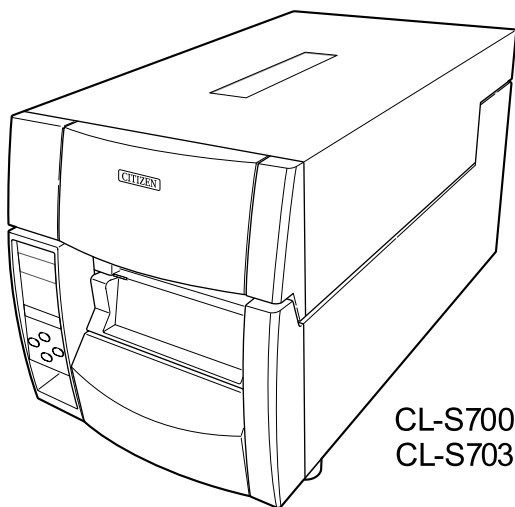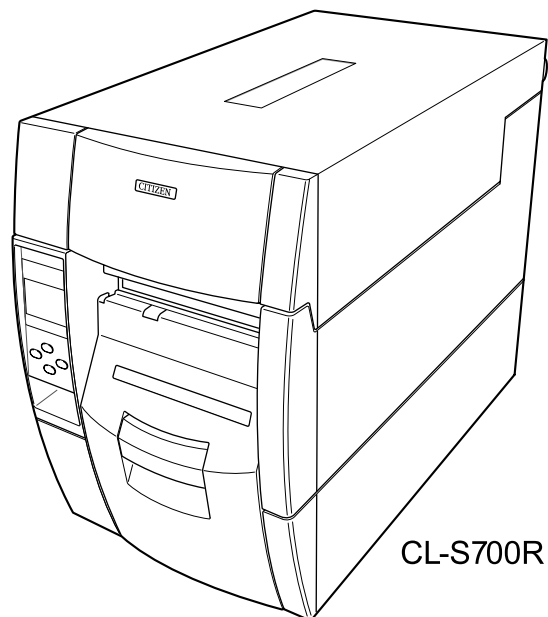# Technical Manual

CL-S700/CL-S703/CL-S700R

Thermal Transfer Barcode & Label Printer

CL-S700
CL-S703

CL-S700R

CITIZEN SYSTEMS JAPAN CO., LTD.

JN74928-10F
1.02E-1012

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Safety Precautions

To prevent personal injury or property damage, the following shall be strictly observed.
The degree of possible injury and damage due to incorrect use/maintenance or improperly
following instructions is described below.

⚠ Warning	Indicates a situation which, if not observed and handled properly, could result in death or serious injury.
⚠ Caution	Indicates a situation which, if not observed and handled properly, could result in injury or property damage.

⚠ : This is a mark to call attention to the reader.
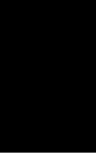
⚠ Warning

- **Before starting disassembly/reassembly or mechanical adjustment, be sure to disconnect the power cord from the power source.**
- **Do not replace a fuse with the power switch turned on.**
- **When replacing a fuse, use the same rating and type since it is provided to prevent fire and damage to the "Unit, Power Supply".**

⚠ Caution

- **DO NOT adjust VR1, VR2, VR3 and VR4 on the "SA, Main PCB". (Leave them at the factory setting condition.) If it is turned, media sensor sensitivity is changed and the media detection will not be correctly made.**
- **Do not disassemble/reassemble or adjust the machine, if it functions properly. Particularly, do not loosen screws on any component, unless necessary.**
- **After completing an inspection and before turning on the power, be sure to check that there is no abnormality.**
- **Never try to print without media.**
- **Check that the media is properly set.**
- **Do not lay anything on the cover or lean against it during maintenance or while the printer is in operation.**
- **During maintenance, be careful not to leave parts or screws unattached or loose inside the printer.**
- **When handling a printed circuit board, do not use gloves, etc., which can easily cause static electricity. Since ICs, such as CPU, RAM and ROM, might be destroyed by static electricity, do not touch lead wires or windows unnecessarily.**
- **Do not put the printed circuit boards directly on the printer or on the floor.**
- **When disassembling or reassembling, check wires for any damage and do not pinch or damage them. Also, run wires as they were.**

CHAPTER 1
SPECIFICATIONS

Chapter 1 Specifications

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1-1. General Specifications

Printing	
Printing method	Thermal transfer/Direct thermal

Resolution	Main scanning line density:
	    203 dots/inch (8 dots/mm) (CL-S700/CL-S700R)
	    300 dots/inch (11.8 dots/mm) (CL-S703)

	Sub-scanning line density:
	    203 dots/inch (8 dots/mm) (CL-S700/CL-S700R)
	    300 dots/inch (11.8 dots/mm) (CL-S703)

	Head 864 dots (printable dots: 832 dots) (CL-S700/CL-S700R) Head 1275 dots (printable dots: 1240 dots) (CL-S703)
Max. print width	104 mm (CL-S700/CL-S700R) / 4.1 inch (CL-S700/CL-S700R) 105 mm (CL-S703) / 4.1 inch (CL-S703)
Max. print length	812.8 mm / 32 inch
Print density	Print density is adjustable with software
Printing speed setting	2 - 10 inches per second (CL-S700/CL-S700R) 2 - 8 inches per second (CL-S703) *2-7 inches per second (CL-S700/CL-S703 with optional peeler)

Print mode	
Batch mode	Normal printing (single or multiple sheets)
Tear off mode	Feeds back media to the tear-off position after printing is completed.
Cut mode *[1]	Prints while cutting at designated sheet units. The following two kinds of cut mode operations are done. • Back feed • Cut through (Cut through refers to stopping part-way through printing the 'next label' to make the cut. After cutting, printing restarts but there is a chance of a small gap or mark at the temporary stop position.)
Peel mode*[2]	Peels labels from the liners after printing them.

Media	
Types of media	Roll, fanfold (continuous media, die-cuts, continuous tags, paper or tickets)
Recommended media	Thermal transfer: label media (RPR-W Ricoh) Direct thermal media: label media (150LA-1 Ricoh), tag media (TB2E0V, Mitsubishi Paper)
Max. media width	118.0 mm / 4.65"
Min. media width	25.4 mm / 1.00"
Min. label width	7.62 mm / 0.30"

*1,*2: Options can be separately purchased.

Min. label pitch*[3]	6.35 mm	0.25"
Max. media thickness	0.254 mm	0.01"
Max. media length	812.8 mm	32"
Min. media length	6.35 mm	0.25"
Min. media thickness	0.0635 mm	0.0025"
Media (continued)		
On-board roll media diameter	Max. outside diameter: 203 mm	8"
	Media core: 38 to 76 mm	1.5 to 3"
Rewinding roll media diameter (CL-S700R only)	Media core: 26, 40, or 45 mm	1.02, 1.57, or 1.77"
Ribbon		
Recommended ribbon	B110A Ricoh	
Max. ribbon width	114.0 mm	4.50"
Min. ribbon width	25.4 mm	1.00"
Min. ribbon length	450.0 m	1,476 ft
Max. roll diameter	86.5 mm	3.40"
Inner diameter of the paper core	25.4 ± 0.25 mm	1.00 ± 0.01"
Ribbon end tape length	Max. 80.0 mm	3.15"
Ribbon end detection	Ribbon out is detected by the ribbon sensor.	
Bar code		
	For Datamax® emulation*[4]	
	One-dimension	• Code 3 of 9 • UPC-A • UPC-E • EAN-13 (JAN-13) • EAN-8 (JAN-8) • Interleaved 2 of 5 • Code 128 • HIBC (Modulus 43-used code 3 of 9) • Codabar (NW-7) • Int 2 of 5 (Modulus 10-used Interleaved 2 of 5) • Plessey • Case Code • UPC 2DIG ADD • UPC 5DIG ADD • Code 93 • Telepen • ZIP • UCC/EAN 128 • UCC/EAN128 (for K-MART) • UCC/EAN128 Random Weight • FIM
	Two-dimension	• UPS Maxi Code • PDF-417 • Data Matrix • QR Code • Aztec • RSS

*3:   When a media pitch of less than 1" is used, activate the "Small Label Printing" setting in the "Printing Setting".

*4: Datamax® is a registered trademark of Datamax Bar Code Products Corporation.

Bar code (continued)		
For Zebra® emulation*5		
One-dimension	• Code 11 • Interleaved 2 of 5 • Code 39 • EAN-8 • UPC-E	
	• Code 93 • Code 128 • EAN-13 • Industrial 2 of 5	
	• Standard 2 of 5 • ANSI CODABAR • LOGMARS • MSI • Plessey	
	• UPC/EAN Extensions • UPC-A • POSTNET • Planet	
Two-dimension	• Code 49 • PDF-417 • CODA BLOCK • UPS Maxi Code	
	• Micro PDF-417 • Data Matrix • QR Code • R SS • TLC39	
Font		
For Datamax® emulation*4		
	1. Seven kinds of fixed pitch font	
	Overseas, English fonts and European fonts	
	2. OCR fonts	
	OCR-A*6, OCR-B*6	
	3. Proportional fonts	
	CG Triumvirate™ smooth font	
	CG Triumvirate™ Bold smooth font	
	(6, 8, 10, 12, 14, 18, 24, 30, 36, 48 points) (CL-S700/CL-S700R)	
	(4, 5, 6, 8, 10, 12, 14, 18, 24, 30, 36, 48 points) (CL-S703)	
	• Character set: Conforms with code page 850 standards	
	4. TrueType™ rasterizer *7	
For Zebra® emulation*5		
	1. Five kinds of fixed pitch font	
	Overseas, English fonts and European fonts	
	2. OCR fonts	
	OCR-A, OCR-B	
	3. Proportional font	
	CG Triumvirate™ Condensed Bold	
	4. True type™ rasterizer*7	

*5: Zebra® is a registered trade mark of ZIH corp.

*6: The OCR font may have a low recognition rate according to the reader.

*7: It is equipped with UFST™ and TrueType™ rasterizer that are licensed from Monotype Imaging, Inc.

TrueType™ is a trademark of Apple Computer.

UFST™ and CG Triumvirate™ are trademarks of Monotype Imaging, Inc.

Symbol set	
	PC866U Ukraina, PC Cyrillic, ISO 60 Danish/Norwegian, DeskTop, ISO 8859/1 Latin 1, ISO 8859/2 Latin 2, ISO 8859/9 Latin 5, ISO 8859/10 Latin 6, ISO 8859/7 Latin/Greek, ISO 8859/15 Latin 9, ISO 8859/5 Latin/Cyrillic, ISO 69: French, ISO 21: German, ISO 15: Italian, Legal, Math-8, Macintosh, Math, PC-858 Multilingual, Microsoft Publishing, PC-8, Code Page 437, PC-8 D/N, Code Page 437N, PC-852 Latin 2, PC-851 Latin/Greek, PC-862 Latin/Hebrew, Pi Font, PC-850 Multilingual, PC-864 Latin/Arabic, PC-8 TK, Code Page 437T, PC-1004, PC-775 Baltic, Non-UGL, Generic Pi Font, Roman-8, Roman-9, ISO 17: Spanish, ISO 11: Swedish, Symbol, PS Text, ISO 4: United Kingdom, ISO 6: ASCII, Ventura International, Ventura Math, Ventura US, Windows 3.1 Latin 1, Wingdings, Windows 3.1 Latin 2, Windows 3.1 Baltic (Latv, Lith), Windows 3.0 Latin 1, Windows Latin/Cyrillic, Windows 3.1 Latin 5
Control language	
	Conforms to Datamax® programming language*4 and Zebra® programming language*5
Outline of electronic devices	
CPU	32-bit RISC CPU
ROM	Standard equipment: FLASH ROM 4M bytes (User area: 1M byte)
RAM	Standard equipment: SDRAM 16M bytes (User area: 1M byte)
RAM (for Zebra® L)	Standard equipment: SDRAM 16MBytes (User area: 4M byte)
Media detection sensors	
Transparent sensor	Detects media gap between labels, notches on tags, and media out
Reflective sensor	Detects reflective mark on back of media and media out
Label peeling sensor *1	
Communication interfaces	
Parallel*8	IEEE1284 (Compatible, Nibble, ECP mode)
Serial	2400 4800 9600 19200 38400 57600 115200 bps
USB	FULL Speed USB1.1
Communication interface options	
Network	Wired Ethernet (10-BASE-T/ 100-BASE-TX) or Wireless LAN

*8: This interface is Non-L. P. S. (Limited Power Source).

Indications and switches	
LCD	128 X 64 dots, STN graphic type
LED	POWER, ERROR
Buzzer	Alarms, errors, etc.
Operating panel keys	PAUSE, FEED, STOP, MENU
Head-up detection sensor	Detects head open.
Power switch	Turns power on and off.
Acoustic noise	55 dB (by EN ISO7779)
Power supply (standards)	
	100-240V (-10%+6%), 3.5-1.5A, 50/60Hz
	U.S.A./Canada: UL60950-1, CSA No.60950-1, FCC Part 15 Subpart B (Class A)
	Europe: EN 60950-1, EN 55022 (ClassA), EN 55024, EN 61000-3-2, EN 61000-3-3
Power consumption (max. value)	
U.S.A./Canada (120V	130W (operating at 12.5% printing duty), 11W (standby) (CL-S700) 95W (operating at 12.5% printing duty), 12W (standby) (CL-S703) 140W (operating at 12.5% printing duty), 12W (standby) (CL-S700R)
Europe (230V)	120W (operating at 12.5% printing duty), 11W (standby) (CL-S700) 85W (operating at 12.5% printing duty), 11W (standby) (CL-S703) 130W (operating at 12.5% printing duty), 12W (standby) (CL-S700R)

Others	
Environment	Operating temperature conditions: 　Operating temp. 0 to 40°C, humidity 30 to 80%, condensation free 　(Conditions: ventilation, and natural convection) Storage temperature conditions 　Temp. -20 to 60°C, humidity 5 to 85% 　(Conditions: ventilation, and natural convection) [Conditions assuring operation and printing]　　[Storage assurance condition]
External dimensions (CL-S700/CL-S703)	Approx. 255 (W) X 490 (D) X 265 (H) mm 10 (W) X 19.3 (D) X 10.4 (H)"
External dimensions (CL-S700R)	Approx. 254 (W) X 480 (D) X 375 (H) mm 10.2 (W) X 19.2 (D) X 15 (H)"
Weight	Approx. 13.3 kg (29.3 lb.) (CL-S700/CL-S703) Approx. 17.6 kg (38.7 lb.) (CL-S700R)
Accessories	Test label media, Test ribbon, CD-ROM (User's Manual), Quick start guide, Head cleaner, Power cord, Media holder bar and Media holder guide, Ribbon holder, Paper core
Option	Auto-cutter unit, Peeler unit, Ethernet interface and Rewind kit

1-2. Printable Area

The printable area of the printer is as follows:

When media is set to the printer, it must be aligned with the media guide at the left of the printing mechanism. Though the available maximum media width is 118 mm (4.65"), there are unprintable areas on both sides: 2.5 mm (0.10") width is on the left side and 11.5 mm (0.45") (for CL-S700/ CL-S700R)/10.5 mm (0.41") (for CL-S703) width on the right side.

The left side unprintable area applies for any size media.
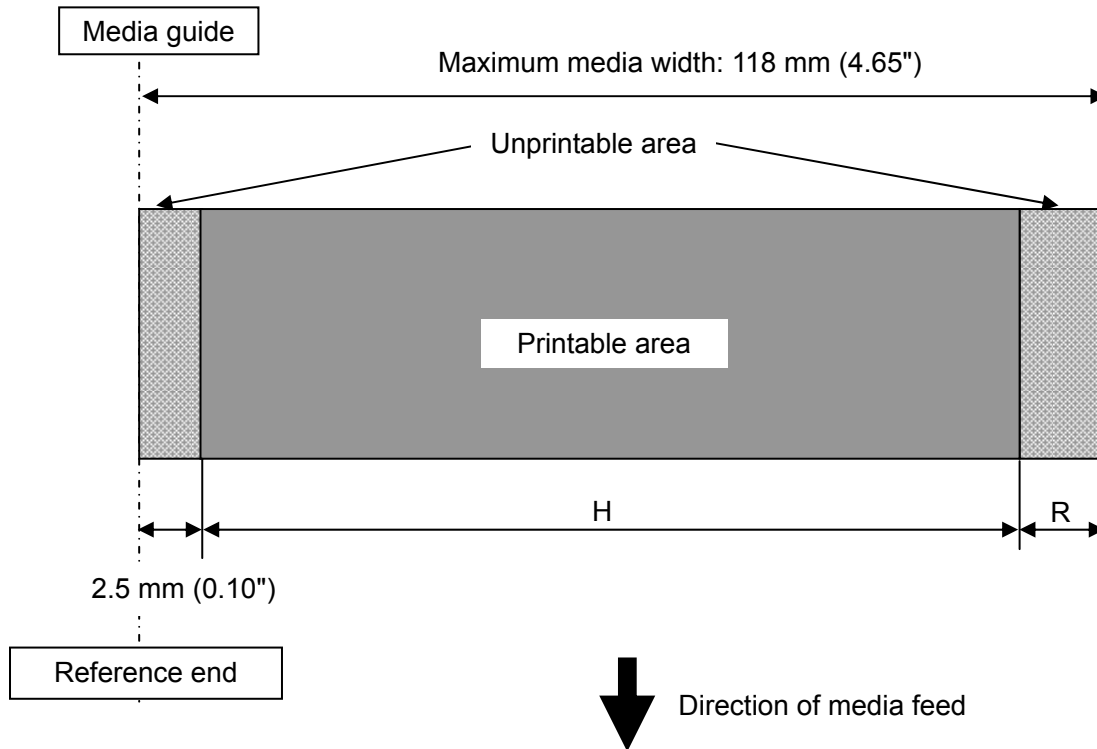
MODEL	H	R
CL-S700/CL-S700R	104.0 mm (4.1")	11.5 mm (0.45")
CL-S703	105.0 mm (4.1")	10.5 mm (0.41")

1-3. Printing Position Accuracy

By default, the printing start position is 2.5 mm (0.10") from the left end of the media and 1 mm (0.04") backward the leading edge of the label, U-shaped notch, or black mark.
2.5 mm (0.10") is the necessary value to avoid printing in the unprintable area as mentioned in 1-2 "Printable Area".

The printing start position will deviate from the ideal position as follows:

Maximum media width: 118 mm (4.65")

Unprintable area

Printable area

Unprintable area

100 ± 2 mm[4]
$(39.4 \pm 0.08")$

2.5 ± 1 mm[3]
$(0.10 \pm 0.04")$

Actual printing start position[1]

1 mm (0.04")

Ideal printing start position

1 ± 2 mm[2]
$(0.04 \pm 0.08")$

2.5 mm
(0.10")

Reference edge
(Paper guide)

Direction of media feed
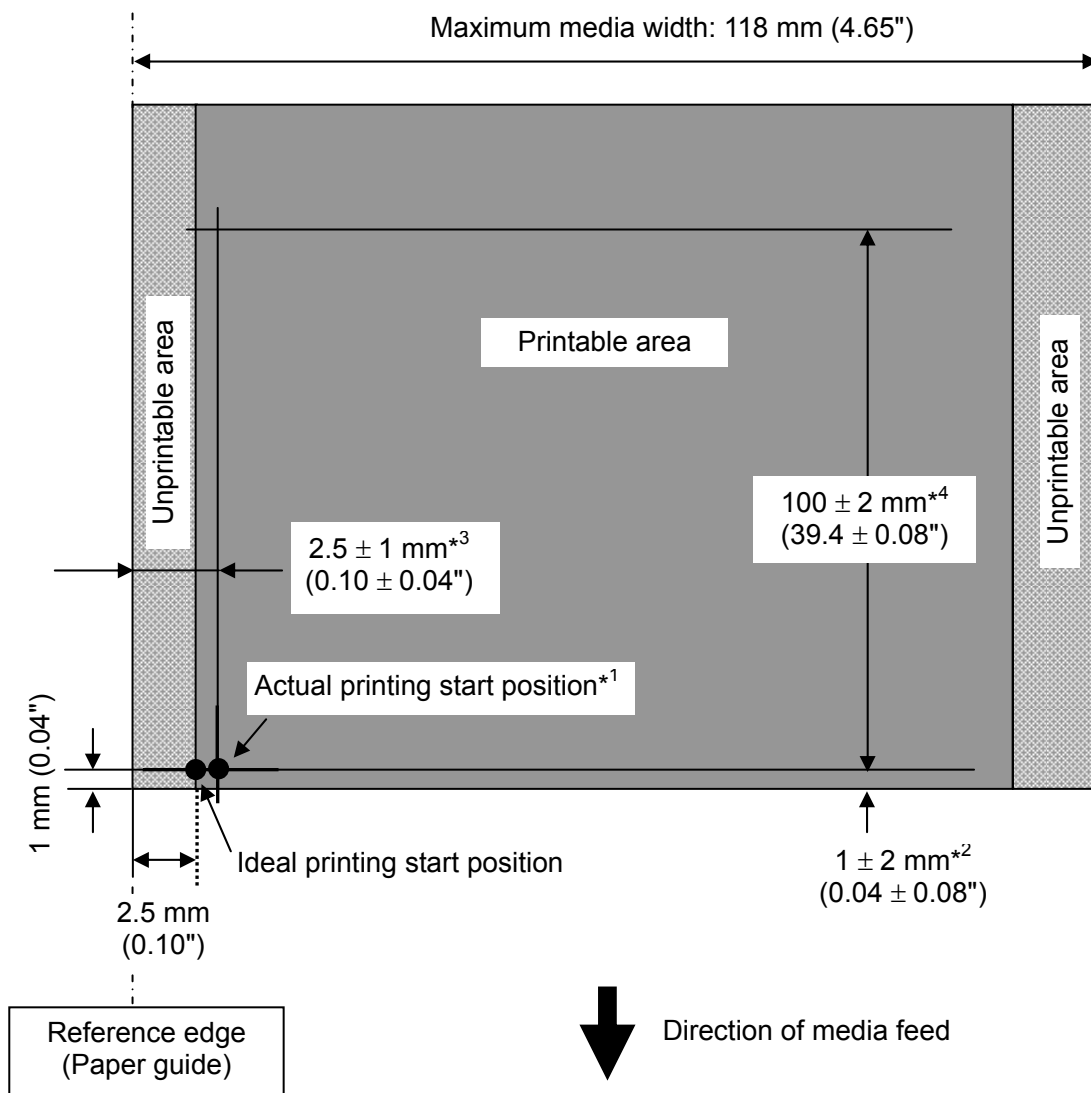
*1: Actual printing start position. May deviates from the ideal one in the indicated range.
*2: Deviation of vertical positioning when printing position is set to 0.
*3: Deviation of horizontal positioning when printing position is set to 0.
*4: Deviation of vertical printing position when 100 mm is specified from the printing start position.

1-4. Adjustable Sensors/Front Fixed Sensor

There are two types of media sensors (adjustable sensor located on the rear side of the printer and front fixed sensor located on the front left) that detect a label or tag position. They are selectable with the Sensor Select menu ("Rear Adj sensor" for adjustable sensor and "Front Fixed Sen" for front fixed sensor). By default, the adjustable sensor is selected and it covers wide range of media width. The front fixed sensor is suitable for printing narrower width media and, since it is located near the thermal head, more accurate detection of label or tag position will be expected.

Adjustable sensor:

Adjustable sensor consists of two media sensors; the upper sensor (transparent sensor) and the bottom sensor (reflective sensor). The upper sensor and bottom sensor are used to detect the labels on the liner or the U-shaped notches of tag. While, the bottom sensor is used to detect the black marks on tag. Both sensors are used to detect media end.

By turning the adjustable sensor position knob, both transparent and reflective sensors move right and left simultaneously. As you turn the adjustable sensor position knob, the yellow mark that is located in front of the scale moves along the scale.

The factory-set position of the sensors is 6.5mm (0.2559") from the media guide. In this position, the ▼ mark is printed on the scale and this position is the same position as the front fixed sensor. For details about the adjustable sensors, refer to "2-1-3.Label/Tag Position Detection Mechanism".

CL-S700/CL-S703/CL-S700R
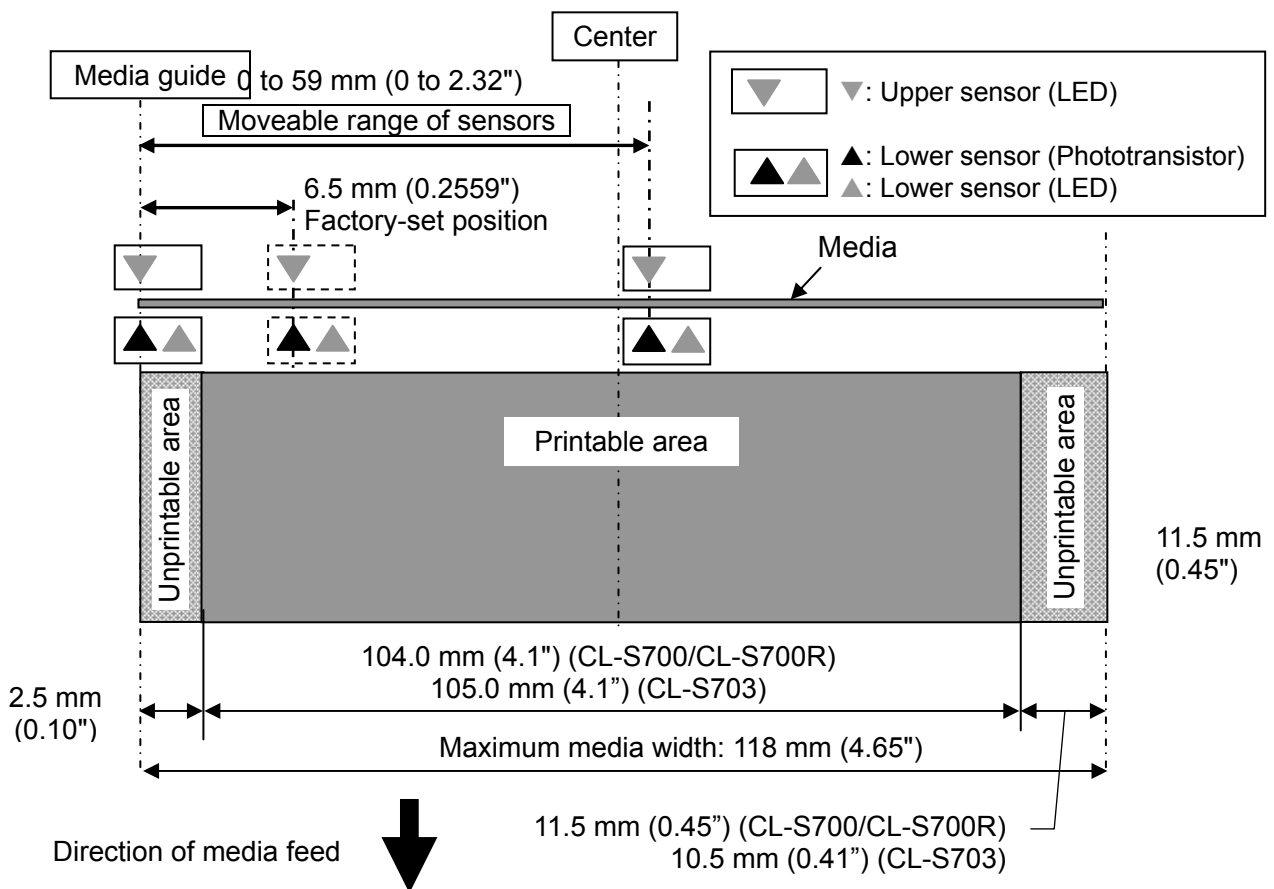
Front fixed sensor:

It is basically the same as the adjustable sensor except that the front fixed sensor is not adjustable.

	▼ : Upper sensor (LED)
▲▲	▲: Lower sensor (Phototransistor) ▲: Lower sensor (LED)

Media guide — Center

6.5 mm (0.2559")

Media

▼

▲ ▲

Unprintable area — Printable area — Unprintable area

2.5 mm (0.10")

104.0 mm (4.1") (CL-S700/CL-S700R)
105.0 mm (4.1") (CL-S703)

11.5 mm (0.45")

Maximum media width: 118 mm (4.65")

Direction of media feed

11.5 mm (0.45") (CL-S700/CL-S700R)
10.5 mm (0.41") (CL-S703)
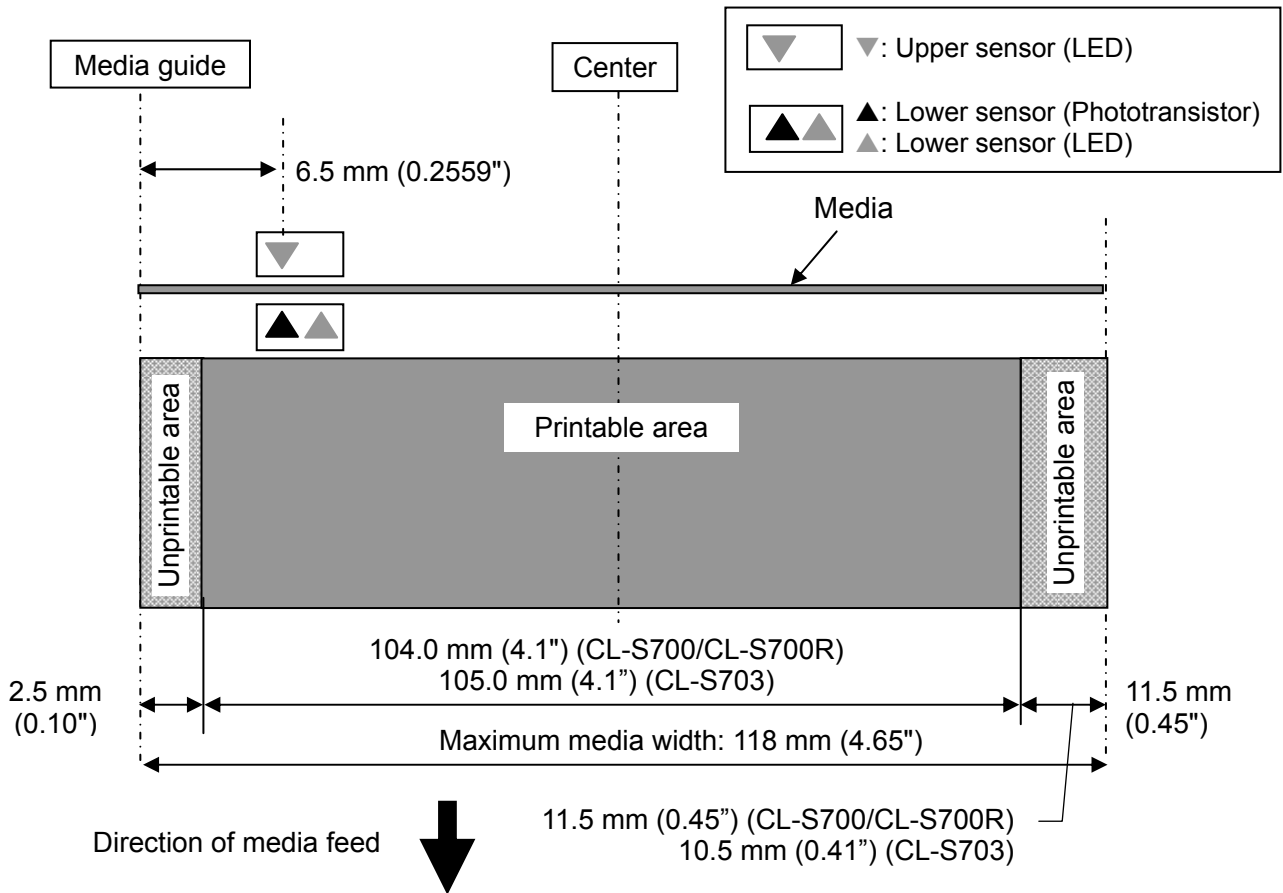
CHAPTER 2
OPERATING PRINCIPLES
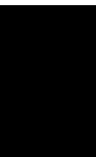
Chapter 2 Operating Principles

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2-1. Operation of Each Mechanism

This printer is a thermal transfer barcode & label printer comprised of the following mechanisms: media feed, label/tag detection, cover open detection, print head up/down detection, head balance adjustment, media thickness adjustment, and others.
This section describes the operation of each of these mechanisms.

2-1-1. Locations of Main Electrical Parts

(1) CL-S700/CL-S703/CL-S700R (Printer Part)

The following figure shows the locations of main electrical parts.

Part name	Description
Unit, Motor	This motor feeds media. A thermistor is attached to this motor to detect the motor temperature.
SA, Head Up SW (Head Up Sensor)	This sensor is a mechanical switch to detect the print head position; up or down.
Adjustable Sensor	Consists of the transparent sensor and the reflective sensor that move to right and left simultaneously by turning the adjust sensor position knob. Together with the reflective sensor, it is used to detect a label stuck on liner or a U-shaped notch on tag. The reflective sensor alone is used to detect the black marks on tag. The media end is detected with these sensors.

Part name	Description
Front Fixed Sensor	Consists of the transparent sensor and the reflective sensor. The function is the same as for adjustable sensor except that this sensor is fixed and does not move.
SA, Cover Open Sens (Top Cover Open Sensor)	This sensor is a photo interrupter to detect the top cover open status.
Ribbon Encoder (Ribbon Running Sensor/Ribbon End Sensor)	This sensor is a photo interrupter to detect the ribbon running. It also detects the ribbon end. (It is a part of the "Unit, Frame Ribbon L")
Unit, Head	This is a thermal head consisting of a head driver and thermal elements. It incorporates a thermistor to detect the thermal head temperature.
SA, Ope-pane PCB	Consists of LCD, LED and switches for operation.
SA, Main PCB	Controls enter printer system.
Unit, Centro PCB	This PCB is a connector board of the parallel interface.
Unit, Power Supply	Converts AC to DC and feeds DC power to the circuits.
SA, Connect PCB	This PCB will be used for optional cutter unit and optional peeler unit.
SA, Fan	Cooling fan that rotates during printing.

(2) CL-S700R (Rewinder Part)

The following figure shows the locations of main electrical parts for CL-S700R (Rewinder part).

SA, Peeler Sensor

SA, Rewinder Motor

SA, Interlock SW

SA, Rewinder PCB

<CL-S700 (Rewinder Part)>
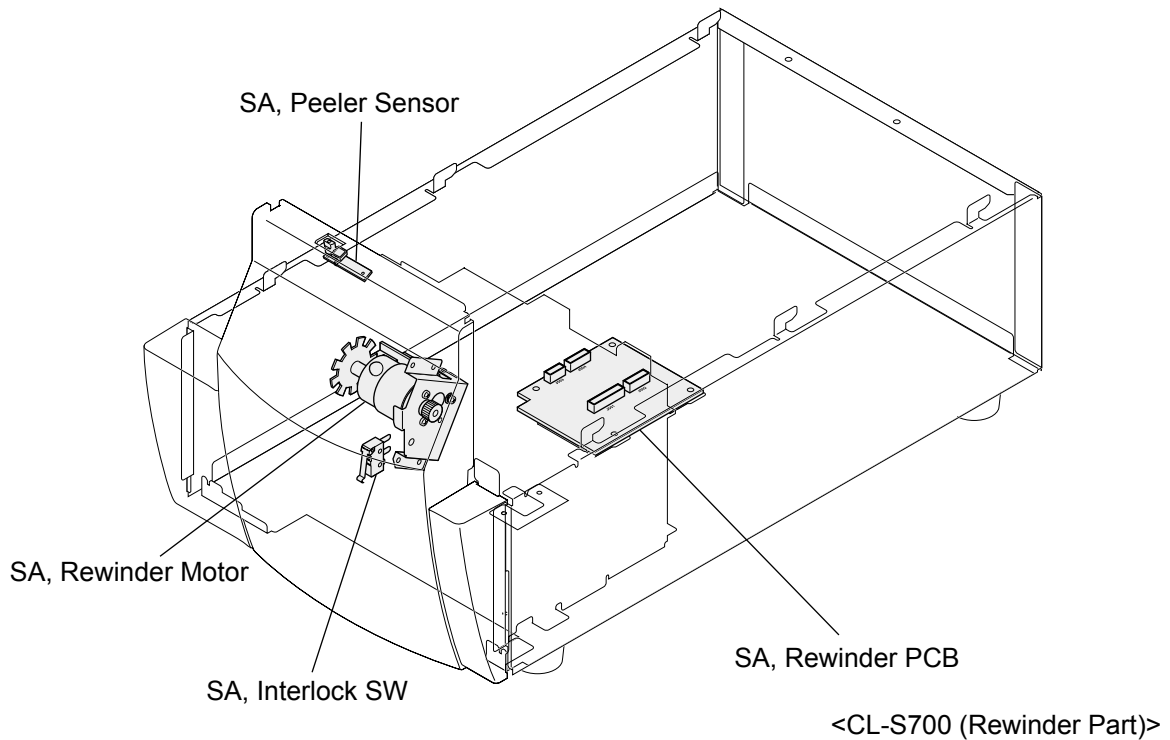
Part name	Description
SA, Peel Sensor	This sensor is a photo reflector to detect the presence of peeled label at the exit of the printer.
SA, Rewinder Motor	Rewinds the liner of the printed media. It consists of the rewinder motor, motor control PCB and thermistor that detects the motor temperature.
SA, Interlock SW (Rewinder Cover Open Sensor)	This is a mechanical switch to detect the open/close status of the rewinder cover.
SA, Rewinder PCB	Controls the rewinder operation.

2-1-2. Media Feed Mechanism

The major components of the media feed mechanism are:

(a) Unit, Motor

(b) SA1, Drive Shaft

(c) Unit, Roller Platen

(d) Motor Drive Belt

(e) Platen Drive Belt

(f) Tension Plate block

By setting the head block to the down position, the "Unit, Head" pushes media against the platen. As the "Unit, Motor" (stepping motor) (located on the left) turns counterclockwise viewing from the right side of the printer, the platen turns counterclockwise via the "Belt, Motor Drive" (on the left side), "SA 1, Drive Shaft" (that links left and right side) and "Belt, Platen Drive" (on the right side). Then, media is fed forward by the friction force produced between the platen and the "Unit, Head". Since the spring pulls the bottom of the Tension Plate block as shown in the figure, the Tension Plate block gives an adequate tension to the "Belt, Platen Drive".

When the "Unit, Motor" turns clockwise viewing from the right side of the printer, media is fed reversely.

One step of the "Unit, Motor" feeds media by 1/16 mm (0.0025").
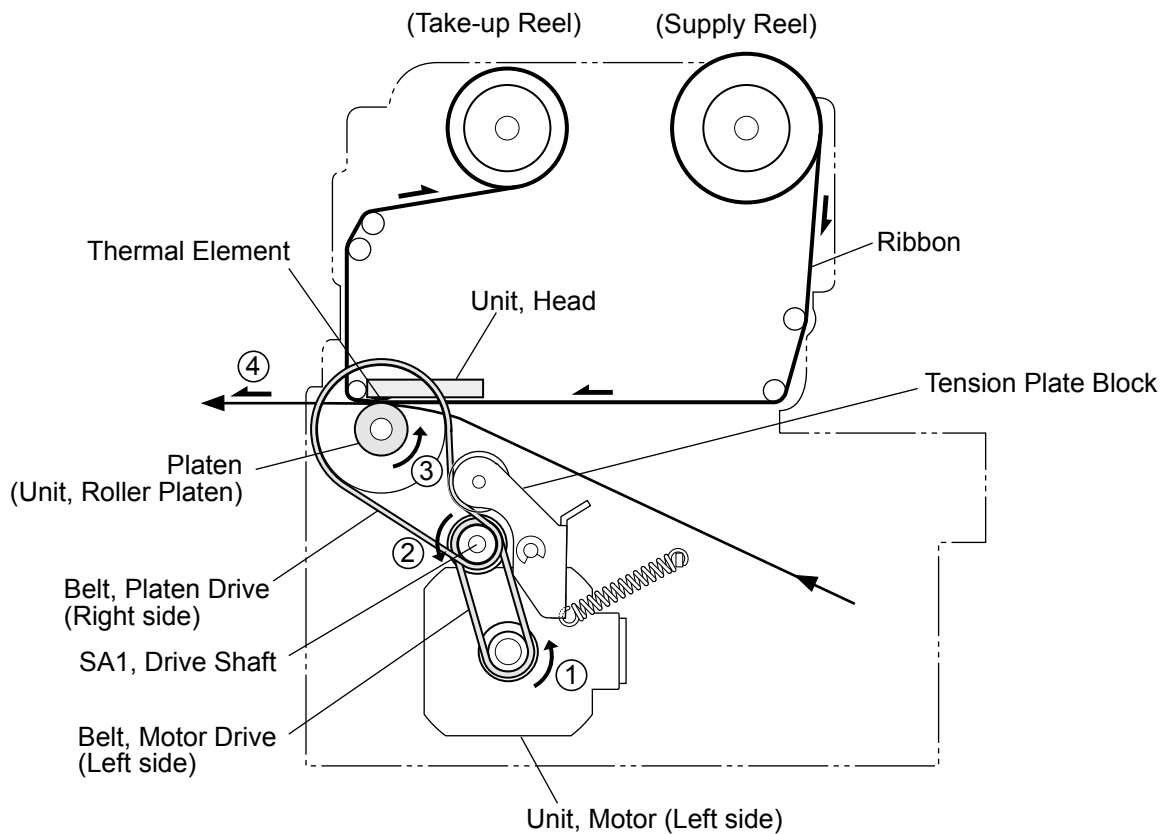
2-1-3. Label/Tag Position Detection Mechanism
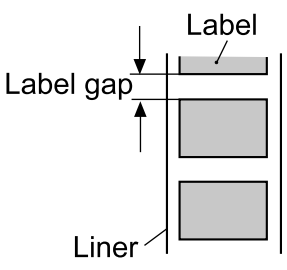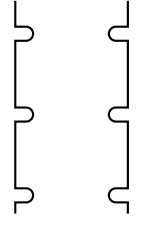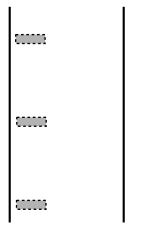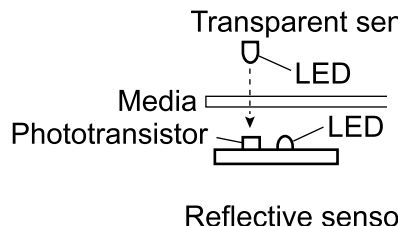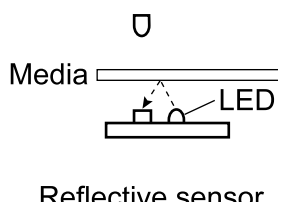
The major components of the label/tag position detection mechanism are:

(a) Adjustable Sensor (consisting of transparent sensor and reflective sensor)

(b) Front Fixed Sensor (consisting of transparent sensor and reflective sensor)

By default, the Sensor Select menu is set to "Rear Adj Sensor", and the adjustable sensor is selected.

The Adjustable Sensor consists of the reflective sensor (bottom sensor) and the transparent sensor (upper sensor) as shown blow. The reflective sensor consists of 1 LED and 1 phototransistor, while the transparent sensor consists of 1 LED (in practice, LED is not a sensor but it acts as a sensor by the combination of the reflective sensor's phototransistor).

The following table shows how the sensors detect a label, U-shaped notch or black mark.

	Label	Tag	
Media	Label / Label gap / Liner	U-shaped notch	Black mark
Sensor to be used	Transparent and Reflective sensors	Reflective sensor	
	Transparent sensor / LED / Media / Phototransistor / LED / Reflective sensor	Media / LED / Reflective sensor	
Media Sensor menu	See Trough	Reflect	

Detecting labels: (Media Sensor menu: "See Through")
For detecting label on the liner, both reflective sensor and transparent sensor are used. Label paper passes through between both sensors. The light emitted from the LED of the transparent sensor passes through the media and reaches the phototransistor of the reflective sensor. In liner part and label part, the amount of light that can pass through differs. Thus, the current flowing into the phototransistor differs, and the output of the phototransistor also differs.
From the difference in outputs, the CPU on the Main PCB can detect the leading edge of label.

Detecting U-shaped notches of tag: (Media Sensor menu: "See Through")
For detecting U-shaped notches of tag, the same principle as for detecting label applies, except that the light is directly falls on the phototransistor through the notch.

Detecting black marks on tag: (Media Sensor menu: "Reflect")
For detecting black marks on tag, only the reflective sensor is used. Light emitted from the LED is reflected by the tag (at other than the black mark) and reaches the phototransistor of the reflective sensor. At the black mark, the light is not reflected. The CPU on the Main PCB detects the black mark by sensing the output of the phototransistor.

Detecting continuous media: (Media Sensor menu: "None")
For detecting continuous media, only the reflective sensor is used. In this case, only media end is detected by the reflective sensor.

Detecting media end:
For any media, media end is detected with the sensor.

2-1-4. Top Cover Open Detection Mechanism
The component of the top cover detection mechanism is as follows:
(a) SA, Cover Open Sens

The top cover open detection mechanism detects the open/close status of the top cover.
When the top cover is closed, the claw of top cover engages with the "SA, Cover Open Sens" (photo interrupter). While it is opened, it comes off the "SA, Cover Open Sens".
The CPU on the Main PCB detects open/close status of the top cover by sensing the output from the "SA, Cover Open Sens". When the top cover is opened, the ERROR LED blinks and the LCD displays "Error Cover Open" on the operation panel.
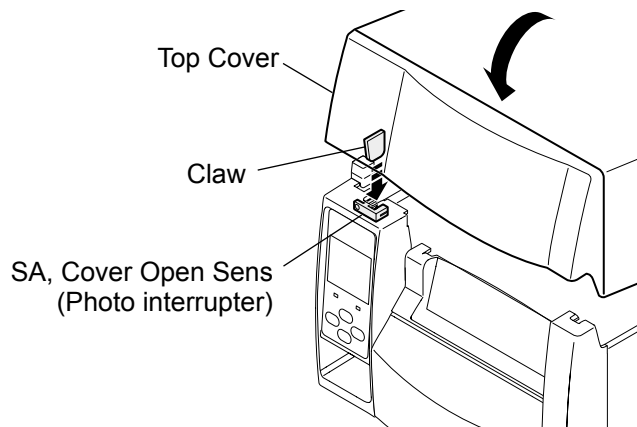
2-1-5. Print Head Up/Down Detection Mechanism

The component of the print head up/down detection mechanism is as follows:

(a) SA, Head Up SW

The print head up/down detection mechanism detects the up (open)/down (close) status of the head block.

When the head block is in the up position, the switch lever of the "SA, Head Up SW" is released and the switch turns OFF. While, the head block is in the down position, it is pushed by the head block and the switch turns ON.

The CPU on the Main PCB detects up or down position of the head block by sensing the switch output of the "SA, Head Up SW". When the head block is in the up position, the ERROR LED blinks and the LCD displays "ERROR HEAD OPEN" on the operation panel.
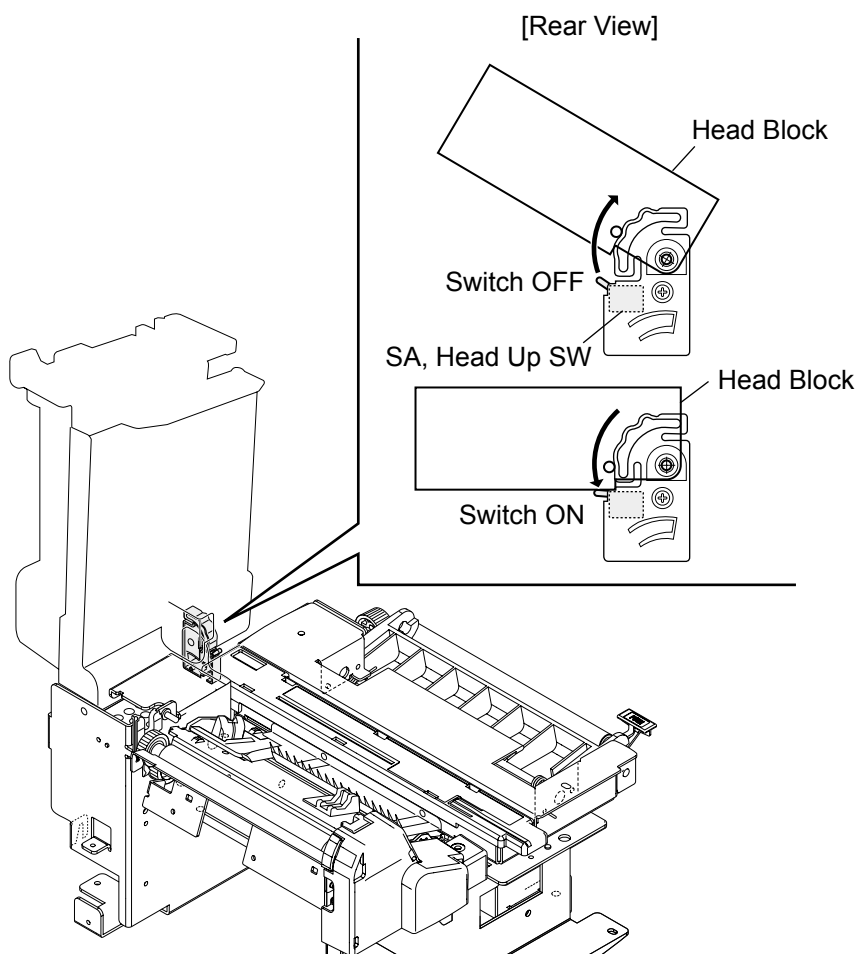
2-1-6. Head Balance Adjustment Mechanism

The major components of the head balance adjustment mechanism are:

(a) Adjust Screw (Media width adjustment knob)

(b) Slider

(c) Head Spring L/R

The head balance adjustment mechanism is used to eliminate uneven printing density on the left and right sides of media. The head balance adjustment is accomplished by changing the right side head pressure according to media width to be used. To change it, the Adjust Screw (Media width adjustment knob) is used.

When narrow media is used (needs to give weak pressure on the right side):

As you can see from the figure, the Head Spring L pushes the left side "Unit, Head" against the platen, at a constant pressure. While the Head Spring R pushes the right side "Unit, Head" against the Platen SA via the Slider. Since the Slider has taper shape on its bottom, the pressure that is developed by the Head Spring R varies with the Slider position. As the Slider moves toward the left (or the Adjust Screw is turned counterclockwise), the Head Spring R gives a weaker pressure to the "Unit, Head". While, it moves to the right, a stronger pressure is given.

For example, when narrow media is set, since no media exists on the right side, the right side pressure of the "Unit, Head" must be weak. Otherwise, the "Unit, Head" will slant toward the right and pressure is not appropriately given to narrow media, resulting in uneven printing density.

To obtain optimum printing result, you need to move the Slider to the left by turning the Adjust Screw, while viewing the indicator in the media width check window.

[For narrow media]

Media width check window

25 50 75 100 (mm)

Slider

Adjust Screw

Head Spring L

Head Unit

Media

Platen

Constant pressure

Head Spring R

Pressure: Low

[For wide media]

Pressure: High

2-11

CL-S700/CL-S703/CL-S700R
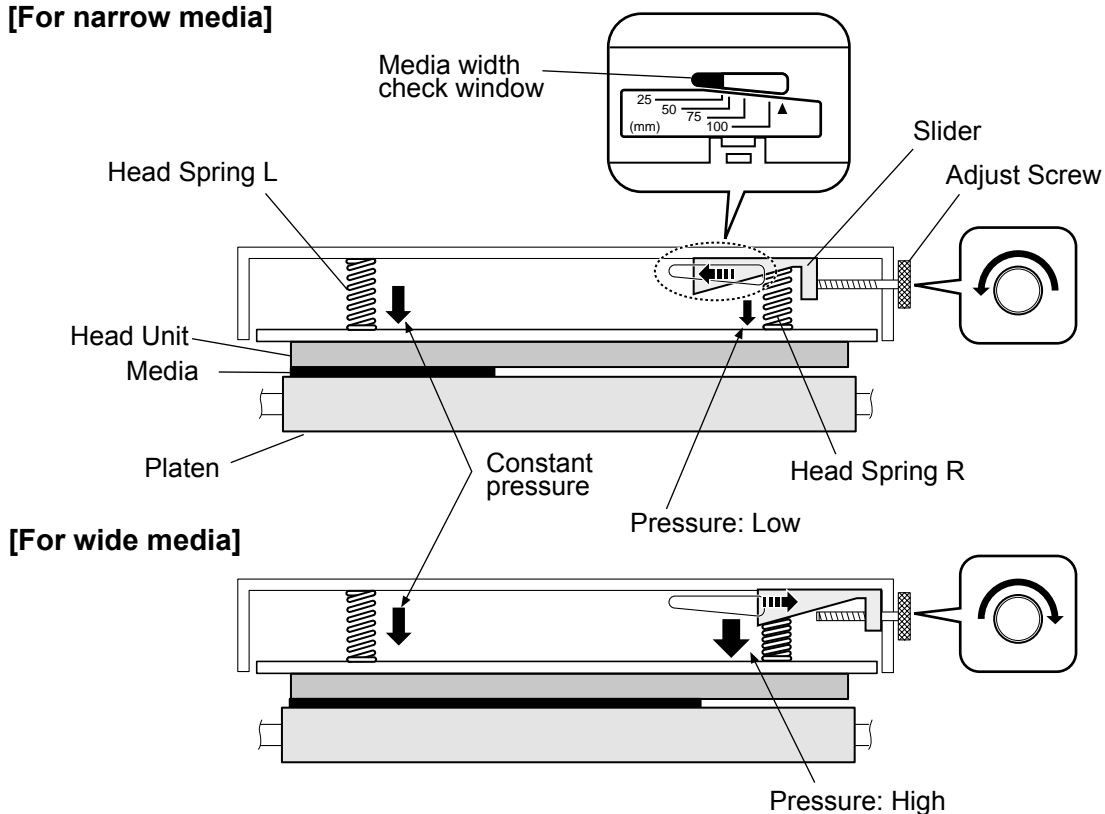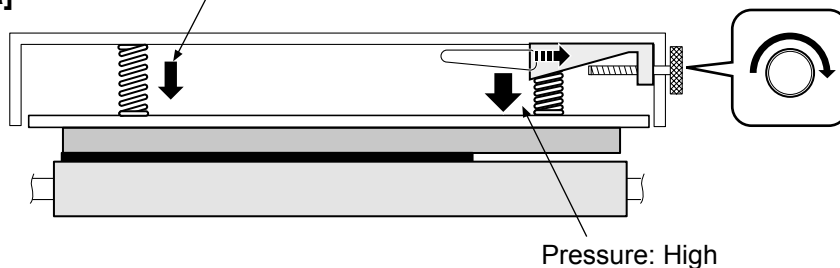
When wide media is used (need to give strong pressure on the right side):
The same principle applies to wide media. However, in this case, since the media is wide, the Slider should be moved toward the right (or the Adjust Screw should be turned clockwise) to get stronger pressure by the Head Spring R.

2-1-7. Media Thickness Adjustment Mechanism

The major components of the media thickness adjustment mechanism are:
(a) Media thickness adjustment screw   (c)   Offset Spring
(b) Head Plate

According to the change in media thickness, the thermal element position of the "Unit, Head" changes slightly. The media thickness adjustment mechanism is used to correct this change by moving the thermal element position back and forth a little, by turning the media thickness adjustment screw. With this adjustment, optimum printing quality is obtained.

For thin media (standard label, thermal media, etc.):
For thin media, normally, the media thickness adjustment screw will be turned counterclockwise 2 to 4 turns from the center line of the media thickness check window.
As shown in the figure, when the media thickness adjustment screw is turned counterclockwise from the center position, the right end of the Head Plate is pushed up by the Offset Spring and the thermal element parts slightly moves to the right.

[For standard label/thermal media]

Media Thickness Adjustment Screw

Head Plate

Head Unit
(Thermal elements)

Offset Spring

Media Thickness
Check Window

Platen

[For thick media (tag)]

Media Thickness Adjustment Screw

Head Unit
(Thermal elements)

Media Thickness
Check Window

Platen
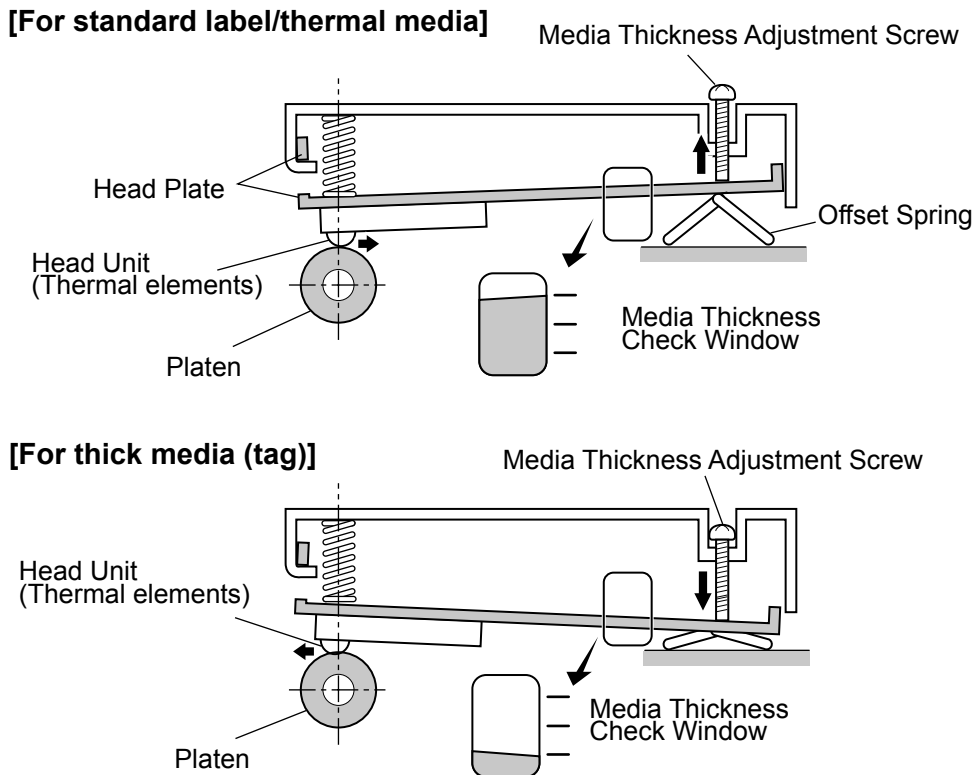
For thick media (tag paper):

For thick media, normally, the media thickness adjustment screw will be turned further clockwise 2 to 4 turns from the center line of the media thickness check window. When the media thickness adjustment screw is turned clockwise further from the center position, the right end of the Head Plate is lowered and the thermal element parts slightly moves to the left.

Shipping position:

It is the position where the screw is turned by 2 turns counterclockwise from the center line (head offset "0") of the media thickness check window.

2-1-8. Rewinder Cover Open Detection Mechanism (CL-S700R only)

The component of the rewinder cover detection mechanism is as follows:

(a) SA, Interlock SW (Rewinder Cover Open Sensor)

The rewinder cover open detection mechanism detects the open/close status of the rewinder cover.

When the rewinder cover is closed, the lever of the interlock switch is pushed by the plate "A" and it turns ON. While the rewinder cover is opened, the plate "A" comes off the interlock switch and the switch turns OFF.

The CPU on the Main PCB detects open/close status of the rewinder cover by sensing the output from the "SA, Interlock SW".

When the rewinder cover is opened, the ERROR LED blinks and the LCD displays "Error Rewinder Open" on the operation panel.

2-13

CL-S700/CL-S703/CL-S700R
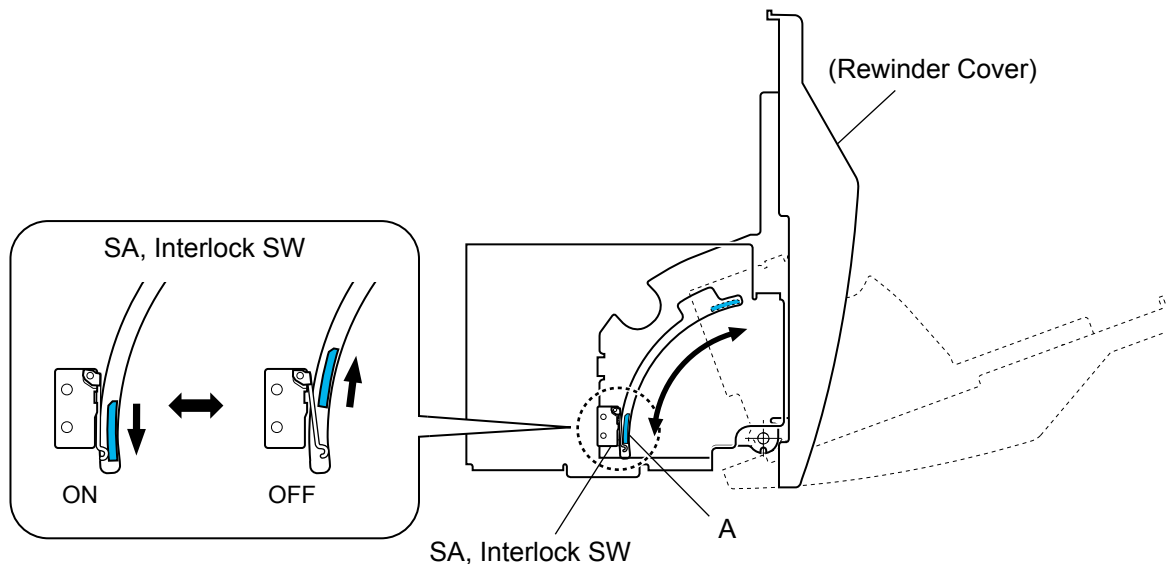
2-1-9. Rewinding Mechanism (CL-S700R only)

The components of the rewinding mechanism are as follows:

(a) SA, Rewinder Motor   (c) Measure Flap Plate

(b) SA, Rewinder Flange   (e) SA, Rewinder PCB

As the rewinder motor turns, the "SA, Rewinder Flange" turns to wind up the liner. The Measure Flap Plate is pushed by the wound liner and turns backward and passes the form sensor (photo interrupters PS501/PS502) on the "SA, Rewinder PCB". The amount of liner wound up at the flange is divided into four stages as follows (refer to the figure):

    1st stage: PS501: ON, PS502: OFF

    2nd stage: PS501: ON, PS502: ON

    3rd stage: PS501: OFF, PS502: ON

    4th stage (Full): PS501: OFF, PS502: OFF

The rewinder motor speed to wind up the liner is changed in 1st to 3rd stages (fast to slow). When the Full state is detected, the CPU stops rewinder motor. In this state, the ERROR LED blinks and the LCD displays "Error Rewinder Full" on the operation panel.

When printing is performed, the rewinder motor starts to turn to wind up the liner. Turning of the motor is detected by photo interrupter of the "SA, Rewinder PCB". While the motor is turning, the blade at the end of motor turns and the intermittent pulse is output to the CPU from the photo interrupter. When the flange tightly wound up the liner, the motor stops as it cannot run further. In this state, since no pulse is output from the photo interrupter, the CPU judges that the liner has wound up and stops the motor. Above winding cycle is repeated for the next printing.

[Viewed from the left of the Rewinder Part]
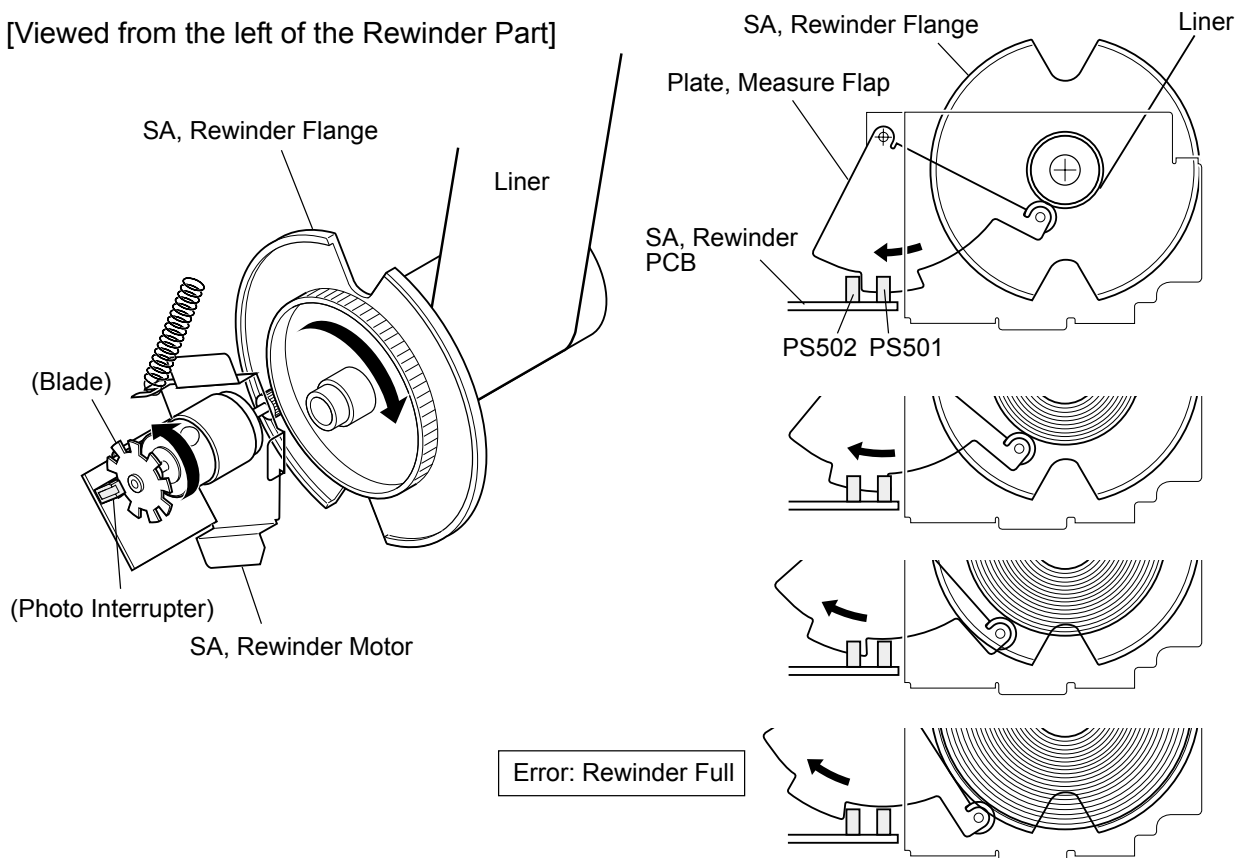
2-2. Operation of Control Parts

2-2-1. Configuration of Printer

The following shows major configuration blocks.

(CL-S700/CL-S703)   **(CL-S700R)**

(Option) Auto Cutter Unit

| Cutter Motor |
| Cutter Position Sensor |
| Cutter Motor Temp. Sensor | A/D |

Cutter PCB

Rewinder Unit

SA, Rewinder Motor

| Rewinder Motor Temp. Sensor | Encode Sensor |
| | Rewinder Motor (DC) |

Rewinder Cover Open Sensor

(Option) Peeler Unit

| Peel Sensor | A/D |

Connect PCB

Rewinder PCB

Form Sensor | A/D | **Peeler Unit** | Peel Sensor

Main PCB

| RF-ID R/W (Serial Data) |

| Ribbon Encoder |

| Head Up Sensor |

| Front Fixed Sensor | A/D |

| Adjustable Sensor | A/D |

| Thermal Head Temp. Sensor | A/D |

| PF Motor Temp. Sensor | A/D |

| Cover Open Sensor |

CPU

UPD703111AGM-13-UEU-A

128MHz

BZ

RS232C Driver/Receiver — RS232C

USB 1.1

Fan

D/A Converter
- PF motor current
- PE sensor LED
- Rewind motor current

Control / C.G. F-ROM(32Mbit)

S-DRAM (128Mbits)

SA, Ope-pane PCB (SW & LED)

LCD (Serial Data)

Custom IC (Gate Array)

UPD65946GJ-165-3EB-A

PF Motor Driver SLA7033M — PF Motor

IEEE1284 Transceiver

| Thermal Print Head |

LAN I/F (Option)

| Ethernet I/F |
| Wireless LAN |

AC Inlet & Power Switch/ Filter & Power Supply

IEEE1284

Major functions of individual components are described below:

(1) AC Inlet & Power Switch/Filter & Power Supply section

Consists of a fuse, a filter circuit to eliminate external electric noise, and a switching type regulator to transform an AC input to +5V DC and +24V DC outputs required to drive the printer.

(2) Main PCB

Controls the entire operations of the printer. It consists of CPU, Flash ROM, S-DRAM, Custom IC (Gate Array), driver circuits, etc.

(a) CPU

The CPU is a microprocessor with 32-bit architecture. The clock fed to the CPU is 16 MHz. The CPU internally multiplies this 16 MHz by 8 times and uses 128 MHz clock. The CPU includes cache memory, RAMs, DMA controller, serial I/F, USB function controller, A/D converter, etc.

(b) Flash ROM

This is a flash ROM of 32M bits (4M bytes) that stores the firmware and CG (character generator).

(c) S-DRAM (Synchronous dynamic RAM)

This is an S-DRAM of 128M bits (16M bytes) that is used as working area, input buffer and download buffer.

(d) Custom IC (Gate Array)

The custom IC incorporates a control circuit for the interface I/O port, motor, print head, etc.

(e) PF motor driver

This is a circuit to drive the PF Motor. The PF Motor is a stepping motor.

(f) Buzzer

The buzzer is driven when an alarm, etc. occurs.

(g) Fan

This is a cooling fan at the left rear of the printer. Rotation of the fan is controlled by the CPU and the fan rotates during printing. The CPU monitors fan lock signal to check for any fan abnormality. If the fan stops during printing, ERROR LED blinks and "Error Fan Lock" is displayed on the operational panel.

(3) Operation panel

This is a panel used to indicate the operating status of the printer and to set specifications. It consists of 4 keys, 6 LEDs and 1 LCD.

(4) Thermal print head

The thermal print head has the following thermal elements. It also has the print head driver circuit.
• 864 dots (CL-S700/CL-S700R)
• 1275 dots (CL-S703)

(5) Sensors

CL-S700/CL-S703/CL-S700R (Printer Part):

The following 9 sensors are used:

Sensor name	Description
Top Cover Open Sensor	It is a photo interrupter to detect top cover open. ("SA, Cover Open Sens")
Head Up Sensor	It is a mechanical switch ("SA, Head Up SW") to detect head open/close status.
Adjustable Sensor and Front Fixed Sensor (Consists of the transparent sensor and reflective sensor.)	Each transparent sensor: Consists of 1 LED.
	Each reflective sensor: Consists of 1 LED and 1 phototransistor.
Thermal Head Temp. Sensor	A thermistor incorporated in the print head.
PF Motor Temp. Sensor	A thermistor attached to the PF Motor.
Ribbon Encoder (Ribbon Running Sensor/Ribbon End Sensor)	A photo interrupter to detect ribbon running. It also detects the ribbon end. (A part of the "Unit, Frame Ribbon L".)

