

SAMSUNG

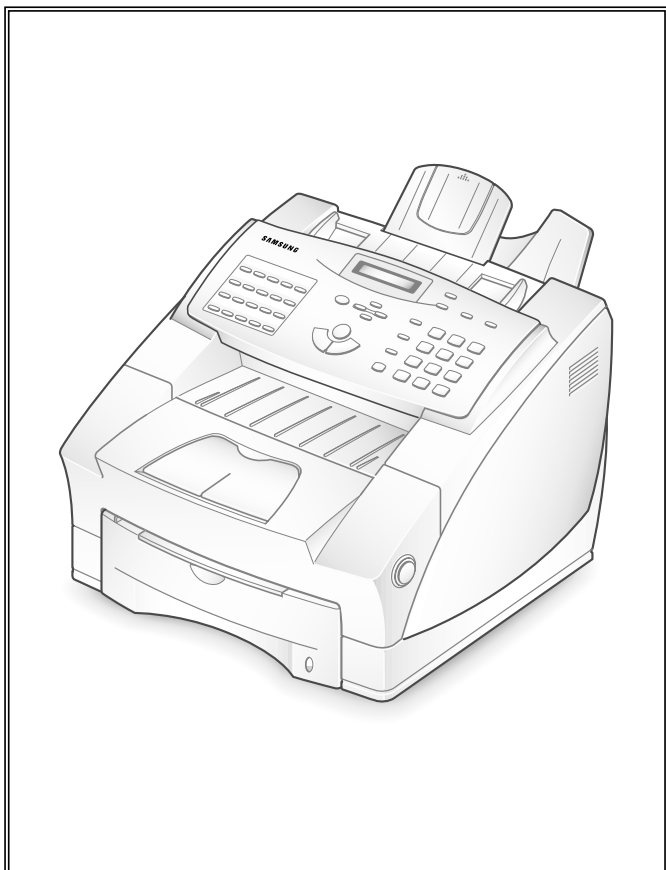
SAMSUNG FACSIMILE

Msys 6800/Msys 6750

SF-6800

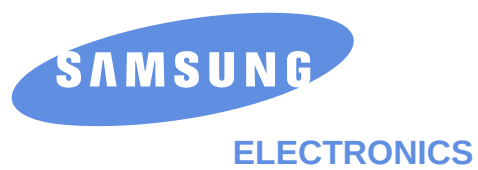
SERVICE *Manual*

FACSIMILE



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1. Precautions

Follow these safety, ESD, and servicing precautions to prevent personal injury and equipment damage.

1-1 Safety Precautions

1. Be sure that all built-in protective devices are in place. Restore any missing protective shields.
2. Make sure there are no cabinet openings through which people- particularly children- might insert fingers or objects and contact dangerous voltages.
3. When re-installing chassis and assemblies, be sure to restore all protective devices, including control knobs and compartment covers.
4. Design Alteration Warning:
Never alter or add to the mechanical or electrical design of this equipment, such as auxiliary connectors, etc. Such alterations and modifications will void the manufacturer's warranty.
5. Components, parts, and wiring that appear to have overheated or are otherwise damaged should be replaced with parts which meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards.
6. Observe the original lead dress, especially near sharp edges, AC, and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board.
7. Product Safety Notice:
Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they provide could be lost if a replacement component differs from the original. This holds true, even though the replacement may be rated for higher voltage, wattage, etc.

Components critical for safety are indicated in the parts list with symbols  . Use only replacement components that have the same ratings, especially for flame resistance and dielectric specifications. A replacement part that does not have the same safety characteristics as the original may create shock, fire, or other safety hazards.

LASER STATEMENT (LASERTURVALLISUUS)

WARNING : NEVER OPERATE AND SERVICE THE PRINTER WITH THE PROTECTIVE COVER REMOVED FROM LASER/SCANNER ASSEMBLY. THE REFLECTIVE BEAM, ALTHOUGH INVISIBLE, CAN DAMAGE YOUR EYES.

Class 1 laser product

Luokan 1 laserlaite
Klass 1 laser apparat

Allonpituus 770-795nm
Teho 0.3mW±0.03mW

	CAUTION	INVISIBLE LASER RADIATION WHEN THIS COVER OPEN. DO NOT OPEN THIS COVER.
	VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEOFFNET. NICHT DEM STRAHL AUSSETZEN.
	ATTENTION	REYONNEMENT LASER INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
	ATTENZIONE	RADIAZIONE LASER INVISIBLE IN CASO DI APERTURA. EVITARE L'ESPOSIZIONE LA FASCIO.
	PRECAUCION	REDIACION LASER INVISIBLE CUANDO SE ABRE. EVITAR EXPONERSE AL RAYO.

CAUTION : Avoid exposure to invisible laser radiation when the development unit is not installed.

1-2 ESD Precautions

Certain semiconductor devices can be easily damaged by static electricity. Such components are commonly called “Electrostatically Sensitive (ES) Devices”, or ESDs. Examples of typical ESDs are: integrated circuits, some field effect transistors, and semiconductor “chip” components. The techniques outlined below should be followed to help reduce the incidence of component damage caused by static electricity.

CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

1. Immediately before handling a semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, employ a commercially available wrist strap device, *which should be removed for your personal safety reasons prior to applying power to the unit under test.*
2. After removing an electrical assembly equipped with ESDs, place the assembly on a conductive surface, such as aluminum or copper foil, or conductive foam, to prevent electrostatic charge buildup in the vicinity of the assembly.
3. Use only a grounded tip soldering iron to solder or desolder ESDs.
4. Use only an “anti-static” solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ESDs.
5. Do not use Freon-propelled chemicals. When sprayed, these can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective packaging until immediately before installing it. Most replacement ESDs are packaged with all leads shorted together by conductive foam, aluminum foil, or a comparable conductive material.
7. Immediately before removing the protective shorting material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
8. Maintain continuous electrical contact between the ESD and the assembly into which it will be installed, until completely plugged or soldered into the circuit.
9. Minimize bodily motions when handling unpackaged replacement ESDs. Normal motions, such as the brushing together of clothing fabric and lifting one’s foot from a carpeted floor, can generate static electricity sufficient to damage an ESD.

1-3 Lithium Battery Precautions

1. Exercise caution when replacing a Lithium battery. There could be a danger of explosion and subsequent operator injury and/or equipment damage if incorrectly installed.
2. Be sure to replace the battery with the same or equivalent type recommended by the manufacturer.
3. Lithium batteries contain toxic substances and should not be opened, crushed, or burned for disposal.

2. Specification

2-1 Facsimile

Machine type :	Desk Top
Applicable line :	Public Switched Telephone Network (PSTN) or behind PABX
Compatibility :	CCITT Group 3
Data coding :	MH / MR / MMR
Modem speed :	14400 / 12000 / 9600 / 7200 / 4800 / 2400 bps
Transmission speed :	Approx. 6 sec.(14.4K,ECM,4% Letter)
Effective scanning width :	8.2 inches (208 mm)
Effective printing width :	8.2 inches (208 mm : LTR)
Scanning method :	Sheet-fed scanning using a Contact Image Sensor (CIS)
Memory :	Msys 6800P / SF-6800
	5 MByte
	Msys 6750
	3 MByte
	SF-6800P
	2 MByte
Halftone :	256 levels
Printing speed :	8 PPM (Letter size)
Automatic document feeder :	50 pages (75g / m ² , 20lb : 0.09 ~ 0.10 mm thickness)
Documents size :	Width : 148 to 216 mm
	Length : 128 to 1500mm (Single Page)
	STA : 356 mm(LGS Size)
	Finr : 1500 mm
	S.fine: 1500mm
	279 to 297mm (Multi Pages)
	Weight : 50 to 100 g / m ² (Single Page)
	50 to 90 g / m ² (20 Pages)
	75 g / m ² (40 Pages)
One-touch dial :	20 locations
LCD :	16 characters x 2 lines

2-2 SCANNER

Scanning Method :	Sheet-fed scanning by CIS and feeding of the document by a stepping motor
Resolution	
Horizontal	11.8 lines / mm (300 dpi)
Vertical	STANDARD : 3.85 lines / mm (98 Lpi)
	FINE : 7.7 lines / mm (196 Lpi)
	SUPER FINE : 11.8 lines / mm (300 Lpi)
Gray Scale :	256 shades
Scanning period :	STANDARD : 2.5 ms / line
	FINE : 2.5 ms / line
	SUPER FINE : 2.5 ms / line

2-3 Printer

Print Speed	8 PPM (A4 Size, 5% Character Pattern)	At Copy Mode
Resolution	600 X 600 DPI	
Source of Light	Laser Diode(LSU)	
Print Method	Non-impact Electrophotography,	Laser Beam
Feed Method	Multi-Purpose Feeder and Manual	
Feed Reference	Side Reference Loading	
Paper	Size Normal Paper : A4,Letter,Legal,B5, Executive A5 (for manual) Length : 148 ~ 356mm Width : 98 ~ 216mm Weight : For MPF, 60 ~ 90g / m ² For Manual, 60 ~ 120g / m ²	Cassette Type
Paper Capacity	MPF : 250 Sheets (based on 75g / m ²) Manual Slot : 1 Sheet	
Paper Stacker Capacity	Face up : 150 Sheets (75g / m ² , 20 lb)	
Warming up Time	About 20 sec	
First Printing Time	Stand-By : About 25 sec Power Save Mode : About 40 sec	
Power Rating	AC 110V ~ 127V ± 15% 50/60Hz ± 3Hz, AC 220V ~ 240V ± 15% 50/60Hz ± 3Hz	
Power Consumption	Max. : 210Wh Stand-by : 50Wh Avg. 13Wh	
Power Saving Consumption	Sleeping Mode	
Certification & Compliance	FCC, cUL, CE, CB, IC CS-03	
Acoustic Noise	Standby : Less than 36dB Operating : Less than 50dB	

Reliability		MTBJ : 2,500 Sheets(75g / m ²) MTBF : 30,000 Sheets
Toner Cartridge		One-Cartridge type
Expected Life Span		100,000 Sheets
Operating Environment		Temperature : 10 ~ 30°C Humidity : 30 ~ 80%RH
Storage Environment		Temperature : 0 ~ 35°C Humidity : 20 ~ 95%RH
Weight	SET SCF	Net : 9 kg Gross : 14.3 kg Net : 4.8 kg Gross : 6.0 kg
External Dimension		386(W) X 405(D) x 270(H)mm
Developer		.Life Span : 5% Pattern,Min. 6,000 Sheets .Developing : Non-magnetic Contact Developing .Charging : Conductive Roller Charging .Density Adjustment : Dark, Medium .Toner Supply Method : Exchanging Toner Cartridge .New Developer Checkable .Transfer System : Pre-transfer By LED & Conductive Roller Transfer .Fusing System : Temperature & Pressure OZONE Emission : Max. 0.1 PPM(8 Hours)

2-4 Quality

Conditions		
Paper	Normal Paper	75g / m ²
Environment	Temperature : 20 ~ 25°C Humidity : 40 ~ 60%	
Print Quality		
Image Density	Min. 1.3 Min. 1.0(Temperature : 10 ~ 15°C) Max. 0.2	Samsung Paper
Background Uniformity	Max. 0.2(Including Continuous Print)	
Fusing	Min. 75% (All Black)	
Start Position	Top : 4.23mm ± 2, Side : 4mm ± 2	From Left
Skew	Top : Max. ± 1.5mm / 200mm Side : Max. ± 2.0mm / 250mm	
Orthogonality	± 1.0mm	
Horizontal Scan	± 0.6mm / 200mm (Bowed Line Skew : Pattern 1)	
Special Paper Exception	Image Density : Min 1.0 (Envelope) Fusing : Min. 70% (All Black) (Envelope / OHP / Postcard)	
Paper Jam	Less than 1 / 1,000(75g / m ² Paper)	
Paper Curl	First : Less than 16mm (10 Sheets, 75g / m ² Paper) After Cooling : Less than 16mm (10 Sheets, 75g / m ² Paper)	
Reliability		
Insulation Resistance	Less than 10 MΩ (at DC 500V)	
Dielectric Strength	AC 1000V (DC 1420V), 10mA	
Ground Continuous Voltage DIP	Less than 0.1Ω Rated Voltage ± 15%	
AC Impulse Noise	AC 1000V 10, 100, 200, 400, 1000ns	Rated Power
Leakage Current	Less than 3.5mA	
Surge	6 KV, 500A	
OZONE Emission	Less than 0.1 ppm (8 Hours)	
Top Cover Open	Isolating the input power of the LSU, High Voltage Part, and Fuser	
Overcurrent Protect	Fuse inside the Engine Controller	
Fusing System		
Trouble Sensing	.The temperature doesn't rise to the specific temperature in the specific time. .The temperature is too high.	Indicate the Fuser error
Overheat Sensing	240 ~ 250°C (The thermostat cuts off the Fuser from the power.) Thermistor Open Sensing : Without the initial temperature change of the Fuser	

2-5 SMPS (Switching Mode Power Supply)

Input (AC)	AC Input Voltage	European	American
	Minimum	198V	90V
	Typical	230V	120V
	Maximum	264V	135V
	Max. AC Input Current	2.5Amps	3Amps
Output (DC)	Max. Inrush Current	40 Ap-p (at 25°C)	40 Ap-p (at 25°C)
	Line Regulation	24V ± 10%	
		12V ± 5%	
	Road Regulation	-12V ± 5%	
		5V ± 5%	
	Ripple Noise	24V : Peak 500mVp-p	
		12V : Peak 500mVp-p	
		-12V : Peak 500mVp-p	
		5V : Peak 300mVp-p	
	Over Current Protect	24V : 2.7A ± 10% (by Circuit)	
		5V : 3A ± 10% (by Circuit)	
	Over Voltage Protect	24V : 33V	
		5V : 5.6V	

Memo

3. Disassembly and Reassembly

3-1 General Precautions on Disassembly

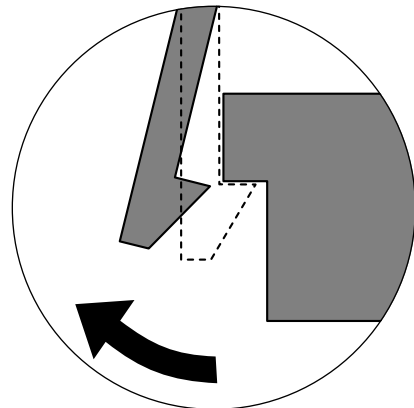
When you disassemble and reassemble components, you must use extreme caution. The close proximity of cables to moving parts makes proper routing a must. If components are removed, any cables disturbed by the procedure must be restored as close as possible to their original positions. Before removing any component from the machine, note the cable routing that will be affected.

Whenever servicing the machine, you must perform as follows:

1. Check to verify that documents are not stored in memory.
2. Be sure to remove the toner cartridge before you disassemble parts.
3. Unplug the power cord.
4. Use a flat and clean surface.
5. Replace only with authorized components.
6. Do not force plastic-material components.
7. Make sure all components are in their proper position.

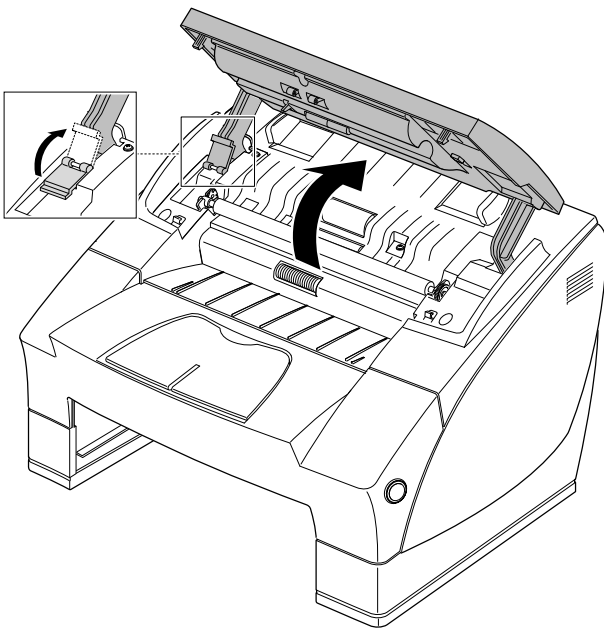
3-2 Releasing Plastic Latches

Many of the parts are held in place with plastic latches. The latches break easily; release them carefully. To remove such parts, press the hook end of the latch away from the part to which it is latched.

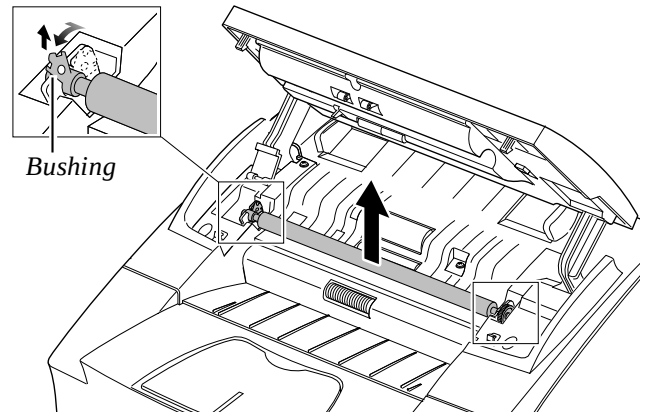


3-3 White Roller

1. Open the OPE panel, then set the support-OPE to the OPE panel.



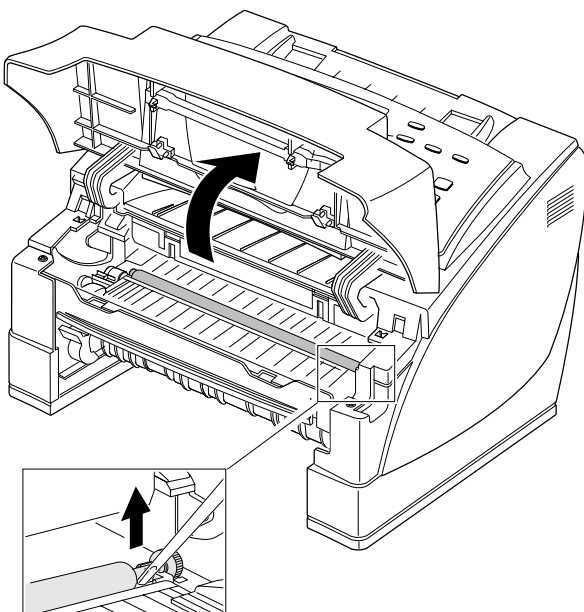
2. Push the bushing on the both ends of the roller slightly inward, then rotate it until it reaches the slot. Then lift the roller out.



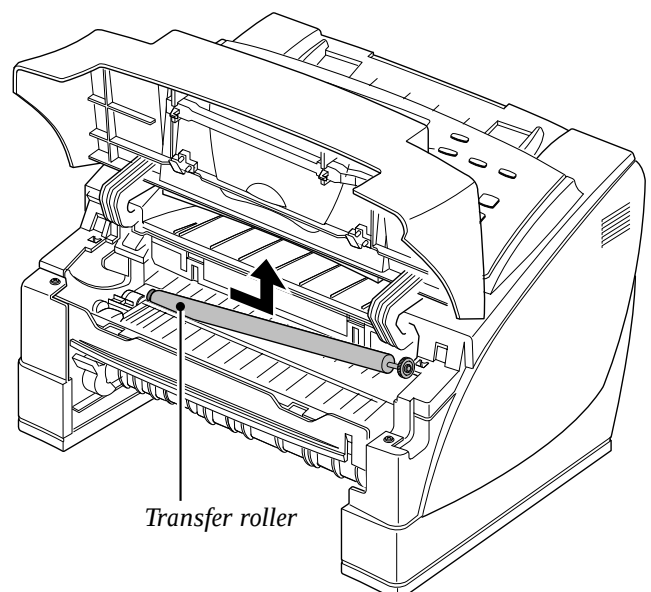
Note: Check the roller for any dirt. If dirty, wipe it off with soft cloth dampened with water. If the roller is heavily worn, replace it with a new one.

3-4 Transfer Roller

1. Open the front cover, and release one end of the roller using a proper tool as shown in the square.

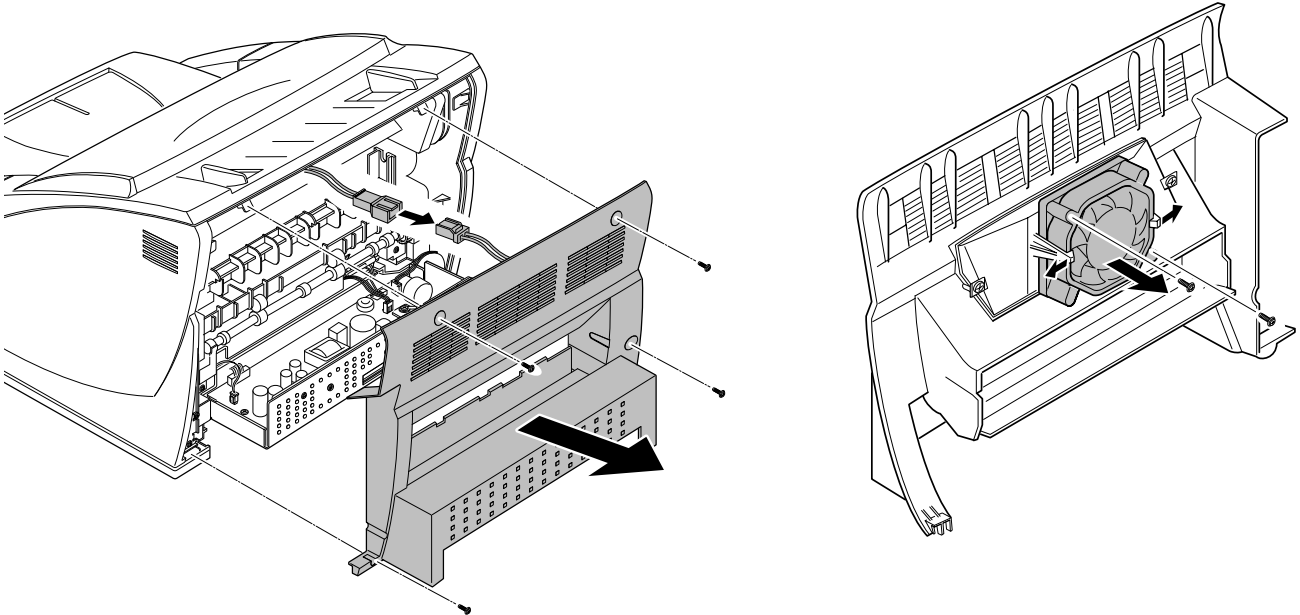


2. Pull the other end of the roller slightly inward, then lift it up.



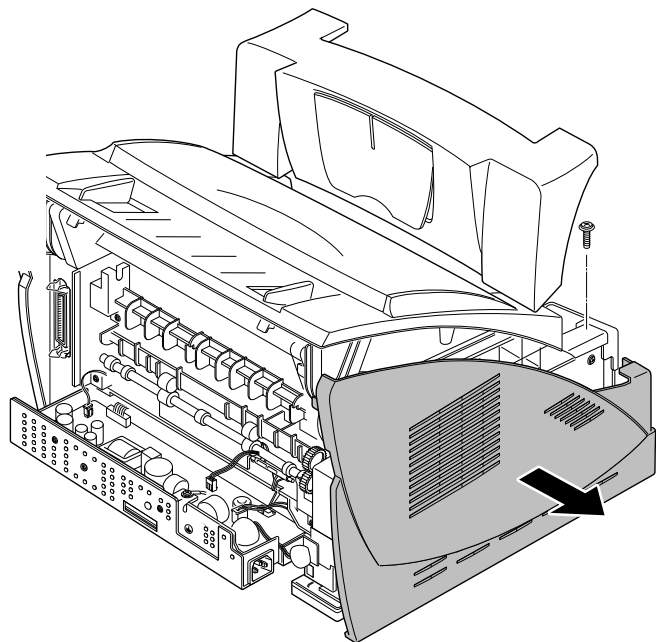
3-5 Rear Cover

1. Remove four screws, unplug one harness, then remove the rear cover.
2. If you want to remove the dummy fan from the rear cover, remove two screws and release two latches, then take it out.



