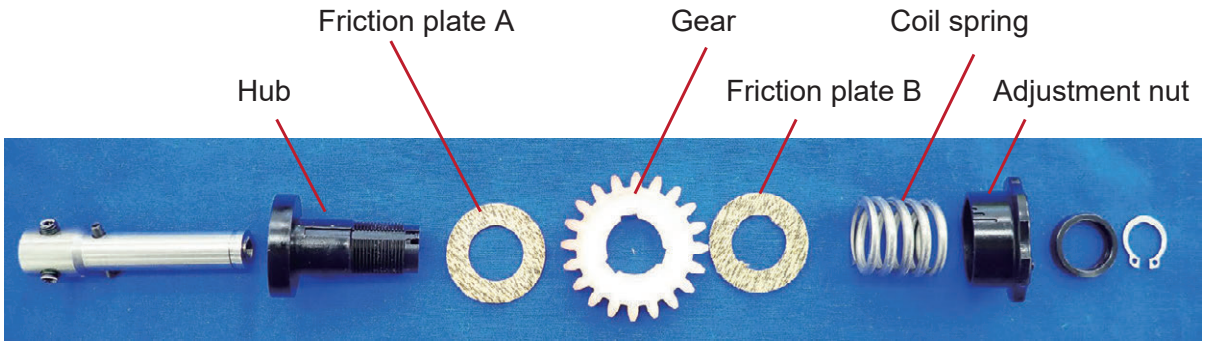
1

The torque limiter adjustment dimension had been adjusted to 30.0 mm since the release of the first machine.
Considering the case where the torque becomes strong due to various reasons such as variations in the torque limiter and deterioration over time, the dimension has been adjusted to 31.5 mm for machines produced in and after May 2020.
If the torque of the torque limiter becomes large, the stepping motor may get out of step. In this case, adjust the torque limiter accordingly.
The torque increases as this dimension is shortened, and it decreases as the dimension is lengthened.



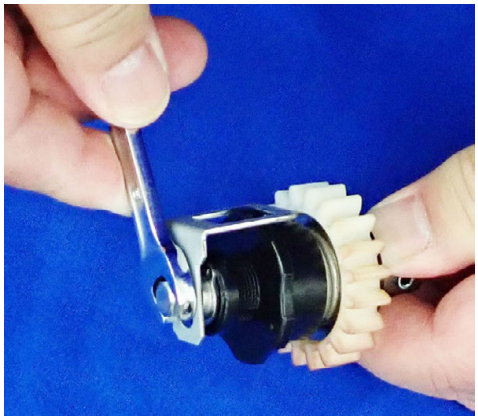
2

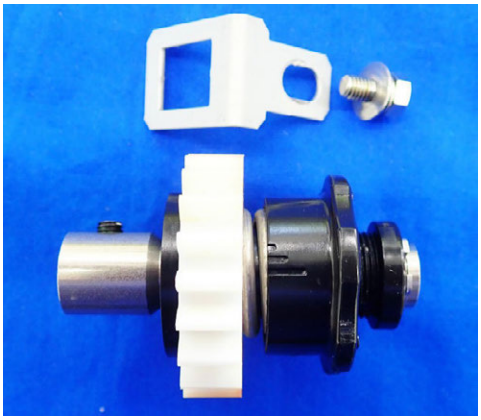
The torque limiter consists of the following parts.
Torque is controlled by pressing the friction plates A and B against the gears with the force of the spring. The torque can be adjusted by turning the adjustment nut. The torque may change depending on the aged deterioration of the friction plate or the operating environment.
The photo below shows the disassembled state to help you understand the structure.



3

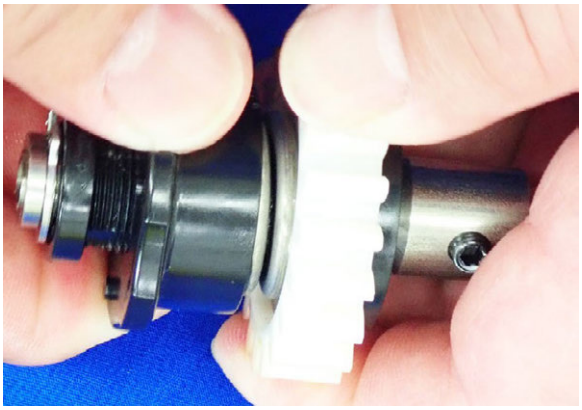
Remove the stopper for adjustment. The stopper can be removed by removing the hexagon head bolt.





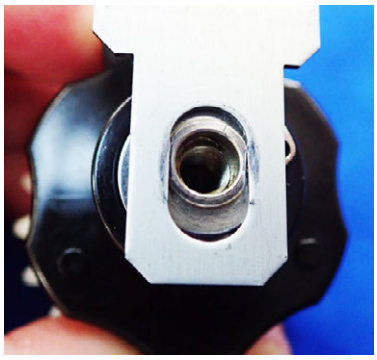
3

Adjust the torque by fixing the white gear and turning the black torque adjustment resin part. Although the dimension has been adjusted to 31.5 mm for machines produced in and after May 2020, the changes may differ depending on the degree of wear, so adjustments should be made according to how much the stepping motor is stepping out. Increasing this dimension reduces the tray holding pressure.



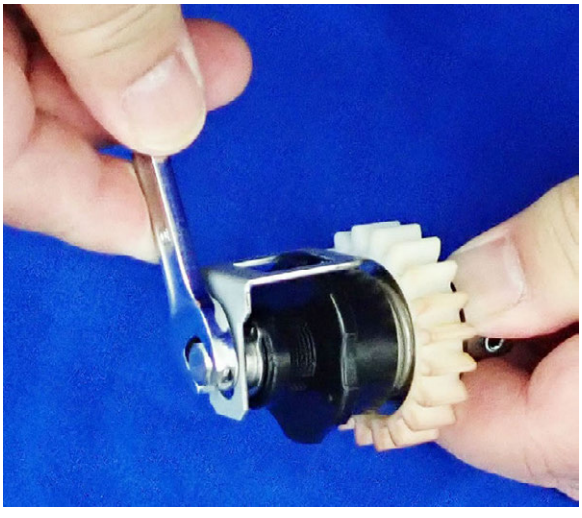
4

Align the black resin convex part with the notch in the fixing bracket. At this time, make sure that the notch in the shaft fits into the bracket firmly.



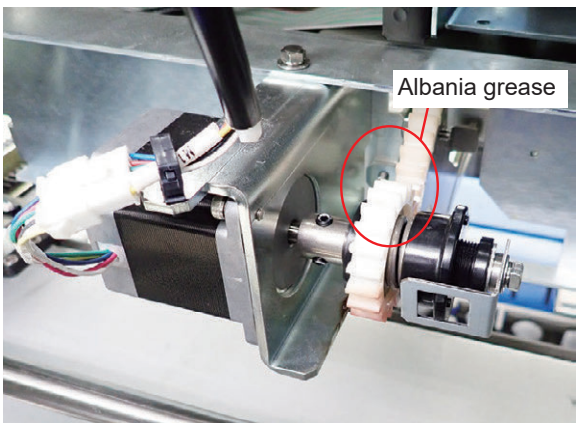
5

Install the hexagon head bolt. This completes the adjustment of the torque limiter.



6

Install the torque limiter in its original position. Apply Albania grease to the gear.



1

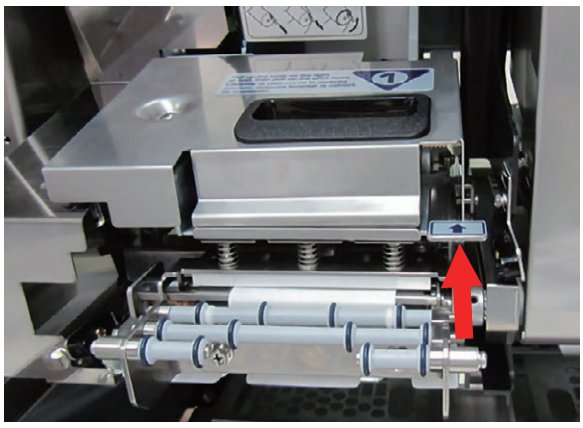
3.3 Mechanical Unit Replacement

3.3.1 Printer unit

■ Replacing the thermal head

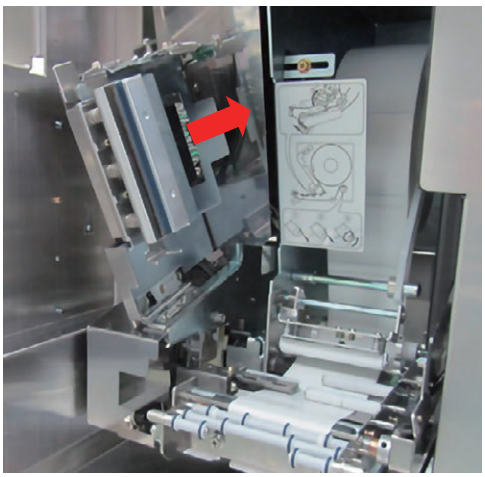
1

Press the lever, then, lift up the printer head.



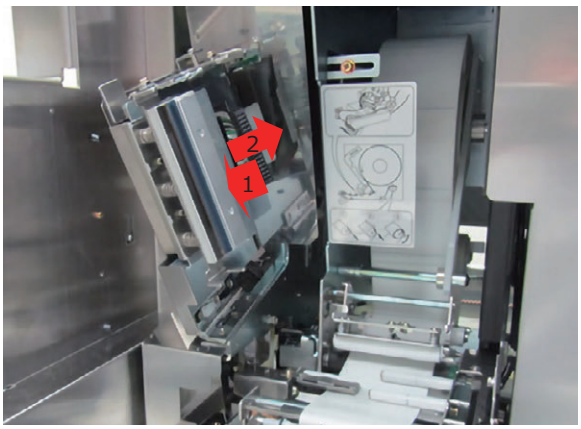
2

Remove the connector toward the arrow direction.



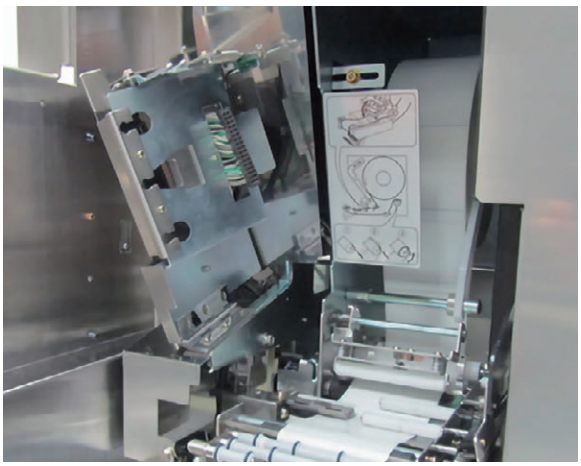
3

Remove the thermal head bracket by moving backward.



4

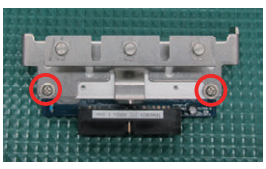
When the bracket is removed.

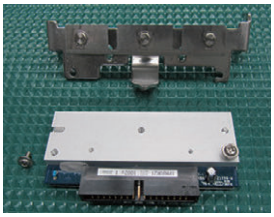


5

Remove thermal head by loosening the two screws indicated in the circles in the picture.

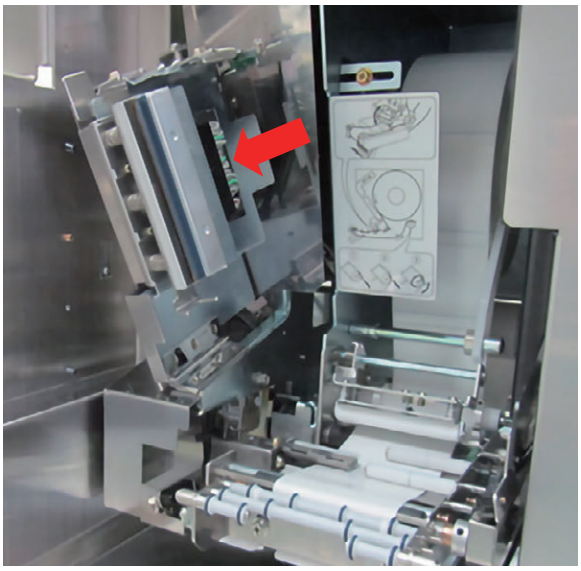
Replace it with a new thermal head. To attach the thermal head, perform the procedure in the reverse order of detaching.





6

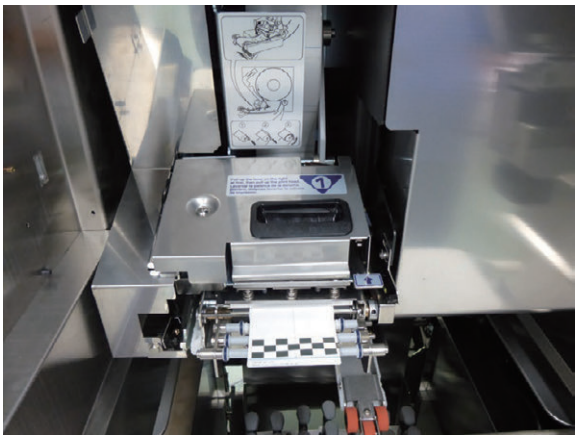
Connect a connector.



7

Set the thermal head in its original position.

From the [PRINTER (HEAD)] screen of ADJUST mode, set a resistance value. Perform a test printing to check for successful printing.



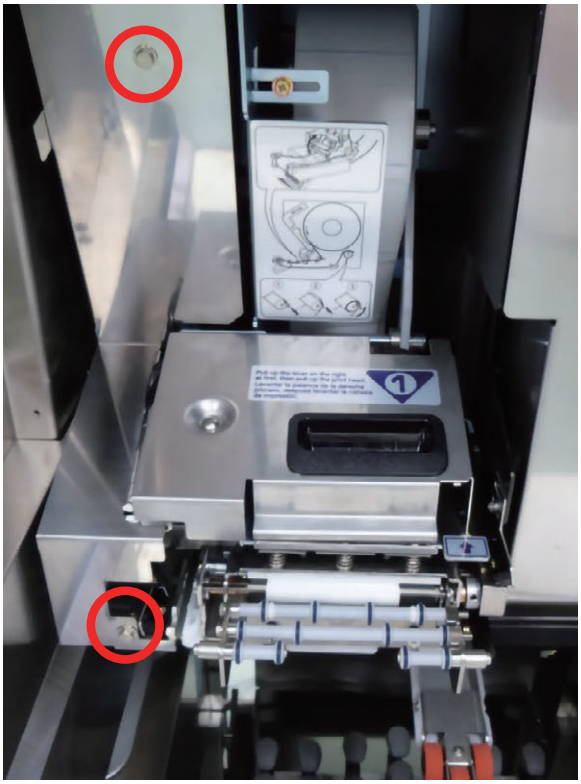
REFERENCE

For description on Adjust Mode, refer to Chapter 6 Adjustment Mode.

■ Replacing the peel sensor

1

Detach the cover by removing the two screws.

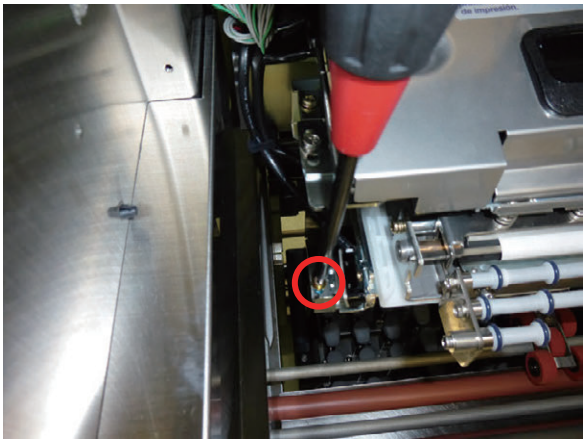


The light emitting side

2

Remove the sensor bracket and sensor connectors.

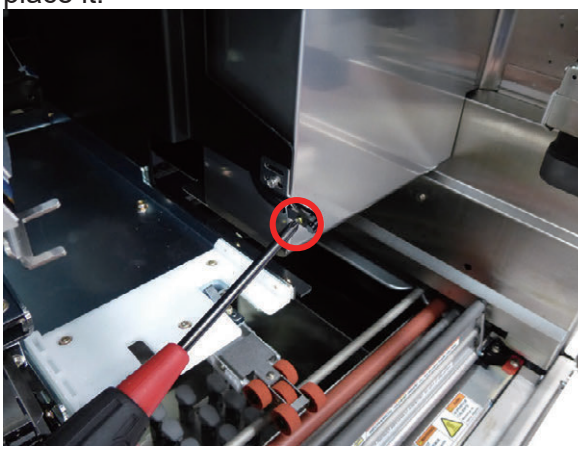
Remove the sensor from the bracket to replace it.



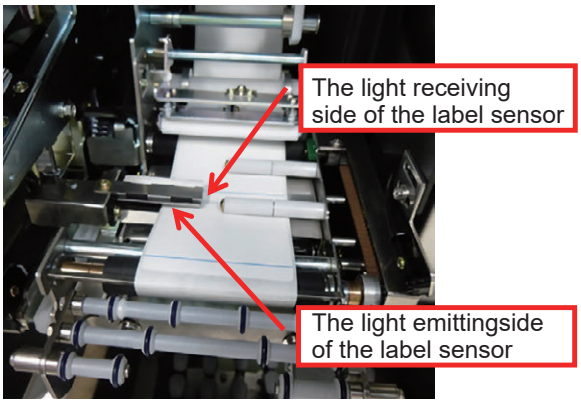
The light receiving side

3

Lift up the printer head, then remove the sensor connectors.
Remove the sensor from the bracket to replace it.



Position of the label sensor

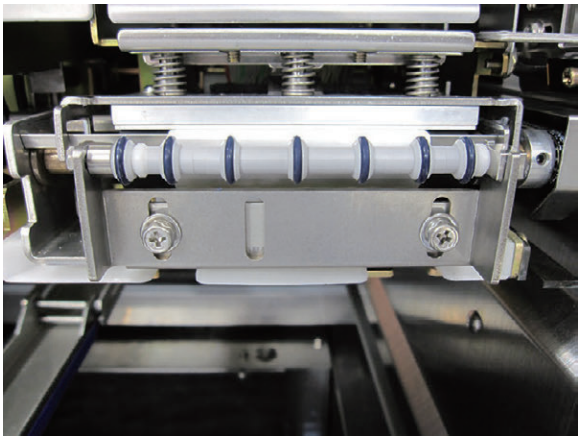


■ Replacing the label standby roller unit

O-rings are provided in the center of the standby roller to prevent a suction error of the labels that are warped upward on both ends and warped downward in the center.
This machine employs an adjustment function in the width direction so that an adequate space (space 0.5 to 1.1 mm) is given against a dimension error of collar. This reduces the front/ rear slack in the right-side shaft.
At shipment, layout of O-ring is set for a 60 mm wide label. If the value is different, replace the collars and O-rings.

<How to install>

Three holes are provided in the bracket of the label standby roller unit.
Use the two holes located on both ends.
For No.1 and No.2 machines, the front / rear positions of the label standby roller are located in backward side.



NOTE

The number of standby rollers may increase depending on the label size.

■ Replacing the label standby roller

- The estimated timing for replacing the label standby roller is 350,000 times of wrapping count or 13.8 km of travel distance, either of the shorter period. This period is shown when on condition that number of the times of wrapping and labeling are considered equal.
- The replacement may be required earlier than the estimated replacement timing. If a suction error of the labels occurs, visually confirm the O-rings of the label standby roller. When significant fogging happens on the surface, which indicates the non-adhesiveness of the roller has been deteriorated, so replacement is recommended.

■ Replacing the label sensor and head-up sensor

The label sensor consists of the light emitting side, light receiving side, head-up sensor, and peel sensor (see Figure 1). These units are replaced all together.

NOTE

After the replacement, the sensor level needs to be adjusted for the label sensor.
To adjust the label sensor level, set the label sensor level on the [PRINTER (LABEL FEED)] screen of ADJUST mode.

REFERENCE

For description on adjust mode, refer to Chapter 6 Adjustment Mode.

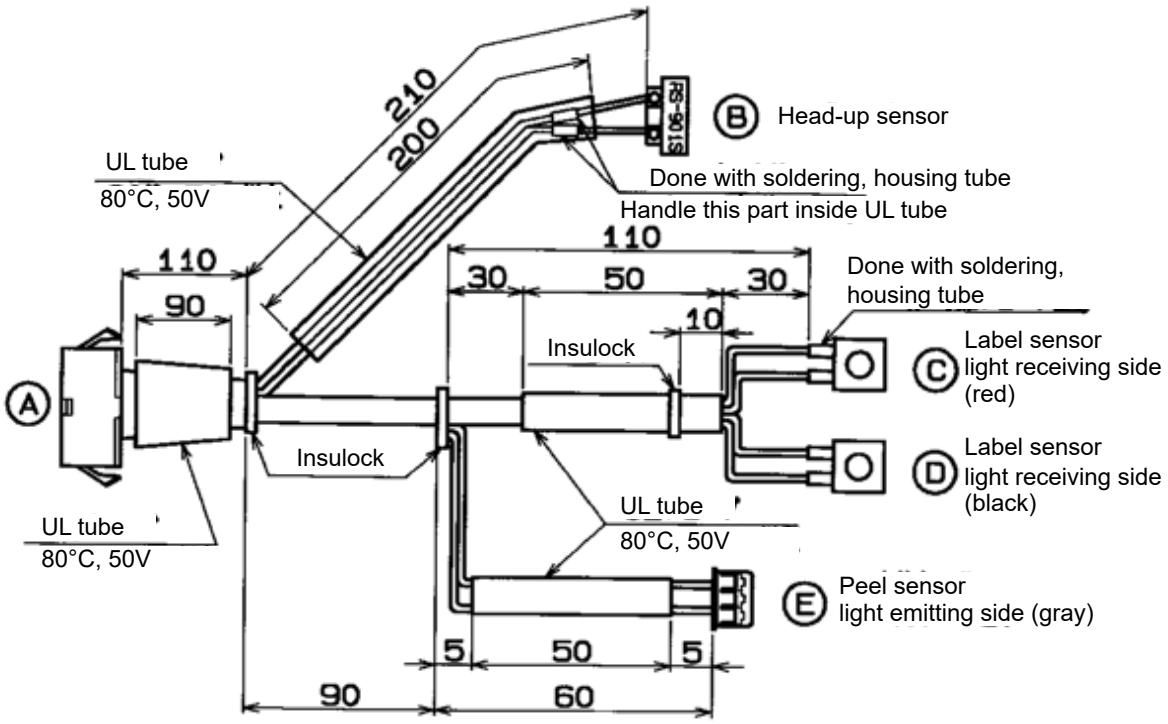
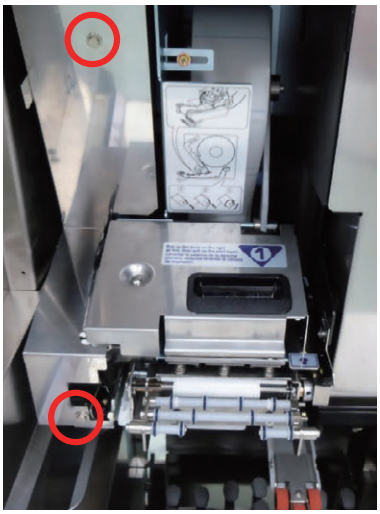


Figure 1

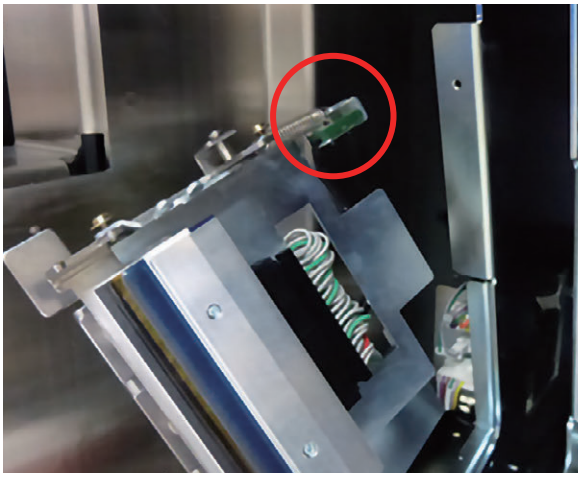
1

Detach the cover by removing the two screws.



2

Lift up the printer head, then remove the head-up sensor.

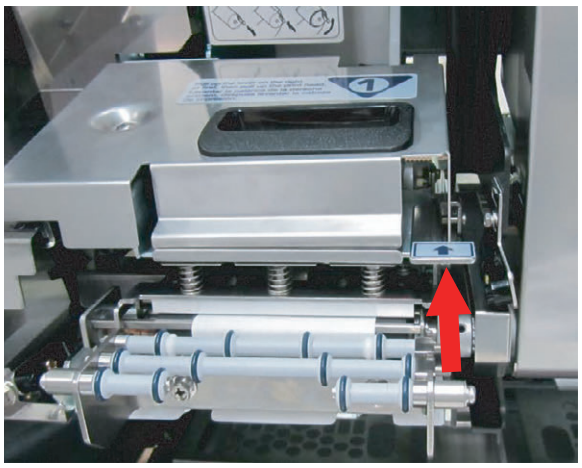


1

■ Replacing the platen roller

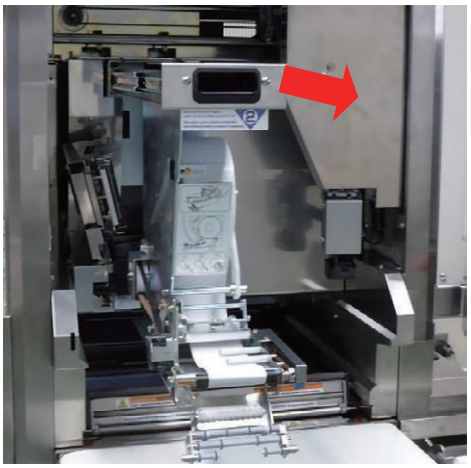
1

Lift up the printer head.



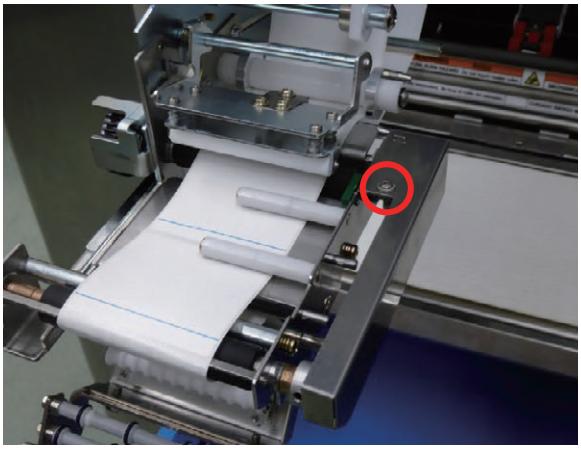
2

Pull out the printer.



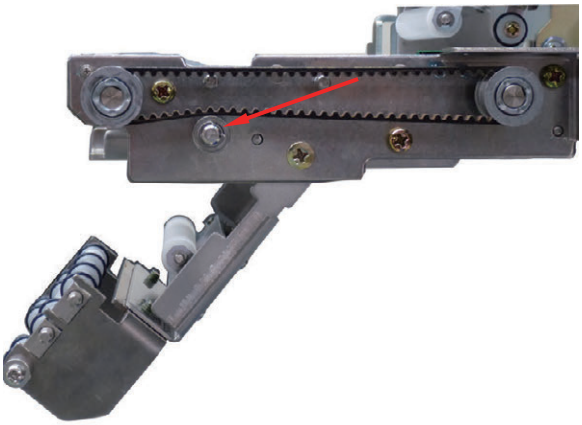
3

Remove the cover by loosening a screw indicated by the circle in the picture.



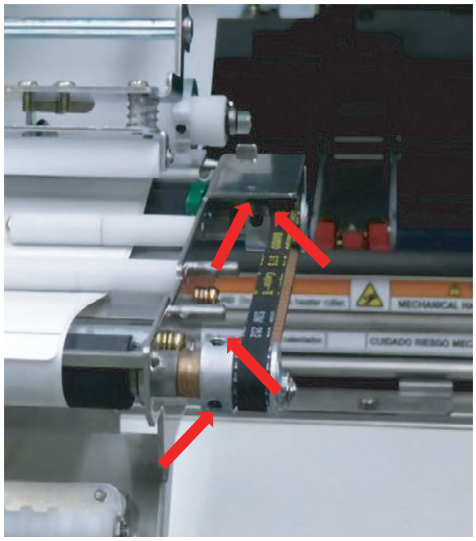
4

Loosen tension pulley.



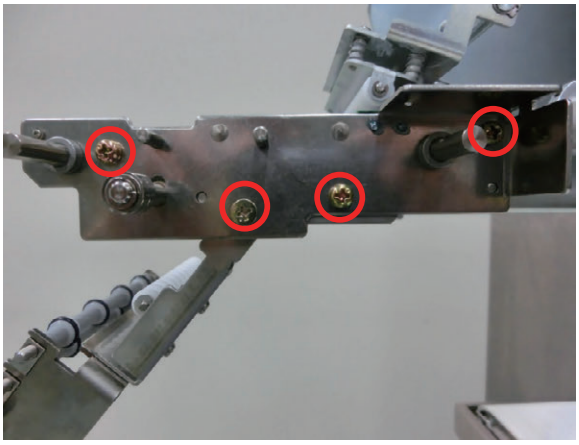
5

Remove the timing belt and pulley after loosening the four screws indicated by the arrows in the picture.



6

Remove the print roller by removing the frame after loosening the screws indicated by the circles in the picture.



3.3.2 Label applicator unit

■ Replacing the Suction Block

Estimated Timing
The estimated timing for replacing the suction block is 150,000 times of wrapping count (labeling count).

Note: This estimated timing has been derived from the results of use under the condition described below.

Temperature: 20 to 25 °C
Humidity: 35 to 50%

Label: V8NS 60 mm x 37 mm
Film: UP film (Perform wrapping with the same stretch amount as that with Ishida Wrap Super)
Tray: 200 mm x 130 mm (Standard trays or equivalent)
Labeling position: Lower-right

Label applicator control: Labeling sensor reference
Commodity shape: The film is flat with few commodity filling.

- Conditions where the replacement frequency may increase because a packaging film is torn earlier than the estimated replacement timing.
  - When the film thickness becomes reduced by performing the ultra-stretch, or when using thin film other than recommended ones.
  - A highly filled commodity with the shape which makes it easy for the suction area to come in contact with wrapped film. (Even if a commodity is filled up high, a packaging film will not easily be torn when setting has been made so that labels are stuck at the top of the filling.)

Replacing the printer suction head

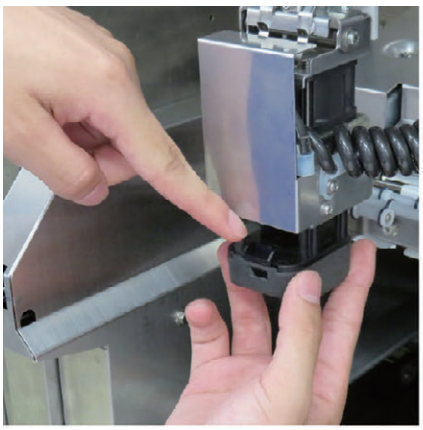
1

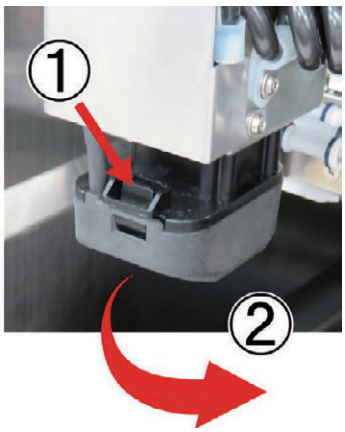
When the suction surface of the printer suction head is worn out, replace the suction head.

This figure shows a new suction head.

2

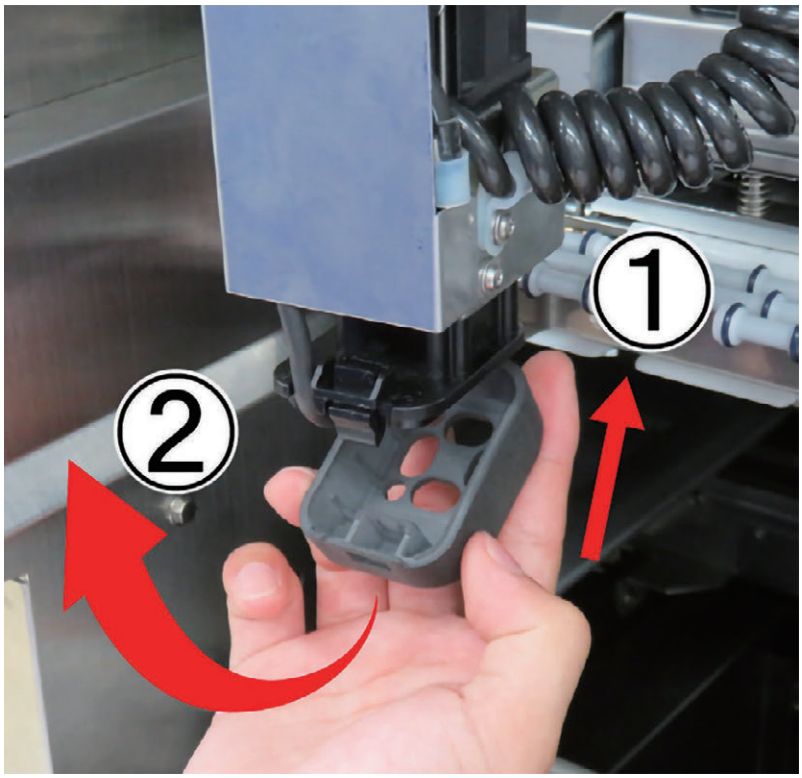
Remove the suction head by pressing the hook indicated by the arrow in picture and pulling down the suction head.





3

To attach, engage the backward hook, and press it upward until making a clicking sound.



■ Disassembling, assembling, and adjusting the suction unit

> **⚠ CAUTION**
>
> It might not operate normally if you do not use the parts following method of assembling the label applicator unit. In addition, follow a method for assembling the number of washers.

Removing the applicator unit

1

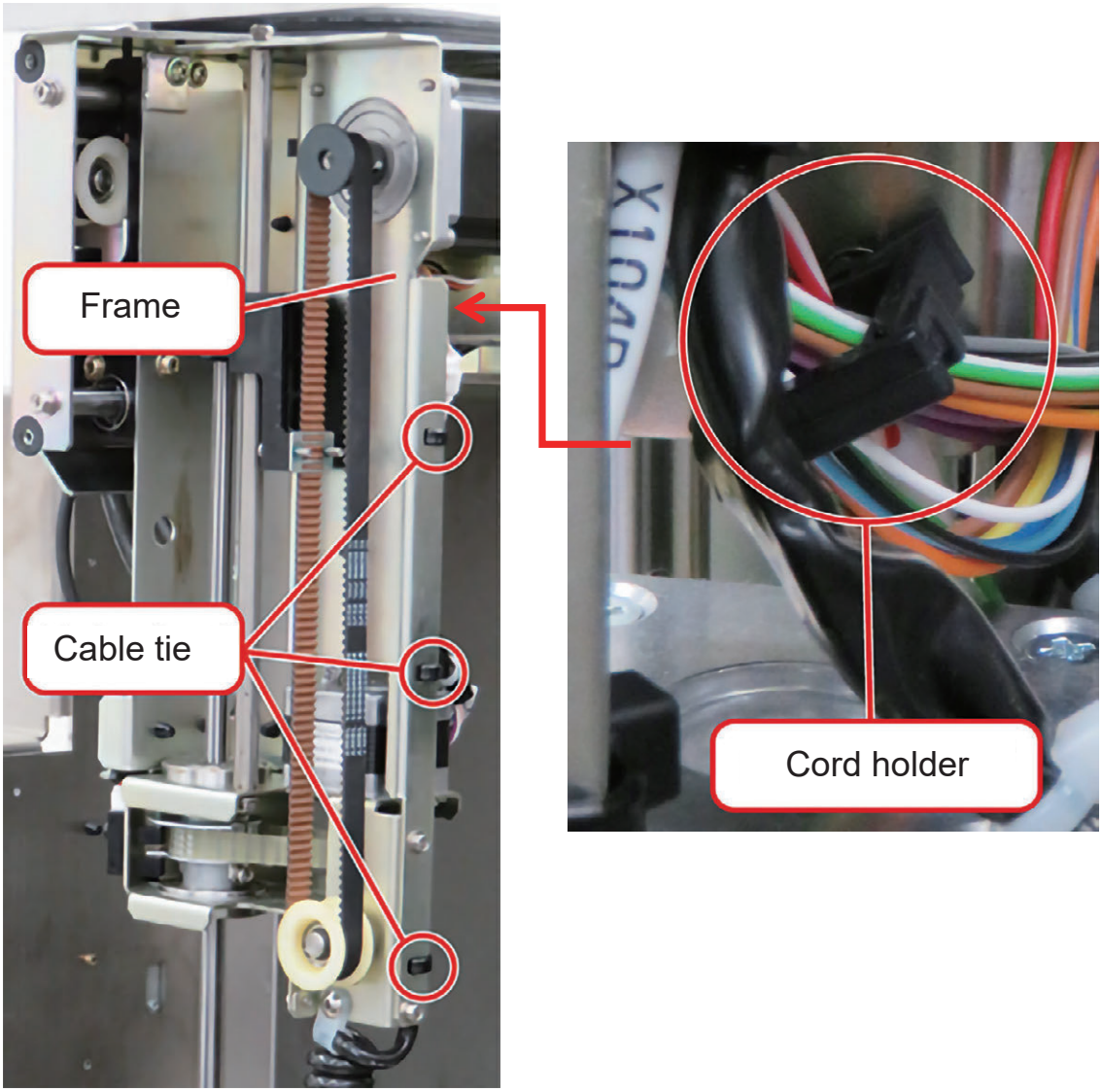
Remove two screws and a cover of the label applicator unit.

1

2

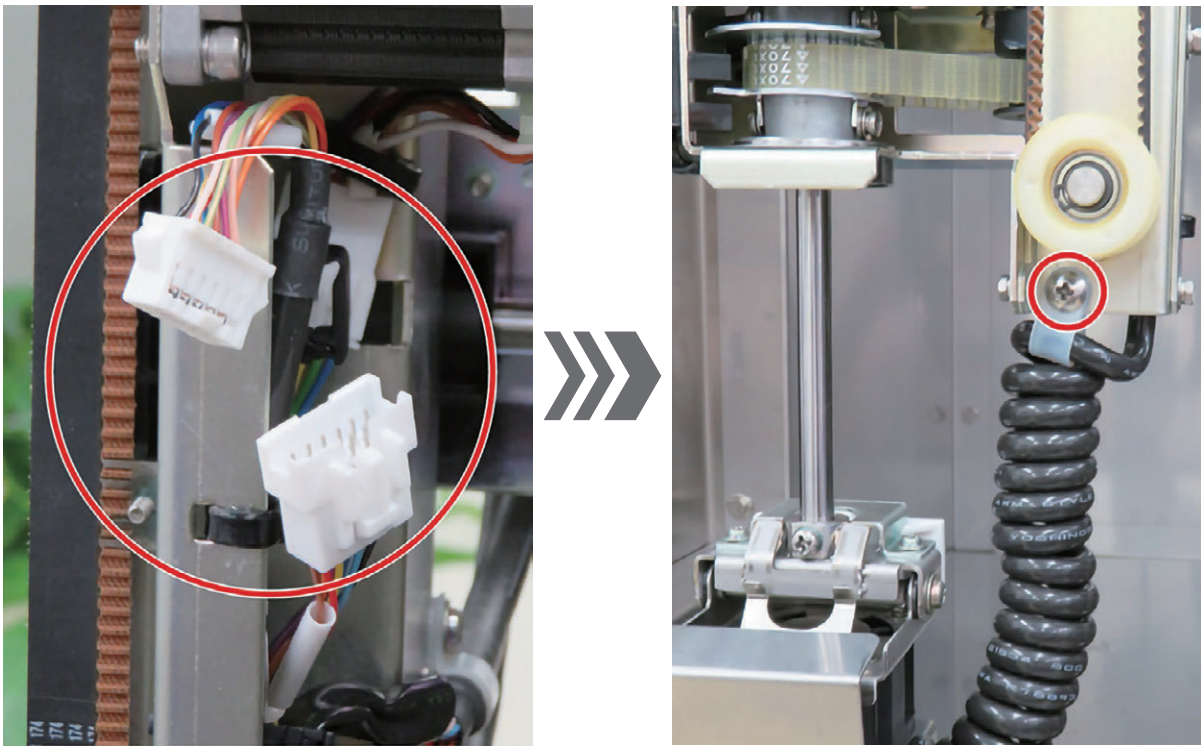
Cut off three tying bands.

Then extract a curled cord from upper of frame to open the cord holder.



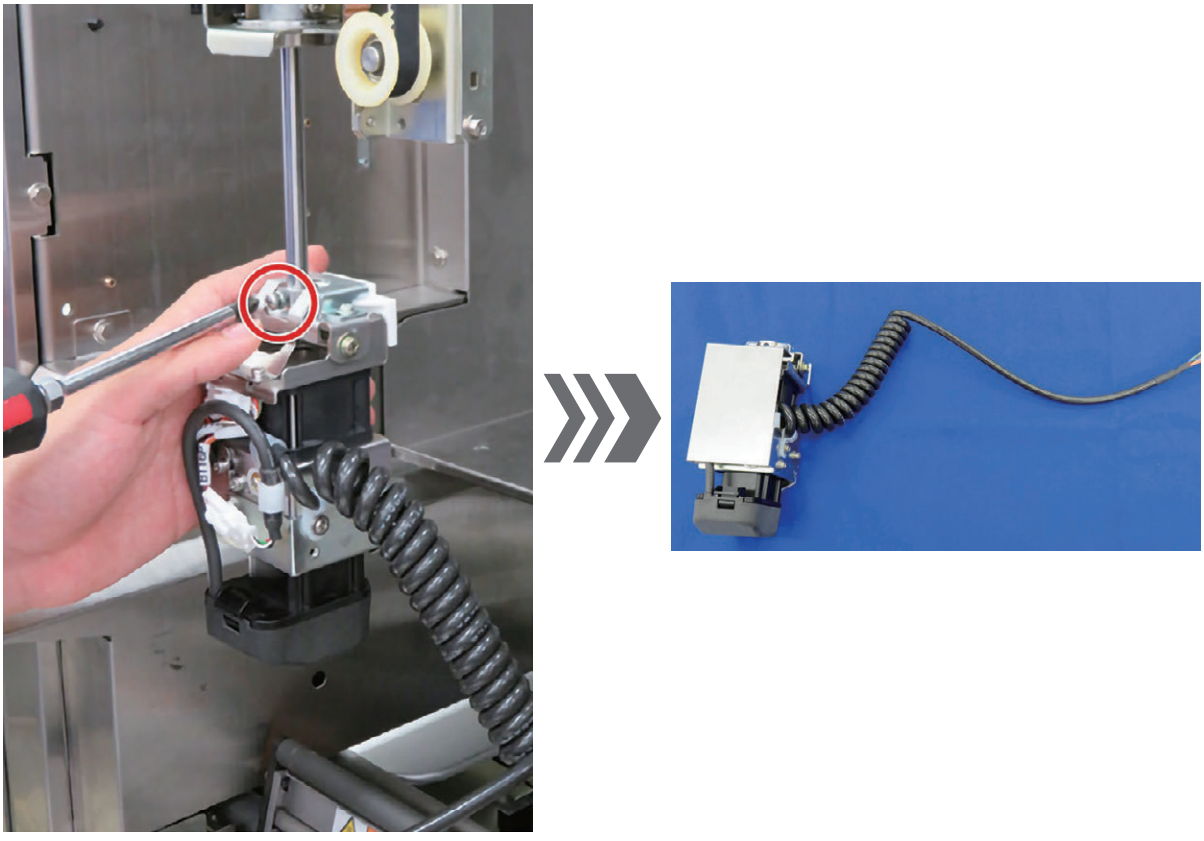
3

Unplug the connector, remove a cable clamp and the curled cord from the frame.



4

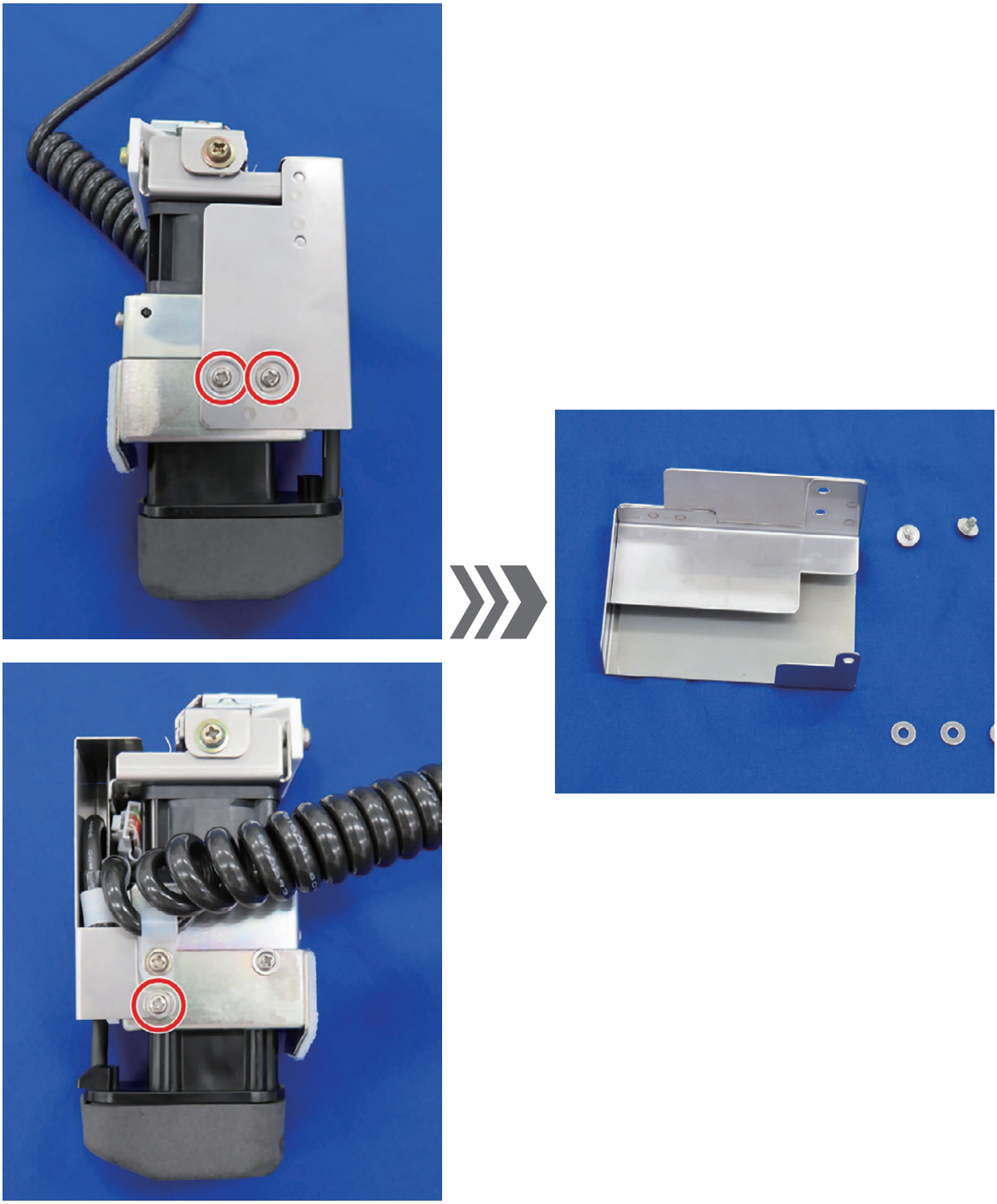
Remove a screw and the label applicator unit.



1

5

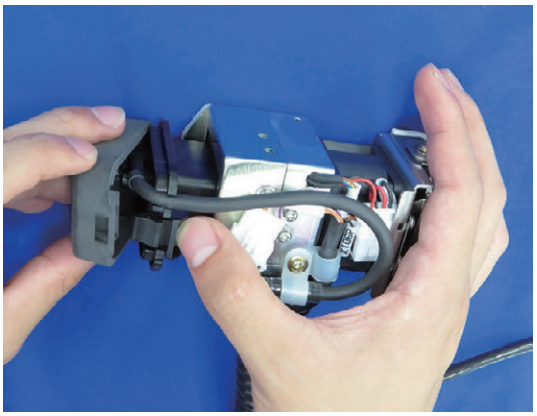
Remove three screws and the label applicator unit cover.

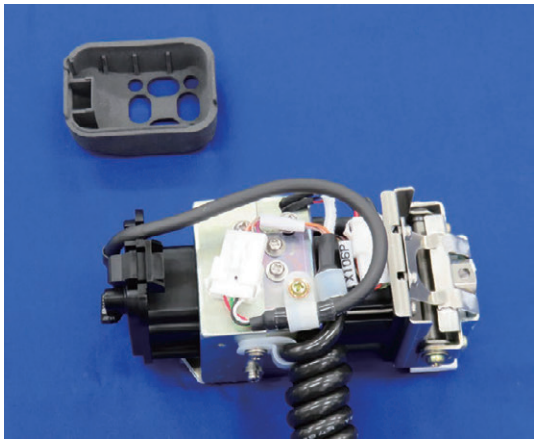


Disassembling the label applicator unit

1

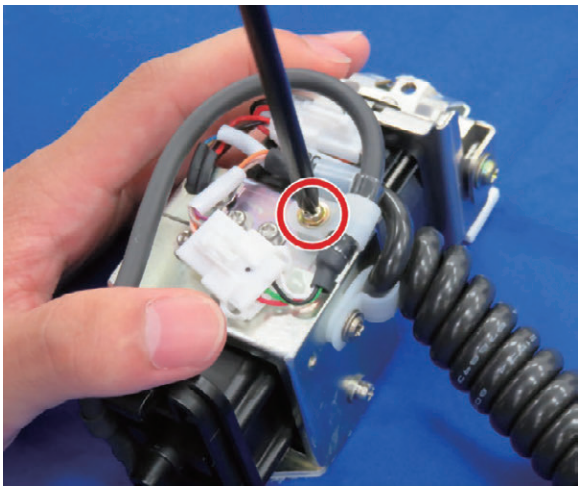
Remove the suction head.





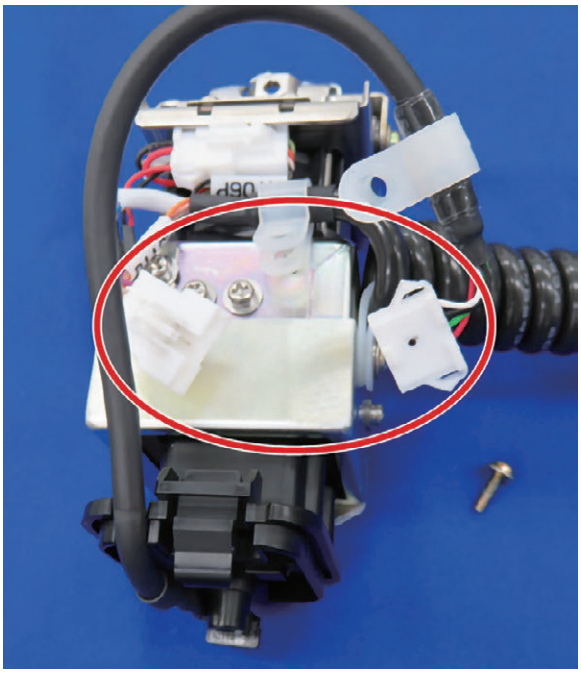
2

Remove a screw and a cable clamp.



3

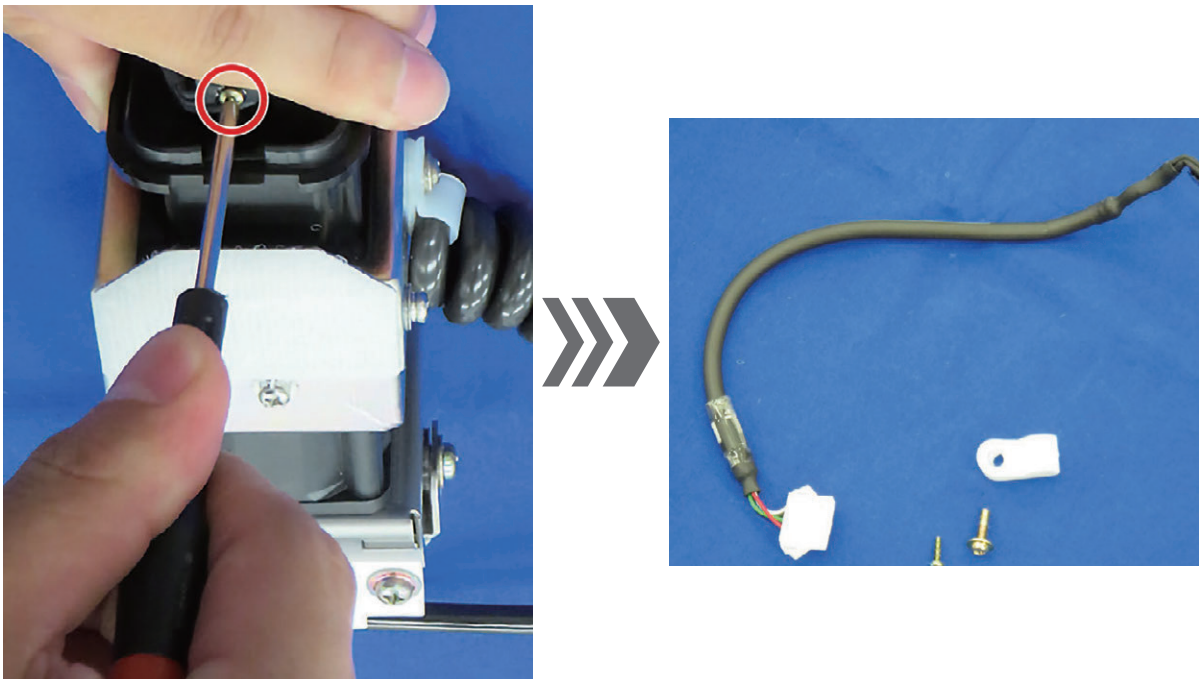
Unplug the connector of sensor cable wiring.



1

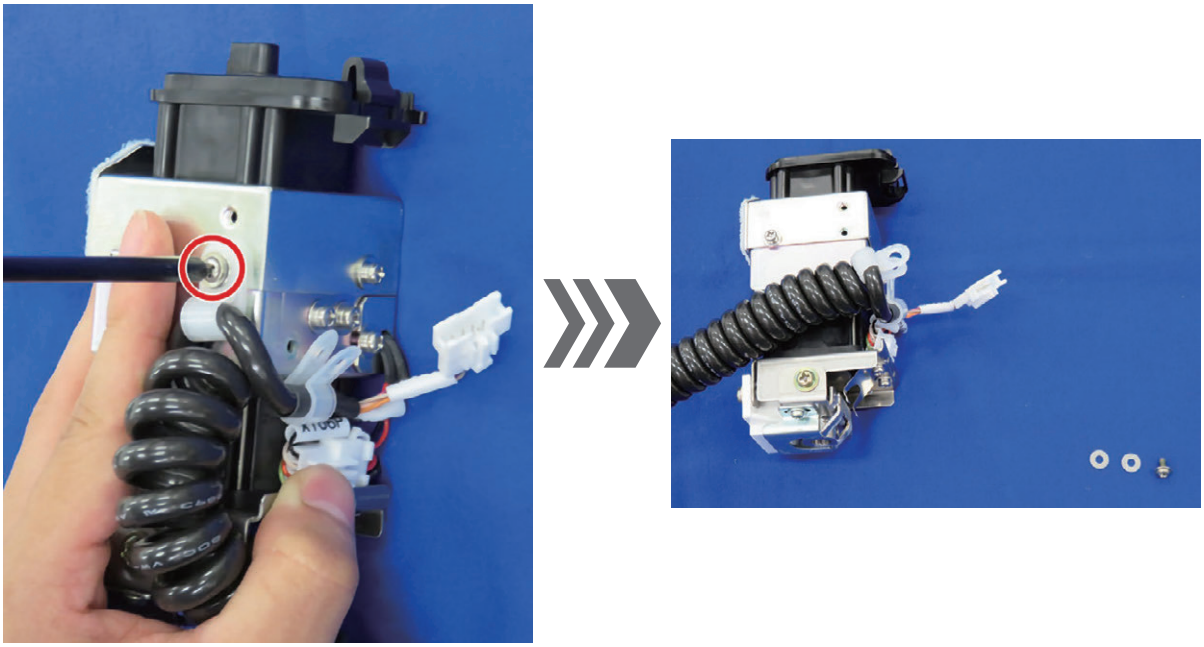
4

Remove a screw of sensor and a wire harness.



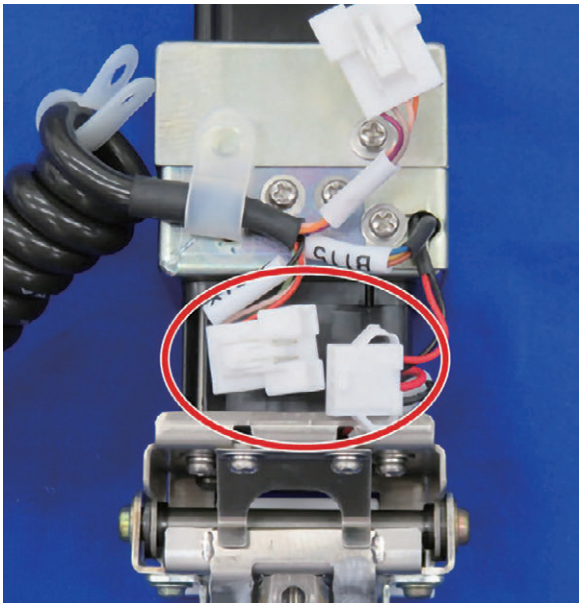
5

Remove a screw and a cable clamp for the curled cord.



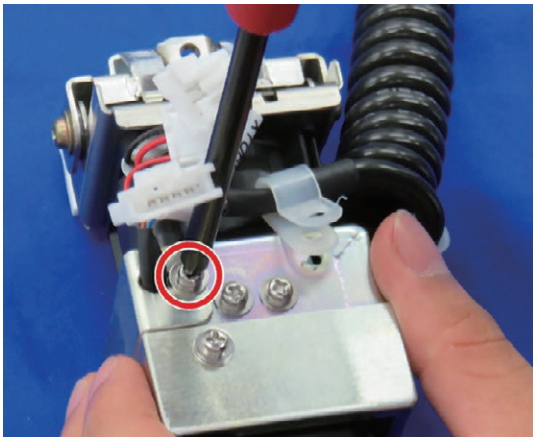
6

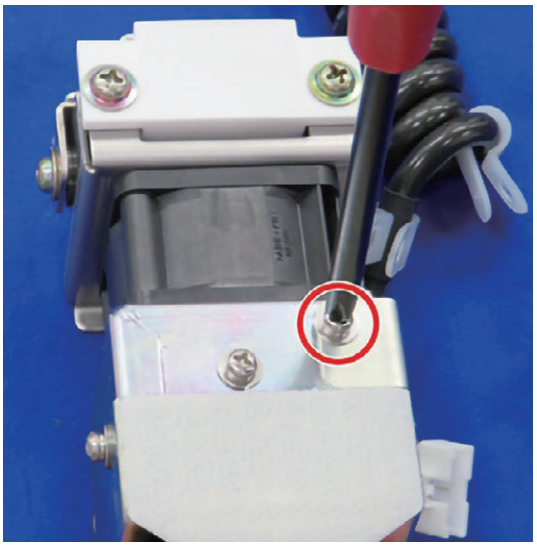
Unplug the connector of curled cord.

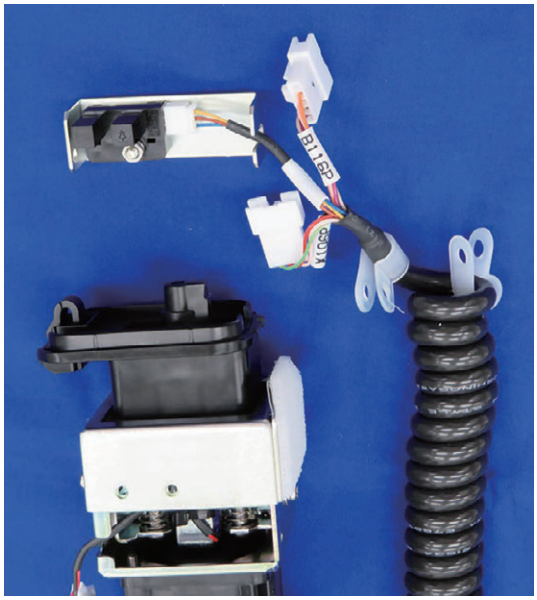


7

Remove two screws of both side of the sensor bracket and it.



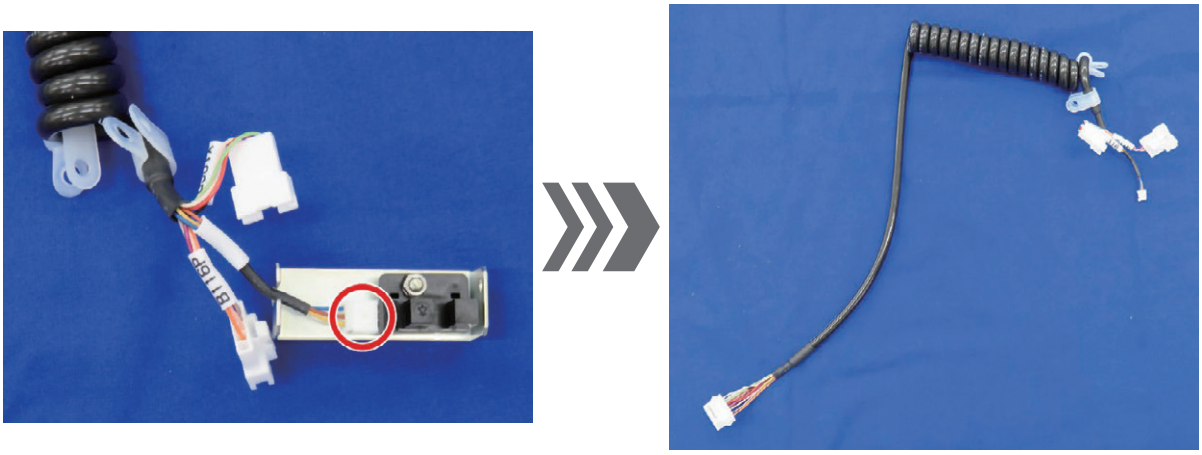




1

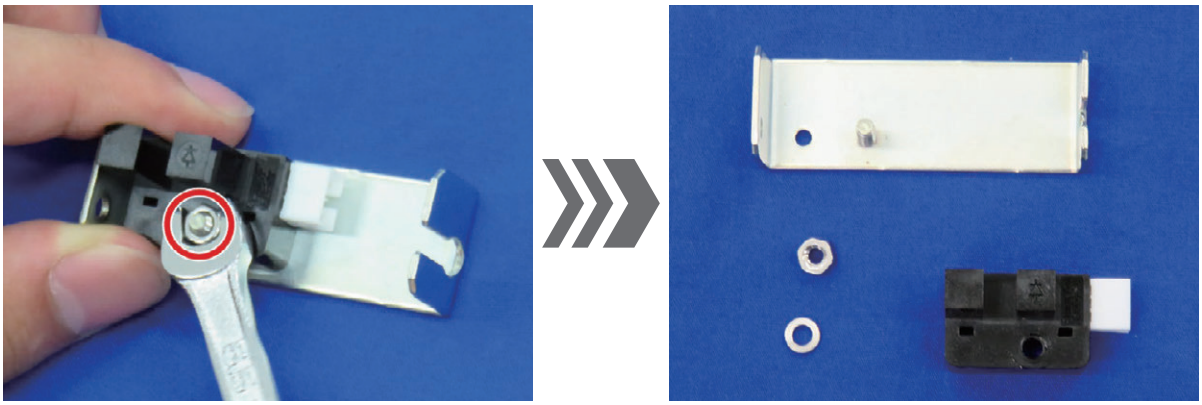
8

Unplug the connector to remove the sensor wiring. Check a curled cord is not damaged.



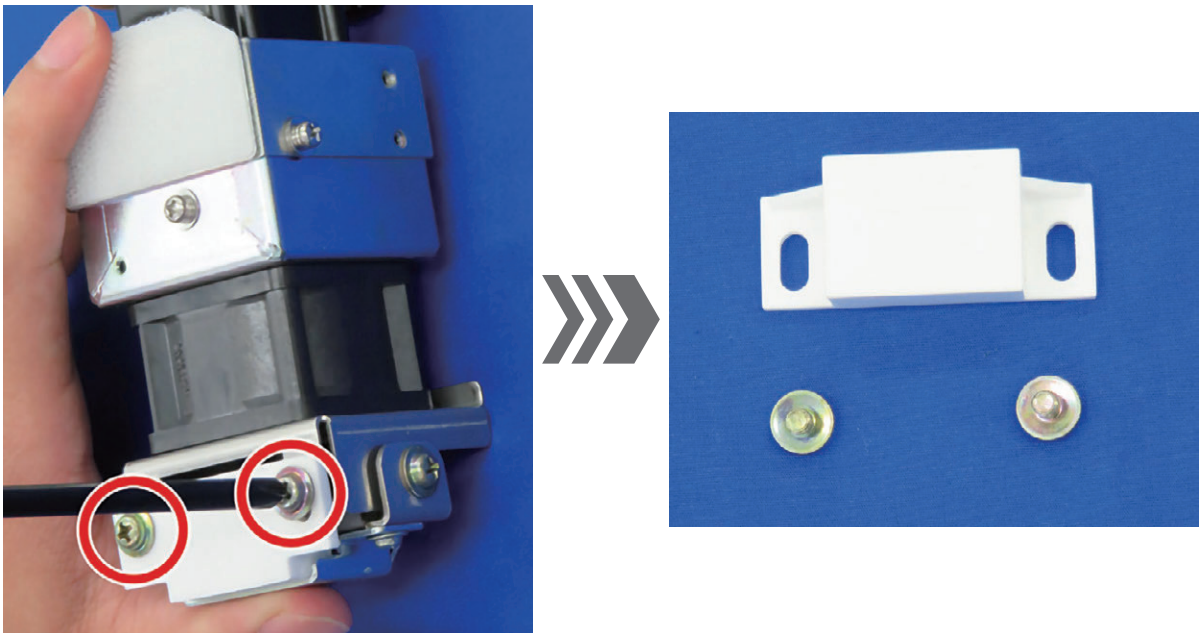
9

Remove a nut and a washer to pull off a sensor from the sensor bracket.



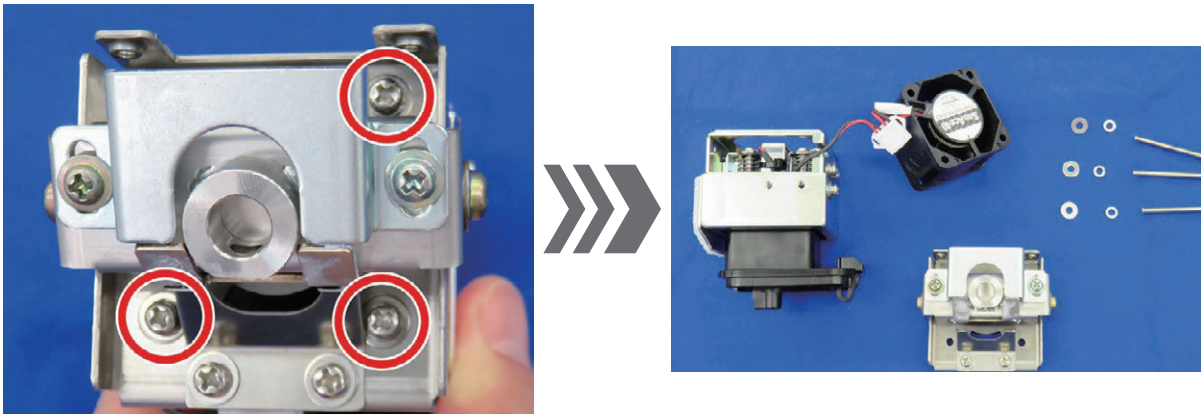
10

Remove two screws and a magnetic catcher.



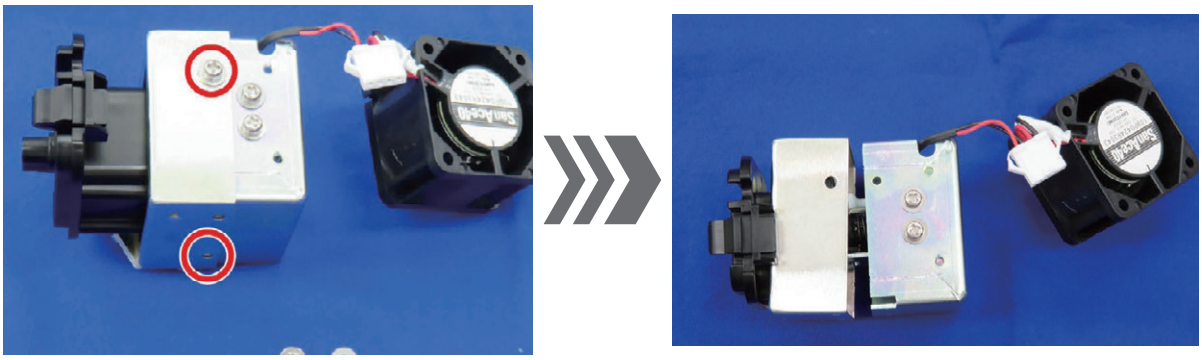
11

Remove three screws to take the assemble to pieces.



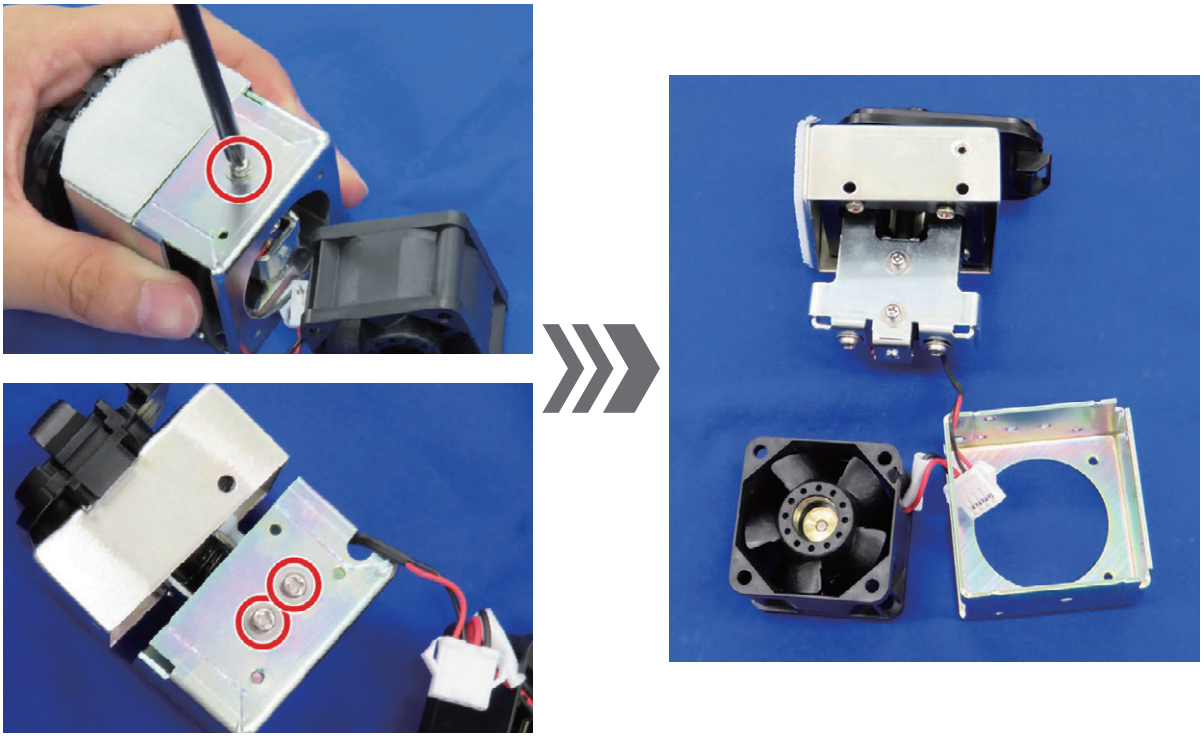
12

Remove two screws to separate upper and lower brackets.



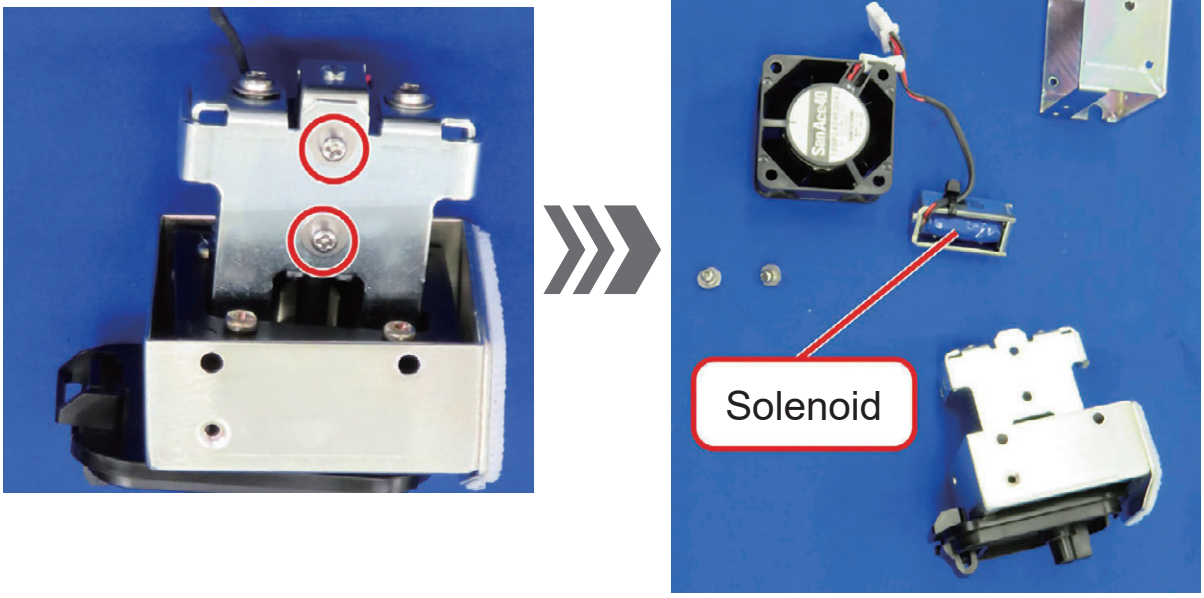
13

Remove three screws of both side of the bracket and it.



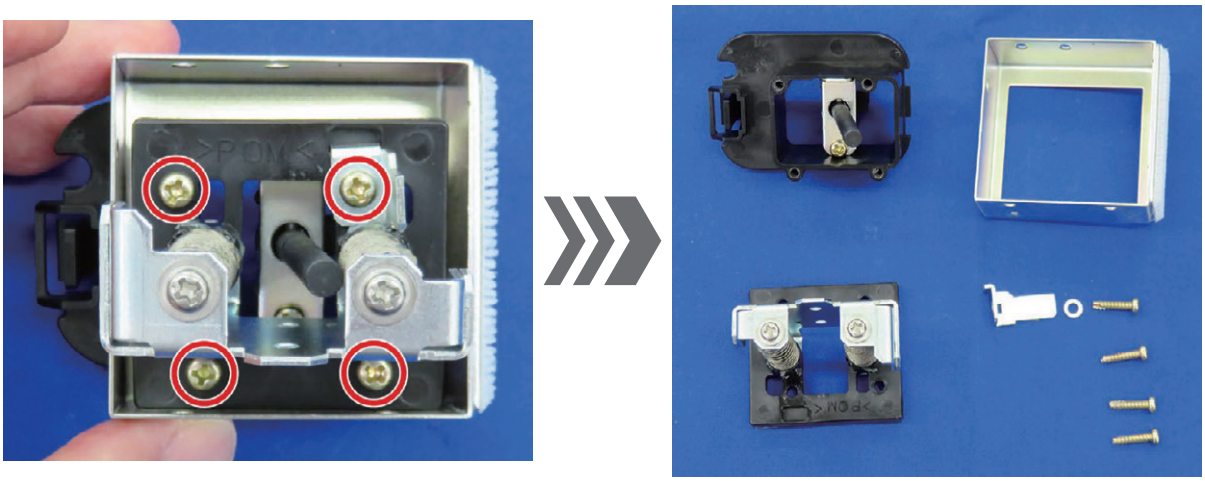
14

Remove two screws and the solenoid.



15

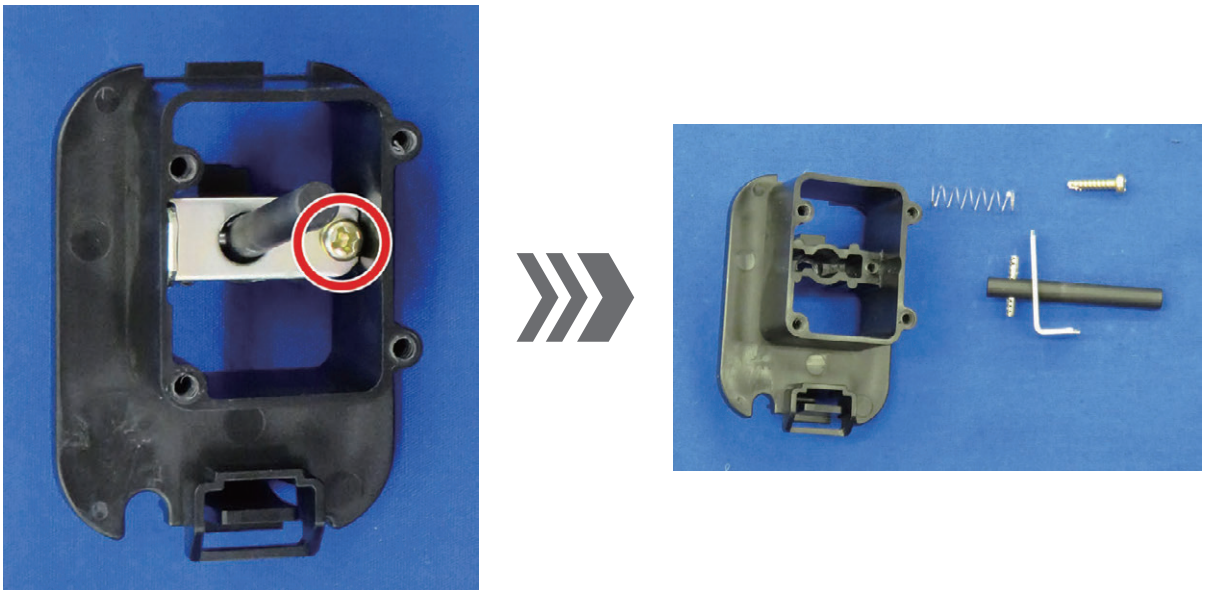
Remove four screws to take the assemble to pieces as shown in the figure.



16

Remove a screw of the bracket and a solenoid core.

Clean up each parts.



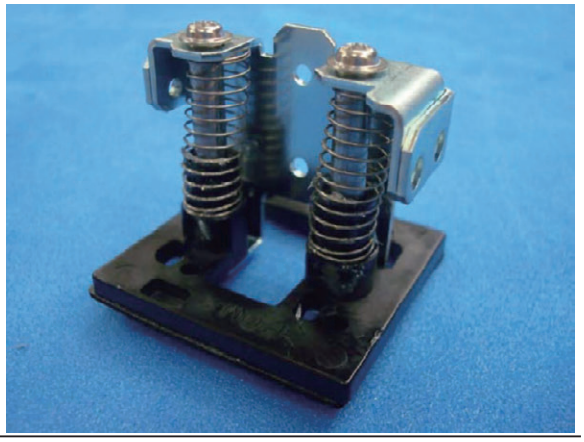
17

Check to determine whether to replace the gasket.

An exchange of the gasket with deformation or break as shown in the figure is necessary.

18

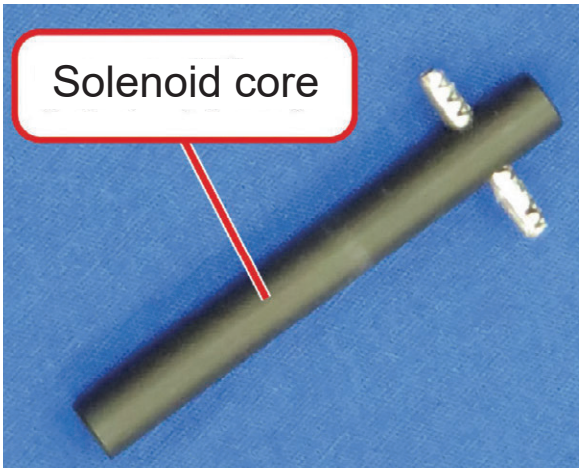
Clean up springs and check the spring force.



Assembling the application unit

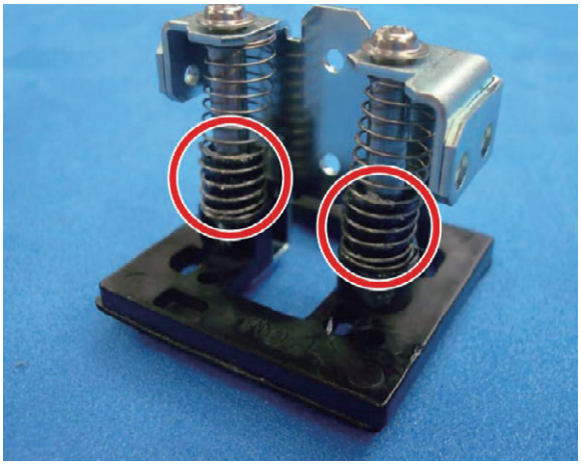
1

Push a spring pin into the center of the solenoid core.



2

Apply the alvania grease at areas of springs as shown in the figure.

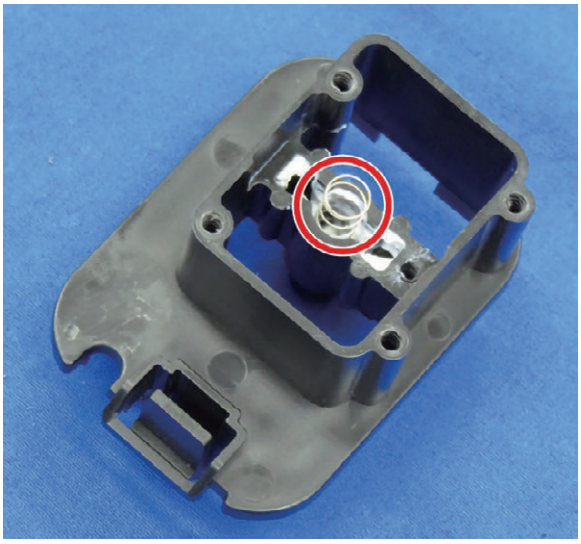


3

Apply the white alcom grease at the part of pin inserting hole.

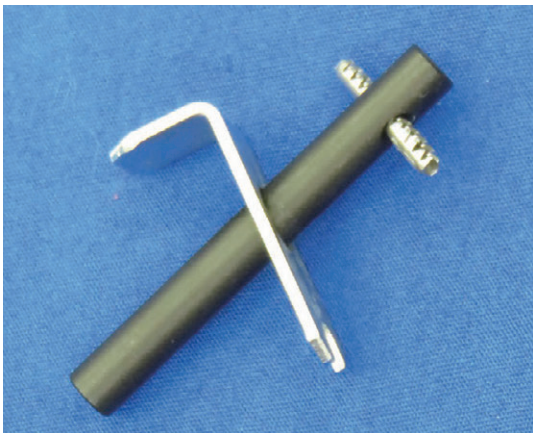
4

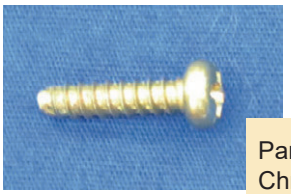
Put on a spring to the hole.



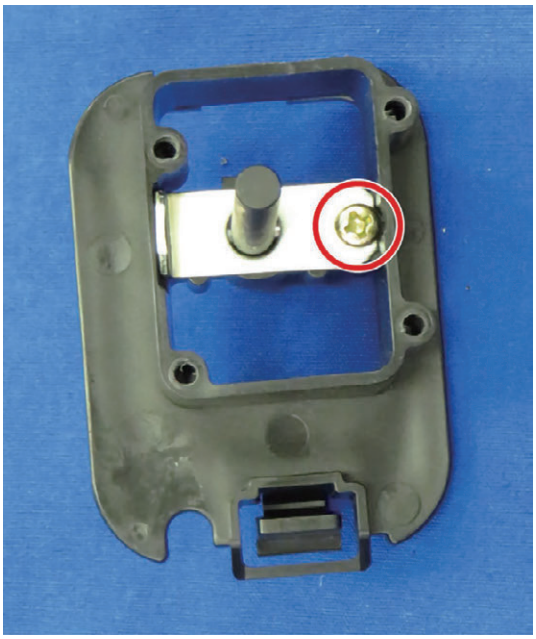
5

Insert the solenoid core to hole of the bracket, then tighten with a screw.





Pan head tapping screw
Chromate finish
M3 x 12



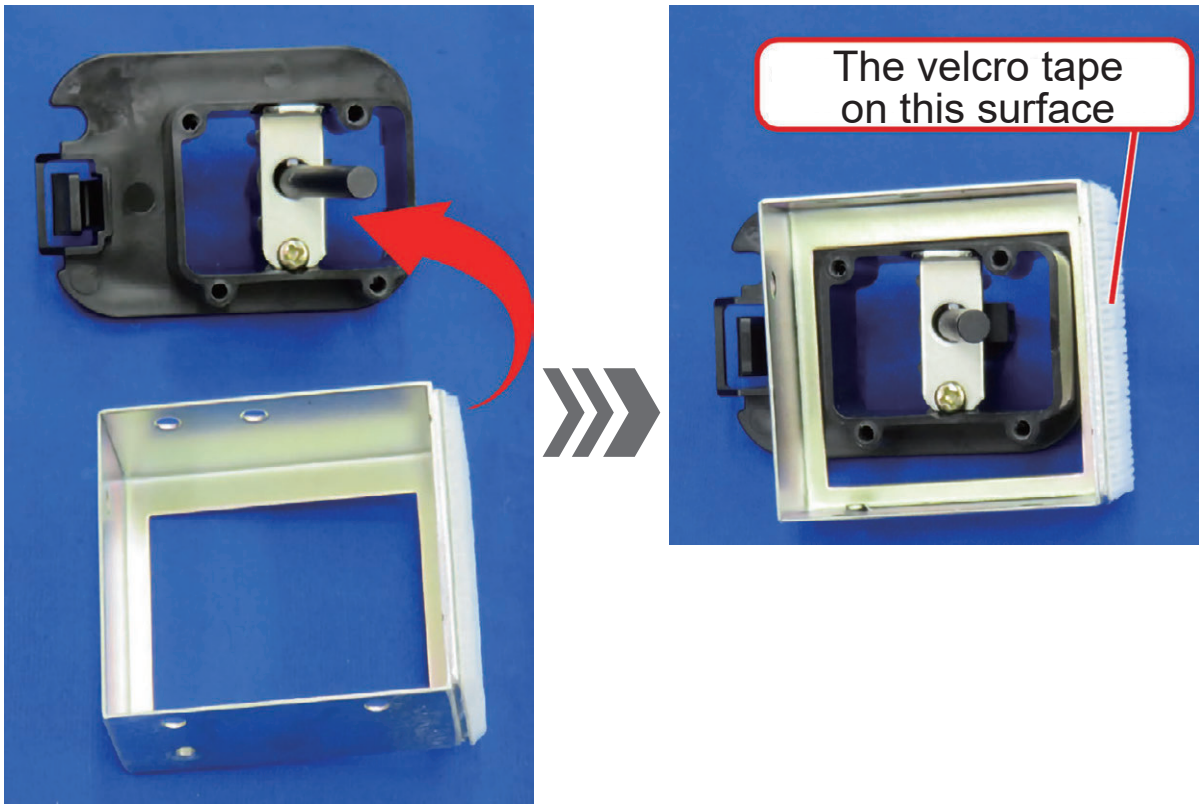
6

Get rid of plastic shavings after screwing on the hole of backside.

1

7

Combine parts as shown in the figure.

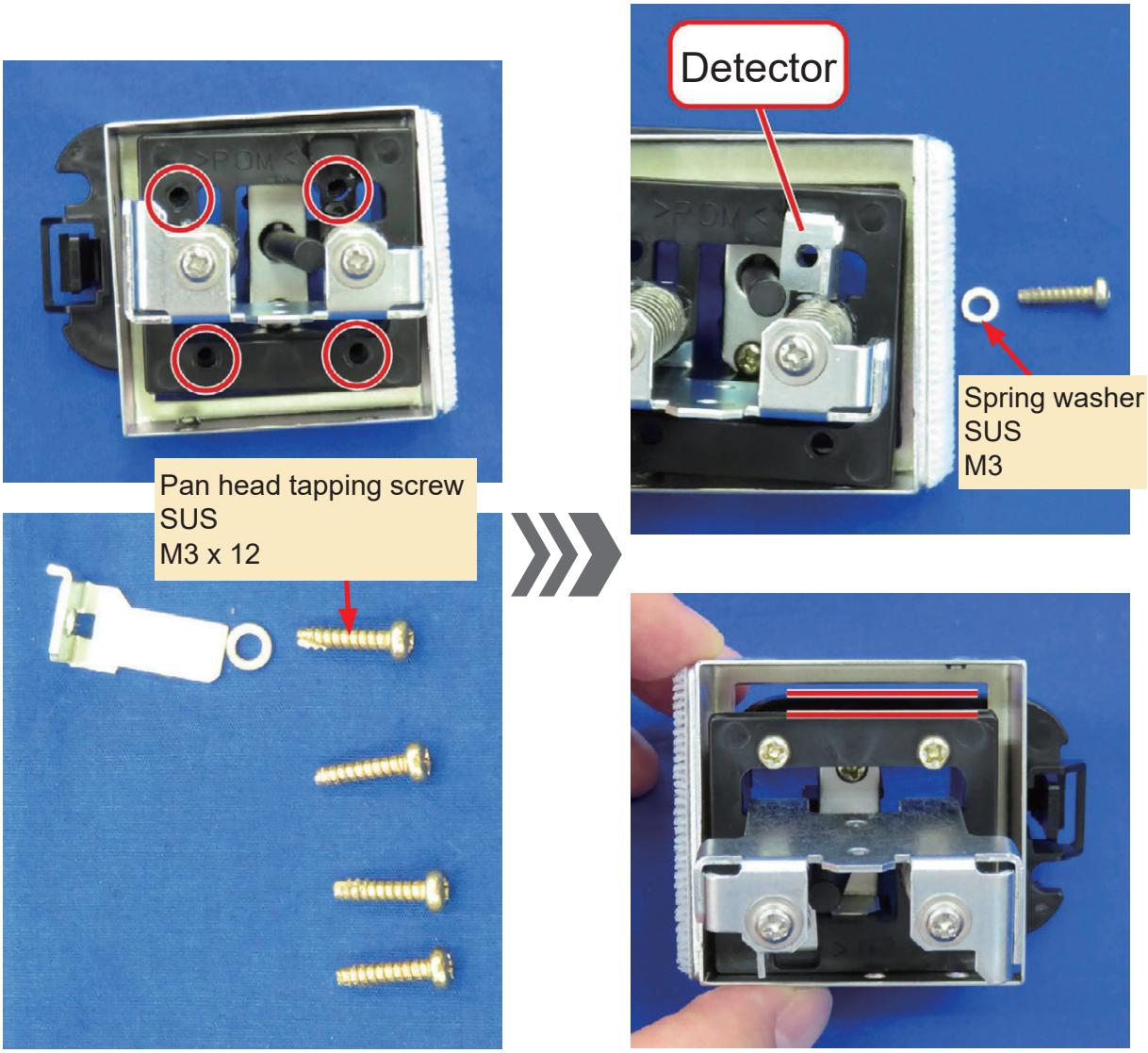


8

Combine parts as shown in the figure.

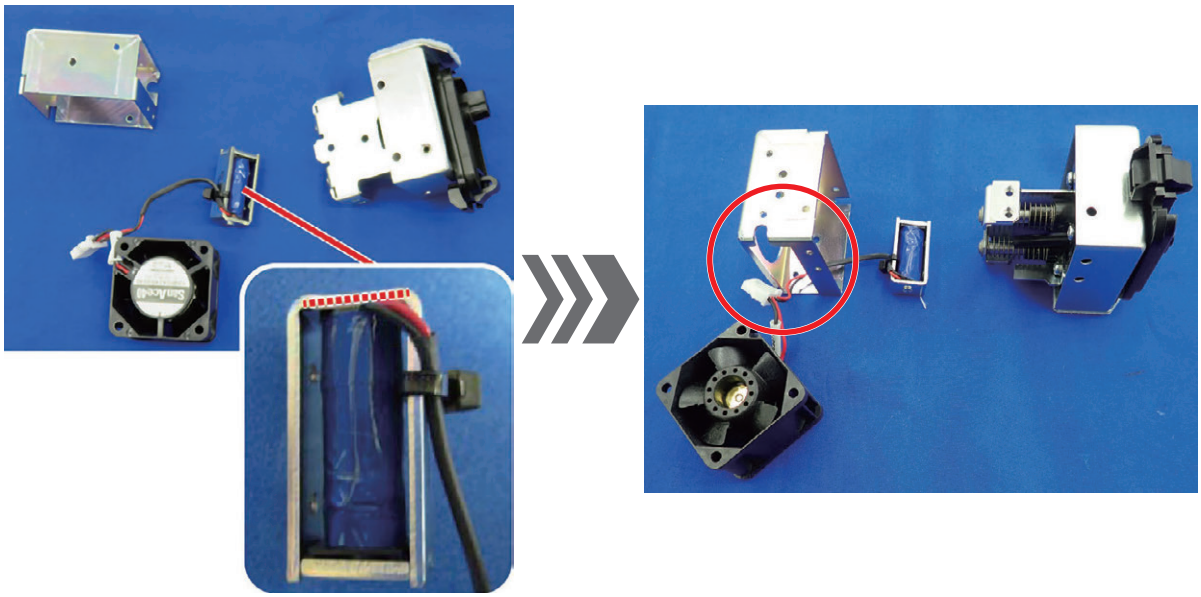
9

Screw four screws to attach the side of the bracket and the slide in parallel. In addition, tighten a screw with a spring washer for a detector.



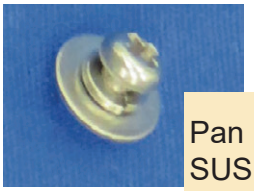
10

Insert the harness of solenoid inside the dotted line. Then insert a solenoid into the solenoid core by passing the harness of the solenoid through the bracket for a fan.

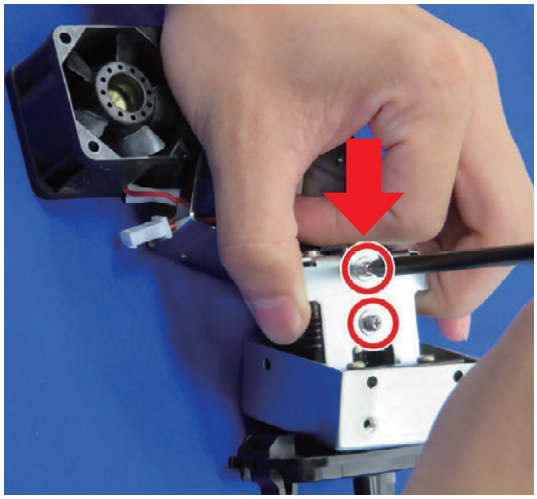


11

Screw two screws while pushing the solenoid downward.

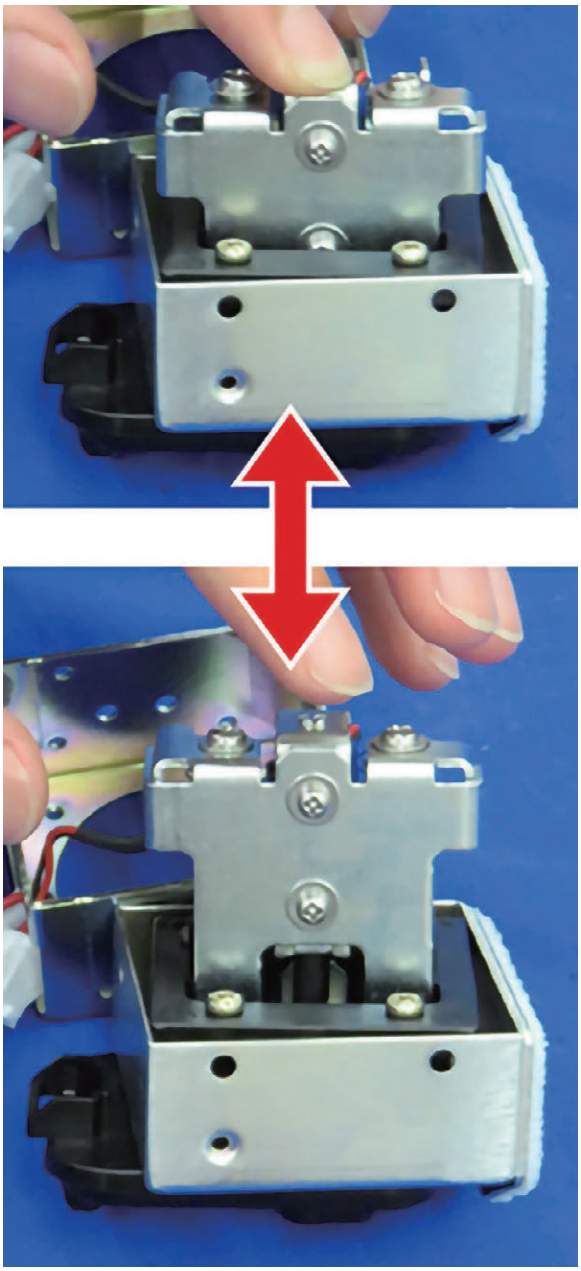


Pan head S2P2 screw
SUS
M2.6 x 4



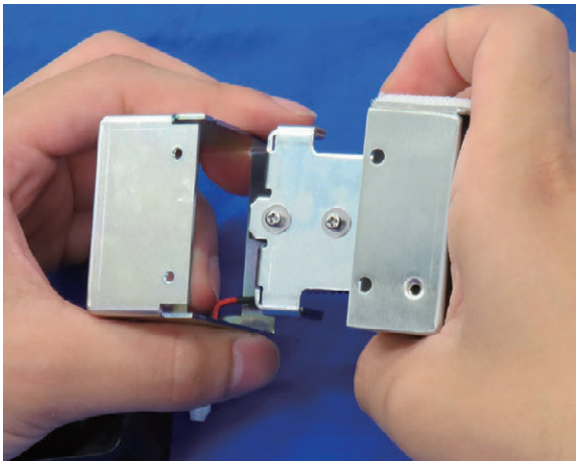
12

To check if the solenoid returns back smoothly, hold it in the downward position using your finger and release it.



13

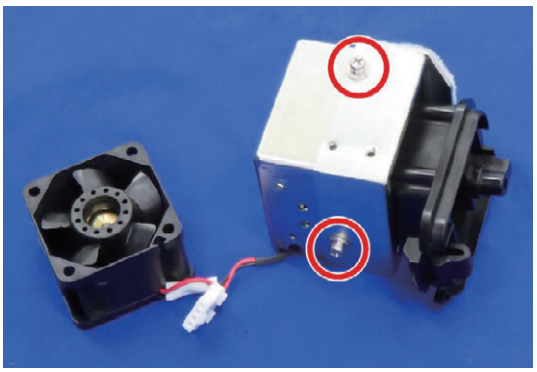
Combine upper and lower brackets.

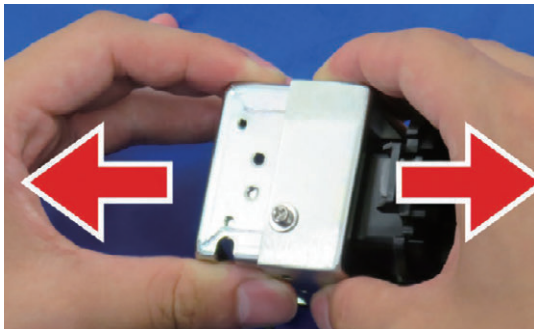


14

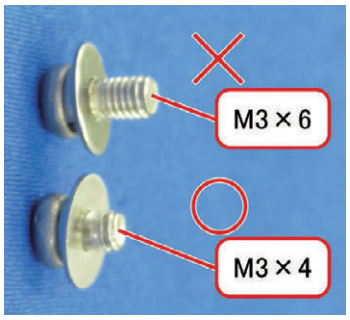
Screwing two screws with a flat washer to attach brackets in state that screw holes are cleared of play by separating two brackets.

Pan head S2P2 screw
SUS
M3 x 4
Flat washer
SUS
M3





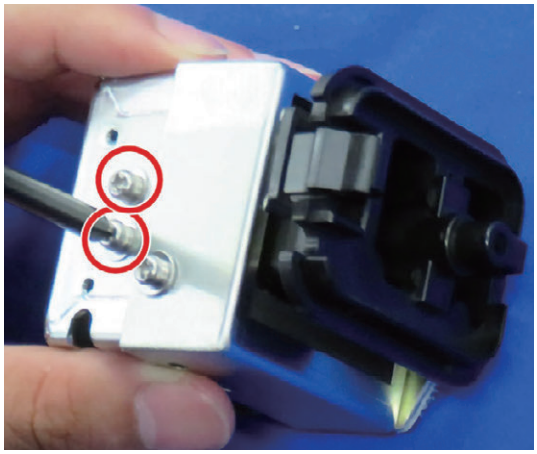
Check the length of screws before screwing and mounting.

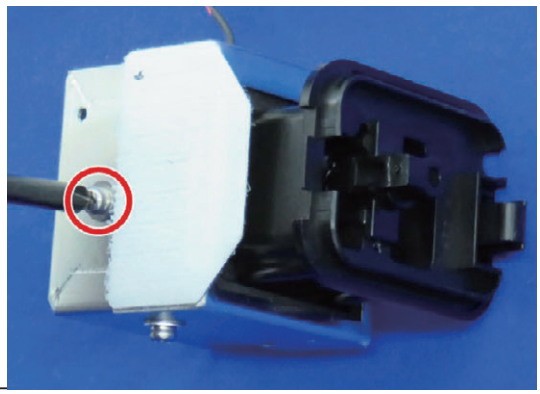


15

Screwing three screws.

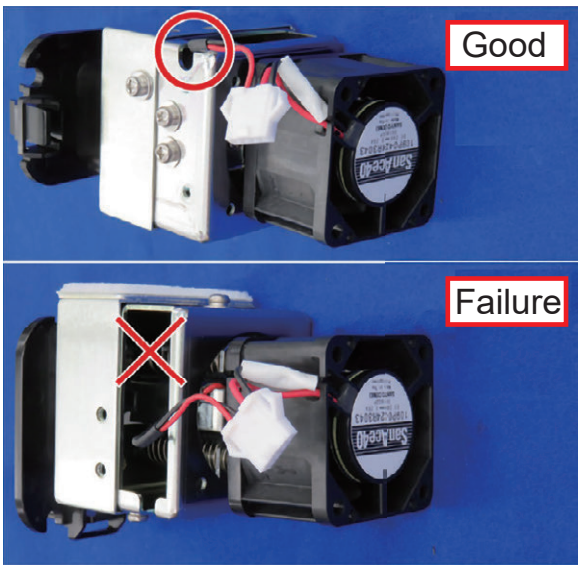
Pan head S2P2 screw
SUS
M3 x 6





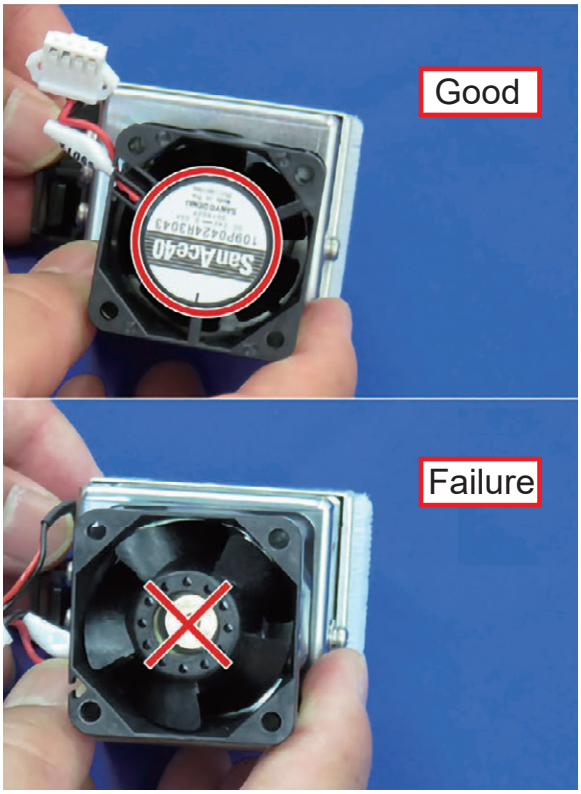
16

Combine the fan as shown in the figure.



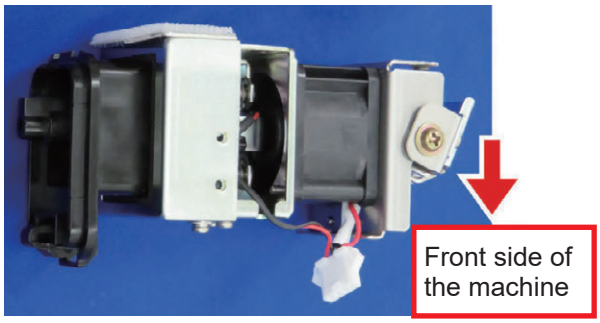
17

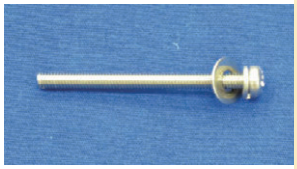
Put on the fan with the label surface up.



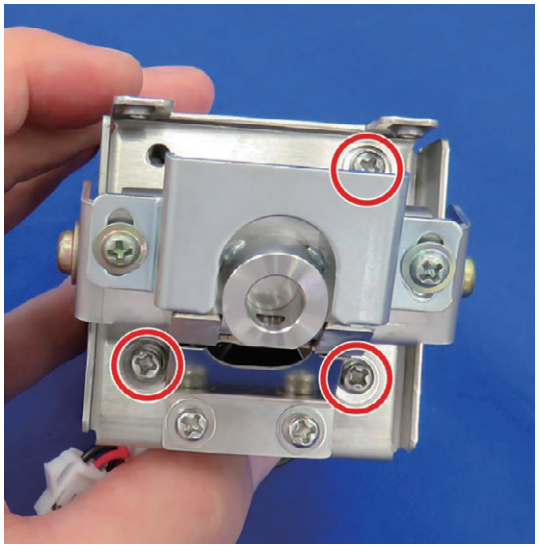
18

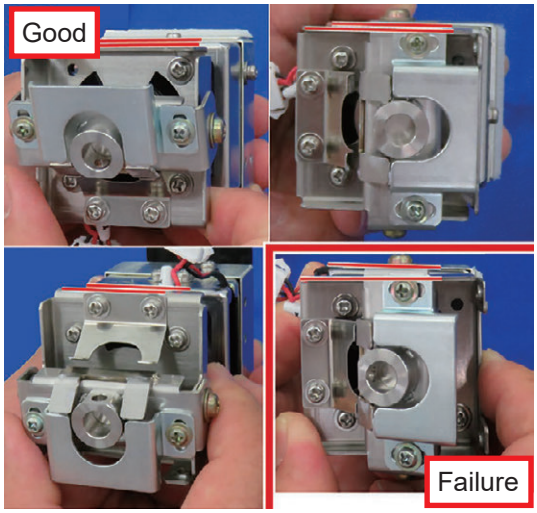
When the side of the suction bracket and the fan bracket are visually almost parallel, screwing three screws with a spring washer and a flat washer to attach.





Pan head screw
SUS
M3 x 35
Spring washer
SUS
M3
Flat washer
SUS
M3

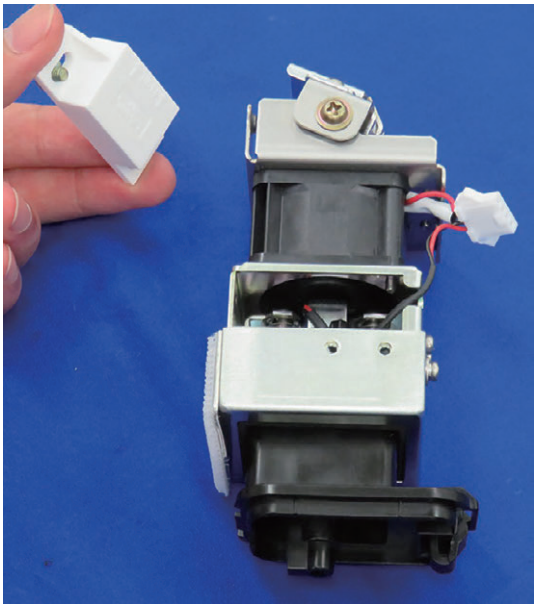


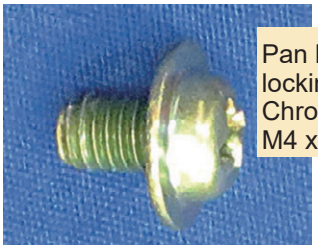


19

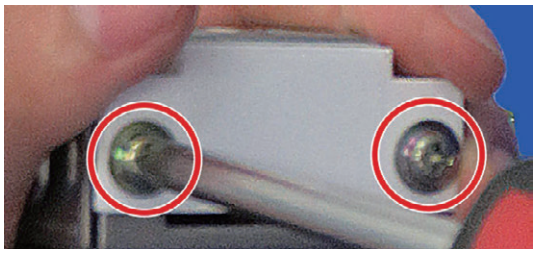
Screwing two screws to attach a magnetic catcher as shown in the figure.

Adjust the mounting position after installing the label applicator unit.



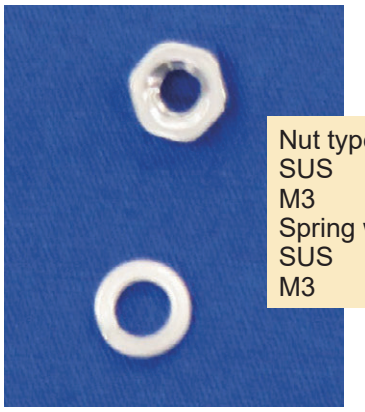


Pan head tapping locking screw
Chromate finish 2360
M4 x 6

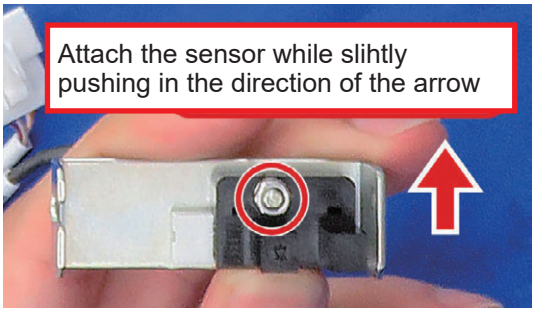


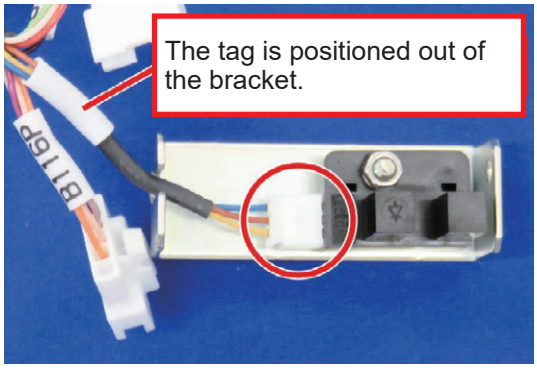
20

Mount a sensor to the bracket with a nut and a spring washer. Then plug a connector.



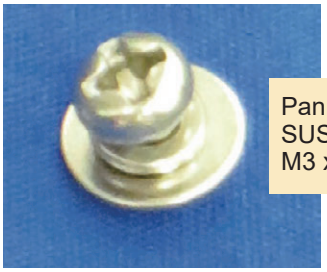
Nut type-1
SUS
M3
Spring washer
SUS
M3



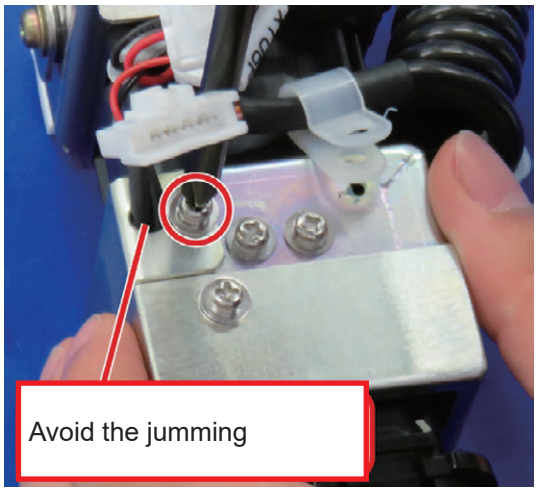


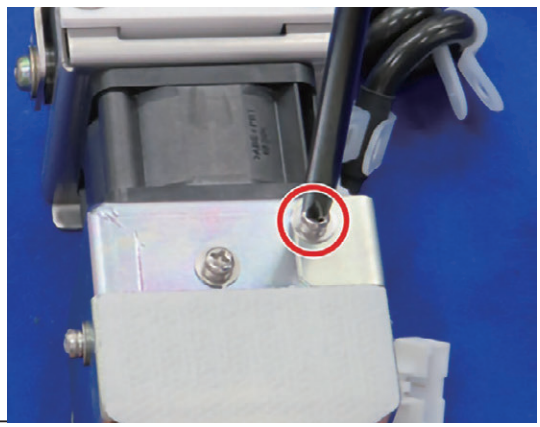
21

Screwing two screws to mount the sensor bracket. The harness through a notch of the sensor bracket.



Pan head S2P2 screw
SUS
M3 x 4

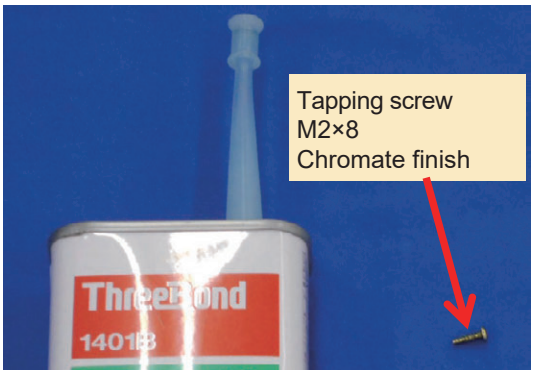


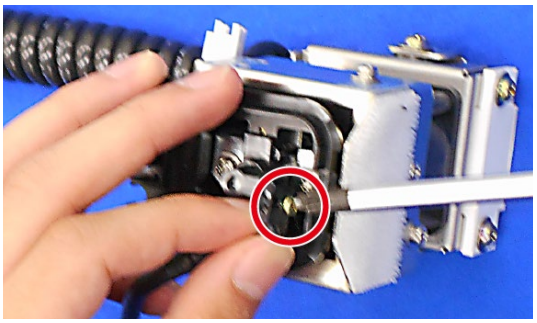


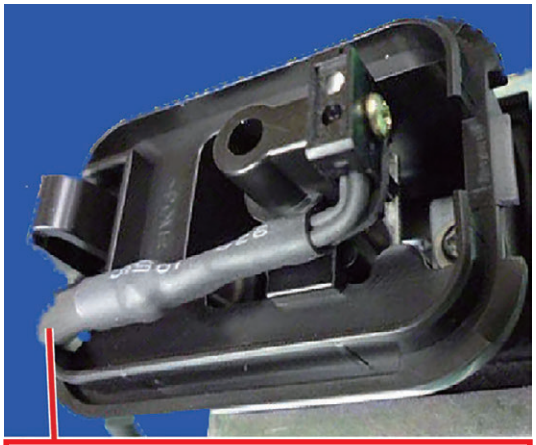
22

Apply the locking agent on threads of screw, then screwing a screw to mount a sensor.

When installing the sensor, do not apply excessive force to the harness.



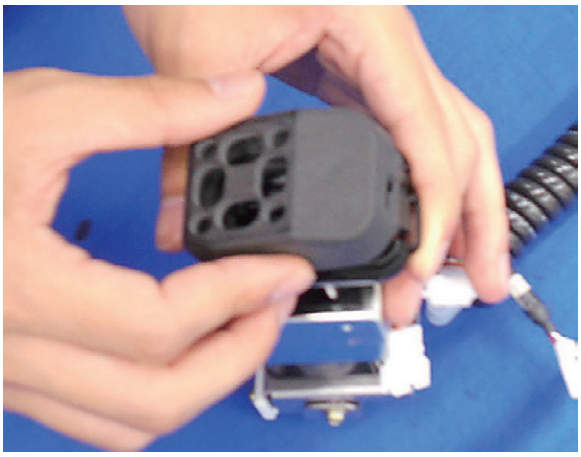




To mount a harness without applying any unreasonable fore.

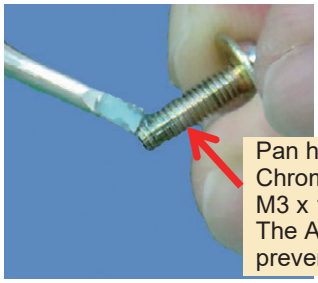
23

Put the suction head on.

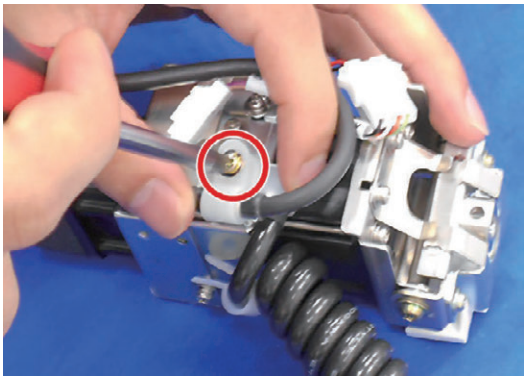


24

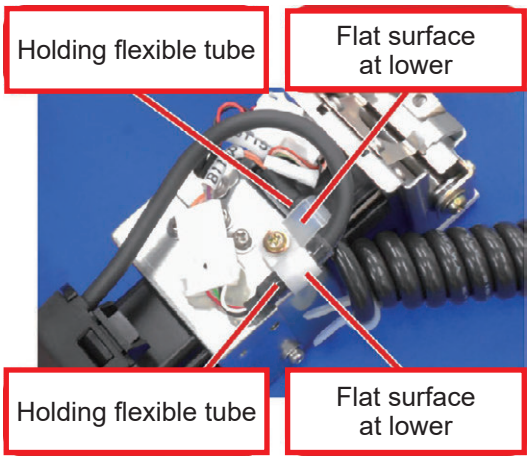
Plug a connector then screwing a screw applied the locking agent on threads to attach two cable clamps as shown in the figure.

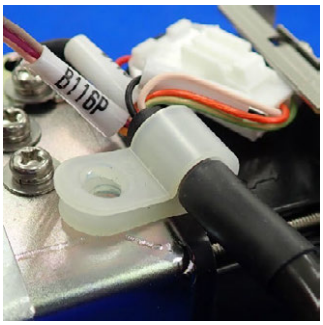


Pan head tapping screw
Chromate finish
M3 x 10
The Agent (1401B) to prevent screw.

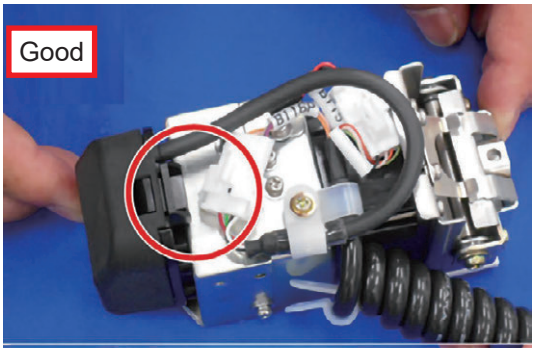


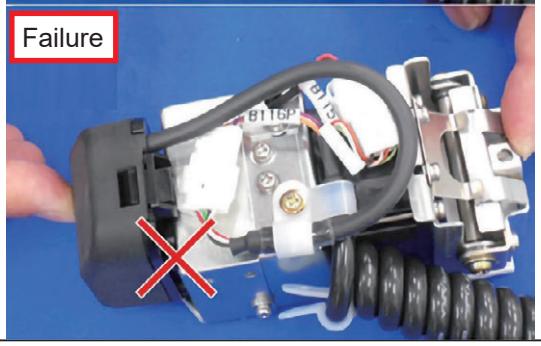
Install the cable clamp with the convex part on top and the flat part on the bottom.





Repeated contact between the connector of the label detection sensor (suction sensor) and the suction block may result in a suction error due to poor contact. When raising the suction block, make sure that it does not come into contact with the connector.



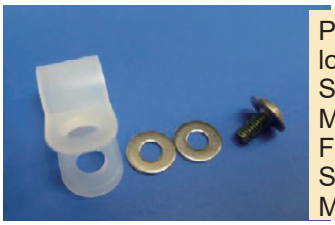


25

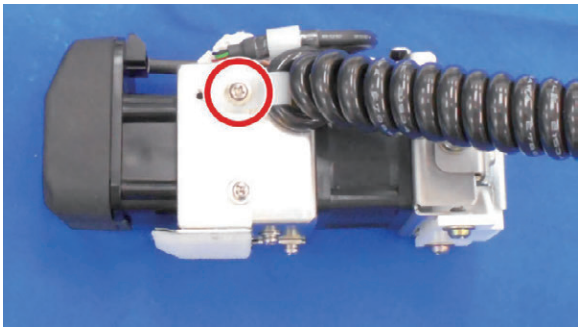
Screwing a screw with two flat washers to attach a clamp for a curled cord as follow.

- Screw
- Two flat washers
- Cable clamp

To mount a winding start of curled cord.



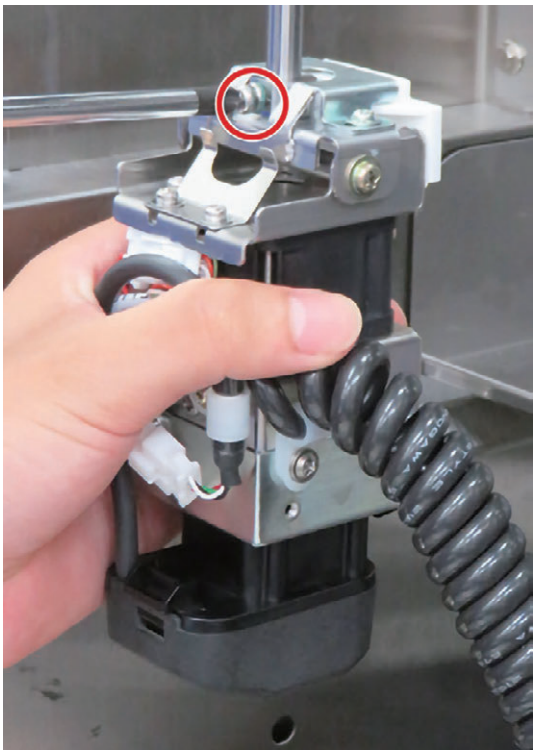
Pan head tapping locking screw
SUS 2360
M3 x 6
Flat washer
SUS
M3



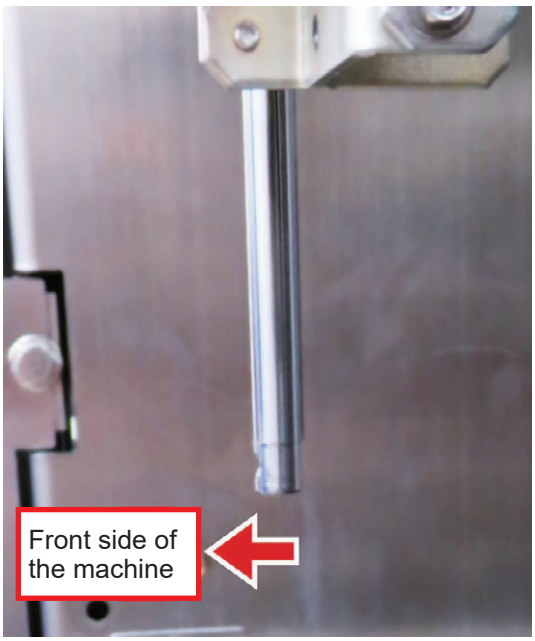
26

Attach the label applicator unit to the shaft.

Pan head S2 locking screw
SUS 2360
M4 x 10

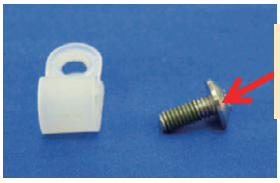


Then tighten a screw after rotating the shaft to the position as shown in the figure.

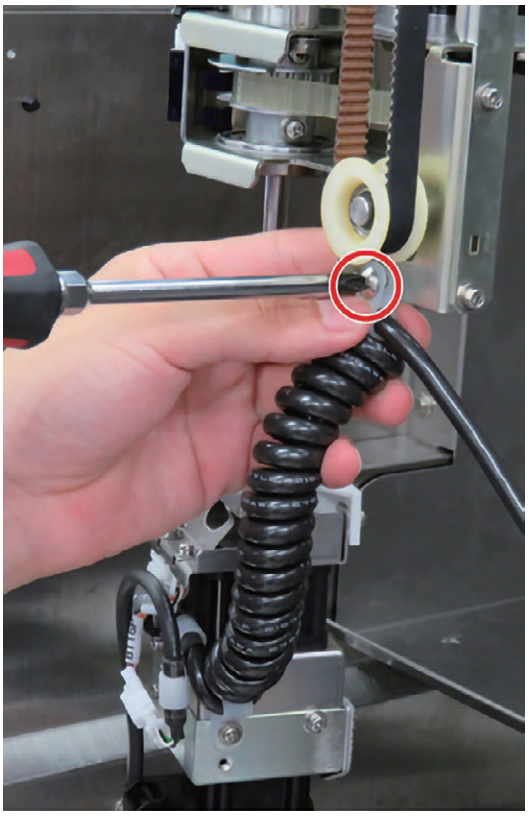


27

Screwing a screw to mount a cable clamp for a curled cord.

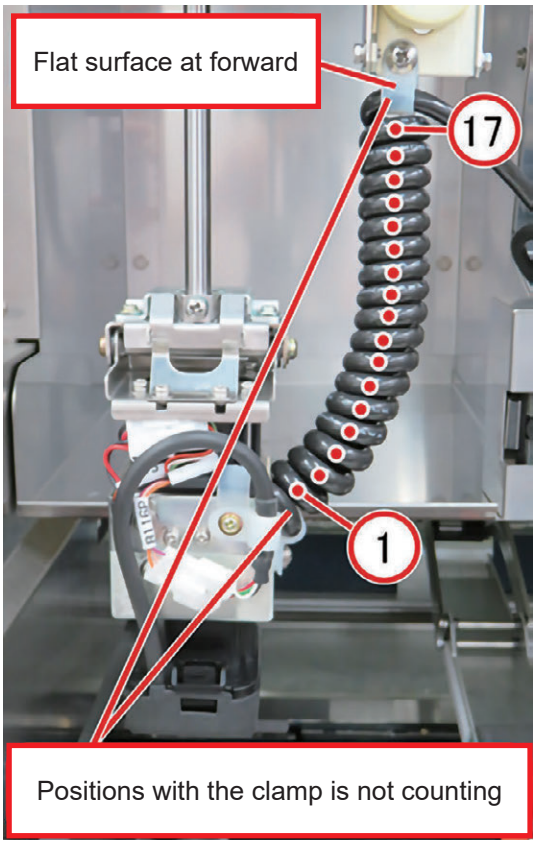


Truss head locking screw
SUS 2360
M4 x 10



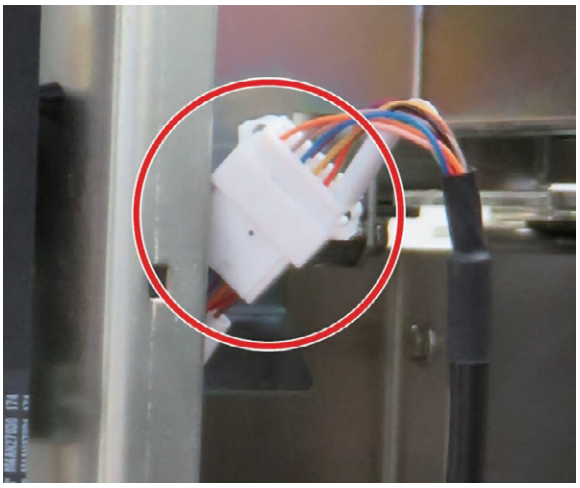
With the flat side of the cable clamp facing you, fix the curl cord so that the number of turns is 17 times.

To mount a clamp at position of center of curled cord.



28

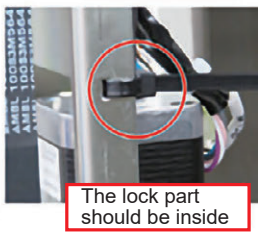
Plug the connector for the curled cord.



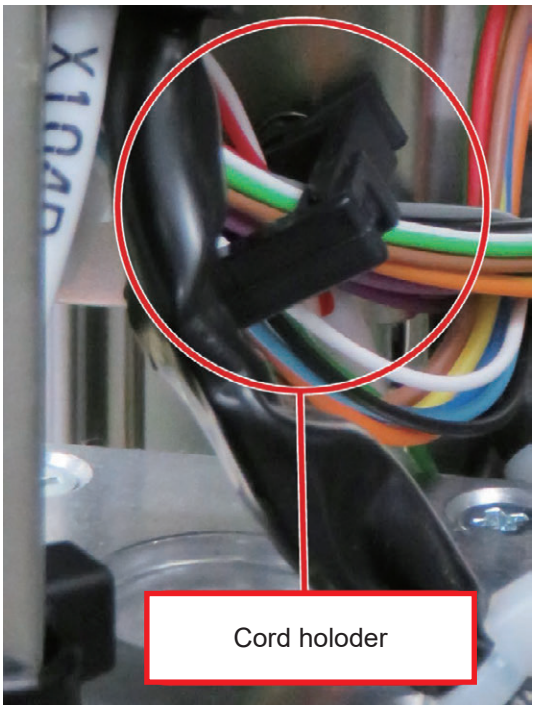
29

Attach a curled cord with three tying bands. Then the cord inserts to the cord holder.

Pay attention to the direction of passage

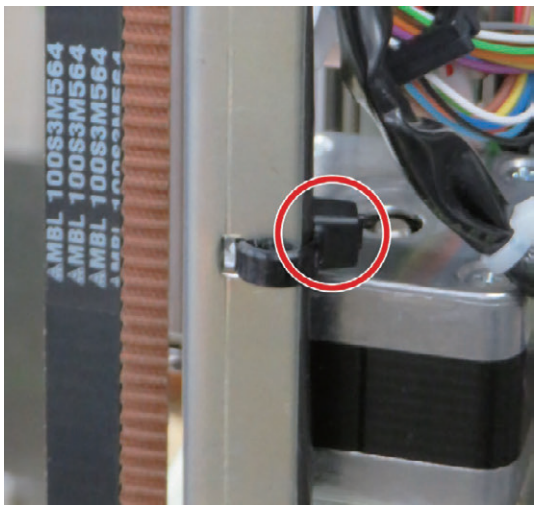


The lock part should be inside



By inserting a tying bands into holes of the frame as shown in the figure.

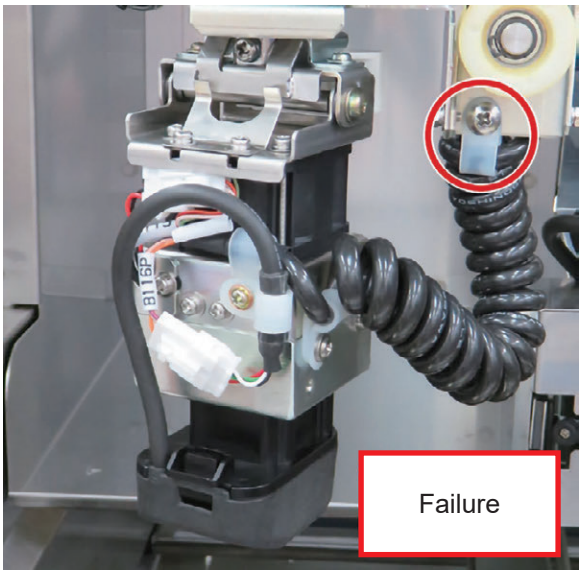
The locks of tying bands hold inside of the stay of the frame as shown in the figure.



Adjusting after replacement

1

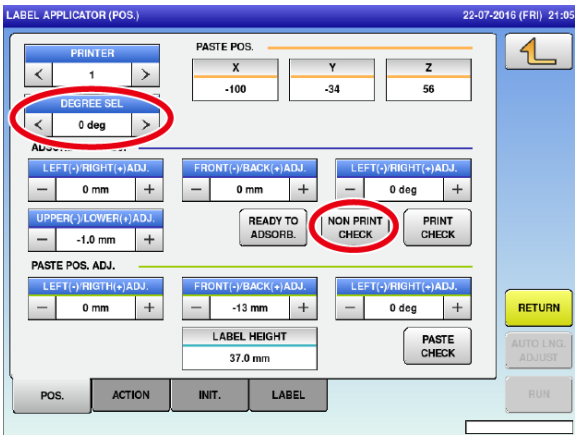
The label applicator unit may rotate to press by the curled cord mounted failure.

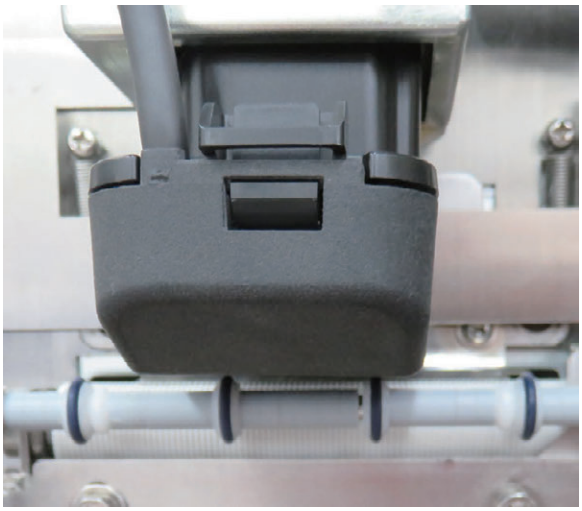


Adjust to change a mounting position of the cable clamp for a curled cord when the label applicator unit is rotated by initial force of curled cord.

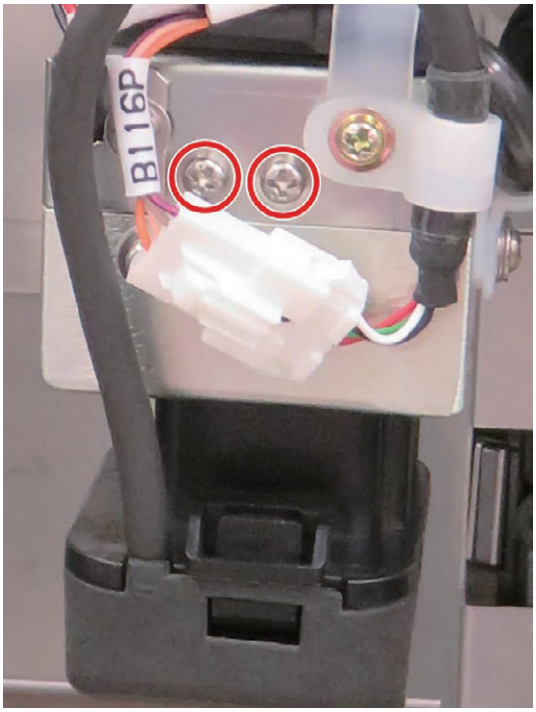
2

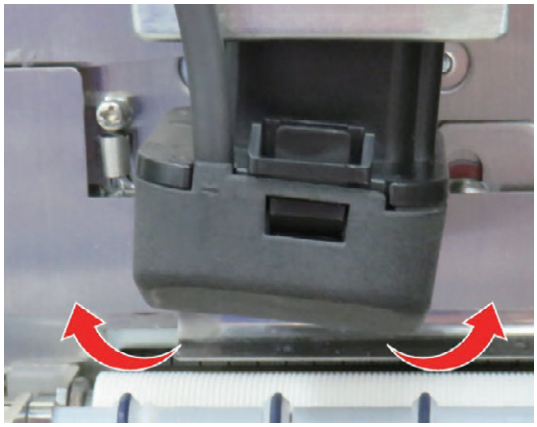
Press [ADJUST] button → [LABEL APPLICATOR] button → [POS.] tab, select [0 deg] and [NON PRINT CHECK] button to move down the suction head then check the suction position between the head and O-rings of standby roller.





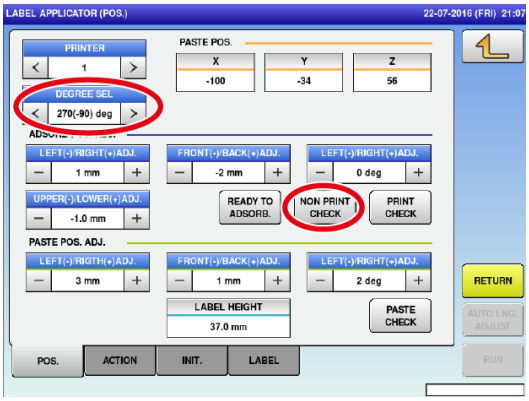
Adjust to lose and tighten three screws to attach symmetry when spaces of left and right are asymmetry.

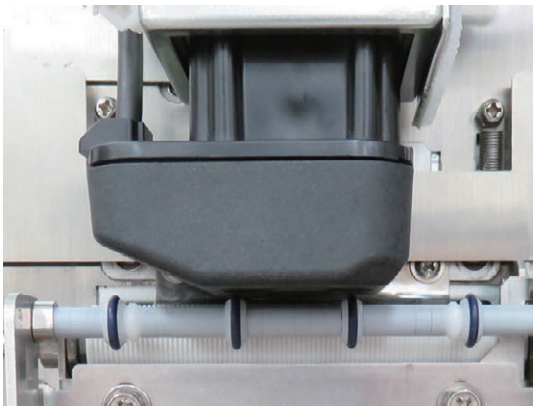


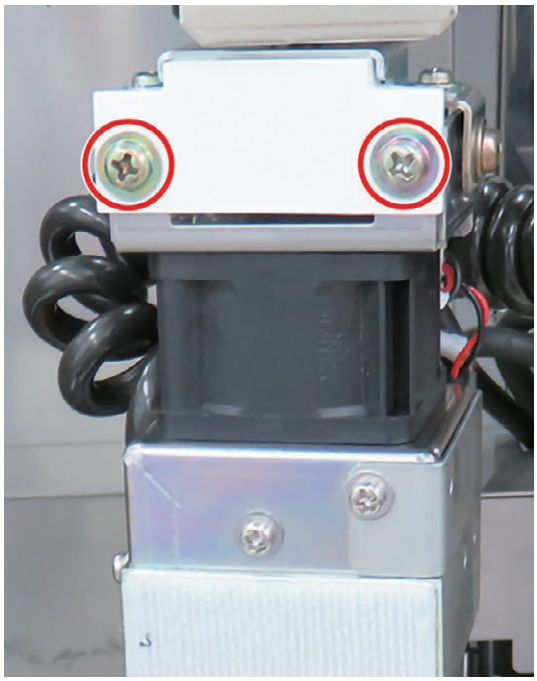


3

Also, select [270(-90) deg] and [NON PRINT CHECK] button to check the suction position between the head and O-rings of standby roller.

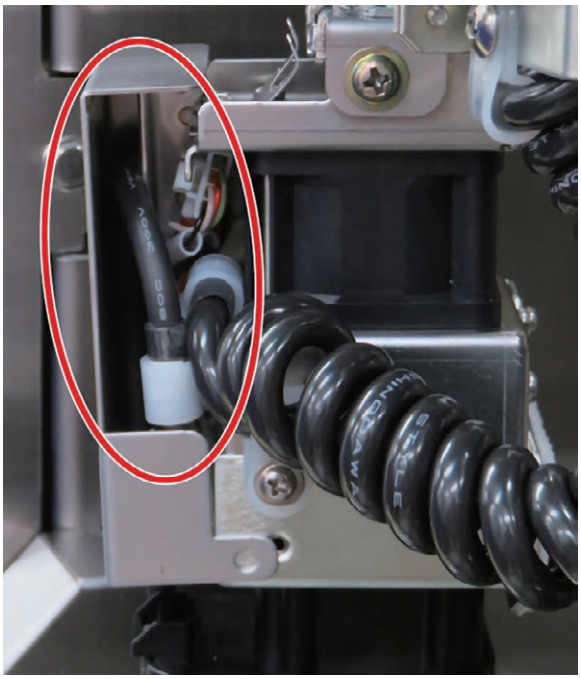






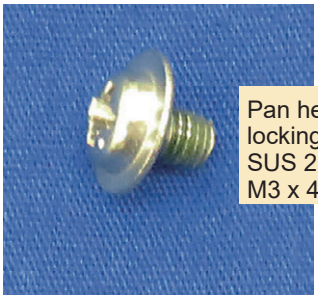
4

Mount the label applicator unit cover after the cable insert a middle partition area.

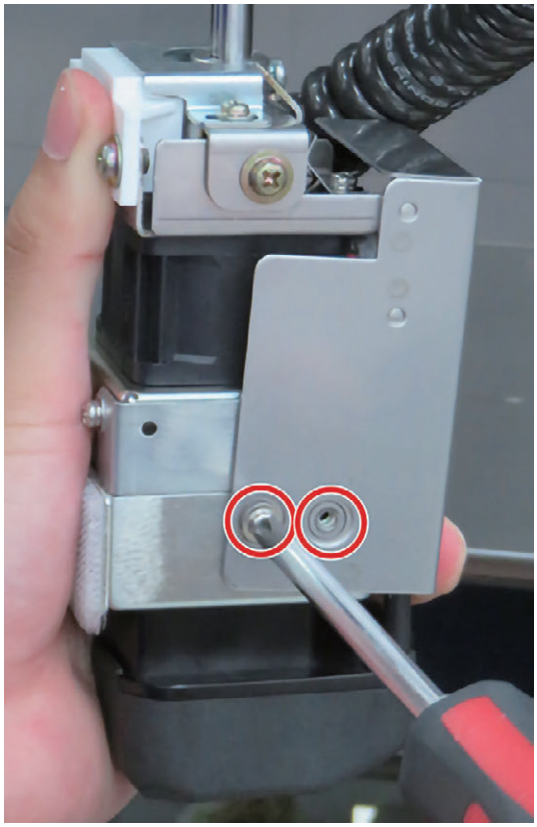


5

Screwing two screws on left side of the unit to attach the cover.

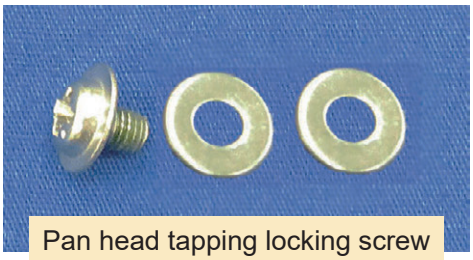


Pan head tapping
locking screw
SUS 2360
M3 x 4



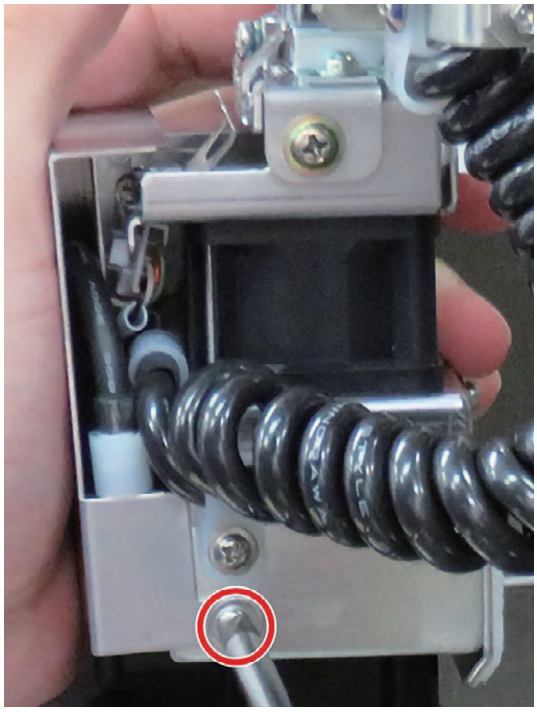
6

Screwing a screw with two flat washers on right side of the unit to attach the cover.



Pan head tapping locking screw
SUS 2360
M3 x 4
Flat washer
SUS
M3

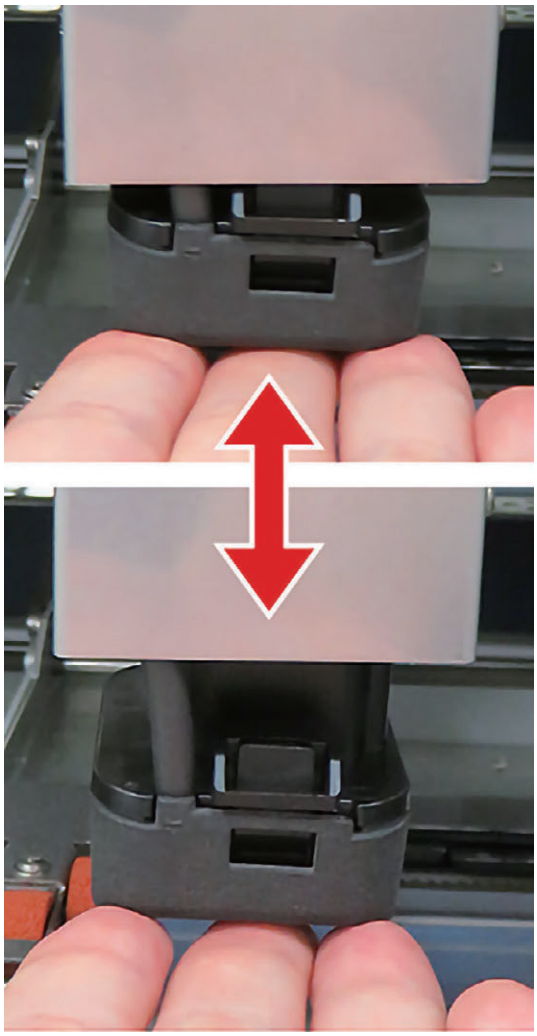
There was only one washer when remove the screw, then screwing a screw with a flat washer and check the suction head smoothly to return back when release pushing. Remove them and screwing again with two washers when motion of the suction head isnot smooth.



7

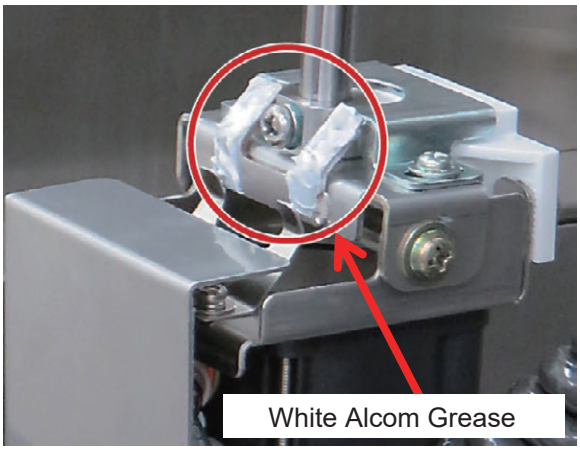
To check the suction head smoothly to return back when release pushing.

Review the presence / absence of washer or the length of screws for assembling when motion of the suction head isnot smooth. Also, check the suction position between the head and O-rings of standby roller again.



8

Apply the white alcom grease at points as shown in the figure.



9

Mount a cover of the label applicator unit.

3.3.3 Film feeder unit

- Remove the film feeder unit from the right-hand side.
- To attach the unit, perform the procedure in the reverse order.

■ Preparation

1) Turn off the main power supply.
2) Remove the removal cover for the right film.

■ Removing the front feeder

1

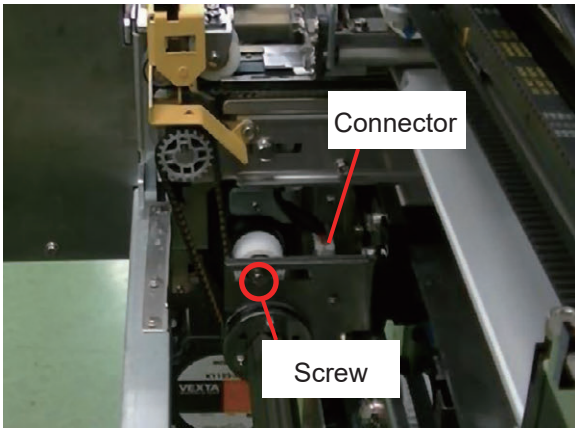
Shift the side wrapping plate into the center.

2

Loosen the screw of the tension pulley that attaches the driving belt on the front feeder, and slide it to remove the belt.

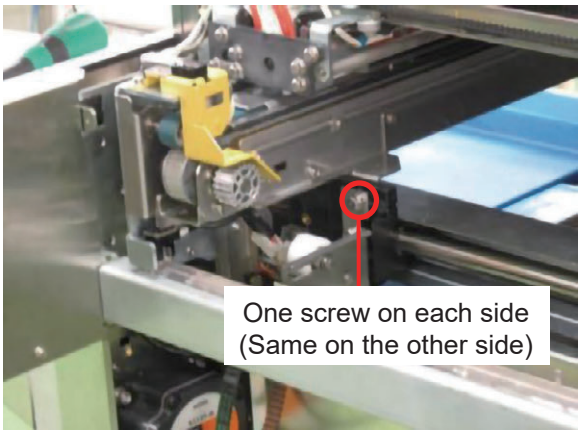
3

Remove the connector.



4

Remove the two screws fixing the front feeder on both ends.

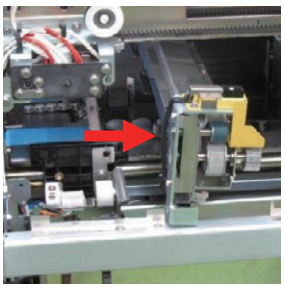


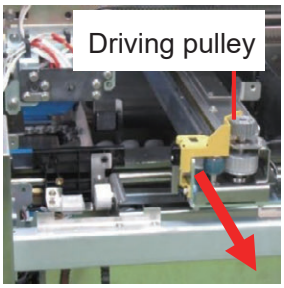
5

Slide the front feeder in the back position, lay down the front feeder so that the driving pulley faces up, and then remove the front feeder.

INFORMATION

Use the same procedure to remove the rear feeder.

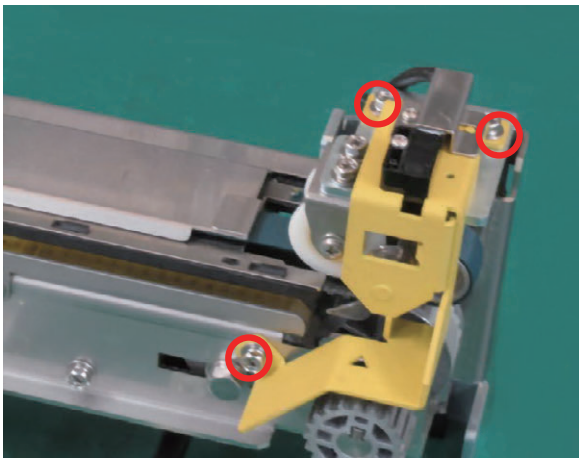




■ How to replace the feeder belt

1

Detach the bracket by removing the three screws fixing the bracket.

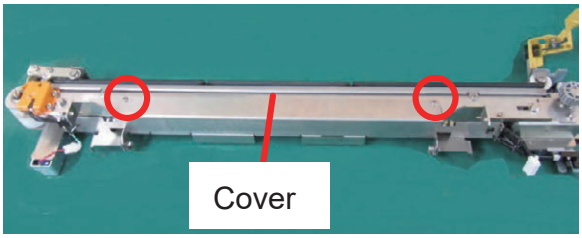


2

Remove the harness of the detection sensor.

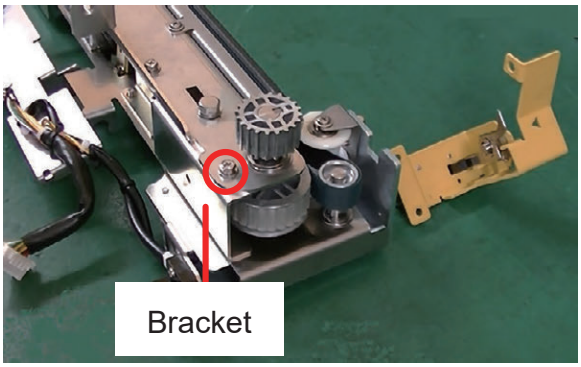
3

Open the feeder cover (lower side) by removing the two screws.



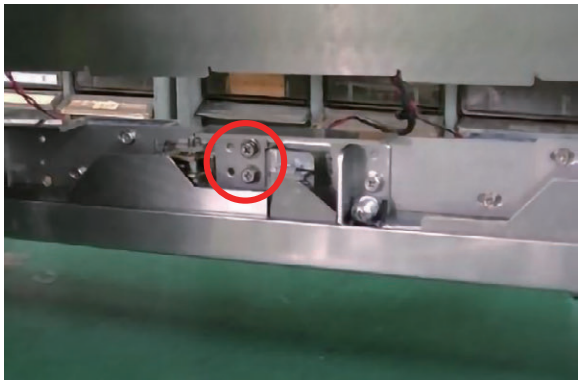
4

Detach the bracket by removing the four screws of the bracket on the both ends.



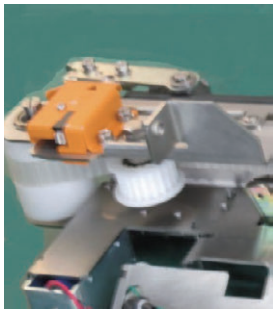
5

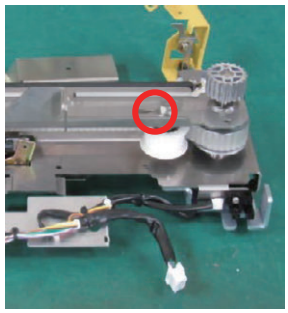
Remove the screws of the solenoid for the belt hold.



6

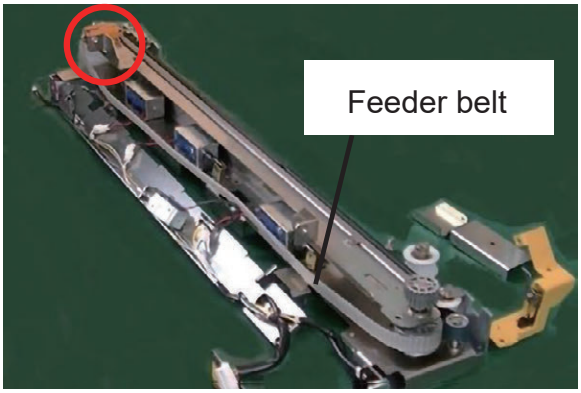
Remove the right and left sides of the pulley pressing the feeder belt.
Remove first the pulley on tension.





7

Remove the feeder belt by pushing the pawl of the film detector on the left-hand side in an inner direction.



NOTE

One side of the feeder belt is cut diagonally to prevent the film from being caught in the belt. Attach a new feeder belt so that the film where is cut diagonally is located in backward position.

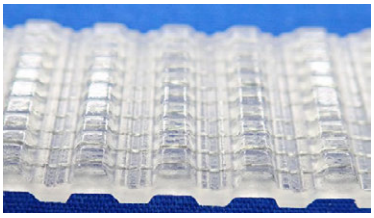
NOTE

Be sure to perform pinch solenoid adjustment when replacing the feeder belt.
Confirm that the film pinching part will not be released during film conveyance after performing about 30 times of film feeding operations by use of "27 FILM FEED".

8

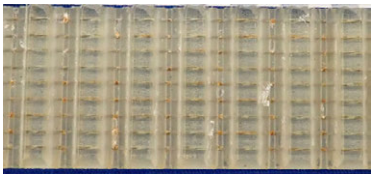
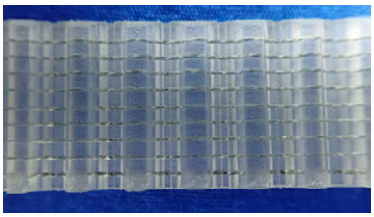
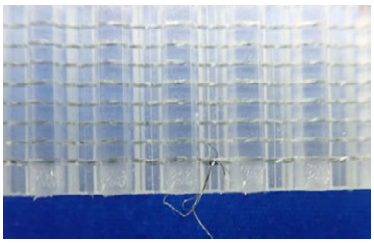
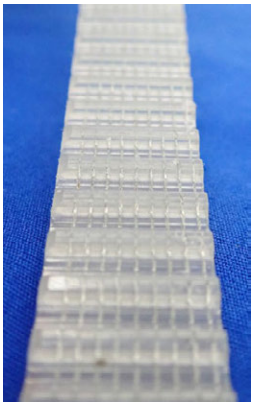
To attach the feeder belt, perform the procedure in the reverse order. Adjust the tension of the feeder belt by using the pulley and the tension belt come to the first edge of the long hole.

■ New feeder belt

New feeder belt		When the new belt is seen through a light source, the light source is reflected at the top of the convex part. The color of the belt is translucent. The light source is reflected at the top of the convex part as a whole when the belt is seen through the light source.

■ Time to replace the belt

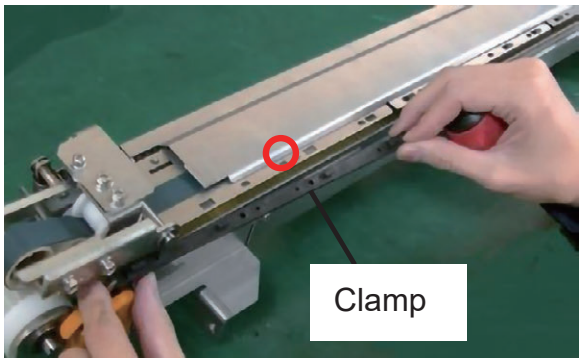
It is difficult to determine from photos alone, but the following signs may interfere with wrapping.

The belt is discolored.		The belt is discolored from being translucent. The color of the wire is rusty compared to the new one.
The wire is discolored.		Discoloration can be seen on the wire at the bottom of the photo. The wire becomes rusted due to humidity in the air.
The wire is popping out.		A part of the wire protrudes from the belt.
Overall, the surface is not glossy.		When the new belt is seen through a light source, the light source is not reflected at the top of the convex part as a whole.
Some parts are not glossy.		

■ How to replace the clamp

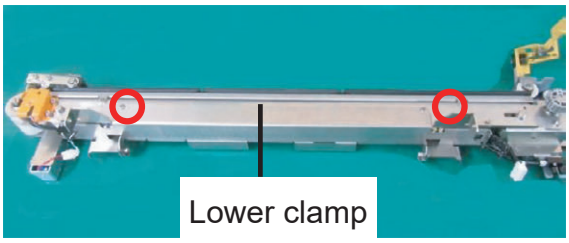
1

Remove the screw, slide and detach the clamp (three locations).



2

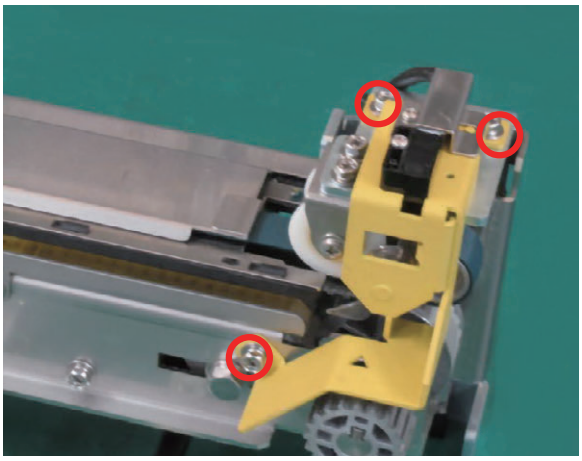
Detach the lower clamp by removing the two screws.



■ How to replace the flat belt of feeder

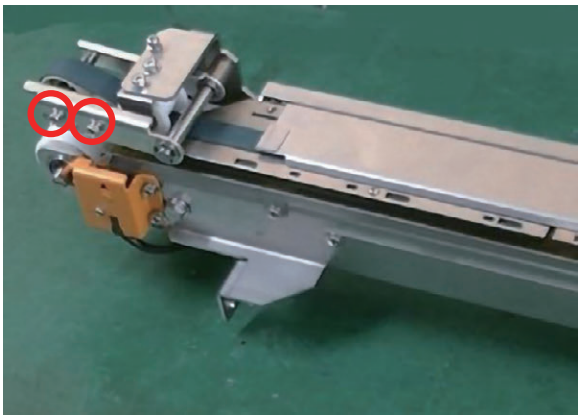
1

Detach the bracket by removing the three screws fixing the bracket.



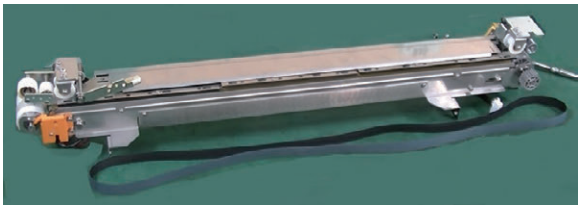
2

Replace the flat belt by removing the two screws fixing the plate.



3

To attach the flat belt, perform the procedure in the reverse order.



Change of Feeder Flat Belt

There was a case where the film adhered to the end face of the flat belt of the rear feeder and the film was torn, resulting in the generation of film remnants.
As a countermeasure, blasting has been applied to prevent the film from adhering to the end face of the flat belt. Four types of flat belts have been used since the release of the first machine, so be careful when replacing belts.

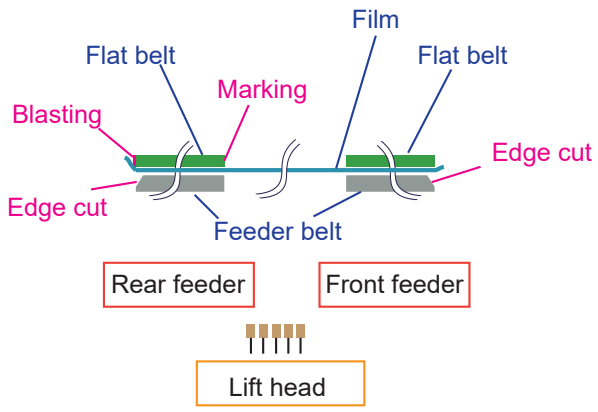
INFORMATION

Blasting is a processing method for creating fine unevenness on the surface by blasting a large number of small particles against the surface. Blasting makes it difficult for the film to adhere.

Timing	For front feeder	For rear feeder	Arrow symbol (rotation direction)	Blasting	Remarks
Machine release	○		Yes	No	Pay attention to the direction of rotation when installing. Common to both front and rear
Design change	△	○	Yes	Yes	Prioritize blasting when installing. (Do not worry about arrow symbols) If film remnants are generated at the front feeder, the belt can be mounted to the front feeder.
	○	×	No	No	For front feeder Mounting the belt on the rear feeder is not recommended as it may cause film remnants.
	△	○	No	Yes	For rear feeder Mounting the belt on the rear feeder is not recommended as it may cause film remnants.

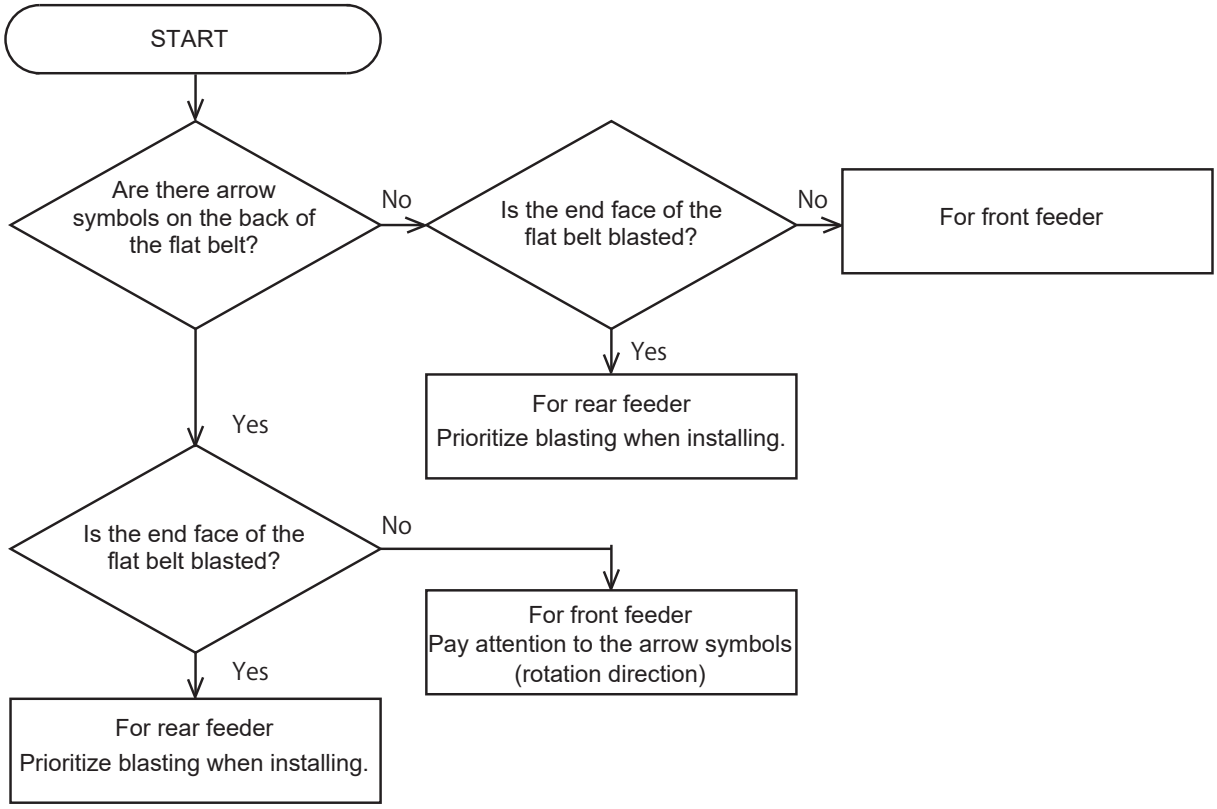
At the time of the design change to blast the end face of the flat belt, blasting is applied to the belt with arrow symbols. If this belt is installed preferentially in the direction of the arrow symbols, the blasted end face may come to the lift side. Therefore, when installing a blasted flat belt with arrow symbols, install it with priority on the direction of the blasted end face.

The following is a summary of the overall precautions.



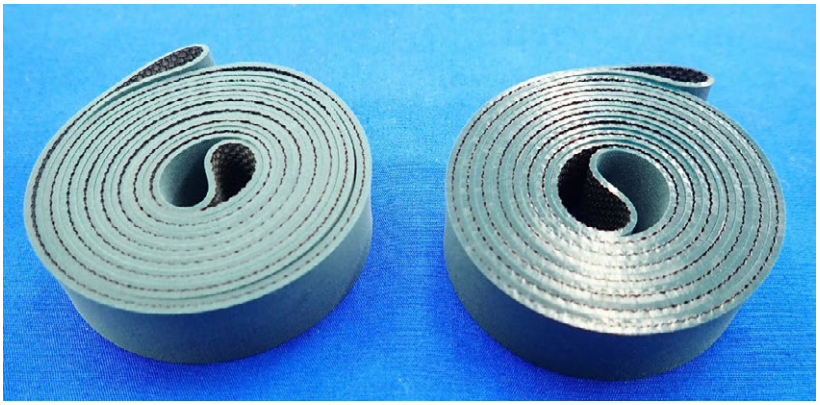
The end face of the flat belt of the rear feeder (opposite to the lift head) is blasted to prevent the film from adhering.
The flat belt of the front feeder is not blasted at the factory because the structure of the front feeder makes it difficult to produce film remnants.
Since the first machine was launched, the end face corners of the feeder belt (opposite side of the lift head) have been rounded. (Edge cut)
Pay attention to the mounting direction as in the past.

■ Flat belt identification



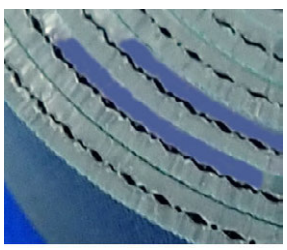
With arrow symbols

Without arrow symbols



With blasting
Not glossy

Without blasting
Glossy



Blue marking is applied to the opposite end of the end face of the blasted flat belt.

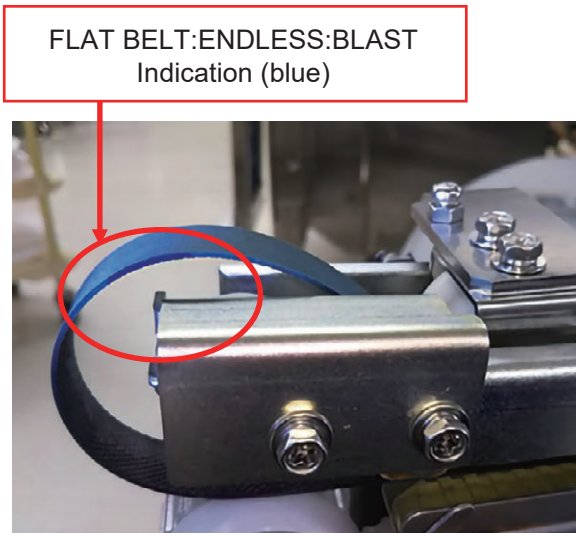
■ Change of Feeder Flat Belt

In response to an incident report in which the film caught on the flat belt on the rear side and was torn, the end of the flat belt is now processed to make it more slippery, reducing the risk of catching.

NOTE

There is no change in the front film feeder unit flat belt (FLAT BELT:ENDLESS:), but the rotation direction arrows on the flat belt have been removed. Either installation orientation is acceptable.

FLAT BELT:ENDLESS: has been replaced with FLAT BELT:ENDLESS:BLAST.
(Old) 100-002-0179-** → (New) 100-019-0009-**
There is an indication on the end of one side of the FLAT BELT:ENDLESS:BLAST belt. Attach the flat belt so that the end surface side with the indication is on the lift head side.



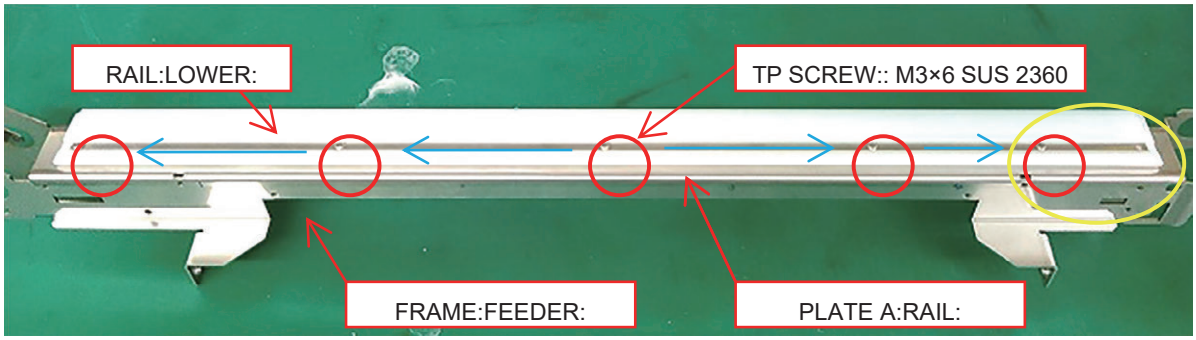
■ Installation of Rail Warp Countermeasure Parts

The "RAIL:LOWER:" and "PLATE A:RAIL:" parts have been changed in order to prevent rail warping when the "RAIL:LOWER:" fixing screws of the film feeder unit are inserted. Changing these parts reduces the degree of film slippage caused by rail warping and the generation of film residue during packaging.

Part number	Name	Number required (per unit)
100-135-2868-**	RAIL:LOWER:	2
100-014-5134-**	PLATE A:RAIL:	2
000-079-3018-**	TP SCREW::	10

- Installation method

1. Add PLATE A:RAIL: between the screws that secure FRAME:FEEDER: and RAIL:LOWER:. Change the fixing screw to a TP SCREW (M3×6 SUS 2360 with screw lock). (5 red circles below)



2. To prevent warping, temporarily tighten all fixing screws, then tighten them in order from the center to the outside. (In the order of the blue arrows in the figure above)

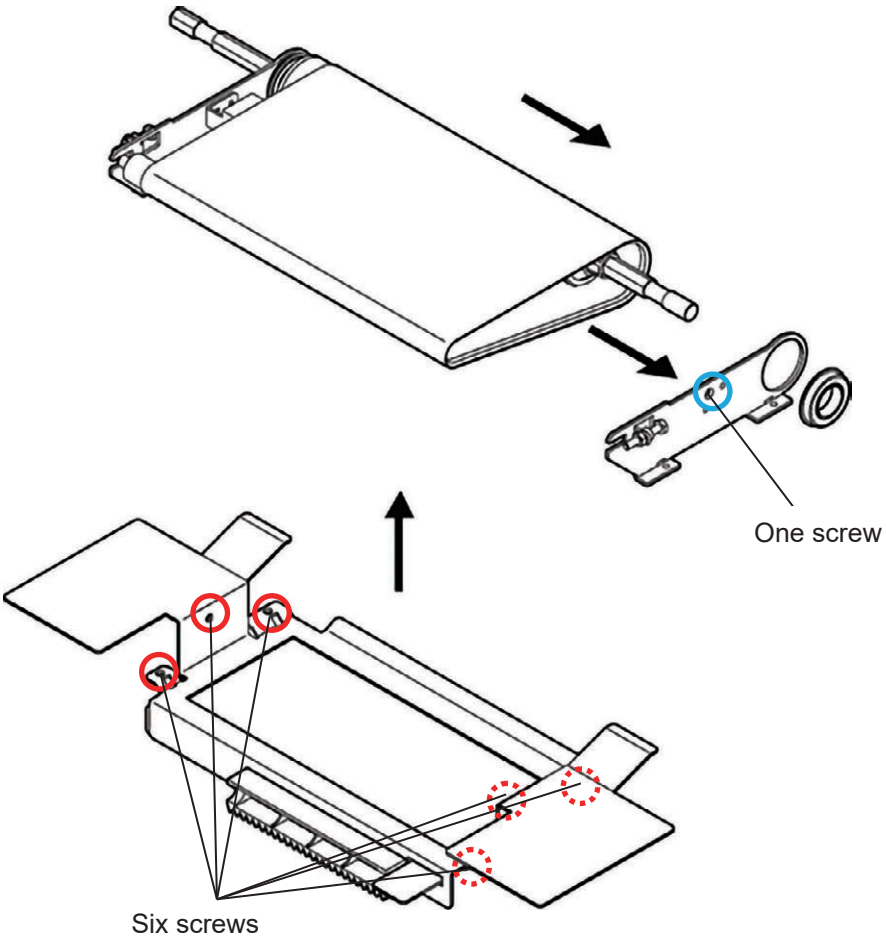
NOTE

The tightening torque is 0.6 Nm (M3 standard tightening torque).

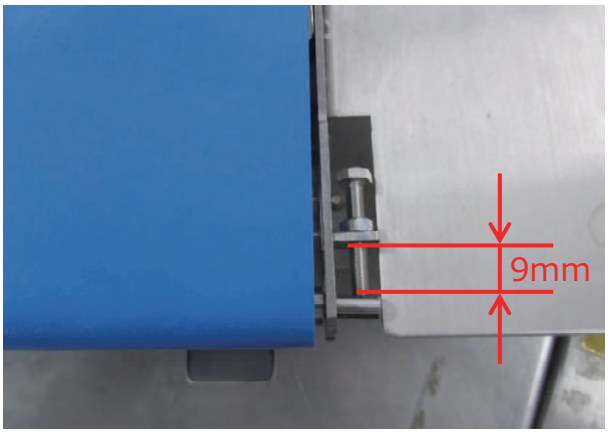
3. The screw fixing position in the yellow circle in the above figure is different depending on when the machine was manufactured. In the case of the same screw fixing position as above, the end of PLATE A:RAIL: cannot be fixed. Therefore, check that the end of the plate does not lift up as shown below. If there is lifting, the plate is warped. Turn the plate over or correct the warp.

3.3.4 Infeed unit

■ Replacing the Infeed conveyor belt



Detach the conveyor from the bracket by removing the six screws.
Detach the frame by removing one screw after loosening the tension bolt.
Replace the belt.
After the replacement, adjust the tension of the belt.
The tension must be maintained in a level that allows the belt to transfer an object of 6kg
The following dimension is given as a referential value.



3.3.5 Lift unit

■ About the assembling of the lift head

1. Use the screws with the following items to mount "GUARD: FILM: LIFT F" to "PLATE B: HEAD: LIFT F". (Refer to Figure1.)
   - HEX BOLT: Original unit 4
   - PLAIN WASHER: Original unit 4
   - SPRING WASHER: Original unit 4
2. Mount "GUARD: FILM: LIFT F" as lift head unit as being centered. The "GUARD: FILM: LIFT F" must be contacted with the lift head unit. (Refer to Figure 1.)

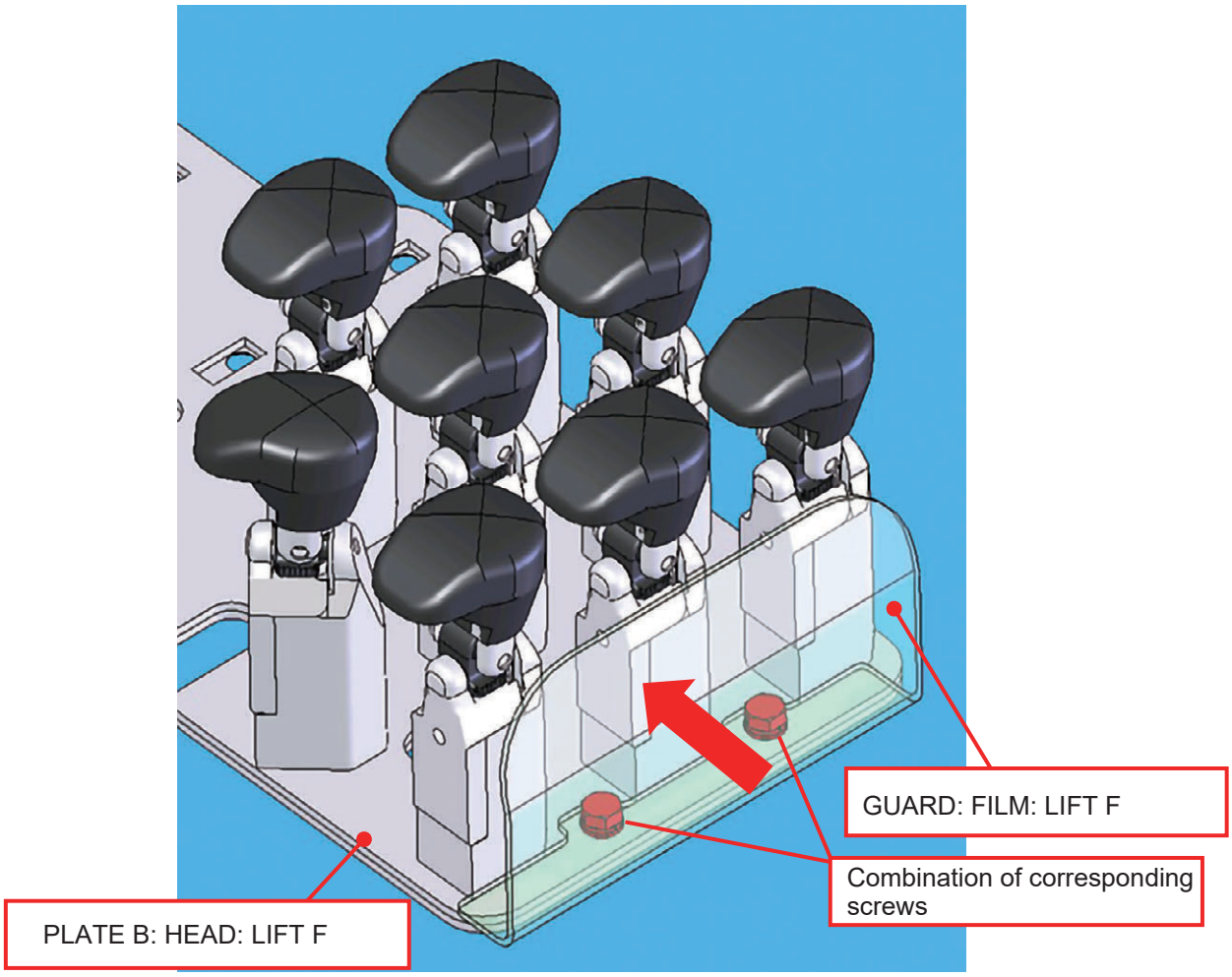
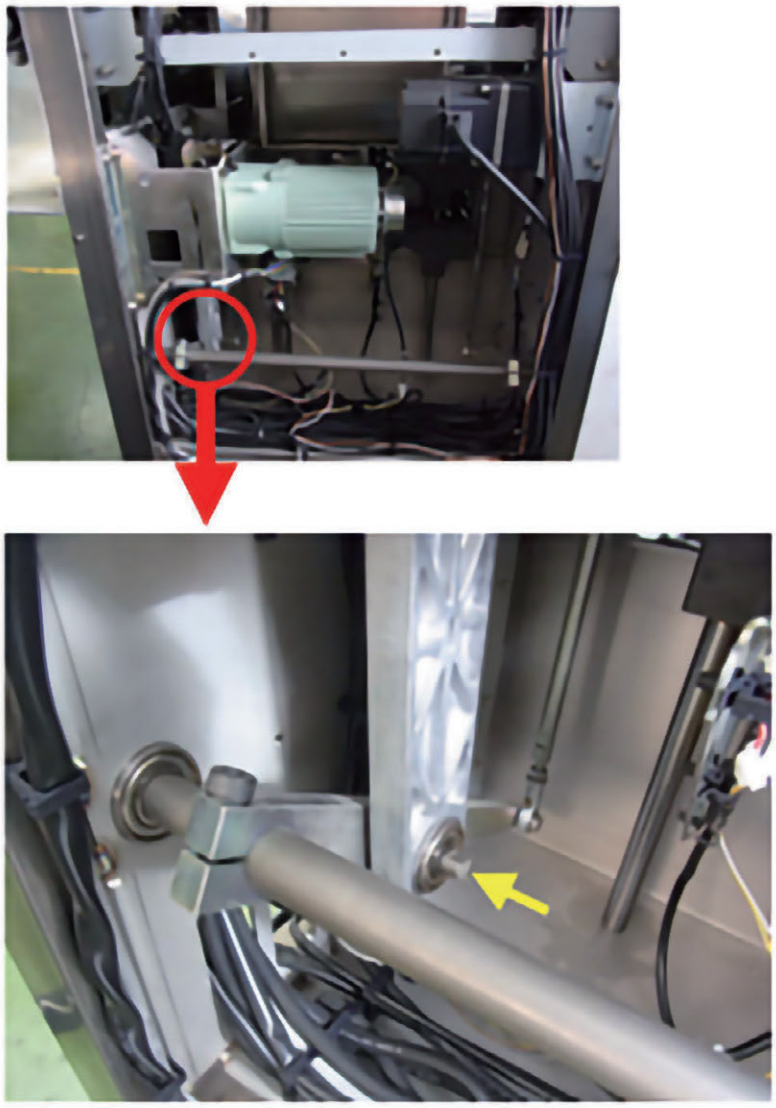


Figure 1: Lift head unit

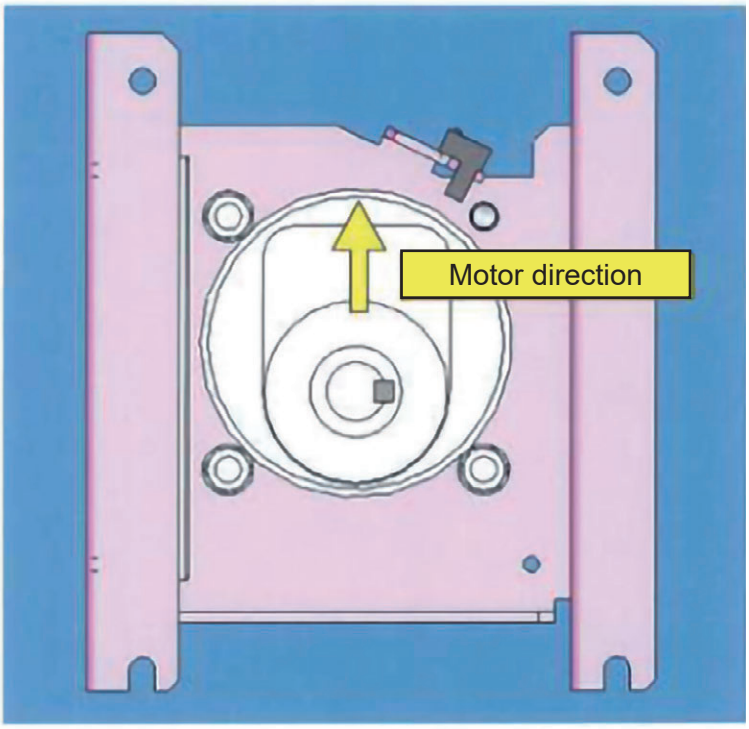
■ Replacing the lift drive motor

Remove the pin as the yellow arrow shown in the figure below. It is fixed with nut at the opposite side of the pin.
As the pin is pulled and link connection is released, bearing lock is not applied inside the bearing. The bearing lock is applied outside.



■ Mounting the lift drive motor

Mount the motor by placing close to the sensor side.
The elevation stroke cannot be adjusted if the motor is place to the opposite direction.

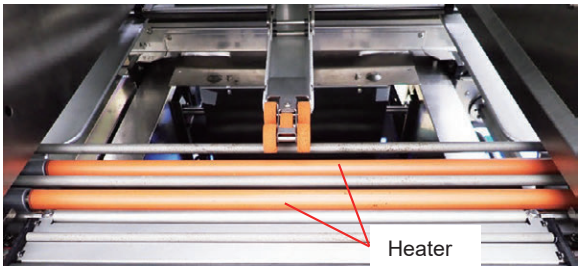


3.3.6 Heater unit

> **CAUTION**
>
> Do not touch the heating rollers until they cool down.

■ Replacing the heater roller

Replace the heater roller when it is deteriorated or a problem occurs in a heat seal of the film.

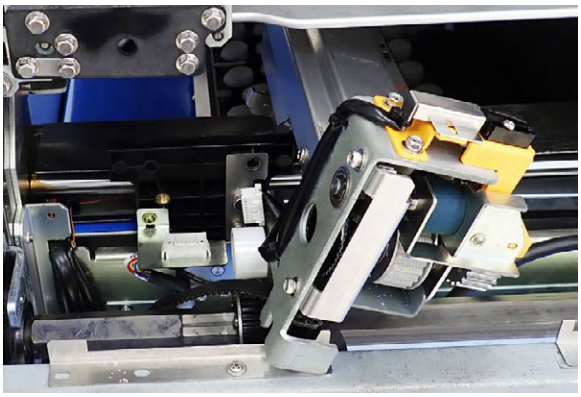


NOTE

Before replacing the heater controller, make sure to pull out the power plug from the outlet.

1

Detach the front film feeder unit.

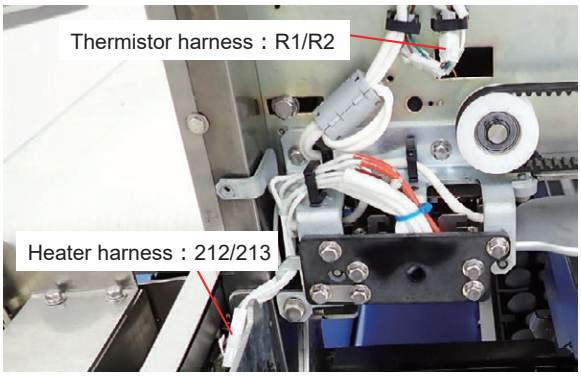


REFERENCE

To detach film feeder unit, refer to Chapter 3 "3.3.3 Film Feeder Uni". t

2

Remove the harness.



NOTE

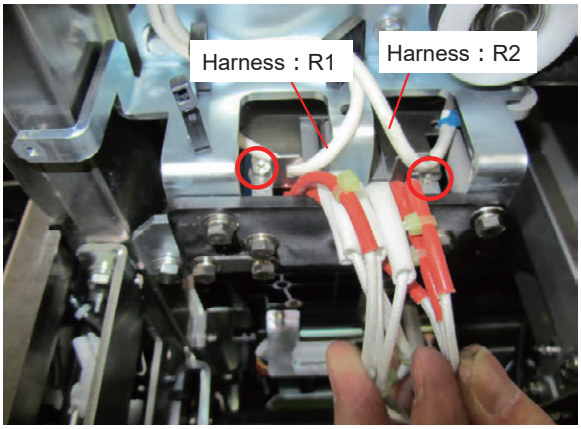
When attaching harness, use the correct one 212 or 213. Otherwise, it may cause a malfunction.

3

Remove the three screws.

4

Remove the two screws and thermistor.

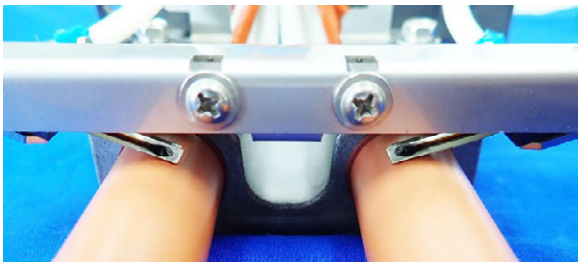


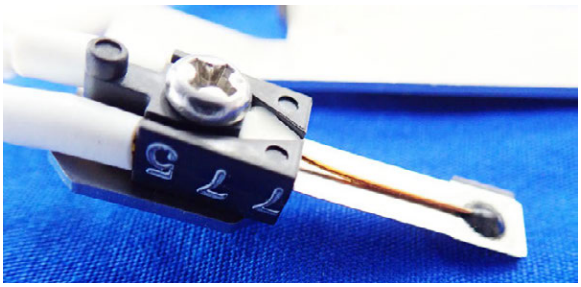
NOTE

When attaching harness, use the correct one R1 or R2. Otherwise, it may cause a malfunction.

NOTE

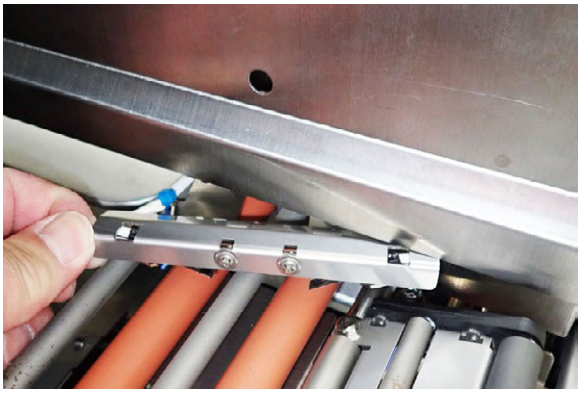
When installing or removing the thermistor, be careful not to bend the contact part. If the contact part is bent, it cannot be restored.



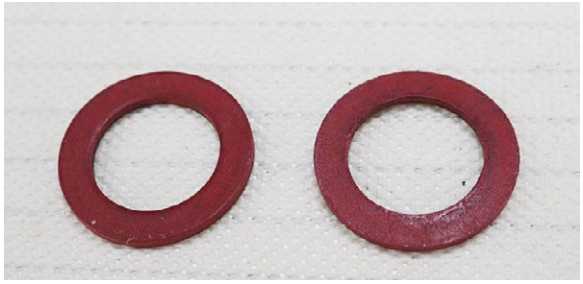


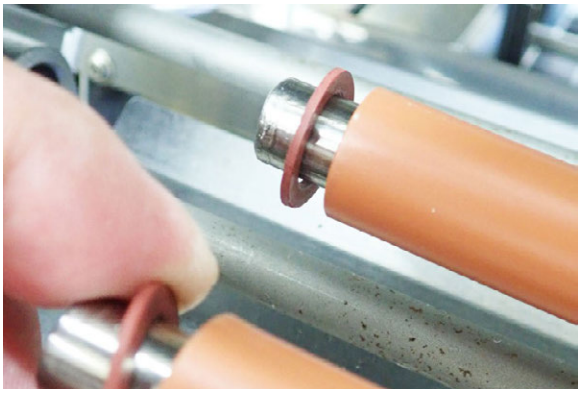
NOTE

The contact part is in contact with the heater rotating roller, so remove the thermistor unit from the inside.



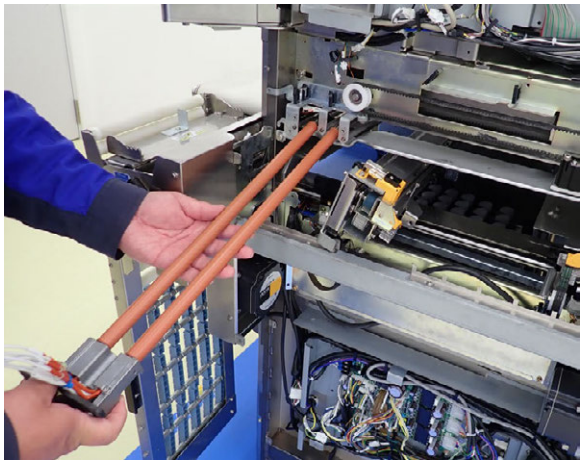
Then, remove the heater unit. In this case, remove the thrust washer first so that it will not fall out.





5

Fix the new heater at the position where the heater heating part protrudes 475 mm from the heater block.



6

To attach the heater rollers, perform the procedure in the reverse order.

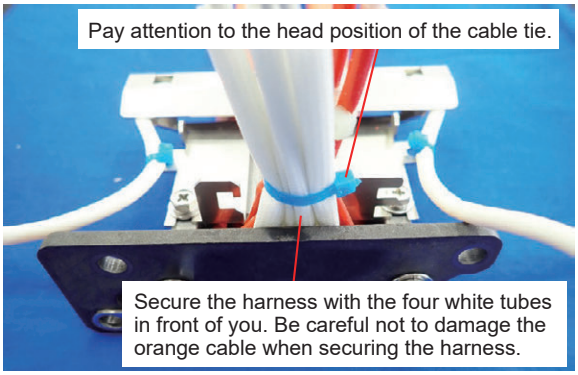
■ Precautions when assembling the seal heater unit

1

Fix the new heater at the position where the heater heating part protrudes 475 mm from the heater block.

2

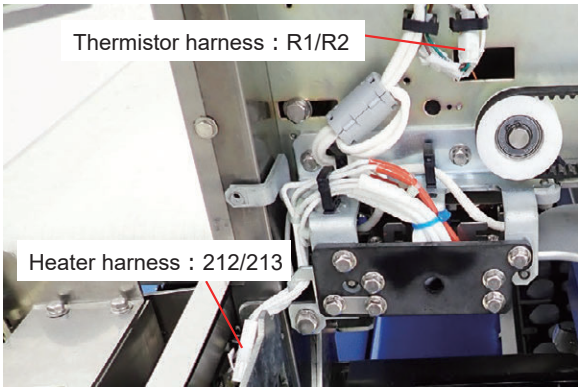
Secure the heater harness as shown in the photo.
When installing the film removal cover, fix it as shown in the photo because the insulating part (orange) of the wiring from the seal heater may become scraped off depending on the insertion angle of the cover.
Use the blue heat resistant cable ties to secure the harness.



3

Thermistor harness:
(R1: for front heater) (R2: for rear heater)
Heater harness:
(212: for front heater) (213: for rear heater)

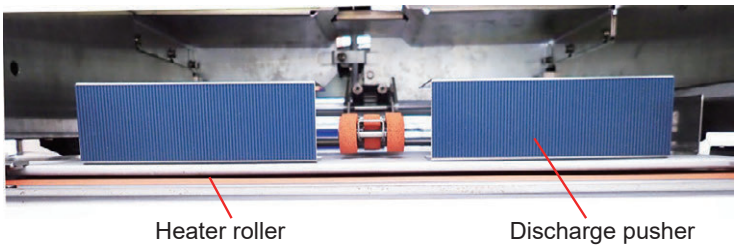
Install these harnesses correctly by checking the numbering.



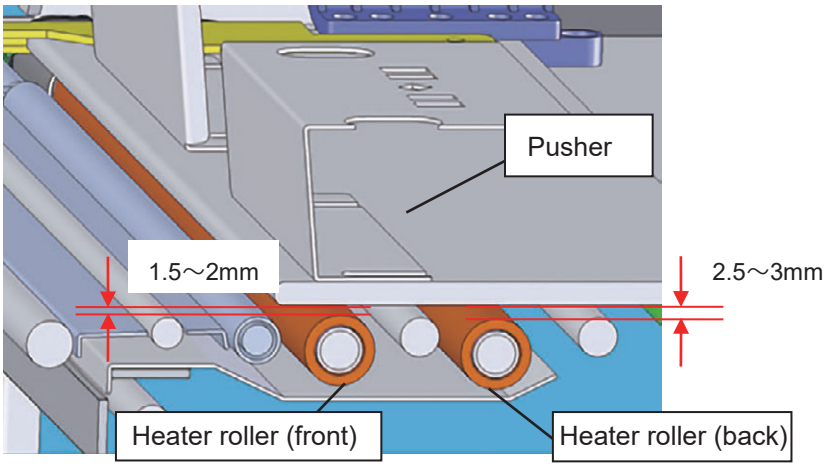
■ Fixed position of the heater block

Check the fixed position of the heater block after replacing the heater roller.

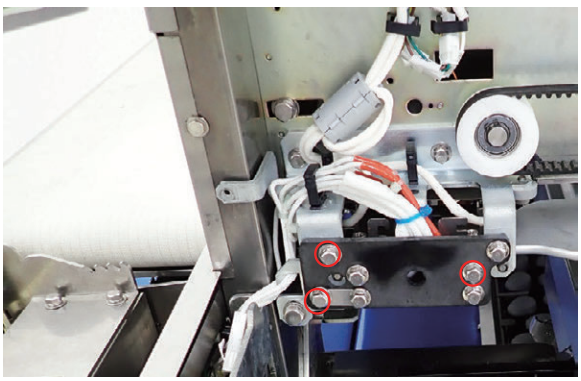
Locate the discharge pusher and heater roller at the same height level. Adjust the fixed position so that the gap between the discharge pusher and the front heater roller is set 1.5 to 2.0 mm, and the gap with the rear heater roller is set 2.5 to 3.0 mm.



The gap between the heater roller and pusher is shown in the figure below.



To adjust the fixed position of the heater block, use the three screws on the installation side.



NOTE

Make sure that the heater unit does not contact with the side wrapping plates.

3.3.7 Cutter unit

> **CAUTION**
>
> Be careful not to cut your hands or fingers when replacing the cutter saw blade.

■ Replacing the cutter

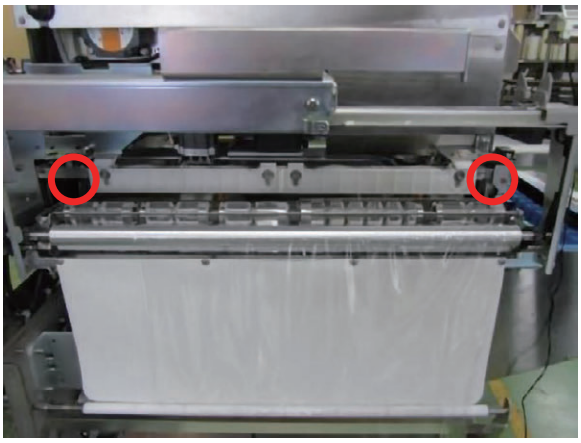
Replace the cutter if there is any problem when cutting films.
To attach the cutter saucer, the cutter unit needs to be adjusted.

1

Remove the film replacement door and left side cover.

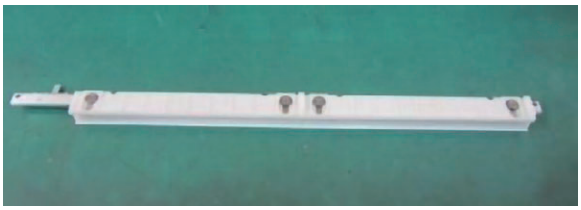
2

Remove the screws on both ends of the cutter unit.



3

Replace the cutter.

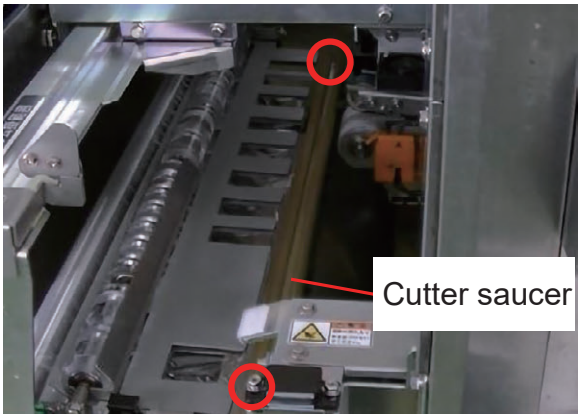


NOTE

To attach the cutter, attach screw locks to the screws and the installation position of the cutter unit.

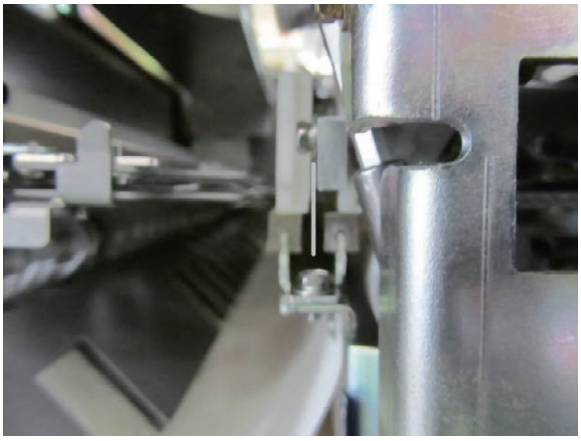
■ Attaching and detaching the cutter saucer

To detach the cutter saucer, remove the screws on both ends of the cutter saucer.



Attaching the cutter saucer to cutter unit

After detaching the cutter saucer, adjust to make the cutter edge to be located in the center of the cutter saucer when the cutter saucer is set on the cutter unit.



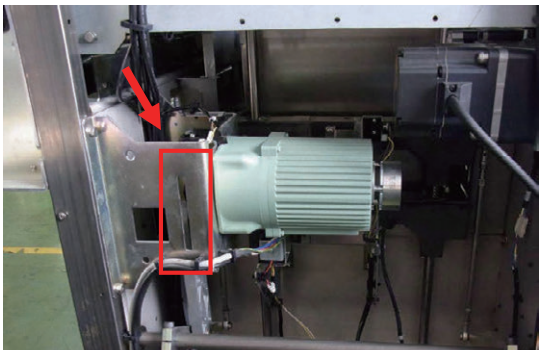
3.3.8 Electromagnetic brake

How to remove

- The electromagnetic brake can be detached by removing the bolts with hexagon socket head (3 bolts).
- Note that the lift goes down after the electromagnetic brake is removed from the drive shaft of the DC brushless motor.

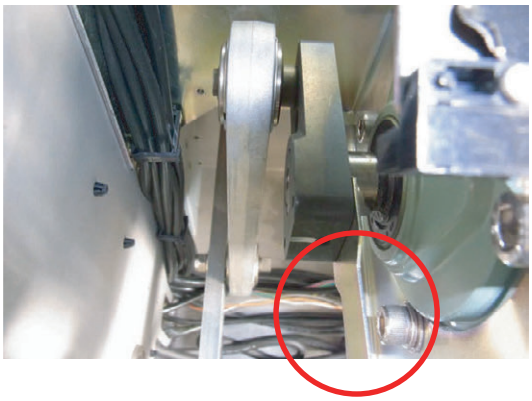
Precautions on manual elevation of the lift drive unit

> **CAUTION**
>
> As the lift drive uses a link mechanism; do not turn it to the “no-good side area” when turning it manually. While it is located in the “no-good side area” and a restore processing is performed, the lift and feeder come in contact with each other, resulting in malfunction. From the area indicated by the arrow in the picture, check whether it is located in the “no-good side area” or not.

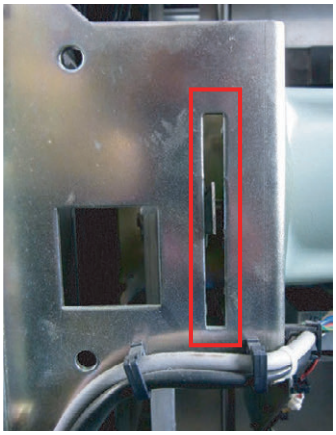


Checking for “no-good side area”

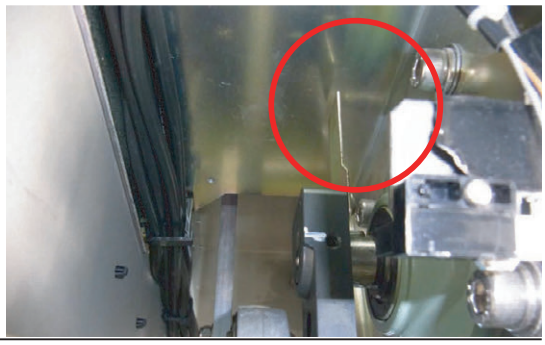
It is ok if the detection board mounted on the motor crank is located in forward side.

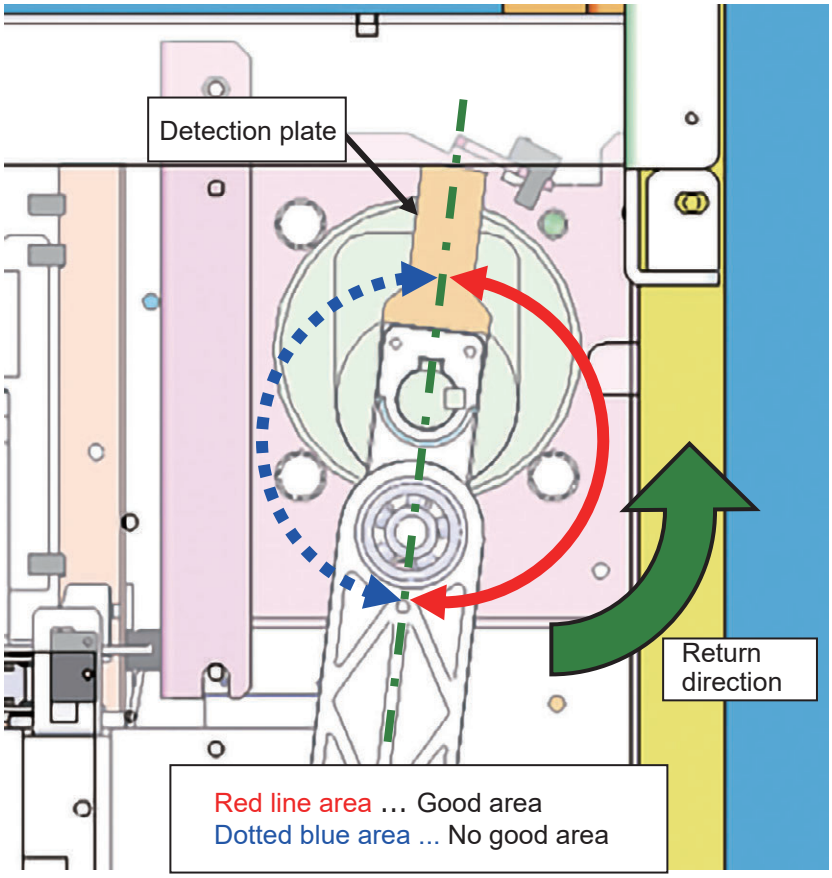


When it is ok, the detection board can be seen from the slit window of the motor bracket.

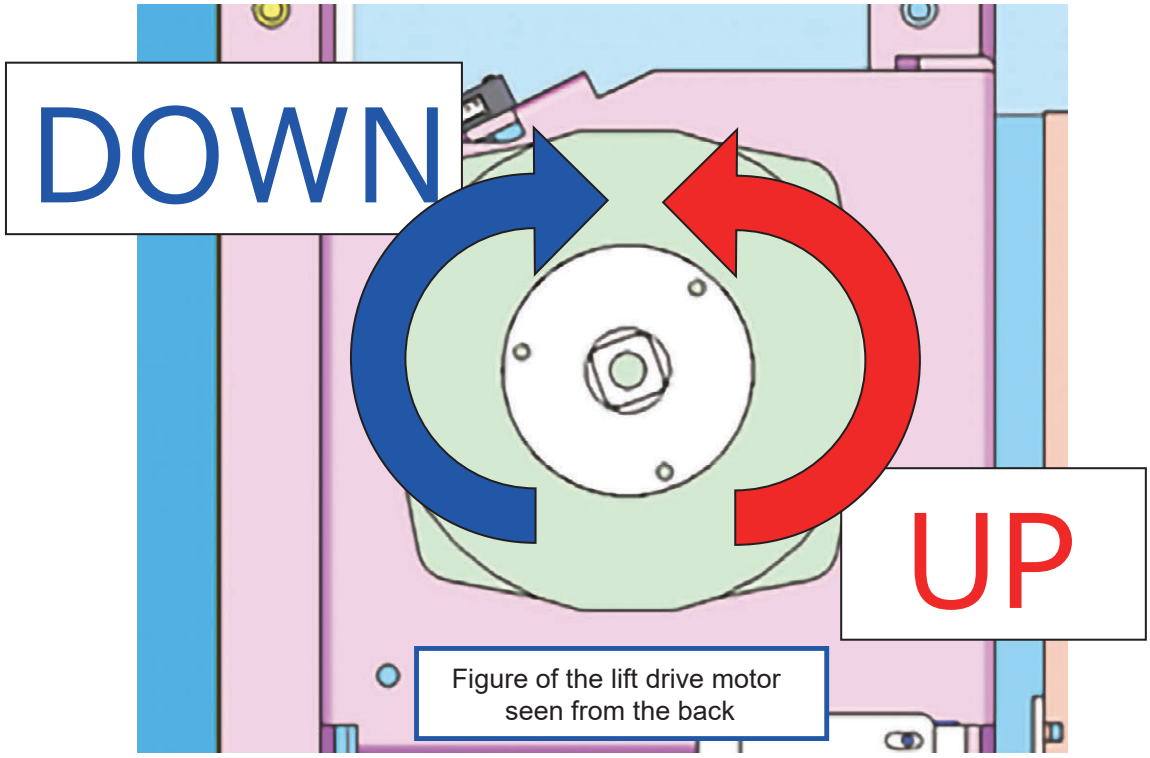


If the detection board mounted the motor crank is located in the backward side, it is located in the “no-good side area”.





Turn the output axis at the back of the motor with the flat-head screwdriver when manually ascending the lift. Before operating manually, be sure to understand the rotation direction and relationship of the elevation shown below.



Chapter 4

Electric Components

4.1 Electrical Unit Configuration 193
4.1.1 Overview 193
4.1.2 Machine (Back Side) 194
4.1.3 Machine (Right Side) 195
4.1.4 Machine (Left Side) 197
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4.2.1 Board Types & Compatibility 198
4.2.2 Main Board Replacement 201
4.3 Sensors.....204

⚠ CAUTION

- Lock out the power so that it does not turn ON while you are working, and keep the key with you.
- Durning 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.

4.1 Electric Unit Configuration

4.1.1 Overview

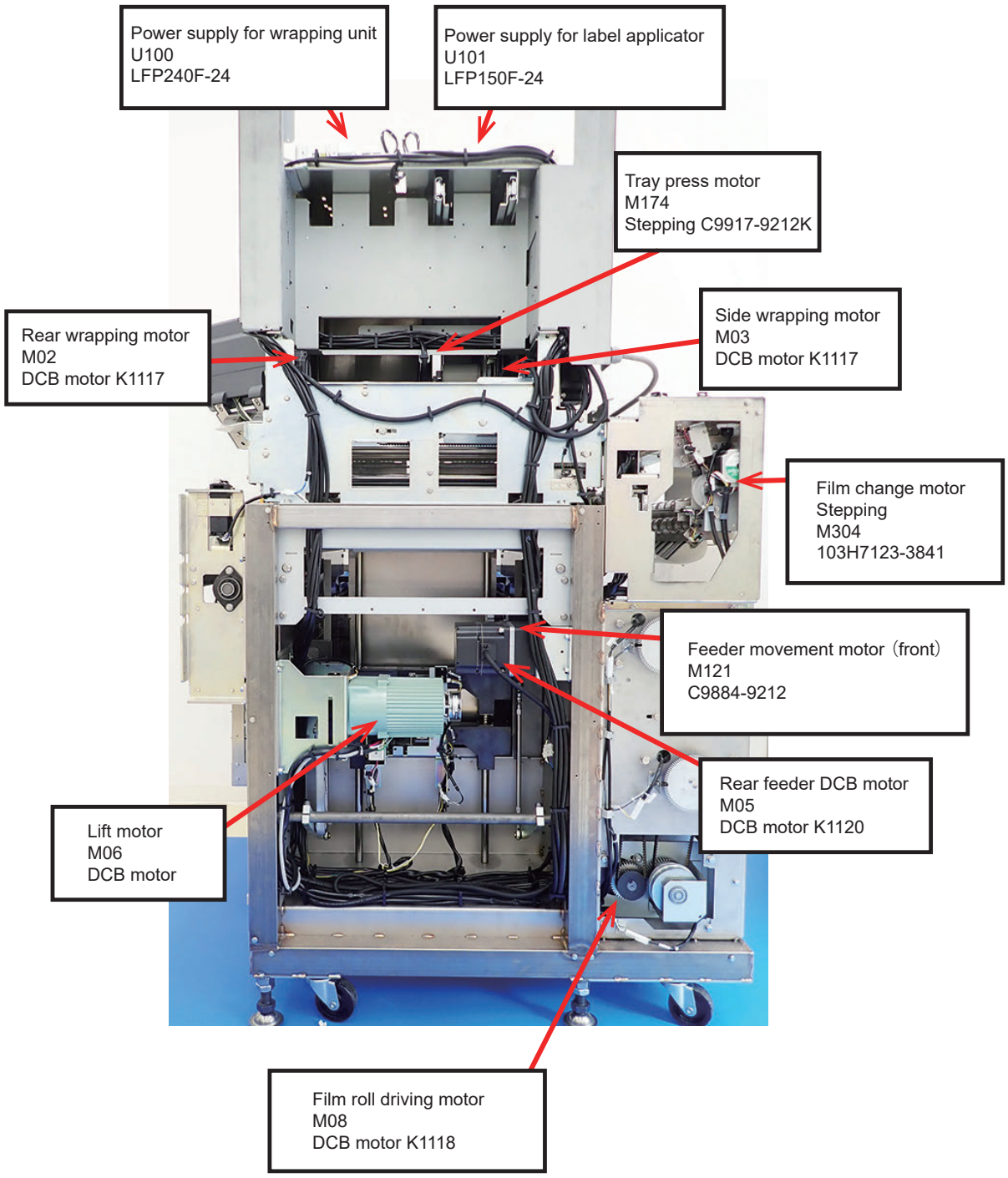
DANGER	Be sure to push the emergency stop switch button when you insert your hand into the machine.
DANGER	Note that the logic system 24 V DC power is not cut off even if the emergency stop switch button has been pushed.
CAUTION	If the fuse blows, replace it with a designated fuse.

Power source	This machine uses two power sources: a single-phase 200 V AC drive system power source that is cut off by pushing an emergency stop switch button, and a 24 V DC constant power supply power source (hereinafter called "logic power source). The single-phase 200 V AC is supplied to three switching power supplies (for logic power source, wrapper driving, and label applicator driving) via the power switch, built-in breaker, noise filter, and fuse, as well as to P-1105 board, seal heater, and warm air fan heater.
Drive system power source	The drive system power source is a power source for movable parts, which is dangerous if it is not cut off when an operator inserts his/her hand in the machine. The drive system power source is cut off by making the electromagnetic contactor operate with the emergency stop switch or four safety switches. The drive system power source supplies power to the single-phase 200 V AC DC brushless motor and stepping motor.
Logic power source	The logic power source is generated at the switching power supply for main control on the right side of this machine, and supplied to the logic system circuit, emergency stop switch, and four safety switches.
Emergency stop switch / Safety switch	Two contact points are used in the emergency stop switch and four safety switches respectively. One of the contact points of each switch is serially connected to all switches. 24 V DC is supplied to the coil side of the electromagnetic contactor through this serially connected contact point. The other contact point monitors opening and closing of the safety switch with the P-1005 board and displays any errors on the display unit.
Electromagnetic contactor	The contact point closes when 24 V DC output from the logic power source is applied to the coil side of the electromagnetic contactor via the emergency stop switch and four safety switches, and 200 V AC is supplied. There are two electromagnetic contactors, and 200 V AC is cut off at the four contact points if 24 V DC is intercepted by opening either the contact point of the emergency stop switch or the contact point of the safety switch. Cut off power supplies are the power source for P-1006 board, power source for P-1105 board, switching power source for wrapper, and switching power source for label applicator.
Auxiliary contact point	The electromagnetic contactor has an auxiliary contact point to confirm the switching condition, and the condition is input to the P-1005 board to confirm whether the drive system power source has been intercepted.
Motor	As all motors used in this machine have an overload protection circuit, the motors will not burn due to overcurrent.

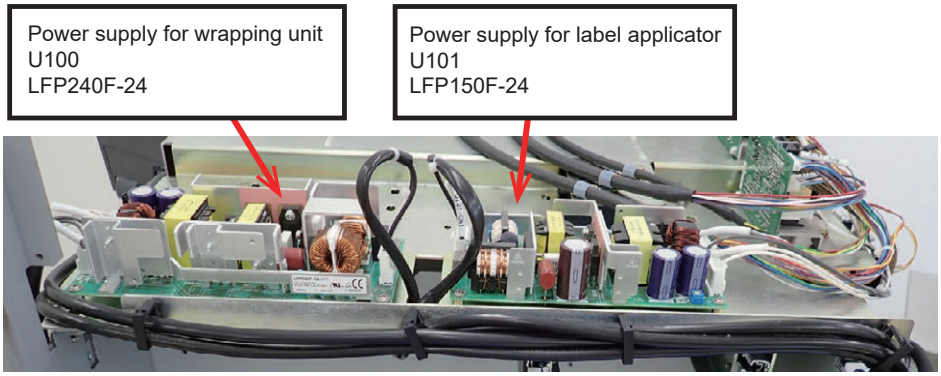
NOTE

Refer also to Technical Report "SC216136" at the beginning of this manual.

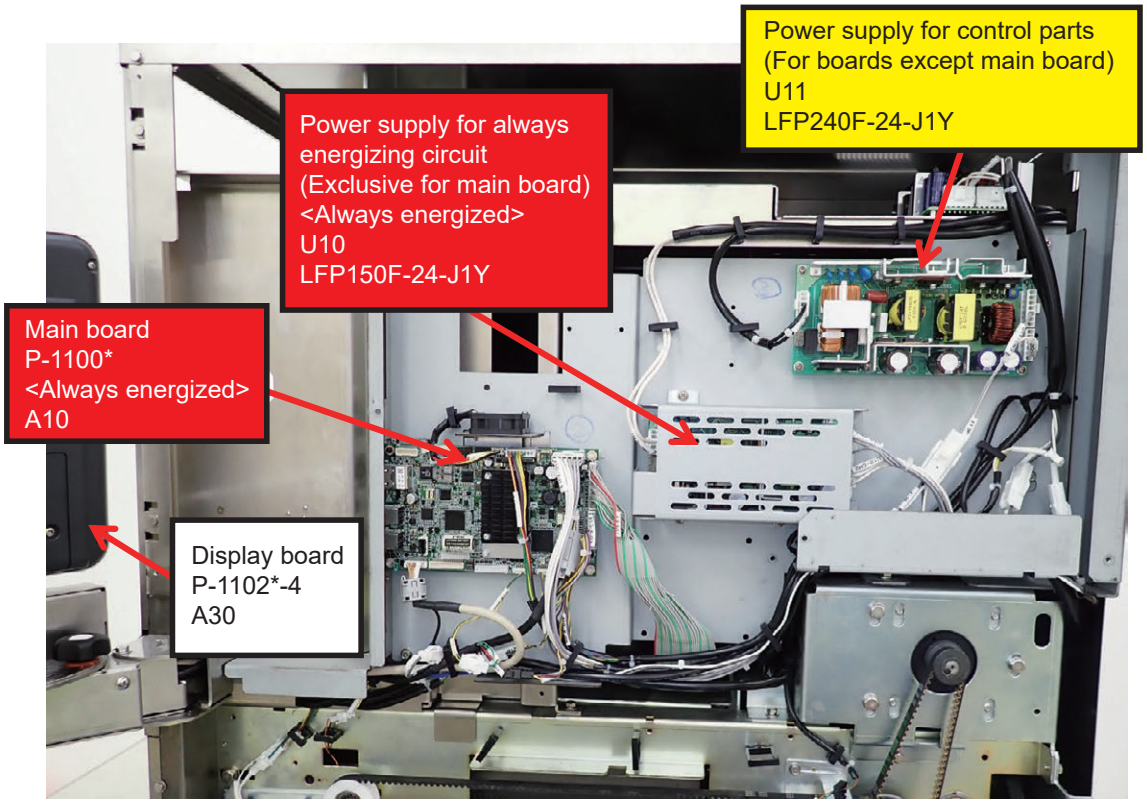
4.1.2 Machine (Back side)



Upper part of back side



4.1.3 Machine (Right side)



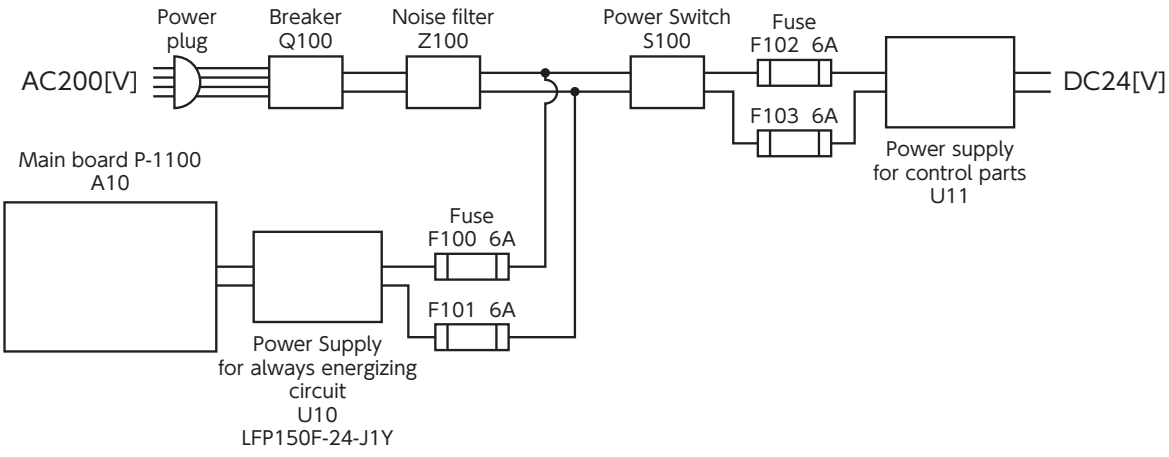
DANGER

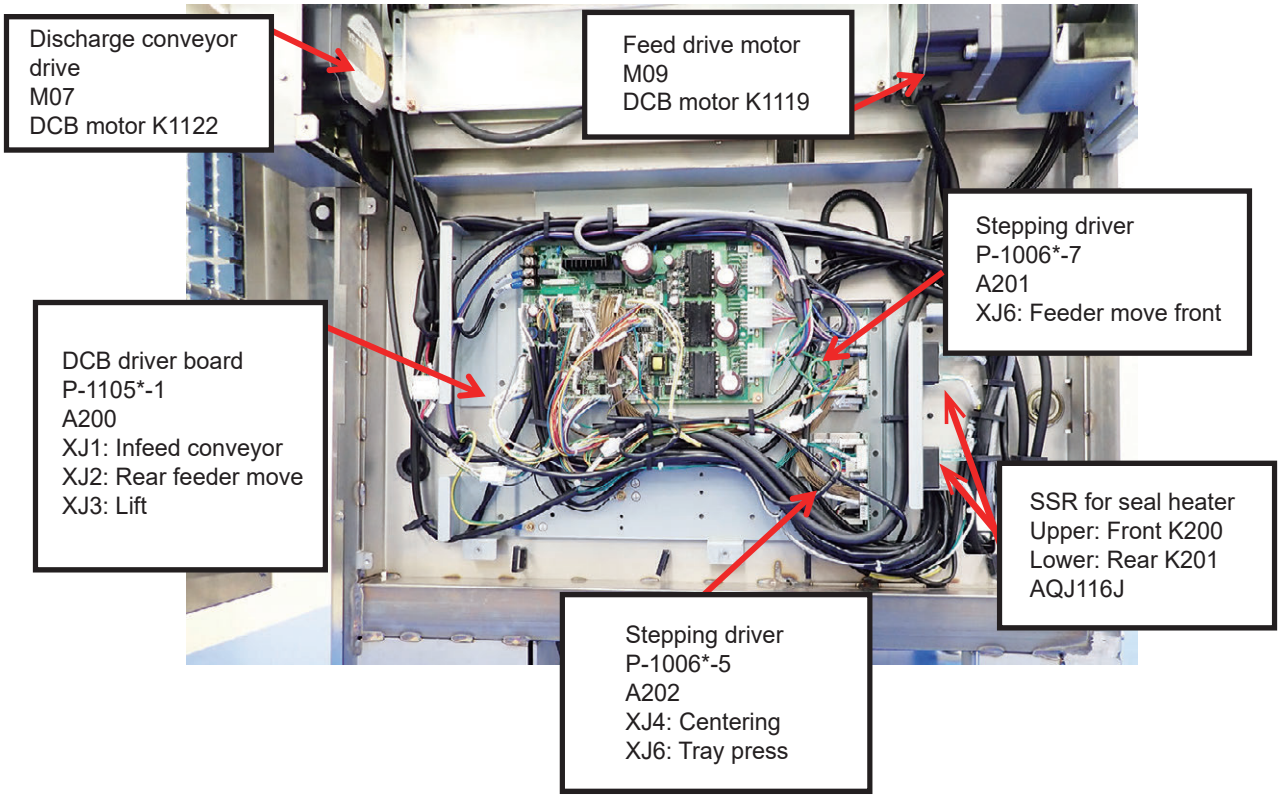
When the AC200[V] is supplied to the power plug, the power supply for always energizing circuit is also supplied AC200[V] even if the power switch is OFF.

Extremely danger of electrical shock. Unplug the power plug or turn OFF the breaker(Q100), when you touch the power supply for always energizing circuit.

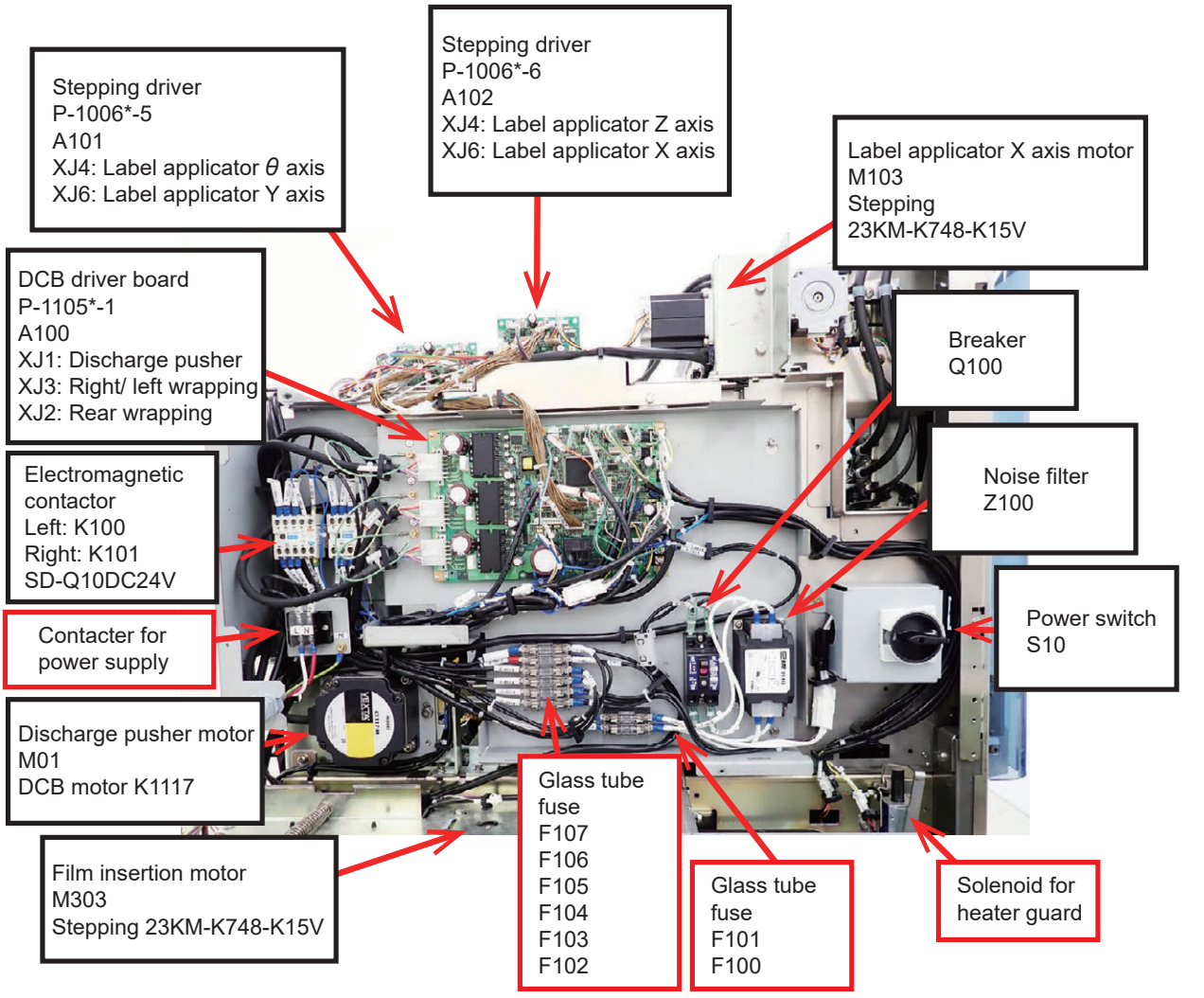
Also unplug the power plug or turn OFF the breaker(Q100), when you connect the harness to the main board.

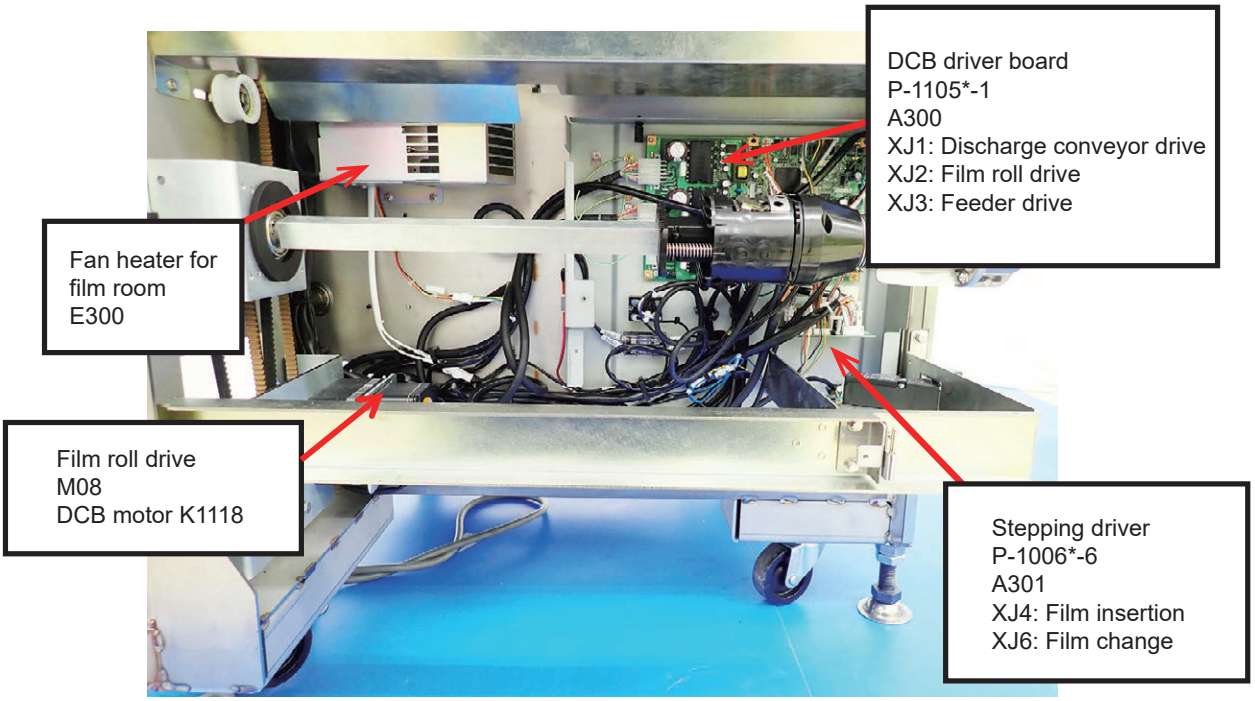
Circuit Diagram




Discharge conveyor drive
M07
DCB motor K1122
Feed drive motor
M09
DCB motor K1119
Stepping driver
P-1006*-7
A201
XJ6: Feeder move front
DCB driver board
P-1105*-1
A200
XJ1: Infeed conveyor
XJ2: Rear feeder move
XJ3: Lift
SSR for seal heater
Upper: Front K200
Lower: Rear K201
AQJ116J
Stepping driver
P-1006*-5
A202
XJ4: Centering
XJ6: Tray press

4.1.4 Machine (Left side)





4.2 Printed Circuit Boards

4.2.1 Board types & compatibility

- The WM-AI uses the following boards:
  - Main board (P-1100)
  - Board for Printer 2 (P-1101)
  - Key processing board (P-1102) … located inside the LCD
  - Wrapper board (P-1105) … wrapping control (A100: upper left), lift control (A200: lower right), and film control (A300: lower left) and film control (A300: lower left).
  - Driver board (P-1006) ... driver board for stepping motor
  - Detection board (P-1107)
  - Scale board (P-1111)

NOTE

Refer also to Technical Report "SC216131" at the beginning of this manual.

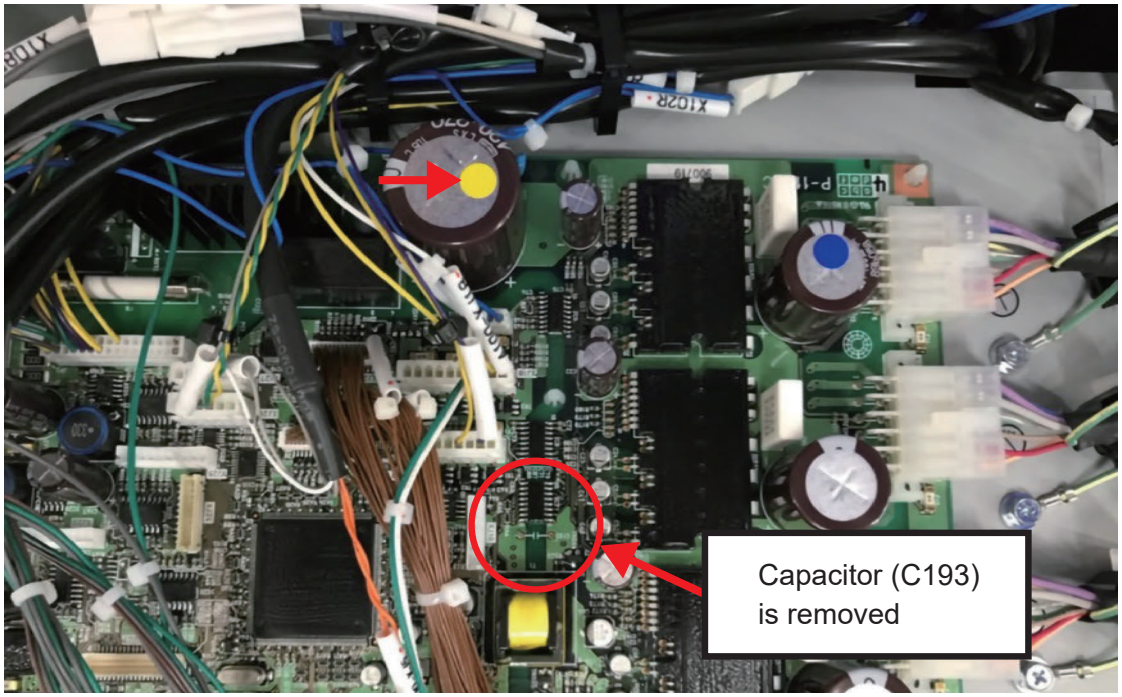
■ Wrapper board (P-1105) compatibility

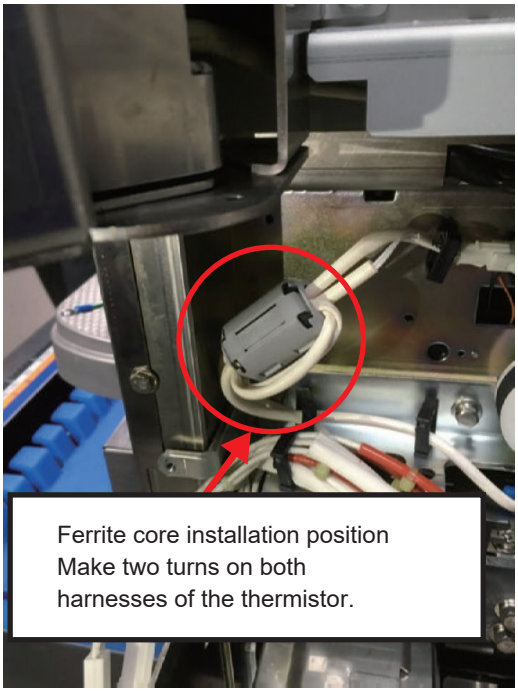
The wrapper board (P-1105) has been modified and updated as follows mainly to enhance the resistance to electrostatic noise.

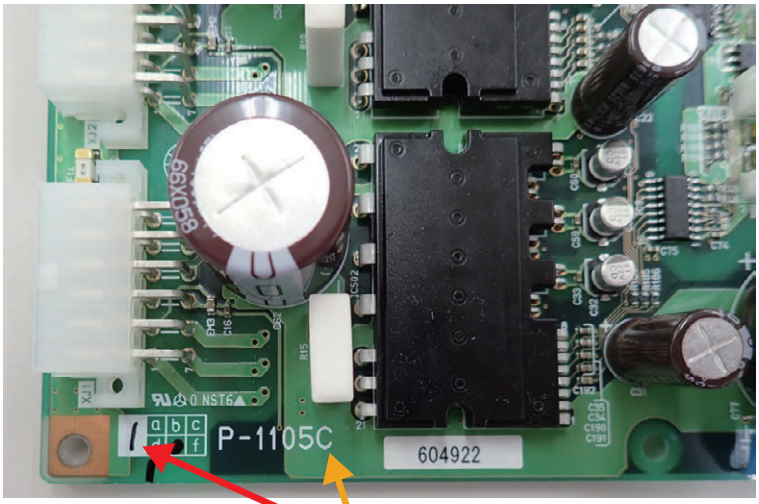
Release

June 2019

Machine type	WM-AI	For WM-AI POP label applicator	PS-AI
Part symbol	A100/A200/A300	A400	A600
At the time of release	C-1	C-2	C-1
	Change due to difficulty in procuring parts		
DC brushless motor driver chip change	C-4	C-5	C-4
	Change to reduce costs		
POP label applicator cost reduction	C-4	C-3	C-4
	Electrostatic noise countermeasure (1)		
From April 23, 2019 production	C-4C193 Capacitor removal	C-3C193 Capacitor removal	C-4C193 Capacitor removal
	Electrostatic noise countermeasure (2)		
From June 10, 2019 production	D-6	D-8	D-6
From October 2019 production	D-6	Plan to change to "D-3"	Plan to change to "D-1"







P-1105C-1

Board type
Board version number

Mounting type
Number indicating
component mounting pattern

■ Wrapper board (P-1105) compatibility

Part name	WM-AI Part symbol A100	WM-AI Part symbol A200	WM-AI Part symbol A300	POP Part symbol A400	PS-AI Part symbol A600	Note	Number of DC brushless motor drivers	C193 capacitor	DC brushless motor driver rated current
PWB'P-1105'C-1	○	○	○	☆	○		3	Yes	10[A]
PWB'P-1105'C-2	×	×	×	☆	×		1	Yes	10[A]
PWB'P-1105'C-3	×	×	×	○	×		0	Yes	–
PWB'P-1105'C-4	○	○	○	☆	○	※1	3	Yes	15[A]
PWB'P-1105'C-5	×	×	×	○	×		1	Yes	15[A]
▼The following boards are installed for production from June 10, 2019 onwards.									
PWB'P-1105'D-1	☆	☆	☆	☆	●		3	Yes	10[A]
PWB'P-1105'D-2	×	×	×	☆	×		1	Yes	10[A]
PWB'P-1105'D-3	×	×	×	●	×		0	Yes	–
PWB'P-1105'D-6	●	●	●	☆	☆		3	No	10[A]
PWB'P-1105'D-8	×	×	×	☆	×		0	No	–

○: Board installed as standard
●: Board installed as standard
(board with improved electrostatic noise resistance)
☆ : Compatible board

Change from 10[A] to 15[A] because DC brushless motor driver 10[A] is difficult to procure (15[A] is not required, but used as a substitute for 10[A])

	Number of drivers	Driver rated current[A]	Improved electrostatic noise resistance #1	Improved electrostatic noise resistance #2	Compatibility
PWB'P-1105'C-1	3	10	-	-	■
PWB'P-1105'C-2	1	10	-	-	●
PWB'P-1105'C-3	0	-	-	-	▲
PWB'P-1105'C-4	3	15	-	-	■
PWB'P-1105'C-5	1	15	-	-	●
PWB'P-1105'D-1	3	10	○	-	■
PWB'P-1105'D-2	1	10	○	-	●
PWB'P-1105'D-3	0	-	○	-	▲
PWB'P-1105'D-6	3	10	○	○	■
PWB'P-1105'D-8	0	-	○	-	▲

Improved electrostatic noise resistance #1: Change the board pattern to improve the noise immunity from the motor (change the board version to D)

Improved electrostatic noise resistance #2: Improve the resistance to electrostatic noise applied to the discharge pusher

⚠ CAUTION

All boards conform to Ishida product safety standards, so there is no problem using these boards.

■ Driver board (P-1006) compatibility

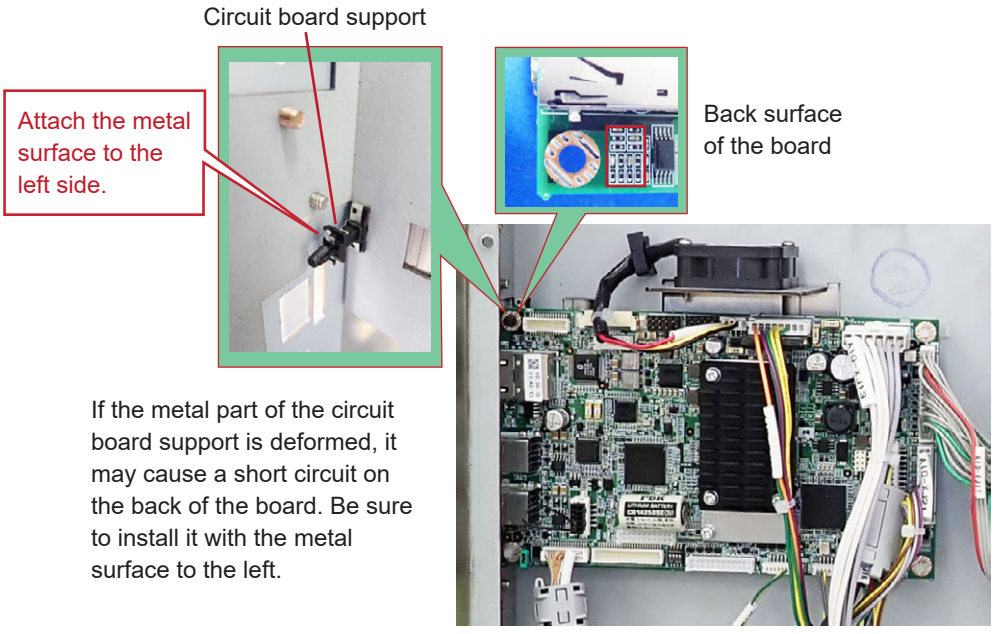
The driver board P-1006C is related to the types in the table below; however, it is not compatible with each other. AI series boards are coated.

Type	Specification	Compatibility	Coating
P-1006C-1	2Ax2	☆	×
P-1006C-2	2Ax1 3Ax1	□	×
P-1006C-3	2Ax1	△	×
P-1006C-4	3Ax2	○	×
P-1006C-5	2Ax2	☆	○
P-1006C-6	2Ax1 3Ax1	□	○
P-1006C-7	2Ax1	△	○
P-1006C-8	3Ax2	○	○

4.2.2 Main board Replacement

■ Precautions for mounting the board

The black circuit board support fixing the main board has a metal part so that the signal ground (SG) can be grounded to the frame ground (FG).
Pay attention to the mounting direction when installing the board so that it can be used safely even if the metal part is deformed.



NOTE

When replacing this board, please follow local regulation on its disposal because it contains lithium battery.

■ Downloading Software

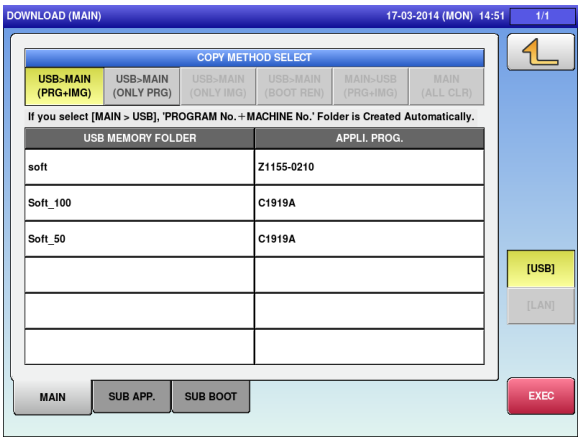
P-1100, the main board for AI-series, has applications inside the flash ROM. At shipment, basic software, called boot-software, is installed on the main board for maintenance. Since no application to run exists on the board, it is not operational but only a logo of Ishida appears on the screen after power is turned on. Without application, however, the machine can be activated using the application from the USB flash memory, and then software is automatically downloaded from the “Soft” folder in the USB flash memory to the main board.

When using the USB flash memory for startup, after application has been downloaded to the main board, remove the USB flash memory and restart the machine before you start the work. If directly started from the USB flash memory, the setting may not be properly reflected to the memory of the main body.

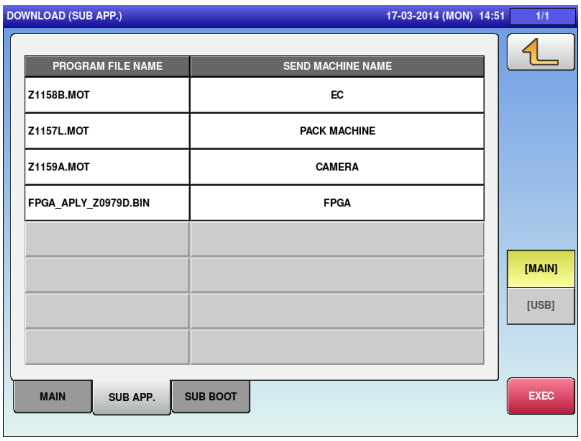
Basically, the copy function of “USB > MAIN” only overwrites a file to the flash ROM and does not delete unnecessary files. If an unnecessary file is accidentally copied, the flash ROM capacity will be consumed, which may cause a copy error of the program file due to capacity shortage. In this case, delete all and copy it again.

If a program of another model is accidentally copied, the machine may not be operational. In this case, restart the machine from the USB flash memory, delete all, and copy the correct program file again.

* To copy the backed up software to the main board, make settings again on the [DOWNLOAD] screen of ADJUST mode after the downloading is automatically completed.



DOWNLOAD (MAIN) screen



DOWNLOAD (SUB APP.) screen

■ Backing Up Data for Main Board Replacement

1. Perform 1.10.2 Backing Up Software on the Main Machine.
2. Display the [FILE Save / Load] screen of SETUP mode.
3. Insert the USB flash memory into the USB connector.
4. Display the [SCALE > USB] tab.
5. Back up the software by selecting “MASTER” in “DATA” and pressing the [EXEC] button.

■ Downloading Software after Main board replacement

1. Replace to new main board.
2. Insert the USB flash memory into the USB connector.
3. Apply the power to the main machine.
4. Software starts from the USB flash memory (wait for a while).
5. The [DOWNLOAD] screen of ADJUST mode automatically appears.
6. The program (Soft folder) automatically starts to be downloaded.
7. When a progress status message appears, wait until copying is completed.
8. A confirmation message appears asking to restart the machine, remove the USB flash memory, and restart the machine.

■ Precautions on software write after board replacement

Until all software completes write operations, the following phenomenon may occur. This occurs because of the incompatibility between software in the flash memory of the board and the main application software in CF (compact flash).

<LED remains ON after shut down>
The power switch of the applicable models is turned OFF after software write. LED on the P-1100 board, however, may remain ON even upon OS shut down and the screen becomes black. In this case, turn OFF the breaker or pull out the power supply plug, and make sure that LED is turned OFF. After 20 to 30 seconds, turn ON the breaker or insert the power supply plug, and turn ON the power switch.

<Error display>
Errors such as a battery error or communication error may be displayed on the screen before software starts the write operation after starting the main application software. In this case, continue the software write operation. If the error display persists even after all software completes write operations, memory initialization, and basic settings such as model setting, take measures to each error.

4.3 Sensors

The following Table 1 shows the sensors used for WM-AI.
Table 1

Product No. (As of May 2015)	Product name	Sensor model No.	Sensor type	Description (Connector, harness)	Connector	Unit (See the parts list.)
000-132-6468-**	Photo-interrupter 'transmission type'	KI1480-AALF	Transmission type	Sensor bottom connector	ZR 3Pin	Heavily used on various units
000-070-5204-**	Photo-interrupter 'transmission type'	KI1285-ID	Transmission type Dark-ON	Sensor side connector Housing: white	PH 3Pin	Heavily used on various units
000-070-5205-**	Photo-interrupter 'transmission type'	KI1286-ID	Transmission type Light-ON	Sensor side connector Housing: black	PH 3Pin	LIFT DRIVE UNIT
000-112-9768-**	Photo-interrupter 'transmission type' light-emitter	KB893-AA12	Emitter	Harness L = 60 mm	SM 2Pin	WRAPPING FRAME UNIT PRINTER FRAME UNIT
000-112-9769-**	Photo-interrupter 'transmission type' light-receiver	KB893-AA22	Receiver Light-ON	Harness L = 60 mm	SM 4Pin	WRAPPING FRAME UNIT PRINTER FRAME UNIT
000-135-0306-**	Sensor AS ''centering	APS4-12S-E	Proximity sensor	Harness L = 250 mm	SM 3Pin	FEED UNIT
000-072-2231-**	Sensor AS'' upper lift	KR-Q50NWT	Reflection type	Harness L = 140 mm	SM 3Pin	FEEDER MOVE UNIT
100-002-8532-**	Sensor AS''	RS-902S	Proximity sensor	Harness L = 280 mm Insulation tube: black	XA 3Pin	FILM TRANSPORT UNIT (top)
100-002-8533-**	Sensor AS''	RS-902S	Proximity sensor	Harness L = 280 mm Insulation tube: white	XA 2Pin	FILM TRANSPORT UNIT (bottom)
000-112-1169-**	Photo-interrupter ‘transmission type’ light-emitter	KB1242-ID14LF	Emitter Body: gray	Sensor bottom connector	ZR 3Pin	PRINTER UNIT (for peel sensor)
000-112-1170-**	Photo-interrupter 'transmission type' light-receiver	KB1242-ID23LF	Receiver Body: black	Sensor bottom connector	ZR 3Pin	PRINTER UNIT (for peel sensor)
100-002-3523-**	Sensor AS''	RS-902S, LN55, PN150	Proximity Emitter + receiver	Harness L = 330 mm	SM 8Pin,2Pin	PRINTER UNIT
000-137-0747-**	Sensor ’Distance’	GP2Y0A41SK0F	Reflection type	Sensor side connector	PH 3Pin	CAMERA UNIT (height detection)
000-135-0220-**	Sensor AS''	ON2153	Reflection type	Harness L = 205 mm	DF 5Pin	APPLICATOR UNIT
000-135-0221-**	Sensor AS''	E3Z-LS61C-SOSHW-P1	Reflection type	Harness L = 340 mm	SM 3Pin	STOCK CONVEYOR UNIT

Make sure that a correct sensor is used for the replacement.

Chapter 5

Setup Mode

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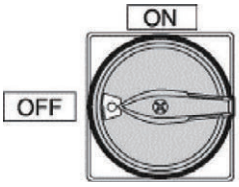
5.1 Setup Mode

5.1.1 Startup

1

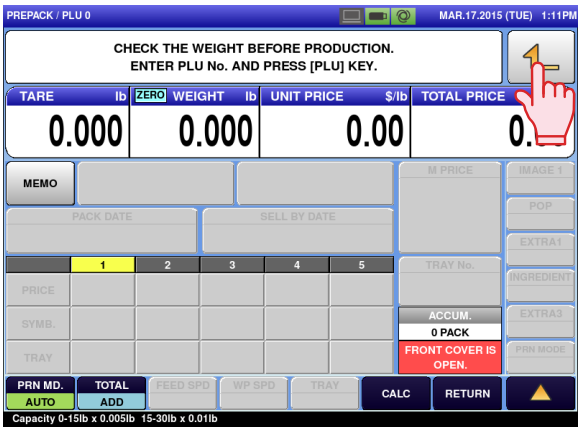
Turn on the power.



2

The PREPACK screen in the OPERATE mode appears.

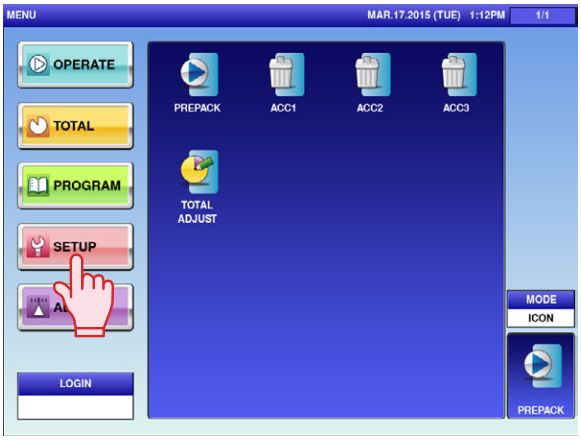
Press at the upper right side of the screen.



3

The menu appears in the OPERATE MODE.

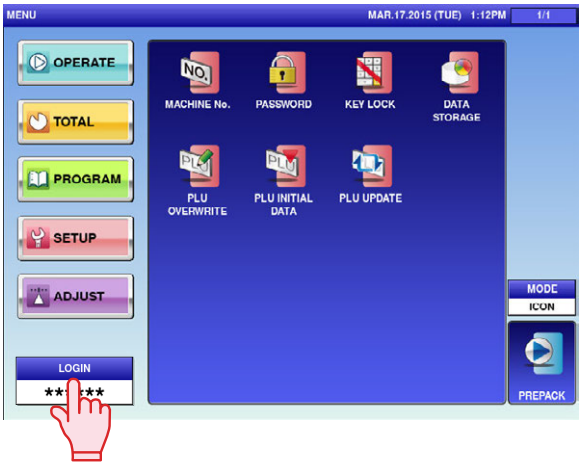
Press the [SET UP] button on the screen.



4

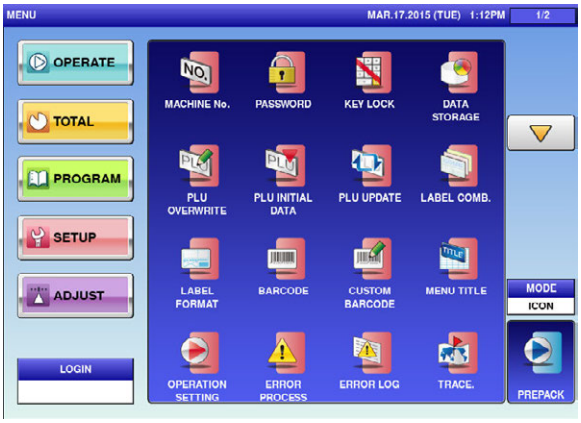
The User Menu screen in the Setup mode appears.

Input the password “495344” using the numerical keys, and press the [LOGIN] button on the screen.

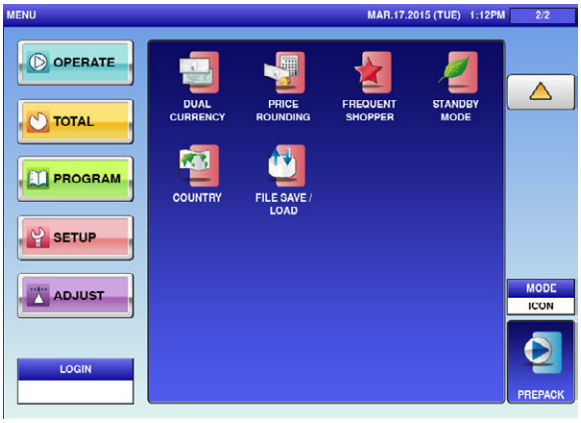


5

The Maintenance Menu screen appears in the Setup mode.



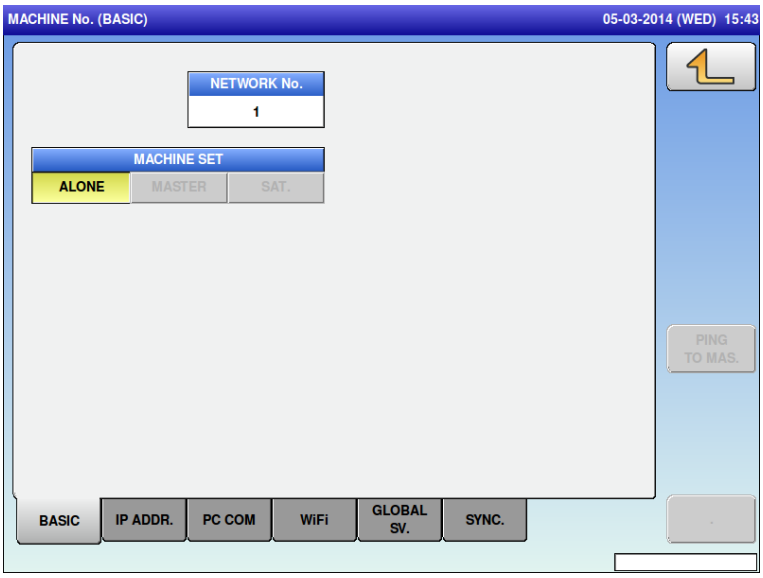
Maintenance Menu screen 1/2



Maintenance Menu screen 2/2

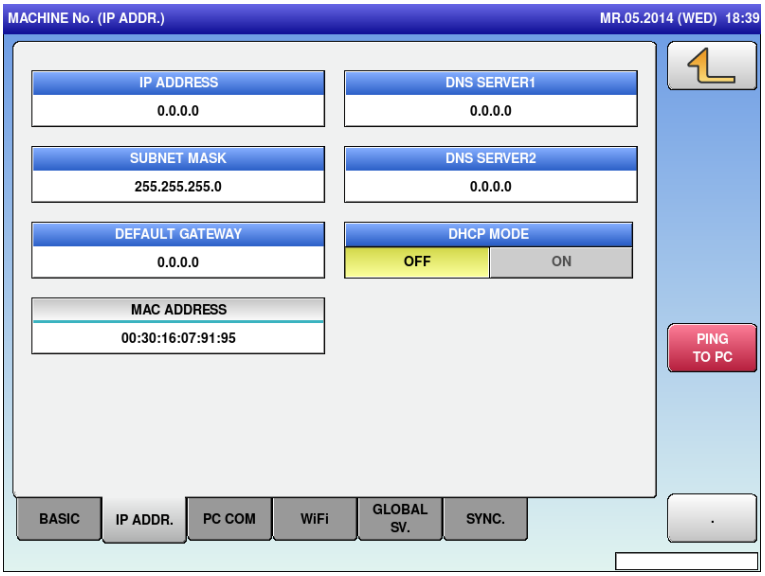
5.2 Machine No. Settings

5.2.1 Machine No. (Basic)



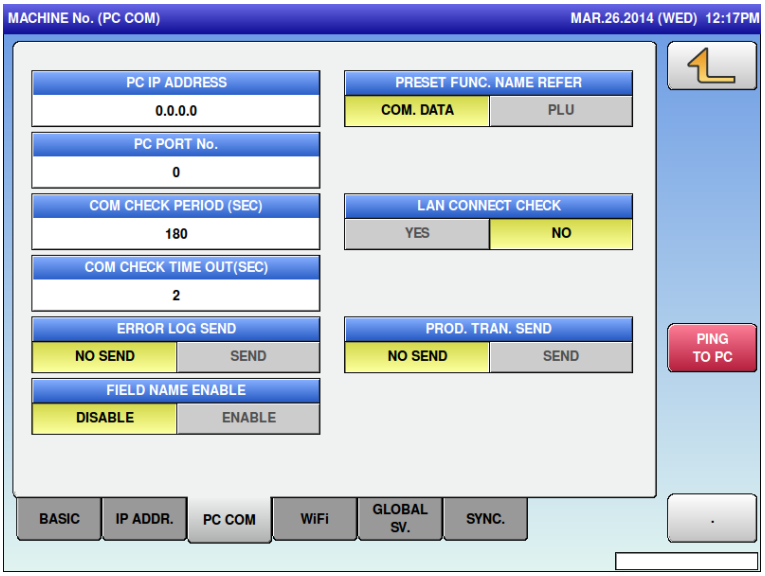
Menu name	Specification
	Return to Menu. Other tabs also have the same function.
NETWORK No.	Set the machine No. Input range: 0 to 9999
MACHINE SET	The WM-Ai is permanently fixed at ALONE. The MASTER and SATELLITE options are not availabel

5.2.2 Machine No. (IP Addr.)



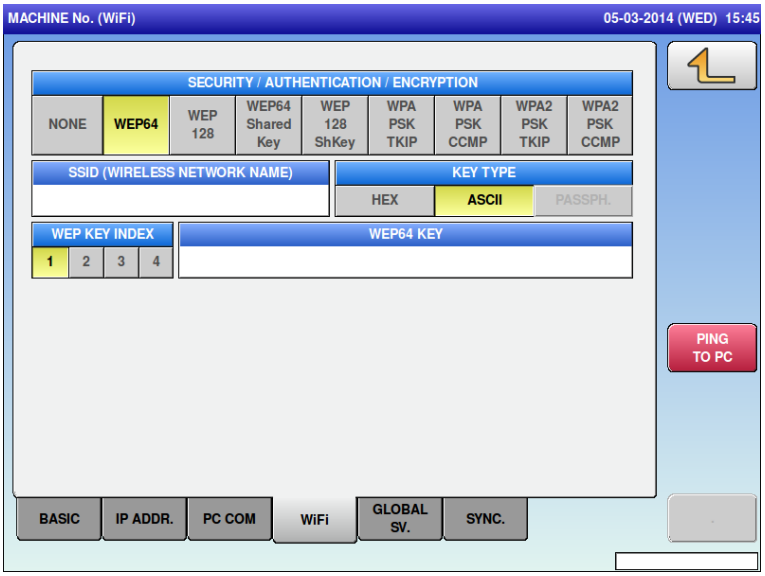
Menu name	Specification
IP ADDRESS	Set the IP address. Input range: “0.0.0.0” to “255.255.255.255”
SUBNET MASK	Set the subnet mask. Input range: “0.0.0.0” to “255.255.255.255”
DEFAULT GATEWAY	Set the default gateway. Input range: “0.0.0.0” to “255.255.255.255”
DNS SERVER1	Set the IP address of Primary DNS server. Input range: “0.0.0.0” to “255.255.255.255”
DNS SERVER2	Set the IP address of Secondary DNS server. Input range: “0.0.0.0” to “255.255.255.255”
DHCP MODE	Select whether or not to use DHCP.
PING TO PC	Ping the PC. Other tabs also have the same function.
.	Enter “.”(dot). Used for IP address vsetting. Other tabs also have the same function.

