SERVICE MANUAL

MULTI BYPASS TRAY

MODEL MX-MFX1

CONTENTS

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] SPECIFICATION

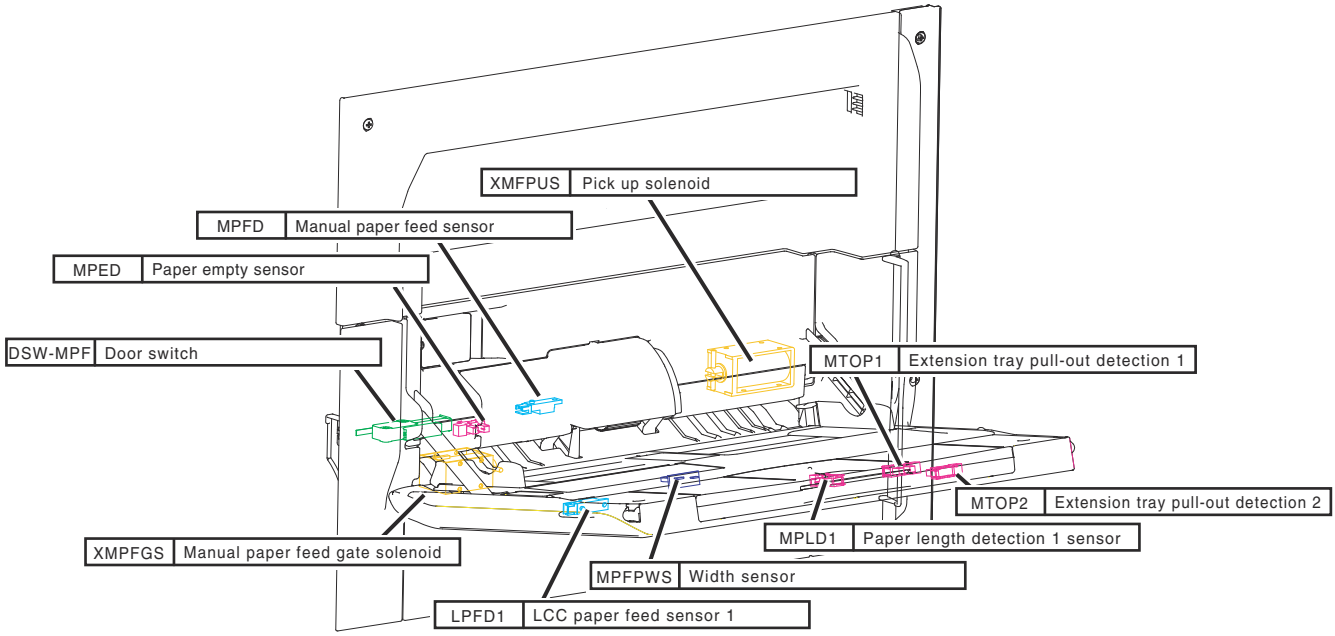
1. General

Transport standard	Center alignment	
Paper Size	Auto-AB: A3W, A4W, A3, B4, A4, A4R, B5, B5R, A5R, Postcard, 11x17, 8.5x13.4*, 8.5x13, 8.5x11 Auto-Inch: 12x18, 11x17, 8.5x14, 8.5x13.4**, 8.5x11, 8.5x11R, 7.25x10.5R, 5.5x8.5R, 9x12, A3, B4, A4, B5 Manual: 8K, 16K, 16KR Custom Size: Main scanning: 100 - 305mm (4.0 - 12) Sub scanning: 140 - 457mm (5.5 - 18) * 8.5x13.4 or 8.5x13 ** 8.5x13.4 or 8.5x14	
Paper Size	Available	
Changing of Paper Size	Guide adjusting by user	
Feedable Paper Weight	Paper Weight: 52 - 300g/m^2 / 16lbs Bond - 170lbs Index	
Paper Capacity	Standard Paper (80g/m^2 paper)	100 sheets
	Postcard	20 sheets
	Transparency paper	20 sheets
	Heavy Paper	20 sheets
	Tab paper	20 sheets
	Other Extra (Label paper etc)	1 sheets
Paper Type	Plain paper, pre-printed paper, recycled paper, letter head, Punched paper, colored paper, Heavy Paper, Thin paper, Label paper, Transparency paper, Tab paper, * (Only A4 with 12-20mm tab width or 8.5x11 paper with 6.1-17mm tab width is available for the tab paper.)	
Detection of Remaining Paper	Paper present or paper not present	
Dimensions (W x D x H)	117x507x409 373x507x409 (When tray expanded)	
Machine occupation size	268.6x378 (When tray expanded: 367x378) (When connecting it with main unit)	
Weight	7.5kg	
Reliability	MCBJ	In compliance with main unit.
	MCBF	
Life	In compliance with main unit	

2. Paper size/Type/Weight

			Bypass unit
Minimum paper weight			52g/m^2 (14lbs bond)
Maximum paper weight			300g/m^2 (170lbs index)
Paper type	Thin paper		Yes (Even 52g/m^2 is possible)
	Plain paper		Yes
	Recycled paper		Yes
	Colored paper		Yes
	Letter head		Yes
	Pre-printed paper		Yes
	Pre-punched paper		Yes
	Heavy paper1 (106-128g/m^2)		Yes
	Heavy paper2 (129-176g/m^2)		Yes
	Heavy paper3 (177-205g/m^2)		Yes
	Heavy paper4 (206-300g/m^2)		Yes
	Tab paper		Yes
	Transparency paper		Yes
	Label paper		Yes
Paper size	12"x18" (A3W)	305x457	Yes
	Ledger (11"x17")	279x432	Yes
	Ledger (11"x17") Z folding	279x216	-
	Legal (8.5"x14")	216x356	Yes
	Legal (8.5"x14") Z folding	216x178	-
	Mexican Legal (8.5"x13.4")	216x340	Yes
	Foolscap (8.5"x13")	216x330	Yes
	Letter (8.5"x11")	279x216	Yes
	Letter R (8.5"x11"R)	216x279	Yes
	Letter R (8.5"x11"R) Z folding	216x140	-
	Invoice (5.5"x8.5")	216x140	-
	Invoice R (5.5"x8.5"R)	140x216	Yes
	Exective R (7.25"x10.5")	184x266	Yes
	9x12 (A4W)	305x229	Yes
	A3	297x420	Yes
	A3 Z folding	297x210	-
	B4	257x364	Yes
	B4 Z folding	257x182	-
	A4	297x210	Yes
	A4-R	210x297	Yes
	A4-R Z folding	210x148	-
	B5	257x182	Yes
	B5-R	182x257	Yes
	A5	210x148	-
	A5-R	148x210	Yes
	SRA3	320x450	No
	SRA4	320x225	No
	318x234.75mm		No
	312.5x220mm		No
	318x469.5mm		No
	312.5x440mm		No
	8K	270x390	Yes
	16K	270x195	Yes
	16K-R	195x270	Yes
	Postcard	100x148	Yes
	Special-Custom size		Yes
	(Custom Range)	min X	100 (4.0)
		max X	305 (12)
		min Y	140 (5.5)
		max Y	457 (18)
	Special-Size uncertainly		Yes

