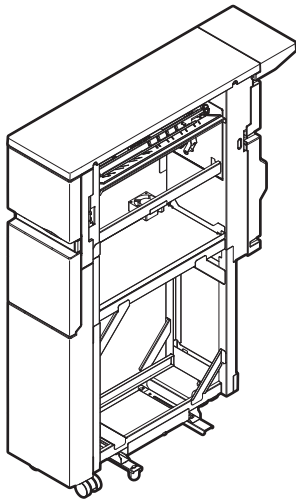


SERVICE MANUAL



DIGITAL MULTIFUNCTIONAL SYSTEM OPTION CURL CORRECTION UNIT

MODEL **MX-RB18**

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Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

[1] PRODUCT OUTLINE

This unit suppresses curling of paper transported from the machine, and transports paper to the after-process unit.

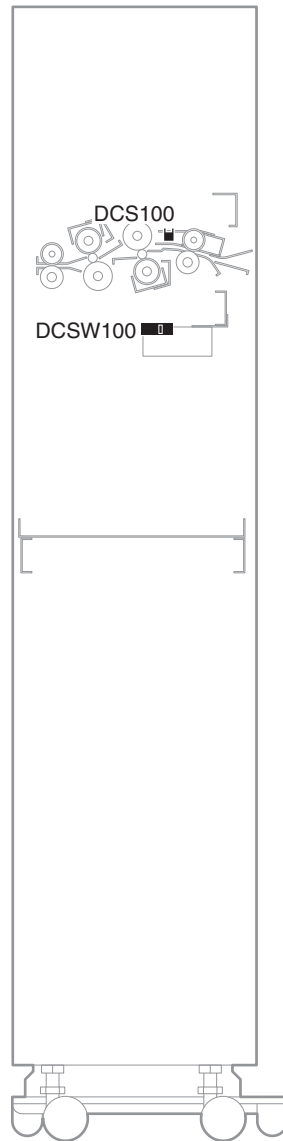
This unit may require other options. Please refer to the configuration section for details.

[2] SPECIFICATIONS

	MX-RB18
Type	Floor type
Correction system	Roller pressure system (Upper curl correction and lower curl correction)
Correction strength adjustment system	Mechanical dial system
Paper size (paper pass)	Conforms to the main machine.
Paper weight (paper pass)	Conforms to the main machine.
Max. power consumption	Standby: 1.6W or less Operating: 106W or less (at the peak)
Power source	DC24V (supplied from the main machine.) + DC5V (supplied from the main machine.)
External dimensions (W x D x H)	214 x 760 x 986mm
Weight	18.5kg

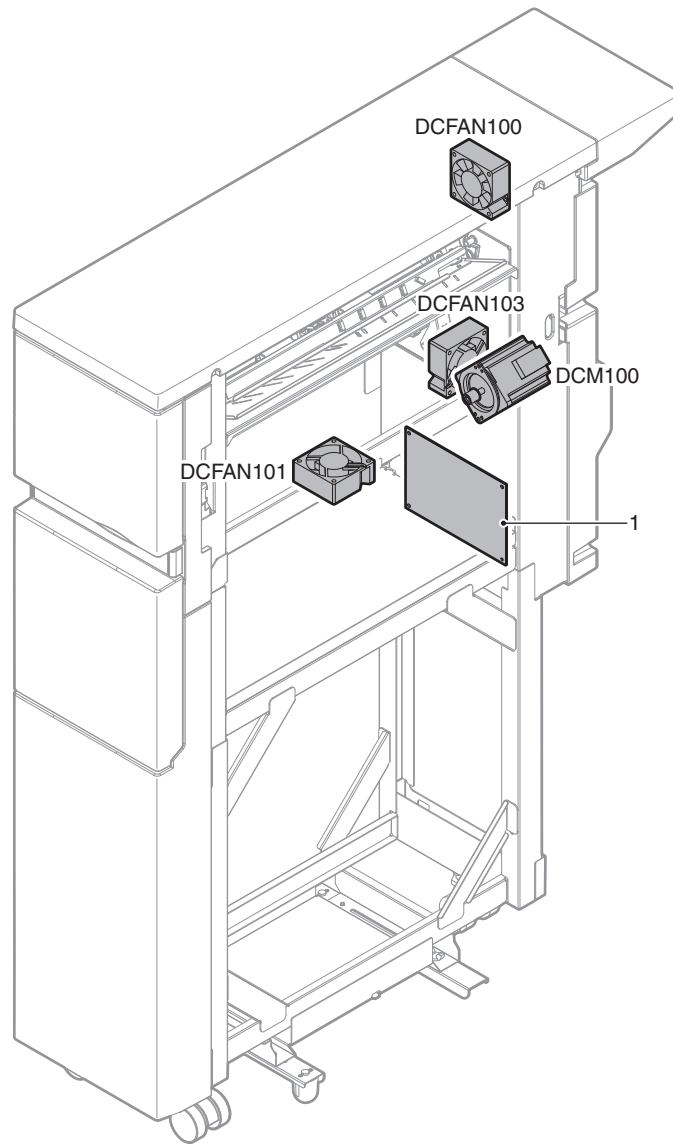
[3] EXTERNAL VIEW AND INTERNAL STRUCTURE

1. Sensor, Switch



Signal name	Name	Function/Operation
DCS100	Paper pass sensor	Detects transport of paper.
DCSW100	Front cover open/close detection switch	Detects open/close of the front cover.

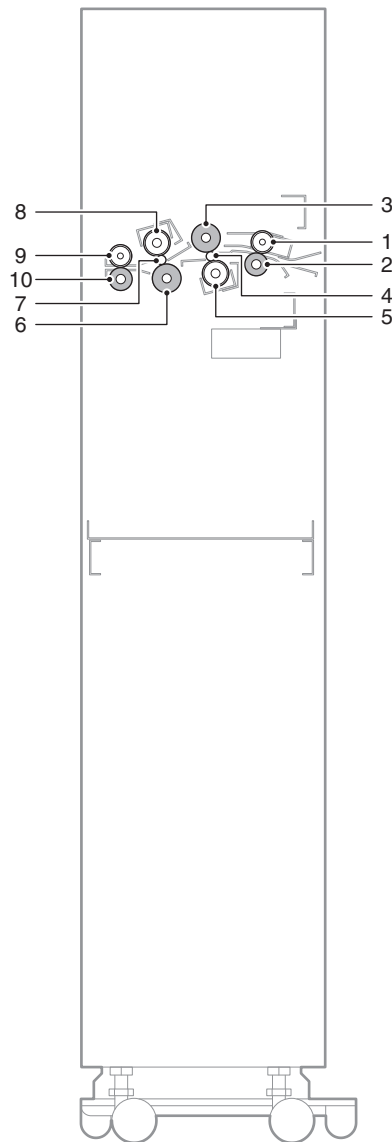
2. Drive motor, Fan, PWB



Signal name	Name	Function/Operation
DCFAN100	Upper cooling fan	Cools the upper area of the paper transport section.
DCFAN101	Lower cooling fan	Cools the lower area of the paper transport section.
DCFAN103	Transport motor cooling fan	Cools the paper transport motor.
DCM100	Paper transport motor	Drives the decurler roller.