5.2.3 Machine No. (PC Com)



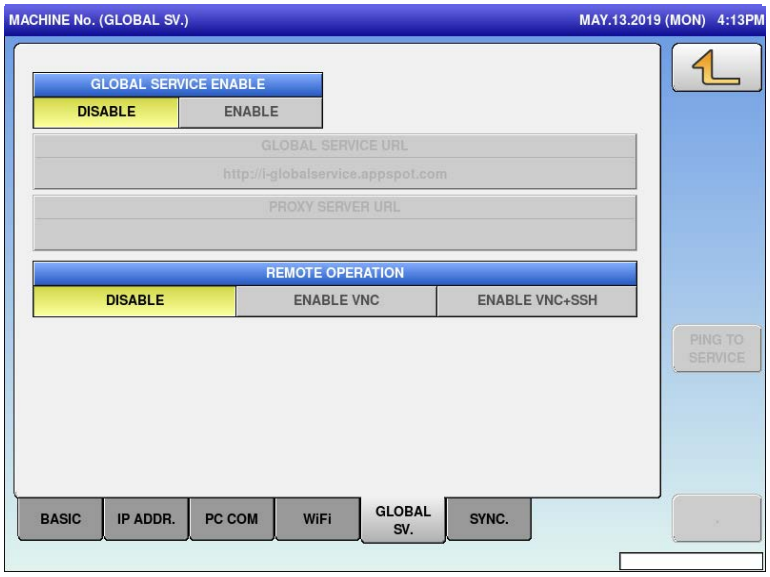
Menu name	Specification
PC IP ADDRESS	Set the PC's IP address. Input range: “0.0.0.0” to “255.255.255.255”
PC PORT No.	Set the PC's port No. Input range: 0 to 65535
COM CHECK PERIOD (SEC)	Set the command check period. Input range: 0 to 9999
COM CHECK TIME OUT (SEC)	Set the command check time-out. Input range: 2 to 5
ERROR LOG SEND	Set whether or not to send the error log.
FIELD NAME ENABLE	Select and set whether or not to add filed name to the CSV title line of the transmission data.
PRESET FUNC. NAME REFER	Select the preset function name reference. COM.DATA / PLU
LAN CONNECT CHECK	Set whether or not to perform LAN connect check.
PROD. TRAN SEND	Set whether or not to perform transmission of Production Transaction. (SLP-5)

5.2.4 Machine No. (WiFi)



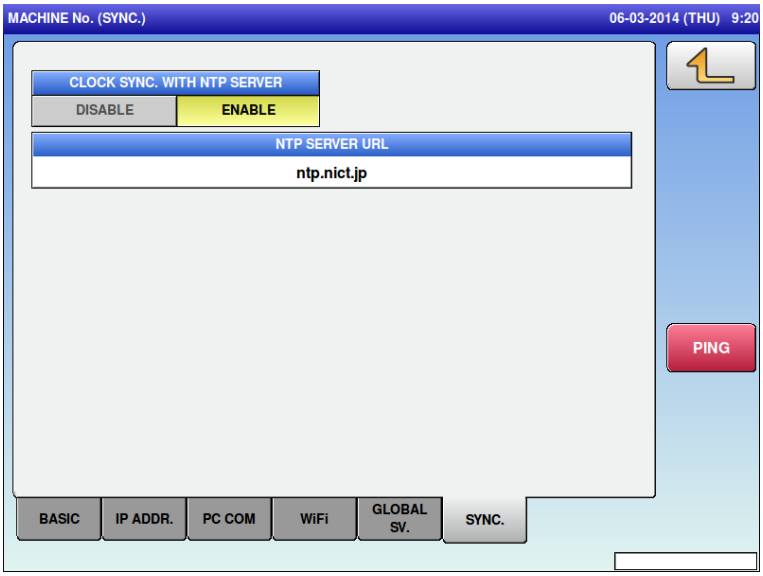
Menu name	Specification
SECURITY / AUTHENTICATION / ENCRYPTION	Select the method of security/authentication/encryption. NONE / WEP64 / WEP128 / WEP64 Shared Key / WEP128 ShKey / WPA PSK TKIP / WPA PSK CCMP / WPA2 PSK TKIP / WPA2 PSK CCMP
SSID (WIRELESS NETWORK NAME)	Set the SSID. Pressing the button opens the Editor screen to edit.
KEY TYPE	Select the WEP key index. HEX / ASCII / PASSPH
WEP KEY INDEX	Select the WEP key index. 1 / 2 / 3 / 4 This function is enabled only when one of WEP64 / WEP128 / WEP64 Shared Key / WEP128ShKey is selected for security / authentication / encryption.
WEP64 KEY	Set the WEP64 Key. Up to 5 bytes This function is enabled only when one of WEP64 / WEP128 / WEP64 Shared Key / WEP128ShKey is selected for security / authentication / encryption.

5.2.5 Machine No. (Global Sv.)



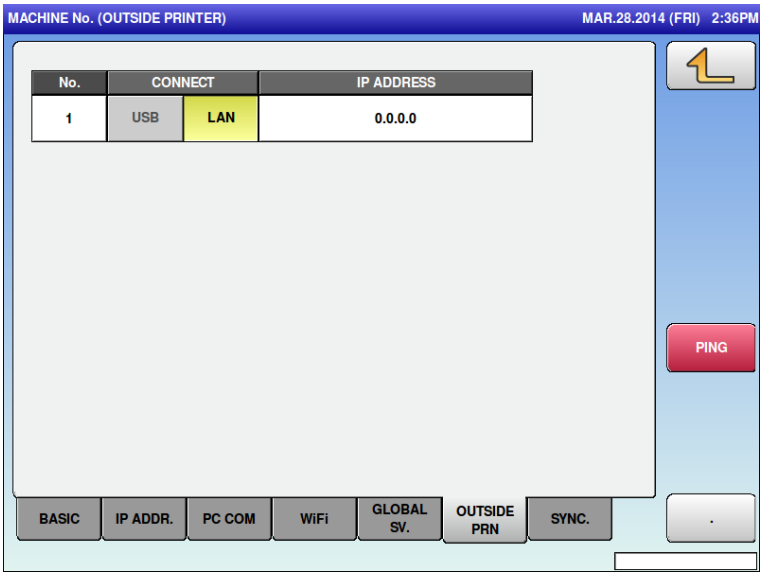
Menu name	Specification
GLOBAL SERVICE ENABLE	Select and set whether or not to use the cloud function (Global Service).
The following parameters are valid only when the GLOBAL SERVICE ENABLE setting is set to [ENABLE] (grayed out when set to [DISABLE])	
GLOBAL SERVICE URL	Set the URL of Cloud server (only when the function is valid). Press the button to open the Editor screen to edit.
PROXY SERVER URL	Set the URL of Proxy server (only when the function is valid). Press the button to open the Editor screen to edit.
PING TO SERVICE	Send PING to the set cloud server (When the cloud function is not in use, the option is grayed out).
REMOTE OPERATION	Allow remote access by VNC connection. DISABLE / ENABLE VNC / ENABLE VNC+SSH

5.2.6 Machine No. (Sync.)



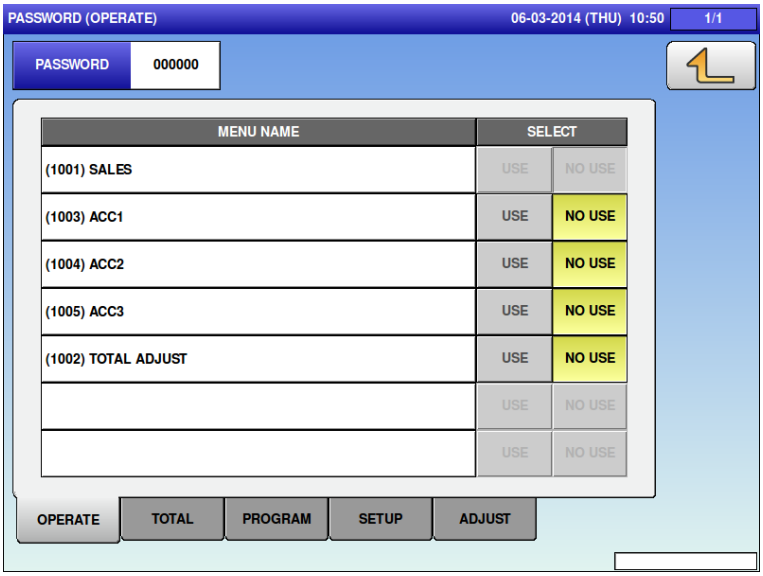
Menu name	Specification
CLOCK SYNC. WITH NTP SERVER	Select and set whether or not to use the clock synchronization.
SERVERNTP SERVER URL	Set the URL of NTP server. When this function is not in use, the option is grayed out. Press the button to open the Editor screen to edit.

5.2.7 Machine No. (Outside Printer)



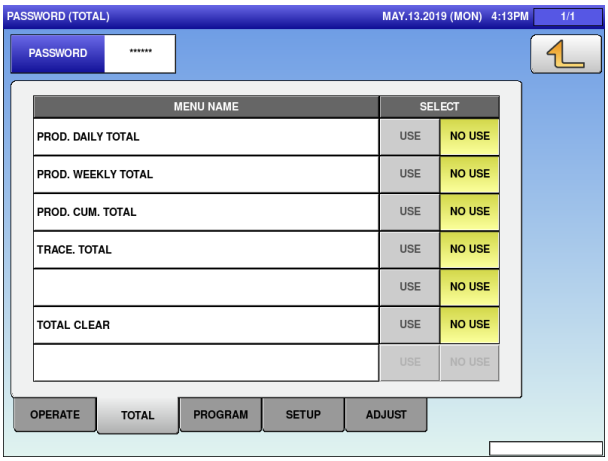
Menu name	Specification
CONNECT	Select and set the connection method for external printer. USB / LAN
IP ADDRESS	Set the IP address of the printer when the LAN connection is selected. When the USB is selected, this option is grayed out.

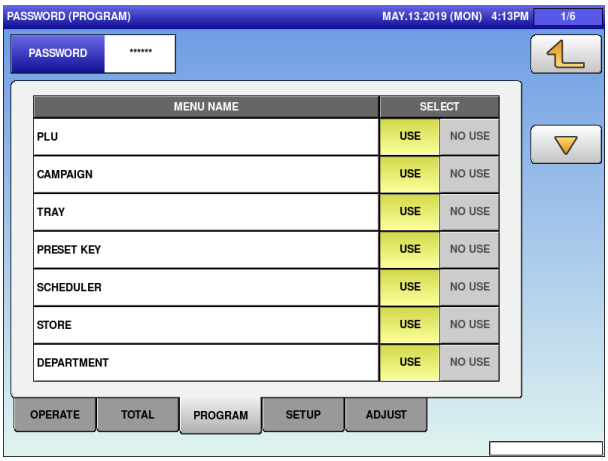
5.3 Password (Operate)

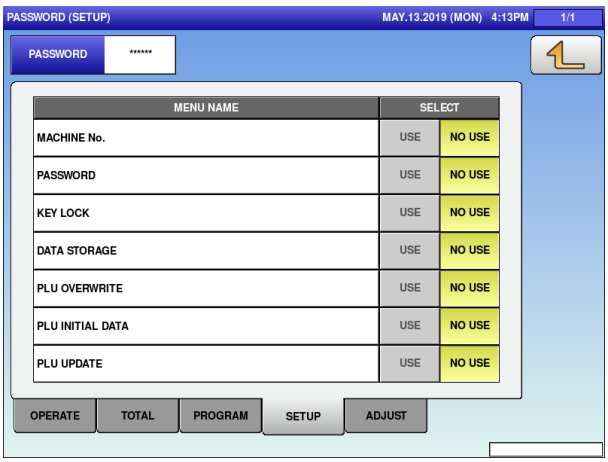


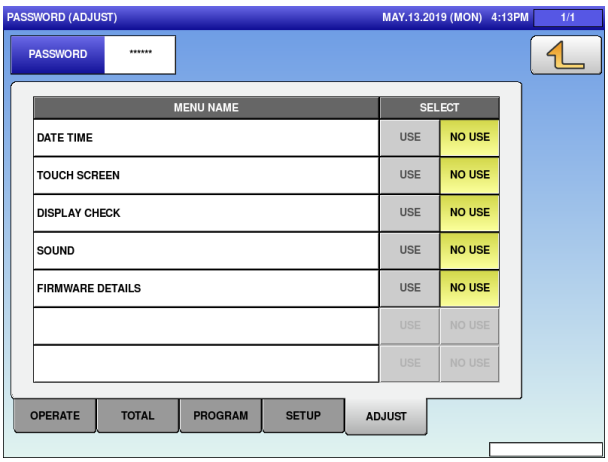
Menu name	Specification
PASSWORD	Set the password in six digits. Logging in by this password will release the menu operation prohibited status.
MENU NAME	Display the menu name. Both USE and NO USE for SALES are grayed out because SALES cannot be locked with the password.
SELECT	Select whether or not to lock with the password. USE: Locked NO USE: Not locked

(All tabs have the same operations so their explanations are omitted here.)



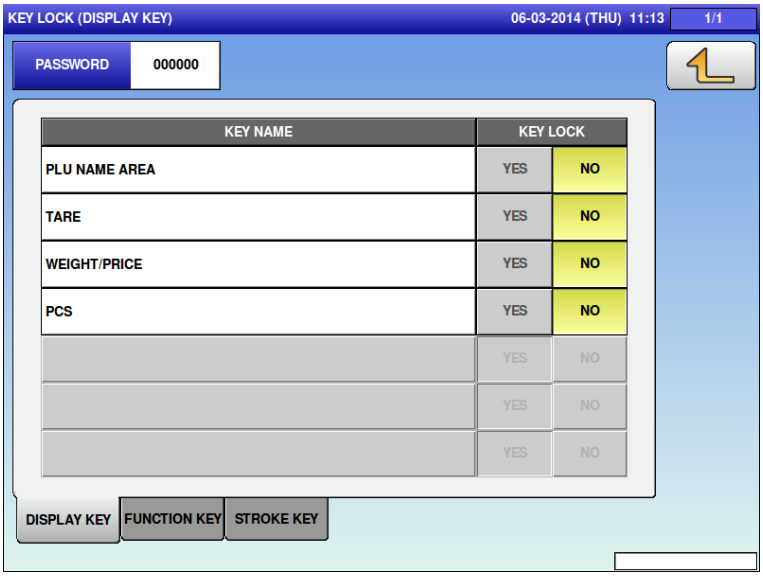



PASSWORD (SETUP)
MAY.13.2019 (MON) 4:13PM
1/1
PASSWORD
******
MENU NAME
SELECT
MACHINE No.
PASSWORD
KEY LOCK
DATA STORAGE
PLU OVERWRITE
PLU INITIAL DATA
PLU UPDATE
USE
NO USE
OPERATE
TOTAL
PROGRAM
SETUP
ADJUST


PASSWORD (ADJUST)
MAY.13.2019 (MON) 4:13PM
1/1
PASSWORD
******
MENU NAME
SELECT
DATE TIME
TOUCH SCREEN
DISPLAY CHECK
SOUND
FIRMWARE DETAILS
USE
NO USE
OPERATE
TOTAL
PROGRAM
SETUP
ADJUST

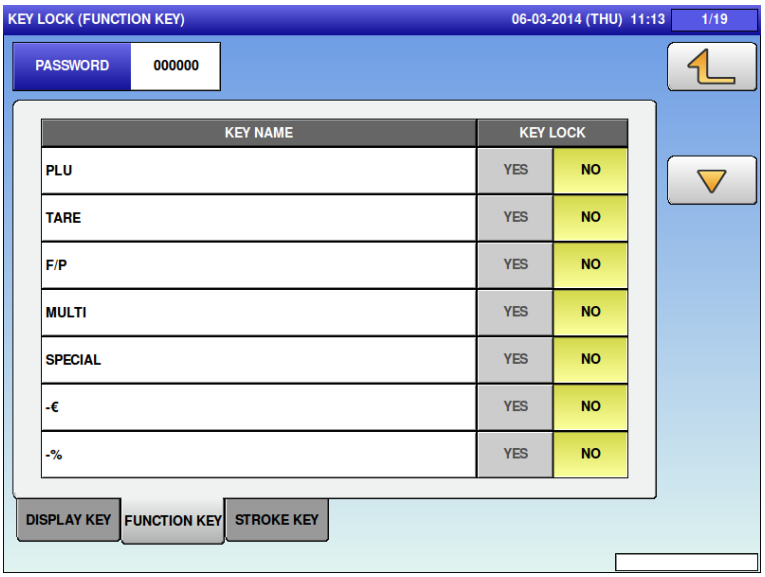
5.4 Key Locks

5.4.1 Key Lock (Display Key)



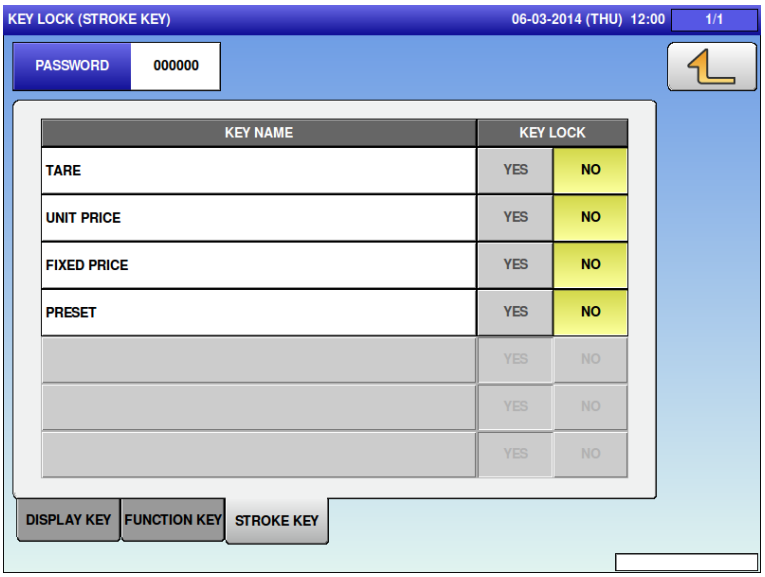
Menu name	Specification
PASSWORD	Set the password in six digits. Normally in the PRODUCTION screen, enter this password and press KEY LOCK FUNCTION to release the input prohibited status.
KEY NAME	Display the measurement menu on the normal mode screen.
KEY LOCK	Select whether or not to set a key lock. YES: The key lock is set. NO: The key lock is not set.

5.4.2 Key Lock (Function Key)



Menu name	Specification
PASSWORD	Set the password in six digits. Normally in the PRODUCTION screen, enter this password and press KEY LOCK FUNCTION to release the input prohibited status.
KEY NAME	Display the function key name.
KEY LOCK	Select whether or not to set a key lock. YES: The key lock is set. NO: The key lock is not set.

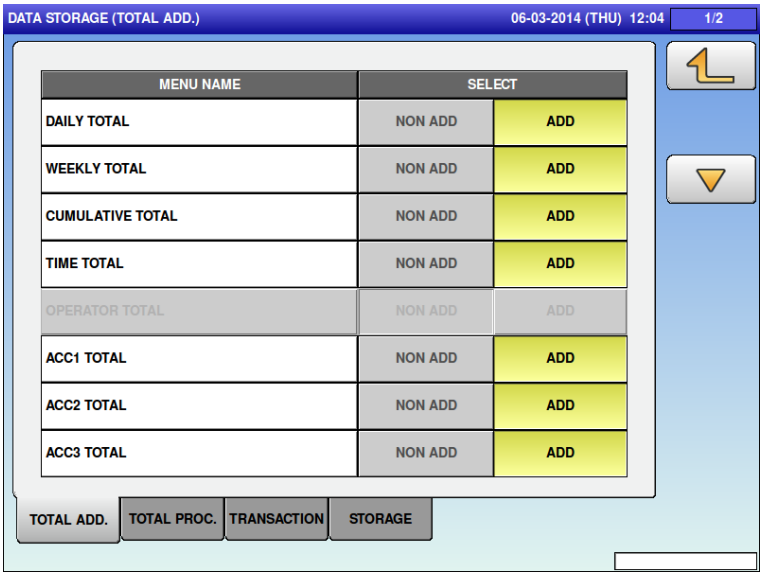
5.4.3 Key Lock (Stroke Key)



Menu name	Specification
PASSWORD	Set the password in six digits. Normally in the PRODUCTION screen, enter this password and press KEY LOCK FUNCTION to release the input prohibited status.
KEY NAME	Display the stroke key name.
KEY LOCK	Select whether or not to set a key lock. YES: The key lock is set. NO: The key lock is not set.

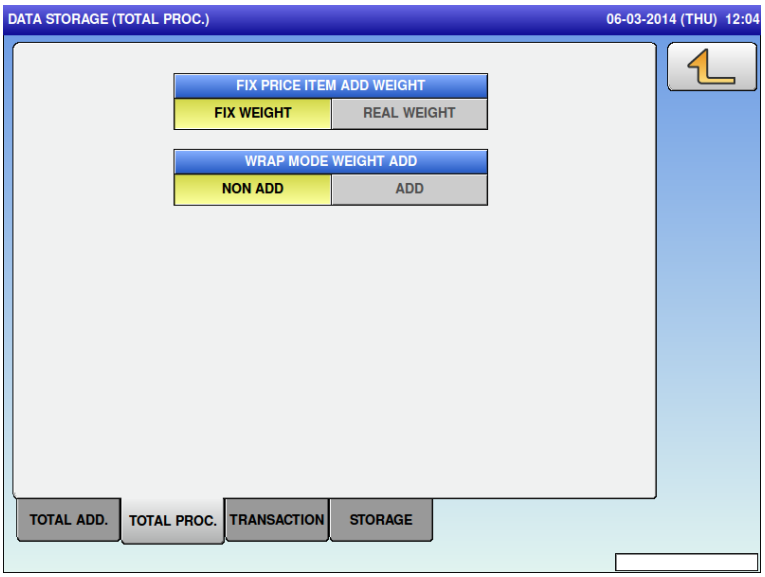
5.5 Data Storage

5.5.1 Data Storage (Total Add.)



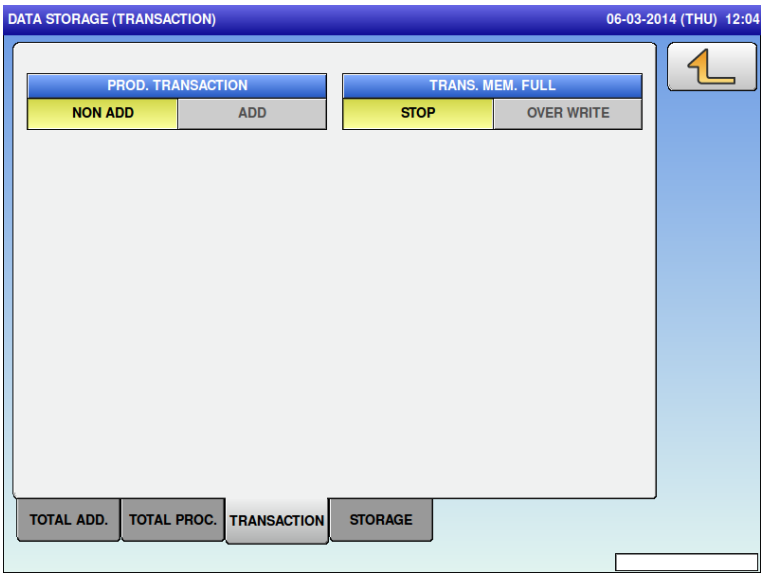
Menu name	Specification
MENU NAME	Display the menu name.
SELECT	Select whether or not to add. NON ADD / ADD
The TOTAL PROC. / TRANSACTION / STORAGE tabs are displayed only when you access above menus after logging in with the service password.	

5.5.2 Data Storage (Total Proc.)



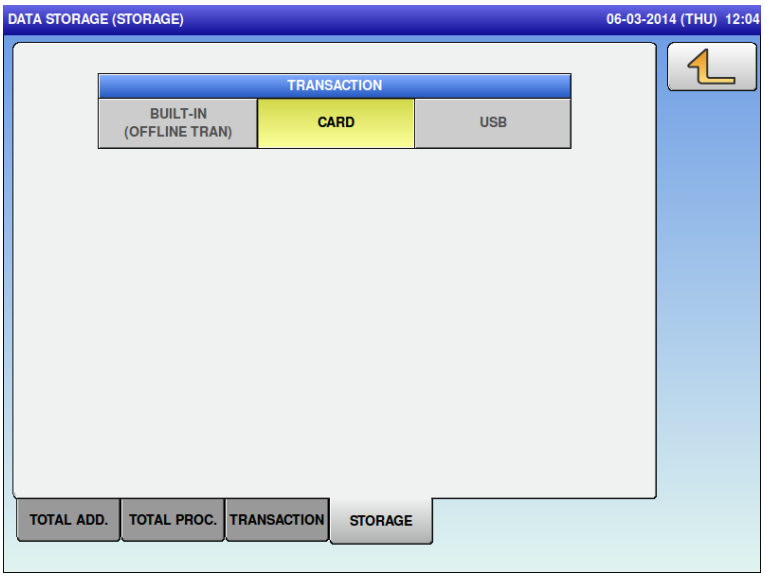
Menu name	Specification
FIX PRICE ITEM ADD WEIGHT	Select the addition weight of fixed-price items. FIX WEIGHT / REAL WEIGHT
WRAP MODE WEIGHT ADD	Select and set whether or not to perform Weight Add in the production in the WRAP mode.

5.5.3 Data Storage (Transaction)



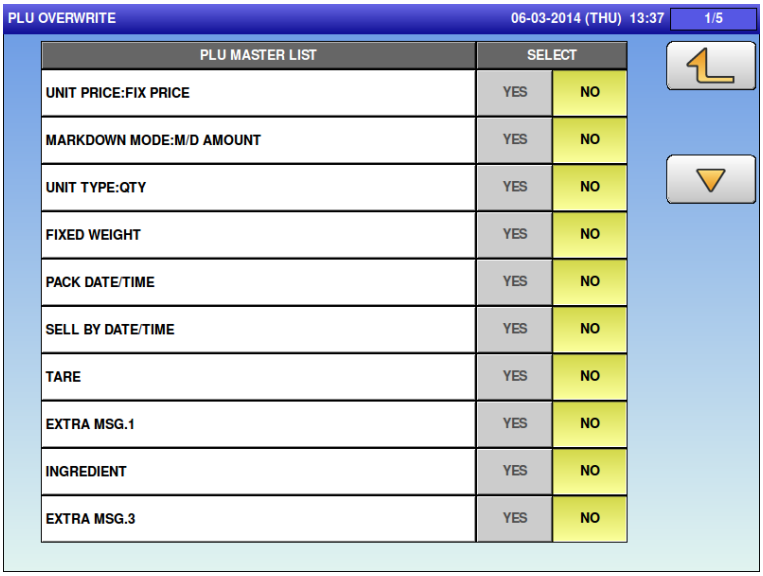
Menu name	Specification
PROD. TRANSACTION	Select whether or not to add the product transaction. NON ADD / ADD
TRANS. MEM. FULL	Select between stopping or overwriting the transaction addition at full memory condition. STOP / OVERWRITE

5.5.4 Data Storage (Storage)



Menu name	Specification
TRANSACTION	Select where to save the transaction. BUILT-IN / CARD / USB

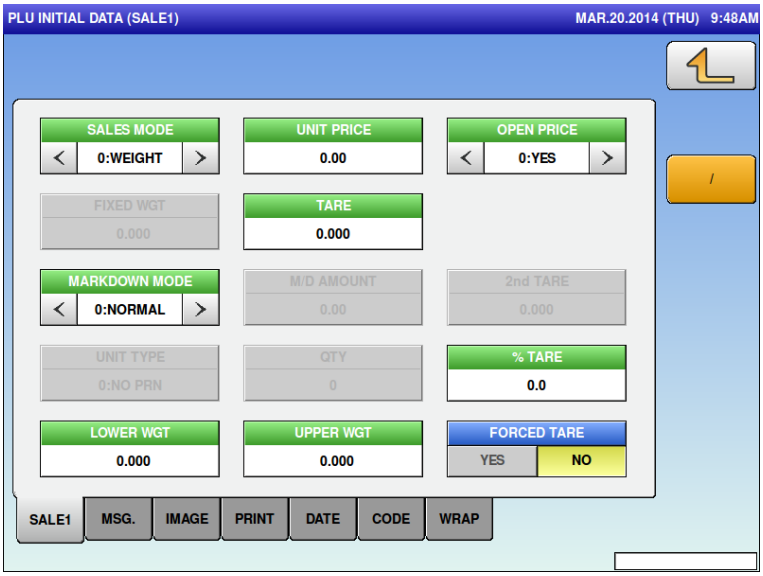
5.6 PLU Overwrite



Menu name	Specification
PLU MASTER LIST	Display the PLU master item.
SELECT	Select whether or not changes made by the operator automatically update the PLU master item. YES / NO

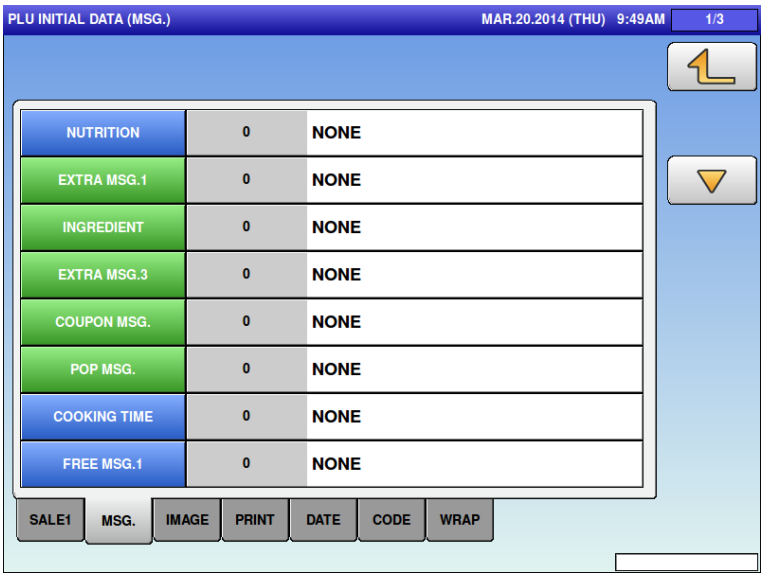
5.7 PLU Initial Data

5.7.1 PLU Initial Data (Sale1)



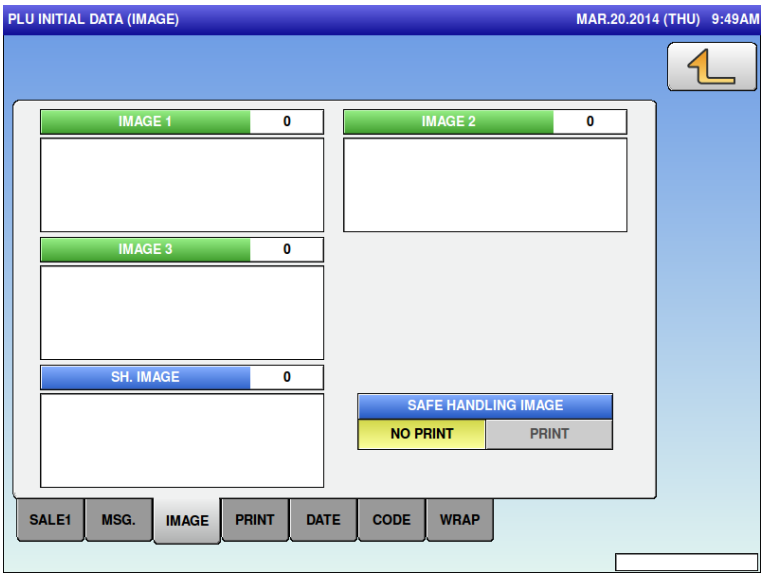
Menu name	Specification
/	Used to enter fractions. (Valid only when entering the fixed No. of items.) Other tabs also have the same function.
(Each item)	Set the initial value to newly create the PLU master.

5.7.2 PLU Initial Data (Msg.)



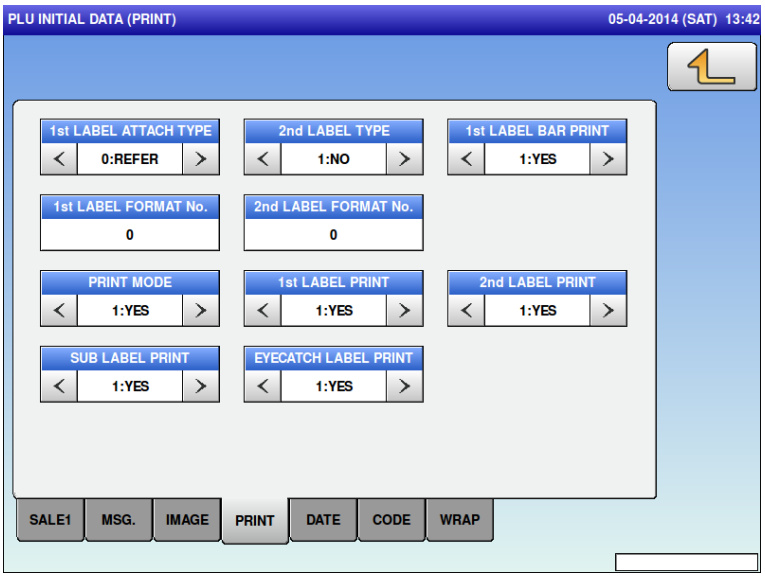
Menu name	Specification
(Each item)	Set the initial value to newly create the PLU master.

5.7.3 PLU Initial Data (Image)



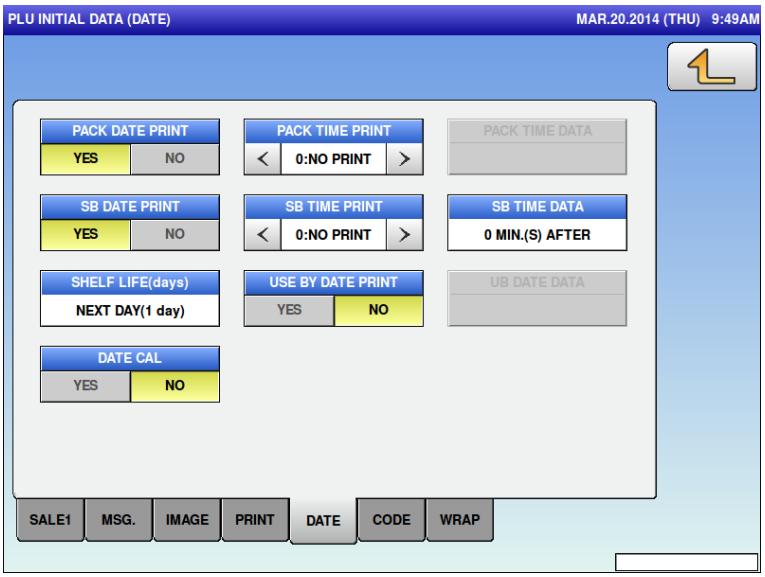
Menu name	Specification
(Each item)	Set the initial value to newly create the PLU master. Pressing an image number item displays the image list.

5.7.4 PLU Initial Data (Print)



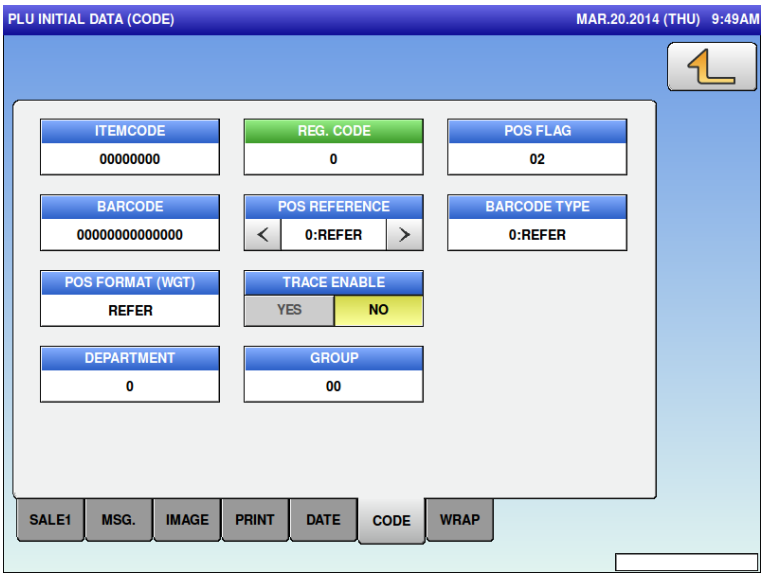
Menu name	Specification
(Each item)	Set the initial value to newly create the PLU master.

5.7.5 PLU Initial Data (Date)



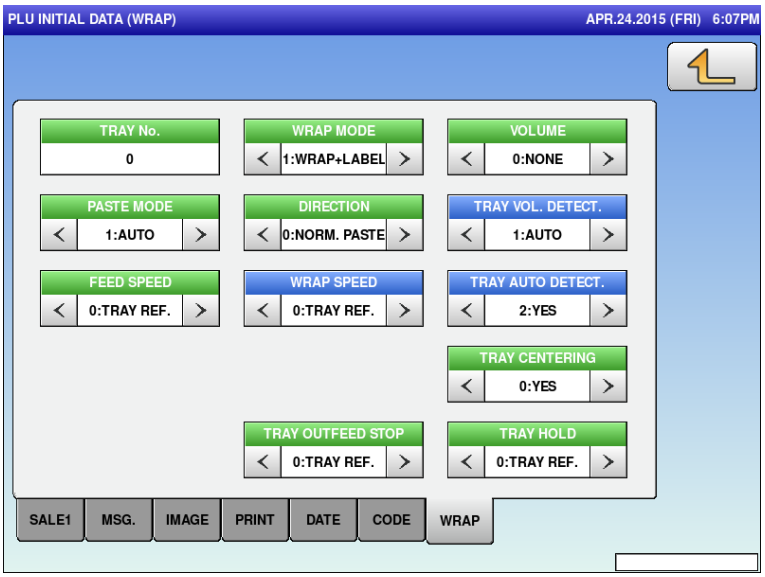
Menu name	Specification
(Each item)	Set the initial value to newly create the PLU master.

5.7.6 PLU Initial Data (Code)



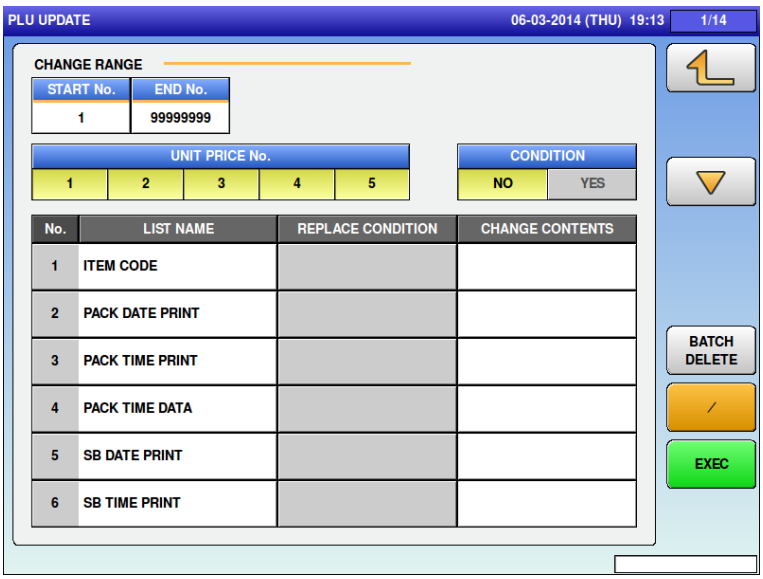
Menu name	Specification
(Each item)	Set the initial value to newly create the PLU master.

5.7.7 PLU Initial Data (Wrap)



Menu name	Specification
(Each item)	Set the initial value to newly create the PLU master.

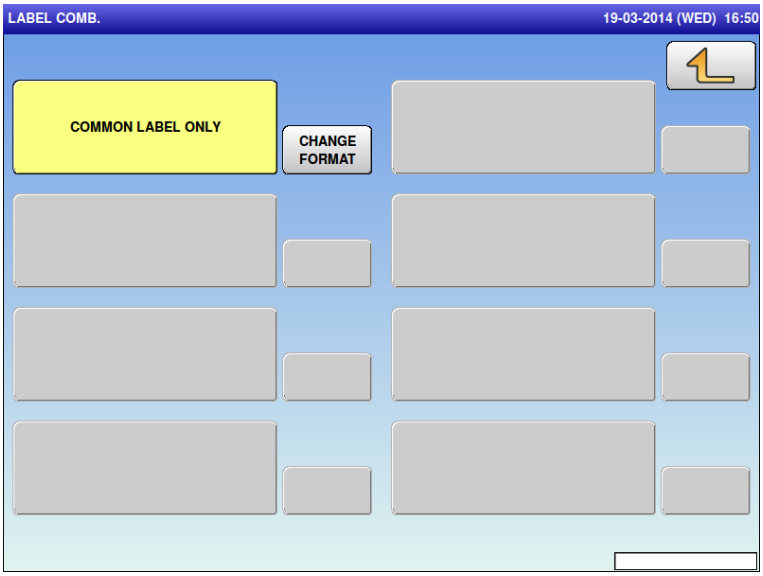
5.8 PLU Update



Menu name	Specification
START No.	Set the start No. of the batch change range. Input range: 1 to 99999999
END No.	Set the end No. of the batch change range. Input range: 1 to 99999999
UNIT PRICE No.	Set the unit price No. for the batch change. Touch the button to change the selection.
CONDITION	Select whether or not to specify the replacement condition for the batch change. NO / YES
LIST NAME	Display the item for the batch change. Touch the button to change the selection.
REPLACE CONDITION	Specify the replacement condition. This function is enabled when [YES] is selected in [CONDITION].
CHANGE CONTENTS	Specify the replacement contents.
BATCH DELETE	Cancel all selections.
EXEC	Execute the batch change. The ALL REUPDATE CHECK dialog appears to ask whether to execute the batch change.

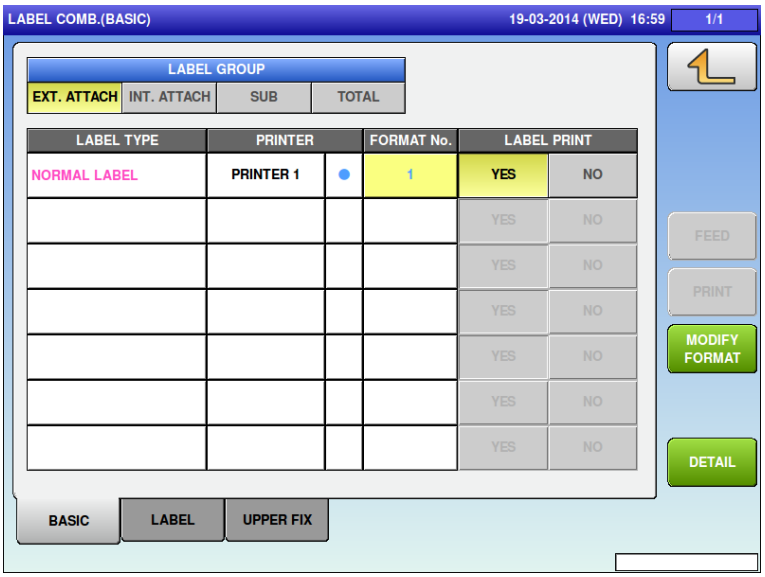
5.9 Label Combination

5.9.1 Label Comb



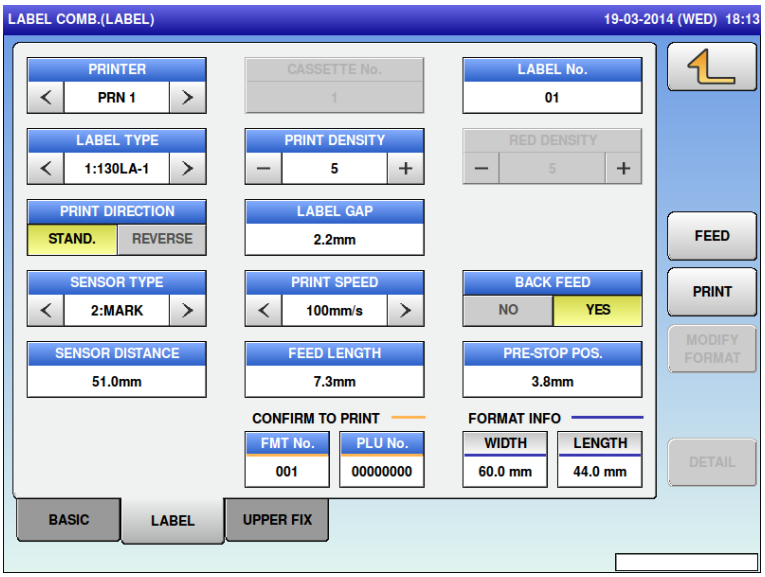
Menu name	Specification
CHANGE FORMAT	Open the LABEL COMB. (BASIC) screen.
COMMON LABEL ONLY	Set the print pattern to [COMMON LABEL ONLY].

5.9.2 Label Comb. (Basic)



Menu name	Specification
LABEL GROUP	Select the label group to display in the list.
LABEL TYPE	Select the label type.
PRINTER	Display the printer to print the label type displayed in the left. Pressing this button sets to the feed format of the printer.
FORMAT No.	Display the format used to print the label type displayed in the left. Input range: 1 to 999
LABEL PRINT	Set whether to print the label when the print condition is satisfied.
MODIFY FORMAT	Move to the FORMAT EDIT screen to edit the selected format.
DETAIL	Move to the LABEL COMB. /DETAIL screen.

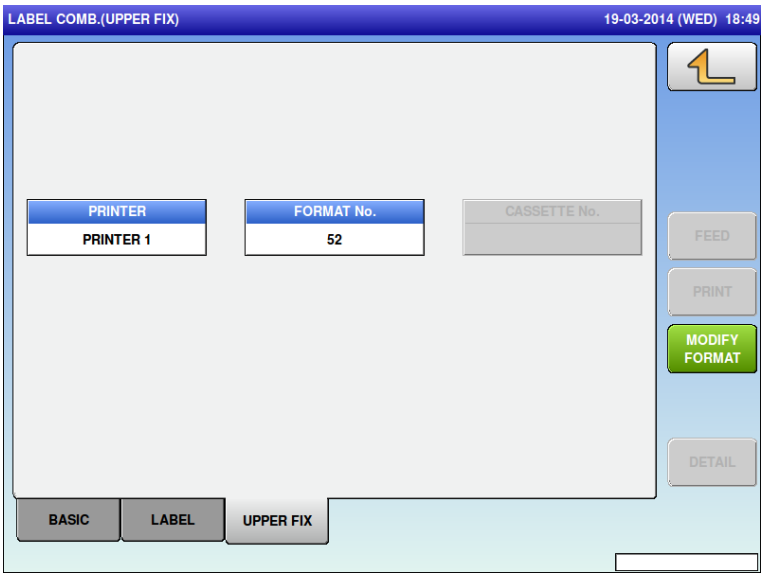
5.9.3 Label Comb. (Label)



Menu name	Specification
PRINTER	Select or set the printer by entering the number. Only the printer connected can be set.
LABEL No.	Set the label master No. Input range: 1 to 99 If there is no set master, the [LABEL SETTING MASTER IS NOT PROGRAMMED] dialog appears to ask whether to create a new master.
LABEL TYPE	Select the label type. 0: RECEIPT / 1: 130LA-1 / 3: 150LA-1
PRINT DENSITY	Set the print density. Input range: 0 to 9
PRINT DIRECTION	Set the print direction. STAND. / REVERSE
LABEL GAP	Set the label gap. Input range: 0 to 99.9
SENSOR TYPE	Set the sensor type. 0: NO USE / 1: LABEL / 2: MARK
PRINT SPEED	Set the print speed. Input range: 60 to 130
BACK FEED	Select whether or not to set the back feed. NO/YES
SENSOR DISTANCE	Set the label sensor distance. Input range: 0 to 99.9
FEED LENGTH	Set the feed length. Input range: 0 to 99.9
PRE-STOP POS.	When printing the second line, feeding of the printed label is stopped and resumed again immediately when the pasting machine absorbs the label. This option sets the label feeding distance to the position from the edge of head front at the temporal stop of the label feeding. Input range: 0 to 99.9

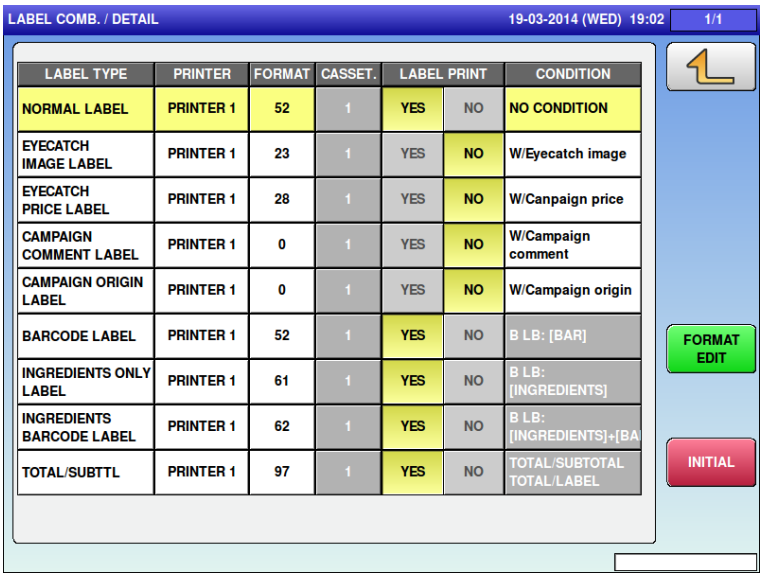
Menu name	Specification
(CONFIRM TO PRINT) FMT No.	Set the test print label format. Input range: 1 to 999
(CONFIRM TO PRINT) PLU No.	Set PLU No. to use for test printing. Input range: 00000000 to 99999999
(FORMAT INFO) WIDTH	Display the format width for the test print.
(FORMAT INFO) LENGTH	Display the format length for the test print.
CASSETTE No.	Display the cassette No. Only for display

5.9.4 Label Comb. (Upper Fix)



Menu name	Specification
PRINTER	When the paste type is set to FIXED, display the printer to print the label. Move to the PRINTER SELECT screen.
FORMAT No.	When the paste type is set to FIXED, set the format to be used in the label printing. Input range: 1 to 999
CASETTE No.	When the paste type is set to FIXED, set the cassette to use for label printing. Only printers including cassettes can be set.
MODIFY FORMAT	Move to the FORMAT EDIT screen to edit the selected format.

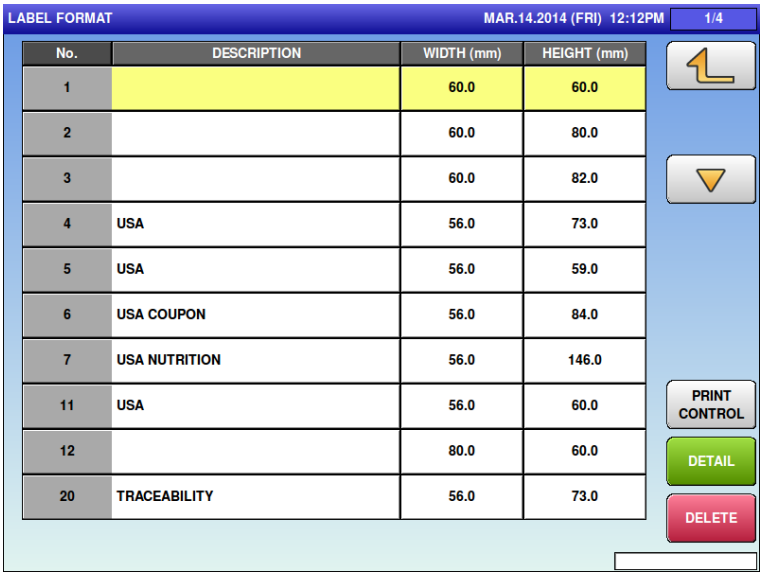
5.9.5 Label Comb. / Detail



Menu name	Specification
PRINTER	Display the printer for label printing. Move to the PRINTER SELECT screen.
FORMAT	Set the format to be used in the label printing. Input range: 1 to 999
CASSET.	Display the cassette No. to be used in the label printing.
LABEL PRINT	Set whether or not to perform label printing when the label printing conditions are satisfied.
CONDITION	Move to the PRINT CONDITION SELECT screen (When the label group is “reversely pasted label, total label”, the print condition cannot be changed.)
FORMAT EDIT	To edit the selected format, move to the FORMAT EDIT screen.
INITIAL	Initialize the printing pattern.

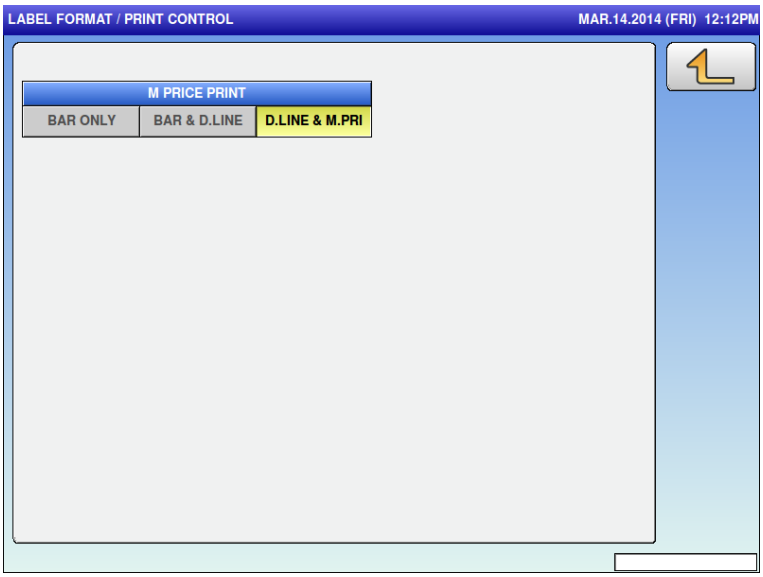
5.10 Label Format

5.10.1 Label Format



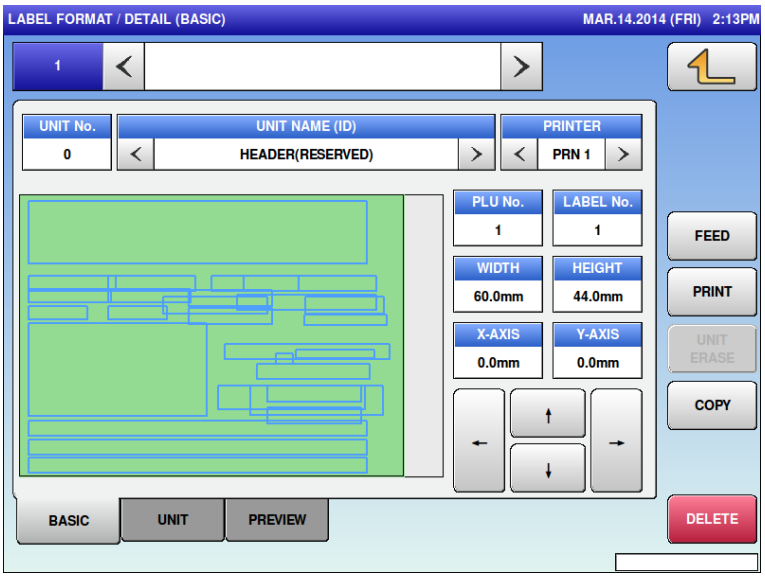
Menu name	Specification
PRINT CONTROL	Open the PRINT CONTROL screen.
DETAIL	Move to the LABEL FORMAT/DETAIL (BASIC) screen.
DELETE	Return the selected format to the default status.
No.	Display the format No.
DESCRIPTION	Display the format title.
WIDTH	Set the format width. Input range: 0 to 800
HEIGHT	Set the format height. Input range: 0 to 2000

5.10.2 Label Format / Print Control



Menu name	Specification
M PRICE PRINT	Select the M price print. BAR ONLY / BAR & D. LINE / D. LINE & M.PRI

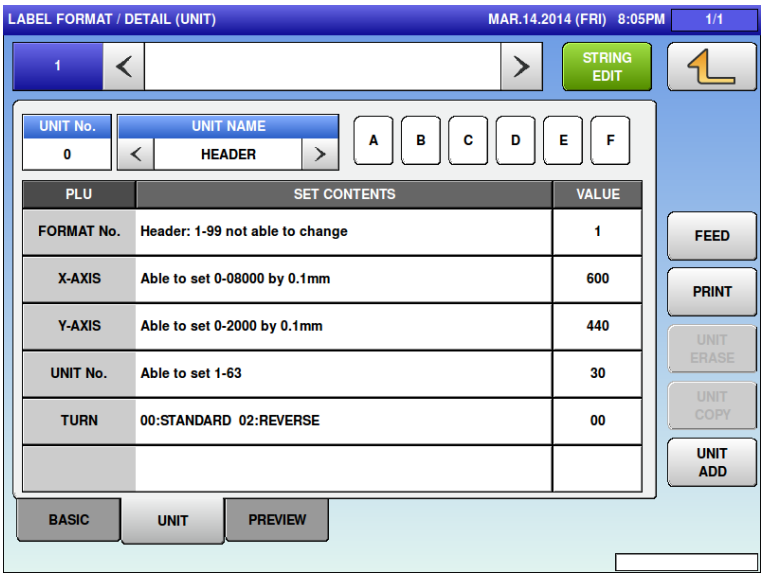
5.10.3 Label Format / Detail (Basic)



Menu name	Specification
FORMAT NAME	Touch the button to open the format name edit screen. Touch "<" and ">" located at both sides of the box to select the next (or previous) format master.
UNIT No.	Display the unit No. Touch the button to open the unit list set for the current format. The UNIT tab also has the same function.
UNIT NAME(ID)	Display the selected unit name. If nothing is selected, [HEADER] is selected.
PRINTER	Select the printer No.
PLU No.	Set the PLU No. to be used for the test print and preview. Input range: 1 to 99999999 For 0, print the checker label.
LABEL No.	Specify the label No. Input range: 1 to 99
WIDTH	Set the format width. Input range: 0 to 800
HEIGHT	Set the format height. Input range: 0 to 2000
X-AXIS	Display the X axis of selected unit. The axis is moved right to left by entering the numerical number.
Y-AXIS	Display the Y axis of selected unit. The axis is moved up or down by entering the numerical number.
FEED	Feed the label.
PRINT	Perform test printing by the format called and the item information set by PLU No.
UNIT ERASE	Delete the selected unit.
COPY	Enter the number of the format to be copied and press COPY to copy it to the current format.

Menu name	Specification
DELETE	Delete the format master. The dialog appears to ask whether to delete the format master.
←↑→↓	Move the axis of selected unit. If the HEADER is selected, the axis of whole format is moved.

5.10.4 Label Format / Detail (Unit)



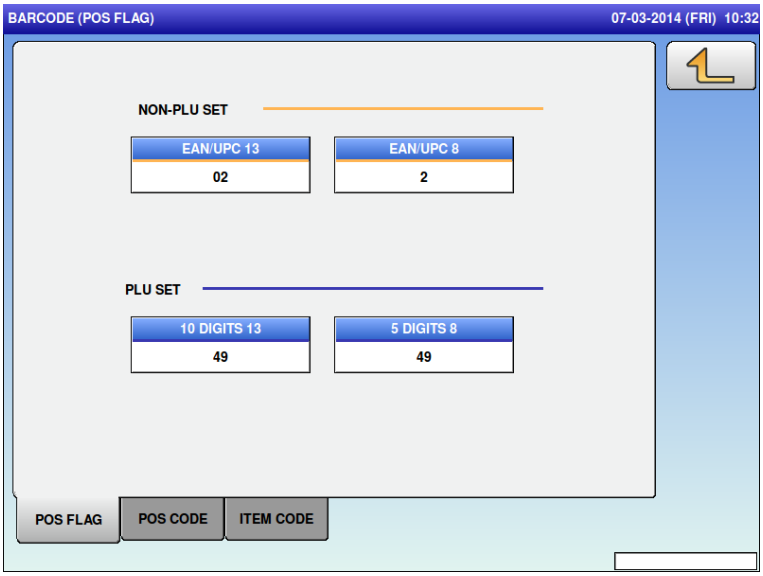
Menu name	Specification
FORMAT NAME	Touch the button to open the format name edit screen. Touch "<" and ">" located at both sides of the box to select the next (or previous) format master.
STRING EDIT	Open the format string edit screen. Up to 526 bytes
UNIT No.	Display the unit No. Touch the button to open the unit list set for the current format. The UNIT tab also has the same function.
UNIT NAME(ID)	Display the selected unit name. If nothing is selected, "HEADER" is selected.
ABCDEF	Enter the alphabetical character. For hexadecimal entry.
PLU	Display the name of set item.
SET CONTENTS	Display the set contents.
VALUE	Enter the value for set contents.
FEED	Feed the label.
PRINT	Perform test printing by the format called and the item information set by PLU No.
UNIT ERASE	Delete the selected unit.
UNIT COPY	Enter the number of the unit to be copied and press COPY to copy it to the current unit.
UNIT ADD	Add the unit. The header unit also increases by one at the same time.

5.10.5 Label Format / Detail (Preview)

Menu name	Specification
DETAILED IMAGE /WHOLE IMAGE	Select the whole image or detailed image.
FEED	Feed the label.
PRINT	Perform test printing by the format called and the item information set by PLU No.
NORMAL	Set the label type to display. NORMAL / BARCODE / INGREDIENT / INGR. +BAR / SUBTOTAL / TOTAL
←↑→↓	Move the image. This function is enabled only for the detailed image.

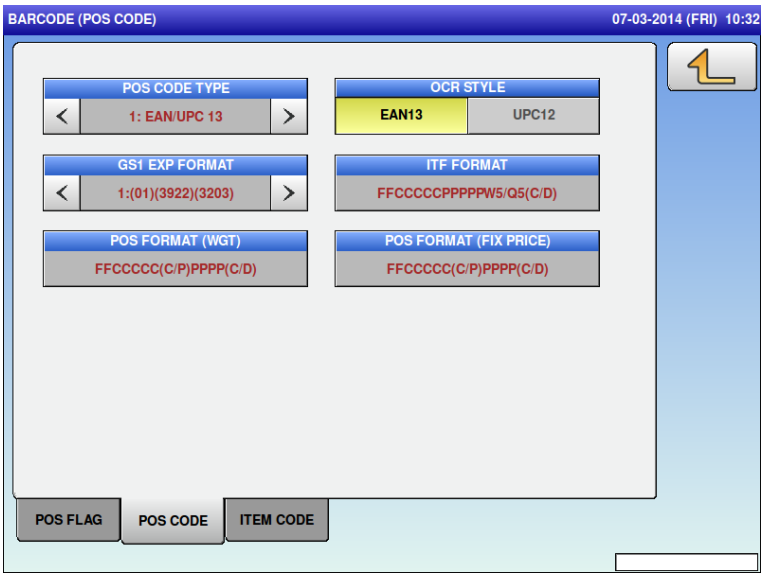
5.11 Barcodes

5.11.1 Barcode (POS Flag)



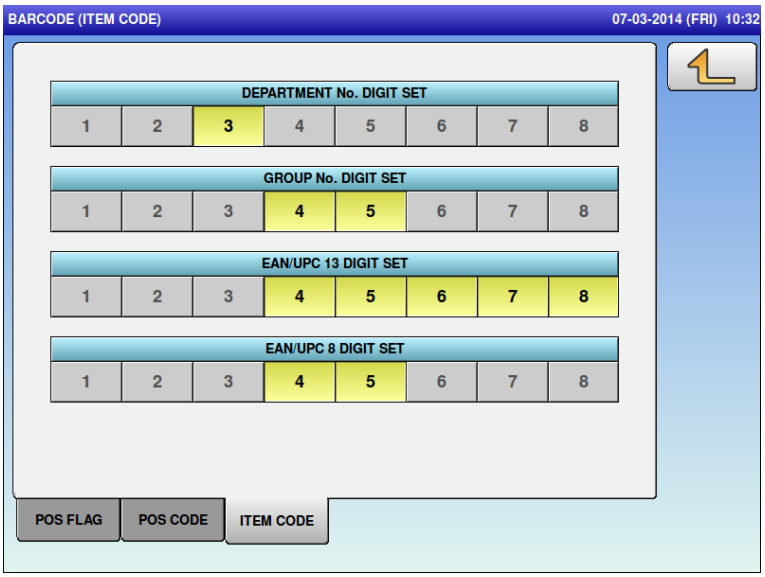
Menu name	Specification
EAN/UPC 13	Set the NON-PLU 13 digits. Input range: 00 to 99
EAN/UPC 8	Set the NON-PLU 8 digits. Input range: 0 to 9
10 DIGITS 13	Set the PLU 13 digits. Input range: 00 to 99
5 DIGITS 8	Set the PLU 8 digits. Input range: 00 to 99

5.11.2 Barcode (POS Code)



Menu name	Specification
POS CODE TYPE	Select the POS code type. 1: EAN/UPC13 2: EAN/UPC 8/3:10 DIGITS 13/4:5DIGITS 8/5:GS1 6:GS1 ST/7:GS1 STO/8:GS1 LIMITED/9:GS1 EXPANDED/10: ITF
OCR	Select the OCR style. EAN13 / UPC12
GS1 EXP FORMAT	Select the GS1 EXP format. 1:(01) (3922) (3203) / 2:(01) (3922) (3203) (15)
ITF FORMAT	Set the format when POS CODE TYPE is [ITF].
POS FORMAT(WGT)	Select the POS format (weight). Touch the button to open the POS FORMAT list. Select the format from the list.
POS FORMAT (FIX PRICE)	Select the POS format (fix price). Touch the button to open the POS FORMAT list. Select the format from the list.

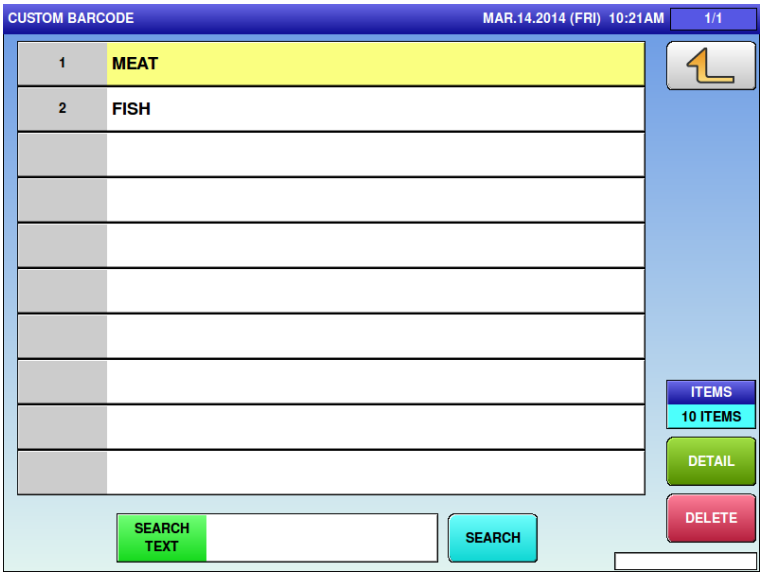
5.11.3 Barcode (Item Code)

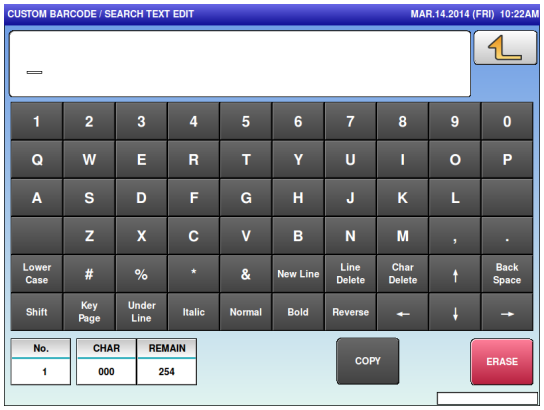


Menu name	Specification
DEPARTMENT No. DIGIT SET	Execute the digit set of department No. Press the numerical number to switch the selection. Press the numerical number in series. (e.g. The combination of "1" and "3" cannot be selected. The combination of "1", "2" and "3" can be selected.)
GROUP No. DIGIT SET	Execute the digit set of group No. Press the numerical number to switch the selection. Press the numerical number in series. (e.g. The combination of "1" and "3" cannot be selected. The combination of "1", "2" and "3" can be selected.)
EAN/UPC 13 DIGIT SET	Execute the digit set of JAN code (13 digits). Press the numerical number to switch the selection. Press the numerical number in series. (e.g. The combination of "1" and "3" cannot be selected. The combination of "1", "2" and "3" can be selected.)
EAN/UPC 8 DIGIT SET	Execute the digit set of JAN code (8 digits). Press the numerical number to switch the selection. Press the numerical number in series. (e.g. The combination of "1" and "3" cannot be selected. The combination of "1", "2" and "3" can be selected.)

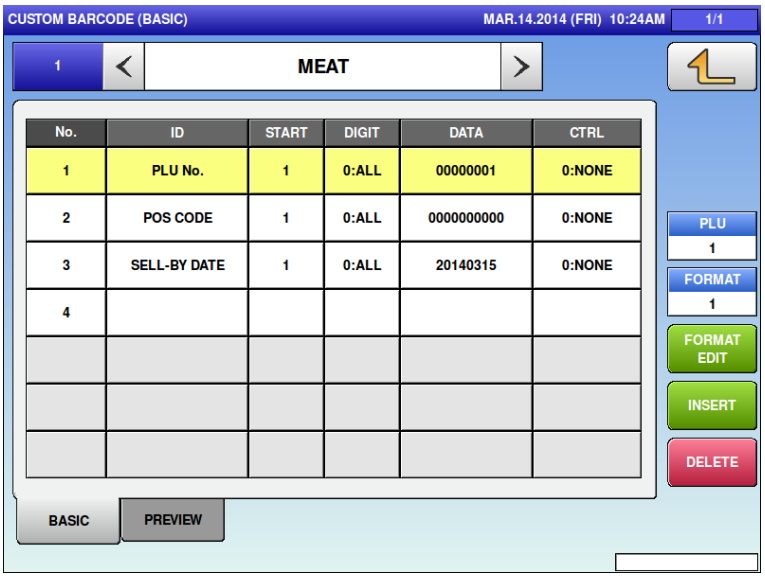
5.12 Custom Barcodes

5.12.1 Custom Barcode



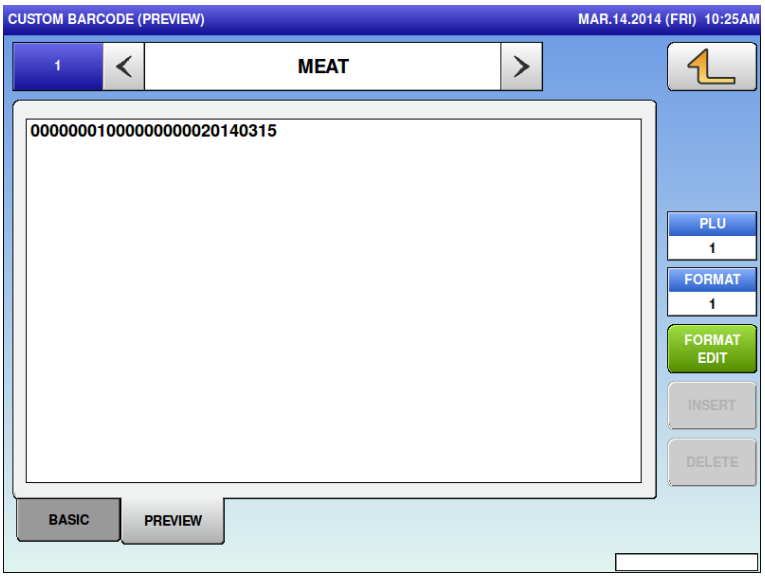
Menu name	Specification
ITEMS	Switch the display items between "10 items" and "20 items".
DETAIL	Move to the CUSTOM BARCODE (BASIC) screen, and display the details of custom bar code in selection.
DELETE	Delete the selected line.
SEARCH TEXT	Move to the CUSTOM BARCODE / SEARCH TEXT EDIT screen. 
SEARCH	Switch the search condition between [SEARCH] and [CANCEL]. SEARCH: Display data including [SEARCH TEXT] in a list. CANCEL: Display all the data in a list.

5.12.2 Custom Barcode (Basic)



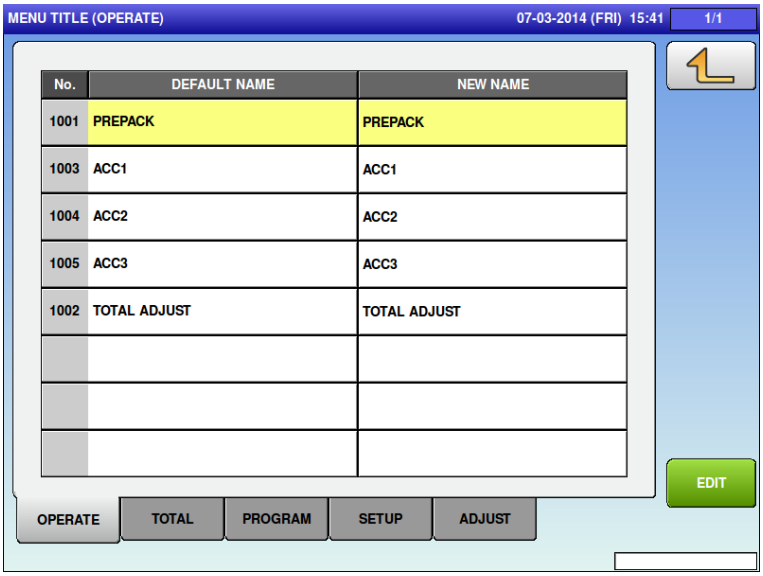
Menu name	Specification
PLU	Set the item No. to be used for the preview. Input range: 1 to 99999999 Other tabs also have the same function.
FORMAT	Input range: 1 to 999 Other tabs also have the same function.
FORMAT EDIT	Open the format edit screen. Other tabs also have the same function.
INSERT	Insert the blank line in front of selected line.
DELETE	Delete the selected line.
No.	Touch the button to switch the selection.
ID	Set the ID to be added to the custom barcode. Touch the button to open the CUSTOM BARCODE ID LIST. Select the ID from the list.
START	Set the start digit. Input range: 1 to 999
DIGIT	Set the digit number. 0: ALL or 1 to 999
DATA	Display the set ID data. Touch the button to open the edit screen only when the ID is set to PRE PRINT.
CTRL	Select the control character. 0: NONE 1: ()

5.12.3 Custom Barcode (Preview)



Menu name	Specification
The combined-barcode preview is displayed only.	

5.13 Menu Title (Operate)

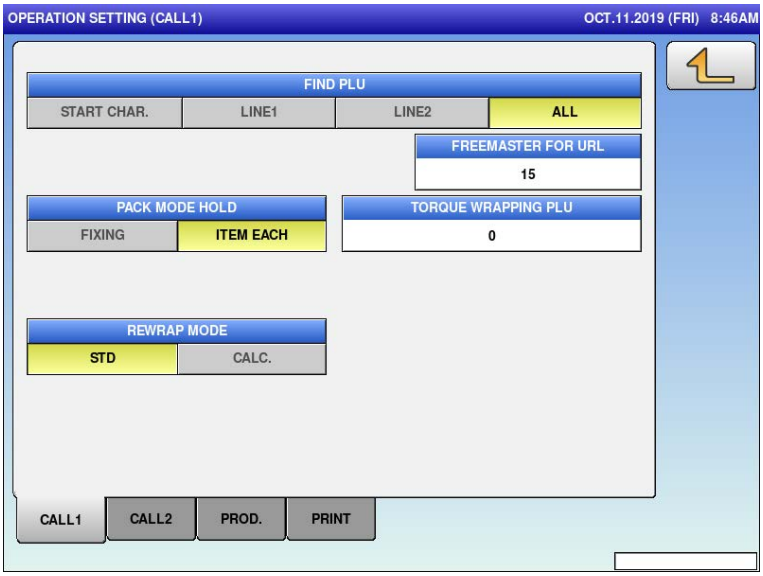


Menu name	Specification
DEFAULT NAME	Display the menu name before editing. Touch the button to select the menu name.
NEW NAME	Display the menu name after editing. Touch the button to select the menu name.
EDIT	Transfer to the edit screen of the selected menu name.

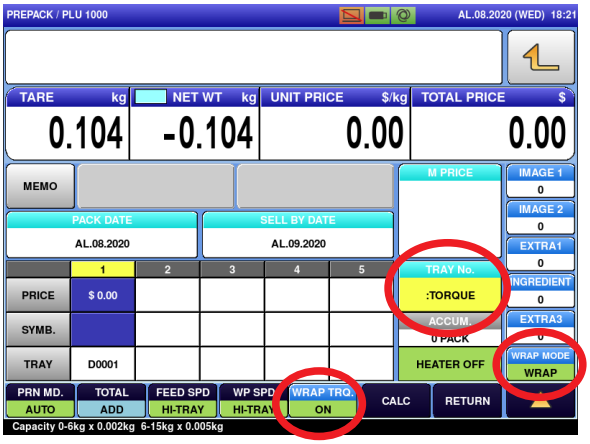
(All tabs have the same operations so their explanations are omitted here.)

5.14 Operation Settings

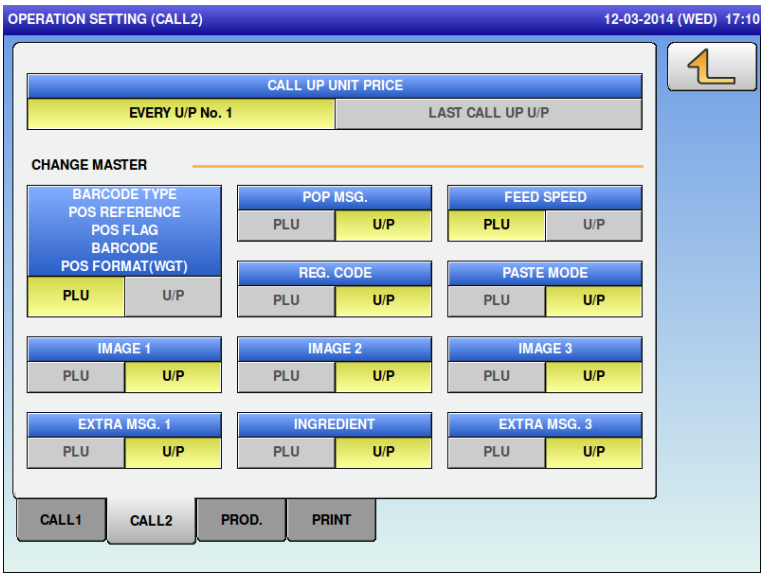
5.14.1 Operation Setting (Call1)



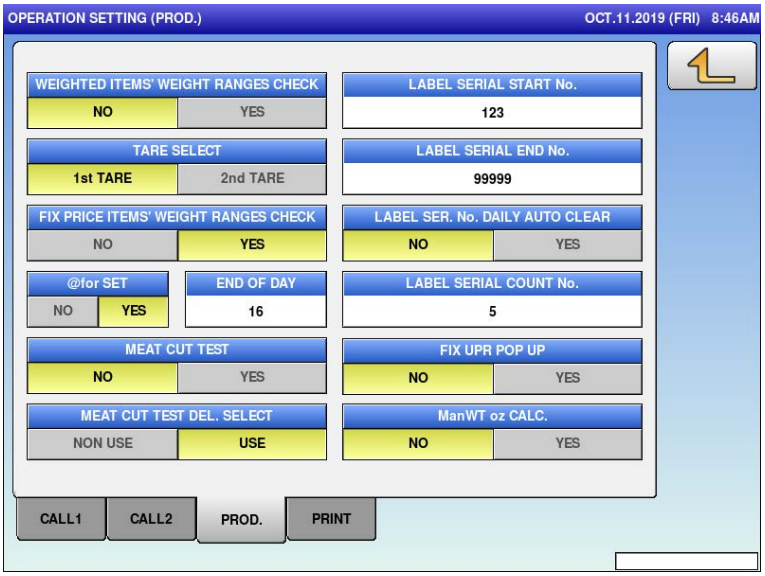
Menu name	Specification
FIND PLU	Select how to search PLU. START CHAR. / LINE1 / LINE2 / ALL
FREEMASTER FOR URL	Set the freemaster No. to use in the URL. Input range: 0 to 15
PACK MODE HOLD	Select the PACK mode between “fixed to scale” or “set by item”. FIXING / ITEM EACH
TORQUE WRAPPING PLU	See next page
REWRAP MODE	Set the available rewrap modes and operation. STD: select TODAY --> REWRAP --> ACCRUUED --> TODAY CALC.: - Select TODAY --> REWRAP --> TODAY - The selection can only be made when no PLU is called.

Menu name	Specification
TORQUE WRAPPING PLU	Specify the product number for torque wrapping. Input range: 0 to 99999999 When the number specified in production mode is called, the wrapping operation starts and the torque wrapping is automatically set.  When the torque wrapping is executed, the camera recognizes lengths of the short side and long side, and the upper or lower film is selected for the dual-film type. At the time of wrapping, the squeezing degree of the right/left wrapping plates and the rear wrapping plate are determined by the DC brushless torque (current). Priority is given to not breaking the tray, so if the wrapping becomes too strong, wrapping will stop temporarily and the squeezing operation is executed again. Some trays may have some wrinkles. **Note:** When the call number for which a tray is registered is specified for torque wrapping, the number is set as torque wrapping, and therefore only wrapping can be performed but the labeling cannot be performed.

5.14.2 Operation Setting (Call2)

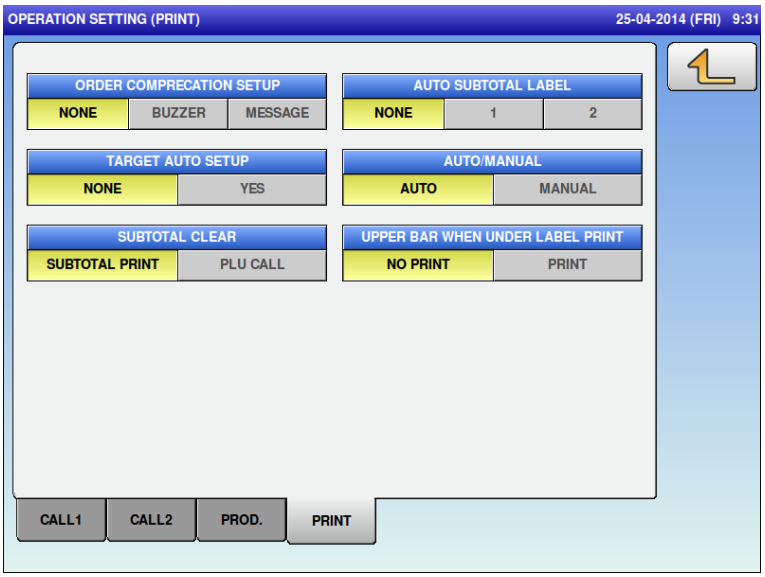


Menu name	Specification
CALL UP UNIT PRICE	Select and set the unit price to be set in the PLU calling. EVERY U/P No.1: 1 is selected for the unit price. LAST CALL UP U/P: the unit No. used latest is selected.
CHANGE MASTER	Select and set the method to be used for each item. PLU: Data permanently set to unit 1 is used. U/P: Data set for each unit is used.



Menu name	Specification
WEIGHED ITEMS WEIGHT RANGES CHECK	Select whether or not to check the weight of weighed items. NO / YES
LABEL SERIAL START No.	Set the beginning serial number. Default is 1.
TARE SELECT	Select the tare. 1st TARE / 2nd Tare
LABEL SERIAL END No.	Set the ending serial number. When this number is reached the serial numbers restart at the LABEL SERIAL START No. Default is 99999.
LABEL SER. No. DAILY AUTO CLEAR	Select to restart the serial numbers from the LABEL SERIAL START No. each day or continue with the numbering the next day. NO - Hold the serial number even if the machine is powered off (default). YES - Reset to the Start number once a day after the wrapper is powered off.
FIX PRICE ITEMS' WEIGHT RANGES CHECK	Select whether or not to check the weight of fixed-price product. NO / YES
@for SET	Select and set whether to perform @for calculation (for the fixed price item using “× (MULTI)” key). *Settable only when the country is set to [USA] NO / YES
END OF DAY	Set the time valid for the next day process set for PLU. Input range: 0 to 23
LABEL SERIAL COUNT No.	Set the serial number increment value. Default is 1.
MEAT CUT TEST	Select and set whether to use the Meat Cut Weight Control mode. NO / YES
FIX UPR POP UP	In calling the fixed price item, select and set whether to display the popup display for fixed weight setting. NO / YES
MEAT CUT TEST DEL. SELECT	Select and set whether to use the DELETE button in the Meat Cut Master Setting screen. NON USE / USE
ManWT oz CALC.	Determine fixed weight calculation when the number of pieces changes. NO - Treat the fixed weight as one piece regardless of the quantity programmed in the PLU (default). YES - If the PLU is programmed with more than one piece, divide the weight by the pieces to determine the one piece weight. Then multiply the calculated weight up or down based on the quantity entered in operation mode.

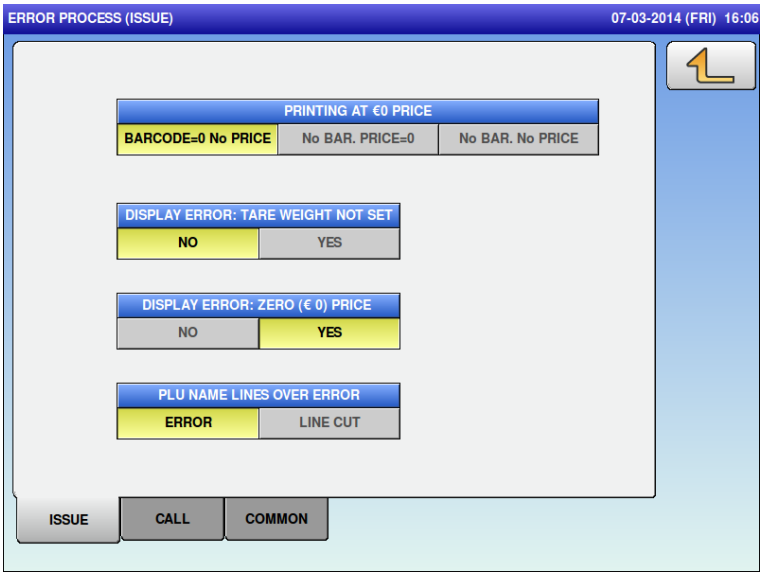
5.14.4 Operation Setting (Print.)



Menu name	Specification
ORDER COMPRECATION SETUP	Select and set the operation when the order is completed. NONE / BUZZER / MESSAGE
AUTO SUBTOTAL LABEL	Select printing of the automatic subtotal label. NONE: Printing is not performed. 1: 1 sheet of subtotal label is printed. 2: 2 sheets of subtotal label are printed. Settable only when the order completion operation selects [MESSAGE].
TARGET AUTO SETUP	Selecting YES sets the same target No. when the target No. setting is completed.
SUBTOTAL CLEAR	Select and set the clear timing of the subtotal data. SUBTOTAL PRINT: Cleared when the subtotal is printed PLU CALL: Cleared when the item is called
AUTO/MANUAL	Select and set the initial value of [PRN MD.] when the screen is moved to OPERATE MODE.
UPPER BAR WHEN UNDER LABEL PRINT	Select and select whether to print the barcode of the 1st LABEL when the 2nd LABEL is printed.

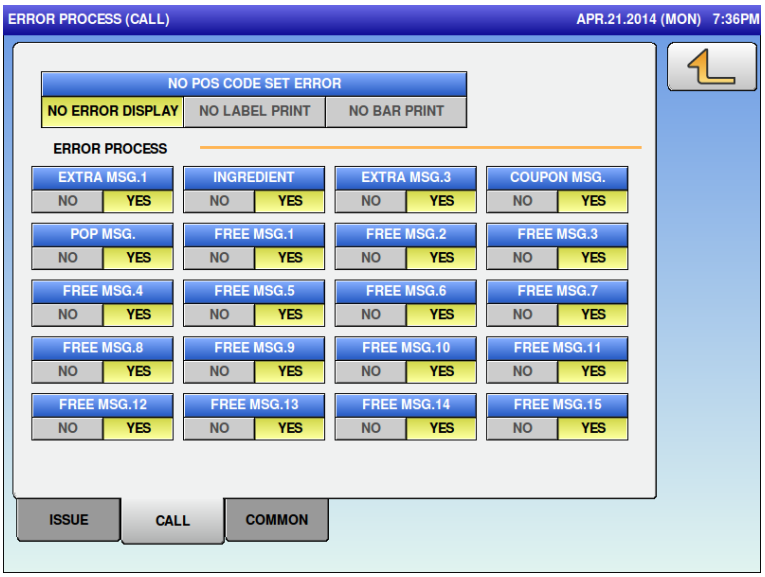
5.15 Error Processes

5.15.1 Error Process (Issue)



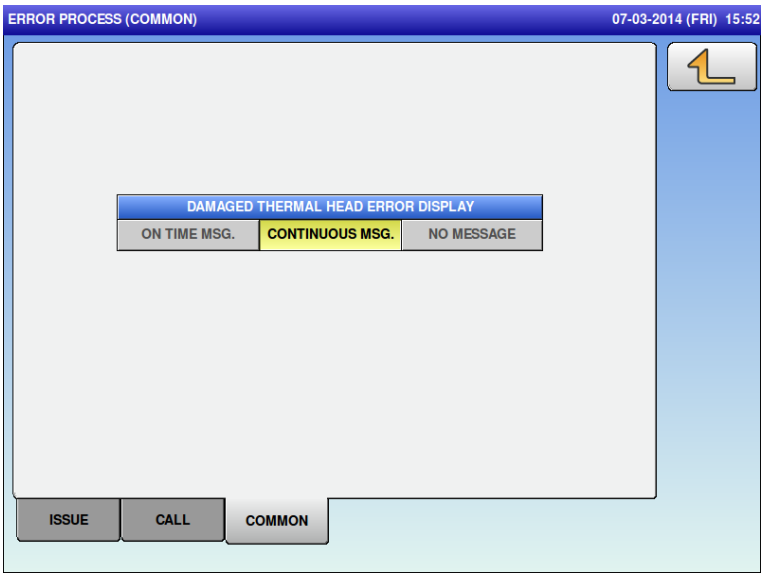
Menu name	Specification
PRINTING AT 0 PRICE	Select the action of printing at 0. BARCODE=0 No PRICE / No BAR.PRICE=0 / No BAR. No PRICE The currency unit depends on the country master.
DISPLAY ERROR: TARE WEIGHT NOT SET	Select whether or not to display the error message when the tare weight is not set. NO / YES
DISPLAY ERROR: ZERO PRICE	Select whether or not to display the error message of 0 price. NO / YES
PLU NAME LINES OVER ERROR	Select and set the process when the item line No. is over the set number. ERROR: Display the LINE OVER error, and no item is printed. LINE CUT: Cut the exceeded line, and the item is printed within the display range.

5.15.2 Error Process (Call)



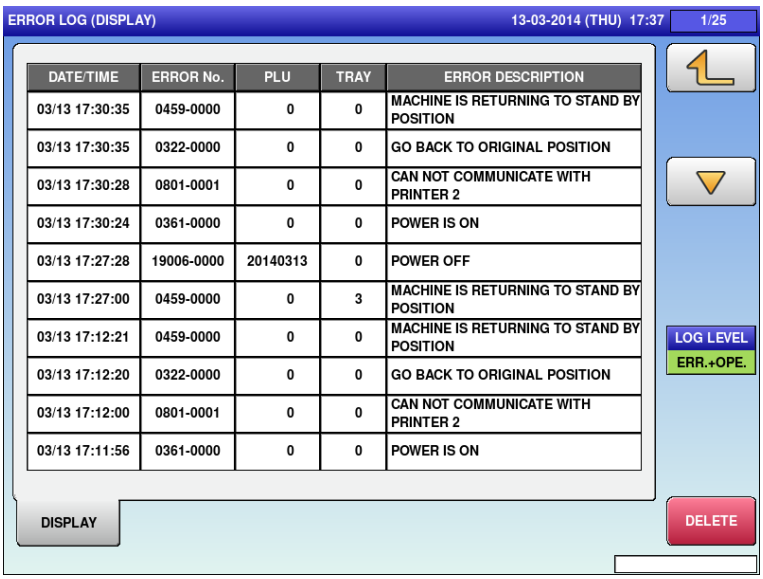
Menu name	Specification
NO POS CODE SET ERROR	Select the action when the POS code is not set. NO ERROR DISPLAY / NO LABEL PRINT / NO BAR PRINT
ERROR PROCESS	Set the error display operation when the link master at item calling does not exist. NO / YES

5.15.3 Error Process (Common)



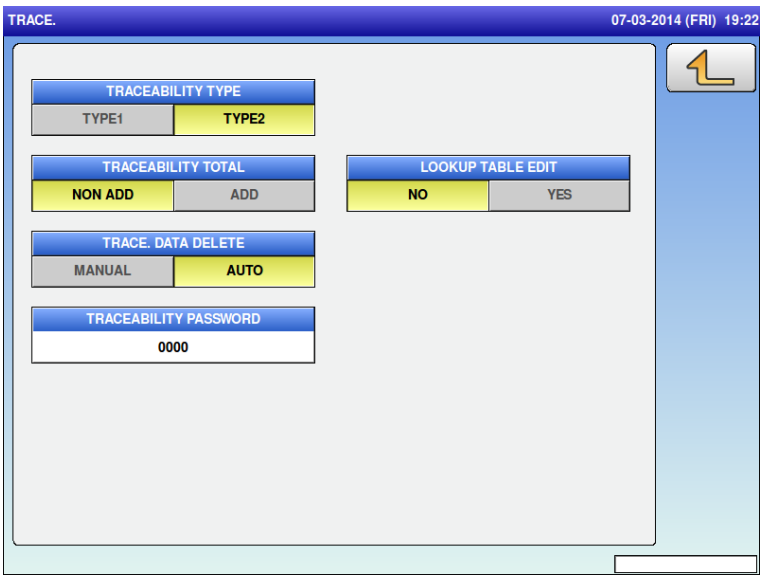
Menu name	Specification
DAMAGED THERMAL HEAD ERROR DISPLAY	Select how to set the error message of damaged thermal head. ON TIME MSG / CONTINUOUS MSG / NO MESSAGE

5.16 Error Log (Display)



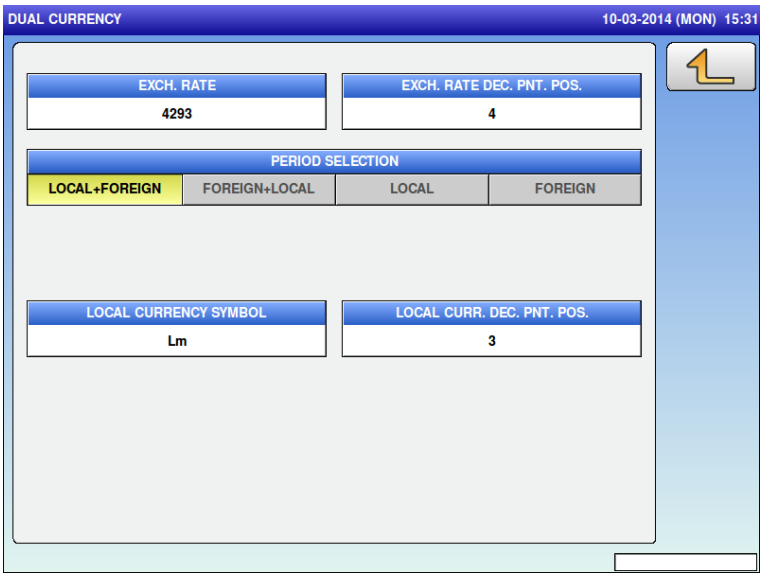
Menu name	Specification
LOG LEVEL	Select the error log level to be displayed on the list. ONLY ERR. / ERR. +OPE.
DELETE	Delete the error log. The DELETE CHECK dialog appears to ask whether to delete the error log.

5.17 Trace



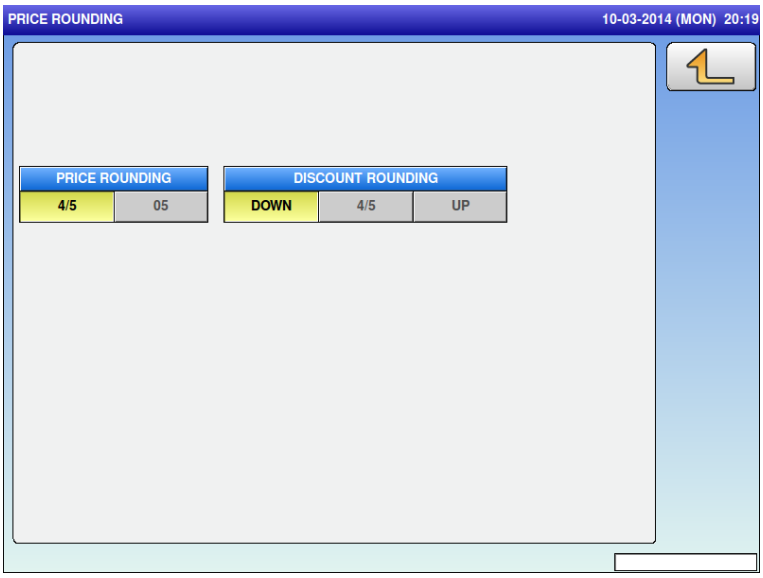
Menu name	Specification
TRACEABILITY TYPE	Select the traceability type. TYPE1 / TYPE2 (TYPE1 is simple traceability.)
TRACEABILITY TOTAL	Select whether or not to add the traceability total. NO / YES
TRACE. DATA DELETE	Select the manual or auto deletion of traceability data. MANUAL / AUTO
TRACEABILITY PASSWORD	Set the traceability password. This function is enabled when [TYPE2] is selected in the TRACEABILITY TYPE. 0 or 4-digit number
LOOKUP TABLE EDIT	Select whether or not to enable the lookup table edit on the traceability screen in the normal mode. NO / YES

5.18 Dual Currency



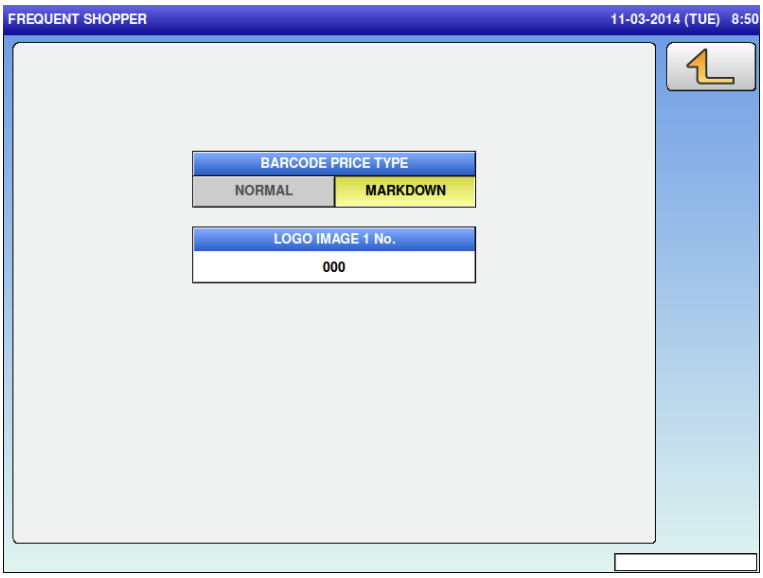
Menu name	Specification
EXCH. RATE	Set the exchange rate of the second currency. Input range: 0 to 99999999
EXCH. RATE DEC. PNT. POS.	Set the decimal point position of the exchange rate of the second currency. Input range: 0 to 7
PERIOD SELECTION	Select the currency combination. LOCAL+FOREIGN/FOREIGN+LOCAL/LOCAL/FOREIGN
LOCAL CURRENCY SYMBOL	Set the local currency symbol. Up to 3 bytes
LOCAL CURR. DEC. PNT. POS.	Set the decimal point position of the local currency. Input range: 0 to 7

5.19 Price Rounding



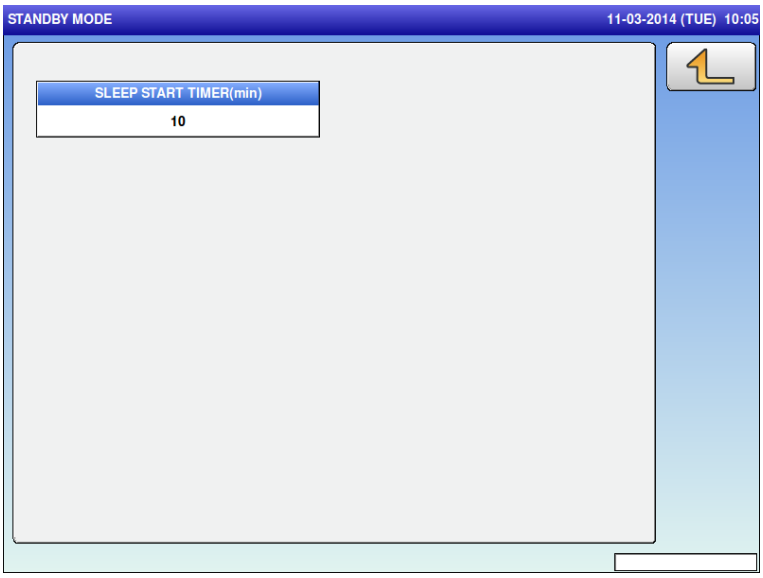
Menu name	Specification
PRICE ROUNDING	Select the price rounding type. 4/5 / 05
DISCOUNT ROUNDING	Select the discount rounding type. DOWN / 4/5 / UP

5.20 Frequent Shopper



Menu name	Specification
BARCODE PRICE TYPE	Select the barcode price type. NORMAL / MARKDOWN
LOGO IMAGE 1 No.	Set the logo image 1 No. Input range: 0 to 999

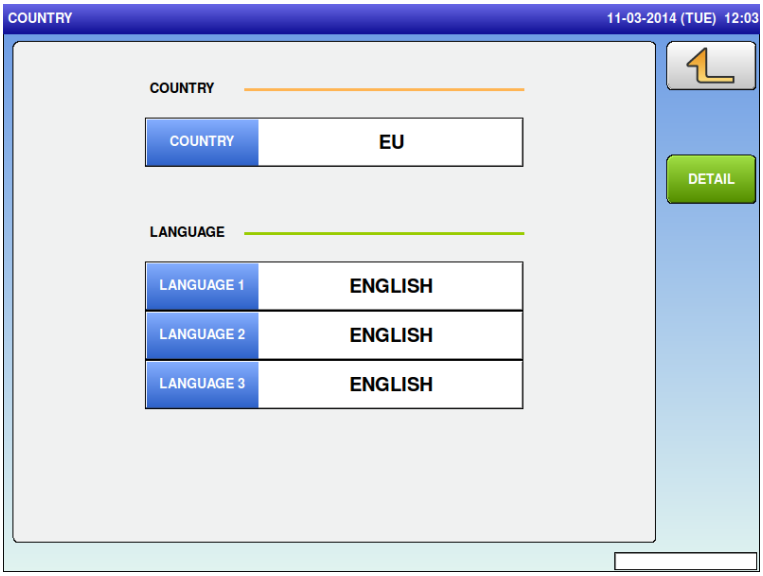
5.21 Standby Mode



Menu name	Specification
SLEEP START TIMER(min)	Set the time to standby mode. The unit is in minutes.

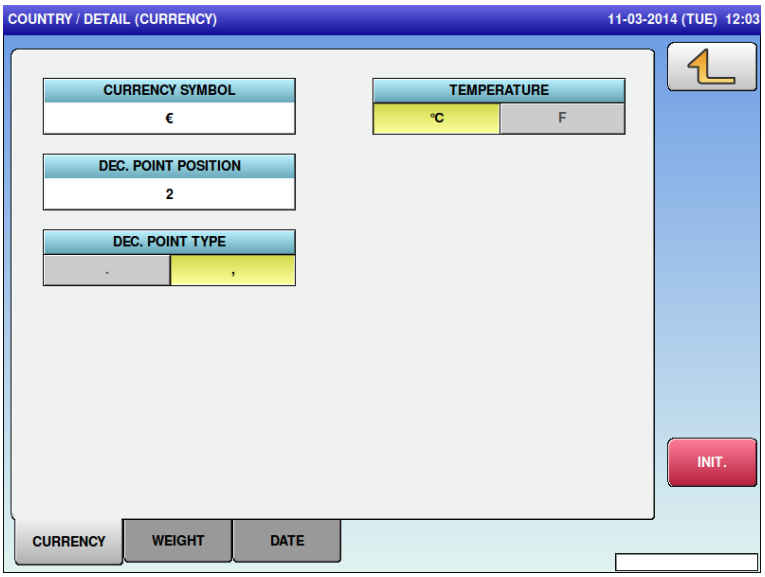
5.22 Country

5.22.1 Country



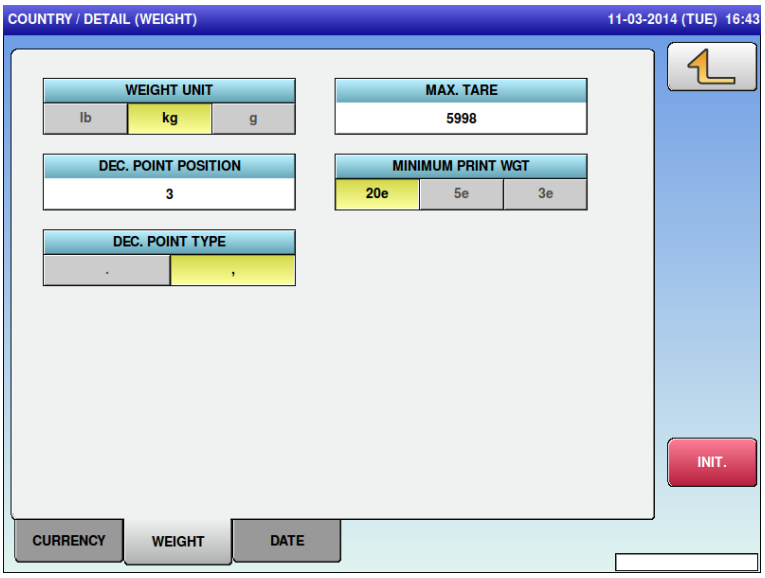
Menu name	Specification
COUNTRY	Select the country. Enter 951753 and press PLU to enable this function. Touch the COUNTRY button to open the list and select the country.
LANGUAGE	Set the first to third language. Touch the button to open the list and select the language.
DETAIL	Transfer to the country setting details screen. Enter 495344 and press PLU to enable the DETAIL button selection.

5.22.2 Country / Detail (Currency)



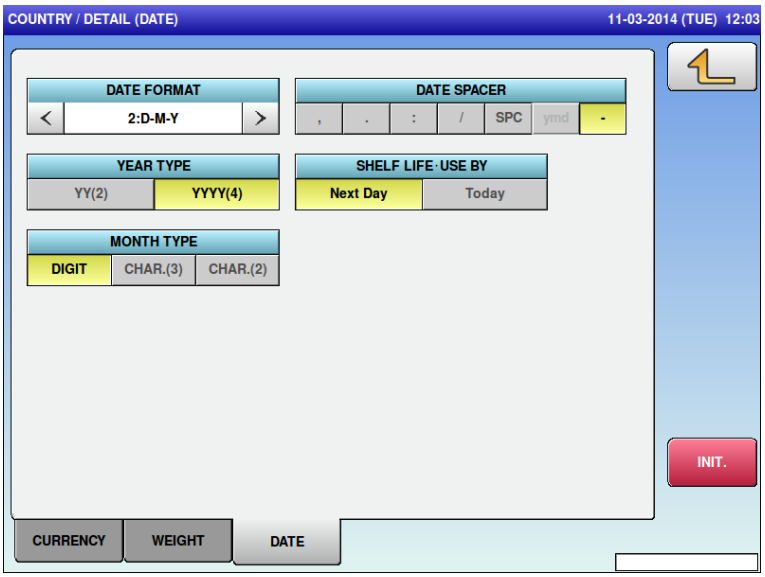
Menu name	Specification
CURRENCY SYMBOL	Set the currency symbol. Up to 3 bytes
DEC. POINT POSITION	Set the decimal point position of currency. Input range: 0 to 7
DEC. POINT TYPE	Select the decimal point type. . / , (dot / comma)
TEMPERATURE	Select and set the temperature unit. ºC / F
INIT.	Initialize the set value of country master. Other tabs also have the same function.

5.22.3 Country / Detail (Weight)



Menu name	Specification
WEIGHT UNIT	Select the weight unit. Lb / kg / g Enter 14789632 and press PLU to enable this function.
MAX. TARE	Set the maximum tare. For the unit of kg or g: 0 to 5998 For the unit of lb: 0 to 9990 Enter 14789632 and press PLU to enable this function.
DEC. POINT POSITION	Set the decimal point position. Input range: 1 to 5 Enter 495344 and press PLU to enable this function.
DEC. POINT TYPE	Select the decimal point type. . / , (dot / comma) Enter 495344 and press PLU to enable this function.
MINIMUM PRINT WGT	Set the minimum print weight. 20e / 5e / 3e Enter 495344 and press PLU to enable this function. This function is enabled only for the manual print. "e" represents the minimum weight division. For dual-range that is 0.005 lb, for single-range that is 0.01 lb.
INIT.	Initialize the set value of country master. Other tabs also have the same function.

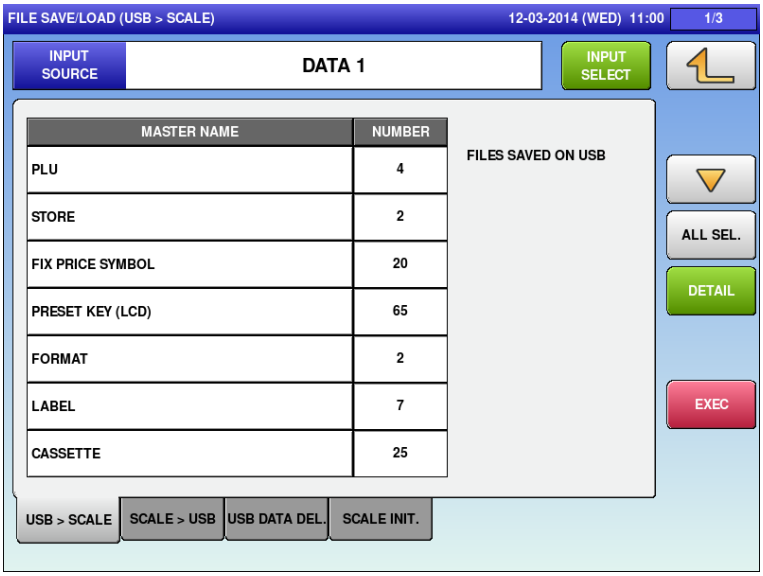
5.22.4 Country / Detail (Date)



Menu name	Specification
DATE FORMAT	Select the date format (order). 0: Y-M-D / 1:M-D-Y / 2: D-M-Y
YEAR TYPE	Select the year type. YY (2) / YYYY (4) Last 2 or 4 digits
MONTH TYPE	Select the month type. DIGIT / CHAR (3) / CHAR (2) Numerical number, three characters or two characters
DATE SPACER	Select the date spacer. , (comma) /. (period) / :(colon) / /(slash) / space / ymd / ・(middle point)
SHELF LIFE・USE BY	Select whether or not to set the shelf life "1" to the next day or today. Next Day / Today
INIT.	Initialize the set value of country master. Other tabs also have the same function.

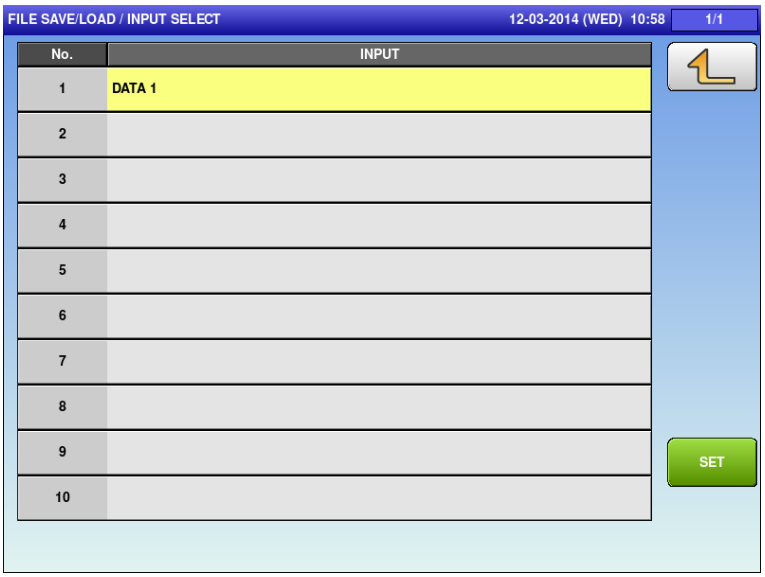
5.23 File Save / Load

5.23.1 File Save / Load (Usb>Scale)



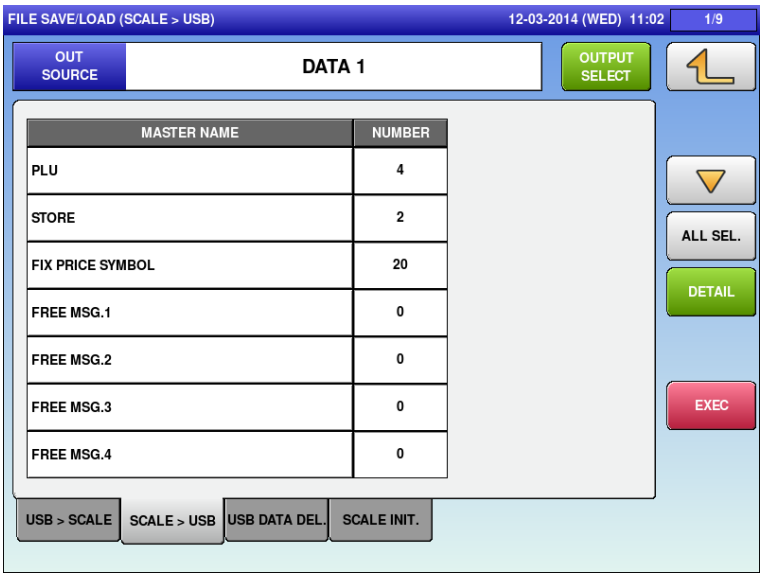
Menu name	Specification
INPUT SOURCE	Display the name of the input source.
INPUT SELECT	Open the FILE SAVE/LOAD IN SELECT screen. The input source is listed only when the files are saved on the USB flash drive.
MASTER NAME	Display the master name. Touch the button to change the selection. Other tabs also have the same function.
NUMBER	Display the number of master data. Other tabs also have the same function.
ALL SEL.	Change the selections of all masters. This function is enabled when the input source file is set. Other tabs also have the same function.
DETAIL	Open the FILE SAVE/LOAD OUT (DETAIL) screen. Other tabs also have the same function.
EXEC	Execute the file input of selected master. The INPUT CHECK dialog appears to ask whether to input the file.

5.23.1.1 File Save / Load / Input Select



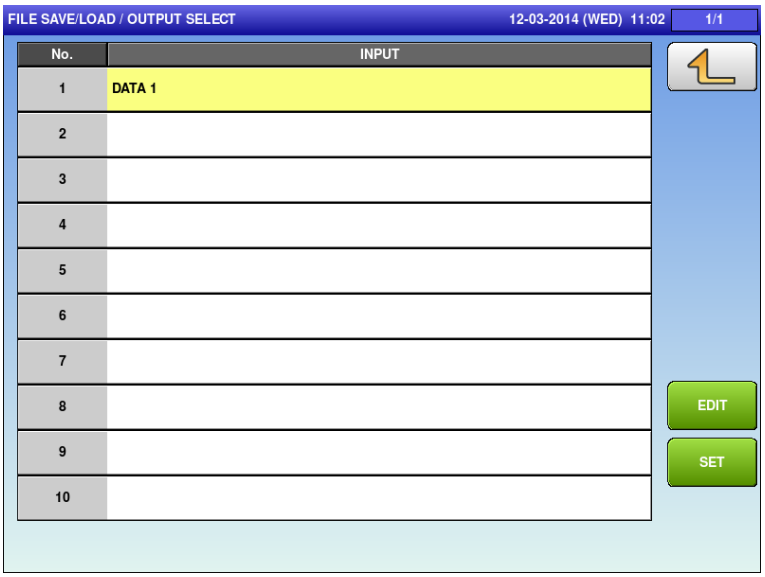
Menu name	Specification
No.	Display the folder No. memorized in the USB memory. Folder “Data01” to “Data10” = №1 to №10
INPUT	Display the data name (index name) named to each master file group “Data01” to “Data10” memorized in the USB memory.
SET	Determine the input source selected, and return to the previous screen.

5.23.2 File Save / Load (Scale>Usb)



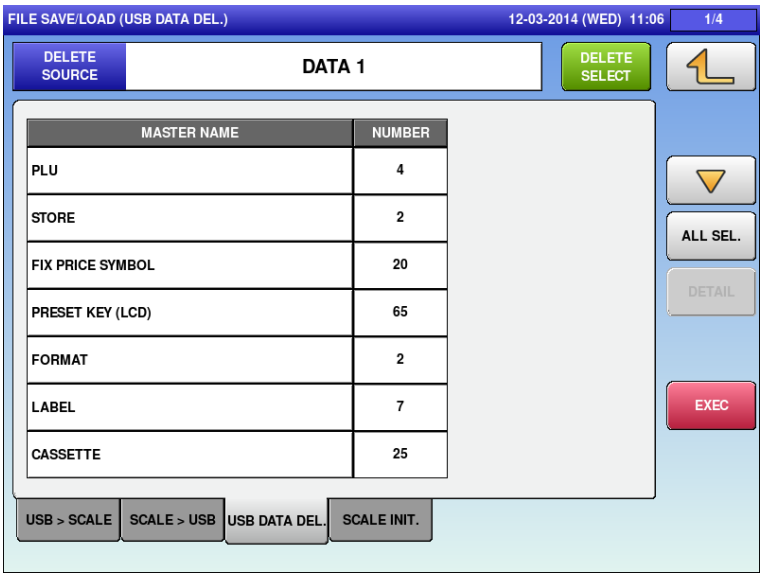
Menu name	Specification
OUT SOURCE	Display the name of the output source.
OUTPUT SELECT	Open the FILE SAVE/LOAD OUT SELECT screen. SET: Set the output source. EDIT: Edit the name of the output source.
ALL SEL.	Switch between “All items selected” / “All items unselected”.
DETAIL	Move to the FILE SAVE/LOAD / DETAIL screen.
EXEC	Execute the file output of selected master. The OUTPUT CHECK dialog appears to ask whether to output the file.

5.23.2.1 File Save / Load / Output Select



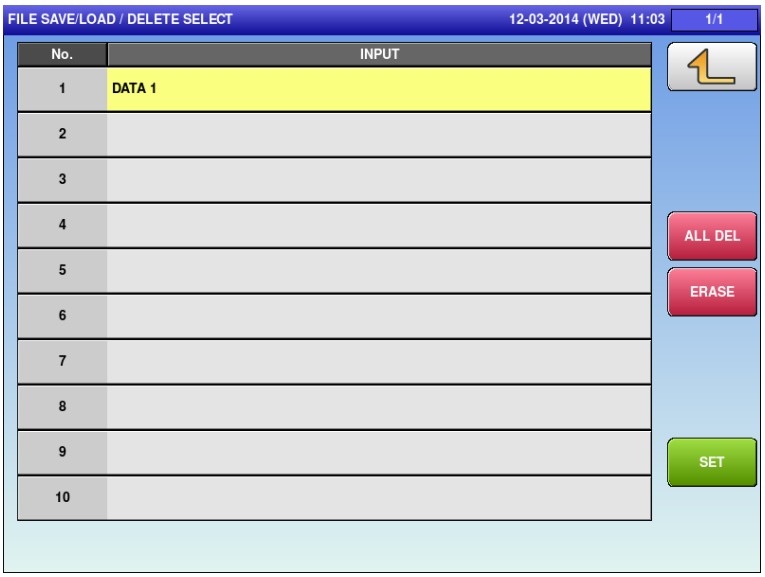
Menu name	Specification
No.	Display the folder No. memorized in the USB memory. Folder “Data01” to “Data10” = №1 to №10
INPUT	Display the data name (index name) named to each master file group “Data01” to “Data10” memorized in the USB memory.
EDIT	Move to the FILE SAVE/LOAD / OUTPUT SELECT / EDIT INDEX NAME screen.
SET	Determine the input source selected, and return to the previous screen.

5.23.3 File Save / Load (Usb Data Del.)



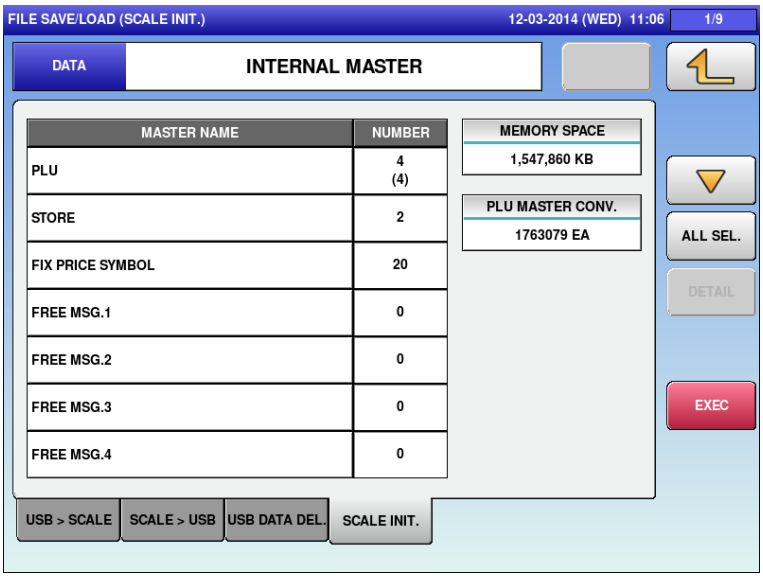
Menu name	Specification
DELETE SELECT	Display the name of the deletion source.
MASTER NAME	Display the master name of the file in the folder of USB memory specified as “Deletion destination”.
ALL SEL.	Switch between “All items selected” / “All items unselected”.
EXEC	Execute the file output of selected master. The OUTPUT CHECK dialog appears to ask whether to output the file.

5.23.3.1 File Save / Load / Delete Select



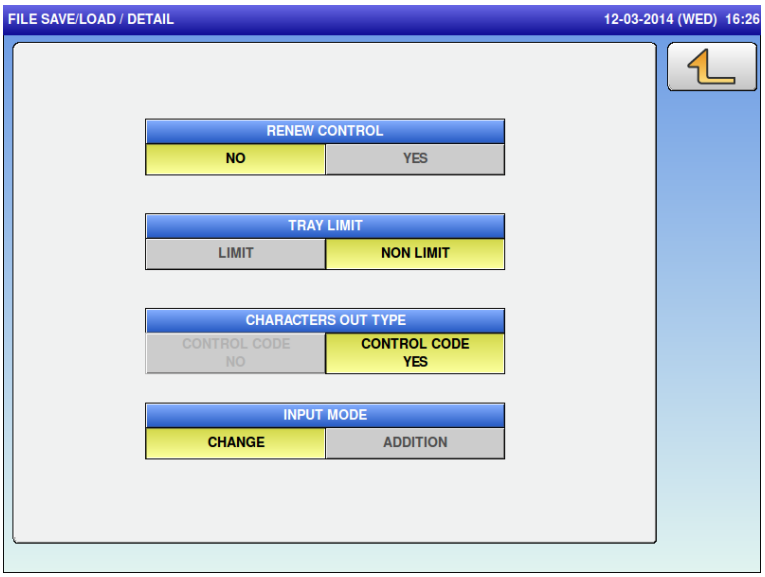
Menu name	Specification
No.	Display the folder No. memorized in the USB memory. Folder “Data01” to “Data10” = №1 to №10
INPUT	Display the data name (index name) named to each master file group “Data01” to “Data10” memorized in the USB memory.
ALL DEL	Delete all the files in the USB memory (folders “Data01” to “Data10”).
ERASE	Delete all the files in the selected data folder.
SET	Determine the input source selected, and return to the previous screen.

5.23.4 File Save / Load (Scale Init.)



Menu name	Specification
DATA	Display the master name. Touch the button to change the selection.
MASTER NAME	Display the master name in the scale. Line selection/deselection is available.
NUMBER	Display the data No. of the master inside the scale.
MEMORY SPACE	Display the memory space inside the scale in kilobyte (kB).
PLU MASTER CONV.	Display the approximate value about how many items master can store in the free space.
ALL SEL.	Switch between “All items selected” / “All items unselected”.
EXEC	Initialize the selected master. The INITIALIZATION CHECK dialog appears to ask whether to initialize the master.

5.23.5 File Save / Load / Detail



Menu name	Specification
RENEW CONTROL	Select whether or not to control update. NO / YES
TRAY LIMIT	Select whether or not to limit the tray. LIMIT / NO LIMIT
CHARACTERS OUT TYPE	Select the character output type. CONTROL CODE NO / CONTROL CODE YES [CONTROL CODE NO] cannot be selected.
INPUT MODE	Select the input mode. CHANGE / ADDITION

Chapter 6

Adjustment Mode

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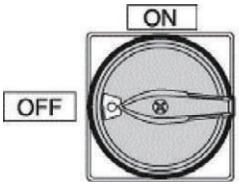
6.1 Adjustment Mode

6.1.1 Startup

1

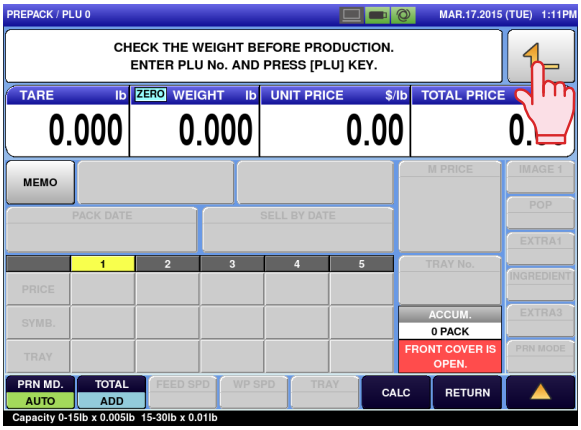
Turn on the power.



2

The PREPACK screen in the OPERATE mode appears.

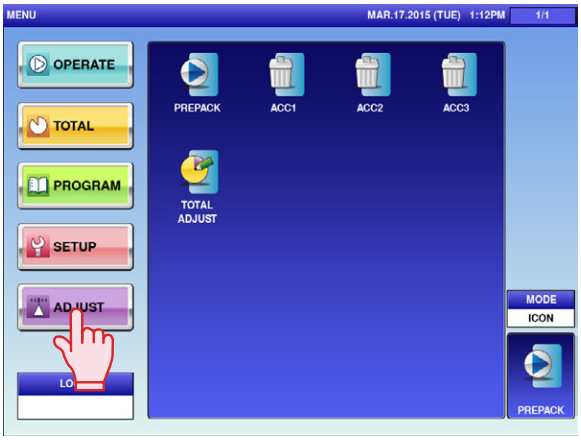
Press at the upper right side of the screen.



3

The menu appears in the OPERATE MODE.

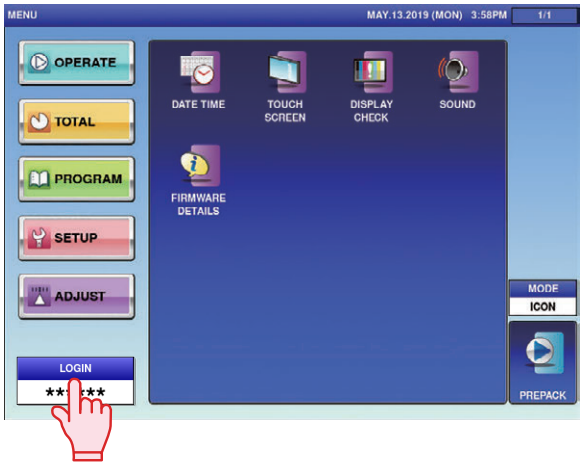
Press the [ADJUST] button on the screen.



4

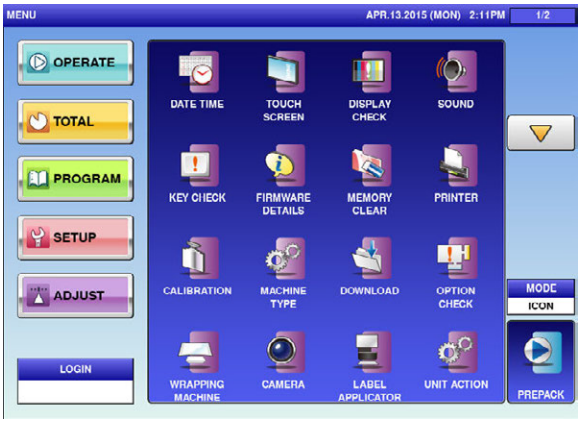
The User Menu screen in the Adjust mode appears.

Input the password “495344” using the numerical keys, and press the [LOGIN] button on the screen.

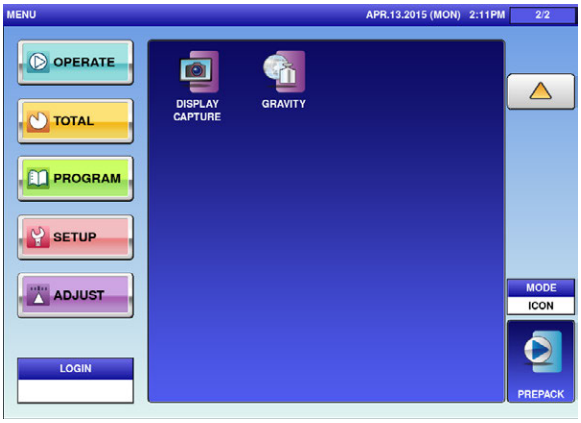


5

The Maintenance Menu screen appears in the Adjust mode.

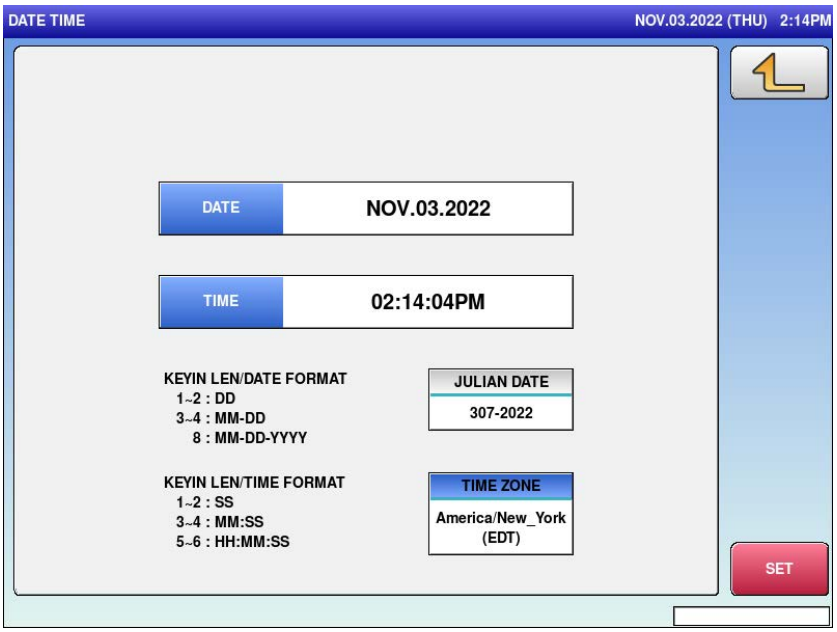


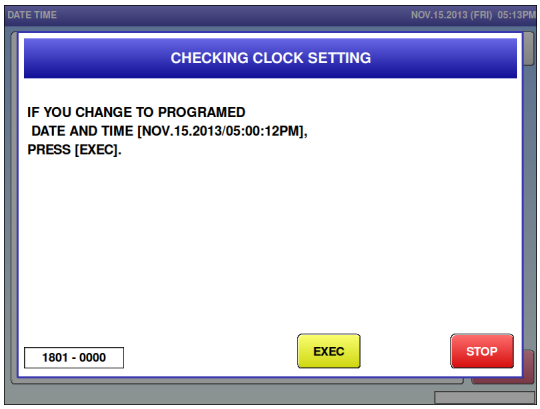
Setup Menu screen 1/2



Setup Menu screen 2/2

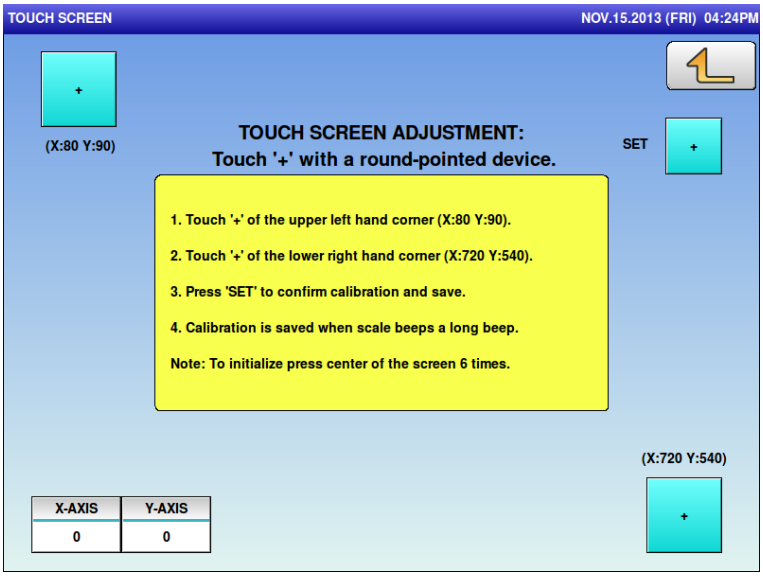
6.2 Date Time



Menu name	Specification
	Return to Menu. When any change is made, save the setting (with confirmation message). 
DATE	Enter the date conforming to KEYIN LEN/DATE FORMAT. - Enter the day when the month and year are correct. Example: enter "20" to display "FEB.20.2023". - Enter the month and day in MMDD format when the year is correct. Example: enter "0320" to display "MAR.20.2023". - Enter the complete date in MMDDYYYY format. Example: enter "03212023" to display "MAR.21.2023".
TIME	Enter the time conforming to KEYIN LEN/TIME FORMAT. If "00" is entered, "17:53:00" is displayed. If "2000" is entered, "17:20:00" is displayed. If "152000" is entered, "15:20:00" is displayed.
JULIAN DATE	Display the number of days counted from January 1.
TIME ZONE	Select the time zone for the current location. The service password must be entered at the main menu to enable this option.

Menu name	Specification
TIME ZONE	Set the time zone. When pressing this button without numeric value, the time zone list is displayed according to country setting. When pressing it with 495344 entered, the entire time zone list is displayed.
SET	Set the entered date and time. The CHECKING CLOCK SETTING dialog appears to ask whether to change the date and time.

6.3 Touch Screen



Menu name	Specification
Upper left [+]	Acquire the coordinates. The background changes to yellow when this key is pressed to acquire the coordinates, indicating that it has already been pressed.
Lower right [+]	Acquire the coordinates. The background changes to yellow when this key is pressed to acquire the coordinates, indicating that it has already been pressed.
Upper right [SET]	The touch panel is corrected based on the three acquired coordinates.
To initialize the touch screen, press the center of the screen at least six times.	

Touch panel screen forced operations

If the touch panel does not work due to extreme misalignments of the coordinates, it is not possible to enter the touch screen adjustment screen.
Follow the steps below to avoid this situation.

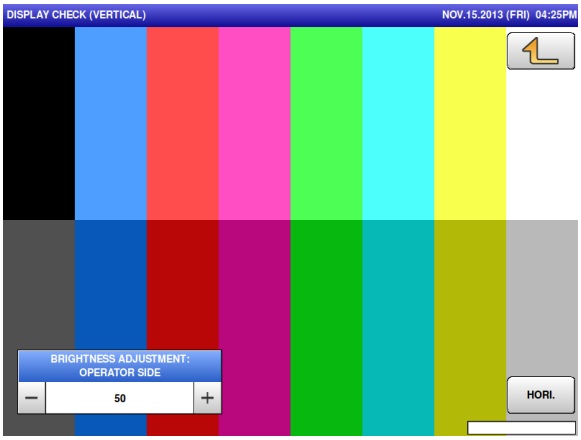
1) At the initialization screen, press [4][9][5][3][4][4] and [PLU] to cancel intialization.

2) Press the [C] (clear) key at least 11 times in a row.

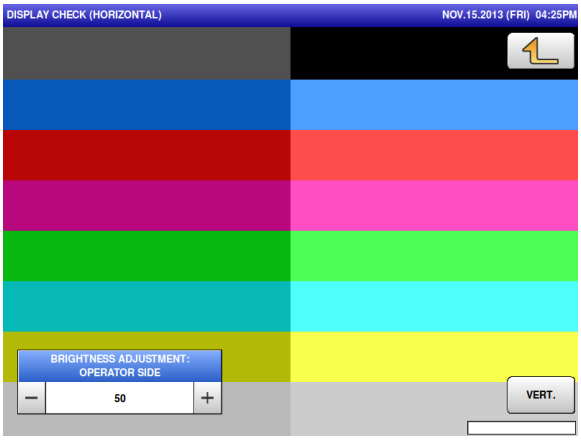
3) The display advances to the touch panel adjustment screen, so adjust the touch panel.

6.4 Display Check

●HORIZONTAL screen

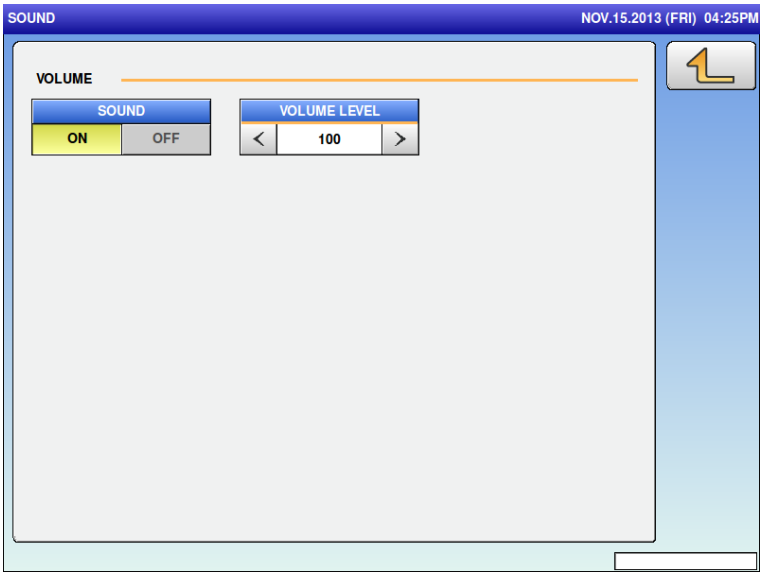


●VERTICAL screen



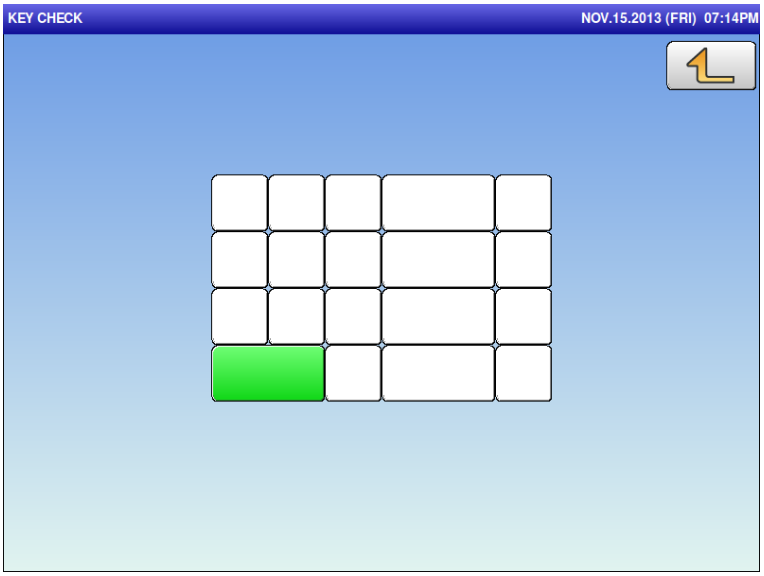
Menu name	Specification
BRIGHTNESS ADJUSTMENT: OPERATOR SIDE	Adjust the brightness of LED. Input range: 0 to 100
VERT. / HORI.	Switch between the vertical and horizontal screen display.

6.5 Sound



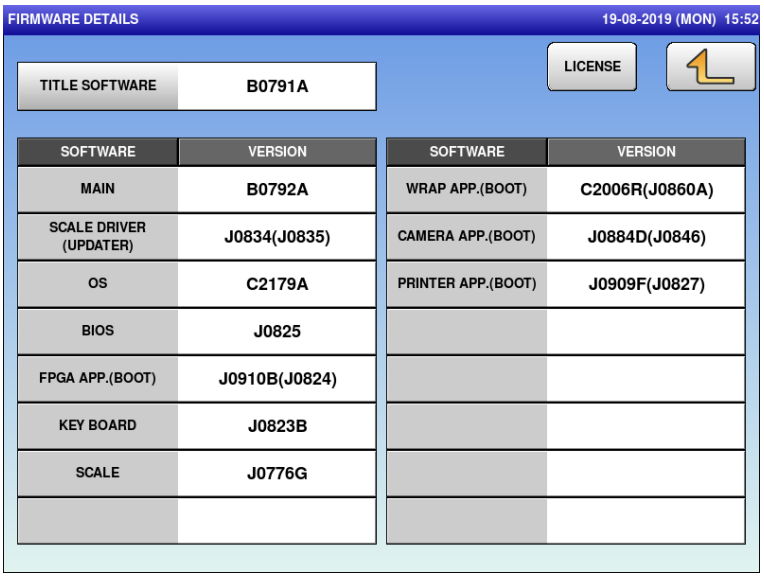
Menu name	Specification
SOUND	Switch between the sound ON and OFF.
VOLUME	Adjust the volume. Input range: 0 to 100

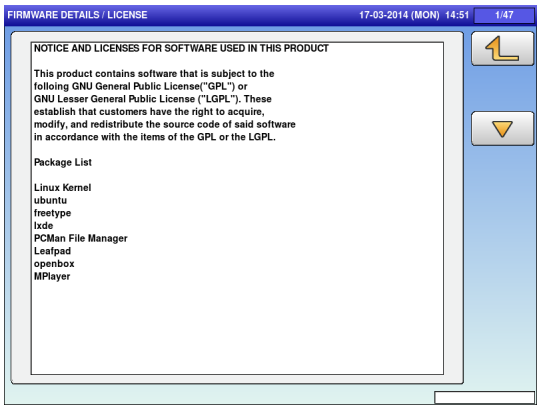
6.6 Key Check



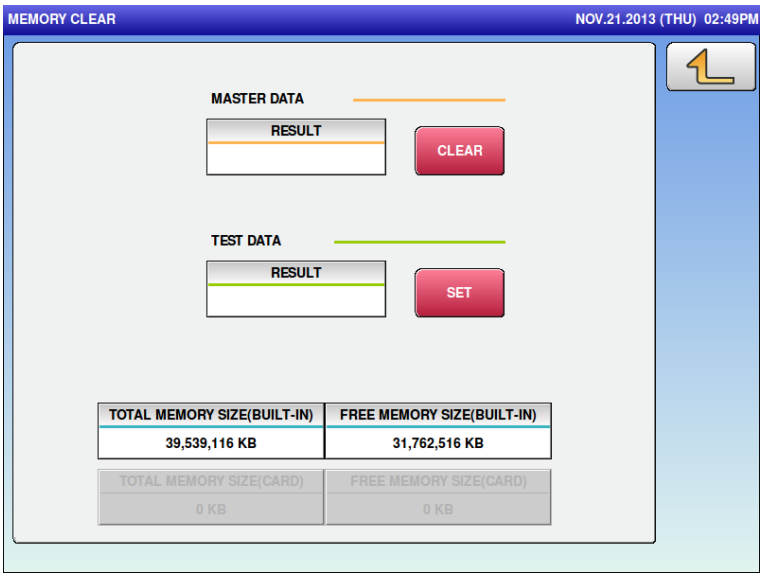
Menu name	Specification
The touched button changes to green, showing the button is activated.	

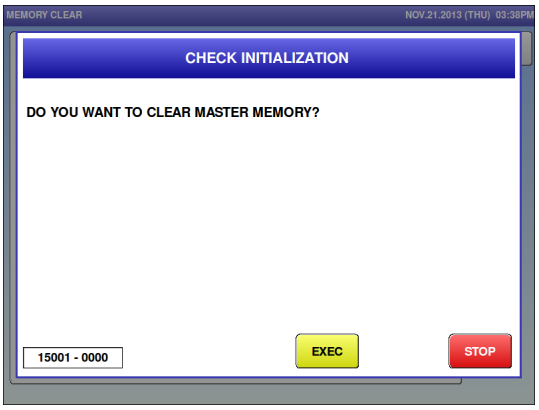
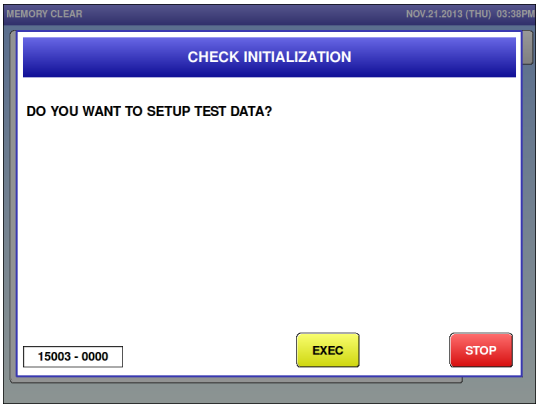
6.7 Firmware Details



Menu name	Specification
LICENSE	Move to the FIRMWARE DETAILS / LICENSE screen. 

6.8 Memory Clear



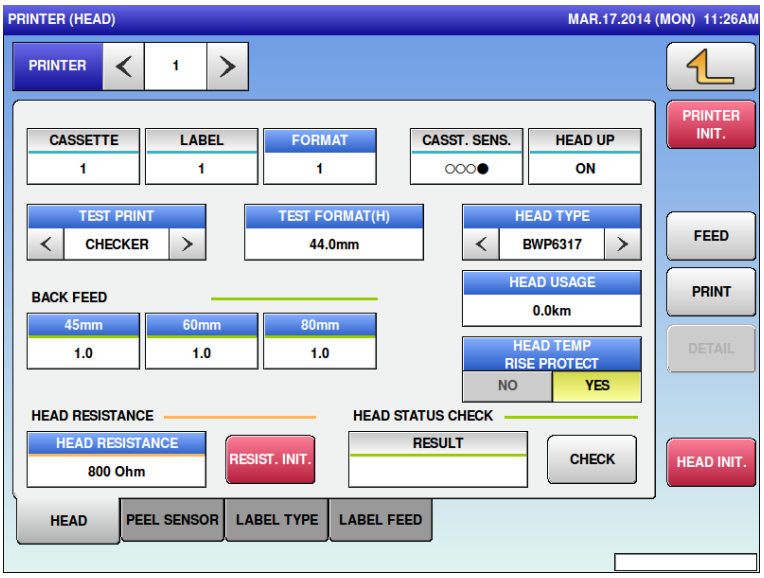
Menu name	Specification
MASTER DATA CLEAR	Clear all DB and initialize the system master. The CHECK INITIALIZATION dialog (memory clear) appears to ask whether to clear the memory. 
TEST DATA SET	Set the initial data and initialize the system master. The CHECK INITIALIZATION dialog (test data setting) appears to ask whether to set the test data. For Oceanian model, the password "951753" should be entered to set the test data. 

Menu name	Specification
MASTER DATA RESULT	Clear the master data and display the result. OK / ERROR
TEST DATA RESULT	Initialize the system data and display the result. OK / ERROR
TOTAL MEMORY SIZE (BUILT-IN)	Display the built-in memory size in kilobyte (kB).
FREE MEMORY SIZE (BUILT-IN)	Display the free memory size in kilobyte (kB).
TOTAL MEMORY SIZE (CARD)	Display the memory size in kilobyte (kB) when the SD card is inserted. If the SD card is not inserted, the option is grayed out.
FREE MEMORY SIZE (CARD)	Display the free memory size in kilobyte (kB) when the SD card is inserted. If the SD card is not inserted, the option is grayed out.

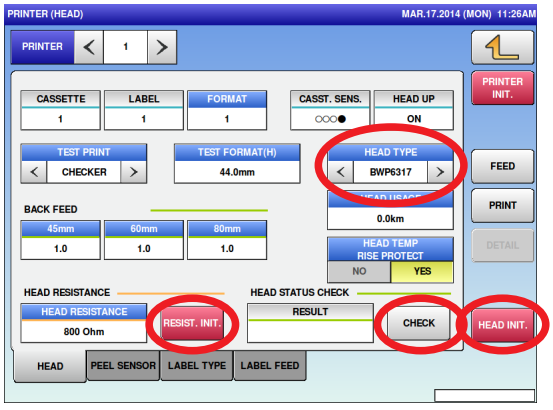
6.9 Printer

How to set the hardware for printing and label feeding is described here.
For delivery, perform the adjustment by using the labels actually in use.
To troubleshoot the failures caused by labels, use the genuine monitor labels for comparative evaluation.

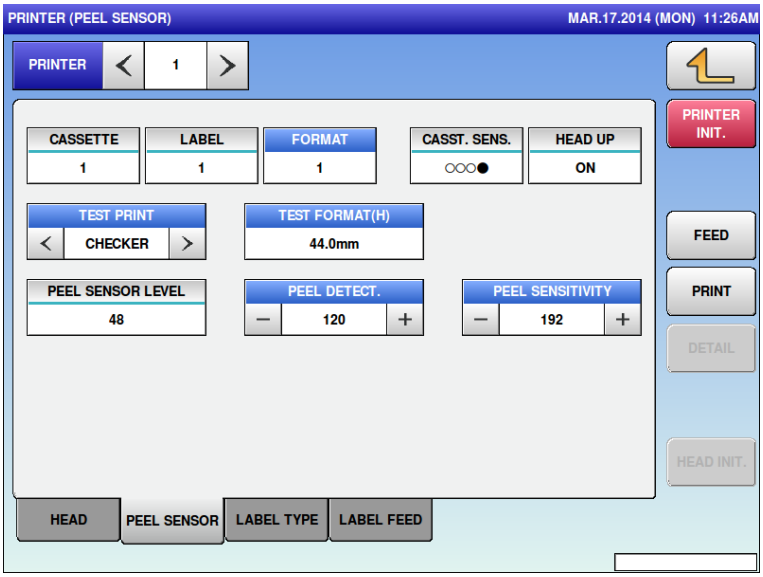
6.9.1 Printer (Head)



Menu name	Specification
PRINTER	Select the printer. Only connected printer is displayed. 1: Model No.1/2: Model No.2/3: External /4: Under/5: POP
FORMAT	Set the format No. for the test print. Input range: 0 to 999 If there is no format, nothing is printed.
TEST PRINT	Select CHECKER (checkered pattern) or NORMAL (normal pattern).
TEST FORMAT(H)	Set the height of format directly. Input range: 0 to 999
HEAD TYPE	Select the head type.
BACK FEED ADJUSTMENT	Adjust the back feed for each label length. Input range: 0 to 99
HEAD USAGE	Displays the total distance labels have been fed while printing (the head is ON). Use this as a guide until the thermal head is damaged. After replacing the thermal head, enter "0" and press this button to set the distance to "0.0 km".

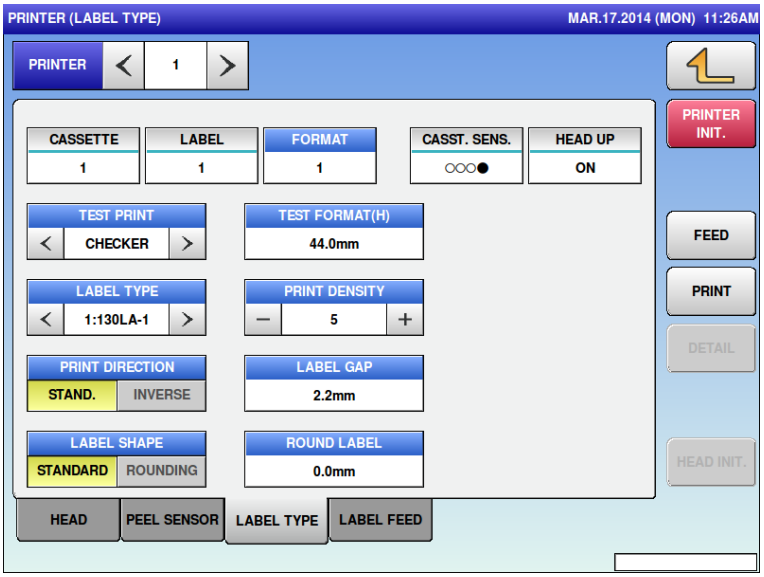
Menu name	Specification
HEAD TEMP RISE PROTECT	Select whether or not to perform temperature rise protection when the head temperature exceeds 60 degrees. YES: During continuous printing, printing stops when the temperature reaches 60 or higher. NO: During continuous printing, printing does not stop even when the temperature reaches 60 or higher. With the label issuing capacity of the machine, the temperature will not reach 60°C.
HEAD RESISTANCE	Displays the set head resistance value. The numerical value corresponding to the rank acquired in "RESIST.INIT." is set. It can also be set by pressing this button after entering the resistance value listed on the head.
RESIST.INIT.	Obtain the resistance value of the head. This machine acquires the rank number of the thermal head and sets the resistance value of the rank table.
PRINTER INIT.	Initialize the printer. The CHECK INITIALIZATION dialog (printer initialization) appears to ask whether to initialize the printer. Other tabs also have the same function.
PRINT	Execute the print. Other tabs also have the same function.
FEED	Execute the feed. Other tabs also have the same function.
HEAD INIT.	Initialize the thermal head. The CHECK INITIALIZATION dialog (head initialization) appears to ask whether to initialize the thermal head. Follow the procedure below. ① Press [HEAD INIT.]. ② On the confirmation screen, press [EXEC]. ③ Check HEAD TYPE on the printer to set the head type to be mounted. ④ Press [RESIST.INIT.] in HEAD RESISTANCE. ⑤ Press [CHECK] in HEAD STATUS CHECK to check the head availability. 

6.9.2 Printer (Peel Sensor)



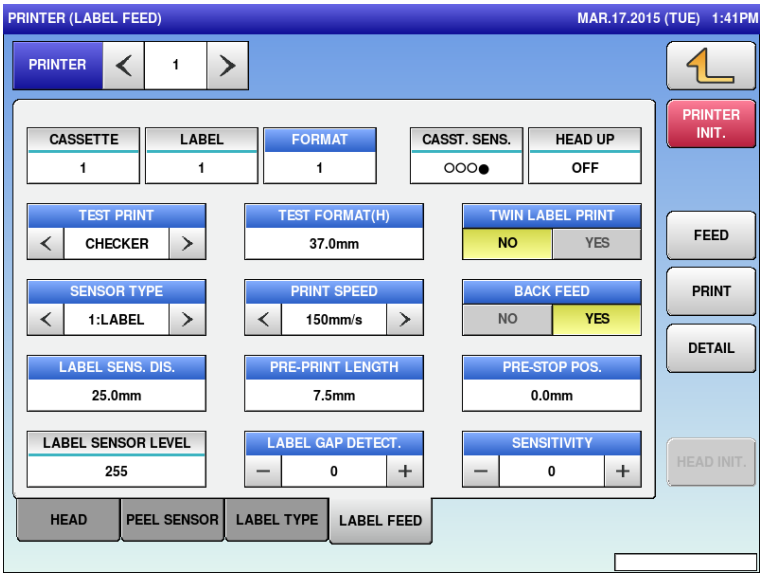
Menu name	Specification
PEEL DETECT.	If the peel sensor value is greater than the set peeling sensor threshold, it is determined that there is no label, and If the peeling sensor value is smaller than the peeling sensor value, it is determined that there is a (Initial data: 90) Input range: 0 to 255
PEEL SENSITIVITY	The amplification level of the peeling sensor sensitivity can be set. (Initial data: 45) Increasing the sensitivity of the peeling sensor amplifies the output signal of the peeling sensor. Input range: 0 to 255
PEEL SENSOR LEVEL	Display the output value of peel sensor.
Set the threshold depending on the PEEL SENSOR LEVEL at the time the backing paper remains on the sensor or not. (e.g. If the value at the time the backing paper remains is 180 and if the value at the time the backing paper does not remain is 80, the threshold is set to about 150.)	

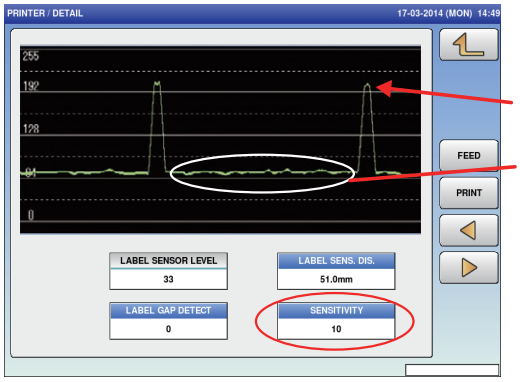
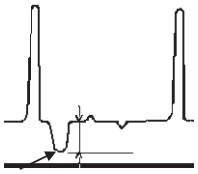
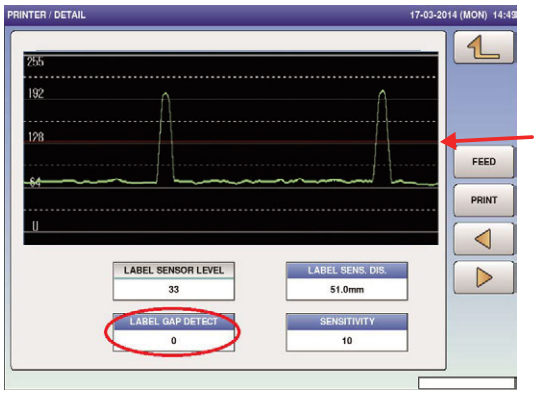
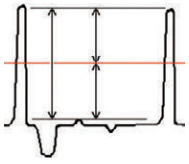
6.9.3 Printer (Label Type)



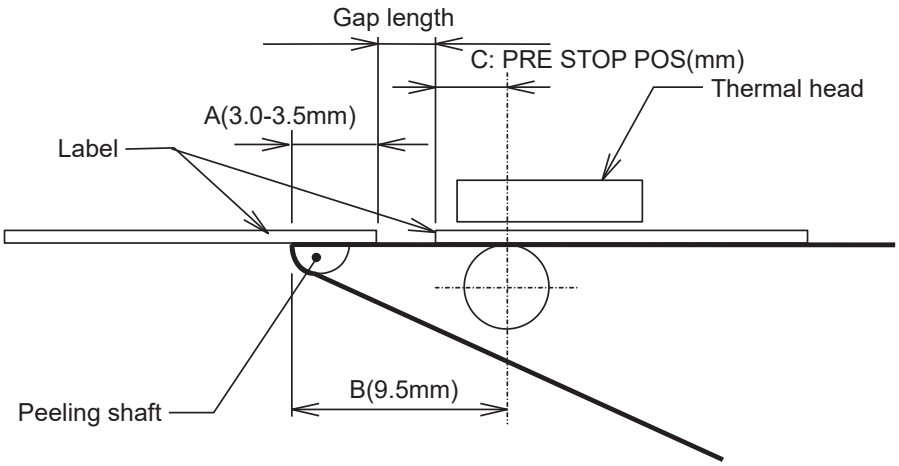
Menu name	Specification
LABEL TYPE	Select the label type. 0: RECEIPT / 1:130LA-1 / 3:150LA-1
PRINT DENSITY	Adjust the print density.(Initial data: 5) Input range: 0 to 9
PRINT DIRECTION	Select the print direction. STAND. / INVERSE
LABEL GAP	Set the “Interval between labels” of the label roll set to the printer. Input range: 0 to 99.9
LABEL SHAPE	Set the label gap (the gap between labels). Input range: 0 to 999
ROUND LABEL	For labels including elliptical labels, the upper side of a label (end face in a vertical direction) and the position where the label sensor detects the end face of the label. Input range: 0 to 999

6.9.4 Printer (Label Feed)

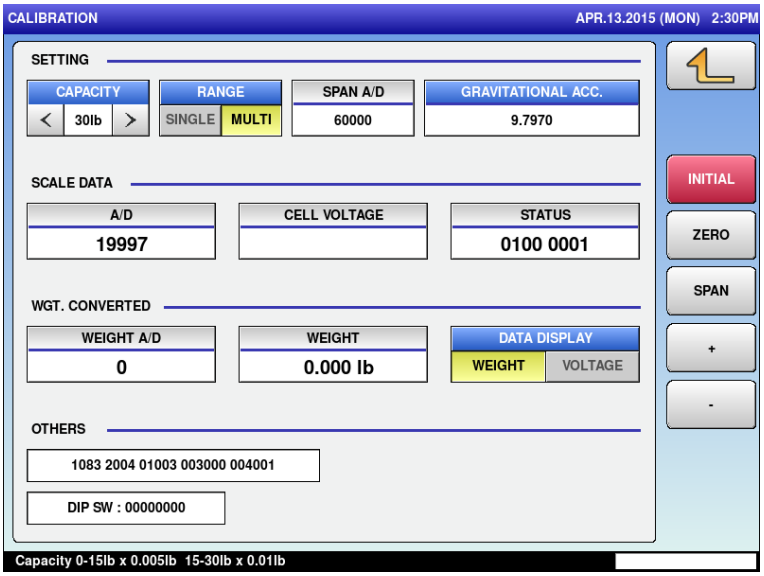


Menu name	Specification
DETAIL	Transfer to the label sensor details screen. When the [DETAIL SET] button is pressed (during change amount control)  Press the [FEED] key and check the sensor value (output value). Set the value of "Label sensor sensitivity" with the gap peak value around 200 as a guide. If the output of the label part has changed by 40 or more (judgment is 60), detection is made by the threshold.  When the [DETAIL SET] button is pressed (during threshold control)  A red line appears when "Label sensor threshold" is set to anything other than "0". This value becomes the criterion. Set a value in the middle between the high output of the label part and the output of the label gap part. 

Menu name	Specification
TWIN LABEL PRINT	Set whether to perform twin label print in the test print. NO: label feed is controlled in pricing in DP mode. YES: label feed controlled on pasting label by the labelling machine. Set this field to YES for this machine. Set as YES to check the label attachment to the backing paper. Press PRINT and confirm the label is still attached to the backing paper by 1-2mm. Then press PLU to confirm the label is no longer attached. Adjust the LABEL SENSOR DISTANCE as needed to meet these conditions. The TWIN LABEL PRINT setting will revert to NO after exiting.
SENSOR TYPE	Set the sensor type. 0: NONE / 1: LABEL / 2: MARK Set this field to 1: LABEL for this machine.
PRINT SPEED	Set the print speed. 100 mm/s / 120 mm/s / 150 mm/s Set this field to 120 mm/s for this machine.
BACK FEED	Select whether or not to set the back feed. Set this field to YES for this machine.
LABEL SENS. DIS.	Set the label sensor distance. Set the distance between the label sensor and the label peeling shaft (the tip of the label outlet). Changing this distance changes the printing position in the label feed direction. Perform a test printing of the checkered pattern and enter a value so that dimensions of the ruled lines above the address and store name and the bottom short side of the label will become the same as the advanced feed amount. Input range: 0 to 99.9
PRE-PRINT LENGTH	Set the distance to which the label should be fed from the front edge of the head when the label is issued in DP mode. For this machine, the distance from the center of the print roller to the tip of the peeling shaft is 9.5 mm. Set the value obtained by subtracting the label gap dimension from this 9.5 mm. PRE-PRINT LENGTH = 9.5mm - Input range: 0 to 99.9

Menu name	Specification
PRE STOP POS.	At the time of 2-stage issue (automatic label applicator), the issued label is fed and placed in a standby state on the peeling shaft. Then, the label applicator controls the label feed at the moment it sucks the label. Set the advanced feed stop amount so that the dimension “A” waiting on the peeling shaft becomes 3.0 to 3.5 mm. Set the dimension between Cmin and Cmax for the advanced feed stop amount. Adjust “C” depending on the peelability from the label mount. If the standby dimension (value of A) on the peeling shaft is small or if the label peels off easily, the label falls off the peeling shaft before the label applicator sucks the label. For labels with poor peelability, reduce the value of A. Cmin: Advanced feed stop amount (mm) = B (9.5 mm) - A (3.0 mm) - Gap length Cmax: Advanced feed stop amount (mm) = B (9.5 mm) - A (3.5 mm) - Gap length 
LABEL GAP DETECT.	Set the label sensor threshold. Enter the value you see in DETAIL. Input range: 0 to 255
SENSITIVITY	Set the label sensor sensitivity. Enter the sensitivity setting in DETAIL. Input range: 0 to 255
LABEL SENSOR LEVEL	Display the output value of label sensor.
Set the label sensor sensitivity so as not to exceed the peak value of label sensor. (e.g. If the label sensor peak is about 120, the threshold is set to about 100.)	

6.10 Calibration



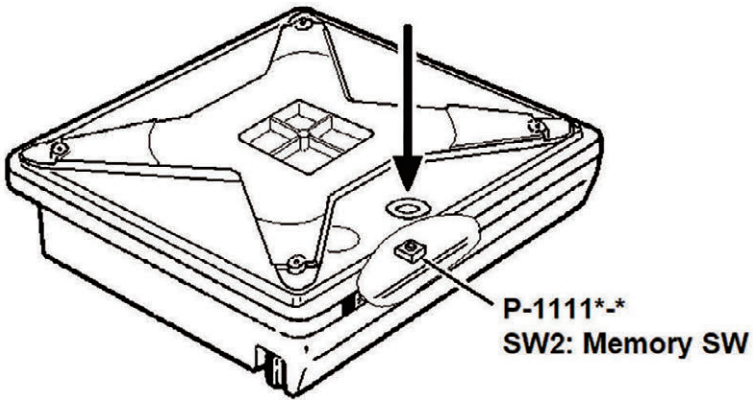
Menu name	Specification
CAPACITY	Set the capacity of the scale. 6000g / 6kg / 15kg / 30kg / 30lb
RANGE	Select the range. The range to be selected is limited depending on the capacity.
GRAVITATIONAL ACC.	Set the gravitational acceleration. Input range: 97799 to 98300
DATA DISPLAY	Select the A/D or cell voltage display.
INITIAL	Initialize the scale.
ZERO	Adjust the current scale status to zero.
SPAN	Set the current scale status to CAPACITY according to the CAPACITY setting.
+	Add span value.
-	Deduct span value.

6.10.1 Procedure for adjusting scale (span)

1. Press [INITIAL] key to initialize the A/D data.

   NOTES: a) This is not necessary for basic calibration.
   b) After initializing confirm the Capacity and Range and set as needed.

2. Press [ZERO] key to adjust the zero point.
3. Place the weight on scale and press [SPAN] key.
   [+/-] key for little adjustment, if necessary.
4. Remove the weight and the platter from the scale.
5. Push the Memory switch (SW2 on P-1111*-*) to memorize the A/D data.
6. Seal off the memory switch again.

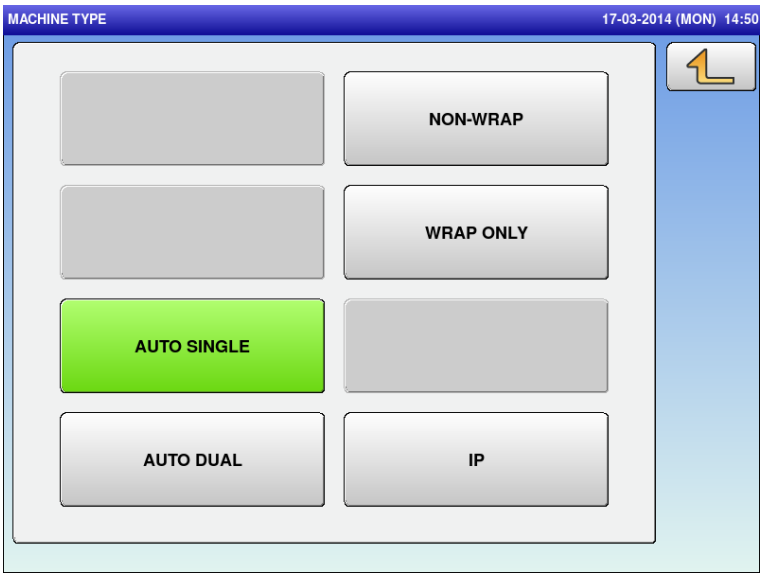


NOTE

Refer also to Technical Report "SC216131" at the beginning of this manual.

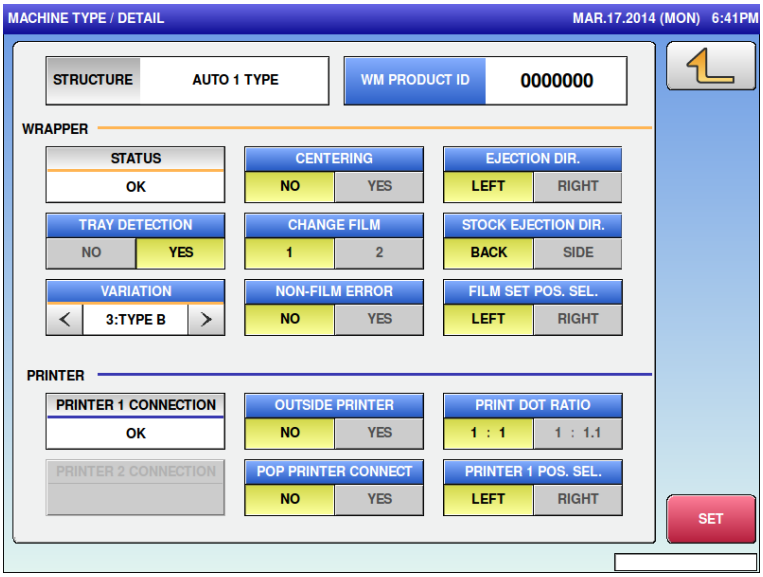
6.11 Machine Type

6.11.1 Machine type



Menu name	Specification
AUTO SINGLE	Judge as the auto pasting single type, move to the [MACHINE TYPE / DETAIL] screen. For AS models, select this option.
AUTO DUAL	Judge as the auto pasting dual type, move to the [MACHINE TYPE / DETAIL] screen. For AT models, select this option.
NON-WRAP	Judge as the inspection unit, move to the [MACHINE TYPE / DETAIL] screen.
WRAP ONLY	Judge as the single wrapper model type, move to the [MACHINE TYPE / DETAIL] screen. For the models without printer, select this option.

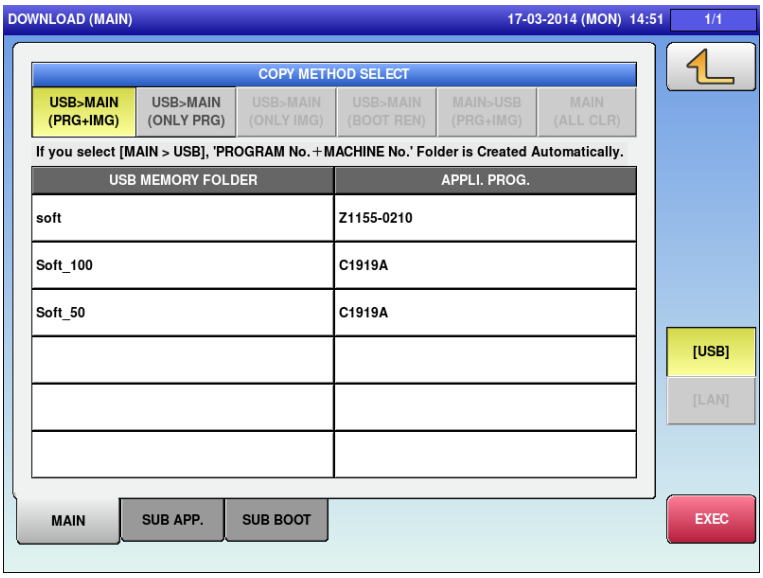
6.11.2 Machine type / detail



Menu name	Specification
WM PRODUCT ID	Set the product ID in seven digits.
CENTERING	Select and set whether to use the tray centering function.
EJECTION DIR.	Select and set the tray ejection direction. This option is displayed only when it is valid (depends on the models).
TRAY DETECTION	Select and set whether to use the tray detection function.
CHANGE FILM	Select and set the film number.
STOCK EJECTION DIR.	Select and set the ejection direction of the stock conveyor. This option is displayed only when it is valid (depends on the models).
VARIATION	Select and set the model variation.
NON-FILM ERROR	Select and set whether to display the non-film error.
FILM SET POS. SEL.	Select and set the film set position. Set according to the machine model.
OUTSIDE PRINTER	Select and set whether to connect the external printer.
PRINT DOT RATIO	Select and set the printing dot ratio.
POP PRINTER CONNECT	Select and set whether to connect the POP printer.
PRINTER 1 POS. SEL.	Specify the printer No. 1 for the dual specification.
SET	Save the setting (with confirmation message).
STRUCURE	Display the configuration selected by the previous screen [MACHINE TYPE].
STATUS	Display the communication status with the wrapper.
PRINTER 1 CONNECTION	Display the communication status with Printer No.1.
PRINTER 2 CONNECTION	Display the communication status with Printer No.2.

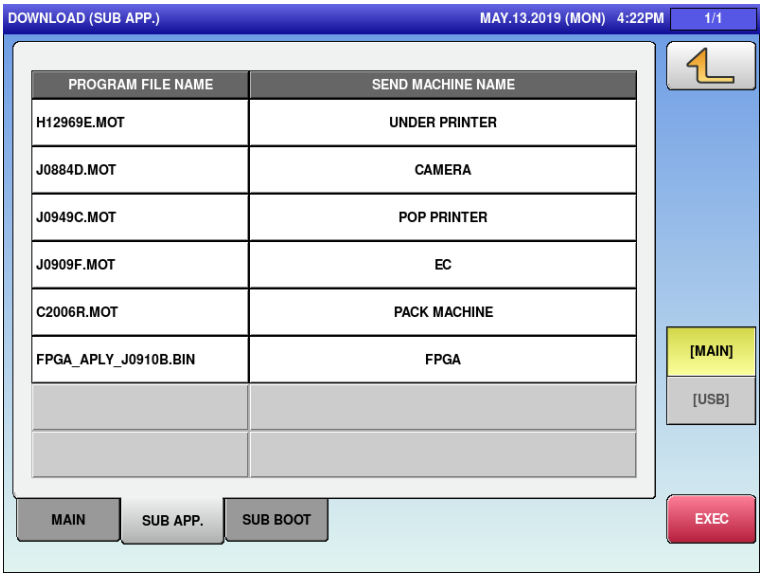
6.12 Download

6.12.1 Download (Main)



Menu name	Specification
COPY METHOD SELECT	When “USB>MAIN (PRG+IMG)” is selected, the program and the image data of the selected USB memory folder are downloaded. When “USB>MAIN (ONLY PRG)” is selected, only the program of the selected USB memory folder is downloaded. The image data is not downloaded.
USB MEMORY FOLDER	Touch this button to switch the selection.
APPLI. PROG.	Touch this button to switch the selection.
EXEC	Download the selected program. The CHECK EXECUTION OF MAIN PROGRAM DOWNLOAD dialog appears to ask whether to download the program.

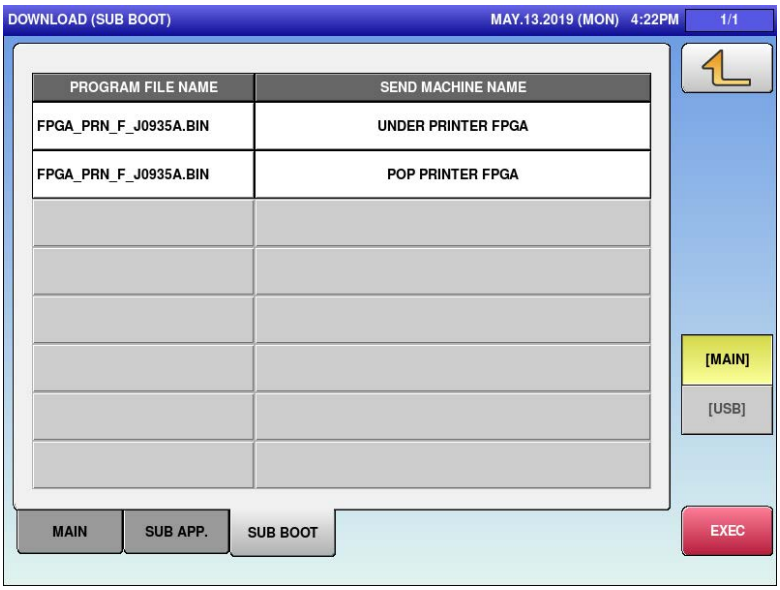
6.12.2 Download (Sub App.)



Menu name	Specification
PROGRAM FILE NAME	Touch this button to switch the selections.
SEND MACHINE NAME	Touch this button to switch the selections.
MAIN/USB	Select where the program is downloaded from. MAIN / USB
EXEC	Download the selected program. The CHECK FOR EXECUTION OF DEVICE MACHINE PROGRAM dialog appears to ask whether to download the program.

NOTE Download each sub-app one at a time. When each is complete exit and power off the wrapper. Repeat for each applicable sub-app based on the model.

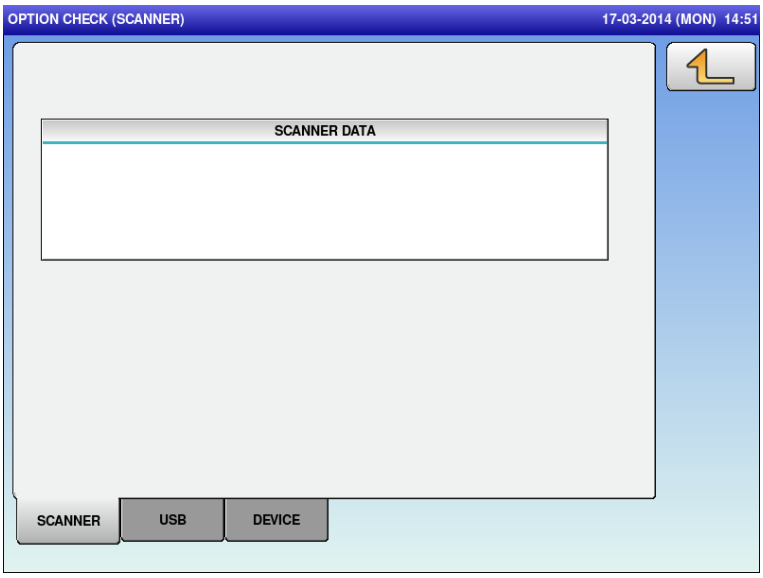
6.12.3 Download (Sub Boot)



Menu name	Specification
PROGRAM FILE NAME	Touch this button to switch the selections.
SEND MACHINE NAME	Touch this button to switch the selections.
MAIN/USB	Select where the program is downloaded from. MAIN / USB
EXEC	Download the selected program. The CHECK FOR EXECUTION OF DEVICE MACHINE PROGRAM dialog appears to ask whether to download the program.

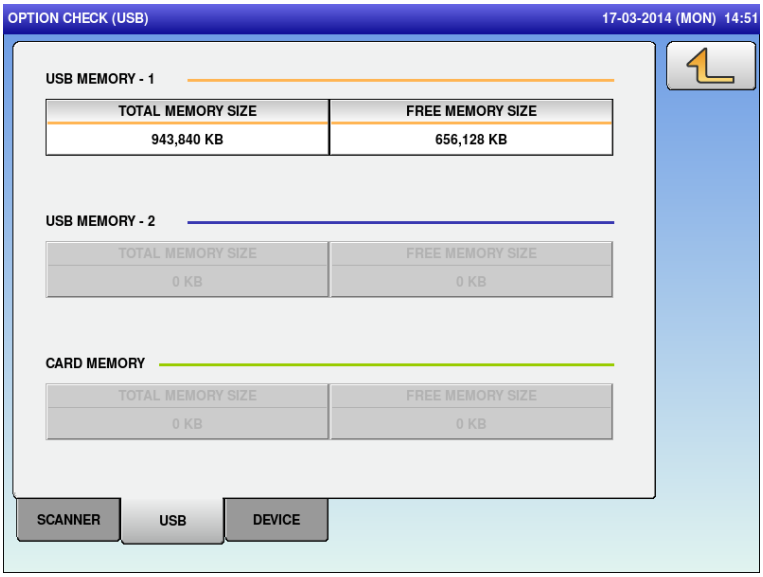
6.13 Option Checks

6.13.1 Option check (Scanner)



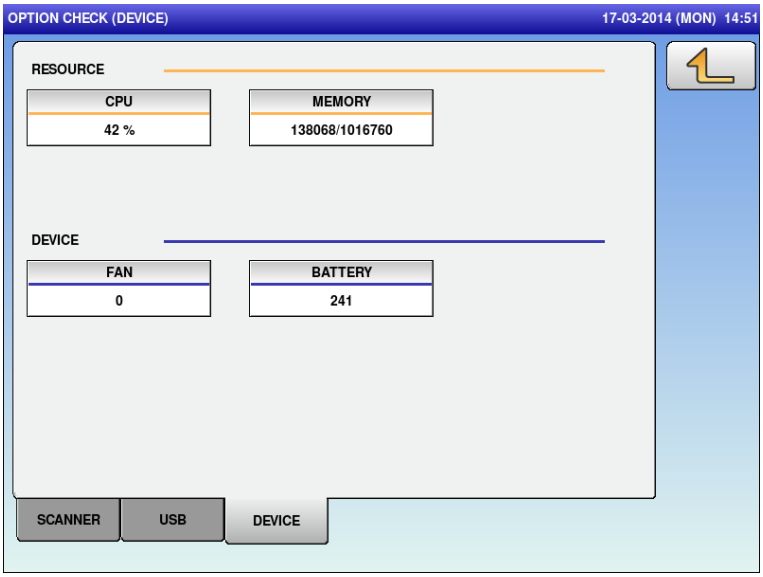
Menu name	Specification
SCANNER DATA	Display the scanned data.

6.13.2 Option Check(USB)



Menu name	Specification
USB MEMORY -1	Display the information of connected USB memory.
USB MEMORY -2	Display the information of connected USB memory.
CARD MEMORY	Display the information of connected SD card memory.

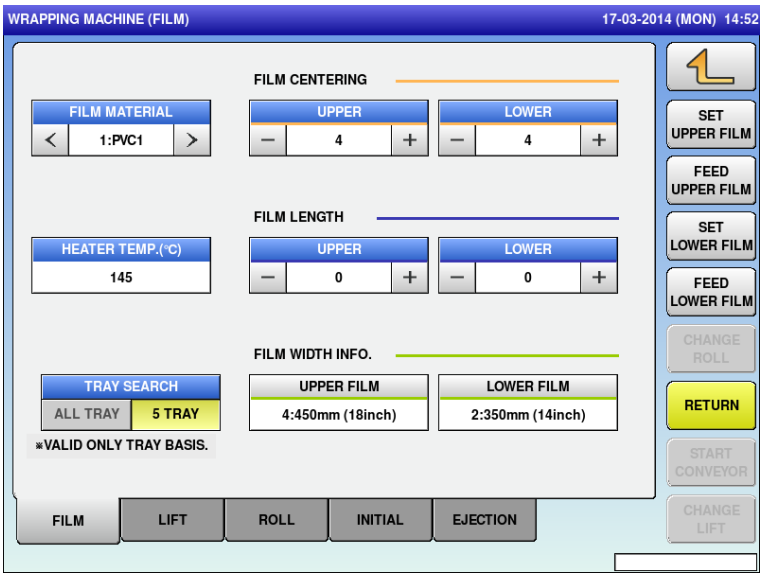
6.13.3 Option check (Device)



Menu name	Specification
CPU	Display the CPU use rate.
MEMORY	Display the use size and the total size of the internal memory.
FAN	Display the rotation count of the CPU fan. Unit: internal count
BATTERY	Display the battery voltage. Unit: internal AD value

6.14 Wrapping Machine

6.14.1 Wrapping machine (Film)



Menu name	Specification
SET UPPER FILM	When the film is replaced, prepare to use the upper film.
FEED UPPER FILM	Feed the film for the length of one package from the upper film.
SET LOWER FILM	When the film is replaced, prepare to use the lower film.
FEED LOWER FILM	Feed the film for the length of one package from the lower film.
RETURN	Return to the original position.
FILM MATERIAL	Select the material of the film used by the machine from “1: Vinyl chloride,” “2: Poly 1,” “3: Poly 2,” “4: Poly 3,” and “5: Vinyl chloride 3.” Set the material by entering a set number. Input range: 1 to 5
(FILM CENTERING) UPPER	When feeding the upper film, adjust the stop position of the film to be fed. Positive direction: Move to the right (film feed direction) Negative direction: Move to the left. Press [+] or [-] without entering a numeric value … Adjust by 1 to the positive or negative side. Press [+] or [-] after entering a numeric value … Adjust the entered value to the positive or negative side Press any key other than [+] and [-] after entering a numeric value …Adjust the entered value to the positive side. Input range: -99 to 99

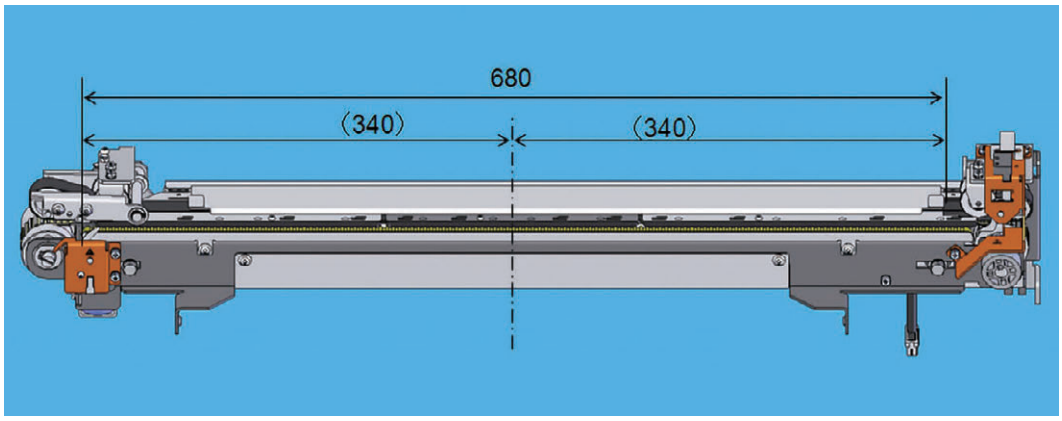
Menu name	Specification
(FILM CENTERING) LOWER	When feeding the lower film, adjust the stop position of the film to be fed. Positive direction: Move to the right (film feed direction) Negative direction: Move to the left. Press [+] or [-] without entering a numeric value … Adjust by 1 to the positive or negative side. Press [+] or [-] after entering a numeric value … Adjust the entered value to the positive or negative side Press any key other than [+] and [-] after entering a numeric value …Adjust the entered value to the positive side. Input range: -99 to 99
HEATER TEMP	Set the temperature of the film sealing heater. Setup range: 80 to 170℃ or 176 to 339 ℉
(FILM LENGTH) UPPER	Adjust the length of the film when feeding the upper film. Input range: -99 to 99
(FILM LENGTH) LOWER	Adjust the length of the film when feeding the lower film. Input range: -99 to 99
TRAY SEARCH	When just packaging the tray, select when searching for the applicable tray from all the registered trays or from the trays registered in the 5-price table.
(FILM WIDTH INFO.) UPPER FILM	The width of the film set on the upper side is displayed. The film size is selected during the film loading procedure. It cannot be set on this screen.
(FILM WIDTH INFO.) LOWER FILM	The width of the film set on the lower side is displayed. The film size is selected during the film loading procedure. It cannot be set on this screen.

NOTE

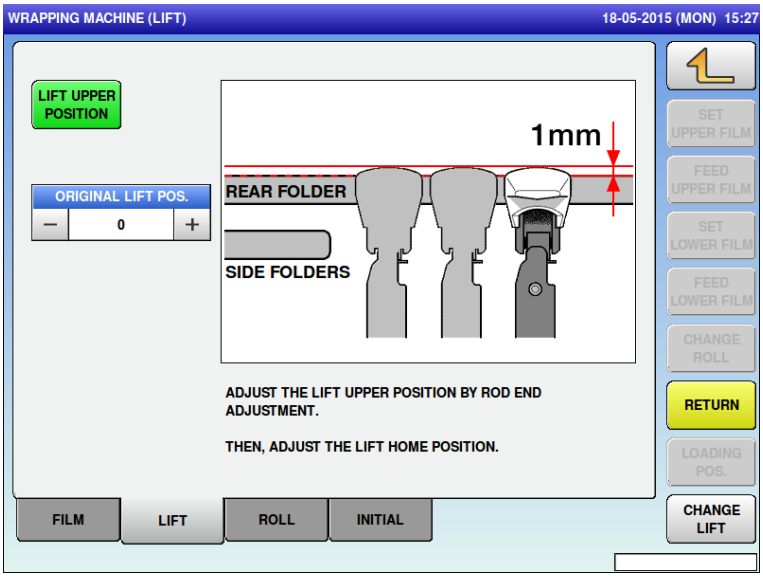
The amount of stretch and slide varies depending on the material or brand of the film.
The user must install the film and make adjustment.
Centering affects the wrapping condition significantly. Adjust the film to stop at the center.

■ Adjustment standard for film conveyance centering

- On the film conveyance adjustment screen, a film equivalent of 680 mm is conveyed.
- As the width from the lower clamp of the rear feeder to the right edge of the clamp cover is 680 mm evenly positioned to the wrapping center, adjust the centering and film length so that the both ends of the film come to the position shown below.

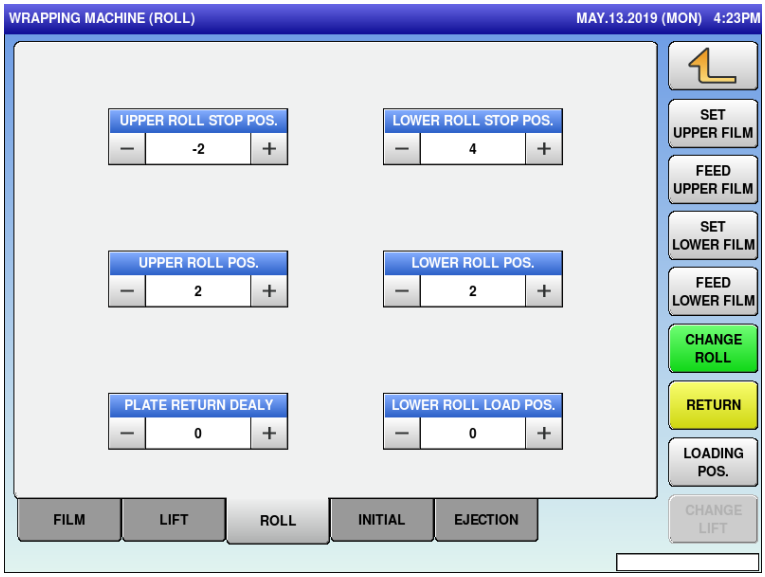


6.14.2 Wrapping machine (Lift)

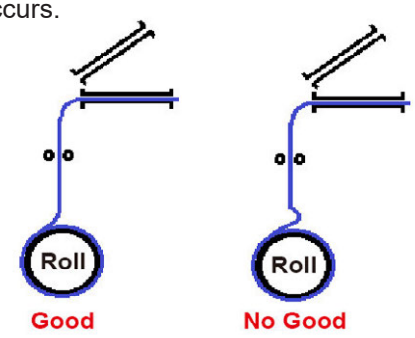


Menu name	Specification
RETURN	Return to the original position.
UPPER LIFT POS.	Raise the lift to the upper lift position.
CHANGE LIFT	After the lift is moved to the position of the lift switching height, the lift switching solenoid is turned ON/OFF repeatedly. Use this button to visually confirm from the rear of the main unit that the lift has been switched.
LIFT UPPER POSITION	Adjust the lift standby position when the product is wrapped. Adjust the rod end so that the upper surface of the rear wrapping plate and the upper surface of the lift head are in the relationship as shown in the figure on the screen.
ORIGINAL LIFT POS.	Adjust the lift waiting position when supplying products. Adjust the infeed centering conveyor surface and lift head top surface. Positive direction: Up, Negative direction: Down No numeric value input+ press “+” or “-“ ... Adjust a positive or negative value by one. Numeric value input+ press “+” or “-“ ... Adjust a numeric value to positive or negative by one. Numeric value input+ press other than “+” or “-“ ... Adjust a numeric value to positive by one. Input range: -10 to 10

6.14.3 Wrapping machine (Roll)



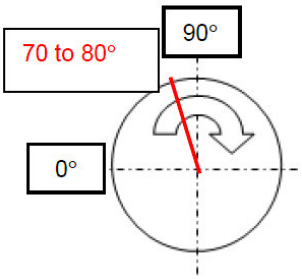
As soon as the film roll drive is stopped, the electromagnetic disk brake is turned ON to prevent the roll overrun.
Abrasion of the disk brake leads to delay in the stop timing.
In the case of an extreme overrun condition, the tension of the film between the delivery unit and roll changes rapidly from loose to tight.
As a result, the film is pulled at the pinching section, or the film run-out occurs.



Menu name	Specification
SET UPPER FILM	When the film is replaced, prepare to use the film set above the machine.
FEED UPPER FILM	Feed the film for the length of one package from the upper film.
SET LOWER FILM	When the film is replaced, prepare to use the film set below the machine.
FEED LOWER FILM	Feed the film for the length of one package from the lower film.
CHANGE ROLL	Switch the film.
RETURN	Return to the original position.
LOADING POS.	Confirm the operation of the loading position of the lower film.
UPPER ROLL STOP POS.	Adjust the stop timing when stopping the upper film roll. Positive direction: The brake is applied quickly. Negative direction: The brake is applied slowly. Press [+] or [-] without entering a numeric value … Adjust in units of one to the positive or negative side. Press [+] after entering a numeric value … Adjust the entered value to the positive side. Press any key other than [+] after entering a numeric value … Adjust the entered value to the positive side. Input range: -8 to 16
UPPER ROLL POS.	Position the insert plate of the upper film.

Menu name	Specification
LOWER ROLL STOP POS.	Adjust the stop timing when stopping the lower film roll. Positive direction: The brake is applied quickly. Negative direction: The brake is applied slowly. Press [+] or [-] without entering a numeric value … Adjust in units of one to the positive or negative side. Press [+] after entering a numeric value … Adjust the entered value to the positive side. Press any key other than [+] after entering a numeric value … Adjust the entered value to the positive side. Input range: -8 to 16
LOWER ROLL POS.	Position the insert plate of the lower film.
PLATE RETURN DELAY	Delays the timing of the insertion plate to return to the home position while film is fed. This reduces the tension of film to be pulled by both the insertion plate and the feeder belts. Results: o Film is less likely to fall out of the feeder belts. o Film is easier to cut since the film will be more stable. o Feeding movement will be a bit slower.
LOWER ROLL LOAD. POS	Adjust for maximum loading space on the left side (outside) when opening the insertion plate to load the lower film roll. Verify the linkage arm is aligned straight after the adjustment.

Adjustment mode – Roll adjustment



[Upper roll stop position, lower roll stop position]

1. Set a new film with maximum roll diameter.
2. Convey the film for five times and then check the film peeling position.
3. Adjust the brake configuration for the roll to stop at a 70 to 80 degrees angle.

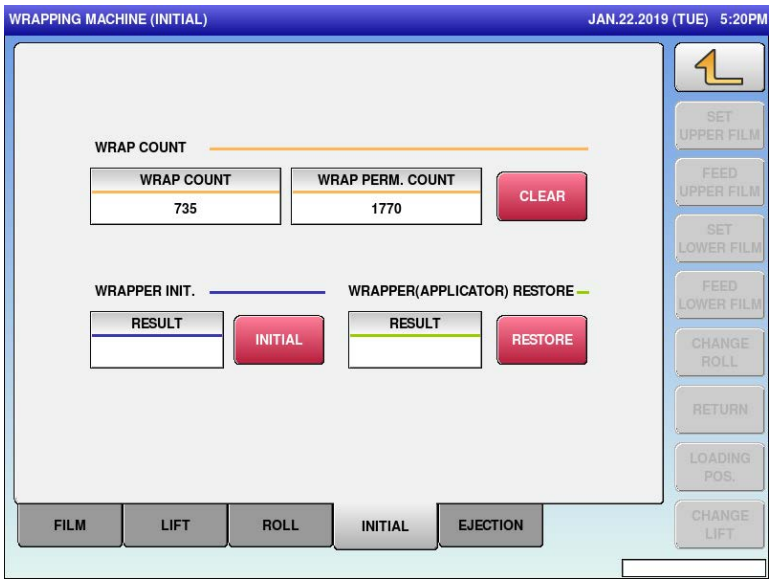
* The five times conveyance contributes to the stability of the reading of the roll diameter.

[Upper roll insertion plate position, lower roll insertion plate position]
Enter a numeric value to check the number for the plate to stop horizontally.
Check the numbers by which the gear position moves up and down from the horizontal position, and then enter the intermediate value.

* If the insertion plate does not become horizontal, check if the insertion plate unit is positioned horizontally, adjust the supporting point mount position of the stopper rack, and then enter a numeric value.

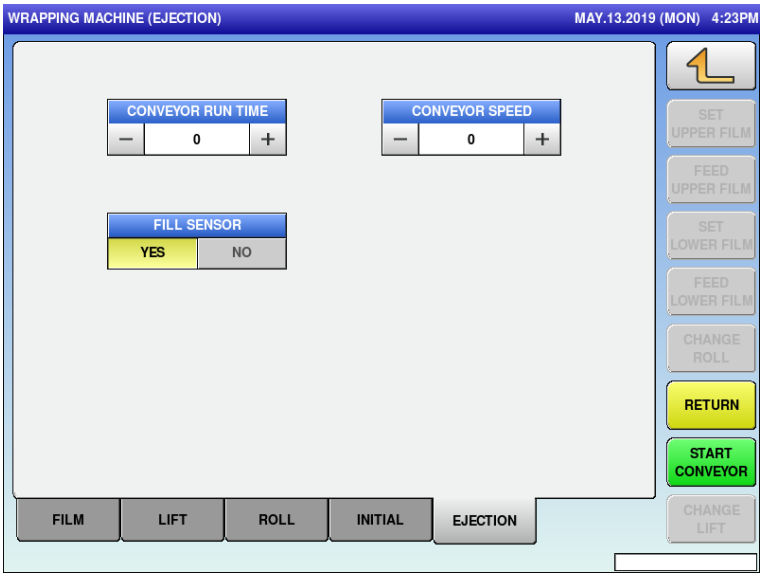
[Lower roll insertion plate loading position]
Adjust the position in which the link lock engages and no movement occurs even if the cover is open.
It must not contact with the rubber feet.

6.14.4 Wrapping machine (Initial)



Menu name	Specification
WRAP COUNT (CLEAR)	Clear the WRAP COUNT. The WRAP PERM. COUNT is cleared by entering 495344 + CLEAR.
WRAPPER INIT. (INITIAL)	Initialize the wrapping machine. After the machine is initialized, it is necessary to set up the wrapping machine adjustment data again.
WRAPPER (APPLICATOR) RESTORE (RESTORE)	Backed up settings will be restored when the RESTORE button is pressed followed by the EXEC button.

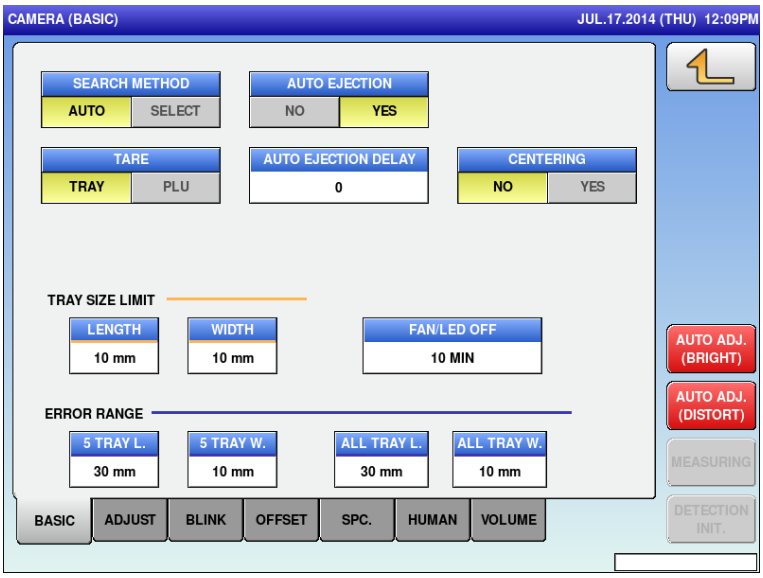
6.14.5 Wrapping machine (Ejection)



Menu name	Specification
RETURN	Return to the original position.
START CONVEYOR	Start the ejection conveyor.
CONVEYOR RUN TIME	Adjust the operating time of the ejection conveyor.
CONVEYOR SPEED	Adjust the speed of the ejection conveyor.
FILL SENSOR	Select when using the fill sensor.
CONVEYOR START TIME	Set the start time of the optional heater conveyor. *Not used when the optional heater is not connected.

6.15 Camera

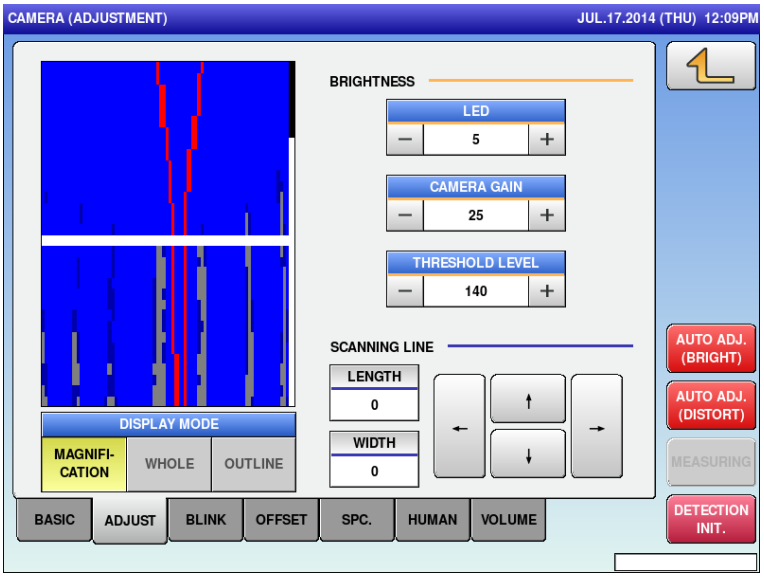
6.15.1 Camera (Basic)



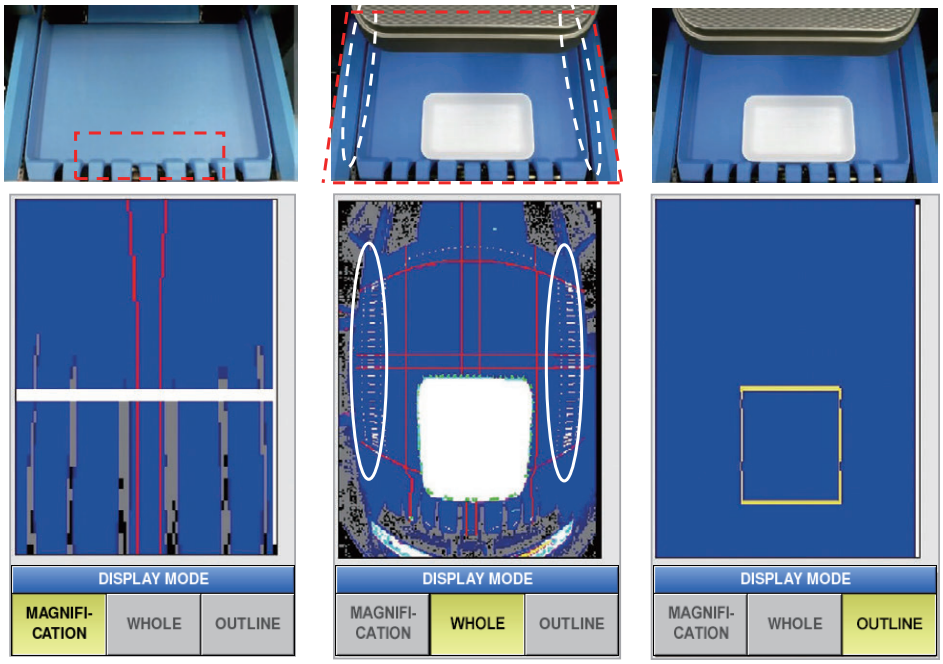
Menu name	Specification
SEARCH METHOD	Select a method to obtain the tray information when the product is produced. [AUTO]: Detect the tray automatically using the camera to determine the tray information. [SELECT]: Specify which tray is used in advance.
AUTO EJECTION	Select whether or not to automatically discharge the last product fed into the machine. (Initial data: Yes) Yes: The product is discharged when nothing is captured as an image on the weighing platter for a certain period of time through camera monitoring. No: The product is discharged when the [PLU] key is pressed.
TARE	Set when using the tare of the detected tray. [TRAY]: Reflect the tray's tare after the tray is detected. [PLU]: Reflect the tray's tare of the product master. (The tare of the product when the product is called out is applied.) "Tray standard" is the standard operation for the wrapper. The tray weight and film weight are registered in the tray registration. Register inserts (soy sauce, pepper, etc.) in the tare of the product master. By selecting [WRAP / LABEL], [LABEL] or [WRAP] in the wrapping mode, the weight of three types is subtracted depending on the mode.
AUTO EJECTION DELAY	On the [Normal: Production] screen, set the timing to eject the tray on the lift automatically. Input range: 0 to 9 When "0" is set, the tray is ejected on the current automatic ejection time, and the delay process is not performed. When "2" is set, the automatic ejection delay timer is set. The tray is ejected automatically 2.0-3.0 seconds after the tray is put on the lift. When the AUTO EJECTION item is set to NO, this item is grayed out and cannot be set up.
CENTERING	Set whether or not to correct the centering amount during tray conveyance. NO/YES (Initial value)

Menu name	Specification
TRAY SIZE LIMIT LENGTH	When inputting the tray of an item that is set to perform the 5-tray search (automatic tray search) on the normal production screen, a warning dialog can be displayed if the tray with close dimensions that may cause a detection error is registered, At this time, set how wide the range from the set width dimension is to be considered as close dimensions. Input range: 0 to 99 (Initial data: 10 mm)
TRAY SIZE LIMIT WIDTH	When inputting the tray of an item that is set to perform the 5-tray search (automatic tray search) on the normal production screen, a warning dialog can be displayed if the tray with close dimensions that may cause a detection error is registered, At this time, set how wide the range from the set width dimension is to be considered as close dimensions. Input range: 0 to 99 (Initial data: 10 mm)
FAN/LED OFF	It is able to turn OFF the LED (illumination) of the detector and the cooling fan automatically when work such as product call-out or production is not performed in a certain period of time. Set the time to turn OFF the LED (illumination) and fan in minutes after work is stopped. Input range: 0 to 99
ERROR RANGE 5 TRAY L.	Referred to when the 5-tray search is performed. Set a range of the difference between the detected width and the preset width, in which the tray can be judged as detected. Input range: 0 to 99
ERROR RANGE 5 TRAY W.	Referred to when the 5-tray search is performed. Set a range of the difference between the detected depth and the preset depth, in which the tray can be judged as detected. Input range: 0 to 99
ERROR RANGE ALL TRAY L.	Referred to when the all-tray search is performed. Set a range of the difference between the detected width and the preset width, in which the tray can be judged as detected. Input range: 0 to 99
ERROR RANGE ALL TRAY W.	Referred to when the all-tray search is performed. Set a range of the difference between the detected depth and the preset depth, in which the tray can be judged as detected. Input range: 0 to 99
AUTO ADJ. (BRIGHT)	Adjust the brightness of the camera images automatically. The adjustment items are the five ones below: LED / CAMERA GAIN / THRESHOLD LEVEL / CONTRAST FILTER / DARK FILTER
AUTO ADJ. (DISTORT)	Adjust the distortion of the camera lens automatically. The adjustment items are the seven ones below: GRADIENT ADJ (OFFSET LEN, OFFSET WID)/ HEIGHT ADJ (OFFSET LEN, OFFSET WID) / TRAPEZOID ADJ. (OFFSET LEN, OFFSET WID) / ANGLE ADJ (OFFSET ANGLE)

6.15.2 Camera (Adjustment)



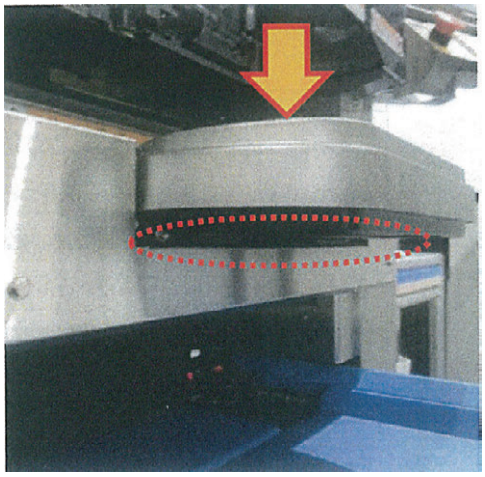
Menu name	Specification
(BRIGHTNESS) LED	Set the brightness of the LED. Input range: 0 to 15
(BRIGHTNESS) CAMERA GAIN	Set the aperture value (exposure) of the camera. (Initial data: 30) Set when adjustment is not possible with LED brightness. Dark place: Increase the camera gain if tray contours (green dots) cannot be taken even if the LED brightness is set to maximum 15. Bright place: Decrease the camera gain if tray contours (green dots) cannot be taken even if the LED brightness is set to minimum 0. Input range: 0 to 127
(BRIGHTNESS) THRESHOLD LEVEL	Set the criterion value (threshold) for determining whether it is a tray or not. (Initial data: 120) The change in color from blue for each scanning line is determined as the tray contour. This corresponds to the change determination level. Input range: 0 to 255
SCANNING LINE ←↑↓→	Correct the capturing position of the camera. If a set number is applicable, specify the set number* (-1). Otherwise, decrement the current value. The entry range is -127 to 127.

DISPLAY MODE	<Magnification> <Whole> <Outline> 
DETECTION INIT.	Initialize the camera information. (With a confirmation message) Automatic adjustment is performed depending on the brightness of the installation site. • LED brightness 7 • Camera gain 30 • Threshold 120 • Recognition of the left and right limits of the weighing platter Horizontal scanning is performed sequentially while recognizing the left and right limits at the beginning and end of a single horizontal scan. :Normal :The next horizontal scan will no longer be performed, and the tray will not be recognized. * Do not clear the offset width and offset length of the scanning line adjustment.
AUTO ADJ. (BRIGHT)	Adjust the brightness of the camera images automatically. The adjustment items are the five ones below: LED / CAMERA GAIN / THRESHOLD LEVEL / CONTRAST FILTER / DARK FILTER
AUTO ADJ. (DISTORT)	Adjust the distortion of the camera lens automatically. The adjustment items are the seven ones below: GRADIENT ADJ (OFFSET LEN, OFFSET WID)/ HEIGHT ADJ (OFFSET LEN, OFFSET WID) / TRAPEZOID ADJ. (OFFSET LEN, OFFSET WID) / ANGLE ADJ (OFFSET ANGLE)

■ Adjustment procedure

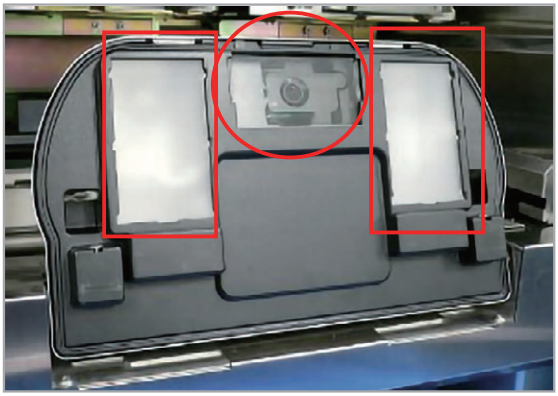
1

Prior confirmation



1. For the standard type, push the camera unit down once before making adjustments.

2. Check for uneven contrast on the weighing platter due to the lighting at the installation site. If the uneven brightness is extreme, additional lighting or other measures should be taken to make the brightness uniform. If the platter is exposed to spotlight or sunlight (sunlight depends on the time of day and the presence of a window), appropriate measures should be taken to avoid the exposure.



3. If the camera protection transparent cover or LED protection cover is dirty, the product will not be recognized correctly. Remove the dirt.

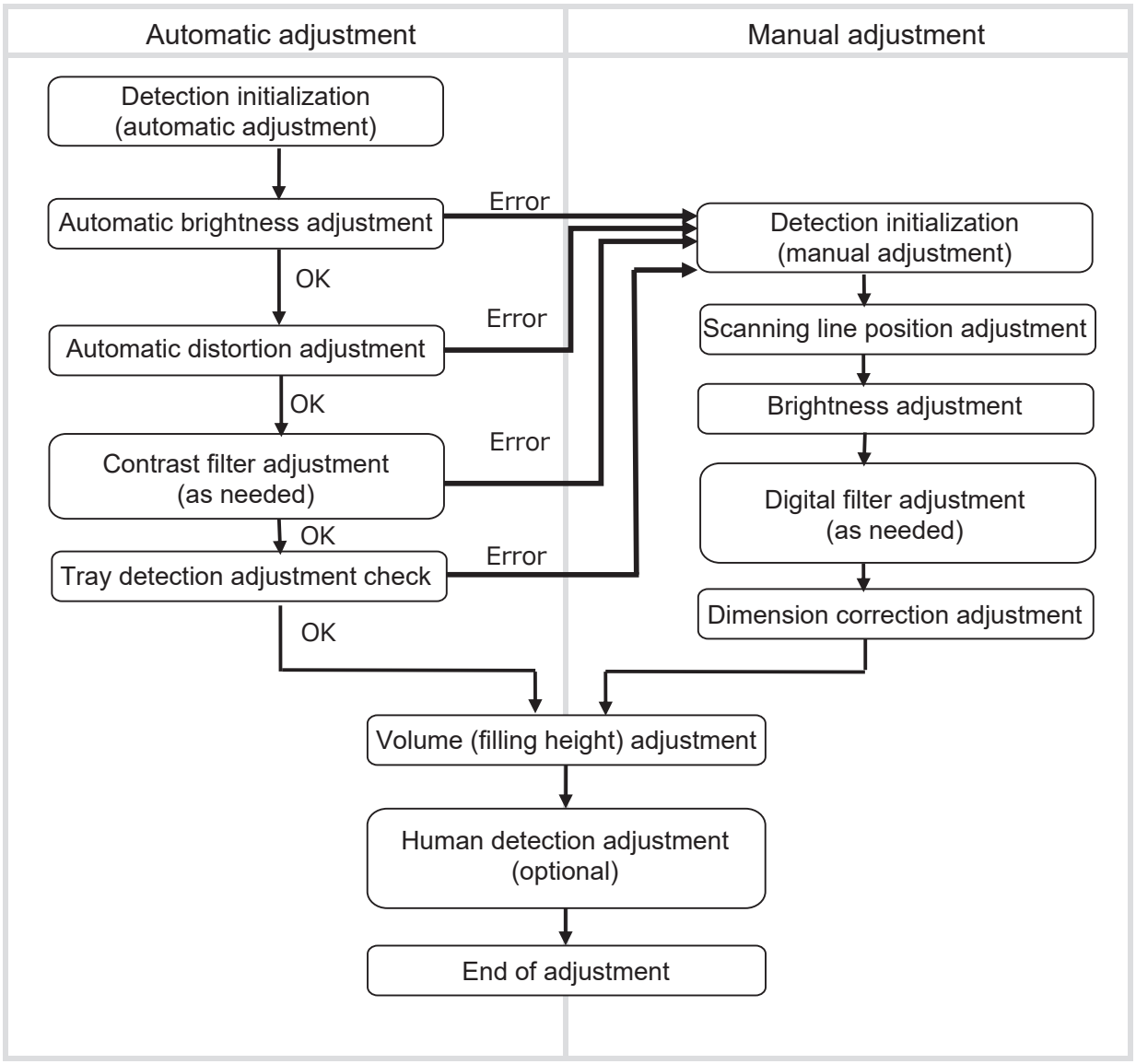
4. If the surface of the weighing platter is glossy, the product will not be recognized correctly. Replace it with a new weighing platter.

5. When adjusting the automatic recognition, if the weighing platter is wet or if there is anything like fallen pieces of product, it may result in an inappropriate adjustment value. Be sure to clean the surface of the weighing platter before performing the automatic adjustment.

6. Press the [RETURN] button to confirm that the infeed conveyance bar and infeed conveyor are returned to their original positions.

2

Adjustment procedure flow



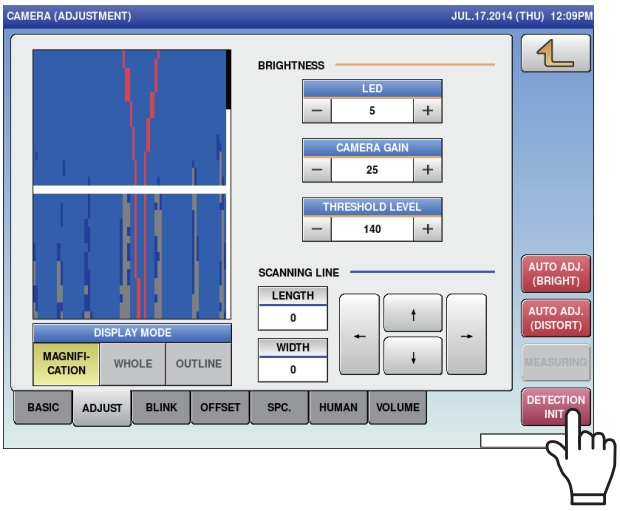
3

Automatic adjustment

(1) Detection initialization

[Procedure]

1. Press the [DETECTION INT.] button with nothing on the weighing platter.
2. Press the [EXEC.] button on the confirmation screen for initialization.



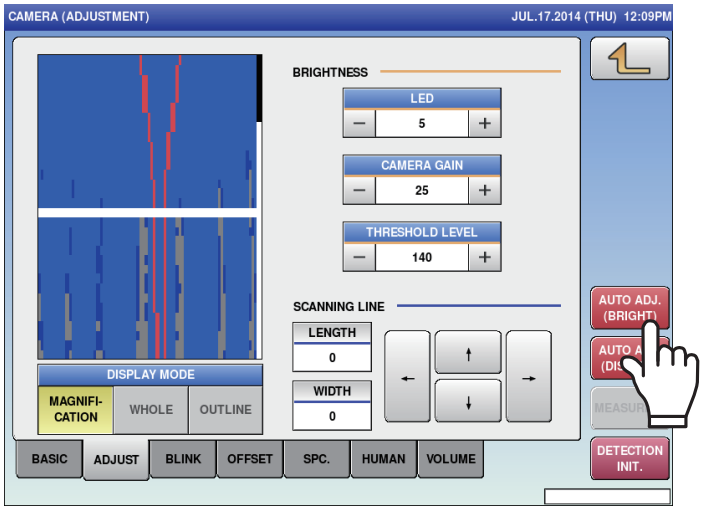
(2) Automatic brightness adjustment

[Automatic adjustment items]

LED, camera gain, threshold, dark filter

[Procedure]

1. Press the [AUTO ADJ. (BRIGHT)] button with nothing on the weighing platter.
2. Press the [EXEC.] button on the confirmation screen for executing automatic adjustment.
3. Press the [OK] button when the procedure is completed normally.



NOTE

Automatic brightness adjustment will start after the [EXEC.] button is pressed.
During automatic adjustment, stay away from the wrapping unit to avoid shadows of a person from interfering.
If an error occurs, perform manual adjustment.

1

(3) Automatic distortion adjustment

[Automatic adjustment items]

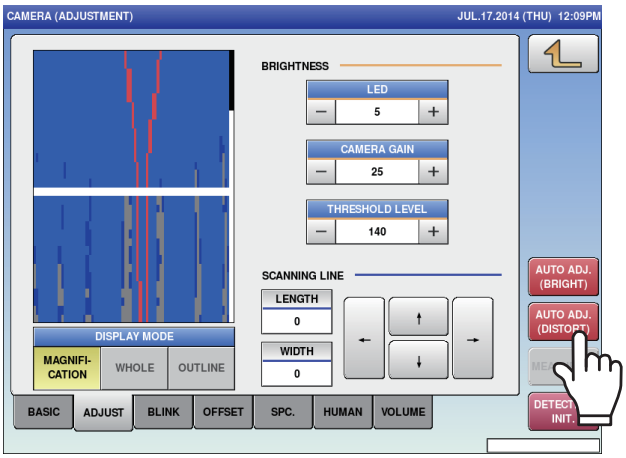
Detection tilt adjustment (offset width, offset length), Detection height adjustment (offset width, offset length), Trapezoid adjustment (offset width, offset length), Rotation angle adjustment, Width start position, Length start position

* Do not manually change the settings for trapezoid adjustment (offset width, offset length) and rotation angle adjustment.

[Procedure]

1. Press the [AUTO ADJ.(DISTORT)] button with nothing on the weighing platter.
2. Press the [EXEC.] button on the confirmation screen for executing automatic adjustment.
3. Press the [OK] button when the procedure is completed normally.

* If an error occurs, perform manual adjustment.

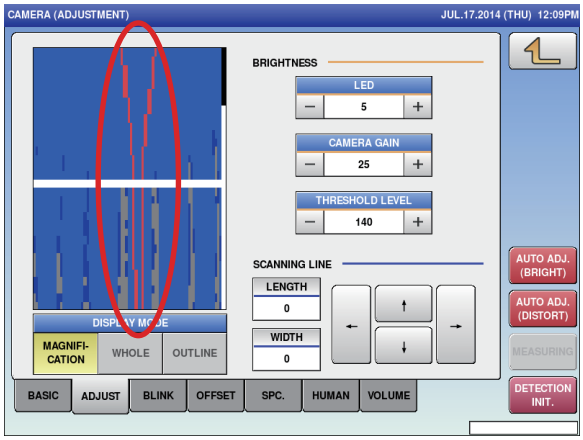


NOTE

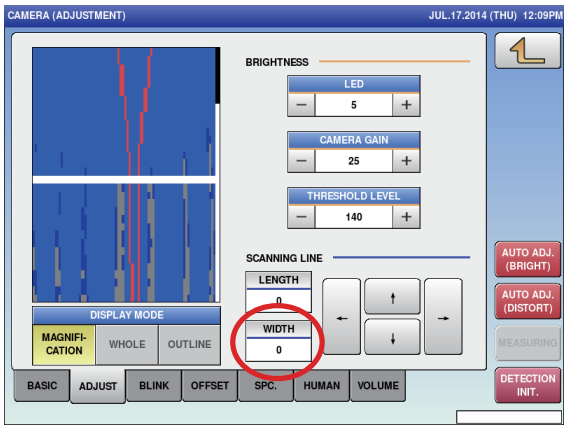
Automatic distortion adjustment will start after the [EXEC.] button is pressed.
During automatic adjustment, stay away from the wrapping unit to avoid being shadowed by you.

4. Press the display mode [MAGNIFICATION] on "CAMERA (ADJUSTMENT)" and confirm that it is as shown below. If it is not as shown below, perform manual adjustment.

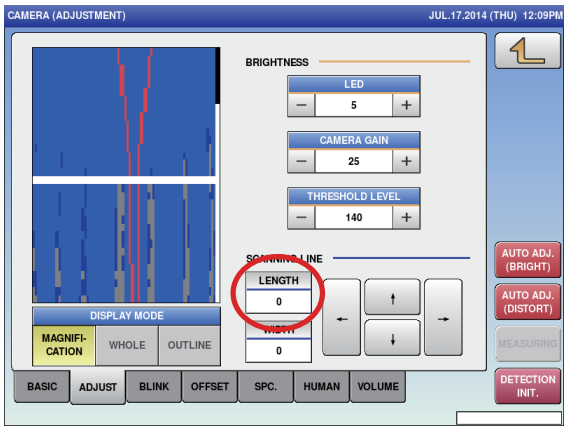
● Both red vertical lines should be displayed inside the two center cutouts.



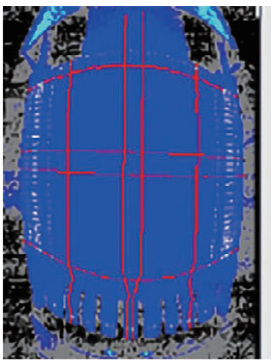
- The "red vertical line" should not break even if the scanning line offset width is changed from "-2" to "+2".



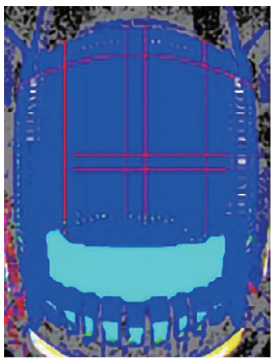
- The "white horizontal line" should intersect with the cutout in the center of the front of the weighing platter between the scanning line offset length values of "- 2" and "+ 2".



5. Press the display mode [WHOLE] on the adjustment screen, and check that the vertical and horizontal "red lines" are not broken inside the weighing platter.
   If the adjustment is not possible, perform manual adjustment.



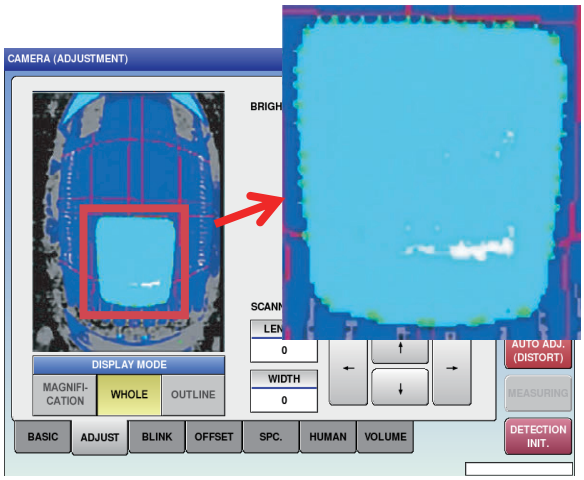
Example of "red line" break



No break in the "red line"

1

6. Place the sample tray on the weighing platter and press [WHOLE] in the display mode to display the whole image.
   Confirm that the green dots follow the outline of the displayed tray.
   If the adjustment is not possible, perform manual adjustment.



(4) Contrast filter adjustment

[Automatic adjustment item] Contrast filter

NOTE

This should be done when it is necessary to reduce the effect of contrast (shadows, shine, etc.) on the weighing platter, or to adjust the bluish tray detection.
However, the adjustment may cause the tray detection to be unstable, so adjust carefully.

[Adjustment method]

<Case 1> When the contrast on the weighing platter is strong

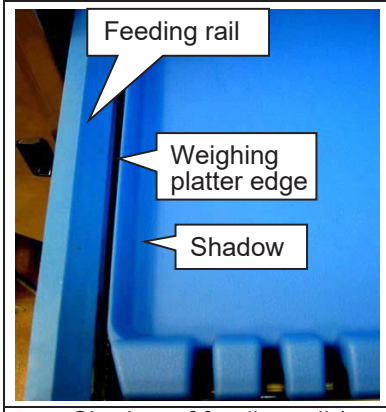
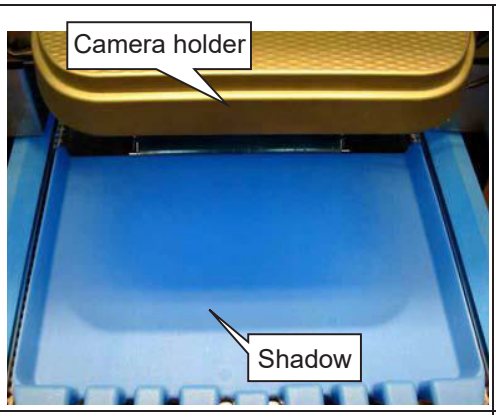
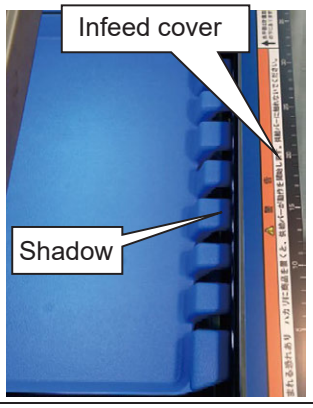
The following describes various adjustment methods when the contrast on the weighing platter becomes strong due to shadows, etc., as shown in the photos below.

(Example 1) When the brightness on the weighing platter changes significantly depending on the standing position, etc. of the operator

(Example 2) When there is a dark shadow on the weighing platter cast by the feeding rail or the edge of the platter

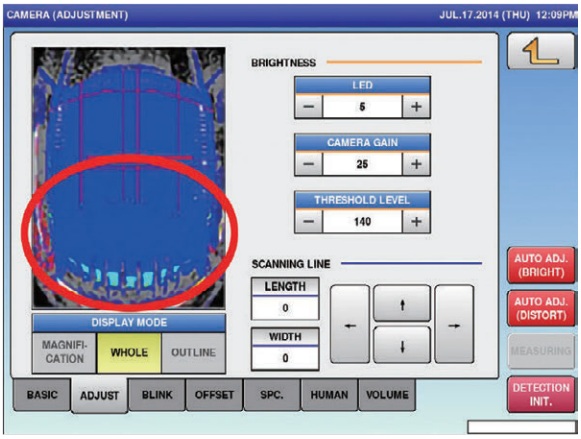
(Example 3) When there is a dark shadow cast by the camera holder, discharge conveyor, or infeed cover on the weighing platter

(Example 4) When the ceiling light in the backyard illuminates the comb part etc. in front of the weighing platter, and strong reflected light partially enters the camera.

		
Shadow of feeding rail / weighing platter edge	Shadow of camera holder	Shadow of infeed cover

[Procedure]

1. Increase the level of the contrast filter by one, display the display mode [WHOLE] on "CAMERA (ADJUSTMENT)", and check if the red line is broken when nothing is on the weighing platter. If the red line is broken as shown in the figure below, increase the level of the contrast filter.
2. Repeat the adjustment until the red line becomes unbreakable.



NOTE

If the blue color of the tray and the blue color of the weighing platter are similar, increasing the level of the contrast filter will make it difficult to distinguish by color, and make the detection of blue trays unstable.
In this case, when using bluish trays, it is necessary to operate in the state of "tray designation" and "no centering".

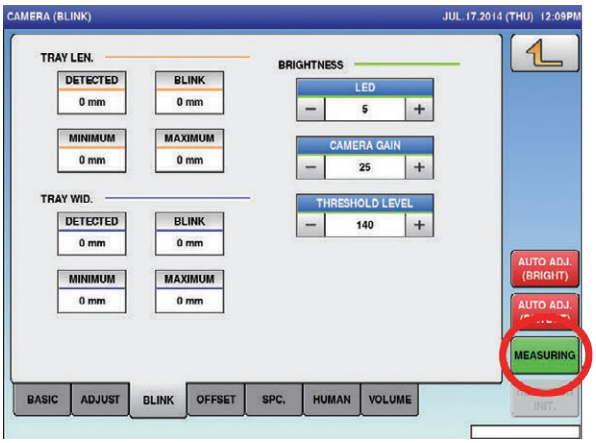
[Adjustment method]

<Case 2> When enhancing the detection of bluish trays

Follow the procedure below to make adjustments. However, the adjustment may cause the tray detection to be unstable because it is more sensitive to contrast. Adjust carefully if you want the contrast filter to be weaker than the default.

[Procedure]

1. Go to the "CAMERA (BLINK)" screen, place the bluish tray to be detected on the weighing platter and then press the [MEASURING] button.



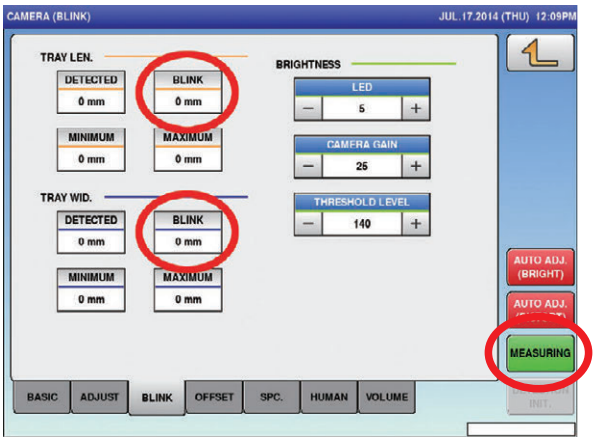
2. Wait for about one minute and check that the blinking width of the tray width is "12 mm" or less and the blinking width of the tray length is "6 mm" or less. If the above conditions are not met, perform the following adjustment procedure and start again from step 1.
3. Repeat moving closer to and further away from the Infeed table several times to make sure that your shadow is not affecting the table. At this time, check that the blinking width of the tray width is less than "12 mm" and the blinking width of the tray length is less than "6 mm".If the above conditions are not met, perform steps 4 and 5 below and then start from step 1 again.

4. Decrease the level of the contrast filter by one from the current setting value.
5. Display the display mode [WHOLE] on "CAMERA (ADJUSTMENT)", and check if the red line is broken when nothing is on the weighing platter. If the red line is broken, the tray detection will become unstable, so increase the level of the contrast filter by one and finish the adjustment of the contrast filter.
6. Perform steps 1 to 3 for all bluish trays to be detected.

(5) Tray detection adjustment check

[Procedure]

1. Go to the "CAMERA (BLINK)" screen, place the tray on the weighing platter, and press the [MEASURING] button.



2. Wait for about one minute and check that the blinking width of the tray width is "12 mm" or less and the blinking width of the tray length is "6 mm" or less. If the adjustment is not possible, perform manual adjustment.
3. Go to the "CAMERA (OFFSET)" screen and place the tray in the center of the weighing platter.
4. Compare the width of the tray in step 3 with the width of the tray when it is placed respectively on the left and right ends of the front side of the weighing platter and then make sure that the difference is 12 mm or less.
   If the adjustment is not possible, perform manual adjustment.
5. Compare the width of the tray in step 3 with the width of the tray when it is placed respectively on the left and right ends of the front side of the weighing platter and then make sure that the difference is 6 mm or less.
   If the adjustment is not possible, perform manual adjustment.

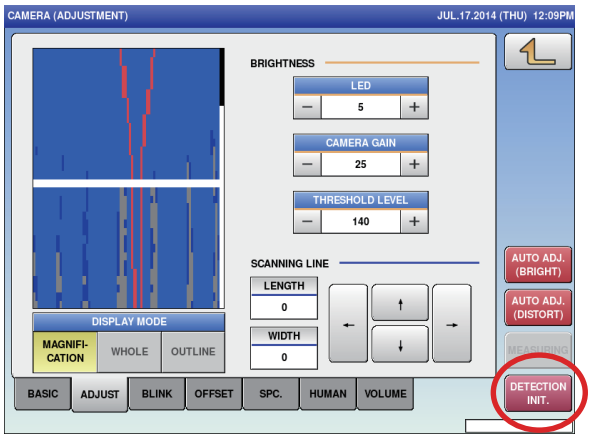
4

Manual adjustment

(1) Detection initialization

[Procedure]

1. Without placing anything on the weighing platter, set "CAMERA GAIN" and "THRESHOLD LEVEL" to "0" and then press the [DETECTION INIT.] button.
2. Press the [EXEC.] button on the confirmation screen for initialization.



(2) Scanning line adjustment

[Adjustment items] Scanning line adjustment (offset width, offset depth), scanning line start position adjustment (width start, length start)

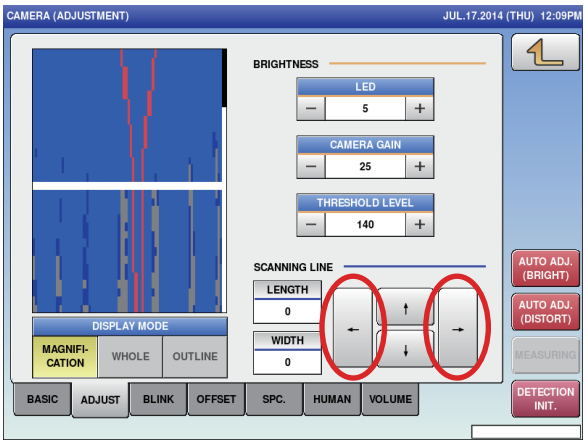
[Adjustment summary] The position to be scanned is corrected by software.

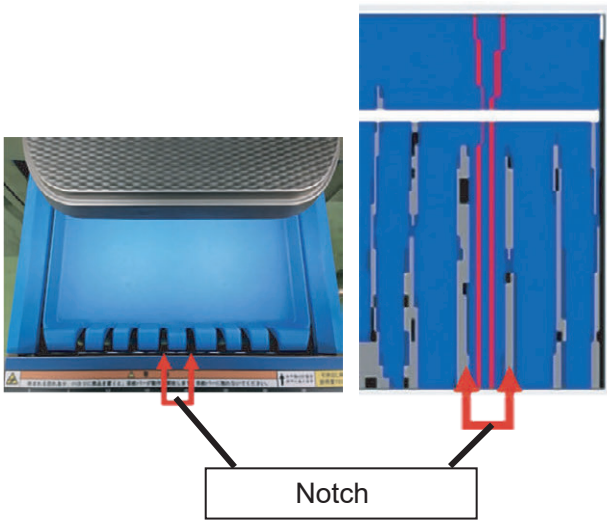
Adjustment can be made in two directions: left-right (offset width) and front-back (offset length).

[Check / adjustment method]

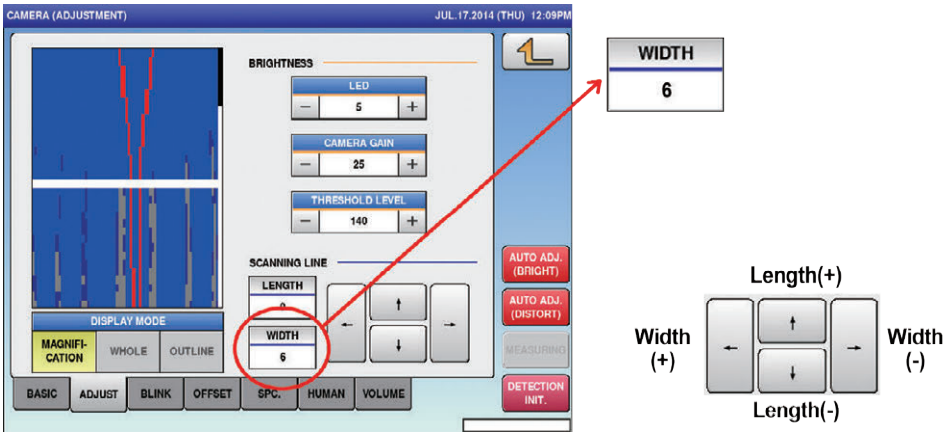
- Adjusting the left-right direction

1. Press [←] and [→] buttons for scanning line adjustment so that the two red lines appear within the two center notches.

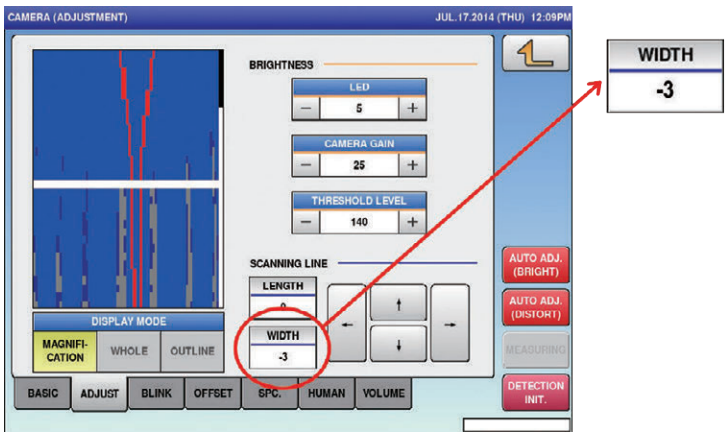




2. Press the [←] button for scanning line adjustment to find the offset width value at which the red line on the left side will be broken or only the red line on the right side will be displayed.

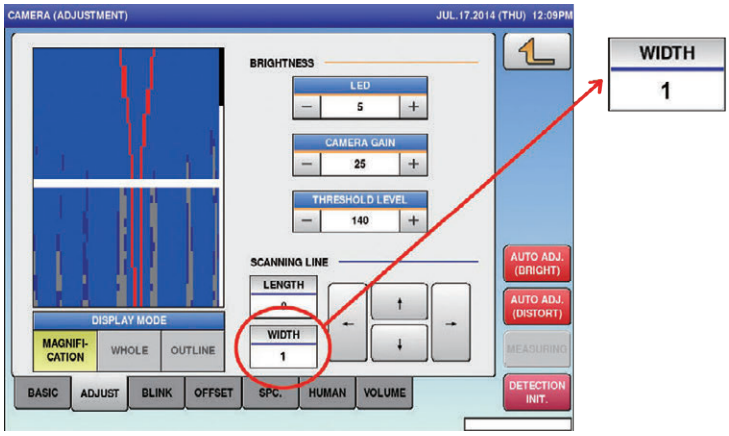


3. Press the [→] button for scanning line adjustment to find the offset width value at which the red line on the right side will be broken or only the red line on the left side will be displayed.



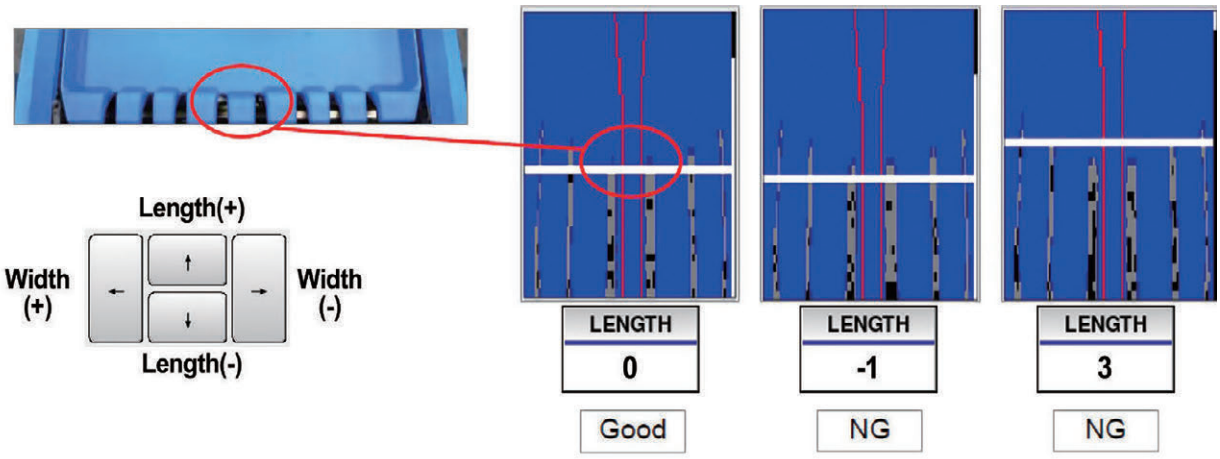
4. Set the offset width value to the middle value of the offset width values obtained in 2. and 3.

   * Decimals are rounded down.



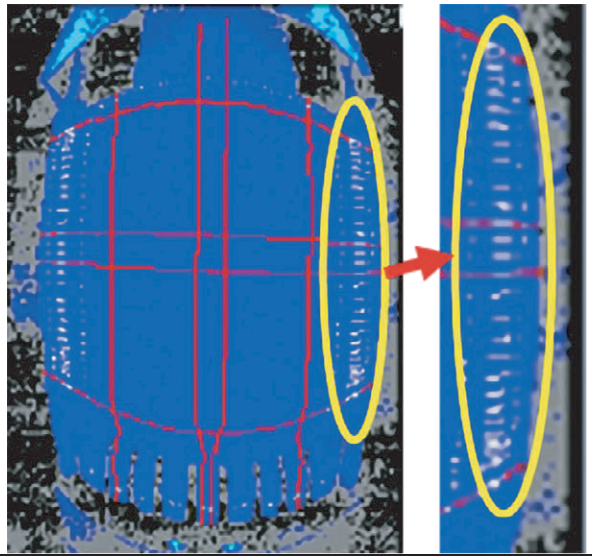
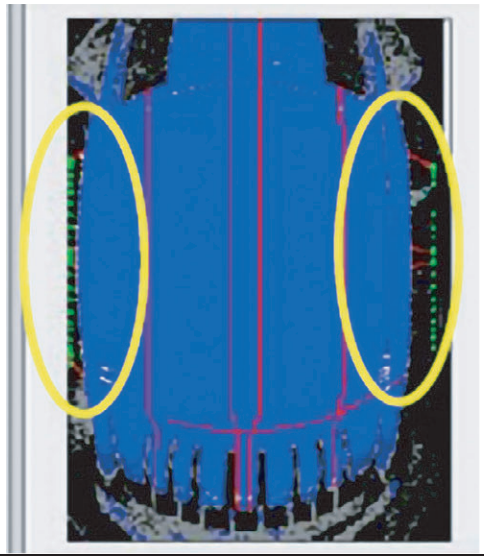
● Adjusting the front-back direction

1. Press [←] and [→] buttons for scanning line adjustment to find the offset length value so that the white horizontal line intersects the notch in the center of the front of the weighing platter.

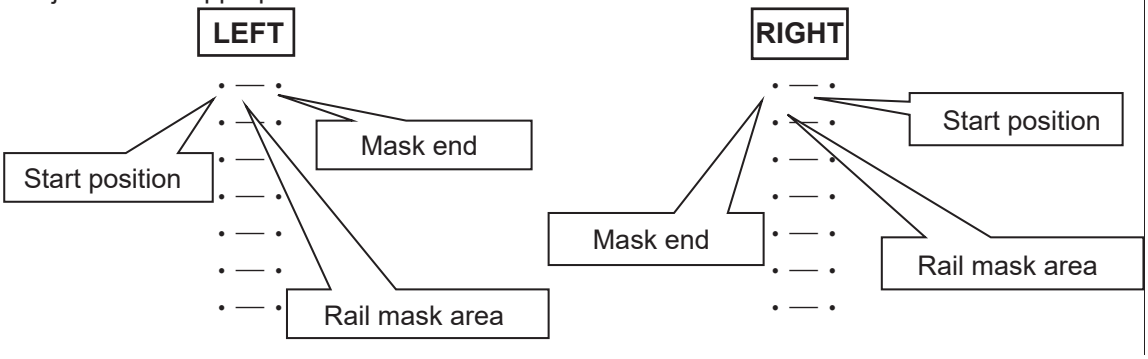


● Adjusting the front-back direction

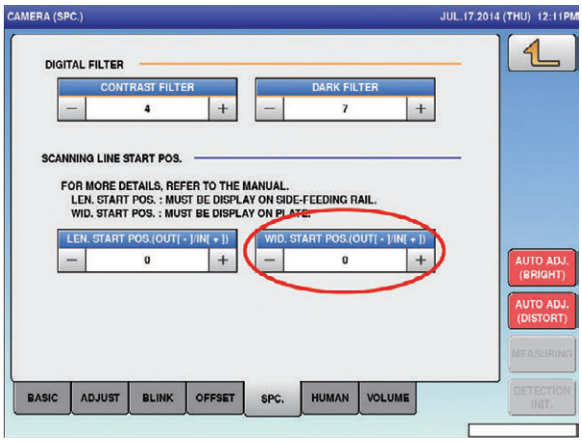
1. Press [←] and [→] buttons for scanning line adjustment to find the offset length value so that the white horizontal line intersects the notch in the center of the front of the weighing platter.

Example of proper left and right start positions	Example of inappropriate left and right width start positions (The position is off the feeding rail)
	

If the white dots and white lines within the yellow circle above are as shown below, the adjustment is appropriate.

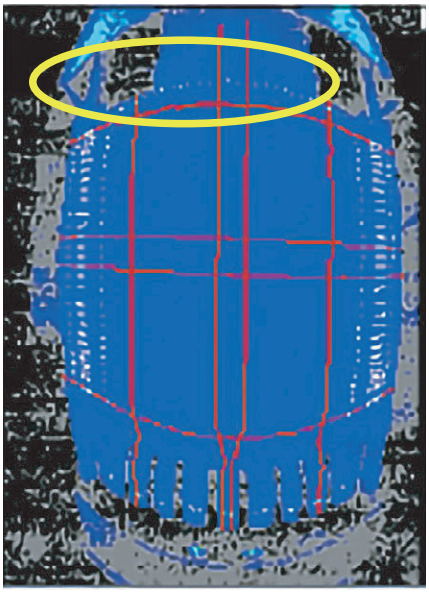
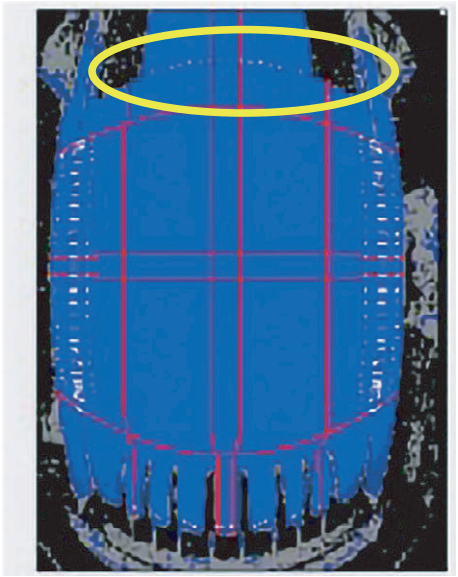


2. Adjust the scanning line start position as shown below so that the start position is properly positioned in the automatic recognition of the adjustment mode (environment / machine difference).
   - ♦ When the left and right start positions are outside the feeding rail
     → Minus the "WID. START POS."
   - ♦ When the left and right start positions are inside the feeding rail
     → Plus the "WID. START POS."

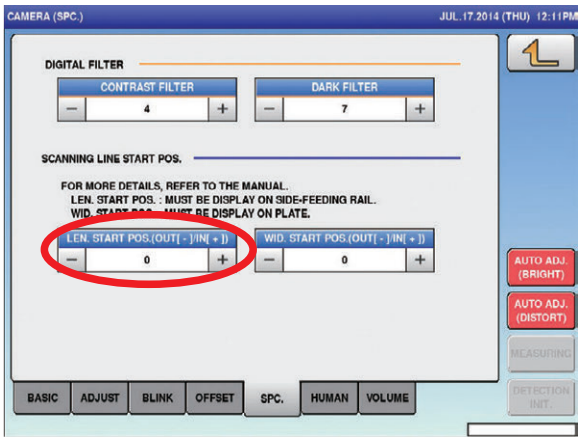


● Checking and adjusting the length start position

1. Display the display mode [WHOLE] on "CAMERA (ADJUSTMENT)", and make sure that the upper start point is on the feeding rail. If the position is inappropriate as shown in the right figure below, perform the following procedure to adjust the position.

Example of proper upper and lower start positions	Example of inappropriate upper start position (The upper start position is off the weighing platter)
	

2. Adjust the scanning line start position as shown below so that the start position is proper in the automatic recognition of the adjustment mode (environment / machine difference).
   - ♦ When the upper and lower start positions are outside the weighing platter
     → Minus the "LEN. START POS."
   - ♦ When the upper and lower start positions are far off to the inside the weighing platter
     → Plus the "LEN. START POS."



(3) Brightness adjustment

[Adjustment items] LED brightness, camera gain, threshold

[Adjustment summary]

Adjustment to absorb the effects of the lighting environment and other factors at the installation site

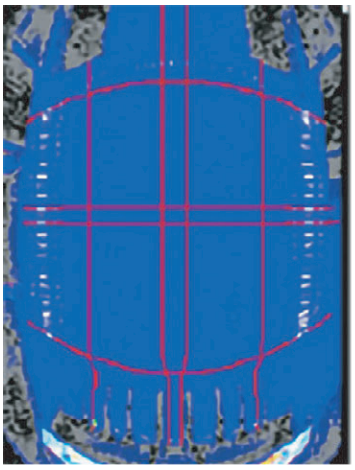
[Adjustment screen]

"Adjustment mode" → "Automatic recognition" → "Adjust", "Blink" tab

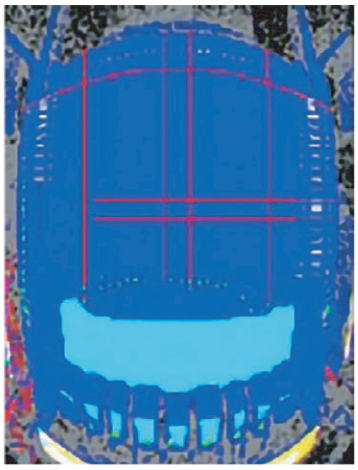
[Adjustment method]

1. On “CAMERA (ADJUSTMENT)” of the adjustment mode, display the display mode [WHOLE], and make sure that the display is as shown in the following two items.

   - ♦ The red line should not be broken when nothing is on the weighing platter
     → If the red line is broken, perform step 4.

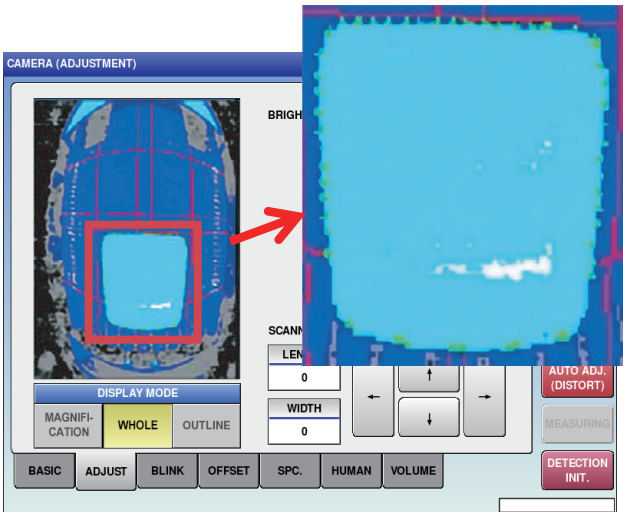


No break in the "red line"

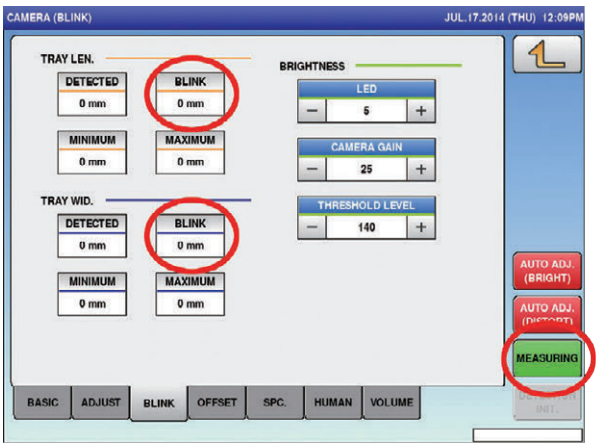


Example of a "red line" break

♦ When the tray is placed on the weighing platter, the green dot should follow the tray outline → If the green dot does not follow the tray outline, perform step 4.



2. On the "CAMERA (BLINK)" screen of the adjustment mode, place a foam tray of about "200 mm × 120 mm" in size on the weighing platter, then press the [MEASURING] button and wait for about one minute.



3. Brightness adjustment is complete when you confirm that the blinking widths of the tray width and tray length are as described below. Perform the following dimensional corrections.
Tray width: Blinking width is 6mm or less
Tray length: Blinking width is 6mm or less
→ If the blinking width is large, perform step 4.

4. Adjust the LED brightness, camera gain, and threshold items.
In a backyard with general brightness, it can be supported by adjusting the LED brightness.→ If the adjustment is not possible with the brightness adjustment, adjust the digital filter described on the following pages.

<LED brightness adjustment>

Change the LED brightness and check the adjustment methods 1 to 3 again. The adjustment value ranges from 0 to 15.

<Camera gain>

This setting is used when the LED brightness cannot be adjusted. Adjust the setting as described below depending on the environment and then check the adjustment methods 1 to 3 again.

♦ Bright place: Decrease camera gain
♦ Dark place: Increase camera gain

<Threshold>

The threshold is used as a level to determine whether it is a tray or a weighing platter.

The smaller the threshold value, the higher the degree of determination of the tray, but the degree to which the weighing platter is determined to be dirty becomes greater. Adjust as follows depending on the situation and then check the adjustment methods 1 to 3 again.

“CAMERA (ADJUSTMENT)” screen

- ♦ If the green dot is inside the tray: Decrease the threshold value
- ♦ If the green dot is on the weighing platter: Increase the threshold value

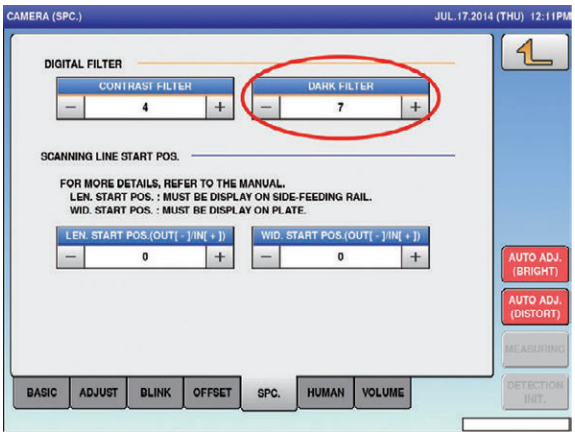
“CAMERA (BLINK)” screen

- ♦ If the tray dimensions blink: Increase the threshold value

(4) Dark filter adjustment

[Adjustment item] Dark filter

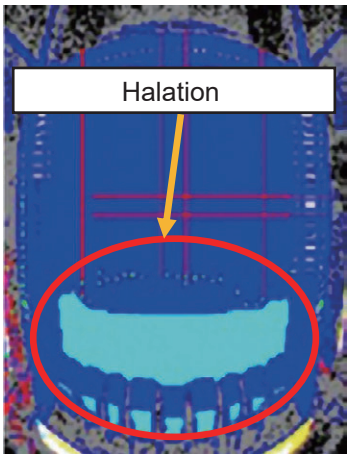
[Note] In a backyard with general brightness, the dark filter does not need to be adjusted. If the area above the weighing platter is very bright or very dark, as in the cases below, set the dark filter to suit the environment. However, adjusting the dark filter may make tray detection unstable due to increased contrast in the image or increased noise. Please adjust it carefully.



[Adjustment method]

<Case 1> The surrounding environment is bright

As shown in the figure on the right, if halation (a phenomenon in which the surrounding area of an area exposed to strong light appears blurry and white) occurs brightly on the weighing platter and if the brightness cannot be adjusted using the brightness adjustment described in the previous section, make the following adjustments:



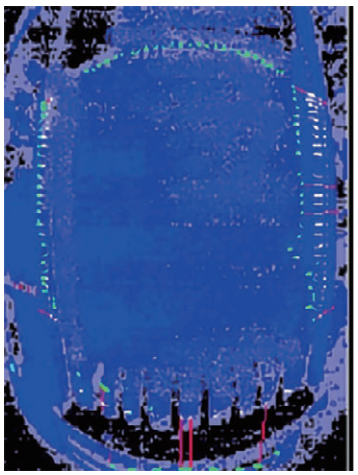
- ♦ Adjustment procedure

Increase the level of the dark filter by one and then perform "3. Brightness Adjustment".
If the adjustment is not possible, increase the level of the dark filter further. The recommended range of each adjustment is as follows:

Dark filter: 7 to 9
LED brightness: 5 to 12
Camera gain: 0 to 20
Threshold: 140 to 170

<Case 2> When the brightness on the weighing platter appears dark

If the brightness on the weighing platter appears very dark even after adjusting the brightness as shown in the figure on the right for reasons such as deterioration of LEDs, perform the following adjustment:



♦ Adjustment procedure

Decrease the level of the dark filter by one and then perform the above-mentioned "brightness adjustment".
If the adjustment is not possible even with case 1 above, decrease the level of the dark filter further.
The recommended adjustment level for the dark filter is about 5 to 6.

(5) Contrast filter adjustment

[Adjustment item] Contrast filter

[Note] This should be done when it is necessary to reduce the effect of contrast (shadows, shine, etc.) on the weighing platter, or to adjust the bluish tray detection. However, the adjustment may cause the tray detection to be unstable, so adjust carefully.

[Adjustment method]

<Case 1> When the contrast on the weighing platter is strong

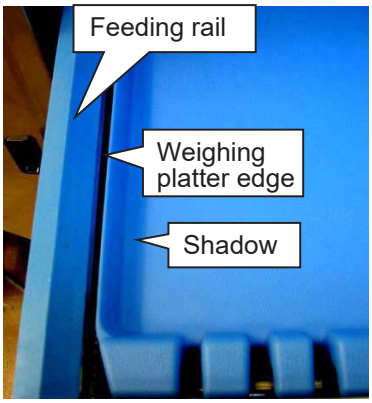
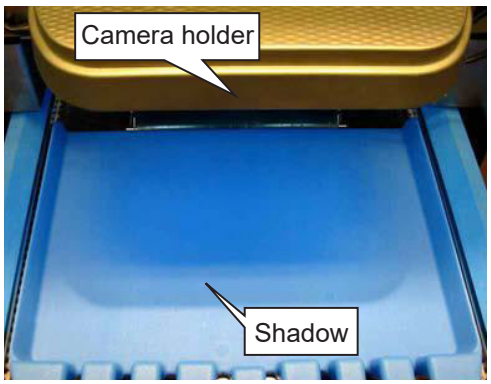
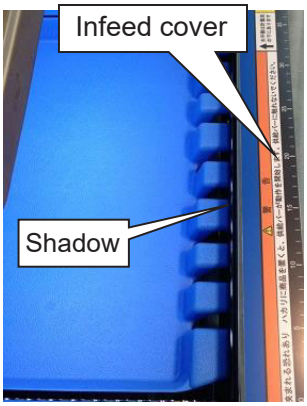
The following describes various adjustment methods when the contrast on the weighing platter becomes strong due to shadows, etc., as shown in the photos below.

(Example 1) When the brightness on the weighing platter changes significantly depending on the standing position, etc. of the operator

(Example 2) When there is a dark shadow on the weighing platter cast by the feeding rail or the edge of the platter

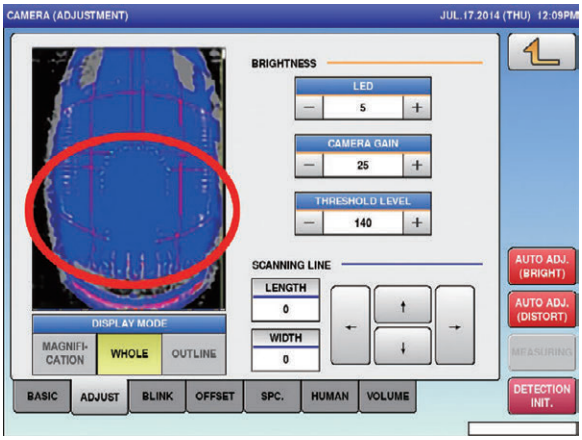
(Example 3) When there is a dark shadow cast by the camera holder, dis-charge conveyor, or infeed cover on the weighing platter

(Example 4) When the ceiling light in the backyard illuminates the comb part etc. in front of the weighing platter, and strong reflected light partially enters the camera

		
Shadow of feeding rail / weighing platter edge	Shadow of camera holder	Shadow of infeed cover

♦ Adjustment procedure

1. Increase the level of the contrast filter by one, display the display mode [WHOLE] on "CAMERA (ADJUSTMENT)", and check if the red line is broken when nothing is on the weighing platter. If the red line is broken as shown in the figure below, increase the level of the contrast filter.
2. Repeat the above adjustment 1. until the red line becomes unbreakable.



[Note]

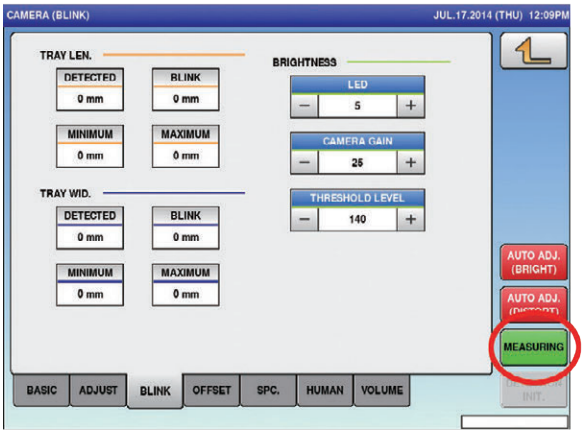
If the blue color of the tray and the blue color of the weighing platter are similar, increasing the level of the contrast filter will make it difficult to distinguish by color, and make the detection of blue trays unstable. In this case, when using bluish trays, it is necessary to operate in the state of "tray designation" and "no centering".

<Case 2> When enhancing the detection of bluish trays

Follow the procedure below to make adjustments. However, the adjustment may cause the tray detection to be unstable because it is more sensitive to contrast. Adjust carefully if you want the contrast filter to be weaker than the default.

♦ Check procedure

1. Go to the "CAMERA (BLINK)" screen, place the bluish tray to be detected on the weighing platter and then press the [MEASURING] button.



2. Wait for about one minute and check that the blinking width of the tray width is "12 mm" or less and the blinking width of the tray length is "6 mm" or less. If the above conditions are not met, perform the following adjustment procedure and start again from step 1.
3. From the state of the above check procedure 2., repeat moving closer to and further away from the infeed table several times to make sure that your shadow is not affecting the table. At this time, check that the blinking width of the tray width is less than "12 mm" and the blinking width of the tray length is less than "6 mm". If the above conditions are not met, perform the following adjustment procedure and start again from step 1.

4. Perform the above steps 1. to 3. for all bluish trays to be detected.

♦ Adjustment procedure

1. Decrease the level of the contrast filter by one from the current setting value.
2. Display the display mode [WHOLE] on "CAMERA (ADJUSTMENT)", and check if the red line is broken when nothing is on the weighing platter.

   * If the red line is broken, the tray detection will become unstable, so increase the level of the contrast filter by one and finish the adjustment of the contrast filter. 。

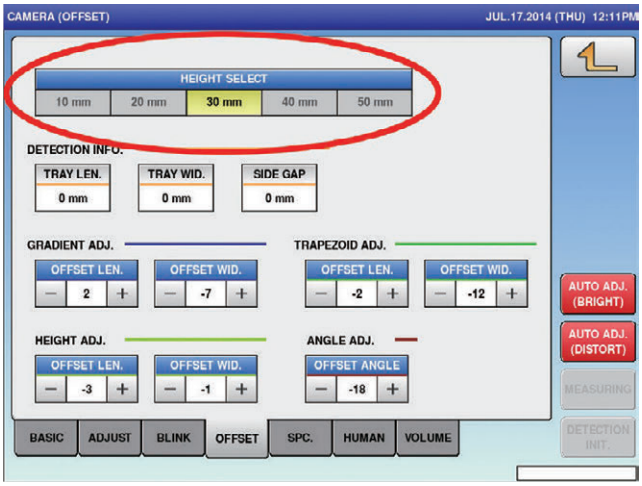
(6) Dimension correction

[Adjustment item] Detection gradient adjustment (offset width, offset length), Height adjustment (offset width, offset length)

[Adjustment summary] Adjustment to correct camera variations by software

[Note] Trapezoid adjustment (offset width, offset length) and Angle adjustment are dedicated adjustment items for automatic adjustment. For manual adjustment, the setting value should always be "0".

