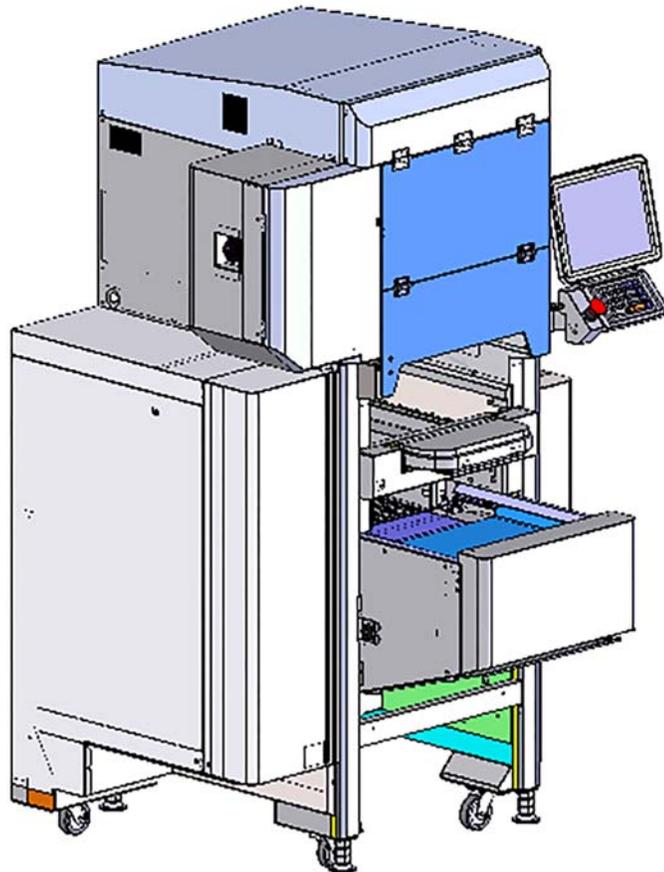


# Ishida WM-Ai-P

*Auto Wrapper*  
*2nd Edition*

## Service Manual Supplement



## Revision History

Version	Date	Description
1	April, 2016	1st edition
2	July, 2016	Revise Chapter 2 Mechanical Adjustment.

# Introduction

## ● Purpose of this Manual

The purpose of this manual is as reference material for the delivery, installation, repair and maintenance of the WM-AI-P. In addition, about the wrapping unit, other printer unit, applicator unit and others written in the WM-AI service manual.

## ● Target Readers

This manual has been written specifically for use by our service personnel.  
The use of this manual by any person other than the above is strictly prohibited.

## ● Related Manuals

Manual Name	Content
WM-AI Service Manual	Reference material for the delivery, installation, repair and maintenance of this machine.
WM-AI-P Instruction Manual	Instruction Manual (included in the package of this machine)

## ● Signal Words

The signal words shown in this manual are separated into two stages depending on the level of danger or the seriousness of potential injury. Fully understand the meanings of the signal words shown below and follow the directions as shown in this manual and on the stickers placed about the machine.

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

<b>Note:</b>	Indicates information that needs to be noted or emphasized.
 INFORMATION	Indicates reference information when performing an operation.
 REFERENCE	Indicates the reference page related to performance of an operation.

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# Table of Contents

Revision History .....	2
Introduction.....	3
<b>Chapter 1 Overview.....</b>	<b>1-1</b>
<b>1.1 Specifications .....</b>	<b>1-1</b>
1.1.1 General Specifications.....	1-1
1.1.2 Wrapping Unit Specification.....	1-1
1.1.3 POP Printer Unit Specifications.....	1-2
1.1.4 POP Label Applicator Performance.....	1-2
1.1.5 Operation Unit Specifications .....	1-3
1.1.6 Reliability/ Product Life .....	1-3
<b>1.2 Consumables.....</b>	<b>1-3</b>
<b>1.3 Features .....</b>	<b>1-3</b>
<b>1.4 Part Name.....</b>	<b>1-4</b>
1.4.1 External Dimensions.....	1-4
1.4.2 POP printer unit .....	1-5
1.4.3 POP applicator Unit .....	1-6
<b>1.5 Dimension .....</b>	<b>1-8</b>
1.5.1 AT2-JRP.....	1-8
1.5.2 AT2-P.....	1-9
<b>1.6 Installation .....</b>	<b>1-10</b>
<b>Chapter 2 Mechanical Adjustment.....</b>	<b>2-1</b>
<b>2.1 POP Printer Unit .....</b>	<b>2-1</b>
2.1.1 Adjusting the label guide width .....	2-1
2.1.1.1 Internal diameter of paper tube: 1.5-inch model.....	2-1
2.1.1.2 Internal diameter of paper tube: 3-inch model.....	2-4
2.1.2 Changing positions of bracket for guide roller .....	2-5
2.1.3 Adjusting the upper and lower positions of label standby roller unit .....	2-7
2.1.4 Input the distance of label size, label gap .....	2-8
2.1.5 Input the advanced feed amount .....	2-9
2.1.6 Input the advanced feed stop position.....	2-10
2.1.7 Changing the label sensor position .....	2-11
<b>2.2 POP applicator unit .....</b>	<b>2-12</b>
2.2.1 Adjusting the suction position .....	2-12
2.2.2 Install the Curled cord.....	2-16
<b>Chapter 3 Electric Components .....</b>	<b>3-1</b>
<b>3.1 Electric Unit Configuration .....</b>	<b>3-1</b>
3.1.1 Overview .....	3-1
3.1.2 Right Side of the Machine.....	3-4
3.1.3 Left Side of the Machine .....	3-5
3.1.4 Front of the Machine.....	3-11
3.1.5 Upper Side of the Machine .....	3-12

<b>Chapter 4</b>	<b>Adjust Mode .....</b>	<b>4-1</b>
4.1	<b>FIRMWARE DETAILS.....</b>	<b>4-1</b>
4.2	<b>Printer.....</b>	<b>4-2</b>
	4.2.1 PRINTER (HEAD).....	4-2
4.3	<b>MACHINE TYPE .....</b>	<b>4-3</b>
	4.3.1 MACHINE TYPE .....	4-3
	4.3.2 MACHINE TYPE / DETAIL .....	4-4
4.4	<b>DOWNLOAD.....</b>	<b>4-5</b>
	4.4.1 DOWNLOAD (MAIN) .....	4-5
	4.4.2 DOWNLOAD (SUB APP.).....	4-6
	4.4.3 DOWNLOAD (SUB BOOT).....	4-7
4.5	<b>LABEL APPLICATOR .....</b>	<b>4-8</b>
	4.5.1 LABEL APPLICATOR (POS.).....	4-8
	4.5.2 LABEL APPLICATOR (ACTION).....	4-9
	4.5.3 LABEL APPLICATOR (INIT.).....	4-10
	4.5.4 LABEL APPLICATOR (LABEL) .....	4-11
4.6	<b>UNIT ACTION (LABEL APP.) .....</b>	<b>4-13</b>
4.7	<b>FORMAT .....</b>	<b>4-14</b>
	4.7.1 LABEL FORMAT/ DETAIL (LABEL).....	4-14
<b>Chapter 5</b>	<b>Trouble shooting.....</b>	<b>5-1</b>
5.1	<b>Error Message.....</b>	<b>5-1</b>
	5.1.1 Precheck-related Error (No. 300s).....	5-1
	5.1.2 Applicator-related Error (No. 600s).....	5-8
	5.1.3 Printer-related Error (No. 700s to 800s, 1900s) .....	5-18
	5.1.4 Dialog Selection-related Error (No. 1800s) .....	5-22
<b>Chapter 6</b>	<b>Wiring Diagrams .....</b>	<b>6-1</b>
6.1	<b>PAGE 1 ETL .....</b>	<b>6-1</b>
6.2	<b>PAGE 1 CE .....</b>	<b>6-2</b>
6.3	<b>PAGE 7 .....</b>	<b>6-3</b>
6.4	<b>PAGE 9 .....</b>	<b>6-4</b>
6.5	<b>PAGE 12 .....</b>	<b>6-5</b>



# Chapter 1 Overview



Conforming to WM-AI Service Manual except instructions of this manual.

## 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: 5°C to 35°C ◇Humidity: 20% to 85% (Non condensing)															
Dimensions	<table border="1"> <thead> <tr> <th>Type</th> <th>AT2-P</th> <th>AT2-JRP</th> </tr> </thead> <tbody> <tr> <td>◇Width</td> <td>1215 mm</td> <td>1215 mm</td> </tr> <tr> <td>◇Depth</td> <td>1120 mm</td> <td>1120 mm</td> </tr> <tr> <td>without the In-feed unit</td> <td>835 mm</td> <td>935 mm</td> </tr> <tr> <td>◇Height (when caster grounded)</td> <td>1777 mm</td> <td>1777 mm</td> </tr> </tbody> </table>	Type	AT2-P	AT2-JRP	◇Width	1215 mm	1215 mm	◇Depth	1120 mm	1120 mm	without the In-feed unit	835 mm	935 mm	◇Height (when caster grounded)	1777 mm	1777 mm
	Type	AT2-P	AT2-JRP													
	◇Width	1215 mm	1215 mm													
	◇Depth	1120 mm	1120 mm													
without the In-feed unit	835 mm	935 mm														
◇Height (when caster grounded)	1777 mm	1777 mm														
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	◇20 to 6000 grams															
Weight for wrapping capacity	◇40 to 15000 grams ◇20 to 6000 grams															
Machine weight	◇395.0 kg (AT2-P) ◇415.0 kg (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	<table border="1"> <thead> <tr> <th>Maximum external diameter</th> <th>Internal diameter of paper tube</th> </tr> </thead> <tbody> <tr> <td>200 mm</td> <td>38 mm/ 1.5-inch</td> </tr> <tr> <td>230 mm</td> <td>76 mm/ 3-inch</td> </tr> </tbody> </table> <p>Label width adjustment mechanism dismantled for models with 1.5-inch diameter of label roll.</p>	Maximum external diameter	Internal diameter of paper tube	200 mm	38 mm/ 1.5-inch	230 mm	76 mm/ 3-inch
Maximum external diameter	Internal diameter of paper tube						
200 mm	38 mm/ 1.5-inch						
230 mm	76 mm/ 3-inch						
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 Performance

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 Specifications

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

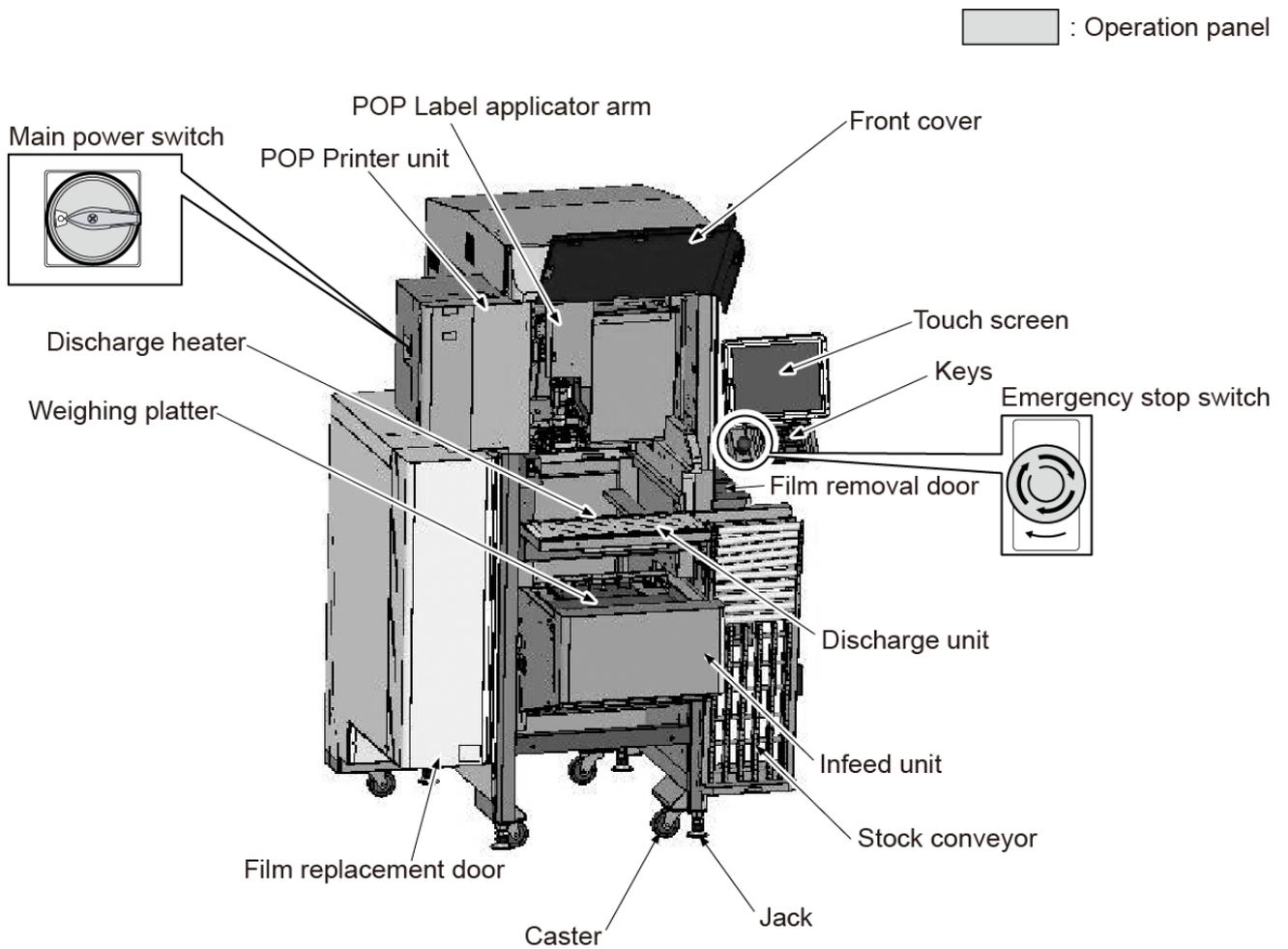
- Curl cord: Replaced in later timing and thus can be used until a million times with operation of rotation angle of 90 degrees or more.