CL-S700R (Rewinder Part):

The following 5 sensors are used:

Sensor name	Description
Peel Sensor	It is a photo reflector to detect the presence of peeled label at the exit of the printer.
Rewinder Cover Open Sensor	It is a mechanical switch to detect rewinder cover open/close status. (SA, Interlock SW)
Form Sensor	Two photo interrupters that are used to detect the amount of liner wounded by the flange. Full state is also detected. (PS501 and PS502 on the "SA, Rewinder PCB".)
Encode Sensor	A photo interrupter to detect the running of rewinder motor. (A part of the "SA, Rewinder Motor")
Rewinder Motor Temp. Sensor	A thermistor attached to the rewinder motor. (A part of the "SA, Rewinder Motor")

(6) Motors

PF motor is used. It is a stepping motor to feed media. Ribbon will be fed with the media through developed friction force.

Rewinder motor is used (CL-S700R only). It is a DC motor to turn the rewinder flange for winding up liner.

(7) Parallel I/F (IEEE1284)

This is a parallel I/F to transmit and receive parallel data between the printer and a host. It supports Centronics Compatible mode, NIBBLE mode and ECP mode.

Parallel I/F, serial I/F, or USB I/F is automatically selected when data is received.

(8) Serial I/F (RS-232C)

This is a circuit to transmit and receive serial data between the printer and the host.

Parallel I/F, serial I/F, or USB I/F is automatically selected when data is received.

(9) USB (Universal Serial Bus) I/F

This is a circuit to transmit and receive serial data between the printer and the host using the USB.

Parallel I/F, serial I/F, or USB I/F is automatically selected when data is received.

(10) Ethernet I/F (Option)

This is a circuit which supports Ethernet protocol. LAN connection is possible.

(11) Wireless LAN I/F (Option)

This is a circuit which supports Ethernet protocol. Wireless LAN connection is possible.

(12) Connect PCB

This is a relay PCB to connect optional peeler unit and auto cutter unit.

2-2-2. Memory Map

Address	Section	Group
0000000H – 001FFFFFH	Command RAM (Built-in CPU)	CPU
0100000H – 0103FFFH	Boot Loader (1)	Flash ROM 4M bytes
0104000H – 0105FFFH	Setting Information (User Settings)	
0106000H – 0107FFFH	Setting Information (Factory-set Settings)	
0108000H – 010FFFFH	Boot Loader (2)	
0110000H – 027FFFFH	Firmware (Datamax)	
0280000H – 03BFFFFH	Firmware (Zebra)	
03C0000H – 04BFFFFH	Downloading Area (1M bytes)	
04E0000H – 04EFFFFH	Service Information (Backup)	
04F0000H – 04FFFFFH	Service Information	
0800000H – 0FFFFFFH	Firmware (about 400K bytes) Receiving Buffer (16K bytes x 3)* Command Buffer (128K bytes) Others	SDRAM 16M bytes
4000000H – 40FFFFFH	I/O	Custom IC
FFFB000H – FFFEFFFH	Data RAM (Built-in CPU)	CPU
FFFF000H – FFFFFFFH	I/O (Built-in CPU)	

*: 16K bytes for each I/F (USB, IEEE1284 and Serial)

CL-S700/CL-S703/CL-S700R

2-2-3. Sensors

(1) Top cover open sensor

The top cover open sensor is used to detect the open/close status of the top cover. This sensor uses a photo interrupter.
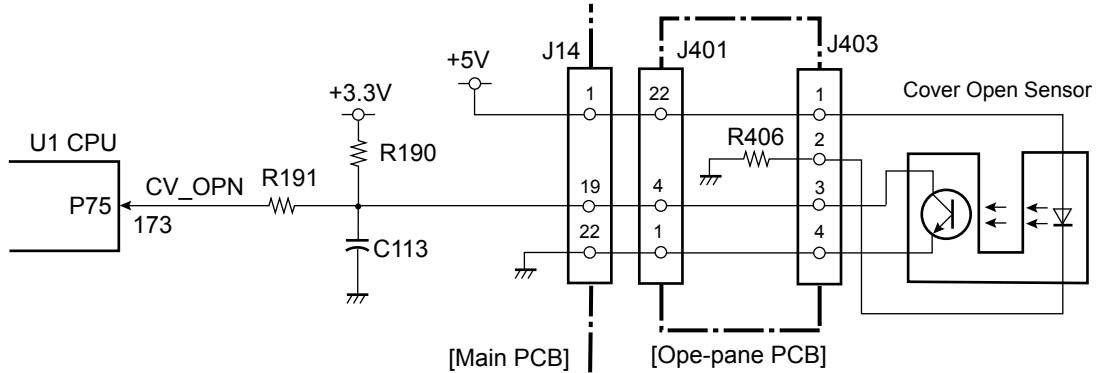
When the top cover is closed, the claw of the top cover is engaged with the photo interrupter (top cover open sensor). In this case, light emitted from the LED of the photo interrupter is blocked by the claw and the phototransistor turns OFF. As a result, pin 173 (CV_OPN) of U1 (CPU) goes "High".

When the top cover is opened, the claw is released from the photo interrupter and pin 173 (CV_OPN) of U1 (CPU) goes "Low".

When the top cover is opened, the ERROR LED blinks and the LCD displays "ERROR COVER OPEN" on the operation panel.
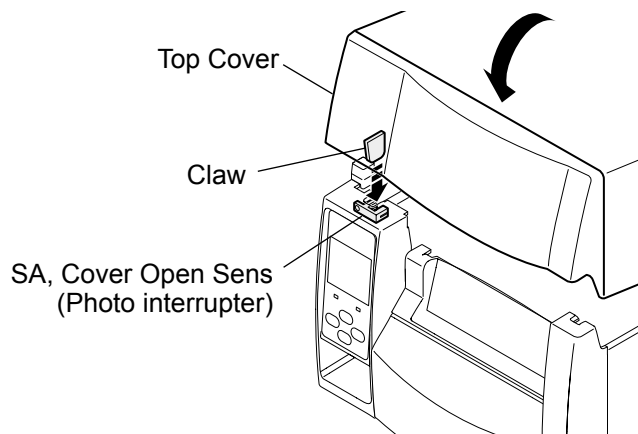
(2) Head up sensor

The head up sensor ("SA, Head Up SW") is used to detect the head position (up or down). This sensor uses a mechanical micro switch.

When the head block is closed (in the down position), the head block pushes the micro switch lever and the micro switch turns ON. In this state, pin 174 (HDUSENS) of U1 (CPU) goes "Low".

When the head block is opened (in the up position), the micro switch turns OFF and pin 174 (HDUSENS) of U1 (CPU) goes "High".

When the head block is opened, the ERROR LED blinks and the LCD displays "ERROR HEAD OPEN" on the operation panel.
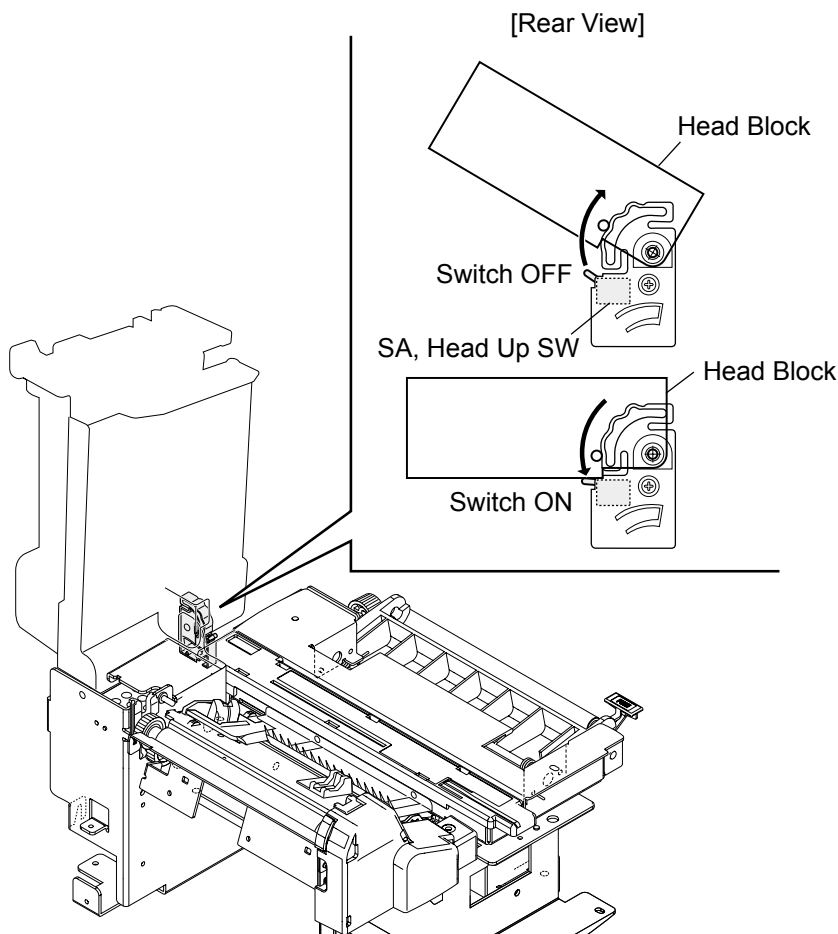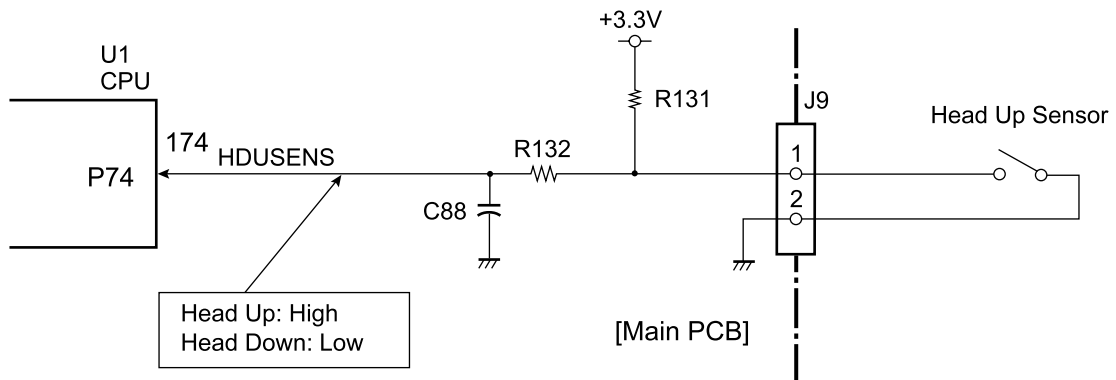
(3) Adjustable Sensor

The adjustable sensor consists of the transparent sensor (upper sensor) and the reflective sensor (lower sensor), and media passes between these sensors.

The transparent sensor and reflective sensor are used to detect the label stuck on liner and the U-shaped notch on tag. While the reflective sensor alone is used to detect the black mark on the bottom surface of tag. Both sensors are also used to detect the media end.

The transparent sensor consists of 1 LED (this is not a sensor actually but it acts as the transparent sensor by the combination of the phototransistor in the reflective sensor). The reflective sensor consists of 1 LED and 1 phototransistor.
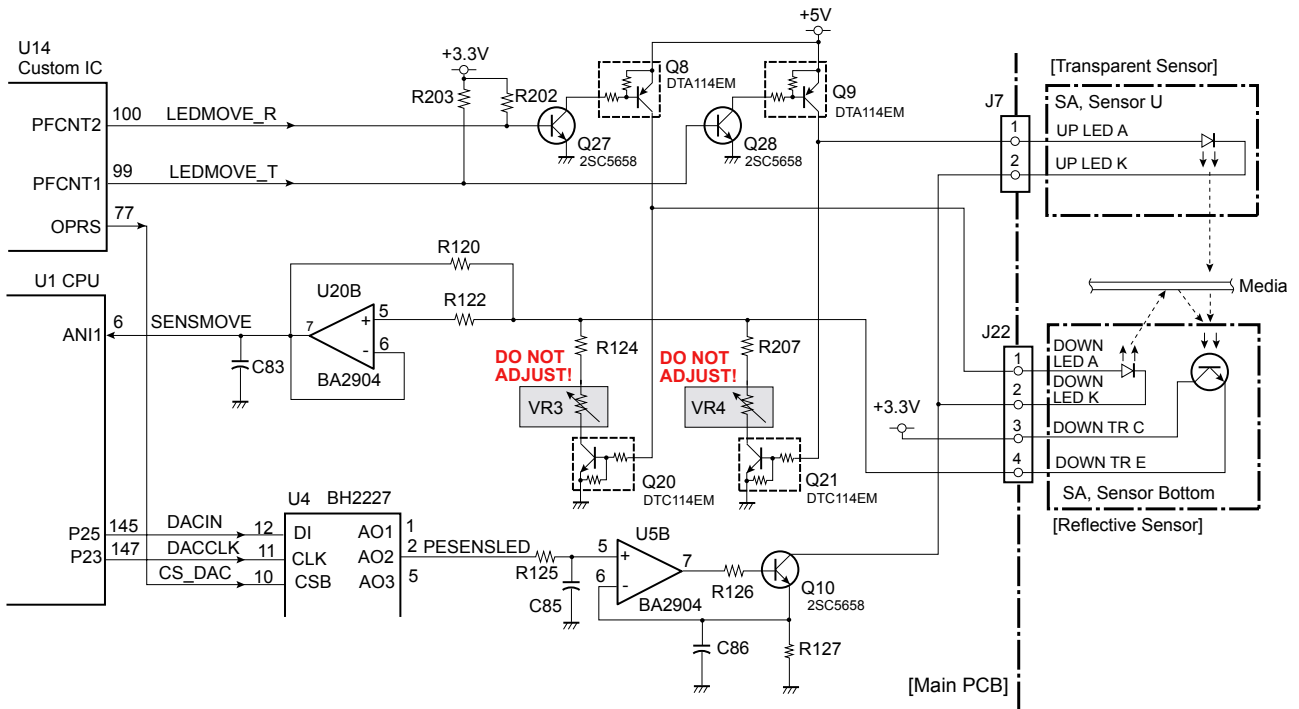
⚠ **Caution**

- **DO NOT adjust VR3 and VR4 on the Main PCB. (Leave them at the factory setting condition.) If it is turned, media sensor sensitivity is changed and the media detection will not be correctly made.**

Transparent sensor (used for detecting the label or U-shaped notch):
When transparent sensor is used together with the reflective sensor (media sensor menu: See Through), pin 99 (LEDMOVE_T) of U14 (Custom IC) goes "High", Q28 and Q9 turn ON and the LED of the transparent sensor turns ON. The current flowing into the LED (the light amount to be emitted) for detecting label is determined by U4 (D/A converter), U5B and Q10 under the control of the U1 (CPU) and U14 (Custom IC).

When the liner (without label stuck on it) passes between both transparent and reflective sensors, the light emitted from the LED of the transparent sensor reaches the phototransistor of reflective sensor, passing through the liner.

Thus, the phototransistor conducts and the voltage corresponding to the amount of light received is applied to the analog input (pin 6 (SENSMOVE)) of U1 (CPU) via OP amp. U20B.

The CPU senses this voltage and judges that the light is passing through media, namely, the liner part without label is now passing through the sensors.

When the label part arrives at the sensors, the light is blocked by the label and does not reach the phototransistor. So, the phototransistor turns OFF and pin 6 (SENSMOVE) of U1 (CPU) goes from "High" to "Low". From this level change, the CPU can detect the leading edge (arrival) of the label on the liner.

If media runs out, the light directly falls on the phototransistor and the phototransistor continuously turns ON. From this, media end is detected.

The above principle applies when media with U-shaped notch is used. In this case, since the light directly falls the phototransistor, the current flowing into the LED (the amount of light emitted) is appropriately set for detecting the U-shaped notch.

Reflective sensor (used for detecting the black mark on tag):

The reflective sensor alone is used (media sensor menu: Reflect). In this case, pin 100 (LEDMOVE_R) goes "High", Q27 and Q8 turn ON and the LED of the reflective sensor turns ON. The current flowing into the LED (the light amount to be emitted) for detecting black mark is determined by U4 (D/A converter), U5B and Q10 under the control of the U1 (CPU) and U14 (Custom IC).

When tag with black marks is used, light emitted from the LED is reflected by the tag and reaches the phototransistor. At the place where no black mark exists, the phototransistor receives the reflected light and conducts. So, the voltage corresponding to the amount of light received is applied to the analog input (pin 6 (SENSMOVE)) of U1 (CPU) via U20B. When the light falls on the black mark, no light is reflected, the phototransistor turns OFF, and pin 6 of U1 (CPU) goes "Low".

When media runs out, the light is not reflected by media any more and the phototransistor continuously turns OFF. From this, media end is detected.

CL-S700/CL-S703/CL-S700R

(4) Front Fixed Sensor

The principle of the front fixed sensor is the same as that of the adjustable sensor.

To use the front fixed sensor, you need to change the Sensor Select menu from "Rear Adj sensor" to "Front Fixed Sen".
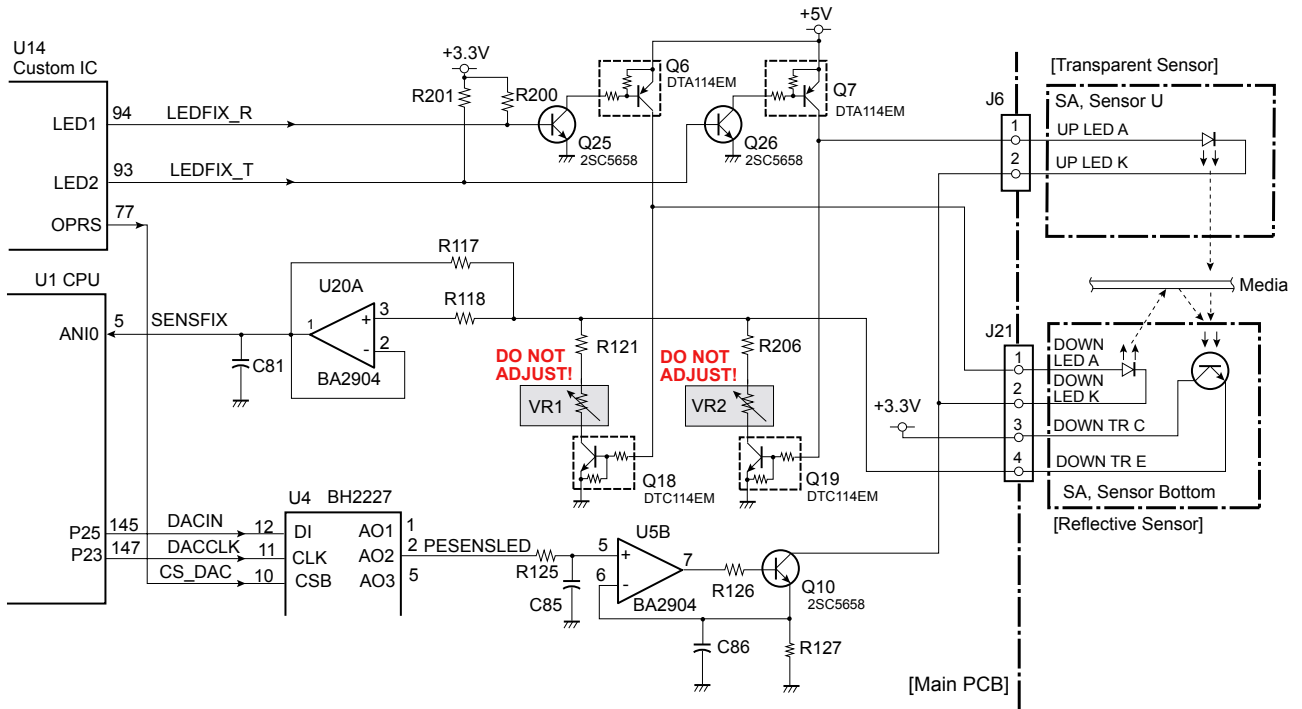
⚠ Caution

- **DO NOT adjust VR1 and VR2** on the Main PCB. (Leave them at the factory setting condition.) If it is turned, media sensor sensitivity is changed and the media detection will not be correctly made.

(5) Head temperature sensor

The head temperature sensor is used to detect the temperature of the thermal head ("Unit, Head"). This sensor is a thermistor incorporated in the thermal head. Since the resistance of the thermistor changes according to the temperature change, the voltage at pin 7 (HDTMP) of U1 (CPU) changes accordingly. The CPU senses the voltage at pin 7 to detect the head temperature. According to the temperature of the thermal head, the CPU controls the width of printing pulse that is used to heat the thermal elements, to keep the printing density constant.
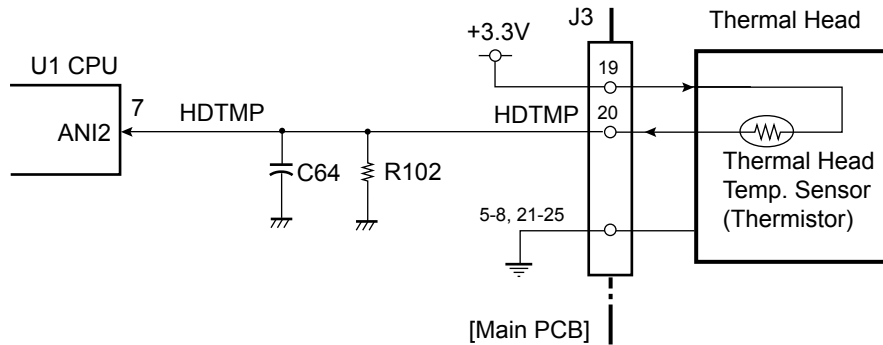
Printing operation when the head temperature rises abnormally:

When the head temperature rises to 70°C (158°F), printing stops after printing the current label. In this case, the ERROR LED blinks and the LCD displays "Alarm Head Hot" on the operation panel. When the head temperature falls below 60°C (140°F), the ERROR LED stops blinking, the LCD returns to the original display "On Line", and printing resumes.
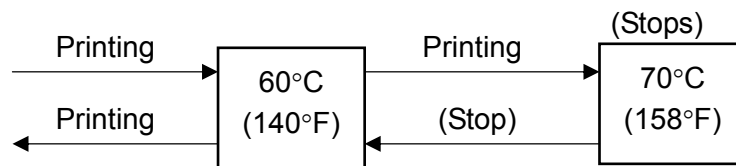
Printing operation when the head temperature is too lower:

When the head temperature is lower than -10°C (14°F), printing is inhibited, and the ERROR LED blinks and the LCD displays "Error Head Cold" on the operation panel. Printing is not possible until the temperature of the thermal head gets warm.

(6) PF motor temperature sensor

The PF motor temperature sensor is used to detect the temperature of the PF Motor. This sensor is a thermistor bonded to the PF Motor. Since the resistance of the thermistor changes according to the temperature change, the voltage at pin 8 (MOTTMP) of U1 (CPU) changes accordingly. The CPU senses the voltage at pin 8 to detect the PF motor temperature.
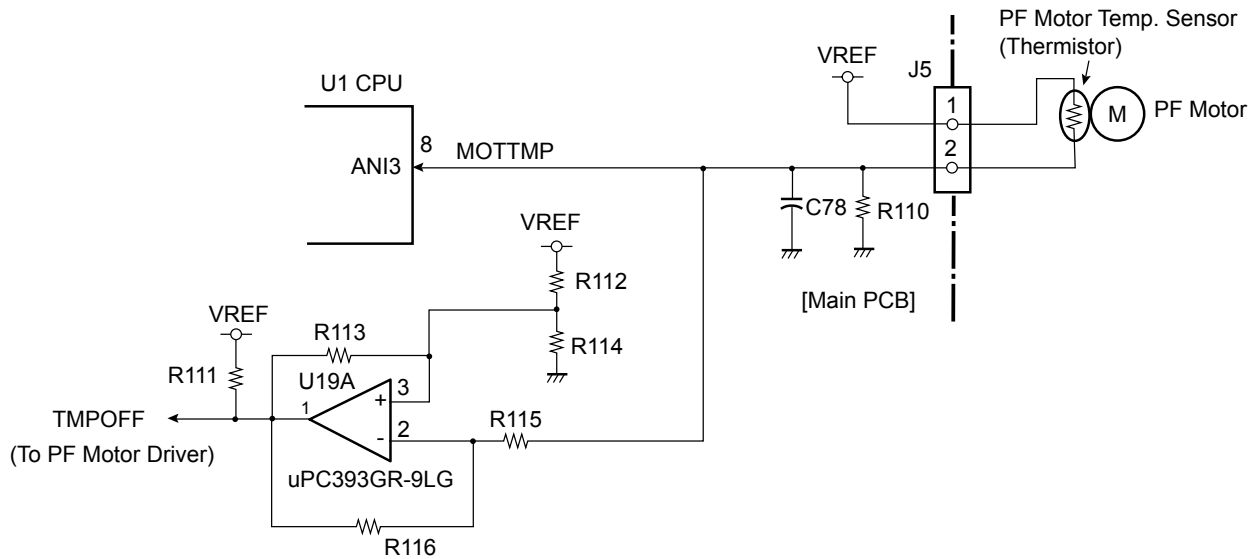
Printing operation when the PF motor temperature rises:

When the temperature of the PF motor rises to 95°C (203°F), printing speed is reduced to avoid overheating. If it reaches 105°C (221°F), the PF motor stops after printing the current label. In this case, the ERROR LED blinks and the LCD displays "Alarm PFMotor Hot" on the operation panel.

When the temperature of the PF motor falls below 90°C (194°F), the LED stops blinking, the LCD returns to the original display "On Line", and printing resumes.
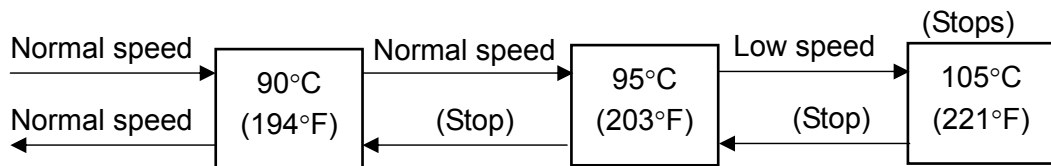
In addition to the PF motor temperature rise detection by the CPU, the circuitry composed of U19A OP amp. detects the high temperature over 130°C (266°F) to protect the PF motor. If the PF motor temperature exceeds 130°C (266°F), the output of U19A is reversed and TEMPOFF signal goes "Low". As a result, +24V supply to the PF motor driver circuit is shut off. (For a detailed description, refer to 2-2-4 "(1) PF motor driver(1) PF motor driver(1) PF motor driver".) When the PF motor temperature falls below 125°C (257°F), the output of U19A returns from "Low" to "High" so that +24V supply to the PF motor driver circuit resumes.

(7) Ribbon encoder

The ribbon encoder is a photo interrupter to detect ribbon running and ribbon end, and is incorporated in the ribbon unit ("Unit, Frame Ribbon L"). A bladed wheel is mounted on the supply reel of the ribbon unit. When the supply reel turns, the blades intermittently block the light emitted from the LED of the ribbon encoder. Thus, while the ribbon is running (supply reel is rotating), a pulse train is input to pin 76 (RIBENC) of U1 (CPU). With this pulse input, the CPU can detect tape running and tape end.

2-27   CL-S700/CL-S703/CL-S700R
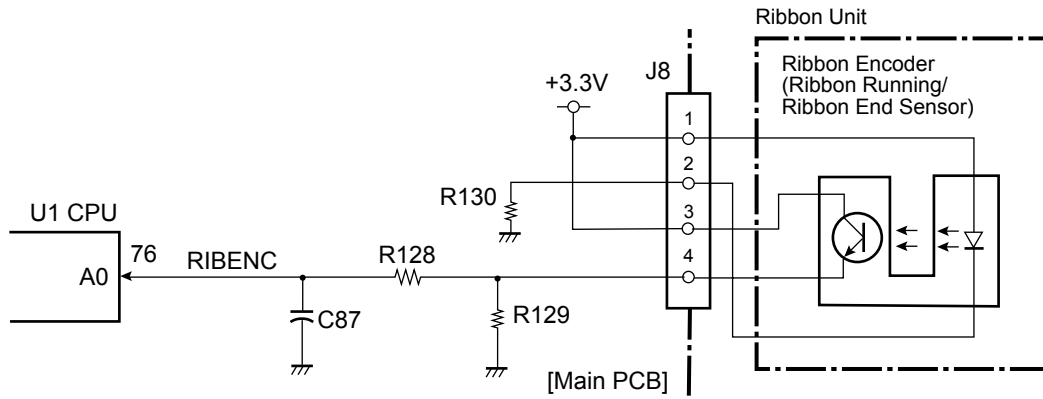
(8) Rewinder cover open sensor (CL-S700R only)

The rewinder cover open sensor is used to detect the open/close status of the rewinder cover. This sensor uses a mechanical switch.
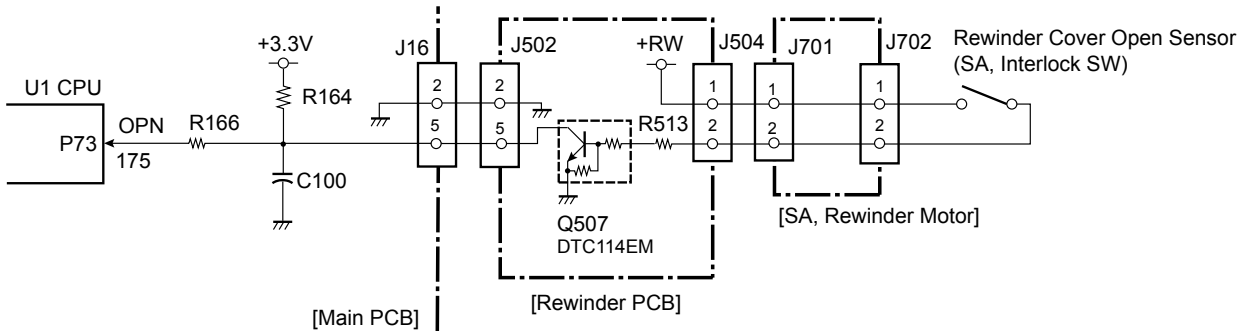
When the rewinder cover is closed, the lever of the "SA, Interlock SW" (rewinder cover open sensor) is pressed by "A" and the switch turns ON. As a result, pin 175 (OPN) of U1 (CPU) goes "Low".

When the rewinder cover is opened, the switch turns OFF and pin 175 (OPN) of U1 (CPU) goes "High".

When the rewinder cover is opened, the ERROR LED blinks and the LCD displays "Error Rewinder Open" on the operation panel.
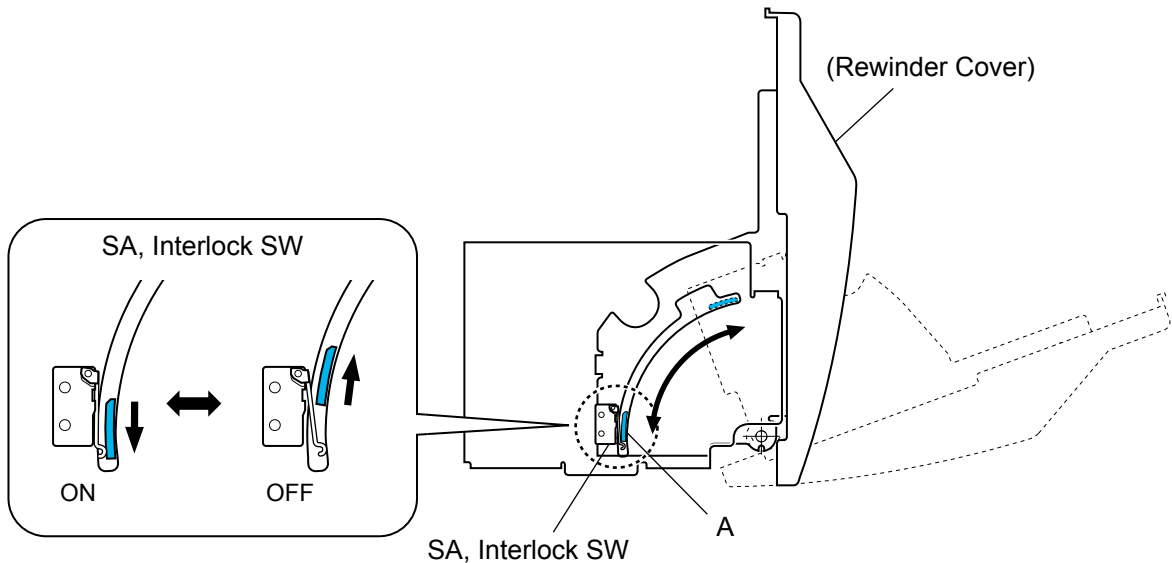
(9) Rewinder motor temperature sensor (CL-S700R only)

The Rewinder motor temperature sensor is used to detect the temperature of the rewinder motor. This sensor is a thermistor bonded to the rewinder motor. Since the resistance of the thermistor changes according to the temperature change, the voltage at pin 11 (MTTH) of U1 (CPU) changes accordingly. The CPU senses the voltage at pin 11 to detect the rewinder motor temperature.
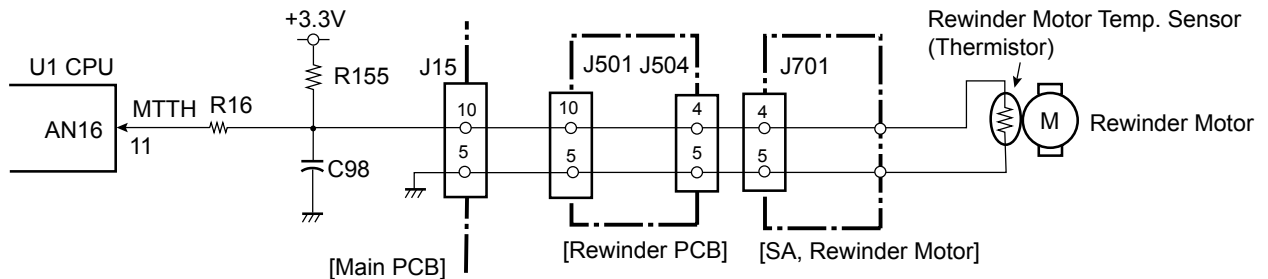
Rewinding operation when the rewinder motor temperature rises:

When the temperature of the rewinder motor rises to 110°C (230°F), printing/rewinding stops. In this case, the ERROR LED blinks and the LCD displays "Alarm Rewinder Hot" on the operation panel.

When the temperature of the rewinder motor falls below 100°C (212°F), the LED stops blinking, the LCD returns to the original display "On Line", and printing/rewinding resumes.
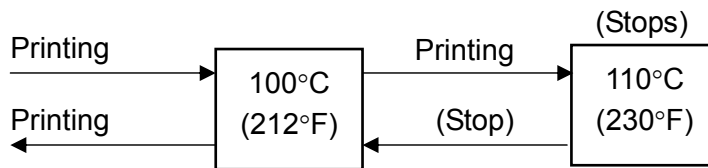
(10) Peel sensor (CL-S700R only)

The peel sensor is used to detect the peeled label at the exit of the printer.

This sensor is a reflective sensor.

When a peeled label exists at the exit of the printer, the light emitted from the LED of the peel senor is reflected by the label and reaches the phototransistor. Thus, the voltage at pin 12 (PEELSENS) of U1 (CPU) becomes "High". The CPU senses the voltage at pin 12 to detect the presence of label at the exit.

When no label exists at the exit of the printer, the light emitted from the LED does not reach the phototransistor. Thus, the voltage at pin 12 (PEELSENS) of U1 (CPU) becomes "Low".

CRPTYP1 signal (pin 96 (PM1) of U14 (Custom IC)) is used to detect whether the "SA, Peel Sensor" is installed in the CL-S700R or not.
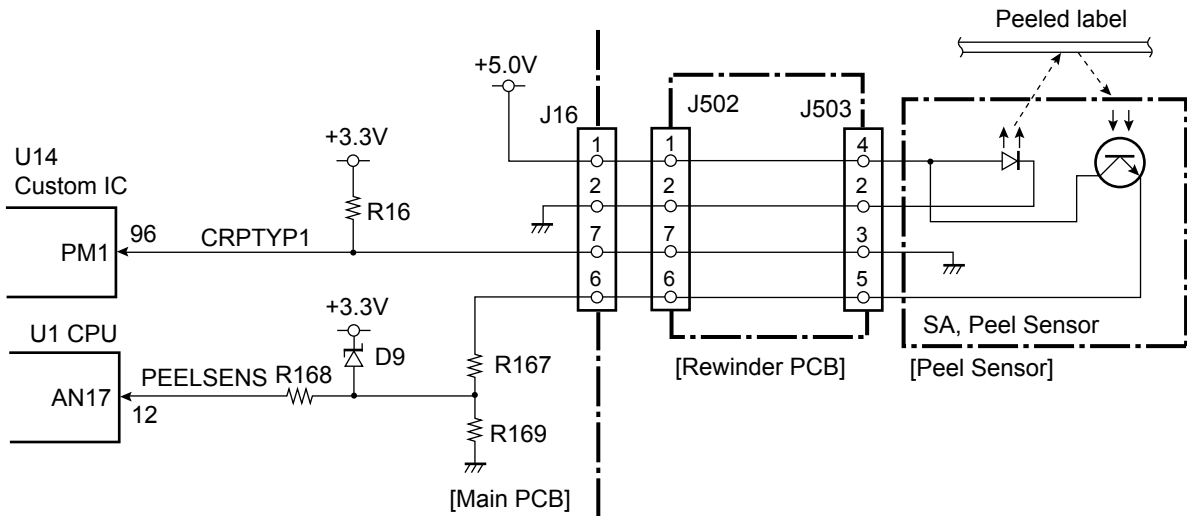
2-2-4. Drivers

(1) PF motor driver

This is a driving circuit to drive the PF Motor (stepping motor). The following illustration shows a simplified circuit. The PF Motor is driven by the unipolar constant current chopper method. The exciting method for the motor is the 2-phase method.

The power to the PF Motor is supplied by turning ON the FET Q4. This is accomplished by activating the monostable multivibrator U16A. When U16A is triggered, Q5 turns ON and FET Q4 turns ON. (TEMPOFF signal is normally at "High". If the PF motor temperature rises excessively, TEMPOFF signal goes "Low" and the output from U16A is inhibited. Thus, +24V to the PF Motor is shut off. For TEMPOFF signal, refer to 2-2-3 "(6) PF motor temperature sensor".)

PFMA, $\overline{\text{PFMA}}$, PFMB and $\overline{\text{PFMB}}$ signals are the exciting pulses to drive the PF Motor.

The digital-to-analog converter (U4) is used to control the PF motor current by applying its output to pins 3 and 14 (REFA and B) of the motor driver (U18).

CL-S700/CL-S703/CL-S700R
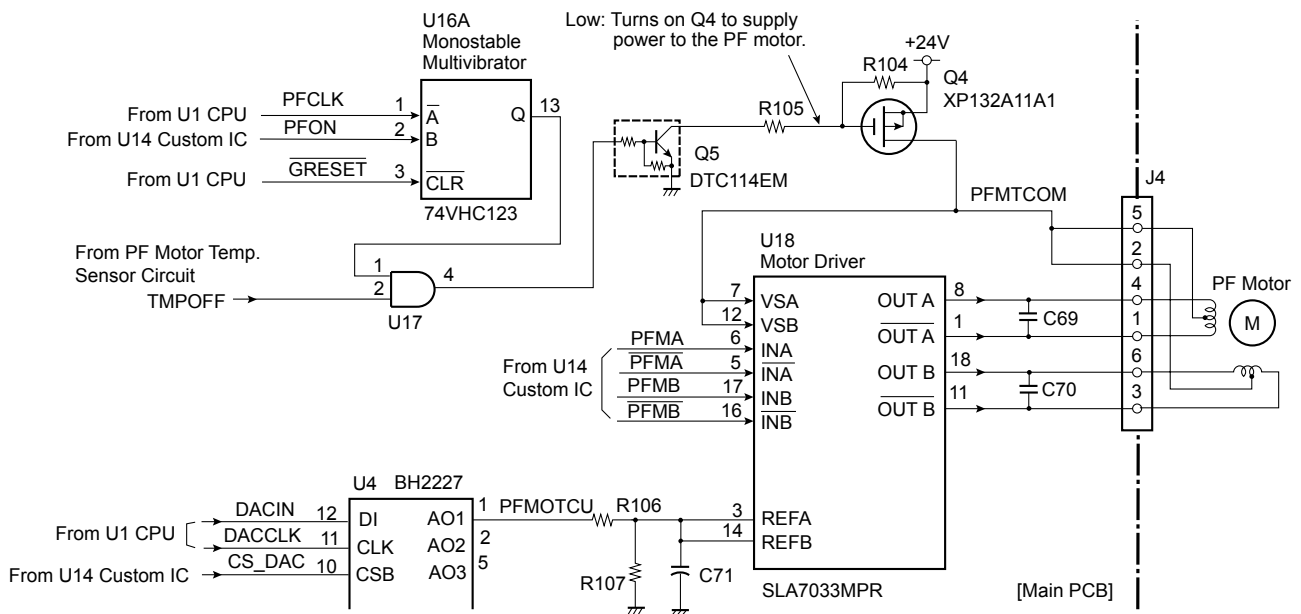
(2) Head driver

The head driver is incorporated in the "Unit, Head".

During printing, pin 116 (HDVON) of U14 (Custom IC) goes to "High", and Q2 and Q1 turn ON.
Thus +24V is supplied to the thermal head ("Unit, Head").
The print data is sent from U14 (Custom IC) to the head driver in the thermal head.
The signals HD1 to 4, HDSTB, HDCLK and HDLAT (pins 109 to 113, 108, 115 and 107 of U14) are sent to the thermal head.
According to the print data (HD1 to 4), the selected thermal elements are heated and the melted ink makes dots on media (or dots are printed on thermal transfer paper).
The width of heating pulse applied to a thermal element varies with the head temperature to keep the printing density constant.
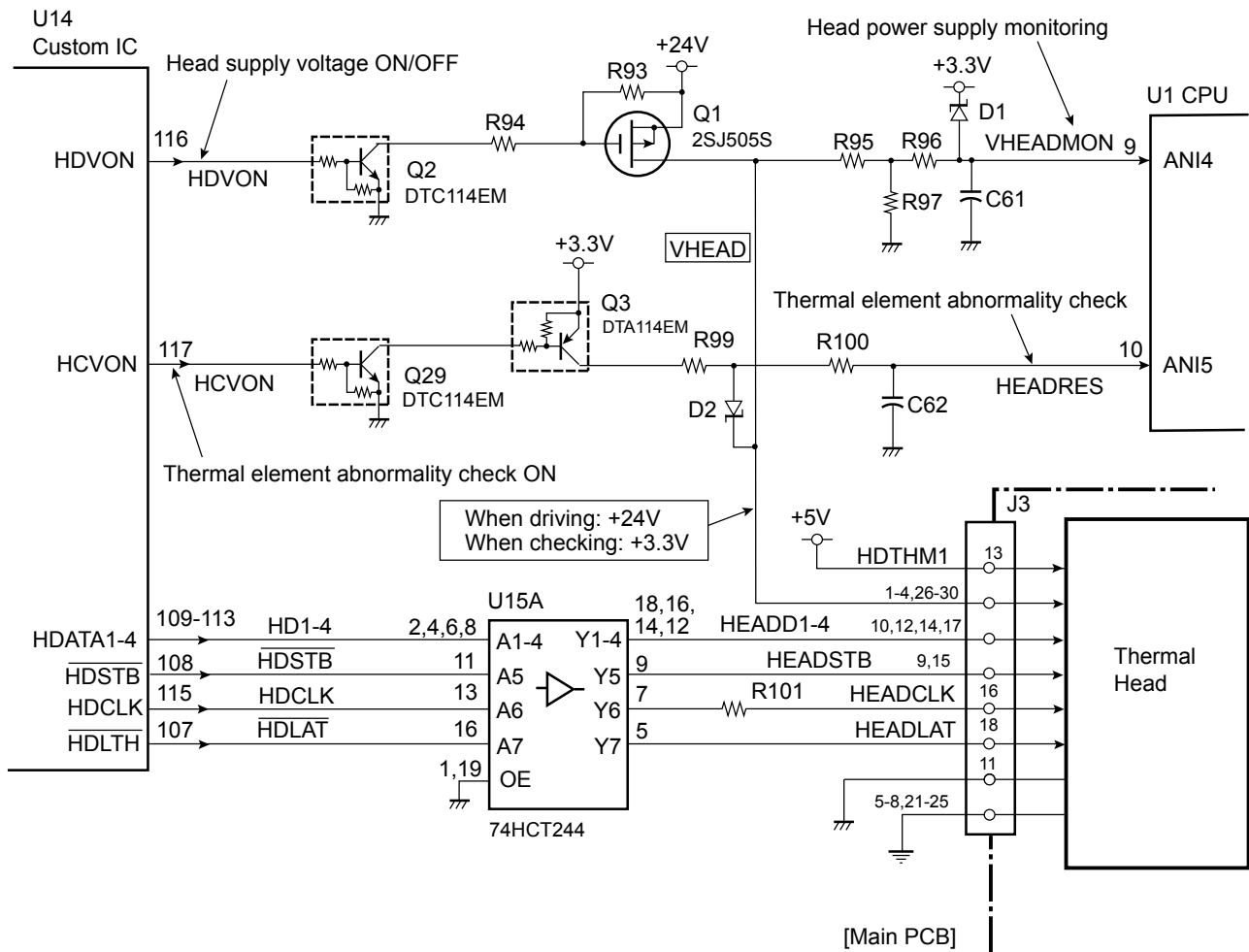
Thermal resistance check:

When the printer is turned ON, the thermal resistance check is conducted. If any fault is found, the ERROR LED blinks and the LCD displays "Alarm Head Check" on the operation panel.

During the thermal resistance check, pin 117 (HCVON) of U14 (Custom IC) goes to "High", and Q29 and Q3 turn ON. Thus, +3.3V is supplied to the thermal head, instead of +24V.
The following is a simplified circuitry under checking, where Q3 turns ON and a thermal element "R" is selected. The voltage at point "A" becomes the value divided by R99 and R. The CPU monitors this voltage at pin 10 (HEADRES), and check if the voltage is in the allowable range or not. (If R is open, the voltage at point "A" will be about +3.3V.)
Every thermal element is successively checked in this way.

R: Resistance of a thermal element in the thermal head
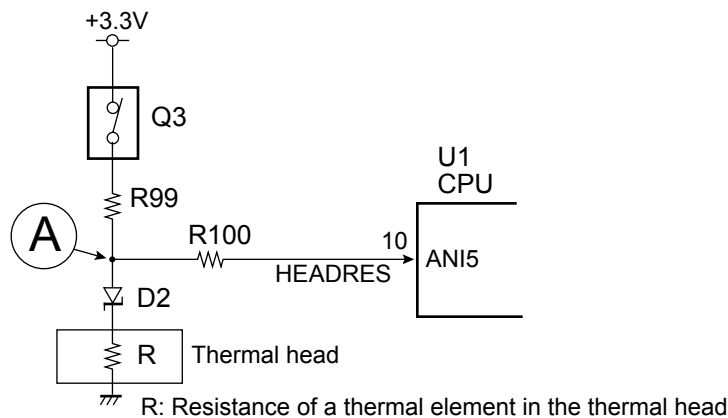
(3) Rewinder motor driver (CL-S700R only)

This is a driving circuit to drive the rewinder motor (DC motor). The following illustration shows a simplified circuit.

Rewinder motor ON/OFF status is controlled by DCMTR1 and DCMTR0 signals sent from pins 35 and 40 of U1 (CPU).

Motor ON: DCMTR1=L and DCMTR0=H

Motor OFF (free):   DCMTR1=L and DCMTR0=L

Braking: DCMTR1=H (DCMTR0=L/H)

When DCMTR1 signal is "Low", Q502 turns OFF and Q501 turns OFF. When DCMTR0 signal is "High", Q506 turns ON, Q505 turns OFF and, if Q503 is OFF (DCMTR1 signal is "Low"), Q504 turns ON and the rewinder motor is turned.
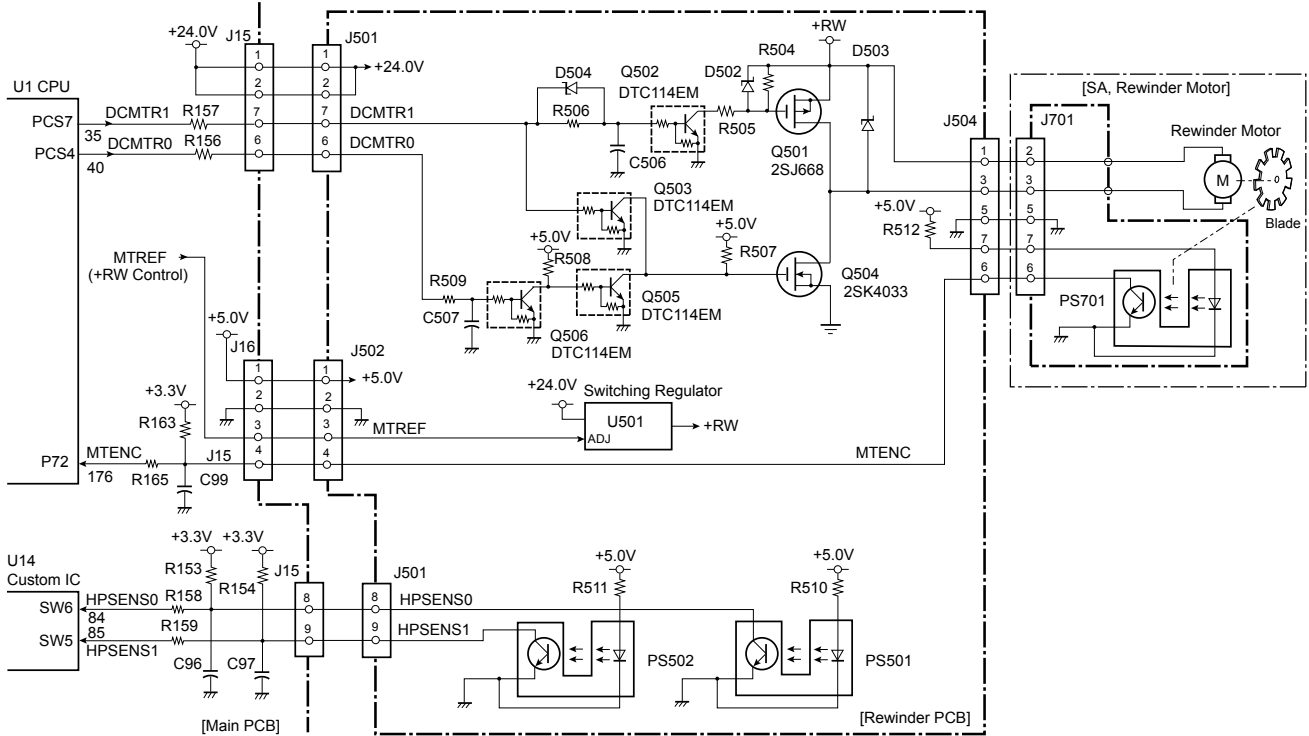
Rewinder Full detection:

The form sensor (photo interrupters PS501 and PS502) on the "SA, Rewinder PCB" is used to detect the diameter of wound liner (or the amount of liner) at the flange in the following four stages. As the diameter increases, the Measure Flap Plate turns backward and engages with PS501 and PS502.

1st stage: PS501: ON, PS502: OFF

2nd stage: PS501: ON, PS502: ON

3rd stage: PS501: OFF, PS502: ON

4th stage (Full): PS501: OFF, PS502: OFF

The 1st to 3rd stages are used to control the rewinder motor speed as mentioned on the next page. The 4th stage is the Full state.

The outputs of PS501 and PS502 are fed to pins 84 (HPSENS0) and 85 (HPSENS1) of U14 (Custom IC). When the Measure Flap Plate engages PS501/PS502, the light emitted from the LED is blocked by the plate and PS501/PS502 turns ON and pin 84/85 becomes "High".

When Full state (PS501: OFF, PS502:OFF) is detected, rewinding operation stops, and the ERROR LED blinks and the LCD displays "Error Rewinder Full" on the operation panel.
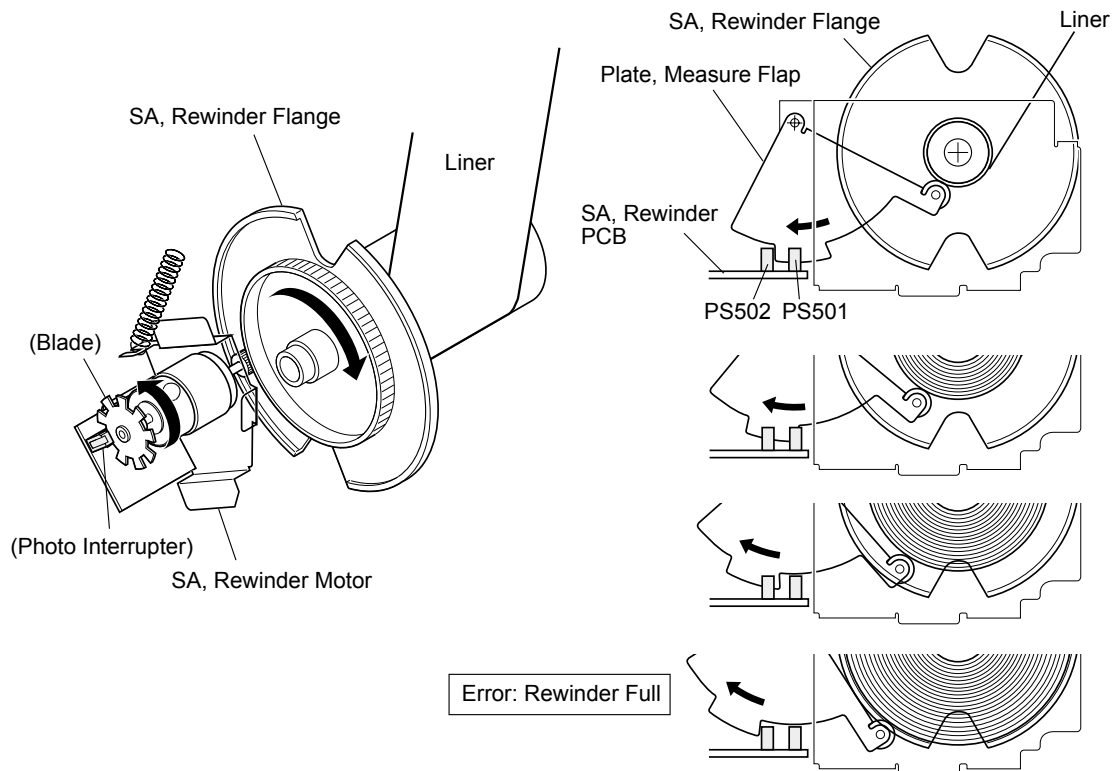
Liner rewinding operation:

The rewinder motor turns to wind up the liner. During motor running, the blade of the motor turns and the intermittent pulse is output from the photo interrupter PS701 of the "SA, Rewinder Motor" to pin 176 (MTENC) of U1 (CPU).

The rewinder motor speed should vary according to the diameter of the wound liner to nearly keep the winding speed constant. The rewinder motor speed is controlled by checking the ON/OFF status of PS501 and PS502. That is, the rewinder motor speed is high for small diameter and it is low for large diameter. This is accomplished by the MTREF signal sent to U501 (Switching regulator) that produces +RW power supply for the rewinder motor. +RW can be changed by changing the level of the MTREF signal. (Higher +RW turns the rewinder motor faster.)

2-3. Operation Panel

Operation panel is located on the left/front side of the printer.

Operation panel consists of 4 keys, 6 LEDs and 1 LCD.

CL-S700/CL-S703   CL-S700R
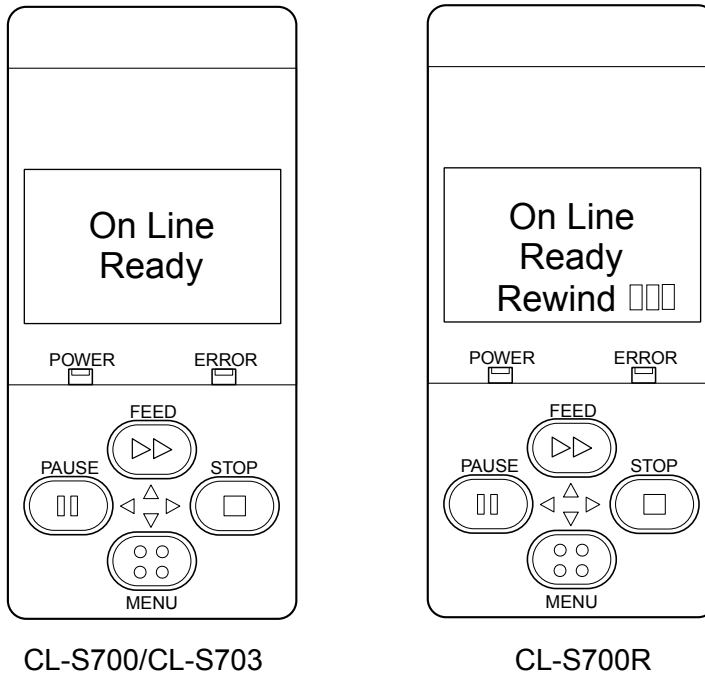
2-3-1. External view

(1) Keys

There are 4 keys, **[MENU]**, **[PAUSE]**, **[FEED]** and **[STOP]**. The function name on the key is selected when the key is pressed.

(2) LEDs

There are 6 LEDs; POWER LED, ERROR LED and 4 LEDs for keys. The LEDs light up or blink to indicate printer status, setting modes, or error conditions.

POWER LED: Lights up when power is turned on. (green)

ERROR LED: Blinks when an error occurs. (orange)

LEDs for keys: Light up when power is turned on to illuminate keys.

(3) LCD (Liquid Crystal Display)

The LCD is a 128 x 64 dots display using STN (Super-Twisted Nematic) display system.

It displays printer statuses including alarm statuses, menus and its operation guide, etc.

2-3-2. Menu setup mode

You can set the menu according to your requirements.

To enter menu setup mode, press the **[MENU]** key while "On Line Ready" is displayed on the LCD. For details, refer to the User's Manual.

2-3-3. Test mode

The following Test modes are available:

Operation	Description
[FEED] + "Power ON"	Enters self print mode.
[STOP] + "Power ON"	Enters hex dump mode.
[MENU] + "Power ON"	Enters menu list printing mode.

(1) Self print mode

You can check the printing quality by printing the built-in self print pattern.

This function is convenient to obtain optimum printing while adjusting the media thickness with the Media Thickness Adjustment screw and media width with the Media Width Adjustment knob.

For label (prints 2 labels):

1. While pressing and holding the **[FEED]** key, turn on the power.
2. Wait until the POWER LED turns on and the LCD indicates "Self Print Mode" "Label Media", and then release the **[FEED]** key.
   The printer enters self print mode and the label is fed. Self test printing is made for two labels, and then printing stops.
3. To repeat self test printing, press the **[FEED]** key again.
   To exit from self print mode: Turn off the power.

For continuous media:

1. While pressing and holding the **[FEED]** key, turn on the power.
2. Wait until the POWER LED turns on and the LCD changes from "Self Print Mode" "Label Media" to "Cont. Media", and then release the **[FEED]** key.
   The printer enters self print mode and the label is fed for self test printing. After printing it stops.
3. To repeat self test printing, press the **[FEED]** key again.
   To exit from self print mode: Turn off the power.

[Print pattern in self print mode]
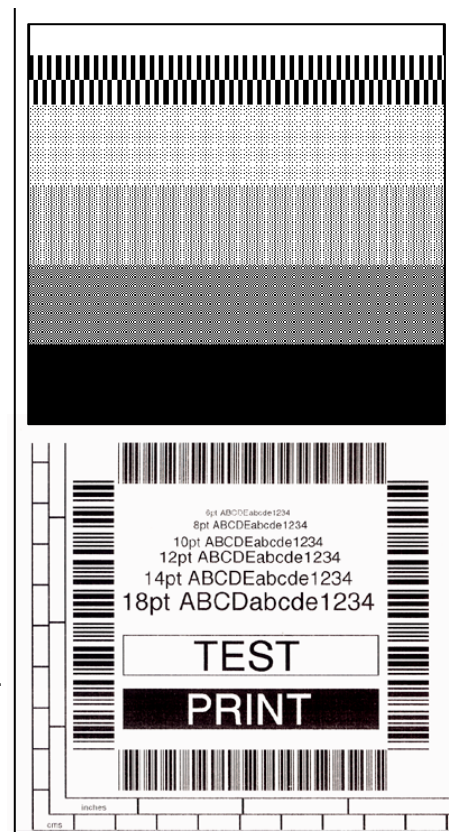
Media feed direction

<Example of CL-S700/CL-S700R>

(2) Hex dump mode

You can print the data in the receive buffer in the hexadecimal form.

For label:

1. While pressing and holding the **[STOP]** key, turn on the power.

2. Wait until the POWER LED turns on and the LCD indicates "Hex Dump Mode" "Label Media", and then release the **[STOP]** key.
   The printer enters hex dump mode and, when print data is sent to the printer, hex dump printing starts.
   To exit from hex dump mode: Turn off the power.

For continuous media:

1. While pressing and holding the **[STOP]** key, turn on the power.

2. Wait until the POWER LED turns on and the LCD changes from "Hex Dump Mode" "Label Media" to "Cont. Media", and then release the **[STOP]** key.
   The printer enters hex dump mode and, when print data is sent to the printer, hex dump printing starts.
   To exit from hex dump mode: Turn off the power.

[Dump list example]

```
DUMP LIST

02 40 30 31 30 30 0D 02 60 30 30 32 30 0D 02 4C    .M0100..c0020..L

44 31 31 0D 31 30 30 30 30 30 30 30 30 30 31 30    D11.100000000010

30 30 31 30 31 32 33 34 35 36 37 38 39 3A 3B 3C    0010123456789:;<
```

(3) Menu list print mode

You can print the list of machine information and current menu settings.

1. While pressing and holding the **[MENU]** key, turn on the power.
   The POWER LED turns on and the LCD indicates "Print Settings", and then automatically print starts.
   The printer prints the list of machine information and current menu settings, and then enters menu setup mode for further menu operation.
   To exit from menu list print mode: In Main menu, press the **[PAUSE]** (◄) key.

Machine Information

Model Number	: CL-S700
Boot Version	: ****
ROM Version	: ********
ROM Date(DD//MM//YY)	: XX/XX/XX
ROMCheck Sum	: ****
Head Check	: OK
Print Counter	: 0002.234 km
Service Counter	: 0002.234 km
Sensor Monitor	: 1.50 V
Option Interface	: None

Current Menu Settings

[Page Setup Menu]
Print Speed	: 7 IPS
Print Darkness	: 12
Darkness Adjust	: 00
Print Method	: Thermal Transfer
Continuous Media Length	: 4.00 inch
Vertical Position	: 0.00 inch
Horizontal Shift	: 0.00 inch
Vertical Image Shift	: 0.00 inch
Sensor Select	: Rear Adj Sensor
Media Sensor	: See Through
Small Media Adjustment	: Off
Small Media Length	: 1.00 inch
Symbol Set	: PM

[System Setup Menu]
Sensor Level	: 1.7 V
Paper End Level	: 2.80 V
Error Reporting	: On Printing
Cover Open Sensor	: Off
Buzzer Select	: On
Metric/Inch	: Inch
Max Media Length	: 10.00 inch
Setting Lock	: Off
Keyboard Lock	Off
Control Code	: STD
Emulation Select	: DM4

[After Print Menu]
AutoConfigure	: On
Function Select	: Tear
Cutter Action	: Backfeed
Paper Position	: 0.00 inch
Menu Key Action	: Enters Menu

[Interface Menu]
RS-232C Baud rate	: 9600
RS-232C Parity	: None
RS-232C Length	: 8 bit
RS-232C Stop bit	: 1 bit
RS-232C X-ON	: Yes
IEEE 1284	: On
USB Device Class	: Printer
USB VCOM Protocol	: Auto

<Example of Datamax® emulation selected (CL-S700)>

Note:
Citizen continually enhances its printers with new options and settings based on our customer's requests. Extra or changed menu items may appear on the print out in some cases.

2-3-4. Factory/Service mode

Factory mode and Service mode are available for maintenance work,

Factory mode:

You can change the factory-set items such as logical shift of the sensor or head.

Service mode:

You can perform checks such as head check and service counter value that shows the media length printed.

In this section, the followings are explained.

- How to enter Factory/Service Mode
- How to print the Factory Mode Settings menus
- How to change the settings in Factory mode
- How to operate service menu in Service mode

(1) How to enter Factory/Service Mode

To enter Factory/Service mode, perform the following operation.

- While pressing and holding the **[MENU]**, **[FEED]** and **[STOP]** keys, turn on the printer.

Then, the following is displayed on the LCD.

```
▲   Main Menu  ▼
   Factory Setup


◄ Exit     Enter ►
```
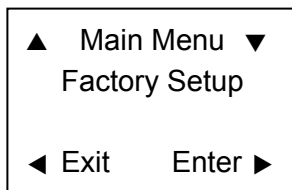
Key function in Factory/Service mode:

[FEED] (▲)	Returns to previous item, or the value is incremented/changed.
[MENU] (▼)	Goes to the next item, or the value is decremented/changed.
[PAUSE] (◄)	Resets the printer, or exits from the current menu.
[STOP] (►)	Acts as the Enter key.

The following diagram shows the menu transition in Factory/Service mode.
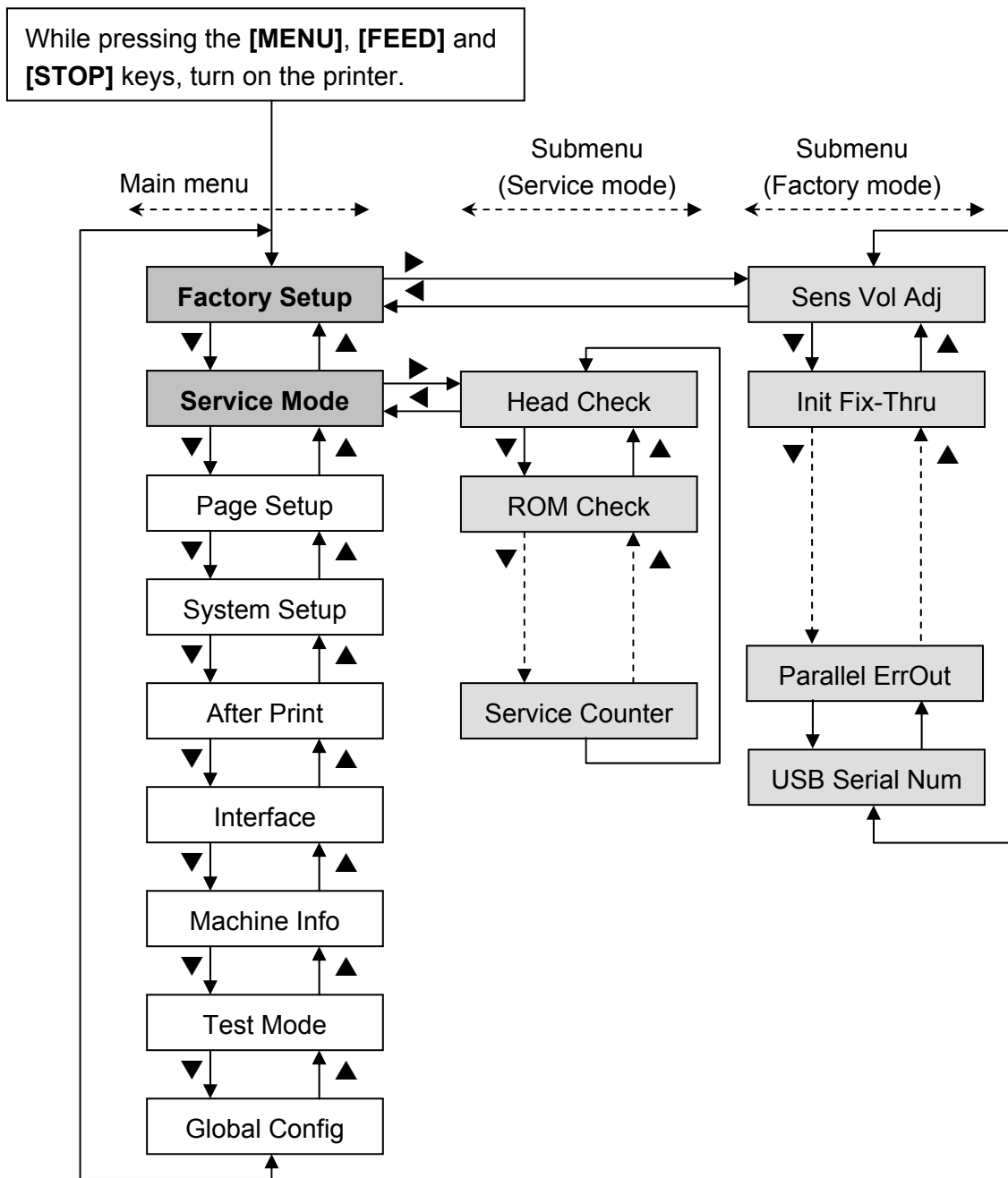
To exit from Factory/Service mode:
In Main menu, press the **[PAUSE]** (◀) key.

(2) How to print the Factory Mode Settings menus

You can print the current factory mode setting values in the following two ways.

Method 1:

While pressing and holding all keys (**[MENU]**, **[FEED]**, **[STOP]** and **[PAUSE])**, turn on the power.

The current factory mode setting values are printed, and then the printer enters the Factory mode.

To exit from the Factory mode: Press the **[PAUSE]** (◄) key.

Method 2

Enter the Factory/Service mode and print the configuration settings.

1) Enter the Factory/Service mode by turning on the power while pressing and holding the **[MENU]**, **[FEED]** and **[STOP]** keys. (Refer to "(1) How to enter Factory/Service Mode" mentioned earlier.)

2) Press the **[MENU]** (▼) or **[FEED]** (▲) key until "Test Mode" main menu appears.

3) Press the **[STOP]** (►) key to enter the Test Mode.

4) Press the **[MENU]** (▼) or **[FEED]** (▲) key until "Print Pattern" submenu appears.

5) Press the **[STOP]** (►) key to enter the Print Pattern submenu.

6) Press the **[MENU]** (▼) or **[FEED]** (▲) key and select "Current Config".

7) Press the **[STOP]** (►) key to print the configuration settings.

The current factory mode setting values are printed.

To exit from menu mode:

Press the **[PAUSE]** (◄) key until the printer exits from the "Test Mode" main menu.

