

Installation Manual

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The material in this document is for informational purposes and is subject to change without notice. Ricoh Printing Systems, Ltd. assumes no responsibility for errors or omissions in this document. No liability is assumed for any damages resulting from the use of the information it contains. This manual describes information for handling and operating the EMP156 laser printer.

NOTICE TO USER

In an effort to meet the demands of a rapidly changing technology, the manufacturer is continually developing new features and functions to meet your changing printing or printer needs. As a result, this manual may not exactly reflect future changes made to the product. Please be sure to consult all manual updates or addenda when using this product's documentation.

INTRODUCTION

This manual provides essential information to install the EMP156 laser printer. Carefully read and understand the safety instructions in this manual before starting installation. Keep this manual on hand for reference. BLANK

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A SAFETY SUMMARY

The hazard warnings which appear on the warning labels on the machine or in the manual have one of the following alert headings consisting of an alert symbol and a signal word, DANGER, WARINIG, or CAUTION.

A	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
A DANGER:	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
	Indicated a potentially hazardous situation which, if not avoided, can result in death or serious injury.
A CAUTION:	Indicates a hazardous situation which, if not avoided, will or can result in minor or moderate injury, or serious damage of product.
CAUTION:	Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

1. A General Safety Guidelines

Before operating the machine, read the following instructions carefully:

- Follow all the installation procedures provided in this manual.
- Pay special attention to and follow all the hazard warnings on the machine and in the manual. Failure to do so can cause injury to yourself or damage to the machine.
- Do not perform any installation in any way other than as provided in this manual.
- Keep in mind that the hazard warnings in this manual or on the machine cannot cover every possible case, as it is impossible to predict and evaluate all circumstances beforehand. Be alert and use your common sense.



A SAFETY SUMMARY (Continued)

2. A Hazard Warning Statements

The following are the hazard warning statements contained in this manual.

2.1 **A** WARNING Statement

Keep space over 400mm at the rear of the printer for ventilation. Otherwise, cooling of the equipment does not done properly and print Quality may be degraded. (Section 1.2, Page 1-1) Be careful when unpacking using the crane or forklift. Do not to drop the printer, hit it against something, or turn it over on its side. (Section 2.1, Page 2-1) (Section 2.2, Page 2-6) (Section 2.3, Page 2-9) (Section 2.4, Page 2-11) Perform unpacking where there is no dust or water leaking. (Section 2.1, Page 2-1) (Section 2.2, Page 2-6) (Section 2.3, Page 2-9) (Section 2.4, Page 2-11) Do not place heavy objects which weigh 5 kg or more on the printer. (Section 2.1, Page 2-1) (Section 2.2, Page 2-6) (Section 2.3, Page 2-9) (Section 2.4, Page 2-11) Be careful when lifting the printer with the forklift so the printer is well-balanced on the arms of the lift. Also put the packing (cushion) between the printer and the forklift so the printer is not damaged.

> (Section 2.1,Page 2-1) (Section 2.2,Page 2-6) (Section 2.3,Page 2-9) (Section 2.4,Page 2-11)

A SAFETY SUMMARY (Continued)

•	Observe the speed limit of move the printer on unleve	of 300 mm/sec. (1.08 km/hr) when moving the eled floor. Do not tilt the printer 15 Deg. or more	printer. Do not e.
			(Section 2.1,Page 2-1)
			(Section 2.2, Page 2-6)
			(Section 2.3, Page 2-9)
			(Section 2.4, Page 2-11)
•	Choose the route to move	the printer where the slop is less than 15 Deg	l.
			(Section 2.1,Page 2-1)
			(Section 2.2, Page 2-6)
			(Section 2.3, Page 2-9)
			(Section 2.4, Page 2-11)
•	Choose the location to pla	ice the printer where there is no condensation.	
			(Section 2.1,Page 2-1)
			(Section 2.2, Page 2-6)
			(Section 2.3, Page 2-9)
			(Section 2.4, Page 2-11)
•	The Power Supply Cable	which conforms to IEC 60950 standard is use	d.
			(Section 4.6,Page 4-12)
•	The voltage is constantly ir	n unless the machine is unplugged.	
			(Section 4.6,Page 4-12)
•	Confirm that the AC Powe	r SW of Printer be OFF.	
			(Section 4.6,Page 4-12)
•	Be sure to use power supp	bly cable which complies with the following spe	cification :
	Power plug rating ;	Min. AC 250V, Min. 25A (3-Pole, 4-Wire, Gro	unded)
		L15-30P UL Listed, CSA Certified in North Ar	merica
		Type CA, Conformed to IEC 60950 in Europe	е
	Power cable rating ;	Min. AC 250V, Min. 25A	
		Type SJT or SVT, UL Listed, CSA Certified in	North America
		Conformed to IEC 60950 in Europe	

(Section 4.6, Page 4-13)

II L 00

ASAFETY SUMMARY (Continued)

 Use the Power Supply Cable which is approximately 50 mm longer for the FG. The cable should be designed as below, so the FG power cable remains connected if the other cables are accidentally disconnected.

> (Section 4.6,Page 4-13) (Section 4.6,Page 4-14)

 Make sure that the power cables are connected to the correct terminals ("L1", "L2", "L3", "FG") on the power plug, Terminal Block and (=) Mark.

(Section 4.6, Page 4-13)

• The socket-outlet shall be installed near the printer and be easily accessible.

(Section 4.6, Page 4-13) (Section 4.6, Page 4-14)

 Be sure to use power supply cable which complies with the following specification : Power plug rating ; Min. AC 480V, Min. 25A (3-Pole, 5-Wire, Grounded), Conformed to IEC 60950 in Europe
Power cable rating ; Min. AC 480V, Min. 25A Type SJT or SVT, UL Listed, CSA Certified in North America Conformed to IEC 60950 in Europe

(Section 4.6, Page 4-14)

Make sure that the power cables are connected to the correct terminals ("L1", "L2", "L3", "N", "FG") on the power plug, Terminal Block and (Mark.