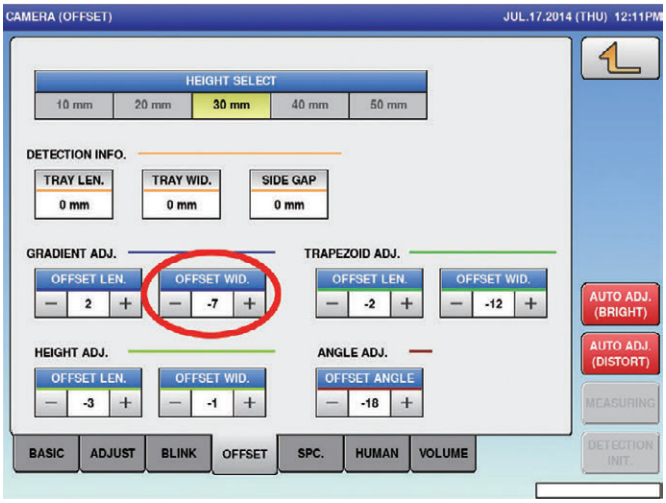
1. Use trays with a height of about 20 mm to 30 mm and then set the tray height according to the tray to be used.



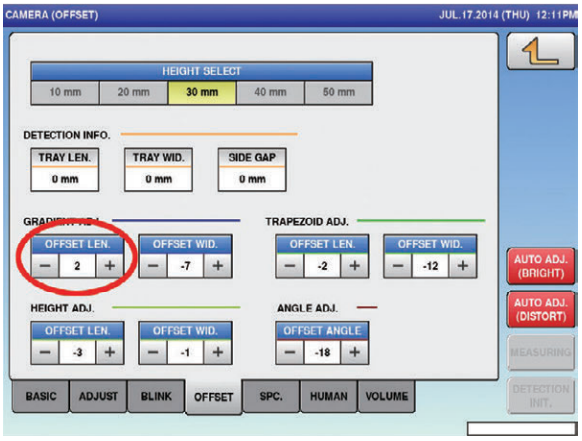
2. Adjust as follows, keeping in mind that the difference in tray width when the tray is placed respectively on the left and right ends of the front side of the weighing platter should be 3 mm or less.

   ♦ If the detection dimension is larger when the tray is placed on the right side: Decrease the "OFFSET WID." value in "GRADIENT ADJ.".

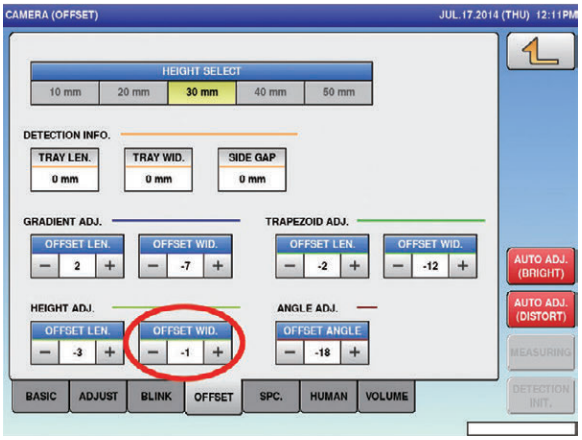
   ♦ If the detection dimension is smaller when the tray is placed on the right side: Increase the "OFFSET WID." value in "GRADIENT ADJ.".



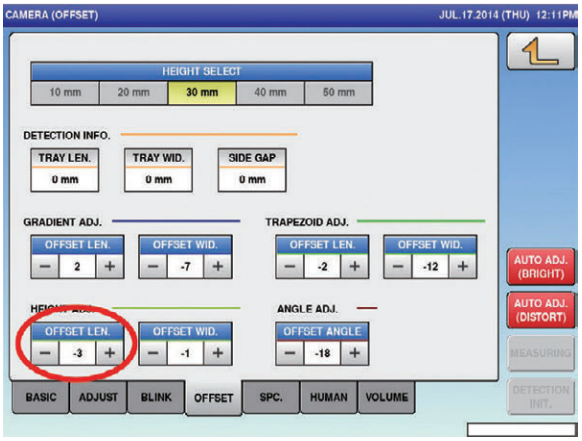
3. Compare the tray length when the tray is placed in front of the center of the weighing platter and when it is placed about 5 cm back from the center front and then adjust as shown below, keeping in mind that the difference should be 3 mm or less.
   - ♦ If the detection dimension is larger when the tray is placed in the front: Decrease the "OFFSET LEN." value in "GRADIENT ADJ.".
   - ♦ If the detection dimension is smaller when the tray is placed in the front: Increase the "OFFSET LEN." value in "GRADIENT ADJ.".



4. Place the tray in front of the center of the weighing platter and adjust as follows, keeping in mind that the difference between the actual dimension of the tray width and the detection size should be 12 mm or less.
   - ♦ If the detection dimension is larger than the actual dimension: Decrease the "OFFSET WID." value in "HEIGHT ADJ.".
   - ♦ If the detection dimension is smaller than the actual dimension: Increase the "OFFSET WID." value in "HEIGHT ADJ.".



5. Place the tray in front of the center of the weighing platter and adjust as follows, keeping in mind that the difference between the actual dimension of the tray length and the detection dimension should be 6 mm or less.
   - ♦ If the detection dimension is larger than the actual dimension: Decrease the "OFFSET LEN." value in "HEIGHT ADJ.".
   - ♦ If the detection dimension is smaller than the actual dimension: Increase the "OFFSET LEN." value in "HEIGHT ADJ.".



5

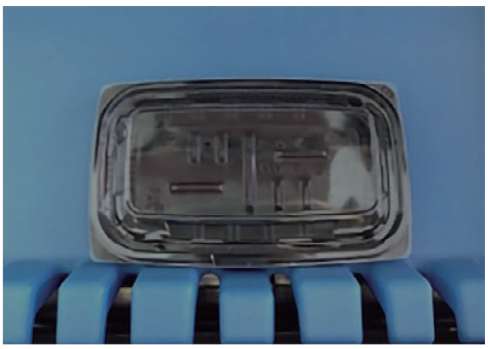
Automatic volume (filling height) adjustment

[Note]

In any of the following cases, the volume (filling height) will be falsely detected. In such a case, use manual selection for the filling height.

• Tray with a high-gloss surface (e.g., silver tray)

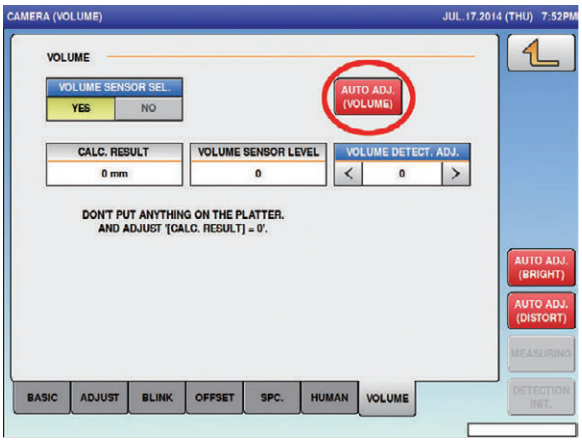
• Container with a transparent lid



• When the film is wound in double or triple layers
• If there is an object that has a strong gloss

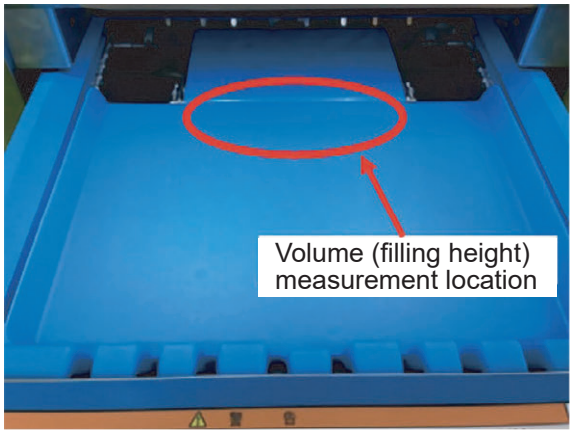
[Adjustment method]

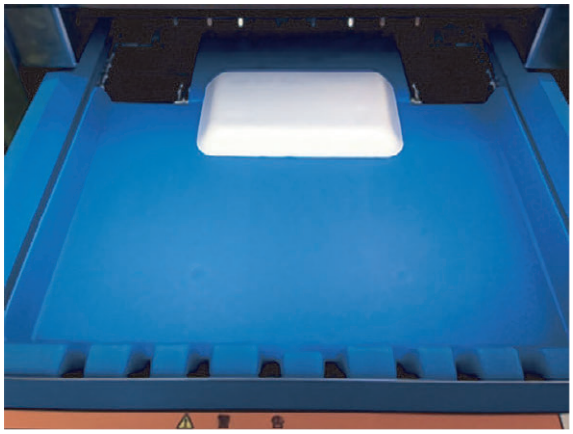
1. Press [AUTO ADJ. (VOLUME)] with nothing on the weighing platter.



2. Press the [EXEC.] button on the confirmation screen for executing automatic adjustment.

3. Turn over the tray with a height of about 20mm to 30mm and place it under the volume sensor.
   * Use trays with low surface gloss.





4. Make sure that the difference between the displayed volume (filling height) and the height of the actual product is within ±10 mm. If the difference is greater than ±10 mm, adjust “VOLUME DETECT. ADJ.” as shown below.

   If larger than the actual product: Decrease the height adjustment value.
   If smaller than the actual product: Increase the height adjustment value.

6

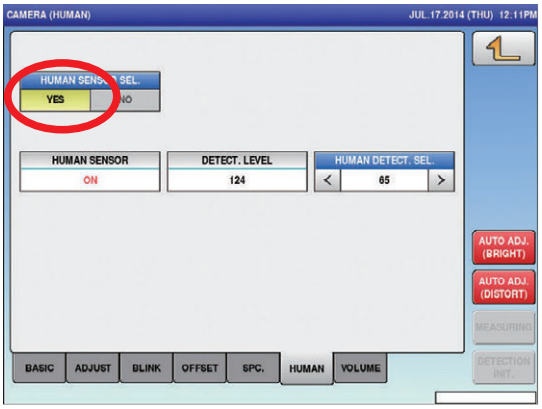
Human detection sensor adjustment

[Note]

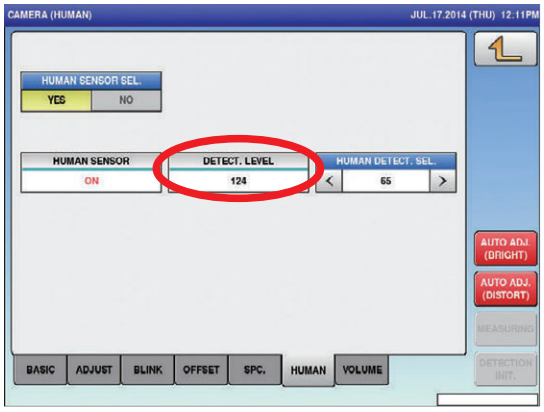
Human detection sensor is optional.
When using a human detection sensor, make sure that the sensor is connected.

[Adjustment method]

1. From the front of the machine, make sure that there is no fixed object (such as a pillar) within the distance you want the human detection to respond.
2. Change "HUMAN SENSOR SEL." to "YES" in "CAMERA (HUMAN)".

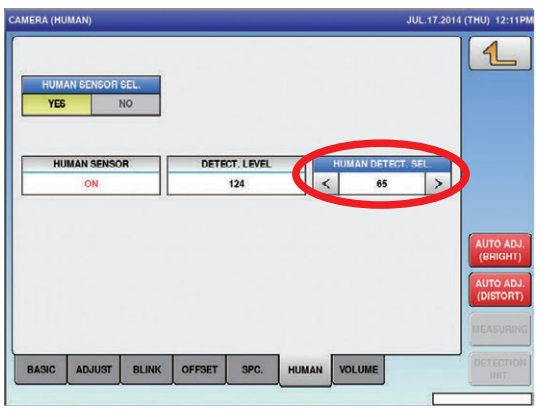


3. Stand in front of the machine and check "DETECT. LEVEL" at the distance where you want the human detection to respond.



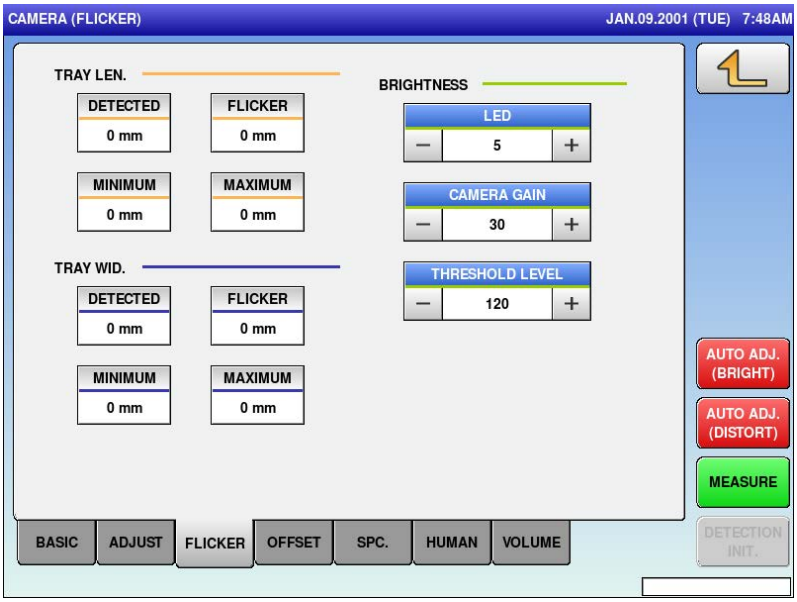
Distance [cm] Standard tip of infeed unit	Human detection sensor value
0	125
30	70
60	50
90	35
120	25

4. Enter the value obtained by subtracting "10" from the value confirmed in 3. above in the "HUMAN DETECT. SEL." field.



5. From outside the human detection range set in ③ above, gradually approach the front of the machine and check that "HUMAN SENSOR" changes from "OFF" to "ON" within the human detection range. If the setting remains "OFF", lower “HUMAN DETECT SEL.” by ”5” and then check “5” again.

6.15.3 Camera (Flicker)

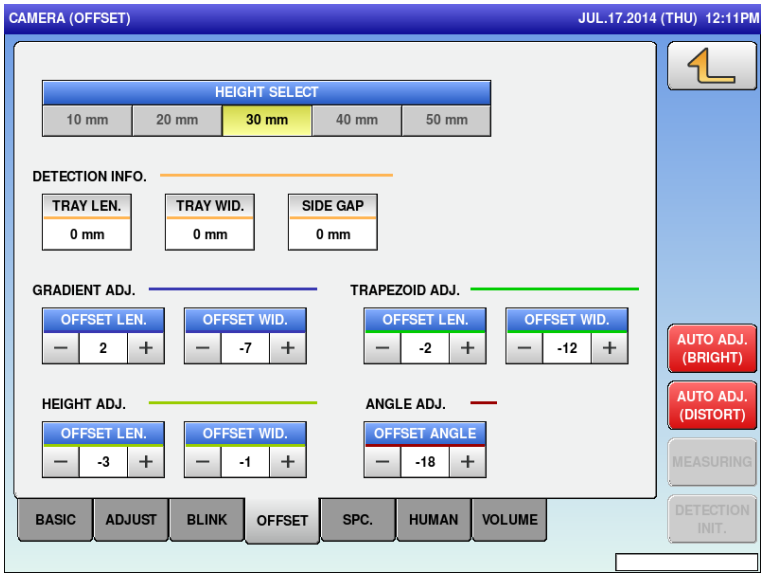


Menu name	Specification
(BRIGHTNESS) LED	Set the brightness of the LED. Input range: 0 to 15
(BRIGHTNESS) CAMERA GAIN	Set the aperture value (exposure) of the camera. (Initial data: 30) Set when adjustment is not possible with LED brightness. Dark place: Increase the camera gain if tray contours (green dots) cannot be taken even if the LED brightness is set to maximum 15. Bright place: Decrease the camera gain if tray contours (green dots) cannot be taken even if the LED brightness is set to minimum 0. Input range: 0 to 127
(BRIGHTNESS) THRESHOLD LEVEL	Set the criterion value (threshold) for determining whether it is a tray or not. (Initial data: 120) The change in color from blue for each scanning line is determined as the tray contour. This corresponds to the change determination level. Input range: 0 to 255
MEASURING	Calculate and display flickering width and depth, minimum value, and maximum value.
AUTO ADJ. (BRIGHT)	Adjust the brightness of the camera images automatically. The adjustment items are the five ones below: LED / CAMERA GAIN / THRESHOLD LEVEL / CONTRAST FILTER / DARK FILTER
AUTO ADJ. (DISTORT)	Adjust the distortion of the camera lens automatically. The adjustment items are the seven ones below: GRADIENT ADJ (OFFSET LEN, OFFSET WID)/ HEIGHT ADJ (OFFSET LEN, OFFSET WID) / TRAPEZOID ADJ. (OFFSET LEN, OFFSET WID) / ANGLE ADJ (OFFSET ANGLE)

NOTE

NOTE: In most cases the maximum acceptable FLICKER values are Tray Len. = 10 and Tray Wid. = 4.

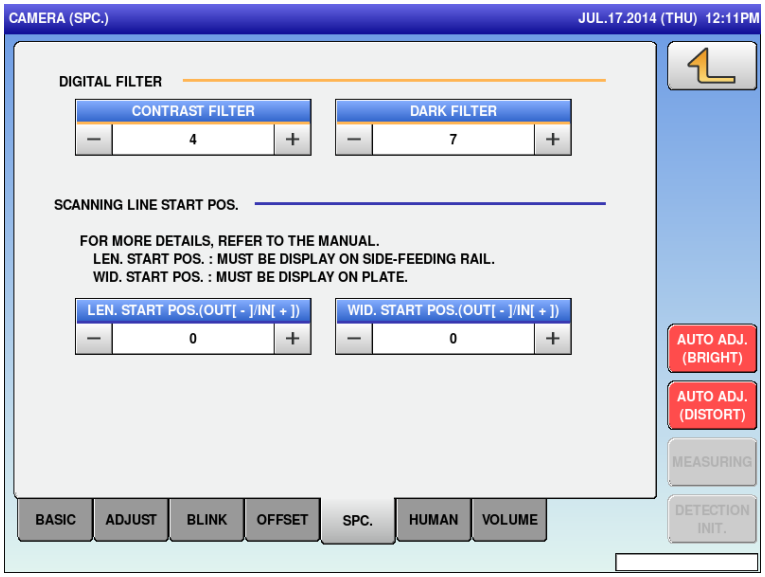
6.15.4 Camera (Offset)



Menu name	Specification
HEIGHT SELECT	Select a height of the reference detection object (tray).
GRADIENT ADJ. OFFSET LEN.	Correction of camera gradient distortion Decrement the value if the detected size is larger when the detection object is placed to the right. Increment the value if the detected size is smaller when the detection object is placed to the right.
GRADIENT ADJ. OFFSET WID.	Correction of camera gradient distortion Decrement the value if the detected size is larger when the detection object is placed short. Increment the value if the detected size is smaller when the detection object is placed short.
HEIGHT ADJ. OFFSET LEN.	Enter the difference between the depth size of the width of the detection object and the detected depth size.
HEIGHT ADJ. OFFSET WID.	Enter the difference between the width and depth of the detected object.
TRAPEZOID ADJ. OFFSET LEN.	Correction of camera trapezoidal distortion (width direction) *Set “0” for manual adjustment. When the detection object is placed short and in the center of the weighing plate, if the difference of the detected width values is large, adjust as follows: - If the width sensed short is larger, increase the setting. - If the width in the center of the weighing plate is larger, decrease the setting.
TRAPEZOID ADJ. OFFSET WID.	Correction of camera trapezoidal distortion (depth direction) *Set “0” for manual adjustment. When the detection object is placed on the left and right sides of the weighting plate, if the difference of the detected depth values is large, adjust as follows: - If the depth on the left side is larger, increase the setting. - If the depth on the right side is larger, decrease the setting.

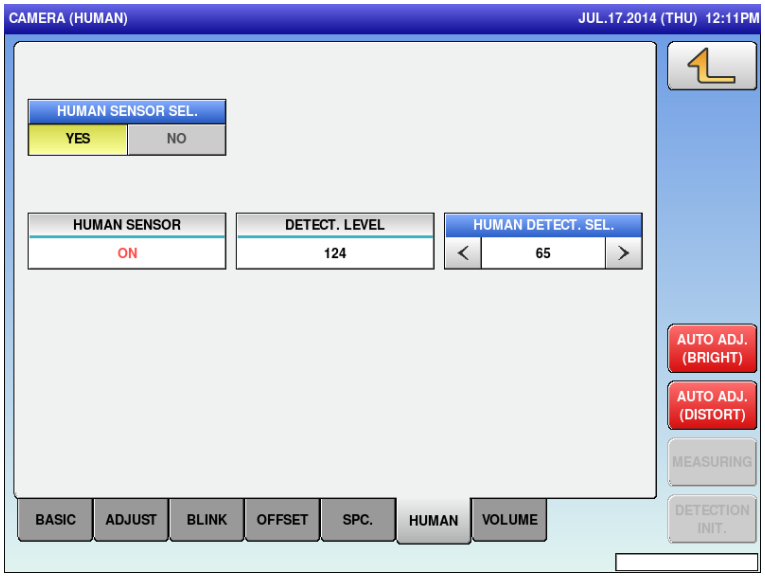
Menu name	Specification
ANGLE ADJ. OFFSET ANGLE	Rotational correction of scanning line (by rotating the scanning line in accordance with the rotational gradient of the camera). - If rotating the scanning line CW, increment the setting. - If rotating the scanning line CCW, decrement the setting.
AUTO ADJ. (BRIGHT)	Adjust the distortion of the camera lens automatically. The adjustment items are the seven ones below: GRADIENT ADJ (OFFSET LEN, OFFSET WID） / HEIGHT ADJ (OFFSET LEN, OFFSET WID) / TRAPEZOID ADJ. (OFFSET LEN, OFFSET WID) / ANGLE ADJ (OFFSET ANGLE)
AUTO ADJ. (DISTORT)	Adjust the distortion of the camera lens automatically. The adjustment items are the seven ones below: GRADIENT ADJ (OFFSET LEN, OFFSET WID)/ HEIGHT ADJ (OFFSET LEN, OFFSET WID) / TRAPEZOID ADJ. (OFFSET LEN, OFFSET WID) / ANGLE ADJ (OFFSET ANGLE)

6.15.5 Camera (Spc.)



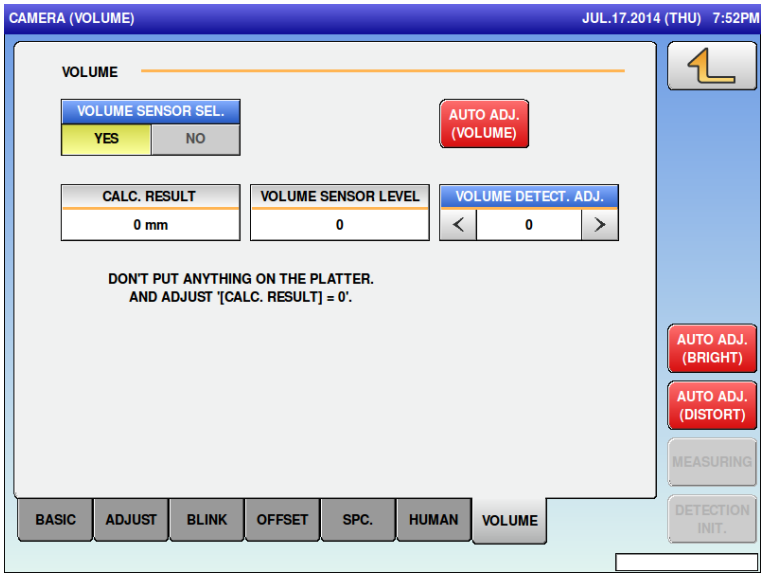
Menu name	Specification
DIGITAL FILTER CONTRAST FILTER	Adjust the judgment level of the tray by changing brightness. - Increment the value if contrast is strong on the weighing plate. - Decrement the value if contrast is weak on the weighing plate and the light-blueish tray is detected.
DIGITAL FILTER DARK FILTER	Adjust the camera exposure. - If the ambient environment is so bright that the camera image is blown out, increment the value. - If the ambient environment is so dark that the tray cannot be detected even by raising the gain, decrement the value.
LINE START POS.	Adjust the start position of the scanning line in the width direction. - If the start position is outside the supply rail, decrement the value. - If the start position is inside the supply rail, increment the value.
WID START POS.	Adjust the start position of the scanning line in the depth direction. - If the start position is outside the weighing plate, decrement the value. - If the start position is inside the weighing plate, increment the value.
AUTO ADJ. (BRIGHT)	Adjust the brightness of the camera images automatically. The adjustment items are the five ones below: LED / CAMERA GAIN / THRESHOLD LEVEL / CONTRAST FILTER / DARK FILTER
AUTO ADJ. (DISTORT)	Adjust the distortion of the camera lens automatically. The adjustment items are the seven ones below: GRADIENT ADJ (OFFSET LEN, OFFSET WID) / HEIGHT ADJ (OFFSET LEN, OFFSET WID) / TRAPEZOID ADJ. (OFFSET LEN, OFFSET WID) / ANGLE ADJ (OFFSET ANGLE)

6.15.6 Camera (Human)



Menu name	Specification
HUMAN SENSOR SEL.	Select when using the optional human sensor.
HUMAN DETECT. SEL.	Set the reference value (threshold level) to judge if the sensor is sensing the presence of a person. Input range: 0 to 255
AUTO ADJ. (BRIGHT)	Adjust the brightness of the camera images automatically. The adjustment items are the five ones below: LED / CAMERA GAIN / THRESHOLD LEVEL / CONTRAST FILTER / DARK FILTER
AUTO ADJ. (DISTORT)	Adjust the distortion of the camera lens automatically. The adjustment items are the seven ones below: GRADIENT ADJ (OFFSET LEN, OFFSET WID) / HEIGHT ADJ (OFFSET LEN, OFFSET WID) / TRAPEZOID ADJ. (OFFSET LEN, OFFSET WID) / ANGLE ADJ (OFFSET ANGLE)

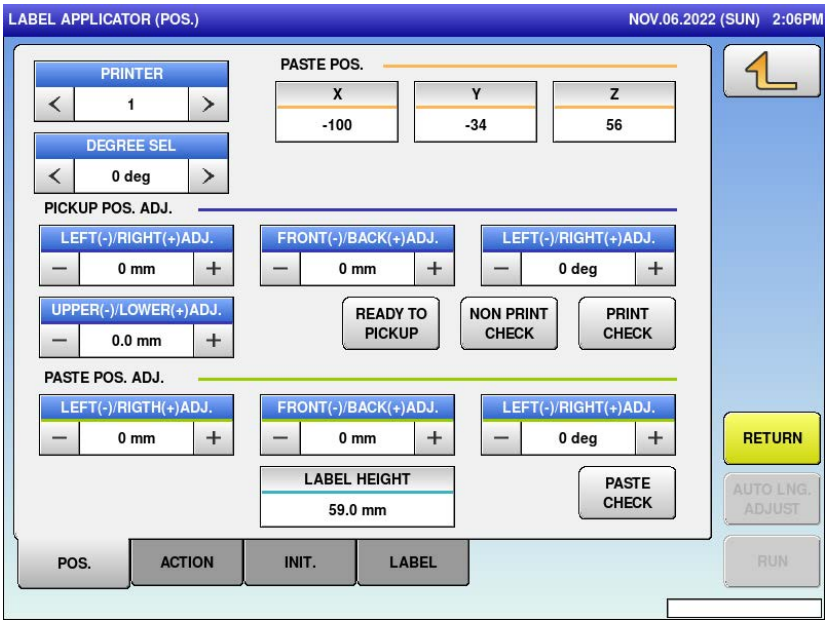
6.15.7 Camera (Volume)



Menu name	Specification
VOLUME SENSOR SEL.	Select when using the volume sensor.
VOLUME DETECT. ADJ.	Adjust the detection level of the volume sensor. Input range: -7 to 7 - If raising the volume, increment the setting. - If lowering the volume, decrement the setting.
AUTO ADJ. (VOLUME)	Adjust the dispersion of the sensitivity of the volume sensor. AUTO ADJ.
AUTO ADJ. (BRIGHT)	Adjust the brightness of the camera images automatically. The adjustment items are the five ones below: LED / CAMERA GAIN / THRESHOLD LEVEL / CONTRAST FILTER / DARK FILTER
AUTO ADJ. (DISTORT)	Adjust the distortion of the camera lens automatically. The adjustment items are the seven ones below: GRADIENT ADJ (OFFSET LEN, OFFSET WID) / HEIGHT ADJ (OFFSET LEN, OFFSET WID) / TRAPEZOID ADJ. (OFFSET LEN, OFFSET WID) / ANGLE ADJ (OFFSET ANGLE)

6.16 Label Applicator

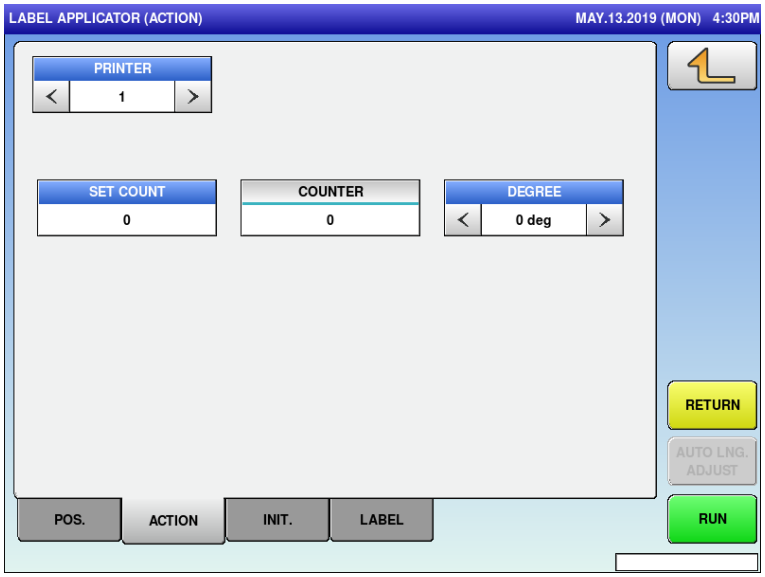
6.16.1 Label applicator (POS.)



Menu name	Specification
RETURN	Return to the original position.
PRINTER	Select a printer or enter a set number ("1" for printer No.1, "2" for printer No.2, and "5" for the Pop printer). Only the printer being connected can be set up.
DEGREE SEL	Select a degree to paste the label when the label applicator is operated in testing.
(PICKUP POS. ADJ.) LEFT (-)/RIGHT (+) ADJ. [mm]	Adjust the position at which the label applicator picks up the label (in the right-left direction) when the applicator comes to the label output port of the selected printer. The adjustment range is -3 to 3 mm. (*This is -99 to 99 mm in the ROOT mode.)
(PICKUP POS. ADJ.) FRONT (-)/BACK (+) ADJ. [mm]	Adjust the position at which the label applicator picks up the label (in the front-back direction) when the applicator comes to the label output port of the selected printer. The adjustment range is -3 to 3 mm. (*This is -99 to 99 mm in the ROOT mode.)
(PICKUP POS. ADJ.) LEFT (-)/RIGHT (+) ADJ. [DEGREES]	Adjust the position at which the label applicator picks up the label (in the rotational direction) when the label applicator comes to the label output port of the selected printer. The adjustment range is -3 to 3°. (*This is -99 to 99° in the ROOT mode.)
(PICKUP POS. ADJ.) UPPER (-)/LOWER (+) ADJ.	Adjust the position at which the label applicator picks up the label (in the vertical direction) when the label applicator comes to the label output port of the selected printer. The adjustment range is -3.0 to 3.0 mm. (*This is -99.9 to 99.9 mm in the ROOT mode.)

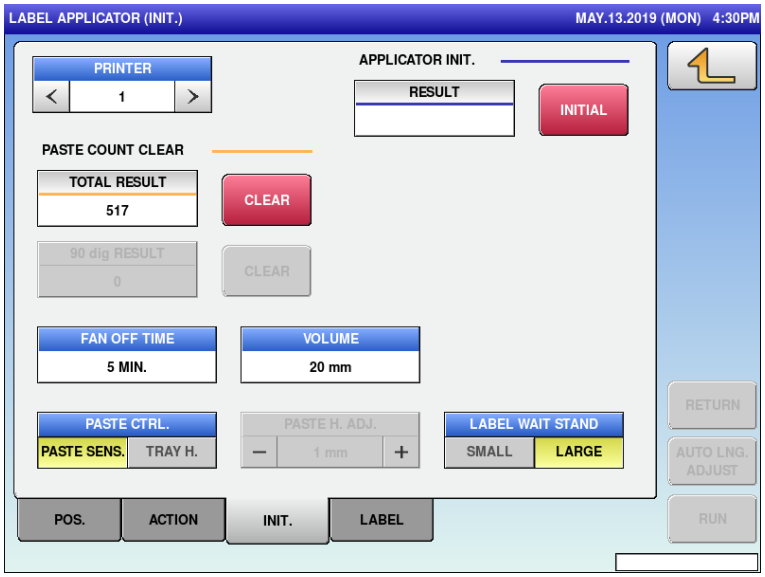
Menu name	Specification
READY TO PICKUP.	Move the label applicator to the label pickup position in front of the label output port of the printer.
NON PRINT CHECK	The label is not issued but the label applicator operates to pick up the label, and operates to paste the label to the tray.
PRINT CHECK	The label is issued and the label applicator picks up the issued label, and pastes the label to the tray.
(PASTE POS. ADJ.) LEFT (-)/RIGHT (+) ADJ. [mm]	Set the position (in the width direction) at which the selected label applicator pastes the label to the tray. The adjustment range is -8 to 8 mm. (*This is -99 to 99 mm in the ROOT mode.)
(PASTE POS. ADJ.) FRONT (-)/BACK (+) ADJ. [mm]	Set the position (in the depth direction) at which the selected label applicator pastes the label to the tray. The adjustment range is -10 to 10 mm. (*This is -99 to 99 mm in the ROOT mode.)
(PASTE POS. ADJ.) LEFT (-)/RIGHT (+) ADJ. [DEGREES]	Set the position (in the rotational direction) at which the selected label applicator pastes the label to the tray. The adjustment range is -5 to 5°. (*This is -90 to 90° in the ROOT mode.)
PASTE CHECK	The label is issued, and the label applicator pastes the label to the pusher.

6.16.2 Label applicator (Action)



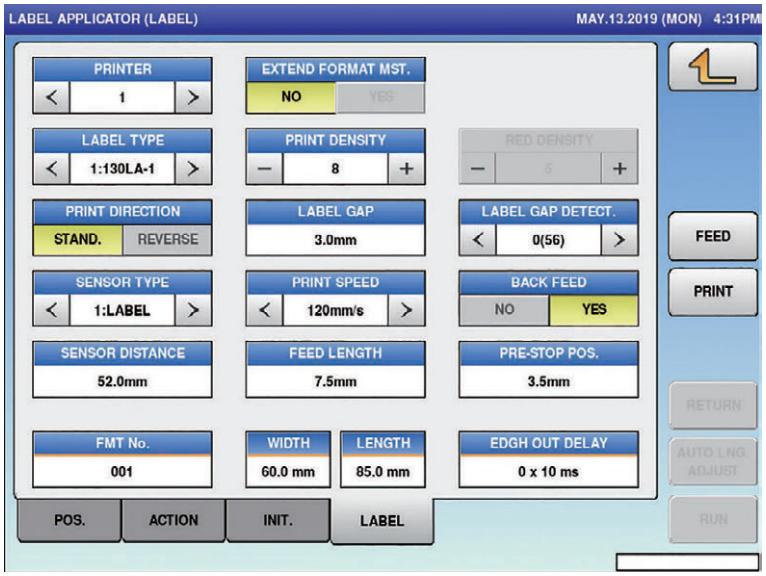
Menu name	Specification
RETURN	Return to the original position.
RUN	Start continuous operation for the number of times specified on the continuous operation count item.
PRINTER	Select a printer or enter a set number ("1" for printer No.1, "2" for printer No.2, and "5" for the Pop printer.). Only the printer being connected can be set up.
SET COUNT	Set the number of times of repeating the operation of issuing a label, adsorbing it, and pasting it. Specify this item by setting a number. The setup range is 0-998. If “0” is specified, this operation is repeated infinitely.
DEGREE	Select a degree to paste the label when the label applicator is operated continuously.

6.16.3 Label applicator (Init.)



Menu name	Specification
(PASTE COUNT) CLEAR	Clear the number of times of the pasting operation which was performed by the label applicator.
(APPLICATOR INIT.) INITIAL	Initialize the information on the label applicator. It is necessary to adjust the information again after the applicator is initialized.
FAN OFF TIME	The adsorption fan can be turned OFF automatically when work such as product call-out or production is not performed in a certain period of time. Set the time to turn OFF the fan in minutes after the work is stopped. Specify this item by setting a number. Input range: 0 to 99
VOLUME	Set the position in which the label is pasted when the height of the product volume is small to large as the distance from the height to paste the label when the product has no volume. Input range: 0 to 99
PASTE CTRL.	Select a method to determine the pasting position in the height direction. When the paste sensor is selected, the tray is detected by the paste sensor, and the pasting position is determined. When [TRAY H.] is selected, the label is pasted in the position which is above the top surface of the ejection stand and calculated by subtracting the pasting height adjustment value from the height of the tray master.
PASTE CTRL.	When [PASTE CTRL.] is specified as [TRAY H.], the pasting position might be too high or low due to the size difference among the trays. So correct the position using the [PASTE H. ADJ.] item. Input range: -99 to 99 *This setting is referred to only when [PASTE CTRL.] is specified as [TRAY H.]
LABEL WAIT STAND	Always set as LARGE for USA. Select an option according to the mounted label wait stand.

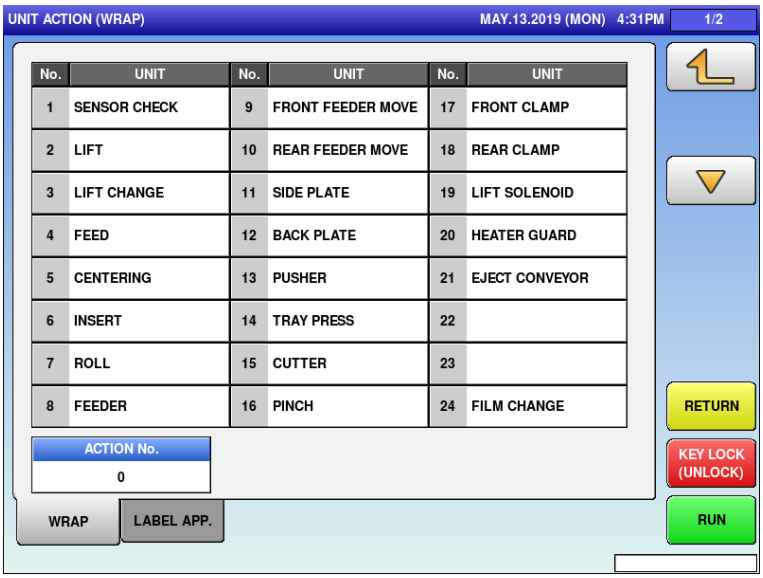
6.16.4 Label applicator (Label)

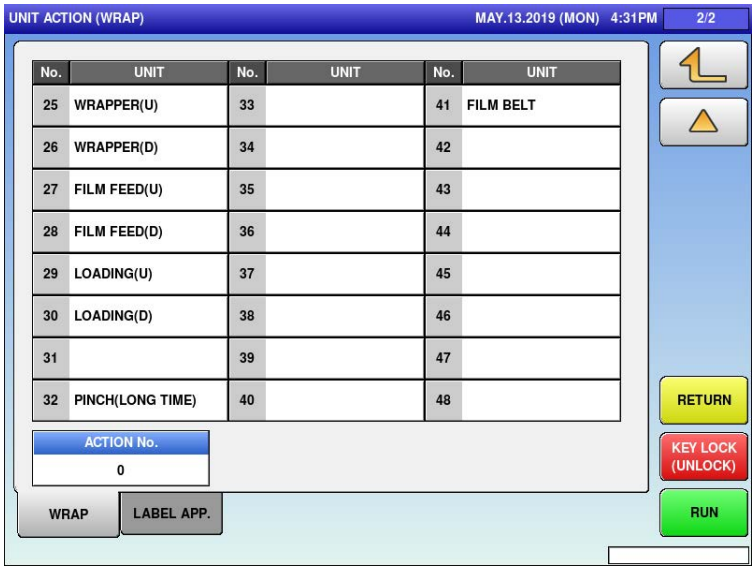


Menu name	Specification
The PRINTER (LABEL FEED) can also be changed on the label applicator screen. See PRINTER(LABEL FEED) for details.	

6.17 Unit Action

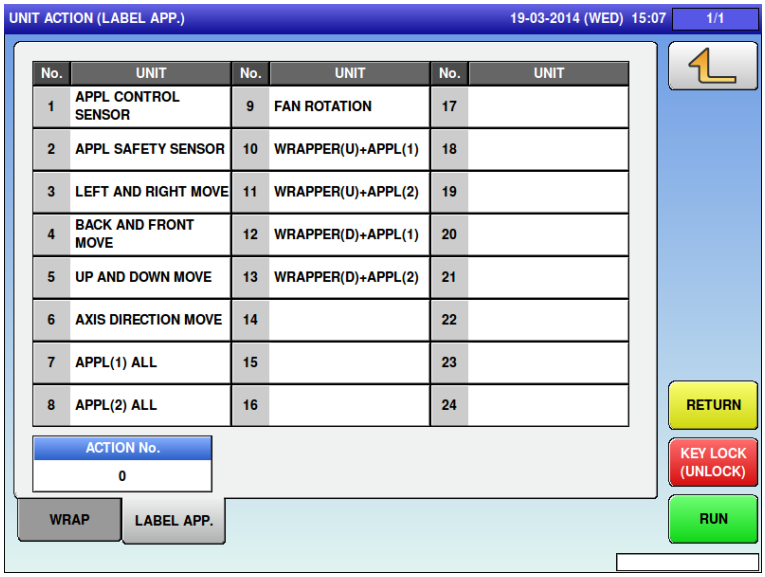
6.17.1 Unit Action (Wrap)





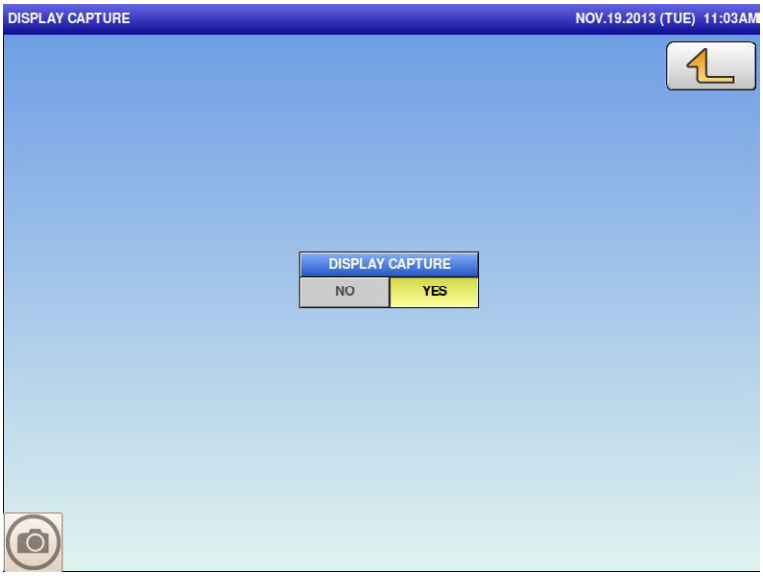
Menu name	Specification
RETURN	Return to the original position.
KEY LOCK	Prohibit/release the execution of testing operation. In the LOCK state, only stopping is permitted.
RUN	Operate the unit of the selected number. (If this item is not selected or number zero is selected, operation is stopped.)
ACTION No.	Select a unit to operate. Specify a set number. The numbers on the unit list can be specified.
UNIT	Select a unit to operate.

6.17.2 Unit Action (Label App.)



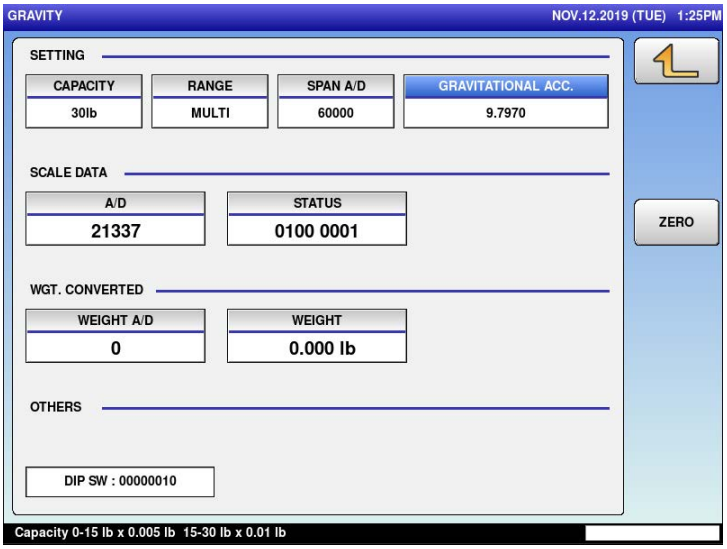
Menu name	Specification
RETURN	Return to the original position.
KEY LOCK	Prohibit/release the execution of testing operation. In the LOCK state, only stopping is permitted.
RUN	Operate the unit of the selected number. (If this item is not selected or number zero is selected, operation is stopped.)
ACTION No.	Select a unit to operate. Specify a set number. The numbers on the unit list can be specified.
UNIT	Select a unit to operate.

6.18 Display Capture



Menu name	Specification
DISPLAY CAPTURE	Select display capturing. At power ON, [NO] is selected as a default setting. Selecting [YES] displays the camera icon at the lower left side of the screen. Pressing the camera icon on each screen captures the screen, and creates the PNG file. Insert a USB memory stick. A folder named "Capture" is created when the screen images are stored on the USB. The PNG file name is created in series with the name from "000_xxxx.jpg" to "999_xxxx.jpg" (xxxx refers to the screen name). When a file already has the same name, the file is overwritten. The data is reset when the power is ON, and is created again from the name "000_xxxx.jpg".

6.19 Gravity



Menu name	Specification
CAPACITY	Display the capacity.
RANGE	Display the range type.
GRAVITATIONAL ACC.	Set the gravitational acceleration. Setting range: 97799 to 98300
SPAN A/D	Display the span count.
A/D	Display the A/D count.
STATUS	Display the scale status.
WEIGHT A/D	Display the A/D count for weight conversion.
WEIGHT	Display the weight.
DIP SW	Display the DIP SW status of the scale.
ZERO	Display the zero-point adjustment.

NOTE

NOTE: The Gravity adjustment is intended to be used when the scale is calibrated at one location and the wrapper is shipped to a different location. To use this feature, set the GRAVITATIONAL ACC. where the scale is calibrated, calibrate the scale, and then set the GRAVITATIONAL ACC. for the destination. Whenever possible the scale should be calibrated at the destination for maximum accuracy.

Chapter 7

Options

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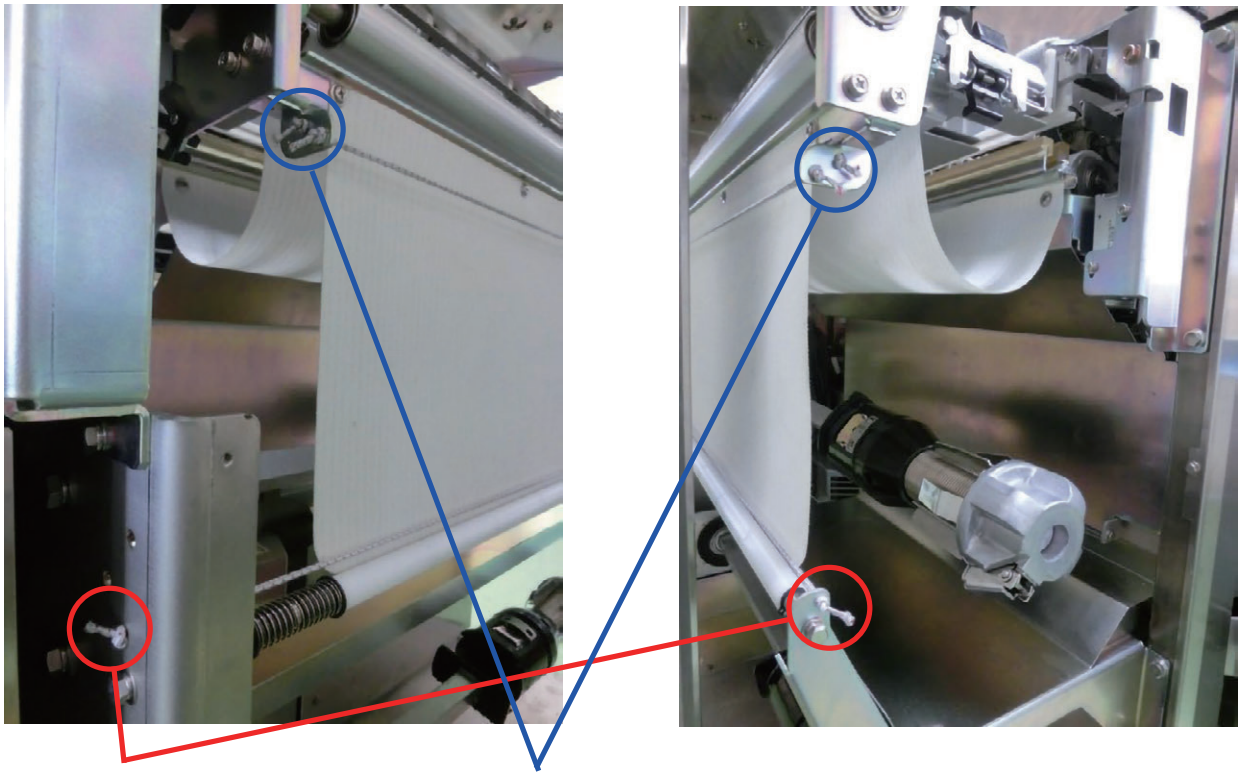
7.1 Static Elimination Rope

When using a film that generates static electricity, install static elimination ropes at the positions shown in the figure below.



WIRE: STATIC ELECTRICITY REMOVAL L: 20 inch / 500mm 1 pc.
For lower roll

WIRE: STATIC ELECTRICITY REMOVAL L: 18 inch / 450 mm 2 pcs.
For upper and lower rolls
(Two pieces must be installed even for one roll specification)

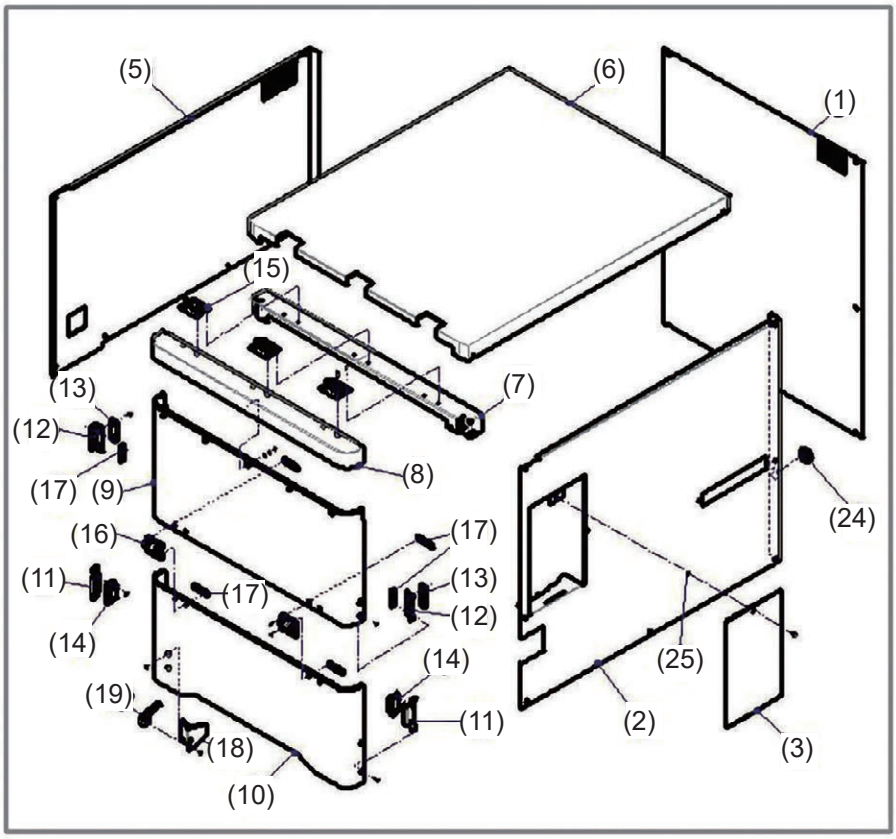
Install the static elimination rope while pulling it because of its elasticity.
Make a knot in the rope outside of the sheet metal so that the static elimination rope may not come off.
Anti-static wire, p/n 168506 (sold by the inch)

7.2 LAN Cable Wiring

7.2.1 Wiring procedure

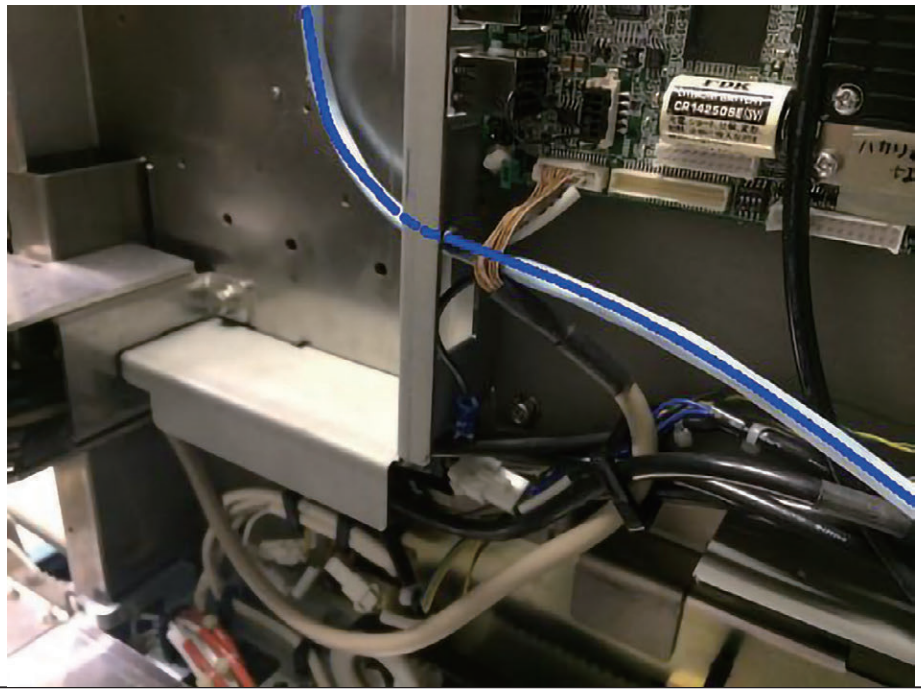
1

Step 1. Remove four ((1), (2), (3), (5))covers.



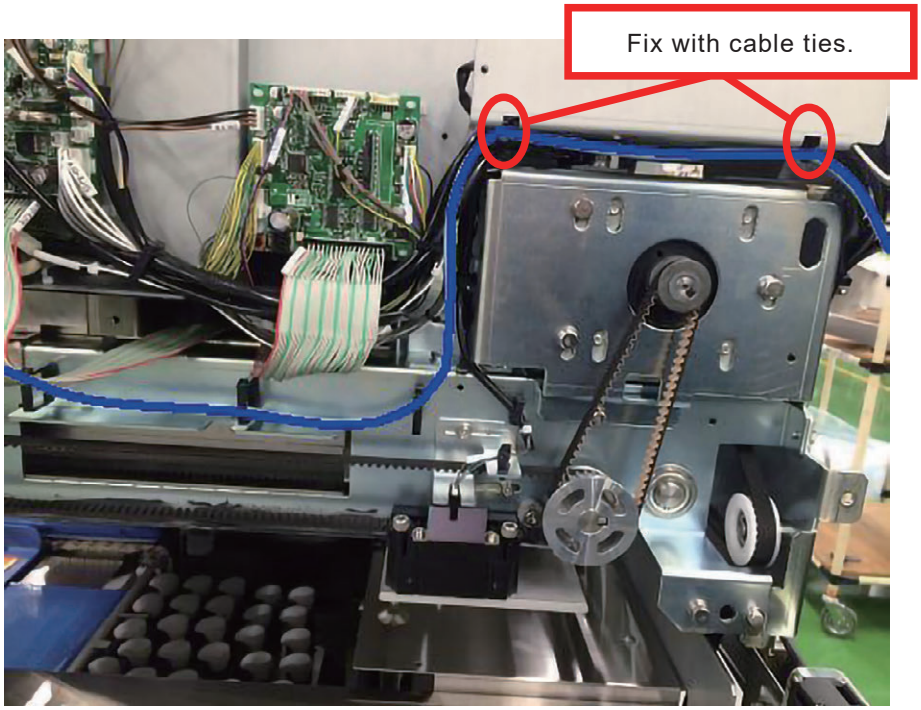
2

LAN cable path 1 (Inside the cover (2)).



3

LAN cable path 2 (Inside the cover (2)).



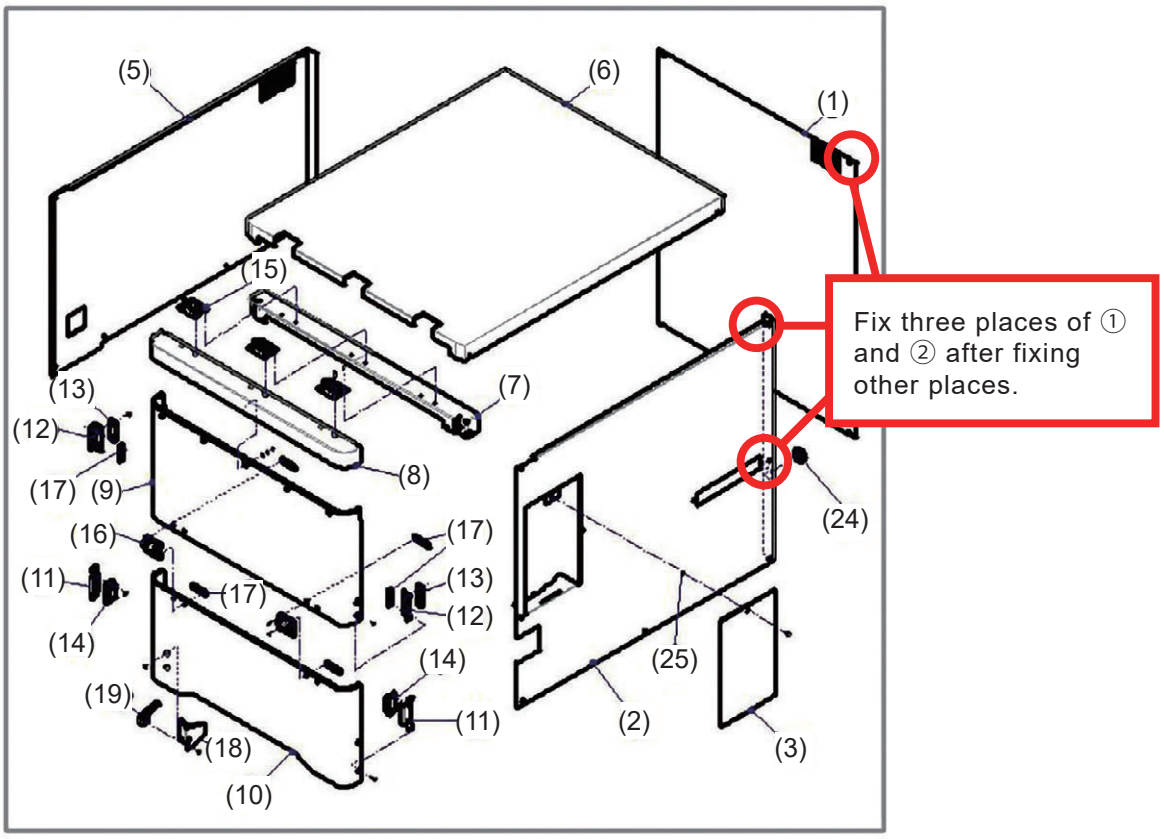
4

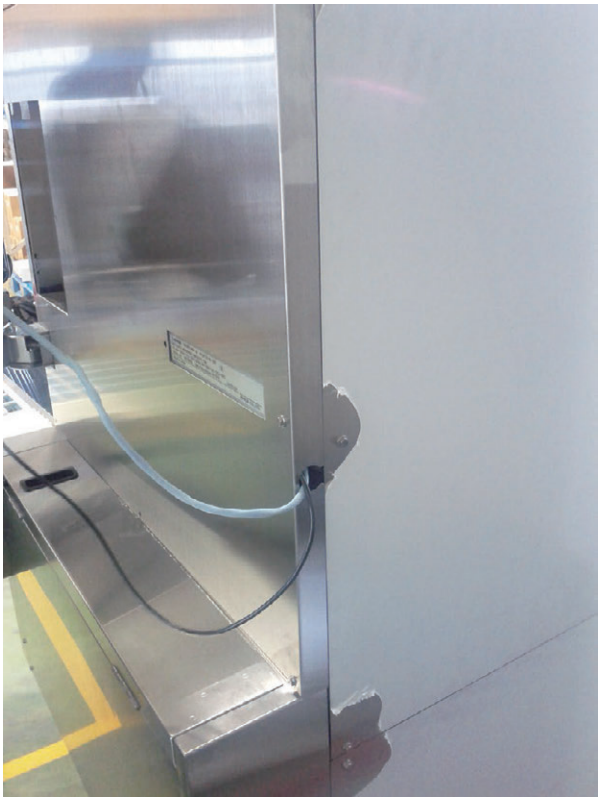
Connect the LAN cable inside the cover (3).

Note: Connect the connector after the wiring of the LAN cable.

5

Mount the cover that has been removed in Step 1.





7.3 Wi-Port

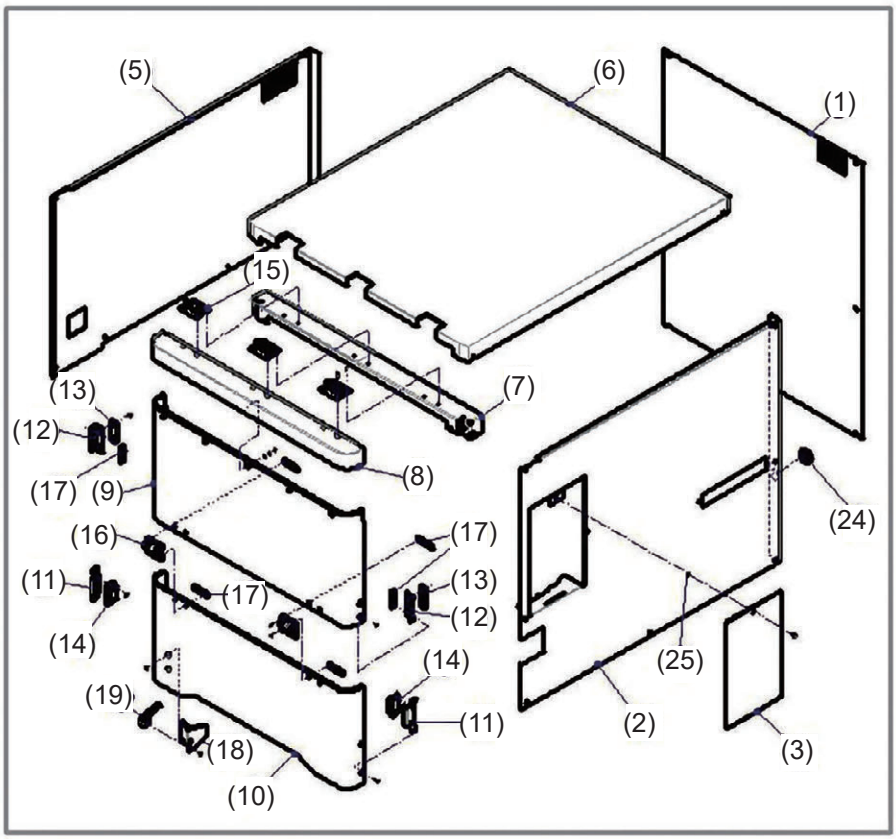
7.3.1 Included items

1	Wireless LAN AS	1
2	Cover	1
3	Hexagon head bolt with flange	1
4	Antenna	1
5	Nylon clamp	2
6	Hexagon nut	1
7	LAN cable	1
8	Power supply harness	1

7.3.2 Installation procedure

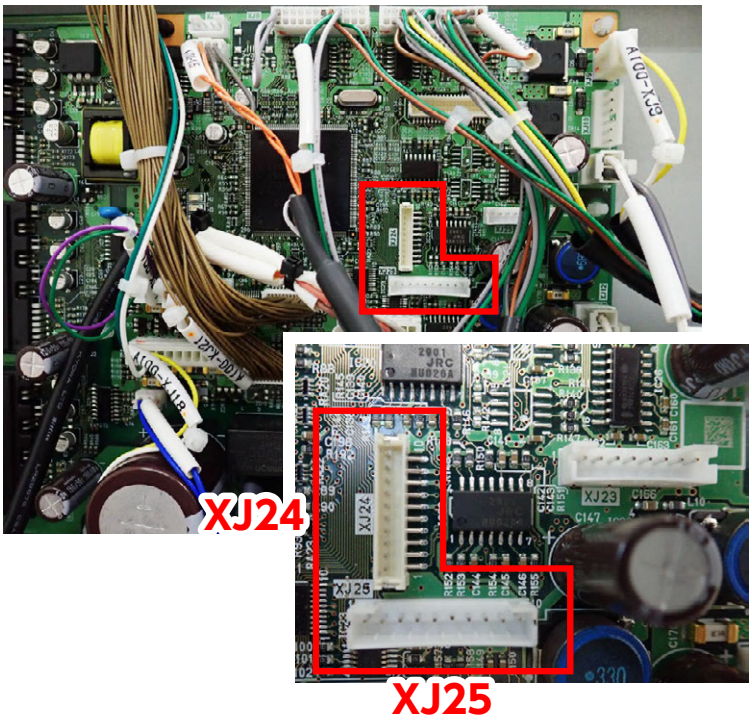
1

Step 1. Remove four ((1), (2), (3), (5))covers.



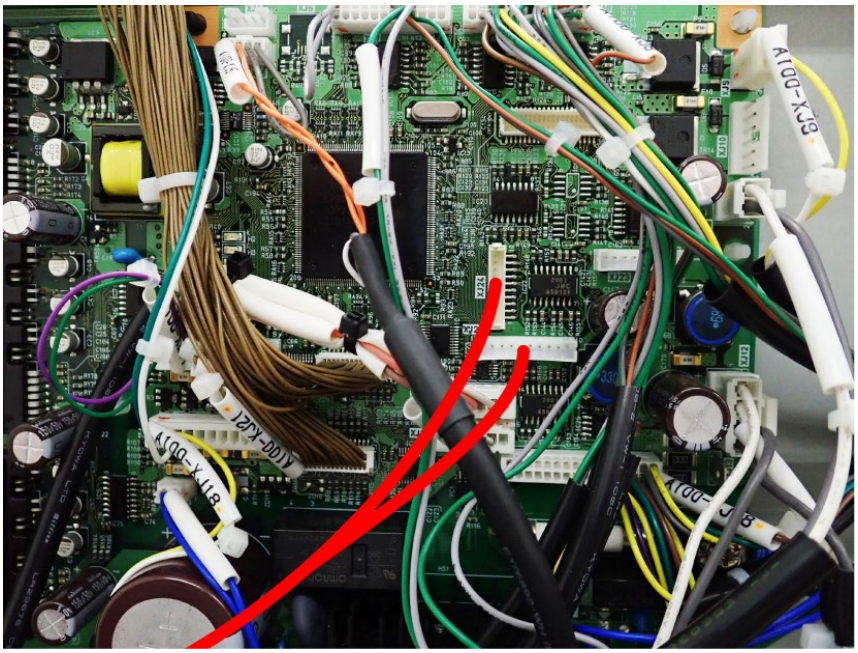
2

Connect the supplied power supply harness to “XJ24” and “XJ25” of “A100 Board” inside the cover (5).



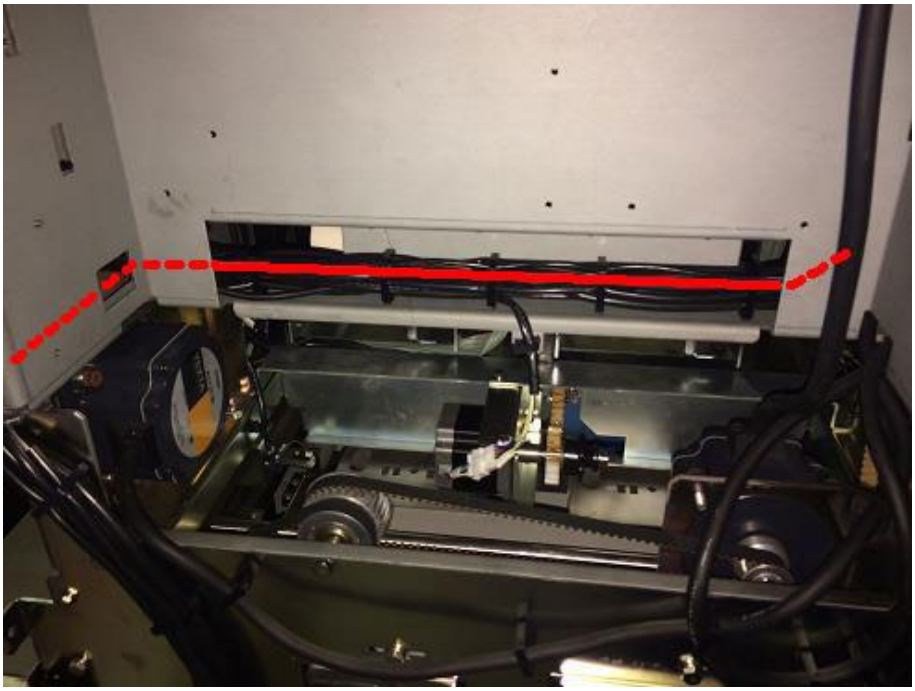
3

Path 1 of the power supply harness (Inside the cover (5)).



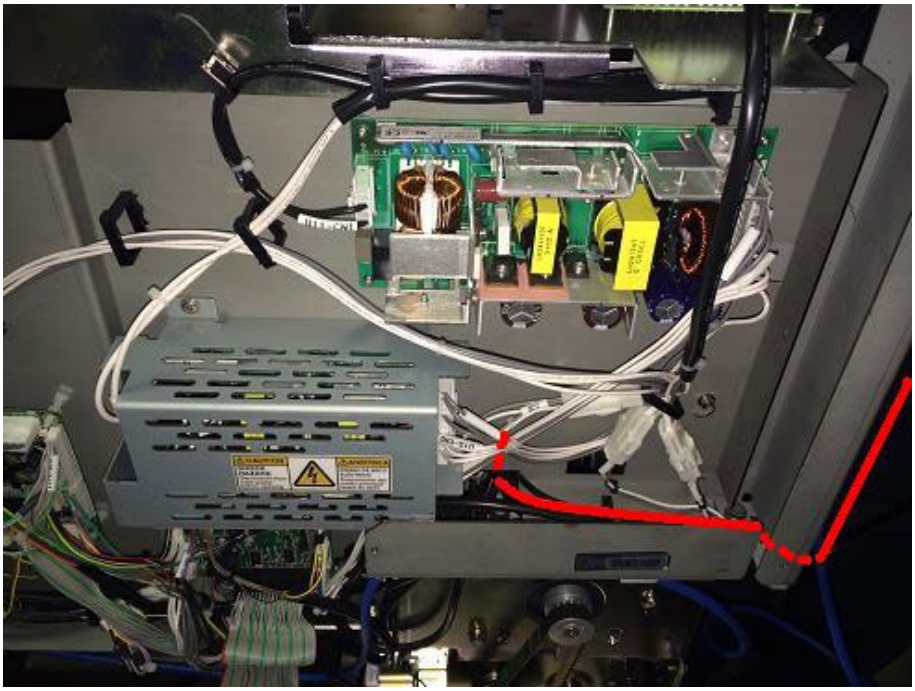
4

Path 2 of the power supply harness (Inside the cover (1)).



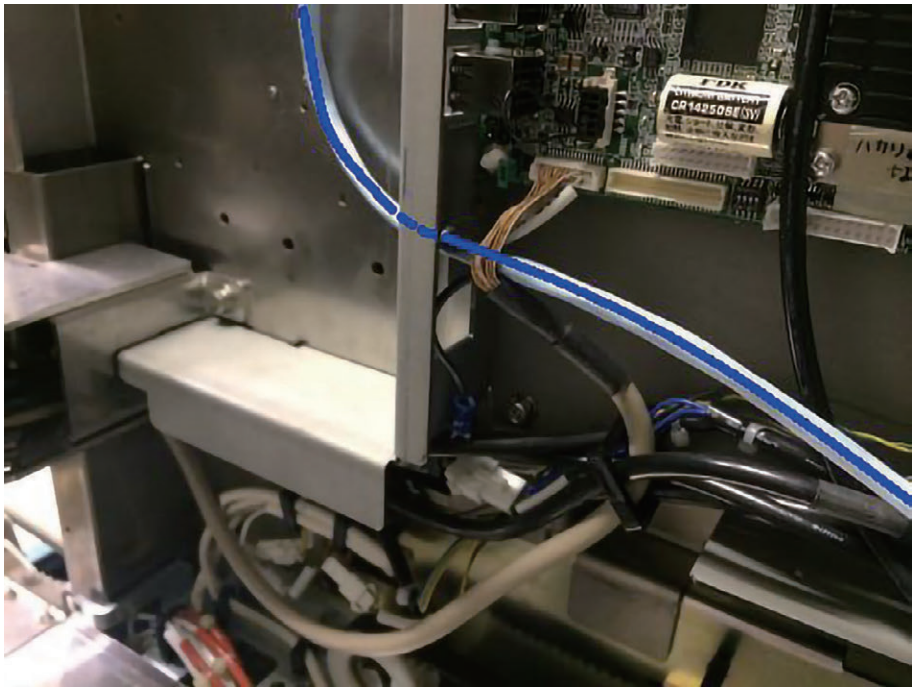
5

Path 3 of the power supply harness (Inside the cover (2)).



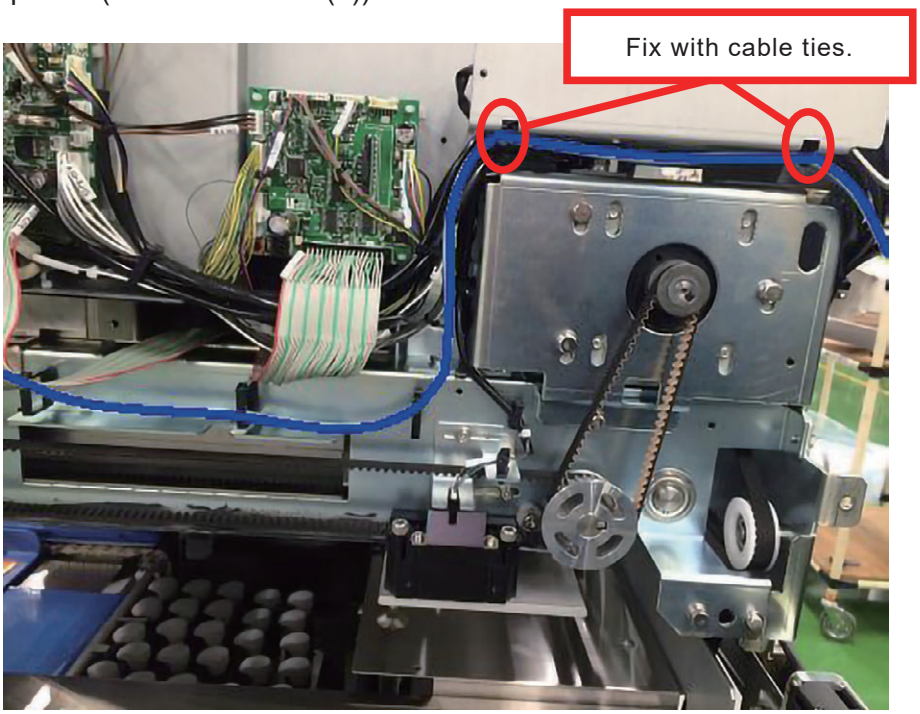
6

LAN cable path 1 (Inside the cover (2)).



7

LAN cable path 1 (Inside the cover (2)).



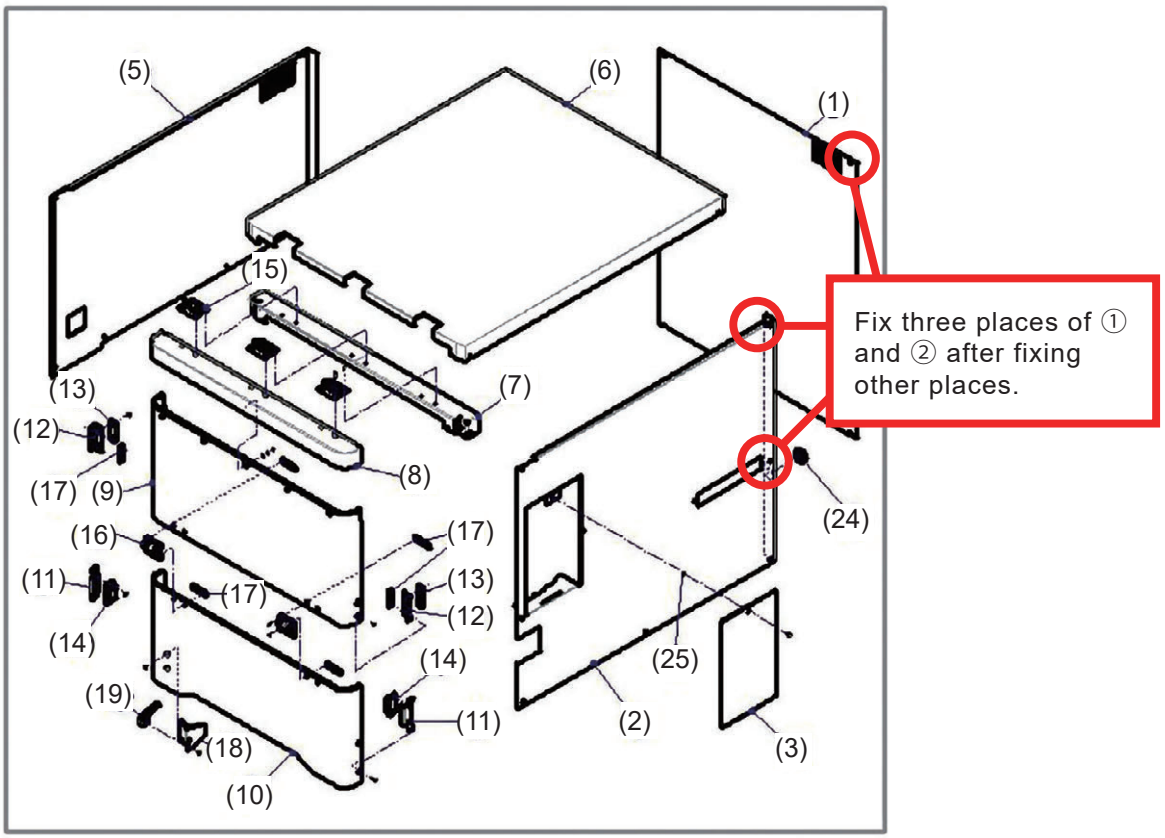
8

Connect the supplied LAN cable inside the cover (3).

Note: Connect the connector after the wiring of the LAN cable.

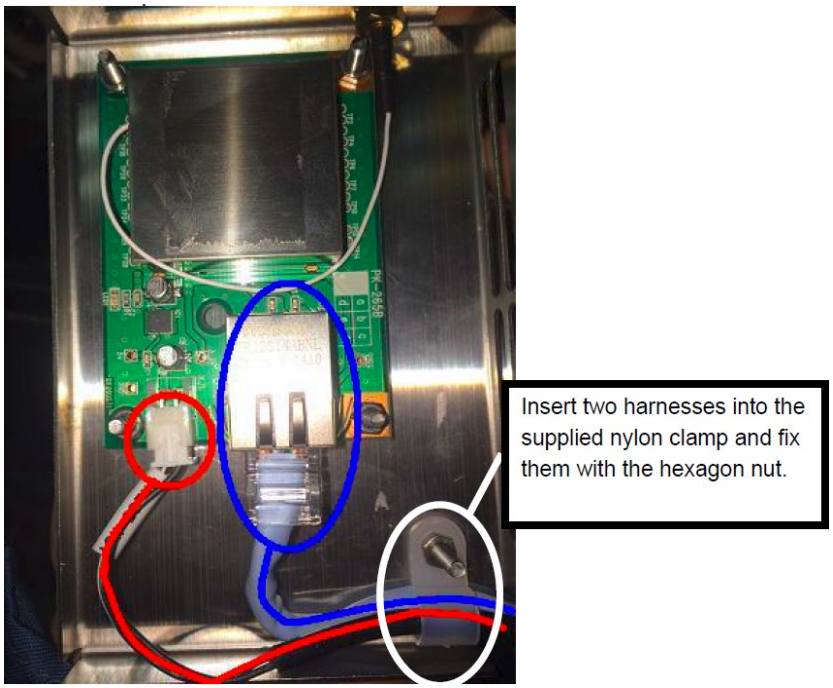
9

Mount the cover that has been removed in Step 1.



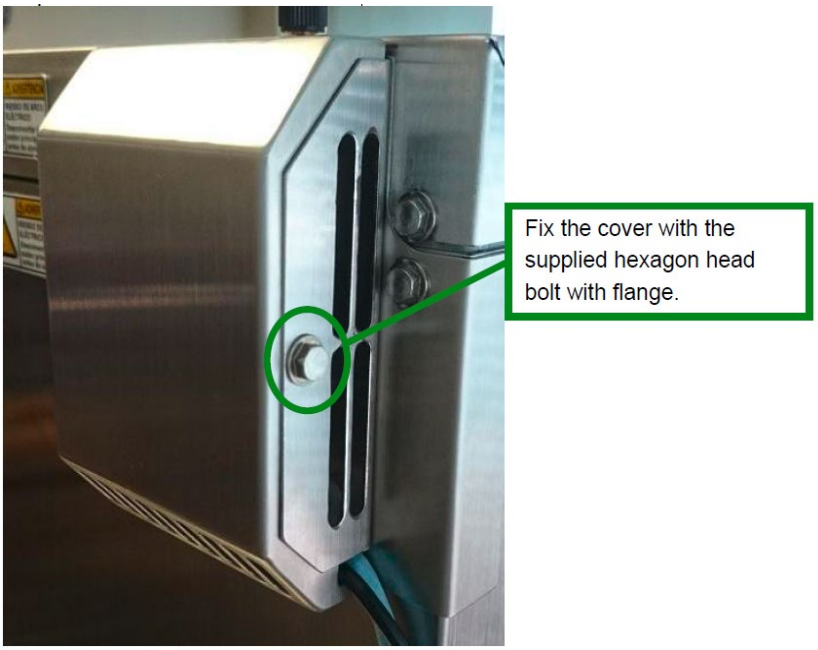
10

Connect the power supply harness and LAN cable to the Wi-PORT board and fix them with the nylon clamp.



11

Mount the Wi-PORT cover.

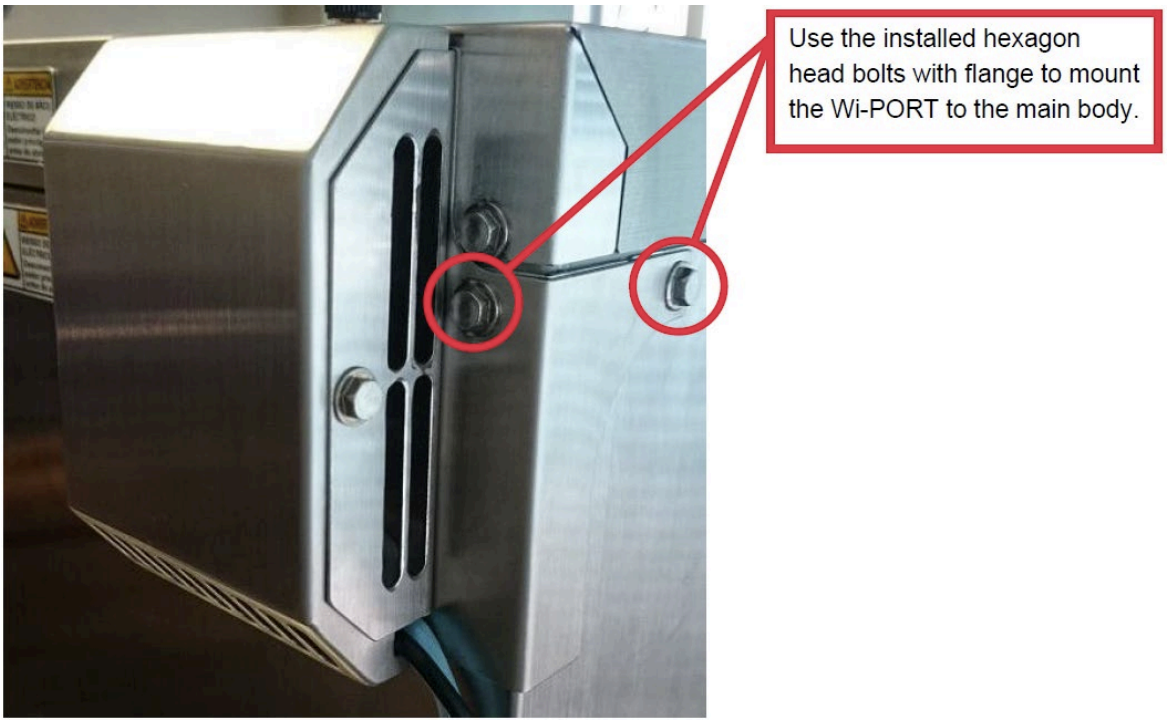


12

Mount the Wi-PORT antenna.

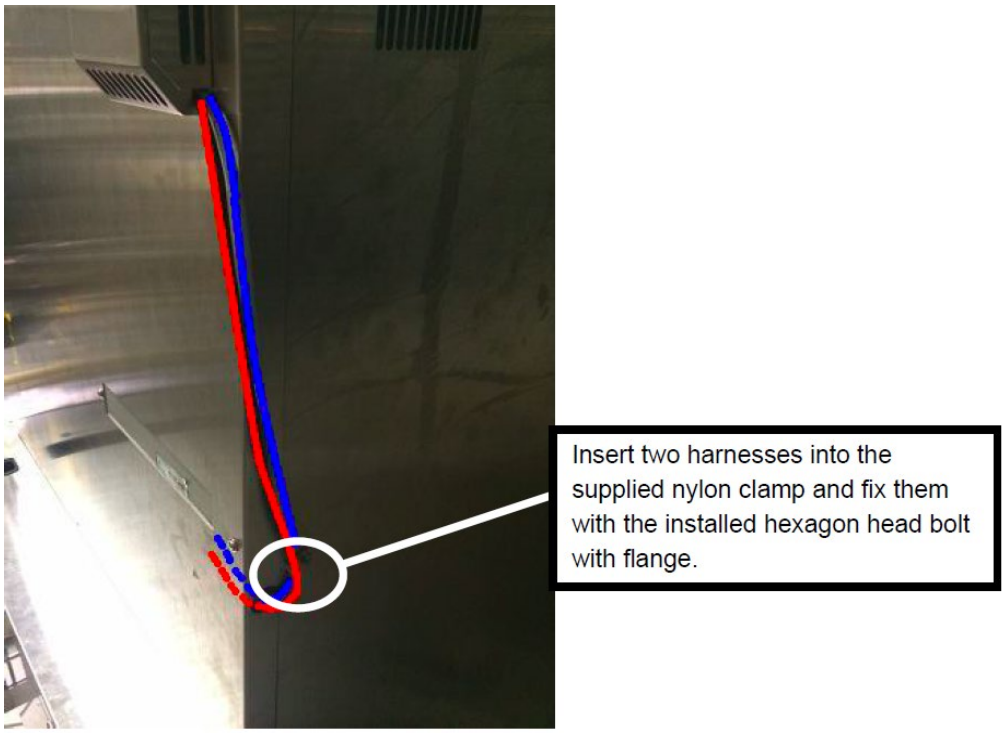
13

Mount the Wi-PORT to the main body.



14

Path of the LAN cable and power supply harness.

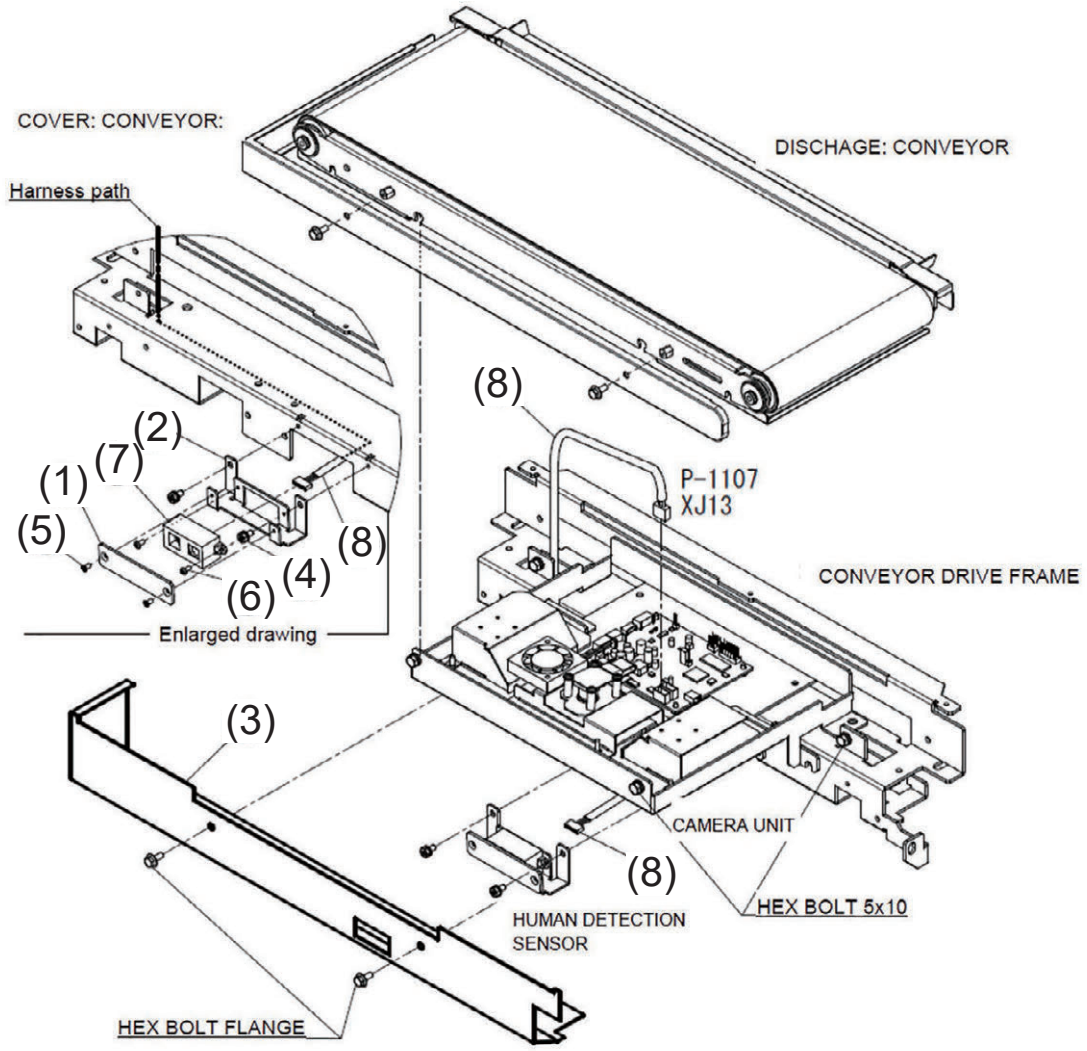


7.4 Human Detection Sensor (J)

7.4.1 Included items

1	PLATE B: FILTER: SENSOR	1	
2	BRACKET: SENSOR: HUMAN BODY	1	
3	COVER: DISCHARGE	1	
4	HEX BOLT: BOLT&WASHER AS S2P2:	2	M4 × 8
5	SCREW: CROSS FLAT HEAD: 2	2	M3 × 6
6	SCREW: CROSS PAN HEAD:	2	M3 × 6
7	SENSOR:	1	
8	HARNESS:C2: SENSOR	1	

7.4.2 Installation procedure



1

Use the supplied screw (6) to mount the sensor (7) to the bracket (2).
Use the supplied screw (5) to mount the plate (1).

2

Remove the COVER: DISCHARGE (3).
(HEX BOLT FLANGE 4x6: x2)

3

Remove two HEX BOLT FLANGEs to remove the COVER: CONVEYOR.
(HEX BOLT FLANGE 4x6: x2)

4

Loosen four HEX BOLTs to remove the DISCHARGE CONVEYOR.
(HEX BOLT M5x10)

5

Insert harness (8) into the frame from the left hole, connect the connector to the sensor assembled on Step 1 and use the supplied screw (4) to install to the frame.

6

Connect the other connector to XJ13 of P-1107.

7

Put the DISCHARGE CONVEYOR back to the original position and mount the COVER CONVEYOR.
(HEX BOLT M5 x 10)
(HEX BOLT FLANGE 4 X 6: x2)

8

Mount the COVER (3) instead of the cover that has been removed on Step 2.
(HEX BOLT FLANGE 4 x 6: x2)
(COVER in which the sensor’s detection hole is open.)

9

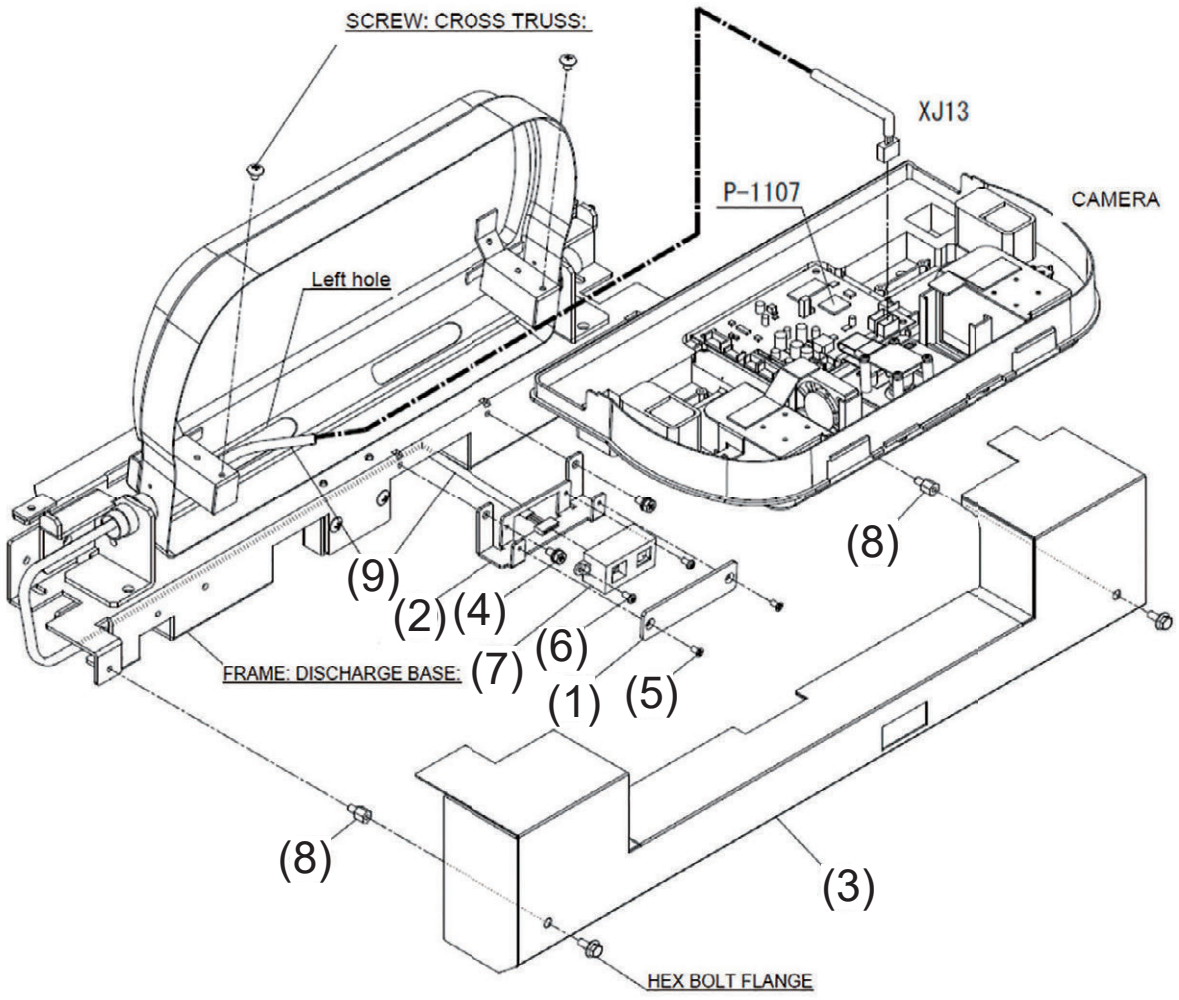
Turn ON the power supply and see the Service Manual to make settings.

7.5 Human Detection Sensor (Standard)

7.5.1 Included items

1	PLATE B: FILTER: SENSOR	1	
2	BRACKET: SENSOR: HUMAN BODY	1	
3	COVER: DISCHARGE	1	
4	HEX BOLT: BOLT&WASHER AS S2P2:	2	M4×8
5	SCREW: CROSS FLAT HEAD:	2	M3×6
6	SCREW: CROSS PAN HEAD:	2	M3×6
7	SENSOR:	1	
8	THREADED ROD: HEX:MF	2	
9	HARNESS:C2: SENSOR	1	

7.5.2 Installation procedure



1

Use the supplied screw (6) to mount the sensor (7) to the bracket (2).
Use the supplied screw (5) to mount the plate (1).

2

Remove the COVER: DISCHARGE (3).
(HEX BOLT FLANGE 4x6: x2)

3

Set the DISCHARGE BASE (CAMERA UNIT).

4

Remove two SCREW: CROSS TRUSS: and remove the CAMERA UNIT from the DISCHARGE BASE.

5

Insert harness (8) into the frame from the left hole, connect the connector to the sensor assembled on Step 1 and use the supplied screw (4) to install to the frame.

6

Connect the other connector to XJ13 of P-1107, fit it to the DISCHARGE BASE and fix it with SCREW: CROSS TRUSS:

7

Put the DISCHARGE BASE back on the level.

8

Mount the THREADED ROD (8) and mount the cover (3) instead of the cover that has been removed on Step 2.
(HEX BOLT FLANGE 4x6: x2) (COVER in which the sensor’s detection hole is open.)

9

Turn ON the power supply and see the Service Manual to make settings.

7.6 On-board Lighting

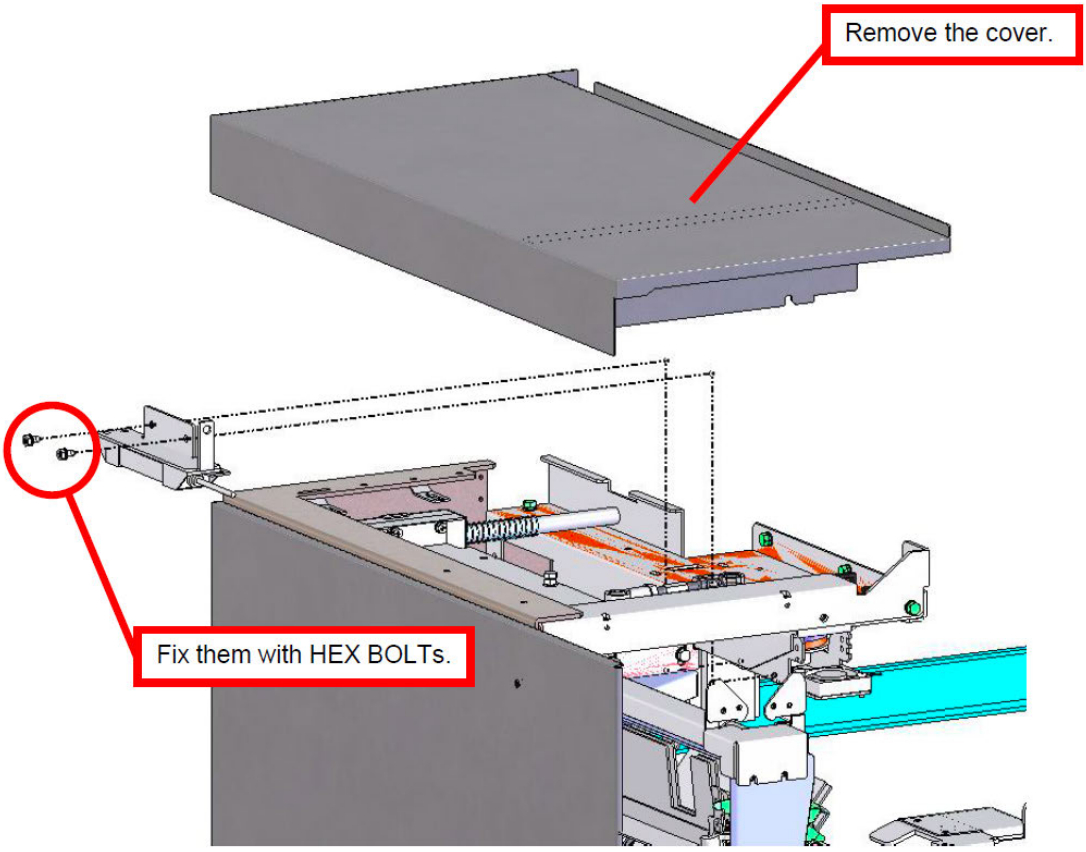
7.6.1 Included items

1	ON-BOARD LIGHTING PS	1
2	HEX BOLT	2
	On-board lighting LED lamp unit, complete, p/n 192145	

7.6.2 Installation procedure

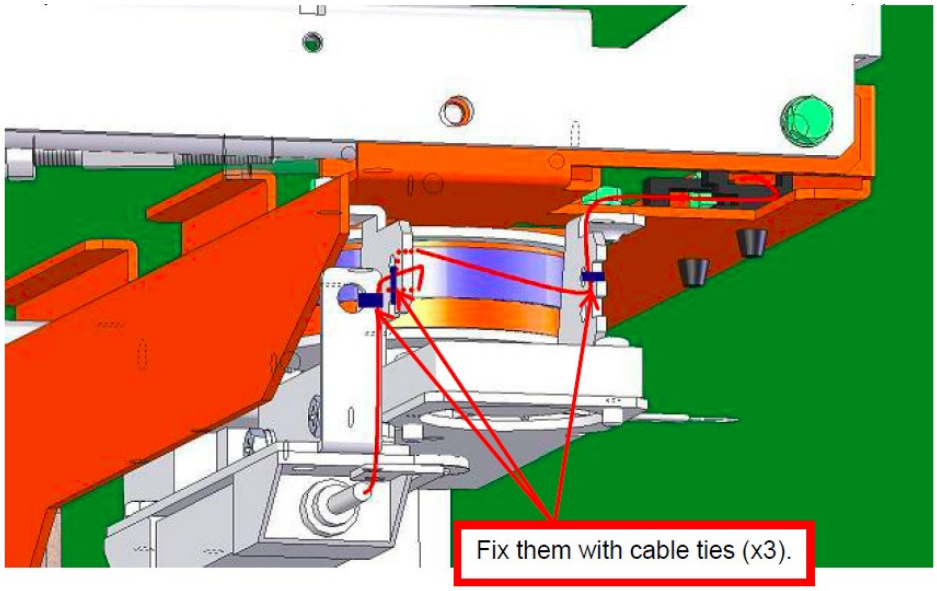
1

Remove the upper film changer cover and fix the ON-BOARD LIGHTING AS with the supplied HEX BOLT.



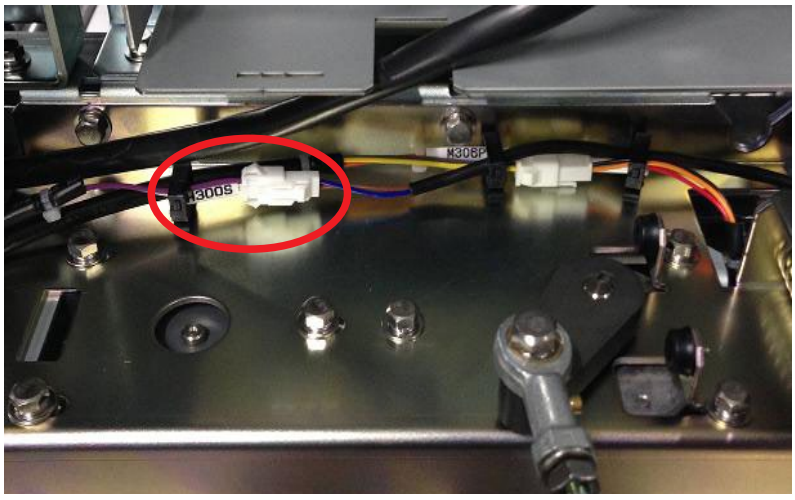
2

Fix the harnesses of ON-BOARD LIGHTING AS with the cable ties. (x3)



3

Connect to the connector of No ring: H300S.



4

Mount the removed cover.

5

Check the operation.
Check that the LED lights when opening the film replacement door.

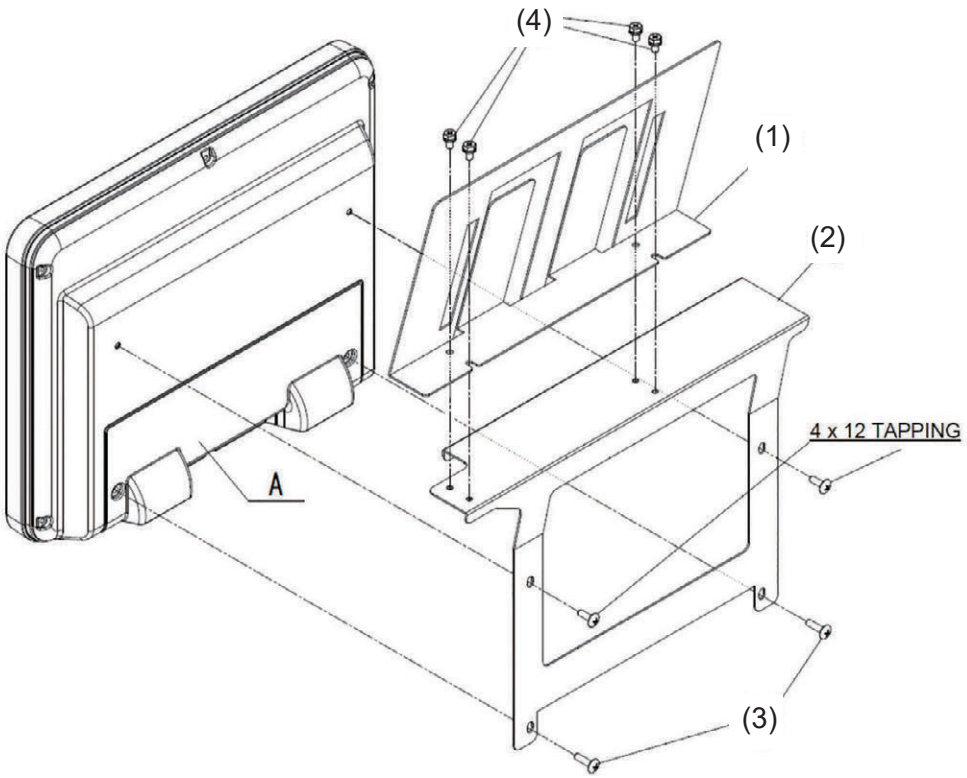
7.7 File Stand

7.7.1 Included items

1	STAND: PRODUCT NAME FILE	1	
2	BRACKET: PRODUCT NAME FILE	1	
3	TAPPING SCREW: CROSS TRUSS: T2	2	M4×16
4	HEX BOLT: BOLT&WASHER AS S2P2:	4	M4×8

Accessories: Plastic folder x 1

7.7.2 Installation procedure



1

Mount the BRACKET (2) and STAND (1) with HEX BOLT: BOLT&WASHER AS S2P2: (4).

2

Remove the TAPPING SCREWs (4 x 12) from the A connector cover resin.

3

Hook the BRACKET (2) with the stand mounted on the top of the display, and use TAPPING TRUSS (3) at the bottom and two TAPPING SCREWs at the top to mount the BRACKET on the back of the display.

Chapter 8

Appendix & Wiring Diagram

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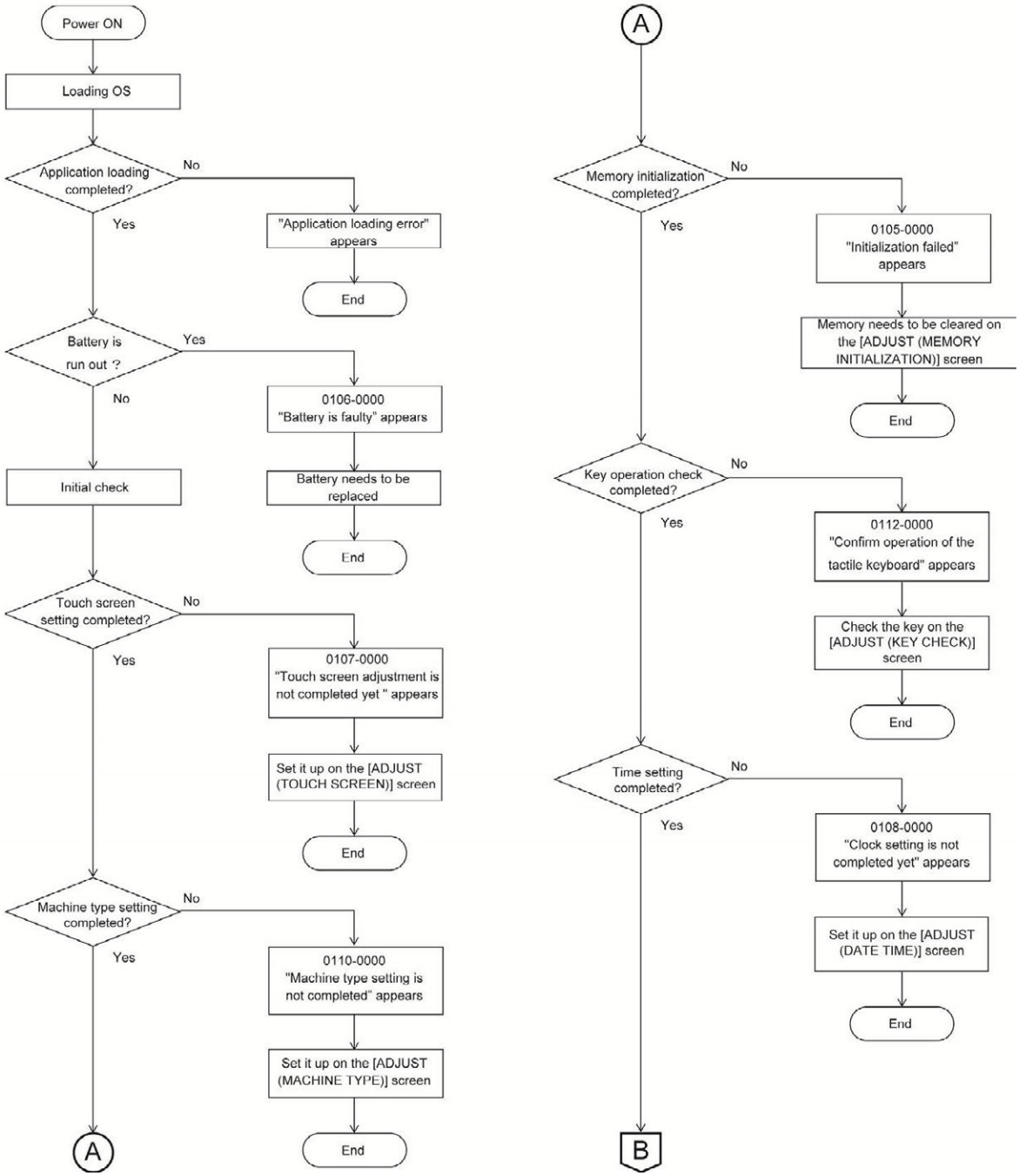
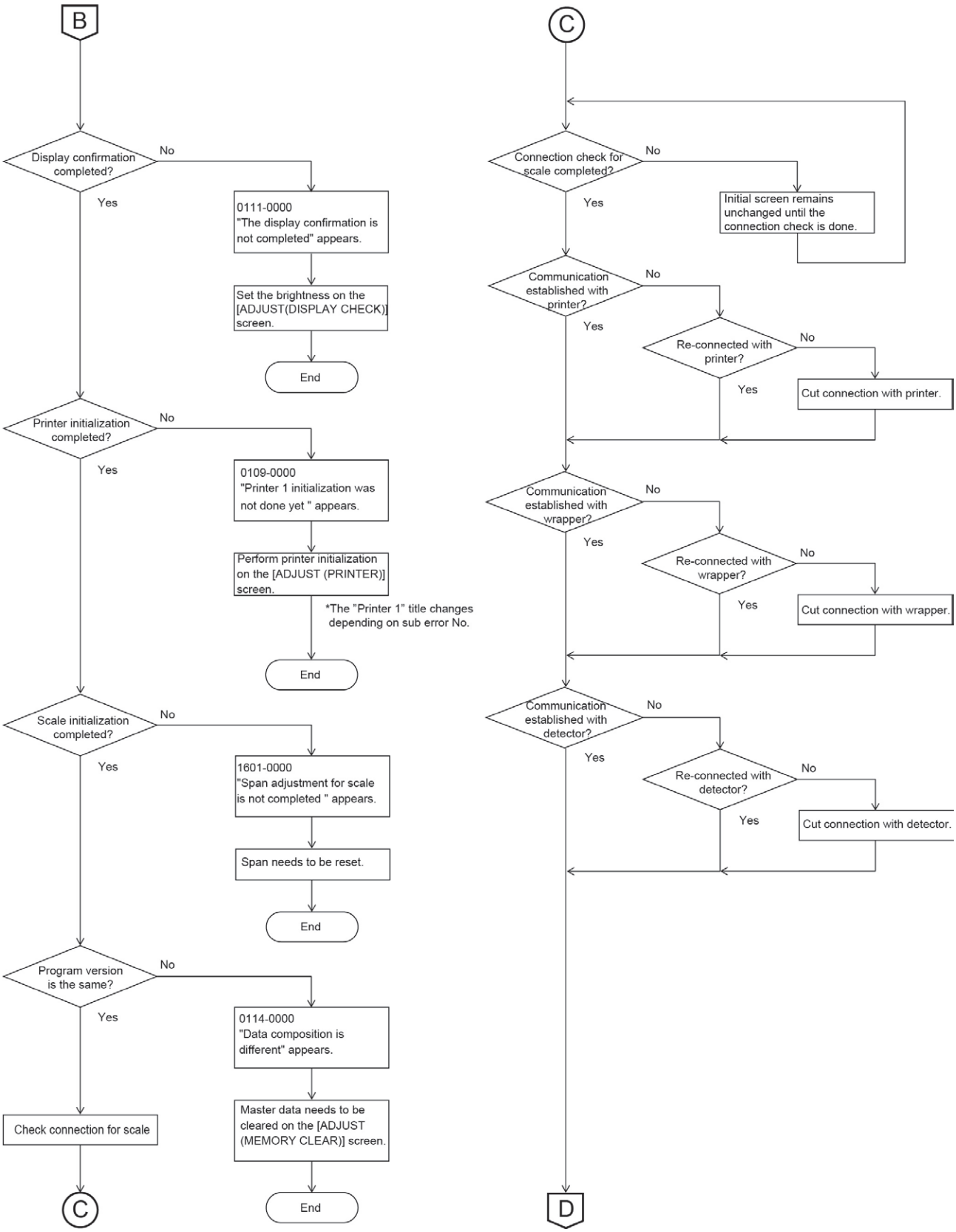
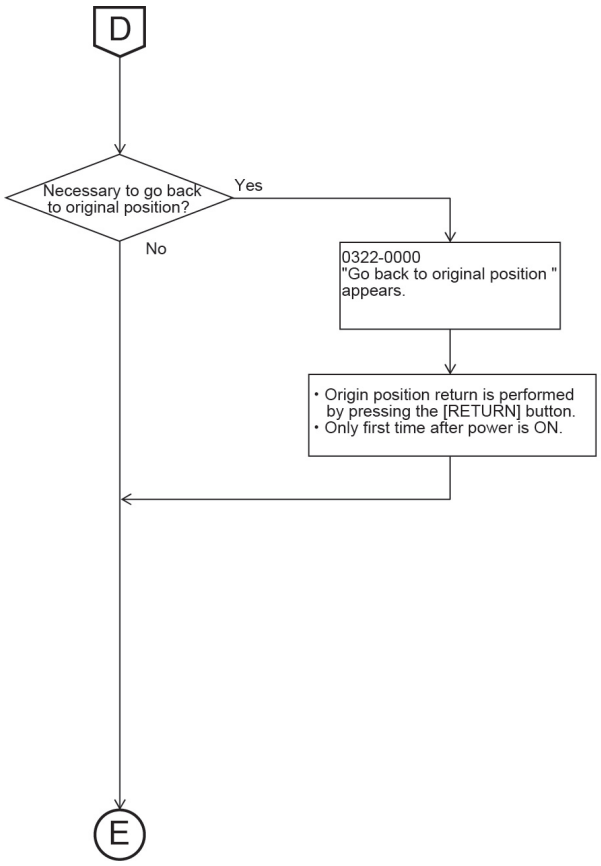
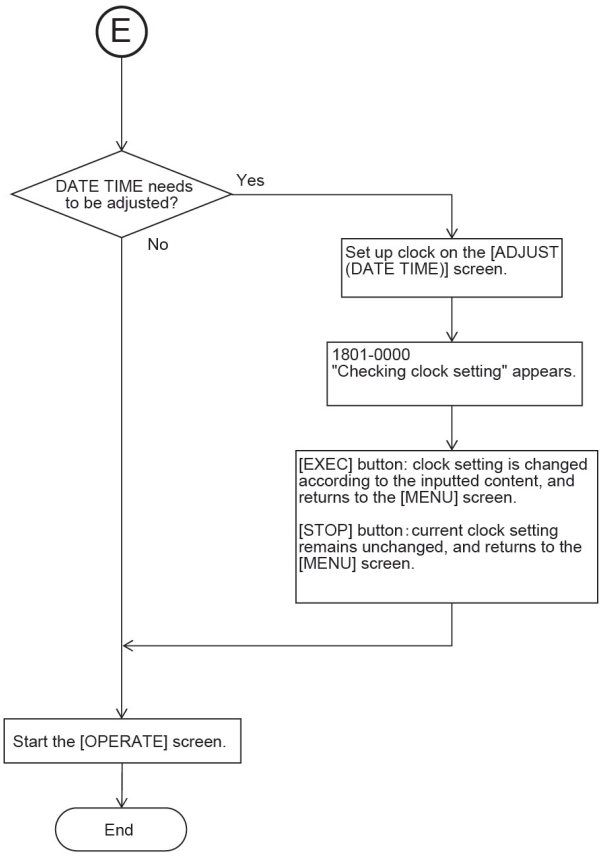
8.1 Operation Sequence

8.1.1 startup

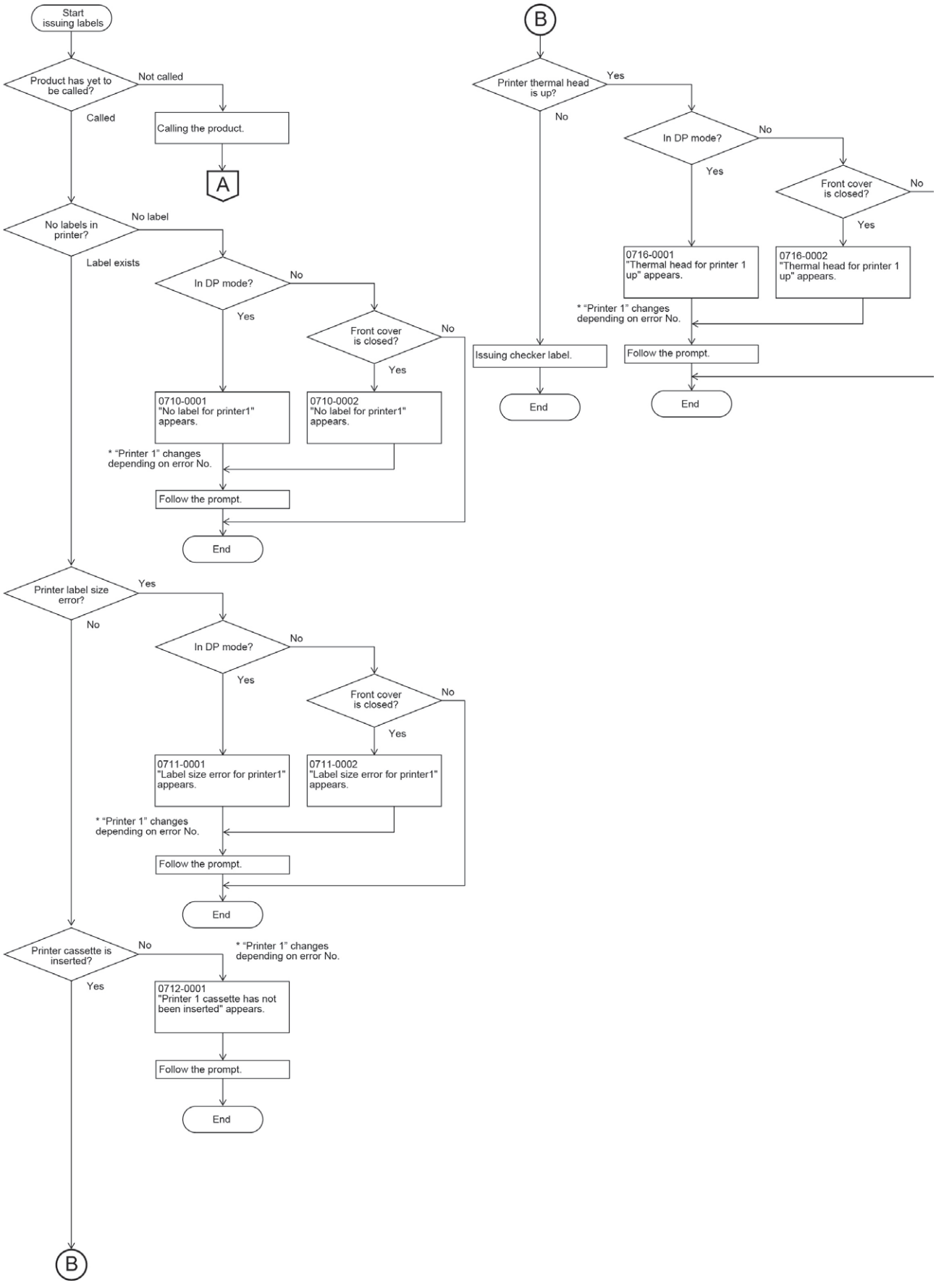


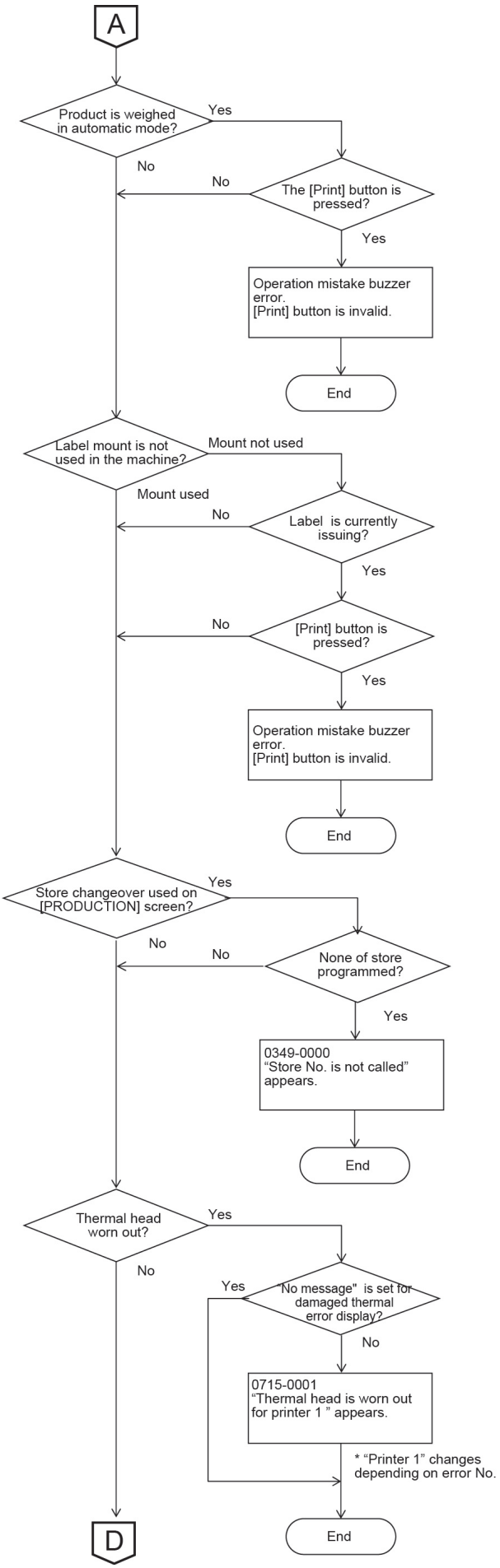

B
Display confirmation completed?
No
Yes
0111-0000
"The display confirmation is not completed" appears.
Set the brightness on the [ADJUST(DISPLAY CHECK)] screen.
End
Printer initialization completed?
No
Yes
0109-0000
"Printer 1 initialization was not done yet " appears.
Perform printer initialization on the [ADJUST (PRINTER)] screen.
*The "Printer 1" title changes depending on sub error No.
End
Scale initialization completed?
No
Yes
1601-0000
"Span adjustment for scale is not completed " appears.
Span needs to be reset.
End
Program version is the same?
No
Yes
0114-0000
"Data composition is different" appears.
Master data needs to be cleared on the [ADJUST (MEMORY CLEAR)] screen.
End
Check connection for scale
C
C
Connection check for scale completed?
No
Yes
Initial screen remains unchanged until the connection check is done.
Communication established with printer?
No
Yes
Re-connected with printer?
No
Yes
Cut connection with printer.
Communication established with wrapper?
No
Yes
Re-connected with wrapper?
No
Yes
Cut connection with wrapper.
Communication established with detector?
No
Yes
Re-connected with detector?
No
Yes
Cut connection with detector.
D

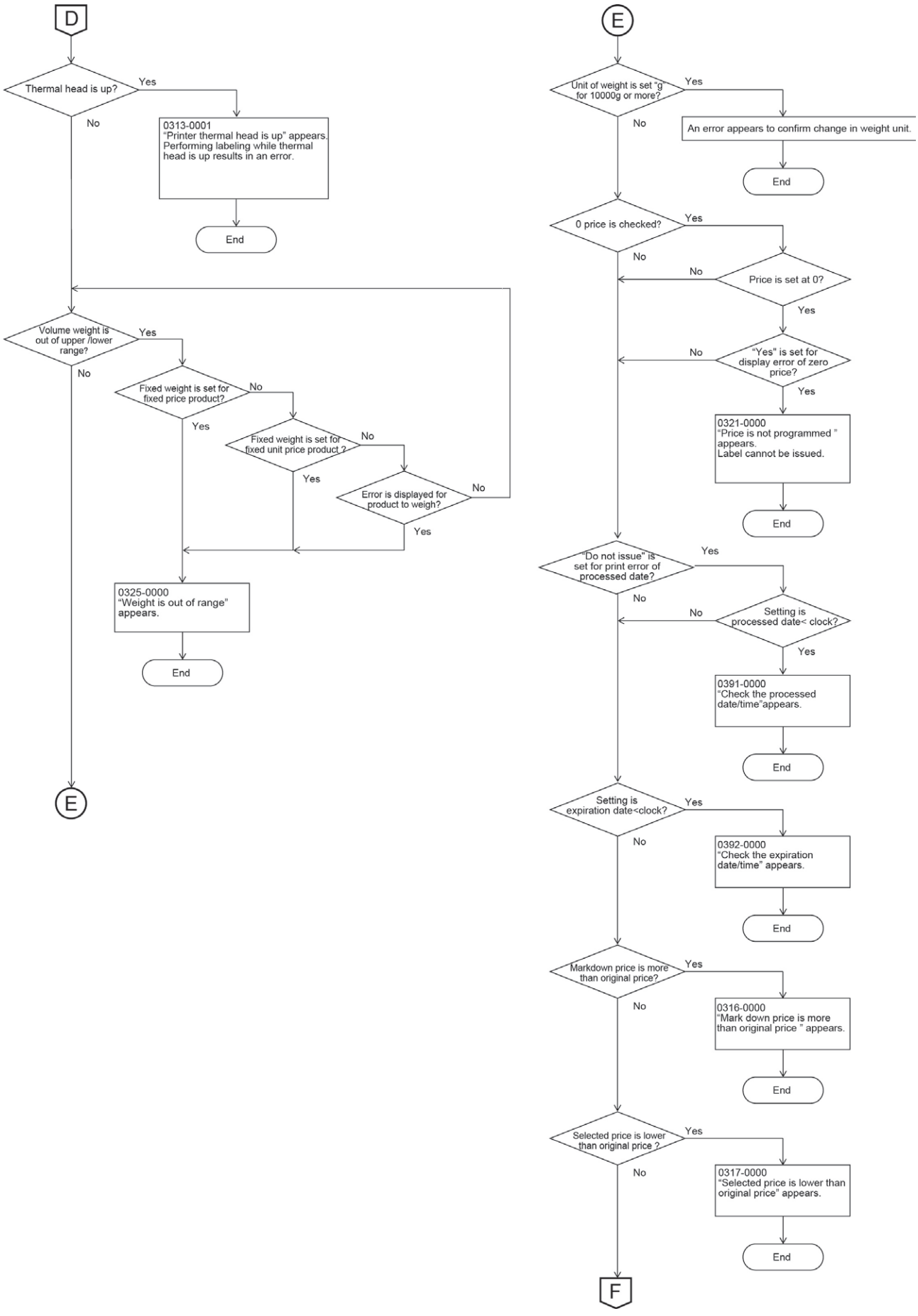

D
Necessary to go back to original position?
Yes
No
0322-0000
"Go back to original position " appears.
• Origin position return is performed by pressing the [RETURN] button.
• Only first time after power is ON.
E

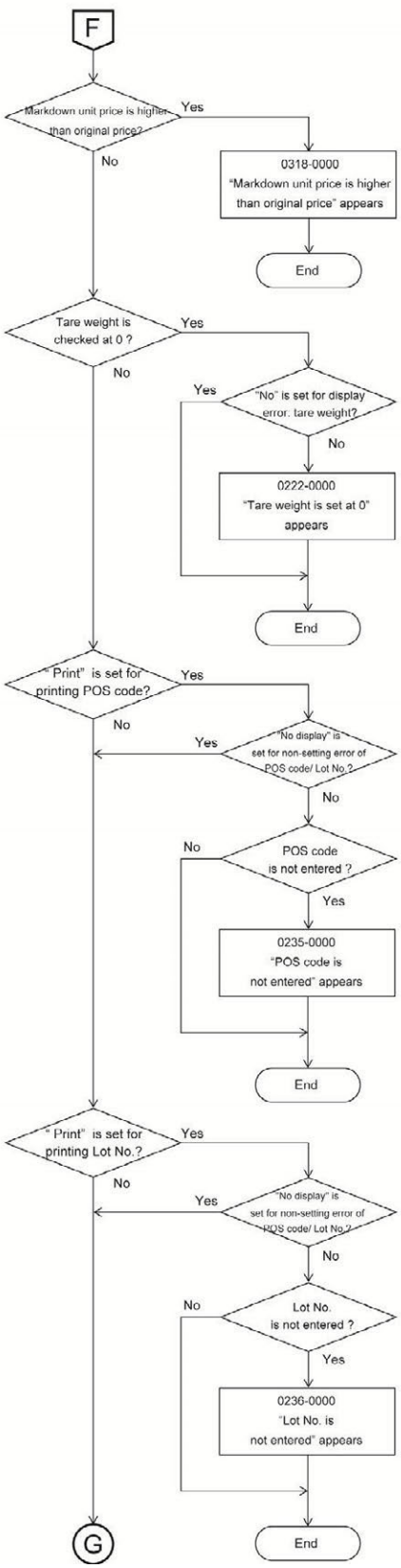

E
DATE TIME needs to be adjusted?
Yes
No
Set up clock on the [ADJUST (DATE TIME)] screen.
1801-0000
"Checking clock setting" appears.
[EXEC] button: clock setting is changed according to the inputted content, and returns to the [MENU] screen.
[STOP] button : current clock setting remains unchanged, and returns to the [MENU] screen.
Start the [OPERATE] screen.
End

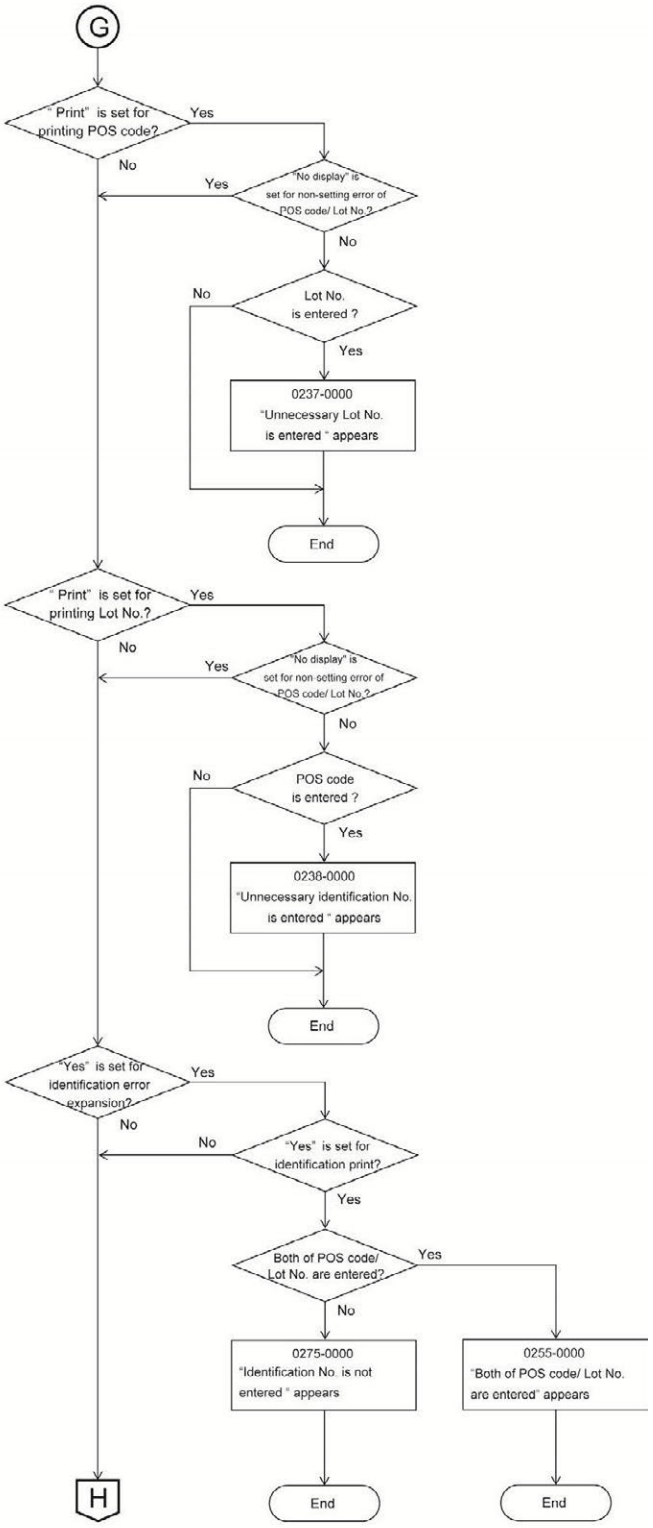
8.1.2 Label issurance

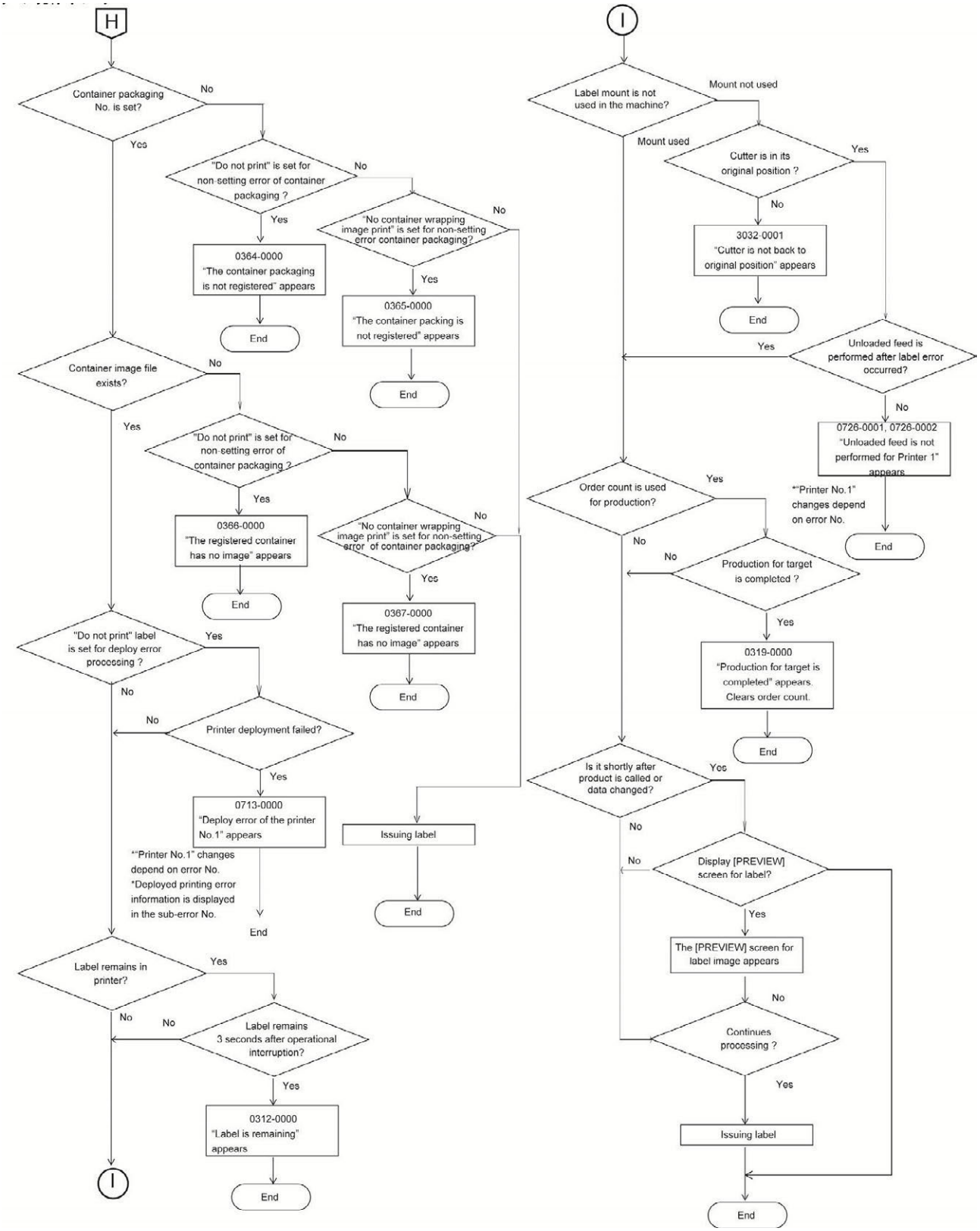



A
Product is weighed in automatic mode?
Yes
No
No
The [Print] button is pressed?
Yes
Operation mistake buzzer error.
[Print] button is invalid.
End
Label mount is not used in the machine?
Mount not used
Mount used
No
Label is currently issuing?
Yes
No
[Print] button is pressed?
Yes
Operation mistake buzzer error.
[Print] button is invalid.
End
Store changeover used on [PRODUCTION] screen?
Yes
No
No
None of store programmed?
Yes
0349-0000
“Store No. is not called” appears.
End
Thermal head worn out?
Yes
No
Yes
"No message" is set for damaged thermal error display?
No
0715-0001
“Thermal head is worn out for printer 1 ” appears.
* “Printer 1” changes depending on error No.
End
D


D
Thermal head is up?
Yes
No
0313-0001
"Printer thermal head is up" appears.
Performing labeling while thermal head is up results in an error.
End
Volume weight is out of upper /lower range?
Yes
No
Fixed weight is set for fixed price product?
No
Yes
Fixed weight is set for fixed unit price product ?
No
Yes
Error is displayed for product to weigh?
No
Yes
0325-0000
"Weight is out of range" appears.
End
E
E
Unit of weight is set "g" for 10000g or more?
Yes
No
An error appears to confirm change in weight unit.
End
0 price is checked?
Yes
No
No
Price is set at 0?
Yes
No
"Yes" is set for display error of zero price?
Yes
0321-0000
"Price is not programmed " appears.
Label cannot be issued.
End
"Do not issue" is set for print error of processed date?
Yes
No
No
Setting is processed date< clock?
Yes
0391-0000
"Check the processed date/time"appears.
End
Setting is expiration date<clock?
Yes
No
0392-0000
"Check the expiration date/time" appears.
End
Markdown price is more than original price?
Yes
No
0316-0000
"Mark down price is more than original price " appears.
End
Selected price is lower than original price ?
Yes
No
0317-0000
"Selected price is lower than original price" appears.
End
F


F
Markdown unit price is higher than original price?
Yes
No
0318-0000
"Markdown unit price is higher than original price" appears
End
Tare weight is checked at 0 ?
Yes
No
"No" is set for display error: tare weight?
Yes
No
0222-0000
"Tare weight is set at 0" appears
End
" Print" is set for printing POS code?
Yes
No
"No display" is set for non-setting error of POS code/ Lot No.?
Yes
No
POS code is not entered ?
No
Yes
0235-0000
"POS code is not entered" appears
End
" Print" is set for printing Lot No.?
Yes
No
"No display" is set for non-setting error of POS code/ Lot No.?
Yes
No
Lot No. is not entered ?
No
Yes
0236-0000
"Lot No. is not entered" appears
End
G


G
" Print" is set for printing POS code?
Yes
No
"No display" is set for non-setting error of POS code/ Lot No.?
Yes
No
Lot No. is entered ?
No
Yes
0237-0000
"Unnecessary Lot No. is entered " appears
End
" Print" is set for printing Lot No.?
Yes
No
"No display" is set for non-setting error of POS code/ Lot No.?
Yes
No
POS code is entered ?
No
Yes
0238-0000
"Unnecessary identification No. is entered " appears
End
"Yes" is set for identification error expansion?
Yes
No
"Yes" is set for identification print?
No
Yes
Both of POS code/ Lot No. are entered?
No
Yes
0275-0000
"Identification No. is not entered " appears
End
0255-0000
"Both of POS code/ Lot No. are entered" appears
End
H


H
Container packaging No. is set?
No
Yes
"Do not print" is set for non-setting error of container packaging ?
No
Yes
"No container wrapping image print" is set for non-setting error container packaging?
No
Yes
0364-0000
"The container packaging is not registered" appears
End
0365-0000
"The container packing is not registered" appears
End
Container image file exists?
No
Yes
"Do not print" is set for non-setting error of container packaging ?
No
Yes
"No container wrapping image print" is set for non-setting error of container packaging?
No
Yes
0366-0000
"The registered container has no image" appears
End
0367-0000
"The registered container has no image" appears
End
"Do not print" label is set for deploy error processing ?
Yes
No
Printer deployment failed?
No
Yes
0713-0000
"Deploy error of the printer No.1" appears
*"Printer No.1" changes depend on error No.
*Deployed printing error information is displayed in the sub-error No.
End
Issuing label
End
Label remains in printer?
Yes
No
Label remains 3 seconds after operational interruption?
No
Yes
0312-0000
"Label is remaining" appears
End
I
I
Label mount is not used in the machine?
Mount not used
Mount used
Cutter is in its original position ?
Yes
No
3032-0001
"Cutter is not back to original position" appears
End
Unloaded feed is performed after label error occurred?
Yes
No
0726-0001, 0726-0002
"Unloaded feed is not performed for Printer 1" appears
*"Printer No.1" changes depend on error No.
End
Order count is used for production?
Yes
No
Production for target is completed ?
No
Yes
0319-0000
"Production for target is completed" appears. Clears order count.
End
Is it shortly after product is called or data changed?
Yes
No
Display [PREVIEW] screen for label?
No
Yes
The [PREVIEW] screen for label image appears
No
Continues processing ?
Yes
Issuing label
End

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8.2.1 GNU General Public License Version 2, June 1991

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Ty Coon, President of Vice
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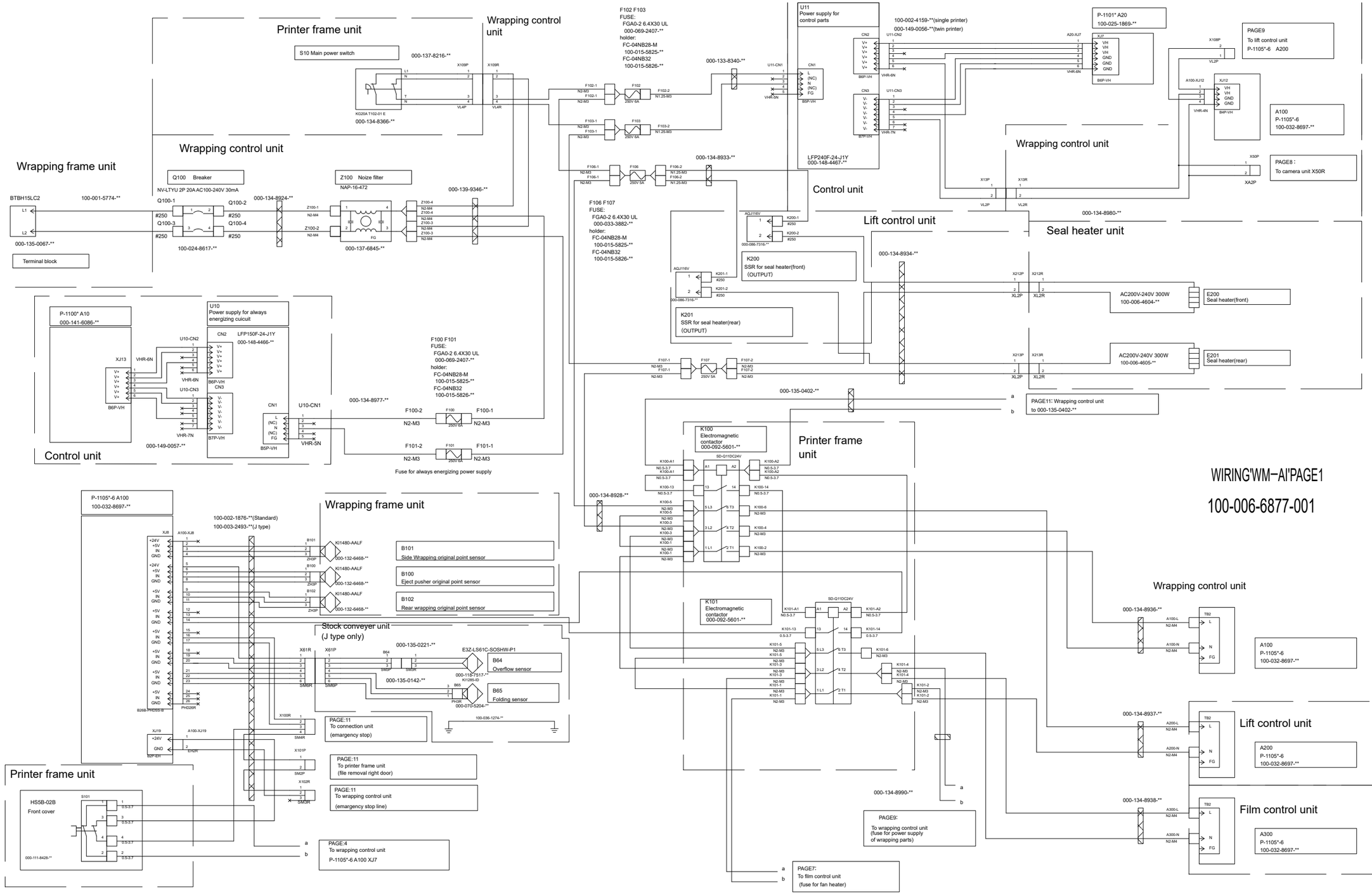
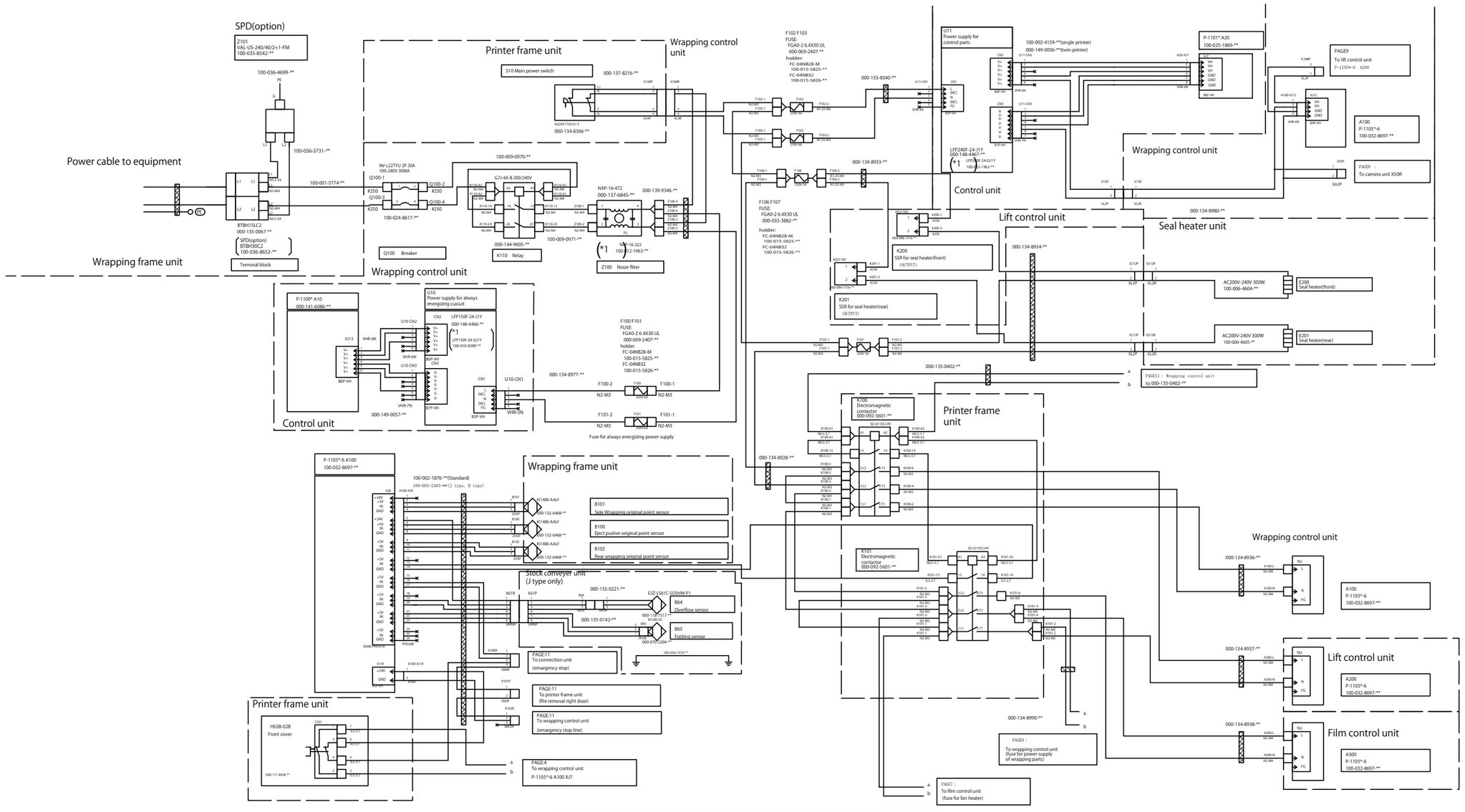
8.3 Wiring Diagrams

8.3.1 Page 1 (non ETL)



8.3.1.1 Page 1 (ETL)



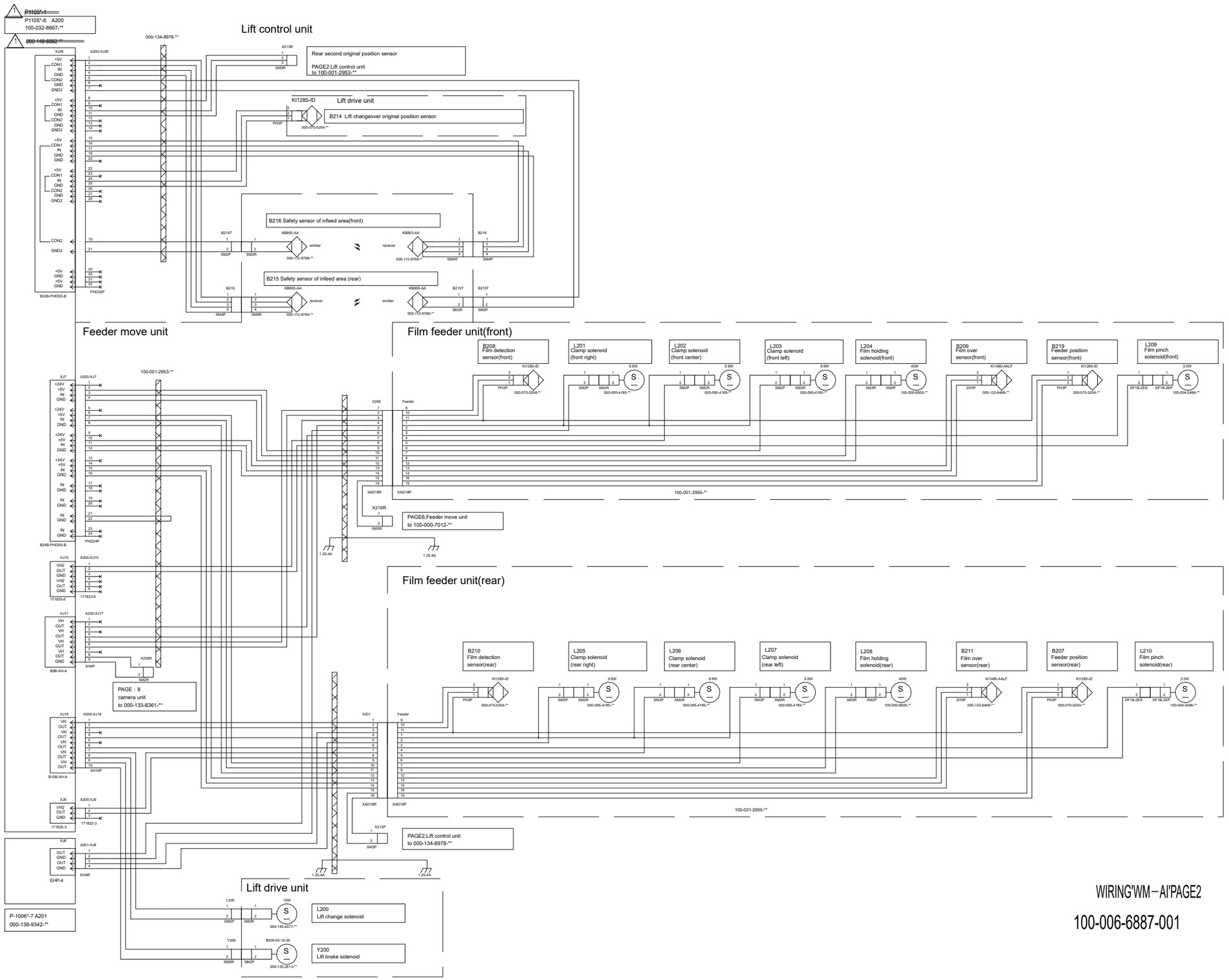
1)*1 Twin printer and/or pop printer and/or under printer.

2)Figure A shows the case if pop printer is installed.

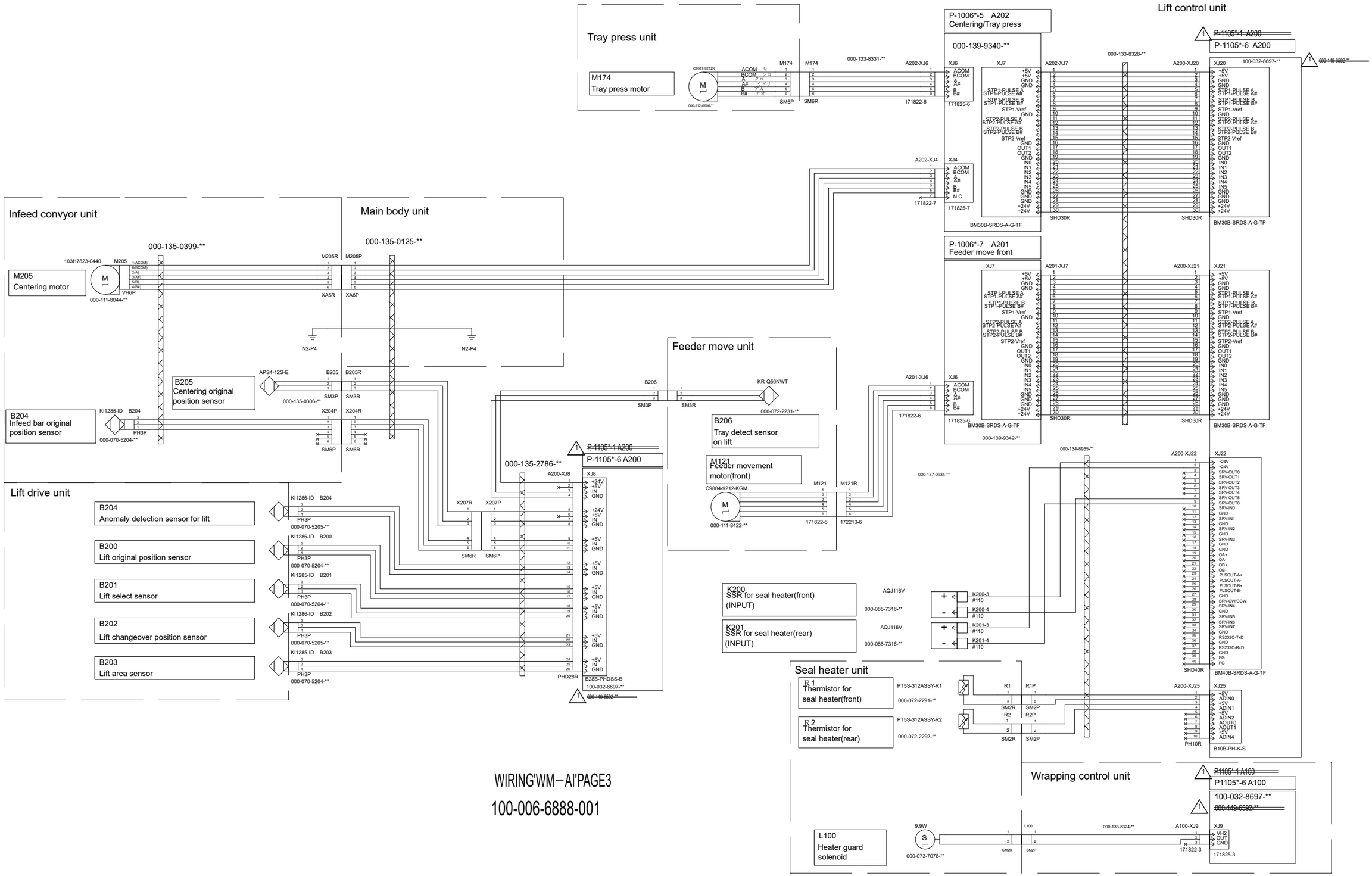
WIRING'WM-A1'PAGE1 ETL

100-042-1509-00

8.3.2 Page 2


P1105'-1
P1105'-6 A200
100-032-8697-**
000-149-6592-**
Lift control unit
000-134-8978-**
XJ28
A200-XJ28
B32B-PHDSS-B
PHD32P
X213R
SM3R
Rear second original position sensor
PAGE2:Lift control unit
to 100-001-2953-**
KI1285-ID
Lift drive unit
B214 Lift changeover original position sensor
PH3P
000-070-5204-**
B216 Safety sensor of infeed area(front)
B216T
SM2P
SM2R
K8893-AA
emitter
reciever
000-112-9768-**
000-112-9769-**
SM4R
SM4P
B216
B215 Safety sensor of infeed area (rear)
B215
B215T
SM2R
Feeder move unit
Film feeder unit(front)
100-001-2953-**
XJ7
A200-XJ7
B24B-PHDSS-B
PHD24P
X200
Feeder
XAD18R
XAD18P
100-001-2955-**
X216R
XM3R
PAGE6;Feeder move unit
to 100-000-7012-**
1.25-4A
B208
Film detection
sensor(front)
L201
Clamp solenoid
(front right)
L202
Clamp solenoid
(front center)
L203
Clamp solenoid
(front left)
L204
Film holding
solenoid(front)
B209
Film over
sensor(front)
B219
Feeder position
sensor(front)
L209
Film pinch
solenoid(front)
9.9W
40W
3.5W
SM2R
XM2R
ZH3P
DF1B-2ES
DF1B-2EP
000-095-4185-**
100-000-8505-**
000-132-6468-**
100-004-5496-**
XJ10
A200-XJ10
171825-6
171822-6
XJ17
A200-XJ17
B9B-XH-A
XH9P
X209R
XM2R
PAGE : 8
camera unit
to 000-133-8361-**
XJ18
A200-XJ18
B10B-XH-A
XH10P
X201
XJ9
A200-XJ9
171825-3
171822-3
XJ8
A201-XJ8
EHP-4
EH4R
X213P
SM3P
PAGE2:Lift control unit
to 000-134-8978-**
Film feeder unit(rear)
B210
Film detection
sensor(rear)
L205
Clamp solenoid
(rear right)
L206
Clamp solenoid
(rear center)
L207
Clamp solenoid
(rear left)
L208
Film holding
solenoid(rear)
B211
Film over
sensor(rear)
B207
Feeder position
sensor(rear)
L210
Film pinch
solenoid(rear)
Lift drive unit
L200
Lift change solenoid
16W
000-145-8372-**
Y200
Lift brake solenoid
BXW-03-10-26
000-135-2613-**
P-1006'-7 A201
000-139-9342-**
WIRING'WM－AI'PAGE2
100-006-6887-001

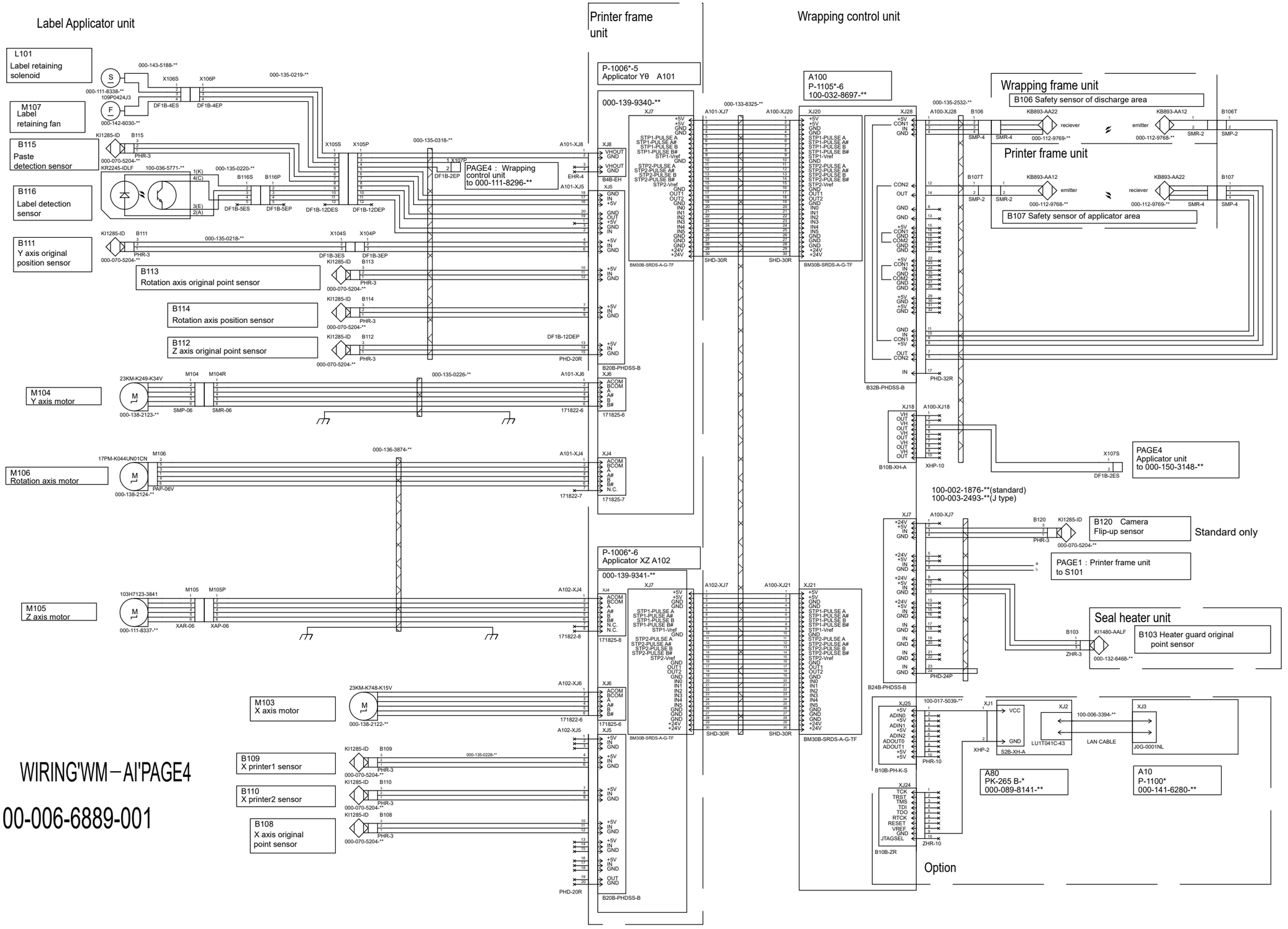
8.3.3 Page 3



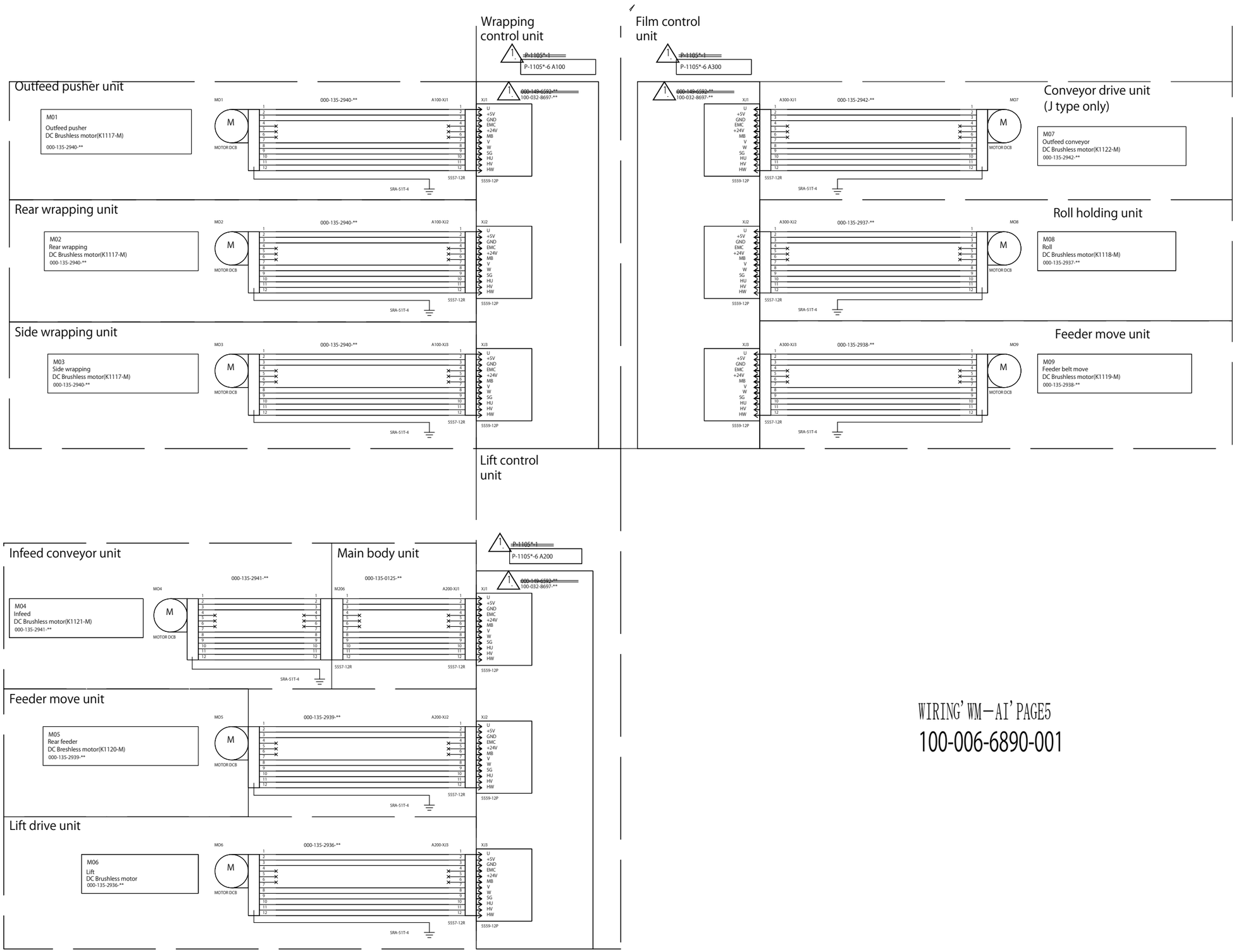
WIRING'WM－AI'PAGE3

100-006-6888-001

8.3.4 Page 4


Label Applicator unit
Printer frame unit
Wrapping control unit
L101
Label retaining solenoid
M107
Label retaining fan
B115
Paste detection sensor
B116
Label detection sensor
B111
Y axis original position sensor
B113
Rotation axis original point sensor
B114
Rotation axis position sensor
B112
Z axis original point sensor
M104
Y axis motor
M106
Rotation axis motor
M105
Z axis motor
M103
X axis motor
B109
X printer1 sensor
B110
X printer2 sensor
B108
X axis original point sensor
P-1006*-5
Applicator Yθ A101
000-139-9340-**
P-1006*-6
Applicator XZ A102
000-139-9341-**
A100
P-1105*-6
100-032-8697-**
PAGE4 : Wrapping control unit to 000-111-8296-**
Wrapping frame unit
B106 Safety sensor of discharge area
Printer frame unit
B107 Safety sensor of applicator area
PAGE4
Applicator unit
to 000-150-3148-**
100-002-1876-**(standard)
100-003-2493-**(J type)
B120 Camera
Flip-up sensor
Standard only
PAGE1 : Printer frame unit
to S101
Seal heater unit
B103 Heater guard original point sensor
A80
PK-265 B-*
000-089-8141-**
A10
P-1100*
000-141-6280-**
Option
WIRING'WM－AI'PAGE4
100-006-6889-001

8.3.5 Page 5

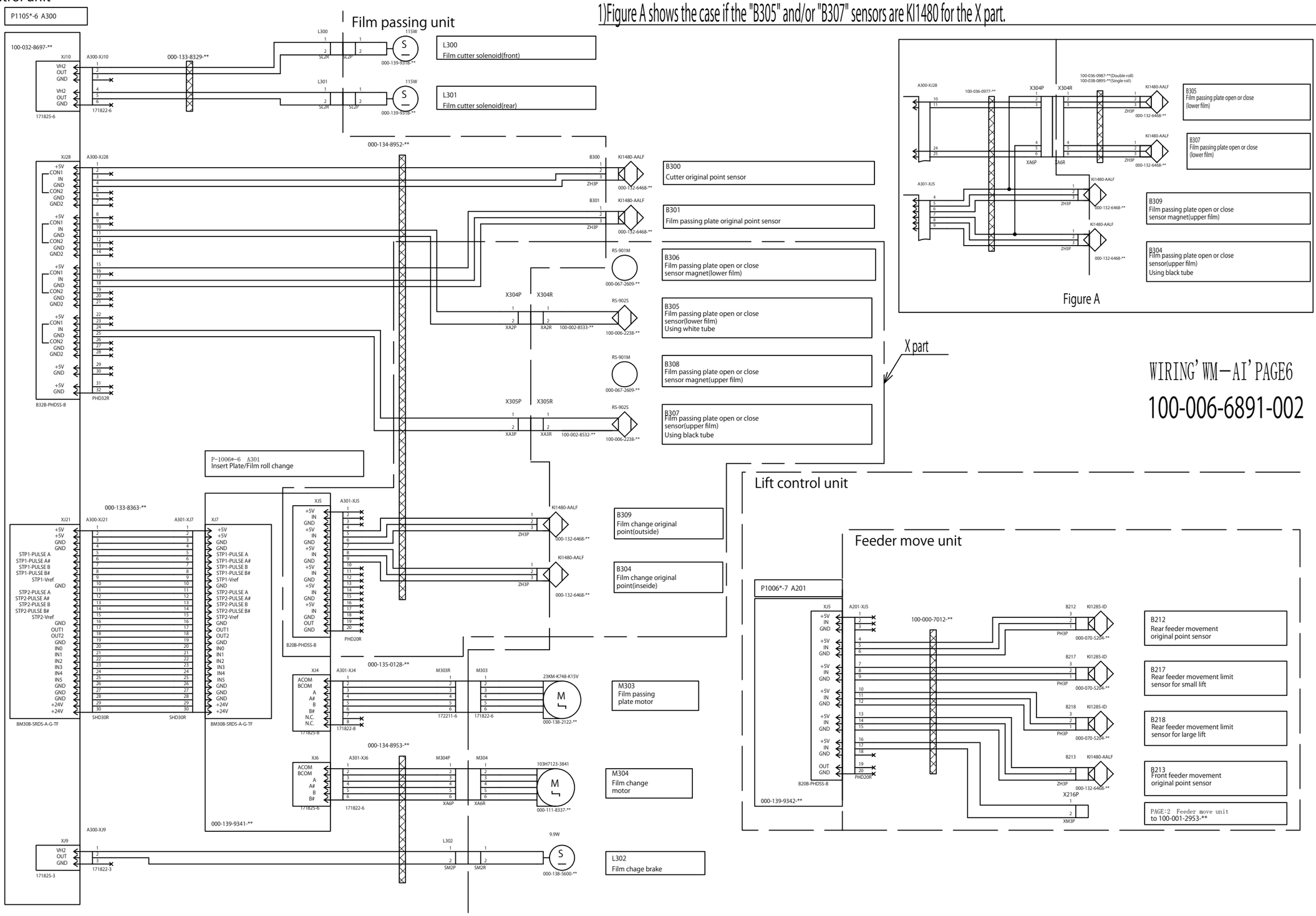


WIRING'WM-AI'PAGE5

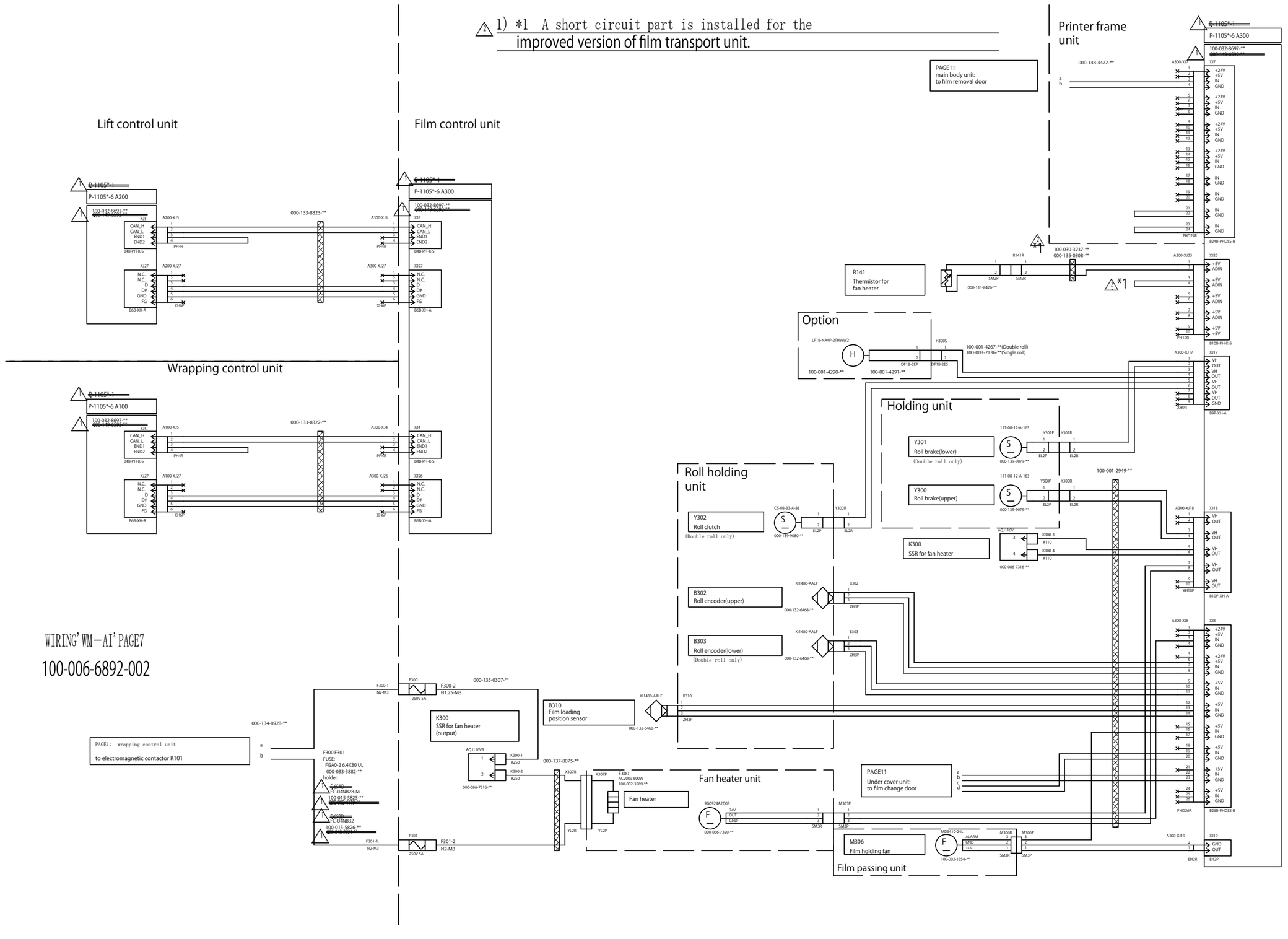
100-006-6890-001

8.3.6 Page 6

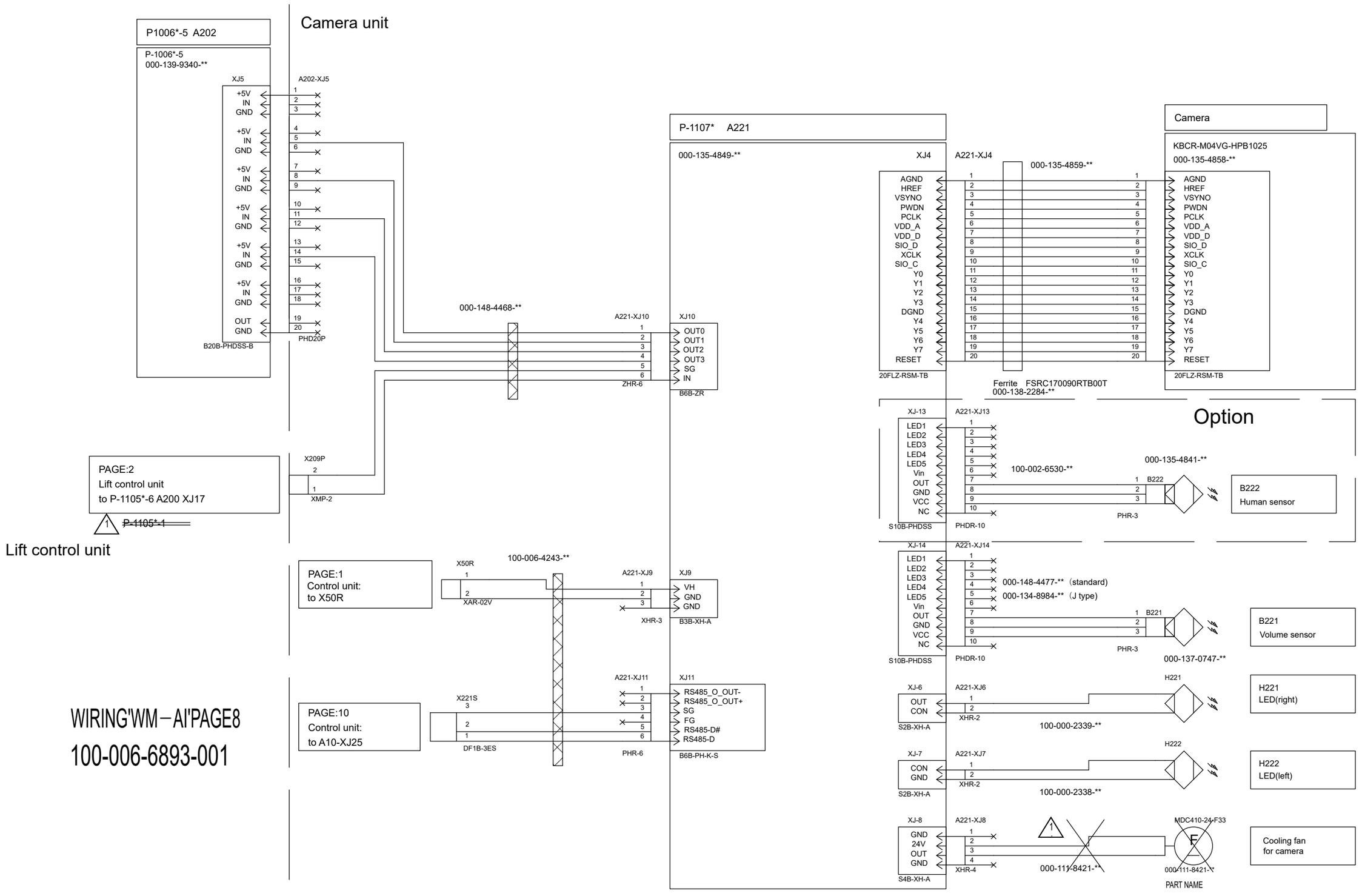
Film control unit



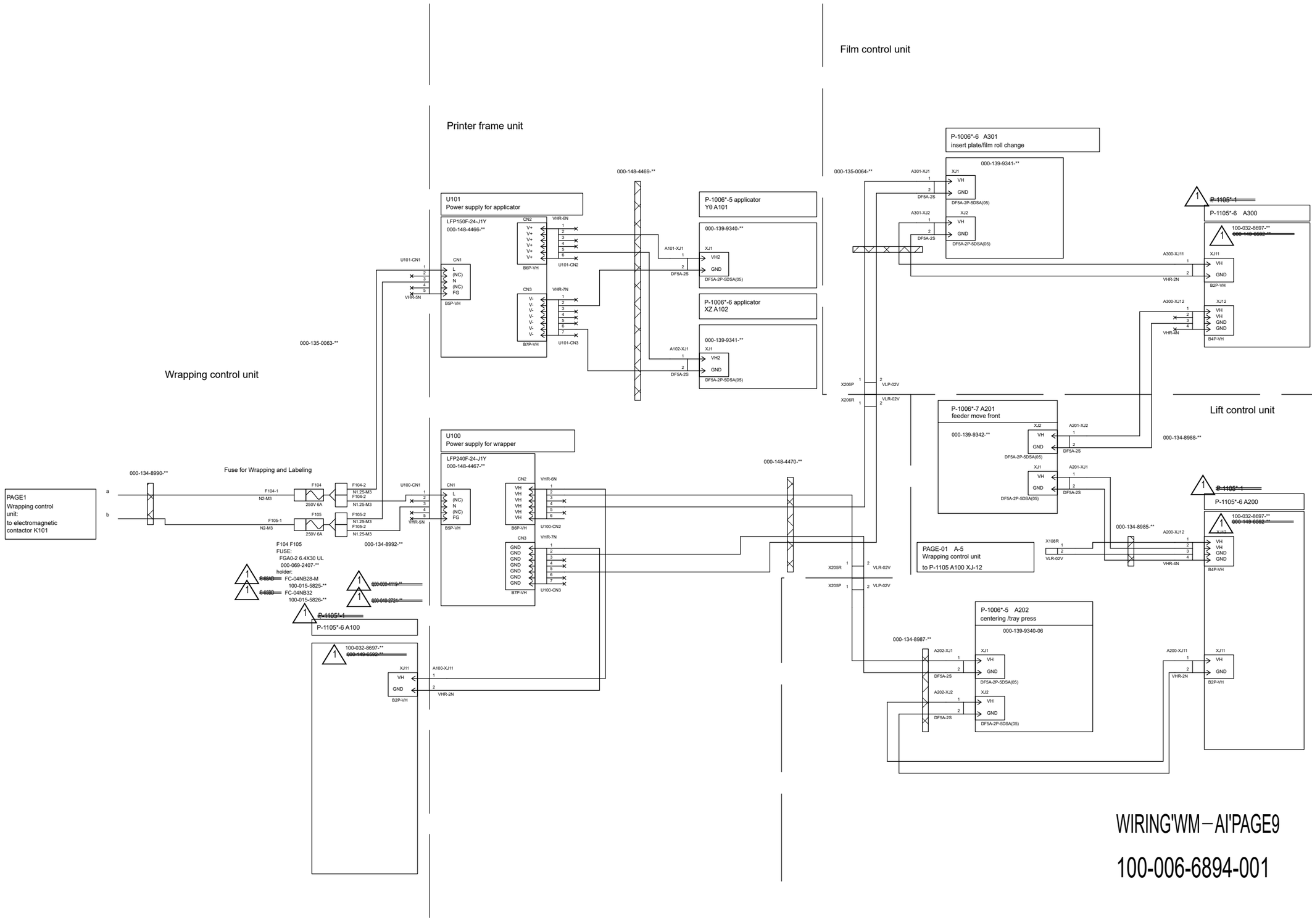
8.3.7 Page 7


1) *1 A short circuit part is installed for the improved version of film transport unit.
Lift control unit
Film control unit
Wrapping control unit
Printer frame unit
Option
Holding unit
Roll holding unit
Fan heater unit
Film passing unit
WIRING'WM-AI'PAGE7
100-006-6892-002
P-1105*-6 A200
P-1105*-6 A300
P-1105*-6 A100
000-133-8323-**
000-133-8322-**
PAGE11 main body unit: to film removal door
PAGE1: wrapping control unit to electromagnetic contactor K101
PAGE11 Under cover unit: to film change door
000-148-4472-**
100-030-3237-**
000-135-0308-**
000-111-8426-**
R141 Thermistor for fan heater
LF1B-NA4P-2THWW2
100-001-4267-**(Double roll)
100-003-2136-**(Single roll)
100-001-4290-**
100-001-4291-**
Y301 Roll brake(lower) (Double roll only)
Y300 Roll brake(upper)
000-139-9079-**
000-139-9080-**
Y302 Roll clutch (Double roll only)
K300 SSR for fan heater
000-086-7316-**
100-001-2949-**
B302 Roll encoder(upper)
B303 Roll encoder(lower)
000-132-6468-**
B310 Film loading position sensor
000-134-8928-**
000-135-0307-**
000-137-8075-**
F300 F301 FUSE: FGA0-2 6.4X30 UL 000-033-3882-** holder:
100-015-5825-**
100-015-5826-**
E300 AC200V 600W 100-002-3589-**
Fan heater
000-086-7320-**
M306 Film holding fan
100-002-1354-**

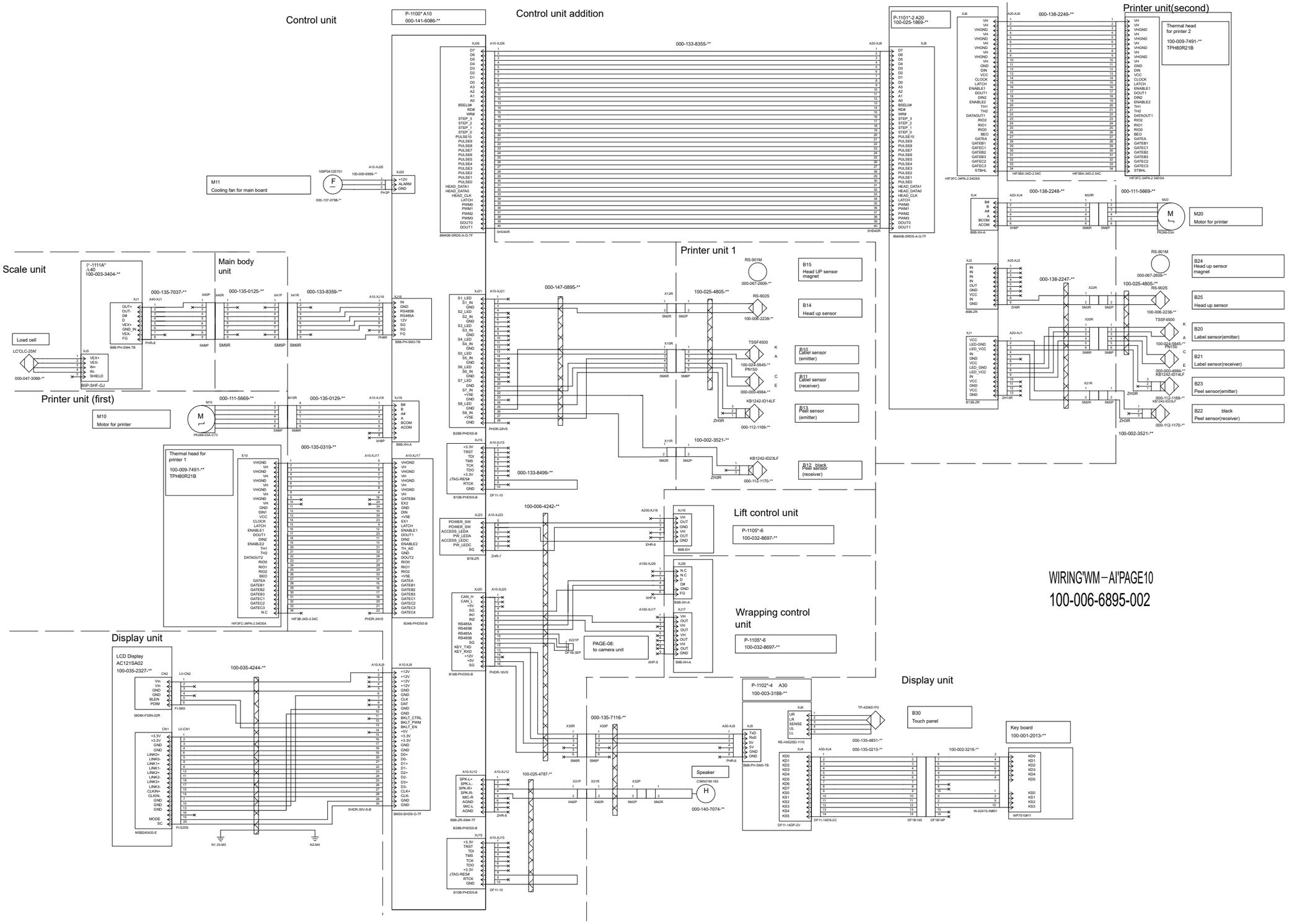
8.3.8 Page 8


Camera unit
P1006*-5 A202
P-1006*-5
000-139-9340-**
XJ5
A202-XJ5
+5V
IN
GND
OUT
B20B-PHDSS-B
PHD20P
000-148-4468-**
A221-XJ10
XJ10
OUT0
OUT1
OUT2
OUT3
SG
IN
ZHR-6
B6B-ZR
P-1107* A221
000-135-4849-**
XJ4
A221-XJ4
000-135-4859-**
AGND
HREF
VSYNO
PWDN
PCLK
VDD_A
VDD_D
SIO_D
XCLK
SIO_C
Y0
Y1
Y2
Y3
DGND
Y4
Y5
Y6
Y7
RESET
20FLZ-RSM-TB
Camera
KBCR-M04VG-HPB1025
000-135-4858-**
Ferrite FSRC170090RTB00T
000-138-2284-**
Option
PAGE:2
Lift control unit
to P-1105*-6 A200 XJ17
P-1105*-1
Lift control unit
X209P
XMP-2
XJ-13
A221-XJ13
LED1
LED2
LED3
LED4
LED5
Vin
OUT
GND
VCC
NC
S10B-PHDSS
PHDR-10
100-002-6530-**
000-135-4841-**
B222
PHR-3
B222
Human sensor
PAGE:1
Control unit:
to X50R
100-006-4243-**
X50R
XAR-02V
A221-XJ9
XJ9
VH
GND
GND
XHR-3
B3B-XH-A
XJ-14
A221-XJ14
000-148-4477-** (standard)
000-134-8984-** (J type)
B221
PHR-3
B221
Volume sensor
000-137-0747-**
WIRING'WM－AI'PAGE8
100-006-6893-001
PAGE:10
Control unit:
to A10-XJ25
X221S
DF1B-3ES
A221-XJ11
XJ11
RS485_O_OUT-
RS485_O_OUT+
SG
FG
RS485-D#
RS485-D
PHR-6
B6B-PH-K-S
XJ-6
A221-XJ6
CON
S2B-XH-A
XHR-2
100-000-2339-**
H221
H221
LED(right)
XJ-7
A221-XJ7
100-000-2338-**
H222
H222
LED(left)
XJ-8
A221-XJ8
MDC410-24-F33
000-111-8421-**
Cooling fan
for camera
PART NAME

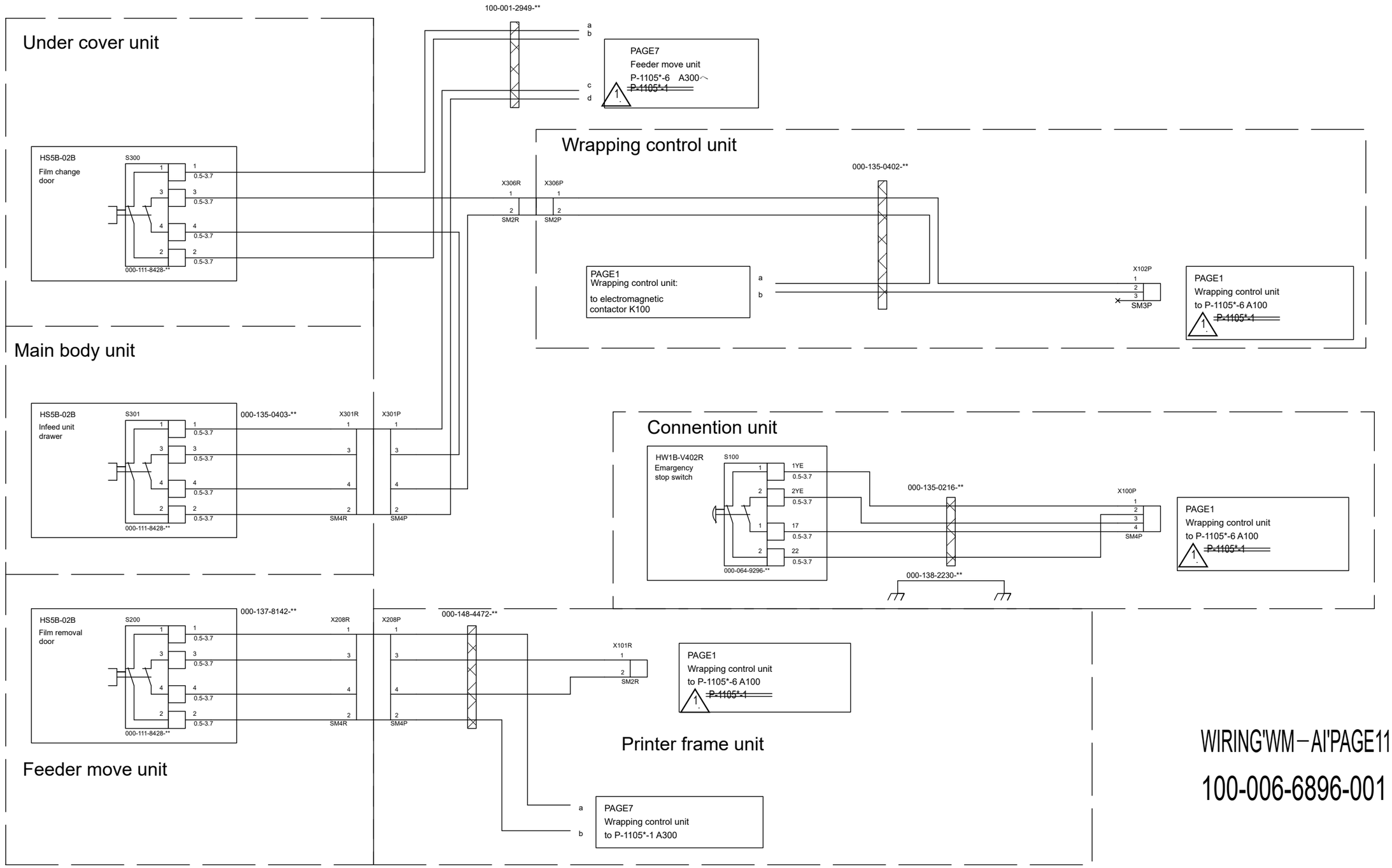
8.3.9 Page 9


Printer frame unit
Film control unit
Wrapping control unit
Lift control unit
U101
Power supply for applicator
LFP150F-24-J1Y
000-148-4466-**
U100
Power supply for wrapper
LFP240F-24-J1Y
000-148-4467-**
000-148-4469-**
000-148-4470-**
000-135-0063-**
000-135-0064-**
P-1006*-5 applicator
Y8 A101
000-139-9340-**
P-1006*-6 applicator
XZ A102
000-139-9341-**
P-1006*-6 A301
insert plate/film roll change
000-139-9341-**
P-1105*-6 A300
100-032-8697-**
000-148-6592-**
P-1006*-7 A201
feeder move front
000-139-9342-**
000-134-8988-**
P-1105*-6 A200
100-032-8697-**
000-148-6592-**
P-1006*-5 A202
centering /tray press
000-139-9340-06
000-134-8987-**
000-134-8985-**
000-134-8990-**
Fuse for Wrapping and Labeling
F104 F105
FUSE:
FGA0-2 6.4X30 UL
000-069-2407-**
holder:
FC-04NB28-M
100-015-5825-**
FC-04NB32
100-015-5826-**
000-134-8992-**
000-000-4119-**
000-010-2724-**
P-1105*-1
P-1105*-6 A100
100-032-8697-**
000-148-6592-**
PAGE1
Wrapping control
unit:
to electromagnetic
contactor K101
PAGE-01 A-5
Wrapping control unit
to P-1105 A100 XJ-12
WIRING'WM－AI'PAGE9
100-006-6894-001

8.3.10 Page 10


Control unit
P-1100* A10
000-141-6086-**
Control unit addition
000-133-8355-**
P-1101*-2 A20
100-025-1869-**
Printer unit(second)
Thermal head for printer 2
100-009-7491-**
TPH80R21B
000-138-2249-**
000-138-2248-**
000-111-5669-**
M20
Motor for printer
Printer unit 1
000-147-0895-**
000-135-7116-**
B15 Head UP sensor magnet
B14 Head up sensor
B10 Label sensor (emitter)
B11 Label sensor (receiver)
B13 Peel sensor (emitter)
B12 black Peel sensor (receiver)
B24 Head up sensor magnet
B25 Head up sensor
B20 Label sensor(emitter)
B21 Label sensor(receiver)
B23 Peel sensor(emitter)
B22 black Peel sensor(receiver)
Scale unit
Load cell
LCCLC-25N
000-047-3068-**
Main body unit
000-135-7037-**
000-135-0125-**
000-133-8359-**
Printer unit (first)
M10
Motor for printer
000-111-5669-**
000-135-0129-**
000-135-0319-**
Thermal head for printer 1
100-009-7491-**
TPH80R21B
Lift control unit
P-1105*-6
100-032-8697-**
Wrapping control unit
P-1105*-6
100-032-8697-**
PAGE-08:
to camera unit
Display unit
LCD Display
AC121SA02
100-035-2327-**
100-035-4244-**
Display unit
P-1102*-4 A30
100-003-3188-**
B30
Touch panel
Key board
100-001-2013-**
Speaker
000-140-7074-**
000-135-4851-**
000-135-0213-**
100-002-3216-**
100-002-3521-**
WIRING'WM－AI'PAGE10
100-006-6895-002

8.3.11 Page 11


Under cover unit
100-001-2949-**
a
b
c
d
PAGE7
Feeder move unit
P-1105*-6 A300
P-1105*-1
HS5B-02B
Film change door
S300
000-111-8428-**
Wrapping control unit
X306R
X306P
SM2R
SM2P
000-135-0402-**
PAGE1
Wrapping control unit:
to electromagnetic contactor K100
X102P
SM3P
PAGE1
Wrapping control unit
to P-1105*-6 A100
P-1105*-1
Main body unit
HS5B-02B
Infeed unit drawer
S301
000-135-0403-**
X301R
X301P
SM4R
SM4P
Connention unit
HW1B-V402R
Emargency stop switch
S100
000-064-9296-**
000-135-0216-**
X100P
000-138-2230-**
PAGE1
Wrapping control unit
to P-1105*-6 A100
P-1105*-1
HS5B-02B
Film removal door
S200
000-137-8142-**
X208R
X208P
000-148-4472-**
X101R
SM2R
PAGE1
Wrapping control unit
to P-1105*-6 A100
P-1105*-1
Printer frame unit
Feeder move unit
PAGE7
Wrapping control unit
to P-1105*-1 A300
WIRING'WM－AI'PAGE11
100-006-6896-001

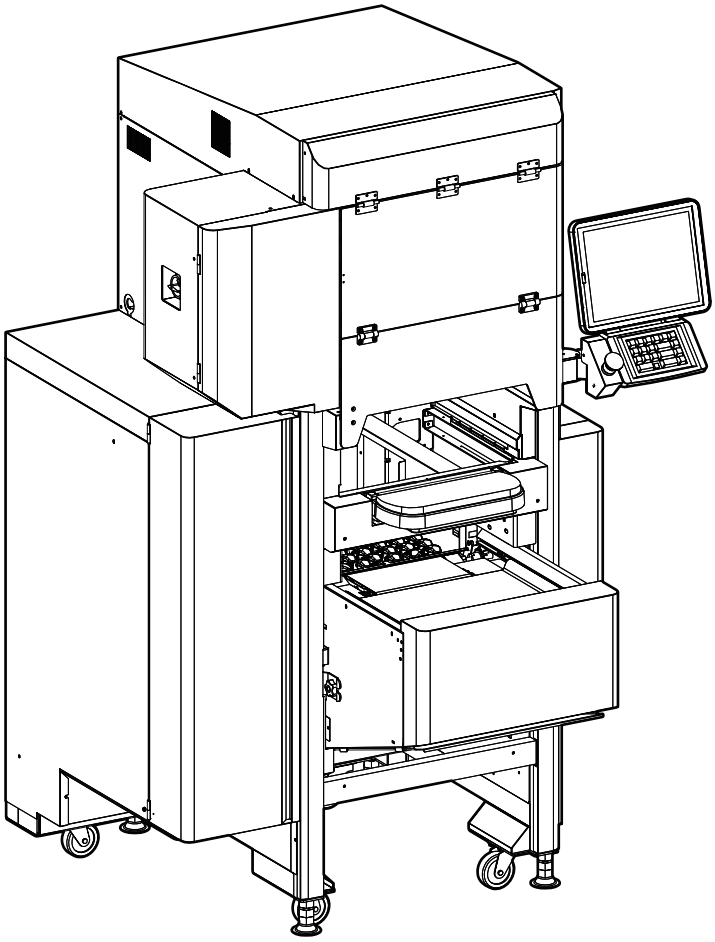
ISHIDA

WM-AI

Service Manual

Part 2

POP Printer



Chapter 1

Overview

1.1 Specifications 1
1.1.1 General specifications 1
1.1.2 Wrapping unit specification.....1
1.1.3 POP printer unit specifications.....2
1.1.4 POP label applicator specifications 2
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1.1.6 Reliability/ Product life 3
1.2 Consumables 3
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1.4 Part Name.....4
1.4.1 External dimensions 4
1.4.2 POP printer unit 5
1.4.3 POP applicator Unit 6
1.5 Dimension.....8
1.5.1 AT2-JRP 8
1.5.2 AT2-P 9
1.6 Installation 10

For items that are not described in this Pop Printer document, refer to those described in the Part 1 Automatic Weighing/Wrapping/Labeling document.

1.1 Specifications

1.1.1 General specifications

Item	Specifications
Model	◇WM-AI-P (Dual Auto Labeling Type, POP printer)
Product category	◇Auto scale wrap price labeling system (push-up type stretch wrapper)
Product lineup	◇Dual film, Printer Dual Auto Labeling Type, POP printer (AT2-P) ◇Single film, Printer Dual Auto Labeling Type, POP printer (AT1-P) ◇Dual film, Printer Single Auto Labeling Type, POP printer (AS2-P) ◇Single film, Printer Single Auto Labeling Type, POP printer (AS1-P) The JR (front stock and right discharge) type is prepared for each.
Environmental Conditions	◇Temperature: 5ºC to 35ºC ◇Humidity: 20% to 85% (Non condensing)
Dimensions	<table><tr><td>Type</td><td>AT2-P</td><td>AT2-JRP</td></tr><tr><td>◇Width</td><td>1215 mm</td><td>1215 mm</td></tr><tr><td>◇Depth without the In-feed unit</td><td>1120 mm 835 mm</td><td>1120 mm 935 mm</td></tr><tr><td>◇Height (when caster grounded)</td><td>1777 mm</td><td>1777 mm</td></tr></table>
Exterior	◇Stainless (a portion: resin molded)
Power supply	◇Single phase 200 to 240 V AC, Frequency: 50/ 60 Hz ◇To provide a terminal block with a power supply line. ◇No need to replace parts in accordance with the power supply frequency. ◇To dispense with an external power source for the POP unit.
Packs per minute	◇35 packs per minute (maximum limit) It may not be able to be recognized depending on size of wrapping or condition of application.
Weighing capacity	◇0.100 lb to 30.00 lb
Weight for wrapping capacity	◇0.100 lb to 13.000 lb <North America> ◇20 to 6000 grams <Europe>
Machine weight	◇871 lb / (AT2-P) ◇915 lb / (AT2-JRP)
Number of register items	◇10000 product masters

1.1.2 Wrapping unit specification

Item	Specifications
Lighting unit: LED	◇Standard feature

1.1.3 POP printer unit specifications

Item	Specifications
Printing Method	Direct thermal printing
Print speed	◇120 mm/ sec
Label size	Size: ◇Width : 25 to 65 mm ◇Top/ Bottom : 25 to 64 mm Shape: ◇Shorter, round and ellipse
Maximum print width	◇61 mm (Specification of printer head is 76 mm)
Thermal head	◇3 inch (960 dot), 12 dot/ mm thermal head
Recommended label	ISHIDA specific label
Diameter of label roll	Maximum external diameter: 200 mm / 230 mm Internal diameter of paper tube: 38 mm/ 1.5-inch / 76 mm/ 3-inch Label width adjustment mechanism dismounted for models with 1.5-inch diameter of label roll.
Number of storage labels	◇6000 labels/ 3-inch ◇5000 labels/ 1.5-inch (Top/ Bottom 37mm, label pitch 2.5 mm)
Printing codes	◇One-dimensional codes: JAN・ITF・CODE128・EAN128 ◇Two-dimensional codes: QR code, 4-dot/cell (Available to the ISHIDA specific label only.)

1.1.4 POP label applicator specifications

Item	Specifications
Applicable position for labeling	◇To the horizontal: Four corners ◇To the left vertical: Four corners ◇Angle variable It has restricted space to be combined size of tray and label, and at the same time to applicate labels by applicators of first line and POP.
Applicable product size	◇Width : 95 to 380 mm ◇Top/ Bottom : 80 to 260 mm ◇Height: 10 to 130 mm There are cases with label size or application angle in which applicator cannot be made.
Applicable label	Size: ◇Width : 25 to 65 mm ◇Top/ Bottom : 25 to 64 mm Shape: ◇Shorter, round and ellipse The pasting location is limited depending on the label length or angle. It may not be able to be recognized depending on the quality of the label.
Angle range	◇Rotation angle: Left by 180 degrees to right by 90 degrees.

1.1.5 Operation unit specification

Item	Specifications
Software specifications	◇Standard specifications (Specifications vary for each store.)

1.1.6 Reliability/ product life

Item	Specifications
Product life	◇5 years for use (consumable parts excluded) ◇Condition：3000 packing/day, 350 operating days (4200 hours) 5.25 million packing in five years.
Safety	◇Conforming to ISHIDA product safety standards and warnings display standard ◇Conforming to overseas standards <North America> ETL certified <Europe> CE marking compliant

1.2 Consumables

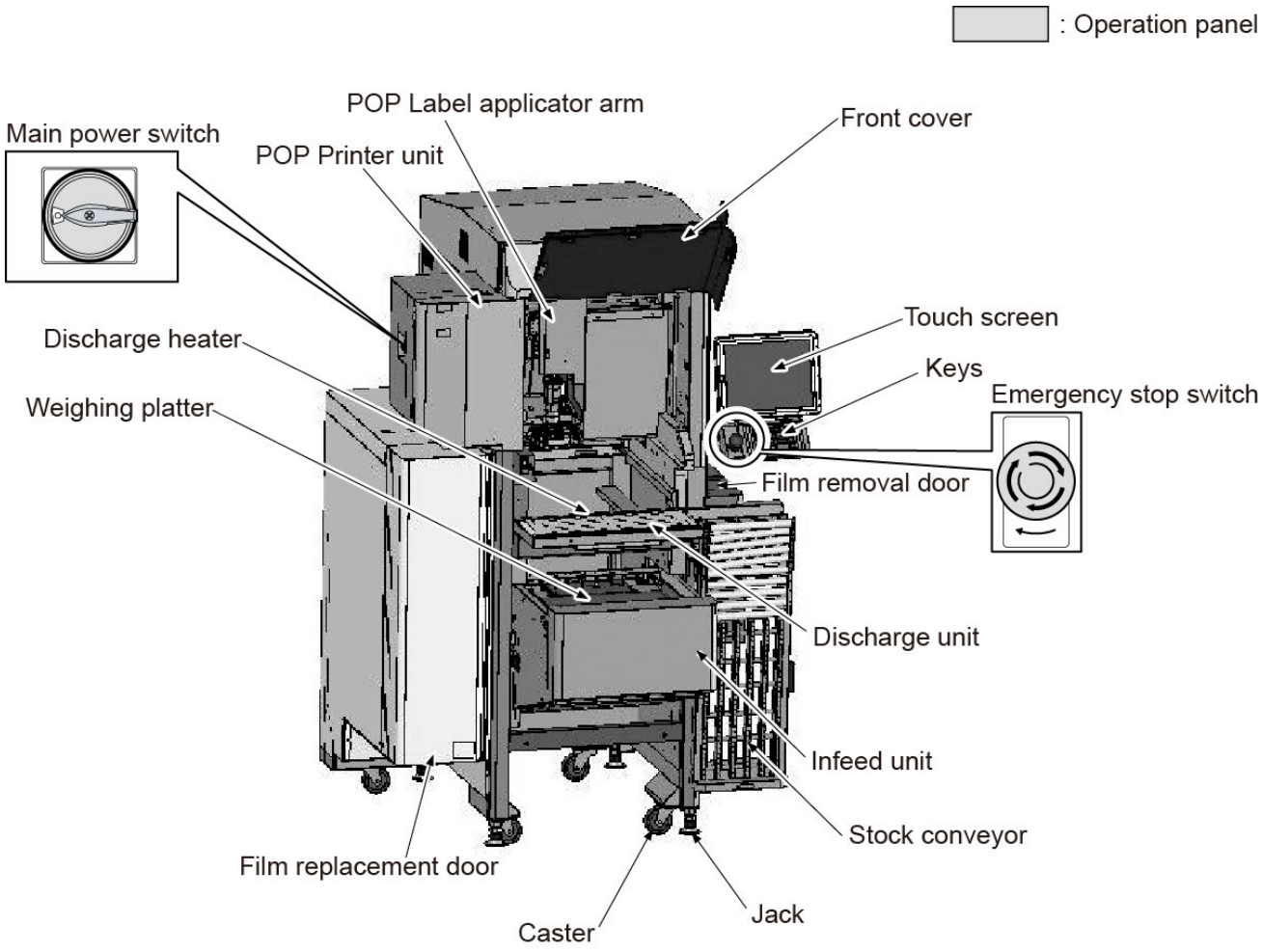
- Curl cord: Replaced in later timing and thus can be used until a million times with operation of rotation angle of 90 degrees or more.

1.3 Features

- High speed weigh price label for a package or tray. Odd shape labels or rounded small flush labels are applicable.
- Auto scale wrap price dual labeling system.

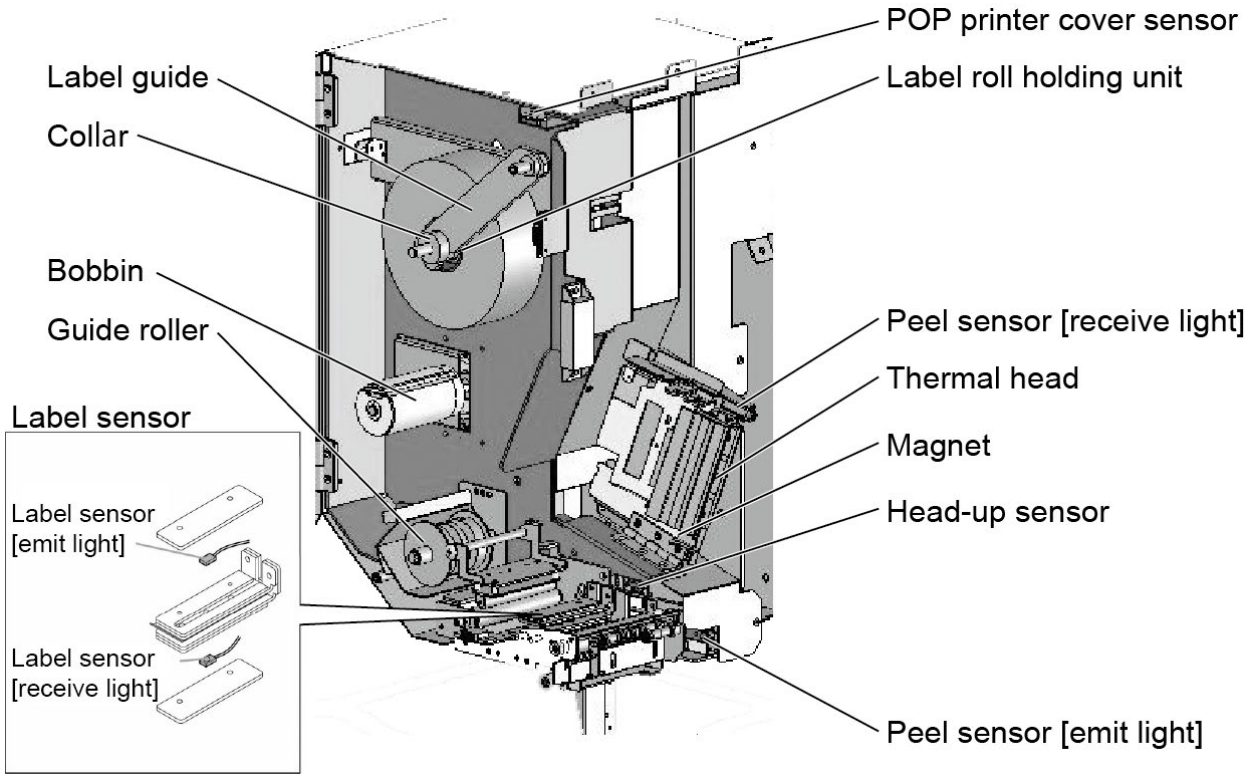
1.4 Part Name

1.4.1 External dimensions

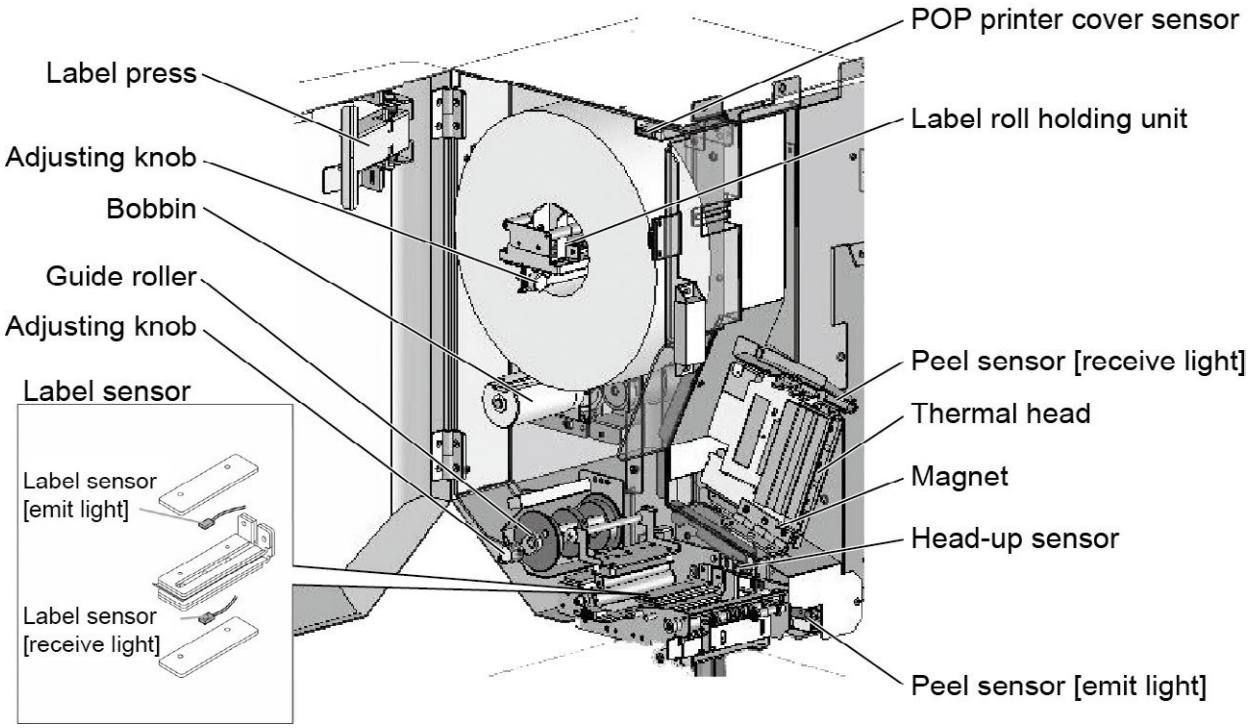


1.4.2 POP printer unit

1.4.2.1 Internal diameter of paper tube: 1.5-inch model

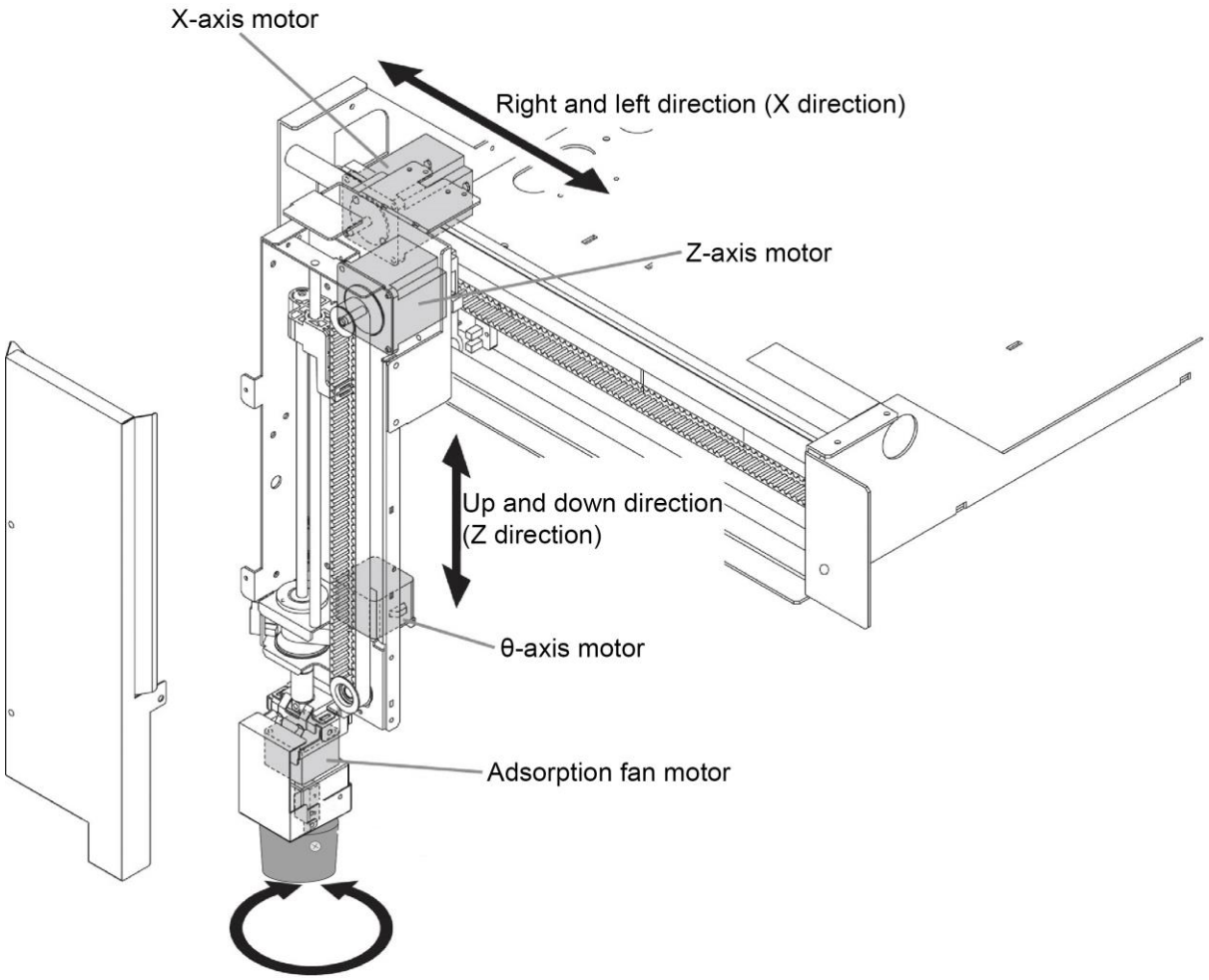


1.4.2.2 Internal diameter of paper tube: 3-inch model

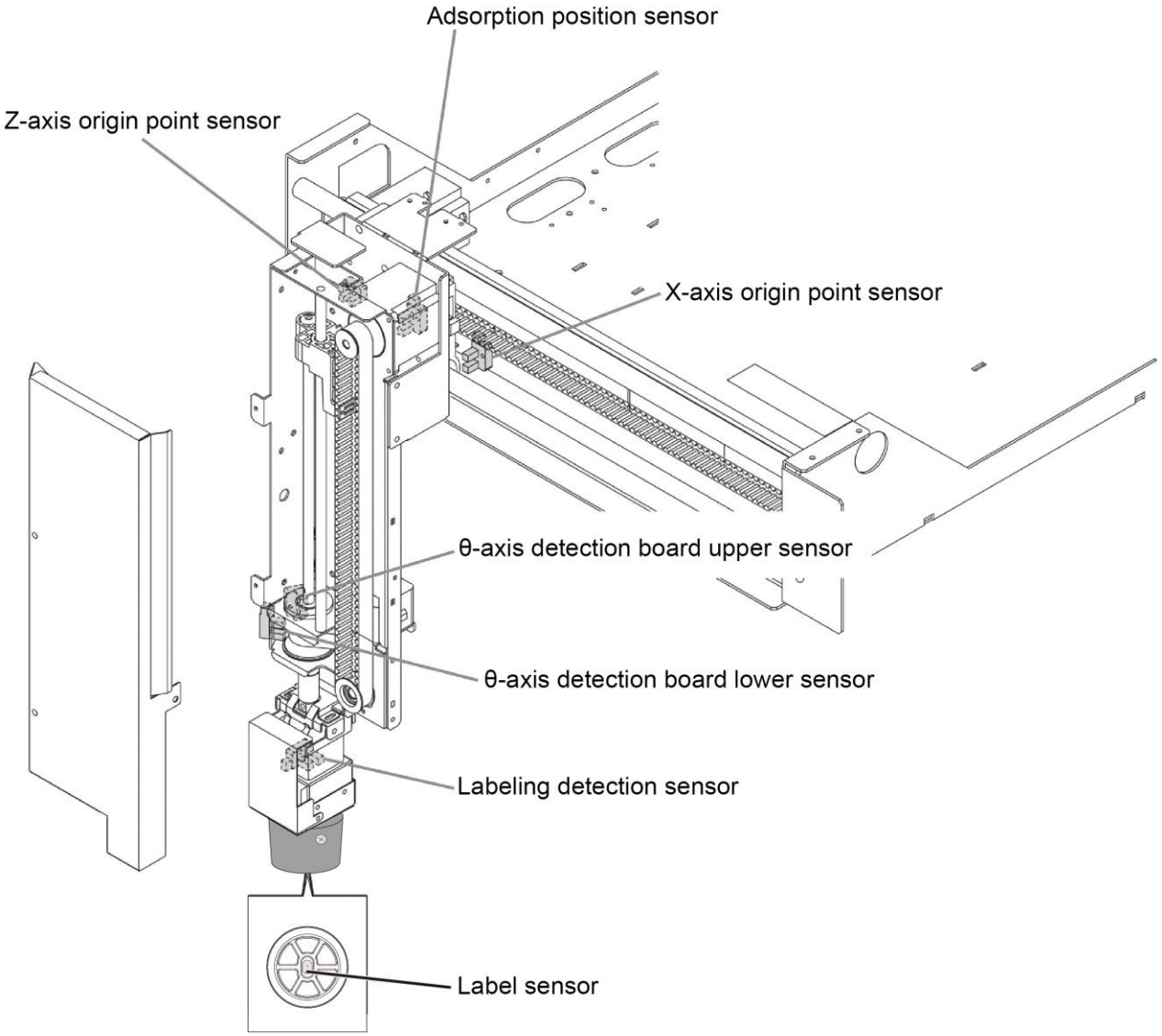


1.4.3 POP applicator Unit

1.4.3.1 Driving direction and motor



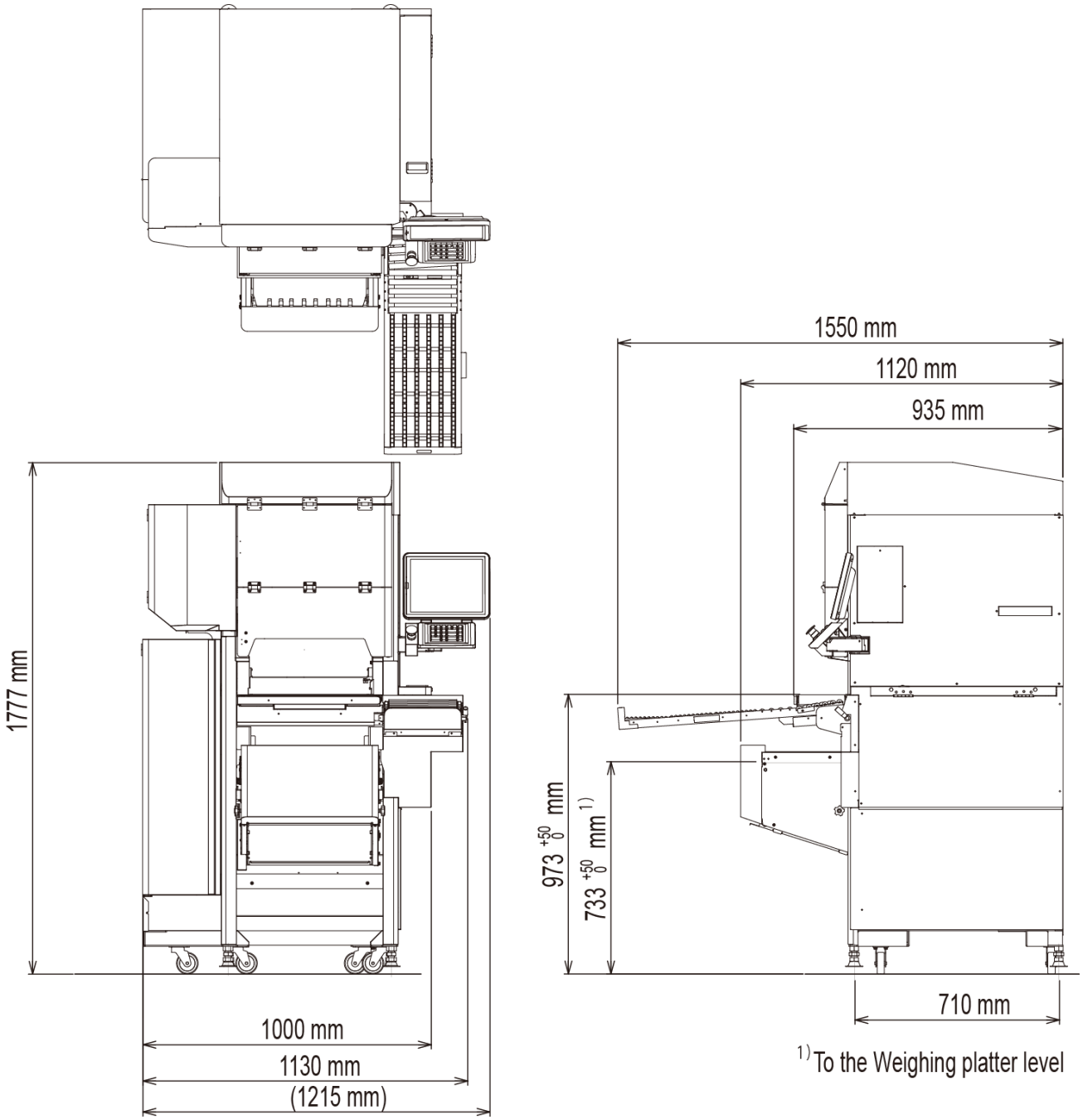
1.4.3.2 Sensor position



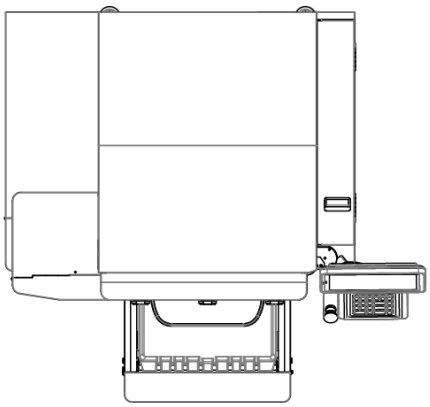
1.5 Dimension

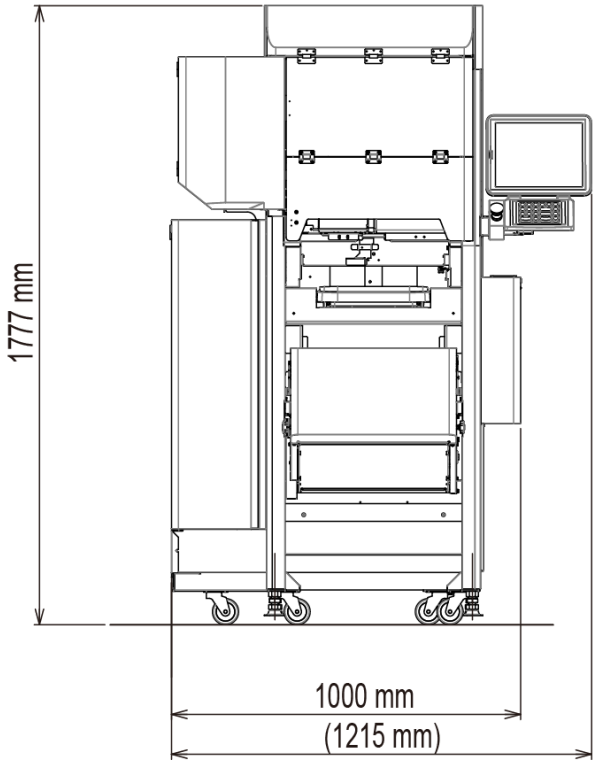
External dimensions are shown in the figures below. Secure a passage route and space for setup and maintenance.

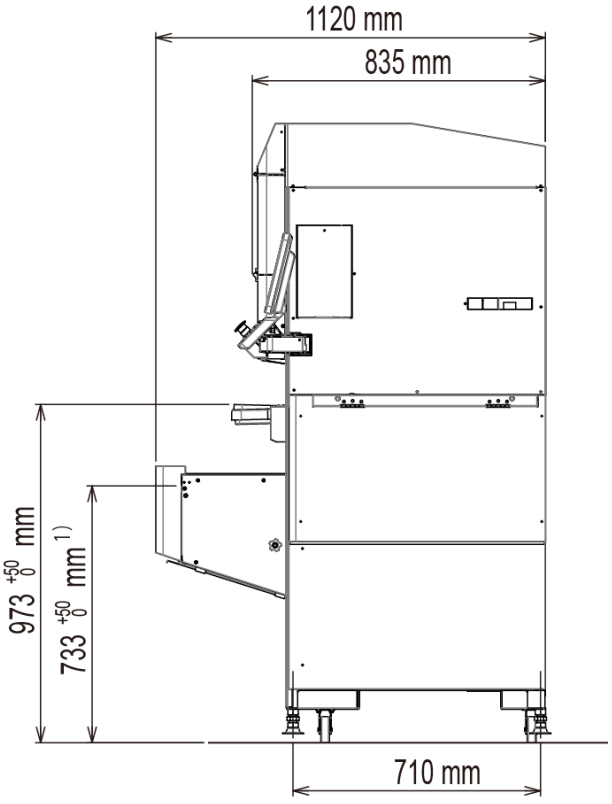
1.5.1 AT2-JRP



1.5.2 AT2-P







1) To the Weighing platter level

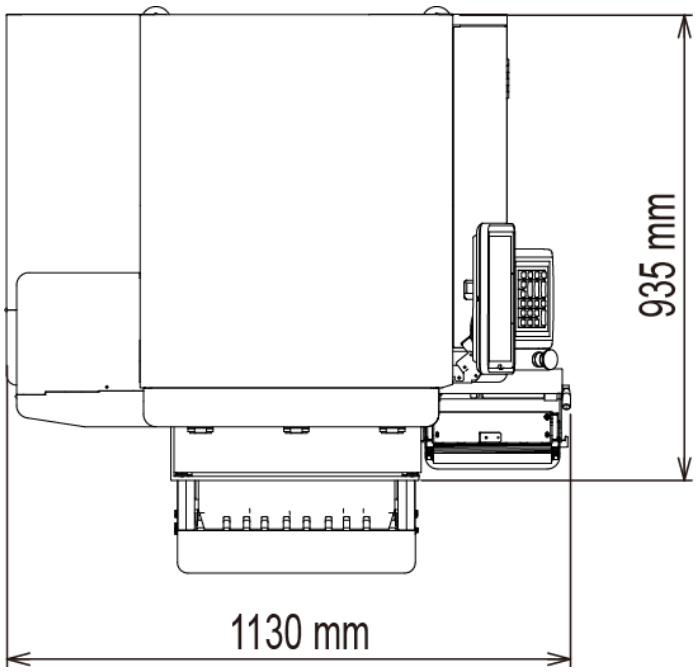
1.6 Installation

REFERENCE

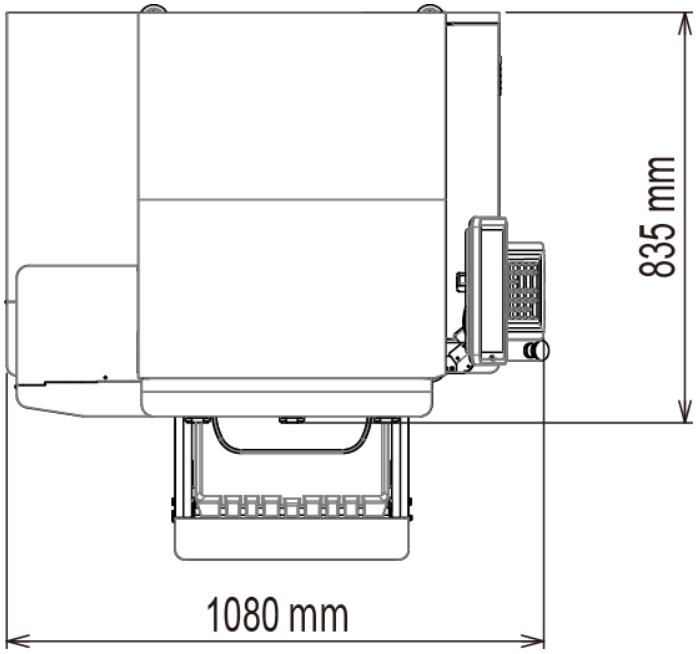
When the passage route is too narrow to bring in the machine, detach the In-feed unit form the main body. Refer to *1.8.2 Detaching the In-feed Unit* on the WM-AI Service Manual.

As the minimum width of the machine main body is 835 mm/ 935 mm without the In-feed unit, the installation site requires frontage of 835 mm/ 935 mm or more.

- AT2-JRP



- AT2-P



Chapter 2

Mechanical Adjustment

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NOTE

NOTE: Refer to Part 1 Automatic Weighing/Wrapping/Labeling, Chapter 3 for Mechanical Adjustments not listed here.

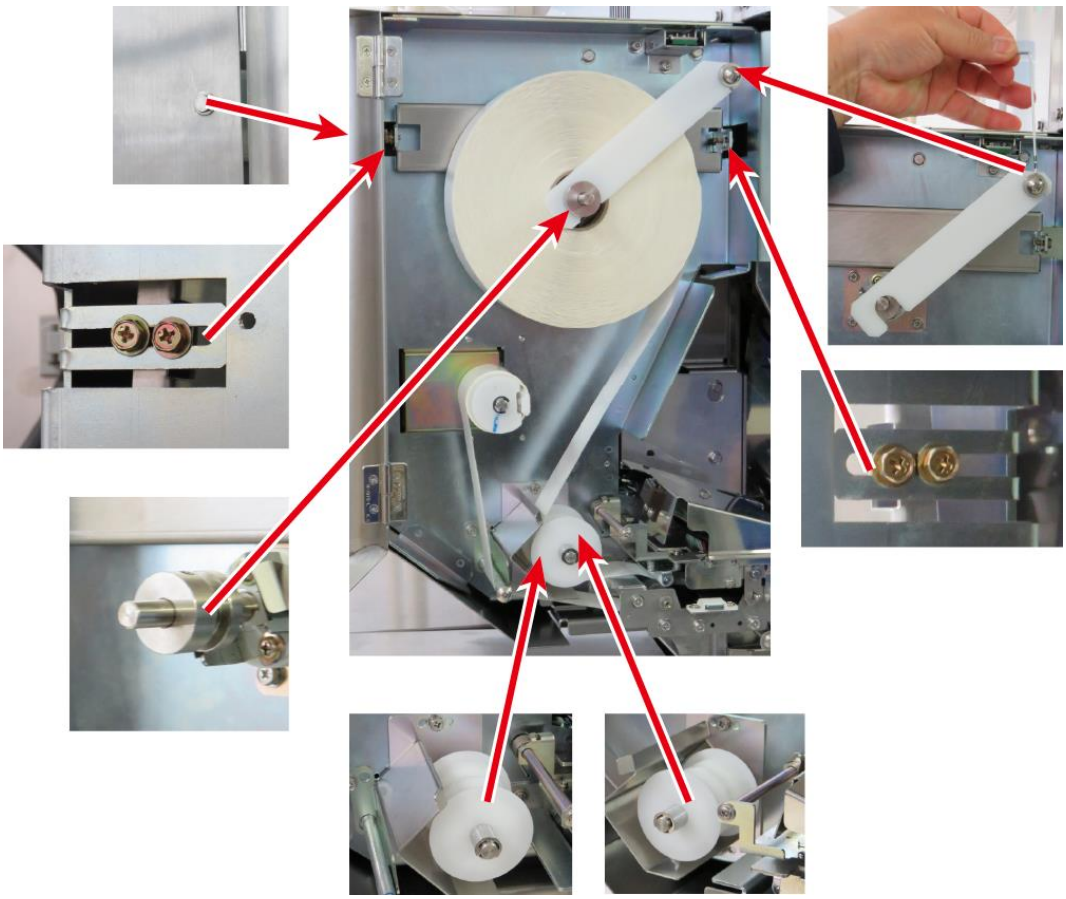
Conforming to WM-AI Service Manual except instructions of this manual.

2.1 POP Printer Unit

2.1.1 Adjusting the label guide width

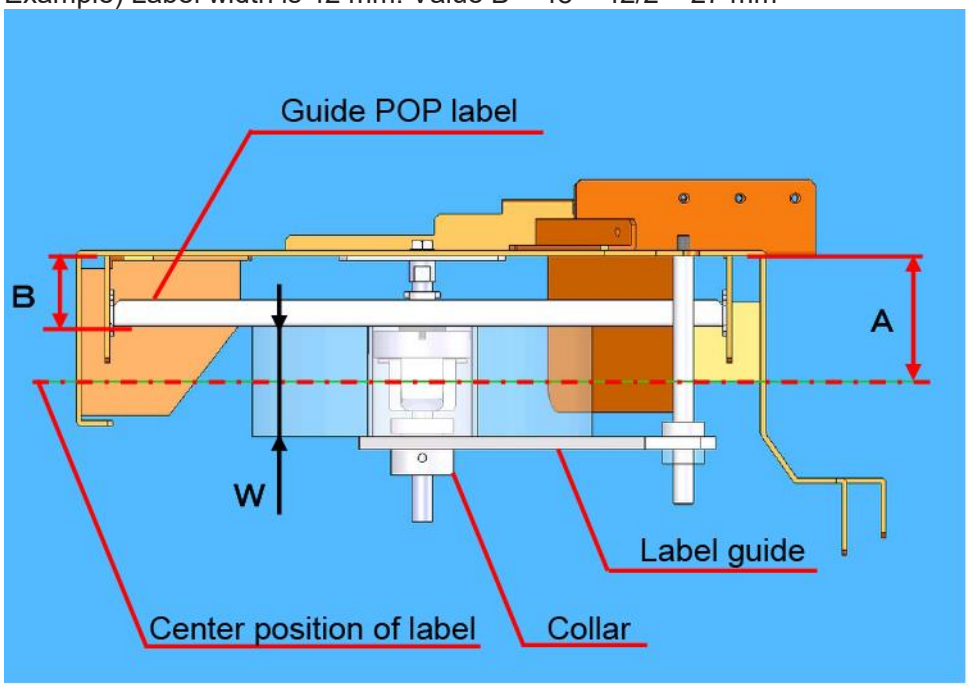
The label guide width is set 40 mm label as default settings, then adjust it in accordance with the label.

2.1.1.1 Internal diameter of paper tube: 1.5-inch model

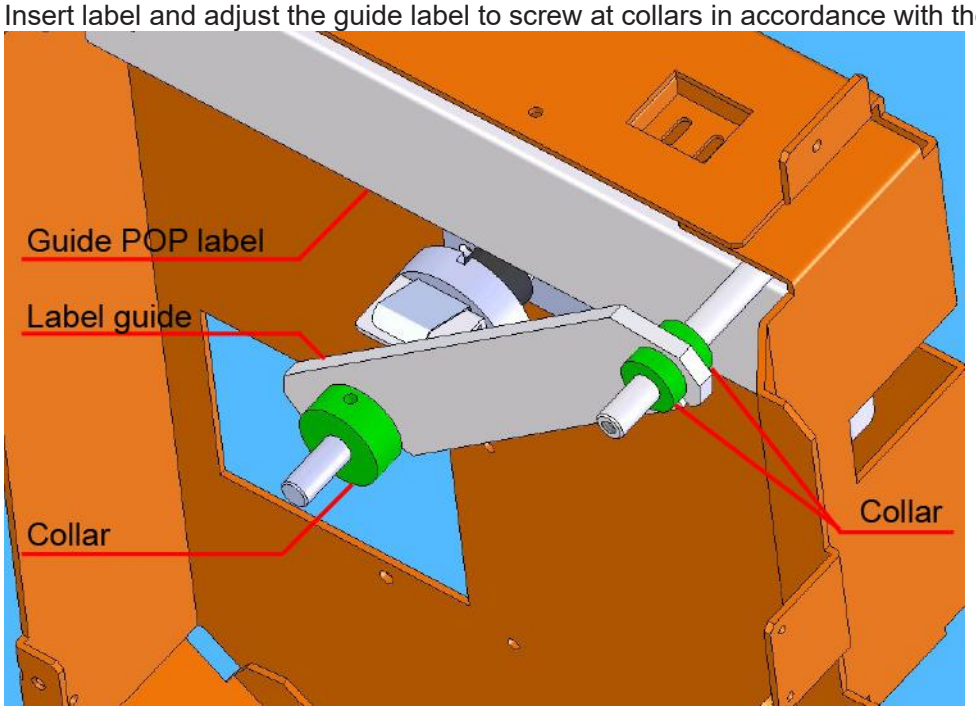


1. Remove the POP printer cover.

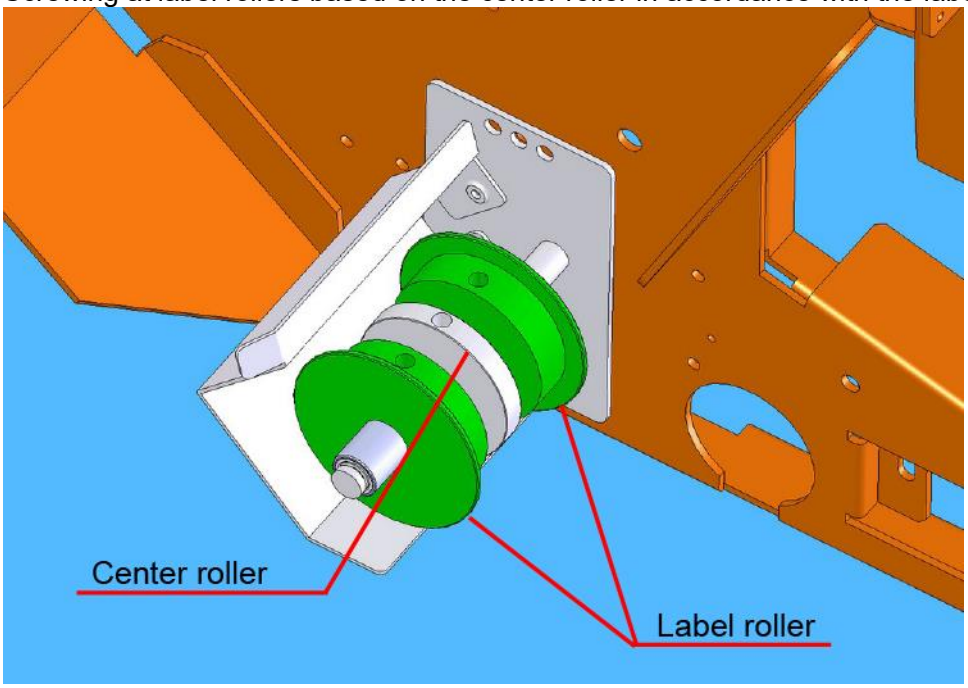
2. Adjust the guide label to screw both side in accordance with the label width as below. The value B is 48 minus half of label width.
   Example) Label width is 42 mm: Value B = 48 – 42/2 = 27 mm



3. Insert label and adjust the guide label to screw at collars in accordance with the label width.

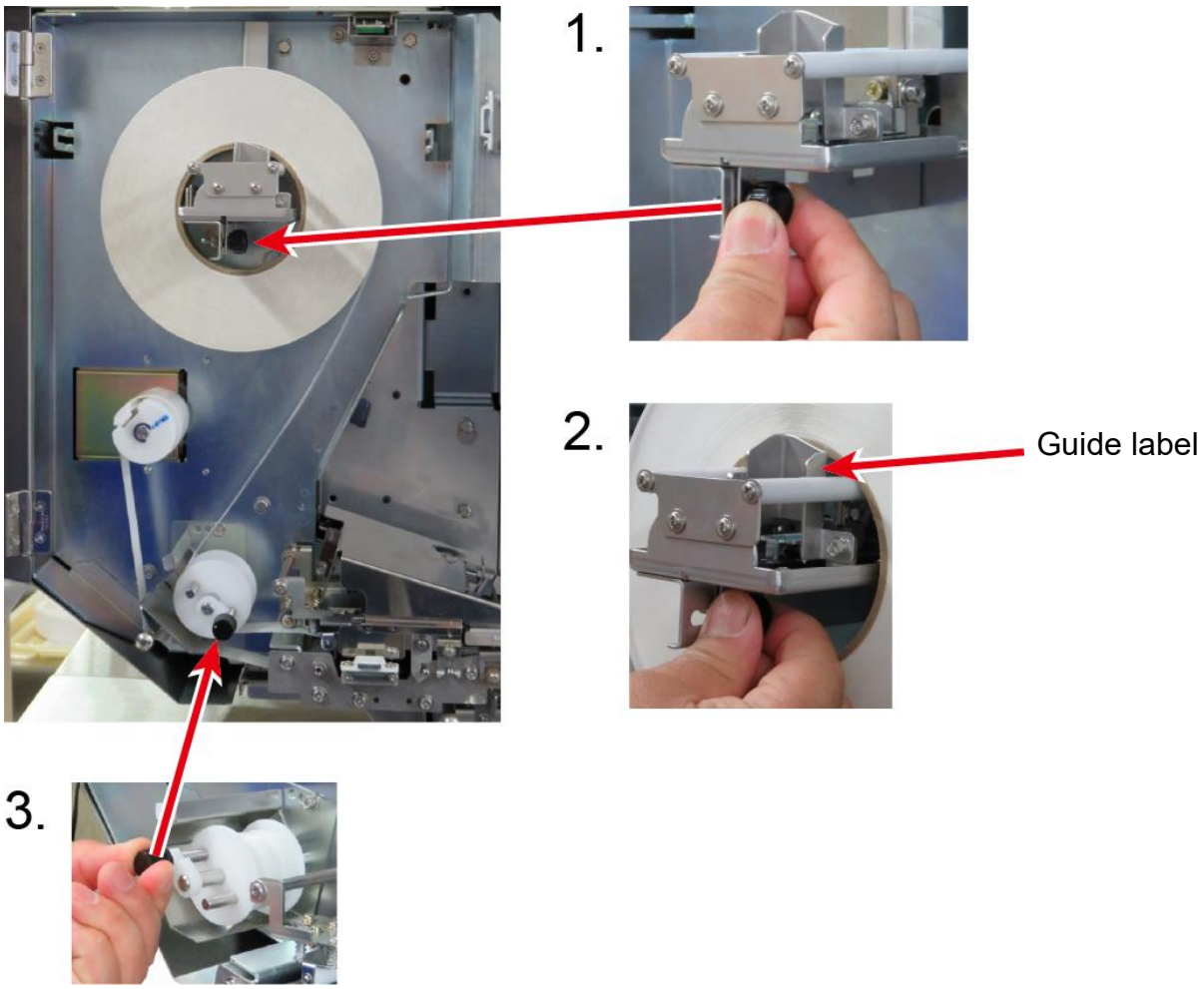


4. Screwing at label rollers based on the center roller in accordance with the label width.



5. Trial operation of the label application for operation confirmation.
6. Attach the POP printer cover.

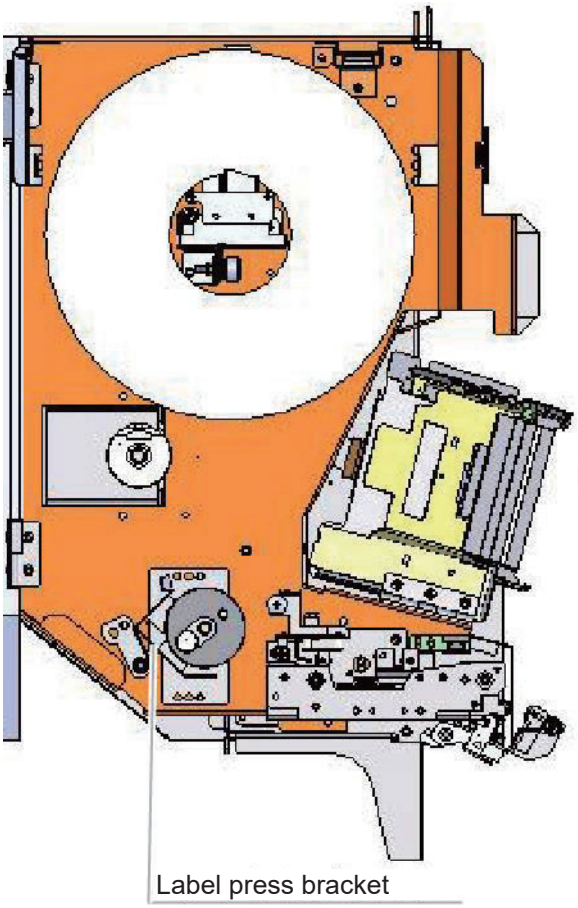
2.1.1.2 Internal diameter of paper tube: 3-inch model



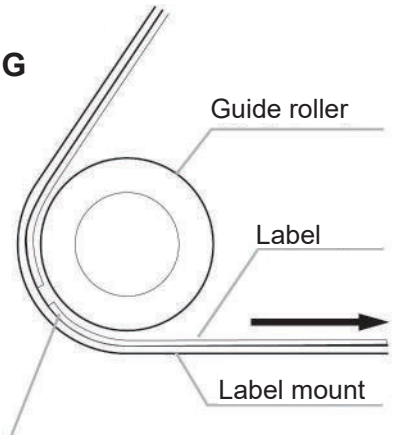
1. Screwing adjusting knob and sliding the guide label in accordance with the label width.
2. Tighten the label guide spaced about 0.5 mm between the guide label and side of label.
3. Screwing adjusting knob on the guide roller in accordance with the label width.
4. Trial operation of the label application for operation confirmation.

2.1.2 Changing positions of bracket for guide roller

In a standby state, if a label end is placed in the roller “guide”, the label after being printed will be warped and dropped from the peel shaft before the applicator sucks the label. Adjusting the label press bracket by 7 mm steps with a case in which it cannot be collected [label top-to-bottom size] + [label gap] + [flexural stiffness of label] from the position of shipping.

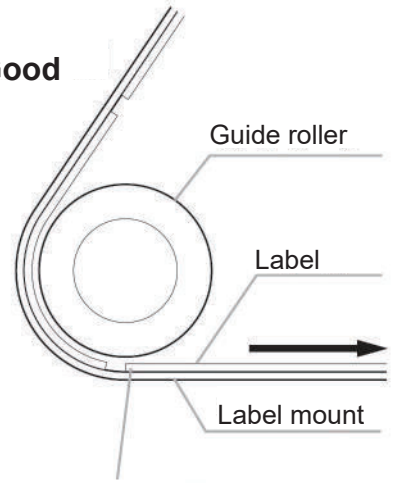


NG



* The trailing edge of the label is in contact with the guide roller.

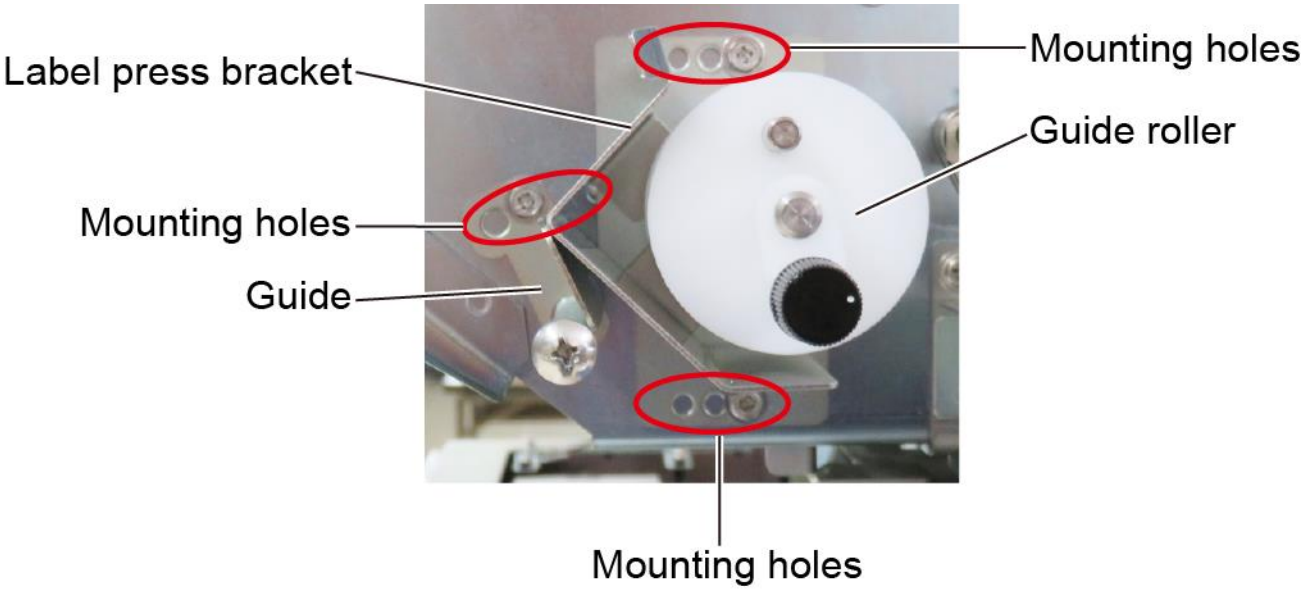
Good



* Straighten the label at the back to prevent the development of the curl of the label.

■ Position of the label press bracket

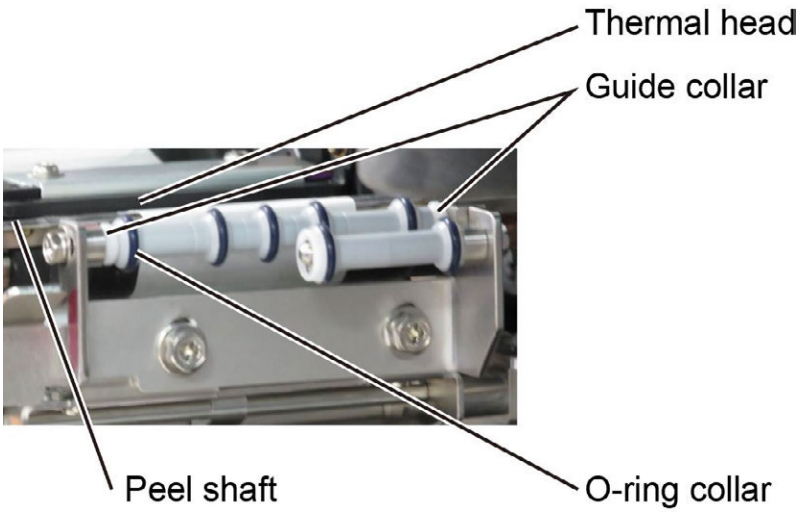
Position at shipment



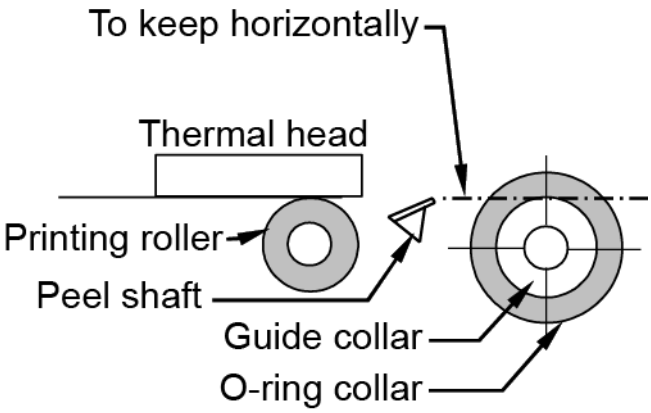
To adjust the label press bracket replacing to next mounting hole, also the guide replaces to next mounting hole.

2.1.3 Adjusting the upper and lower positions of label standby roller unit

To easily check the adjustment in upper and lower positions of the label standby roller, guide collars, which are provided one each on the right and left sides, are used.



Fix the standby roller unit so that the top of guide collar and the top of peel shaft forefront are located at the same height level.

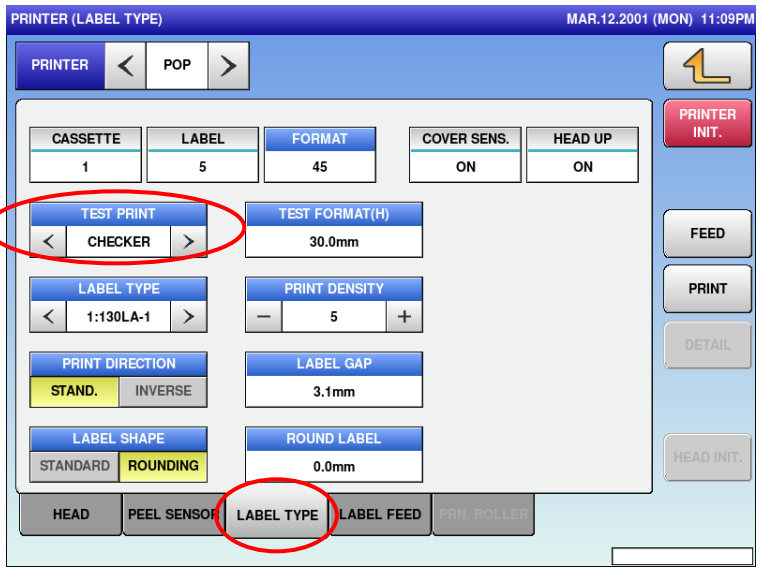


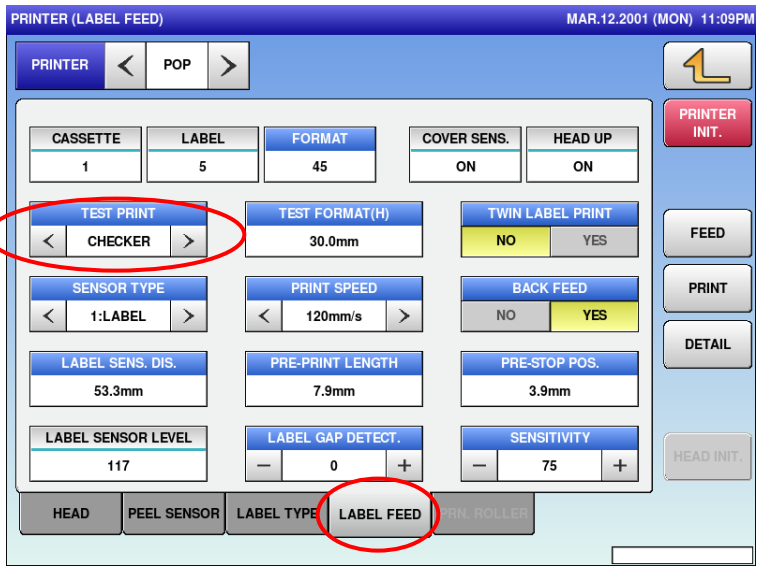
2.1.4 Input the distance of label size, label gap

Each label manufacture offers slightly different size of label punching dies. If an input value and the actual size are different, a label cannot be sucked successfully due to errors related to a printing position, label size, detection of label end, or label edge cut. Measure the label length and the gap length that are actually used.

Standard specifications at factory shipment

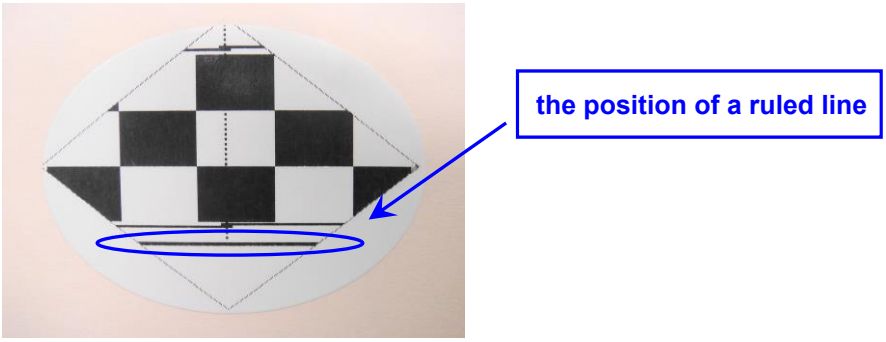
	Label width	Label length (top-to-bottom)	Label gap
POP	40 mm	30 mm	3.1 mm





Label sensor distance: Select [CHECKER] for [TEST PRINT], measure the position of a ruled line of thermal print, which is located above an address / store name, from the bottom of the label. Enter a value in [LABEL SENS. DIS.] shown on the screen below so that the measured size and the value inputted in [PRE-PRINT LENGTH] become the same.

Input the distance of label size, label gap first for 'Input the advanced feed amount' and 'Input the advanced feed stop position' since the position of a ruled line is changed to enter [PRE-PRINT LENGTH].



Printed label by POP selected the checker

2.1.5 Input the advanced feed amount

Adjust the position of label edge cut with the advanced feed amount. Whether a label edge can be cut smoothly or not depends on qualities in label paper, label paste, label punching, label mount, and a label surface condition.

Use the following equation to determine the advanced feed amount.