3-6 Left Side Cover

1. Before you remove the cover, you should remove:
 - Rear cover (see page above)
2. Open the front cover, remove one screw, then remove the left side cover.

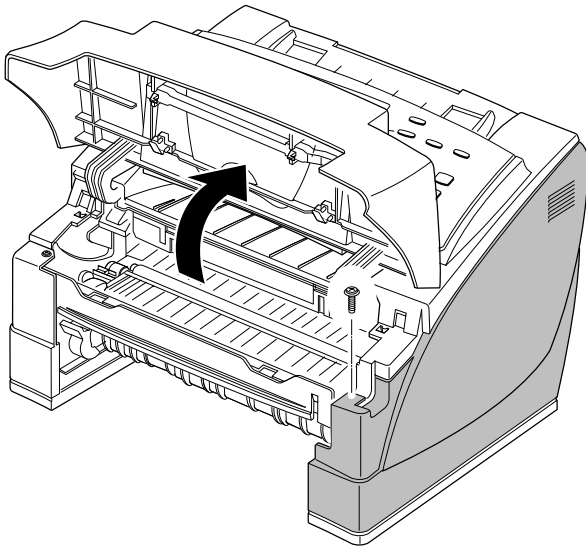


3-7 Right Side Cover

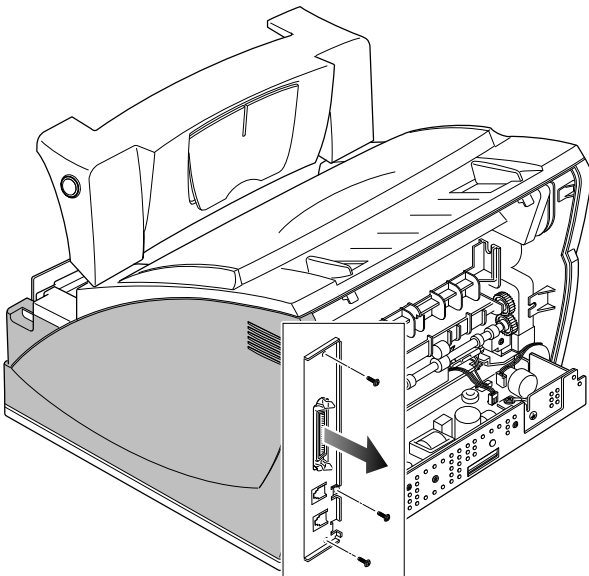
1. Before you remove the cover, you should remove:

- Rear cover (see page 3-3)

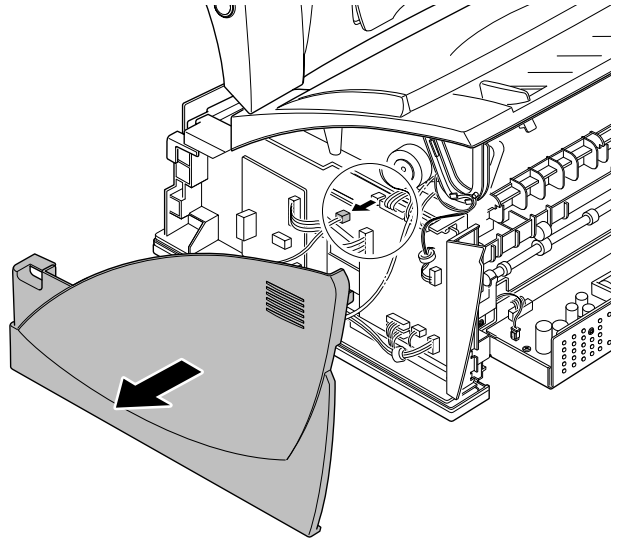
2. Open the front cover, and remove one screw.



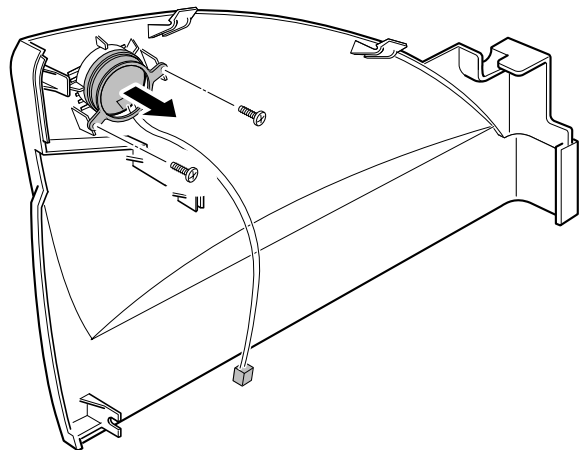
3. Remove three screws, then pull the plate slightly toward you to release the side cover.



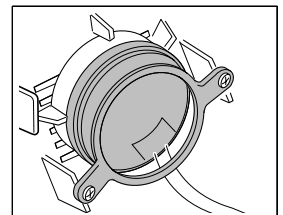
4. Unplug the speaker harness from the main board, then remove the right side cover.



5. If you remove the fan from the side cover, remove two screws, then take it out.



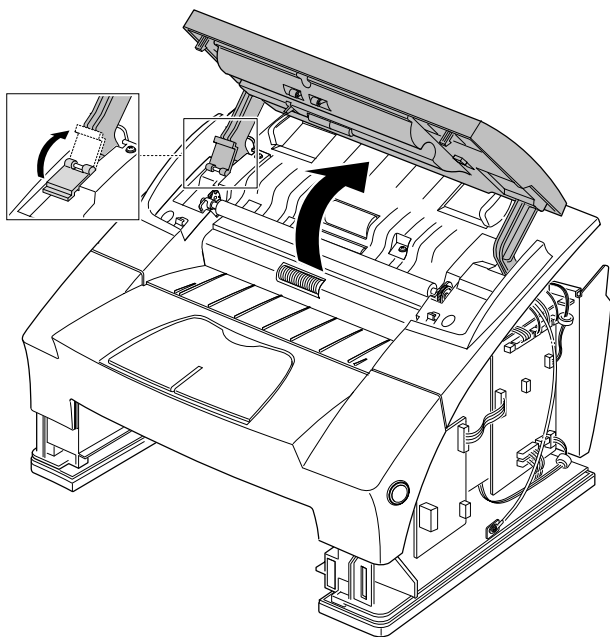
When you reassemble the fan, make sure that the fan is placed correctly.



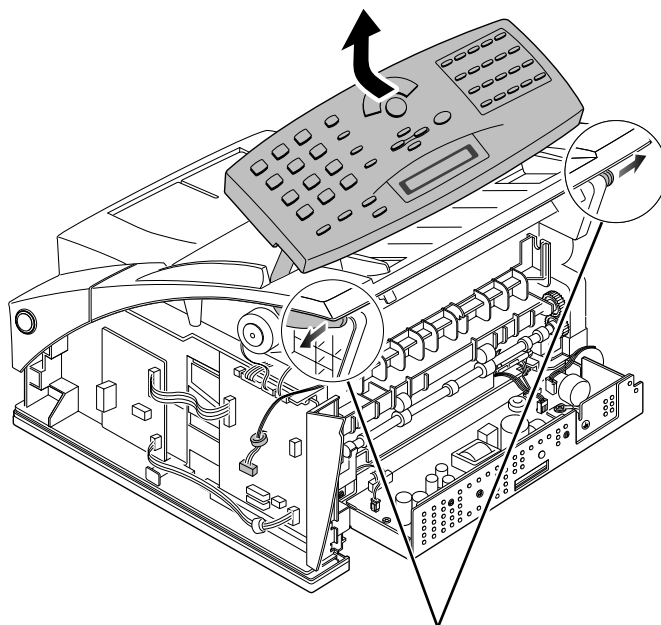
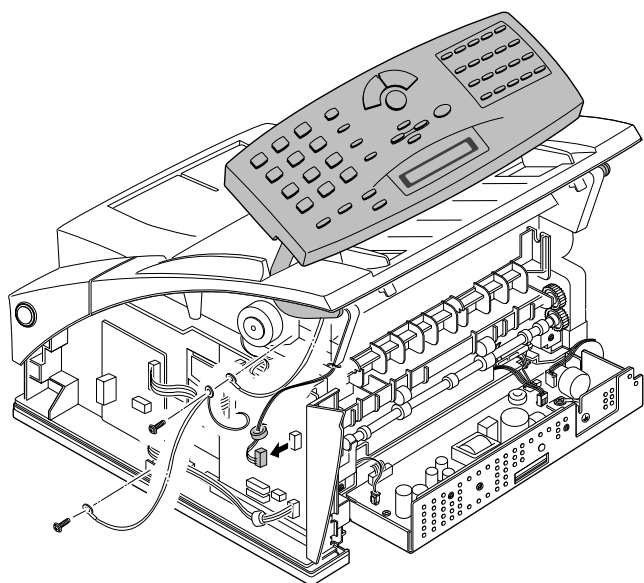
3-8 OPE Assembly

1. Before you remove the cover, you should remove:
 - Rear cover (see page 3-3)
 - Left/Right side covers (see page 3-3, 3-4)

2. Open the OPE panel, then set the support-OPE to the OPE panel.



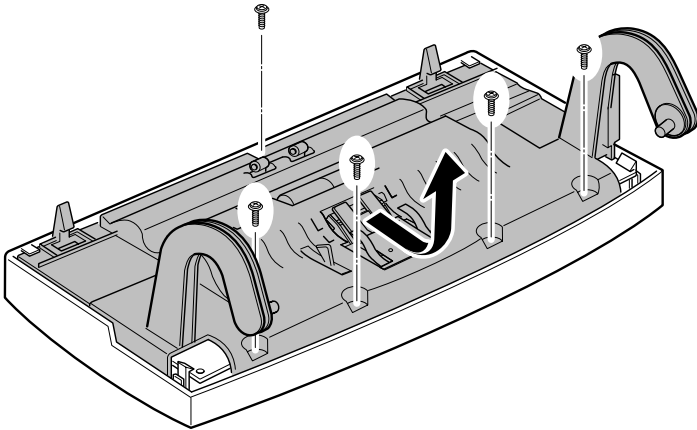
3. From the right side of the main body, remove two ground screws and unplug one OPE harness.



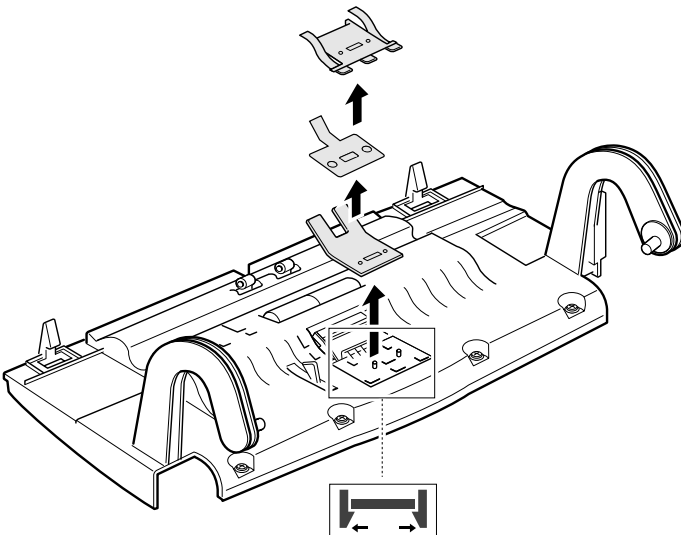
*Spread the both ends
of the OPE ass'y.*

ADF Rubber on the OPE Ass'y

1. Remove five screws, then remove the scan upper frame.

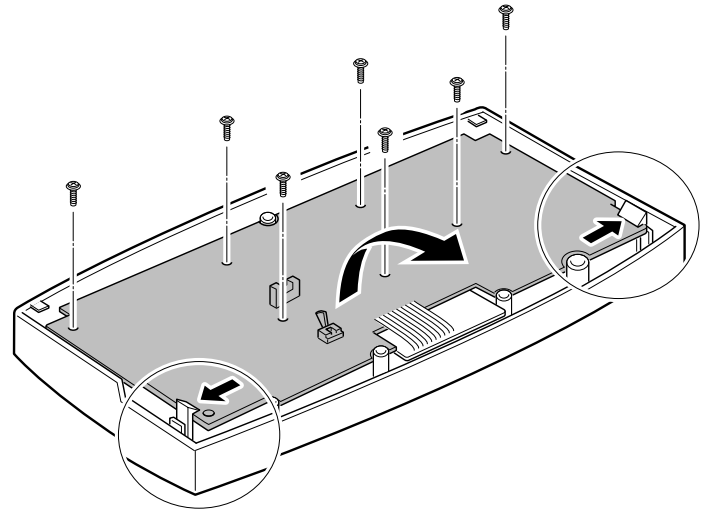


2. To unlatch the ADF rubber, push the plastic latches on the ADF rubber from the bottom of the OPE ass'y. Then remove the ADF rubber.

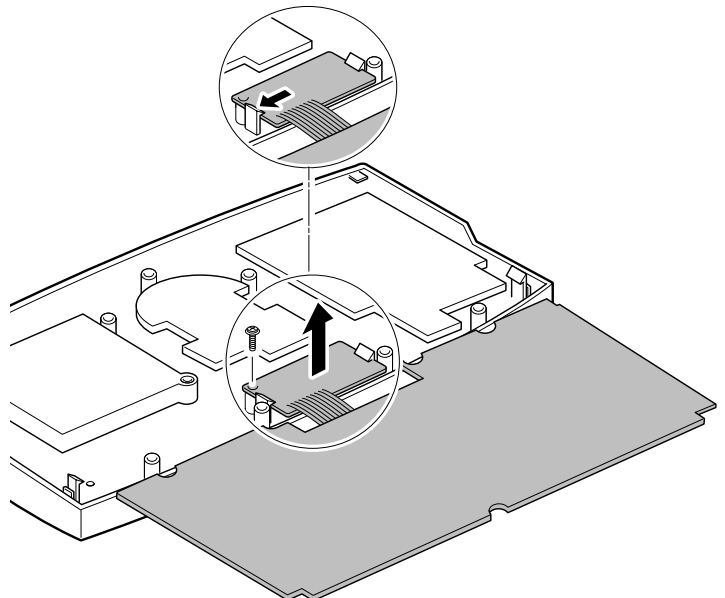


OPE PBA on the OPE Ass'y

1. Remove seven screws, release the plastic latches securing the board, then turn the board upside down.

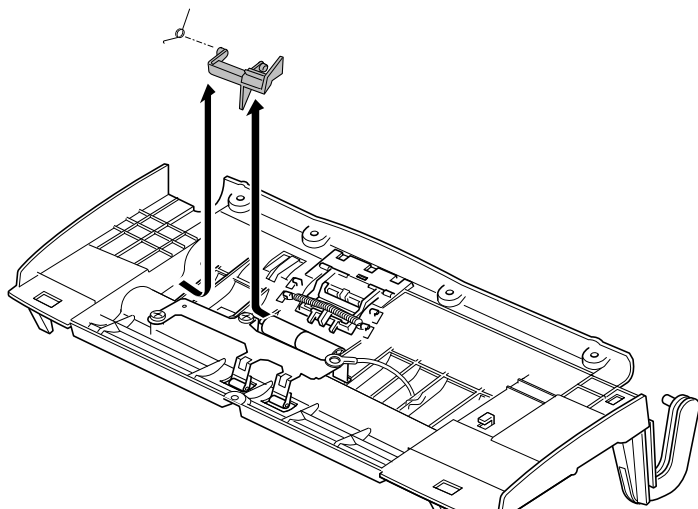


2. Remove a screw and release one of the latches securing the LCD board, then remove the OPE board with the LCD board.



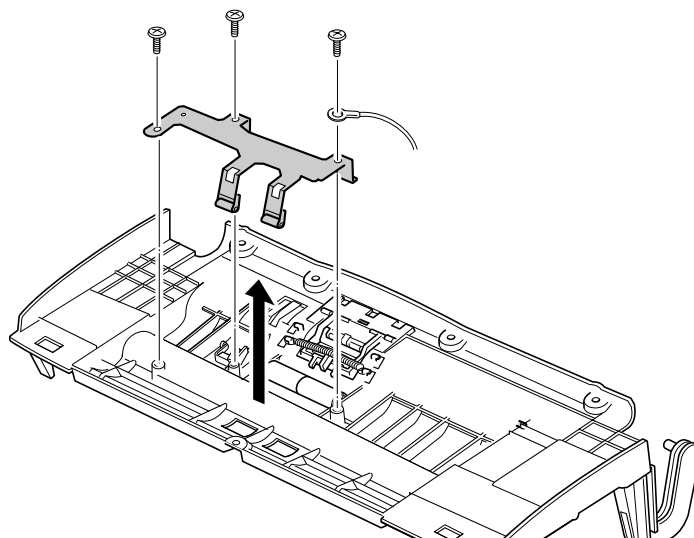
Lever Sensor on the OPE Ass'y

Squeeze the both ends of the lever sensor and lift it up.



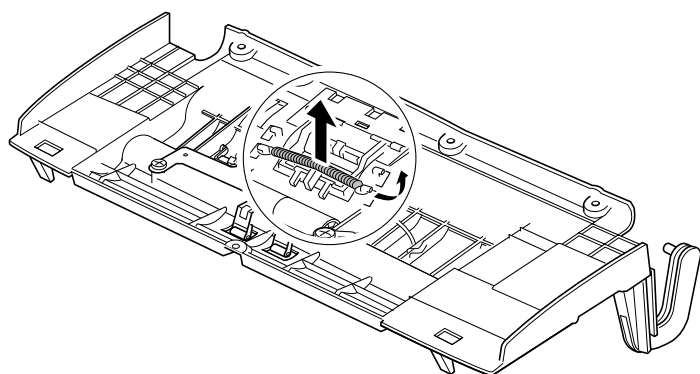
Pinch Spring on the OPE Ass'y

Remove three screws securing the pinch spring then take it out.



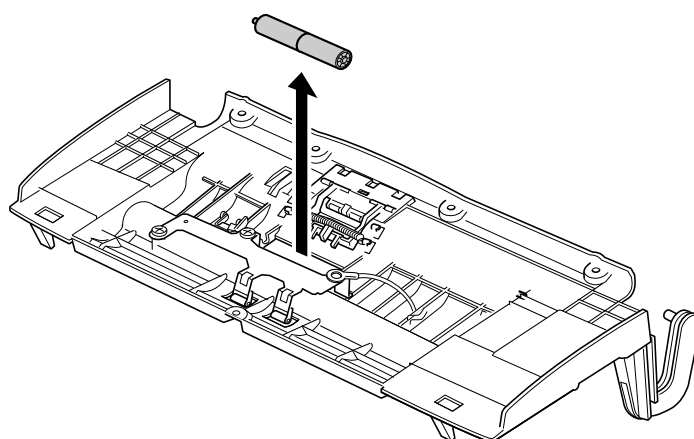
Spring on the OPE Ass'y

Release one end of the spring and take it out from the OPE ass'y.



Pinch on the OPE Ass'y

Remove the pinch from the OPE ass'y.

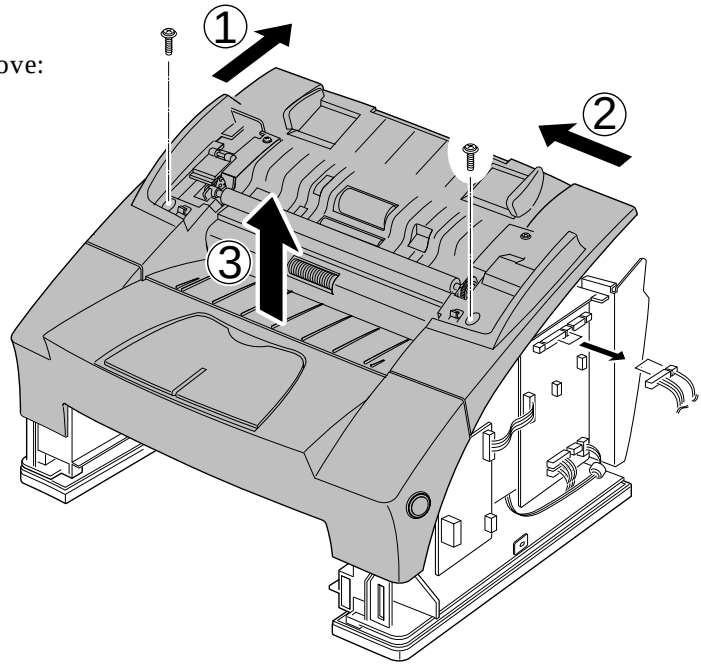


3-9 Top Assembly

1. Before you remove the cover, you should remove:

- Rear cover (see page 3-3)
- Left/Right side covers (see page 3-3, 3-4)
- OPE ass'y (see page 4-8)

2. Remove two screws and unplug two connectors from the main board, then remove the Top ass'y pushing in the direction of the arrows in order.