(Section 4.6, Page 4-14)

Be sure to turn OFF the Circuit Breaker prior to performing the maintenance.

(Section 4.10, Page 4-20)

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	~ ~ ~		

Chapter 1. Installation Requirements

1.1 Application

This specification is applicable to the EMP156 Cut-Sheet Laser Printer for unpacking, installation and adjustment.

1.2 Installation Area

Installation area is shown in Appendix 1.



Keep space over 400mm at the rear of the printer for ventilation. Otherwise, cooling of the equipment does not done properly and print Quality may be degraded.

1.3 Preparation for installation

Make sure the floor where the leveling bolts to be mounted is strong enough. If the floor is not strong enough, the equipment may tilts and may cause paper handling problem.



Installation Requirements 1-1

1.4 Tools Required

Table 1.1 Tools Required

Item	Name	Usage
1	Cutter	Unpacking
2	Plus Driver	Removing and installing the screw for covers
3	Hex Wrench Set	Installing (3mm and 4mm size must be included in the set)
4	Spanner (Span: 24mm)	Leveling the bolt
5	Spanner (Span: 30mm)	Fixing the leveling the bolts
6	Pressure Gauge (Manometer) range; 0 – 2,000 Pa	Adjustment of the hopper air pressure
7	Forklift	Lift up Equipment from palette.
8	Level	Check and adjustment of level
	(Sensitivity; 20' max.)	
9	Flash-light	Check and adjustment of the stacker
10	Digital voltmeter	Measurement of voltage

1.5 Environmental Conditions

Table 1.2	Environmental	Conditions

	Temperature	Humidity
Operation	16 - 32 deg. C	20-80 %RH
	(60.8 - 89.6 deg. F)	Wet Bulb 26 deg.C(78.8 deg. F) max.
Recommended	19 - 25 deg. C	40-60 %RH
condition	(66.2 - 77 deg. F)	
Non-Operation	-10 - 40 deg. C	8-90 %RH
	(14 - 104 deg. F)	Wet bulb 27 deg. C (80.6 deg. F) max.
Storage	-10 - 40 deg. C	5-90 %RH
	(14 - 104 deg. F)	
Shipment	-25 - 50 deg. C	5 - 100 %RH
	(-13 - 122 deg. F)	(not to be exposed in the rain/no condensation)
		72hr. max. of over 40deg.C environment

Altitude : 0 to 2,100 m (0 to 7,000 feet) max.

1.6 Input Line Voltage

Table 1.3 Print Engine Input Line Voltage (US Version)

Input Line Voltage	AC 200/208/220/230/240V
Phase	Three Phases, three wires and grounding wire
Frequency	50/60 Hz ±1Hz
Transient (Static)	±10%
Transient (Dynamic)	–18% / +15% 500ms
Drop out	-100%, 20ms

Table 1.4 Print Engine Input Line Voltage(European Version)

Input Line Voltage	AC 380/400/415V
Phase	Three Phases, four wires and grounding wire
Frequency	50/60 Hz ±1Hz
Transient (Static)	±10%
Transient (Dynamic)	–18% / +15% 500ms
Drop out	-100%, 20ms

Chapter 2. Unpacking

2.1 Unpacking of the Printer

- 1) Be careful when unpacking using the crane or forklift. Do not to drop the printer, hit it against something, or turn it over on its side.
- 2) Perform unpacking where there is no dust or water leaking.
- 3) Do not place heavy objects which weigh 5 kg or more on the printer.
- 4) Be careful when lifting the printer with the forklift so the printer is wellbalanced on the arms of the lift. Also put the packing (cushion) between the printer and the forklift so the printer is not damaged.
- 5) Observe the speed limit of 300 mm/sec. (1.08 km/hr) when moving the printer. Do not move the printer on unleveled floor. Do not tilt the printer 15 Deg. or more.
- 6) Choose the route to move the printer where the slop is less than 15 Deg.
- 7) Choose the location to place the printer where there is no condensation.

2.1.1 Confirmation of parts quantities

Table 2.1 Components in the package for Printer

	¥
Unit of Packing	Quantity
Main body	1
Accessory Box	1



2.1.2 Unpacking Procedures

- 1) Cut Bands and remove cap.
- 2) Remove corrugated paper sleeve.
- 3) Remove upper pad (4pcs.), corner pad (4pcs.), space box (3pcs.), vinyl and drier (2pcs.).
- 4) Remove tapes on under tray. Lift Printer up by Forklift, then move and put Printer on a floor.
- 5) Remove tapes and vinyl. Take out the Installation Manual.







2.1.3 Parts Check in the Accessory Box

- 1) Unpack Space box 1 and take out the Accessory box.
- 2) Unpack Accessory box.
- 3) Parts check in Accessory box.



No.	Parts Name	Qty	Use
1	USER'S GUIDE	1	For Customer
2	DEVELOPER BOTTLE	1	For Developer exhaust For Customer
3	MAINTENANCE PANELASSY	1	
4	MAINTENANCE PANEL CA	1	
5	INTERLOCK STOPPER	5	
6	PANEL LOWER COVER	1	
7	CHARGER CLEANER KIT	1	For Customer
8	GLOBES	1	For Customer
9	SPACER	4	
10	HEATER LAMP GUIDE	1	
11	TWEEZERS	1	For Customer
12	HR HANDLE	1	
13	CD-ROM(DRIVER)	1	For Customer
14	SW & DOCUMENTATION CD	1	For Customer
15	LIFT BASE RIVET(H) ASSY	1	
16	LIFT BASE COVER(H)	1	
17	TRAY LIFT SHAFT 3	3	
18	TRAY LIFT SHAFT(H)	2	
19	THUMB SCREW	4	
20	M4X8 BIND SCREW	8	
21	PM FRAME STAND L	2	