Advanced feed amount = (11 mm of distance between the printing position and peel shaft forefront)− Label gap

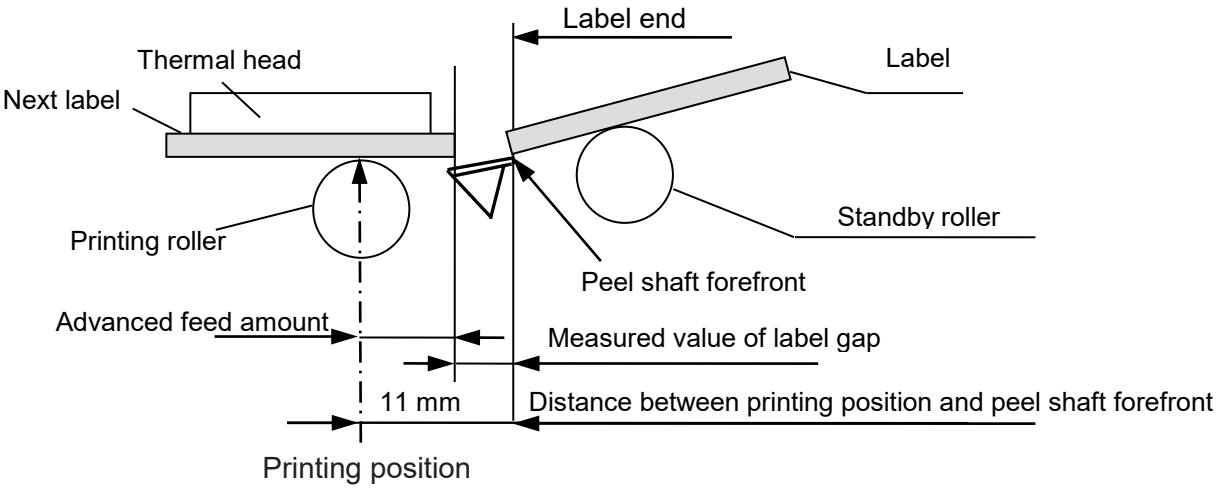
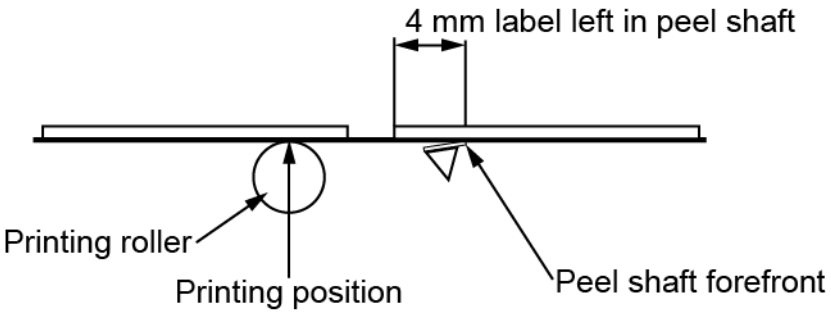


Figure 1

Figure 1 shows the optimum status of the label position, the label end after being printed is located in the peel shaft forefront. The Input the advanced feed amount is adjusted to select [YES] of [TWIN LABEL PRINT]. It is normal if the distance, which is measured between the next label forefront and the peel shaft forefront, is matched with the measured value of the label gap.

2.1.6 Input the advanced feed stop position

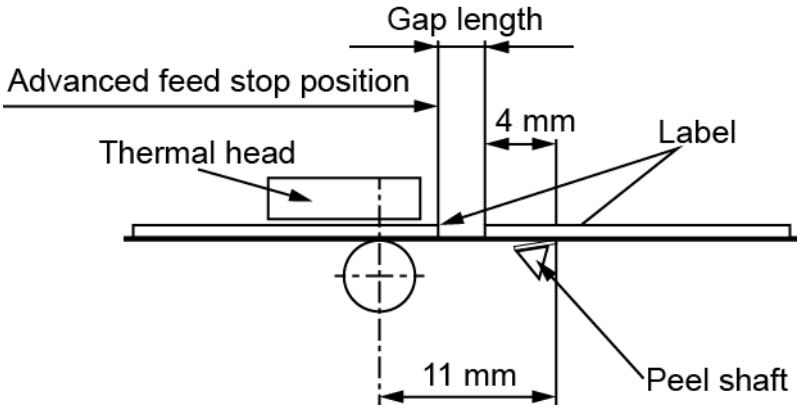
If an extremely large value is entered in [Advanced feed stop amount], the label, which is temporarily stopped in the peel shaft before being sucked, is peeled off from the label mount. This results in an error stating “It could not suck label”.
To prevent this, make the following settings.



Labels are temporarily stayed and stopped in the peel shaft before being sucked. Enter values in [advanced feed stop amount] so that the label end is left 4 mm in the peel shaft.

Description of [advanced feed stop position]
The value changes depending on peel ability of the label mount. Set a value of advanced feed stop position in accordance with the label as below;

(Advanced feed stop position) is (Distance from point starting printing to Peel shaft forefront: 11mm) minus (Label left in peel shaft) minus (Gap length) = (Advanced feed amount) minus (Label left in peel shaft)

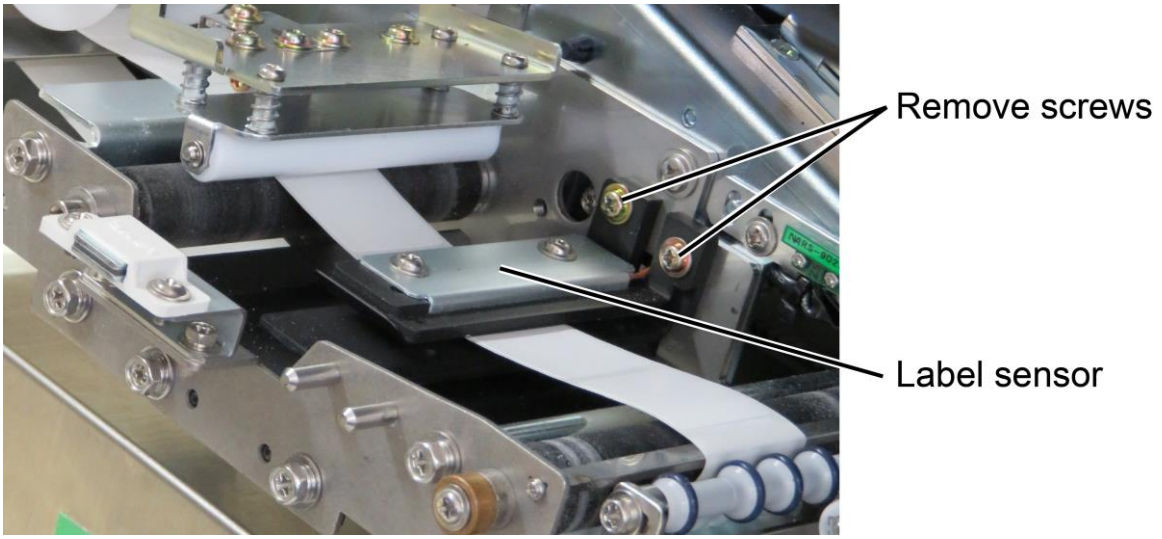


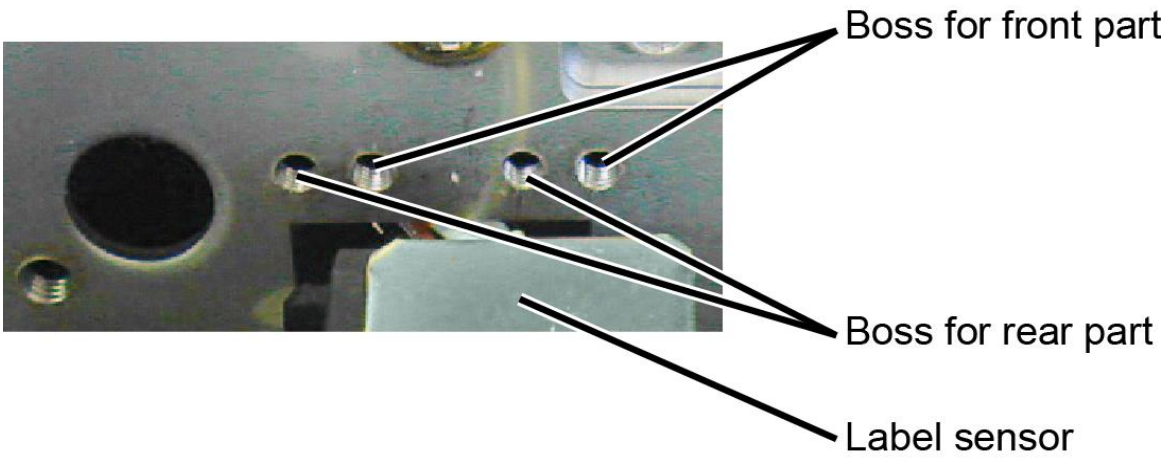
[Advanced feed stop position] is measured with [Advanced feed amount].
At factory shipment, [Advanced feed amount], [Advanced feed stop position] and [Gap length] is set at the following referential value as standard specification.
Advanced feed amount: 7.9 mm
Advanced feed stop position: 3.9 mm
Gap length: 3.1 mm
Enter a value plus 1 mm of the Advanced feed amount after entering ‘Input the advanced feed stop position’ when a label cannot be sucked successfully, however no enter a value of the Advanced feed stop position at the moment.

2.1.7 Changing the label sensor position

Depending on the label size (length and gap), when a label gap is stopped in the label sensor position, the number of feeding times increases to adjust the label into the specified position for replacement. In addition, an error of label size may occur when printing labels. To prevent this, if the label gap and the label sensor are overlapped, move the sensor backward in a direction to be separated from the label gap. The pitch is 5 mm.

When the sensor position is changed, set a distance of label sensor at +5 mm.





To keep horizontal label sensor with the body flame.
Factory shipment: front

2.2 POP Applicator Unit

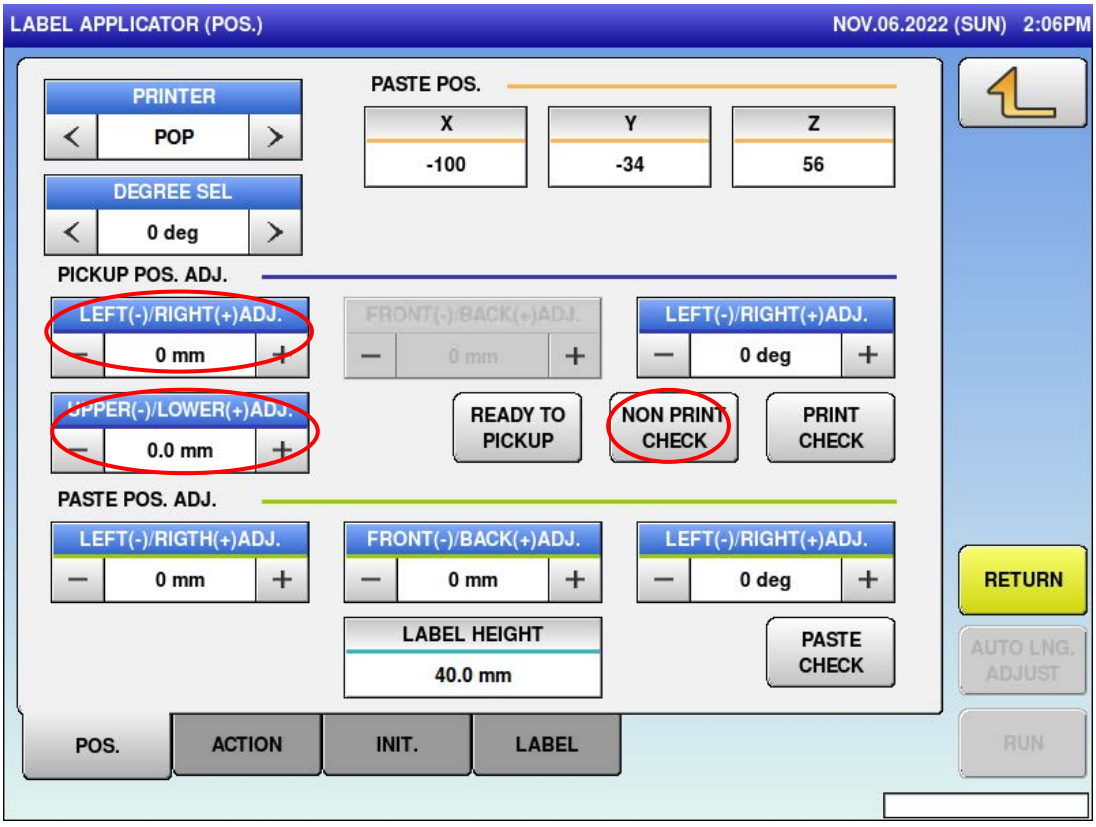
Adjust it in accordance with the label on LABEL APPLICATOR (POS.) screen.

2.2.1 Adjusting the suction position

Upper and lower positions

The label size is set width: 40mm and top/ bottom: 30 mm at factory shipment.

1. Press [NON PRINT CHECK] button to check the upper and lower sides of suction positions.
2. Enter the pre-set value on [UPPER (-)/ LOWER (+) ADJ.] to make the bottom of suction block slightly come in contact with top of the label standby roller. To confirm the position A (see Figure 2 on next page) when the recess on face of the suction block contact to the label standby roller.
3. To note the value of [UPPER (-)/ LOWER (+) ADJ.] also enter the value noted plus 1 mm.



The value to set is more than the value of WM-AI since adsorption power of POP label is weak.

Left and Right positions

1. Press [NON PRINT CHECK] button to check the left and right of suction positions.
2. Enter value on [LEFT (-)/ RIGHT (+) ADJ.] to make a space: 4mm between the side of suction block and bracket. (see Figure 2)
3. Press [NON PRINT CHECK] button again then check the positions. Select degrees from 0, 90, 180 and 270 on [DEGREE SEL].

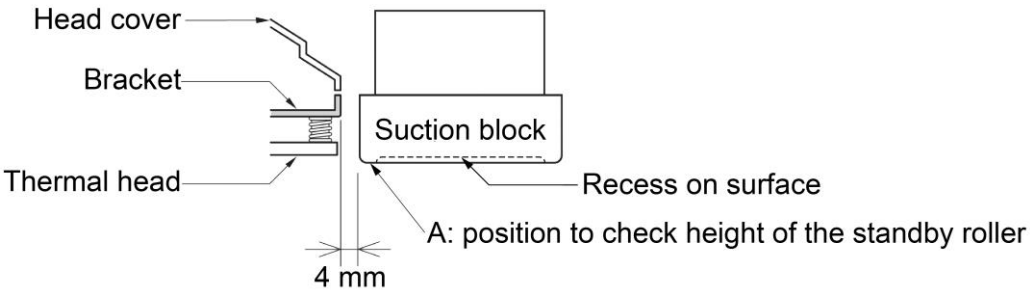
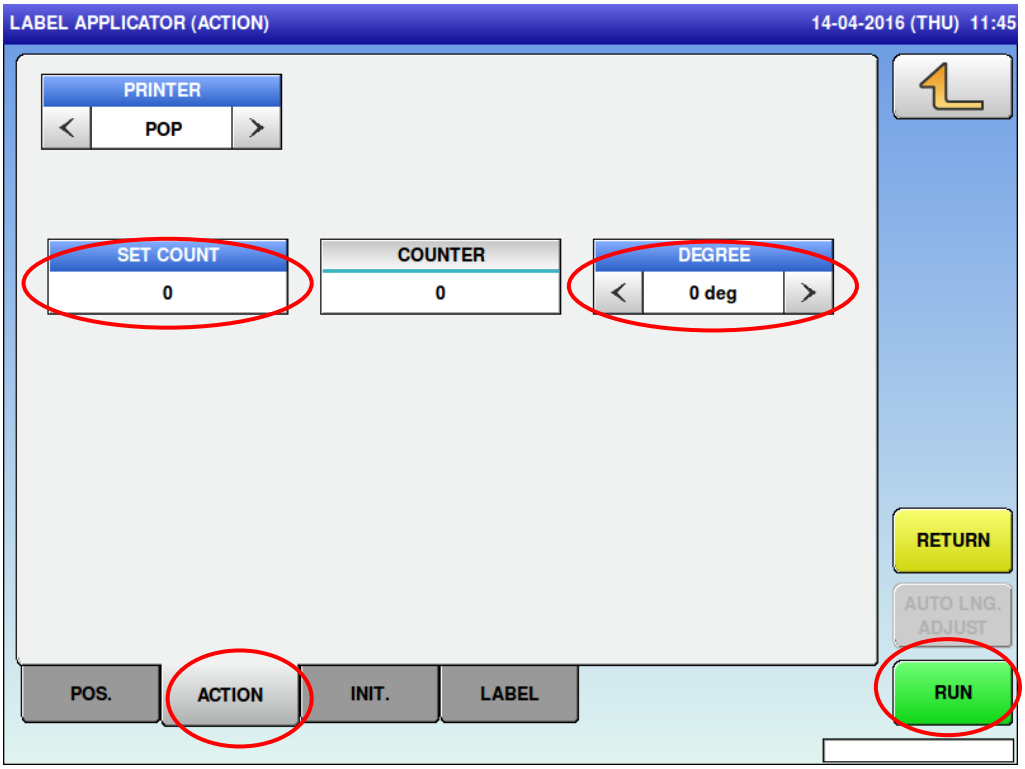


Figure 2

Continuous operation

1. Press [Action] on tab, select 0 deg on [DEGREE], press [RUN] button then check presence/ non-presence of error printing over fifty times.
2. Select 90 deg, 180 deg and 270 deg on [DEGREE] then check printing to follow procedure 1.

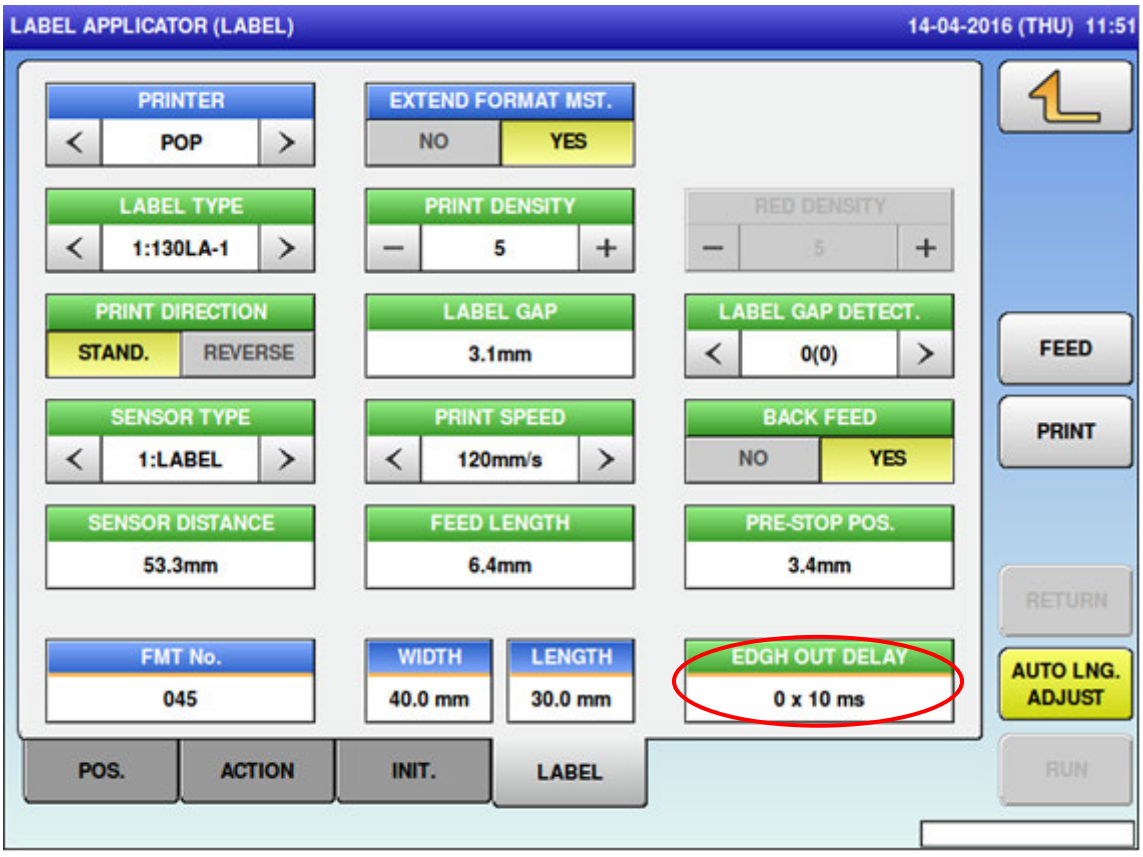


Adjust suction position when the label edge has bad peel ability

Confirm the suction condition in accordance with the label as below. Step from produce A to D. Also input the advanced feed stop position.

A: Only procedure 1.
B: Procedure 1 to 2.
C: Procedure 1 and 3.
D: Procedure 1 to 3.
In procedure C and D of being not replaceable other labels.

1. Enter the set value so that the position becomes 0.5 mm lower from the position in which label standby roller is contacted on [UPPER (-)/ LOWER (+) ADJ.] to make the bottom of suction block slightly come in contact with top of the label standby roller.
2. Enter value on [EDGH OUT DELAY] to delay the time from issuing label to starting application.
3. Enter the set value on [UPPER (-)/ LOWER (+) ADJ.] to adjust the upper and lower positions of label standby roller unit becomes 5 mm lower then enter the set value on [LEFT (-)/ RIGHT (+) ADJ.] to make a space: 1 to 2 mm between the peel shaft and suction block. Also input the advanced feed amount to make a set value plus 2 mm.

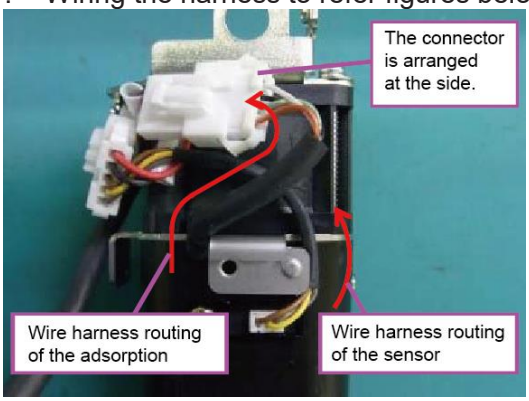


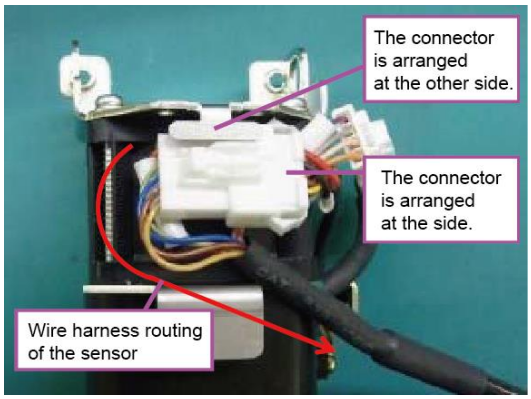
NOTE

NOTE: Set the Edge Out Delay in the following cases:
1. Extend the time of absorption and change the start timing of the applicator to move.
2. Use when the Pop Applicator interferes with the main applicator.

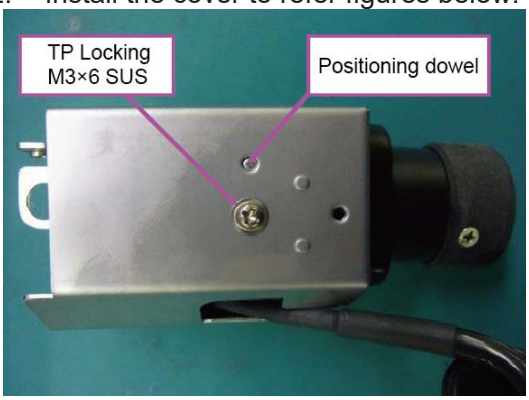
2.2.2 Install the curled cord

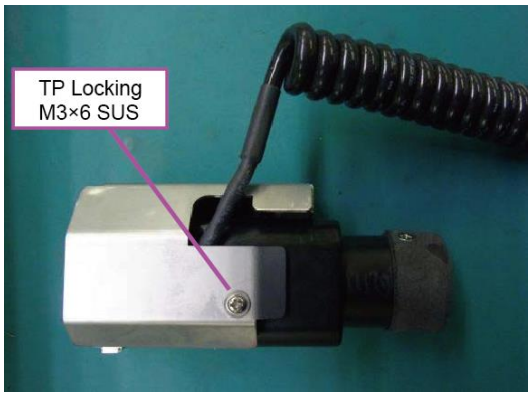
1. Wiring the harness to refer figures below.



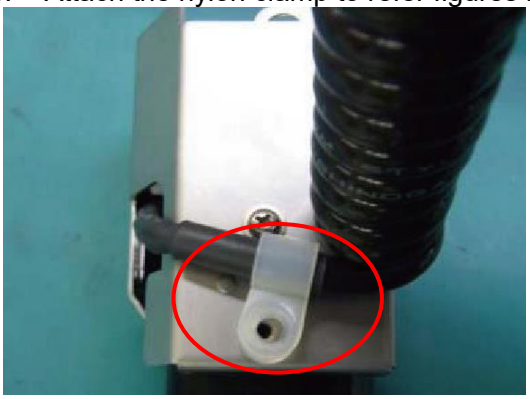


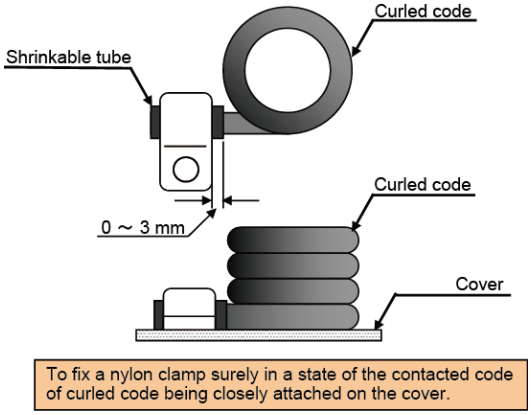
2. Install the cover to refer figures below.





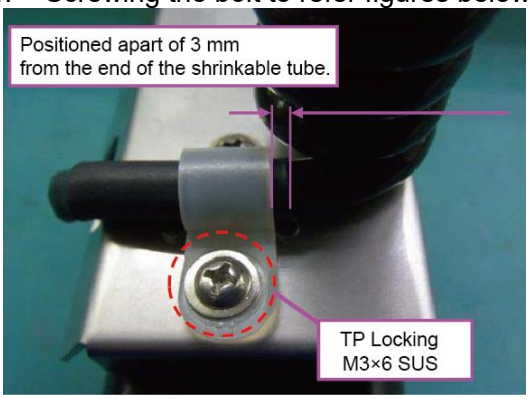
3. Attach the nylon clamp to refer figures below.





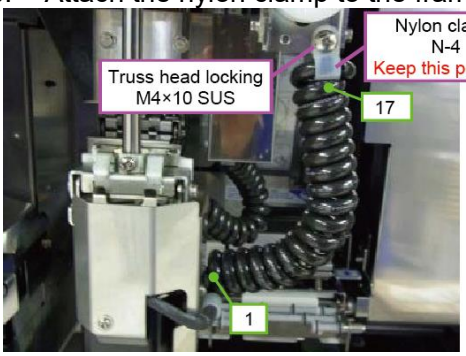
To fix a nylon clamp surely in a state of the contacted code of curled code being closely attached on the cover.

4. Screwing the bolt to refer figures below.

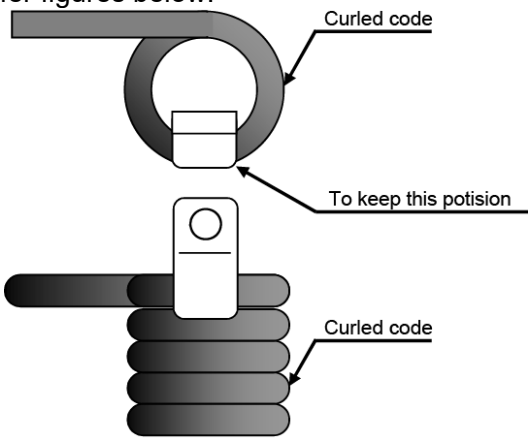


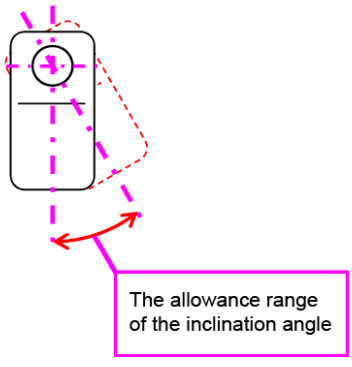
Prevented from being curled to attach the nylon clamp.

5. Attach the nylon clamp to the frame to refer figures below.

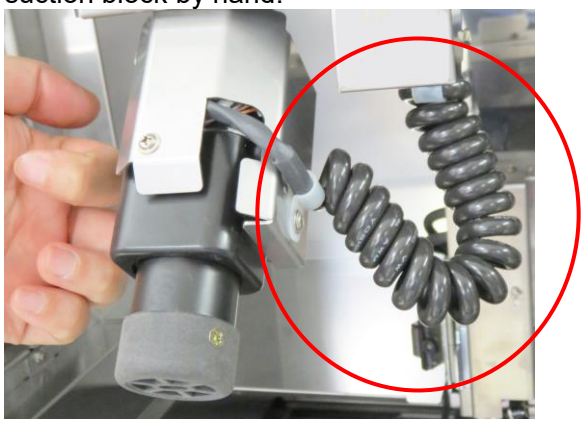


Tighten with a screw with the nylon clamp positioned the curled code of seventeen turns.





6. To confirm that there is no tensioning or passing each other of the curled code to move the suction block by hand.



Chapter 3

Electric Components

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NOTE

NOTE: Refer to Part 1 Automatic Weighing/Wrapping/Labeling, Chapter 4 for Electric Components not listed here.

REFERENCE **Conforming to WM-AI Service Manual except instructions of this manual.**

3.1 Electric Unit Configuration

3.1.1 Overview

DANGER! Be sure to push the emergency stop switch button when you insert your hand into the machine.

CAUTION Note that the logic system 24 V DC power is not cut off even if the emergency stop switch button has been pushed.

CAUTION If the fuse blows, replace it with a designated fuse.

■ Power supply

The size is same as power supply for applicator unit (U101) and power supply for POP applicator (U401) however, low leakage current device used the branch number -G is used. It is used in the same one for POP printer (U400). The low leakage current devices are used for every power supply of models for ETL standard. The details in a table as below,

Parts number for models of standards

	Control unit	
	U10 (power supply)	U11 (power supply)
Models for ETL standard	LFP150F-24-**G**J1Y	LFP240F-24-**G**J1Y
Models for CE standard	LFP150F-24-J1Y	LFP240F-24-J1Y

	Printer frame unit		
	U100(power supply)	U101(power supply)	Coil
Models for ETL standard	LFP240F-24-**G**J1Y	LFP150F-24-**G**J1Y	-
Models for CE standard	LFP240F-24-J1Y	LFP150F-24-J1Y	attached

	Applicator unit: 2: POP	
	U400 (power supply)	U401 (power supply)
Models for ETL standard	LFP150F-24-**G**J1Y	LFP150F-24-**G**J1Y
Models for CE standard	LFP150F-24-**G**J1Y	LFP150F-24-**G**J1Y

■ Electromagnetic contactor of POP applicator unit

A power source of the POP Label Applicator switched in conjunction with electromagnetic contactor of wrapping control unit (K101) linked electromagnetic contactor of POP applicator unit (K400). The coil of the electromagnetic contactor of POP applicator unit is excited when the support point added at the electromagnetic contactor of wrapping control unit (K101) is closed circuit. Also parts number of electromagnetic contactor (K400) is same as it (K101).

■ Motor

As all motors of POP applicator used in this machine are same model number of the WM-AI. Also motor for printing operation of POP printer is same as the WM-AI.

■ Noise filter

The details in a table as below,

Parts number for models of standards

	Wrapping control unit
	Z100 (noise filter)
Models for ETL standard	NAP-16-**222**
Models for CE standard	NAP-16-**472**

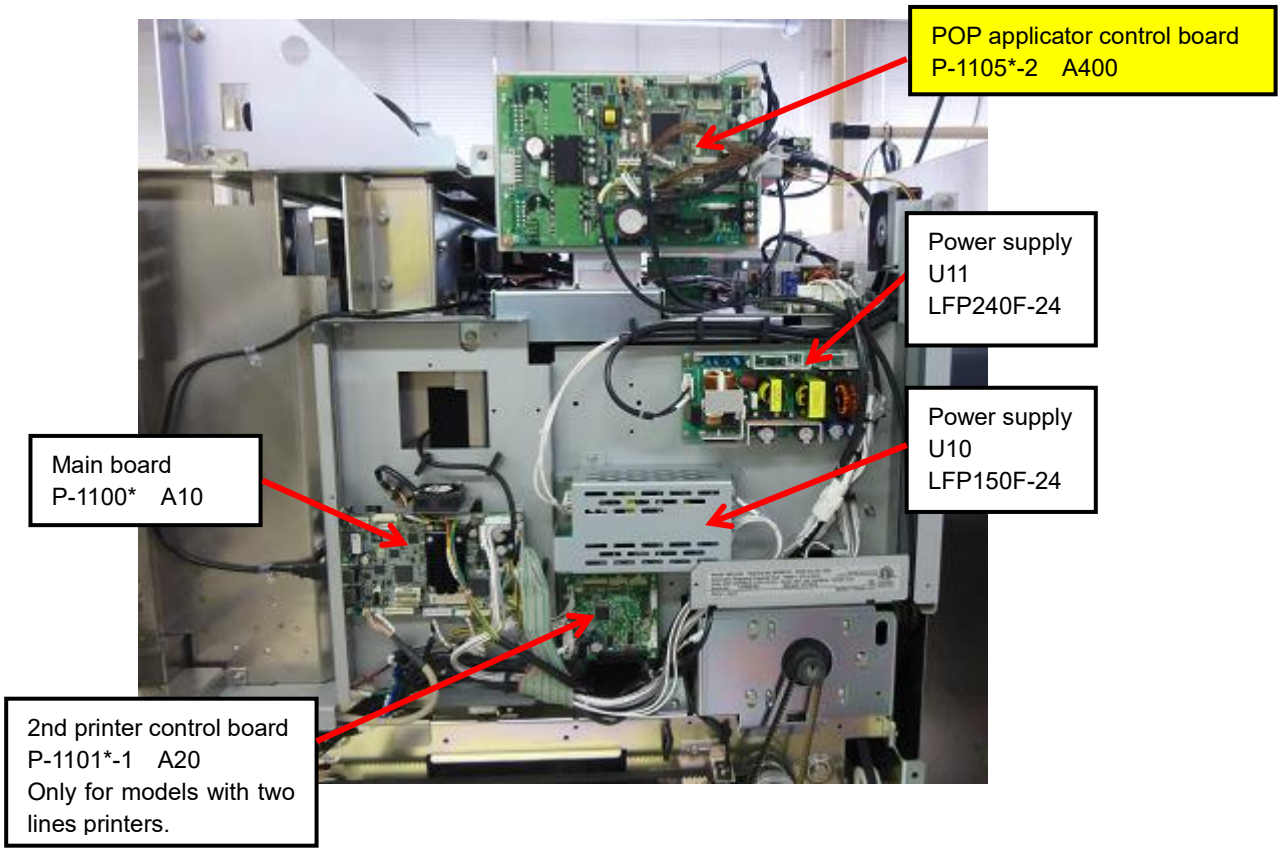
NOTE

Refer also to Technical Report "SC216134" and "SC216136" at the beginning of this manual.

■ Circuit board of POP printer unit
Only install the P-1131*-3.

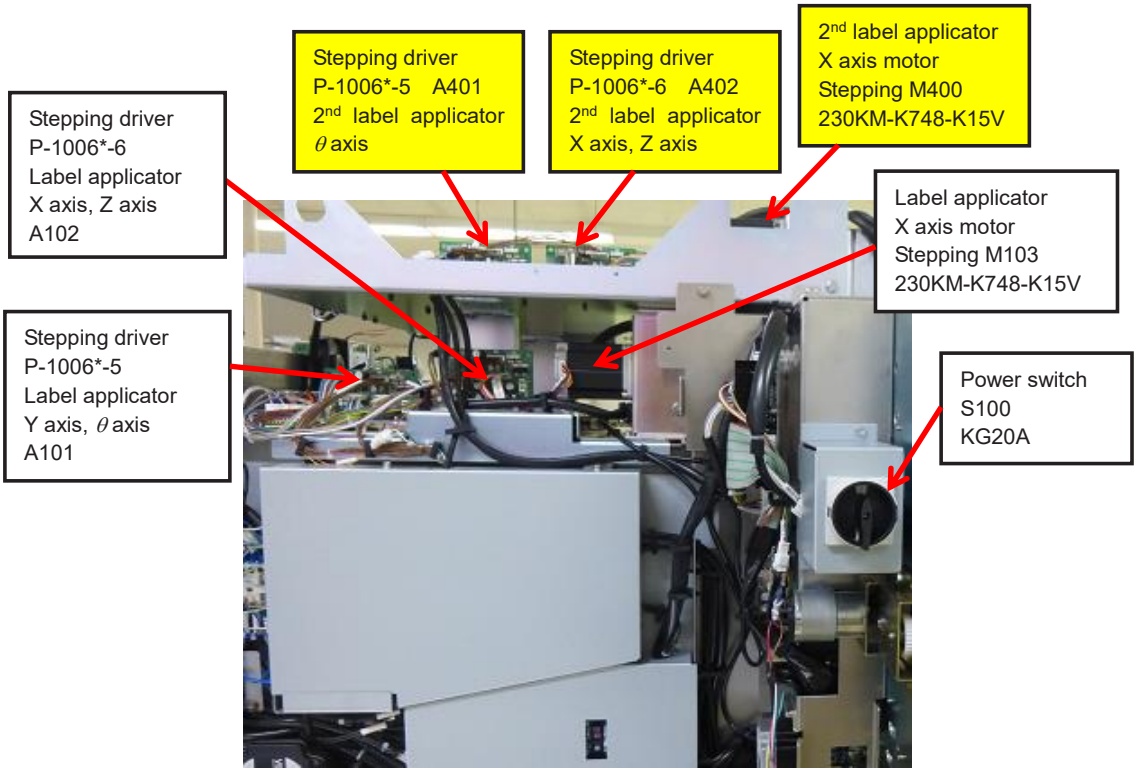
CAUTION **Do not install the circuit board P-1131*-2 used such as the AL-AI. In addition, that machine being damaged.**

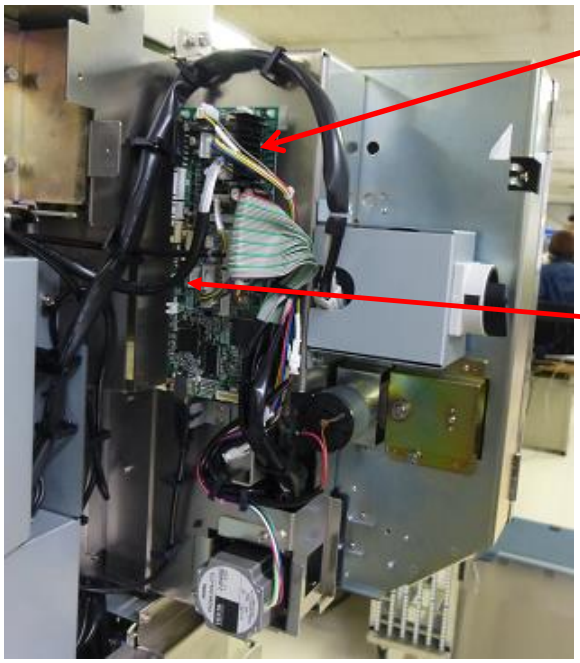
3.1.2 Right side of the machine



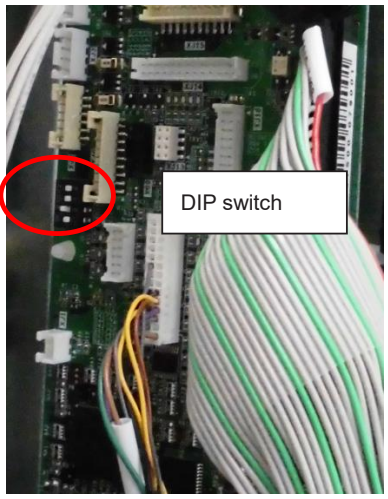
- **POP applicator control board: P-1105*-2 (A400)**

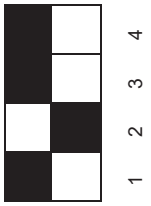
3.1.3 Left side of the machine





CAUTION
Do not replace to P-1131*-2.

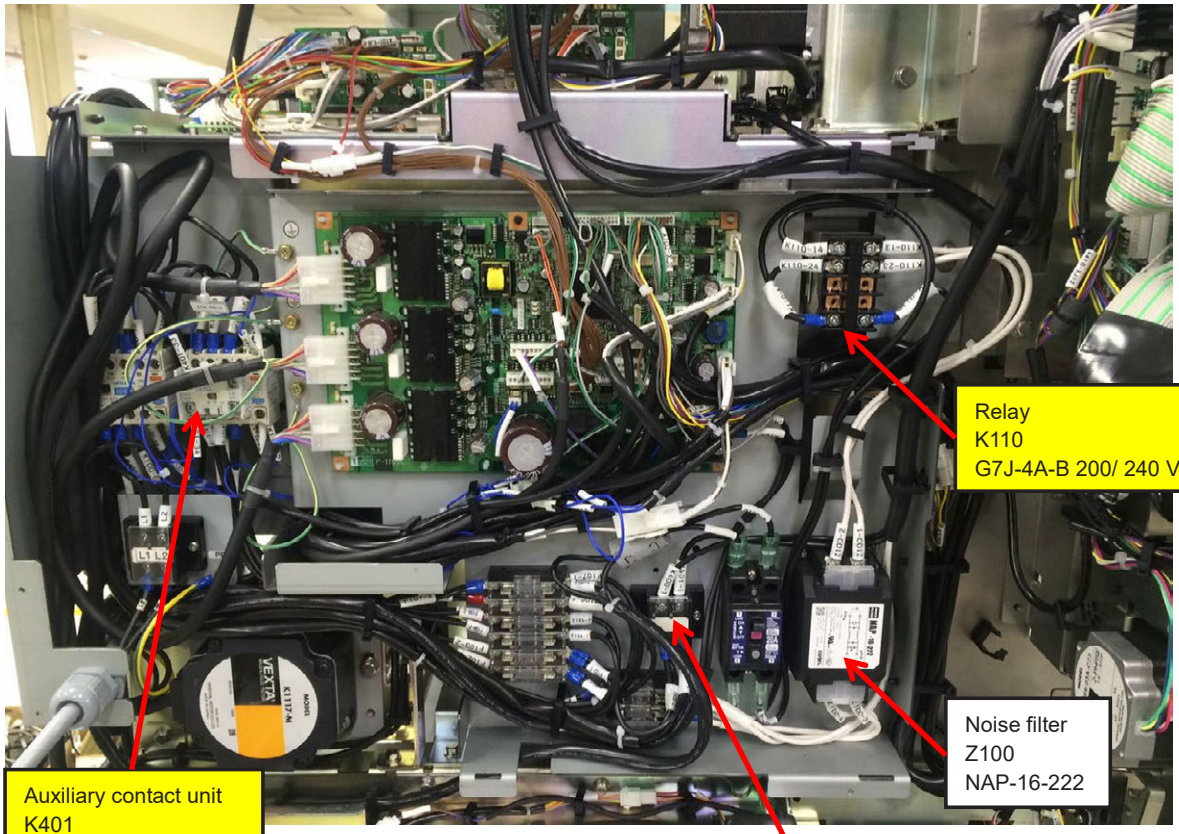


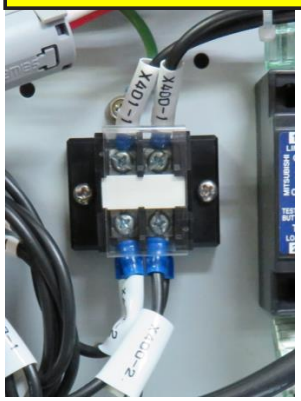


Turn the 2nd switch of DIP switch into the ON position.

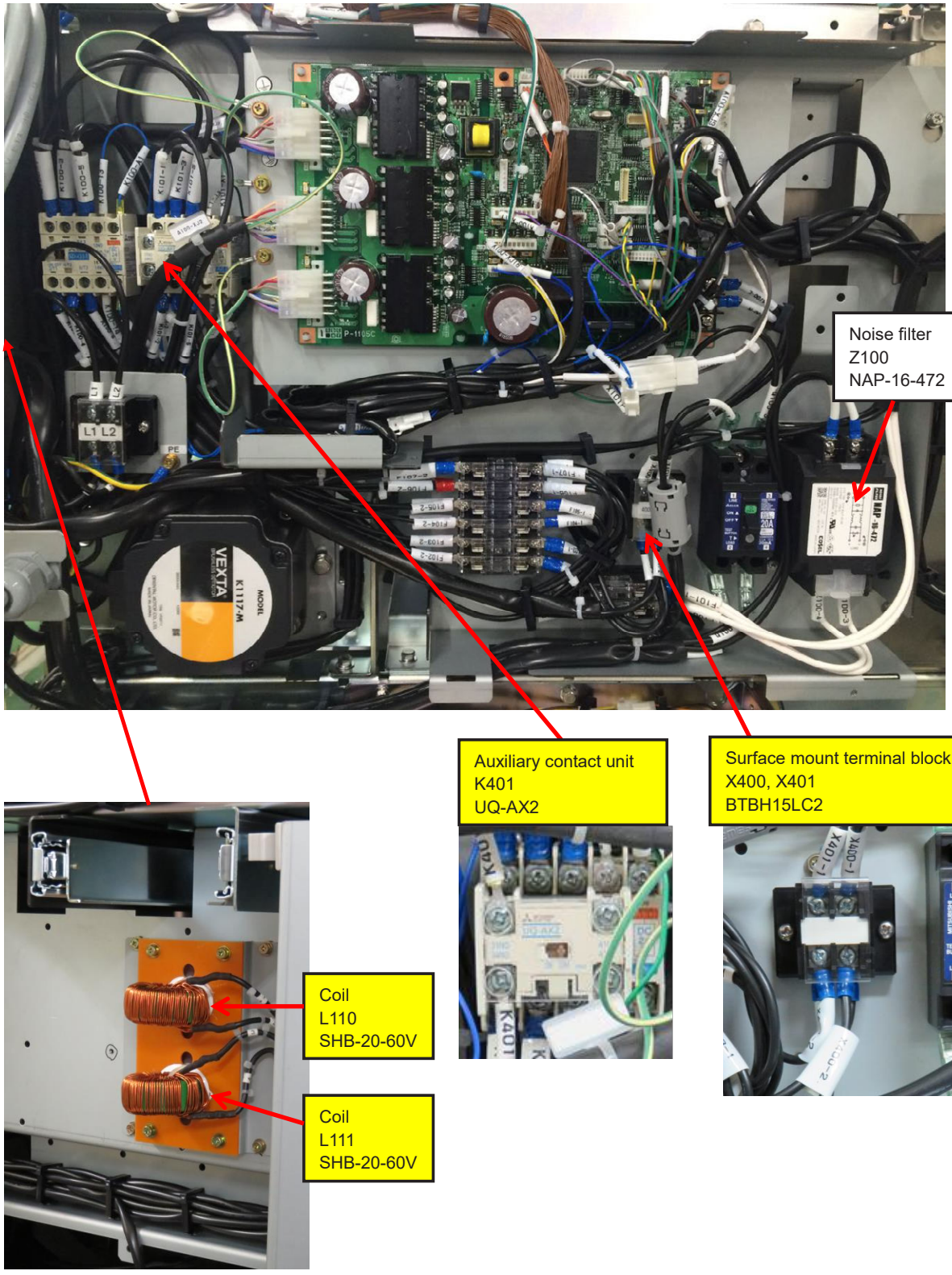
2

- **Wrapping control unit（ETL standard）**

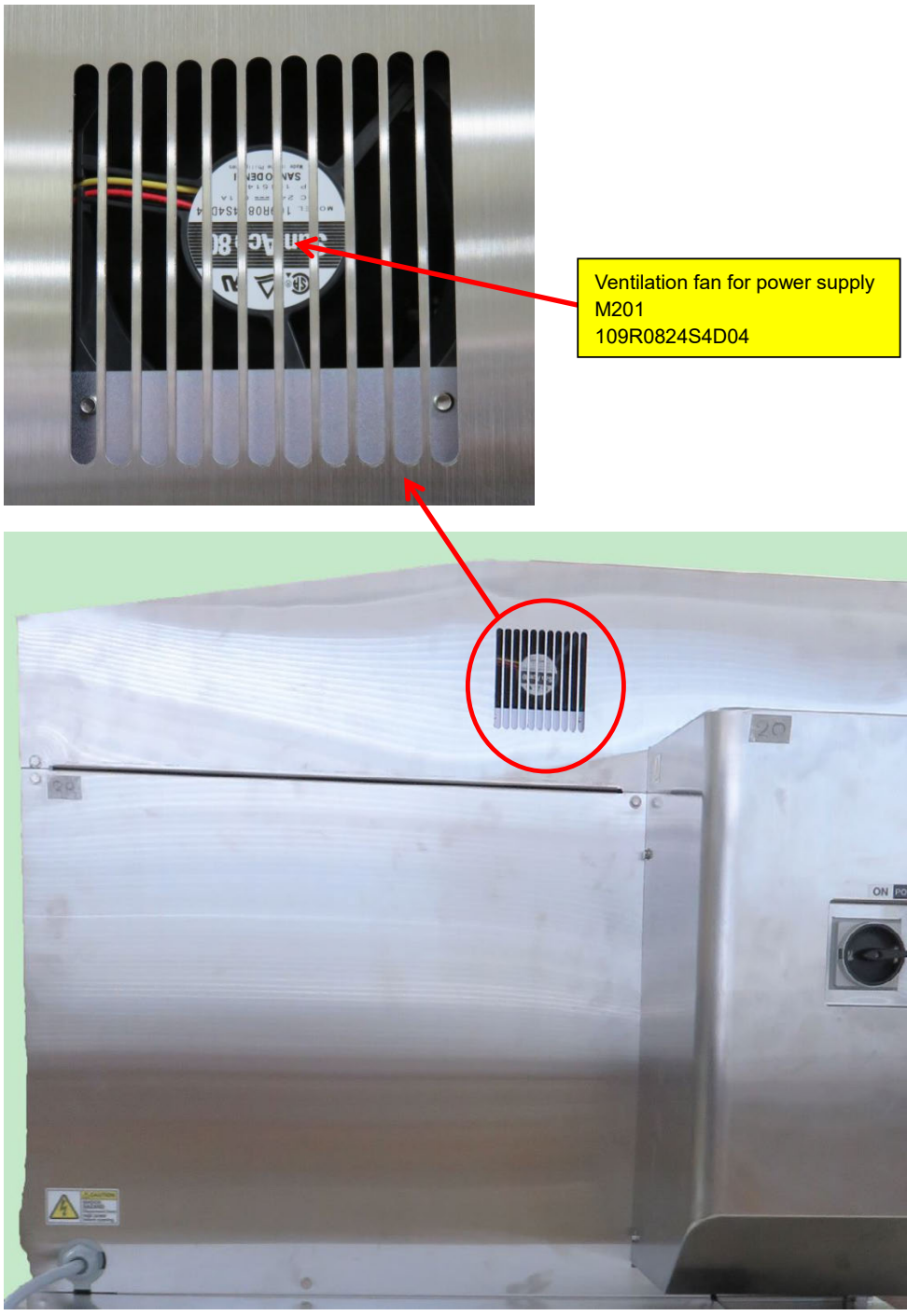




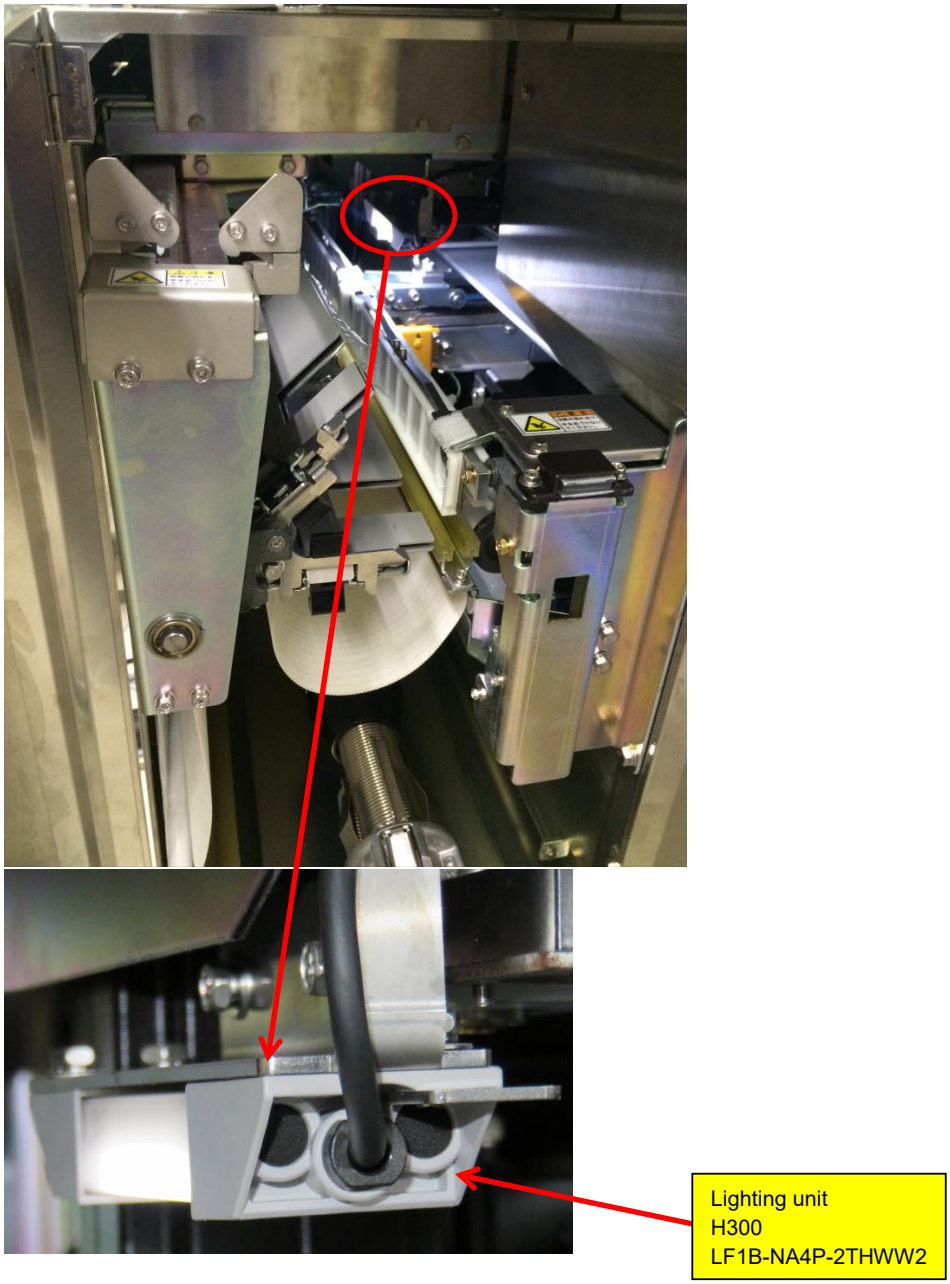
- **Wrapping control unit (CE standard)**



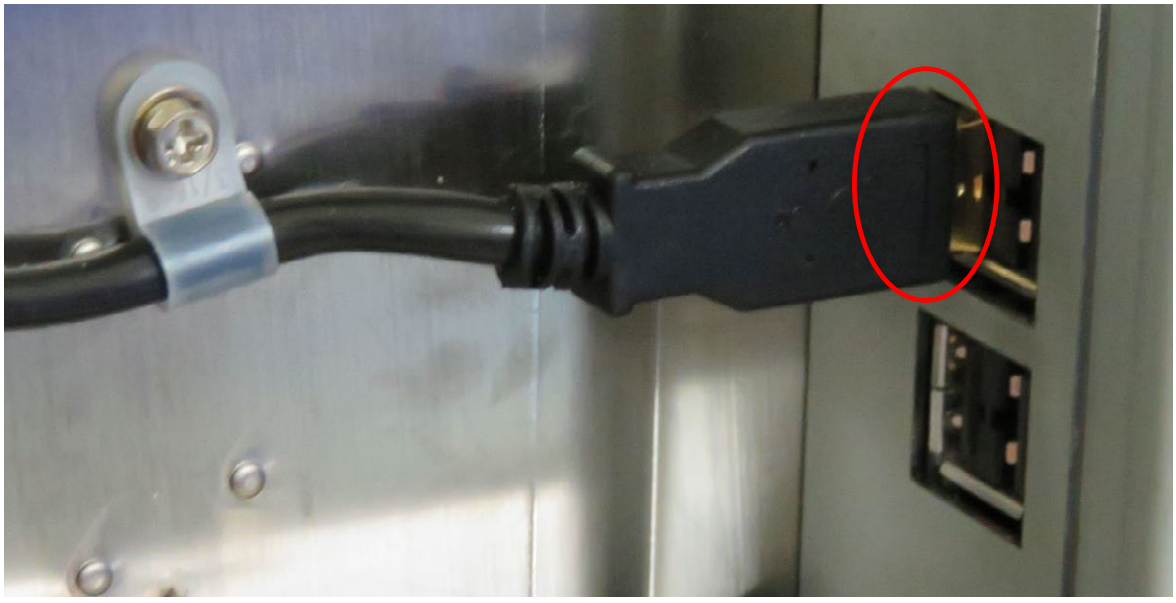
- **Ventilation fan**



- **Lighting unit: LED**



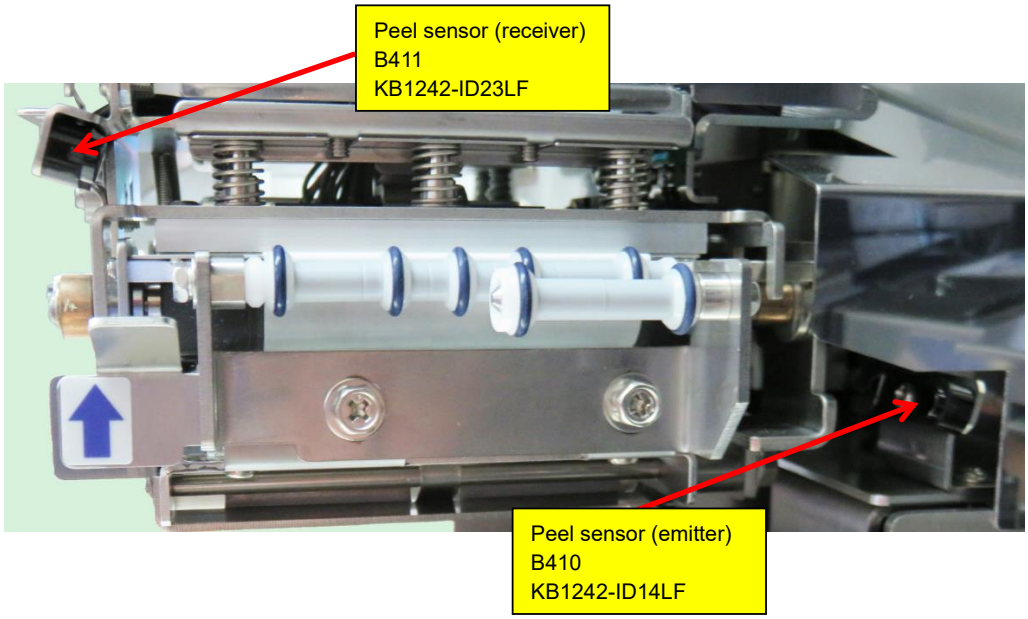
- **USB socket**



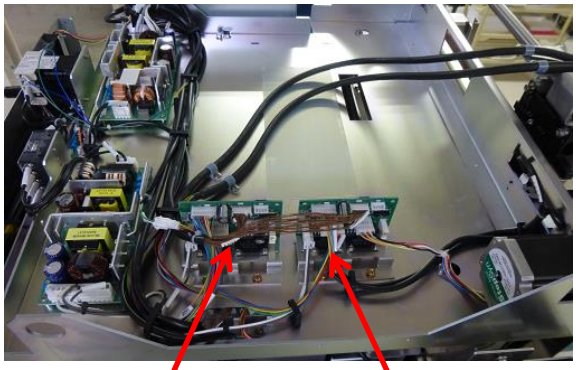
The line from P-1100* A10 to P-1131*-3 A410. Refer to the picture for USB plug connecting position.

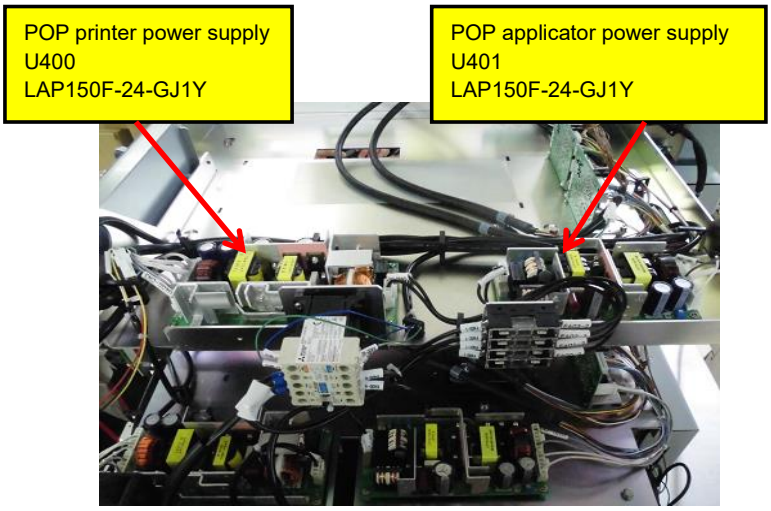
3.1.4 Front of the machine

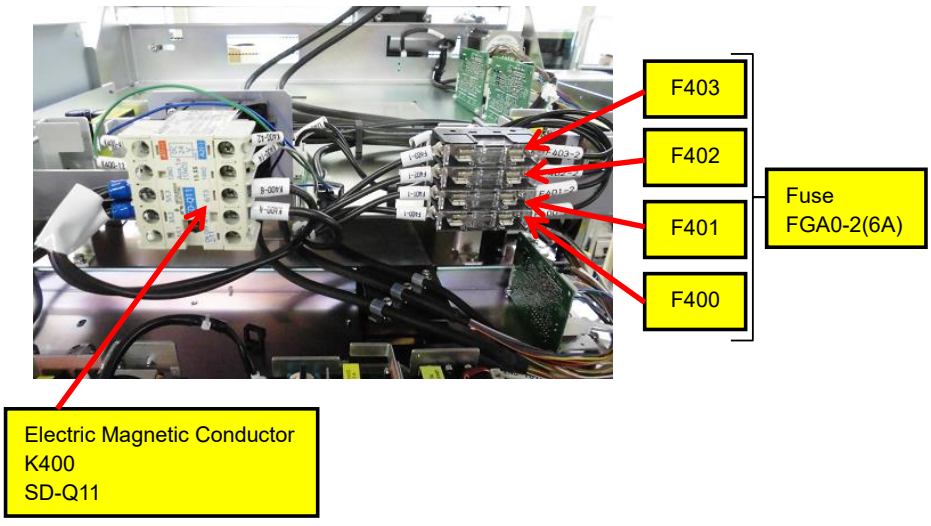
- **POP Printer**



3.1.5 Upper side of the machine







Chapter 4

Adjust Mode

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4.5.1 LABEL APPLICATOR (POS.).....51
4.5.2 LABEL APPLICATOR (ACTION).....52
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4.5.4 LABEL APPLICATOR (LABEL) 54
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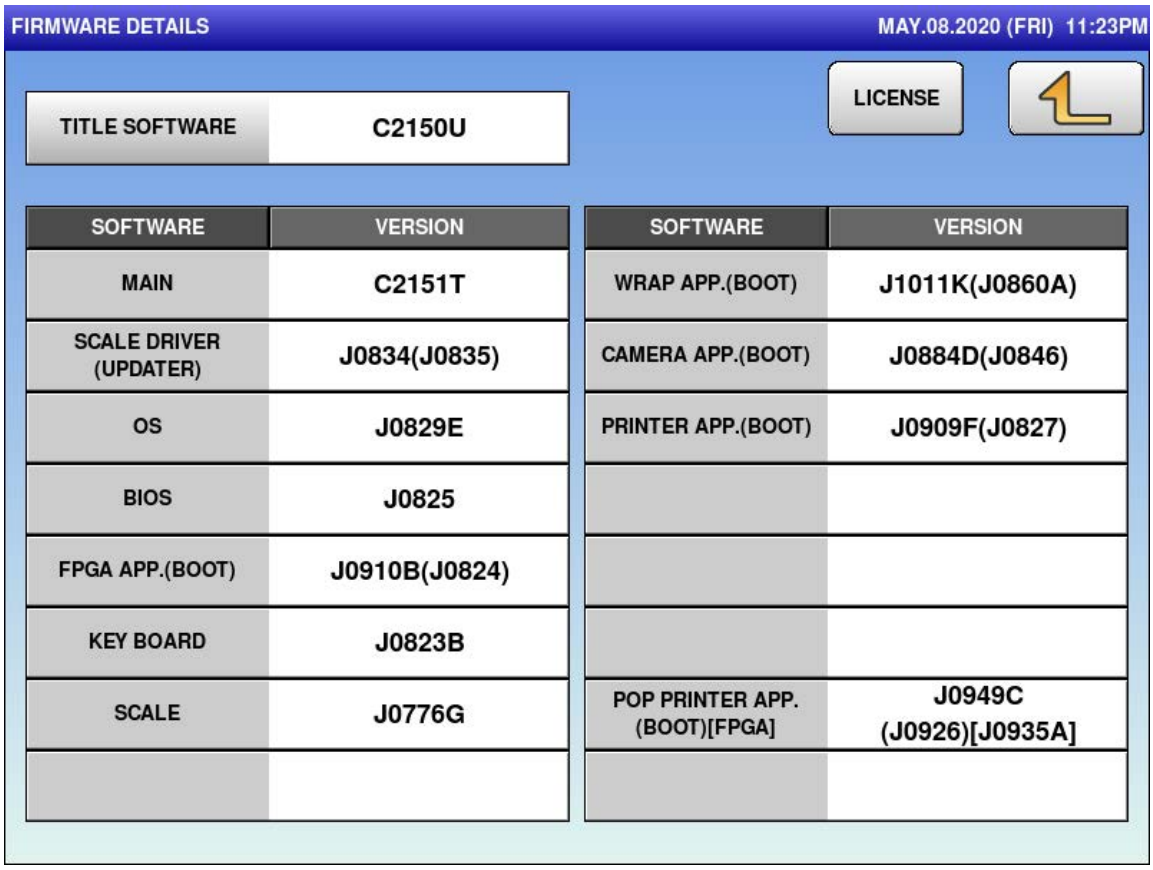
NOTE

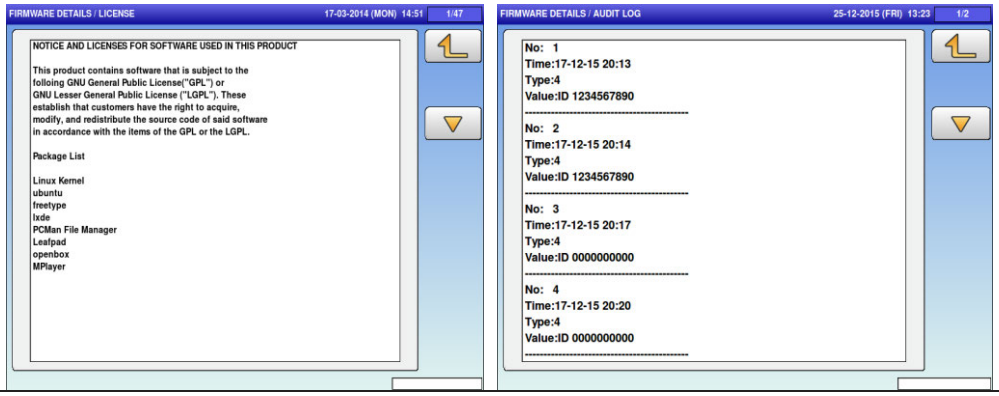
NOTE: Refer to Part 1 Automatic Weighing/Wrapping/Labeling, Chapter 6 for Adjust Mode menus not listed here.

REFERENCE

Conforming to WM-AI Service Manual except instructions of this manual.

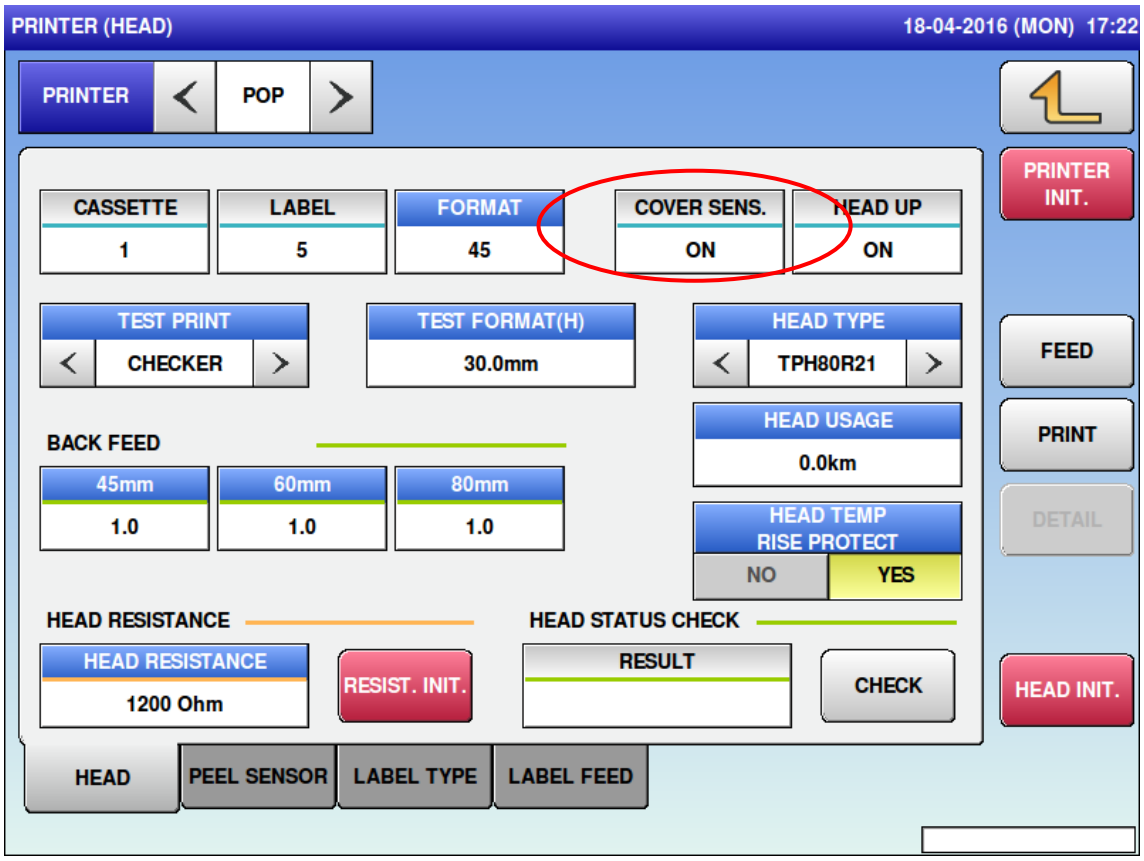
4.1 FIRMWARE DETAILS



Menu name	Specification
LICENSE	Move to FIRMWARE DETAILS / LICENSE screen. 

4.2 PRINTER

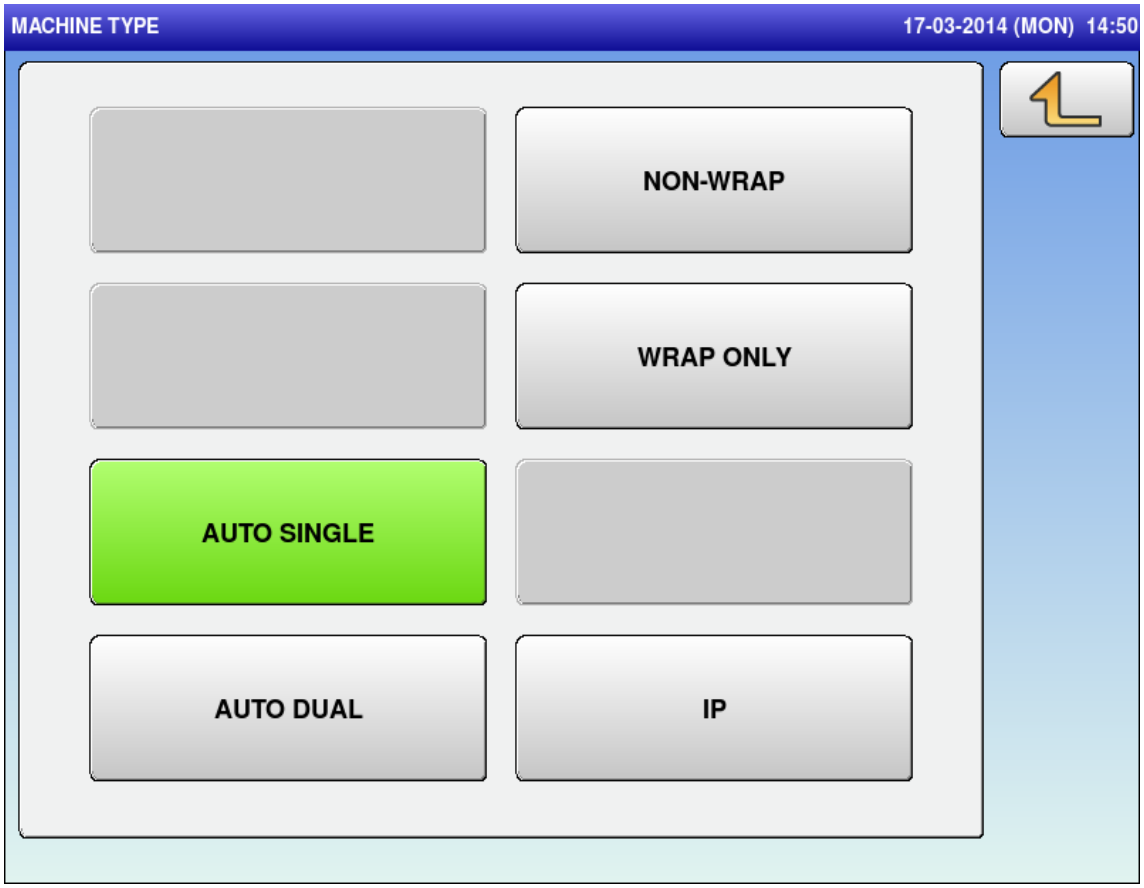
4.2.1 PRINTER (HEAD)



Menu name	Specification
COVER SENS.	Displayed the state of the POP printer cover. ON: Close, OFF: Open Enter password 789654123, TARE to expand the selection to include "NON USE" to disable the sensor.

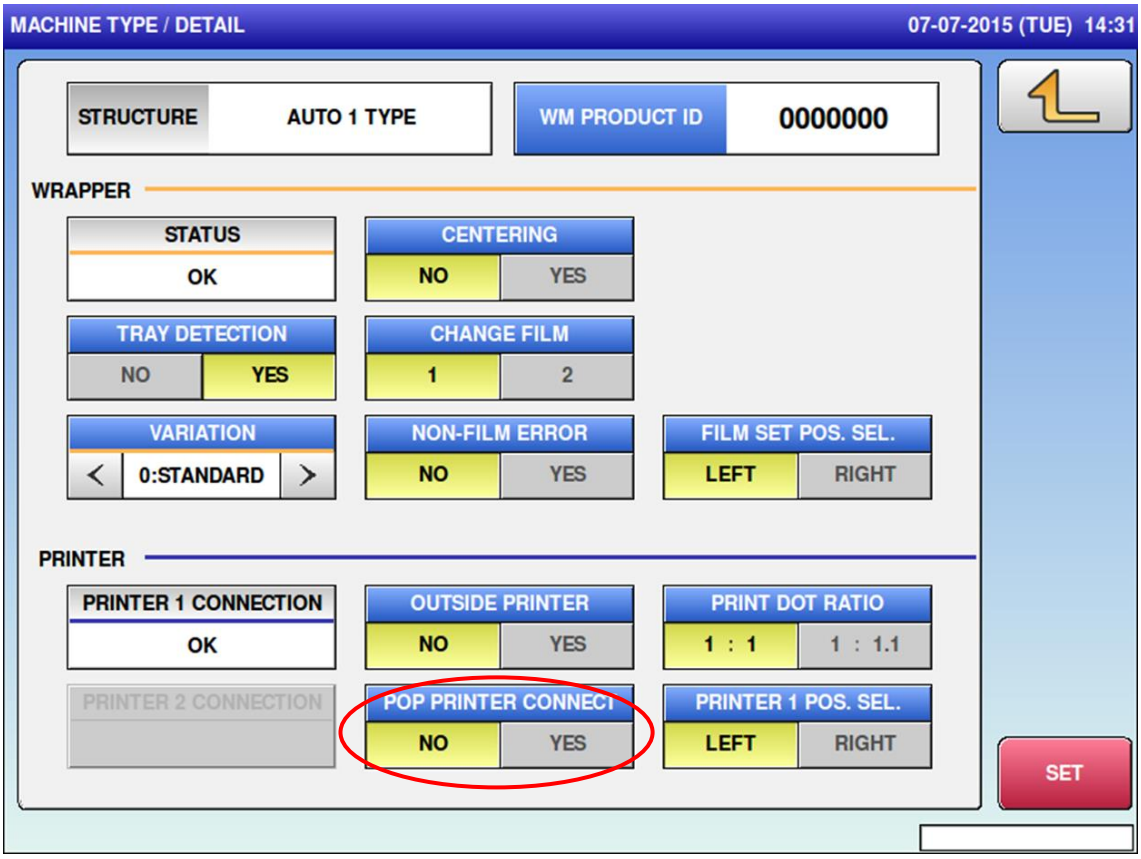
4.3 MACHINE TYPE

4.3.1 MACHINE TYPE



Menu name	Specification
	Back to main menu.
AUTO SINGLE	Judge as the auto pasting single type, move to [MACHINE TYPE / DETAIL] screen. For AS models, select this option.
AUTO DUAL	Judge as the auto pasting dual type, move to [MACHINE TYPE / DETAIL] screen. For AT models, select this option.
NON-WRAP	Judge as the inspection unit, move to [MACHINE TYPE / DETAIL] screen.
WRAP ONLY	Judge as the single wrapper model type, move to [MACHINE TYPE / DETAIL] screen. For the models without printer, select this option.
IP	Judge as the IP type, move to [MACHINE TYPE / DETAIL] screen. For IP models, select this option.

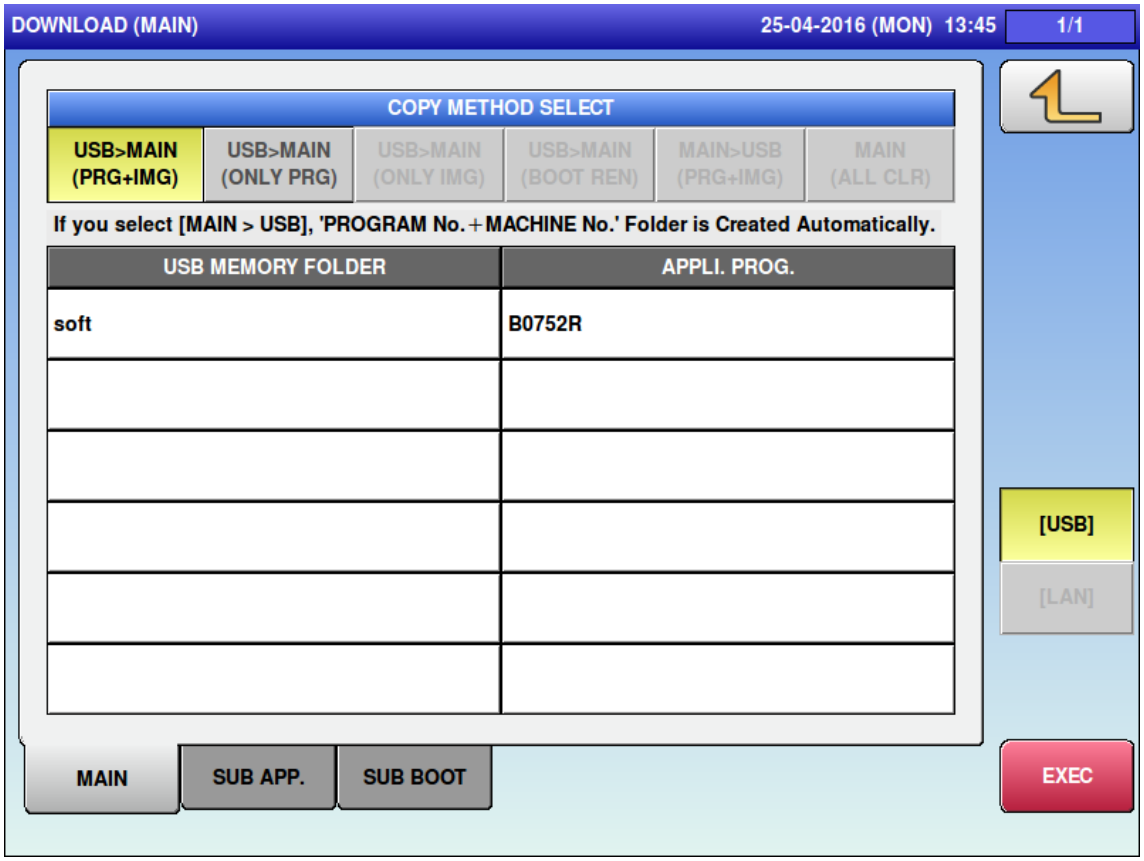
4.3.2 MACHINE TYPE / DETAIL



Menu name	Specification
POP PRINTER CONNECT	Select the state the POP printer is connected or not.

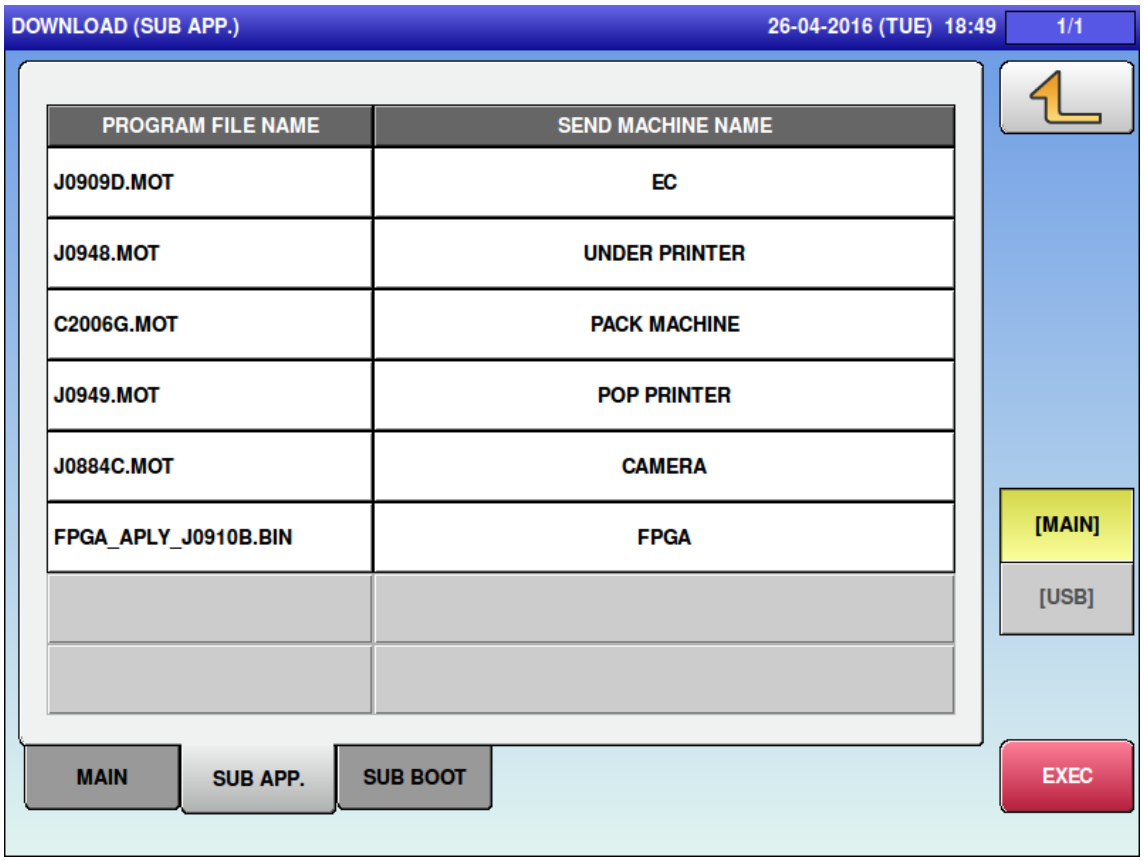
4.4 DOWNLOAD

4.4.1 DOWNLOAD (MAIN)



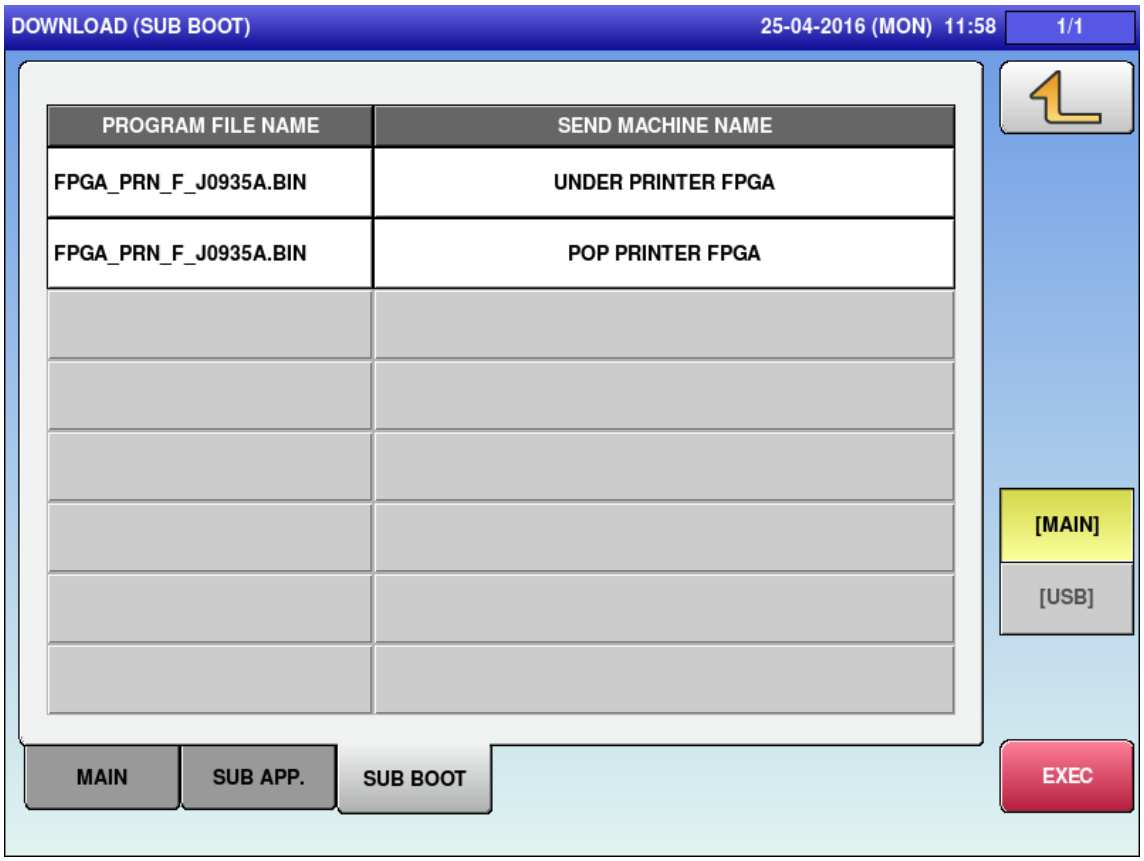
Menu name	Specification
	Back to main menu.
COPY METHOD SELECT	When “USB > MAIN (PRG + IMG)” is selected, the program and the image data of the selected USB memory folder are downloaded. When “USB > MAIN (ONLY PRG)” is selected, only the program of the selected USB memory folder is downloaded. The image data is not downloaded.
USB MEMORY FOLDER	To switch the selection.
APPLI. PROG.	To switch the selection.
EXEC	Download the selected program. CHECK EXECUTION OF MAIN PROGRAM DOWNLOAD dialog appears to ask whether to download the program.

4.4.2 DOWNLOAD (SUB APP.)



Menu name	Specification
	Back to main menu.
PROGRAM FILE NAME	To switch the selections.
SEND MACHINE NAME	To switch the selections.
EXEC	Download the selected program. CHECK FOR EXECUTION OF DEVICE MACHINE PROGRAM dialog appears to ask whether to download the program.
[MAIN]/ [USB]	Select where the program is downloaded from MAIN/ USB.

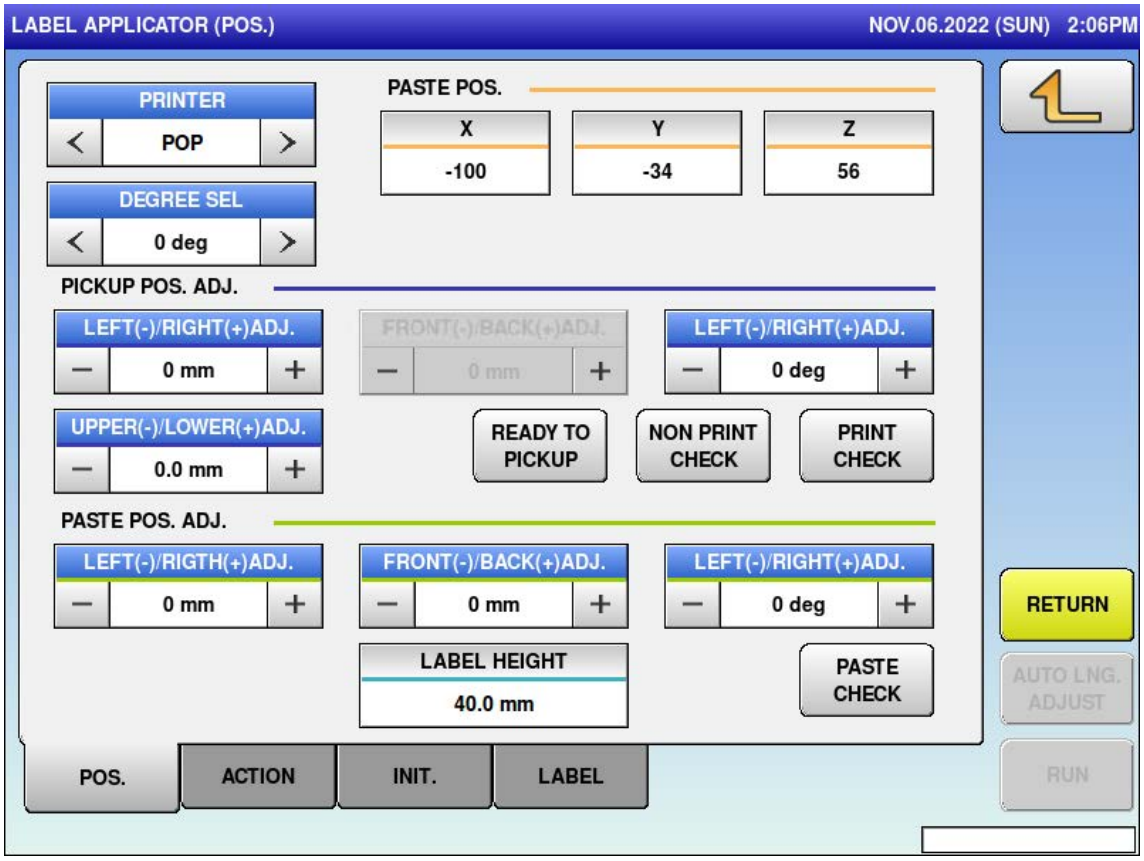
4.4.2 DOWNLOAD (SUB BOOT)



Menu name	Specification
	Back to main menu.
PROGRAM FILE NAME	To switch the selections.
SEND MACHINE NAME	To switch the selections.
EXEC	Download the selected program. CHECK FOR EXECUTION OF DEVICE MACHINE PROGRAM dialog appears to ask whether to download the program.
[MAIN]/ [USB]	Select where the program is downloaded from MAIN/ USB.

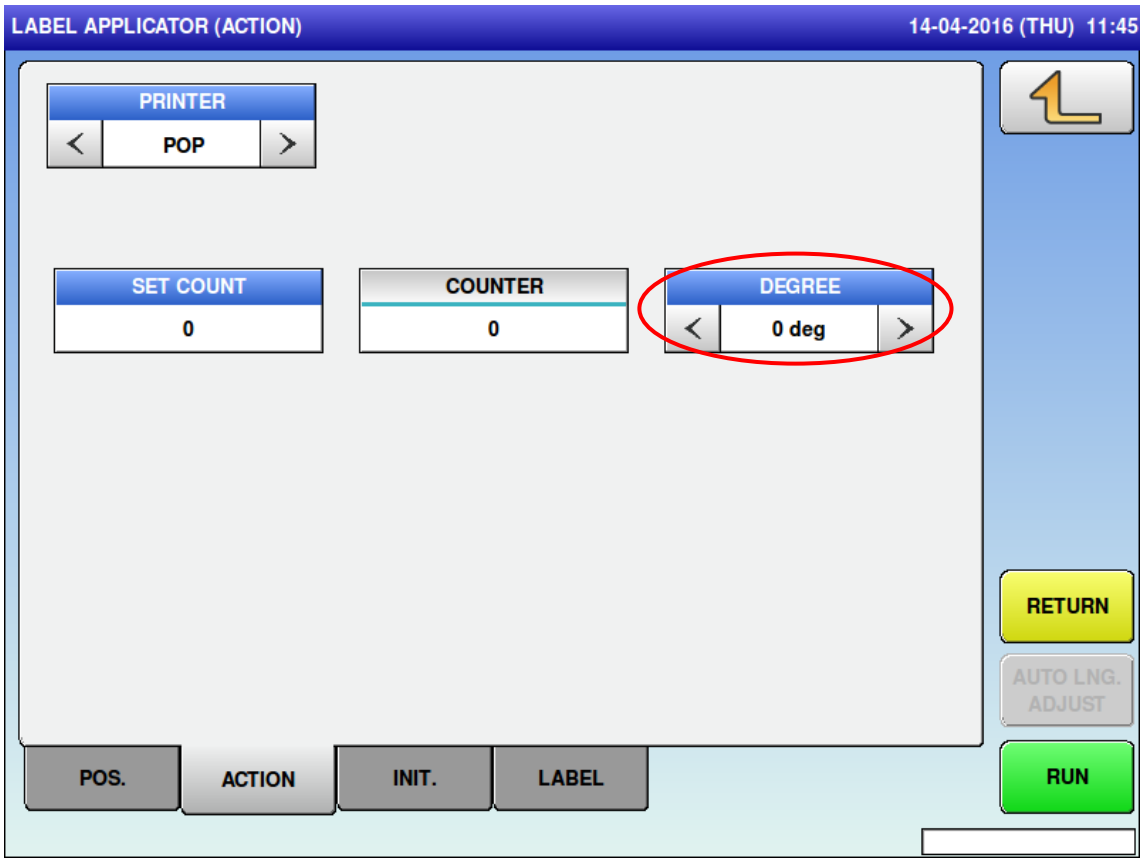
4.5 LABEL APPLICATOR

4.5.1 LABEL APPLICATOR (POS.)



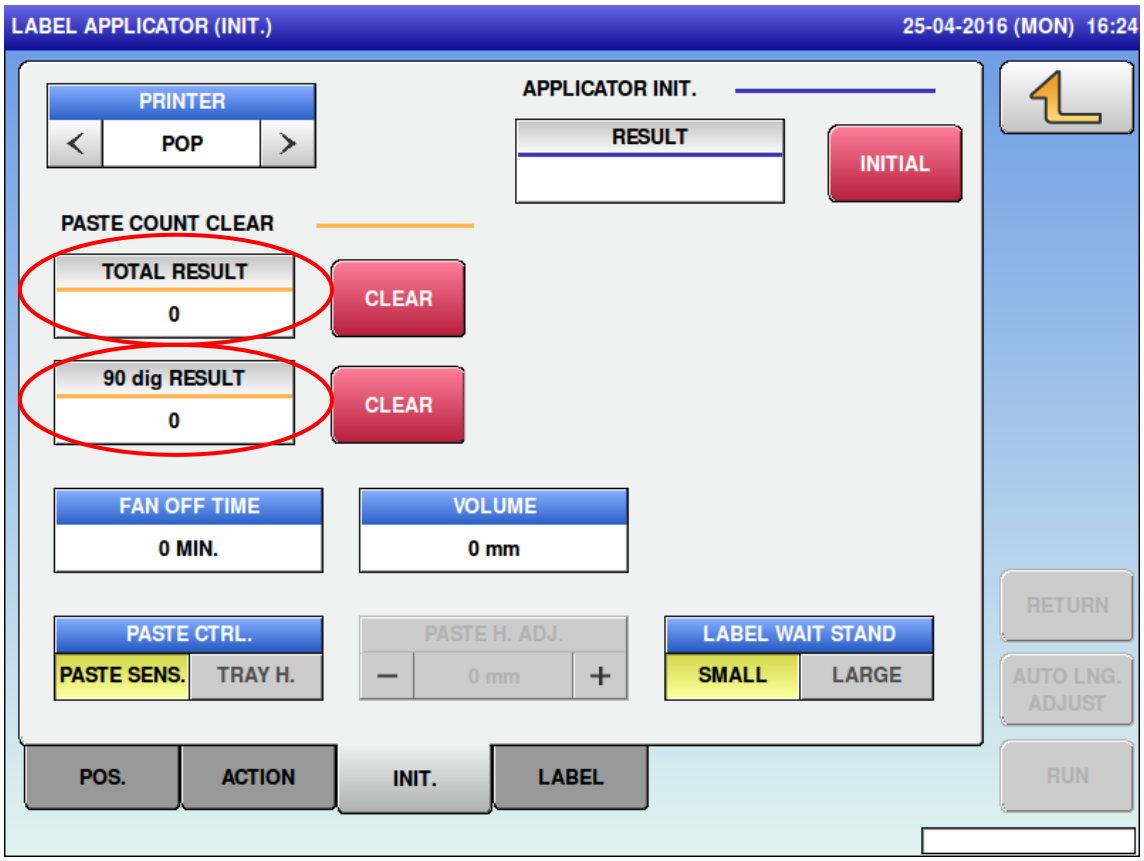
Menu name	Specification
DEGREE SEL	Select a degree to paste the label when the label applicator is operated continuously from 0 degree, 90, 180 and 270 degrees. Adjust for every selected angle.
PICKUP POS. ADJ.	
LEFT (-)/RIGHT (+) ADJ.[mm]	Adjust the position at which the POP printer picks up the label (in the right-left direction) when the applicator comes to the label output port of the selected POP printer. To expand the adjustment range -9 to 9 mm.
LEFT (-)/RIGHT (+) ADJ.[deg]	Adjust the position at which the POP printer picks up the label (angle).
UPPER (-)/LOWER (+) ADJ.[mm]	Adjust the position at which the POP printer picks up the label (in the upper-lower direction) when the applicator comes to the label output port of the selected POP printer. To expand the adjustment range -9 to 9 mm.
PASTE POS. ADJ.	
LEFT (-)/RIGHT (+) ADJ.[mm]	Adjust the position applied the POP label (in the right-left direction).
FRONT (-)/BACK (+) ADJ.[mm]	Adjust the position at which the POP printer applies the label (in the front-back direction).
LEFT (-)/RIGHT (+) ADJ.[deg]	Adjust the position at which the POP printer applies the label (angle).

4.5.2 LABEL APPLICATOR (ACTION)



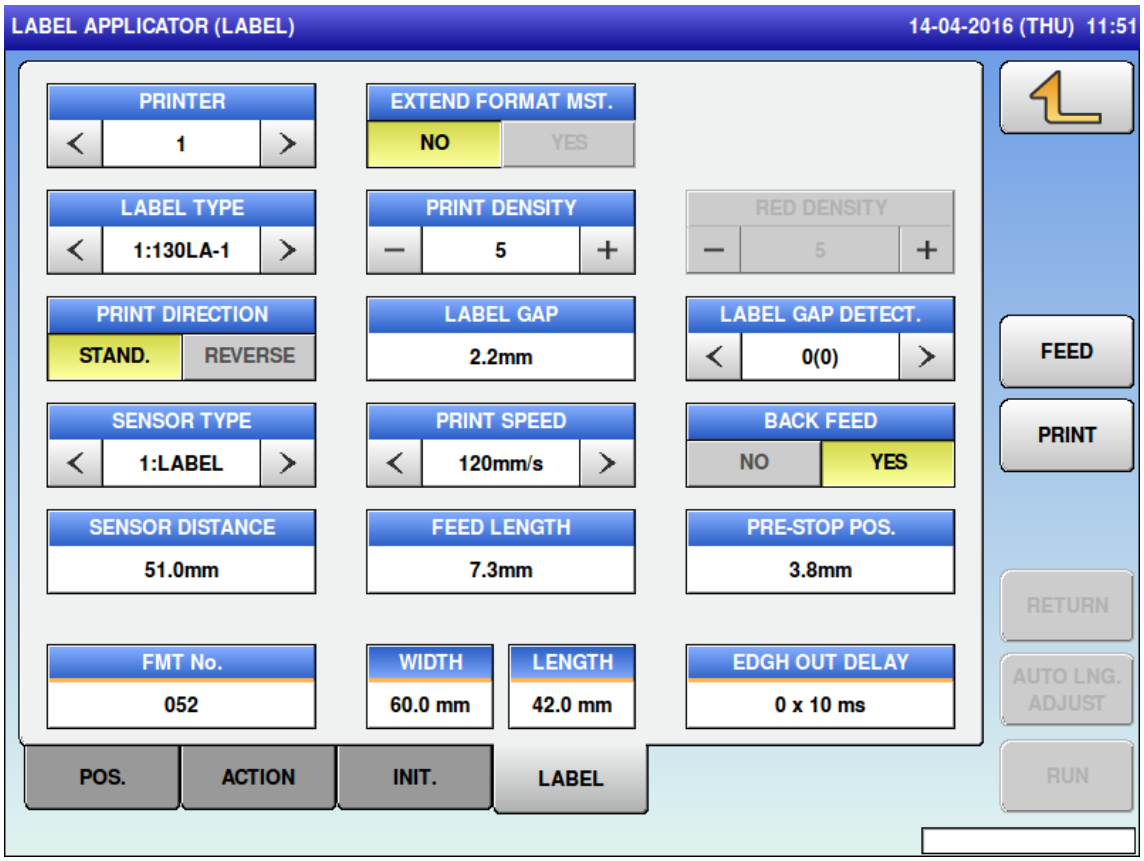
Menu name	Specification
DEGREE	Select a degree to paste the label when the label applicator is operated continuously. POP: 0 degree to -90 degrees, 180 to 345 degrees (15-degrees unit)

4.5.3 LABEL APPLICATOR (INIT.)

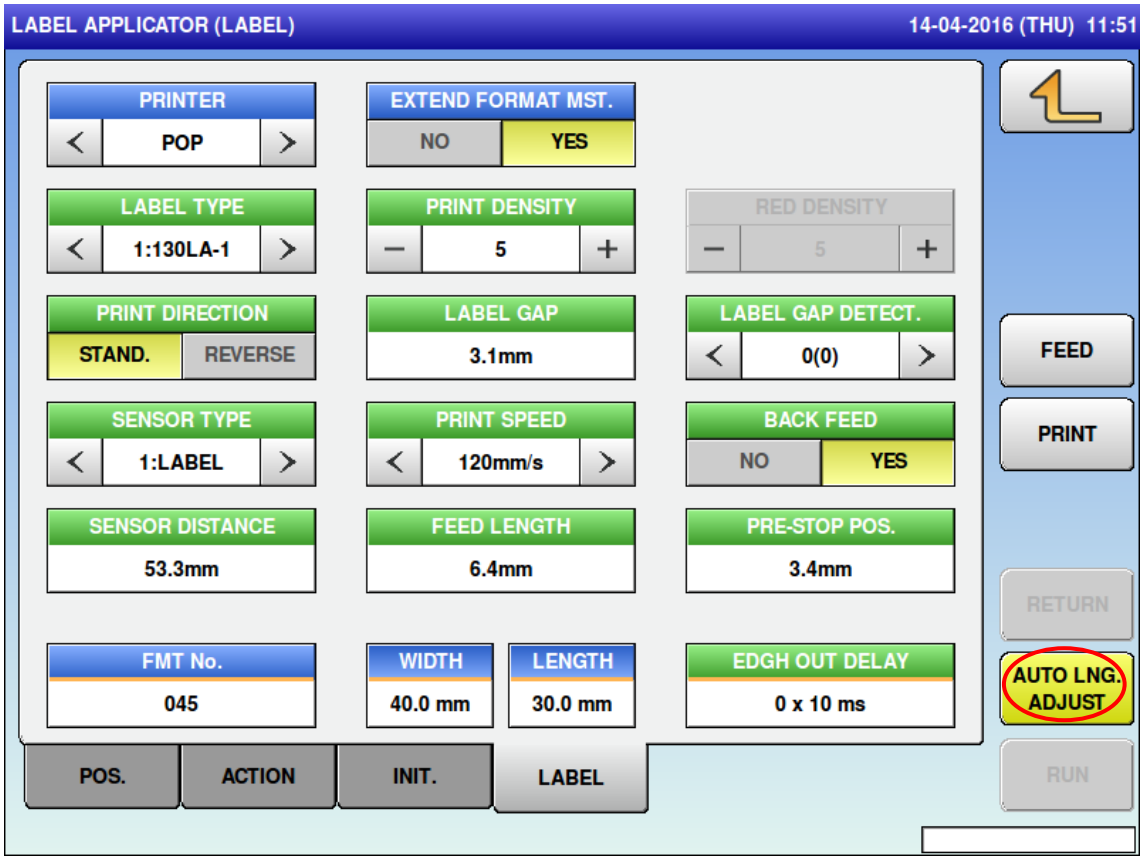


Menu name	Specification
PASTE COUNT CLEAR	
TOTAL RESULT	Displayed the number of times of continuous pasting operations.
90 deg RESULT	Displayed the number of times of continuous pasting operations entered rotation range from 15 to 90 degrees.
LABEL WAIT STAND	Select an option according to the mounted label wait stand. Always set as LARGE for USA.

4.5.4 LABEL APPLICATOR (LABEL)



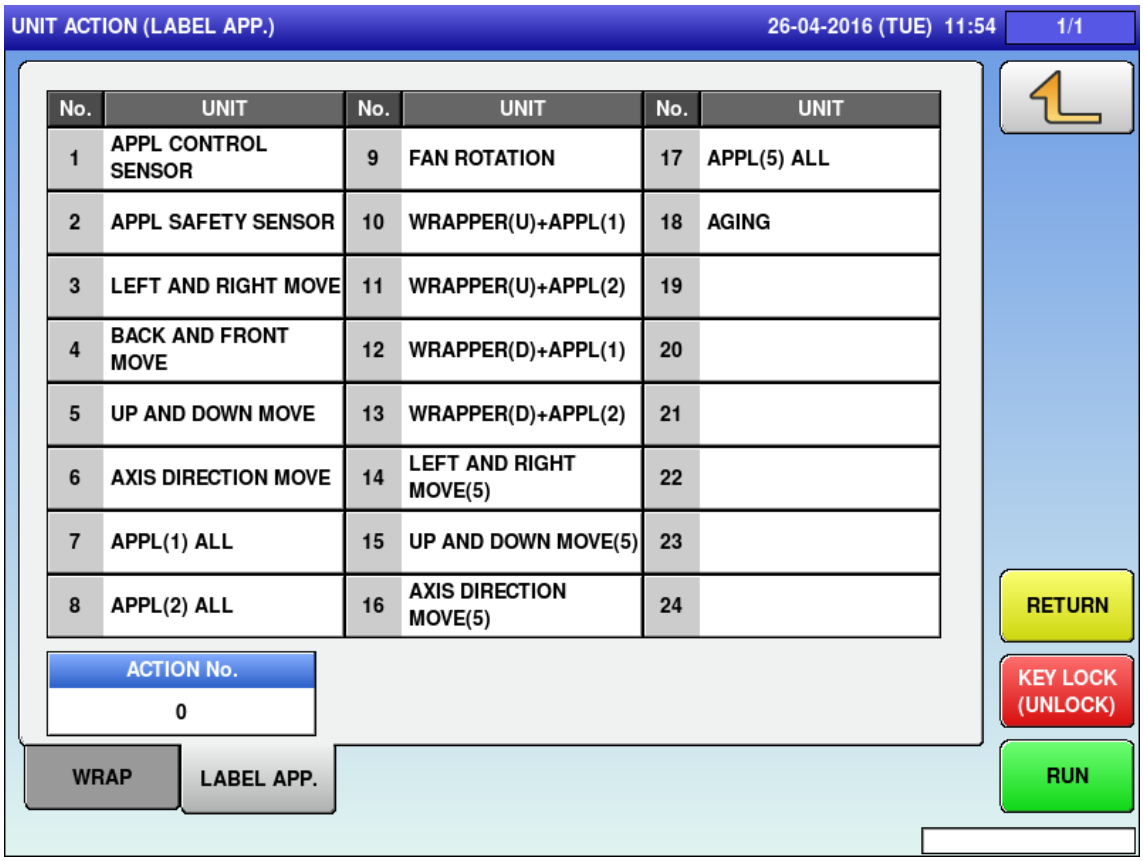
Menu name	Specification
EXTEND FORMAT MST.	Select the Extend label master.
LABEL GAP DETECT.	Set the threshold value of the label sensor. Current value in parentheses. Input range: 0 to 255
FMT No.	Set the label format number adjusting the applicator. Input range: 0 to 999
WIDTH	Set label size adjusting the applicator. It is possible temporarily. Input range: 0 to 800
LENGTH	Set label size adjusting the applicator. It is possible temporarily. Input range: 0 to 9999
EDGE OUT DELAY	Pause time peeling label in operation of adsorption. Input range: 0 to 99 NOTE: Set the Edge Out Delay in the following cases: 1. Extend the time of absorption and change the start timing of the applicator to move. 2. Use when the Pop Applicator interferes with the main applicator.



When entering with PRINTER selected in POP, displayed green color on bands of items.

Menu name	Specification
AUTO LNG. ADJUST	Measuring label length and gap automatically.

4.6 UNIT ACTION (LABEL APP.)

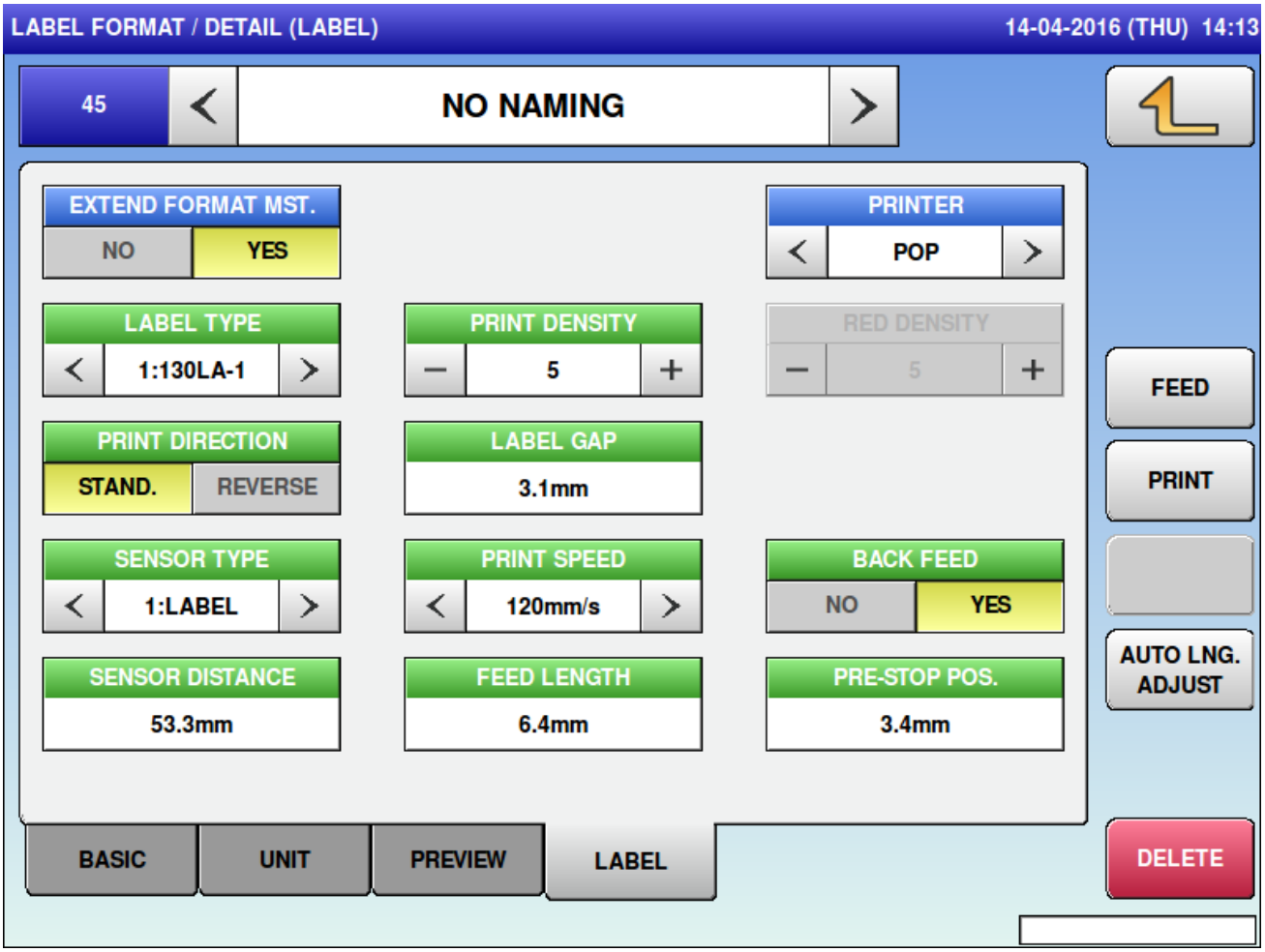


When connected the POP printer with POP PRINTER CONNECT selected in YES, displayed additionally at item number 14 to 17 on UNIT.

Units including "(5)" in the description refer to the POP printer.

4.7 FORMAT

4.7.1 LABEL FORMAT/ DETAIL (LABEL)



When entering with PRINTER selected in POP, displayed green color on bands of items.

Chapter 5

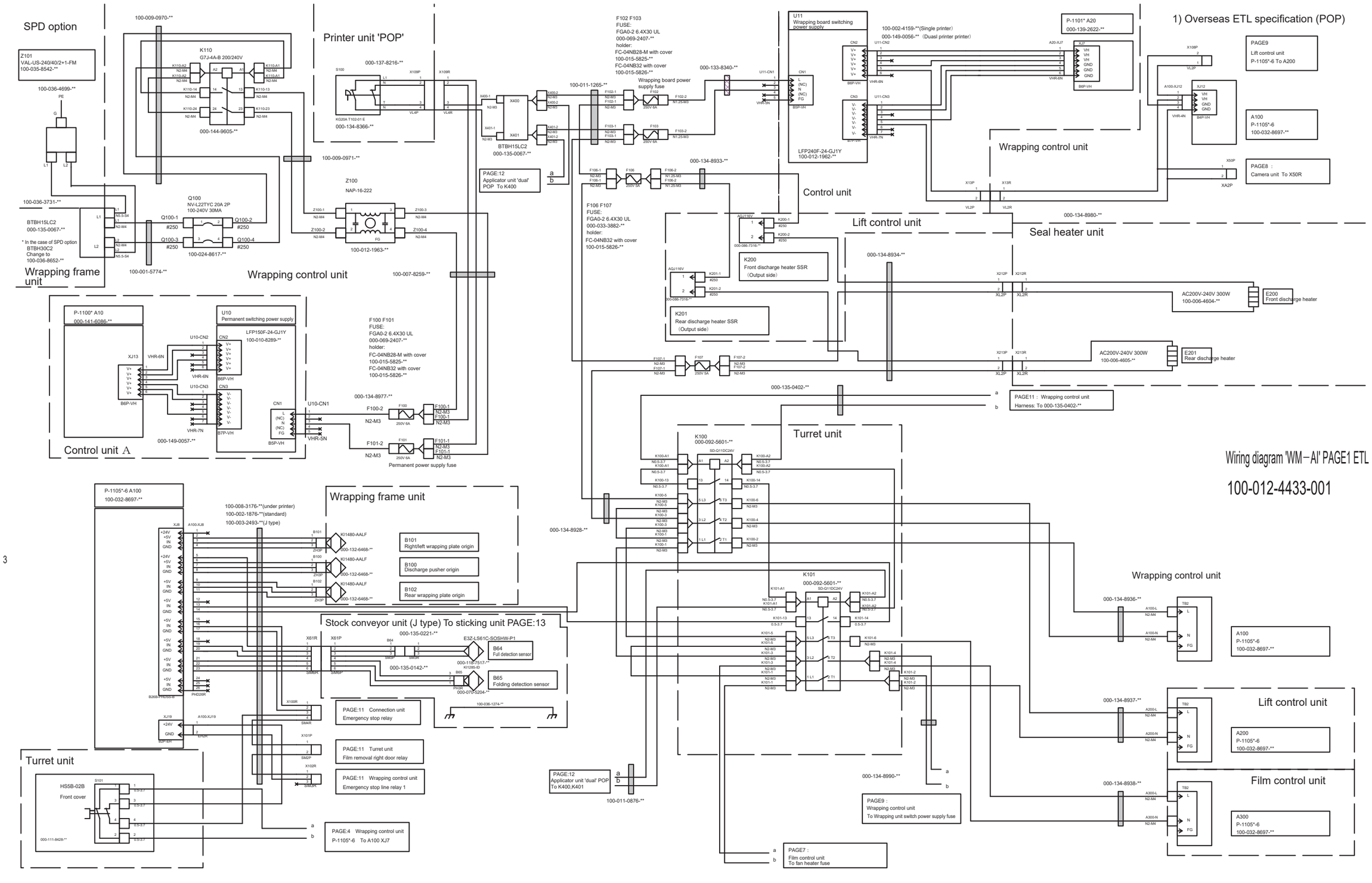
Wiring Diagrams

5.1 PAGE 1 ETL 59
5.2 PAGE 1 CE 60
5.3 PAGE 7 61
5.4 PAGE 9 62
5.5 PAGE 11..... 63
5.6 PAGE 12 64

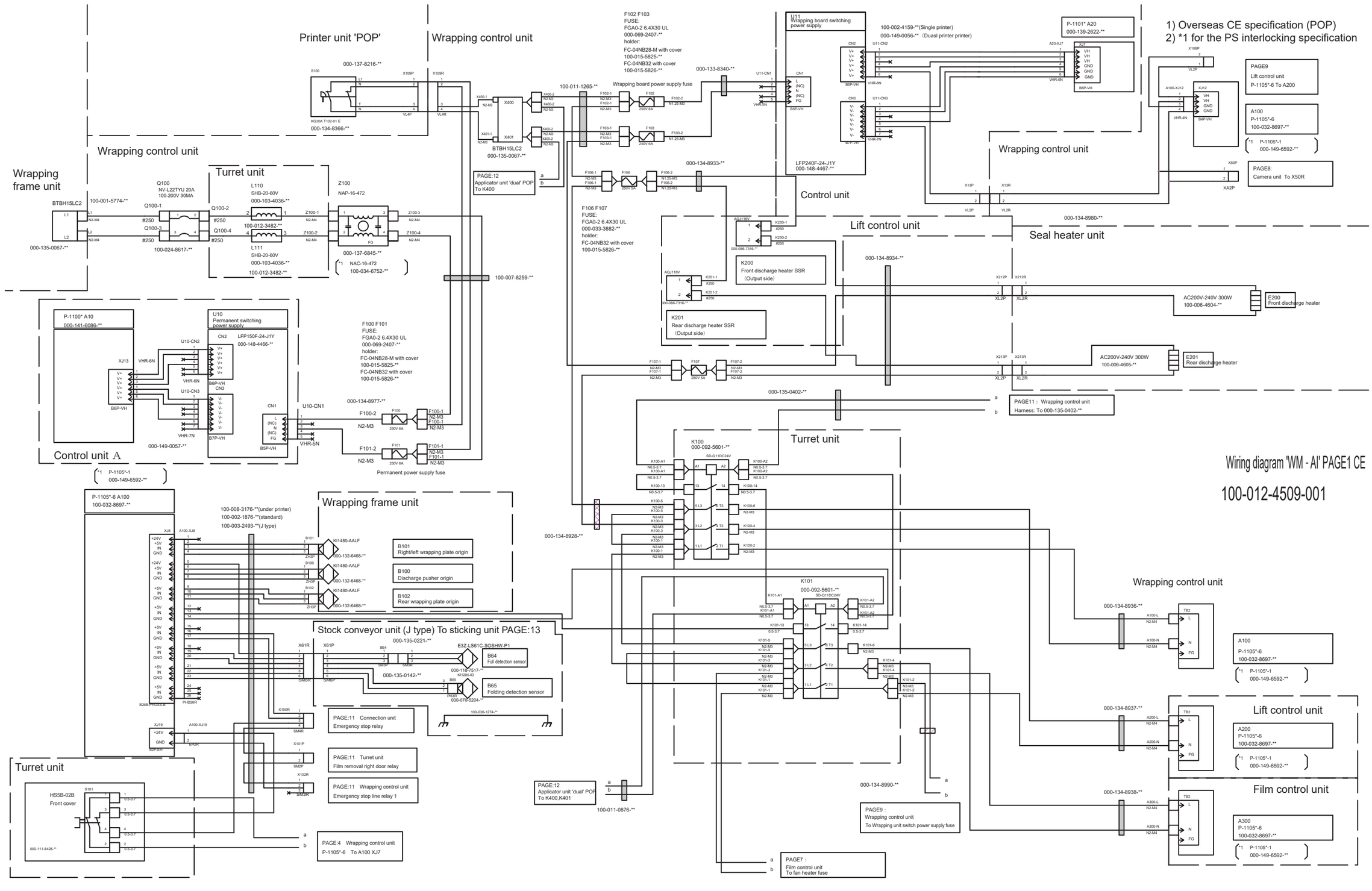
NOTE

NOTE: Refer to Part 1 Automatic Weighing/Wrapping/Labeling, Appendix 8.3 for Wiring Diagram pages not listed here.

5.1 PAGE 1 ETL


SPD option
Z101
VAL-US-240/40/2+1-FM
100-035-8542-**
100-036-4699-**
100-009-0970-**
K110
G7J-4A-B 200/240V
000-144-9605-**
100-036-3731-**
BTBH15LC2
000-135-0067-**
* In the case of SPD option
BTBH30C2
Change to
100-036-8652-**
Q100
NV-L22TYC 20A 2P
100-240V 30MA
Q100-1 #250
Q100-2 #250
Q100-3 #250
Q100-4 #250
000-024-8617-**
100-001-5774-**
Wrapping frame unit
Wrapping control unit
100-007-8259-**
Printer unit 'POP'
000-137-8216-**
KG20A T102-01 E
000-134-8366-**
100-009-0971-**
Z100
NAP-16-222
100-012-1963-**
BTBH15LC2
000-135-0067-**
PAGE:12
Applicator unit 'dual'
POP To K400
100-011-1265-**
F102 F103
FUSE:
FGA0-2 6.4X30 UL
000-069-2407-**
holder:
FC-04NB28-M with cover
100-015-5825-**
FC-04NB32 with cover
100-015-5826-**
Wrapping board power supply fuse
F102
250V 6A
F103
250V 6A
000-133-8340-**
U11
Wrapping board switching power supply
LFP240F-24-GJ1Y
100-012-1962-**
100-002-4159-**(Single printer)
000-149-0056-**（Duasl printer printer）
P-1101* A20
000-139-2622-**
1) Overseas ETL specification (POP)
PAGE9
Lift control unit
P-1105*-6 To A200
A100
P-1105*-6
100-032-8697-**
PAGE8 :
Camera unit To X50R
Wrapping control unit
000-134-8980-**
Seal heater unit
000-134-8933-**
F106 F107
FUSE:
FGA0-2 6.4X30 UL
000-033-3882-**
holder:
FC-04NB32 with cover
100-015-5826-**
Control unit
Lift control unit
000-086-7316-**
K200
Front discharge heater SSR
（Output side）
K201
Rear discharge heater SSR
（Output side）
000-134-8934-**
AC200V-240V 300W
100-006-4604-**
E200
Front discharge heater
AC200V-240V 300W
100-006-4605-**
E201
Rear discharge heater
000-135-0402-**
PAGE11 : Wrapping control unit
Harness: To 000-135-0402-**
P-1100* A10
000-141-6086-**
U10
Permanent switching power supply
LFP150F-24-GJ1Y
100-010-8289-**
000-149-0057-**
Control unit A
F100 F101
FUSE:
FGA0-2 6.4X30 UL
000-069-2407-**
holder:
FC-04NB28-M with cover
100-015-5825-**
FC-04NB32 with cover
100-015-5826-**
000-134-8977-**
F100-2
F101-2
250V 6A
Permanent power supply fuse
Turret unit
K100
000-092-5601-**
SD-Q11DC24V
000-134-8928-**
K101
000-092-5601-**
SD-Q11DC24V
Wrapping control unit
000-134-8936-**
A100
P-1105*-6
100-032-8697-**
Lift control unit
000-134-8937-**
A200
P-1105*-6
100-032-8697-**
Film control unit
000-134-8938-**
A300
P-1105*-6
100-032-8697-**
P-1105*-6 A100
100-032-8697-**
100-008-3176-**(under printer)
100-002-1876-**(standard)
100-003-2493-**(J type)
Wrapping frame unit
B101
Right/left wrapping plate origin
B100
Discharge pusher origin
B102
Rear wrapping plate origin
Stock conveyor unit (J type) To sticking unit PAGE:13
000-135-0221-**
E3Z-LS61C-SOSHW-P1
B64
Full detection sensor
000-135-0142-**
B65
Folding detection sensor
000-070-5204-**
100-036-1274-**
PAGE:11 Connection unit
Emergency stop relay
PAGE:11 Turret unit
Film removal right door relay
PAGE:11 Wrapping control unit
Emergency stop line relay 1
PAGE:4 Wrapping control unit
P-1105*-6 To A100 XJ7
Turret unit
HS5B-02B
Front cover
000-111-8428-**
PAGE:12
Applicator unit 'dual' POP
To K400,K401
100-011-0876-**
000-134-8990-**
PAGE9 :
Wrapping control unit
To Wrapping unit switch power supply fuse
PAGE7 :
Film control unit
To fan heater fuse
Wiring diagram 'WM－AI' PAGE1 ETL
100-012-4433-001

5.2 PAGE 1 CE


Printer unit 'POP'
Wrapping control unit
000-137-8216-**
S100
KG20A T102-01 E
000-134-8366-**
X109P
X109R
VL4P
VL4R
Wrapping control unit
Wrapping frame unit
Turret unit
BTBH15LC2
100-001-5774-**
000-135-0067-**
Q100
NV-L22TYU 20A
100-200V 30MA
Q100-1
Q100-2
Q100-3
Q100-4
#250
100-024-8617-**
L110
SHB-20-60V
000-103-4036-**
100-012-3482-**
L111
SHB-20-60V
000-103-4036-**
100-012-3482-**
Z100
NAP-16-472
Z100-1
Z100-2
Z100-3
Z100-4
N2-M4
FG
000-137-6845-**
*1 NAC-16-472
100-034-6752-**
100-007-8259-**
P-1100* A10
000-141-6086-**
U10
Permanent switching
power supply
CN2
LFP150F-24-J1Y
000-148-4466-**
U10-CN2
U10-CN3
XJ13
VHR-6N
B6P-VH
CN3
B7P-VH
VHR-7N
000-149-0057-**
CN1
U10-CN1
B5P-VH
VHR-5N
F100 F101
FUSE:
FGA0-2 6.4X30 UL
000-069-2407-**
holder:
FC-04NB28-M with cover
100-015-5825-**
FC-04NB32 with cover
100-015-5826-**
000-134-8977-**
F100-2
F100
250V 6A
N2-M3
F100-1
F101-2
F101
F101-1
Permanent power supply fuse
Control unit A
1 P-1105-1
000-149-6592-**
P-1105*-6 A100
100-032-8697-**
100-008-3176-**(under printer)
100-002-1876-**(standard)
100-003-2493-**(J type)
XJ8
A100-XJ8
+24V
+5V
IN
GND
B101
B100
B102
ZH3P
KI1480-AALF
000-132-6468-**
B101
Right/left wrapping plate origin
B100
Discharge pusher origin
B102
Rear wrapping plate origin
Stock conveyor unit (J type) To sticking unit PAGE:13
000-135-0221-**
X61R
X61P
B64
SM3P
SM3R
E3Z-LS61C-SOSHW-P1
B64
Full detection sensor
000-135-0142-**
000-118-7517-**
KI1285-JD
B65
PH3P
000-070-5204-**
B65
Folding detection sensor
100-036-1274-**
X100R
SM4R
PAGE:11 Connection unit
Emergency stop relay
XJ19
A100-XJ19
B7P-ETI
X101P
SM2P
PAGE:11 Turret unit
Film removal right door relay
X102R
SM3R
PAGE:11 Wrapping control unit
Emergency stop line relay 1
Turret unit
HS5B-02B
Front cover
S101
000-111-8428-**
PAGE:4 Wrapping control unit
P-1105*-6 To A100 XJ7
F102 F103
FUSE:
FGA0-2 6.4X30 UL
000-069-2407-**
holder:
FC-04NB28-M with cover
100-015-5825-**
FC-04NB32 with cover
100-015-5826-**
Wrapping board power supply fuse
100-011-1265-**
000-133-8340-**
X400
X401
BTBH15LC2
000-135-0067-**
F102
F103
250V 6A
PAGE:12
Applicator unit 'dual' POP
To K400
U11
Wrapping board switching
power supply
CN1
U11-CN1
VHR-4N
U11-CN2
U11-CN3
VHR-6N
VHR-7N
B6P-VH
B7P-VH
100-002-4159-**(Single printer)
000-149-0056-** (Duasl printer printer)
P-1101* A20
000-139-2622-**
A20-XJ7
XJ7
VH
GND
1) Overseas CE specification (POP)
2) *1 for the PS interlocking specification
X108P
VL2P
A100-XJ12
XJ12
PAGE9
Lift control unit
P-1105*-6 To A200
A100
P-1105*-6
100-032-8697-**
1 P-1105-1
000-149-6592-**
X50P
XA2P
PAGE8:
Camera unit To X50R
000-134-8933-**
F106-1
F106
F106-2
NT.25-M3
F106 F107
FUSE:
FGA0-2 6.4X30 UL
000-033-3882-**
holder:
FC-04NB32 with cover
100-015-5826-**
LFP240F-24-J1Y
000-148-4467-**
Control unit
Lift control unit
Seal heater unit
X13P
X13R
VL2R
000-134-8980-**
AC/116V
K200-1
K200-2
#250
000-086-7316-**
K200
Front discharge heater SSR
(Output side)
000-134-8934-**
K201-1
K201-2
K201
Rear discharge heater SSR
(Output side)
X212P
X212R
XL2P
XL2R
AC200V-240V 300W
100-006-4604-**
E200
Front discharge heater
F107-1
F107
F107-2
250V 5A
X213P
X213R
AC200V-240V 300W
100-006-4605-**
E201
Rear discharge heater
000-135-0402-**
PAGE11 : Wrapping control unit
Harness: To 000-135-0402-**
Turret unit
K100
000-092-5601-**
SD-Q11DC24V
K100-A1
K100-A2
K100-13
K100-14
K100-5
K100-6
K100-3
K100-4
K100-1
K100-2
000-134-8928-**
K101
000-092-5601-**
K101-A1
K101-A2
K101-13
K101-14
K101-5
K101-6
K101-4
K101-2
Wrapping control unit
000-134-8936-**
A100-L
A100-N
TB2
L
N
FG
A100
P-1105*-6
100-032-8697-**
1 P-1105-1
000-149-6592-**
000-134-8937-**
A200-L
A200-N
Lift control unit
A200
P-1105*-6
100-032-8697-**
1 P-1105-1
000-149-6592-**
000-134-8938-**
A300-L
A300-N
Film control unit
A300
P-1105*-6
100-032-8697-**
1 P-1105-1
000-149-6592-**
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Applicator unit 'dual' POP
To K400,K401
100-011-0876-**
000-134-8990-**
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To Wrapping unit switch power supply fuse
PAGE7 :
Film control unit
To fan heater fuse
Wiring diagram 'WM - AI' PAGE1 CE
100-012-4509-001

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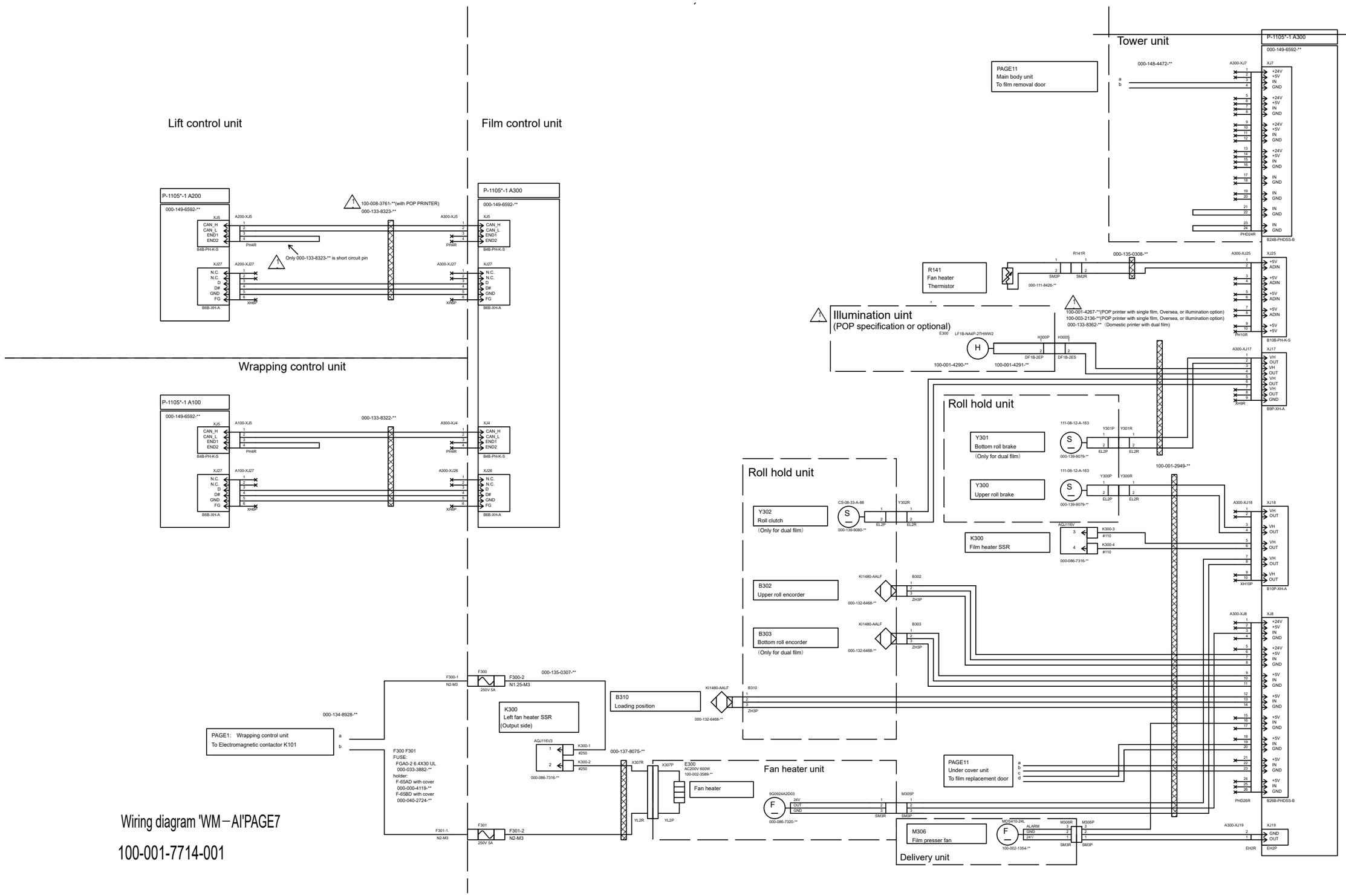

Wiring diagram 'WM－AI'PAGE7

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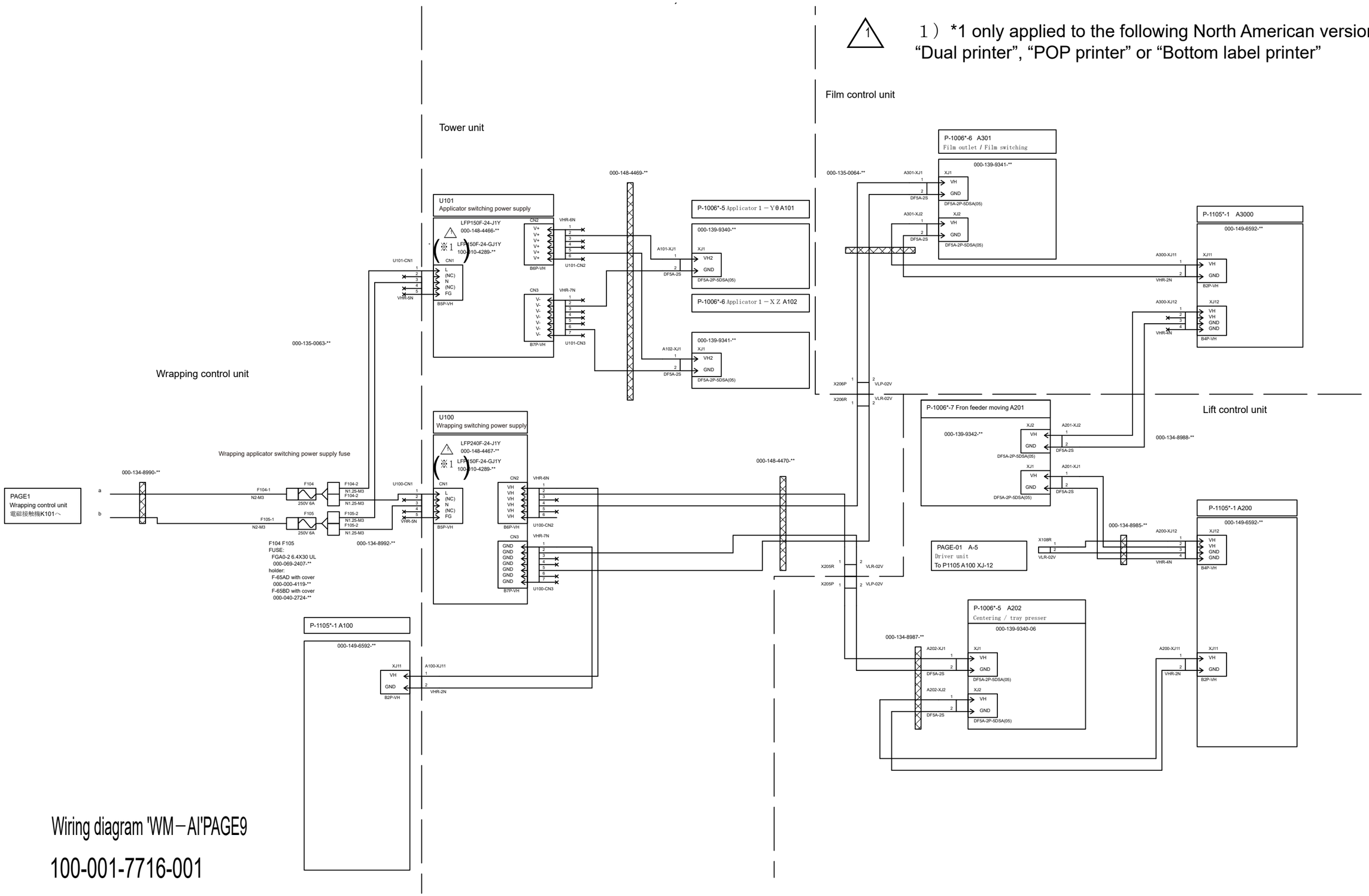
1） *1 only applied to the following North American version
“Dual printer”, “POP printer” or “Bottom label printer”
Film control unit
Tower unit
Wrapping control unit
Lift control unit
Wrapping applicator switching power supply fuse
U101
Applicator switching power supply
LFP150F-24-J1Y
000-148-4466-**
LFP150F-24-GJ1Y
100-910-4289-**
U100
Wrapping switching power supply
LFP240F-24-J1Y
000-148-4467-**
LFP150F-24-GJ1Y
100-910-4289-**
P-1006*-5 Applicator 1 — Y θ A101
P-1006*-6 Applicator 1 — X Z A102
P-1006*-6 A301
Film outlet / Film switching
P-1006*-7 Fron feeder moving A201
P-1006*-5 A202
Centering / tray presser
P-1105*-1 A3000
P-1105*-1 A200
P-1105*-1 A100
PAGE1
Wrapping control unit
電磁接触機K101へ
PAGE-01 A-5
Driver unit
To P1105 A100 XJ-12
F104 F105
FUSE:
FGA0-2 6.4X30 UL
000-069-2407-**
holder:
F-65AD with cover
000-000-4119-**
F-65BD with cover
000-040-2724-**
000-135-0063-**
000-135-0064-**
000-148-4469-**
000-148-4470-**
000-134-8990-**
000-134-8992-**
000-134-8987-**
000-134-8988-**
000-134-8985-**
000-139-9340-**
000-139-9341-**
000-139-9342-**
000-139-9340-06
000-149-6592-**
Wiring diagram 'WM－AI'PAGE9
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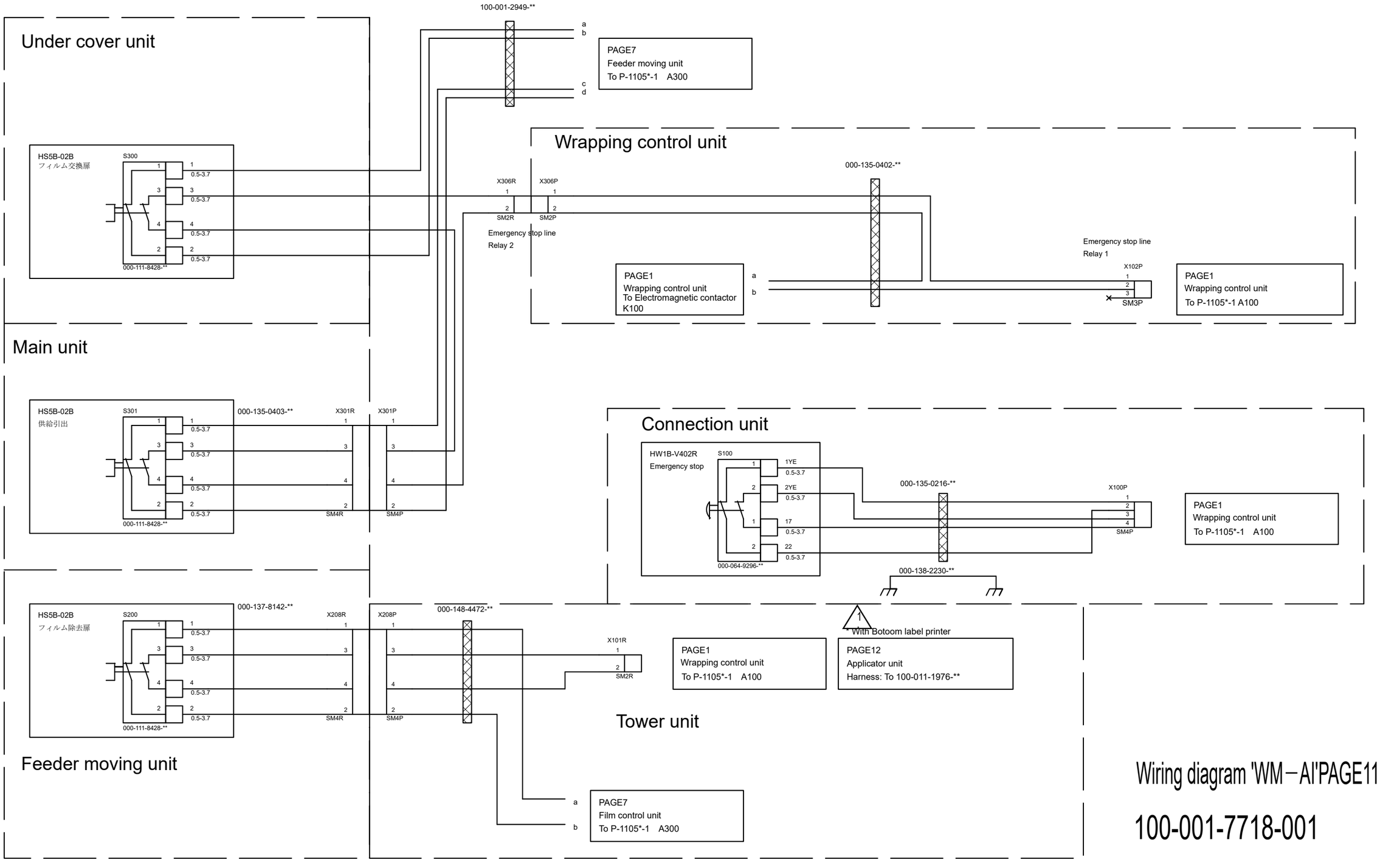
Under cover unit
100-001-2949-**
a
b
c
d
PAGE7
Feeder moving unit
To P-1105*-1 A300
Wrapping control unit
HS5B-02B
フィルム交換扉
S300
1
0.5-3.7
3
0.5-3.7
4
0.5-3.7
2
0.5-3.7
000-111-8428-**
X306R
X306P
SM2R
SM2P
Emergency stop line
Relay 2
000-135-0402-**
PAGE1
Wrapping control unit
To Electromagnetic contactor
K100
Emergency stop line
Relay 1
X102P
SM3P
PAGE1
Wrapping control unit
To P-1105*-1 A100
Main unit
HS5B-02B
供給引出
S301
000-135-0403-**
X301R
X301P
SM4R
SM4P
Connection unit
HW1B-V402R
Emergency stop
S100
1YE
2YE
17
22
000-064-9296-**
000-135-0216-**
X100P
SM4P
PAGE1
Wrapping control unit
To P-1105*-1 A100
000-138-2230-**
1
With Botoom label printer
HS5B-02B
フィルム除去扉
S200
000-137-8142-**
X208R
X208P
000-148-4472-**
X101R
SM2R
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Wrapping control unit
To P-1105*-1 A100
PAGE12
Applicator unit
Harness: To 100-011-1976-**
Tower unit
Feeder moving unit
PAGE7
Film control unit
To P-1105*-1 A300
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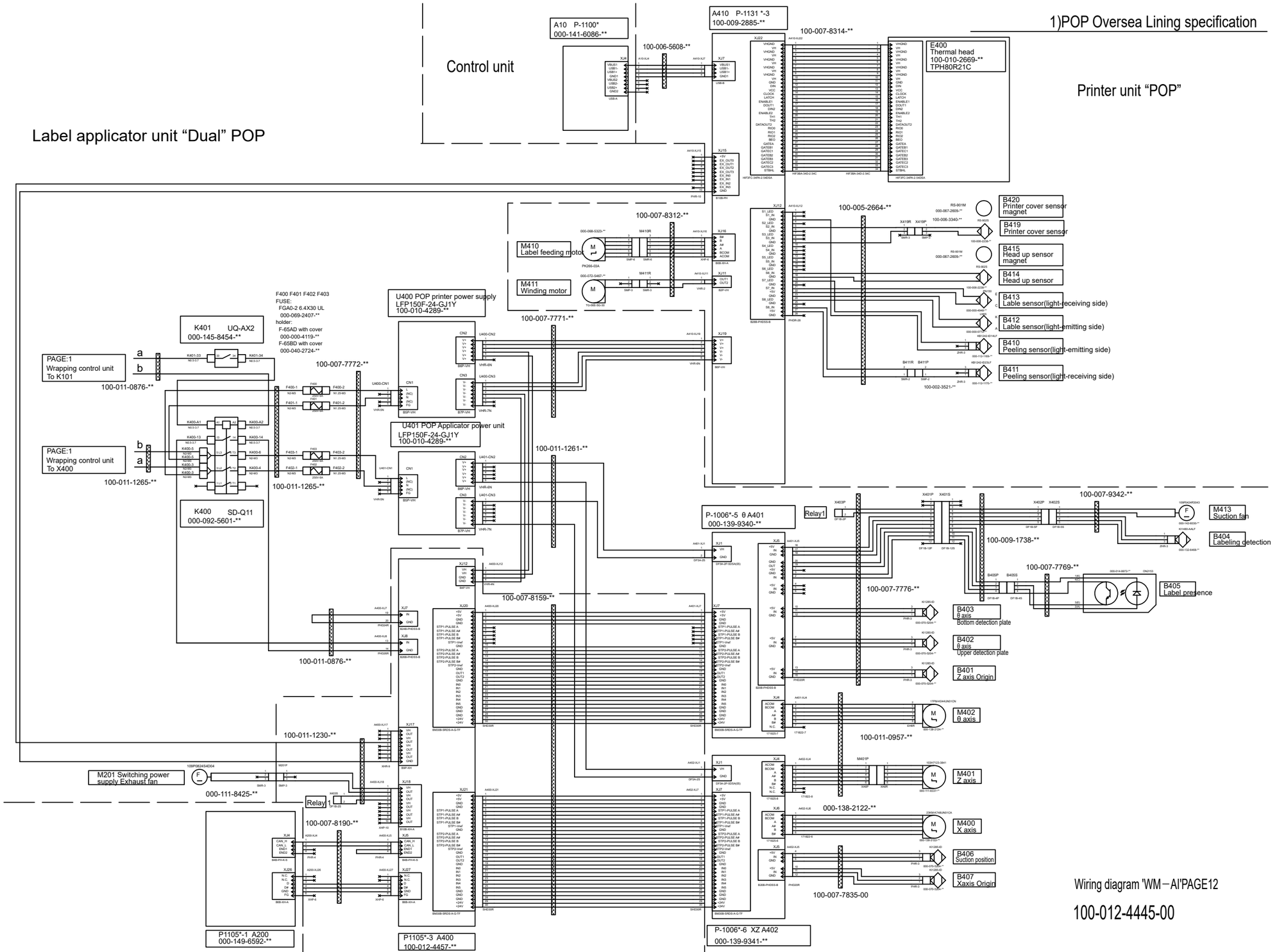
Label applicator unit “Dual” POP
Control unit
A10 P-1100*
000-141-6086-**
100-006-5608-**
A410 P-1131 *-3
100-009-2885-**
100-007-8314-**
1)POP Oversea Lining specification
E400
Thermal head
100-010-2669-**
TPH80R21C
Printer unit “POP”
100-007-8312-**
M410
Label feeding motor
M411
Winding motor
100-007-7771-**
100-005-2664-**
B420
Printer cover sensor magnet
B419
Printer cover sensor
B415
Head up sensor magnet
B414
Head up sensor
B413
Lable sensor(light-receiving side)
B412
Lable sensor(light-emitting side)
B410
Peeling sensor(light-emitting side)
B411
Peeling sensor(light-receiving side)
F400 F401 F402 F403
FUSE:
FGA0-2 6.4X30 UL
000-069-2407-**
holder:
F-65AD with cover
000-000-4119-**
F-65BD with cover
000-040-2724-**
K401 UQ-AX2
000-145-8454-**
PAGE:1
Wrapping control unit
To K101
100-011-0876-**
100-007-7772-**
U400 POP printer power supply
LFP150F-24-GJ1Y
100-010-4289-**
U401 POP Applicator power unit
LFP150F-24-GJ1Y
100-010-4289-**
100-011-1261-**
PAGE:1
Wrapping control unit
To X400
100-011-1265-**
K400 SD-Q11
000-092-5601-**
P-1006*-5 θ A401
000-139-9340-**
Relay1
100-007-9342-**
M413
Suction fan
B404
Labeling detection
100-009-1738-**
100-007-7769-**
B405
Label presence
100-007-7776-**
B403
θ axis
Bottom detection plate
B402
θ axis
Upper detection plate
B401
Z axis Origin
M402
θ axis
100-011-0957-**
M401
Z axis
000-138-2122-**
M400
X axis
B406
Suction position
B407
Xaxis Origin
100-007-7835-00
100-011-1230-**
M201 Switching power
supply Exhaust fan
000-111-8425-**
100-007-8190-**
100-007-8159-**
P1105*-1 A200
000-149-6592-**
P1105*-3 A400
100-012-4457-**
P-1006*-6 XZ A402
000-139-9341-**
Wiring diagram 'WM－AI'PAGE12
100-012-4445-00

ISHIDA

WM-AI

Service Manual

Part 3

Automatic Infeed/ Back

Chapter 1

Overview

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1.2.1 General specifications....4
1.2.2 Infeeder....5
1.2.3 Reliability / lifetime....5
1.3 Stock conveyor....6
1.4 Features....7
1.4.1 B Type....7
1.4.2 PS-AI....7
1.4.3 Stock Conveyor....7
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1.5.2 WM-AI BRWF....9
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REFERENCE

For items that are not described in this Automatic Infeed document, refer to those described in the Part 1 Automatic Weighing/Wrapping/Labeling document.

1.1 WM-AI BR Specifications

1.1.1 General specifications

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Machine name</td><td>☐ WM-AI B type</td></tr>
<tr><td>Machine classification</td><td>☐ Weighing, wrapping and price labeling system
(Thrust-up type stretch wrapper)</td></tr>
<tr><td>Product line-up</td><td>[Model WM-AI A (1) (2) BR (3) (4) (5)]
<table>
<tr><td></td><td>Model</td><td>Symbol</td><td></td></tr>
<tr><td></td><td>Automatic</td><td>A</td><td></td></tr>
<tr><td>(1)</td><td>Printer</td><td>T: Twin</td><td>S: Single</td></tr>
<tr><td>(2)</td><td>Film</td><td>1: Single film</td><td>2: Dual film</td></tr>
<tr><td></td><td>Back ejection</td><td>B</td><td></td></tr>
<tr><td></td><td>Turn direction</td><td>R: Right turn</td><td></td></tr>
<tr><td>(3)</td><td>POP printer</td><td>P: Yes</td><td>-: No</td></tr>
<tr><td>(4)</td><td>Bottom label printer Liner-less</td><td>WF: Yes</td><td>-: No</td></tr>
<tr><td>(5)</td><td>PS connection</td><td>K: Yes</td><td>-: No</td></tr>
</table>
☐ 32 machine types
☐ If “K” is selected, PS-AI needs to be arranged in addition to the main body.
☐ Model change after delivery is not supported.
☐ Stock conveyor needs to be arranged separately.
☐ This does not support printer-less specifications, left arm specifications, and separate operation unit specifications.</td></tr>
<tr><td>Compatible standard variations</td><td>I: Compliant with ETL standard specifications
Compliant with ETL standard, weighing capacity 15 kg,
POP printer 1.5-inch core
II: Compliant with CE standard specifications
Compliant with CE standard, weighing capacity 6 kg,
POP printer 3-inch core</td></tr>
<tr><td>Environmental conditions</td><td>Lining specification
☐ Temperature：5°C to 35°C
☐ Humidity：20% to 85% (no condensation)
Liner-less specification (WF specification)
☐ Temperature：5°C to 35°C
☐ Humidity：30% to 75% (no condensation)
Note: The printable environment depends on the label specification.</td></tr>
<tr><td>Main body dimensions</td><td>Layout dimensions when the WM-AI K specification is connected
<table>
<tr><td></td><td colspan="2">WM-AI K specification</td></tr>
<tr><td></td><td>Side ejection</td><td>Back ejection</td></tr>
<tr><td>Width</td><td>2,625 mm or less</td><td>1,505 mm or less</td></tr>
<tr><td>Depth (when the infeed conveyor is removed)</td><td>2,005 mm or less</td><td>2,550 mm or less</td></tr>
<tr><td>Height (when the casters are grounded)</td><td colspan="2">1,790 mm or less</td></tr>
</table>
Height indicates the dimension when casters are installed.
Layout dimensions include PS-AI and stock conveyor.</td></tr>
</table>

Item	Description
Exterior finish	☐ Stainless steel (partly resin mold)
Power supply	☐ 200 to 230 VAC, single-phase, 50/60 Hz Note: 240 VAC will be available separately. ☐ Power supply from the wrapper to the stock conveyor unit
Weighing, wrapping, price labeling capability	☐ Up to 35 packs / min Note 1: The capability may not be demonstrated depending on the specification and the label size. Note 2: When the PS is connected, the capability varies depending on the supply capability (PS settings, food filling-up conveyor settings, etc.)
Weight	☐ 460 kg or less Note: The stock conveyor is excluded.

1.1.2 Wrapper

Item	Description
Wrappable size	☐ Width: 95 to 380 mm ☐ Depth: 80 to 260 mm ☐ Height: 10 to 130 mm ☐ Bottom width: 60 mm or more and 365 mm or less, ☐ Bottom depth: 60 mm or more ☐ Tray height: 70 mm or less ☐ Wrapping may not be possible depending on the combination of products. However, 1014 trays (360 × 254 × 30 mm) and 25SH trays (378 × 205 × 30 mm) can be wrapped.
Wrappable weight	☐ 20 to 6,000 g High-speed mode of “wrapping / supply” is available in all ranges. ☐ Weight limit on tray supply Note: Under the conditions for supplying products wrapped with film (double winding operation), the wrappable weight should be 4.5 kg or less.

1.1.3 Weighing unit

Item	Description
Weighable weight	☐ In accordance with the weighing capacity of each machine Note: Up to 6 kg for automatic supply with PS-AI. Note: Up to 13 lb (approximately 5.9 kg) for the US version K specification.

1.1.4 Ejection conveyor unit

Item	Description
Transportable weight	☐ 20 to 6,000 g
Transportable size	☐ Width: 95 to 380 mm ☐ Depth: 80 to 260 mm ☐ Height: 10 to 130 mm ☐ Bottom width, Bottom depth: 60 mm or more ☐ Tray height: 70 mm or less Note: Transportation may not be possible depending on the combination of products.
Transport speed	☐ 46.5 mm / sec (The speed can be changed according to the screen setting)

1.1.5 Reliability / lifetime

Item	Description
Target lifetime	☐ Period of use: 5 years (excluding consumables) ☐ Conditions: 3,000 packs / day Working days per year: 350 days (4,200 hours) 5.25 million packs / 5 years
Safety	Machine standard

	External certification standard
U.S.A.	◆ ELT standard
Canada	
Europe (EU)	◆ CE marking

1.1.6 Option

- 90-degree reversal roller
- SPD for NFPA-79

1.2 PS-AI Specifications

1.2.1 General specifications

Item	Description
Product name	☐ PS-AI
Product classification	☐ WM-AI K specification automatic tray feeder
Product line-up	☐ When receiving an order for PS-AI, the WM-AI K specification should be arranged. ☐ The PS-AI retrofit connection to the delivered WM-AI Type B is not possible.
Environmental conditions	☐ Temperature: 5°C to 35°C ☐ Humidity: 20% to 85% (no condensation)
Connectable machine	☐ WM-AI K specification
Main body dimensions	☐ Width: 560 mm or less ☐ Depth: 1,050 mm or less ☐ Height: 950 mm or less (when the PS-AI supply surface height is aligned and the caste rs of WM-AI / 880Auto K specification are installed)
Exterior finish	☐ Stainless steel (partly plastic molded products)
Power supply	☐ Single-phase 200 to 230 VAC, 50/60 Hz ☐ Power is supplied from the main body of WM-AI
Control method	☐ Control from the wrapping control CPU of WM-AI
External conveyor connection	☐ Pre-stage stop signal (corresponding to the line)
Supply capability	☐ Up to 35 packs / min Note: The capability may not be demonstrated depending on the tray size.
Tray materials	☐ PSP, PP, PET, paper
Weight	☐ 78 kg or less
Cleanability when connected	☐ The infeed conveyor unit of the wrapper can be pulled out by using the PS-AI input conveyor flip-up system.
Connection stability to wrapper	☐ The tray posture is stabilized when it passes through the connection part by installing the shutter mechanism.

1.2.2 Infeeder

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Supply transport method</td><td>☐ Tray transport by the conveyor pusher</td></tr>
<tr><td>Transportable weight</td><td>☐ 20 to 6,000 g</td></tr>
<tr><td>Transport speed</td><td>
<table>
<tr><th>Maximum capability when the wrapper is connected</th><th>PS-AI input conveyor</th><th>PS-AI timing conveyor</th></tr>
<tr><td>High speed: Up to 35 times / min</td><td>10 mm / min</td><td>18 mm / min</td></tr>
<tr><td>Mid speed: Up to 30 times / min</td><td>7.5 mm / min</td><td>15 mm / min</td></tr>
<tr><td>Low speed: Up to 24 times / min</td><td>7.5 mm / min</td><td>15 mm / min</td></tr>
</table>
</td></tr>
<tr><td>Transportable size</td><td>☐ Width: 95 to 380 mm
☐ Depth: 80 to 260 mm
☐ Height: 10 to 130 mm
☐ Bottom width: 60 mm or more and 365 mm or less
☐ Bottom depth: 60 mm or more
☐ Tray height: 70 mm or less
Note: Transportation may not be possible depending on the deviation of the center of balance and combination of products.</td></tr>
<tr><td>Transportable tray shape</td><td>☐ Rectangular / corner chamfering
☐ Fan-shaped / circular
Note: A tray needs to be placed on the center of the PS-AI conveyor.
☐ Footed / bottom-raised
Note: The tray may not be transported depending on the height and shape of the footed or bottom-raised tray.</td></tr>
</table>

1.2.3 Reliability / lifetime

Item	Description
Target lifetime	☐ Period of use: 5 years (excluding consumables) ☐ Condition: 3,000 packs / day Working days per year: 350 days (4,200 hours) 5.25 million packs / 5 years
Safety	☐ Product standard

1.3 Stock Conveyor

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Environmental conditions</td><td>☐ Temperature: 5°C to 35°C
☐ Humidity: 20% to 85%
(No condensation)</td></tr>
<tr><td>Machine type variation</td><td>(1) 208V to 230V specification
(2) 200 V specification</td></tr>
<tr><td>Stock mechanism</td><td>☐ Flat belt drive unit and tray stock unit
☐ Free-fall transport system using the height difference
☐ Main body connection type, fixing method for delivery with bolts</td></tr>
<tr><td>Stock conveyor dimension</td><td>☐ Flat belt drive unit: 320 mm (W) and 365 mm (L) or less
☐ Tray stock unit: 320 mm (W) and 1,100 mm (L) or less
☐ Height difference: 200 mm or more</td></tr>
<tr><td>Transport speed</td><td>
<table>
<tr><td></td><td colspan="2">Flat belt drive unit</td></tr>
<tr><td></td><td>200V specification</td><td>208 to 230V specification</td></tr>
<tr><td>50Hz</td><td>Approx. 26.0 m / min</td><td>Approx. 27.7 m / min</td></tr>
<tr><td>60Hz</td><td>Approx. 31.0 m / min</td><td>Approx. 33.1 m / min</td></tr>
</table>
</td></tr>
<tr><td>Operation method</td><td>☐ Intermittent operation by connecting with the wrapper
☐ Stop operation when not needed
☐ Switching between the side ejection and the back ejection</td></tr>
<tr><td>Overflow countermeasure</td><td>☐ Full tray detection sensor
Note: The full detection sensor may not react depending on the tray size and shape.</td></tr>
</table>

1.4 Features

1.4.1 B type

- The liner-less specification is adopted for the bottom label printer.
- Bottom labeling comes equipped with only the roller conveyor, which simplifies the mechanism and improves durability.
- In DP mode (manual pasting mode), labels can be issued without pulling out the bottom label printer.
  Note: A label is automatically ejected from the printer.

1.4.2 PS-AI

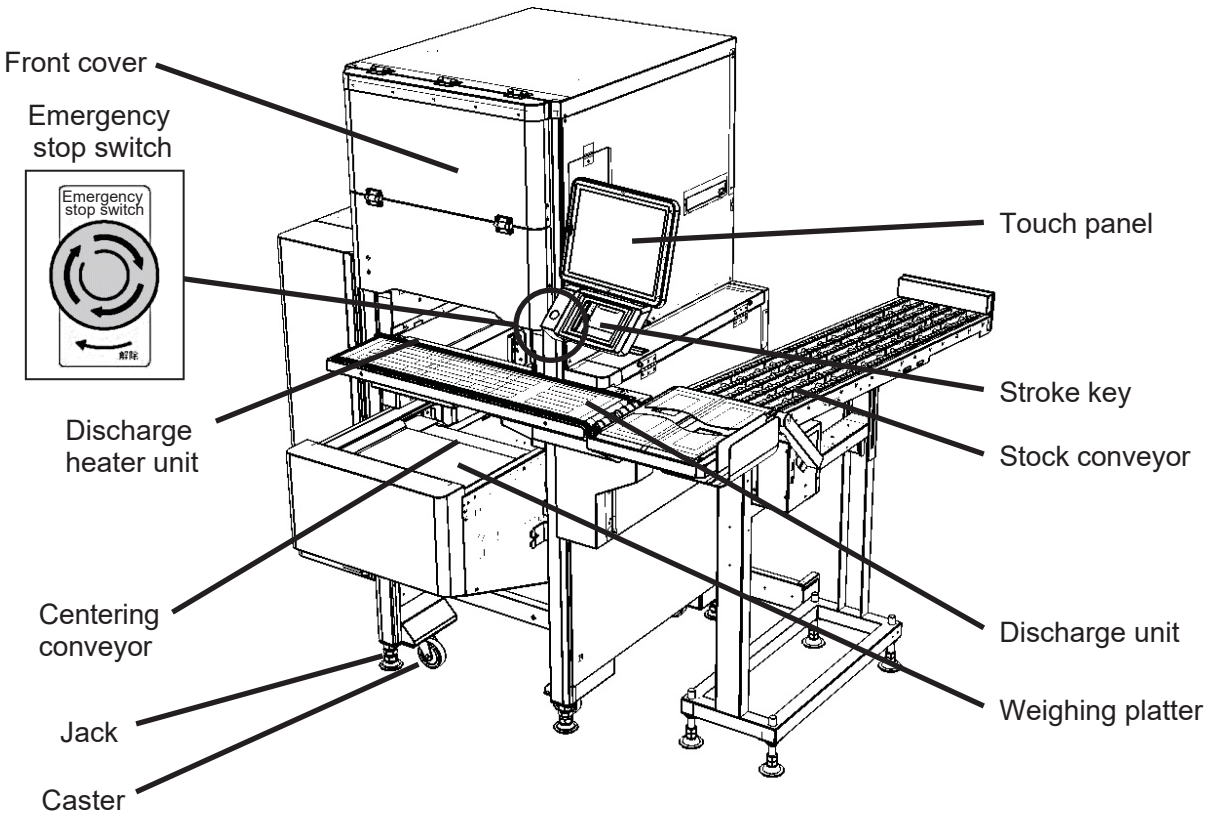
- When installing an external conveyor in the previous stage, it is structured so that the two ends of the conveyors can be placed close to each other.
- The electrical configuration has been simplified by installing three DC brushless motor drivers on the P-1105 board.
- By automating the conveyor speed adjustment and transport bar speed adjustment that were performed manually during setup with our conventional machines, efficiency has improved.
- A bar is installed in front of the input conveyor, and the bar rotates in conjunction with the input conveyor, thereby reducing tray transfer errors.
- An extra speed, medium speed. has been added to the transport speed so that the speed can be selected depending on the user’s requirements.
- By reconsidering the link placement, more stable supply has become possible compared to PS-EMZ.

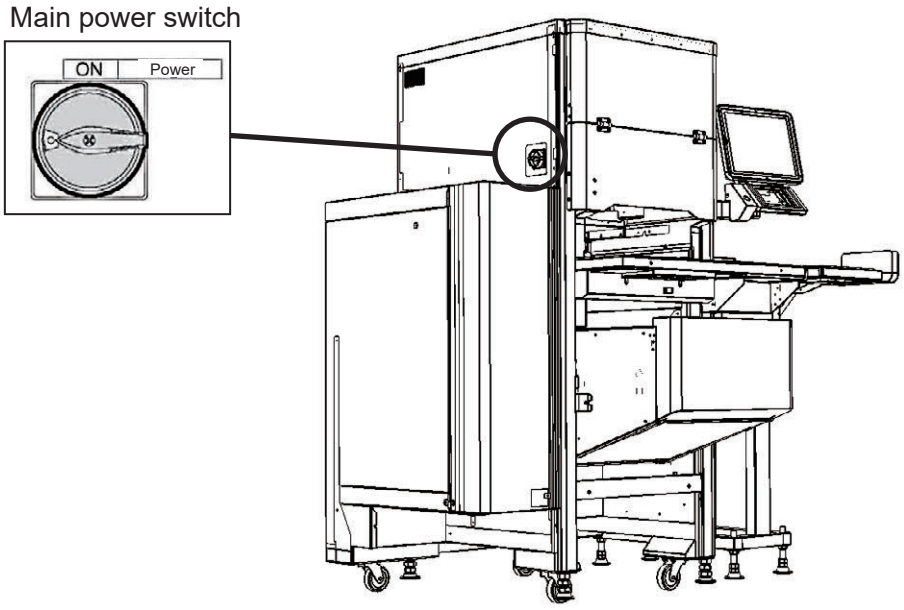
1.4.3 Stock conveyor

- The motor was changed to support the power supply in each country (208V to 230V).
- Overseas enclosure structure was reviewed to meet the standards.

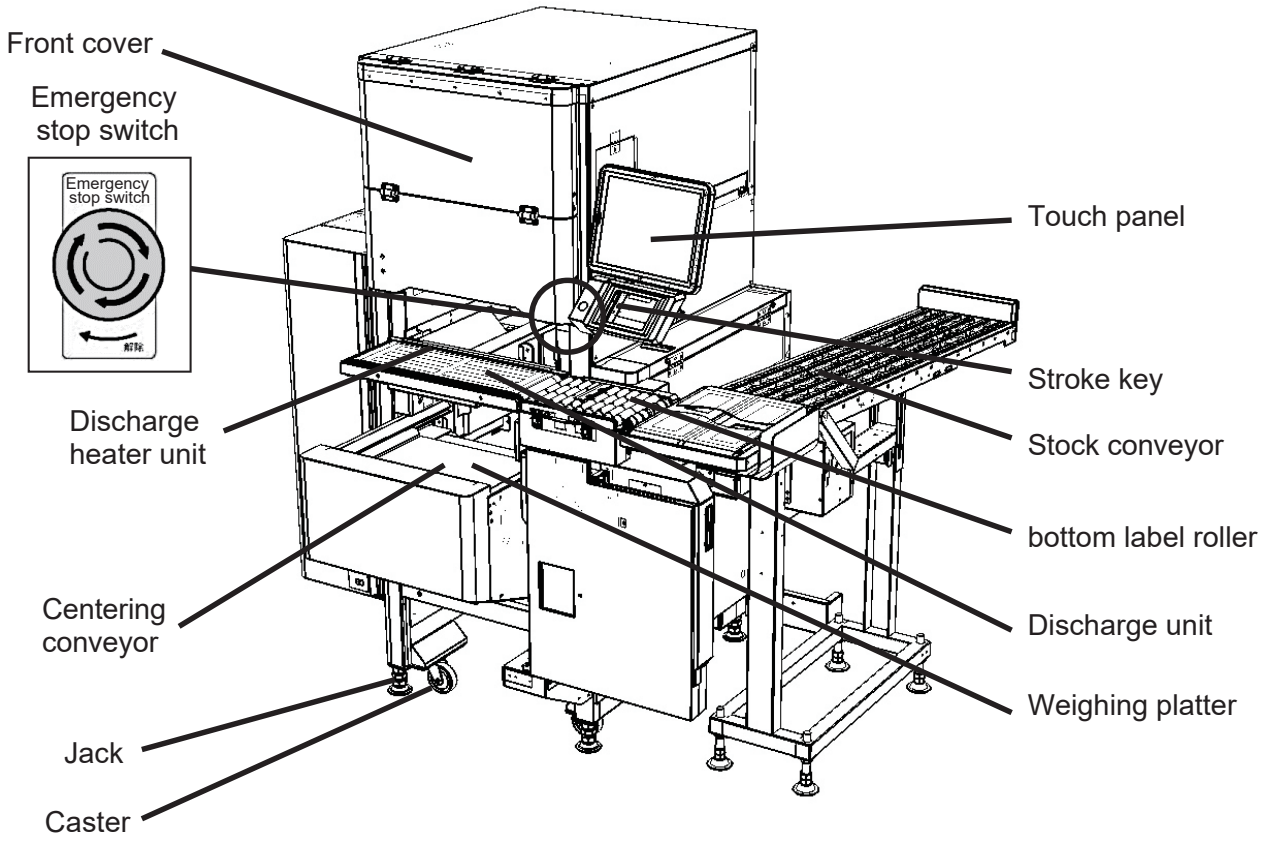
1.5 Names Of Parts

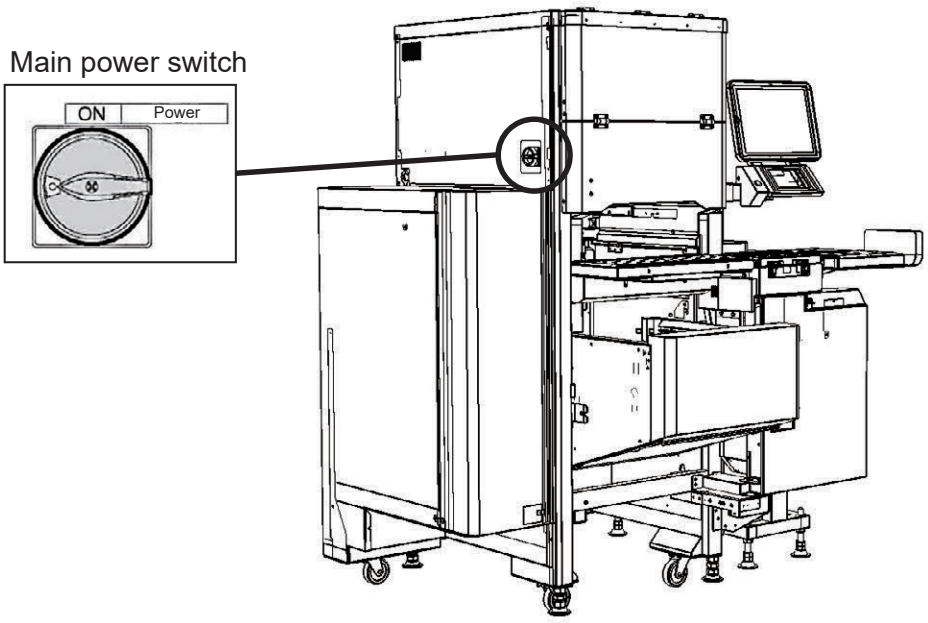
1.5.1 WM-AI BR



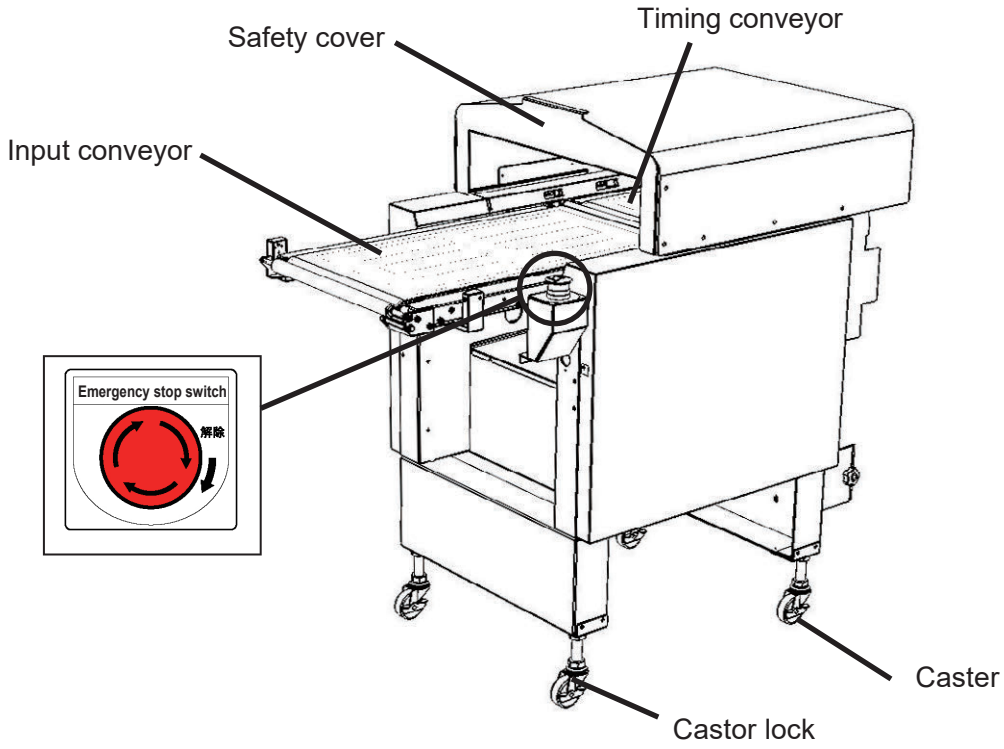


1.5.2 WM-Ai BRWF

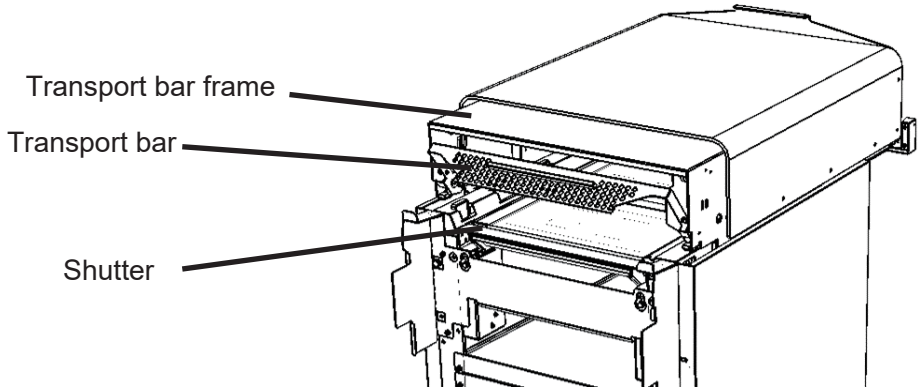




1.5.3 PS-Ai



Connecting part



1.6 Country-Specific Automatic Or Non-Automatic Scale Identification Table

Type approval numbers for country-specific, automatic or non-automatic scales are given in the identification table.
The European version (6 kg) will be sold to countries without type approval.

Automatic Weighing Instruments(system) OR Non-Automatic Weighing Instruments (system)

Country	**USA**				**EU**					**Canada**
Patterns	**WM-AI**				**WM-AI**					**WM-AI**
Upstream and down stream	With PS-AI		Without PS-AI		Used in automatic weighing line, sometimes used as Non-automatic weighing			Stand alone		-
Type name	B*K		Except for B*K		B			Except for B		All
Type Approval	06-029		06-029		CH-MI006-19015 CH-W1-19028			CH-W1-19028		AM-5876
Category	AWS Weigh price labeller		NAWS Computing scale		AWI / NAWI Automatic weighing instrument Weigh price labelle			NAWI Non-automatic weighing Instrument		NAWS Computing scale
Accuracy (Class)	III				Y(a) / III			III		III
PS-AI	Yes		NO		Yes / NO			NO		Yes / NO
Upper limit	Stop conveyor and printing when exceed 13lb								Stop conveyor and printing when exceed 6.1kg	
Capacity Setting on Calibration page	30lb Multi	30lb Single	30lb Multi	30lb Single	6kg Multi			6kg Multi	15kg Multi	15kg Multi
n	2600	1300	3000	3000	3000			3000	3000	3000
Max1 / Max 2	13 [lb]	13 [lb]	15 / 30 [lb]	30 [lb]	3 / 6 [kg]			3 / 6 [kg]	6/15 [kg]	6/15 [kg]
e1 / e2	0.005 [lb]	0.01 [lb]	0.005 / 0.01 [lb]	0.01 [lb]	0.001/ 0.002 [kg]			0.001/ 0.002 [kg]	0.002/ 0.005 [kg]	0.002/ 0.005 [kg]
Min	0.1 [lb]	0.2 [lb]	0.1 [lb]	0.2 [lb]	0.020 [kg]			0.020 [kg]	0.040 [kg]	0.040 [kg]
Limits of Indication	13.045 [lb]	13.04 [lb]	30.09 [lb]	30.09 [lb]	6.018 [kg]			6.018 [kg]	15.045 [kg]	15.045 [kg]

Chapter 2

Installation and Setup

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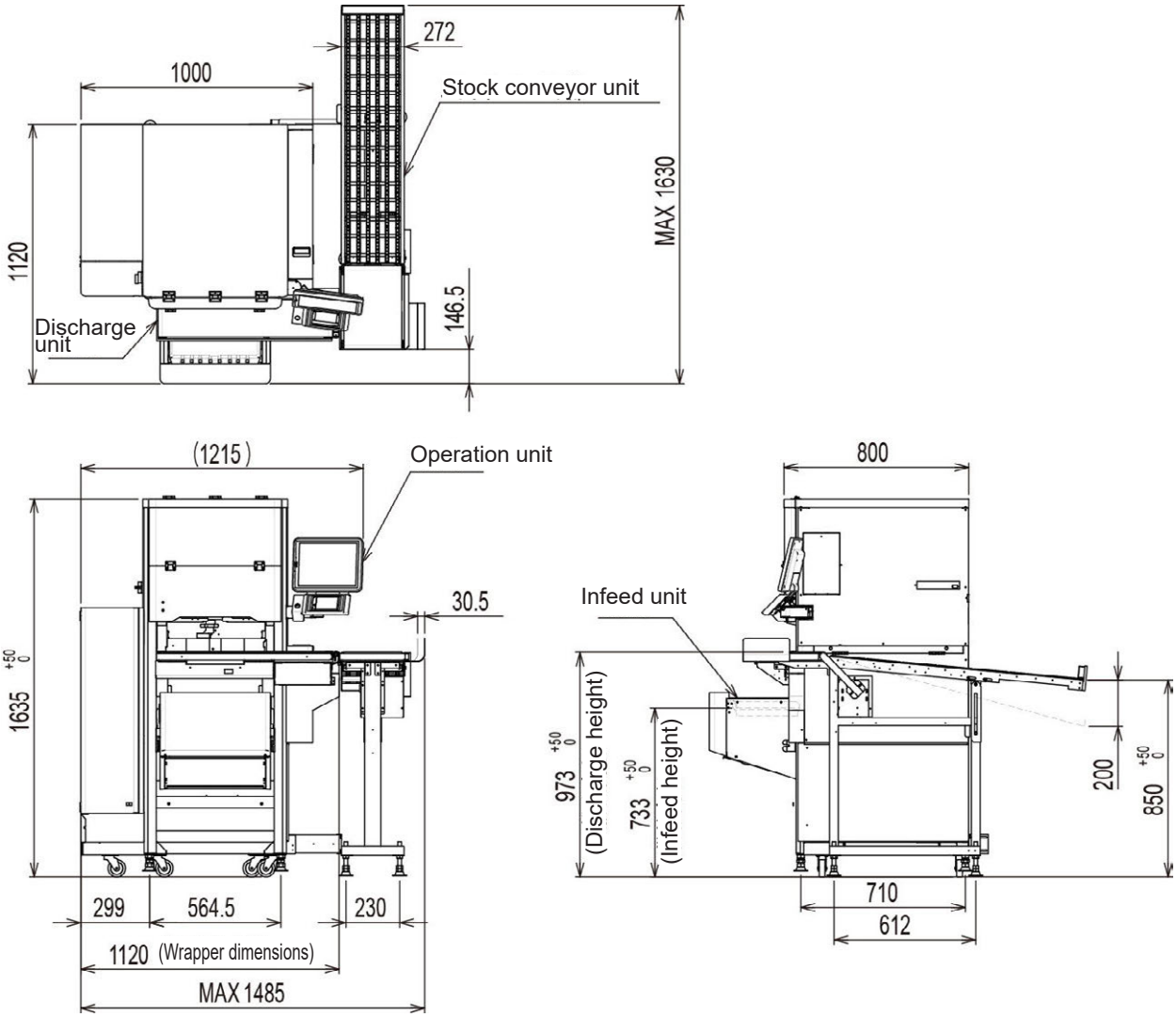
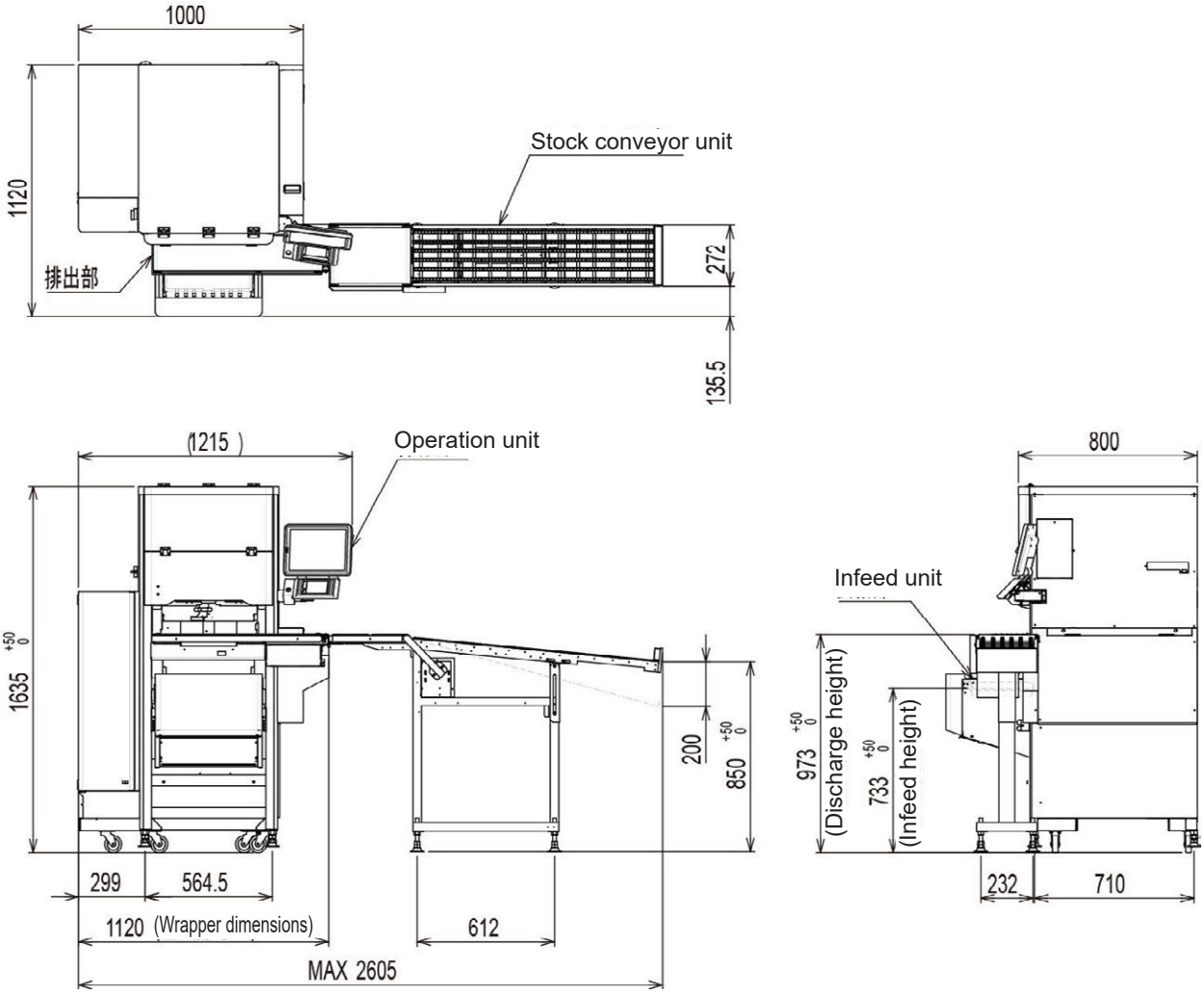
2.1 External Dimensions

External dimensions are as shown in the figures below.
Make sure to secure the carry-in route and spaces required for setup and maintenance.

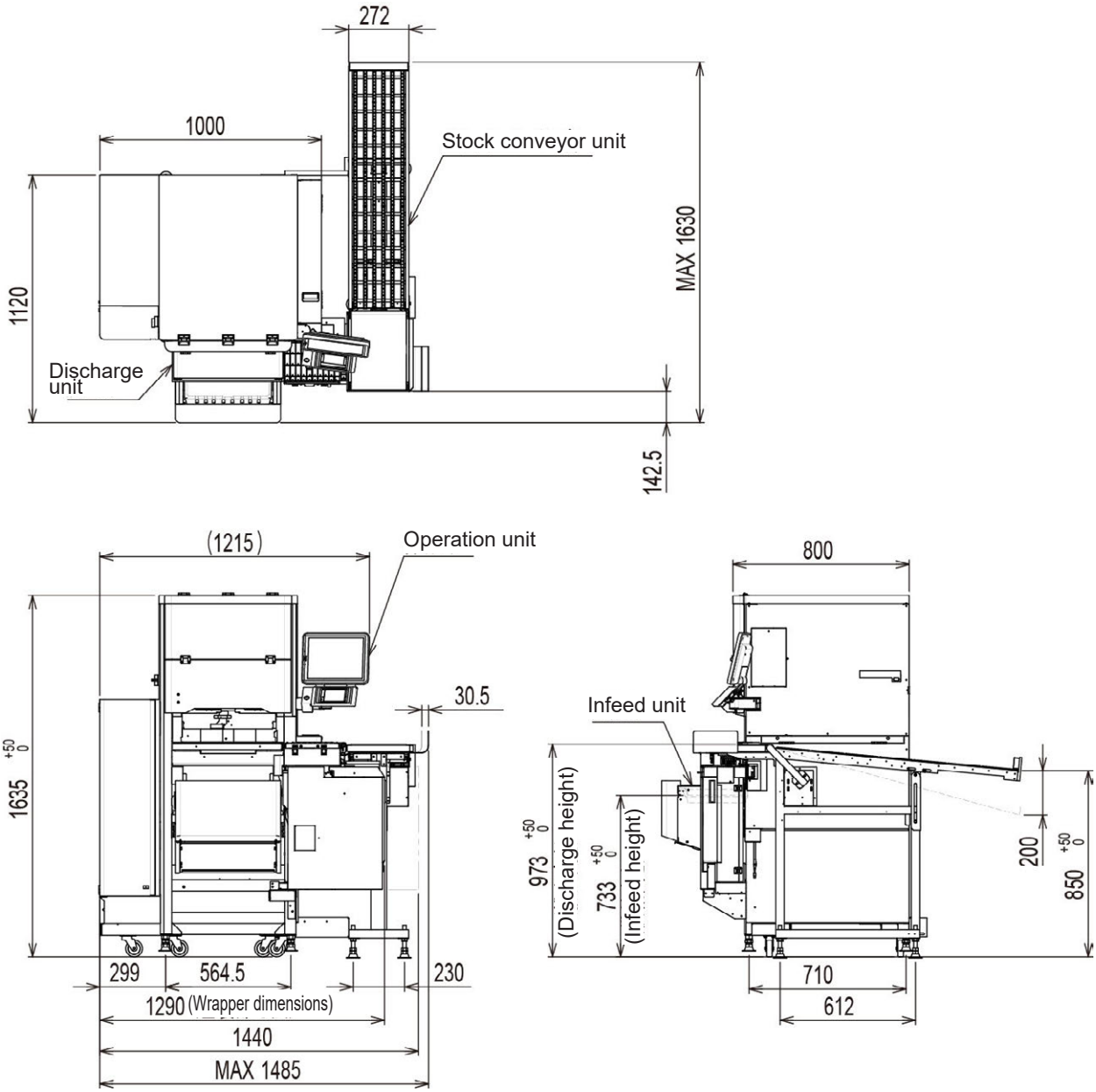
2.1.1 WM-AI BR back ejection



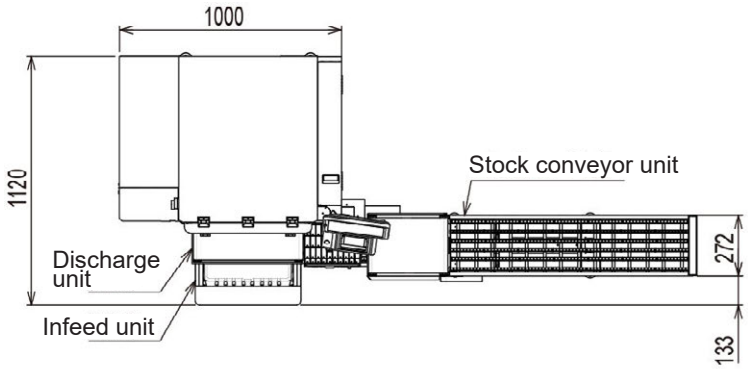
2.1.2 WM-AI BR side ejection

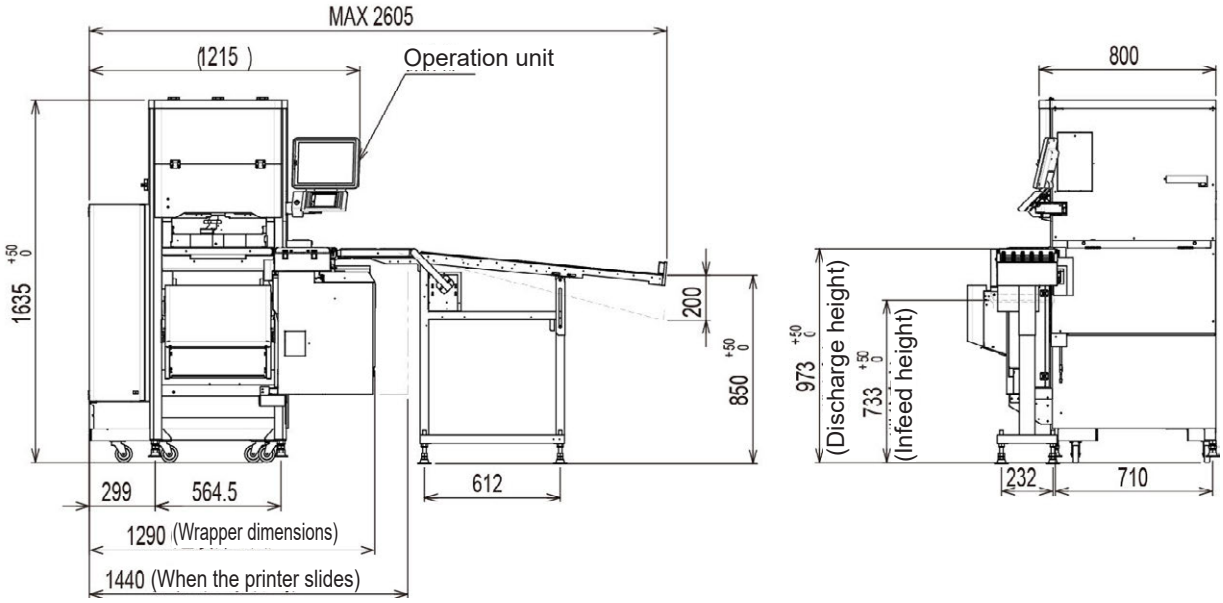


2.1.3 WM-AI BRWF back ejection

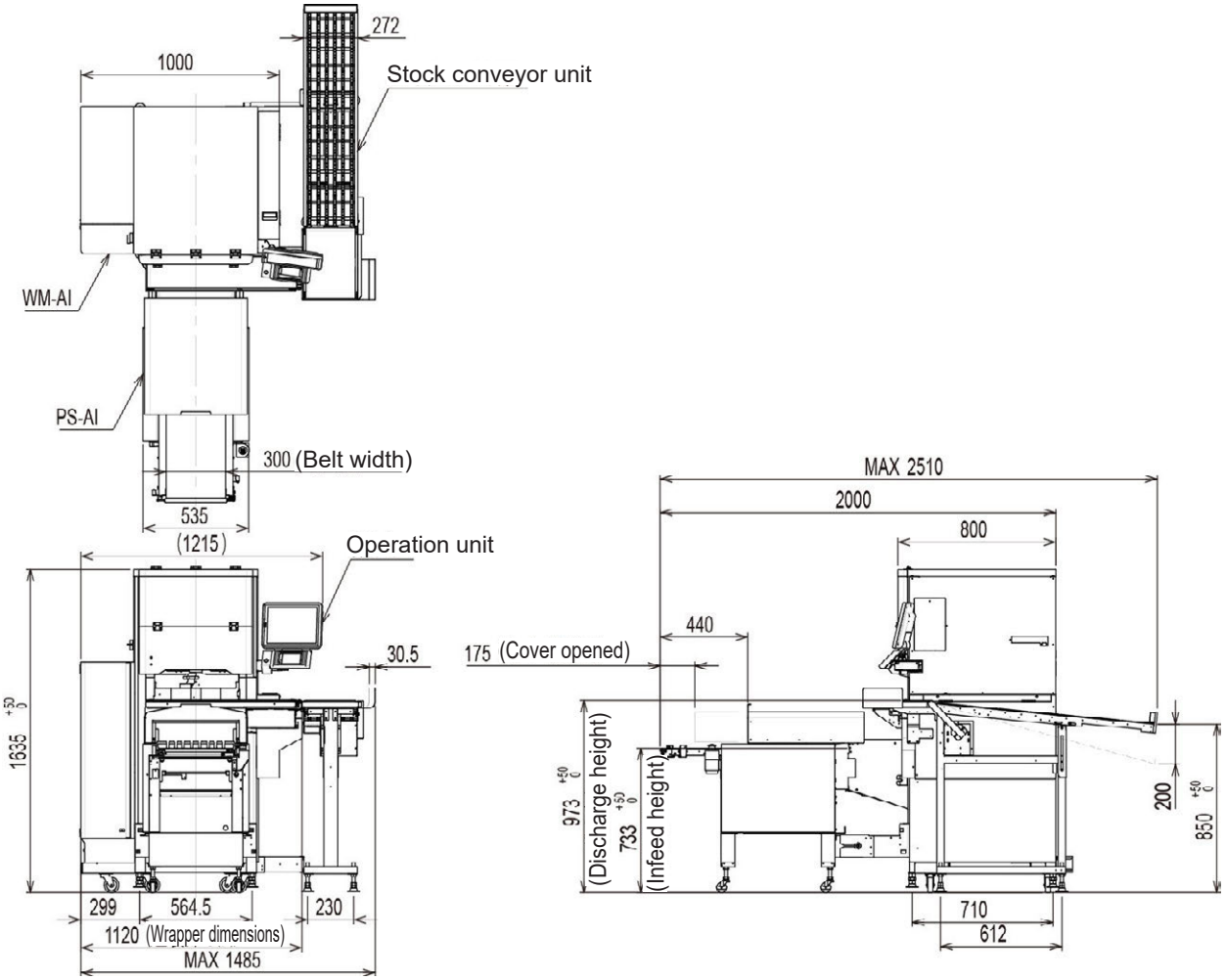


2.1.4 WM-AI BRWF side ejection

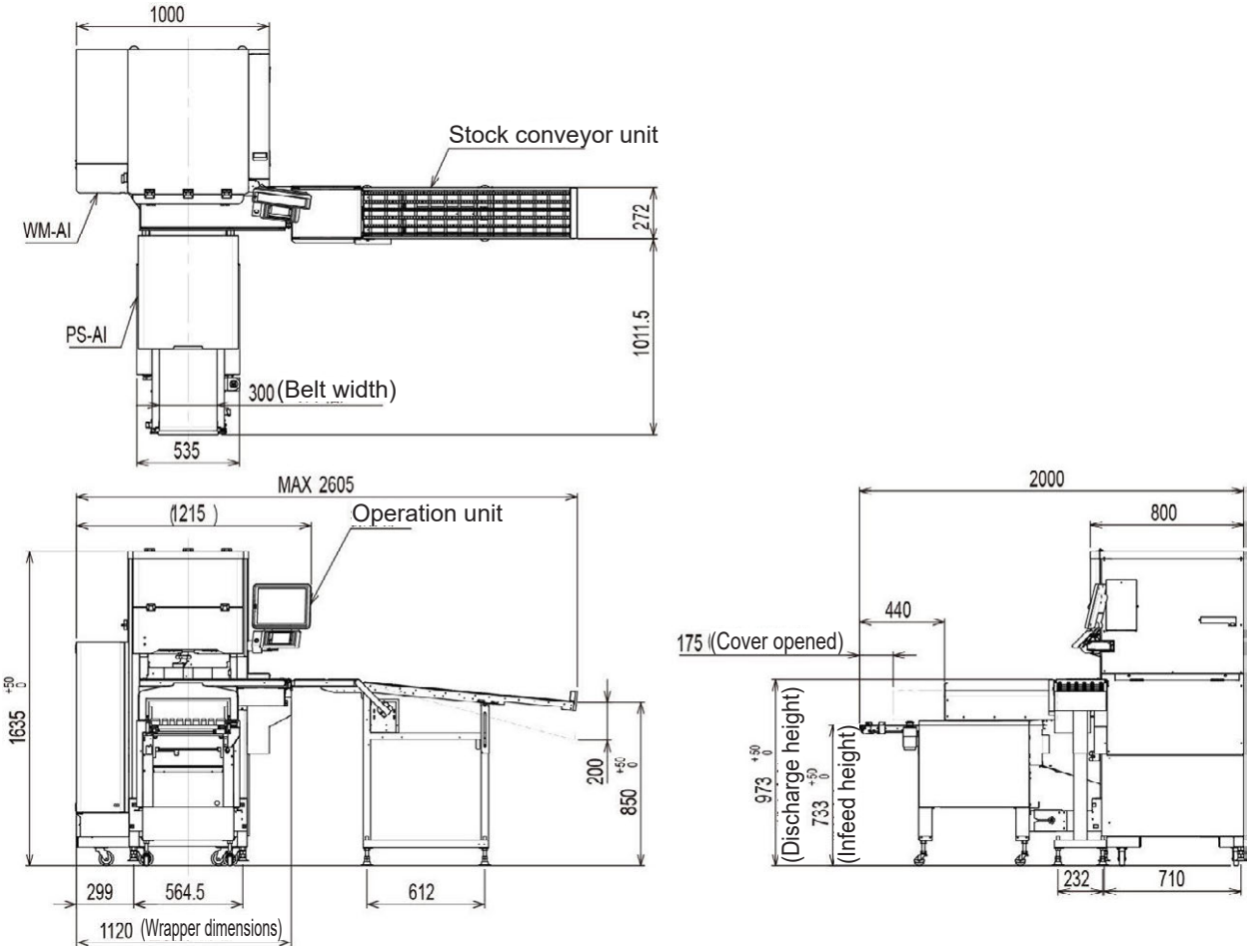




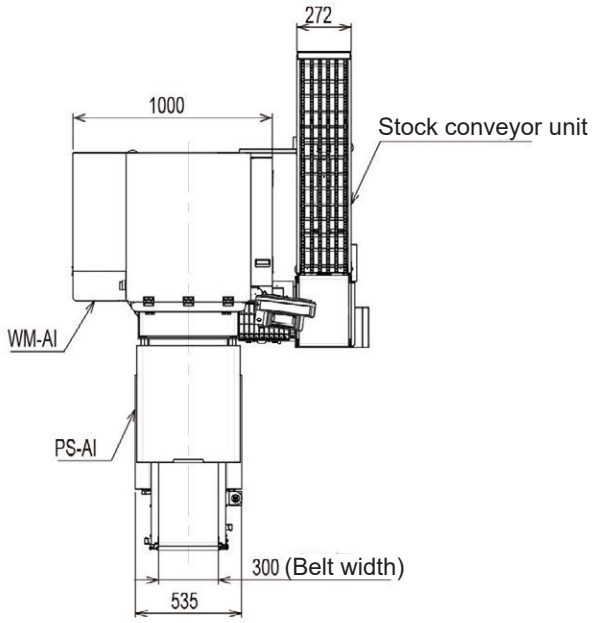
2.1.5 WM-AI BRK back ejection

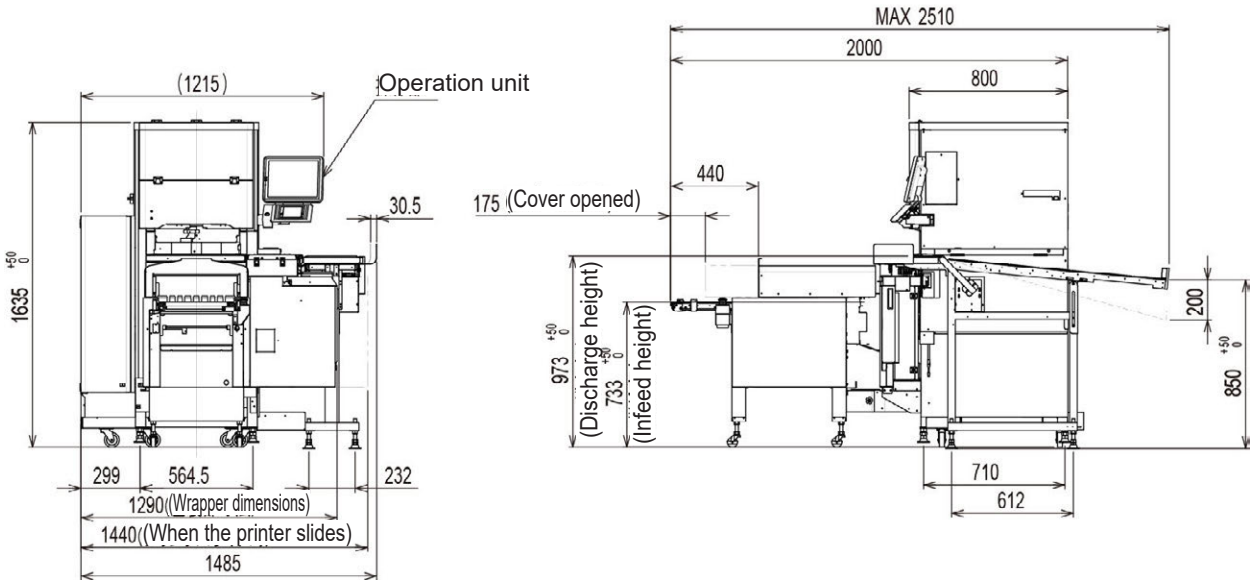


2.1.6 WM-AI BRK side ejection

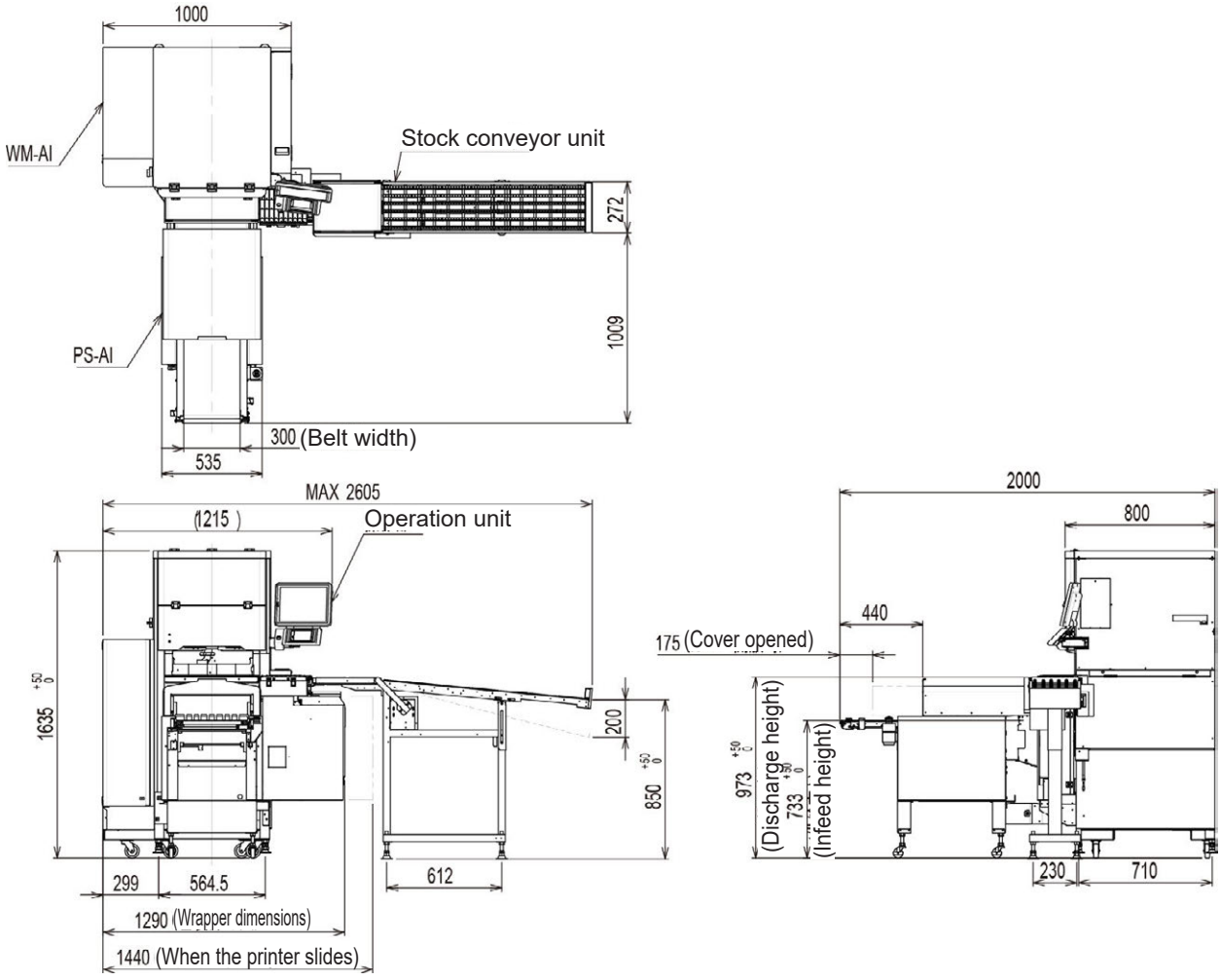


2.1.7 WM-AI BRWFK back ejection

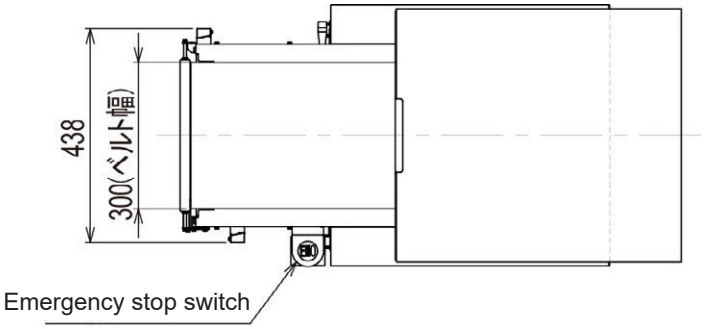


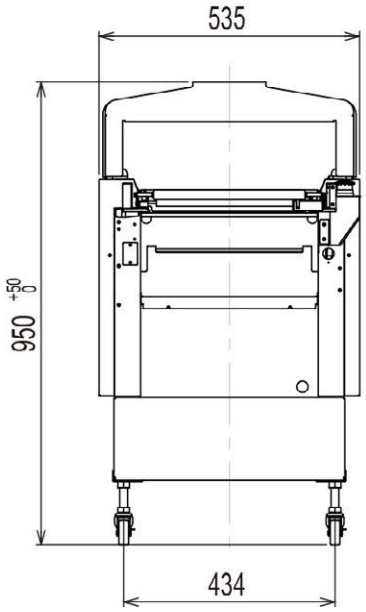


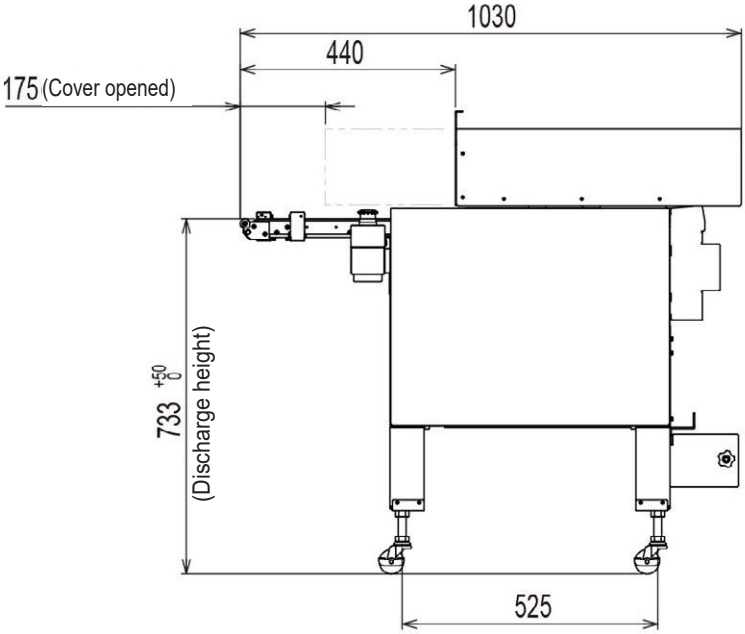
2.1.8 WM-AI BRWFK side ejection



2.1.9 PS-AI


438
300(ベルト幅)
Emergency stop switch


535
950 +50 0
434


1030
440
175 (Cover opened)
733 +50 0
(Discharge height)
525

2.2 Carry-In

2.2.1 Items required for installation

■ Check sheet

No.	Description	Check
1	Wrench (opposite side 30 mm)	□
2	Box wrench (opposite side 10 mm)	□
3	Level gage	□
4	Usual tools (tools usually carried by service personnel)	□
5	Weight	□

■ Installation condition check sheet

No.	Description	Check
1	Place not exposed to direct sunlight	□
2	Place not exposed to water	□
3	Place with little dust and dirt	□
4	Place where floor vibration is not transmitted	□
5	Temperature: 5°C to 35°C	□
6	Humidity: 20% to 85% (no condensation)	□
7	Place where the voltage fluctuation is minimal	□
8	Place not exposed to cold air from cooling equipment such as air conditioners	□

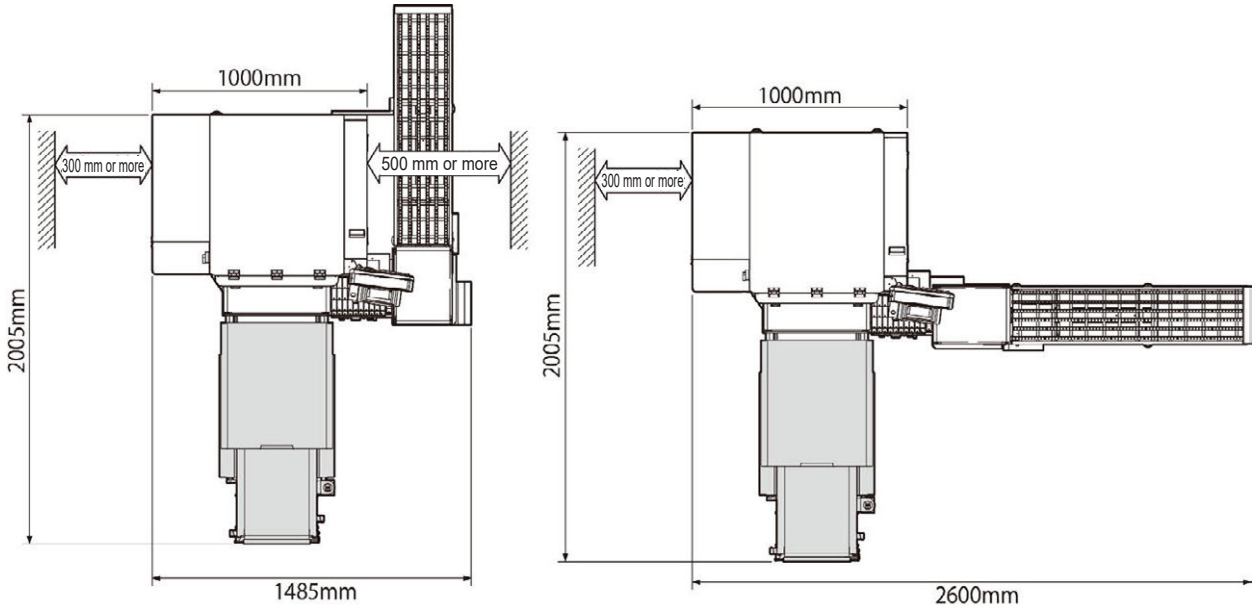
2.2.2 Checking accessories

1. User's Manual (CD)
2. Precaution Sheet
3. CE Declaration (EU specification only)
4. Screw set

Part number	Part Name	Quantity
000-019-3717-**	Hexagon head bolt, sems S2P2 (M5 x 10)	2
000-014-3997-**	Crosshead hexagon head bolt, sems S2P2 (M4 x 10)	3

2.2.3 Installation space

Be sure to allow ample installation space on either side of the machine to ensure easy access for maintenance.



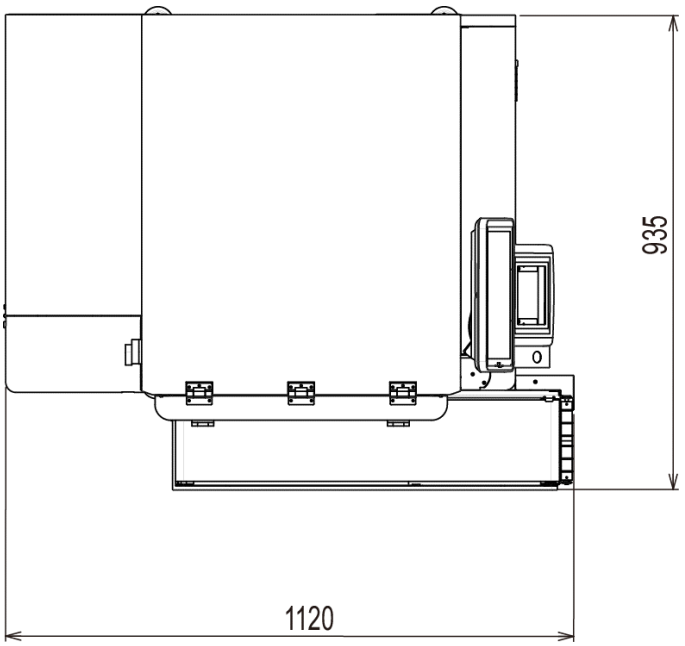
2.2.4 Carry-in frontage

The minimum dimensions of the main unit when the infeeder unit is removed are shown in the figure below.
A frontage of 935 mm or 945 mm or more is required to carry the machine into the building.

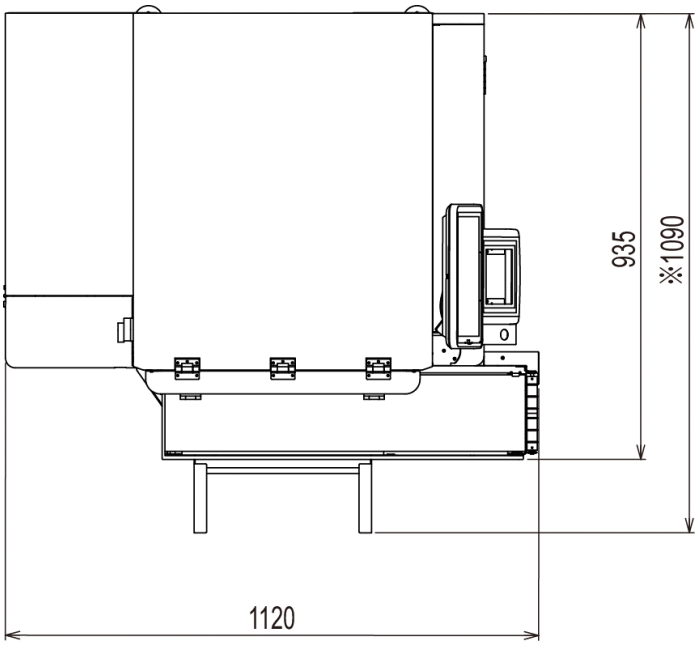
REFERENCE

When removing the infeeder unit because the carry-in route is narrow, refer to the attaching/ detaching method in “1.8.2 Infeeder unit” of the WM-AI Service manual.

■ WM-AI BR

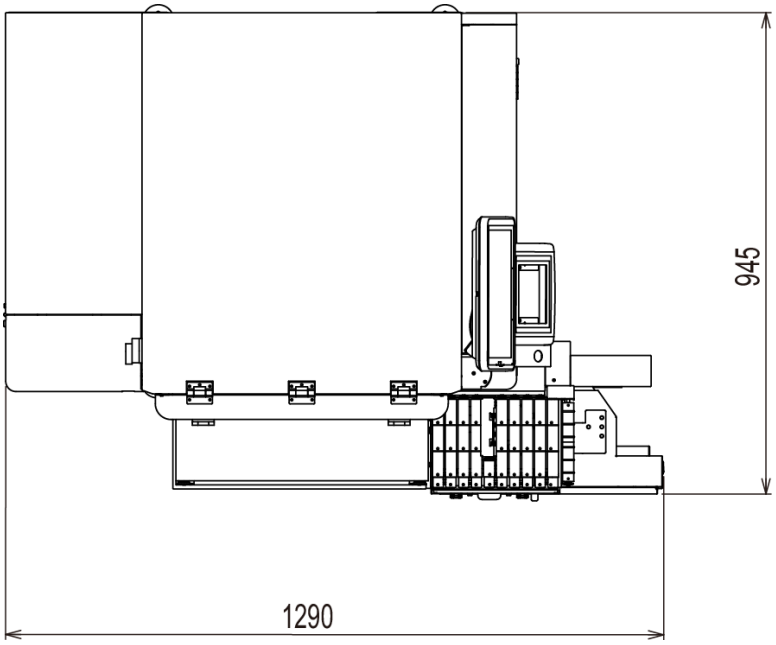


■ WM-AI BRK

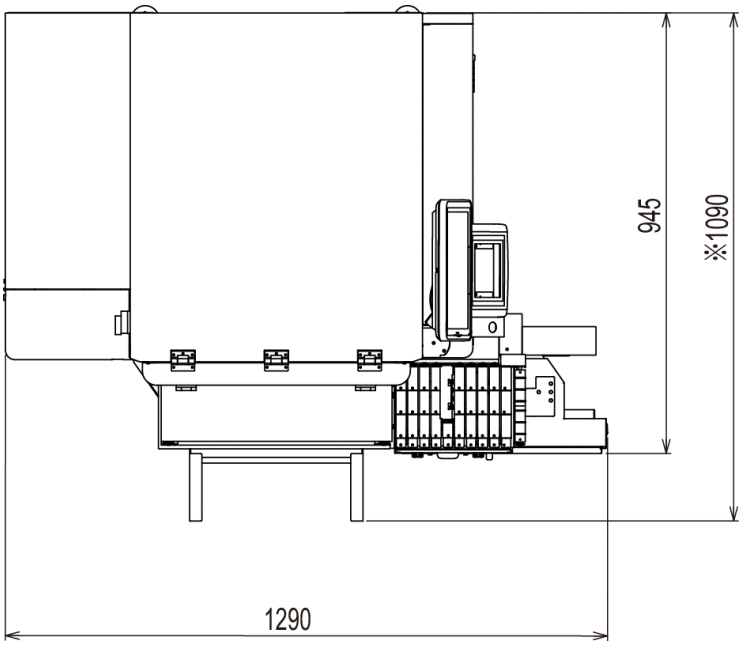


Note: The joint unit is removable.

■ WM-AI BRWF



■ WM-AI BRWFK



Note: The joint unit is removable.

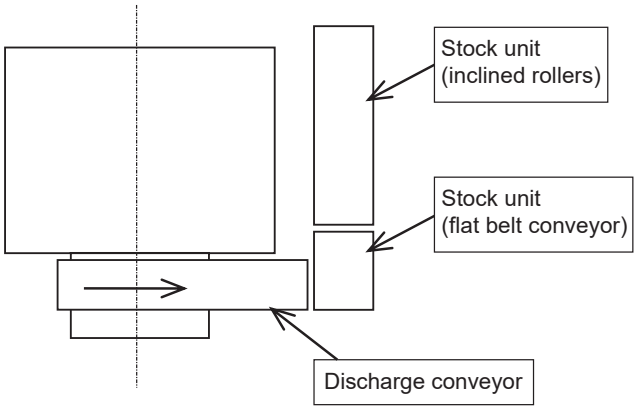
2.3 Installation

2.3.1 Stock conveyor for WM-AI Type B

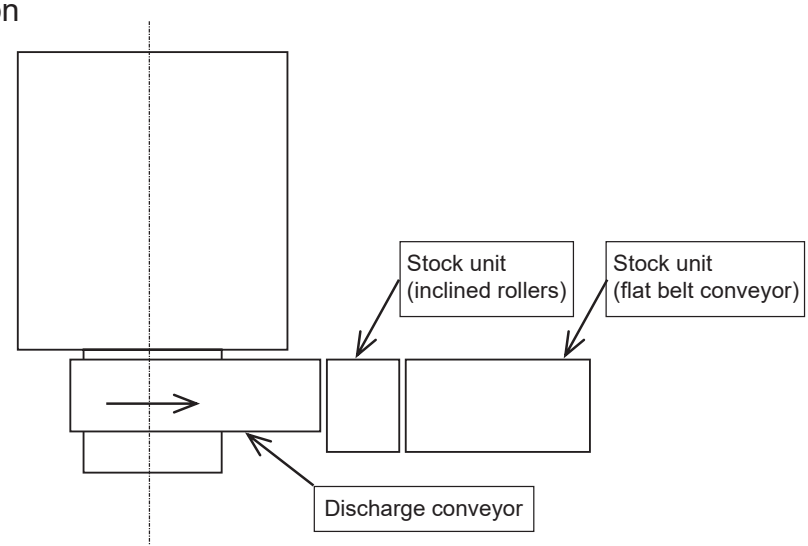
■ Overview

The WM-AI Type B series allows you to select “back” or “side” as the tray ejection direction depending on the installation direction of the stock conveyor.
Either back ejection or side ejection needs to be changed in the machine type setting.
(Unless specified, back ejection is set at the time of factory shipment.)

● Back ejection



● Side ejection



The stock conveyor is connected and fixed to the wrapper.

- Side ejection: Upper connection (ejection conveyor on the wrapper side and the flat belt conveyor on the stock side)
- Back ejection: Upper connection (ejection conveyor on the wrapper side and the flat belt conveyor onthe stock side)
  Lower connection (the wrapper main body frame and the stand on the stock side)

■ Installation procedure

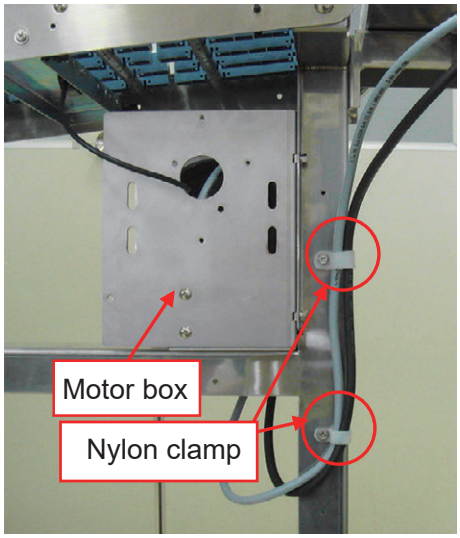
Follow the steps below to install the stock conveyor to the wrapper.

1

Level the machine by jacking up the wrapper and fix it with the jack bolts.

2

The harness length is adjusted for the back ejection at the time of shipment, so it is necessary to adjust the length by loosening the nylon clamps when changing to the side ejection.

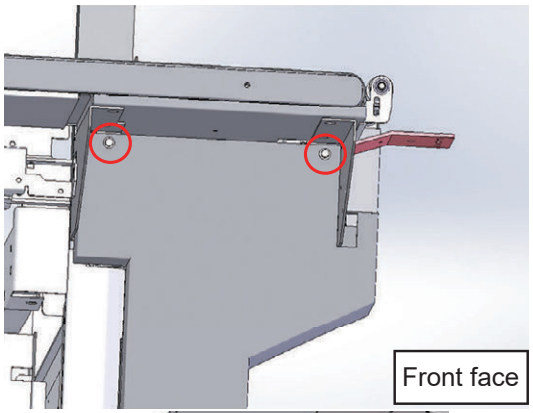


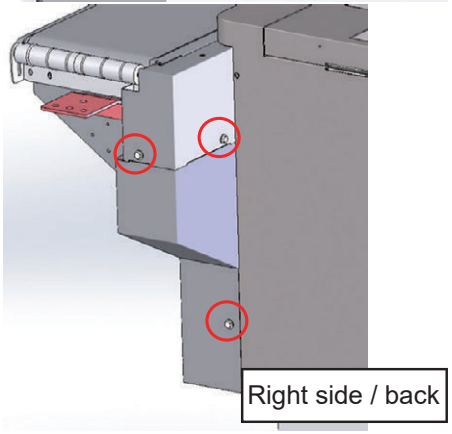
3

Remove the cover to connect the harness to the wrapper.

● WM-AI BR

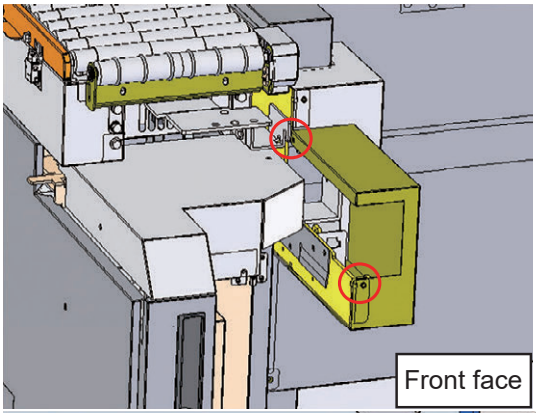
Remove the cover by removing the five bolts shown in the figures below.

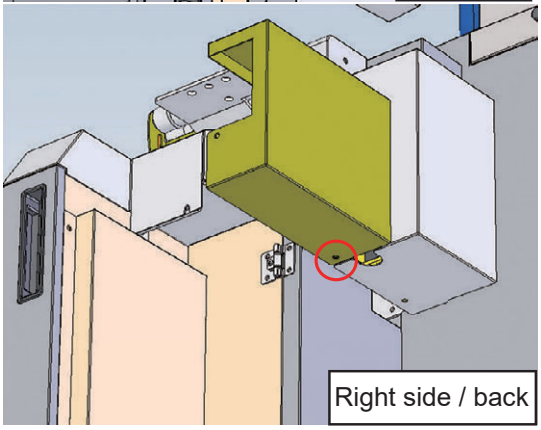




● WM-AI BRWF

Remove the cover by removing the three bolts shown in the figures below.

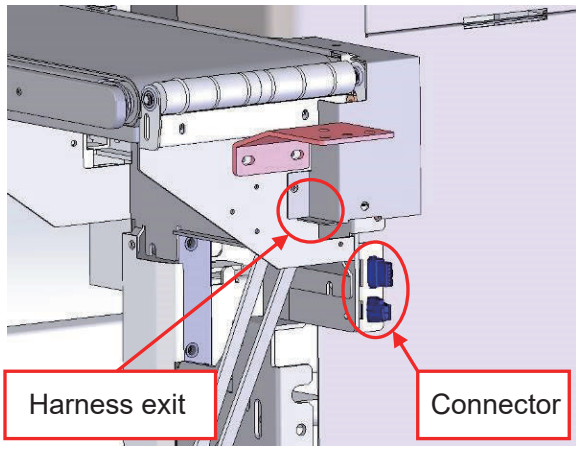




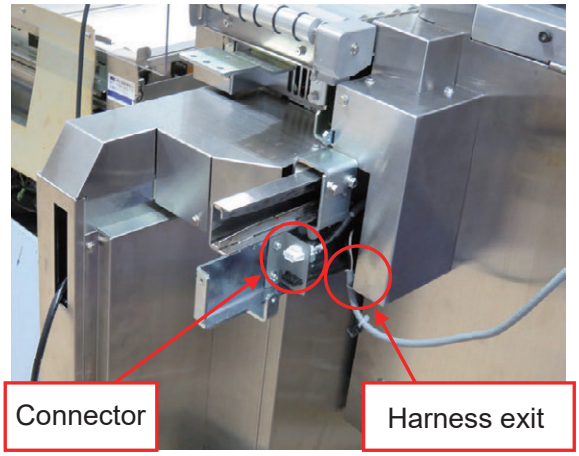
4

Connect the harness to the connector and reinstall the cover that was removed in Step 3 above.

● WM-AI BR



● WM-AI BRWF



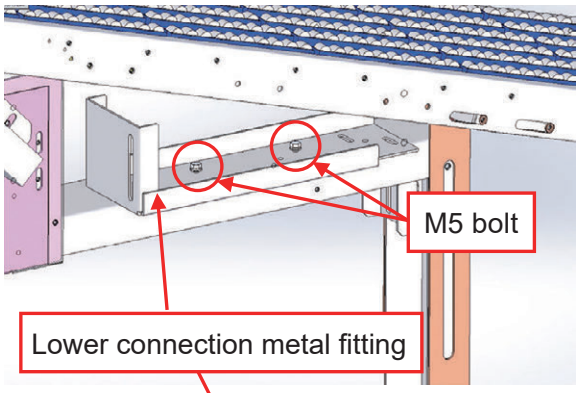
5

Adjust the height of the stock conveyor by turning the jack bolts of the conveyor for connection to the wrapper.
At this time, adjust the height so that the belt surface of the ejection conveyor on the wrapper side is parallel to the flat belt surface of the stock conveyor.

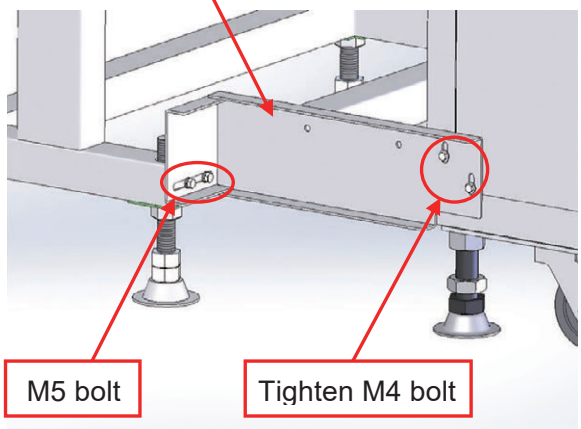
6

(Only for the back ejection) Mount the connection metal fitting for the lower connection.

Since the connection metal fitting is mounted on the stock conveyor, remove the connection metal fitting by removing the M5 bolts.



Attach the connection metal fitting for the lower connection to the side of the stock conveyor.
Use the removed M5 bolt to attach the fitting.
To attach the fitting to the main body side, remove the M4 truss bolt fixing the cover on the wrapper side and use the M4 x 10 bolt from the supplied screw set to tighten it with the cover.

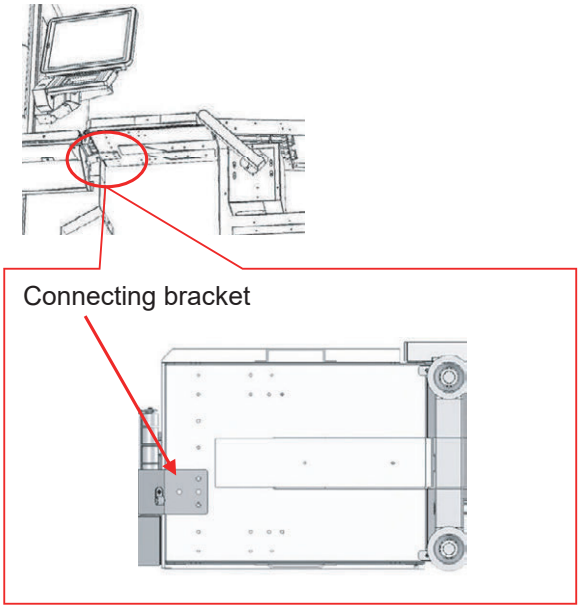


7

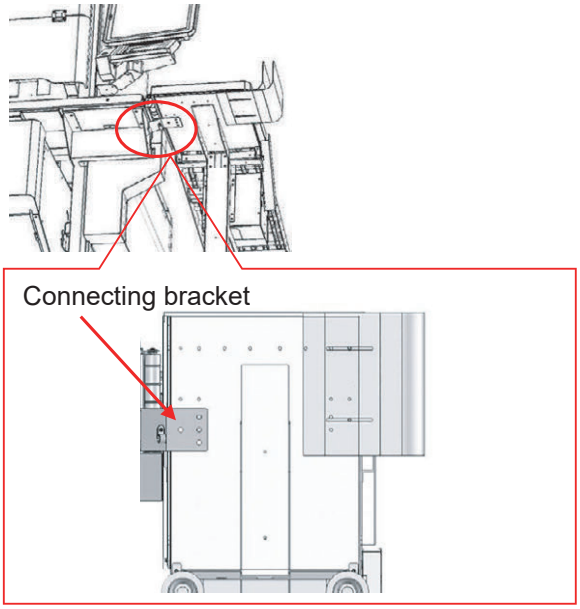
Secure the stock conveyor with the connecting bracket. Install in the standard position by referring to the figures below.

● WM-AI BR

(Side ejection)

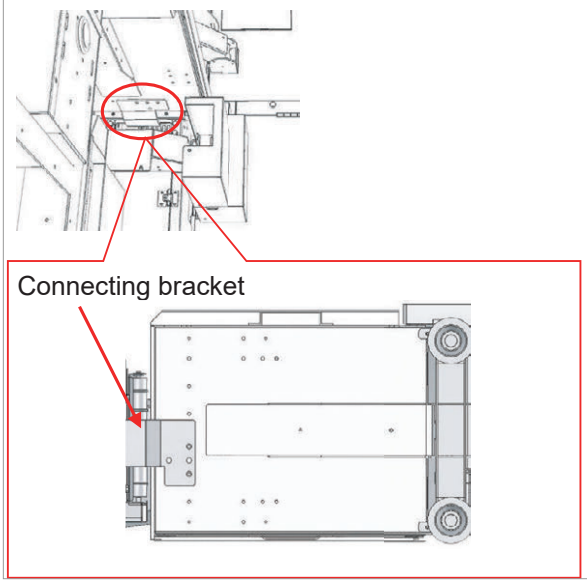


(Back ejection)

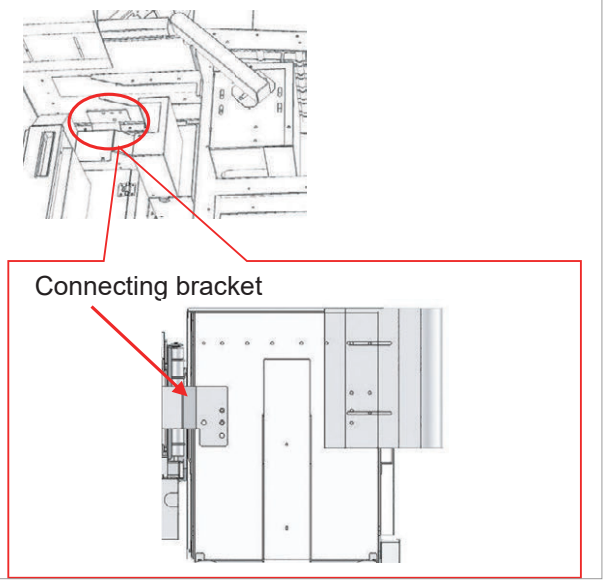


● WM-AI BRWF

()



(Back ejection)



8

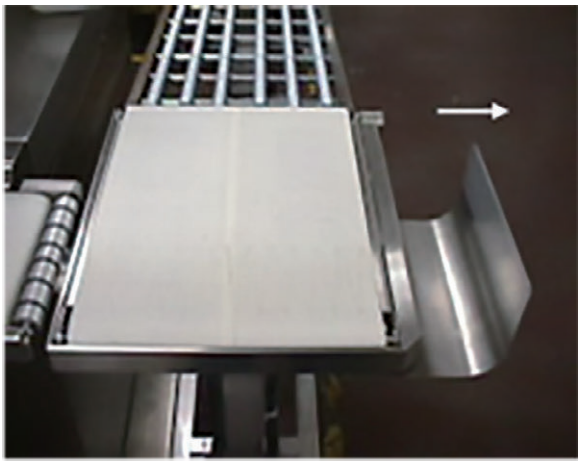
Secure the harness with nylon clamps from the main body side to prevent it from becoming loose and put the slack harness in the motor box.

9

(Only for the back ejection) Mount the tray stopper to the flat belt unit of the stock conveyor.

Remove the tray stopper from the stand and mount the stopper from the lower side onto the frame of the flat belt unit.

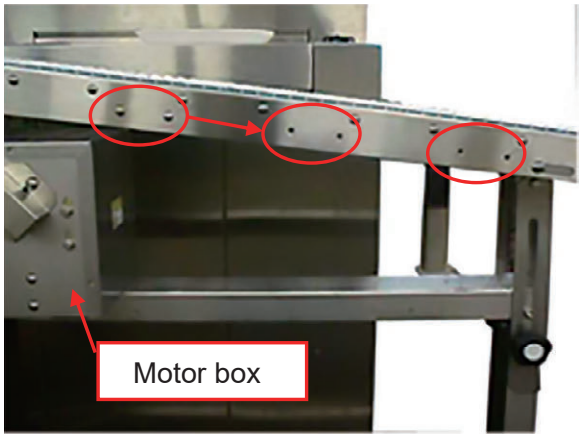
Ensure that the tray stopper is installed at the outermost position.



10

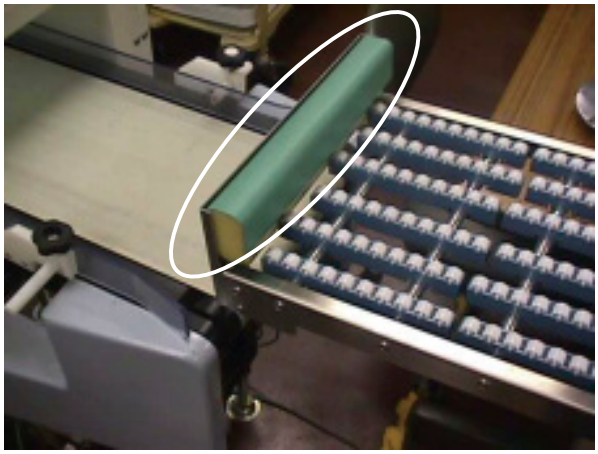
(Changing the installation position of the full detection sensor)
The installation position of the full detection sensor can be changed to 3 locations.
The sensor is installed at the uppermost stream at the time of shipment.

To change the installation position, cut the insulation locks bundling the harness for the full detection sensor in the motor box, and pull the harness to the outside of the box.
Move the full detection sensor together with the bracket to the downstream, specifically to one of the positions indicated by the two ellipses on the right in the left figure.
After moving the sensor, rewire the harness and put the slack cable in the motor box so that the cable will not protrude from the stock conveyor frame.



11

(If there is any connected device on the downstream side of the stock conveyor)
If there is any connected device such as turntables, metal detectors, and conveyors downstream of the stock conveyor, remove the tray stopper at the rear end of the stock conveyor. Since there is a roller under the tray stopper, align the height of this roller with that of the connected device.



The roller will appear when the tray stopper indicated by the white ellipse in the photo is removed.

⚠ CAUTION

When connecting a device downstream, to ensure the tray is being transported, adjust the height of the transport surface of the downstream machine so that the drop angle of the stock conveyor becomes as large as possible. It should be about 750 mm from the floor surface which is the reference transport surface for the metal detector.

2.3.2 PS-AI

Connect and install the PS-AI with the WM-AI according to the following procedure.

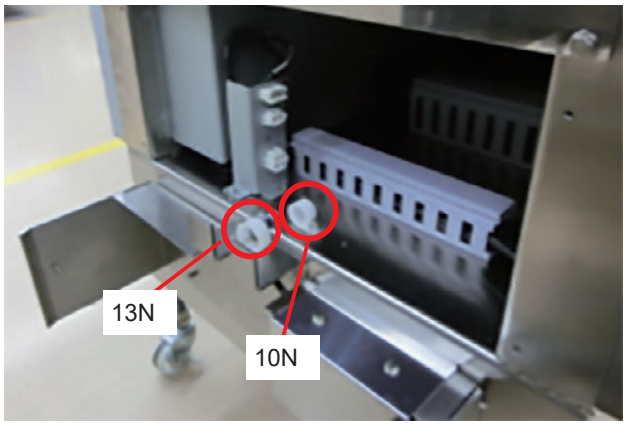
■ Installation of the WM-AI

1. Determine the layout that includes the PS-AI.
2. Complete the installation of the WM-AI unit according to the WM-AI installation manual.
   Note: All subsequent PS-AI installation standards are based on the WM-AI jack height and level.

■ Connection of control cables

1

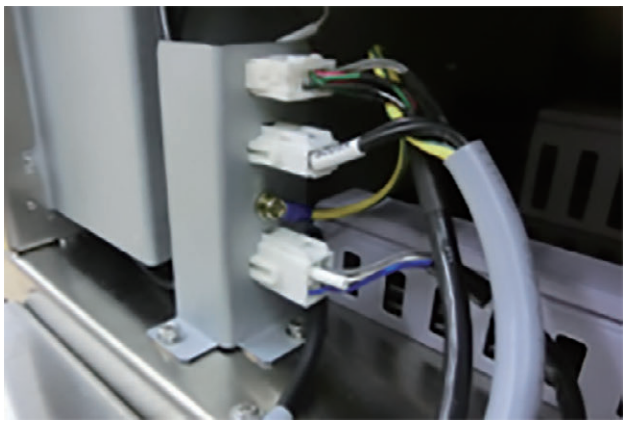
Remove the inside cover for PS-AI.
Remove the two nylon clamps.



2

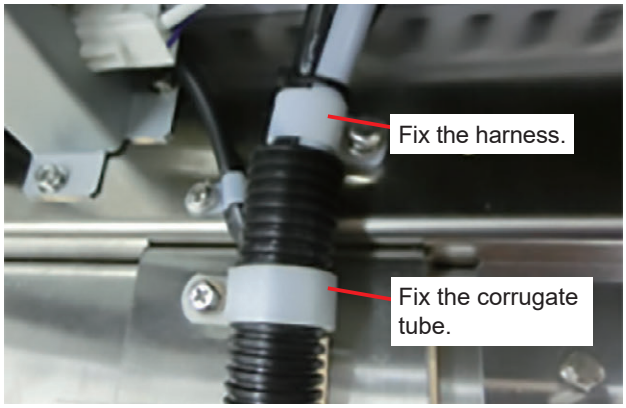
Connect the cable extending from the WM-AI side to the connector unit inside the PS-AI.

- Harness × 3
- Ground cable × 1



3

Excessive cable tension is protected by the nylon clamps that were removed in Step 1.



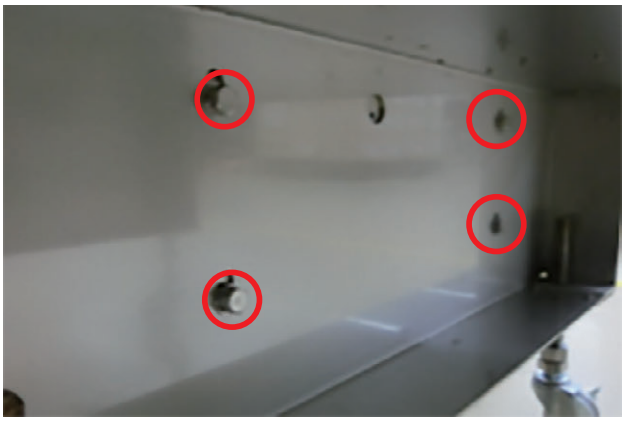
4

Attach the inside cover. Handle with care to prevent the harness from biting in the cover.

■ Connection to the wrapper of PS-AI

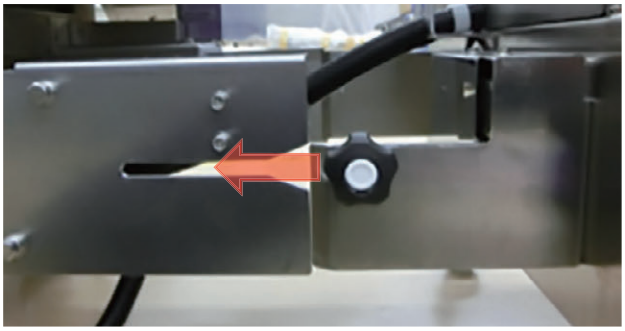
1

Loosen the four M6 bolts affixed to the joint part of PS-AI so that the joint part becomes freely movable.



2

Adjust the jack bolts with their own caster of PS-AI so that the knob bolt at the joint part of PS-AI can be smoothly inserted into the slot at the joint part of WM-AI.
At this time, adjust the height so that there is no gap of the contact part between the WM-AI infeeder unit frame and the PS-AI frame.

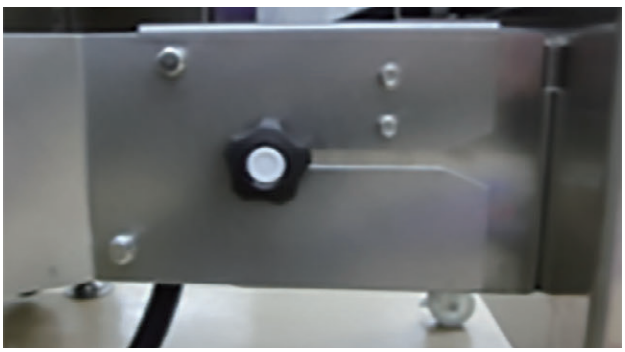


INFORMATION

Adjustment should be made to eliminate the gap at both the upper and lower contact parts.
The horizontal adjustment of the infeeder unit of WM-AI and PS-AI can be secured by this adjustment.

3

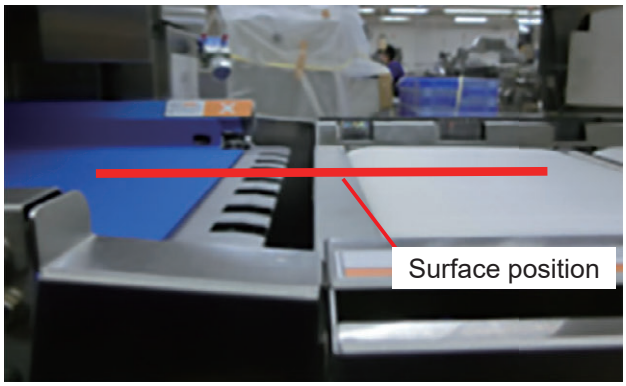
Fix the joint parts with the knob bolt.



■ Adjustment

1

Adjust the height with the jack bolts on casters of the PS-AI so that the PS-AI conveyor surface and the weighing platter surface of the WM-AI become the same.



NOTE

When adjusting the height of the conveyor, the positional relationship of the contact part may be misaligned.

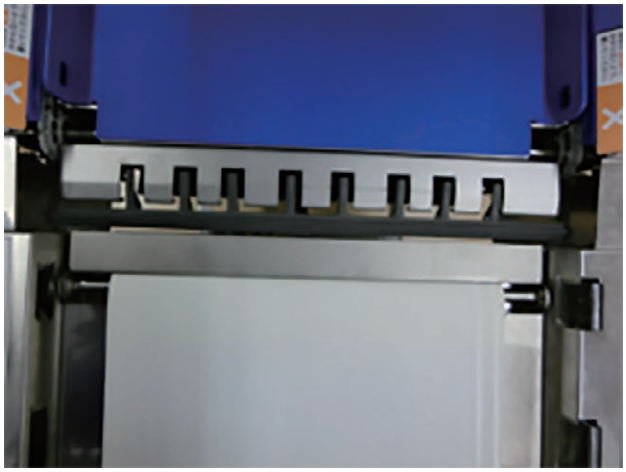
2

Tighten the PS-AI joint fixing bolt (4 x M6) to complete the adjustment.

■ Check

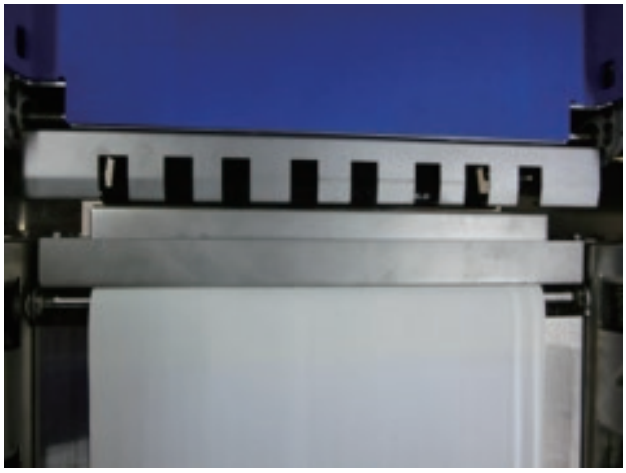
1

Move the infeed bar of the WM-AI manually and ensure that there are no obstacles on the bar transport route.



2

Extend the shutter of the PS-AI manually and ensure that the shutter does not interfere with the connection plate of the WM-AI.



■ Interlocking with the upstream transport conveyor (user conveyor) and installation

● Interlocking conditions

To prevent any probable trouble estimated when interlocking the user conveyor installed upstream of PS-AI, install the conveyor under the following conditions:

1. Adjust the speed of the user conveyor installed upstream of PS-AI so that it becomes below the capability of the wrapper. (Although the wrapper's maximum capability is 35 pieces per minute, note that the capability will decrease depending on the tray size or the wrapping speed setting)
   If the speed of the production line is faster than the capability, there may be cases of full detection operating frequently, which may cause a hindrance to the operation.
2. It is ideal for the user conveyor to have the speed control function capable of adjusting the line. Depending on the size of the drive motor, it may be necessary to add a control relay. If the conveyor is the type that can connect the relay contact to the start circuit of the speed controller, connection is possible regardless of the size of the motor.
3. If the width of the conveyor belt is 350 mm or more, it is convenient to have a width alignment guide.

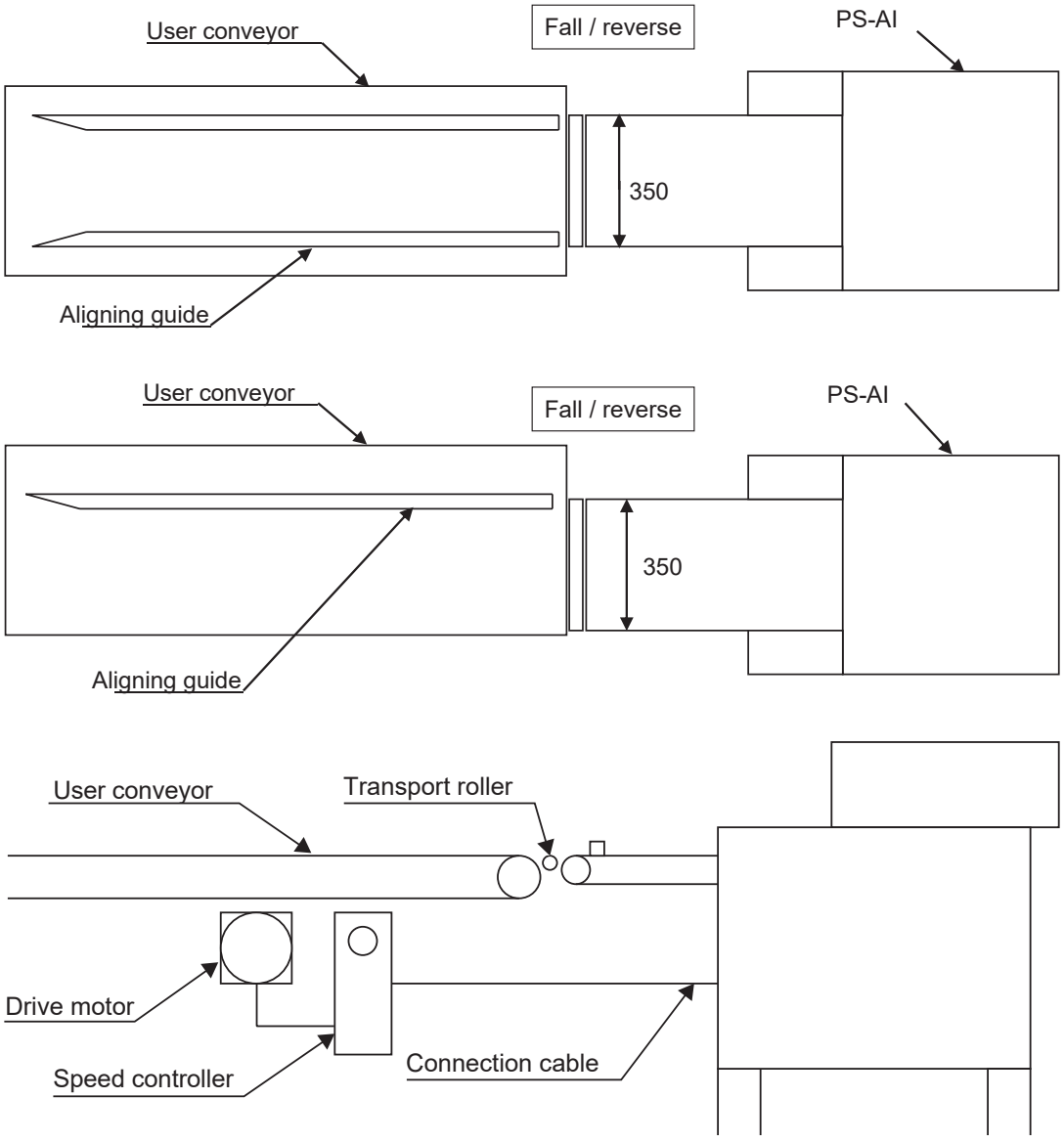


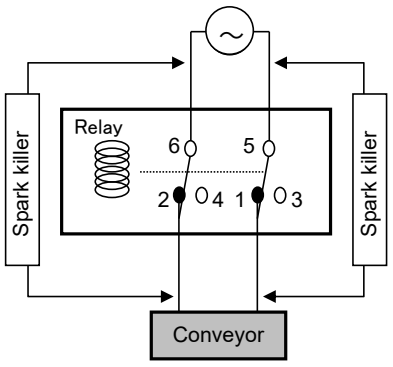
Figure 1

● Interlocking specification and connection examples

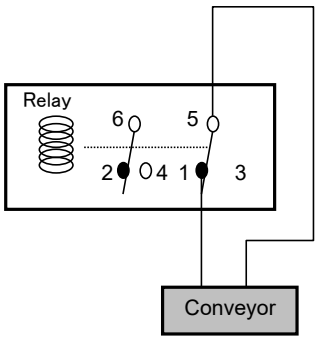
Connection examples and precautions for interlocking with the user conveyor located upstream of the PS-AI are shown below.

1. User conveyor control (contact output)
   Considering the connection of the user conveyor upstream of the PS-AI, the contact output by the operation of the relay is equipped to control this.
   Relay contact specifications and connection examples are shown below. Use them according to this specification range.
   This relay consists of two C contacts, and the upstream user conveyor is turned on and off by the signal control or the power supply control.

2. Connection examples
   Connection examples are shown in the figure below. There are two types of connection configurations: (a) power supply control and (b) signal control.
   Because the power supply control connection directly turns on and off the motor power, pay attention to the rated current of the motor.
   Although contact ratings of relays that are equipped as standard in the PS-AI are 10 A for the resistive load and 7.5 A for the inductive load (250 VAC), interlocking is possible only when the rated current of the motor is 0.75 A or less taking into account the inrush current when the motor is activated.
   In addition, it is recommended to use a spark killer as shown in the figure because comparably large currents flow when the power supply control is connected.
   The signal control connection does not require particular attention to current ratings, but the user conveyor must have an interface for the external contact signal input.



<(a) Power supply control>



<(b) Signal control>

3. Control specifications
   When the operation of the input conveyor is stopped and the full detection sensor is intercepted, PS-AI controls the relay coil to stop the user conveyor. In addition, PS-AI restarts the operation of the user conveyor.

4. Parts information
   Information regarding the relay that is built in PS-AI and the spark killer recommended when the power supply control is connected are shown in the table below.

	Ishida's part number	Manufacturer	Manufacturer's model number	Rating
Relay	000-012-0420-05	Omron	LY2 24 VDC	10 A (resistive load) 7.5 A (inductive load), 250 VAC
Spark killer	000-000-3136-04	Okaya Electric Industries	CR-20151	0.2 uF, 150 Ω

Note 1: As explained in the connection example, the relay rating of "10A" is literally rated, and it is recommended to use the relay at 0.75 A or less that is 1/10 of 7.5 A for the inductive load, taking the load type and the lifetime into consideration.
Note 2: The relay with the above part number is provided as standard.
Note 3: Conveyor, power supply for conveyor, connection line and spark killer are not equipped. Please make separate arrangements if necessary.

● Installation / Interlocking

1

Adjust the jack so that the level of the user conveyor is level with the PS conveyor.

2

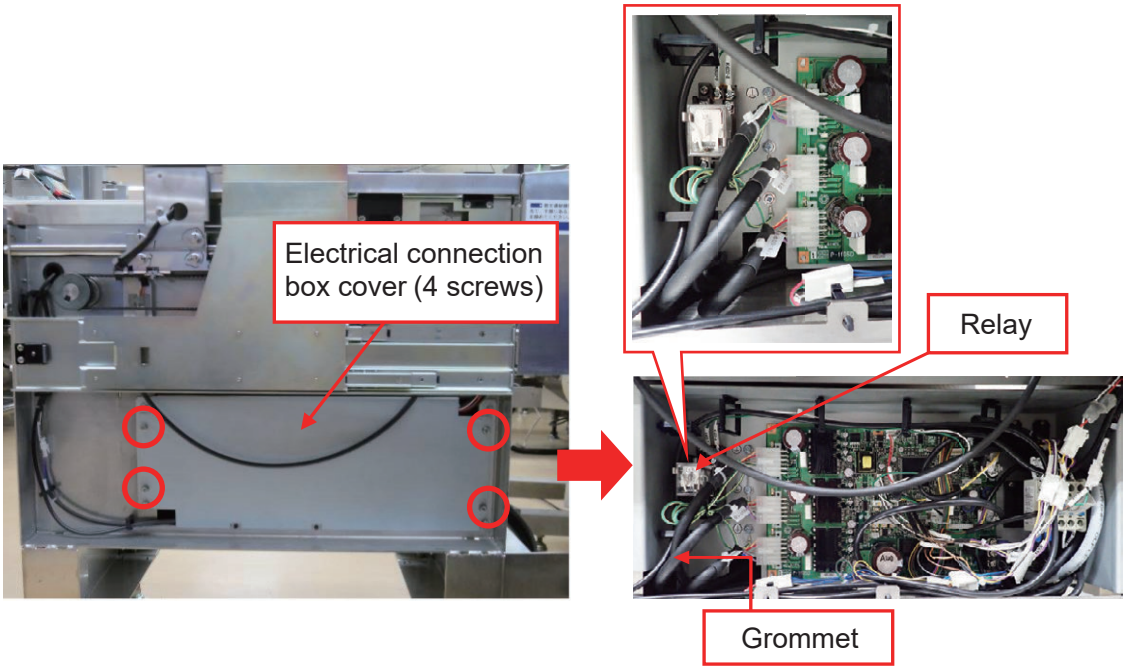
Minimize the gap with the connecting roller and install by referring to Figure 1 on the previous page.

3

Connect the contact of the PS timing relay to the start relay of the user conveyor.

4

Remove the cover of the electrical connection box, pass the harness through the grommet inside the PS, and connect it to the relay contact.



⚠ CAUTION <NOTE1>

Depending on the wiring on the food filling-up conveyor side, power may still be supplied to the interlock cable even if the conveyor is turned off. There is a danger of electric shock if power is supplied to the relay terminal of the PS-AI. Therefore, **turn off the breaker on the equipment side** for the power that is supplied to the food filling-up conveyor, and ensure that power is not supplied before starting work.
To prevent the breaker from accidentally being turned on during work, **attach a warning message to cover the breaker, with warnings such as, "Do not turn on the breaker during work!" for example.**

⚠ CAUTION <NOTE2>

Do not store the slack interlocking cable of the user conveyor in the PS-AI electrical connection box in order to reduce the influence of power supply noise.
When wiring the relay terminal, be sure to keep the wires away from the board.

2.4 Setup

REFERENCE

This section describes how to set the automatic infeeder, the tray detection, and the machine type.
For basic settings, refer to the WM-AI service manual.

2.4.1 Setting the PS-AI connection

CAUTION

The PS-AI does not have a conveyor speed adjustment function.
(Adjusting the volume of the DCB driver does not change the conveyor speed)
Note that the conveyor speed can be adjusted on the WM-AI setting screen.

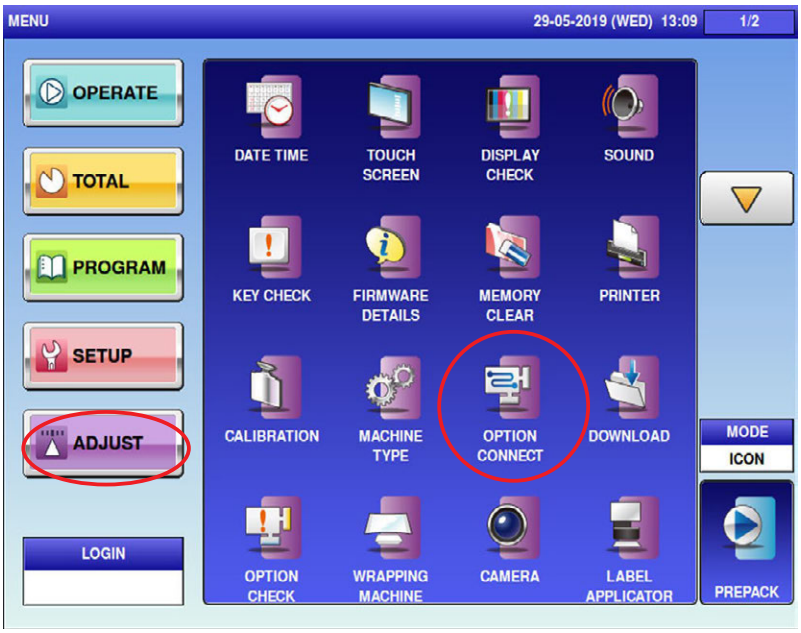
■ Option connection settings

1

Enter "495344" for the password using the numeric keypad, and press [ADJUST] on the screen after performing login.