[2] EXTERNAL VIEW AND INTERNAL STRUCTURE



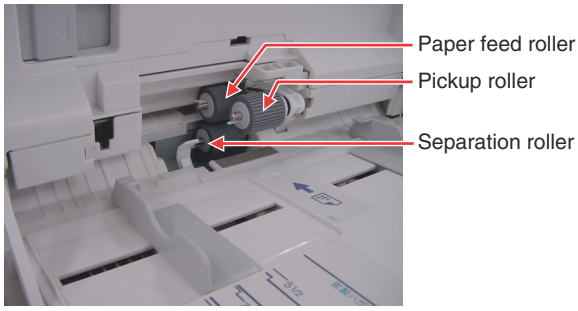
No	Signal name	name	Type	Function/Operation
1	MPFPWS	Width sensor	Variable resistor	Detects the manual feed paper width.
2	MPED	Paper empty sensor	Photo interrupter	Detects paper empty of the manual paper feed tray.
3	MPFD	Manual paper feed sensor	Photo interrupter	Detects paper pass from the manual paper feed.
4	MTOP1	Extension tray pull-out detection 1	Photo interrupter	Detects the manual paper feed tray pull-out position (retracted position).
5	MTOP2	Extension tray pull-out detection 2	Photo interrupter	Detects the manual paper feed tray pull-out position (pull-out position).
6	MPLD1	Paper length detection 1 sensor	Photo interrupter	Detects the manual paper feed width.
7	LPFD1	LCC paper feed sensor 1	Photo interrupter	Detects paper pass from the LCC.
8	DSW-MPF	Door switch	Microswitch	Detects open/close of the manual paper feed unit.

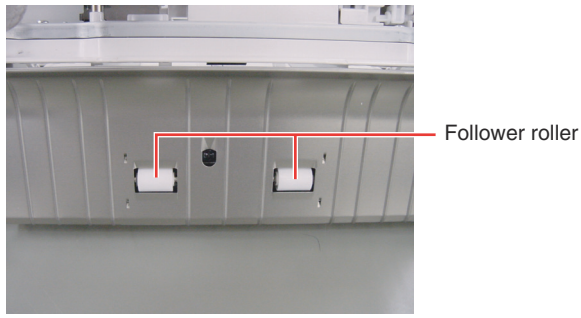
[3] MAINTENANCE

1. Maintenance system list

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

No.	Part name	When calling	500K	1000K	1500K	2000K	2500K	3000K	Life judgement (Reference)	Tool, oil, chemicals Procedure Treatment after procedure
1	Pick-up roller	×	×	×	×	×	×	×	[Note] Roller life 100K	
2	Paper feed roller	×	×	×	×	×	×	×	[Note] Roller life 100K	
3	Separation roller	×	×	×	×	×	×	×	[Note] Roller life 100K	
4	Follower roller	×	○	○	○	○	○	○		When there is dirt, wipe with wet cloth and water.
5	Transport guide plate	×	○	○	○	○	○	○		
6	Torque limiter	×	×	×	×	×	×	×		
7	Sensor	×	○	○	○	○	○	○		





NOTE: Replacement reference: Replace according to each paper feed counter value.

- Rollers (MX-MFX1) : 100K or 1 year
  Torque limiter : 800K

* Paper feed section roller life

The life of roller used in paper feed section of each option is different. (See the table below.) When a certain paper feed unit is used greater than usual, its life may be expired before the maintenance timing.

Actually, however, different sizes of paper are used with different paper feed trays, and it is quite rare that the roller replacement must be made before the maintenance timing.

IF a certain paper size is used more than normal, set feed trays for that paper size and explain the frequency of maintenance to the client.

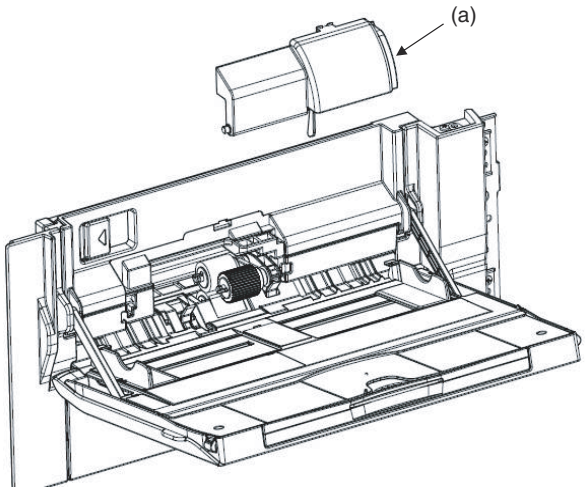
When servicing, check the use frequency of each paper feed tray, and replace the rollers as needed.

When cleaning the roller, it is advisable to use a wet cloth with a small quantity of water.

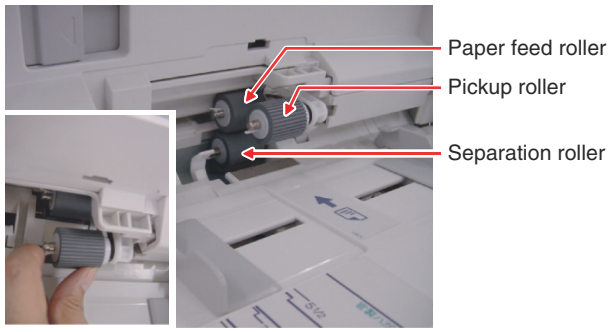
The amount of friction applied to the rollers increases from pick up to paper feed to paper separation.