## 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.

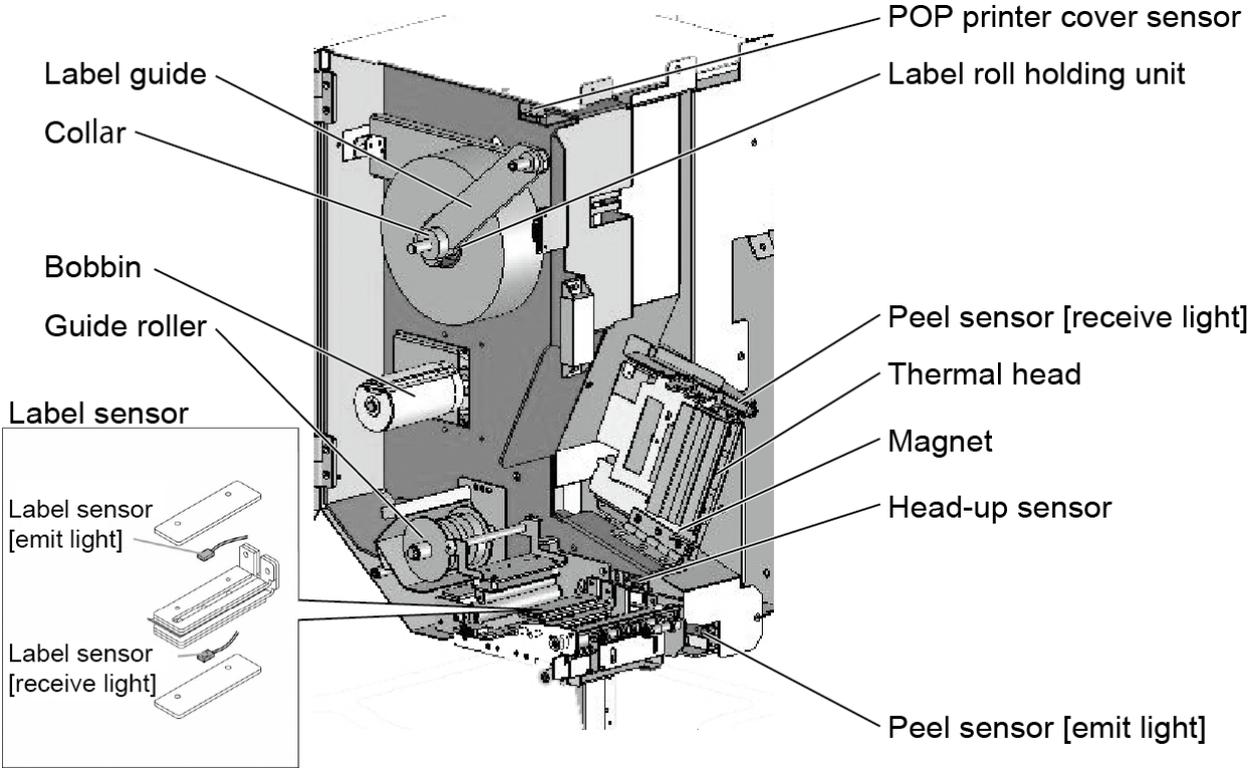
## 1.4 Part Name

### 1.4.1 External Dimensions

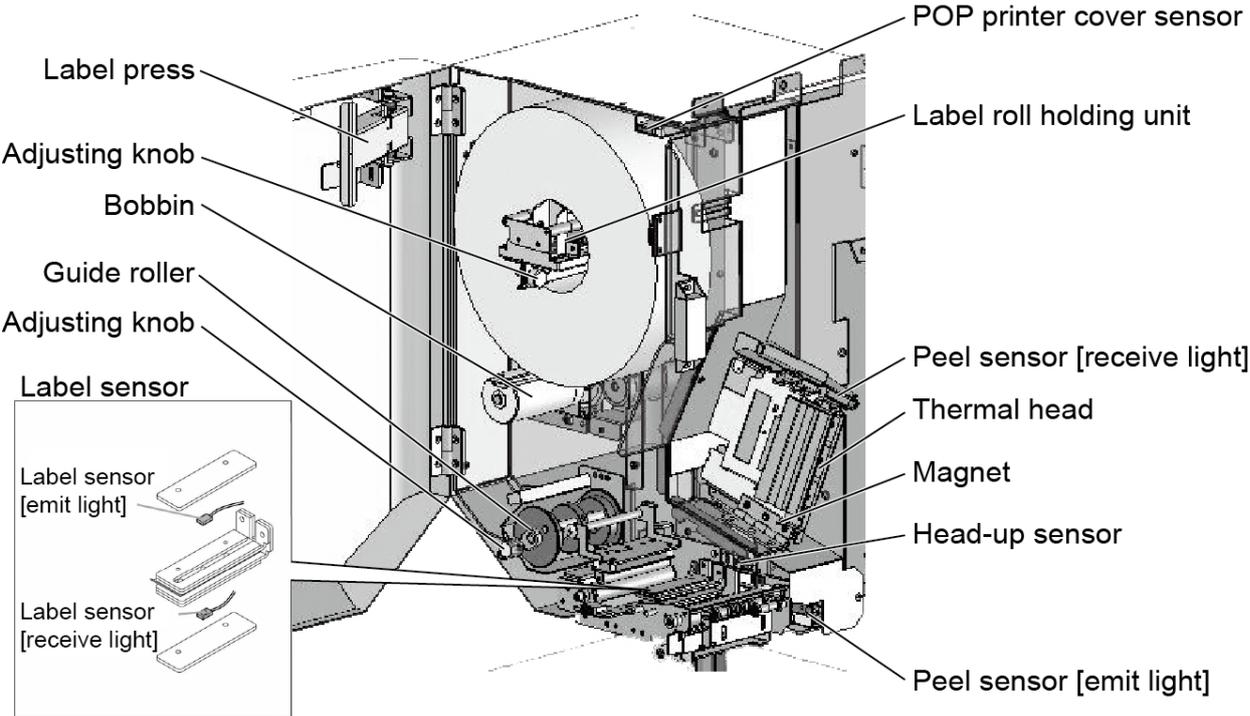


### 1.4.2 POP printer unit

#### 1.4.2.1 Internal diameter of paper tube: 1.5-inch model

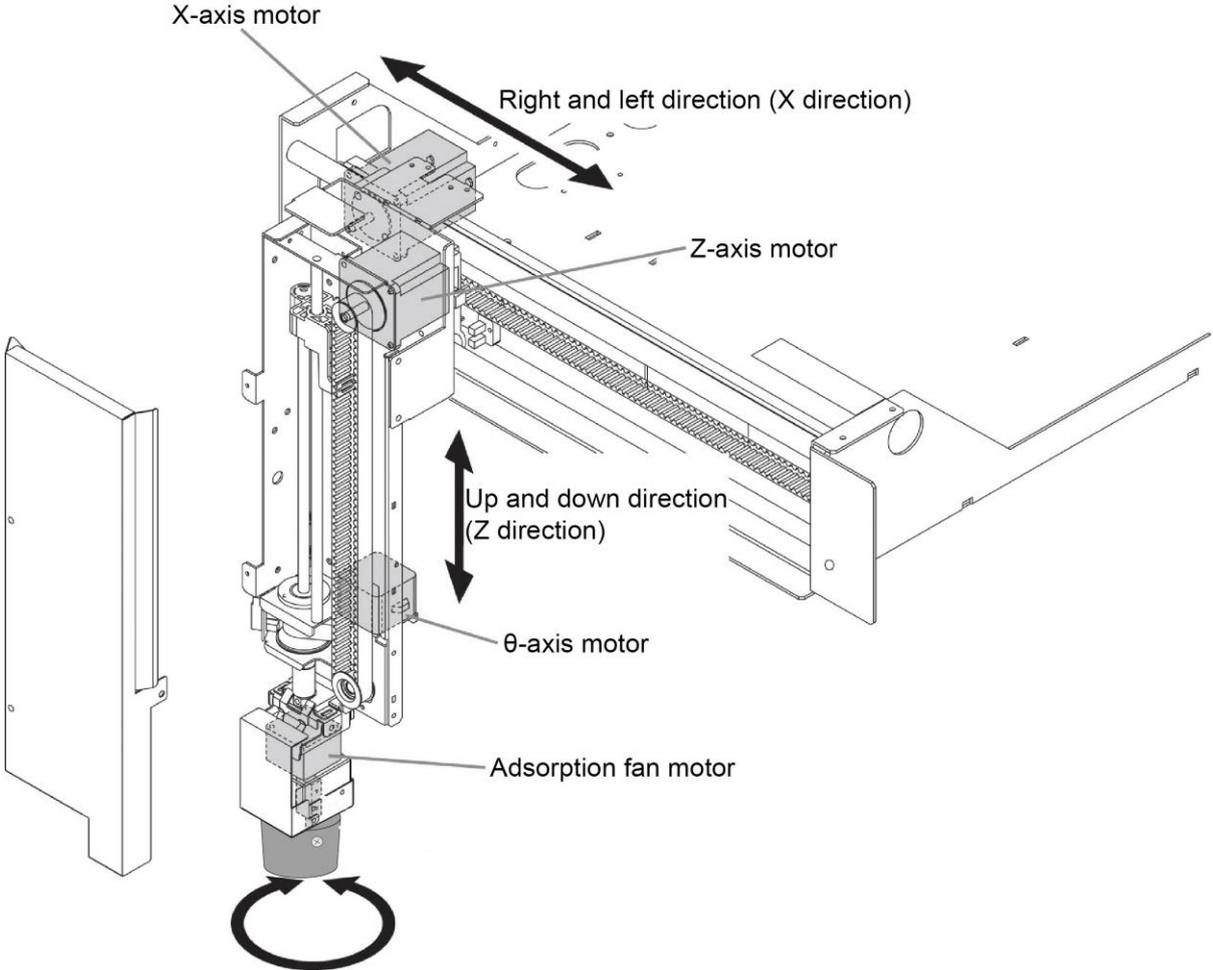


#### 1.4.2.2 Internal diameter of paper tube: 3-inch model

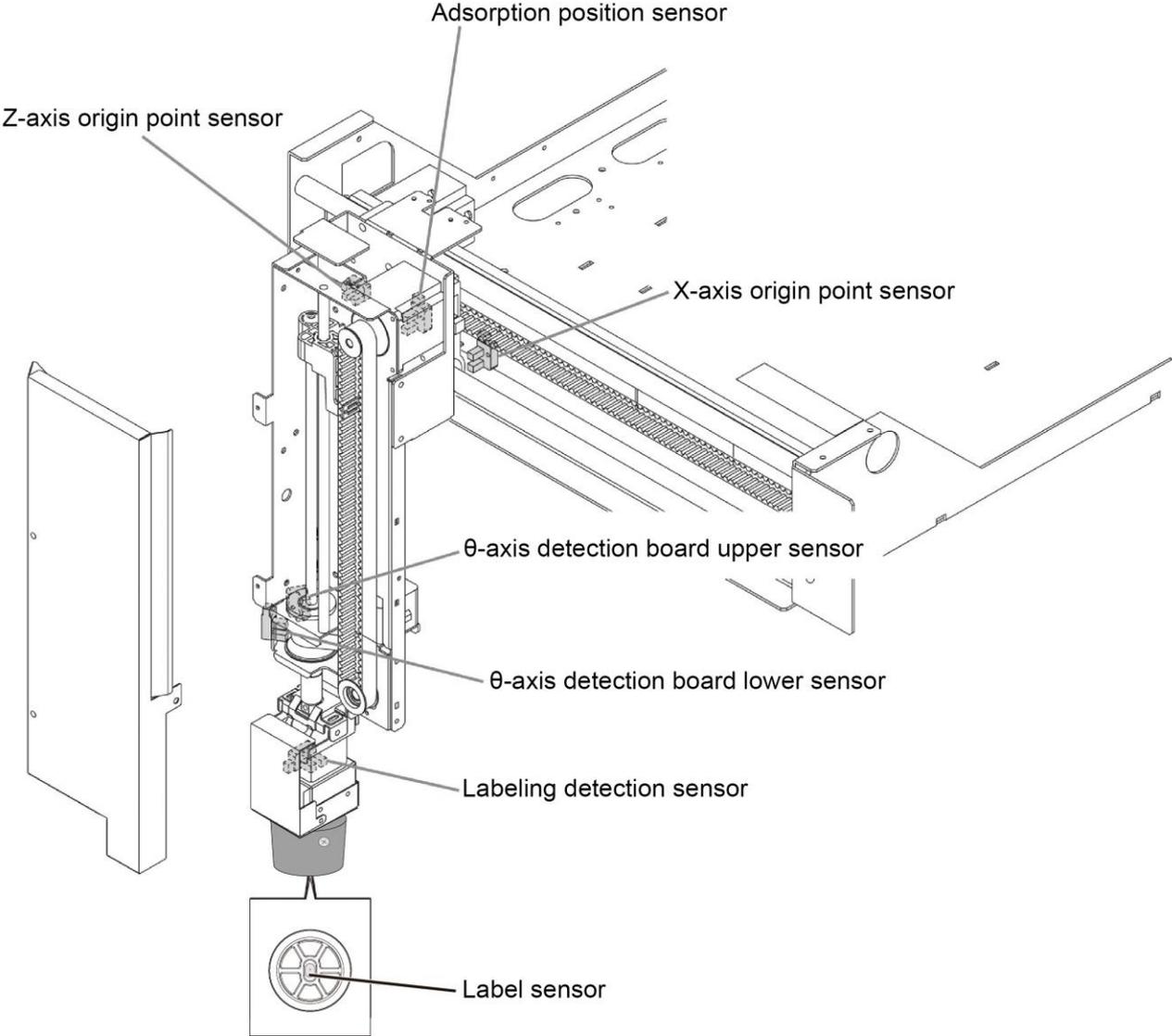


### 1.4.3 POP applicator Unit

#### 1.4.3.1 Driving Direction and Motor



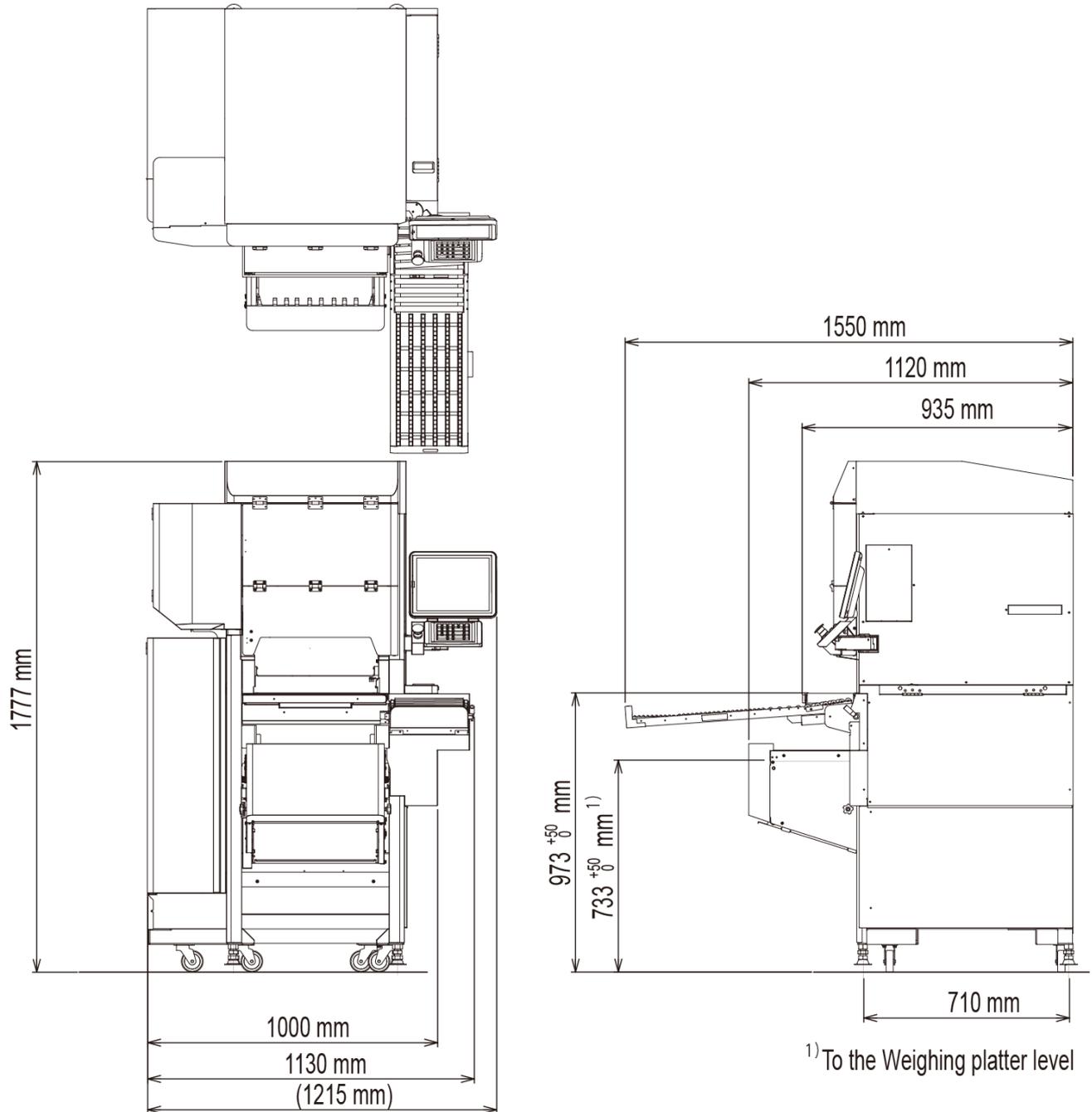
### 1.4.3.2 Sensor Position



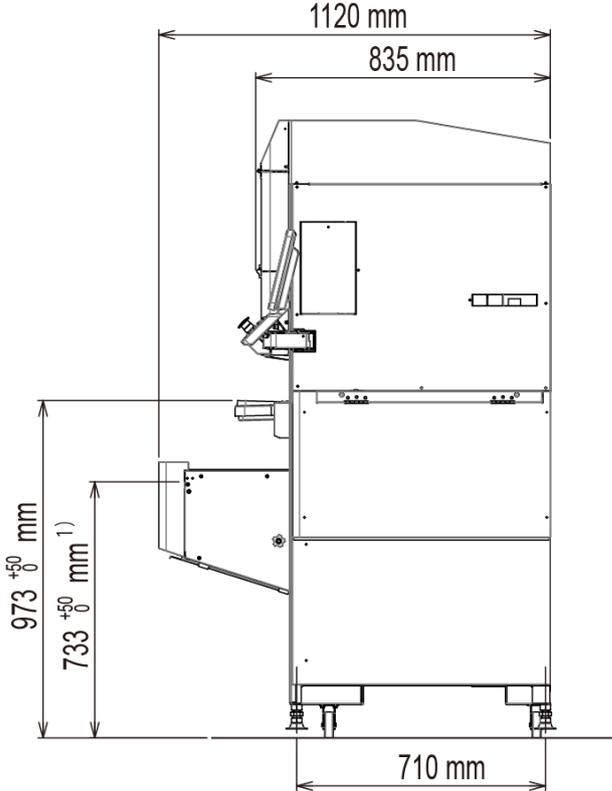
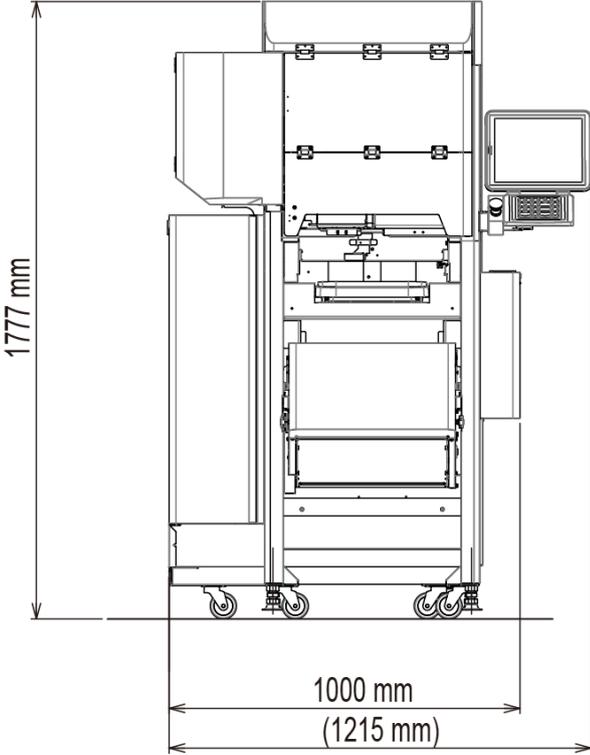
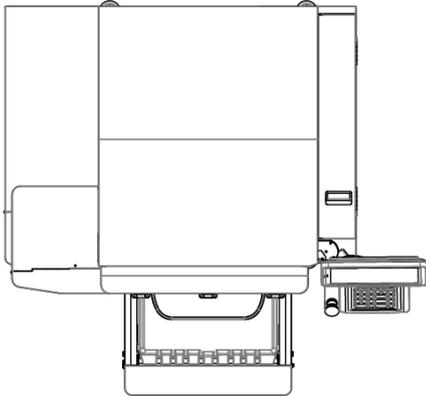
## 1.5 Dimension

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



<sup>1)</sup> To the Weighing platter level

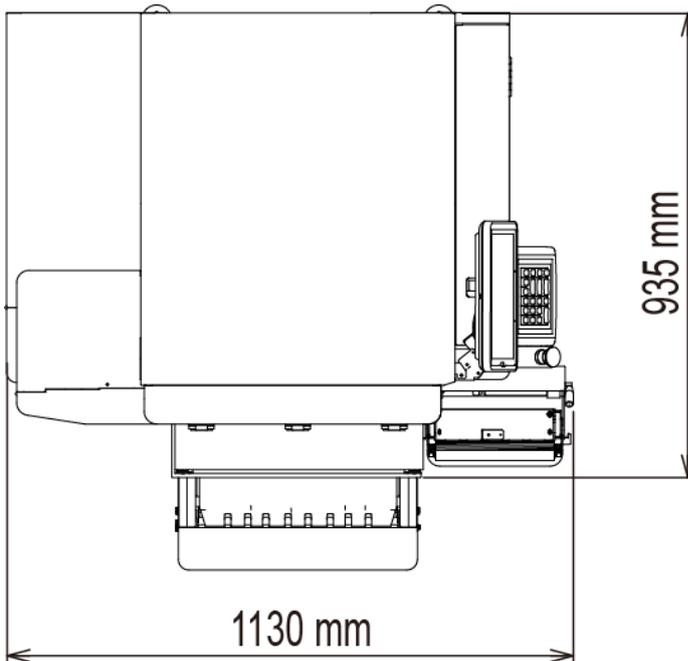
## 1.6 Installation



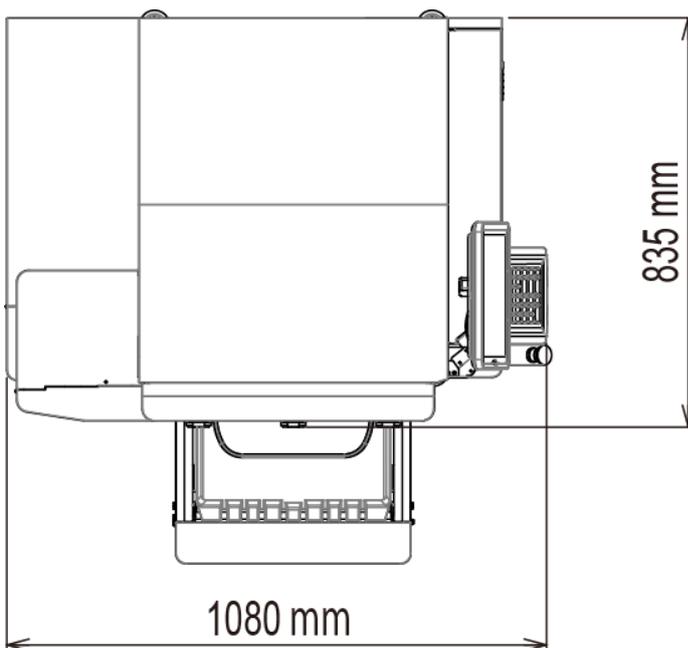
When the passage route is too narrow to bring in the machine, detach the In-feed unit from the main body. Refer to *1.8.2 Detaching the In-feed Unit* on the WM-AI Service Manual.

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



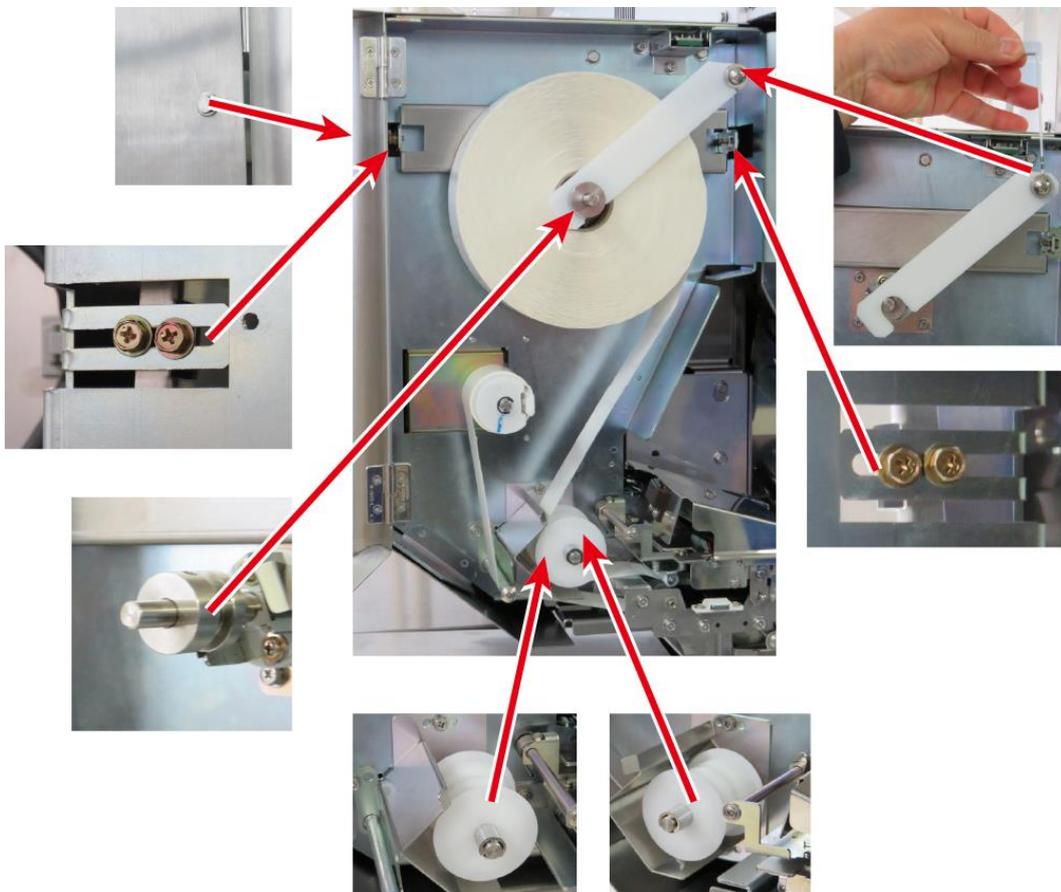
Conforming to WM-AI Service Manual except instructions of this manual.

## 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.

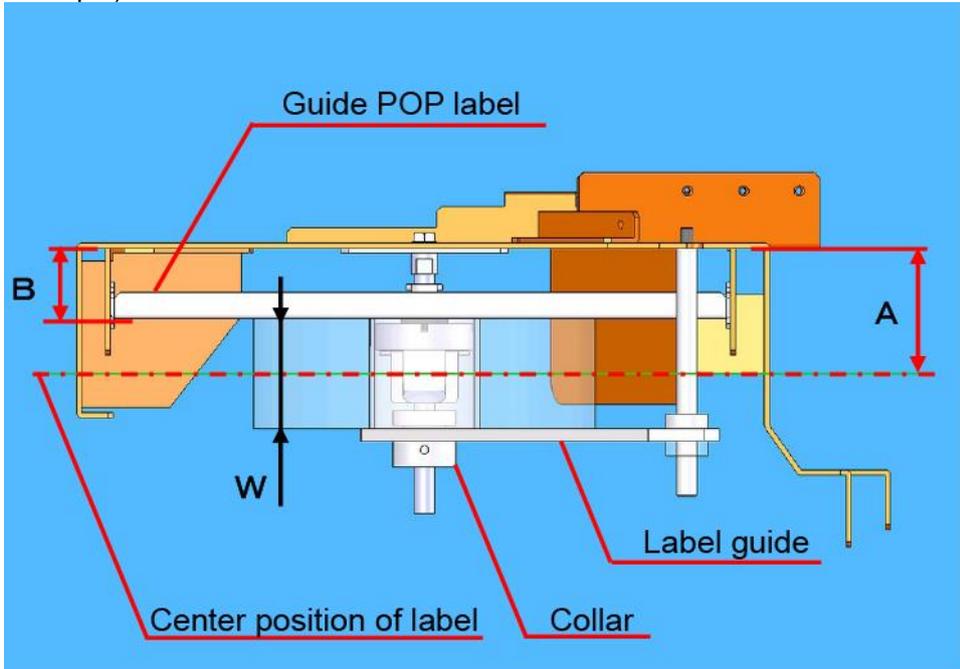
#### 2.1.1.1 Internal diameter of paper tube: 1.5-inch model



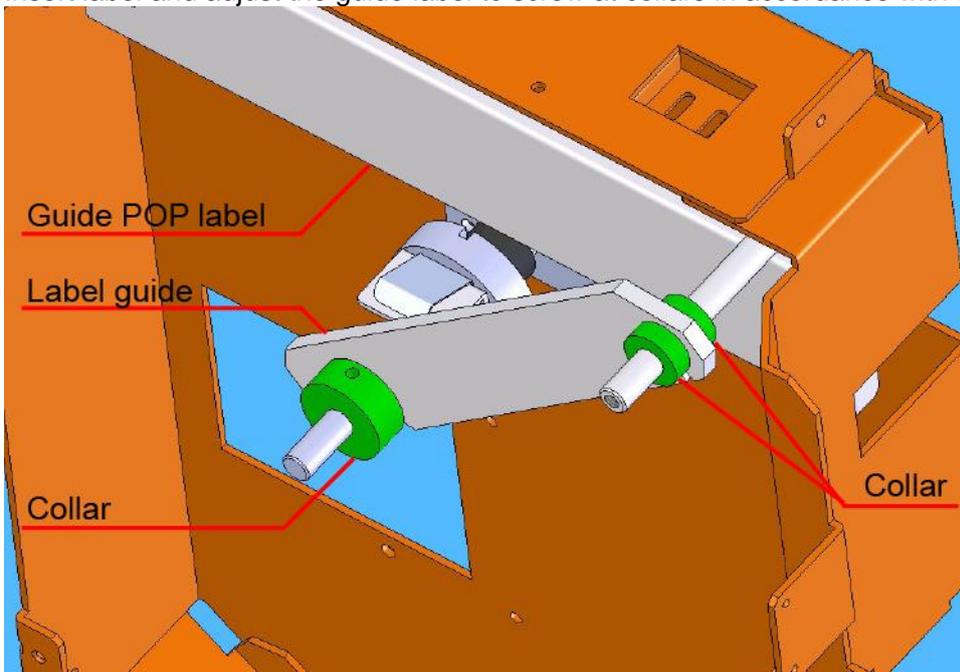
1. Remove the POP printer cover.

- 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.

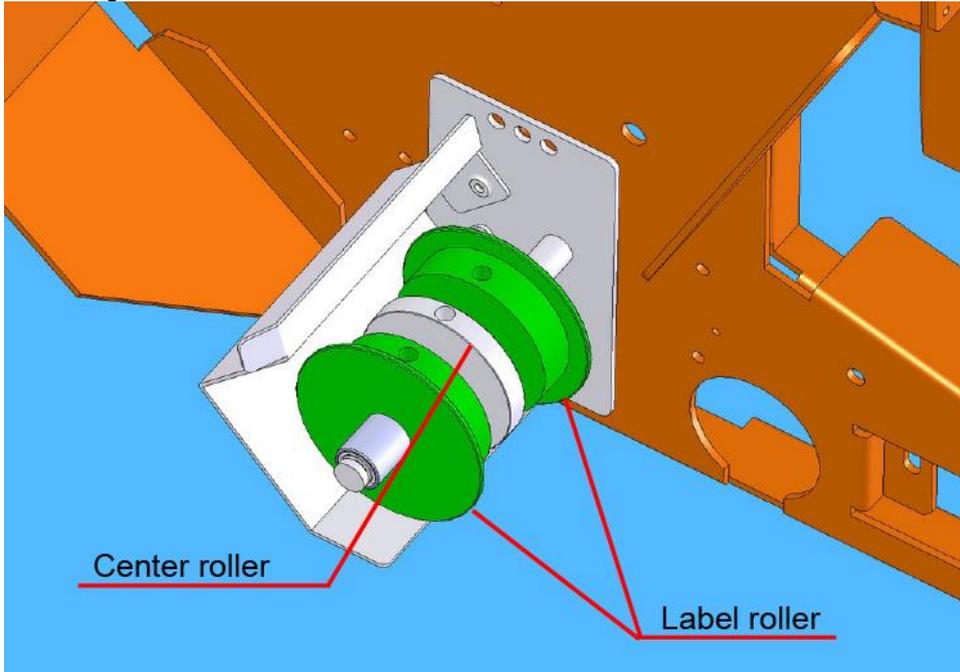
Example) Label width is 42 mm: Value B =  $48 - 42/2 = 27$  mm



- Insert label and adjust the guide label to screw at collars in accordance with the label width.

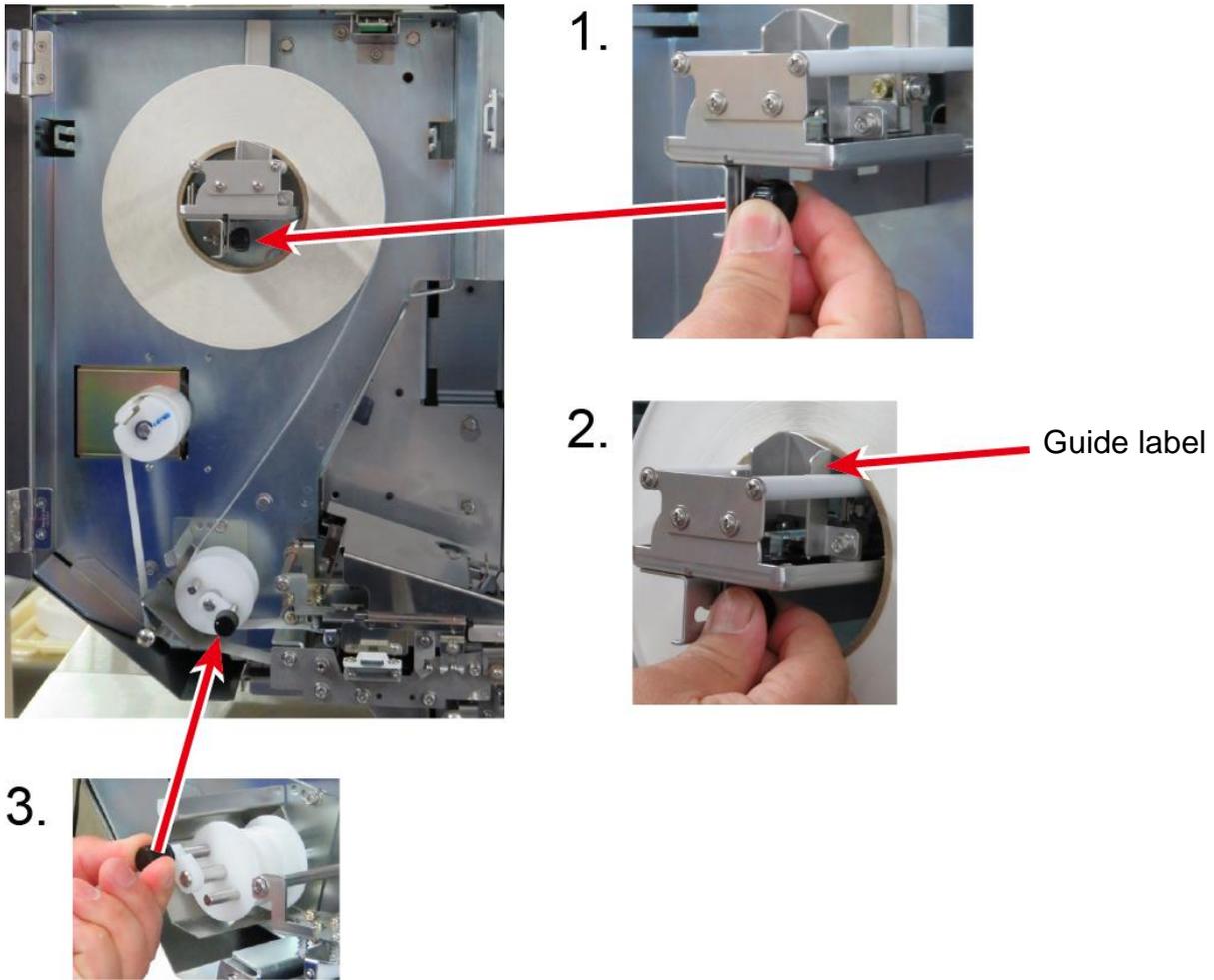


4. Screwing at label rollers based on the center roller in accordance with the label width.



5. Trial operation of the label application for operation confirmation.
6. Attach the POP printer cover.

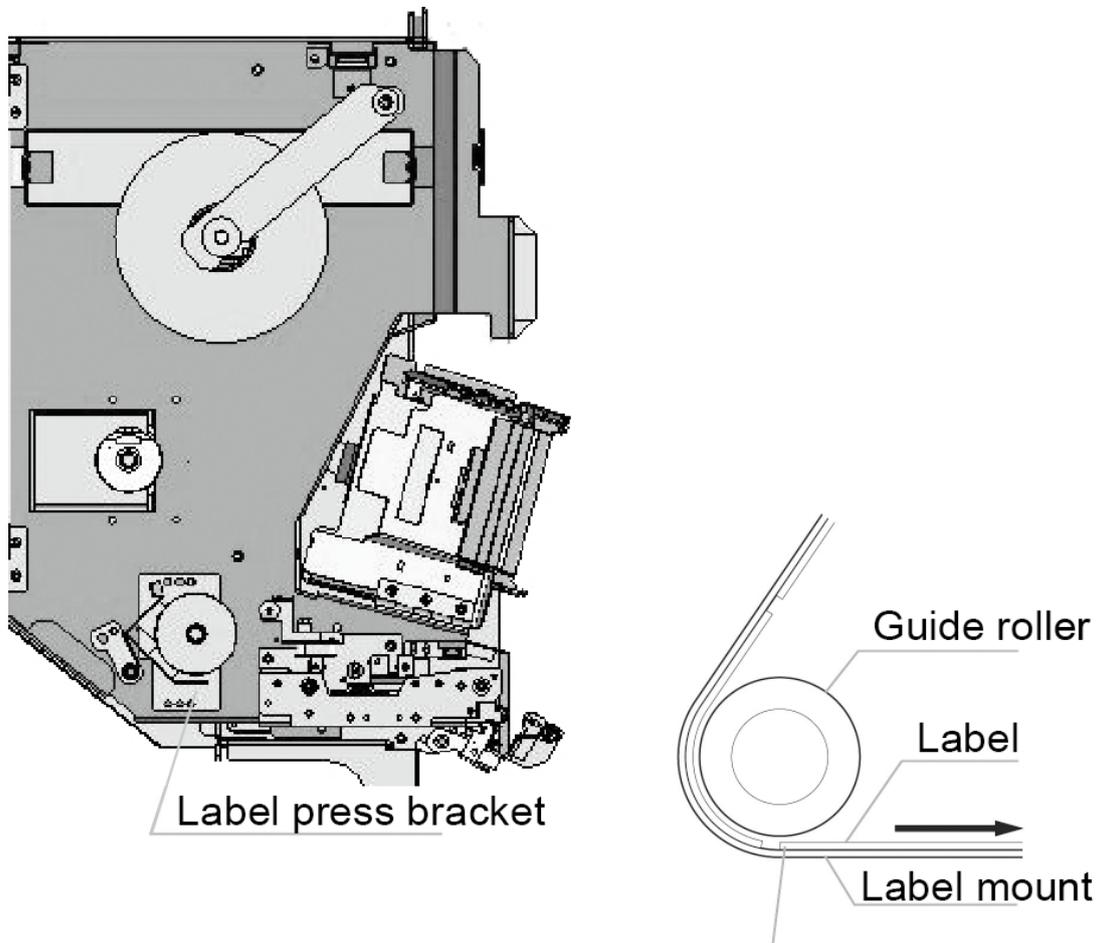
### 2.1.1.2 Internal diameter of paper tube: 3-inch model



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.