Table 2.2 Parts list in the Accessory Box

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2.2 Unpacking of the Container Stacker / Auxiliary Container Stacker



- 1) Be careful when unpacking using the crane or forklift. Do not to drop the printer, hit it against something, or turn it over on its side.
- 2) Perform unpacking where there is no dust or water leaking.
- 3) Do not place heavy objects which weigh 5 kg or more on the printer.
- 4) Be careful when lifting the printer with the forklift so the printer is wellbalanced on the arms of the lift. Also put the packing (cushion) between the printer and the forklift so the printer is not damaged.
- 5) Observe the speed limit of 300 mm/sec. (1.08 km/hr) when moving the printer. Do not move the printer on unleveled floor. Do not tilt the printer 15 Deg. or more.
- 6) Choose the route to move the printer where the slop is less than 15 Deg.
- 7) Choose the location to place the printer where there is no condensation.

2.2.1 Components in the package

Container Stacker

Table 2.3 Components in the package for the Container Stacker

Unit of Packing	Quantity
Main body	1

Auxiliary Container Stacker

Table 2.4 Components in the package for the Auxiliary Container Stacker

Unit of Packing	Quantity
Main body	1



2.2.2 Unpacking Procedures

- 1) Cut Bands and remove cap.
- 2) Remove corrugated paper sleeve.
- 3) Remove upper pad, corner pad and vinyl.
- 4) Remove front side base packing.
- 5) Lift Container Stacker up by Forklift, then move and put Container Stacker on a floor.





2.3 Unpacking of the High Capacity Feeder 1



- 1) Be careful when unpacking using the crane or forklift. Do not to drop the printer, hit it against something, or turn it over on its side.
- 2) Perform unpacking where there is no dust or water leaking.
- 3) Do not place heavy objects which weigh 5 kg or more on the printer.
- 4) Be careful when lifting the printer with the forklift so the printer is wellbalanced on the arms of the lift. Also put the packing (cushion) between the printer and the forklift so the printer is not damaged.
- 5) Observe the speed limit of 300 mm/sec. (1.08 km/hr) when moving the printer. Do not move the printer on unleveled floor. Do not tilt the printer 15 Deg. or more.
- 6) Choose the route to move the printer where the slop is less than 15 Deg.
- 7) Choose the location to place the printer where there is no condensation.

2.3.1 Confirmation of Parts Quantities

Table 2.5 Components in the package for High Capacity Feeder 1

Unit of Packing	Quantity
Main body	1

- 2.3.2 Unpacking Procedures
 - 1) Cut Bands and remove Cap.
 - 2) Remove corrugated paper sleeve.
 - 3) Remove upper pad, corner pad and vinyl.
 - 4) Remove front side base packing.
 - 5) Lift High Capacity Feeder 1 up by Forklift, then move and put High Capacity Feeder 1 on a floor.





II L 00 Unpacking 2-10

2.4 Unpacking of the High Capacity Feeder 2



- 1) Be careful when unpacking using the crane or forklift. Do not to drop the printer, hit it against something, or turn it over on its side.
- 2) Perform unpacking where there is no dust or water leaking.
- 3) Do not place heavy objects which weigh 5 kg or more on the printer.
- 4) Be careful when lifting the printer with the forklift so the printer is wellbalanced on the arms of the lift. Also put the packing (cushion) between the printer and the forklift so the printer is not damaged.
- 5) Observe the speed limit of 300 mm/sec. (1.08 km/hr) when moving the printer. Do not move the printer on unleveled floor. Do not tilt the printer 15 Deg. or more.
- 6) Choose the route to move the printer where the slop is less than 15 Deg.
- 7) Choose the location to place the printer where there is no condensation.

2.4.1 Confirmation of Parts Quantities

Table 2.6 Components in the package for High Capacity Feeder 2

Unit of Packing	Quantity
Main body	1

- 2.4.2 Unpacking Procedures
 - 1) Cut Bands and remove Cap.
 - 2) Remove corrugated paper sleeve.
 - 3) Remove upper pad, corner pad and vinyl.
 - 4) Remove front side base packing.
 - 5) Lift High Capacity Feeder 2 up by Forklift, then move and put High Capacity Feeder 2 on a floor.







Chapter 3. Preparation for Installation

3.1 Preparation for Installation of the Printer

1) Remove the protection mats, plastic bag and tapes on the outside of Printer according to the following photo.



	L	00				
Preparation for Installation 3-1						









IIL00Preparation for Installation 3-2

- 2) Remove of the Protection mat.
- 3) The Panel Lower Cover is attached.(Taken out from an attached Accessories Box.)



Protection mat







Panel lower cover (Taken out from an attached Accessories Box)



M4 screw (2pcs.)



Preparation for Installation 3-3

4) Push the Hopper2 lock and pull out 1000 sheet hopper. Remove tapes from the hopper according to the following photo.









5) Push the Hopper1 lock and pull out 2500 sheet hopper. Remove tapes from the hopper according to the following photo.







6) Remove the tapes and vinyl on the outside of Printer according to the following photo.



Preparation for Installation 3-5

3.2 Preparation for Installation of the Container Stacker / Auxiliary Container Stacker

1) Remove the protection mats and tapes according to the following photo.



- 2) Unscrew five M4 screws of Container Stacker rear side, then remove Rear cover.
- 3) Remove the tapes according to the following photo and drawing.