No.	Name	Function/Operation
1	Decurler unit control PWB	Controls the decurler unit.

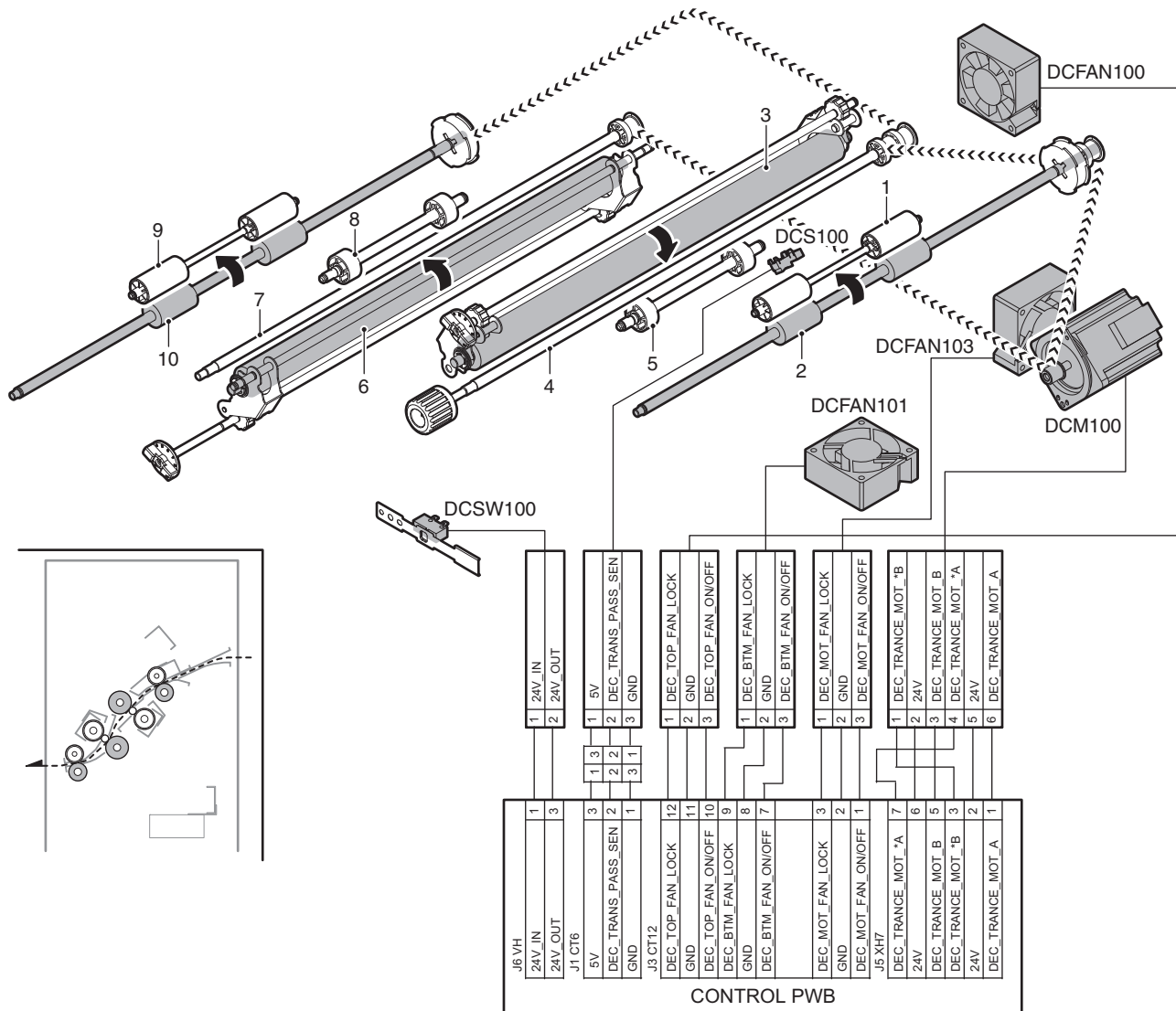
3. Roller



No.	Name	Function/Operation
1	Transport roller 1 (Idle)	Apply a pressure to paper and the transport roller, providing a transport power to the transport roller.
2	Transport roller 1 (Drive)	Transports paper to the upper decurler roller.
3	Upper decurler roller	Sponge roller which corrects upward curl of paper.
4	Upper decurler shaft roller	Metal roller which corrects upward curl of paper.
5	Upper backup roller	Roller which prevents warp of the upper decurler shaft roller.
6	Lower decurler roller	Sponge roller which corrects downward curl of paper.
7	Lower decurler shaft roller	Metal roller which corrects downward curl of paper.
8	Lower backup roller	Roller which prevents warp of the lower decurler shaft roller.
9	Transport roller 2 (Idle)	Apply a pressure to paper and the transport roller, providing a transport power to the transport roller.
10	Transport roller 2 (Drive)	Transports paper sent from the lower decurler roller.

[4] OPERATIONAL DESCRIPTIONS

1. Electrical and mechanism relation diagram



Signal name	Name	Function/Operation
DCFAN100	Upper cooling fan	Cools the upper area of the paper transport section.
DCFAN101	Lower cooling fan	Cools the lower area of the paper transport section.
DCFAN103	Transport motor cooling fan	Cools the paper transport motor.
DCM100	Paper transport motor	Drives the decurler roller.
DCS100	Paper pass sensor	Detects transport of paper.
DCSW100	Front cover open/close detection switch	Detects open/close of the front cover.