2. Maintenance procedures

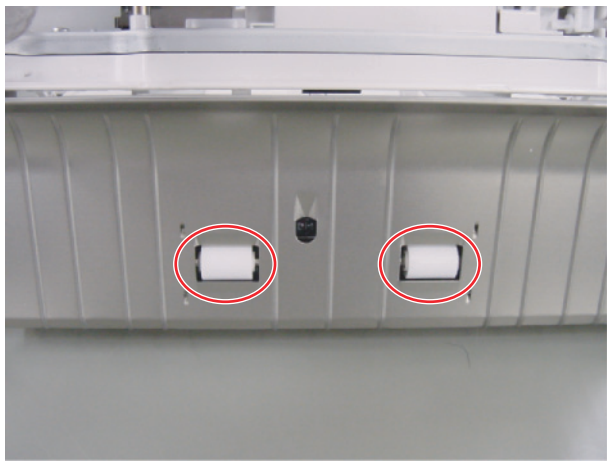
1) Remove the pickup cover (a) from the manual feed unit.



2) Remove the pickup roller, the paper feed roller, and the separation roller, and replace them.



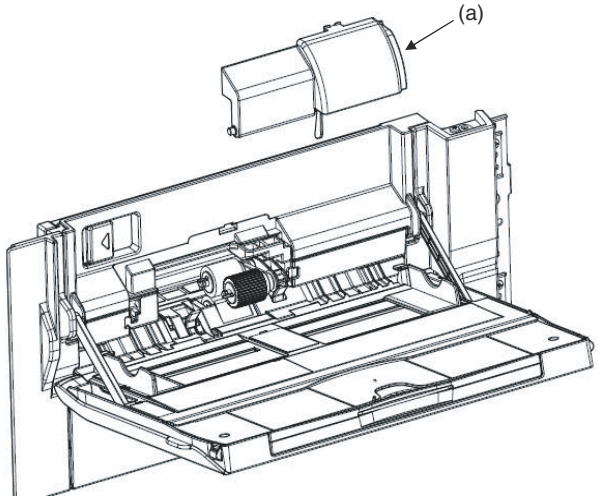
3) Clean the follower roller. (When it is dirty, wipe with a damp cloth.)



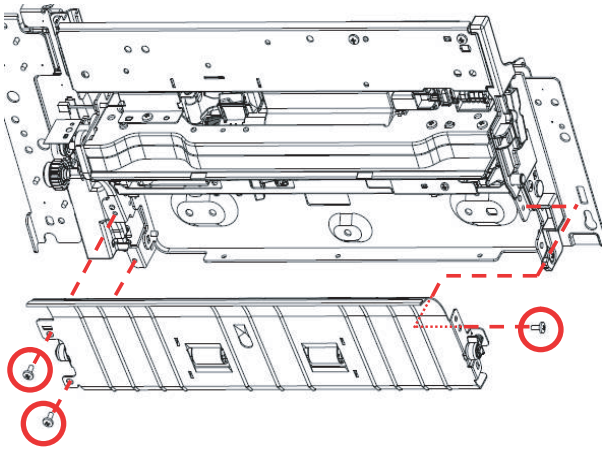
[4] DISASSEMBLY AND ASSEMBLY

1. Manual feed upper unit, manual feed lower unit, and manual feed tray unit disassembly

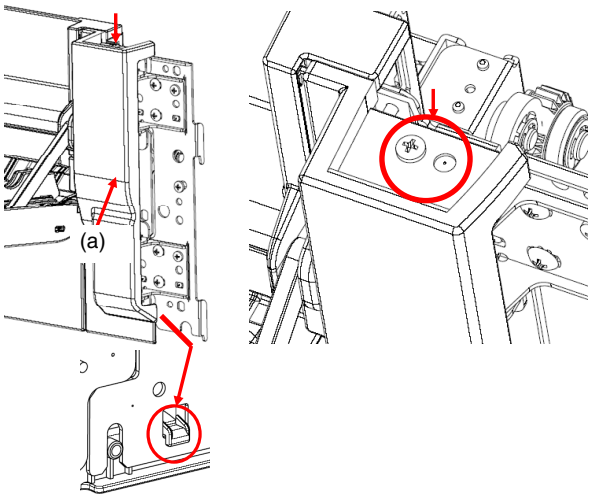
1) Remove the pickup cover (a) from the manual feed unit.



2) Remove three screws, and remove the LCC transport unit.

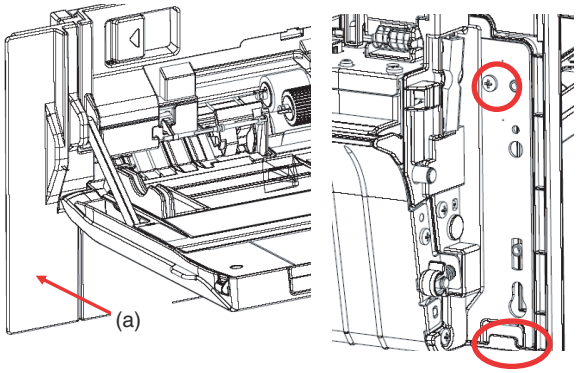


3) Remove the screw, and remove the tray rear cabinet (a).

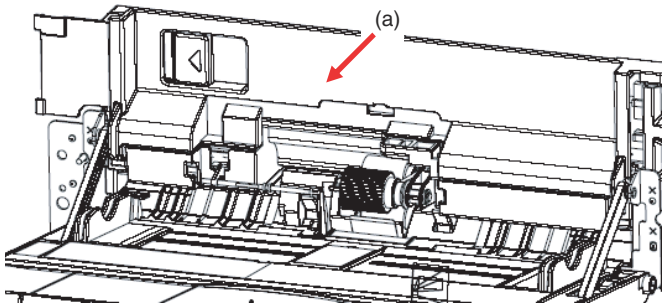


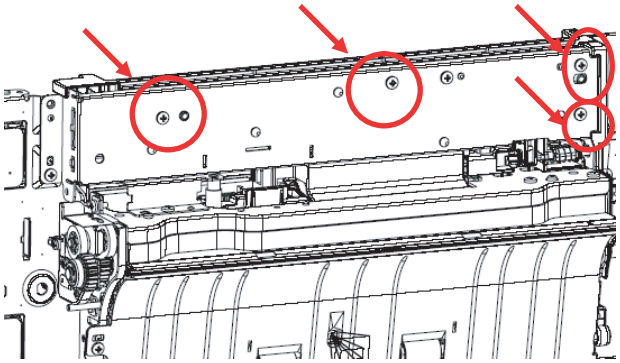
* Be careful of the hook in the lower section of the tray rear cabinet (a).