Preparation for Installation 3-6

- 4) Pull out the Upper Container drawers and remove the plastic bag which 4 screws and 4 Washers are packed in. (These screws are for connection of Printer and Container Stacker.)
- 5) Remove tapes and take out the Tray of Container basket.
- 6) Remove the M4 screw and the Lock plate in the Container Baskets. Put in and keep the removed M4 screw and Lock plate to the Accessory box.
- 7) Remove the plastic bag of the Tray. Put the Tray into the Container basket.
- 8) Pull out the Lower Container drawers.
- 9) Remove tapes and take out the Tray of Container basket.
- 10) Remove the M4 screw and the Lock plate in the Container Baskets. Put in and keep the removed M4 screw and Lock plate to the Accessory box.
- 11) Remove the plastic bag of the Tray. Put the Tray into the Container basket



Таре

CAUTION; If the Container Drawer can not be pulled out, excuse this process after Power-On. Because the Drawer latch will be released Automatically when the Printer wake up.





Preparation for Installation 3-7

- 12) Open Front cover (SL), then remove tapes.
- 13) Open Front cover (ADP), then remove tapes. (Only Auxiliary Container Stacker).





Preparation for Installation 3-8

3.3 Preparation for Installation of the High Capacity Feeder 1

- 1) Remove the protection mats and tapes.
- 2) Unscrew four M4 screws, then remove Rear cover (LT).
- 3) Unscrew four M4 screws, then remove Rear cover (LH).



4) Open the F Open cover (LT), Front Open Cover (LC) and Front Cover (R).



Preparation for Installation 3-9
- 5) Remove the tapes according to the following photo and drawing.
- 6) Remove the plastic bag which 4 screws and 4 Washers are packed in.
 - (These screws are for connection of Printer and High Capacity Feeder 1.)





Таре

- 7) Push the Upper Feeder Hopper Lock and pull out Upper Feeder Hopper. Remove tapes from the hopper according to the following photo.
- 8) Push the Lower Feeder Hopper Lock and pull out Lower Feeder Hopper. Remove tapes from the hopper according to the following photo.





Preparation for Installation 3-10







3.4 Preparation for installation of the High Capacity Feeder 2

- 1) Remove the protection mats and tape.
- 2) Unscrew four M4 screws, then remove Rear cover (LH).



- 3) Open the Front Open Cover (LC) and Front Cover (R).
- 4) Remove the tapes according to the following photo and drawing.
- Remove the plastic bag which 4 screws and 4 Washers are packed in. (These screws are for connection of High Capacity Feeder 1 and High Capacity Feeder 2.)





- 6) Push the Upper Feeder Hopper Lock and pull out Upper Feeder Hopper. Remove tapes from the hopper according to the following photo.
- 7) Push the Lower Feeder Hopper Lock and pull out Lower Feeder Hopper. Remove tapes from the hopper according to the following photo. Upper feeder hopper lock











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Preparation for Installation 3-14

Chapter 4. Installation

4.1 Preparation for Printer

- 1) Put the Printer to the place to be installed.
- 2) Unscrew two M5 screws and washers, two M4 screws and washers between main body and Air System, then open the Air System.
- 3) Unscrew two M4 screws and four M4 screws of Printer rear side, then remove Rear cover (R) ASSY and Rear cover (L) ASSY.



4.2 Installation of Container Stacker

- 1) Put the Container Stacker right side of Printer with about 100mm space.
- 2) Lace the Ground cables through the upper hole from Printer to Container Stacker side.
- 3) Screw the Ground cables with Washer and M5 screw onto Printer as shown below.

II	L	00	



4) Lace J826 connector through the upper hole from Printer to Container Stacker side.

5) Connect the Container Stacker to right side of Printer. The hole of the printer is into the adjustment pin of the container stacker.



Front side

CAUTION When the height of a adjustment pin does not suit, please place the spacer of two sheets, and let slide and connect it with the bottom of a jack. (Ref4.8)

6) Unscrew two M4 screws of Container Stacker rear side, then open PK box.



7) Screw Container stacker to Printer by four(4) screws and Washers which were unpacked by item 3.2 (4). (The screws should be loosely tightened in this stage.)







- 8) Connect J/P212.
- 9) Connect J/P826.

II	L	00	
	Installat	ion 4-4	

4.3 Installation of Auxiliary Container Stacker

- 1) Put the Auxiliary Container Stacker right side of Printer with about 100mm space. (Put the Auxiliary Container Stacker between Printer and Container Stacker)
- 2) Auxiliary Container Stacker is connected to Printer by the same method as Container Stacker. (Ref 4.4)
- 3) Lace the Ground cables through the lower hole from Auxiliary Container Stacker to Container Stacker side.
- 4) Screw the Ground cables with Washer and M5 screw onto Auxiliary Container Stacker as shown below.
- 5) Lace P212 connector through the lower hole from Container Stacker to Auxiliary Container Stacker side.
- 6) Lace P826 connector through the upper hole from Container Stacker to Auxiliary Container Stacker side.





7) Connect the Container Stacker to right side of Auxiliary Container Stacker. The hole of Auxiliary Container Stacker is into the adjustment pin of Container Stacker.



Front side

CAUTION When the height of a adjustment pin does not suit, please place the spacer of two sheets, and let slide and connect it with the bottom of a jack. (Ref4.8)

8) Unscrew two M4 screws of Container Stacker rear side, then open PK Box.



9) Screw Container stacker to Auxiliary Container stacker by four(4) screws and Washers which were unpacked by item 3.2 (4). (The screws should be loosely tightened in this stage.)



Installation 4-7

4.4 Installation of High Capacity Feeder 1

- 1) Put the High Capacity Feeder 1 left side of Printer with about 100mm space.
- 2) Unscrew four M4 screws of High Capacity Feeder 1 rear side, then remove Inner Cover.
- 3) Lace the Ground cables through the upper hole from High Capacity Feeder 1 side to Printer.
- 4) Screw the Ground cables with Washer and M5 screw onto Printer as shown below.
- 5) Lace J539 connector through the upper hole from Printer to High Capacity Feeder 1 side.
- 6) Lace J518 connector through the upper hole from Printer to High Capacity Feeder 1 side.
- 7) Lace J824 connector through the upper hole from Printer to High Capacity Feeder 1 side.