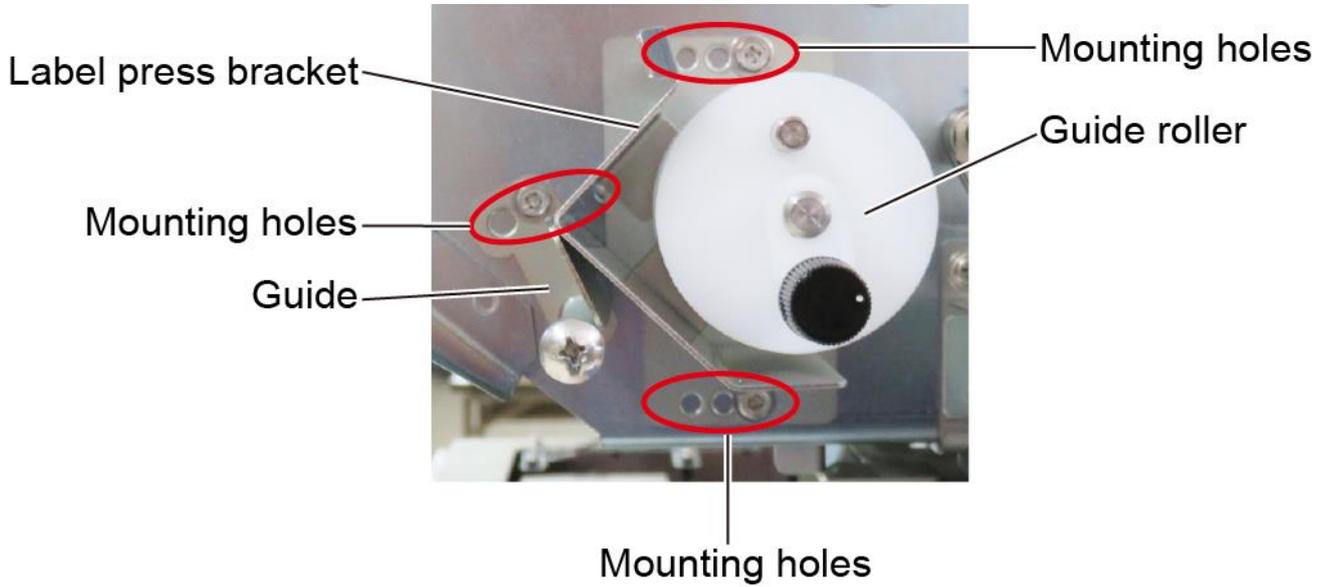


Straighten the label at the back to prevent the development of the curl tendency of the label.

All of ISHIDA genuine labels are for winding outward.

■ Position of the label press bracket

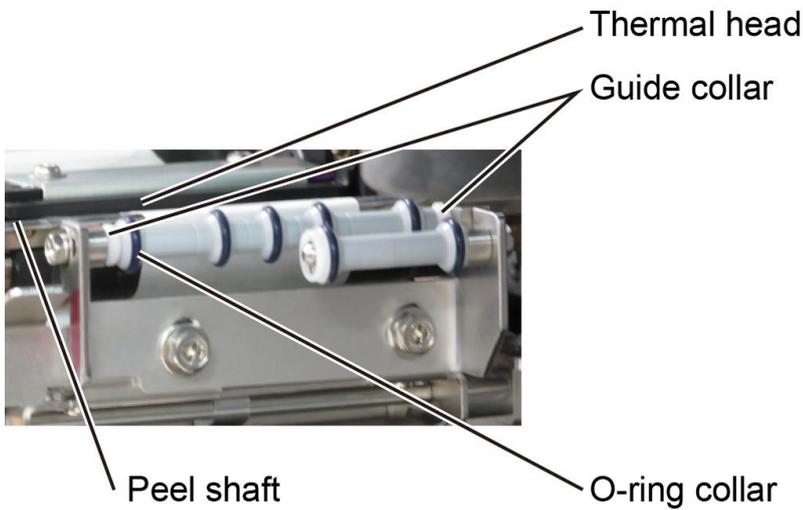
**Position at shipment**



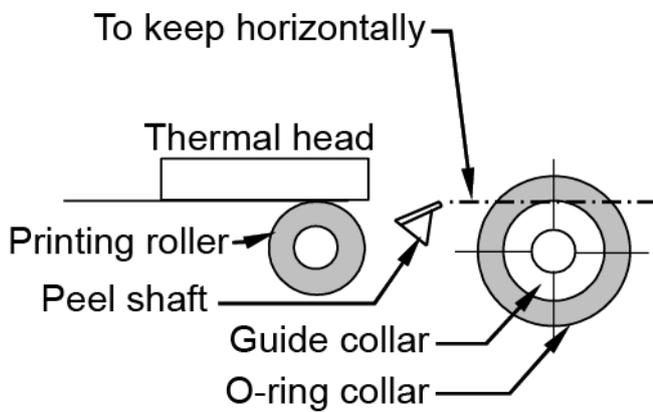
To adjust the label press bracket replacing to next mounting hole, also the guide replaces to next mounting hole.

### 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.

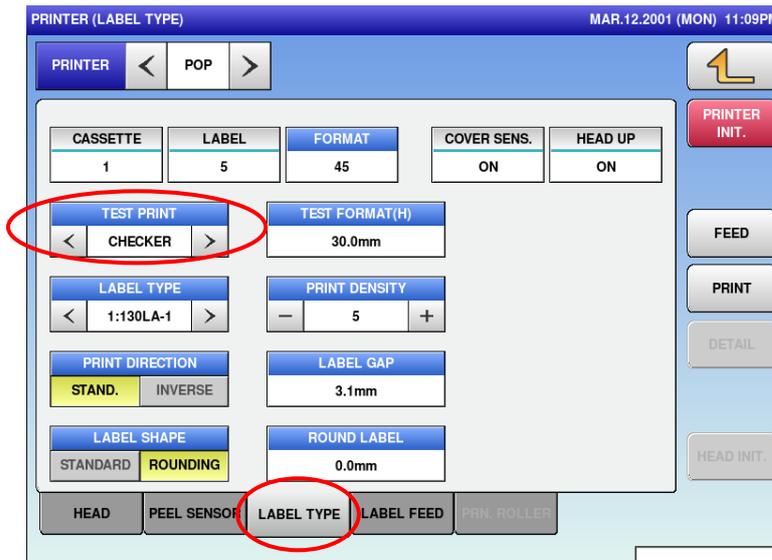


## 2.1.4 Input the distance of label size, label gap

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.

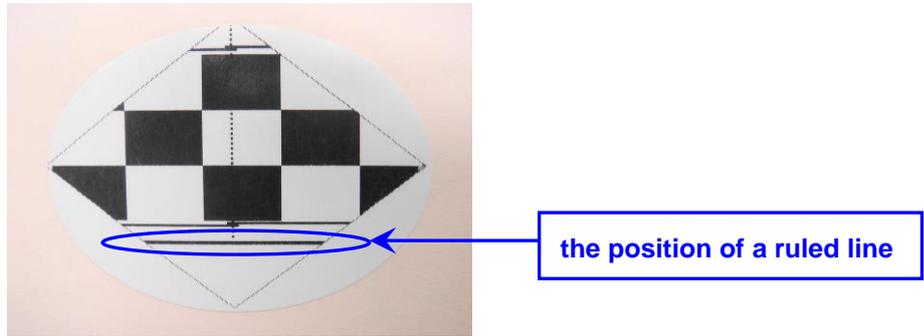
### Standard specifications at factory shipment

	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.

$$\text{Advanced feed amount} = (11 \text{ mm of distance between the printing position and peel shaft forefront}) - \text{Label gap}$$

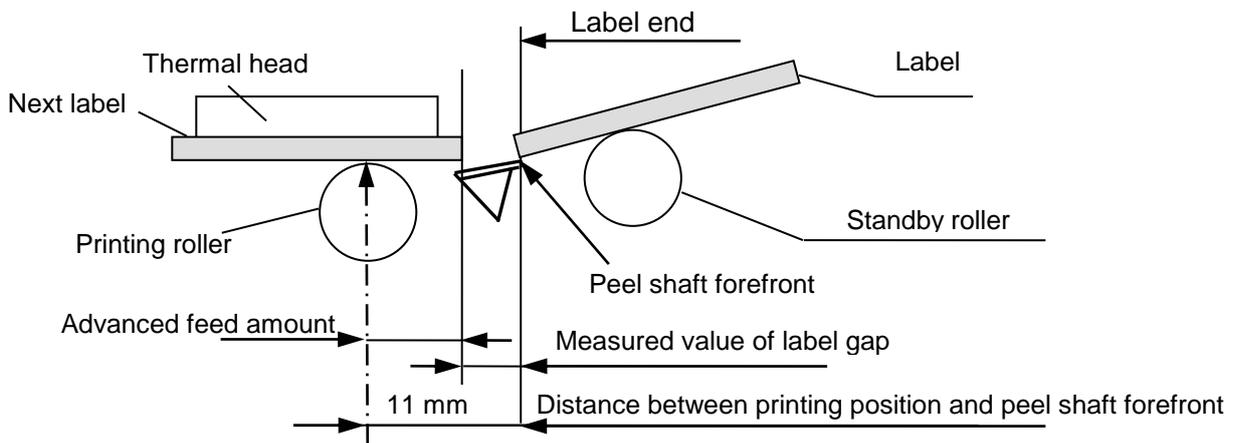


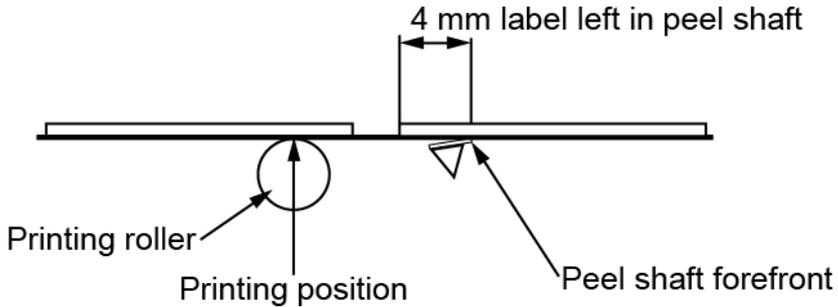
Figure 1

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.

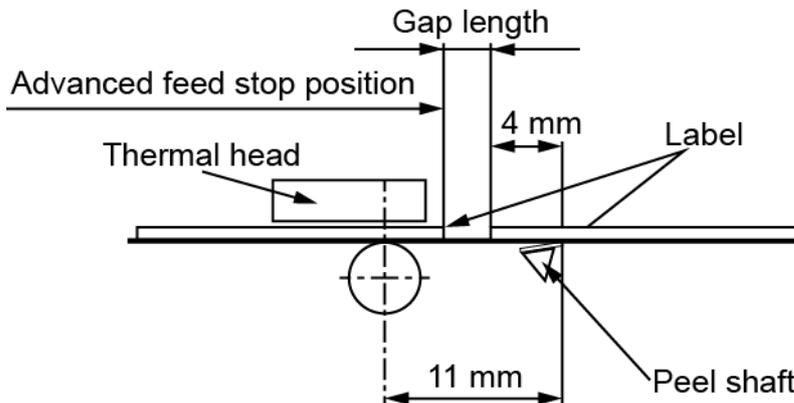


Labels are temporarily stayed and stopped in the peel shaft before being sucked. Enter values in [advanced feed stop amount] so that the label end is left 4 mm in the peel shaft.

### 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

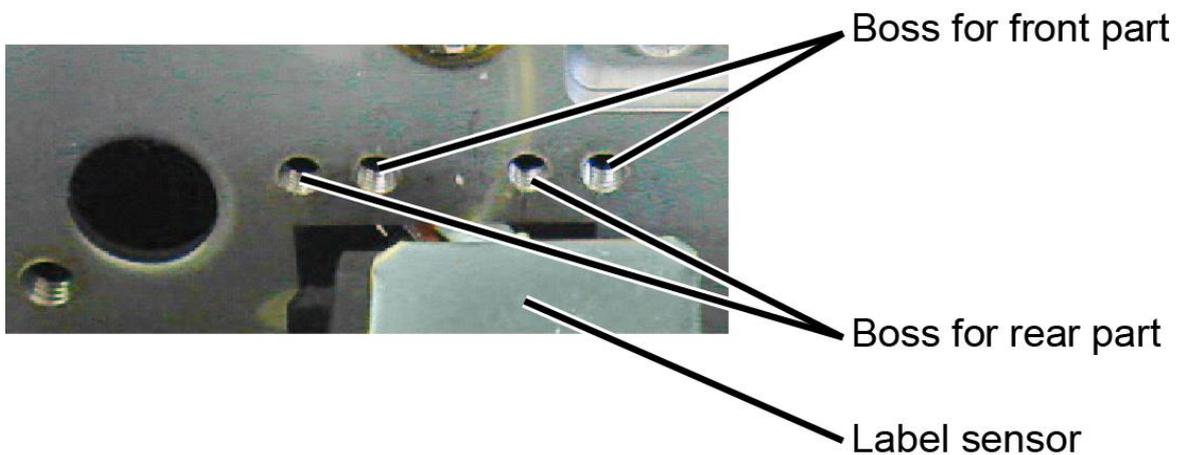
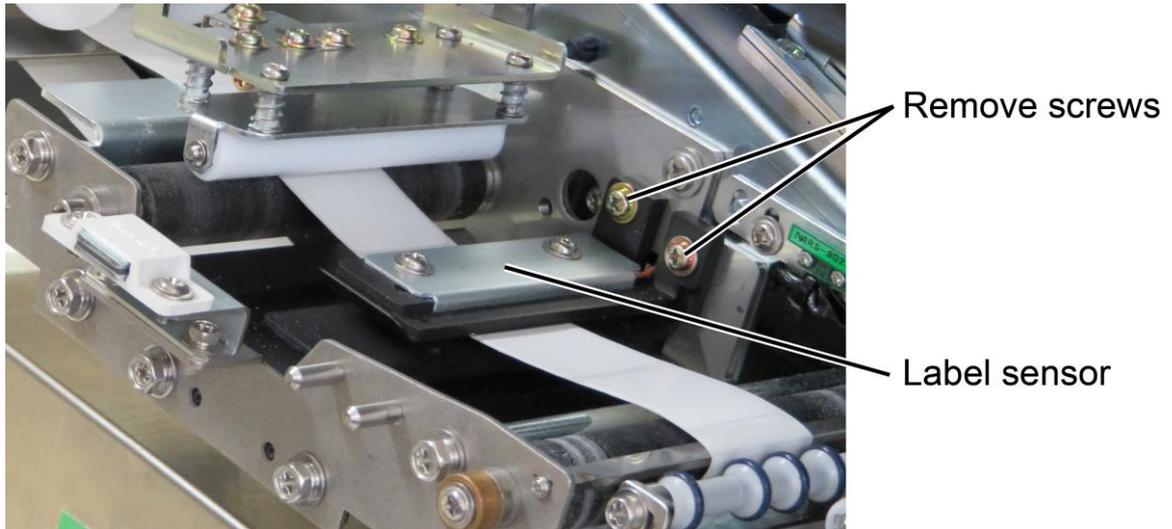
Gap length: 3.1 mm

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 frame.  
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 screenshot shows the 'LABEL APPLICATOR (POS.)' control interface. At the top, it displays 'MAR.12.2001 (MON) 11:14PM'. The interface is divided into several sections:

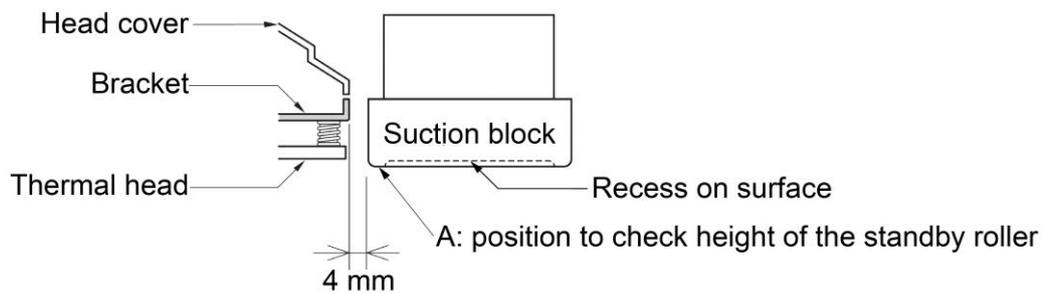
- PRINTER:** A dropdown menu showing 'POP'.
- DEGREE SEL:** A dropdown menu showing '0 deg'.
- PASTE POS.:** A table with columns X, Y, and Z. X is 100, Y is 0, and Z is 56.
- ADSORB POS. ADJ.:**
  - 'LEFT(-)/RIGHT(+)-ADJ.:' set to -3 mm.
  - 'UPPER(-)/LOWER(+)-ADJ.:' set to -4.2 mm.
  - 'FRONT(-)/BACK(+)-ADJ.:' set to 0 mm.
  - 'LEFT(-)/RIGHT(+)-ADJ.:' set to -2 deg.
- PASTE POS. ADJ.:**
  - 'LEFT(-)/RIGHT(+)-ADJ.:' set to 4 mm.
  - 'FRONT(-)/BACK(+)-ADJ.:' set to -9 mm.
  - 'LEFT(-)/RIGHT(+)-ADJ.:' set to -2 deg.
- LABEL HEIGHT:** A field showing 30.0 mm.
- Buttons:** 'READY TO ADSORB.', 'NON PRINT CHECK' (circled in red), 'PRINT CHECK', 'RETURN', 'AUTO LNG. ADJUST', and 'RUN'.
- Bottom Navigation:** 'POS.', 'ACTION', 'INIT.', 'LABEL' buttons.



The value to set is more than the value of WM-AI since adsorption power of POP label is weak.

**Left and Right positions**

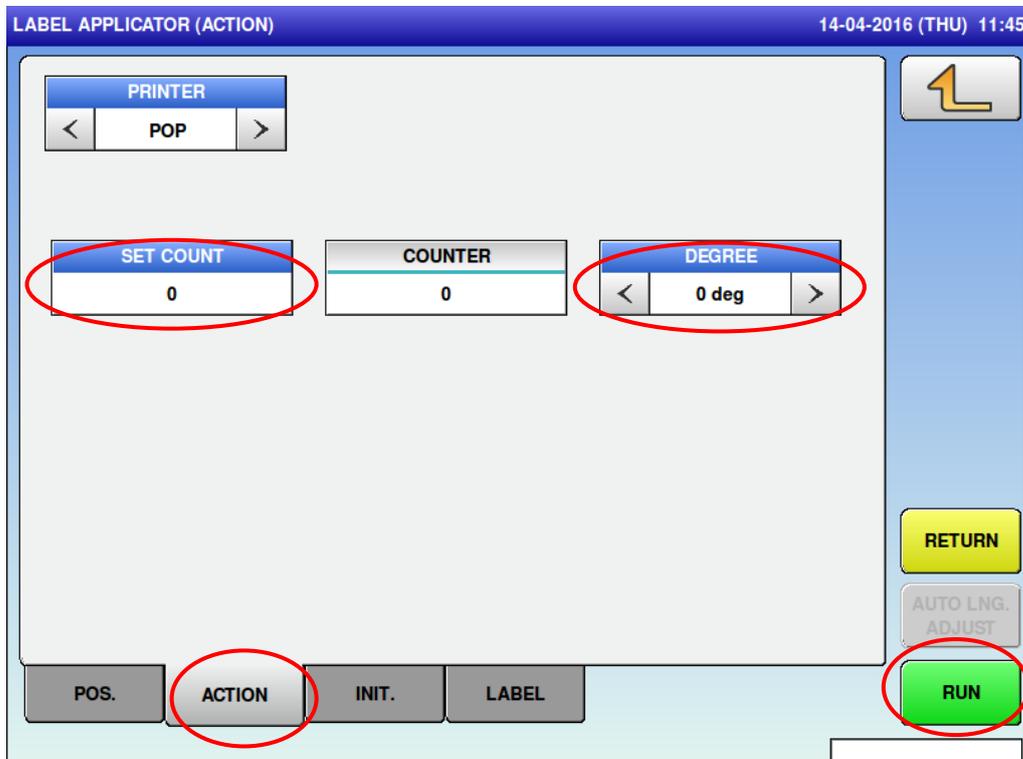
1. Press [NON PRINT CHECK] button to check the left and right of suction positions.
2. Enter value on [LEFT (-)/ RIGHT (+) ADJ.] to make a space: 4mm between the side of suction block and bracket. (see Figure 2)
3. Press [NON PRINT CHECK] button again then check the positions. Select degrees from 0, 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.

LABEL APPLICATOR (LABEL) 14-04-2016 (THU) 11:51

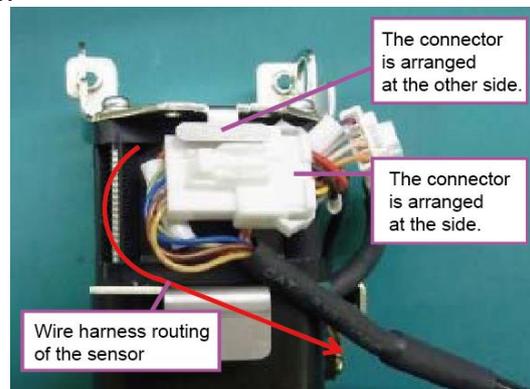
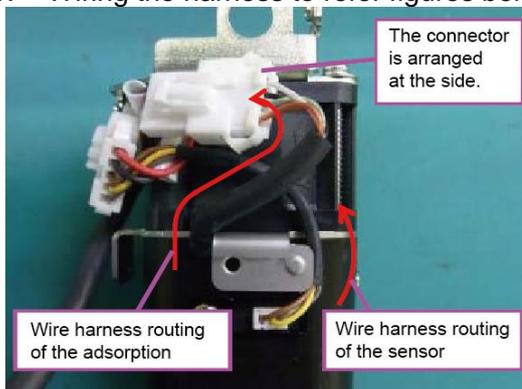
PRINTER POP	EXTEND FORMAT MST. NO YES	
LABEL TYPE 1:130LA-1	PRINT DENSITY 5	RED DENSITY 5
PRINT DIRECTION STAND. REVERSE	LABEL GAP 3.1mm	LABEL GAP DETECT. 0(0)
SENSOR TYPE 1:LABEL	PRINT SPEED 120mm/s	BACK FEED NO YES
SENSOR DISTANCE 53.3mm	FEED LENGTH 6.4mm	PRE-STOP POS. 3.4mm
FMT No. 045	WIDTH 40.0 mm	LENGTH 30.0 mm
		EDGH OUT DELAY 0 x 10 ms

FEED PRINT RETURN AUTO LNG. ADJUST RUN

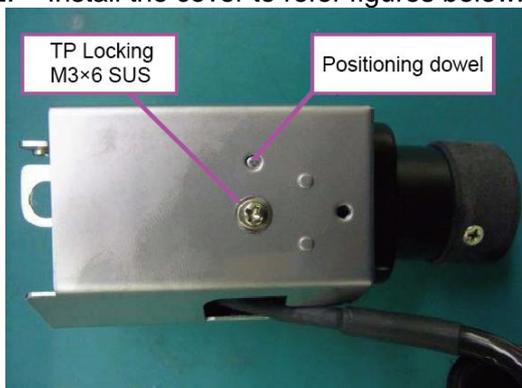
## 2.2.2 Install the Curled cord



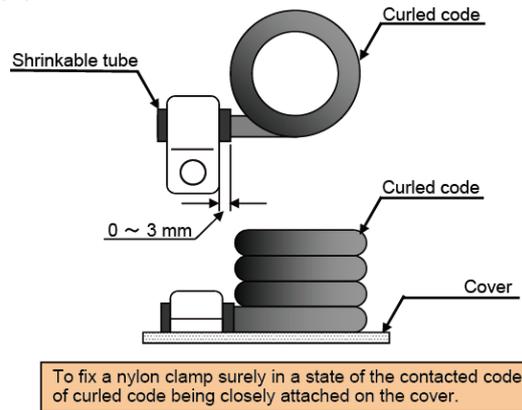
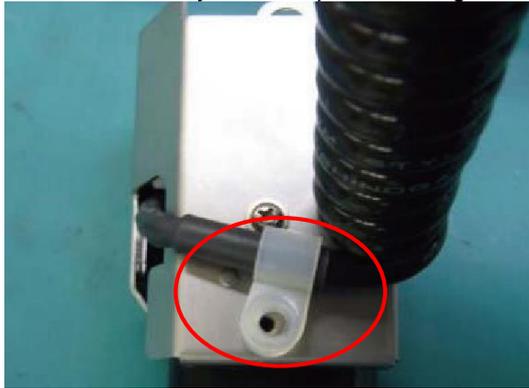
1. Wiring the harness to refer figures below.



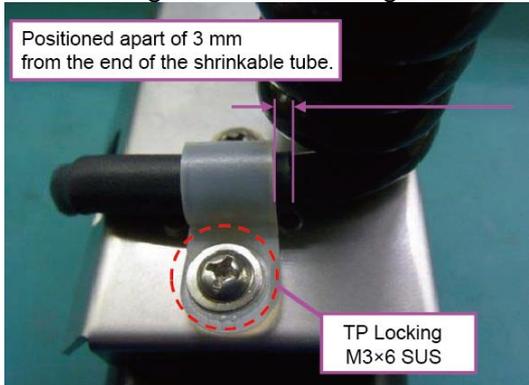
2. Install the cover to refer figures below.



3. Attach the nylon clamp to refer figures below.

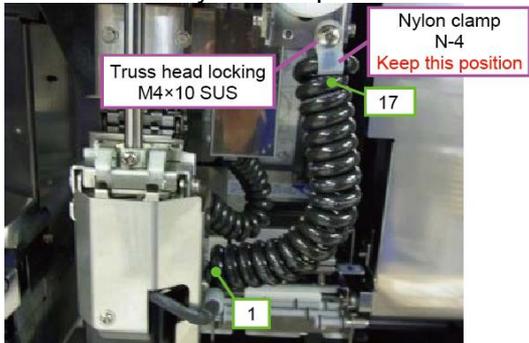


4. Screwing the bolt to refer figures below.

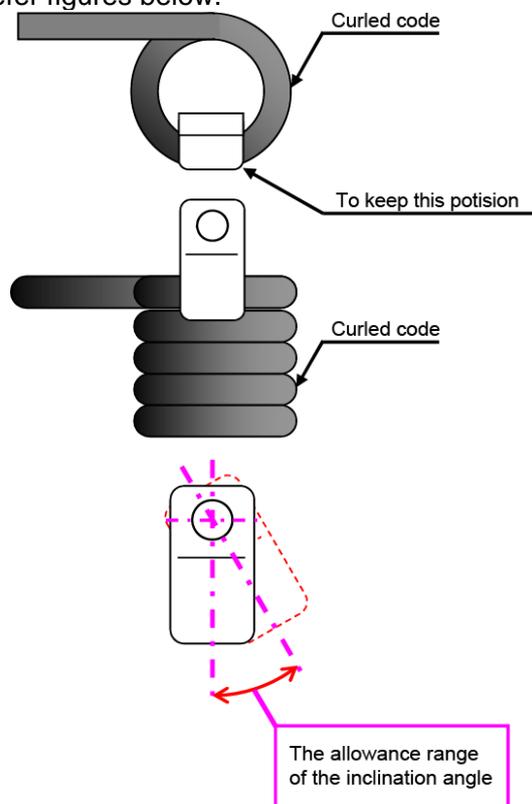


Prevented from being curled to attach the nylon clamp.

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



Conforming to WM-AI Service Manual except instructions of this manual.

## 3.1 Electric Unit Configuration

### 3.1.1 Overview



Be sure to push the emergency stop switch button when you insert your hand into the machine.