No.	Name	Function/Operation
1	Transport roller 1 (Idle)	Apply a pressure to paper and the transport roller, providing a transport power to the transport roller.
2	Transport roller 1 (Drive)	Transports paper to the upper decurler roller.
3	Upper decurler roller	Sponge roller which corrects upward curl of paper.
4	Upper decurler shaft roller	Metal roller which corrects upward curl of paper.
5	Upper backup roller	Roller which prevents warp of the upper decurler shaft roller.
6	Lower decurler roller	Sponge roller which corrects downward curl of paper.
7	Lower decurler shaft roller	Metal roller which corrects downward curl of paper.
8	Lower backup roller	Roller which prevents warp of the lower decurler shaft roller.
9	Transport roller 2 (Idle)	Apply a pressure to paper and the transport roller, providing a transport power to the transport roller.
10	Transport roller 2 (Drive)	Transports paper sent from the lower decurler roller.

2. Decurler roller adjustment

The interface transport section is provided with the decurler (curl correction) function. The curl correction amount can be adjusted by rotating the dials.

The dial on the upper side is used to correct an upper curl. The dial on the lower side is used to correct a lower curl.

The adjustment can be made in 10 steps (1 - 10).

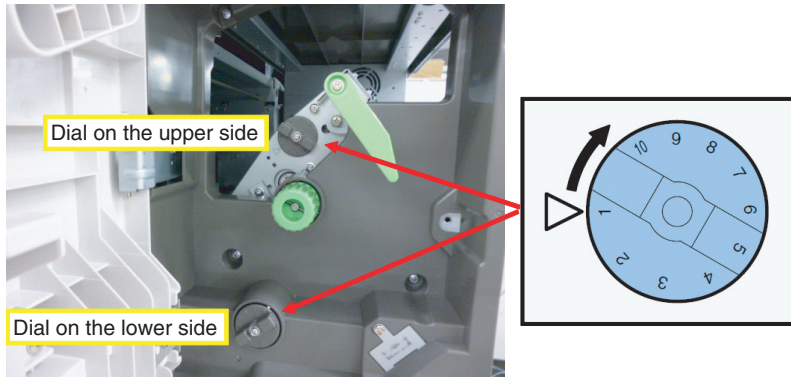
The normally value is 1. The greater the value is, the greater the correction is.

NOTE: When correcting a lower curl, if the dial on the upper side is turned, the curl is amplified.

Similarly, when correcting an upper curl, if the dial on the lower side is turned, the curl is amplified.

NOTE: Do not correct the upper and the lower curls simultaneously.

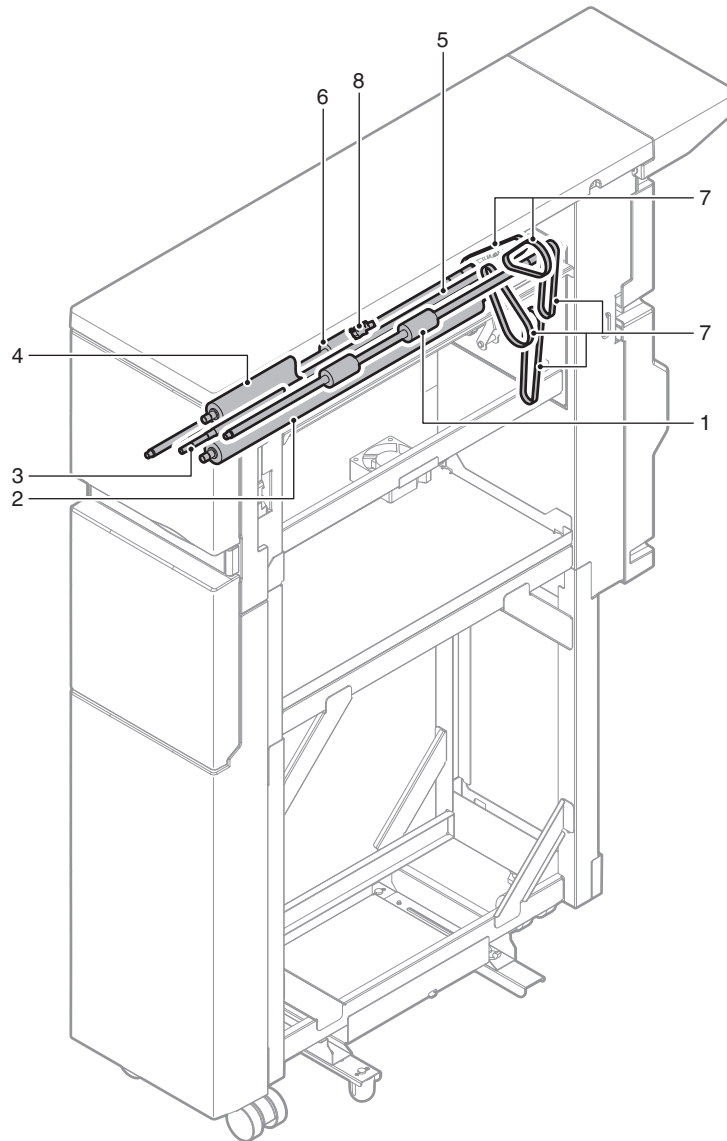
NOTE: The correction amount varies depending on the paper kind. Perform a fine adjustment depending on the paper kind and the use environment.



[5] MAINTENANCE

×: Check (Clean, replace, or adjust according to necessity.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate

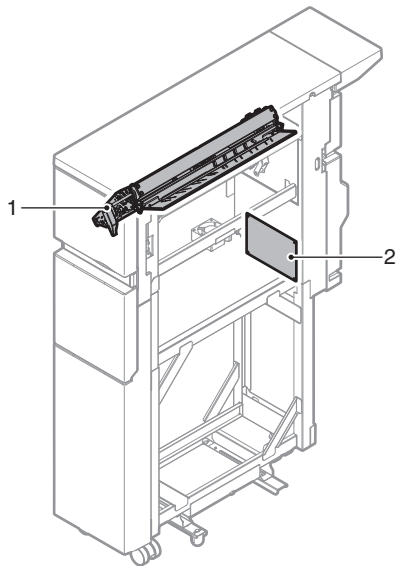
No.	Maintenance part	When calling	Every 300K	Remarks
1	Transport roller 1	×	○	
2	Upper decurler roller	×	○	Replace at 1,000K or when wrinkles are made on paper.
3	Upper decurler shaft roller	×	○	
4	Lower decurler roller	×	○	Replace at 1,000K or when wrinkles are made on paper.
5	Lower decurler shaft roller	×	○	
6	Transport roller 2	×	○	
7	Belts	---	×	
8	Sensors	×	×	
---	Transport paper guides	○	○	