8) Connect the High capacity feeder 1 to left side of Printer. The hole of the printer is into the adjustment pin of the High capacity feeder 1.



9) Screw High capacity feeder 1 to Printer by four(4) screws and Washers which were unpacked by item 3.3 (6). (The screws should be loosely tightened in this stage.)





4.5 Installation of High Capacity Feeder 2

- 1) Put the High Capacity Feeder 2 left side of High Capacity Feeder 1 with about 100mm space.
- 2) Lace the Ground cables through the upper hole from High Capacity Feeder 2 to High Capacity Feeder 1 side.
- 3) Screw the Ground cables with Washer and M5 screw onto High Capacity Feeder 1 as shown below.
- 4) Lace P593 connector through the back hole from High Capacity Feeder 2 to High Capacity Feeder 1 side.
- 5) Lace P677 connector through the back hole from High Capacity Feeder 2 to High Capacity Feeder 1 side.
- 6) Lace P548 connector through the near hole from High Capacity Feeder 2 to High Capacity Feeder 1 side.



7) Connect the High capacity feeder 2 to left side of High capacity feeder 1. The hole of the High Capacity Feeder 1 is into the adjustment pin of the High capacity feeder 2.



- Open Front Cover (LC) assy, unscrew the Ground cables with Washer and M5 screw. Unscrew the two belts with two(2) belt clamps and four(4) M4 screws, then remove Front Cover (LC) assy.
- 9) Push the Lower Feeder Hopper Lock and pull out Lower Feeder Hopper. Unscrew two(2) M4 screws, then remove Hopper Cover (LH1) assy. Pull in Lower Feeder Hopper.

Lower feeder hopper lock

10) Screw High Capacity Feeder 2 to Printer by four(4) screws and Washers which were unpacked by item 3.4 (5). (The screws should be loosely tightened in this stage.)

Ground Cables

Belt M4 Screw + Belt Clamp M5 screw + washer M5 screw + washer Front Cover (LC) assy Belt M4 Screw + Belt Clamp M4 screw Hopper Cover (LH1) assy Lower Feeder Hopper M5 screw + washer M5 screw + washer M5 screw + washer 11) Connect J/P593, J/P677 and J/P548. Ш 00 L Installation 4-11

4.6 Connection of AC Power Supply Cable



- 1) The Power Supply Cable which conforms to IEC 60950 standard is used.
- 2) The voltage is constantly in unless the machine is unplugged.
- 3) Confirm that the AC Power SW of Printer be OFF.
- 1) Power supply cable is already connect the machine.
- 2) Check the form of the plug fits the socket.
- 3) Form of the European plug and the US plug are shown below.
- 4) Insert the plug in the socket.



32A, 3Φ, 380-415V

Form of the European Plug



NEMA L15-30P 30A, 3Ф, 250V

Form of the US Plug







US Version

1) Be sure to use power supply cable which complies with the following specification :

Power plug rating ; Min. AC 250V, Min. 25A (3-Pole, 4-Wire, Grounded) L15-30P UL Listed, CSA Certified in North America Type CA, Conformed to IEC 60950 in Europe

Power cable rating ; Min. AC 250V, Min. 25A

Type SJT or SVT, UL Listed, CSA Certified in North America Conformed to IEC 60950 in Europe

2) Use the power supply cable which is approximately 50 mm longer for the FG.

The cable should be designed as below, so the FG power cable remains connected if the other cables are accidentally disconnected.



- 3) Make sure that the power cables are connected to the correct terminals ("L1", "L2", "L3", "FG") on the power plug, Terminal Block and

 ① Mark.
- 4) The socket-outlet shall be installed near the printer and be easily accessible.

II	L	00	



European Version

1) Be sure to use power supply cable which complies with the following specification :

Power plug rating ; Min. AC 480V, Min. 25A (3-Pole, 5-Wire, Grounded), Conformed to IEC 60950 in Europe

Power cable rating ; Min. AC 480V, Min. 25A

Type SJT or SVT, UL Listed, CSA Certified in North America Conformed to IEC 60950 in Europe

2) Use the power supply cable which is approximately 50 mm longer for the FG.

The cable should be designed as below, so the FG power cable remains connected if the other cables are accidentally disconnected.



- Make sure that the power cables are connected to the correct terminals ("L1", "L2", "L3", "N", "FG") on the power plug, Terminal Block and
 Mark.
- 4) The socket-outlet shall be installed near the printer and be easily accessible.

	L	00	
	Installati	on 4-14	

4.7 Placement

1) Turn all the jack screws until they just touch to the floor.



 Turn all the jack screws again so that there are about 1mm of space between Casters and floor. Acceptable tilts are as follows.





4.8 Adjustment of leveling height

According to the following manner, adjust the relative height of each equipment.

- As shown in Fig.1, leveling height is adjusted so that an eye mark can be seen in a slit. (Container Stacker / Auxiliary Container Stacker : A and B part) (High Capacity Feeder 2 : E and F part)
- 2) As shown in Fig.2, leveling height is adjusted so that an eye mark can be seen in a slit. (High Capacity Feeder 1 : C and D part)



Installation 4-16



CAUTION In case of the amount of Jack Screw rises is insufficient, putting the Spacer under the Jack Screws included in the Accessories.



CAUTION When the height of a adjustment pin does not suit, please place the spacer of two sheets, and let slide and connect it with the bottom of a jack.





3) Confirm the level of the each equipment with the level, turn the jack screws and adjust the level of each equipment.

4) Fasten Lock nut.



- 5) Fasten screws completely between Stacker/Printer/High Capacity Feeder.
- 6) Fasten screws between main body and Air system by M4 screws and washers.