Note that the logic system 24 V DC power is not cut off even if the emergency stop switch button has been pushed.



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-GJ1Y		LFP240F-24-GJ1Y
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-GJ1Y	LFP150F-24-GJ1Y	-
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-GJ1Y		LFP150F-24-GJ1Y
Models for CE standard	LFP150F-24-GJ1Y		LFP150F-24-GJ1Y

■ 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

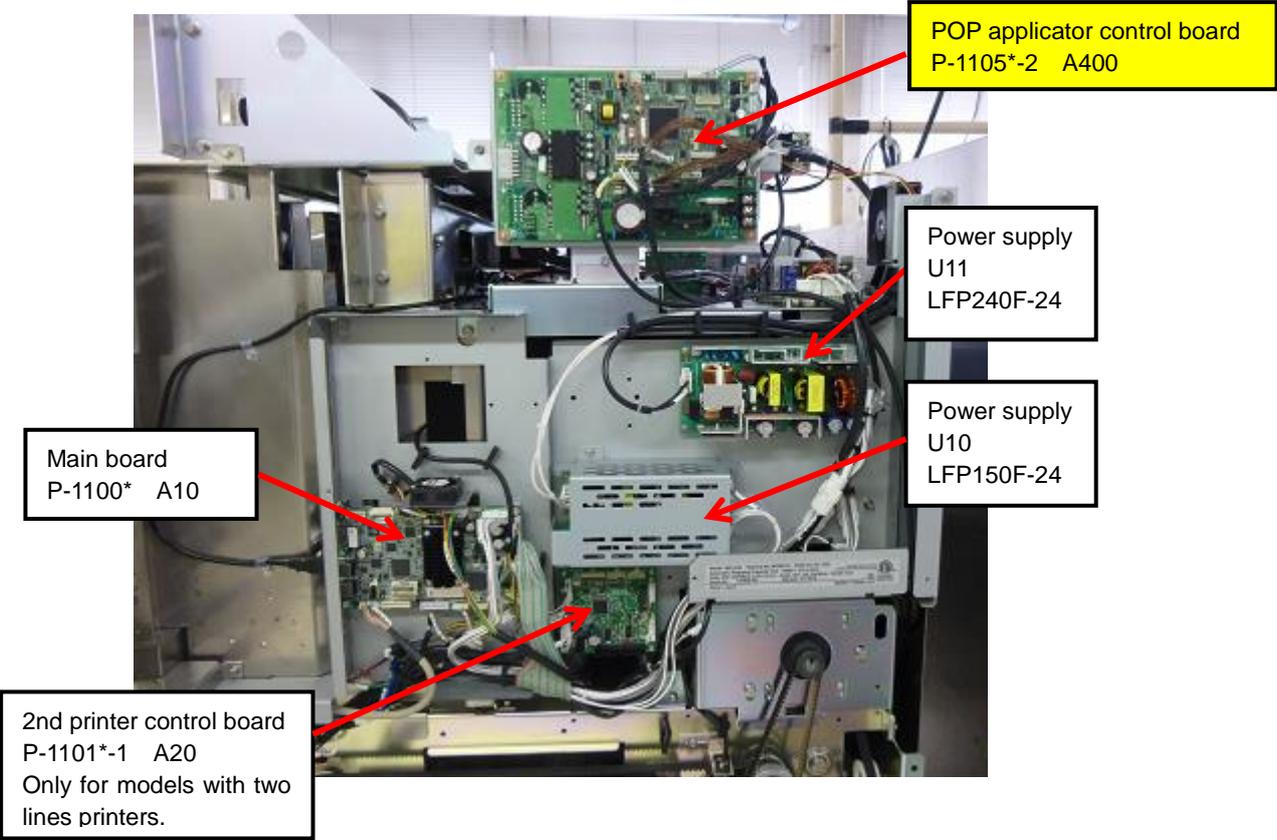
	Wrapping control unit
	Z100 (noise filter)
Models for ETL standard	NAP-16-222
Models for CE standard	NAP-16-472

- Circuit board of POP printer unit  
Only install the P-1131\*-3.



Do not install the circuit board P-1131\*-2 used such as the AL-AI. In addition, that machine being damaged.

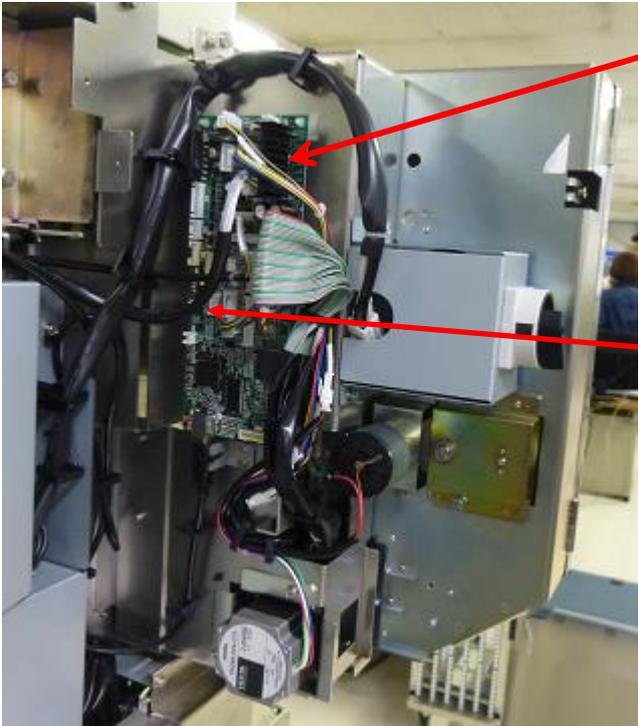
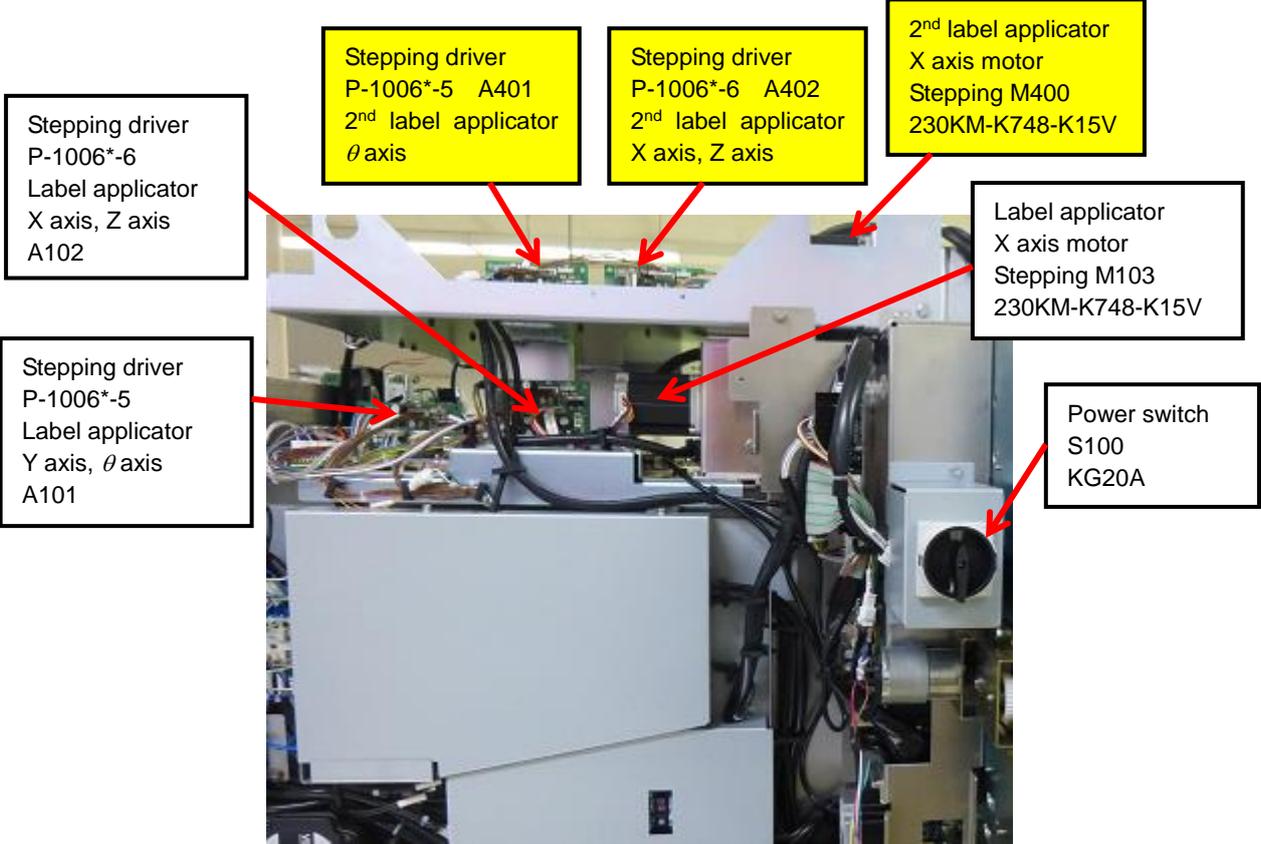
### 3.1.2 Right Side of the Machine



- POP applicator control board: P-1105\*-2

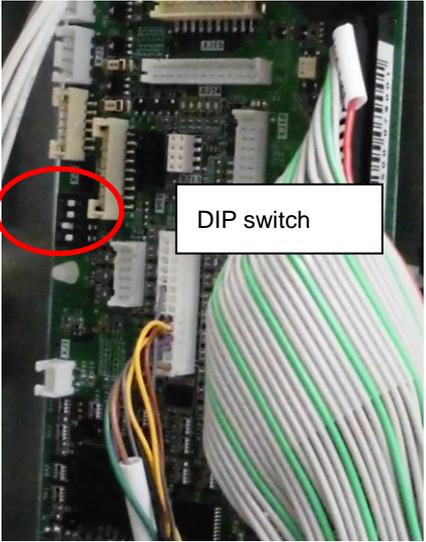


### 3.1.3 Left Side of the Machine

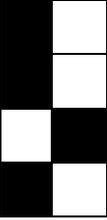


POP printer board P-1131\*3 A410

**CAUTION**  
Do not replace to P-1131\*2.

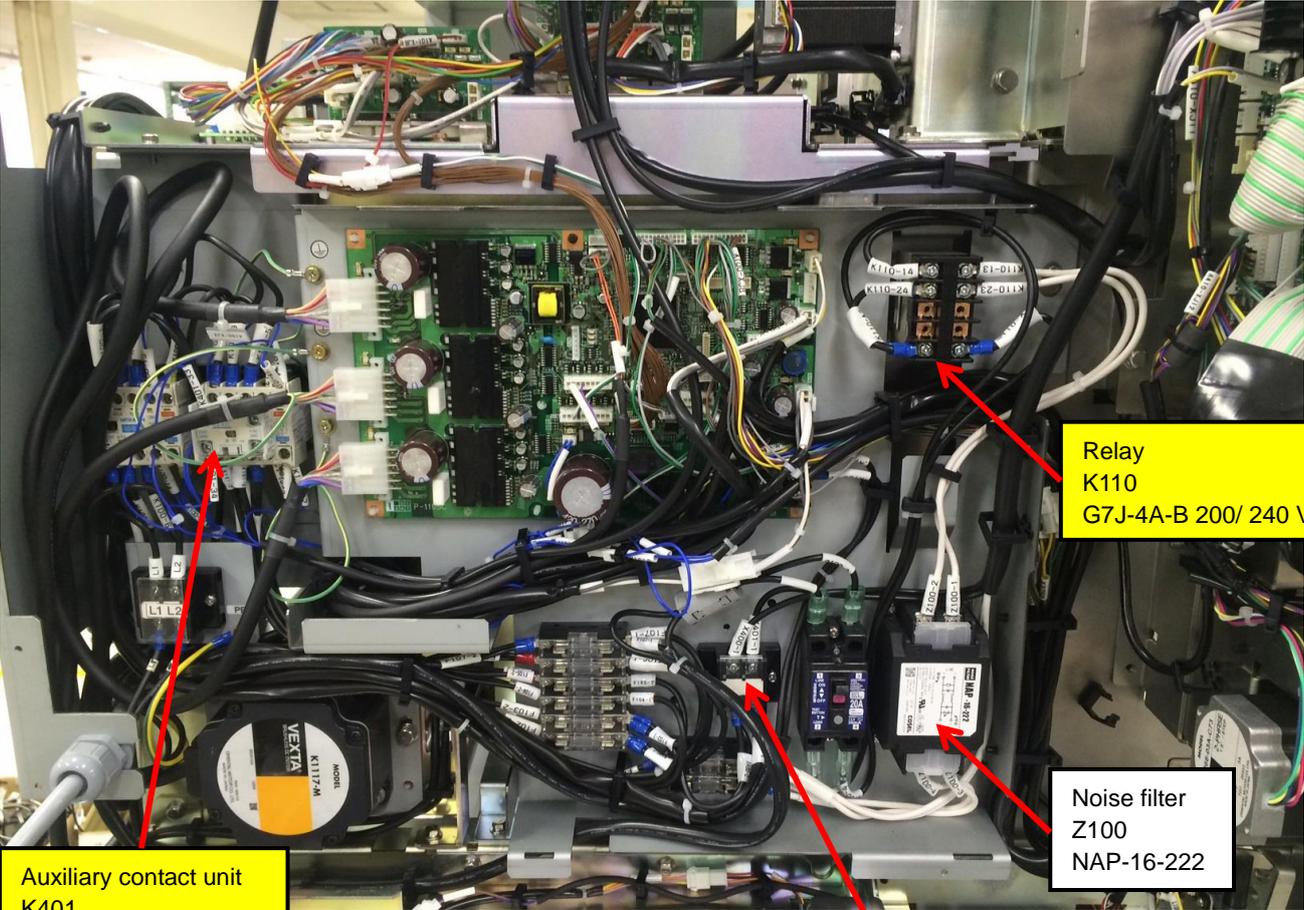


DIP switch



Turn the 2<sup>nd</sup> switch of DIP switch into the ON position.

● Wrapping control unit (ETL standard)



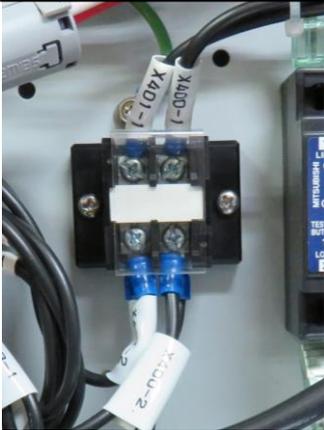
Relay  
K110  
G7J-4A-B 200/ 240 V AC

Noise filter  
Z100  
NAP-16-222

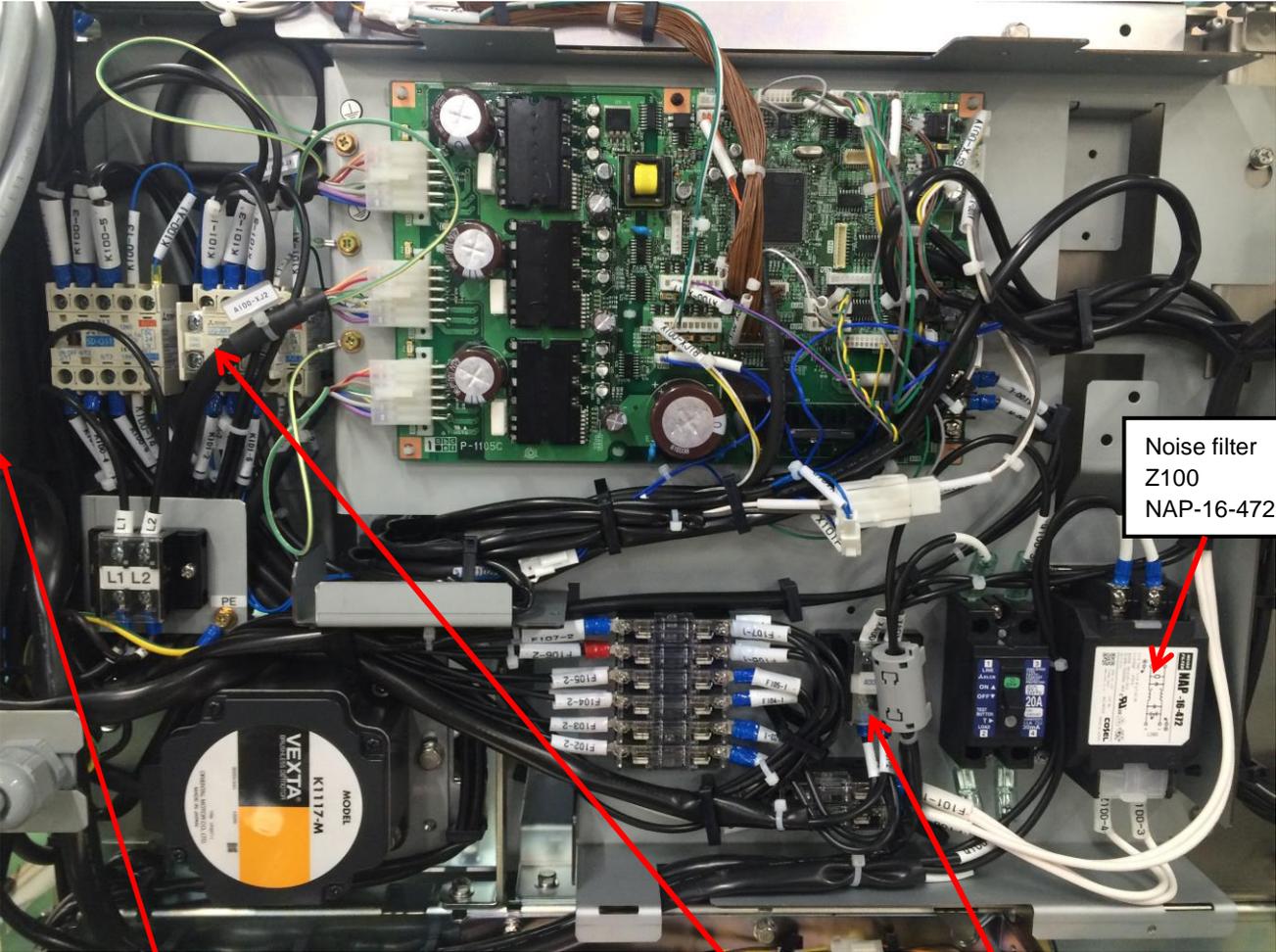
Auxiliary contact unit  
K401  
UQ-AX2



Surface mount terminal block  
X400, X401  
BTBH15LC2



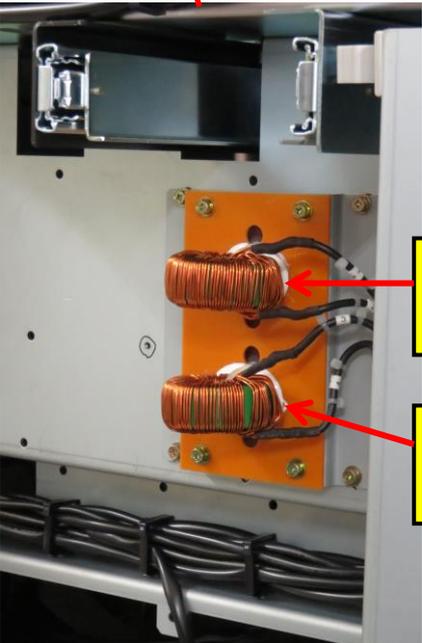
- Wrapping control unit (CE standard)



Noise filter  
Z100  
NAP-16-472

Auxiliary contact unit  
K401  
UQ-AX2

Surface mount terminal block  
X400, X401  
BTBH15LC2

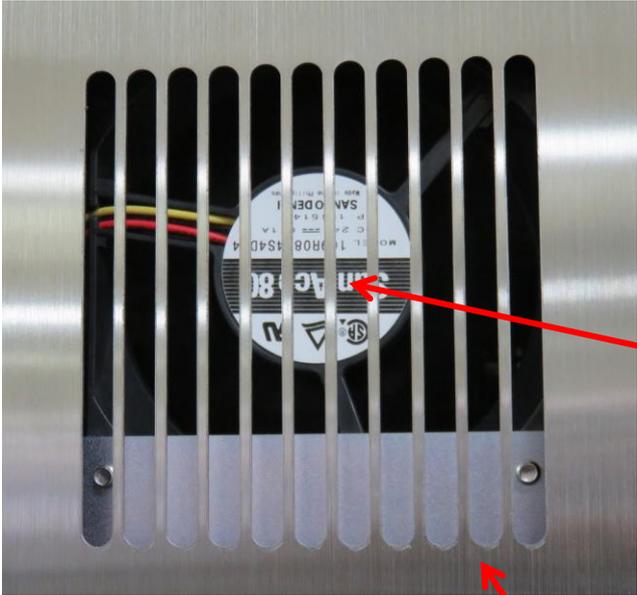


Coil  
L110  
SHB-20-60V

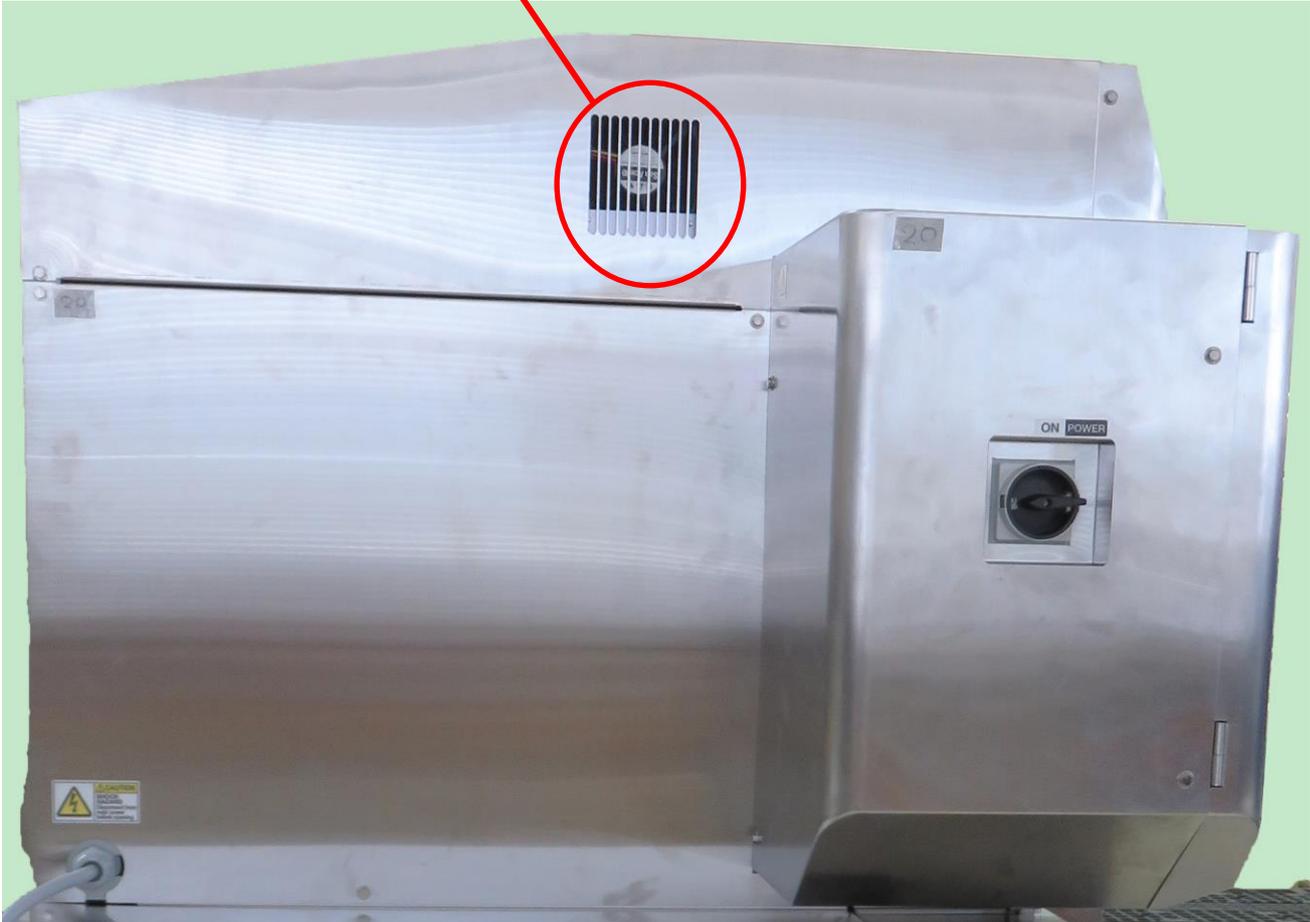
Coil  
L111  
SHB-20-60V



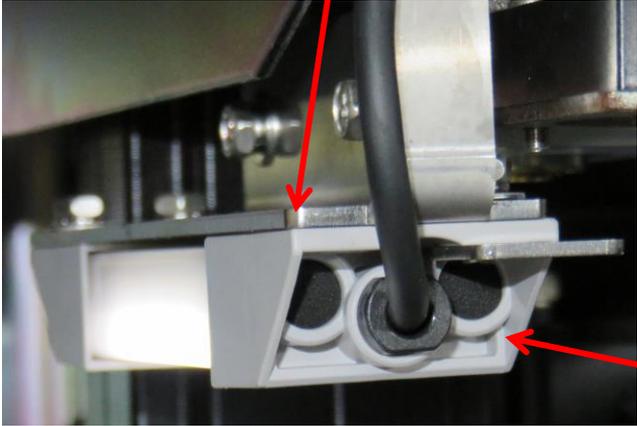
- Ventilation fan



Ventilation fan for power supply  
M201  
109R0824S4D04



- Lighting unit: LED



Lighting unit  
E300  
LF1B-NA4P-2THWW2

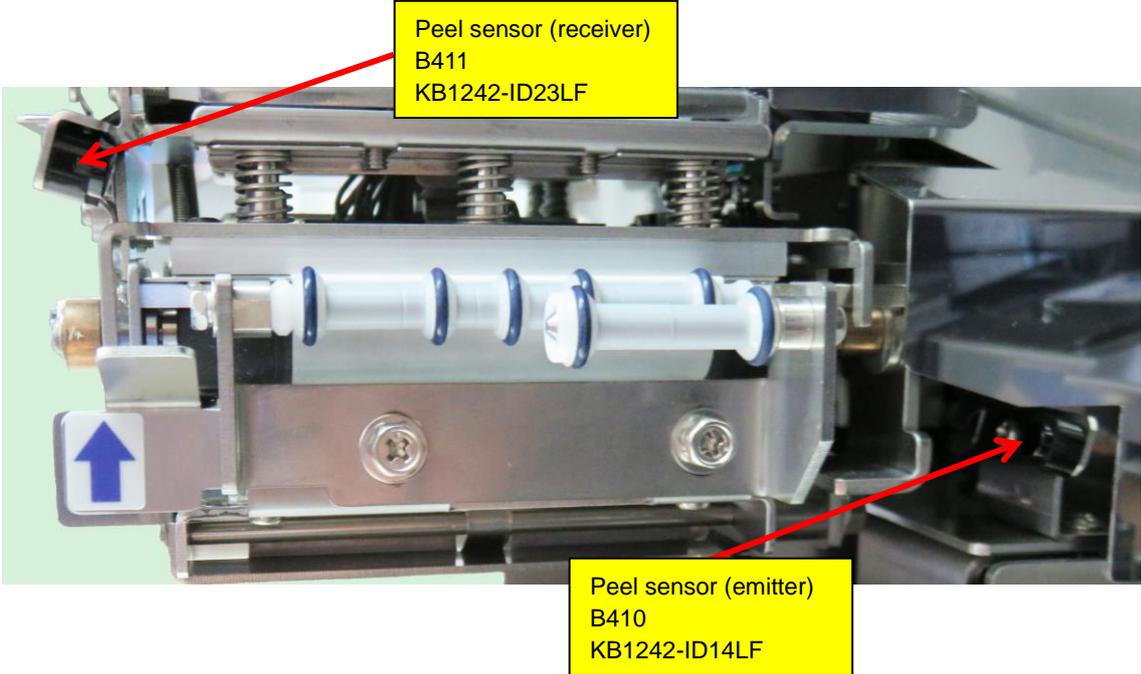
- **USB socket**



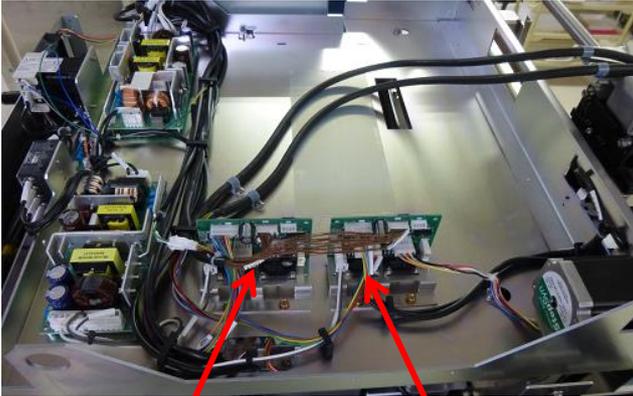
The line from P-1100\* A10 to P-1131\*-3 A410. Refer to the picture for USB plug connecting position.