4) Remove the screw, and remove the manual feed front cabinet (a). (Be careful of the hook in the lower section of the manual feed front cabinet.)

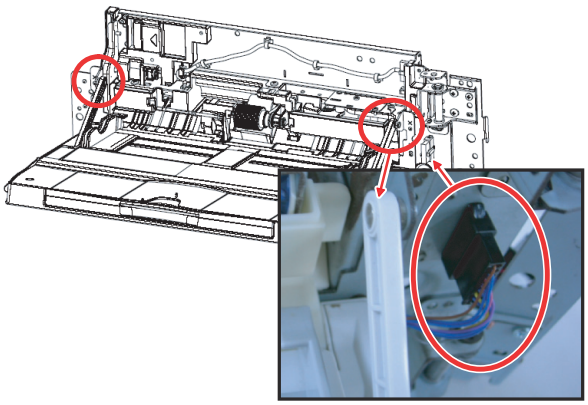


5) Remove the screw, and remove the manual feed upper cabinet (a).

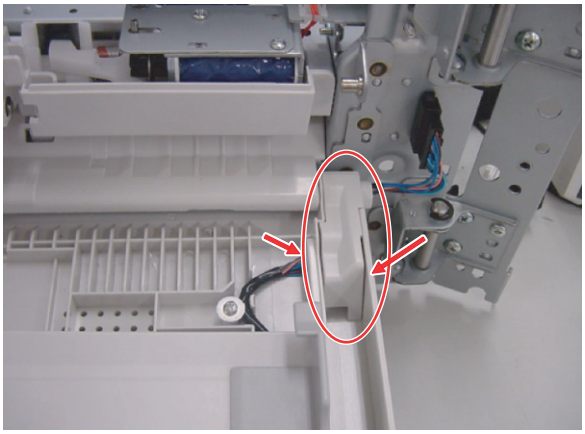




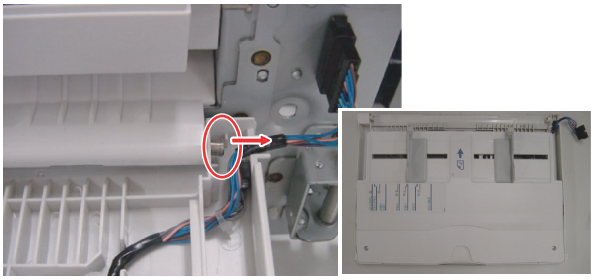
6) Disconnect the connector from the manual feed unit, and release the tray arm.



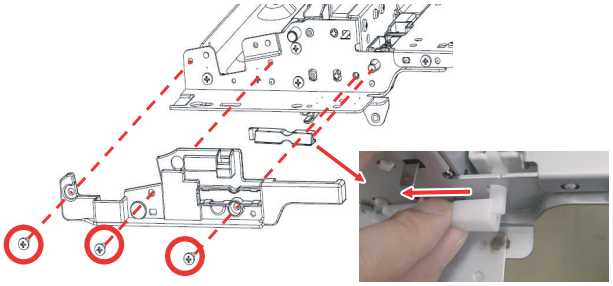
7) Disengage the hooks (2 positions), and remove the harness cover.



8) Remove the tray mounting jig, and separate the manual feed tray unit.

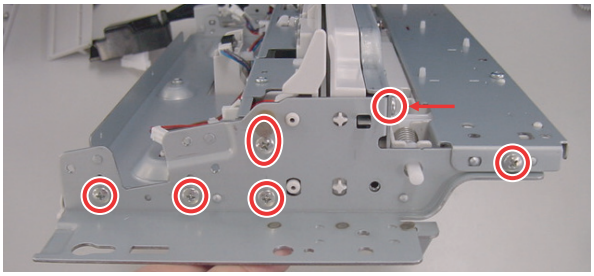


9) Remove three screws, and remove the frame cover.

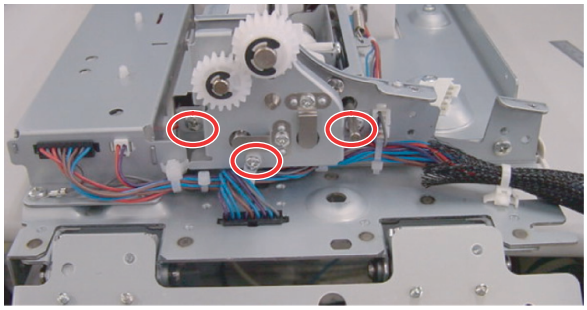


* Slide the lock pawl and remove it.

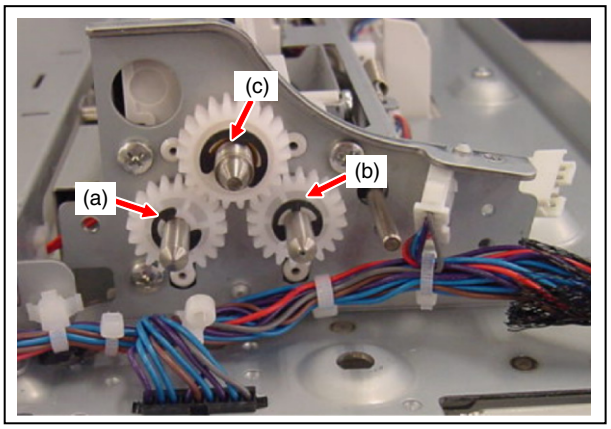
10) Remove six screws, and remove the manual feed frame F.