[6] DISASSEMBLY AND ASSEMBLY

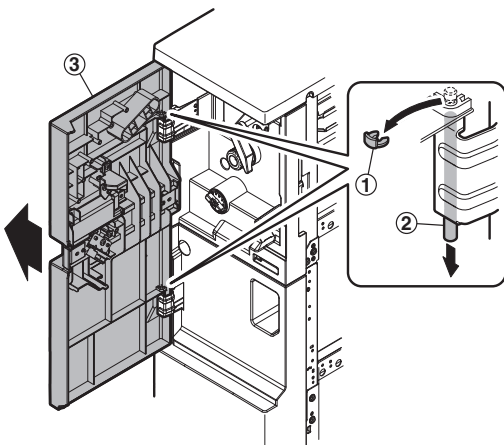
1. Each unit disassembly

No.	Unit name
1	Upper decurler unit
2	Decurler unit control PWB

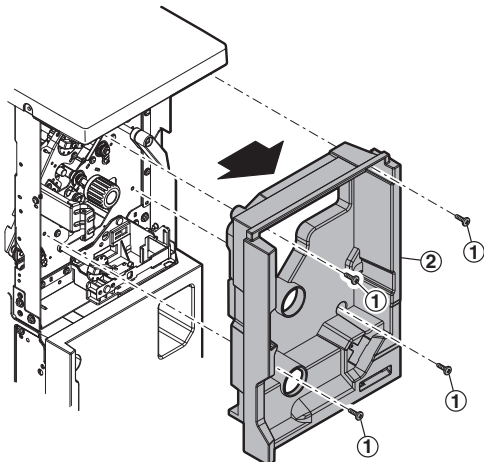


A. Upper decurler unit

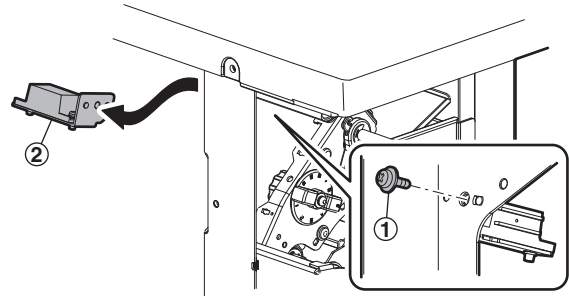
- 1) Open the front door.
Remove the resin E-ring, and slide down the pin.
Remove the front door.



- 2) Remove the screw, and remove the front cabinet.

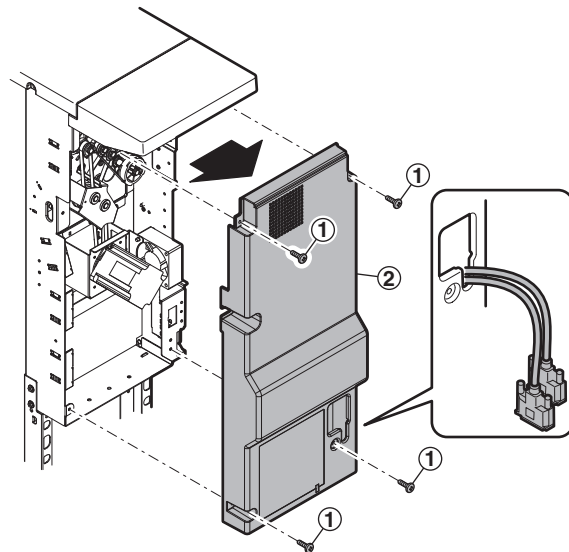


- 3) Remove the screw, and remove the magnet.

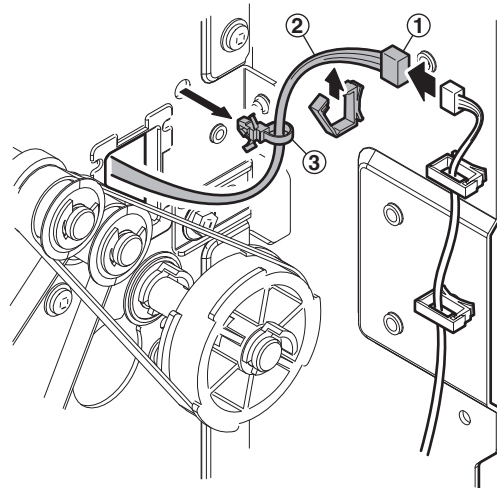


- 4) Remove the screw, and remove the rear cabinet.

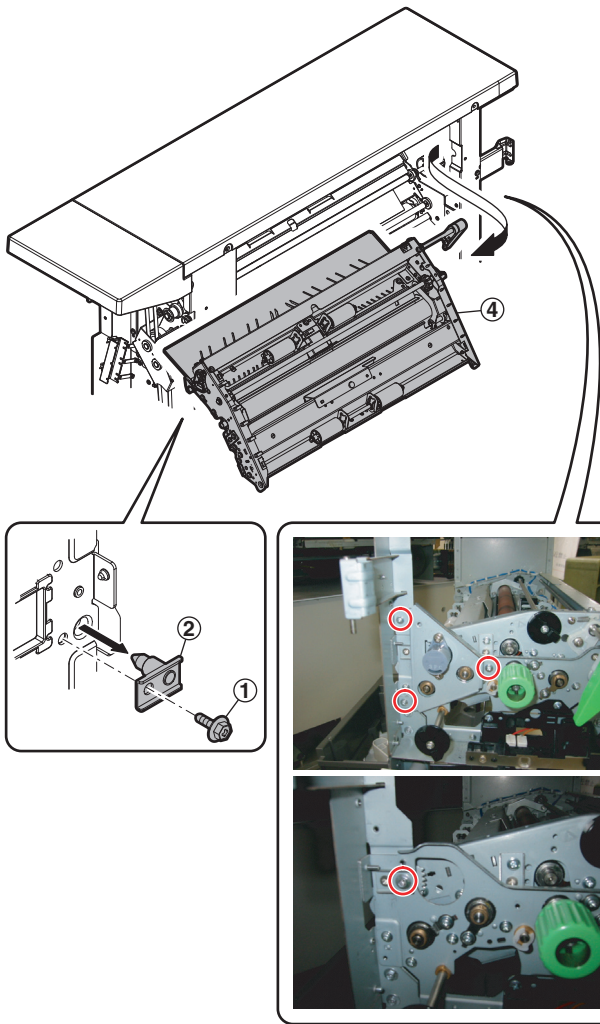
NOTE: When installing the rear cabinet, pass the harness through the hole in the rear cabinet.



- 5) Disconnect the connector. Remove the harness from the clamp, and remove the snap band.



6) Remove the screw, the positioning pin, and the rotary dumper unit. Remove the upper decurler unit.