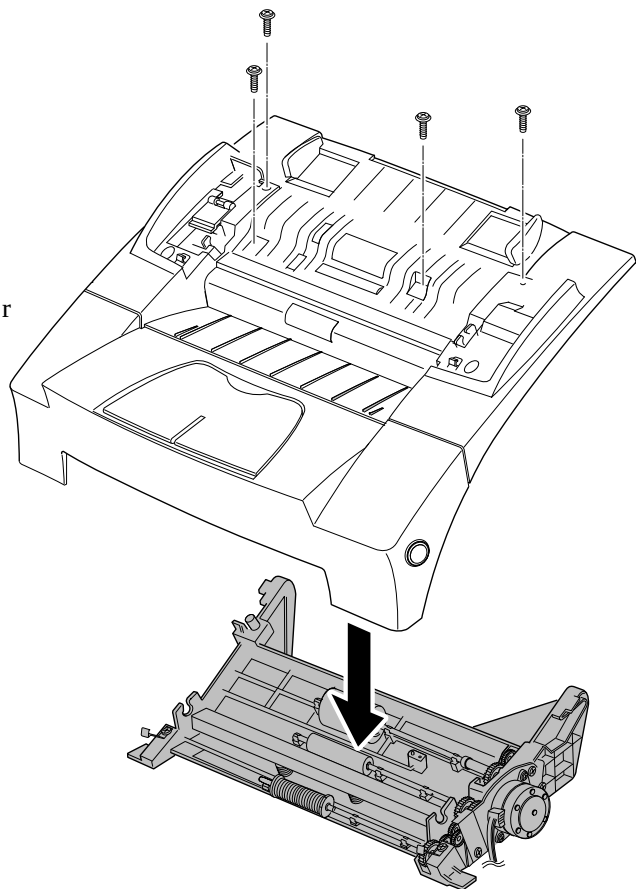


3-10 Scan Lower Frame

1. Before you remove the scan lower frame, you should remove:

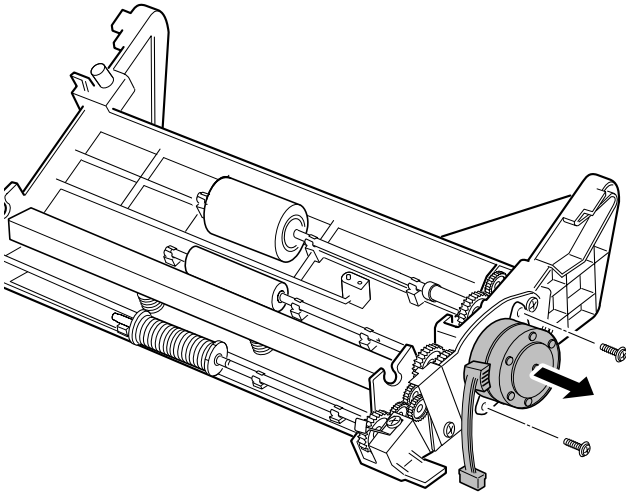
- Rear cover (see page 3-3)
- Left/Right side covers (see page 3-3, 3-4)
- Top Assembly (see page above)

2. Remove four screws and remove the scan lower frame.



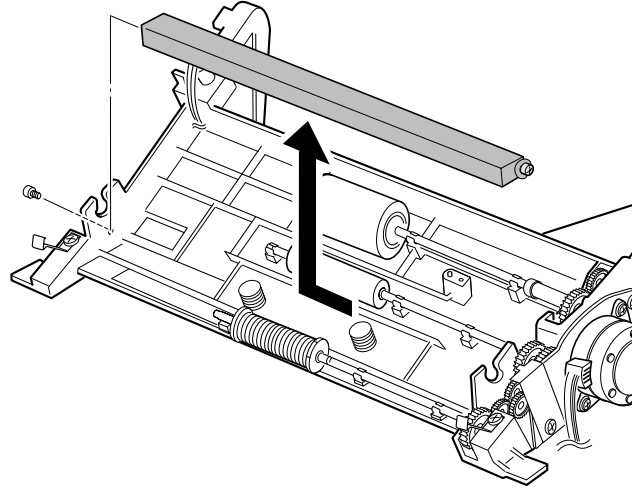
Scan Motor on the Scan Lower Frame

Remove two screws, and remove the scan motor.



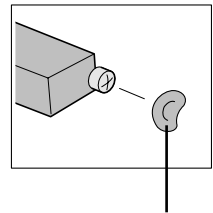
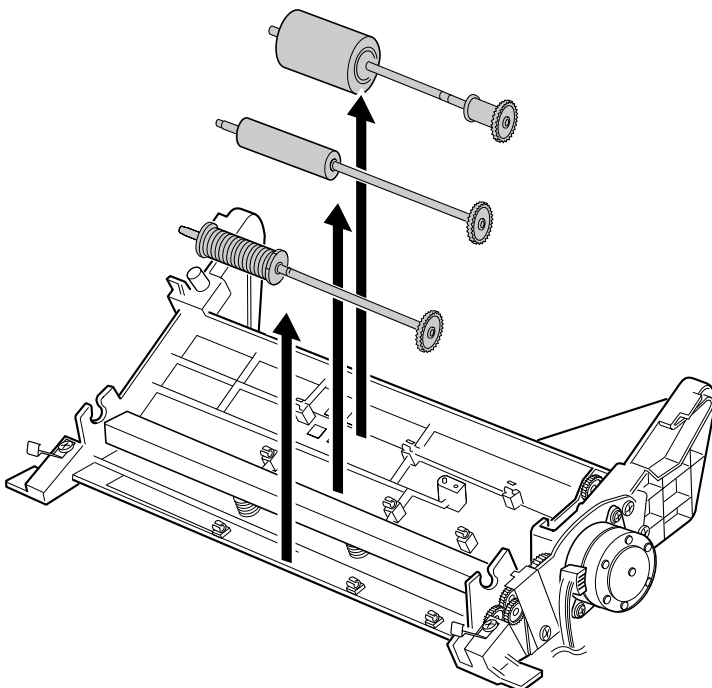
CIS on the Scan Lower Frame

Remove one screw, slide the CIS slightly in the direction of arrow, then lift it up.



Rollers on the Scan Lower Frame

Remove rollers.



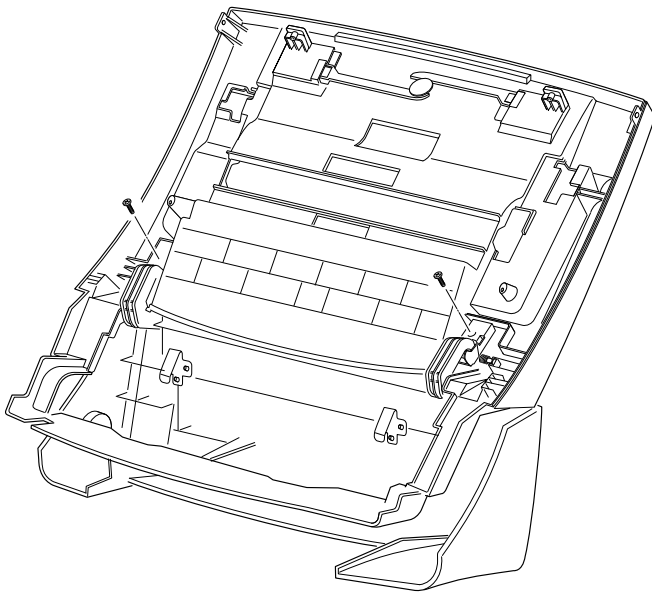
When you reassemble the CIS, be careful for the direction of this part.

3-11 Main Cover and Front Cover

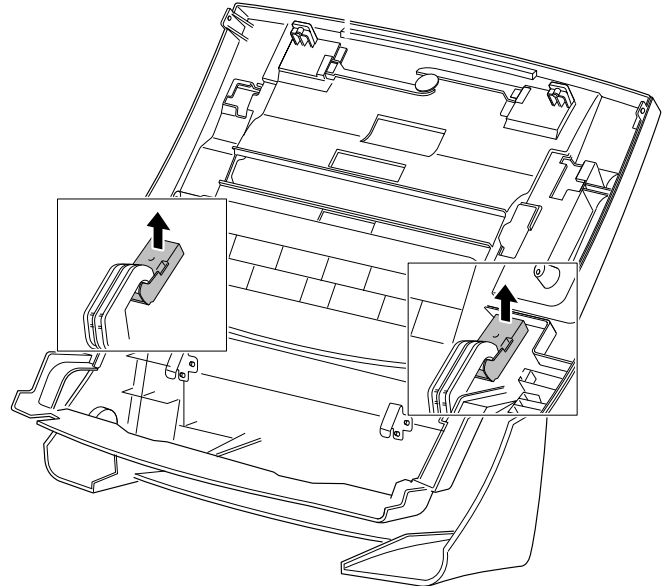
1. Before you remove the covers, you should remove:

- Rear cover (see page 3-3)
- Left / Right side covers (see page 3-3, 3-4)
- OPE assembly (see page 3-5)
- Top assembly (see page 3-8)
- Scan lower frame (see page 3-8)

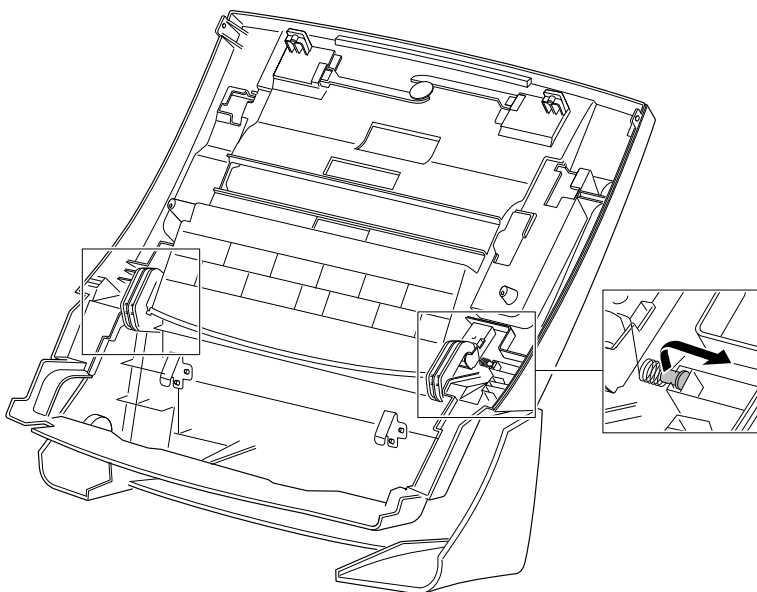
2. Remove two screws.



4. Remove the left and right hinge shafts. Now the two covers can be separated.

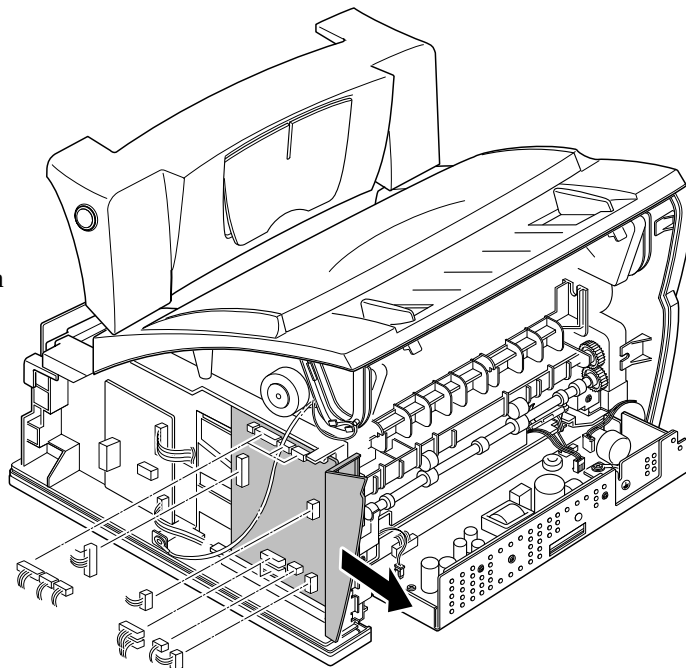


3. Remove shafts and springs connecting the two covers.



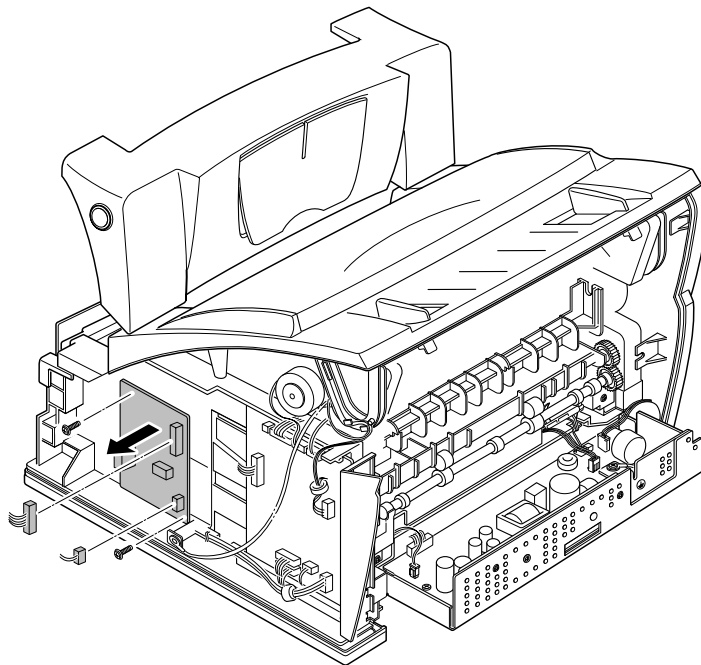
3-12 Main Board

1. Before you remove the main board, you should remove:
 - Rear cover (see page 3-3)
 - Right side cover (see page 3-4)
2. Unplug all connectors from the main board, then remove the board.



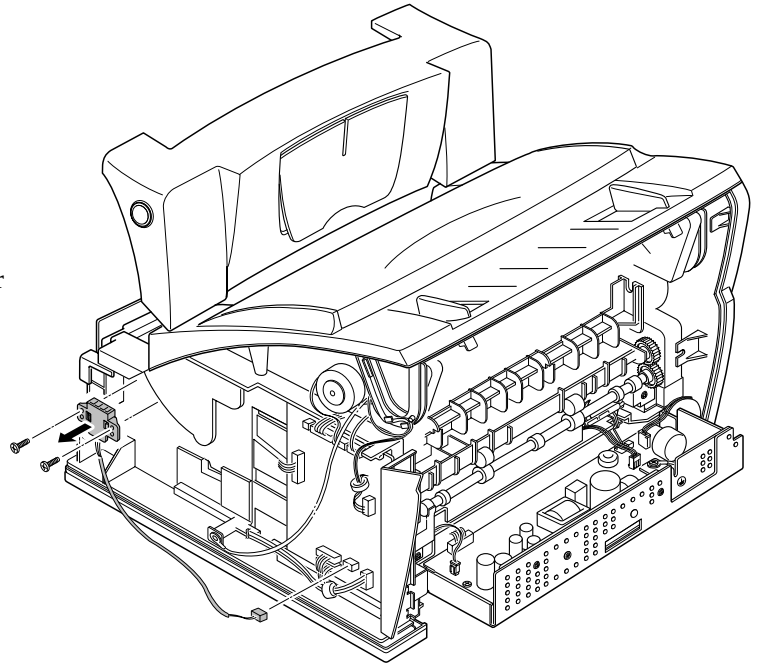
3-13 LIU Board

1. Before you remove the LIU board, you should remove:
 - Rear cover (see page 3-3)
 - Right side cover (see page 3-4)
2. Remove two screws, then unplug all connectors from the LIU board, then remove the board.



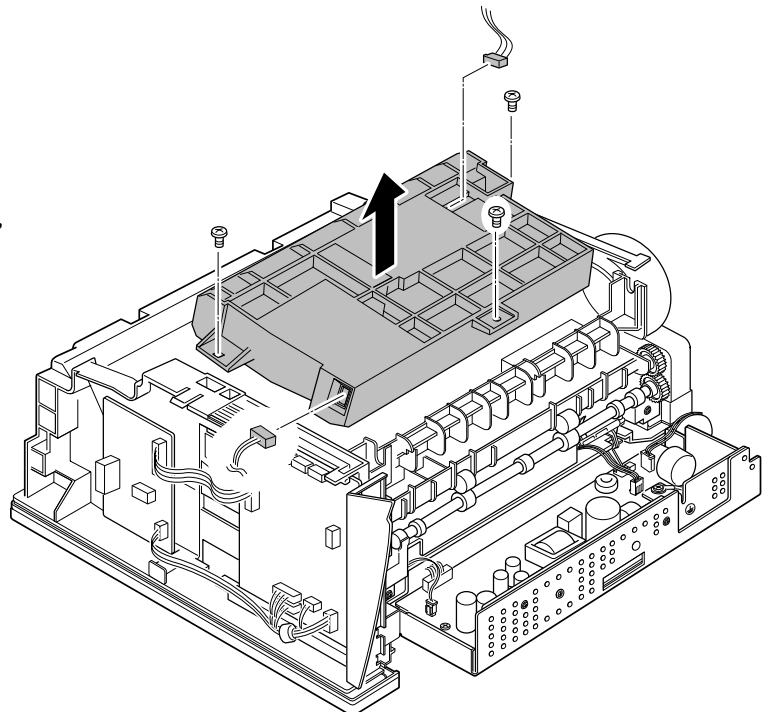
3-14 Socket Contact Assembly

1. Before you remove the assembly, you should remove:
 - Rear cover (see page 3-3)
 - Right side cover (see page 3-4)
 - LIU board (see page 3-11)
2. Remove two screws, and unplug one connector from the main board, then remove the socket contact ass'y.



3-15 LSU

1. Before you remove the LSU, you should remove:
 - Rear cover (see page 3-3)
 - Left / Right side covers (see page 3-3, 3-4)
 - Top assembly (see page 3-8)
2. Remove three screws, unplug two connectors, then remove the LSU.

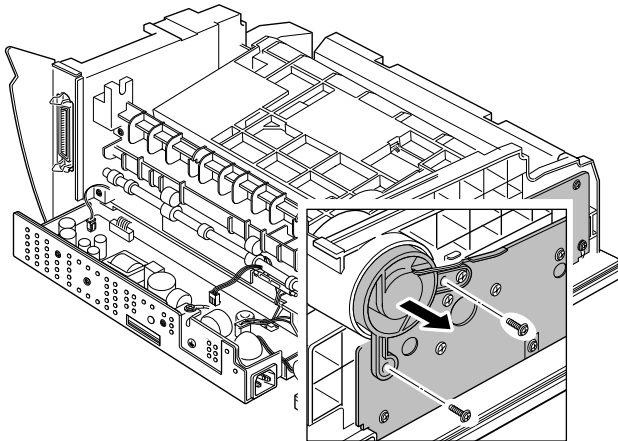


3-16 Motor Assembly and Fan

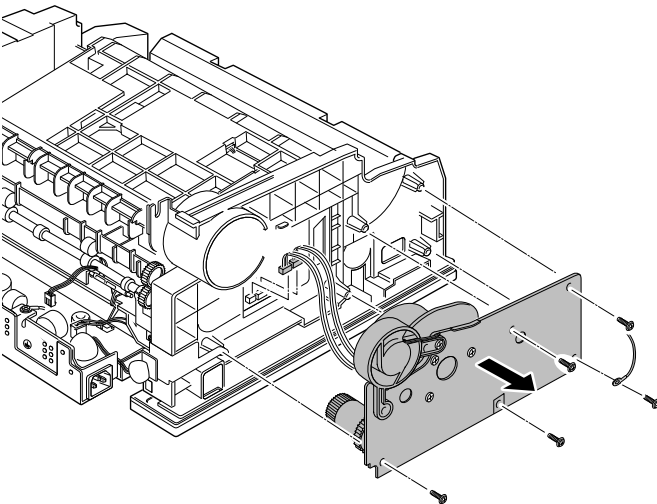
1. Before you remove the motor assembly, you should remove:

- Rear cover (see page 3-3)
- Left/Right side covers (see page 3-3, 3-4)
- Top assembly (see page 3-8)

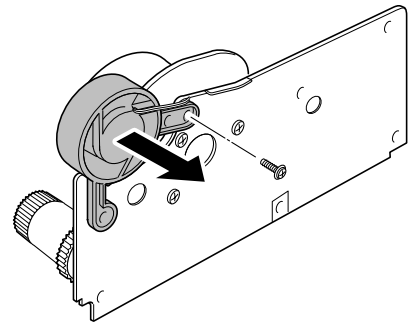
2. Remove two screws securing the fan.



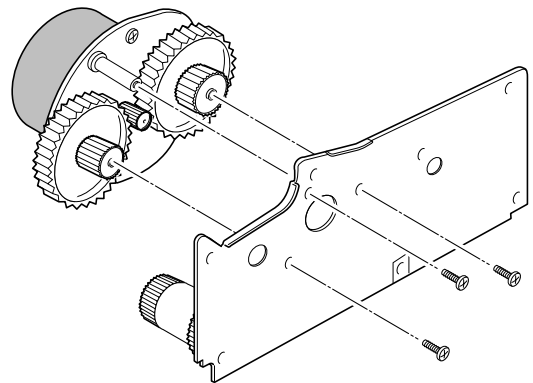
3. Remove five screws, unplug two connectors, then remove the motor assembly.



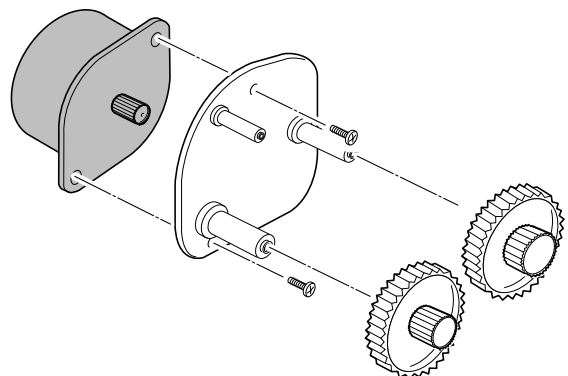
4. Remove a screw securing the fan and remove the fan.



5. Remove three screws from the motor assembly.



6. Remove two screws from the motor bracket and remove the motor.

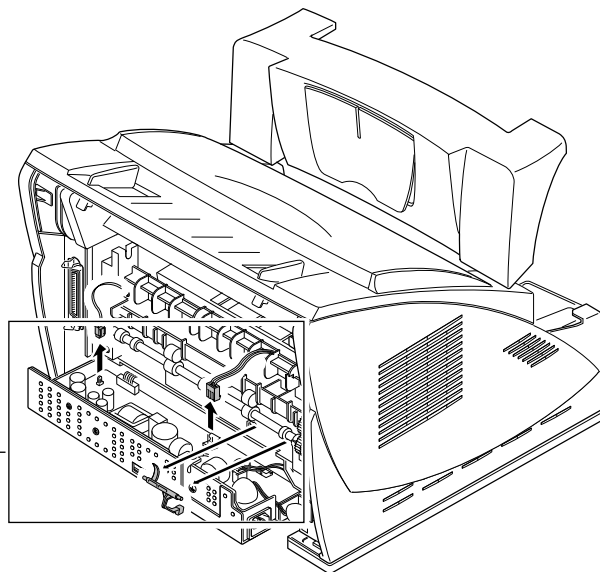
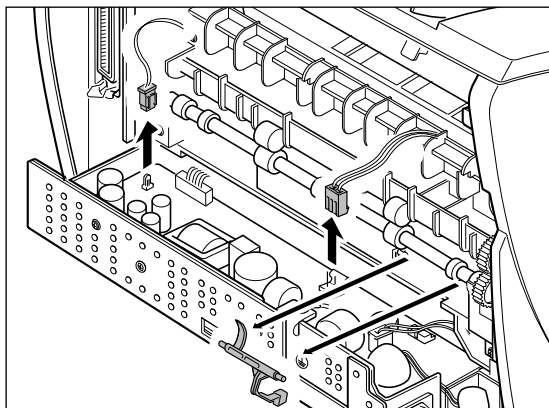


3-17 Fuser

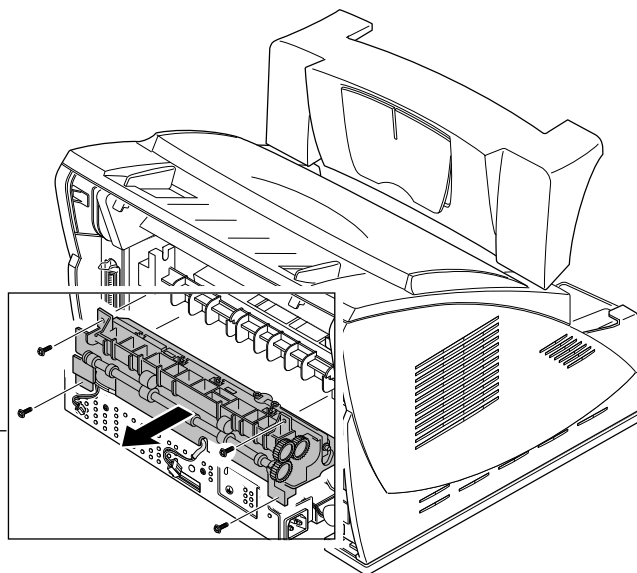
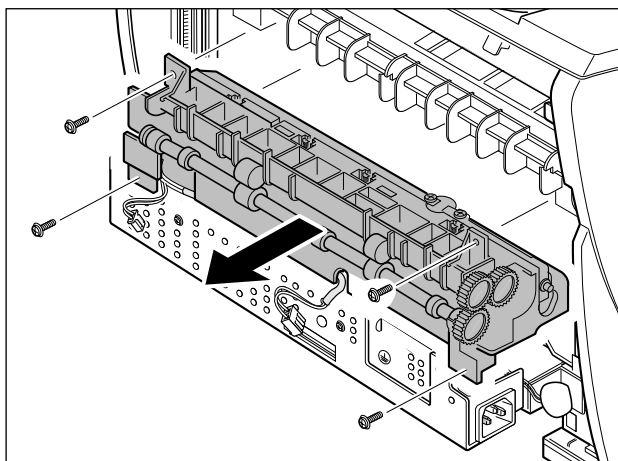
1. Before you remove the fuser, you should remove:

– Rear cover (see page 3-3)

2. Remove the exit actuator and unplug two connectors.

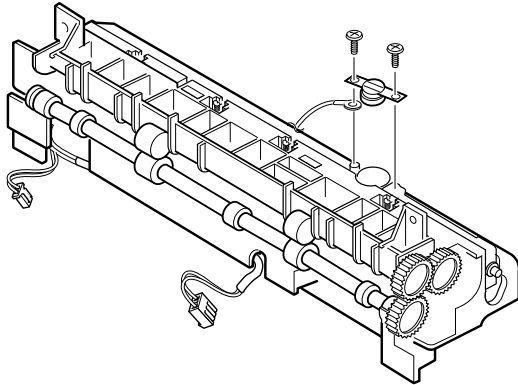


3. Remove four screws, then remove the fuser.

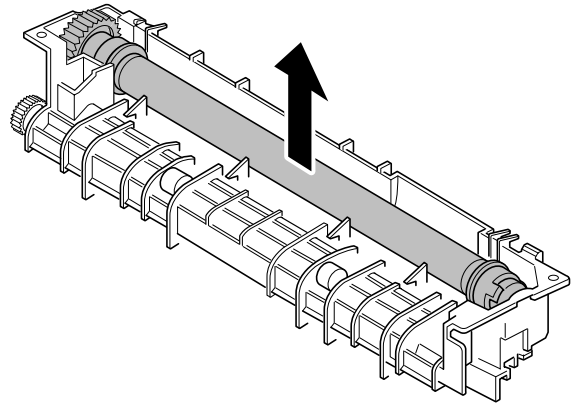


Thermostat on the Fuser

Remove two screws securing the thermostat and take it out.