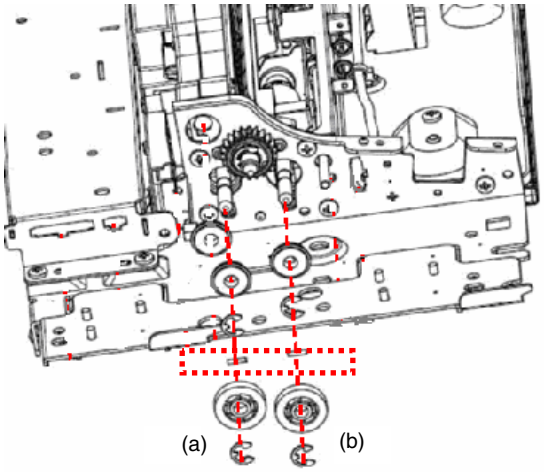


11) Remove three screws, and remove the manual feed drive unit.

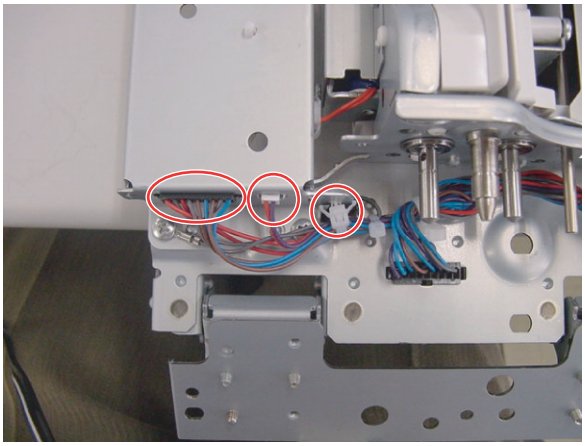


12) Remove the E-rings in three positions (a), (b), and (c). Take note that there are parallel pins at the back of two gears in (a) and (b).

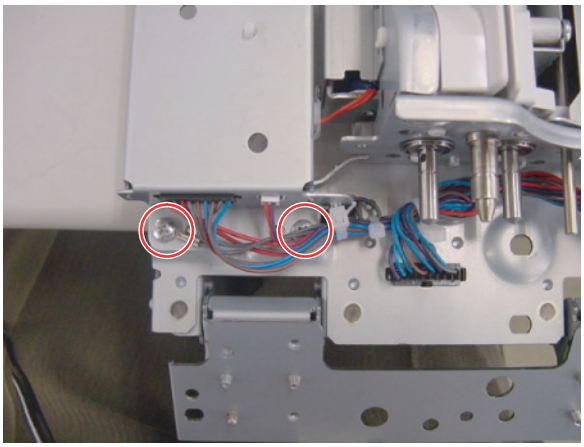




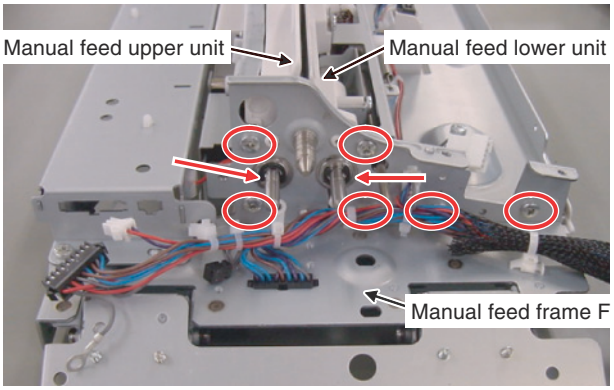
13) Disconnect two connectors, and disconnect one snap band from the manual feed frame R.



14) Remove two screws.

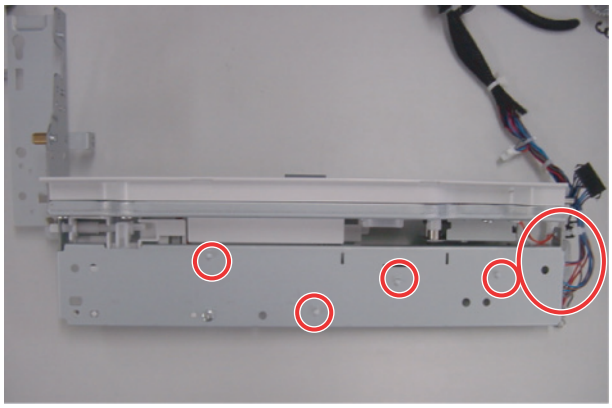


15) Remove two E-rings and six screws, and separate the manual feed upper unit and the manual feed lower unit from the manual feed frame F.

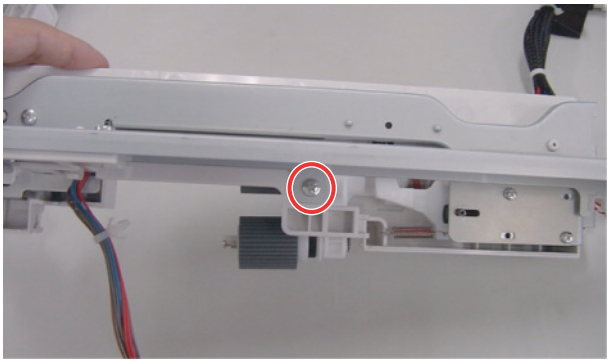


2. Manual feed upper paper guide unit disassembly procedures

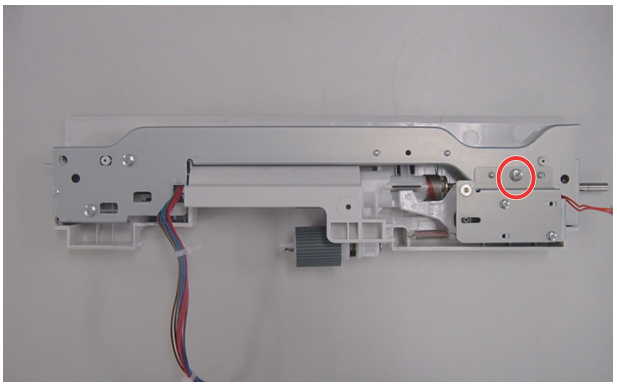
1) Release the snap bands (4 positions) from the manual feed upper support plate.