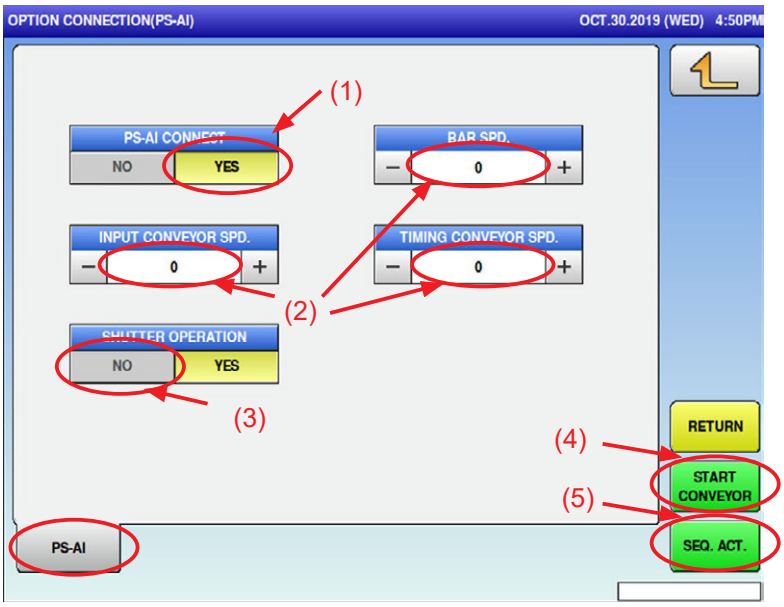
2

Press [OPTION CONNECT] on the screen.



3

Perform settings from (1) to (5) on the option connection.



(1) Set [PS-AI CONNECT] to [YES].

> **CAUTION**
>
> When [PS-AI CONNECT] is set to [No], the tray front detection sensor is disabled.
> Never perform wrapping operation in this setting because there is a possibility that the product will get entangled, and there is a possibility that the lift will step on the infeed bar even if the infeed unit for the PS-AI is installed.

> **CAUTION**
>
> When [PS-AI CONNECT] is set to [YES] even though the infeed unit for the PS-AI is not installed (the front detection sensor is not installed), the error message “TRAY IS PLACED IN FRONT (521-0000)” appears and production will be disabled.

> **CAUTION**
>
> For the US specification, if [PS-AI CONNECT] is changed to [NO], it will not match the verification category so do not make any changes.

(2) The speed setting can be performed.
After completing the automatic adjustment, the speed setting (3) of [Transport bar speed], [Input conveyor speed] and [Timing conveyor speed] can be set.
Perform fine adjustment when it is required at the delivery destination.

(3) The shutter operation can be set.
If the shutter operation is not required, it can be set to [NO].

(4) The conveyor operation can be performed.
When [START CONVEYOR] (4) is pressed, [Input conveyor] and [Timing conveyor] start operating at the set speed, and the speed can be checked.
The speed is the operating speed in “Supply High Speed Mode”.

(5) A sequential action can be performed.
When [SEQ. ACT.] (5) is pressed, [Transport bar], [Input conveyor], and [Timing conveyor] start operating at the set speed, and the speed can be checked.
The speed is the operating speed in “Supply High Speed Mode”.

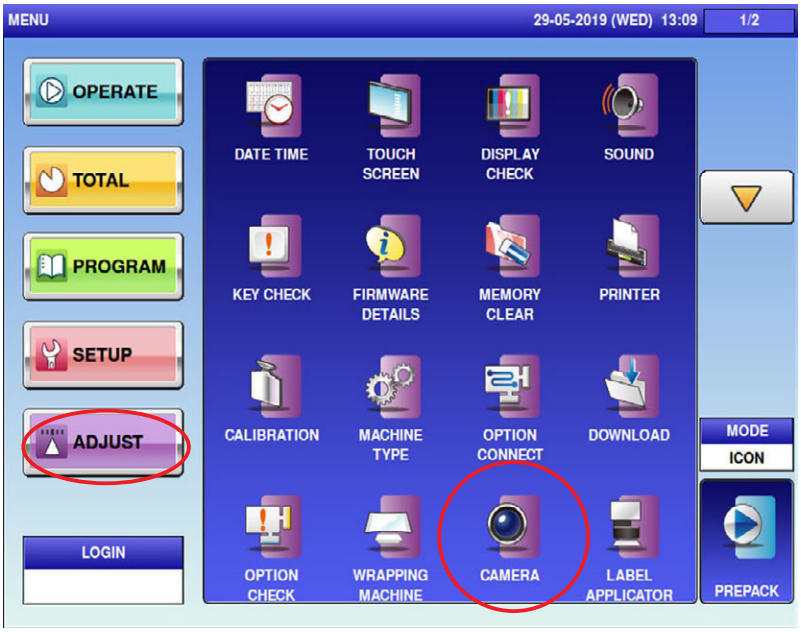
■ Setting the [AUTO EJECTION DELAY] to “2 seconds”

1

Press [ADJUST] after performing login.

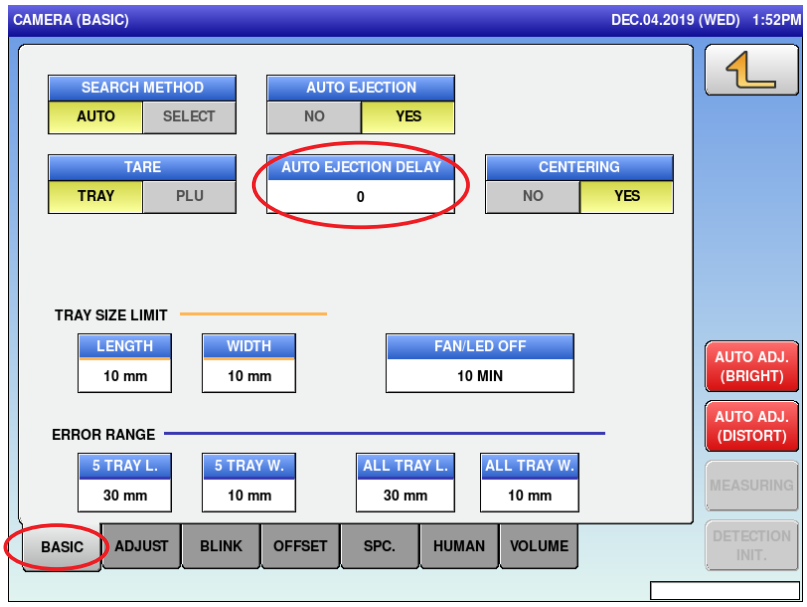
2

Press [CAMERA] on the adjustment mode screen.



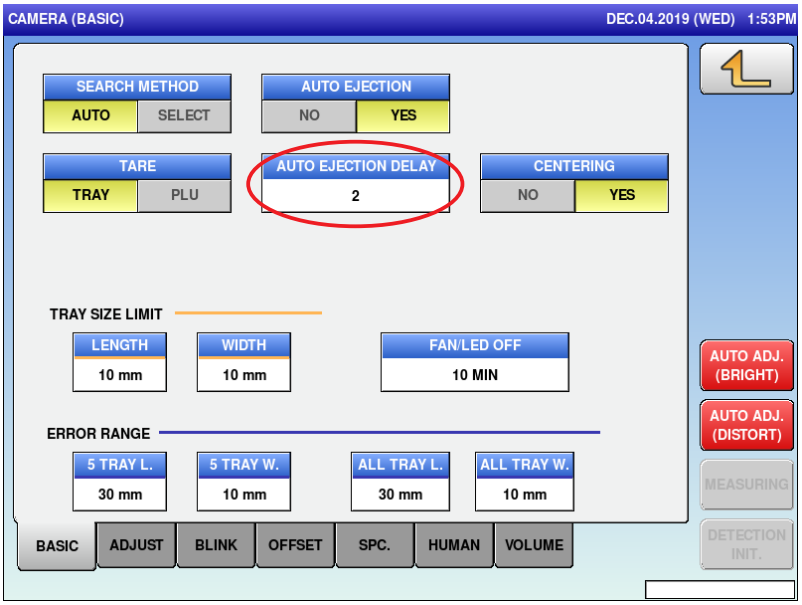
3

[AUTO EJECTION DELAY] in the "BASIC" tab is set to "0" at the time of factory shipment.
Press [2] on the numeric keypad and touch [0] on the screen.



4

[AUTO EJECTION DELAY] is set to “2”.



[Explanation]

If trays are not continuously fed from the PS-AI to the main body, the main body will start idling which will result in losses.
To eliminate this idling as much as possible, set [AUTO EJECTION DELAY] to “2” to allow the tray to wait about two seconds on the lift.
When the next tray is fed to the main body during this time, the main body will operate continuously, thereby preventing losses.
When the PS-AI is connected, the appropriate time is about 2 seconds.

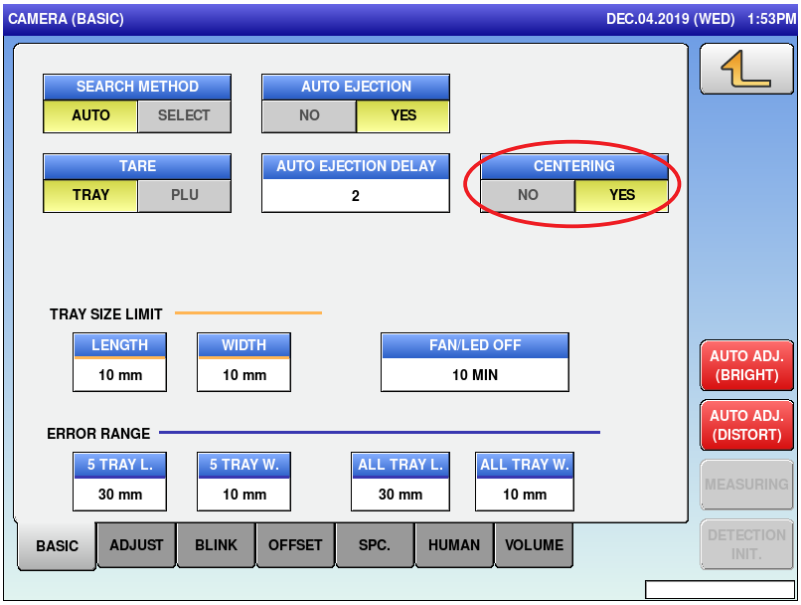
■ Setting [CENTERING] to [YES]

1

Press [CAMERA] on the adjustment mode screen.

2

Set [CENTERING] to [YES].

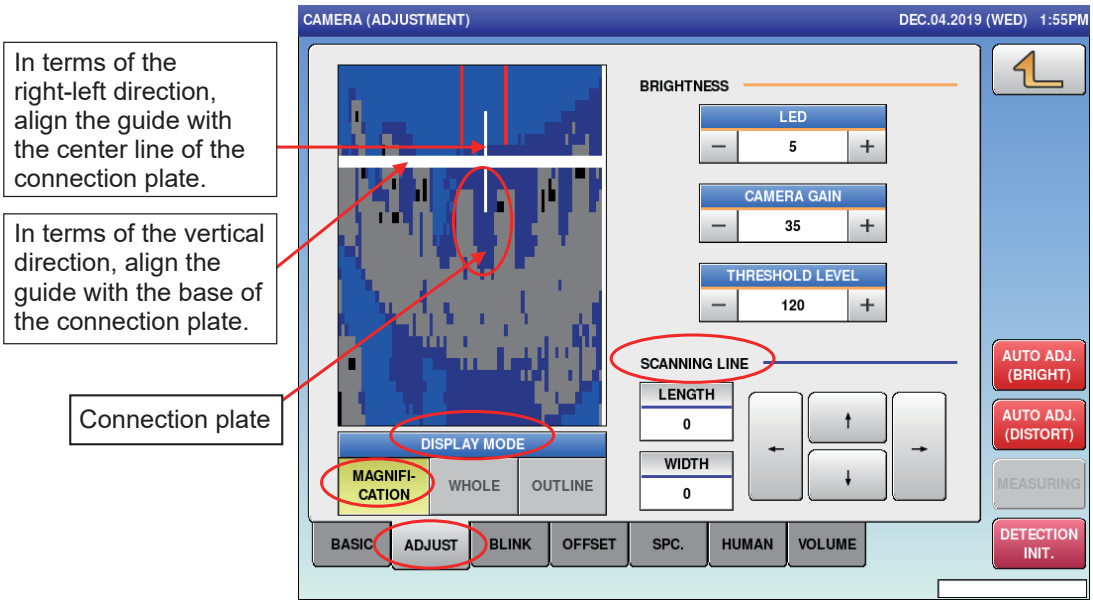


[Explanation]

By setting [CENTERING] to [YES], the position of the tray is confirmed again by the camera, and the centering amount of the tray is corrected while the tray pushed by the PS-AI transport bar is moving on the weighing platter of the main body.
Perform this setting when connecting PS-AI.

■ Adjusting the scanning line when connecting PS-AI

When connecting the PS-AI (selecting PS [YES] in the machine type setting), set [DISPLAY MODE] to [MAGNIFICATION] on the [CAMERA (ADJSTMENT)] tab screen of the adjustment mode screen, and adjust the SCANNING LINE] reference as shown below.

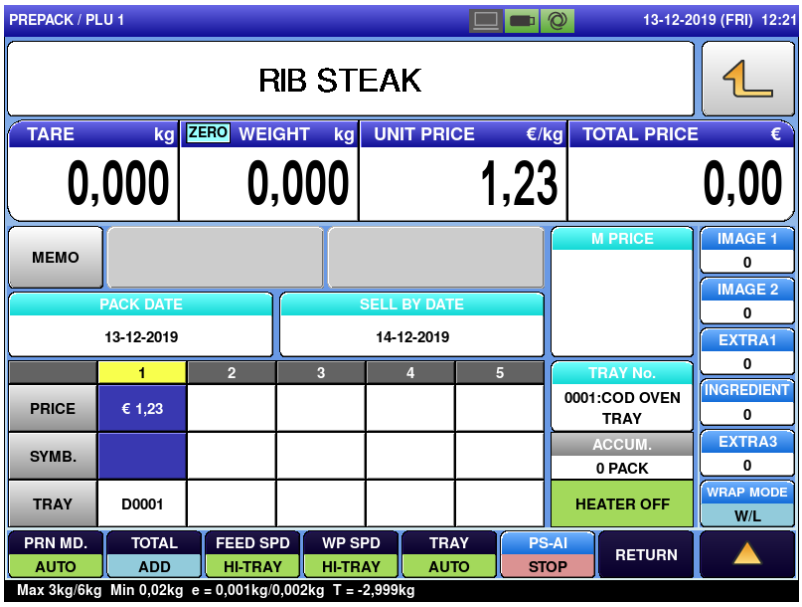


2.4.2 PS-AI normal operations

■ Overview

1. The procedure for calling up a product and preparing for weighing, wrapping and price labeling is the same as that of WM-AI.
2. Press the [START] function key to activate the PS-AI.
3. Press the [START] function key to stop the PS-AI.

> ⚠ CAUTION
>
> If a screen saying that weighing cannot be done is displayed, which happens in cases when an error screen is displayed or it is on switching mode, the PS-AI will stop. The PS-AI does not stop when the product is switched, or the weighing mode is changed.



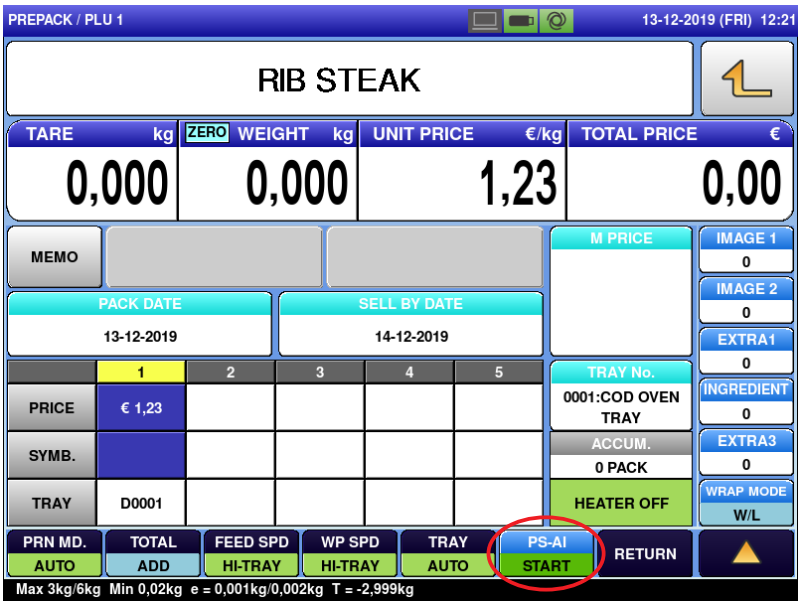
> ⚠ CAUTION
>
> When a product stops on the scale, the operation can be restarted by pressing the [START] key without making the scale unstable.

■ Function keys

● [START] / [Stop]

1. This function key is operated by toggles. [START] is displayed when the PS-AI is stopped, and [STOP] is displayed when the PS-AI is in operation.
2. Conditions under which this function key can be used are as follows.
   In other cases, an operation error occurs.
   a. [PS-AI] is selected as [YES] in the machine type setting (the start key is not displayed on the normal screen).
   b. The product has been called up.
3. When operation stops due to an error other than the PS-AI, such as the wrapper, printer, and label applicator, the operation can be restarted by pressing the [START] key without removing the product in the PS-AI.

> **⚠ CAUTION**
>
> When a product stops on the scale, the operation can be restarted by pressing the [START] key without making the scale unstable.



● [Supply speed (High speed)] / [Supply speed (Medium speed)] / [Supply speed (Low speed)]

The speed of the PS-AI conveyor and the transport bar can be switched according to the supply speed switching of the WM-AI Type B.

WM-AI Type B	PS-AI
High speed	Synchronized with the high speed of PS-AI
Medium speed	Synchronized with the medium speed of PS-AI
Low speed	Synchronized with the low speed of PS-AI

● [RETURN]

The PS-AI transport bar needs to be returned to its standby position when it stops halfway. The PS-AI is automatically restored at the start of operation (when the [START] key is pressed).When the [RETURN] key on the WM-AI Type B is pressed, the PS-AI transport bar returns to its original position.

- When the PS-AI is not used (including direct product input to the weighing unit and tray master settings)

  The PS-AI safety cover is provided to ensure safety against the transport bar behavior.
  Opening this cover will activate the safety switch and shut off the power supply to the transport bar and the two conveyors.
  A cover open error will be displayed when trying to operate the PS-AI (pressing the [START] key) in that state.

  Therefore, to put a product directly into the weighing unit, open the PS-AI safety cover without pressing the [START] key.
  Even when an error is displayed by pressing the [START] key, the product can be directly input to the weighing unit after the error is cleared.

> ⚠ CAUTION
>
> As the modes that can operate the PS-AI are only test mode and normal mode, it is necessary to perform the above-mentioned “direct product input to the weighing unit” in the tray master program mode.

2.4.3 Setting WM-AI BR/BRWF machine type (auto dual)

INFORMATION

The machine type is set for the user at the time of factory shipment.
It is described here for your reference.

Press [ADJUST] and then [MACHINE TYPE] on the maintenance screen, and set [EJECTION DIR.] in the wrapper field to [LEFT] when the left turn is selected, or to [RIGHT] when the right turn is selected.
And then, set [STOCK EJECTION DIR.] to [BACK] or [SIDE] depending on the installation.
Next, set [VARIATION] to [3: TYPE B] for Type B (side/back ejection type), or to [4: TYPE BW] for Type BW (side/back ejection type, with bottom label printer).
Furthermore, set [POP PRINTER CONNECT] in the printer field to [NO] in either case.

1

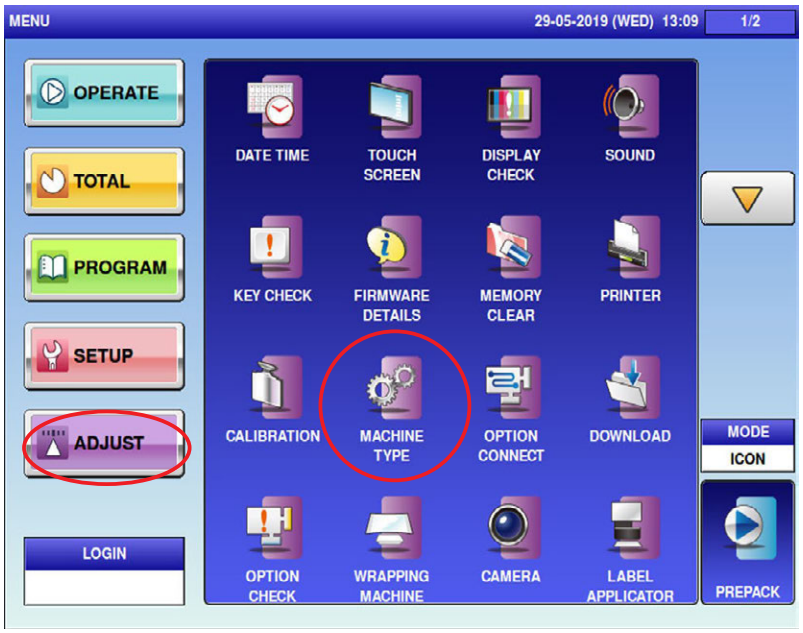
On the menu screen, enter "495344" for the password using the numeric keypad and press the [PLU] key. The maintenance screen can be displayed by pressing [LOGIN].

2

After login, press [ADJUST] on the screen.

3

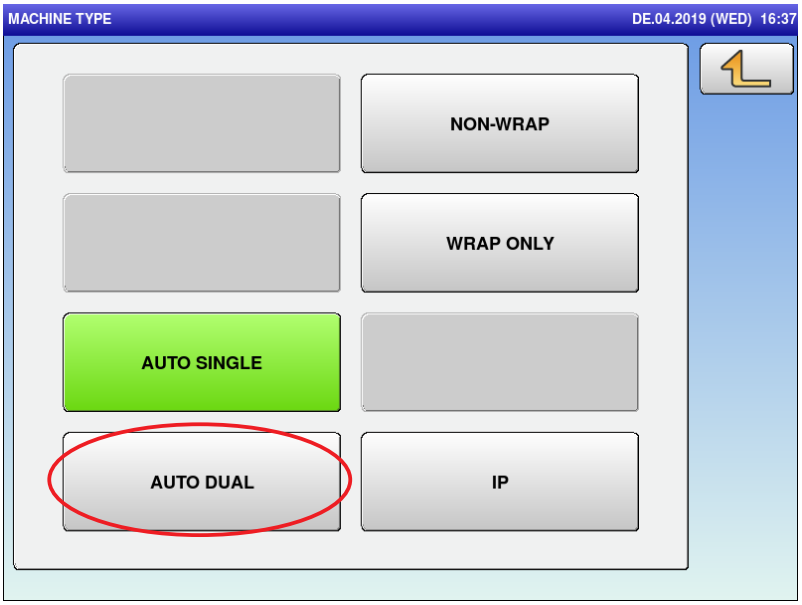
Press [MACNINE TYPE] on the screen.



"ADJUST" menu screen after login

4

The “MACHINE TYPE” screen is displayed and press [AUUTO DUAL].



5

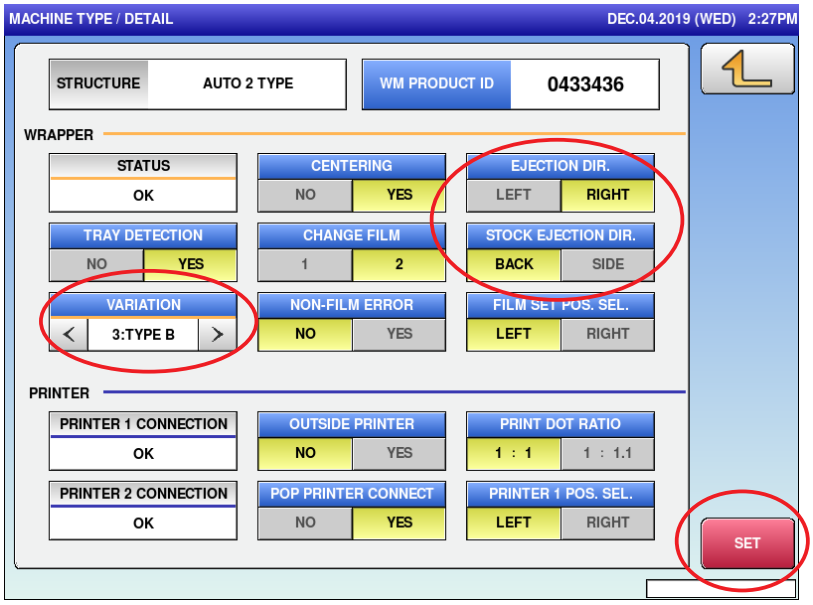
Also, The [MACHINE TYPE / DETAIL] screen will be displayed, and then select [LEFT] or [RIGHT] according to [EJECTION DIR.]. In addition, select [BACK] or [SIDE] of [STOCK EJECTION DIR.].

6

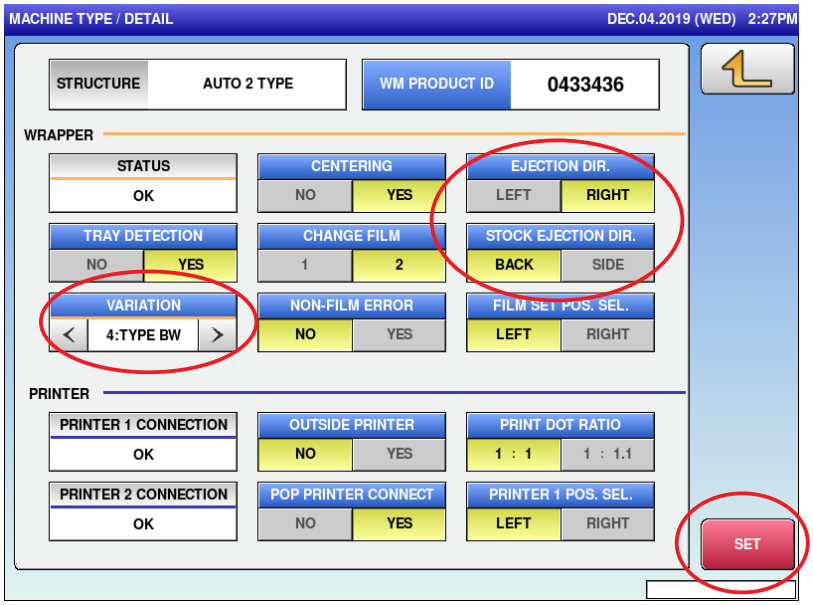
Press < or > of "VARIATION" in the wrapper field and set it to [3: TYPE B] for Type B or [4: TYPEBW] for Type BW.

7

Set [POP PRINTER CONNECT] in the printer field to [NO] and press [SET].



Setting screen for Type B, right ejection, rear stock conveyor



Setting screen for Type BW, right ejection, rear stock conveyor

2.4.4 Checking the operation

■ Confirming label printing
Confirm printing by using labels which are used by the user.

■ Confirming the wrapper conditions
Confirm the wrapped conditions by using trays which are used by the user.

2.4.5 User’s manual

Explain the methods of operation and precautions for use of the machine based on the user’s manual, and then, confirm that the user has understood them thoroughly.

2.4.6 Issuing a warranty

Fill in the required items on the warranty, and then hand it over to the user.

Chapter 3

Various Modes

3.1 Adjustment Mode 52
3.1.1 Adjustment: Machine type (detail) 52
3.1.2 Option connection 53

NOTE

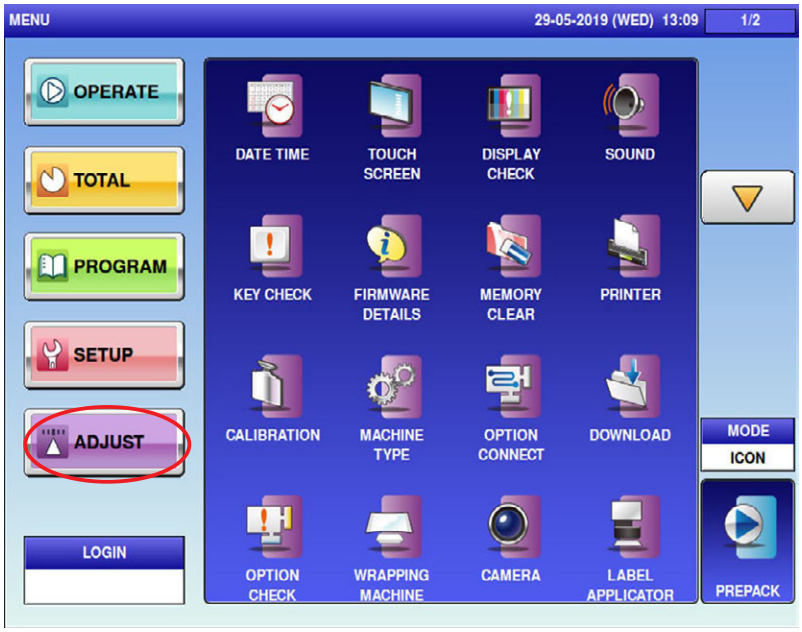
NOTE: Refer to Part 1 Automatic Weighing/Wrapping/Labeling, Chapter 6 for Adjust Mode menus not listed here.

REFERENCE

For items that are not described in this document, refer to those described in the document of the WM-AI. This chapter describes only items that have been added or changed.

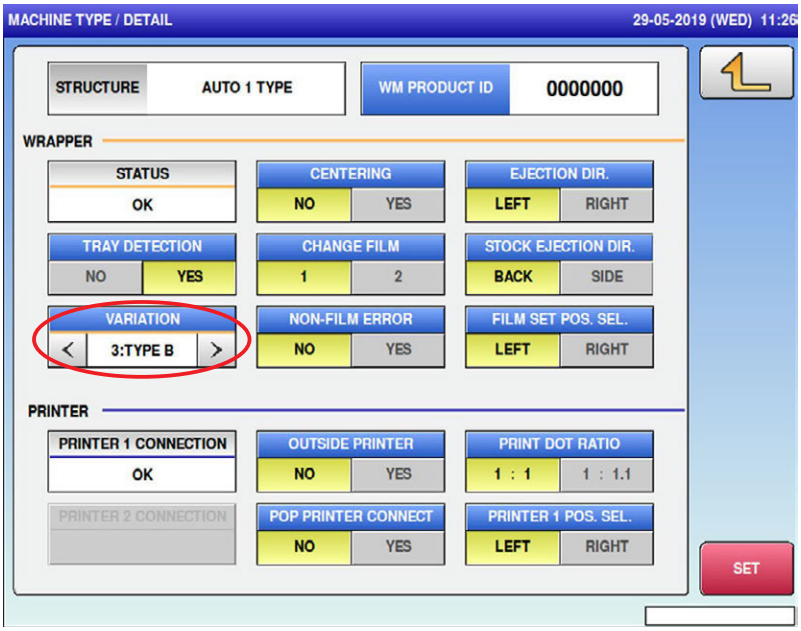
3.1 Adjustment Mode

Enter "495344" for the password using the numeric keypad and press the [LOGIN] button on the screen.
Press the [ADJUST] button.
The menu screen for maintenance adjustment is displayed.



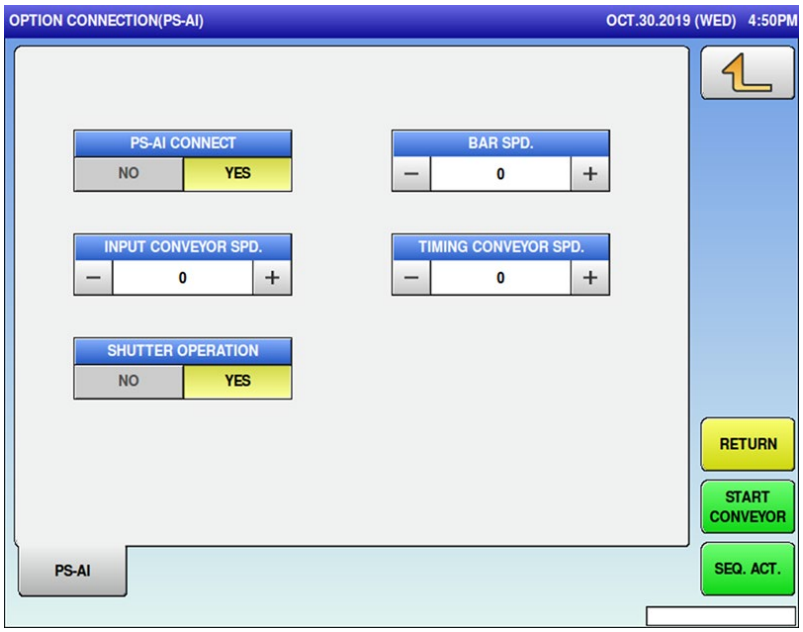
3.1.1 Adjustment: Machine type (detail)

■ WM-A • B



3.1.2 Option connection

■ PS-AI tab



Button	Function
MENU	Returns to the menu. Saves the setting content.
PS-AI CONNECT	Select whether the PS-AI is connected or not. [YES]: The PS-AI is connected. [NO]: The PS-AI is NOT connected. When [NO] is selected, other items are grayed out and their settings are disabled.
BAR SPD.	Set the relative speed from the reference speed of the transport bar.
INPUT CONVEYOR SPD.	Set the relative speed from the reference speed of the input conveyor.
TIMING CONVEYOR SPD.	Set the relative speed from the reference speed of the timing conveyor.
SHUTTER OPERATION	Select whether the shutter operation is executed or not.
RETURN (button)	Executes the return operation of the main body of the scale and the PS-AI.
START CONVEYOR (button)	Executes the test operation of [Input conveyor] and [Timing conveyor]. While the conveyor is in operation, the display changes to [STOP] from [START CONVEYOR]. While the conveyor is in operation, [PS-AI CONNECT] and [SEQ. ACT.] are grayed out and disabled. When [MENU] or [TAB] is pressed while the conveyor is in operation, the test operation is stopped. When the [STOP] button is pressed, the test operation is stopped and the display changes to [START CONVEYOR].
SEQ. ACT. (button)	Executes the sequential action test for [Transport bar], [Input conveyor], and [Timing conveyor]. During the sequential action, the display changes from [SEQ. ACT.] to [STOP]. While the conveyor is operating, [PS-AI CONNECT] and [START CONVEYOR (button)] are grayed out and cannot be operated. When [MENU] and [TAB] are pressed during the sequential action, the test operation is stopped. When the [STOP] button is pressed, the sequential action is stopped, and the display is changed to [SEQ. ACT.].

Chapter 4

Hardware & Wiring Diagrams

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WARNING

Before performing adjustments, be sure to push the emergency stop button.

REFERENCE

For items that are not described in this document, refer to those described in the document of the WM-AI.

4.1 Automatic Infeeder Adjustment (PS-AI)

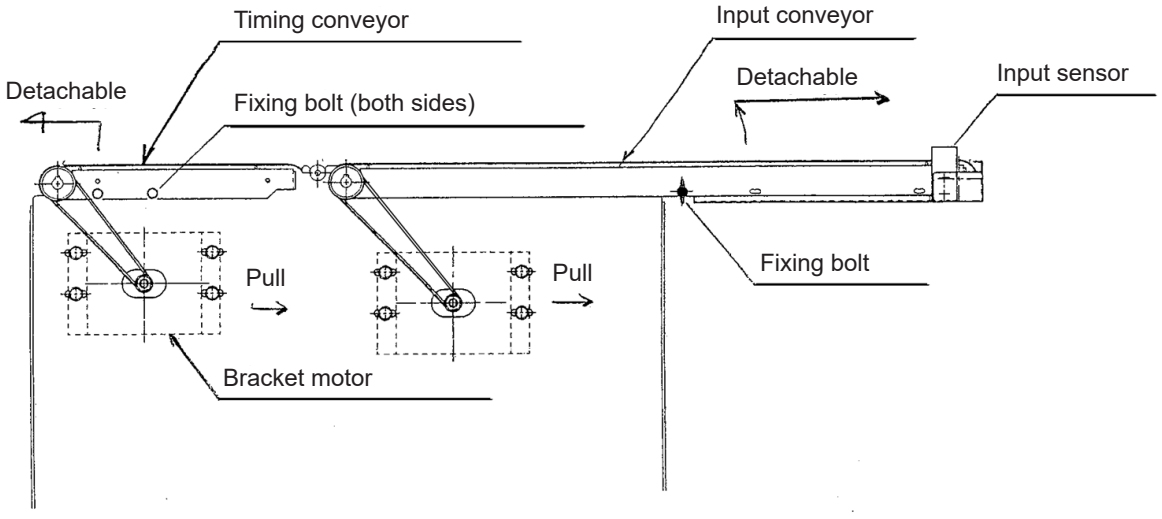
4.1.1 Timing belt tension

1. Remove the side cover (left side).
2. Loosen the four hexagon head bolts (M6x12, sems) fixing the bracket motor.
3. Adjust the timing belt tension by moving the bracket motor to the right.

CAUTION

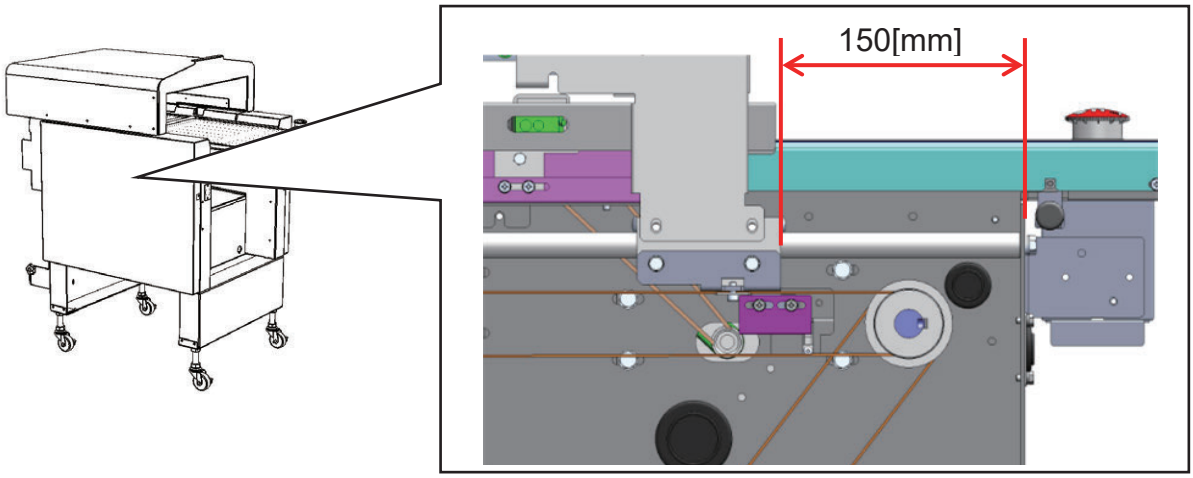
Carefully adjust the belt tension so that it is not too tight.

- Adjust the tension by lightly pressing the belt from the belt side so that the deflection becomes 3 to 5 mm.

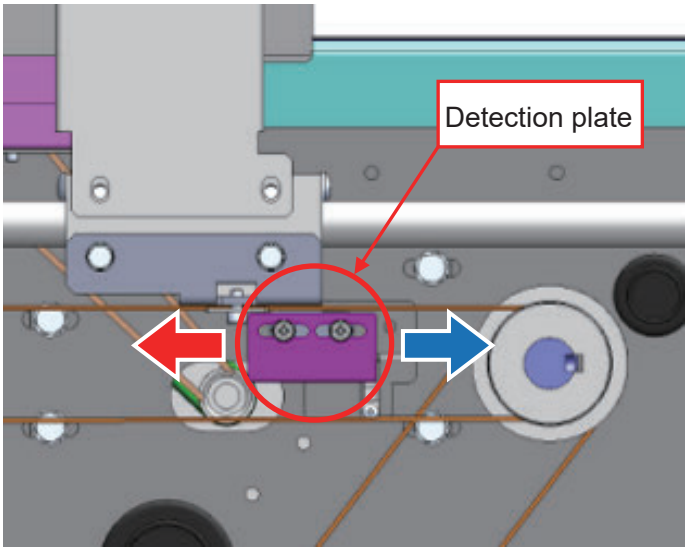


4.1.2 Adjusting the transport position of the transport bar

1. Remove the left side cover.
2. After the PS-AI is returned to its original position, the dimension between the housing edge of the transport bar and the inside of the PS-AI frame is 150 mm.
   Since the stroke of the transport bar (310 mm) is always constant, the push-in stop position of the transport bar is also changed by changing this original position.



3. When changing the original position of the transport bar, adjust the position of the detection plate.



[Example 1]
When changing the stop position of the transport bar to the upstream side, move the detection plate to the left (red arrow).

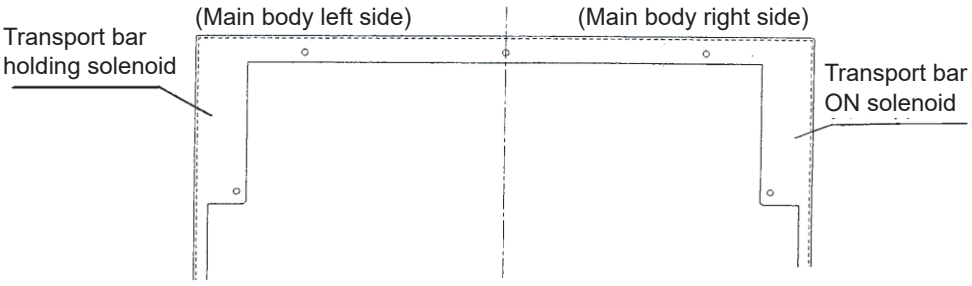
[Example 2]
If you want to change the stop position of the transport bar to the back: Move the detection plate to the right (blue arrow)

> **CAUTION**
>
> When an error message saying “TRAY IS PLACED IN FRONT” appears, perform adjustment so that the transport position is changed to the back.

4.1.3 Transport bar open/close adjustment

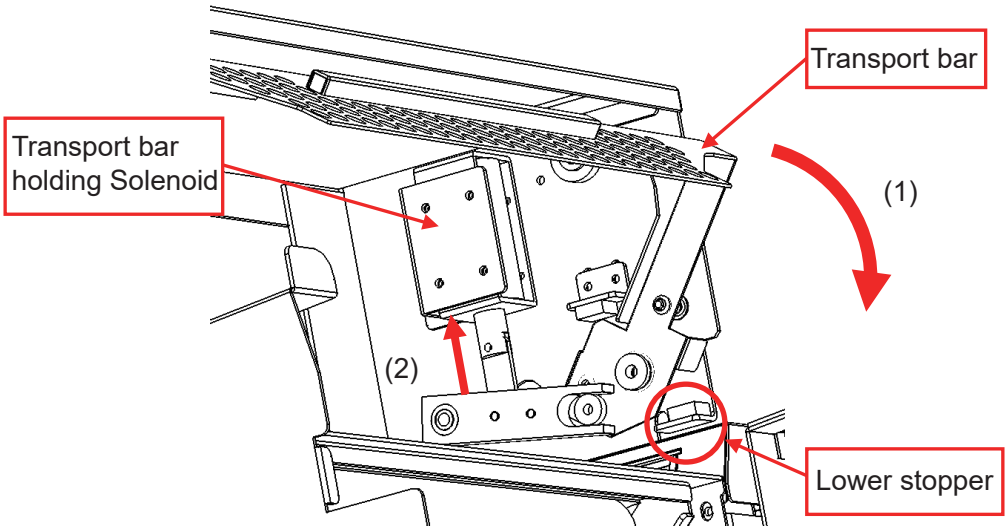
- The transmission bar is opened and closed by two types of solenoids, and the transport bar ON solenoid (75W) is installed on the right side, and the transport bar holding solenoid (9.9W) is installed on the left side.
- When adjusting the transport bar, adjust both the transport bar holding solenoid and the transport bar ON solenoid.

> ⚠ CAUTION
>
> When adjusting the solenoid, adjust the transport bar holding solenoid and then the transport bar ON solenoid.



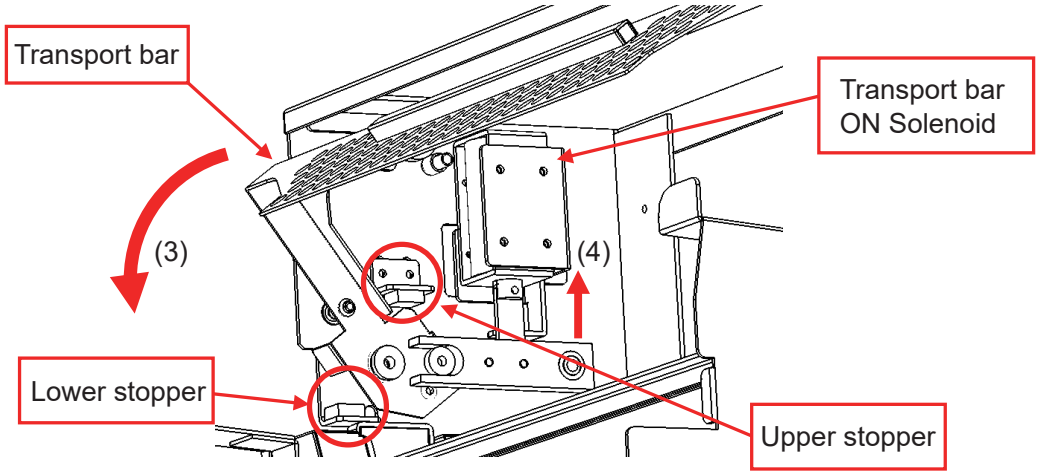
■ Adjusting the transport bar holding solenoid

1. Press the transport bar onto the lower stopper (1) and fix the transport bar holding solenoid while it is raised (2).
2. When fixing the solenoid, adjust the screws (M3x8, hexagon, sems) fixing the transport bar holding solenoid.



■ Adjusting the transport bar ON solenoid

1. Press the transport bar onto the lower stopper (3) and fix the transport bar ON solenoid and the upper stopper while the solenoid is lifted up (4).
2. Before fixing the solenoid and the stopper, adjust the screws (M3x8, hexagon, sems) fixing the transport bar ON solenoid.
3. After fixing them, ensure that there is a stroke where the transport bar can descend to the lower stopper.



4.1.4 Adjusting the tray sensor

■ Function of each sensor

● Full tray detection sensor

When a filling-up conveyor upstream is installed and the relay connection is established, this sensor outputs the stop signal to the upstream conveyor upon continuous detection for one second or more to prevent the bridging phenomenon of a product.

● Tray separation sensor

This sensor separates the trays continuously conveyed from the input conveyor at the speed difference of the timing conveyor and prevents the double-tray detection by stopping the transport operation of the next tray

● Transport bar ON sensor

This sensor detects the back edge of the tray to be conveyed to the WM-AI on the timing conveyor and turns off the timing conveyor temporarily at the same time as obtaining the lowering timing of the transport bar.

● Tray stop sensor

This sensor detects the front edge of a tray conveyed by the timing conveyor and stops the conveyor to prevent interference with the infeed bar. Stock conveyor full tray detection sensor (only for the stock conveyor) This sensor also prevents the bridging phenomenon of a product on the stock conveyor.
Furthermore, it outputs the stop signal to WM-AI upon continuous detection for one second or more.

■ **Adjusting the sensor position**

Because the following sensors are thru-beam type sensors, adjust the sensor position after confirming that a pair of the sensors are horizontal and parallel and the LED of the light-receiving sensor on the left side turns on.

● Full tray detection sensor

No adjustment is required.

● Tray separation sensor

When the double-tray detection is likely to occur, adjust the tray separation sensor by moving the position of the sensor toward the front side.

● Transport bar ON sensor

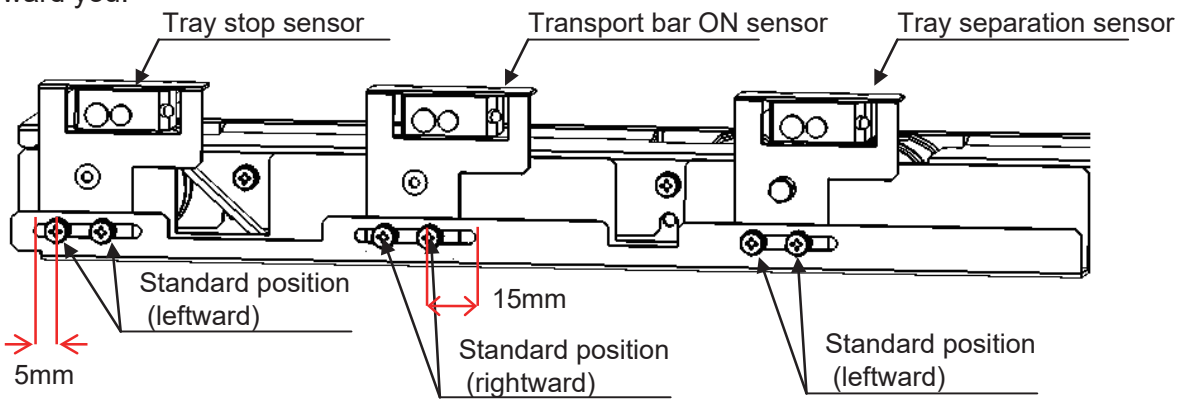
In the event of interference caused by the lowering operation of the transport bar because there is a tray with its upper part larger in the front and back than the detection position, and interferes with the transport bar's lowering movement, adjust the transport bar ON sensor by moving the position of the sensor to the back.

⚠ CAUTION

Note that if the amount of movement adjustment is too large, the contact with the tray may change during the transport operation.

● Tray stop sensor

If the tray is slippery and interferes with the infeed bar, move and adjust the tray stop sensor toward you.



● Stock conveyor full tray detection sensor

Adjust the sensitivity as described below.

1. Turn the sensitivity volume knob to the "•" mark one position before the MAX position.
2. Ensure that the sensor detects at the position 5 to 10 cm above the upper face of the stock conveyor.
3. If detection is not possible, adjust the sensitivity volume by turning the knob in the direction of MAX.

> ⚠ CAUTION
>
> Odd-shaped trays such as circular trays and fan-shaped trays may not be detected.

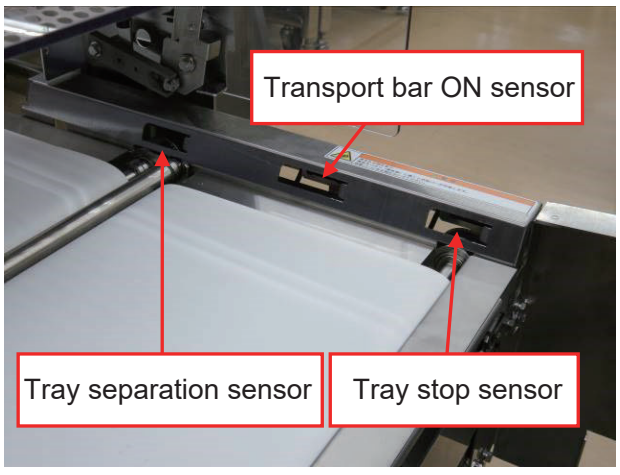
■ Adjusting the tray detection sensor

Sensors to be adjusted

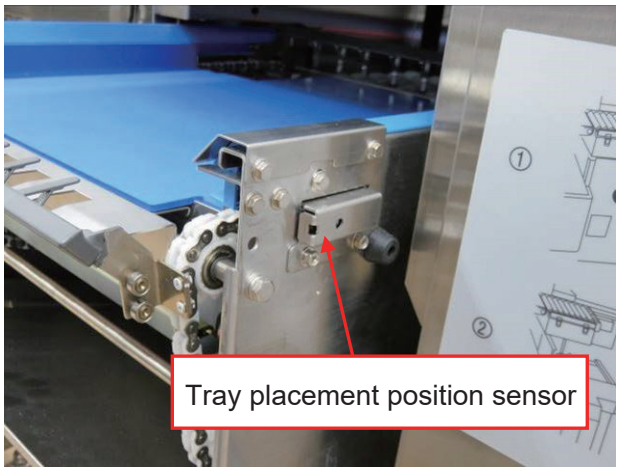
I : For fixing the PS-AI (tray separation sensor, transport bar ON sensor, tray stop sensor)
<Photo .1>
Part number: 123-2421-□□ Wire length: 90 mm Connector: SMR-03V-N

II : For fixing the infeed unit of the main body (tray placement position sensor)
<Photo .2>
Part number: 123-2422-□□ Wire length: 1,050 mm Connector: SMP-04-VC

Note: The same sensor (Keyence PZ-G62N) is used for both I and II. However, note that the sensitivity adjustment method differs between I and II.



<Photo 1> Sensor mounting position (PS-AI)



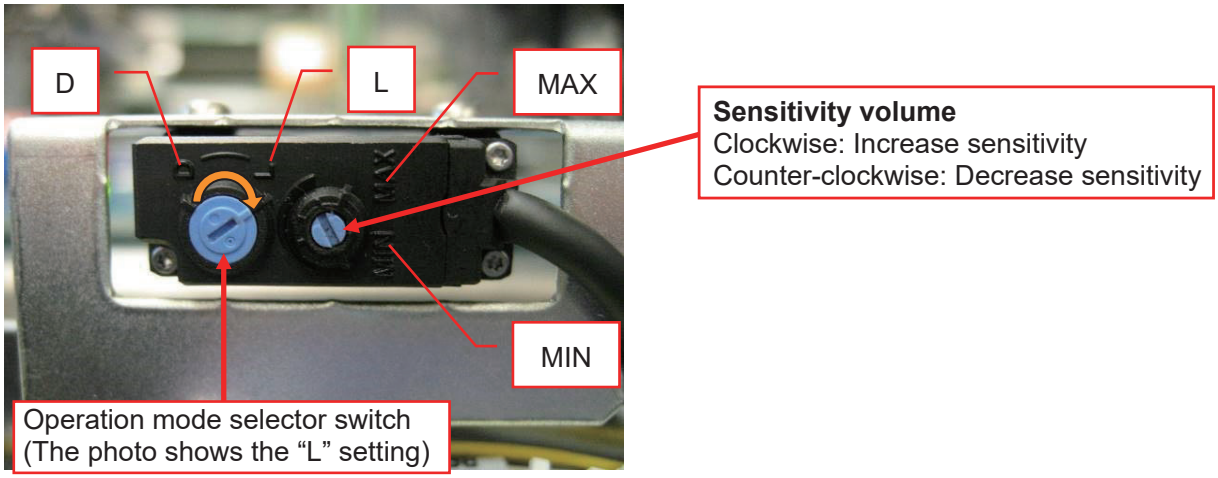
<Photo 2> Sensor mounting position (wrapper infeed unit)

1. Trimmer for adjusting the sensor (PZ-G62N)

Trimmer for adjusting the sensor (PZ-G62N) has a sensitivity volume and an operation mode selector switch. ·····<Photo 3>
Ensure that the operation mode selector switch is set to the “L” (Light ON) side.
The factory default setting of the sensor is “L” (Light ON). (When the sensor is set to “D” (Dark ON), the machine may break down)

Before installation, ensure that the operation mode selector switch is set to the limit in the arrow direction.

To adjust the sensor, operate only the sensitivity volume knob.



<Photo3> Trimmer for adjusting the sensor (PZ-G62N)

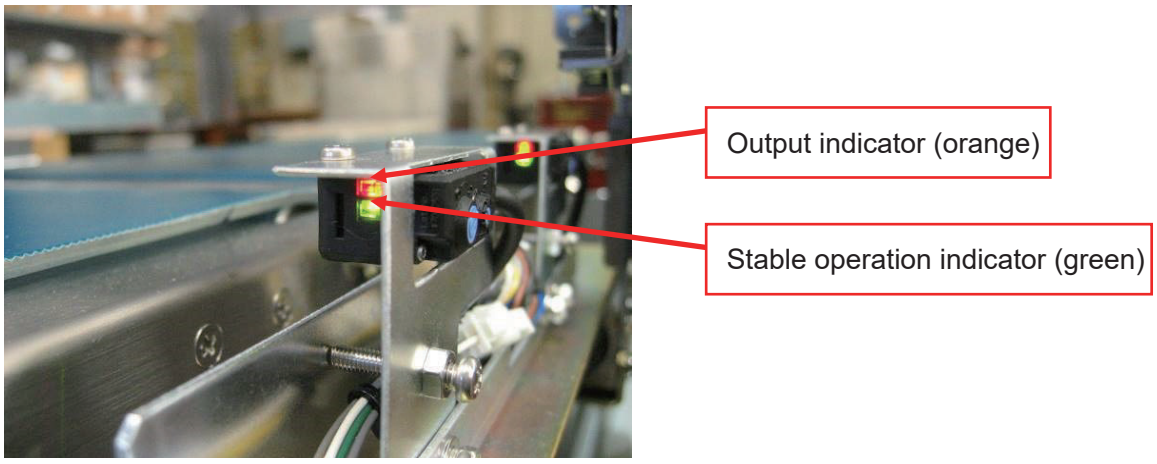
2. Sensor (PZ-G62N) status indicators

The PZ-G62N can judge the state of the sensor from the lighting status of the respective sensor indicators (orange, green).

Output indicator (orange):
The ON / OFF status of the sensor is displayed.
“ON” indicates “non-detection” and “OFF” indicates “detection”. (When “light ON” is set)

Stable operation indicator (green):
The stable state for the setting sensitivity of the sensor is displayed.
When the margin for the setting sensitivity is small, this indicator goes off.
Therefore, the sensor ON / OFF for adjustment indicates the following states:

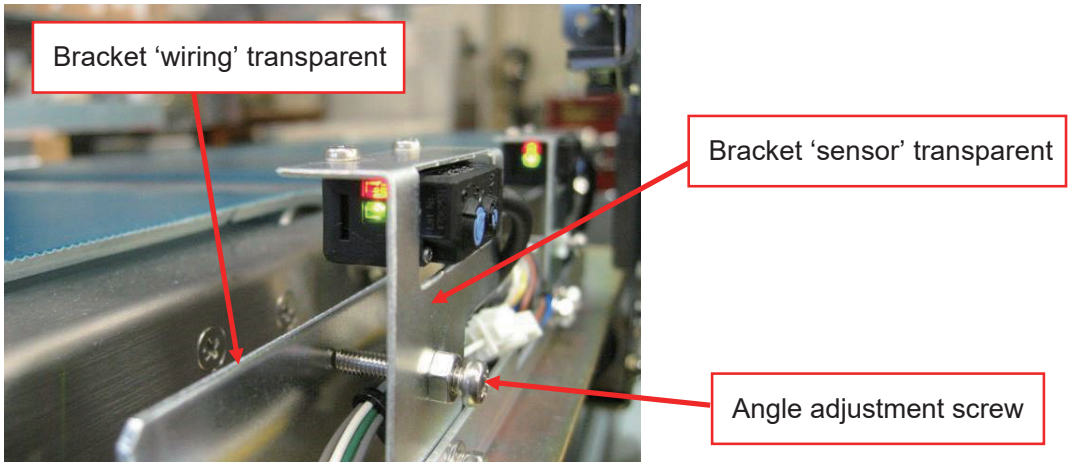
Sensor ON (non-detection) . Both output indicator and stable operation indicator turn ON.
Sensor OFF (detection) ..... Output indicator turns OFF and stable operation indicator turns ON.



<Photo 4> PZ-G62N status indicator

3. Precautions for assembly work (only on the PS-AI side)

The sensor bracket for PS-AI (Bracket 'sensor' transparent) has a screw for angle adjustment. Fix the screw so as not to press onto the bracket 'wiring' transparent in the usual operation.
The angle adjustment screw is used when the sensor detects a place other than the edges of a tray such as trays with a gap at the shape from the side of the tray.
The optical axis of the sensor can be directed upward by pressing the adjustment screw against the bracket.
In this case, a low-height tray such as a 10 mm height tray may not be compatible so an explanation to the user may be necessary.
The sensor sensitivity adjustment method is the same even when the angle is adjusted.



<Photo 5> Composition of PS-AI sensor bracket

4. Items required for sensor adjustment

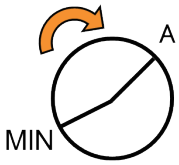
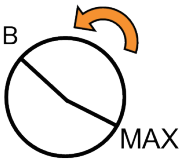
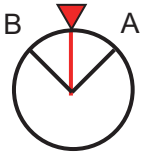
Use a new transparent tray. If it is dirty, proper adjustment is not possible.

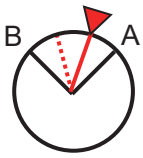
- Items required for sensor adjustment
- The lowest-height tray used by the userz

> **CAUTION**
>
> Some trays may not fit the adjustment range depending on the transparency of the tray.
> The capability to handle tray transparency is almost the same as that of the PS-EMZ.

5. Adjusting the sensitivity

Follow steps 1 to 3 below to adjust the sensitivity using a transparent tray.

<table>
<tr><th>Adjustment procedure</th><th>Description</th></tr>
<tr><td>1</td><td>Common to I and II.
Place the tray on the optical axis, gradually increase the sensitivity volume (clockwise) from the “MIN” position, and then memorize the position (Position A) where the sensor is ON (non-detection).
When the sensor does not turn on after setting to the “MAX” position, let the “MAX” position be Position A.
 
</td></tr>
<tr><td>2</td><td>Common to I and II.
Remove the tray, gradually decrease the sensitivity volume (counter-clockwise) from the “MAX” position, and then memorize the position (Position B) where the sensor is OFF (detection).
When the sensor does not turn off after setting to the “MIN” position, let the “MIN” position be Position B.
 
</td></tr>
<tr><td>3</td><td>I: For the tray stop sensor, transport bar ON sensor, tray separation sensor
Set the sensitivity volume to the intermediate position between Position A and Position B.
The proper rotation angle for Position A and Position B is 20 degrees or more.
If the rotation angle between Position A and Position B is narrow, the optical axis is expected to be deviated.
Check the following items and then readjust the sensor.
(1) If the flat belt conveyor is installed in a floating state
(2) If the sensor or mirror is dirty
(3) If the sensor cover is installed in a floating state
(4) If there is any problem with the parts (sensors, brackets, etc.).
 

▼ Sensitivity volume position
II: Tray placement position sensor
Divide Position A and Position B into three equal parts and set the sensitivity volume to a position closer to A.
The proper rotation angle for Position A and Position B is 20 degrees or more.
If the rotation angle between Position A and Position B is narrow, the optical axis is assumed to be deviated. Check the following items and then readjust the sensor.
(1) If the positional relationship between the regression mirror and the sensor is not appropriate
(2) If the sensor or mirror is dirty
(3) If there is any obstruction on the optical axis
(4) If there is any problem with the parts (sensors, brackets, etc.).
 

▼ Sensitivity volume position</td></tr>
</table>

6. Detection check

Check that the product is detected correctly according to the following procedure:

[Check with transparent trays]

(1) Place the transparent tray and check that the sensor turns off (detection).

(2) Move the tray between the right side and the center and between the left side and the center, and then check that the sensor indicator light (green) does not turn off or blink.

(3) Check that the sensor indicator light (green) does not turn off or blink even when moving the tray with an uneven surface on its side.

<Explanation of (3)>
Check that there are no problems because the intensity of the sensor light may be strong or weak due to the lens effect caused by the uneven surface on the side.

[Confirmation with a 10 mm high tray]

(1) Place the tray and check that the sensor turns off (detection).

(2) Move the tray between the right side and the center and between the left side and the center, and then check that the sensor indicator light (green) does not turn off or blink.

7. When a transparent tray and a 10 mm high tray are not compatible

When the 10 mm high tray is not detected correctly, readjust the sensitivity by replacing the transparent tray with a 10 mm high tray and check the detection because the 10 mm high tray has stricter conditions than the transparent tray for the sensor.

8. When the sensor angle has been adjusted (only for I)

There are cases where a transparent tray, a 10mm high tray, and a special shape tray cannot be compatible. In this case, explain it to the user.
The trade-off relationship is a 10 mm high tray (short tray at the user) and a special shape tray. Determine which one to prioritize with the user.
If priority is given to a special shape tray, check that trays can be detected in order from the shortest tray and tell the user which tray cannot be detected.

4.1.5 Upper limit when PS-AI input conveyor is lifted up

Remove the left side cover of the PS-AI main body, and you can see a screw as shown by the red circle marked in Figure 1.
This screw is the upper limit screw when lifting up the input conveyor.

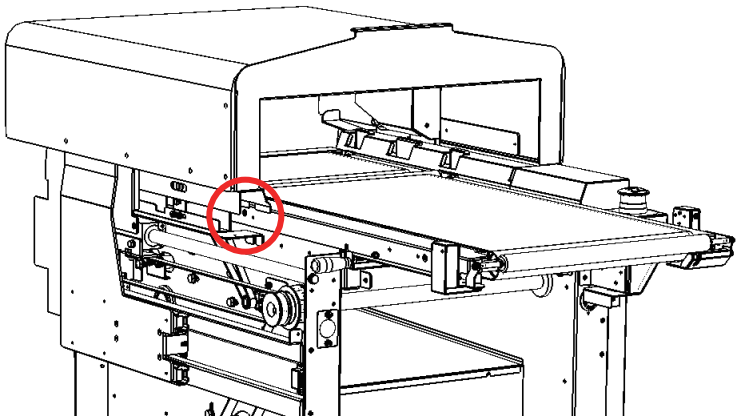


Figure 1

Figure 2 below is an enlarged view of Figure 1.

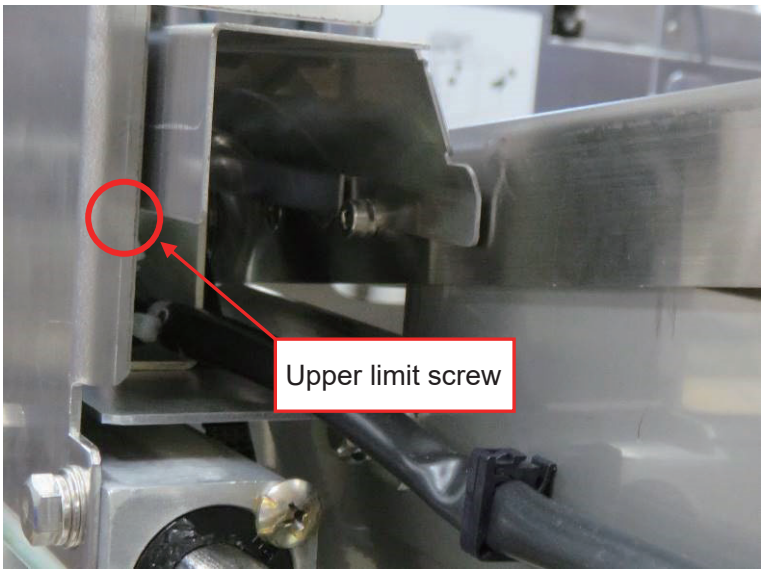


Figure 2

When loosening the thumbscrew (input conveyor lock screw) on the right side of the input conveyor and lifting up the front of the input conveyor, the sensor cover will hit the limit screw as shown by the red circle marked in Figure 3. This is the upper limit.

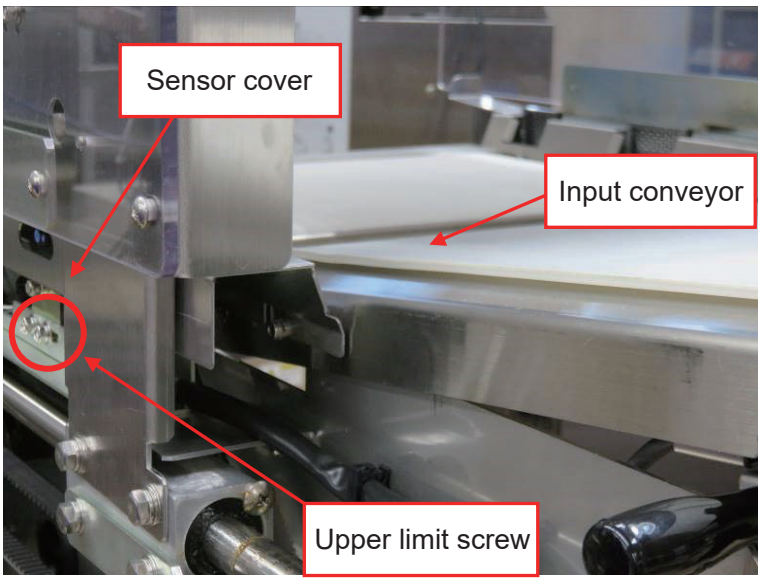


Figure 3

⚠ CAUTION

Ensure that Cover (1) in Figure 4 comes under Cover (2) (yellow dotted line circle).
If Cover (1) and Cover (2) are improperly installed and Cover (1) is not under Cover (2), note that there is a possibility of blocking the optical axis of the sensor because Cover (1) is easily lifted when lifting up the input conveyor.

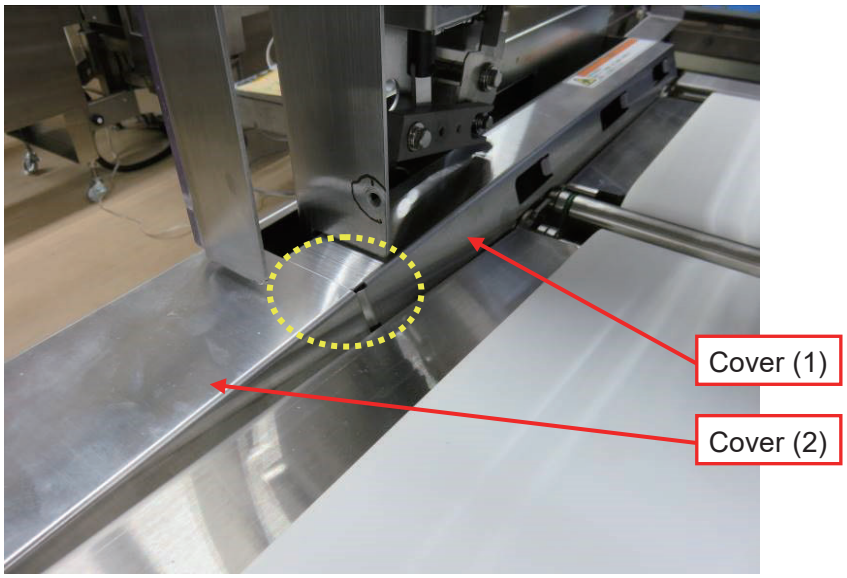


Figure 4

4.2 Electrical Configuration

4.2.1 Overview

⚠ DANGER

If you need to put your hand into the main body, be sure to push the emergency stop button.

⚠ CAUTION

Sufficient care must be taken because the logic-based 24 VDC power supply is not cut off even when the emergency stop button is being pushed.

⚠ CAUTION

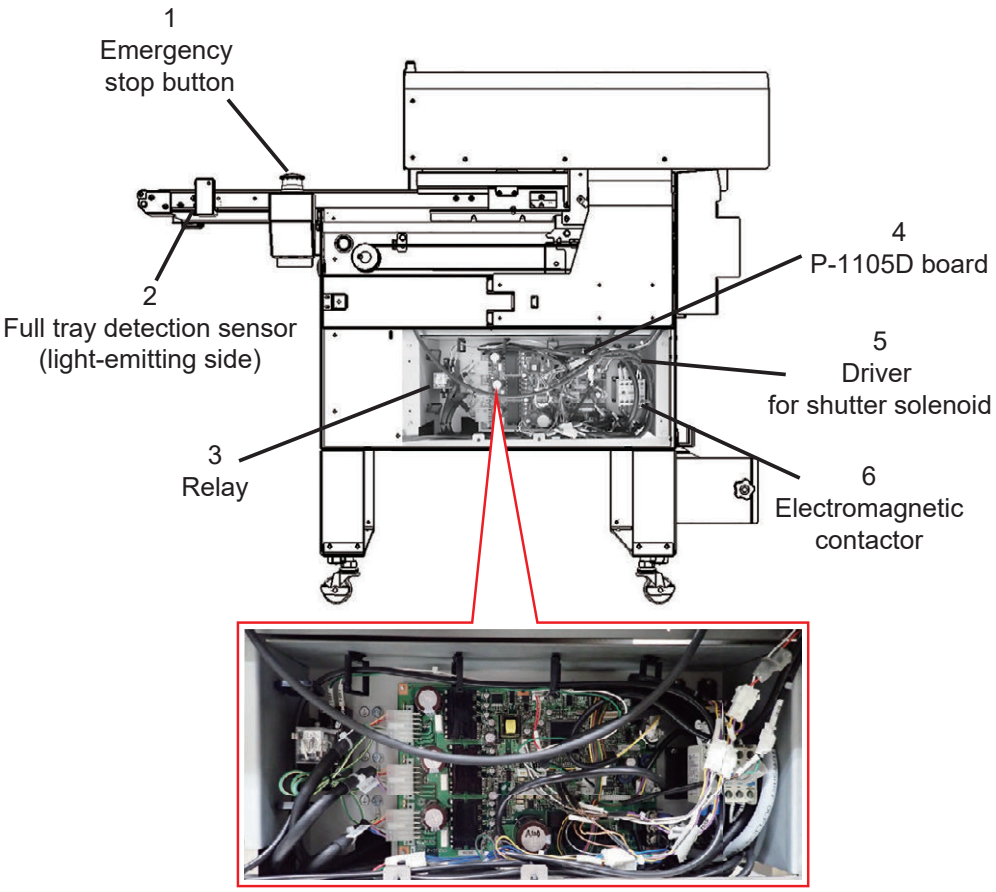
If a fuse blows, be sure to replace it with the designated fuse.

NOTE

The servo motor is equipped with a precise motor rotation detection sensor.
Never apply strong force or impact on the servo motor.

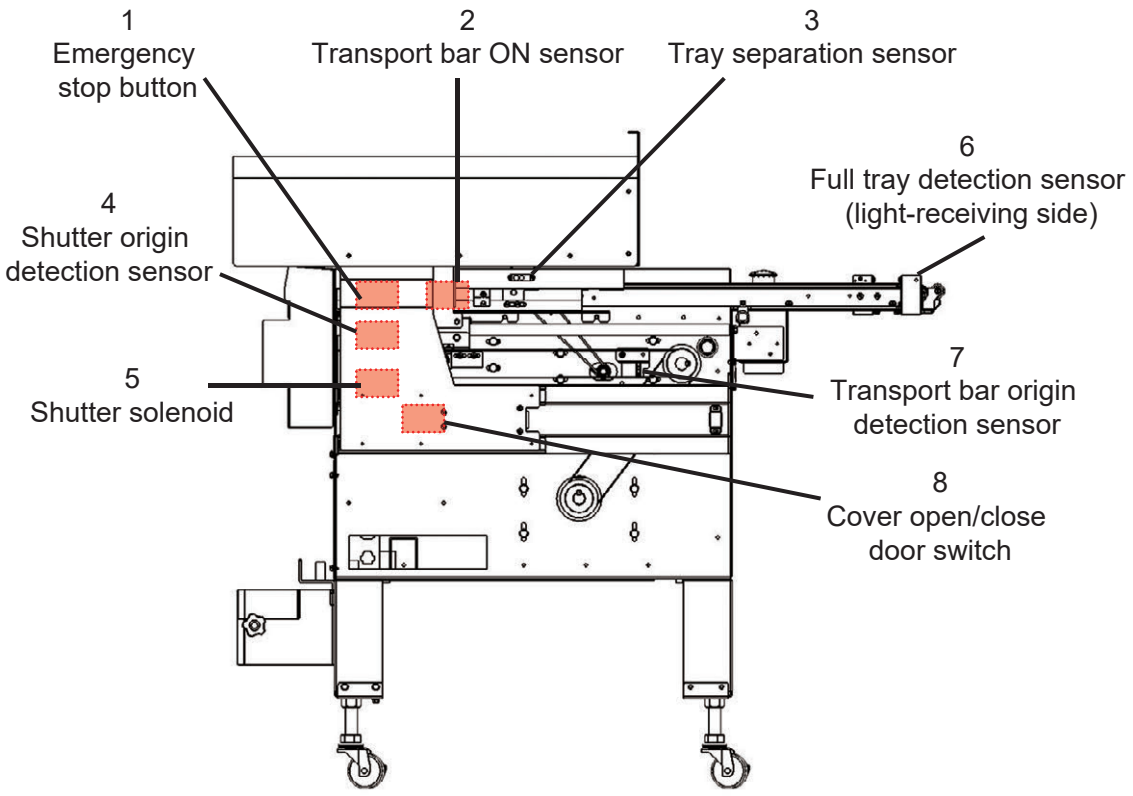
Safety switch	In addition to the four switches of the WM-AI, the bottom label printer is equipped with two switches: lower sticking drawer switch and sticking conveyor removal switch. A total of 8 switches prevent this machine from being damaged and secure the safety of the user. The wiring connection method is the same as that of WM-AI. The PS-AI has two safety switches at the attachment/detachment point between the safety cover and the main body.
Motor speed	The PS-AI does not have a volume knob for motor speed adjustment. Adjust the conveyor speed and the conveyor bar speed on the PS-AI option connection screen.

4.2.2 PS-AI (right side)



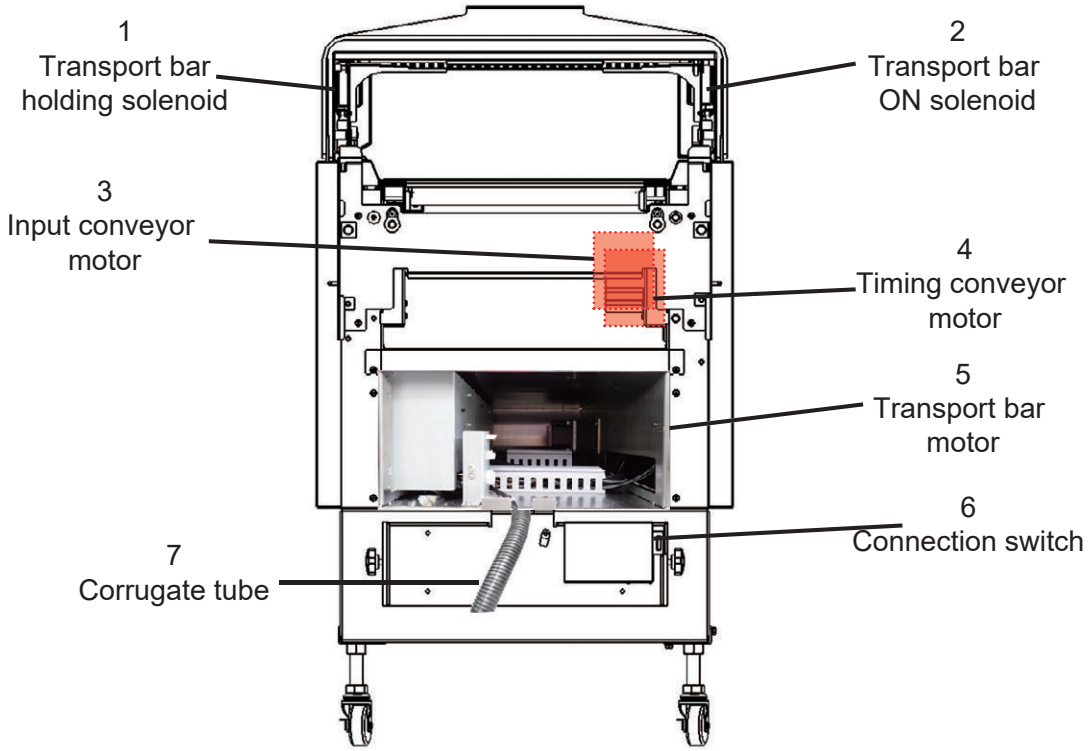
No.	Board name / Part name	Function
1	Emergency stop button	Activates the electromagnetic contactor and cuts off the drive system power supply, when pressed.
2	Full tray detection sensor (light-emitting side)	See “Function of each sensor” on page 4-5.
3	Relay	Controls ON / OFF of the user conveyor. Same as that of the PS-UNI.
4	Automatic tray transport control board (P-1105D)	Controls the motor of the transportation conveyor, the timing conveyor, and the transport bar, respectively, and outputs solenoids, etc. and inputs sensors, etc.
5	Driver for shutter solenoid	Controls the shutter solenoid.
6	Electromagnetic contactor	Same as the electromagnetic contactor used in the main body.

4.2.3 PS-AI (left side)



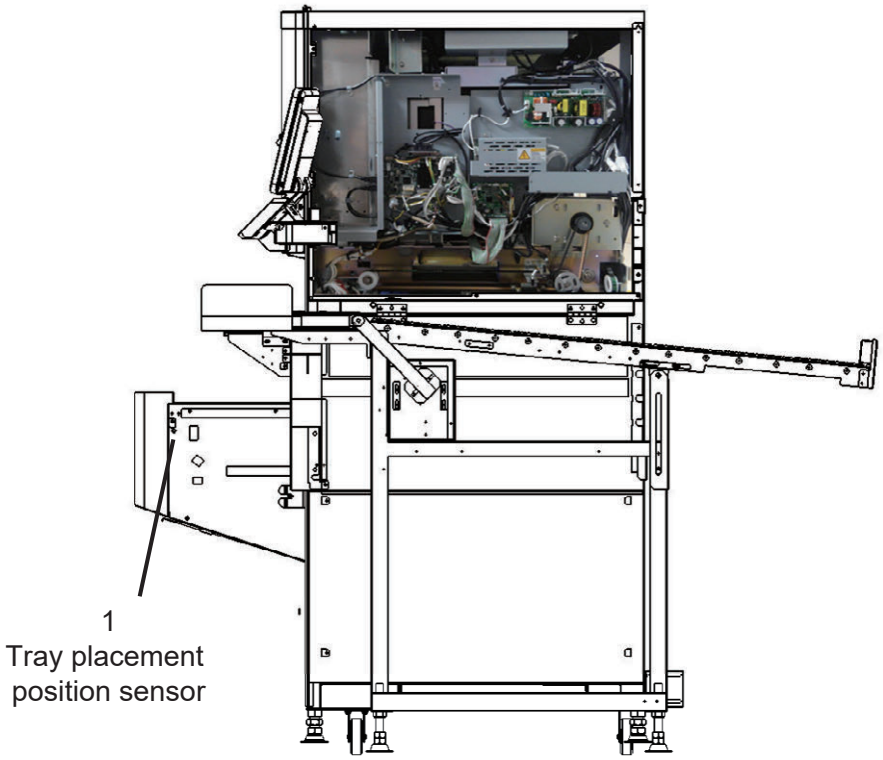
No.	Board name / Part name	Function
1	Tray stop sensor	Refer to “Function of each sensor” on page 4-5.
2	Transport bar ON sensor	Refer to “Function of each sensor” on page 4-5.
3	Tray separation sensor	Refer to “Function of each sensor” on page 4-5.
4	Shutter origin detection sensor	Detects that the shutter returns to its original position.
5	Shutter solenoid	Activates the shutter.
6	Full tray detection sensor (light-receiving side)	Refer to “Function of each sensor” on page 4-5.
7	Transport bar origin detection sensor	Detects that the transport bar returns to its original position.
8	Cover open/close door switch	The PS-AI does not work when the cover is opened, but manual loading is possible.

4.2.4 PS-AI (back side)



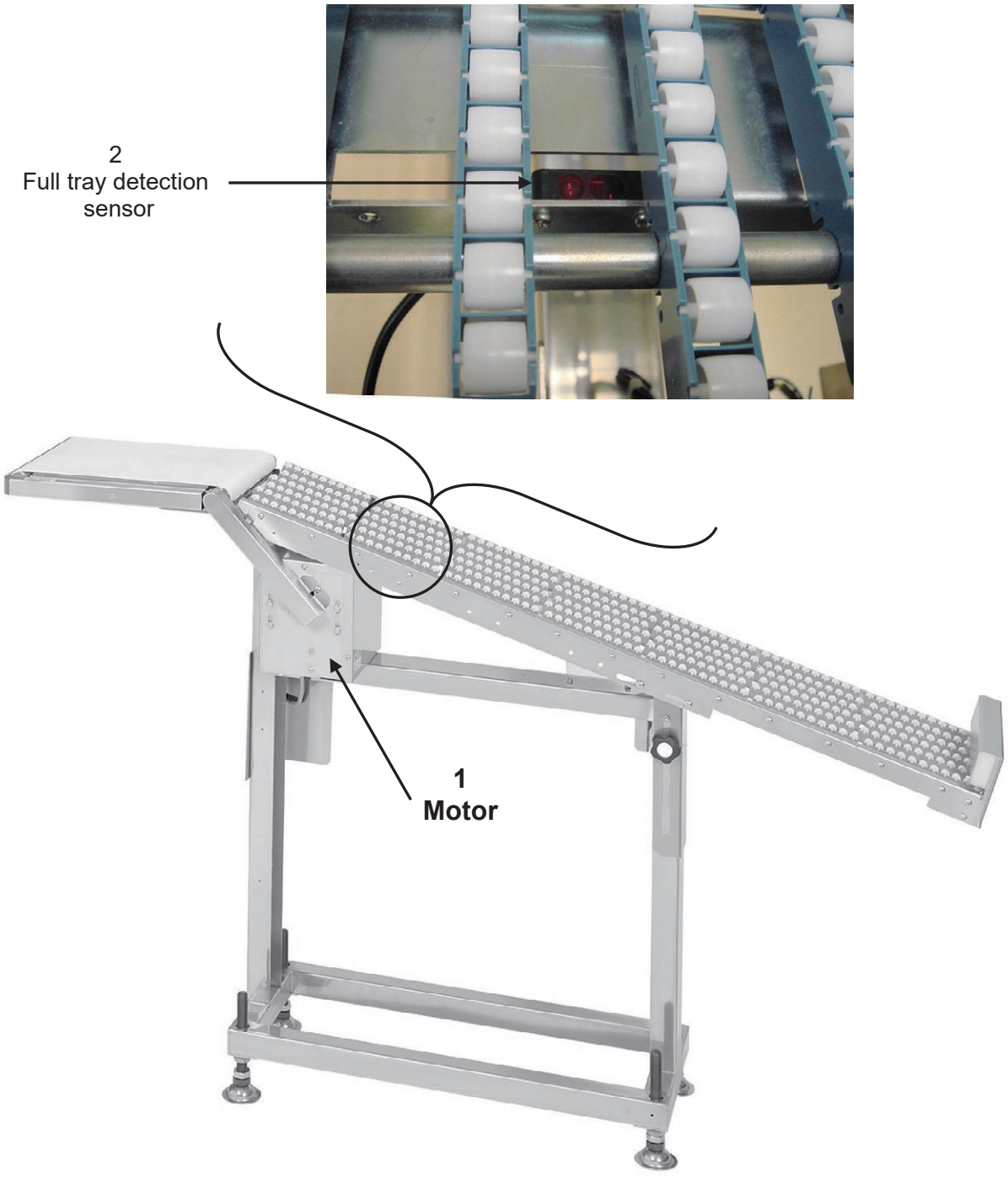
No.	Board name / Part name	Function
1	Transport bar holding solenoid	Solenoid that keeps the transport bar lowered (always ON possible)
2	Transport bar ON solenoid	Solenoid that turns ON only when the transport bar starts (always ON not possible)
3	Input conveyor motor	Same as K1122-M used in the main body
4	Timing conveyor motor	Same as K1122-M used in the main body
5	Transport bar motor	Same as K1118-M used in the main body
6	Connection switch	Cuts off the drive system power supply at the time of separation.
7	Corrugate tube	Store the cable between the PS-AI and the main body (from the wrapper side)

4.2.5 Upper right side of the main unit



No.	Board name / Part name	Function
1	Tray placement position sensor	■ Install this board only for Type K (PS-AI optional). ■ An error is displayed if the sensor is shaded at the time of product input. ■ Used when the sensor logic is “L” (Light ON) (“L” is set at the time of factory shipment) ■ If the sensor cable is broken or disconnected, it becomes the logic when the sensor is shaded, and an error is displayed. ■ The sensor is also enabled in the DP mode (weighing / price labeling mode), and an error is displayed if the sensor is shaded during weighing because there is a risk of incorrect weighing when a product is placed on the connection part between the main body and the PS-AI. ■ This sensor is disabled when the option setting is set to [NO] for the PS-AI connection. ■ In this case, if the product is manually placed at the front of the weighing platter, the product may get entangled in the infeed bar and the machine may be damaged. Therefore, be sure to set [PS-AI Connection] to “YES” for Type K.

4.2.6 Stock conveyor unit (for right ejection)



No.	Board name / Part name	Function
1	Motor	Motor for stock conveyor
2	Full tray detection sensor	If trays accumulate and become full on the stock conveyor, the sensor detects them, stops the ejection, and an error screen is displayed.

4.2.7 P-1105 board version of PS-AI interlock type WM-AI

[1. U.S.A. & Canada]

The following boards are installed when the machine is shipped from the factory.
Every WM-AI: P-1105D-6 (the board for POP applicator is D-3)
PS-AI：P-1105D-1

When stocking parts, it is recommended to purchase only P-1106D-6.

Simplified chart

	Board for WM-AI	Board for POP applicator	Board for PS-AI
	A100, A200, A300	A400	A600
Factory shipment	D-6	D-3	D-1
Maintenance	D-1 or D-6	D-1 or D-6 or D-3	D-1 or D-6

[2. Countries requiring the CE marking (EU member states and EFTA member states)

The following boards are installed when the machine is shipped from the factory.
WM-AI (not interlocked with PS-AI): P-1105D-6 (The board for the POP applicator is D-3.)
WM-AI (interlocked with PS-AI): P-1105D-1 (The board for POP applicator is D-3.)
PS-AI：P-1105D-1

Boards for maintenance
Use P-1105D-6 to repair the WM-AI (not interlocked PS-AI).
Use P-1105D-1 to repair the WM-AI (interlocked with PS-AI). (Because the use of D-6 does not meet the criteria of the EMC Directive)
Use P-1105D-1 to repair the PS-AI. (Because the use of D-6 does not meet the criteria of the EMC Directive)
Be sure to use P-1105D-1 and never use D-6 to meet the criteria of the EMC Directive.

When stocking parts, it is recommended that users in countries that use PS-AI purchase two types of boards: P-1105D-1 and P-1105D-6,
It is recommended that users in countries that do not use PS-AI purchase P-1105D-6 only.

Simplified chart

		Board for WM-AI	Board for POP applicator	Board for PS-AI
		A100, A200, A300	A400	A600
Factory shipment	w/o PS	D-6	D-3	-
	with PS	D-1	D-3	D-1
Maintenance	w/o PS	D-6	D-6 or D-3	-
	with PS	D-1	D-1 or D-6 or D-3	D-1

[3. Countries other than those mentioned above]

The following boards are installed when the machine is shipped from the factory.
WM-AI (not interlocked with PS-AI): P-1105D-6 (The board for the POP applicator is D-3.)
WM-AI (interlocked with PS-AI): P-1105D-1 (The board for POP applicator is D-3.)
PS-AI：P-1105D-1

Boards for maintenance
Use P-1105D-6 to repair the WM-AI.
Although either D-1 or D-6 can be used for an old machine with D-1 installed from the beginning, use only D-6 for a new machine with D-6 installed from the beginning.)
Use P-1105D-6 to repair the PS-AI. (D-1 can also be used)
Either D-1, D-3, or D-6 can be used to repair the POP applicator board.

When stocking parts, it is recommended to purchase only P-1106D-6.

Simplified chart

		Board for WM-AI	Board for POP applicator	Board for PS-AI
		A100, A200, A300	A400	A600
Factory shipment	w/o PS	D-6	D-3	—
	with PS	D-1	D-3	D-1
Maintenance	w/o PS	D-6	D-6 or D-3	—
	with PS	D-6	D-1 or D-6 or D-3	D-6

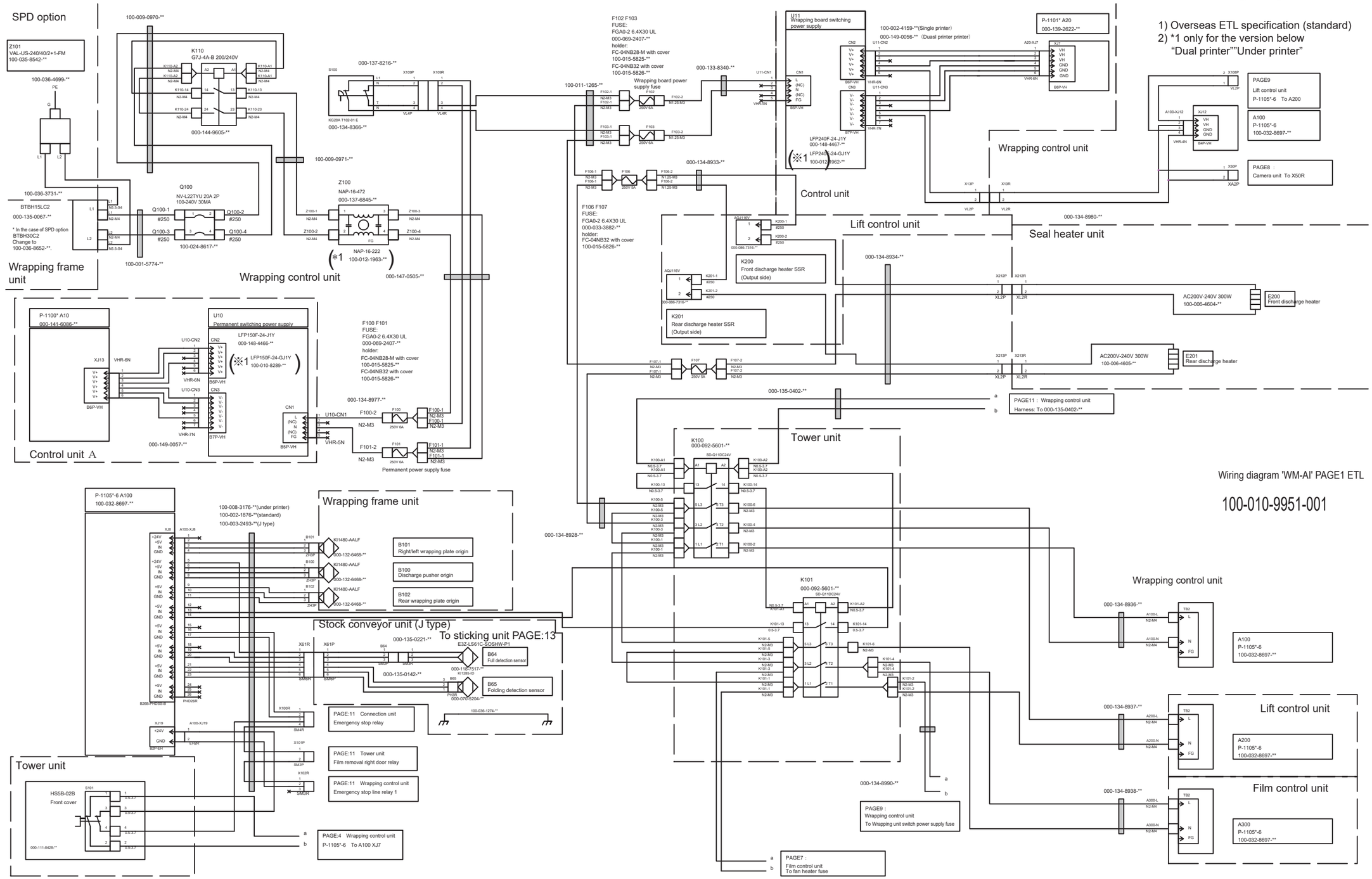
Supplementary explanation:

- Around October 2019, the P-1105 board of WM-AI was changed from D-1 to D-6.
- The P-1105D-6 board has a relatively higher electrostatic yield strength than the P-1105D-1 board.
- The P-1105D-6 board emits relatively higher radio waves than the P-1105D-1 board.
- Because the PS-connected WM-AI increases the usage of the P-1105 board, and the total amount of radiated radio waves exceeds the specified value of the EMC Directive, use the P-1105D-1 board that minimizes radio wave radiation.
- By installing a ferrite core, the P-1105D-1 board will have an electrostatic yield strength equivalent to the P-1105D-6 board.
- Therefore, when using the P-1105D-1 board, the ferrite yield is equivalent to that of P-1105D-6 by adding a ferrite core.
- Since the board revision is updated, the current status is D, but it may be updated to E, F, and so on.

4.3 Electric Wiring Diagram

4.3.1 WM-AI Overseas ETL specification (standard)

Wiring diagram 'WM-AI' PAGE1

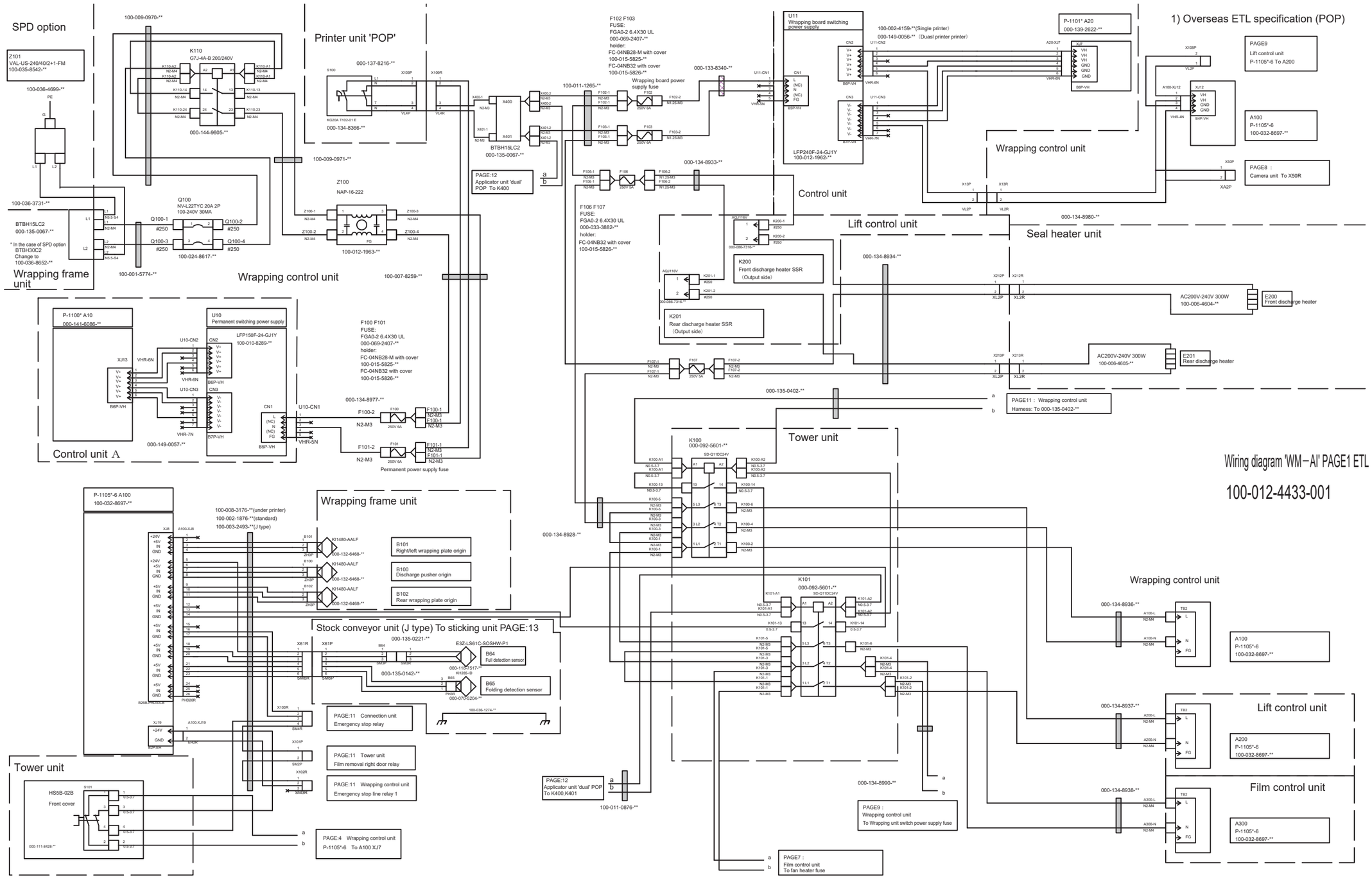


Wiring diagram 'WM-AI' PAGE1 ETL

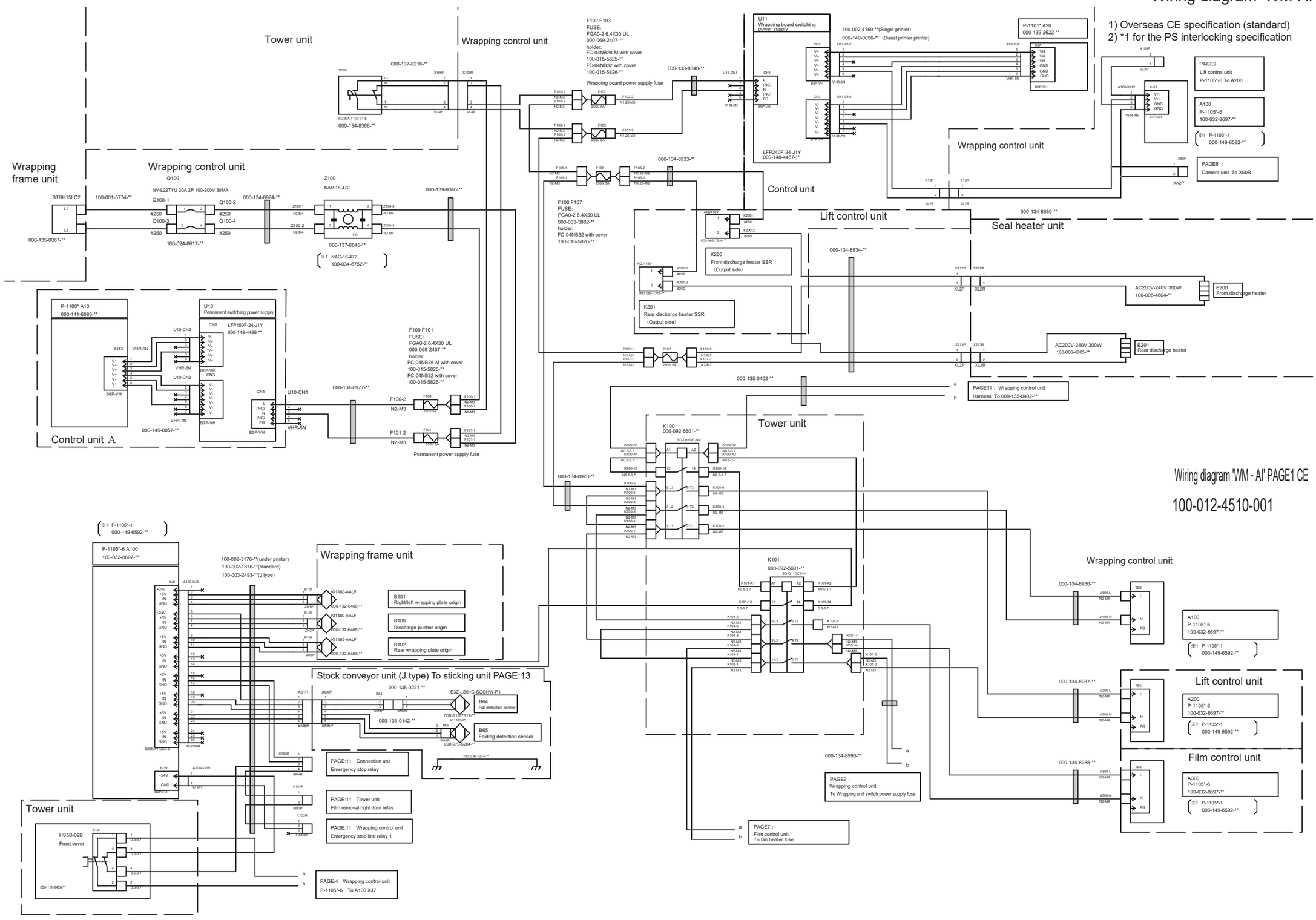
100-010-9951-001

4.3.2 WM-AI Overseas ETL specification (POP)

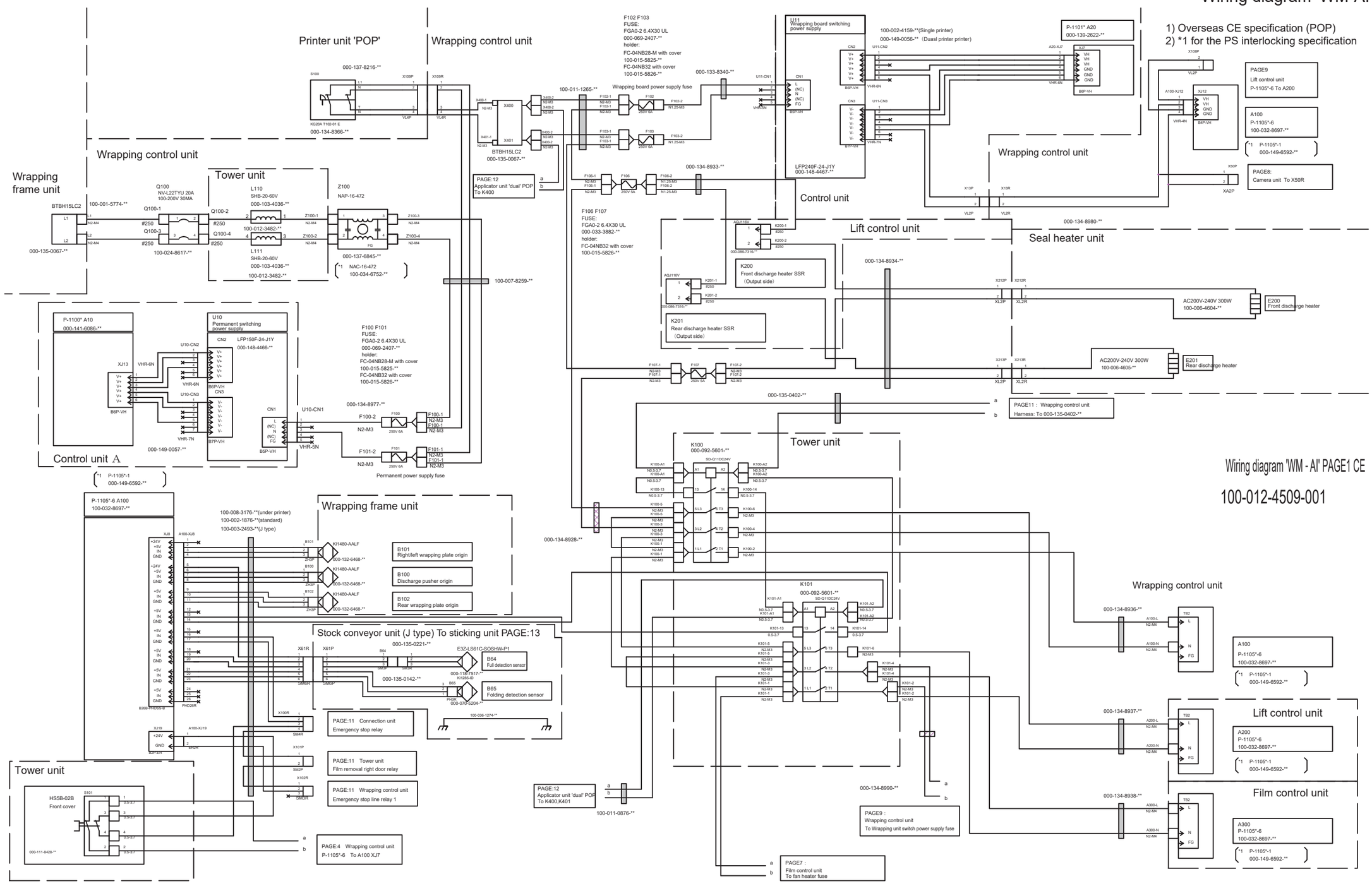
Wiring diagram 'WM-AI' PAGE1



4.3.3 WM-AI Overseas CE specification (standard)



4.3.4 WM-AI Overseas CE specification (POP)



4.3.5 WM-AI Overseas specification

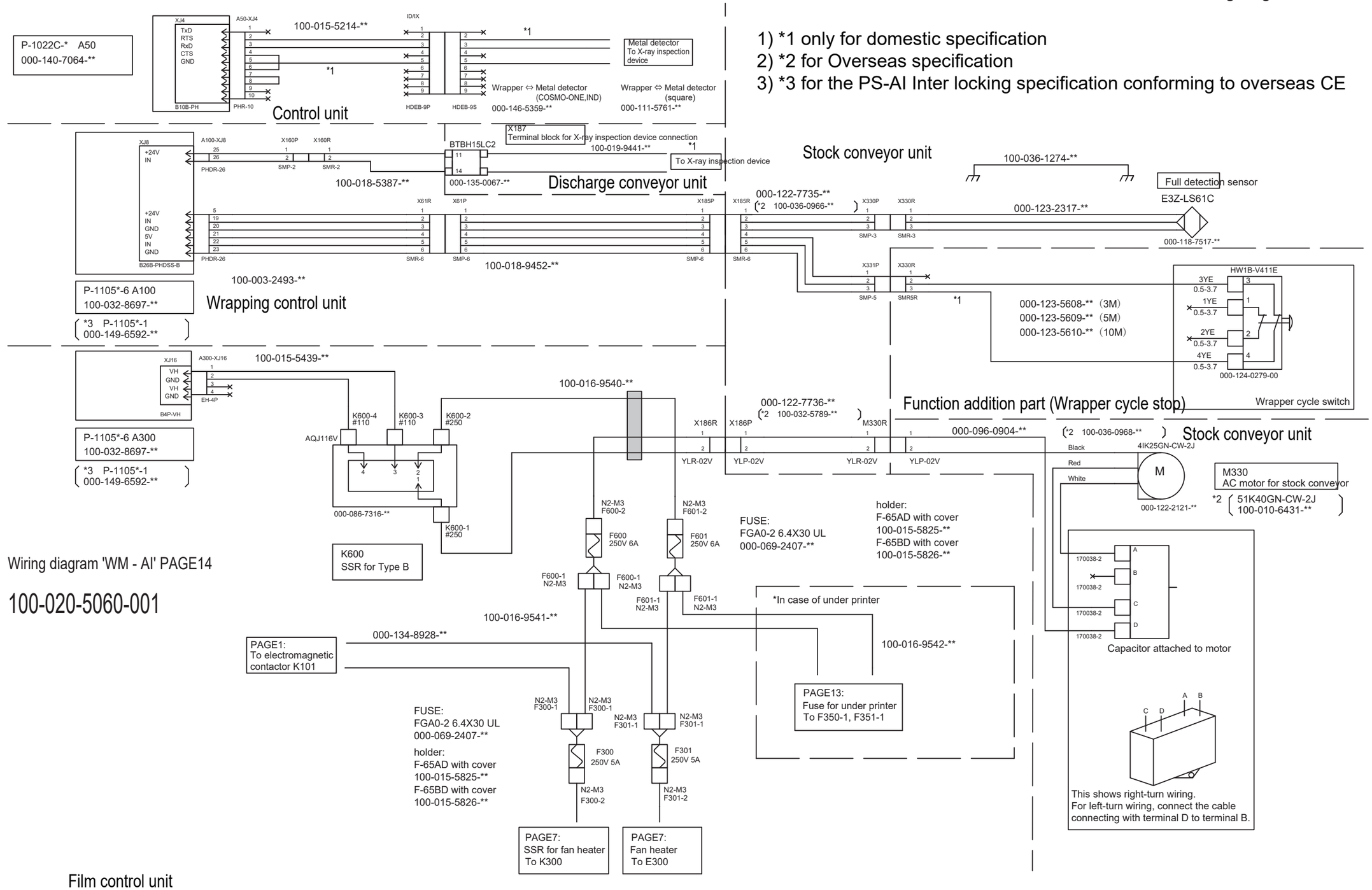
Wiring diagram 'WM - AI' PAGE14

100-020-5060-001

Film control unit

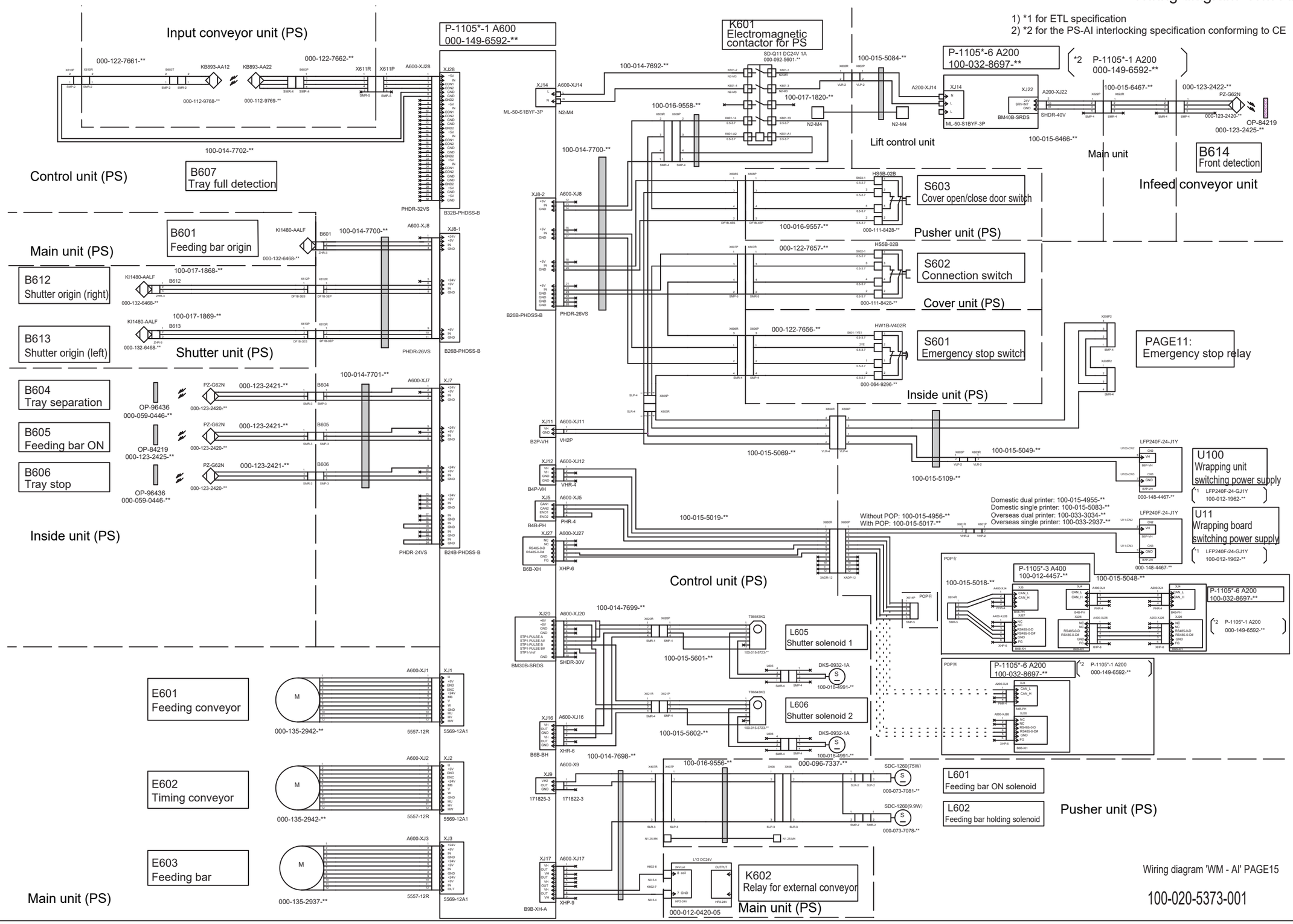
Wiring diagram 'WM-AI' PAGE14

1) *1 only for domestic specification
2) *2 for Overseas specification
3) *3 for the PS-AI Inter locking specification conforming to overseas CE



4.3.6 PS-AI

Wiring diagram 'WM-AI' PAGE16



Chapter 5

Maintenance

5.1 Maintenance 82
5.2 Replacing the PS-AI flat belt 83
5.2.1 Removing input conveyor and timing conveyor 83
5.2.2 Removing the flat belt 84
5.2.3 Mounting the flat belt 85
5.3 Replacing the stock conveyor 86
5.4 Periodic maintenance parts 89
5.4.1 WM-AI B/BW 89
5.4.2 PS-AI 90

5.1 Maintenance

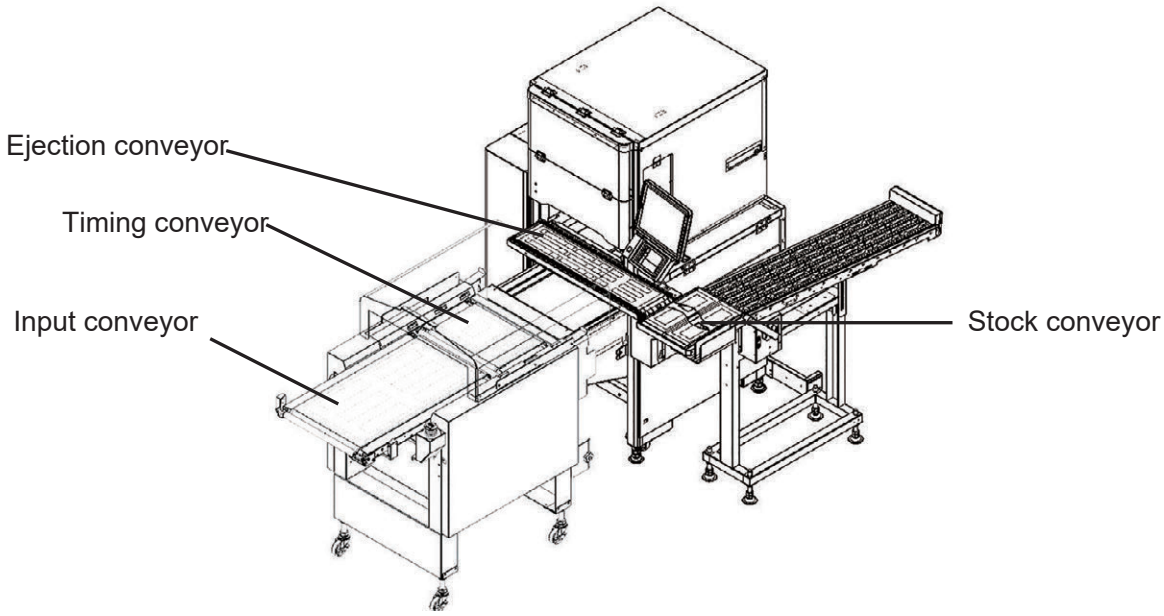
REFERENCE

For items that are not described in this document, refer to those described in the document of the WM-AI. Only items that have been added or changed are described here.

Parts necessary for periodical replacement are the flat belt for the conveyor and the timing belt in the tray transportation conveyor of the lower sticking unit.

WARNING

When replacing parts, be sure to turn off the main power switch or push the emergency stop button.



5.2 Replacing The PS-AI Flat Belt

5.2.1 Removing input conveyor and timing conveyor

[Removing the input conveyor]

1
Remove the side covers installed on the right and left sides.

2
Remove the inside sensor covers installed on the right and left sides.

3
Remove the full detection sensor connectors installed on the right and left sides.

4
Remove the timing belt by loosening the four bracket motor fixing belts.

5
Pull out the conveyor toward you while slightly lifting it up.

[Removing the timing conveyor]

1
Remove the side covers installed on the right and left sides.

2
Remove the inside sensor covers installed on the right and left sides.

3
Loosen the four fixing bolts.

4
Loosen the four bolts fixing the bracket motor and remove the timing belt.

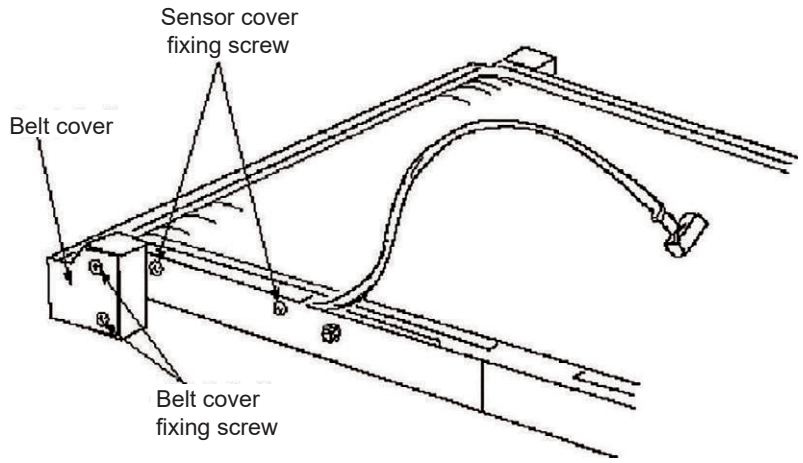
5
Remove the conveyor from the main body by lifting up and pulling it in an upward direction.

5.2.2 Removing the flat belt

The same procedure is applied to the input conveyor and the timing conveyor.

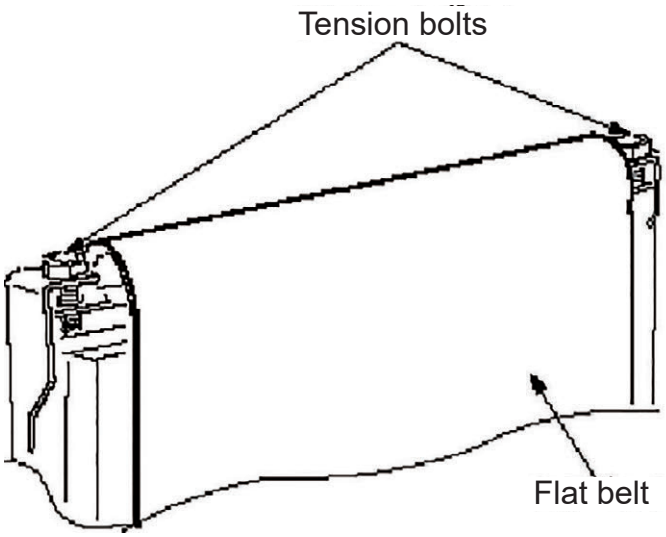
1

Remove the parts on the side where the timing pulley is not installed.
(Sensor bracket, sensor cover, belt cover, cover fixing screw, etc.)



2

Loosen the flat belt by turning two respective tension bolts, and then pull out the belt from the frame.



5.2.3 Mounting the flat belt

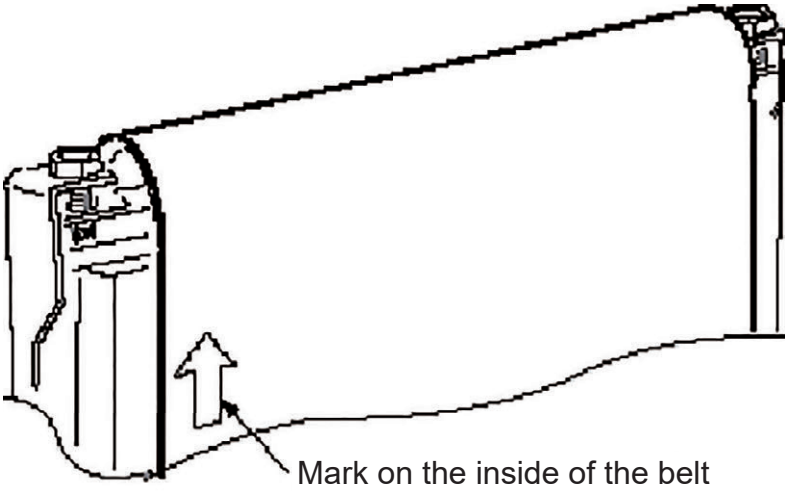
1

To mount the flat belt, follow the opposite order of the removal procedure.

> ⚠ CAUTION
>
> When mounting a new flat belt, confirm the transport direction of the flat belt.

Align the rotational direction of the conveyor with the transport direction of the flat belt.
The transport direction of the flat belt is shown by the arrow mark on the inside of the belt.

Adjust the flat belt tension by turning the tension bolt to the extent where the spring of the tension bolt contracts by 5 to10 mm.



5.3 Replacing The Stock Conveyor

[Precautions for replacement work]

Note 1 Be sure to prepare four bearings before replacing the belt.
Part number: 000-094-2649-**

Note 2 Be careful not to bend the frame when pulling out the shaft from the bearings because it is difficult to remove the shaft due to a locking agent applied to the gap between the shaft and the bearings.
When replacing the shaft, be sure to apply a locking agent to the areas of contact between the shaft and the bearings.

Note 3 Part name: Loctite 601 Part number: 000-040-1491-**

1

Remove the screw fixing the cover.

Figure 1

2

Remove the screw fixing the cover.
Now, you can remove the cover by pulling the cover around the stock conveyor toward you.

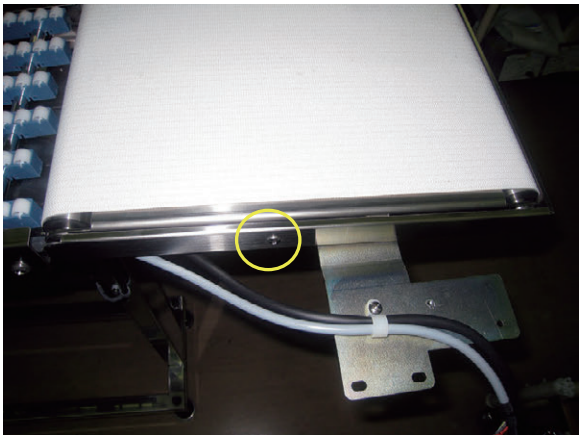


Figure 2

3

Remove the two screws fixing the timing belt cover.

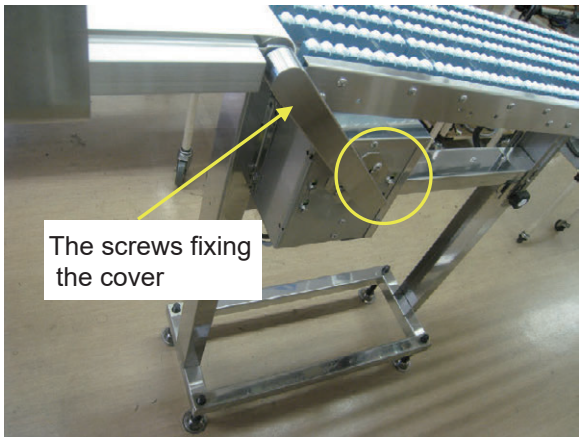


Figure 3

4

Remove the two screws fixing the tray guide, and then remove the tray guide.

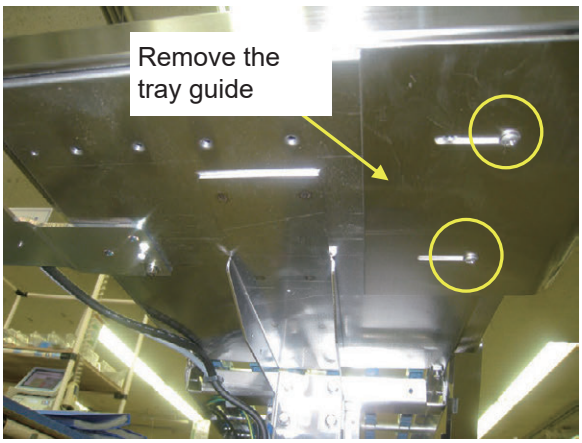


Figure 4

5

The timing belt becomes loose by loosening the four hexagon head bolts for fixing the motor unit and then lifting up the motor unit. Now, you can remove the timing belt.

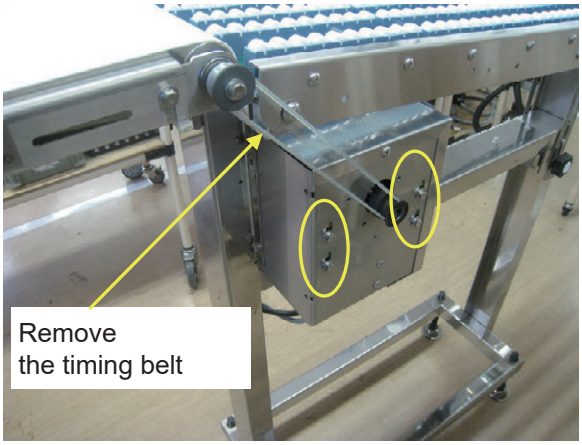


Figure 5

6

Loosen the two hexagon head bolts.

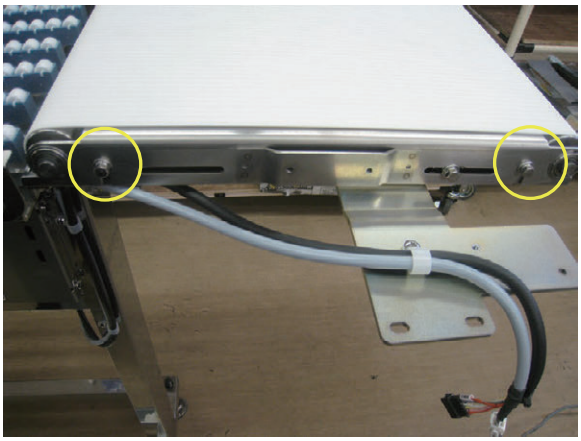


Figure 6

7

Loosen the two hexagon head bolts.
You can remove the stock conveyor unit by lifting the stock conveyor unit.

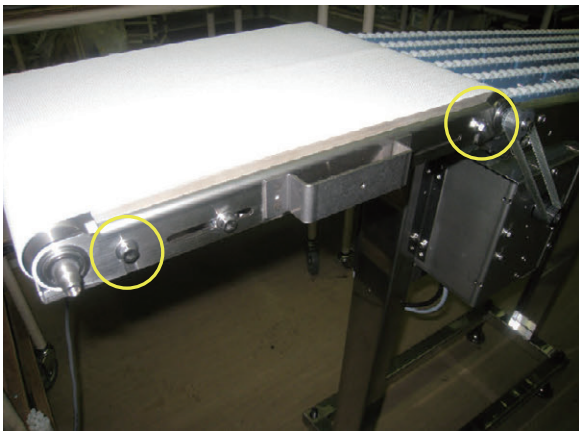


Figure 7

8

Remove the hexagon head bolt (as shown by the red circle) for fixing the tension roller. This photo shows that the stock conveyor is attached to the main body frame.
The unit itself is shown by the yellow ellipse.

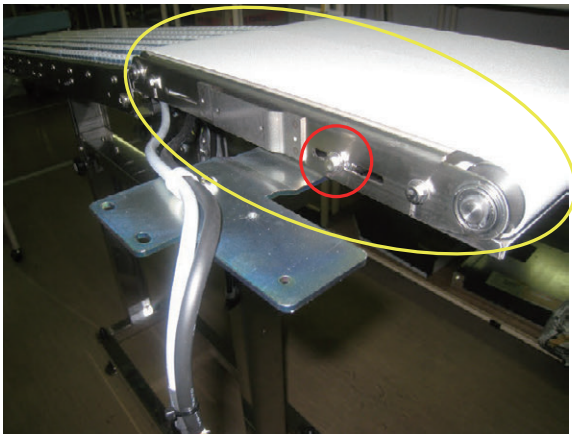


Figure 8

9

Remove the hexagon head bolt (as shown by the red circle) for fixing the tension roller. The tension roller can be removed as shown by the yellow ellipse (the roller is inside the belt) in steps 8 and 9.

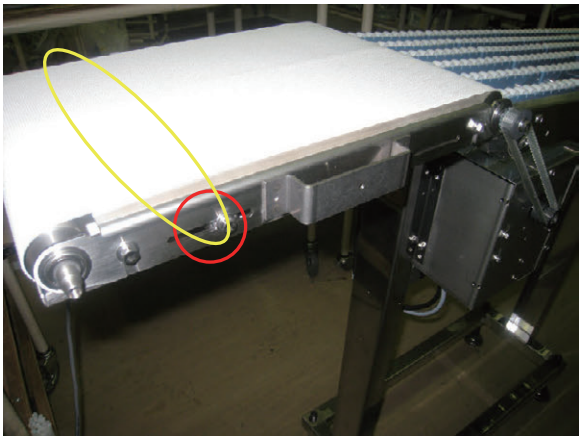


Figure 9

10

Loosen the screw on the pulley for driving the timing belt and remove the pulley.
Note that the timing belt is not installed yet at this point.

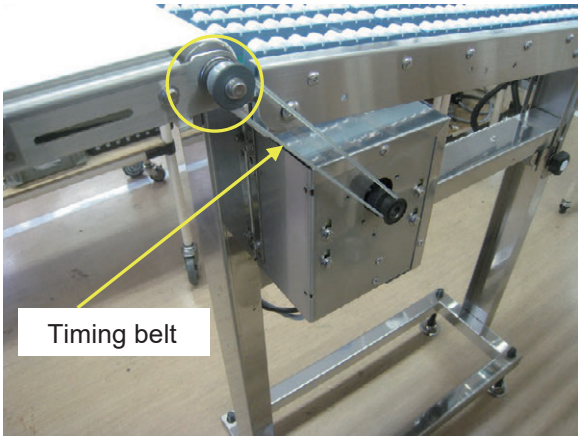


Figure 10

11

Remove the two C-rings.

1. The pulley as shown by the red circle is not installed yet at this point.
2. Timing belt is not installed yet at this point.

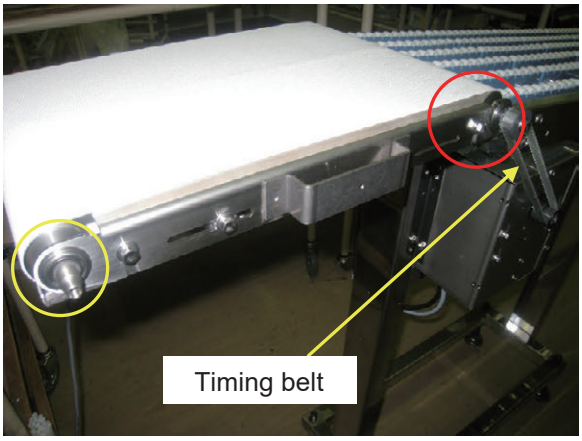


Figure 11

12

Remove the two C-rings.

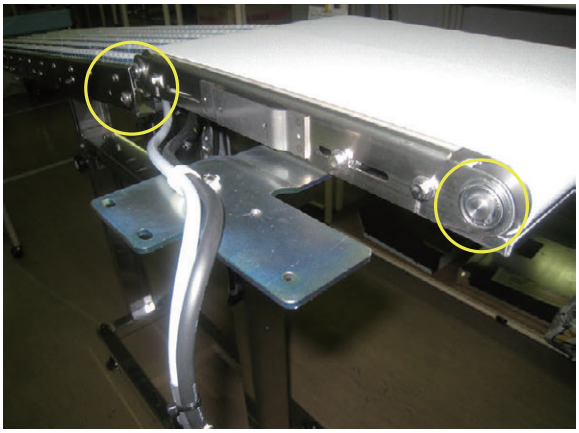


Figure 12

13

Remove the shaft from the main body frame by removing the C-rings in steps 11 and 12 and separating the bearings and the shaft (driving roller and driven roller).
Now, you can remove the frame for stock conveyor.
When replacing the stock conveyor belt, be sure to apply locking agent to the four contact portions (outer circumference of the shaft and inner circumference of the bearings) between the bearings and the shaft (driving roller and driven roller).

5.4 Periodic Maintenance Parts

5.4.1 WM-AI B/BW

Maintenance parts to be replaced in five years (parts required at the time of overhaul)

- Drive system timing belt
  → Conveyor drive unit
  Ejection conveyor unit (B)
  Sticking unit (BW)

- Radial system bearings
  → Power transmission unit

- Round belt
  → Sticking unit (BW)

- O-ring
  → Ejection conveyor unit (B)
  Sticking unit (BW)

- Solenoid
  → Sticking unit (BW)

- Flat belt
  → Ejection conveyor unit
  Stock conveyor unit

(For the contents which are not described in this document, refer to those described in the document of the WM-AI standard machine / J / JW.)

5.4.2 PS-AI

Maintenance parts to be replaced in five years (parts required at the time of overhaul)

- Round belt
  → Main body unit
- Flat belt
  → Timing conveyor unit
  Input conveyor unit
- Hanenite rubber
  → Pusher unit
  Shutter unit
- Solenoid
  → Pusher unit (two types)
  Shutter unit

Chapter 6

Options

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6.1 Installing SPD (Only Applies To The North American Version)

SPD is a surge protective device that limits the transient overvoltage such as lightning surges and shunts surge currents.

> ⚠ CAUTION
>
> Installing this option will invalidate the ETL approval of the shipped machine.
> Be sure to undergo a field inspection at site.

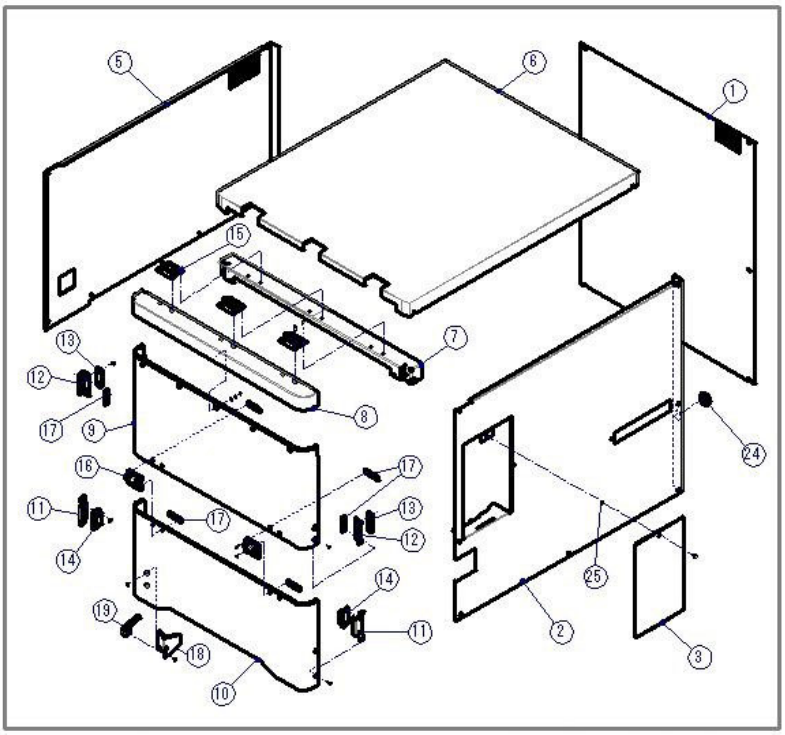
6.1.1 Confirming included items

Part name	Quantity
SPD AS	1
Harness’C4’ SPD	1
Terminal block BTBH30C2	1
Cross hexagon headed bolt' sems S2P2' M4’8’SS chromate	4

6.1.2 Assembling method

1

Remove covers (1) and (5). (For the POP printer type, remove the same covers.)

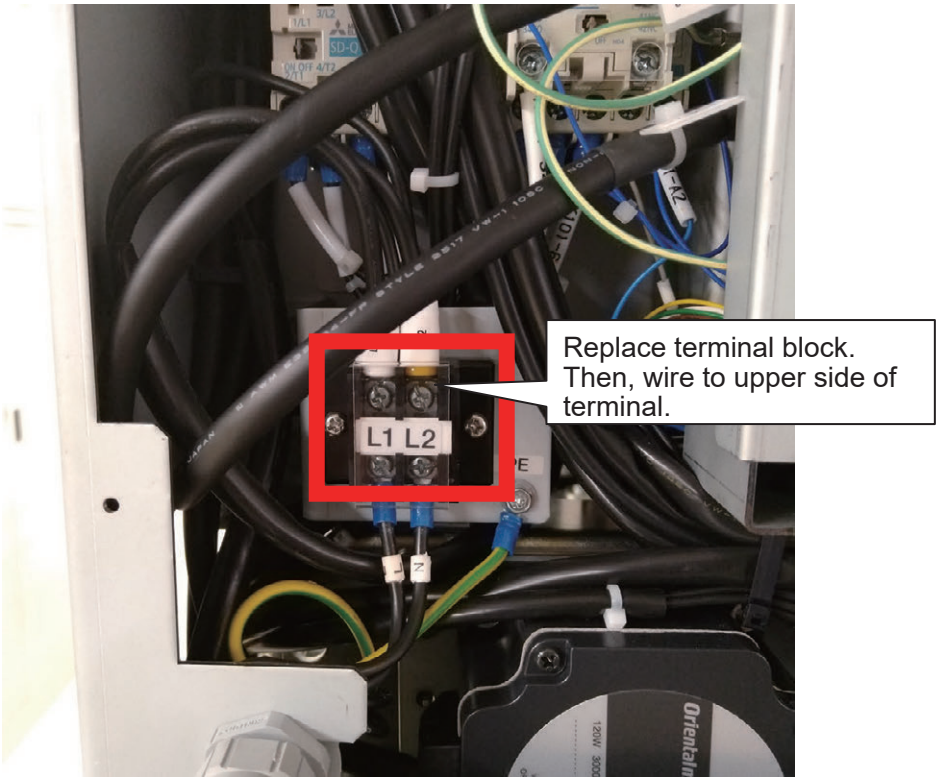


2

Replace the terminal block of the L-plate inside cover (5) with BTBH30C2.

3

Wire harness 'C4' SPD on the upper side of the terminal block.
(Also perform wiring for L1 and L2.)

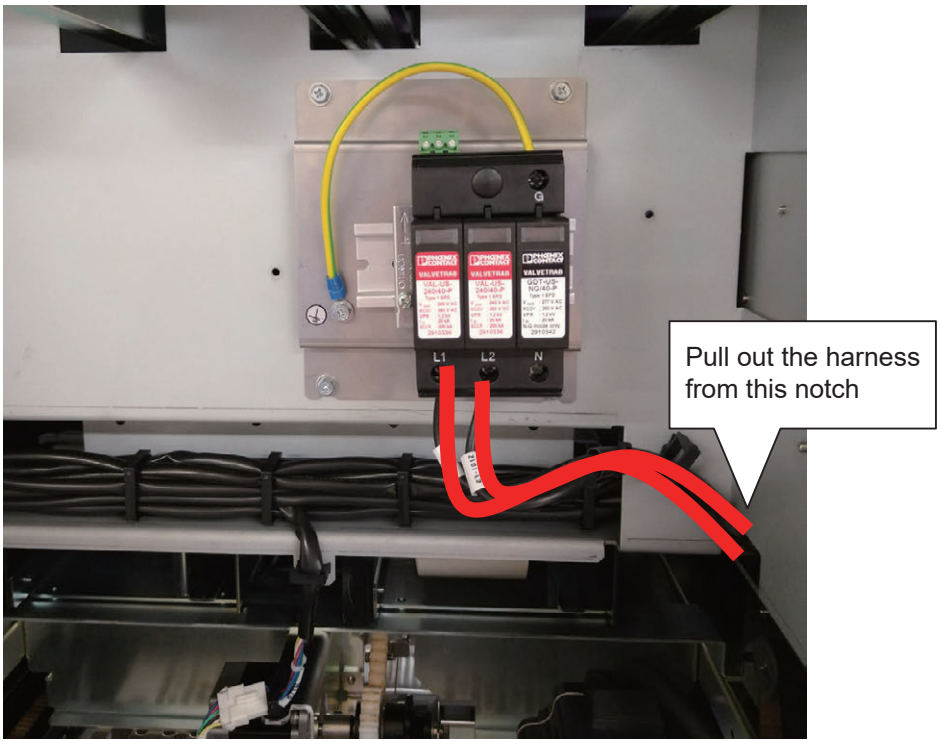


4

Install the SPD AS inside the cover (1) with 4 screws (cross hexagon headed bolt' sems S2P2').

5

Connect the harness wired in “3” to L1 and L2 of SPD.



6

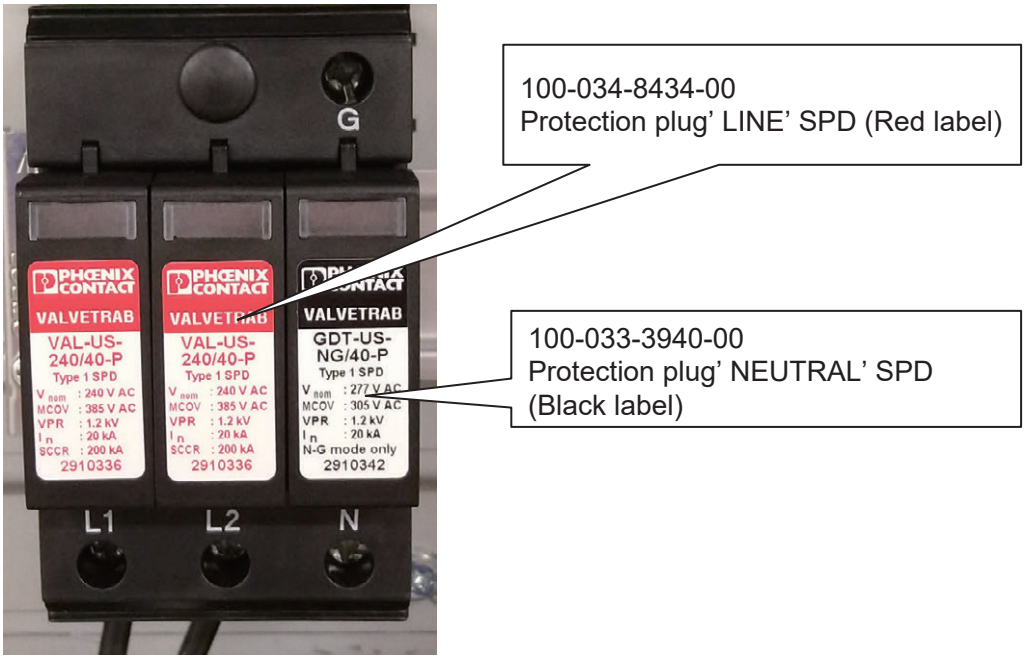
Attach the removed cover.

6.1.3 Replacement

If the plug looks like the right figure below due to lightning or other causes, it is damaged and needs to be replaced.
Unless replaced, the original surge protection function will not work.

Replacement parts are shown below.

Part number	Part name
100-033-3940-00	Protection plug' NEUTRAL' SPD (Black label)
100-034-8434-00	Protection plug' LINE' SPD (Red label)



Appendix- Troubleshooting

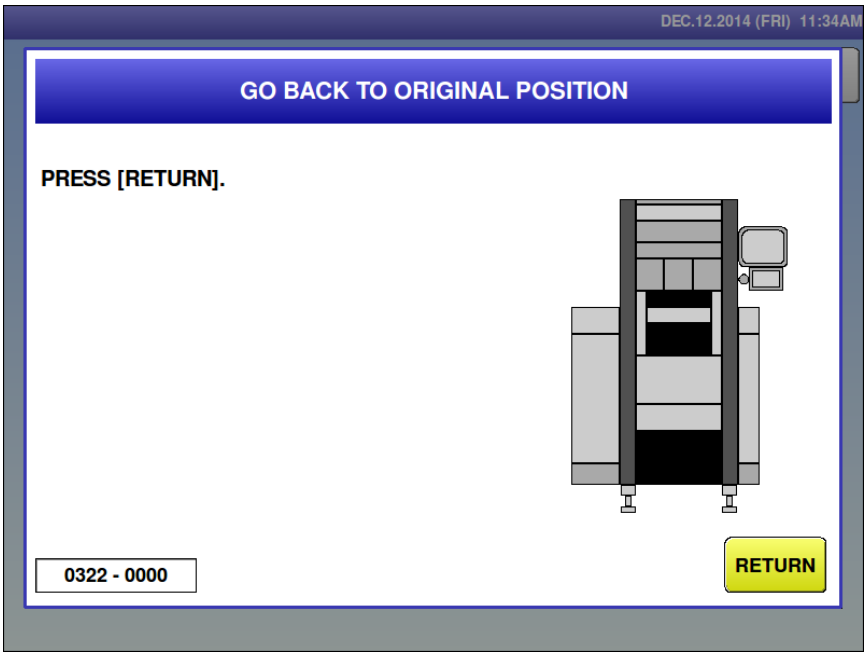
INFORMATION

The latest troubleshooting documentation and electrical schematics are now available on the ***Ishida WM-Ai Troubleshooting Utility***. To download and view the troubleshooting utility, please visit www.RiceLake.com.

A.1 Operation as IP (scale and printer)

This section describes how to temporarily use the wrapper as IP (scale and printer only available) when the machine cannot be used as intended due to an error, etc.

1 Turn off the power of the wrapper.
2 Apply the power to the wrapper. The following screen 1 appears.
3 Press the emergency stop switch of the wrapper.
4 Press the [RETURN] button of the wrapper 11 times. The screen 1 disappears and changes to the regular screen.
5 After opening the front cover, the wrapper can be used as IP (scale price labeler).

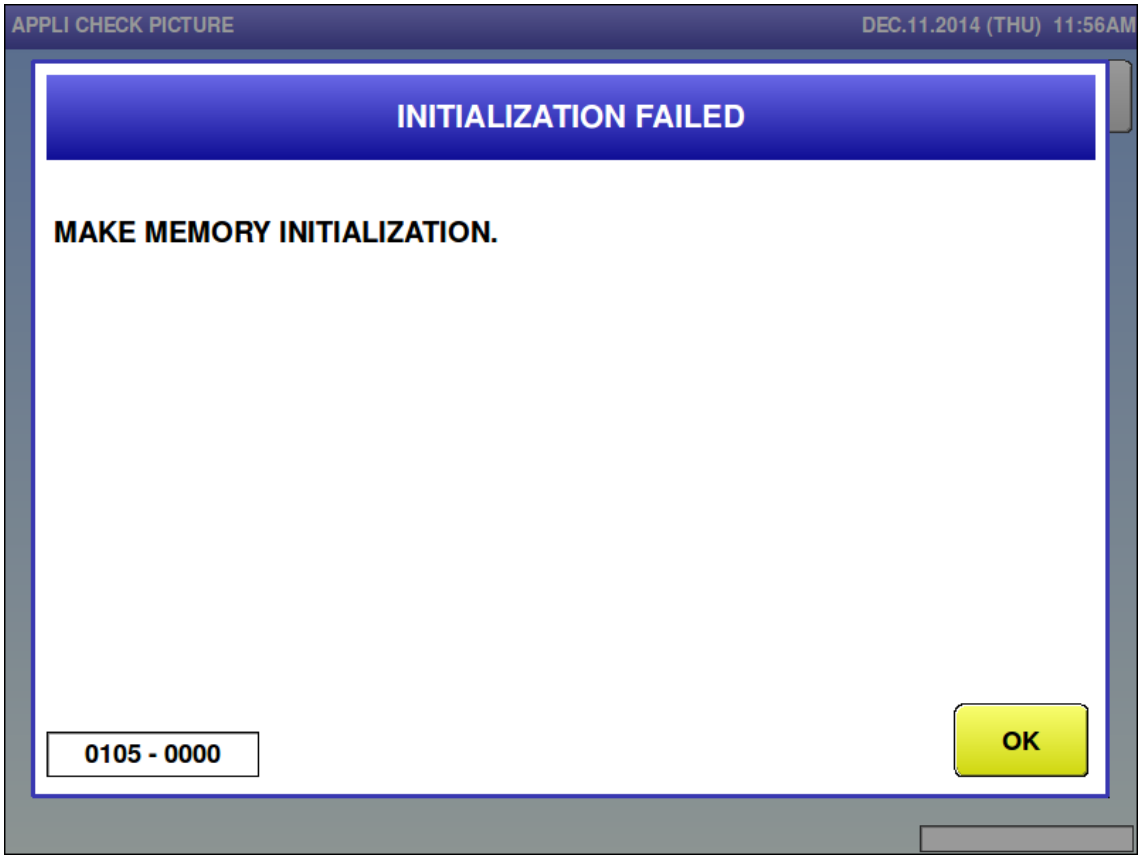


Screen 1: When power-on

A.2 Error Message

A.2.1 Error Screen

When the machine detects an error, the following error message and error No. are displayed. Some errors can be recovered simply by pressing corresponding buttons.
Some require combination of the button and simple operations, or maintenances such as replacing parts.
Be sure to check an error No. when you receive an inquiry from a user.
Even error messages are similar, different solution may be necessary to clear the errors.
Error No. consists of main No. (4 digits) + Sub-No. (4 digits).
If only a type of sub-No. (0000) exists, an error message list displays main No. only.

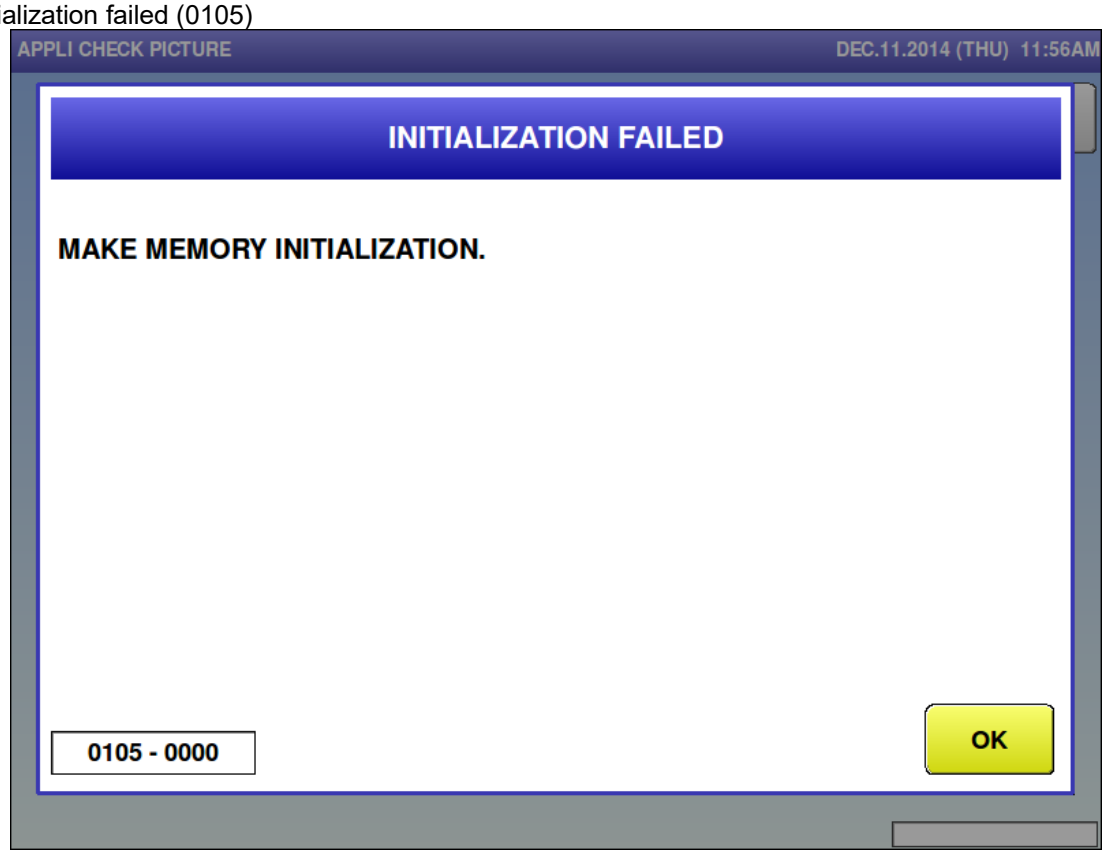


Screen 2: Example of error screen

A.3 Error Codes List

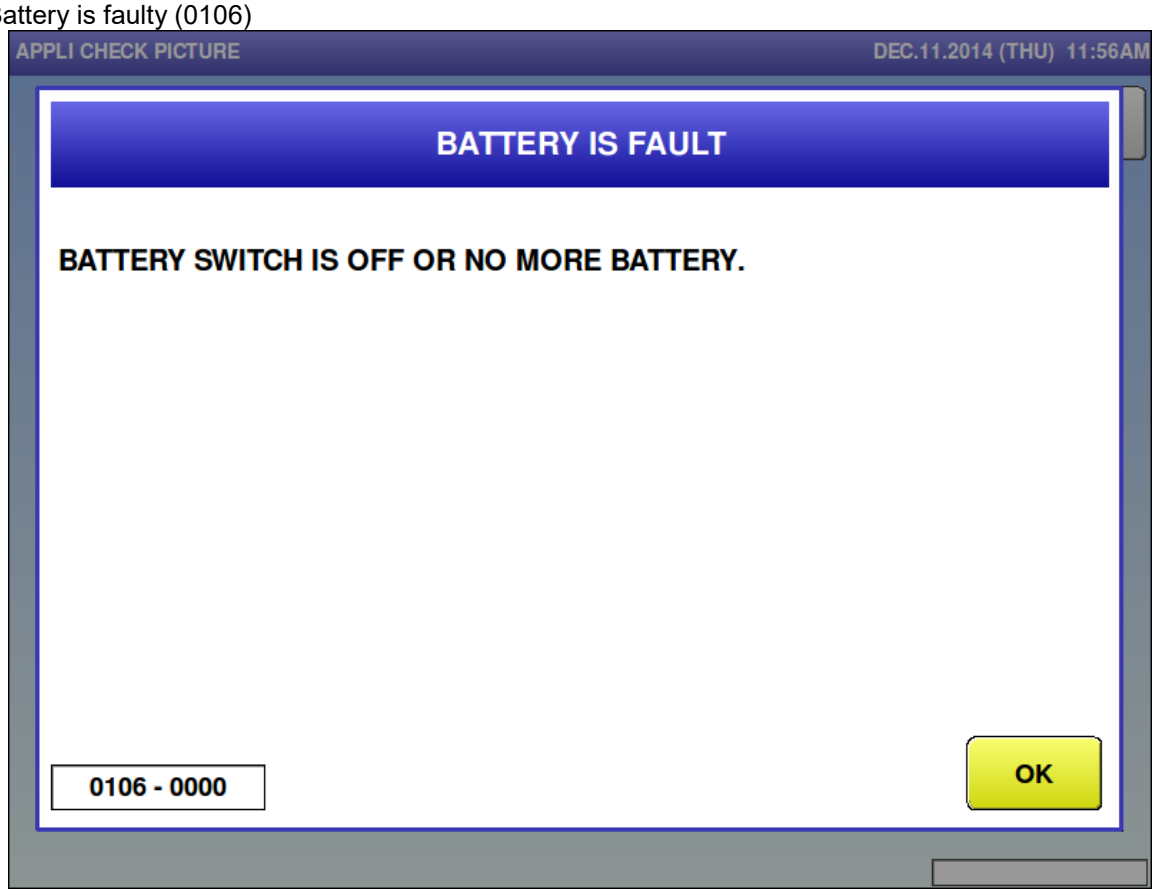
A.3.1 System-related Error (No. 100s)

■ Initialization failed (0105)



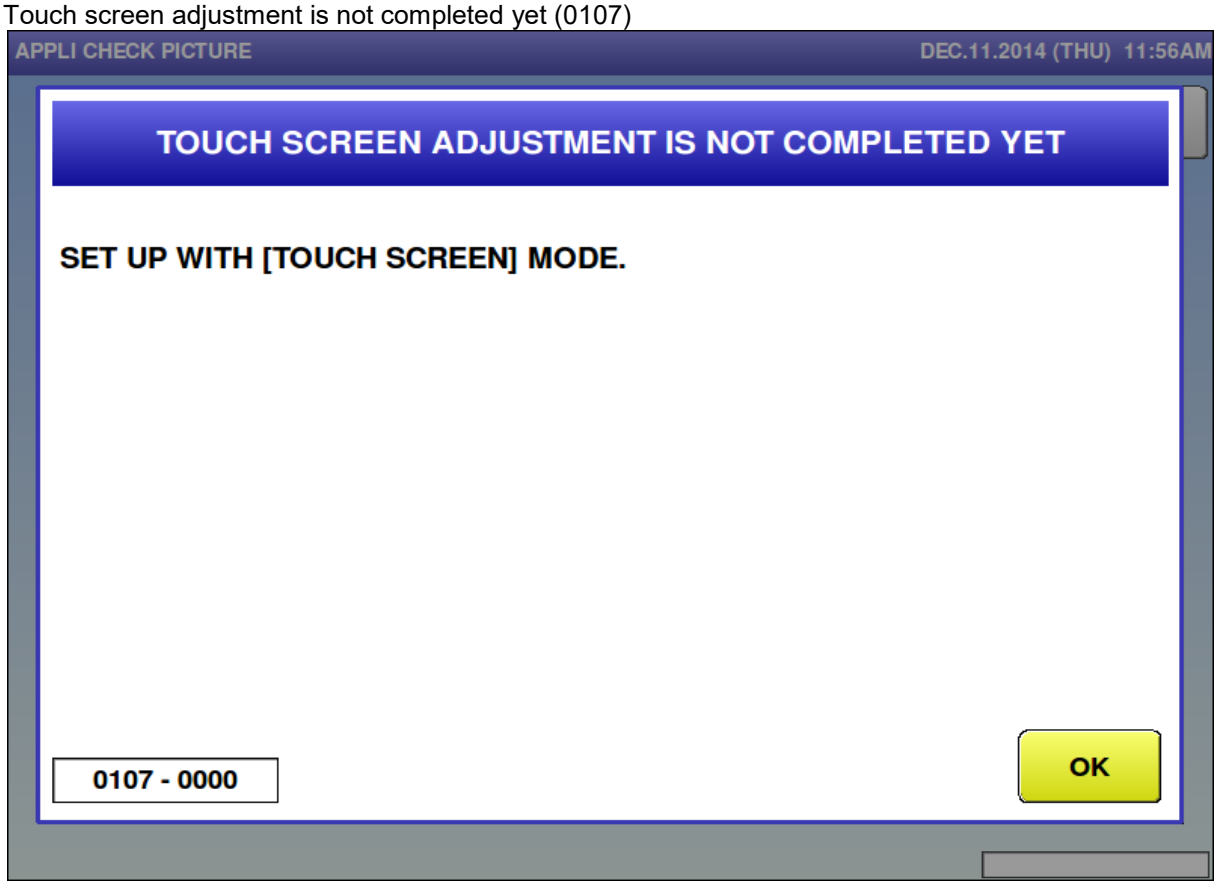
Error content	Initialization failed.
Detail	Initialization has not been performed.
Solution	[OK] button
Action by user	
Action by service representative	Perform memory initialization.
Related part	Main board
Remarks	Memory needs to be cleared on the [ADJUST (MEMORY CLEAR)] screen.

■ Battery is faulty (0106)



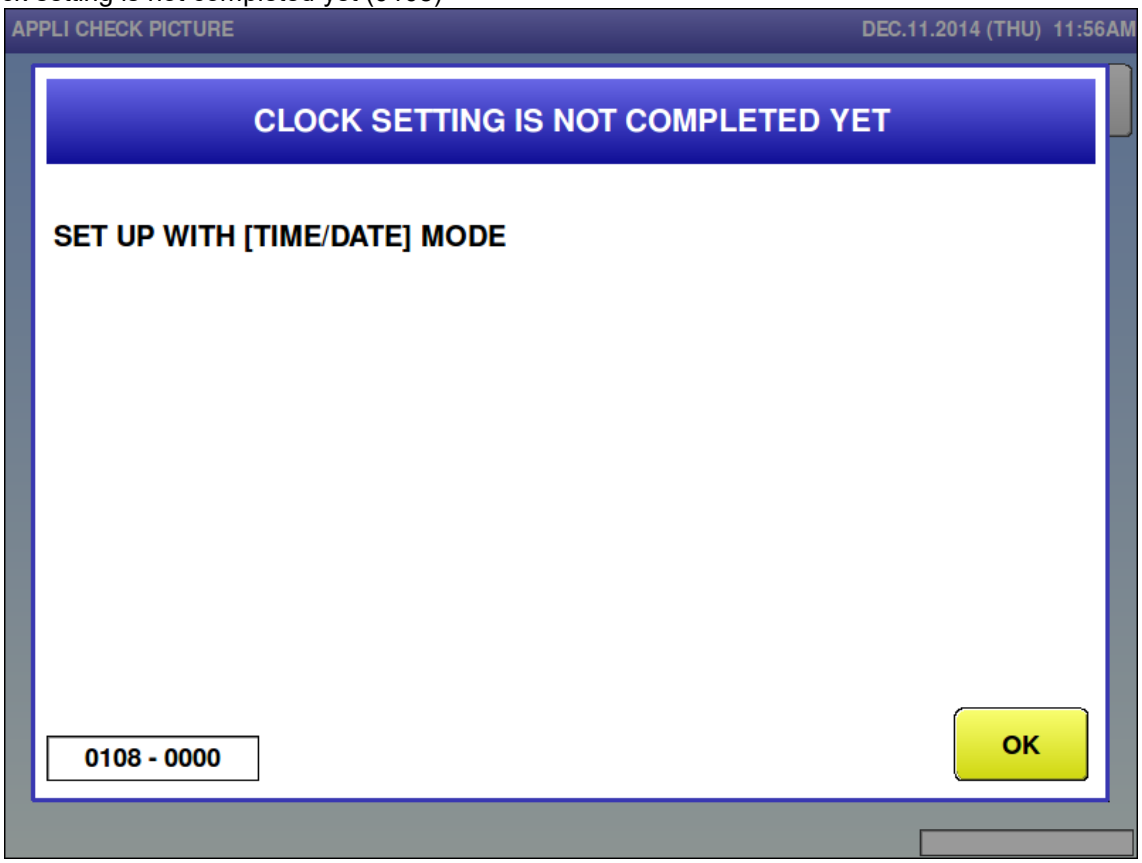
Error content	Battery is faulty.
Detail	Battery on the board is exhausted.
Solution	[OK] button
Action by user	
Action by service representative	Check the battery on the main board. Check the battery switch on the main board.
Related part	Main board
Remarks	Turn off the machine and replace the battery on the board. Confirm the battery switch.

■ Touch screen adjustment is not completed yet (0107)



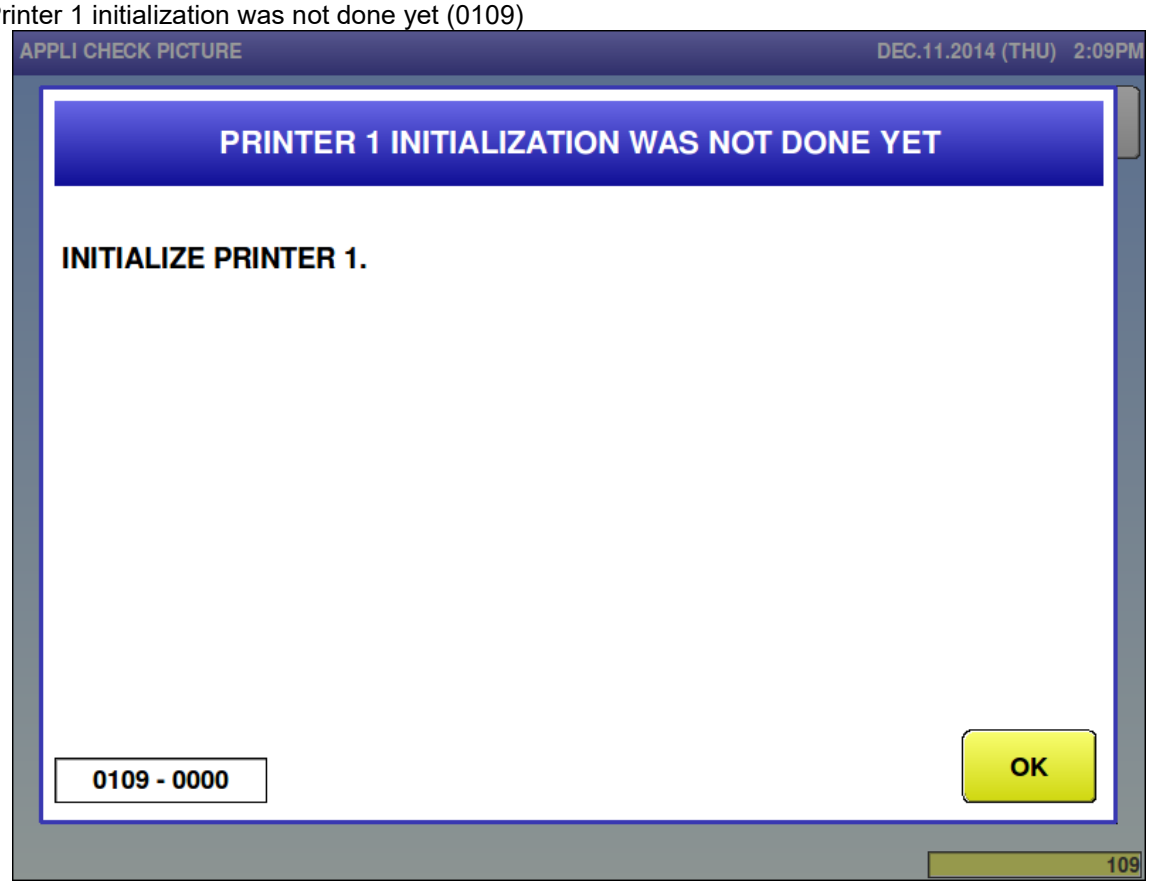
Error content	Touch screen adjustment is not completed yet.
Detail	
Solution	[OK] button
Action by user	Perform touch panel adjustment.
Action by service representative	Perform touch panel adjustment.
Related part	Main board Display board
Remarks	Set up on the [ADJUST (TOUCH SCREEN)] screen.

■ Clock setting is not completed yet (0108)



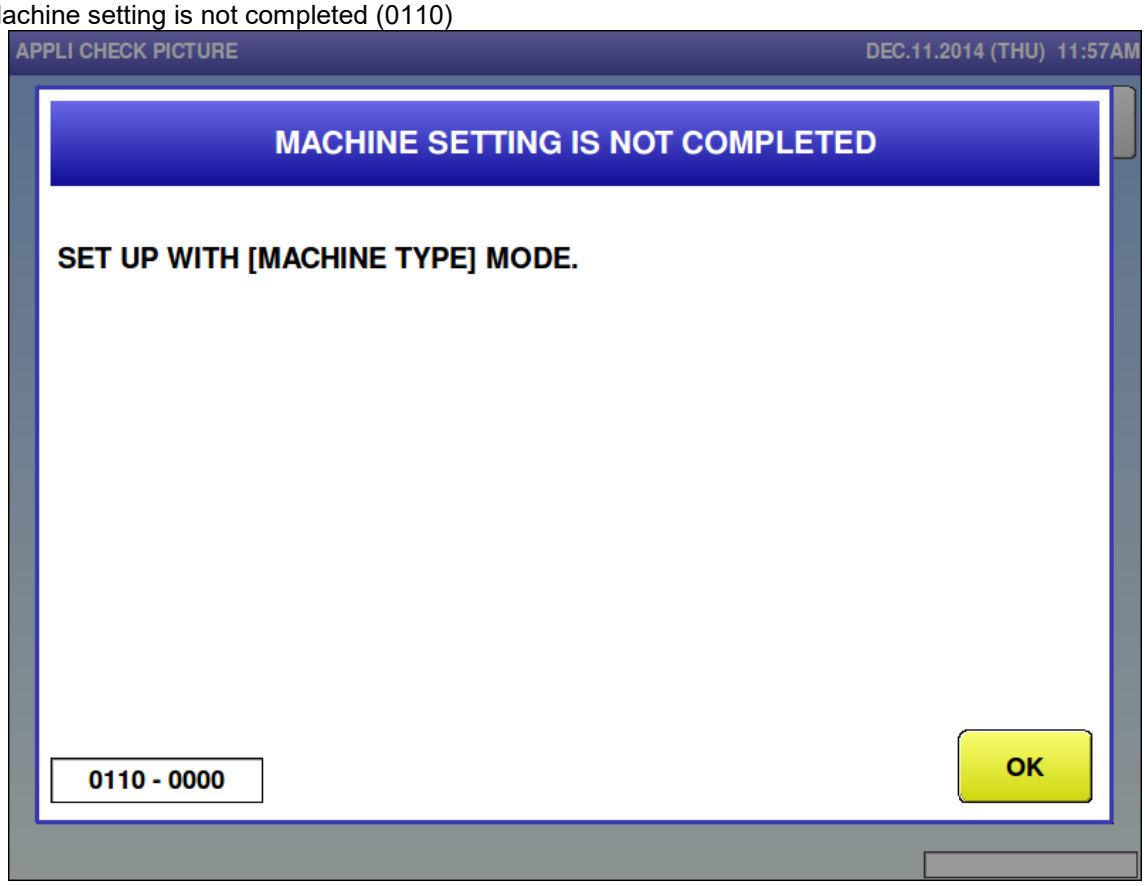
Error content	Clock setting is not completed yet.
Detail	
Solution	[OK] button
Action by user	Perform date adjustment.
Action by service representative	Perform date adjustment.
Related part	Main board
Remarks	Set up on the [ADJUST (DATE TIME)] screen.

■ Printer 1 initialization was not done yet (0109)



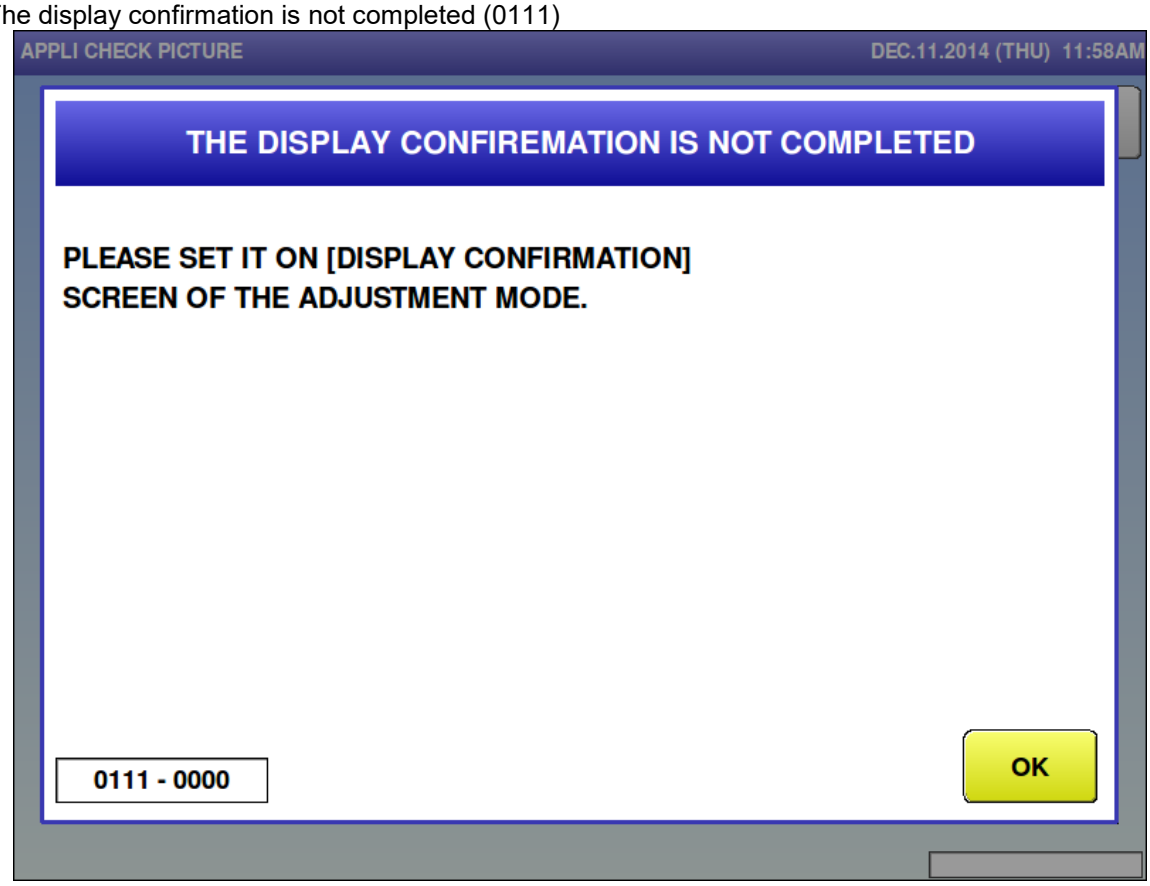
Error content	Printer 1 initialization was not done yet.
Detail	Sub-error is the printer number. 0000: Printer No.1 0001: Printer No.2
Solution	[OK] button
Action by user	
Action by service representative	Perform printer initialization.
Related part	Main board
Remarks	The title of “Printer No.1” depends on sub error No. Perform printer initialization on the [ADJUST (PRINTER)] screen.

■ Machine setting is not completed (0110)



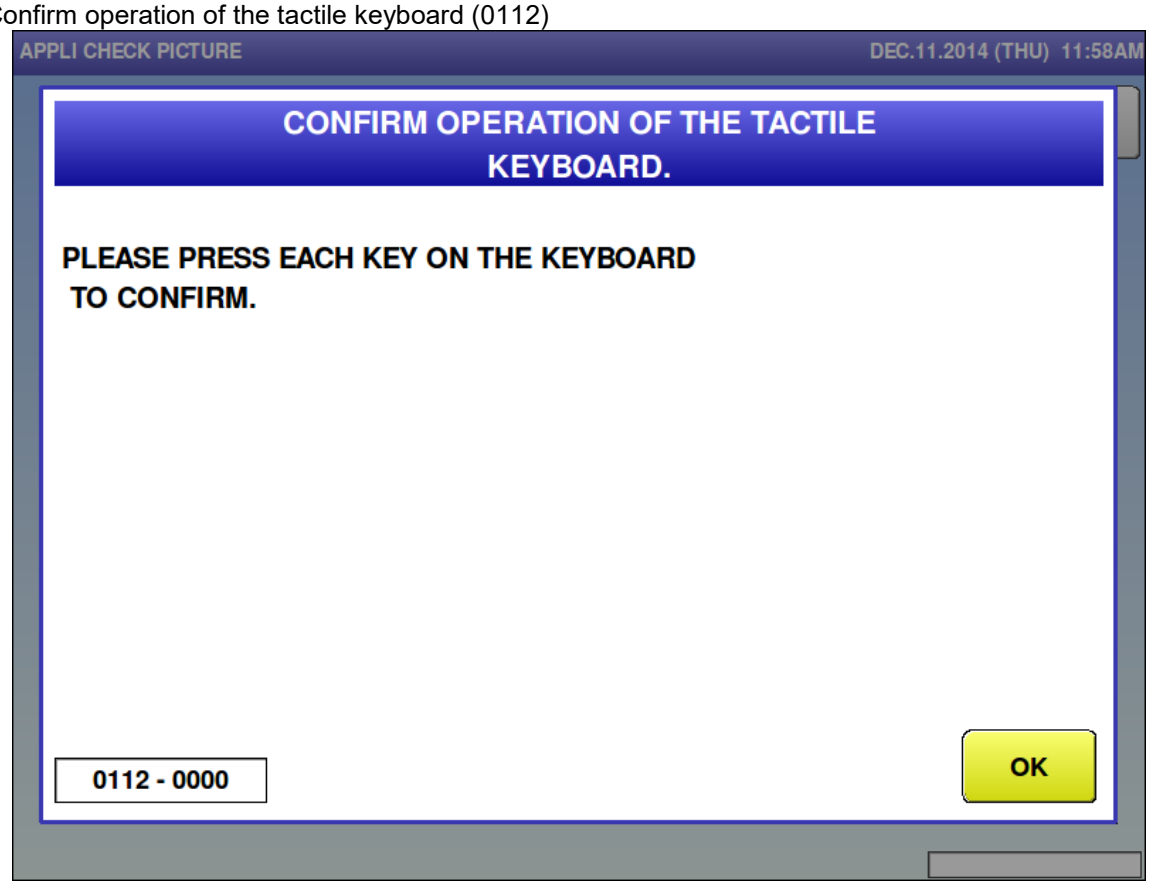
Error content	Machine setting is not completed.
Detail	
Solution	[OK] button
Action by user	
Action by service representative	Perform machine type settings.
Related part	Main board
Remarks	Set up on the [ADJUST (MACHINE TYPE)] screen.

■ The display confirmation is not completed (0111)



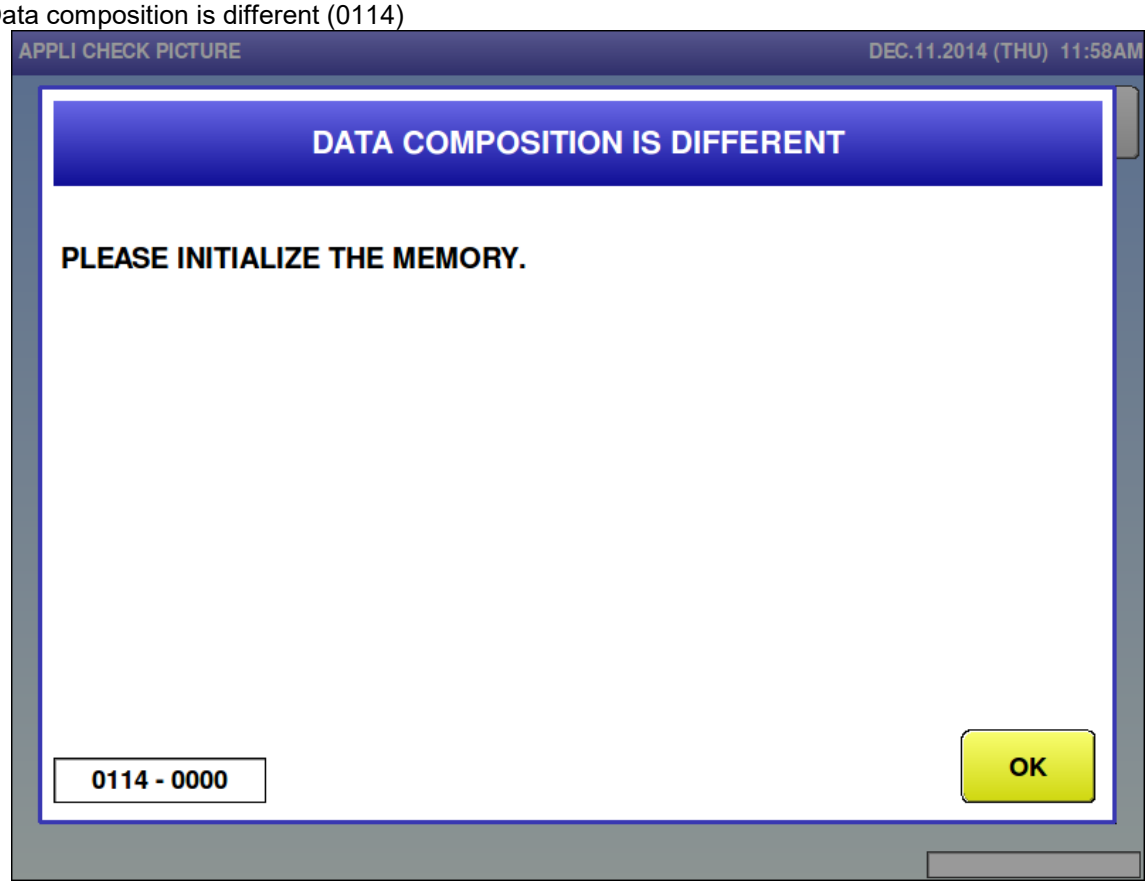
Error content	The display confirmation is not completed.
Detail	
Solution	[OK] button
Action by user	
Action by service representative	Perform display settings.
Related part	Main board
Remarks	Set the brightness on the [ADJUST (DISPLAY CHECK)] screen.

■ Confirm operation of the tactile keyboard (0112)



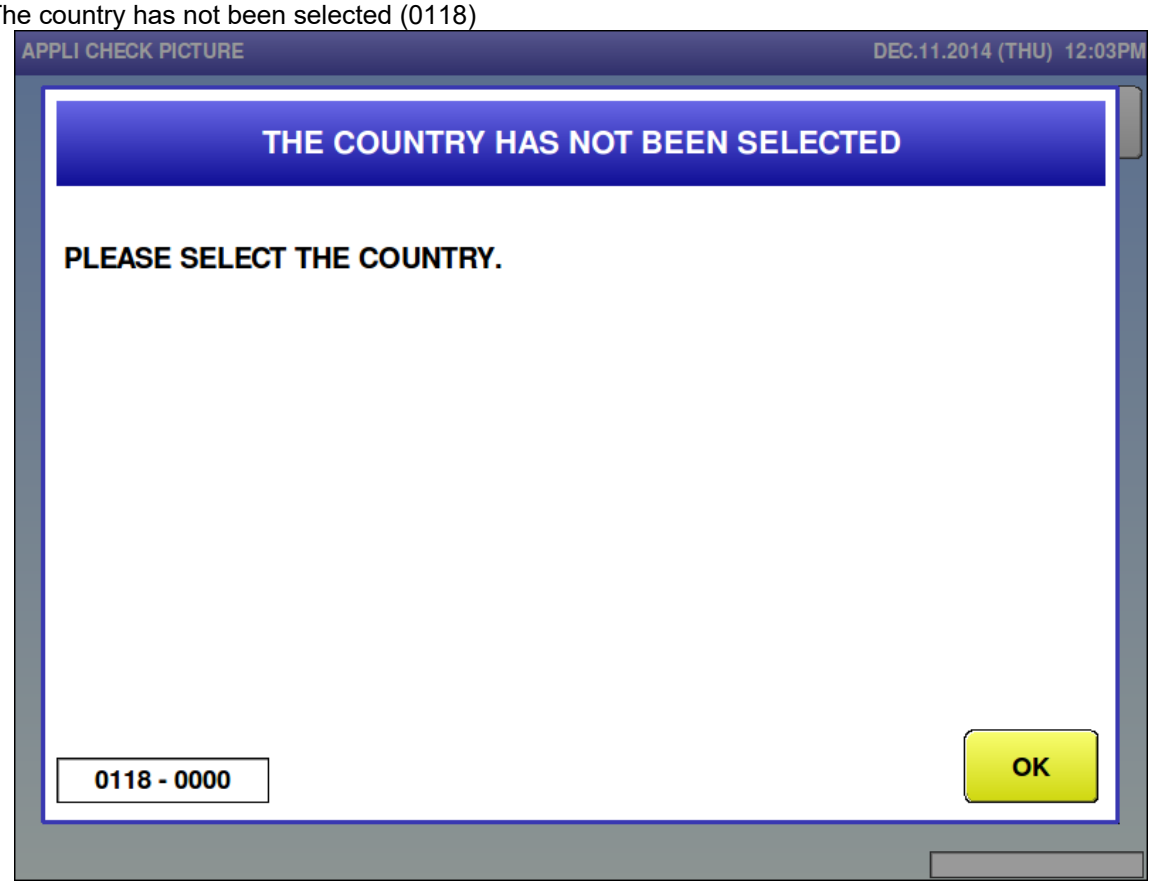
Error content	Confirm operation of the tactile keyboard
Detail	
Solution	[OK] button
Action by user	
Action by service representative	Confirm the key operation.
Related part	Main board Display key board
Remarks	Check the key on the [ADJUST (KEY CHECK)] screen.

■ Data composition is different (0114)



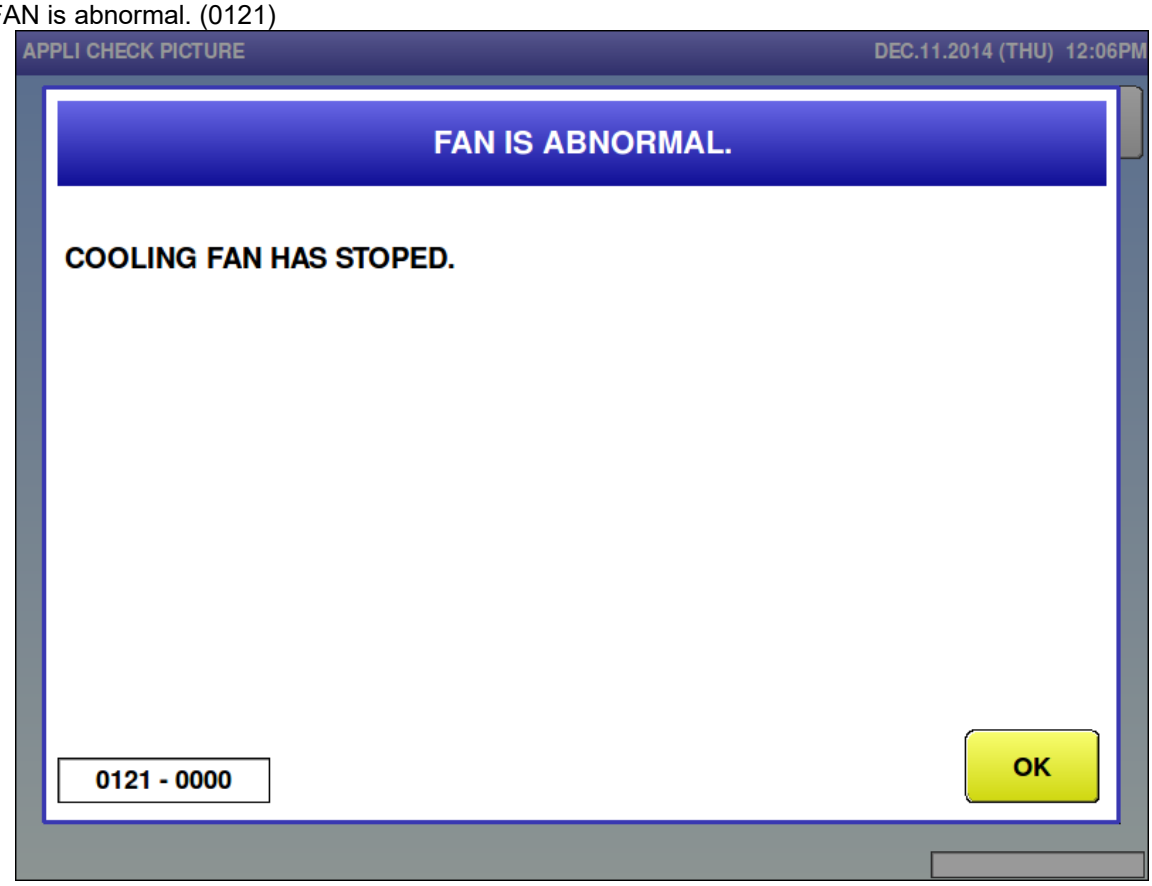
Error content	Data composition is different.
Detail	Data composition of data base is different
Solution	[OK] button
Action by user	
Action by service representative	Master return after memory initialization
Related part	Main board
Remarks	Data composition is different. Change is made to data composition.

■ The country has not been selected (0118)



Error content	Confirm country selection.
Detail	Country is not selected.
Solution	[OK] button
Action by user	
Action by service representative	Select a country.
Related part	Main board
Remarks	

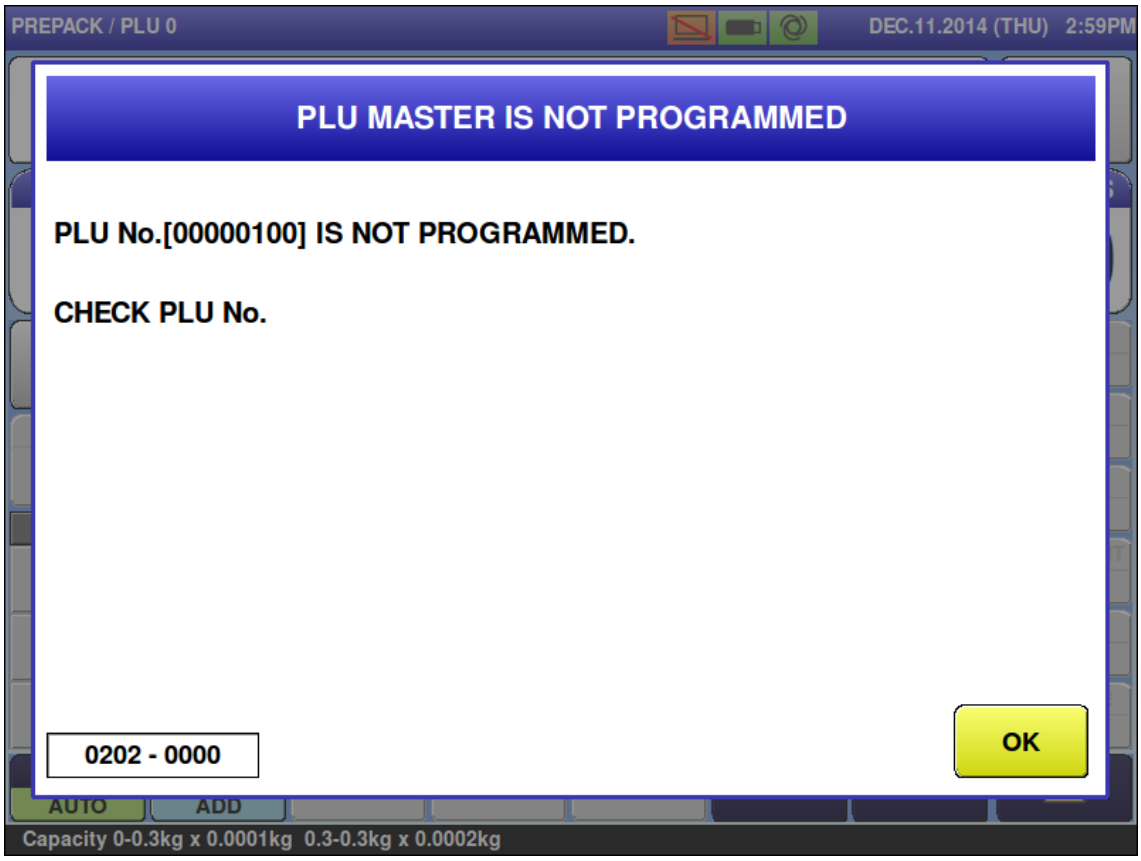
■ FAN is abnormal. (0121)



Error content	FAN error
Detail	
Solution	[OK] button
Action by user	
Action by service representative	Check the connection between the main board and fan. Check the fan.
Related part	Main board CPU-FAN
Remarks	

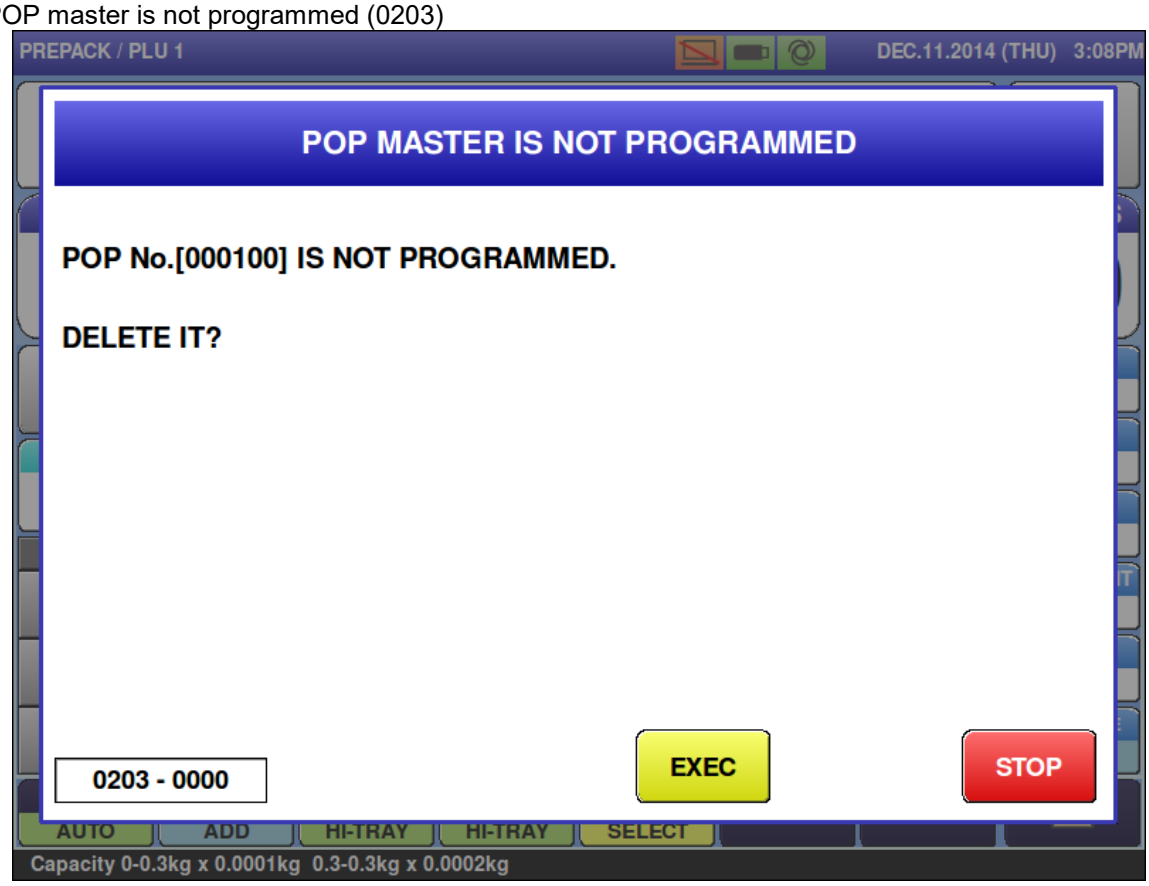
A.3.2 Memory-related Error (No. 200s)

■ PLU master is not programmed (0202)



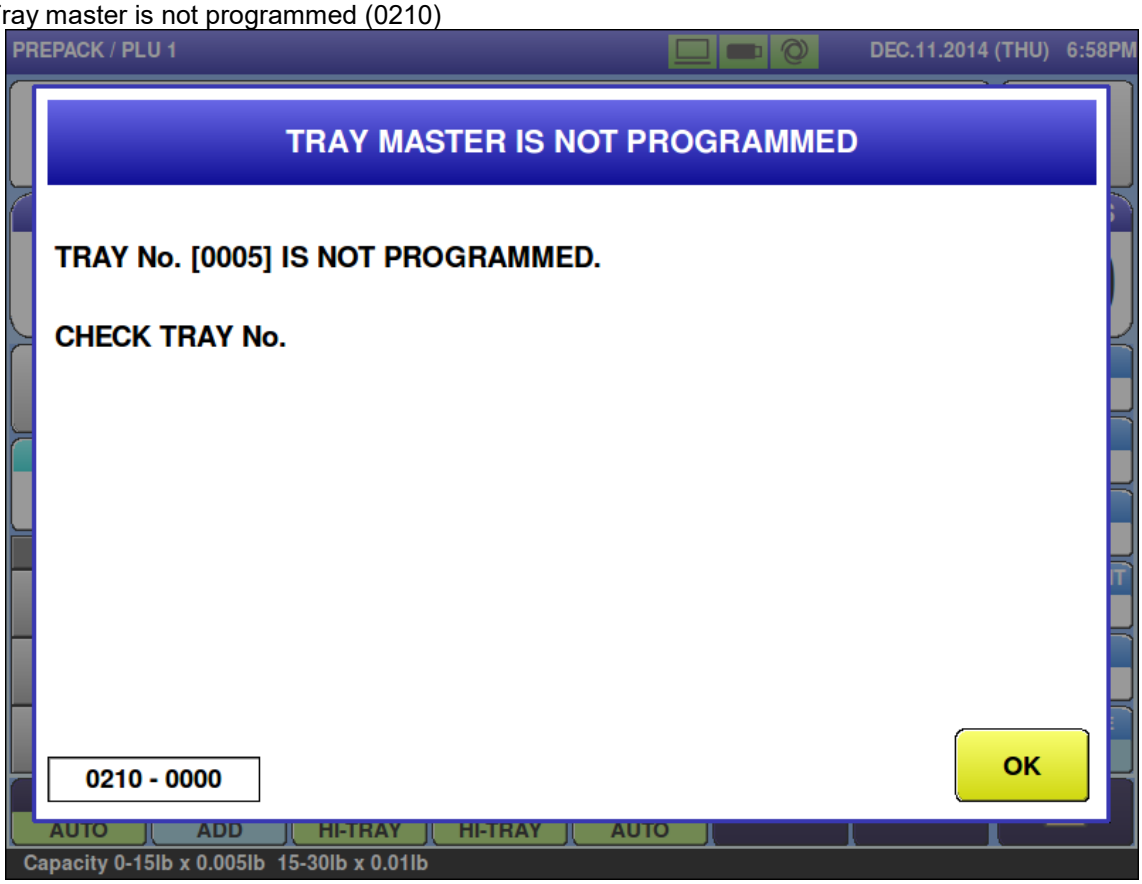
Error content	PLU master is not programmed
Detail	Does not exist in internal master.
Solution	[OK] button
Action by user	Reconfirm the PLU No. Add the product master.
Action by service representative	Confirm the master. Setting mode (Production): Confirm the auto product deletion setting.
Related part	Main board
Remarks	The product number is displayed.

■ POP master is not programmed (0203)



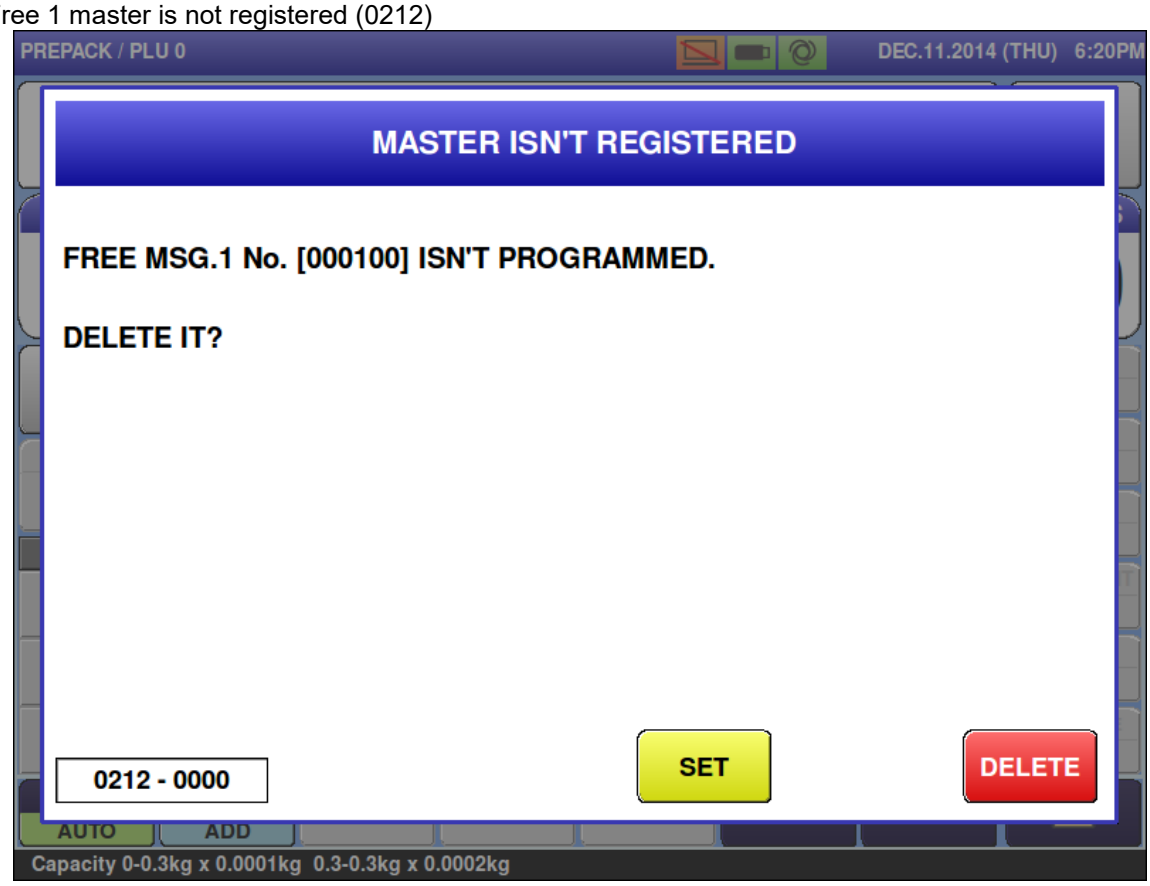
Error content	POP master is not programmed.
Detail	Does not exist in internal master.
Solution	[EXEC] button => Delete Product Master POP No. [STOP] button => Cancel error.
Action by user	Reconfirm the POP number. Add the POP master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Tray master is not programmed (0210)



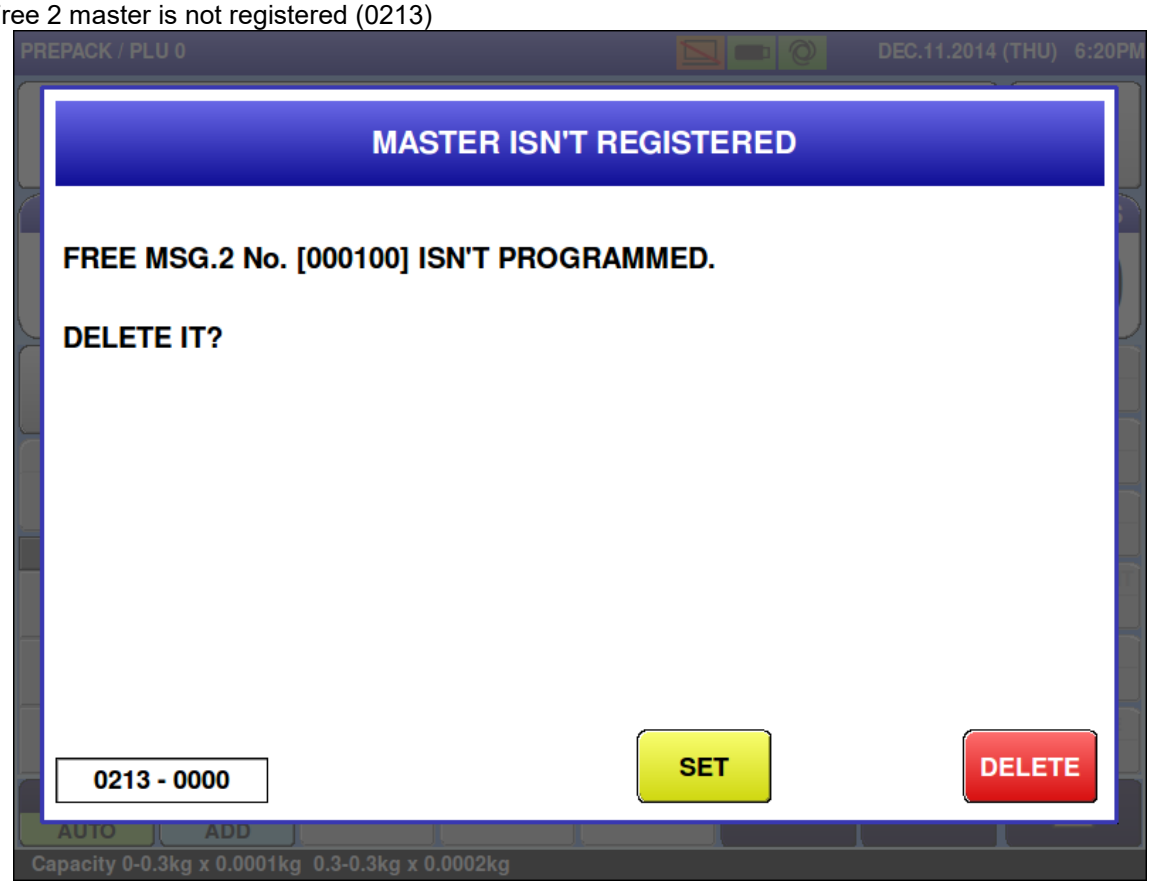
Error content	Tray master is not programmed.
Detail	Does not exist in internal master.
Solution	[OK] button
Action by user	Reconfirm the tray master number. Add the tray master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	Tray master No. is registered.

■ Free 1 master is not registered (0212)



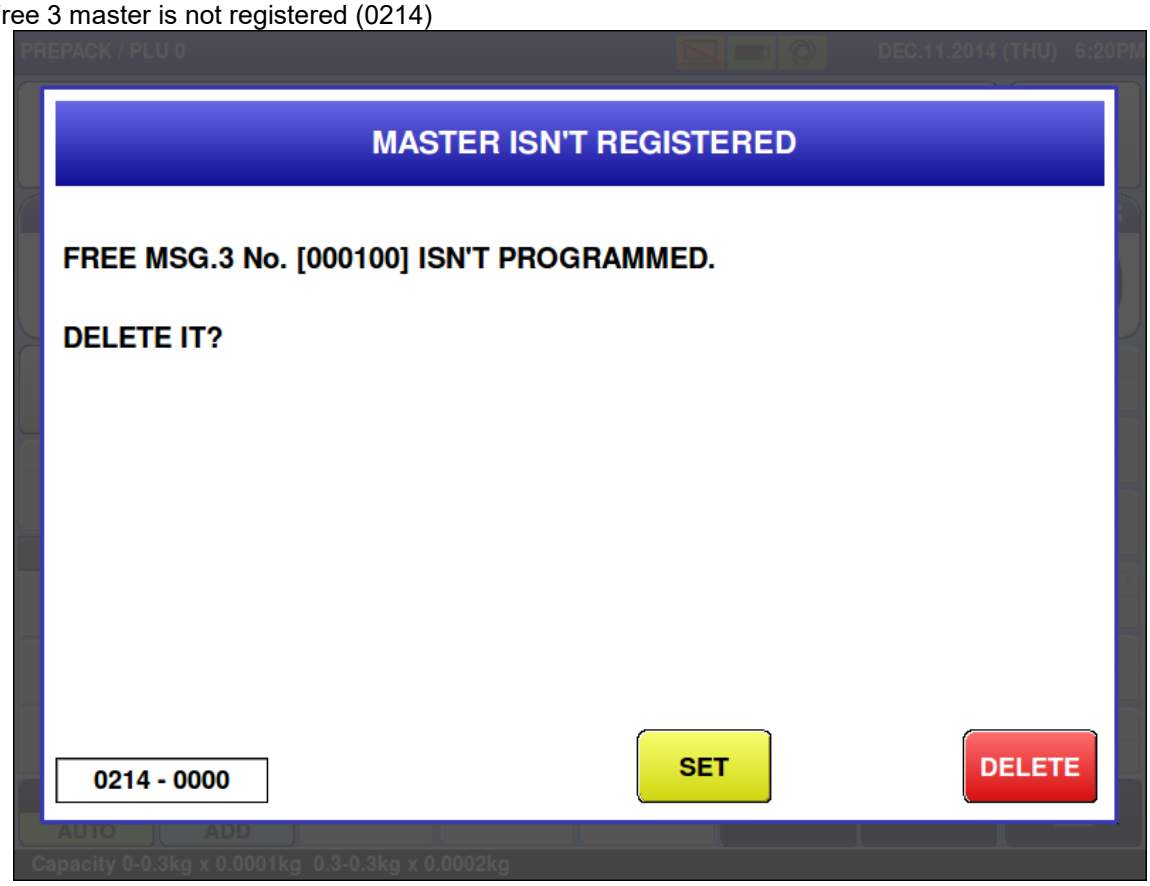
Error content	Free 1 master is not registered.
Detail	Does not exist in internal master.
Solution	[DELETE] button => Delete free No.1 of product master. [SET] button => Cancel error.
Action by user	Reconfirm the free 1 master number. Add free 1 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Free 2 master is not registered (0213)



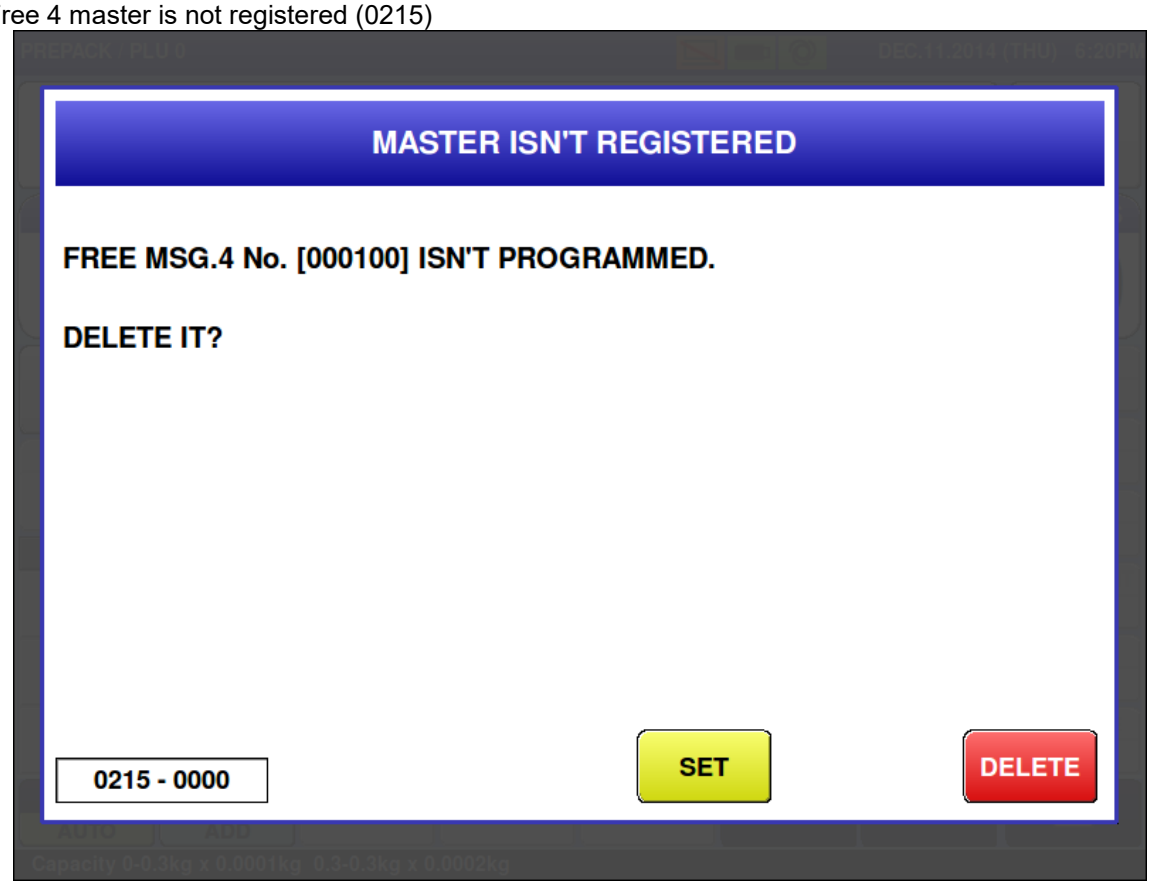
Error content	Free 2 master is not registered.
Detail	Does not exist in internal master.
Solution	[DELETE] button => Delete free No. 2 of product master. [SET] button => Cancel error.
Action by user	Reconfirm the free 2 master number. Add free 2 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Free 3 master is not registered (0214)



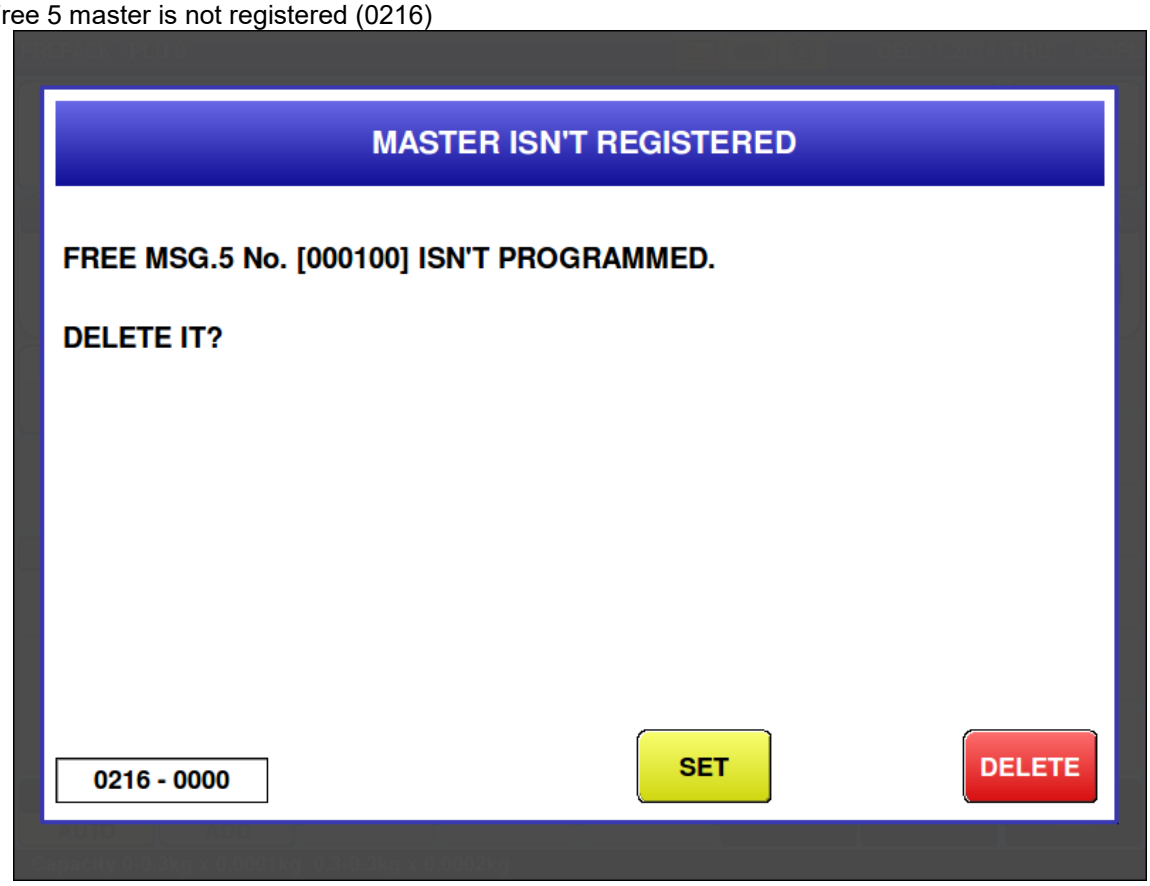
Error content	Free 3 master is not registered.
Detail	Does not exist in internal master.
Solution	[DELETE] button => Delete free No. 3 of product master. [SET] button => Cancel error.
Action by user	Reconfirm the free 3 master number. Add free 3 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Free 4 master is not registered (0215)



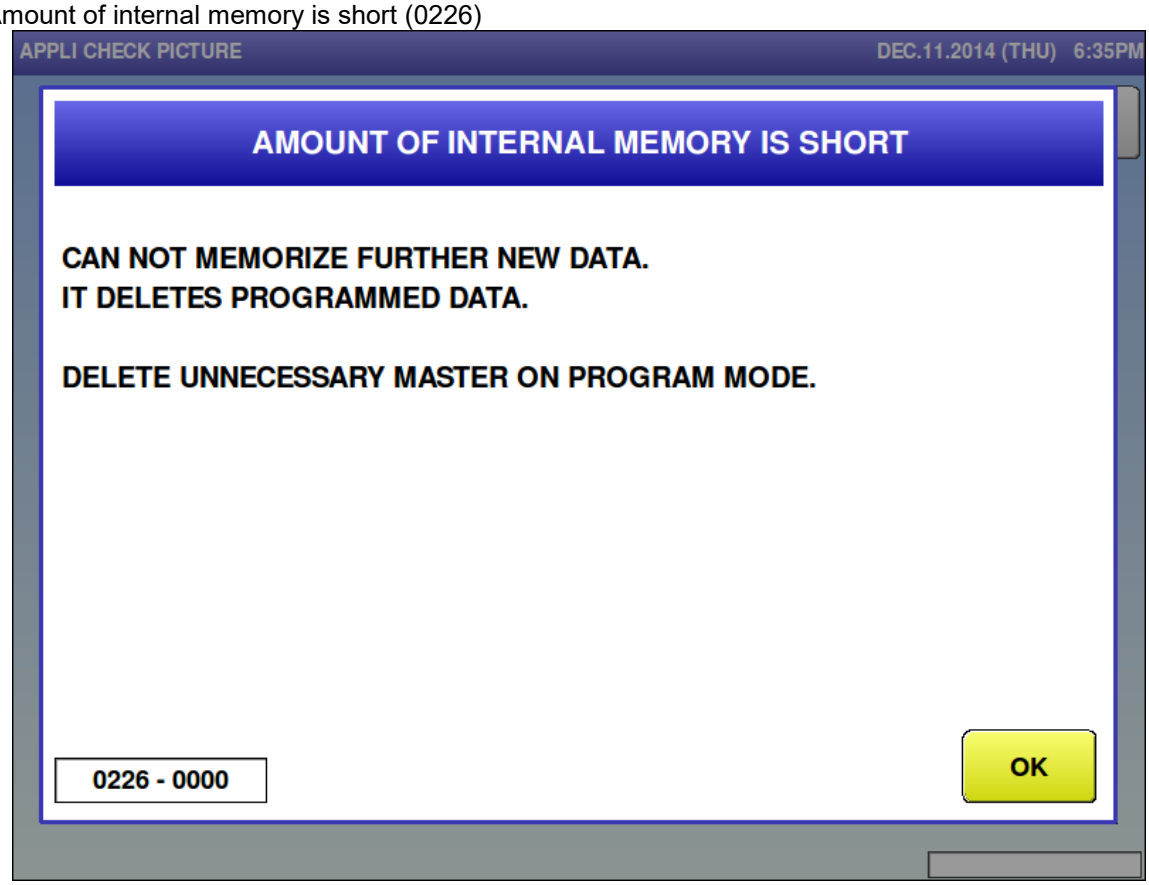
Error content	Free 4 master is not registered.
Detail	Does not exist in internal master.
Solution	[DELETE] button => Delete free No. 4 of product master. [SET] button => Cancel error.
Action by user	Reconfirm the free 4 master number. Add free 4 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Free 5 master is not registered (0216)



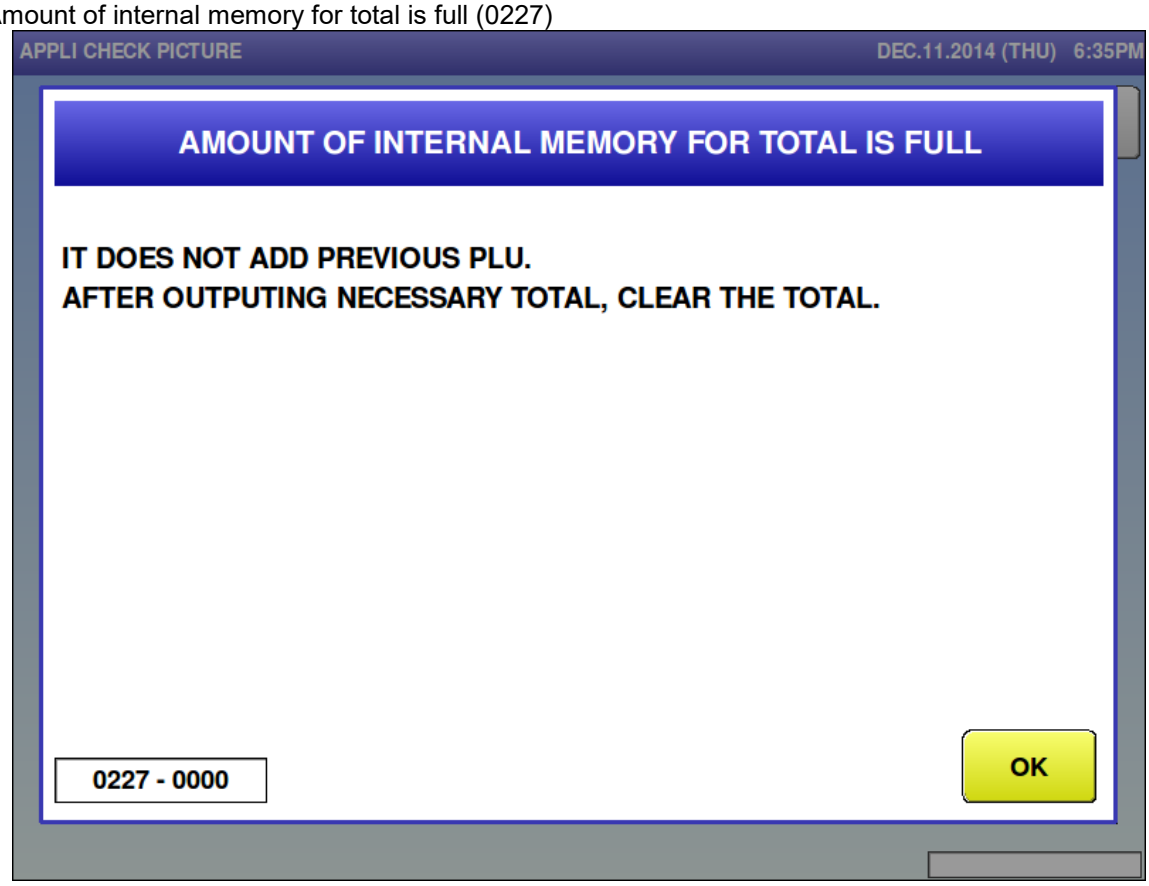
Error content	Free 5 master is not registered.
Detail	Does not exist in internal master.
Solution	[DELETE] button => Delete free No. 5 of product master. [SET] button => Cancel error.
Action by user	Reconfirm the free 5 master number. Add free 5 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Amount of internal memory is short (0226)



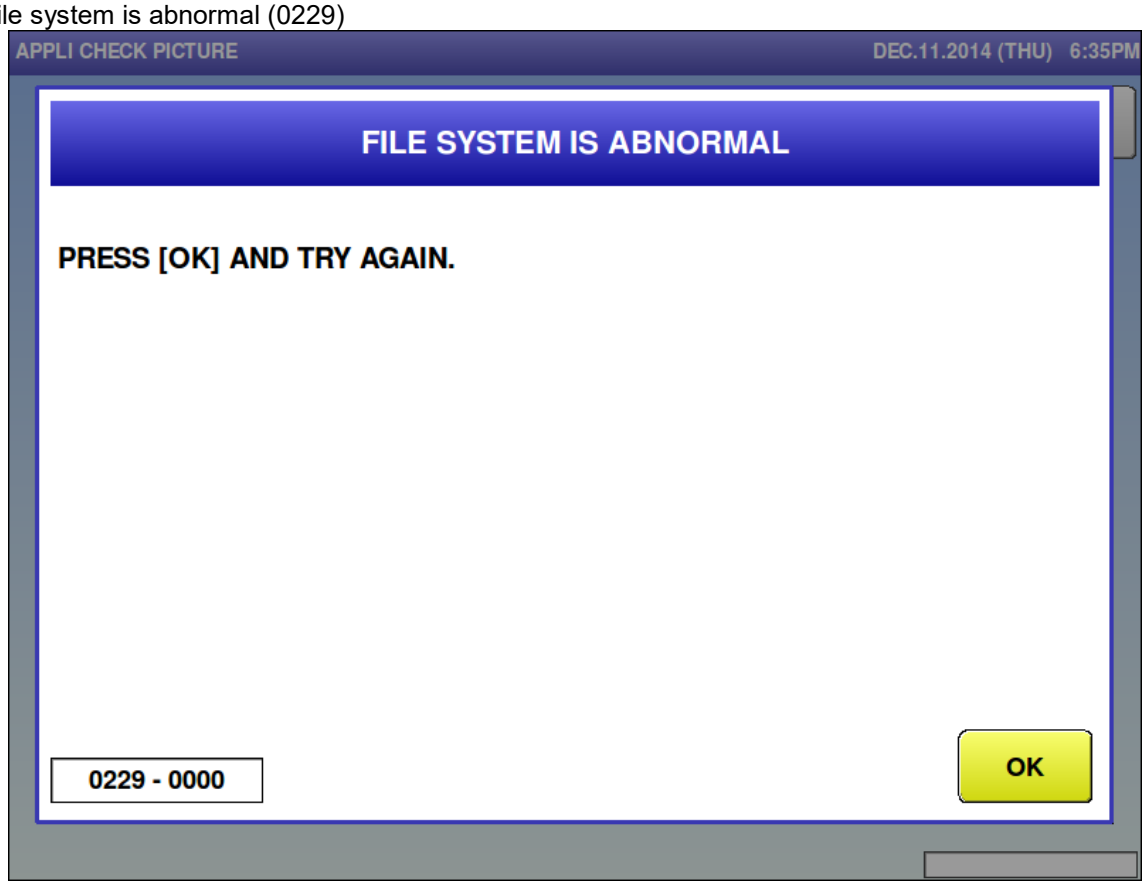
Error content	Amount of internal memory is short
Detail	Error indicates that memory space is insufficient when saving master to DB.
Solution	[OK] button, organize memory. Delete unnecessary data for each master using the [Organize Memory] function key.
Action by user	Perform Organize Memory using the [Organize Memory] function key. Delete unnecessary masters.
Action by service representative	Perform Organize Memory. Delete unnecessary masters.
Related part	Main board
Remarks	Sub error indicates each master No.

■ Amount of internal memory for total is full (0227)



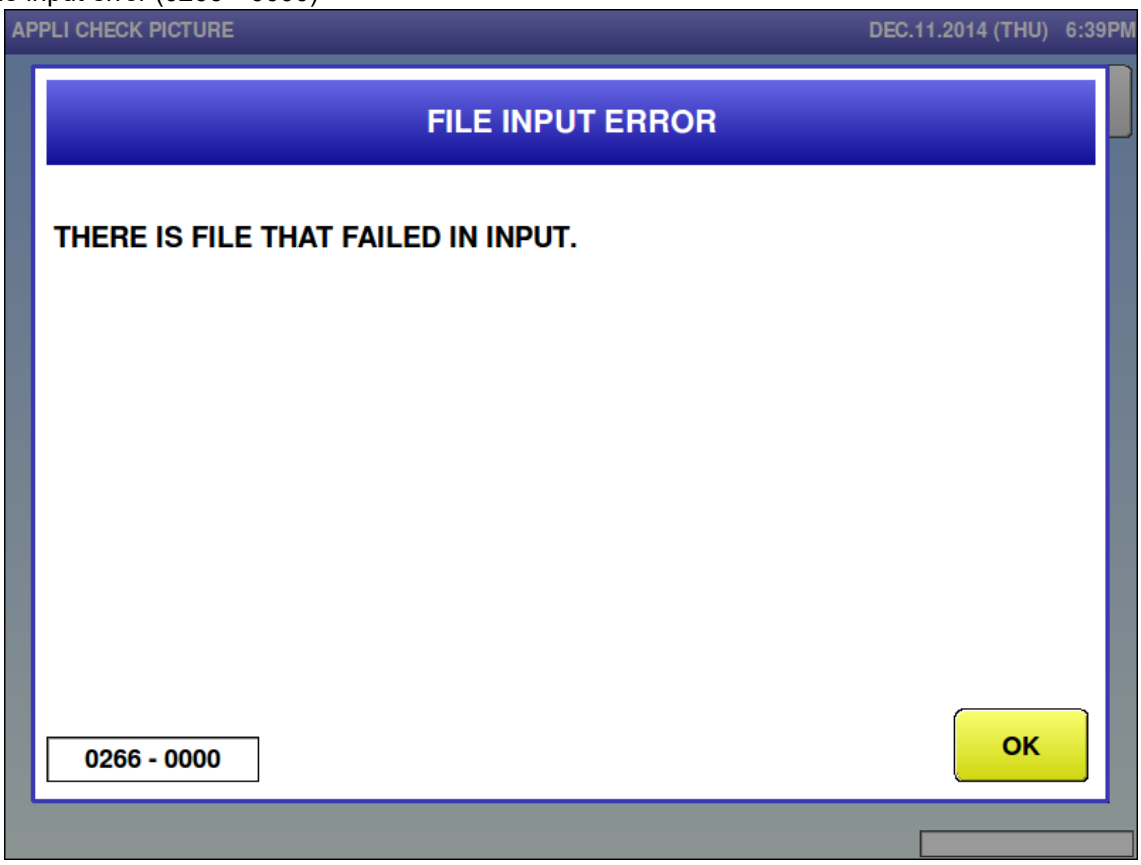
Error content	Amount of internal memory for total is full.
Detail	Error indicates that internal memory is insufficient when saving production result.
Solution	[OK] button and clear the total. Organize memory using the [Organize Memory] function key.
Action by user	Perform [Organize Memory] using the [Organize Memory] function key after deleting summary data. Delete unnecessary masters.
Action by service representative	Perform [Organize Memory]. Delete unnecessary masters.
Related part	Main board
Remarks	Make sure to organize memory after clearing the total.

■ File system is abnormal (0229)



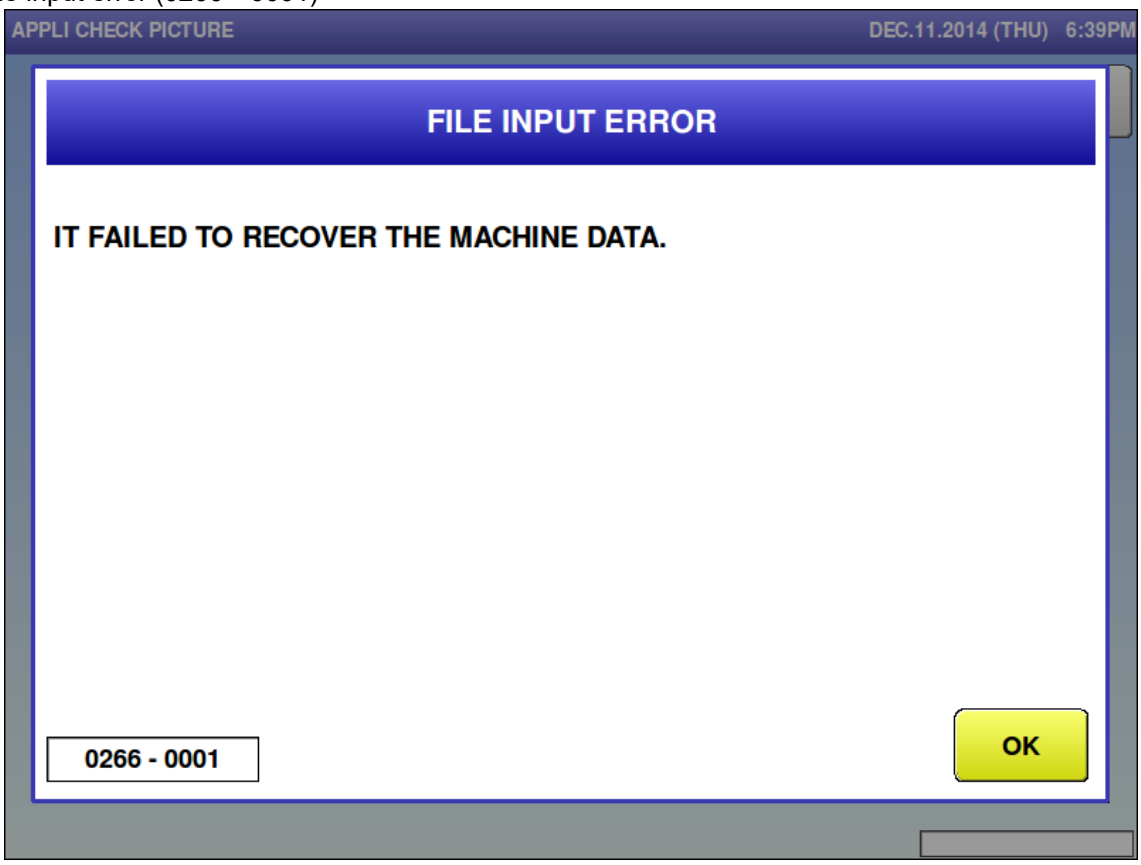
Error content	Occurs when an internal file is abnormal.
Detail	Failure of access to the program file of copy source, copy destination, and delete destination when downloading program.
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master. Perform memory initialization. After that input the backup data.
Related part	Main board
Remarks	Check the program file of copy source, copy destination, and delete destination. **0229-0001 File System is Abnormal - Recovery from Backup** indicates the memory has some corruption. When [OK] is pressed the wrapper should restore the files from its internal backup and return to normal operation. The internal backup was created the last time the wrapper powered down normally so the prices may be out of date. If the database is corrupted it will require a memory clear to resolve. Otherwise the message will continue to recur when the wrapper is powered off/on. After the memory clear, reload a good USB backup then download the current data from SLP-5. A potential cause of a corrupted database is disconnecting the power without turning off the power switch and waiting for the wrapper to completely shut down. Or, turning the power switch off and immediately back on. It can take up to a minute to fully shut down.

■ File input error (0266－0000)



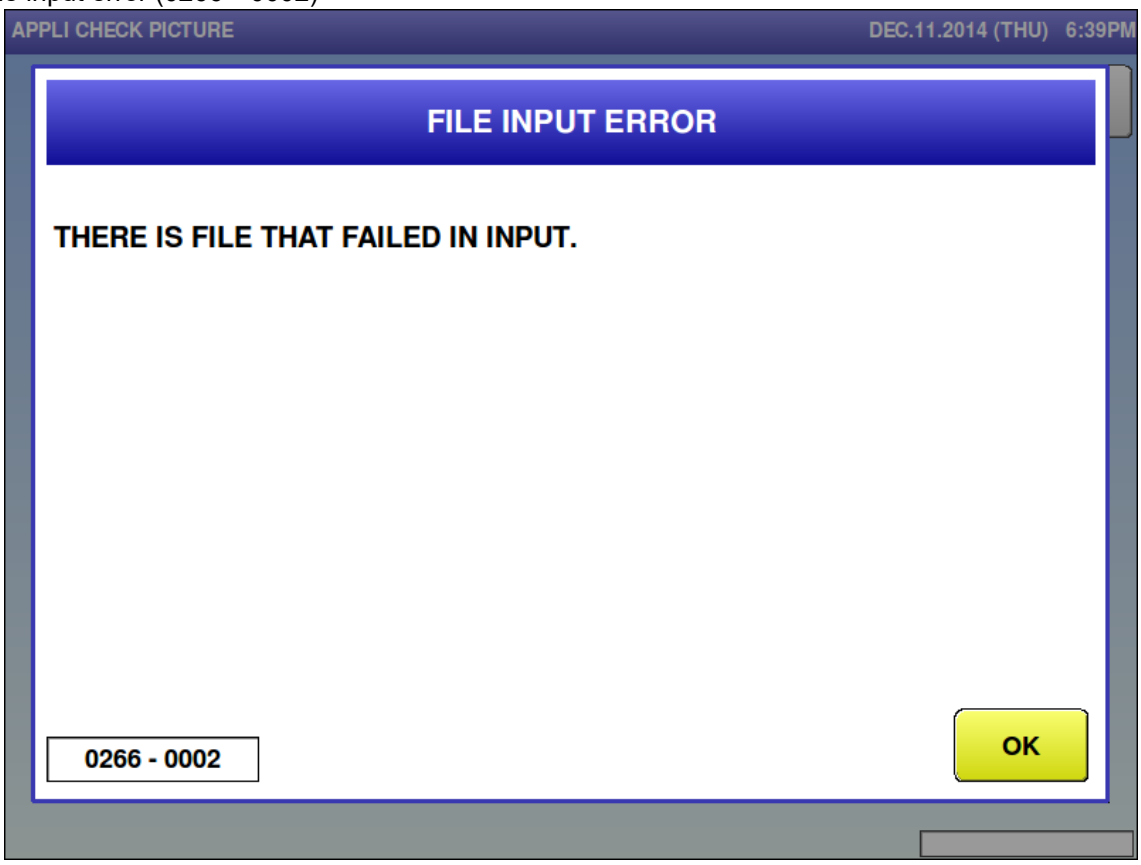
Error content	There is a file that failed to load from an external device to internal memory [SETUP: FILE SAVE/LOAD(INPUT) screen.
Detail	Input data is identified by sub-error No. 0000: Master data
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	Check the source data file and reload from a different source file if needed.

■ File input error (0266－0001)



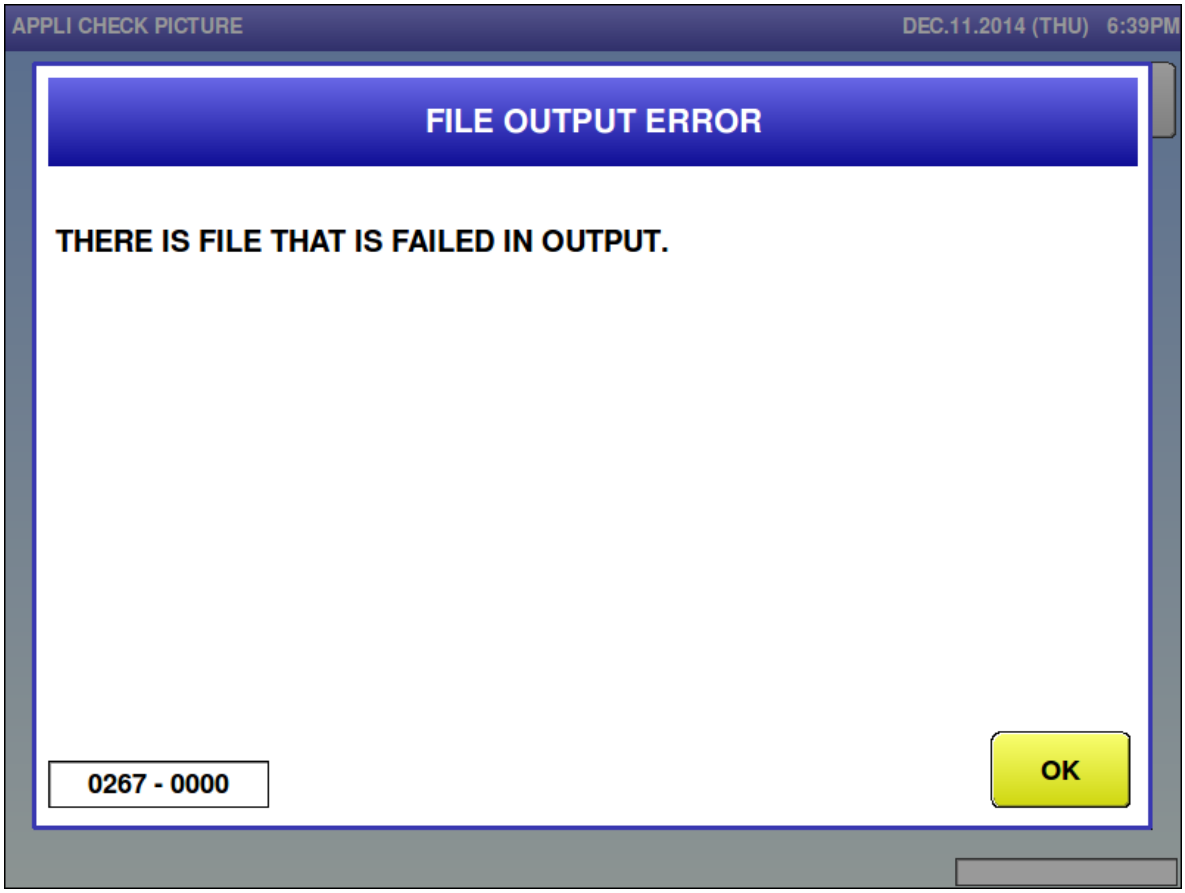
Error content	There is a file that failed to load from an external device to internal memory [SETUP: FILE SAVE/LOAD(INPUT) screen.
Detail	Input data is identified by sub-error No. 0001: SRAM data
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	Check the source data file and reload from a different source file if needed.

■ File input error (0266－0002)



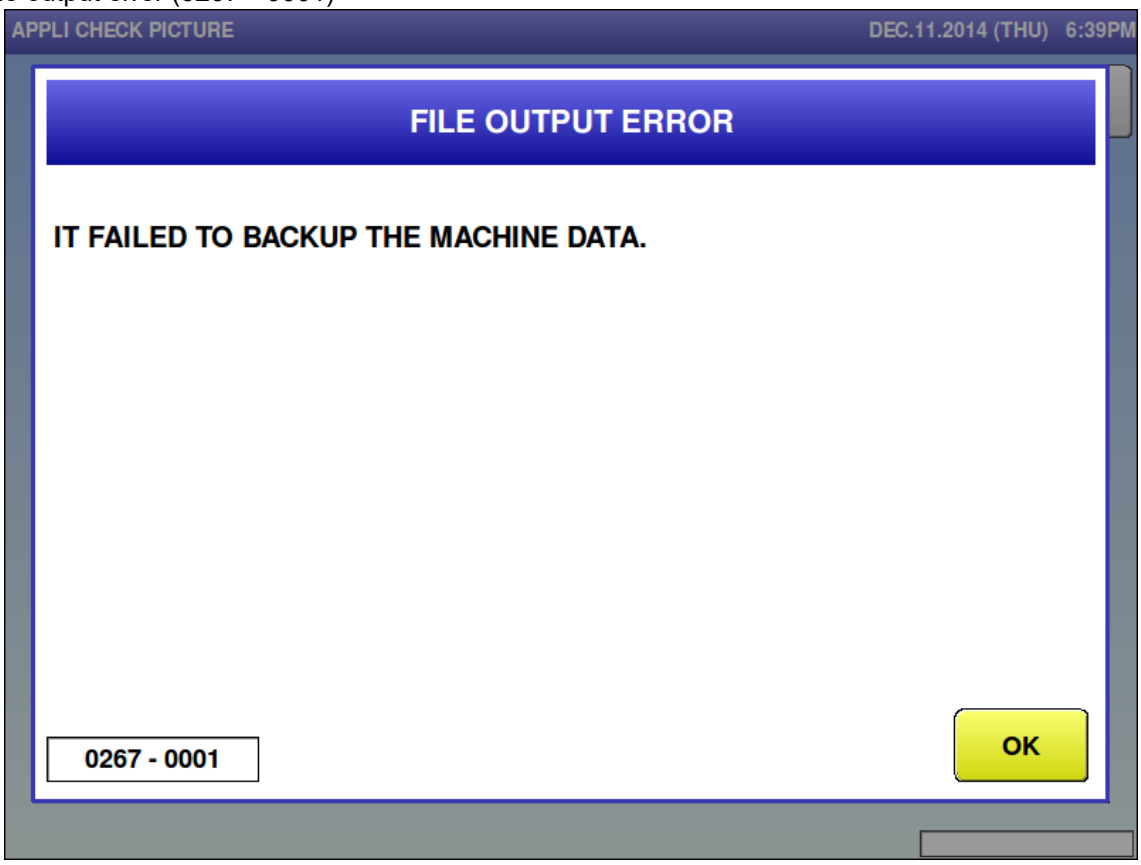
Error content	There is a file that failed to load from an external device to internal memory [SETUP: FILE SAVE/LOAD(INPUT) screen.
Detail	Input data is identified by sub-error No. 0002: Master data (all master)
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	Check the source data file and reload from a different source file if needed.

■ File output error (0267－0000)



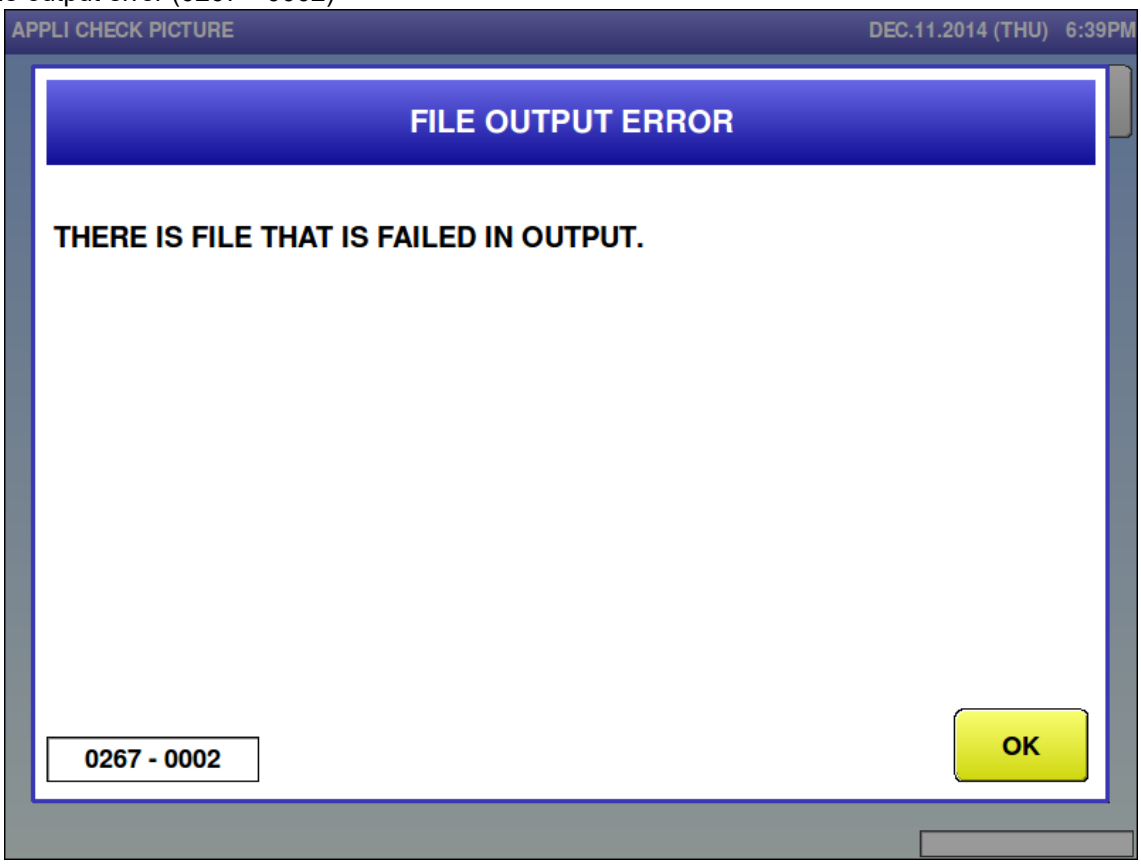
Error content	There is a file that failed to output from internal memory to an external device [SETUP: FILE SAVE/LOAD(OUTPUT) screen.
Detail	Output source data is identified by sub-error No. 0000: Master data
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	Check the recording device.

■ File output error (0267－0001)



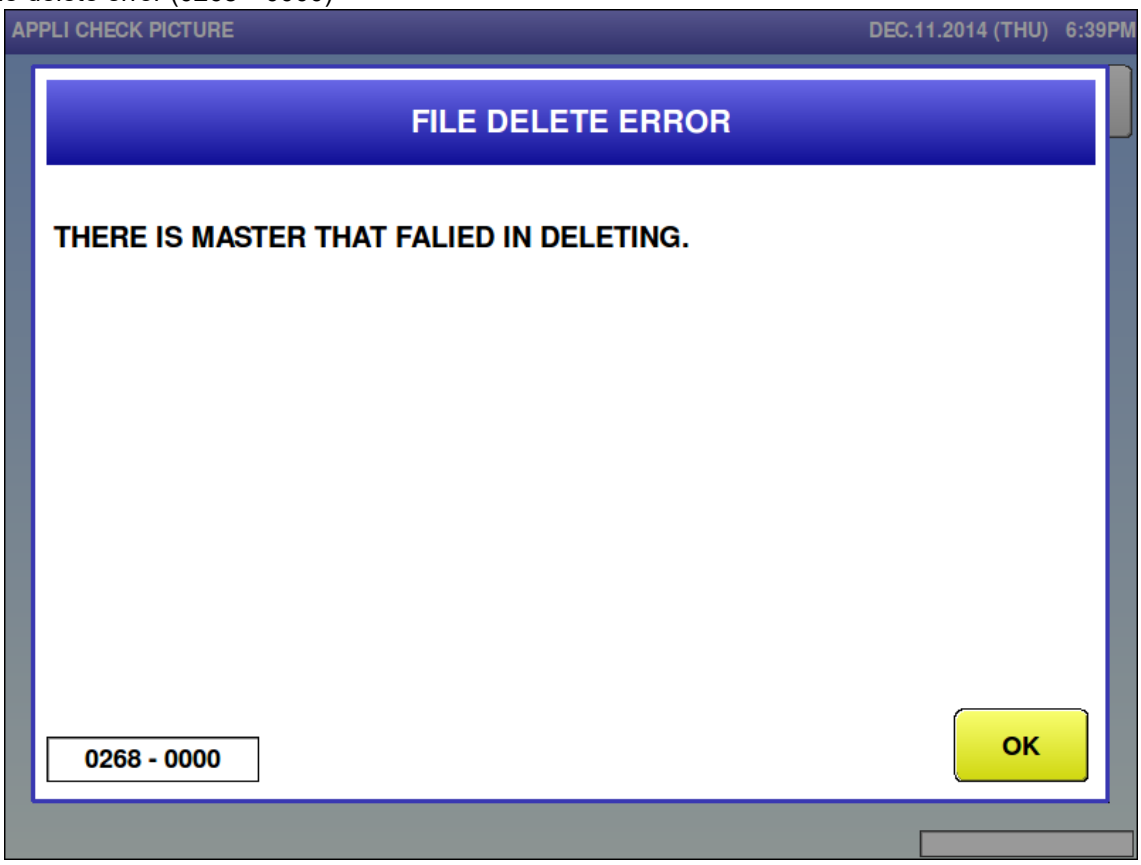
Error content	There is a file that failed to output from internal memory to an external device [SETUP: FILE SAVE/LOAD (OUTPUT) screen.
Detail	Output source data is identified by sub-error No. 0001: SRAM data
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	Check the recording device.

■ File output error (0267－0002)



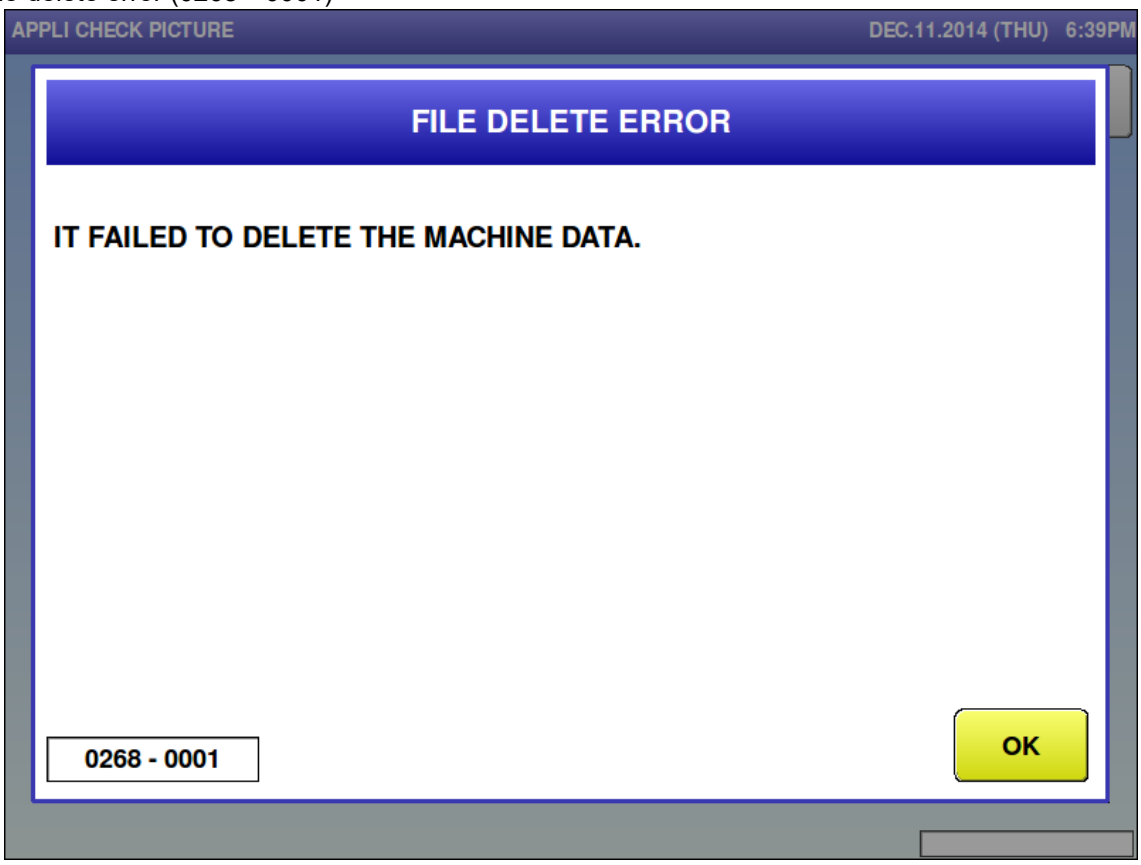
Error content	There is a file that failed to output from internal memory to an external device [SETUP: FILE SAVE/LOAD(OUTPUT) screen.
Detail	Output source data is identified by sub-error No. 0002: Master data (all master)
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	Check the recording device.

■ File delete error (0268－0000)



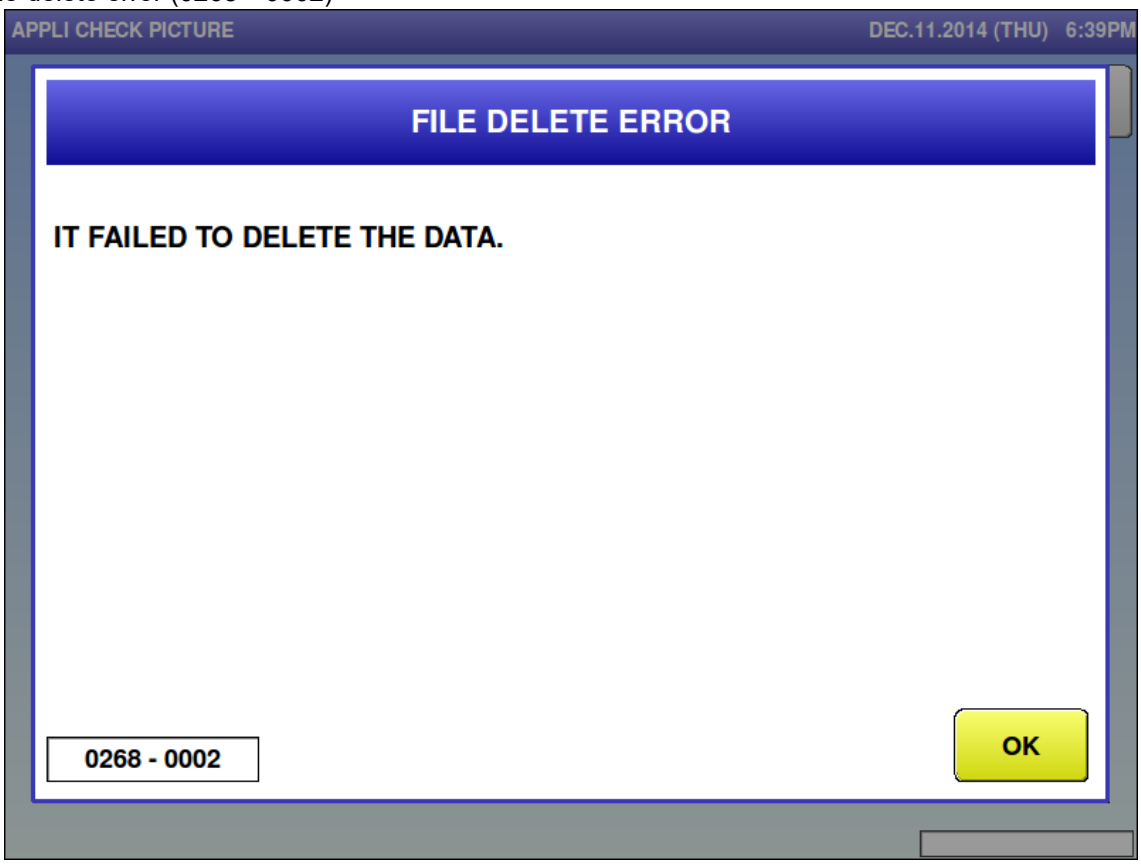
Error content	There is external device data or SRAM data that failed in deleting on the [SETUP: FILE SAVE/LOAD(DELETE)] screen.
Detail	Data to delete is identified by sub-error No. 0000: External device data (master specified)
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	Check the recording device.

■ File delete error (0268－0001)



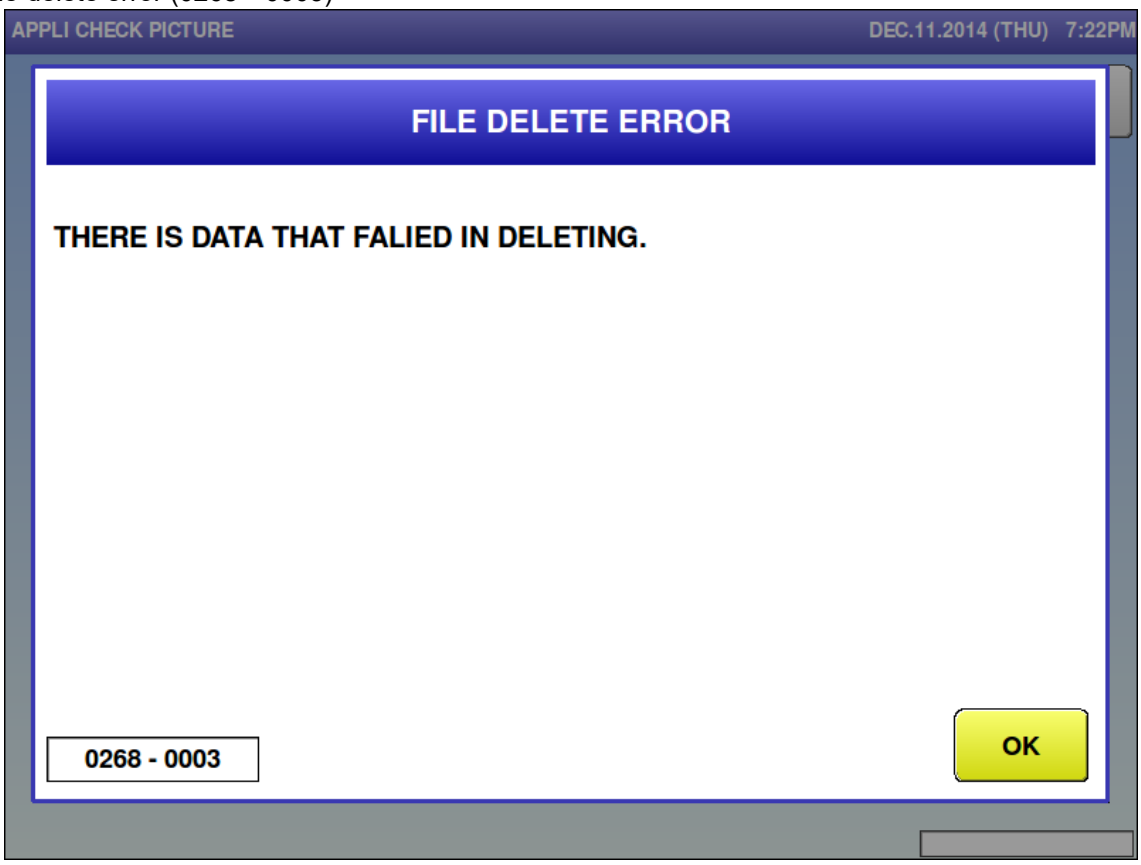
Error content	There is external device data or SRAM data that failed in deleting on the [SETUP: FILE SAVE/LOAD(DELETE)] screen.
Detail	Data to delete is identified by sub-error No. 0001: SRAM data
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	Check the recording device.

■ File delete error (0268－0002)



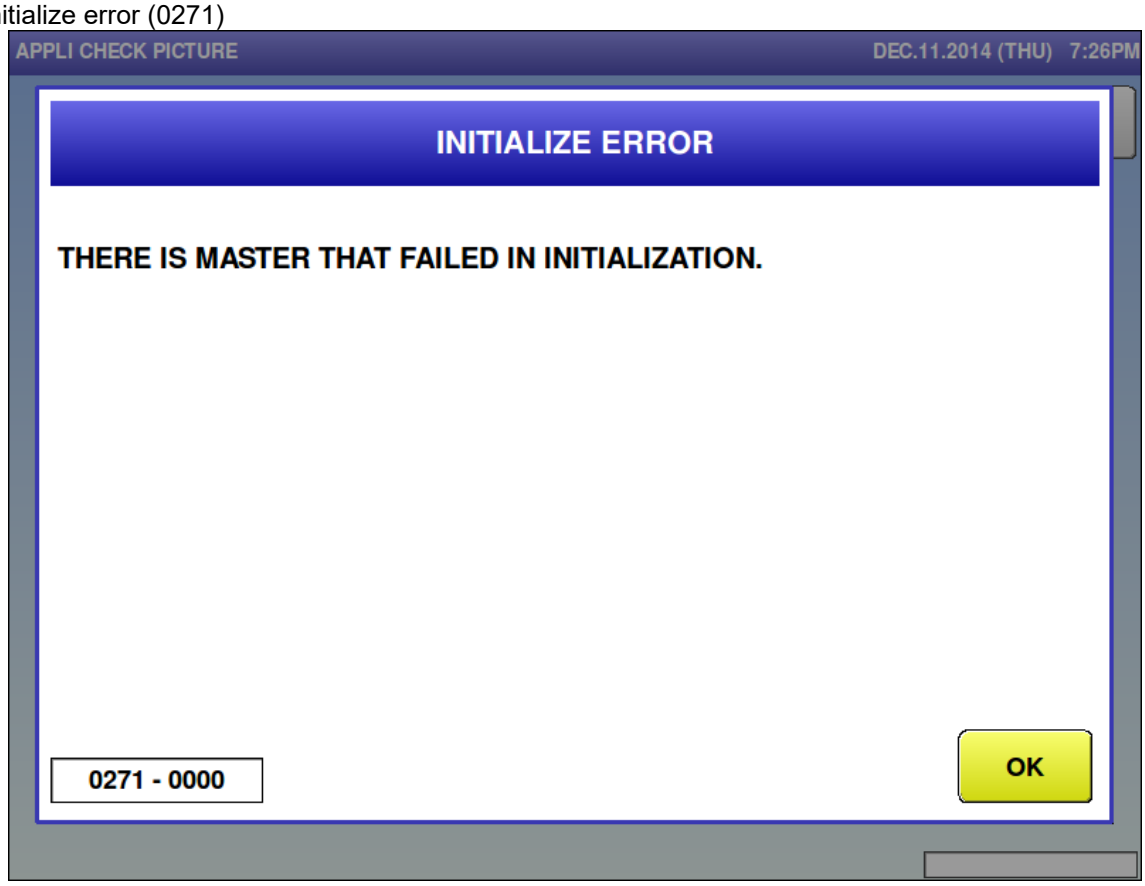
Error content	There is external device data or SRAM data that failed in deleting on the [SETUP: FILE SAVE/LOAD(DELETE)] screen.
Detail	Data to delete is identified by sub-error No. 0002: External device data (data specified)
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	Check the recording device.

