SERVICE NOTES

TrueVIS

VG3-640/VG3-540

Confidential

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Roland DG Corporation

70661-05

Table of Contents

Revision History

Revision	Date	Description	Approver	Author
0	February 28, 2022	First edition	Nimura	Saito
1	March 10, 2022	[Installation Checklist] [Maintenance Checklist] added.	Nimura	Saito
2	April 28, 2022	[Key Combinations] Support mode added. [Service Mode] Name of sensor corrected. (corrected from multicolor sensor to multi sensor) [Support Menu] added. [Wiring Map] VG3-640/VG3-540 wiring map revised. [Supplement on Service Call] "Supplement on Service Call 0002" added. [Installation Checklist] M-GAP DEFAULT, HORIZONTAL adjustment (Support mode) added.	Nimura	Saito
3	July 14, 2022	[Operational Sequence] added. [Wiring Map] Error in writing corrected. (EXT MTR9CH BOARD changed to EXT MTR9CH /8H BOARD)	Nimura	Saito
4	October 21, 2022	[Key Combinations] Links to Service Mode and Support Menu have been added. [Support Menu] Special mode number has been added. [Installation Checklist] Software Installation revised.	Nimura	Saito
5	June 9, 2023	[Special Number Input Display] Error in writing in procedure corrected. [Installation Checklist] Roland DG Connect Hub > User registration Caution about Company ID deleted.	Nimura	Saito
6				
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Support Application

Roland DG Service Assist

This Service Note does not contain replacement of parts or adjustment procedure. Please download and install Roland DG Service Assist, and refer to the application for the procedure.

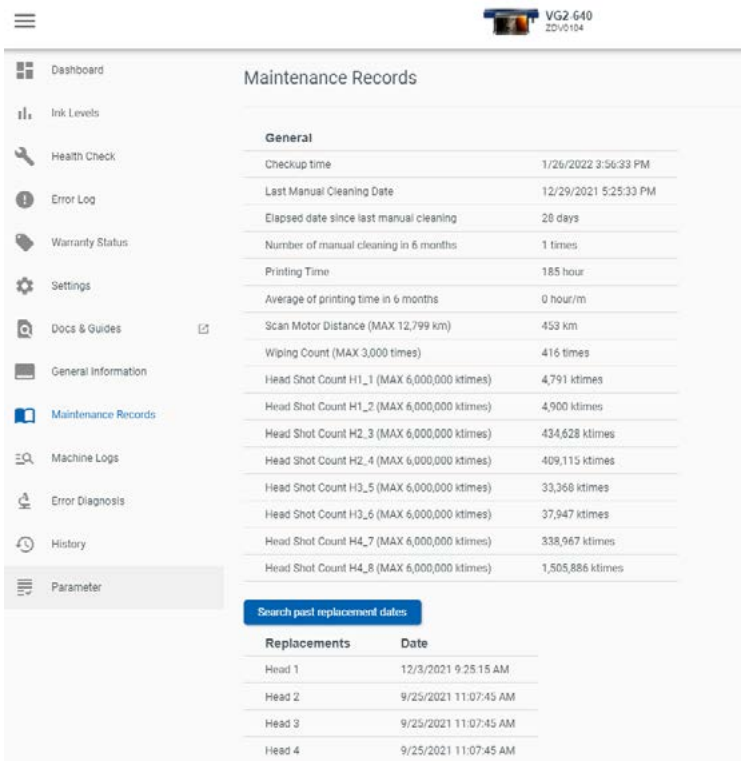
Details:
https://365rolanddg.sharepoint.com/sites/extranet/Hardware%20Information/RDGSA_PG_en.pdf

Download:
https://365rolanddg.sharepoint.com/sites/extranet/Service%20Notes/RolandDG_ServiceAssist.zip

Ronald DG Connect

If a user's machine is connected to Roland DG Connect, you can view information of user's machine such as maintenance status remotely from Roland DG Connect's Partner Site remotely.

https://academyonline.rolanddg.com/learn/course/2592/roland-dg-connect-version-12-50-point



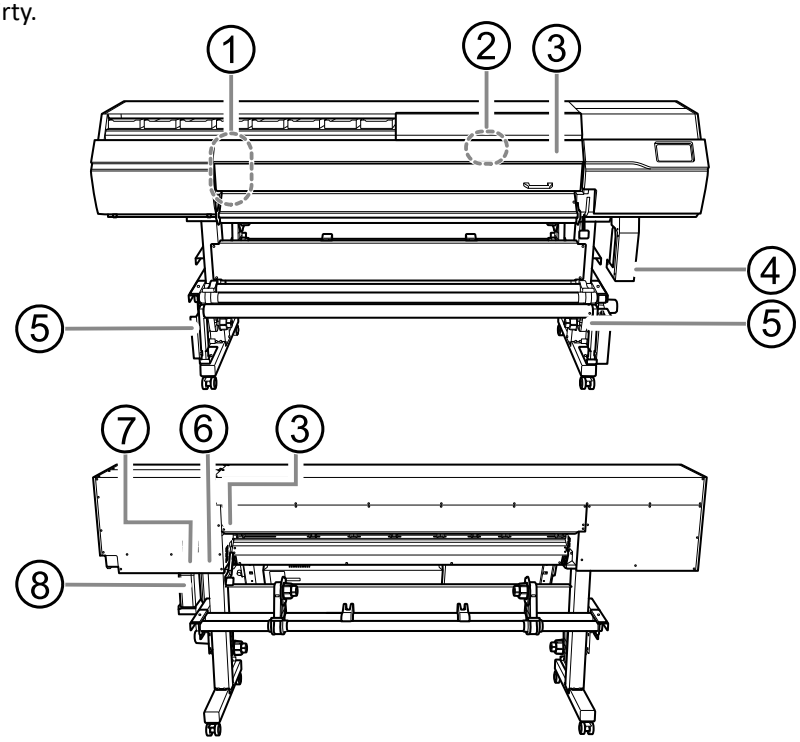
Service parts

For information on service parts required for the replacement of parts or adjustment, refer to Parts Finder Web.

https://365rolanddg.sharepoint.com/sites/extranet/Work-SitePages/GSV-PartsFinder.aspx

⚠Warning Labels

A.warning.label.is.affixed.to.the.machine.to.make.areas.of.danger.immediately.clear..The.meaning.of. this.label.is.indicated.below..Be.sure.to.heed.this.warning..Also,.never.remove.the.label.or.allow.it.to. become.dirty.

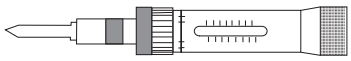


①		**Caution: High Temperature** The platen and dryer become hot. Exercise caution to avoid burns.
②		**Caution: Pinching Hazard** Be careful not to allow the fingers to become pinched when closing covers.
③		**Caution: Moving Print Heads** Never insert your hands or fingers into the gap. The print heads move at high speed and pose a hazard.
④		**Ink, cleaning liquid, and discharged fluid are toxic.** If these fluids come into contact with the eyes or skin, it may be hazardous to the health. When performing maintenance work, for example when disposing of discharged fluid, wear protective eyewear and protective gloves (refer to the safety data sheet [SDS]).

⑤		**Caution: Pinching Hazard** Be careful to prevent fingers from being pinched when handling the dancer roller.
⑥		**Caution: Heavy Object** To prevent injury, handle the roll media with two or more people.
⑦		**Caution: High Voltage** Removing the cover may result in high-voltage electric shock.
⑧		**Flammable** Ink and discharged fluid are flammable. Keep away from open flame.

Special Tools

Part No.	ST-056
Part Name	TORQUE DRIVER N6
Purpose	Print head replacement Print head alignment

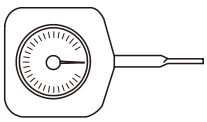


Part No.	1000015274
Part Name	TOOL, BIT PHILLIPS NO.1 L200MM
Purpose	Print head replacement Print head alignment

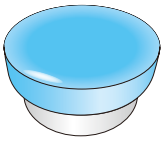
Part No.	ST-001
Part Name	TENSION GAUGE 2000GF/2000CN
Purpose	Belt tension adjustment

Part No.	ST-002
Part Name	TENSION GAUGE 300GF/300CN
Purpose	Tool pressure adjustment

Part No.	ST-012
Part Name	DIAL TENSION METER DTB-50
Purpose	Tool pressure adjustment



Part No.	6000004129
Part Name	GREASE,FLOIL G-902 10ML_02
Purpose	Grease

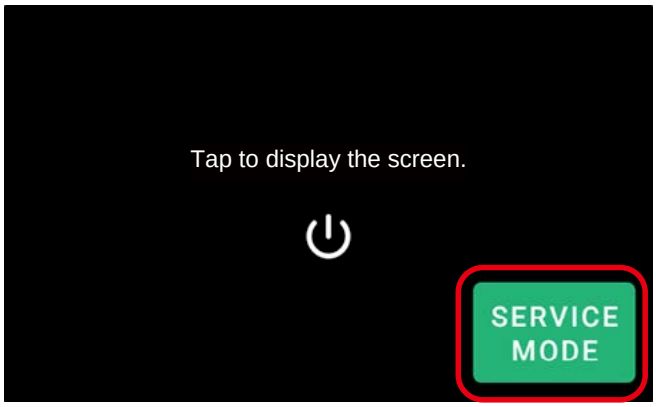


Service Mode Display

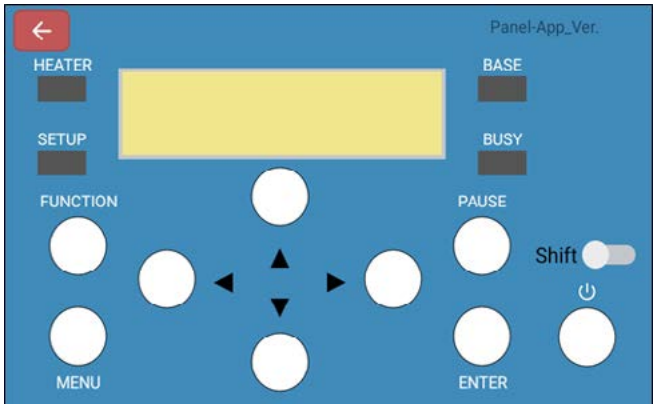
NOTE

By panel key operation, you can enter special mode from Service Mode Display.

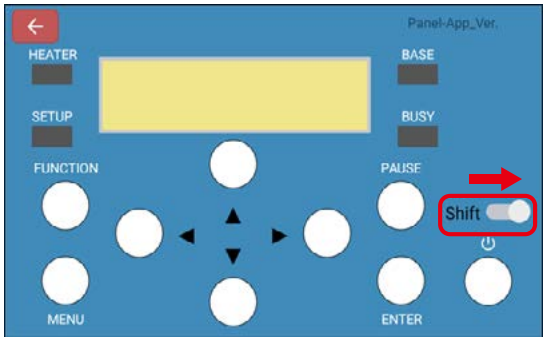
1. After you are authenticated by Peck2, [SERIVCE MODE] button is displayed.

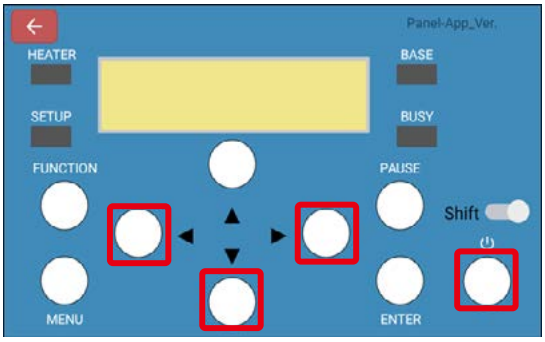


2. Press the [SERVICE MODE] button. Service mode display appears.



3. Turn on [Shift] and press the [◀] [▼] [▶] keys. Then press the [Power] key to enter the service mode. You can now enter the service menu.





Press the keys separately.

Note

- By pressing each key, you can select or execute a menu.
- Some of the special mode are performed in this display.
- Turning on [Shift] enables to hold keys. Instead of pressing several keys at the same time, turn on [Shift] and press each key separately.
- Press the arrow button in red rectangle at the upper left corner to return to the user operation mode.

CAUTION

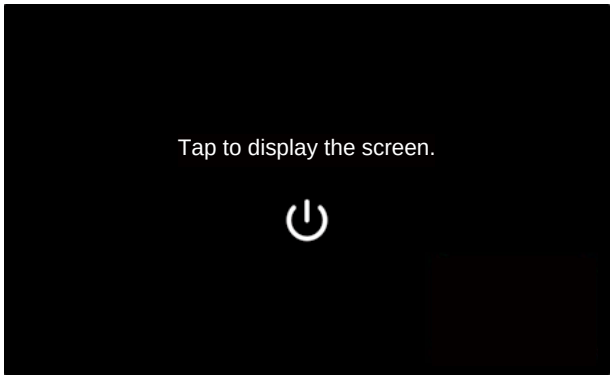
When you exit the service mode display, make sure that the sub power switch is off.

Special Number Input Display ⚠5

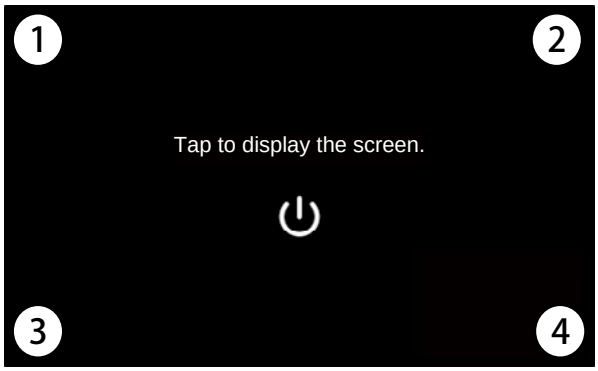
NOTE

By inputting special numbers, you can execute specific menus without entering the service mode in Special Number input Display.

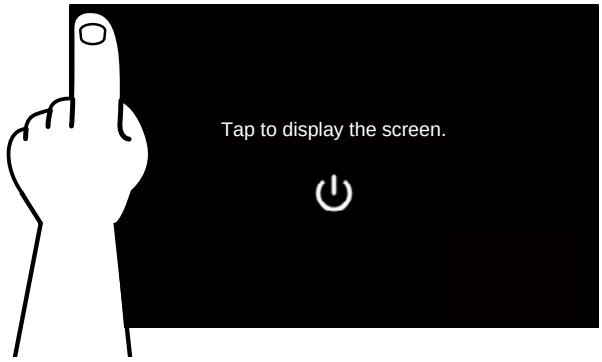
1. **When you turn on the power, the following screen appears.**



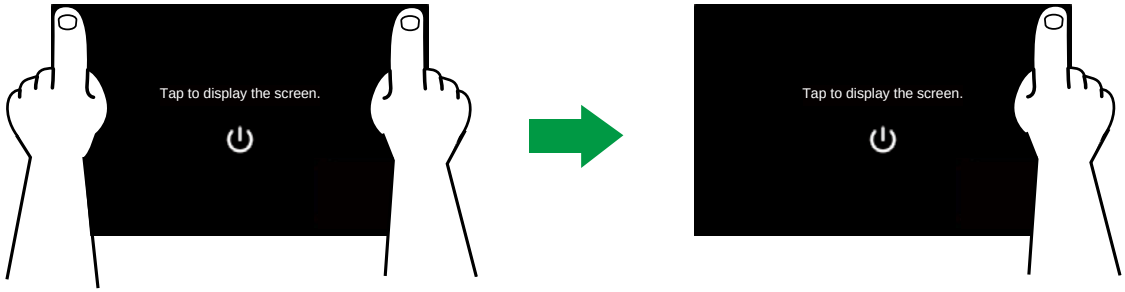
2. **Hold the four corners (1 through 4 in the figure) with your finger quickly in the following procedure.**



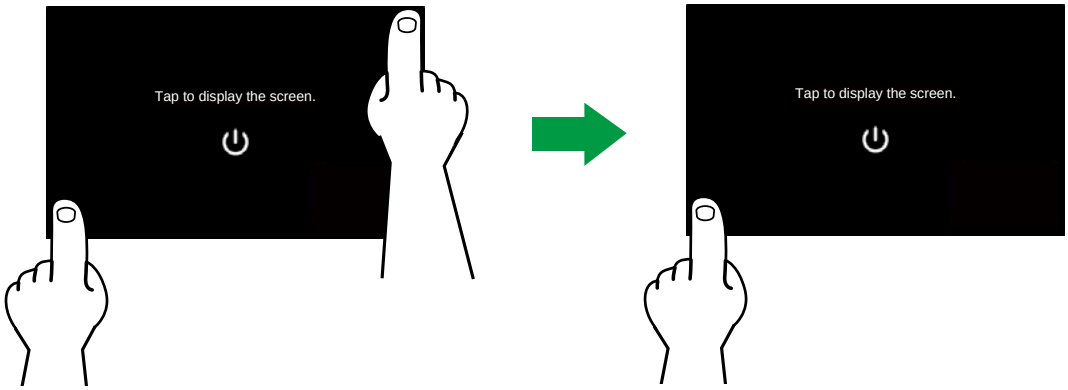
2-1. Press the left upper corner (1).



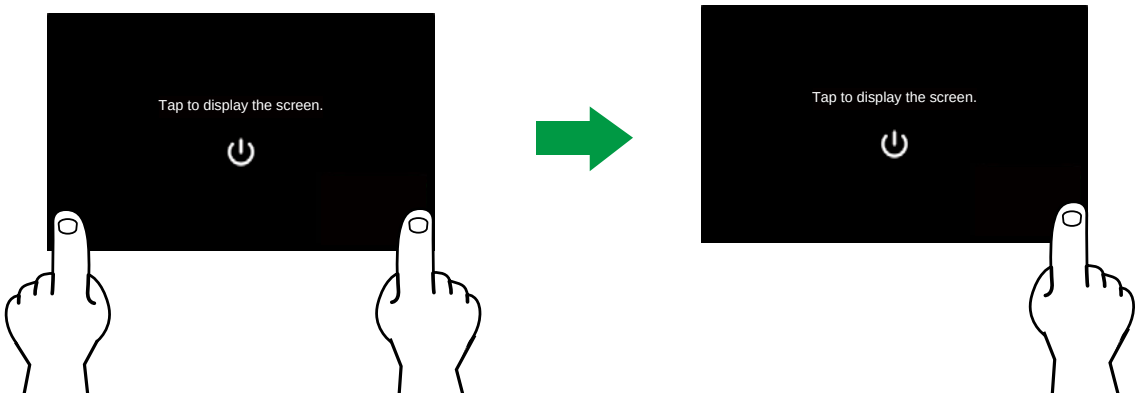
2-2. Press the upper right corner (2) while holding your finger on the upper left corner (1). Then remove your finger from the upper left corner (1) while holding your finger on the right upper corner (2).



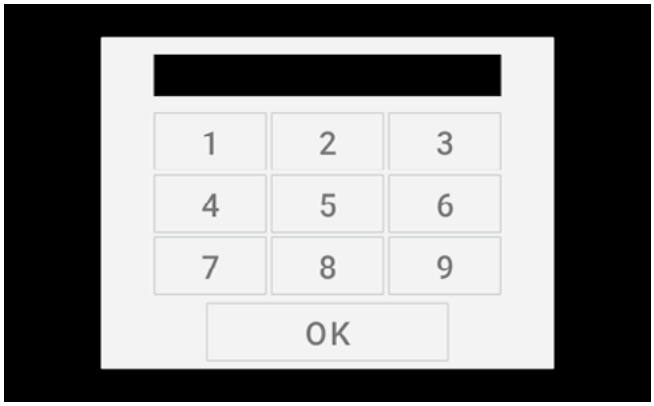
2-3. Press the lower left corner (3) while holding your finger on the upper right corner (2). Then remove your finger from the upper right corner (2) while holding your finger on the lower left corner (3).



2-4. Press the lower right corner (4) while holding your finger on the lower left corner (3). Then remove your finger from the lower left corner (3) while holding your finger on the lower right corner (4).

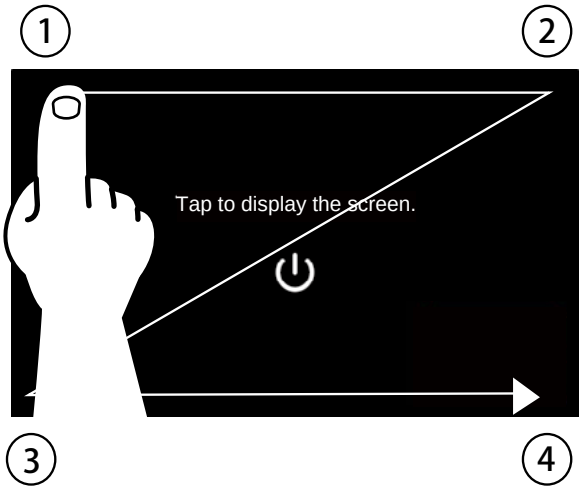


3. **Special number input display appears.**



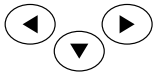
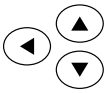
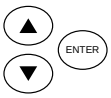
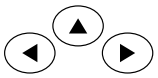
Note

There is another way to enter the special number input mode. Put your finger at the upper left corner then move your finger quickly in the order (1 through 4) shown in the figure without removing your finger from the screen.



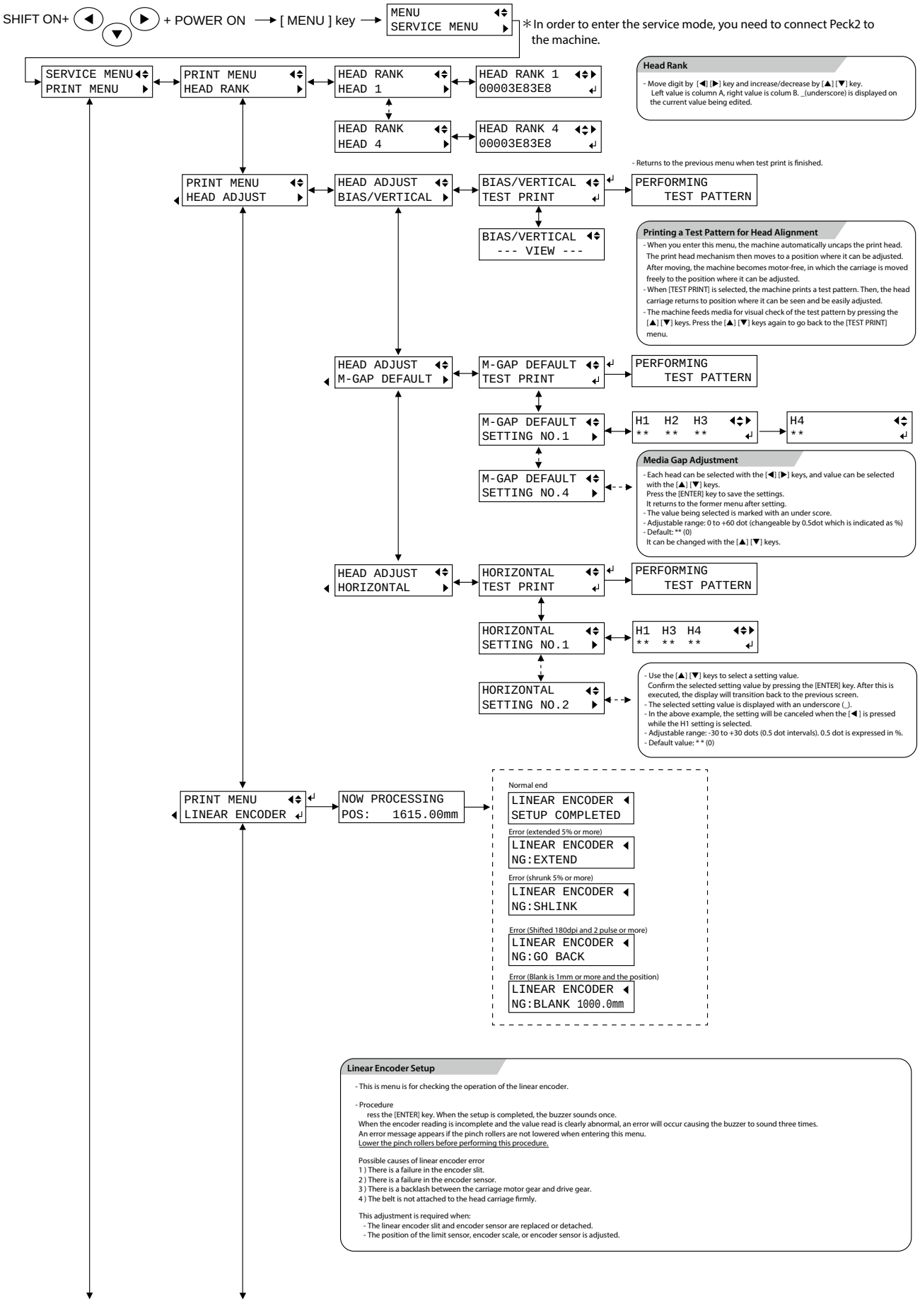
4. By inputting special mode nuber, you can enter the special mode.