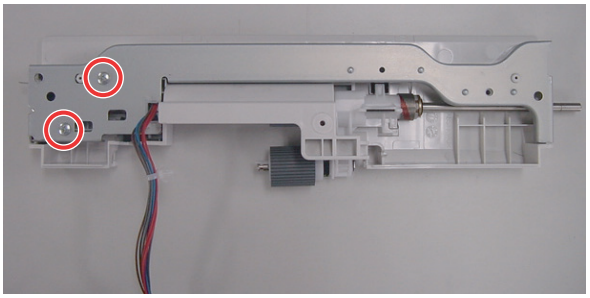
2) Remove the screw, and remove the support plate.



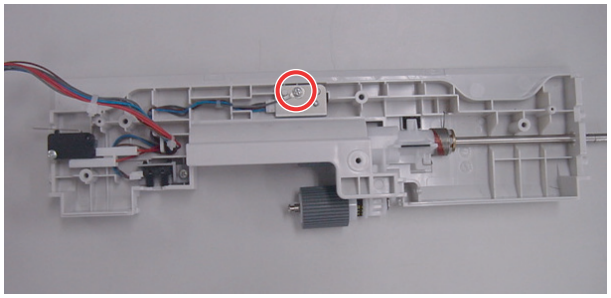
3) Remove the screw, and remove the pickup solenoid (Be careful of the spring.)



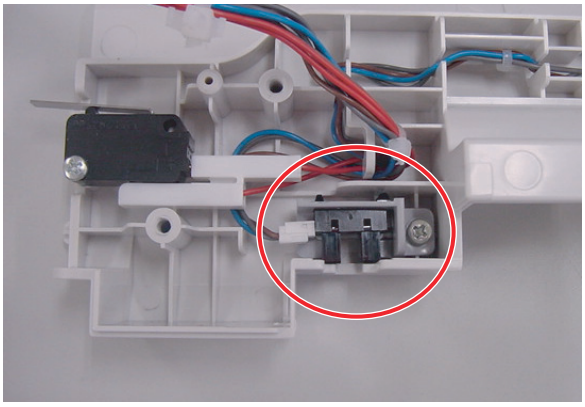
4) Remove two screws, and remove the manual feed upper support plate.



5) Remove the screw, and remove the paper transport sensor.

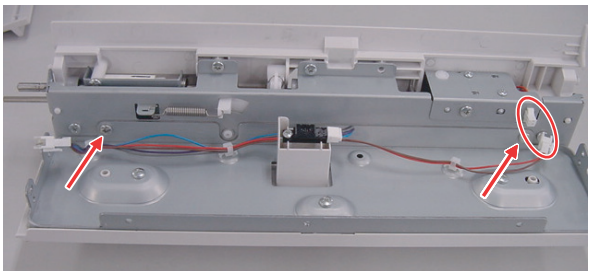


6) Remove the screw, and remove the paper empty sensor.

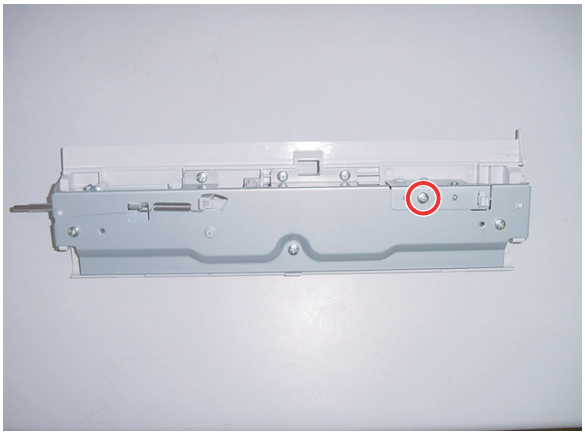


3. Manual feed lower unit disassembly procedures

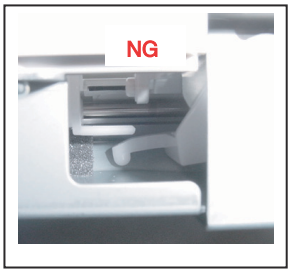
1) Disconnect the connector, and remove two screws. Separate the manual feed lower cabinet.



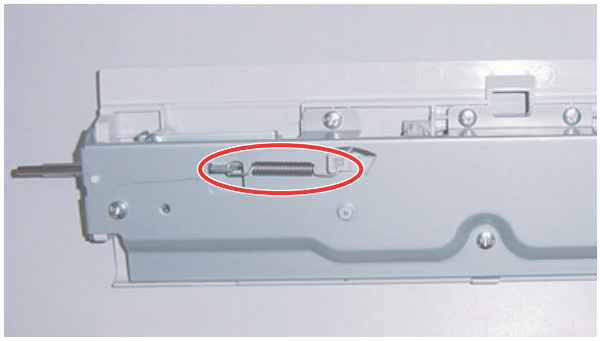
2) Remove the screw, and remove the manual feed gate solenoid.



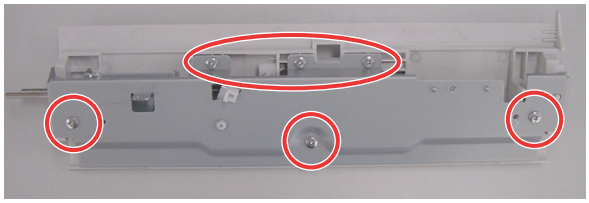
* When installing, put the manual feed gate solenoid in the lower side.



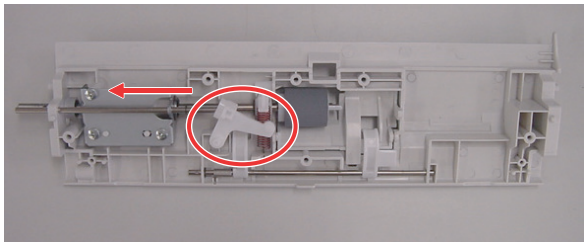
3) Remove the spring.