### 3.1.4 Front of the Machine

- POP Printer



### 3.1.5 Upper Side of the Machine

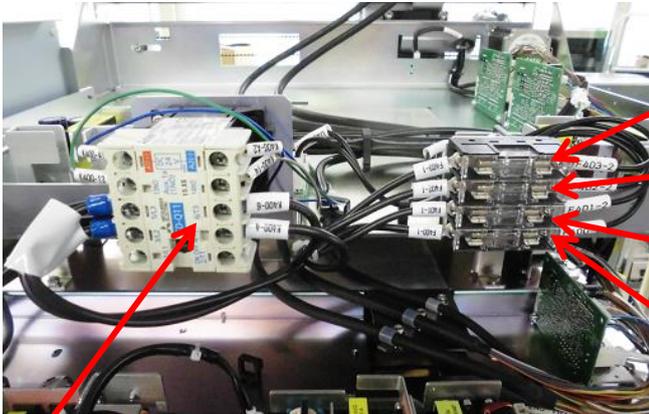
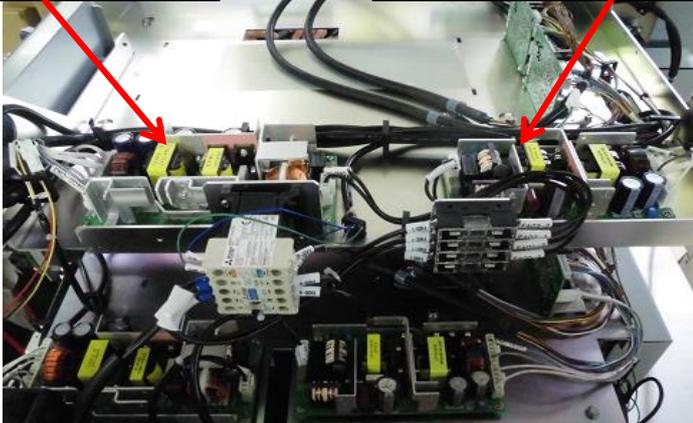


Stepping driver  
P-1006\*-5 A401

Stepping driver  
P-1006\*-6 A402

POP printer power supply  
U400  
LAP150F-24-GJ1Y

POP applicator power supply  
U401  
LAP150F-24-GJ1Y



Electric Magnetic Conductor  
K400  
SD-Q11

F403  
F402  
F401  
F400  
Fuse  
FGA0-2(6A)

# Chapter 4 Adjust Mode



Conforming to WM-AI Service Manual except instructions of this manual.

## 4.1 FIRMWARE DETAILS

FIRMWARE DETAILS
25-04-2016 (MON) 11:53

TITLE SOFTWARE
B0752R

AUDIT LOG

LICENSE

SOFTWARE	VERSION	SOFTWARE	VERSION
MAIN	B0753N	WRAP APP.(BOOT)	C2006G(J0860A)
SCALE DRIVER (UPDATER)	J0834(J0835)	CAMERA APP.(BOOT)	J0884C(J0846)
OS	J0829E	PRINTER APP.(BOOT)	J0909D(J0827)
BIOS	J0825	PRINTER 2	J0912
FPGA APP.(BOOT)	J0910B(J0824)		
KEY BOARD	J0823B		
SCALE	J0776G	POP PRINTER APP. (BOOT)[FPGA]	J0949 (J0926)[J0935A]

Menu name	Specification
LICENSE	<p>Move to FIRMWARE DETAILS / LICENSE screen.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> </div> <div style="width: 48%;"> </div> </div>

## 4.2 Printer

### 4.2.1 PRINTER (HEAD)

PRINTER (HEAD) 18-04-2016 (MON) 17:22

PRINTER < POP >

CASSETTE 1	LABEL 5	FORMAT 45	COVER SENS. ON	HEAD UP ON
---------------	------------	--------------	-------------------	---------------

TEST PRINT < CHECKER >

TEST FORMAT(H)  
30.0mm

HEAD TYPE < TPH80R21 >

BACK FEED

45mm 1.0	60mm 1.0	80mm 1.0
-------------	-------------	-------------

HEAD USAGE  
0.0km

HEAD TEMP RISE PROTECT  
NO YES

HEAD RESISTANCE

HEAD RESISTANCE 1200 Ohm	RESIST. INIT.
-----------------------------	---------------

HEAD STATUS CHECK

RESULT	CHECK
--------	-------

PRINTER INIT.

FEED

PRINT

DETAIL

HEAD INIT.

HEAD PEEL SENSOR LABEL TYPE LABEL FEED

Menu name	Specification
COVER SENS.	Displayed the state of the POP printer cover. ON: Close, OFF: Open

## 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

MACHINE TYPE / DETAIL 07-07-2015 (TUE) 14:31

STRUCTURE AUTO 1 TYPE WM PRODUCT ID 0000000

**WRAPPER**

STATUS OK

CENTERING NO YES

TRAY DETECTION NO YES

CHANGE FILM 1 2

VARIATION 0:STANDARD

NON-FILM ERROR NO YES

FILM SET POS. SEL. LEFT RIGHT

**PRINTER**

PRINTER 1 CONNECTION OK

OUTSIDE PRINTER NO YES

PRINT DOT RATIO 1 : 1 1 : 1.1

PRINTER 2 CONNECTION

**POP PRINTER CONNECT** NO YES

PRINTER 1 POS. SEL. LEFT RIGHT

SET

Menu name	Specification
POP PRINTER CONNECT	Select the state the POP printer is connected or not.

## 4.4 DOWNLOAD

### 4.4.1 DOWNLOAD (MAIN)

DOWNLOAD (MAIN) 25-04-2016 (MON) 13:45 1/1

**COPY METHOD SELECT**

<b>USB&gt;MAIN (PRG+IMG)</b>	USB>MAIN (ONLY PRG)	USB>MAIN (ONLY IMG)	USB>MAIN (BOOT REN)	MAIN>USB (PRG+IMG)	MAIN (ALL CLR)
------------------------------	---------------------	---------------------	---------------------	--------------------	----------------

If you select [MAIN > USB], 'PROGRAM No. + MACHINE No.' Folder is Created Automatically.

USB MEMORY FOLDER	APPLI. PROG.
soft	B0752R

[USB]  
[LAN]

MAIN SUB APP. SUB BOOT EXEC

Menu name	Specification
	Back to main menu.
COPY MRTHOD 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.)

DOWNLOAD (SUB APP.)		26-04-2016 (TUE) 18:49	1/1
			
PROGRAM FILE NAME	SEND MACHINE NAME		
J0909D.MOT	EC		
J0948.MOT	UNDER PRINTER		
C2006G.MOT	PACK MACHINE		
J0949.MOT	POP PRINTER		
J0884C.MOT	CAMERA		
FPGA_APLY_J0910B.BIN	FPGA		
<input type="button" value="MAIN"/> <input type="button" value="SUB APP."/> <input type="button" value="SUB BOOT"/>		<input type="button" value="[MAIN]"/> <input type="button" value="[USB]"/>	
		<input type="button" value="EXEC"/>	

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.

### 4.4.3 DOWNLOAD (SUB BOOT)

DOWNLOAD (SUB BOOT)		25-04-2016 (MON) 11:58	1/1
PROGRAM FILE NAME	SEND MACHINE NAME	  [MAIN] [USB]  EXEC	
FPGA_PRN_F_J0935A.BIN	UNDER PRINTER FPGA		
FPGA_PRN_F_J0935A.BIN	POP PRINTER FPGA		
MAIN    SUB APP.    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.)

The screenshot displays the 'LABEL APPLICATOR (POS.)' menu. At the top, it shows the date and time: 'MAR.12.2001 (MON) 11:14PM'. The menu is organized into several sections:

- PRINTER:** A dropdown menu currently set to 'POP'.
- DEGREE SEL:** A dropdown menu currently set to '0 deg'.
- PASTE POS.:** A table showing coordinates:
 

X	Y	Z
100	0	56
- ADSORB POS. ADJ.:** Three adjustment controls:
  - LEFT(-)/RIGHT(+)ADJ.: -3 mm
  - FRONT(-)/BACK(+)ADJ.: 0 mm
  - LEFT(-)/RIGHT(+)ADJ.: -2 deg
- UPPER(-)/LOWER(+)ADJ.:** -4.2 mm
- Buttons:** 'READY TO ADSORB.', 'NON PRINT CHECK', and 'PRINT CHECK'.
- PASTE POS. ADJ.:** Three adjustment controls:
  - LEFT(-)/RIGHT(+)ADJ.: 4 mm
  - FRONT(-)/BACK(+)ADJ.: -9 mm
  - LEFT(-)/RIGHT(+)ADJ.: -2 deg
- LABEL HEIGHT:** 30.0 mm
- Buttons:** 'PASTE CHECK', 'RETURN', 'AUTO LNG. ADJUST', and 'RUN'.
- Bottom Navigation:** 'POS.', 'ACTION', 'INIT.', 'LABEL' buttons.

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.
ADSORB POS. ADJ.	
LEFT (-)/RIGHT (+) ADJ.[mm]	Adjust the position in which the POP printer adsorbs 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 in which the POP printer adsorbs the label (angle).
UPPER (-)/LOWER (+) ADJ.[mm]	Adjust the position in which the POP printer adsorbs 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 in which the POP printer applies the label (in the front-back direction).
LEFT (-)/RIGHT (+) ADJ.[deg]	Adjust the position in which the POP printer applies the label (angle).

## 4.5.2 LABEL APPLICATOR (ACTION)

LABEL APPLICATOR (ACTION) 14-04-2016 (THU) 11:45

PRINTER  
< POP >

SET COUNT  
0

COUNTER  
0

DEGREE  
< 0 deg >

RETURN

AUTO LNG.  
ADJUST

RUN

POS. ACTION INIT. LABEL

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)

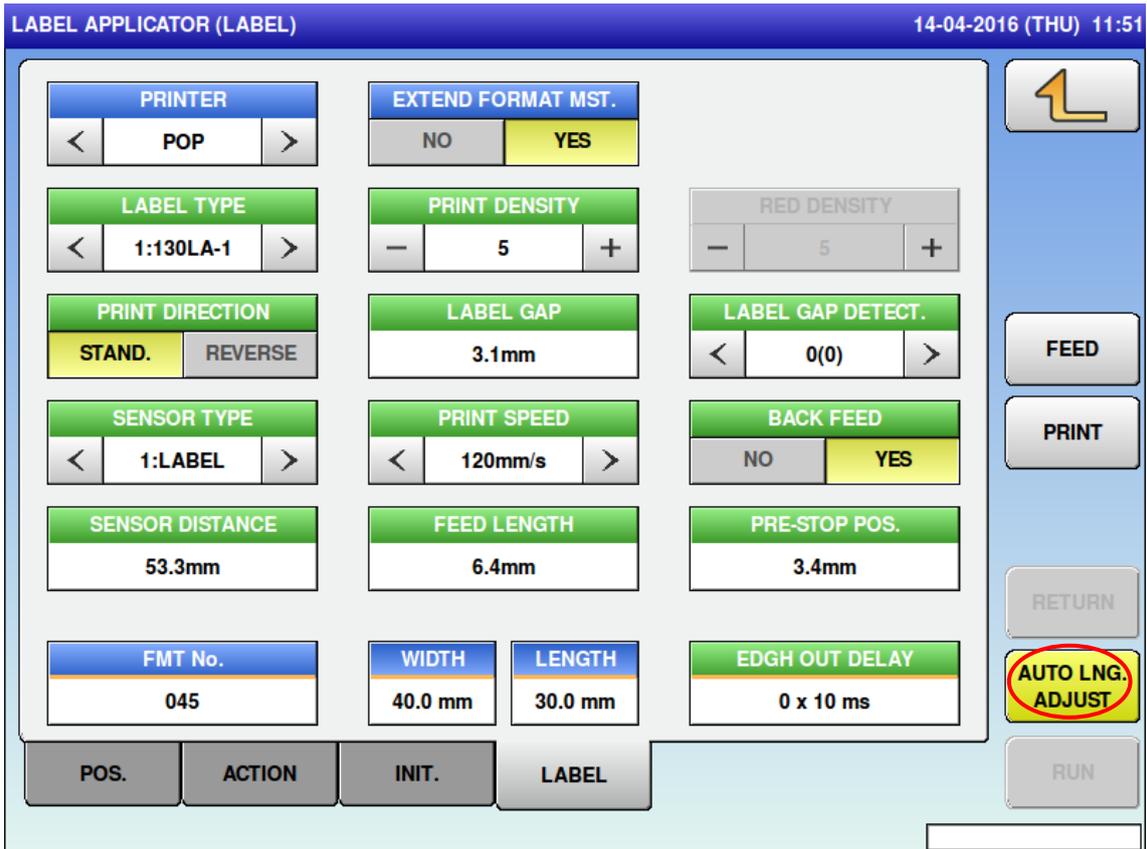
### 4.5.3 LABEL APPLICATOR (INIT.)

The screenshot displays the 'LABEL APPLICATOR (INIT.)' menu. At the top, it shows the printer status as 'POP' and the date/time as '25-04-2016 (MON) 16:24'. The main area is divided into several sections: 'PRINTER' (POP), 'PASTE COUNT CLEAR' (with 'TOTAL RESULT' and '90 dig RESULT' both at 0, and 'CLEAR' buttons), 'FAN OFF TIME' (0 MIN.), 'VOLUME' (0 mm), 'PASTE CTRL.' (PASTE SENS., TRAY H.), 'PASTE H. ADJ.' (0 mm), and 'LABEL WAIT STAND' (SMALL, LARGE). A red 'INITIAL' button is located in the top right. The bottom of the screen features navigation buttons: POS., ACTION, INIT., LABEL, RETURN, AUTO LNG. ADJUST, and RUN.

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.

## 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



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.)

UNIT ACTION (LABEL APP.) 26-04-2016 (TUE) 11:54 1/1

No.	UNIT	No.	UNIT	No.	UNIT
1	APPL CONTROL SENSOR	9	FAN ROTATION	17	APPL(5) ALL
2	APPL SAFETY SENSOR	10	WRAPPER(U)+APPL(1)	18	AGING
3	LEFT AND RIGHT MOVE	11	WRAPPER(U)+APPL(2)	19	
4	BACK AND FRONT MOVE	12	WRAPPER(D)+APPL(1)	20	
5	UP AND DOWN MOVE	13	WRAPPER(D)+APPL(2)	21	
6	AXIS DIRECTION MOVE	14	LEFT AND RIGHT MOVE(5)	22	
7	APPL(1) ALL	15	UP AND DOWN MOVE(5)	23	
8	APPL(2) ALL	16	AXIS DIRECTION MOVE(5)	24	

ACTION No.  
0

WRAP LABEL APP.

RETURN  
KEY LOCK (UNLOCK)  
RUN

When connected the POP printer with POP PRINTER CONNECT selected in YES, displayed additionally at item number 14 to 17 on UNIT.

## 4.7 FORMAT

### 4.7.1 LABEL FORMAT/ DETAIL (LABEL)

LABEL FORMAT / DETAIL (LABEL) 14-04-2016 (THU) 14:13

45 < NO NAMING > ↩

<b>EXTEND FORMAT MST.</b>		<b>PRINTER</b>	
NO	YES	<	POP
<b>LABEL TYPE</b>		<b>PRINT DENSITY</b>	
<	1:130LA-1	-	5
<b>PRINT DIRECTION</b>		<b>LABEL GAP</b>	
STAND.	REVERSE	3.1mm	
<b>SENSOR TYPE</b>		<b>PRINT SPEED</b>	
<	1:LABEL	<	120mm/s
<b>SENSOR DISTANCE</b>		<b>FEED LENGTH</b>	
53.3mm		6.4mm	
		<b>BACK FEED</b>	
		NO	YES
		<b>PRE-STOP POS.</b>	
		3.4mm	

BASIC
UNIT
PREVIEW
LABEL
FEED
PRINT
AUTO LNG. ADJUST
DELETE

When entering with PRINTER selected in POP, displayed green color on bands of items.

# Chapter 5 Trouble shooting

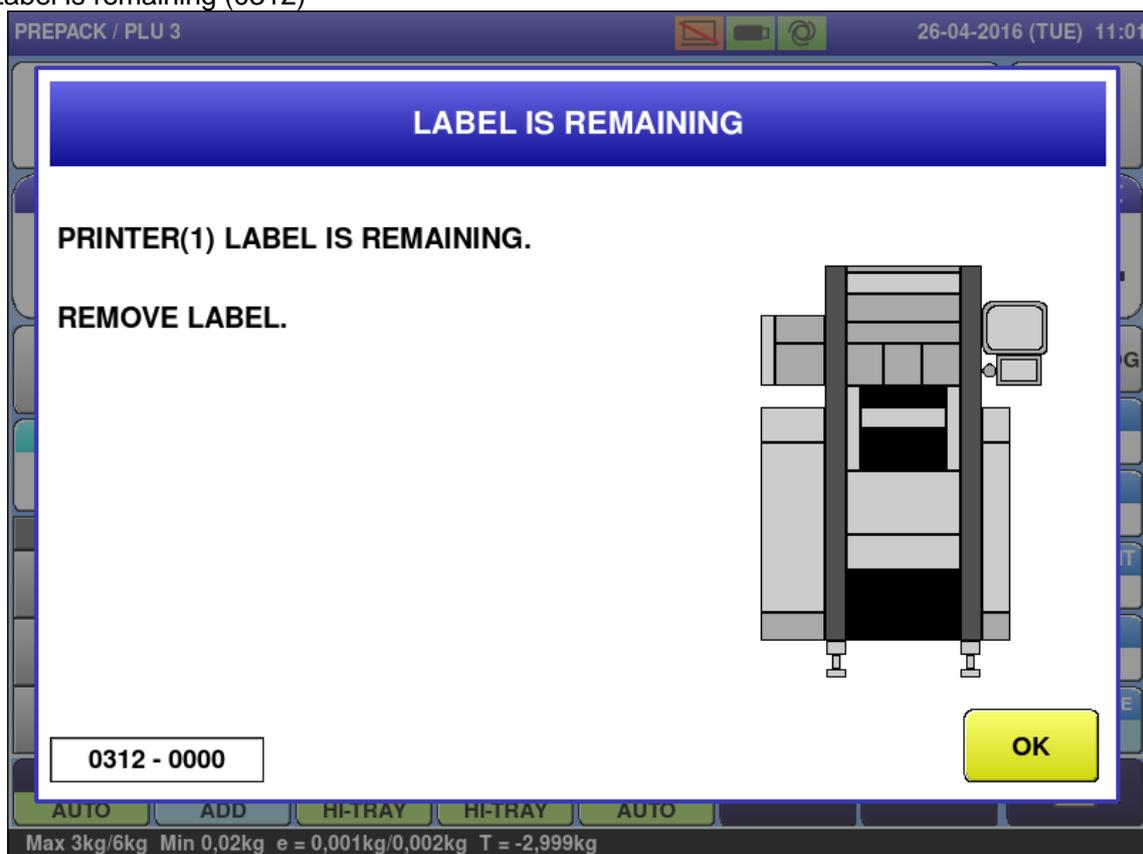


Conforming to WM-AI Service Manual except instructions of this manual.  
Illustration of indicator is displayed by type of models.

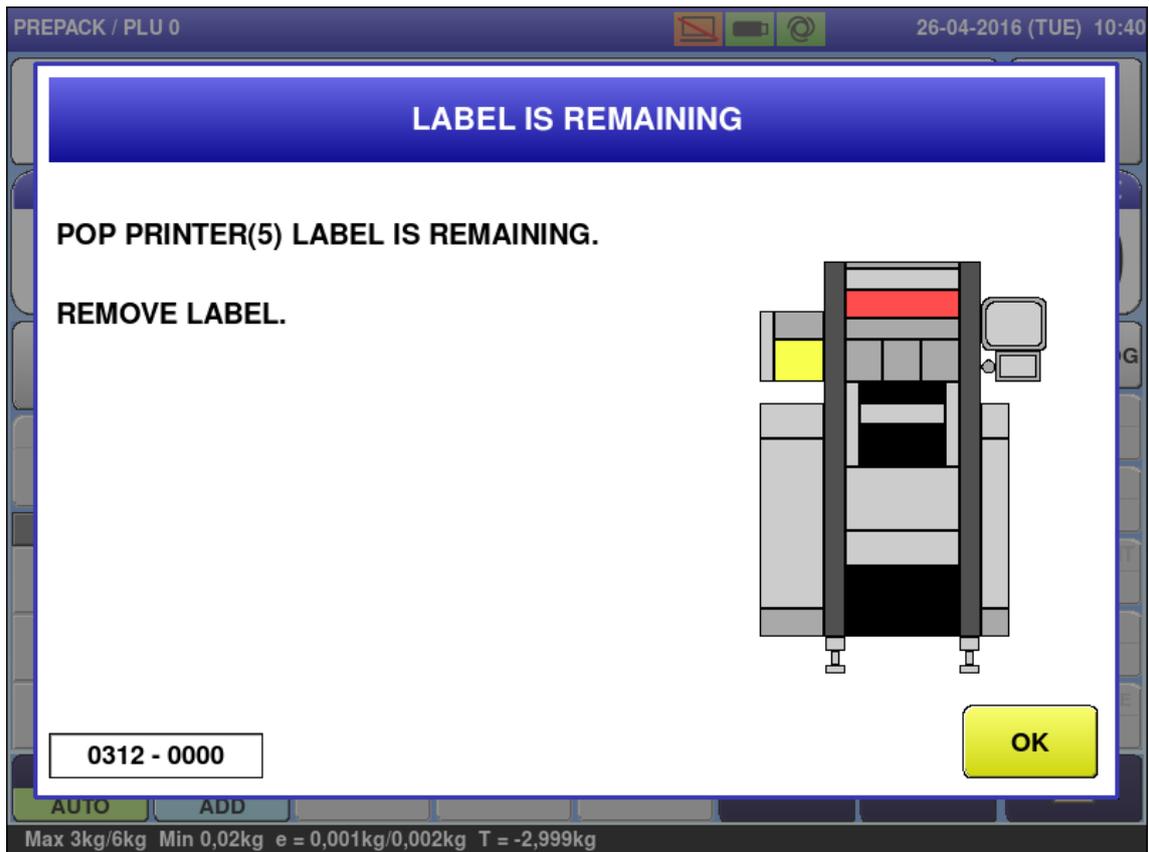
## 5.1 Error Message

### 5.1.1 Precheck-related Error (No. 300s)

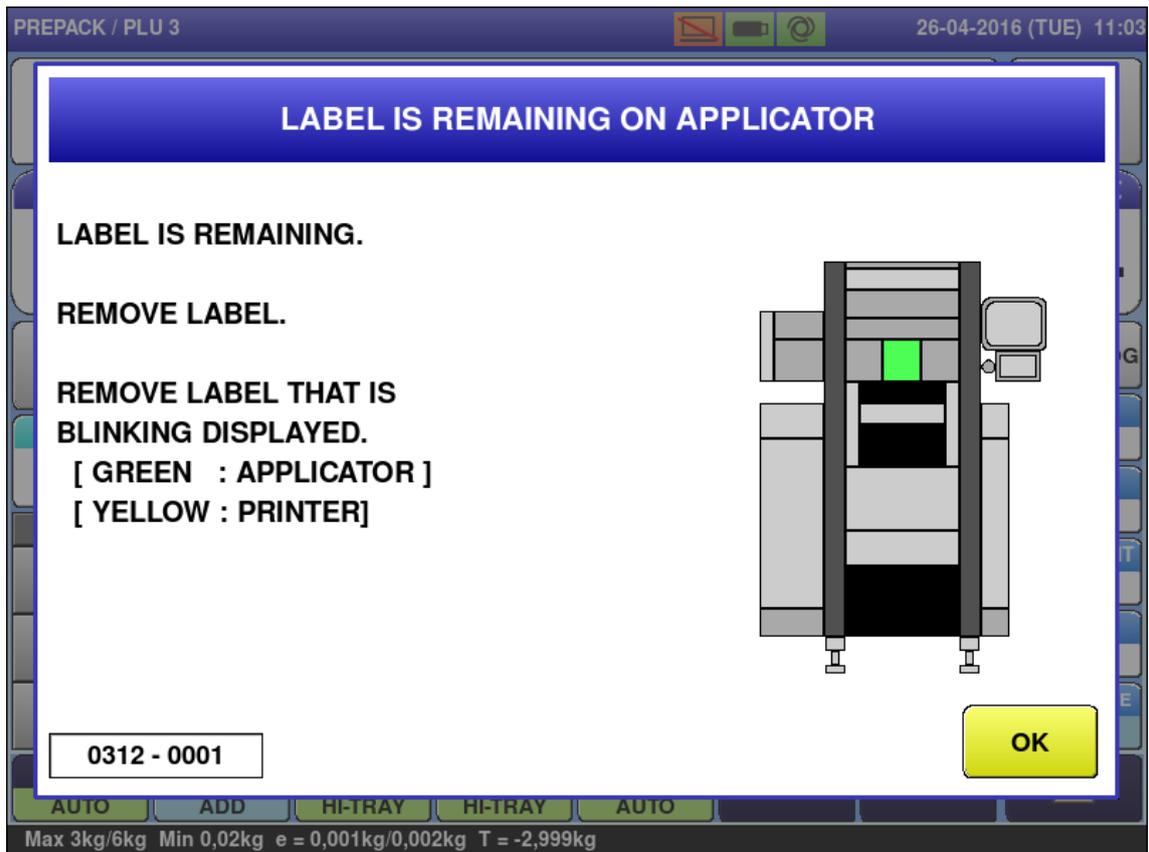
- Label is remaining (0312)