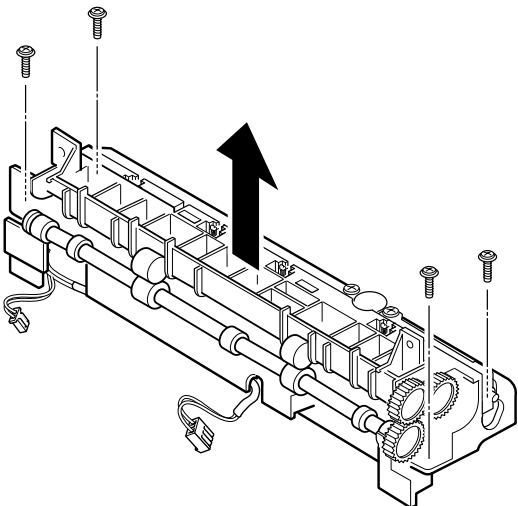


2. Remove the heat roller.

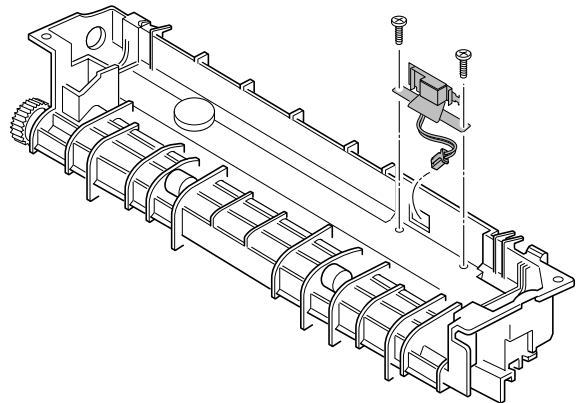


Thermistor on the Fuser

1. Remove four screws and remove the upper cover.

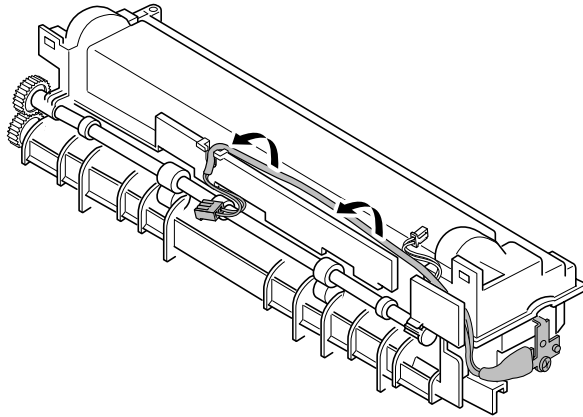


3. Remove two screws securing the thermistor, then take it out.

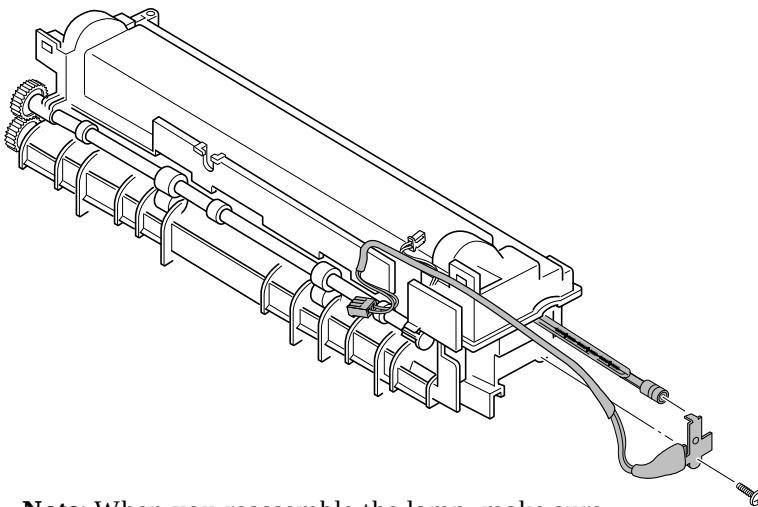


Halogen Lamp on the Fuser

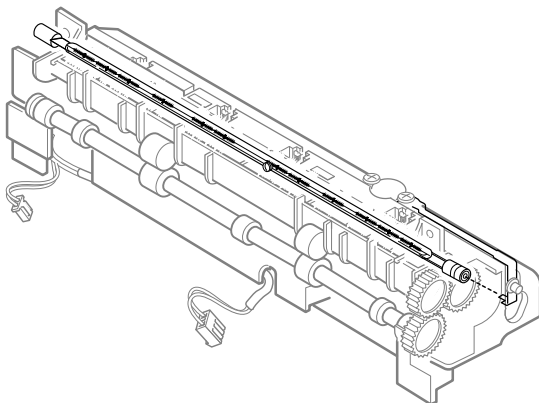
1. Release the connector cable from its recessed channel.



2. Remove one screw and remove the halogen lamp.

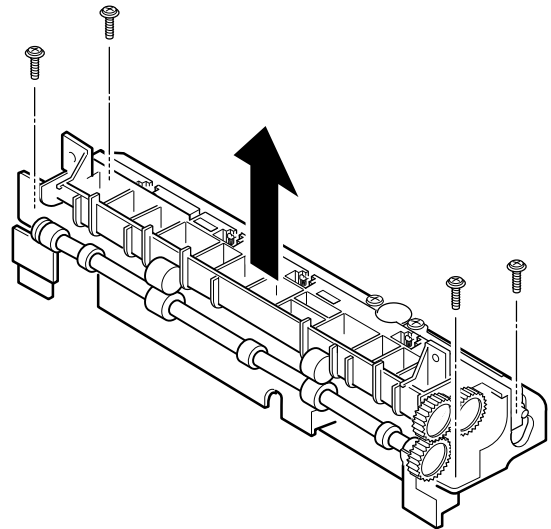


Note: When you reassemble the lamp, make sure that the halogen lamp is inserted in place.

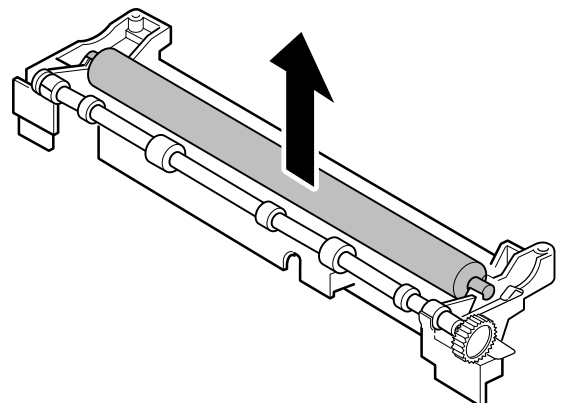


Roller on the Fuser

1. Remove four screws and remove the upper cover.



2. Remove the roller.

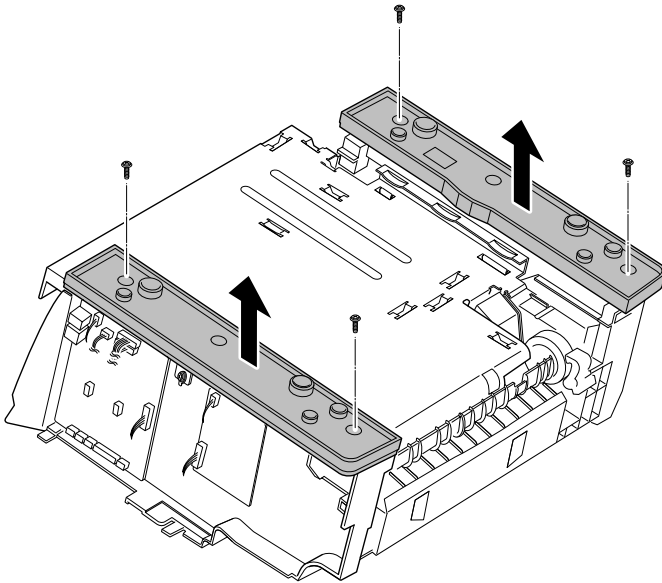


3-18 Engine Board and Others

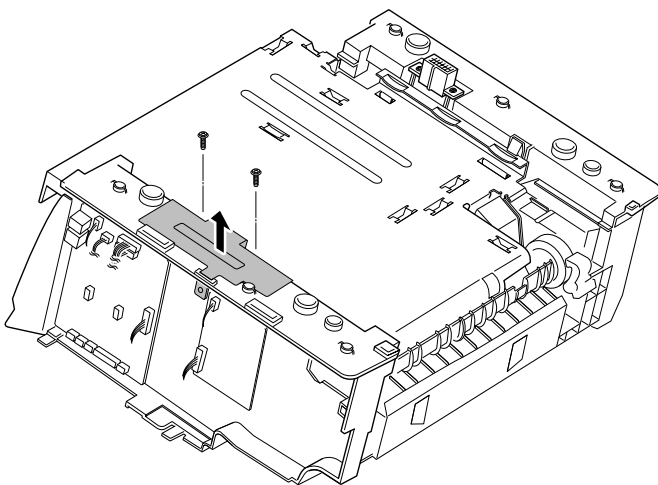
1. Before you remove the engine board, you should remove:

- Rear cover (see page 3-3)
- Left / Right side covers (see page 3-3, 3-4)
- Top assembly (see page 3-8)

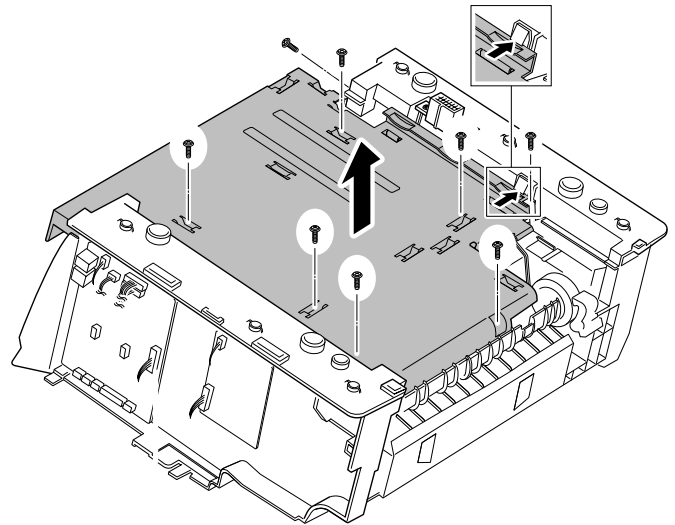
2. Remove four screws and remove the right and left base brackets.



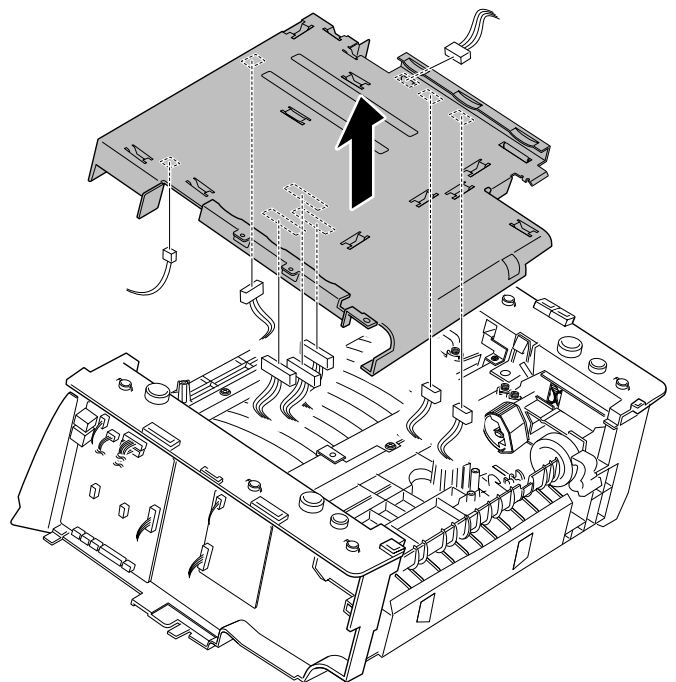
3. Remove two screws and remove the ICU ground.



4. Remove seven screws, and release the latch securing the PCU shield.

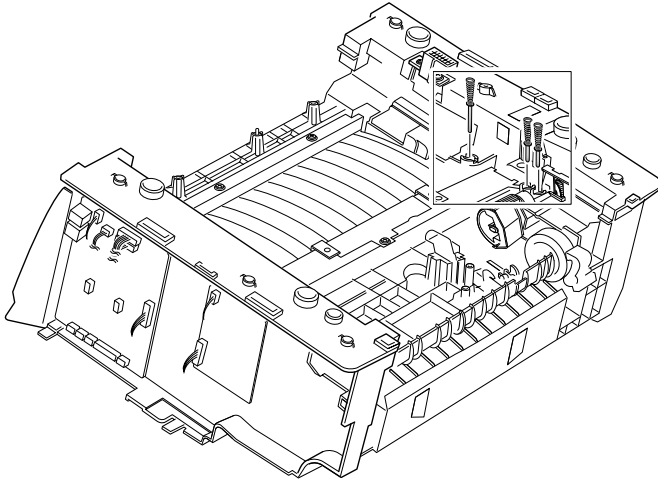


5. Unplug all connectors and remove PCU shield.



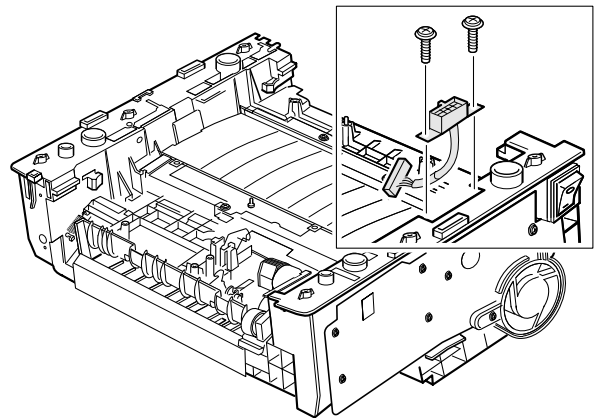
HV Terminals

Remove HV terminals. When you reassemble the terminals, make sure that the terminals are inserted in place.



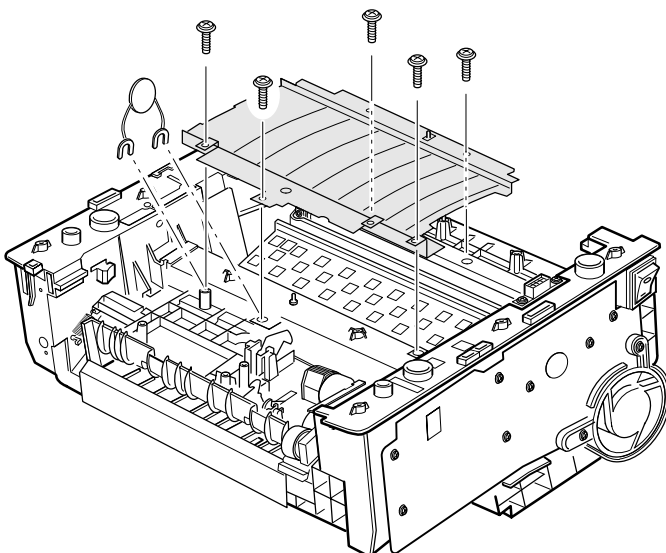
SCF Connector

Remove two screws and remove the connector.



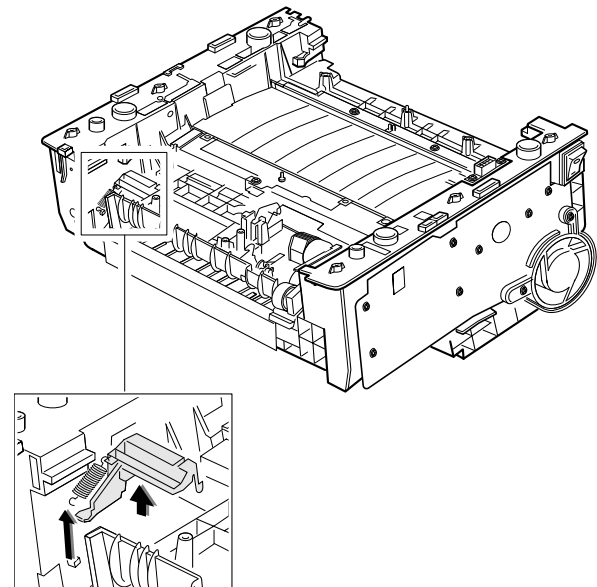
Transfer Guide

Remove five screws and remove the transfer guide.



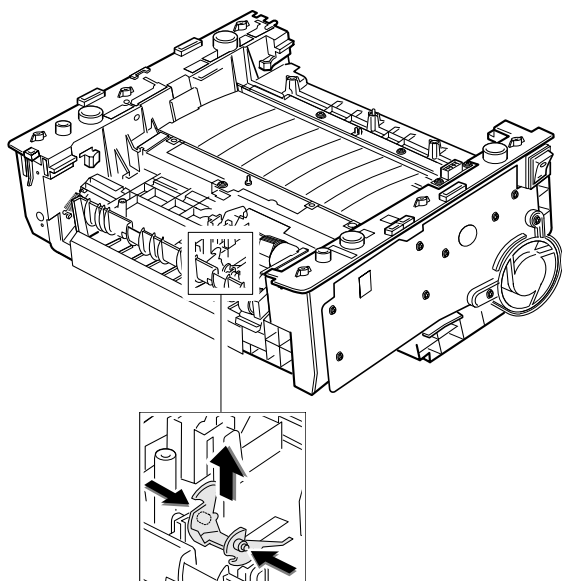
Cover Open Sensor

Remove the spring and remove the sensor.



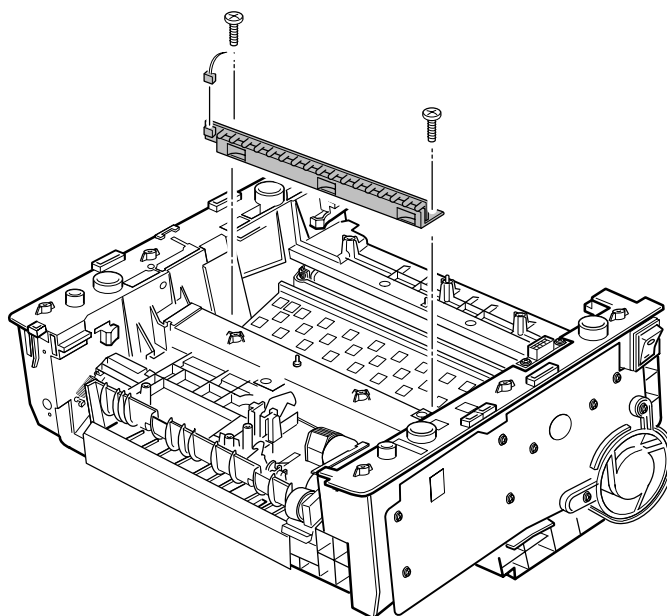
Pick-up Sensor

Squeeze both ends of the sensor and lift it up.



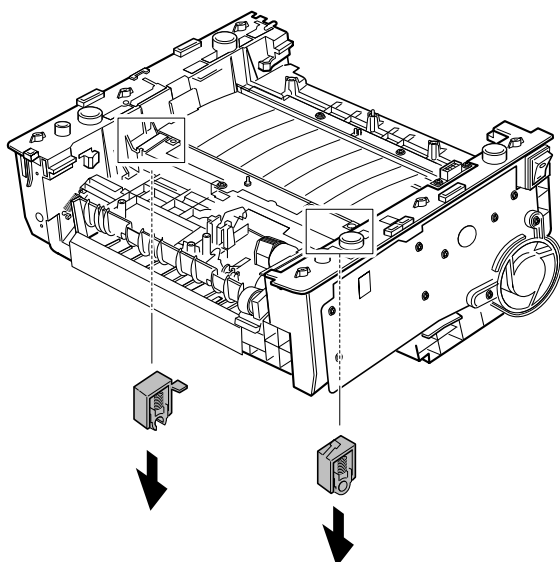
Erase Lamp

Remove two screws, unplug one connector, then remove the erase lamp.



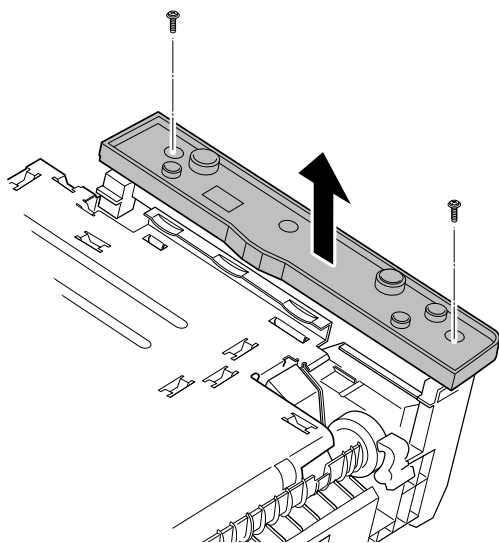
Transfer Roller Bushing

Push them downward to be released.