[Print sample]

Machine Information

Model Number	: CL-S700
Boot Version	: ****
ROM Version	: ********
ROM Date(DD//MM//YY)	: XX/XX/XX
ROMCheck Sum	: ****
Head Check	: OK
Print Counter	: 0002.234 km
Service Counter	: 0002.234 km
Sensor Monitor	: 1.50 V
Option Interface	: None

Factory Mode Settings

Fix Through Sensor Pos.	: 0 dot
Fix Reflect Sensor Pos.	: 0 dot
Adj Through Sensor Pos.	: 0 dot
Adj Reflect Sensor Pos.	: 0 dot
Machine Tear Position	: 0 dot
Machine Cut Position	: 0 dot
Machine Peel Position	: 0 dot
Machine Horizontal Pos.	: 8 dot
AutoCal Mode	: On
Fix Through Sensor	: 0.0 V
Fix Reflect Sensor	: 0.0 V
Adj Through Sensor	: 0.0 V
Adj Reflect Sensor	: 0.0 V
Fix Through Cal Level	: 2.30 V
Fix Reflect Cal Level	: 2.10 V
Fix SensNone Cal Level	: 2.05 V
Adj Through Cal Level	: 2.30 V
Adj Reflect Cal Level	: 2.10 V
Adj SensNone Cal Level	: 2.05 V
Double Heat Menu	: Off
PowerOn Head Check	: On
Head Check Start Pos.	: Dot 1
Head Check Stop Pos.	: Dot 848
Head Error Print	: No
Max Page Length	: 32 inch
Ribbon End Detection	: Normal
Void to TOF	: Off
Reverse Media Length	: 0.00 inch
Paper End Sensor	: On
Parallel Error Output	: On
Auto Online	: Off
Auto Online Delay	: 2 sec
Top Form Sensing	: On
USB Serial Number	: Off

Submenus for maintenance only

Current Menu Settings

[Page Setup Menu]

Print Speed	: 7 IPS
Print Darkness	: 12
Darkness Adjust	: 00
Print Method	: Thermal Transfer
Continuous Media Length	: 4.00 inch
Vertical Position	: 0.00 inch
Horizontal Shift	: 0.00 inch
Vertical Image Shift	: 0.00 inch
Sensor Select	: Rear Adj Sensor
Media Sensor	: See Through
Small Media Adjustment	: Off
Small Media Length	: 1.00 inch
Symbol Set	: PM

<Example of Datamax® emulation selected (CL-S700)>

```
[System Setup Menu]
Sensor Level          : 1.7 V
Paper End Level       : 2.80 V
Error Reporting       : On Printing
Cover Open Sensor     : Off
Buzzer Select         : On
Metric/Inch           : Inch
Max Media Length      : 10.00 inch
Setting Lock          : Off
Keyboard Lock           Off
Control Code            STD
Emulation Select      : DM4

[After Print Menu]
AutoConfigure         : On
Function Select       : Tear
Cutter Action         : Backfeed
Paper Position        : 0.00 inch
Menu Key Action       : Enters Menu

[Interface Menu]
RS-232C Baud rate     : 9600
RS-232C Parity        : None
RS-232C Length        : 8 bit
RS-232C Stop bit      : 1 bit
RS-232C X-ON          : Yes
IEEE 1284             : On
USB Device Class      : Printer
USB VCOM Protocol     : Auto
```

Note:
Citizen continually enhances its printers with new options and settings based on our customer's requests. Extra or changed menu items may appear on the print out in some cases.

<Example of Datamax® emulation selected (CL-S700) - continued>

(3) How to change the settings in Factory mode

⚠ **Caution**

- **In Factory mode, DO NOT change the factory-set values unless you need to change them, since there are essential items related to printing accuracy, etc.**

⚠ - **Do not turn OFF the power of the printer until you finish the adjustment. If it is turned OFF, you need to repeat the adjustment from the beginning.**

⚠ - **The value adjusted here is retained until you change it with the same procedure. Even if you perform initialization by selecting "Test Mode" main menu, "Factory Default" submenu and "Yes", the changed value is not returned to the initial value set at the factory.**

(3-1) Submenu table in Factory mode

The following table shows the submenus of "Factory Setup" main menu.

*1 "[Factory Mode Settings Menu name]" in "Submenu Name" column shows the name that will be printed in "Factory Mode Settings". (Refer to "(2) How to print the Factory Mode Settings menus".)

*2 "+" shows that the object electrically moves forward/rightward. "-" shows that the object electrically moves backward/leftward. 8 dots correspond to 1 mm (203 dots correspond to 1").

Submenu Name [Factory Mode Settings Menu name]	Adjustable Value (Default Value)	Description
Sens Vol Adj		Displays the level of each media sensor.
Init Fix-Thru		Performs calibration of the transparent sensor sensitivity (fixed type). For details, refer to "3-6-1 (2) Sensor sensitivity adjustment (Factory mode)" in Chapter 3.
Init Fix-Refl		Performs calibration of the reflective sensor sensitivity (fixed type). For details, refer to "3-6-1 (2) Sensor sensitivity adjustment (Factory mode" in Chapter 3.
Init Adj-Thru		Performs calibration of the transparent sensor sensitivity (adjustable type). For details, refer to "3-6-1 (2) Sensor sensitivity adjustment (Factory mode" in Chapter 3.
Init Adj-Refl		Performs calibration of the reflective sensor sensitivity (adjustable type). For details, refer to "3-6-1 (2) Sensor sensitivity adjustment (Factory mode" in Chapter 3.

Submenu Name [Factory Mode Settings Menu name]	Adjustable Value (Default Value)	Description
Fix-Thru Pos [Fix Through Sensor Pos.]	-256 to +256 dot (+000 dot)	Electrically shifts the position of transparent sensor (fixed type) back and forth. (-32 to +32 mm, -1.26 to +1.26")
Fix-Refl Pos [Fix Reflect Sensor Pos.]	-256 to +256 dot (+000 dot)	Electrically shifts the position of reflective sensor (fixed type) back and forth. (-32 to +32 mm, -1.26 to +1.26")
Adj-Thru Pos [Adj Through Sensor Pos.]	-256 to +256 dot (+000 dot)	Electrically shifts the position of transparent sensor (adjustable type) back and forth. (-32 to +32 mm, -1.26 to +1.26")
Adj-Refl Pos [Adj Reflect Sensor Pos.]	-256 to +256 dot (+000 dot)	Electrically shifts the position of reflective sensor (adjustable type) back and forth. (-32 to +32 mm, -1.26 to +1.26")
Mach Tear Pos [Machine Tear Position]	-256 to +256 dot (+000 dot)	Electrically shifts the tear off position back and forth. (-32 to +32 mm, -1.26 to +1.26")
Mach Cut Pos [Machine Cut Position]	-256 to +256dot (+000 dot)	Electrically shifts the cutting position back and forth. (-32 to +32 mm, -1.26 to +1.26") (Optional)
Mach Peel Pos [Machine Peel Position]	-256 to +256dot (+000 dot)	Electrically shifts the peel position back and forth. (-32 to +32 mm, -1.26 to +1.26") (Optional)
Mach Hor Pos Machine Horizontal Pos.]	-16 to +32dot (+008 dot)	Electrically shifts the head position to the right or left side. (-2 to +4 mm, -0.08 to +0.16")
Auto Cal Mode [AutoCal Mode]	On/Off (On)	Automatically controls the light amount of each media sensor.
Fix-Thru LED [Fix Through Sensor]	0.0 to 3.3V (0.0 V)	This menu is effective when "Auto Cal Mode" is set to OFF. The light amount emitted from the transparent sensor (fixed type) can be changed manually. Larger value emits larger amount of light.
Fix-Refl LED [Fix Reflect Sensor]	0.0 to 3.3V (0.0 V)	This menu is effective when "Auto Cal Mode" is set to OFF. The light amount emitted from the LED of the reflective sensor (fixed type) can be changed manually. Larger value emits larger amount of light.
Adj-Thru LED [Adj Through Sensor]	0.0 to 3.3V (0.0 V)	This menu is effective when "Auto Cal Mode" is set to OFF. The light amount emitted from the transparent sensor (adjustable type) can be changed manually. Larger value emits larger amount of light.
Adj-Refl LED [Adj Reflect Sensor]	0.0 to 3.3V (0.0 V)	This menu is effective when "Auto Cal Mode" is set to OFF. The light amount emitted from the LED of the reflective sensor (adjustable type) can be changed manually. Larger value emits larger amount of light.

Submenu Name [Factory Mode Settings Menu name]	Adjustable Value (Default Value)	Description
Fix-Thru Level [Fix Through Cal Level]	0.01 to 3.30V (2.30 V)	Performs sensitivity adjustment of the front fixed sensor for Media Sensor menu "See Through". The amount of light received is set to "2.30V".
Fix-Refl Level [Fix Reflect Cal Level]	0.01 to 3.30V (2.10 V)	Performs sensitivity adjustment of the front fixed sensor for Media Sensor menu "Reflect". The amount of light received is set to "2.10V".
Fix-None Level [Fix SensNone Cal Level]	0.01 to 3.30V (2.05 V)	Performs sensitivity adjustment of the front fixed sensor for Media Sensor menu "None". The amount of light received is set to "2.05V".
Adj-Thru Level [Adj Through Cal Level]	0.01 to 3.30V (2.30V)	Performs sensitivity adjustment of the adjustable sensor for Media Sensor menu "See Through". The amount of light received is set to "2.30V".
Adj-Refl Level [Adj Reflect Cal Level]	0.01 to 3.30V (2.10 V)	Performs sensitivity adjustment of the adjustable sensor for Media Sensor menu "Reflect". The amount of light received is set to "2.10V".
Adj-None Level [Adj SensNone Cal Level]	0.01 to 3.30V (2.05 V)	Performs sensitivity adjustment of the adjustable sensor for Media Sensor menu "None". The amount of light received is set to "2.05V".
Peel Sens Level	0.01 to 3.30V (1.50 V)	Sets the threshold value for the peel sensor.
Cont Paper Sens	Through/Reflect (Reflect)	When continuous media is used, selects the sensor type to be used for detecting paper end.
Dbl Heat Menu [Double Heat Menu]	On/Off (Off)	Sets whether to display the menu of "Double Heat".
PwrOn Head Chk [Power On Head Check]	On/Off (On)	Sets whether to perform head check at power ON or not.
Head Chk Start [Head Check Start Pos.]	Dots 001 to 848 (Dot 001)	Designates the start dot for head check.
Head Chk Stop [Head Check Stop Pos.]	Dots 001 to 848 (Dot 848)	Designates the end dot for head check.
Rbn End Detect [Ribbon End Detection]	Normal/Slow (Normal)	Sets the ribbon end detection time.
Parallel ErrOut	On/Off (On)	Select whether to activate the Fault signal of parallel interface at the time of error occurrence.
USB Serial Num [USB Serial Number]	On/Off (Off)	Select whether to send the serial number to the host when operating the printer through the USB interface.

(3-2) Setting submenu in Factory mode

In Factory mode, there are 2 types of submenus.

• Value setting type

• Option selection type

Procedure:

1. Enter Factory/Service mode by turning on the power while pressing and holding the **[MENU]**, **[FEED]** and **[STOP]** keys.

    "Factory Setup" main menu appears.

2. In "Factory Setup" main menu, press the **[STOP]** (▶) key to enter Factory Setup mode.

    The first submenu "Sens Vol Adj." appears.

3. Press the **[MENU]** (▼) or **[FEED]** (▲) key until "Adj-Thru Pos" submenu (example) appears.

4. Press the **[STOP]** (▶) key to select that submenu.

    The current value is shown on the LCD.

```
┌─────────────────────────────┐
│  ▲     Position     ▼       │
│        +000 dots            │
│                             │
│  ◄ Exit      Enter ▶        │
└─────────────────────────────┘
```
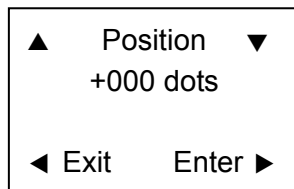
5. Press the **[MENU]** (▼) or **[FEED]** (▲) key to increase or decrease the value (or select a desired option).

    In this example, the position of transparent sensor (adjustable type) will be electrically moved back (-) and forth (+).

6. Press the **[STOP]** (▶) key to save the set value in the printer.

7. Press the **[PAUSE]** (◄) key to return to "Factory Setup" menu. (To set other submenu, repeat from Step 2.)

8. Press the **[PAUSE]** (◄) key once again.

    The changed value is stored in the printer and the printer is turned OFF and then ON for normal operation.

(4) How to operate submenus in Service mode

(4-1) Submenu table in Service mode

The following table shows the submenus of "Service Mode" main menu.

Submenu Name	Value	Description
Head Check		Checks the number of defective thermal elements and displays it. If no defective thermal element is found, "0000" will be displayed. Example: PASS 0000dots
ROM Check		Performs ROM checksum test, and displays the check result (OK or NG) and the checksum value. Example: PROGRM OK 4F4E.
RAM Check		Performs RAM capacity check and displays the check result. Example: DRAM OK 16384KByte
Motor Feed		Performs motor feed check.
Print Counter		Displays the total printed length since the printer is firstly used. Example: Length 1234.567Km
Service Counter		Displays the service counter length in Km since you reset it last. Example: Length 0123.456Km To clear the service counter, press the **[Enter]** (▶) key.

(4-2) Submenu operation in Service mode

The submenu operation procedures in Service mode are explained here. The submenus other than "Service Counter" and the "Service Counter" submenu are separately explained.

Operation procedure for submenus other than "Service Counter":

1. Enter Factory/Service mode by turning on the power while pressing and holding the **[MENU]**, **[FEED]** and **[STOP]** keys.
    "Factory Setup" main menu appears.
2. Press the **[MENU]** (▼) or **[FEED]** (▲) key until "Service Mode" main menu appears.
3. Press the **[STOP]** (▶) key to enter Service mode.
4. Press the **[MENU]** (▼) or **[FEED]** (▲) key until the desired submenu (e.g. "Head Check") appears.

```
┌─────────────────────┐
│  ▲ Service Mode▼    │
│    Head Check       │
│                     │
│  ◀ Exit    Enter ▶  │
└─────────────────────┘
```
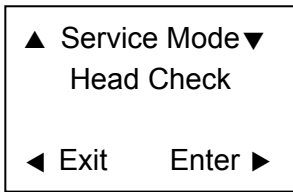
5. Press the **[STOP]** (▶) key to select that submenu.
*   For submenus "ROM Check", "RAM Check", and "Print Counter", the result is displayed and further operation is not necessary.
*   For submenu "Head Check", the following screen appears and prompts you whether to perform the head check or not.
*   For submenu "Motor Feed", the following screen appears and prompts you whether to feed media forward or backward.

[When "Head Check" is selected]   [When "Motor Feed" is selected]

```
┌─────────────────────┐     ┌─────────────────────┐
│  ▲    Check    ▼    │     │  ▲  Motor Feed  ▼   │
│        No           │     │       Back          │
│                     │     │                     │
│  ◀ Exit   Enter ▶   │     │  ◀ Exit   Enter ▶   │
└─────────────────────┘     └─────────────────────┘
```
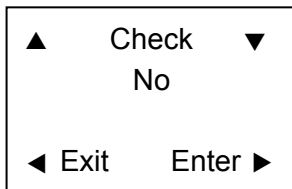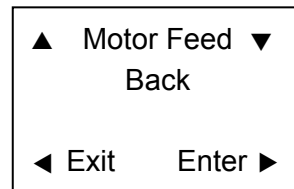
6. Press the **[MENU]** (▼) or **[FEED]** (▲) key and select "Yes" (when "Head Check" is selected) or "Forward"/"Back" (when "Motor Feed" is selected).
7. Press the **[STOP]** (▶) key to perform the selected item.
*   When "Head Check" is selected, the number of defective dots of the thermal head is displayed.
*   When "Motor Feed" is selected, the PF motor turns to feed media forward or backward.

[When "Head Check" is selected]   [When "Motor Feed" is selected]

```
┌─────────────────────┐     ┌─────────────────────┐
│       PASS          │     │  ▲  Motor Feed  ▼   │
│      0000dots       │     │      Forward        │
│                     │     │                     │
│  ◀ Exit   Enter ▶   │     │  ◀ Exit   Enter ▶   │
└─────────────────────┘     └─────────────────────┘
```
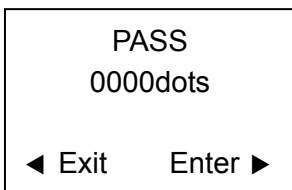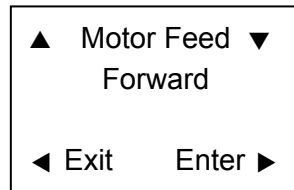
8. Press the **[PAUSE]** (◀) key to return to "Service Mode" menu.
9. To check other submenu, repeat from Step 3. Otherwise, turn off the power to terminate Factory/Service mode.

Operation procedure for "Service Counter" submenu:

1. Enter Factory/Service mode by turning on the power while pressing and holding the **[MENU]**, **[FEED]** and **[STOP]** keys.
   "Factory Setup" main menu appears.

2. Press the **[MENU]** (▼) or **[FEED]** (▲) key until "Service Mode" main menu appears.

3. Press the **[STOP]** (▶) key to enter Service mode.

4. Press the **[MENU]** (▼) or **[FEED]** (▲) key until "Service Counter" submenu appears.

```
┌─────────────────────────┐
│  ▲     Service     ▼    │
│        Counter          │
│                         │
│  ◄ Exit      Enter ►    │
└─────────────────────────┘
```
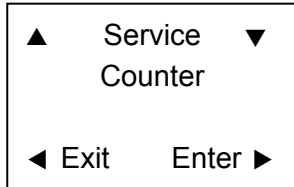
5. Press the **[STOP]** (▶) key to select "Service Counter" submenu.
   Then, the service counter length since the service counter is reset last is displayed.

* To reset the service counter, proceed to the next step. Otherwise, proceed to Step 7.

```
┌─────────────────────────┐
│  ▲     Length     ▼     │
│      0123.456 km        │
│                         │
│  ◄ Exit      Enter ►    │
└─────────────────────────┘
```
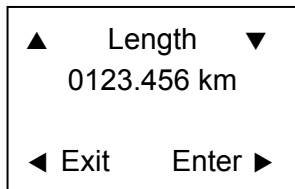
6. Resetting the service counter:

1) Press the **[STOP]** (▶) key.

2) Press the **[MENU]** (▼) or **[FEED]** (▲) key and select "Yes".

```
┌─────────────────────┐        ┌─────────────────────┐
│  ▲    Reset?    ▼   │        │  ▲    Reset?    ▼   │
│        No           │  ⟹     │        Yes          │
│                     │        │                     │
│  ◄ Exit   Enter ►   │        │  ◄ Exit   Enter ►   │
└─────────────────────┘        └─────────────────────┘
```
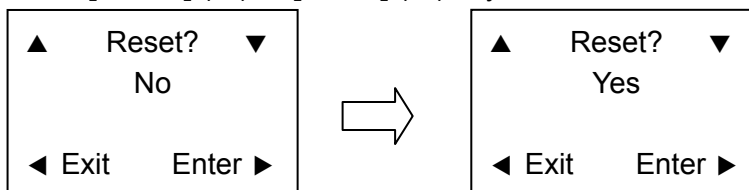
3) Press the **[STOP]** (▶) key to perform resetting.

7. Press the **[PAUSE]** (◄) key to return to "Service Mode" menu.

8. To check other submenu, repeat from Step 3. Otherwise, turn off the power to terminate Factory/Service mode.

2-4. Interface

2-4-1. Serial Interface

(1) Specifications

System	Start/stop asynchronous full duplex communication
Signal level	RS-232C
Baud rate	2400, 4800, 9600, 19200, 38400, 57600, 115200 bps
Data length	7 bits, 8 bits
Stop bit	1 bit, 2 bits
Parity	Odd, even, none
Connector	D-SUB DBR40-251F100 25PIN (ACON)

(2) Signal line and pin assignment

Pin No.	Signal Abbr.	Signal name	Function
1	FG	Frame ground	Protective grounding
2	TXD	Transmit Data	Signal line that transmits data from the printer to the host
3	RXD	Receive data	Signal line that transmits data from the host to the printer
4	RTS	Request To Send	Pulled up to +5.4V through 3.3 kΩ
5	NC	------	Not used
6	DSR	Data Set Ready	Signal line that is active when the host can interface with the printer
7	SGND	Signal ground	Signal grounding line
8-13	NC	------	Not used
14	VCC	+5V	(Factory use only)
15-19	NC	------	Not used
20	DTR	Data Terminal Ready	Signal line that is active when the printer can interface with the host
21-25	NC	------	Not used

(3) Protocol

XON/XOFF system:

Controlled with the data transmission request signal X-ON (11H) code and the data transmission stop request signal X-OFF (13H) code.

The conditions for the X-ON code output are as follows:
• When the printer is turned from off-line to on-line.
• When the remaining of receive buffer is 1024 bytes or more after sending X-OFF code.

The conditions for the X-OFF code output are as follows:
• When the remainder of receive buffer is 128 bytes or less.
• When the printer is turned from on-line to off-line.
  - When the media end is detected.
  - When a printer error occurs.
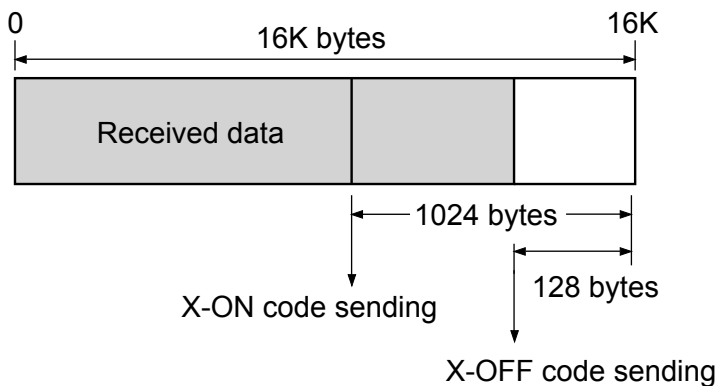
READY/BUSY System:

DTR signal is controlled with READY ("High")/BUSY ("Low") level.

DTR turns to "High (Ready)" in the following conditions:
• When the printer is in on-line mode, and
• When the remaining buffer is 128 bytes or more.
  (After DTR becomes "High", DTR retains "High" until the remaining buffer becomes 1024 bytes or less.)

DTR turns to "Low (Busy)" in the following conditions:
• When the printer is in off-line mode.
• When the remaining buffer is less than 128 bytes.
  (After DTR becomes "Low", DTR retains "Low" until the remaining buffer becomes 1024 bytes or more.)

CL-S700/CL-S703/CL-S700R

2-4-2. Parallel Interface

(1) Specifications

Transmission system	8-bit parallel data
Receive buffer size	16K bytes
Transmission modes	**Compatible mode** It is an asynchronous forward channel mode to send the byte width data from the host to the printer. The interface line of the data is operated in accordance with signal line definitions of Centronics. **NIBBLE mode** It is an asynchronous reverse channel mode to send the data from the printer to the host. In Nibble mode, 4-bit data (half byte) is sent at a time using the 4 status lines (FAULT, SELECT, PE, and BUSY). To send one complete byte data, the printer sends 2 nibbles (8 bits in total) to the host. Nibble mode is usually combined with Compatible mode to create a complete bi-directional channel. **ECP mode** ECP mode permits bi-directional asynchronous data transmission, and by means of interlock handshake, it does not require the timing necessary with Compatible mode.
Signal level	IEEE1284 compatible

(2) Signal line and pin assignment

Pin No.	Signal name	I/O	Function in Compatible Mode
1	$\overline{\text{STROBE}}$	Input	Strobe signal to read in 8-bit data
2-9	DATA0-7	Input	8-bit parallel signal
10	$\overline{\text{ACKNLG}}$	Output	8-bit data request signal
11	BUSY	Output	Signal specifying printer busy
12	PERROR	Output	Signal specifying media end
13	SELECT	Output	Signal specifying if the printer is on-line (printing enabled) or off-line
14	AUTOFD	Input	Invalid (ignored)
15	NC	---	Not used
16	SGND	---	Signal ground
17	FGND	---	Frame ground
18	P.L.H	Output	Peripheral logic high (pulled up to +5V at 1KΩ)
19-30	GND	---	Ground for twisted pair return
31	$\overline{\text{PRIME}}$	Input	Printer reset
32	$\overline{\text{FAULT}}$	Output	Signal specifying printer error
33	GND	---	Signal ground
34	NC	---	Not used
35	FUSE	---	Not used
36	SELECTIN	Input	Invalid (ignored)

(3) Parallel port status signals when an error occurs

The following table shows the status signal change when an error occurs.

Error	Compatible mode	
Paper end	Busy:	L → H
	PError:	L → H
	Select:	H → L
	$\overline{\text{Fault}}$:	H → L
Error other than paper end • Head open • Other	Busy:	L → H
	PError:	L → unchanged
	Select:	H → L
	$\overline{\text{Fault}}$:	H → L
Conditions for Busy	• Receive buffer full • Data being read • Error	

(4) Compatible timing specification

[When power is on] (Timing to go on-line)
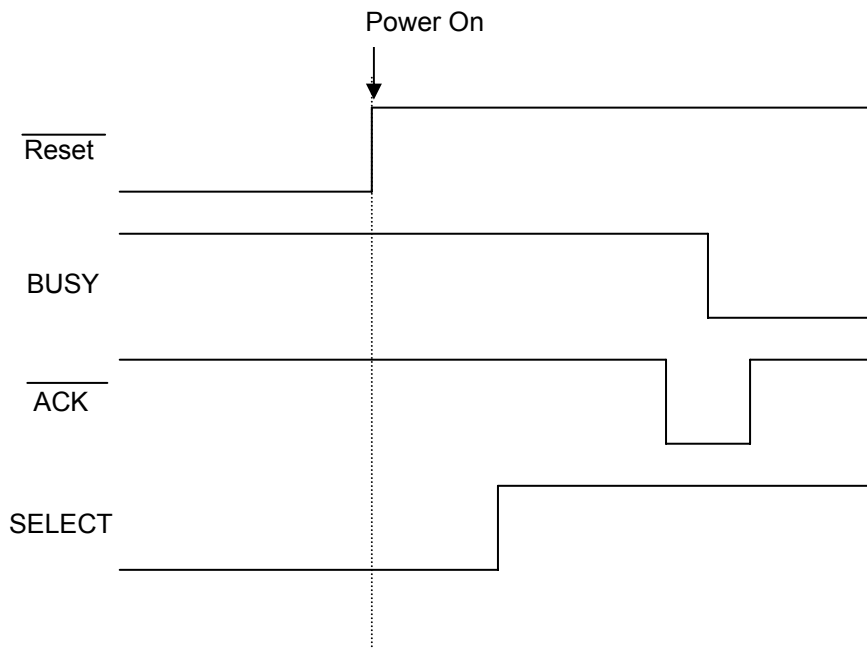
[While receiving data]
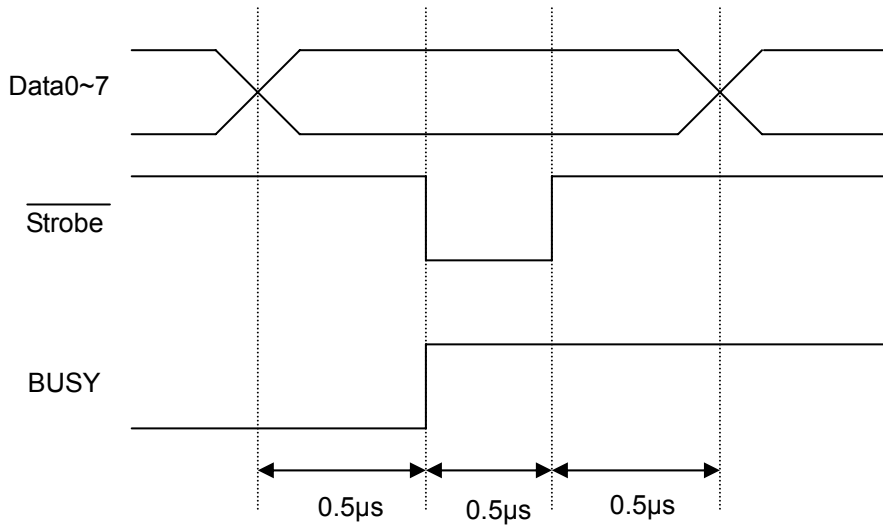
Note:

BUSY goes "High" at the falling edge of $\overline{\text{Strobe}}$, and data is latched at the leading edge of $\overline{\text{Strobe}}$.

[While receiving PRIME signal]
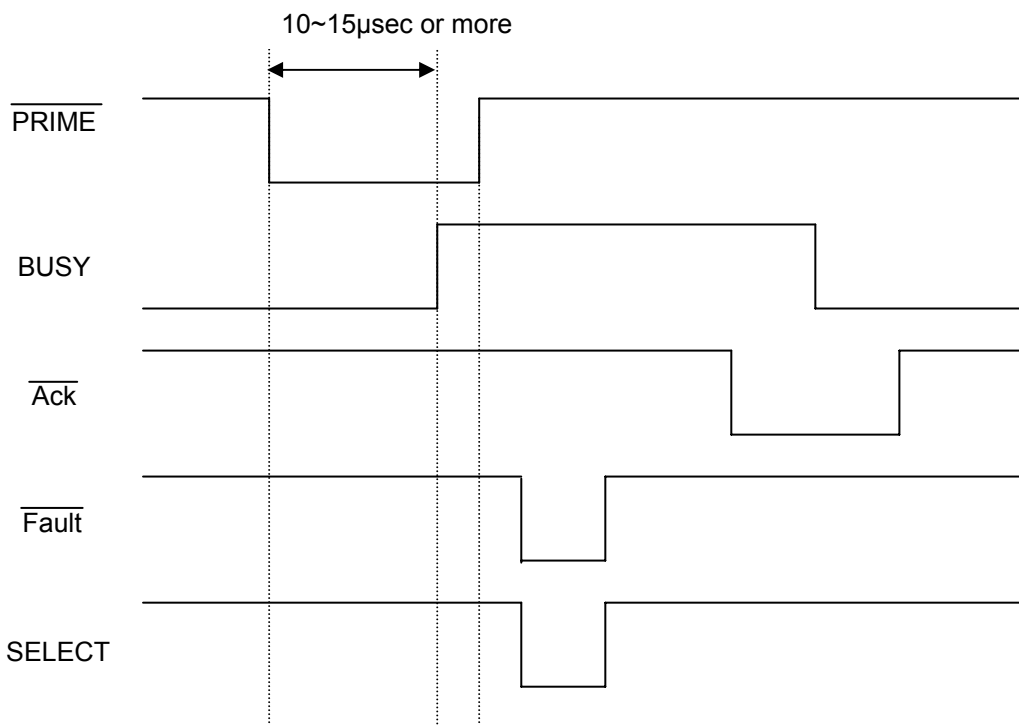
Note:

If the $\overline{\text{PRIME}}$ signal width is 10 μsec or less, it is not accepted.

BUSY goes to "High" when the $\overline{\text{PRIME}}$ signal is accepted by the printer.

[Timing relationship between BUSY and $\overline{\text{ACK}}$]

About 2 µsec
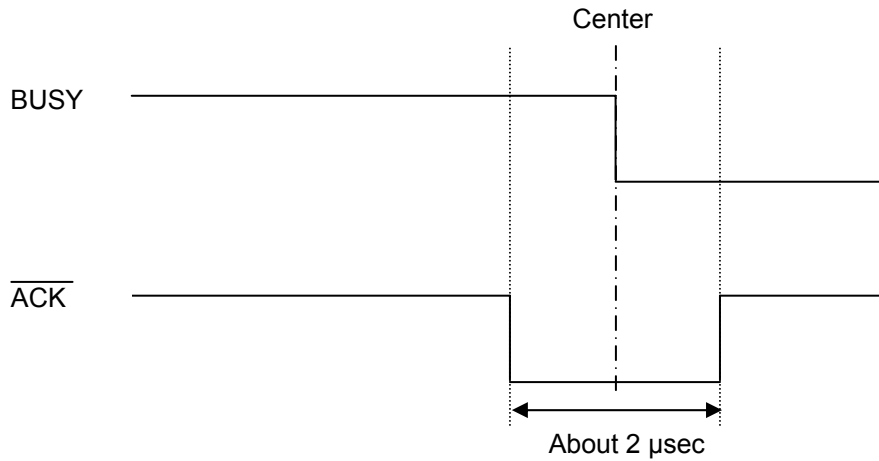
2-4-3. USB Interface

(1) Specifications

Standards	Complies with Universal Serial Bus Specification
Transmission speed	Compatible with 12Mbps (full speed) transmission
Receive buffer	16K bytes
Connector	DUSB DUSB-BRA42-T11 (DDK)

(2) Signal line and pin arrangement

Pin No.	Signal code	Signal	Function
1	VBUS	USB power	USB power (+5V)
2	D+	Signal line +	+ signal line
3	D-	Signal line -	- signal line
4	GND	GND	GND

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CL-S700/CL-S703/CL-S700R

CHAPTER 3
DISASSEMBLY AND MAINTENANCE
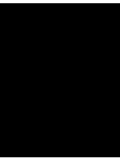
Chapter 3 Disassembly and Maintenance

Table of Contents

3-1. Maintenance Precautions

⚠ Warning

- **Before starting disassembly/reassembly or mechanical adjustment, be sure to disconnect the power cord from the power source.**
- **Do not replace a fuse with the power switch turned on.**
- **When replacing a fuse, use the same rating and type since it is provided to prevent fire and damage to the "Unit, Power Supply".**

⚠ Caution

- **DO NOT adjust VR1, VR2, VR3 and VR4 on the "SA, Main PCB". (Leave them at the factory setting condition.) If it is turned, media sensor sensitivity is changed and the media detection will not be correctly made.**
- **Do not disassemble/reassemble or adjust the machine, if it functions properly. Particularly, do not loosen screws on any component, unless necessary.**
- **After completing an inspection and before turning on the power, be sure to check that there is no abnormality.**
- **Never try to print without media.**
- **Check that the media is properly set.**
- **Do not lay anything on the cover or lean against it during maintenance or while the printer is in operation.**
- **During maintenance, be careful not to leave parts or screws unattached or loose inside the printer.**
- **When handling a printed circuit board, do not use gloves, etc., which can easily cause static electricity. Since ICs, such as CPU, RAM and ROM, might be destroyed by static electricity, do not touch lead wires or windows unnecessarily.**
- **Do not put the printed circuit boards directly on the printer or on the floor.**
- **When disassembling or reassembling, check wires for any damage and do not pinch or damage them. Also, run wires as they were.**

3-2. Cleaning

Cleaning spots are listed below.

Cleaning Position	Description
Cabinet	Wipe soiled parts of the printer with a clean dry cloth. Remove bits of media, etc., using tweezers. **Note:** When cleaning, be careful not to scratch the equipment or to bend parts, etc.
Thermal head	Clean the thermal head with the head cleaner provided.
Platen	Clean the platen with a soft cloth.
Rollers (for CL-S700R only)	Clean the peeler rollers (on the front cover side and printer side) with a soft cloth.
Media running surface	Wipe off media refuse, etc., on and around the media running surface.

Clean inside the printer in accordance with the following:

• Cleaning frequency: Every 6 months or 300 hours of operation. (Whichever comes first)
• Materials: Dry cloth (gauze or soft cloth) and thermal head cleaner

3-3. Lubrication/Adhesive Agent

3-3-1. Lubrication

(1) Lubrication frequency

This is a maintenance-free machine and requires no lubrication under normal use. However, the machine should be lubricated whenever it is disassembled and reassembled, or when lubricated parts are cleaned.

The parts and places to be lubricated are indicated in the disassembly procedure.

(2) Types of lubricant

• Floil G-311S (by Kanto Chemical Co., Ltd.)

(3) Quantity of lubricant

Small quantity.......... ★ ....   About 1 drop.
Ordinary quantity .... ★★ ....   About 3 to 4 drops.
                                About 0.2 mm thick for grease.
Large quantity.......... ★★★ ....   Apply sufficiently.
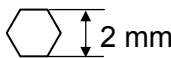
3-3-2. Adhesive Agent

• ThreeBond 1401B (by ThreeBond Co., Ltd.)

3-4. Maintenance Tools List

Maintenance tools shown below are needed when replacing the maintenance parts such as the "SA, Main PCB" and "Unit, Motor".

Maintenance Tools List

No.	Name	Q'ty	Description	Remarks
1	Phillips Screwdriver (Length 200 mm)	1	For 3~4 mm screws	
2	Phillips Screwdriver (Length 100 mm)	1	For 2~3 mm screws	
3	Flat-blade Screwdriver (Length 100 mm)	1	4.3 mm width	
4	Tweezers	1		
5	Round Nose Pliers	1		
6	Cutting Nippers	1		
7	Soldering Iron (30W)	1		
8	Volt-ohm Meter	1		
9	Spring Gauge	1	2000gf	Belt tension adjustment
10	Spring Gauge	1	500gf	Ribbon tension adjustment
11	Hex Wrench	1	2 mm	Ribbon tension adjustment
12	Weight	1	450g	Ribbon tension adjustment

3-5. Disassembly, Reassembly and Lubrication

[Disassembly Flow]

CL-S700, CL-S703, CL-S700R (Printer Part)

Unit, Head   See 3-5-1.

Unit, Roller Platen   See 3-5-2.

SA, Ope-pane PCB and SA, Cover Open Sens   See 3-5-3.

SA1, Top Cover   See 3-5-7.

Top Cover → Unit, Power Supply   See 3-5-4. → SA, Fan   See 3-5-6.

Connectors on the SA, Main PCB   See 3-5-5 (1).

SA, Main PCB and Unit, Centro PCB   See 3-5-5 (2).

Unit, Mechanism   See 3-5-8.

Unit, Frame Ribbon L   See 3-5-12.

SA, Front Tension Arm   See 3-5-13.

SA, Frame Ribbon R   See 3-5-14.

Unit, Frame Rear   See 3-5-15.

Unit, Frame U   See 3-5-16.

SA, Sensor U (Fixed)   See 3-5-17 "Unit, Frame".

SA, Sensor Bottom (Fixed)   See 3-5-17 "Unit, Frame".

Unit, Motor   See 3-5-17 "Unit, Frame".

SA, Connect PCB (CL-S700/CL-S703)   See 3-5-17 "Unit, Frame".

Unit, Sensor Adjust   See 3-5-11. → SA, Sensor U (Adjustable) / SA, Sensor Bottom (Adjustable)

See 3-5-10.

SA, Base Guide Open

[How to refer to the exploded diagram in Chapter 5 "Parts List"]

This section explains how to disassemble, reassemble and lubricate.

However, for disassembly procedures, illustrations are not fully provided. For parts that are not illustrated here, the parts location Nos. in the drawing in Chapter 5 "Parts List" are stated.

Example: Remove 3 screws (BH, M3x5) [1-37] and detach "Unit, PCB" [1-12] backwardly.

In this example, **[1-37]** and **[1-12]** are the parts location Nos. Please refer to the parts location Nos. **"1-37"** and **"1-12"** in Drawing No. 1 in Chapter 5 "Parts List".

When reassembling parts, follow "Note(s) on reassembling" described at the end of disassembly procedure.

When the parts to be lubricated are replaced, necessity of lubrication is stated in the reassembling procedure. The places to be lubricated are indicated in the drawings in Chapter 5, with the mark ★.

3-5-1. Unit, Head

⚠ **Caution**
- **Carefully handle the "Unit, Head" when disassembling and reassembling so as not to damage the thermal elements of the "Unit, Head". Especially, avoid contacting the thermal elements with the metal part, etc.**

The "Unit, Head" can be removed easily without detaching any other parts.

1. Open the top cover.
2. Open the head block by pushing the head open lever.
3. While holding the "Unit, Head", turn the screw until the "Unit, Head" comes off.
4. Remove the "SA, Head Cable" from the "Unit, Head".
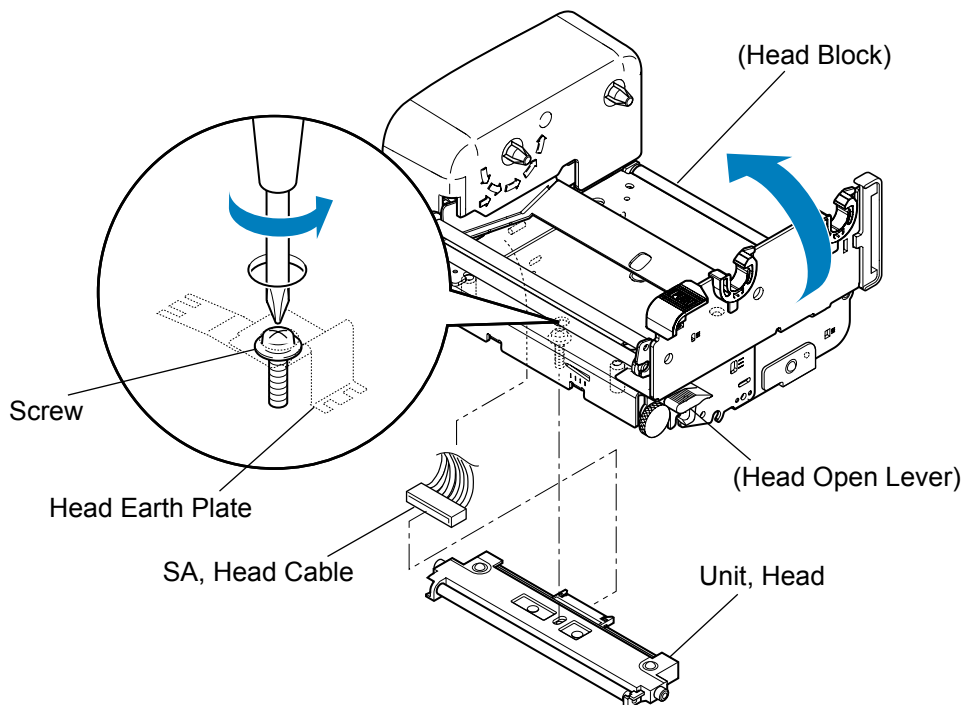
Notes on reassembling:

- When attaching the "Unit, Head", do not strongly push it against the head block. The Head Earth Plate may come off if you push the "Unit, Head" strongly.
- Securely fasten the "Unit, Head" with the screw.
- When you replace the "Unit, Head" with a new one, adjust the angle of head spacer shaft, if ribbon wrinkles are not removed. (This adjustment will be required only when satisfactory results are not obtained by adjusting the ribbon tension with the adjusting screws of the "Unit, Ribbon Frame L".)
  Refer to "3-6-3. Ribbon Skew Adjustment".

3-5-2. Unit, Roller Platen and Gear, One-way

The "Unit, Roller Platen" can be removed easily with the following procedure.

The "Unit, Roller Platen" includes the "Gear, One-way" which can be separately replaced.

(1) Removing the "Unit, Roller Platen"

1. Open the top cover.
2. Open the head block by pushing the head open lever.
3. Open the sensor arm block by pushing the sensor arm open lever.
4. Remove 1 screw (BH, M3x5K) and detach the "Cover, Pulley" upwardly after disengaging its 2 claws.
5. Push the lever of the tension plate unit downward to set the "Belt, Platen Drive" free and remove the "Belt, Platen Drive" to the right.
6. Lift the "Unit, Roller Platen" and remove it upwardly.
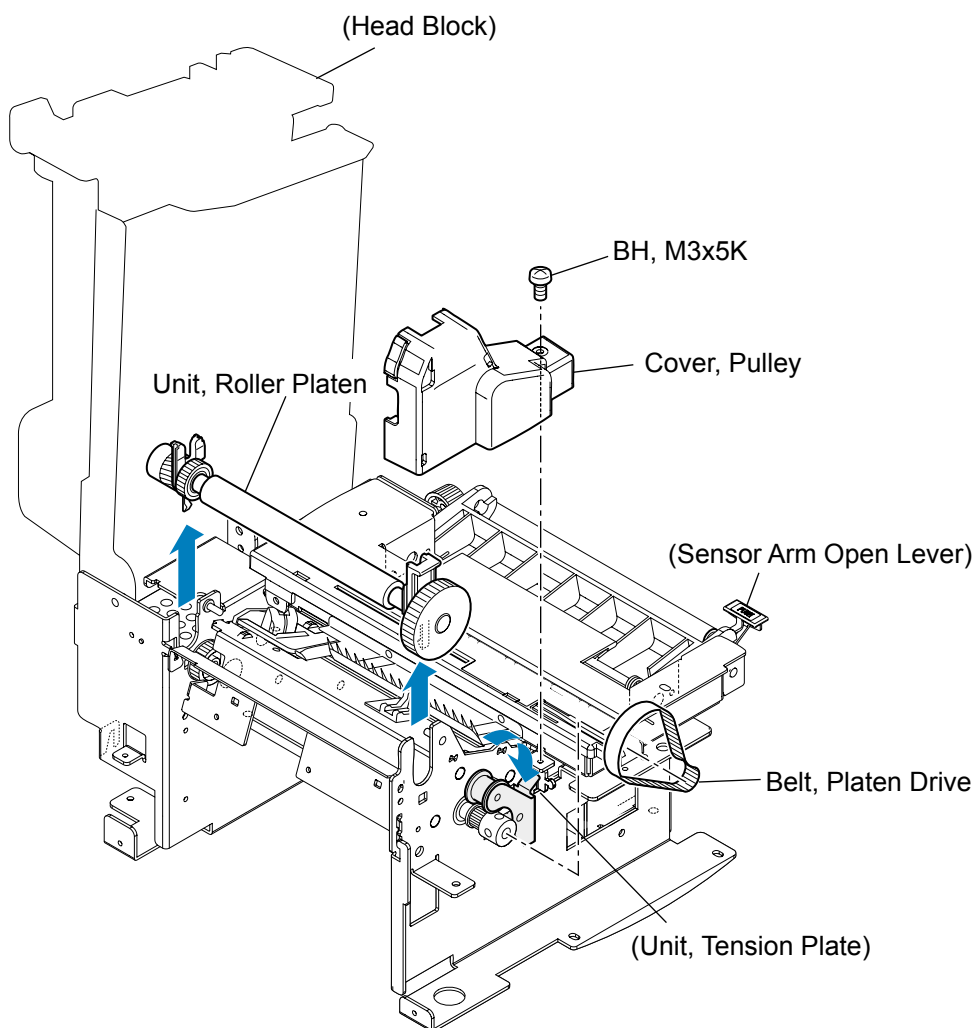
Note on reassembling:

* Be sure that the "Belt, Platen Drive" is securely installed on the gear of the "Unit, Roller Platen" via the "Unit, Tension Plate".

(2) Removing the "Gear, One-way"

1. Remove the "Unit, Roller Platen" referring to above "(1) Removing the "Unit, Roller Platen"".(1) Removing the "Unit, Roller Platen"(1) Removing the "Unit, Roller Platen"

2. Disengage 1 E-ring (E-Ring, 4) and remove the "Gear, One-way" from the shaft of the "Unit, Roller Platen".

Gear, One-way

E-ring, 4
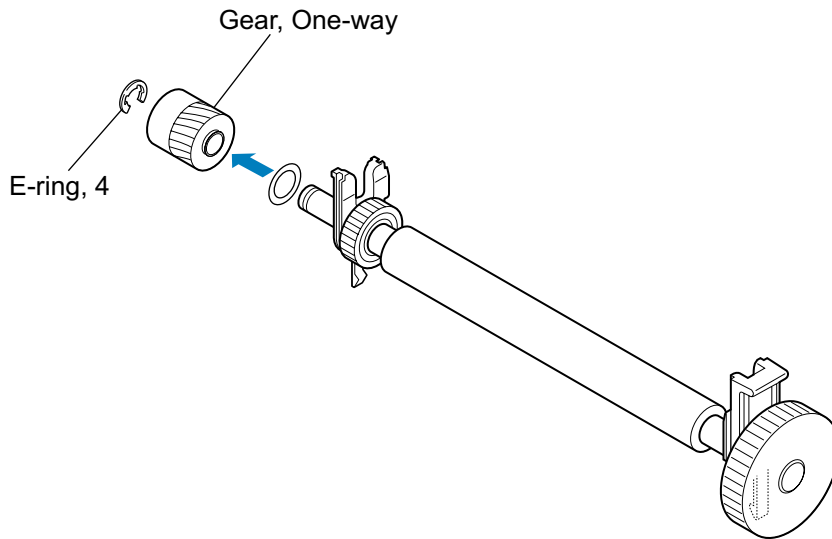
Note on reassembling:

• Insert the plastic washer into the projection of the "Gear, One-way" (on the gear part side). Then, insert the "Gear, One-way" into the shaft of the "Unit, Roller Platen", while facing the gear part of the "Gear, One-way" toward the "Unit, Roller Platen".

Gear part

E-ring, 4

Plastic washer

Gear, One-way
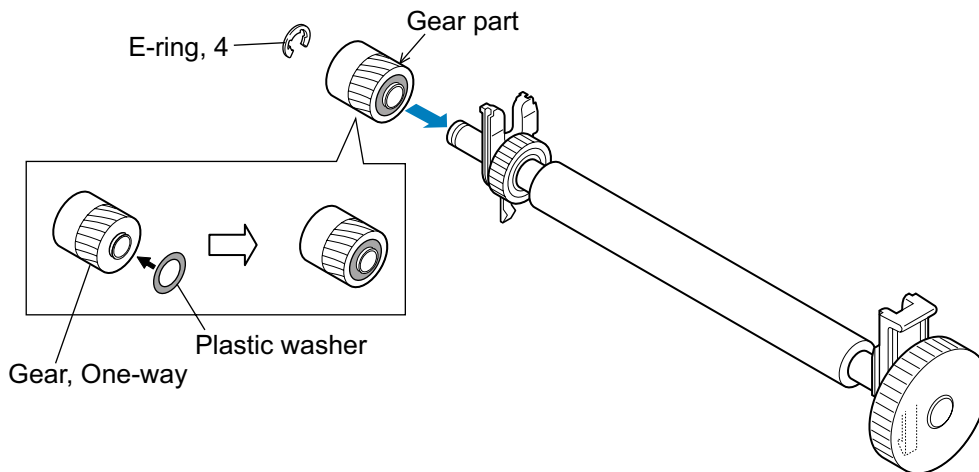
3-5-3. SA, Ope-pane PCB and SA, Cover Open Sens

1. Open the top cover.
2. Remove 1 screw (PH, M3x12) and detach the "Guide, Top Cover".
3. Remove 2 screws (PH (SW+PW), M3x5) (1 screw for new type) and detach the Ope-pane block frontward.
4. Disconnect the "Cable Ope-pane FFC" from the "SA, Ope-pane PCB".
5. Remove 3 screws (PHT (#2), M3x6) and detach the "SA, Ope-pane Plate" (with the "SA, Ope-pane PCB") from the Ope-pane Cover block.
6. Remove 2 screws (BH, M3x5) and detach the "SA, Ope-pane PCB" from the "SA, Ope-pane Plate".
7. Disconnect the connector of "SA, Cover Open Sens" from the "SA, Ope-pane PCB".
8. Remove 1 screw (PHT (#2), M3x6) and detach the "SA, Cover Open Sens" from the Ope-pane Cover block.
9. Detach four switches (PAUSE, FEED, STOP and MENU).
10. Peel off the "Sheet Ope-Pane" from the "Cover Ope-Pane" and remove the "Cover LCD" from the "Sheet Ope-Pane".
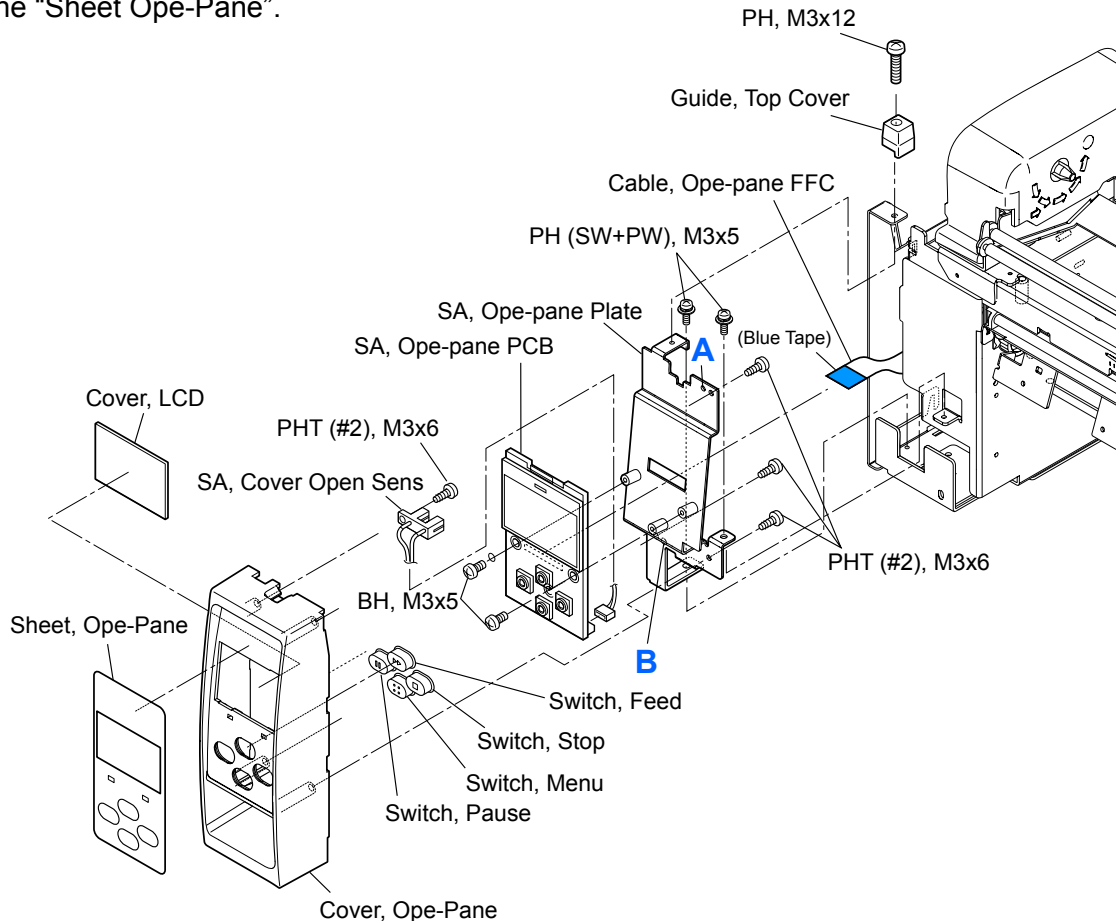
Notes on reassembling:
- Assemble each switch in place.
- When assembling the "SA, Ope-pane Plate" in the Ope-pane Cover block, fit the holes "A" and "B" to the protrusions.
- Insert the "Cable Ope-pane FFC" with its blue tape facing up.

3-5-4. Unit, Power Supply

1. Open the top cover and remove 4 screws (①BH, M3x5), then detach the Top Cover block.
2. Open the head block by pushing the head open lever.
3. Open the sensor arm block by pushing the sensor arm open lever.
4. Remove 1 screw (②BH, M3x5) and detach the "Cover, Inner Paper".
5. On the left rear side of the printer, remove 4 screws (③BH, M3x5K) and 1 screw (④BH, M3x5). Then, while pushing the rear cover toward the rear to make a clearance, remove the Inner Power Cover block to the right. (See the magnified figure.)
6. Remove 2 cable clamps. (Access to their locks from the bottom of the printer and release the locks.)
7. Remove 1 screw (⑤BH (N), M4x4) and 1 toothed lock washer (⑤EXT, T (N), 4).
8. Remove 1 screw (⑥BH, M3x5K) and 2 screws (⑦PH (SW+PW), M3x5), and detach the "Plate, Power" (with "Unit, Power Supply") to the right.
9. Disconnect 2 connectors and remove 4 screws (⑧PH (SW+PW), M3x5) from the "Unit, Power Supply". (Before disconnecting the upper right connector, release its lock.)
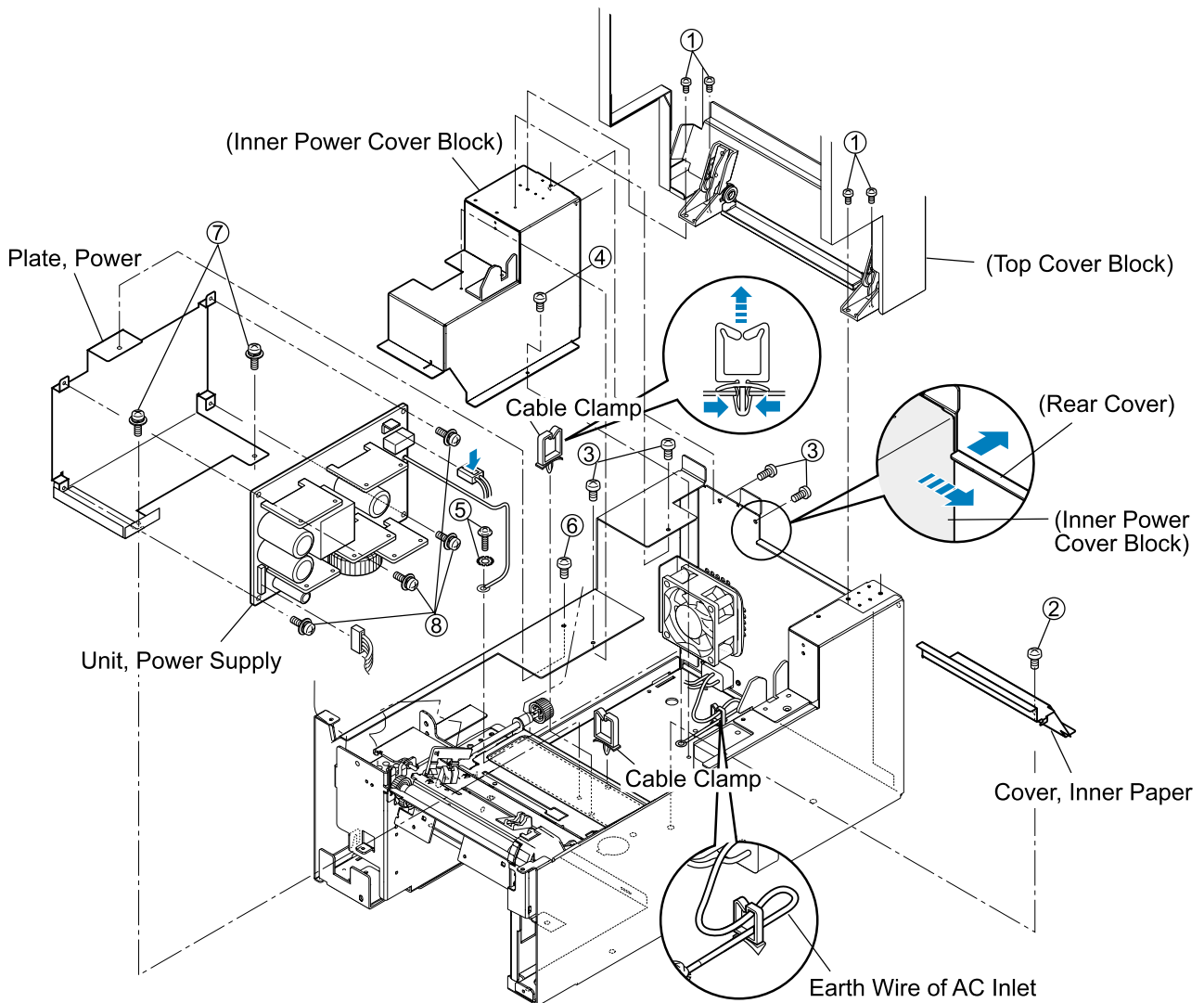
Notes on reassembling:

- When connecting connectors to the "Unit, Power Supply", be sure to insert them securely.
- Pass the wires into the cable clamp as they were.
- When fastening the earth wire of the "Unit, Power Supply" to the chassis with the screw (⑤) and the toothed lock washer (⑤), be sure to check the earth wire of the AC outlet runs as follows. If not arrange it as shown.

Arrange the wire like this.

⑤   Earth Wire of AC Inlet
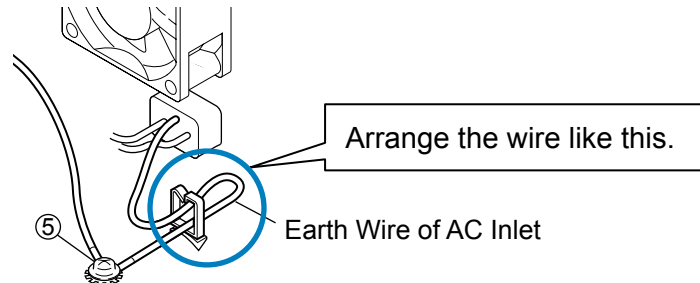
⚠ **Caution**
- **To satisfy the regulated standards, run the earth wire of the AC outlet as shown above.**

3-5-5. SA, Main PCB and Unit, Centro PCB

The following 2 steps are explained here.

- Disconnecting all connectors from the "SA, Main PCB"
- Removing "SA, Main PCB" and "Unit, Centro PCB"

(1) Disconnecting all connectors from the "SA, Main PCB"

1. Open the top cover.
2. Open the head block by pushing the head open lever.
3. Open the sensor arm block by pushing the sensor arm open lever.
4. Remove 1 screw (①BH, M3x5) and detach the "Cover, Inner Paper".
5. Remove 1 screw (②BH, M3x5K) and 1 screw (③BH, M3x5) and detach the Inner PCB Front Cover block.

Cover, Inner Paper

Inner PCB Front Cover Block

BH, M3x3K

Unit, PCB

Clamp, Main Cable

CL-S700/CL-S703/CL-S700R
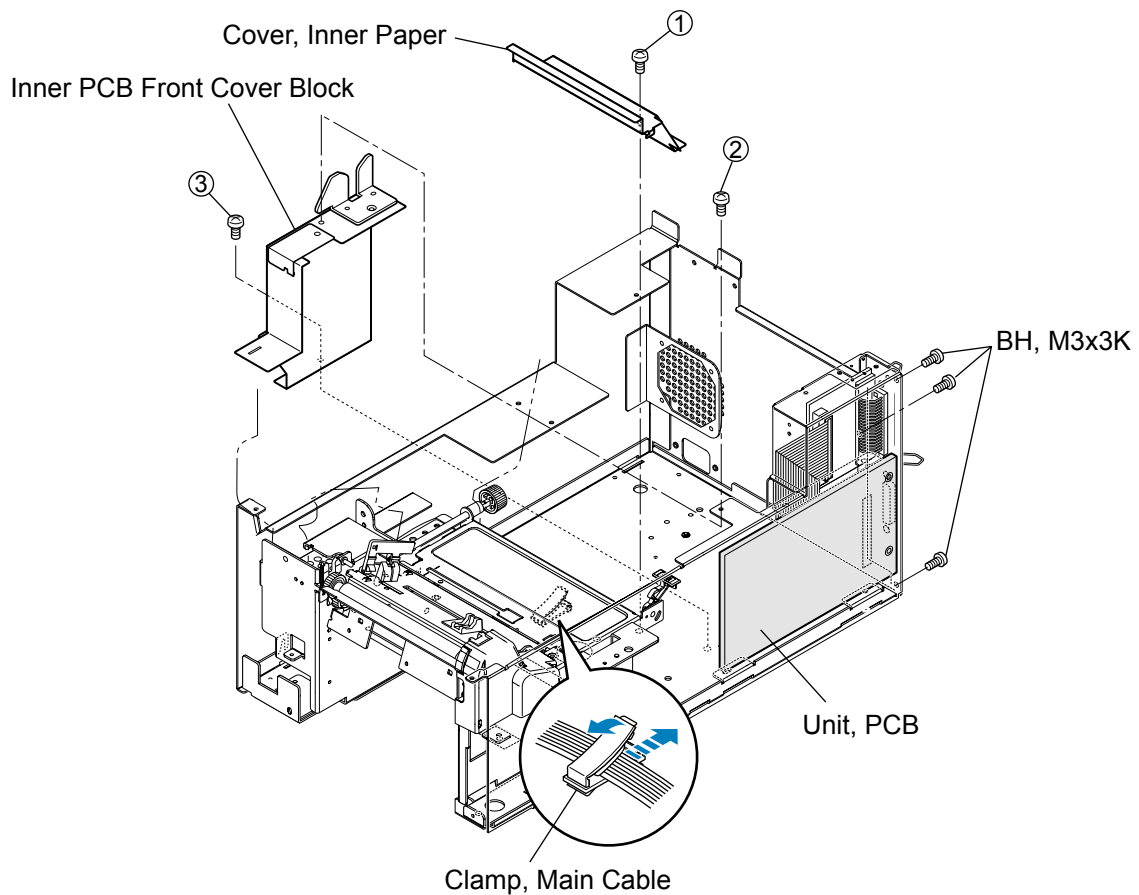
6. Disconnect all connectors from the "SA, Main PCB".
   J15 and J16: Release the lock before pulling out.

Ribbon Encoder
(Ribbon Running Sensor/Ribbon End Sensor)
SA, Head Up SW (Head Up Sensor)
Adjustable Sensor (Transparent sensor)
Front Fixed Sensor (Transparent sensor)
Front Fixed Sensor (Reflective sensor)
SA, Connect PCB (J803) (CL-S700/CL-S703)
SA, Rewinder PCB (J502) (CL-S700R)
SA, Fan
SA, Connect PCB (J801) (CL-S700/CL-S703)
SA, Rewinder PCB (J501) (CL-S700R)
SA, Main PCB
Adjustable Sensor (Reflective sensor)
Ope-Pane FFC Cable
(Blue Tape)
Unit, Head
Unit, Motor (Thermistor)
Unit, Motor
Unit, Power Supply
Front

7. Open the "Clamp, Main Cable" and take out each cable.
   In the above figure, the cable of which connector color is tinted (blue) runs through the "Clamp, Main Cable".
   They are J4, J5, J6, J7, J8, J9, J21 and J22.

Notes on reassembling:
• Clamp the following cables with the "Clamp, Main Cable".
  The cables with tinted (blue) connectors in the above figure:
      J4, J5, J6, J7, J8, J9, J21 and J22.
• Insert the "Cable, Ope-pane FFC" with its blue tape facing the right.

(2) Removing "SA, Main PCB" and "Unit, Centro PCB"
1. Remove all connectors from the "SA, Main PCB". (See above.)
2. On the rear right of the printer, remove 3 screws (BH, M3x5K) and detach "Unit, PCB". (See the figure on the previous page.)
3. Disconnect the "SA, Centro Cable" [14-1] from the "SA, Main PCB" [14-2] and the "Unit, Centro PCB" [14-4].
4. Remove 2 lock screws [14-5] and 2 screws (PH (SW+PW), M3x5), and detach the "SA, Main PCB" [14-2] from the "SA, Holder I/F" [14-3].
5. Remove 2 screws (BH, M3x5) [14-7] and detach the "Unit, Centro PCB" [14-4] from the "SA, Holder I/F" [14-3].

3-5-6. SA, Fan

1. Disconnect J12 (for "SA, Fan") from the "SA, Main PCB".
   Refer to "3-5-5. SA, Main PCB and Unit, Centro PCB" - "(1) Disconnecting all connectors from the "SA, Main PCB"".
2. Remove the "Plate, Power" [1-14] (together with "Unit, Power Supply").
   Refer to "3-5-4. Unit, Power Supply.
3. Remove 4 screws (PH (SW+PW), M4x30) [1-40] and detach the "SA, Fan" [1-20].

Notes on reassembling:

- Assemble the "SA, Fan" [1-20] so that its cable runs from the right bottom side as shown in Drawing 1 "General Assembly" in Chapter 5 "Parts List" (the label of "SA, Fan" will face backward). In this direction, air flows from inside to outside.
- When assembling the "Plate, Power" [1-14] (together with "Unit, Power Supply"), observe the "Notes on reassembling" in "3-5-4. Unit, Power Supply.

3-5-7. SA1, Top Cover

1. Open the top cover.
2. Remove 2 screws (BH, M3x5K) [1-39] and detach the 2 "Cover, Hinge" [1-4] from the top cover by releasing their claws.
3. Remove 4 screws (BH, M3x5) [1-37] and detach the Top Cover block from the printer.
4. Remove 4 screws (BH, M3x5) [1-37] and detach the 2 "Stopper, Hinge" [1-8] and the "SA, Hinge" [1-9] from the "Unit, Top Cover" [1-3].
5. Remove 2 screws (PHT (#2), M3x6) [10-6] and remove the Front Top Cover block from the "SA1, Top Cover" [10-1].
6. Pull out the "Cover, Cutter Blind" [10-4] and take off the "Logo, CITIZEN" [10-3] from the "Cover, Front Top" [10-2].
7. Remove the "Cover, Window" [10-5] and 4 "Spacer Leg, Case U" [10-7] from the "SA1, Top Cover" [10-1].