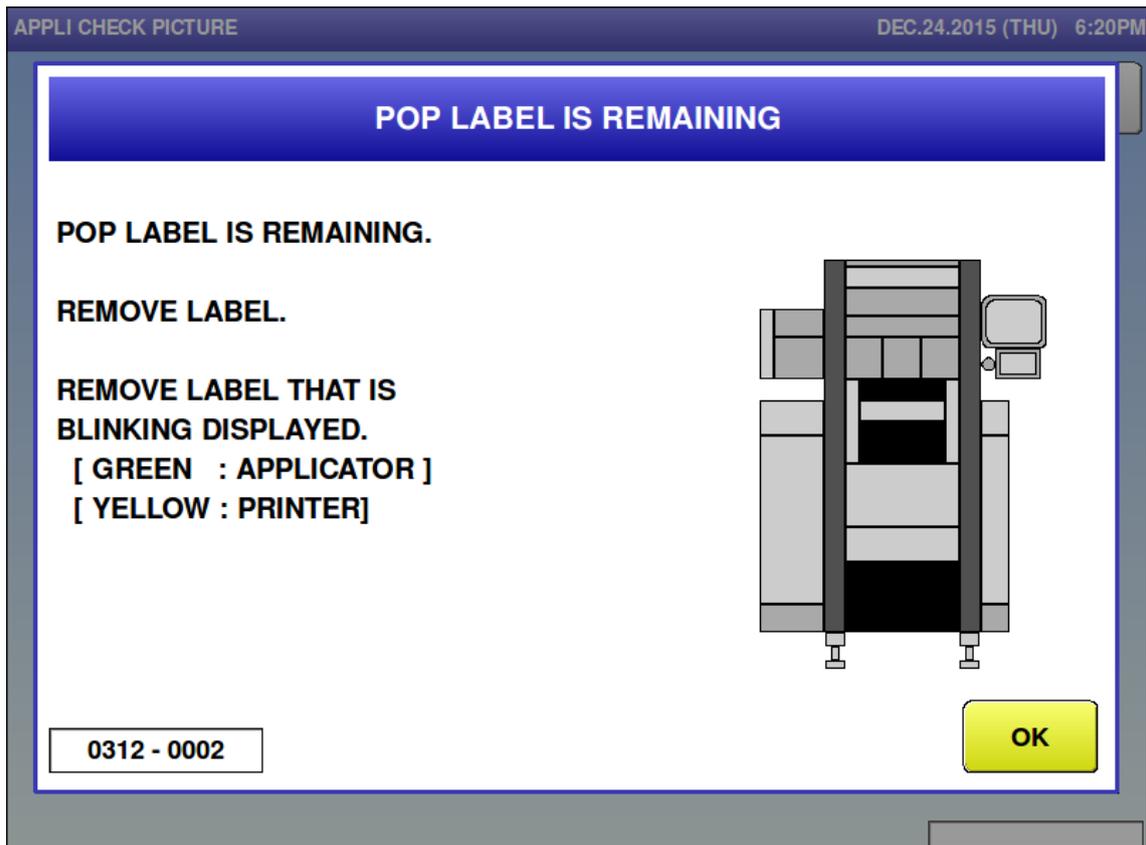
Error content	Label is remaining
Detail	Separated by sub-error number. 0000: Printer
Solution	Remove label and press [OK] button.
Action by user	Remove the label of the printer.
Action by service representative	Confirm the peel sensor operation of the printer on which an error occurred.
Related part	Main board, printer board
Remarks	Printer No.1, 2



Error content	Label is remaining on applicator
Detail	Separated by sub-error number. 0000: Applicator
Solution	Remove the label on applicator, Press [OK] button.
Action by user	Remove the label of the printer.
Action by service representative	Confirm the operation of the printer sensor.
Related part	Printer board
Remarks	Only for POP printer

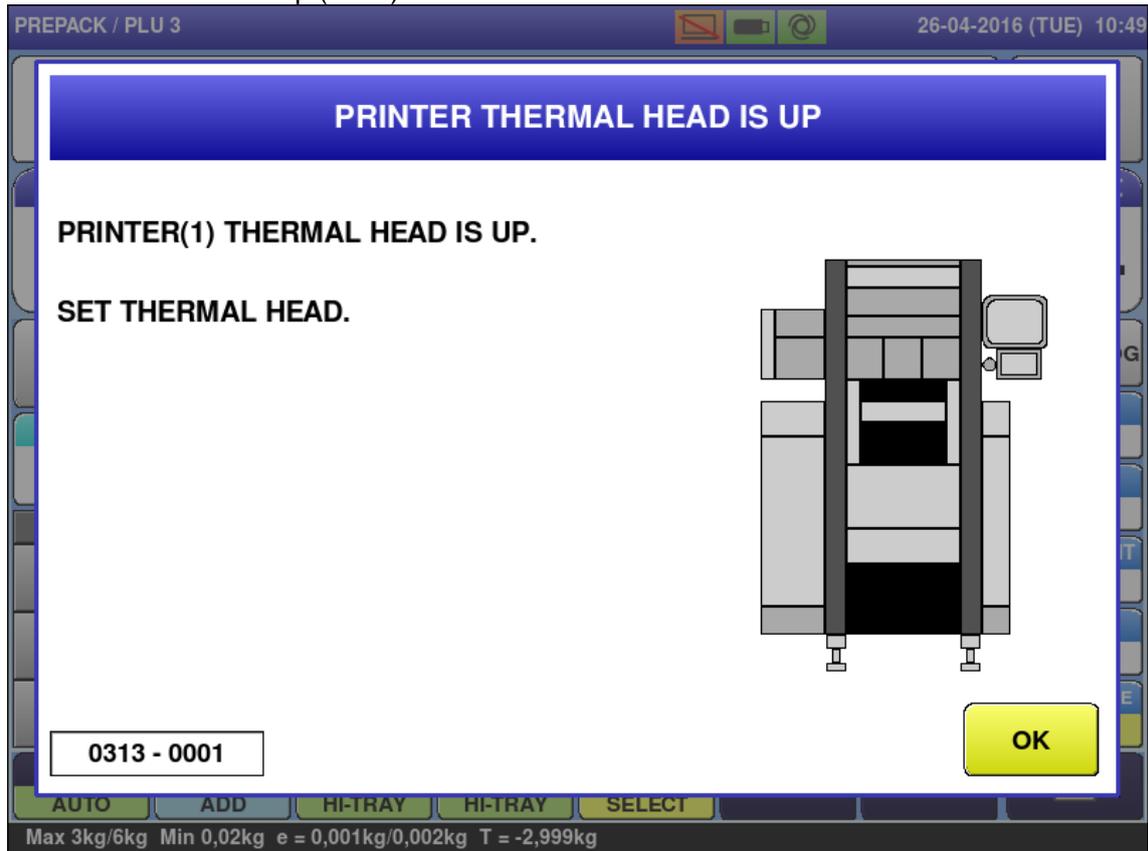


Error content	Label is remaining on applicator
Detail	Separated by sub-error number. 0001: Applicator
Solution	Remove the label on applicator, Press [OK] button.
Action by user	Remove the label of the printer.
Action by service representative	Confirm the operation of the printer sensor.
Related part	Main board, wrapping machine board
Remarks	

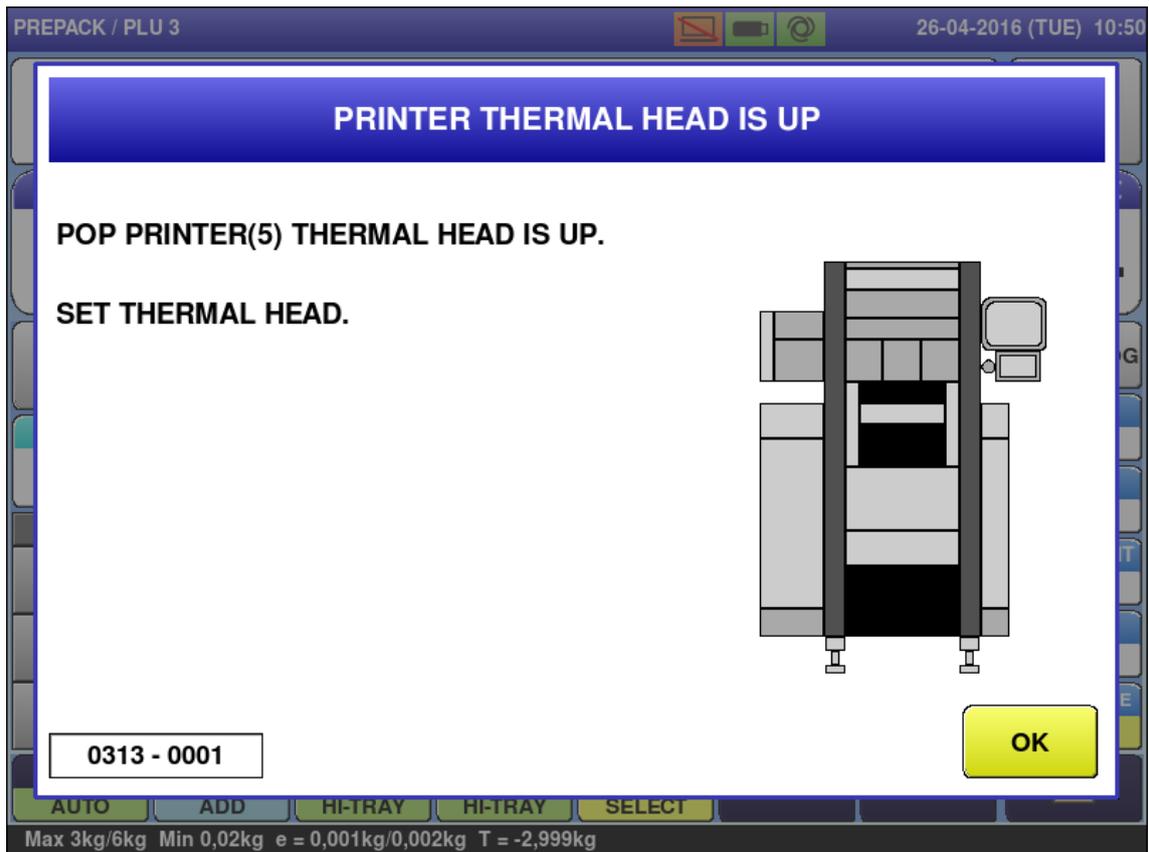


Error content	Label is remaining in POP applicator.
Detail	Separated by sub-error number. 0002: Applicator
Solution	Remove the label in applicator and press [OK] button.
Action by user	Remove the label in applicator.
Action by service representative	Check the operation of applicator sensor.
Related part	Main board. Wrapper board.
Remarks	

■ Printer thermal head is up (0313)

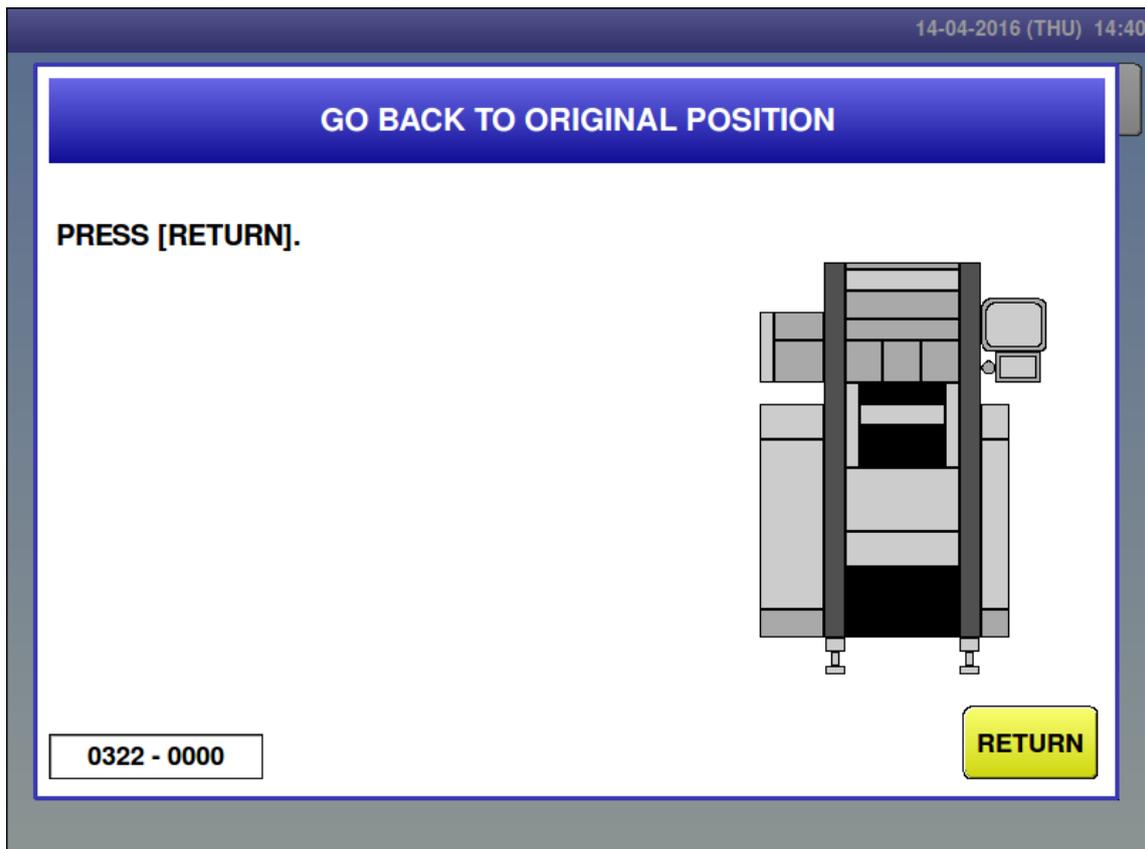


Error content	Printer thermal head is up.
Detail	Separated by sub-error number. 0001: WM-AI
Solution	Set thermal head, Press [OK] button.
Action by user	Set the thermal head.
Action by service representative	Confirm the thermal head sensor.
Related part	Main board, printer board
Remarks	



Error content	Thermal head of POP printer is up.
Detail	Separated by sub-error number. 0001: WM-AI
Solution	Set the thermal head, Press [OK] button.
Action by user	Set the thermal head.
Action by service representative	Check the operation of thermal head sensor.
Related part	Main board. Printer board.
Remarks	

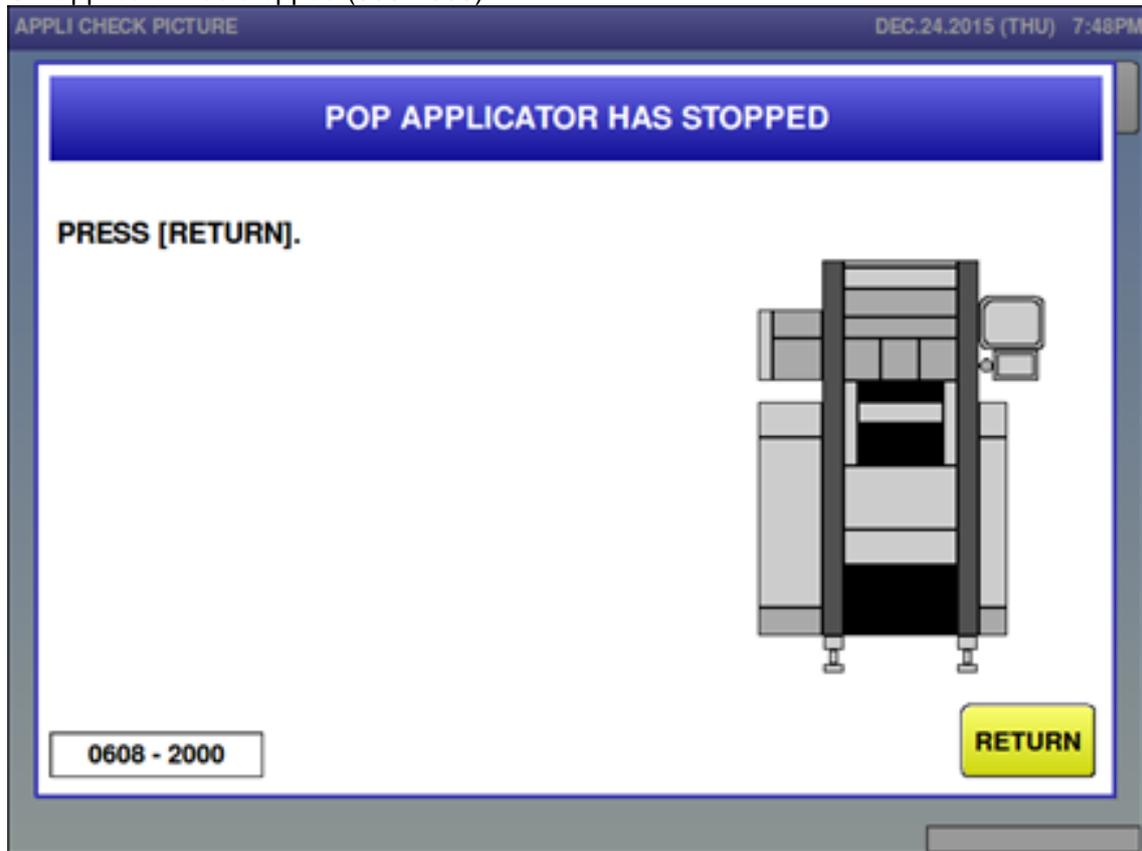
- Go back to original position (0322)



Error content	Displayed the condition of POP printer.
Detail	Label is remaining on POP applicator when indicated upper side of POP printer. Label is not peeling off when indicated lower side of POP printer.
Solution	Press [RETURN] button.
Action by user	Press [RETURN] button.
Action by service representative	Press [RETURN] button.
Related part	
Remarks	

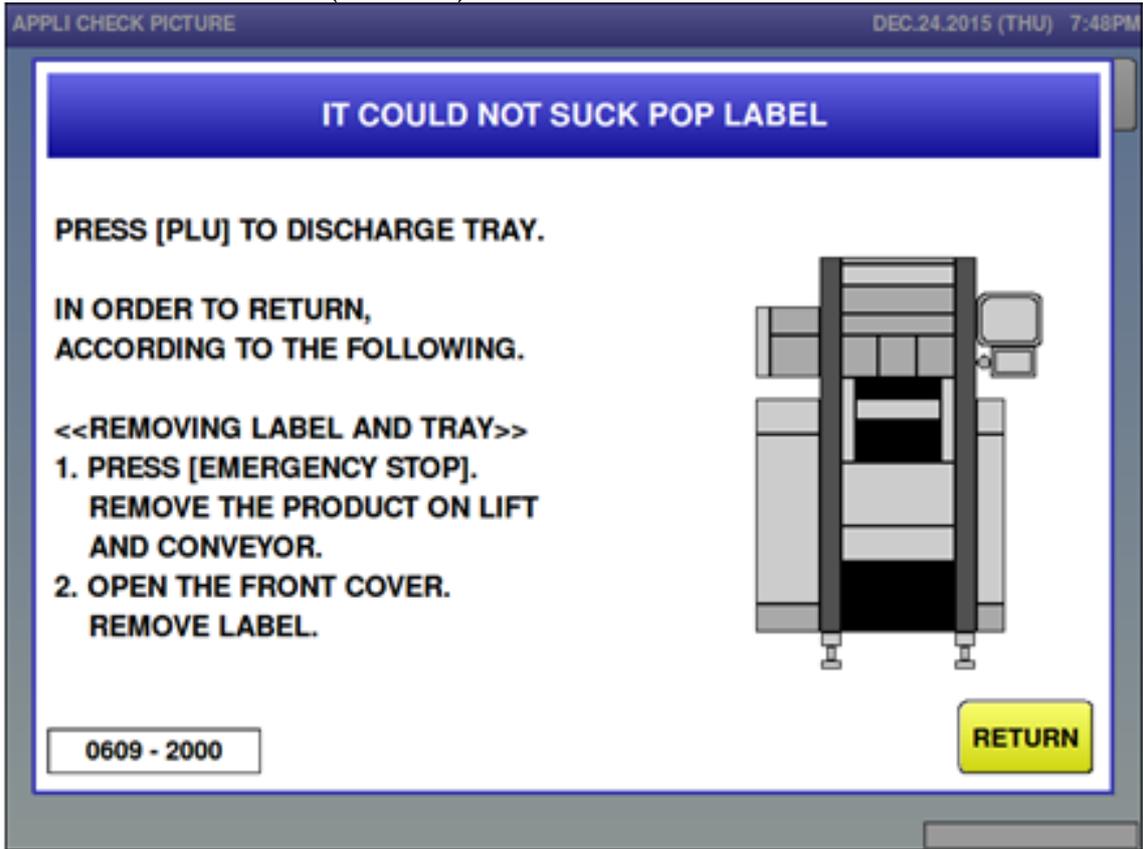
## 5.1.2 Applicator-related Error (No. 600s)

- POP applicator has stopped (608-2000)



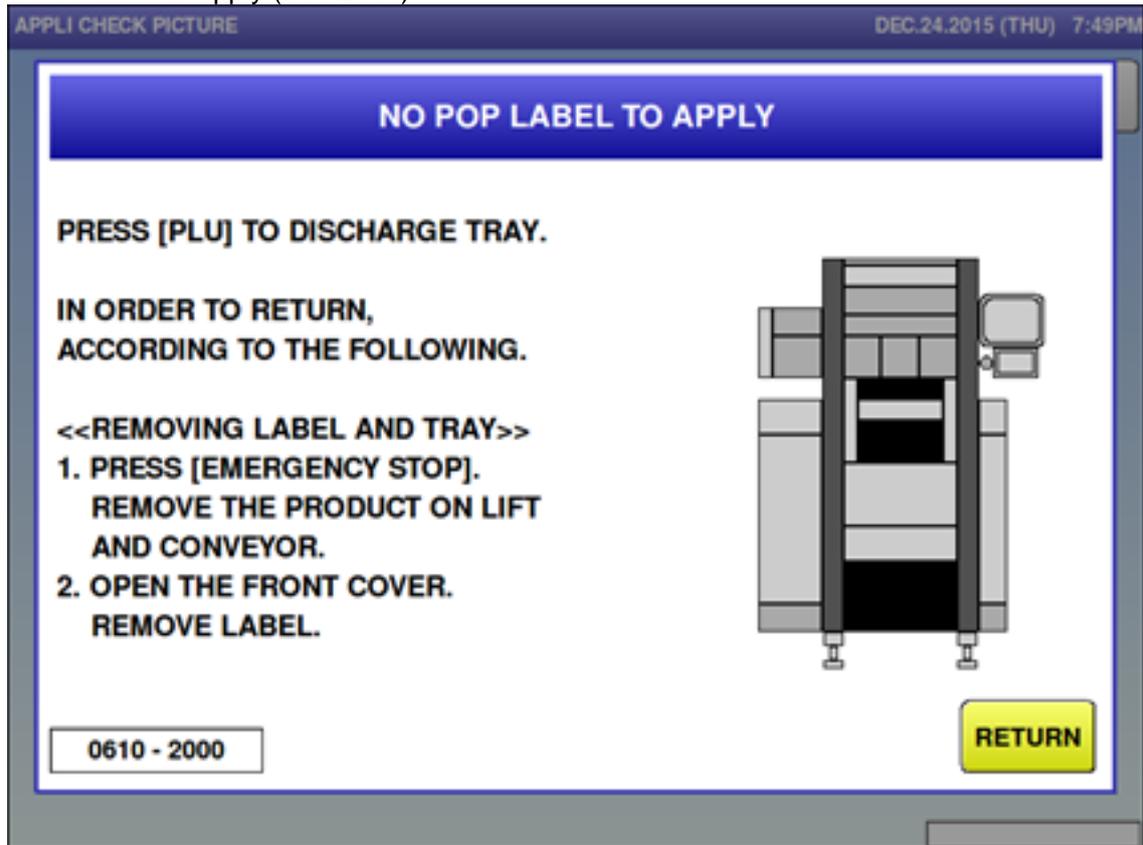
Error content	Applicator has stopped.
Detail	The emergency stop switch was used during POP applicator is operating.
Solution	Press [RETURN] button.
Action by user	Press [RETURN] button.
Action by service representative	
Related part	
Remarks	

- It could not suck POP label (609-2000)



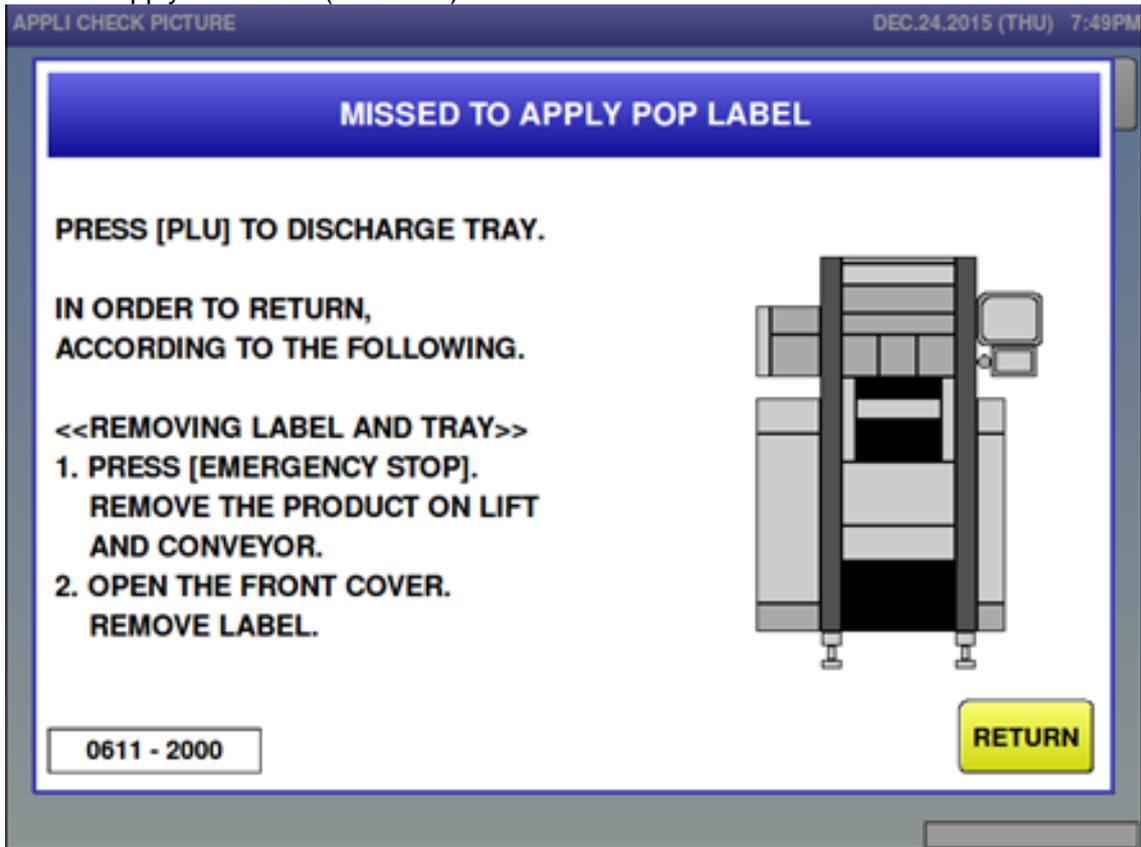
Error content	Applicator failed in label application.
Detail	Sub-error meaning is as follows: 2000: POP applicator failed in labeled absorption.
Solution	Press [RETURN] or [PLU] button then the indication releases automatically.
Action by user	Clean up the label presence sensor.
Action by service representative	Clean up the label presence sensor. Adjust the issue position by printing adjustment. Adjust the suction position on the printer adjustment screen.
Related part	(1) P-1105 [A100] (2) P-1006 [A101] (3) Label presence [B116] (4) Label suction fan [M107]
Remarks	

■ No POP label to apply (610-2000)