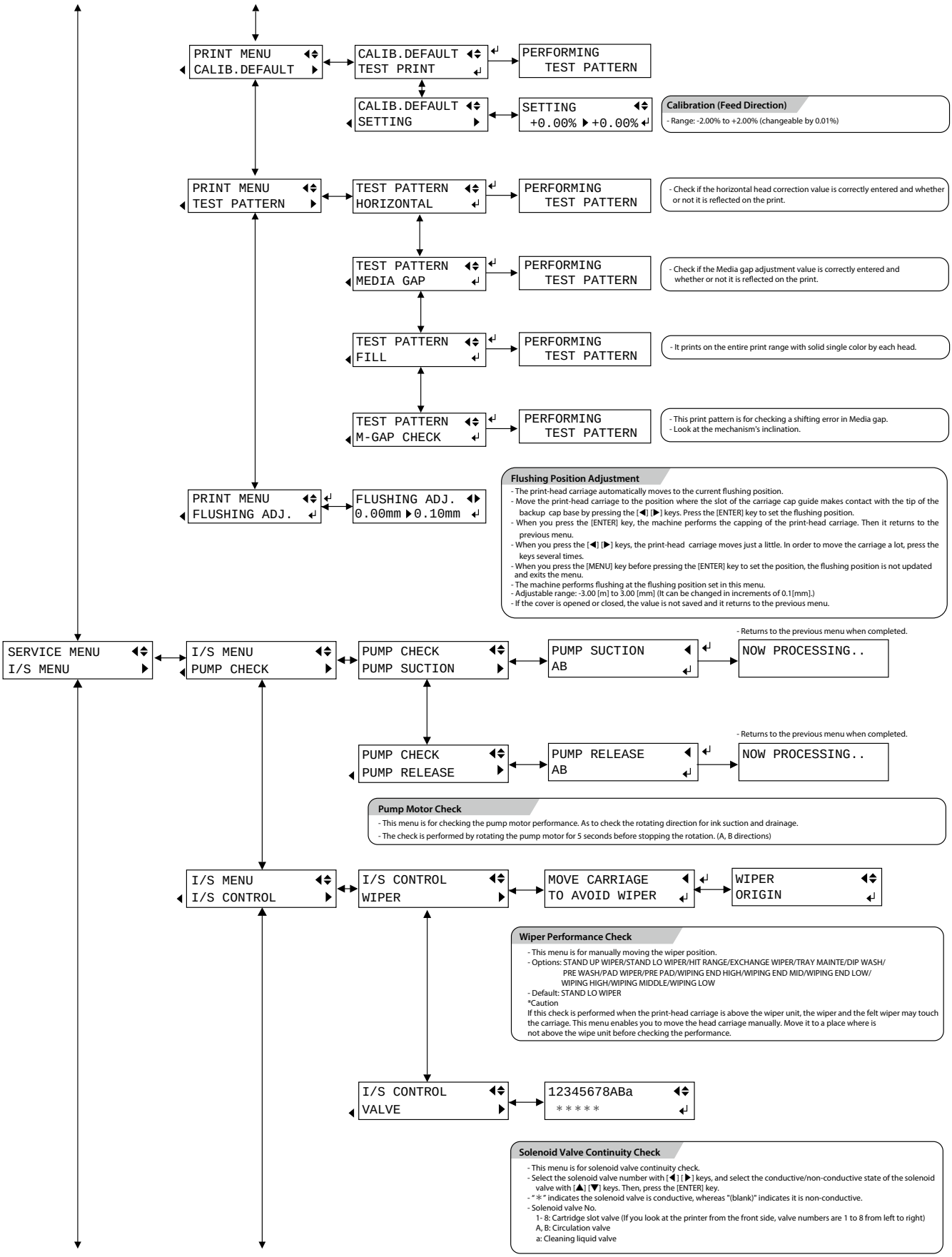
Key Combinations ⚠2 ⚠4

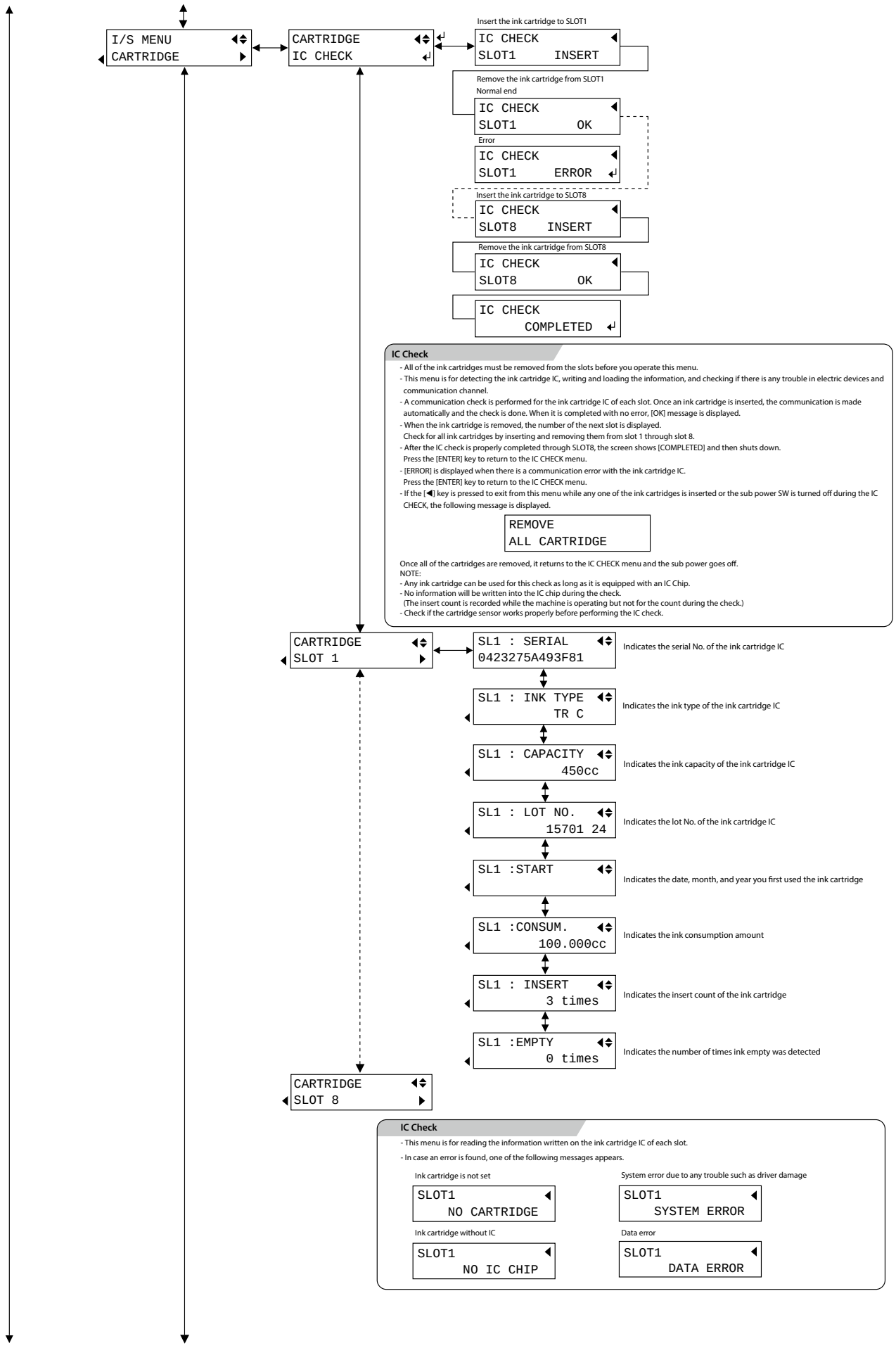
For service engineers	Panel key combination	Description
Service mode	[Shift] On +  + 	In order to enter the service mode, you need to connect Peck2 to the machine. Press the [MENU] [▶] keys to enter the service menu.
Support mode	Special mode number: 9166583545	In this mode, some service menus can be used without entering service mode.
Firmware upgrade mode	[Shift] On +  +  Special mode number: 1641569833	Firmware and panel enter update mode, you can edit IIP address or write firmware. Use this key combination to install firmware newly after replacing the main board.
System parameter initialization	[Shift] On +  +  Special mode number: 6181355894	All parameters will be initialized. Press the [ENTER] key to start initialization.
Limit position initialization mode	[Shift] On +  +  Special mode number: 2939659949	This is to initialize the limit position. After moving the carriage to the lock position and make sure it is locked, press the [ENTER] key to execute the limit position initialization.
Sensor check mode	[Shift] On +  +  Special mode number: 5495838531	When starting the machine in the sensor check mode, the same menu as [SENSOR CHECK] in the service mode starts up. * You cannot exit from this menu. Only sub power switch can be turned off.
System Switch mode	Special mode number: 9595393938	Only SYSTEM SWITCH menu can be operated. There is no other menu or function. Only sub power switch can be turned off. Without initialization of sub CPU or FPGA, the menu is started after minimum initialization is completed. BIT can be changed by entering the SYSTEM SWITCH menu, even when internal error occurs in the service mode.
Temporary IP address setting mode	Special mode number: 3764892655	Network setting becomes wait state temporarily with IP address [192.168.1.99/25 5.255.255.0/0.0.0.0]. This mode is needed to connect Peck2 to the machine when IP address has not been set when you replace the main board replacement, etc.

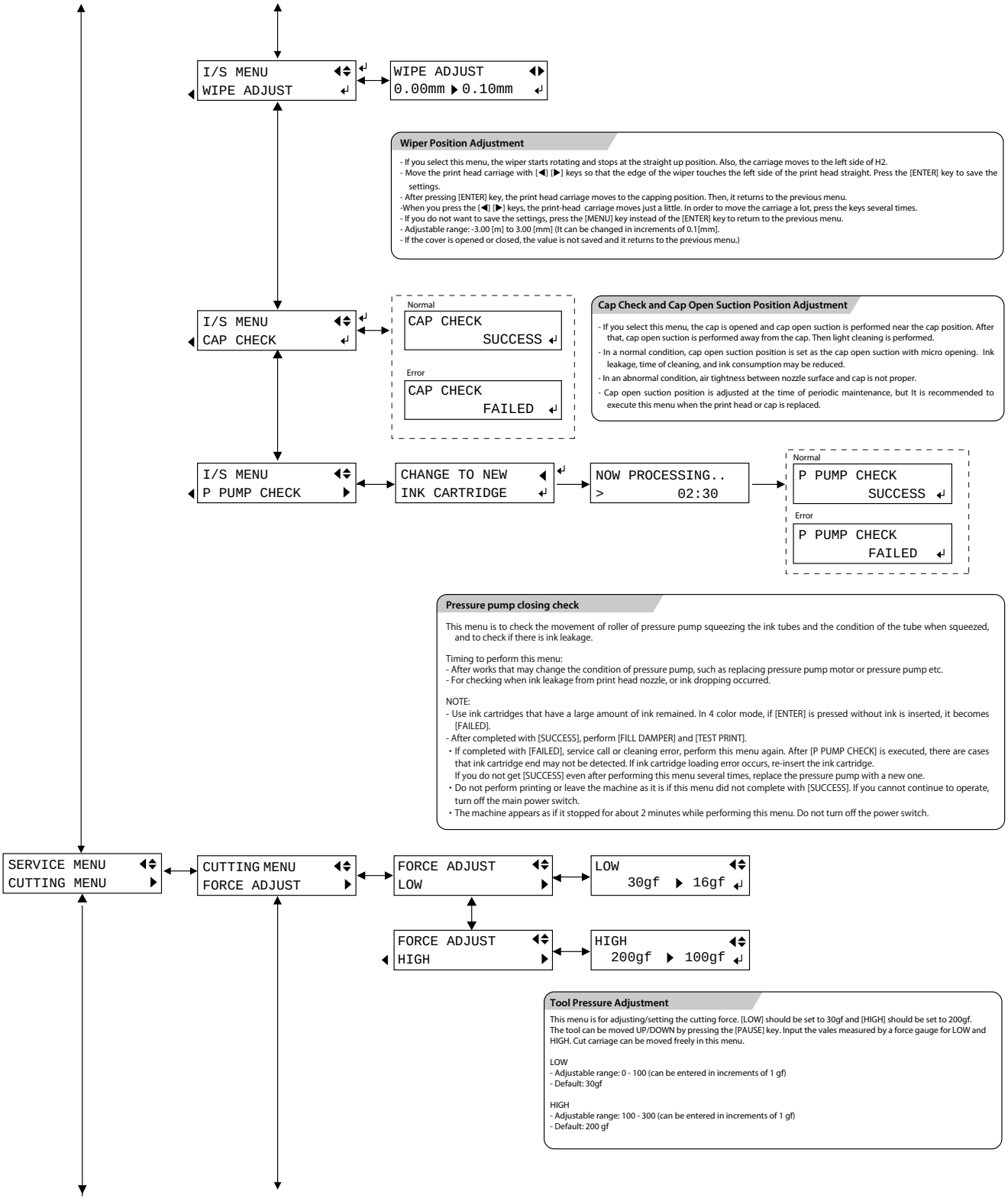
CAUTION

When you enter the special modes listed on and under Firmware Upgrade mode in the above table with panel key combination, you need to enter the service mode.


SHIFT ON+ + POWER ON → [MENU] key →
MENU
SERVICE MENU
* In order to enter the service mode, you need to connect Peck2 to the machine.
SERVICE MENU
PRINT MENU
PRINT MENU
HEAD RANK
HEAD RANK
HEAD 1
HEAD RANK 1
00003E83E8
HEAD RANK
HEAD 4
HEAD RANK 4
00003E83E8
Head Rank
- Move digit by [◀] [▶] key and increase/decrease by [▲] [▼] key.
Left value is column A, right value is colum B. _(underscore) is displayed on the current value being edited.
- Returns to the previous menu when test print is finished.
PRINT MENU
HEAD ADJUST
HEAD ADJUST
BIAS/VERTICAL
BIAS/VERTICAL
TEST PRINT
PERFORMING
TEST PATTERN
BIAS/VERTICAL
--- VIEW ---
Printing a Test Pattern for Head Alignment
- When you enter this menu, the machine automatically uncaps the print head. The print head mechanism then moves to a position where it can be adjusted. After moving, the machine becomes motor-free, in which the carriage is moved freely to the position where it can be adjusted.
- When [TEST PRINT] is selected, the machine prints a test pattern. Then, the head carriage returns to position where it can be seen and be easily adjusted.
- The machine feeds media for visual check of the test pattern by pressing the [▲] [▼] keys. Press the [▲] [▼] keys again to go back to the [TEST PRINT] menu.
HEAD ADJUST
M-GAP DEFAULT
M-GAP DEFAULT
TEST PRINT
PERFORMING
TEST PATTERN
M-GAP DEFAULT
SETTING NO.1
H1 H2 H3
** ** **
H4
**
M-GAP DEFAULT
SETTING NO.4
Media Gap Adjustment
- Each head can be selected with the [◀] [▶] keys, and value can be selected with the [▲] [▼] keys.
Press the [ENTER] key to save the settings.
It returns to the former menu after setting.
- The value being selected is marked with an under score.
- Adjustable range: 0 to +60 dot (changeable by 0.5dot which is indicated as %)
- Default: ** (0)
It can be changed with the [▲] [▼] keys.
HEAD ADJUST
HORIZONTAL
HORIZONTAL
TEST PRINT
PERFORMING
TEST PATTERN
HORIZONTAL
SETTING NO.1
H1 H3 H4
** ** **
HORIZONTAL
SETTING NO.2
- Use the [▲] [▼] keys to select a setting value.
Confirm the selected setting value by pressing the [ENTER] key. After this is executed, the display will transition back to the previous screen.
- The selected setting value is displayed with an underscore (_).
- In the above example, the setting will be canceled when the [◀] is pressed while the H1 setting is selected.
- Adjustable range: -30 to +30 dots (0.5 dot intervals). 0.5 dot is expressed in %.
- Default value: * * (0)
PRINT MENU
LINEAR ENCODER
NOW PROCESSING
POS: 1615.00mm
Normal end
LINEAR ENCODER
SETUP COMPLETED
Error (extended 5% or more)
LINEAR ENCODER
NG:EXTEND
Error (shrunk 5% or more)
LINEAR ENCODER
NG:SHLINK
Error (Shifted 180dpi and 2 pulse or more)
LINEAR ENCODER
NG:GO BACK
Error (Blank is 1mm or more and the position)
LINEAR ENCODER
NG:BLANK 1000.0mm
Linear Encoder Setup
- This is menu is for checking the operation of the linear encoder.
- Procedure
ress the [ENTER] key. When the setup is completed, the buzzer sounds once.
When the encoder reading is incomplete and the value read is clearly abnormal, an error will occur causing the buzzer to sound three times.
An error message appears if the pinch rollers are not lowered when entering this menu.
Lower the pinch rollers before performing this procedure.
Possible causes of linear encoder error
1) There is a failure in the encoder slit.
2) There is a failure in the encoder sensor.
3) There is a backlash between the carriage motor gear and drive gear.
4) The belt is not attached to the head carriage firmly.
This adjustment is required when:
- The linear encoder slit and encoder sensor are replaced or detached.
- The position of the limit sensor, encoder scale, or encoder sensor is adjusted.


PRINT MENU
CALIB.DEFAULT
CALIB.DEFAULT
TEST PRINT
PERFORMING
TEST PATTERN
CALIB.DEFAULT
SETTING
SETTING
+0.00% ▶ +0.00%
Calibration (Feed Direction)
- Range: -2.00% to +2.00% (changeable by 0.01%)
PRINT MENU
TEST PATTERN
TEST PATTERN
HORIZONTAL
PERFORMING
TEST PATTERN
- Check if the horizontal head correction value is correctly entered and whether or not it is reflected on the print.
TEST PATTERN
MEDIA GAP
PERFORMING
TEST PATTERN
- Check if the Media gap adjustment value is correctly entered and whether or not it is reflected on the print.
TEST PATTERN
FILL
PERFORMING
TEST PATTERN
- It prints on the entire print range with solid single color by each head.
TEST PATTERN
M-GAP CHECK
PERFORMING
TEST PATTERN
- This print pattern is for checking a shifting error in Media gap.
- Look at the mechanism's inclination.
PRINT MENU
FLUSHING ADJ.
FLUSHING ADJ.
0.00mm ▶ 0.10mm
Flushing Position Adjustment
- The print-head carriage automatically moves to the current flushing position.
- Move the print-head carriage to the position where the slot of the carriage cap guide makes contact with the tip of the backup cap base by pressing the [◀] [▶] keys. Press the [ENTER] key to set the flushing position.
- When you press the [ENTER] key, the machine performs the capping of the print-head carriage. Then it returns to the previous menu.
- When you press the [◀] [▶] keys, the print-head carriage moves just a little. In order to move the carriage a lot, press the keys several times.
- When you press the [MENU] key before pressing the [ENTER] key to set the position, the flushing position is not updated and exits the menu.
- The machine performs flushing at the flushing position set in this menu.
- Adjustable range: -3.00 [m] to 3.00 [mm] (It can be changed in increments of 0.1[mm].)
- If the cover is opened or closed, the value is not saved and it returns to the previous menu.
SERVICE MENU
I/S MENU
I/S MENU
PUMP CHECK
PUMP CHECK
PUMP SUCTION
PUMP SUCTION
AB
- Returns to the previous menu when completed.
NOW PROCESSING..
PUMP CHECK
PUMP RELEASE
PUMP RELEASE
AB
- Returns to the previous menu when completed.
NOW PROCESSING..
Pump Motor Check
- This menu is for checking the pump motor performance. As to check the rotating direction for ink suction and drainage.
- The check is performed by rotating the pump motor for 5 seconds before stopping the rotation. (A, B directions)
I/S MENU
I/S CONTROL
I/S CONTROL
WIPER
MOVE CARRIAGE
TO AVOID WIPER
WIPER
ORIGIN
Wiper Performance Check
- This menu is for manually moving the wiper position.
- Options: STAND UP WIPER/STAND LO WIPER/HIT RANGE/EXCHANGE WIPER/TRAY MAINTE/DIP WASH/
PRE WASH/PAD WIPER/PRE PAD/WIPING END HIGH/WIPING END MID/WIPING END LOW/
WIPING HIGH/WIPING MIDDLE/WIPING LOW
- Default: STAND LO WIPER
*Caution
If this check is performed when the print-head carriage is above the wiper unit, the wiper and the felt wiper may touch the carriage. This menu enables you to move the head carriage manually. Move it to a place where is not above the wipe unit before checking the performance.
I/S CONTROL
VALVE
12345678ABa
* * * * *
Solenoid Valve Continuity Check
- This menu is for solenoid valve continuity check.
- Select the solenoid valve number with [◀] [▶] keys, and select the conductive/non-conductive state of the solenoid valve with [▲] [▼] keys. Then, press the [ENTER] key.
- "*" indicates the solenoid valve is conductive, whereas "(blank)" indicates it is non-conductive.
- Solenoid valve No.
1- 8: Cartridge slot valve (If you look at the printer from the front side, valve numbers are 1 to 8 from left to right)
A, B: Circulation valve
a: Cleaning liquid valve


I/S MENU
CARTRIDGE
CARTRIDGE
IC CHECK
Insert the ink cartridge to SLOT1
IC CHECK
SLOT1 INSERT
Remove the ink cartridge from SLOT1
Normal end
IC CHECK
SLOT1 OK
Error
IC CHECK
SLOT1 ERROR
Insert the ink cartridge to SLOT8
IC CHECK
SLOT8 INSERT
Remove the ink cartridge from SLOT8
IC CHECK
SLOT8 OK
IC CHECK
COMPLETED
IC Check
- All of the ink cartridges must be removed from the slots before you operate this menu.
- This menu is for detecting the ink cartridge IC, writing and loading the information, and checking if there is any trouble in electric devices and communication channel.
- A communication check is performed for the ink cartridge IC of each slot. Once an ink cartridge is inserted, the communication is made automatically and the check is done. When it is completed with no error, [OK] message is displayed.
- When the ink cartridge is removed, the number of the next slot is displayed. Check for all ink cartridges by inserting and removing them from slot 1 through slot 8.
- After the IC check is properly completed through SLOT8, the screen shows [COMPLETED] and then shuts down. Press the [ENTER] key to return to the IC CHECK menu.
- [ERROR] is displayed when there is a communication error with the ink cartridge IC. Press the [ENTER] key to return to the IC CHECK menu.
- If the [◀] key is pressed to exit from this menu while any one of the ink cartridges is inserted or the sub power SW is turned off during the IC CHECK, the following message is displayed.
REMOVE
ALL CARTRIDGE
Once all of the cartridges are removed, it returns to the IC CHECK menu and the sub power goes off.
NOTE:
- Any ink cartridge can be used for this check as long as it is equipped with an IC Chip.
- No information will be written into the IC chip during the check. (The insert count is recorded while the machine is operating but not for the count during the check.)
- Check if the cartridge sensor works properly before performing the IC check.
CARTRIDGE
SLOT 1
SL1 : SERIAL
0423275A493F81
Indicates the serial No. of the ink cartridge IC
SL1 : INK TYPE
TR C
Indicates the ink type of the ink cartridge IC
SL1 : CAPACITY
450cc
Indicates the ink capacity of the ink cartridge IC
SL1 : LOT NO.
15701 24
Indicates the lot No. of the ink cartridge IC
SL1 :START
Indicates the date, month, and year you first used the ink cartridge
SL1 :CONSUM.
100.000cc
Indicates the ink consumption amount
SL1 : INSERT
3 times
Indicates the insert count of the ink cartridge
SL1 :EMPTY
0 times
Indicates the number of times ink empty was detected
CARTRIDGE
SLOT 8
IC Check
- This menu is for reading the information written on the ink cartridge IC of each slot.
- In case an error is found, one of the following messages appears.
Ink cartridge is not set
SLOT1
NO CARTRIDGE
System error due to any trouble such as driver damage
SLOT1
SYSTEM ERROR
Ink cartridge without IC
SLOT1
NO IC CHIP
Data error
SLOT1
DATA ERROR



Wiper Position Adjustment

- If you select this menu, the wiper starts rotating and stops at the straight up position. Also, the carriage moves to the left side of H2.
- Move the print head carriage with [◀] [▶] keys so that the edge of the wiper touches the left side of the print head straight. Press the [ENTER] key to save the settings.
- After pressing [ENTER] key, the print head carriage moves to the capping position. Then, it returns to the previous menu.
-When you press the [◀] [▶] keys, the print-head carriage moves just a little. In order to move the carriage a lot, press the keys several times.
- If you do not want to save the settings, press the [MENU] key instead of the [ENTER] key to return to the previous menu.
- Adjustable range: -3.00 [m] to 3.00 [mm] (It can be changed in increments of 0.1[mm].
- If the cover is opened or closed, the value is not saved and it returns to the previous menu.)

Cap Check and Cap Open Suction Position Adjustment

- If you select this menu, the cap is opened and cap open suction is performed near the cap position. After that, cap open suction is performed away from the cap. Then light cleaning is performed.
- In a normal condition, cap open suction position is set as the cap open suction with micro opening. Ink leakage, time of cleaning, and ink consumption may be reduced.
- In an abnormal condition, air tightness between nozzle surface and cap is not proper.
- Cap open suction position is adjusted at the time of periodic maintenance, but It is recommended to execute this menu when the print head or cap is replaced.