3-5-8. Unit, Mechanism

1. Open the top cover.
2. Disconnect all connectors except J11 (Power Supply Unit cable) and J12 (Fan SA cable) from the "SA, Main PCB".
    Refer to "3-5-5. SA, Main PCB and Unit, Centro PCB" - "(1) Disconnecting all connectors from the "SA, Main PCB"".
3. Remove 1 screw (①BH, M3x5K) and detach the Cable Cover.
4. Remove 1 screw (②PH, M3x12) and detach the "Guide, Top Cover".
5. Remove 2 screws (③PH (SW+PW), M3x5) (1 screw for new type) and detach the "SA, Ope-pane" frontward.
6. Disconnect the "Cable, Ope-pane FFC" from the "SA, Ope-pane".
7. Remove 1 screw (④BH, M3x5K) and 1 screw (⑤PH (SW+PW), M3x5), and detach the "SA, Front Right".
8. Remove 2 screws (⑥BH, M3x5) and detach the "SA, Front Center" by drawing it out.
9. Disengage the Power Switch from the chassis by lifting it upwardly.
10. Remove 5 screws (⑦PH (SW+PW), M3x5) and 1 screw (⑧PH (SW+PW), M3x5), and gently detach the "Unit, Mechanism" forward after lifting it a little.
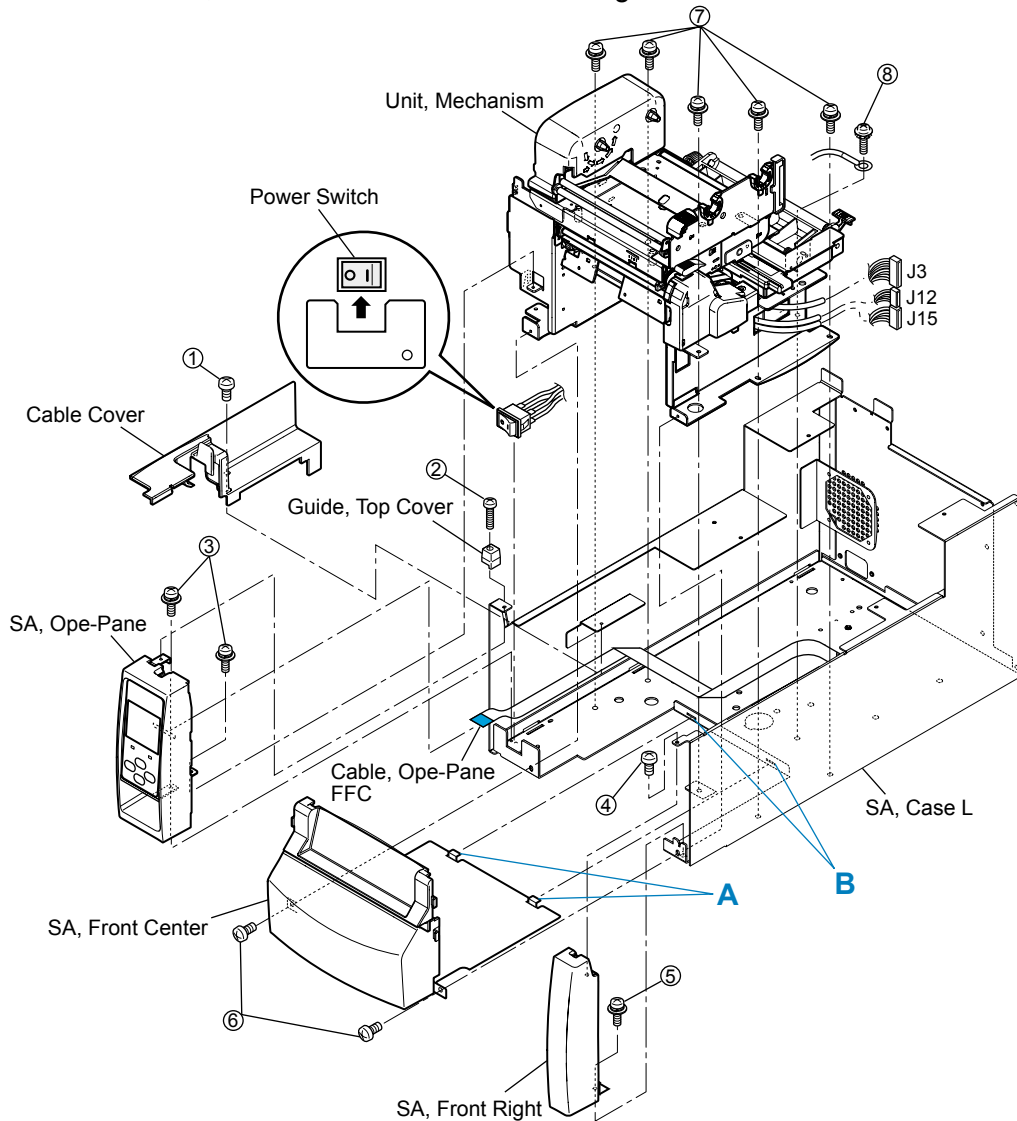
Notes on reassembling:

- Fit the holes in the chassis of the "Unit, Mechanism" to the protrusions of the "SA, Case L" to securely seat the "Unit, Mechanism" onto the "SA, Case L".
- Securely fasten the earth wire with the screw (⑧PH (SW+PW), M3x5).
- Install the Power Switch as shown in the figure (set its "I (ON)" side to the right).
- When assembling the "SA, Front Center", assemble it so that its claws "A" shown in the figure are securely inserted into the slits "B" on the "SA, Case L".
- See the following wiring route for "Unit, Mechanism" and pass the cables (J4 to J9, J21 and J22) through the "Clamp, Main Cable".

[Wiring route for "Unit, Mechanism"]
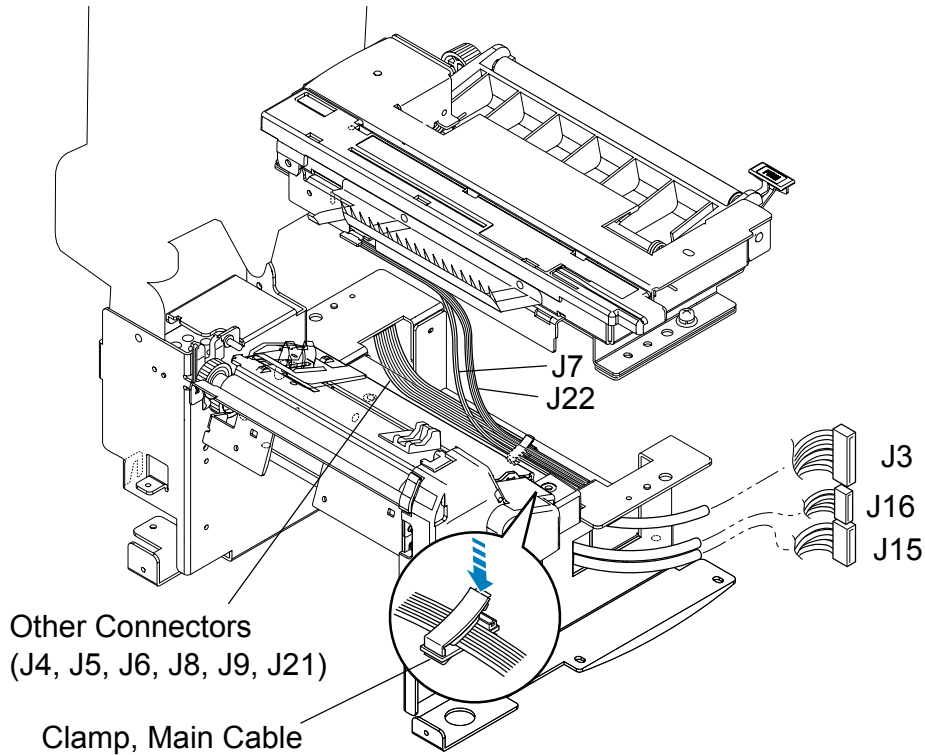
- When assembling the Cable Cover, first insert its right side while aligning the slit "C" and then fit the Cable Cover by shifting in the direction of the arrow
  Also, be sure that the cables are correctly routed in the Cable Cover as shown below.
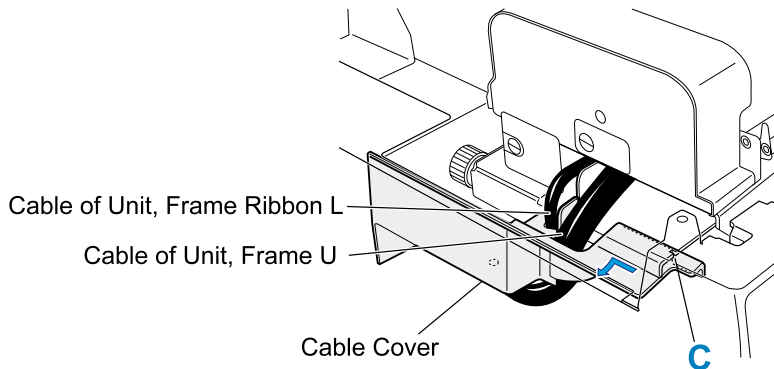
3-5-9. Each Unit on the "Unit, Mechanism"

The following shows the procedures how to disassemble each unit from the "Unit, Mechanism".

Refer to the Drawing No. 2 "Unit, Mechanism" in Chapter 5 "Parts List".

1. Remove the "Unit, Mechanism".
    Refer to "3-5-8. Unit, Mechanism.

2. Remove the "SA, Base Guide Open" [2-10].
    Refer to "3-5-10. SA, Base Guide Open.

3. Remove the "Unit, Sensor Adjust" [2-12].
    Refer to "3-5-11. Unit, Sensor Adjust.

4. Remove the "Unit, Frame Ribbon L" [2-19].
    Refer to "3-5-12. Unit, Frame Ribbon L.

5. Remove the "SA, Front Tension Arm" [2-4].
    Refer to "3-5-13. Disassembling the "SA, Front Tension Arm"".

6. Remove the "SA, Frame Ribbon R" [2-9].
    1) Remove 1 screw (PH (SW+PW), M3x5) [2-22] and 2 screws (FT, M3x6) [2-23], and detach the "SA, Frame Ribbon R" [2-9] upwardly.
        For disassembling the parts of the "SA, Frame Ribbon R" [2-9], refer to "3-5-14. Disassembling the "SA, Frame Ribbon R"".

7. Remove the "Unit, Frame Rear" [2-5].
    1) Remove 2 screws (PH (SW+PW), M3x5) [2-22] and detach the "Unit, Frame Rear" [2-5].
        For disassembling the parts of the "Unit, Frame Rear" [2-5], refer to "3-5-15. Disassembling the "Unit, Frame Rear"".

8. Remove the "Unit, Frame U" [2-6].
    1) Remove the "Unit, Head" [2-8] referring to "3-5-1. Unit, Head.
    2) With the head block opened, disengage the "Spring, Head Up" [2-7] from the "Unit, Frame U" [2-6] and the "Unit, Frame" [2-18].
    3) Remove 1 screw (PH, M4x6) [2-24] and detach Damper [2-14] and "SA, Head Up SW" [2-16].
    4) Remove the Damper Pin [2-15] while swinging the "Unit, Frame U" [2-6] as it presses down the Damper Pin [2-15], and then detach the "Unit, Frame U" [2-6] from the "Unit, Frame" [2-18].
        For disassembling the parts of the "Unit, Frame U" [2-6], refer to "3-5-16. Disassembling the "Unit, Frame U"".

    Note on reassembling:
    *   Apply grease (Floil G-311S) to the following points (refer to the places marked with ★ in Drawing No. 2 "Unit, Mechanism" for the Printer Part in Chapter 5 "Parts List"):
        *   Damper Pin [2-15]: Both ends
        *   "Unit, Frame U" [2-6]: Where the "Spring, Head Up" [2-7] is to be hooked
        *   "Unit, Frame" [2-18]: Where the "Unit, Frame U" [2-6] is to be hooked

9. Remove the "Unit, Frame" [2-18].

    1) Detach the "Sheet 2, Power Protect" [2-13] and "Clamp, Main Cable" [2-17] from the "Unit, Frame" [2-18].

        For disassembling parts of the "Unit, Frame" [2-18], refer to "3-5-17. Disassembling the "Unit, Frame"".

    Note on reassembling:

    • Apply grease (Floil G-311S) to the following points (refer to the places marked with ★ in Drawing No. 2 "Unit, Mechanism" for the Printer Part in Chapter 5 "Parts List"):

        • "Unit, Frame" [2-18]: Where the "Spring, Head Up" [2-7] is to be hooked

        • "Unit, Frame" [2-18]: Where the "Unit, Frame U" [2-6] is to be hooked

3-21   *CL-S700/CL-S703/CL-S700R*

3-5-10. SA, Base Guide Open

(1) Removing the "SA, Base Guide Open"

Note: The "SA, Base Guide Open" can be removed without removing the "Unit, Mechanism".

1. Open the top cover.
2. Open the head block by pushing the head open lever.
3. Remove 2 screws (PH (SW+PW), M3x5) and detach the "SA, Base Guide Open". Refer to the figure shown below.
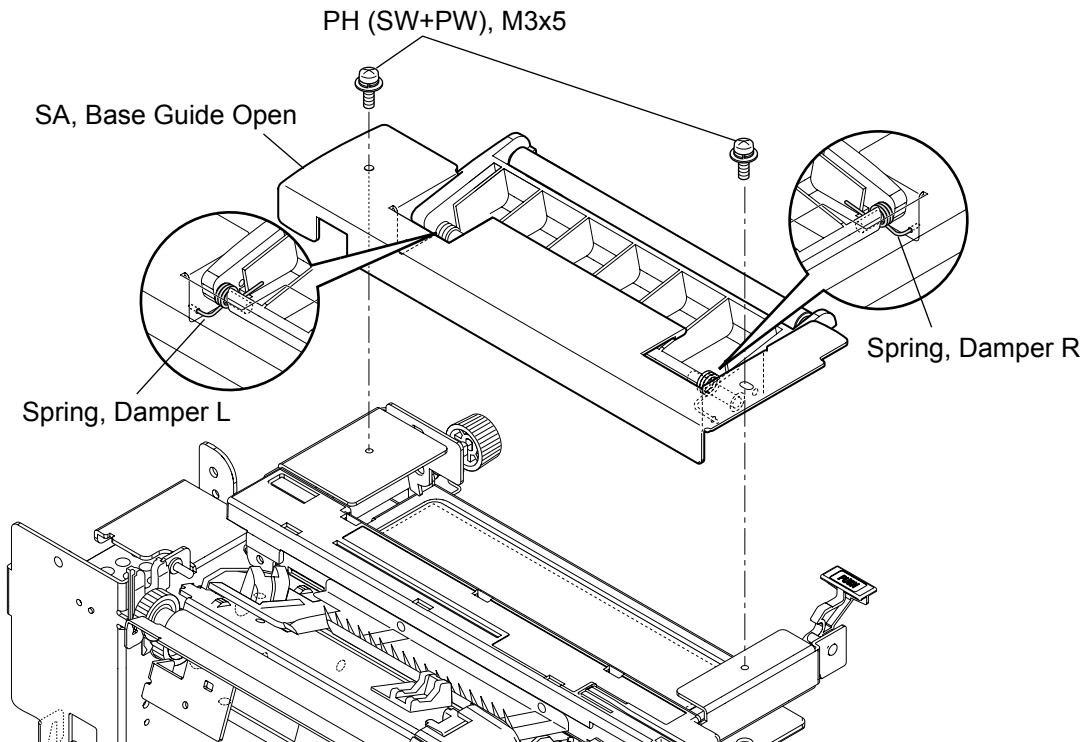
(2) Disassembling the "SA, Base Guide Open"

1. Remove 2 screws (PH (SW+PW), M3x5) [7-8] and pull out 2 "SA, Damper Shaft" [7-1] on both sides.
2. Remove the Damper Frame block (Plastic) from the "Frame, Damper" (Metal) [7-2].
3. Remove the "Spring, Damper L" [7-6] and "Spring, Damper R" [7-7], disengage 1 E-ring (E-Ring, 4) [7-3], and pull out the "Shaft, Damper" [7-4] from the "Frame, Damper" (Plastic) [7-5].

Note on reassembling:

• Assemble the Damper L Spring [7-6] and "Spring, Damper R" [7-7] referring to above figure.

3-5-11. Unit, Sensor Adjust

(1) Removing the "Unit, Sensor Adjust"

Note: The "Unit, Sensor Adjust" can be removed without removing the "Unit, Mechanism".

1. Open the top cover.
2. Disconnect the connectors J7 and J22 from the "SA, Main PCB".
   Refer to "3-5-5. SA, Main PCB and Unit, Centro PCB" - "(1) Disconnecting all connectors from the "SA, Main PCB"".
3. Remove 2 screws (PH (SW+PW), M3x5) and detach both "Unit, Sensor Adjust" and "SA, Base Guide Open".
4. Remove the "SA, Base Guide Open" from the "Unit, Sensor Adjust".
   Refer to "3-5-10. SA, Base Guide Open.
5. Peel off the Ground Brush from the "Unit, Sensor Adjust".

Notes on reassembling:

• Be sure to lower the "SA, Sensor U" (Fixed type) before assembling the "Unit, Sensor Adjust".
• Run the cables (J7 and J22) as shown and be sure that they are not pinched by the "Unit, Sensor Adjust".
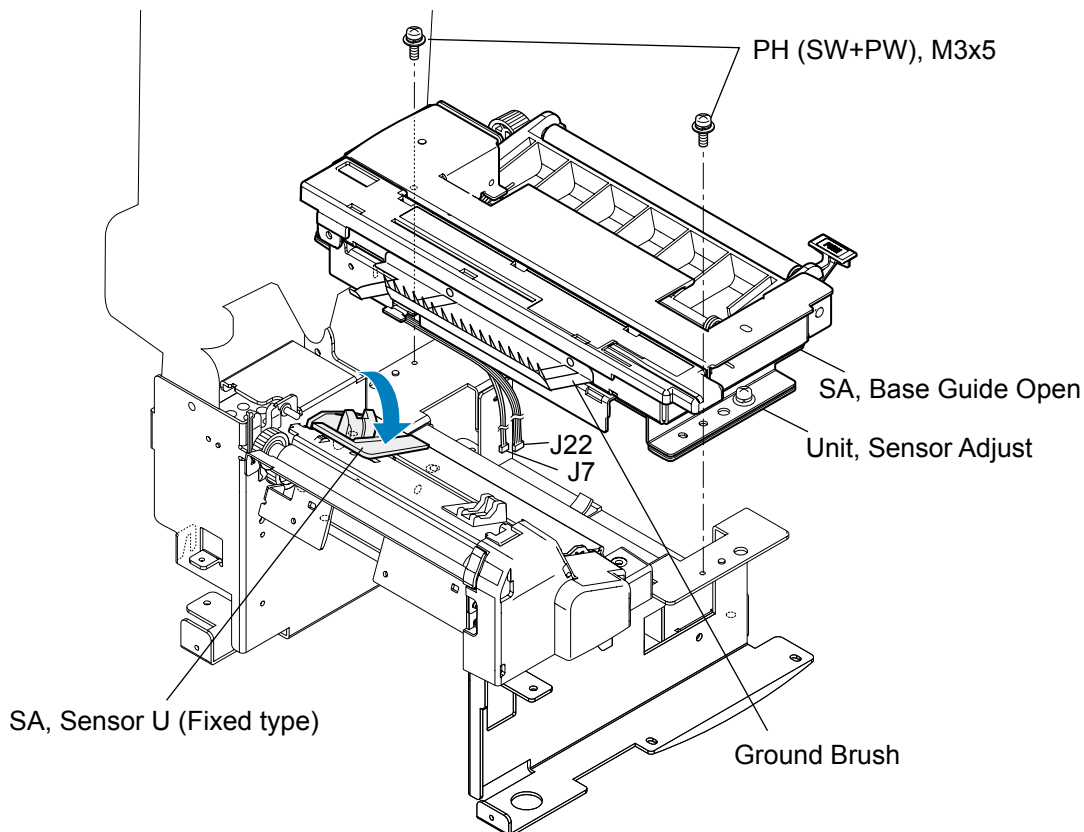
(2) Disassembling the "Unit, Sensor Adjust"

1. Remove the "SA, Sensor U" (Adjustable type) [8-9] and "Shaft, Screw Sensor U" [8-5].

   1) Shift the "Cover, Sensor Adjust" [8-2] to the right and remove it upwardly.
      Peel off the "Open Guide Seal" [8-1] from the "Cover, Sensor Adjust" [8-2].

   2) On the right side, disengage 1 E-ring (E-Ring, 2) [8-28], shift the "Shaft, Screw Sensor U" [8-5] to the left about 2 mm (0.08"), and remove the block (consisting of "Shaft, Screw Sensor U" [8-5] and "SA, Sensor U" (Adjustable type) [8-9], etc.) to the right.

   3) Peel off Position Label [8-6], remove 2 screws (No. 0, FHT (BT#1), M2x4) [8-27], Stopper Plate [8-7] and Move Pin [8-8] from the "SA, Sensor U" (Adjustable type) [8-9].

   4) Cut the Wire Tie [8-10].

   5) Pull out the "SA, Sensor U" (Adjustable type) [8-9] from the "Shaft, Screw Sensor U" [8-5].

   6) Disengage 1 E-ring (E-Ring, 3) [8-26], pull out the "Pin, Teeth Spring 1.2x8" [8-3], and remove the Screw Gear [8-4] to the left from the "Shaft, Screw Sensor U" [8-5].

   Notes on reassembling:
   - Do not reuse the "Pin, Teeth Spring 1.2x8" [8-3].
   - Apply grease (Floil G-311S) to the "Shaft, Screw Sensor U" [8-5] at 3 places (marked with ★ in Drawing No. 8 "Unit, Sensor Adjust" for the Printer Part in Chapter 5 "Parts List").

2. Remove the "SA, Sensor Bottom" (Adjustable type) [8-24] and "Shaft, Screw Sensor L" [8-23].

   1) Remove 1 screw (PH (SW+PW), M3x5) [8-29] and detach the Ratchet Spring [8-31].

   2) On the right side, disengage 1 E-ring (E-Ring, 3) [8-26], shift the "Shaft, Screw Sensor L" [8-23] to the left about 2 mm, and remove the block (consisting of "Shaft, Screw Sensor L" [8-23] and "SA, Sensor Bottom" (Adjustable type) [8-24], etc.) to the right.

   3) Cut the Wire Tie [8-10].

   4) Pull out the "SA, Sensor Bottom" (Adjustable type) [8-24] from the "Shaft, Screw Sensor L" [8-23].

   5) Disengage 1 E-ring (E-Ring, 3) [8-26], pull out the "Pin, Teeth Spring 1.2x8" [8-3], and remove the Screw Gear [8-4] to the left from the "Shaft, Screw Sensor L" [8-23].
      Also, remove the Ratchet Gear [8-19] from the "Shaft, Screw Sensor L" [8-23], after pulling out the "Pin, Teeth Spring 1.2x8" [8-3].

   Notes on reassembling:
   - Do not reuse the "Pin, Teeth Spring 1.2x8" [8-3].
   - Apply grease (Floil G-311S) to the "Shaft, Screw Sensor L" [8-23] at 3 places (marked with ★ in Drawing No. 8 "Unit, Sensor Adjust" for the Printer Part in Chapter 5 "Parts List").

3. Remove the Open Guide Lever [8-12].

   1) Disengage 1 E-ring (E-Ring, 2) [8-28] and remove the Open Guide Lever [8-12] and Open Guide Lever Spring [8-13].

4. Remove the Paper Guide Plate [8-14].

   1) Remove 2 screws (PH, M3x3) [8-30] and detach the Paper Guide Plate [8-14].

5. Remove the "SA, Open Guide U" [8-11].

    1) Pull out "Knob, Sensor Adjust" [8-20], disengage 1 E-ring (E-Ring, 3) [8-26], and remove the "Bushing 3, Adjust Sensor" [8-18] and "Spring, Guide Sensor Up" [8-17] from the "Shaft, Sensor Adjust" [8-16].

    2) Disengage 1 E-ring (E-Ring, 2) [8-28], pull out "Pin, Teeth Spring 1.2x8" [8-3], remove the Screw Gear [8-4] and "Shaft, Sensor Adjust" [8-16], and detach the "SA, Open Guide U" [8-11] from the "SA, Open Guide L" [8-22].

    Note on reassembling:

    • Apply grease (Floil G-311S) to the following points (refer to the places marked with ★ in Drawing No. 8 "Unit, Sensor Adjust" for the Printer Part in Chapter 5 "Parts List"):

       • "Bushing 3, Adjust Sensor" [8-18]: Rear surface (where contacting with E-ring)
       • "SA, Open Guide U" [8-11]: 2 holes for the "Shaft, Sensor Adjust" [8-16]
       • "SA, Open Guide L" [8-22]: 2 holes for the "Shaft, Sensor Adjust" [8-16]

6. Remove the "SA, Open Guide L" [8-22].

    1) Remove 2 screws (PH (SW+PW), M3x5) [8-29] and detach the "Holder, Sensor L" [8-25].

    2) Peel off the "Sheet, Sensor Adjust" [8-15] and "Sheet, Sensor Adjust L" [8-32], and remove the "Cover, RFID" [8-21] from the "SA, Open Guide L" [8-22].

    Note on reassembling:

    • Apply grease (Floil G-311S) to the following points (refer to the places marked with ★ in Drawing No. 8 "Unit, Sensor Adjust" for the Printer Part in Chapter 5 "Parts List"):

       • "SA, Open Guide L" [8-22]: 2 holes for the "Shaft, Sensor Adjust" [8-16]

3-25

CL-S700/CL-S703/CL-S700R

3-5-12. Unit, Frame Ribbon L

1. Remove the "Unit, Mechanism".

   Refer to "3-5-8. Unit, Mechanism.

2. Remove 1 screw (①PH, M3x6) and detach the "Cover, Ribbon" from the Frame Ribbon L block.

3. Open the head block by pushing the head open lever and remove 1 screws (②PH (SW+PW), M3x5).

4. Close the head block and remove 3 screws (③PH (SW+PW), M3x5).

5. On the left side, release the lock of the Bushing (24400670) by turning its end after pushing the protrusion "A" with tweezers pointing tip, and then detach the Bushing (24400670), " Shaft, Ribbon Guide FF", and the Bushing (24400680).

6. Lift the front side of the Frame Ribbon L block and turn it in the direction shown by the arrow, and then detach it upwardly.

7. Remove the "Spring, Shaft Guide FF" and "SA, Front Tension Arm" from the "Unit, Mechanism". For disassembling parts of the "SA, Front Tension Arm", refer to "3-5-13. Disassembling the "SA, Front Tension Arm"".

Bushing (24400670)

A

Shaft, Ribbon Guide FF

Bushing (24400680)

(Frame Ribbon L Block)

Unit, Frame Ribbon L

Cover, Ribbon

Spring, Shaft Guide FF

SA, Front Tension Arm
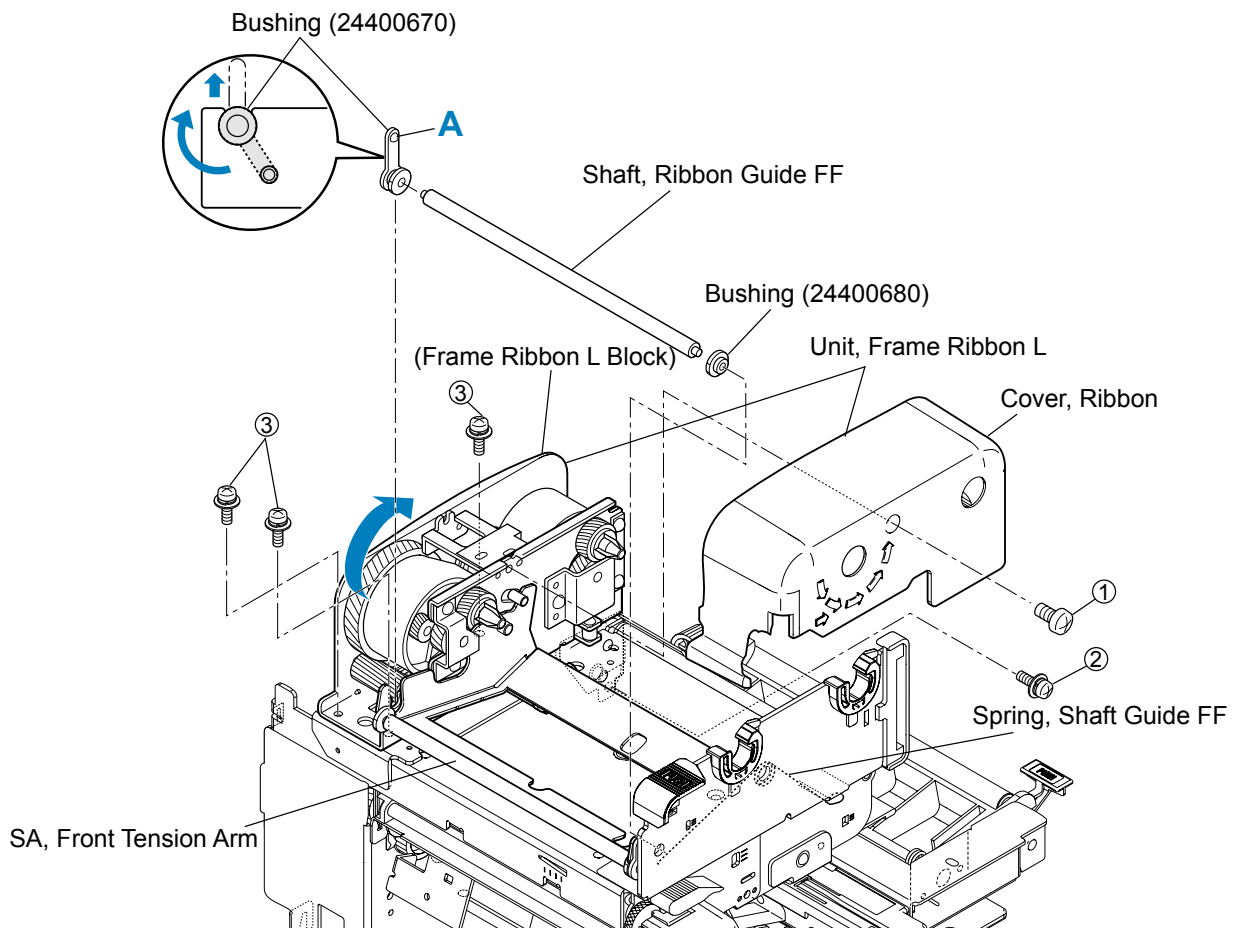
Notes on reassembling:

When reassembling the "Unit, Frame Ribbon L", follow the next steps.

1. While pushing down the Ribbon Guide Roller C, insert the shaft "B" of the Frame Ribbon L block into the hole "C" of the "Unit, Frame Rear".

(Frame Ribbon L Block)

Unit, Frame Rear

Ribbon Guide Roller C

3-27

CL-S700/CL-S703/CL-S700R
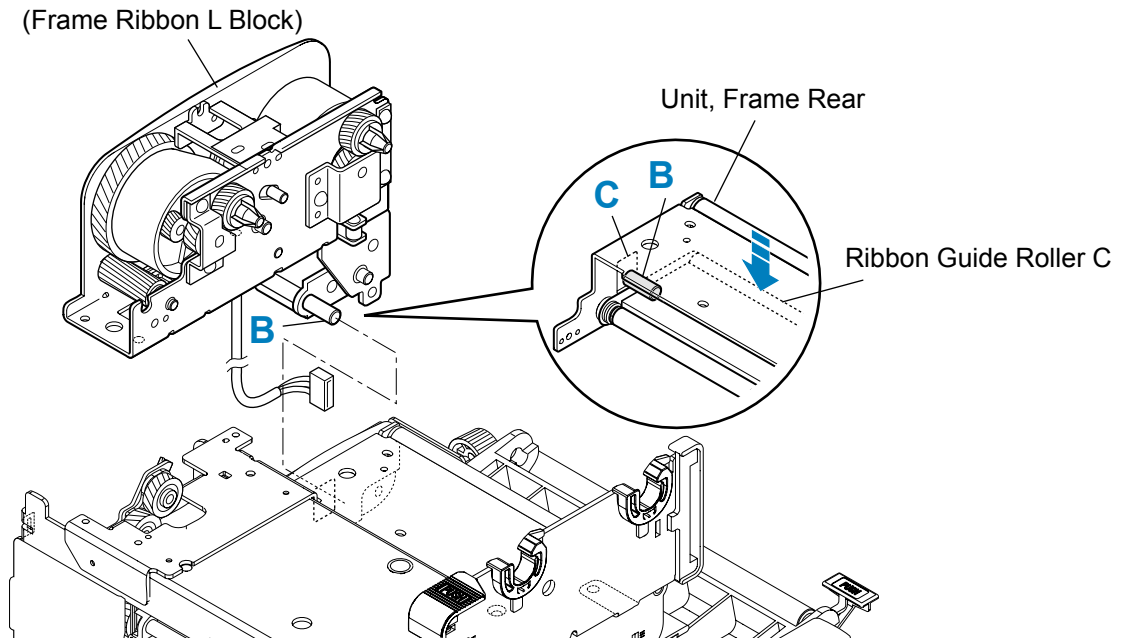
2. While tilting the Frame Ribbon L block to the left (outer ward) a little, engage the "SA, Front Tension Arm" with the "SA, Frame Ribbon R" (arrow ①).
    At the same time, hook the "Spring, Guide Shaft FF" on the "SA, Front Tension Arm". Be sure that both ends of the spring are correctly hooked as shown in the enlarged illustration.

3. Next, engage the left side of the "SA, Front Tension Arm" with the Frame Ribbon L block (arrow ②).

4. Assemble the Bushing (24400680), "Shaft, Ribbon Guide FF" and Bushing (24400670). For Bushing (24400670), lock its end by turning it so that the protrusion "A" is seated securely.
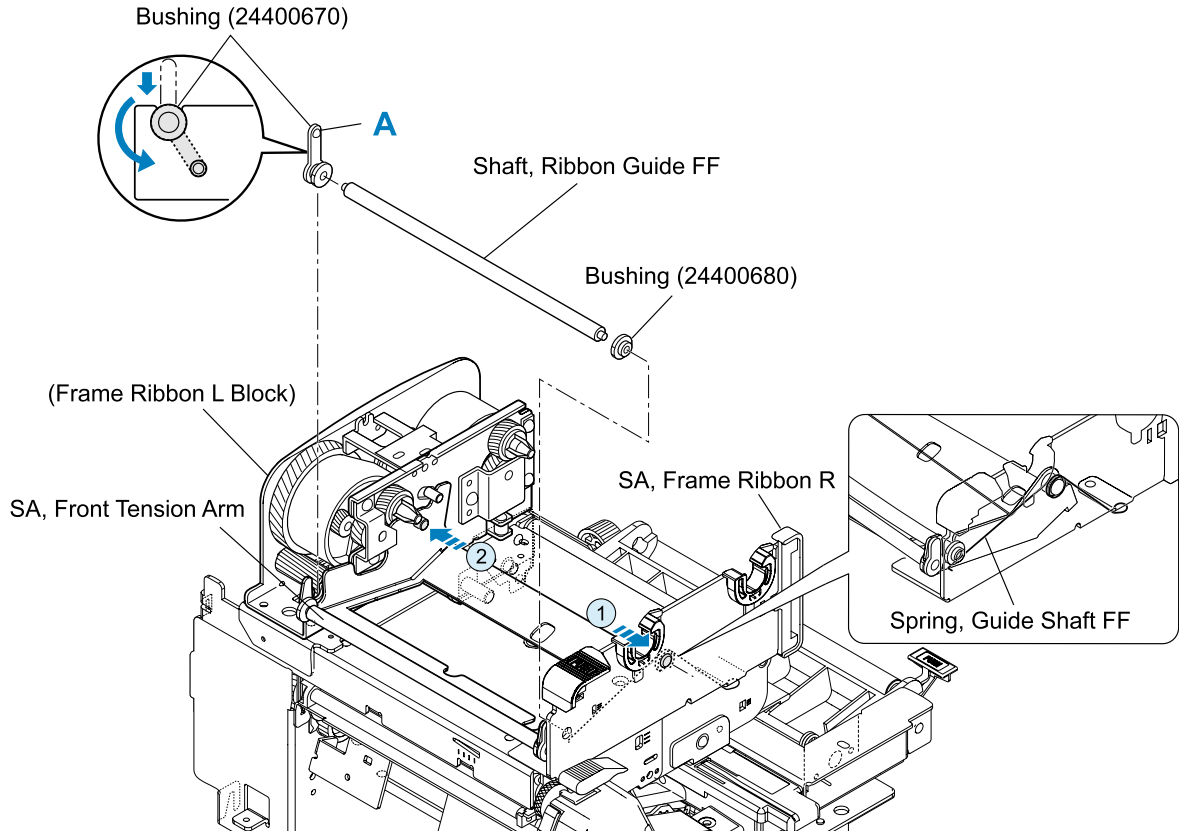
3-5-13. Disassembling the "SA, Front Tension Arm"

To remove the "SA, Front Tension Arm", refer to "3-5-12. Unit, Frame Ribbon L.

1. Release the lock of the right side Bushing (24400670) [4-4].
2. Remove the Bushing (24400670) [4-4], "Spring, Shaft Guide FM" [4-5], "Washer, Shaft Guide FM" [4-6], "Shaft, Ribbon Guide FM" [4-3] and Bushing (24400680) [4-2] from the "SA, Front Tension" [4-1].

3-5-14. Disassembling the "SA, Frame Ribbon R"

To remove the "SA, Frame Ribbon R", refer to Step 6 in "3-5-9. Each Unit on the "Unit, Mechanism"

1. Pull out 2 "Holder, Ribbon Shaft" [6-1] upwardly after releasing their locks.
2. Remove the "Knob, Ribbon Unit" [6-2] and "Plate, Ribbon Frame" [6-4] from the "Frame, Ribbon R" [6-3], after releasing their claws.

3-5-15. Disassembling the "Unit, Frame Rear"

To remove the "Unit, Frame Rear", refer to Step 7 in "3-5-9. Each Unit on the "Unit, Mechanism".

1. Release the lock of the left side Bushing (24400670) [5-1].
2. Remove the Bushing (24400670) [5-1], Ribbon Guide Roller E [5-2] and Bushing (24400680) [5-3] from the "SA, Frame Rear" [5-4].
3. Remove 1 screw (PH (SW+PW), M3x5) [5-11] and detach "SA, Plate Stopper Rear" [5-6]. Then, detach the Ribbon Guide block and the Rear Arm Spring [5-5].
4. Remove 4 screws (FT, M3x6) [5-12] and detach all other parts (Side Plate L [5-7], Side Plate R [5-10], 4 Bushings (24400680) [5-3], 2 Ribbon Guide Rollers C [5-8] and Beam [5-9]).

Note on reassembling:

• Insert the ends of Rear Arm Spring [5-5] into the hole of the "SA, Frame Rear" and the Side Plate L block as shown below. After assembling it, be sure to check that the spring is correctly hooked by swinging the Side Plate L block.

SA, Frame Rear

Rear Arm Spring

(Side Plate L Block)
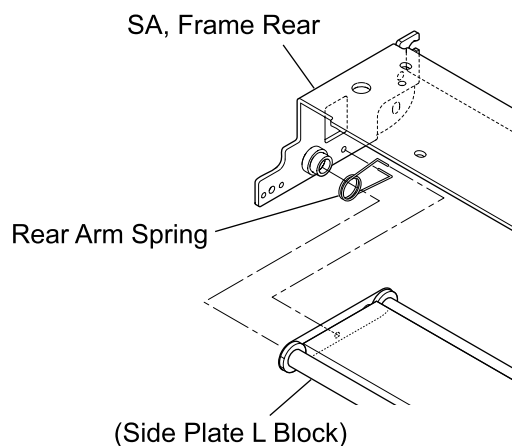
3-5-16. Disassembling the "Unit, Frame U"

To remove the "Unit, Frame U", refer to Step 8 in "3-5-9. Each Unit on the "Unit, Mechanism"".

1. Remove the "SA, Gear Plate" [3-4].
   1) Unhook the Gear Plate Spring [3-3] from the "SA, Gear Plate" [3-4].
   2) Disengage 3 E-rings (E-Ring, 3) [3-23] and, from the "SA, Gear Plate" [3-4], remove 2 Idle Gear A Sub Assemblies [3-1], 1 Idle Gear B Sub Assembly [3-2], 3 Polysliders [3-29] and 2 Polysliders 1 [3-22].

   Note on reassembling:
   • Apply grease (Floil G-311S) to the following points (refer to the places marked with ★★ in Drawing No. 3 "Unit, Frame U" for the Printer Part in Chapter 5 "Parts List"):
      • Idle Gear A Sub Assembly [3-1]: Gear surface
      • Idle Gear B Sub Assembly [3-2]: Gear surface

2. Bow the Offset Spring [3-13] (which ends are inserted into the frame) and remove it from the frame.

   Note on reassembling:
   • Correctly set the Offset Spring [3-13] since the shape of its ends differs.

3. Slide the Head Plate [3-12] backward to remove it. Then the "Spring, Head R" [3-15] and "Spring, Head L" [3-8] will come off.

4. Remove the following parts from the Head Plate [3-12].
   1) Cut the Wire Tie [3-7], remove 1 screw (BH (N), M4x4) [3-26] and 1 washer (EXT, T (N), 4) [3-27], and detach the "SA, Head Cable" [3-6] and the "SA, Head Earth Cable" [3-32].
   2) Remove the Head Earth Plate [3-11] and 1 screw (PH (TP) M3x8) [3-28] and peel off the "Sheet, Cover Cable" [3-10] from the Head Plate [3-12].

5. Remove the Slider [3-14].
   1) Turn the Adjust Screw [3-17] counterclockwise until the nut (Nut, M3) [3-25] comes off.
   2) Then, remove the Slider [3-14], Adjust Screw [3-17] and Curved Washer [3-16].

6. Remove the "Lever, Head Up" [3-19].
   1) Disengage 1 E-ring (E-Ring, 2) [3-24] and remove 1 Polyslider Washer [3-20], "Lever, Head Up" [3-19] and Open Lever Spring [3-18].

7. Remove the "SA, Frame U" [3-5].
   1) Remove the Nylon Screw [3-21], Head Balance Seal [3-9] and labels ([3-30] and [3-31]).

   Note on reassembling:
   • Apply grease (Floil G-311S) to the "SA, Frame U" [3-5] (refer to the places marked with ★ in Drawing No. 3 "Unit, Frame U" for the Printer Part in Chapter 5 "Parts List").

3-5-17. Disassembling the "Unit, Frame"

To remove the "Unit, Frame", refer to Step 9 in "3-5-9. Each Unit on the "Unit, Mechanism"

1. Remove the "SA, Sensor U" (Fixed type) [9-7].
   1) Remove 1 screw (PH (SW+PW), M3x6) [9-34] and remove the "SA, Sensor U" (Fixed type) [9-7].
2. Remove the "SA, Sensor Bottom" (Fixed type) [9-18].
   1) Remove 1 screw (No. 0, FHT (BT#1), M2x8) [9-36] and detach the "SA, Sensor Bottom" (Fixed type) [9-18].
3. Remove the Paper Guide [9-8].
   1) While pushing the Paper Guide Spring [9-17], remove it from the hook of the Paper Guide [9-8]. Then, remove the Friction Cork [9-16] and the Paper Guide [9-8].
4. Remove the "Unit, Motor" [9-38].
   1) On the left lower of the "Unit, Mechanism", remove 3 screws (PH (SW+PW), M3x5) [9-32] and detach the Motor block and "Belt, Motor Drive" [9-12].
   2) Disconnect the "SA, PF MTR Cable" [9-30] from the Motor block, remove 2 screws (PH (SW+PW), M3x6) [9-33], and detach the "Bracket, Motor" [9-6] from the "Unit, Motor" [9-38].
   Note on reassembling:
   • Adjust the belt tension of the "Belt, Motor Drive" [9-12].
     Refer to "3-6-2. Belt Tension Adjustment".
5. Remove the "Unit, Roller Platen" [9-1].
   1) Remove 1 screw (BH, M3x5K) [9-34] and detach the "Cover, Pulley" [9-9].
   2) Push the lever of the "Plate, Tension" [9-28] downward and remove the "Belt, Platen Drive" [9-2], then detach the "Unit, Roller Platen" [9-1] by lifting it upwardly.
     Note: For easier disassembly procedure, refer to "3-5-2. Unit, Roller Platen.
6. Remove the "SA 1, Drive Shaft" [9-13].
   1) Remove 2 screws (HSS (KCP), M3x5) [9-25] and detach the "Pulley, Drive Shaft" [9-24] and "Bushing, Motor Drive" [9-23].
   2) Pull out the "SA 1, Drive Shaft" [9-13] to the left and remove the 2 "Bearing, Drive Shaft" [9-14].
7. Remove the Idle Gear Sub Assembly [9-15].
   1) Disengage 1 E-ring (E-Ring, 3) [9-36] and remove the Idle Gear Sub Assembly [9-15].
8. Remove the "Plate, Peel" [9-11].
   1) Remove 1 screw (PH (SW+PW), M3x6) [9-33] and detach the "Plate, Peel" [9-11].

CL-S700/CL-S703/CL-S700R

9. Remove the Tension Pulley [9-26].

   1) Disengage the Tension Spring [9-29] from the Tension Plate block.

   2) Disengage 1 E-ring (E-Ring, 3) [9-36] and pull out the Tension Plate block to the right.

   3) Disengage 1 E-ring (E-Ring, 2) [9-37], pull out the Tensioner Pin [9-27], and remove the Tension Pulley [9-26] from the "Plate, Tension" [9-28].

   Notes on reassembling:

   • Correctly hook the Tension Spring [9-29]. (Refer to Drawing No. 9 "Unit, Frame" in Chapter 5 "Parts List").

   • Apply grease (Floil G-311S) to the Tensioner Pin [9-27] (refer to the places marked with ★ in Drawing No. 9 "Unit, Frame" for the Printer Part in Chapter 5 "Parts List").

10. Remove the "SA, Connect PCB" [9-20] (CL-S700/CL-S703).

    1) Disconnect the "SA, Option Cable 1" [9-21] (J15) and "SA, Option Cable 2" [9-22] (J16) from the "SA, Connect PCB" [9-20].

    2) Remove 2 screws (PH (SW+PW), M3x6) [9-33] and detach the "SA, Connect PCB" [9-20].

11. Remove the "SA, Frame Center" [9-19].

    1) Remove 4 screws (PH (SW+PW), M3x6) [9-33] and detach the "SA, Frame Center" [9-19] from the "SA, Frame" [9-10].

3-5-18. Disassembling the Rewinder Part (CL-S700R Only)

Disassembly procedures for the Rewinder part of CL-S700R are explained here.

[Parts to be lubricated]

When the following parts are replaced or reassembled, apply grease (Floil G-311S).

The places to be lubricated are indicated with the mark ★ in the drawings for the Rewinder Part (the latter half) of Chapter 5 "Parts List".

Drawing No. 2 "Unit, Rewinder":
- "Shaft, Measure Sensor" [2-1]: Both ends of the shaft (2 places)
- "Shaft, Damper" [2-6]: Both ends of the shaft (2 places)
- "SA, Rewinder Motor" [2-8]: Contacting surface with the "Guide, Motor Plate" [2-10] (1 place)
- "Guide, Motor Plate" [2-10]: Back surface (1 place)
- "Shaft, Handle Plate" [2-24]: Both ends of the shaft (2 places)
- "Plate, Handle" [2-28]: Both holes for the "Shaft, Handle Plate" [2-24] (2 places)
- "SA, Handle Link" [2-29]: Both studs (2 places)
- "Frame, Door L" [2-33]: "Shaft, Door" [2-40] (1 place)
- "Frame, Door R" [2-43]: "Shaft, Door" [2-40] (1 place)
- "Holder, Door Shaft R" [2-44]: Hole for "Shaft, Door" [2-40] (1 place)

Drawing No. 3 "SA1, Peeler":
- "Roller, Idle Rewinder" [3-1]: Both ends of the shaft (2 places)
- "Bush, Idle" [3-2]: Right side (2 places)
- "Roller, Friction" [3-6]: Both ends of the shaft (2 places)
- "Plate, Sensor Holder" [3-8]: Rear surface at both ends where circled with a dotted line (2 places)

Drawing No. 4 "SA2, Peeler":
- "Roll, Peel" [4-1]: Both ends of the shaft (2 places)

CL-S700/CL-S703/CL-S700R

(1) Separating the Rewinder part

1. Open the top cover.
2. Remove 1 screw (PH, M3x12) and detach the Top Cover Guide.
3. Remove 2 screws (PH (SW+PW), M3x5) and detach the "SA, Ope-pane" frontward.
4. Disconnect the "Cable, Ope-pane FFC" from the "SA, Ope-pane".
   Note on reassembling:
   - Insert the "Cable, Ope-pane FFC" with its blue tape facing up.
5. Remove 1 screw (BH, M3x5K) and 1 screw (PH (SW+PW), M3x5), and detach the "SA, Front Right".
6. Remove 2 screw (PHT (#2), M3x6) from the front and 2 screws (BH, M3x5) from the rear side.
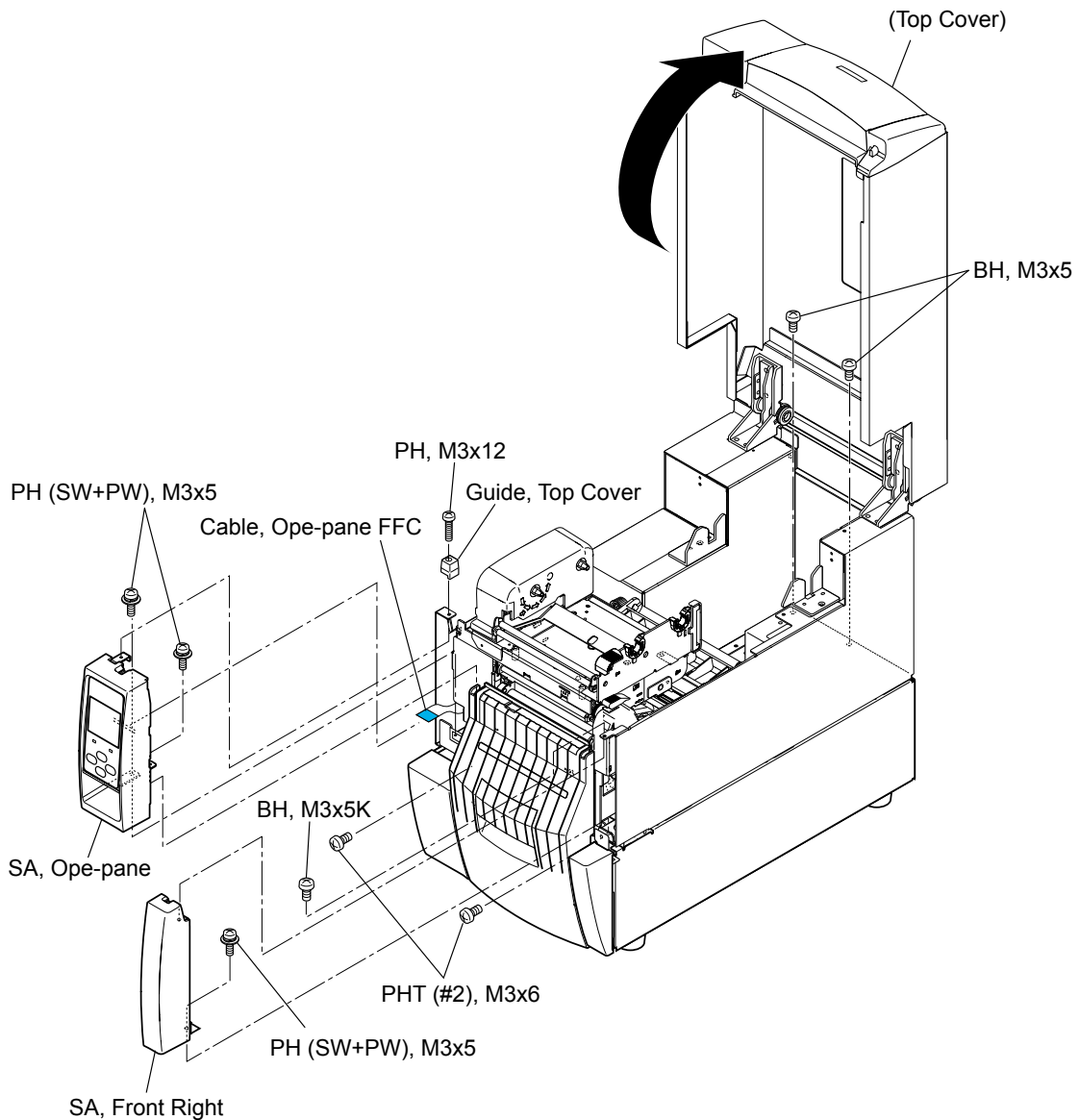
7. Fully slide the Printer part to the rear.
   Then, each claw of the Rewinder part comes off the slit on the Printer part.
8. Lift the Printer part and disconnect 2 cables (J15 and J16) from the connectors (J501 and J502) of the "SA, Rewinder PCB".
   Tips: To disconnect the cables easier, you can carefully put the Printer part on the Rewinder part widthwise.

(Printer Part)

Slits(6 pcs.)

Claws (6 pcs.)

(Rewinder Part)

J15

J16

J502

J501

SA, Rewinder PCB
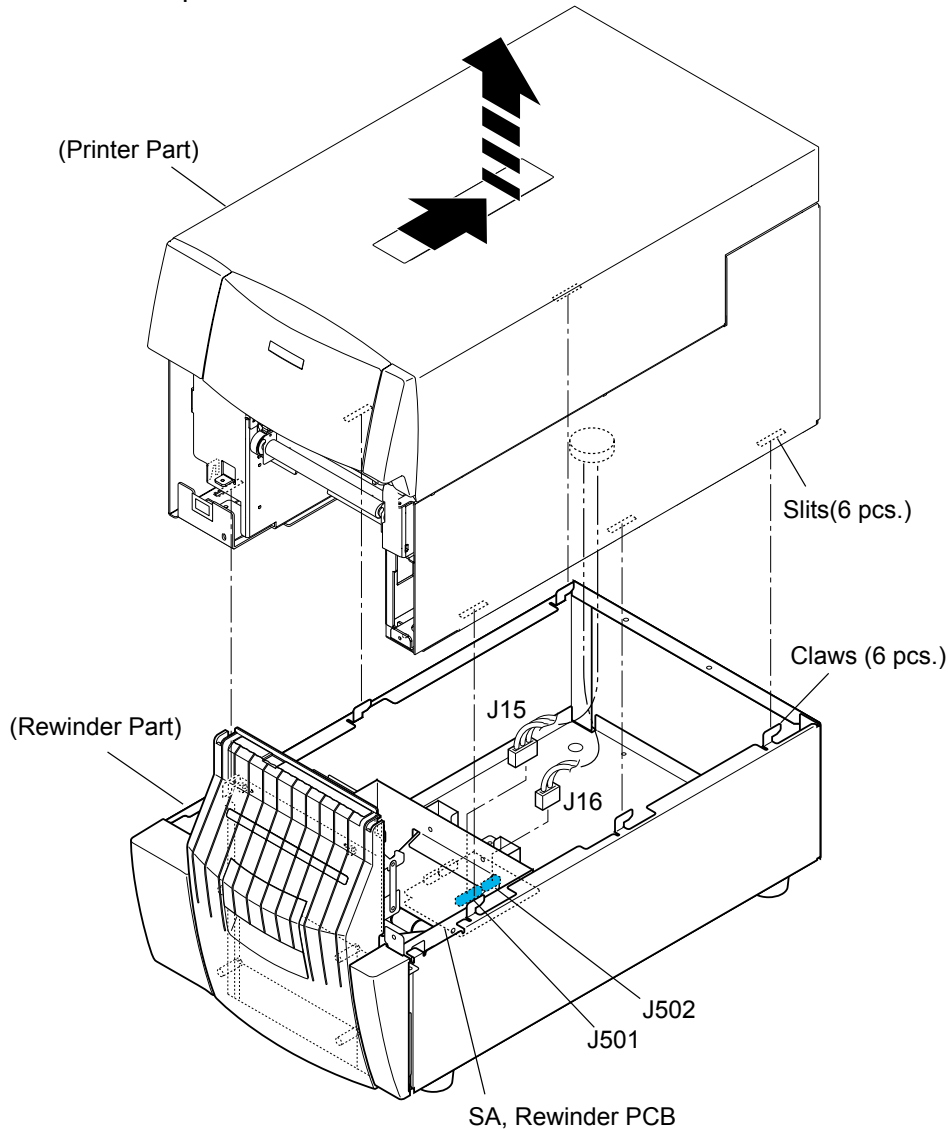
9. Remove the Printer part and place it so as not to damage the cables at the bottom.
   The following is an example where spacers (not supplied) are used.

(Printer Part)

Cables

Spacer

Spacer

3-35

CL-S700/CL-S703/CL-S700R
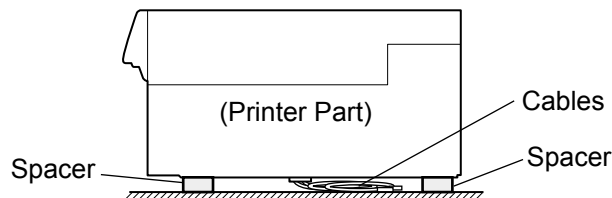
(2) Removing the Rewinder Mechanism block

1. Remove 2 screws (①PH (SW+PW), M3x5) and detach the "Case, Rewinder Front L" upwardly.

2. Remove 1 screw (②PH (SW+PW), M3x5) and detach the "Case, Rewinder Front R" upwardly.

3. Remove 1 screw (③PH (SW+PW), M3x5) and detach the "Plate, Torque Limiter".

4. Disengage 1 E-ring (④E-Ring, 4), pull out "Pin, Parallel(A), M2x12" (⑤), and fully move the Door Shaft block to the right. Then, pull out the Torque Limiter to the left.
   Note on reassembling:
   • The Torque Limiter can turn in one way only.

5. Disconnect 2 cables from the connectors J503 and J504 of the "SA, Rewinder PCB".
   Note on reassembling:
   • Run the cables as shown in the figure.

6. Remove 7 screws (⑥PH (SW+PW), M3x5) and detach the Rewind Mechanism block upwardly.

Case, Rewinder Front L

③ Plate, Torque Limiter

Torque Limiter

(Door Shaft Block)

E-Ring, 4 ④

Pin, Parallel(A), M2x12 ⑤

J504

J503

(Rewinder Mechanism Block)

Case, Rewinder Front R

SA, Rewinder PCB
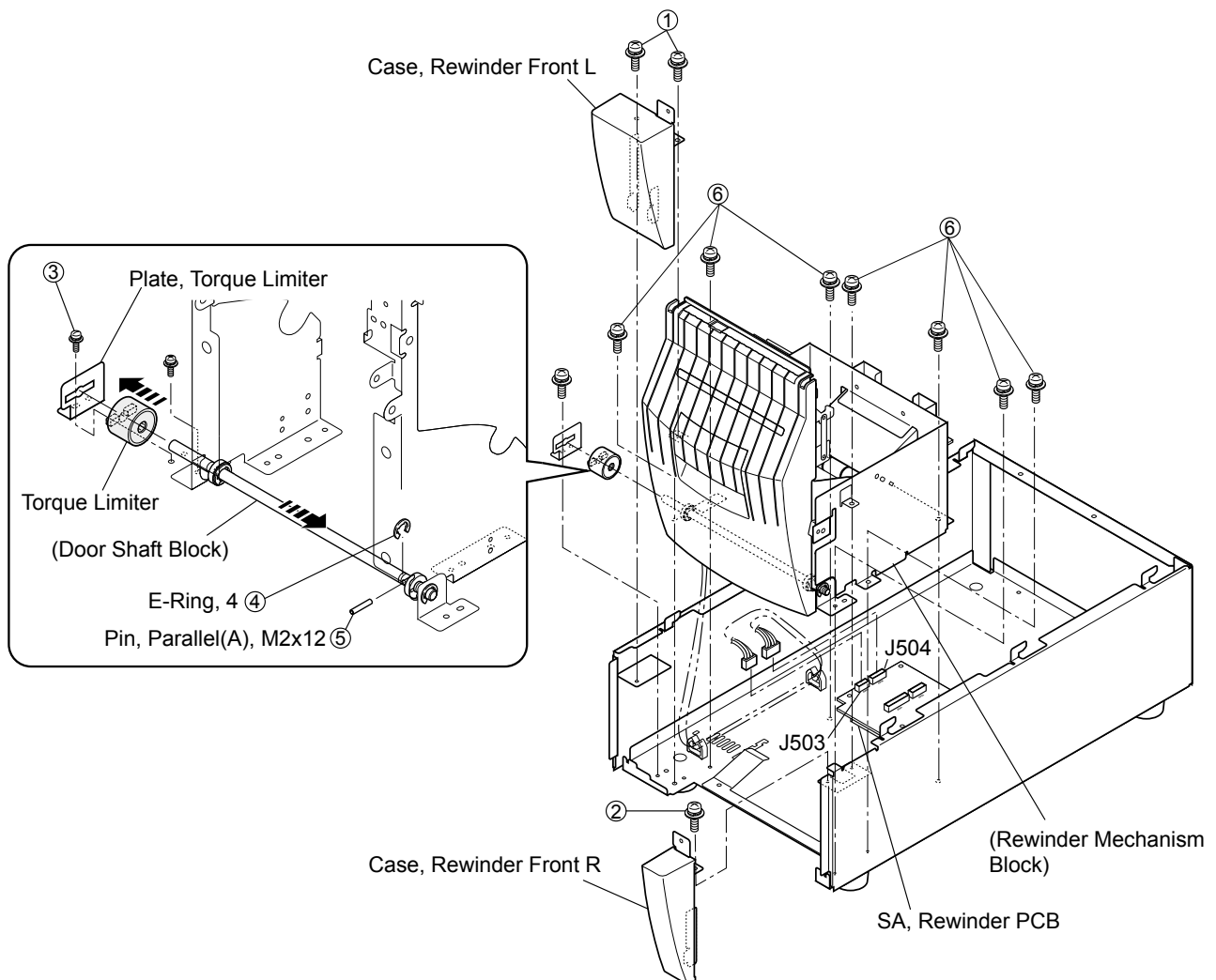
(3) Removing the "Door, Rewinder" and "SA1, Peeler"

1. Remove the Rewinder Mechanism block referring to above "(2) Removing the Rewinder Mechanism block".

   Note: To remove the "Door, Rewinder" alone, it is not necessary to detach the Rewinder Mechanism block. You can remove it after opening the Rewinder cover.

2. Remove 4 screws (PHT (#2), M3x6) and detach the "Frame2, Door Center".

3. Remove 4 screws (PHT (#2), M3x6) and detach the Handle and Rewinder Door.

   Note on reassembling:

   • When attaching the "Door, Rewinder", run the Peel sensor cable along the door frame as shown in the figure (See the "Cable path").

4. Remove 2 screws (PH (SW+PW), M3x5) and detach the "SA1, Peeler".

   Note on reassembling:

   • Pass the cable (J503) through the left opening "A" as shown in the figure.

SA1, Peeler
PH (SW+PW), M3x5
PHT (#2), M3x6
PHT (#2), M3x6
Frame2, Door Center
PHT (#2), M3x6
Door, Rewinder
(Cable path)
Handle
A
(To J504)
(Cable path)
(To J503)
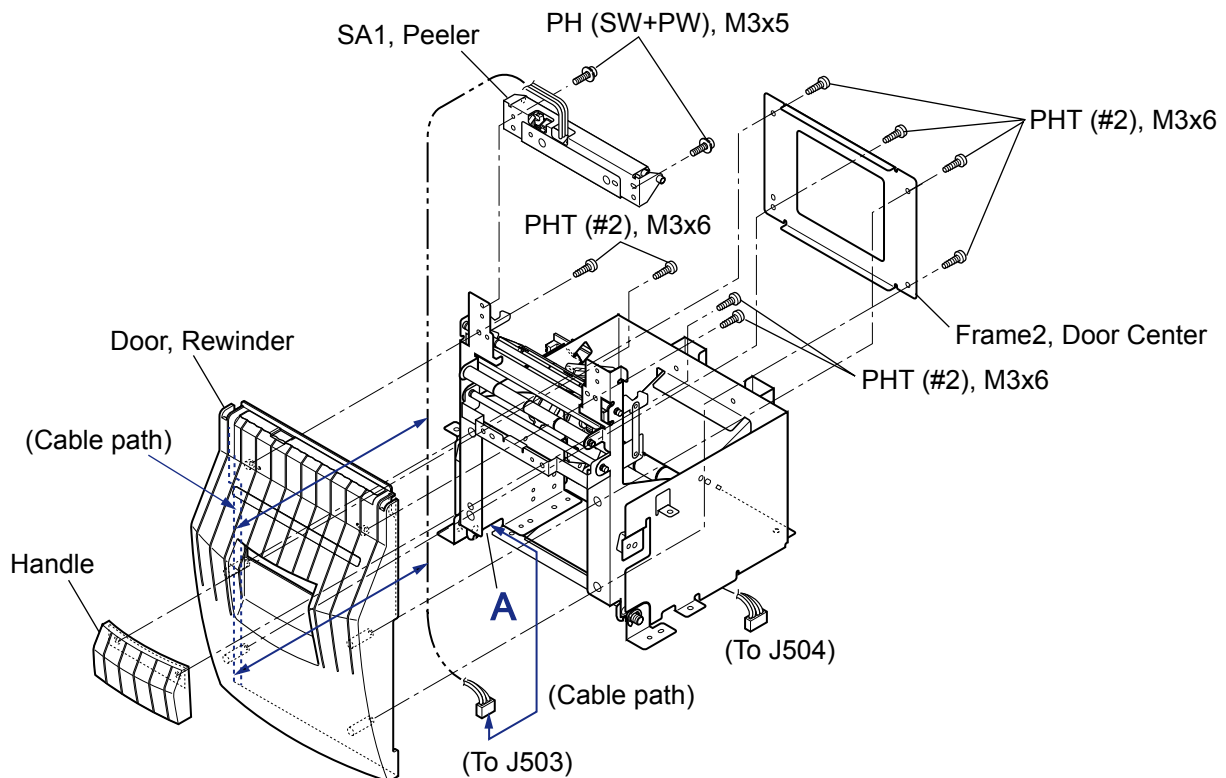
(4) Removing the "SA, Peel Sensor"/Friction Roller/Idle Rewinder Roller

1. Remove the "SA1, Peeler" referring to above "(3) Removing the "Door, Rewinder" and "SA1, Peeler"".

2. Remove 2 screws (①BH, M3x5) and detach the "Plate, Friction Peeler".
   Then, the edges "A" of "Plate, Friction Link" on both sides are set free as they come off the slits "B", and both "Plate, Friction Link" become loose.

3. Remove 2 "Bush, Friction" (②) and detach the "Roller, Friction".

4. Remove 2 screws (③PH, M2x3) and detach the "SA, Peel Sensor".

5. Remove 3 "Bush, Idle" (④), 1 "Bush, Friction" (②), 2 "Plate, Friction Link", "Spring, R Friction" and "Spring, L Friction", and detach the "Roller, Idle Rewinder".

6. Disengage 1 E-ring (⑥E-Ring, 2) from the "Roller, Idle Rewinder".

7. Remove 2 screws (⑦PH (SW+PW), M3x5) and detach the "Plate, Sensor Holder" from the "Plate1, Peeler".
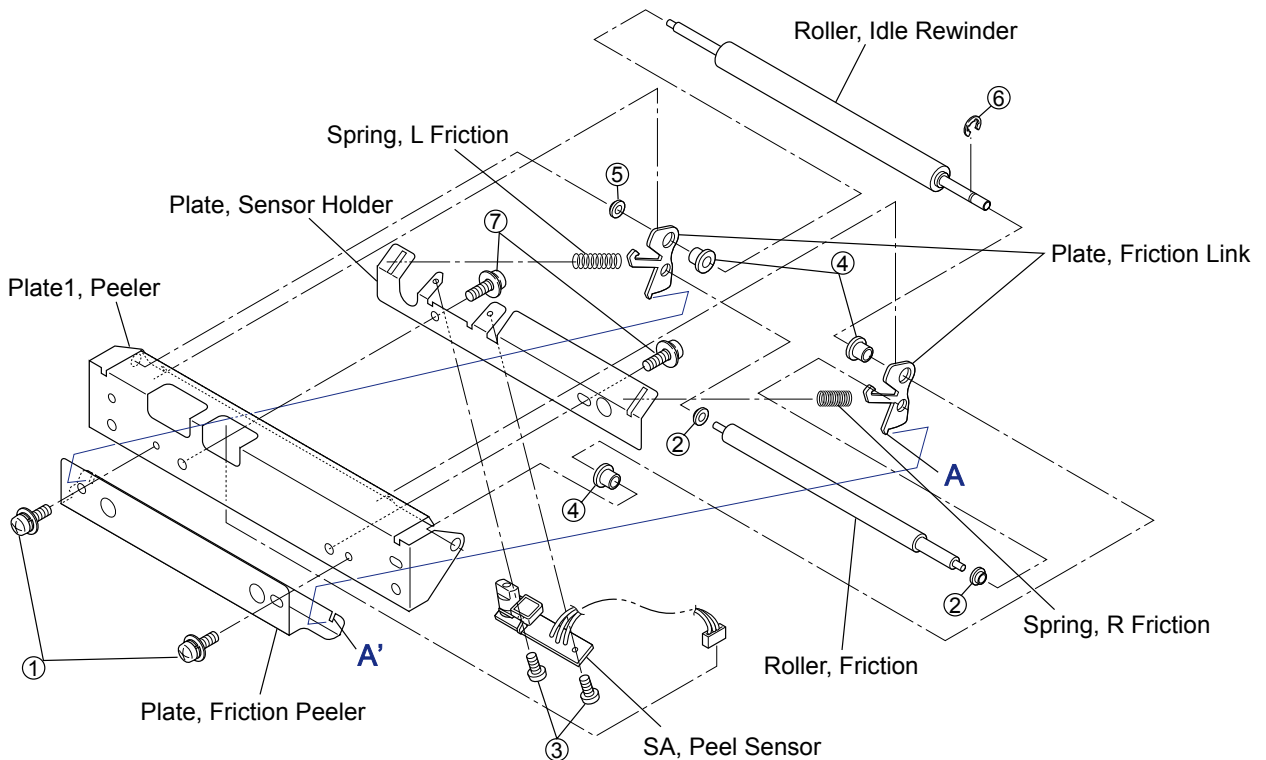
Notes on reassembling:

- Distinguish the "Spring, L Friction" from "Spring, R Friction" referring to above figure.
  The former is longer than the latter.
- Securely insert the edges "A" of the "Plate, Friction Link" into the slits "B".

(5) Removing the "SA, Rewinder Motor"

1. Remove the Rewinder Mechanism block referring to "(2) Removing the Rewinder Mechanism block".

2. Remove 2 screws (PHT (#2), M3x6) and detach the "Guide, Motor Plate".

3. Unhook the "Spring, Rewinder Motor", disengage 1 E-ring (E-Ring, 3), remove 1 screw (PH (SW+PW), M3x5), and detach the "Pivot, Rewinder Motor Plate".

4. While pushing down the Measure Flap block, remove the "SA, Rewinder Motor" to the right.
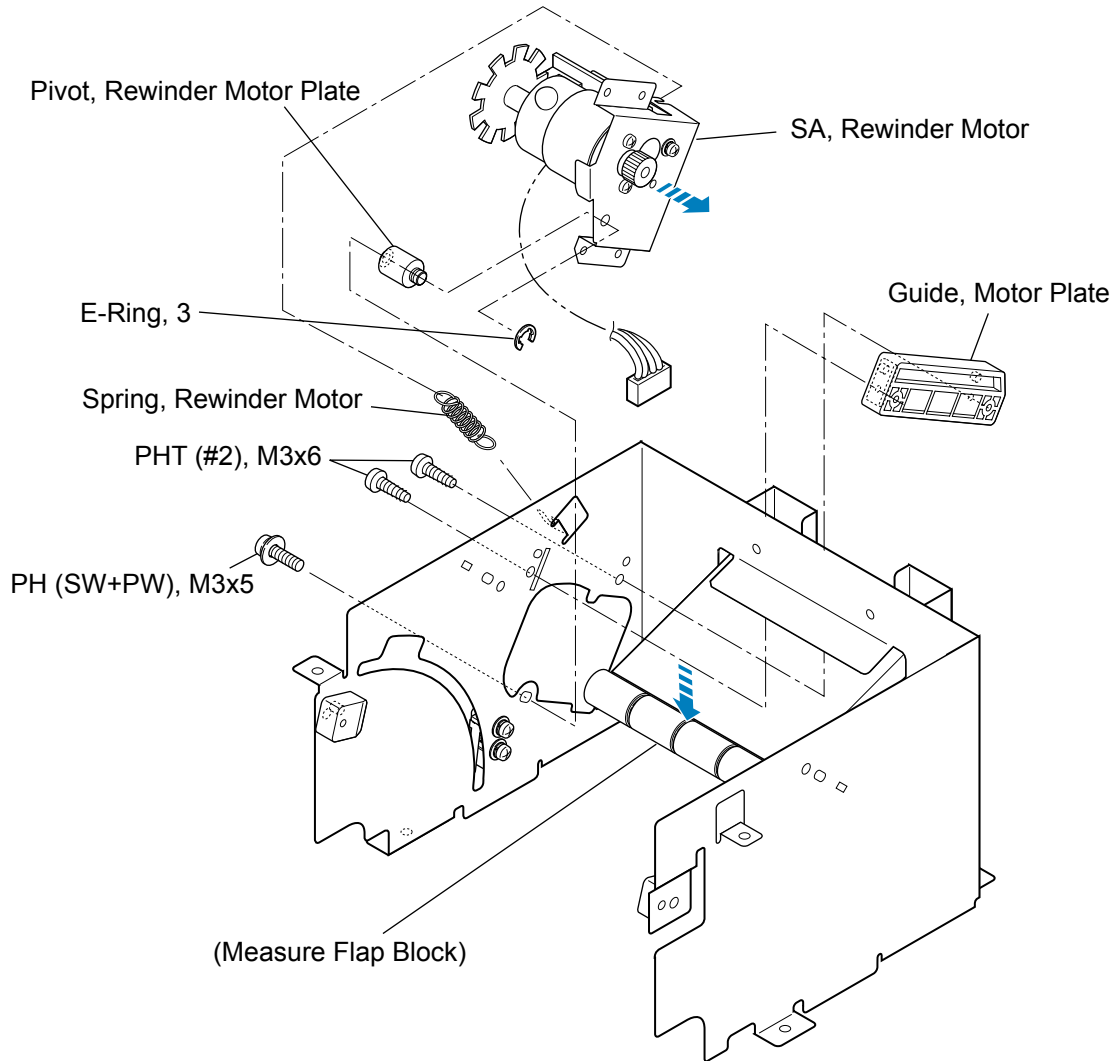
Note on reassembling:

• After assembling the "SA, Rewinder Motor" on the frame, be sure that it can smoothly turn. (The pivot is the supporting point of the "SA, Rewinder Motor".)