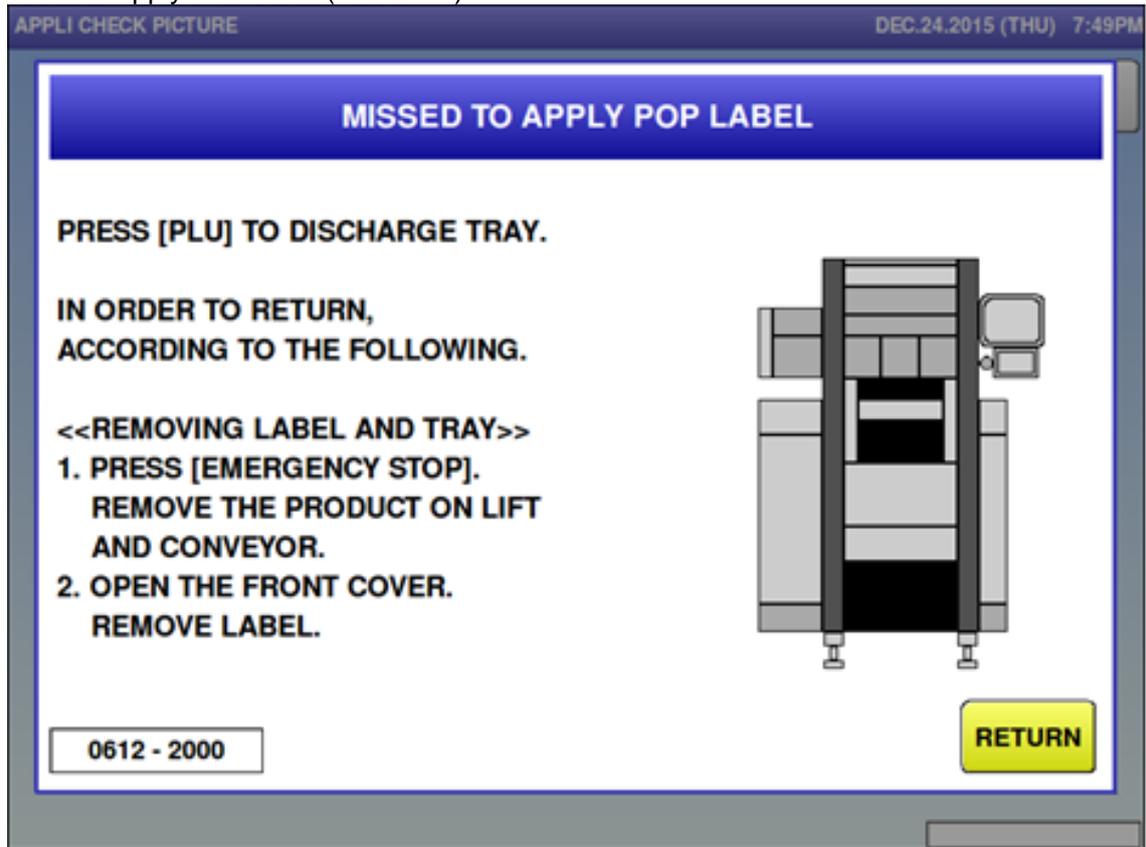
Error content	No label to apply.
Detail	There was no label when application was attempted. Sub-error meaning is as follows: 2000: Standard applicator failed in label absorption.
Solution	Press [RETURN] button.
Action by user	Clean up the label presence sensor.
Action by service representative	Clean up the label presence sensor.
Related part	(1) P-1105 [A100] (2) P-1006 [A101] (3) Label presence [B116] (4) Label suction fan [M107]
Remarks	

■ Missed to apply POP label (611-2000)



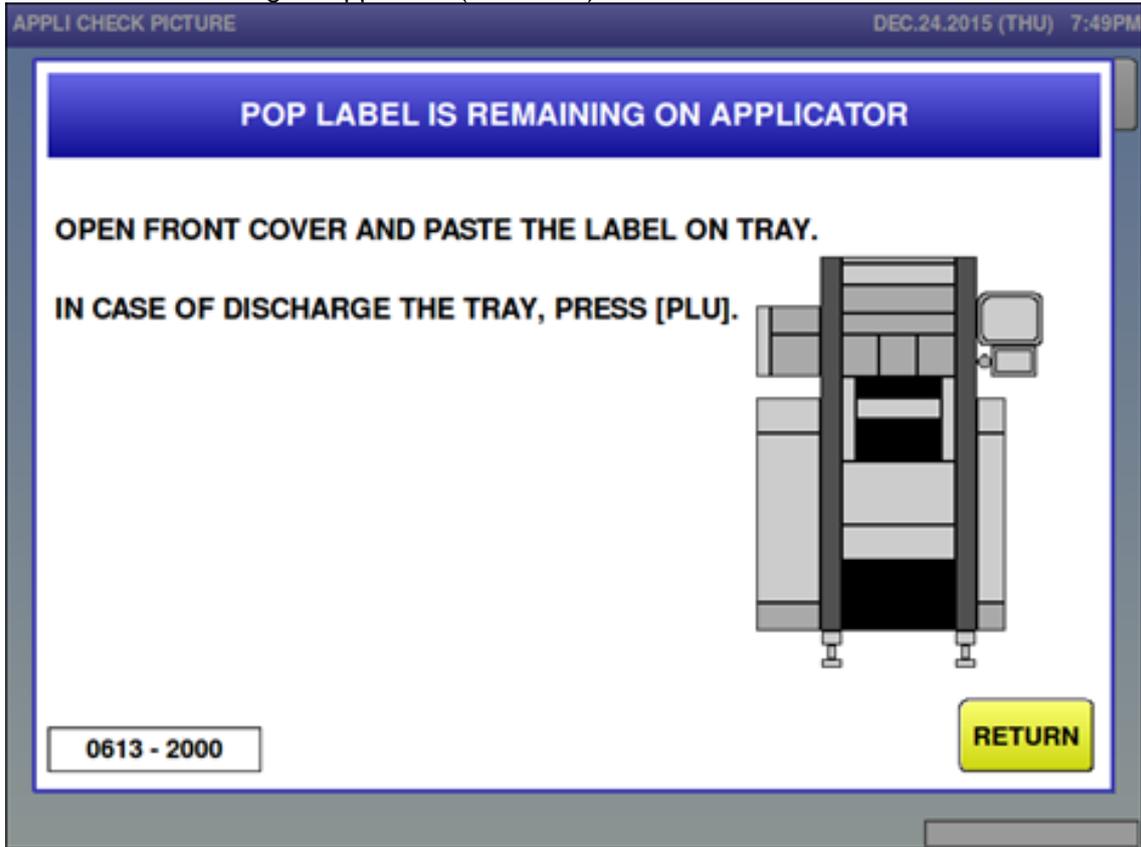
Error content	Failed to apply label on product.
Detail	Sub-error meanings are as follows. 2000: Pasting preparation was not completed when pasting time was run out. 2001: Previous pasting was not completed when pasting timing signal was received. 2002: The tray height message was not received when the pasting timing signal was received.
Solution	Press [RETURN] button.
Action by user	
Action by service representative	
Related part	
Remarks	

■ Missed to apply POP label (612-2000)



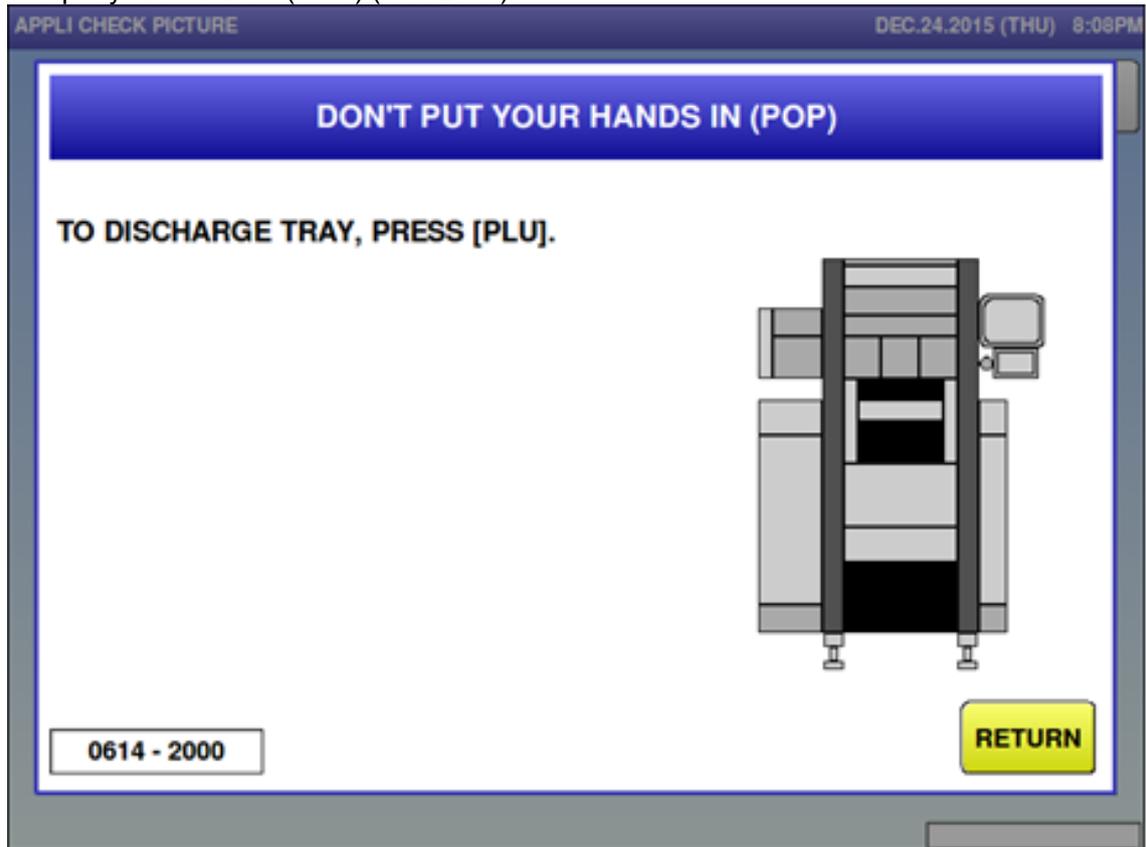
Error content	Failed to apply label on product.
Detail	Pasting timing signal was not received.
Solution	Press [RETURN] button.
Action by user	
Action by service representative	
Related part	
Remarks	

- POP Label is remaining on applicator (613-2000)



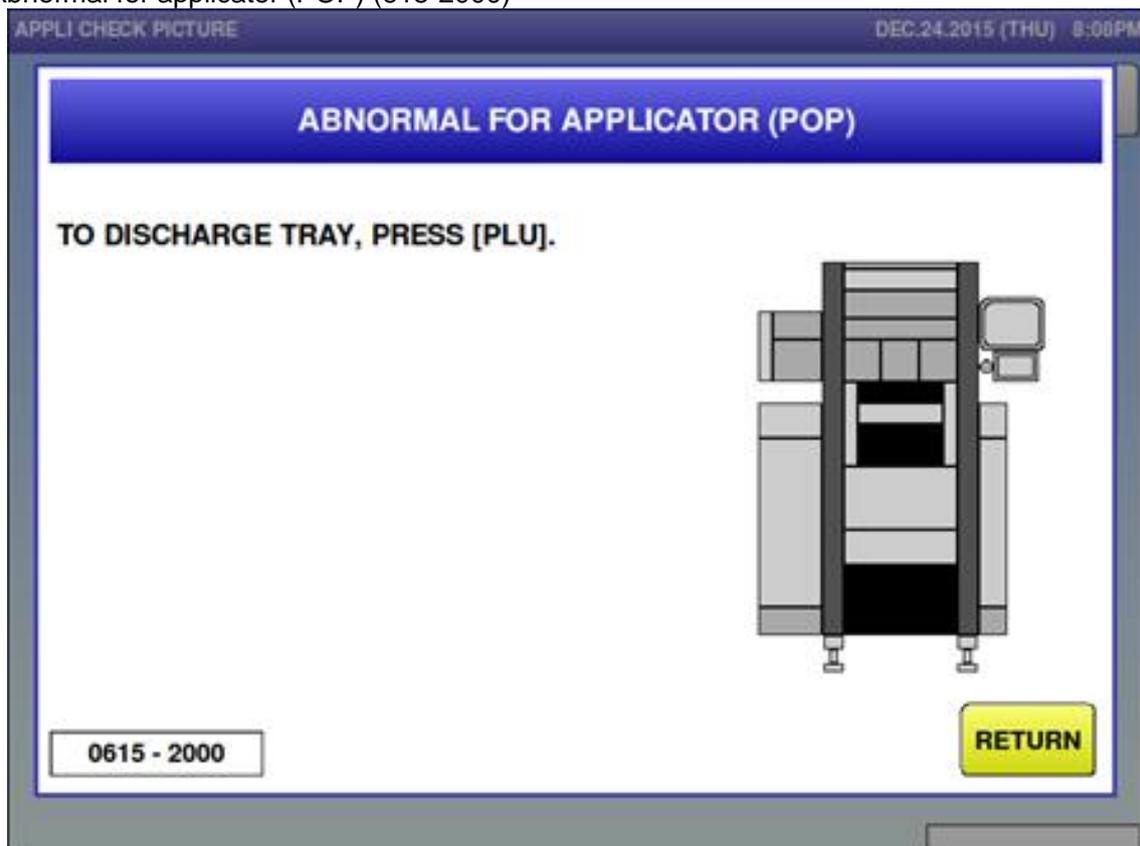
Error content	Label is remaining on applicator.
Detail	A label remains on the applicator after application.
Solution	Press [RETURN] button after removing the label.
Action by user	Check if the tray height setting matches the actual height.
Action by service representative	Check the value of pasting height adjustment if the pasting control setting of the applicator in adjustment mode is tray height.
Related part	
Remarks	

- Don't put your hands in (POP) (614-2000)



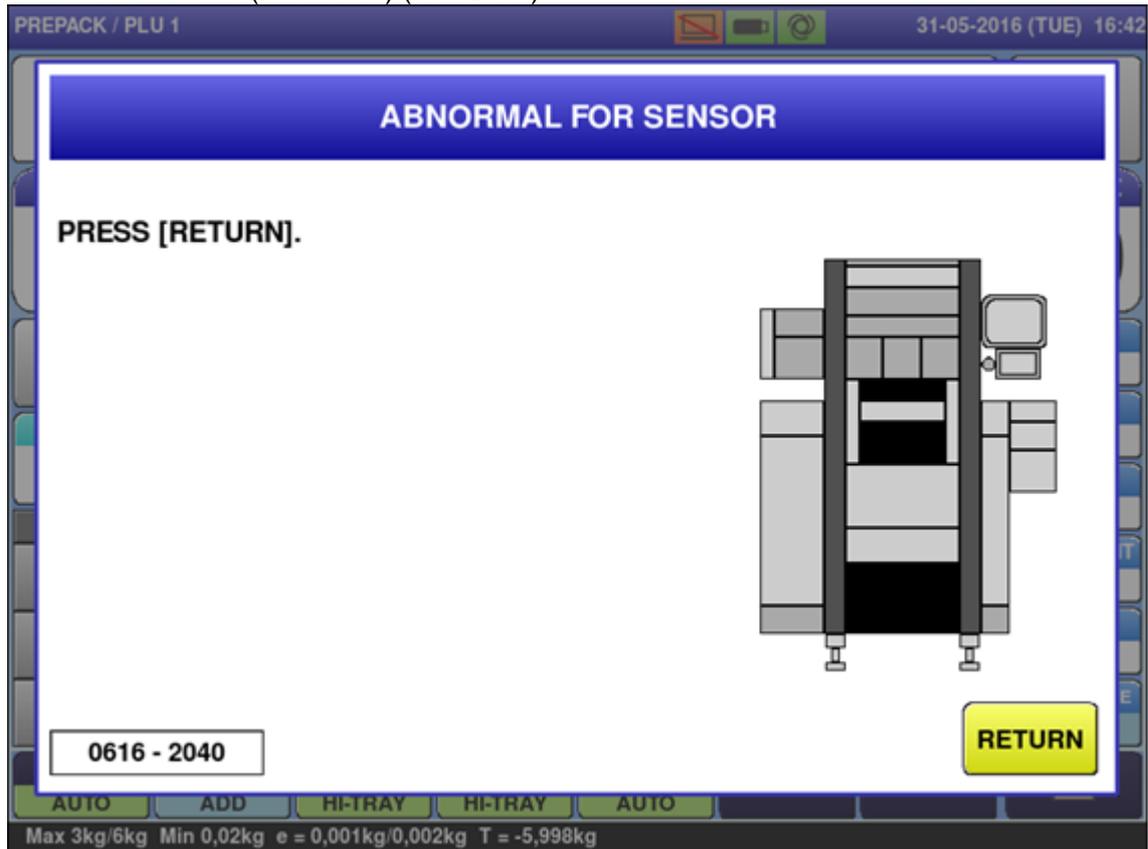
Error content	A hand was put inside the front cover.
Detail	The applicator safety sensor did not receive light during POP applicator is operating.
Solution	Press [RETURN] button.
Action by user	
Action by service representative	
Related part	Hand insertion in the front cover (light receiving/ emitting) [B107]
Remarks	

■ Abnormal for applicator (POP) (615-2000)



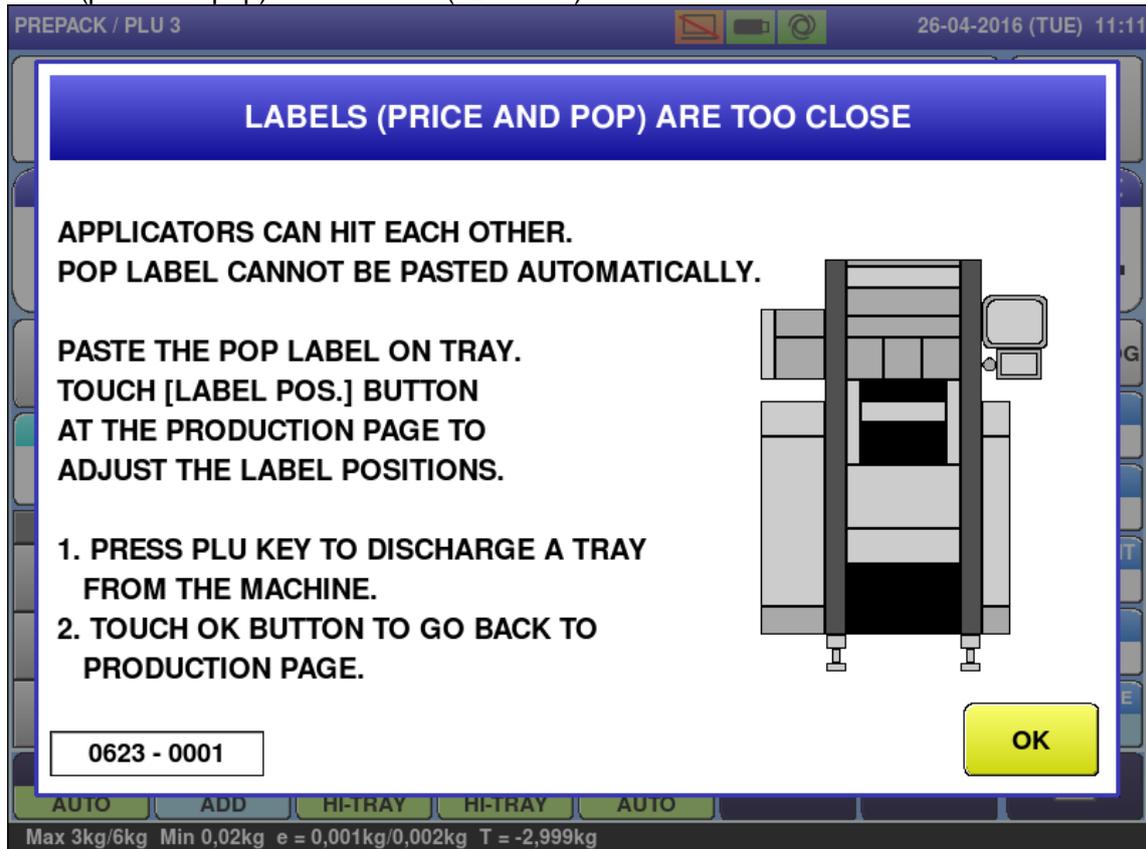
Error content	Error occurred during application operation.
Detail	Operation was not completed within the set time during motor operation. Sub-error meanings are as follows: 200*: X axis (* = 0: moving left, 1: moving right) 202*: Z axis (* = 0: moving up, 1: moving down) 203*: $\theta$ axis (* = 0: rotating to right, 1: rotating to left)
Solution	Press [RETURN] button.
Action by user	Check if the applicator can be moved smoothly with hands while the emergency stop switch is being pressed.
Action by service representative	Check the grease condition.
Related part	<p>&lt;X axis&gt;</p> <p>(1) P-1105 [A100]  (2) P-1006 [A102]  (3) X axis motor [M103]  (4) X axis origin point [B108]</p> <p>&lt;Z axis&gt;</p> <p>(1) P-1105 [A100]  (2) P-1006 [A101], [102]  (3) Z axis motor [M105]  (4) Z axis origin point [B112]</p> <p>&lt;<math>\theta</math> axis&gt;</p> <p>(1) P-1105 [A100]  (2) P-1006 [A101]  (3) <math>\theta</math>-axis motor [M106]  (4) Below <math>\theta</math>-axis detection board [B113]  (5) Above <math>\theta</math>-axis detection board [B114]</p>
Remarks	

■ Abnormal for sensor (POP label) (616-2040)



Error content	Abnormal for applicator sensor.
Detail	A sensor that does not have light blocked is blocked from light. Sub-error meaning is as follows: 2040: X axis
Solution	Press [RETURN] button.
Action by user	
Action by service representative	
Related part	(1) X-axis origin point of POP printer [B407] (2) Suction position of POP printer [B406]
Remarks	

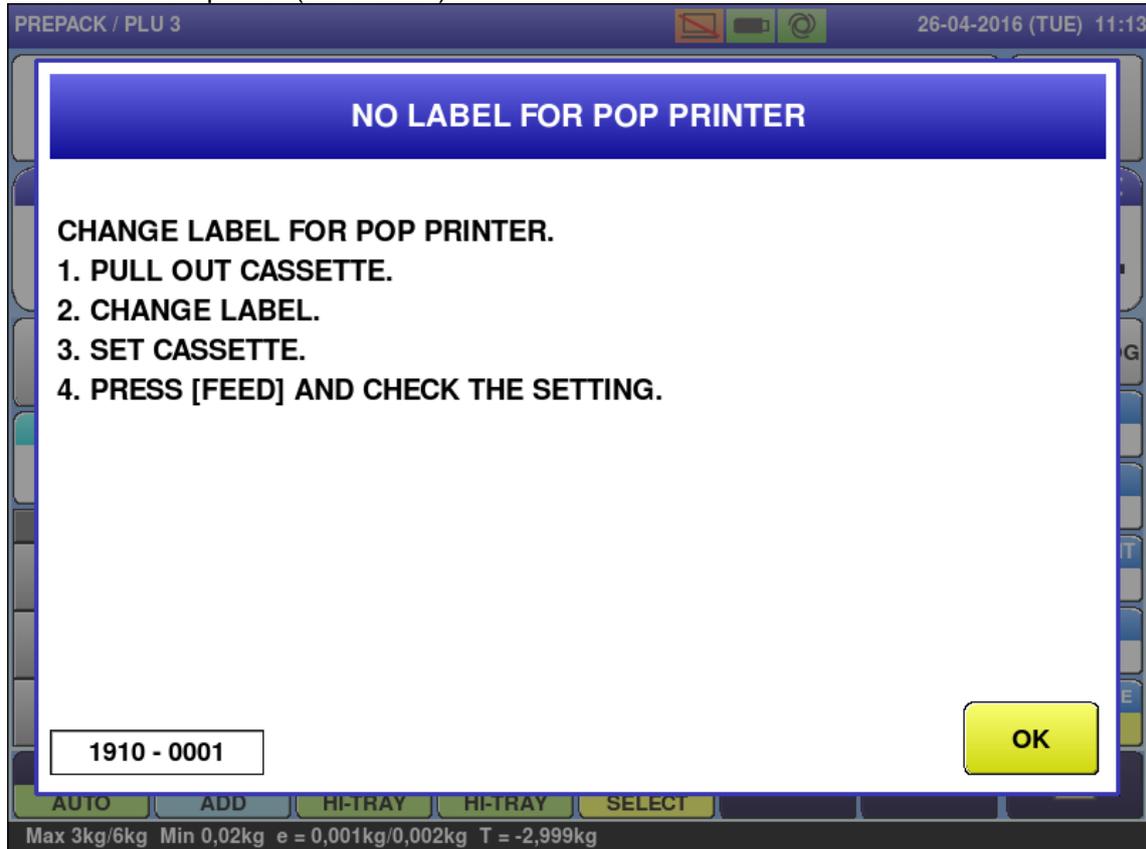
- Labels (price and pop) are too close (623-0001)



Error content	Label placement is too close.
Detail	Since label placement of the no.1 printer and the POP applicator is too close, reset the POP applicator in DP mode.
Solution	Press [OK] button.
Action by user	Press the label position button to make the position of label to be pasted by standard applicator and POP applicator apart.
Action by service representative	
Related part	
Remarks	

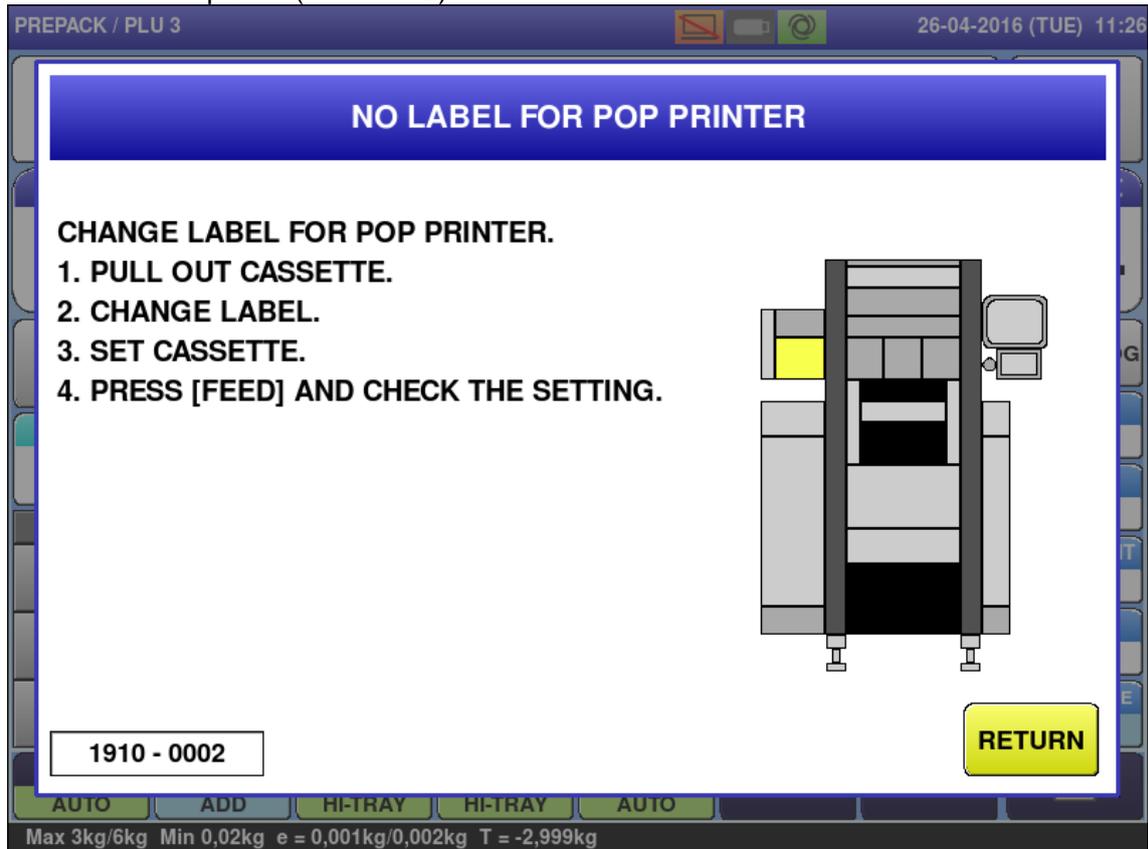
### 5.1.3 Printer-related Error (No. 700s to 800s, 1900s)

- No label for POP printer (1910-0001)



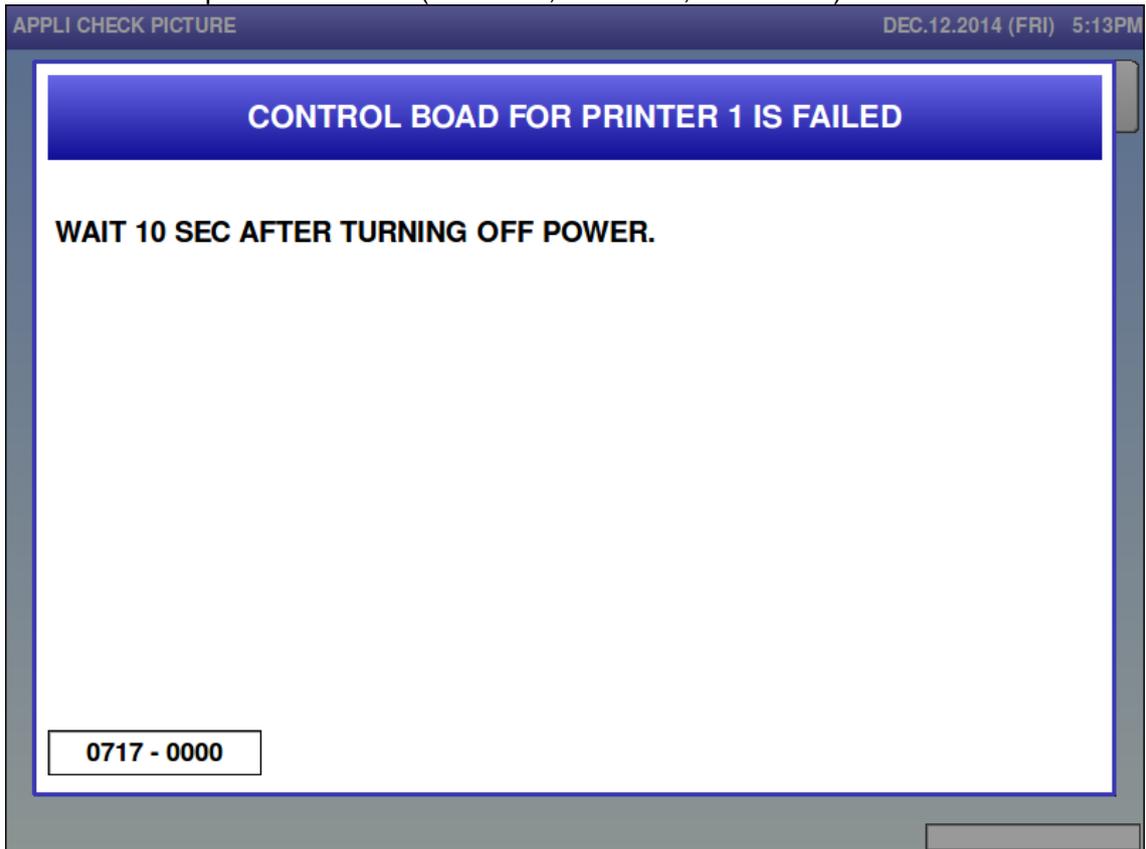
Error content	Printer label finished.
Detail	Message indicates that labeling issue is completed in DP mode.
Solution	Press [OK] button after replacing the label, then performing unloaded feed.
Action by user	
Action by service representative	
Related part	
Remarks	Only for POP printer.