Pressure pump closing check

This menu is to check the movement of roller of pressure pump squeezing the ink tubes and the condition of the tube when squeezed, and to check if there is ink leakage.

Timing to perform this menu:
- After works that may change the condition of pressure pump, such as replacing pressure pump motor or pressure pump etc.
- For checking when ink leakage from print head nozzle, or ink dropping occurred.

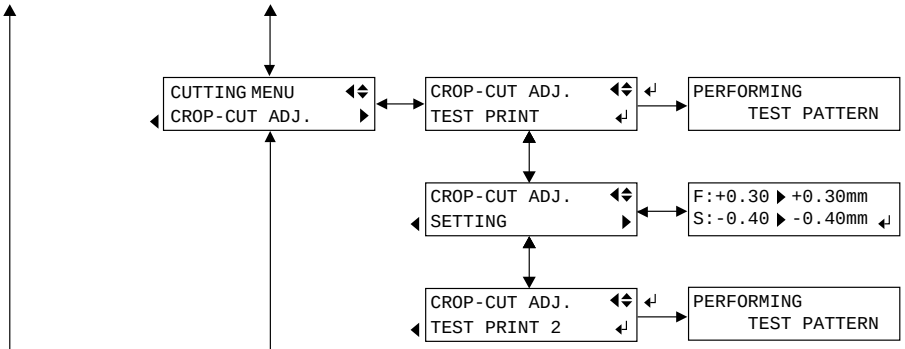
NOTE:
- Use ink cartridges that have a large amount of ink remained. In 4 color mode, if [ENTER] is pressed without ink is inserted, it becomes [FAILED].
- After completed with [SUCCESS], perform [FILL DAMPER] and [TEST PRINT].
  - If completed with [FAILED], service call or cleaning error, perform this menu again. After [P PUMP CHECK] is executed, there are cases that ink cartridge end may not be detected. If ink cartridge loading error occurs, re-insert the ink cartridge. If you do not get [SUCCESS] even after performing this menu several times, replace the pressure pump with a new one.
  - Do not perform printing or leave the machine as it is if this menu did not complete with [SUCCESS]. If you cannot continue to operate, turn off the main power switch.
  - The machine appears as if it stopped for about 2 minutes while performing this menu. Do not turn off the power switch.

Tool Pressure Adjustment

This menu is for adjusting/setting the cutting force. [LOW] should be set to 30gf and [HIGH] should be set to 200gf. The tool can be moved UP/DOWN by pressing the [PAUSE] key. Input the vales measured by a force gauge for LOW and HIGH. Cut carriage can be moved freely in this menu.

LOW
- Adjustable range: 0 - 100 (can be entered in increments of 1 gf)
- Default: 30gf

HIGH
- Adjustable range: 100 - 300 (can be entered in increments of 1 gf)
- Default: 200 gf



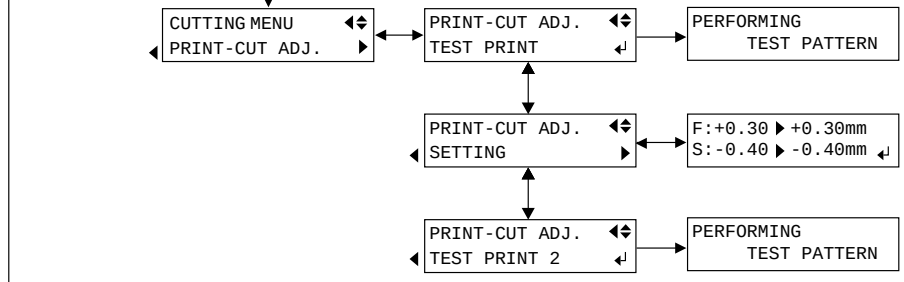
Adjusting the Position of the Crop Mark Sensor and the Position of the Blade

TEST PRINT
It prints a test pattern to align the position of the multi sensor and the position of the blade.
The machine prints a square crop mark, detects the crop mark, and then cuts a square along the crop mark.
If print & cut are misaligned, it means that the position of the multi sensor and the blade are not aligned.
After adjusting the position of the sensor and the blade in the [SETTING] menu, perform [TEST PRINT] to confirm that the adjustment value you entered is reflected.

SETTING
This menu is for setting the correction values of the positions of crop marks and blade. The correction values for F (feed) is displayed on the upper row and S (scan) on the lower row .
The values on the left side of the LCD screen are the current correction values. And the values on the right are the new correction values.
Press the [DOWN] key to move the cutting position to the front side (the F value increases).
Press the [UP] key to move the cutting position to the far side.
Press the [RIGHT] key to move the cutting position to the right (the S value increases).
Press the [LEFT] key to move the cutting position to the left.
Adjustable range: +/- 5.00 mm. (It can be entered in increments of 0.01 mm.)
Default: ***
Press the [MENU] key to go back to the previous menu.
Make sure to perform bidirectional adjustment before performing this adjustment.

*Perform this adjustment if:
- the multi sensor is replaced
- the sensitivity of the multi sensor is changed
- the position of the blade holder and the position of the multi sensor is changed

TEST PRINT 2
It prints a test pattern for crop mark sensor and cutting position adjustment.
First, the machine prints a square crop mark and then prints 0.1 mm scale marks in the scan and feed direction.
Then, the sensor detects the square crop mark and the blade cuts the media in a cross shape.
The point where the cutting line intersects the correction-value scale is the correction value.
Input the correction values in the [SETTING] menu.
The result of TEST PRINT 2 is not affected by correction values set in the [SETTING] menu.



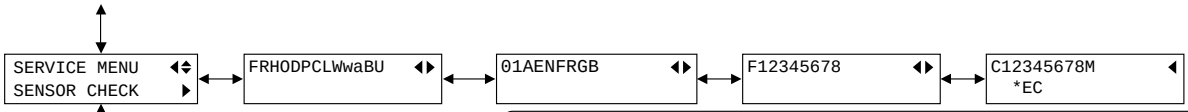
Print & Cut Position Adjustment

TEST PRINT
The machine prints a test pattern for print and cut adjustment.
First, the machine prints square crop marks, and then cuts square along the crop marks.
When the print & cut adjustment is finished, perform [TEST PRINT] to confirm that the adjustment value you entered is reflected.

SETTING
This menu is for setting the correction values. The correction value at the upper part of the LCD screen is for "F" (feed), and the correction values at the bottom is for S (scan). The values on the left are the current correction values, and the values on the right are the new correction values.
Press the [DOWN] key to move the cutting position to the front side (the F value increases).
Press the [UP] key to move the cutting position to the far side.
Press the [RIGHT] key to move the cutting position to the right (the S value increases).
Press the [LEFT] key to move the cutting position to the left.
The adjustable range is +/- 5.00 mm. (It can be entered in increments of 0.01 mm.)
The default value is 0.00 mm.
Press the [MENU] key to go back to the previous menu.
Make sure to perform bidirectional adjustment before performing this adjustment.

*Perform this adjustment if:
- the print head is replaced
- print head alingment is performed
- the distance between the blade and the print head is changed

TEST PRINT 2
The machine prints a test pattern for print and cut adjustment.
First, the machine prints a test pattern and then prints 0.1 mm marks in the scan and feed direction.
Then, the blade cuts the media in a cross shape.
The point where the cutting line intersects the correction-value scale is the correction value.
The result of the test pattern is not affected by correction values set in the [SETTING] menu.



Sensor Check

- This menu is for showing the real-time state of each sensor. If there is a response, a * mark is displayed.
- If you exist this menu, setup is canceled.
- Page 1 to 2 shows the status of each of the sensors.

Page 1

Symbol	Sensor name	Description
F	Front sheet sensor	* is displayed when media is set.
R	Rear sheet sensor	* is displayed when media is set.
H	Head origin sensor	* is displayed when print head is at the origin.
O	Origin sensor	* is displayed when cut carriage is connected
D	Maintenance cover sensor R	* is displayed when the cover is open.
P	Maintenance cover sensor L	* is displayed when the cover is open.
C	Front cover sensor	* is displayed when the cover is open.
L	Pinch lever sensor	* is displayed when the pinch lever is lowered.
W	Pinch roller sensor	* is displayed when the pinch rollers are detected.
w	Wiper origin sensor	* is displayed when the wiper is at the starting position.
a	Extension input 1	The real-time status of the TU motor is displayed when TU is connected. (It displays blank while the motor is driving. * is displayed when it is not driving.)
B	TU lower sensor	* is displayed when TU hits the sensor
U	TU upper sensor	* is displayed when TU hits the sensor

Page 2

Symbol	Sensor name	Description
0	Head height sensor 0*	0 only* is displayed if head is down, and 1 only* is displayed when the head is up. The head position is middle, both 0 and 1 are not displayed, and if the position is in between (error) position, both 0 and 1 are displayed.
1	Head height sensor 1*	
A	Auto pinch origin sensor	* is displayed when auto pinch is at the origin detecting position.
E	Drain bottle sensor	* is displayed when drain bottle is installed
N	Drain bottle warning sensor	* is displayed when waste liquid is at warning level
F	Drain bottle full sensor	* is displayed when waste liquid is full
R	Multi sensor R channel	* is displayed when black is detected in R channel
G	Multi sensor G channel	* is displayed when black is detected in G channel
B	Multi sensor B channel	* is displayed when black is detected in B channel

Head height	Symbol	0	1
	Low	*	
	Middle		
	High		*
	Error	*	*

[ENTER] is pressed in this screen, multi sensor can be lit/unlit.

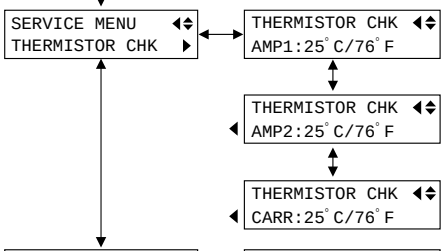
- The status of the filler sensor is displayed on page 3.
  The left most one indicates nozzle A of HEAD 1, the second one from the left indicates nozzle B of HEAD 1, and so on.
  * is displayed when the filler sensor is touched.
- The status of the cartridge sensor of each slot (1-8) is shown on page 4.

Symbol	Description
blank	No ink cartridge
C	Ink cartridge is in

The status of wiper cleaning cartridge (M) and ink empty sensor are shown.

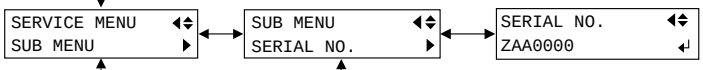
Symbol	Description
blank	No ink cartridge, Ink is filled
C	Ink cartridge is in, Ink is filled
E	Ink cartridge is in, Ink is empty
*	Ink cartridge is in, Ink is empty

- In short, the message is blank when the both sensors are OFF and * is displayed when the both sensors are ON.



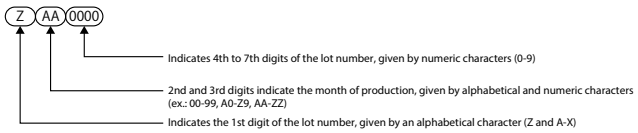
Thermistor check menu

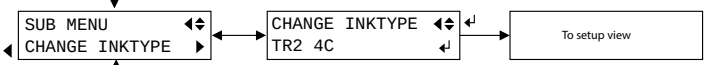
- Performs the thermistor check.
  If you select this menu, it will display the temperature read from the thermistor attached to each board.
  The temperature on the left is shown in degrees Celsius and the one on the right is in degrees Fahrenheit.
- [AMP1] [AMP2]are the thermistors attached to the print carriage board. [CARR] is the thermistor near the print head.
- Check whether the temperature is extremely low (around 0 degrees) or extremely high (around 100 degrees).
- When the temperature of CARR thermistor becomes abnormal, the high temperature or the low temperature errors occur.



Serial Number Input

- This menu is for inputting 7 digits of the serial number.
- Use [◀] [▶] keys to move to the next digit and [▲] [▼] keys to increment or decrement parameters.



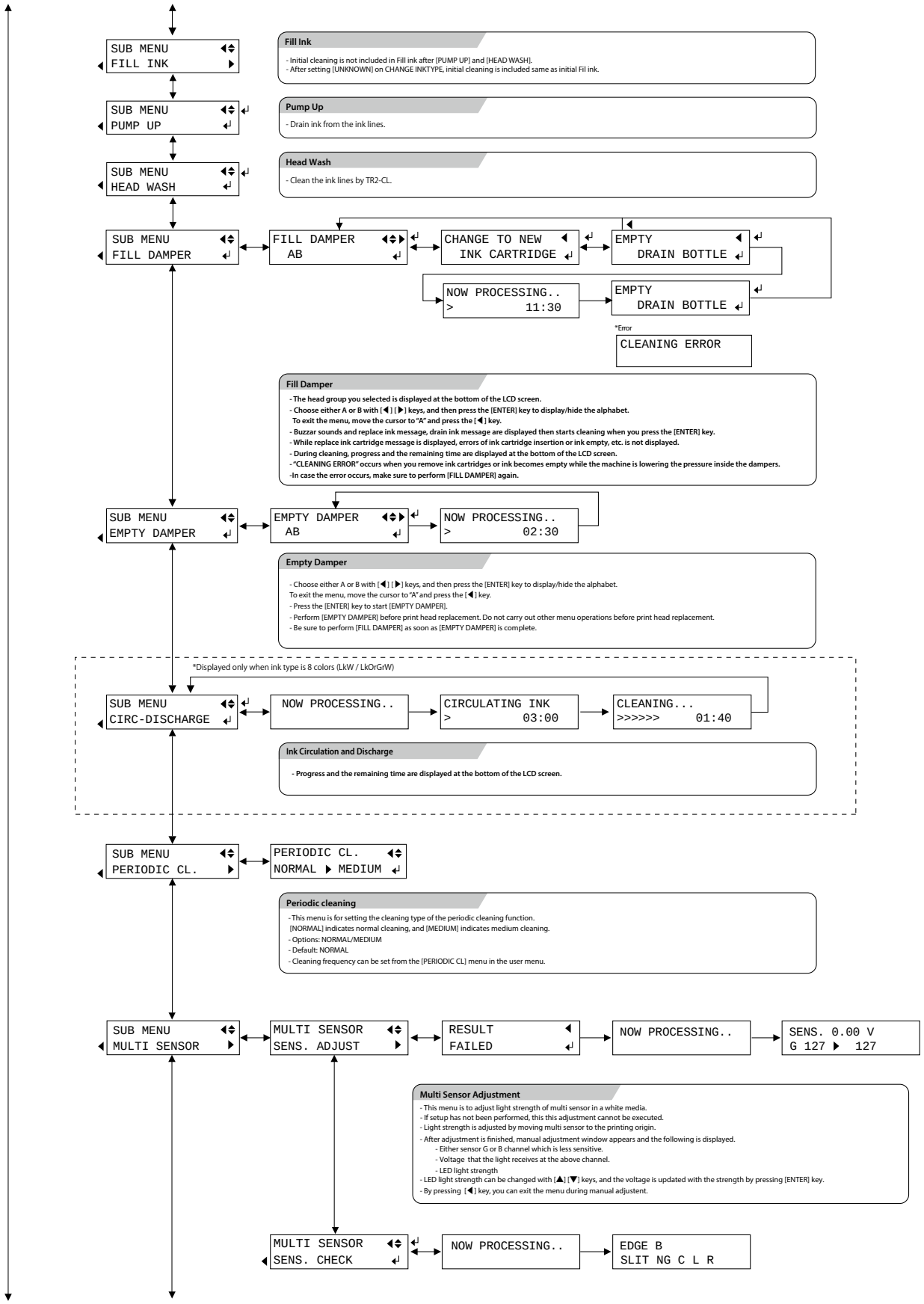


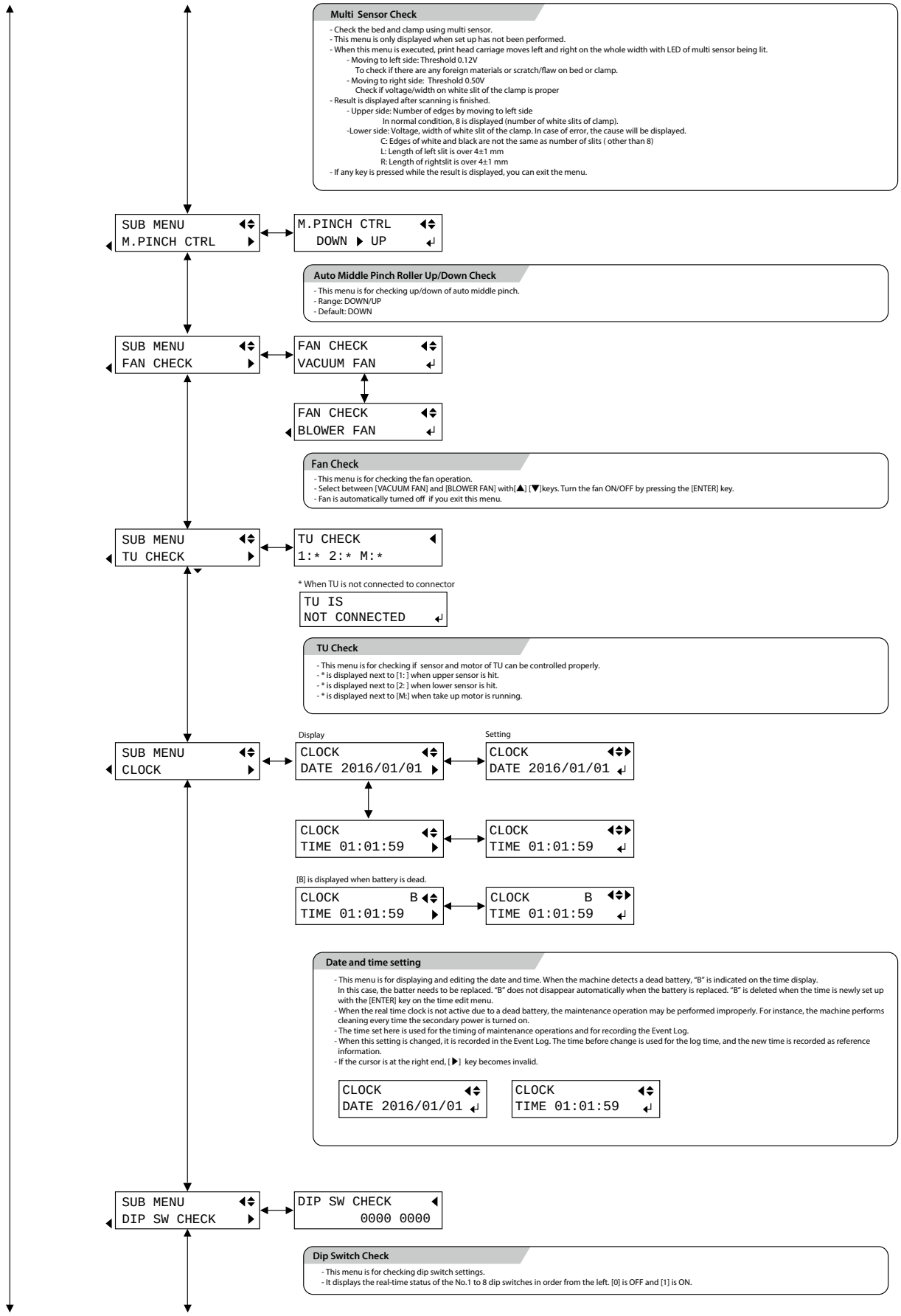
Changing Ink Type

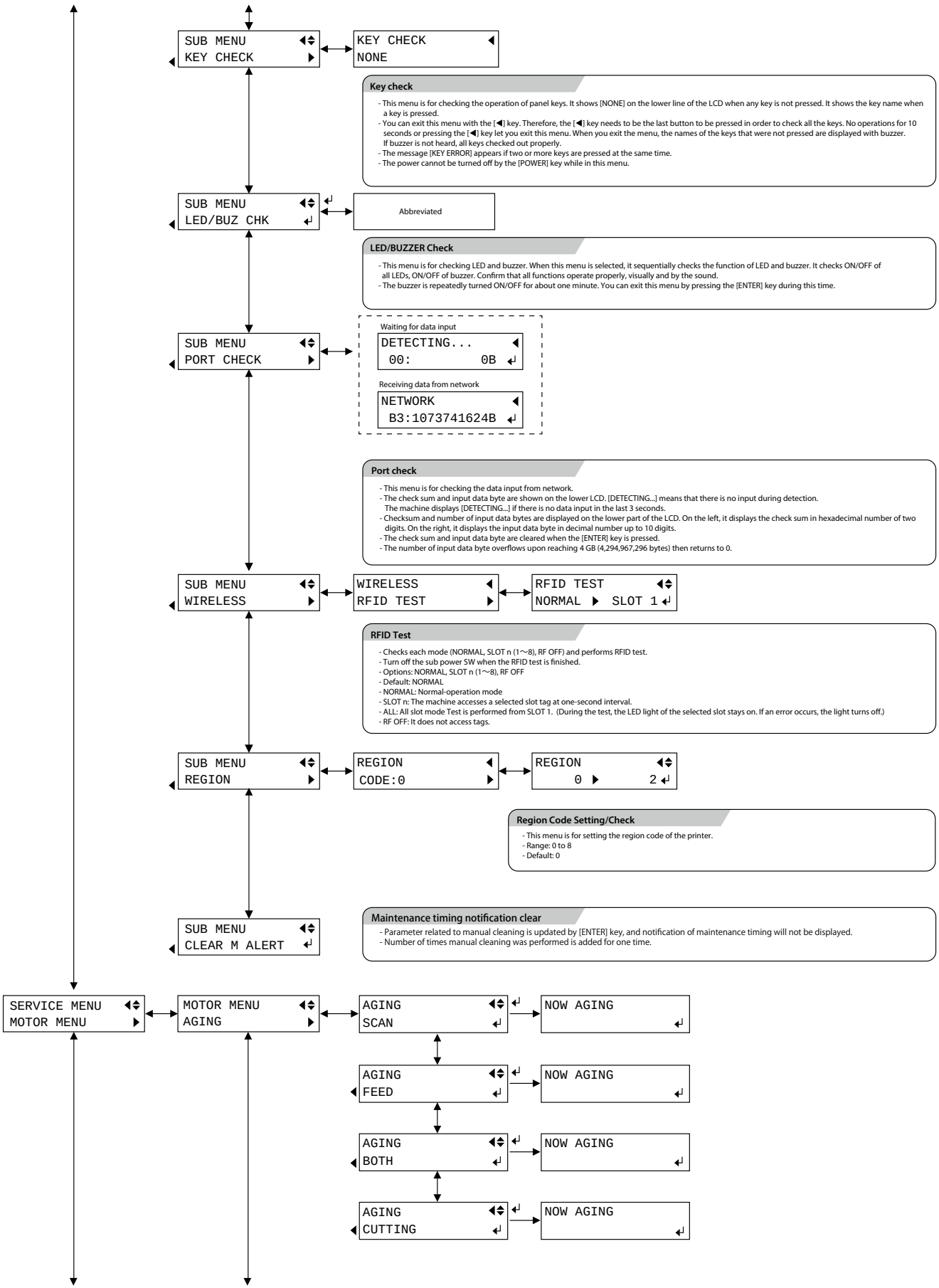
- This menu is for changing the ink type manually.
- Unlike the user-menu ink type change, neither head wash nor ink fill is performed. Use this menu to reselect the ink type when unintended ink type is selected.
- Once the ink type is changed, the ink system is internally reinitialized. This menu is then exited and setup is cancelled.
- If you select [UNKNOWN] in this menu and perform [FILL INK], the machine performs initial ink filling.
- Do not change ink type if one side [HEAD WASH] or [PUMP UP] is performed (either A or B side is selected. One side is not filled with ink)
  If [FILL INK] is performed on the other side after this, ink dripping may occur.
  (After [FILL INK] is completed, execute [FILL DAMPER] immediately.)