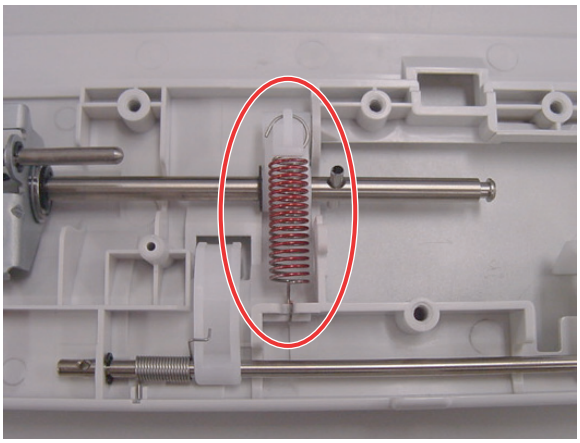
4) Remove six screws, and remove the lower paper guide support plate.



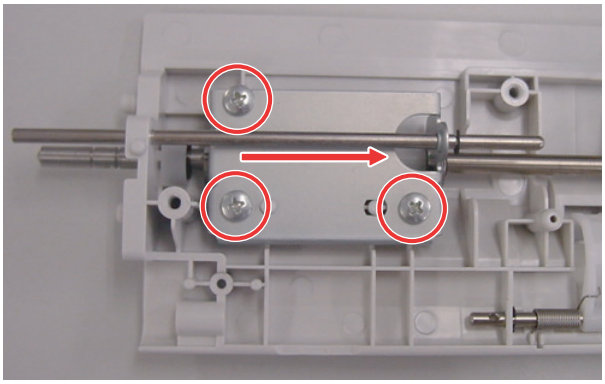
5) Slide the pressure release shaft, and remove the pressure release lever.



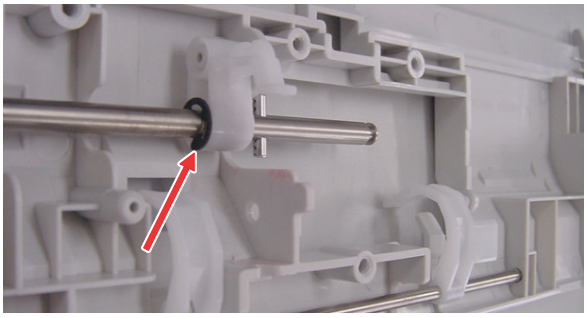
6) Remove the pressure spring.



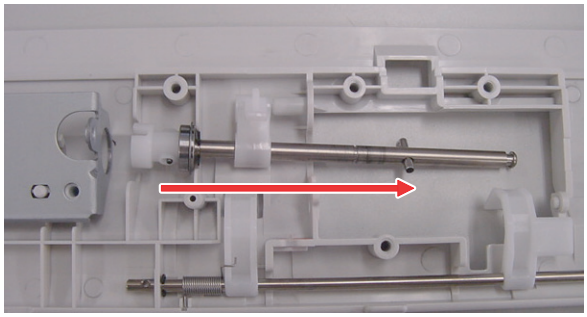
7) Slide the shaft in the arrow direction and remove it from the fixing plate. Remove three screws.



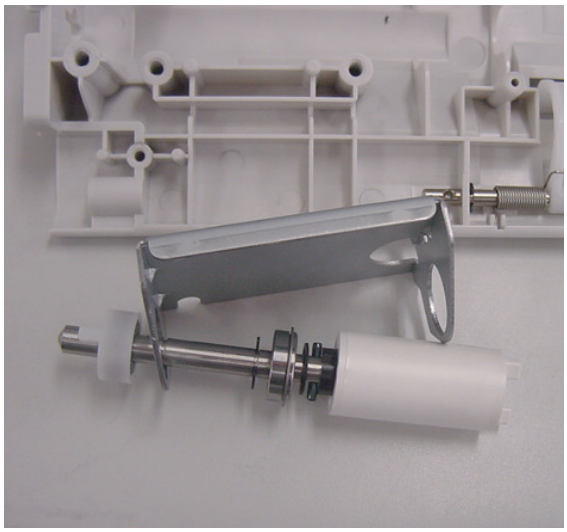
8) Remove the E-ring.



9) Slide the manual feed separation shaft in the arrow direction, and remove it from the fixing plate.

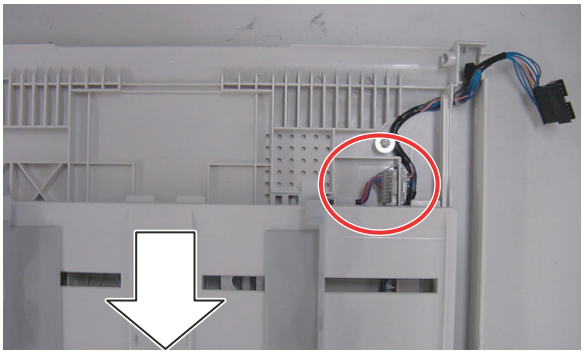


10) Remove the torque limiter from the fixing plate.

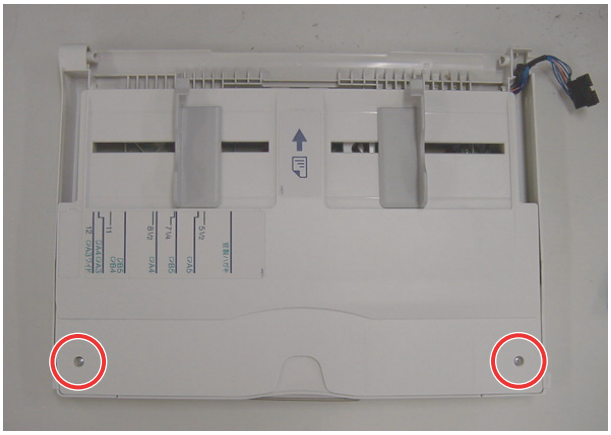


4. Manual feed tray unit disassembly procedures

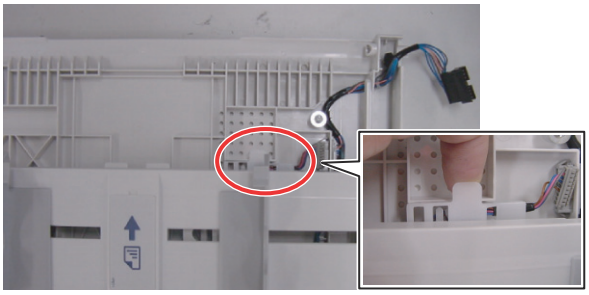
1) Slide the tray in the arrow direction, and disconnect the connector.