■ No label for POP printer (1910-0002)



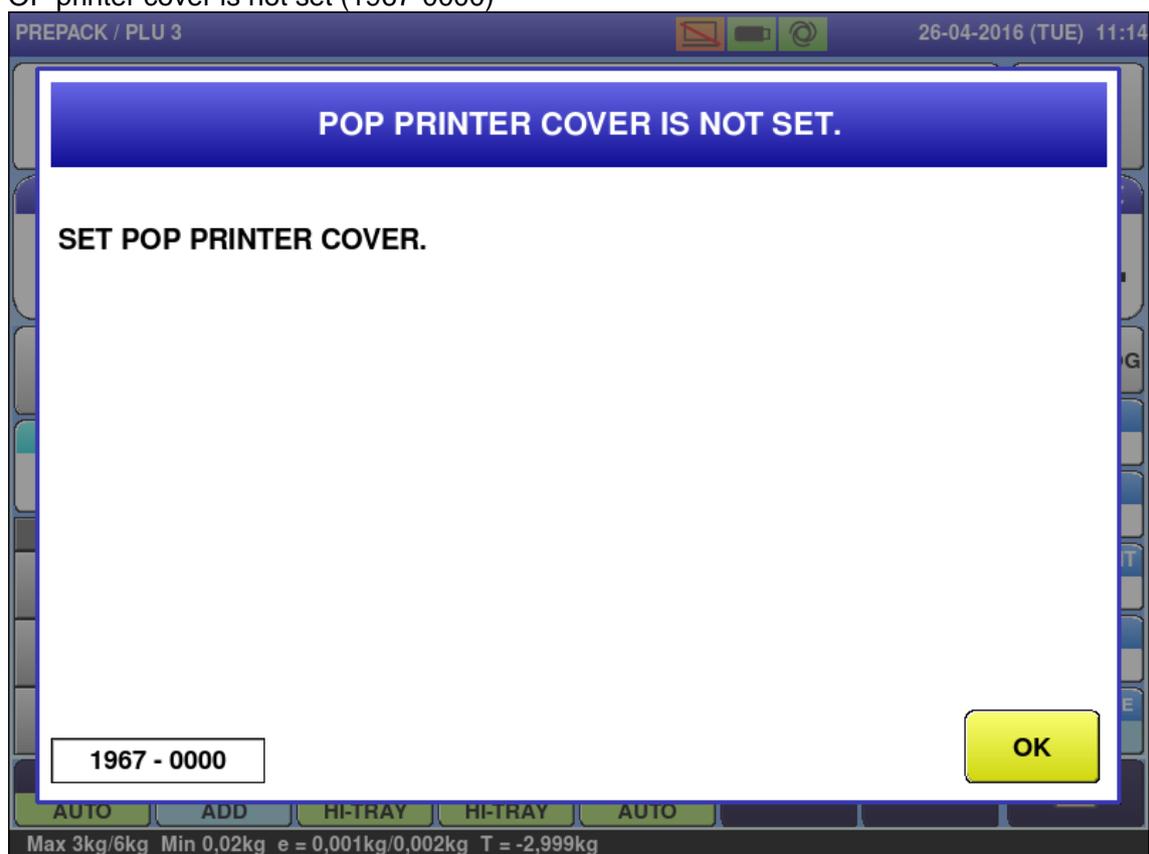
Error content	Printer label is run out.
Detail	In the state that the front cover is closed and the POP unit set, displays when the labels have run out at the time of the label issuing.
Solution	Pull the POP unit out and perform unloaded feed after replacing the label, set the POP unit, then press the Press [RETURN] or [PLU] button.
Action by user	
Action by service representative	
Related part	
Remarks	Only for POP printer.

- Control board for printer 1 is failed (717-0000, 817-0000, 1917-0000)



Error content	Printer control board error.
Detail	Unable to detect an interrupt signal from the printer control board.
Solution	Restore power.
Action by user	
Action by service representative	
Related part	Printer 1: P-1163 Printer 2: P-1001 POP: P-1131
Remarks	"Printer No.1" changes depending on error number.

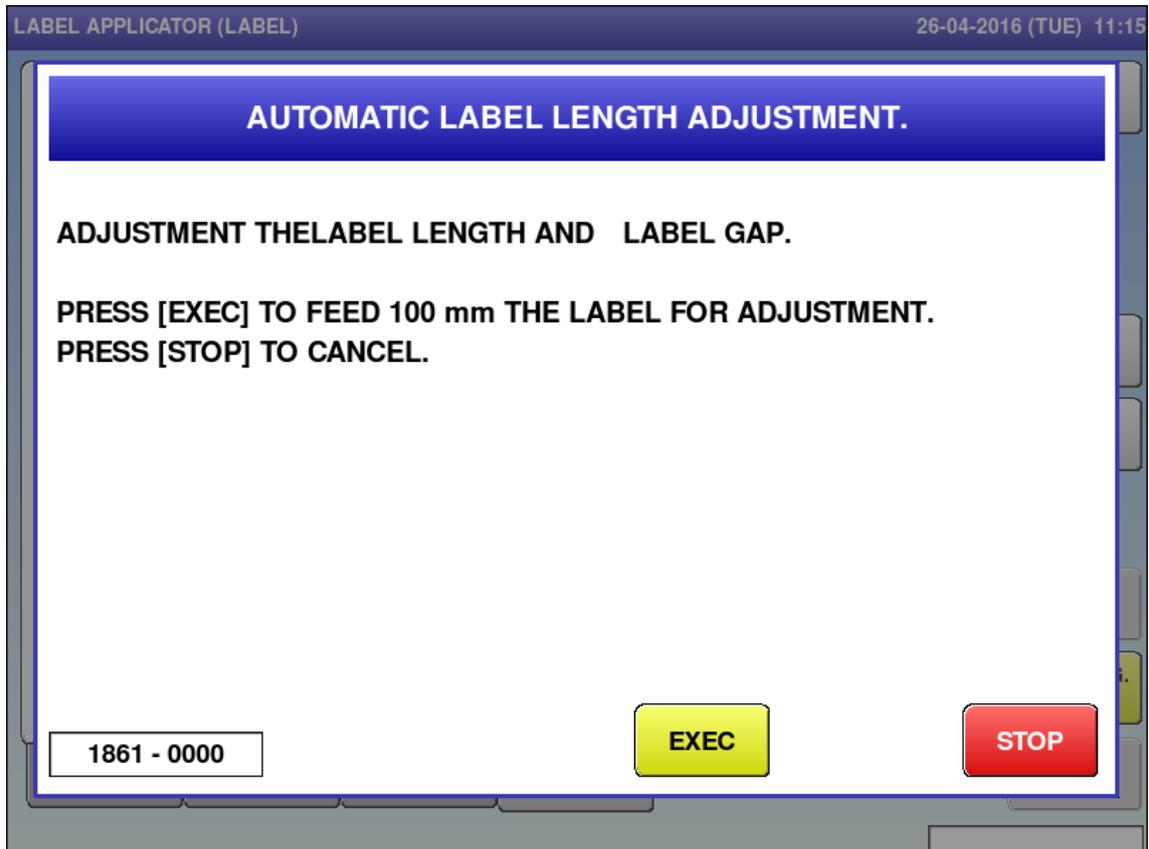
■ POP printer cover is not set (1967-0000)



Error content	POP label cover is opening.
Detail	Occurs when the cover open starting operation.
Solution	Press [OK] button.
Action by user	Close the label cover and press [OK] button.
Action by service representative	Close the label cover and press [OK] button. Conform the label cover sensor.
Related part	Label cover sensor
Remarks	Only for POP printer.

## 5.1.4 Dialog Selection-related Error (No. 1800s)

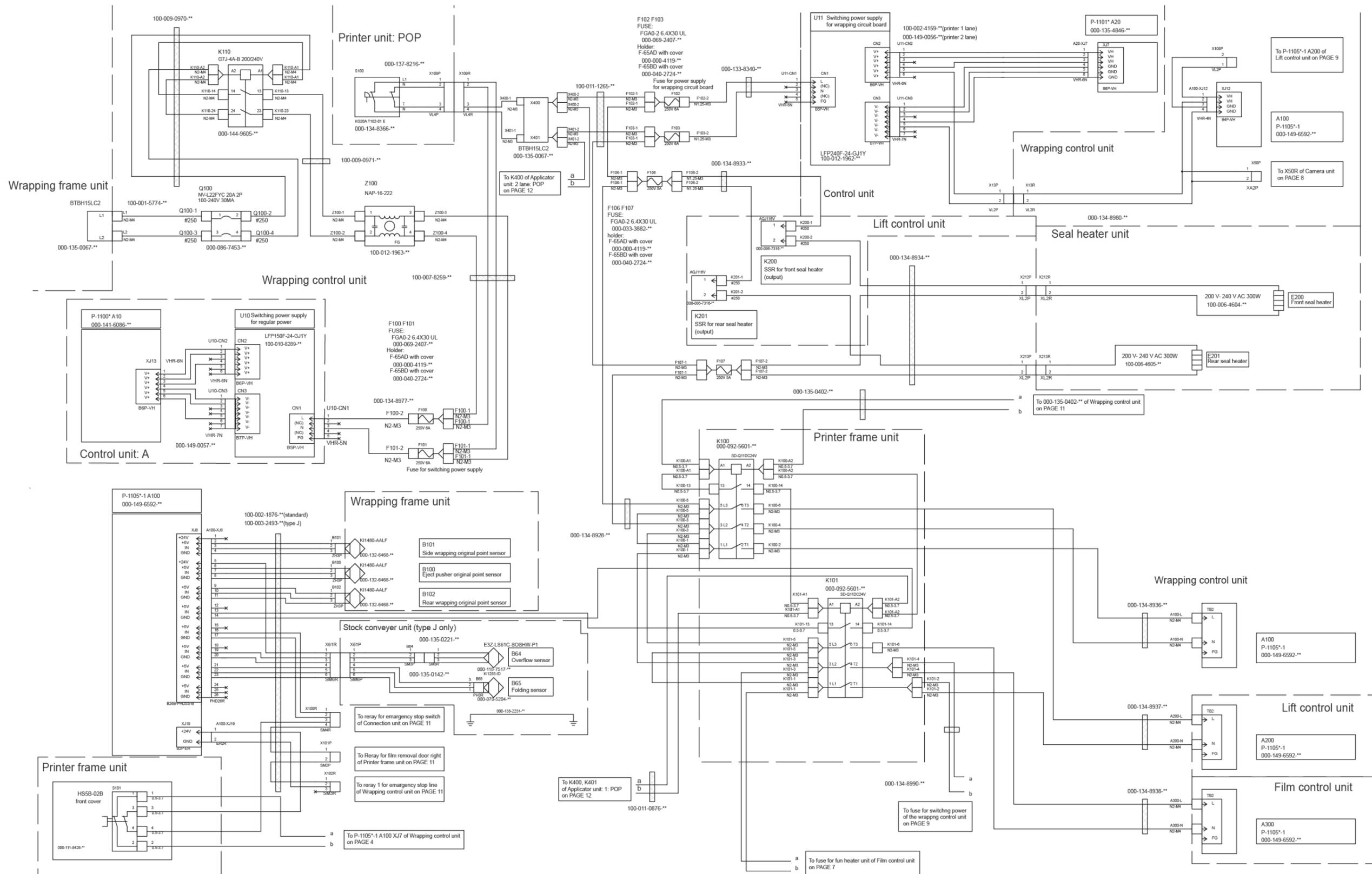
- Automatic label length adjustment (1861-1000)



Error content	Displayed pressing [AUTO LNG. ADJUST] button on LABEL APPLICATOR (LABEL) screen.
Detail	Confirm to execute the automatic label length adjustment.
Solution	Press [EXEC] or [STOP] button. [EXEC]: Head check is performed to the next product. [STOP]: Head check is not performed to the next product.
Action by user	Press [EXEC] or [STOP] button.
Action by service representative	
Related part	
Remarks	Only for POP printer.

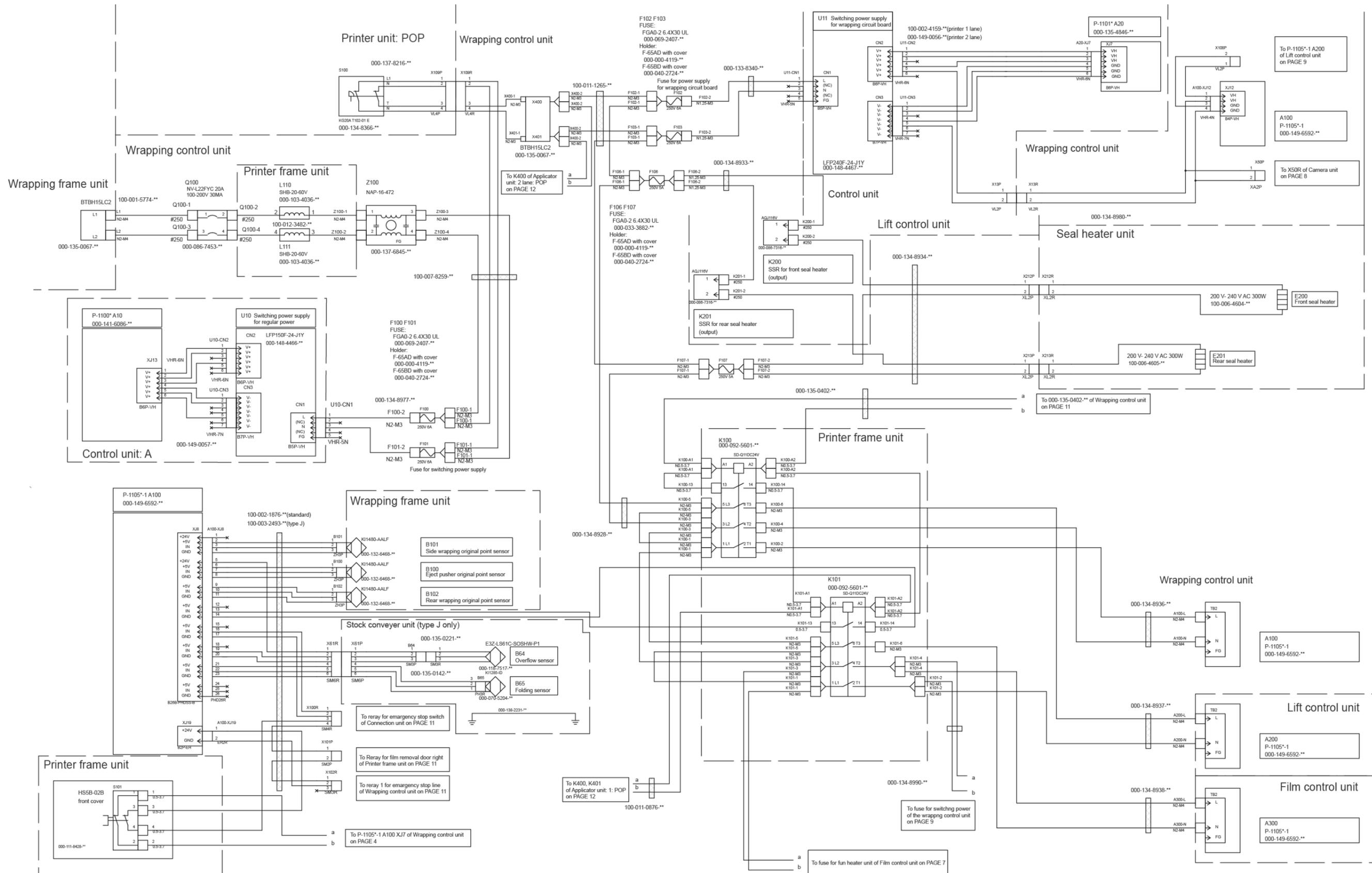
# Chapter 6 Wiring Diagrams

## 6.1 PAGE 1 ETL

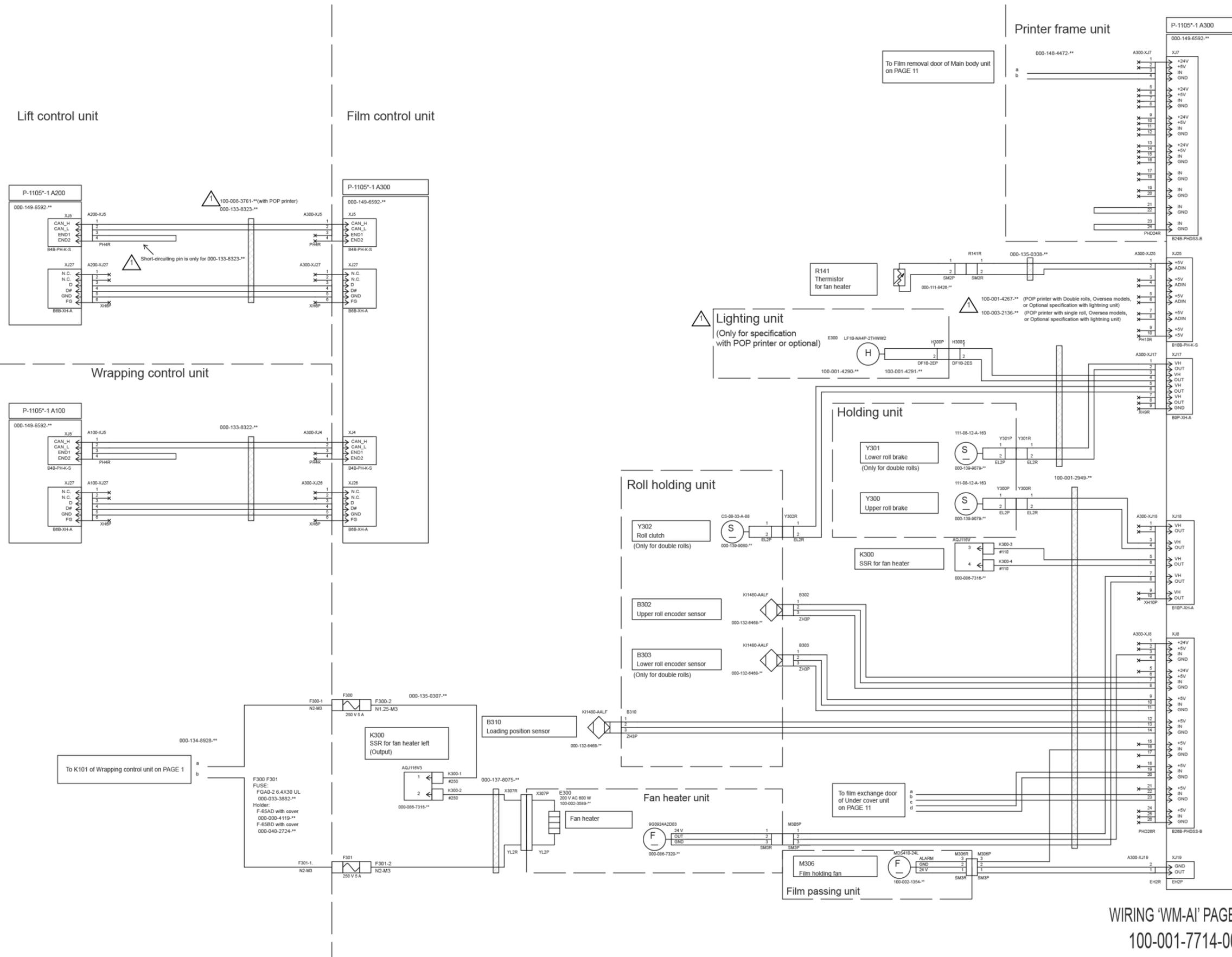


WIRING 'WM-AI' PAGE 1 ETL  
100-012-4433-00

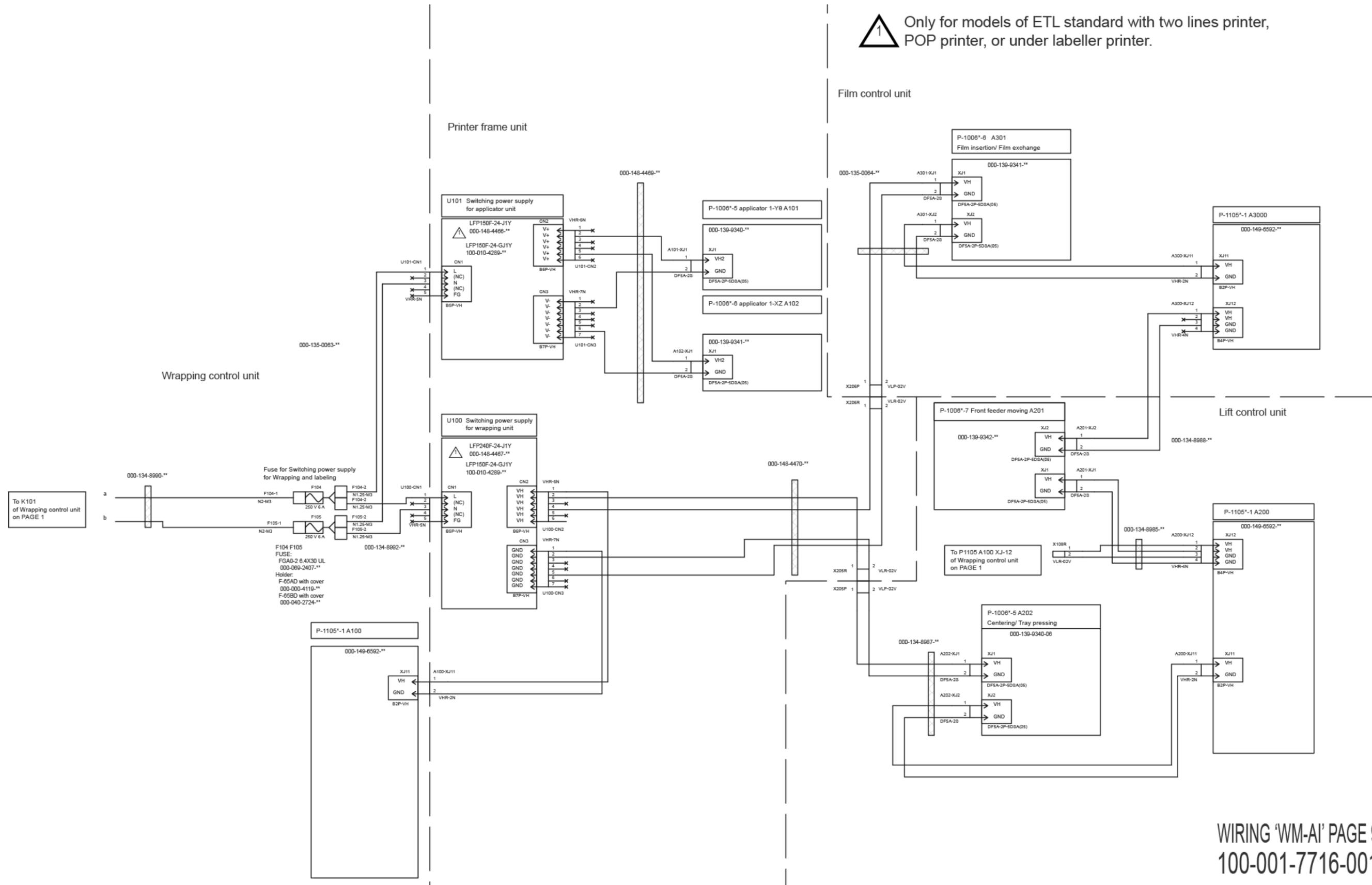
6.2 PAGE 1 CE



6.3 PAGE 7



WIRING 'WM-AI' PAGE 7  
100-001-7714-001



⚠ Only for models of ETL standard with two lines printer, POP printer, or under labeller printer.









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