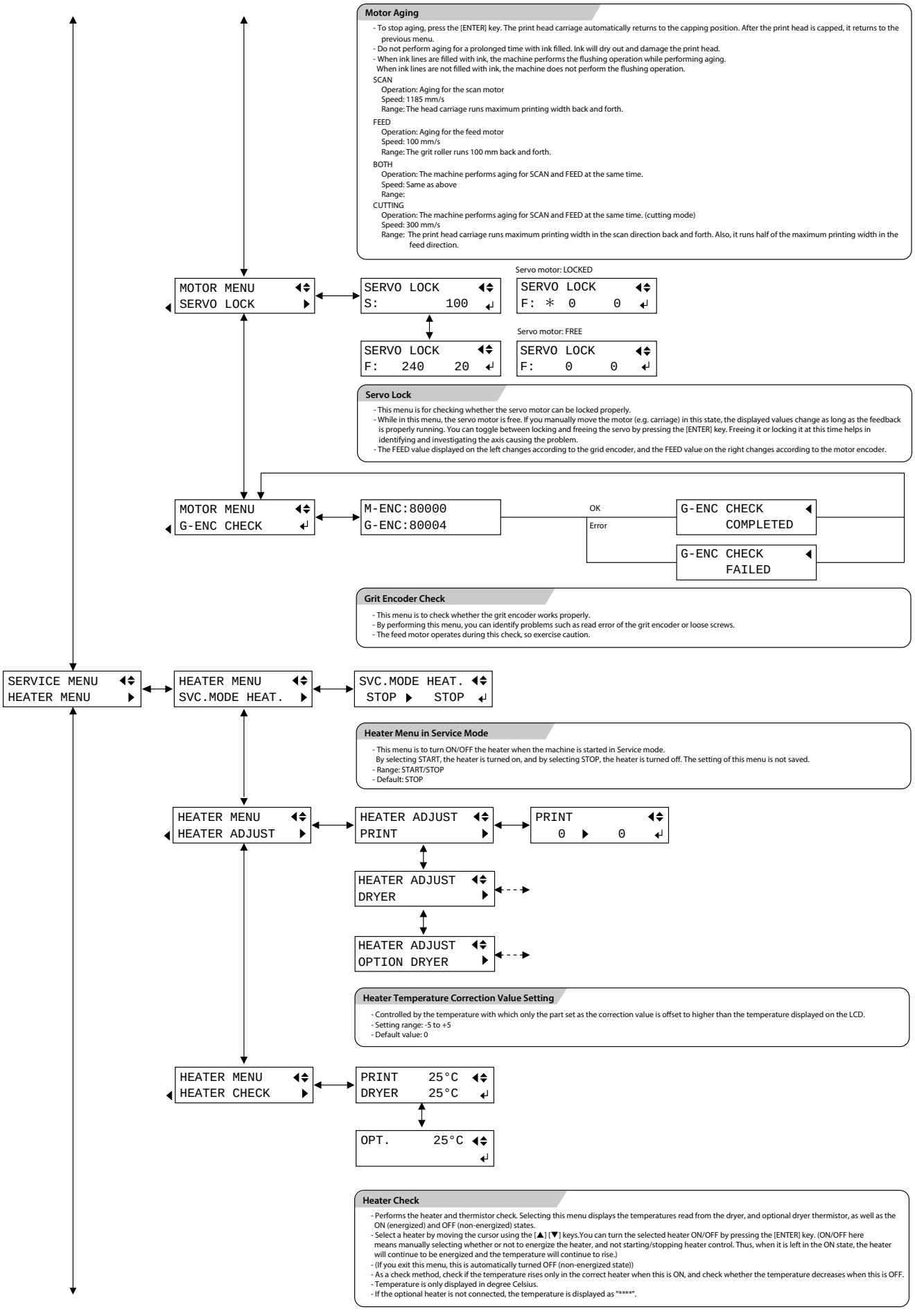
Ink Type

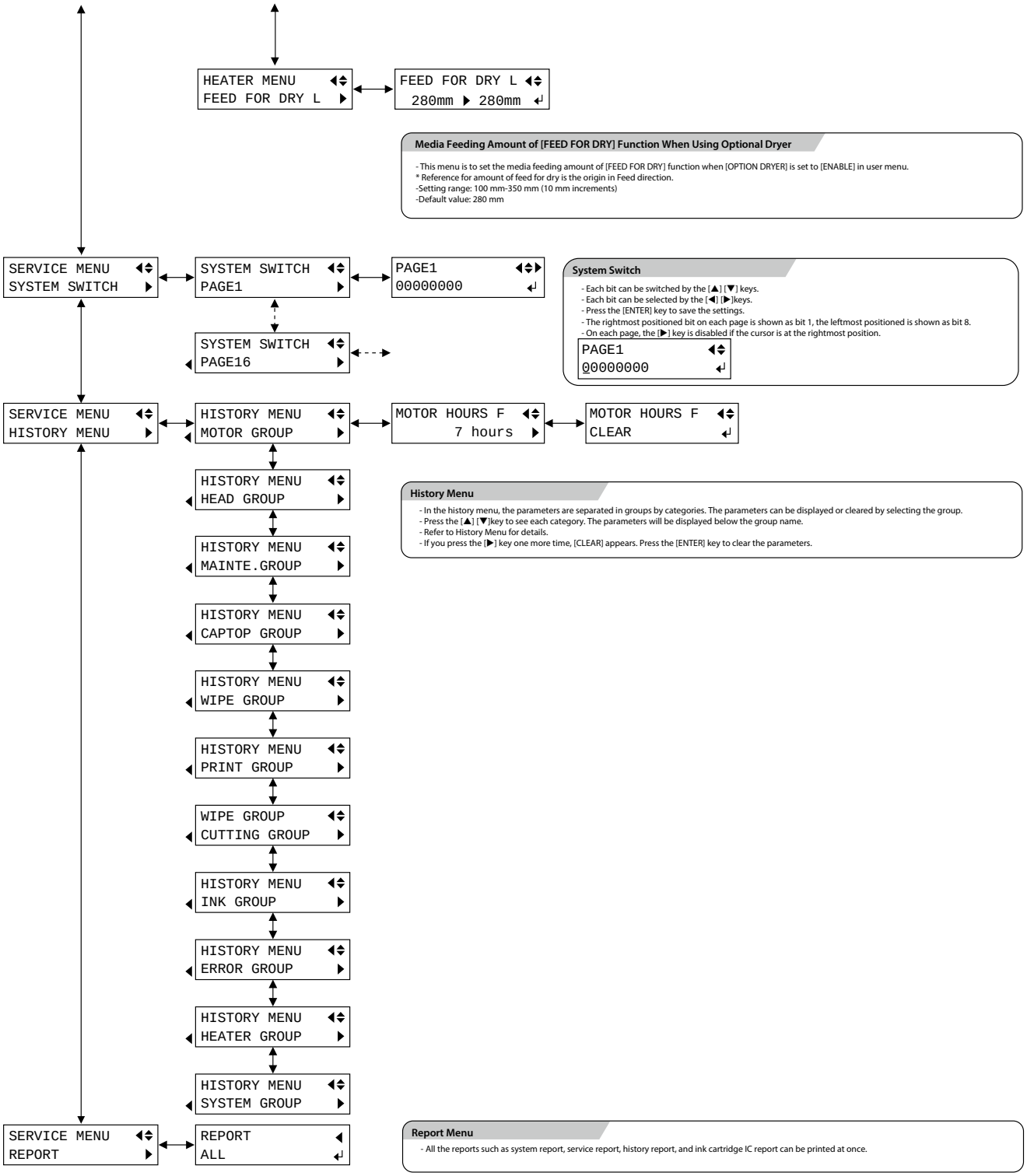
UNKNOWN	Default
TR2 4 C	TR2 4 colors (CMYK)
TR2 LkW	TR2 8 colors (CMYKLcLmLkWh)
TR2 LkOr	TR2 8 colors (CMYKLcLmLkOr)
TR2 LkOrGrW	TR2 8 colors (CMYKLkOrGrWh)
TR2 LkOrGr	TR2 7 colors (CMYKLkOrGrM)
TR2 OrGr	TR2 8 colors (CMYKLcLmOrGr)


SUB MENU
FILL INK
Fill Ink
- Initial cleaning is not included in Fill ink after [PUMP UP] and [HEAD WASH].
- After setting [UNKNOWN] on CHANGE INKTYPE, initial cleaning is included same as initial Fil ink.
SUB MENU
PUMP UP
Pump Up
- Drain ink from the ink lines.
SUB MENU
HEAD WASH
Head Wash
- Clean the ink lines by TR2-CL.
SUB MENU
FILL DAMPER
FILL DAMPER
AB
CHANGE TO NEW
INK CARTRIDGE
EMPTY
DRAIN BOTTLE
NOW PROCESSING..
> 11:30
EMPTY
DRAIN BOTTLE
*Error
CLEANING ERROR
Fill Damper
- The head group you selected is displayed at the bottom of the LCD screen.
- Choose either A or B with [◀] [▶] keys, and then press the [ENTER] key to display/hide the alphabet.
To exit the menu, move the cursor to "A" and press the [◀] key.
- Buzzar sounds and replace ink message, drain ink message are displayed then starts cleaning when you press the [ENTER] key.
- While replace ink cartridge message is displayed, errors of ink cartridge insertion or ink empty, etc. is not displayed.
- During cleaning, progress and the remaining time are displayed at the bottom of the LCD screen.
- "CLEANING ERROR" occurs when you remove ink cartridges or ink becomes empty while the machine is lowering the pressure inside the dampers.
-In case the error occurs, make sure to perform [FILL DAMPER] again.
SUB MENU
EMPTY DAMPER
EMPTY DAMPER
AB
NOW PROCESSING..
> 02:30
Empty Damper
- Choose either A or B with [◀] [▶] keys, and then press the [ENTER] key to display/hide the alphabet.
To exit the menu, move the cursor to "A" and press the [◀] key.
- Press the [ENTER] key to start [EMPTY DAMPER].
- Perform [EMPTY DAMPER] before print head replacement. Do not carry out other menu operations before print head replacement.
- Be sure to perform [FILL DAMPER] as soon as [EMPTY DAMPER] is complete.
*Displayed only when ink type is 8 colors (LkW / LkOrGrW)
SUB MENU
CIRC-DISCHARGE
NOW PROCESSING..
CIRCULATING INK
> 03:00
CLEANING...
>>>>>> 01:40
Ink Circulation and Discharge
- Progress and the remaining time are displayed at the bottom of the LCD screen.
SUB MENU
PERIODIC CL.
PERIODIC CL.
NORMAL ▶ MEDIUM
Periodic cleaning
- This menu is for setting the cleaning type of the periodic cleaning function.
[NORMAL] indicates normal cleaning, and [MEDIUM] indicates medium cleaning.
- Options: NORMAL/MEDIUM
- Default: NORMAL
- Cleaning frequency can be set from the [PERIODIC CL] menu in the user menu.
SUB MENU
MULTI SENSOR
MULTI SENSOR
SENS. ADJUST
RESULT
FAILED
NOW PROCESSING..
SENS. 0.00 V
G 127 ▶ 127
Multi Sensor Adjustment
- This menu is to adjust light strength of multi sensor in a white media.
- If setup has not been performed, this this adjustment cannot be executed.
- Light strength is adjusted by moving multi sensor to the printing origin.
- After adjustment is finished, manual adjustment window appears and the following is displayed.
- Either sensor G or B channel which is less sensitive.
- Voltage that the light receives at the above channel.
- LED light strength
- LED light strength can be changed with [▲] [▼] keys, and the voltage is updated with the strength by pressing [ENTER] key.
- By pressing [◀] key, you can exit the menu during manual adjustent.
MULTI SENSOR
SENS. CHECK
NOW PROCESSING..
EDGE B
SLIT NG C L R

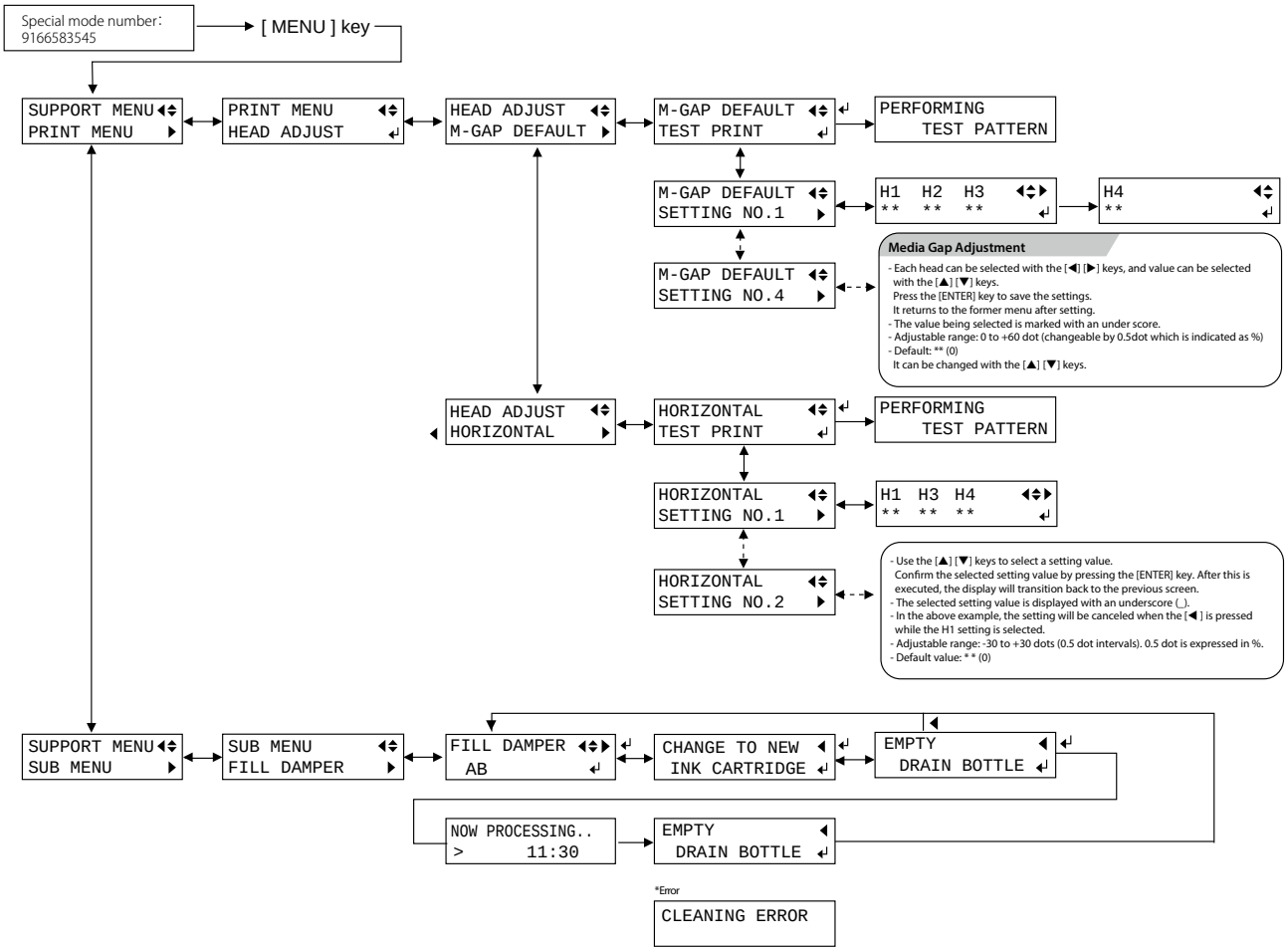

Multi Sensor Check
- Check the bed and clamp using multi sensor.
- This menu is only displayed when set up has not been performed.
- When this menu is executed, print head carriage moves left and right on the whole width with LED of multi sensor being lit.
- Moving to left side: Threshold 0.12V
To check if there are any foreign materials or scratch/flaw on bed or clamp.
- Moving to right side: Threshold 0.50V
Check if voltage/width on white slit of the clamp is proper
- Result is displayed after scanning is finished.
- Upper side: Number of edges by moving to left side
In normal condition, 8 is displayed (number of white slits of clamp).
-Lower side: Voltage, width of white slit of the clamp. In case of error, the cause will be displayed.
C: Edges of white and black are not the same as number of slits (other than 8)
L: Length of left slit is over 4±1 mm
R: Length of rightslit is over 4±1 mm
- If any key is pressed while the result is displayed, you can exit the menu.
SUB MENU
M.PINCH CTRL
M.PINCH CTRL
DOWN ▶ UP
Auto Middle Pinch Roller Up/Down Check
- This menu is for checking up/down of auto middle pinch.
- Range: DOWN/UP
- Default: DOWN
SUB MENU
FAN CHECK
FAN CHECK
VACUUM FAN
FAN CHECK
BLOWER FAN
Fan Check
- This menu is for checking the fan operation.
- Select between [VACUUM FAN] and [BLOWER FAN] with[▲] [▼]keys. Turn the fan ON/OFF by pressing the [ENTER] key.
- Fan is automatically turned off if you exit this menu.
SUB MENU
TU CHECK
TU CHECK
1:* 2:* M:*
* When TU is not connected to connector
TU IS
NOT CONNECTED
TU Check
- This menu is for checking if sensor and motor of TU can be controlled properly.
- * is displayed next to [1:] when upper sensor is hit.
- * is displayed next to [2:] when lower sensor is hit.
- * is displayed next to [M:] when take up motor is running.
Display
Setting
SUB MENU
CLOCK
CLOCK
DATE 2016/01/01
CLOCK
DATE 2016/01/01
CLOCK
TIME 01:01:59
CLOCK
TIME 01:01:59
[B] is displayed when battery is dead.
CLOCK B
TIME 01:01:59
CLOCK B
TIME 01:01:59
Date and time setting
- This menu is for displaying and editing the date and time. When the machine detects a dead battery, "B" is indicated on the time display.
In this case, the batter needs to be replaced. "B" does not disappear automatically when the battery is replaced. "B" is deleted when the time is newly set up with the [ENTER] key on the time edit menu.
- When the real time clock is not active due to a dead battery, the maintenance operation may be performed improperly. For instance, the machine performs cleaning every time the secondary power is turned on.
- The time set here is used for the timing of maintenance operations and for recording the Event Log.
- When this setting is changed, it is recorded in the Event Log. The time before change is used for the log time, and the new time is recorded as reference information.
- If the cursor is at the right end, [▶] key becomes invalid.
CLOCK
DATE 2016/01/01
CLOCK
TIME 01:01:59
SUB MENU
DIP SW CHECK
DIP SW CHECK
0000 0000
Dip Switch Check
- This menu is for checking dip switch settings.
- It displays the real-time status of the No.1 to 8 dip switches in order from the left. [0] is OFF and [1] is ON.


SUB MENU
KEY CHECK
KEY CHECK
NONE
Key check
- This menu is for checking the operation of panel keys. It shows [NONE] on the lower line of the LCD when any key is not pressed. It shows the key name when a key is pressed.
- You can exit this menu with the [◀] key. Therefore, the [◀] key needs to be the last button to be pressed in order to check all the keys. No operations for 10 seconds or pressing the [◀] key let you exit this menu. When you exit the menu, the names of the keys that were not pressed are displayed with buzzer. If buzzer is not heard, all keys checked out properly.
- The message [KEY ERROR] appears if two or more keys are pressed at the same time.
- The power cannot be turned off by the [POWER] key while in this menu.
SUB MENU
LED/BUZ CHK
Abbreviated
LED/BUZZER Check
- This menu is for checking LED and buzzer. When this menu is selected, it sequentially checks the function of LED and buzzer. It checks ON/OFF of all LEDs, ON/OFF of buzzer. Confirm that all functions operate properly, visually and by the sound.
- The buzzer is repeatedly turned ON/OFF for about one minute. You can exit this menu by pressing the [ENTER] key during this time.
SUB MENU
PORT CHECK
Waiting for data input
DETECTING...
00: 0B
Receiving data from network
NETWORK
B3:1073741624B
Port check
- This menu is for checking the data input from network.
- The check sum and input data byte are shown on the lower LCD. [DETECTING...] means that there is no input during detection. The machine displays [DETECTING...] if there is no data input in the last 3 seconds.
- Checksum and number of input data bytes are displayed on the lower part of the LCD. On the left, it displays the check sum in hexadecimal number of two digits. On the right, it displays the input data byte in decimal number up to 10 digits.
- The check sum and input data byte are cleared when the [ENTER] key is pressed.
- The number of input data byte overflows upon reaching 4 GB (4,294,967,296 bytes) then returns to 0.
SUB MENU
WIRELESS
WIRELESS
RFID TEST
RFID TEST
NORMAL SLOT 1
RFID Test
- Checks each mode (NORMAL, SLOT n (1～8), RF OFF) and performs RFID test.
- Turn off the sub power SW when the RFID test is finished.
- Options: NORMAL, SLOT n (1～8), RF OFF
- Default: NORMAL
- NORMAL: Normal-operation mode
- SLOT n: The machine accesses a selected slot tag at one-second interval.
- ALL: All slot mode Test is performed from SLOT 1. (During the test, the LED light of the selected slot stays on. If an error occurs, the light turns off.)
- RF OFF: It does not access tags.
SUB MENU
REGION
REGION
CODE:0
REGION
0 2
Region Code Setting/Check
- This menu is for setting the region code of the printer.
- Range: 0 to 8
- Default: 0
SUB MENU
CLEAR M ALERT
Maintenance timing notification clear
- Parameter related to manual cleaning is updated by [ENTER] key, and notification of maintenance timing will not be displayed.
- Number of times manual cleaning was performed is added for one time.
SERVICE MENU
MOTOR MENU
MOTOR MENU
AGING
AGING
SCAN
NOW AGING
AGING
FEED
NOW AGING
AGING
BOTH
NOW AGING
AGING
CUTTING
NOW AGING


Motor Aging
- To stop aging, press the [ENTER] key. The print head carriage automatically returns to the capping position. After the print head is capped, it returns to the previous menu.
- Do not perform aging for a prolonged time with ink filled. Ink will dry out and damage the print head.
- When ink lines are filled with ink, the machine performs the flushing operation while performing aging. When ink lines are not filled with ink, the machine does not perform the flushing operation.
SCAN
Operation: Aging for the scan motor
Speed: 1185 mm/s
Range: The head carriage runs maximum printing width back and forth.
FEED
Operation: Aging for the feed motor
Speed: 100 mm/s
Range: The grit roller runs 100 mm back and forth.
BOTH
Operation: The machine performs aging for SCAN and FEED at the same time.
Speed: Same as above
Range:
CUTTING
Operation: The machine performs aging for SCAN and FEED at the same time. (cutting mode)
Speed: 300 mm/s
Range: The print head carriage runs maximum printing width in the scan direction back and forth. Also, it runs half of the maximum printing width in the feed direction.
MOTOR MENU
SERVO LOCK
SERVO LOCK
S: 100
Servo motor: LOCKED
SERVO LOCK
F: * 0 0
Servo motor: FREE
SERVO LOCK
F: 240 20
SERVO LOCK
F: 0 0
Servo Lock
- This menu is for checking whether the servo motor can be locked properly.
- While in this menu, the servo motor is free. If you manually move the motor (e.g. carriage) in this state, the displayed values change as long as the feedback is properly running. You can toggle between locking and freeing the servo by pressing the [ENTER] key. Freeing it or locking it at this time helps in identifying and investigating the axis causing the problem.
- The FEED value displayed on the left changes according to the grid encoder, and the FEED value on the right changes according to the motor encoder.
MOTOR MENU
G-ENC CHECK
M-ENC:80000
G-ENC:80004
OK
Error
G-ENC CHECK
COMPLETED
G-ENC CHECK
FAILED
Grit Encoder Check
- This menu is to check whether the grit encoder works properly.
- By performing this menu, you can identify problems such as read error of the grit encoder or loose screws.
- The feed motor operates during this check, so exercise caution.
SERVICE MENU
HEATER MENU
HEATER MENU
SVC.MODE HEAT.
SVC.MODE HEAT.
STOP STOP
Heater Menu in Service Mode
- This menu is to turn ON/OFF the heater when the machine is started in Service mode. By selecting START, the heater is turned on, and by selecting STOP, the heater is turned off. The setting of this menu is not saved.
- Range: START/STOP
- Default: STOP
HEATER MENU
HEATER ADJUST
HEATER ADJUST
PRINT
PRINT
0 0
HEATER ADJUST
DRYER
HEATER ADJUST
OPTION DRYER
Heater Temperature Correction Value Setting
- Controlled by the temperature with which only the part set as the correction value is offset to higher than the temperature displayed on the LCD.
- Setting range: -5 to +5
- Default value: 0
HEATER MENU
HEATER CHECK
PRINT 25°C
DRYER 25°C
OPT. 25°C
Heater Check
- Performs the heater and thermistor check. Selecting this menu displays the temperatures read from the dryer, and optional dryer thermistor, as well as the ON (energized) and OFF (non-energized) states.
- Select a heater by moving the cursor using the [▲] [▼] keys.You can turn the selected heater ON/OFF by pressing the [ENTER] key. (ON/OFF here means manually selecting whether or not to energize the heater, and not starting/stopping heater control. Thus, when it is left in the ON state, the heater will continue to be energized and the temperature will continue to rise.)
- (If you exit this menu, this is automatically turned OFF (non-energized state))
- As a check method, check if the temperature rises only in the correct heater when this is ON, and check whether the temperature decreases when this is OFF.
- Temperature is only displayed in degree Celsius.
- If the optional heater is not connected, the temperature is displayed as "****".