(6) Removing the "SA, Interlock SW"

1. Remove the Rewinder Mechanism block referring to "(2) Removing the Rewinder Mechanism block".

2. Disconnect the cable of the "SA, Interlock SW" from the "SA, Rewinder Motor".

3. Remove 2 screws (PH (PW), M2x10) and detach the "Plate, Nut" and the "SA, Interlock SW".

Plate, Nut

SA, Interlock SW

Connector of the
SA, Rewinder Motor

PH (PW), M2x10
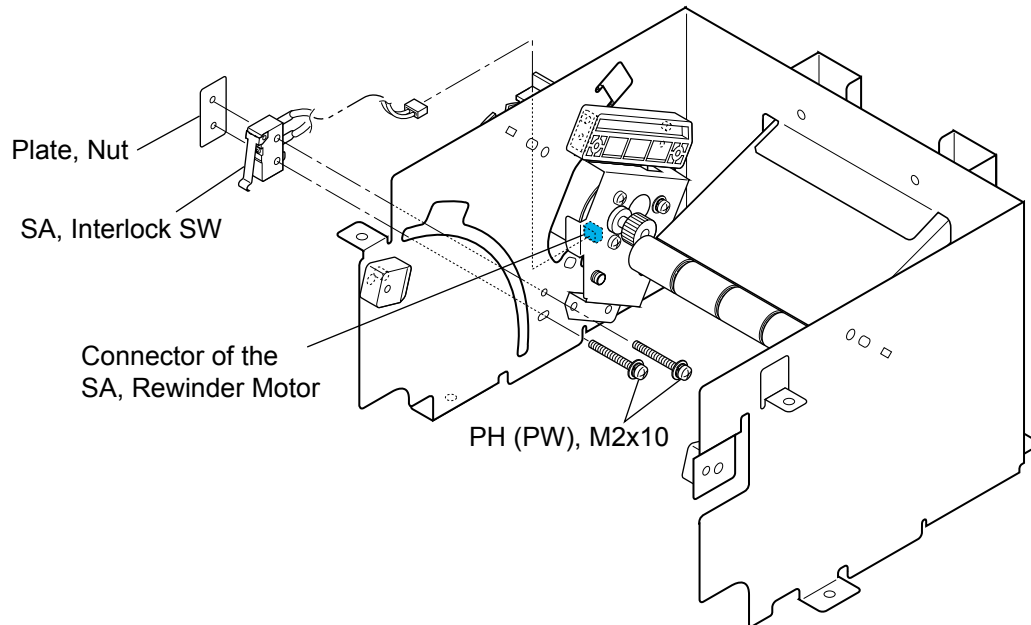
Note on reassembling:

• Horizontal long hole is provided for mounting the lower side of the "SA, Interlock SW". When assembling the "Plate, Nut", be sure that the lower side of screw is at the center of the long hole as shown in the figure.

Plate, Nut

Long hole
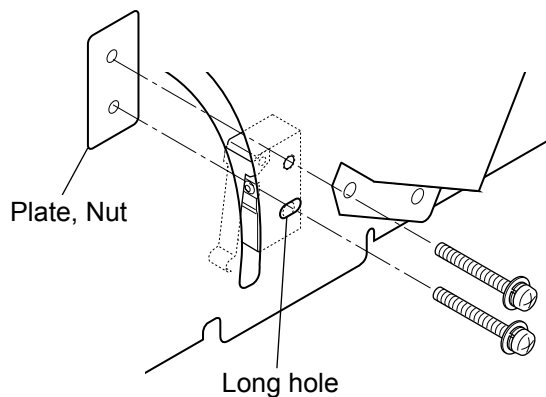
(7) Removing Rollers

   Note: The parts location Nos. (e.g. [2-61]) show the ones for CL-S700R. Refer to the Drawing No. 2 "Unit, Rewinder" for the Rewinder Part in Chapter 5 "Parts List".

(7-1) Measure Sensor Rollers (4 pcs.)

1. Remove the Rewinder Mechanism block referring to "(2) Removing the Rewinder Mechanism block".
2. Disengage 2 E-rings (E-Ring, 3) [2-61] on both sides and pull out the "Shaft, Damper" [2-6] to remove 4 "Roller, Measure Sensor" [2-7].

(7-2) Damper Roller (3 pcs.) of the Rewinder Cover block

1. Open the Rewinder Cover.
2. Disengage 2 E-rings (E-Ring, 3) [2-61] on both sides and pull out the "Shaft, Damper" [2-6] to remove 3 "Roller, Damper" [2-22].

(7-3) Damper Roller (4 pcs.) of the Rewinder Mechanism block

1. Remove the Rewinder Door referring to "(3) Removing the "Door, Rewinder" and "SA1, Peeler"".
2. Disengage 2 E-rings (E-Ring, 3) [2-61] on both sides and pull out the "Shaft, Guide Roller "[2-21] to remove 4 "Roller, Damper" [2-22].

(7-4) Peel Roll on the Printer part

1. Open the Rewinder Cover.
2. Remove 2 screws (PH (SW+PW), M3x5) [1-49] and detach the "SA2, Peeler" [1-45].
3. Disengage 1 E-ring (E-Ring, 4) [4-9], remove the "Bushing2, Peel Roller" [4-8], and pull out the "Roll, Peel" [4-1].

(8) Removing "SA, Rewinder PCB"

   Note: The parts location Nos. (e.g. [2-59]) show the ones for CL-S700R. Refer to the Drawing No. 2 "Unit, Rewinder" for the Rewinder Part in Chapter 5 "Parts List".

1. Remove 4 connectors (J501, J502, J503 and J504) from the "SA, Rewinder PCB" [2-59].
2. Remove 4 screws (PH (PW+SW), M3x5) [2-64] and detach the "SA, Rewinder PCB" [2-59].

(9) Notes on assembling the springs

Note: The parts location Nos. (e.g. [2-2]) show the ones for CL-S700R. Refer to the Drawing No. 2 "Unit, Rewinder" for the Rewinder Part in Chapter 5 "Parts List".

The following figure shows the places where the springs should be assembled.

Assemble each spring correctly referring to the figure.

- "Spring, Measure Sensor L" [2-2]
- "Spring, Measure Sensor R" [2-3]
- "Spring, Damper Rewinder L" [2-23]
- "Spring, Damper Rewinder R" [2-25]
- "Spring, Handle R" [2-27]

Spring, Measure Sensor R

Spring, Measure Sensor L

[Location of each spring]

Spring, Damper Rewinder L

Spring, Damper Rewinder R

Spring, Handle R
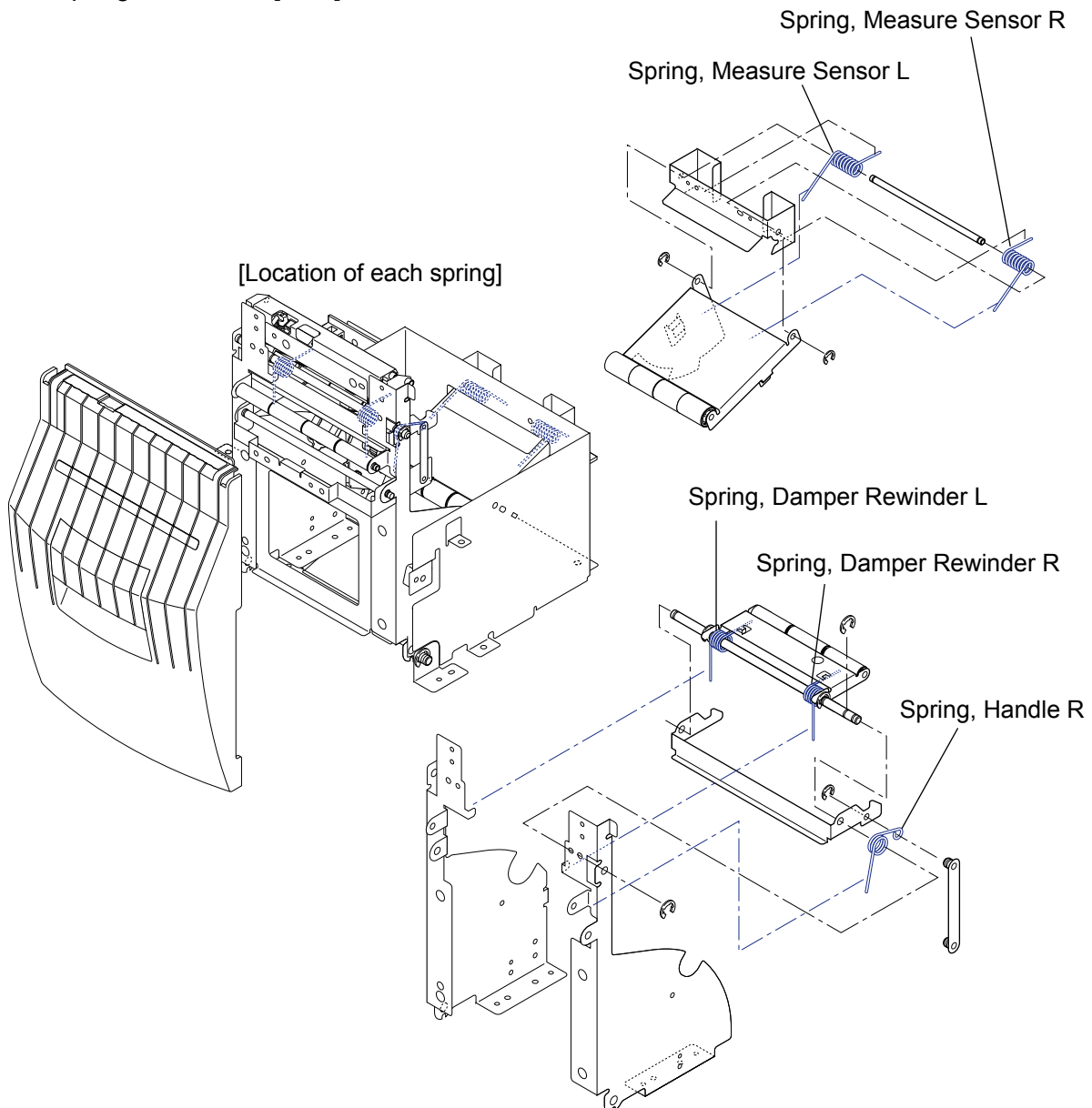
3-6. Adjustments

3-6-1. Transparent/Reflective Sensor Position Adjustment

When you replace one of the following parts, perform both sensor position adjustment and sensor sensitivity adjustment."

- "SA, Main PCB"
- "SA, Sensor U" (Fixed type)
- "SA, Sensor Bottom" (Fixed type)
- "SA, Sensor U" (Adjustable type)
- "SA, Sensor Bottom" (Adjustable type)

(1) Sensor position adjustment (Factory mode)

After entering Factory mode, adjust the following submenu items:

- Fix-Thru Pos (When "SA, Sensor U" (Fixed type) or "SA, Main PCB" is replaced.)
- Fix-Refl Pos (When "SA, Sensor Bottom" (Fixed type) or "SA, Main PCB" is replaced.)
- Adj-Thru Pos (When "SA, Sensor U" (Adjustable type) or "SA, Main PCB" is replaced.)
- Adj-Refl Pos (When "SA, Sensor Bottom" (Adjustable type) or "SA, Main PCB" is replaced.)

For details, refer to "2-3-4. Factory/Service mode" in Chapter 2.

(2) Sensor sensitivity adjustment (Factory mode)

⚠ **Caution**
- **DO NOT adjust other submenus that are not explained here since the submenus in Factory mode are essential items that can affect to the printing accuracy, etc.**

⚠	- **Do not turn OFF the power of the printer until you finish the adjustment. If it is turned OFF, you need to repeat the adjustment from the beginning.**
⚠	- **The value adjusted here is retained until you change it with the same procedure. Even if you perform initialization by selecting "Test Mode" main menu, "Factory Default" submenu and "Yes", the changed value is not returned to the initial value set at the factory.**

Perform sensitivity adjustment for each sensor with the following submenu.

Submenu	Adjust when the following part is replaced.	Refer to
Init Fix-Thru	"SA, Sensor U" (Fixed type) or "SA, Main PCB"	(2-1)
Init Fix-Refl	"SA, Sensor Bottom" (Fixed type) or "SA, Main PCB"	(2-2)
Init Adj-Thru	"SA, Sensor U" (Adjustable type) or "SA, Main PCB"	(2-3)
Init Adj-Refl	"SA, Sensor Bottom" (Adjustable type) or "SA, Main PCB"	(2-4)

Refer to "2-3-4. Factory/Service mode" in Chapter 2 for menu operation in Factory mode.

(2-1) Init Fix-Thru sensitivity adjustment

Init Fix-Thru sensor is the transparent sensor (fixed type), i.e. "SA, Sensor U" (Fixed type).

Preparation:
1. Prepare recommended media or media to be used.
2. Peel off labels from the liner.
3. Open the head block and the sensor arm, and then set the media.
4. Be sure that the media is put on the "SA, Sensor Bottom" (Fixed type). If the media has black mark, avoid that area.
5. Close the sensor arm and the head block.

Procedure:
1. Enter Factory/Service mode by turning on the power while pressing and holding the **[MENU]**, **[FEED]** and **[STOP]** keys.
   "Factory Setup" main menu appears.
2. In "Factory Setup" main menu, press the **[STOP]** (▶) key to enter Factory Setup mode.
   The first submenu "Sens Vol Adj." appears.
3. Press the **[MENU]** (▼) key until "Init Fix-Thru" submenu appears.

```
┌─────────────────────────┐
│ ▲ Factory Setup▼        │
│      Init Fix-Thru      │
│                         │
│ ◄ Exit      Enter ▶     │
└─────────────────────────┘
```
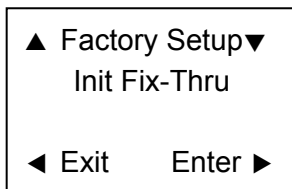
4. Press the **[STOP]** (▶) key to enter Init Fix-Thru sensitivity adjustment mode.

```
┌─────────────────────────┐
│ ▲   Init Fix-Thru  ▼    │
│          No             │
│                         │
│ ◄ Exit      Enter ▶     │
└─────────────────────────┘
```

5. Press the **[MENU]** (▼) key to select "Exec".

```
┌─────────────────────────┐
│ ▲   Init Fix-Thru  ▼    │
│         Exec            │
│                         │
│ ◄ Exit      Enter ▶     │
└─────────────────────────┘
```

6. Press the **[STOP]** (▶) key to execute adjustment.
   Adjustment starts and the following screen is display. (Media is not fed.)

```
┌─────────────────────────┐
│ ▲     Now  !!    ▼      │
│       Executing         │
│                         │
│ ◄ Exit      Enter ▶     │
└─────────────────────────┘
```

7. Be sure that adjustment is successfully completed and the following screen is
    displayed. (The value "123" is an example.)

```
┌─────────────────────────┐
│  ▲     Finished    ▼    │
│        DAC   123         │
│                          │
│  ◄ Exit      Enter ►    │
└─────────────────────────┘
```

```
┌────────────────────────────────────────────────────────────────────┐
│  When adjustment failed:                                             │
│  "Cannot Setup" is displayed. In this case, follow the next steps. ┌─────────────────────┐
│  1) Press any key of the printer.                                  │  ▲    Cannot    ▼  │
│     The screen returns to that in Step 3.                          │        Setup        │
│  2) Check for correct media setting position, media, active        │                     │
│     sensor (Sensor Select menu is set to "Front Fixed Sen"),       │  ◄ Exit    Enter ► │
│     etc. and repeat from Step 3.                                   └─────────────────────┘
└────────────────────────────────────────────────────────────────────┘
```

8. Press any key of the printer.
    Then, the obtained value is saved into the printer and the screen returns to Step 3.
9. To continue other adjustment, proceed to the desired item ((2-2), (2-3) or (2-4)).
    To terminate adjustment, go to the next step.
10. Press the **[PAUSE]** (◄) key to return to "Factory Setup" menu.
11. Press the **[PAUSE]** (◄) key once again.
    The changed value is stored in the printer and the printer is turned OFF and then ON
    for normal operation.

(2-2) Init Fix-Refl sensitivity adjustment

Init Fix-Refl sensor is the reflective sensor (fixed type), i.e. "SA, Sensor Bottom" (Fixed type).

Preparation:

Open the head block and the sensor arm, and then set label with black mark or tag with black mark.

When label with black mark is used:

1. Prepare recommended media or media to be used.
2. Peel off labels from the liner.
3. Set the media and be sure that the media is put on the "SA, Sensor Bottom" (Fixed type) (avoid the black mark area).
4. Close the sensor arm and the head block.

When tag with black mark is used:

1. Prepare recommended media or media to be used.
2. Set the media (if continuous tag is used, set it) and be sure that the media is put on the "SA, Sensor Bottom" (Fixed type) (avoid the black mark area).
3. Close the sensor arm and the head block.

Procedure:

1. Enter Factory/Service mode by turning on the power while pressing and holding the **[MENU]**, **[FEED]** and **[STOP]** keys.
    "Factory Setup" main menu appears.
2. In "Factory Setup" main menu, press the **[STOP]** (▶) key to enter Factory Setup mode.
    The first submenu "Sens Vol Adj." appears.
3. Press the **[MENU]** (▼) key until "Init Fix-Refl" submenu appears.

```
  ▲ Factory Setup▼
      Init Fix-Refl


  ◄ Exit      Enter ▶
```
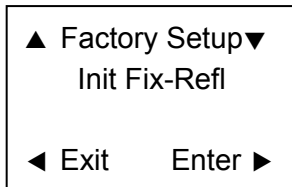
4. Press the **[STOP]** (▶) key to enter Init Fix-Refl sensitivity adjustment mode.
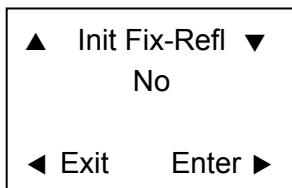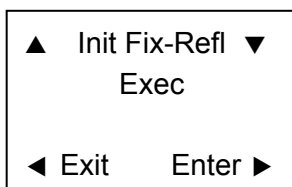
```
  ▲   Init Fix-Refl  ▼
           No


  ◄ Exit      Enter ▶
```

5. Press the **[MENU]** (▼) key to select "Exec".

```
  ▲   Init Fix-Refl  ▼
          Exec


  ◄ Exit      Enter ▶
```

6. Press the **[STOP]** (▶) key to execute adjustment.
   Adjustment starts and the following screen is display. (Media is not fed.)

   ```
   ▲      Now  !!   ▼
          Executing


   ◄ Exit      Enter ▶
   ```

7. Be sure that adjustment is successfully completed and the following screen is displayed. (The value "123" is an example.)

   ```
   ▲      Finished   ▼
          DAC   123


   ◄ Exit      Enter ▶
   ```
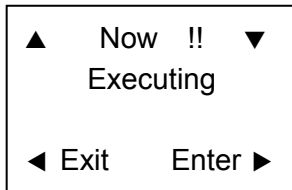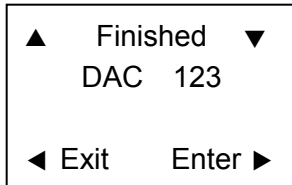
   When adjustment failed:
   "Cannot Setup" is displayed. In this case, follow the next steps.
   1) Press any key of the printer.
      The screen returns to that in Step 3.
   2) Check for correct media setting position, media, active sensor (Sensor Select menu is set to "Front Fixed Sen"), etc. and repeat from Step 3.
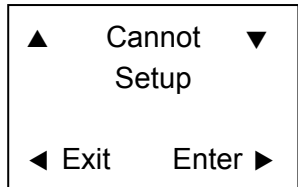
   ```
   ▲     Cannot    ▼
          Setup

   ◄ Exit      Enter ▶
   ```
   ---

8. Press any key of the printer.
   Then, the obtained value is saved into the printer and the screen returns to Step 3.
9. To continue other adjustment, proceed to the desired item ((2-1), (2-3) or (2-4)).
   To terminate adjustment, go to the next step.
10. Press the **[PAUSE]** (◄) key to return to "Factory Setup" menu.
11. Press the **[PAUSE]** (◄) key once again.
    The changed value is stored in the printer and the printer is turned OFF and then ON for normal operation.

(2-3) Init Adj-Thru sensitivity adjustment

Init Adj-Thru sensor is the transparent sensor (adjustable type), i.e. "SA, Sensor U" (Adjustable type).

Preparation:

1. Prepare recommended media or media to be used.
2. Peel off labels from the liner.
3. Open the head block and the sensor arm, and then set the media.
4. Be sure that the media is put on the "SA, Sensor Bottom" (Adjustable type). If the media has black mark, avoid that area.
5. Close the sensor arm and the head block.

Procedure:

1. Enter Factory/Service mode by turning on the power while pressing and holding the **[MENU]**, **[FEED]** and **[STOP]** keys.
   "Factory Setup" main menu appears.
2. In "Factory Setup" main menu, press the **[STOP]** (▶) key to enter Factory Setup mode. The first submenu "Sens Vol Adj." appears.
3. Press the **[MENU]** (▼) key until "Init Adj-Thru" submenu appears.

```
┌─────────────────────────┐
│  ▲ Factory Setup▼       │
│      Init Adj-Thru      │
│                         │
│  ◀ Exit      Enter ▶    │
└─────────────────────────┘
```
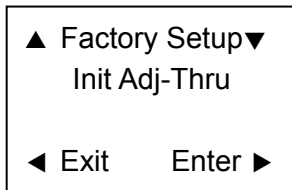
4. Press the **[STOP]** (▶) key to enter Init Adj-Thru sensitivity adjustment mode.

```
┌─────────────────────────┐
│  ▲  Init Adj-Thru  ▼    │
│         No              │
│                         │
│  ◀ Exit      Enter ▶    │
└─────────────────────────┘
```

5. Press the **[MENU]** (▼) key to select "Exec".

```
┌─────────────────────────┐
│  ▲  Init Adj-Thru  ▼    │
│         Exec            │
│                         │
│  ◀ Exit      Enter ▶    │
└─────────────────────────┘
```

6. Press the **[STOP]** (▶) key to execute adjustment.
   Adjustment starts and the following screen is display. (Media is not fed.)

```
┌─────────────────────────┐
│  ▲     Now  !!   ▼      │
│      Executing          │
│                         │
│  ◀ Exit      Enter ▶    │
└─────────────────────────┘
```

7. Be sure that adjustment is successfully completed and the following screen is displayed. (The value "123" is an example.)

```
┌─────────────────────────┐
│  ▲    Finished    ▼      │
│       DAC   123          │
│                          │
│  ◄ Exit     Enter ►      │
└─────────────────────────┘
```

```
┌───────────────────────────────────────────────────────────────┐
│  When adjustment failed:                                       │
│  "Cannot Setup" is displayed. In this case, follow the next steps. ┌──────────────────┐
│  1) Press any key of the printer.                              │ ▲   Cannot   ▼   │
│     The screen returns to that in Step 3.                      │      Setup       │
│  2) Check for correct media setting position, media, active   │                  │
│     sensor (Sensor Select menu is set to "Rear Adj Sensor"),  │ ◄ Exit   Enter ► │
│     etc. and repeat from Step 3.                               └──────────────────┘
└───────────────────────────────────────────────────────────────┘
```

8. Press any key of the printer.
   Then, the obtained value is saved into the printer and the screen returns to Step 3.
9. To continue other adjustment, proceed to the desired item ((2-1), (2-2) or (2-4)).
   To terminate adjustment, go to the next step.
10. Press the **[PAUSE]** (◄) key to return to "Factory Setup" menu.
11. Press the **[PAUSE]** (◄) key once again.
    The changed value is stored in the printer and the printer is turned OFF and then ON for normal operation.

(2-4) Init Adj-Refl sensitivity adjustment

Init Adj-Refl sensor is the reflective sensor (adjustable type), i.e. "SA, Sensor Bottom" (Adjustable type).

Preparation:

Open the head block and the sensor arm, and then set label with black mark or tag with black mark.

When label with black mark is used:

1. Prepare recommended media or media to be used.
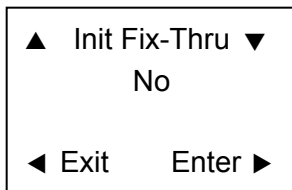2. Peel off labels from the liner.
3. Set the media and be sure that the media is put on the "SA, Sensor Bottom" (Adjustable type) (avoid the black mark area).
4. Close the sensor arm and the head block.

When tag with black mark is used:

1. Prepare recommended media or media to be used.
2. Set the media (if continuous tag is used, set it) and be sure that the media is put on the "SA, Sensor Bottom" (Adjustable type) (avoid the black mark area).
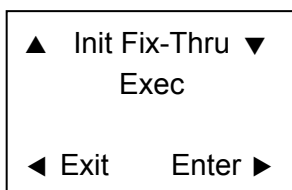3. Close the sensor arm and the head block.

Procedure:

1. Enter Factory/Service mode by turning on the power while pressing and holding the **[MENU]**, **[FEED]** and **[STOP]** keys.
   "Factory Setup" main menu appears.
2. In "Factory Setup" main menu, press the **[STOP]** (▶) key to enter Factory Setup mode.
   The first submenu "Sens Vol Adj." appears.
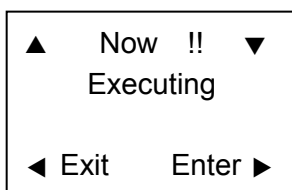3. Press the **[MENU]** (▼) key until "Init Adj-Refl" submenu appears.

```
┌─────────────────────┐
│ ▲ Factory Setup▼    │
│     Init Adj-Refl    │
│                      │
│ ◀ Exit      Enter ▶ │
└─────────────────────┘
```
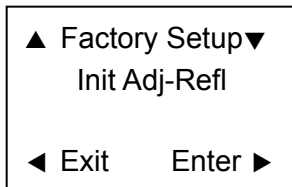
4. Press the **[STOP]** (▶) key to enter Init Adj-Refl sensitivity adjustment mode.
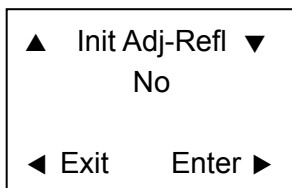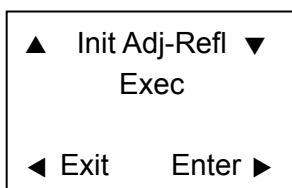
```
┌─────────────────────┐
│ ▲   Init Adj-Refl ▼ │
│          No          │
│                      │
│ ◀ Exit      Enter ▶ │
└─────────────────────┘
```

5. Press the **[MENU]** (▼) key to select "Exec".

```
┌─────────────────────┐
│ ▲   Init Adj-Refl ▼ │
│         Exec         │
│                      │
│ ◀ Exit      Enter ▶ │
└─────────────────────┘
```

6. Press the **[STOP]** (▶) key to execute adjustment.

   Adjustment starts and the following screen is display. (Media is not fed.)

   ```
   ▲     Now  !!    ▼
         Executing

   ◄ Exit      Enter ▶
   ```

7. Be sure that adjustment is successfully completed and the following screen is displayed. (The value "123" is an example.)

   ```
   ▲     Finished    ▼
         DAC   123

   ◄ Exit      Enter ▶
   ```
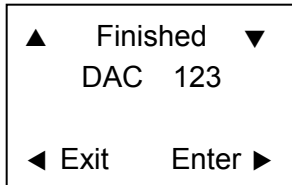
   When adjustment failed:

   "Cannot Setup" is displayed. In this case, follow the next steps.

   1) Press any key of the printer.

      The screen returns to that in Step 3.

   2) Check for correct media setting position, media, active sensor (Sensor Select menu is set to "Rear Adj Sensor"), etc. and repeat from Step 3.
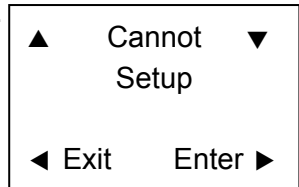
   ```
   ▲     Cannot    ▼
         Setup

   ◄ Exit      Enter ▶
   ```

   ---

8. Press any key of the printer.

   Then, the obtained value is saved into the printer and the screen returns to Step 3.

9. To continue other adjustment, proceed to the desired item ((2-1), (2-2) or (2-3)).

   To terminate adjustment, go to the next step.

10. Press the **[PAUSE]** (◄) key to return to "Factory Setup" menu.

11. Press the **[PAUSE]** (◄) key once again.

    The changed value is stored in the printer and the printer is turned OFF and then ON for normal operation.

3-6-2. Belt Tension Adjustment

Belt tension adjustment is necessary in the following case.

- When the "Unit, Motor" is replaced.

1. Remove the screw "B" and loosely tighten the Motor block with 2 screws "A".
2. Push the left side of the Motor block with the tip of the spring gauge as shown in the figure.
3. Push it so that the spring gauge reads the following value.
   600 to 1000 gf.
4. Tighten the Motor block with 2 screws "A" and the screw "B".

[Spring Gauge]
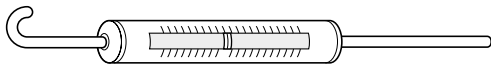
* Use Max. 2000gf gauge.

[Left side view of the "Unit, Mechanism"]
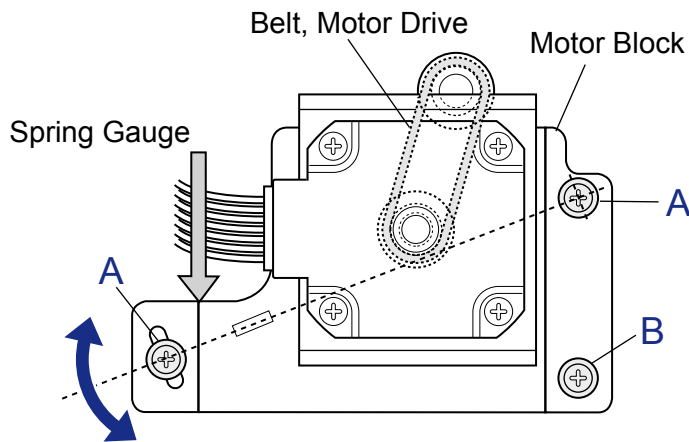
3-6-3. Ribbon Skew Adjustment

This adjustment may be necessary in the following case.

- When the "Unit, Head" is replaced

Normally, ribbon wrinkles can be removed by adjusting the adjust screws of the "Unit, Ribbon Frame L". (Refer to the figure on the right.)
If ribbon wrinkles cannot be removed with these screws, perform the ribbon skew adjustment as follows:

[On the left side of the Unit, Frame Ribbon L]
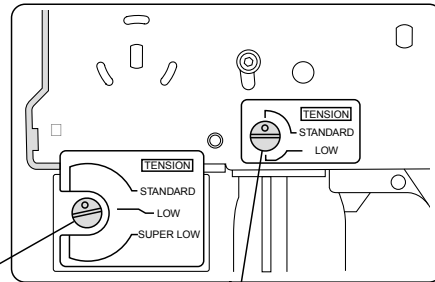
Adjust screw for Supply side ribbon tension adjustment

Adjust screw for Take-up side ribbon tension adjustment

Ribbon skew adjustment procedure:

Remove ribbon wrinkle by moving the right end (movable end) of the Head Spacer Shaft (a part of the "Unit, Head") as follows: (Left end is a fixed end.)

1. Loosen (not remove) the screw "A" of the Head Spacer Shaft.
2. Turn the lever "B" clockwise or counterclockwise to move the right side end of the Head Spacer Shaft forward or backward to remove ribbon wrinkles. Refer to the figure below.
   Also, refer to the figure on the next page to understand the ribbon skew adjustment mechanism.
3. After adjustment, tighten the screw "A".

(Fixed End)

Head Spacer Shaft
(Unit, Head)

(Movable End)

A

B

CL-S700/CL-S703/CL-S700R

Right side view of the Unit, Head

Default position

B
Lever

A

Unit, Head

Parallelism between the Head and the Head Spacer Shaft (top view)

Both are in parallel state.

Left	Right	Left	Right	Left	Right
Head		Head		Head	

Head Spacer Shaft

Head Spacer Shaft

Head Spacer Shaft
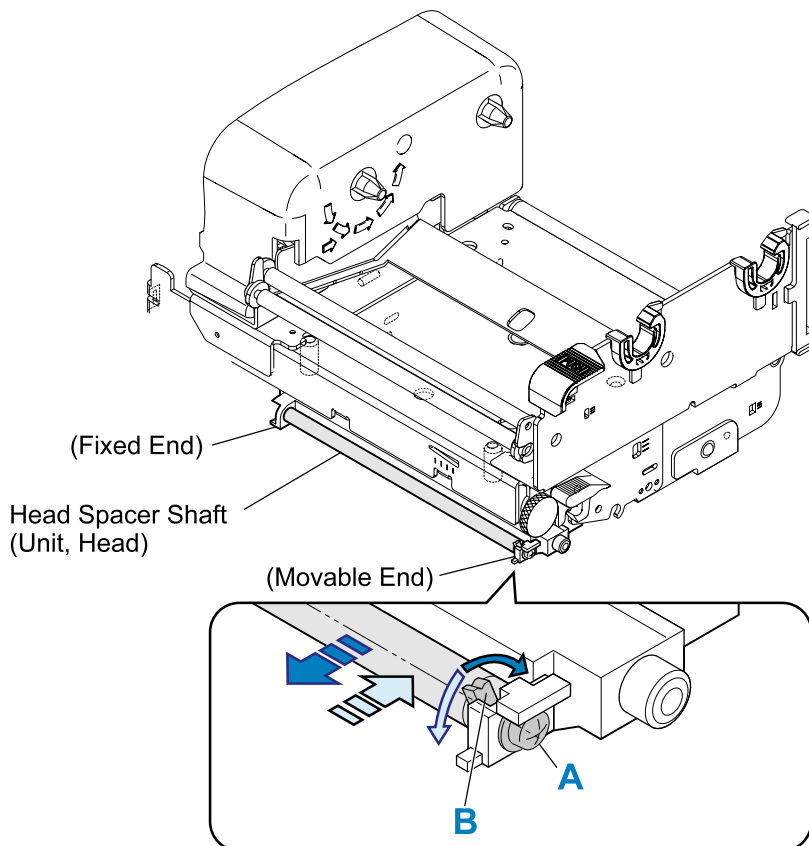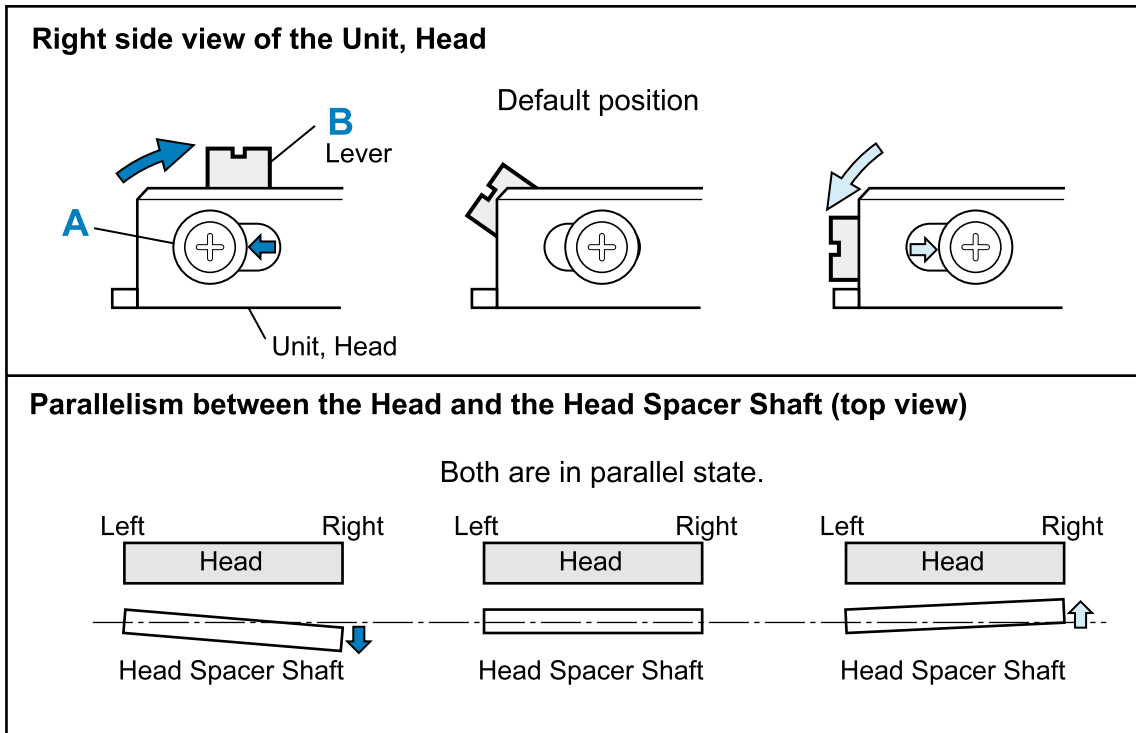
3-6-4. Ribbon Tension Adjustment

Perform the ribbon tension adjustment when the "Unit, Frame Ribbon L" is replaced with new one.

Preparation:

Make a "Ribbon-tension adjust ribbon" and "Ribbon-tension spring adjust ribbon" to be used in the adjustment procedure.

Diameter of ribbons should be 60mm and 80mm, respectively.

Reinforce the ribbon end with paper or the like and punch a hole in the center as shown in the figure.

As shown in the figure, stick a tape inside the "Ribbon-tension spring adjust ribbon (ϕ80mm)" at about 150mm from the edge. (This tape acts to prevent the weight hooked on the ribbon hole from falling to the floor. Without the tape, you cannot perform adjustment properly.)

[Ribbon-tension adjust ribbon]

[Ribbon-tension spring adjust ribbon]

Tape

ϕ60mm

ϕ80mm

150mm
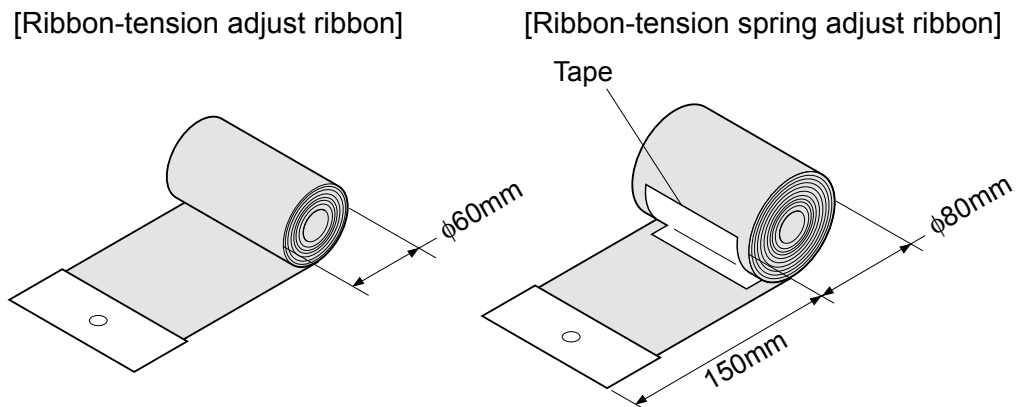
Adjustment procedure:

1. Remove the "SA, Ope-Pane", "SA, Front Right" and "SA, Front Center" from the main body.
   Refer to "3-5-8. Unit, Mechanism".

2. Open the head block by pushing the head open lever and remove the "Unit, Head".
   Refer to "3-5-1. Unit, Head.

3. Remove the Ribbon Cover of the "Unit, Frame Ribbon L" form the "Unit, Mechanism".
   Refer to "3-5-12. Unit, Frame Ribbon L.

4. Ribbon Tension Check/Adjustment on Take-up Side:

   1) Set the "Adjust screw for Take-up side ribbon tension adjustment" to "STANDARD" position.

   2) Set the "Ribbon-tension adjust ribbon (φ60mm)" to the take-up side ribbon holder.

   3) Hook a spring gauge of 500gf on the "Ribbon-tension adjust ribbon" and slowly pull the ribbon end downward at a constant speed (approx. 7.5cm/sec. or so). Then, check if the reading of the spring gauge in the steady state is within **450 +/- 50gf**.
   If the reading is in the specified range, no tension adjustment is required on take-up side.
   Proceed to step 5 "Ribbon Tension Check/Adjustment on Supply Side".
   If not, proceed to the next sub step.

[Take-up side adjustment]

Adjust screw "A" (For Service)

When weak

When stronge

TENSION
STANDARD
LOW

Adjust screw for Take-up side
ribbon tension adjustment

Ribbon-tension adjust ribbon
(φ60mm)

450 +/− 50gf
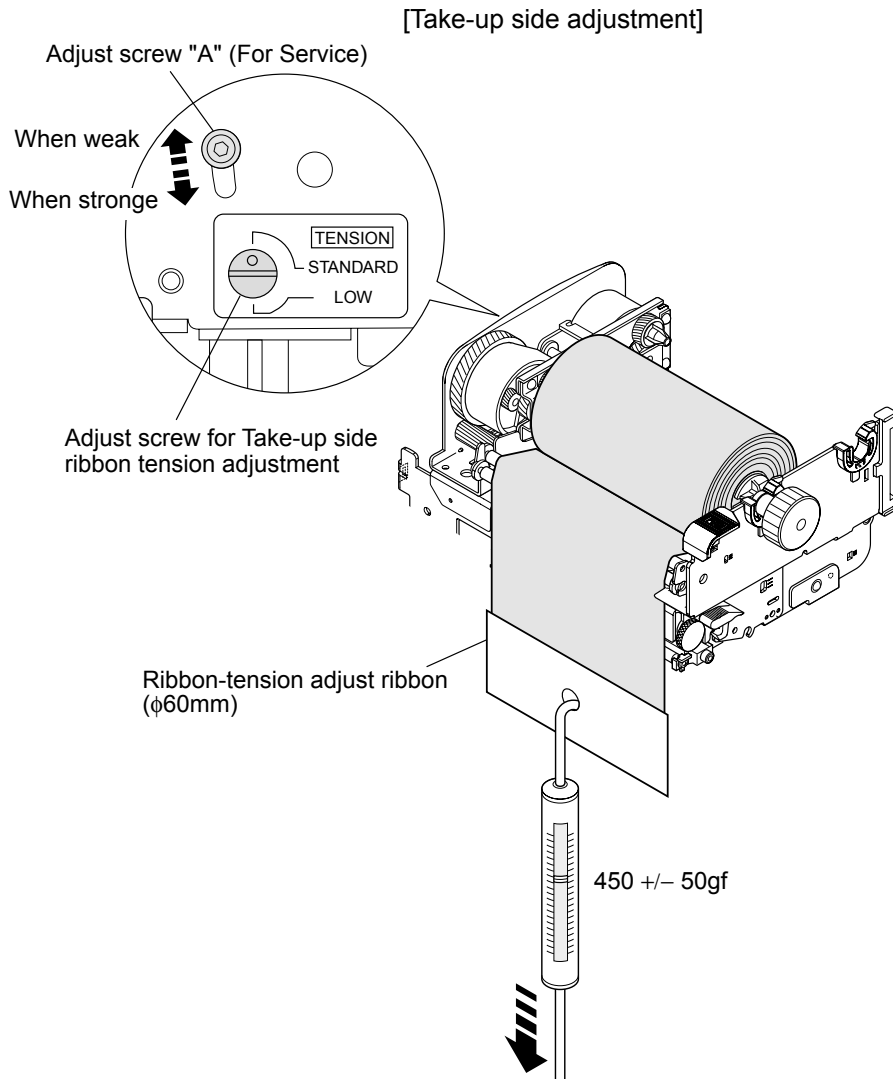
4) Detach the "Ribbon-tension adjust ribbon (φ60mm)" once and then remove the Ribbon Tension Spring Block from the "Unit, Frame Ribbon L" by removing the screw "B".
   After that, reset the "Ribbon-tension adjust ribbon (φ60mm)".

(Ribbon Tension Spring Block)

B

Unit, Frame Ribbon L
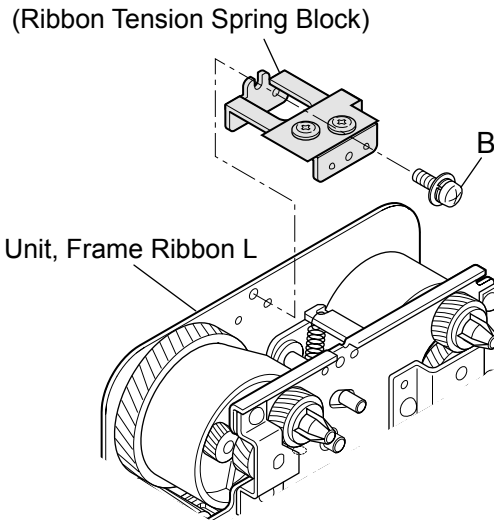
5) With the spring gauge of 500gf hooked on the "Ribbon-tension adjust ribbon", repeat above sub step 3) and be sure that the reading of the spring gauge is within **450 +/- 50gf**.
   If the reading is in the specified range, proceed to sub step 9).
   If not, proceed to the next sub step.

6) Refer to the figure in sub step 3) and apply ThreeBond 1401B to the Adjust screw "A" after removing it. Then, loosely tighten the Adjust screw "A" with a hex wrench and leave the hex wrench on the Adjust screw "A".

7) While repeating above sub step 3), adjust the position of Adjust screw "A" by moving hex wrench up and down so that the reading of spring gauge is within **450 +/- 50gf**.
   Note: If tension is weak, move the Adjust screw "A" upward. If it is strong, move the Adjust screw "A" downward.

8) After completion of adjustment, tighten the Adjust screw "A".

9) Loosen (do not remove) the two screws "C" of the Ribbon Tension Spring Block to set the Ribbon Tension Spring free.

(Ribbon Tension Spring Block)

C

Ribbon Tension Spring
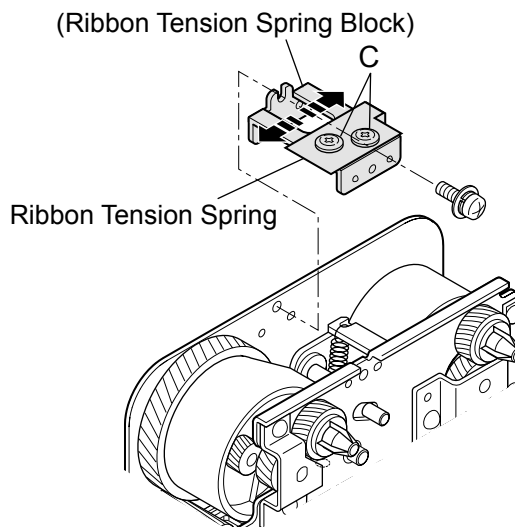
10) Hook a weight of 450g on the "Ribbon-tension spring adjust ribbon (ϕ80mm)".
The Front Belt Plate moves and stops at a certain position where it balances with the weight.

Plate, Front Belt

Ribbon-tension spring
adjust ribbon (ϕ80mm)

450g
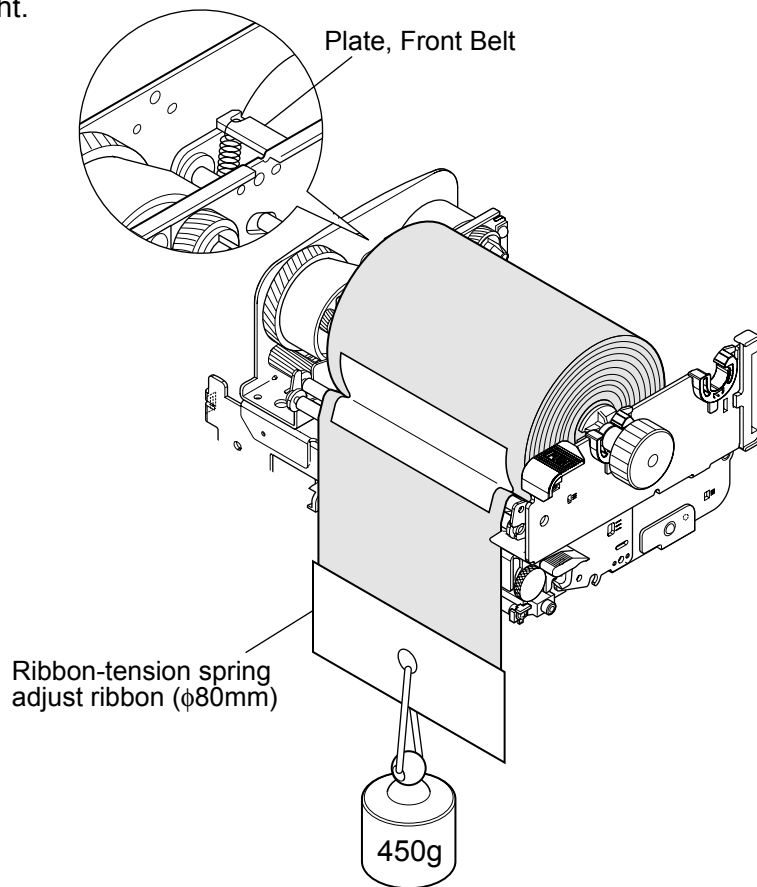
11) Mount the Ribbon Tension Spring Block and set the Ribbon Tension Spring so that no gap
is found between the Front Belt Plate. Then, apply ThreeBond 1401B to the screws "C"
and tighten the screws "C".

Notes: • Do not move the Front Belt Plate.

• When tightening the screws "C", pay special attention so as not to turn the
Ribbon Tension Spring.

• Be sure that the Ribbon Tension Spring is fully contact with the Front Belt Plate.

Ribbon Tension Spring

Apply ThreeBond 1401B.

C

(Ribbon Tension Spring Block)

Plate, Front Belt

CL-S700/CL-S703/CL-S700R
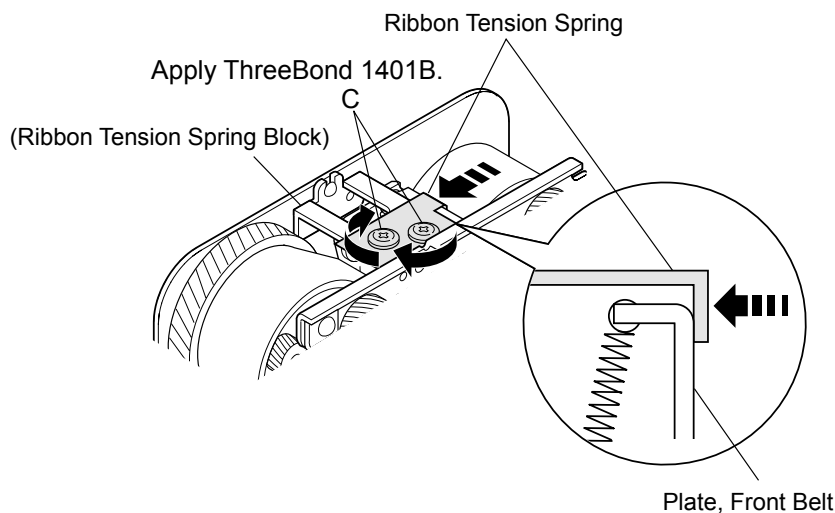
12) Remove the "Ribbon-tension spring adjust ribbon (φ80mm)" and reset the "Ribbon-tension adjust ribbon (φ60mm)".

13) Hook a spring gauge of 500gf on the "Ribbon-tension adjust ribbon (φ60mm)" and slowly pull the ribbon end downward at a constant speed (approx. 7.5cm/sec. or so). Then, check if the reading of the spring gauge in the steady state is within **450 +/- 50gf**.
If the reading is out of the specified range, repeat above sub steps 4) through 11).

5. Ribbon Tension Check/Adjustment on Supply Side:
    1) Set the "Adjust screw for Supply side ribbon tension adjustment" to "STANDARD" position.
    2) Set the "Ribbon-tension adjust ribbon (φ60mm)" to the supply side ribbon holder.
    3) Hook a spring gauge of 500gf on the "Ribbon-tension adjust ribbon" and horizontally pull the ribbon end toward you at a constant speed (approx. 7.5cm/sec. or so).
        When the ribbon is drawn approx. more than 20cm, suddenly load applies to the spring gauge. With this load condition, check if the reading of the spring gauge is within **400 +/- 50gf**.

[Supply side adjustment]
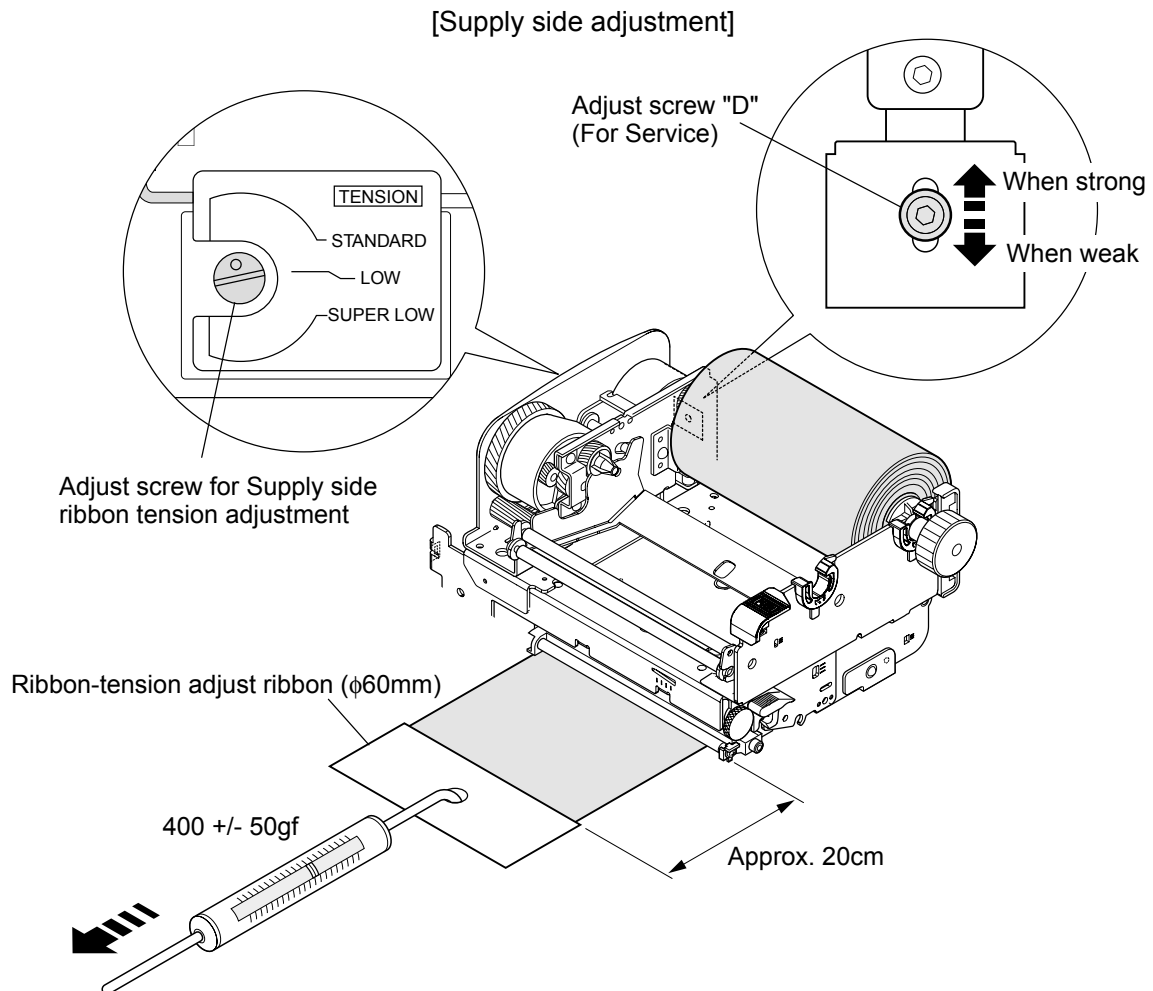
4) If the reading is in the specified range, no tension adjustment on supply side is required. In this case, proceed to step 6. If not, proceed to the next sub step.
5) Apply ThreeBond 1401B to the Adjust screw "D" after removing it. Then, loosely tighten the Adjust screw "D" with a hex wrench and leave the hex wrench on the Adjust screw "D".
6) While repeating above sub step 3), adjust the position of Adjust screw "D" by moving hex wrench up and down so that the reading of spring gauge is within **400 +/- 50gf**.

     Note: If tension is weak, move the Adjust screw "D" downward. If it is strong, move the
             Adjust screw "D" upward.

   7) Tighten the Adjust screw "D".

6. Repeat steps 1 to 3 in the reverse order to assemble the removed parts.

CHAPTER 4
TROUBLESHOOTING
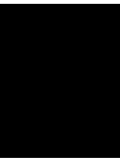
Chapter 4 Troubleshooting

Table of Contents

4-1. Error Message and Corrective Actions

When an error occurs, the error condition will be displayed on the operation panel. The ERROR
LED flashes and the LCD shows the error contents.

In case of error, the printer enters off line except for the following errors.

- LCD: Alarm Head Hot
- LCD: Alarm PFMotor Hot
- LCD: Alarm Cutter Hot

Causes/Corrective Actions	ERROR LED	LCD
Head temperature - high temperature abnormality • Printing stops temporarily. Wait until the thermal head gets cool.	Flashing	Alarm Head Hot
Head temperature - low temperature abnormality • Printing is impossible. Start printing after the thermal head becomes warm.	Flashing	Error Head Cold
PF motor temperature abnormality • Printing stops temporarily. Wait until the motor gets cool.	Flashing	Alarm PFMotor Hot
Fan motor malfunction • Remove obstacle, if any. • Firmly connect the cable (J12 on "SA, Main PCB"). • Replace the "SA, Fan".	Flashing	Error Fan Lock
Cutter motor temperature abnormality (Option) • Cutting action stops temporarily. Wait until the cutter motor gets cool.	Flashing	Alarm Cutter Hot
Head open • Close the head.	Flashing	Error Head Open
Paper end • Add media.	Flashing	Error Paper End

Paper out (paper position undetectable)
• Incorrect Adjustable Sensor positioning:
   Correct the sensor position to match the sensor
   position with the label/tag's black mark.
• Incorrect Media mode menu:
   Match the Media mode menu (e.g. SeeThrough)
   and media to be used.
 	
(to be continued)
	Flashing	Error
		Paper Load

• Incorrect sensor adjustment against media to be
   used:
   Enter sensor adjustment mode
   While pressing [MENU], [FEED] and [STOP]		

Causes/Corrective Actions	ERROR LED	LCD
keys, turn on the power, and then perform sensor adjustment. For details, refer to 2-3-4 "(3) How to change the settings in Factory mode" in Chapter 2.		
Paper jam • Remove the jammed media.	Flashing	Error Paper Jam
Head low resistance value abnormality • Due to defective thermal element: Printing quality will degrade.	Flashing	Alarm Head Check
Ribbon end • Install a new ribbon.	Flashing	Error Ribbon End
Communication error • Receiving buffer overrun error	Flashing	Error Serial Over Run
Communication error • Parity error	Flashing	Error Serial Parity
Communication error • Framing error	Flashing	Error Serial Framing
Cover open • Close the printer cover.	Flashing	Error Cover Open
Auto-cutter abnormality (foreign object etc.) • Jamming, etc.	Flashing	Error Cutter Fail
Rewinder cover open (CL-S700R only) • Close the rewinder cover.	Flashing	Error Rewind Open
Rewinder full (CL-S700R only) • Remove the wound media from the rewinder flange.	Flashing	Error Rewind Full
Rewinder failure (CL-S700R only) • Does not rewind, etc.	Flashing	Error Rewind Fail
Rewinder motor temperature abnormality (CL-S700R only) • Rewinding stops temporarily. Wait until the motor gets cool.	Flashing	Alarm Rewinder Hot

4-2. Troubleshooting

The following tables show possible remedies for various symptoms that might occur. Symptoms are given in the left column, and the corresponding remedies in the right column.

Notes:

1. When parts are replaced, refer to Chapter 3 "Disassembly and Maintenance".
2. Connectors (J . . .) given in the column of checks and remedies are connected with the "SA, Main PCB". For the location of each connector, refer to "4-2-7. Connector Location".

4-2-1. Problems in Powering Up the Printer

Symptoms	Checks	Remedies
No power to the printer	1. Is the Power Cord loosely connected to the AC outlet or the AC inlet of the printer?	1. Connect it firmly.
	2. Check voltage on the input power line. Acceptable supply voltage: 100 to 240V (-10%+6%)	2. Supply correct voltage.
	3. Is the fuse F1 on the "Unit, Power Supply" blown?	3. Replace with new fuse. If new fuse is also blown when power is turned on with the connector J11 disconnected from the "SA, Main PCB", the "Unit, Power Supply" is faulty and must be replaced. **Notes:** **- Do not replace the fuse with the power switch turned on.** **- The fuse is provided to prevent fire, and damage to the "Unit, Power Supply". When replacing it, use the same rating and type.**
	4. Is the connector of "SA, Power SW Cable" firmly connected to the "Unit, Power Supply" (CN1)?	4. Connect it firmly.
	5. Is the "SA, Power Cable" firmly connected between the "Unit, Power Supply" and the "SA, Main PCB" (J11)?	5. Connect it firmly.
	6. Is the Ope-pane Cable connected between the "SA, Main PCB" (J14) and the "SA, Ope-Pane PCB" firmly? If it is not connected or is inserted upside down, no LED lights up and nothing appears on the LCD even if you turned ON the power.	6. Connect it firmly.
	7. Failure in the power supply circuit.	7. Replace the "Unit, Power Supply".

4-2-2. Media-feed Problems
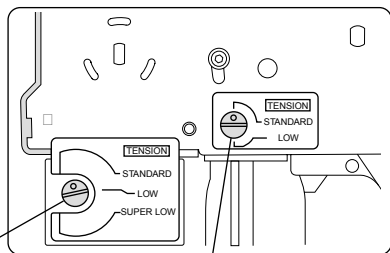
Symptoms	Checks	Remedies
No media feed	1. Is the connector of the "SA, PF MTR Cable" firmly connected to the "Unit, Motor"?	1. Connect it firmly.
	2. Is the connector J4 for the "Unit, Motor" connected firmly?	2. Connect it firmly.
	3. Is the connector J11 for "Unit, Power Supply" connected firmly?	3. Connect it firmly.
	4. Is +24V supplied to pins 7, 8, 9 and 10 of J11?	4. Replace the "Unit, Power Supply".
	5. Failure in the control circuit or in the paper feed motor driver.	5. Replace the "SA, Main PCB".
	6. Does the "Unit, Motor" work?	6. Replace the "Unit, Motor".
Irregular media feed pitch	1. Is the connector J4 for PF motor connected firmly?	1. Connect it firmly.
	2. Is dust or other foreign matter on the platen?	2. Remove dust or foreign matter.
	3. Does the media feed mechanism work smoothly?	3. Check, clean and lubricate mechanical parts. **Note:** Refer to Chap. 3 "Disassembly and Maintenance".
	4. Failure in the control circuit or in the paper feed motor driver.	4. Replace the "SA, Main PCB".
Media jamming	1. Is media set correctly?	1. Set media correctly.
	2. Is the media being used within manufacturer's specifications?	2. Use media within manufacturer's specifications.
	3. Check the media feed mechanism and media path for dust or other foreign matter.	3. Remove dust or foreign matter.

4-2-3. Problems in Printing

Symptoms	Checks	Remedies
No print	1. Is the head block securely closed?	1. Close the head block correctly.
	2. Is the thermal head over heated? In this case, the LCD indicates "Alarm Head Hot".	2. Wait until the thermal head gets cool. Printing resumes automatically.
	3. Is the PF motor over heated? In this case, the LCD indicates "Alarm PFMotor Hot".	3. Wait until the PF motor gets cool. Printing resumes automatically.
	4. Is the interface cable firmly connected between the printer and the host?	4. Connect it firmly.
	5. Is the Centro cable firmly connected between the "Unit, Centro PCB" (CN101) and the "SA, Main PCB" (J17)?	5. Connect it firmly.
	6. Is the "SA, Head Cable" firmly connected between the "Unit, Head" and the "SA, Main PCB" (J3)?	6. Connect it firmly.
	7. Does the transparent/reflective sensor detect presence of media?	7. To check, see "4-2-5. Sensor Problems".
	8. Is +24V supplied to pins 7, 8, 9 and 10 of J11?	8. Replace the "Unit, Power Supply".
	9. Is the thermal head temperature too low? In this case, the LCD indicates "Error Head Cold".	9. If the printer is cold, wait until it gets warm. Otherwise, replace the "Unit, Head".
	10. "Unit, Head" is broken.	10. Replace the "Unit, Head".
	11. Failure in the head driver circuit.	11. Replace the "Unit, Head".
	12. Failure in the control circuit.	12. Replace the "SA, Main PCB".
Poor printing	1. Thermal head is dirty.	1. Clean it with the head cleaner provided.
	2. Thickness adjustment is improper.	2. Adjust the media thickness adjustment screw to suit to the media thickness being used.
	3. Is +24V supplied to pins 7, 8, 9 and 10 of J11?	3. Replace the "Unit, Power Supply".

Symptoms	Checks	Remedies
Uneven print density	1. Head balance is improper. Uneven print density may appear either on the right side or the left side.	1. Adjust the media width adjustment knob to suit to the media width being used.

4-2-4. Ribbon-feed Problem

Symptoms	Checks	Remedies
Ribbon is not fed at all, or is not fed correctly.	1. Is the ribbon correctly inserted into the ribbon holders? 2. Is the ribbon path correct? 3. Does the ribbon slack on the supply side during back feeding? 4. Does the ribbon slack on the take-up side during printing?	1. Insert the ribbon correctly. 2. Install the ribbon correctly. 3. Adjust the supply side ribbon tension by turning the adjust screw with a flat-bladed screwdriver. 4. Adjust the take-up side ribbon tension by turning the adjust screw with a flat-bladed screwdriver. [On the left side of the Unit, Frame Ribbon L] Adjust screw for Supply side ribbon tension adjustment / Adjust screw for Take-up side ribbon tension adjustment
Ribbon wrinkles occur.	1. Is proper ribbon tension applied to both supply and take-up side? 2. Is printing density proper? 3. Head pressure does not match the media width (ribbon width) being used. 4. Angle of the head spacer shaft of the Head Unit is not proper. (continued)	1. Adjust ribbon tension to suit to the width of ribbon being used with the Adjust screw for Supply/Take-up side ribbon tension adjustment. 2. Set the printing density to an appropriate value by using the menu or control software. 3. Adjust the head pressure with the media width adjustment knob. 4. Adjust the head spacer shaft angle appropriately. Refer to "3-6-3. Ribbon Skew Adjustment" in Chapter 3.

Symptoms	Checks	Remedies
Ribbon wrinkles occur.	5. Has the "Unit, Frame Ribbon L" been replaced with new one?	5. Perform the ribbon tension adjustment. Refer to "3-6-4. Ribbon Tension Adjustment" in Chapter 3.
Ribbon tends to slip on media. (May occur faint printing, displacement of printing position, dirty printing, etc.)	1. Is proper ribbon tension applied to both supply and take-up side?	1. Adjust ribbon tension to suit to the type and width of media.
Printing continues even when ribbon runs out.	1. Is the Print Method menu set to "DT" (Direct Thermal) for thermal media printing?	1. Change the Print Method menu to "TT (Thermal Transfer)".
Ribbon slants.	1. Is the ribbon correctly inserted into the ribbon holders? 2. Is the ribbon path correct?	1. Insert the ribbon correctly. 2. Install the ribbon correctly.

4-2-5. Sensor Problems

Symptoms	Checks	Remedies
Top cover is open, but cover open status is not detected (LCD does not show " Error Cover Open"). (Cover open sensor problem)	1. Is the connector of the "SA, Cover Open Sens" firmly connected to "SA, Ope-pane PCB" (J403)? 2. Cover open sensor is defective. 3. Failure in the ope-pane circuit. 4. Replace the in the control circuit.	1. Connect it firmly. 2. Replace the "SA, Cover Open Sens". 3. Replace the "SA, Ope-pane PCB". 4. Replace the "SA, Main PCB".
Head block is closed, but the LCD shows "Error Head Open". (Head up sensor problem)	1. Is the connector of the "SA, Head Up SW" firmly connected to "SA, Main PCB" (J9)? 2. Head up sensor is defective. 3. Failure in the control circuit.	1. Connect it firmly. 2. Replace the "SA, Head Up SW". 3. Replace the "SA, Main PCB".