Note for assembling the rotary dumper unit

Be sure to check that the triangle mark in the gear section of the rotary dumper unit is in position as shown in the photo before assembling.

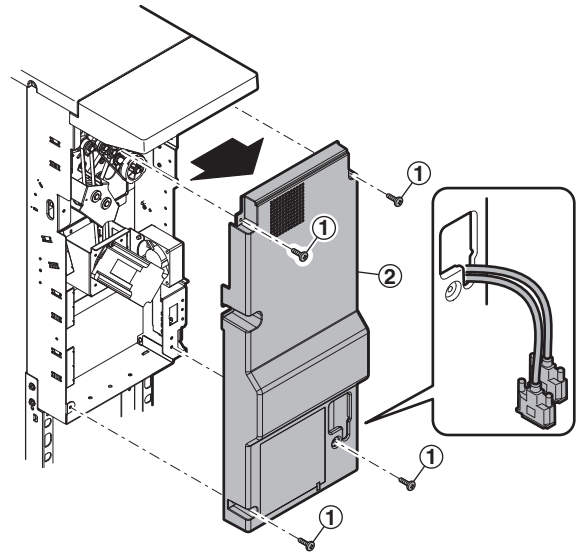
If the gear is not in position, turn the gear to set it in position before assembling.



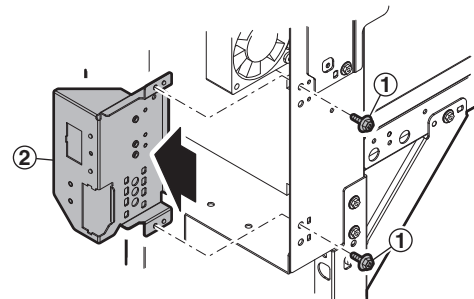
B. Decurler unit control PWB

1) Remove the screw, and remove the rear cabinet.

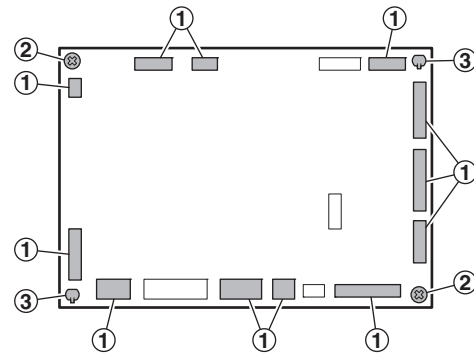
NOTE: When installing the rear cabinet, pass the harness through the hole in the rear cabinet.



2) Remove the screw, and remove the plate.



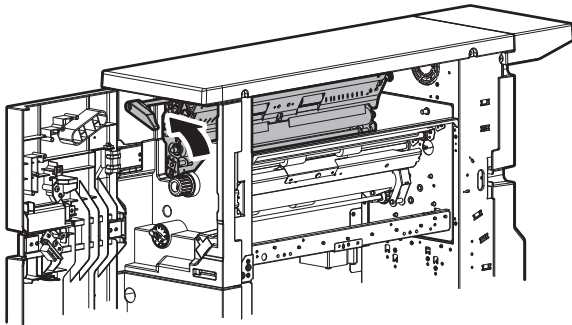
3) Disconnect the connector from the decurler unit control PWB. Remove the screw and the supporter, and remove the decurler unit control PWB.



2. Maintenance

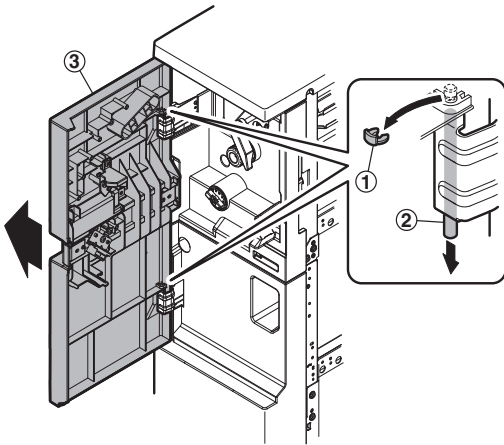
A. Upper decurler roller, Upper decurler shaft roller, Lower decurler roller, Lower decurler shaft roller, Transport roller 1, Transport roller 2

- 1) Open the front door, and open the upper decurler unit. Clean the rollers.

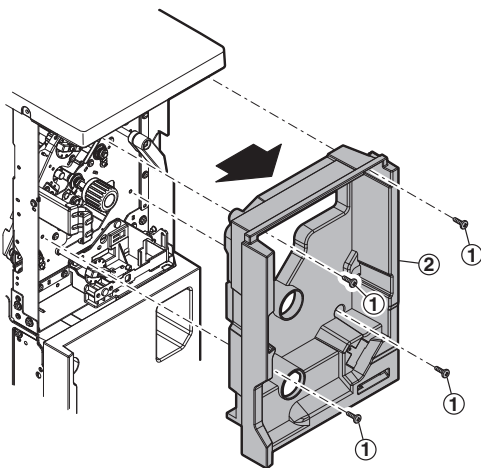


B. Upper decurler roller

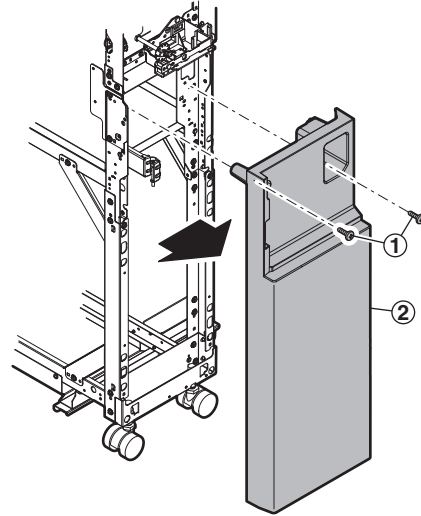
- 1) Open the front door. Remove the resin E-ring, and slide down the pin. Remove the front door.



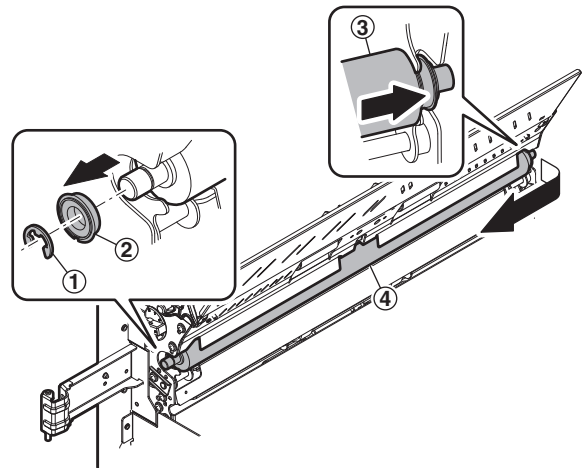
- 2) Remove the screw, and remove the front cabinet.