HEATER MENU
FEED FOR DRY L
FEED FOR DRY L
280mm 280mm
Media Feeding Amount of [FEED FOR DRY] Function When Using Optional Dryer
- This menu is to set the media feeding amount of [FEED FOR DRY] function when [OPTION DRYER] is set to [ENABLE] in user menu.
* Reference for amount of feed for dry is the origin in Feed direction.
-Setting range: 100 mm-350 mm (10 mm increments)
-Default value: 280 mm
SERVICE MENU
SYSTEM SWITCH
SYSTEM SWITCH
PAGE1
PAGE1
00000000
SYSTEM SWITCH
PAGE16
System Switch
- Each bit can be switched by the [▲] [▼] keys.
- Each bit can be selected by the [◀] [▶]keys.
- Press the [ENTER] key to save the settings.
- The rightmost positioned bit on each page is shown as bit 1, the leftmost positioned is shown as bit 8.
- On each page, the [▶] key is disabled if the cursor is at the rightmost position.
PAGE1
00000000
SERVICE MENU
HISTORY MENU
HISTORY MENU
MOTOR GROUP
MOTOR HOURS F
7 hours
MOTOR HOURS F
CLEAR
HISTORY MENU
HEAD GROUP
HISTORY MENU
MAINTE.GROUP
HISTORY MENU
CAPTOP GROUP
HISTORY MENU
WIPE GROUP
HISTORY MENU
PRINT GROUP
WIPE GROUP
CUTTING GROUP
HISTORY MENU
INK GROUP
HISTORY MENU
ERROR GROUP
HISTORY MENU
HEATER GROUP
HISTORY MENU
SYSTEM GROUP
History Menu
- In the history menu, the parameters are separated in groups by categories. The parameters can be displayed or cleared by selecting the group.
- Press the [▲] [▼]key to see each category. The parameters will be displayed below the group name.
- Refer to History Menu for details.
- If you press the [▶] key one more time, [CLEAR] appears. Press the [ENTER] key to clear the parameters.
SERVICE MENU
REPORT
REPORT
ALL
Report Menu
- All the reports such as system report, service report, history report, and ink cartridge IC report can be printed at once.

Support Menu



History Menu

MOTOR GROUP

Item	Description	Unit	Remarks
MOTOR HOURS F	Total time the feed motor rotated	hour	Brush life
MOTOR HOURS S	Total time the scan motor rotated	hour	Brush life
S PUMP TIMES A	Number of times the A-cleaning pump rotated	times	Pump life
S PUMP TIMES B	Number of times the B-cleaning pump rotated	times	Pump life
P PUMP TIMES 1	Number of times the pressure pump connected to (H4 B) rotated	times	Pump life (Viewed from rear, the first pump from the right)
P PUMP TIMES 2	Number of times the pressure pump connected to (H1 A) rotated	times	Pump life (Viewed from rear, the second pump from the right)
P PUMP TIMES 3	Number of times the pressure pump connected to (H2 A) rotated	times	Pump life (Viewed from rear, the third pump from the right)
P PUMP TIMES 4	Number of times the pressure pump connected to (H3 B) rotated	times	Pump life (Viewed from rear, the fourth pump from the right)
P PUMP TIMES 5	Number of times the pressure pump connected to (H4 A) rotated	times	Pump life (Viewed from rear, the fifth pump from the right)
P PUMP TIMES 6	Number of times the pressure pump connected to (H1 B) rotated	times	Pump life (Viewed from rear, the sixth pump from the right)
P PUMP TIMES 7	Number of times the pressure pump connected to (H3 A) rotated	times	Pump life (Viewed from rear, the seventh pump from the right)
P PUMP TIMES 8	Number of times the pressure pump connected to (H2 B) rotated	times	Pump life (Viewed from rear, the eighth pump from the right)
D PUMP TIMES	Number of times the draining pump rotated	times	Pump life
CLEAR ALL	Clear all values under MOTOR GROUP		

HEAD GROUP

Item	Description	Unit	Remarks
SHOT COUNT 1	Number of piezo drive times per nozzle (H1 A)	times x 1000	
SHOT COUNT 2	Number of piezo drive times per nozzle (H1 B)	times x 1000	
SHOT COUNT 3	Number of piezo drive times per nozzle (H2 A)	times x 1000	
SHOT COUNT 4	Number of piezo drive times per nozzle (H2 B)	times x 1000	
SHOT COUNT 5	Number of piezo drive times per nozzle (H3 A)	times x 1000	
SHOT COUNT 6	Number of piezo drive times per nozzle (H3 B)	times x 1000	
SHOT COUNT 7	Number of piezo drive times per nozzle (H4 A)	times x 1000	
SHOT COUNT 8	Number of piezo drive times per nozzle (H4 B)	times x 1000	
WIPE H1-H4	Number of times wiping was performed (H1-H4)	times	
NORMAL CL.H1-H4	Number of times normal cleaning was performed (H1-H4)	times	
MEDIUM CL.H1-H4	Number of times medium cleaning was performed (H1-H4)	times	
POWERFUL CL.H1-H4	Number of times powerful cleaning was performed (H1-H4)	times	
INK RENEWAL H1-H4	Number of times ink was updated (H1-H4)	times	
LIGHT CL.H1-H4	Number of times LIGHT cleaning was performed (H1-H4)	times	
FILL DAMP. H1-H4	Number of times fill damper was performed (H1)	times	
EMPTY DAMP. H1-H4	Number of times empty damper was performed (H1-H4)	times	
DAMPER CL. H1-H4	Number of times damper cleaning was performed (H1-H4)	times	
CLEAR H1-H4	Clear all values of H1-H4		
CLEAR ALL	Clear all values under HEAD GROUP		

MAINTE GROUP

Item	Description	Unit	Remarks
MAINTE. COUNT	Number of times head maintenance was performed	times	
TOTAL TIME	Elapsed time from the last head maintenance	hour	This value is cleared automatically after the head maintenance is performed.
PRINTING TIME	Printing time from the last head maintenance	hour	This value is cleared automatically after the head maintenance is performed.
CLEAR ALL	Clear all values under MAINTE GROUP		

WIPE GROUP

Item	Description	Unit	Remarks
WIPING COUNT	Number of times wiping was performed	times	This value is cleared automatically after the wiper is replaced.
WIPER REPLACE	Number of times the wiper was replaced	times	
WIPER WASH	Number of times wiper was cleaned (Number of times wiping was performed)	times	This value is cleared automatically after tray cleaning is finished.
TRAY CLEANING	Number of times tray was cleaned	times	
SKIP TIME	Maximum time which the cleaning liquid had not supplied	hour	This value is cleared automatically after the wiper is replaced.
CLEAR ALL	Clear all values under WIPE GROUP		

CAPTOP GROUP

Item	Description	Unit	Remarks
REPLACE DATE 1	Date that Captop of H1 was replaced		
REPLACE DATE 2	Date that Captop of H2 was replaced		
REPLACE DATE 3	Date that Captop of H3 was replaced		
REPLACE DATE 4	Date that Captop of H4 was replaced		
CLEAR ALL	Clear all values under CAPTOP GROUP		

PRINT GROUP

Item	Description	Unit	Remarks
PRINTING TIME	Total printing time	hour	Test print time is excluded.
PRINT PAGES	Number of pages printed	pages	
PRINT AREA	Total area of printing performed	square meter	
CLEAR ALL	Clear all values under PRINT GROUP		

INK GROUP

Item	Description	Unit	Remarks
CARTRIDGE 1-8	Number of times ink cartridge 1 -8 was changed	times	
EMPTY HIT 1-8	Number of times ink cartridge 1-8 was detected to be empty	times	
CHANGE INK	Number of times the Ink type was changed	times	
CIRCULATE	Number of times ink circulation has been performed	times	
DISCHARGE	Number of times ink circulation + ink discharge has been performed	times	
CHOKE VALVE 1-8	Total time choke valve 1 -8 was opened/closed	times	Choke valve connected cartridge 1-8
CHOKE VALVE 9	Total time choke valve 9 was opened/closed	times	Choke valve connected to the ink cartridge that has ink circulation line (ink cartridge 1).

Item	Description	Unit	Remarks
CHOKE VALVE 10	Total time choke valve 10 was opened/closed	times	Unused
CHOKE VALVE 11	Total time choke valve 11 was opened/closed	times	Choke valve connected to cleaning liquid cartridge.
CH. SOLENOID 1-8	Total time choke solenoid 1-8 was opened/closed	times	Choke solenoid connected cartridge 1-8
CH. SOLENOID 9	Total time choke solenoid 9 was opened/closed	times	Choke solenoid connected to the ink cartridge that has ink circulation line (ink cartridge 1).
CH. SOLENOID 10	Total time choke solenoid 10 was opened/closed	times	Unused
CH. SOLENOID 11	Total time choke solenoid 11 was opened/closed	times	Choke solenoid connected to cleaning liquid cartridge.
CLEAR ALL	Clear all values under INK GROUP		

*The choke valve and the choke solenoid simultaneously count up when opened. Data items can be cleared individually.

ERROR GROUP

Item	Description	Unit	Remarks
SERVICE CALL	Number of times service call occurred	times	
S-CALL HISTORY	Service call numbers of the last five service calls	No.	Last five service call numbers are retained.
MOTOR ERROR F	Number of times the feed motor error occurred	times	Number of times the servo error occurred
MOTOR ERROR S	Number of times the scan motor error occurred	times	Number of times the servo error occurred
LOW TEMP.ERR.	Number of times the low temperature error occurred	times	Number of times the low temperature error occurred
HIGH TEMP.ERR.	Number of times the high temperature error occurred	times	Number of times the high temperature error occurred
EMERG. CAPPING	Number of times the emergency capping error occurred	times	Number of times of forced capping occurred to prevent head drying when the print head is left uncapped for 10 minutes or more due to cover open or other reasons.
START UNCAPPED	Number of times the printer started uncapped	times	When the print head is left uncapped, it is detected when printer is started.
CLEAR ALL	Clear all values under ERROR GROUP		

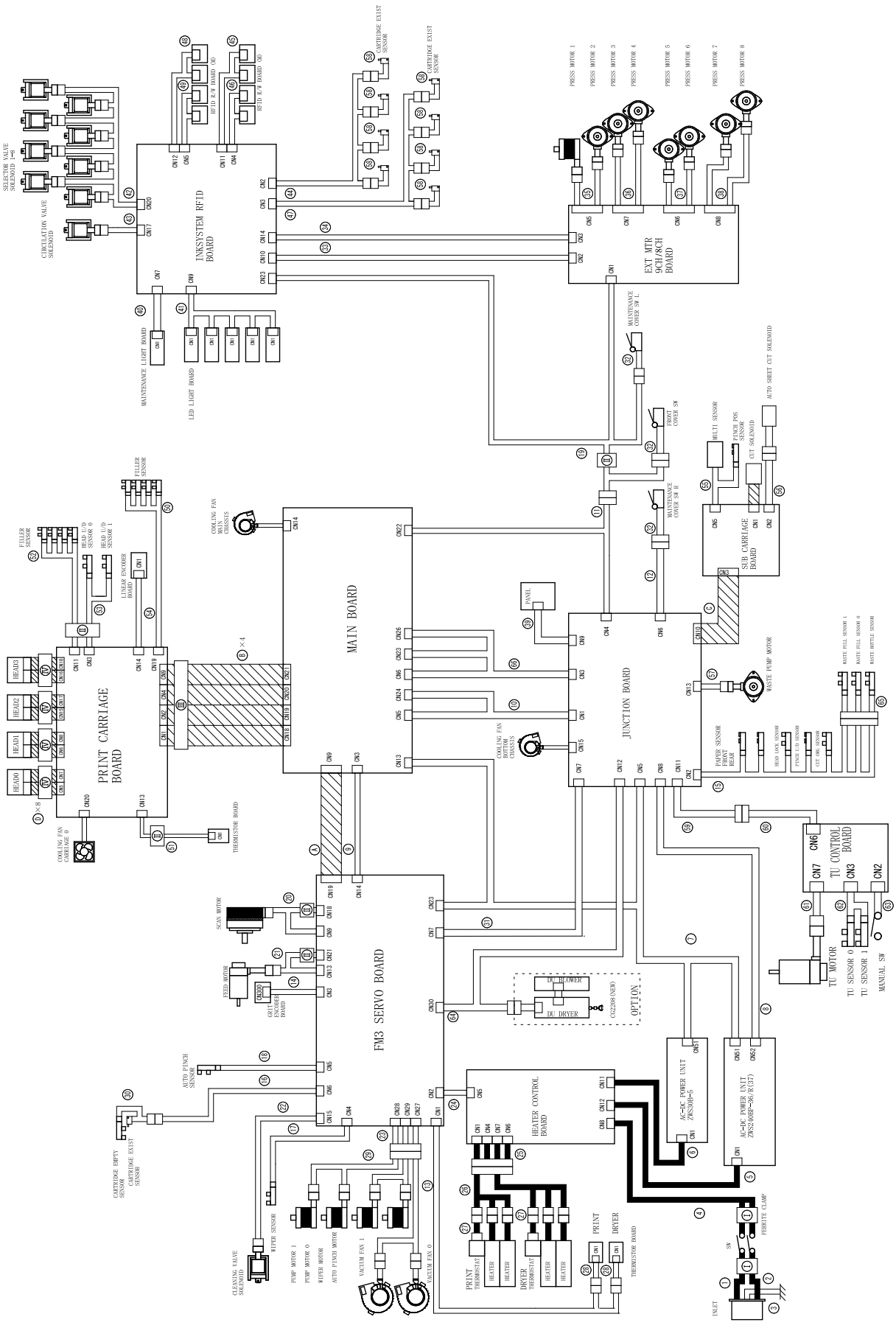
HEATER GROUP

Item	Description	Unit	Remarks
PRINT USE TIME	Total time the print heater was used	hour	Total time the print heater was used
DRY USE TIME	Total time the dryer was used	hour	Total time the dryer was used
OPT. USE TIME	Total time the option dryer was used	hour	Total time the optional dryer was used
CLEAR ALL	Clear all values under HEATER GROUP		

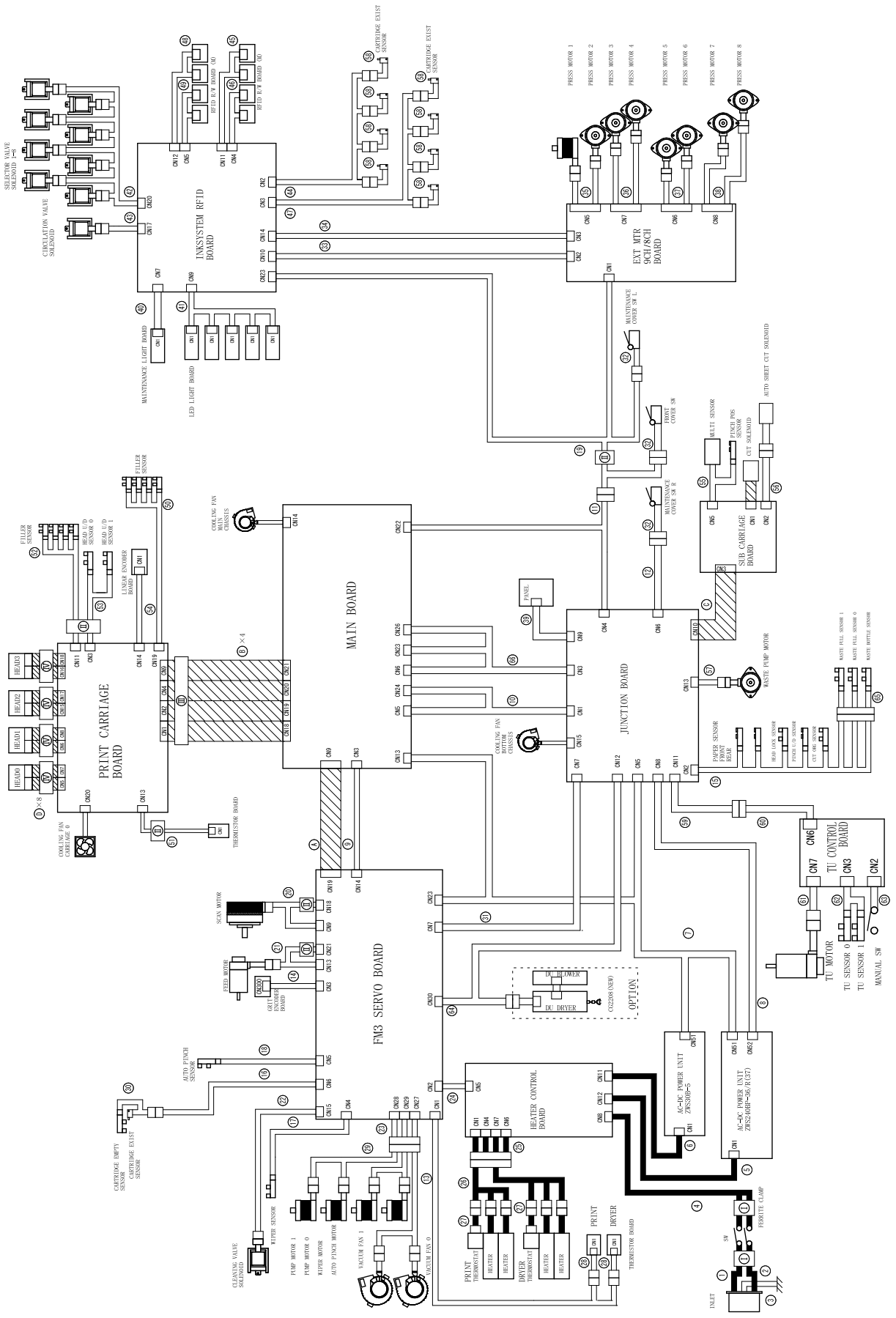
SYSTEM GROUP

Item	Description	Unit	Remarks
POWER ON COUNT	Number of times the sub power switch was turned on	times	
POWER ON TIME	Hours that the sub power switch is on	hour	
SLEEP TIME	Total time the printer was in the sleep mode	hour	
SHEETCUT COUNT	Number of times the sheet cut was performed	times	It counts auto sheet cut performed by both printer and RIP.
SETUP COUNT	Number of times setup was performed	times	
CLEAR ALL	Clear all values under SYSTEM GROUP		

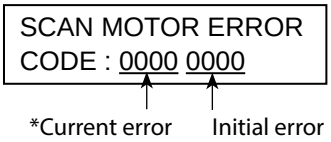
VG3-640 Wiring Map



VG3-540 Wiring Map



Error Description



* If different errors occur in order, their codes are added up.
ex) 0022 is displayed, if 0002 (FEED motor error) and 0020 (SCAN motor error) occur in order.

Code	Meaning	Cause
0001	Feed motor deviation error (The directive from the CPU does not match the feedback of the feed motor.)	1. Remove causes of media jams. 2. Use appropriate media. *When the machine is feeding hard-to-unroll or heavy media with a basis weight greater than 30 kg, excess load is applied, resulting in the motor error. 3. Clean the scan motor and the drive gear. *The motor error occurs when dirt is on the part where the scan motor and the drive gear mesh together. 4. Replace the motor. *When the motor is broken or worn out, the motor cannot follow the directives from CPU, resulting in the motor error. 5. Replace the servo board. *When the motor driver is broken, the power supply voltage for the motor is not supplied, and the motor cannot move. This will lead to the motor error. 6. Replace the SW power supply. *When the power supply voltage for a motor is not supplied, the motor cannot move and it results in a motor error.
0002	Feed motor overcurrent error 1 (Extremely large instantaneous load is placed on motor movement.)	
0004	Feed motor overcurrent error 1 (Large load is placed on motor movement for a short time.)	
0008	Feed motor overcurrent error 2 (Small load is placed on motor movement for a long time.)	
0010	Scan motor deviation error (The directive from the CPU does not match the feedback of the scan motor.)	
0020	Scan motor overcurrent error 1 (Extremely large instantaneous load is placed on motor movement.)	
0040	Scan motor overcurrent error 1 (Large load is placed on motor movement for a short time.)	
0080	Scan motor overcurrent error 2 (Small load is placed on motor movement for a long time.)	

Service Call Errors ⚠2

Code	Error name	Contents	Possible causes	Action (You do not have to perform everything listed below. Sometimes performing just one or some of the following can solve the problem.)
0002	Sub CPU error	• Disorder of communication with the sub CPU • This occurs when the Sub CPU is not detected after turning on the machine. • Additional information at the time of error is displayed on LCD.	• Sub board (Servo board, sub carriage board or TU board) does not work correctly. • Sub CPU does not work correctly. • There is a bad connection between the main board and servo board. • Noise in signal • Sub CPU is reset.	• Check the cable connection between main board and servo board. • Replace the sub board. • Replace the main board. • Replace the ribbon cable.
0003	DIP switchsetting error	• The DIP switch setting is inappropriate.	• DIP switch setting error • Defective DIP switch • Main board defective	• Check the DIP switch setting on the main board. • Replace the main board.
0008	Communication error	• There is a problem with synchronizing serial communication to the sub CPU.	• The servo board does not work correctly. • Sub CPU does not work correctly. • There is a bad connection between the main board and servo board. • Noise in signal	• Check the cable connection between main board and servo board. • Check other cable connections of servo board. • Replace the servo board. • Replace the main board. • Replace the ribbon cable.
0011	Memory error	• Memory error	• Breakdown of memory	• Replace the main board.
0012	Power voltage error	• The power voltage does not achieve 37V at the time of turning the sub power on.	• Defect of switching power supply • Defect of the cable connection between switching power supply and main board • Blowout of the fuse in the main board or extension motor board	• Replace switching power supply • Check the cable connection between switching power supply and main board. • Replace the fuse of main board or the extension motor board
0013	Initialization error	• Initialization has not been performed.	• Initialization has not been performed.	• Initialize all the parameters.
0101	Limit position initialize error	• Limit position initialize in the service mode has not been done.	• Limit position initialize has not been done or ended before it is completed.	• Complete limit position initialize correctly.
0102	Head lock sensor error	• Head lock sensor does not work correctly.	• Head lock sensor is not working properly or broken.	• Replace the head lock sensor. • Check the backlash and looseness.
0103	Cutting limit sensor error	• Cutting limit sensor does not work properly.	• Cutting limit sensor is not working properly or is defective.	• Replace the cutting limit sensor. • Check the backlash and looseness of scan direction..
0105	Carriage attaching error	• The cut carriage and the print carriage are not attached properly.	• The joint parts of the carriages are defective. • Carriages are distorted. • Limit position adjustment was not performed properly. • Defective sensor	• Check if the carriages are distorted or loose. • Replace the joint part. • Adjust the limit position.
0106	Carriage detaching error	• The cut carriage and the print carriage did not detach properly.	• The joint parts of the carriages are defective. • Carriages are distorted. • Limit position adjustment was not performed properly. • Defective sensor	• Check if the carriages are distorted or loose. • Replace the joint part. • Adjust the limit position.

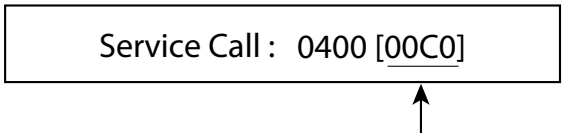
Code	Error name	Contents	Possible causes	Action (You do not have to perform everything listed below. Sometimes performing just one or some of the following can solve the problem.)
0109	Wiper unit error	• The wiper unit does not work correctly.	• Wiper motor error • Defect of the wiper unit • Defect of the wiper sensor • Cut-line or short-circuit of cables and the ribbon cable	• Replace the wiper motor. • Replace the wiper unit. • Replace the wiper sensor. • Replace cables and the flexible cable.
0110	Linear encoder error	• Input value from the linear encoder is not changed by the linear encoder origin setup. • When the motor stops during printing, expected movement is not completed on the print head.	• Read error of the linear encoder. • Read error of the encoder on the scan motor side. • The belt is not attached to the print carriage firmly.	• Confirm whether the encoder scale is in the slit of the encoder sensor in a whole width of the machine. • Check the cable connection between the print carriage board and linear encoder board. • Check the connection between the belt and print carriage. • Replace the linear encoder. • Replace the scan motor. • Replace the main board.
0111	The position of the tool crop sensor is not properly adjusted.	• You performed crop-cut adjustment before performing [CROP-CUT ADJ.] > [SETTING].	• You have not performed [CROP-CUT ADJ.] > [SETTING].	• Perform [SERVICE MENU] > [CROP-CUT ADJ.].
0112	RFID communication error	• Communication error with the RFID R/W board	• RFID R/W is board is broken. • RFID R/W board and ink system board cables have short circuited or cut-line.	• Check the cable connection between RFID R/W board and ink system board. • Replace the ink system board. • Replace the RFID R/W board.
0130	Thermistor error (Print heater)	• There is a problem with the thermistor for print heater	• Thermistor has a problem. • Thermistor cable has short circuited or cutline.	• Check cable connection around thermistor. • Replace the thermistor.
0135	Heater error (Print heater)	• Heater temperature has reached 60 ºC and above.	• The heater cable connection has a problem. • The thermostat has a problem. • The thermistor has a problem.	• Check the heater. • Check the thermostat. • Check the thermistor.
0140	Thermistor error (Dryer)	• There is a problem with the thermistor for dryer.	• Thermistor has a problem. • Thermistor cable has short circuited or cutline.	• Check the cable connection . • Replace the thermistor.
0145	Heater error (Dryer)	• Heater temperature has reached 65 ºC and above.	• The heater cable connection has a problem. • The thermostat has a problem. • The thermistor has a problem.	• Check the heater. • Check the thermostat. • Check the thermistor.
0146	Heater error (Option dryer)	• Option heater temperature has reached 70 ºC and above.	• Option dryer cable connection has a problem. • Thermostat has a problem. • Thermistor has a problem.	• Check option dryer. • Check thermostat. • Check thermistor
0250	Head device error	• Head device has detected a problem.	• Blowout of the fuse in the main board	• Replace the fuse in the main board.
0305	Print carriage board error	• AMP thermistor on the print carriage board detected high temperature.	• The connectors of the print carriage fan are unplugged. • AMP thermistor is defective.	• Check that the connectors of the print carriage board are plugged in completely. • Replace the print carriage board.