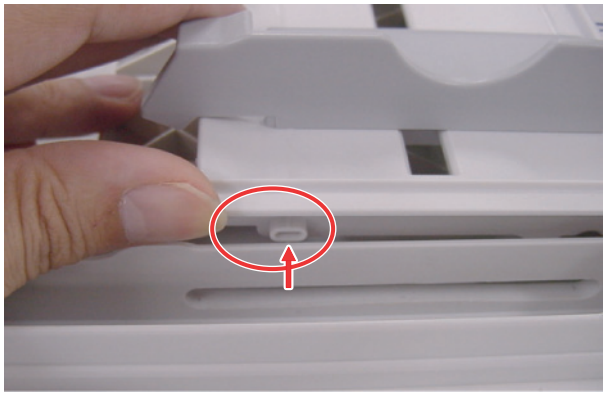
2) Remove two screws, and remove the cover.

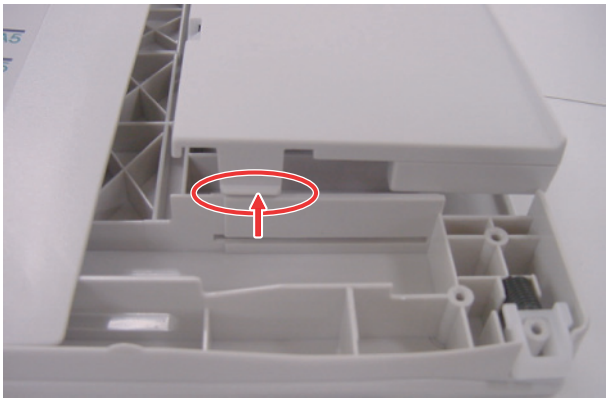


3) Release the harness holder.

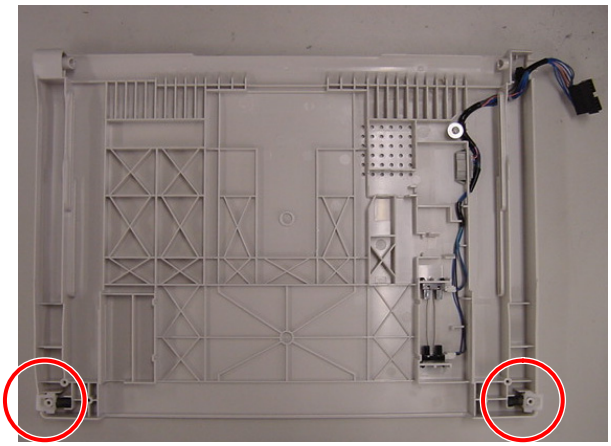


4) Disengage the tray pawl.

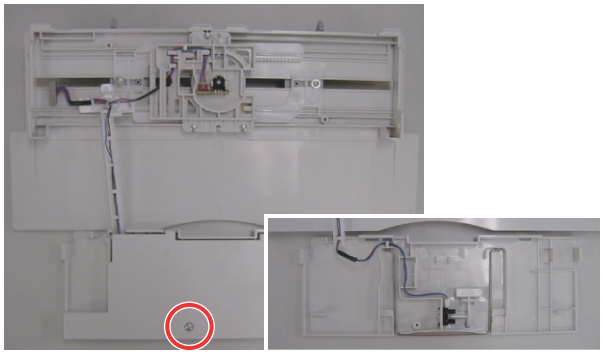




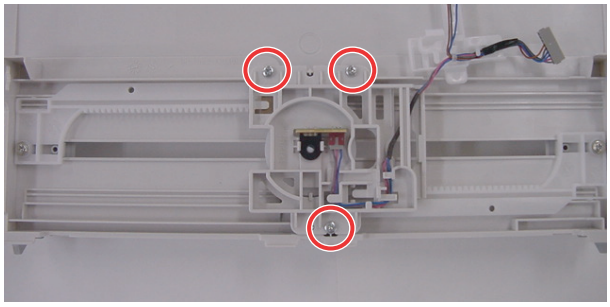
5) Be careful not to lose the spring after removal.

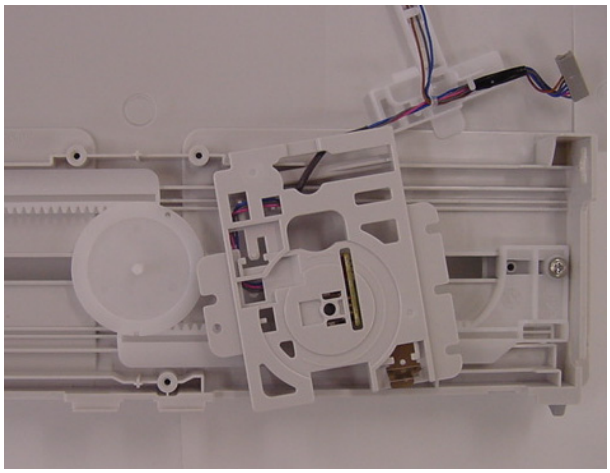


6) Remove the screw.

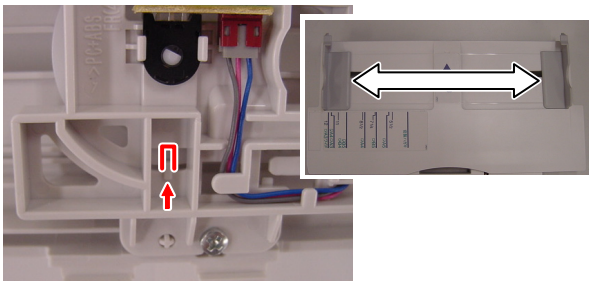


7) Remove three screws, and remove the mounting plate.





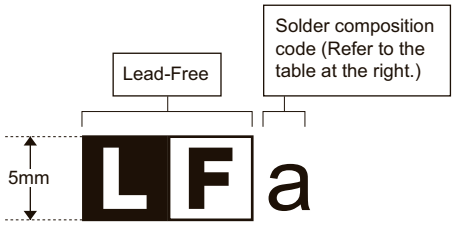
8) When installing the pinion gear, extend the guide to the max. position and check to confirm that the rib overlaps with the notch.



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 file.

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 s' 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 inkorrekter 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 (MANGANESS 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.