- 3) Remove the screw, and remove the front cabinet lower.



- 4) Remove the E-ring, and remove the bearing. Slide the upper decurler roller to rear frame side, and remove the bearing from the frame. Remove the upper decurler roller.

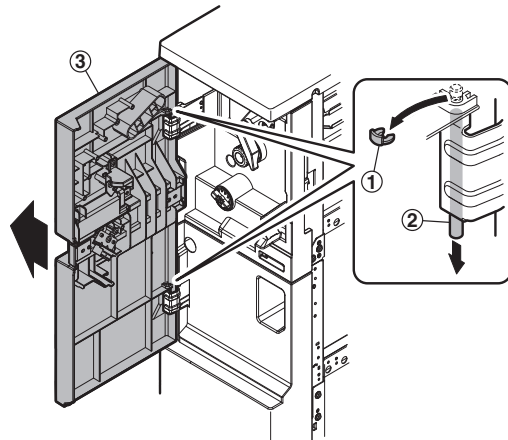


NOTE: Keep the mylar sheet position on the right side of the roller when attach the upper decurler roller.

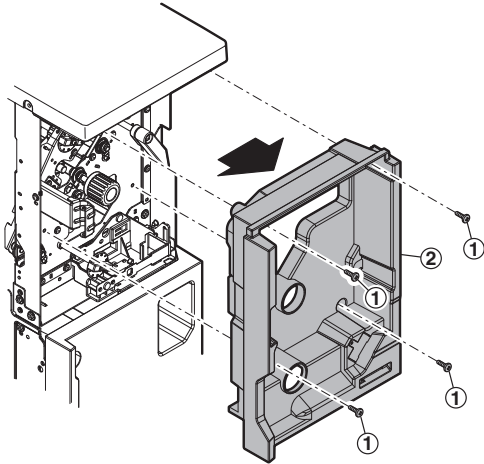
NOTE: Set the pressure adjustment lever to the position "1" when attach the upper decurler roller.

C. Lower decurler roller

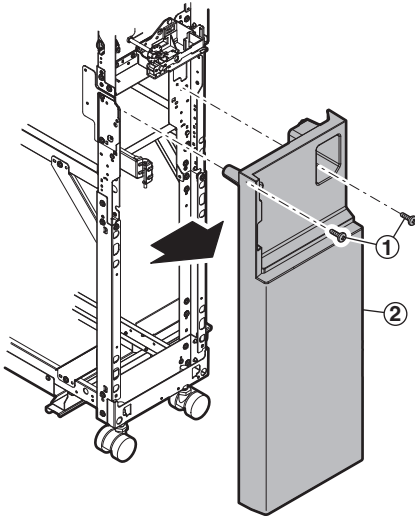
- 1) Open the front door. Remove the resin E-ring, and slide down the pin. Remove the front door.



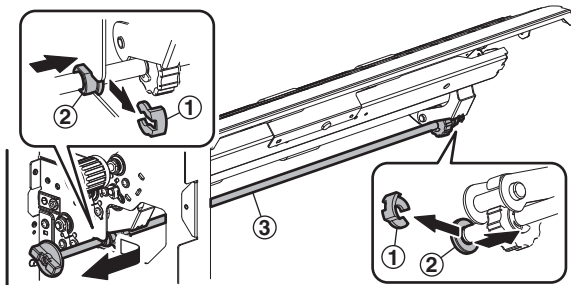
2) Remove the screw, and remove the front cabinet.



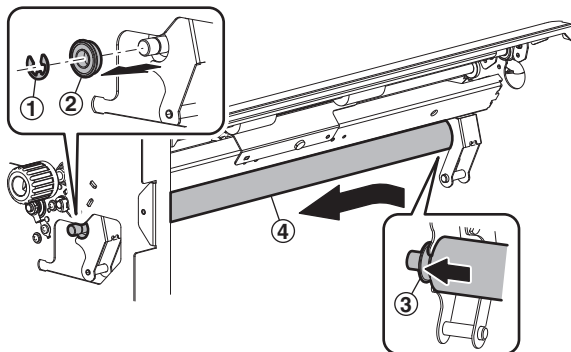
3) Remove the screw, and remove the front cabinet lower.



4) Remove the resin E-ring, and remove the bearing.
Remove the pressure release lever.