■ File delete error (0268－0003)



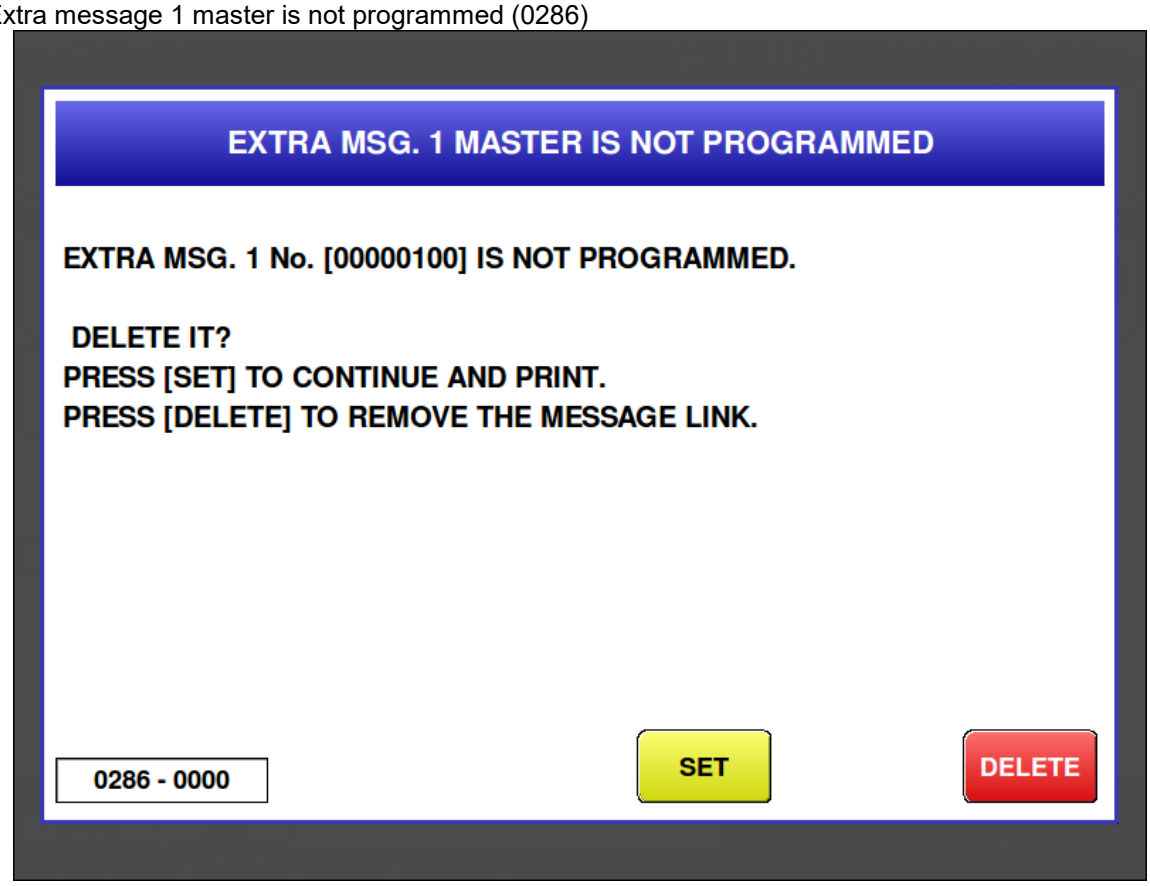
Error content	There is external device data or SRAM data that failed in deleting on the [SETUP: FILE SAVE/LOAD(DELETE)] screen.
Detail	Data to delete is identified by sub-error No. 0003: External device data (all data)
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	Check the recording device.

■ Initialize error (0271)



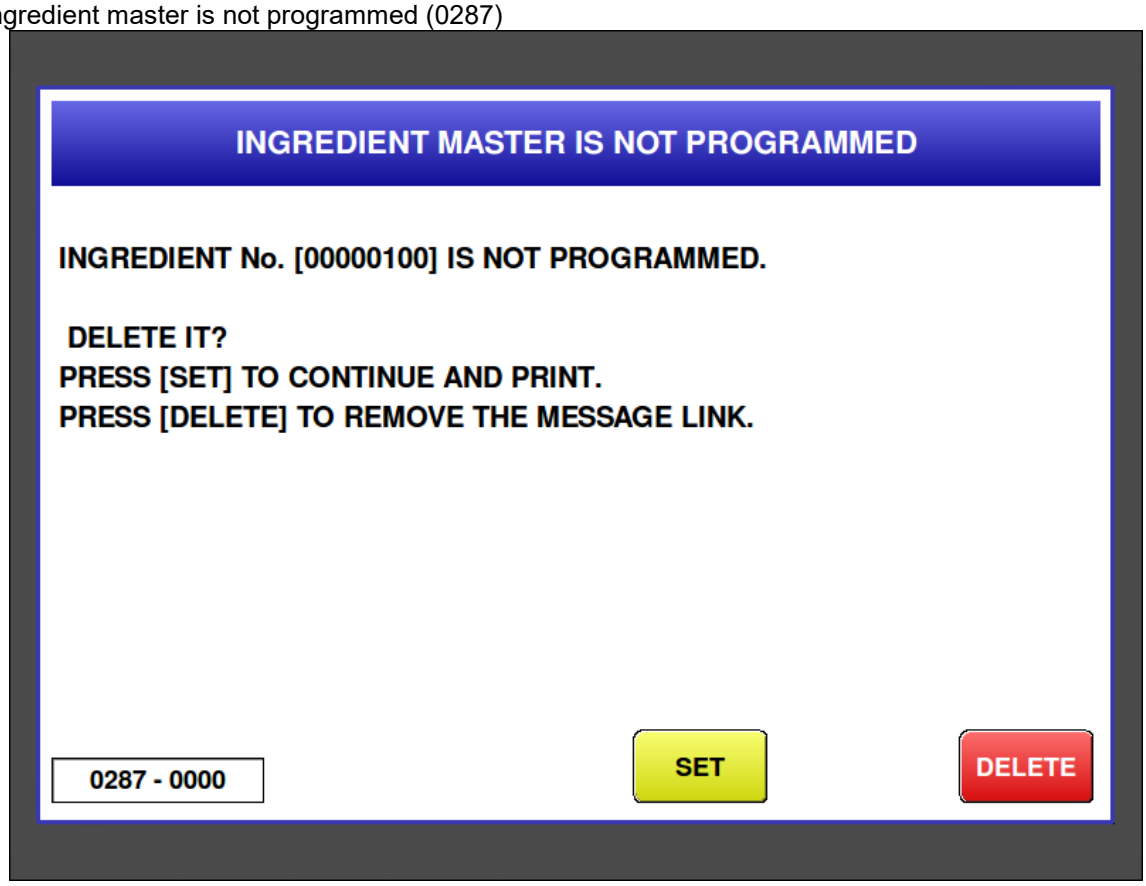
Error content	There is an internal master that failed in initialization on the [SETUP: FILE SAVE/LOAD(INIT.)] screen.
Detail	
Solution	[OK] button
Action by user	
Action by service representative	Confirm the internal master data.
Related part	Main board
Remarks	

■ Extra message 1 master is not programmed (0286)



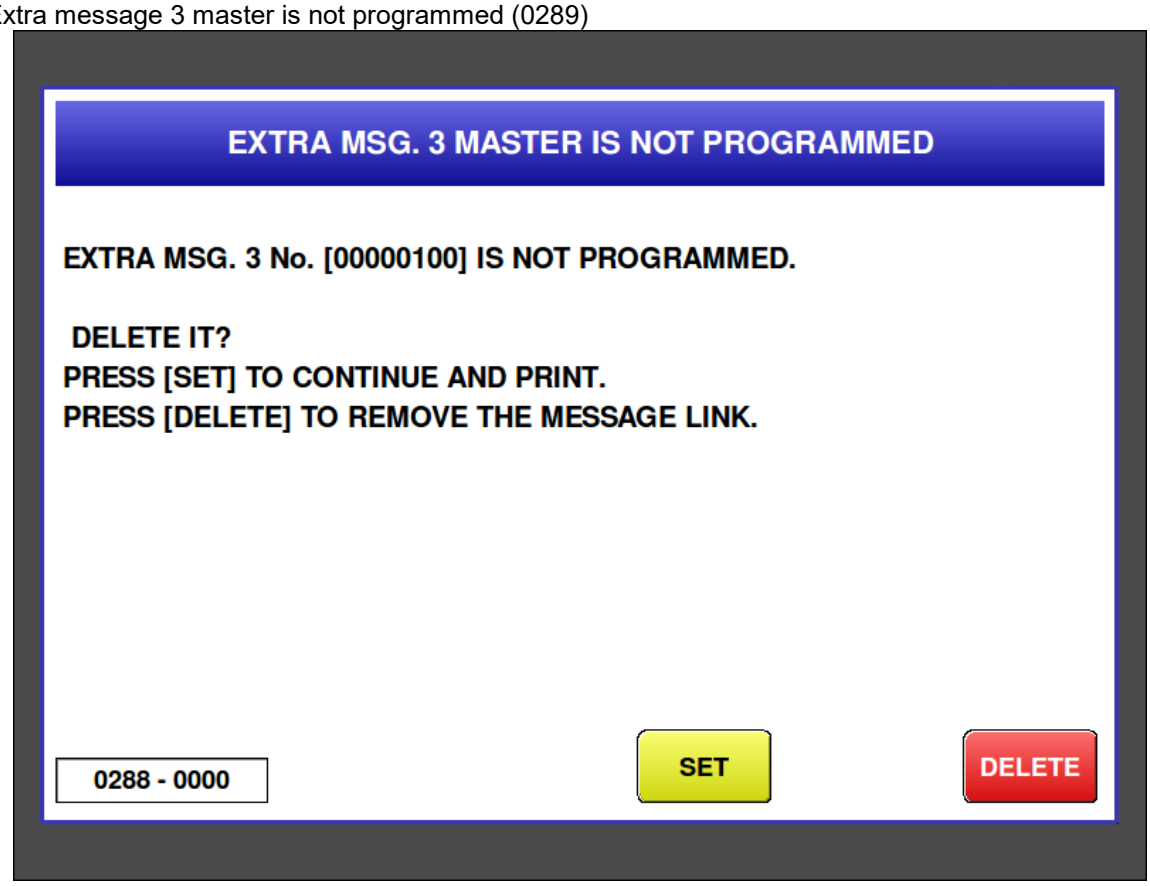
Error content	The called extra message 1 master has not been registered.
Detail	Does not exist in the internal master.
Solution	[DELETE] button => Delete extra message 1 No. of product master. [SET] button => Cancel error.
Action by user	Reconfirm the extra message 1 master number. Add the extra message 1 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	・The called extra message 1 No. is displayed. ・In the case of no extra message 1 No. update, product master is not changed. ・Error screen can be changed in link master error settings. ・Master name can be checked in "MENU TITLE (OPERATE) settings".

■ Ingredient master is not programmed (0287)



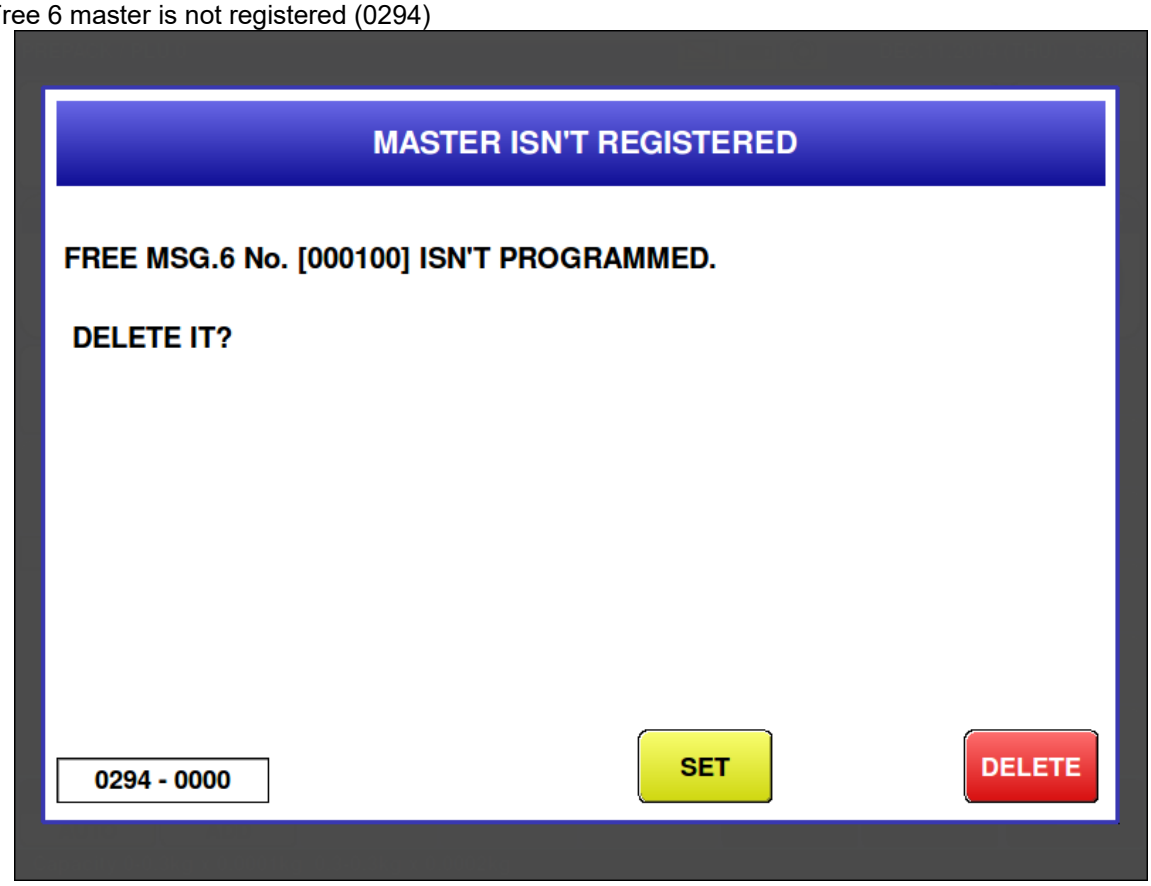
Error content	The called ingredient master has not been registered.
Detail	Does not exist in the internal master.
Solution	[DELETE] button => Delete ingredient No. of product master. [SET] button => Cancel error.
Action by user	Reconfirm the ingredient master number. Add the ingredient master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	・The called ingredient No. is displayed. ・In the case of no ingredient No. update, product master is not changed. ・Error screen can be changed in link master error settings. ・Master name can be checked in "MENU TITLE (OPERATE) settings".

■ Extra message 3 master is not programmed (0289)



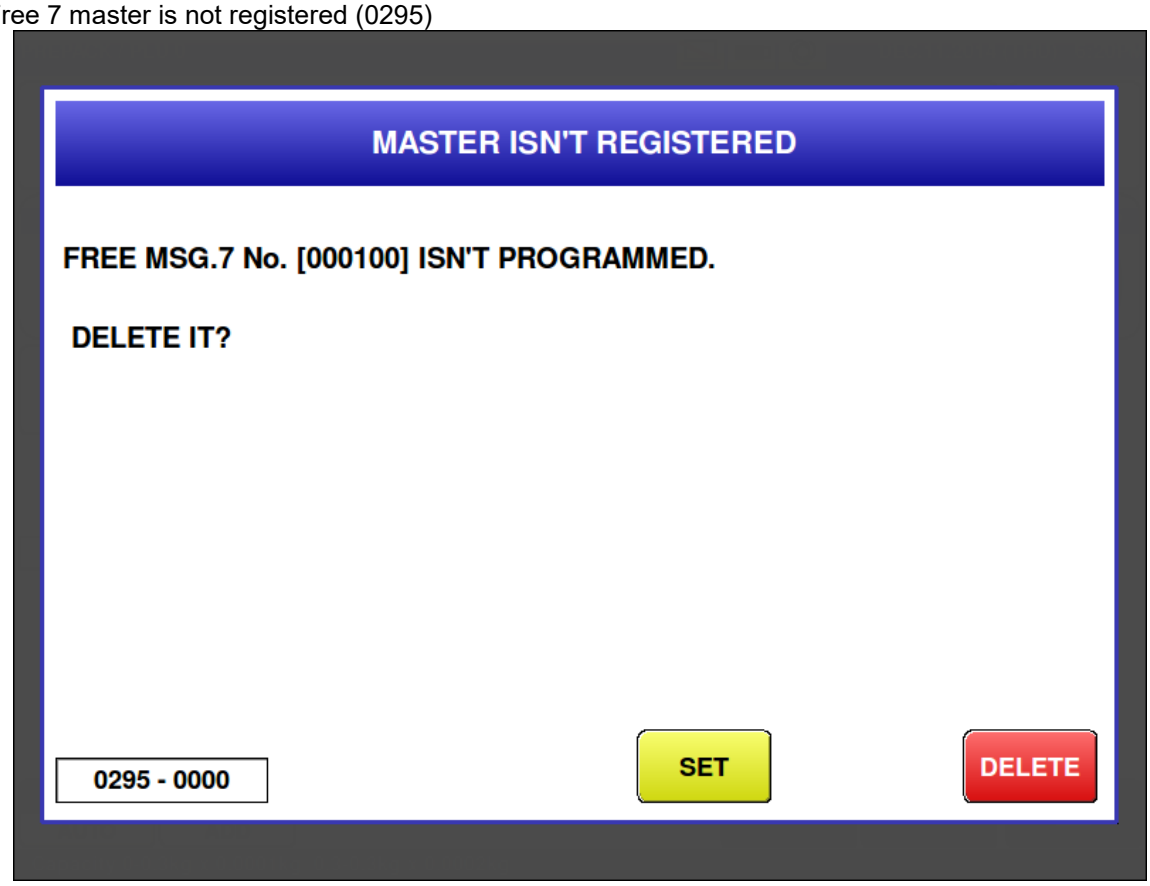
Error content	The called extra message 3 master has not been registered.
Detail	Does not exist in the internal master.
Solution	[DELETE] button => Delete extra message 3 No. of product master. [SET] button => Cancel error.
Action by user	Reconfirm the extra message 3 master number. Add the extra message 3 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	・The called extra message 3 No. is displayed. ・In the case of no extra message 3 No. update, product master is not changed. ・Error screen can be changed in link master error settings. ・Master name can be checked in "MENU TITLE (OPERATE) settings".

■ Free 6 master is not registered (0294)



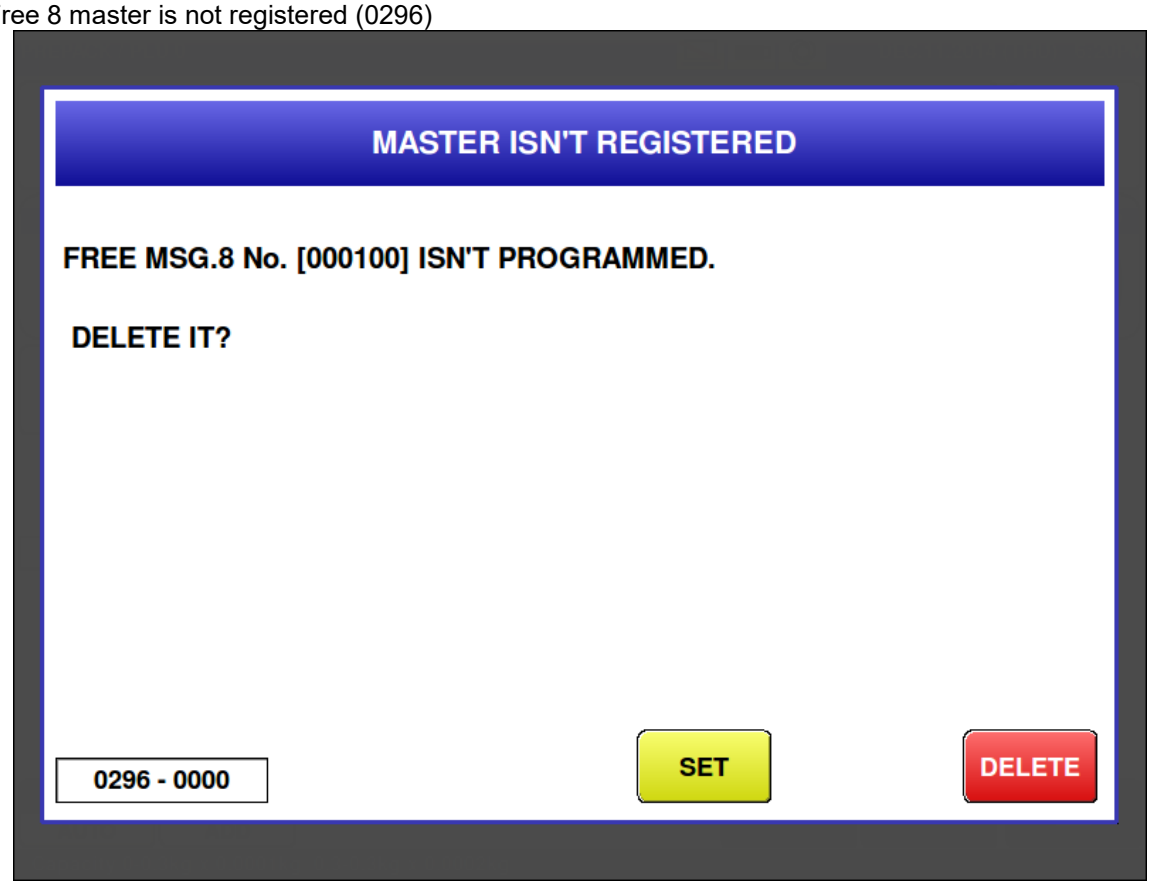
Error content	The called free 6 master has not been registered.
Detail	Does not exist in the internal master.
Solution	[DELETE] button => Delete free 6 No. of product master. [SET] button => Cancel error.
Action by user	Reconfirm the free 6 master number. Add the free 6 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	・The called free 6 No. is displayed. ・In the case of no free 6 No. update, product master is not changed. ・Error screen can be changed in link master error settings. ・Master name can be checked in "MENU TITLE (OPERATE) settings".

■ Free 7 master is not registered (0295)



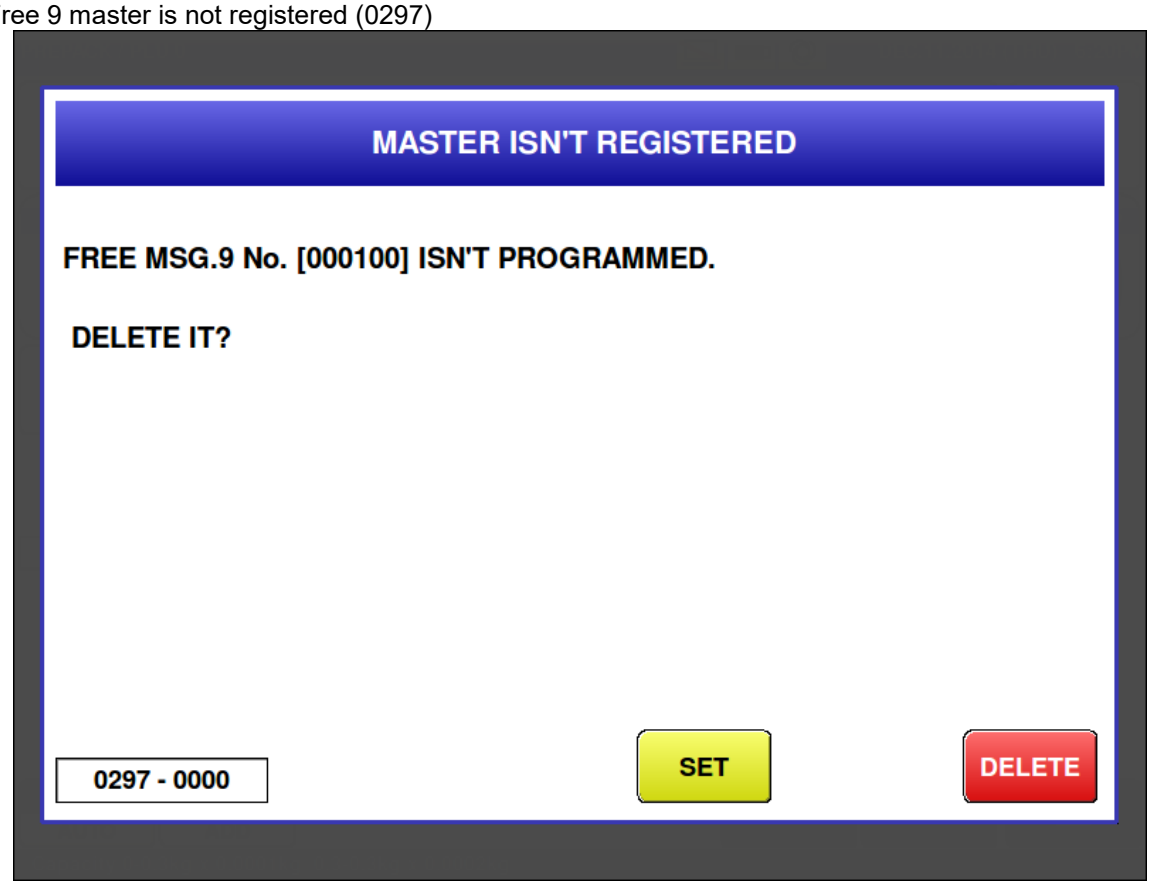
Error content	The called free 7 master has not been registered.
Detail	Does not exist in the internal master.
Solution	[DELETE] button => Delete free 7 No. of product master. [SET] button => Cancel error.
Action by user	Reconfirm the free 7 master number. Add the free 7 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	・The called free 7 No. is displayed. ・In the case of no free 7 No. update, product master is not changed. ・Error screen can be changed in link master error settings. ・Master name can be checked in "MENU TITLE (OPERATE) settings".

■ Free 8 master is not registered (0296)



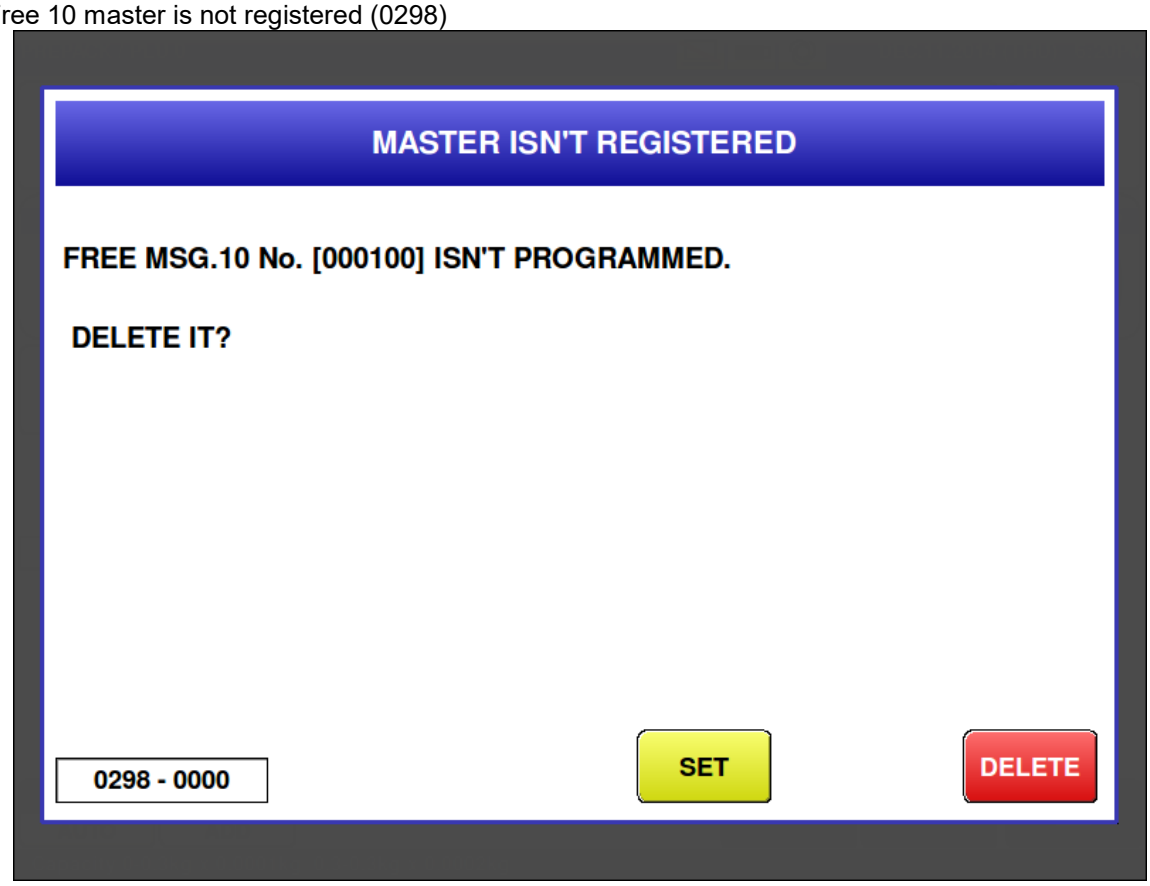
Error content	The called free 8 master has not been registered.
Detail	Does not exist in the internal master.
Solution	[DELETE] button => Delete free 8 No. of product master. [SET] button => Cancel error.
Action by user	Reconfirm the free 8 master number. Add the free 8 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	・The called free 8 No. is displayed. ・In the case of no free 8 No. update, product master is not changed. ・Error screen can be changed in link master error settings. ・Master name can be checked in "MENU TITLE (OPERATE) settings".

■ Free 9 master is not registered (0297)



Error content	The called free 9 master has not been registered.
Detail	Does not exist in the internal master.
Solution	[DELETE] button => Delete free 9 No. of product master. [SET] button => Cancel error.
Action by user	Reconfirm the free 9 master number. Add the free 9 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	・The called free 9 No. is displayed. ・In the case of no free 9 No. update, product master is not changed. ・Error screen can be changed in link master error settings. ・Master name can be checked in "MENU TITLE (OPERATE) settings".

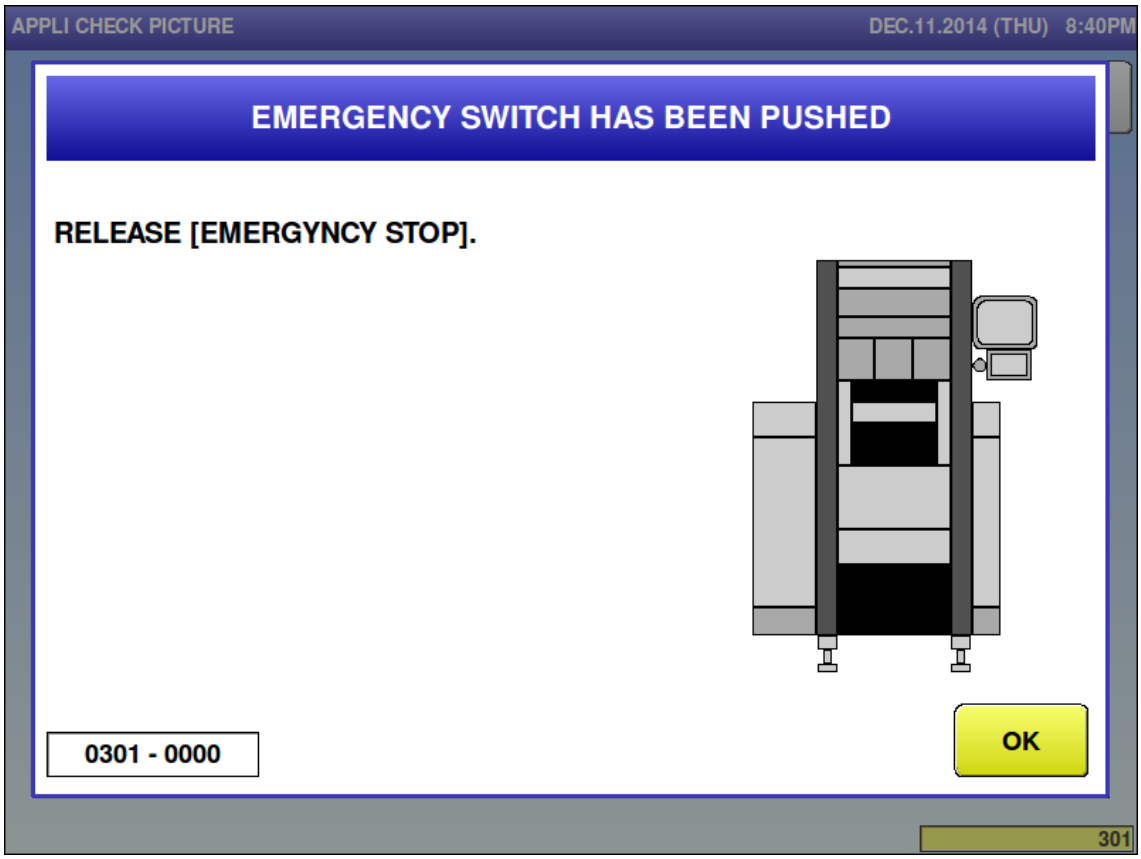
■ Free 10 master is not registered (0298)



Error content	The called free 10 master has not been registered.
Detail	Does not exist in the internal master.
Solution	[DELETE] button => Delete free 10 No. of product master. [SET] button => Cancel error.
Action by user	Reconfirm the free 10 master number. Add the free 10 master.
Action by service representative	Confirm the master.
Related part	Main board
Remarks	・The called free 10 No. is displayed. ・In the case of no free 10 No. update, product master is not changed. ・Error screen can be changed in link master error settings. ・Master name can be checked in "MENU TITLE (OPERATE) settings".

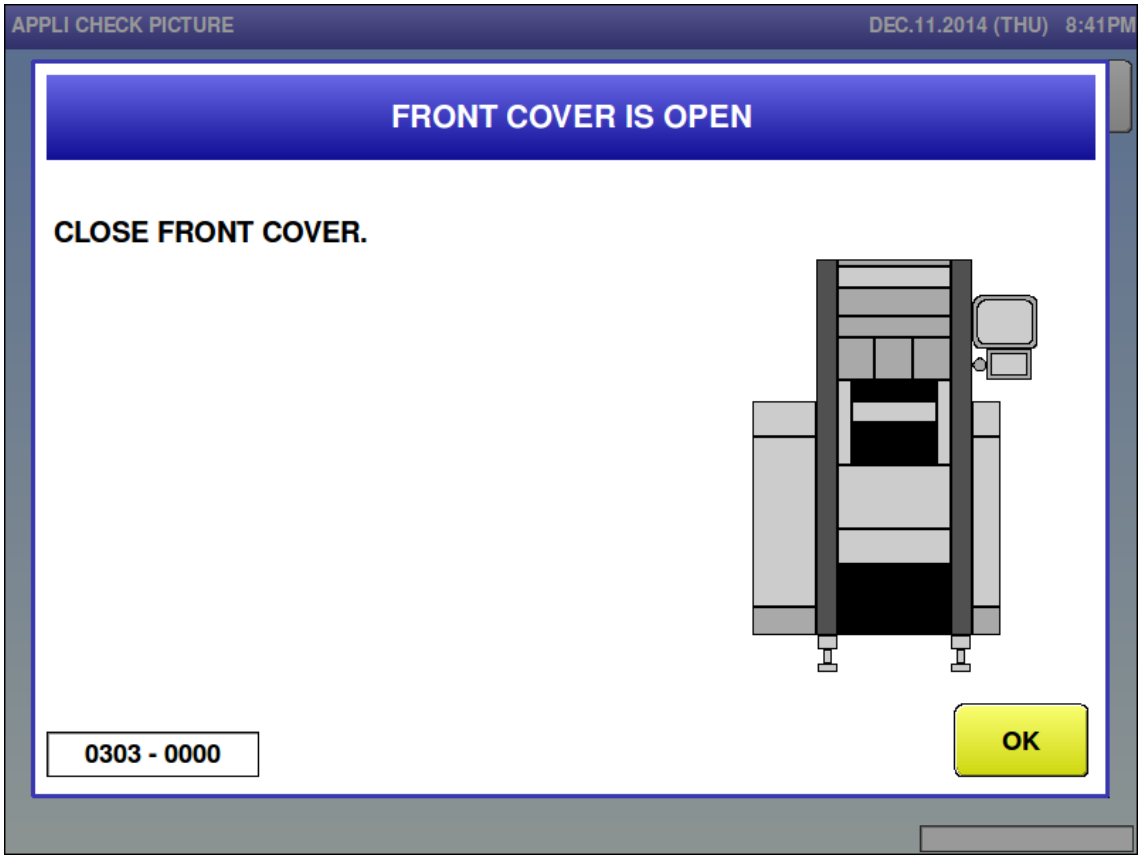
A.3.3 Precheck-related Error (No. 300s)

■ Emergency switch has been pushed (0301)



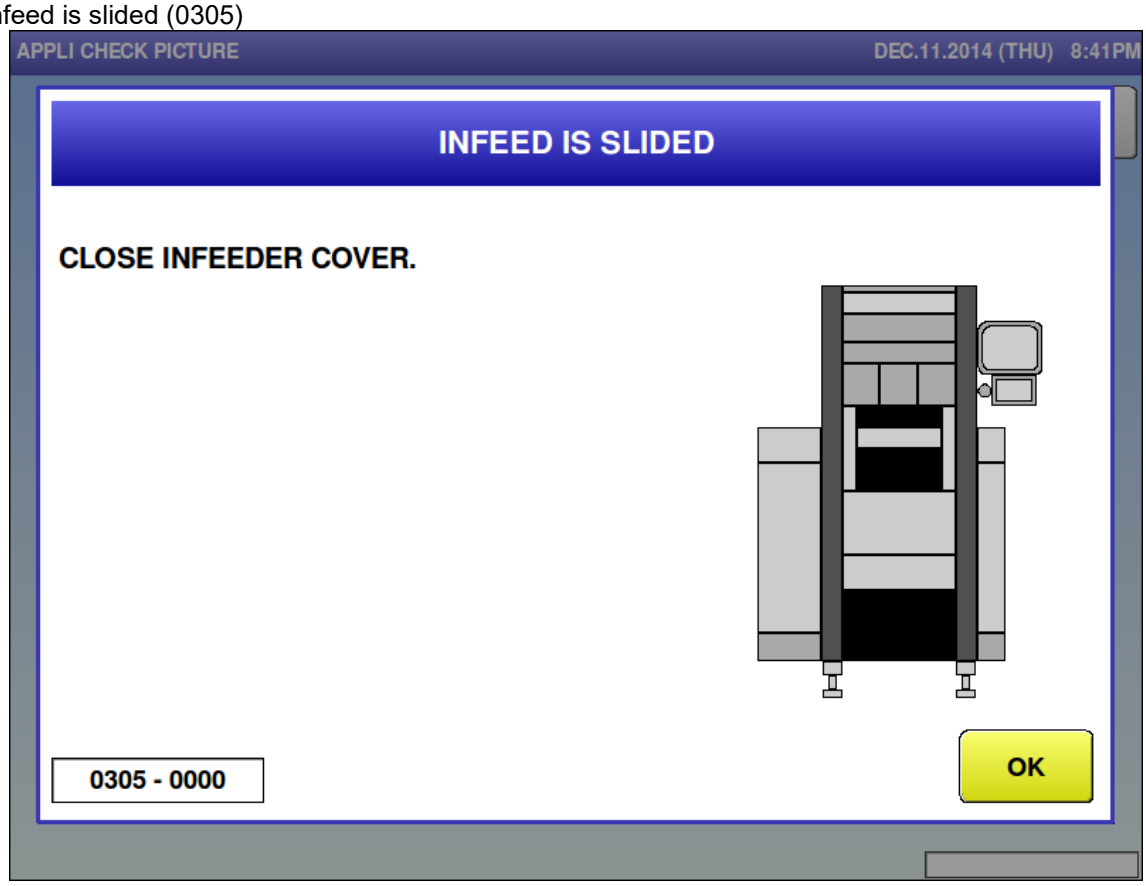
Error content	Emergency switch has been pushed.
Detail	The emergency stop switch is pushed before operation. The emergency stop switch is blinking red on the wrapping unit display.
Solution	Release emergency stop switch, [OK] button.
Action by user	Release the emergency stop button.
Action by service representative	Release the emergency stop button.
Related part	Main board, wrapping machine board
Remarks	Emergency Stop switch [S100], p/n 72899

■ Front cover is open (0303)



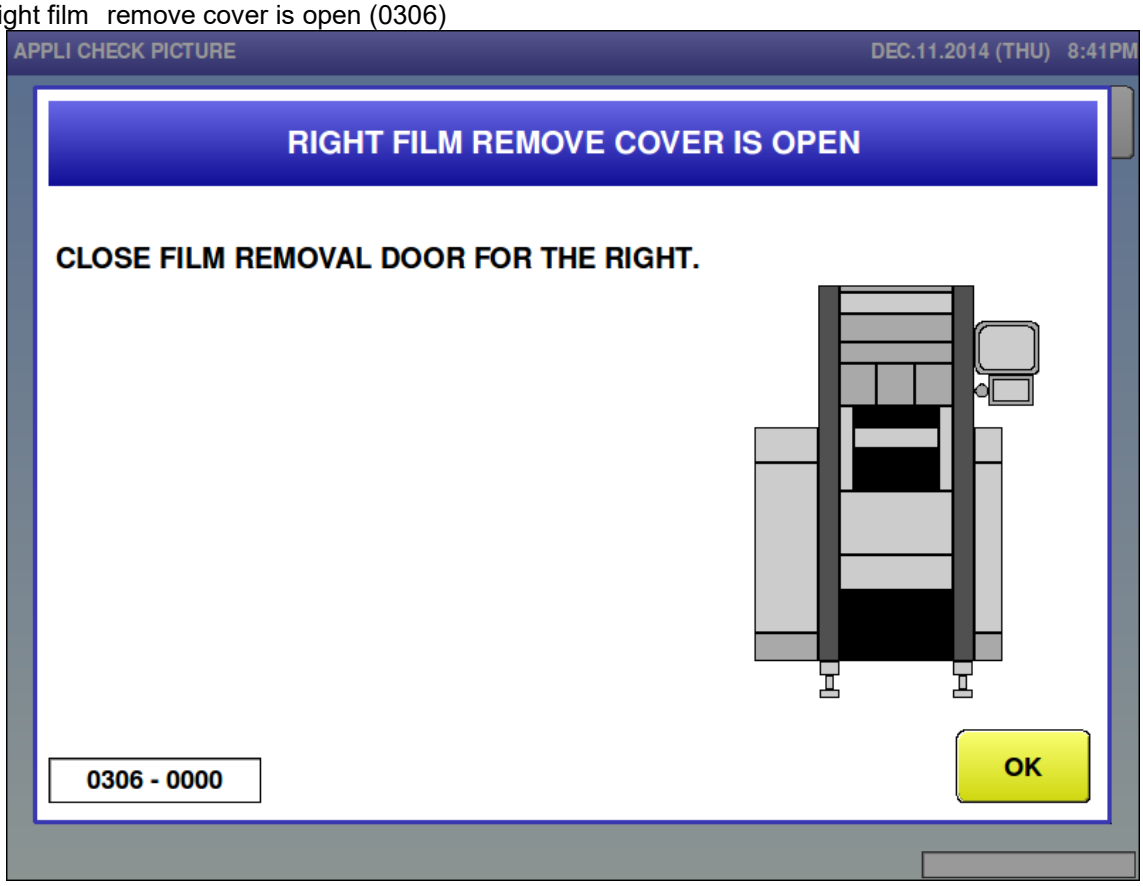
Error content	Front cover is open.
Detail	Occurs when the front cover is open. before operation.
Solution	Close the front cover, [OK] button.
Action by user	Close the front cover.
Action by service representative	Close the front cover.
Related part	Main board, wrapping machine board
Remarks	Printer door safety interlock sensor [S101], p/n 157866

■ Infeed is slided (0305)



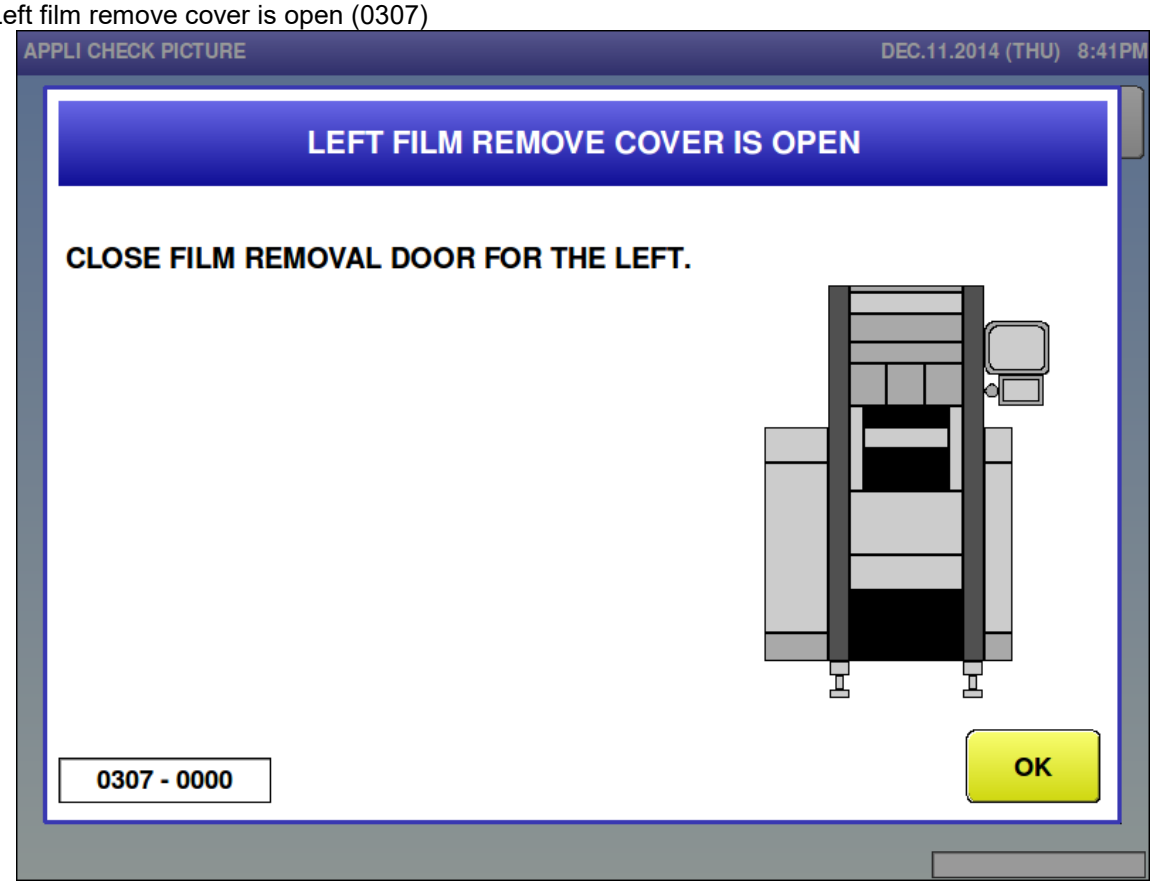
Error content	Infeed is pulled forward out of position.
Detail	Occurs when the infeed conveyor or infeed cover is open before operation.
Solution	Set the infeed conveyor or close infeed cover, [OK] button.
Action by user	Close the infeed bottom cover. Set the infeed unit.
Action by service representative	Close the infeed bottom cover. Set the infeed unit.
Related part	Main board, wrapping machine board
Remarks	Infeed position safety interlock sensor [S301], p/n 157866

■ Right film remove cover is open (0306)



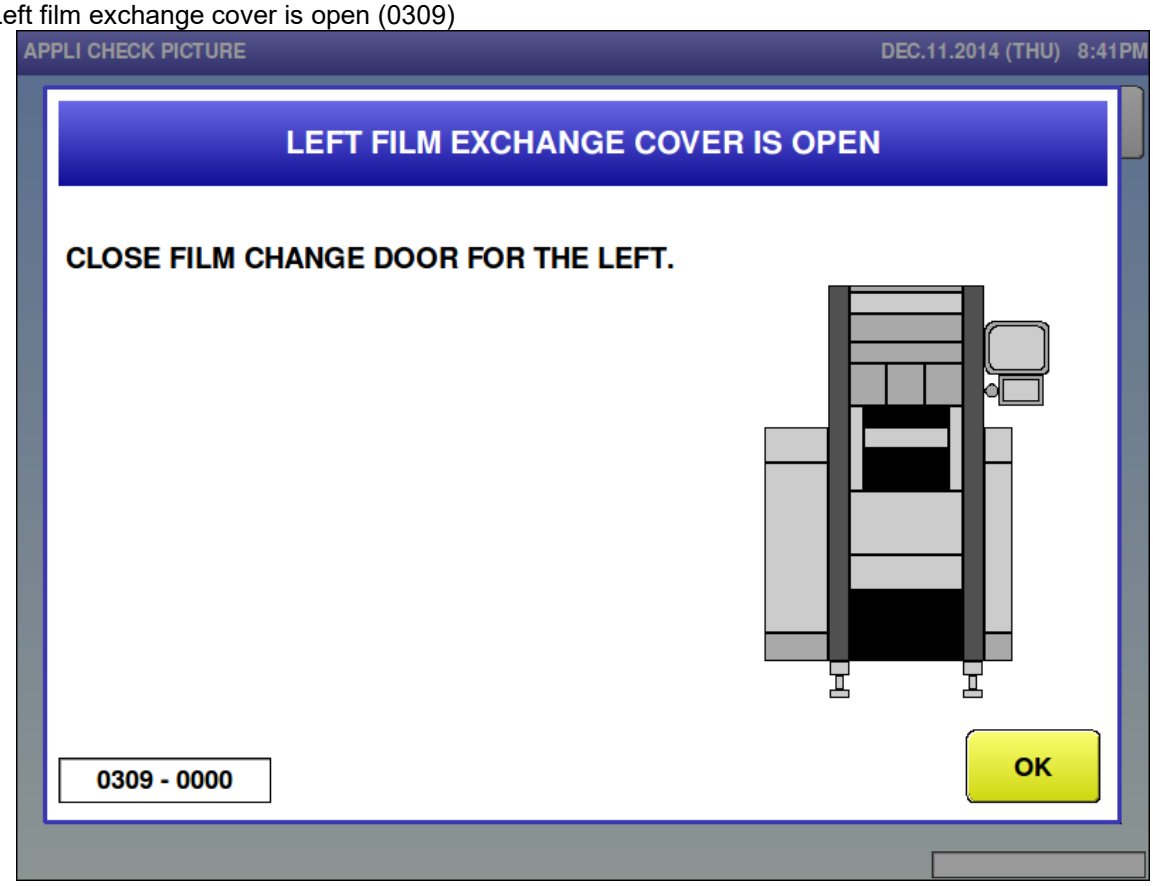
Error content	Right side film remove cover is open.
Detail	Occurs when the right side film remove cover is open before operation.
Solution	Close Right side film remove cover, [OK] button.
Action by user	Close the film removal door on the right side.
Action by service representative	Close the film removal door on the right side.
Related part	Main board, wrapping machine board
Remarks	Film removal door safety interlock sensor [S200], p/n 157866

■ Left film remove cover is open (0307)



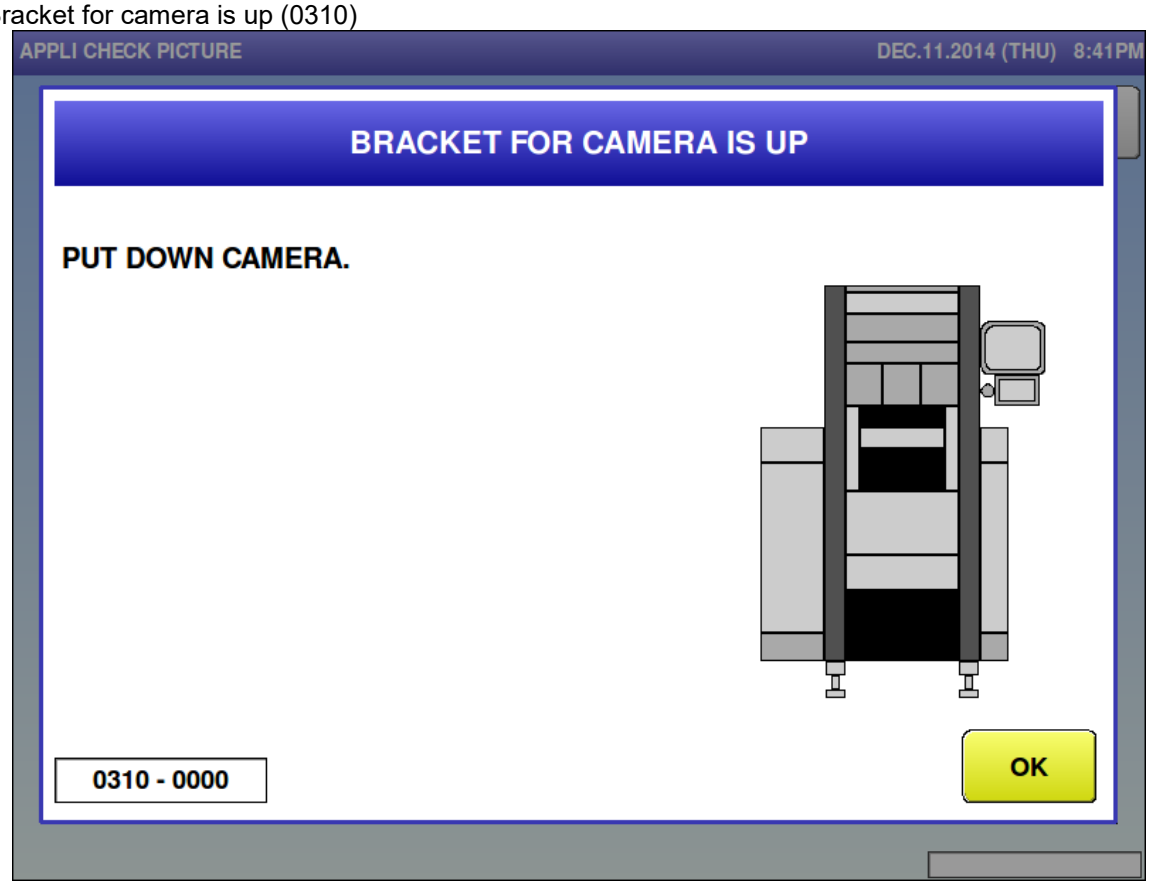
Error content	Left side film remove cover is open.
Detail	Occurs when the left side film remove cover is open before operation.
Solution	Close left side film remove cover, [OK] button.
Action by user	Close the film removal door on the left side.
Action by service representative	Close the film removal door on the left side.
Related part	Main board, wrapping machine board
Remarks	Film loading/removal door safety interlock sensor [S302], p/n 157866

■ Left film exchange cover is open (0309)



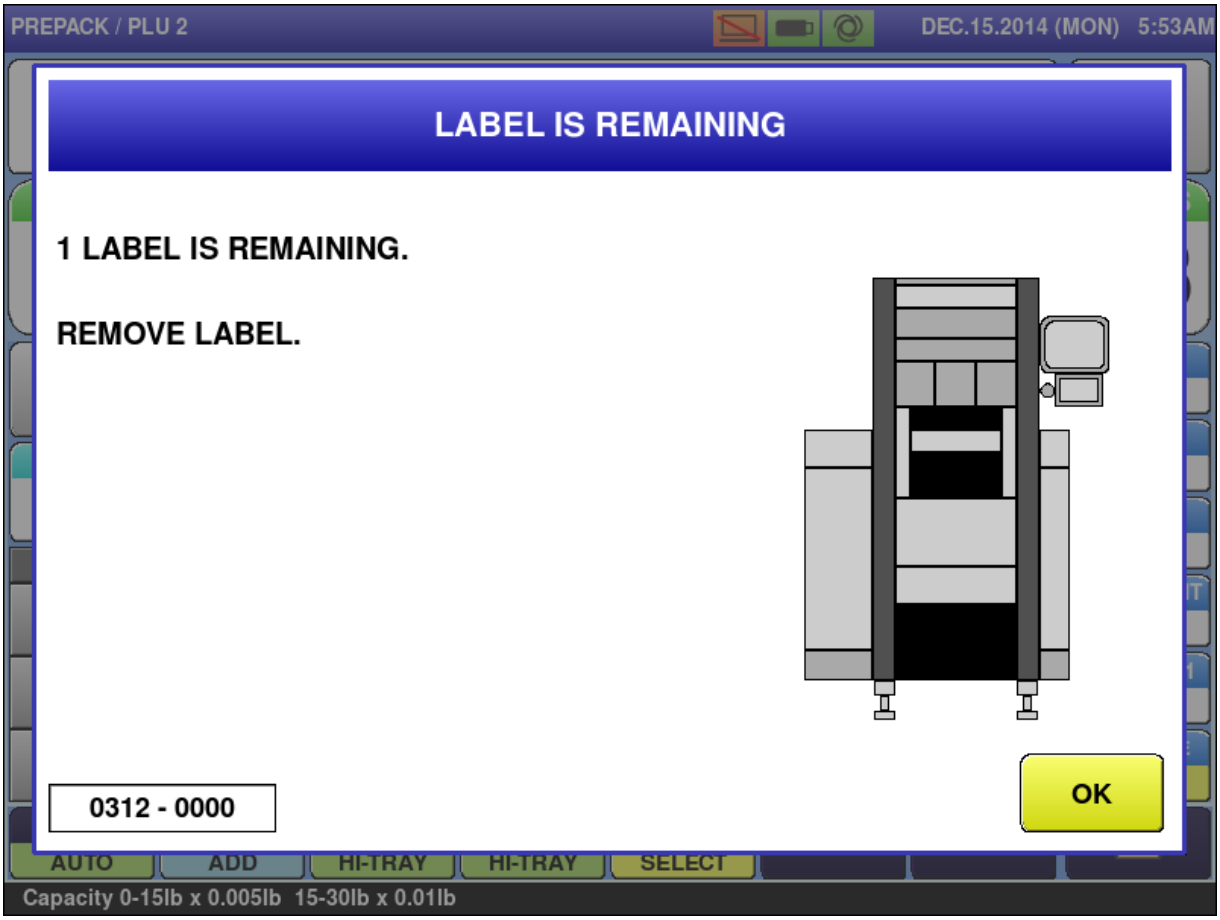
Error content	Left side film loading cover is open.
Detail	Occurs when the left side film exchange cover is open before operation.
Solution	Close left side film loading cover, [OK] button.
Action by user	Close the film loading door on the left side.
Action by service representative	Close the film loading door on the left side.
Related part	Main board, wrapping machine board
Remarks	Film loading door safety interlock sensor [S302], p/n 157866

■ Bracket for camera is up (0310)



Error content	Bracket for camera is up.
Detail	Camera is pushed up when production.
Solution	Lower the camera to the home position, [OK] button.
Action by user	Put the camera back to the home position. Press the [OK] button
Action by service representative	Put the camera back to the home position.
Related part	Main board, wrapping machine board
Remarks	This error does not occur when the Machine Type is set as Type J variation which is the model sold in the USA.

■ Label is remaining -- main printer (0312-0000)

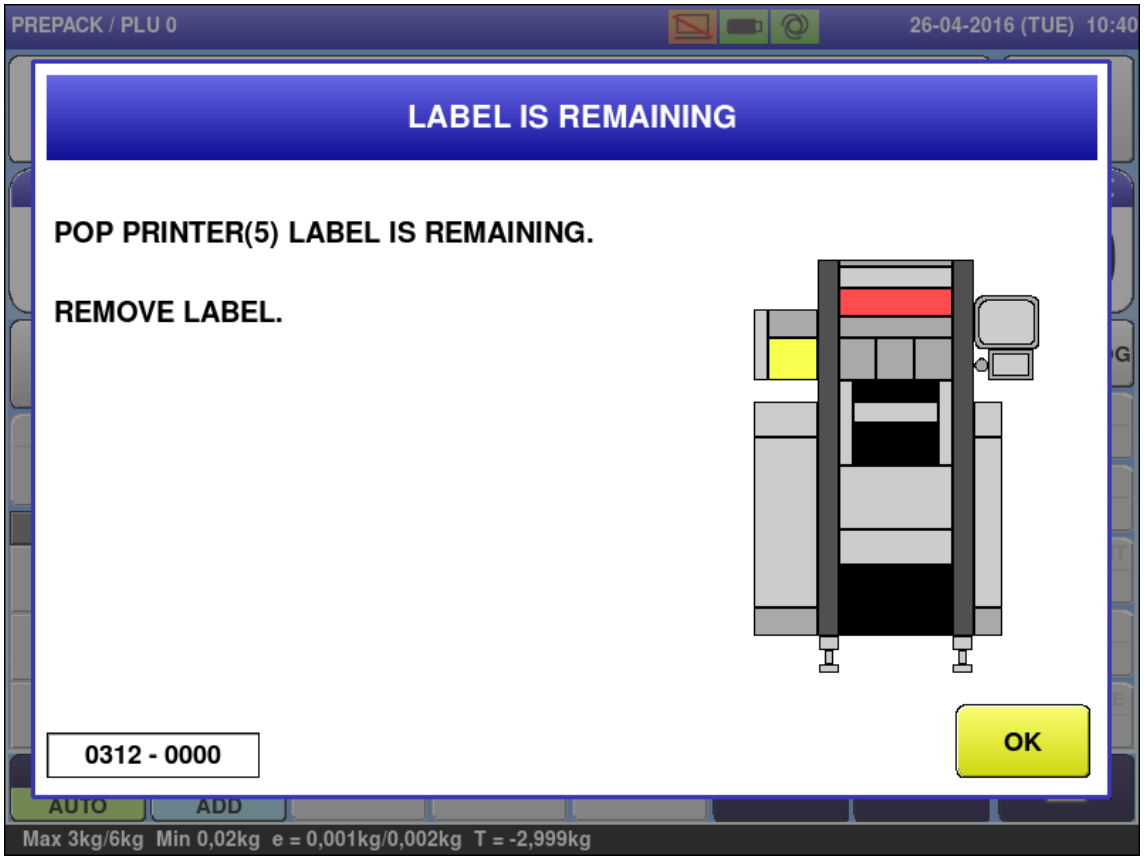


Error content	The peel sensor or label applicator sensor detected a label was remaining. It is detected by the same sensor as in the case of Error 0351.
Detail	The content can be identified by the sub-error number. 0000: Printer peel sensor • In the pre-check before printing starts, the peeling sensor is blocked (the peeling sensor value is below the threshold value). • The peel sensor may be dirty, so clean the sensor. • Adjust the sensitivity of the peeling sensor. • It is important that the peel sensor transmitter and receiver are aligned. 0001: Label applicator. The label detection sensor is blocked. (This can be confirmed on the sensor check screen in the Adjust menu, Unit Action, Sensor Check.) 0002: POP label applicator. The label detection sensor is blocked and the label remains on the pop label applicator. (This can be confirmed on the sensor check screen in the Adjust menu, Unit Action, Sensor Check.)
Solution	Remove the label and press the [OK] button.
Action by user	Remove the label remaining on the printer and tighten the label backing paper. Remove the label remaining at the label applicator. Clean the label applicator sensor.
Action by service representative	Check the operation of the peeling sensor on the printer that has caused an error. Check label detection sensor on label applicator (This can be confirmed on the sensor check screen in the Adjust menu, Unit Action, Sensor Check).

■ Label is remaining -- main printer (0312-0000) CONTINUED

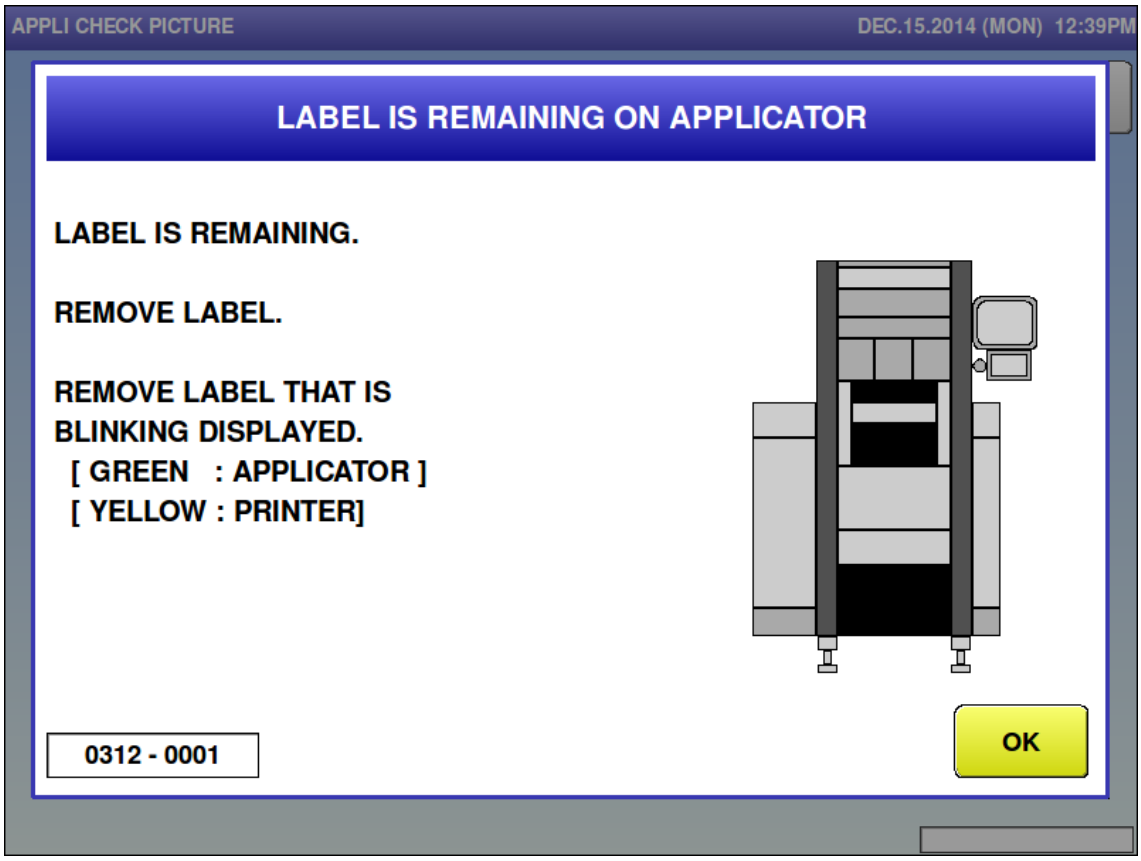
Related part	P-1100 [A10] p/n 158280 Photo interrupter, peel sensor, transmitter [B13], p/n 171876 Photo interrupter, peel sensor, receiver [B12], p/n 171877 Label applicator: Wrapping board P-1105 [A100] (upper left) XJ-20, P-1006-5 [A101] XJ-5 and 7, Label detection sensor, Curl cord, Movable harness POP label applicator: Wrapping board P-1105 [A400] (upper right) XJ-20, P-1006-5 [A401] XJ5 and 7, Label detection sensor, Curl cord, Movable harness
Remarks	Error 0312: Error that occurs when label is detected during the pre check before operation Error 0351: Error that occurs when label is detected after application

- Label is remaining - POP printer (0312-0000)



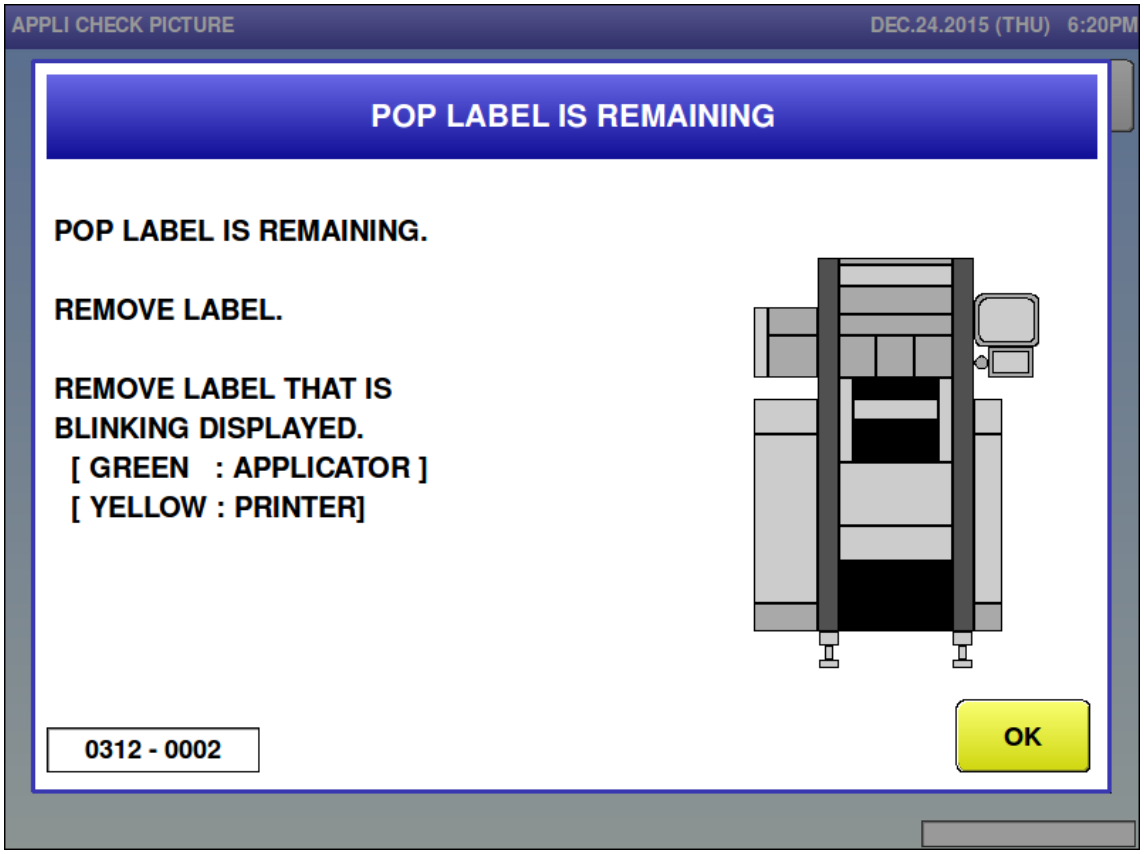
Error content	Label is remaining at the pop printer.
Detail	Identified by sub-error number. 0000: Pop Printer
Solution	Remove the label on pop printer, Press the [OK] button.
Action by user	Remove the label on the pop printer.
Action by service representative	Confirm the operation of the pop printer sensor.
Related part	Pop printer board P-1131A-3 [A410], p/n 178226 Photo interrupter, peel sensor, transmitter [B410], p/n 171876 Photo interrupter, peel sensor, receiver [B411], p/n 171877
Remarks	Error 0312: Error that occurs when a label is detected during the precheck before operation Only for POP printer

■ Label is remaining - main printer (0312-0001)



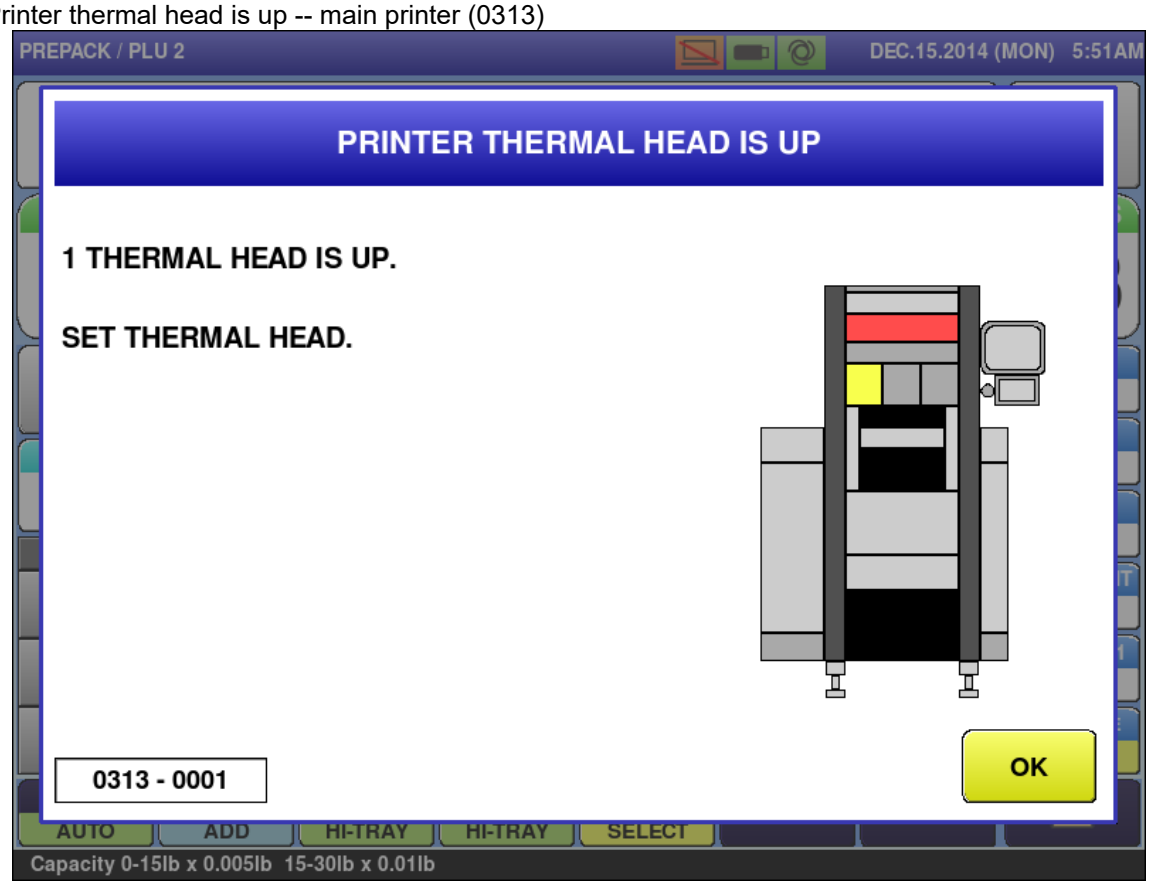
Error content	A label remains on the applicator.
Detail	The content can be identified by the sub-error number. 0001: Label applicator (The label detection sensor is in a reflection state, and the error is detected by the sensor check of the label applicator.)
Solution	Remove the label on the applicator, Press the [OK] button.
Action by user	Remove the label remaining at the label applicator.
Action by service representative	Check the label detection sensor on the label applicator (Under: label applicator sensor check).
Related part	Printer 1: Main board P-1100, [A10] p/n 158280 Label applicator: Wrapping board P-1105 [A100] (upper left) XJ-20, P-1006-5 [A101] XJ-5 and 7, Label detection sensor, coiled cord, movable harness
Remarks	Error 0312: Error that occurs when label is detected during the pre-check before operation Error 0351: Error that occurs when label is detected after application

■ Label is remaining - POP printer (0312-0001)



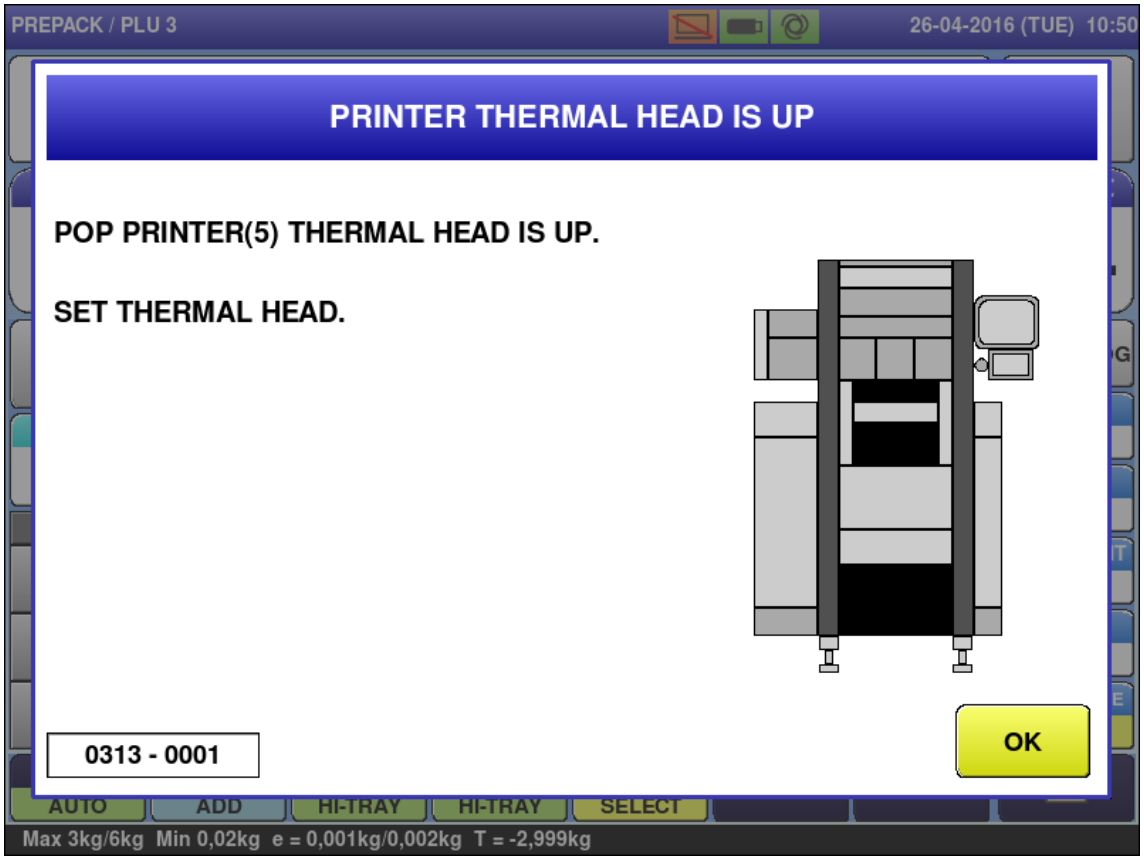
Error content	Label is remaining on the POP applicator.
Detail	Identified by sub-error number. 0002: Pop Applicator
Solution	Remove the label on the pop applicator and press the [OK] button.
Action by user	Remove the label on the pop applicator. Clean the label detection sensor on the pop applicator
Action by service representative	Check and clean the label detection sensor on the pop applicator
Related part	Wrapping board P-1105 [A400] (upper right) XJ-20, p/n 171866 P-1006C-5 [A401] XJ5 and XJ7, p/n 171859 Label detection sensor [B405], p/n 178214 Coiled cord, p/n 178213 Movable harness
Remarks	Error 0312: Error that occurs when a label is detected during the precheck before operation Error 0351: Error that occurs when label is detected after application

■ Printer thermal head is up -- main printer (0313)



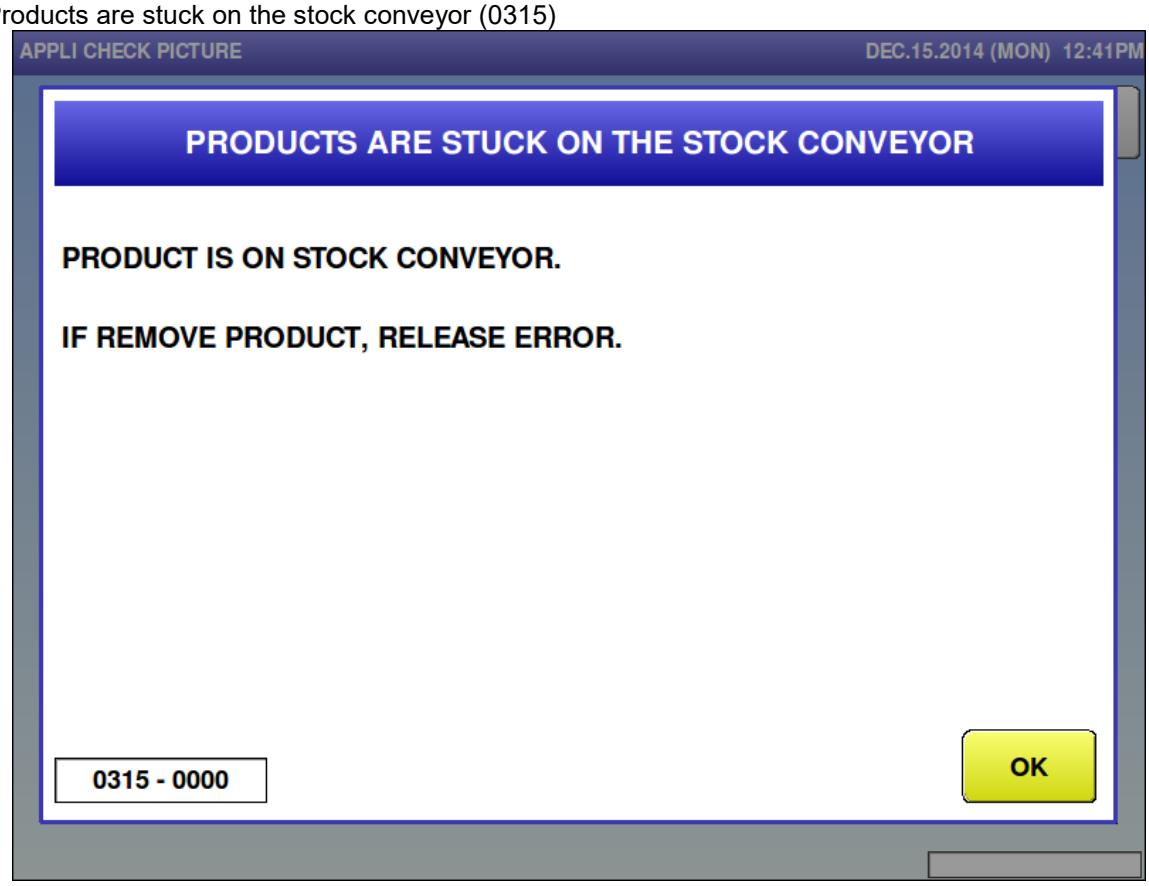
Error content	Printer thermal head is up.
Detail	Identified by sub-error No. 0001: WM-AI
Solution	Lower and latch the thermal head, press the [OK] button.
Action by user	Lower and latch the thermal head, press the [OK] button.
Action by service representative	Confirm the thermal head sensor.
Related part	Main board P-1100 [A10] p/n 158280 Thermal head up sensor B15, p/n 172669
Remarks	

- Printer thermal head is up - POP printer (0313)



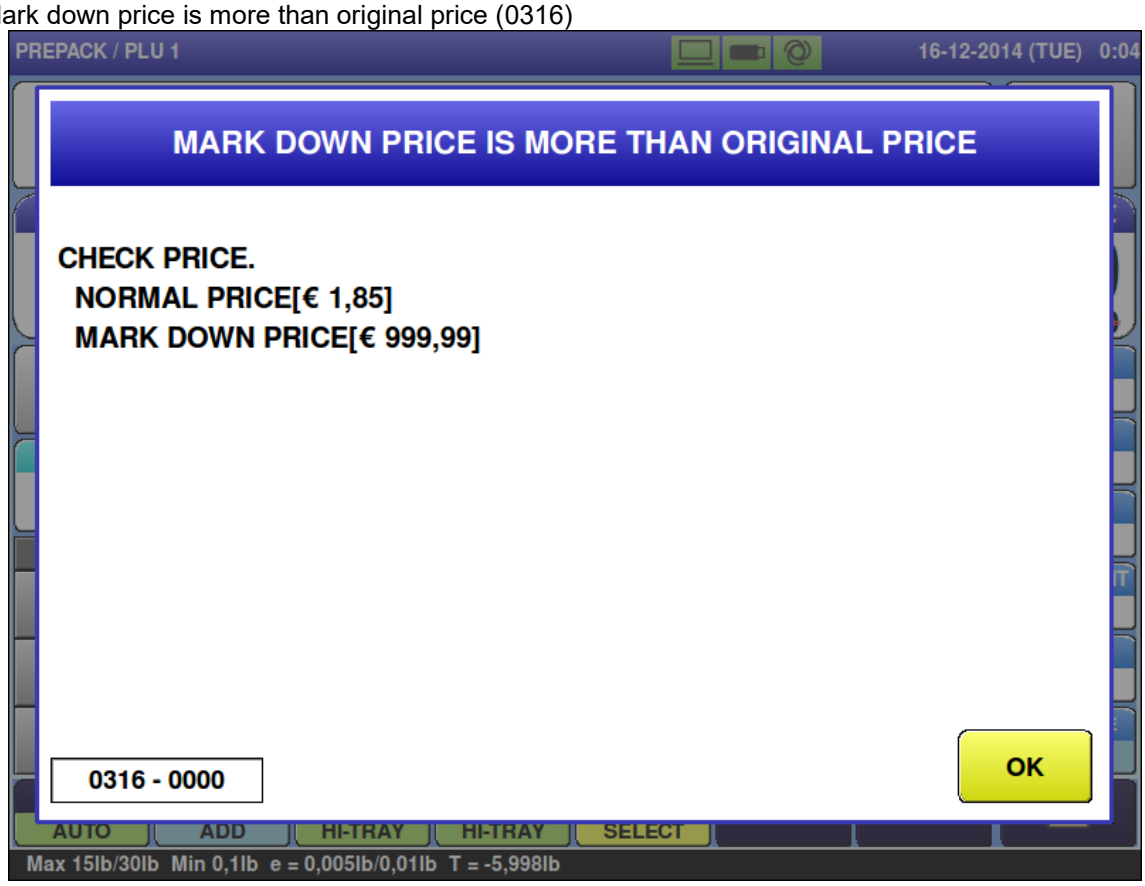
Error content	Thermal head of POP printer is up.
Detail	Identified by sub-error number. 0001: WM-AI
Solution	Lower and latch the thermal head, press the [OK] button.
Action by user	Lower and latch the thermal head, press the [OK] button.
Action by service representative	Check the operation of thermal head up sensor.
Related part	Main board P-1100 [A10], p/n 158280 Pop printer board P-1131A-3 [A410], p/n 178226 Thermal head up sensor B414, p/n 178227
Remarks	

■ Products are stuck on the stock conveyor (0315)



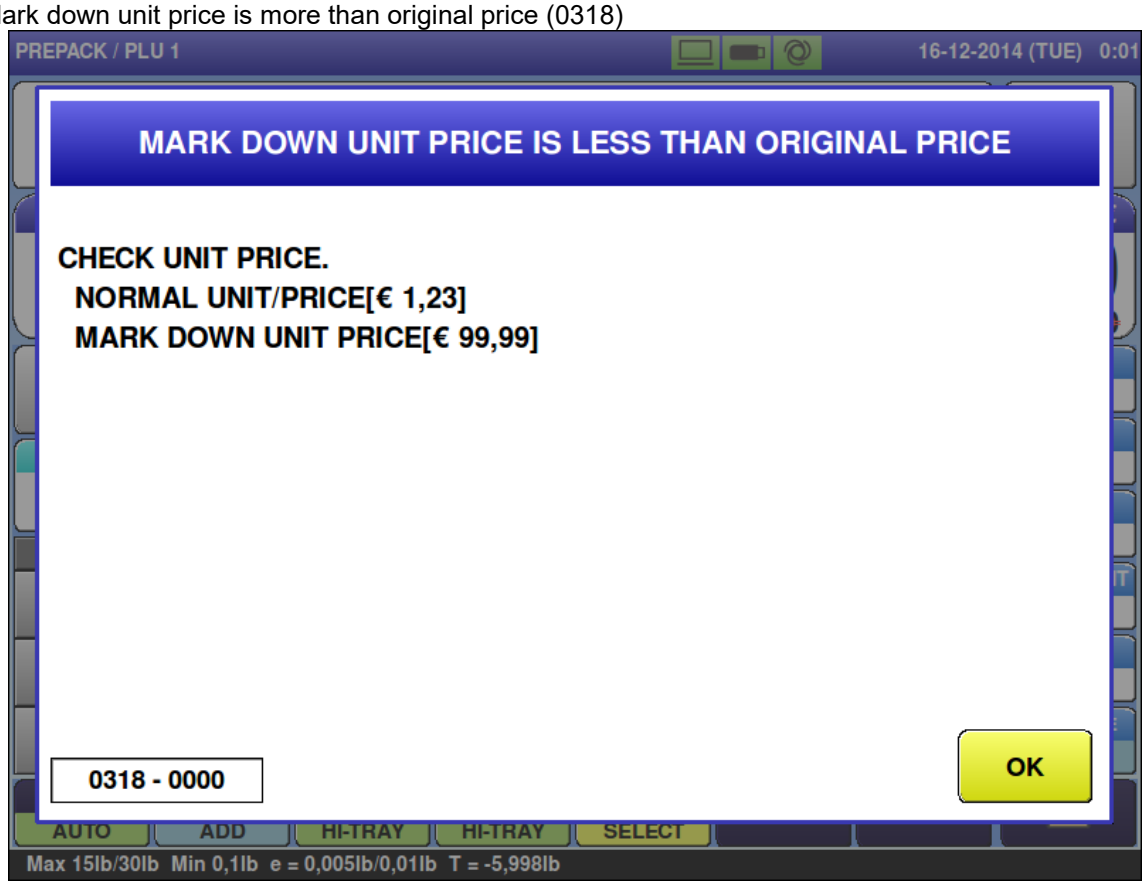
Error content	Products are stuck on the stock conveyor.
Detail	Occurs when the product blocks the full sensor from light when products remain on the discharge conveyor.
Solution	[OK] button, remove products on stock conveyor.
Action by user	Remove the product on the stock conveyor. * The error is cleared when the product is removed. * Clean the full sensor.
Action by service representative	Confirm the operation of the full sensor. Calibrate the full sensor.
Related part	Main board, wrapping machine board
Remarks	**Sensor calibration** - Remove the cover under the sensor. - Potentiometer is accessed from the left through a hole in the frame using a long thin screwdriver. - The pot is a 10-turn type. The optimal setting is in the center (5 turns).

■ Mark down price is more than original price (0316)



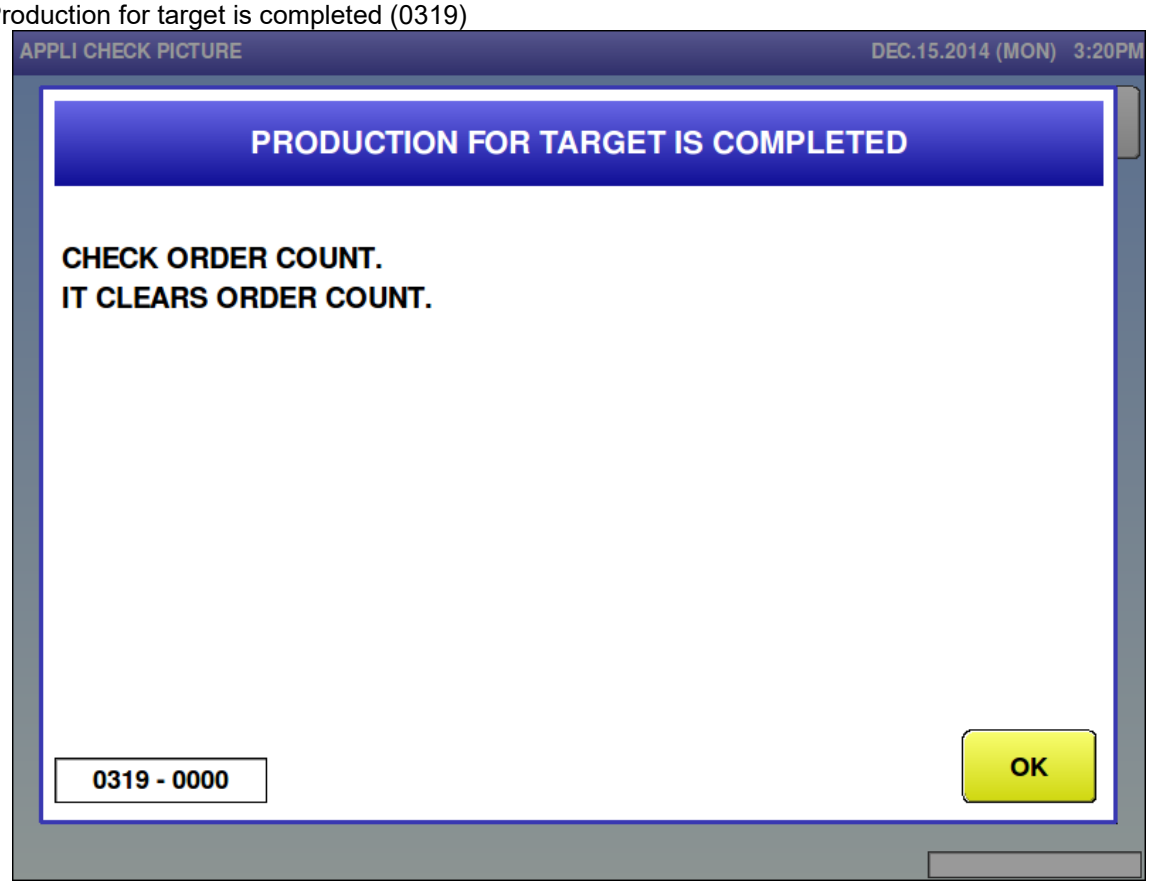
Error content	Mark down price is more than original price.
Detail	
Solution	[OK] button
Action by user	Change the mark down price. * Set the mark down price lower than the original price.
Action by service representative	Change the mark down price. Confirm the product master. Confirm the host product master when linked with the host system.
Related part	Main board
Remarks	Original price and markdown price are displayed.

■ Mark down unit price is more than original price (0318)



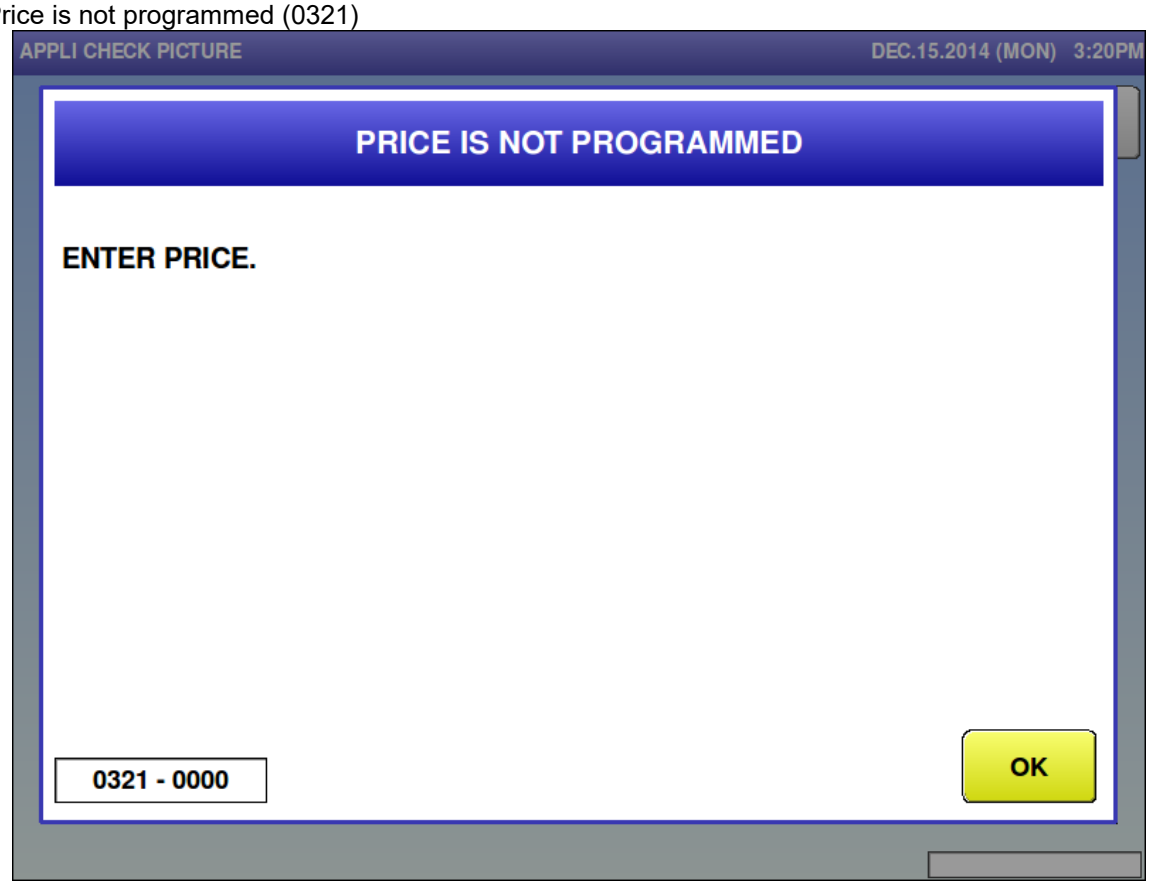
Error content	Mark down unit price is more than original price.
Detail	
Solution	[OK] button
Action by user	Change the mark down price. * Set the mark down price lower than the original price.
Action by service representative	Change the mark down price. Confirm the product master. Confirm the host product master when linked with the host system.
Related part	Main board
Remarks	Original price and markdown unit price are displayed.

■ Production for target is completed (0319)



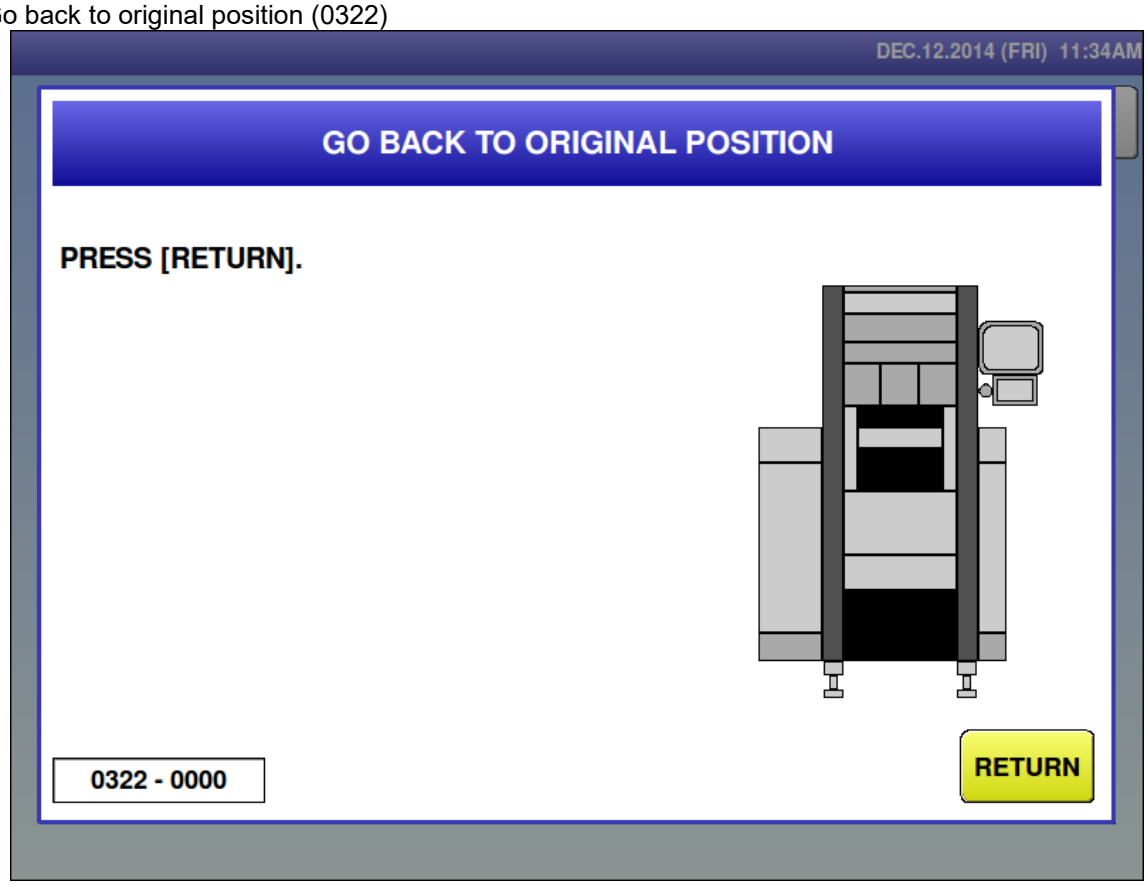
Error content	Production exceeding order count is attempted.
Detail	
Solution	[OK] button
Action by user	Press the [OK] button. Continue production after releasing the error.
Action by service representative	Press the [OK] button.
Related part	Main board
Remarks	Clears order count.

■ Price is not programmed (0321)



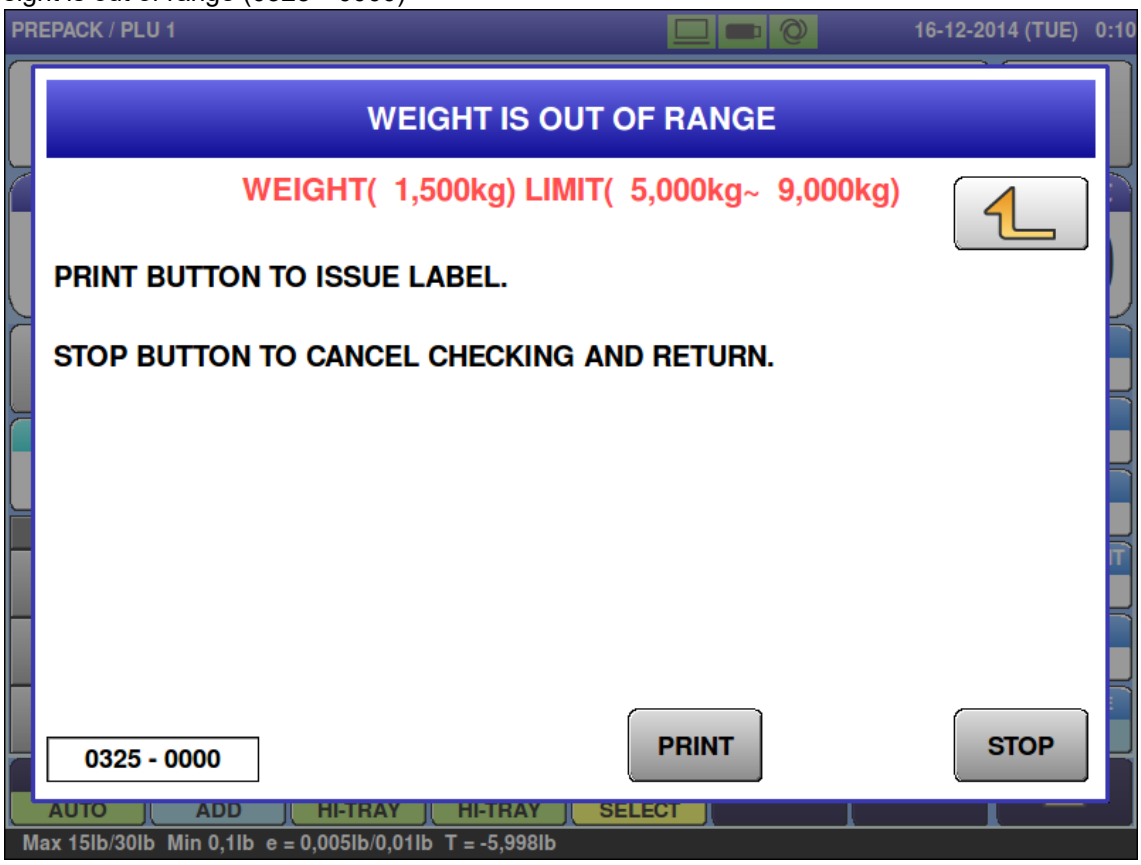
Error content	Price is not programmed.
Detail	
Solution	[OK] button
Action by user	Enter the price. Confirm the product master.
Action by service representative	Enter the price. Confirm the product master. Confirm the host product master when linked with the host system.
Related part	Main board
Remarks	Does not occur when [Do not display] is selected for 0 price error.

■ Go back to original position (0322)



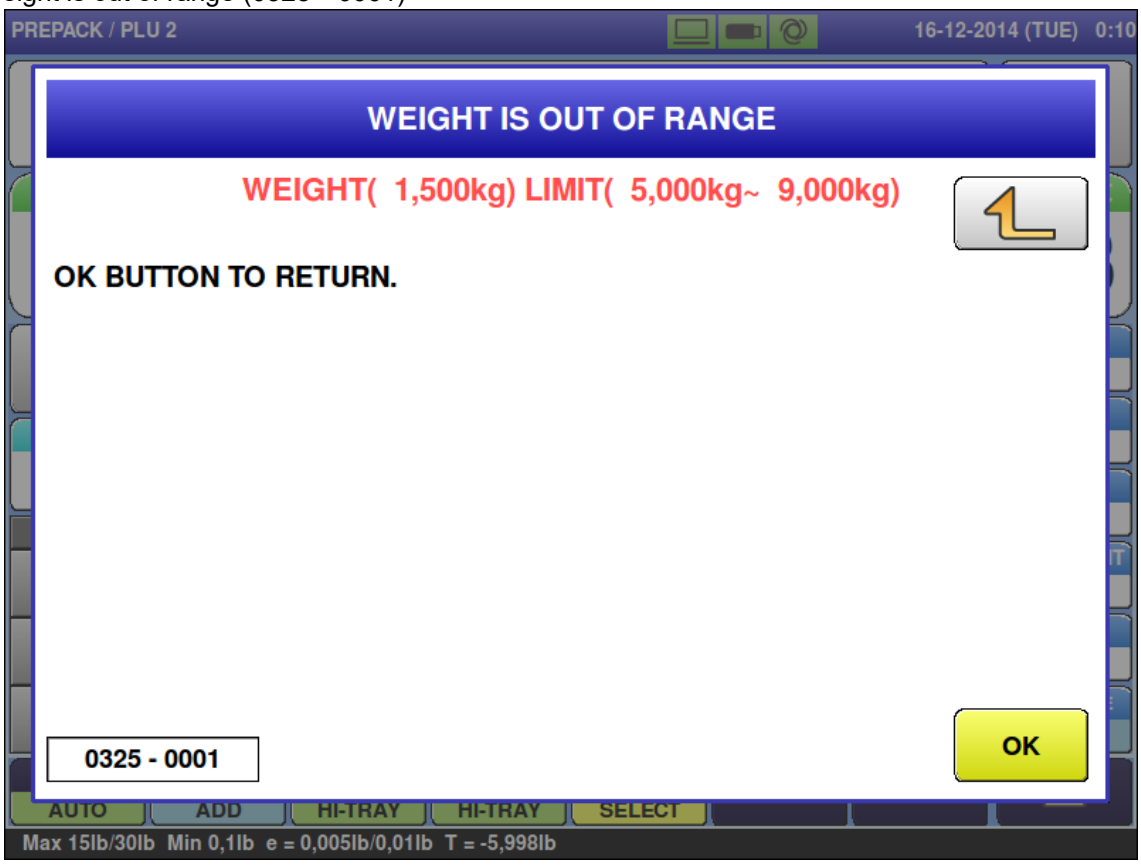
Error content	Go back to home position.
Detail	
Solution	[RETURN] button
Action by user	Press the[RETURN] button.
Action by service representative	Press the[RETURN] button.
Related part	Main board, wrapping machine board
Remarks	・Mechanical components move to the home position by pressing the [RETURN] button. ・This message is displayed only once after power is turned ON.

■ Weight is out of range (0325－0000)



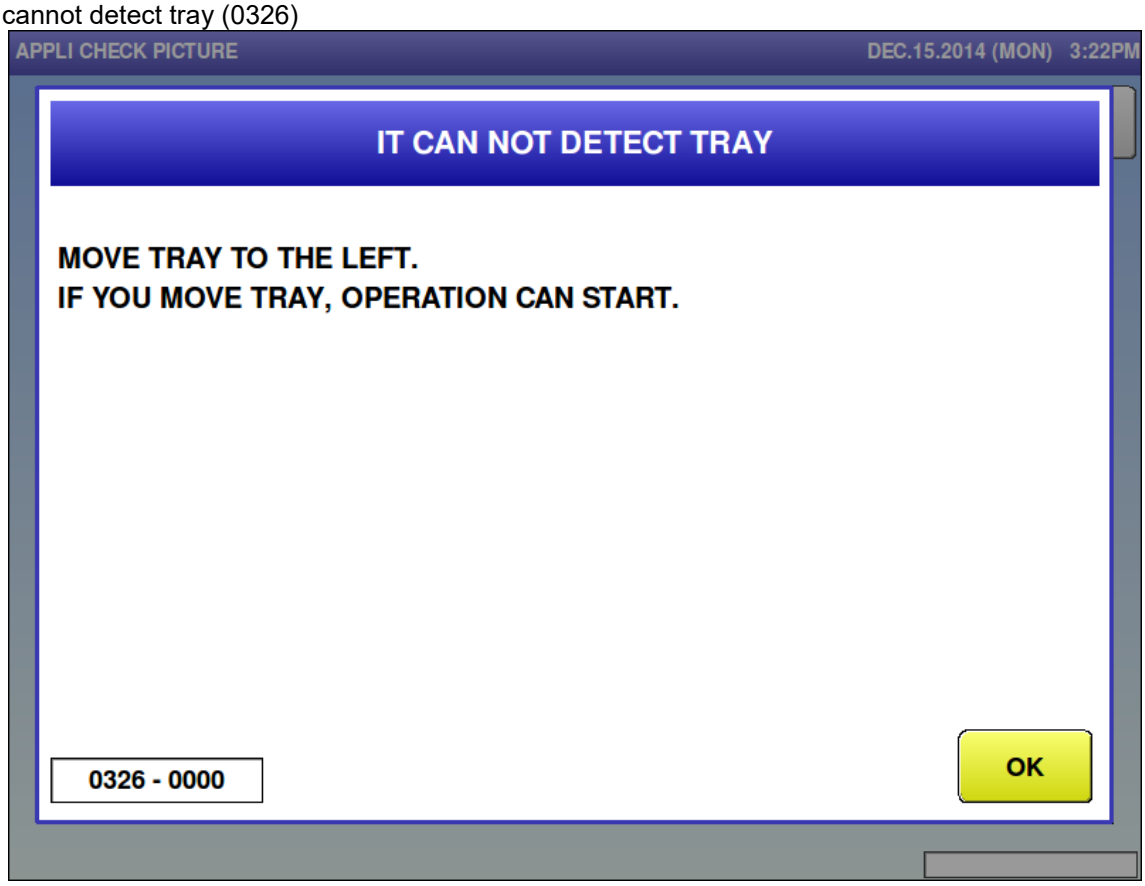
Error content	Weight is out of range.
Detail	Identified by sub-error No.
Solution	0000: weight out of range error * When there is an error because the Weight is out of range. [PRINT] button: no error [STOP] button: will not check weight until next product is called. Numeric key: close the error screen.
Action by user	Increase the weight of the product. Confirm [Upper Limit Weight] and [Lower Limit Weight] of the product master.
Action by service representative	Confirm the product master. Confirm the host product master when linked with the host system.
Related part	Main board P-1100 [A10] p/n 158280
Remarks	Does not check product limits when [No] is selected for product weight measurement in system data settings.

■ Weight is out of range (0325－0001)



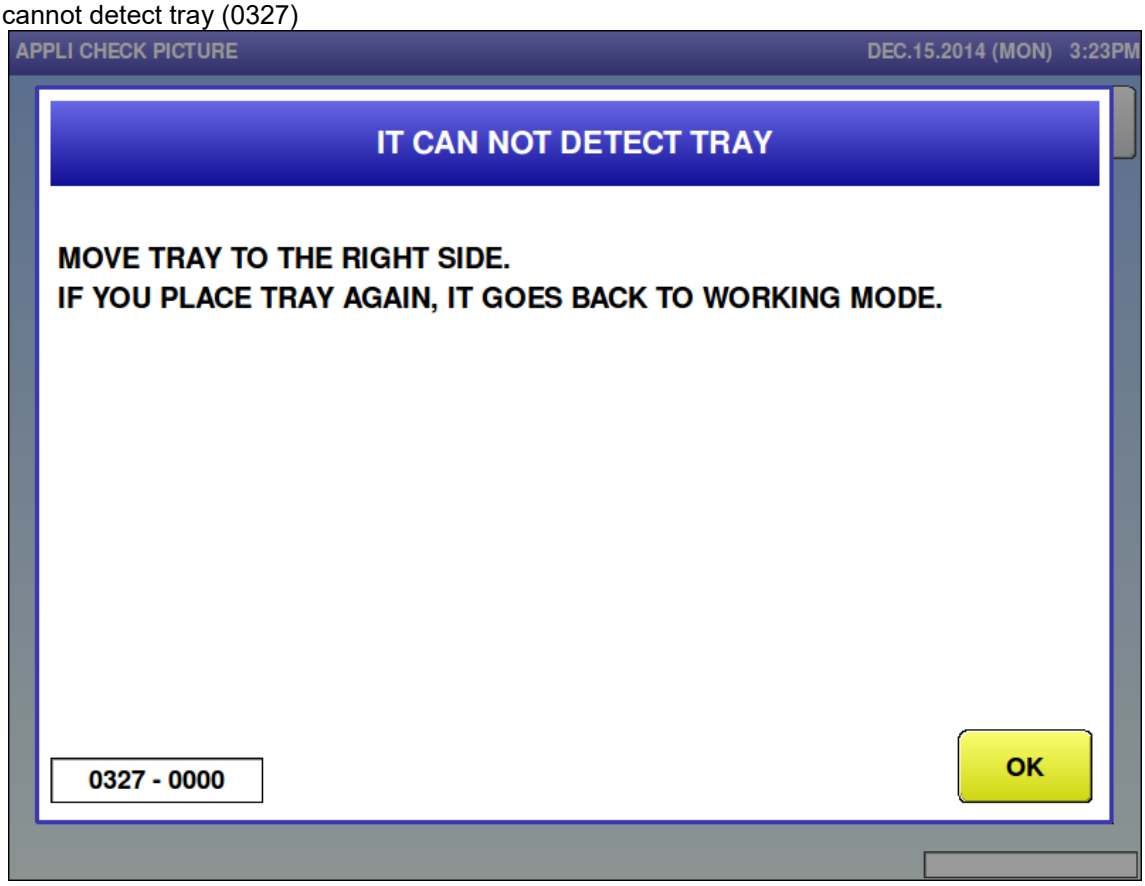
Error content	Weight is out of range.
Detail	Identified by sub-error No. 0001: weight out of range error
Solution	[OK] button
Action by user	Increase the weight of the product. Confirm [Upper Limit Weight] and [Lower Limit Weight] of the product master.
Action by service representative	Confirm the product master. Confirm the host product master when linked with the host system.
Related part	Main board P-1100 [A10] p/n 158280
Remarks	Does not check product limits when [No] is selected for product weight measurement in system data settings.

■ It cannot detect tray (0326)



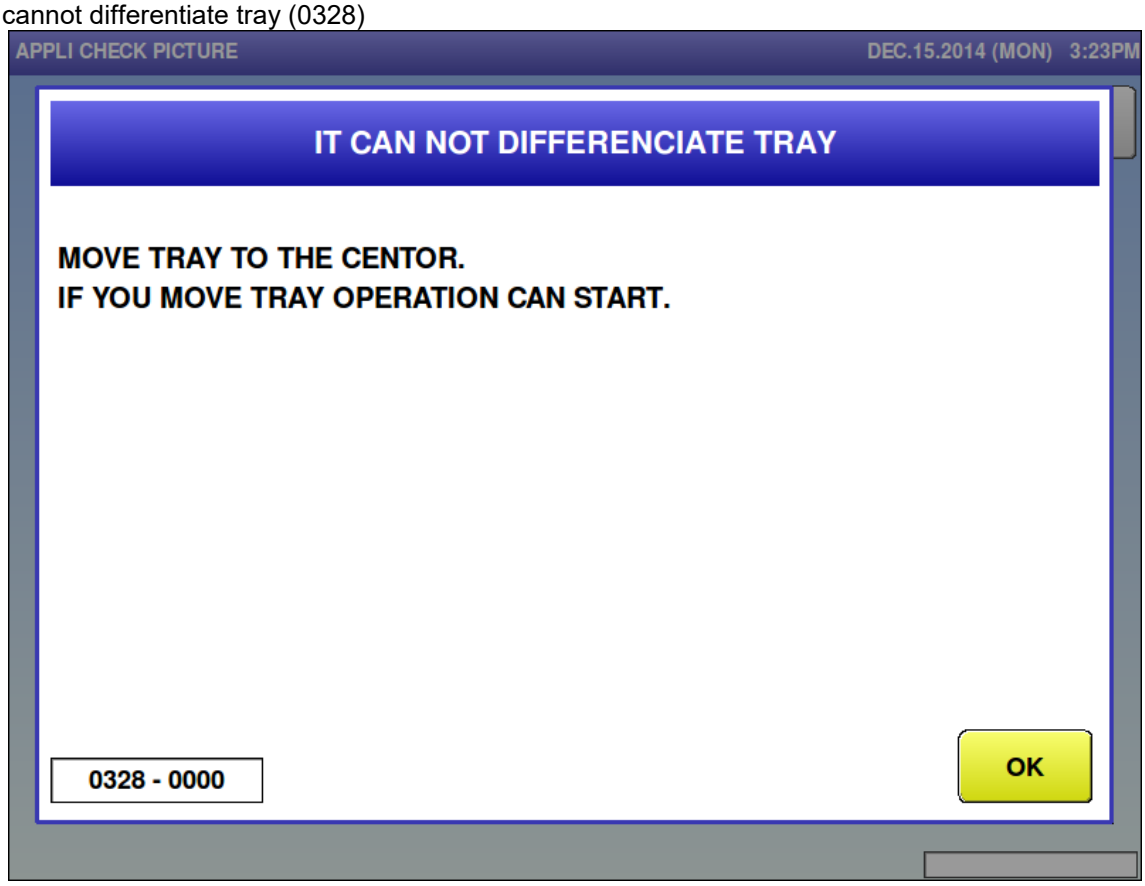
Error content	Tray detection error.
Detail	The right side of the tray is protruding.
Solution	Fix tray placement, [OK] button
Action by user	Place the tray in the center again.
Action by service representative	Place the tray in the center again. Confirm the camera detection.
Related part	Main board P-1100 [A10] p/n 158280 Tray detector board P-1107 [A221] p/n 171865
Remarks	

■ It cannot detect tray (0327)



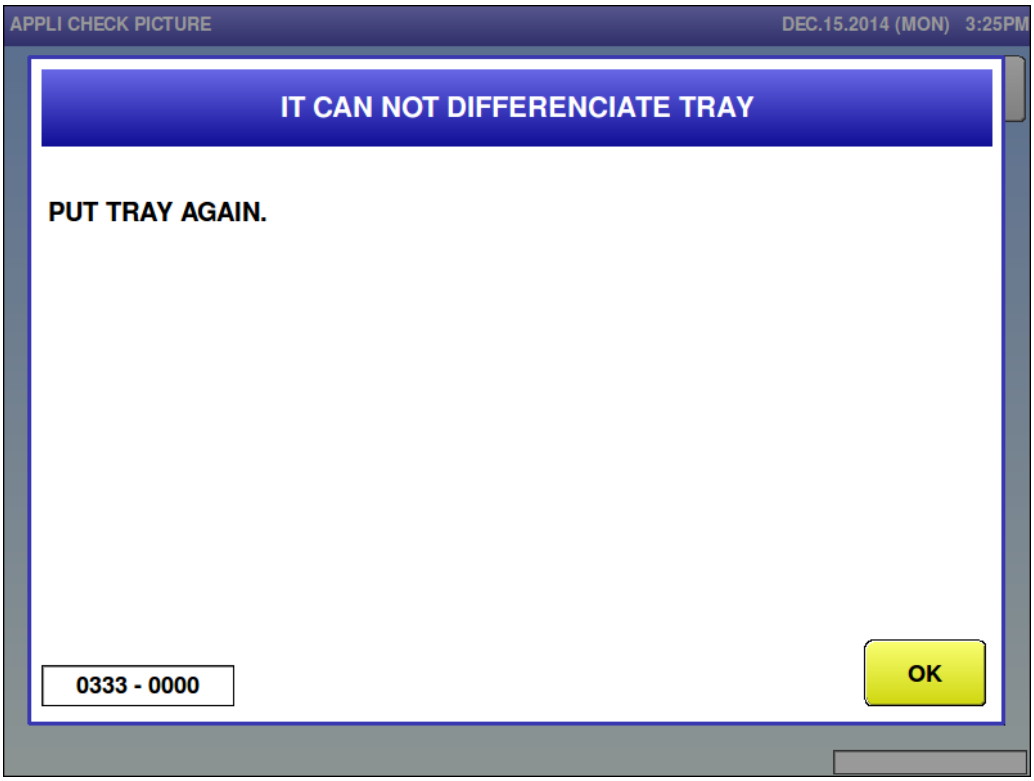
Error content	Tray detection error.
Detail	The left side of the tray is protruding.
Solution	Fix tray placement, [OK] button
Action by user	Place the tray in the center again.
Action by service representative	Place the tray in the center again. Confirm the camera detection.
Related part	Main board P-1100 [A10] p/n 158280 Tray detector board P-1107 [A221] p/n 171865
Remarks	

■ It cannot differentiate tray (0328)



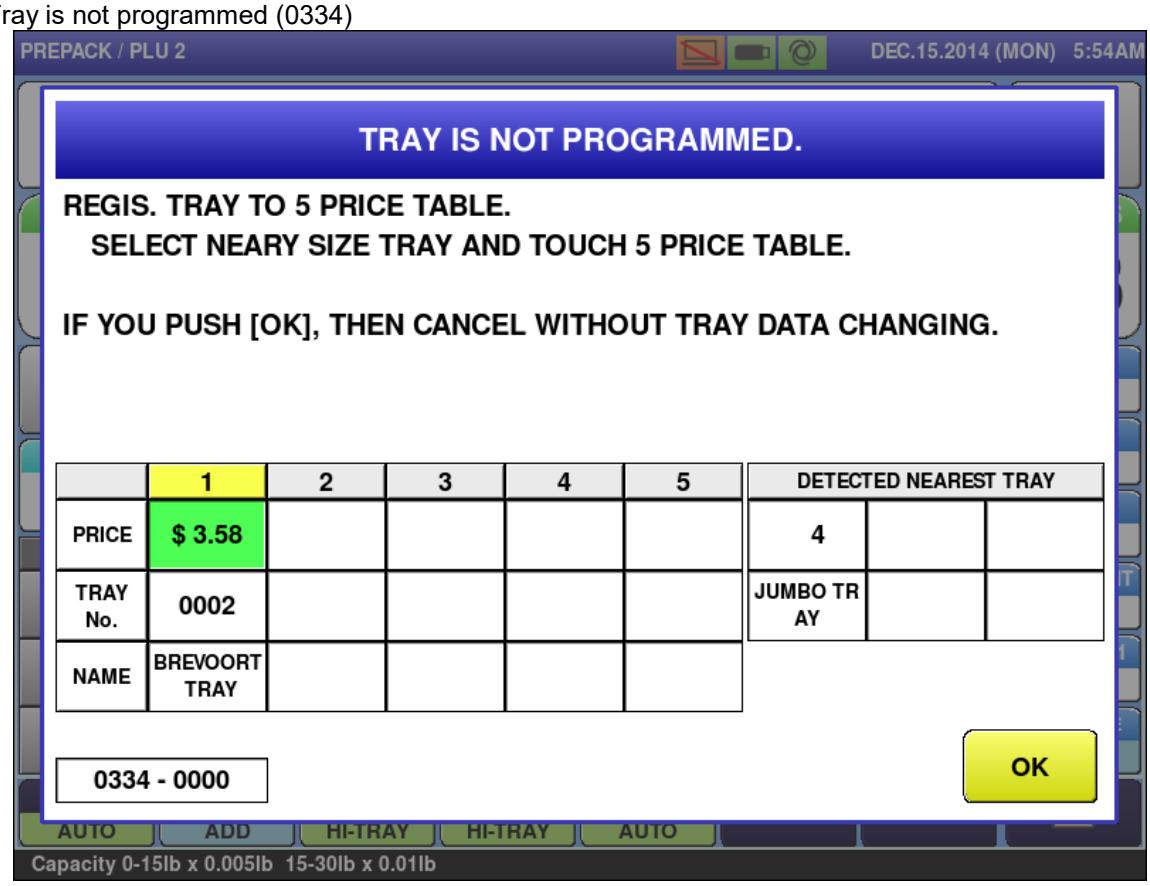
Error content	Tray detection error.
Detail	Right and left sides of the tray are protruding. Lower side of the tray is protruding. Sub-error 0001 data abnormally
Solution	Fix tray placement, [OK] button
Action by user	Place the tray in the center again.
Action by service representative	Place the tray in the center again. Confirm the camera detection.
Related part	Main board P-1100 [A10] p/n 158280 Tray detector board P-1107 [A221] p/n 171865
Remarks	

■ It cannot differentiate tray (0333)



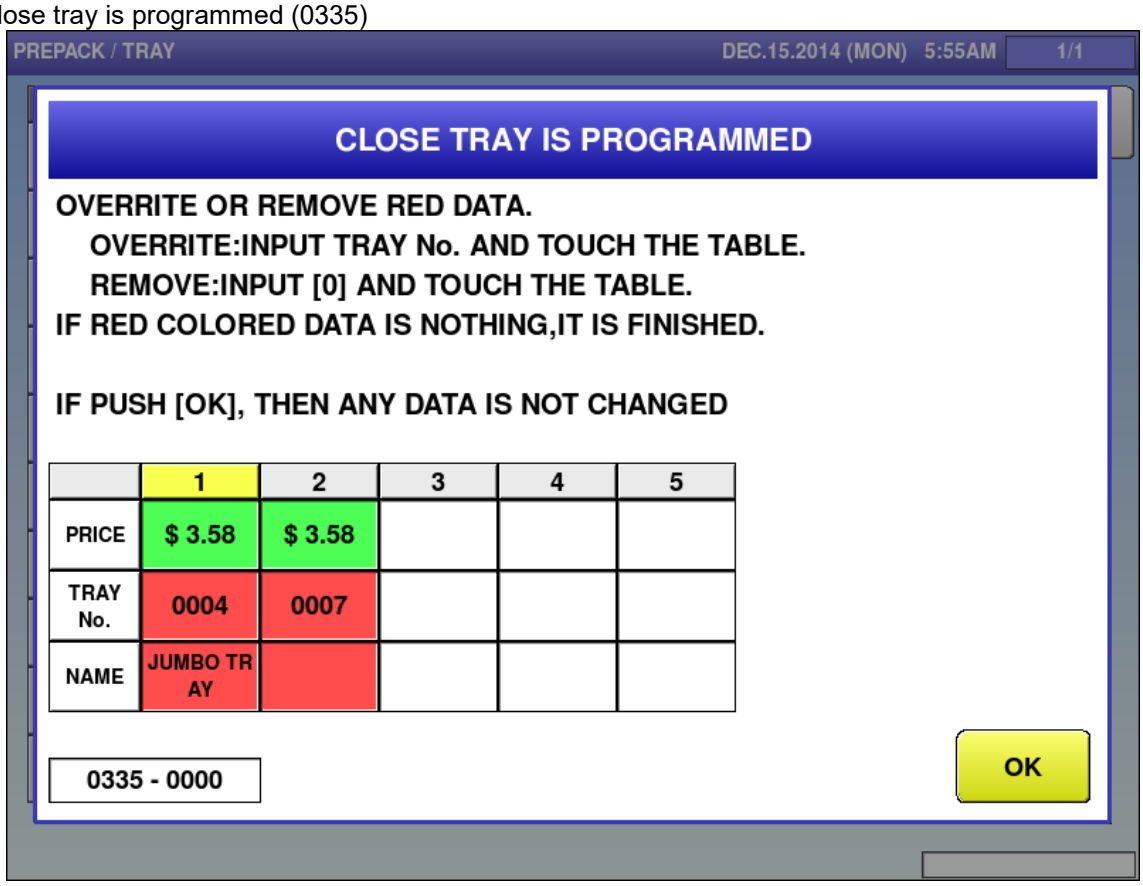
Error content	The detection of a tray has failed.
Detail	A tray with the same size as the size detected by the detector is not programmed in the tray file. Although it was possible to take the dimensions, a tray whose dimensions are within ±30 mm in width and ±10 mm in depth from the measured dimensions is not programmed. * The search target is not the tray size, but the detection size indicated in the lower right part of the tray registration screen. * Dimensions within ±30 mm in width and ±10 mm in depth are default values. ADJUST mode: CAMERA (Automatic Recognition): BASIC tab: Detection error range (ERROR RANGE): This change is not recommended although it is possible to change at the 5 Tray L location. It is recommended to use the value that is already set.
Solution	Reset the tray and press the [OK] button.
Action by user	Reset the tray in the center. Clean the camera and the weighing platter.
Action by service representative	Reset the tray in the center. Check the camera detection. ADJUST mode: CAMERA (Automatic Recognition): BASIC tab: Detection error range (ERROR RANGE): Confirm the value at the 5 Tray L location. 5 Tray L (width) 30 cm and 5 Tray W (depth) 10 cm are default values. Clean the camera. Replace the weighing platter. Reset the tray detection size.
Related part	Main board P-1100 [A10] p/n 158280 Tray detector board P-1107 [A221] p/n 171865
Remarks	Error codes 0326, 0327, 0328: The detection has failed. Error code 0333: The tray was detected, but a tray whose size is close to the detected size is not found after searching all registered trays. Error code 0334: The tray was detected, but it is not registered in the 5 Tray locations. There is a tray whose size is close to the detected size when all registered trays are searched.

■ Tray is not programmed (0334)



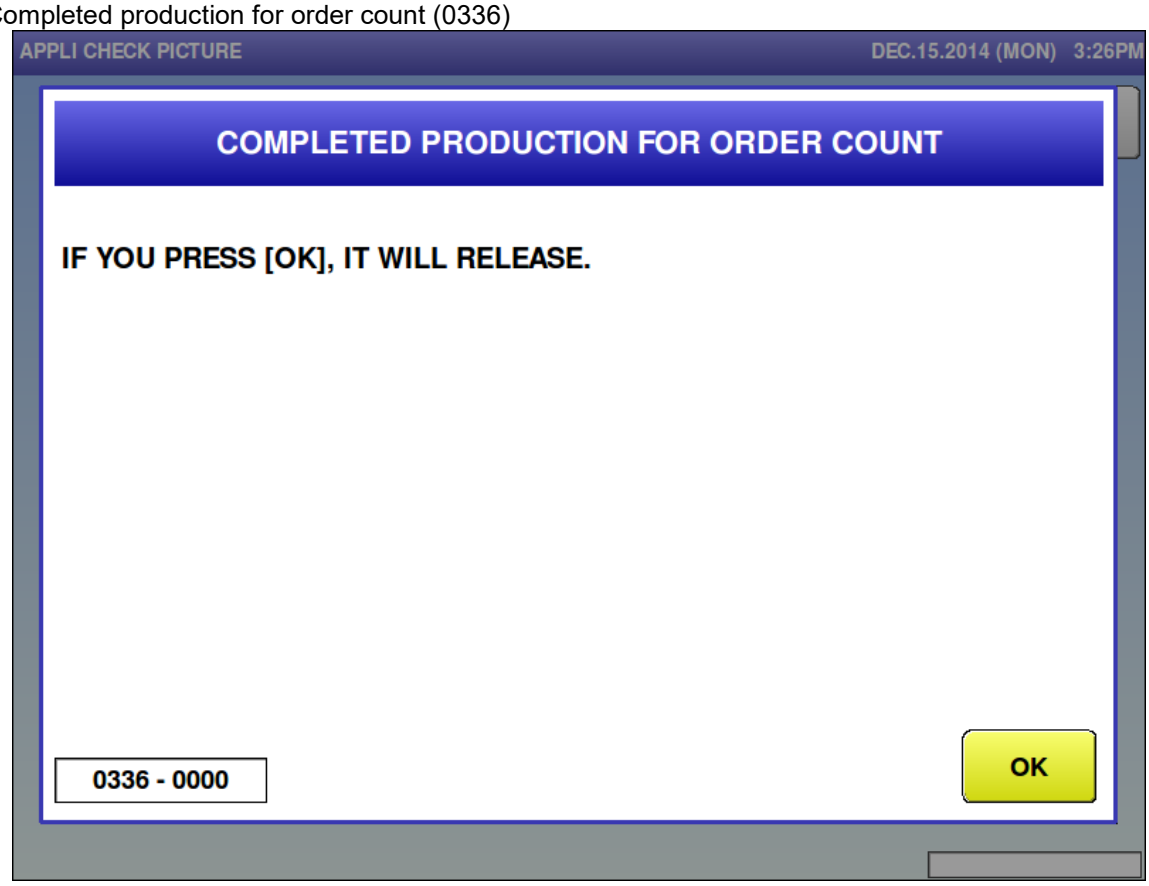
Error content	The detected tray is not registered in the 5 price table, but a tray whose size is close to the detected size is registered in the master.
Detail	There is no tray whose size is close to the detected tray size in the 5 Tray locations. To be more specific, there is no tray whose detected size is within ± “detection error range (ERROR RANGE), 5 Tray L (width) 30 cm, 5 Tray W (depth) 10 cm”. In addition, there is “a tray whose size is close to the detected size”. This error is displayed when the above conditions are present.
Solution	Register the tray in the 5 price table and press the [OK] button.
Action by user	Register the tray number that is used in the 5 price table. Check the product master.
Action by service representative	Check the product master. Check the high order product master when linked with a higher rank system.
Related part	Main board P-1100 [A10] p/n 158280 Tray detector board P-1107 [A221] p/n 171865
Remarks	The tray name is displayed in 2 rows of 5 characters. Error codes 0326, 0327, 0328: The detection has failed. Error code 0333: The tray was detected, but a tray whose size is close to the detected size is not found after searching all registered trays. The tray was detected, but it is not registered in the 5 Tray locations. There is a tray whose size is close to the detected size when all registered trays are searched.

■ Close tray is programmed (0335)



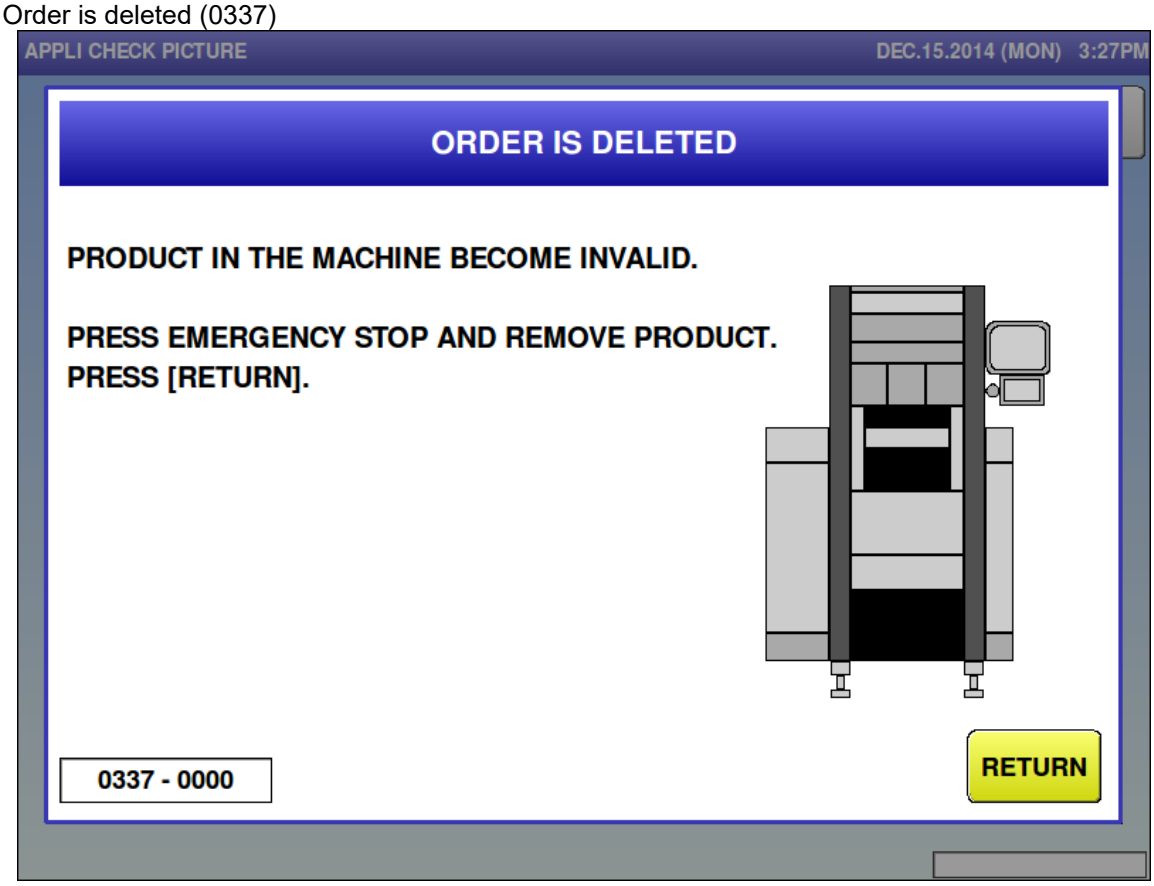
Error content	Similar tray in size is assigned in the 5 price table.
Detail	There are multiple trays in the 5 price table, which are within the range of the tray input restrictions (within 10 mm in width and 10 mm in depth) on the [ADJUST mode: CAMERA (Automatic Recognition)] screen of the size detected by the detector. (The trays are highlighted because an erroneous detection may easily occur under the present setting)
Solution	Delete unnecessary trays with similar sizes from among trays displayed in red. Or, press the [OK] button (ignore the warning). It is not recommended to press [OK] because an error occurs every time a product is called and erroneous detections may occur frequently.
Action by user	Delete the tray number that is not used in the 5 price table. Check the product master.
Action by service representative	Check the product master. Check the host product master when linked with the host system.
Related part	Main board P-1100 [A10] p/n 158280 Tray detector board P-1107 [A221] p/n 171865
Remarks	The tray name is displayed in 2 rows of 5 characters.

■ Completed production for order count (0336)



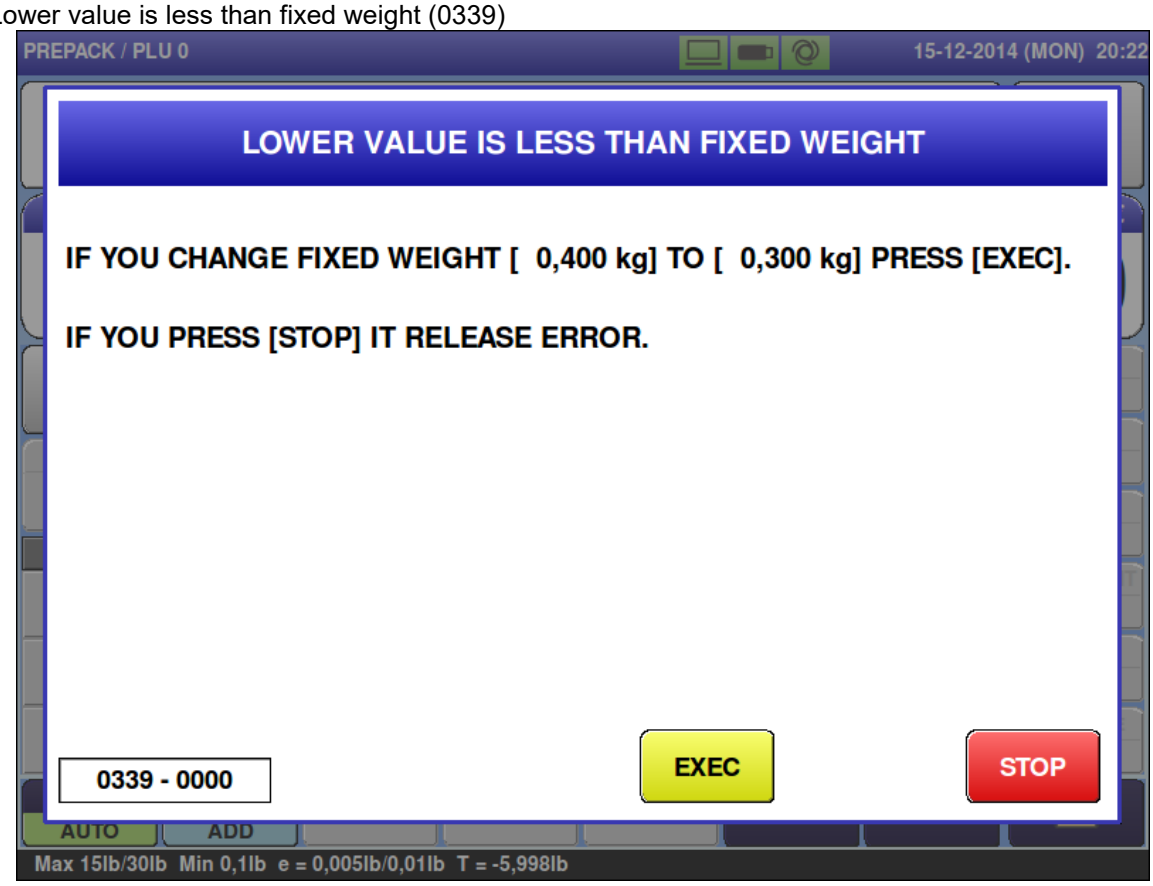
Error content	Order count has been completed.
Detail	
Solution	[OK] button
Action by user	Press the [OK] button.
Action by service representative	Press the [OK] button.
Related part	Main board, P-1100 [A10] p/n 158280
Remarks	Displayed when [End message] is selected in system data settings in system mode.

■ Order is deleted (0337)



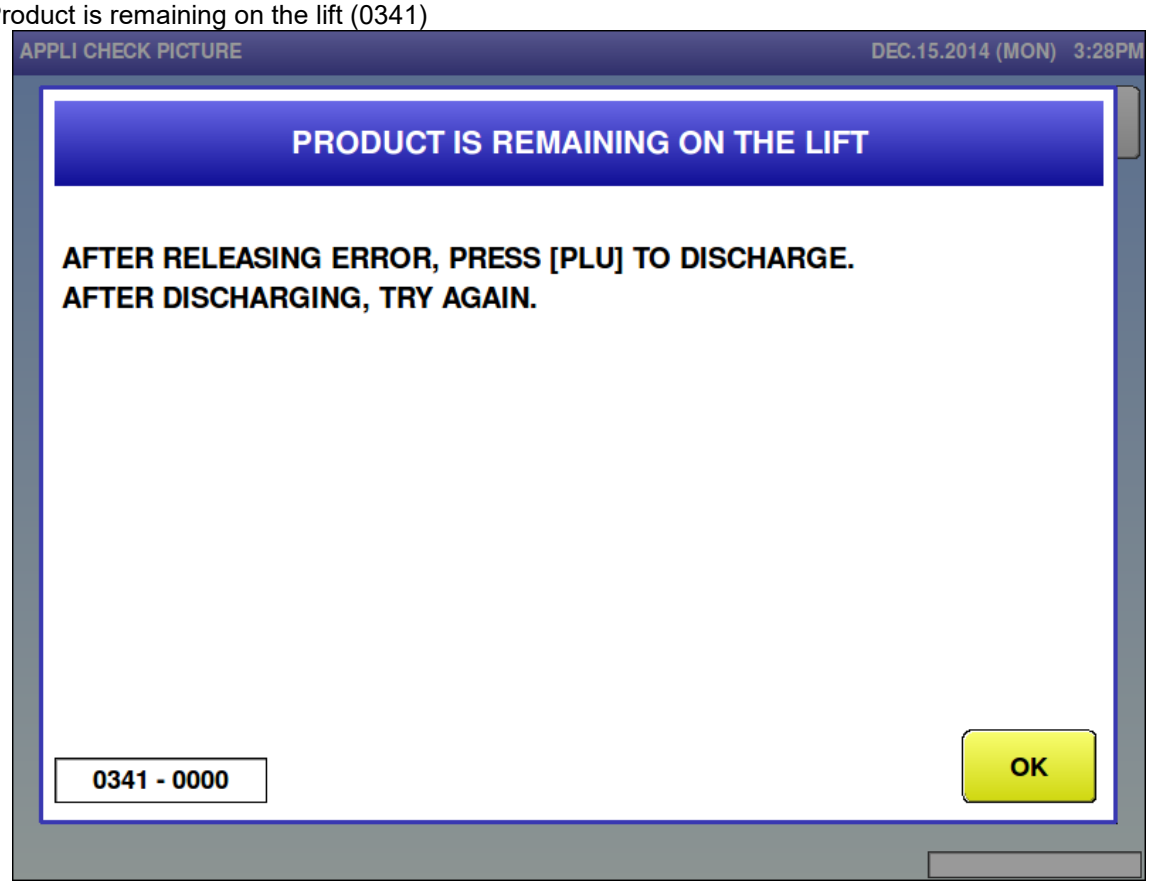
Error content	Data has been deleted.
Detail	
Solution	[RETURN] button.
Action by user	Press the emergency stop button, remove the product in the wrapper, and then press the [RETURN] button.
Action by service representative	Press the emergency stop button, remove the product in the wrapper, and then press the [RETURN] button.
Related part	Main board, P-1100 [A10] p/n 158280
Remarks	This screen is displayed when the products in the wrapper become invalid after data has been deleted.

■ Lower value is less than fixed weight (0339)



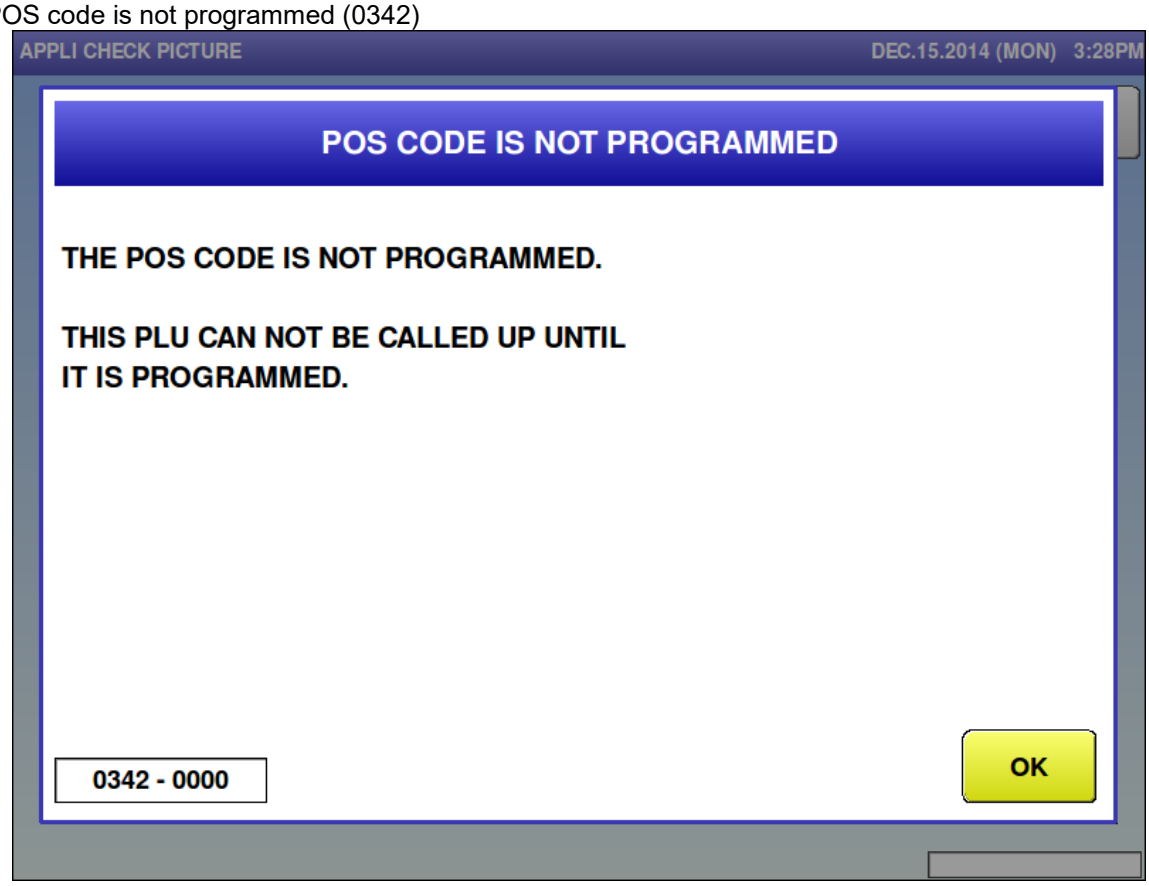
Error content	Lower value is less than fixed weight.
Detail	Attempted to enter a minimum value lighter than the fixed weight in fixed weight mode.
Solution	[EXEC] button => Set fixed weight to the minimum value. [STOP] button => Release error.
Action by user	Confirm [Fixed weight] and [Lower limit weight] of the product master.
Action by service representative	Confirm the product master. Confirm the host product master when linked with the host system.
Related part	Main board, P-1100 [A10] p/n 158280
Remarks	The minimum value will remain the same if the error is released.

■ Product is remaining on the lift (0341)



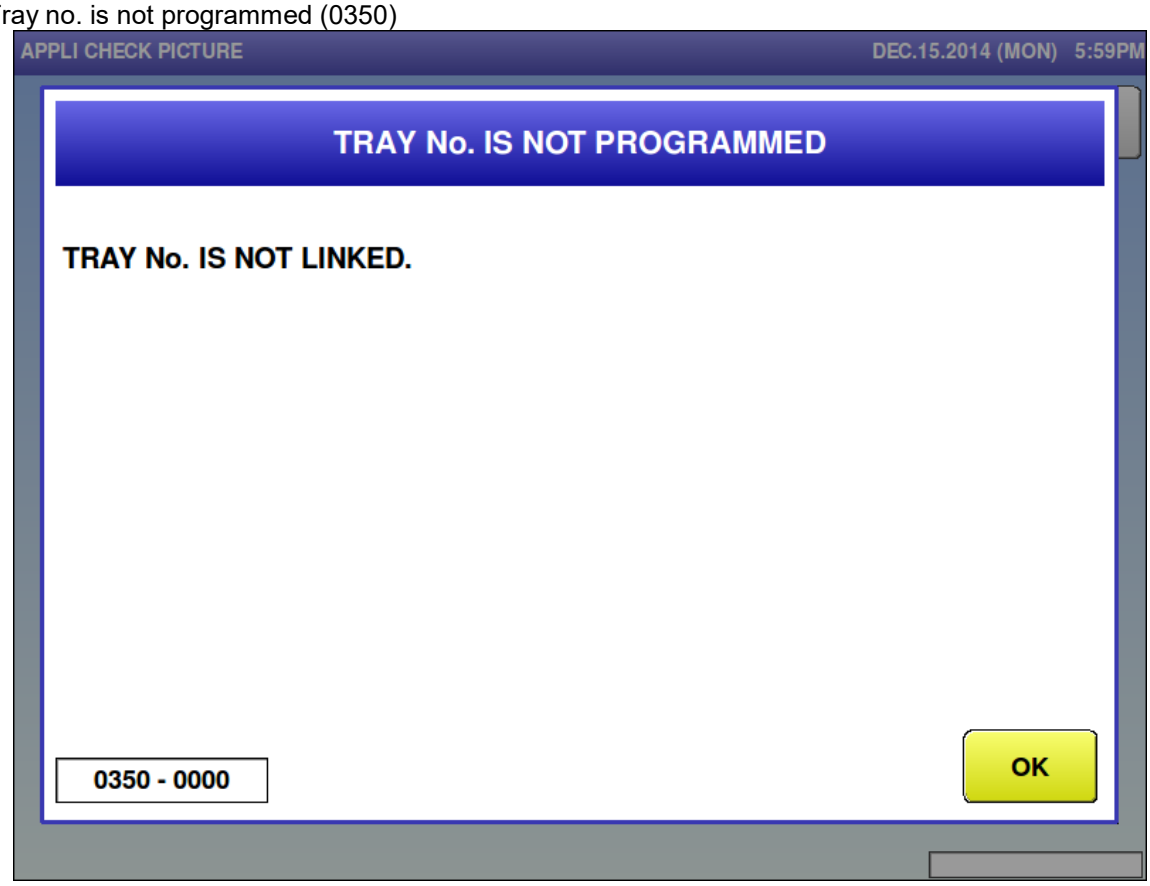
Error content	Product is remaining on the lift.
Detail	
Solution	[OK] button
Action by user	Press the [OK] button to release the error screen, press the [PLU] key to discharge the product on the lift.
Action by service representative	Press the [OK] button to release the error screen, press the [PLU] key to discharge the product on the lift.
Related part	Main board, wrapping machine board
Remarks	Press the [PLU] button and remove the product after releasing the error.

■ POS code is not programmed (0342)



Error content	POS code is not programmed.
Detail	
Solution	[OK] button
Action by user	On the Program: PLU screen, enter “POS code” of the target product.
Action by service representative	Confirm the product master. Confirm the host product master when linked with the host system.
Related part	Main board, P-1100 [A10] p/n 158280
Remarks	* Occurs when No POS Code Set Error is enabled. (Setup menu, Error Process) * Labels cannot be issued.

■ Tray no. is not programmed (0350)

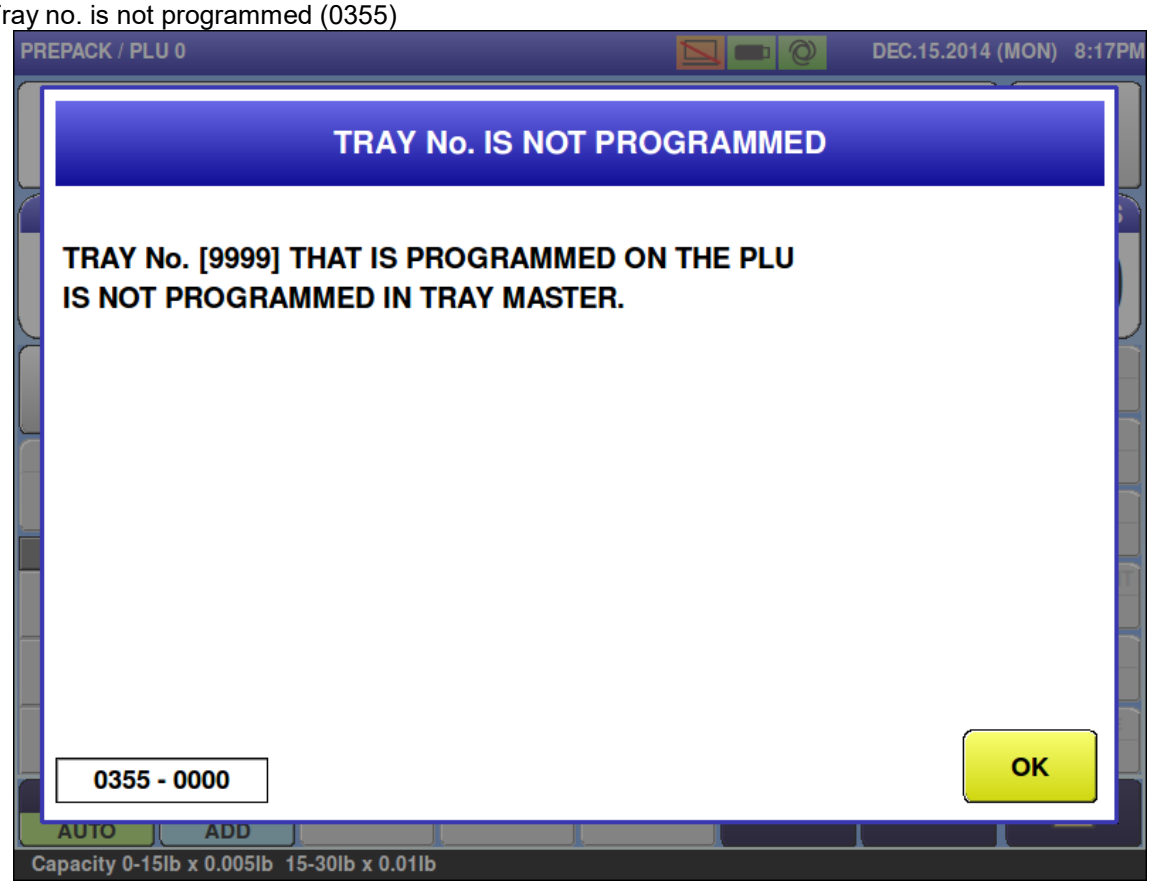


Error content	Tray no. is not programmed in product.
Detail	
Solution	[OK] button
Action by user	Enter the tray number to use.
Action by service representative	Confirm the product master. Confirm the tray master. Confirm the host product master when linked with the host system.
Related part	Main board, P-1100 [A10] p/n 158280
Remarks	

■ Label is remaining (0351)

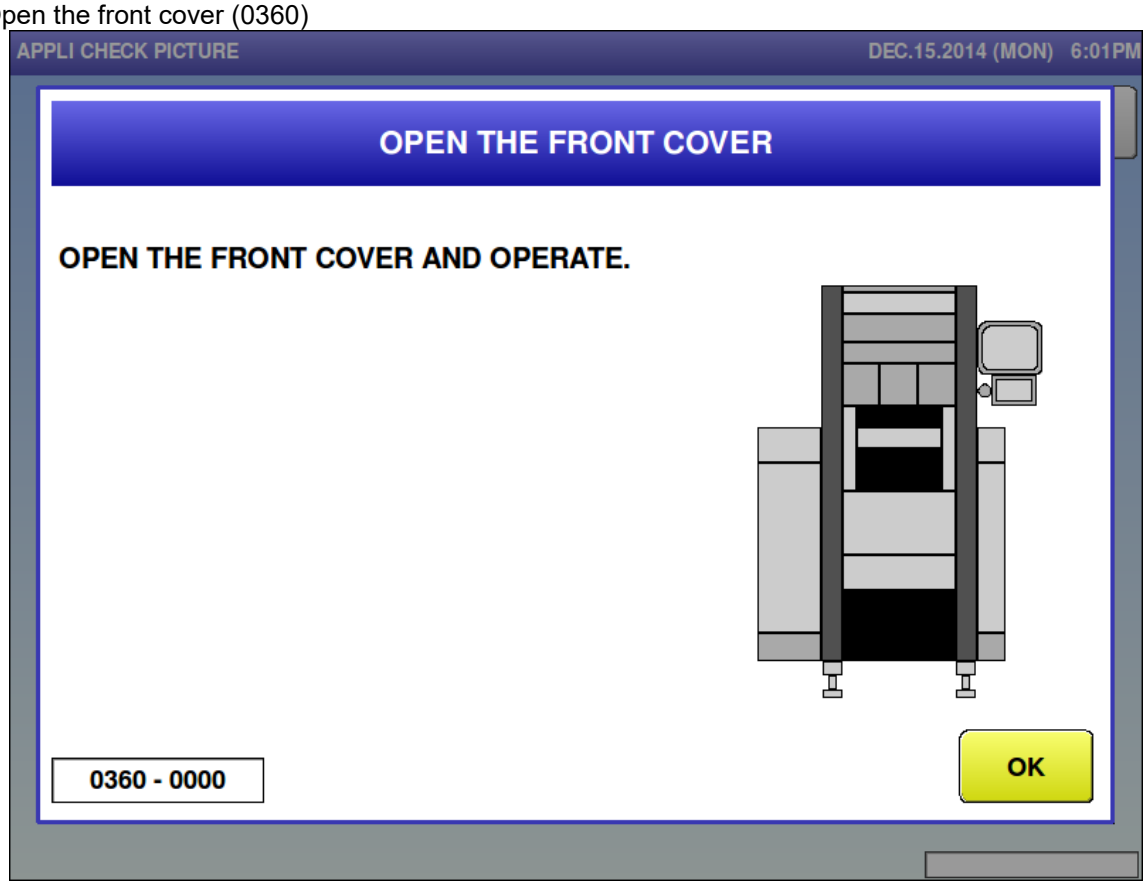
Error content	Label is remaining.
Detail	
Solution	Remove label, [OK] button.
Action by user	Press the [OK] button to finish production.
Action by service representative	Press the [OK] button to finish production. Confirm that there is no actual result remaining error.
Related part	Main board P-1100 [A10] p/n 158280 Photo interrupter, peel sensor, transmitter [B13], p/n 171876 Photo interrupter, peel sensor, receiver [B12], p/n 171877
Remarks	Remove the label from the printer and the applicator. Check and clean the peel sensors and applicator "Label Present" sensor as needed.

■ Tray no. is not programmed (0355)



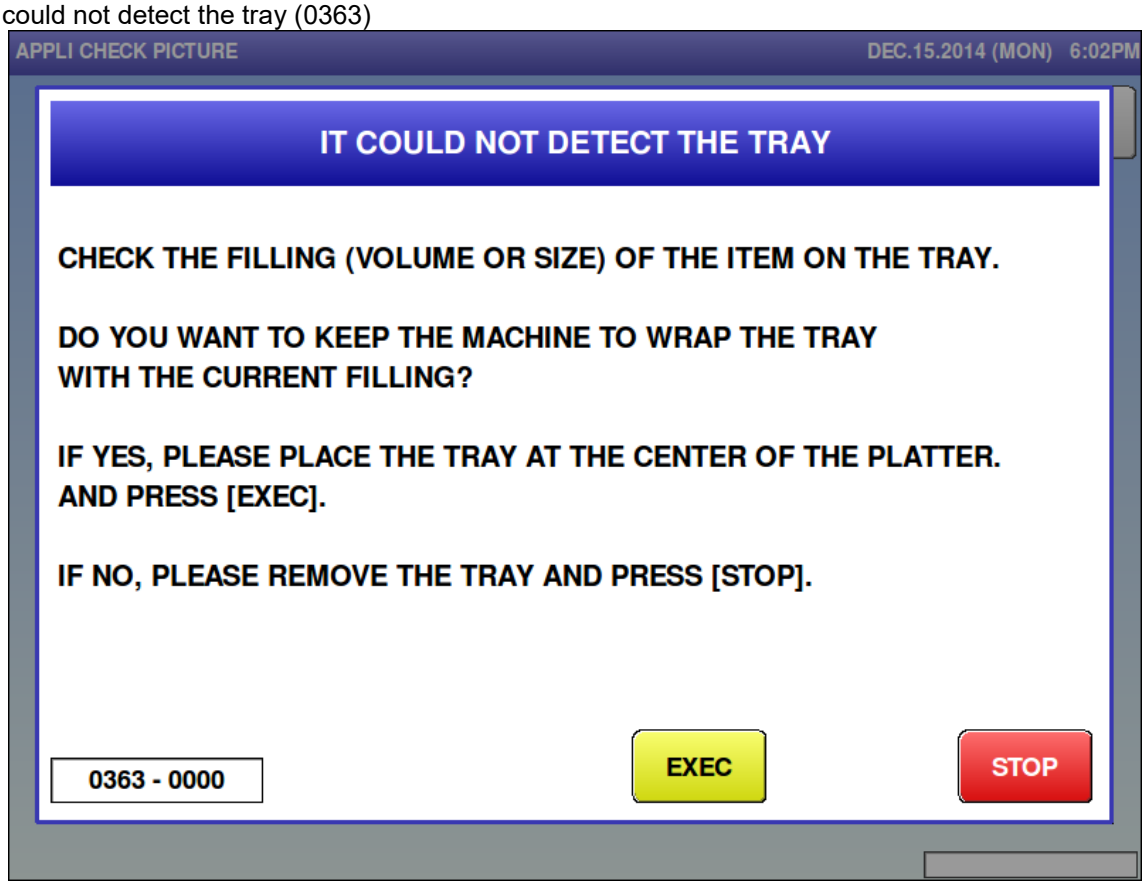
Error content	The tray number set for the product is not registered in the tray master.
Detail	
Solution	[OK] button
Action by user	Register the tray number to be used for tray master. Confirm the product master.
Action by service representative	Confirm the tray master and product master. Confirm the host product master and tray master when linked with the host system.
Related part	Main board
Remarks	Tray no. that is set is displayed.

■ Open the front cover (0360)



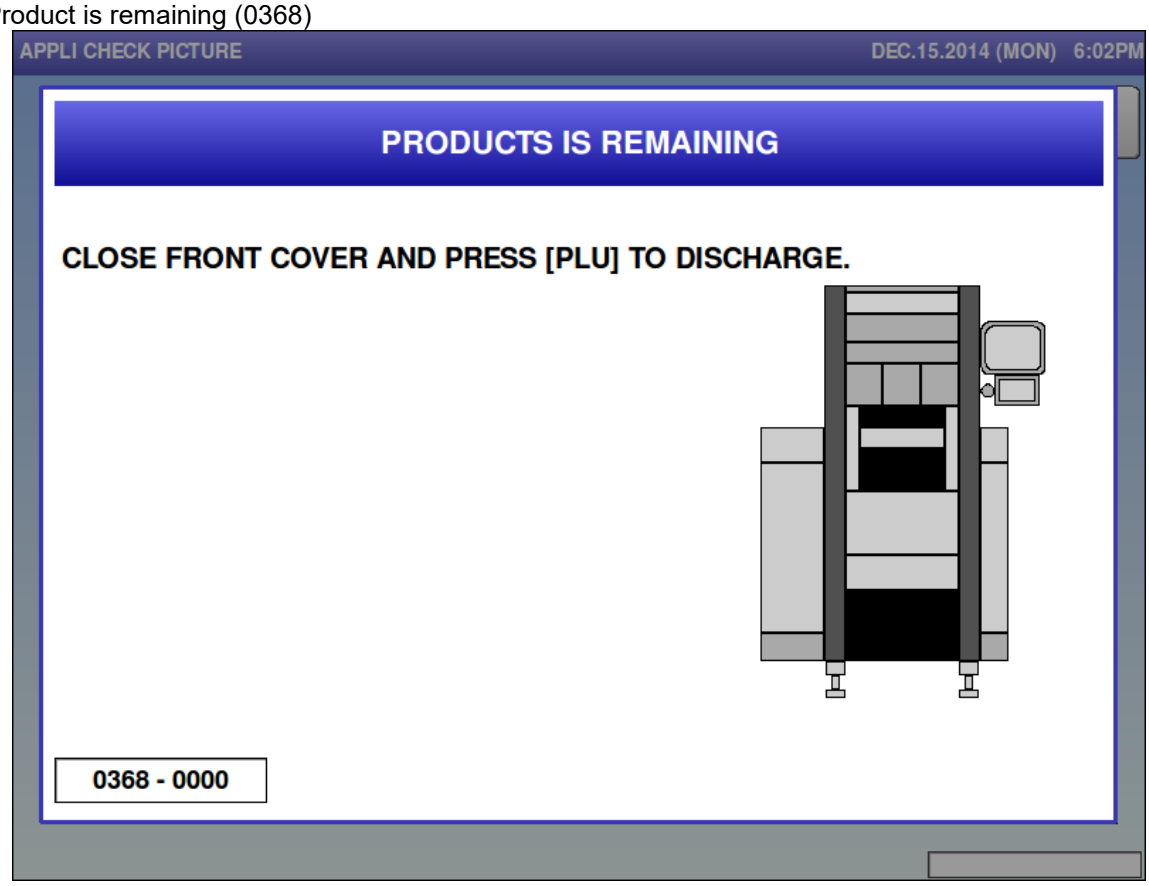
Error content	Front cover is closed.
Detail	Occurs when performing printing or label feed (No.1.and 2) while front cover is closed.
Solution	Open the front cover, [OK] button.
Action by user	Open the front cover.
Action by service representative	Open the front cover.
Related part	Main board, wrapping machine board
Remarks	

■ It could not detect the tray (0363)



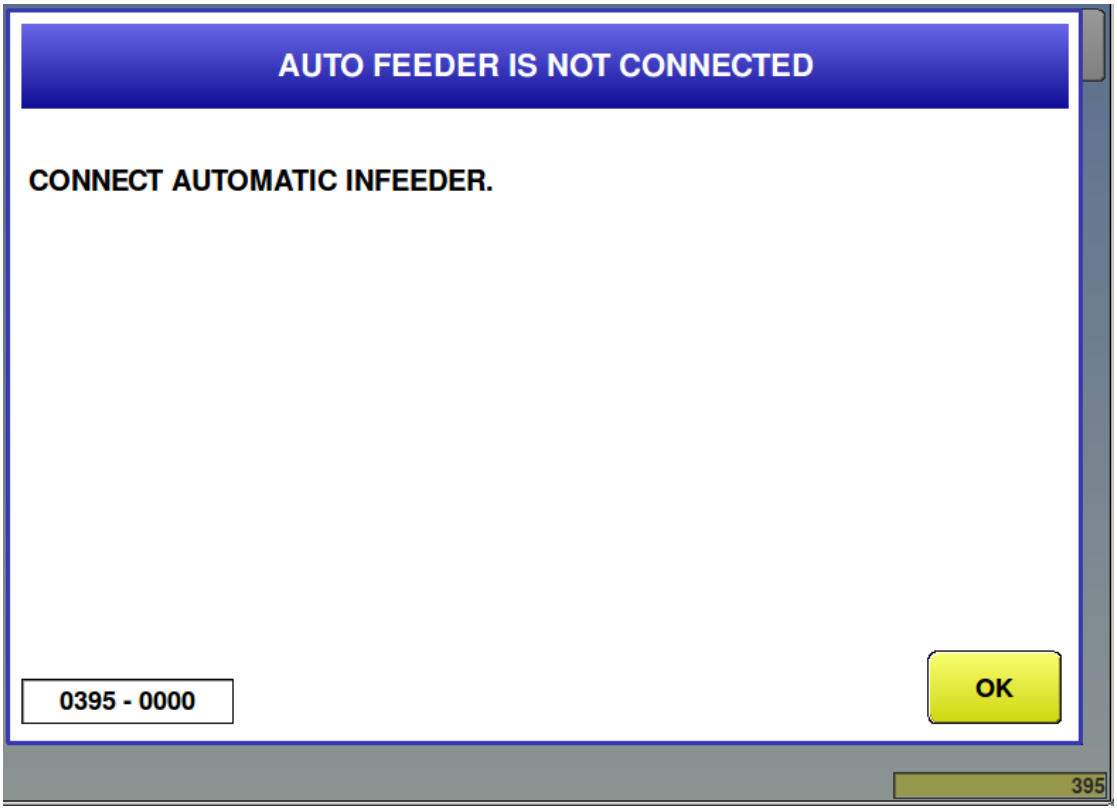
Error content	It could not detect the tray.
Detail	Occurs when a centered tray can't be detected normally. Occurs when a transparent tray is set to the above conditions.
Solution	Unstable, [EXEC] button.
Action by user	Place the tray again. Confirm the tray master. Press the [EXEC] button. Change the setting to [Centering: No].
Action by service representative	Confirm the tray master. Change the setting to [Centering: No].
Related part	Main board, detection board
Remarks	

■ Product is remaining (0368)



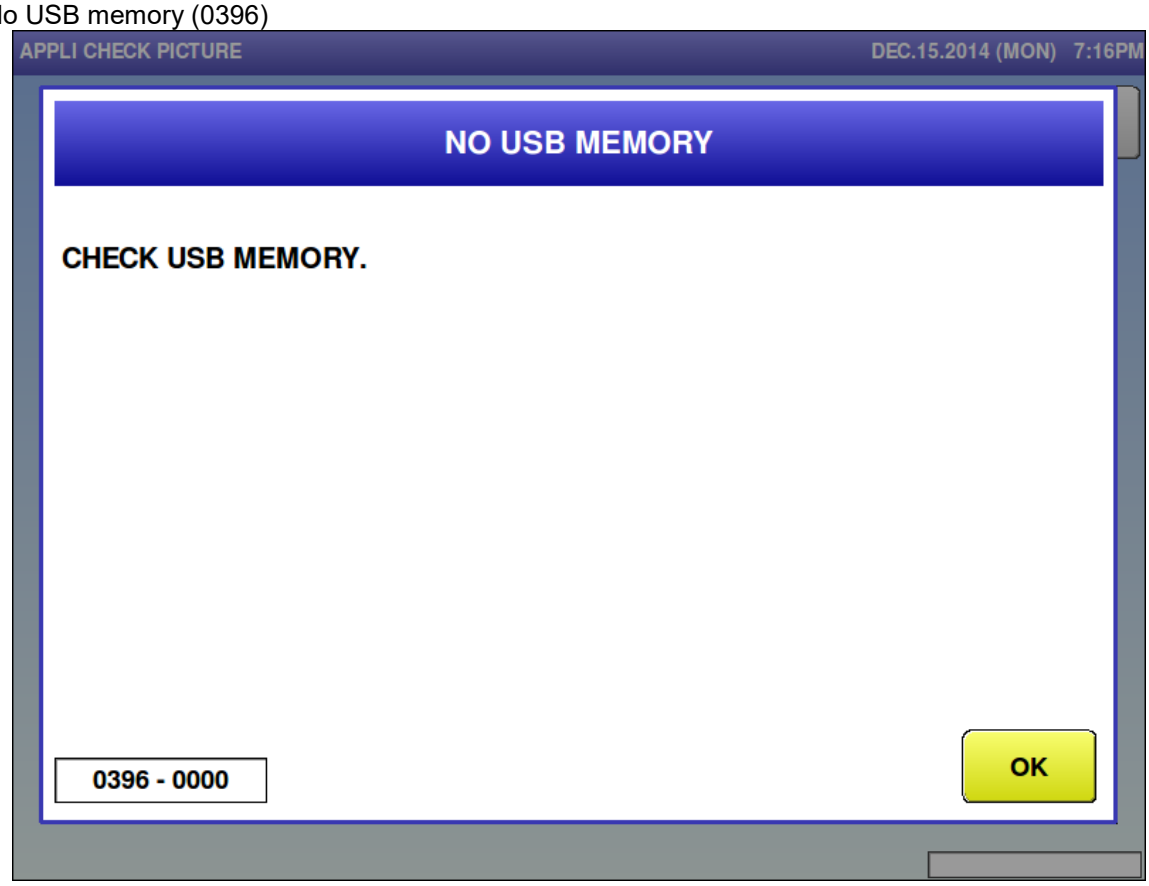
Error content	The front cover was opened when the wrapper stopped and products remained on the lift.
Detail	
Solution	[PLU] button
Action by user	Close the front cover and press the [PLU] key.
Action by service representative	Close the front cover and press the [PLU] key.
Related part	Main board, wrapping machine board
Remarks	* Product is discharged by pressing the [PLU] button. * Added to the total amount.

■ Auto infeeder is not connected (0395)



Error content	Auto infeeder is not connected
Detail	This error occurs when an operation request is received while PS-Ai is disconnected.
Solution	Press the [OK] button.
Action by user	Confirm the PS-Ai safety interlock is fully seated with the WM-Ai-B key, then press the [OK] button.
Action by service representative	Confirm the PS-Ai safety interlock is fully seated with the WM-Ai-B key, then press the [OK] button.
Related part	① P-1105 [A600], p/n 171866 ② Safety interlock [S602], p/n 157866
Remarks	

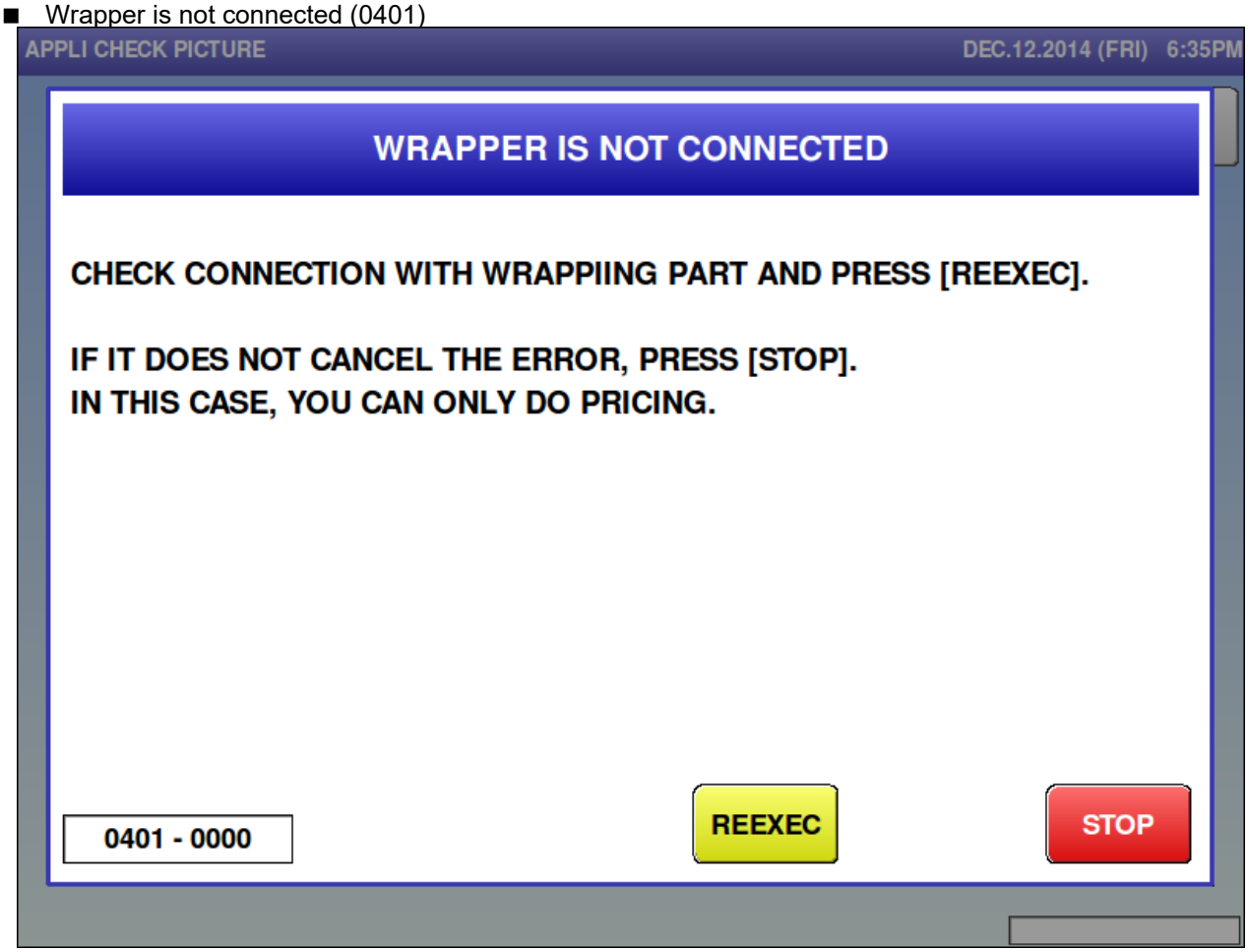
■ No USB memory (0396)



Error content	USB memory is not inserted.
Detail	
Solution	[OK] button
Action by user	Set the USB memory to the machine.
Action by service representative	Set the USB memory to the machine. Confirm the USB memory (recommended by Ishida) inserted.
Related part	Main board
Remarks	

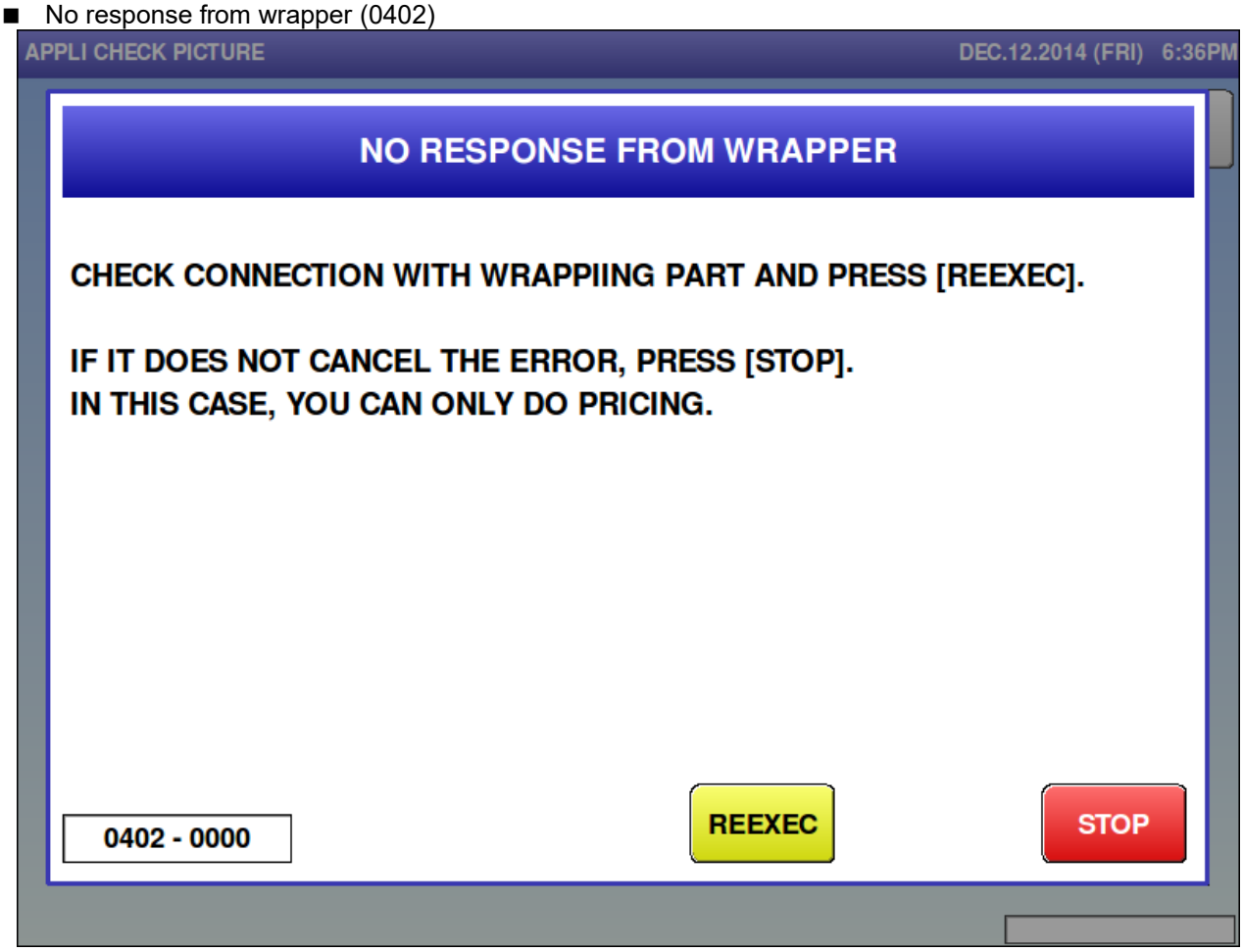
A.3.4 Wrapper-related Error (No. 400s, 500s)

■ Wrapper is not connected (0401)



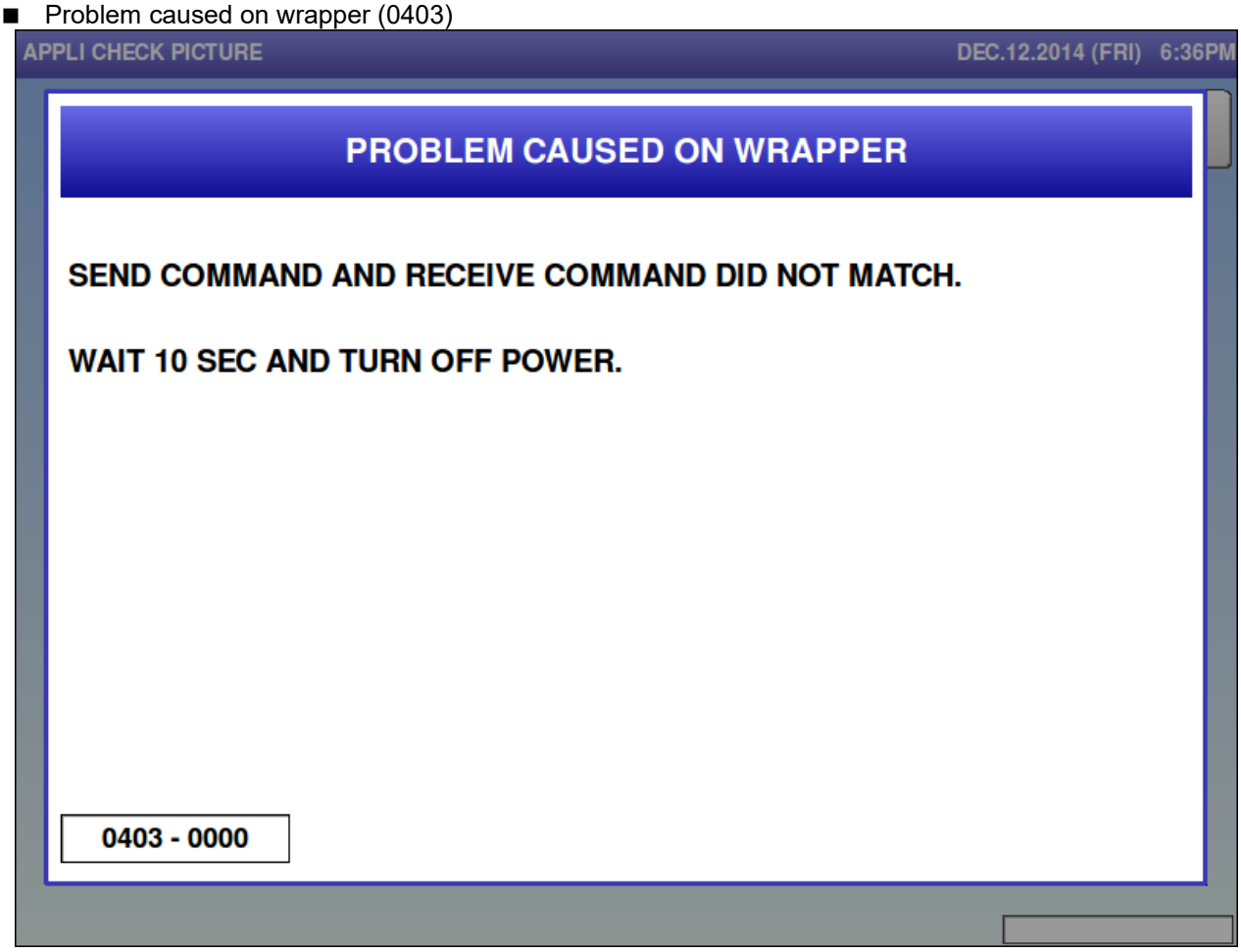
Error content	Wrapper is not connected.
Detail	Communication error before power has been turned ON. Communication phase No. is listed in the sub-error.
Solution	[STOP] button=> Cancel error [REEXEC] button => Re-check the connection with the wrapper.
Action by user	Perform turn ON/OFF of the power supply.
Action by service representative	
Related part	
Remarks	After pressing the [STOP] button, the scale can be used for manual weighing and labeling.

■ No response from wrapper (0402)



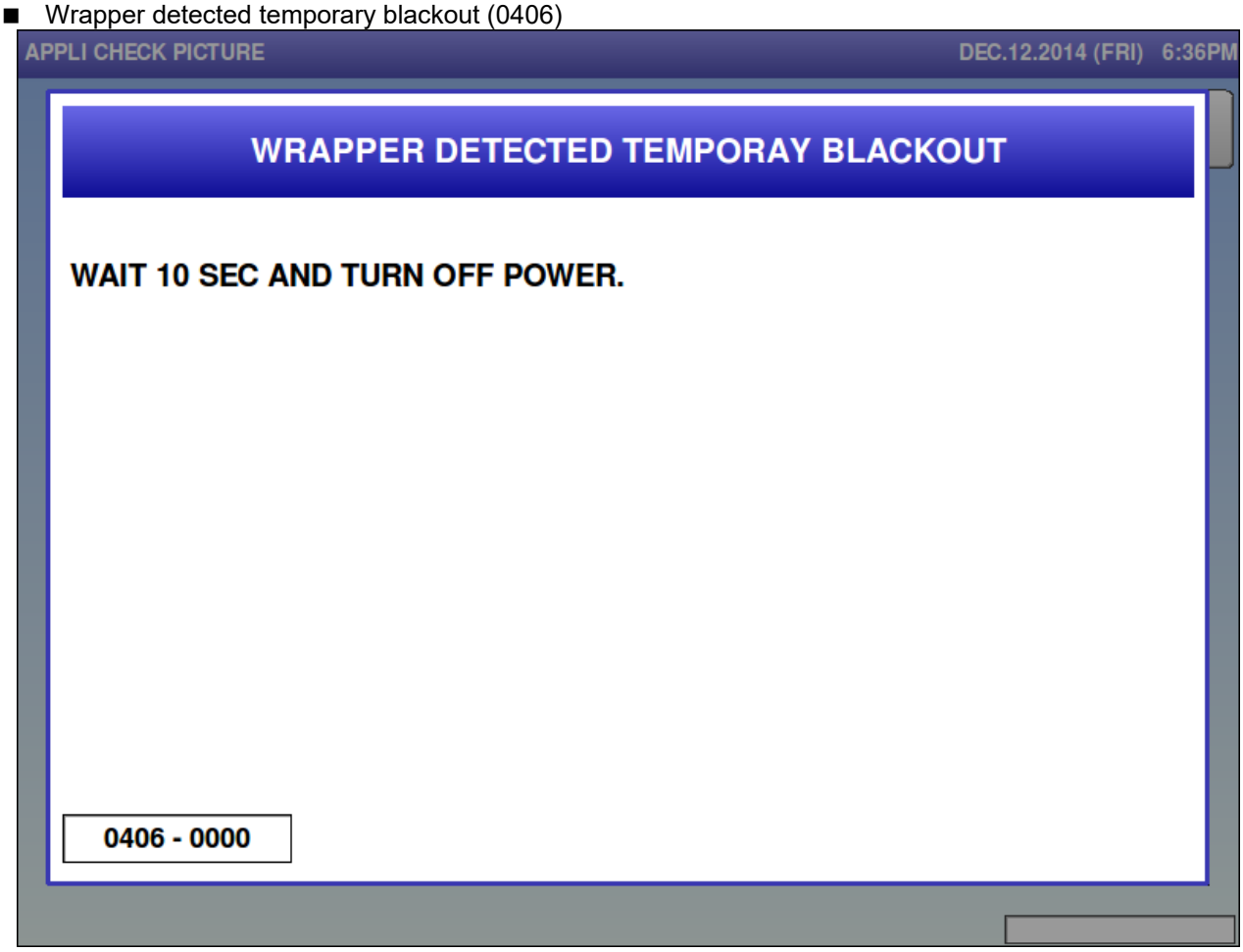
Error content	There was no response to the inquiry conducted by the main board to the wrapper board P-1105 [A200].
Detail	This is a communication error that has occurred after performing power-on processing. The sub-error includes the communication phase number.
Solution	[STOP] button => Cancel error. [REEXEC] button => Re-check the connection with the wrapper.
Action by user	Turn off the power, wait 30 seconds, and then turn on the power again.
Action by service representative	
Related part	① P-1105 [A200] XJ26 ② DC 24V supply to the power supply (XJ12) of P-1105 [A200] (DC 24V is normally supplied when the LED of P-1105 [A200] is lit.) ③ RS485 communication cable between the main board (P-1100) [A10] and P-1105 [A100, A200, A300] The following RS485 communication has not been established: Between P-1100 [A10] (XJ4) and P-1105 [A100] (XJ26) Between P-1105 [A100] (XJ27) and P-1105 [A300] (XJ26) Between P-1105 [A300] (XJ27) and P-1105 [A200] (XJ27)
Remarks	After pressing the [STOP] button, the scale can be used for manual weighing and labeling.

■ Problem caused on wrapper (0403)



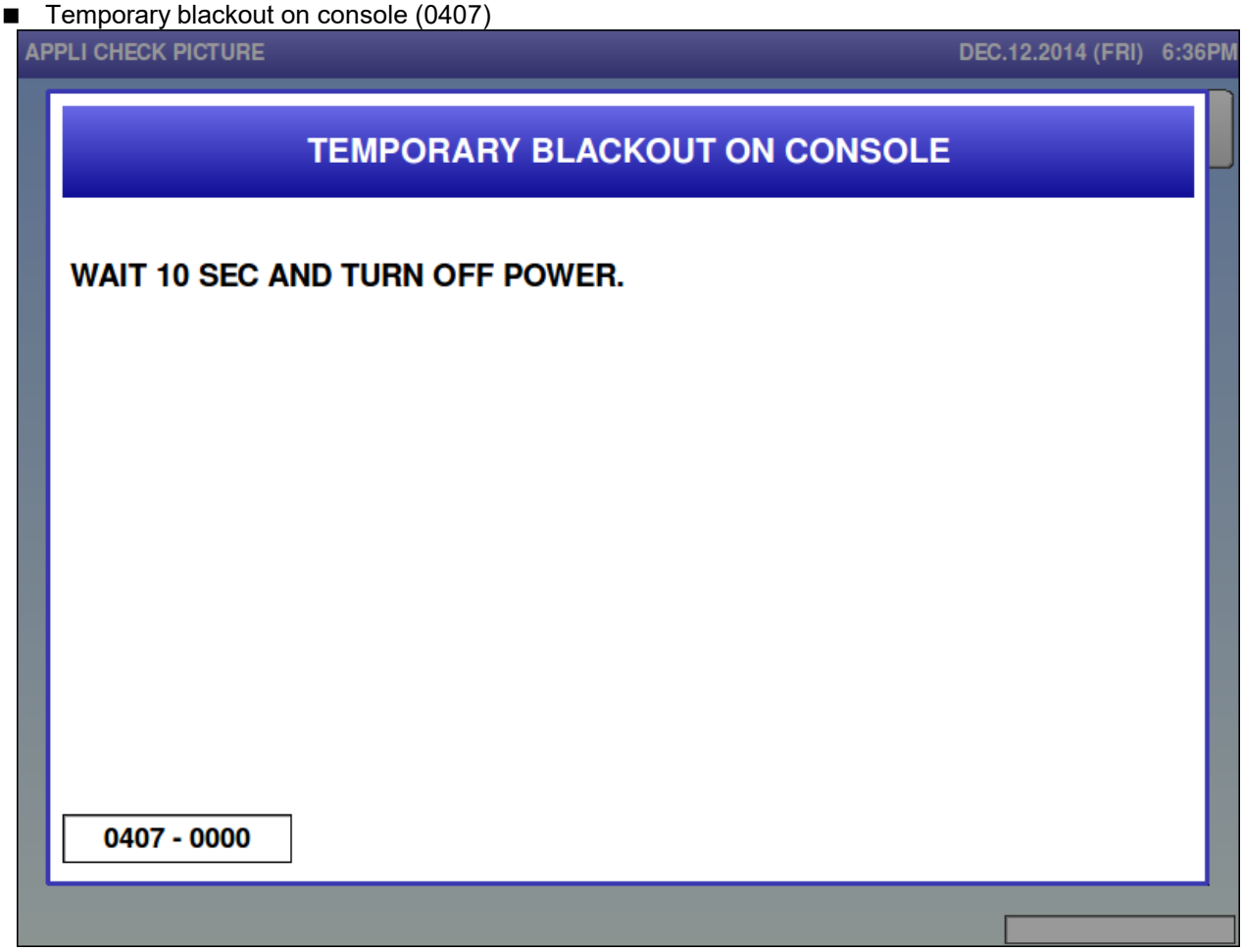
Error content	Communication failure with the wrapper.
Detail	Send command and receive command do not match.
Solution	Restore power.
Action by user	Perform a power cycle.
Action by service representative	
Related part	① Main board (P-1100) [A10], p/n 158280 ② P-1105 [A100, A200, A300], p/n 171866
Remarks	

■ Wrapper detected temporary blackout (0406)



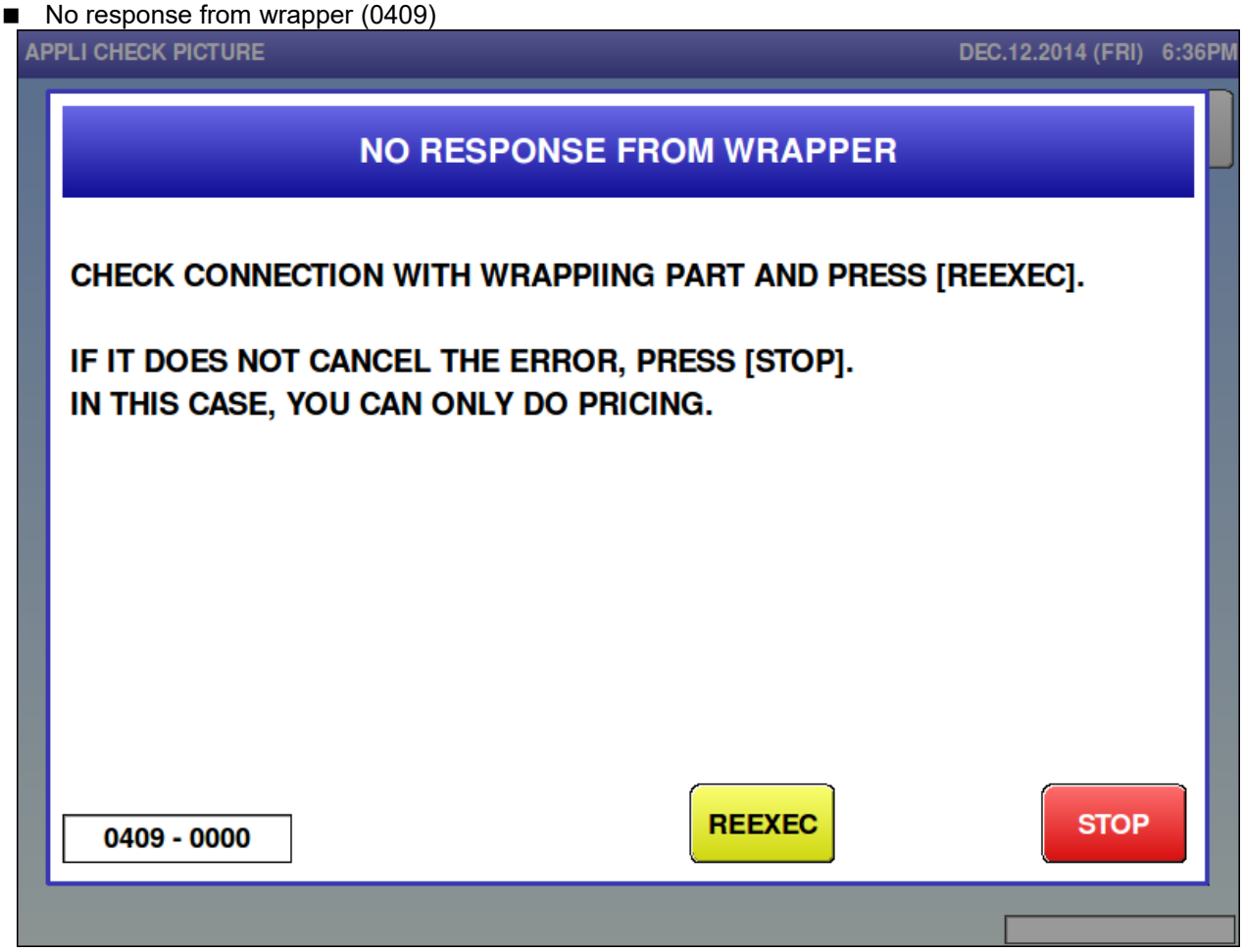
Error content	The wrapper control board detected the CPU reset.
Detail	The console received power ON notification (status query) twice from the wrapper.
Solution	Restore power
Action by user	Perform a power cycle.
Action by service representative	
Related part	① P-1105 [A200], p/n 171866 ② Control unit section switching power supply [U10], p/n 171862
Remarks	

■ Temporary blackout on console (0407)



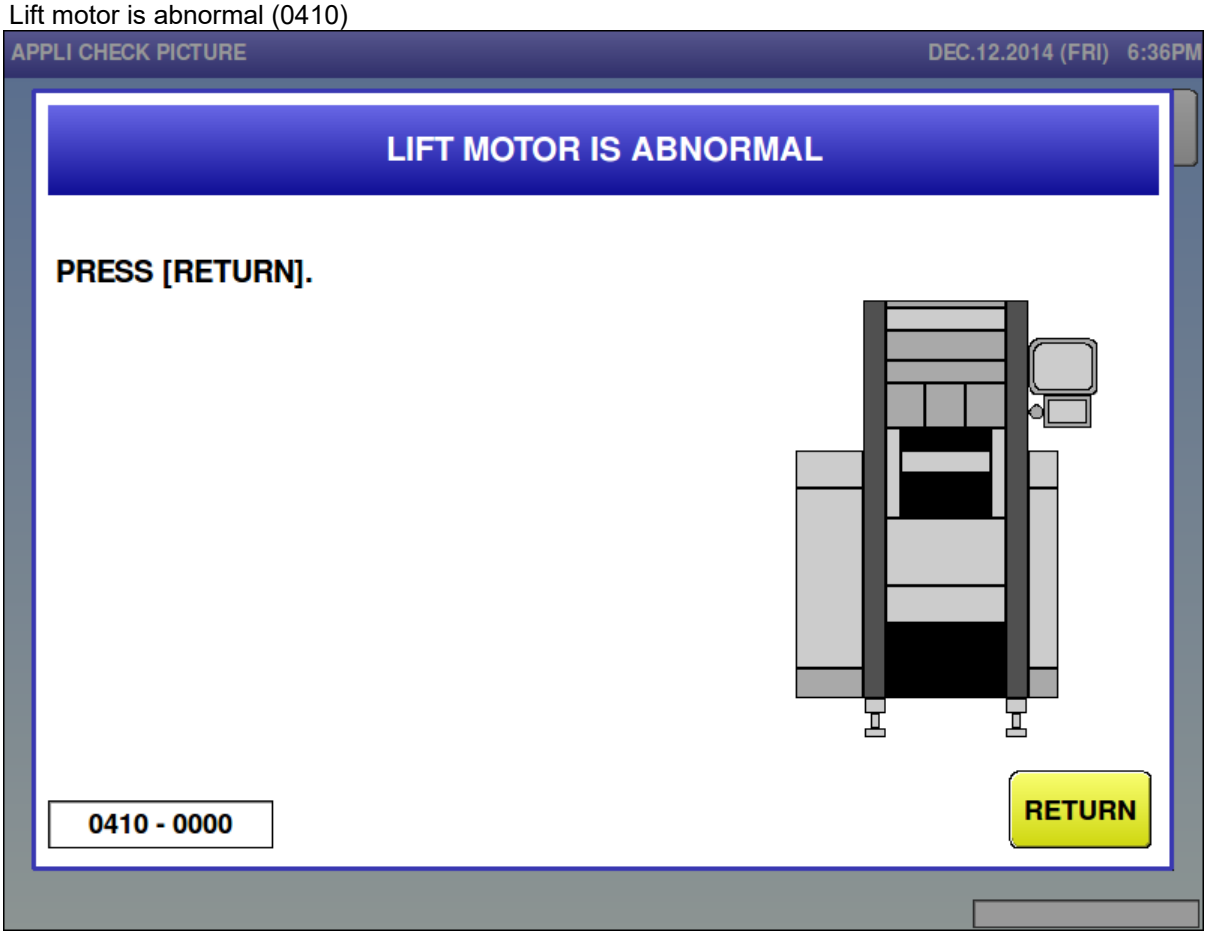
Error content	The CPU on the main board (P-1100) of the console has been reset.
Detail	The wrapping board has received the power-on notifying command twice from the main board (P-1100) of the console. For example, this error is displayed without fail after the restart if a problem has arisen with the main board, or if the resetting has been performed without permission. If this error occurs after freezing and resetting, something is wrong with the operation immediately before freezing. For example, when freezing has occurred due to an abnormality of the database, or after various operations have been performed in ADJUST mode. (Past instance: The resetting occurred because the main board could not perform normal processing as a result of a foreign language other than English having been input to the product name.) Other than the cases mentioned above, the main board or the switching power supply is suspicious. However, a component of the printer may be short-circuited if it is ineffective in spite of the suspicious board having been replaced.
Solution	When this error occurs, turn off the power, wait 10 seconds, and turn on the power again.
Action by user	Perform a power cycle.
Action by service representative	
Related part	① Main board P-1100 [A10], p/n 158280 ② Control unit section switching power supply [U10], p/n 171862
Remarks	

■ No response from wrapper (0409)



Error content	The wrapper is not connected.
Detail	Communication error when power has been turned ON. Communication phase is listed in the sub-error.
Solution	[STOP] button => Cancel error. [REEXEC] button => Re-check the connection with the wrapper.
Action by user	Perform a power cycle.
Action by service representative	
Related part	
Remarks	After pressing the [STOP] button, only pricing can be performed.

■ Lift motor is abnormal (0410)

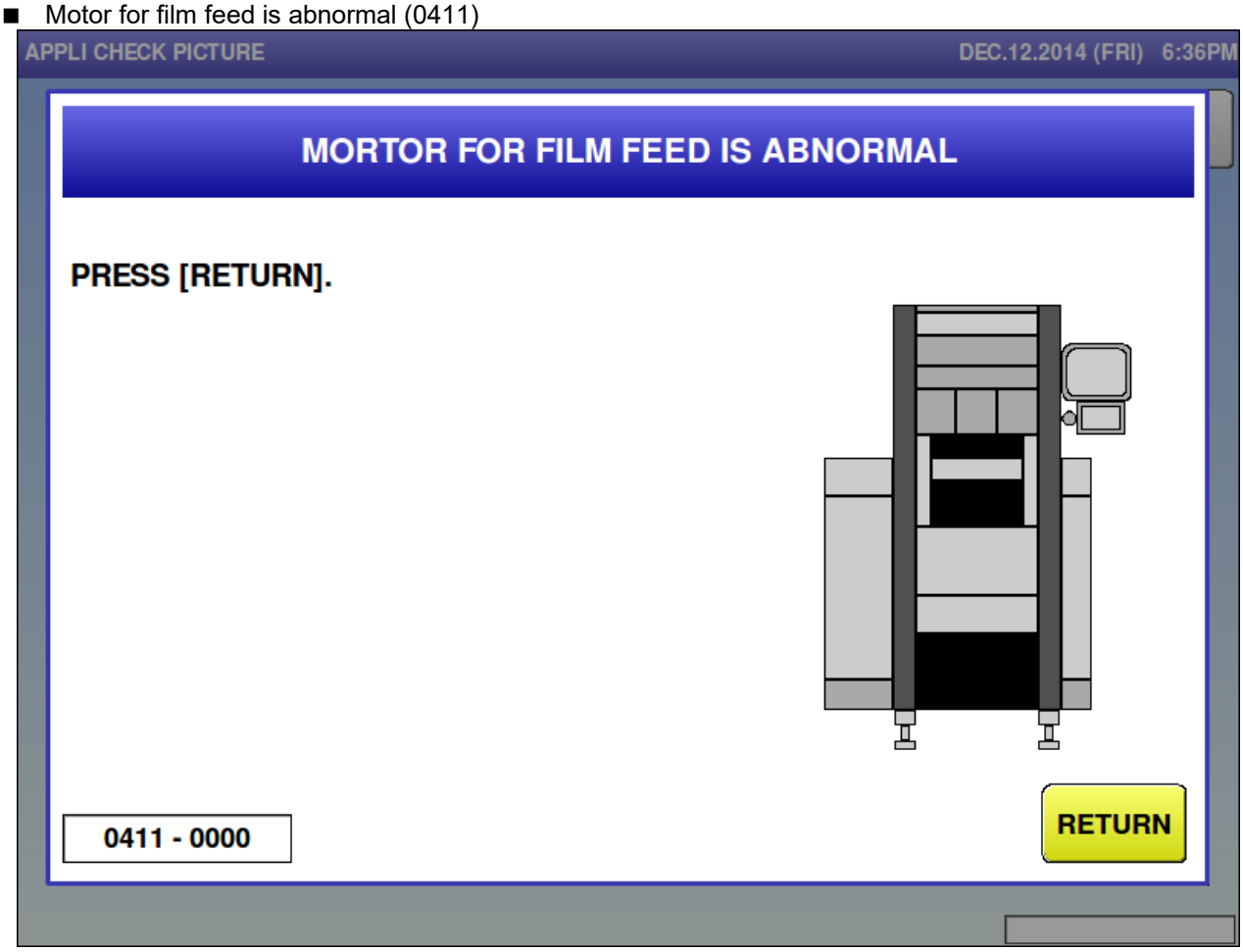


Error content	Lift motor is abnormal
Detail	Lift motor operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer run out. 0003: DCB motor is overloaded. 0004: Feedback pulse from DCB motor has an error (phase interruption). 0101: The lower side of the lift [B203] is blocked, when lowering the lift. 0102: The lower side of the lift [B203] is not blocked, after switching or returning the lift. 0103: The lift home position [B202] and the lift safety [B204] are blocked. when the lift returns to its home position. 0104: The lift home position [B202] and the lift safety [B204] are blocked when the lift is in its switch position. 0105: The lift home position [B202] is blocked when lowering the lift. The lift lower side position [B203] is not blocked wen the lift returns to its home position. 0106: Do not block light of the lift home position [B200] when the lift returns to its home position after the lift changeover. 0107: The lift home position [B200] is blocked when lowering the lift. 0201: The lift home position [B200] is blocked even after a certain period of time after the lift starts operation.
Solution	Press the [RETURN] button
Action by user	
Action by service representative	

■ Lift motor is abnormal (0410)- CONTINUED

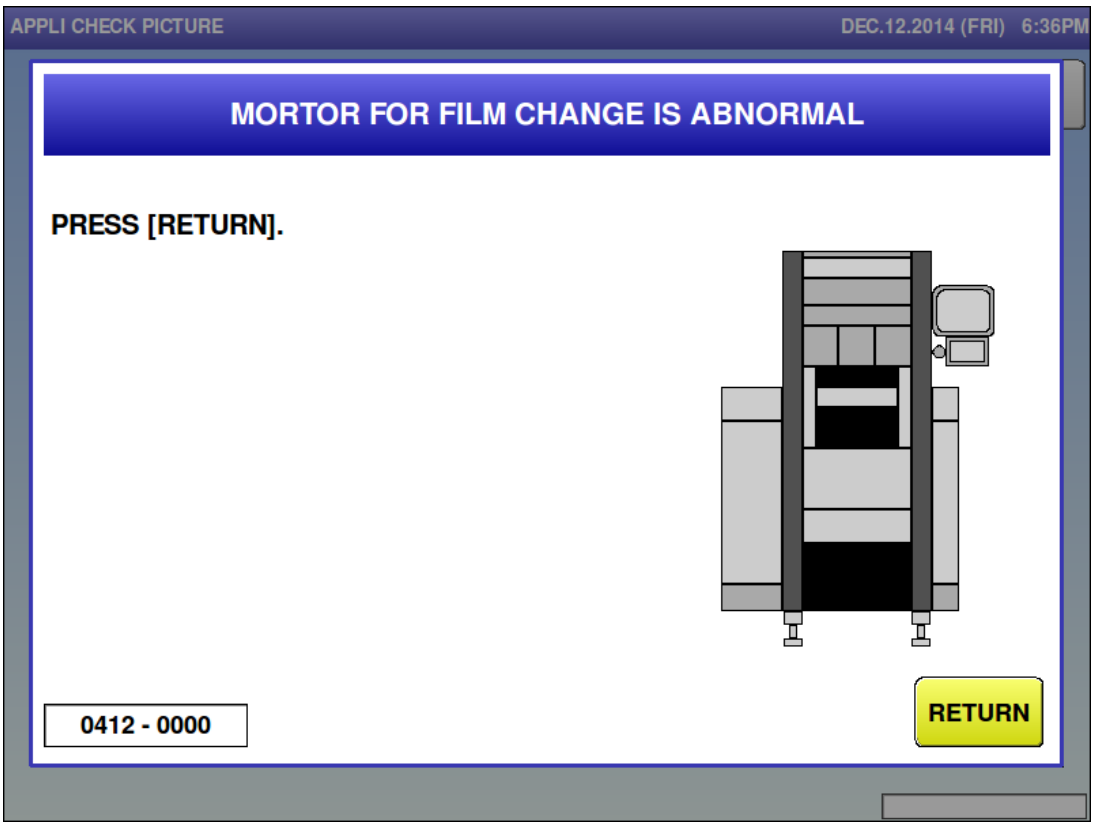
Related part	① P-1105 [A200], p/n 171866 ② Motor for lift [M06], p/n 172329 ③ Sensors described above: [B200], [B203], p/n 104239, [B202], [B204], p/n 157856
Remarks	0410-0003: Check clearance between the infeed and the lift.

■ Motor for film feed is abnormal (0411)



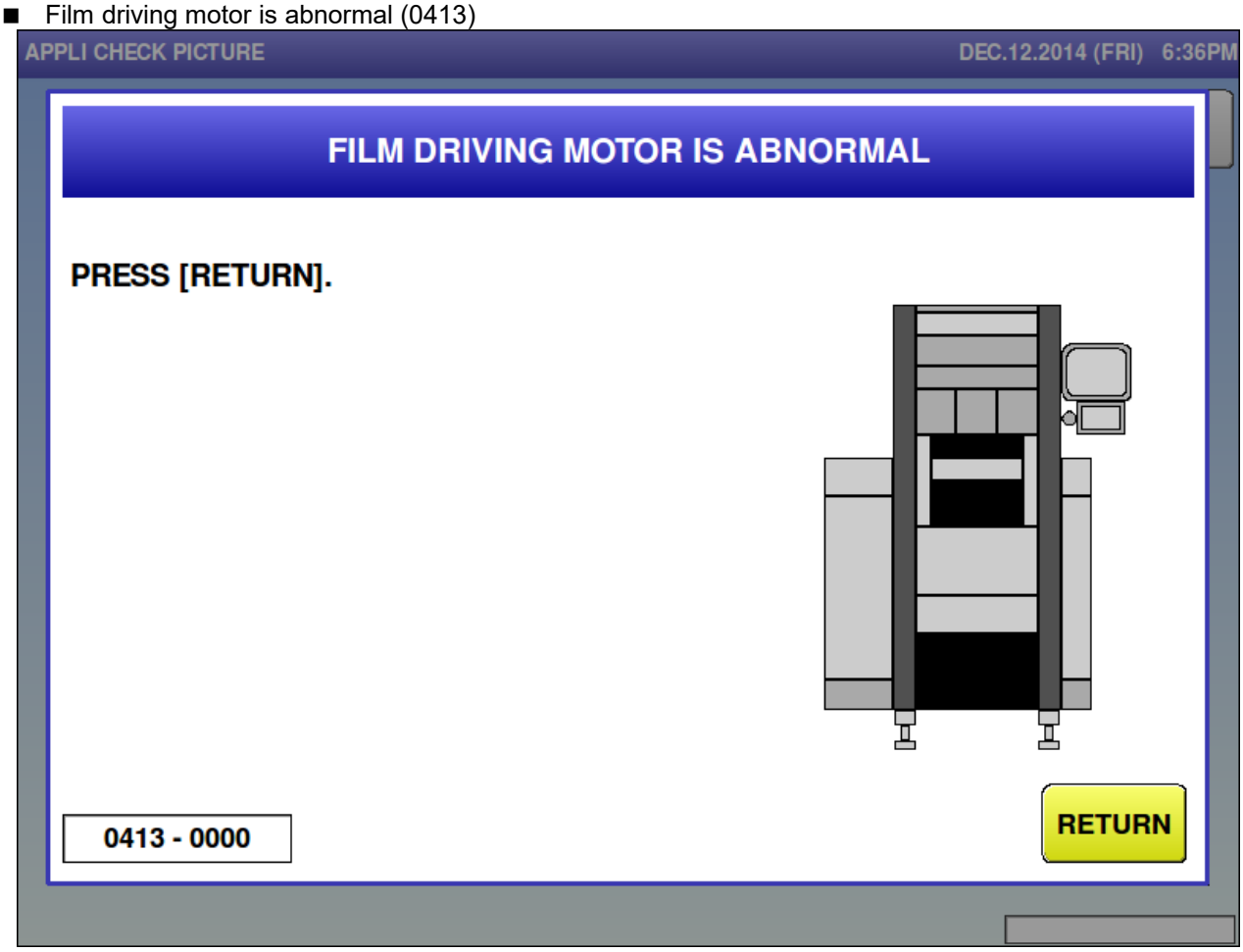
Error content	Motor for film feed is abnormal.
Detail	Film insert motor operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer ran out. 0011: The insert motor was stepped out when the film is traveling. 0021: The insert didn't return to the normal position when the cutter starts operation.
Solution	[RETURN] button
Action by user	
Action by service representative	Check insertion plate clearance at the cutter and film belt white pulleys. Adjust as needed.
Related part	① P-1105 [A300], p/n 171866 ② P-1006C-6 [A301], p/n 171860 ③ Stepping motor for film feed [M303], p/n 213723 ④ Film feed home position [B301], p/n 171837
Remarks	Other check points: 1. Confirm the insertion plate position home (B301) and limit (B310) sensors are fully blocked by the flag at the correct time, p/n 171837. 2. Confirm the insertion plate drive linkage is moving correctly and the set screws are tight with no play.

■ Motor for film change is abnormal (0412)



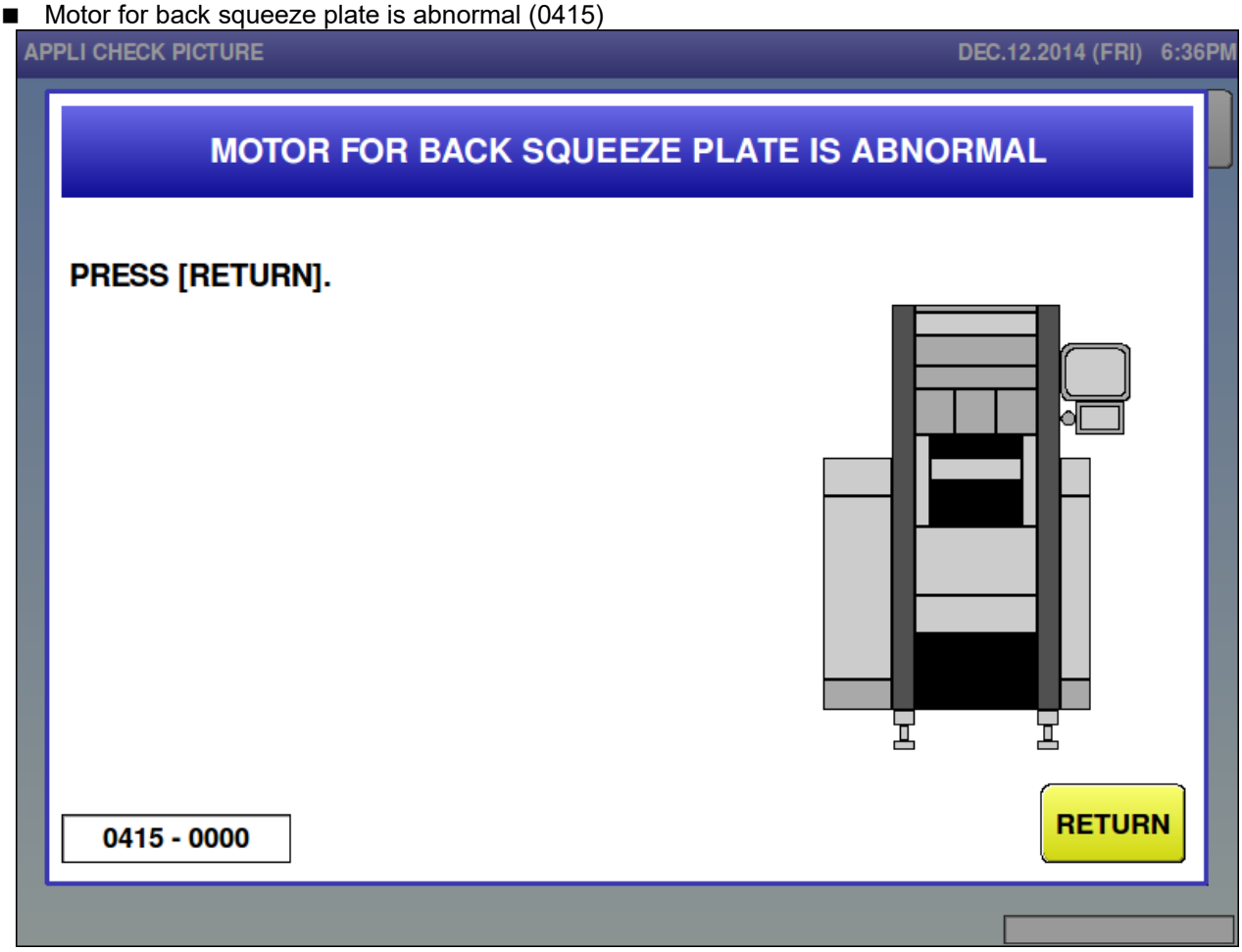
Error content	Motor for film change error.
Detail	The operation of the film changing motor has not been completed normally. The sub-error has the following meanings: 0001: The operation is not completed though the operation protection timer has expired. 0011/0012: The film changing home position, outside, lower sensor [B309] is blocked when it should be unblocked. 0015/0016: The film changing mechanism moves to the V-shaped position when changing the film. When moving, the film changing home position, inside, upper sensor [B304] or the film changing home position, outside, lower [B309] sensor has been blocked. This error occurs when the sensor is blocked but should be unblocked. Check the film changing motor, sensors, and gear gaps. 0020: Neither the film changing home position, inside, upper sensor [B304] nor the film changing home position, outside, lower sensor [B309] is blocked when the insertion operation starts or the changing operation is performed.
Solution	Press [RETURN] to release the error.
Action by user	Press [RETURN] to release the error.
Action by service representative	Check the following related parts and repair or replace the defective part(s).
Related part	① P-1105 [A300], p/n 171866 ② P-1006C-6 [A301], p/n 171860 ③ Stepping motor for film change [M304], p/n 125715 ④ Film 1 change inner home position [B304], Film 2 change outer home position [B309], p/n 171837
Remarks	

■ Film driving motor is abnormal (0413)



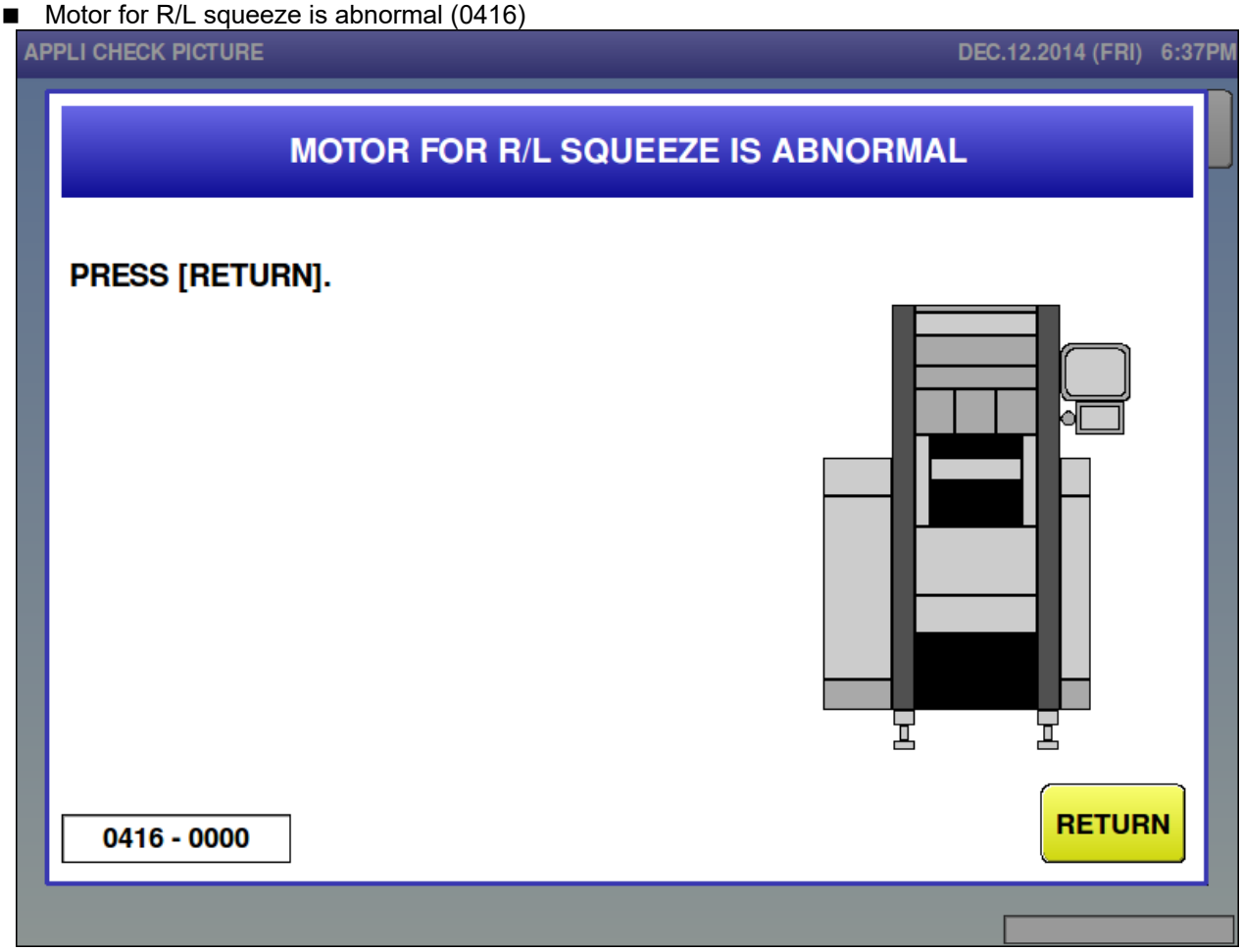
Error content	Film driving motor error.
Detail	Film driving (right) motor operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer run out. 0003: DCB motor is overloaded. 0004: Feedback pulse from DCB motor has an error (phase interruption).
Solution	Press the [RETURN] button
Action by user	
Action by service representative	
Related part	① P-1105 [A300], p/n 171866 ② Film driving motor [M08], p/n 194507 ③ Film shaft rotation speed encoder sensors [B302, B303], p/n 171837 ④ Clutch assy, roll hold [Y302], p/n 172599 ⑤ Timing Pulley with one-way clutch bearing, p/n 213708
Remarks	Confirm the film roll is not loaded backward. 0413-0003 If both shafts attempt to turn at the same time a one-way bearing is faulty. Run Unit Action #27 and #28. The film shaft that should not be turning is faulty. Time Pulley with one-way clutch bearing, p/n 213708

■ Motor for back squeeze plate is abnormal (0415)



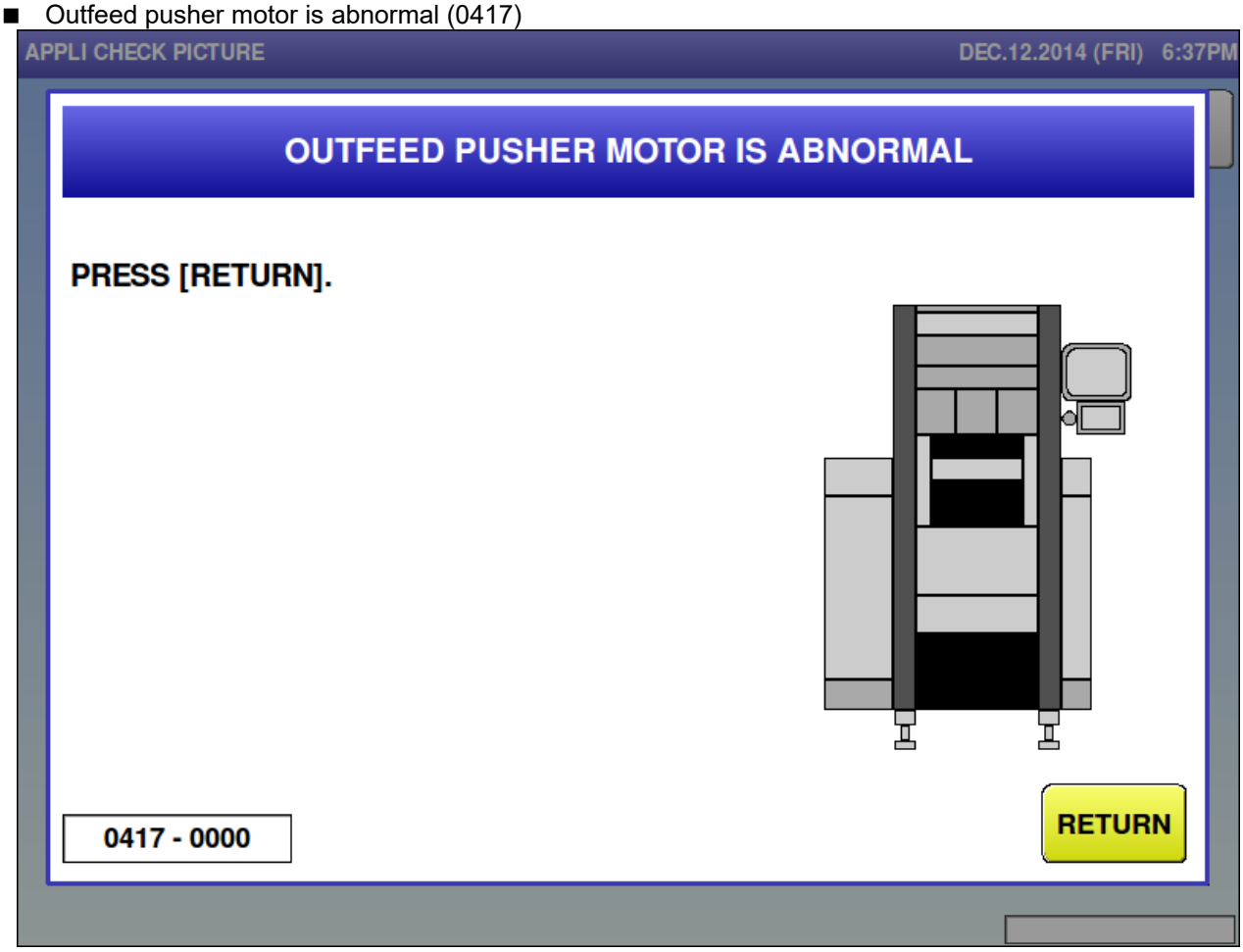
Error content	Motor for the rear wrap plate error.
Detail	Motor for the rear wrap plate operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer ran out. 0003: DCB motor is overloaded. 0004: Feedback pulse from DCB motor has an error (phase interruption). 0011: The home position sensor is not receiving light at the timing with the home position sensor not receiving light.
Solution	[RETURN] button
Action by user	
Action by service representative	
Related part	① P-1105 [A100], p/n 171866 ② Driving motor for the rear wrap plate [M02], p/n 172518 ③ Rear wrap plate home position sensor [B101], p/n 171837
Remarks	

■ Motor for R/L squeeze is abnormal (0416)



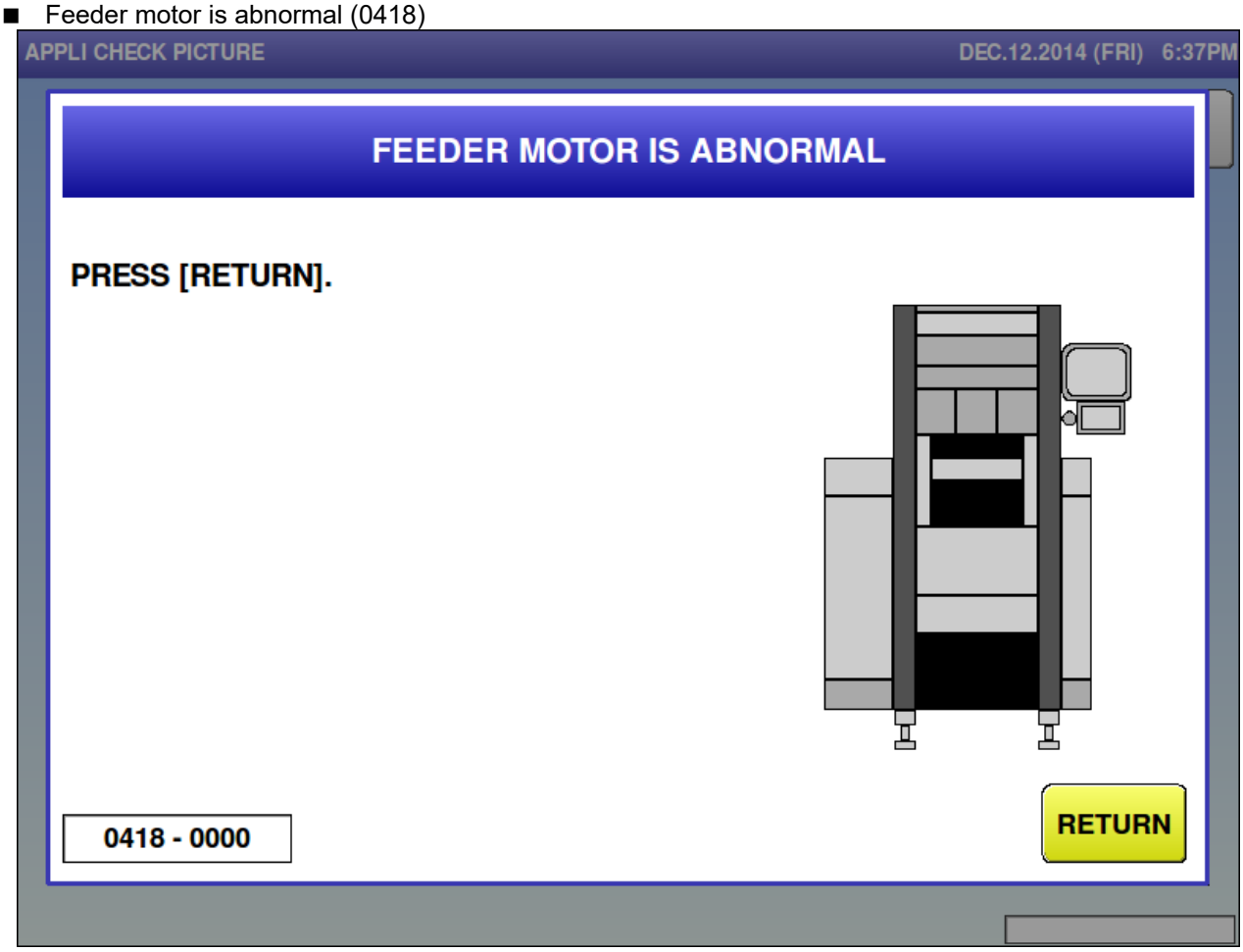
Error content	Motor for R/L wrap plates error.
Detail	Motor for R/L wrap plates operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer ran out. 0003: DCB motor is overloaded. 0004: Feedback pulse from DCB motor has an error (phase interruption). 0005: No response from the home position sensor. 0011: The home position sensor is not receiving light at the timing with the home position sensor not receiving light.
Solution	[RETURN] button
Action by user	
Action by service representative	
Related part	① P-1105 [A100], p/n 171866 ② Driving motor for R/L wrap plates [M03], p/n 172518 ③ R/L wrap plates home position sensor [B101], p/n 171837
Remarks	

■ Outfeed pusher motor is abnormal (0417)



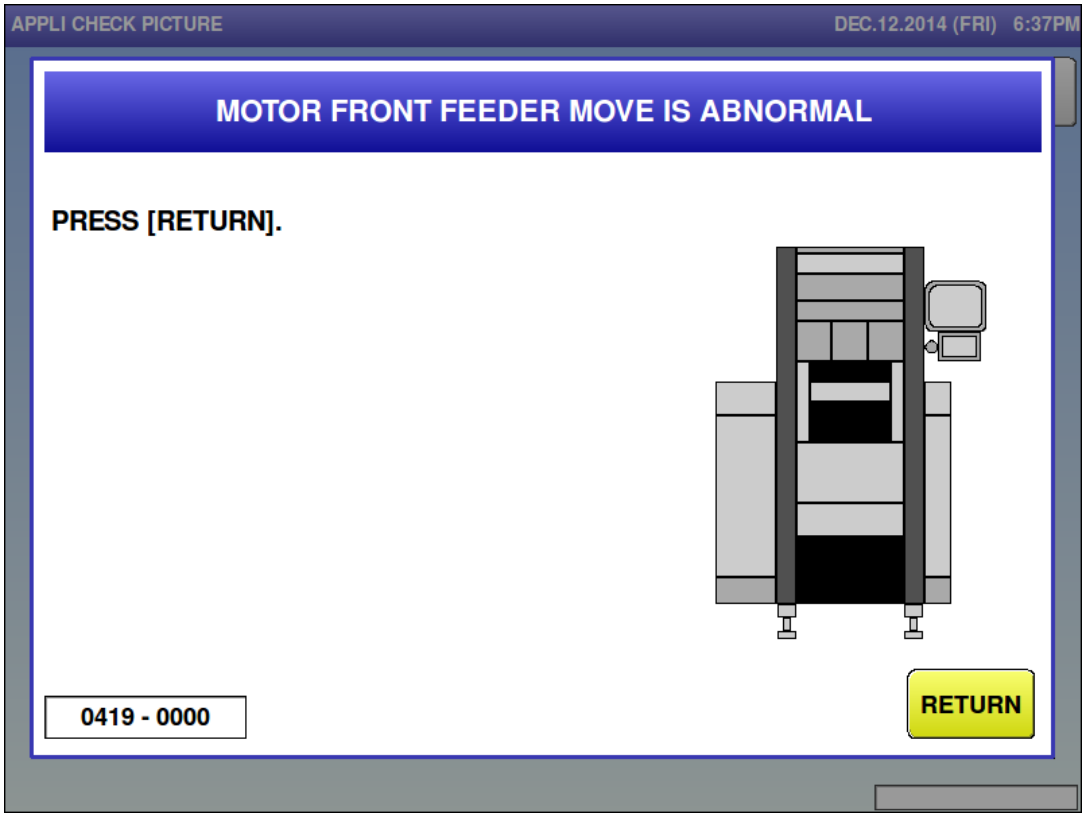
Error content	Outfeed pusher motor error.
Detail	Outfeed pusher motor operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer ran out. 0002: Cannot detect speed pulse signal from the DCB motor (driver board). 0003: DCB motor is overloaded. 0004: Feedback pulse from DCB motor has an error (phase interruption). 0005: Began next product operation before the previous operation was completed (unsuitable wrapper condition). 0006: The next product stuck out before the previous operation was completed (unsuitable wrapper condition). 1003: Tray press operation wasn't completed when the operation protection timer ran out.
Solution	[RETURN] button
Action by user	
Action by service representative	
Related part	① P-1105 [A100], p/n 171866 ② Driving motor for outfeed pusher [M01], p/n 172518
Remarks	0417-0003 Check the operation of the home position photo sensor [B100], p/n 171837. Confirm the flag on the pusher is breaking the photo sensor.

■ Feeder motor is abnormal (0418)



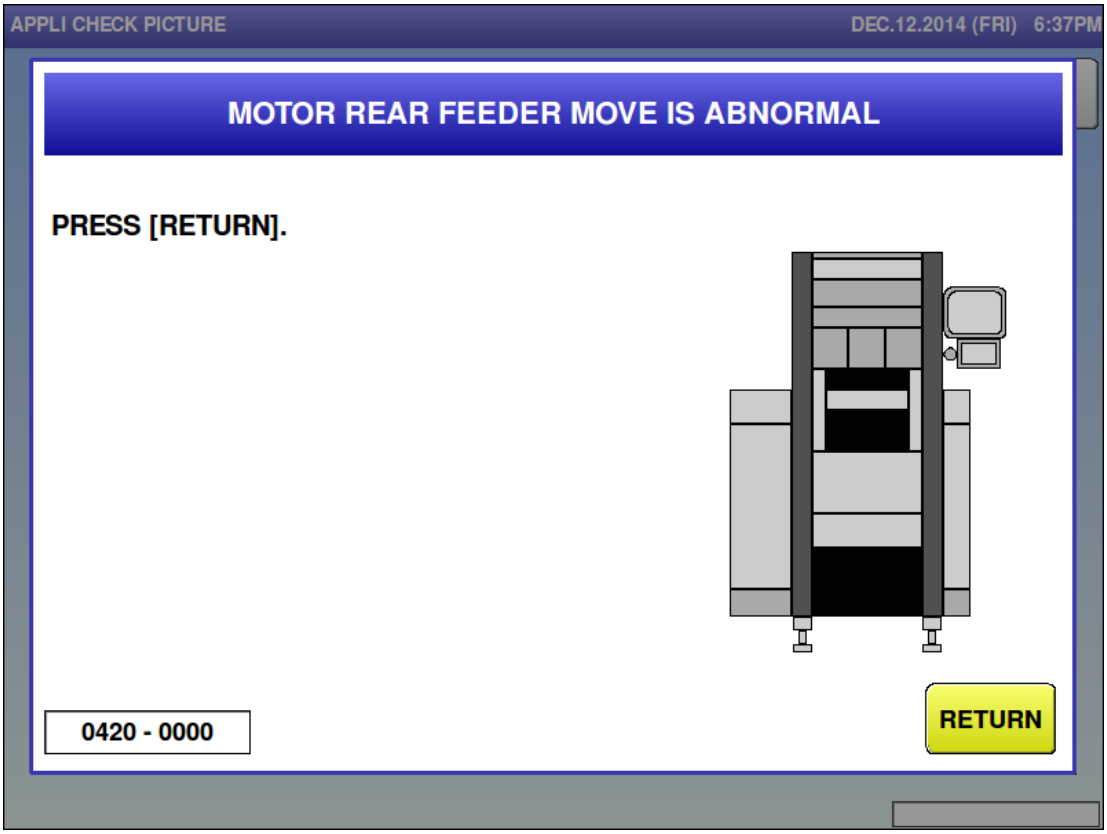
Error content	The front feeder movement motor is abnormal.
Detail	Feeder motor operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer ran out. 0003: DCB motor is overloaded. 0004: Feedback pulse from DCB motor has an error (phase interruption).
Solution	Press the [RETURN] button.
Action by user	Press the [RETURN] button to release the error.
Action by service representative	Check the following related parts and repair or replace the defective part(s).
Related part	① P-1105 [A300] ② Driving motor for feeder [M09]
Remarks	**0418-0003** - Check the condition of the drive belts on the large hex shaft on the right side of the wrapper. - Remove and inspect the film feeders for excessive film pieces or belt damage.

■ Motor front feeder move is abnormal (0419)



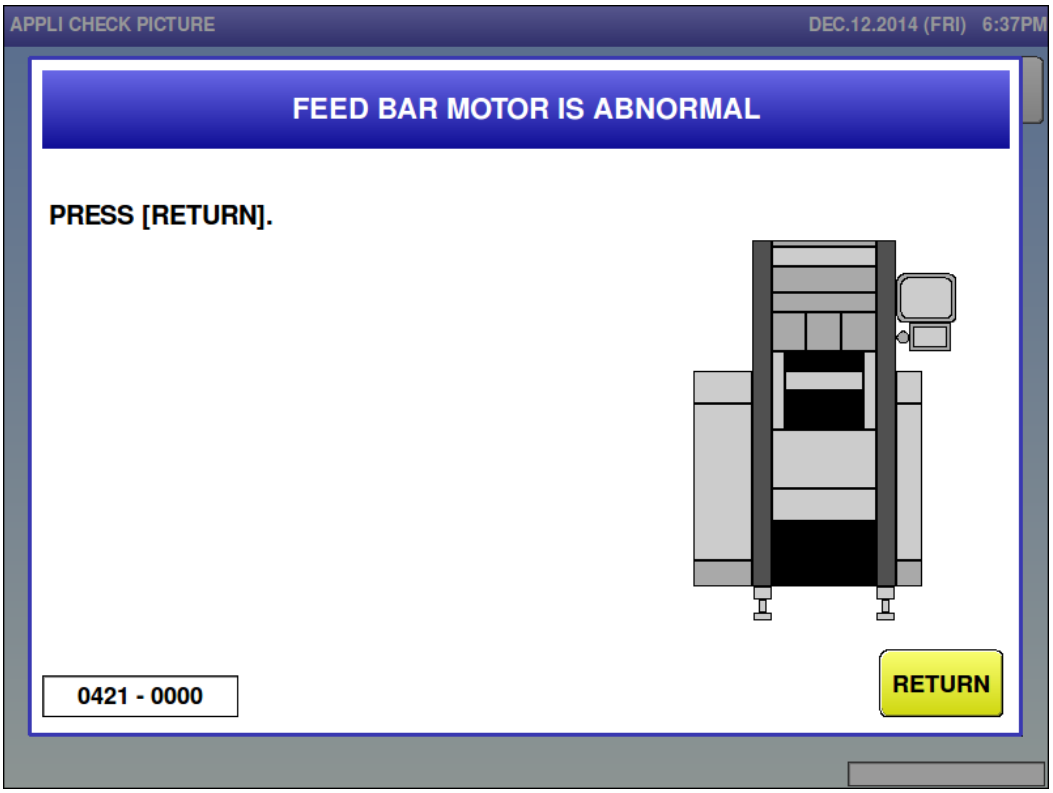
Error content	The front feeder movement motor is abnormal.
Detail	The front feeder movement motor operation has not been completed normally. The sub-error has the following meanings: 0001: The operation is not completed though the operation protection timer expired (The operation of leaving the original position or the operation of returning to the original position is slow.) 0011: Origin #1 is blocked when the front feeder is positioned in Origin #2. 0012: Origin #2 is unblocked when the front feeder is positioned in Origin #2. 0013: Origin #2 is blocked when the front feeder is positioned at the maximum shift (at the rearmost). Because of strict evaluation, the allowance degree has been changed by the software. Representative management: B0752M, Wrapper: C2006D A delay minimum 100 msec is applied before starting reversal after return operation.
Solution	Press the [RETURN] button
Action by user	Press the [RETURN] button
Action by service representative	Check the related parts and repair or replace the defective part(s).
Related part	① P-1105 [A200], lower right, p/n 171866 ② P-1006C-7 board for front feeder [A201], lower right, p/n 171869 ③ Driving motor for feeder [M121] stepping, p/n 188328 ④ Front feeder movement home position sensor [B213], p/n 104239 ** If the front film feeder has been removed, check the B213 sensor harness connection.*
Remarks	

■ Motor rear feeder move is abnormal (0420)



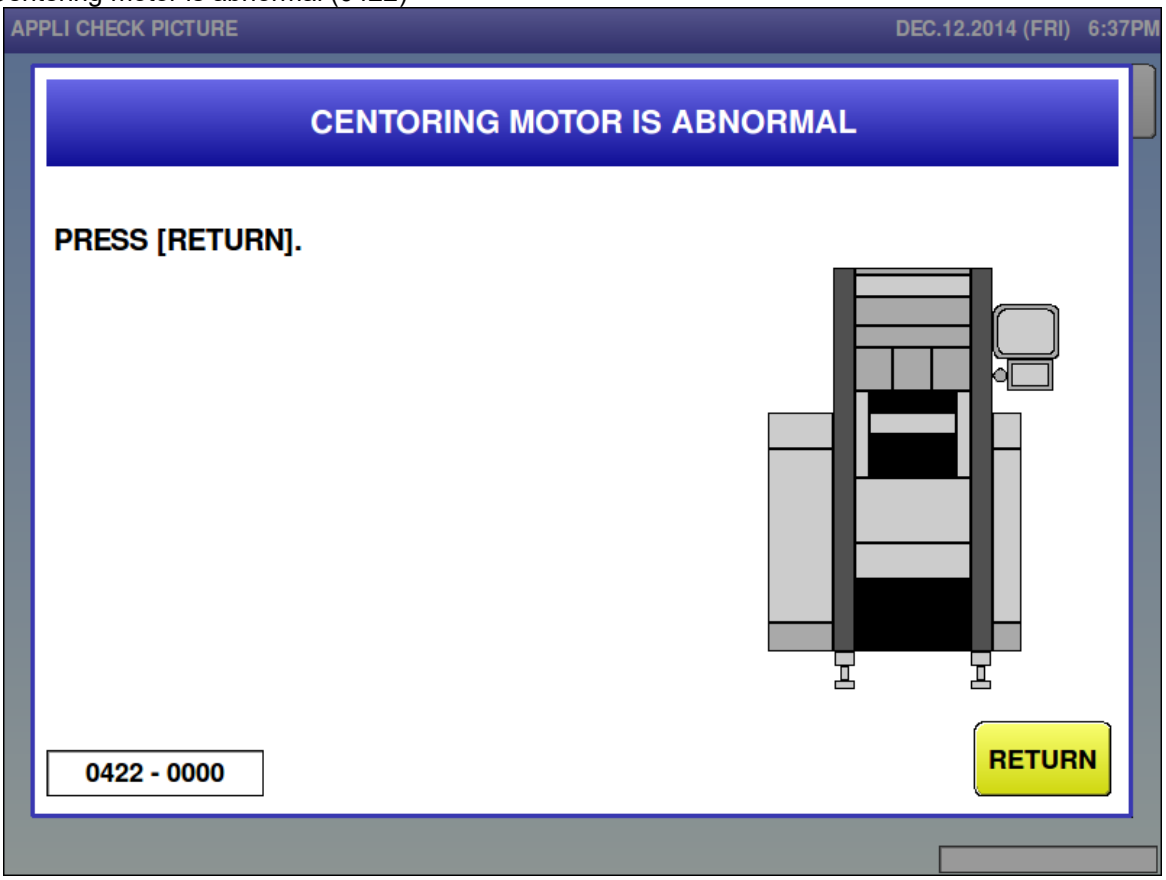
Error content	Motor rear feeder error
Detail	Motor rear feeder operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer ran out. 0003: DCB motor is overloaded. 0004: Feedback pulse from DCB motor has an error (phase interruption).
Solution	Press the [RETURN] button
Action by user	
Action by service representative	Check three rear feeder position sensors and the flag located on the right side of the wrapper: B212: Home position, B217: Small Lift clearance safety detect, and B218: Large Lift clearance safety detect.
Related part	① P-1105 [A200], p/n 171866 ② Driving motor for feeder [M05], p/n 188330 ③ P-1006C-7 [A201], p/n 171869 ④ Rear film feeder home position sensor [B212], p/n 104239
Remarks	**Rear Feeder moves to the back side and stops** ・Flag at the right side is not breaking the three sensors: [B212, B217, B218] p/n 104239 ・Flag is thin and easily bent. ・Usually occurs after the feeder has been remove and reinstalled. **0420-0003 DCB Motor Overload** ・Rear Film Feeder moves forward then moves to the back, hits the frame and stops. ・Check the film width sensor attached to the bottom of the right side of the Film Feeder:[B207] p/n 104239 ・Check the three lower right side sensors: [B212, B217, B218] p/n 104239 Note: The wrapper must be initialized after replacing the A200 board.

■ Infeed pusher bar motor is abnormal (0421)



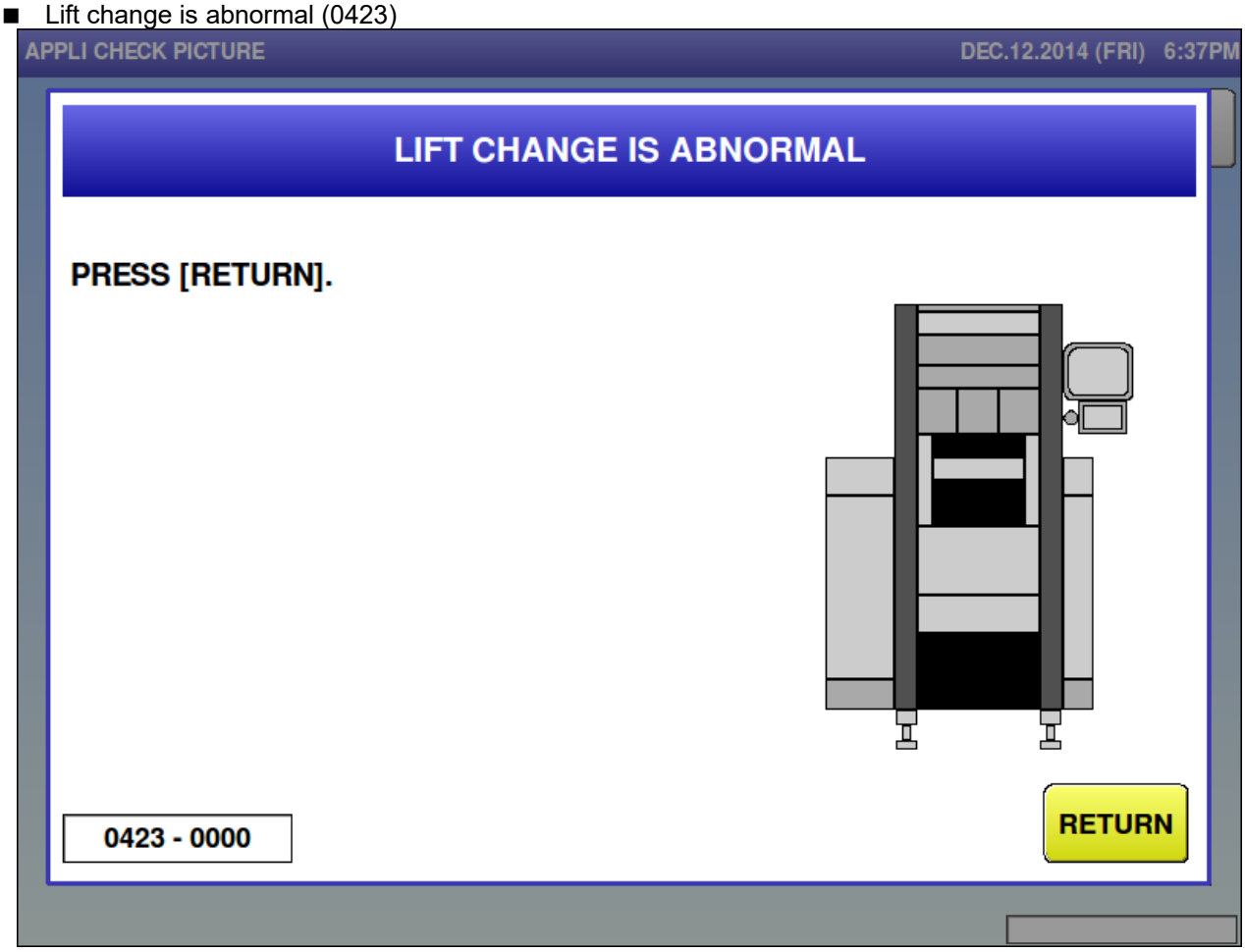
Error content	Infeed pusher bar motor error.
Detail	Infeed pusher bar motor operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer run out. 0003: DCB motor is overloaded. 0004: Feedback pulse from DCB motor has an error (phase interruption). 0013: The DCB motor is overloaded during reverse movement. (Reverse movement = occurs when the return operation is performed or at the end of the infeed operation.) 0999: Back feed was performed exceeding the count limit. 1xxx: Motor was stepped out. The "xxx" value indicates approximate location where stepping out was detected. 3xxx: Motor torque was too high at the start of the infeed operation. The "xxx" value indicates the approximate motor stop position when the fault occurred.
Solution	Press the [RETURN] button
Action by user	Press the [RETURN] button
Action by service representative	Check the related parts and repair or replace the defective part(s).
Related part	① P-1105 [A200], p/n 171866 ② Infeed pusher bar motor [M04], p/n 172506 ③ Infeed pusher bar home position sensor [B204], p/n 104239 ④ Infeed plastic chain, feeding bar (right and left, small bearings), sprocket bearings, Right and left guide pushers ⑤ Driving chain (Chain between the motor and the shaft)
Remarks	

■ Centering motor is abnormal (0422)



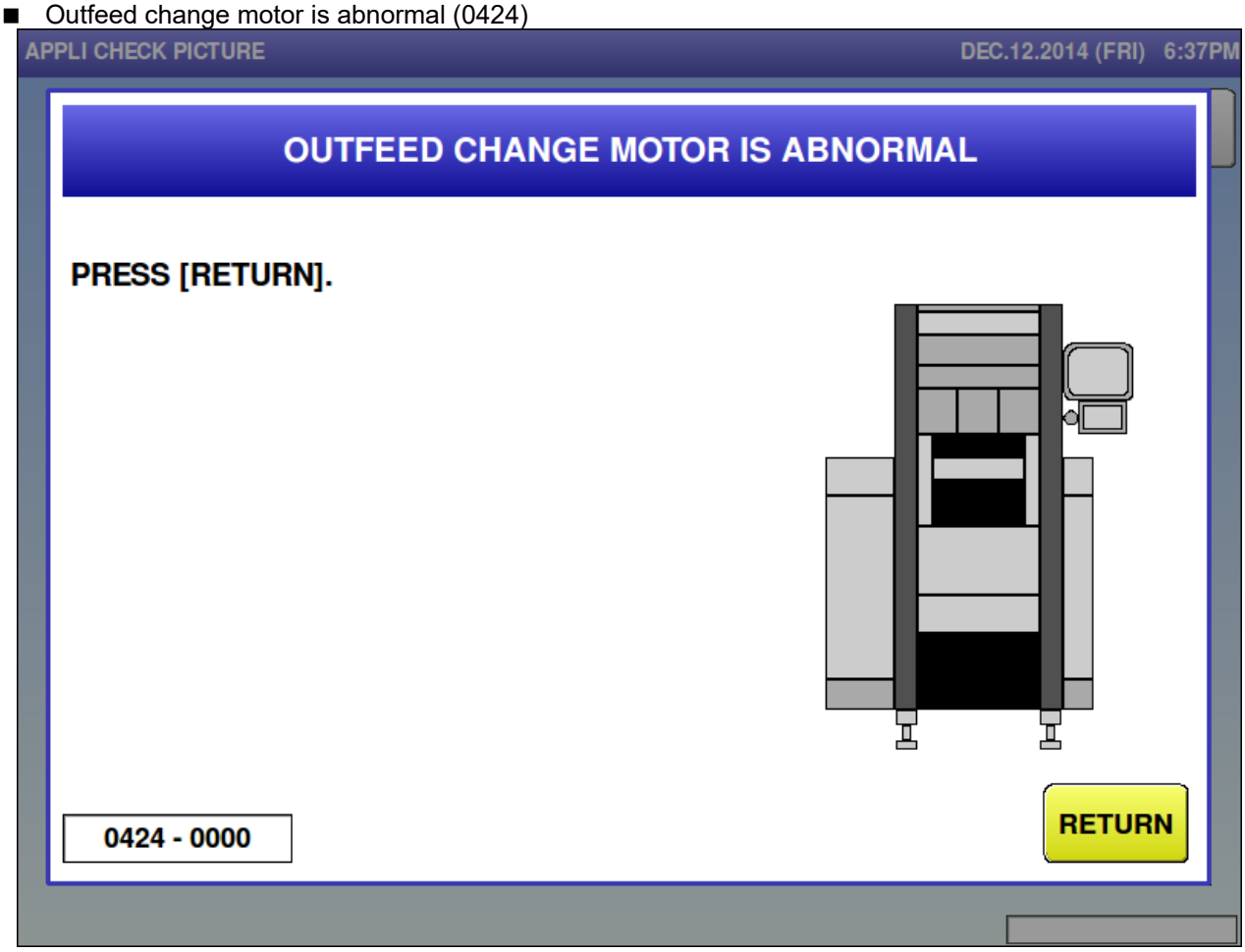
Error content	Centering motor is abnormal.
Detail	Centering motor operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer run out.
Solution	Press the [RETURN] button.
Action by user	Press [RETURN] button to release the error.
Action by service representative	Check the following related parts and repair or replace the defective part(s). Enter "495344" and press [PLU] to exit the error screen, so the scale can be used for manual weighing and labeling.
Related part	① P-1105 [A200], p/n 171866 ② P-1006C-5 board for tray presser/centering [A202] p/n 171859 ③ Centering motor [M205] p/n 172507 ④ Centering home position sensor [B205] p/n 172509 ⑤ Defect of the wrapper switching power supply DC 24V is not output. [U100] p/n 171861 ⑥ When the "0422-0001" error is displayed immediately after "0615-0021" is displayed F104 or F105 fuse (250[V]6[A]) has blown p/n 125707. Or power supply U100. ⑦ Check the connections on the left side of the infeed conveyor to the home position sensor (B205/B205R), the centering motor (M205R/M205P), and at the motor.
Remarks	

■ Lift change is abnormal (0423)



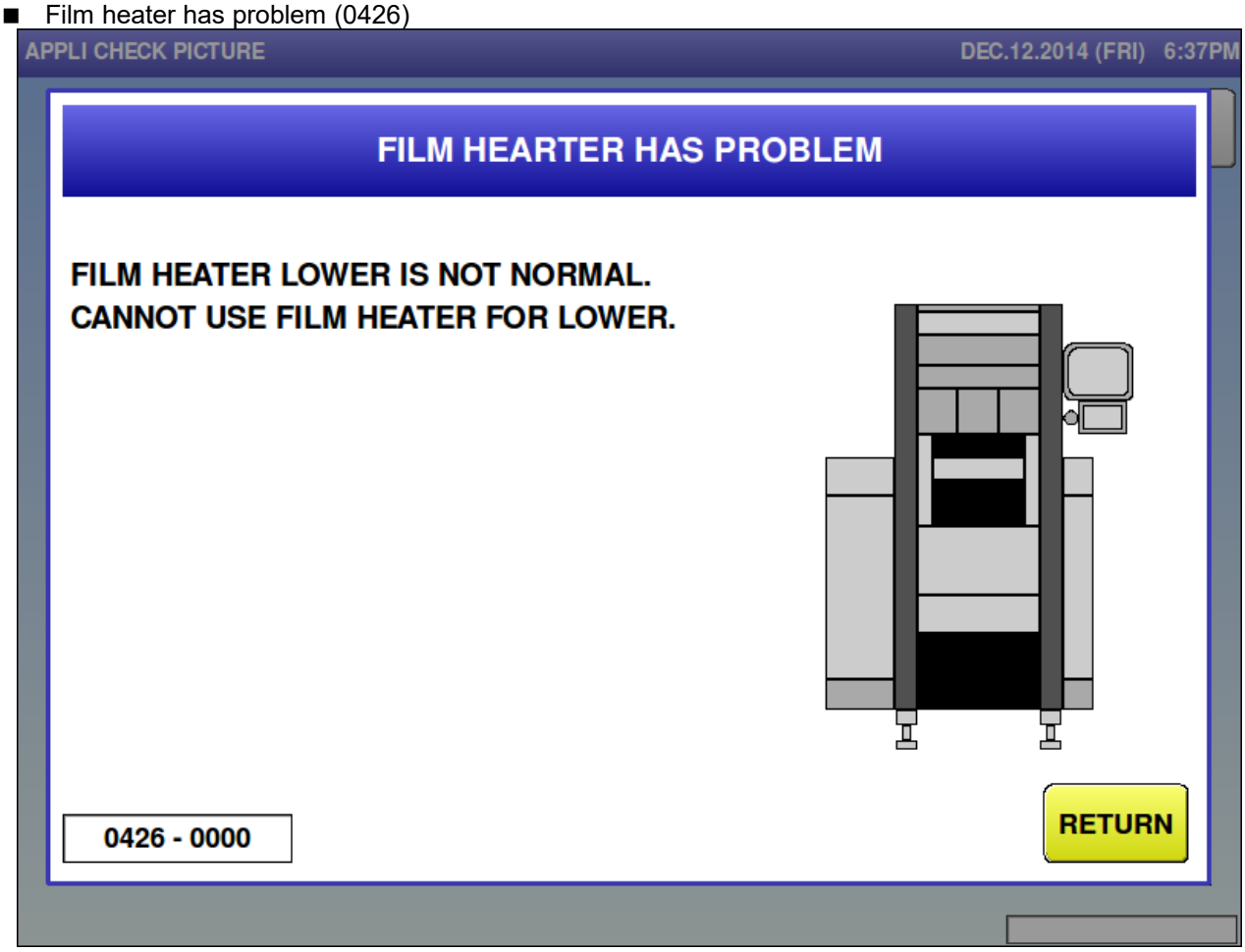
Error content	Lift change error.
Detail	Lift change operation did not finish normally. Sub-error meanings are as follows: 0003: The changing sensor is blocked when the lift starts descending. (Past instance: The returning spring coil was cut.) 0010: The operation is not completed while changing to the small lift. 0011: The operation is not completed while changing to the large lift. Error that occurs when Sensor B214 is not blocked when the solenoid is pulled. (This is not the large lift B201 confirmation sensor error.)
Solution	Press the [RETURN] button
Action by user	Press [RETURN] button to release the error.
Action by service representative	Check the following related parts and repair or replace the defective part(s).
Related part	① P-1105 [A200], p/n 171866 ② Lift change solenoid position [B214], p/n 104239 ③ Lift change solenoid [L200], p/n 189110 ④ Lift changing spring coil
Remarks	

■ Outfeed change motor is abnormal (0424)



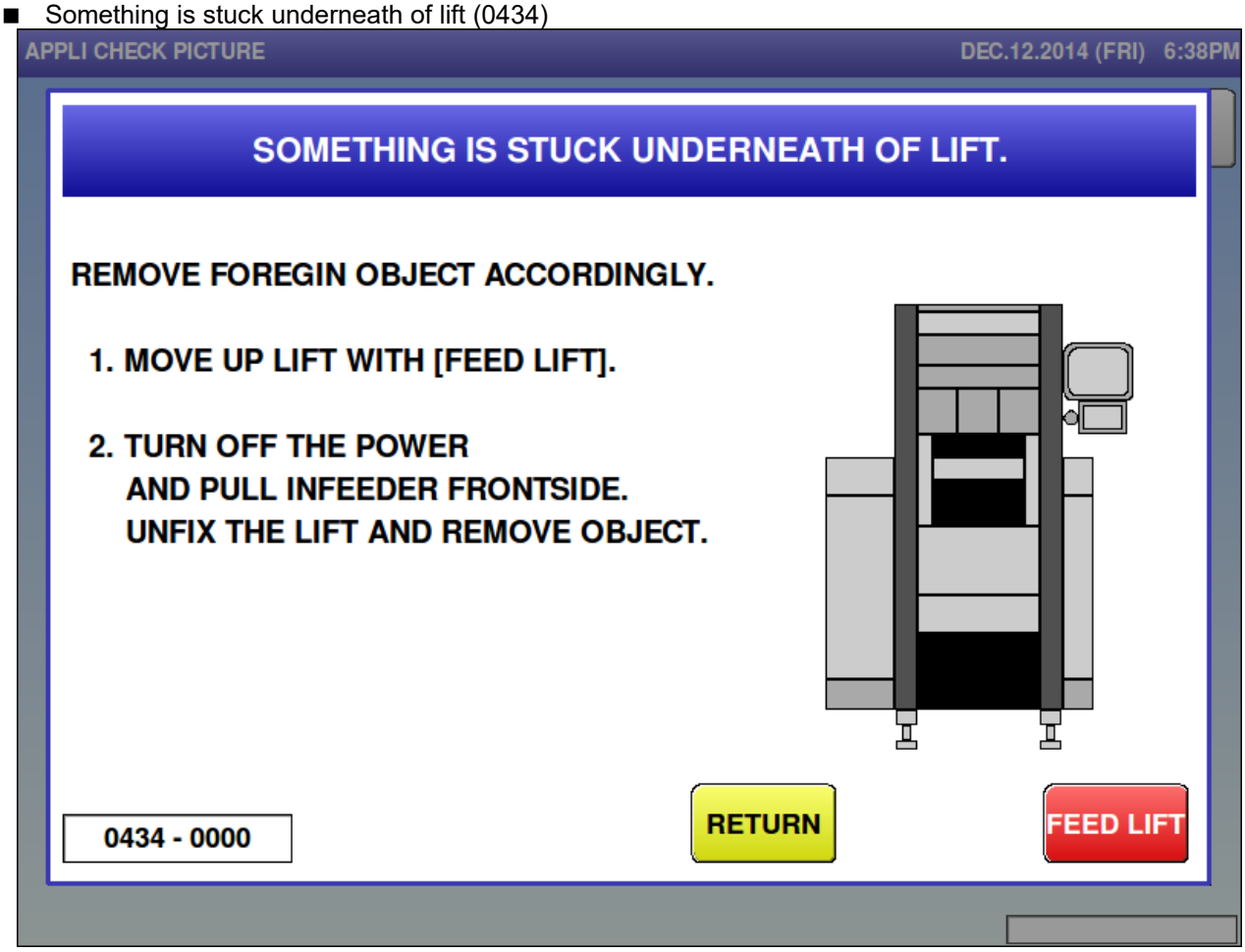
Error content	Outfeed change motor error.
Detail	An error occurred in the stock conveyor attached to the wrapper. Outfeed change motor operation did not finish normally. Sub-error meanings are as follows: 0001: Operation wasn't completed when the operation protection timer ran out. 0003: DCB motor is overloaded. 0004: Feedback pulse from DCB motor has an error (phase interruption).
Solution	Press the [RETURN] button
Action by user	Press the [RETURN] button
Action by service representative	Check the related parts and repair or replace the defective part(s).
Related part	① P-1105 [A300], p/n 171866 ② Driving motor for outfeed conveyor [M07], p/n 189302
Remarks	Check the conveyor belt, drive belt, and pulleys for debris or obstructions.