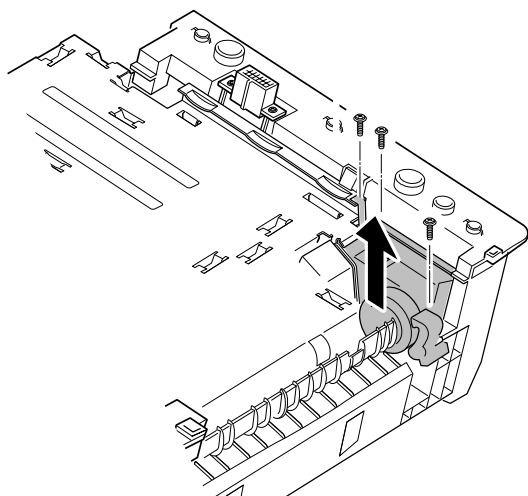


3-19 Pick-up Assembly

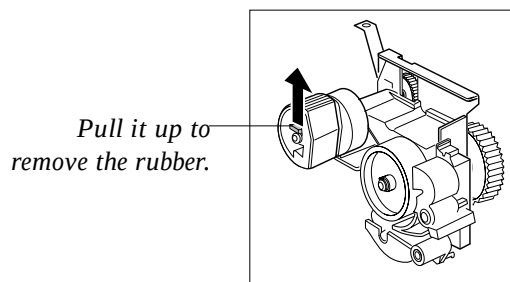
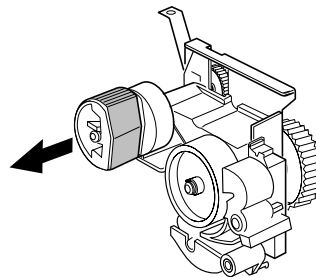
1. Remove two screws and remove the right base bracket.



2. Remove three screws and remove Pick-up assembly.



3. Remove the pick-up rubber.



4. Maintenance & Troubleshooting

4-1 Preventative Maintenance

The cycle period outlined below is a general guideline for maintenance. The example list is for an average usage of 50 transmitted and received documents per day. Environmental conditions and actual use will vary these factors. The cycle period given below is for reference only.

	COMPONENT	CLEANING CYCLE	REPLACEMENT CYCLE	SOLUTION
SCANNER	ADF Rubber	6 Months	10,000 Pages	
	ADF Roller	1 Year	20,000 Pages	
	Drive Roller	1 Year	50,000 Pages	
	White Roller	6 Months	50,000 Pages	
	CIS	6 Months		
PRINTER	Cartridge		6,000 Pages	
	Pickup Roller	1 Year	50,000 Pages	
	Feed Roller	1 Year	50,000 Pages	
	Transfer Roller		50,000 Pages	
	Fuser		30,000 Pages	

4-2 Diagnostics

This section describes methods and procedures to isolate the cause of a malfunction in the machine. This machine displays diagnostic information on the LCD. In addition, it can perform a series of tests that allow the machine to observe individual machine functions.

4-2-1 Error Messages

Error Message	Description	Solution
RETRY REDIAL?	The machine is waiting the programmed interval to automatically redial.	You can press START to immediately redial, or STOP to cancel the redial operation.
COMM. ERROR	A problem with the facsimile communications has occurred.	Try again.
DOCUMENT JAM	Loaded document has Jammed in the feeder	Clear the document Jam.

Error Message	Description	Solution
DOOR OPEN OR NO TONER CARTRIDGE	The front cover is not securely latched.	Replace the cover firmly until it clicks in place.
	No toner cartridge in the fax machine. The machine stops.	Install the toner cartridge in place properly.
GROUP NOT AVAILABLE	You have tried to select a group location where only a single location number can be used, such as when adding locations for a multi-dial operation.	Try again, check location for group.
LINE ERROR	Your unit cannot connect with the remote machine, or has lost contact because of a problem on the phone line.	Try again. If failure persists, wait an hour or so for the line to clear then try again.
LOAD DOCUMENT	You have attempted to set up a sending operation with no document loaded.	Load a document and try again.
MEMORY FULL	The memory has become full.	Either delete unnecessary documents, or retransmit after more memory becomes available, or split the transmission into more than one operation.
NO ANSWER	The remote machine was not answered after all the redial attempts.	Try again.
		Make sure the remote machine is OK.
NO. NOT ASSIGNED	The one-touch or speed dial location you tried to use has no number assigned to it.	Dial the number manually with the keypad, or assign the number.
NO PAPER	The recording paper has run out. The printer system stops.	Load the recording paper in the paper feeder.
OVERHEAT	The printer part has overheated.	Your unit will automatically return to the standby mode when it cools down to normal operating temperature. If failure persists, call service.
PAPER JAM 0	Recording paper has jammed in paper feeding area.	Press STOP and clear the jam.
PAPER JAM 1	Recording paper has jammed inside the unit.	Clear the jam.

Error Message	Description	Solution
PAPER JAM 2	The jammed paper still remains inside the unit.	Clear the jam.
POLL CODE ERROR	When setting up to poll another fax machine, you have used an incorrect poll code.	Enter the correct poll code.
POLLING ERROR	The remote fax machine you want to poll is not ready to respond to your poll.	The remote operator should know in advance that you are polling and have their fax unit loaded with the original document.
POWER FAILURE	A power failure has occurred.	If there has been documents stored in memory. Power failure report will be printed automatically when the power is restored.
PLEASE WAIT	The machine is warming up and is off line.	Wait until the machine is on-line.

4-2-2 Test Mode

The test mode is used to test certain functions of the machine. The available tests are:

- User mode : Clean drum → Adjust shading → Notify toner low
- Tech mode : Switch Test → Modem Test → Memory Test → ROM Test → DRAM Test → Pattern Test

To enter the Test Mode:

1. Get into the Tech mode by pressing **Menu**, #, **1**, **9**, **3**, **4**.
2. In Tech mode, press **Menu**, and '**Maintenance**' on the one-touch keypad.
3. Scroll to the options by pressing **▲** or **▼** repeatedly until you find the one you want.
4. Press **Enter** to initiate the test mode.

CLEANING DRUM

This procedure removes excess toner on the OPC drum.

1. Make sure that paper is loaded in the automatic feeder.
2. Press Menu, and Self-Test on the one-touch keypad.
3. Press Enter. The machine automatically pulls in a sheet of paper, and prints out. The toner particles on the OPC drum surface is fixed to the paper.

ADJUST SHADING

This procedure is needed to set (make) a new shading reference value. The reference value is preset at factory. However, when the CIS or the main board is replaced with new one, the reference value must be set again.

Load the white, letter-sized paper into the feeder and perform the test mode (MENU+ONE-TOUCH 'SYSTEM SETUP'). Follow the next steps as instructed through the LCD window. After the shading value is newly set, the shading value pattern is automatically printed. The shading value pattern shows the value of the white reference level of the Contact Image Sensor. Check for the waveform in the pattern. It is best when the waveform is level. If there are many points sharply broken, perform the Make shading procedure several times until you get a level waveform.

SWITCH TEST

This test checks the operation of the LCD display and the LED indicators that interface the switches on the operation panel.

MODEM TEST

This test causes the machine to generate a particular frequency to verify the operation of the modem control circuits and the modem.

MEMORY TEST

This test is used for checking the Random Access Memory (RAM) on the main PBA. If all memory is working normally, the LCD shows TESTING OK!. When this testing is carried out, any picture data stored in memory is erased.

ROM TEST

This test mode will display and check the current ROM level in your machine.

FLASH VER. : 1.0.0 V
ENGINE VER : 1.0.0 V

DRAM TEST

This test checks the DRAM memory status and shows if it is functioning properly

PATTERN TEST

1. Pattern Test ?
2. Pattern 1 ? - There are 4 different pattern tests.
Scroll to the options by pressing **▲** or **▼** repeatedly until you find the one you want.
3. Press START key.
4. Key in the number of pages.
5. Press START key.

Notify Toner Low

With this feature enabled, when the toner becomes low, the toner low information will be sent to a specified contact point, for example, the service company. After you access this menu, select **ON**, and when the LCD prompts, enter the name and the number of the contact point, the customer's fax number, the model name, and the serial number.

4-2-3 Maintenance List

A number of reports can be printed from the fax machine within the test mode. The protocol list and memory dump list all contain detailed information which may be required when contacting technical support.

To printout the protocol and memory dump lists:

1. Get into the Tech mode by pressing **Menu, #, 1, 9, 3, 4.**

2. In Tech mode, press **Menu**, and '**Tx. Confirm**' on the one-touch keypad.
3. Press **▲** or **▼** repeatedly until you find the Protocol Dump List. When you find 'PROTOCOL REPORT?', press ENTER. SAMPLE OF A PROTOCOL DUMP LIST

SAMPLE OF A PROTOCOL DUMP LIST

S/R	FCF	FIF DATA	ASCII
S	NSF	61006820003380140200001302090018010000	
S	CSI	20	
S	DIS	00000000 01110111 00010111 00100010	
S	NSF	61005020003380140200001302090018010000	
S	CSI	20	
S	DIS	00000000 01110111 00010111 00100010	
R	TSI	20	
R	DCS	00000000 01100001 00010101 00000000	
R	FTT		
R	TSI	20	
R	DCS	00000000 01100001 00010101 00000000	
R	CFR		
R	MPS		
S	MCF		
S	DCN		

4-2-4 Engine Test

The Engine test mode is used to check the operation of the components related the printer engine. In this mode, the tests are classified into the five numbers.

The available tests are:

- 0** : Motor Start/Stop, Solenoid On/Off, Qlamp On/Off, Motor Fan On/Off, Rear Fan On/Off
- 1** : LSU motor On/Off, LSU operation On/Off, LD On/Off
- 2** : Feed sensor On/Off, Exit sensor On/Off, Paper sensor On/Off, Cover sensor On/Off
- 3** : MHV On/Off, Devbias On/Off
- 4** : SCF Motor On/Off, SCF Solenoid On/Off, SCF Paper Empty On/Off, SCF Installed
- 5** : THV EN On/Off, THV On/Off, THV NEG On/Off

To enter the Engine test mode:

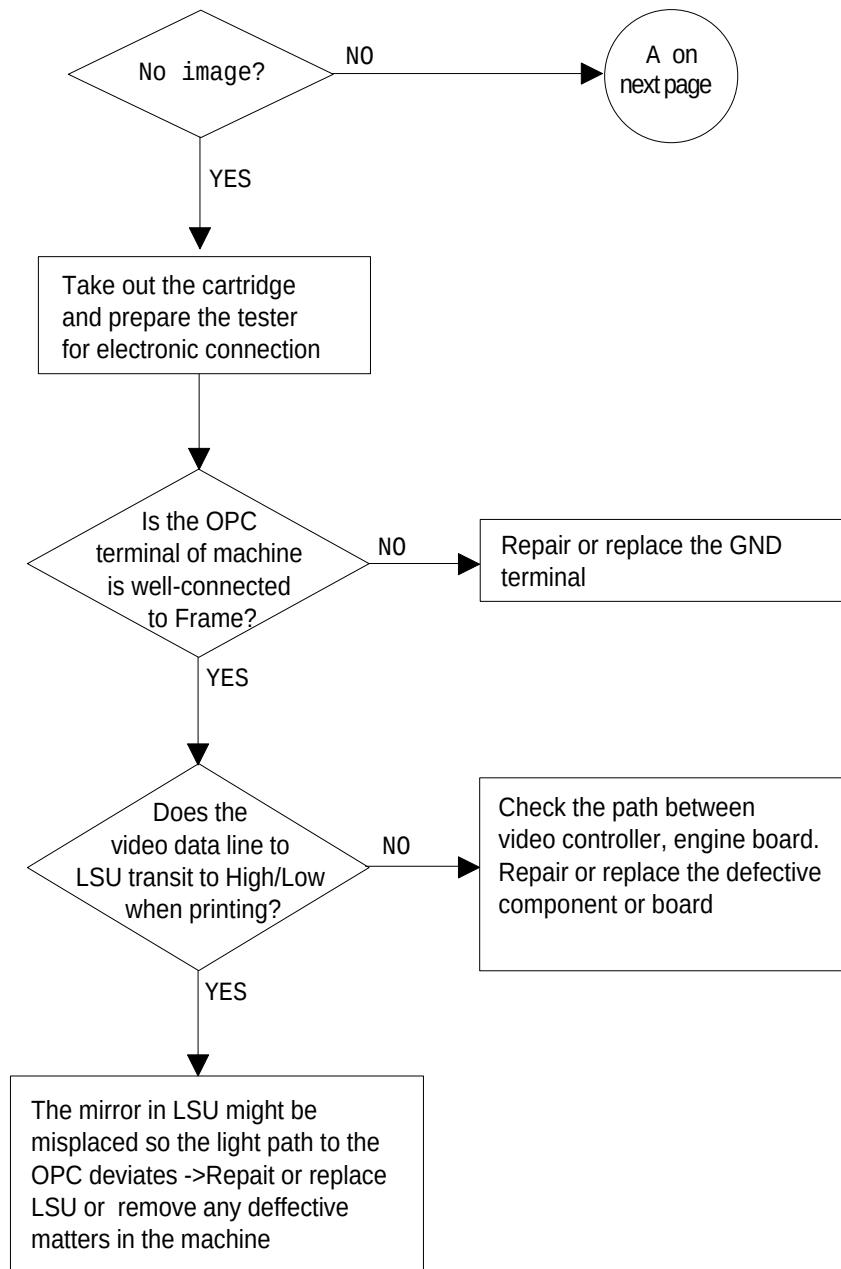
1. Press **Menu, #, 1, 9, 3, 1** in sequence.
2. When you see 'ENGINE TEST?', press Start 'ENGINE TEST NO>0-5' appears in LCD window.
3. Enter the number you want.
4. Scroll to the options by pressing **▲** or **▼** repeatedly until you find the one you want.
5. Press Start to begin the test.
6. After the engine test is finished, press Stop to exit the Engine test mode.

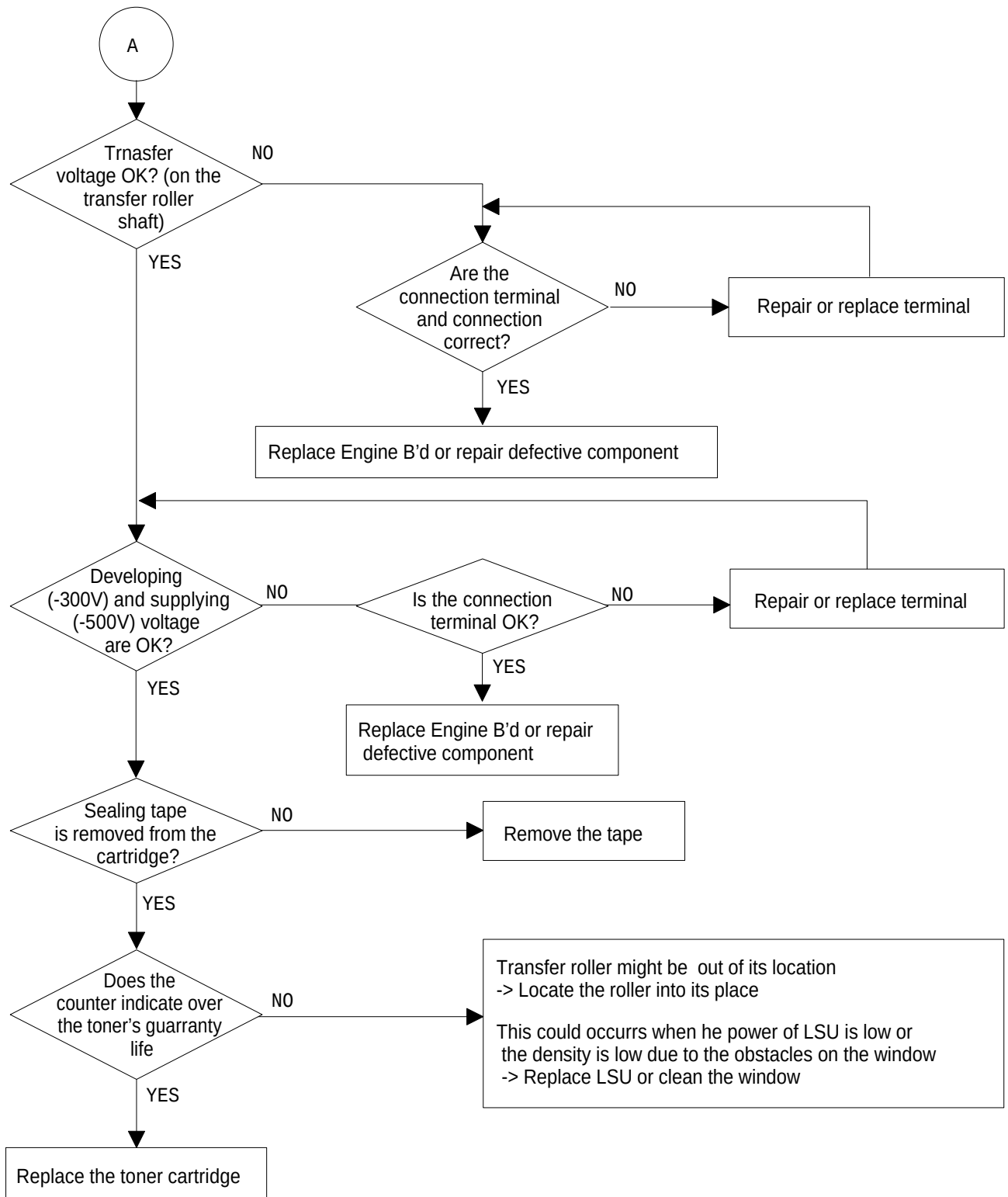
4-3 Print Quality

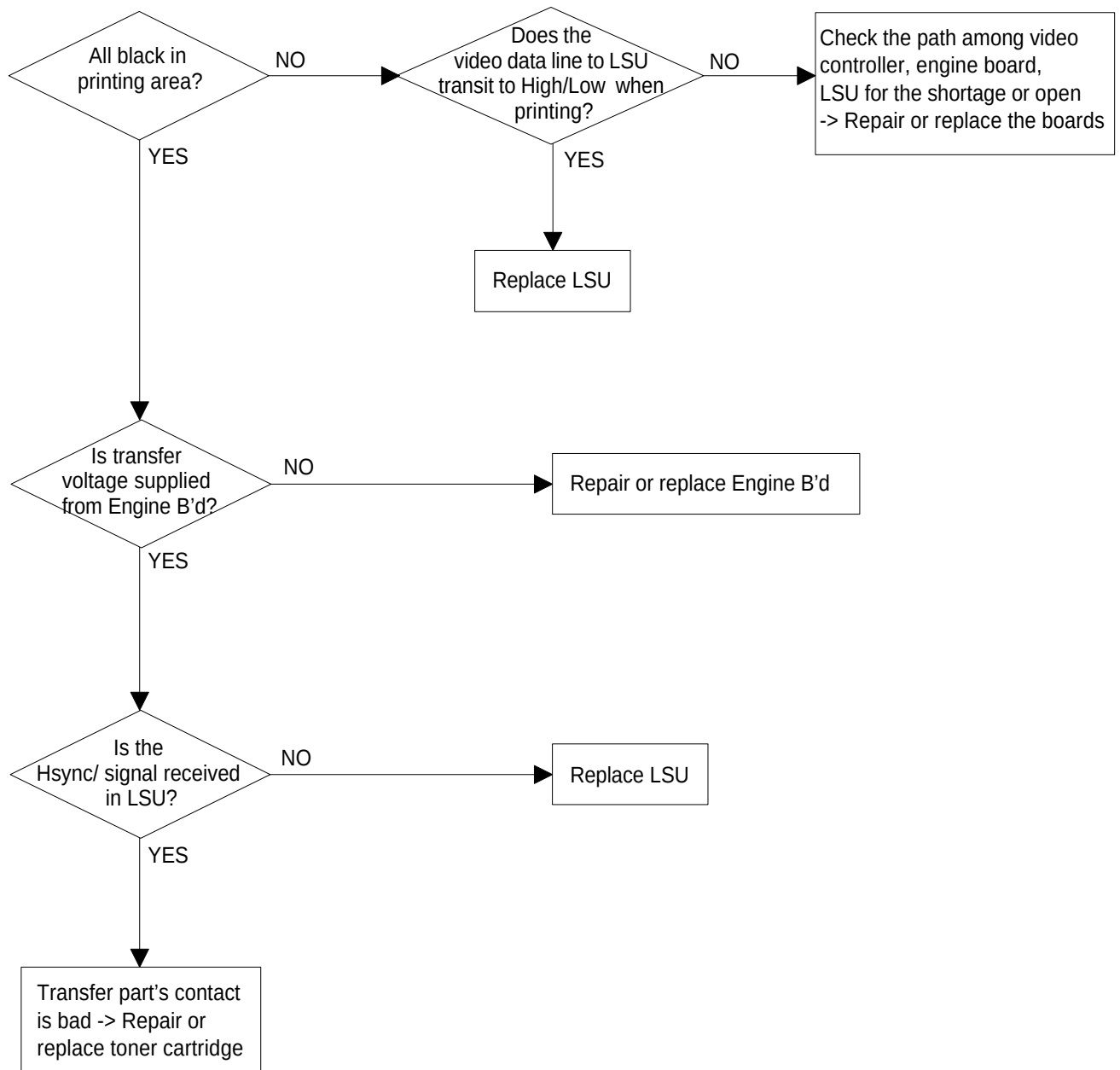
Error Status	Check	Solution
Vertical black line and band	1. Bad blade of Toner cartridge 2. LSU	1. Change Toner cartridge 2. Replace LSU
Vertical white line	1. LSU window contamination 2. Toner cartridge	1. Clean LSU window 2. If not LSU, change Toner cartridge
No image	1. Seal tape is removed? 2. GND OPC is well grounded? 3. LSU running well? 4. Biss voltage is normal? 5. Lower toner?	1. Removing seal tipe 2. Measure the resistance between frame ground and the ground spring attached frame. Confirm stable ground. Unless bad ground, detach cabinet, check where is bad point 3. Adjust LSU or replace it 4. Normal Dev bias = -300V 5. Shake toner cartridge and print. If a liitke good, toner is empty
Light image	1. Check seal tape removing 2. LSU light power normal? 3. Enough toner? 4. High charger voltage? 5. Lower bias voltage 6. Contamination of high voltage contact 7. Transfer volatge and roller	1. Check and remove tape 2. LSU light power check is difficult. Compare with new one and check. 3. Check toner and developer counter 4~5. Measure all high voltage output 6. Leakage toner cause bad contact and increase contact resistance. Clean contaminated area.
Dark image	1. LSU light power normal? 2. Bias voltage output is high? 3. Video data is always supplied?	1. Check the rated level and replace 2. Set to power rating 3. Replace defected board
Background	1. High voltage output is normal? 2. C/R of Toner cartridge is contaminated?	1. Adjust to the rated status 2. Replace Toner cartridge
Ghost	1. High voltage output 2. Bad high voltage contact	1. Check every high voltage 2. Clean the inside machine or replace toner cartridge