Symptoms	Checks	Remedies
Ribbon end is not correctly detected.	1. Is the connector of the ribbon encoder in the "Unit, Frame Ribbon L" firmly connected to the "SA, Main PCB" (J8)?	1. Connect it firmly.
	2. Ribbon encoder is defective.	2. Replace the "Unit, Frame Ribbon L". After replacement, perform ribbon tension adjustment referring to "3-6-4. Ribbon Tension Adjustment" in Chapter 3.
	3. Failure in the control circuit.	3. Replace the "SA, Main PCB".
Label on liner or notch of tag is not detected. (Transparent sensor problem) Or Paper end is not detected.	1. Is the Media Sensor menu setting correct?	1. Set it to "See Through".
	2. Is the Adjustable Sensor positioned to an appropriate position where label or notch of tag can be detected? (When adjustable sensor is to be used) By default, the Sensor Select menu is set to "Rear Adj Sensor" and the Adjustable Sensor is selected".	2. Move the Adjustable Sensor by turning the adjustable sensor position knob.
	3. Is the sensor adjustment performed against media to be used?	3. Perform the sensor adjustment for user. See "Sensor Adjustment for user (Transparent Sensor/ Reflective Sensor)" on the next page.
	4. Is the following connector of the "SA, Sensor U" firmly connected to the "SA, Main PCB"? For Adjustable Sensor: J7 For Front Fixed Sensor: J6	4. Connect it firmly.
	5. Is the following connector of the "SA, Sensor Bottom" firmly connected to the "SA, Main PCB"? For Adjustable Sensor: J22 For Front Fixed Sensor: J21	5. Connect it firmly.
	6. Is dust on the LED of the Transparent/ Reflective Sensor?	6. Clean the LED to remove dust.
	8. Failure in the Transparent Sensor or the Reflective Sensor.	8. Replace the "SA, Sensor U" or the "SA, Sensor Bottom".
	9. Failure in the control circuit.	9. Replace the "SA, Main PCB".

[Sensor Adjustment for user (Transparent Sensor/Reflective Sensor)]

The following describes the transparent and reflective sensor adjustment method (for user) for both adjustable sensor and the front fixed sensor.

This method is stated in "Sensor Adjustments and Calibration" of the User's Manual.

Preparation:

Transparent sensor:

1. Peel off labels from the liner.
2. Open the head block and the sensor arm, and set the media on the "SA, Sensor Bottom" (Adjustable type) or "SA, Sensor Bottom" (Fixed type).
   If the media has black mark, avoid that area.
3. Close the sensor arm and the head block.

Reflective sensor:

When label with black mark is used

1. Peel off labels from the liner.
2. Open the head block and the sensor arm, and set the media on the "SA, Sensor Bottom" (Adjustable type) or "SA, Sensor Bottom" (Fixed type).
   If the media has black mark, avoid that area.
3. Close the sensor arm and the head block.

When tag with black mark is used

1. Open the head block and the sensor arm, and set the media (if continuous tag is used, set it) on the "SA, Sensor Bottom" (Adjustable type) or "SA, Sensor Bottom" (Fixed type).
   Avoid the black mark area.
2. Close the sensor arm and the head block.

Sensor Adjustment Procedure:

1. Turn on the power while pressing and holding the **[PAUSE]**, **[FEED]** and **[STOP]** keys.
   "Sensor Cal Mode See Through (or Reflect)" is displayed on the LCD.
   (To switch between "See Through" and "Reflect", press and release the **[STOP]** key while pressing and holding the **[MENU]** key.
2. Press and release the **[PAUSE]** key while pressing and holding the **[MENU]** key.
   "Sensor Cal Mode Executing" and then "Sensor Cal Mode Succeeded" will be displayed on the LCD.
   (If adjustment stops abnormally (adjustment impossible), the ERROR LED flashes and "Failed" is displayed.)
3. Press the **[STOP]** key.
   Then the printer turns off and then on again, and enters the normal operation.

CL-S700/CL-S703/CL-S700R

Symptoms	Checks	Remedies
Black mark on tag is not detected. (Reflective sensor problem) Or Paper end is not detected.	1. Is the Media Sensor menu correct? 2. Is the Adjustable Sensor positioned to an appropriate position where a black mark on tag can be detected? (When adjustable sensor is to be used) 3. Is the sensor adjustment is performed against media to be used? 4. Is the following connector of the "SA, Sensor Bottom" firmly connected to the "SA, Main PCB"? For Adjustable Sensor: J22 For Front Fixed Sensor: J21 5. Is dust on the LED or phototransistor of the Reflective Sensor? 6. Failure in the Reflective Sensor. 7. Failure in the control circuit.	1. Set it to "Reflect". 2. Move the Adjustable Sensor by turning the adjustable sensor position knob so that it is set to the center of black mark. 3. Perform the sensor adjustment for user. See "Sensor Adjustment for user (Transparent Sensor/ Reflective Sensor)" on the next page. 4. Connect it firmly. 5. Clean the LED/phototransistor to remove dust. 6. Replace the "SA, Sensor Bottom". 7. Replace the "SA, Main PCB".

4-2-6. Operation Panel Problems

Symptoms	Checks	Remedies
LED does not light.	1. Is the Ope-pane FFC Cable connected between the "SA, Main PCB" (J14) and the "SA, Ope-Pane PCB" firmly? 2. Is the Ope-pane FFC Cable inserted upside down? 3. Failure in the "SA, Ope-Pane PCB". 4. Failure in the control circuit.	1. Connect it firmly. 2. Insert it in the correct direction. 3. Replace the "SA, Ope-Pane PCB". 4. Replace the "SA, Main PCB".
No key works.	1. Is the Ope-pane Cable connected between the "SA, Main PCB" (J14) and the "SA, Ope-Pane PCB" firmly? 2. Is the Ope-pane FFC Cable inserted in the correct direction? 3. Failure in the ope-pane circuit. 4. Failure in the control circuit.	1. Connect it firmly. 2. Insert it in the correct direction. 3. Replace the "SA, Ope-Pane PCB". 4. Replace the "SA, Main PCB".
Nothing appears on the LCD.	1. Is the Ope-pane Cable connected between the "SA, Main PCB" (J14) and the "SA, Ope-Pane PCB" firmly? 2. Is the Ope-pane FFC Cable inserted in the correct direction? 3. On the "SA, Ope-Pane PCB", is the LCD FPC firmly inserted into the connector J402? 4. Failure in the ope-pane circuit. 5. Failure in the control circuit.	1. Connect it firmly. 2. Insert it in the correct direction. 3. Connect it firmly. 4. Replace the "SA, Ope-Pane PCB". 5. Replace the "SA, Main PCB".

4-2-7. Rewinder Problems (CL-S700R Only)

(1) Rewinding problem (CL-S700R Only)

Symptoms	Checks	Remedies
Does not rewind.	1. Is the rewinder cover opened? In this case, the LCD indicates "Error Rewinder Open".	1. Close the rewinder cover.
	2. Is the rewinder full? In this case, the LCD indicates "Error Rewinder Full".	2. Remove the wound media from the rewinder flange.
	3. Is the rewinder motor over heated? In this case, the LCD indicates "Alarm Rewinder Hot".	3. Wait until the rewind motor gets cool. Rewinding resumes automatically.
	4. Are cables J15 and J16 ("SA, Main PCB") connected to J501 and J502 ("SA, Rewinder PCB") firmly?	4. Connect them firmly.
	5. Is the connector of the "SA, Rewinder Motor" connected to J504 of the "SA, Rewinder PCB" firmly?	5. Connect it firmly.
	6. Is the connector of the "SA, Interlock SW" connected to "SA, Rewinder Motor" firmly? In this case, the LCD indicates "Error Rewinder Open".	6. Connect it firmly.
	7. Failure in the "SA, Rewinder Motor".	7. Replace the "SA, Rewinder Motor".
	8. Failure in the "SA, Rewinder PCB".	8. Replace the "SA, Rewinder PCB".
	9. Failure in the control circuit.	9. Replace the "SA, Main PCB".
Label is peeled but rewinding operation does not pause.	1. Is the peel sensor cable connected to JP503 of the "SA, Rewinder PCB" firmly?	1. Connect it firmly.
	2. Failure in the "SA, Rewinder PCB".	2. Replace the "SA, Rewinder PCB".
	3. Failure in the control circuit.	3. Replace the "SA, Main PCB".

(2) Rewinder sensor problem (CL-S700R Only)

Symptoms	Checks	Remedies
Rewinder cover is closed, but rewinder cover open status is detected. (LCD shows "Error Rewinder Open".)	1. Rewinder cover sensor ("SA, Interlock SW") is defective. 2. Failure in the "SA, Rewinder Motor". 3. Failure in the "SA, Rewinder PCB". 4. Failure in the control circuit.	1. Replace the "SA, Interlock SW". 2. Replace the "SA, Rewinder Motor". 3. Replace the "SA, Rewinder PCB". 4. Replace the "SA, Main PCB".
Rewinder motor rotation is not detected. (LCD shows "Error Rewinder Fail".)	1. Failure of photo interrupter PS701of the "SA, Rewinder Motor". 2. Failure in the "SA, Rewinder PCB". 3. Failure in the control circuit.	1. Replace the "SA, Rewinder Motor". 2. Replace the "SA, Rewinder PCB". 3. Replace the "SA, Main PCB".
Rewind Full status is not detected or rewinding speed is not properly controlled.	1. Failure of photo interrupter PS501/ PS502 of the "SA, Rewinder PCB". 2. Failure in the control circuit.	1. Replace the "SA, Rewinder PCB". 2. Replace the "SA, Main PCB".
Peeled label is not detected.	1. Failure of Peel Sensor. 2. Failure in the "SA, Rewinder PCB". 3. Failure in the control circuit.	1. Replace the "SA, Peel Sensor". 2. Replace the "SA, Rewinder PCB". 3. Replace the "SA, Main PCB".

4-2-7. Connector Location

[SA, Main PCB]

Ribbon Encoder
(Ribbon Running Sensor/Ribbon End Sensor)

SA, Head Up SW (Head Up Sensor)

Adjustable Sensor (Transparent sensor)

Front Fixed Sensor
(Transparent sensor)

Front Fixed Sensor
(Reflective sensor)

SA, Connect PCB (J803) (CL-S700/CL-S703)
SA, Rewinder PCB (J502) (CL-S700R)

SA, Fan

SA, Connect PCB (J801) (CL-S700/CL-S703)
SA, Rewinder PCB (J501) (CL-S700R)

SA, Main PCB

J8 J9 J7 J6

J16

J22 J21

J12

Adjustable Sensor
(Reflective sensor)

J11

J14

10

J5 J15 J3

J4

Ope-Pane FFC Cable

(Blue Tape)

Unit, Head

Unit, Motor (Thermistor)

Unit, Motor

Unit, Power Supply

[Unit, Centro PCB]

CN101

[SA, Rewinder PCB] (For CL-S700R)

SA, Peel Sensor

SA, Rewinder Motor

J503   J504

PS501 PS502

SA, Main PCB (J15)

SA, Main PCB (J16)

J501   J502
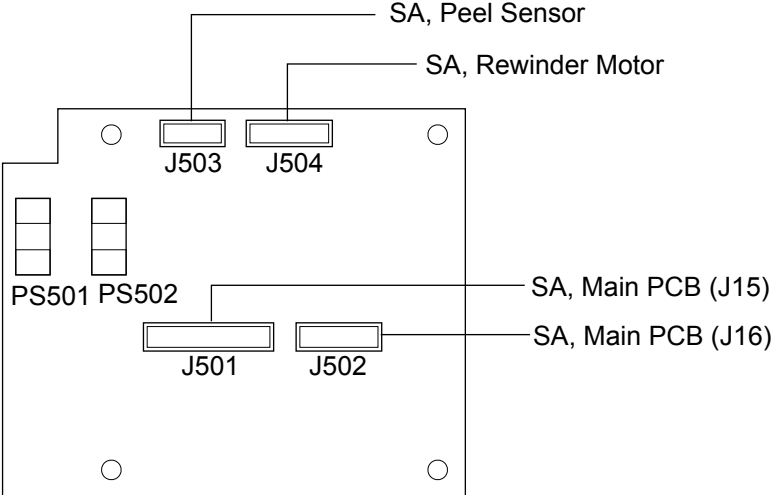
CHAPTER 5
PARTS LISTS

Note:

The Parts Lists section consists of the following two parts:

Former half: For CL-S700 and CL-S703

Latter half: For CL-S700R (Common parts with the printer upper area are to be referred to the former half.)

Chapter 5 Parts Lists
for CL-S700/CL-S703

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CL-S700/CL-S703

Recommended Spare Parts List

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	1	Dec. 15, 2010

PARTS LIST for CL-S700/CL-S703   TITLE: Recommended Spare Parts List   Sheet No. 1/1

Rev. No. 1

Item No.	Location	Part No.	Part Name	Q'ty/ Unit	Maint. Class		Remarks	@
					Worn	Casual		
1	1-15	JN66801-0	Unit, Power Supply	1		○		
2	2-8-1	JN09802-0	Unit, Head	1	○		For CL-S700/CL-S700R (Rev. No.1)	
3	2-8-2	JN09804-0	Unit, Head (300DPI)	1	○		For CL-S703 (Rev. No.1)	
4	8-9	JN48704-0	SA, Sensor U	1		○	Adjustable type	
5	8-24	JN48705-0	SA, Sensor Bottom	1		○	Adjustable type	
6	9-1	JN28801-0	Unit, Roller Platen	1	○			
7	9-39	JN25801-0	Unit, Motor	1	○			
8	9-7	JN48701-0	SA, Sensor U	1		○	Fixed type	
9	9-18	JN48702-0	SA, Sensor Bottom	1		○	Fixed type	
10	14-2-1	JN66701-0	SA, Main PCB (200)	1		○	For CL-S700 (Rev. No.1)	
11	14-2-2	JN66702-0	SA, Main PCB (300)	1		○	For CL-S703 (Rev. No.1)	
12	14-2-3	JN66718-0	SA, Main PCB (200R)	1		○	For CL-S700R (Rev. No.1)	
13								
14								
15								
16								
17								
18								

CL-S700/CL-S703

Drawing No. 1

Parts List & Location for General Assembly

Revision Up List		
Sheet No.	Rev. No.	Date
1/3	0	Apr. 18, 2008
2/3	0	Apr. 18, 2008
3/3	0	Apr. 18, 2008

DRAWING NO. 1   General Assembly (Rev. 0) For CL-S700/CL-S703
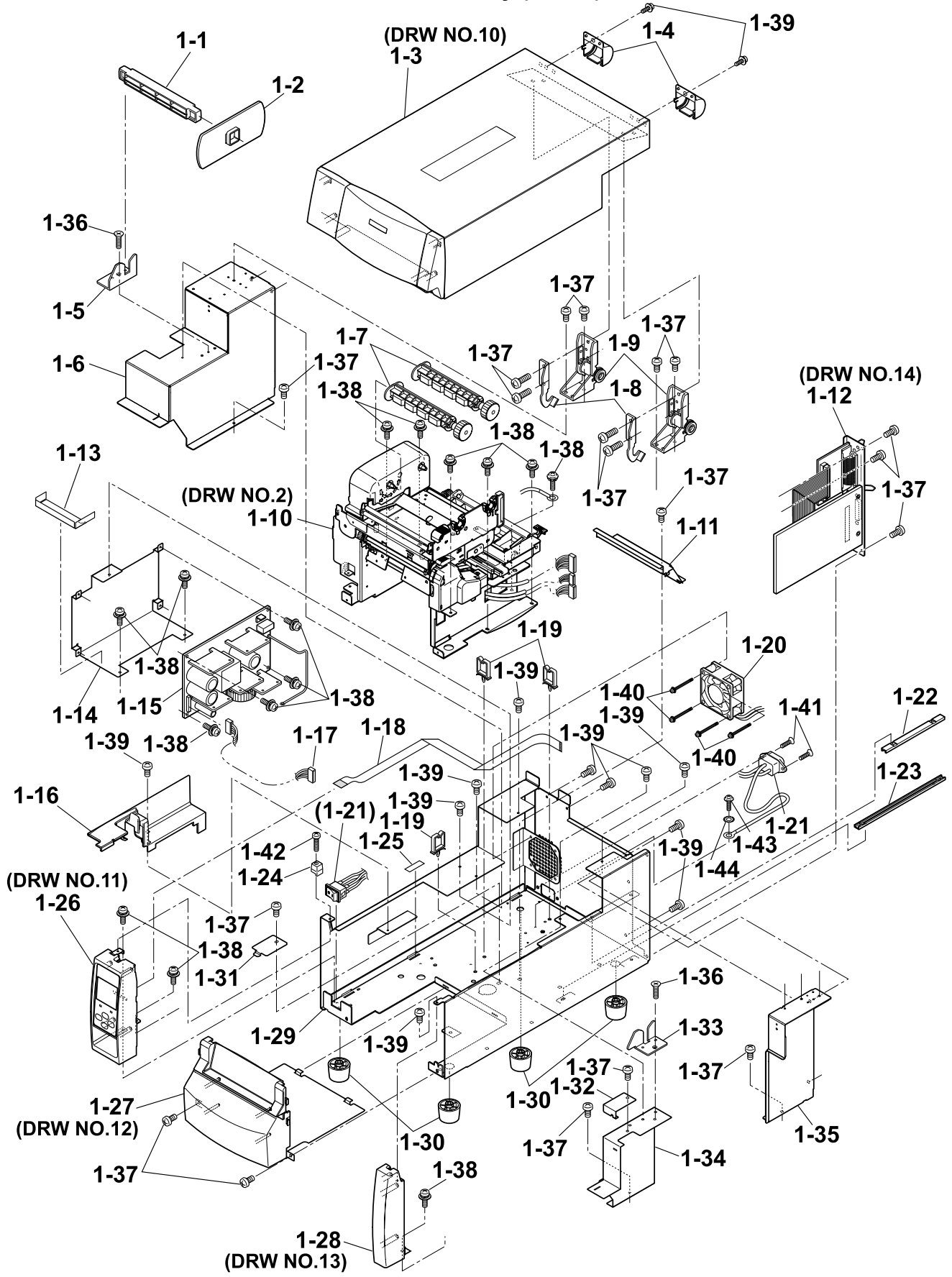
PARTS LIST for CL-S700/CL-S703   TITLE: General Assembly   Sheet No. 1/3

Drawing No. 1   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
1-1	Roll Holder	JE99090-0	1	24600730	
1-2	Flange, Paper Wide	JM79201-0	1		
1-3	Unit, Top Cover	----	1	Ref: Drawing No. 10	
1-4	Cover, Hinge	JN56209-0	2		
1-5	Holder, Paper Shaft Left	JN56116-0	1		
1-6	SA, Cover Inner Power	JN56704-0	1		
1-7	SA, Ribbon Holder	JM34710-1	2		
1-8	Stopper, Hinge	JN54103-0	2		
1-9	SA, Hinge	JN59905-0	2		
1-10	Unit, Mechanism	JN99801-0	1	Ref: Drawing No. 2	
1-11	Cover, Inner Paper	JN56112-0	1		
1-12	Unit, PCB	-	1	Ref.: Drawing No. 14	
1-13	Sheet 1, Power Protect	JN54910-0	1		
1-14	Plate, Power	JN64101-0	1		
1-15	Unit, Power Supply	JN66801-0	1		
1-16	Cover, Cable	JN56201-0	1		
1-17	SA, Power Cable	JN67706-0	1		
1-18	Cable, Ope-pane FFC	JN67901-0	1		
1-19	WS-2NS (Cable, Clamp)	JN59903-0	3		
1-20	SA, Fan	JN65901-0	1		

PARTS LIST for CL-S700/CL-S703   TITLE: General Assembly   Sheet No. 2/3

Drawing No. 1   Rev. No. 0

Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
1-21	SA, Power SW Cable	JN67709-0	1	Including Inlet	
1-22	Rail, Guide U	JN54906-0	1		
1-23	Rail, Guide Base	JN54907-0	1		
1-24	Guide, Top Cover	JN54202-0	1		
1-25	Sheet, Case L	JN54106-0	1		
1-26	SA, Ope-pane	JN56705-0	1	Ref.: Drawing No. 11	
1-27	SA, Front Center	JN56708-0	1	Ref.: Drawing No. 12	
1-28	SA, Front Right	JN56707-0	1	Ref.: Drawing No. 13	
1-29	SA, Case L	JN56701-1	1		
1-30	Leg, Case	JN56901-0	4		
1-31	Plate, Cable Cover	JN56113-0	1		
1-32	Cover, Sensor Adjust	JN56115-0	1		
1-33	Holder, Paper Shaft Right	JN56117-0	1		
1-34	Cover, Inner PCB Front	JN56110-0	1		
1-35	SA, Cover Inner PCB Rear	JN56713-0	1		
1-36	Screw, FH, M3.0x6	E00230-060F	2		
1-37	Screw, BH, M3.0x5	E00530-050F	19		
1-38	Screw, PH (SW+PW), M3.0x5	E04030-050F	15		
1-39	Screw, BH, M3.0x5K	E00530-050KF	13		
1-40	Screw, PH (SW+PW), M4.0x30	E00940-300F	4		

PARTS LIST for CL-S700/CL-S703   TITLE: General Assembly   Sheet No. 3/3

Drawing No. 1   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
1-41	Screw, FH, M3.0x6	E00230-060F	2		
1-42	Screw, PH, M3.0x12	E00130-120F	1		
1-43	Screw, BH (N), M4.0x4	E00540-040WF	1		
1-44	Washer, EXT, T (N), 4	E50740-000WF	1		

CL-S700/CL-S703

Drawing No. 2

Parts List & Location for Unit, Mechanism

Revision Up List		
Sheet No.	Rev. No.	Date
1/2	2	Dec. 15, 2010
2/2	1	Jan. 15, 2009

DRAWING NO. 2   Unit, Mechanism (Rev. 1) For CL-S700/CL-S703

Apply grease (Floil G-311S) to
the places marked with ★.

PARTS LIST for CL-S700/CL-S703　　　　　TITLE: Unit, Mechanism　　　　　Sheet No. 1/2

Drawing No. 2　　　　　　　　　Rev. No. 2
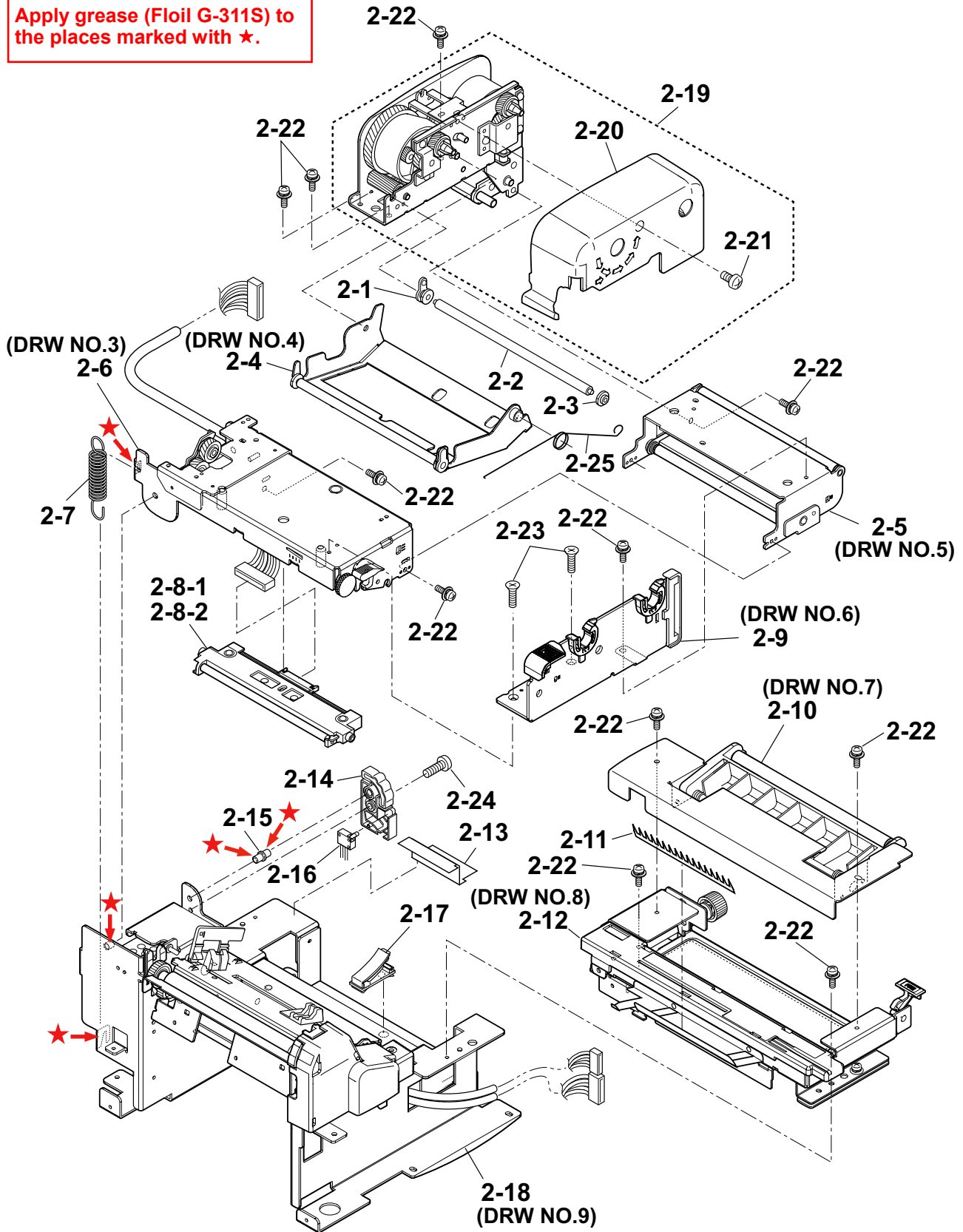
Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
2-1	Bushing	JE99704-0	1	24400670	
2-2	Shaft, Ribbon Guide FF	JN32001-0	1		
2-3	Bushing	JE99705-0	1	24400680	
2-4	SA, Front Tension Arm	JN34704-0	1	Ref: Drawing No. 4	
2-5	Unit, Frame Rear	JN44803-0	1	Ref: Drawing No. 5	
2-6	Unit, Frame U	JN44802-0	1	Ref: Drawing No. 3	
2-7	Spring, Head Up	JN13601-0	1		
2-8-1	Unit, Head	JN09802-0	1	For CL-S700/CL-S700R (Rev. No.2)	
2-8-2	Unit, Head (300DPI)	JN09804-0	1	For CL-S703 (Rev. No.2)	
2-9	SA, Frame Ribbon R	JN34703-0	1	Ref: Drawing No. 6	
2-10	SA, Base Guide Open	JN44712-0	1	Ref: Drawing No. 7	
2-11	Ground Brush	JE99438-0	1	33000340	
2-12	Unit, Sensor Adjust	JN44804-0	1	Ref: Drawing No. 8	
2-13	Sheet 2, Power Protect	JN54911-0	1		
2-14	Damper	JE99051-0	1	25200890	
2-15	Damper Pin	JE99023-0	1	22601801	
2-16	SA, Head Up SW	JN68704-0	1		
2-17	Clamp, Main Cable	JN59902-0	1		
2-18	Unit, Frame	----	1	Ref: Drawing No. 9	
2-19	Unit, Frame Ribbon L	JN34801-0	1	(Rev. No. 1)	

PARTS LIST for CL-S700/CL-S703   TITLE: Unit, Mechanism   Sheet No. 2/2

                                        Drawing No. 2   Rev. No. 1

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
2-20	Cover, Ribbon	JN36201-0	1	(Rev. No. 1)	
2-21	Screw, PH , M3.0x6	E00130-060F	1		
2-22	Screw, PH (SW+PW), M3.0x5	E04030-050F	11		
2-23	Screw, FT, M3.0x6	E00230-060F	2		
2-24	Screw, PH, M4x6	E00140-060F	1		
2-25	Spring, Shaft Guide FF	JN33602-0	1		

CL-S700/CL-S703

Drawing No. 3

Parts List & Location for Unit, Frame U

Revision Up List		
Sheet No.	Rev. No.	Date
1/2	0	Apr. 18, 2008
2/2	1	Dec. 15, 2010

DRAWING NO. 3 Unit, Frame U (Rev. 1) For CL-S700/CL-S703

Apply grease (Floil G-311S) to the places marked with ★.

Apply lubricant to other side also.
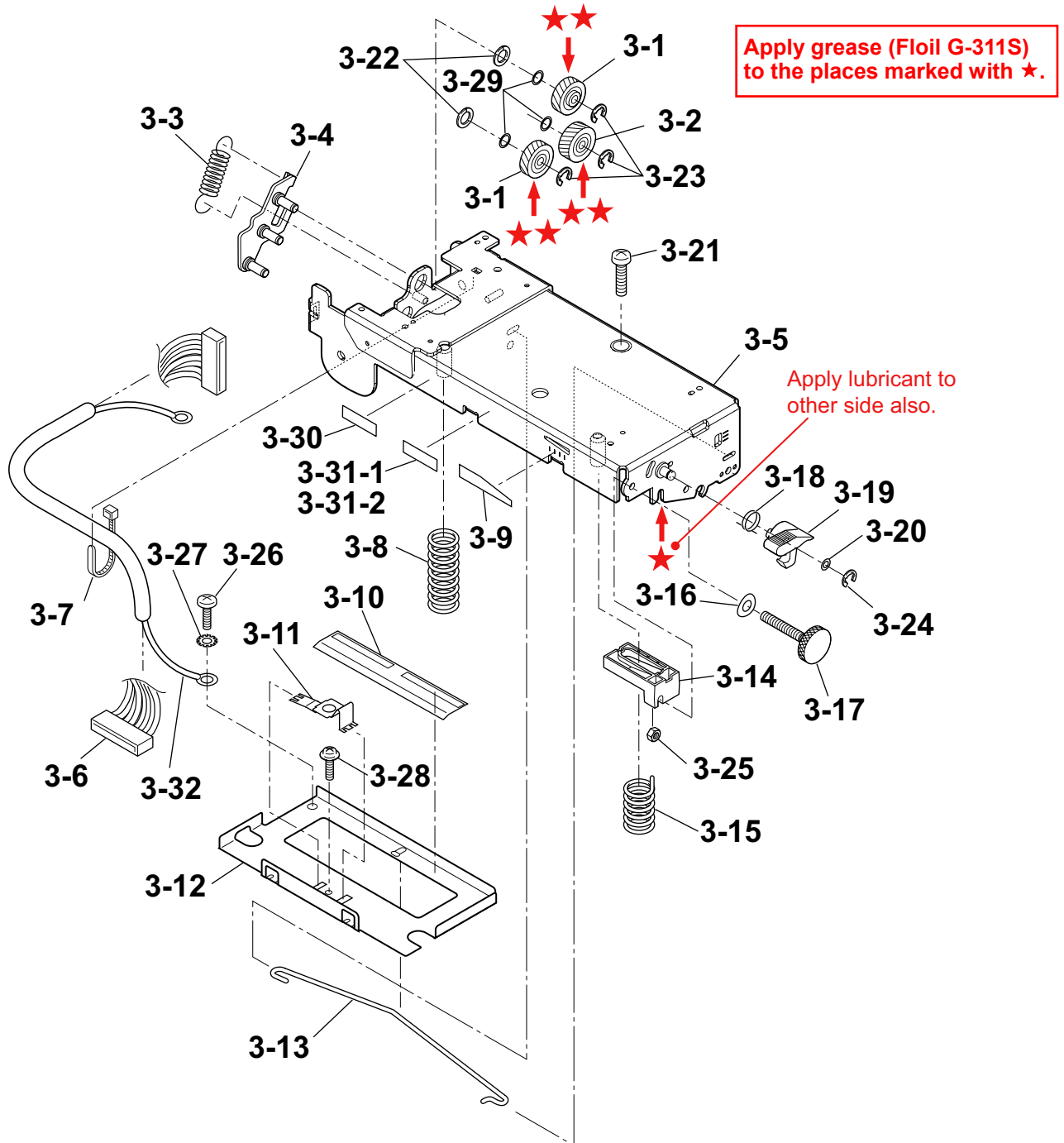
PARTS LIST for CL-S700/CL-S703　　　　　　TITLE: Unit, Frame U　　　　　　Sheet No. 1/2

　　　　　　　　　　　　　　　　　　　　Drawing No. 3　　　　　　　　　　Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
3-1	Idle Gear A Sub Assembly	JE99683-0	2	23205720	
3-2	Idle Gear B Sub Assembly	JE99684-0	1	23205730	
3-3	Gear Plate Spring	JE99651-0	1	21903240	
3-4	SA, Gear Plate	JN29715-0	1		
3-5	SA, Frame U	JN44706-0	1		
3-6	SA, Head Cable	JN67707-0	1		
3-7	Wire Tie	C6701-101#	1		
3-8	Spring, Head L	JN13603-0	1		
3-9	Head Balance Seal	JE99434-0	1	25201200	
3-10	Sheet, Cover Cable	JN54908-0	1		
3-11	Head Earth Plate	JE99117-0	1	20803381	
3-12	Head Plate	JE99011-0	1	20803370	
3-13	Offset Spring	JE99016-0	1	21902562	
3-14	Slider	JE99048-0	1	25200861	
3-15	Spring, Head R	JN13602-0	1		
3-16	Curved Washer	JE99065-0	1	90500390	
3-17	Adjust Screw	JE99192-0	1	92100202	
3-18	Open Lever Spring	JE99019-0	1	21902601	
3-19	Lever, Head Up	JN14201-0	1		
3-20	Polyslider Washer	JE99064-0	1	90500380	

PARTS LIST for CL-S700/CL-S703   TITLE: Unit, Frame U   Sheet No. 2/2
                                        Drawing No. 3   Rev. No. 1

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
3-21	Nyrock Screw	JE99066-0	1	92100220	
3-22	Polyslider 1	JN39902-0	2		
3-23	E-Ring, 3.0	E60330-000F	3		
3-24	E-Ring, 2.0	E60320-000F	1		
3-25	Nut, M3	E40130-000F	1		
3-26	Screw, BH (N), M4.0x4	E00540-040WF	1		
3-27	Washer, EXT, T (N), 4	E50740-000WF	1		
3-28	Screw, PH (TP), M3.0x8	E04230-080F	1		
3-29	Polyslider	JN39901-0	3		
3-30	Label 2, Caution, Head	AH90935-0	1	English	
3-31-1	Label 7, Caution, Head	AR99902-0	1	For CSA/French (Rev. No.1)	
3-31-2	Label 6, Caution, Head	AR99901-0	1	For CSE/German (Rev. No.1)	
3-32	SA, Head Earth Cable	JN67712-0	1		

CL-S700/CL-S703

Drawing No. 4

Parts List & Location for SA, Front Tension Arm

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

DRAWING NO. 4   SA, Front Tension Arm (Rev. 0) For CL-S700/CL-S703

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PARTS LIST for CL-S700/CL-S703   TITLE: SA, Front Tension Arm   Sheet No. 1/1

Drawing No. 4   Rev. No. 0
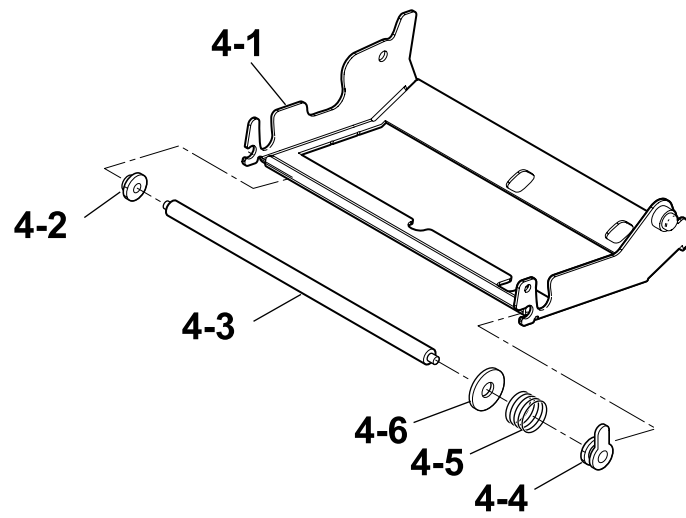
Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
4-1	SA, Front Tension	JN34701-0	1		
4-2	Bushing	JE99705-0	1	24400680	
4-3	Shaft, Ribbon Guide FM	JN32002-0	1		
4-4	Bushing	JE99704-0	1	24400670	
4-5	Spring, Shaft Guide FM	JN33601-0	1		
4-6	Washer, Shaft Guide FM	JN34107-0	1		

CL-S700/CL-S703

Drawing No. 5

Parts List & Location for Unit, Frame Rear

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

DRAWING NO. 5 Unit, Frame Rear (Rev. 0) For CL-S700/CL-S703

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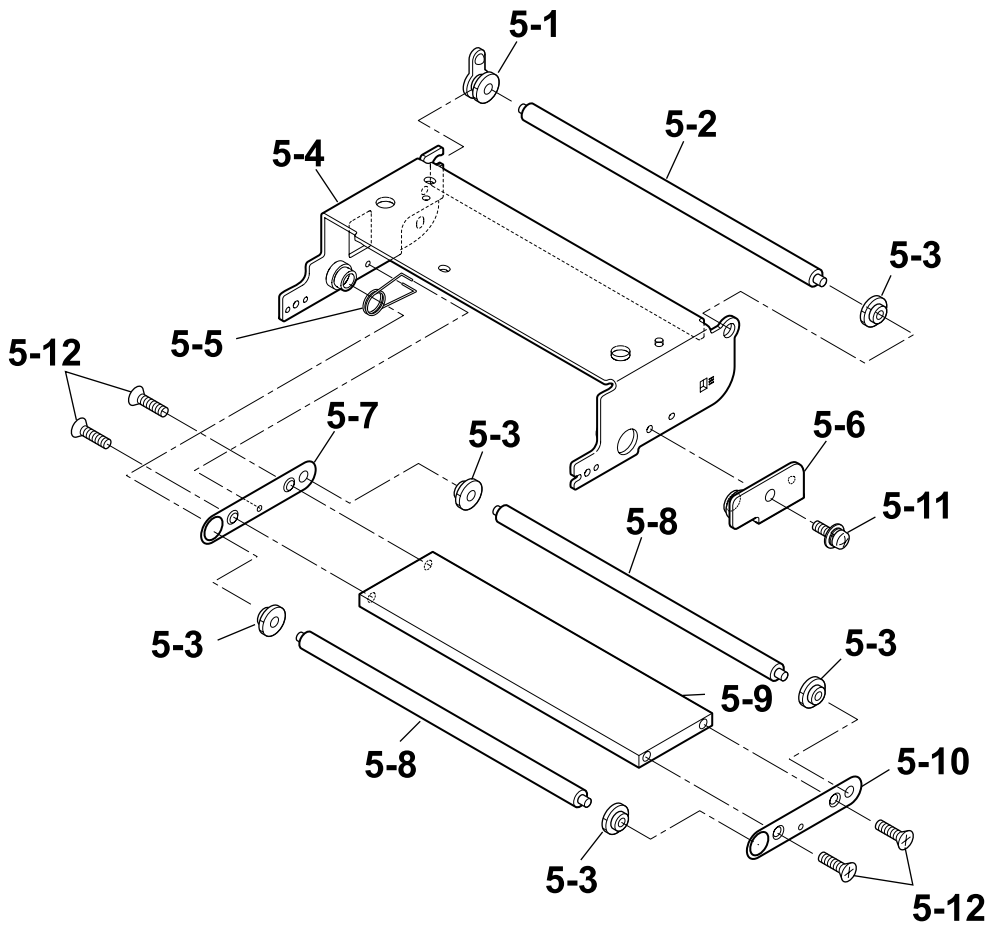
PARTS LIST for CL-S700/CL-S703   TITLE: Unit, Frame Rear   Sheet No. 1/1

Drawing No. 5   Rev. No. 0

Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
5-1	Bushing	JE99704-0	1	24400670	
5-2	Ribbon Guide Roller E	JE99710-0	1	25100710	
5-3	Bushing	JE99705-0	5	24400680	
5-4	SA, Frame Rear	JN44705-0	1		
5-5	Rear Arm Spring	JE99650-0	1	21903231	
5-6	SA, Plate Stopper Rear	JN44708-0	1		
5-7	Side Plate L	JE99639-0	1	20804850	
5-8	Ribbon Guide Roller C	JE99709-0	2	25100690	
5-9	Beam	JE99667-0	1	23000680	
5-10	Side Plate R	JE99640-0	1	20804860	
5-11	Screw, PH (SW+PW), M3.0x5	E04030-050F	1		
5-12	Screw, FT, M3.0x6	E00230-060F	4		

CL-S700/CL-S703

Drawing No. 6

Parts List & Location for SA, Frame Ribbon R

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

DRAWING NO. 6   SA, Frame Ribbon R (Rev. 0) For CL-S700/CL-S703

PARTS LIST for CL-S700/CL-S703   TITLE: SA, Frame Ribbon R   Sheet No. 1/1

Drawing No. 6   Rev. No. 0
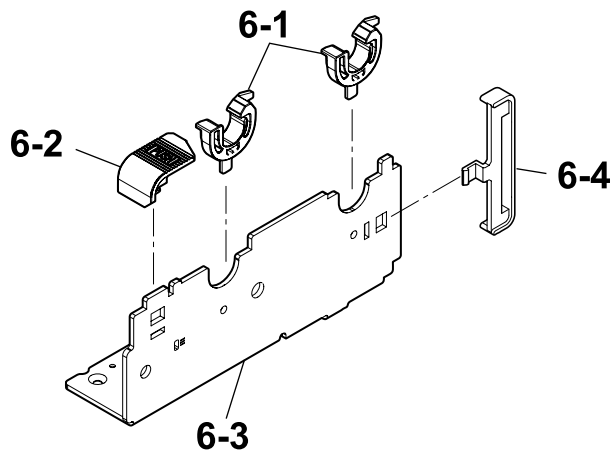
Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
6-1	Holder, Ribbon Shaft	JN34201-0	2		
6-2	Knob, Ribbon Unit	JN34202-0	1		
6-3	Frame, Ribbon R	JN34104-0	1		
6-4	Plate, Ribbon Frame	JN36202-0	1		

CL-S700/CL-S703

Drawing No. 7

Parts List & Location for SA, Base Guide Open

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

DRAWING NO. 7   SA, Base Guide Open (Rev. 0) For CL-S700/CL-S703
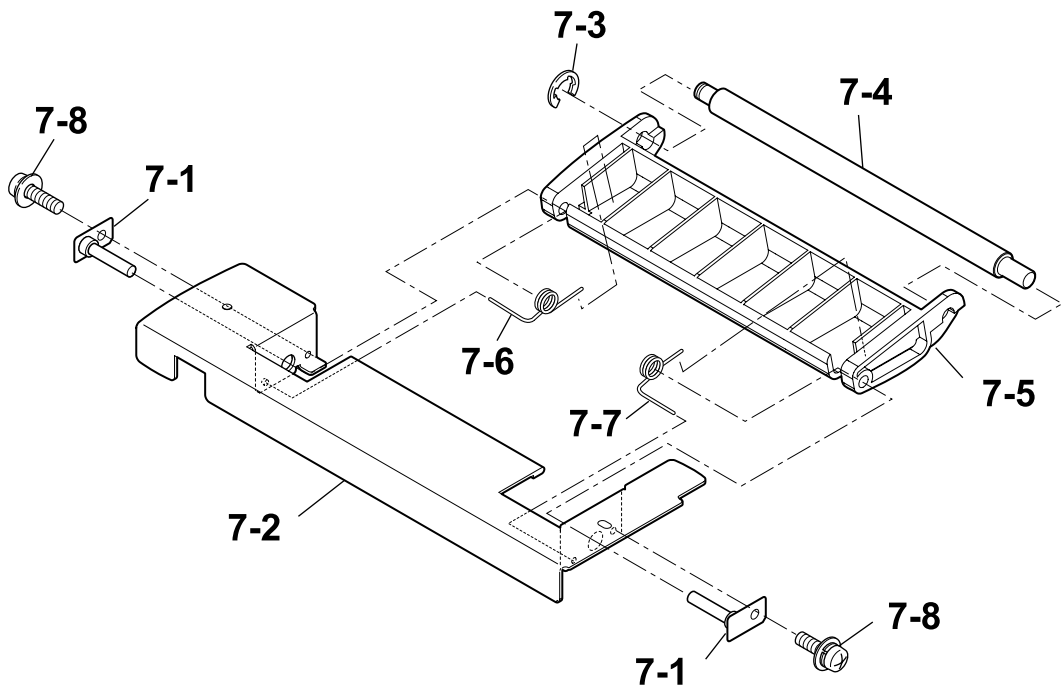
PARTS LIST for CL-S700/CL-S703   TITLE: SA, Base Guide Open   Sheet No. 1/1

Drawing No. 7   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
7-1	SA, Damper Shaft	JN29703-0	2		
7-2	Frame, Damper	JN24105-0	1	Metal	
7-3	E-Ring, 4.0	E60340-000F	1		
7-4	Shaft, Damper	JN22005-0	1		
7-5	Frame, Damper	JN24203-0	1	Plastic	
7-6	Spring, Damper L	JN23603-0	1		
7-7	Spring, Damper R	JN23602-0	1		
7-8	Screw, PH (SW+PW), M3.0x5	E04030-050F	2		

CL-S700/CL-S703

Drawing No. 8

Parts List & Location for Unit, Sensor Adjust

Revision Up List		
Sheet No.	Rev. No.	Date
1/2	0	Apr. 18, 2008
2/2	0	Apr. 18, 2008

DRAWING NO. 8 Unit, Sensor Adjust (Rev. 0) For CL-S700/CL-S703

Apply grease (Floil G-311S) to the places marked with ★.

PARTS LIST for CL-S700/CL-S703 TITLE: Unit, Sensor Adjust Sheet No. 1/2

Drawing No. 8 Rev. No. 0
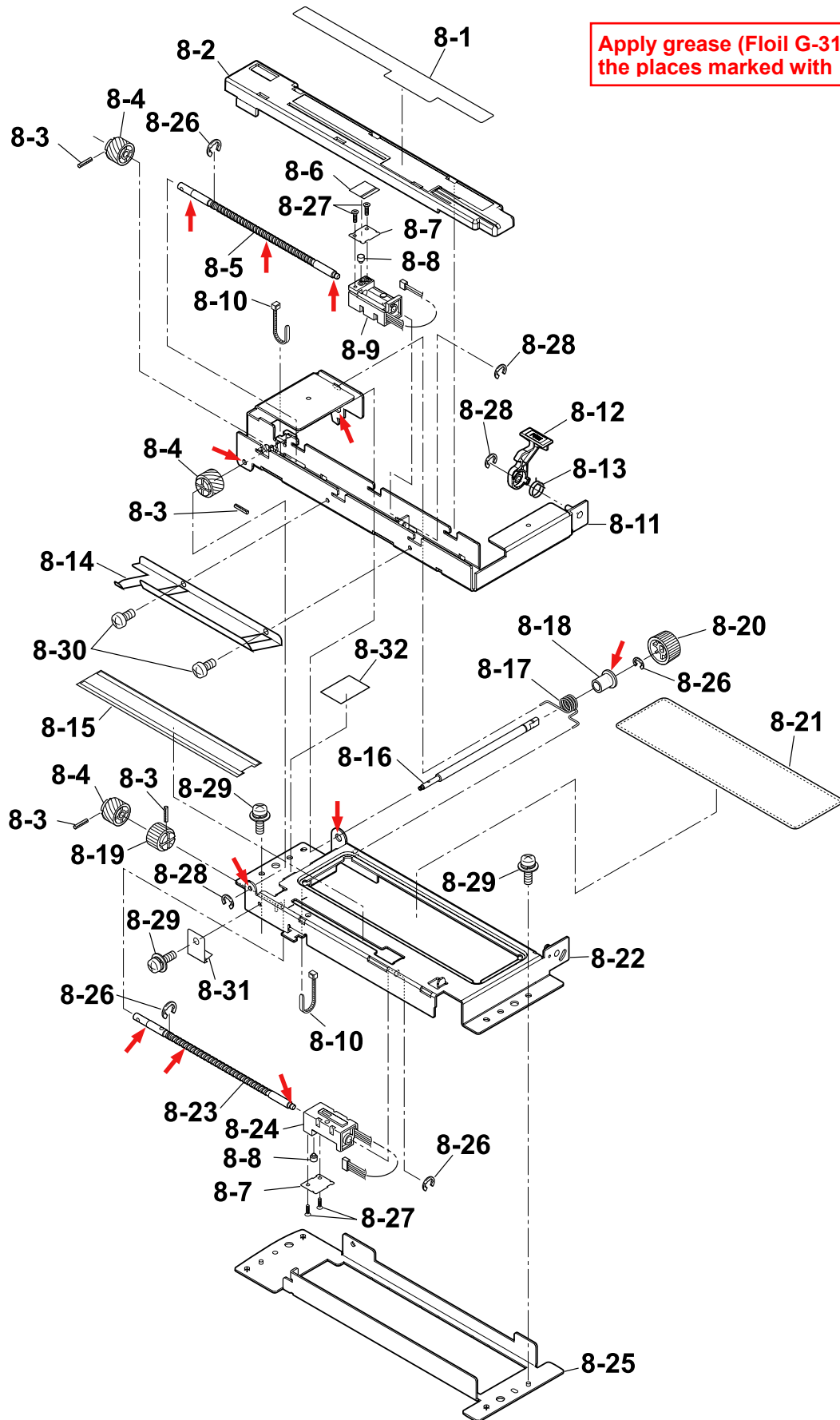
Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
8-1	Open Guide Seal	JE99179-0	1	71104522	
8-2	Cover, Sensor Adjust	JN24208-0	1		
8-3	Pin, Teeth Spring, 1.2x8	E70412-080F	4		
8-4	Screw Gear	JE99279-0	3	24001020	
8-5	Shaft, Screw Sensor U	JN22004-0	1		
8-6	Position Label	JE99281-0	1	71104631	
8-7	Stopper Plate	JE99275-0	2	20803640	
8-8	Move Pin	JA99067-0	2	22601080	
8-9	SA, Sensor U	JN48704-0	1	Adjustable type	
8-10	Wire Tie	C6701-101#	2		
8-11	SA, Open Guide U	JN29702-0	1		
8-12	Open Guide Lever	JN24228-0	1		
8-13	Open Guide Lever Spring	JE99132-0	1	21902730	
8-14	Paper Guide Plate	JE99228-0	1	24600781	
8-15	Sheet, Sensor Adjust	JN54909-0	1		
8-16	Shaft, Sensor Adjust	JN22001-0	1		
8-17	Spring, Guide Sensor Up	JN23601-0	1		
8-18	Bushing 3, Adjust Sensor	JN22201-0	1		
8-19	Ratchet Gear	JE99280-0	1	24001030	
8-20	Knob, Sensor Adjust	JN24201-0	1		

PARTS LIST for CL-S700/CL-S703   TITLE: Unit, Sensor Adjust   Sheet No. 2/2

Drawing No. 8   Rev. No. 0

Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
8-21	Cover, RFID	JN24204-0	1		
8-22	SA, Open Guide L	JN29705-0	1		
8-23	Shaft, Screw Sensor L	JN22006-0	1		
8-24	SA, Sensor Bottom	JN48705-0	1	Adjustable type	
8-25	Holder, Sensor L	JN24101-0	1		
8-26	E-Ring, 3.0	E60330-000F	4		
8-27	Screw, No.0, FHT (BT#1), M2.0x4	E13220-040F	4		
8-28	E-Ring, 2.0	E60320-000F	3		
8-29	Screw, PH (SW+PW), M3.0x5	E04030-050F	5		
8-30	Screw, PH, M3.0x3	E00130-030F	2		
8-31	Ratchet Spring	JE99276-0	1	21902760	
8-32	Sheet, Sensor Adjust L	JN24901-0	1		

CL-S700/CL-S703

Drawing No. 9

Parts List & Location for Unit, Frame

Revision Up List		
Sheet No.	Rev. No.	Date
1/3	1	Dec. 15, 2010
2/3	1	Dec. 15, 2010
2/3	1	Dec. 15, 2010

DRAWING NO. 9   Unit, Frame (Rev. 1) For CL-S700/CL-S703

Apply grease (Floil G-311S) to the place marked with ★.
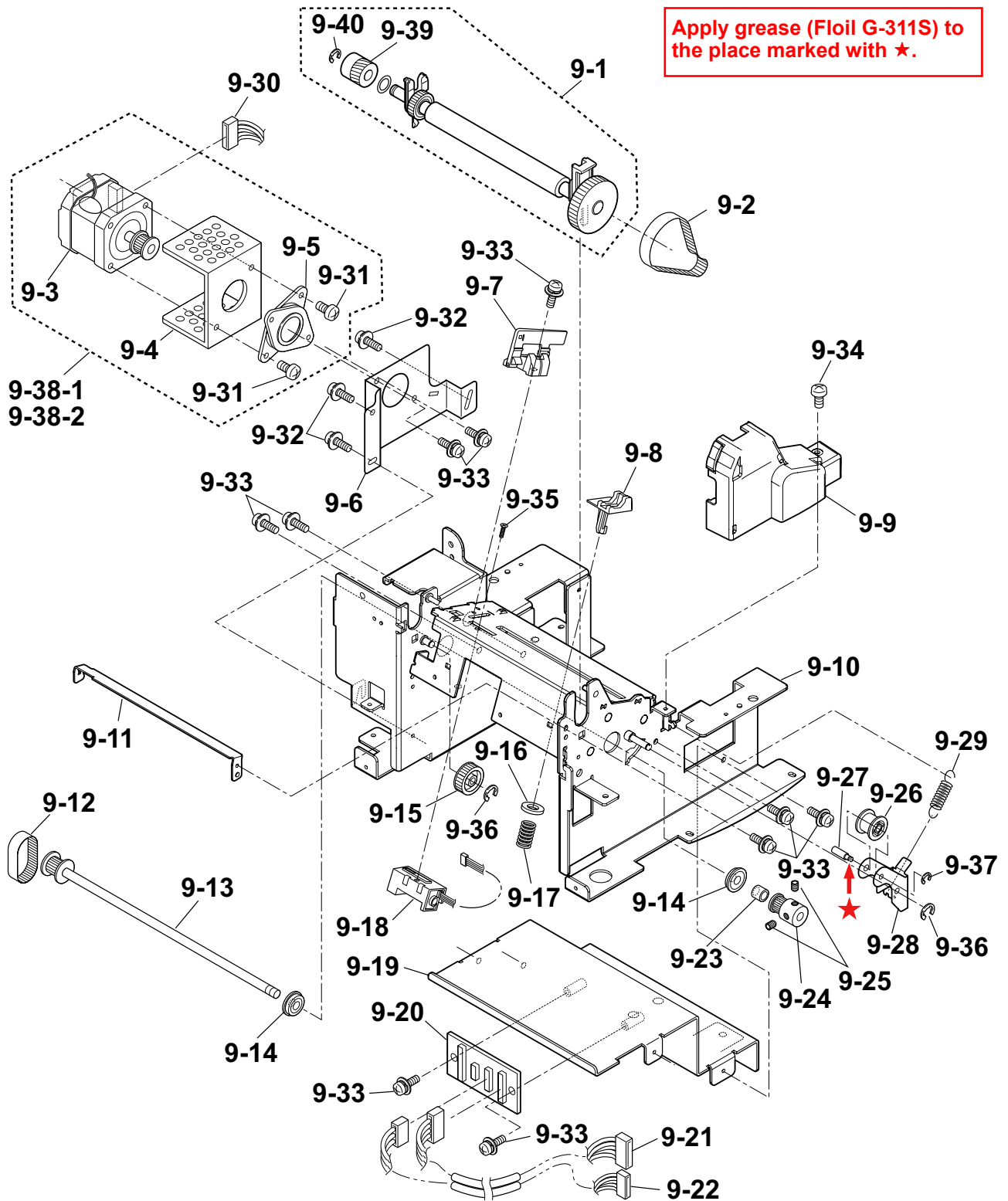
CL-S700/CL-S703

PARTS LIST for CL-S700/CL-S703　　　　　TITLE: Unit, Frame　　　　　Sheet No. 1/3

Drawing No. 9　　　　　　　　Rev. No. 1

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
9-1	Unit, Roller Platen	JN28801-1	1	(Rev. No.1)	
9-2	Belt, Platen Drive	JN26902-0	1		
9-3	SA, Motor (with thermistor)	----	1	Not supplied	
9-4	Plate, Heat Sink Motor	JN24109-0	1		
9-5	Flange, Motor	----	1	Not supplied	
9-6	Bracket, Motor	JN24108-0	1		
9-7	SA, Sensor U	JN48701-0	1	Fixed type	
9-8	Paper Guide	JE99045-0	1	24600660	
9-9	Cover, Pulley	JN24207-0	1		
9-10	SA, Frame	JN44701-0	1		
9-11	Plate, Peel	JN24107-0	1		
9-12	Belt, Motor Drive	JN26901-0	1		
9-13	SA 1, Drive Shaft	JN22702-0	1		
9-14	Bearing, Drive Shaft	JN21901-0	2		
9-15	Idle Gear Sub Assembly	JE99446-0	1	23204211	
9-16	Friction Cork	JE99037-0	1	24000910	
9-17	Paper Guide Spring	JE99017-0	1	21902571	
9-18	SA, Sensor Bottom	JN48702-0	1	Fixed type	
9-19	SA, Frame Center	JN44707-0	1		
9-20	SA, Connect PCB	JN66725-0	1	(Not used for CL-S700R)	

PARTS LIST for CL-S700/CL-S703   TITLE: Unit, Frame   Sheet No. 2/3

Drawing No. 9   Rev. No. 1

Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
9-21	SA, Option Cable 1	JN67715-0	1		
9-22	SA, Option Cable 2	JN67716-0	1		
9-23	Bushing, Motor Drive	JN22011-0	1		
9-24	Pulley, Drive Shaft	JN20302-0	1		
9-25	Screw, HSS (KCP), M3.0x5	E30130-050F	2		
9-26	Tension Pulley	JE99154-0	1	2400090	
9-27	Tensioner Pin	JE99136-0	1	22601891	
9-28	Plate, Tension	JN24110-0	1		
9-29	Tension Spring	JE99131-0	1	21902722	
9-30	SA, PF MTR Cable	JN67705-0	1		
9-31	Screw, PH, M3.0x6	E00130-060F	2		
9-32	Screw, PH (SW+PW), M3.0x5	E04030-050F	3		
9-33	Screw, PH (SW+PW), M3.0x6	E04030-060F	10		
9-34	Screw, BH, M3.0x5K	E00530-050KF	1		
9-35	Screw, No.0, FHT (BT#1), M2.0x8	E13220-080F	1		
9-36	E-Ring, 3.0	E60330-000F	2		
9-37	E-Ring, 2.0	E60320-000F	1		
9-38-1	Unit, Motor	JN25801-0	1	For CL-S700/CL-S703 (Rev. No.1)	
9-38-2	Unit, Motor	JN25803-0	1	For CL-S700R (Rev. No.1)	
9-39	Gear, One-way	JN20201-0	1	(Rev. No.1)	

PARTS LIST for CL-S700/CL-S703 TITLE: Unit, Frame Sheet No. 3/3

Drawing No. 9 Rev. No. 1

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
9-40	E-Ring, 4.0	E60340-000F	1	(Rev. No.1)	

CL-S700/CL-S703

Drawing No. 10

Parts List & Location for Unit, Top Cover

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

DRAWING NO. 10   Unit, Top Cover (Rev. 0) For CL-S700/CL-S703

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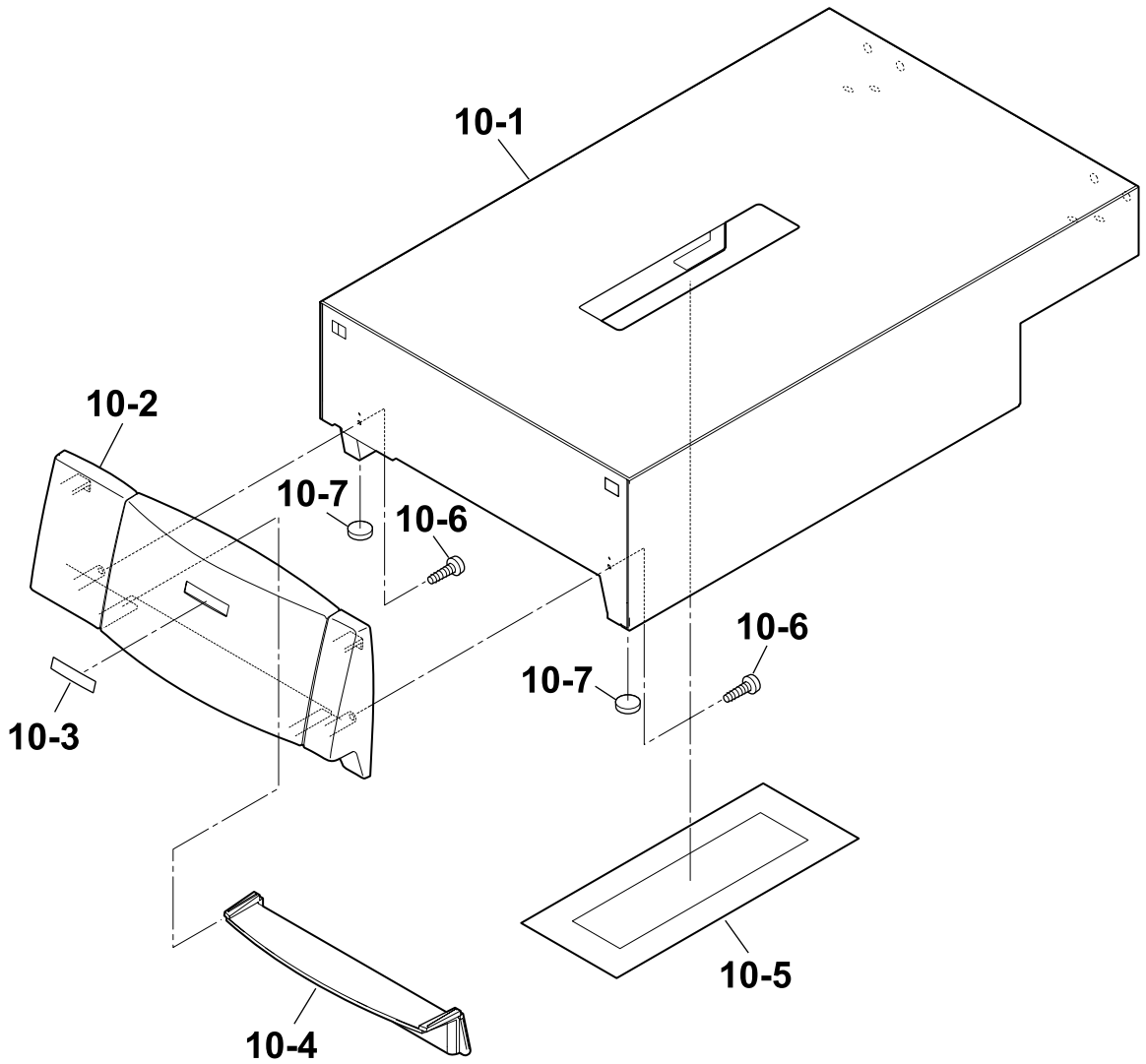
PARTS LIST for CL-S700/CL-S703   TITLE: Unit, Top Cover   Sheet No. 1/1

Drawing No. 10   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
10-1	SA1, Top Cover	JN56710-1	1		
10-2	Cover, Front Top	JN56207-0	1		
10-3	Logo, CITIZEN	JN54201-0	1		
10-4	Cover, Cutter Blind	JN56208-0	1		
10-5	Cover, Window	JN54101-0	1		
10-6	Screw, PHT (#2), M3.0x6	E10130-060F	2		
10-7	Spacer Leg, Case U	JN56114-0	2		

CL-S700/CL-S703

Drawing No. 11

Parts List & Location for SA, Ope-pane

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	1	Jan. 15, 2009

DRAWING NO. 11   SA, Ope-pane (Rev. 1) For CL-S700/CL-S703
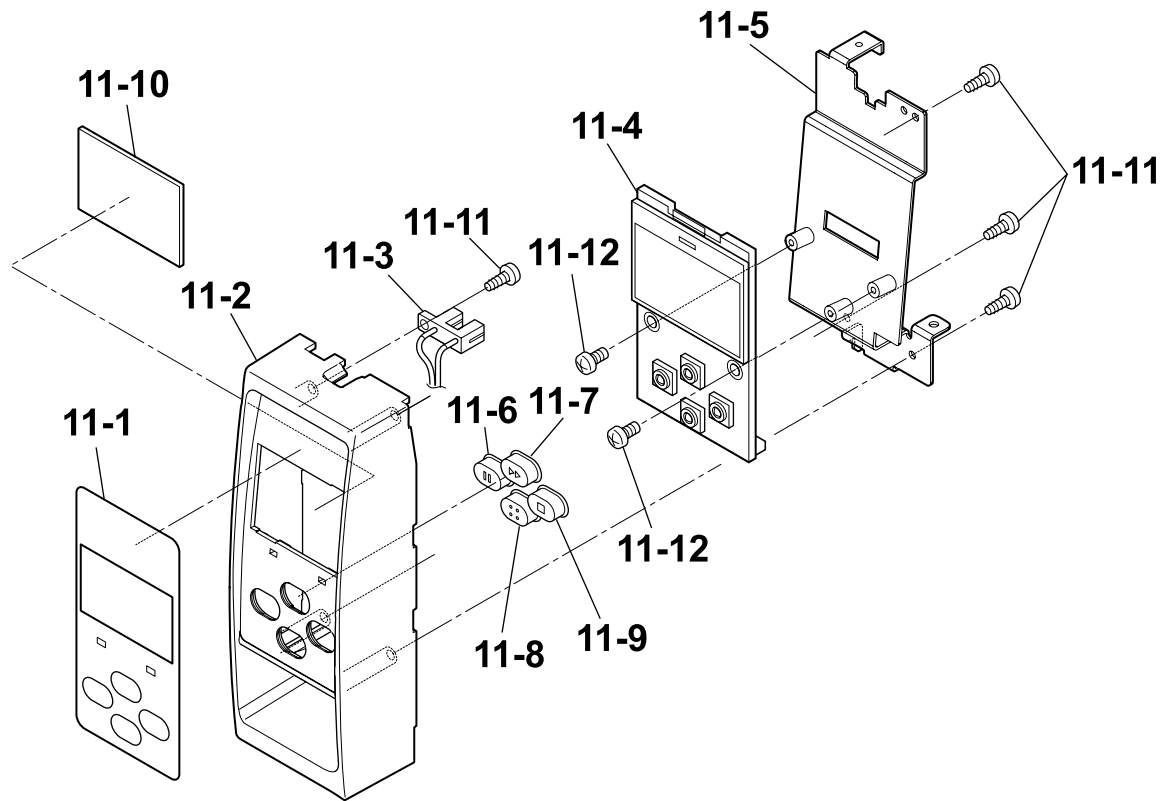
PARTS LIST for CL-S700/CL-S703   TITLE: SA, Ope-pane   Sheet No. 1/1

Drawing No. 11   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
11-1	Sheet, Ope-Pane	JN54901-0	1		
11-2	Cover, Ope-Pane	JN56202-0	1		
11-3	SA, Cover Open Sens	JN68705-0	1		
11-4	SA, Ope-Pane PCB	JN66704-0	1		
11-5	SA, Ope-Pane Plate	JN56706-0	1		
11-6	Switch, Pause	JN56212-0	1		
11-7	Switch, Feed	JN56211-0	1		
11-8	Switch, Menu	JN56210-0	1		
11-9	Switch, Stop	JN56213-0	1		
11-10	Cover, LCD	JN54102-0	1		
11-11	Screw, PHT (#2), M3.0x6	E10130-060F	4		
11-12	Screw, BH, M3.0x5	E00530-050F	2		

CL-S700/CL-S703

Drawing No. 12

Parts List & Location for SA, Front Center

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

DRAWING NO. 12   SA, Front Center (Rev. 0) For CL-S700/CL-S703

12-4

12-3

12-4

12-2

12-1
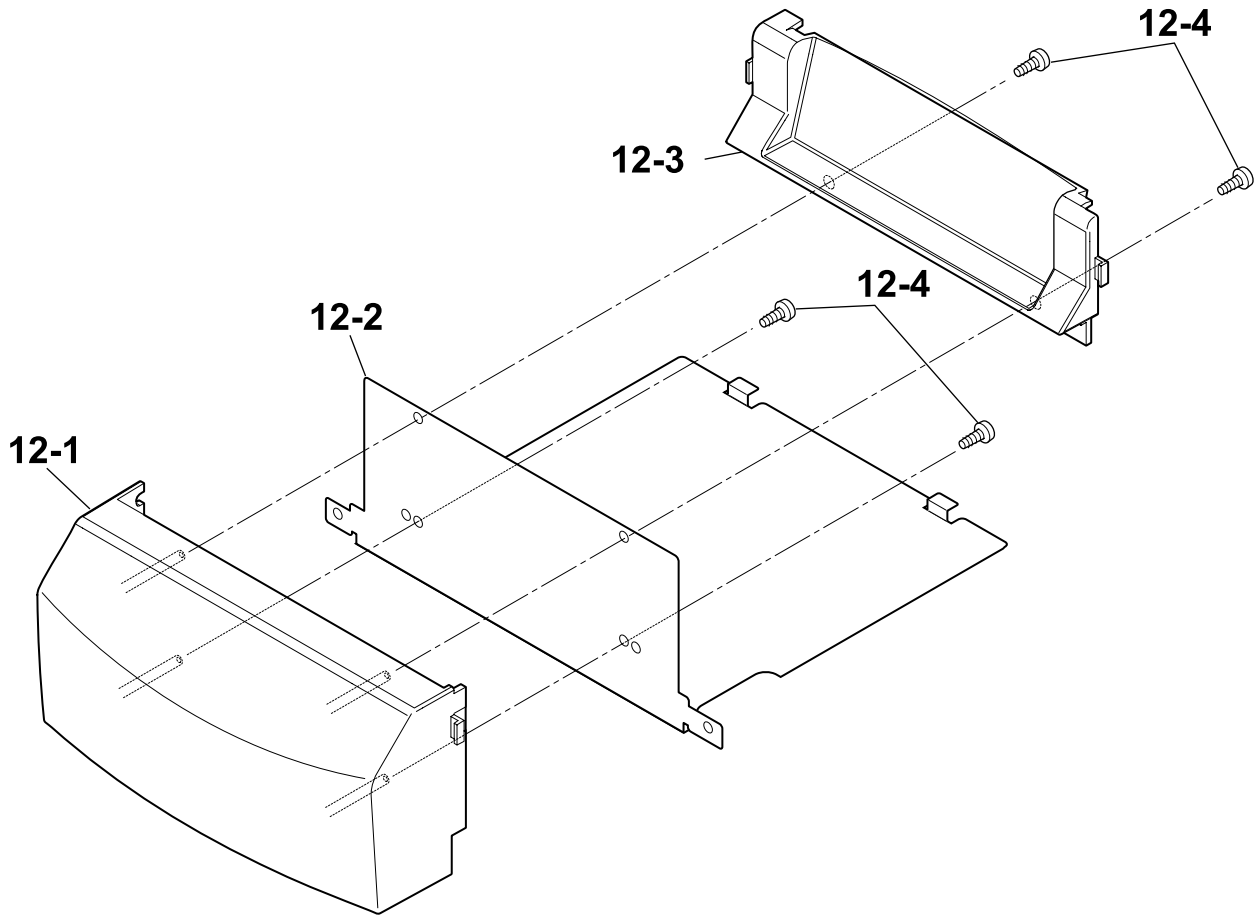
PARTS LIST for CL-S700/CL-S703   TITLE: SA, Front Center   Sheet No. 1/1