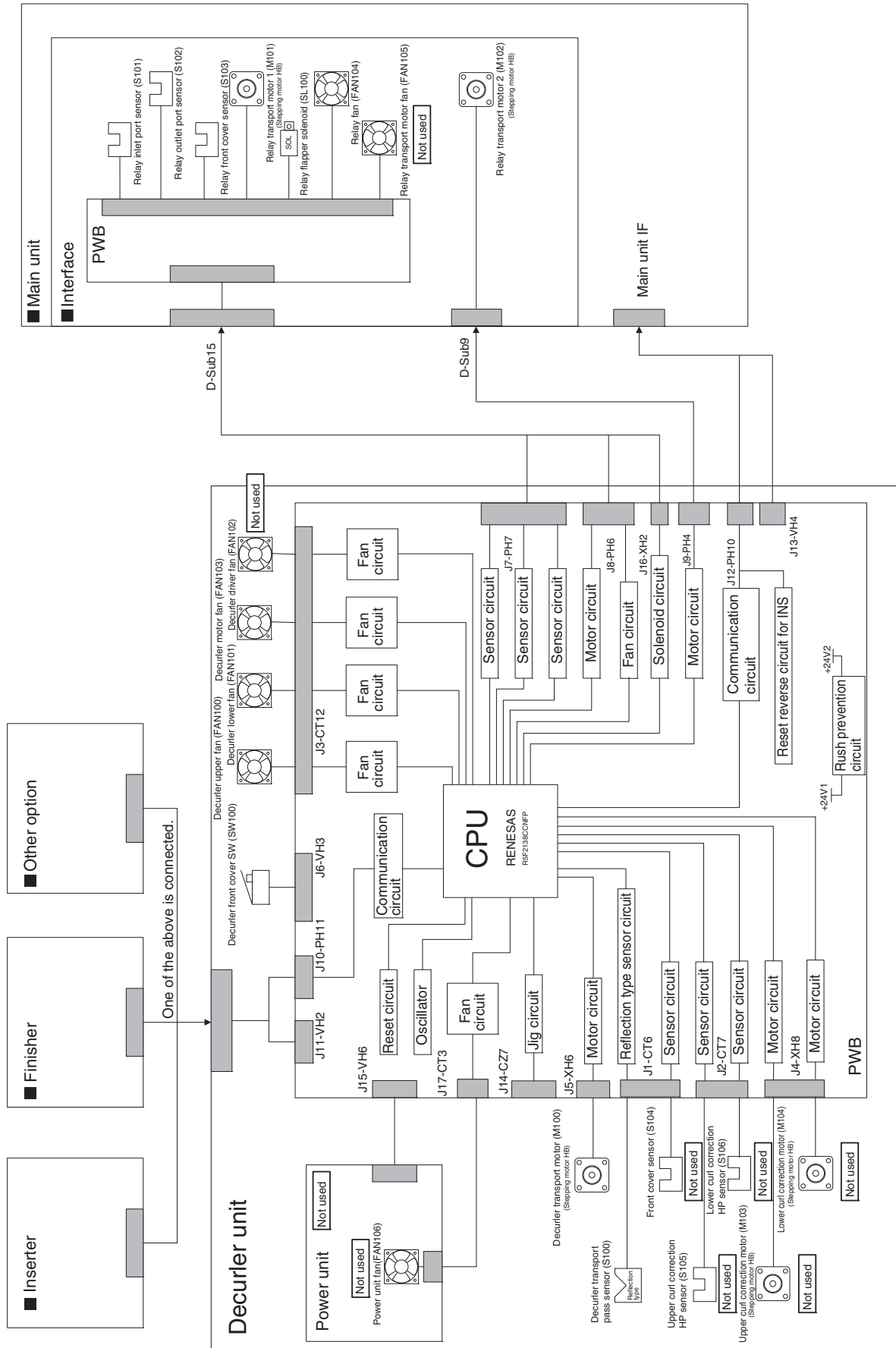
5) Remove the E-ring, and remove the bearing.
Slide the lower decurler roller to rear frame side, and remove
the bearing from the frame.
Remove the lower decurler roller.



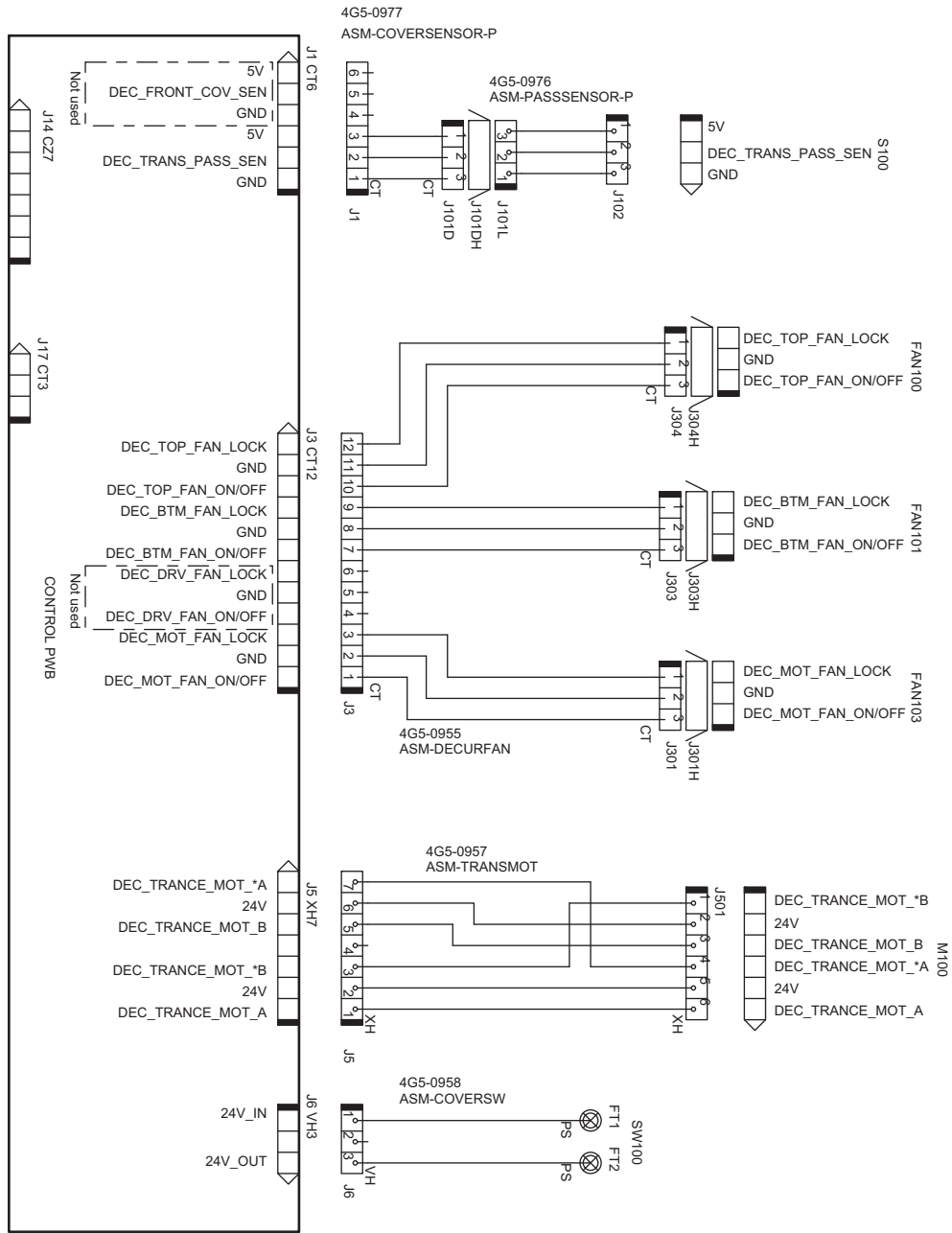
NOTE: Set the pressure adjustment lever to the position "1"
when attach the lower decurler roller.