Error Status	Check	Solution
Stains on back of paper	1. Contamination of transfer roller 2. Stains of paper path 3. Pressure roller's contamination	1. Clean the transfer roller with vaccum cleaner 2. Clean the area of paper path with cloth or air cleaner. 3. Remove fuser and replace it
Poor Fusing	1. Use recommended paper? 2. Check fusing temperature 3. The machine was under the low temperature for a long time?	1. Should use recommended paper 2. Check engine board. If you have not thermometer, measure the thermistor voltage to CPU, If $2.98V \pm 5\%$ in printing CPU works well. Then, disassemble fuser and check the thermistor contact and thermistor. 3. Re-check after putting the machine in the warm place for certain period.
Partial blank image (not periodic)	1. Toner is low? 2. The toner cartridge is out of position?	1. Replace Toner cartridge 2. Check and adjust
Partial blank image (periodic)	1. Develop roller scar or particle 2. Scar or particle (94 mm) 3. Transfer roller scar or particle (47 mm)	1~2. Replace toner cartridge 3. Replace transfer roller
Different image density (left and right)	1. Charge roller's pressure force unbalance 2. Dev. roller and OPC or Dev. roller and blade's pressure force unbalance 3. Transfer roller's pressure force unbalance of each side	1~2. Change toner cartridge 3. Check left and right spring of transfer roller and the spring pressing the developer inside the machine
Horizontal band	1. Unstable high voltage contact 2. Charge roller's contamination 3. Contamination of heat roller 4. Malfunction of LSU	1. Clean each contact and check good contact 2. Clean charge roller 3. Replace fuser unit 4. Check engine B'd

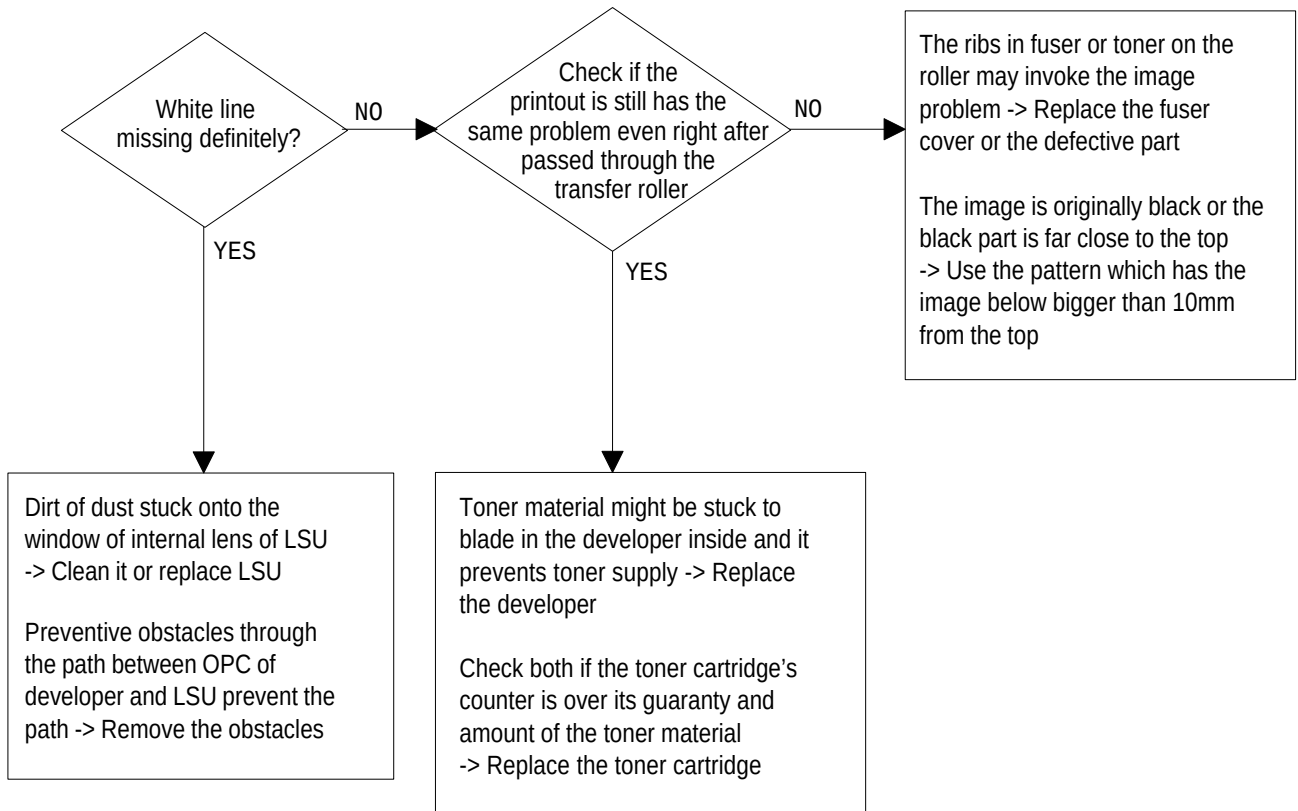
No	Roller	Abnormal image period	Kind of abnormal image
1	OPC Drum	94.2mm	White spot
2	Charge Roller	37.7mm	Black spot
3	Supply Roller	31mm	Horizontal density band
4	Develope Roller	46.7mm	Horizontal density band
5	Transfer Roller	47.1mm	Black side contamination/transfer fault
6	Heat Roller	56.4mm	Black spot, White spot
7	Pressure Roller	56.5mm	Black side contamination

No Image

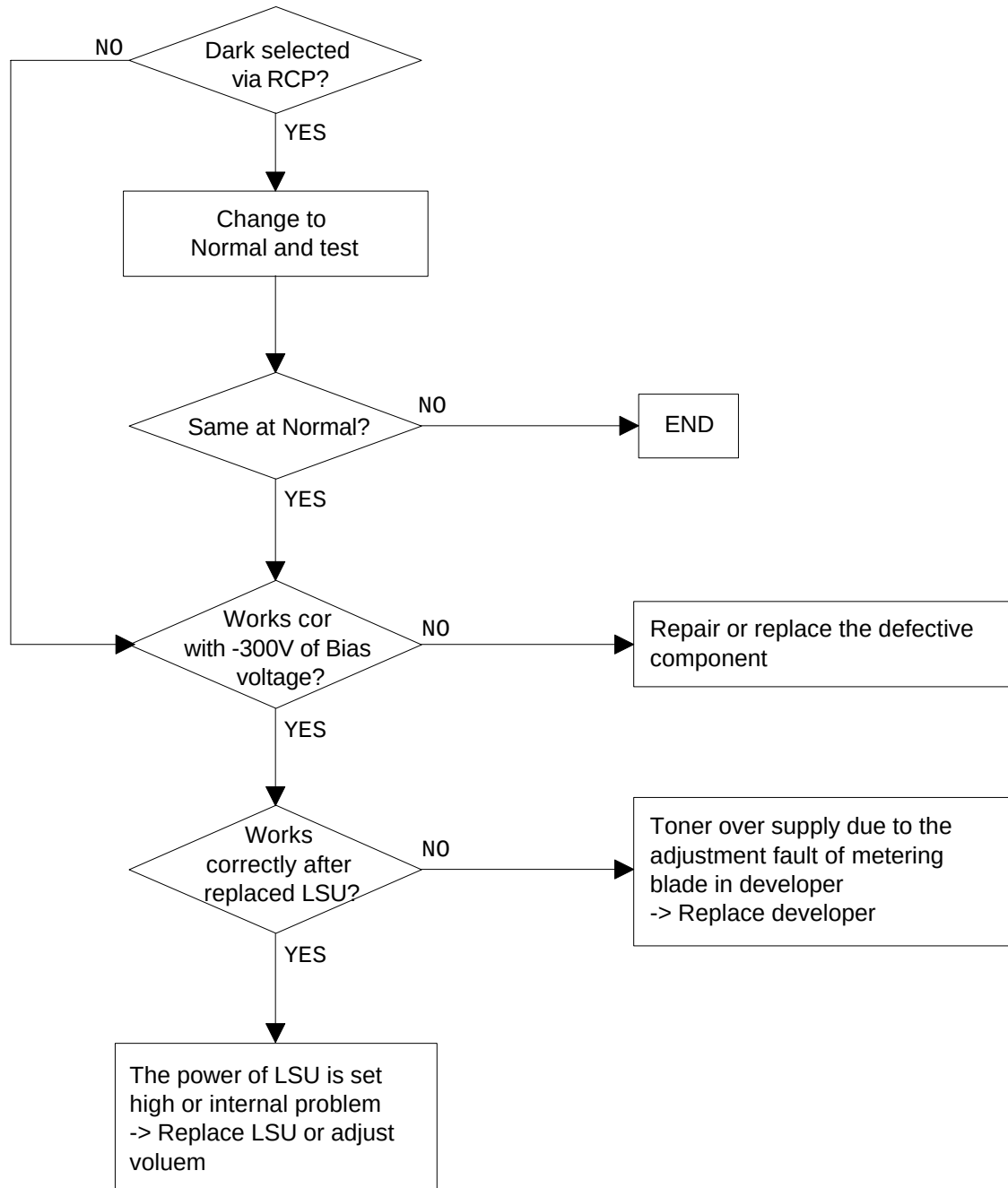


All Black

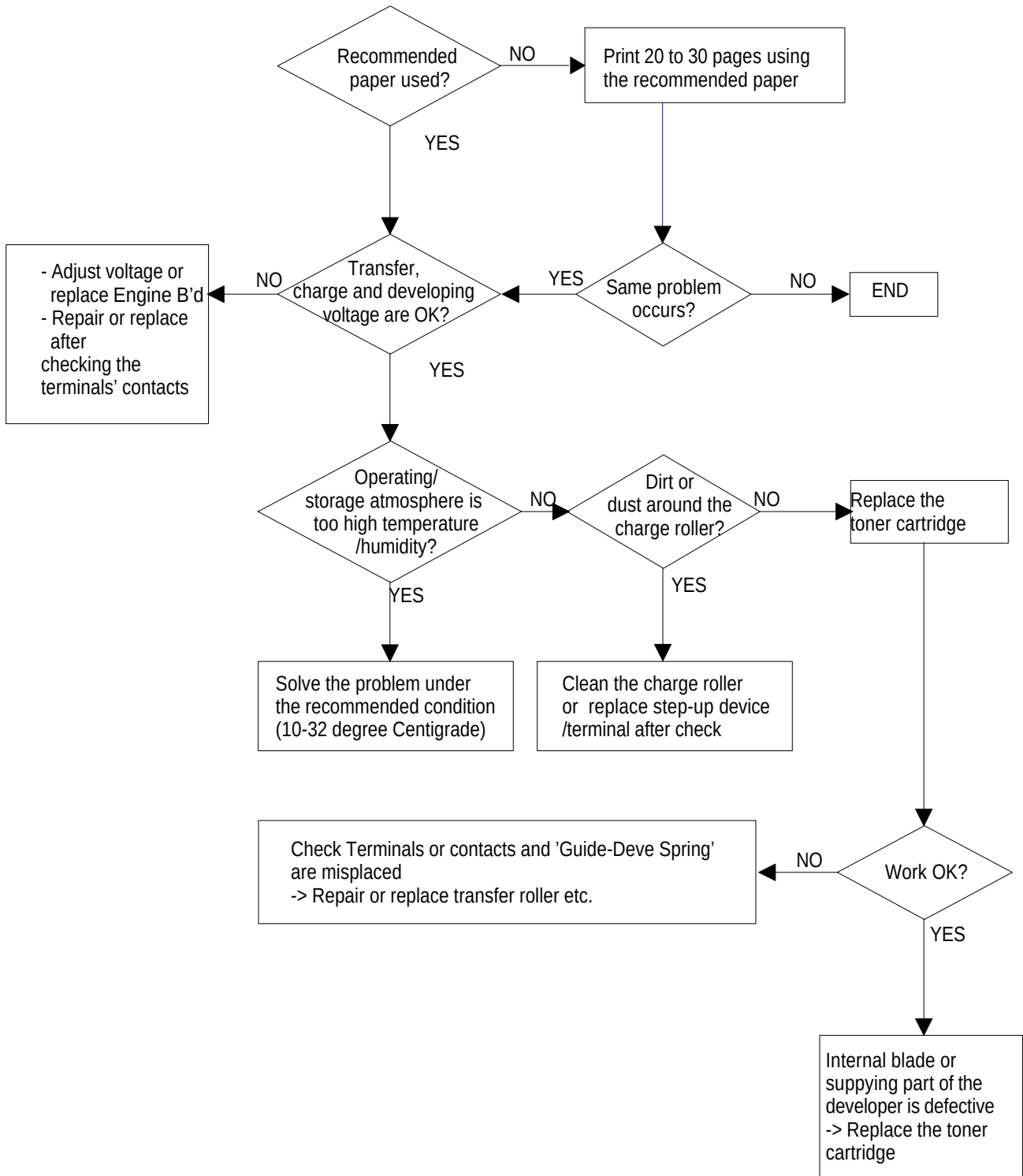
Vertical White Line (Band)