Code	Error name	Contents	Possible causes	Action (You do not have to perform everything listed below. Sometimes performing just one or some of the following can solve the problem.)
0320	Ink system board error	• There is a bad connection with sub CPU on ink system board.	• Sub CPU does not work correctly. • There is a bad connection between the ink system and the servo board. • Noise in signal	• Replace the ink system board. • Check the following cable connection. • Between the main board and the pump drive board • Between the pump drive board and the ink system board
0360	Servo motor A/D read error	• The amount of load placed on the servo motor cannot be read correctly.	• The connector of the servo motor is plugged in incompletely. • Servo board is defective.	• Replace the servo board. • Check the cable connection of the servo motor and the servo board.
0361	Servo motor hall sensor error	• Hall sensor of the scan motor is defective.	• A signal from the hall sensor cannot be read properly. • Scan motor is defective.	• Replace the servo board. • Check the cable connection of the servo motor and the servo board. • Replace the scan motor.
0370	Cut solenoid A/D read error	• The amount of load placed on the cut solenoid cannot be read correctly.	• The connector of the cut solenoid is plugged in incompletely. • Servo board is defective.	• Replace the servo board. • Check the cable connection of the cut solenoid and the servo board.
0371	Cut solenoid load error	• Large load is placed on solenoid.	• The connector of the cut solenoid is plugged incompletely. • Servo board is defective.	• Replace the servo board. • Check the cable connection of the cut solenoid and the servo board.
0380	Pressure pump time out	• Although the pressure pump has rotated certain times, ink is not supplied to the damper. • Nozzle line code is displayed as bit on LCD (nozzle line code indicates which nozzle the error occurred to). (Hexadecimal, 4 digits from LSB H1A to H4B)	• Filler sensor is defective. • Connection of the filler sensor is defective. • Pressure motor and pump are defective. • Connection of the pressure motor is defective.	• Replace the filler sensor or check the cable connection of the sensor. • Check the cable connection of the pressure pump motor. • Replace the pressure pump motor. • Replace the pressure pump. • Ink lines with problems are shown in the event log.
0400	Pump suction or ink firing error	• Ink cannot be sucked or ink in the damper cannot be discharged properly . • Nozzle line code is displayed as bit on LCD (nozzle line code indicates which nozzle the error occurred to). (Hexadecimal, 4 digits from LSB H1A to H4B)	• Filler sensor is defective. • Connection of the filler sensor is defective. • Cleaning motor or pump is defective. • Cap top is not installed properly. • Cap top is broken. • Print head is broken.	• Replace the filler sensor or check the cable connection of the sensor. • Check the cable connection between servo board and the cleaning pump motor. • Replace the cleaning pump motor. • Replace the cleaning pump. • Check the cap top position. • Replace the cap top. • Replace the print head.
0420	Auto middle pinch error	• Auto middle pinch sensor does not work properly even if prescribed operation is performed.	• Defect of auto middle motor • Defect of auto middle pinch unit • Defect of auto middle pinch sensor • Cable/ribbon cable has short circuited or cutline.	• Replace auto middle pinch motor. • Replace auto middle pinch unit. • Replace auto middle pinch sensor • Replace cable/ribbon cable.

Code	Error name	Contents	Possible causes	Action (You do not have to perform everything listed below. Sometimes performing just one or some of the following can solve the problem.)
0430	TU sensor error	• Both upper and lower sensors that detect UP/DOWN of the dancer bar for TU reacted at the same time.	• TU sensor is broken. • Circuit board is broken. • Cable connection has a problem.	• Replace TU sensor. • Replace circuit board. • Check cable connection.
0470	Servo board 24V power supply error	• 24V is not output from the servo board. (Since the operation panel does not start up, the error can only be shown in the system report.)	• There is a bad connection between the servo board and the junction board. • Fuse for the servo board is broken. • Power supply IC for the servo board is broken.	• Check cable connection between the servo board and the junction board. • Replace the fuse for servo board. • Replace the servo board.
0480	TU board 24V power supply error	• 24V is not supplied to the TU board.	• There is a bad connection between the TU board and the junction board. • Power supply IC of the junction board is broken.	• Check cable connection between the TU board and the junction board. • Replace the junction board.

Supplement on Service Call 0400

When Service call "0400" error occurs, the message below appears on the operation panel screen.



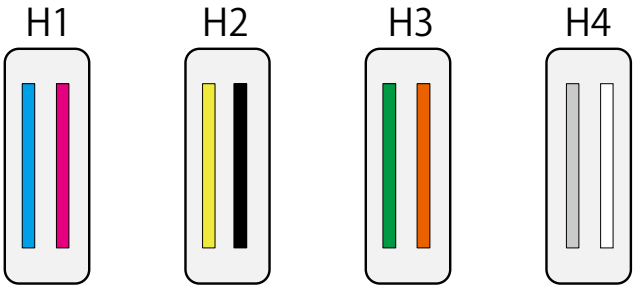
Nozzle line code
(It indicates which nozzle the error occurred to.)
* Not displayed if "0400" occurs during ink circulation.

How to read the nozzle line code

In case Service call "0400" occurs to multiple nozzles, nozzle line code will be displayed in hex notation.

Example: When Service call "0400" occurs to both nozzles (nozzle line code "0040" and "0080") of H4

0040 + 0080 = 00C0
Therefore, "00C0" will be displayed on the operation panel screen.



	H1	H2	H3	H4
4 color	MG YE	CY BK	BK CY	YE MG
7 color	CY MG	YE BK	Gr Or	Lk MG
8 color	CY MG	YE BK	Gr Or	Lk WH
8 color	CY MG	YE BK	Lm Lc	Lk Or
8 color	CY MG	YE BK	Lm Lc	Lk WH
8 color	CY MG	YE BK	Lm Lc	Gr Or
Nozzle line code	0001 0002	0004 0008	0010 0020	0040 0080

Supplement on Service Call 0002

When Service call "0002" error occurs, the message below appears on the operation panel screen. The information displayed after 0002 is useful for identifying the cause of the error.

Service Call : 0002 [xxyz]

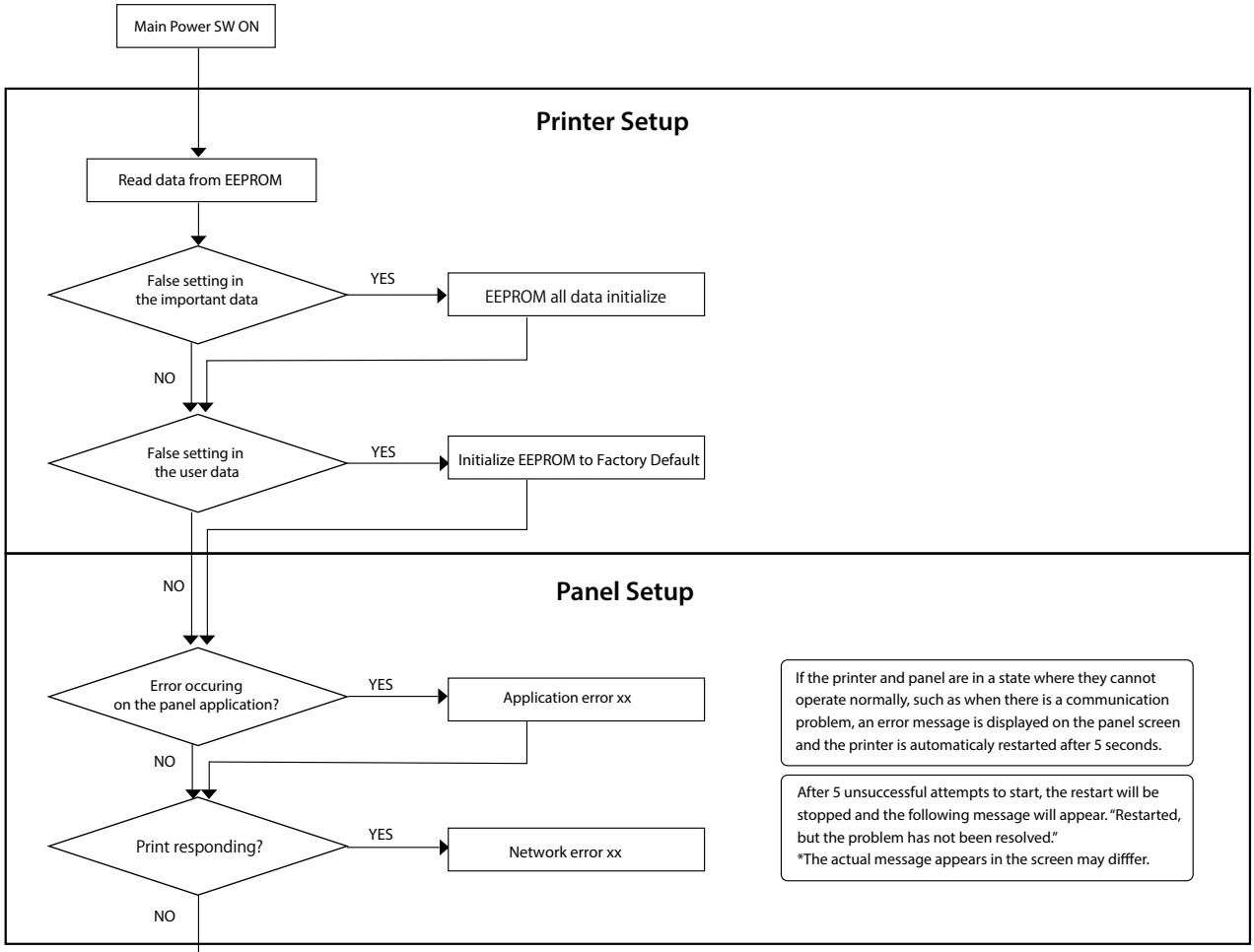
XX: Number of times that command has been sent after main power was turned ON.

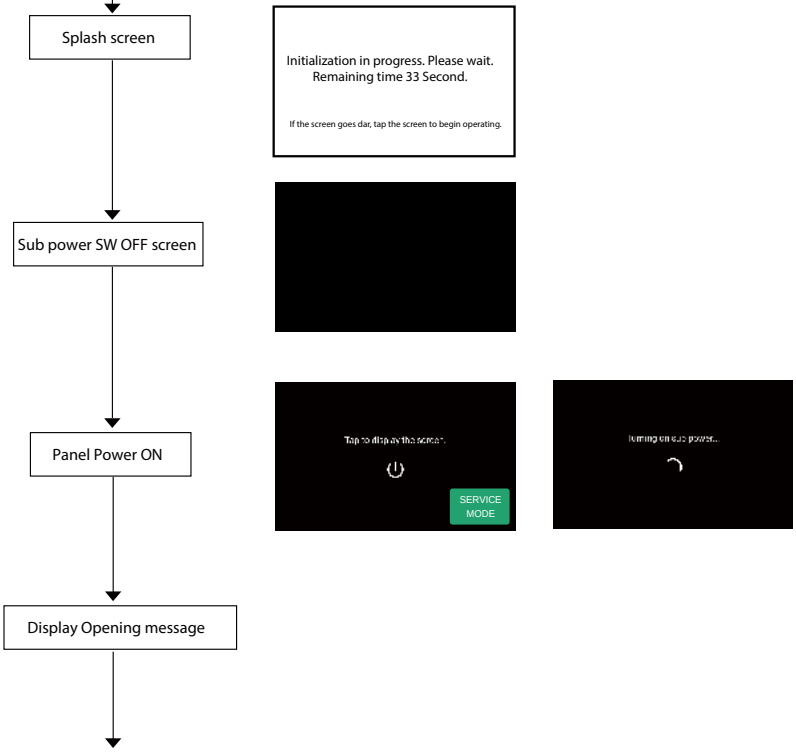
y: Types of communication error

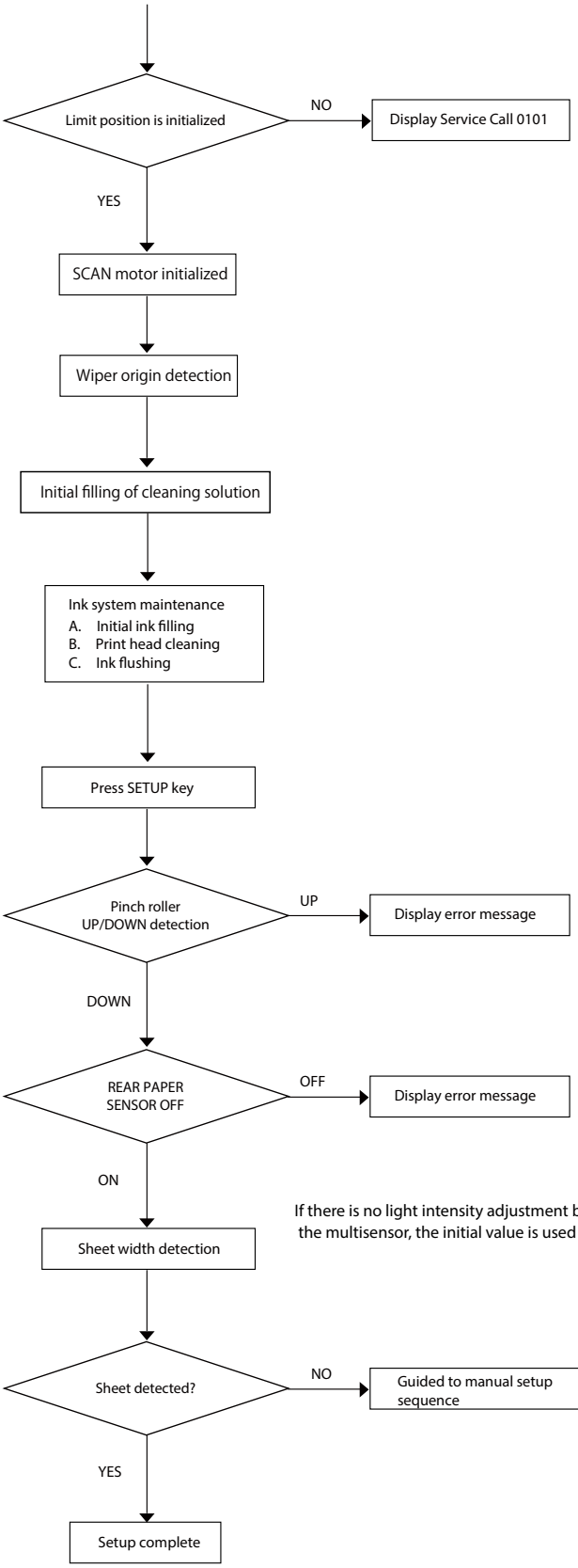
- 0: No error
- 1 to 3: Signal not receiving
- 4: Time out for sending signal
- 5 to 6: Time out for receiving signal
- 7 to 9: Access token error

z: Circuit board that the error is occurring

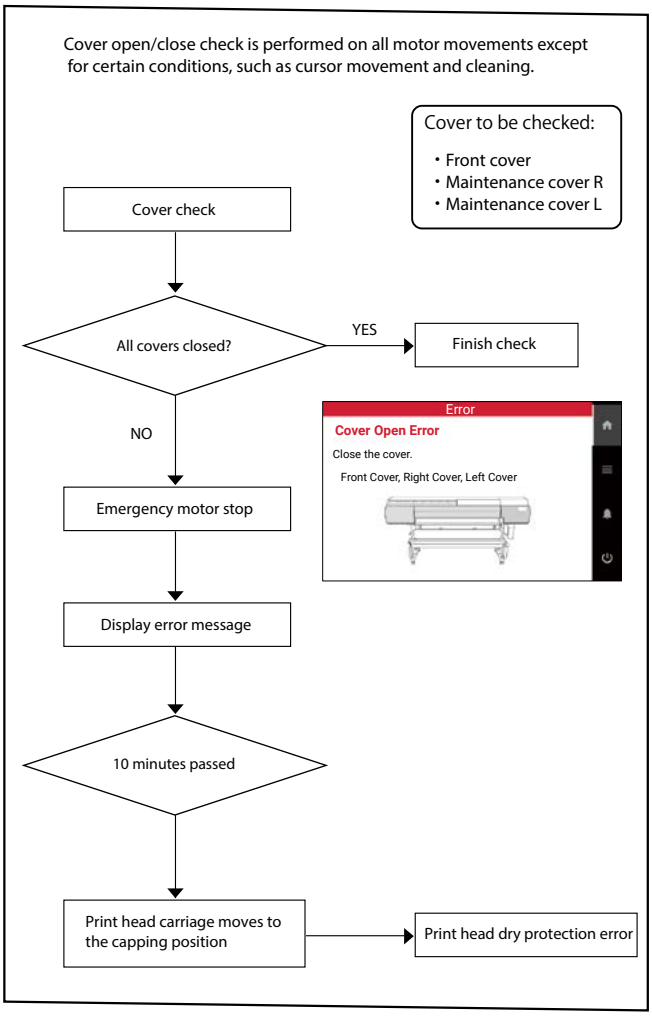
- 0: Servo board
- 1: Sub carriage board
- 2: TU board


Main Power SW ON
Printer Setup
Read data from EEPROM
False setting in the important data
YES
EEPROM all data initialize
NO
False setting in the user data
YES
Initialize EEPROM to Factory Default
NO
Panel Setup
Error occuring on the panel application?
YES
Application error xx
NO
Print responding?
YES
Network error xx
NO
If the printer and panel are in a state where they cannot operate normally, such as when there is a communication problem, an error message is displayed on the panel screen and the printer is automaticaly restarted after 5 seconds.
After 5 unsuccessful attempts to start, the restart will be stopped and the following message will appear. "Restarted, but the problem has not been resolved."
*The actual message appears in the screen may difffer.


Splash screen
Initialization in progress. Please wait.
Remaining time 33 Second.
If the screen goes dar, tap the screen to begin operating.
Sub power SW OFF screen
Panel Power ON
SERVICE MODE
Display Opening message



If there is no light intensity adjustment by the multisensor, the initial value is used for LED.



Maintenance Cover R

CUT ORG SENSOR

It detects the limit position of the carriage in its moving direction.

HEAD LOCK SENSOR

It detects whether print head carriage is at the lock position or not.

MAINTENANCE COVER SW R

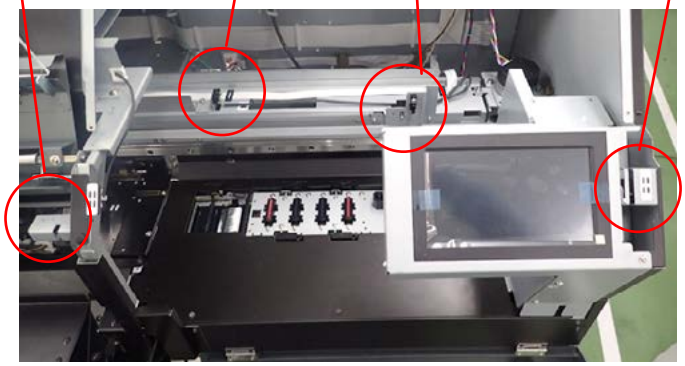
It detects the open/close state of the maintenance cover R.

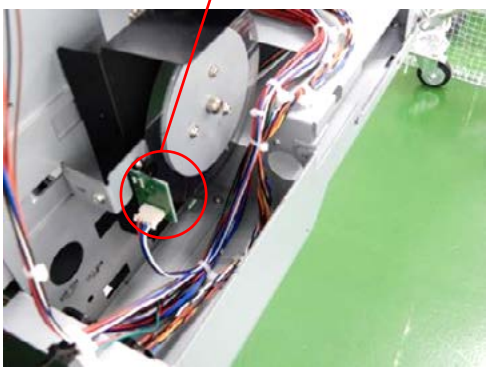
FRONT COVER SW

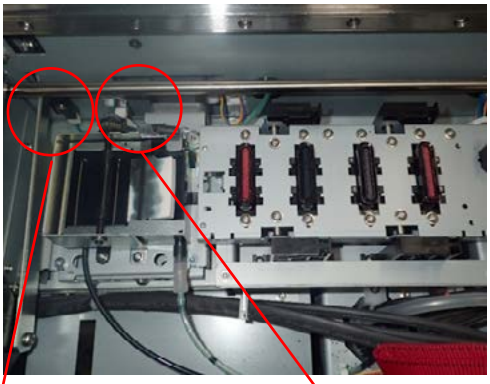
It detects the open/close state of the front cover.

GRIT ENCODER BOARD

It detects the rotation speed of the grit roller.







CARTRIDGE EXIST SENSOR(CL)

It detects whether cleaning cartridge is installed or not.

CARTRIDGE EMPTY SENSOR (CL)

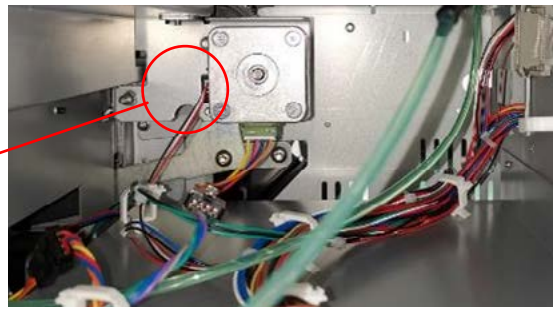
It detects the amount of cleaning liquid left in cleaning cartridge.

PINCH U/D SENSOR

It detects whether the pinch lever is up or down.

WIPER SENSOR

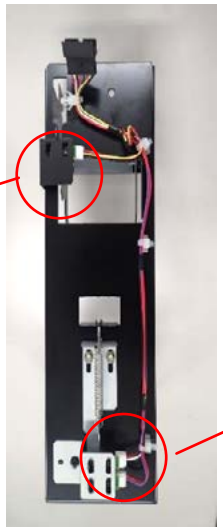
It detects the limit position of the wiper movement.



AUTO PINCH SENSOR

It detects up/down of auto pinch.

Waste Bottle



WASTE BOTTLE SENSOR

It detects whether waste bottle is installed or not.

WASTE FULL SENSOR (2 pcs)

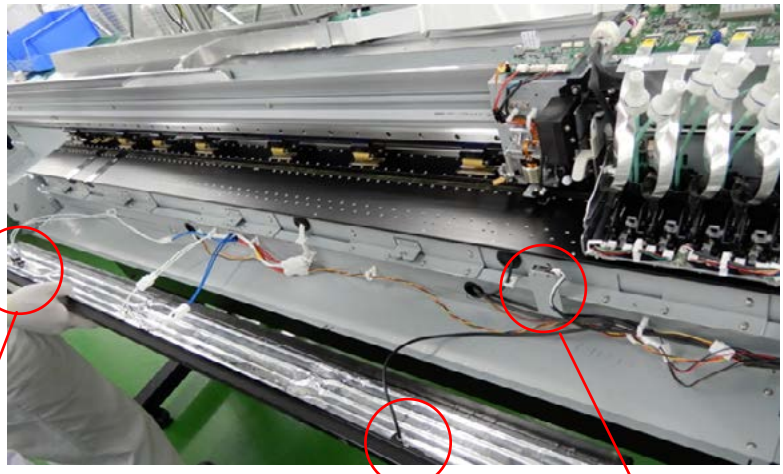
It detects that the waste bottle is full.

Rear Apron

PAPER SENSOR REAR

It detects the rear end of media.

Front Apron



THERMOSTAT (PRINT)

Power supply to the heater will be cut off when the temperature exceeds allowable temperature limit.

THERMISTOR BOARD (PRINT)

It measures the temperature of the print heater.

PAPER SENSOR FRONT

It detects the front edge of media.

Bed

THERMOSTAT (DRYER)

Power supply to the dryer will be cut off when the temperature exceeds allowable temperature limit.

THERMISTOR BOARD (DRYER)

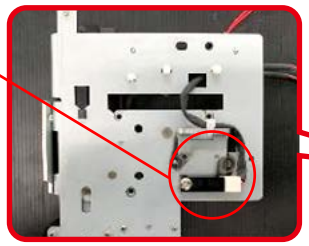
It measures the temperature of the dryer.

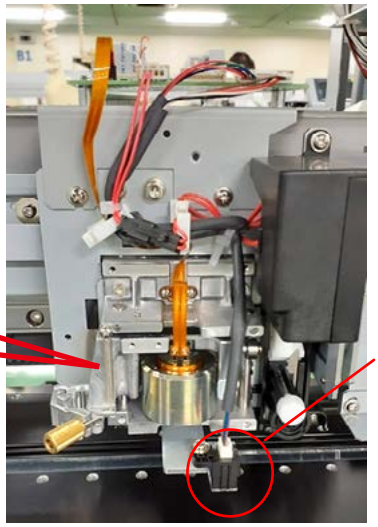
Print head Carriage

PINCH POS SENSOR

It detects the position of the pinch roller.