4.9 Attaching covers

Attach and close all covers which were removed or opened when installation process.

II	L	00	
	Installat	ion 4-19	

4.10 Attachment change of the transformer by input voltage



Be sure to turn OFF the Circuit Breaker prior to performing the maintenance.

[Work procedure]

1) Unscrew four M4 screws of Printer rear side, then remove Rear cover (R) ASSY.



2) Unscrew six M4 screws and remove the Inner rear cover.



II	L	00	
	Installati	on 4-20	

Change the connector connection of 200/208/220/230/240V according to input voltage.(US Version)

Change the connector connection of 380/400/415V according to input voltage.(European Version)

If there is no information on the input voltage, measure the input voltage according to the following procedures.

It changes by environment of circumference, the input voltage is careful to setting of the voltage.



Be careful of the electric shock when you measure the input voltage.

Measure the AC voltage between L1 and L2 by a digital voltmeter at US version.

In the case of EU version, measure it between L1 and N.

The connector is connected with the position in which the AC voltage measurement result that is the nearest value of table below

Connect position	Measurement result of AC voltage
V1	200
V2	208
V3	220
V4	230
V5	240





4.11 Adjustment of Hopper air pressure

CAUTION The adjustment is performed with the power on, so it requires the upmost care.

This adjustment should be done after power on and initialization action.

- 1) Printer Power on. (Ref 5.1)
- 2) Draw out the Lower Hopper. (Ref 3.1.(5), 3.3.(8) and 3.4.(8))
- 3) Turn on the Blower by Maintenance Diagnostics as following procedure.

Access method to the Diagnosis function on the Operator Control Panel (OCP) is shown below. For details on "How to use the OCP", refer to Chapter 3 of the Controller Maintenance Manual.





Access method to the Adjustment function on the OCP is shown below.

- 4) Remove the Rubber Cap of the Air Pressure Check Point on the Pick Belt Unit, and insert the manometer to the intake side.
- 5) The Pick Belt is turned to the maximum value of manometer.
- 6) Open the Controller Box. (only the Printer)
- 7) Loosen the screw on the Valve Band of the intake side, and adjust the manometer value to 1470 ± 98 Pa(150 \pm 10mmH₂O) by sliding the Valve Band.

In case of 50Hz machine, adjust it while sliding the Valve Band from the upper side of the "T" character shape hole to the lower side of it.

In case of 60Hz machine, adjust it while sliding the Valve Band from the lower side to the upper side of the "T" character shape hole.

- 8) Remove the Rubber Cap of the Nozzle for the Air Pressure Check Point, and insert the manometer to outtake side.
- 9) Loosen the screw on the Valve Band of the outtake side, and adjust the manometer value to 588 ± 49 Pa(60 ± 5 mmH₂O) by sliding the Valve Band. In case of 50Hz machine, adjust it while sliding the Valve Band from the upper side of the "T"

character shape hole to the lower side of it.

In case of 60Hz machine, adjust it while sliding the Valve Band from the lower side to the upper side of the "T" character shape hole.

- 10) Remove the Rubber Cap of the Air Pressure Check Point on the Pick Belt Unit again, and insert the manometer to the intake side. Then check the value or adjust again according to item (7).
- 11) Remove again the Rubber Cap of the Nozzle for the Air Pressure Check Point, and insert the manometer to the outtake side. Then check the value or adjust again according to item (9).
- 12) Fix the screws of the Value Bands after adjustment.



4.12 Adjustment of the Container Stacker

CAUTION The adjustment is performed with the power on, so it requires the upmost care.

Execute the following adjustment when unevenly and the stacker jam of the stacking are generated.

- 1) Preparation for adjustment
- (1) On the basis of engine, connect the stackers with aligning the both of centers. They are the slit near screw upper connection and the height adjustment segment on connecting plate.
- (2) Using Levels whose accuracy are approximately 20', make level of engine and stacker. The point is as follows:
 - Engine; Front flame in switch back
 - Stacker; base flame in rear side
- (3) Confirm that paper running point is within 36.6±1.5mm from inside the front flame of stacker. If not, adjust by jack-up
- (4) Detach side cover (RH) assembly



Level setting points

Note

In case of SS specification (with proliferation), adjust the first stacker with separating the second stacker.





- 2) Way to adjust
- (1) Adjustment of stopping point of front jogger and pressing pitch of rear jogger.

For the adjustment of stacking accuracy, adjust as follows:

①Printing mode

- Paper; A4 approximately 50 sheet
- Print; Duplex printing / Face down
- Pattern; Grid
- · Direction of offset; Opposite operation side offset

With running paper, illuminate from right hand of the stacker by flashlight and look over the position between front jogger(fixed side) and edge of paper operation side.



I) The case that there is gap of X mm between Front jogger and paper operation side



(Way to adjust)

Move the stopping point of Front jogger (fixed side) to opposite operation side by gap of X mm.

Adjustment of stopping point of Front jogger

The stopping point of Front jogger is adjusted by changing the data with Operator Control Panel(OCP). ▲ x1 push=+0.25mm, ▼ x1 push=-0.25mm

II	L	00	





 ${\rm I\hspace{-1.5pt}I}$) The case that Rear jogger press papers too much.