■ Film heater has problem (0426)



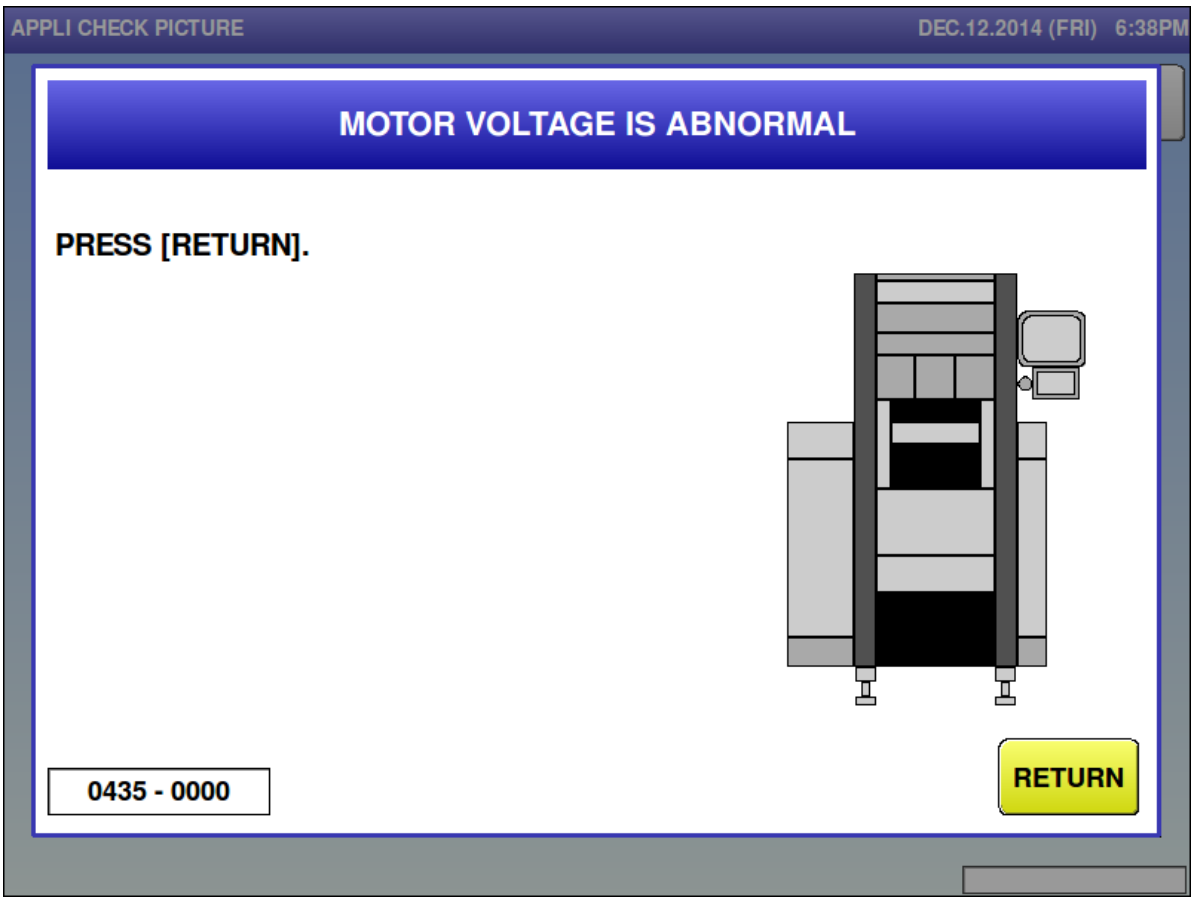
Error content	Film heater error.
Detail	As an error occurs in film heater, unable to use the heater. Sub-error meanings are as follows: 0001: Thermistor of film heater is disconnected. 0100: A fan alarm occurs (alarm also occurs when connector is not inserted).
Solution	Press the [RETURN] button
Action by user	Press the [RETURN] button
Action by service representative	Check the related parts and repair or replace the defective part(s).
Related part	① P-1105 [A300], p/n 171866 ② Thermistor for film heater [R141], p/n 172632 ③ Fan for film heater [M305], p/n 193540 : Sub-error is 0100 ④ Check for debris blocking the fan: Sub-error is 0100
Remarks	After the error occurs, the left side film heater is unavailable.

■ Something is stuck underneath of lift (0434)



Error content	An object is caught under the lift.
Detail	Occurs when an overload of lift motor is detected caused by an object caught under the lift. 0000: Operation speed of lift motor is down. 0001: Operation wasn't completed after 5 second since the lift motor has operated.
Solution	Press the [RETURN] button => Restore operation Press the [Feed Lift] button => Raise the lift in 5mm increments
Action by user	
Action by service representative	Check the related parts and repair or replace the defective part(s).
Related part	① P-1105 [A200], p/n 171866 ② Motor for lift [M06], p/n 172329 ③ Lift origin point [B200], p/n 104239
Remarks	Use the [Feed Lift] function key to raise the lift to remove debris caught under the lift.

■ Motor voltage is abnormal (0435)

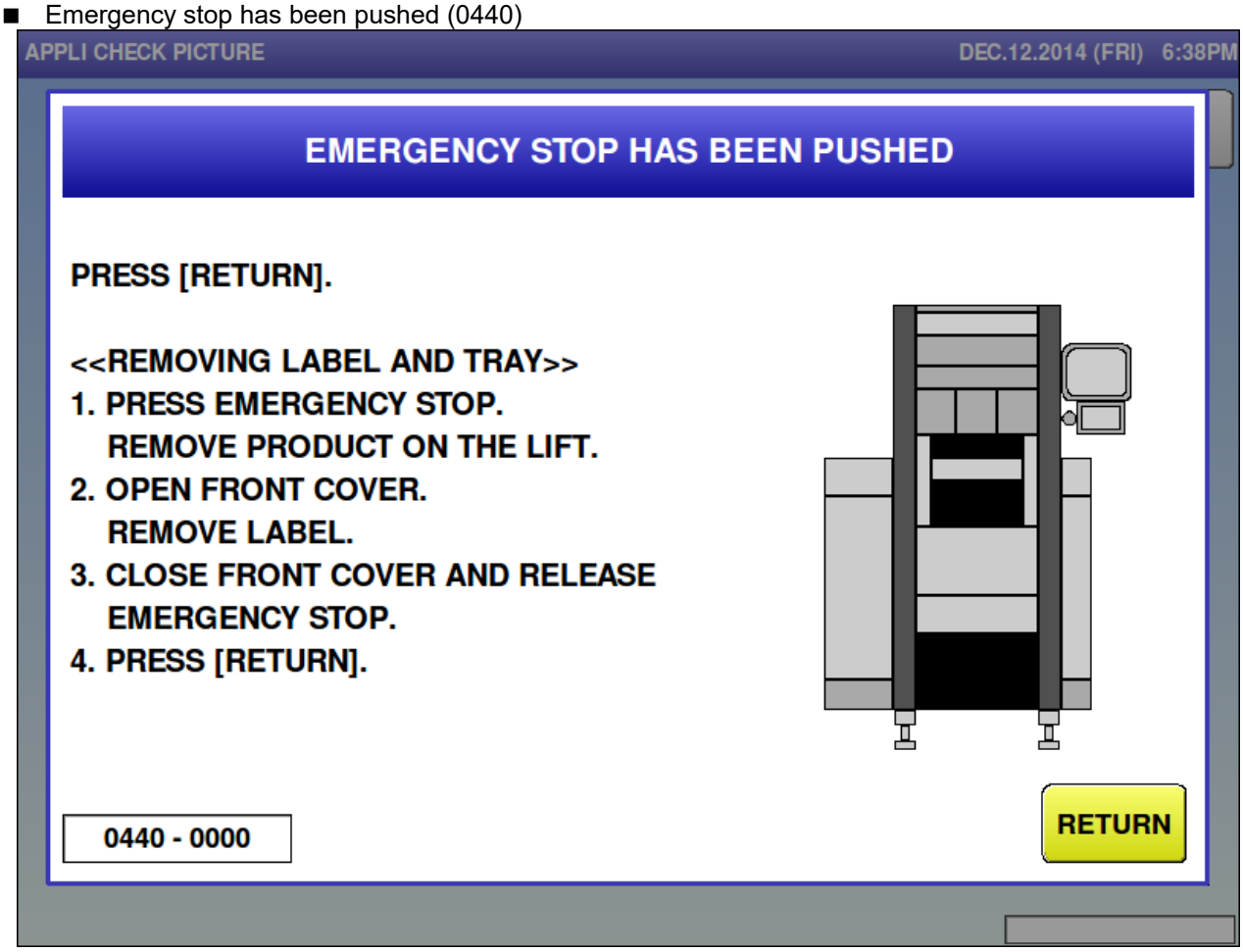


Error content	Power supply voltage error.
Detail	This error occurs when an abnormal voltage is detected at the P-1105 board. Sub-error meanings are as follows: 0001: Undervoltage was detected in P-1105 [A200]. 0002: Overvoltage was detected in P-1105[A200]. 0011: Undervoltage was detected in P-1105 [A100]. 0012: Overvoltage was detected in P-1105 [A100]. 0021: Undervoltage was detected in P-1105 [A300]. 0022: Overvoltage was detected in P-1105 [A300]. 0031: An undervoltage is detected on P-1105 [A400] (for POP printer). 0032: An overvoltage is detected on P-1105 [A400] (for POP printer). 0041: An undervoltage is detected on P-1105 [A600] (for PS-AI). 0042: An overvoltage is detected on P-1105 [A600] (for PS-AI). In case of undervoltage, this error often occurs simultaneously with an abnormality of the auxiliary contact of the electromagnetic contactor 0485-****. Confirm the error log and resolve the error in the electromagnetic contactor if 0485-**** is simultaneously occurring to restore the error. When only “0435” is displayed, check the upstream 200V supply paths including the electromagnetic contactor. “0608-0000” occurs simultaneously if an abnormality of the auxiliary contact of the electromagnetic contactor is the cause. The machine is turned on, so it is to be assumed that 200V is input from an electrical outlet. It is necessary to locate where the electrical connection is interrupted.

■ Motor voltage is abnormal (0435)- CONTINUED

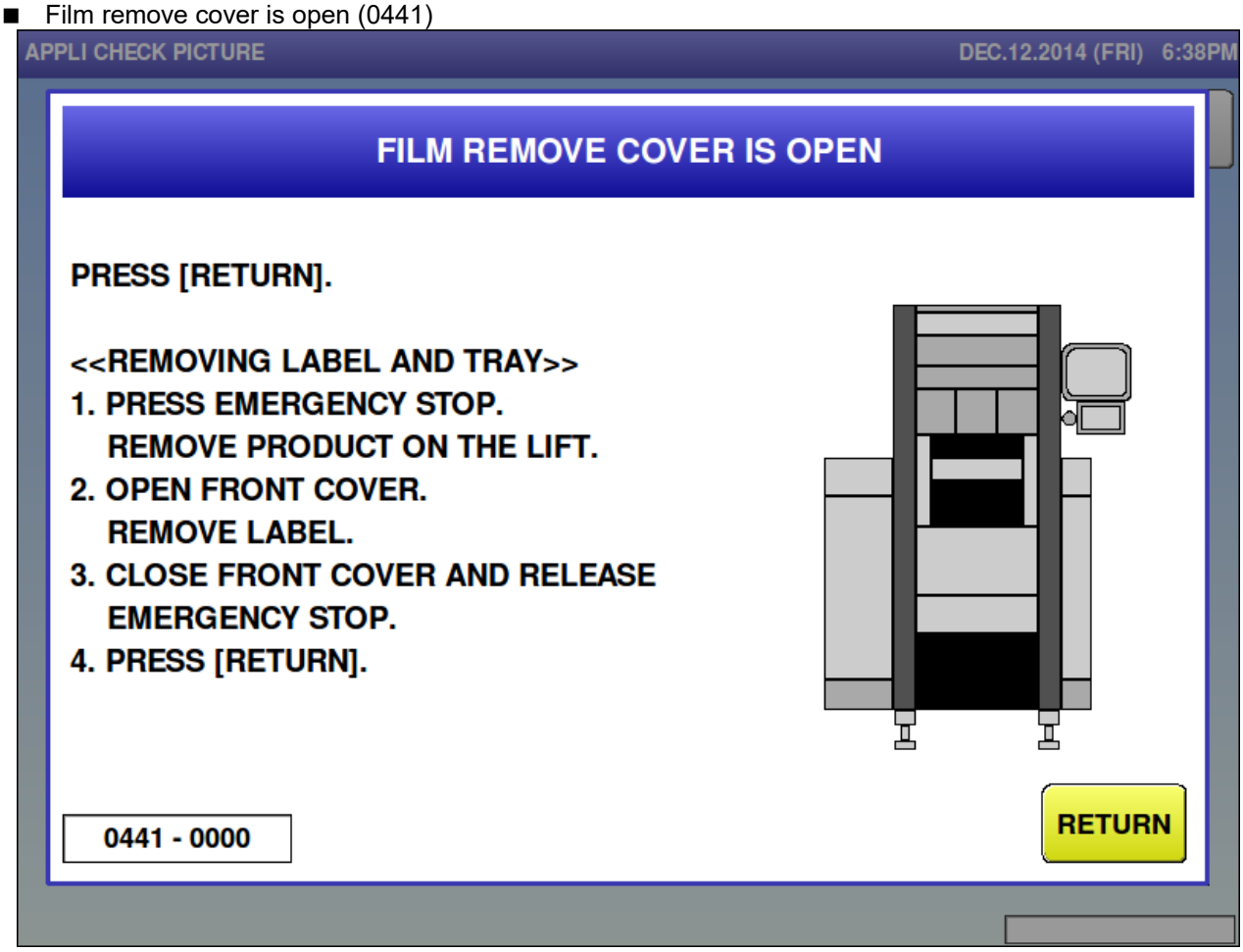
Solution	Press the [RETURN] button. (Fundamentally, this is not an error that can be restored by pressing the [RETURN] button.)
Action by user	Press [RETURN] button to release the error.
Action by service representative	Check the related parts and repair or replace the defective part(s).
Related part	① Check the input power supply (AC 200 - 240V). ② P-1105 [A100, A200, A300, A400, A600], p/n 171866] ③ Check the operation of the electromagnetic contactor. (It can be checked visually.) ④ Check the input voltage of P-1105. (AC 200 - 240V at the screw terminals) ⑤ Check voltages by going upstream.
Remarks	Undervoltage = The electrical connection is interrupted. Overvoltage = This rarely occurs (short circuit inside the board, etc.)

■ Emergency stop has been pushed (0440)



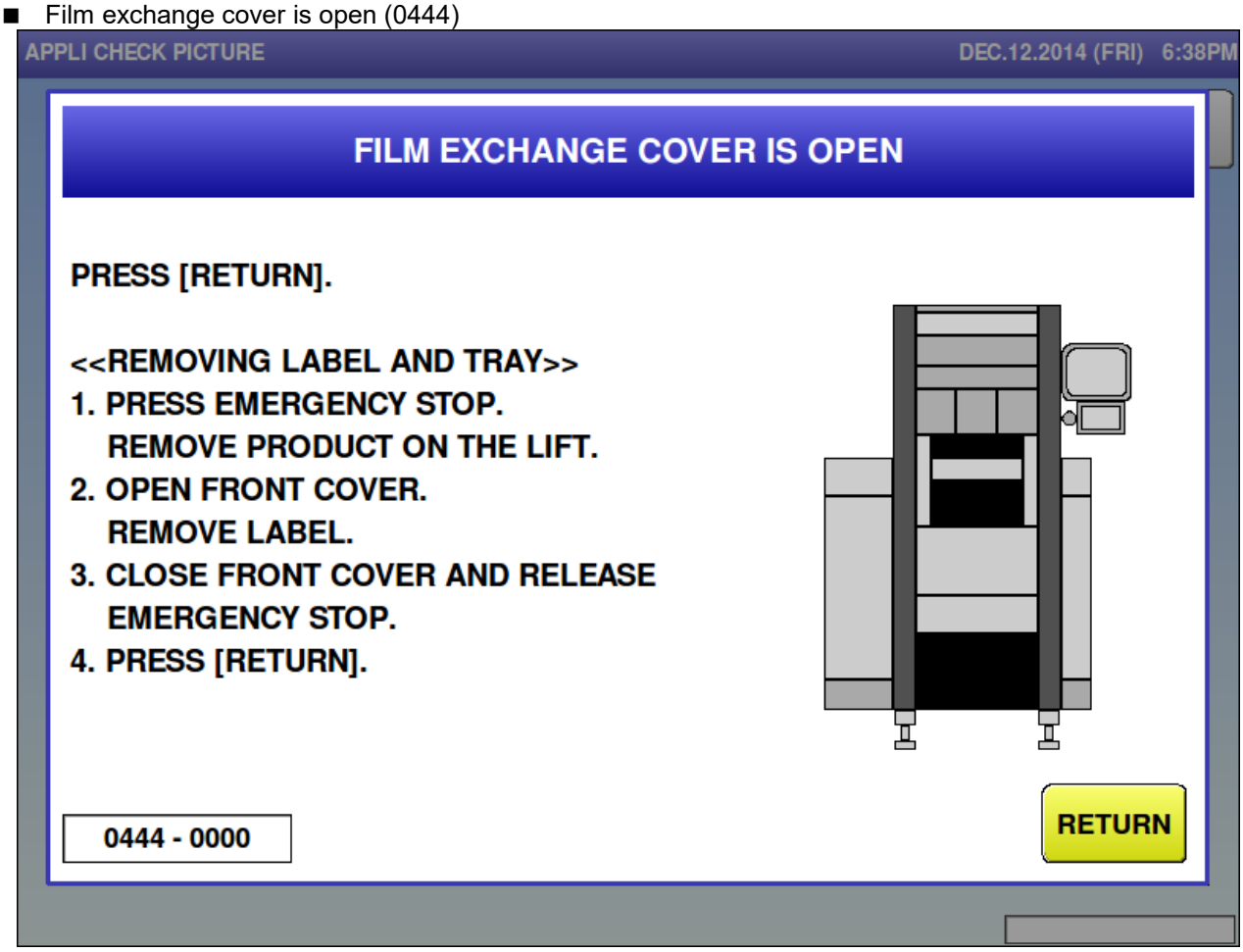
Error content	Emergency stop has been pushed during operation.
Detail	Occurs when the emergency stop switch is pushed while the wrapper is operating.
Solution	Press the [RETURN] button after releasing the emergency stop switch.
Action by user	Press the [RETURN] button after releasing the emergency stop switch.
Action by service representative	Check the related parts and repair or replace the defective part(s).
Related part	Emergency Stop switch [S100], p/n 72899
Remarks	

■ Film remove cover is open (0441)



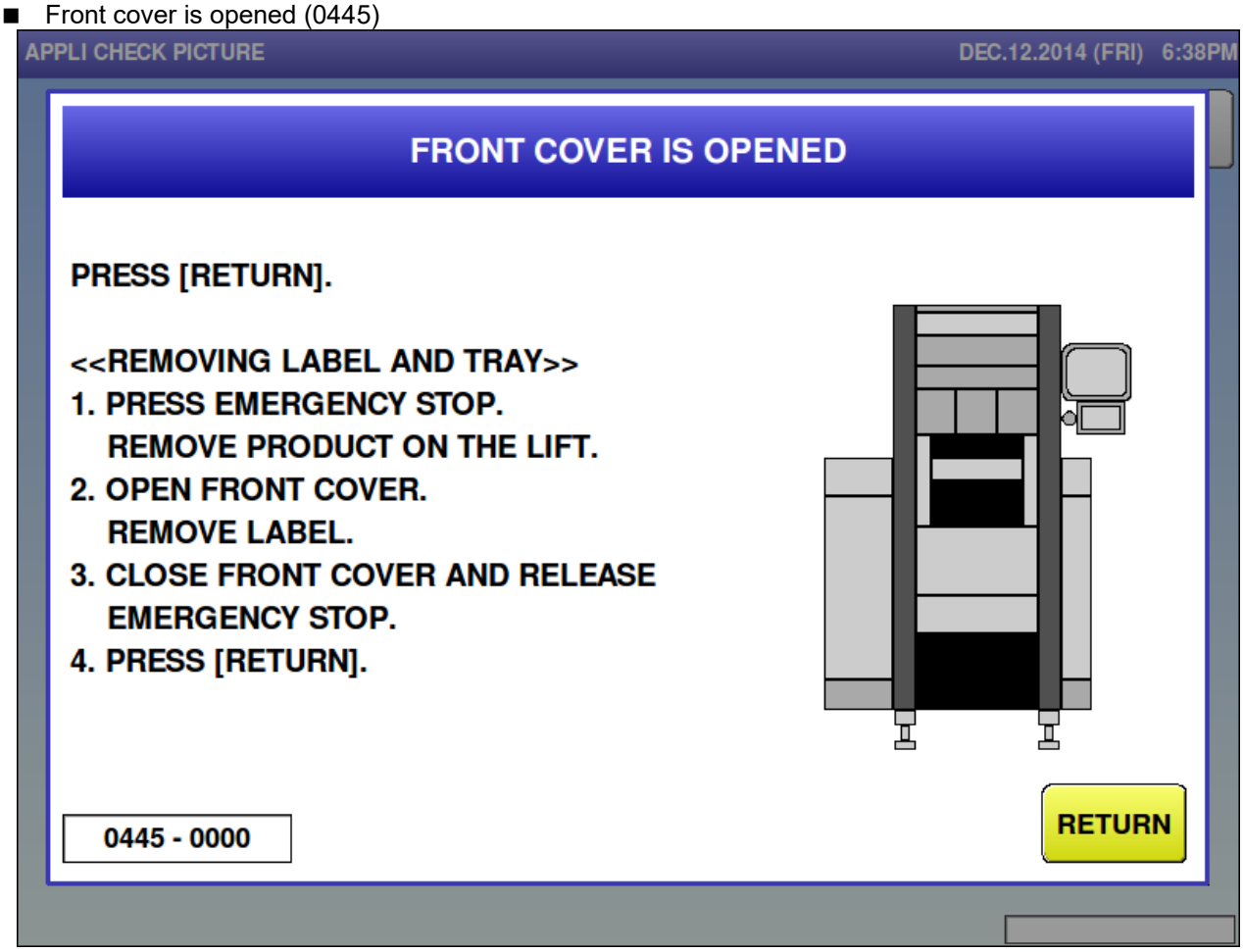
Error content	The right side film remove cover was opened during operation.
Detail	Occurs when the right side film remove cover is opened while the wrapper is operating.
Solution	Press the [RETURN] button after closing the right side film remove cover.
Action by user	Press the [RETURN] button after closing the right side film remove cover.
Action by service representative	Check the related parts and repair or replace the defective part(s).
Related part	Film removal door safety interlock sensor [S200], p/n 157866
Remarks	

■ Film exchange cover is open (0444)



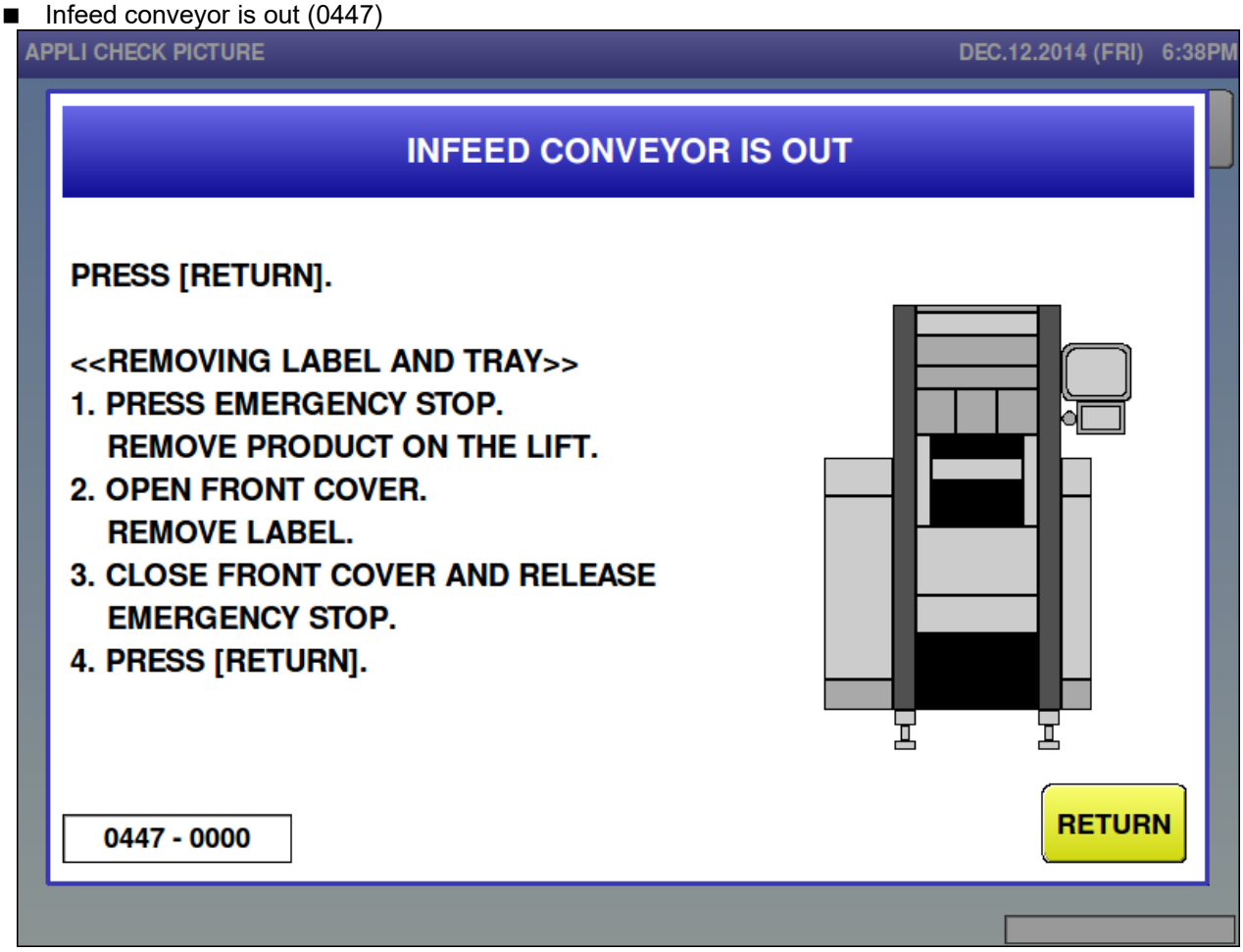
Error content	The left-side film loading door was opened during operation.
Detail	Occurs when the left-side film loading door is opened while the wrapper is operating.
Solution	Press the [RETURN] button after closing the left-side film loading door.
Action by user	Press the [RETURN] button after closing the left-side film loading door.
Action by service representative	Check the related parts and repair or replace the defective part(s).
Related part	Film loading door safety interlock sensor [S302], p/n 157866
Remarks	

■ Front cover is opened (0445)



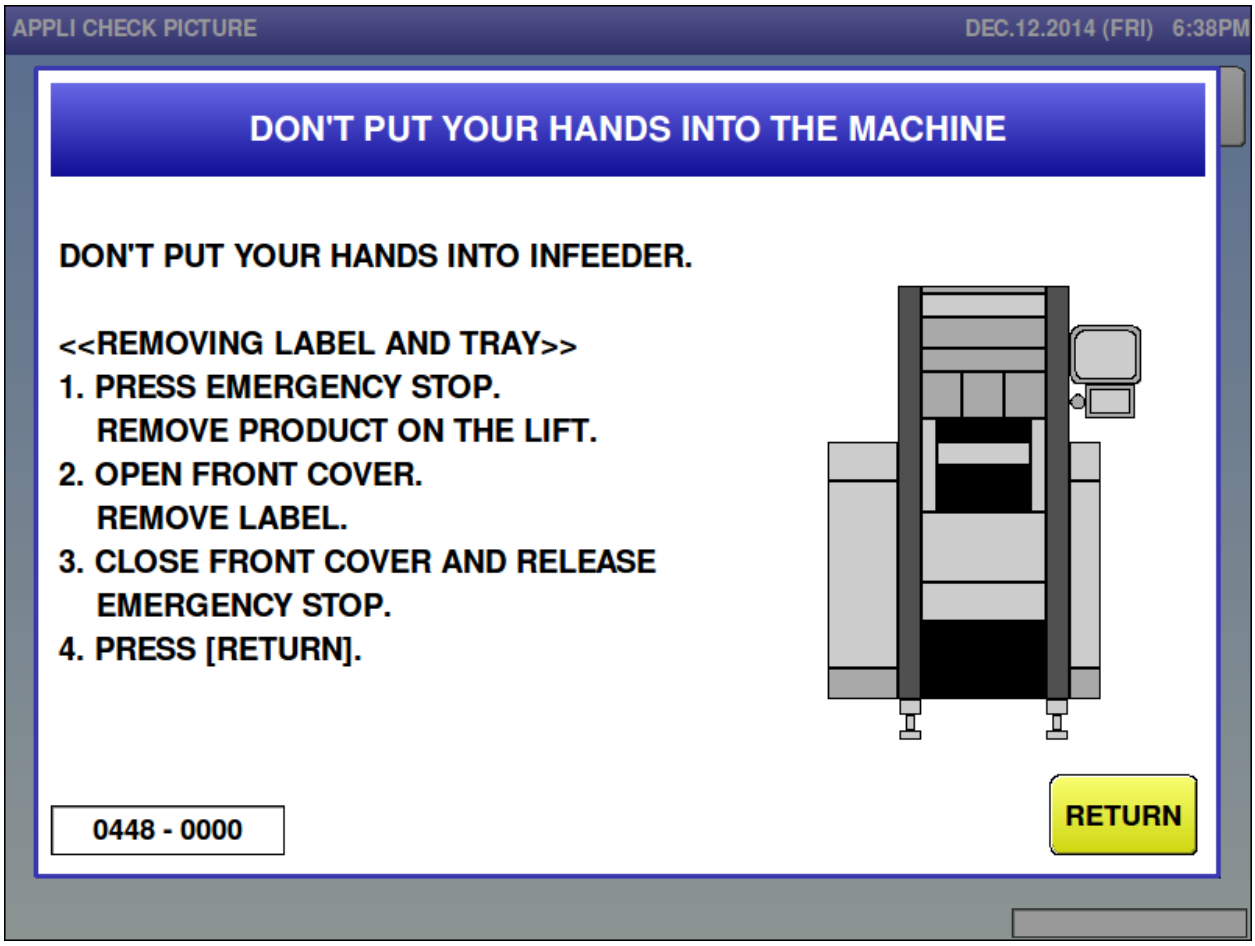
Error content	The front plastic printer cover was opened during operation.
Detail	Occurs when front plastic printer cover is opened while the wrapper is operating.
Solution	Press the [RETURN] button after closing the front plastic printer cover.
Action by user	Press the [RETURN] button after closing the front plastic printer cover.
Action by service representative	Check the following related parts and repair or replace the defective part(s).
Related part	Printer door safety interlock sensor [S101], p/n 157866
Remarks	

■ Infeed conveyor is out (0447)



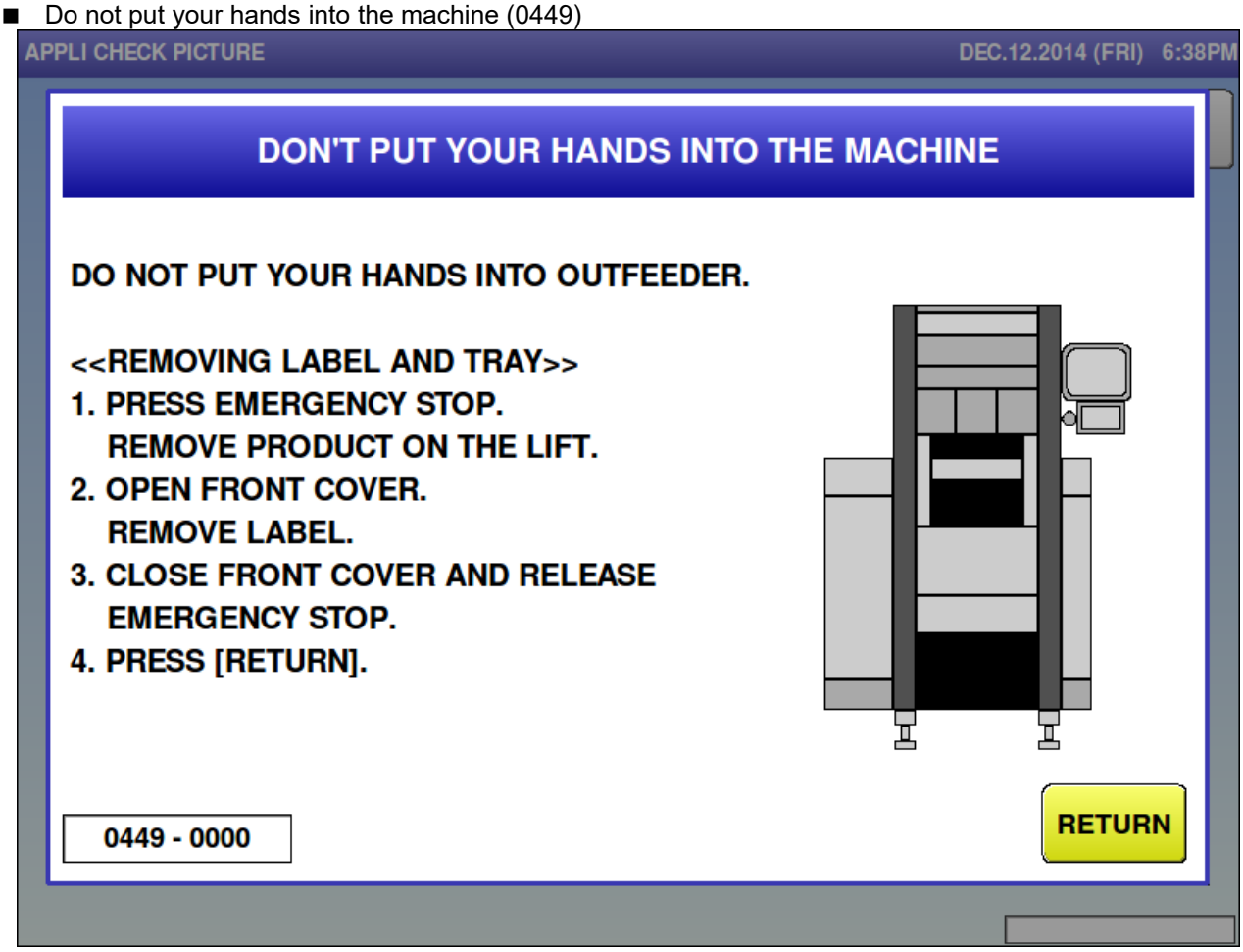
Error content	The infeed conveyor bottom cover was opened during operation.
Detail	Occurs when the infeed conveyor bottom cover is opened while the wrapper is operating
Solution	Press the [RETURN] button after closing the infeed conveyor bottom cover.
Action by user	Press the [RETURN] button after closing the infeed conveyor bottom cover.
Action by service representative	Check the related parts and repair or replace the defective part(s).
Related part	Infeed position safety interlock sensor [S301], p/n 157866
Remarks	This error also occurs when the infeed conveyor unit is pulled forward.

■ Do not put your hands into the machine (0448)



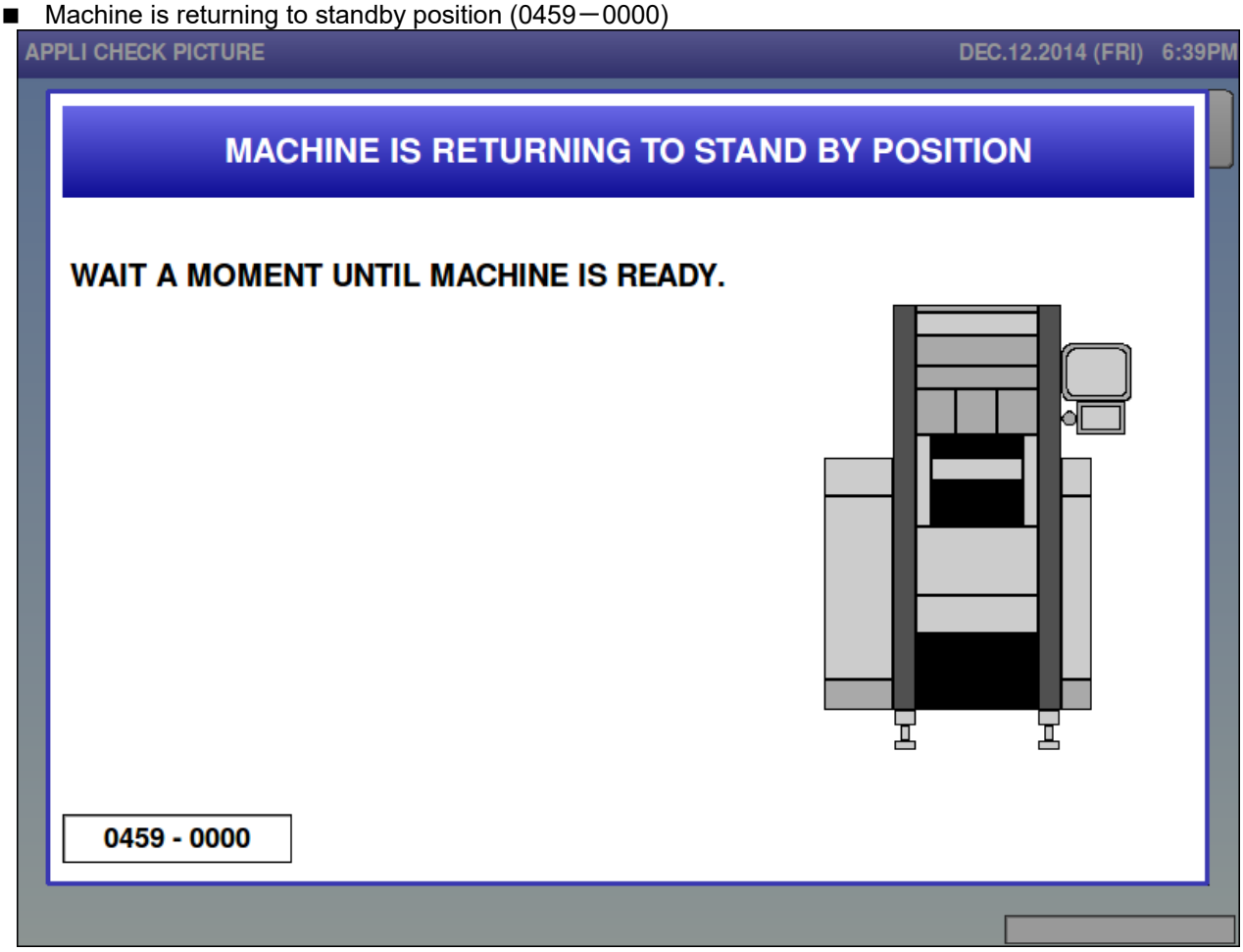
Error content	A hand was put into the wrapper during operation.
Detail	Occurs when a hand or object is detected entering the infeed conveyor while the wrapper is operating. 0000: A hand is detected entering the infeed conveyor and blocking the upper front position sensor. 0001: A hand is detected entering the infeed conveyor and blocking the lower rear position sensor.
Solution	[RETURN] button
Action by user	Clean Hand insertion sensors [B215, B216].
Action by service representative	1. Clean Hand insertion sensors [B215, B216]. 2. Check Hand insertion sensors [B215, B216] in Adjust menu > Unit Action > Sensor Check.
Related part	① P-1105 [A200], p/n 171866 - consider the board only after cleaning or replacing the sensors. ② Hand insertion in the infeed conveyor <upper front side> (receiver / transmitter) Left: [B215], p/n 125712 Right: [B215T], p/n 125711 ③ Hand insertion in the infeed conveyor <lower rear side> (receiver / transmitter) Right: [B216], p/n 125712 Left: [B216T], p/n 125711
Remarks	Press the [RETURN] button after making sure a hand or object is not in the wrapper. Sensor cover: p/n 189254

■ Do not put your hands into the machine (0449)



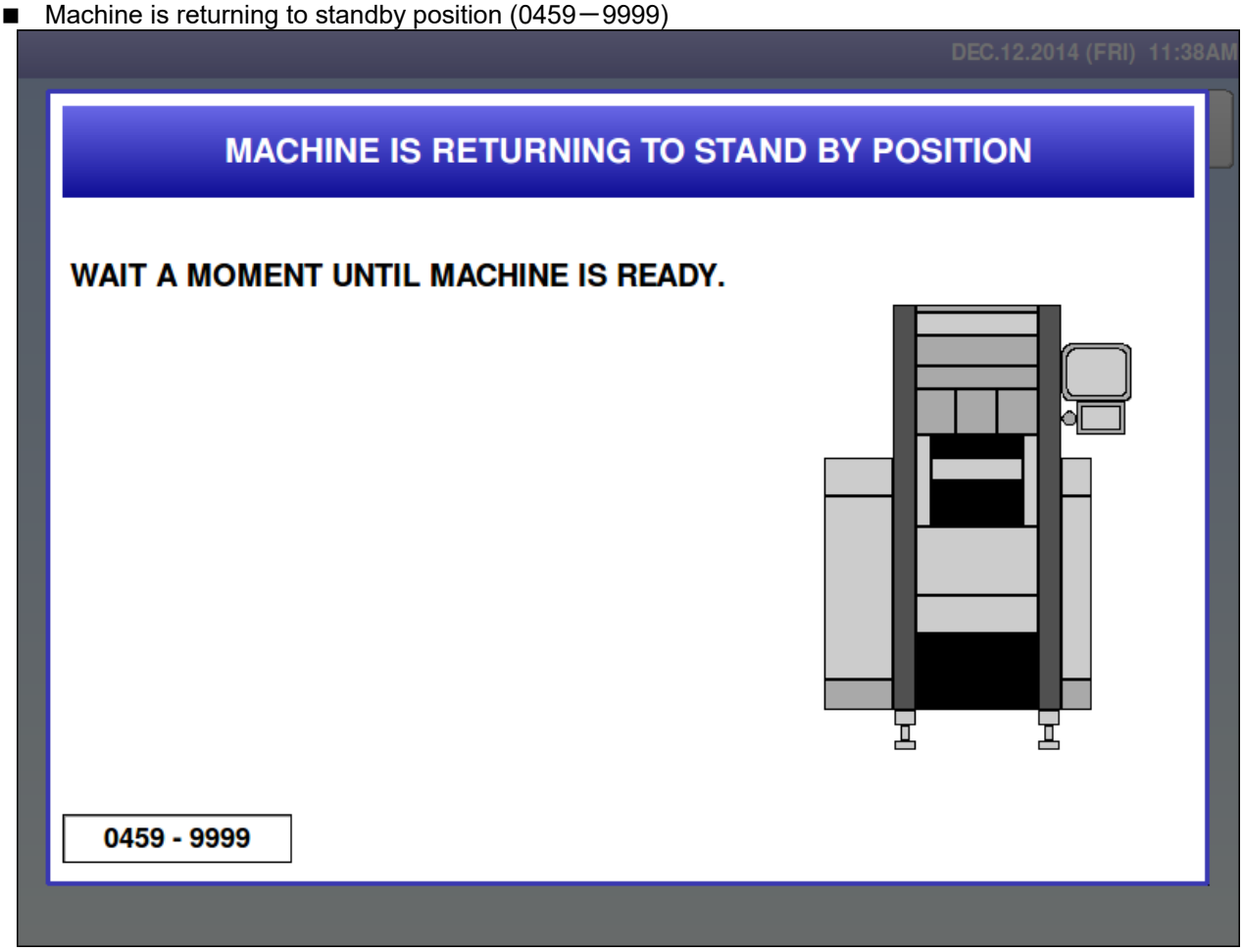
Error content	A hand was put into the wrapper during operation.
Detail	Occurs when a hand or object is detected entering the discharge area while the wrapper is operating. Sub-error meanings are as follows: 0000: Detected by a sensor located over the outfeed seal heater. 0001: Detected by a sensor located under the printer door cover.
Solution	Press the [RETURN] button after making sure a hand or object is not in the wrapper.
Action by user	Clean Hand insertion sensors [B106, B107].
Action by service representative	① Clean Hand insertion sensors [B106, B107]. ② Check Hand insertion sensors [B106, B107] in Adjust menu > Unit Action > Sensor Check.
Related part	① P-1105 [A100], p/n 171866 - consider the board only after cleaning or replacing the sensors. ② Hand insertion at the outfeeder (receiver / transmitter) Left: [B106], p/n 125712 Right: [B106T], p/n 125711 : Sub-error is 0000. ③ Hand insertion below the front print cover (receiver / transmitter) Right: [B107], p/n 125712 Left: [B107T], p/n 125711 : Sub-error is 0001.
Remarks	Press the [RETURN] button after making sure a hand or object is not in the wrapper.

■ Machine is returning to standby position (0459－0000)



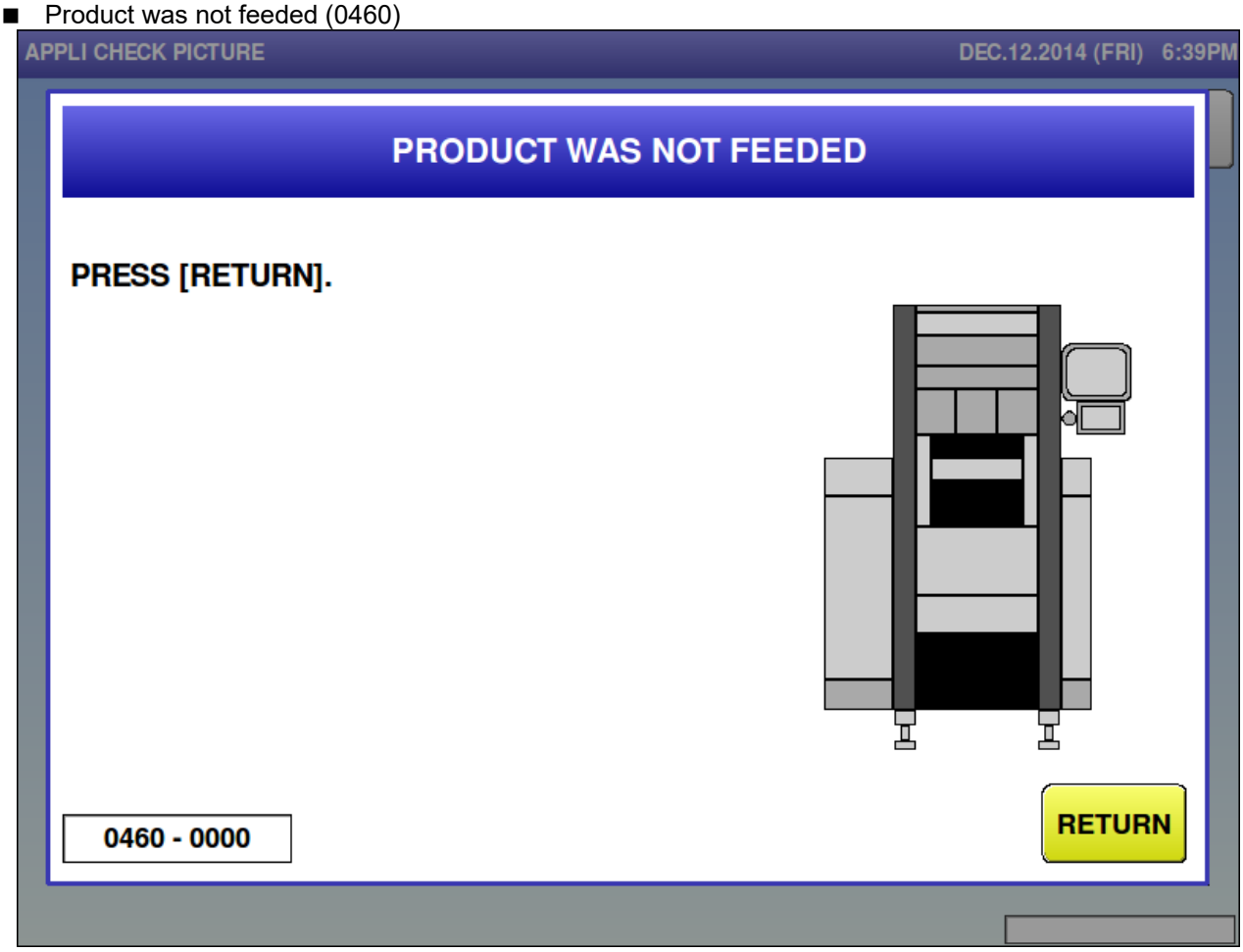
Error content	Machine is returning to standby position.
Detail	Message indicates that the wrapper is in the process of returning to the normal operating position.
Solution	
Action by user	
Action by service representative	
Related part	
Remarks	

■ Machine is returning to standby position (0459－9999)



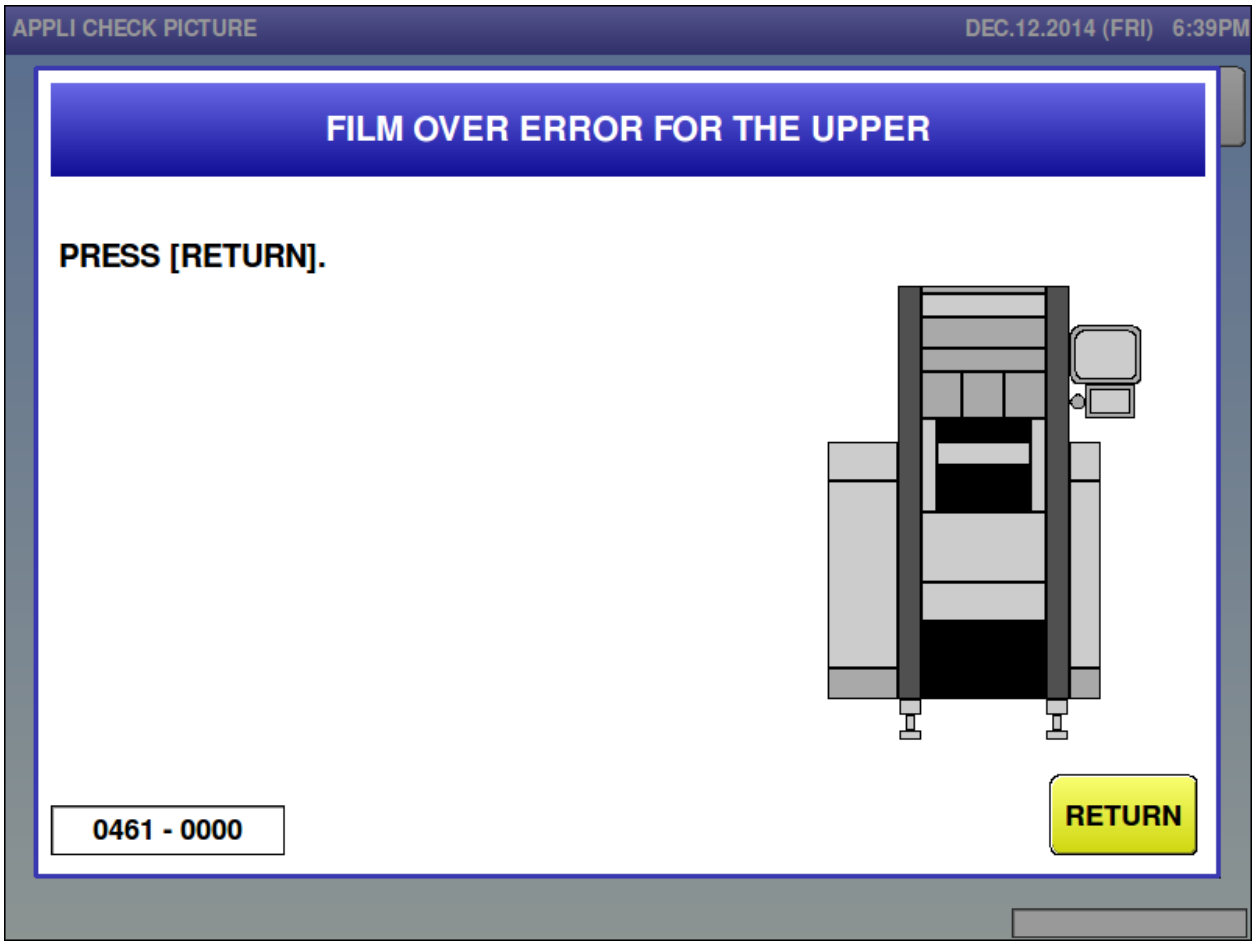
Error content	Machine is returning to standby position.
Detail	Message indicates that the wrapper is during the returning operation.
Solution	After this message, the “459－0000 “ message screen is displayed.
Action by user	
Action by service representative	
Related part	
Remarks	

■ Product was not feeded (0460)



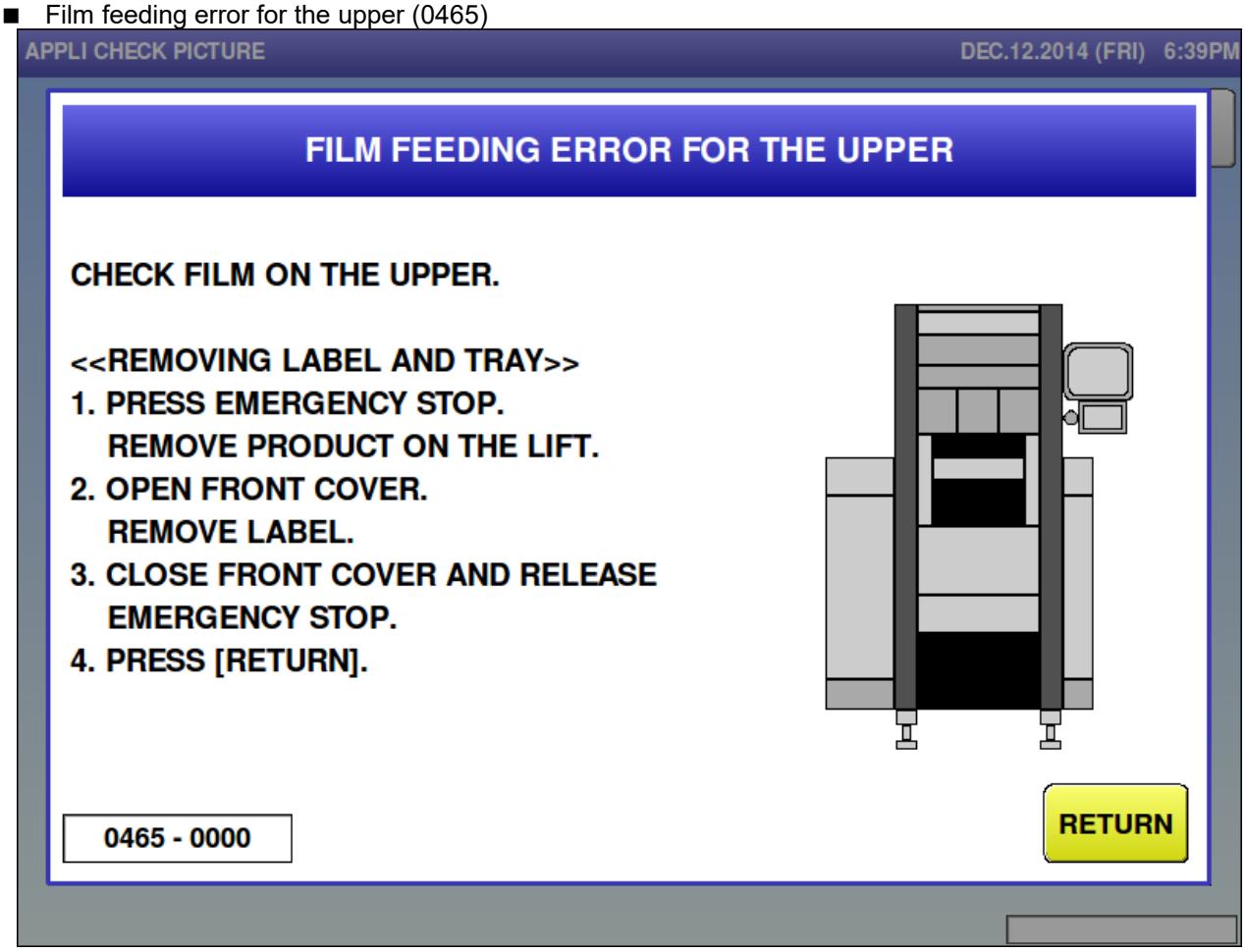
Error content	Product was not fed.
Detail	The wrapper failed to detect a product on the lift during one cycle operation. In addition, the product on the lift failed to be detected when the lift starts pushing up the product.
Solution	Press the [RETURN] button
Action by user	Press the [RETURN] button
Action by service representative	
Related part	
Remarks	

- Film over error for the upper (0461)
- Film over error for the lower (0462)



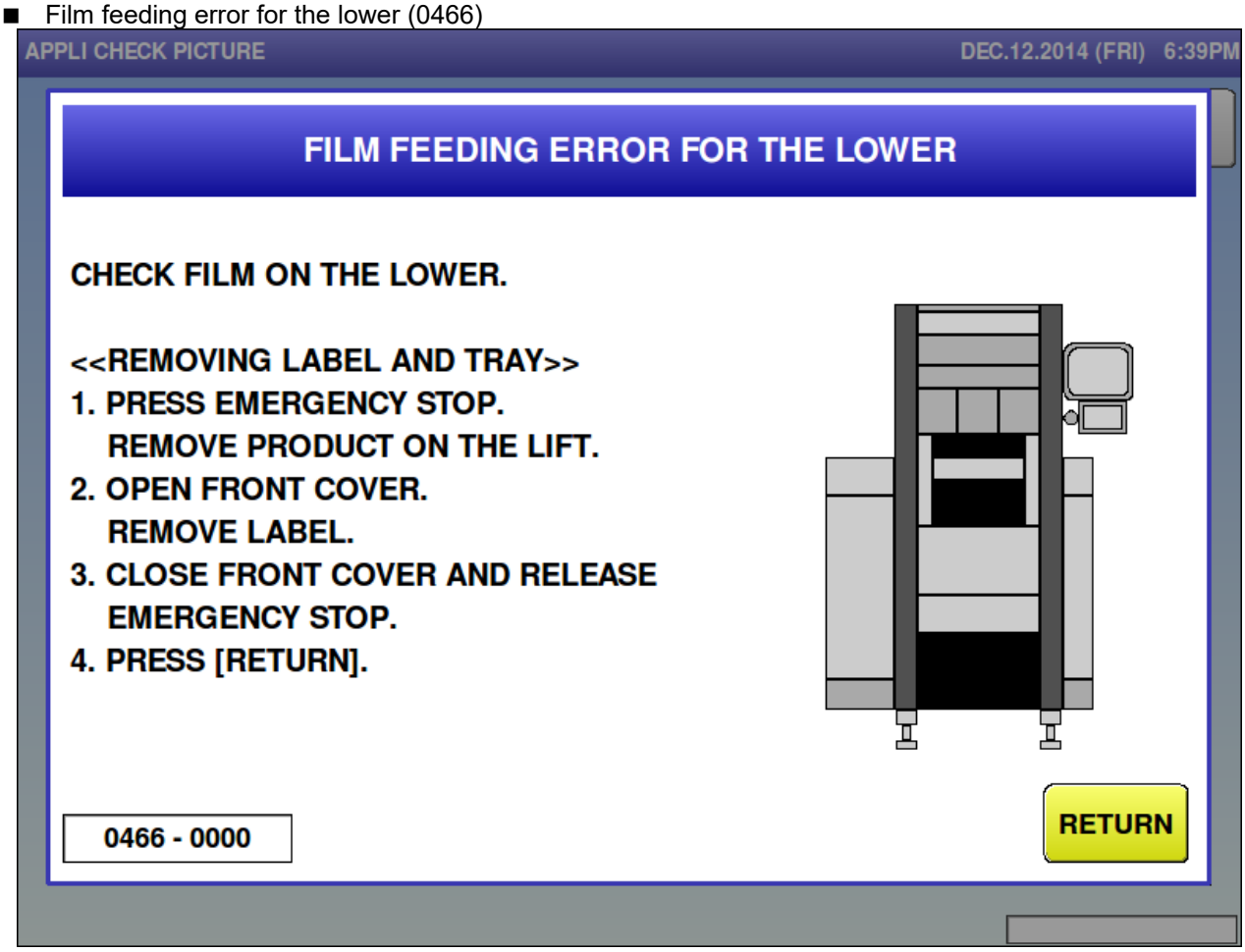
Error content	Film over error for the upper / lower.
Detail	When upper / lower film was feeding, the right-side "film over" film detection board was pushed down. Sub-error meanings are as follows: 0001: During film centering. 0002: Performing unloaded feeding. 0003: During film feeding.
Solution	Press the [RETURN] button after removing any film pieces
Action by user	Open the right side film removal door and remove any film pieces at the orange sensors.
Action by service representative	1. Remove any film pieces at the right side film over detection sensors. 2. Check the operation of the sensor paddles for free movement and return to normal position.
Related part	① P-1105 [A200] p/n 171866 ② Film overrun detection (front film unit) [B209] p/n 104239, spring plate p/n 175367 ③ Film overrun detection (rear film unit) [B211] p/n 104239, spring plate p/n 175367
Remarks	The film must be removed before pressing the [RETURN] key.

■ Film feeding error for the upper (0465)



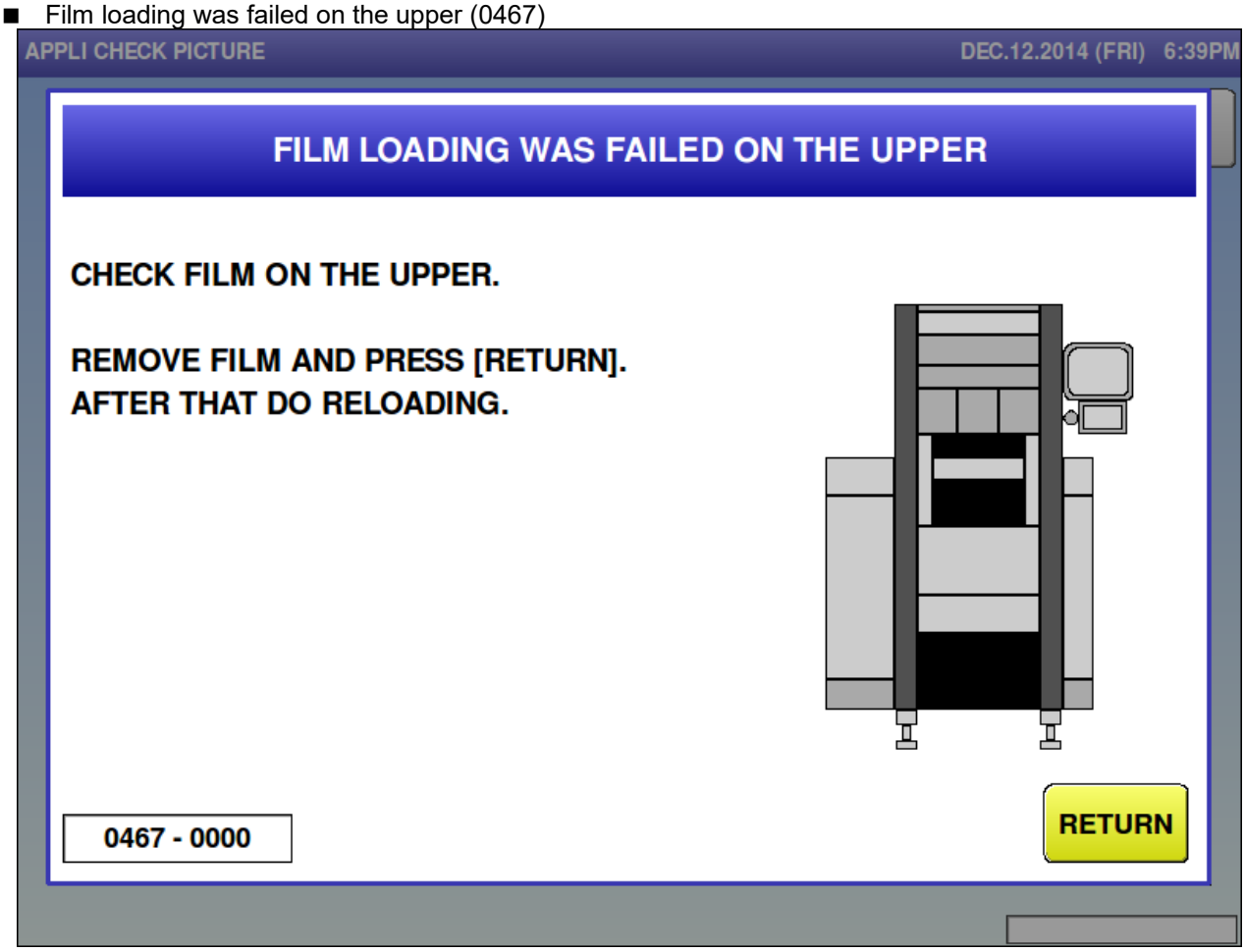
Error content	Upper film was not supplied.
Detail	Upper film was fed, but the upper film detection board did not deflect and block the sensor. Sub-error meanings are as follows: 0XXX: Shortly before the operation, no film was changed over. 1XXX: Shortly before the operation, film was changed over. XXX indicates the external diameter of the film roll [mm] when the error was detected. (If an error occurs during the initial film feed after the film loading or after the power is turned on, the external diameter of the film roll is listed as 000).
Solution	Press the [RETURN] button after checking the upper film and removing any remaining film at the location indicated by the blinking blue rectangle on the wrapper diagram.
Action by user	Press the [RETURN] button after checking the upper film and removing any remaining film at the location indicated by the blinking blue rectangle on the wrapper diagram.
Action by service representative	Check the film feeder's pincher operation to ensure the film is securely held for the duration of the film feed. Adjust as needed.
Related part	① Film detection sensor (front film feeder unit) [B208], p/n 171837 ② Film detection sensor (rear film feeder unit) [B210], p/n 171837
Remarks	The error will not be displayed if [No] is selected for Non-Film Error in Adjust menu, Machine Settings. This setting should not be used except in an emergency as undetected accumulated film can lead to film feeder or insertion plate damage.

■ Film feeding error for the lower (0466)



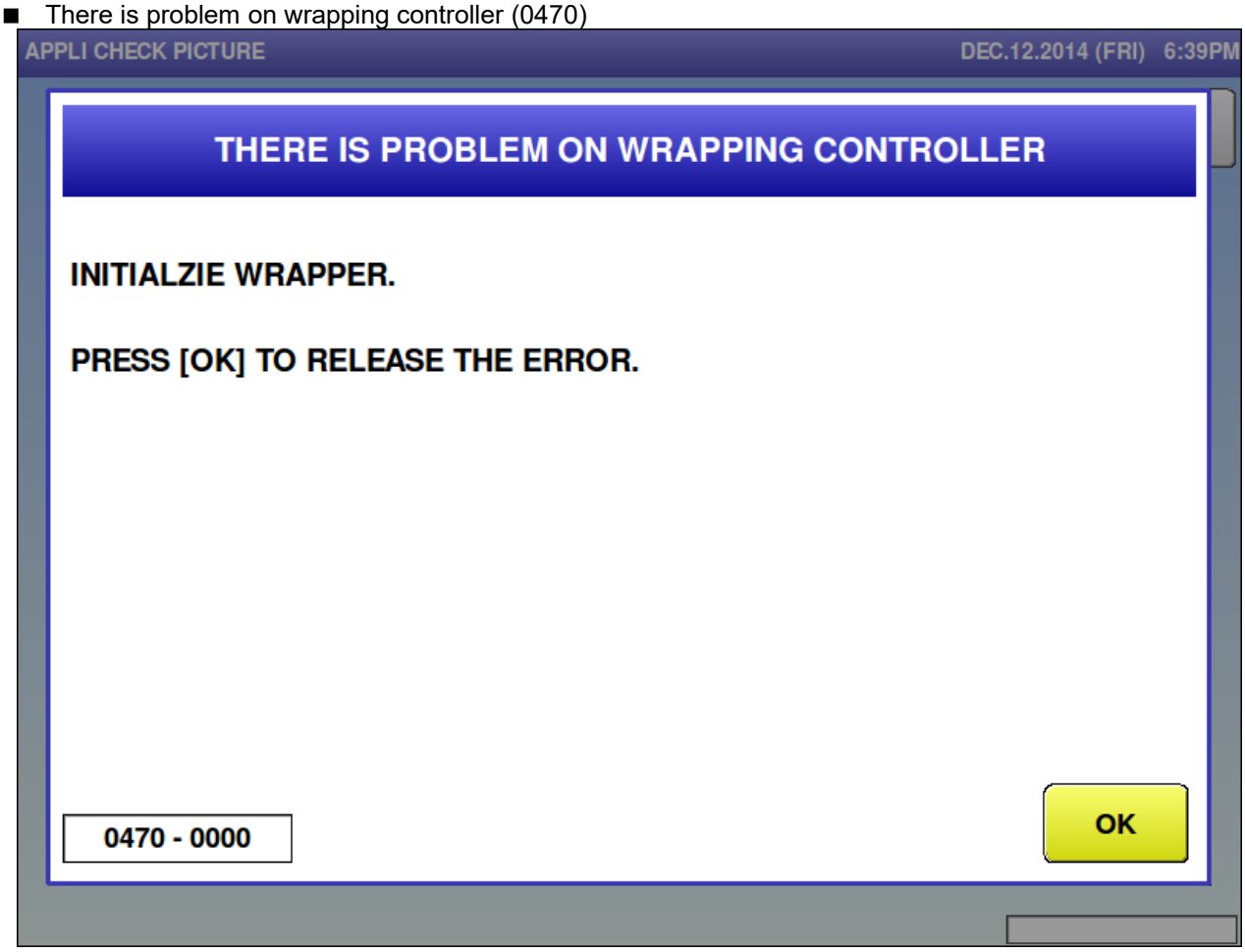
Error content	Lower film was not supplied.
Detail	Lower film was fed, but the lower film detection board did not deflect and block the sensor. Sub-error meanings are as follows: 0XXX: Shortly before the operation, no film was changed over. 1XXX: Shortly before the operation, film was changed over. XXX indicates the external diameter of the film roll [mm] when the error was detected. (If an error occurs during the initial film feed after the film loading or after the power is turned on, the external diameter of the film roll is listed as 000).
Solution	Press the [RETURN] button after checking the lower film and removing any remaining film at the location indicated by the blinking blue rectangle on the wrapper diagram.
Action by user	Press the [RETURN] button after checking the lower film and removing any remaining film at the location indicated by the blinking blue rectangle on the wrapper diagram.
Action by service representative	Check the film feeder's pincher operation to ensure the film is securely held for the duration of the film feed. Adjust as needed.
Related part	① Film detection sensor (front feeder film unit) [B208], p/n 171837 ② Film detection sensor (rear feeder film unit) [B210], p/n 171837
Remarks	The error will not be displayed if [No] is selected for Non-Film Error in Adjust Menu, Machine Settings. This setting should not be used except in an emergency as undetected accumulated film can lead to film feeder or insertion plate damage.

■ Film loading was failed on the upper (0467)



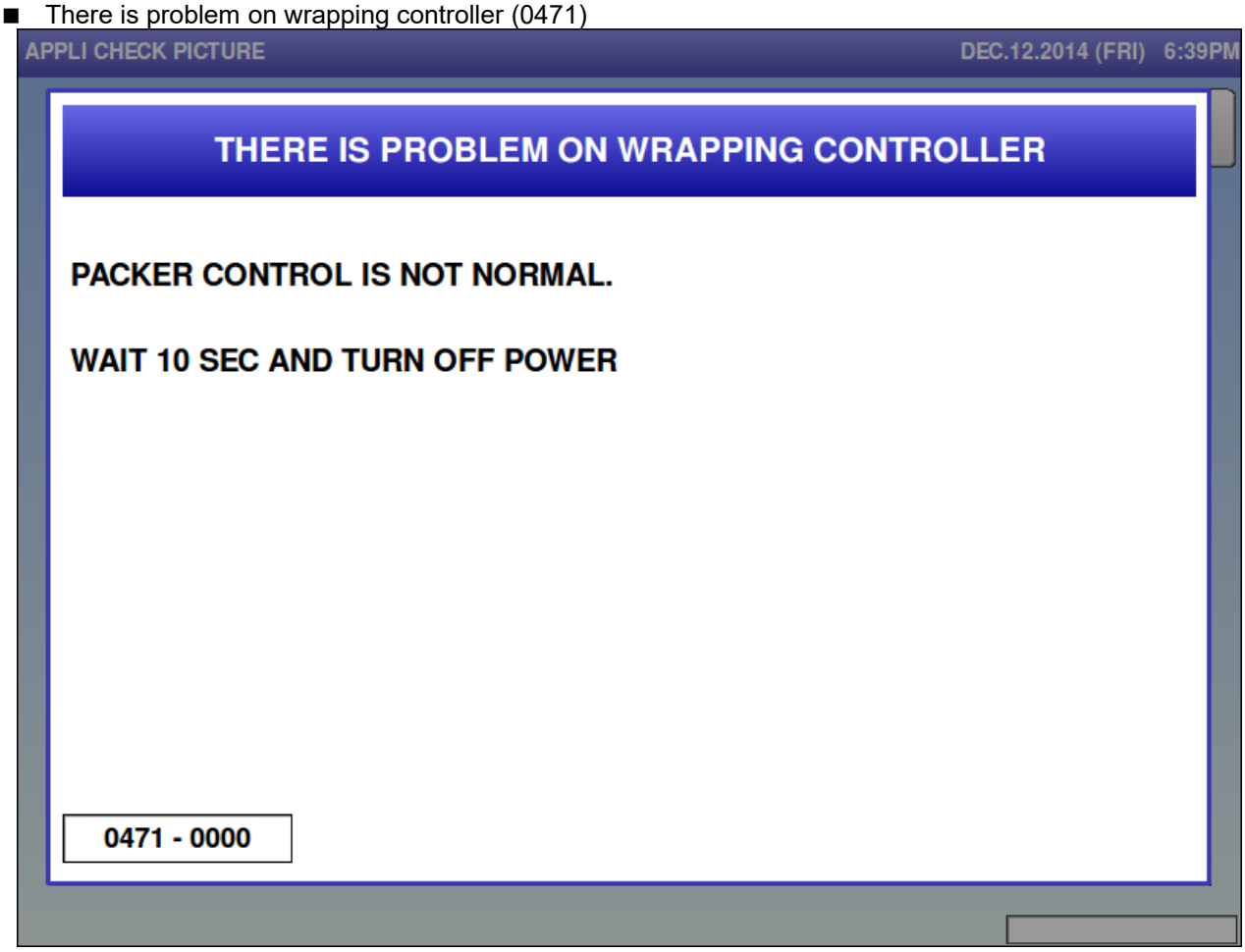
Error content	Film loading failed on the upper roll.
Detail	Film transport could not compete successfully in film loading operation because the film detection board did not deflect and block the sensor in the correct order. Sub-error meanings are as follows: 0000: Upper film loading failed. 0001: Lower film loading failed.
Solution	Press the [RETURN] button after removing any remaining film based on the wrapper screen image showing on the side blinking blue.
Action by user	Press the [RETURN] button after removing any remaining film based on the wrapper screen image showing on the side blinking blue.
Action by service representative	Check the film feeder's pincher operation to ensure the film is securely held for the duration of the film feed. Adjust as needed.
Related part	① Film detection sensor (front film unit) [B208], p/n 171837 ② Film detection sensor (rear film unit) [B210], p/n 171837
Remarks	The error will not be displayed by selecting [No] for Non-Film Error in Machine Settings. This setting should not be used except in an emergency as undetected accumulated film can lead to film feeder or insertion plate damage.

■ There is problem on wrapping controller (0470)



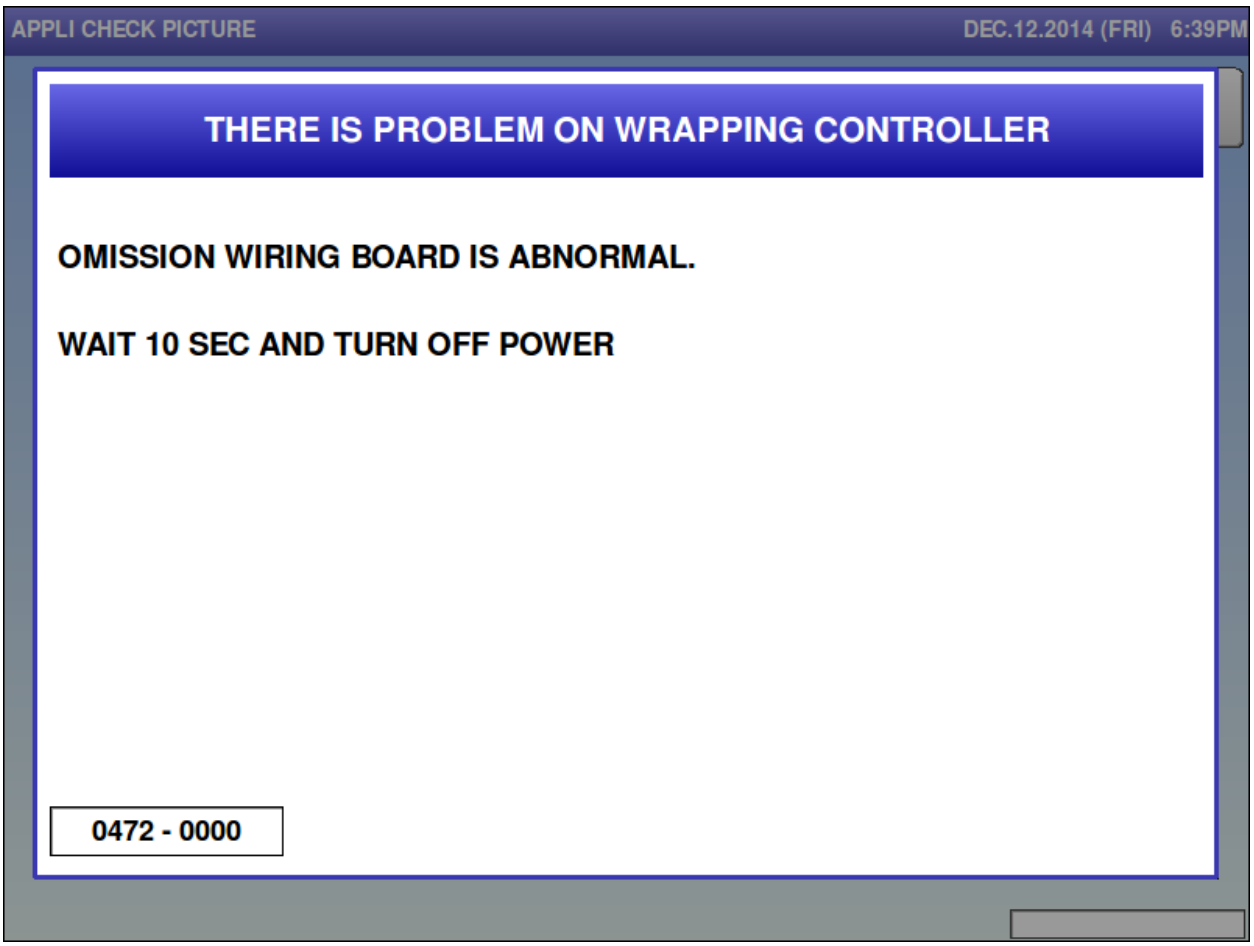
Error content	Wrapper is not initialized.
Detail	Wrapper E2ROM is not initialized (Stored E2ROM checksum error).
Solution	[OK] button
Action by user	
Action by service representative	
Related part	
Remarks	Initialize wrapper in test mode wrapper settings after canceling the error. If available, press the [RESTORE] button to reload the P-1105 board.

■ There is problem on wrapping controller (0471)



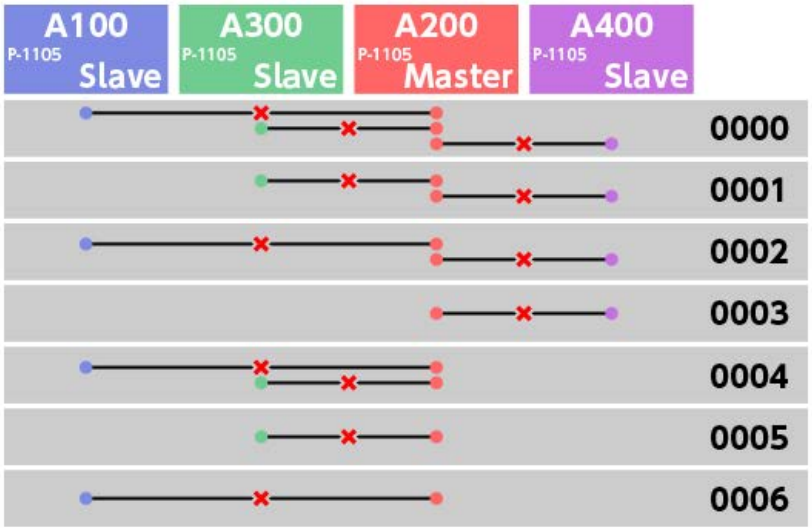
Error content	Wrapper control board is abnormal.
Detail	An error occurred in the wrapper control board. Sub-error meanings are as follows: 0003: E2ROM writing error. 0088: IC for general-purpose communication error. 0999: High speed, external CPU reset interrupt.
Solution	
Action by user	
Action by service representative	
Related part	P-1105 [A100, A200, A300], p/n 171866
Remarks	

■ There is problem on wrapping controller (0472)

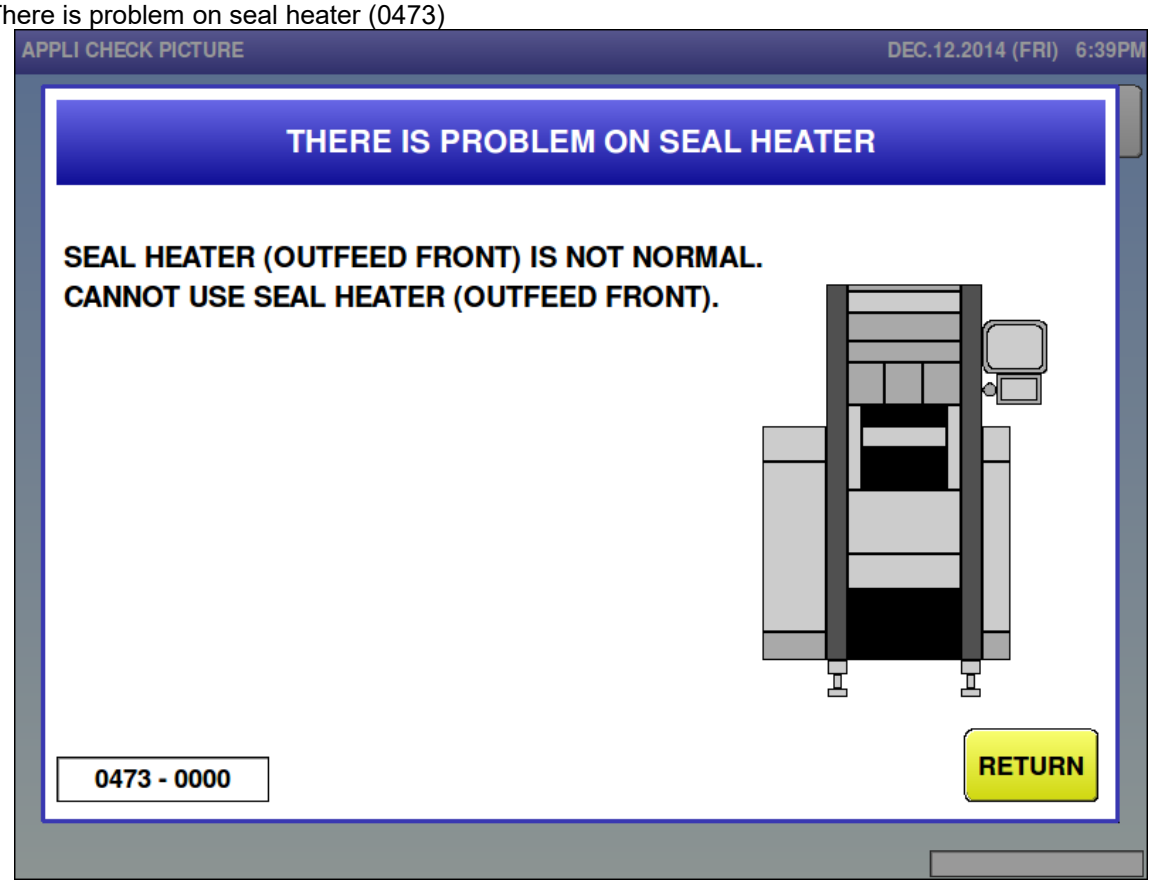


Error content	The slave board for wiring-saving of the wrapper is abnormal.
Detail	A communication error has occurred between the parent device (P-1105: A200 lower right) of the wrapper control board and the child device (P-1105: A100 upper left, A300 lower left). The sub-error has the following meanings: <Without POP printer> 0000: Communications between both A200 and A100, A200 and A300 are abnormal. 0001: Communication between A200 and A300 is abnormal. 0002: Communication between A200 and A100 is abnormal.

■ There is problem on wrapping controller (0472) - CONTINUED

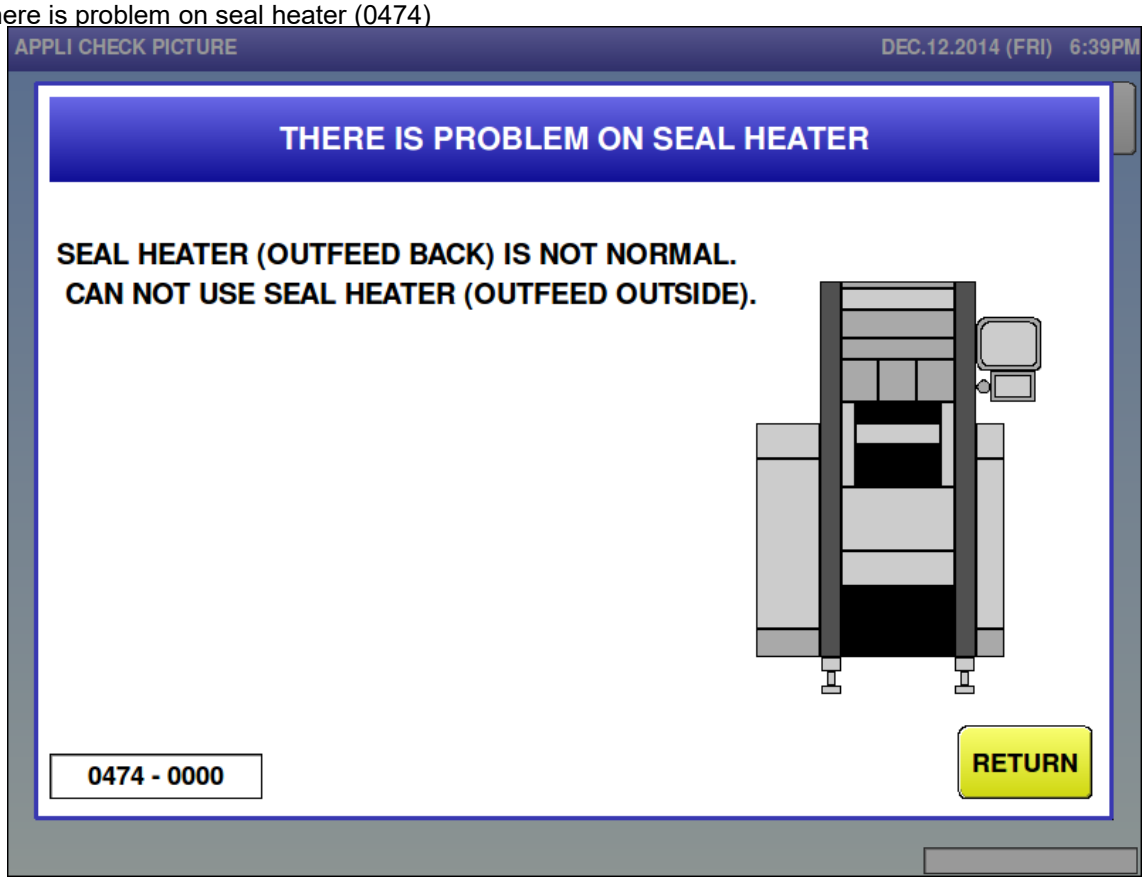
Detail	<With POP printer> 0000: Communications all between A200 and A100, A200 and A300, A200 and A400 are abnormal. 0001: Communications both between A200 and A300, A200 and A400 are abnormal. 0002: Communications both between A200 and A100, A200 and A400 are abnormal. 0003: Communication between A200 and A400 is abnormal. 0004: Communications both between A200 and A100, A200 and A300 are abnormal. 0005: Communication between A200 and A300 is abnormal. 0006: Communication between A200 and A100 is abnormal.  The following CAN communication has not been established: P-1105 [A100] (XJ5) - P-1105 [A300] XJ4 P-1105 [A300] (XJ5) - P-1105 [A200] XJ5 The harness is sequentially connected to the main board A10 upper right → A300 upper left → A100 lower left → A200 lower right (A400 lower right for POP), but communication is conducted from A200. It is possible that the RS485 communication is abnormal. Short-circuiting of XJ7 is used for the board number recognition. In case of this error, the RS485 communication between P-1100 [A10] and P-1105 [A200] is established. This means that RS485 and CAN harnesses are not disconnected. However, disconnection may occur between P-1105 [A200] and P-1105 [A400] when a POP printer is connected.
Solution	Power the wrapper off, wait 30 seconds, and power the wrapper on.
Action by user	
Action by service representative	
Related part	① P-1105 [A100], [A200], [A300], p/n 171866 ② 23-pin and 24-pin in XJ7 of P1105 [A100] must be short-circuited. ③ 21-pin and 22-pin in XJ7 of P1105 [A200] must be short-circuited. ④ 21-pin and 22-pin, and 23-pin and 24-pin in XJ7 of P1105 [A100] must be short-circuited.
Remarks	First, confirm that XJ7 of each board is connected. When all are connected, there is a high probability that the board is defective. This has nothing to do with software. (A different error will occur if the software is not installed.)

■ There is problem on seal heater (0473)



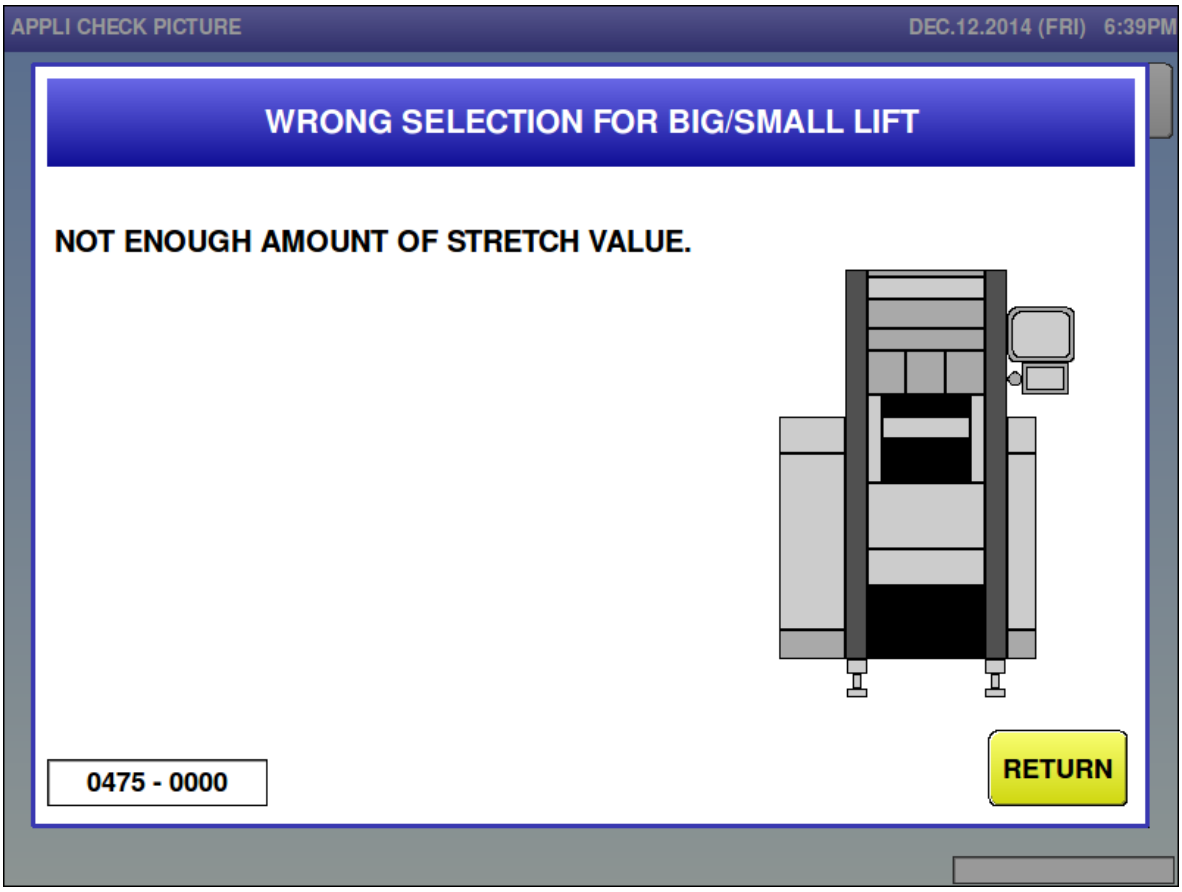
Error content	Front tray seal heater error.
Detail	An error occurred in either the front heater or the thermostat monitoring the front heater temperature. Sub-error meanings are as follows: 0000: The heater temperature does not rise while heating (Thermostat value does not change). 0001: Thermostat error (Disconnection or short circuit).
Solution	Press the [RETURN] button
Action by user	
Action by service representative	
Related part	① P-1105 [A200], p/n 171866 ② Outfeed front seal heater [E200]. p/n 172524 ③ Fuse for outfeed seal heaters [F106, F107]. p/n 47075 ④ Thermistor for outfeed front seal heater [R1]. p/n 153657 ⑤ SSR for outfeed front seal heater [K200]. p/n 125708
Remarks	The seal heater is switched OFF when this error occurs.

■ There is problem on seal heater (0474)



Error content	Rear tray seal heater error.
Detail	An error occurred in either the rear heater or the thermostat monitoring the rear heater temperature. Sub-error meanings are as follows: 0000: The heater temperature does not rise while heating (Thermostat value does not change). 0001: Thermostat error (Disconnection or short circuit).
Solution	Press the [RETURN] button
Action by user	
Action by service representative	
Related part	① P-1105 [A200] p/n 171866 ② Outfeed rear seal heater [E201]. p/n 172525 ③ Fuse for outfeed seal heaters [F106, F107]. p/n 47075 ④ Thermistor for outfeed rear seal heater [R2]. p/n 157920 ⑤ SSR for outfeed front rear seal heater [K201]. p/n 125708
Remarks	The seal heater is switched OFF when this error occurs.

■ Wrong selection for big/small lift (0475)

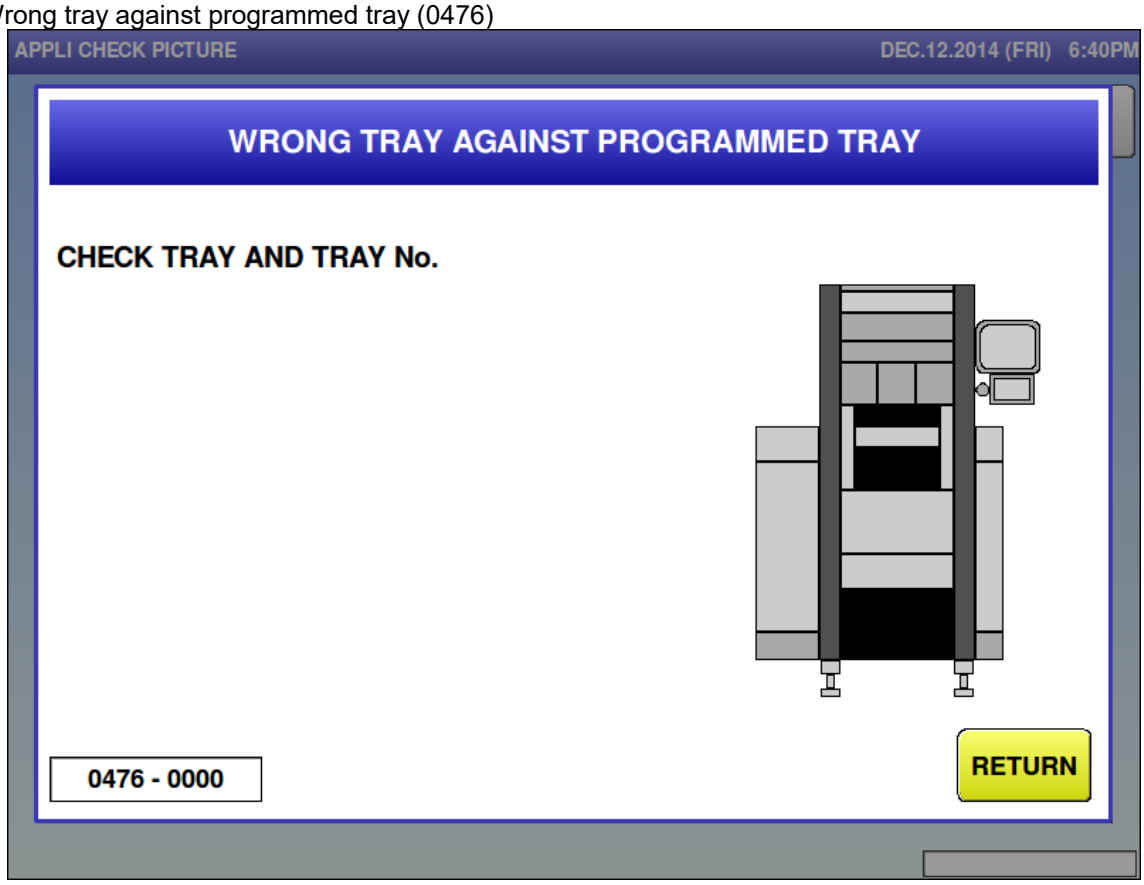


Error content	Wrong selection for big/small lift.
Detail	When the lift begins to be pushed up, the rear film feeder is positioned at a place where it may collide with the lift head. In case of this error, the big/small lift determination is not performed by the tray registration, but by the big/small confirmation sensor (B201) installed on the base located on the back of the lift. The sub-error has the following meanings: 0000 or 0001*: Error because the small lift is selected (The stretch value is not enough). • This error will not occur even when the stretch is set to “-99”. • This error will occur when the rear film feeder movement position small (small lift collision avoidance) B217 is blocked while B201 is blocked. 0001 or 0002*: Error that occurs because the big lift is selected (The big/small selection is improper, or the stretch value is insufficient.) • This error will not occur even when the stretch is set to “-99”. • This error will not occur even when the big/small selection is wrong. • This error also will not occur even when rear-shifting is performed. • This error will occur when the rear film feeder movement position big (big lift collision avoidance) B218 is blocked while B201 is blocked.

■ Wrong selection for big/small lift (0475) -CONTINUED

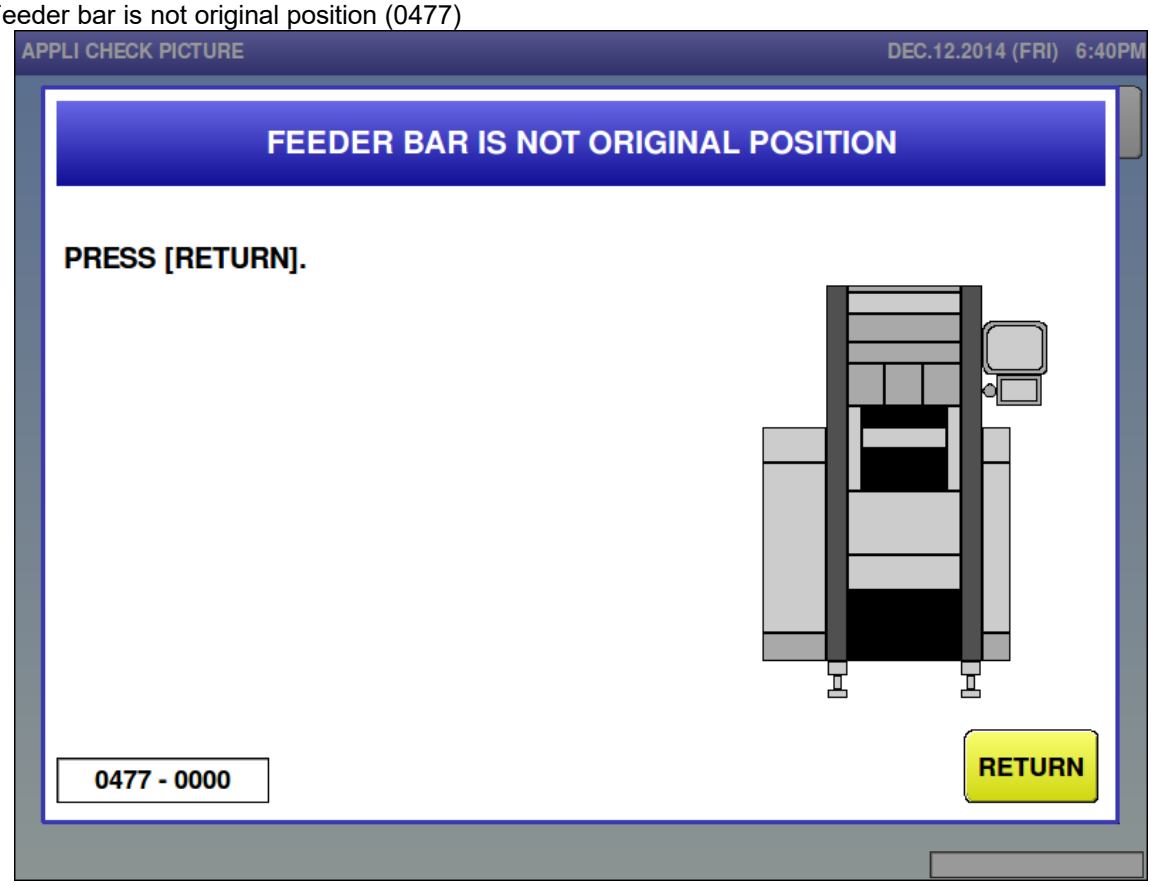
Detail-CONTINUED	(Past instance: B201 harness disconnection.) * Can be either 0000, 0001 or 0002. Confirm using the following procedure: Select Lift [Small] in the tray registration. In the case of Sub-code [Small] → Collision avoidance small [blocked] → Abnormality of forward and rearward moving operations of the rear feeder, for example, wrapping condition or braking error. → Collision avoidance small [unblocked] → Failure of the sensor or the board. In the case of Sub-code [Big] → Only the front part of the lift is elevated → Disconnection of the big/small confirmation sensor, etc. (Perform sensor check while the lift is in an elevated state.) → Both lifts are elevated → Failure of the changing mechanism.
Solution	Press the [RETURN] button
Action by user	Select the big lift to use as emergency measures.
Action by service representative	Check the items listed in the related parts.
Related part	① Big/small confirmation sensor (B201), p/n 104239 (Bottom right side when viewed from the back) ② P-1105 [A200], p/n 171866 (in the lower right lift control box) ③ Rear film feeder movement position small (small lift collision avoidance) B217, p/n 104239 (right side, under the film feeder) ④ Rear film feeder movement position big (big lift collision avoidance) B218, p/n 104239 (right side, under the film feeder) ⑤ P-1006C-7 [A201], p/n 171869 (in the lower right lift control box)
Remarks	After releasing the error, it is necessary to perform the big or small lift selection and set the stretch value (fine adjustment) to appropriate values. This cannot be intentionally generated by setting. The software avoids the lift at its own discretion even when a strange tray is registered. There is a high probability that the big/small confirmation sensor or the collision avoidance sensor is defective.

■ Wrong tray against programmed tray (0476)



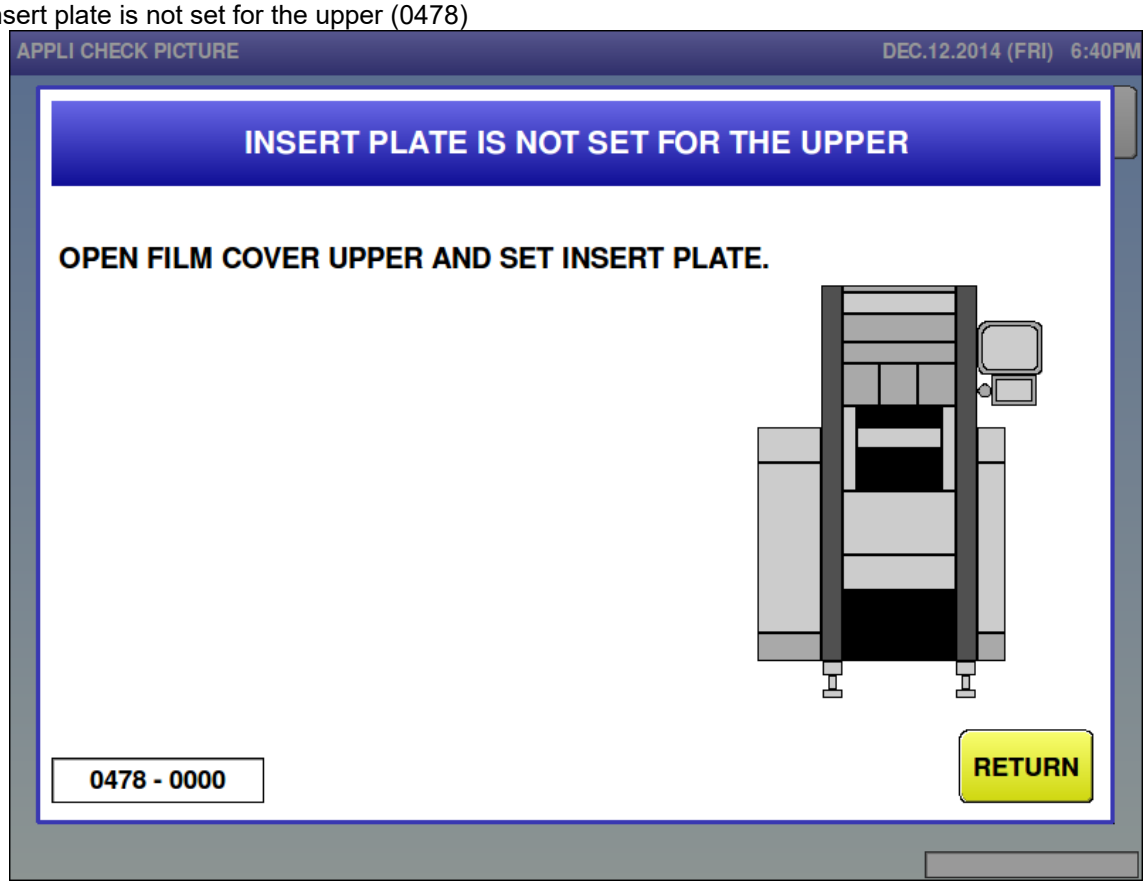
Error content	The tray that was pushed on to the lift does not match the tray settings.
Detail	The wrapper detected the narrow-side dimension of the tray is more than 50 mm larger than the selected tray. The narrow-side dimension detected by the wrapper is shown in the sub-error.
Solution	Press the [RETURN] button
Action by user	Clean the sensor and reflector that detects products on the lift.
Action by service representative	Adjust the sensitivity of the sensor that detects products on the lift.
Related part	① P-1105 [A200] p/n 171866 ② Products on the lift detection photo sensor [B206], p/n 157857 ③ Infeed motor [M04] p/n 172506
Remarks	See error 486 Product Is On The Lift for sensor calibration instructions.

■ Feeder bar is not original position (0477)



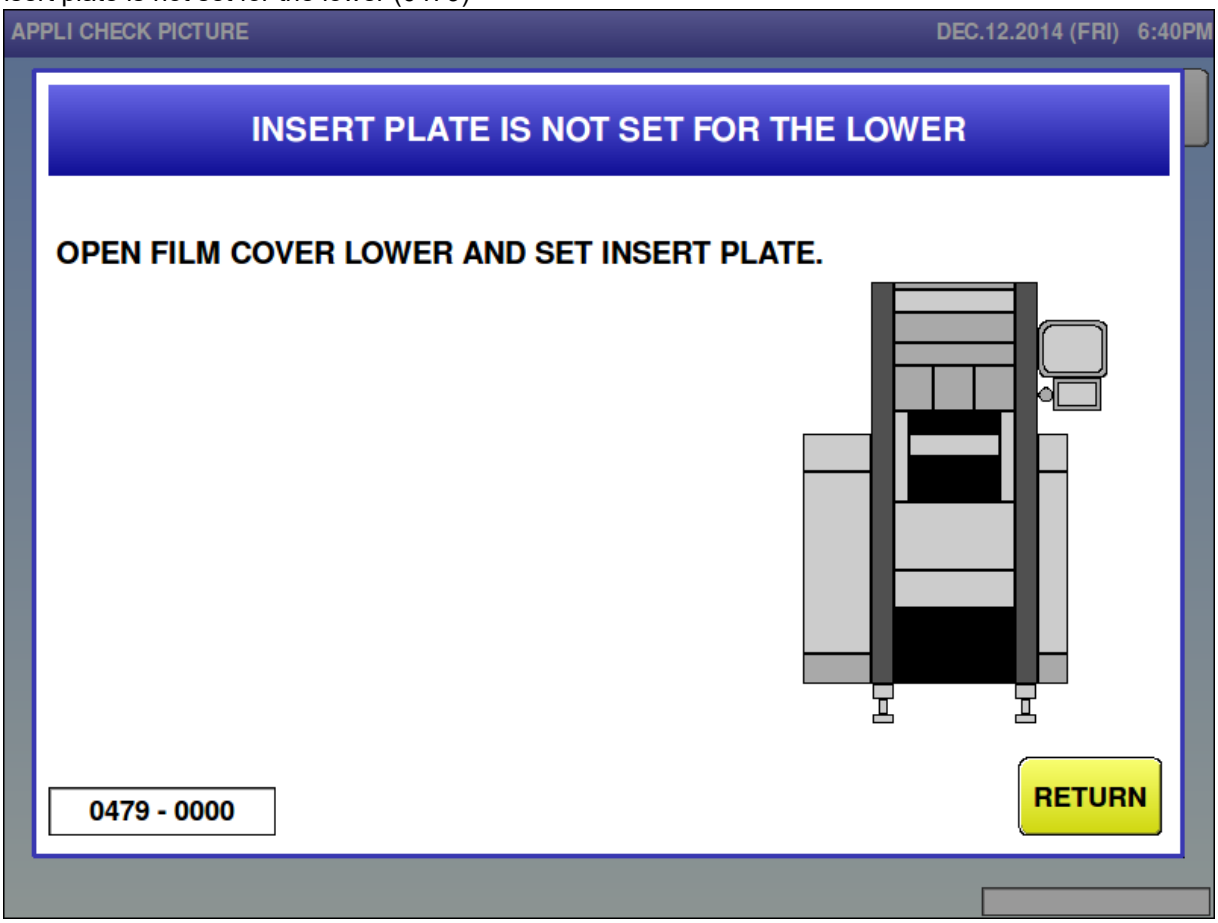
Error content	The infeed pusher bar is not at the home position.
Detail	The infeed pusher bar was not at the home position when the wrapper started feeder operations (excluding return operation).
Solution	Press the [RETURN] button
Action by user	Press the [RETURN] button
Action by service representative	
Related part	① P-1105 [A200] p/n 171866 ② Infeed pusher bar home position sensor [B204], p/n 104239.
Remarks	

■ Insert plate is not set for the upper (0478)



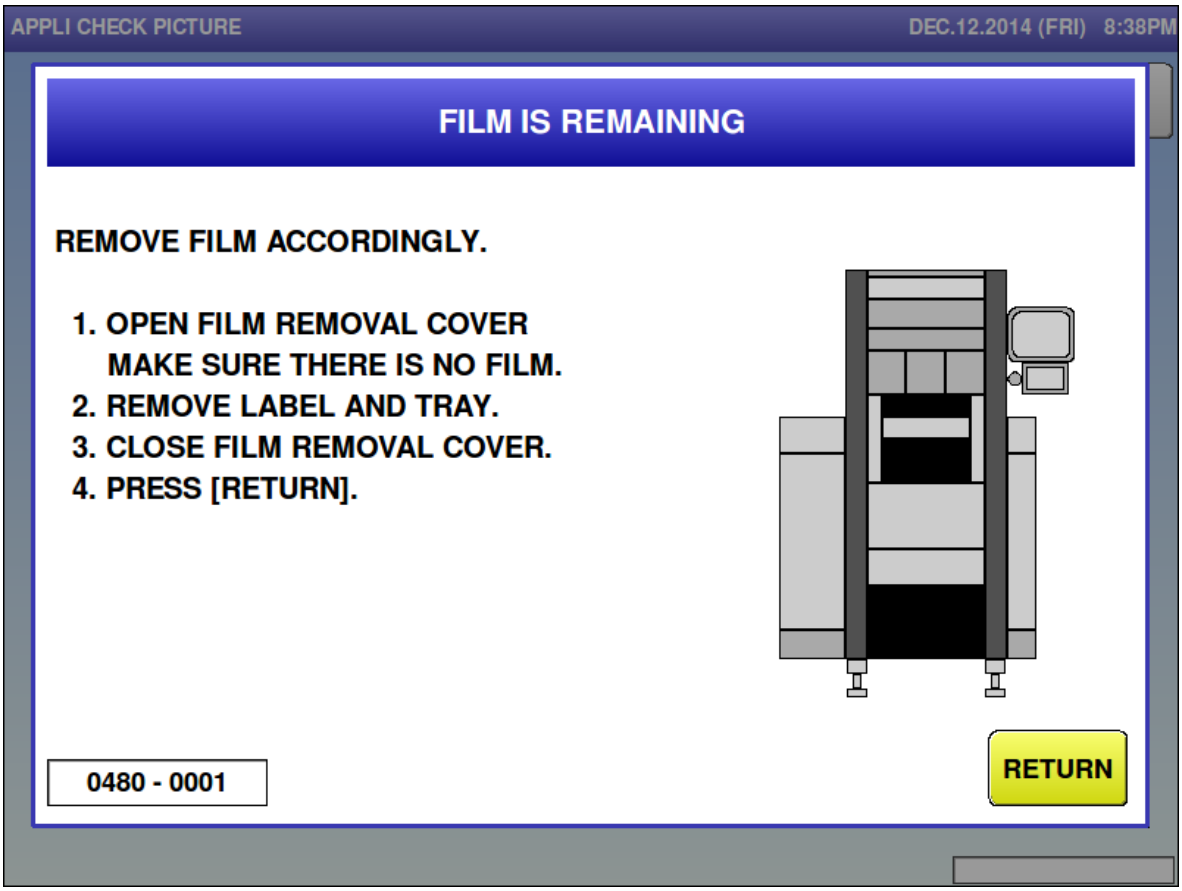
Error content	The insertion plate for the upper film is not closed.
Detail	The film loading door is closed, but the upper film insertion plate is open.
Solution	Press the [RETURN] button after closing the insertion plate.
Action by user	Press the [RETURN] button after closing the insertion plate.
Action by service representative	
Related part	<If the error persists even after the insertion plate is closed> ① P-1105 [A300] p/n 171866 ② Upper film inserts open/close [B307]. p/n 203971
Remarks	For newer style WM-Ai-P wrappers with "U" type sensors, B307 is p/n 171837.

■ Insert plate is not set for the lower (0479)



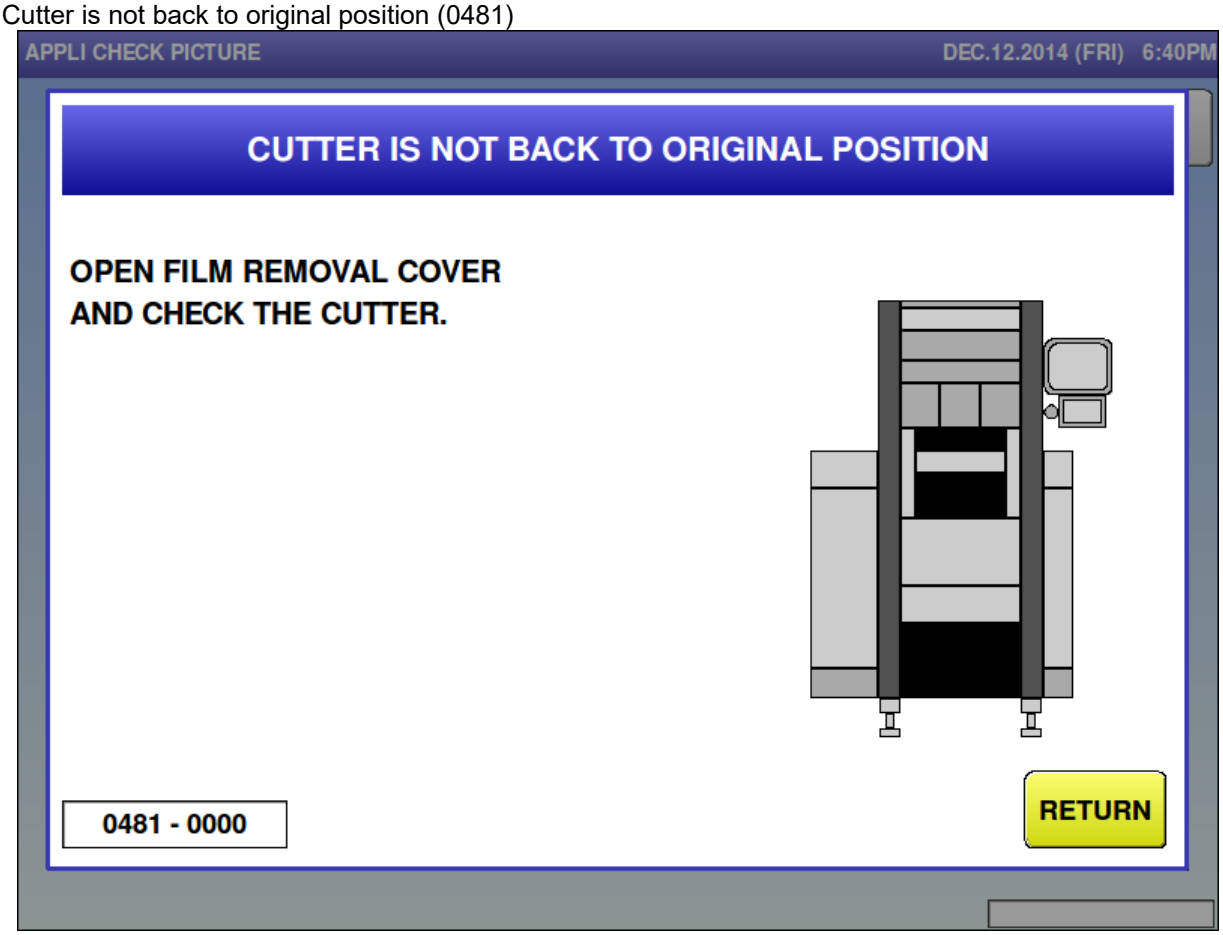
Error content	The insertion plate for the lower film is not closed.
Detail	The film loading door is closed, but the lower film insertion plate is open.
Solution	Press the [RETURN] button after closing the insertion plate.
Action by user	Press the [RETURN] button after closing the insertion plate.
Action by service representative	
Related part	<If the error occurs even after the insertion plate is closed> ① P-1105 [A300] p/n 171866 ② Lower film inserts open/close [B305] p/n 203971
Remarks	For newer style WM-Ai-P wrappers with "U" type sensors, B305 is p/n 171837.

■ Film is remaining (0480)



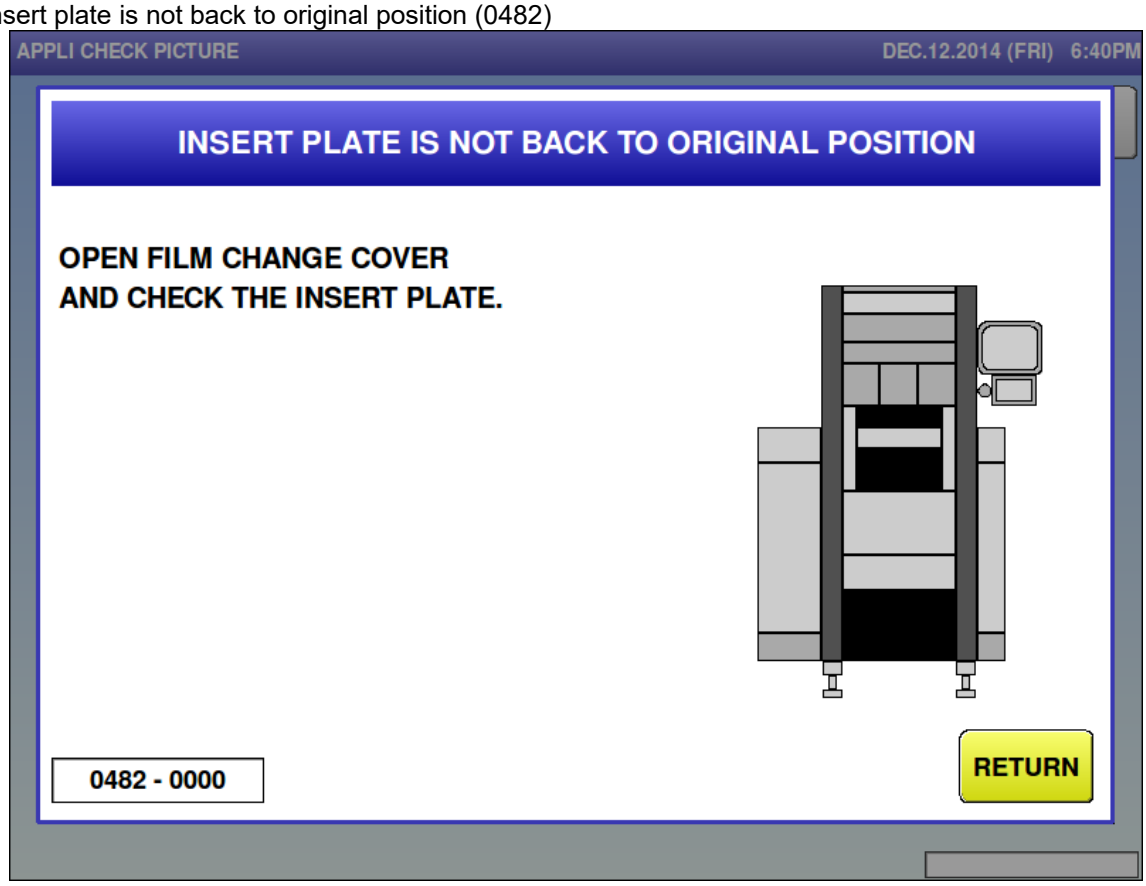
Error content	Film is remaining.
Detail	The film detection sensor flag is knocked over when the film started feeding. The sub-error shows the location of the sensor flag that is knocked over. Numbers and the corresponding locations are as follows: 0001: Rear right 0010: Front right 0100: Rear left 1000: Front left (Ex) If remaining film were detected in the rear right and front right, the sub-error would be 0011. This is the addition of 0001 (rear right) and 0010 (front right).
Solution	Press the [RETURN] button after removing film.
Action by user	Press the [RETURN] button after removing film.
Action by service representative	
Related part	When the error state persists even after the film has been removed: ① P-1105 [A200] p/n 171866 ② Front right film presence/absence [B209] p/n 104239 ③ Front left film presence/absence [B208] p/n 171837 ④ Rear left film presence/absence [B210] p/n 171837 ⑤ Rear right film presence/absence [B211] p/n 104239 ⑥ The connector of the film detection sensor is disconnected.
Remarks	

■ Cutter is not back to original position (0481)



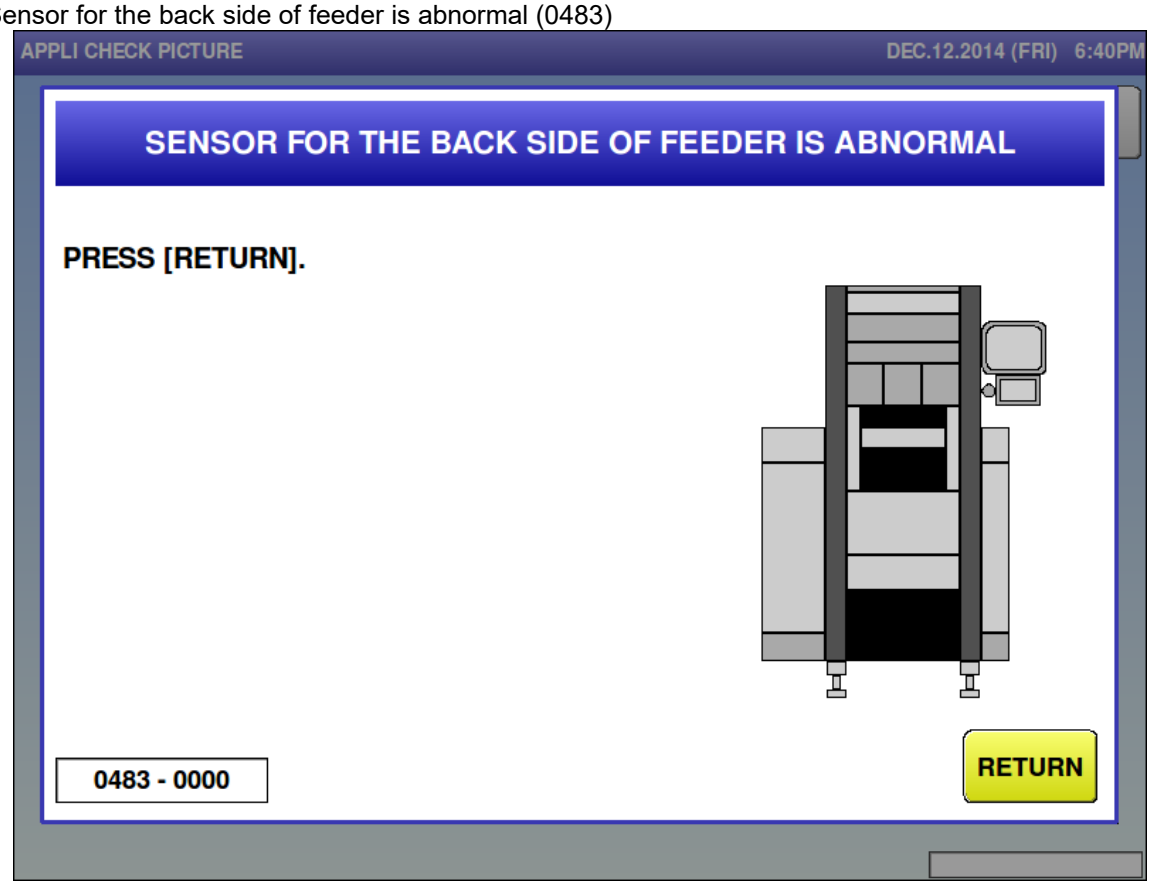
Error content	Cutter is not back at the home position.
Detail	Cutter is not back at the home position when starting cutter operation.
Solution	Press the [RETURN] button after checking for objects blocking the cutter movement.
Action by user	
Action by service representative	Confirm the Cutter home position sensor flag is straight and passes through the center of the Cutter home position sensor [B300].
Related part	① P-1105 [A300] p/n 171866 ② Cutter home position sensor [B300]. p/n 171837 ③ Cutter solenoid front [L300]. p/n 172596 ④ Cutter solenoid rear [L301]. p/n 172596
Remarks	

■ Insert plate is not back to original position (0482)



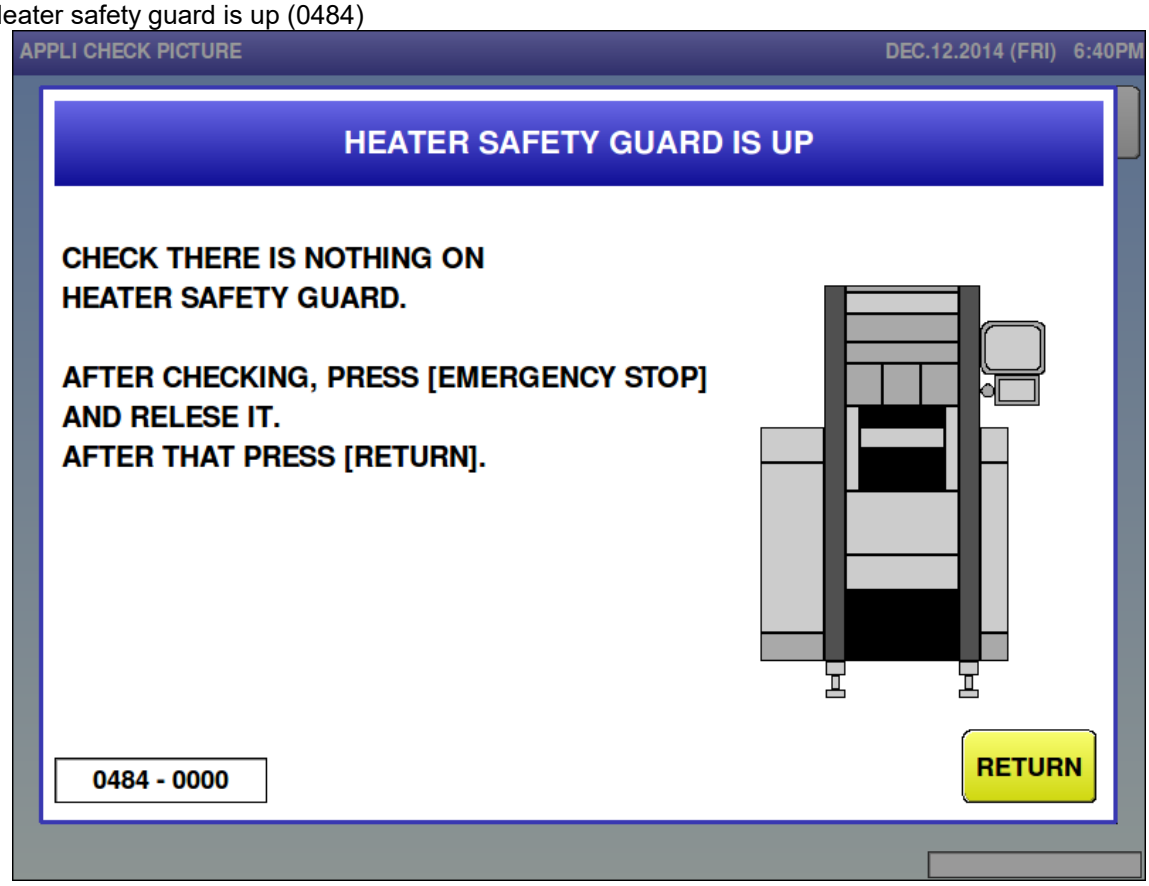
Error content	Insertion plate is not back to the home position.
Detail	The cutter operation can't begin because the insertion plate has not returned to its home position. Sub-error meanings are as follows: 0000: Upper insertion plate did not return to its home position preventing upper film cutting. 0001: Lower insertion plate did not return to its home position preventing lower film cutting. 0006: The insertion plate has not returned to the home position during resetting operation. 0007: Insertion plate did not return to its home position during film loading.
Solution	Press the [RETURN] button after checking the insertion plate.
Action by user	Press the [RETURN] button after checking the insertion plate.
Action by service representative	
Related part	① P-1105 [A300] p/n 171866 ② Insertion plate home position sensor (rear side, upper left) [B301] p/n 171837
Remarks	

■ Sensor for the back side of feeder is abnormal (0483)



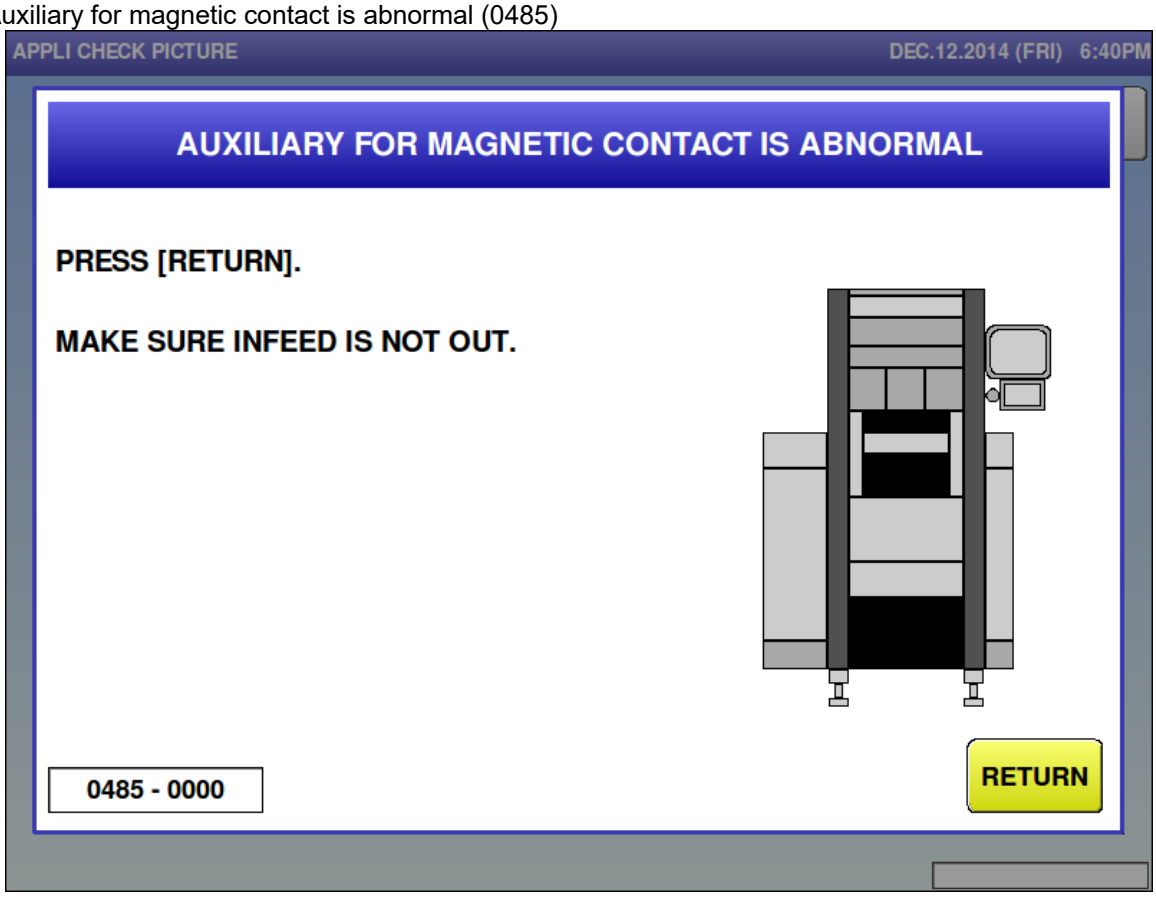
Error content	Sensor for the rear film feeder is abnormal.
Detail	An impossible input combination has occurred in the sensors (home position, small lift clearance, large lift clearance) detecting the rear feeder position. The sub-error indicates the input conditions as shown below. 0003: The home position sensor and the small lift clearance sensor are blocked. 0005: The small lift clearance sensor and the large lift clearance sensor are blocked. 0006: The home position sensor and the large lift clearance sensor are blocked 0007: All three sensors are blocked: home position, small lift clearance, and large lift clearance.
Solution	Press the [RETURN] button
Action by user	
Action by service representative	
Related part	① P-1105 [A200] p/n 171866 ② P-1106C-7 [A201] p/n 171869 ③ Rear film feeder, home position sensor [B212] p/n 104239 ④ Rear film feeder, small lift clearance [B217] p/n 104239 ⑤ Rear film feeder, large lift clearance [B218] p/n 104239
Remarks	

■ Heater safety guard is up (0484)



Error content	The sealing heater safety guard is up.
Detail	After the pusher is restored, if the sealing heater safety guard is up, the discharge pusher knocks down the guard. If the sensor is unblocked afterwards, an error occurs.
Solution	Press the [RETURN] button
Action by user	Press the [RETURN] button
Action by service representative	
Related part	① P-1105 [A100] p/n 171866 ② Sealing heater safety guard home position sensor [B103] p/n 171837 ③ Heater safety guard solenoid [L100]. p/n 125701
Remarks	

■ Auxiliary for magnetic contact is abnormal (0485)

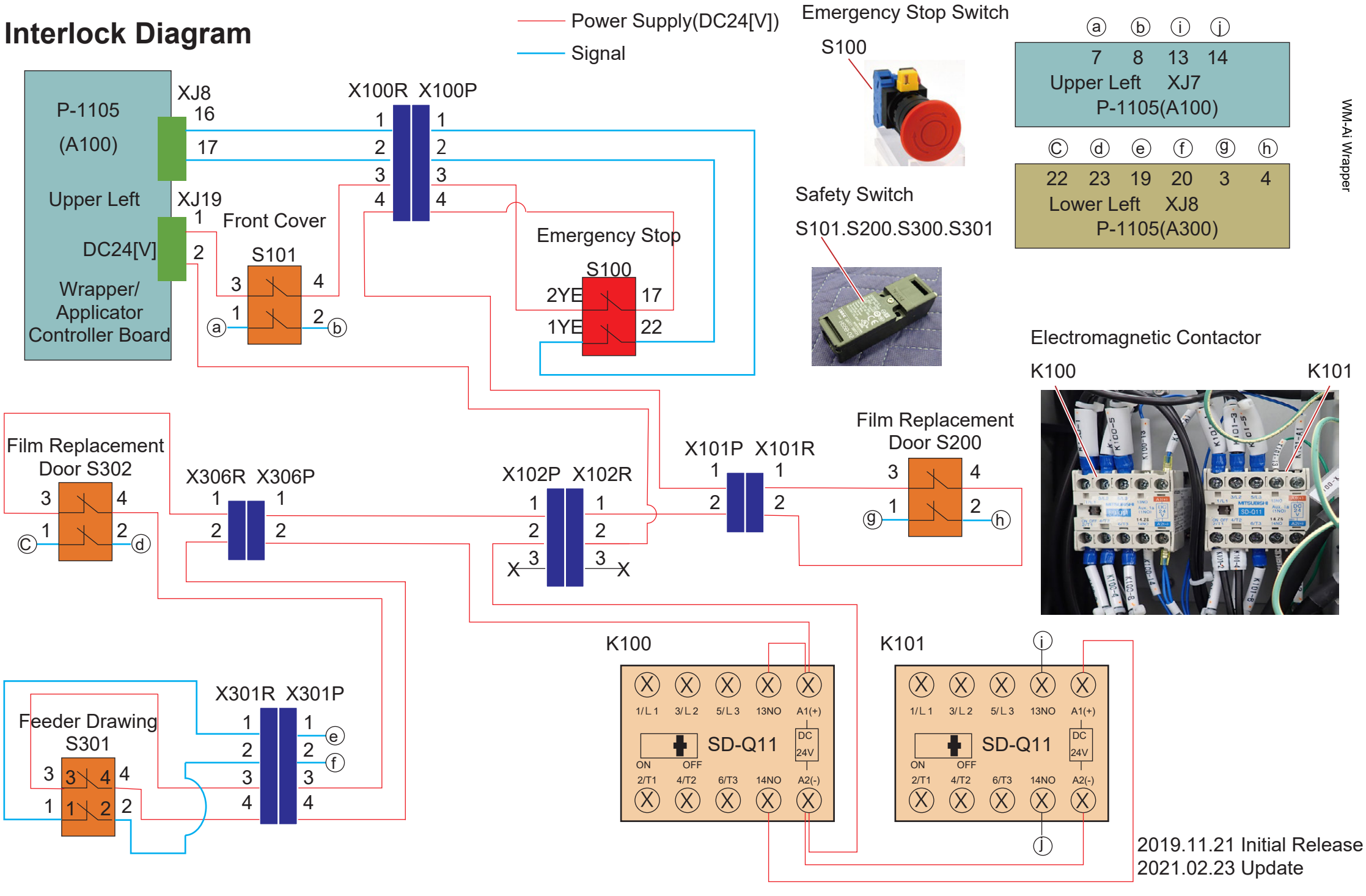


Error content	The auxiliary contact of the electromagnetic contactor is abnormal.
Detail	While the wrapper is standing by, a contradiction between the auxiliary contact state input of the electromagnetic contactor (AC 200V, DC 24V) that opens and closes the power line and the opening/closing state input of each cover (for example, power is not interrupted although the cover is open) has continued for more than five seconds. Or, a contradictory state has been generated during operation. The sub-error shows which cover is open when an error occurs. When multiple covers are open, the value obtained by adding the following numerical values is displayed as a sub-error. 2048: The film loading door is open. 1024: The front cover is open. 0256: The infeed unit is pulled out. 0128: The [Emergency Stop] button is pressed. 0064: The film removal cover is open (right side). 0000: There are no open covers. 2368: The P-1105 board [A300] placed at the lower left is abnormal. (This is executed more preferentially than 0472 “wiring-saving abnormality”.)
Solution	Press the [RETURN] button
Action by user	There is a possibility that the error is restored by firmly opening and closing all the covers. (Front cover, left door, right film removal cover, lower cover of the feeder) Return to the normal operation screen by pressing the [RETURN] button consecutively 11 times, while the front printer cover is open. The scale can be used for manual weighing and labeling after pressing the [RETURN] key 11 times..

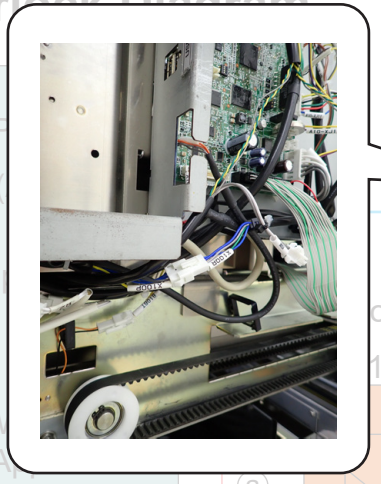
■ Auxiliary for magnetic contact is abnormal (0485)-CONTINUED

Action by service representative	Return to the normal operation screen by pressing “495344”, [PLU]. The scale can be used for manual weighing and labeling after entering the password and PLU key.
Related part	In the case of 0485-0000 ① P-1105 [A100-XJ19] (p/n 171866) ② Magnetic contact [K100, K101] (p/n 171868) and wiring of magnetic contact. In the case of other than 485-0000 ① Wiring to switches described in the “Detail” field above. • Blue line on the safety switch: 24V input on the electromagnetic contactor. • Wires other than blue wire: Monitoring line of each switch.
Remarks	There is a tendency for this error to occur when a cover is closed in a half-way position and not making full contact. It is dangerous to directly measure the DC 24V output place because AC 200V is applied to the P-1105 [A100] board. Measure the voltage at the connector position when checking the output. For 0485-0000 when all doors are shut check the continuity of the safety circuit: four door switches and the E. Stop button. Measurement points are: ① P-1105C-1 A100 Connector JX19 Pin 1 ② Contactor K100 Terminal A1

Interlock Diagram



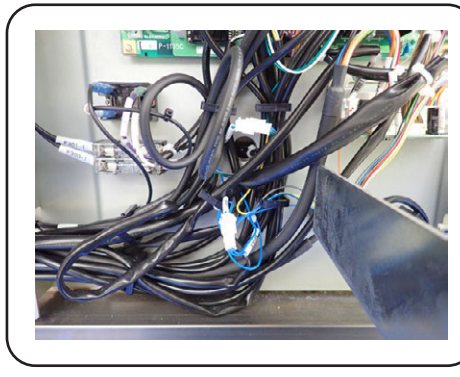
2019.11.21 Initial Release
2021.02.23 Update



Below P-1163(A10)

X100R X100P

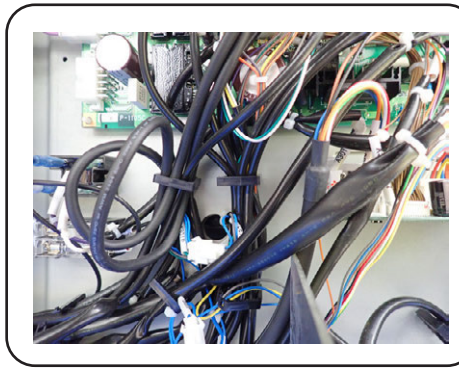
1	1
2	2
3	3
4	4



Below P-1105(A300)

X306R X306P

1	1
2	2



Below P-1105(A300)

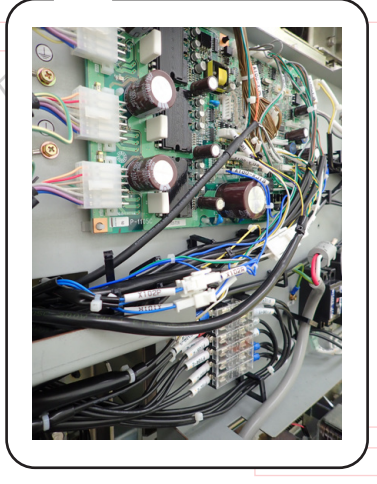
X301R X301P

1	1
2	2
3	3
4	4

Below P-1105(A100)

X102P X102R

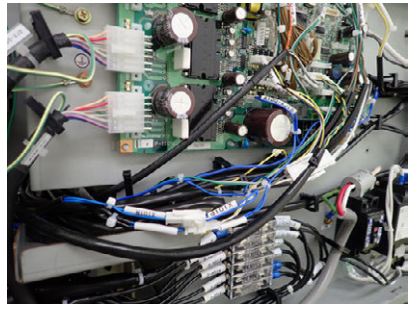
1	1
2	2
3	3



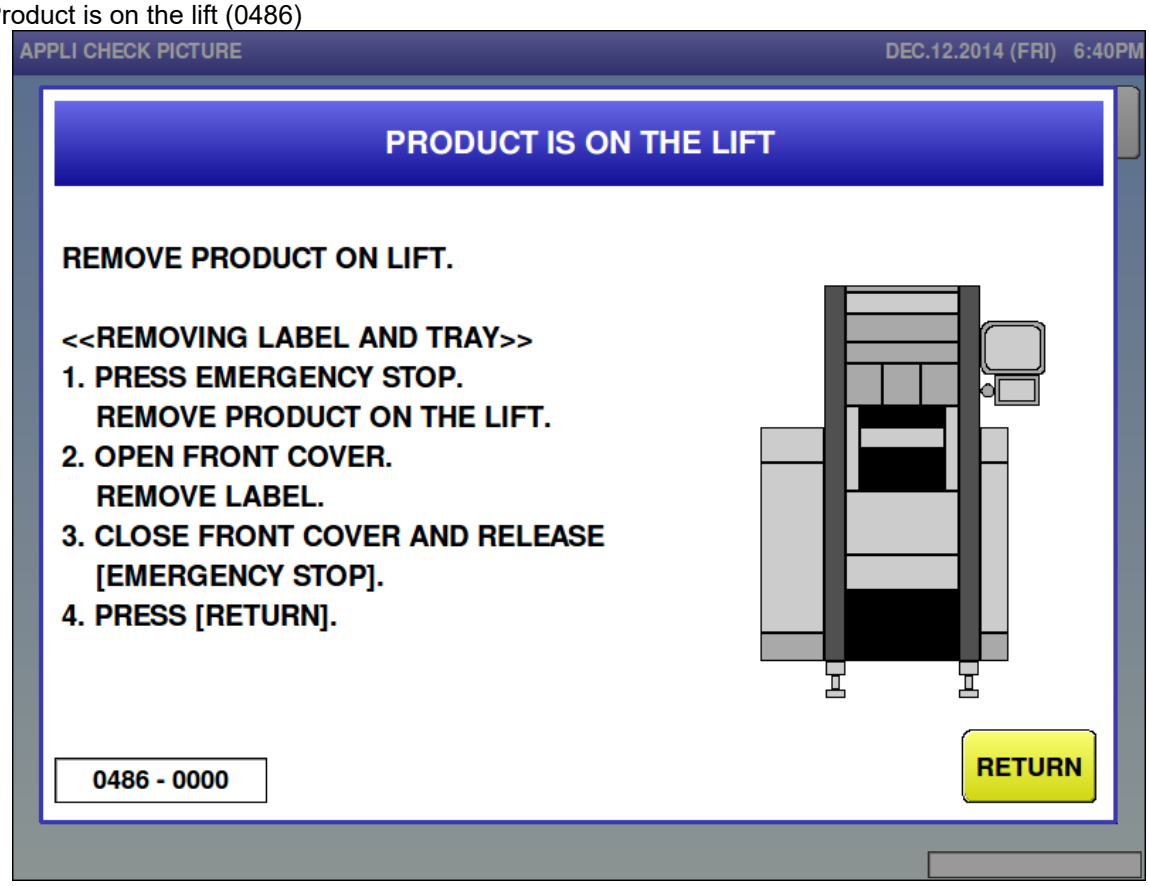
Below P-1105(A100)

X101P X101R

1	1
2	2

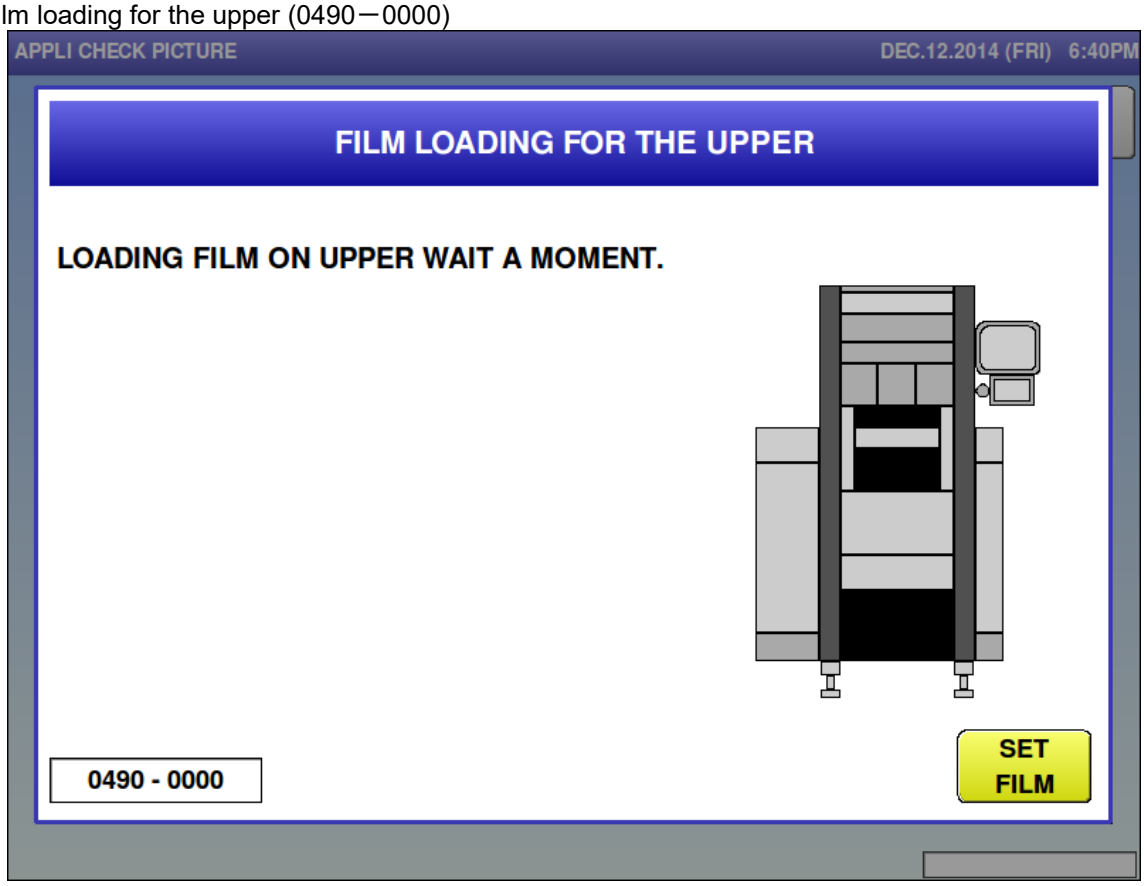


■ Product is on the lift (0486)



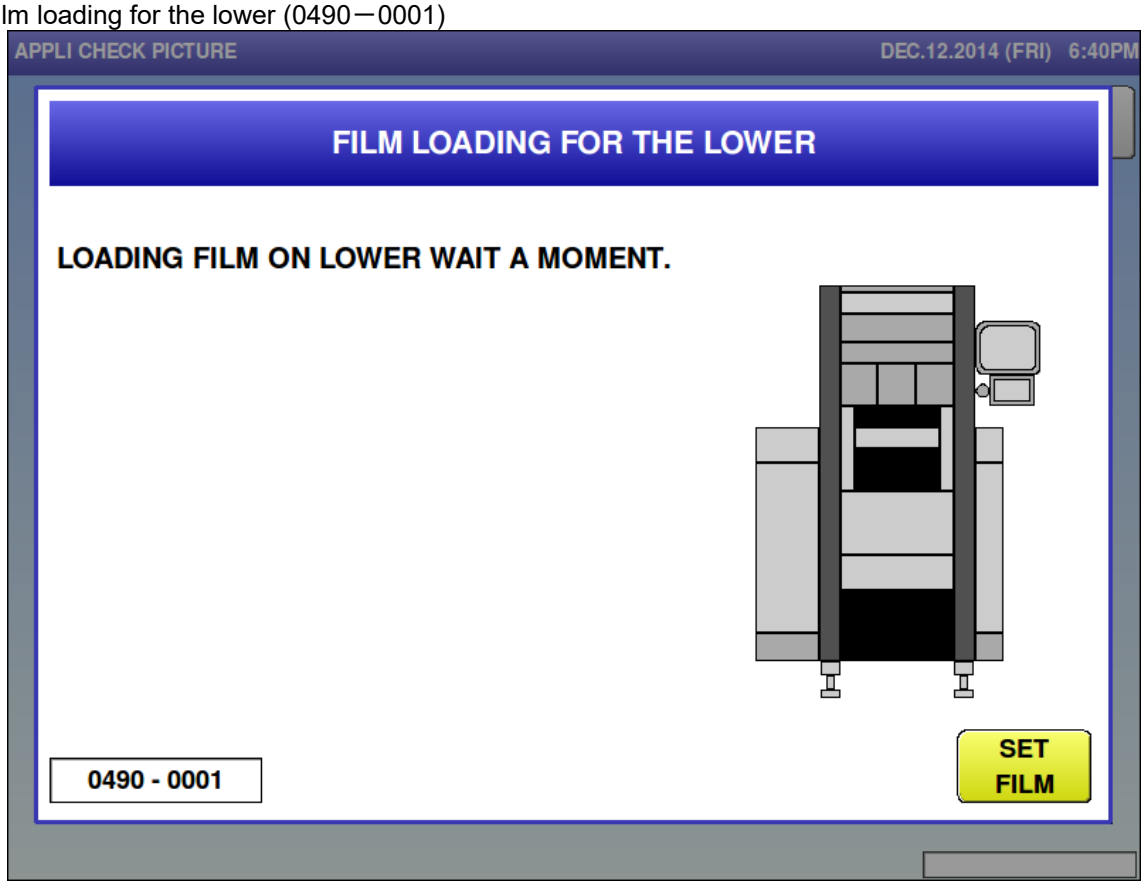
Error content	Product is on the lift
Detail	There was a product on the lift when each of the following operations was started (completed). Sub-error meanings are as follows: 0000: After completion of returning operation 0004: Wrapping the first product is attempted. 0007: Shifting to sleep mode Others: Sending film or film loading is attempted
Solution	Press the [RETURN] button after removing the product
Action by user	
Action by service representative	1. Clean the "Product on Lift" sensor and reflector. 2. Verify the Lift does block the "Product on Lift" sensor, adjust height as needed. 3. Calibrate the "Product on Lift" sensor*.
Related part	① P-1105 [A200] p/n 171866 ② Detection of products on the lift [B206] p/n 157857
Remarks	
*Sensor calibration:	1. Place the lowest height tray (or a transparent tray if used in the wrapper) on the lift. a. Turn the sensitivity potentiometer all the way to the Minimum. b. Adjust the sensitivity little by little until the red LED turns on – this is position "A". c. If the LED does not turn on after turning all the way to Maximum then the Maximum end point with be the position "A". 2. Remove the tray and turn the sensitivity all the way to the Maximum. a. Adjust the sensitivity little by little until the red LED turns off – this is position "B". b. If the LED does not turn off after turning all the way to Minimum then the Minimum end point with be the position "B". 3. Adjust the sensitivity to the middle position between point "A" and point "B".

■ Film loading for the upper (0490－0000)



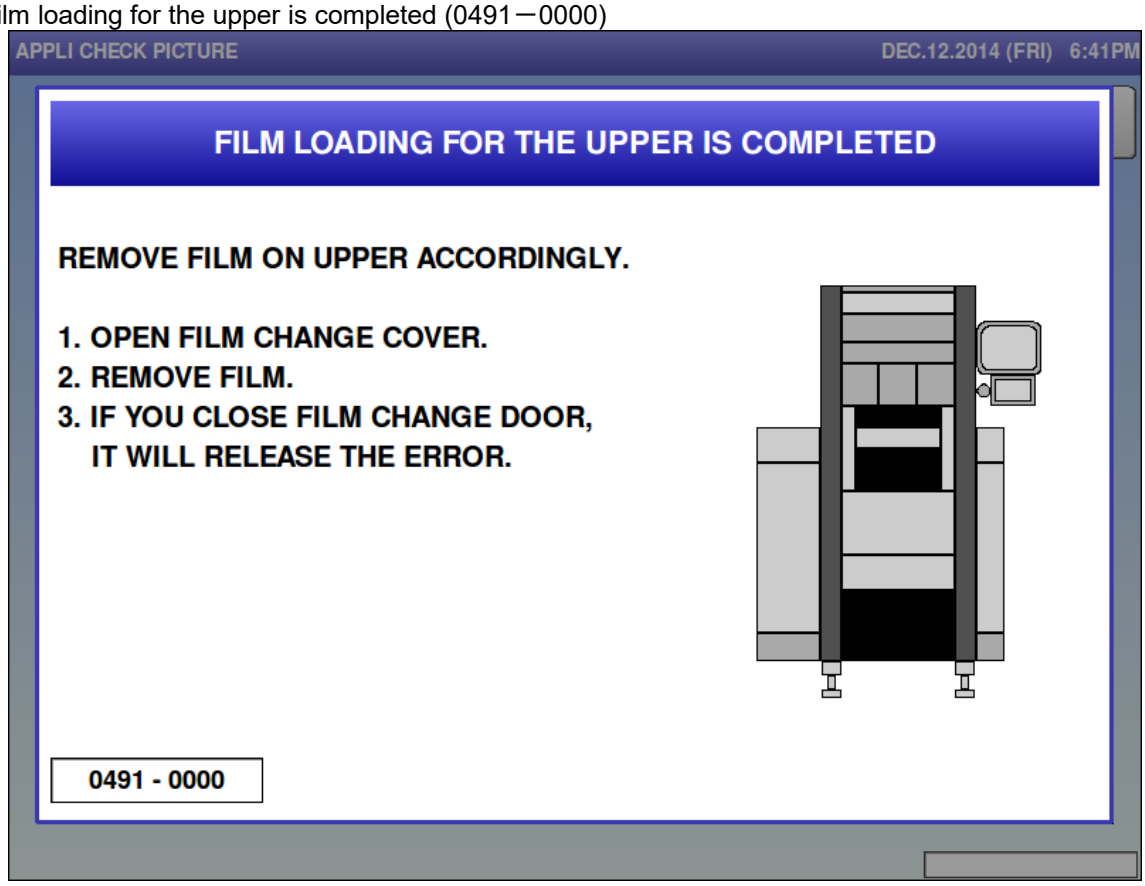
Error content	Starting the upper film loading.
Detail	Film loading operation began after film loading procedure completion. Film loading operation began after pressing the film set button.
Solution	The message automatically clears after film loading has completed.
Action by user	
Action by service representative	
Related part	
Remarks	

■ Film loading for the lower (0490－0001)



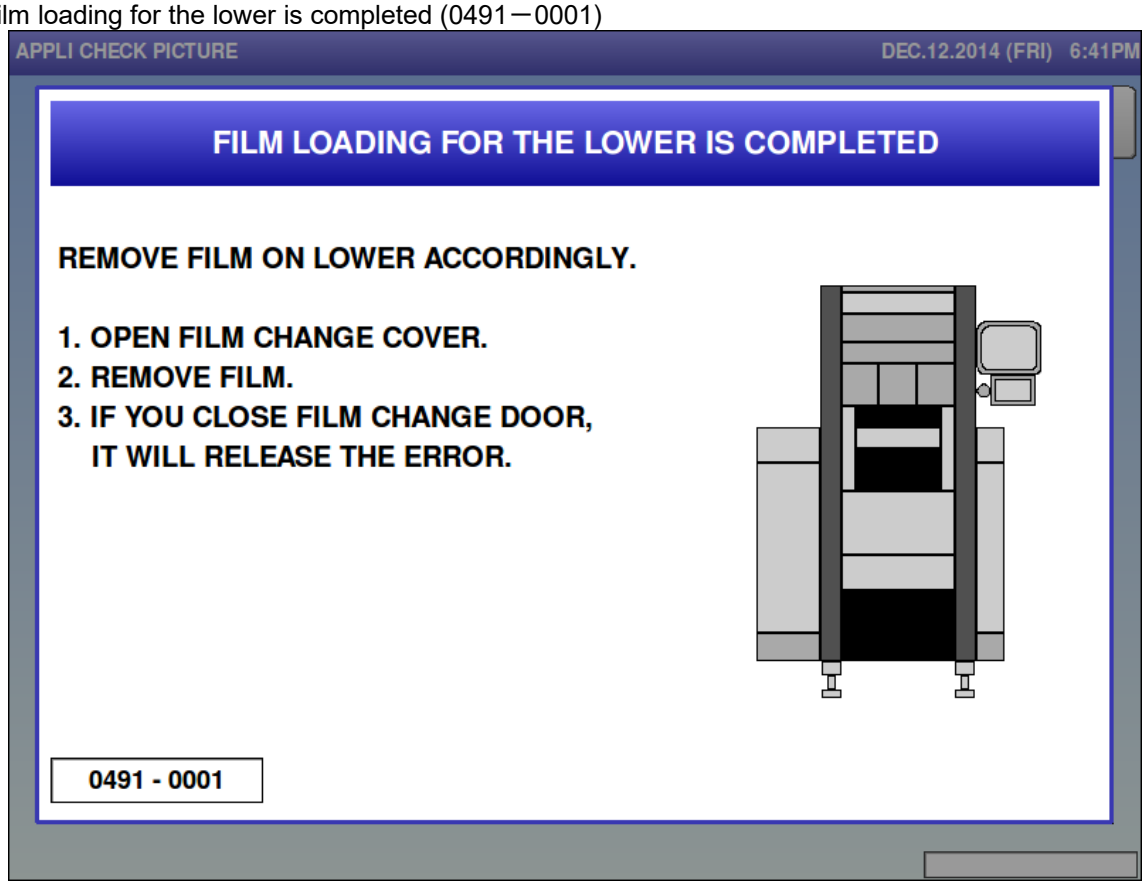
Error content	Starting the lower film loading.
Detail	Film loading operation began after film loading procedure completion. Film loading operation began after pressing the film set button.
Solution	The message automatically clears after film loading has completed.
Action by user	
Action by service representative	
Related part	
Remarks	

■ Film loading for the upper is completed (0491－0000)



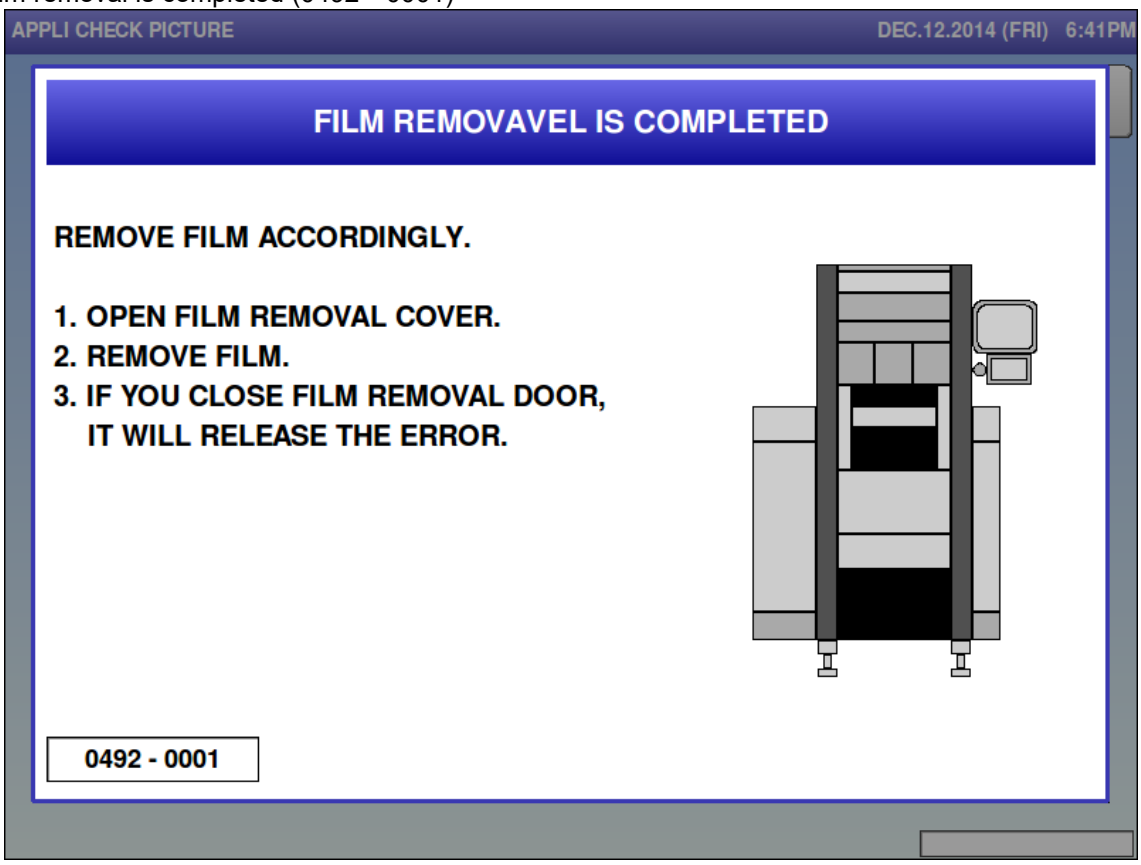
Error content	Film loading for the upper is completed.
Detail	Film loading is completed.
Solution	Open the left side film loading door, remove film, and close the door.
Action by user	
Action by service representative	
Related part	
Remarks	

■ Film loading for the lower is completed (0491－0001)



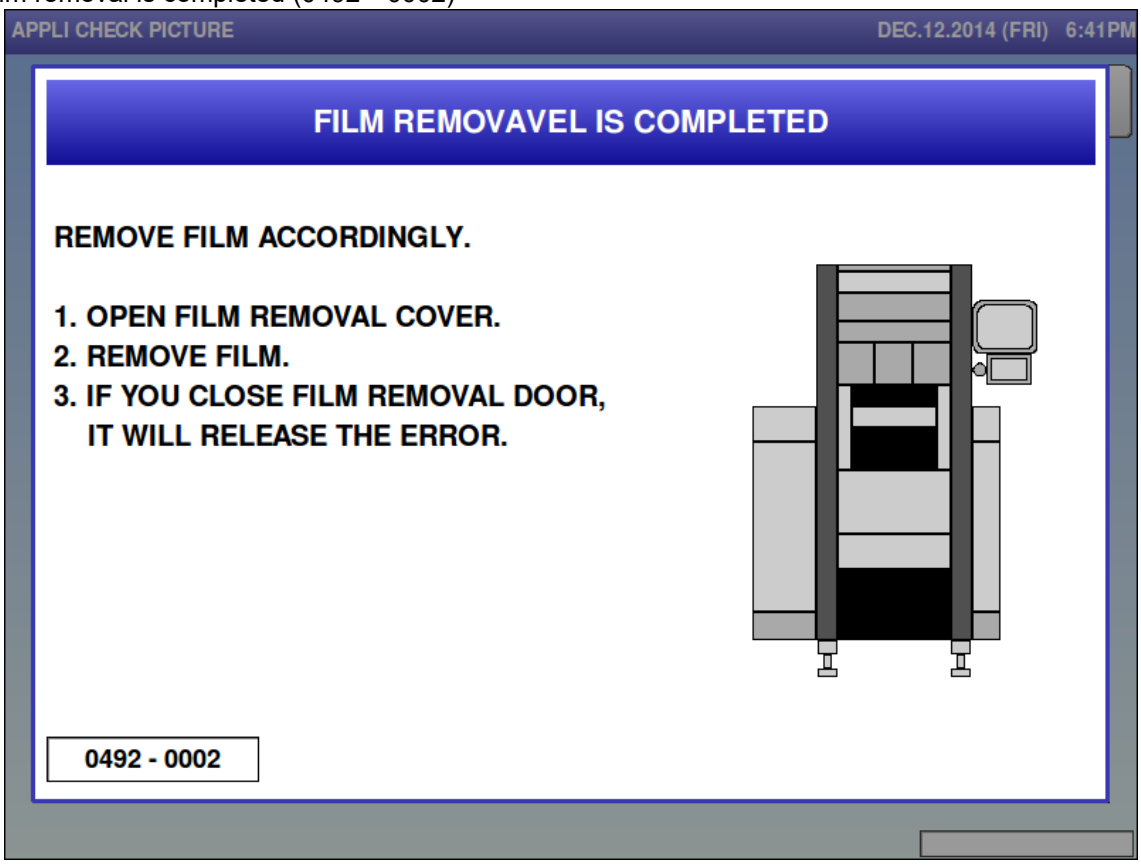
Error content	Film loading for the lower is completed.
Detail	Film loading is completed.
Solution	Open the left side film loading door, remove film, and close the door.
Action by user	
Action by service representative	
Related part	
Remarks	

■ Film removal is completed (0492－0001)



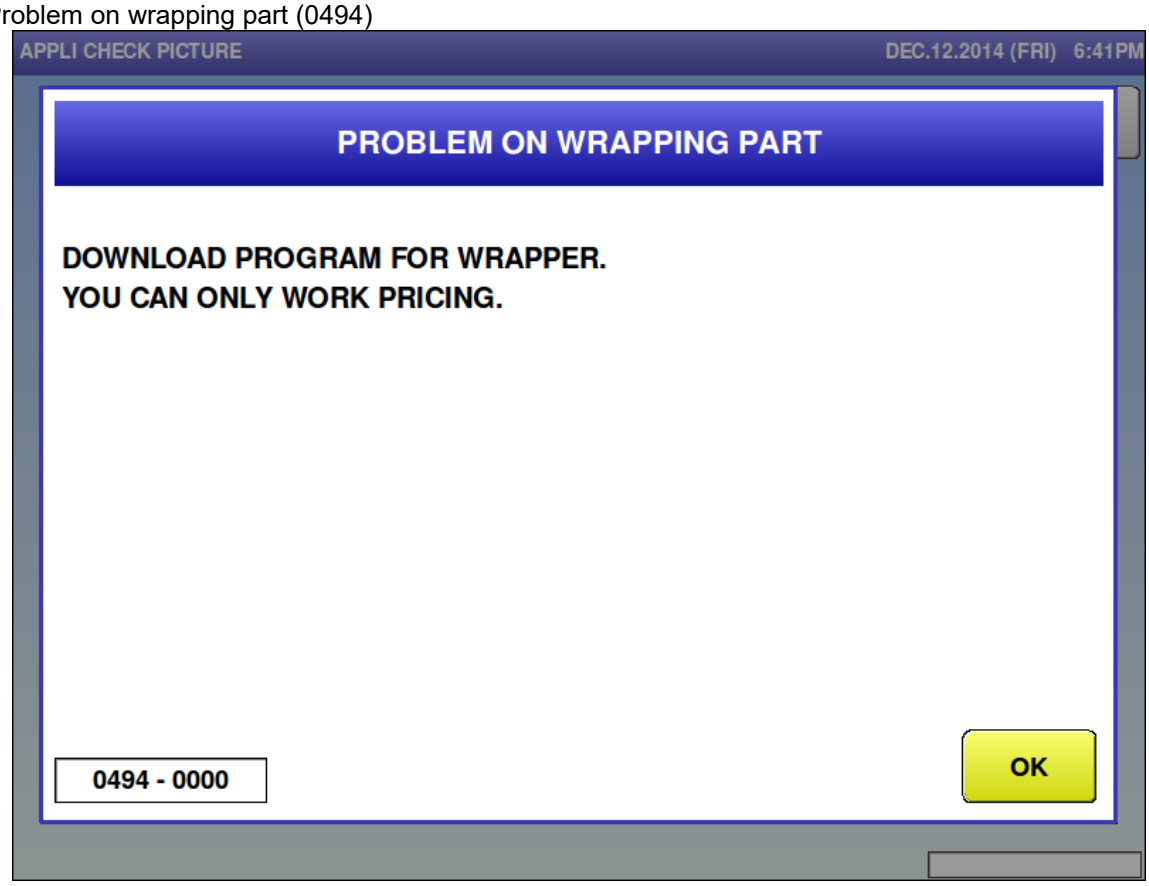
Error content	Film removal is completed.
Detail	Film removal operation has been completed. 0000: This error occurs when the film is finished or when the upper film set is required. 0001: This error occurs when the film is finished, when the upper film set is required, or when the film is removed due to some other error. 0002: This error occurs when both the left and right covers need to be opened to check the film after the completion of film removal, such as when the film has overrun.
Solution	0000: Open the left side film loading cover and remove the film. 0001: Open the film left side loading cover and remove the film. 0002: Open both the left and right covers to check and remove the film.
Action by user	
Action by service representative	
Related part	
Remarks	This message is displayed after feeding a sheet of film on either the upper or lower roll and the [RETURN] button is pressed.

■ Film removal is completed (0492－0002)



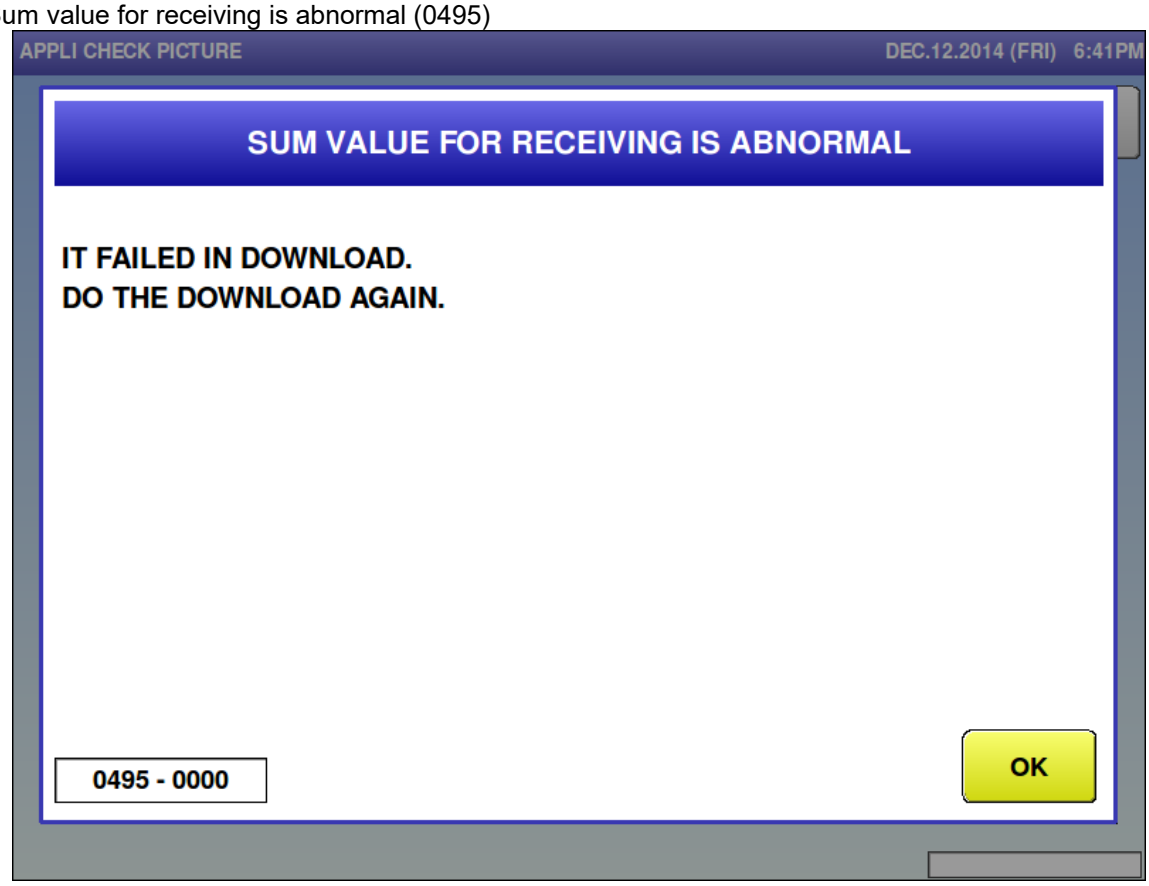
Error content	Film removal is completed.
Detail	Film removal operation has been completed. 0000: This error occurs when the film is finished or when the upper film set is required. 0001: This error occurs when the film is finished, when the upper film set is required, or when the film is removed due to some other error. 0002: This error occurs when both the left and right covers need to be opened to check the film after the completion of film removal, such as when the film has overrun.
Solution	0000: Open the left side film loading cover and remove the film. 0001: Open the film left side loading cover and remove the film. 0002: Open both the left and right covers to check and remove the film.
Action by user	
Action by service representative	
Related part	
Remarks	This message is displayed after a Film Over error occurs on either the upper or lower film roll and the [RETURN] button is pressed.

■ Problem on wrapping part (0494)



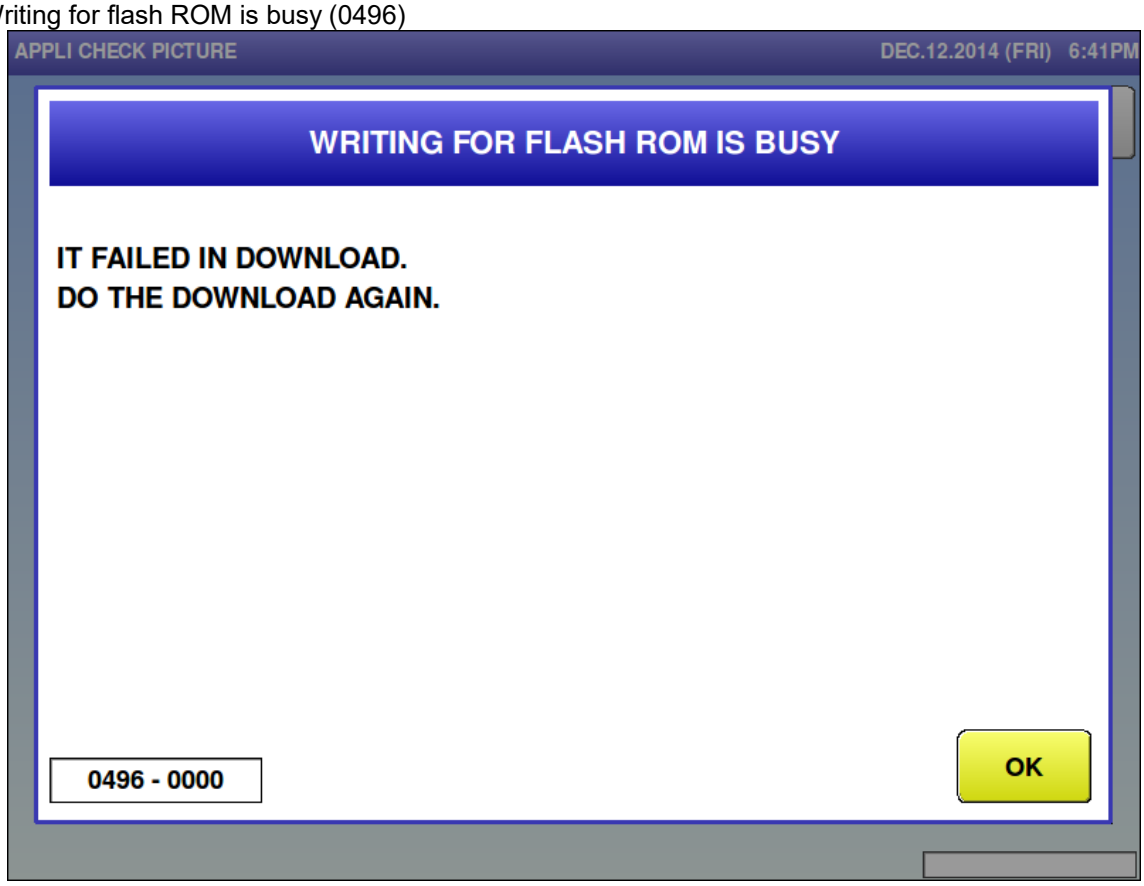
Error content	Wrapper sub-app program is not installed.
Detail	A confirmation processing is executed when P-1105 [A200] is started. The sub-app program for the wrapper is not installed (not correctly downloaded). The sub-error has the following meanings: 0000: When the [A200] board is replaced with a new board (The check sum of the application program is incorrect.) (Software for downloading software is installed in a new board. This error occurs when the sum value is specific to the software. Or, This error also occurs when DIP SW1 "1" is ON (Boot-up)） 0001: The transition to the sub-app program has failed. 0009: When any board of [A100], [A200] and [A300] is replaced with a new board (or a used board) (Although the check sum of the application program should originally be all the same, it is not the same in any one of the boards.)
Solution	Press the [OK] button
Action by user	Turn off the power, wait 30 seconds, and then turn on the power again.
Action by service representative	If this error has occurred after replacing a P-1105 board, download the wrapper sub-app. If this error has occurred without replacing the board, replace the P-1105 board.
Related part	① P-1105 [A100], [A200], [A300] p/n 171866
Remarks	Download wrapper - firmware sub apps - as needed.

■ Sum value for receiving is abnormal (0495)



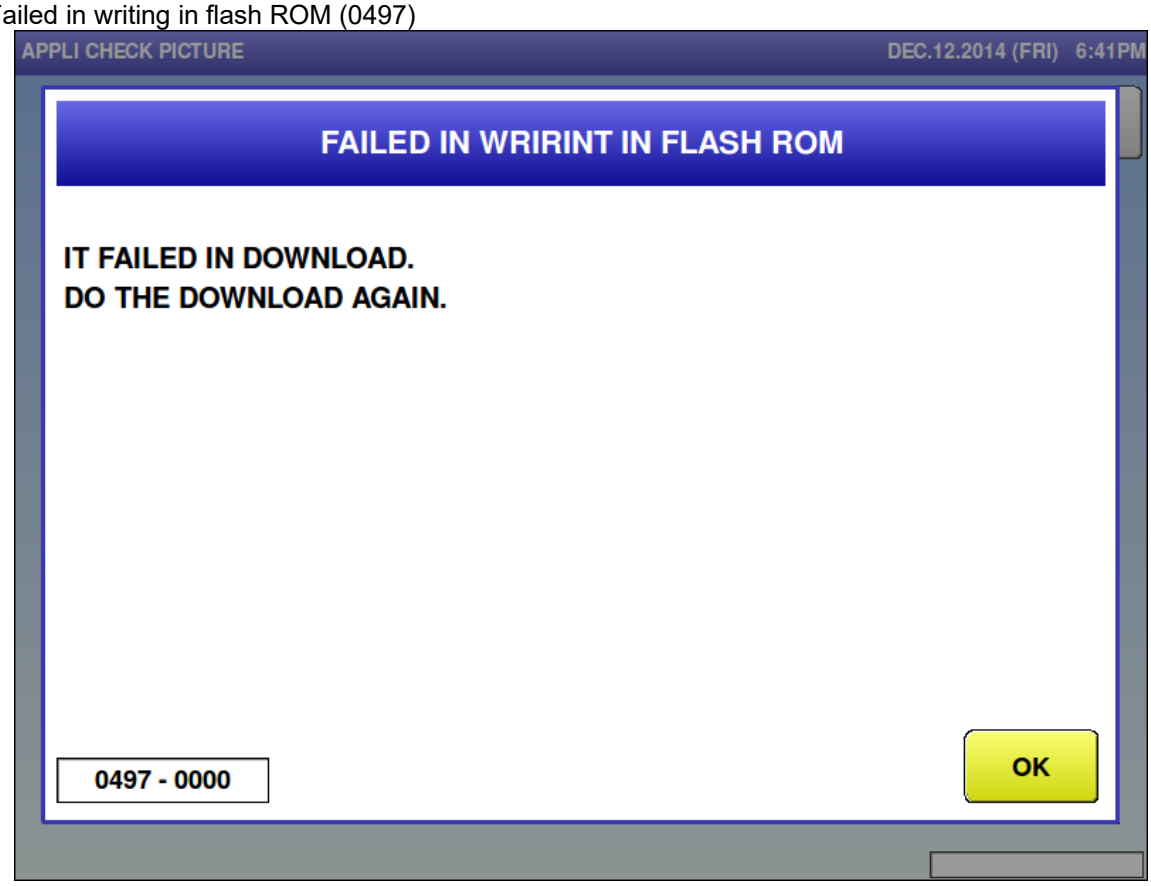
Error content	Sum value for receiving is abnormal.
Detail	The program data sum value received from the wrapper is different from the sum value in the message.
Solution	Press the [OK] button
Action by user	
Action by service representative	
Related part	
Remarks	Re-download main firmware or sub-apps as needed.

■ Writing for flash ROM is busy (0496)



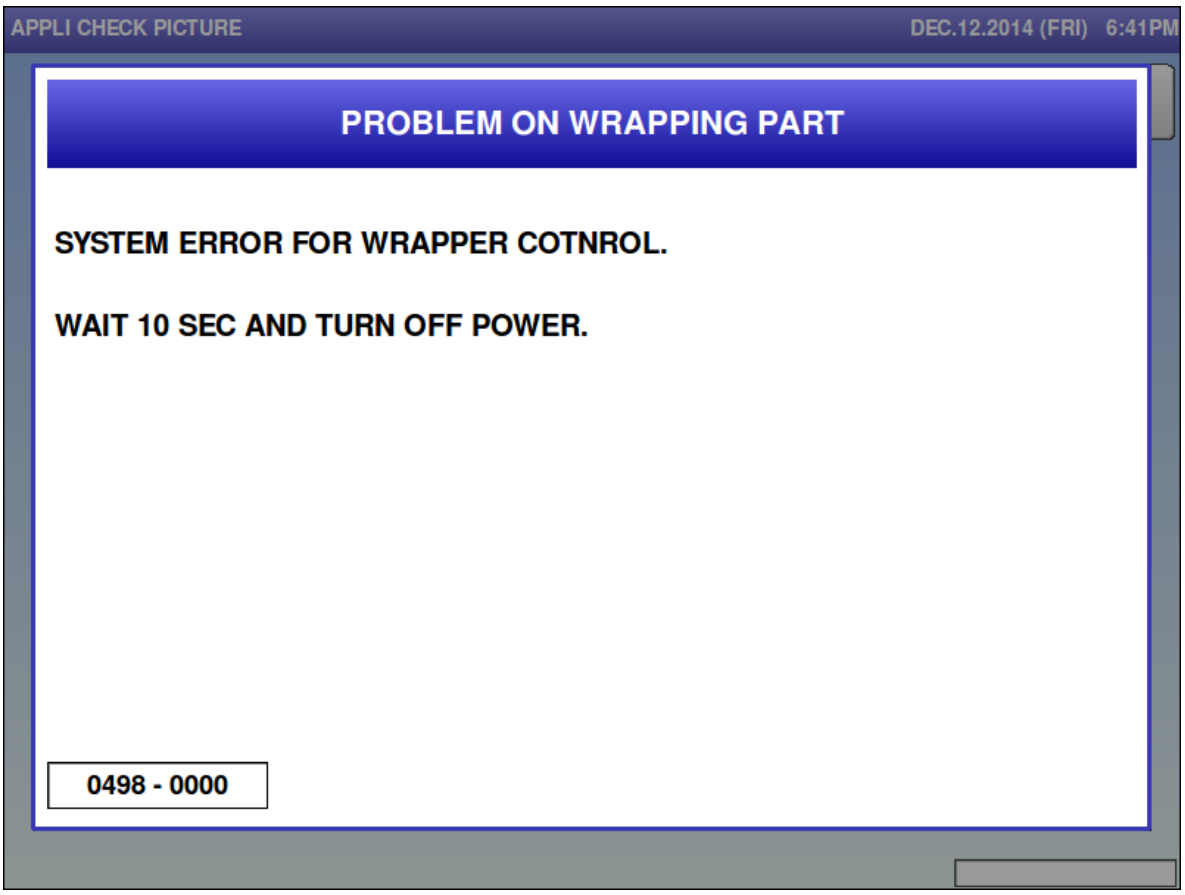
Error content	Flash ROM write condition exceeded the specified time amount.
Detail	Does not change even if the flash ROM write condition exceeds the specified time amount in wrapper application program download.
Solution	Press the [OK] button
Action by user	
Action by service representative	
Related part	
Remarks	Re-download main firmware or sub-apps as needed.

■ Failed in writing in flash ROM (0497)



Error content	Flash ROM write-in error in wrapper program download.
Detail	An error occurred when writing program data received from the wrapper to the flash ROM. Sub-error meanings are as follows: 0001: Flash ROM erasure failure. 0002: Sub-app program flash ROM write-in failure. 0003: Sub-app program sum value flash ROM write-in error. 0004: Message sequence extending to flash ROM write-in is mismatched. 0005: Received a download command even though it is not in boot mode (during sub-app program operation).
Solution	Press the [OK] button
Action by user	
Action by service representative	
Related part	Confirm that all 2, 3 and 4 of DIP switch 1 of P-1105 [A100, A200, A300] are OFF.
Remarks	Re-download main firmware or sub-apps as needed.

■ Problem on wrapping part (0498)

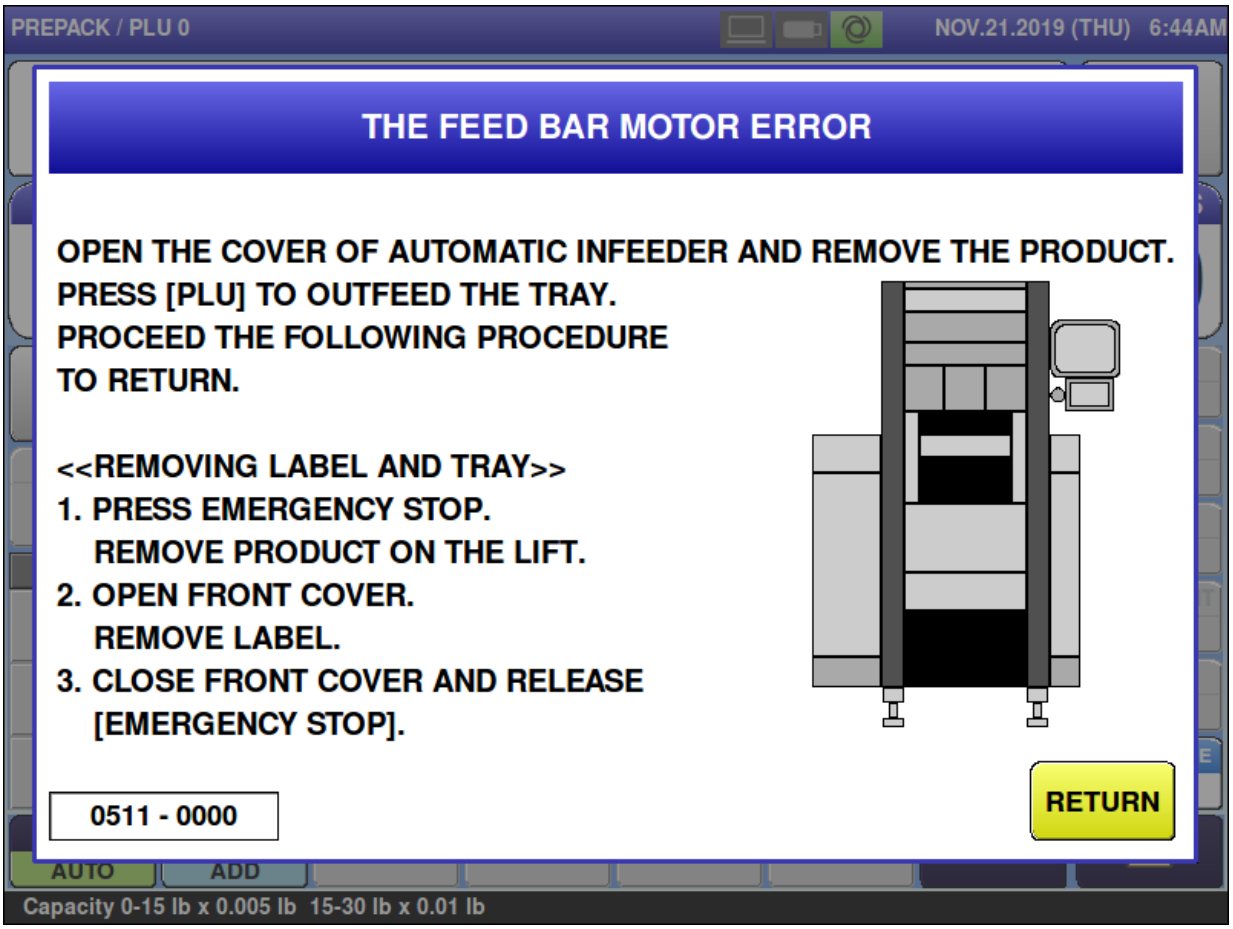


Error content	Wrapper system error.
Detail	A malfunction occurred in the wrapper program. Sub-error meanings are as follows: 001X to 003X: CAN communications are not synchronized. 0012: Only the A100 I/O Control board accepts a command to the wrapping request / No response is received for the hold instruction transmission. 0013: Only the A100 I/O Control board accepts a command to the discharge request / No response is received for the hold instruction transmission. 0017: Only the A100 I/O Control board accepts a command to the wrapping request / A response different from the transmission is returned for the hold instruction transmission. This error can occur when the right/left wrap plate home position sensor fails due to contact with the detection plate. 0018: Only the A100 I/O Control board accepts a command to the discharge request / A response different from the transmission is returned for the hold instruction transmission. 0022: Only the A100 I/O Control board accepts a command to the wrapping request / No response is received for the hold instruction transmission. 0023: Only the A100 I/O Control board accepts a command to the discharge request / No response is received for the hold instruction transmission. 0027: Only the A100 I/O Control board accepts a command to the wrapping request / A response different from the transmission is returned for the hold instruction transmission. This error can occur when the holding bar encoder sensor fails due to contact with the detection plate. 0028: Only the A100 I/O Control board accepts a command to the discharge request / A response different from the transmission is returned for the hold instruction transmission.

■ Problem on wrapping part (0498) -CONTINUED

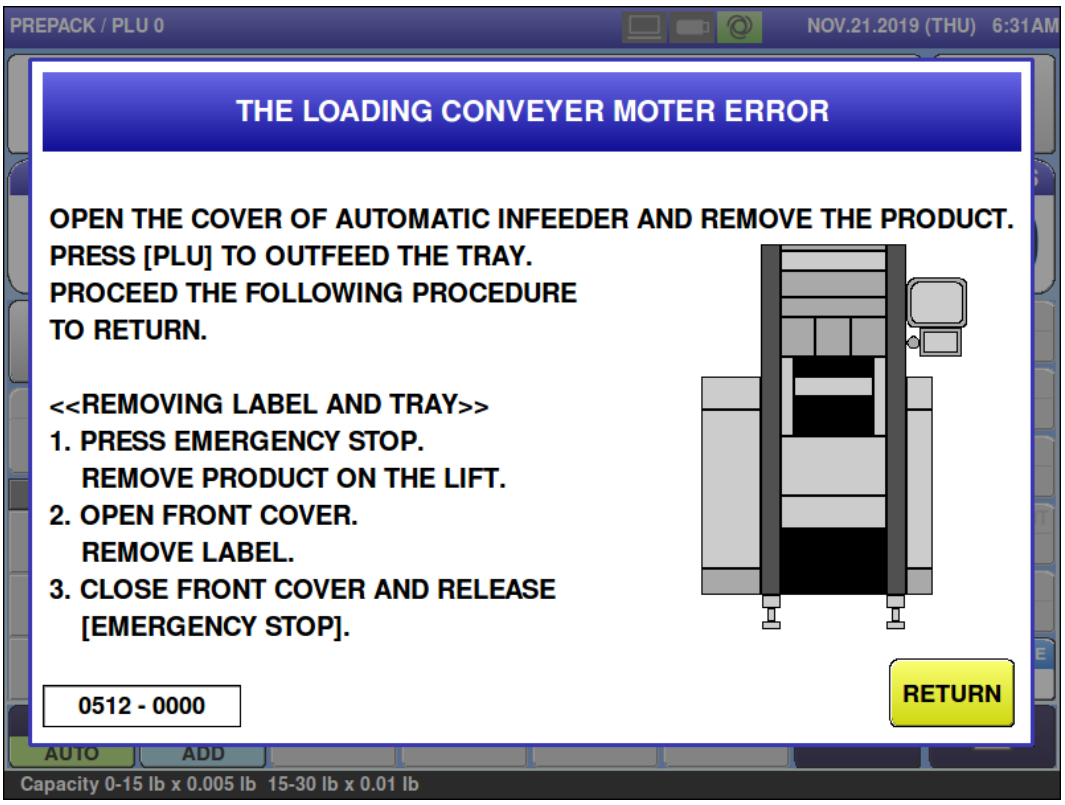
	0032: Both the A100 I/O Control board and the A300 I/O Control board accept a command to the wrapping request / No response is received for the hold instruction transmission. 0033: Both the A100 I/O Control board and the A300 I/O Control board accept a command to the discharge request / No response is received for the hold instruction transmission. 0037: Both the A100 I/O Control board and the A300 I/O Control board accept a command to the wrapping request / A response different from the transmission is returned for the hold instruction transmission. 0038: Both the A100 I/O Control board and the A300 I/O Control board accept a command to the discharge request / A response different from the transmission is returned for the hold instruction transmission. 1014: The operation is not completed though the pinching operation protection timer has expired. 1017: The operation is not completed though the cutter operation protection timer has expired.
Solution	Turn off the power, wait 30 seconds, and then turn on the power again.
Action by user	Turn off the power, wait 30 seconds, and then turn on the power again.
Action by service representative	CAN communication error (XJ11 and XJ12 on each board) Sub-code 0017 when A100 fails Sub-code 0027 when A300 fails 0402-**** appears because communication cannot be made with the main board when A200 fails. This error often occurs due to sensor failure from past instances. Check when this error occurs by pulling out any wire other than wires necessary for communication (XJ4, 5, 7, 26, 27) of P-1105.
Related part	XJ4 and XJ5 on each board of P-1105 [A100, A200, A300] Various sensors
Remarks	This error is determined by P-1105 [A200], and the error code is transmitted to the main board [A10] through the RS485 communication.

■ The feed bar motor error (0511)



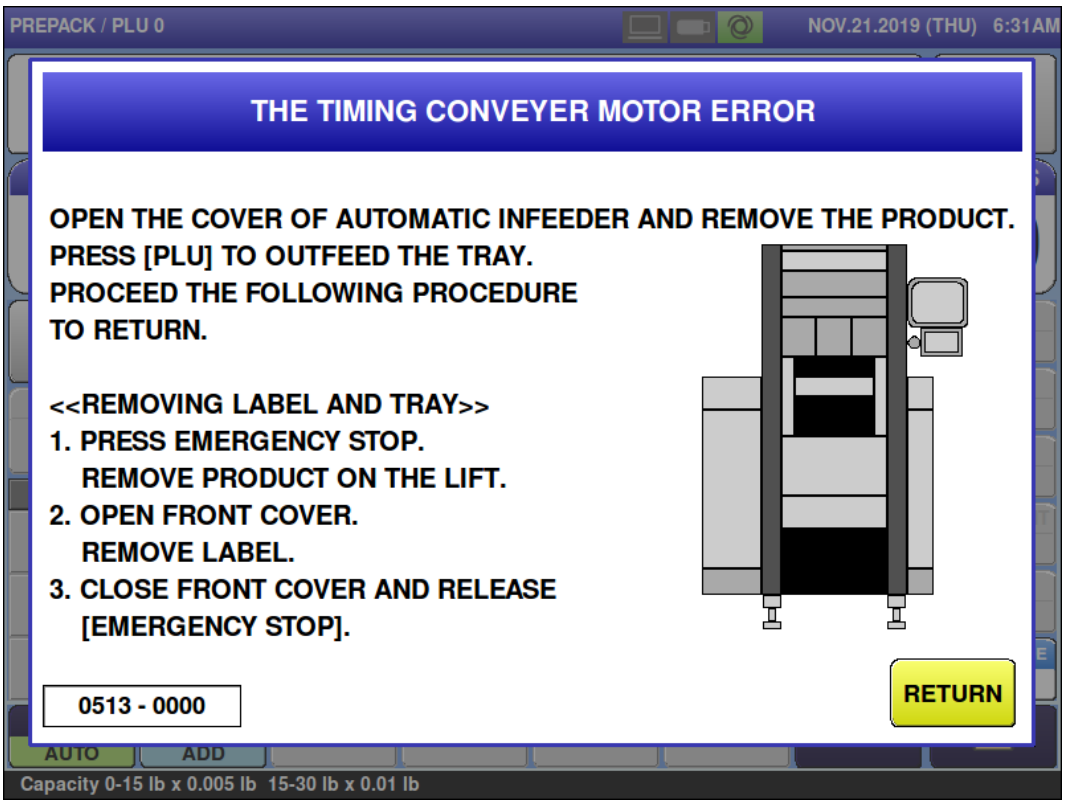
Error content	Error in the feed bar motor
Detail	This error occurs when the motor driver of the feed bar identifies a problem. The sub-error has the following meanings: 0001: The operation was not completed even though the operation protection timer expired. 0003: The DCB motor alarm has occurred (overloaded). 0004: The feedback pulse from the DCB motor was abnormal (phase interruption).
Solution	Press the [RETURN] button.
Action by user	Follow the on-screen instructions and press the [RETURN] button.
Action by service representative	
Related part	① P-1105 [A600], p/n 171866 ② Feed bar drive motor [E603], p/n 194507 ③ Feed bar home position sensor [B601], p/n 171837
Remarks	

■ The loading conveyor motor error (0512)



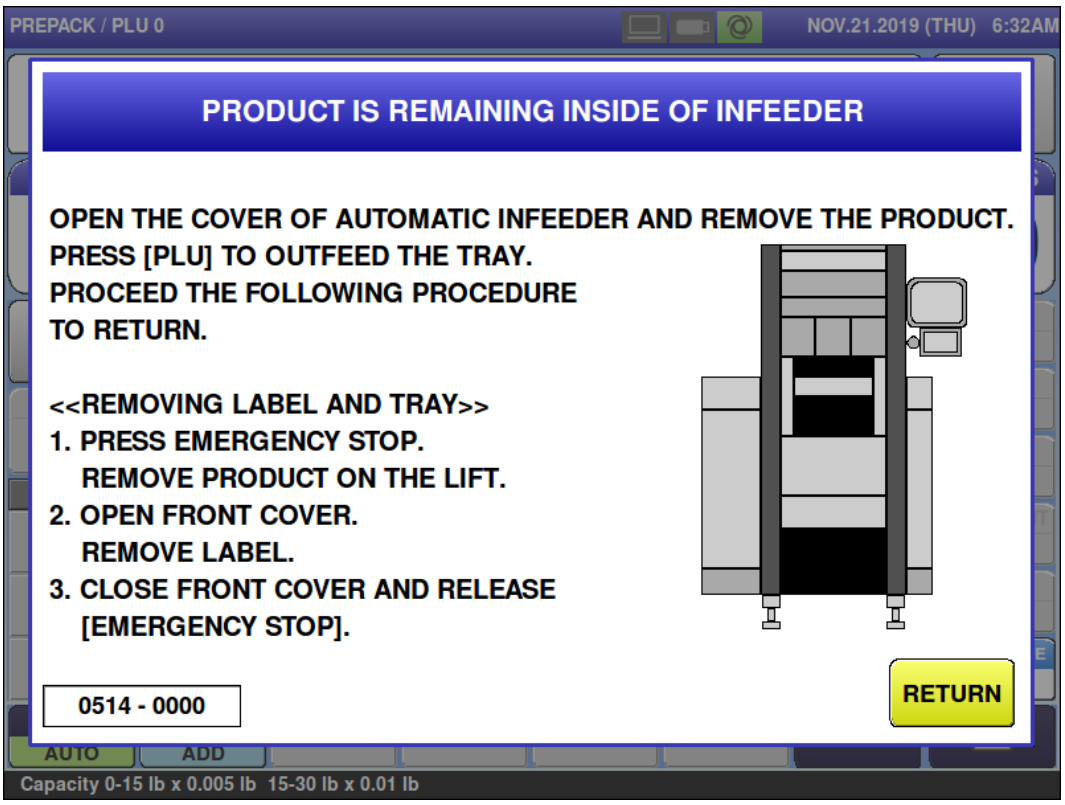
Error content	Error in the loading conveyor motor
Detail	This error occurs when the motor driver of the loading conveyor identifies a problem. The sub-error has the following meanings: 0001: The operation was not completed even though the operation protection timer expired. 0003: The DCB motor alarm has occurred (overloaded). 0004: The feedback pulse from the DCB motor was abnormal (phase interruption).
Solution	Press the [RETURN] button.
Action by user	Follow the on-screen instructions and press the [RETURN] button.
Action by service representative	
Related part	① P-1105 [A600], p/n 171866 ② Loading conveyor motor [E601], p/n 189302
Remarks	

■ The timing conveyor motor error (0513)



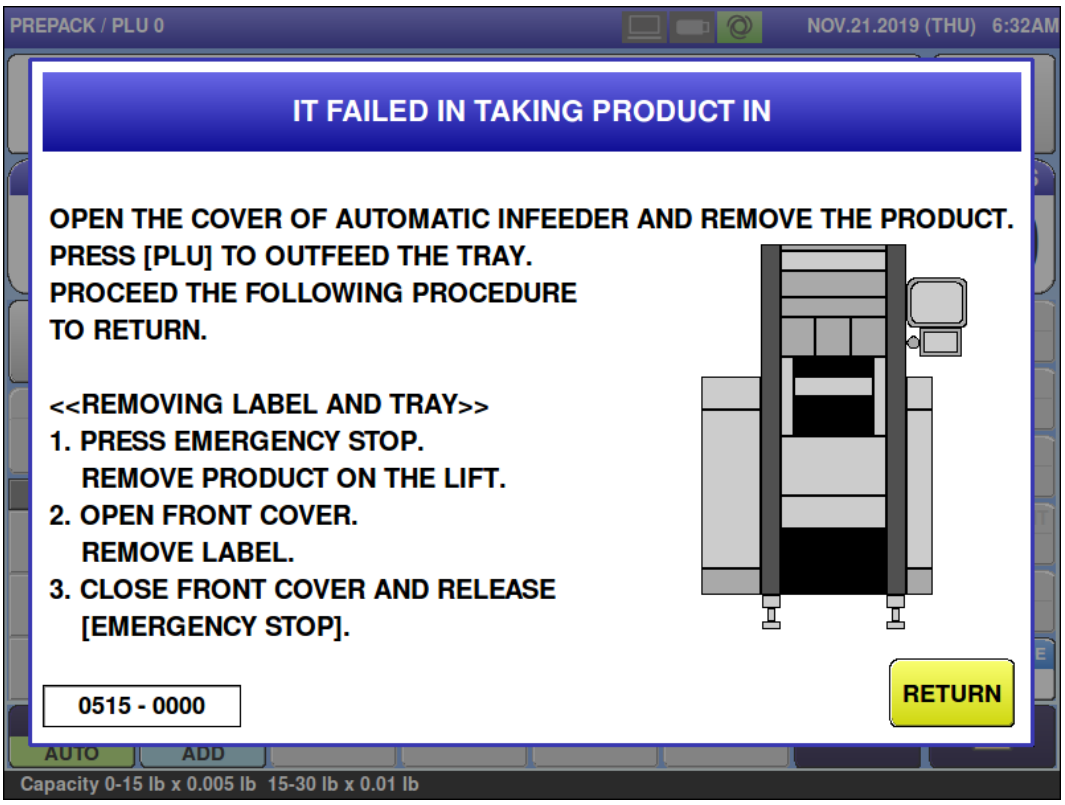
Error content	Error in the timing conveyor motor
Detail	This error occurs when the motor driver of the timing conveyor identifies a problem. The sub-error has the following meanings: 0001: The operation was not completed even though the operation protection timer expired. 0003: The DCB motor alarm has occurred (overloaded). 0004: The feedback pulse from the DCB motor was abnormal (phase interruption).
Solution	Press the [RETURN] button.
Action by user	Follow the on-screen instructions and press the [RETURN] button.
Action by service representative	
Related part	① P-1105 [A600], p/n 171866 ② Timing conveyor motor [E602], p/n 189302
Remarks	

■ Product is remaining inside of infeeder (0514)



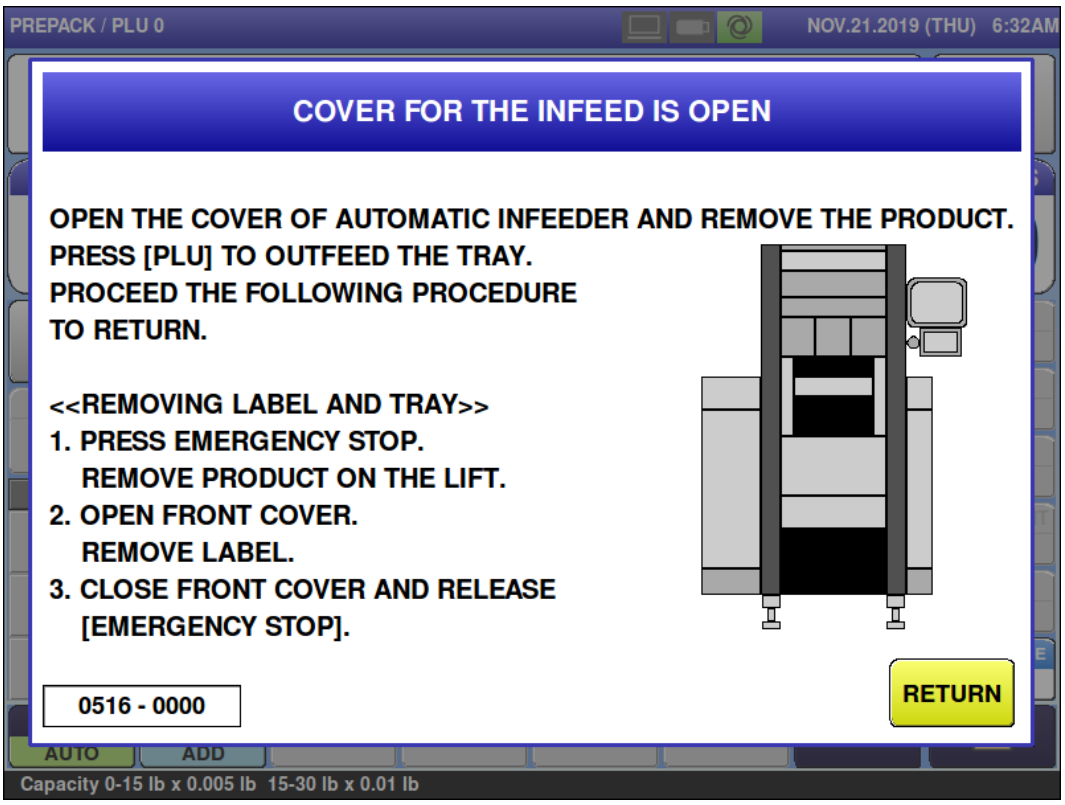
Error content	The product remains in the automatic infeeder.
Detail	This error occurs when a product is left on the conveyor at the start of the empty PS-Ai and while the conveyor is being driven. The sub-error has the following meanings: 0001: Product was detected by the feed bar ON sensor in the pre-operation check. 0002: Product was detected by the tray stop sensor in the pre-operation check. 0011: The remaining product was detected by the feed bar ON sensor or tray stop sensor immediately after the conveyor started. 0100: Product is stuck at the tray separation sensor (front) during transportation.
Solution	Press the [PLU] key to eject the tray on the lift. Open the cover, remove the product, and press the [RETURN] button.
Action by user	Open the cover, remove the product, and press the [RETURN] button.
Action by service representative	
Related part	① P-1105 [A600], p/n 171866 ② Tray stop sensor [B606], p/n 208858 ③ Feed bar ON sensor [B605], p/n 208858 ④ Tray separation sensor (front) [B604], p/n 208858
Remarks	

■ It failed in taking product in (0515)



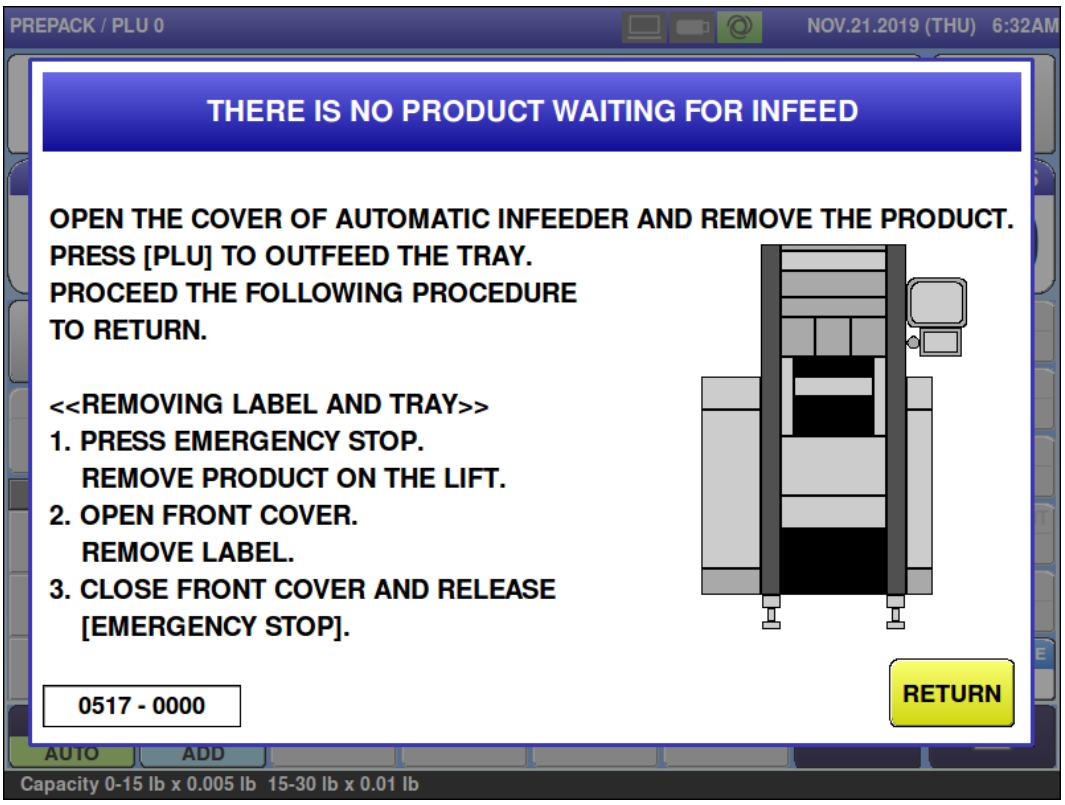
Error content	Failed to take in the product.
Detail	Failed to transfer the tray during the transfer process using the feed bar. The sub-error has the following meanings: 0001: Product did not pass through the feed bar ON sensor within the specified time (the sensor did not switch to a floodlighted state). 0002: The tray stop sensor was blocked when the feed bar was fully pressed. 0003: The tray stop sensor was blocked before the feed bar ON sensor was blocked. 0012: The tray stop sensor was blocked before the tray separation sensor (front) was blocked.
Solution	Open the cover, remove the product, and press the [RETURN] button.
Action by user	Press the [PLU] key to eject the tray on the lift. Open the cover, remove the product, and press the [RETURN] button.
Action by service representative	
Related part	① P-1105 [A600], p/n 171866 ② Tray stop sensor [B606], p/n 208858 ③ Feed bar ON sensor [B605], p/n 208858 ④ Tray separation sensor (front) [B604], p/n 208858
Remarks	

■ Cover for the infeed is open (0516)



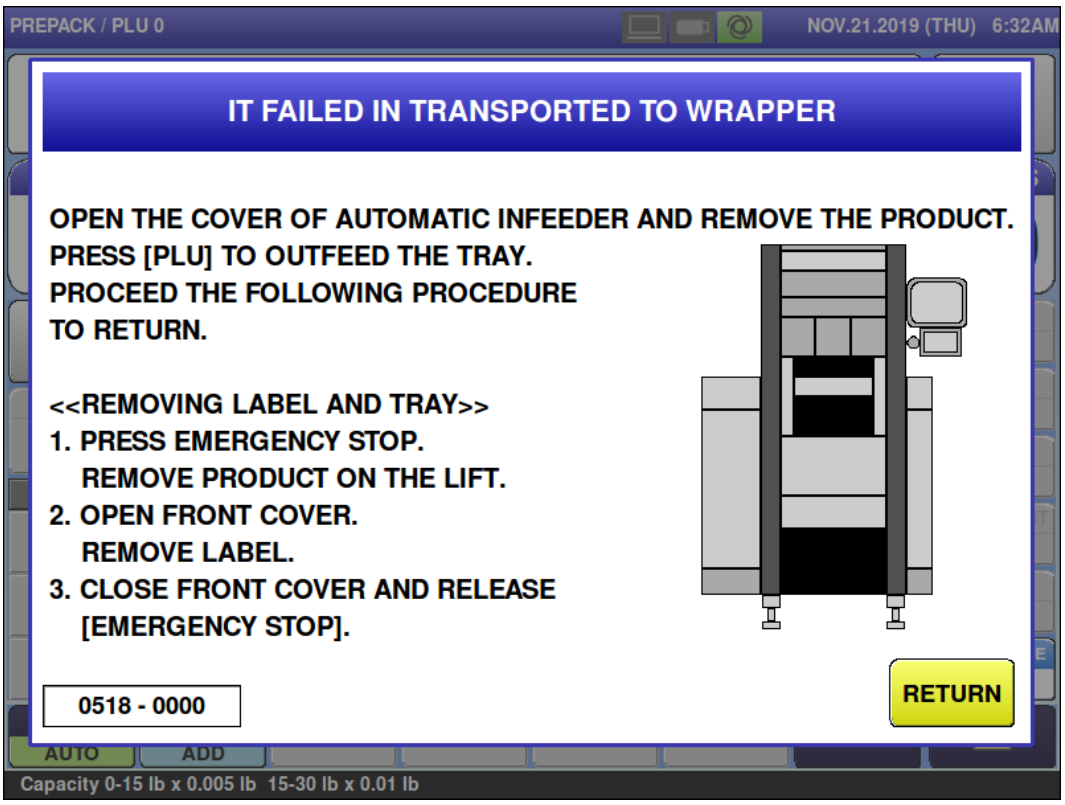
Error content	The cover of the automatic infeeder has been opened.
Detail	The cover of the PS-Ai was opened while the PS-Ai was in operation (including the transfer standby state), or the user attempted to operate the PS-Ai while the cover was open.
Solution	Open the cover, remove the product, and press the [RETURN] button.
Action by user	Press the [PLU] key to eject the tray on the lift. Open the cover, remove the product, and press the [RETURN] button.
Action by service representative	
Related part	① P-1105 [A600], p/n 171866 ② Cover safety interlock [S603], p/n 157866
Remarks	

■ There is no product waiting for infeed (0517)



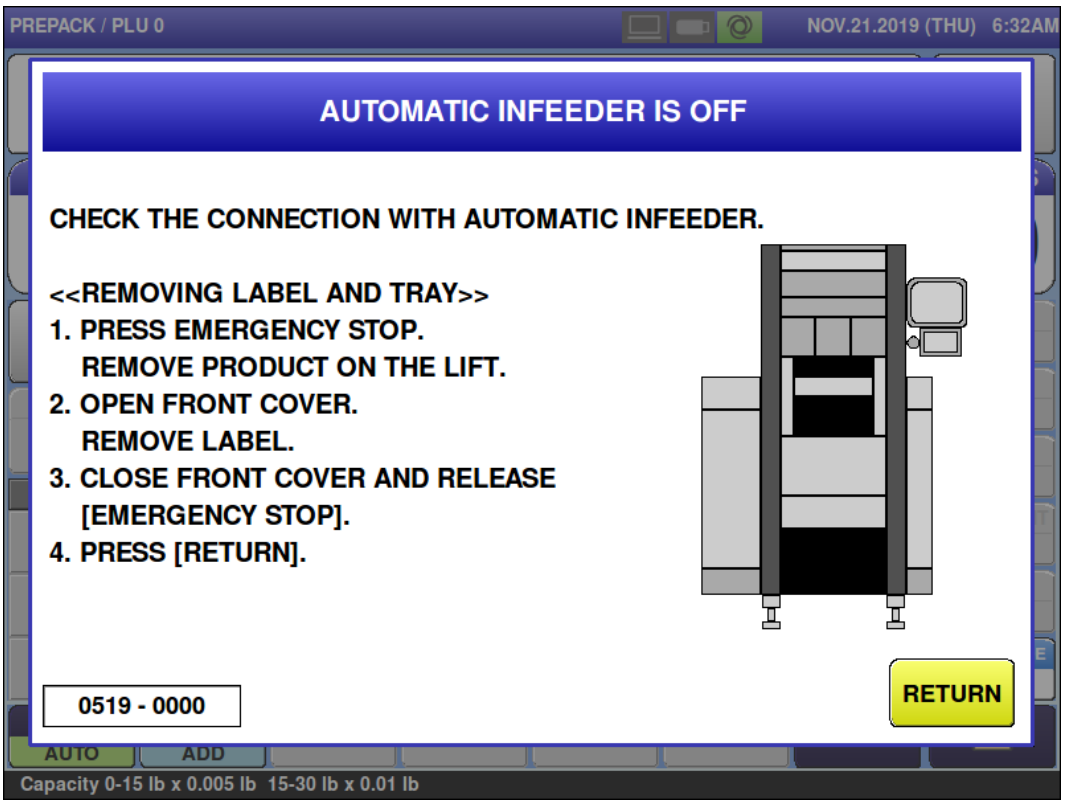
Error content	There are no more products waiting to be supplied.
Detail	Tried to restart the PS-Ai by removing the standby product while the PS-Ai with a product waiting for supply, was stopped.
Solution	Open the cover, remove the product, and press the [RETURN] button.
Action by user	Press the [PLU] key to eject the tray on the lift. Open the cover, remove the product, and press the [RETURN] button.
Action by service representative	
Related part	P-1105 [A600], p/n 171866
Remarks	

■ It failed in transported to wrapper (0518)



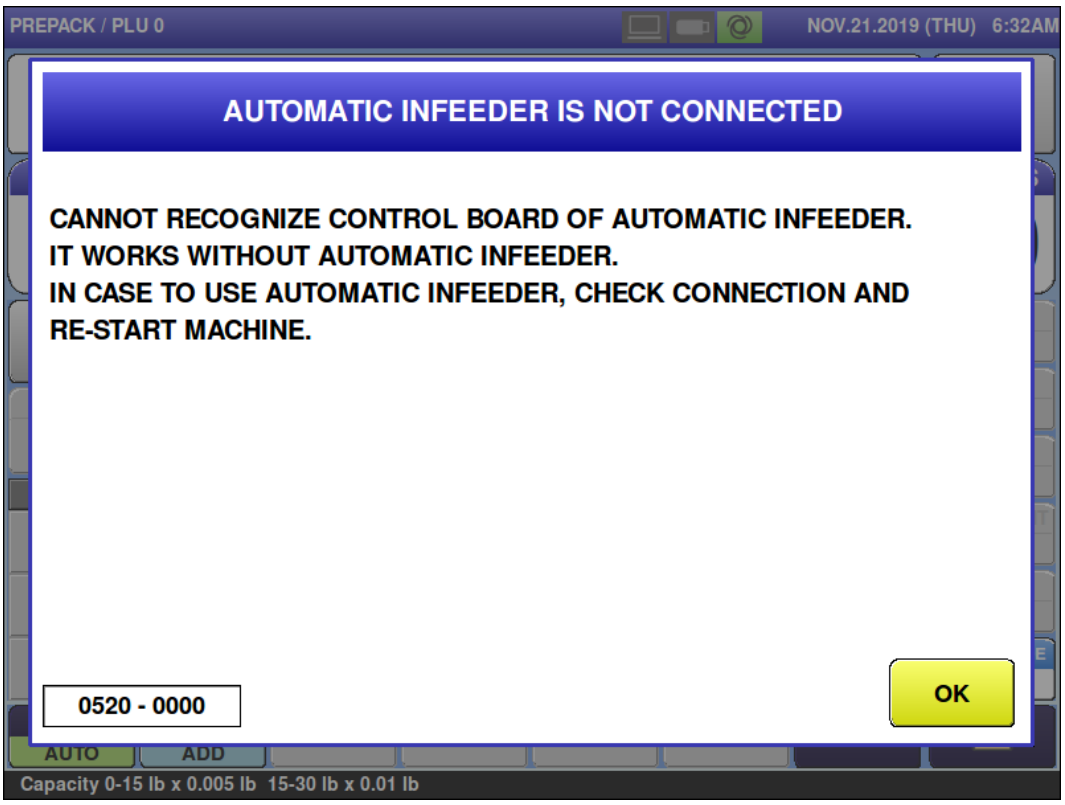
Error content	Failed to connect to the wrapping machine.
Detail	After the product was fed from the PS-Ai to the wrapping machine, no wrapping command occurred after the specified time had elapsed (due to unstable weight readings).
Solution	Open the cover, remove the product, and press the [RETURN] button.
Action by user	Press the [PLU] key to eject the tray on the lift. Open the cover, remove the product, and press the [RETURN] button.
Action by service representative	Check the scale for obstructions.
Related part	① P-1105 [A600], p/n 171866 ② P-1111A-2 / A-7, A/D board, [A40], p/n 171879 ③ Load cell assy [B40], p/n47030
Remarks	

■ Automatic infeeder is off (0519)



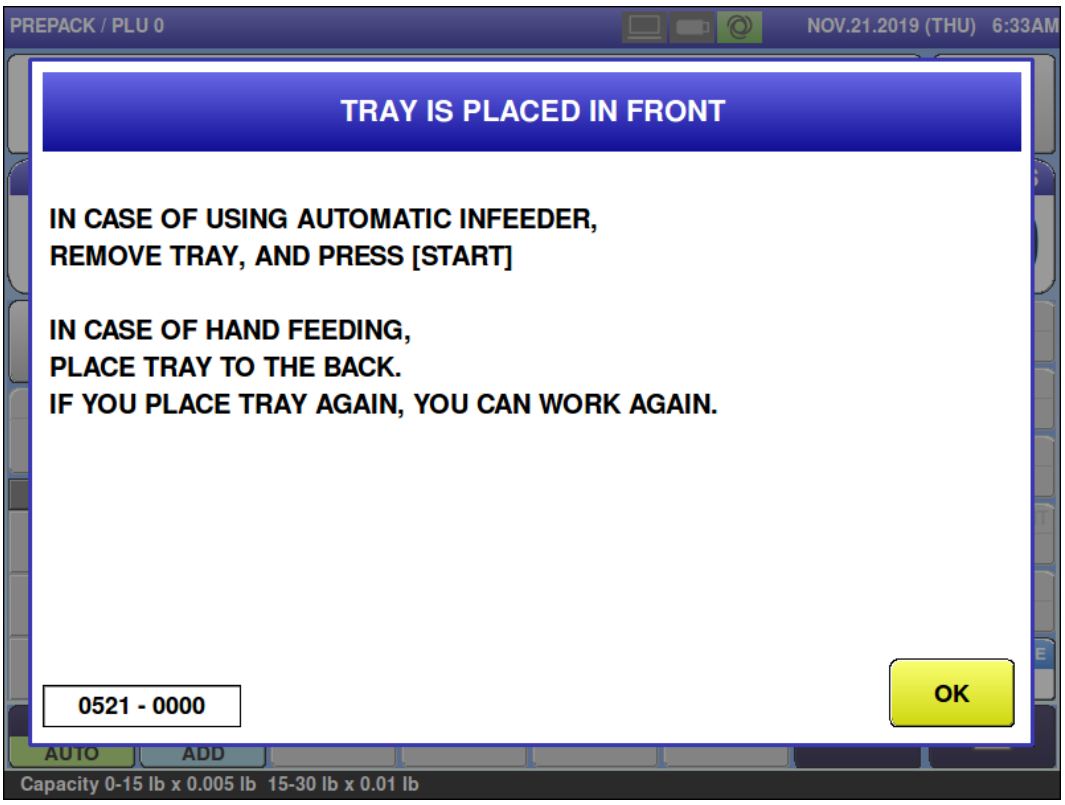
Error content	The automatic infeeder has been disconnected.
Detail	The PS-Ai has been disconnected from the wrapping machine while the PS-Ai was in operation (including the transfer standby state).
Solution	Open the cover, remove the product, and press the [RETURN] button.
Action by user	Open the cover, remove the product, and press the [RETURN] button.
Action by service representative	
Related part	P-1105 [A600], p/n 171866
Remarks	

■ Automatic infeeder is not connected (0520)



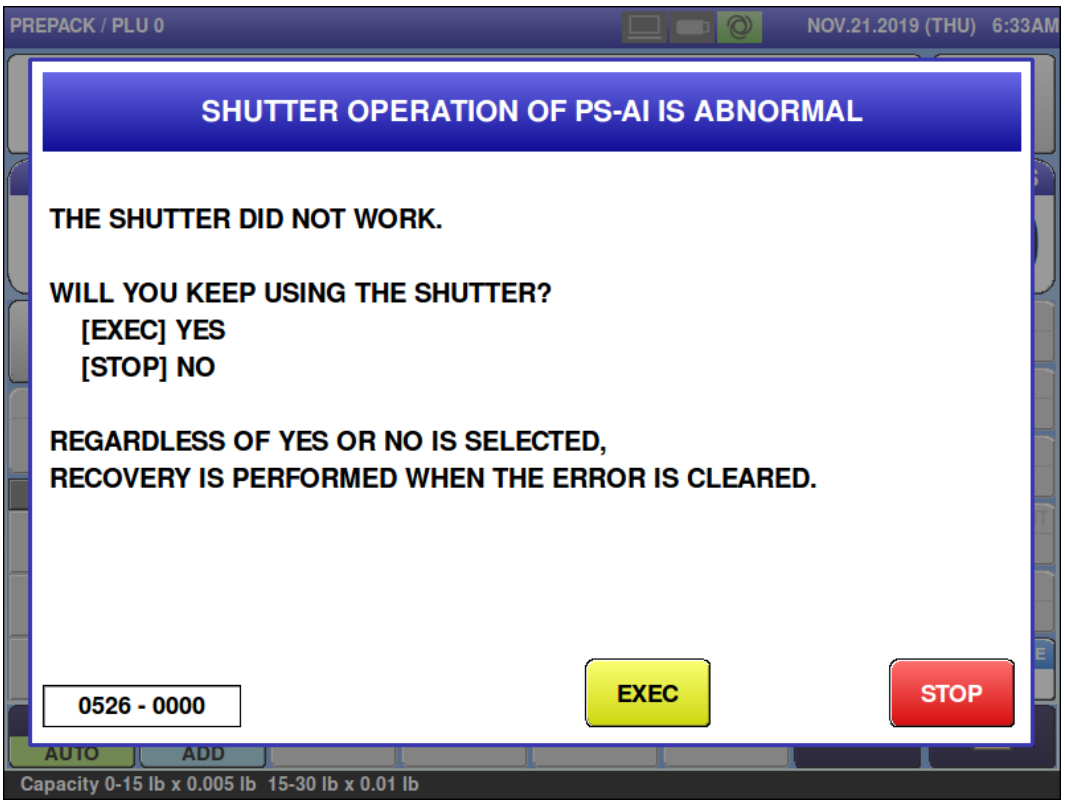
Error content	The automatic infeeder is not connected.
Detail	The P-1105 board for PS-Ai was not recognized when turning on the power or setting up the machine.
Solution	Follow the on-screen instructions and press the [OK] button.
Action by user	Press the [OK] button. The machine can be used without the PS-Ai until the power is turned off and on again.
Action by service representative	
Related part	P-1105 [A600], p/n 171866
Remarks	

■ Tray is placed in front (0521)



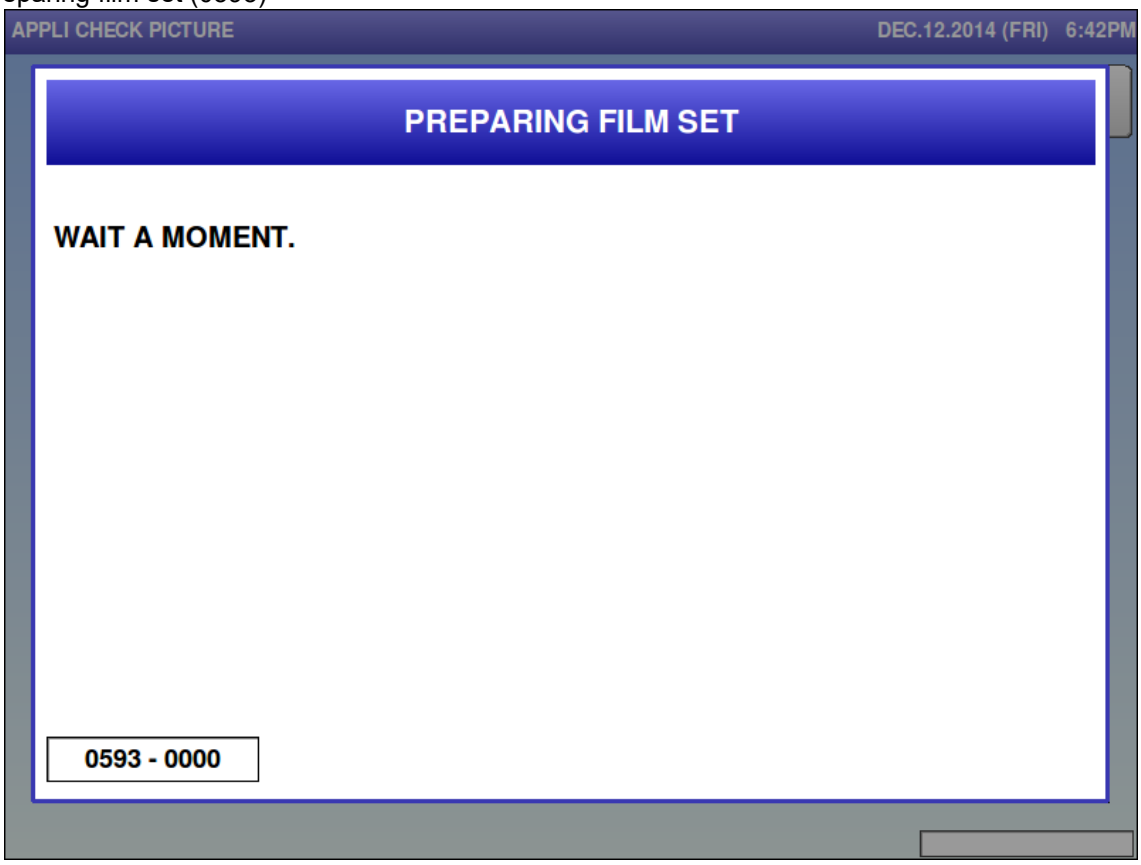
Error content	The tray is placed in front.
Detail	Before the wrapping operation, product has blocked the tray front detection sensor.
Solution	Follow the on-screen instructions and press the [OK] button.
Action by user	When using PS-Ai: Remove the product from the weighing platter and press the [START] button. When manually feeding products: Reposition the product.
Action by service representative	
Related part	① P-1105 [A600], p/n 171866 ② Tray front detection sensor [B614], p/n 207393
Remarks	

■ Shutter operation of PS-Ai is abnormal (0526)



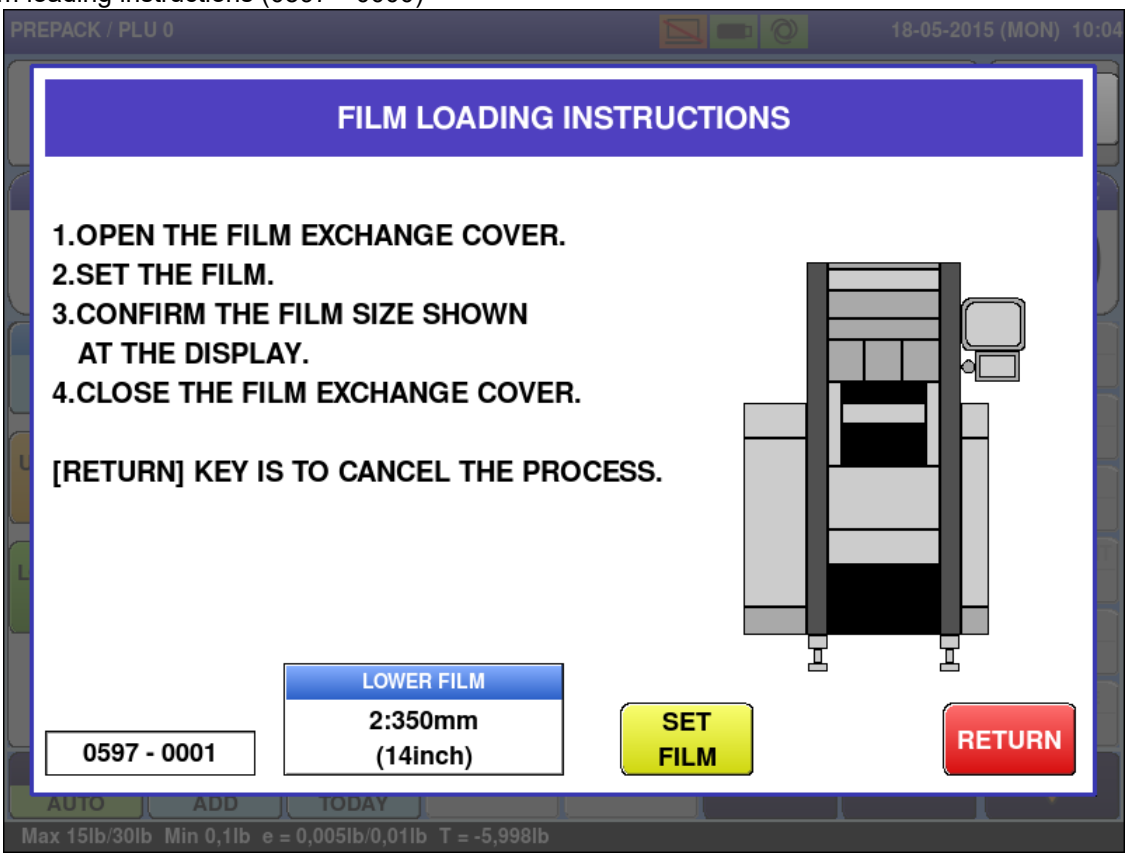
Error content	The shutter operation of PS-Ai is abnormal.
Detail	The home position sensor was not properly blocked or unblocked in the PS-Ai's shutter operation. The sub-error has the following meanings: 0001: The right side of the shutter home position sensor was blocked when the shutter came out. 0002: The left side of the shutter home position sensor was blocked when the shutter came out. 0003: Both right and left sides of the shutter home position sensors were blocked when the shutter came out. 0010: Both right and left sides of the shutter home position sensors were unblocked when the shutter returned to its home position. 0011: The left side of the shutter home position sensor was unblocked when the shutter returned to its home position. 0012: The right side of the shutter home position sensor was unblocked when the shutter returned to its home position. (The ones digit indicates the status of the home position sensor)
Solution	
Action by user	When using the shutter continuously, press the [EXEC] button to perform the recovery operation. After that, when canceling the shutter operation, press the [STOP] button to resume operation. (The shutter operation is not performed until the power is turned off)
Action by service representative	
Related part	① P-1105 [A600], p/n 171866 ② Shutter solenoid 1 (driver) [L603], p/n 208877 [E604], p/n 208849 ③ Shutter solenoid 2 (driver) [L604], p/n 208877 [E605], p/n 208850 ④ Shutter original position (right) [B612], p/n 171837 ⑤ Shutter original position (left) [B613], p/n 171837
Remarks	

■ Preparing film set (0593)



Error content	Preparing film set.
Detail	Message indicates that the insertion plate is moving towards the film threading position. Sub-error meanings are as follows: 0000: Displayed when upper film is set. 0001: Displayed when lower film is set.
Solution	The message clears automatically when the insertion plate reaches the film threading position.
Action by user	
Action by service representative	
Related part	
Remarks	

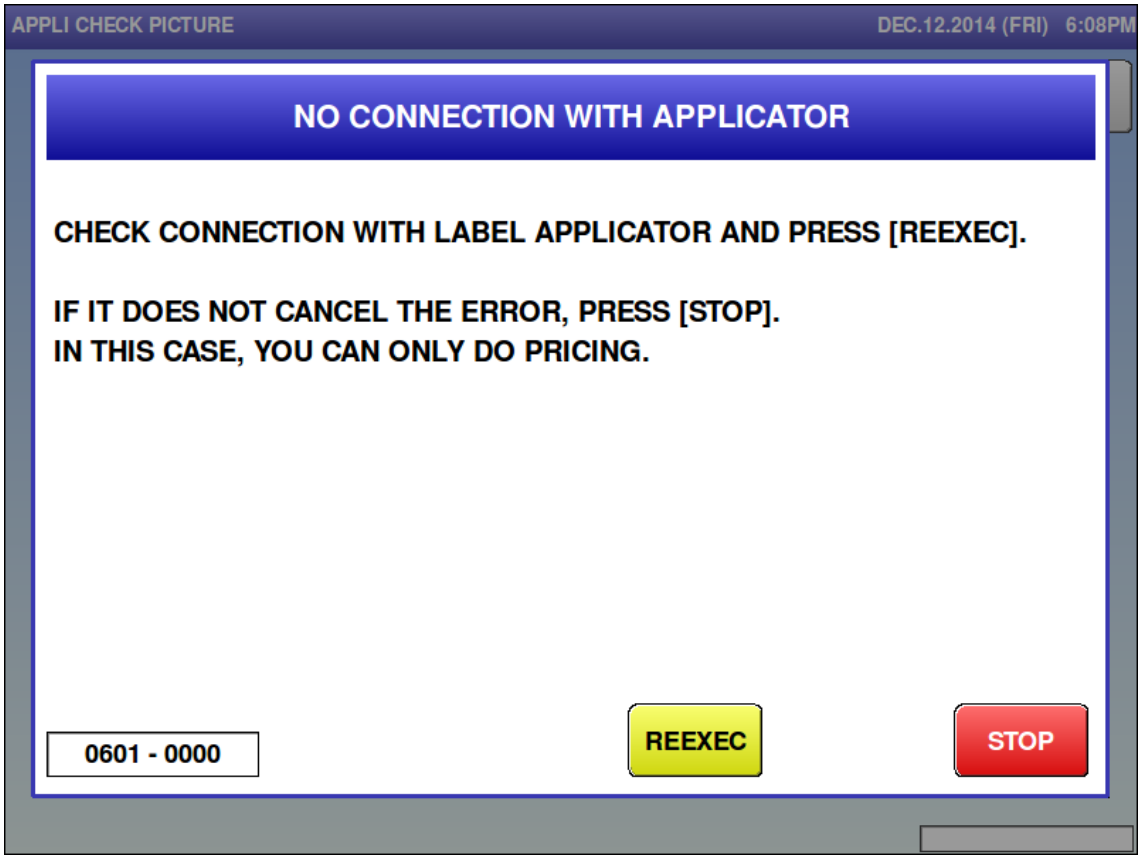
■ Film loading instructions (0597－0000)



Error content	Film loading instructions.
Detail	Message indicates that the insert plate reached the film threading position. Sets the film size or loads the film. Use the [UPPER FILM] to enter the upper film size. Use the [LOWER FILM] to enter the lower film size. Enter the ID number, or film size in mm or inches. Example: 3, 400, or 16. Then press [UPPER FILM] or [LOWER FILM] on the screen. Sub-error meanings are as follows: 0000: Displayed when upper film is set. 0001: Displayed when lower film is set.
Solution	① Press either the [RETURN] button or the [SET FILM] button. [RETURN]: Returns to the previous screen. Film is not loaded. *Film size returns to the original size. [SET FILM]: Sets the film. ② Open the film film loading door and close the door after the film is threaded.
Action by user	Follow steps 1 - 4 on the screen to load film.
Action by service representative	
Related part	
Remarks	When steps 1 - 4 are followed the [SET FILM] button is not necessary. The [SET FILM] button should only be used if the film fails to automatically load.

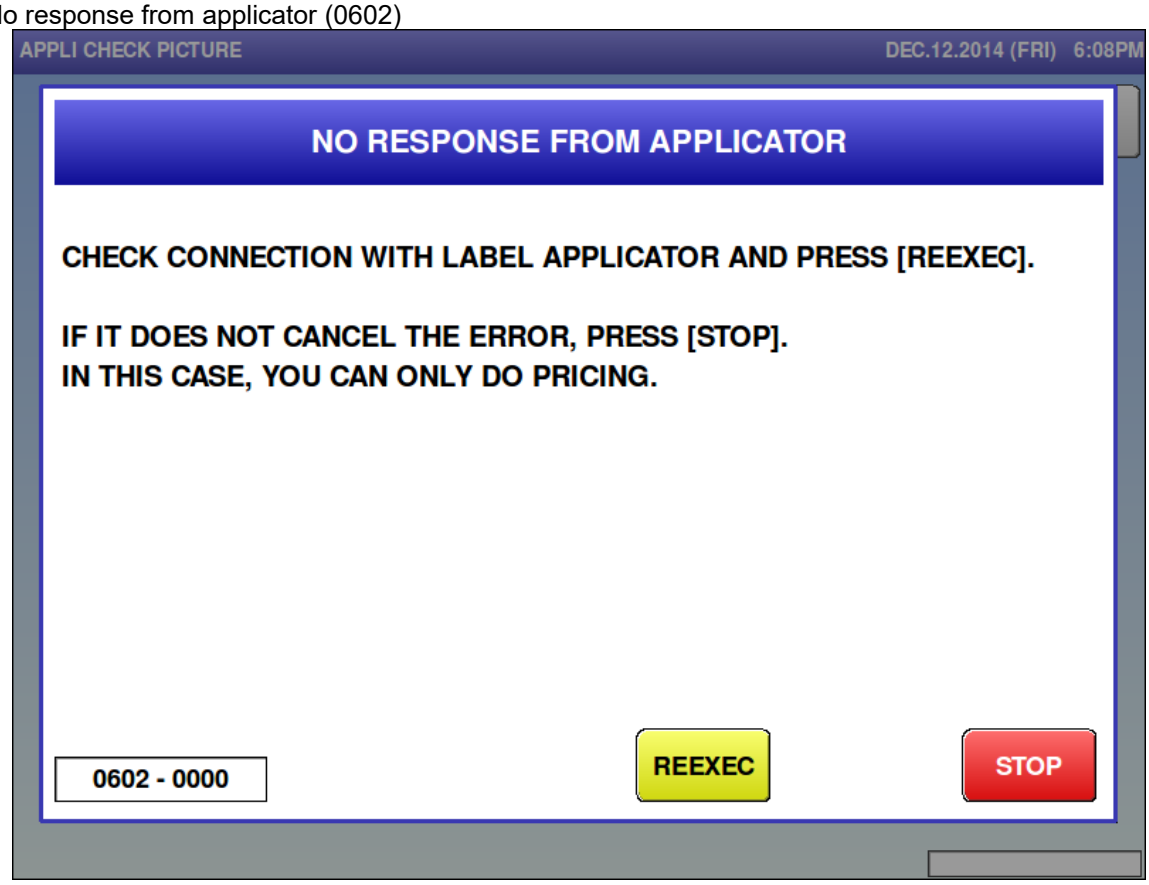
A.3.5 Applicator-related Error (No. 600s)

■ No connection with applicator (0601)



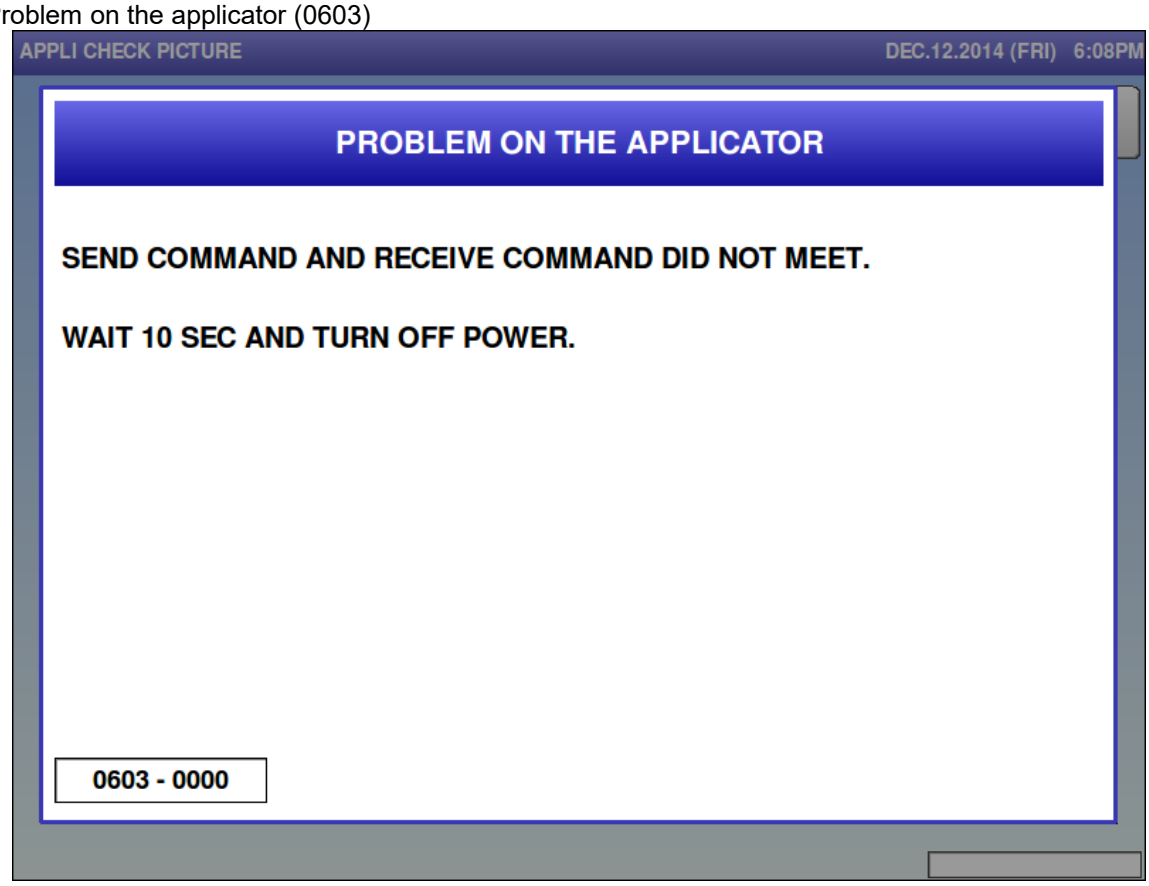
Error content	No connection with applicator.
Detail	・Communication wasn't achieved between the console and the applicator. ・Communication phase number is in the sub-error. ・Communication errors after power ON result in this error.
Solution	[STOP] => Cut communication with the applicator. Operate without the applicator. [REEXEC] => Check connection with the applicator. The error is cleared if connection is confirmed.
Action by user	
Action by service representative	
Related part	
Remarks	Operation without the applicator is possible after pressing the STOP button.

■ No response from applicator (0602)



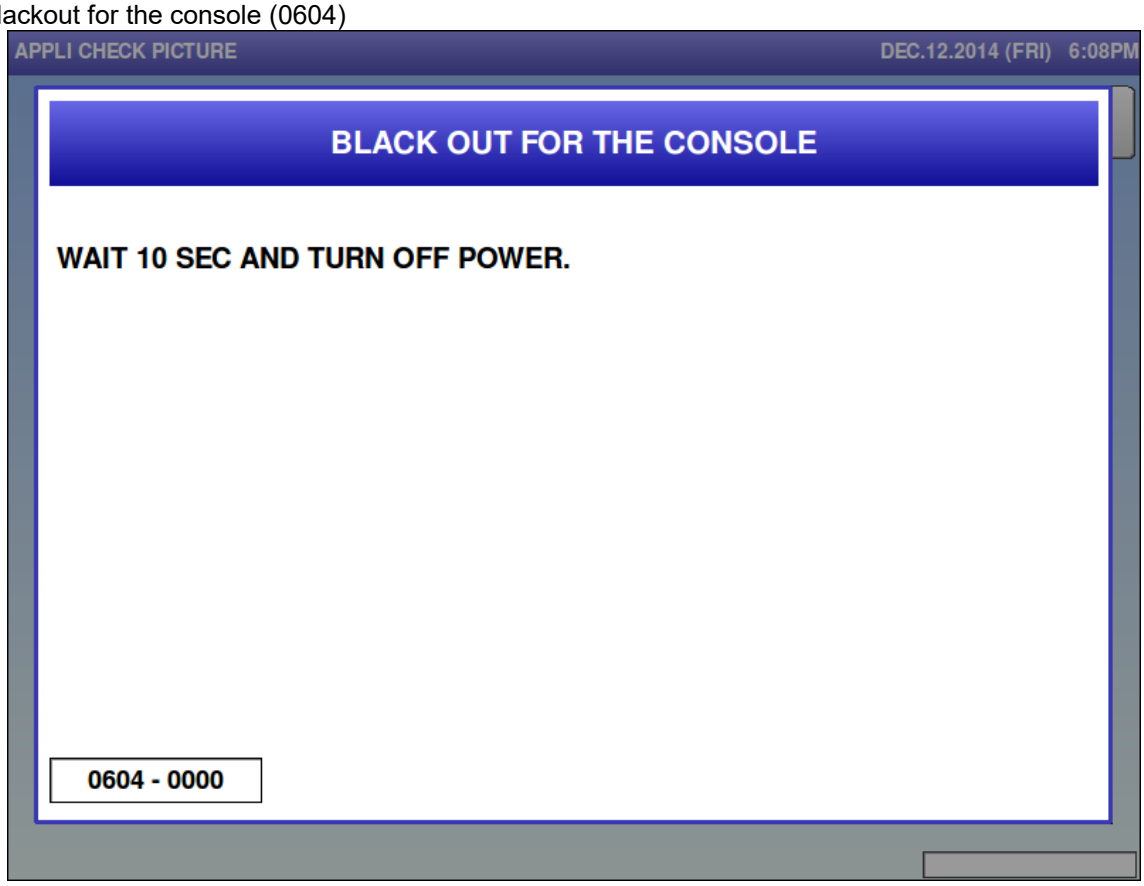
Error content	No response has been received from the label applicator in a case other than the power-on notification when power is turned on.
Detail	・Communication wasn't achieved between the console and the applicator. ・Communication phase number is in the sub-error. ・Communication errors after power ON result in this error.
Solution	[STOP] => Cut communication with the applicator. Operate without the applicator. [REEXEC] => Check connection with the applicator. The error is cleared if connection is confirmed.
Action by user	
Action by service representative	
Related part	
Remarks	Operation without the applicator is possible after pressing the [STOP] button.

■ Problem on the applicator (0603)



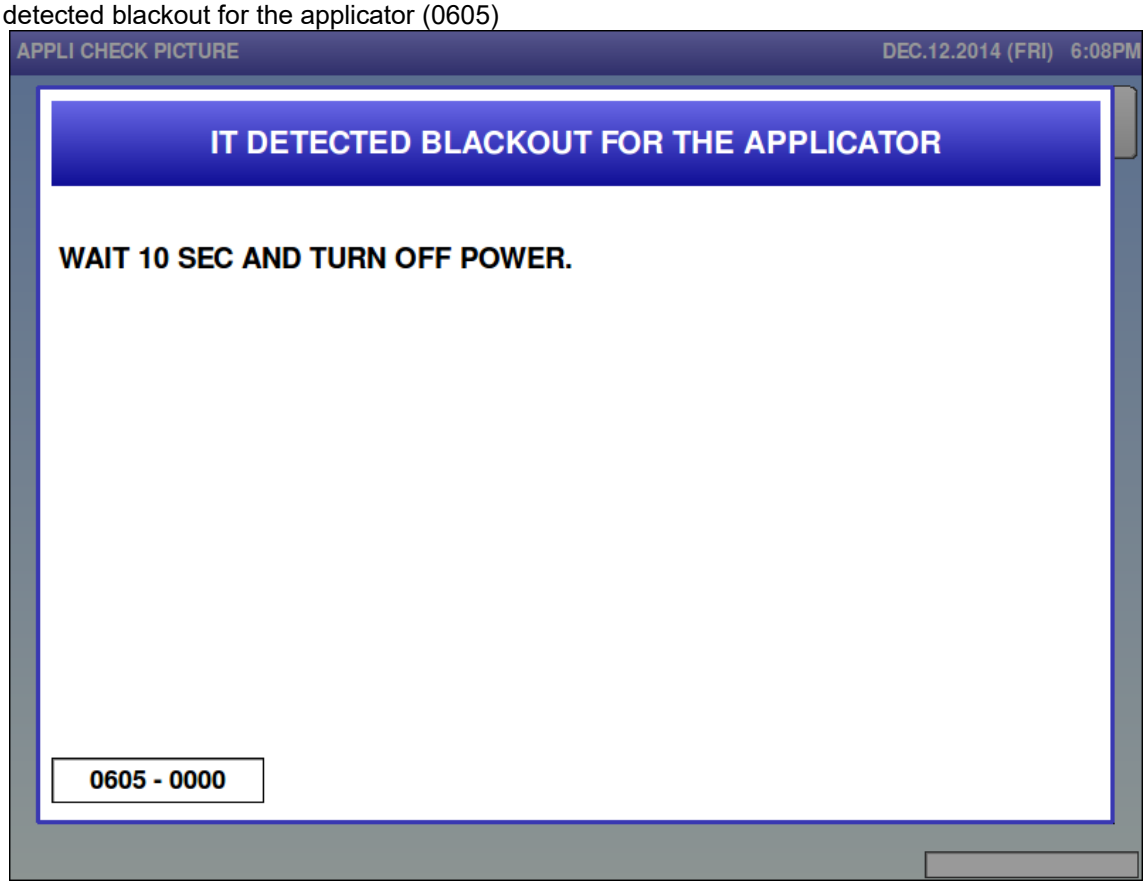
Error content	The command sent to the applicator and the command contained in the answer is different.
Detail	
Solution	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by user	
Action by service representative	
Related part	
Remarks	

■ Blackout for the console (0604)



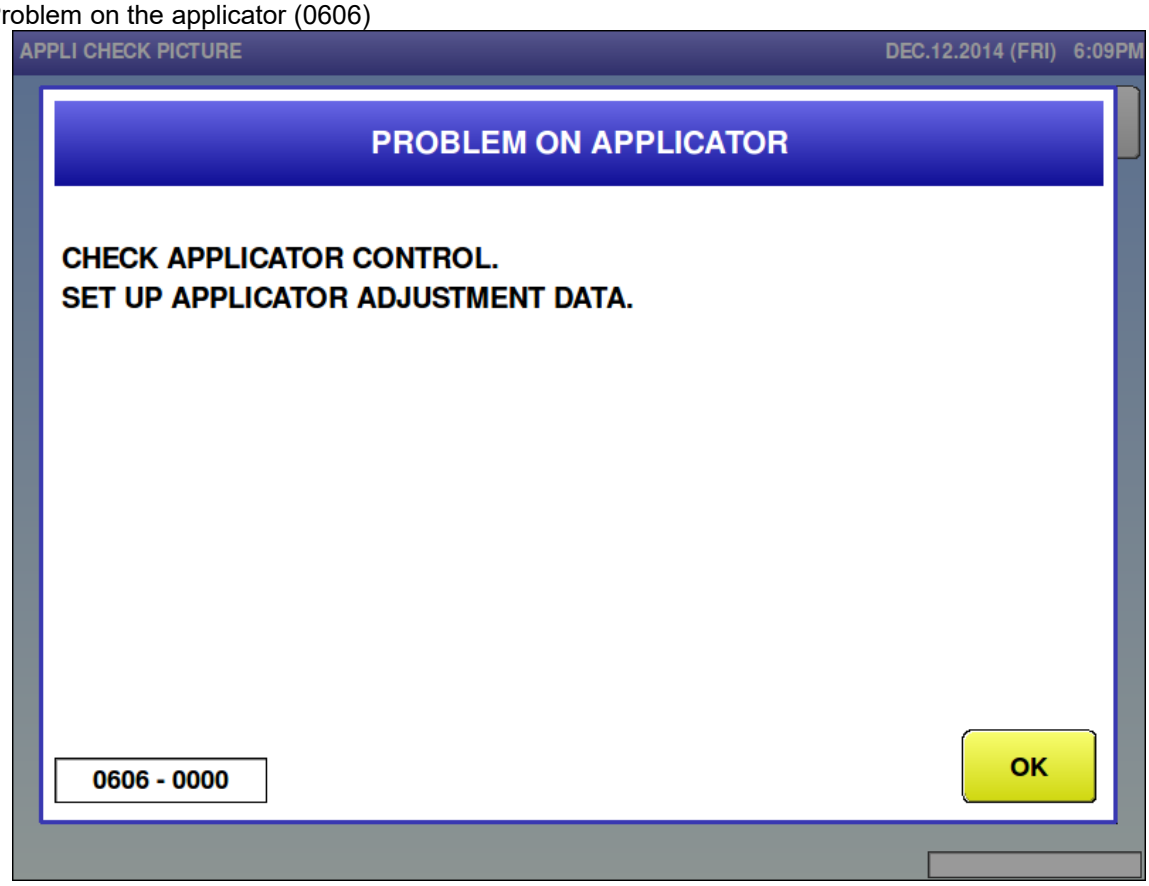
Error content	Power failure detected in the applicator.
Detail	Power ON notification command was received twice from the console.
Solution	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by user	
Action by service representative	
Related part	① 24 V DC from the [U11] power supply (XJ12) of P-1105 [A100]. ② RS485 communication cable between main board P-1100 [A10] -XJ25 and P-1105 [A100]. -XJ26
Remarks	

■ It detected blackout for the applicator (0605)



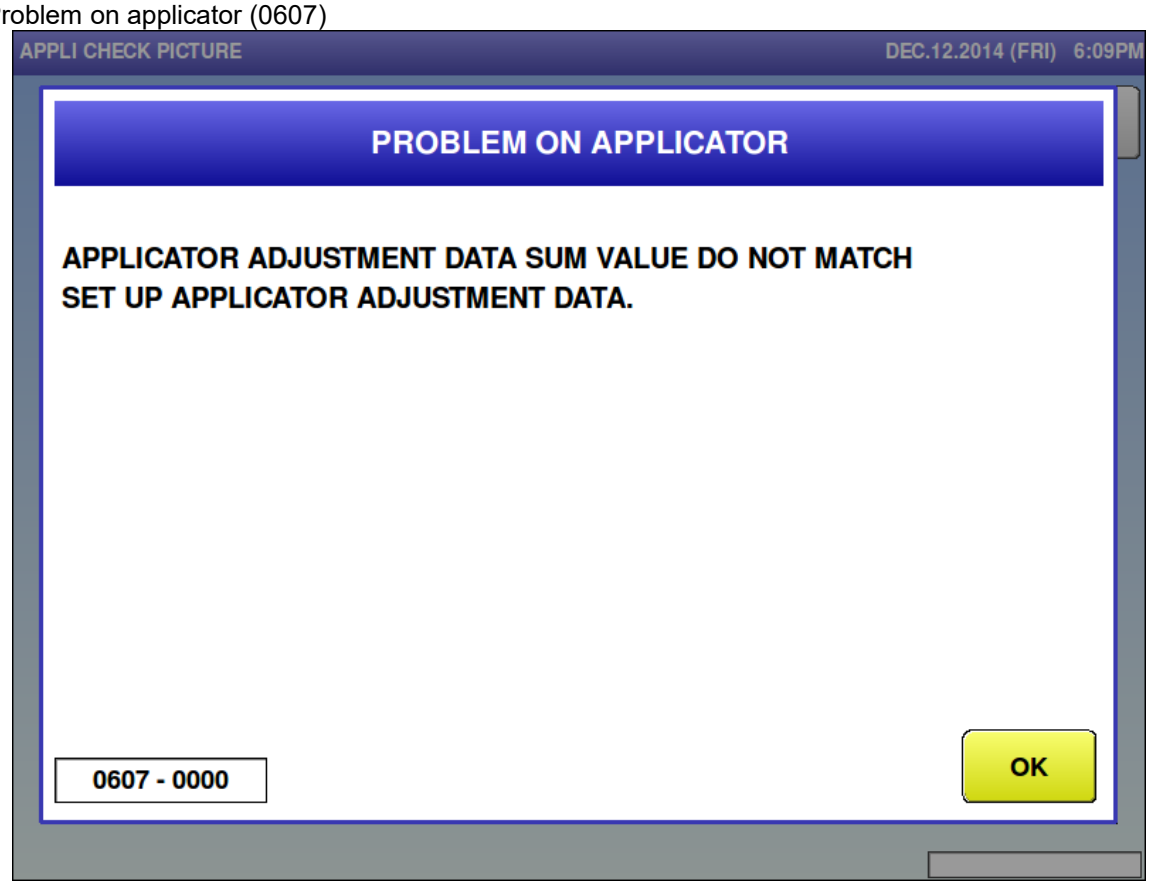
Error content	Applicator CPU was reset.
Detail	Before receiving the acknowledge power ON command, the applicator received a different command.
Solution	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by user	
Action by service representative	
Related part	① 24 V DC from the [U11] power supply (XJ12) of P-1105 [A100]. ② RS485 communication cable between main board P-1100 [A10] -XJ25 and P-1105 [A100]. -XJ26
Remarks	

■ Problem on the applicator (0606)



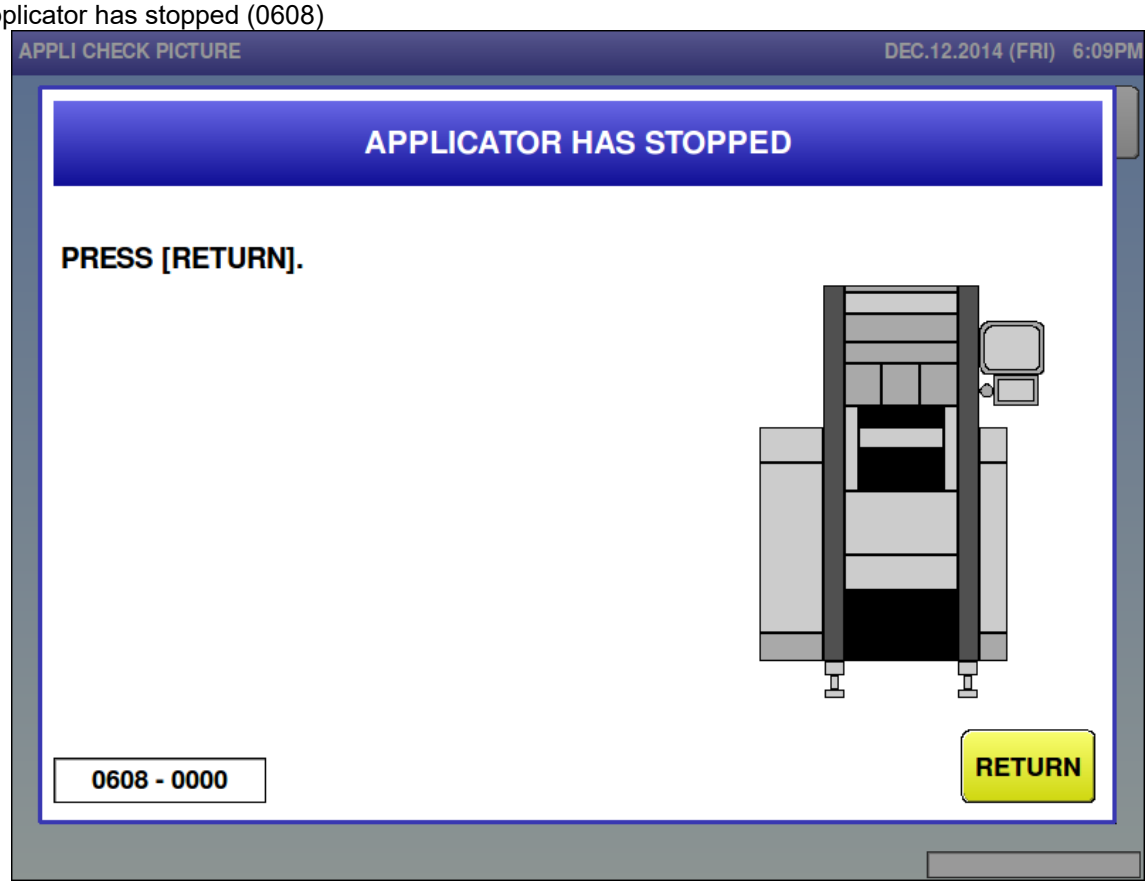
Error content	Applicator alignment data has not been set.
Detail	
Solution	Press the [OK] button; initialize the applicator for the adjustment.
Action by user	
Action by service representative	Initialize the applicator and re-enter setting data.
Related part	
Remarks	Adjust menu, Applicator.