Back View





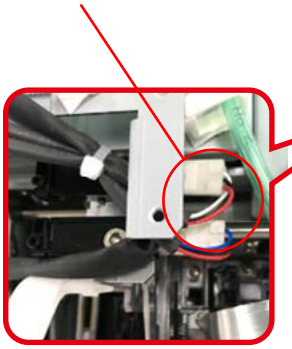
MULTI SENSOR

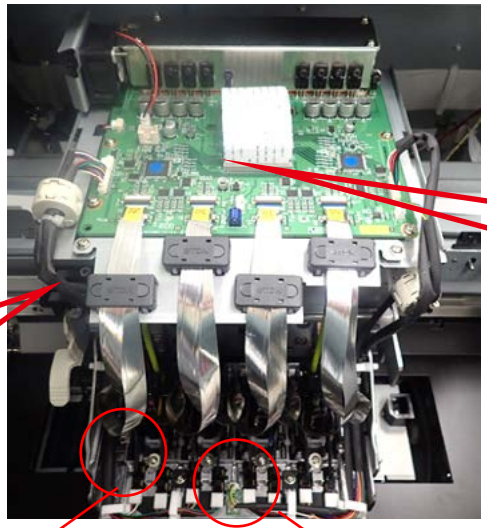
It detects crop marks, clamp and automatically perform correction.

.

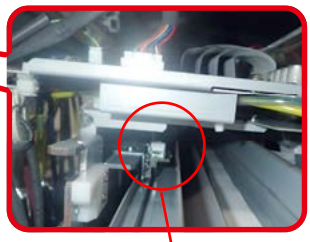
HEAD U/D SENSOR (2pcs)

It detects the height of the print head.





Side View



LINEAR ENCODER BOARD

It detects the coordinates of the carriage and sends print signals.

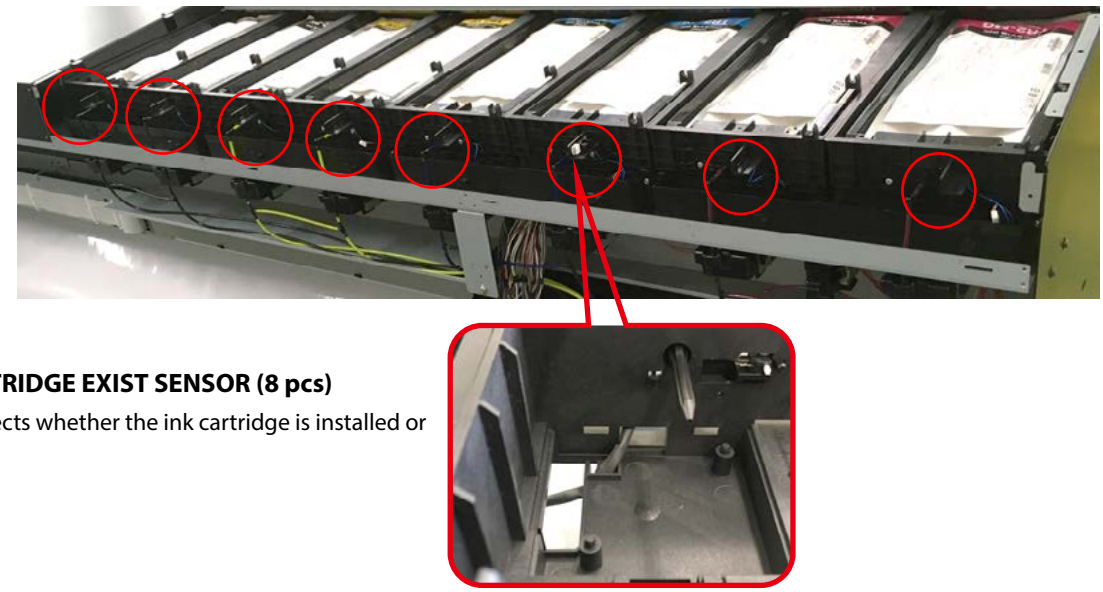
FILLER SENSOR (8 pcs)

It detects the pressurization of print head dampers.

THERMISTOR BOARD (CARRIAGE)

It measures the temperature around the print carriage board.

Ink Cartridge



CARTRIDGE EXIST SENSOR (8 pcs)

It detects whether the ink cartridge is installed or not.

Maintenance Cover L

MAINTENANCE COVER SW L

It detects the open/close state of the maintenance cover L.

TU

MANUAL SW

Switch for manual take-up of media. (Rotation/rotating direction)

TU SENSOR (U/B)

It detects the position of the dancer bar.

VG3-640 / VG3-540 Installation Checklist

Date: _____

User name: _____ Serial number: _____

☐ **Installation space**

☐ **Required space needs to be secured in order to use this machine.**

☐ **Included item**

Confirm that the included items are all present and accounted for in reference to Setup Guide.

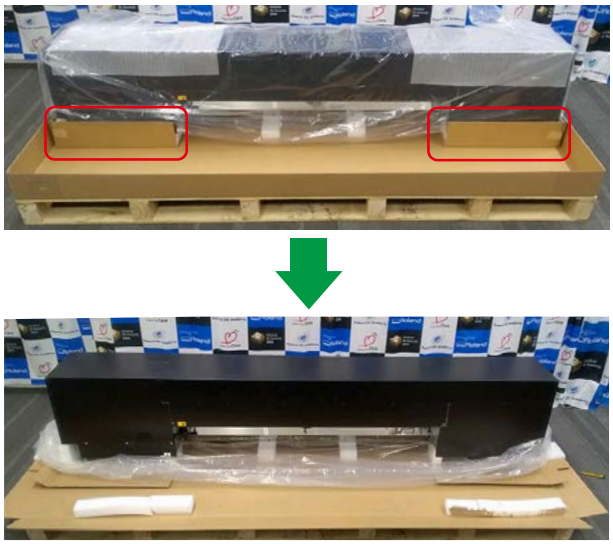
☐ **Preparation**

Refer to "Assembly and Ink Filling" to "Network settings" of the Setup Guide and perform the following work.

☐ **Assembling the stand – mounting the machine**

Mounting the machine

1. **Remove two pieces of packing material from the rear side.**

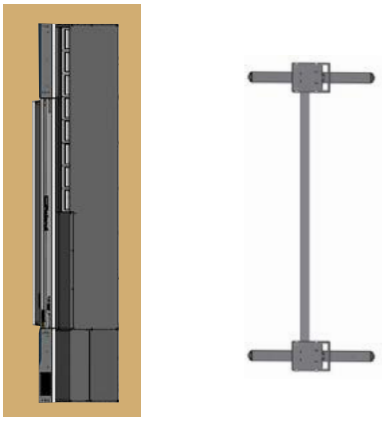


NOTE

If the packing material is difficult to remove, lift the main unit slightly.

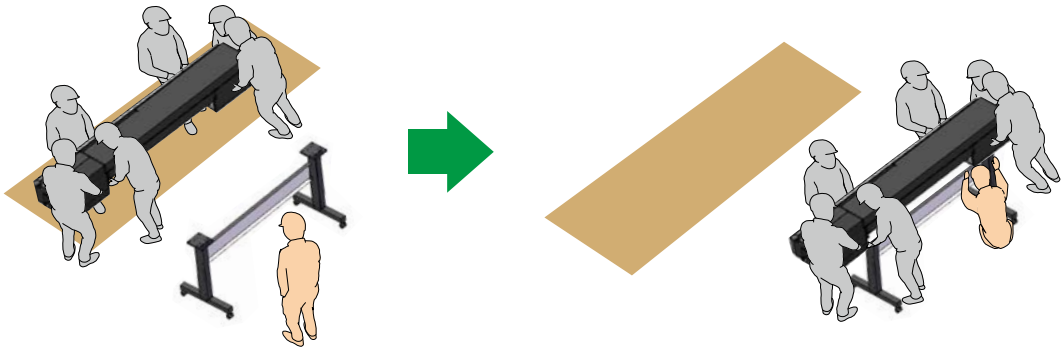
2. **Place the assembled stand on the rear side of the main unit.**

Top view



3. **Place the main unit on the stand and tighten the bolts.**

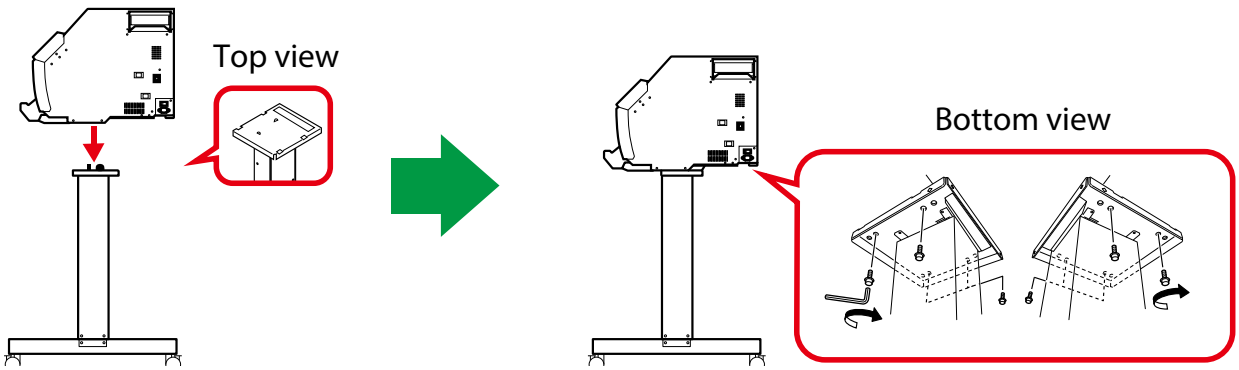
3-1. Carry the main unit on the stand.



CAUTION

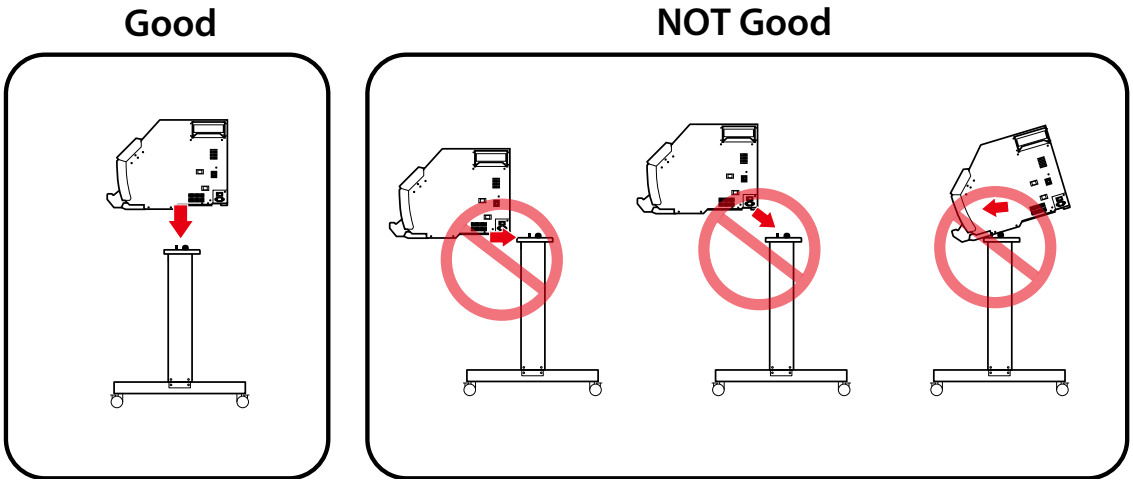
When carrying the unit, remove the plastic bag to prevent it from slipping.

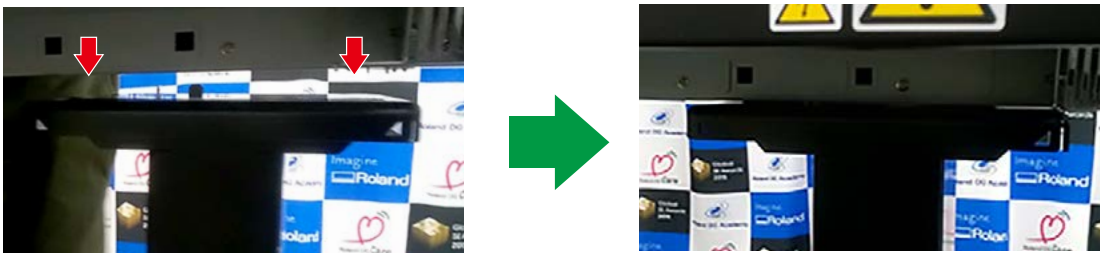
3-2. Align the position where the main unit is placed.



CAUTION

- If you remove your hands from the main unit before finishing tightening the bolt, the printer body may fall over.
- The top surface on the stand has positioning claws, which may bend if unexpected force is applied. Be careful not to apply any force other than in the vertical direction.





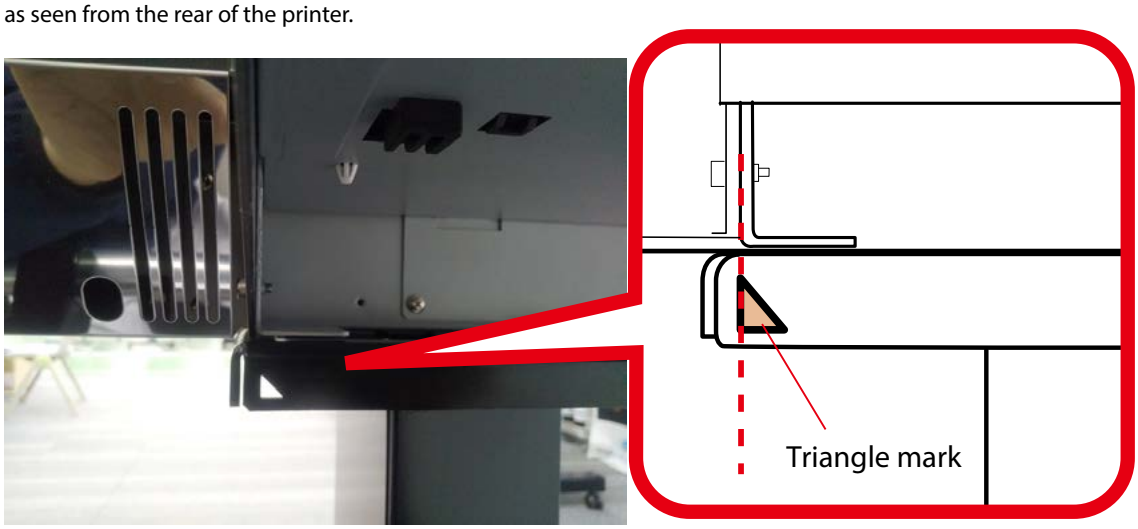
Aligning the stand and the printer

CAUTION

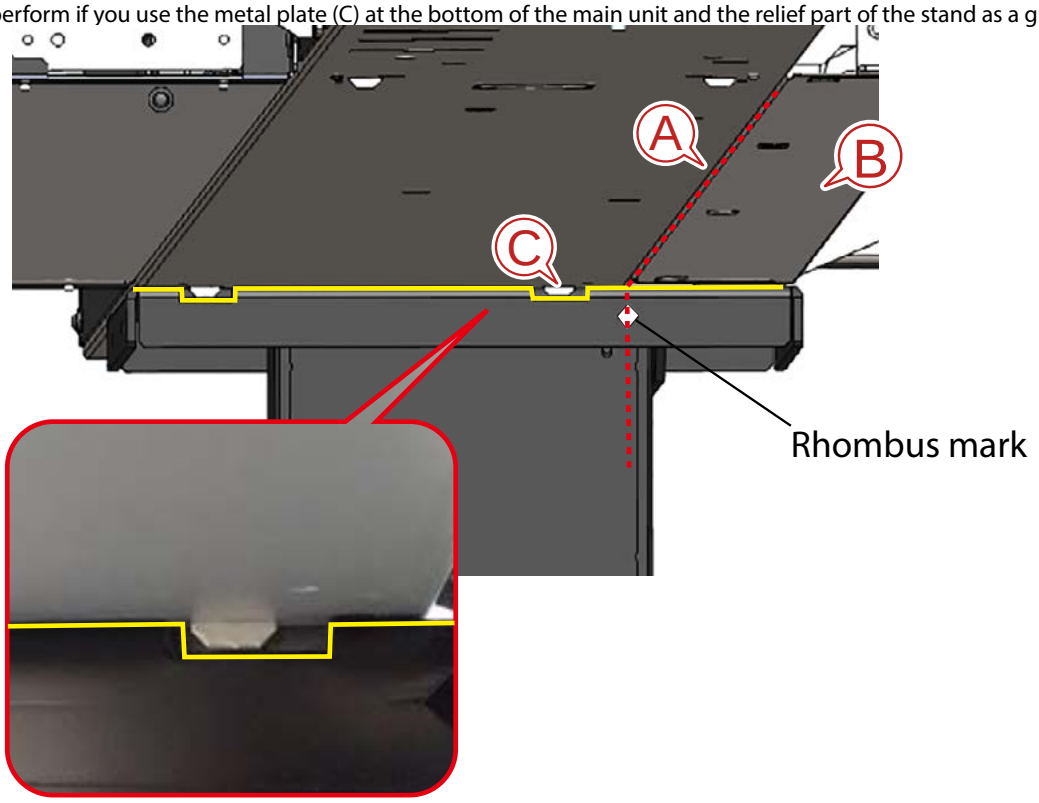
The photo in this procedure shows the main unit placed on the stand, but the actual work is done after positioning the main unit over the stand.

1. Triangle mark
2. Rhombus mark
3. Claws of the stand

1. Align the left and right directions. Align the surface of the printer unit and the vertical line of the triangle mark on the stand as seen from the rear of the printer.



2. Align the front and rear directions. Align the border between the surface of the printer unit (A) and rear apron (B), and the center position of the rhombus mark on the stand as seen from the inside to the outside of the printer. The work is easier to perform if you use the metal plate (C) at the bottom of the main unit and the relief part of the stand as a guide.



3-3. Place the main unit on the stand.

NOTE

Place the main unit on the stand while checking the position of the claws of the stand.

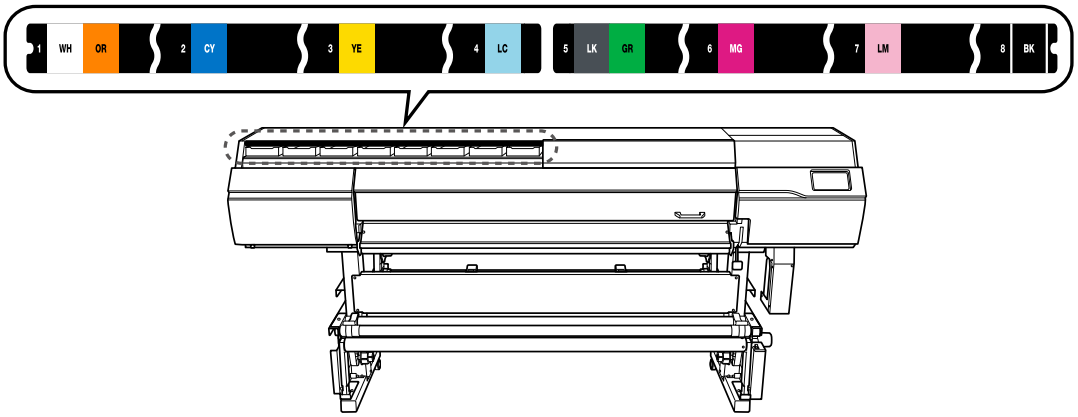
3-4. Fix the printer body to the stand.

4. (End of procedure)

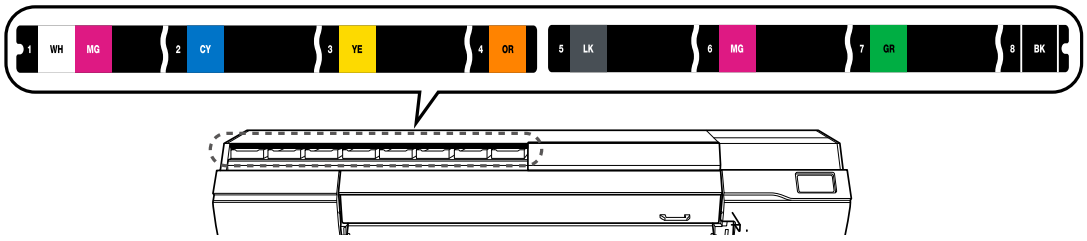
- ☐ **Installing the media holders and media stays**
- ☐ **Assembling the media take-up unit**
- ☐ **Installing the drain bottle**
- ☐ **Removing the retainers**
- ☐ **Switching the color-mode label**

  • When using this machine in eight-color mode (CMYKLkOrGrWh), seven-color mode (CMYKLkOrGr) or four-color mode (CMYK), it is necessary to change the color-mode label.

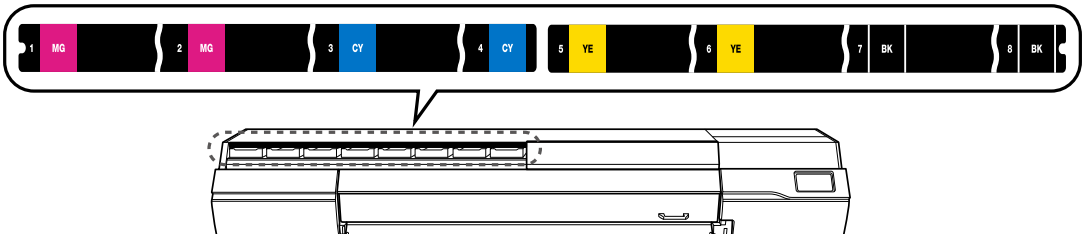
8 colors (CMYKLcLmLkOr)/ 8 colors (CMYKLcLmLkWh)/ 8 colors (CMYKLcLmOrGr)



8 colors (CMYKLkOrGrWh)/ 7 colors (CMYKLkOrGr)



4 colors (CMYK)



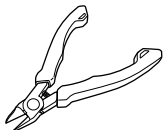
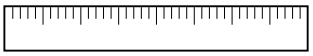
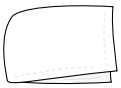
☐ **Switching to four-color mode**

When using this machine in four-color mode, it is necessary to change tubes and the color-mode label. See the following pages for the procedure on how to switch to four-color mode.
(No need to do this work for 8 color mode)

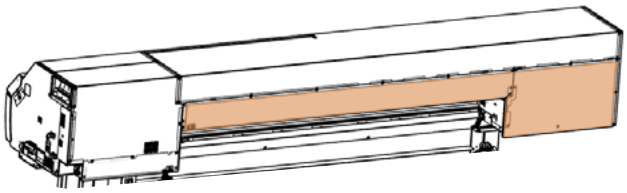
Switching to Four-Color Mode

Prepare the following items:

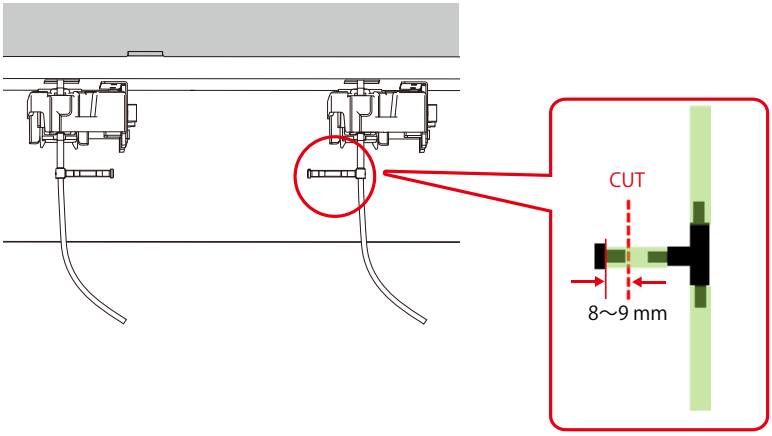
Tools that service engineers should bring

Item	
Nippers	
Gloves	
Ruler	
Waste cloth	

1. Remove the covers.



2. Cut the tube of T-shaped joint.

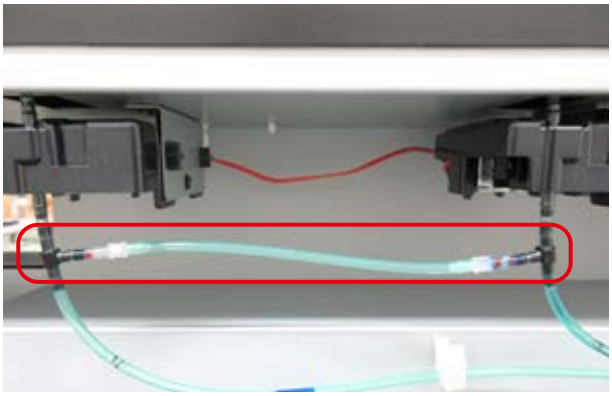


NOTE

When you cut the tubes with nippers, put a waste cloth etc., so that the cleaning liquid inside the tube does not leak outside.