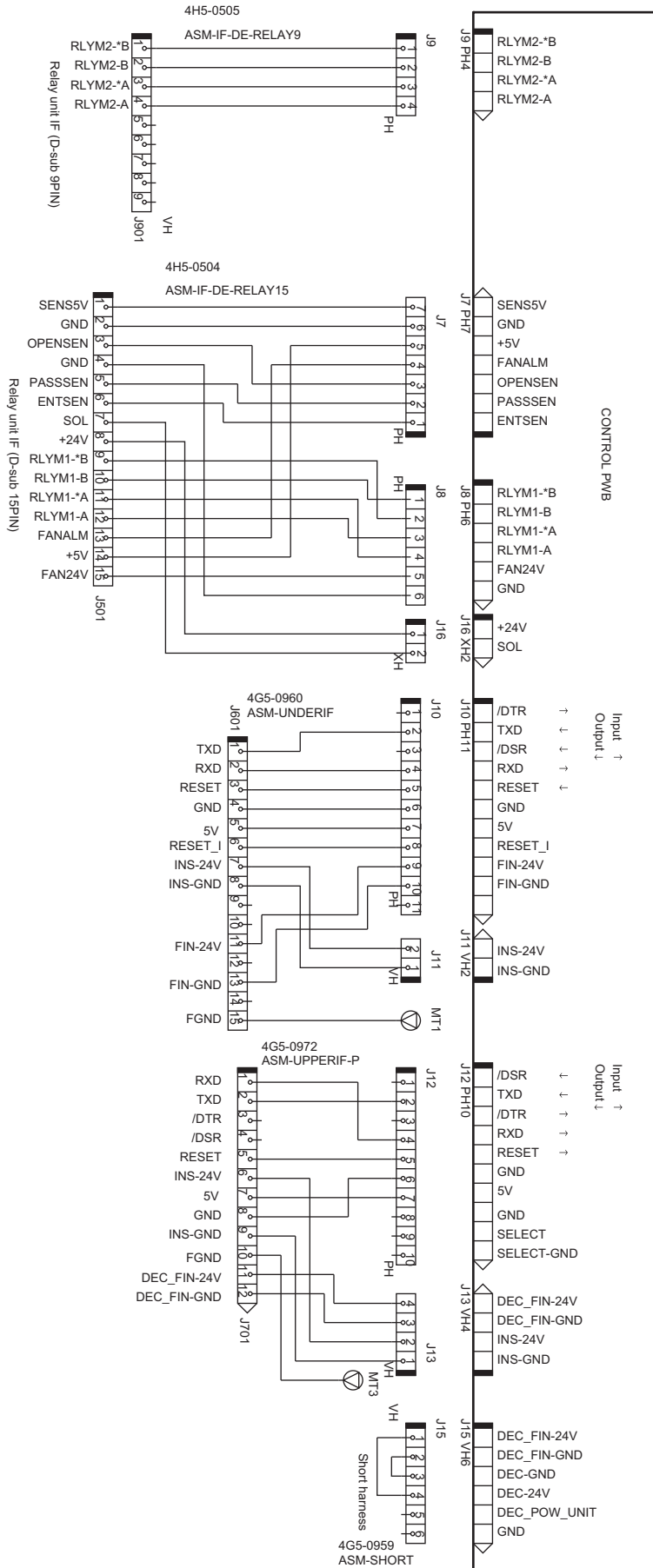
[7] ELECTRICAL SECTION

1. Block diagram



2. Actual wiring diagram

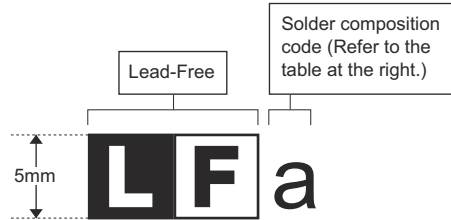




LEAD-FREE SOLDER

The PWB's of this model employs lead-free solder. The "LF" marks indicated on the PWB's and the Service Manual mean "Lead-Free" solder. The alphabet following the LF mark shows the kind of lead-free solder.

Example:



<Solder composition code of lead-free solder>

Solder composition	Solder composition code
Sn-Ag-Cu	a
Sn-Ag-Bi Sn-Ag-Bi-Cu	b
Sn-Zn-Bi	z
Sn-In-Ag-Bi	i
Sn-Cu-Ni	n
Sn-Ag-Sb	s
Bi-Sn-Ag-P Bi-Sn-Ag	p

(1) NOTE FOR THE USE OF LEAD-FREE SOLDER THREAD

When repairing a lead-free solder PWB, use lead-free solder thread.

Never use conventional lead solder thread, which may cause a breakdown or an accident.

Since the melting-point of lead-free solder thread is about 40°C higher than that of conventional lead solder thread, the use of the exclusive-use soldering iron is recommended.

(2) NOTE FOR SOLDERING WORK

Since the melting-point of lead-free solder is about 220°C, which is about 40°C higher than that of conventional lead solder, and its soldering capacity is inferior to conventional one, it is apt to keep the soldering iron in contact with the PWB for longer time. This may cause land separation or may exceed the heat-resistive temperature of components. Use enough care to separate the soldering iron from the PWB when completion of soldering is confirmed.

Since lead-free solder includes a greater quantity of tin, the iron tip may corrode easily. Turn ON/OFF the soldering iron power frequently.

If different-kind solder remains on the soldering iron tip, it is melted together with lead-free solder. To avoid this, clean the soldering iron tip after completion of soldering work.

If the soldering iron tip is discolored black during soldering work, clean and file the tip with steel wool or a fine filer.

CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !
Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the manufacturer.

Dispose of used batteries according to manufacturer's instructions.

(Finnish) VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) ATTENTION
Il y a danger d'explosion si il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type équivalent recommandé par
le constructeur.
Mettre au rebut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) VARNING
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German) Achtung
Explosionsgefahr bei Verwendung inkorrekt
er Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

CAUTION FOR BATTERY DISPOSAL

(For USA, CANADA)

"BATTERY DISPOSAL"

THIS PRODUCT CONTAINS A LITHIUM PRIMARY
(MANGANESE DIOXIDE) MEMORY BACK-UP BATTERY
THAT MUST BE DISPOSED OF PROPERLY. REMOVE THE
BATTERY FROM THE PRODUCT AND CONTACT YOUR
LOCAL ENVIRONMENTAL AGENCIES FOR INFORMATION
ON RECYCLING AND DISPOSAL OPTIONS.

"TRAITEMENT DES PILES USAGÉES"

CE PRODUIT CONTIENT UNE PILE DE SAUVEGARDE DE
MÉMOIRE LITHIUM PRIMAIRE (DIOXYDE DE MANGANÈSE)
QUI DOIT ÊTRE TRAITÉE CORRECTEMENT. ENLEVEZ LA
PILE DU PRODUIT ET PRENEZ CONTACT AVEC VOTRE
AGENCE ENVIRONNEMENTALE LOCALE POUR DES
INFORMATIONS SUR LES MÉTHODES DE RECYCLAGE ET
DE TRAITEMENT.