(Way to adjust)

Make the pressing pitch of Rear jogger smaller, until there is no tumor caused of to much pressure by Rear jogger as the figure above shows. The pressing pitch of the Rear jogger is adjusted by changing the data with Operator Control Panel (OCP). \boxed{A} x1 push=+0.25mm, $\boxed{\nabla}$ x1 push=-0.25mm







- (2) Adjustment of tilt angle for Offset roller is operated as follows:
 - a. Adjustment of paper of short size
 - b. Adjustment of paper of long size
- a. Adjustment of paper of short size

 $\textcircled{} \label{eq:printing} \textbf{Printing mode}$

- Paper; A4 approximately 50 sheet
- Print; Duplex printing/Face down
- Pattern; Grid
- Direction of offset; Both of operation side/opposite operation side directions
- ②With running paper, illuminate from right hand of stacker to the paper stacking by flashlight and look over the position between paper running and Front/Rear jogger.
- ③(Point)

In offset, adjust not to touch the jogger to fix and edge of paper.



a-1. In case of opposite operation side of offset

Adjust the tilt angle of Offset roller with Operator Control Panel (OCP) as gap between edge of paper operation side and Front jogger (fixed side) is $4\sim$ 5mm (Way to adjust is next page)



II	L	00	
	Installat	ion 4-28	

a-2. In case of operation side of offset

Adjust the tilt angle of Offset roller with debug panel as gap between edge of paper operation side and rear jogger (fixed side) is $4\sim$ 5mm (Way to adjust is next page)



	L	00	
	Installati	on 4-29	

a-3. (Way to adjust)

[Way to adjust of amount of offset operation side]

The amount of offset at offset roller is adjusted by changing the data below (same as adjustment of opposite operation) with Operator Control Panel (OCP).

Name of machine	Capable range of adjust
ST1 lower offset (operation side)	X(00)~x(32) default (1D)
ST1 lower offset (opposite operation side)	X(00)~x(32) default (1D)
ST1 upper offset (operation side)	X(00)~x(32) default (1D)
ST1 upper offset (opposite operation side)	X(00)~x(32) default (1D)
ST2 lower offset (operation side)	X(00)~x(32) default (1D)
ST2 lower offset (opposite operation side)	X(00)~x(32) default (1D)
ST2 upper offset (operation side)	X(00)~x(32) default (1D)
ST2 upper offset (opposite operation side)	X(00)~x(32) default (1D)

 $(\ensuremath{\mathbb{D}}$ In case edge of paper touches jogger B

- ST1 lower offset (operation side)
- ST1 upper offset (operation side)
- ST2 lower offset (operation side)
- ST2 upper offset (operation side) _

Update these dimensions.

(In case of 2, update the same operation.)

To the relevant adjustment dimension of address, input the dimension like "IE", "IF, "20" larger than current dimension (default "ID"). Every time dimension is updated, confirm both the jogger B and running position of paper.

② In case paper edge separates too far from jogger B.

To the relevant adjustment dimension of address, input the dimension like "IC", "IB, "IA" lower than current dimension (default "ID"). Every time dimension is updated, confirm both the jogger B and running position of paper.

	L	00	

<Way to adjust>



Note: Return the setting when the job concerned ends

	II	L	00	
_	Installation 4-31			
[Way to adjust of amount of offset opposite operation side]

- $(\ensuremath{\mathbbm l})$ In case edge of paper touches jogger A
 - ST1 lower offset (opposite operation side)
 - ST1 upper offset (opposite operation side)
 - ST2 lower offset (opposite operation side) ST2 upper offset (opposite operation side)

Update these dimensions.

(In case of 2, update the same operation)

To the relevant adjustment dimension of address, input the dimension like "IE", "IF, "20" larger than current dimension (default "ID"). Every time dimension is updated, confirm both the jogger A and running position of paper.

② In case paper edge separates too far from jogger A.

To the relevant adjustment dimension of address, input the dimension like "IC", "IB, "IA" lower than current dimension (default "ID"). Every time dimension is updated, confirm both the jogger B and running position of paper.

	L	00	
	Installati	on 4-32	

<Way to adjust>



Note: Return the setting when the job concerned ends



b. Adjustment of paper of long size

①Printing mode

- Paper; i)A3/55kg paper approximately 50 sheet ii)LD/20lb paper approximately 50 sheet
- Print; Duplex printing/Face down
- Pattern; Grid
- Direction of offset; Both of operation side/opposite operation side directions

2 With feeding paper, illuminate from right hand of the stacker to the paper stacking by flashlight and look over the position between paper running and front/rear jogger.

3(Point)

In paper comes out, adjust for the last time as follows:

- $i\,$) The edge of paper does not touch with the fixed jogger.
- $\rm ii$) Rear of the paper from the center does not hide under the fixed jogger.
- iii) The edge of paper does not touch/hide under the sliding side jogger.
- ④In feeding paper of long size, Offset roller is controlled as follows:
- $\rm i\,$) The roller is tilted by X(32) to appointed direction.
 - (Capable range of adjust X(00) \sim X(32) Default X(32))
 - \rightarrow It is called "Long X(32)".
- $\rm ii$) After $\rm ~i$) when 196 ms pass, the roller is tilted by X(27) to opposite direction of offset.
 - (Capable range of adjust X(00) \sim X(32) Default X(27))
 - \rightarrow It is called "Long reverse X(27)".

By updating Long X(32), Long reverse X(27), adjustment of paper of long size is operated.

II	L	00	
	Installati	on 4-34	

b-1. (Way to adjust)

The amount of offset at offset roller is adjusted by changing the data with Operator Control Panel (OCP).

Refer to the following pages of "b-2; Adjustment in opposite operation side", "b-3; Adjustment in operation side" on the way to adjust.