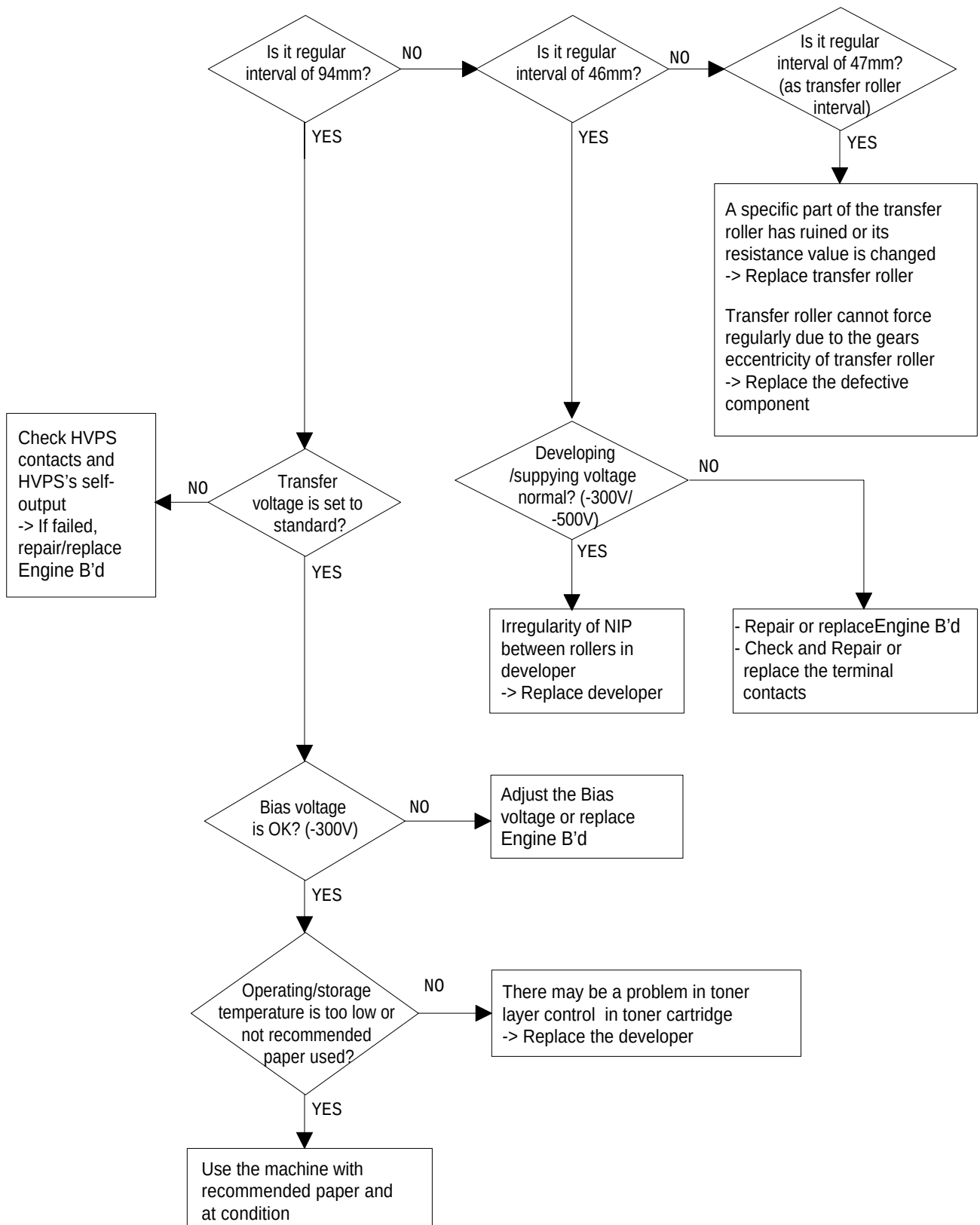
Dark Image



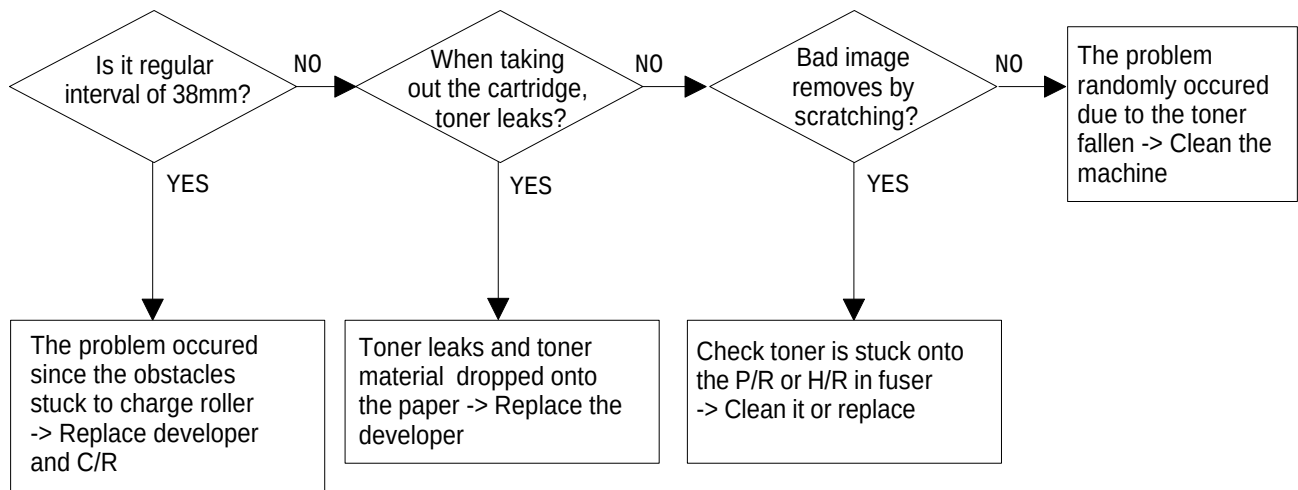
Background



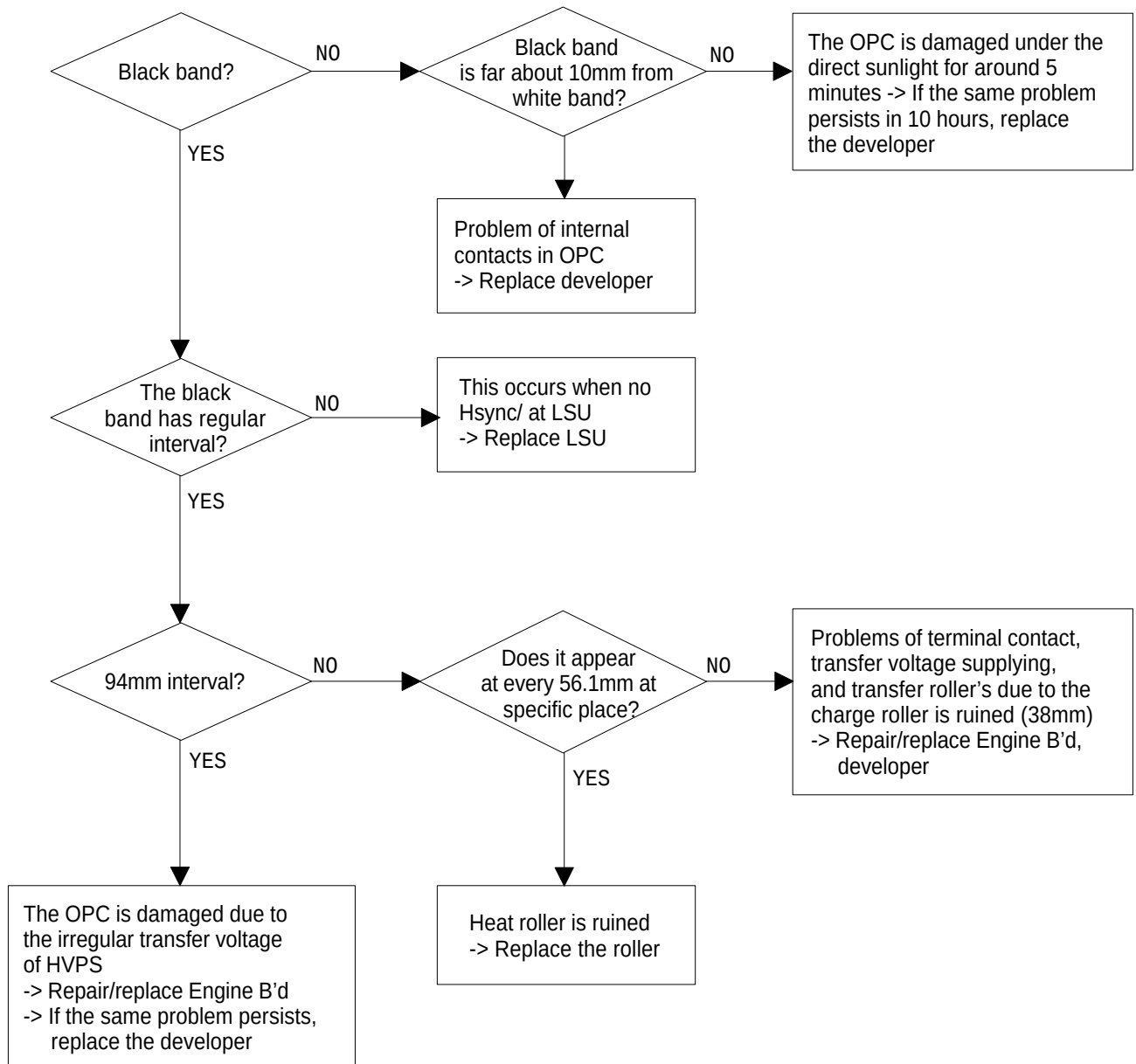
Ghost



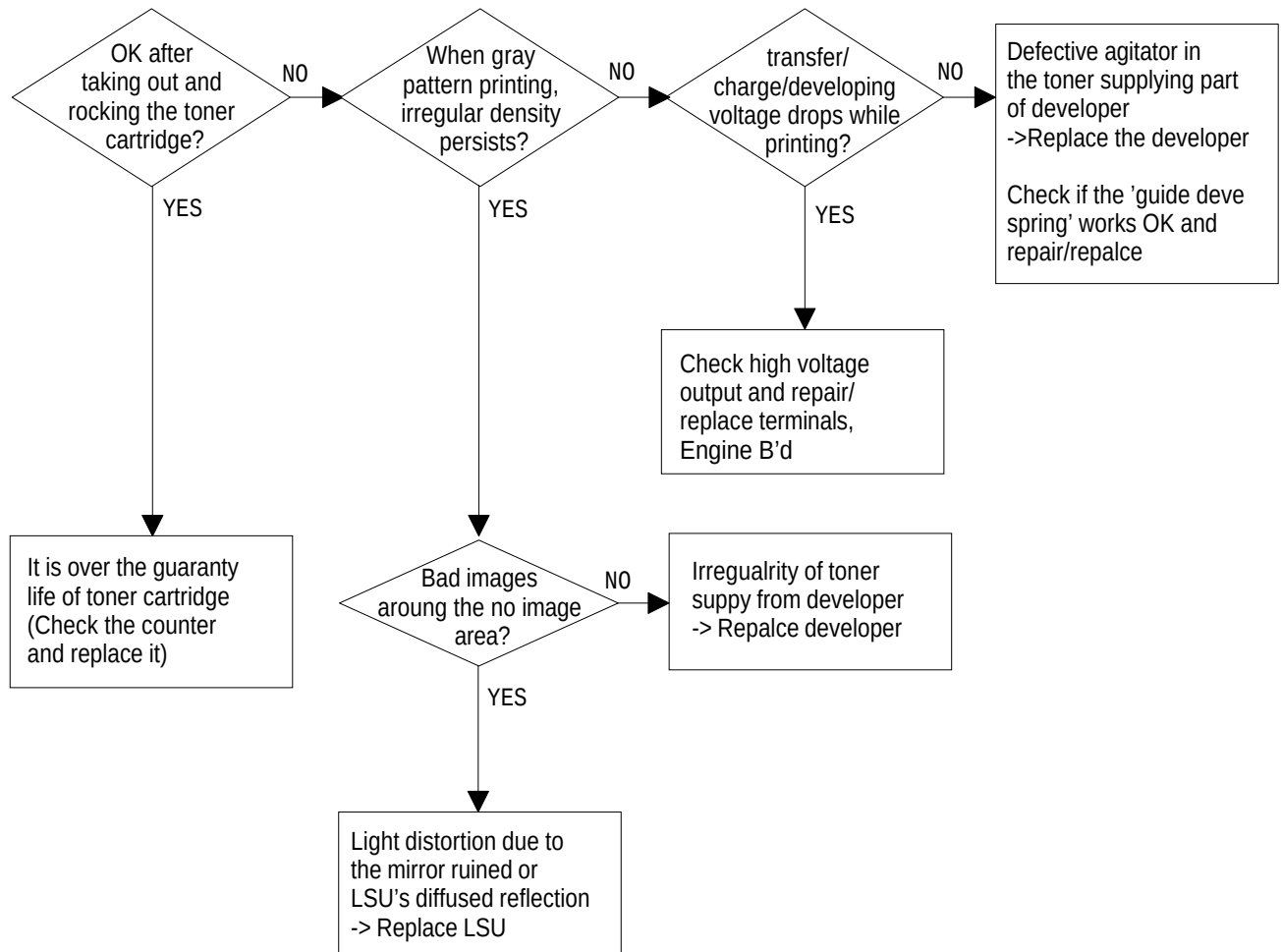
Black Dot



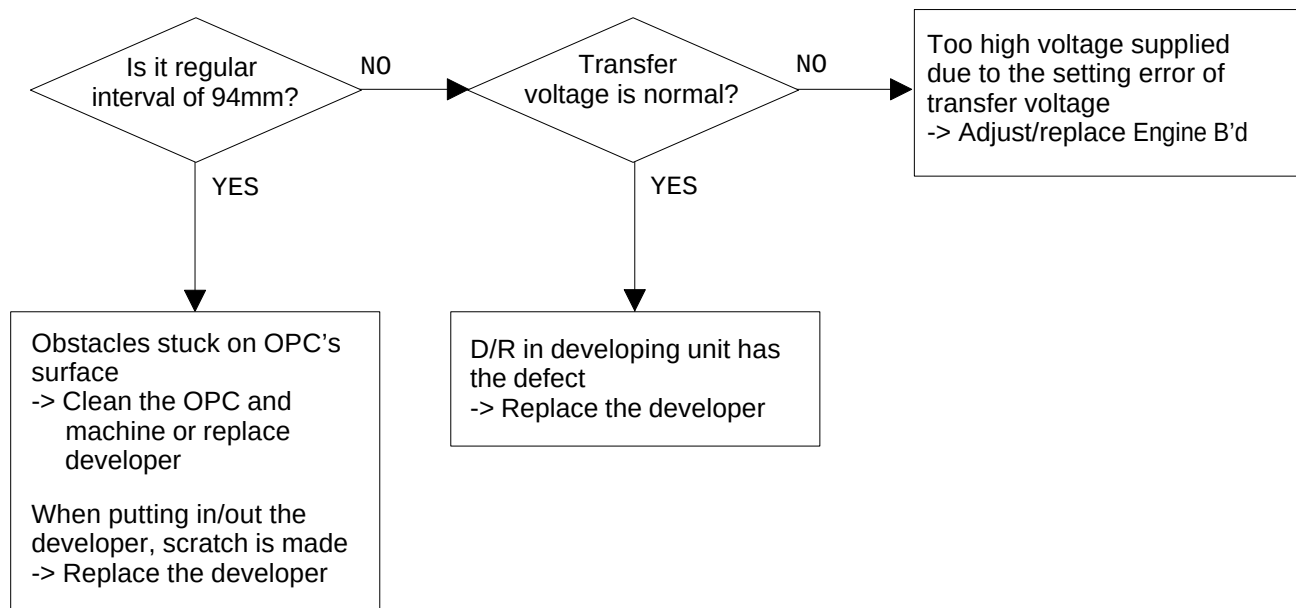
Horizontal Band



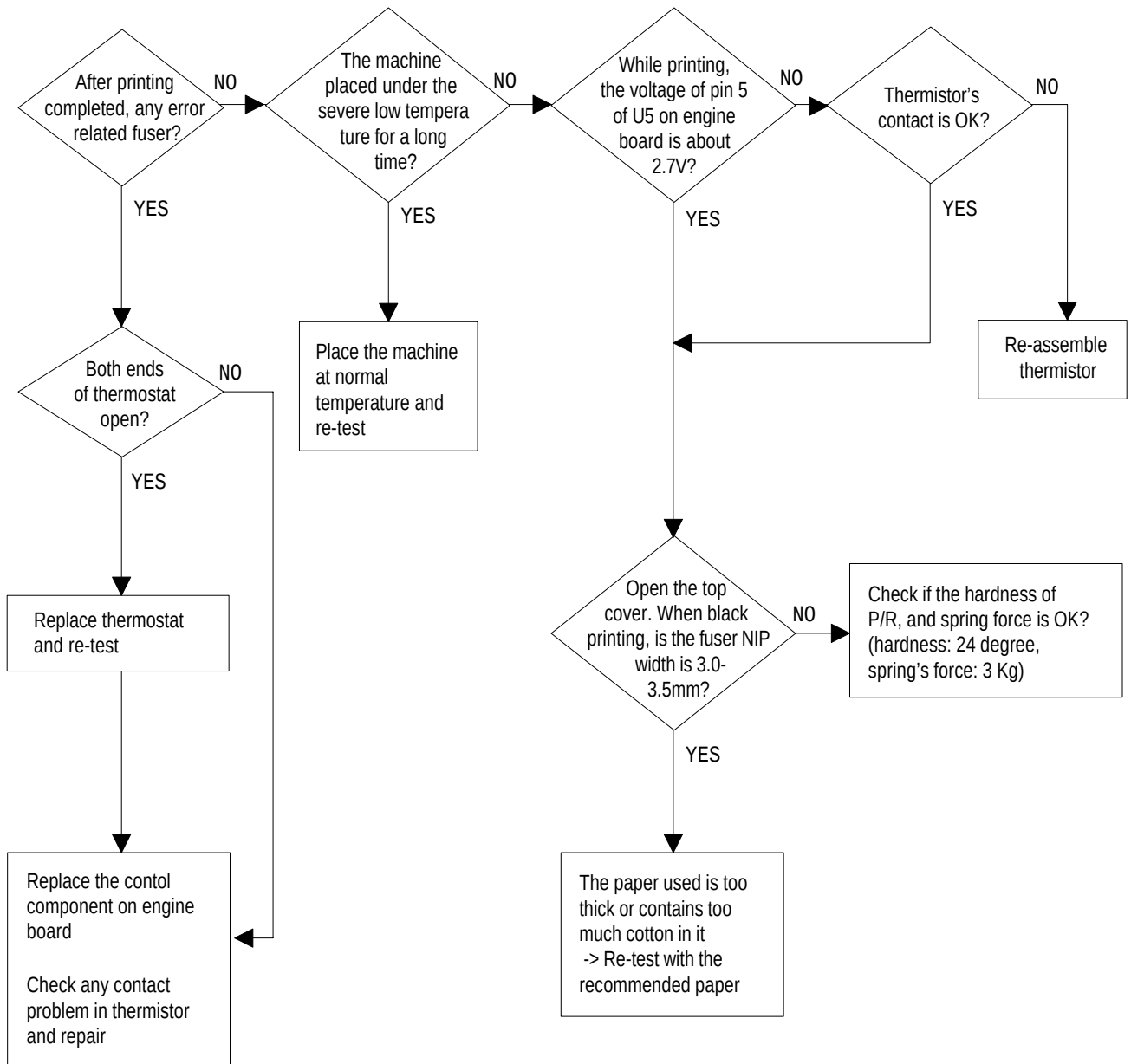
Irregular Density



White Spot



Poor Fusing Grade

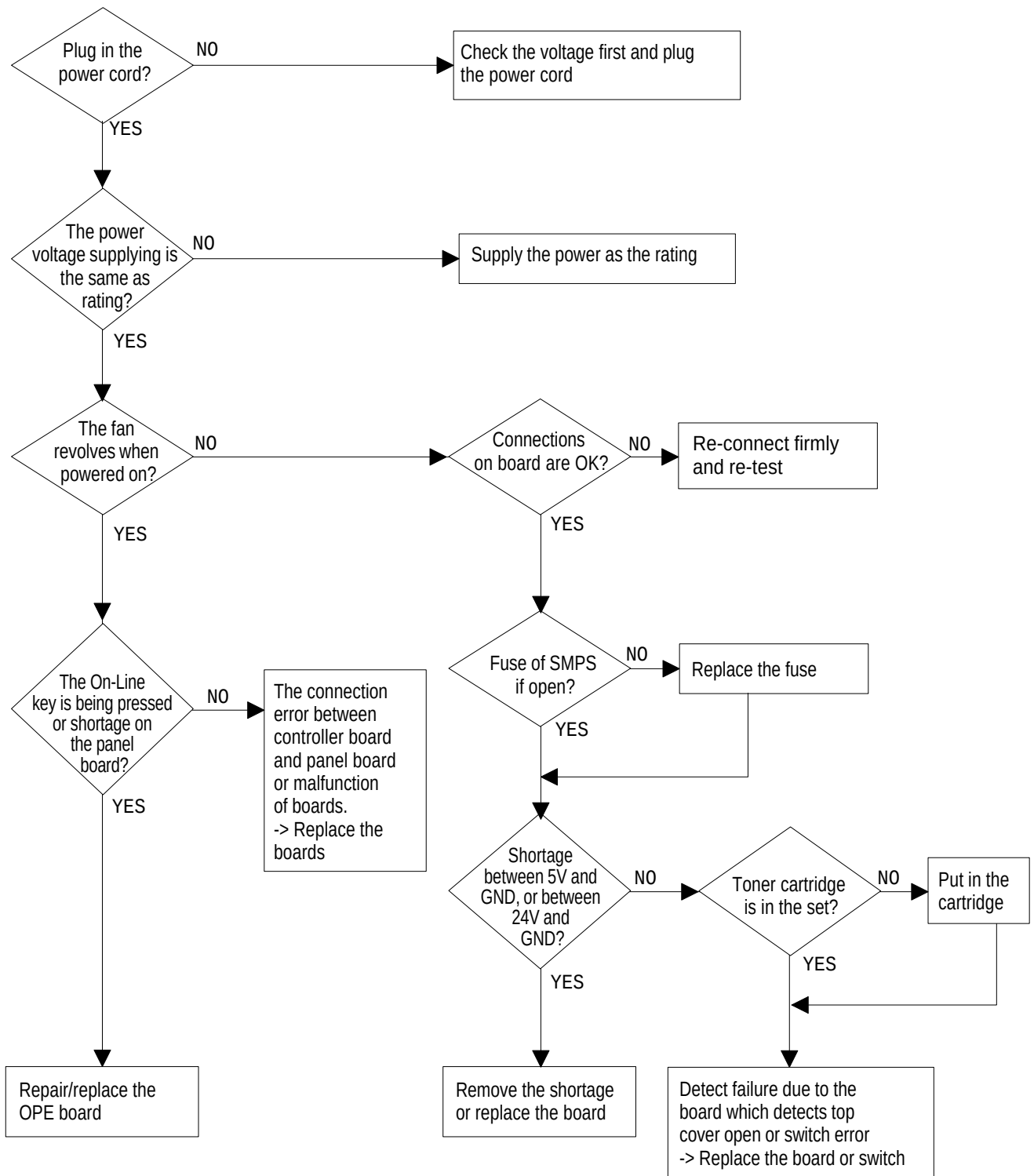


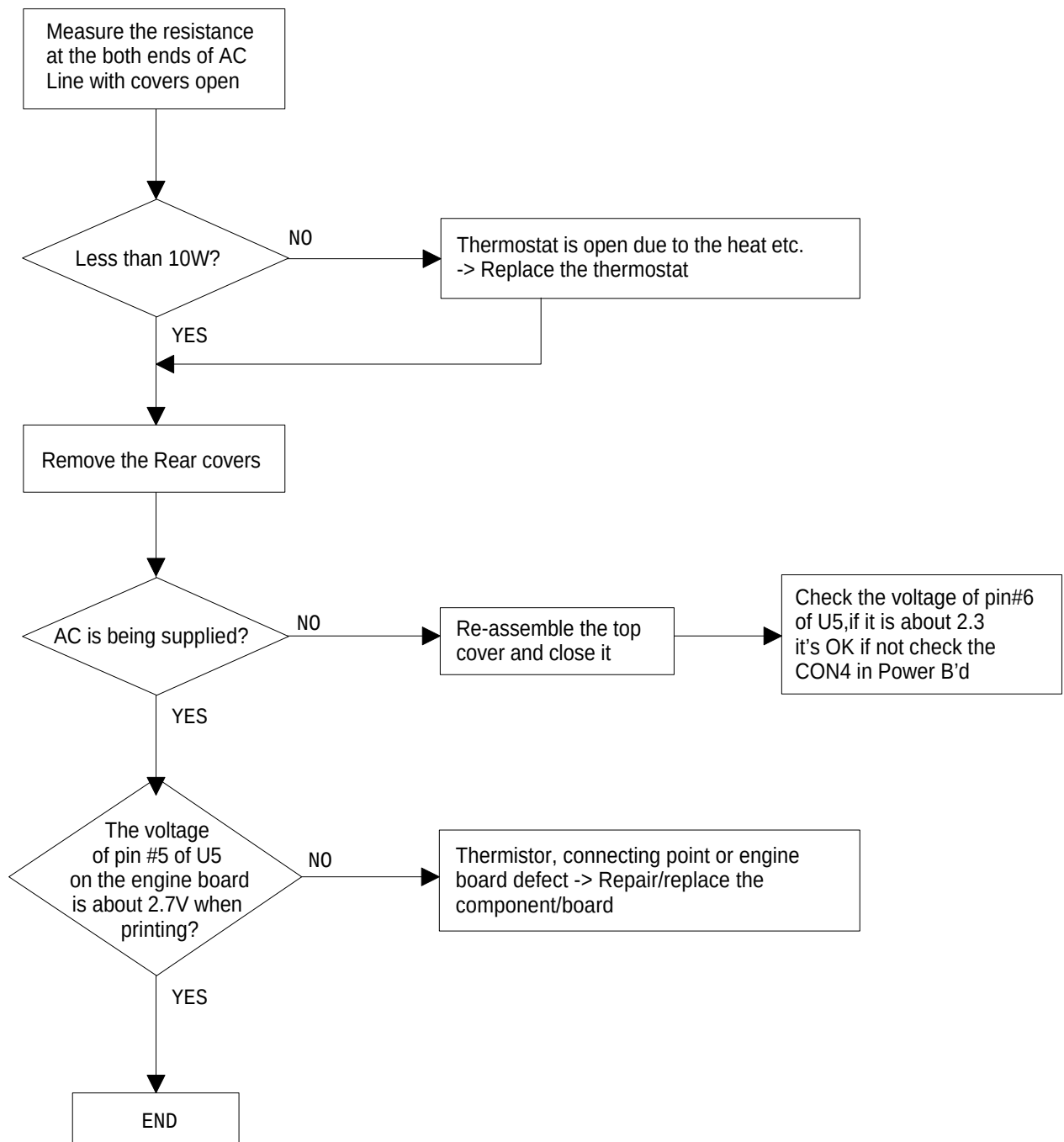
4-4 Malfunction

Error Status	Check	Solution
No power	1. Check power is supplying 2. Check fuse F1 open	1. If supplying power differs from machine's power rating, replace the machine. 2. Replace it.
Fuser Error	1. Thermostat open 2. AC wire open 3. Thermistor wire open 4. Engine Controller	1. Detach AC connector and measure the resistance between pin 1 and 2. If it is megohm, thermostat is open, Replace it. 2. Check bad connector contact or wire is cut. 3. Check thermistor wire and its connection. 4. Replace Engine board
Cover open	1. When close Top cover, check the lever is pressed 2. Micro switch's contact 3. CPU and related circuit	1. Open top cover and press the lever with pen. If Controller detects cover close, there is some mechanical trouble in top cover and lever's assembly. If not so there is electrical problem.
Jam 0	Check where Jam 0 happens 1. Paper is not picked up 2. Paper is located in feed sensor 3. Happened when inserting specific papers such as envelope into the MPF (Multipurpose Paper Feeder)? 4. Happened when inserting specific papers such as envelope into the Manual Feeder? 5. Is the Stacker Extender is folded out? 6. Does not the Guide Adjust distort the papers	1. Check whether solenoid is working or not by using Engine test mode #0 (Acoustic judgement) 2. Check feed sensor malfunction. Check if it is misplaced with paper width sensor. 3. Re-try inserting a fewer papers. •fan the papers and align •take out the loaded papers and insert them reverse direction 4. Take out the loaded papers and insert them reverse direction •inserted papers as recommended for Manual Feeding? •When loading, tap the papers until paper detect sensor senses loading 5. When using long papers, use the Stacker Extender 6. Adjust Guide to fit the paper width
Jam 1	Paper is stopped in just after of fuser unit.	1. It is mostly resulted from double feeding. Check paper is well stocked in feeder. 2. Check feed actuator position and actuator's operating. There may be stiff moving or double reflection. If not so, check the operation of feed sensor by Engine test mode #2. 3. Check exit lever operation. Remove jam and check actuator moving by hand. If actuator is too stiff, paper is wrapped around the heat roller. Remove obstacles or replace.

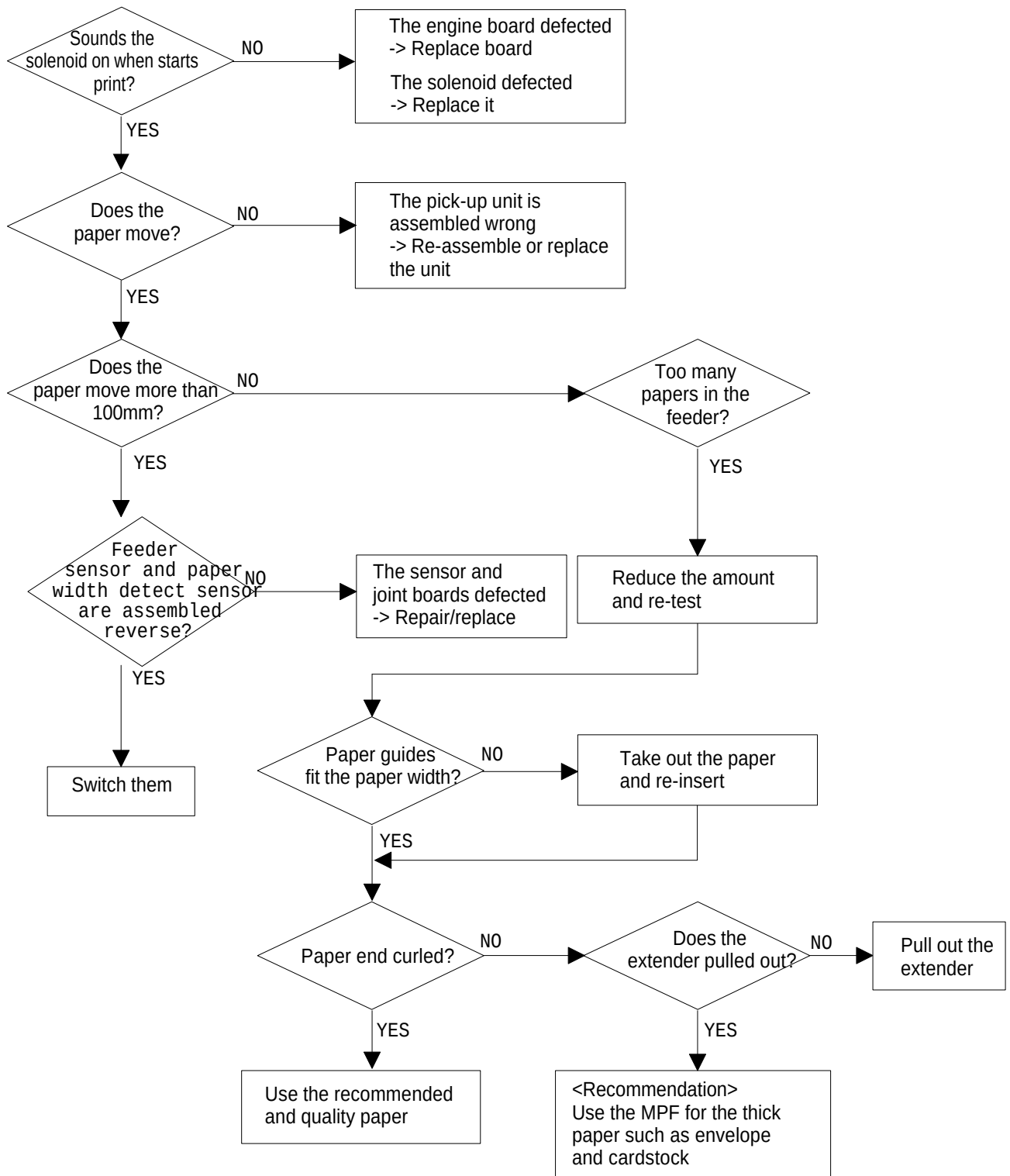
Error Status	Check	Solution
Jam 2	Check where Jam 2 happens 1. Paper is curled and cannot exit. 2. Paper is curled in the exit cover?.	1. Remove paper using pinset or some tool and watch if separate claws have any trouble. Clean around fuser. 2. Check locking works wells. Watch whether the ribs of exit cover hase any burr or resisitive edge. If they do, remove obstacles or replace.
Jam 2 at face-up tray	1. Tried to print and stack pages which are not allowed for specific paper type? 2. Does the too thin paper, which passed through the fuser, touch the Cover Fornt?	1. When using the thick paper such as envelope, card stock, label and OHP, one-sheet printing is recommended 2. To use thin paper, face-down is recommended
Clutch error	1. Check the spring of solenoid 2. Check the armature assembly/cushion 3. Electrical check	1. Check whether the spring is expanded or not. 2. Check armature is well installed. It may be unstable assemble.
High voltage error	1. Check the terminal output voltage 2. Check HVPS	1. Remove the Toner cartridge and open the cover and press cover open switch lever and measure the voltage with high voltage probe and sending printing data. If the voltage is normal, change the toner cartridge. 2. Check HV of in Engine B'd and change it.
Feeding obstacles	1. Does the black film in MPF prevent the paper loading? 2. Does the Plate-knockup prevent the paper loading?	1. Re-insert the film neatly into the front. When inserting it, the Plate-knockup needs to be aligned to the front. 2. Turn the power off and on. Open and close the Top cover to return to the original state.
Skew	Is the Guide adjust set to the paper width?	Fit the paper width using the Guide adjust.