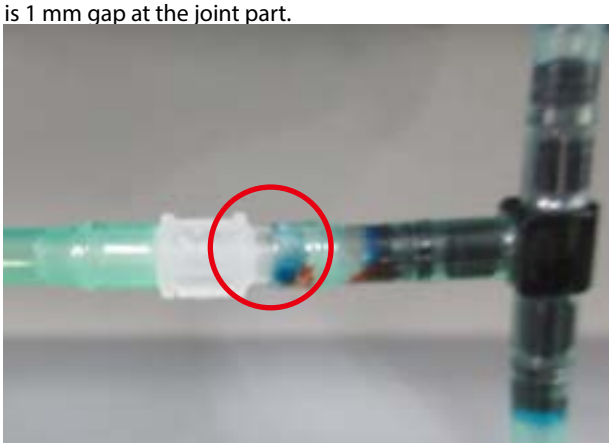
3. **Attach the included I shaped joint to the tube.**

4. **Attach the tube created in step 3 to the machine.**



NOTE

There is no problem if there is 1 mm gap at the joint part.



5. **(End of procedure)**

☐ **Connecting the cable**

☐ **Preparing the cleaning liquid pouch and preparation for ink filling**

Prepare the cleaning liquid pouch and ink pouch for each color. Set them in pouch trays.

CAUTION

- Do not insert the pouch tray with the ink pouch into the printer at this stage. The initial settings (next process) cannot be made correctly.

☐ **Initial settings**

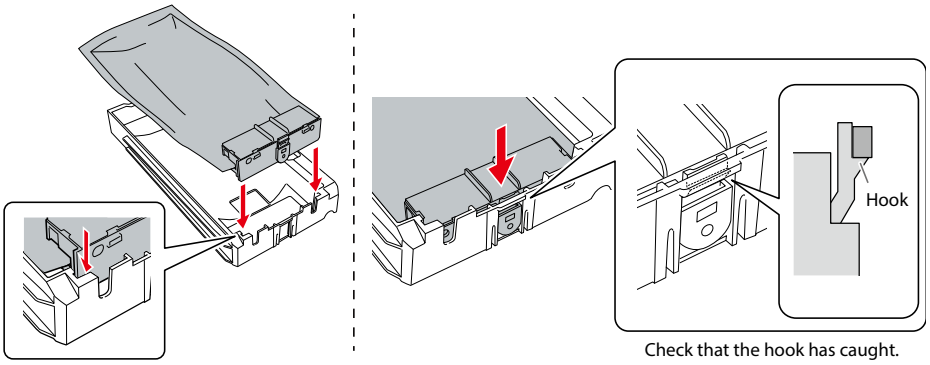
Follow the instructions on the panel to set the Language and Units.

- [Language Setting] > [Language]
- [Units] > [Length]
- [Units] > [Temperature]

☐ **Ink filling**

CAUTION

- Make sure to shake the ink pouch of each color before setting it in the pouch tray.
- Shake the WH ink pouch 50 times (approximately 20 seconds).



Check that the hook has caught.

CAUTION

If you get a message about waste liquid disposal, be sure to follow it..

☐ **Installing the cutting tool**

☐ **Network settings**

IP address of the computer _____

IP address of the printer _____

☐ **M-GAP DEFAULT adjustment, HORIZONTAL adjustment**

CAUTION

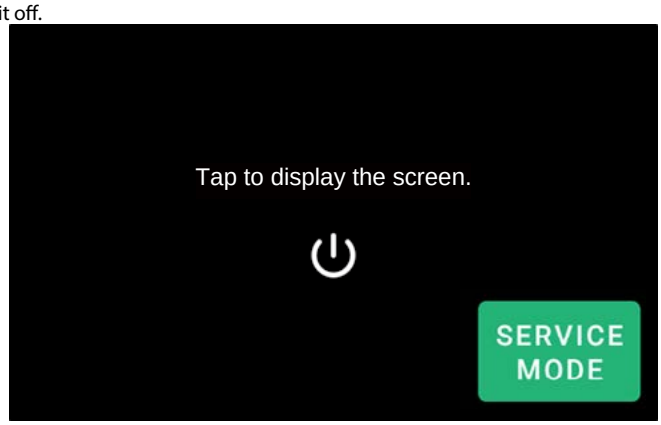
Perform M-GAP DEFAULT/ HORIZONTAL adjustment using a customer's media.

M-GAP DEFAULT, HORIZONTAL adjustment (Service mode)

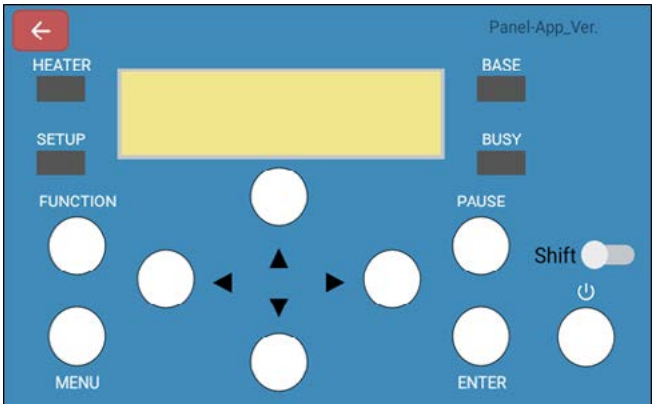
1. **Start Peck2 and connect with the machine, then enter the service mode.**

NOTE

If the sub power is ON, turn it off.



2. **Perform sheet set up. As in the previous service mode, set up the sheet and lower the loading lever. Then press [ENTER] on the panel.**



3. **Select [M-GAP DEFAULT] from the menu to print on the sheet.**

NOTE

Follow the panel instructions to print [MIDDLE] test pattern, then change the print head height and print [LOW] test pattern.

4. **Confirm the test pattern and enter the correction value for [M-GAP DEFAULT].**
5. **Select [HORIZONTAL] from the menu to print on the sheet.**

NOTE

Follow the panel instructions to print [MIDDLE] test pattern, then change the print head height and print [LOW] test pattern.

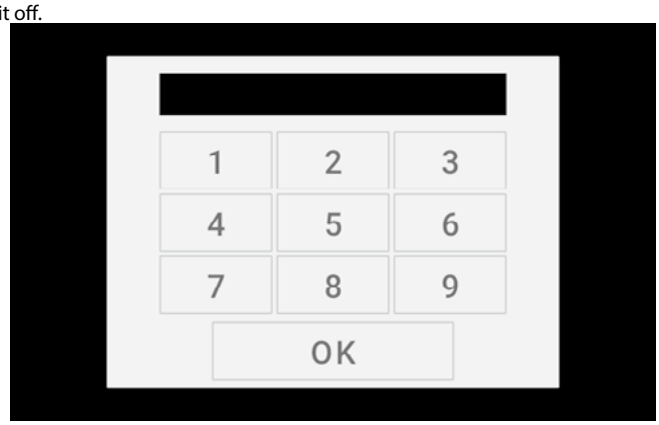
6. **Confirm the test pattern and enter the correction value for [HORIZONTAL].**

M-GAP DEFAULT, HORIZONTAL adjustment (Support mode)

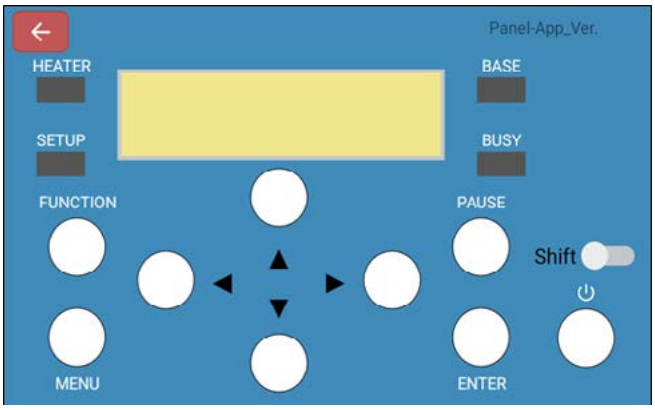
1. **Open the special number input display.**

NOTE

If the sub power is ON, turn it off.



2. **Enter special mode number: 9166583545 to enter the support mode.**
3. **Perform sheet set up. Set up the sheet and lower the loading lever. Then press [ENTER] on the panel.**



4. **Select [M-GAP DEFAULT] from the menu to print on the sheet.**

NOTE

Follow the panel instructions to print [MIDDLE] test pattern, then change the print head height and print [LOW] test pattern.

5. **Confirm the test pattern and enter the correction value for [M-GAP DEFAULT].**
6. **Select [HORIZONTAL] from the menu to print on the sheet.**

NOTE

Follow the panel instructions to print [MIDDLE] test pattern, then change the print head height and print [LOW] test pattern.

7. **Confirm the test pattern and enter the correction value for [HORIZONTAL].**

☐ **Firmware upgrade**

Upgrade the firmware to the latest version.

☐ **Time and date setting**

Connect Peck2 to the machine, and enter the service mode to set time and date .

NOTE

The date and time settings in the user menu also will be changed to the same date and time.

☐ **Software installation**

CAUTION

Make sure to get approval by the user when downloading and configuring software.

Ronald DG Connect Hub

☐ **Installation of Roland DG Connect Hub**

Download Roland DG Connect Hub from the Download Center and install it.
https://downloadcenter.rolanddg.com/VG3-640/#software

NOTE

- Roland DG Connect Hub is the software required for Roland DG Connect, a connected service that connects our products to our customers.
- You can install other supported software for the machine from Roland DG Connect Hub.

☐ **User registration**

1. **Click [Register] on Roland DG Connect Hub window.**
2. **Enter Company ID (e-mail address).**
3. **A Verification Code will be sent to the Company ID (e-mail address) you set.**
4. **Register password.**
5. **Enter the name you to be displayed in Roland DG Connect (company name is recommended).**
6. **Register country.**

☐ **Device setting (automatic registration)**

NOTE

If the printer is not regsitered automatically, manual registration is necessary.

Roland DG Connect

☐ **Configuring Roland DG Connect (user settings)**

1. **Open Roland DG Connect from the Roland DG Connect Hub window.**
2. **Once information of the connected machine is displayed, confirm that it is displayed correctly and explain the functions of Roland DG Connect to your customer.**
   - Select the ink level and check the date it was updated (explain that ink levels are not automatically updated).
   - Confirm that the Web browser's notification setting is ON.
   - Verify the contents of your customer's account settings.
   - Explain (?) Button.
   - Explain that Company ID can be shared among employees in your customer's company so that printer information can be viewed by anyone in the company.
   - Explain other functions.
3. **With the customer's approval, enter the SE's e-mail address in the Dealer field on the Setup page to register dealer.**

☐ **Configuring Roland DG Connect (SE)**

1. **Open Roland DG Connect from your PC or mobile device.**
2. **Click Partner Sign In and enter your Imagi-net ID (e-mail address) and password.**
3. **Check e-mail notification settings and verify that your customer's machine is listed.**

[Reference]
Roland DG Connect Product Guide
https://365rolanddg.sharepoint.com/sites/extranet/Software%20Information/RolandDGConnect_PG_en.pdf

Roland DG Academy Online
https://academyonline.rolanddg.com/learn/course/2592/play/6774/2-install-roland-dg-connect-hub-to-users-pc

VersaWorks

See Setup Guide for details.

☐ **Install VersaWorks from Roland DG Connect Hub**

CAUTION

Make sure to update VersaWorks to the latest version if already installed..

☐ **Connect to Roland@NET**

Get permission from the user and change the settings so that the software will be automatically updated and notified.

☐ **Computer power saving settings**

Power-saving features that cause the computer to go into system standby or sleep should be turned off. Otherwise printing may stop in the middle of the operation.

Basic operations

Explain followings to the customer in reference to the User's Manual.

- [ ] **Switch on!**

CAUTION

Always leave the main power on. Maintenance operation is automatically carried out while the machine is not in use. Use the sub power switch for the daily powering on and off. Continued heating of the same area may cause the media to emit toxic fumes or catch fire. When not outputting, remove media or turn off the sub power switch.

- [ ] **Loading media**

- New registration of media
  The minimum required settings can be completed simply by following the display screen. The items to be set can also be set individually.
- Automatic adjustement function
  If there is nozzle drop-out, it may not be set correctly. Make sure that the test print is proper before setting.
- Setup of registered media

- [ ] **Setting the output-start location**

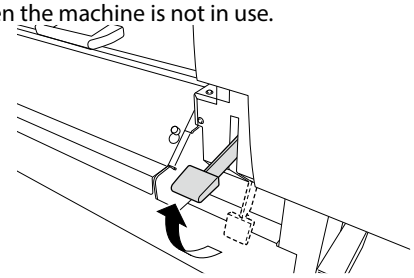
- [ ] **Printing tests and normal cleaning**

- [ ] **Pausing and cancelling output**

- [ ] **Cutting off the media**

- [ ] **Switch off**

Lift the sheet loading lever up when the machine is not in use.



Maintenance

- [ ] **Checking the remaining ink amount**

CAUTION

The remaining ink amount displayed on the operation panel screen is slightly different from the actual remaining amount.

☐ **How to replace the ink pouch**

CAUTION

- Do not insert only the tray without attaching an ink pouch.
- Shake the ink pouch gently before installing it.
- Shake the WH ink pouch 50 times (approximately 20 seconds).
- Be sure to replace with an item of identical type. Never mix items of different types.
- Never leave the machine with any ink pouch removed. The print heads may become clogged.
- When printing is paused, the coloring at the seam may be altered when printing resumes. Before you perform lengthy printing, check the amount of ink remaining in the ink pouches.
- Never store ink at any locations where high temperature may occur or exposed to open flame.

☐ **Disposing of discharged ink**

When a certain amount of liquid waste accumulates in the bottle, a message for liquid waste disposal appears. Dispose of the waste liquid as soon as possible.

CAUTION

- When the waste liquid accumulates in the bottle to a certain extent, [When output, cleaning, and other operations are completed, discard the discharged fliud] is displayed.
- When the drain bottle is removed, a few drops of waste liquid may come out from the machine. Be careful not to get it on your hands or stain the floor.
- Never place discarded fluid near an open flame.
- To store discharged fluid temporarily, use the included drain bottle or durable sealed container such as a metal can or polyethylene tank, and cap it tightly.
- Dispose of discharged fluid properly, in accordance with your local laws.

☐ **Cleaning**

- Pinch roller
- Grit rollers
- Platen
- Area around wiper tray
- Knife carriage roller

CAUTION

- Never use gasoline, alcohol, thinner, or any other flammable material.
- Clean by wiping with a cloth moistened by neutral detergent diluted with water then wrung dry.

☐ **Care and maintenance of the print head**

- Normal cleaning
- Medium cleaning
- Powerful cleaning
- Ink renewal (Super cleaning)

CAUTION

Ink renewal consumes a large amount of ink. Perform super cleaning only when normal, medium, powerful, and manual cleaning cannot solve missing dot problems.

☐ **Manual cleaning of the print head**

CAUTION

- To keep the stable output condition at all times, perform the manual cleaning more than once a month. Perform manual cleaning when [the time for manual cleaning has arrived.] is displayed.
- Be sure to perform manual cleaning when problems that cannot be solved by powerful cleaning occur such as missing dots or ink dripping.

☐ **Wiper replacement (Be careful of the orientation of the wiper when installing it.)**

☐ **Cleaning the wiper tray and replacing the tray pads**

CAUTION

Place the tray pad (1 piece) with an orientation that matches the shape of the wiper tray.

☐ **Replacing the blade**

☐ **Replacing the separating Knife**

☐ **When the machine is not in use for a prolonged period**

NOTE

Turn on the sub power switch once a month.

CAUTION

- Keep at a constant temperature and at a relative humidity.
- Even when the machine is not in use, keep it at a temperature of 5 to 40 °C (41 to 104 °F) and at a relative humidity of 20 to 80% (with no condensation).
- Temperatures that are too high may degrade the ink and cause malfunction. Temperatures that are too low may cause the ink to freeze and damage the print heads.

☐ **Uneven colors**

Perform the following when uneven color problems cannot be solved by shaking the ink pouch tray and mixing the separated ink components.

- White color is uneven: Ink renewal inside damper
- Other colors are uneven: ink renewal

CAUTION

Cleaning errors occur if ink runs out during ink renewal inside damper. Be sure to install ink pouches that have a large remaining amount of ink.

☐ **Fully utilizing the machine**

.

☐ **List of media settings**

The media settings that can be changed are as follows. Configure for each media.

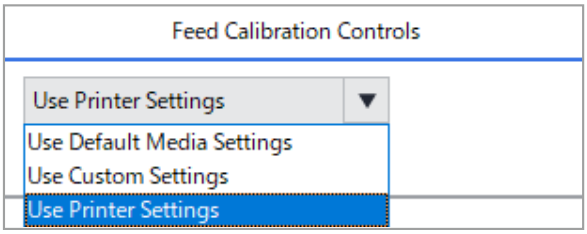
- [Print Head Height]*

- [Feed Correction]*
- [Media Gap Adjustment]
- [Blade Adjustment]*
- [Print&Cut Position Adjustment]
- [Crop Cut Position Adjustment]
- [Cutting Distance Correction]
- [Over Cut]
- [Heater Temperature]*
- [Dry After Printing]*
- [Multi Sensor Adjustment]
- [Drying Time Per Scan]*
- [Media Suction Force]*
- [Printing Movement Range]
- [Media Sticking Prevention]
- [Middle Pinch Auto Raise/Lower]

*Some software RIPs allow this setting to be made. When the setting is made in the software RIP, the printer side setting is ignored.

CAUTION

When setting up in the printer, make sure that [Use Printer Settings] is selected in VersaWorks.



☐ **Accommodating to the types and conditions of media**

- Using transparent media: [Media Edge Ditection] >[Disable]
- Printing on hard-to-dry media [Drying Time Per Scan] > [Range: OFF /0.1 sec to 10.0 sec]*
- Using media that wrincles easily or does not move smoothly [Media Suction Force] > [Range: 0 to 100/Auto]*
- Speeding up output for narrow media [Printing Movement Range] > [Range: Output Data Width/Media Width/ Full Width]
- Using media that causes static electricity. [Cleaning during Printing] > [Range: No Cleaning/ Every Page/ Periodically (Job Priority)/ Periodically (Time Priority)]
- Using sticky media [Media Sticking Prevention] > [Disable]
- To prevent media misalignment [Middle Pinch Auto Raise/Lower] > [Disable]

*Some software RIPs allow this setting to be made. When the setting is made in the software RIP, the printer side setting is ignored.

☐ **Fully utilizing the cutting function**

- Preventing pulling of the media with undue force when performing cutting only [Prefeeding at Output]
- Fine-tuning the cutting conditions [Cutting Speed/Blade Force/Blade Offset/Rise Movement Speed]
- Accurately adjusting the cutting-in amount
- Performing distance correction during cutting [Cutting Distance Correction] > [Range: Correction Value (Feed)/ Correction Value (Scan)
- Cutting corners attractively. [Over Cut] > [Enable]

☐ **Correcting the misalignment of the printing and cutting positions**

- Print&Cut Position Adjustment
- Media Gap Adjustment

☐ **Prioritize the cutting settings of the machine to the settings of RIP software.**

- [Priority for Cutting Settings] > [Machine Priority]

☐ **Printing with crop marks**

- Aligning automatically and cutting
- Aligning manually and cutting

☐ **Correcting misalignment for printing and cutting when using crop marks**

- Crop Cut Position Adjustment
- Media Gap Adjustment

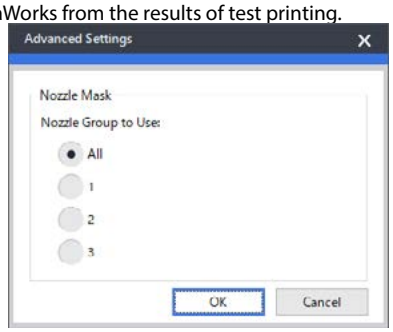
☐ **Correcting reading sensor of Crop mark sensor.**

- [Multi Sensor Adjustment]

☐ **Setting print head to use**

- [Nozzle Mask Test]

Setting print head group to use by VersaWorks from the results of test printing.



☐ **(Emergency measure) Cleaning the print head surface**

Explanation of emergency measures and risks when missing dots or dot displacement does not improve after repeated cleaning.

☐ **Output operation management**

☐ **Setting the current date and time and using it for maintenance.**

Set the current date and time. By setting this, when you perform a printing test the printing test date and time will be printed alongside the printed test pattern.

☐ **Checking the remaining media**

You can display how much of the media in use is left. By setting the amount of media currently remaining at the start, the amount remaining will be constantly displayed on the screen until it reaches zero.

☐ **Showing/hiding notifications**

- [Ink Mixing Notification]
- [Middle Pinch Roller Placement Notification]
- Media Clamp Placement Notification

☐ **Viewing network information**

- [Network]

☐ **Returning all settings to factory default**

- [Reset to Factory Defaults]

  Note: Since the memory of the panel is not erased, the settings in [Language] and [Unit] are not restored to the factory default settings.

☐ **Outputting from RIP software**

☐ **Printing**

☐ **Others**

☐ **Tell the user to see the User's Manual when error messages are displayed.**

If a service call occurs, switch off and on the machine and see if the problem is solved before calling for inquiry. Sometimes errors can be recovered just by restarting the machine.

☐ **Explain how to cap the print heads.**

When the print heads do not return to the standby position, capping must be performed by the user. Refer to "If the Print Heads Still Do Not Move" under "Print Heads Do Not Move" >section of User's manual.

Consumable parts and replacement cycle

Parts name	Estimated replacement time
Print head	6 billion shots/nozzle (6,000,000 k shots)
Wiper	Wiping 3,000 times
Cap top	6 months
Scan motor	3,000 hours or 12,800 km
Ink tube	3,000 hours
Tray pad	Wiping 1,000 times
Lithium battery	24 months
Pinch roller	Replace it when the rubber part is worn out.
Cutter protection	Replace it depending on the scratches.

Maintenance Checklist ⚠1

VG3-640 / VG3-540 Maintenance Checklist

Date:

Customer name: Serial number:

Check items		Important Points	Check	
Interview with the customer		Ask the customer if there is something that he/she is concerned about.	☐ Done	
Output / Get report before maintenance		[Get report by Peck2], or print both Service Report and History Report.	☐Done	
Check drain bottle		If drain bottle is full, dispose of it and give an explanation to the customer.	☐Good ☐Dispose	
Upgrade firmware.		Upgrade if it is not the latest version.	☐ OK	☐ Not necessary
Check Consumable Parts	Print head	Determine if it should be replaced based on the SHOT COUNT in the History Report, the test print result and the customer's interview.	☐Good ☐ Replacement done	☐Reset
		Perform manual cleaning by using cleaning sticks and cleaning liquid.	☐Cleaning	
		Output the test patterns of BIAS to check the error, and perform adjustment if necessary.	☐Good	☐ Adjustment done
	Scan motor	Determine if it should be replaced based on MOTOR ERROR and MOTOR HOURS in the History Report, or on the motor sound when performing a print and the customer's interview. Put grease on the gear if you replace the motor. Replacement Cycle: 3,000 hours	☐Good ☐Replacement done	☐Reset
	Wiper	Determine if it should be replaced on the performance of the cleaning or the wiping times of the history report. Replacement Cycle: Wiping count 3,000 times	☐ Perform cleaning	☐ Replacement done
	Linear Encoder Scale 1	Check if the Encoder Scale has any dirt or dust or any ink on. Check the encoder module also.	☐ Perform cleaning	☐ Replacement done
	Linear Encoder Scale 2	Check the linear encoder sheet with [SERVICE MENU]>[PRINT MENU]>[LINEAR CHECK]. If result is not good, upgrade the firmware and VersaWorks, and perform cleaning and replacement if necessary.	☐Good ☐ Perform cleaning	☐ Replacement done
	Cap top	Determine if it should be replaced based on the performance of the cleaning. Replacement Cycle: 6 months	☐ Good ☐ Perform cleaning	☐ Reset
	Tray pad	Determine if it should be replaced from the time of replacement last time or the appearance. Replacement Cycle: Wiping count 1,000 times	☐Good	☐ Replacement done
	Lithium battery	Replacement Cycle: 24 months	☐Good	☐ Replacement done
Other mechanical part	Carriage belt	Check if the carriage belt does not touch the upper end or lower end of the drive pulley and idle pulley when the print carriage moves in the full width. Adjust the belt if necessary.	☐Good	☐ Adjustment done
	Cutter protection	Replace it depending on the scratches.	☐Good	☐ Replacement done
	Pinch roller	Check if it is not worn out or not dirty, or not deformed. Check if it rotates smoothly.	☐Good	☐ Replacement done
	Grit rollers	Remove foreign substances put on it by using a brush.	☐Done	
	Media clamp	Check if it is not dirty or operates smoothly.	☐Good ☐ Perform cleaning	☐ Replacement done
	Multi Sensor	Check if it is not dirty	☐Good	☐ Replacement done
Check printing		Check that there is no problem with the printing operation and printing result.	☐ Done	
Check cutting		Check that there is no problem with the cutting operation and cutting result.	☐Done	
Output/Get report after maintenance		[Get report by Peck2], or print both Service Report and History Report.	☐Done	
Remarks				