Name of machine	Capable range of adjust
ST1 lower offset operation side (Long)	X(00)~x(32) default (32)
ST1 lower offset operation side (Long reverse)	X(00)~x(32) default (27)
ST1 lower offset opposite operation side (Long)	X(00)~x(32) default (32)
ST1 lower offset opposite operation side (Long reverse)	X(00)~x(32) default (27)
ST1 upper offset operation side (Long)	X(00)~x(32) default (32)
ST1 upper offset operation side (Long reverse)	X(00)~x(32) default (27)
ST1 upper offset opposite operation side (Long)	X(00)~x(32) default (32)
ST1 upper offset opposite operation side (Long reverse)	X(00)~x(32) default (27)
ST2 lower offset operation side (Long)	X(00)~x(32) default (32)
ST2 lower offset operation side (Long reverse)	X(00)~x(32) default (27)
ST2 lower offset opposite operation side (Long)	X(00)~x(32) default (32)
ST2 lower offset opposite operation side (Long reverse)	X(00)~x(32) default (27)
ST2 upper offset operation side (Long)	X(00)~x(32) default (32)
ST2 upper offset operation side (Long reverse)	X(00)~x(32) default (27)
ST2 upper offset opposite operation side (Long)	X(00)~x(32) default (32)
ST2 upper offset opposite operation side (Long reverse)	X(00)~x(32) default (27)



Stacker Adjust		Stacker Adjust	
Front		Short 🔺	
Rear		Long	
		Long Reverse 🔺	

Note: Return the setting when the job concerned ends

b-2; Adjustment in opposite operation side

I

In case of failure as $1\!$ below, the adjustment is necessary.

①In case edge of paper touches fixed side jogger (front jogger)



(Cause) Too getting paper back

(Way to adjust) Update lower the Offset roller "Long reverse"; X(27).

 \rightarrow Set the gap between fixed jogger and edge in operation side 4 \sim 5mm.

②In case rear of the paper from the center hides under the fixed side jogger(Front jogger)



(Cause) Too getting paper back

(Way to adjust) Update lower the Offset roller "Long reverse"; X(27).

 \rightarrow Set the gap between fixed jogger and edge in operation side 4 \sim 5mm.





b-2; Adjustment in opposite operation side

In case the edge of paper touches/hides under the sliding side jogger (Rear jogger).



(Cause) Lack of getting paper back or tilting paper too much (Way to adjust)

• Update larger the Offset roller "Long reverse"; X(27).

• Update lower the Offset roller "Long"; X(32).

b-3; Adjustment in opposite operation side

In case of failure as $1 \sim 3$ below, the adjustment is necessary.

(1) In case edge of paper touches fixed side jogger (Rear jogger)



(Cause) Too getting paper back

(Way to adjust) Update lower the Offset roller "Long reverse; X(27).

ightarrowSet the gap between fixed jogger and edge in operation side 4 \sim 5mm.





②In case rear of the paper from the center hides under the fixed side jogger(Rear jogger)

b-3; Adjustment in opposite operation side

③In case the edge of paper touches/hides under the sliding side jogger (Front jogger).

 \rightarrow Set the gap between fixed jogger and edge in operation side 4 \sim 5mm.



(Cause) Lack of getting paper back or tilting paper too much (Way to adjust)

• Update larger the Offset roller "Long reverse"; X(27).

Update lower the Offset roller "Long"; X(32).





4.13 Assembly of Tray Lift

- 1) Take out the Lift Base Rivet (H) Assy, Lift Base Cover (H), Tray Shaft (H), Tray Shaft 3, Thumb Screws(4pcs), M4x8 BIND Screws(8pcs) and Tray Lift assembly craft of the Accessories box.
- 2) Assemble the Tray Lift according to the Tray Lift assembly chart.



 	L	00	
	Installati	on 4-39	

Chapter 5. Checks

5.1 Power on Printer

1) Turn on the AC Power switch on left side, and turn on the Power switch.



2) Confirm that OCP screen becomes the first screen as follows.



- **NOTE** : If AHP CPU error(E415), ST1 CPU error(E417), ST2 CPU error(E419) or AHP2 HP Driver I/F error(E44A) is detected, confirm whether the Unit Configuration is correct or not. When the Unit Configuration is not correct, initialize the Unit Configuration by manner of item 5.3.
- 3) Set the Letter LEF or A4 LEF in the Tray1.



5.2 Check the HCF/Container Stacker Microcode Revision

Check the HCF/Container Stacker Microcode revision. When the Microcode is old, carry out the download of new Microcode.

1) Power on the printer

2) Access method to the "Upgrade System" Menu on the OCP



(8) Input the "Password" and press the "Enter" button. (About 3 minutes)



3)Check the HCF revision and download the Microcode (option)



(1) When the "Current revision" and "New Revision" is not matched, press the "Enter" button.

- (2) When the "Current revision" and "New Revision" is matched, press the "Skip" button.
- 4) Check the Container Stacker2 revision and download the Microcode (option)



(2) When the "Current revision" and "New Revision" is matched, press the "Skip" button.

5) Check the Container Stacker1 revision and download the Microcode





6) End of "Check the HCF/Container Stacker Microcode"

[Operating procedure of OCP]

(1) Press the "Skip" button.

(2) Press the "Skip" button.

(3) Press the "Skip" button.

(4) Press the "Skip" button.

(5) Press the "Skip" button.

(6) Press the "Skip" button.

(7) When the Microcode is not downloaded, press the "Return to Main Menu" button.

(8) When the Microcode is downloaded, power off the printer.



5.3 Check the print operation and the print quality

1) Print the "Status Page" to check the print operation as following procedure.



NOTE : Confirm there are no printing problem when the "Status Page" is printed.

2) Print the "Raster Pattern" to check the print quality as following procedure.



5.4 Initialize the Unit Configuration

1) Initialize the Unit Configuration to clear the Unit Configuration error as following procedure.





Read/Write Memory Enter Data Read/Write Memory Enter Address CirDel Cir Del 0 1 2 3 0 2 3 1 5 6 7 4 4 5 6 7 8 || 9 || A || B ∢ 8 9 A в ◀ CDFF CDFF Press the Enter button after Press the Enter button inputting the "0004" address. after inputting the "00" data.



II	L	00	
	Check	s 5-7	

Appendix 1. Installation Area Information

Printer installation area information



II L 00 Appendix 1