■ Problem on applicator (0607)



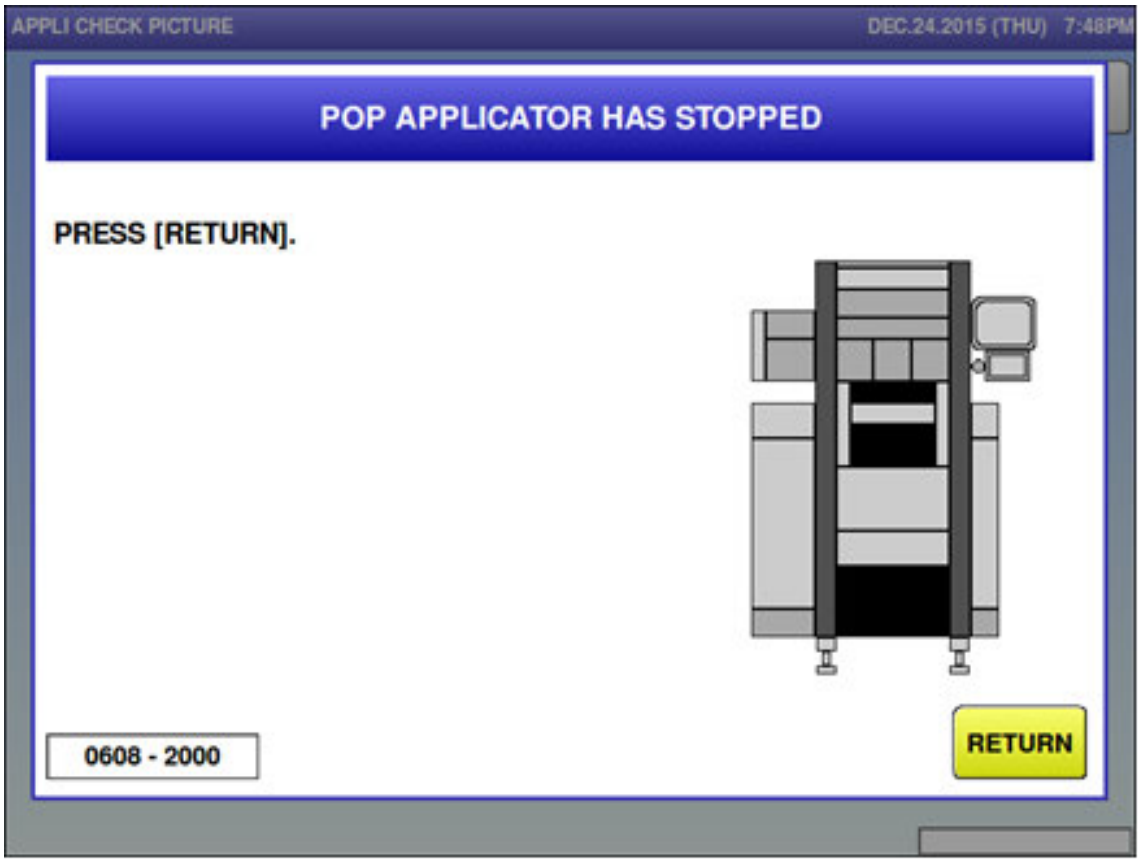
Error content	Applicator data checksum value is abnormal.
Detail	
Solution	Press the [OK] button and adjust the applicator.
Action by user	
Action by service representative	Check the applicator settings and adjust as needed.
Related part	
Remarks	Adjust menu, Applicator.

■ Applicator has stopped (0608)



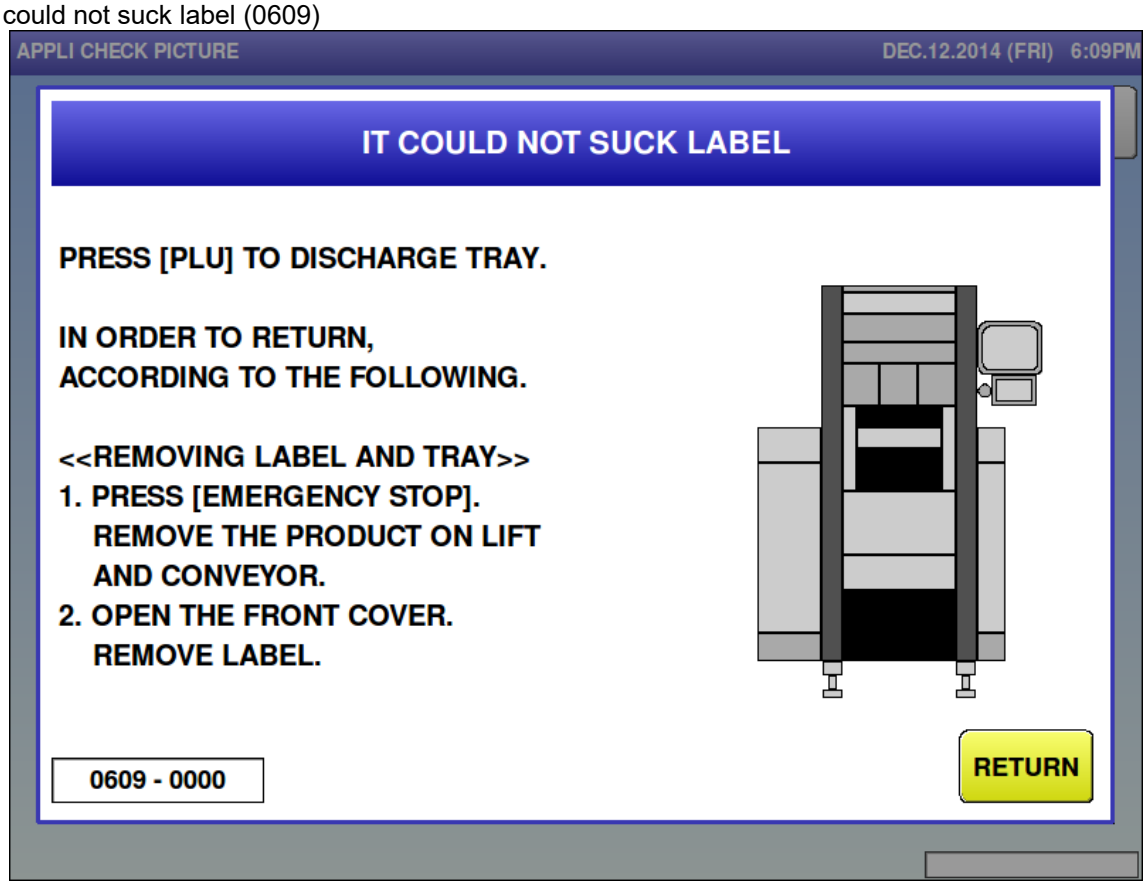
Error content	Applicator has stopped.
Detail	The emergency stop switch was pressed during applicator operation. Sub-error meanings are as follows: 0608-0000: Main applicator 0608-2000: Pop applicator
Solution	Press the [RETURN] button after releasing the emergency stop switch.
Action by user	Press the [RETURN] button after releasing the emergency stop switch.
Action by service representative	
Related part	
Remarks	

■ POP applicator has stopped (0608-2000)



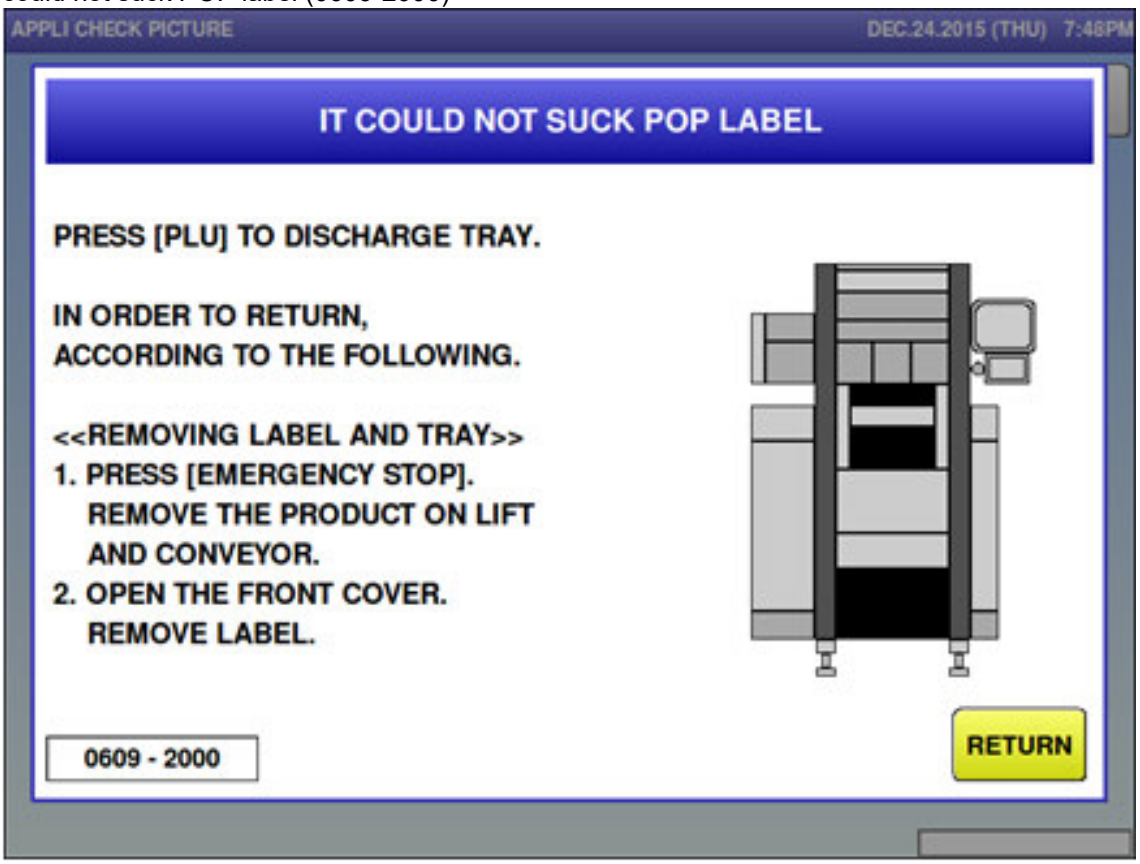
Error content	The pop applicator has stopped.
Detail	The emergency stop switch was pressed during POP applicator operation.
Solution	Press the [RETURN] button after releasing the emergency stop switch.
Action by user	Press the [RETURN] button after releasing the emergency stop switch.
Action by service representative	
Related part	
Remarks	

■ It could not suck label (0609)



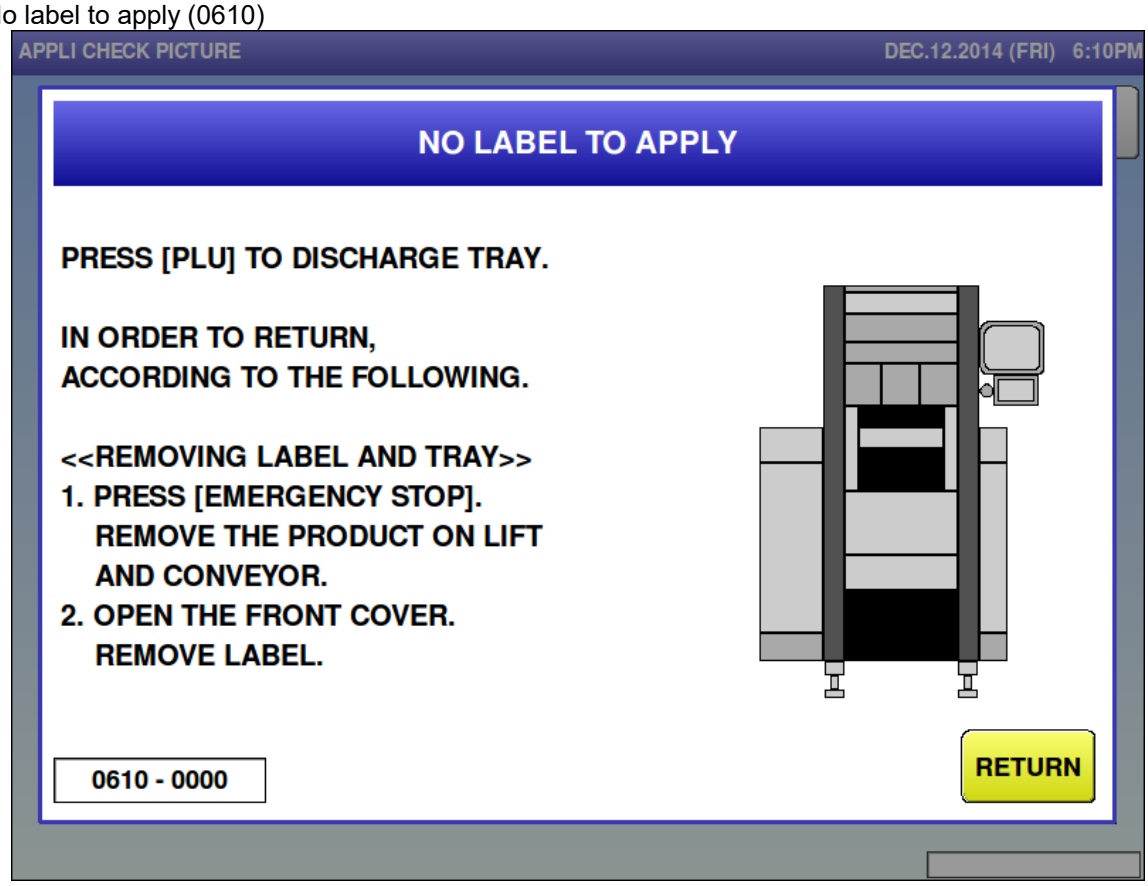
Error content	Applicator failed in label application. The label was not picked up from the label roller table.
Detail	Sub-error meanings are as follows: 0000: Applicator failed in labeled absorption.
Solution	Press either (1) or (2) to clear the error. ① [RETURN] button ② [PLU] button
Action by user	Clean the label detect sensor in the applicator.
Action by service representative	Clean the label detect sensor in the applicator. Adjust the label stop position in the Printer (Adjust menu). Adjust the label pickup position in the Label Applicator position adjustment. (Adjust menu)
Related part	① P-1105 [A100] p/n 171866 ② P-1006C-5 [A101] p/n 171859 ③ Label detect sensor [B116] p/n 172623 ④ Label suction fan [M107] p/n 172624
Remarks	Clean the label detect sensor in the label applicator using a cotton swab. Test the fan suction to confirm it will hold an empty number 2 tray.

■ It could not suck POP label (0609-2000)



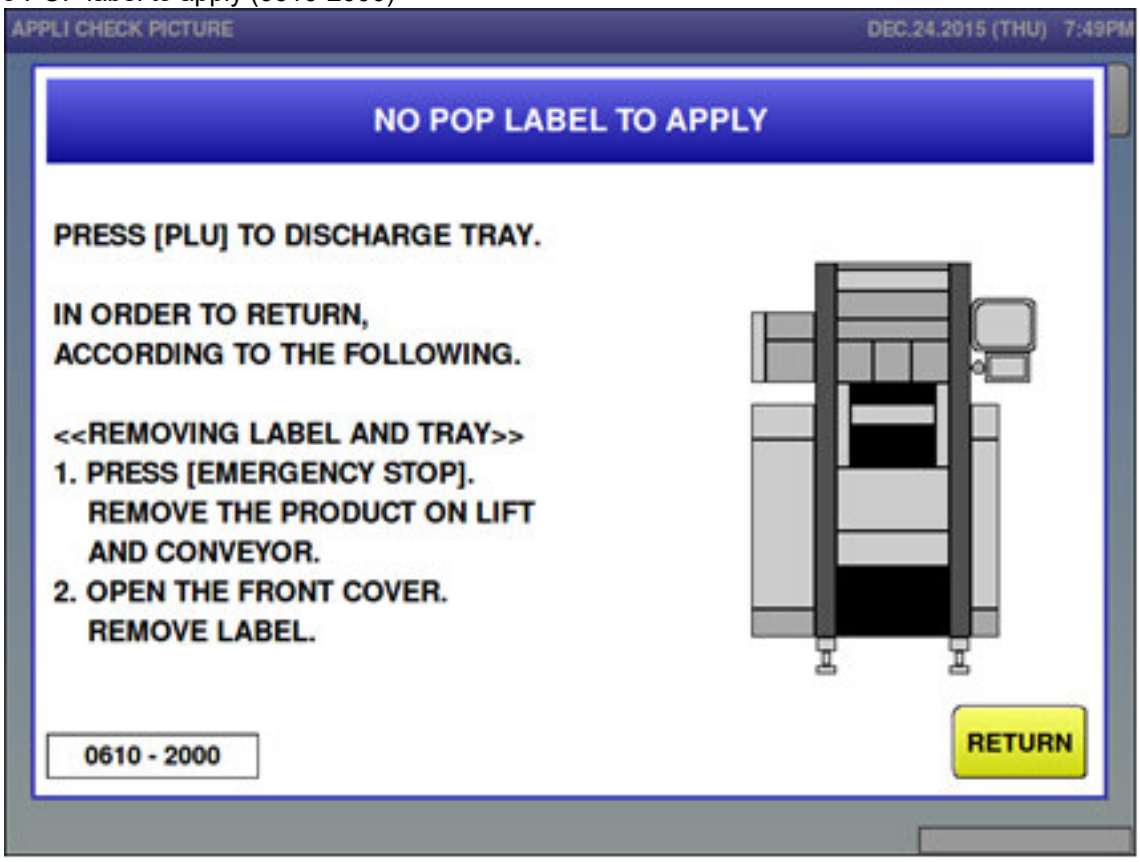
Error content	The applicator failed in pop label application.
Detail	The label was not picked up from the label roller table. Sub-error meaning is as follows: 2000: POP applicator failed in label pick up.
Solution	Press the [RETURN] button ==> move component to starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Clean the label detect sensor in the applicator.
Action by service representative	Clean the label detect sensor in the applicator. Adjust the label stop position in the Printer settings (Adjust menu > Printer) Adjust the suction position on the applicator adjustment screen (Adjust menu > Label Applicator > Pos. tab).
Related part	① P-1105 [A400], p/n 171866 ② P-1006C-5 [A401], p/n 171859 ③ Label detect sensor [B405], p/n 178214 ④ Label suction fan [M413], p/n 178215
Remarks	Clean the label detect sensor in the label applicator using a cotton swab. Test the fan suction to confirm it will hold an empty number 2 tray.

■ No label to apply (0610)



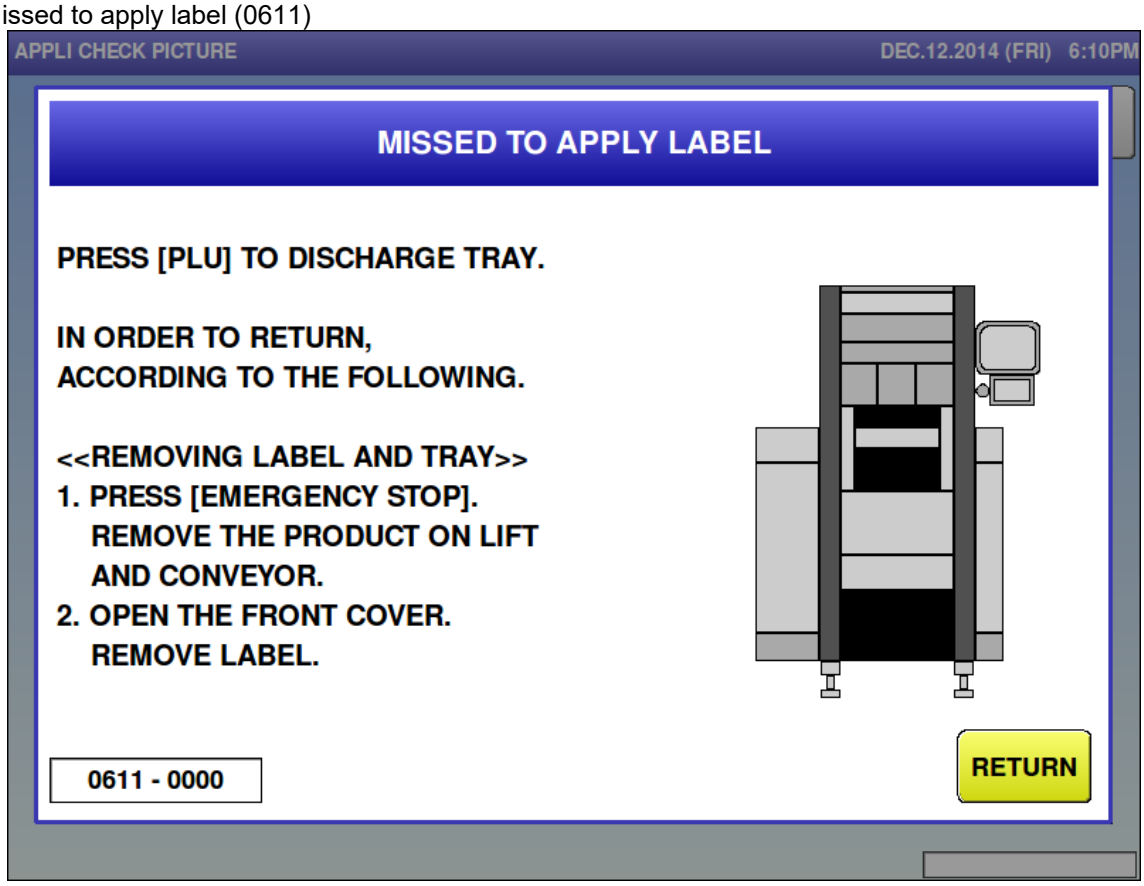
Error content	No label to apply. The label was lost between the label roller table and application to the package.
Detail	There was no label when application was attempted Sub-error meanings are as follows: 0000: Applicator failed in labeled absorption.
Solution	Press the [RETURN] button
Action by user	Clean the label detect sensor in the applicator
Action by service representative	Clean the label detect sensor in the applicator
Related part	① P-1105 [A100] p/n 171866 ② P-1006C-5 [A101] p/n 171859 ③ Label detect sensor [B116] p/n 172623 ④ Label suction fan [M107] p/n 172624
Remarks	Clean the label detect sensor in the label applicator using a cotton swab. Test the fan suction to confirm it will hold an empty number 2 tray.

■ No POP label to apply (0610-2000)



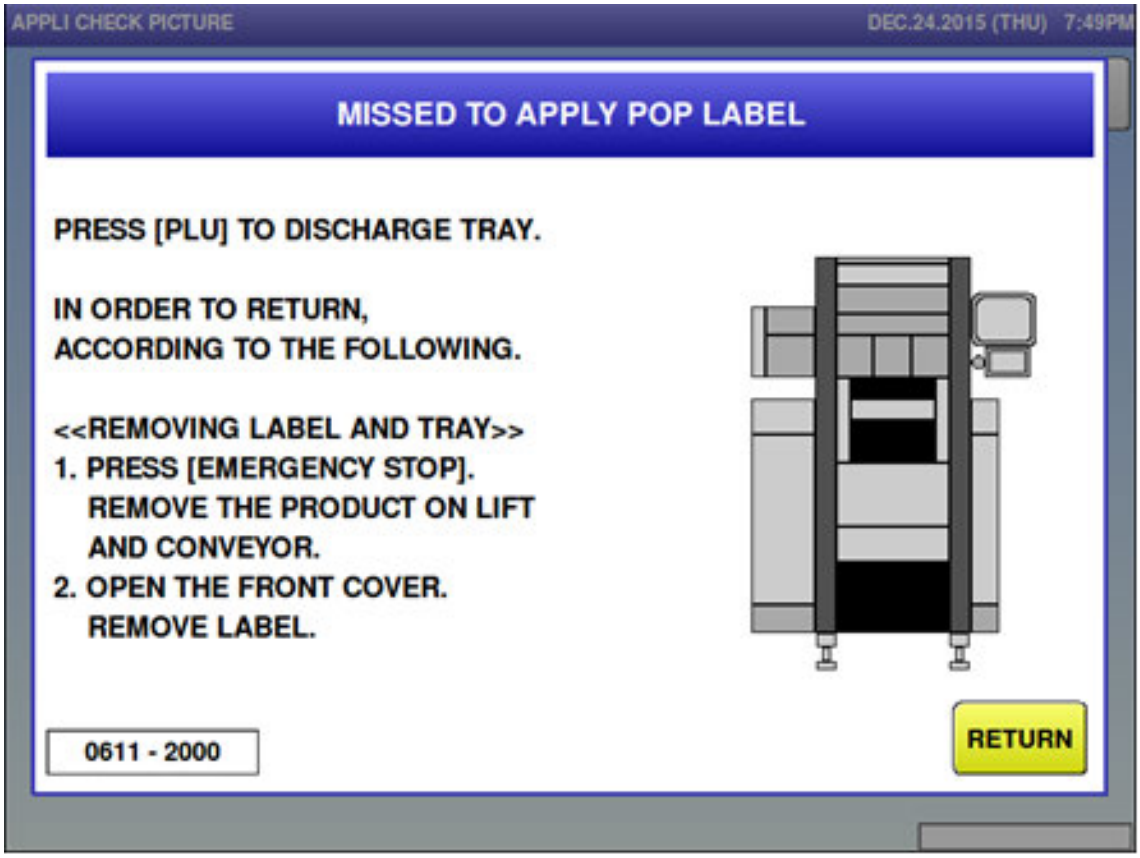
Error content	No pop label to apply.
Detail	There was no label when application was attempted. The label was lost between the label roller table and application to the package. Sub-error meaning is as follows: 2000: Pop applicator failed in label pick up.
Solution	Press the [RETURN] button ==> move component to starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Clean the label detect sensor in the applicator.
Action by service representative	Clean the label detect sensor in the applicator.
Related part	① P-1105 [A400], p/n 171866 ② P-1006C-5 [A401], p/n 171859 ③ Label detect sensor [B405], p/n 178214 ④ Label suction fan [M413] p/n 178215
Remarks	Clean the label detect sensor in the label applicator using a cotton swab. Test the fan suction to confirm it will hold an empty number 2 tray.

■ Missed to apply label (0611)



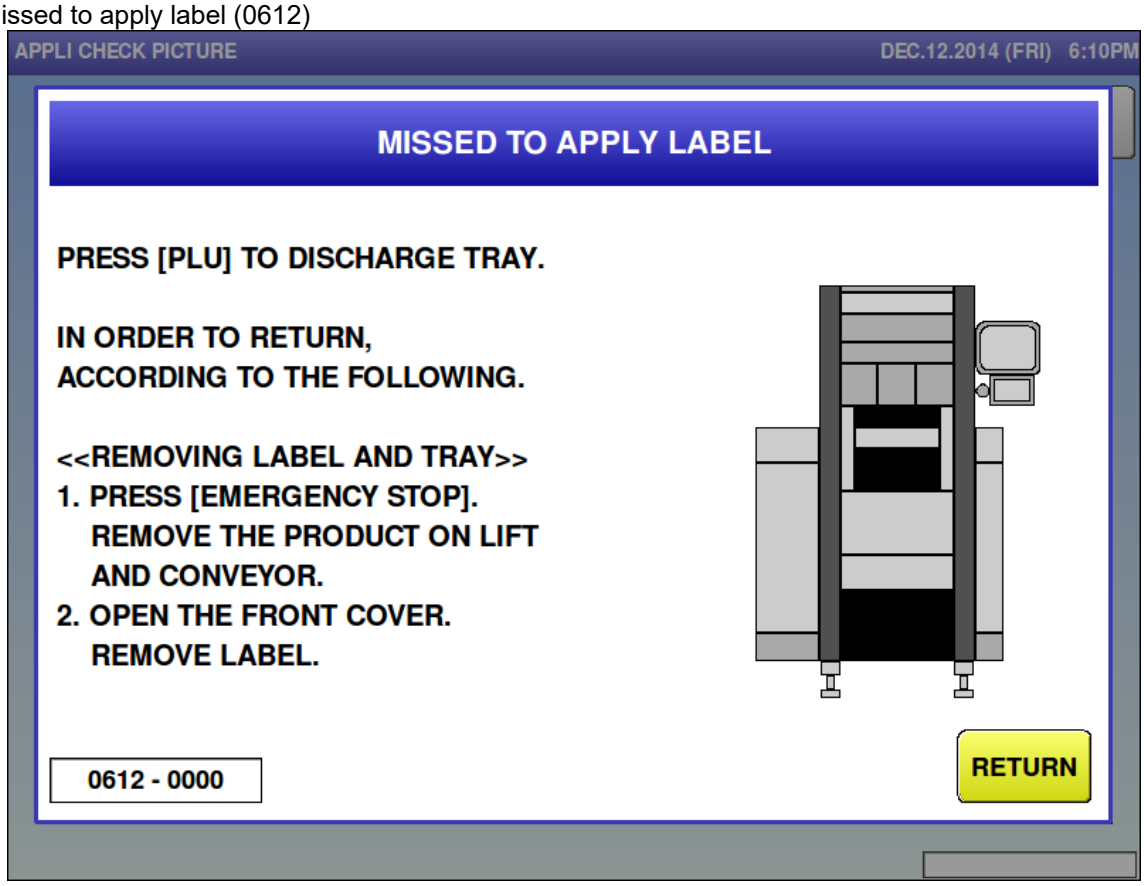
Error content	Failed to apply label on product.
Detail	Sub-error meanings are as follows: 0000: Application preparation was not completed when application time ran out. 0001: Previous application was not completed when application timing signal was received. 0002: The tray height message was not received when the application timing signal was received.
Solution	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by service representative	Check the operation of the baffle in the label applicator that redirects the fan suction to release the label when applied to the tray.
Related part	
Remarks	

■ Missed to apply POP label (0611-2000)



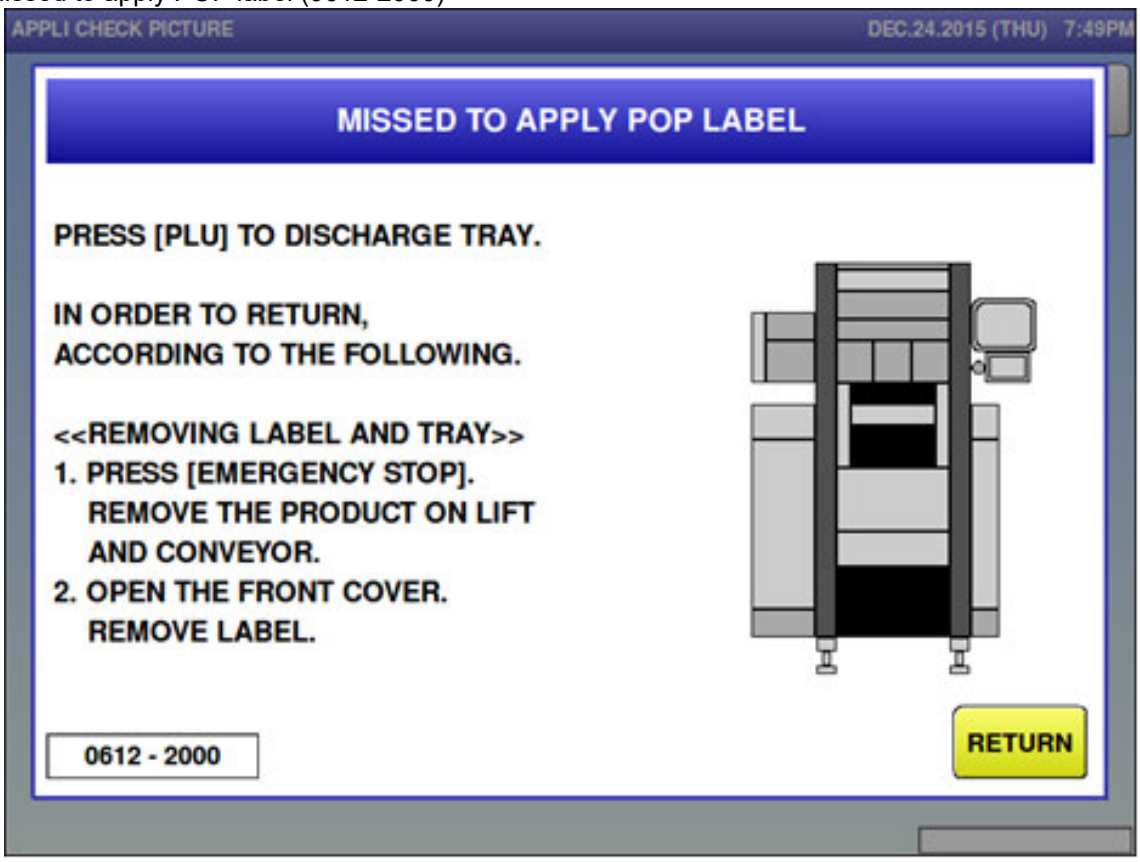
Error content	Failed to apply pop label on product.
Detail	Sub-error meanings are as follows. 2000: Application preparation was not completed when application time ran out. 2001: Previous application was not completed when the application timing signal was received. 2002: The tray height message was not received when the application timing signal was received.
Solution	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by service representative	
Related part	
Remarks	

■ Missed to apply label (0612)



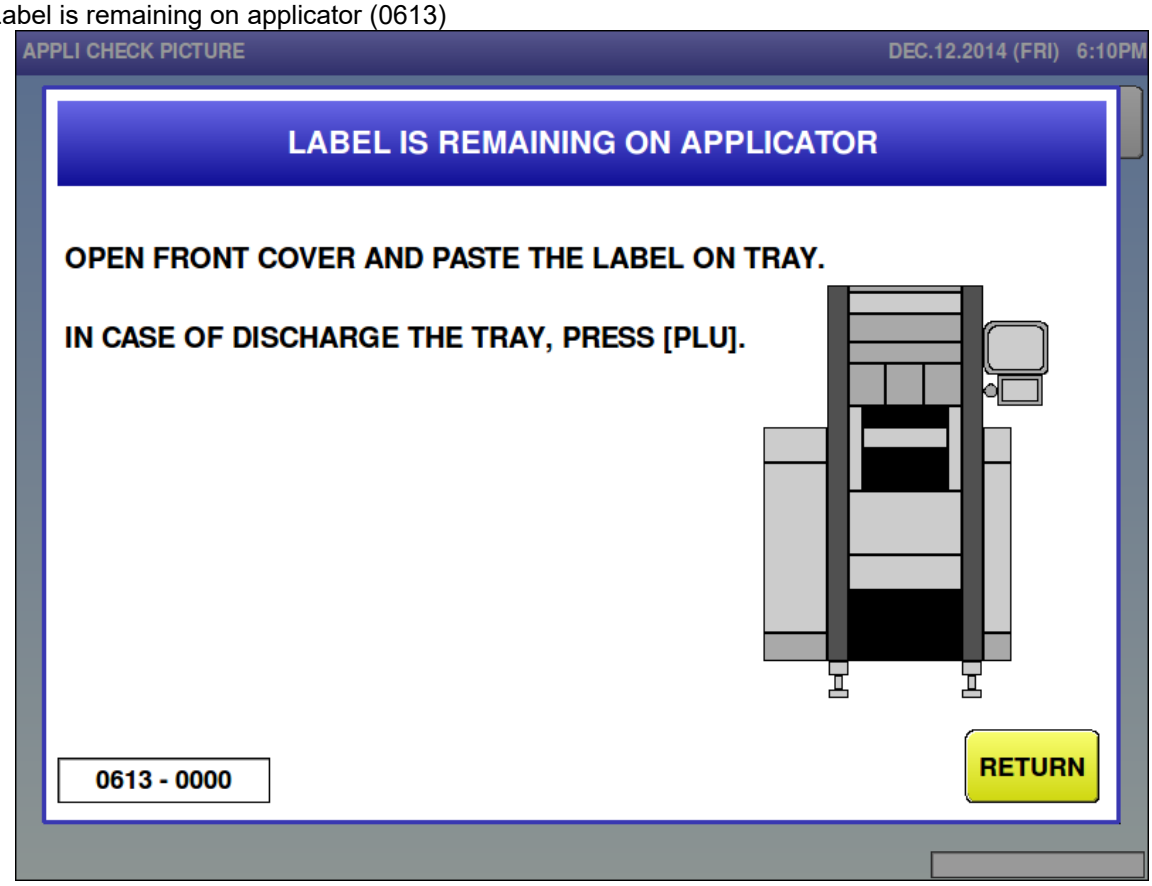
Error content	Failed to apply label on product.
Detail	Application timing signal was not received.
Solution	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by service representative	
Related part	
Remarks	

■ Missed to apply POP label (0612-2000)



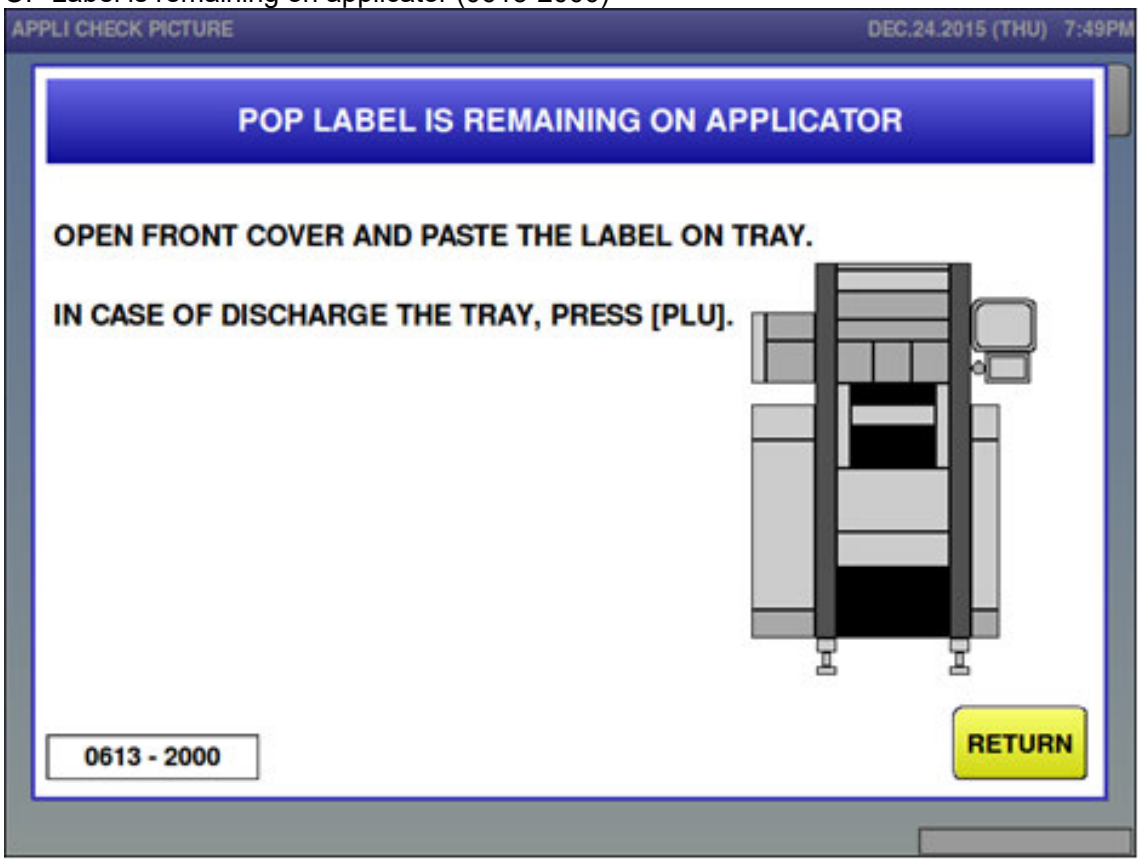
Error content	Failed to apply the pop label on product.
Detail	Application timing signal was not received.
Solution	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by service representative	
Related part	
Remarks	

■ Label is remaining on applicator (0613)



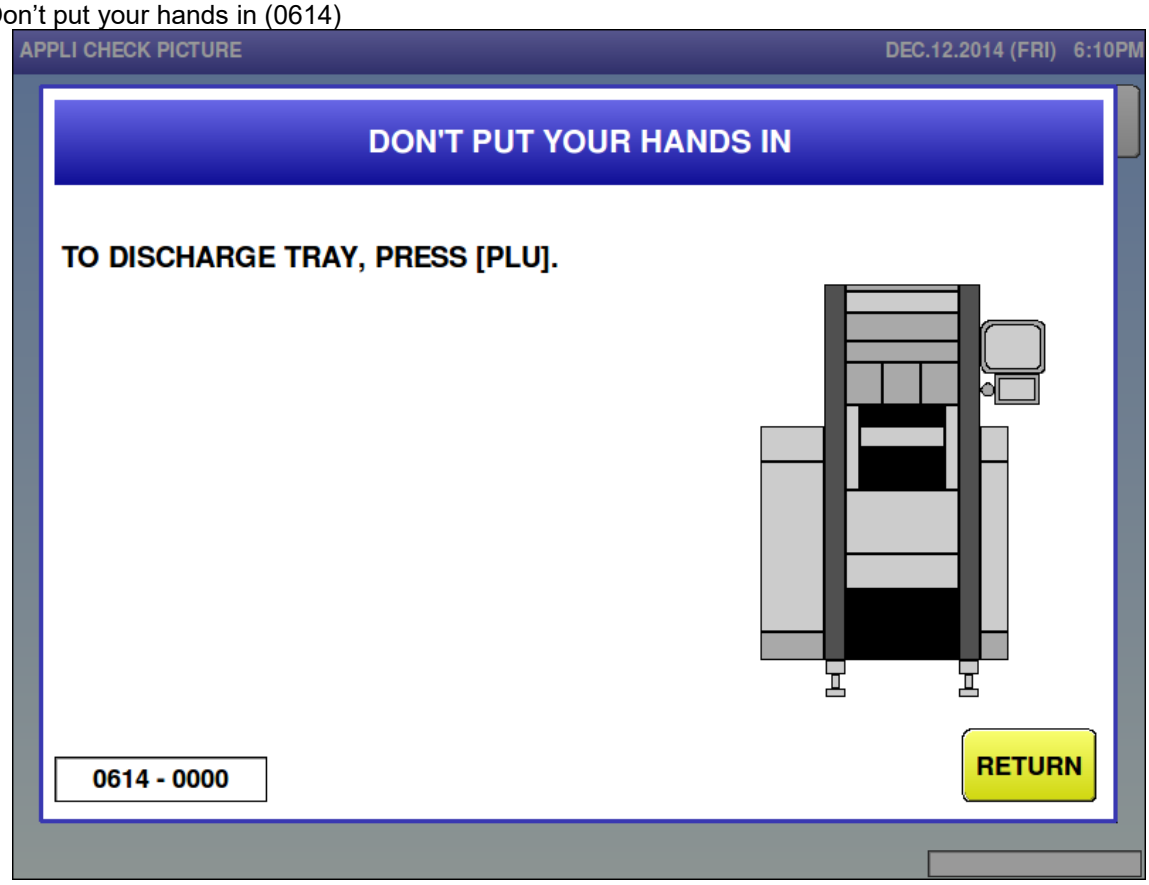
Error content	Label is remaining on the applicator.
Detail	A label remains on the applicator after application.
Solution	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Press the [RETURN] button ==> move components to the starting position. Press the [PLU] button ==> eject the tray on the lift.
Action by service representative	Check the applicator height adjustment value if the PASTE CONTROL setting of the applicator is TRAY HEIGHT (Adjust menu > Label Applicator > Init. tab).
Related part	
Remarks	The PASTE CONTROL setting for the applicator is always recommended to be PASTE SENSOR.

■ POP Label is remaining on applicator (0613-2000)



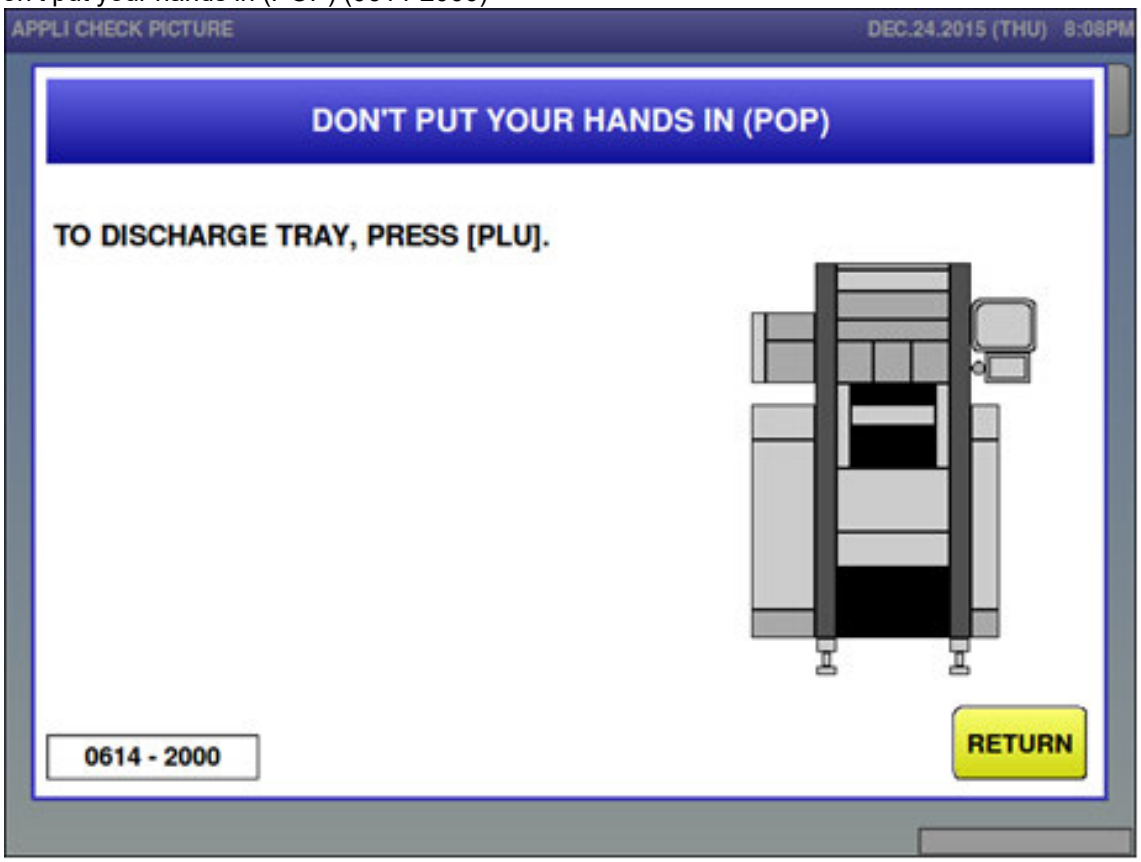
Error content	Label is remaining on pop applicator.
Detail	A label remains on the pop applicator after application.
Solution	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by service representative	Check the pop applicator height adjustment value if the PASTE CONTROL setting of the applicator is TRAY HEIGHT (Adjust menu Label Applicator > Init. tab).
Related part	
Remarks	The PASTE CONTROL setting for the pop applicator is always recommended to be PASTE SENSOR.

■ Don’t put your hands in (0614)



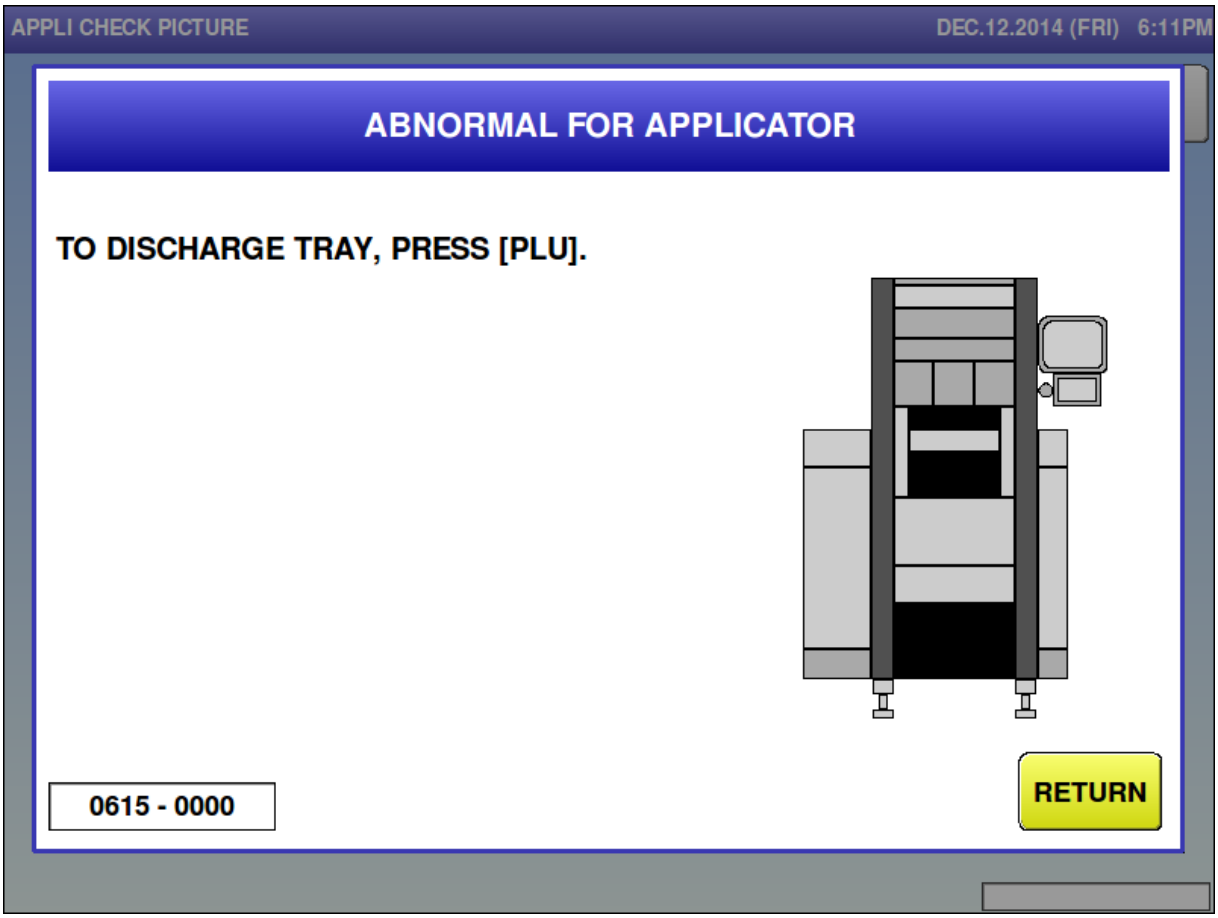
Error content	A hand was put inside the front cover.
Detail	The applicator safety photo sensor was blocked during applicator operation.
Solution	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by service representative	
Related part	Applicator safety sensor located under the front printer door: - [B107] receiver, right side. p/n 125712 - [B107T] transmitter, left side. p/n 125711
Remarks	

- Don’t put your hands in (POP) (0614-2000)



Error content	A hand was put inside the front cover.
Detail	The applicator photo safety sensor was blocked during POP applicator operation.
Solution	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Press the [RETURN] button ==> move components to the starting position Press the [PLU] button ==> eject the tray on the lift
Action by service representative	
Related part	Applicator safety sensor under the front printer door: Receiver, right [B107], p/n 125712 Transmitter, left side [B107T] p/n 125711
Remarks	

■ Abnormal for main applicator (0615)

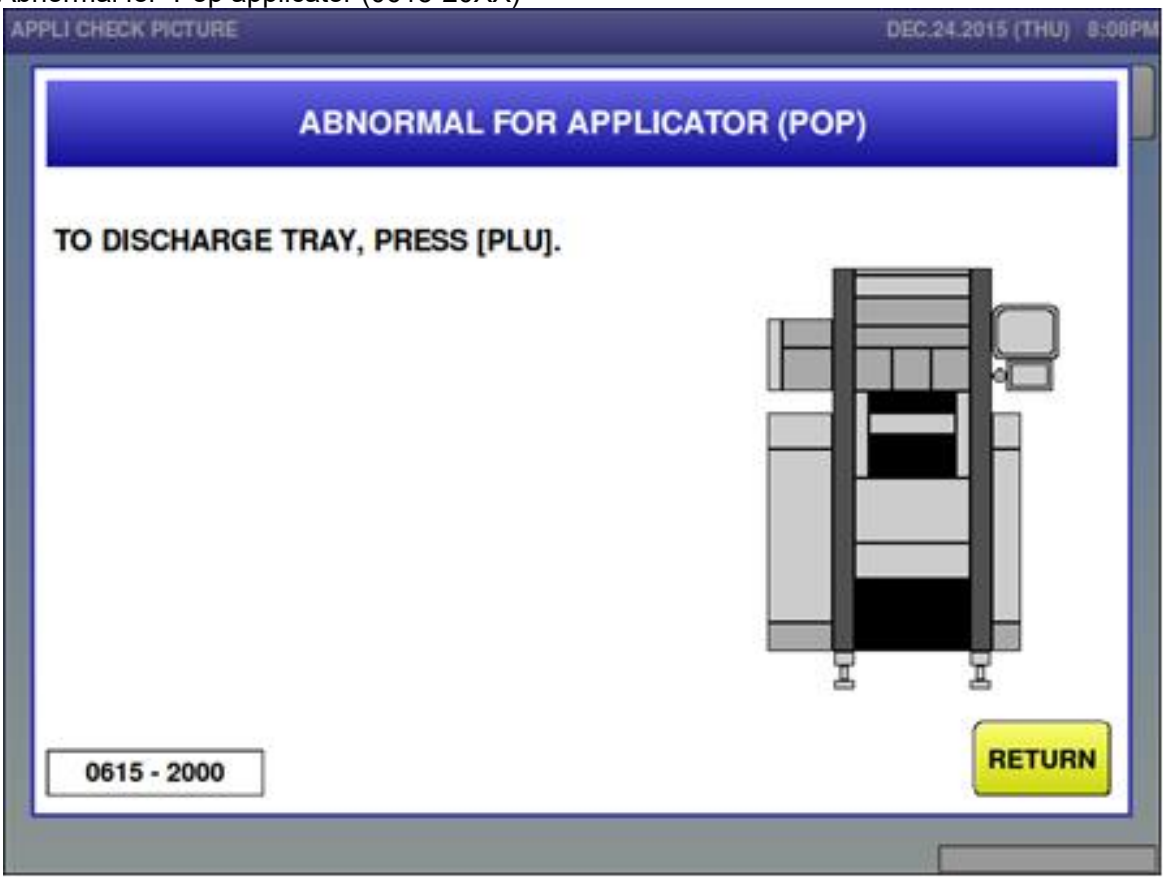


Error content	Abnormal for applicator.
Detail	During motor movement, the operation was not completed within the presribed time. Sub-error meanings are as follows: 0000: X axis - when moving to the left 0001: X axis - when moving to the right 0010: Y axis - when moving in the forward direction 0011: Y axis - when moving in the backward direction 0020: Z axis - when moving up 0021: Z axis - when moving down 0030: θ axis - when rotating clockwise 0031: θ axis - when rotating counterclockwise 0100: The label applicator moves in front of Printer 2 although Printer 1 is in the active printer. 0101: The label applicator moves in front of Printer 1 although Printer 2 is in the active printer. 0130: The sensor is not blocked/unblocked within the prescribed time when rotating clockwise. 0131: The sensor is not blocked/unblocked within the prescribed time when rotating counterclockwise.
Solution	Press the [RETURN] button
Action by user	Check if the label applicator movement is smooth when moved manually with the emergency stop switched pressed.
Action by service representative	Check the grease condition of all shafts.

■ Abnormal for main applicator (0615)-CONTINUTED

Related part	<In the case of X axis, left/right> ① P-1105 [A100] p/n 171866 ② P-1006C-6 [A102] p/n 171860 ③ X-axis motor [M103] p/n 172573 ④ X-axis home position sensor [B108] p/n 104239 ⑤ Printer 1 position sensor [B109] p/n 104239 ⑥ Printer 2 position sensor [B110] p/n 104239 <In the case of Y axis, forward/ back> ① P-1105 [A100] p/n 171866 ② P-1006C-5 [A101] p/n 171859 ③ Y-axis motor [M104] p/n 172612 ④ Y-axis home position sensor [B111] p/n 104239 <In the case of Z axis, up/down> ① P-1105 [A100] p/n 171866 ② P-1006C-5 [A101] p/n 171859 ③ P-1006C-6 [A102] p/n 171860 ④ Z-axis motor [M105] p/n 125715 ⑤ Z-axis home position sensor [B112] p/n 104239 <In the case of θ axis, rotation> ① P-1105 [A100] p/n 171866 ② P-1006 [A101] p/n 171859 ③ θ-axis motor [M106] p/n 172617 ④ Lower θ-axis detection plate sensor [B113] p/n 104239 ⑤ Upper θ-axis detection plate sensor [B114] p/n 104239 <In the case of error 0615-0021> • Defects in the changing power supply of the label applicator unit [U101] p/n 171862 • P-1105 [A100] p/n 171866 (Disconnection of the connector A100-XJ20) When the “0422-0001” error is displayed immediately after “0615-0021” is displayed, F104 or F105 fuse may be blown p/n 125707. Or power supply [U101] p/n 171862
Remarks	・Check all the sensors as noted above. ・Check the flags are aligned, secure, and tight. ・Initialize the Applicator. ・Download the Applicator sub-app again before replacing any boards (Adjust menu, Download, Sub App tab).

- Abnormal for Pop applicator (0615-20XX)

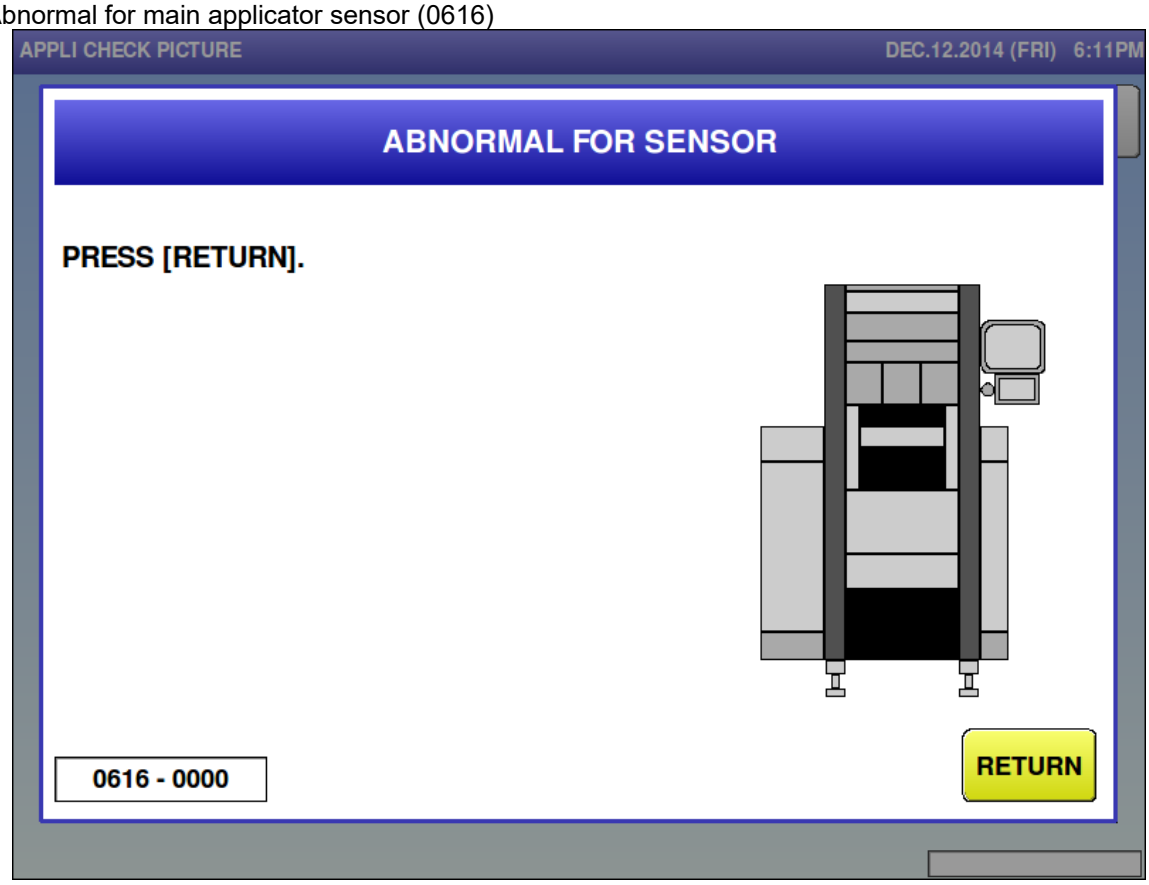


Error content	An error occurred during pop application operation.
Detail	Operation was not completed within the set time during motor operation. Sub-error meanings are as follows: 2000: X axis - when moving to the left 2001: X axis - when moving to the right 2020: Z axis - when moving up 2021: Z axis - when moving down 2030: θ axis - when rotating clockwise 2031: θ axis - when rotating counterclockwise
Solution	Press the [RETURN] button ==> move component to starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Confirm that the label applicator can be moved smoothly by hand after the emergency stop switch has been pushed.
Action by service representative	Check the grease condition on the applicator shafts.

■ Abnormal for Pop applicator (0615-20XX) CONTINUED

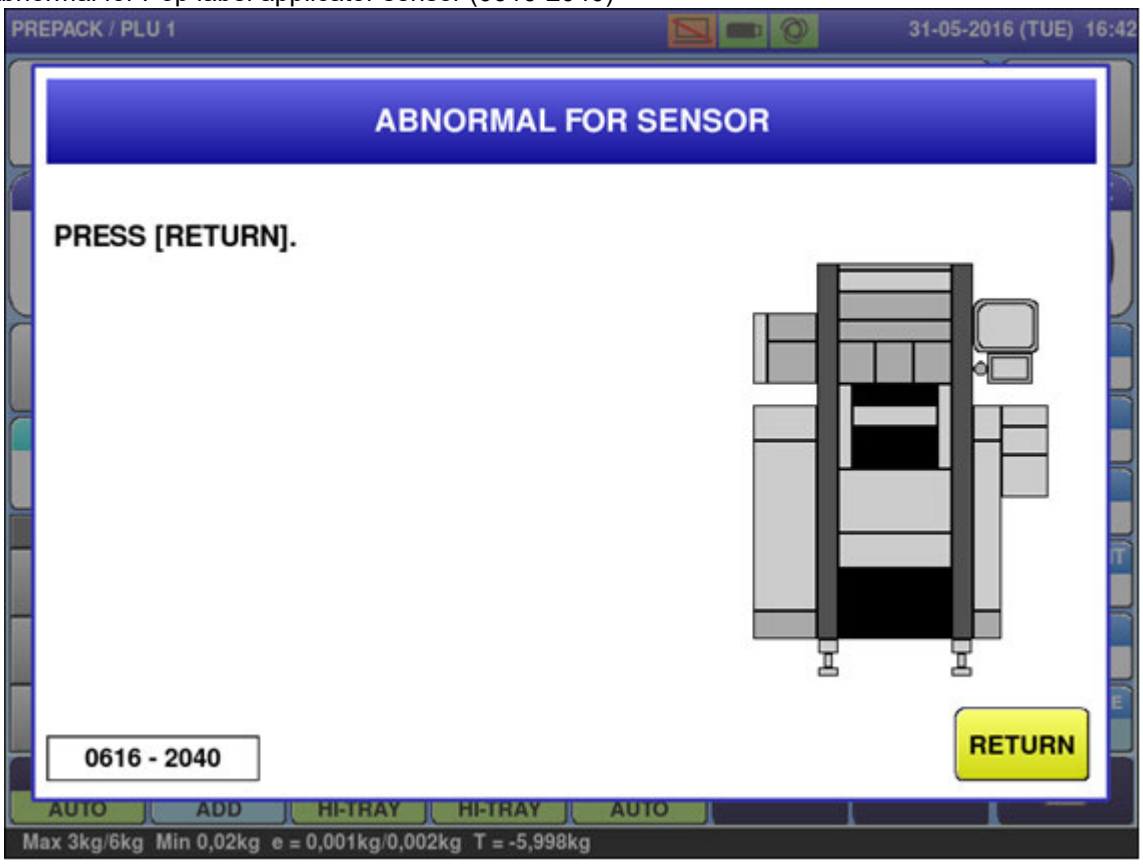
Related part	<In the case of X axis, left/right> ① P-1105 [A400] p/n 171866 ② P-1006C-6 [A402] p/n 171860 ③ X axis motor [M400] p/n 172573 ④ X axis home position sensor [B407] p/n 104239 <In the case of Z axis, up/down > ① P-1105 [A400] p/n 171866 ② P-1006C-6 [A402] p/n 171860 ③ Z axis motor [M401] p/n 125715 ④ Z axis home position sensor [B401] p/n 104239 <In the case of θ axis, rotation> ① P-1105 [A400] p/n 171866 ② P-1006C-5 [A401] p/n 171859 ③ θ-axis motor [M402] p/n 172617 ④ Lower θ-axis detection plate sensor [B403] p/n 104239 ⑤ Upper θ-axis detection plate sensor [B402] p/n 104239
Remarks	

■ Abnormal for main applicator sensor (0616)



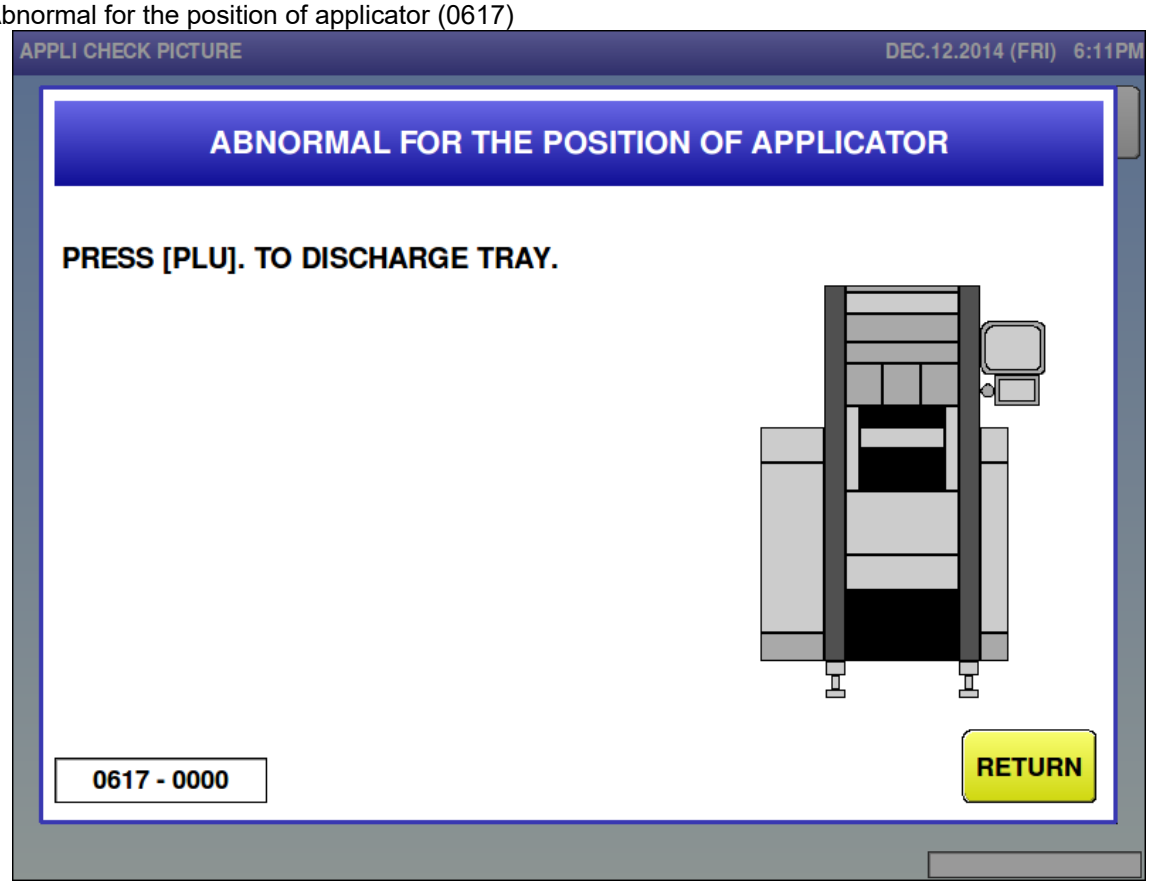
Error content	Abnormal for label applicator sensor.
Detail	A sensor that should not be blocked is blocked. Sub-error meanings are as follows: 0000: X-axis (right/left)
Solution	Press the [RETURN] button
Action by user	
Action by service representative	
Related part	① X-axis home position sensor [B108] p/n 104239 ② Printer No.1 position sensor [B109] p/n 104239 ③ Printer No.2 position sensor [B110] p/n 104239
Remarks	

- Abnormal for Pop label applicator sensor (0616-2040)



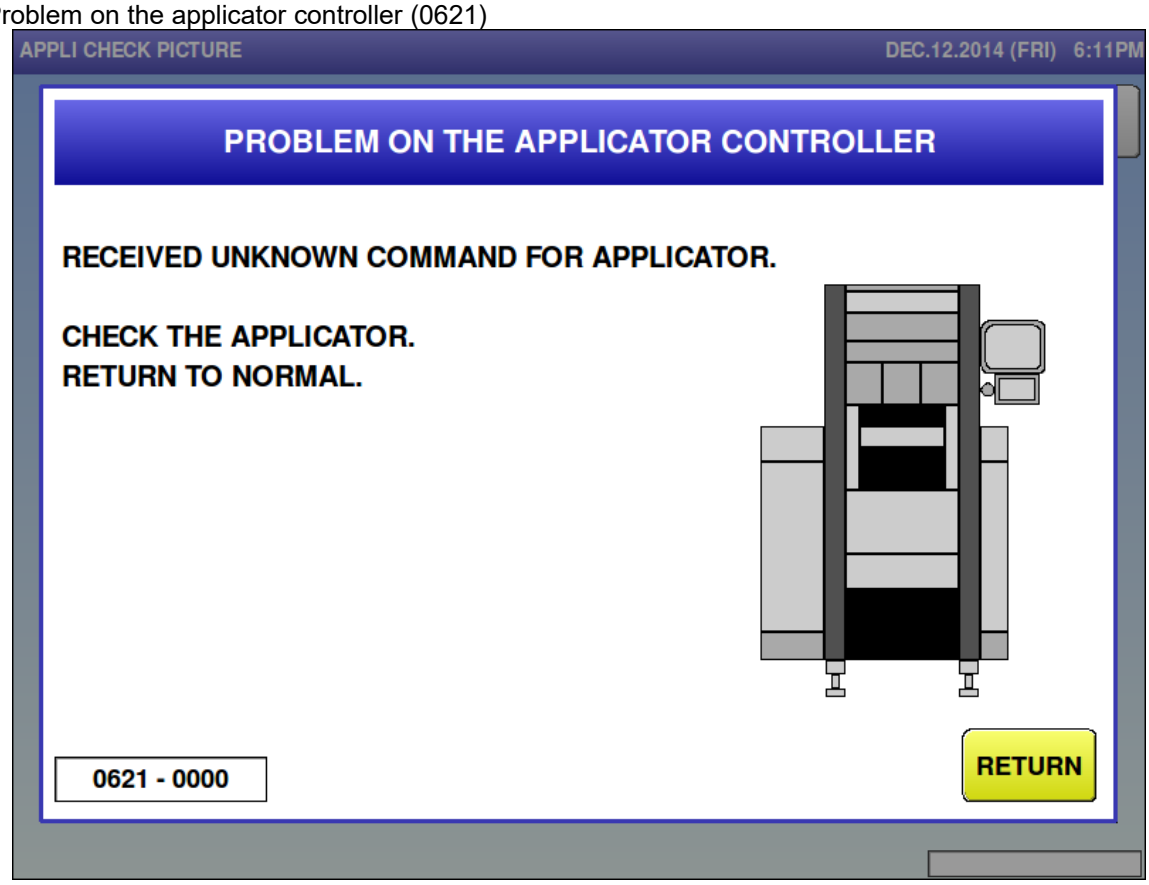
Error content	Abnormal pop applicator sensor condition.
Detail	A sensor that should not be blocked is blocked. Sub-error meaning is as follows: 2040: X axis
Solution	Press the [RETURN] button.
Action by user	
Action by service representative	
Related part	(1) X-axis pop applicator home position sensor [B407], p/n 104239 (2) X-axis label pop applicator pickup position [B406], p/n 104239
Remarks	

■ Abnormal for the position of applicator (0617)



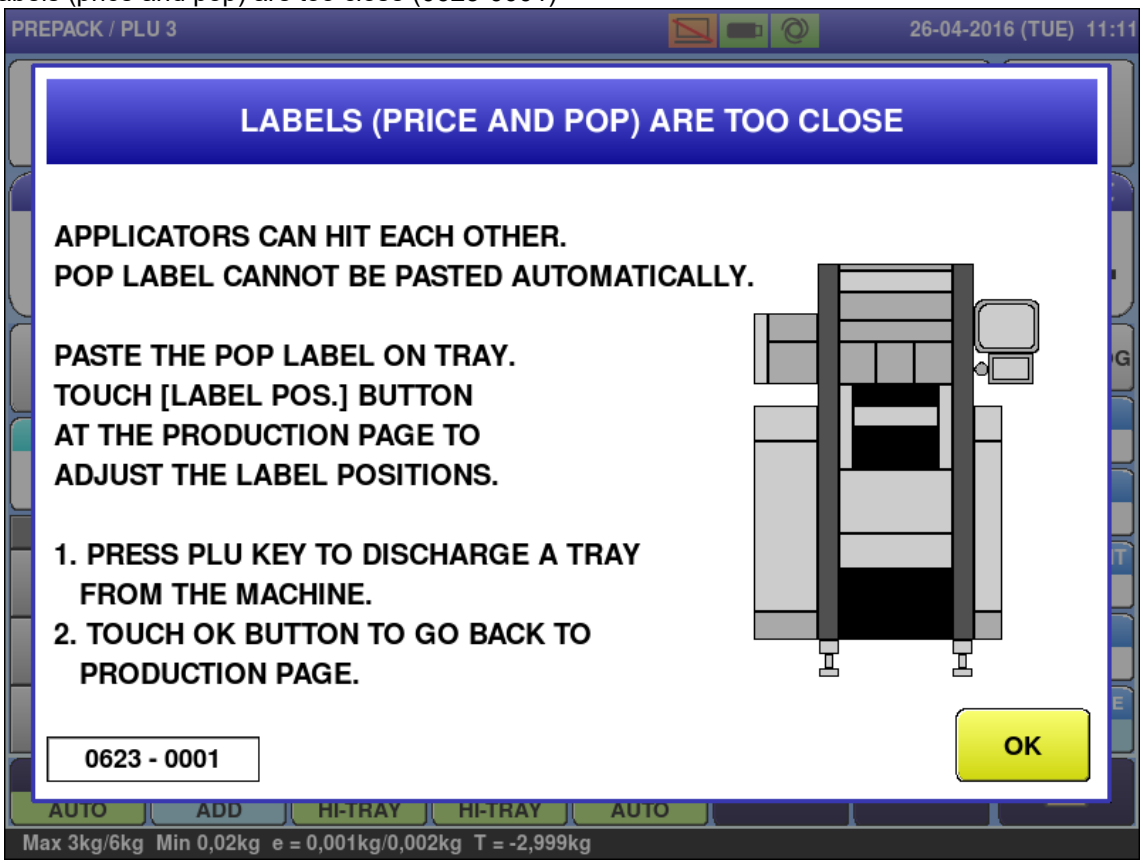
Error content	Abnormal for the position of label applicator.
Detail	The home position sensor of Y-axis (forward/back) was not blocked when the applicator attempted to start operation.
Solution	[RETURN] button ==> move component to starting position [PLU] button ==> eject the tray on the lift
Action by user	
Action by service representative	
Related part	① Y-axis motor [M104] p/n 172612 ② Y-axis home position sensor [B111] p/n 104239
Remarks	

■ Problem on the applicator controller (0621)



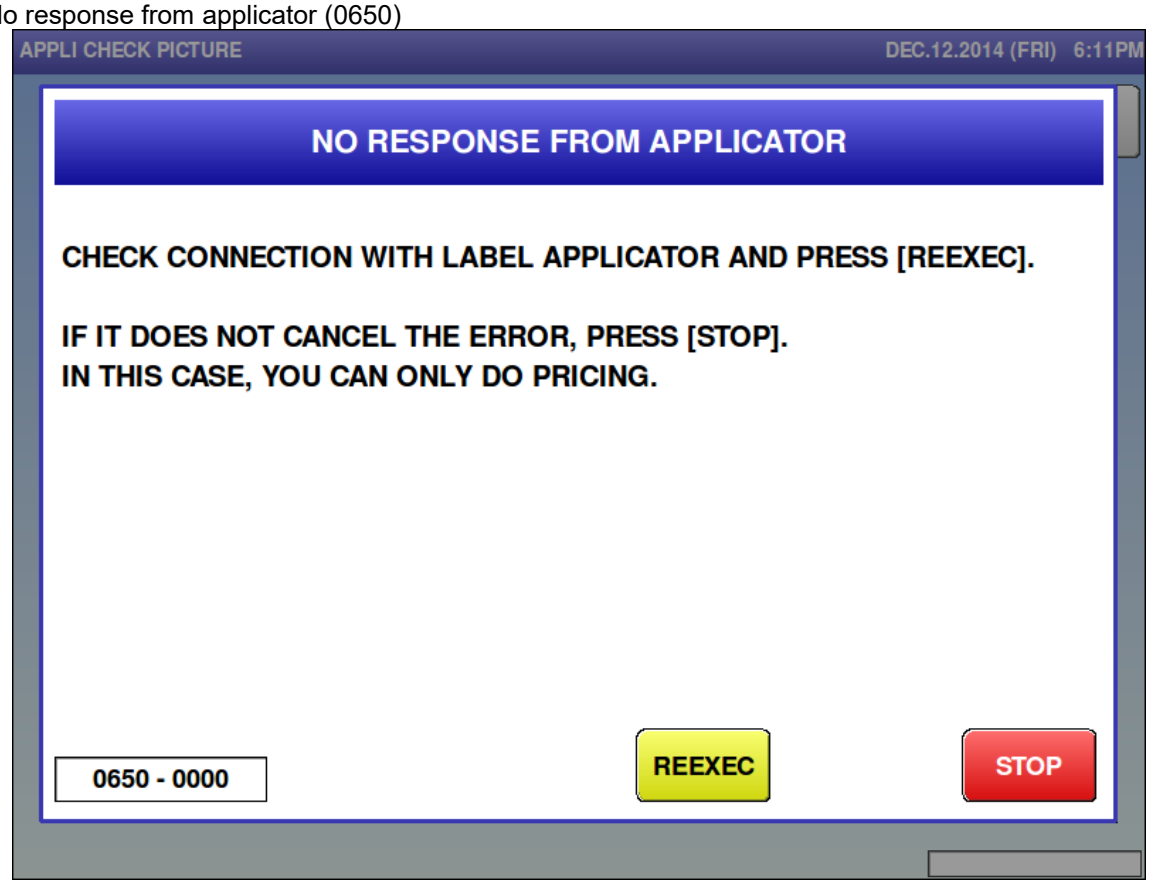
Error content	The applicator is not responding to the command received from the console.
Detail	
Solution	Press the [RETURN] button
Action by user	
Action by service representative	
Related part	
Remarks	Check the main firmware and the applicator sub-app firmware versions and confirm the combination is compatible.

- Labels (price and pop) are too close (0623-0001)



Error content	Label placement is too close.
Detail	The main label placement and the pop label placement are too close together and the applicators may touch each other.
Solution	Press the [OK] button ==> move component to starting position Press the [PLU] button ==> eject the tray on the lift
Action by user	Use the [Label Position] function key to move the main label and the pop label farther apart.
Action by service representative	
Related part	
Remarks	

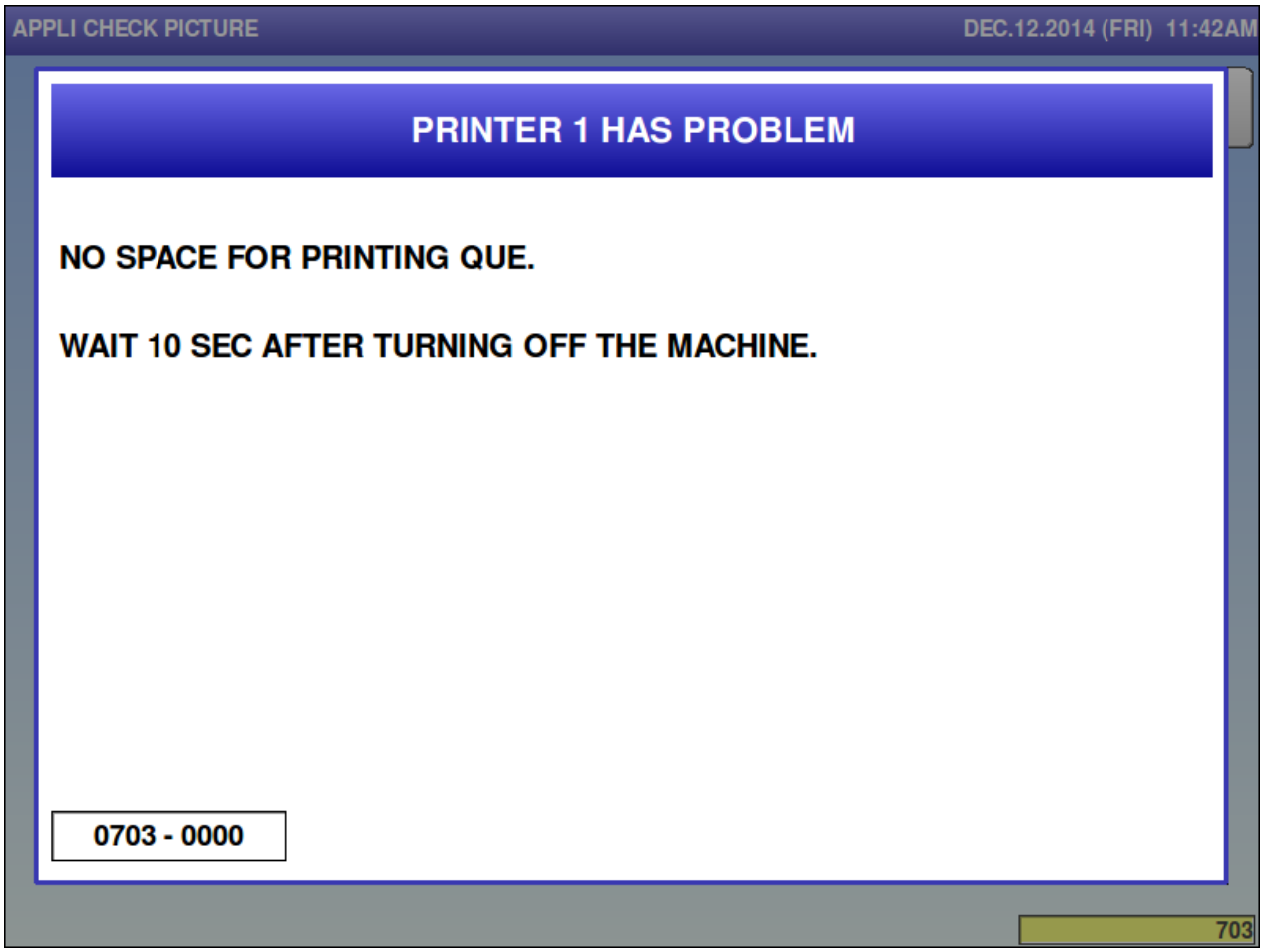
■ No response from applicator (0650)



Error content	No response from the applicator except for the power-on notification.
Detail	・Communication wasn't achieved between the console and the applicator. ・Communication phase number is in the sub-error. ・Communication errors after power ON result in this error.
Solution	[STOP] button => Cut communication with the applicator. Operate without the applicator. [REEXEC] button => Check connection with the applicator. The error is cleared if connection is confirmed.
Action by user	
Action by service representative	
Related part	
Remarks	Operation without the applicator is possible after pressing the [STOP] button.

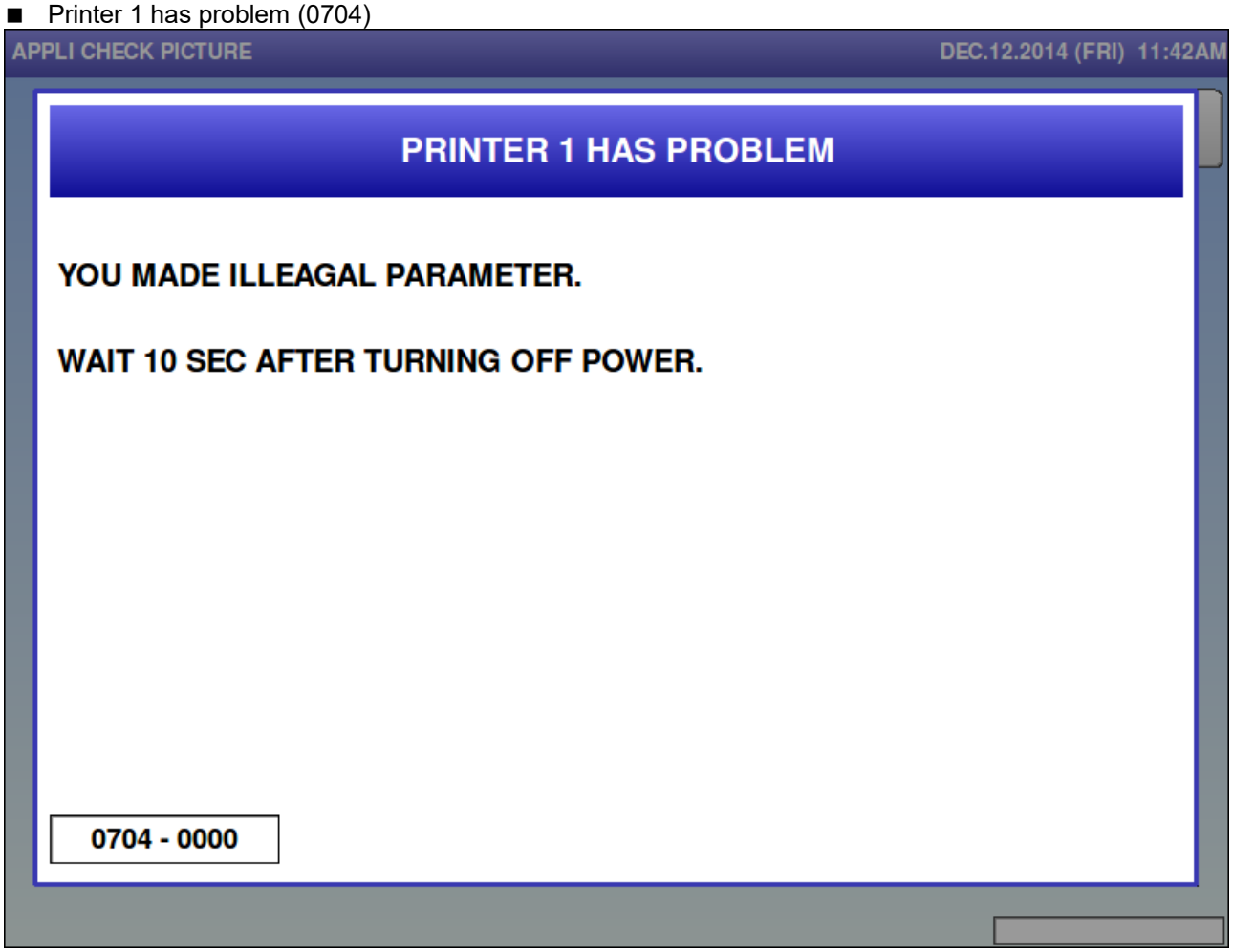
A.3.6 Printer-related Error (No. 700s)

■ Printer 1 has problem (0703)



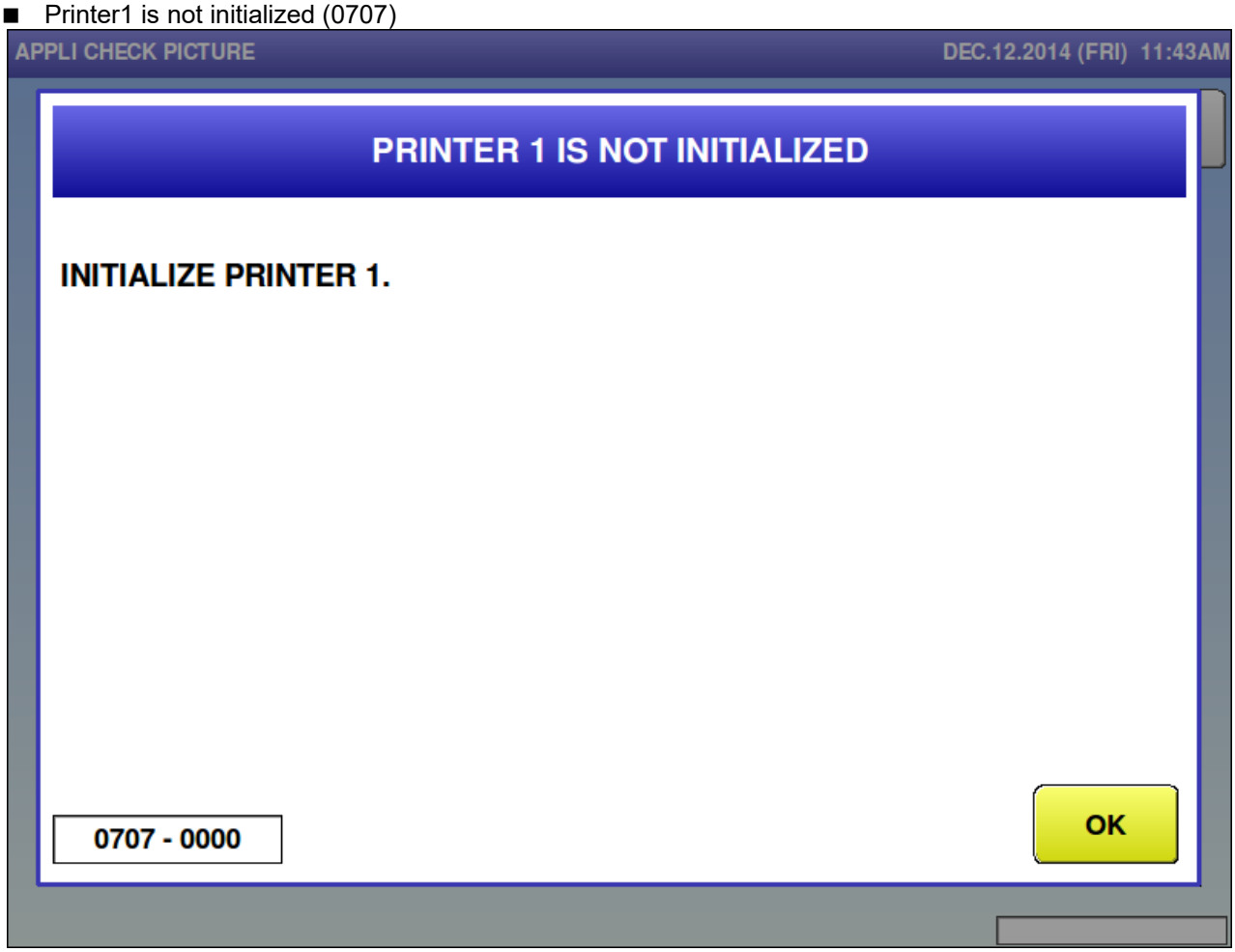
Error content	Printer system error.
Detail	The print queue in the main program has an error.
Solution	Power the wrapper off, wait wait at least 10 seconds, and power on.
Action by user	Power the wrapper off, wait wait at least 10 seconds, and power on.
Action by service representative	The sequence has shifted for some reason, so power the wrapper off, wait wait at least 10 seconds, and power on.
Related part	
Remarks	The “Printer No.1” title changes depending on the error No.

■ Printer 1 has problem (0704)



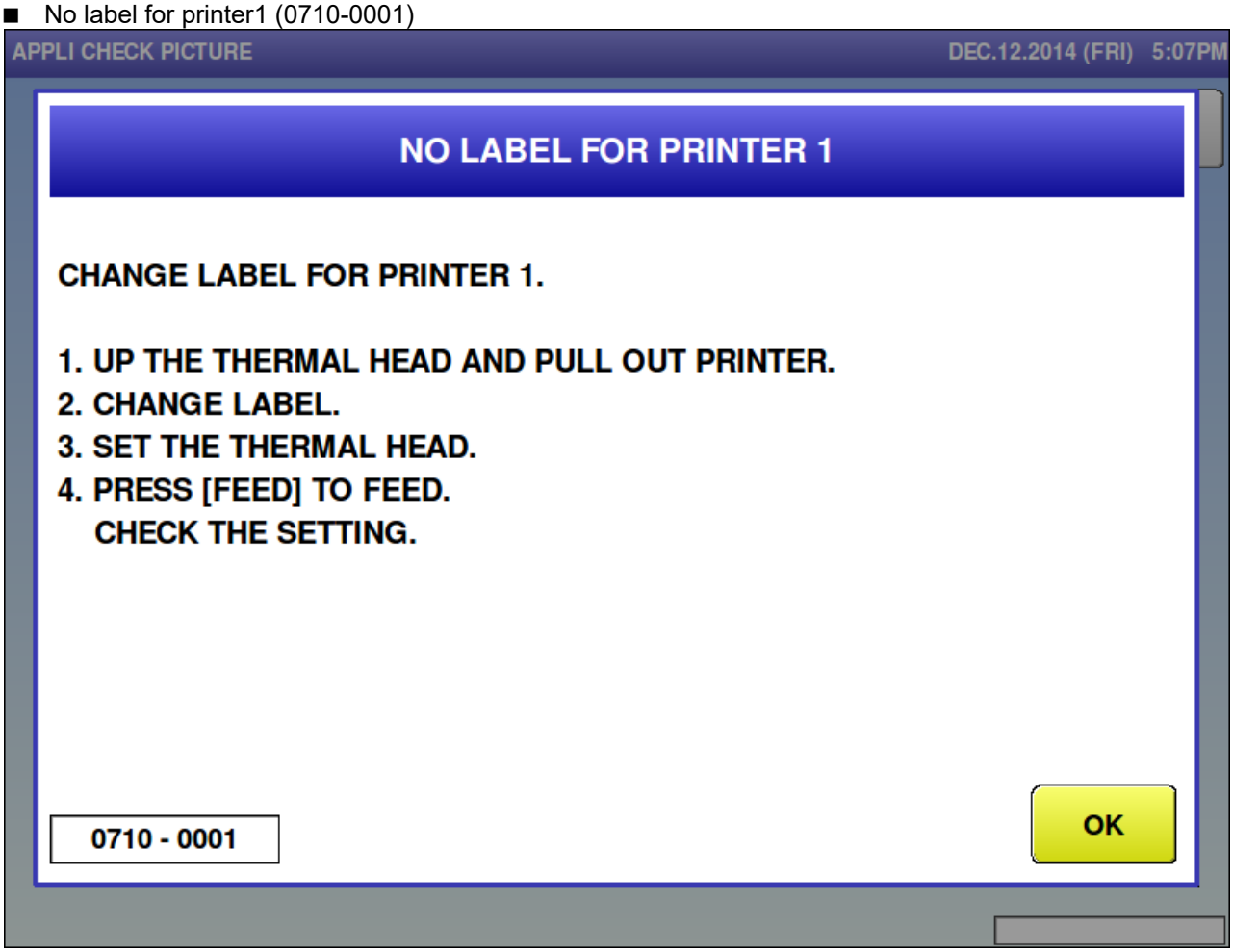
Error content	Printer system error.
Detail	Processed an invalid parameter.
Solution	Power the wrapper off, wait at least 10 seconds, and power on.
Action by user	Power the wrapper off, wait at least 10 seconds, and power on.
Action by service representative	Power the wrapper off, wait at least 10 seconds, and power on.
Related part	
Remarks	The “Printer No.1” title changes depending on the error No.

■ Printer1 is not initialized (0707)



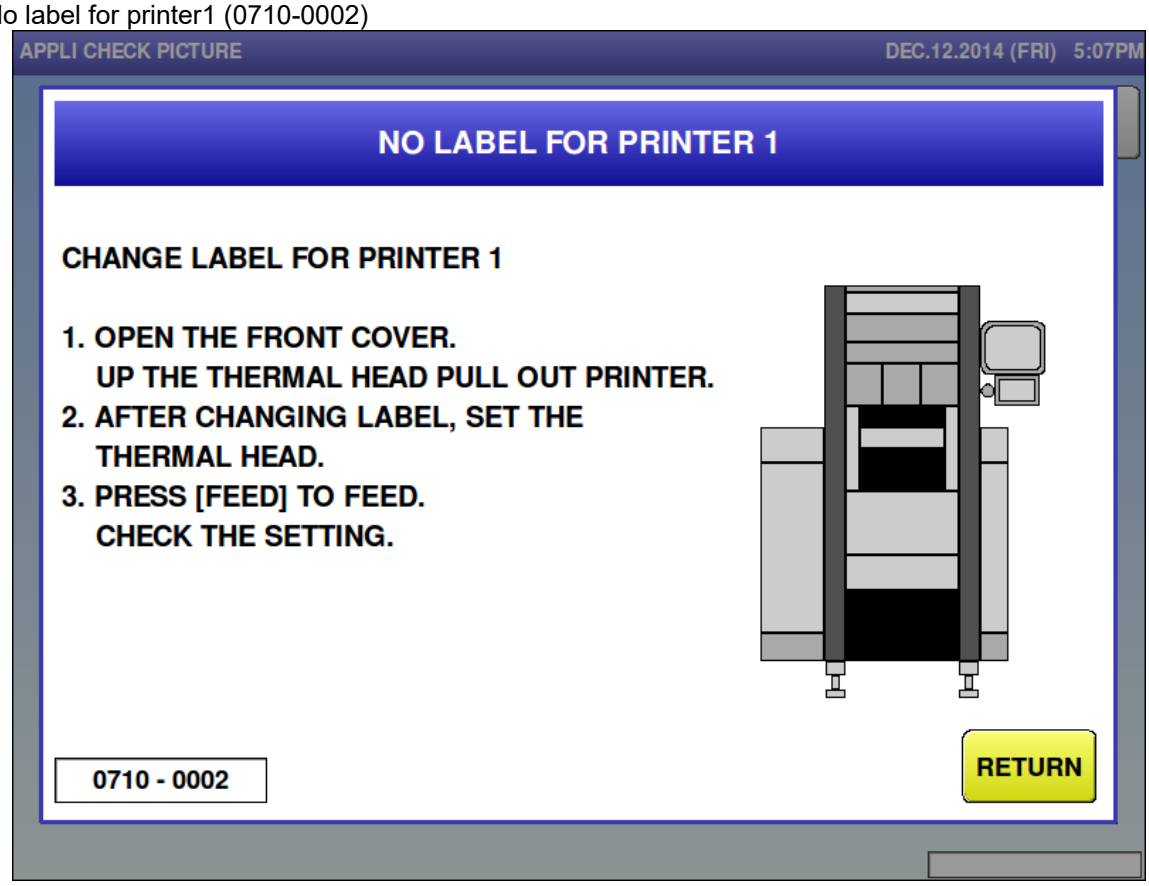
Error content	The printer is not initialized.
Detail	Incomplete printer initialization.
Solution	Press the [OK] button
Action by user	Press the [OK] button
Action by service representative	Printer unit memory needs to be initialized: Adjust menu > Printer.
Related part	
Remarks	・The “Printer No.1” title changes depending on the error No.

■ No label for printer1 (0710-0001)



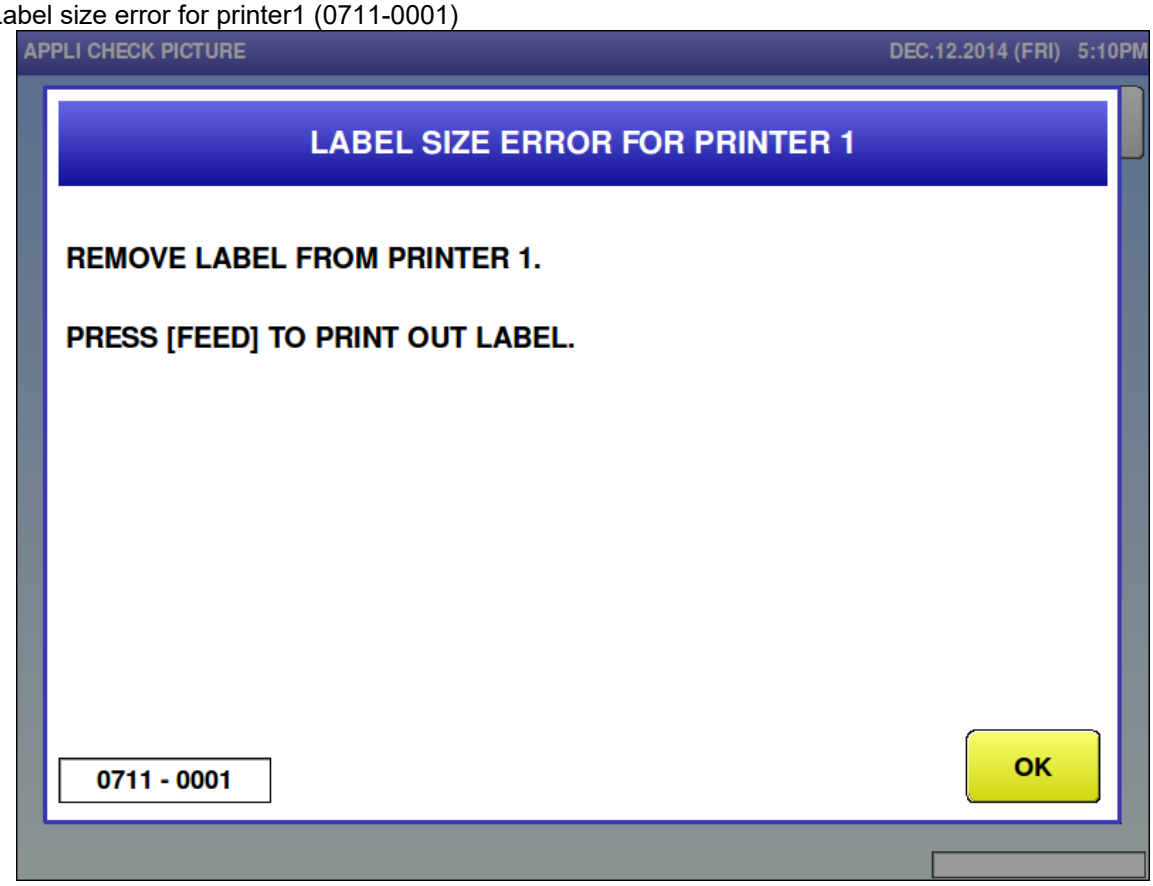
Error content	Printer has run out of labels.
Detail	The message indicates that the labels ran out while manually weighing and labeling with the front printer cover open.
Solution	Press the [OK] button after replacing the label, then press the [FEED] button to align the labels as needed.
Action by user	Press the [OK] button after installing a new roll of labels, then press the [FEED] button to align the labels as needed.
Action by service representative	- Adjust the sensitivity of label gap sensor (Adjust menu, Printer, Label Feed tab, Detail) - Check the label gap sensor
Related part	Label gap sensor assy [B10, B11] p/n 172669
Remarks	The “Printer No.1” title changes depending on the error No.

■ No label for printer1 (0710-0002)



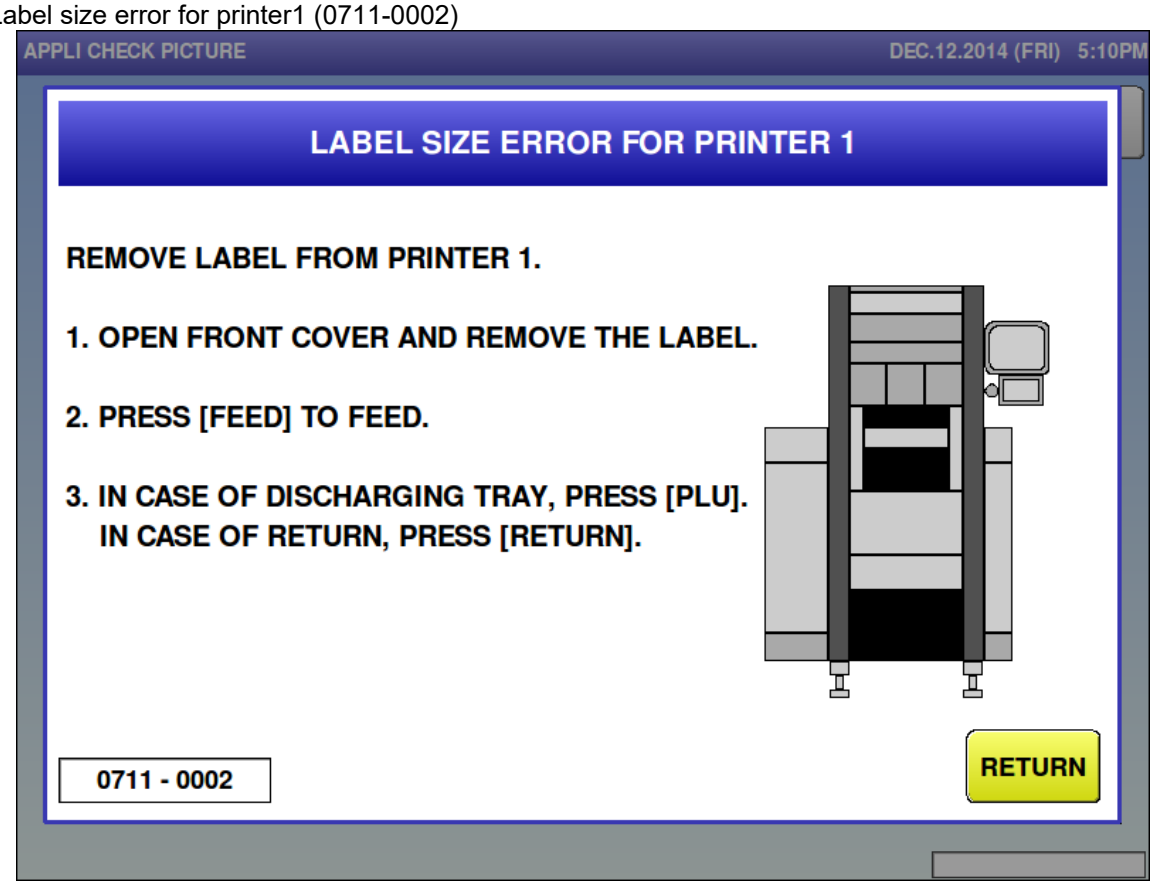
Error content	Printer has run out of labels.
Detail	The message indicates that the labels ran out during automatic weighing and labeling with the front printer cover closed.
Solution	Install a new roll of labels and press the [FEED] button to align the labels as needed. Close the front cover, then press the [RETURN] button or the [PLU] button.
Action by user	Install a new roll of labels and press the [FEED] button to align the labels as needed. Close the front cover, then press the [RETURN] button or the [PLU] button.
Action by service representative	- Adjust the sensitivity of the label gap sensor (Adjust menu, Printer, Label Feed tab, Detail) - Check the label gap sensor
Related part	Label gap sensor assy [B10, B11] p/n 172669
Remarks	The “Printer No.1” title changes depending on the error No.

■ Label size error for printer1 (0711-0001)



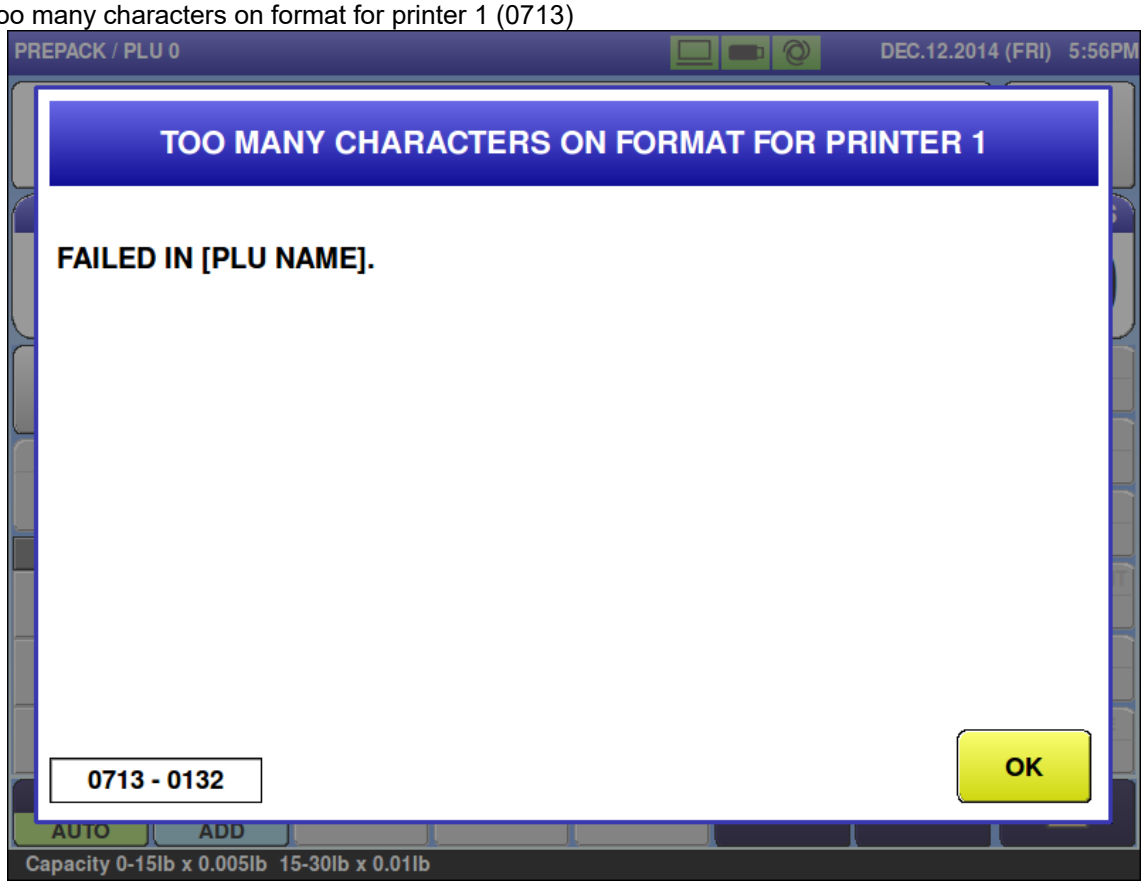
Error content	Printer label size error
Detail	Error indicates that the label size detected by the label gap sensor is different from actual label format size. The error occurred while manually weighing and labeling with the front printer cover open.
Solution	Press the [OK] button after removing the label by pressing the [FEED] key.
Action by user	Press the [OK] button after removing the label by pressing the [FEED] key.
Action by service representative	- Check the label format size. - Clean the label gap sensor. - Calibrate the label gap sensor: Adjust menu > Printer > Label Feed tab. - Check for labels sticking or binding. - Measure the label and verify with the label format length. - See section 3.2.1 Printer unit - **Dealing with a label size error.**
Related part	Label gap sensor assy [B10, B11] p/n 172669
Remarks	The “Printer No.1” title changes depending on the error No.

■ Label size error for printer1 (0711-0002)



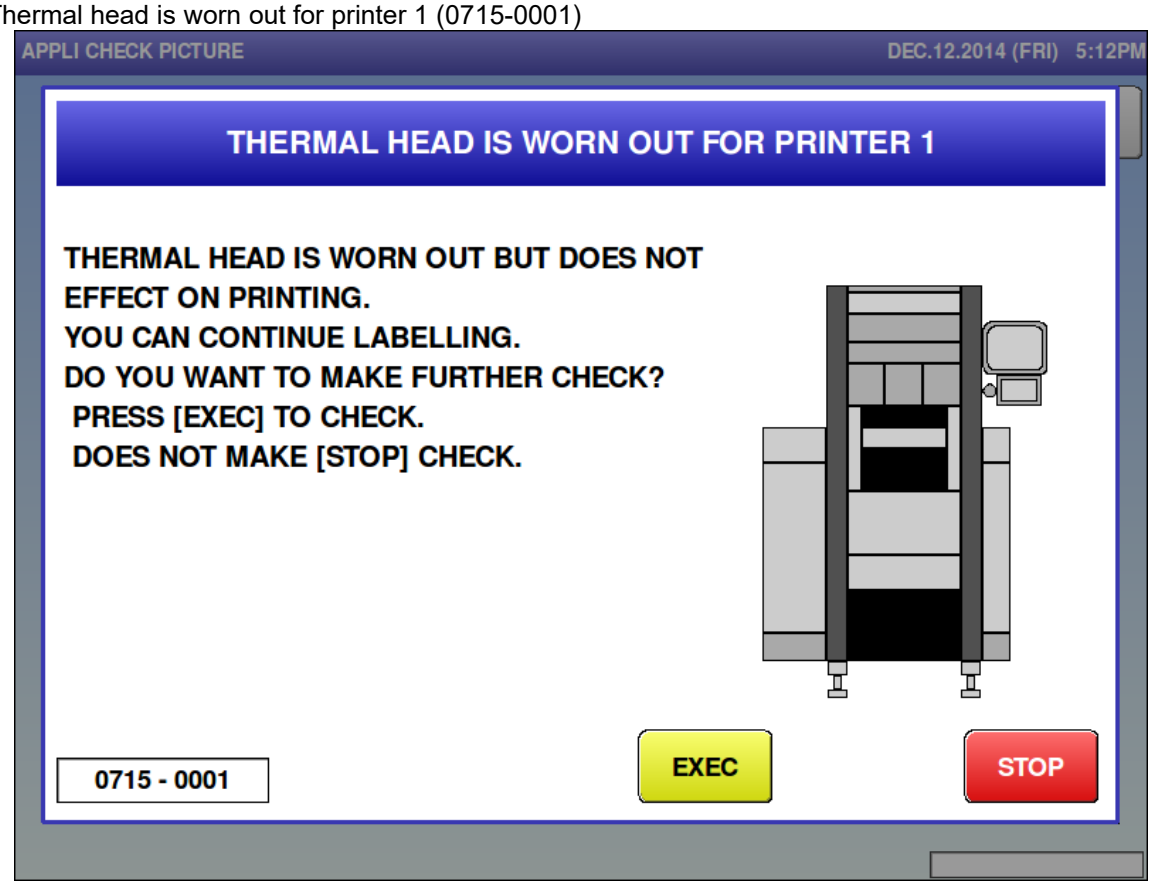
Error content	Printer label size error.
Detail	Error indicates that the label size detected by the label gap sensor is different from actual label format size. The error occurred during automatic weighing and labeling with the front printer cover closed.
Solution	Open the front cover, remove the label by pressing the [FEED] key, close the front cover, then press the [RETURN] button or the [PLU] button.
Action by user	Open the front cover, remove the label by pressing the [FEED] key, close the front cover, then press the [RETURN] button or the [PLU] button.
Action by service representative	- Check the label format size. - Clean the label gap sensor. - Calibrate the label gap sensor: Adjust menu > Printer > Label Feed tab. - Check for labels sticking or binding. - Measure the label and verify with the label format length. - See section 3.2.1 Printer unit **- Dealing with a label size error.**
Related part	Label gap sensor assy [B10, B11] p/n 172669
Remarks	The “Printer No.1” title changes depending on the error No.

■ Too many characters on format for printer 1 (0713)



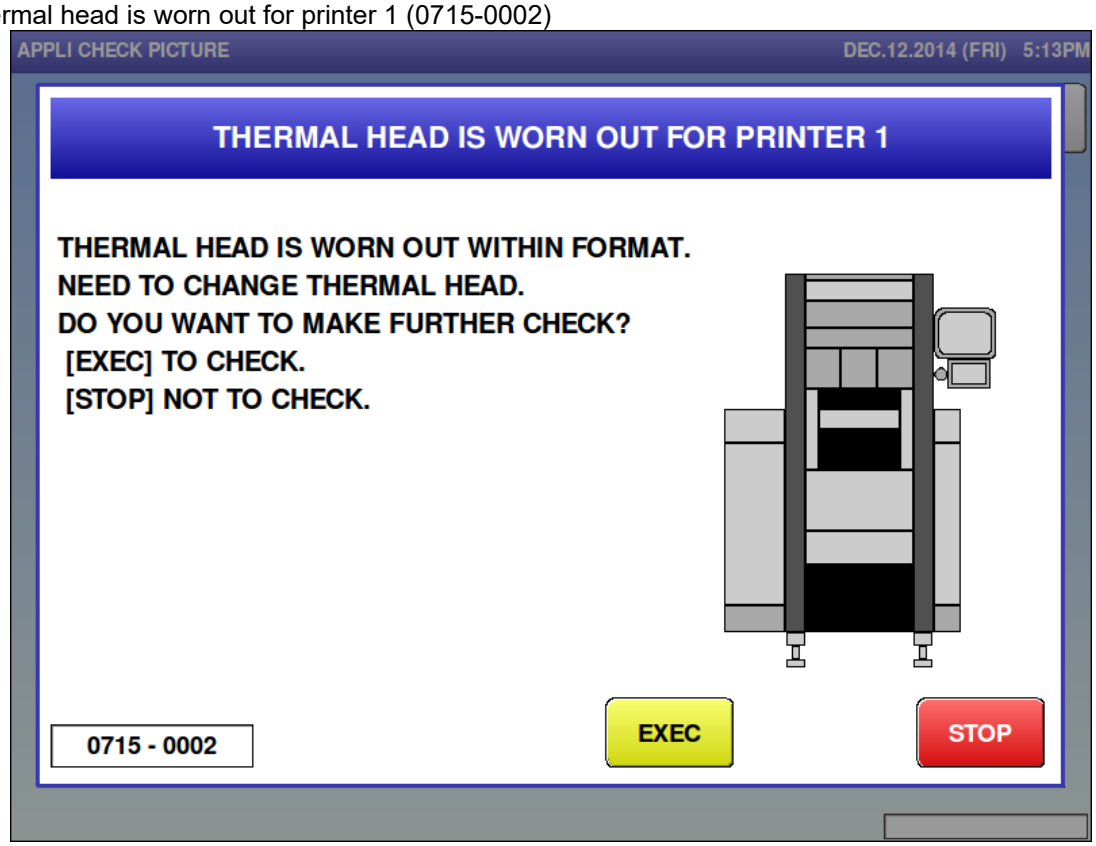
Error content	Too many characters on format for printer 1.
Detail	The sub-error No. identifies the label format field that is too small to accommodate all the information associated with the PLU.
Solution	Press the [OK] button
Action by user	Press the [OK] button and adjust the data to fit the available space of the label format field.
Action by service representative	Adjust the identified label format field to accommodate the PLU data.
Related part	
Remarks	・The “Printer No.1” title changes depending on the error No. ・0713-0132. This also occurs if there are two or more Product Name fields in the label format and no description prints -- even if one of the fields is large enough.

■ Thermal head is worn out for printer 1 (0715-0001)



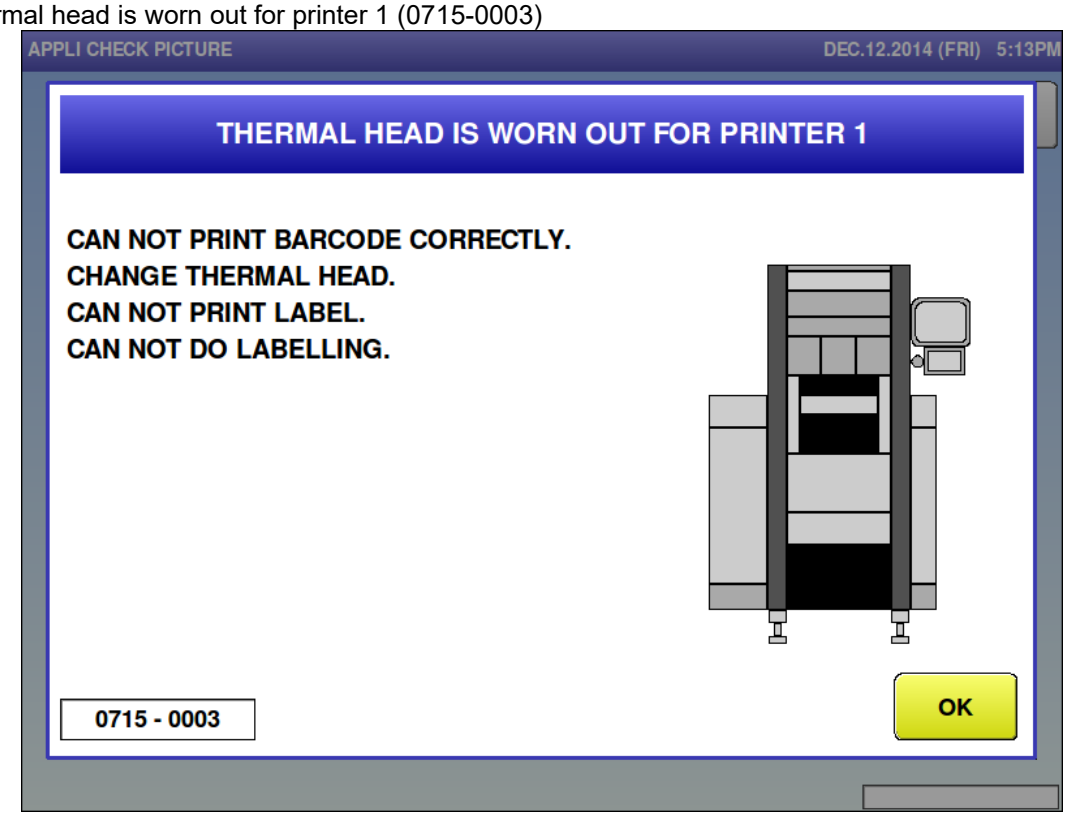
Error content	The dot (heating element) on the thermal print head is defective.
Detail	The sub-error number indicates where the defective dot is located. 0001: The area that does not affect printing is defective. 0002: There is print missing on the label. 0003: The barcode cannot be printed properly. 0004: The part that does not affect printing is defective.
Solution	Press the [EXEC] button, or press the [STOP] button [EXEC]: Head check is performed for the next product as well. [STOP]: Head check is not performed for the next product.
Action by user	0001, 0004: Can be used because it does not affect printing. However, there is a high possibility that other parts will fail due to life expectancy, so contact your dealer. 0002: There is a defect that will affect printing. It can be used if there is no problem after checking the printed contents of the label. However, there is a high possibility that other parts of the print head will fail due to age and usage. Contact your dealer. 0003: The barcode is incomplete. The barcode cannot be scanned. Contact your dealer.
Action by service representative	0001, 0004: Can be used because it does not affect printing. However, there is a high possibility that other parts will fail due to life expectancy, so contact your dealer. 0002: There is a defect that will affect printing. It can be used if there is no problem after checking the printed contents of the label. However, there is a high possibility that other parts of the print head will fail due to age and usage. Replace the thermal head. 0003: The barcode is incomplete. The barcode cannot be scanned. Replace thermal head.
Related part	Thermal print head [E10] p/n 171875
Remarks	The “Printer No.1” title changes depending on the error No.

■ Thermal head is worn out for printer 1 (0715-0002)



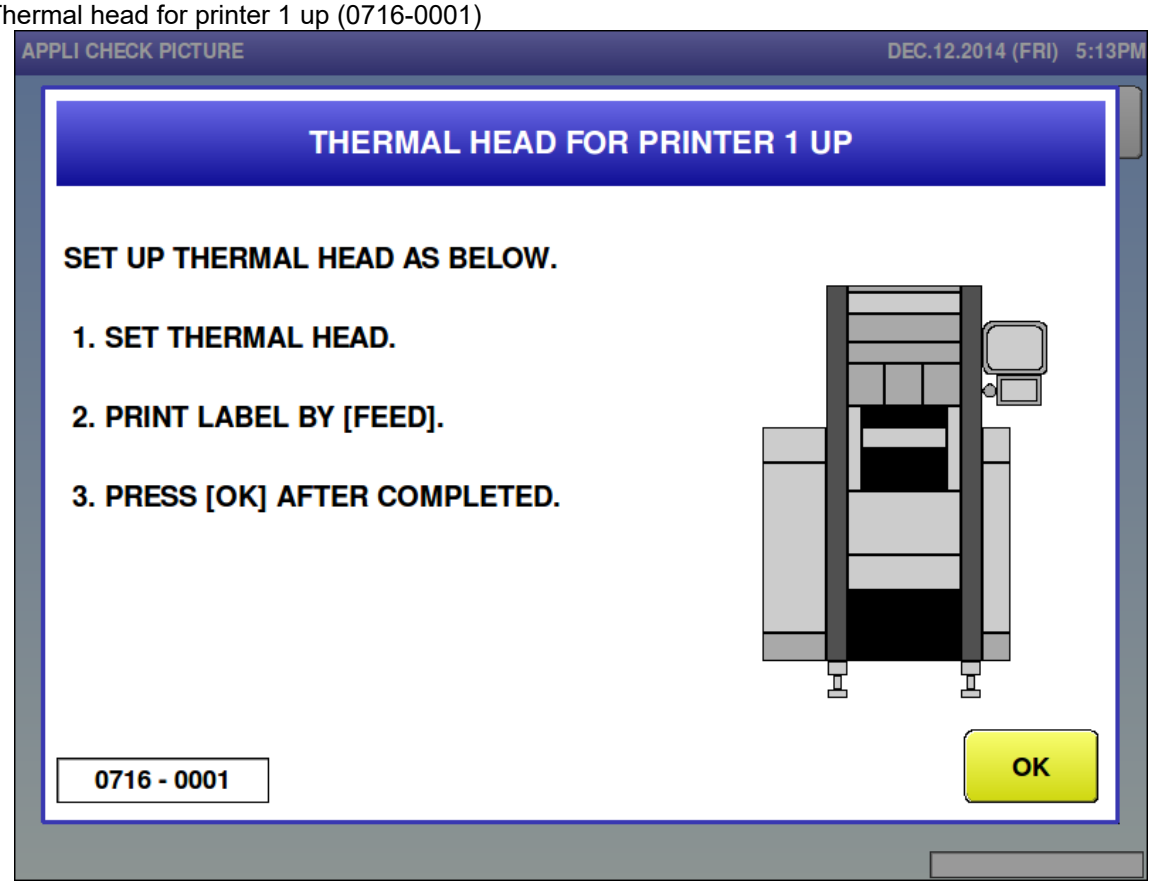
Error content	The dot (heating element) on the thermal print head is defective.
Detail	The sub-error number indicates where the defective dot is located. 0001: The area that does not affect printing is defective. 0002: There is print missing on the label. 0003: The barcode cannot be printed properly. 0004: The part that does not affect printing is defective.
Solution	Press the [EXEC] button, or the [STOP] button [EXEC]: Head check is performed for the next product as well. [STOP]: Head check is not performed for the next product.
Action by user	0001, 0004: Can be used because it does not affect printing. However, there is a high possibility that other parts will fail due to life expectancy, so contact your dealer. 0002: There is a defect that will affect printing. It can be used if there is no problem after checking the printed contents of the label. However, there is a high possibility that other parts of the print head will fail due to age and usage. Contact your dealer. 0003: The barcode is incomplete. The barcode cannot be scanned. Contact your dealer.
Action by service representative	0001, 0004: Can be used because it does not affect printing. However, there is a high possibility that other parts will fail due to life expectancy, so replace the thermal head when possible. 0002: There is a defect that will affect printing. It can be used if there is no problem after checking the printed contents of the label. However, there is a high possibility that other parts of the print head will fail due to age and usage. Replace the thermal head. 0003: The barcode is incomplete. The barcode cannot be scanned. Replace thermal head.
Related part	Thermal print head [E10] p/n 171875
Remarks	The “Printer No.1” title changes depending on the error No.

■ Thermal head is worn out for printer 1 (0715-0003)



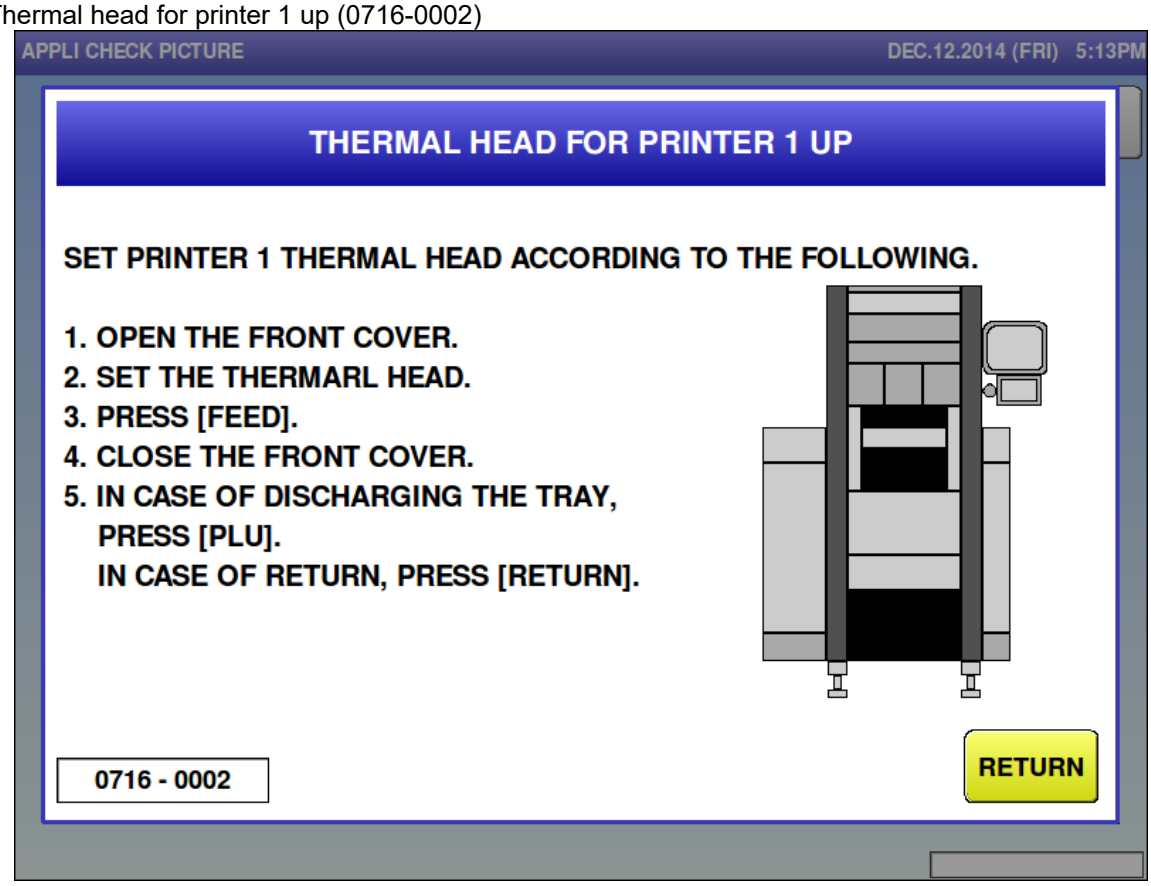
Error content	The dot (heating element) on the thermal print head is defective.
Detail	The sub-error number indicates where the defective dot is located. 0001: The area that does not affect printing is defective. 0002: There is print missing on the label. 0003: The barcode cannot be printed properly. 0004: The part that does not affect printing is defective.
Solution	Press the [OK] button
Action by user	0001, 0004: Can be used because it does not affect printing. However, there is a high possibility that other parts will fail due to life expectancy, so contact your dealer. 0002: There is a defect that will affect printing. It can be used if there is no problem after checking the printed contents of the label. However, there is a high possibility that other parts of the print head will fail due to age and usage. Contact your dealer. 0003: The barcode is incomplete. The barcode cannot be scanned. Contact your dealer.
Action by service representative	0001, 0004: Can be used because it does not affect printing. However, there is a high possibility that other parts will fail due to life expectancy, so contact your dealer. 0002: There is a defect that will affect printing. It can be used if there is no problem after checking the printed contents of the label. However, there is a high possibility that other parts of the print head will fail due to age and usage. Replace the thermal head. 0003: The barcode is incomplete. The barcode cannot be scanned. Replace the thermal head.
Related part	Thermal print head [E10] p/n 171875
Remarks	The “Printer No.1” title changes depending on the error No.

■ Thermal head for printer 1 up (0716-0001)



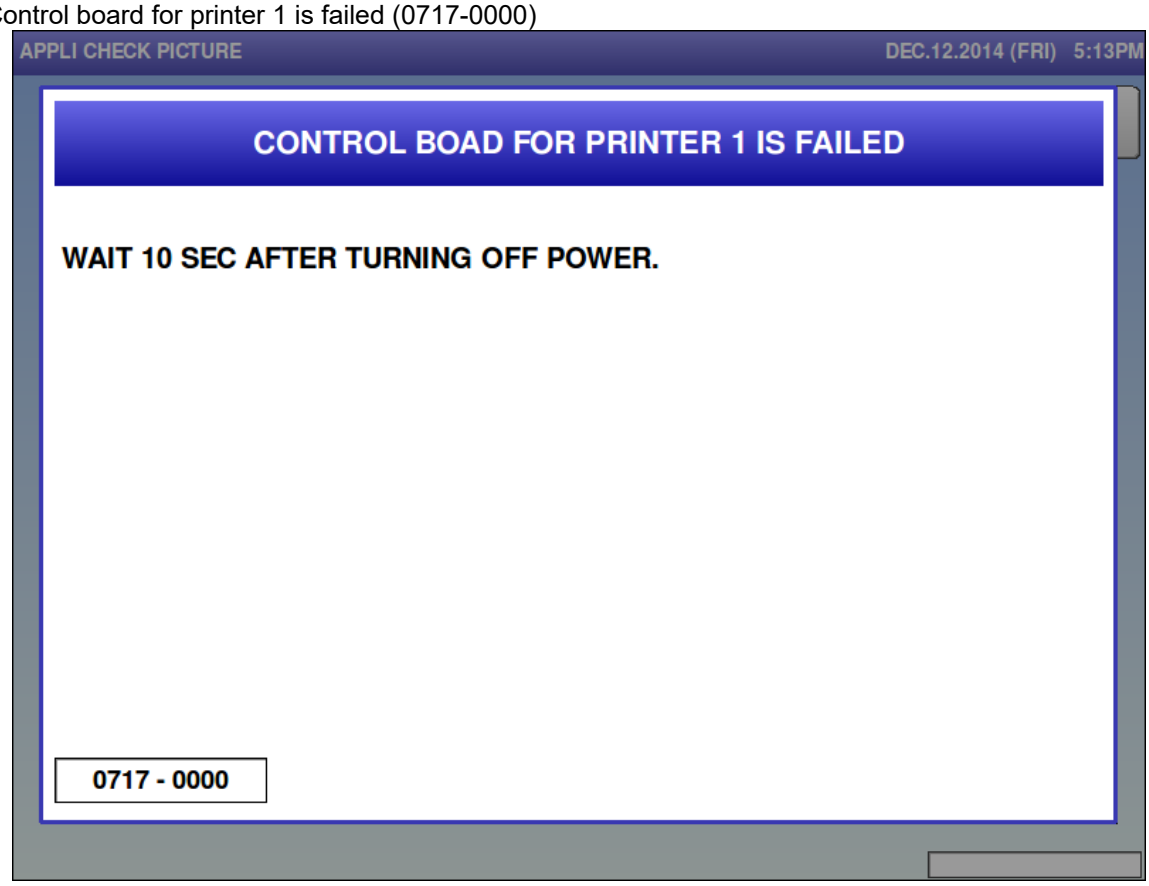
Error content	Thermal head for printer 1 up.
Detail	The thermal head was up when printing started. This message indicates that the head up error occurred while manually weighing and labeling with the front printer cover open.
Solution	Press the [OK] button after lowering and latching down the thermal head.
Action by user	Press the [OK] button after lowering and latching down the thermal head.
Action by service representative	Check head-up sensor.
Related part	Sensor assy: label gap and head up [B15] p/n 172669
Remarks	The “Printer No.1” title changes depending on the error No.

■ Thermal head for printer 1 up (0716-0002)



Error content	Thermal head for printer 1 up.
Detail	The thermal head was up when printing started. This message indicates that the head up error occurred during automatic weighing and labeling with the front printer cover closed.
Solution	Press the [RETURN] button after lowering and latching down the thermal head.
Action by user	Press the [RETURN] button after lowering and latching down the thermal head.
Action by service representative	Check head-up sensor.
Related part	Sensor assy: label gap and head up [B15] p/n 172669
Remarks	The “Printer No.1” title changes depending on the error No.

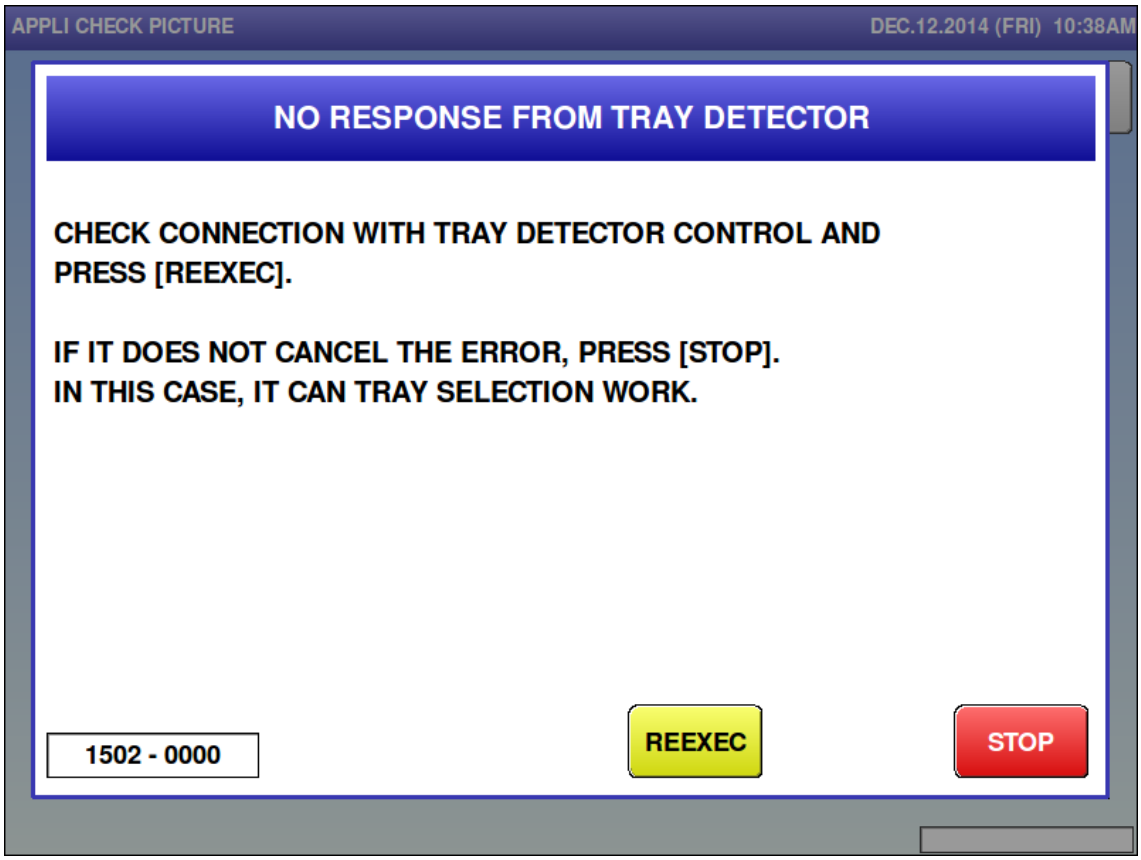
■ Control board for printer 1 is failed (0717-0000)



Error content	Control board for printer 1 has failed.
Detail	Unable to detect an interrupt signal from the printer control board.
Solution	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by user	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by service representative	Replace the printer control board. Printer 1: P-1100
Related part	Main board P-1100 [A10] p/n 158280
Remarks	The “Printer No.1” title changes depending on the error No.

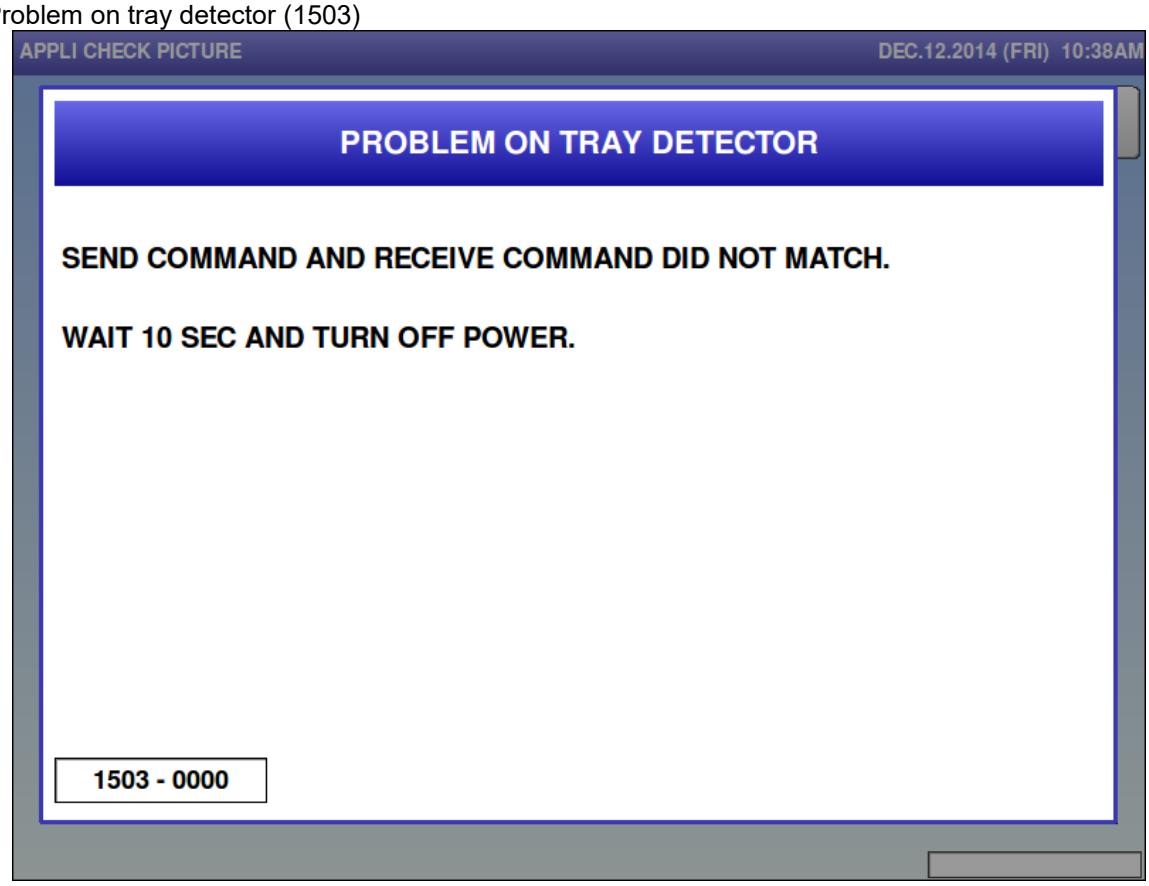
A.3.7 Tray Detector camera-related Error (No. 1500s)

■ No response from tray detector (1502)



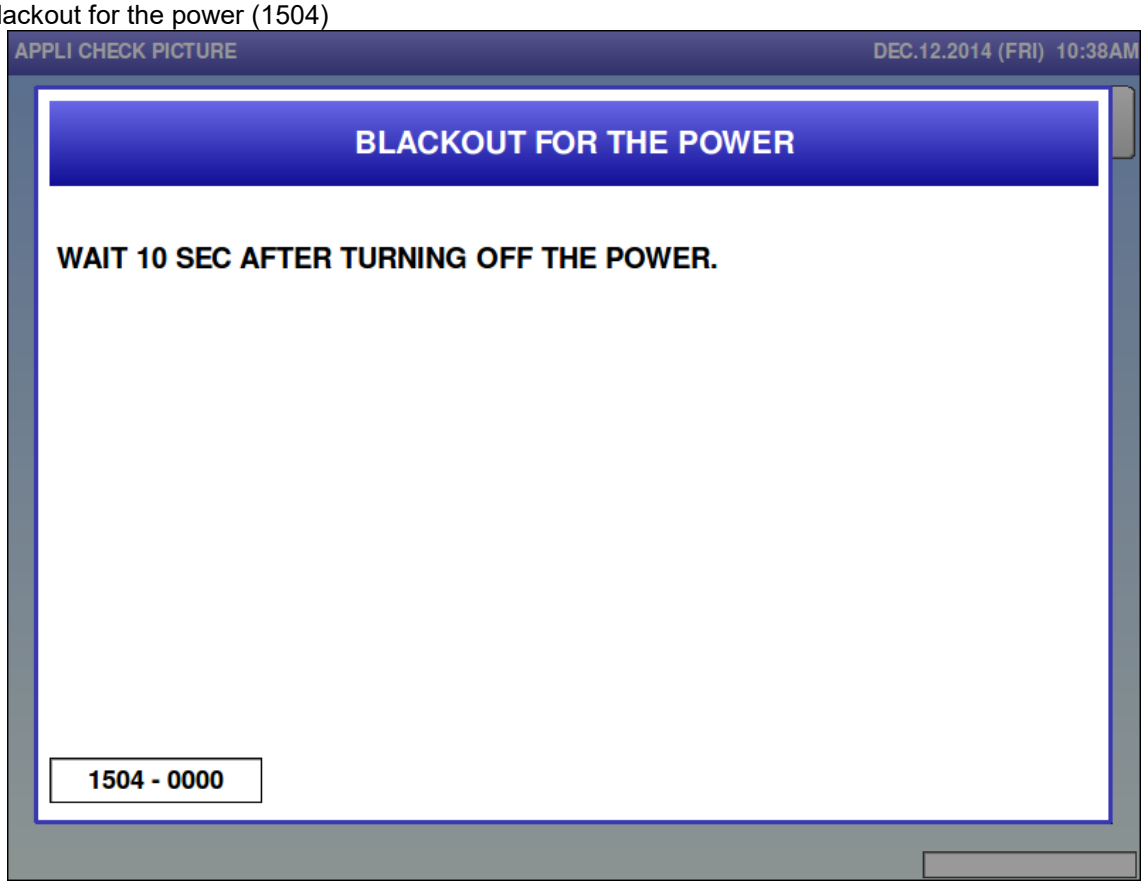
Error content	No response from tray detector camera.
Detail	Unable to communicate between the console and the tray detector camera. The sub-error includes the communication phase number. A communication error immediately after the completion of power-on processing will cause this error.
Solution	Press the [STOP] button to disconnect communication with the tray detector camera. Operation is possible without the tray detector camera. Press the [REEXEC] button to recheck the connection with the tray detector camera. The error will clear after confirming the connection.
Action by user	Press the [STOP] button to disconnect communication with the tray detector camera. Operation is possible without the tray detector camera. Press the [REEXEC] button to recheck the connection with the tray detector camera. The error will clear after confirming the connection.
Action by service representative	· Confirm RS485 communication line from the main board P-1100 [A10-XJ25] to the tray detector camera board P-1107 [A221-XJ11] · Confirm 24VDC power supply from the power supply [U11-CN3] to the tray detector camera board. P-1107 [A221-XJ9].
Related part	Main board P-1100 [A10] p/n 158280 Switching power supply [U11] p/n 171861 Tray detector board P-1107 [A221] p/n 171865
Remarks	

■ Problem on tray detector (1503)



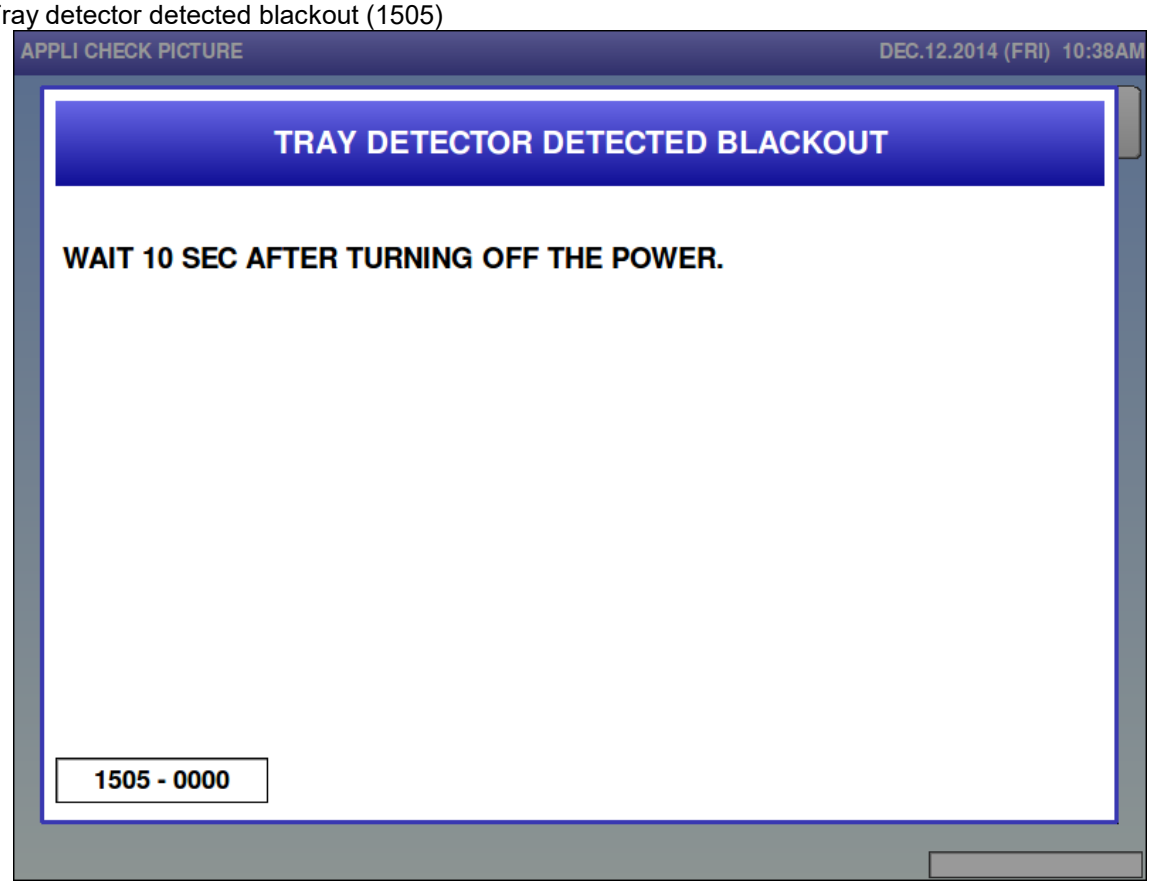
Error content	The command sent to the applicator and the command contained in the answer is different.
Detail	
Solution	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by user	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by service representative	Confirm the RS485 communication line of the main board P-1100 [A10-XJ25] to P-1107 [A221-XJ11]. Confirm 24VDC power supply [U11-CN3] to tray detector camera board P-1107 [A221-XJ9].
Related part	Main board P-1100 [A10] p/n 158280. Switching power supply [U11] p/n 171861. Tray detector board P-1107 [A221] p/n 171865.
Remarks	

■ Blackout for the power (1504)



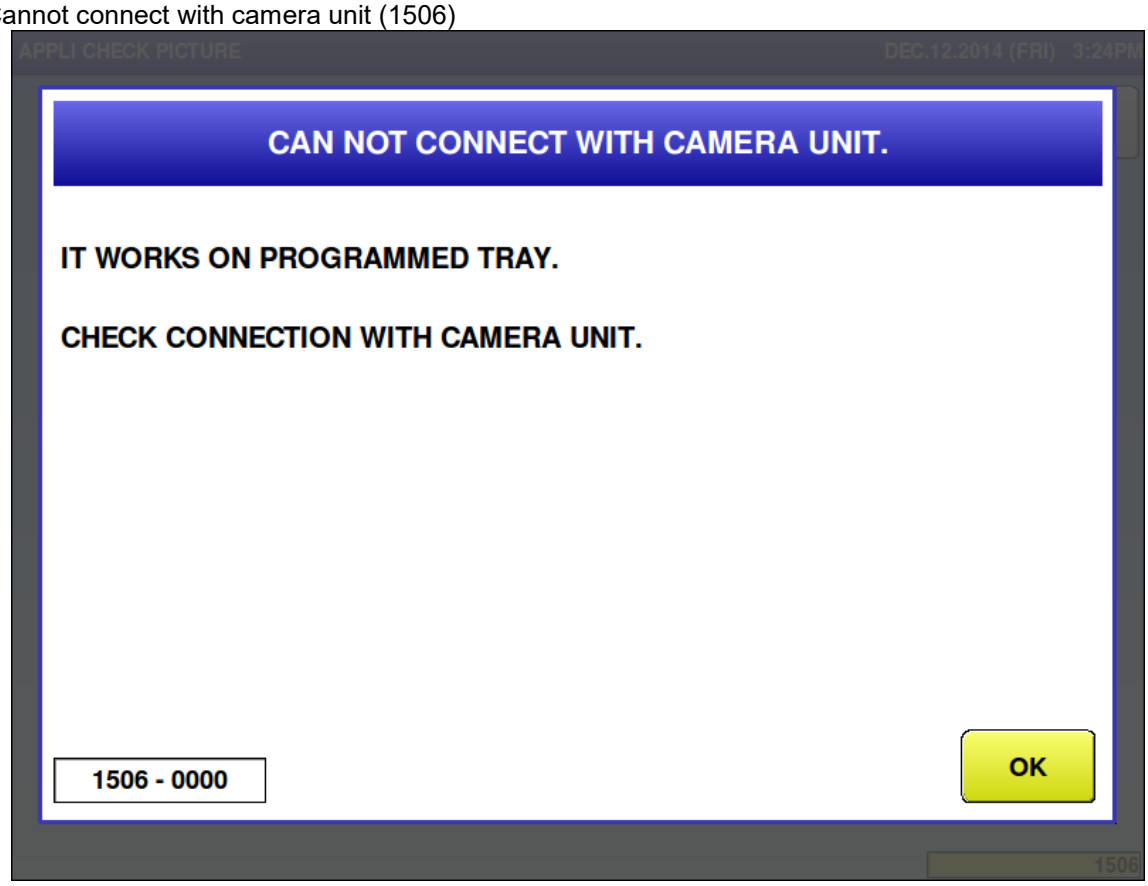
Error content	Tray detector detected power OFF in the console.
Detail	A Power ON was command received twice from the console.
Solution	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by user	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by service representative	Confirm power supply 24 V DC [U10-CN2, -CN3] to the main board P-1100 [A10-XJ13]. Confirm RS485 communication line P-1100 [A10-XJ25] to P-1107 [A221-XJ11].
Related part	Switching power supply [U10] p/n 171862 Main board P-1100 [A10] p/n 158280 Tray Detector board P-1107 [A221] p/n 171865
Remarks	

■ Tray detector detected blackout (1505)



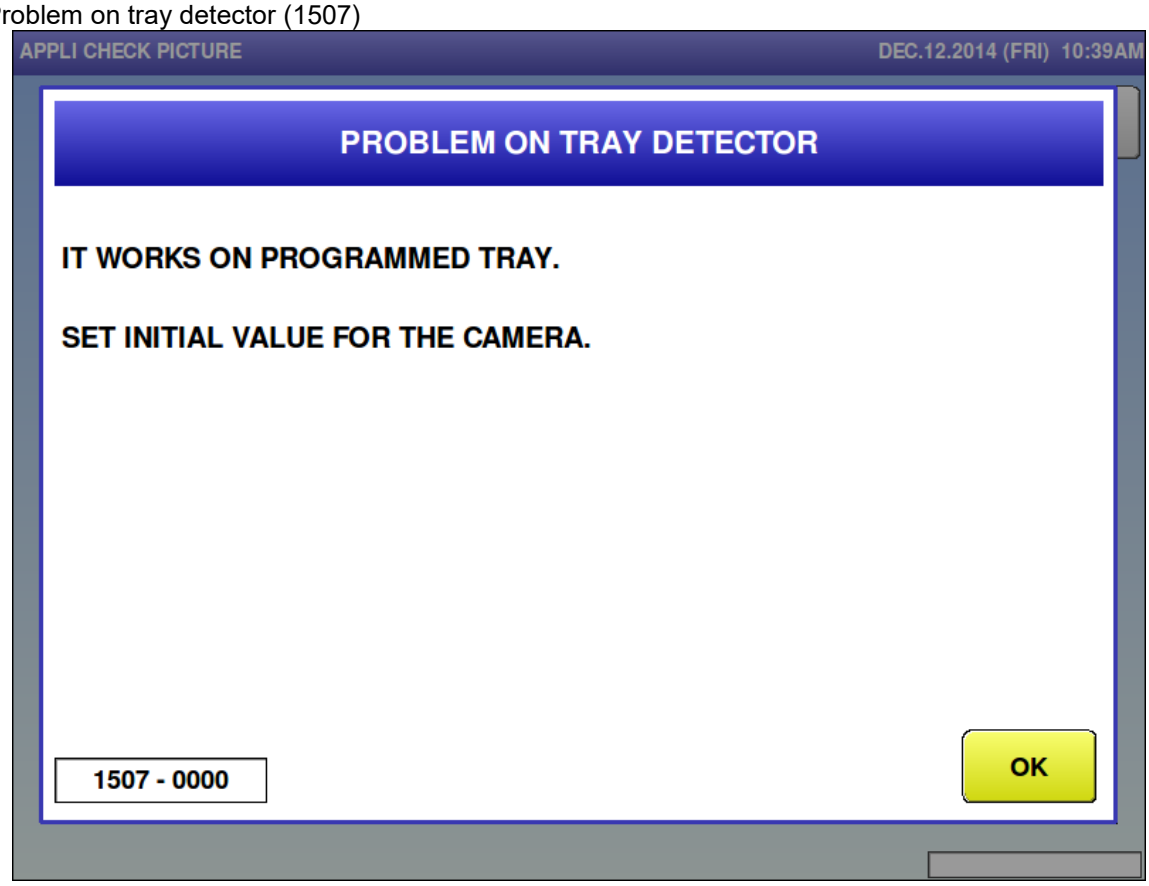
Error content	Tray detector board blackout or the tray detector board CPU was reset.
Detail	A different command was received before the power ON communication command.
Solution	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by user	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by service representative	Confirm RS485 communication line P-1100 [A10-XJ25] to P-1107 [A221-XJ11]. Confirm 24VDC power supply [U11-CN3] to tray detector camera board P-1107 [A221-XJ9].
Related part	Main board P-1100 [A10] p/n 158280 Switching power supply [U11] p/n 171861 Tray detector board P-1107 [A221] p/n 171865
Remarks	

■ Cannot connect with camera unit (1506)



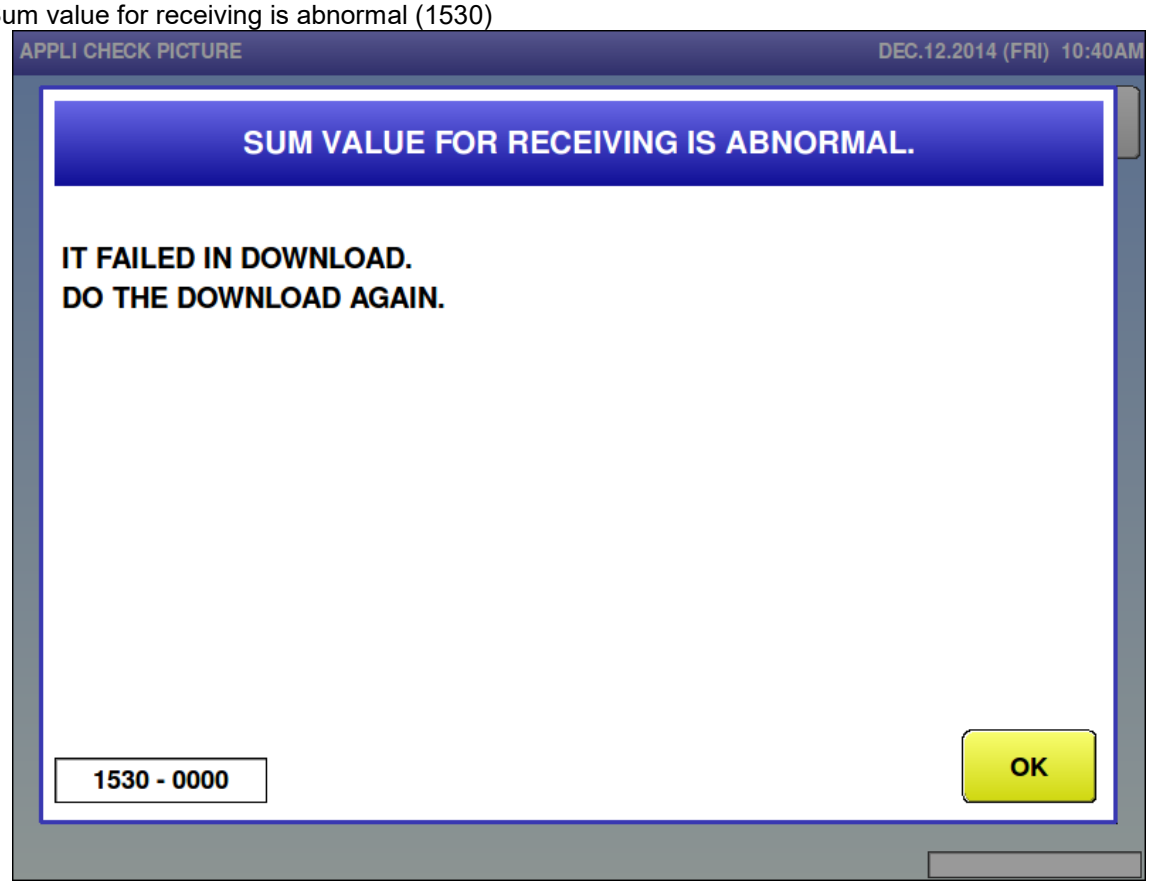
Error content	No communication between tray detector board and the tray detector camera.
Detail	The camera appears to not be connected due to the inability to obtain a proper response when attempting to set the camera.
Solution	Press the [OK] button => Operate without tray detection. Trays programmed to a PLU are used or trays must be manually selected.
Action by user	Press the [OK] button => Operate without tray detection. Trays programmed to a PLU are used or trays must be manually selected.
Action by service representative	Confirm the connection between the tray detector board [A221-XJ4] and CMOS camera [A222].
Related part	Detector board (P-1107) [A221] p/n 171865 CMOS camera [A222] p/n 172626
Remarks	

■ Problem on tray detector (1507)



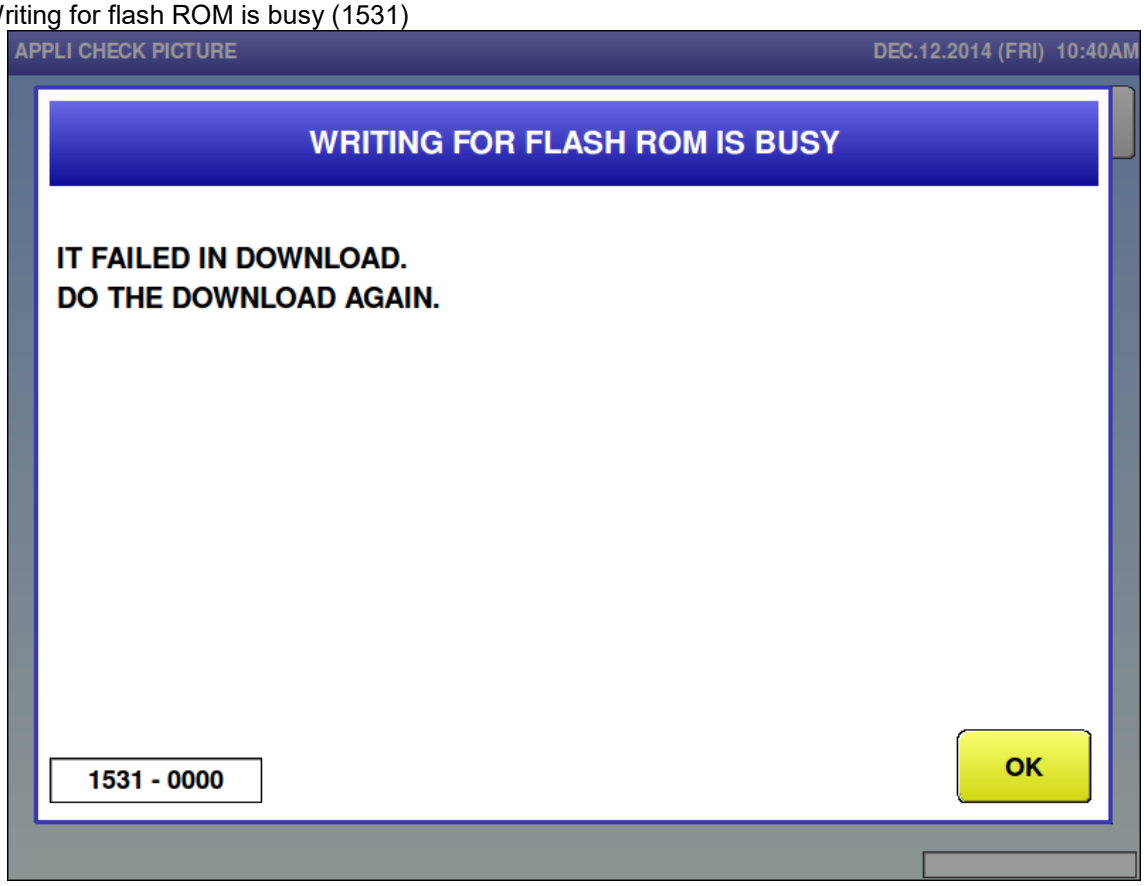
Error content	Threshold has not been set
Detail	An error occurred when writing threshold to FROM.
Solution	Press [OK] button => Operate without the tray detection. Trays programmed to a PLU are used or trays must be manually selected.
Action by user	Press the [OK] button => Operate without tray detection. Trays programmed to a PLU are used or trays must be manually selected.
Action by service representative	Initialize and calibrate the tray detection camera.
Related part	Tray Detector board [A221] p/n 171865
Remarks	

■ Sum value for receiving is abnormal (1530)



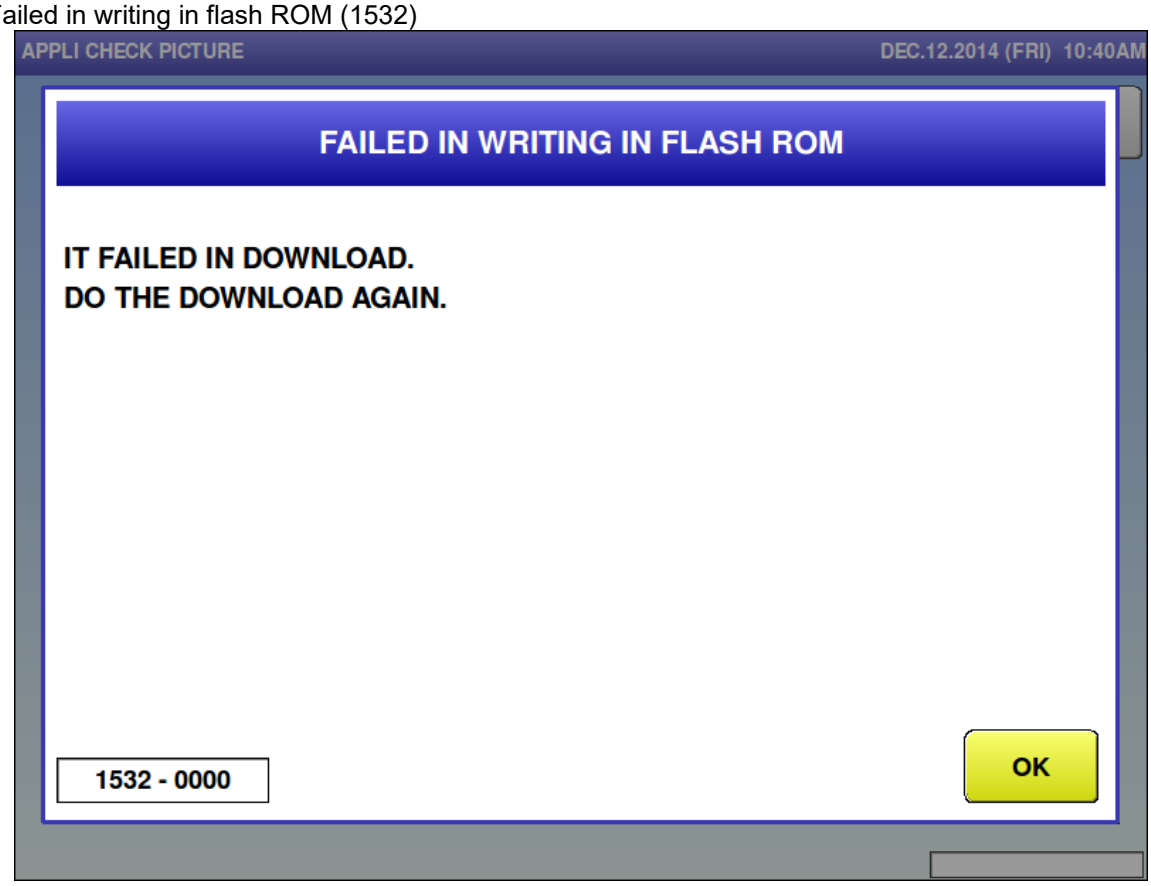
Error content	Data sum value error when downloading the program
Detail	Occurs if error exists of program data received from detector board when downloading the detection application program. Communication was not achieved between the main board and detector board due to noise when downloading.
Solution	Press the [OK] button
Action by user	
Action by service representative	Download the Camera sub-app firmware. [Adjust menu, Download, Sub App tab]
Related part	Main board P-1100 [A10] p/n 158280 Tray Detector board (P-1107) [A221] p/n 171865
Remarks	

■ Writing for flash ROM is busy (1531)



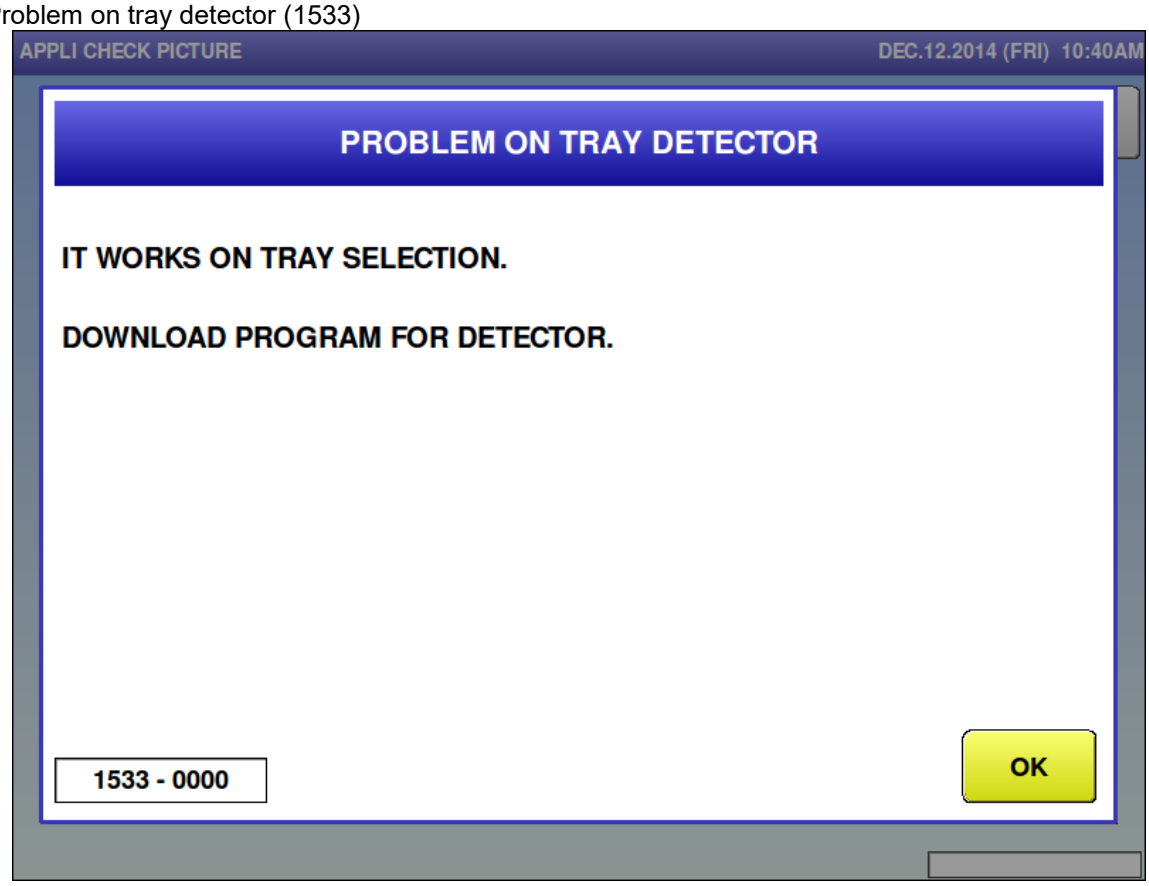
Error content	Unable to complete loading from detector flash ROM write during program download.
Detail	
Solution	Press the [OK] button
Action by user	
Action by service representative	Download the Camera sub-app firmware. [Adjust menu, Download, Sub App tab]
Related part	Tray Detector board (P-1107) [A221] p/n 171865
Remarks	

■ Failed in writing in flash ROM (1532)



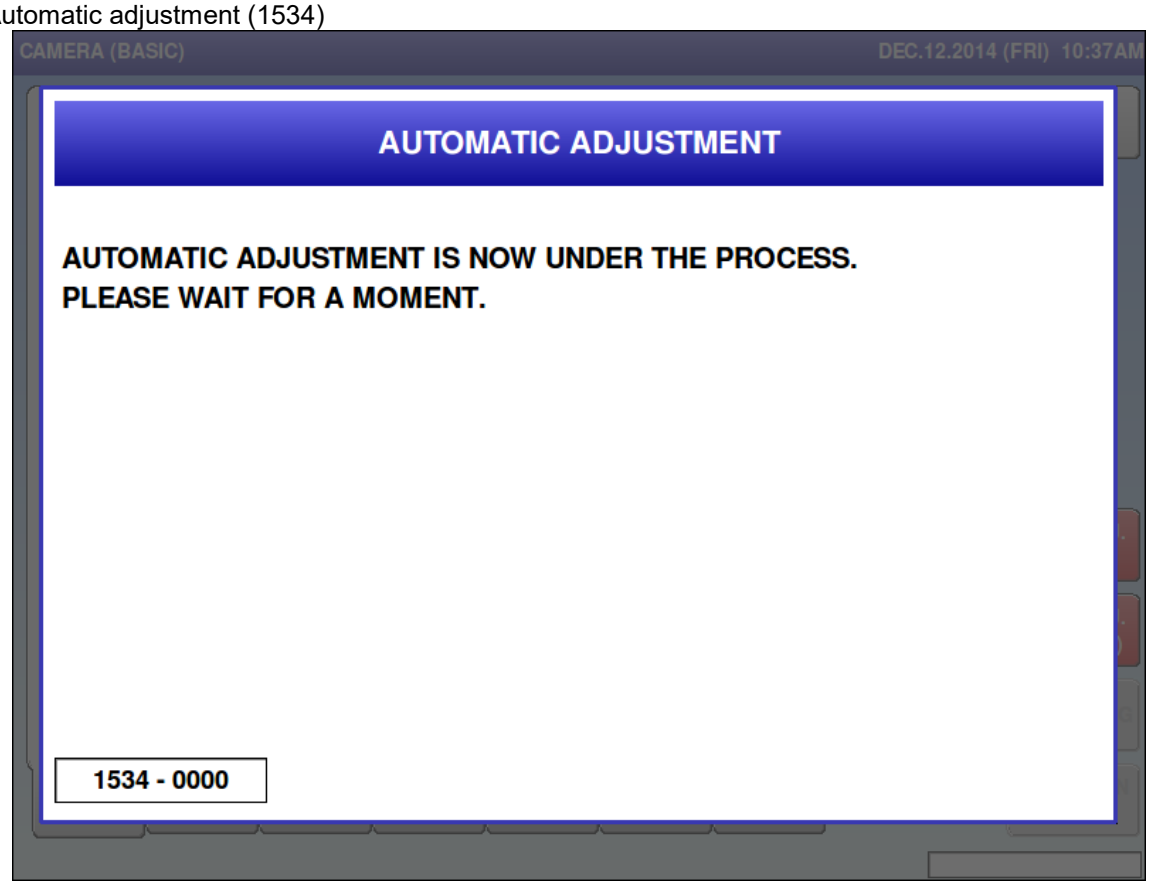
Error content	Tray detector board failed to write flash ROM data during download.
Detail	
Solution	Press the [OK] button
Action by user	
Action by service representative	Download the Camera sub-app firmware. [Adjust menu, Download, Sub App tab]
Related part	Tray Detector board (P-1107) [A221] p/n 171865
Remarks	

■ Problem on tray detector (1533)



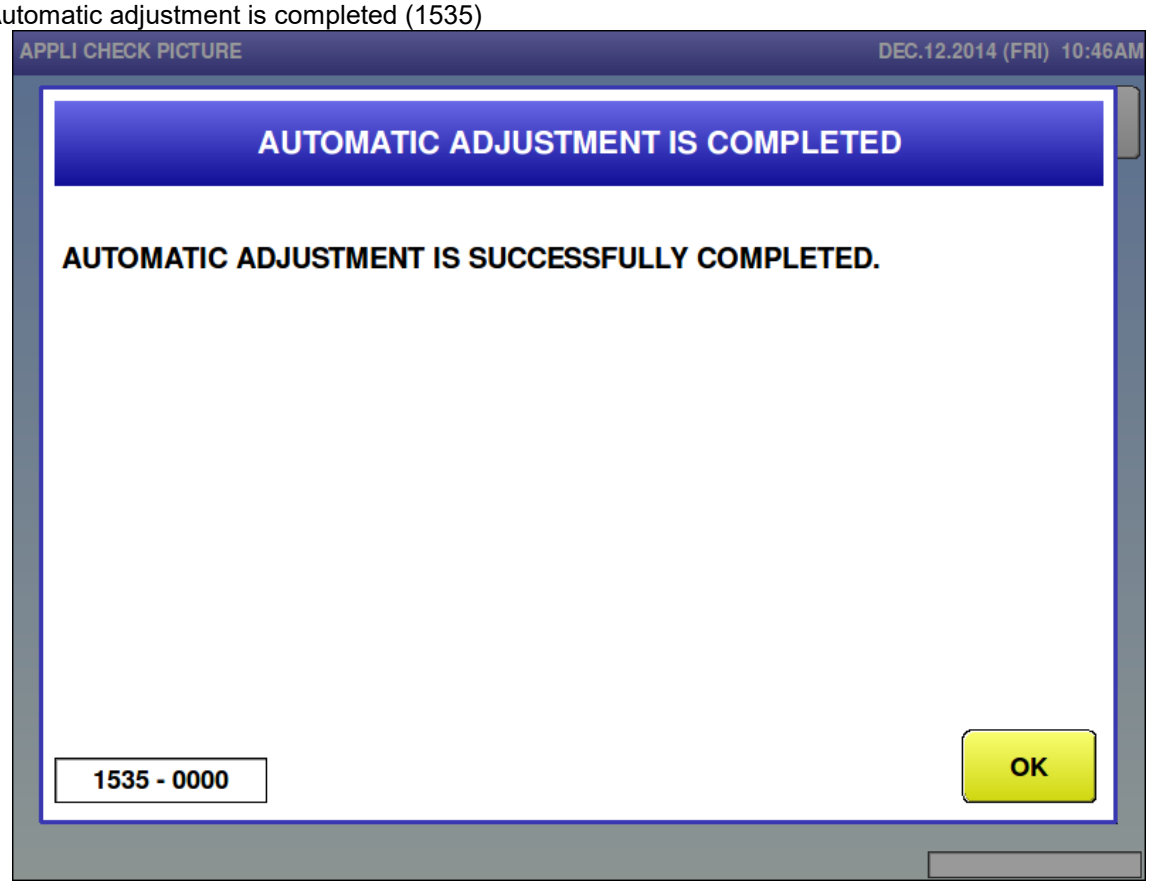
Error content	There is a boot program but no application program in the detector.
Detail	Separated by sub-error No. 0000: No application program exists. A boot program started. 0001: A boot program has started while between pin 2 and 3 of Jumper SW (JP2) in the detector board is short circuit.
Solution	Press [OK] button => Operate without the tray detection. Trays programmed to a PLU are used or trays must be manually selected.
Action by user	Press the [OK] button => Operate without tray detection. Trays programmed to a PLU are used or trays must be manually selected.
Action by service representative	Sub-error No.: 0000 A download of the camera sub-app is required. (Adjust menu > Download > Sub App tab). Sub-error No.: 0001 Move the JP2 jumper from pins 2-3 to pins 1-2 on the tray detection board. P-1107 [A221].
Related part	Tray Detector board (P-1107) [A221] p/n 171865
Remarks	

■ Automatic adjustment (1534)



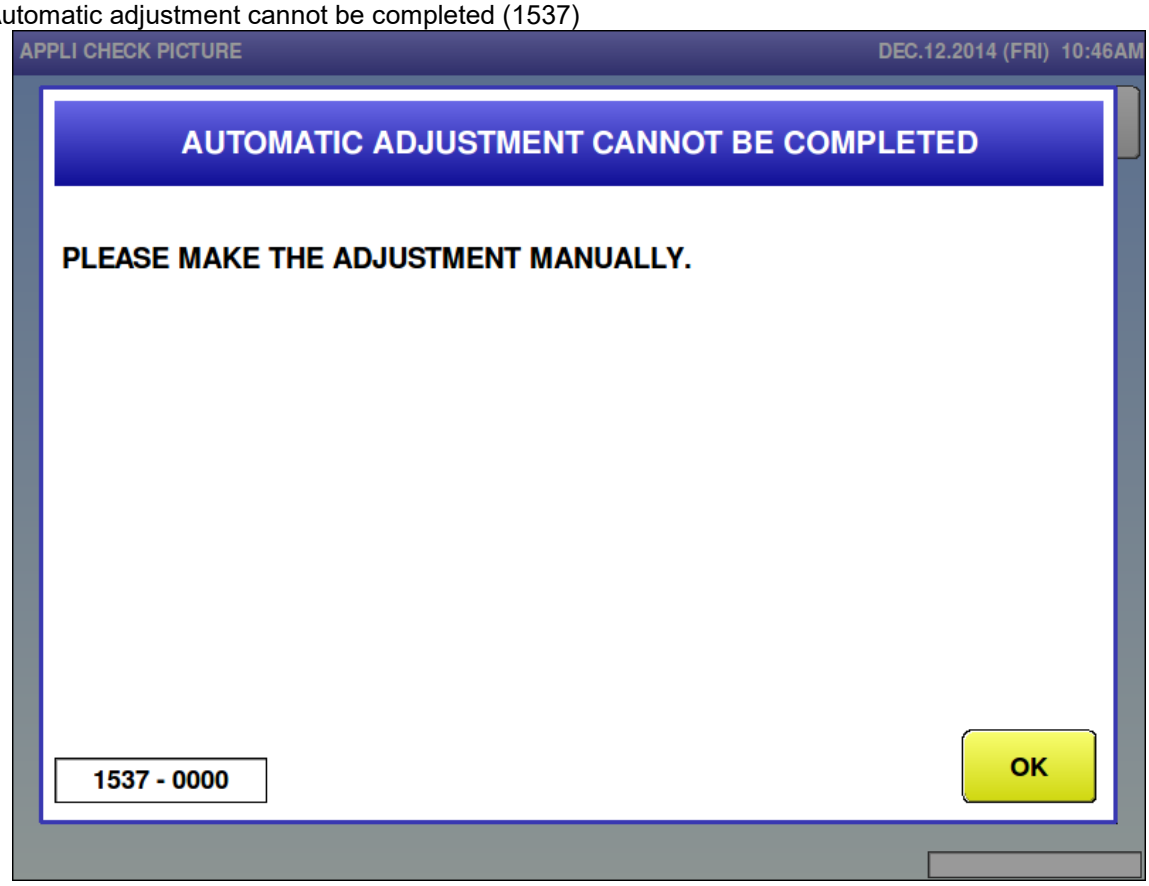
Error content	Automatic adjustment for the tray detector.
Detail	The screen indicates the tray detector is performing an automatic adjustment (brightness, distortion, volume). After the automatic adjustment, the screen changes to either message No.1535 (succeeded) or No.1537 (failed).
Solution	
Action by user	
Action by service representative	
Related part	
Remarks	

■ Automatic adjustment is completed (1535)



Error content	Automatic adjustment for the tray detector is successfully completed.
Detail	The tray detector successfully completed the automatic adjustment (brightness, distortion, volume).
Solution	Press the [OK] button
Action by user	
Action by service representative	
Related part	
Remarks	

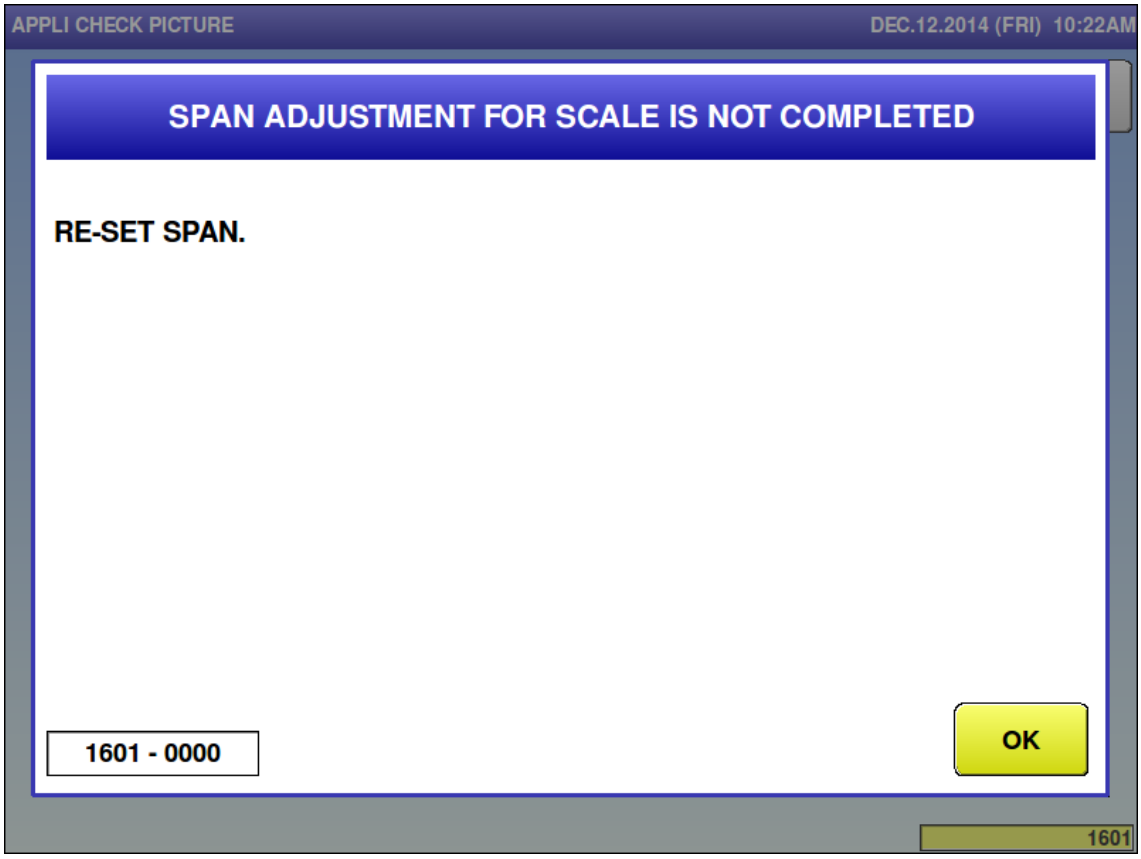
■ Automatic adjustment cannot be completed (1537)



Error content	Automatic adjustment for the tray detector failed.
Detail	The detector could not successfully complete the automatic adjustment. The automatic adjustment that failed is indicated by the sub-error No. 0000: brightness adjustment failed 0001: distortion adjustment failed 0002: volume adjustment failed
Solution	Press the [OK] button
Action by user	
Action by service representative	Sub-error No.: [0000] and [0001] Perform automatic adjustment of brightness and distortion after checking and cleaning the tray detector board, CMOS camera, and LED light for tray detection. If failed, manually calibrate of the tray detector. Sub-error No.: [0002] Perform volume height automatic adjustment after checking and cleaning the volume height sensor.
Related part	Tray Detector board [A221] p/n 171865 LED light for tray detection: left [H221] p/n 172627, right [H222] p/n 172628 Tray volume/height detection sensor [B221] p/n 172629
Remarks	When automatic adjustment fails, the adjustment values return to the original settings.

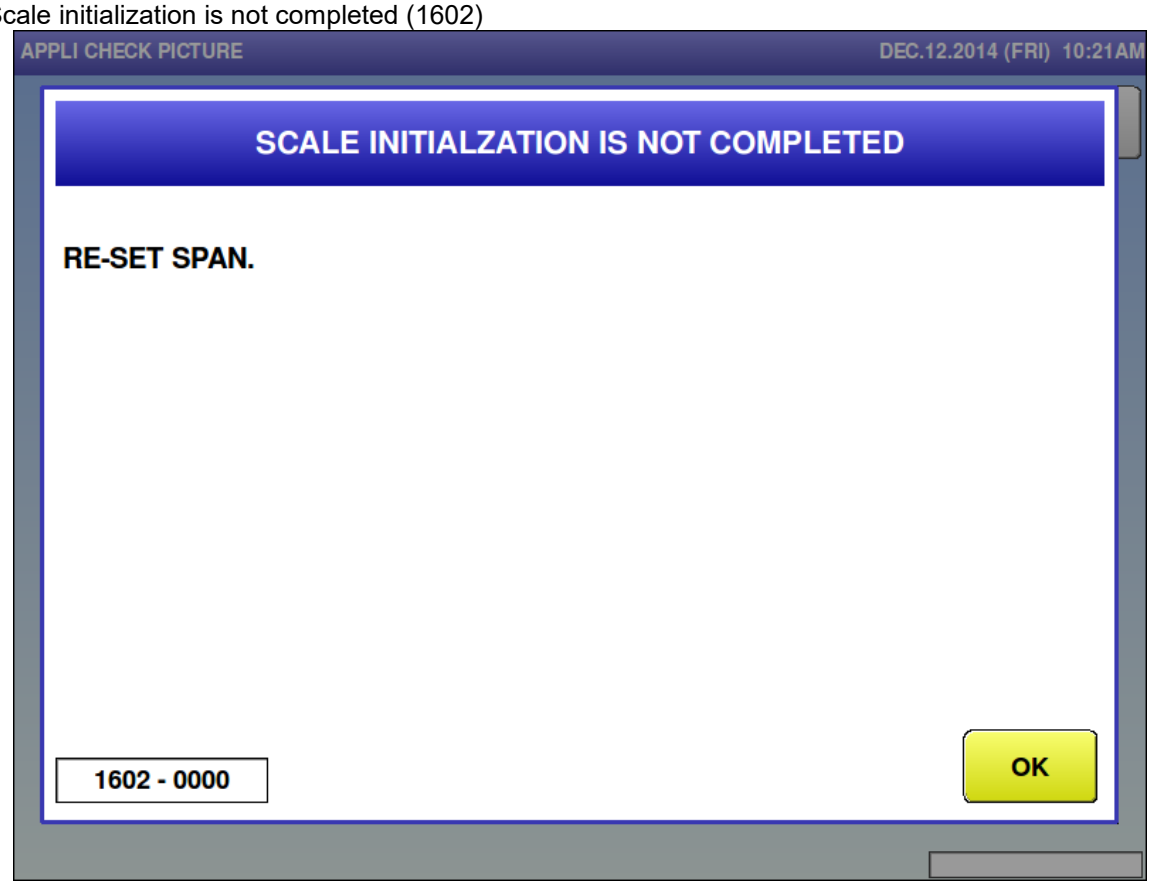
A.3.8 Scale-related Error (No. 1600s)

■ Span adjustment for scale is not completed (1601)



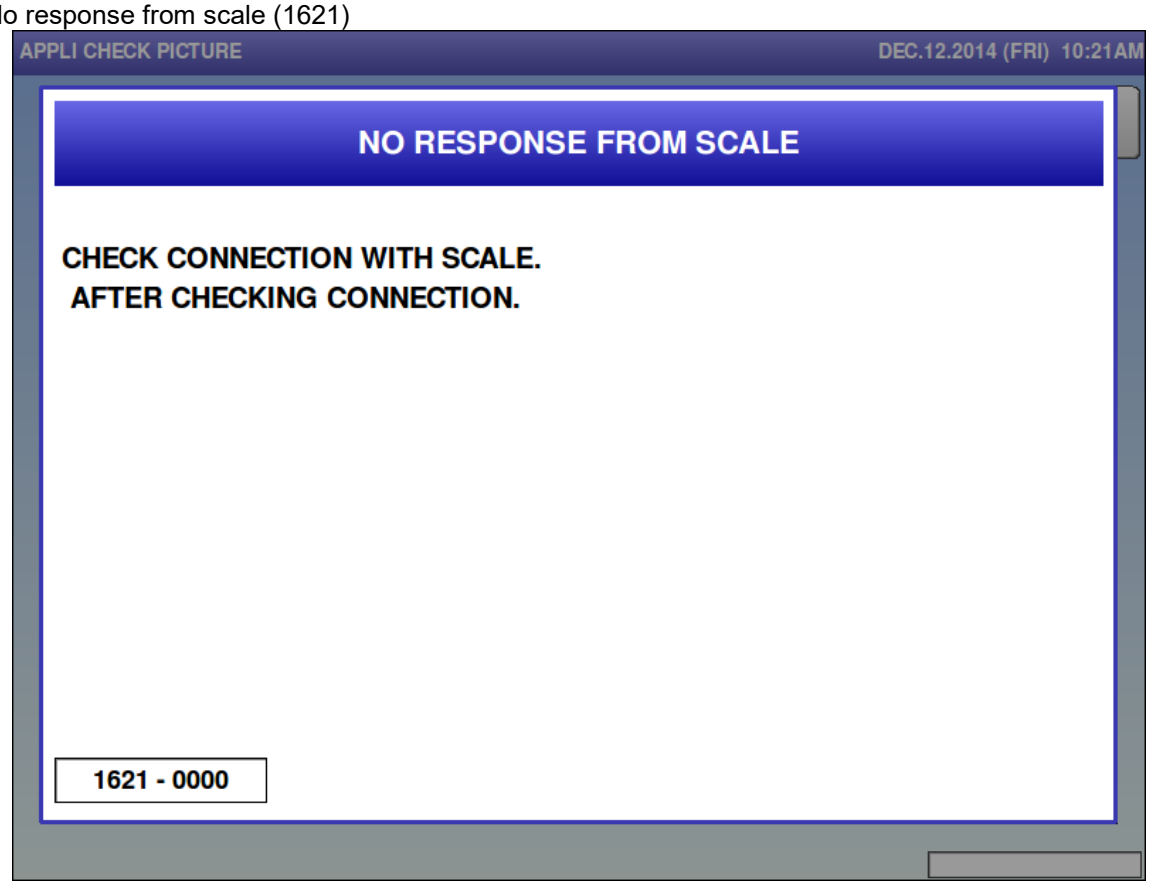
Error content	Span adjustment for scale is not completed.
Detail	The response from the scale is included in the sub-error.
Solution	Press the [OK] button
Action by user	
Action by service representative	Calibrate the scale and press the button in the scale base to save the settings.
Related part	A/D board P-1111A-2 / A-7 [A40] p/n 171879
Remarks	The button in the scale base must be pressed after calibration is complete but before leaving the calibration screen.

■ Scale initialization is not completed (1602)



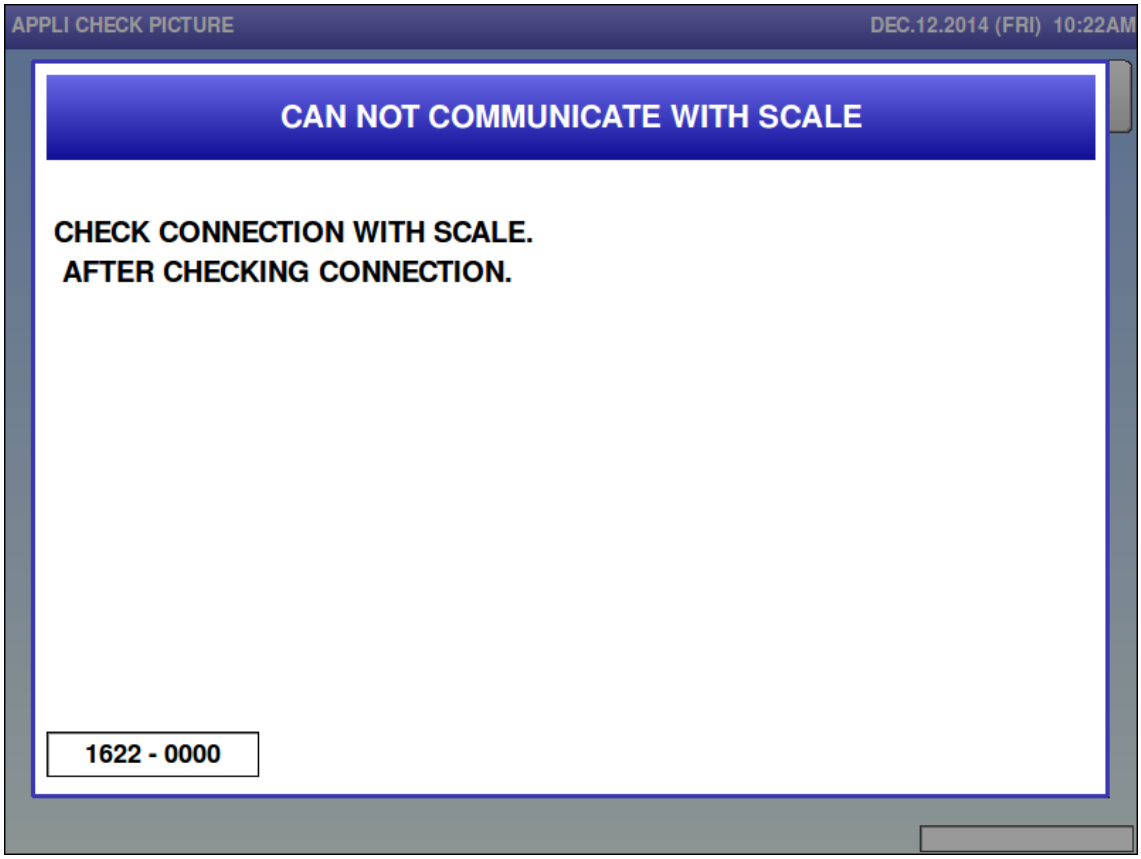
Error content	Scale initialization is not completed.
Detail	The response from the scale is included in the sub-error.
Solution	Press the [OK] button
Action by user	
Action by service representative	Initialize and calibrate the scale then press the button in the scale base to save the settings.
Related part	A/D board P-1111A-2 / A-7 [A40] p/n 171879
Remarks	The button in the scale base must be pressed after calibration is complete but before leaving the calibration screen.

■ No response from scale (1621)



Error content	No response from scale.
Detail	
Solution	Turn off the power, wait 30 seconds, and then turn on the power again.
Action by user	Turn off the power, wait 30 seconds, and then turn on the power again.
Action by service representative	Determine if the A/D board [A40] is faulty or the connection from the A/D board to the main CPU board P-1100 [A10]. Check for water at the infeed left side connections.
Related part	A/D board P-1111A-2 / A-7 [A40] p/n 171879 Harness, C2, scale COM (A/D A40-XJ1) p/n 196743 Harness, C11, infeed (X41P to X40R) p/n 176681 Harness, C2, scale (at P-1100 CPU A10-XJ16) p/n 196748
Remarks	Restore power after checking scale connection. Harness, C11, infeed (176681) also connects to M04 infeed, M205 centering, B205 centering, and B219 infeed pusher home position Path from A/D board [A40] to P-1100 CPU [A10] is: 196743 to 176681 to 196748

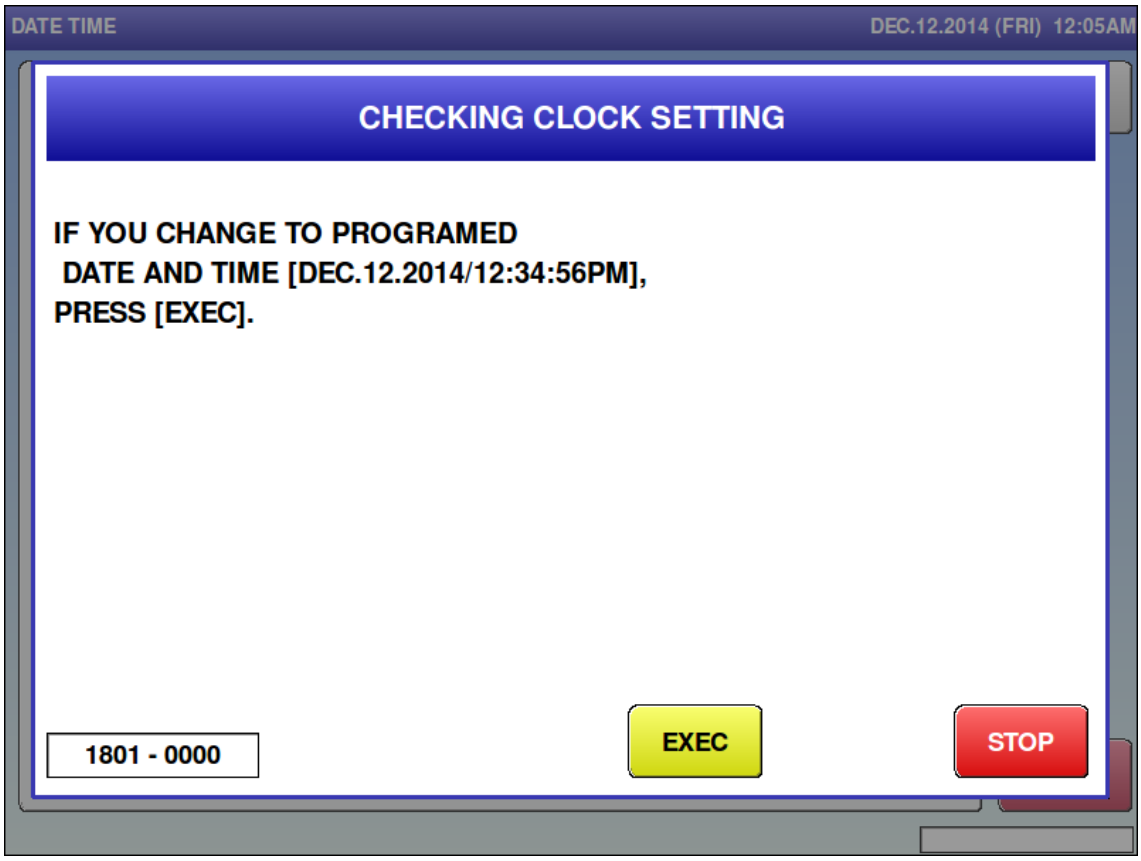
■ Cannot communicate with scale (1622)



Error content	Cannot communicate with scale.
Detail	
Solution	Turn off the power, wait 30 seconds, and then turn on the power again.
Action by user	Turn off the power, wait 30 seconds, and then turn on the power again.
Action by service representative	Determine if the A/D board [A40] is faulty or the connection from the A/D board to the main CPU board P-1100 [A10]. Check for water at the infeed left side connections.
Related part	A/D board P-1111A-2 / A-7 [A40] p/n 171879 Harness, C2, scale COM (A/D A40-XJ1) p/n 196743 Harness, C11, infeed (X41P to X40R) p/n 176681 Harness, C2, scale (at P-1100 CPU A10-XJ16) p/n 196748
Remarks	Restore power after checking scale connection. Harness, C11, infeed (176681) also connects to M04 infeed, M205 centering, B205 centering, and B219 infeed pusher home position Path from A/D board [A40] to P-1100 CPU [A10] is: 196743 to 176681 to 196748

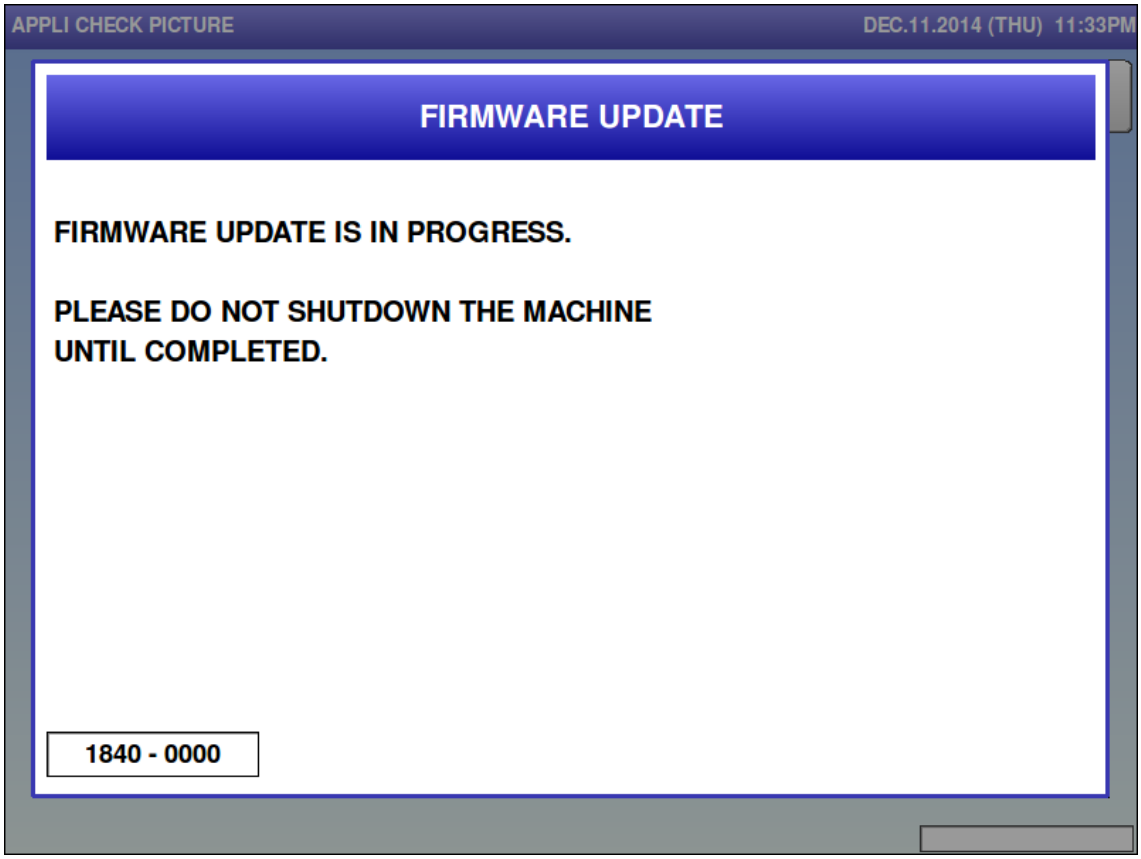
A.3.9 Dialog Selection-related Error (No. 1800s, 1900s, 3000s, 4200s)

■ Checking clock setting (1801)



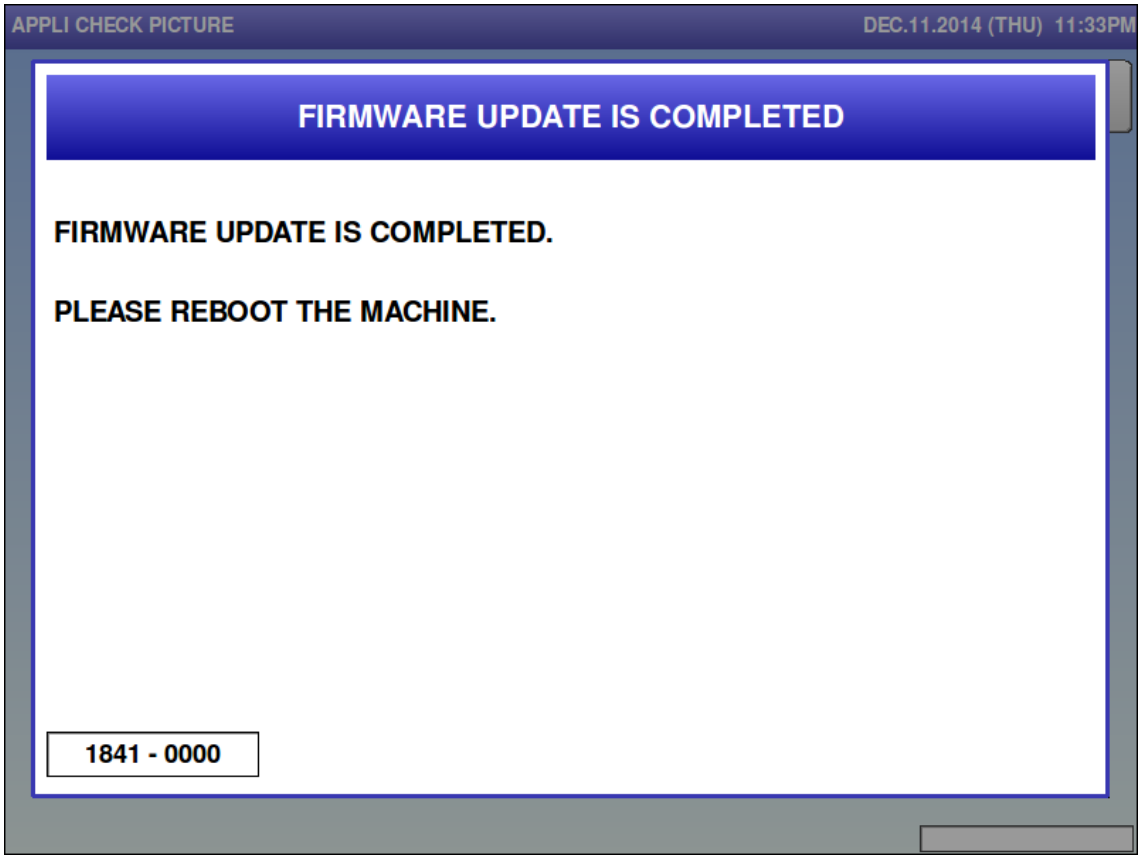
Error content	This message is displayed after changing the values for the machine's date and time.
Detail	
Solution	Press the [EXEC] button or the [STOP] button. [EXEC]: The date and time will be updated to the entered values. [STOP]: The date and time will not be updated and will remain at the current values.
Action by user	
Action by service representative	
Related part	
Remarks	

■ Firmware update (1840)



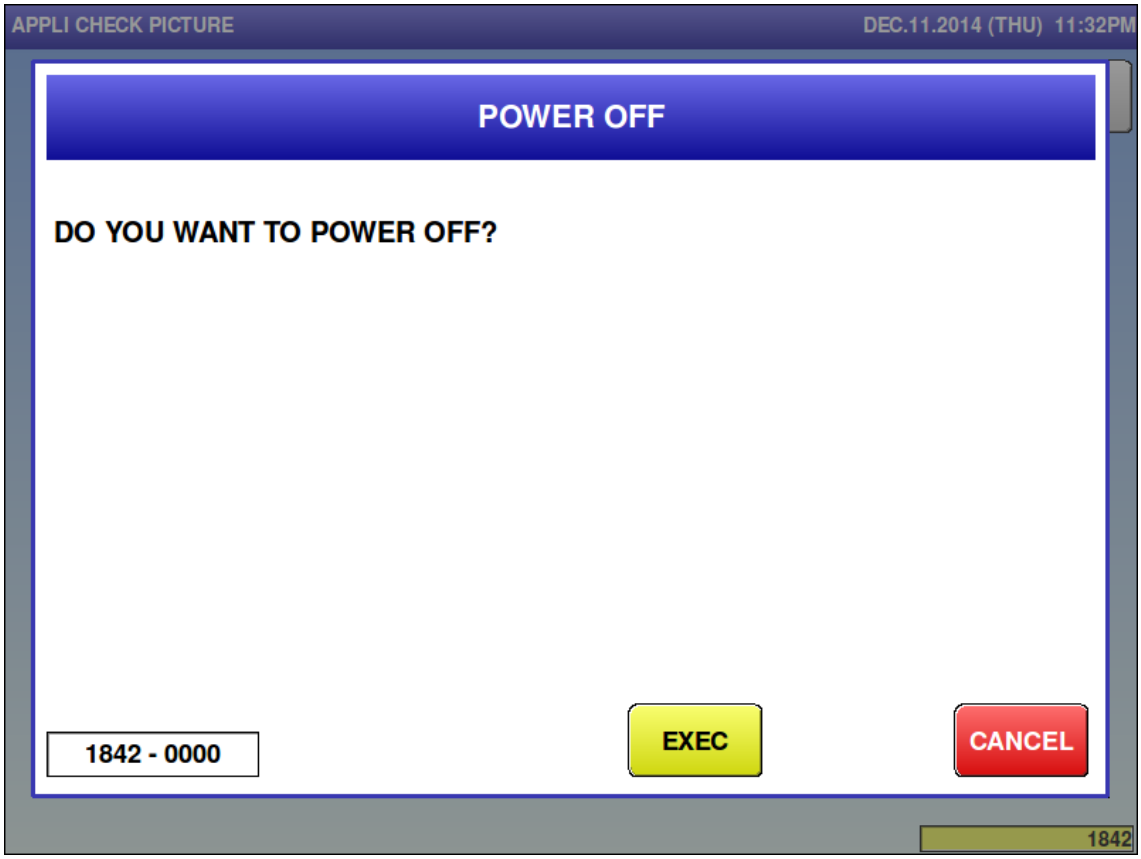
Error content	This message is displayed while the firmware is being updated.
Detail	Updating the firmware. Do not turn OFF the power.
Solution	
Action by user	
Action by service representative	
Related part	
Remarks	

■ Firmware update is completed (1841)



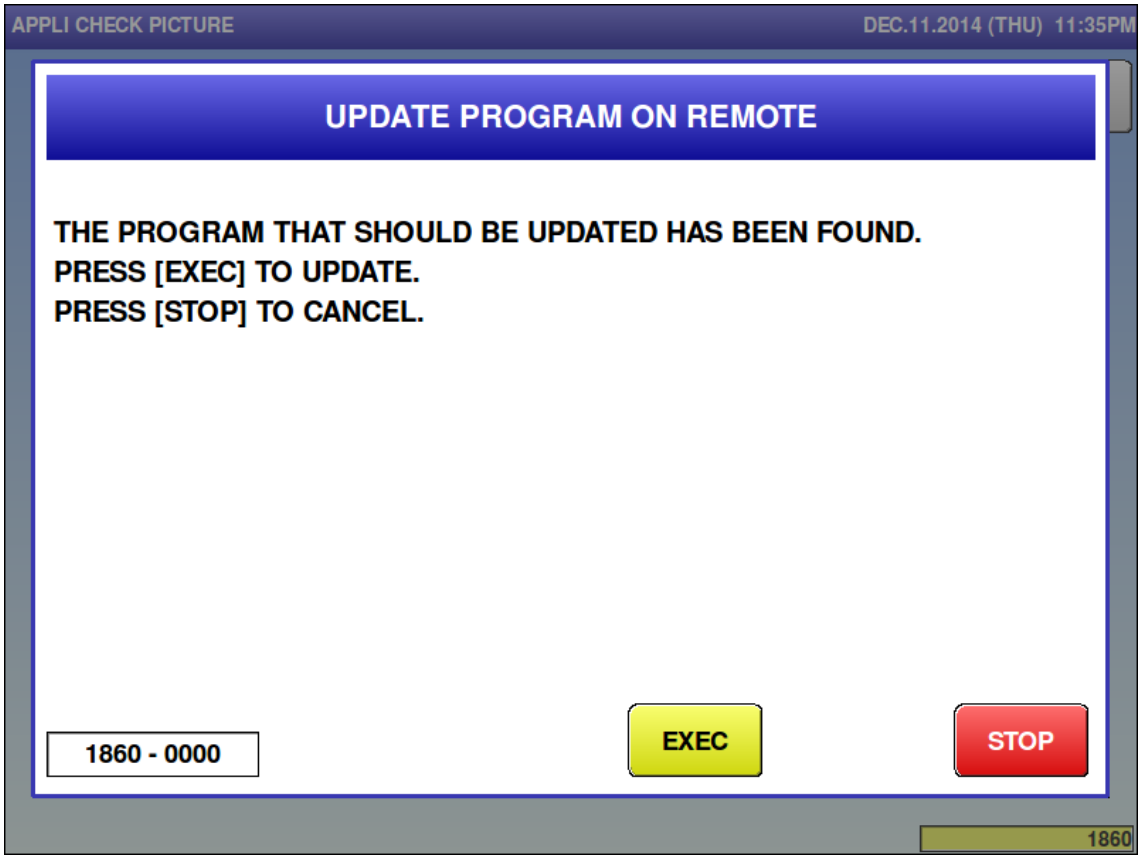
Error content	This message is displayed after the firmware update has been completed.
Detail	Firmware update has been completed. Turn off the power, wait 30 seconds, and then turn on the power again.
Solution	
Action by user	
Action by service representative	
Related part	
Remarks	

■ Power OFF (1842)



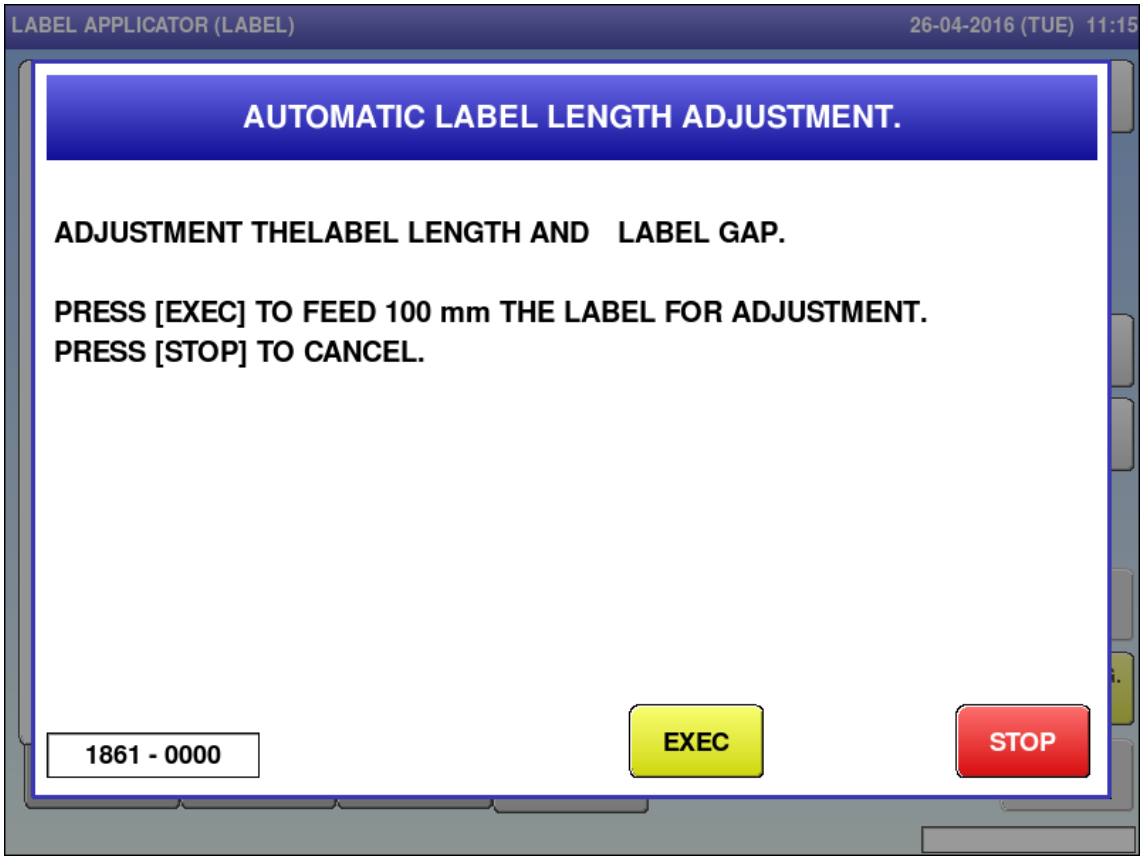
Error content	Confirmation to power down the IP-Ai scale.
Detail	Power OFF is checked when the power button is pressed.
Solution	Press the [EXEC] button or the [CANCEL] button. [EXEC]: Complete the power shut down sequence. [CANCEL]: Do not shut down the power and return to the previous screen when the power switch was pressed.
Action by user	
Action by service representative	
Related part	
Remarks	Displayed only on the IP-Ai scale. The IP-Ai only performs a "soft" power OFF. There is still power in the scale. Unplug before any maintenance.

■ Update program on remote (1860)



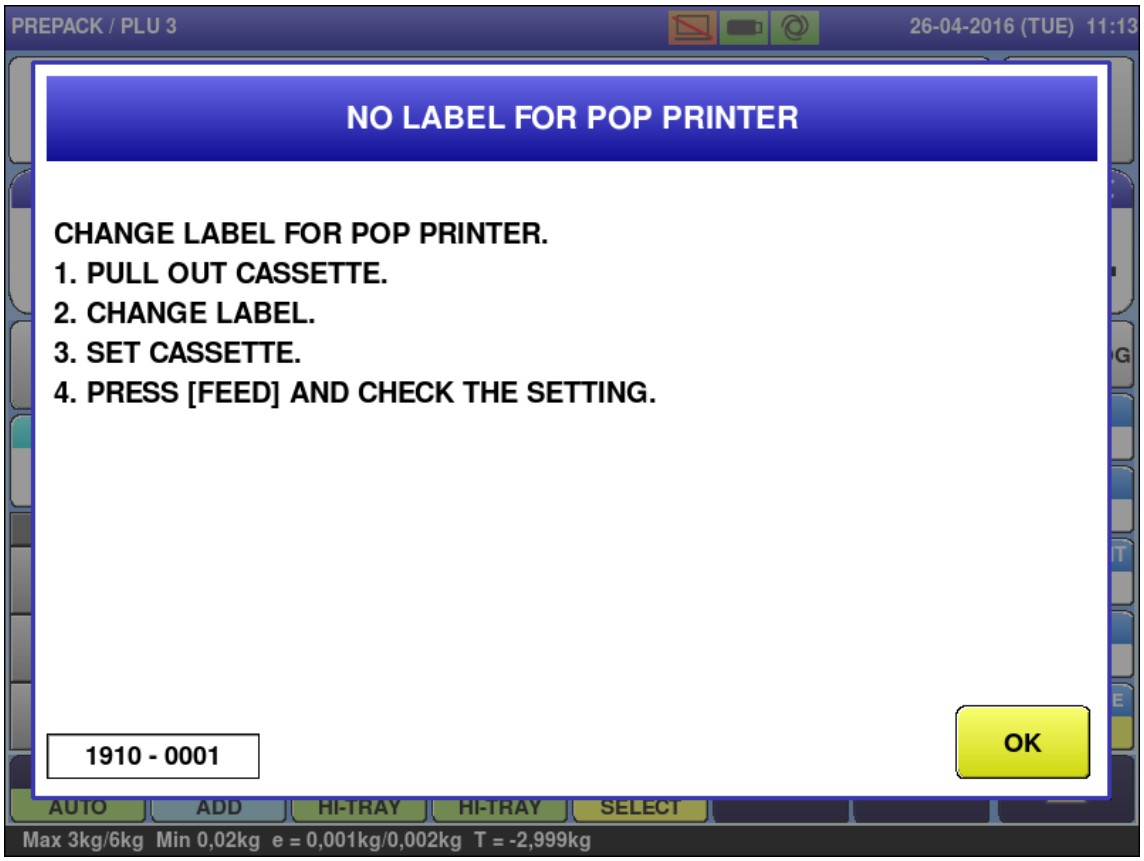
Error content	Confirm the program update remotely.
Detail	Update confirmation is performed when there is a program to be updated on the i-global service when the power is ON.
Solution	Press the [EXEC] button to update the program from the cloud and restart after update. Press the [STOP] button to display clock confirmation.
Action by user	
Action by service representative	
Related part	
Remarks	Displayed when the i-global service is enabled, and there is an update program on the cloud service. (Setup menu, Machine No., Global Sv. tab) **IMPORTANT:** The i-global service should not be enabled for any USA wrappers or scales.

■ Automatic label length adjustment (1861-1000)



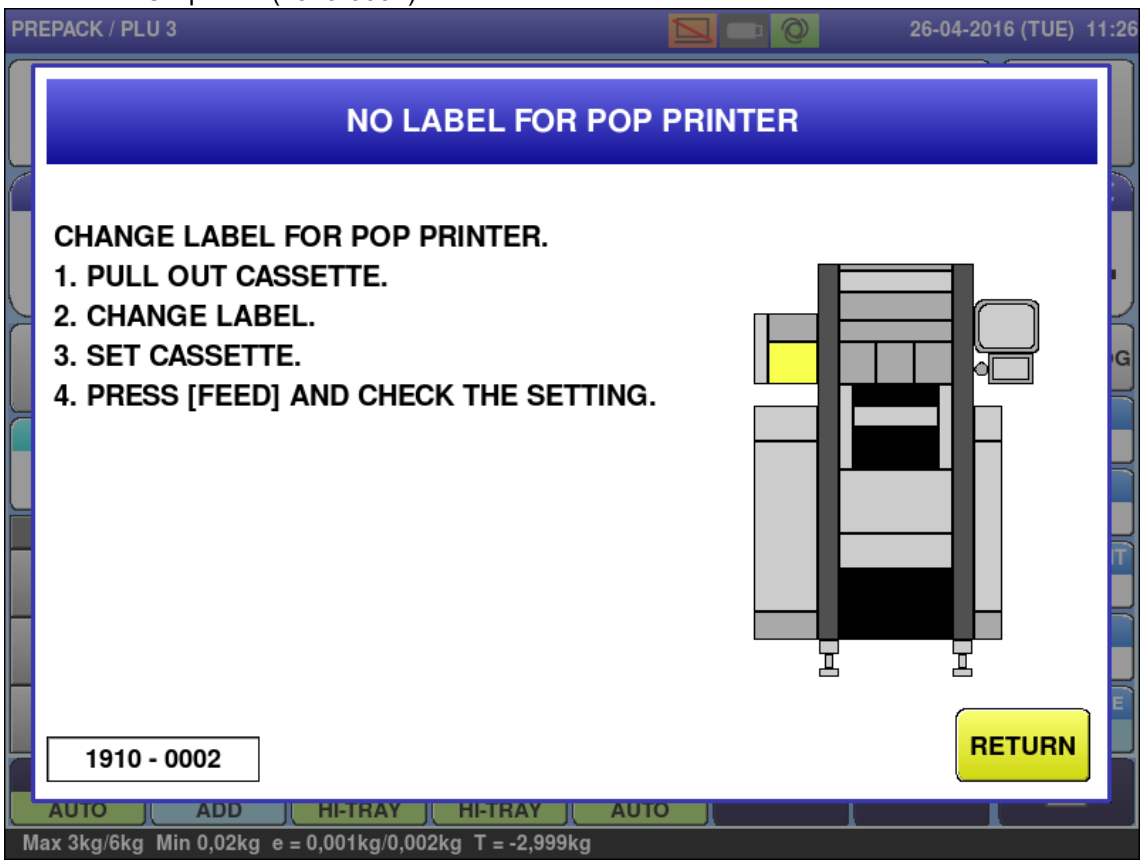
Error content	This message is displayed after pressing the [AUTO LNG. ADJUST] button on the LABEL APPLICATOR (LABEL) screen.
Detail	Confirm to execute the automatic label length adjustment.
Solution	Press the [EXEC] button or the [STOP] button. [EXEC]: The automatic length adjustment will be performed. [STOP]: The adjustment will not be performed and will remain at the current values.
Action by user	Press the [EXEC] button or the [STOP] button.
Action by service representative	Press the [EXEC] button or the [STOP] button.
Related part	
Remarks	Only for POP printer.

■ No label for POP printer (1910-0001)



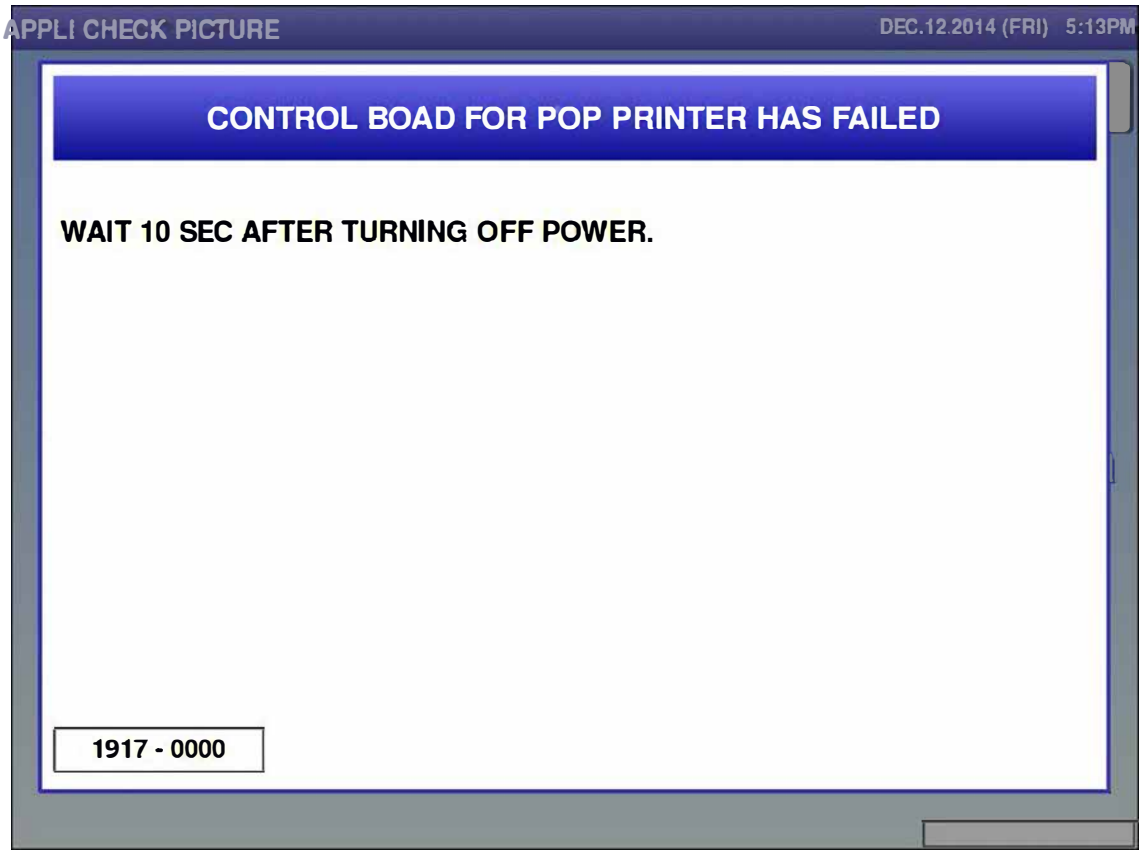
Error content	Pop labels have run out
Detail	This message indicates that the labels ran out while manually weighing and labeling with the front printer cover open.
Solution	Press the [OK] button after installing a new roll of labels, then press [5], [FEED] to align the labels as needed.
Action by user	Press the [OK] button after installing a new roll of labels, then press [5], [FEED] to align the labels as needed.
Action by service representative	- Adjust the sensitivity of the label gap sensor - Check the label gap sensor
Related part	Label gap sensor assy [B412, B413], p/n 178227
Remarks	Only for POP printer.

- No label for POP printer (1910-0002)



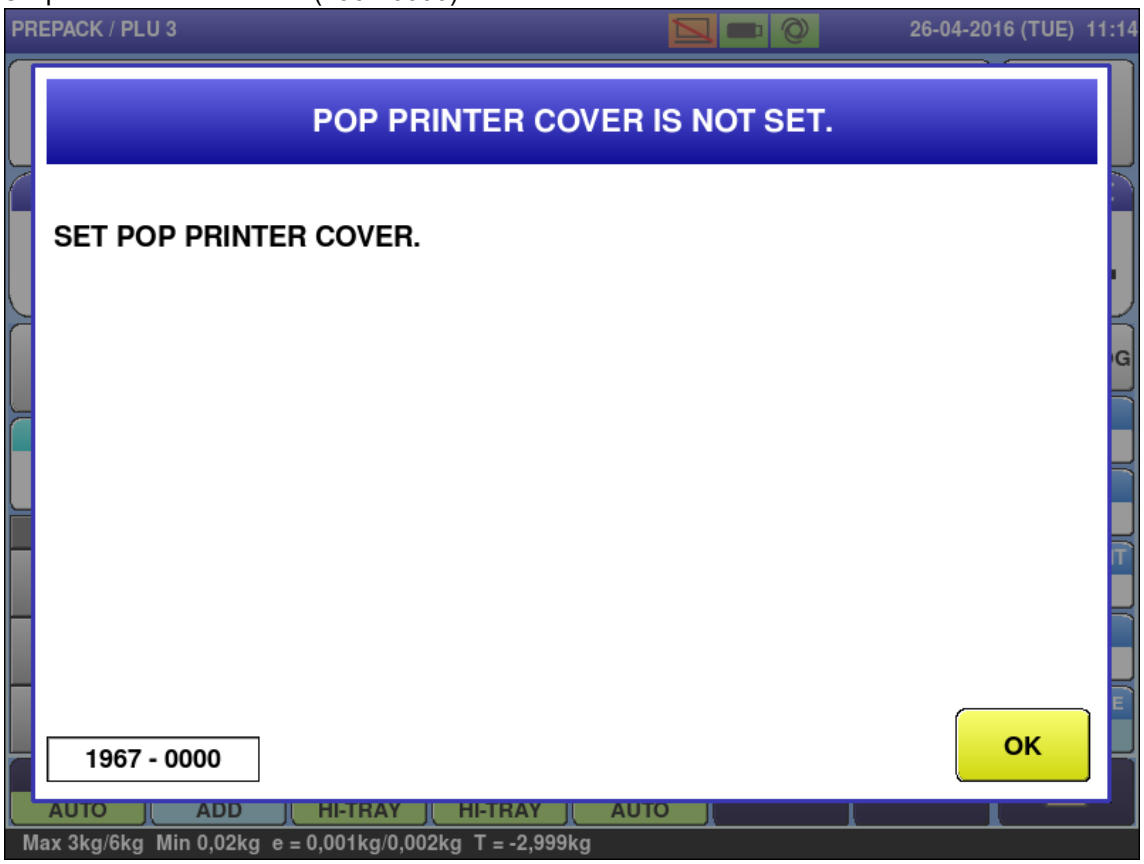
Error content	Printer label is run out.
Detail	This message indicates that the labels ran out during automatic weighing and labeling with the front printer cover closed.
Solution	Install a new roll of labels and then press [5], [FEED] to align the labels as needed. Close the front cover, then press the [RETURN] button.
Action by user	Install a new roll of labels and then press [5], [FEED] to align the labels as needed. Close the front cover, then press the [RETURN] button.
Action by service representative	- Adjust the sensitivity of the label gap sensor - Check the label gap sensor
Related part	Label gap sensor assy [B412, B413], p/n 178227
Remarks	Only for POP printer.

■ Control board for Pop printer is failed (1917-0000)



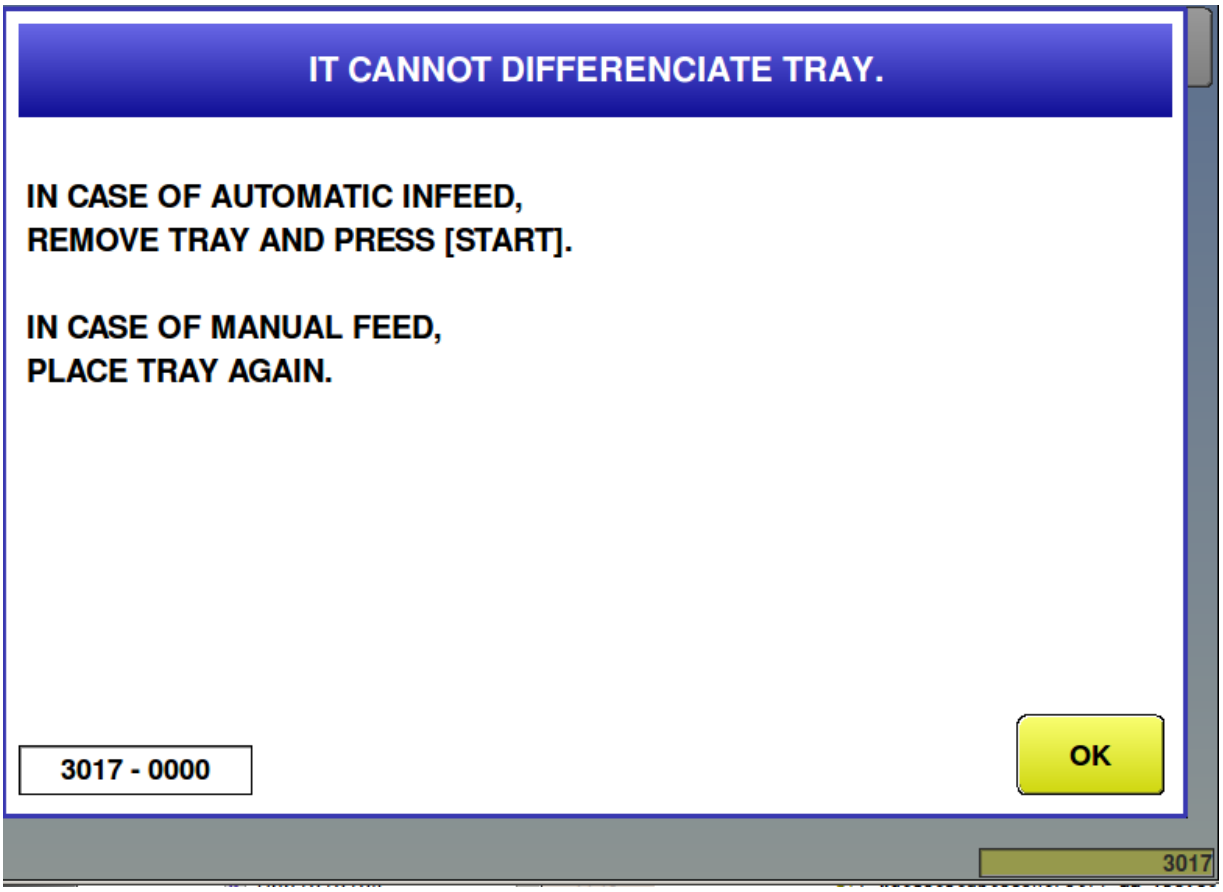
Error content	Pop printer control board error.
Detail	Unable to detect an interrupt signal from the pop printer control board.
Solution	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by user	Turn off the power, wait at least 10 seconds, and then turn on the power again.
Action by service representative	Check the pop printer control board: P-1131
Related part	Pop printer board P-1131A-3 [A410], p/n 178226
Remarks	

■ POP printer cover is not set (1967-0000)



Error content	The pop printer cover is open.
Detail	This occurs when the pop printer cover is open before operation.
Solution	Press the [OK] button.
Action by user	Close the pop printer cover and press the [OK] button.
Action by service representative	Close the pop printer cover and press the [OK] button. Check the pop printer cover sensor.
Related part	Pop printer door open/closed sensor assy [B419], p/n 178229
Remarks	Only for POP printer. Enter password 789654123, TARE to expand the selection to include "NON USE" to disable the pop printer door sensor.

■ Cannot differenciate tray (3017)

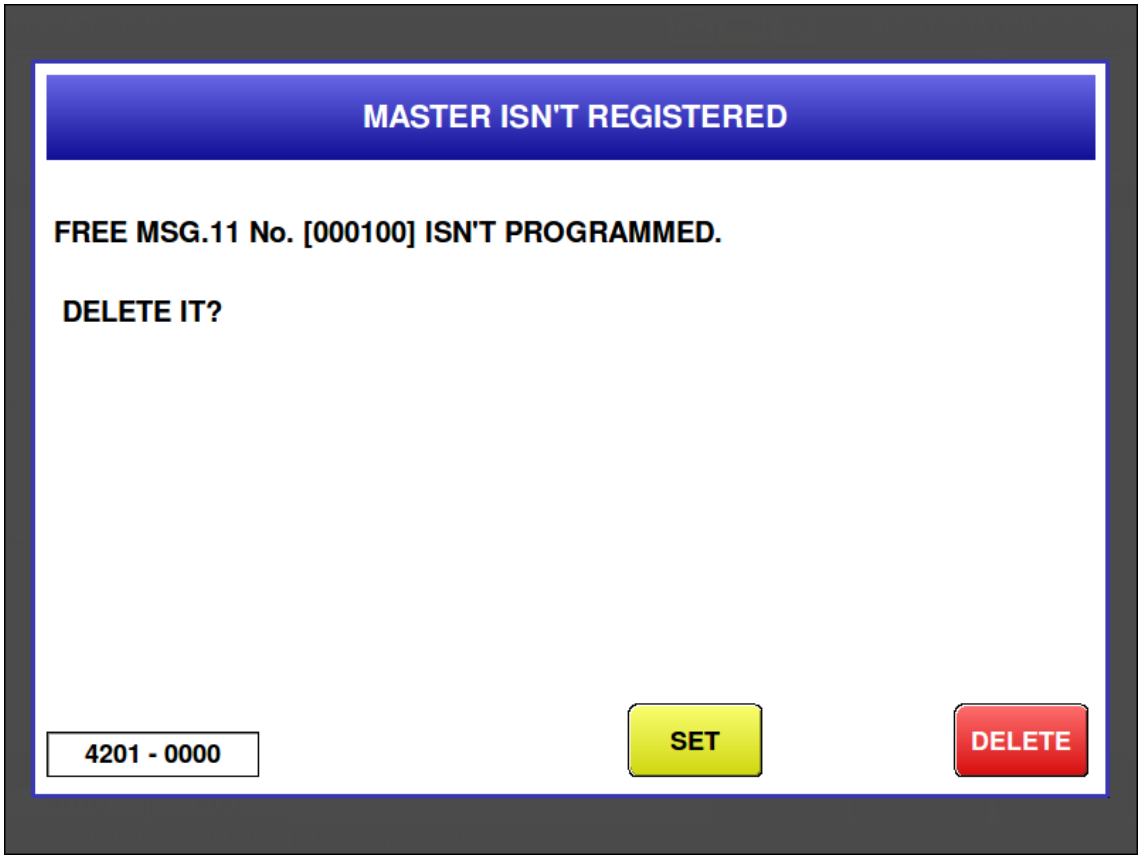


Error content	Cannot differenciate the tray.
Detail	This error occurs when the tray cannot be identified while the PS-Ai is linked.
Solution	Follow the on-screen instructions and press the [OK] button.
Action by user	When the PS-Ai is linked, remove the tray and press the [Start] button. For manual production, place the tray again.
Action by service representative	When the PS-Ai is linked, remove the tray and press the [START] button. For manual production, place the tray again. Calibrate the Camera to adjust the brightness and distortion so that the automatic adjustment functions properly. (Adjust menu, Camera, Adjust tab)
Related part	① P-1100 [A10], p/n 158280 ② Tray detector board P-1107 [A221], p/n 171865
Remarks	

■ Tray is placed in front (3018)

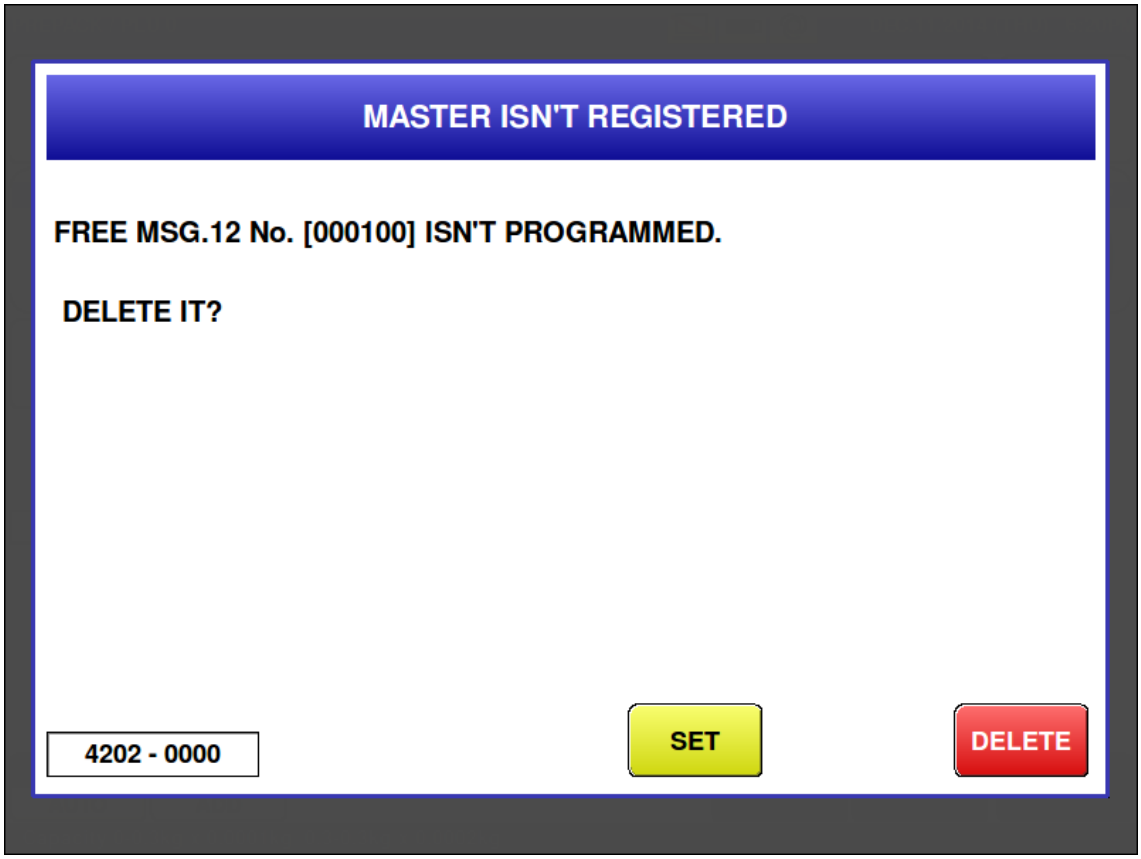
Error content	Tray is placed in front.
Detail	This error occurs when the tray front detection sensor is blocked while PS-Ai is linked.
Solution	Press the [OK] button.
Action by user	Confirm that the tray front detection sensor is not blocked, and then press the [OK] button.
Action by service representative	Confirm that the optical axis of the tray front detection sensor is not misaligned. Confirm that the product is pushed in by the transport bar of PS-Ai.
Related part	① P-1100 [A10], p/n 158280 ② Tray detector board P-1107 [A221], p/n 171865 ③ Tray front detection sensor [B614], p/n 207393
Remarks	

■ Free 11 master is not registered (4201)



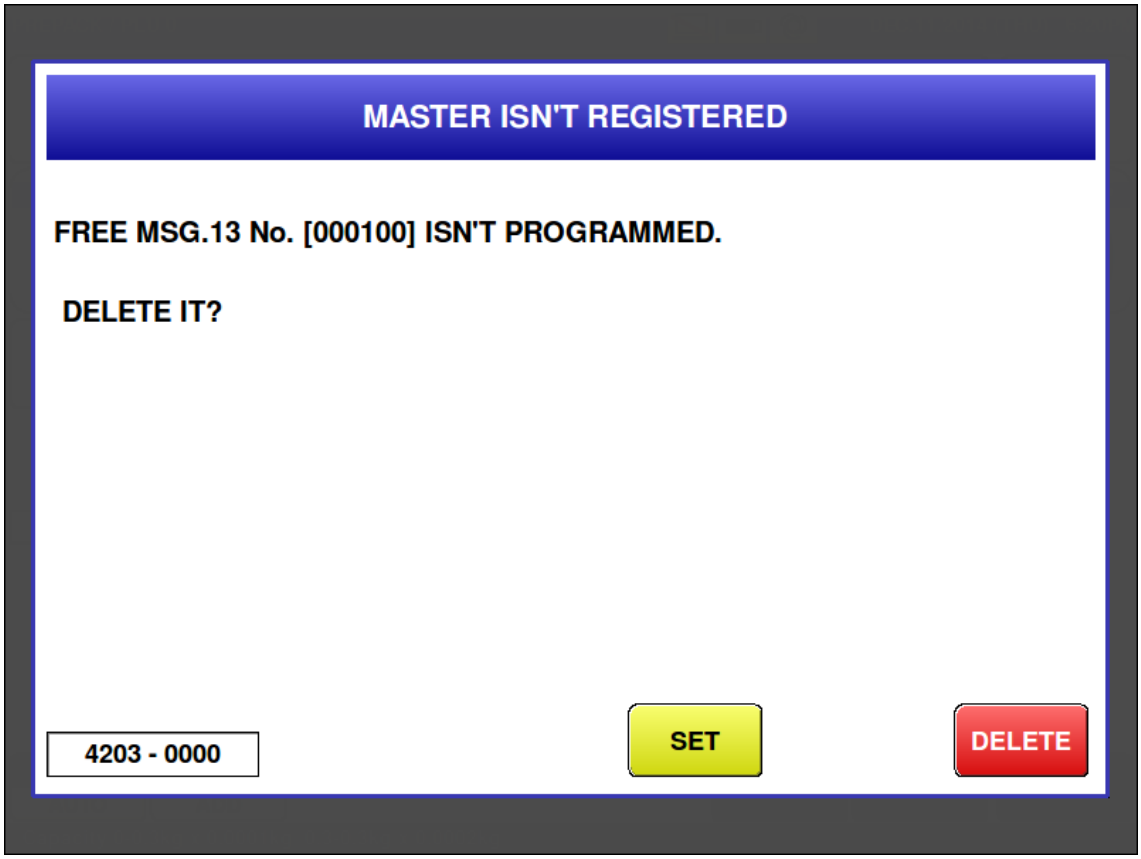
Error content	The called Free Message 11 is not found
Detail	The message does not exist in the machine's memory.
Solution	Press the [DELETE] button or [SET] button. [DELETE] button => Delete the PLU's link with the Free Message 11. [SET] button => Cancel the error.
Action by user	Recheck the Free Message 11 message number. Program the Free Message 11 message.
Action by service representative	Check the Free Message 11 message number. Check communication if the machine is part of a network.
Related part	
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Free 12 master is not registered (4202)



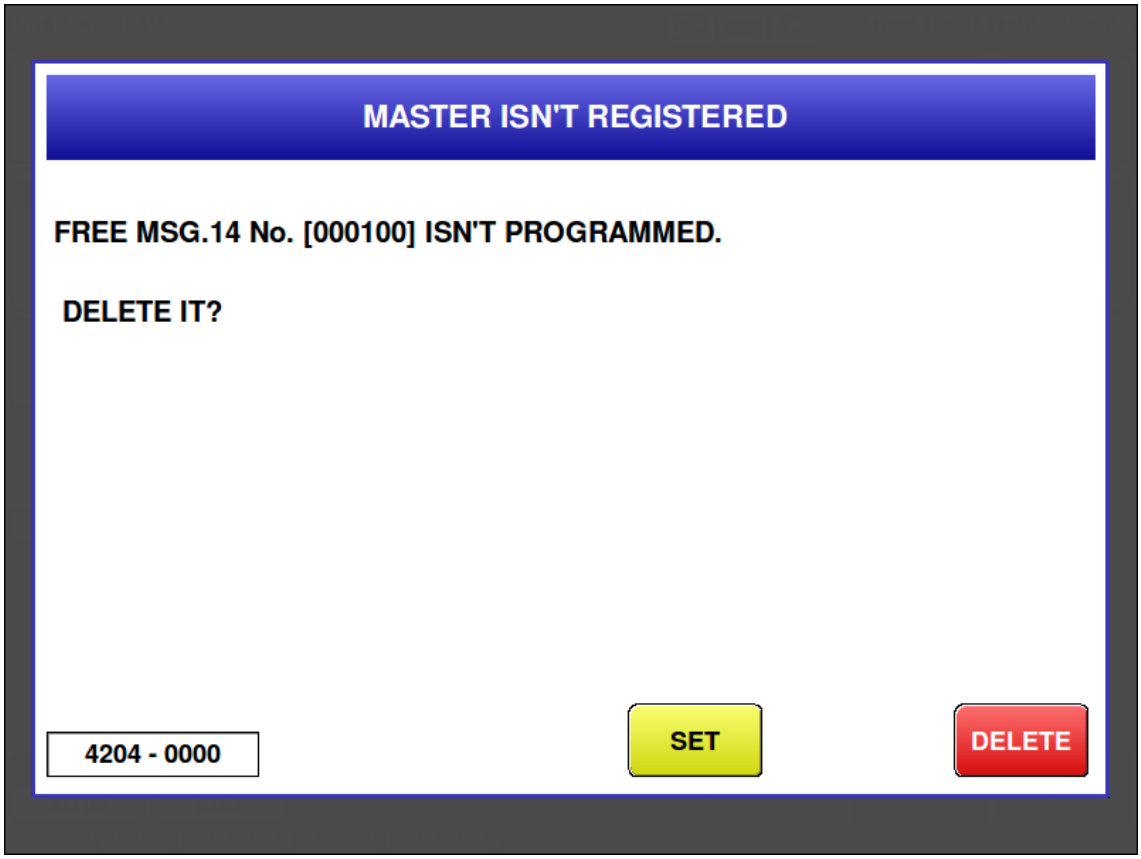
Error content	The called Free Message 12 is not found
Detail	The message does not exist in the machine's memory.
Solution	Press the [DELETE] button or [SET] button. [DELETE] button => Delete the PLU's link with the Free Message 12. [SET] button => Cancel error.
Action by user	Recheck the Free Message 12 message number. Program the Free Message 12 message.
Action by service representative	Check the Free Message 12 message number. Check communication if the machine is part of a network.
Related part	
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Free 13 master is not registered (4203)



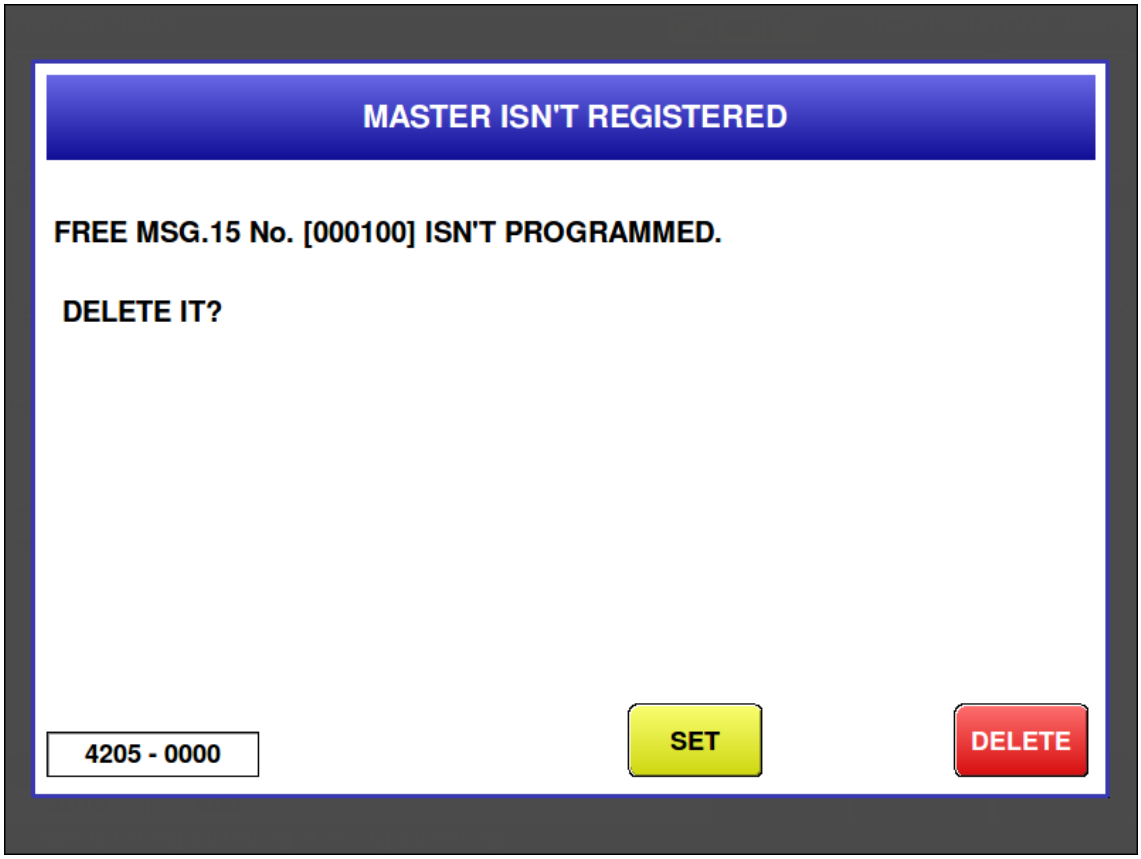
Error content	The called Free Message 13 is not found.
Detail	The message does not exist in the machine's memory.
Solution	Press the [DELETE] button or [SET] button. [DELETE] button => Delete the PLU's link with the Free Message 13. [SET] button => Cancel the error.
Action by user	Recheck the Free Message 13 message number. Program the Free Message 13 message.
Action by service representative	Check the Free Message 13 message number. Check communication if the machine is part of a network.
Related part	
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Free 14 master is not registered (4204)



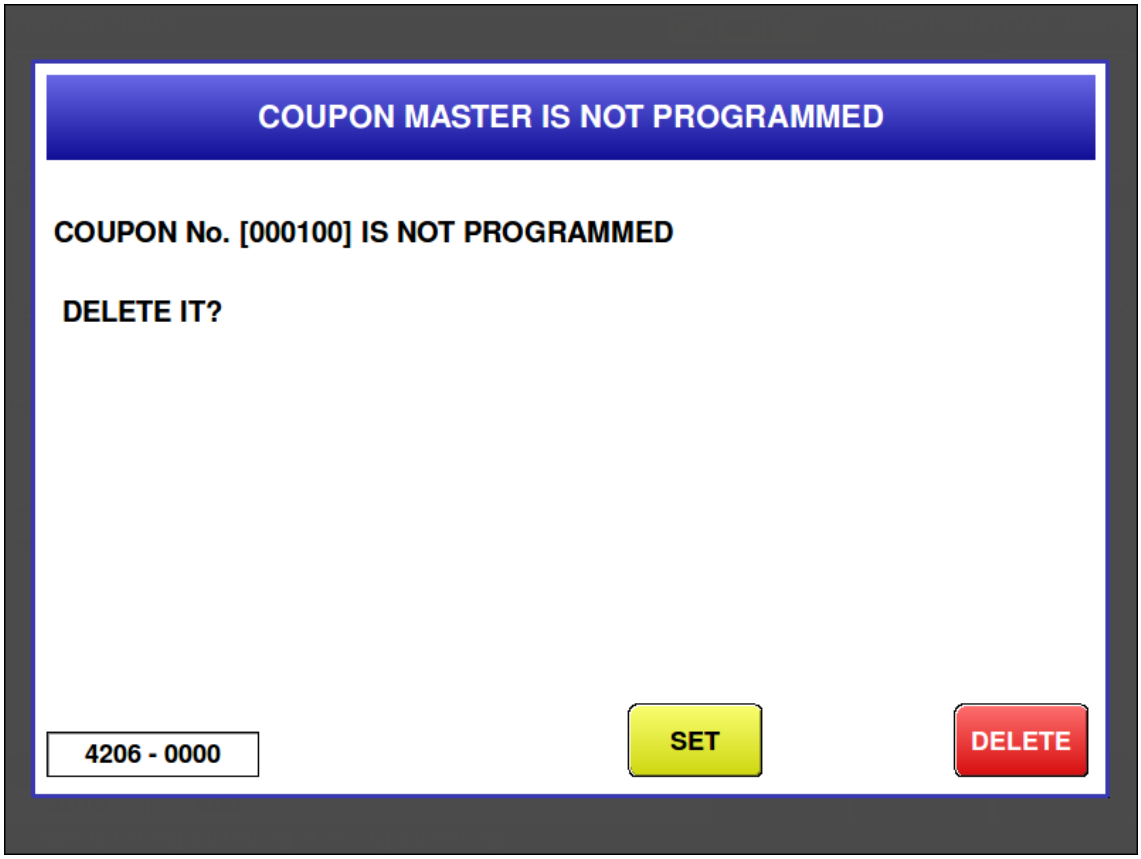
Error content	The called Free Message 14 is not found.
Detail	The message does not exist in the machine's memory.
Solution	Press the [DELETE] button or [SET] button. [DELETE] button => Delete the PLU's link with the Free Message 14. [SET] button => Cancel the error.
Action by user	Recheck the Free Message 14 message number. Program the Free Message 14 message.
Action by service representative	Check the Free Message 14 message number. Check communication if the machine is part of a network.
Related part	
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Free 15 master is not registered (4205)



Error content	The called Free Message 15 is not found
Detail	The message does not exist in the machine's memory.
Solution	Press the [DELETE] button or [SET] button. [DELETE] button => Delete the PLU's link with the Free Message 15. [SET] button => Cancel the error.
Action by user	Recheck the Free Message 15 message number. Program the Free Message 15 message.
Action by service representative	Check the Free Message 15 message number. Check communication if the machine is part of a network.
Related part	
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

■ Coupon master is not registered (4206)



Error content	The called Coupon Message is not found.
Detail	The message does not exist in the machine's memory.
Solution	Press the [DELETE] button or [SET] button. [DELETE] button => Delete the PLU's link with the Coupon Message. [SET] button => Cancel the error.
Action by user	Recheck the Coupon Message message number. Program the Coupon Message message.
Action by service representative	Check the Coupon Message message number. Check communication if the machine is part of a network.
Related part	
Remarks	The error for a missing message linked to a PLU can be disabled in the Setup menu > Error Process > Call tab.

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