Drawing No. 12   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
12-1	Cover, Front Center	JN56204-0	1		
12-2	Plate, Front Cover	JN56121-0	1		
12-3	Cover, Front	JN56205-0	1		
12-4	Screw, PHT (#2), M3.0x6	E10130-060F	4		

CL-S700/CL-S703

Drawing No. 13

Parts List & Location for SA, Front Right

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

DRAWING NO. 13   SA, Front Right (Rev. 0) For CL-S700/CL-S703
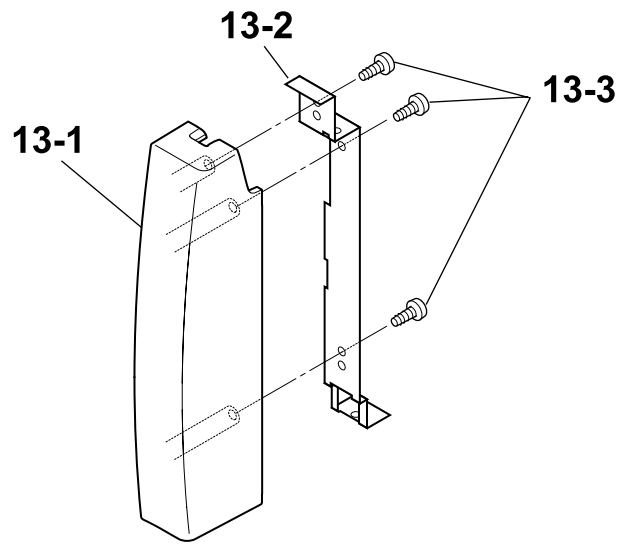
PARTS LIST for CL-S700/CL-S703　　　　　TITLE: SA, Front Right　　　　　Sheet No. 1/1

Drawing No. 13　　　　　　　　　　Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
13-1	Cover, Front Right	JN56203-0	1		
13-2	Plate, Front Right	JN56120-0	1		
13-3	Screw, PHT (#2), M3.0x6	E10130-060F	3		

CL-S700/CL-S703

Drawing No. 14

Parts List & Location for Unit, PCB

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	1	Dec. 15, 2010

DRAWING NO. 14   Unit, PCB (Rev. 1) For CL-S700/CL-S703
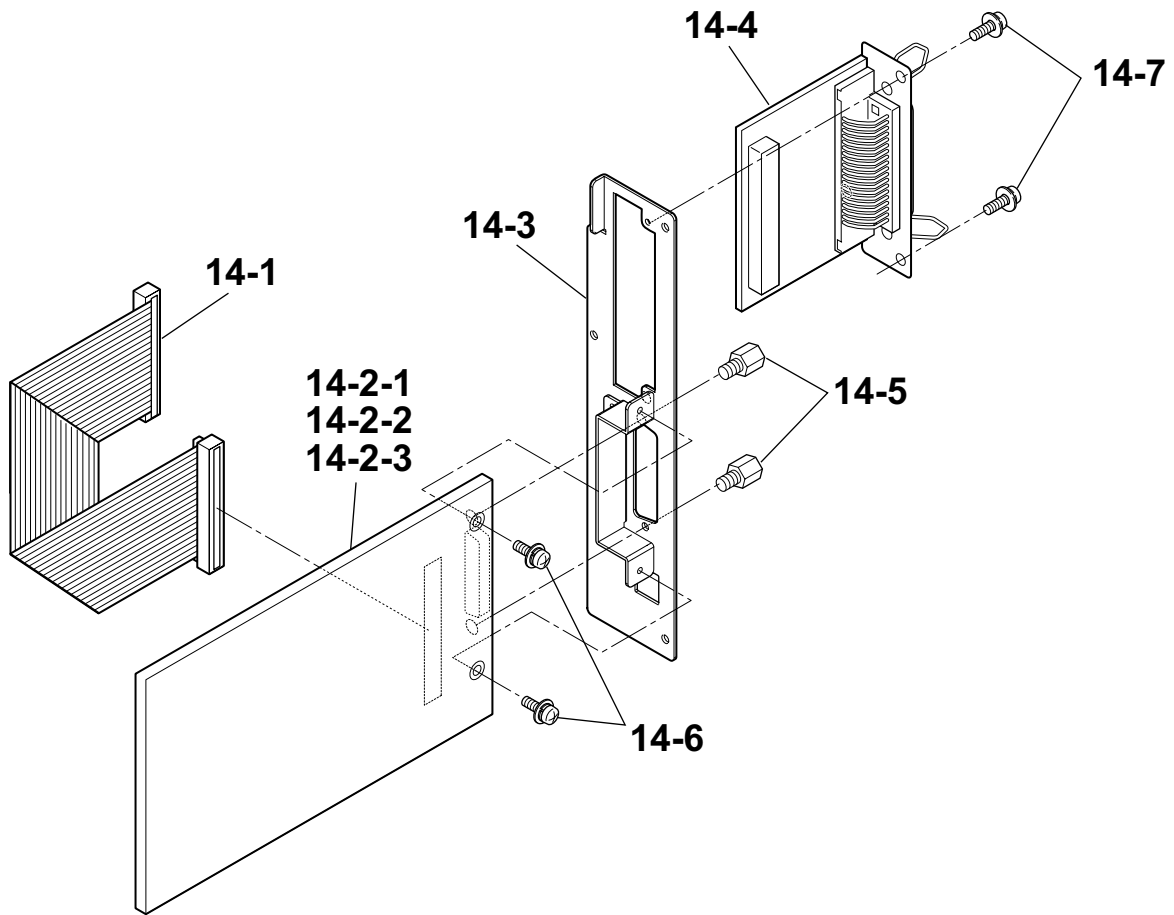
PARTS LIST for CL-S700/CL-S703   TITLE: Unit, PCB   Sheet No. 1/1

                                        Drawing No. 14   Rev. No. 1

Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
14-1	SA, Centro Cable	JN67708-0	1		
14-2-1	SA, Main PCB (200)	JN66701-0	1	For CL-S700 (Rev. No.1)	
14-2-2	SA, Main PCB (300)	JN66702-0	1	For CL-S703 (Rev. No.1)	
14-2-3	SA, Main PCB (200R)	JN66718-0	1	For CL-S700R (Rev. No.1)	
14-3	SA, Holder I/F	JN56711-0	1		
14-4	Unit, Centro PCB	JM66825-1	1		
14-5	Lock Screw (Inch)	C6390-054#	2		
14-6	Screw, PH (SW+PW), M3.0x5	E04030-050F	2		
14-7	Screw, BH, M3.0x5	E00530-050F	2		

CL-S700/CL-S703

Drawing No. -

Parts List & Location for Accessories

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

PARTS LIST for CL-S700/CL-S703   TITLE: Accessories   Sheet No. 1/1

Drawing No. -   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
-	Cord Set (UI/CSA)	C6009-000#	1	For CSA	
-	Cord Set (OE Straight)	C6009-200#	1	For CSE	
-	Cord Set (UK)	C6009-300#	1	For CSE	
-	CD-ROM, User's Manual	JN749**	1	to be revised without notice	
-	Guide, Quick Start	JN749**	1	to be revised without notice	
-	Head, Cleaner	JM79904-0	1		
-	Label, Accessory RPR	JN79901-0	1		
-	Thermal, Roll Paper	JM79907-0	1	For CSA	
-	Ribbon (B110A) 35*114	JM39901-0	1		
-	Ribbon Core 25*114	JM39902-0	1		

Chapter 5 Parts Lists
for CL-S700R

Table of Contents

CL-S700R

Recommended Spare Parts List

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

PARTS LIST for CL-S700R   TITLE: Recommended Spare Parts List   Sheet No. 1/1

Rev. No. 0

Item No.	Location	Part No.	Part Name	Q'ty/ Unit	Maint. Class Worn	Maint. Class Casual	Remarks	Dedicated for CL-S700R
1	1-15	JN66801-0	Unit, Power Supply	1		O		
2	2-13	JN09802-0	Unit, Head	1	O			
3	8-9	JN48704-0	SA, Sensor U	1		O	Adjustable type	
4	8-24	JN48705-0	SA, Sensor Bottom	1		O	Adjustable type	
5	9-1	JN28801-0	Unit, Roller Platen	1	O			
6	9-39	JN25803-0	Unit, Motor	1	O			O
7	9-7	JN48701-0	SA, Sensor U	1		O	Fixed type	
8	9-18	JN48702-0	SA, Sensor Bottom	1		O	Fixed type	
9	14-2	JN66718-0	SA, Main PCB (200R)	1		O		O
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CL-S700R

Drawing No. 1

Parts List & Location for General Assembly

Revision Up List		
Sheet No.	Rev. No.	Date
1/3	0	Apr. 18, 2008
2/3	0	Apr. 18, 2008
3/3	0	Apr. 18, 2008

DRAWING NO. 1   General Assembly (Rev. 0) for CL-S700R
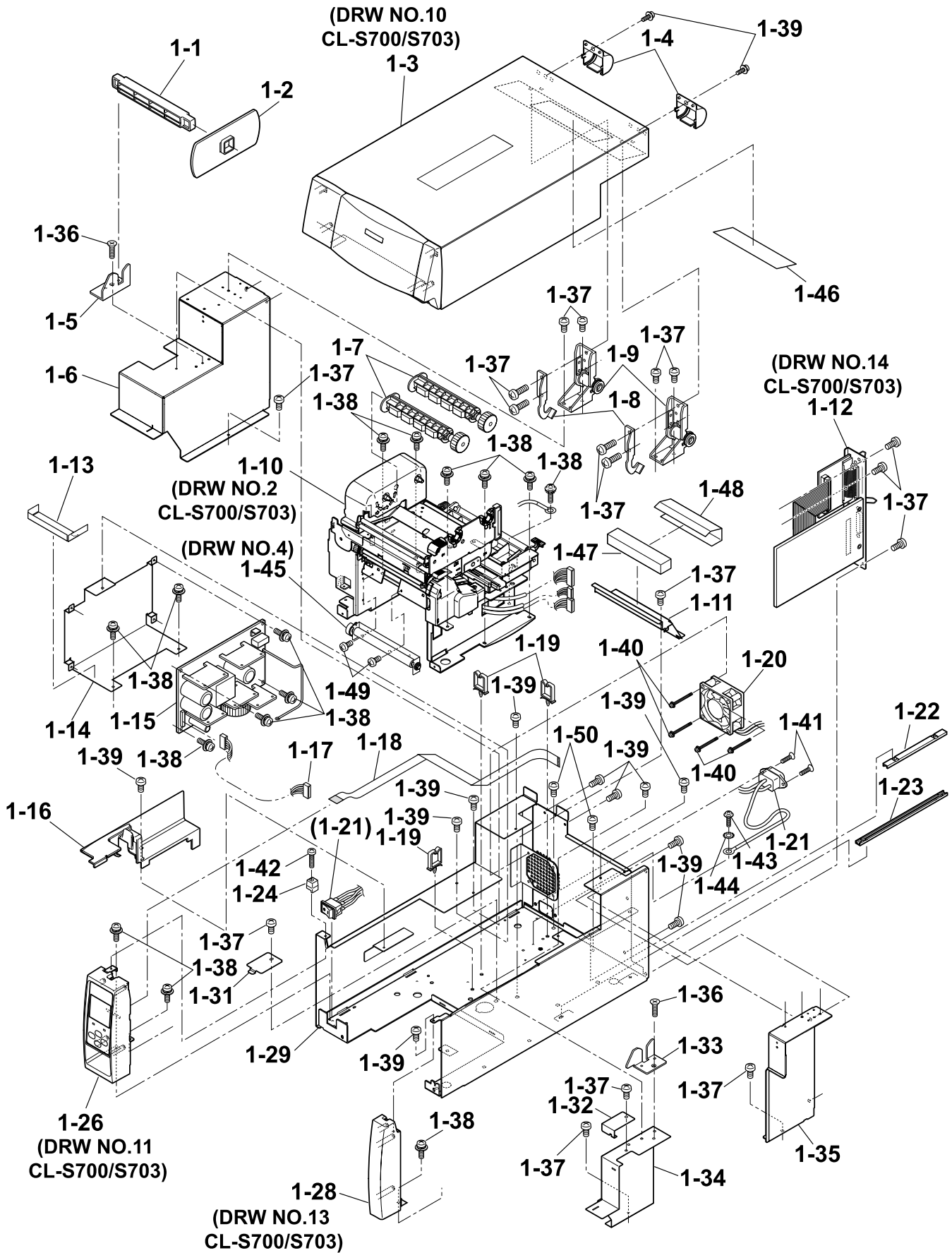
1-1

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(DRW NO.10
CL-S700/S703)
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(DRW NO.14
CL-S700/S703)
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1-10
(DRW NO.2
CL-S700/S703)

(DRW NO.4)
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(DRW NO.11
CL-S700/S703)

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(DRW NO.13
CL-S700/S703)

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CL-S700R

PARTS LIST for CL-S700R　　　　　　　　TITLE: General Assembly　　　　　　　　Sheet No. 1/3

Drawing No. 1　　　　　　　　　　　　　Rev. No. 0

Location	Part Name	Part No.	Q'ty/Unit	Remarks	Dedicated for CL-S700R
1-1	Roll Holder	JE99090-0	1	24600730	
1-2	Flange, Paper Wide	JM79201-0	1		
1-3	Unit, Top Cover	----	1	Ref: Drawing No. 10 / CL-S700, S703	
1-4	Cover, Hinge	JN56209-0	2		
1-5	Holder, Paper Shaft Left	JN56116-0	1		
1-6	SA, Cover Inner Power	JN56704-0	1		
1-7	SA, Ribbon Holder	JM34710-1	2		
1-8	Stopper, Hinge	JN54103-0	2		
1-9	SA, Hinge	JN59905-0	2		
1-10	Unit, Mechanism	JN99801-0	1	Ref: Drawing No. 2 / CL-S700, S703	
1-11	Cover, Inner Paper	JN56112-0	1		
1-12	Unit, PCB	-	1	Ref.: Drawing No. 14 / CL-S700, S703	
1-13	Sheet 1, Power Protect	JN54910-0	1		
1-14	Plate, Power	JN64101-0	1		
1-15	Unit, Power Supply	JN66801-0	1		
1-16	Cover, Cable	JN56201-0	1		
1-17	SA, Power Cable	JN67706-0	1		
1-18	Cable, Ope-pane FFC	JN67901-0	1		
1-19	WS-2NS (Cable, Clamp)	JN59903-0	3		
1-20	SA, Fan	JN65901-0	1		

PARTS LIST for CL-S700R   TITLE: General Assembly   Sheet No. 2/3

Drawing No. 1   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	Dedicated for CL-S700R
1-21	SA, Power SW Cable	JN67709-0	1	Including Inlet	
1-22	Rail, Guide U	JN54906-0	1		
1-23	Rail, Guide Base	JN54907-0	1		
1-24	Guide, Top Cover	JN54202-0	1		
1-25	-	-	-		
1-26	SA, Ope-pane	JN56705-0	1	Ref.: Drawing No. 11 / CL-S700, S703	
1-27	-	-	-		
1-28	SA, Front Right	JN56707-0	1	Ref.: Drawing No. 13 / CL-S700, S703	
1-29	SA, Case L	JN56701-1	1		
1-30	-	-	-		
1-31	Plate, Cable Cover	JN56113-0	1		
1-32	Cover, Sensor Adjust	JN56115-0	1		
1-33	Holder, Paper Shaft Right	JN56117-0	1		
1-34	Cover, Inner PCB Front	JN56110-0	1		
1-35	SA, Cover Inner PCB Rear	JN56713-0	1		
1-36	Screw, FH, M3.0x6	E00230-060F	2		
1-37	Screw, BH, M3.0x5	E00530-050F	19		
1-38	Screw, PH (SW+PW), M3.0x5	E04030-050F	15		
1-39	Screw, BH, M3.0x5K	E00530-050KF	11		
1-40	Screw, PH (SW+PW), M4.0x30	E00940-300F	4		

PARTS LIST for CL-S700R   TITLE: General Assembly   Sheet No. 3/3

Drawing No. 1   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	Dedicated for CL-S700R
1-41	Screw, FH, M3.0x6	E00230-060F	2		
1-42	Screw, PH, M3.0x12	E00130-120F	1		
1-43	Screw, BH (N), M4.0x4	E00540-040WF	1		
1-44	Washer, EXT, T (N), 4	E50740-000WF	1		
1-45	SA2, Peeler	JN29713-0	1	Ref.: Drawing No. 4	O
1-46	Label, Peel Guidance	JN99907-0	1		O
1-47	Cushion, Damper	JN24143-0	1		O
1-48	Sheet, Damper	JN24142-0	1		O
1-49	Screw, PH (SW+PW), M3.0x5	E04030-050F	2		O
1-50	Screw, BH, M3.0x5	E00530-050F	2		O

CL-S700R

Drawing No. 2

Parts List & Location for Unit, Rewinder

Revision Up List		
Sheet No.	Rev. No.	Date
1/4	0	Apr. 18, 2008
2/4	0	Apr. 18, 2008
3/4	0	Apr. 18, 2008
4/4	0	Apr. 18, 2008

DRAWING NO. 2   Unit, Rewinder (Rev. 0) for CL-S700R

Apply grease (Floil G-311S) to the places marked with ★.
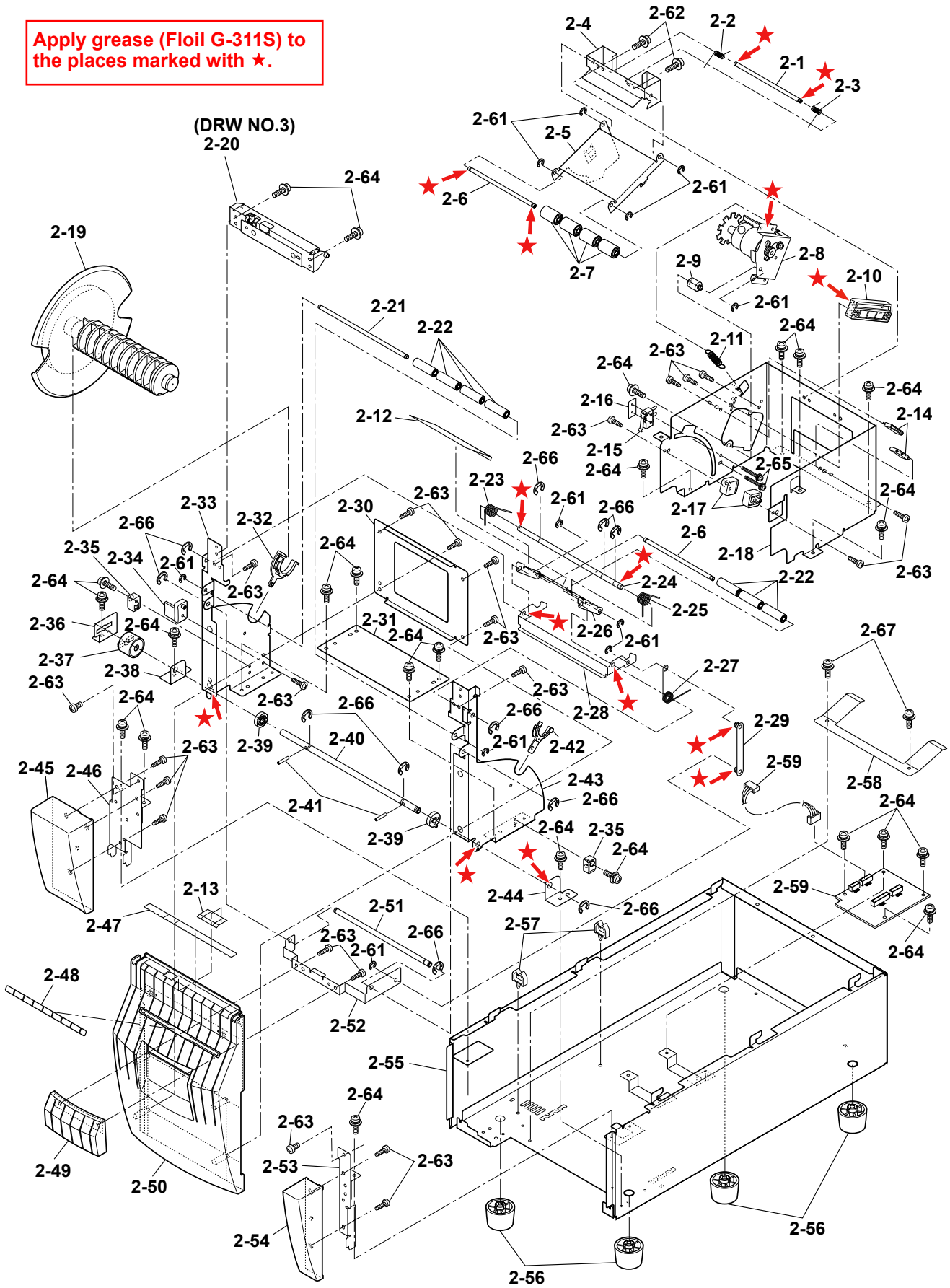
PARTS LIST for CL-S700R   TITLE: Unit, Rewinder   Sheet No. 1/4

Drawing No. 2   Rev. No. 0

Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
2-1	Shaft, Measure Sensor	JN22018-0	1		
2-2	Spring, Measure Sensor L	JN23609-0	1		
2-3	Spring, Measure Sensor R	JN23610-0	1		
2-4	Plate, Measure Sensor	JN24120-0	1		
2-5	Plate, Measure Flap	JN24121-0	1		
2-6	Shaft, Damper	JN22012-0	2		
2-7	Roller, Measure Sensor	JN24225-0	4		
2-8	SA, Rewinder Motor	JN29710-0	1		
2-9	Pivot, Rewinder Motor Plate	JN22017-0	1		
2-10	Guide, Motor Plate	JN24223-0	1		
2-11	Spring, Rewinder Motor	JN23608-0	1		
2-12	Sheet, Damper Plate Cover	JN24145-0	1		
2-13	Sheet, Peel Sensor Cover	JN24144-0	1		
2-14	Guide, Rewinder Flange	JN24226-0	2		
2-15	SA, Interlock SW	JN68710-0	1		
2-16	Plate, Nut	JN24138-0	1		
2-17	Stopper, Rewinder Door	JN24227-0	2		
2-18	Frame, Rewinder Inner	JN44110-0	1		
2-19	SA, Rewinder Flange	JN29708-0	1		
2-20	SA1, Peeler	JN29706-0	1		

PARTS LIST for CL-S700R   TITLE: Unit, Rewinder   Sheet No. 2/4

Drawing No. 2   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
2-21	Shaft, Guide Roller	JN22015-0	1		
2-22	Roller, Damper	JN24216-0	7		
2-23	Spring, Damper Rewinder L	JN23604-0	1		
2-24	Shaft, Handle Plate	JN22014-0	1		
2-25	Spring, Damper Rewinder R	JN23605-0	1		
2-26	Plate, Damper	JN24114-0	1		
2-27	Spring, Handle R	JN23606-0	1		
2-28	Plate, Handle	JN24115-0	1		
2-29	SA, Handle Link	JN56716-0	1		
2-30	Frame2, Door Center	JN56135-0	1		
2-31	Frame1, Door Center	JN56134-0	1		
2-32	Holder, Rewinder Shaft L	JN24210-0	1		
2-33	Frame, Door L	JN56132-0	1		
2-34	Plate, Rewinder SW	JN24213-0	1		
2-35	Stopper Rewinder	JN24211-0	2		
2-36	Plate, Torque Limiter	JN24124-0	1		
2-37	Torque Limiter	JN29903-0	1		
2-38	Holder, Door Shaft L	JN24126-0	1		
2-39	Ring, Damper	JN24212-0	2		
2-40	Shaft, Door	JN22020-0	1		

PARTS LIST for CL-S700R   TITLE: Unit, Rewinder   Sheet No. 3/4

Drawing No. 2   Rev. No. 0

Location	Part Name	Part No.	Q'ty/ Unit	Remarks	@
2-41	Pin, Parallel(A), M2.0×12	E70120-120F	2		
2-42	Holder, Rewinder Shaft R	JN24209-0	1		
2-43	Frame, Door R	JN56133-0	1		
2-44	Holder, Door Shaft R	JN24127-0	1		
2-45	Case, Rewinder Front L	JN56215-0	1		
2-46	SA1, Front Case Rewinder L	JN56723-0	1		
2-47	Sheet, Anti-Adhere	JN54107-0	1		
2-48	Cover Rewinder	JN24215-0	1		
2-49	Handle	JN24217-0	1		
2-50	Door, Rewinder	JN56214-0	1		
2-51	Shaft, Handle	JN22016-0	1		
2-52	Plate, Handle Bracket	JN24116-0	1		
2-53	SA1, Front Case Rewinder R	JN56725-0	1		
2-54	Case, Rewinder Front R	JN56216-0	1		
2-55	SA1, Rewinder Case	JN56718-0	1		
2-56	Leg, Case	JN56901-0	4		
2-57	CKS-16-L (Cable, Clamp)	JN59904-0	2		
2-58	Plate, Spring Rewinder	JN24125-0	1		
2-59	SA, Rewinder PCB	JN66705-0	1		
2-60	SA, RW Cable	JN67721-0	1		

PARTS LIST for CL-S700R　　　　　　TITLE: Unit, Rewinder　　　　　　Sheet No. 4/4

Drawing No. 2　　　　　　　　　　Rev. No. 0

Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
2-61	E-Ring, 3.0	E60330-000F	11		
2-62	Screw, PH (SW+PW), M3.0×6	E04030-060F	2		
2-63	Screw, PHT (#2), M3.0x6	E10130-060F	22		
2-64	Screw, PH (SW+PW), M3.0×5	E04030-050F	24		
2-65	Screw, PH (PW), M2×10	E00620-100F	2		
2-66	E-Ring, 4.0	E60340-000F	11		
2-67	Screw, PH (SW+PW), M3.0×4	E04030-040F	2		

CL-S700R

Drawing No. 3

Parts List & Location for SA1, Peeler

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

DRAWING NO. 3   SA1, Peeler (Rev. 0) for CL-S700R

Apply grease (Floil G-311S) to
the places marked with ★.

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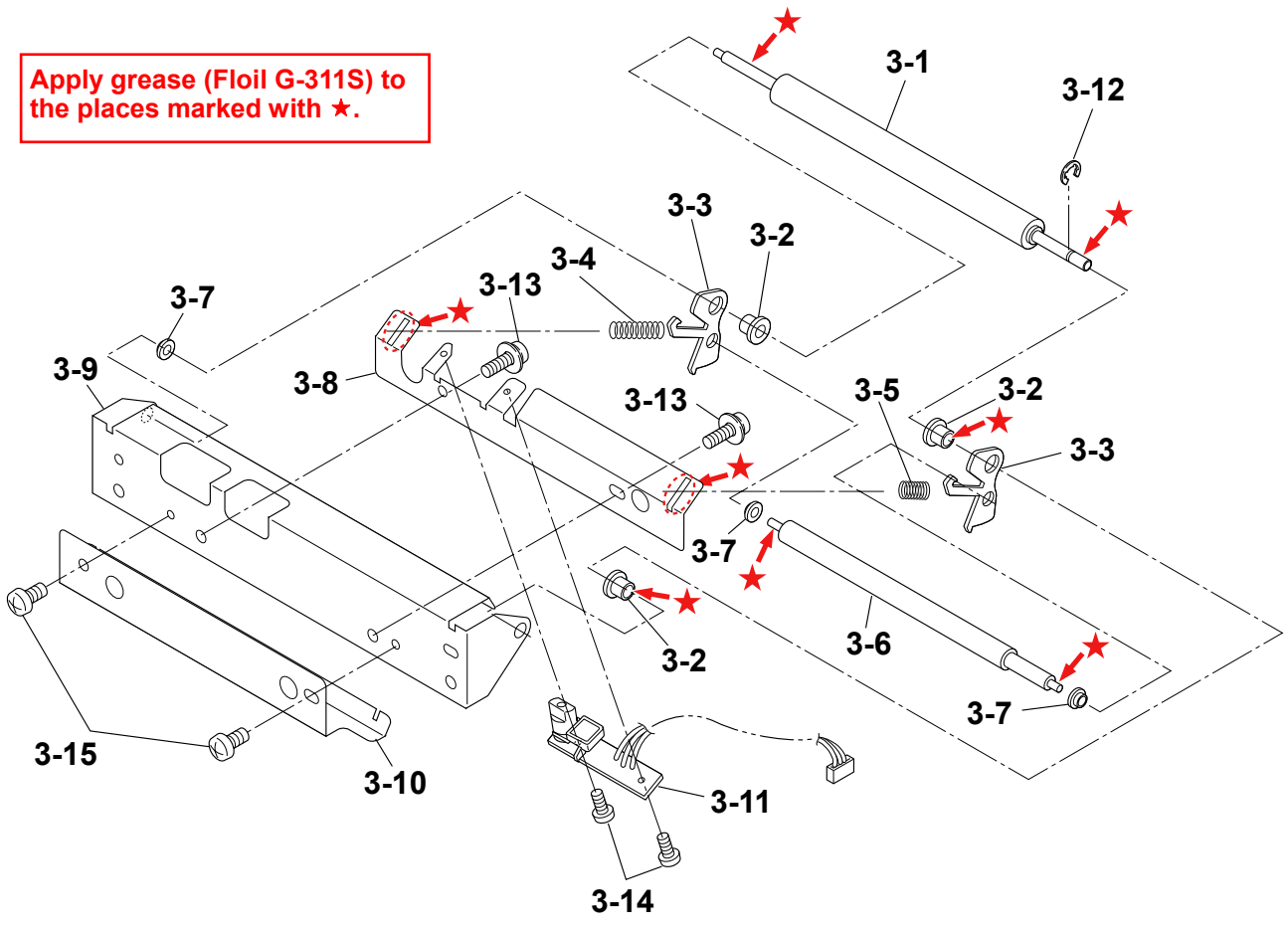
PARTS LIST for CL-S700R TITLE: SA1, Peeler Sheet No. 1/1

Drawing No. 3 Rev. No. 0

Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
3-1	Roller, Idle Rewinder	JN28502-0	1		
3-2	Bush, Idle	JE99750-0	3		
3-3	Plate, Friction Link	JE99325-0	2		
3-4	Spring, L Friction	JE99761-0	1		
3-5	Spring, R Friction	JE99760-0	1		
3-6	Roller, Friction	JE99758-0	1		
3-7	Bush, Friction	JE99762-0	3		
3-8	Plate, Sensor Holder	JN24112-0	1		
3-9	Plate1, Peeler	JN24111-0	1		
3-10	Plate, Friction Peeler	JN24113-0	1		
3-11	SA, Peel Sensor	JE69149-2	1		
3-12	E-Ring, 2.0	E60320-000F	1		
3-13	Screw, PH(SW+PW), M3.0x5	E04030-050F	2		
3-14	Screw,PH,M2.0x3	E00120-030WF	2		
3-15	Screw, BH, M3.0x5	E00530-050F	2		

CL-S700R

Drawing No. 4

Parts List & Location for SA2, Peeler

Revision Up List		
Sheet No.	Rev. No.	Date
1/1	0	Apr. 18, 2008

DRAWING NO. 4   SA2, Peeler (Rev. 0) for CL-S700R

Apply grease (Floil G-311S) to the places marked with ★.

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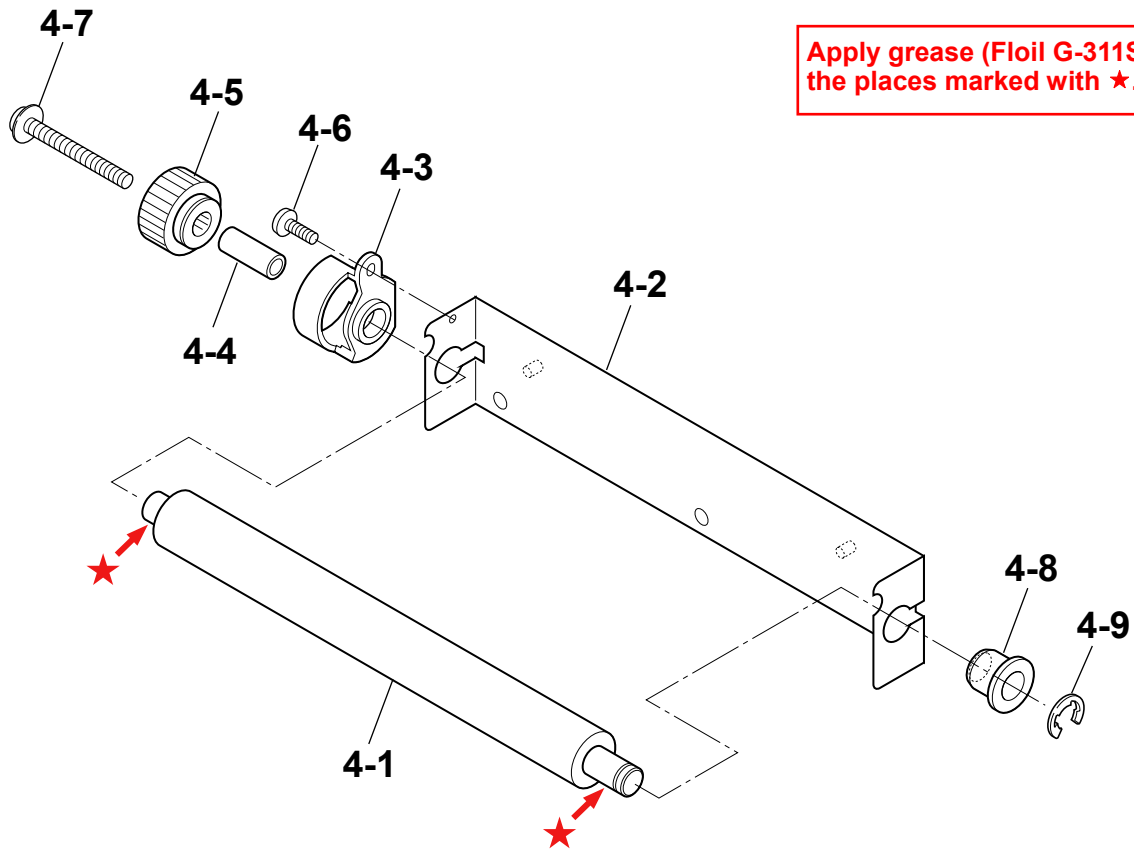
CL-S700R

PARTS LIST for CL-S700R　　　　　　　　TITLE: SA2, Peeler　　　　　　　　　　Sheet No. 1/1

Drawing No. 4　　　　　　　　　　　　　　Rev. No. 0

Location	Part Name	Part No.	Q'ty/Unit	Remarks	@
4-1	Roll, Peel	JE99338-1	1		
4-2	Plate2, Peeler	JN24123-0	1		
4-3	Bushing, Peel Roller	JE99370-0	1		
4-4	Shaft, Oneway Clutch	JE99366-0	1		
4-5	SA1, Peel Gear	JE99335-1	1		
4-6	Screw, TH, M2.0×4 (NI)	E00420-040WF	1		
4-7	Screw, PH (SW+PW#2), M2.6×14	E00926-140F	1		
4-8	Bushing2, Peel Roller	JE99341-0	1		
4-9	E-Ring, 4.0	E60340-000F	1		

CHAPTER 6
CIRCUIT DIAGRAMS

Chapter 6 Circuit Diagrams

Table of Contents

Inter Connection (Main PCB 1/15) (CL-S700/CL-S703)

UNIT, HEAD

UNIT, MOTOR
JN25801-**F

MOTOR

SA, FRONT SENS U
JN68702-**F

SA, FRONT SENS L
JN68708-**F

SA, LOWER SENS PCB
JN66721-**F

	IED
	PHOTO TR

1	DOWN LED A
2	DOWN LED K
3	DOWN TR C
4	DOWN TR E

SA, ADJ SENS U
JN68701-**F

SA, UPPER SENS PCB
JN66720-**F

| | IED |

| 1 | UP LED A |
| 2 | UP LED K |

SA, ADJ SENS L
JN68707-**F

SA, LOWER SENS PCB
JN66721-**F

| | IED |
| | PHOTO TR |

1	DOWN LED A
2	DOWN LED K
3	DOWN TR C
4	DOWN TR E

SA, RIB ENC SENS
JN68703-**F

SA, RIB SENS PCB
JN66722-**F

| | PHOTO INT |

1	LED A
2	LED K
3	TR C
4	TR E

SA, HEAD UP SW
JN68704-**F

SA, HEAD CABLE

SA, PF MTR CABLE
JN67705-**F

SA, PF MTR THM
JN68706-**F

SA, FRONT SENS
CABLE U
JN67702-**F

SA, FRONT SENS
CABLE L
JN67714-**F

SA, ADJ SENS
CABLE U
JN67701-**F

SA, ADJ SENS
CABLE L
JN67713-**F

SA, RIB ENC
CABLE
JN66704-**F

SA, HEAD UP
CABLE
JN66703-**F

J3

1	+24V	16	HEADCLK
2	+24V	17	HEADD1
3	+24V	18	HEADLAT
4	+24V	19	+3.3V
5	P.GND	20	HDTMP
6	P.GND	21	P.GND
7	P.GND	22	P.GND
8	P.GND	23	P.GND
9	HEADSTB	24	P.GND
10	HEADD4	25	P.GND
11	S.GND	26	+24V
12	HEADD3	27	+24V
13	+5V	28	+24V
14	HEADD2	29	+24V
15	HEADSTB	30	+24V

J4

1	-A
2	BCOM
3	-B
4	A
5	ACOM
6	B

J5

| 1 | VREF(+3V) |
| 2 | MOTTMP |

J6

| 1 | UP LED A |
| 2 | UP LED K |

J21

1	DOWN LED A
2	DOWN LED K
3	DOWN TR C
4	DOWN TR E

J7

| 1 | UP LED A |
| 2 | UP LED K |

J22

1	DOWN LED A
2	DOWN LED K
3	DOWN TR C
4	DOWN TR E

J8

1	LED A
2	LED K
3	TR C
4	TR E

J9

| 1 | HDUSENS |
| 2 | S.GND |

SA,MAIN PCB (200)
JN66701-**F

SA,MAIN PCB (300)
JN66702-**F

1	xSTROBE	21	BUSY
2	S.GND	22	S.GND
3	DATA0	23	PE
4	S.GND	24	S.GND
5	DATA1	25	SLCT
6	S.GND	26	xPRIME
7	DATA2	27	xATFD-XT
8	S.GND	28	xFAULT
9	DATA3	29	N.C.
10	S.GND	30	S.GND
11	DATA4	31	IETYP0
12	S.GND	32	IETYP1
13	DATA5	33	N.C.
14	S.GND	34	N.C.
15	DATA6	35	+5V
16	S.GND	36	xSLCT-IN
17	DATA7	37	+5V
18	S.GND	38	xRESET
19	xACKNLG	39	N.C.
20	S.GND	40	N.C.

J11

1	+5V
2	S.GND
3	P.GND
4	P.GND
5	P.GND
6	P.GND
7	+24V
8	+24V
9	+24V
10	+24V

J12

1	FAN +
2	FAN -
3	FANLOCK

J13

1	+5V
2	S.GND
3	TXD1
4	RXD1
5	S.GND
6	S.GND
7	N.C.
8	N.C.
9	RFRUN
10	RFOSC

J14

1	+5V	12	LCD_LED1
2	+3.3V	13	N.C.
3	N.C.	14	N.C.
4	S.GND	15	SW1
5	DACIN	16	SW2
6	DACCLK	17	SW3
7	CS_LCD	18	SW4
8	LCD_CD	19	CV_OPN
9	LCD_LED4	20	N.C.
10	LCD_LED3	21	S.GND
11	LCD_LED2	22	S.GND

J15

1	+24V
2	+24V
3	P.GND
4	P.GND
5	S.GND
6	DCMTR0
7	DCMTR1
8	HPSENS0
9	HPSENS1
10	MTTH
11	CPRTYP0

J16

1	+5V
2	S.GND
3	MTREF
4	MTENC
5	OPN
6	PEELSENS
7	CPRTYP1

J17

1	F.GND	14	+5V
2	TXD	15	N.C.
3	RXD	16	N.C.
4	RTS	17	N.C.
5	CTS	18	N.C.
6	DSR	19	N.C.
7	SGND	20	DTR
8	N.C.	21	N.C.
9	N.C.	22	N.C.
10	N.C.	23	N.C.
11	N.C.	24	N.C.
12	N.C.	25	N.C.
13	N.C.		

J18

J19

1	USBVCC
2	DM
3	DP
4	USBLGND

SA,POWER
CABLE
JN67706-**F

RF-ID(OPTION)

CABLE,OPEPANE FFC
JN67901-**F

SA,OPTION
CABLE 1
JN67715-**F

SA,OPTION
CABLE 2
JN67716-**F

SA,CENTRO
CABLE
JN67708-**F

RS232C

USB1.1

AC/DC
CONVERTER

UNIT,POWER
SUPPLY
JN66801-**F

AC INPUT

SA,FAN
JN65901-**F

J401

1	+5V	12	LCD_LED1
2	+3.3V	13	N.C.
3	N.C.	14	N.C.
4	S.GND	15	SW1
5	DACIN	16	SW2
6	DACCLK	17	SW3
7	CS_LCD	18	SW4
8	LCD_CD	19	CV_OPN
9	LCD_LED4	20	N.C.
10	LCD_LED3	21	S.GND
11	LCD_LED2	22	S.GND

	LED x8
	SW x4
	LCD

SA,OPEPANE PCB
JN66704-**F

J801

1	+24V
2	+24V
3	P.GND
4	P.GND
5	S.GND
6	DCMTR0
7	DCMTR1
8	HPSENS0
9	HPSENS1
10	MTTH
11	CPRTYP0

J803

1	+5V
2	S.GND
3	MTREF
4	MTENC
5	OPN
6	PEELSENS
7	CPRTYP1

SA,CONNECT PCB
JN66725-**F

J802

J804

AUTO
CUTTER
(OPTION)

PEELER
(OPTION)

CN101

SA,CENTRONICS I/F
CON PCB JM66710-**F

IEEE1284

HOST
COMPUTER

Title		Inter Connection (CL-S700/CL-S703) (1/15)		
Size A4	Number JN66701-0/JN66702-0			Revision A
Date:		Sheet of		
File:		Drawn By:		

6-3

CL-S700/CL-S703/CL-S700R

Inter Connection (Main PCB 1/15) (CL-S700R)

SA, FRONT SENS L
JN68708-**F

SA, ADJ SENS U
JN68701-**F

SA, ADJ SENS L
JN68707-**F

SA, RIB ENC SENS
JN68703-**F

SA,LOWER SENS PCB
JN66721-**F

SA,UPPER SENS PCB
JN66720-**F

SA,LOWER SENS PCB
JN66721-**F

SA,RIB SENS PCB
JN66722-**F

SA, HEAD UP SW
JN68704-**F

UNIT,HEAD
JN09802-**F

UNIT,MOTOR
JN25801-**F

SA,FRONT SENS U
JN68702-**F

MOTOR

IED / PHOTO TR

1	DOWN LED A
2	DOWN LED K
3	DOWN TR C
4	DOWN TR E

IED

| 1 | UP LED A |
| 2 | UP LED K |

IED / PHOTO TR

1	DOWN LED A
2	DOWN LED K
3	DOWN TR C
4	DOWN TR E

PHOTO INT

1	LED A
2	LED K
3	TR C
4	TR E

SA,HEAD CABLE
JN67707-**F

SA,PF MTR CABLE
JN67705-**F

SA,PF MTR THM
JN68706-**F

SA,FRONT SENS
CABLE U
JN67702-**F

SA,FRONT SENS
CABLE L
JN67714-**F

SA,ADJ SENS
CABLE U
JN67701-**F

SA,ADJ SENS
CABLE L
JN67713-**F

SA,RIB ENC
CABLE
JN67704-**F

SA HEAD UP
CABLE
JN67703-**F

J3

1	+24V	16	HEADCLK
2	+24V	17	HEADD1
3	+24V	18	HEADLAT
4	+24V	19	+3.3V
5	P.GND	20	HDTMP
6	P.GND	21	P.GND
7	P.GND	22	P.GND
8	P.GND	23	P.GND
9	HEADSTB	24	P.GND
10	HEADD4	25	P.GND
11	S.GND	26	+24V
12	HEADD3	27	+24V
13	+5V	28	+24V
14	HEADD2	29	+24V
15	HEADSTB	30	+24V

J4

1	-A
2	BCOM
3	-B
4	A
5	ACOM
6	B

J5

| 1 | VREF(+3V) |
| 2 | MOTTMP |

J6

| 1 | UP LED A |
| 2 | UP LED K |

J21

1	DOWN LED A
2	DOWN LED K
3	DOWN TR C
4	DOWN TR E

J7

| 1 | UP LED A |
| 2 | UP LED K |

J22

1	DOWN LED A
2	DOWN LED K
3	DOWN TR C
4	DOWN TR E

J8

1	LED A
2	LED K
3	TR C
4	TR E

J9

| 1 | HDUSENS |
| 2 | S.GND |

SA,MAIN PCB (200)
JN66701-**F

J17

1	xSTROBE	21	BUSY
2	S.GND	22	S.GND
3	DATA0	23	PE
4	S.GND	24	S.GND
5	DATA1	25	SLCT
6	S.GND	26	xPRIME
7	DATA2	27	xATFD-XT
8	S.GND	28	xFAULT
9	DATA3	29	N.C.
10	S.GND	30	S.GND
11	DATA4	31	IETYP0
12	S.GND	32	IETYP1
13	DATA5	33	N.C.
14	S.GND	34	N.C.
15	DATA6	35	+5V
16	S.GND	36	xSLCT-IN
17	DATA7	37	+5V
18	S.GND	38	xRESET
19	xACKNLG	39	N.C.
20	S.GND	40	N.C.

J11

1	+5V
2	S.GND
3	P.GND
4	P.GND
5	P.GND
6	P.GND
7	+24V
8	+24V
9	+24V
10	+24V

J12

1	FAN +
2	FAN -
3	FANLOCK

J13

1	+5V
2	S.GND
3	TXD1
4	RXD1
5	S.GND
6	S.GND
7	N.C.
8	N.C.
9	RFRUN
10	RFOSC

J14

1	+5V	12	LCD_LED1
2	+3.3V	13	N.C.
3	N.C.	14	N.C.
4	S.GND	15	SW1
5	DACIN	16	SW2
6	DACCLK	17	SW3
7	CS_LCD	18	SW4
8	LCD_CD	19	CV_OPN
9	LCD_LED4	20	N.C.
10	LCD_LED3	21	S.GND
11	LCD_LED2	22	S.GND

J15

1	+24V
2	+24V
3	P.GND
4	P.GND
5	S.GND
6	DCMTR0
7	DCMTR1
8	HPSENS0
9	HPSENS1
10	MTTH
11	CPRTYP0

J16

1	+5V
2	MTREF
3	MTENC
4	OPN
5	PEELSENS
6	CPRTYP1

J18

1	F.GND	14	+5V
2	TXD	15	N.C.
3	RXD	16	N.C.
4	RTS	17	N.C.
5	CTS	18	N.C.
6	DSR	19	N.C.
7	SGND	20	DTR
8	N.C.	21	N.C.
9	N.C.	22	N.C.
10	N.C.	23	N.C.
11	N.C.	24	N.C.
12	N.C.	25	N.C.
13	N.C.		

J19

1	USBVCC
2	DM
3	DP
4	USBLGND

SA,POWER
CABLE
JN67706-**F

RF-ID(OPTION)

CABLE,OPEPANE FFC
JN67901-**F

SA,OPTION
CABLE 1
JN67715-**F

SA,OPTION
CABLE 2
JN67716-**F

SA,CENTRO
CABLE
JN67708-**F

RS232C

USB1.1

AC/DC
CONVERTER

UNIT,POWER
SUPPLY
JN66801-**F

SA,FAN
JN65901-**F

J401

1	+5V	12	LCD_LED1
2	+3.3V	13	N.C.
3	N.C.	14	N.C.
4	S.GND	15	SW1
5	DACIN	16	SW2
6	DACCLK	17	SW3
7	CS_LCD	18	SW4
8	LCD_CD	19	CV_OPN
9	LCD_LED4	20	N.C.
10	LCD_LED3	21	S.GND
11	LCD_LED2	22	S.GND

LED x8 / SW x4 / LCD

SA,OPEPANE PCB
JN66704-**F

J501

1	+24V
2	+24V
3	P.GND
4	P.GND
5	S.GND
6	DCMTR0
7	DCMTR1
8	HPSENS0
9	HPSENS1
10	MTTH
11	CPRTYP0

J502

1	+5V
2	S.GND
3	MTREF
4	MTENC
5	OPN
6	PEELSENS
7	CPRTYP1

SA,REWINDER PCB
JN66705-**F

PHOTO INT x2

J503

1	N.C.
2	S.GND
3	CPRTYP1
4	V5R0
5	PEELSENS

J504

1	MT_P
2	CV_OPN
3	MT_M
4	MTTH
5	S.GND
6	MTENC
7	PI_IN

CN101

SA,CENTRONICS I/F
CON PCB JM66710-**F

CN102

IEEE1284

HOST
COMPUTER

SA, INTERLOCK SW
JN68710-**F

SA,INTERLOCK CABLE
JN67722-**F

SA,RW
CABLE
JN67721-**F

J701

J702

PHOTO INT

SA,REWINDER MTR PCB
JM66707-**F

THERMISTOR

PEELER

UNIT,MOTOR REWINDER
JN25802-**F

REWINDER
MOTOR

AC INPUT

Title	Inter Connection (CL-S700R) (1/15)	
Size A4	Number JN66701-0	Revision A
Date:	Sheet of	
File:	Drawn By:	

Circuit Diagram (Main PCB 2/15) [CPU (1)]

MAIN PCB - CPU (1)　　(2/15)

Size	Number	Revision
A4	JN66701-0	A

Date:　　Sheet　of
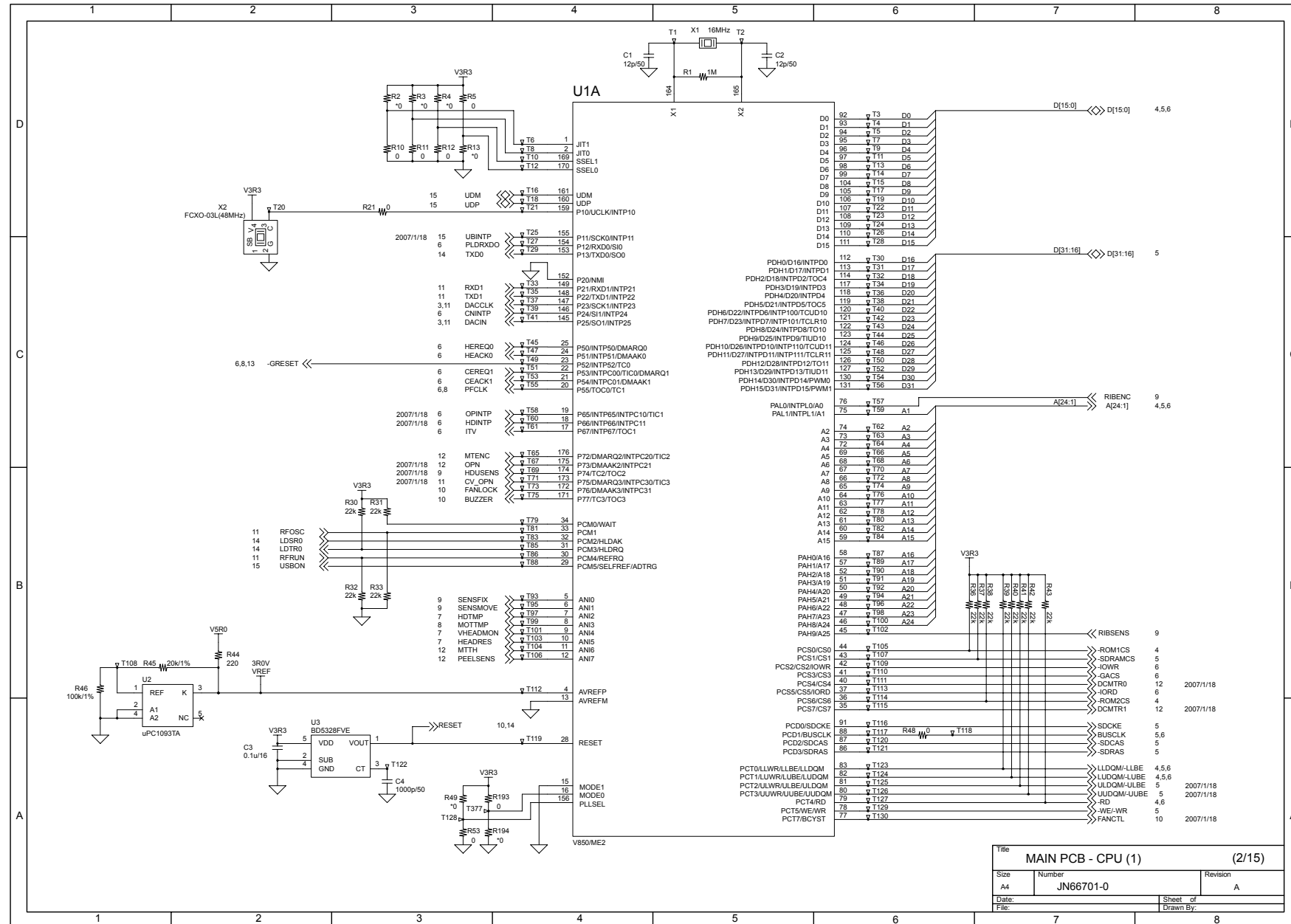
File:　　Drawn By:

Circuit Diagram (Main PCB 3/15) [CPU (2)/DAC]
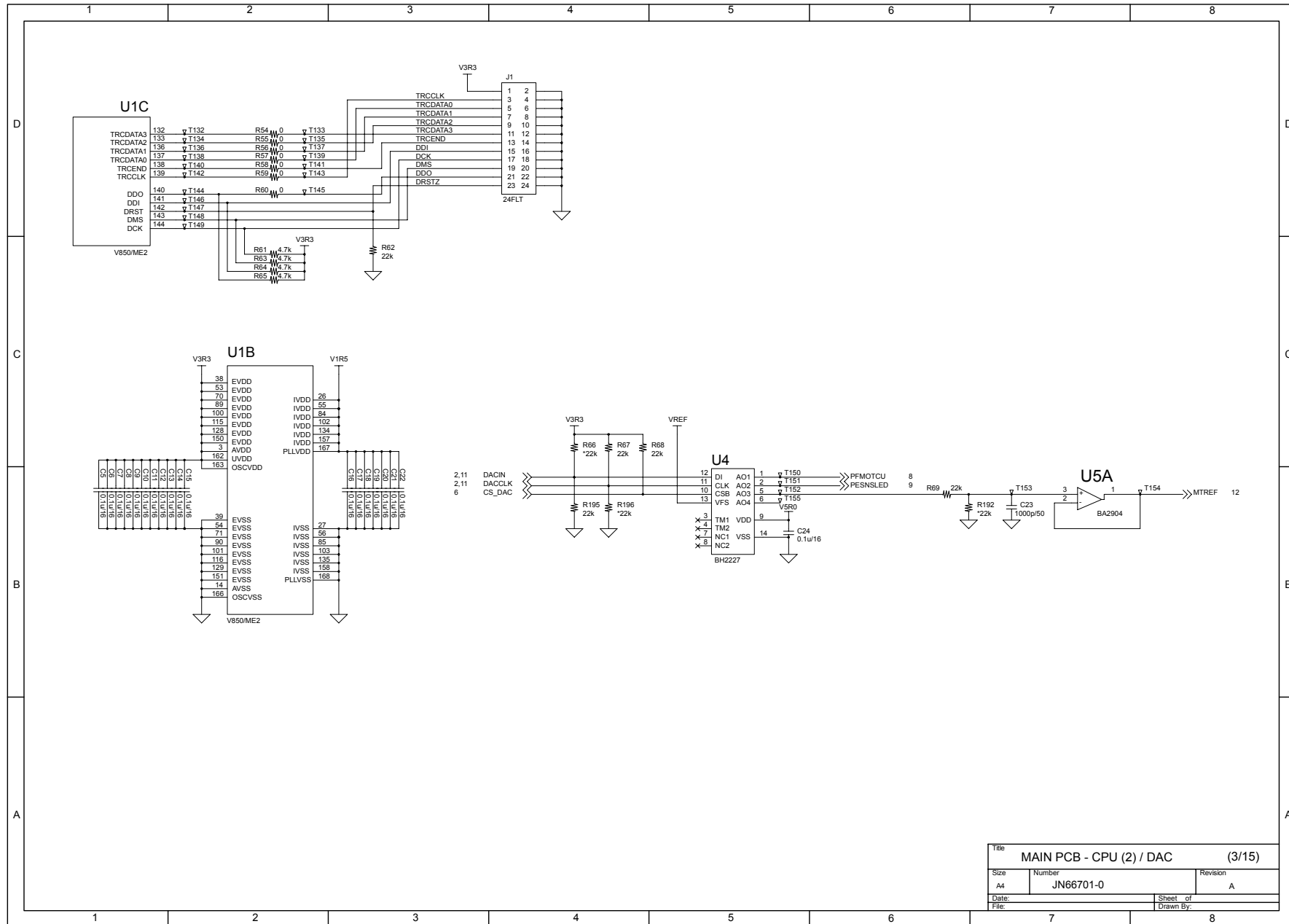
Circuit Diagram (Main PCB 4/15) [ROM]

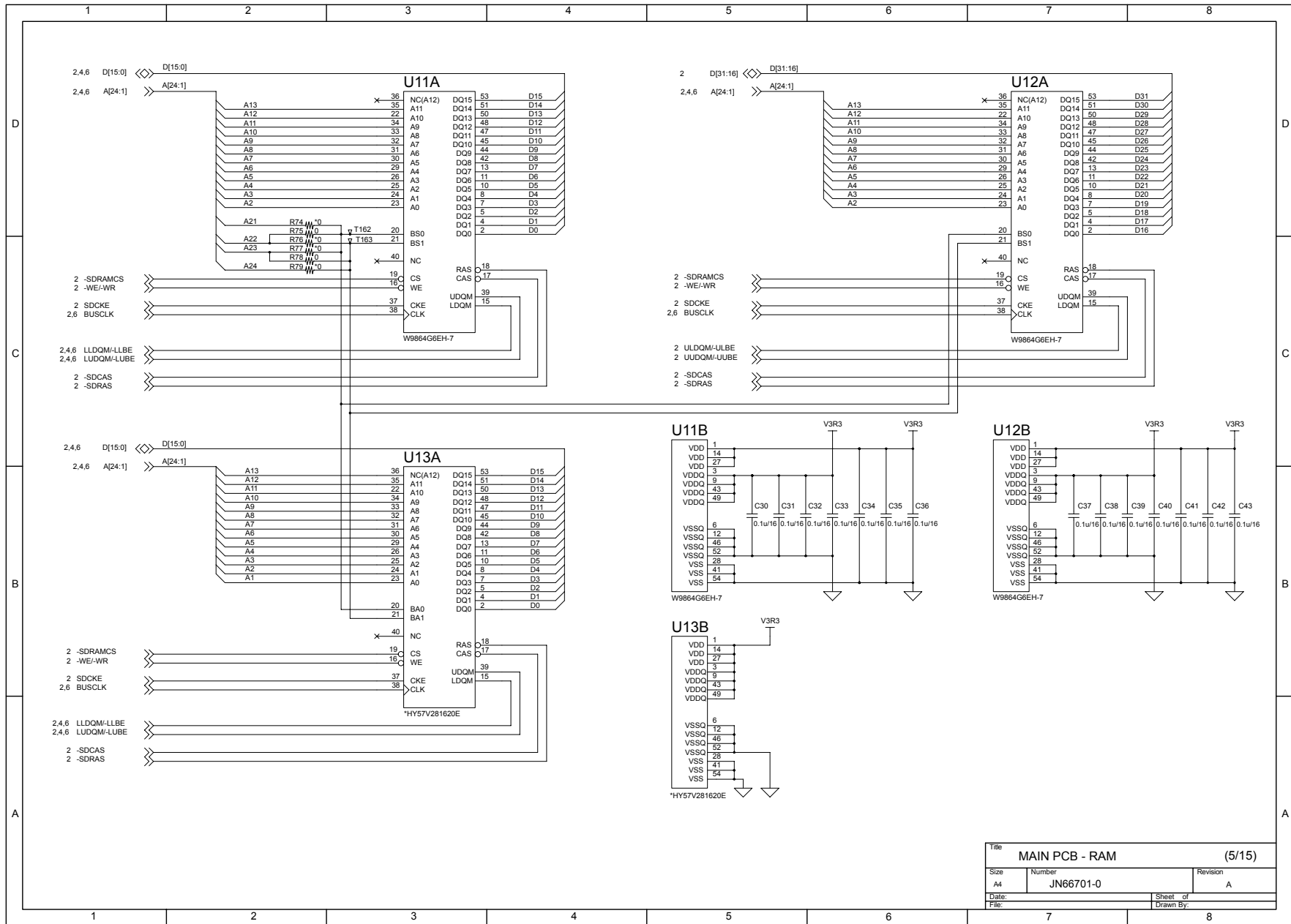
Program ROM Address

CPU Address	ROM Address	
000000h (N/A)	--	
100000h	100000h	
200000h	200000h (000000h)	For 16M
300000h	300000h	
400000h	400000h (000000h)	For 32M
500000h	500000h	
600000h	600000h	For 64M (Highre order 8M is not available.)
700000h	700000h	

Title	MAIN PCB - ROM		(4/15)
Size A4	Number JN66701-0		Revision A
Date:		Sheet of	
File:		Drawn By:	
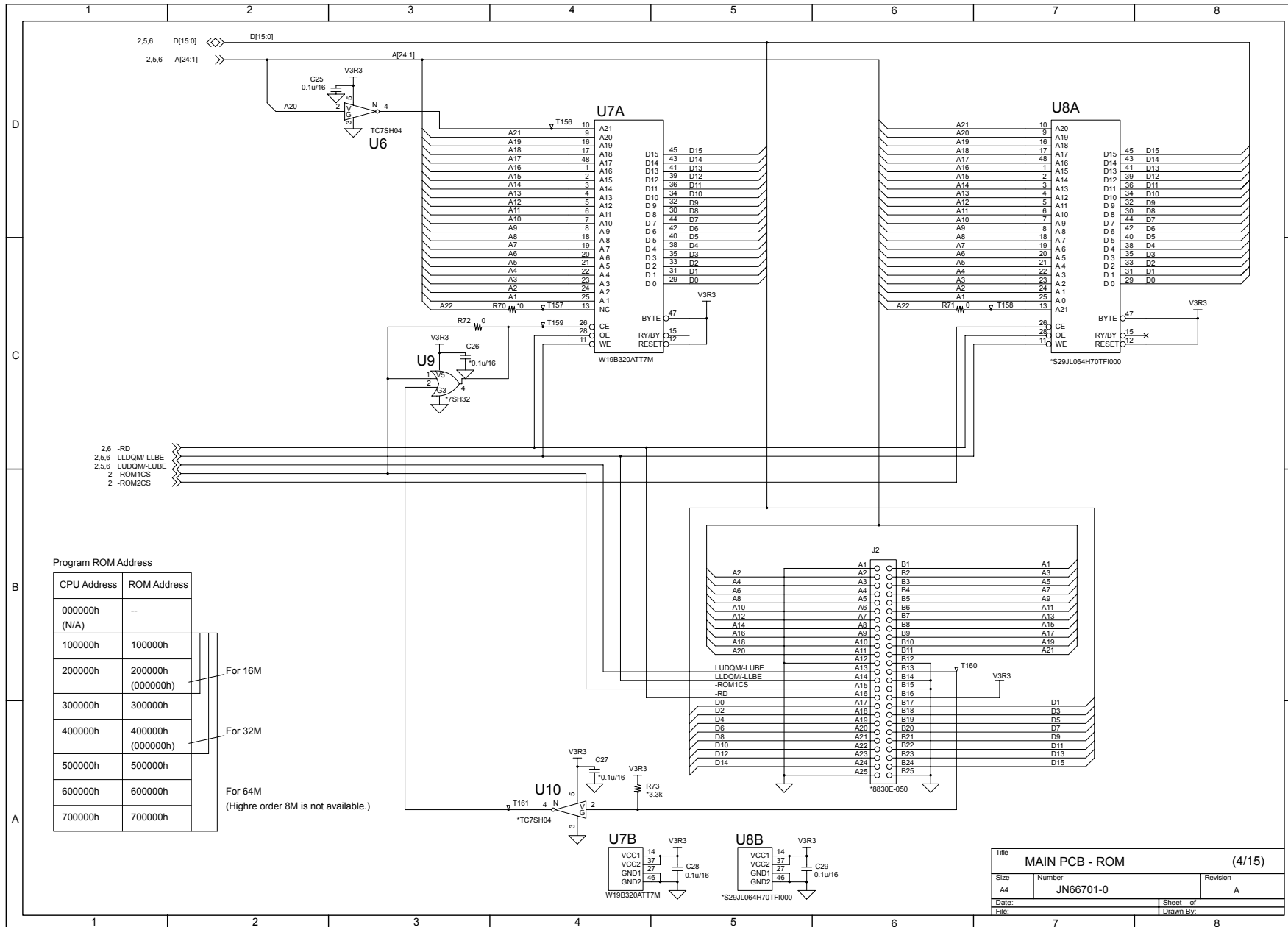
Circuit Diagram (Main PCB 5/15) [RAM]

Circuit Diagram (Main PCB 6/15) [Custom IC]

- Input Clock Setting for GATE ARRAY

	R82	R83
CRYSTAL	NA	0
CPU	0	NA
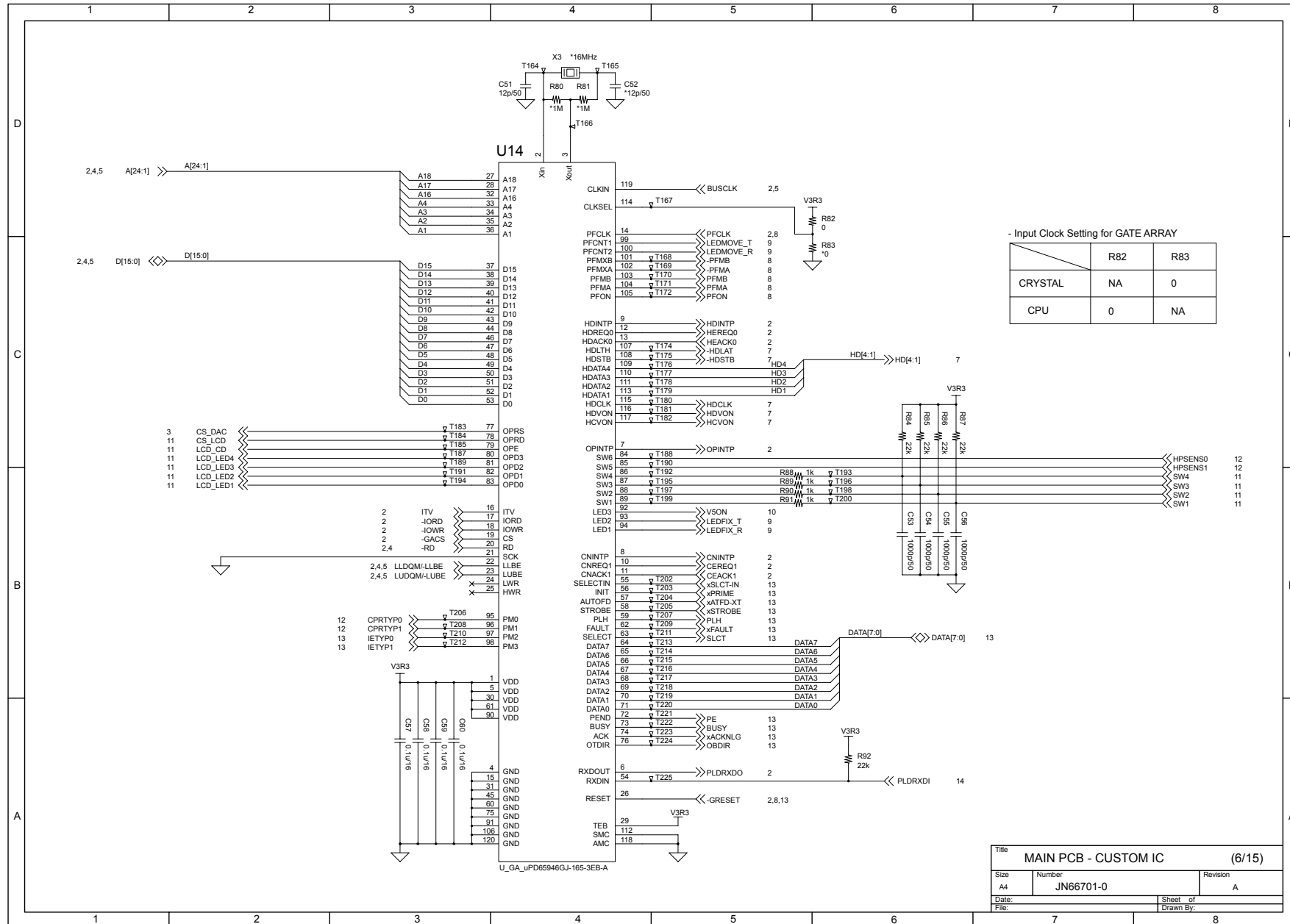
Title: MAIN PCB - CUSTOM IC (6/15)

Size	Number	Revision
A4	JN66701-0	A

Date:
File:
Sheet of
Drawn By:

U_GA_uPD65946GJ-165-3EB-A

6-9

CL-S700/CL-S703/CL-S700R

Circuit Diagram (Main PCB 7/15) [Head Control]
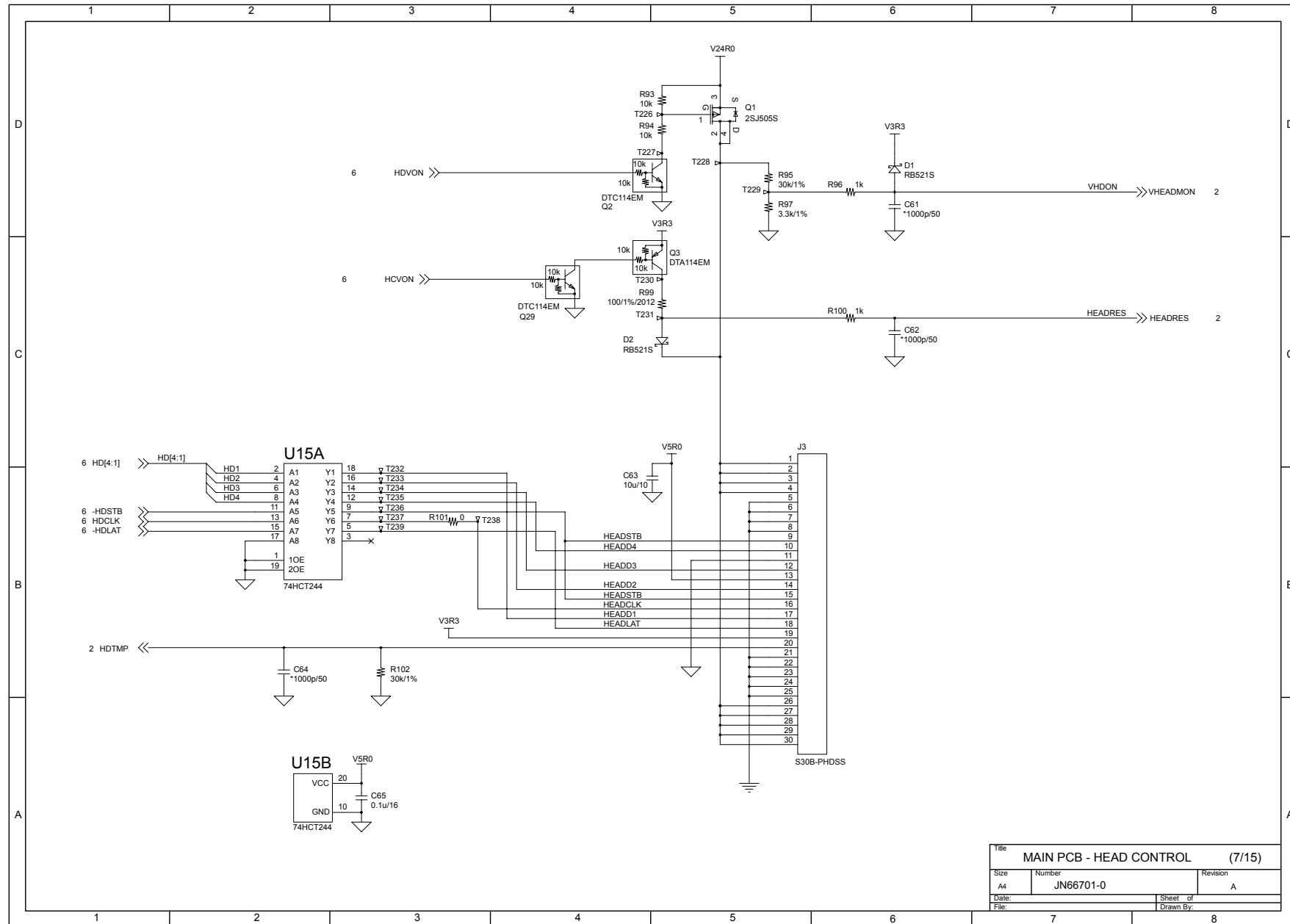
Title	MAIN PCB - HEAD CONTROL	(7/15)
Size A4	Number JN66701-0	Revision A

Circuit Diagram (Main PCB 8/15) [PF Motor Control]
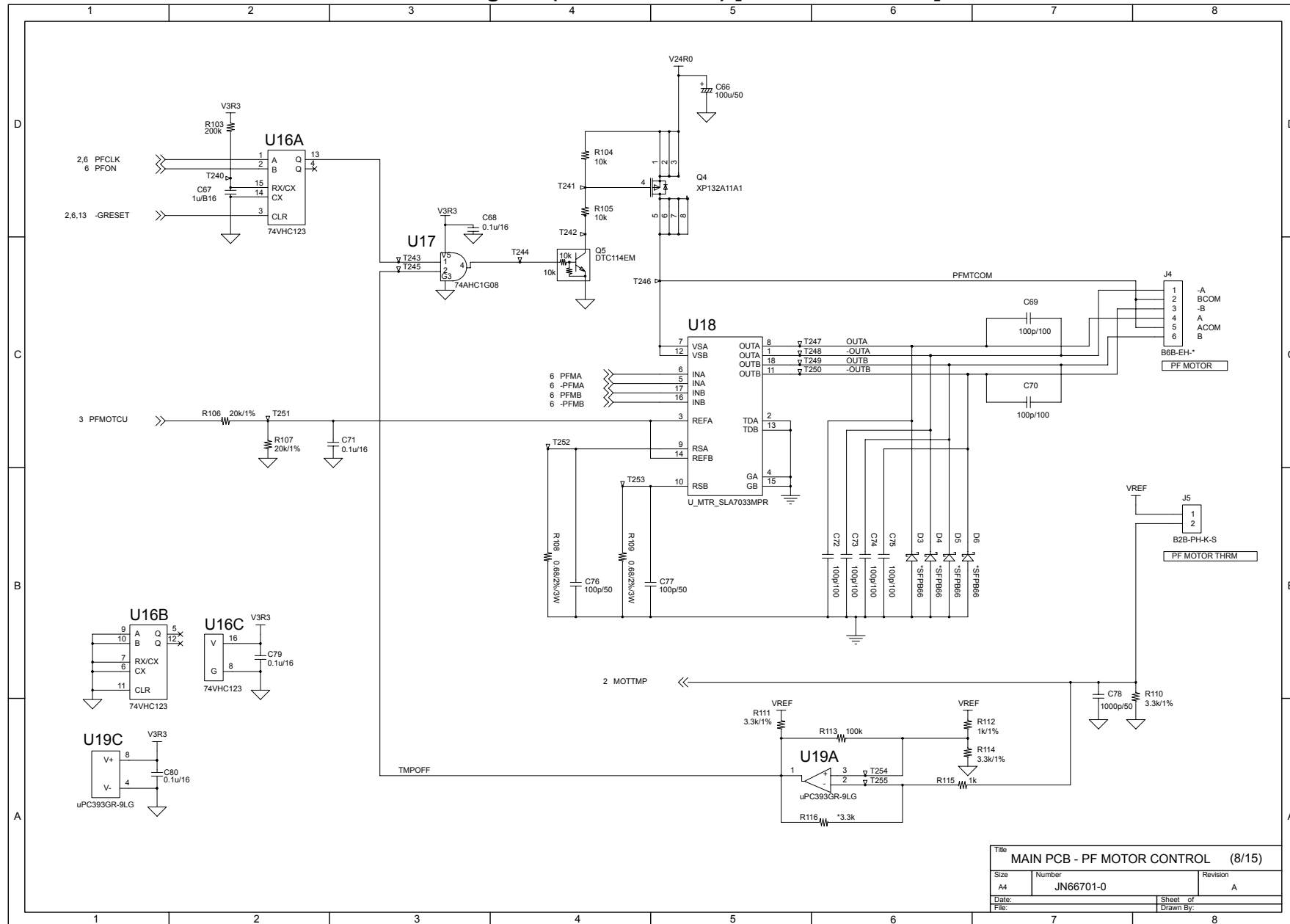
MAIN PCB - PF MOTOR CONTROL (8/15)

Size	Number	Revision
A4	JN66701-0	A

Date: Sheet of
File: Drawn By:

Circuit Diagram (Main PCB 9/15) [Sensor]
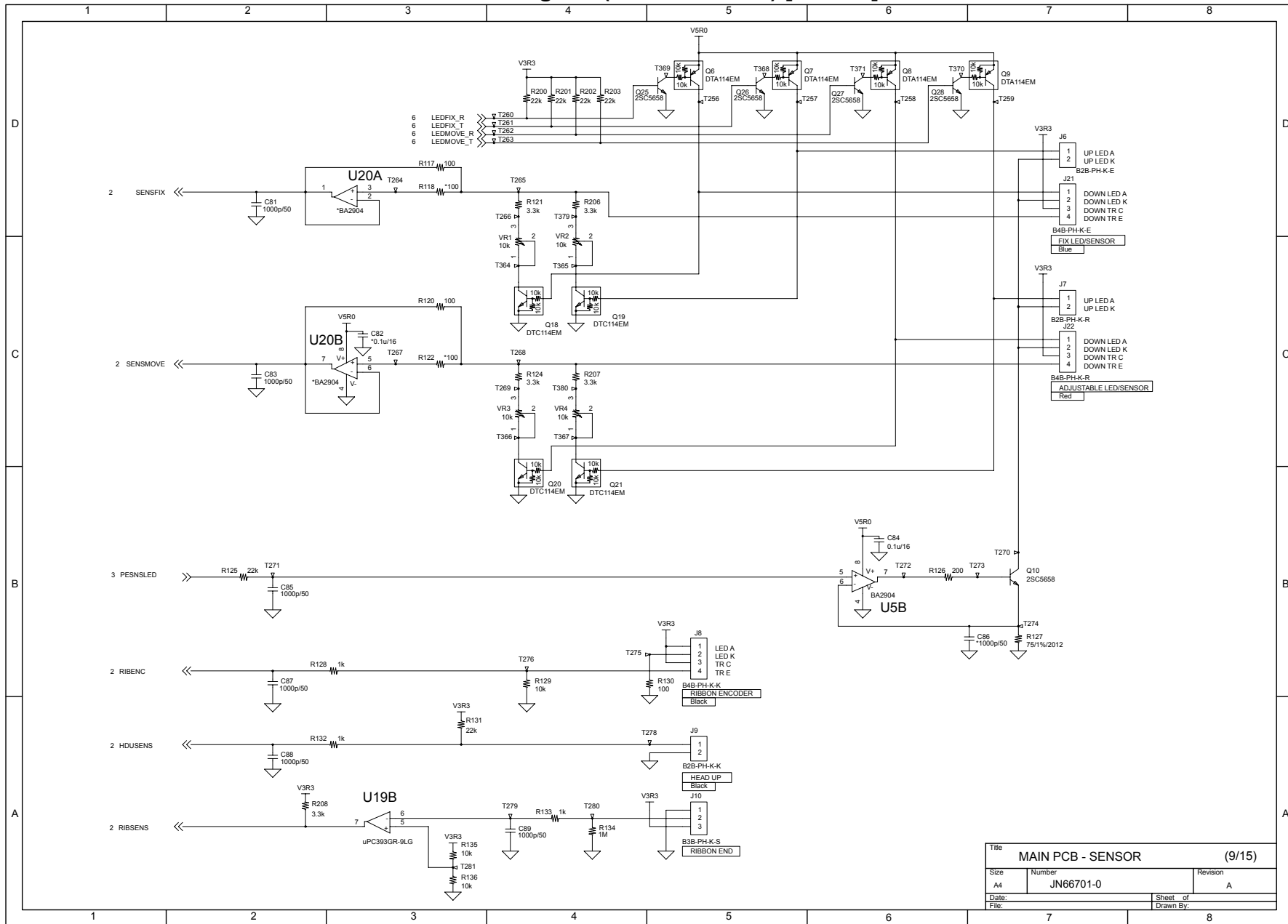
Title		
MAIN PCB - SENSOR		(9/15)
Size A4	Number JN66701-0	Revision A
Date:		Sheet of
File:		Drawn By:

Circuit Diagram (Main PCB 10/15) [Power/Buzzer/Fan]
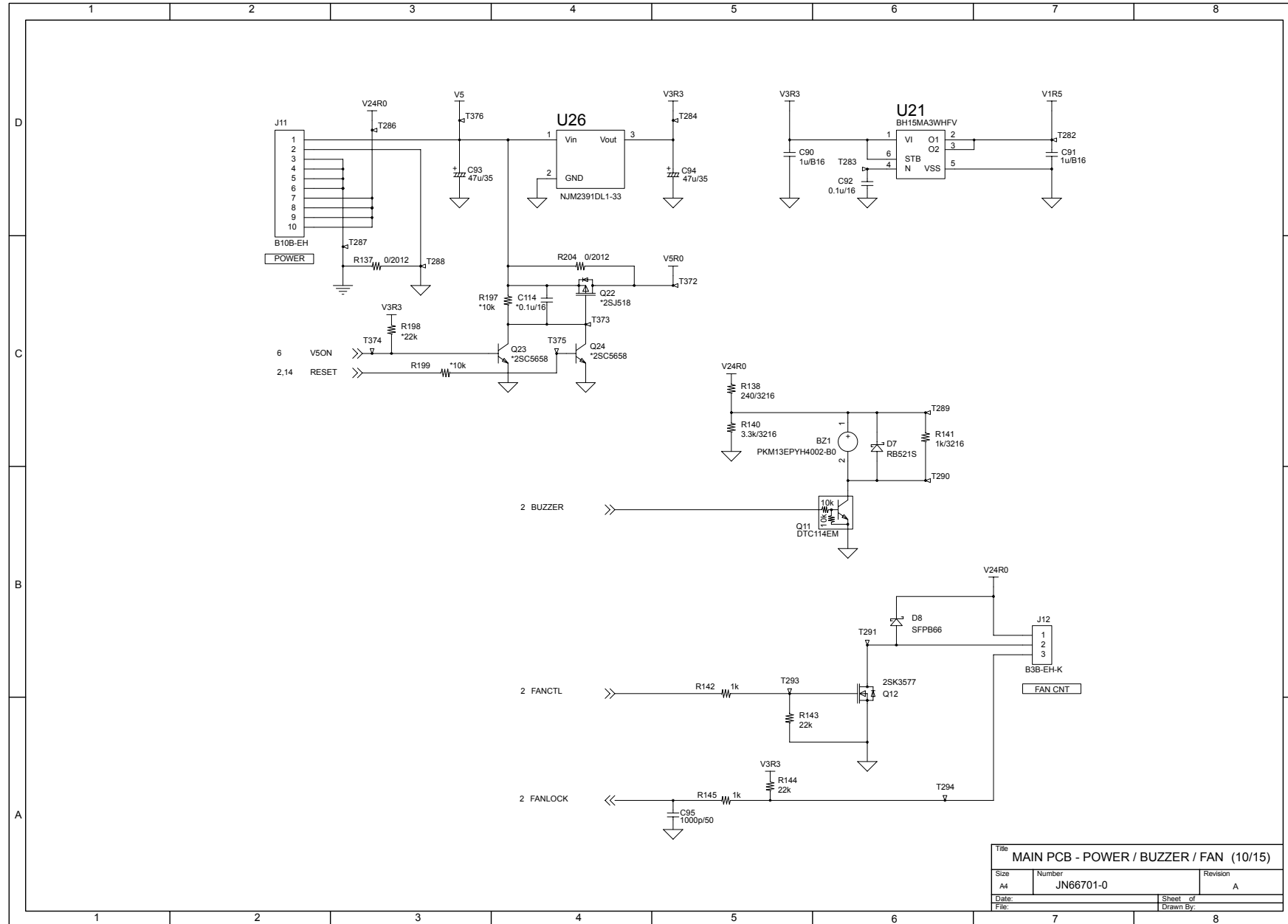
MAIN PCB - POWER / BUZZER / FAN (10/15)

Size	Number	Revision
A4	JN66701-0	A

Date:
File:
Sheet of
Drawn By:

CL-S700/CL-S703/CL-S700R

Circuit Diagram (Main PCB 11/15) [RFID/Ope-Pane]

Jumber Setting for each RF-ID module

	R147	R148	R149	R150
Standard	NA	NA	0	0
Custom Type	0	0	NA	NA

V3R3
R146
22k

V5R0
J13

2 TXD1
2 RXD1

TXD1
RXD1

T295
T296
T297
T298

2 RFRUN
2 RFOSC

R147 *0
R148 *0
R149 0
R150 0

RFRUN
RFOSC

B10B-ZR
RF-ID

V3R3
R151 22k R152 22k

V3R3 V5R0
J14

T299

2,3 DACIN
2,3 DACCLK
6 CS_LCD
6 LCD_CD

T300
T301
T302
T303
T304
T305

6 LCD_LED1
6 LCD_LED2
6 LCD_LED3
6 LCD_LED4

6 SW1
6 SW2
6 SW3
6 SW4

T306
T307

10k 10k 10k 10k

Q13 Q14 Q15 Q16
DTC114EM DTC114EM DTC114EM DTC114EM

22FMN-BMT-A-TF
OPE PANE

V3R3
R190 22k

2 CV_OPN R191 1k

C113
1000p/50

V5R0
J20

T378

R205
180/2012

B4B-PH-K-S

Title			
MAIN PCB - RFID / OPE-PANE		(11/15)	
Size A4	Number JN66701-0		Revision A
Date:		Sheet of	
File:		Drawn By:	

Circuit Diagram (Main PCB 12/15) [Cutter/Rewinder]

Option Select

	Cutter	Rewinder	Peeler	None
CPRTYP0	Low	High	Low	High
CPRTYP1	High	Low	Low	High

V3R3 V3R3 VREF V24R0

R153 22k   R154 22k   R155 3.3k/1%

J15

2 DCMTR0   R156 1k   T308
2 DCMTR1   R157 1k   T309
6 HPSENS0   R158 1k   T310
6 HPSENS1   R159 1k   T311
2 MTTH   R160 100   T312

1
2
3
4
5
6
7
8
9
10
11

B11B-PASK

C96 1000p/50   C97 1000p/50   C98 1000p/50

CUTTER & REWINDER

V3R3 V3R3

R161 1k   R162 1k

6 CPRTYP0
6 CPRTYP1

3 MTREF

V3R3 V3R3

R163 22k   R164 22k

V5R0

J16

2 MTENC   R165 100   T313
2 OPN   R166 100   T315

1
2
3
4
5
6
7

B7B-PASK

C99 1000p/50   C100 1000p/50

REWINDER

V3R3

T316

R167 2.4k/1%

D9 *RB521S

2 PEELSENS   R168 100   T317

R169 3.3k/1%

Title	MAIN PCB - CUTTER/REWINDER (12/15)	
Size A4	Number JN66701-0	Revision A
Date:	Sheet of	
File:	Drawn By:	

6-15

CL-S700/CL-S703/CL-S700R

Circuit Diagram (Main PCB 13/15) [Centronics I/F]

U22A

74LVX161284

U22B

74LVX161284
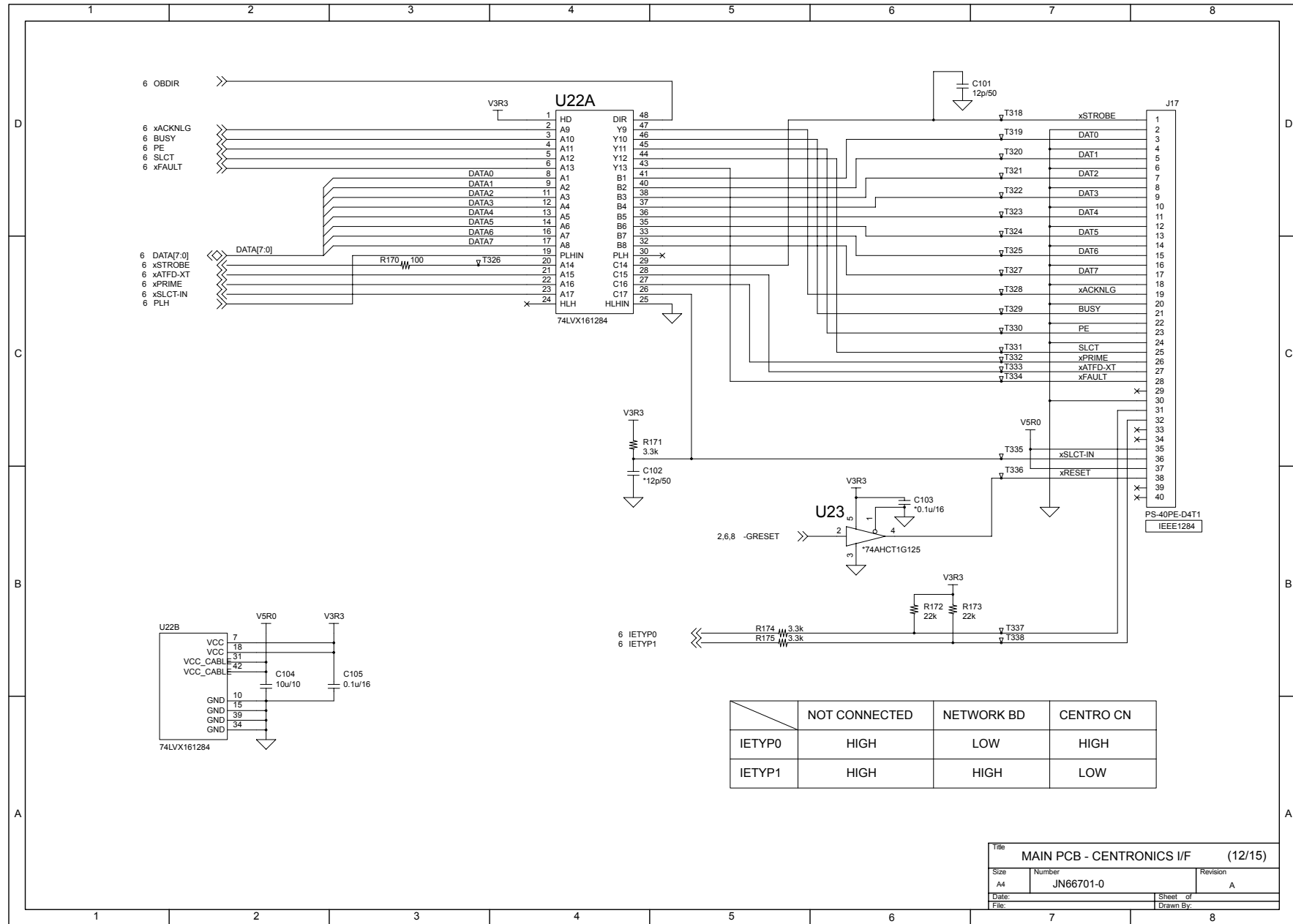
	NOT CONNECTED	NETWORK BD	CENTRO CN
IETYP0	HIGH	LOW	HIGH
IETYP1	HIGH	HIGH	LOW

J17
PS-40PE-D4T1
IEEE1284

Title	MAIN PCB - CENTRONICS I/F	(12/15)

Size	Number	Revision
A4	JN66701-0	A
Date:		Sheet of
File:		Drawn By:

Circuit Diagram (Main PCB 14/15) [Serial I/F]
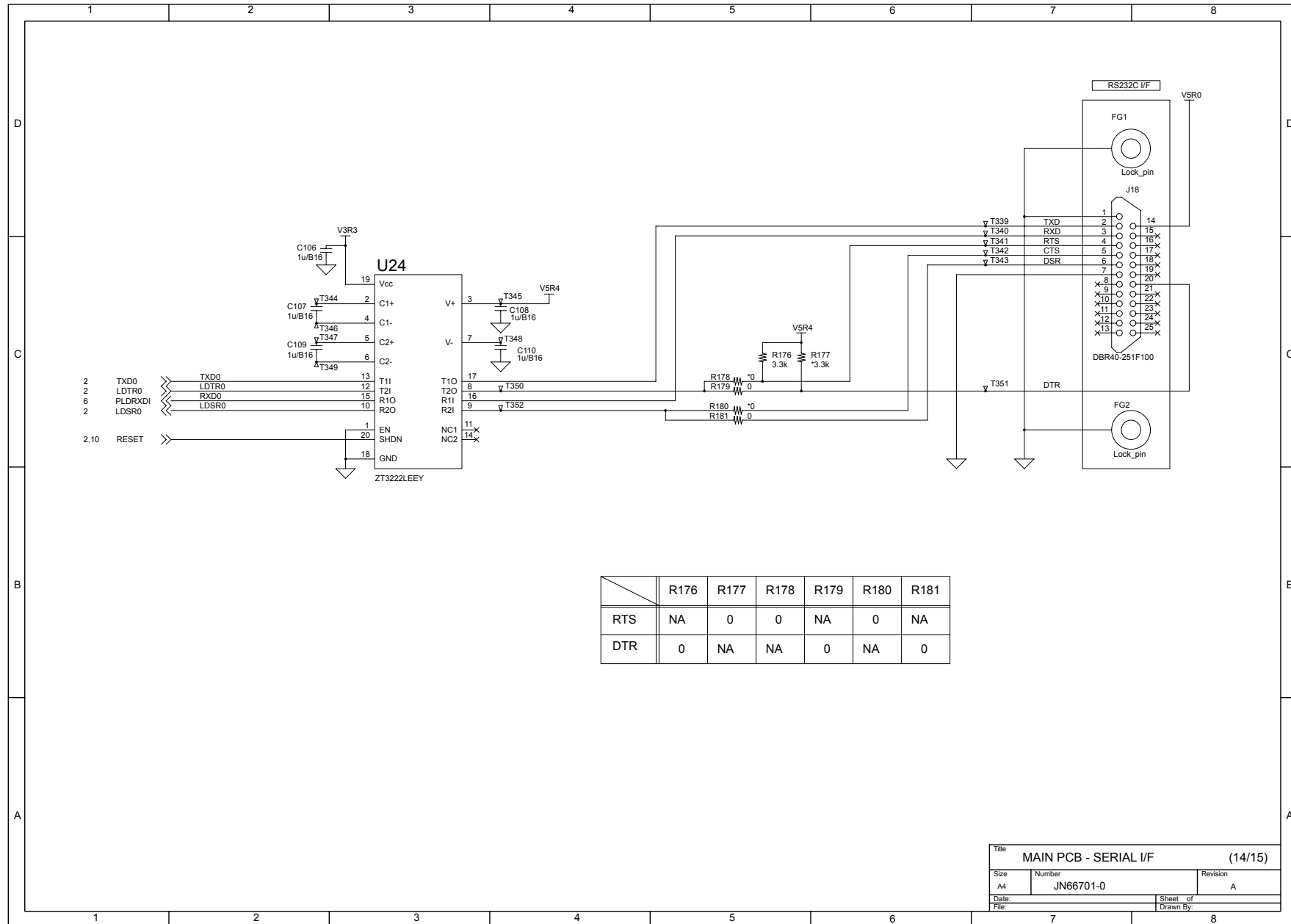
	R176	R177	R178	R179	R180	R181
RTS	NA	0	0	NA	0	NA
DTR	0	NA	NA	0	NA	0

Title		
MAIN PCB - SERIAL I/F		(14/15)
Size: A4	Number: JN66701-0	Revision: A
Date:		Sheet of
File:		Drawn By:

6-17

CL-S700/CL-S703/CL-S700R

Circuit Diagram (Main PCB 15/15) [USB I/F]
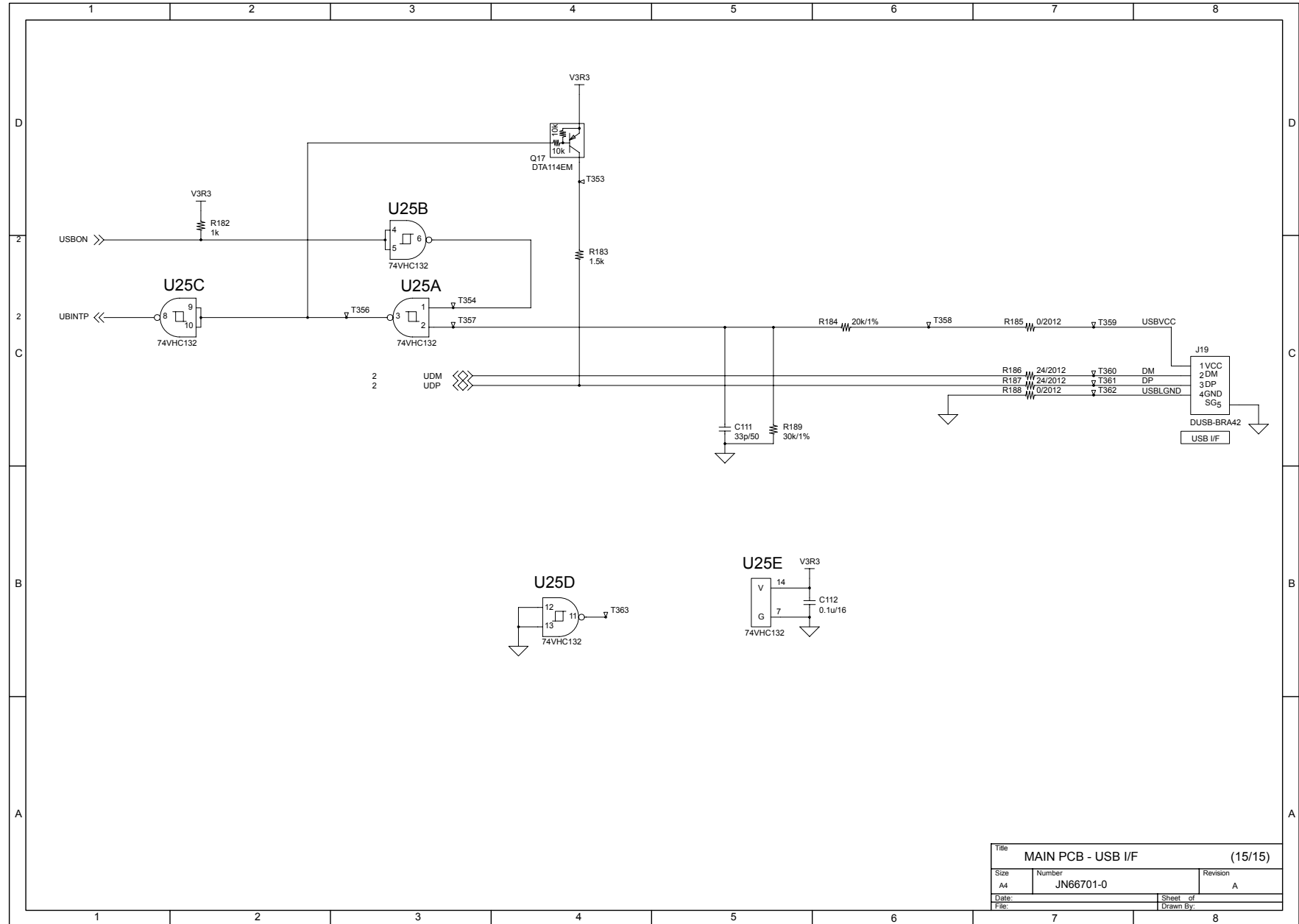
Circuit Diagram (Power Supply PCB (100/240V))
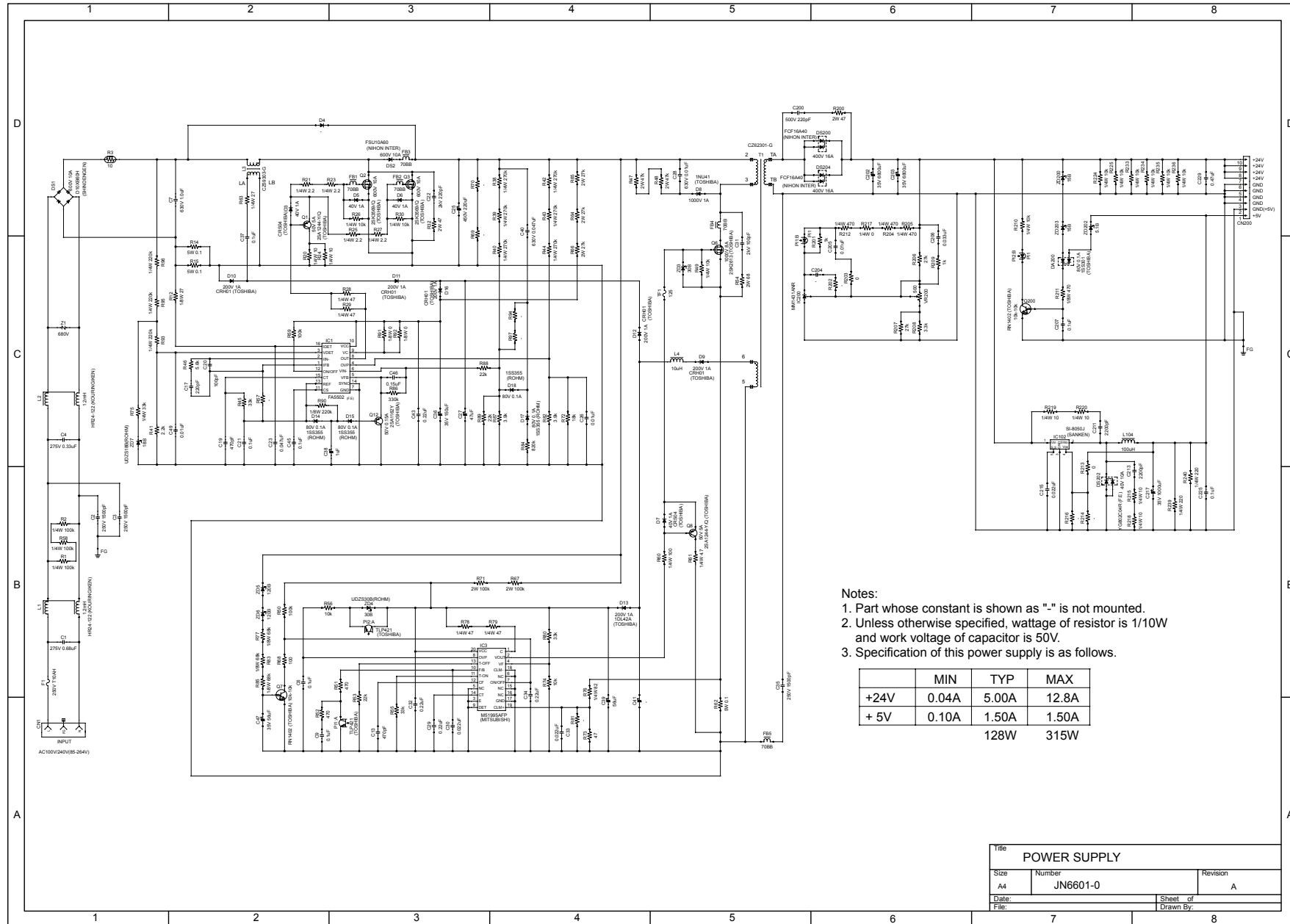
Notes:
1. Part whose constant is shown as "-" is not mounted.
2. Unless otherwise specified, wattage of resistor is 1/10W and work voltage of capacitor is 50V.
3. Specification of this power supply is as follows.

	MIN	TYP	MAX
+24V	0.04A	5.00A	12.8A
+ 5V	0.10A	1.50A	1.50A
		128W	315W

Title	POWER SUPPLY		
Size A4	Number JN6601-0		Revision A
Date:		Sheet of	
File:		Drawn By:	

Circuit Diagram (Ope-pane PCB)
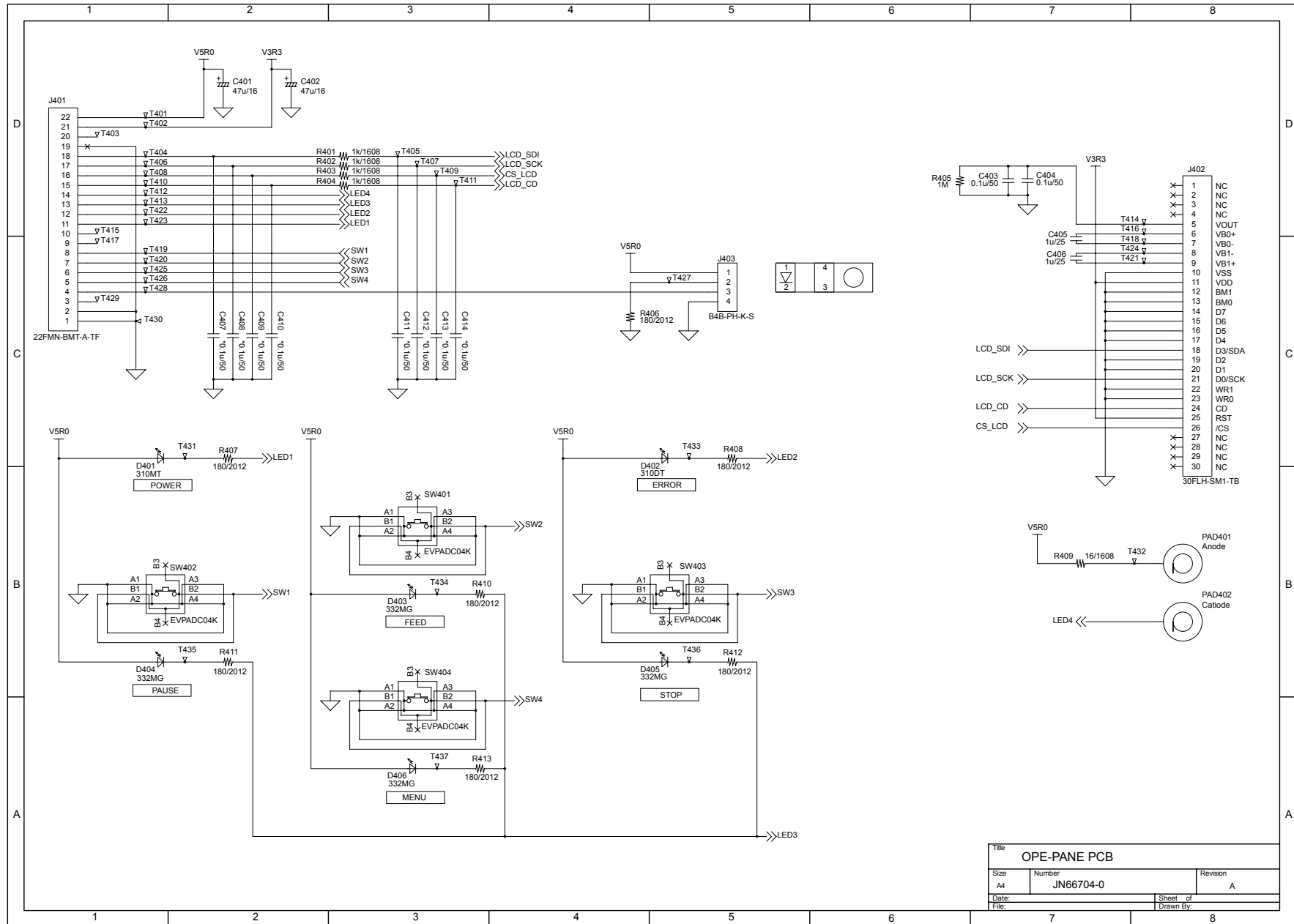
Title	
OPE-PANE PCB	

Size	Number	Revision
A4	JN66704-0	A

Date:
File:

Sheet of
Drawn By:

Circuit Diagram (Centronics PCB)
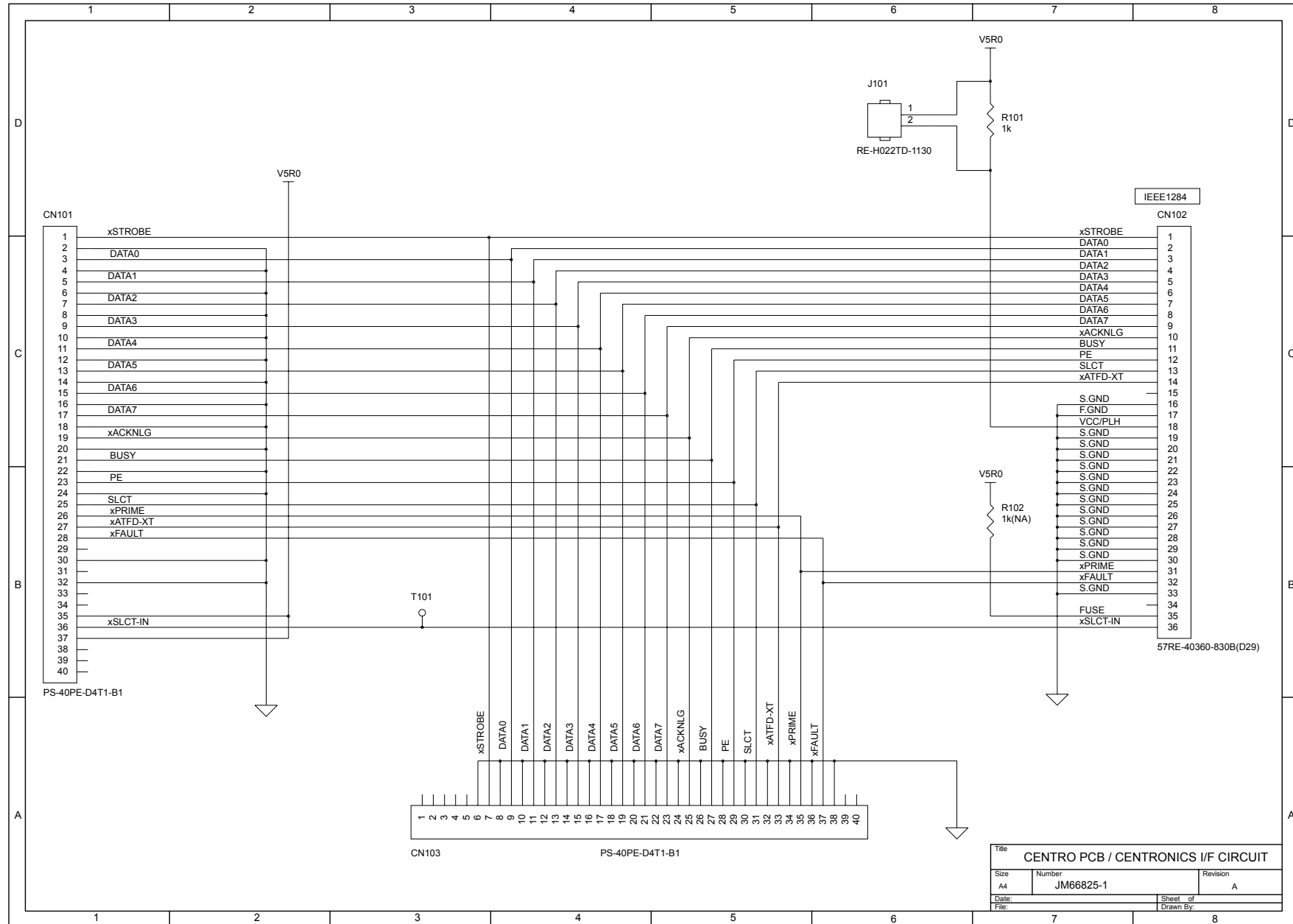
Title: CENTRO PCB / CENTRONICS I/F CIRCUIT

Size	Number	Revision
A4	JM66825-1	A

Date:
File:
Sheet of
Drawn By:

CL-S700/CL-S703/CL-S700R

Circuit Diagram (Connect PCB) (CL-S700/CL-S703)
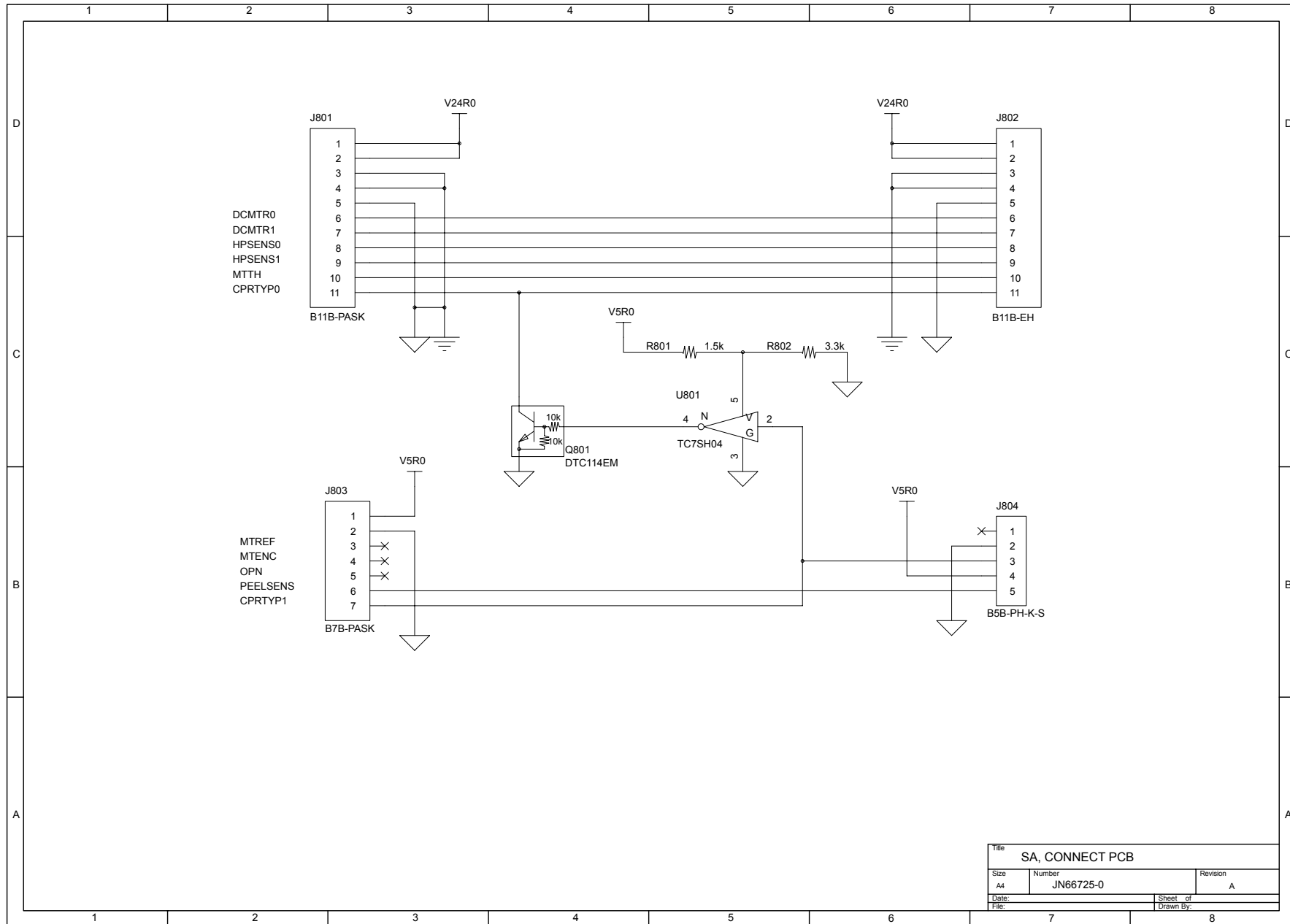
Circuit Diagram (Rewinder PCB) (CL-S700R)
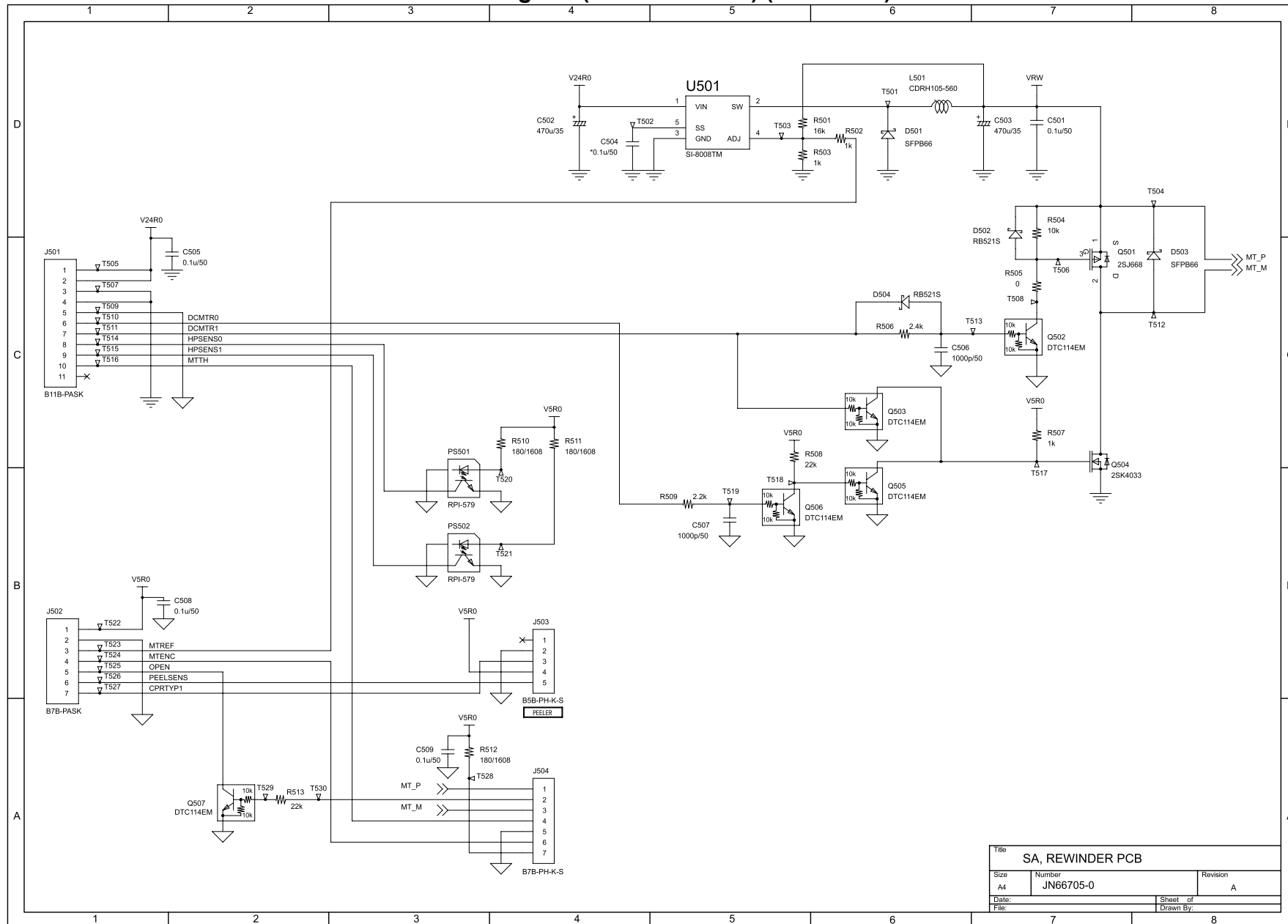
CL-S700/CL-S703/CL-S700R

APPENDICES

Appendices

Table of Contents

A.   External Size Diagram

Unit: mm (inch)

[CL-S700/CL-S703]

Approx. 255 (10)

Approx. 490 (19.3)

Approx. 265 (10.4)

[CL-S700R]

Approx. 255 (10)

Approx. 490 (19.3)

Approx. 285 (15.2)
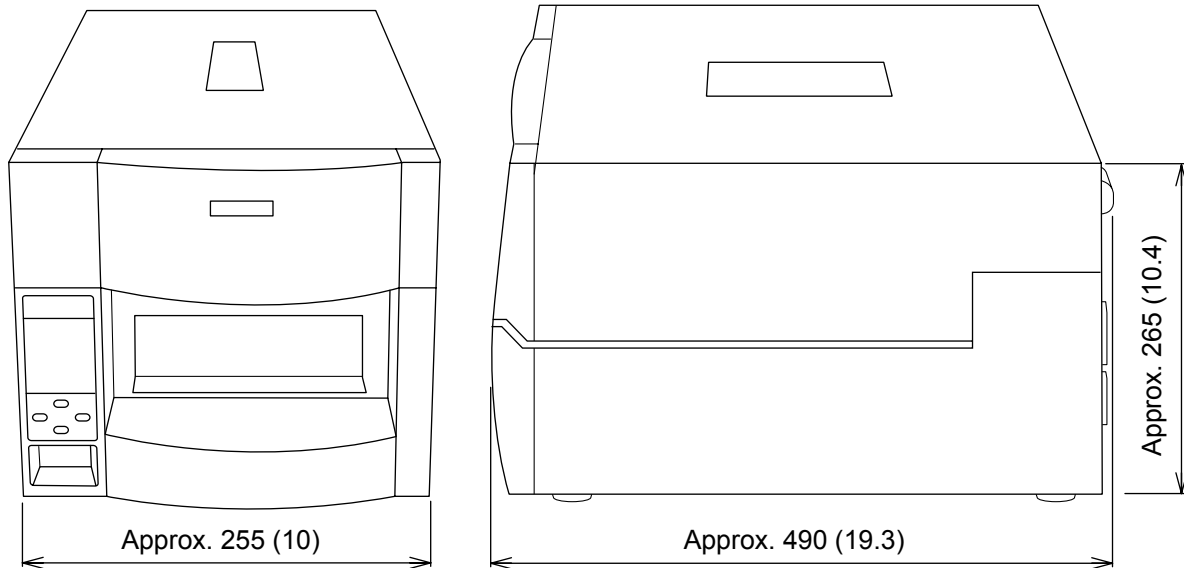
AP-3   *CL-S700/CL-S703/CL-S700R*
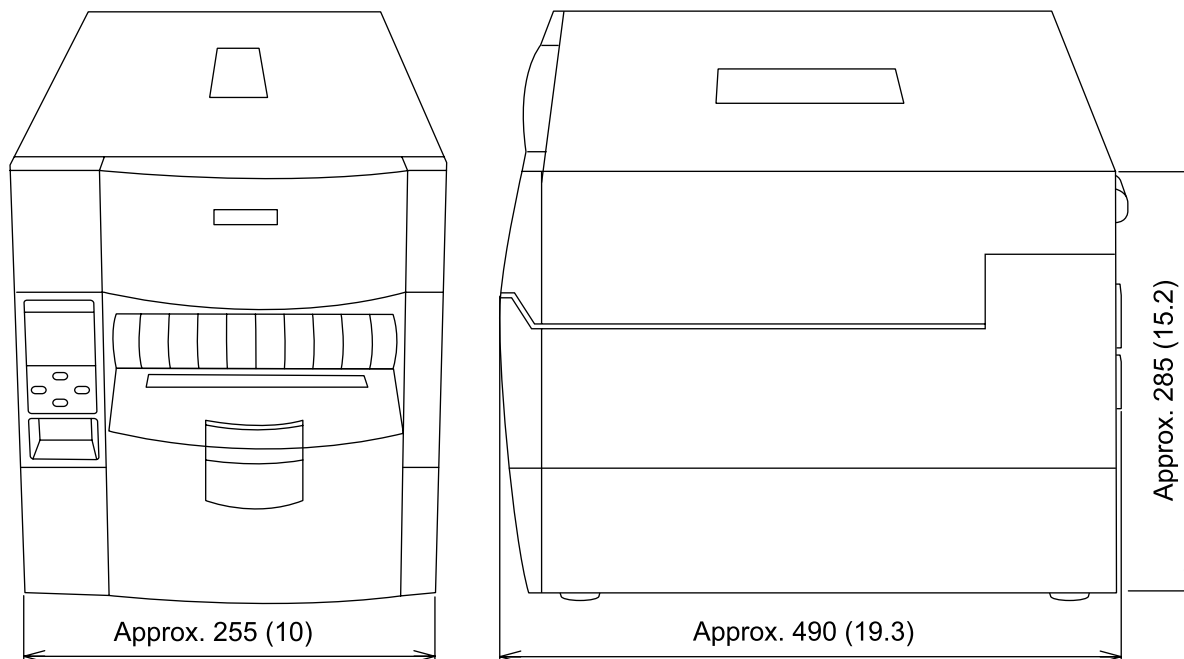
B. Mounting Diagrams

B-1. Main PCB

[Main PCB - Parts side]
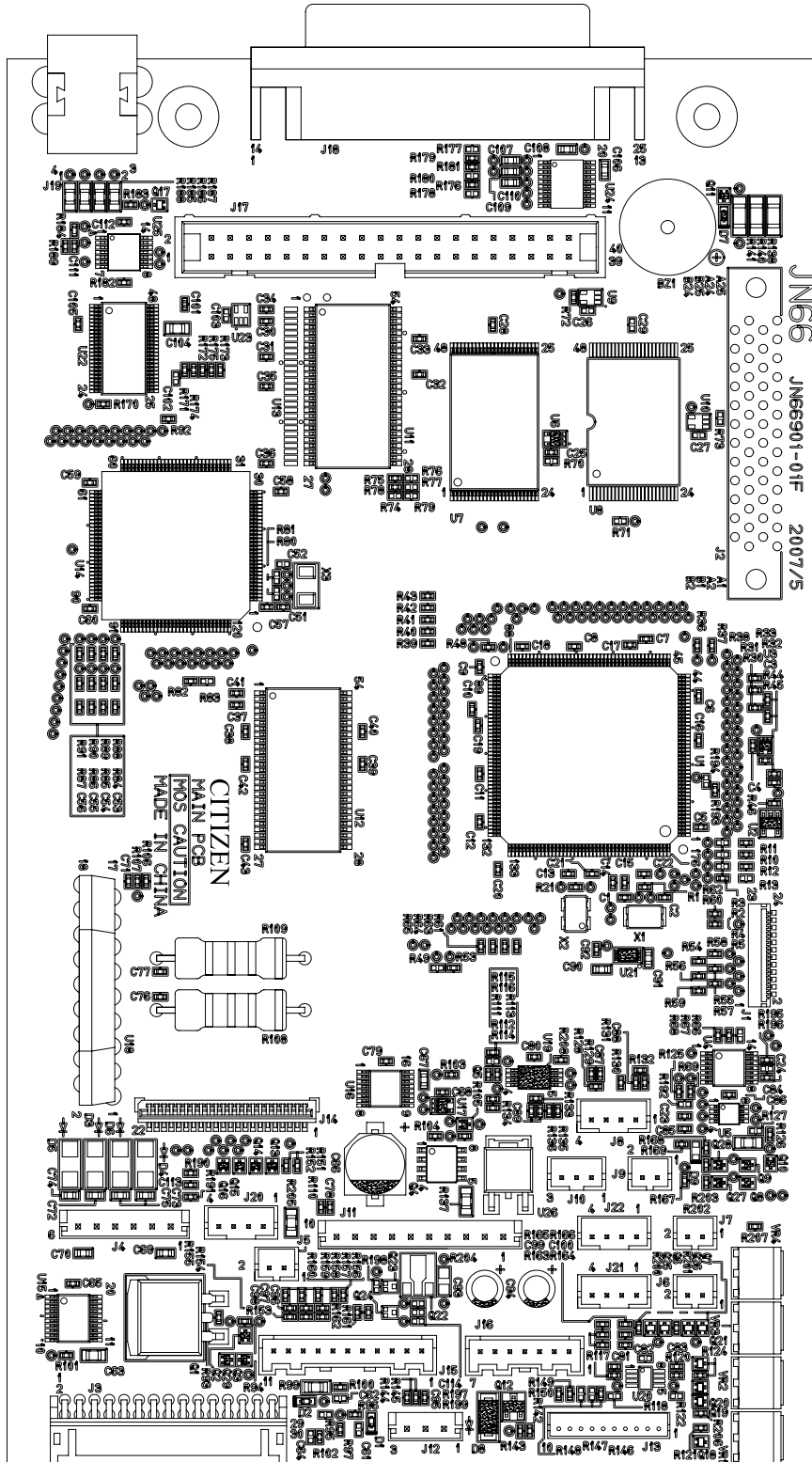
B-2.   Power Supply PCB (100V/220V)

[Power Supply PCB - Parts side]
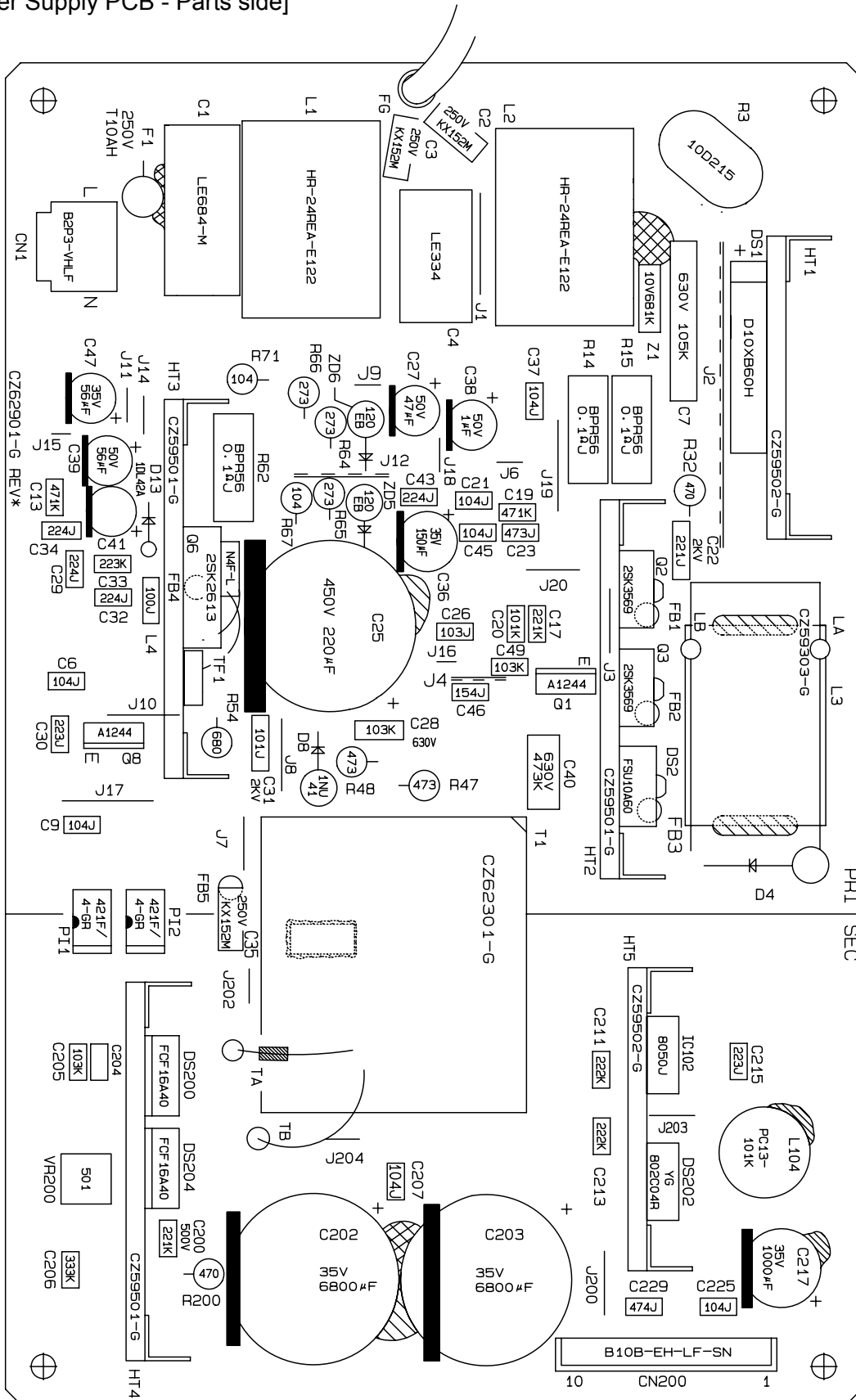
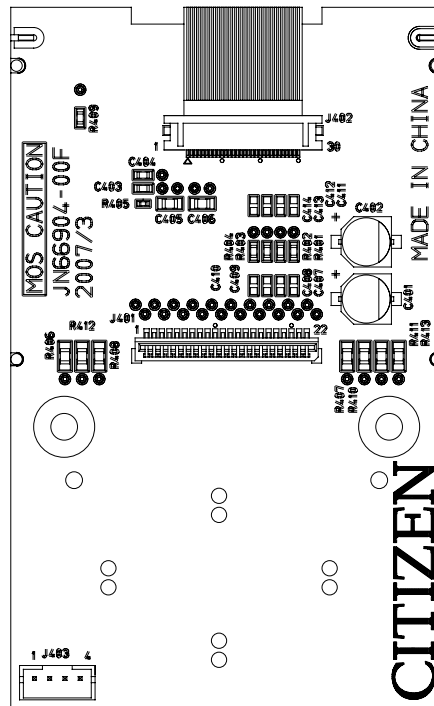[Power Supply PCB - Solder side]
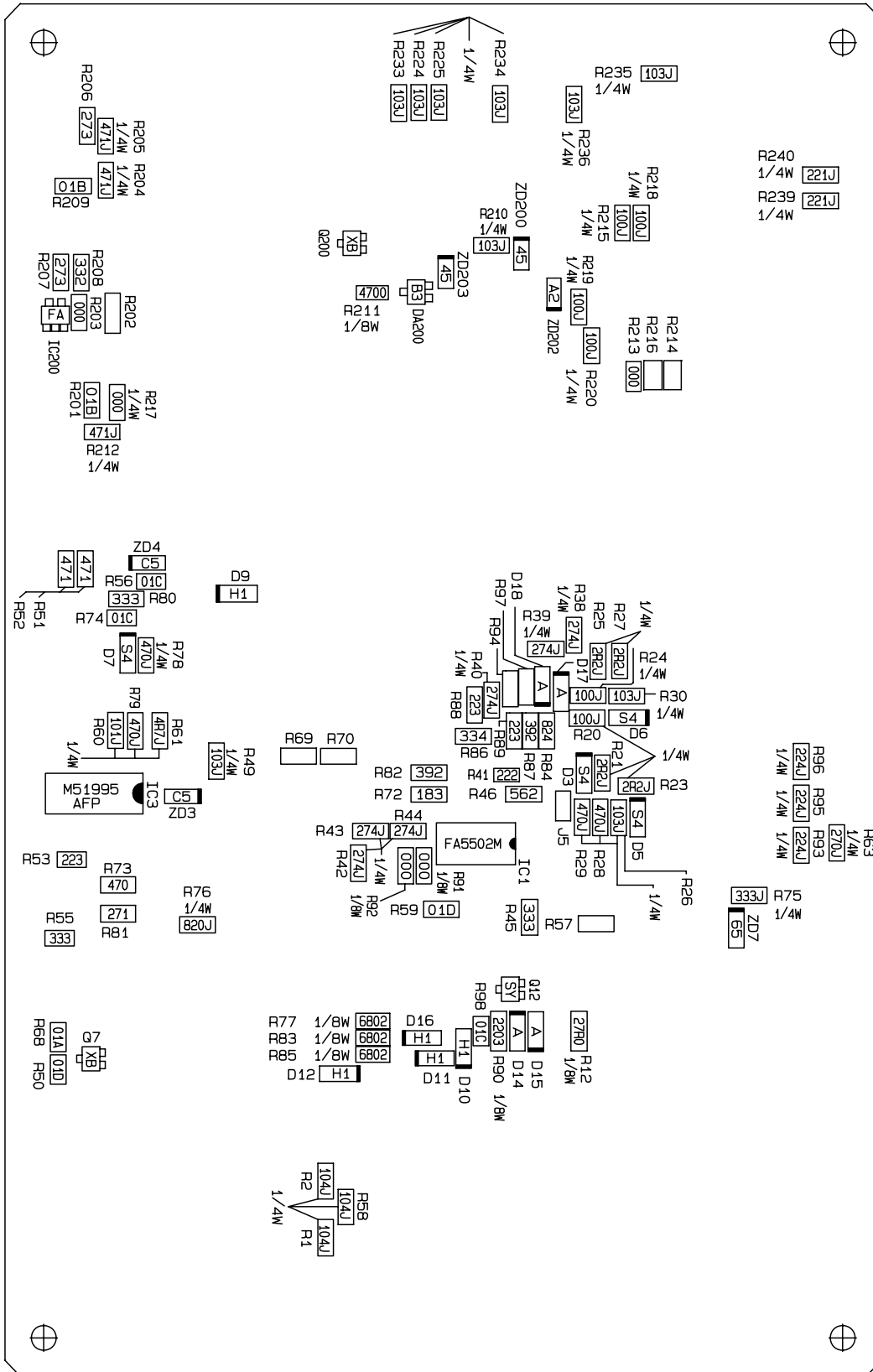
B-3.   Ope-pane PCB
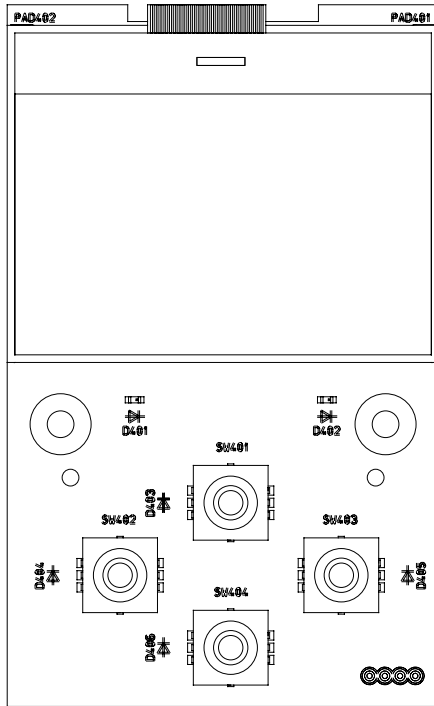
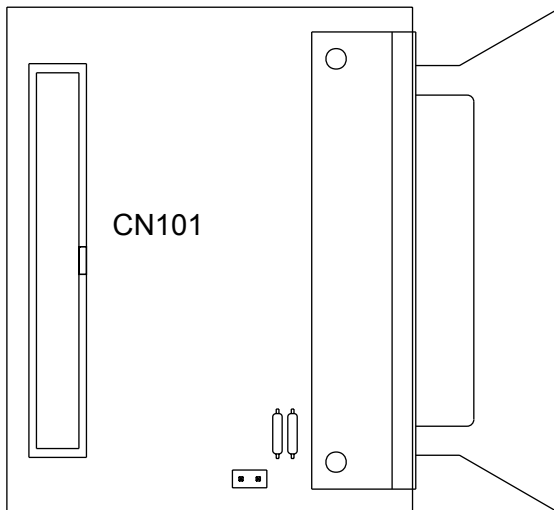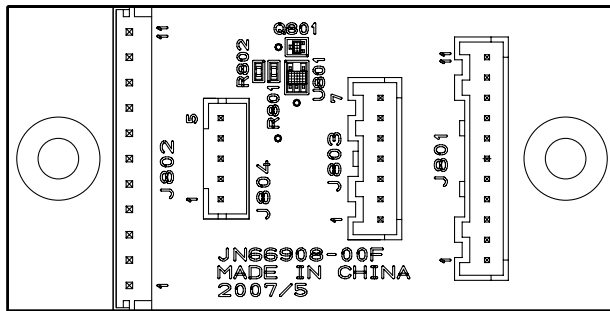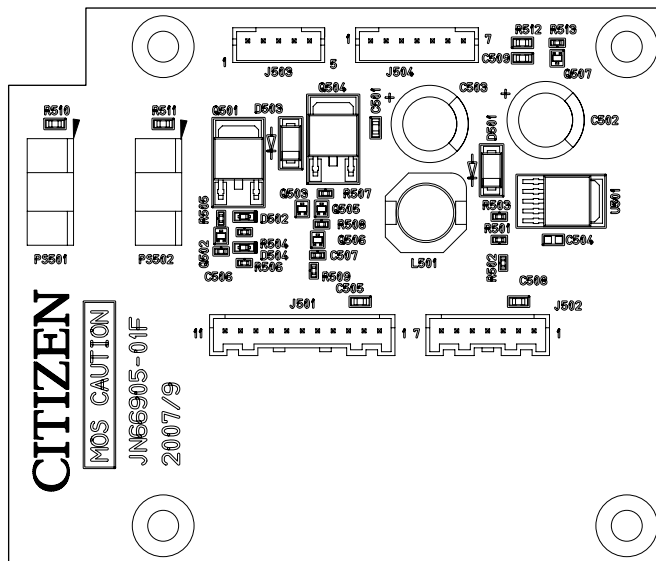[Parts side]   [Solder side]

B-4.   Centro PCB

CN101

B-5.   Connect PCB (CL-S700/CL-S703)

B-6.   Rewinder PCB (CL-S700R)

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