Error Status	Check	Solution
Stacking	1. Took out the Stacker extender to support long papers? 2. Stacked too many papers more than Stacker can hold? 3. Face-up stacker does not neatly stack the papers and stack not in order.	1. Use extender as per the paper length. 2. The Face-up stacker normally can hold 150 pages when using 75g/m², however, stacking capacity can be lowered depending on the type of papers.
Engine Error	1. Check CBF Harness-5P/6P. (HVPS B'D to LSU) 2. Check CBF Harness-24P. (ENGINE B'D to HVPS B'D) 3. Check CBF Harness-20P. (ENGINE B'D to JOINT B'D)	Refer to troubleshooting "ENGINE ERROR".

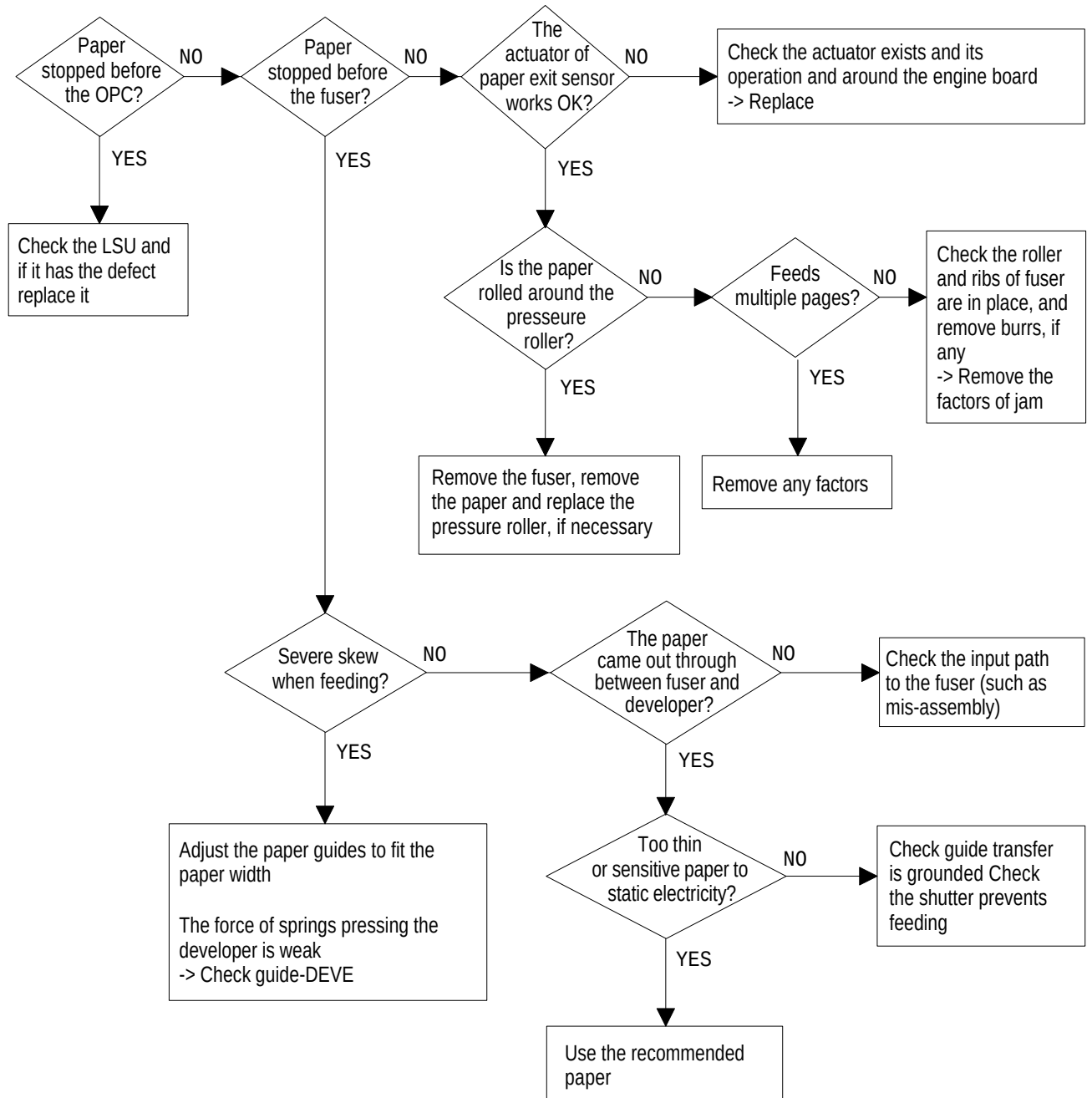
No Power (LCD NO display)

Fuser Error

Paper Jam (Mis-feeding)



Paper Jam (Jam1)



MEMO

Appendix Information

* Please refer to list

ELA HOU-TOP ASS'Y

SEC CODE	BYUER
JC96-01467A	Msys6800
JC96-01467B	Msys6750
JC96-01467F	SF-6800I/XEF
JC96-01467G	SF-6800I/XEG
JC96-01467E	SF-6800I/XEU

ELA HOU-MAIN B'D ASS'Y

SEC CODE	BYUER
JC96-01475A	Msys6800,
JC96-01475B	Msys6750
JC96-01475C	SF-6800I/XEF , SF-6800I/XEG , SF-6800I/XEU

PBA MAIN-MAIN

SEC CODE	BYUER
JC92-01136A	Msys6800
JC92-01136B	Msys6750 ,
JC92-01136C	SF-6800I/XEF , SF-6800I/XEG , SF-6800I/XEU

MPR-PAPER ADDRESS

SEC CODE	BYUER
JC74-00004A	Msys6800 , SF-6800I/XEU
JC74-00004B	Msys6750
JC74-00004D	SF-6800I/XEF
JC74-00004E	SF-6800I/XEG

PMO-COVER OPE

SEC CODE	BYUER
JC72-00095A	Msys6800 , Msys6750
JC72-00095E	SF-6800I/XEF
JC72-00095F	SF-6800I/XEG
JC72-00095D	SF-6800I/XEU

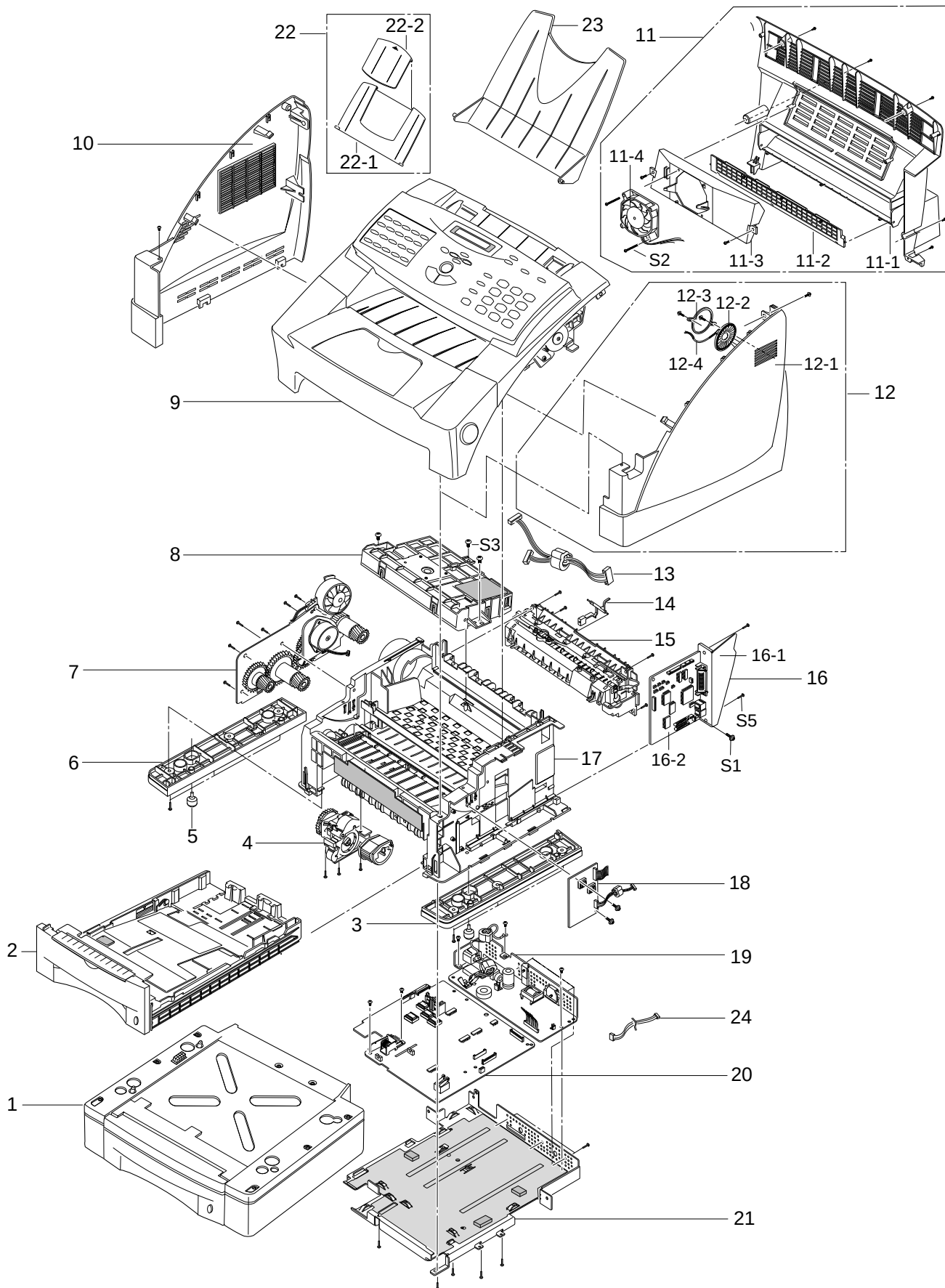
PBA-SUB LIU

SEC CODE	BYUER
JC92-01138A	Msys6800 , Msys6750
JC92-01138B	SF-6800I/XEF
JC92-01138D	SF-6800I/XEG , SF-6800I/XEU

5. Exploded Views and Parts Lists

- 5-1. Main Assembly
Main Assembly Parts Lists
- 5-2. Top Assembly
Top Assembly Parts Lists
- 5-3. OPE Unit Assembly
OPE Unit Assembly Parts Lists
- 5-4. Frame Assembly
Frame Assembly Parts Lists
- 5-5. Fuser Assembly
Fuser Assembly Parts Lists
- 5-6. TX Unit Assembly
TX Unit Assembly Parts Lists
- 5-7. Pick Up Assembly
Pick Up Assembly Parts Lists
- 5-8. Motor Assembly
Motor Assembly Parts Lists
- 5-9. PCU Assembly
PCU Assembly Parts Lists
- 5-10. Cassette Assembly
Cassette Assembly Parts Lists
- 5-11. Second Cassette Frame Assembly
Second Cassette Frame Assembly Parts Lists

5-1. Main Assembly



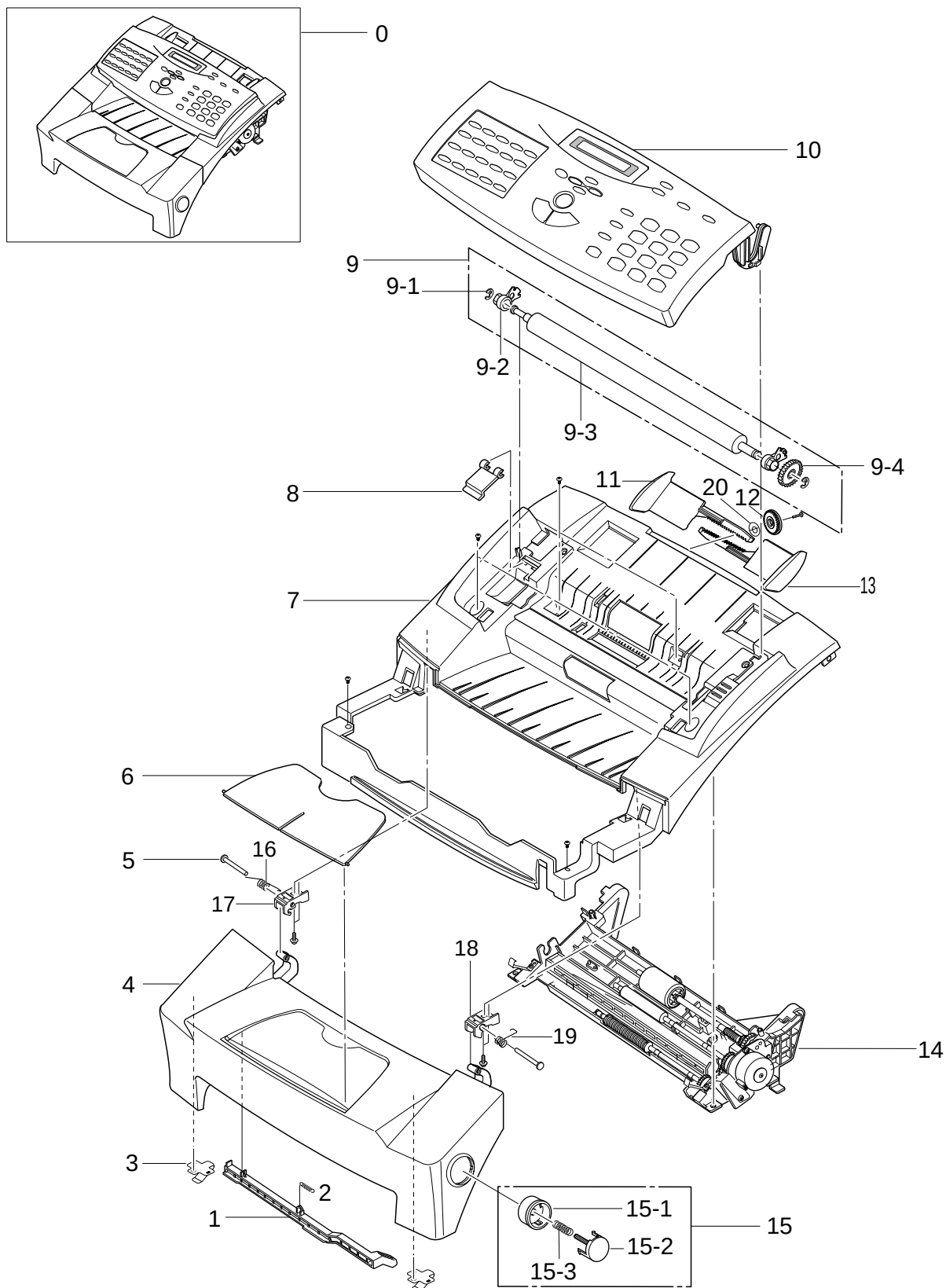
Main Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
1	ELA HOU-SCF (SF-6800)	JC96-01525A	1	Y	only Msys6800 A4 Letter
2	MEA UNIT-FEEDER CASSETTE	JC97-01077A	1	Y	
	MEA UNIT-FEEDER CASSETTE	JC97-01077B	1	Y	
3	PMO-BRKT BOTTOM R	*	1	N	
4	MEA RACK-FEEDER	JC97-01078A	1	Y	
5	FOOT-RUBBER	JC61-40001A	1	Y	
6	PMO-BRKT BOTTOM L	*	1	N	
7	ELA HOU-MOTOR MAIN	JC96-01544A	1	Y	
8	UNIT-LSU	JC59-10302E	1	Y	
9	ELA HOU-TOP ASS'Y	refer the information	1	Y	
10	PMO-COVER SIDE L	*	1	N	
11	ELA HOU-COVER REAR	JC96-01494A	1	Y	
11-1	PMO-COVER REAR	*	1	N	
11-2	PMO-DUMMY EXIT	*	1	N	
11-3	PMO-DUMMY FAN	*	1	N	
11-4	FAN-REAR COVER	JC31-00001A	1	Y	
12	ELA HOU-COVER SIDE R	*	1	N	
12-1	PMO-COVER SIDE R	*	1	N	
12-2	SPEAKER	3001-001044	1	Y	
12-3	IPR-UNIT FIXING BRAC	GB70-10500A	1	Y	
12-4	CBF HARNESS-SPK-MAIN	JC39-00028A	1	Y	110V 220V
13	CBF-HARNESS	JC39-40006A	1	Y	
14	PMO-ACTUATOR EXIT	JC72-40339A	1	Y	
15	ELA HOU-FUSER	JC96-01468A	1	Y	
	ELA HOU-FUSER	JC96-01468B	1	Y	
16	ELA HOU-MAIN B'D ASS'Y	refer the information	1	Y	
16-1	IPR-BRKT MAIN	JC70-00025A	1	Y	
16-2	PBA MAIN-MAIN	refer the information	1	Y	
17	ELA HOU-FRAME BASE	*	1	N	
18	PBA SUB-LIU	refer the information	1	Y	
19	SMPS-V1	JC44-00002A	1	Y	110V 220V
	SMPS-V2	JC44-00003A	1	Y	
20	PBA SUB-ENGINE	JC92-01137A	1	Y	
21	MEC-SHIELD ASS'Y	JC75-00065A	1	Y	
22	MEC-CHUTE ASS'Y	JC75-00029A	1	Y	
22-1	PMO-CHUTE	JC72-00092A	1	Y	
22-2	PMO-CHUTE (2)	JB72-00258A	1	Y	
23	PMO-STACKER RX	JC72-00091A	1	Y	
24	CBF HARNESS-ENGINE ZD	JC39-00019A	1	Y	
S1	SCREW-TAPTITE	*	1	N	
S2	SCREW-TAPTITE	*	2	N	
S3	SPECIAL SCREW	*	2	N	
S4	SCREW-TAPTITE	*	2	N	
S5	SCREW-MACHINE	*	2	N	

* Not Serviceable

5-2. Top Assembly



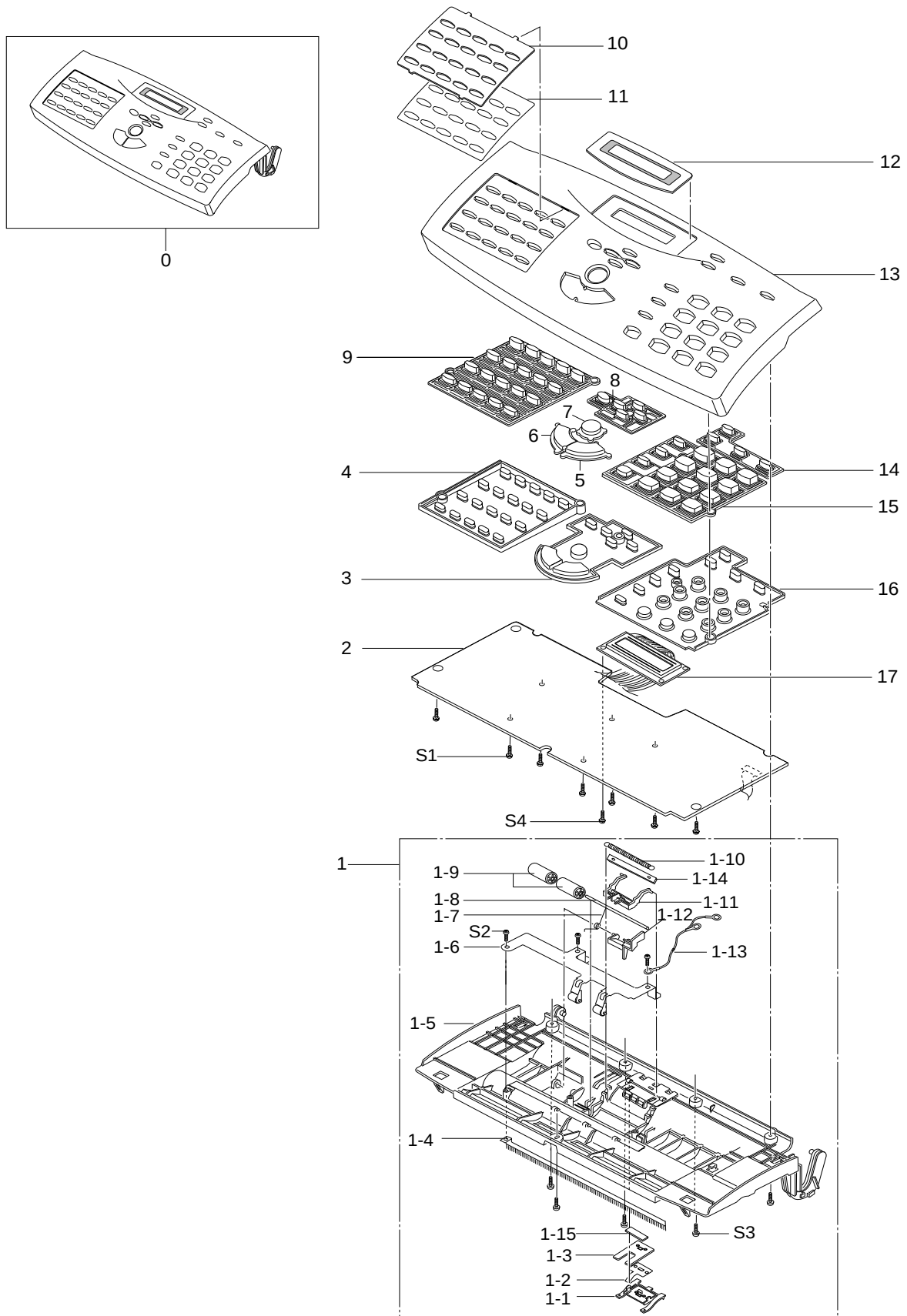
Top Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
0	ELA HOU-TOP ASS'Y	refer the information	1	Y	
1	PMO-LEVER HOOK	JC72-40325D	1	Y	
2	SPRING-ES	6107-000133	1	Y	
3	IPR-PLATE SPRING DEV	JC70-10223A	2	Y	
4	PMO-COVER FRONT	*	1	N	
5	IPR-SHAFT COVER OPEN	JC70-10228A	2	Y	
6	PMO-STACKER SUB	JG72-00182A	1	Y	
7	PMO-COVER MAIN	*	1	N	
8	PMO-SUPPORT OPE	*	1	N	
9	MEC-WHITE ROLLER6000	JG75-10538A	1	Y	
9-1	RING-C	6044-000159	2	Y	
9-2	PMO-BUSHING WHITE	JF72-41306A	2	Y	
9-3	MEC-ROLLER CIS	*	1	N	
9-4	PMO-GEAR DRIVE (B4)	JG72-40740A	1	Y	
10	ELA HOU-OPE ASS'Y	*	1	N	
11	PMO-DOC GUIDE L	JC72-41301E	1	Y	
12	GEAR-PINION	JG66-40003A	1	Y	
13	PMO-DOC GUIDE R	JC72-41300E	1	Y	
14	ELA HOU-SCAN LOWER	*	1	N	
15	MEA UNIT-BUTTON C/O	*	1	N	
15-1	PMO-BUTTON C/O HOUSING	*	1	Y	
15-2	PMO-BUTTON C/O	*	1	Y	
15-3	SPRING-OPEN, P	JC61-70975A	1	Y	
16	SPRING-FRONT COVER L	*	1	N	
17	HINGE-HSG L	JC61-80200B	1	Y	
18	HINGE-HSG R	JC61-80200A	1	Y	
19	SPRING-FRONT COVER R	*	1	N	
20	IOR-WASHER SPRING CU	*	1	N	

* Not Serviceable

5-3. OPE Unit Assembly



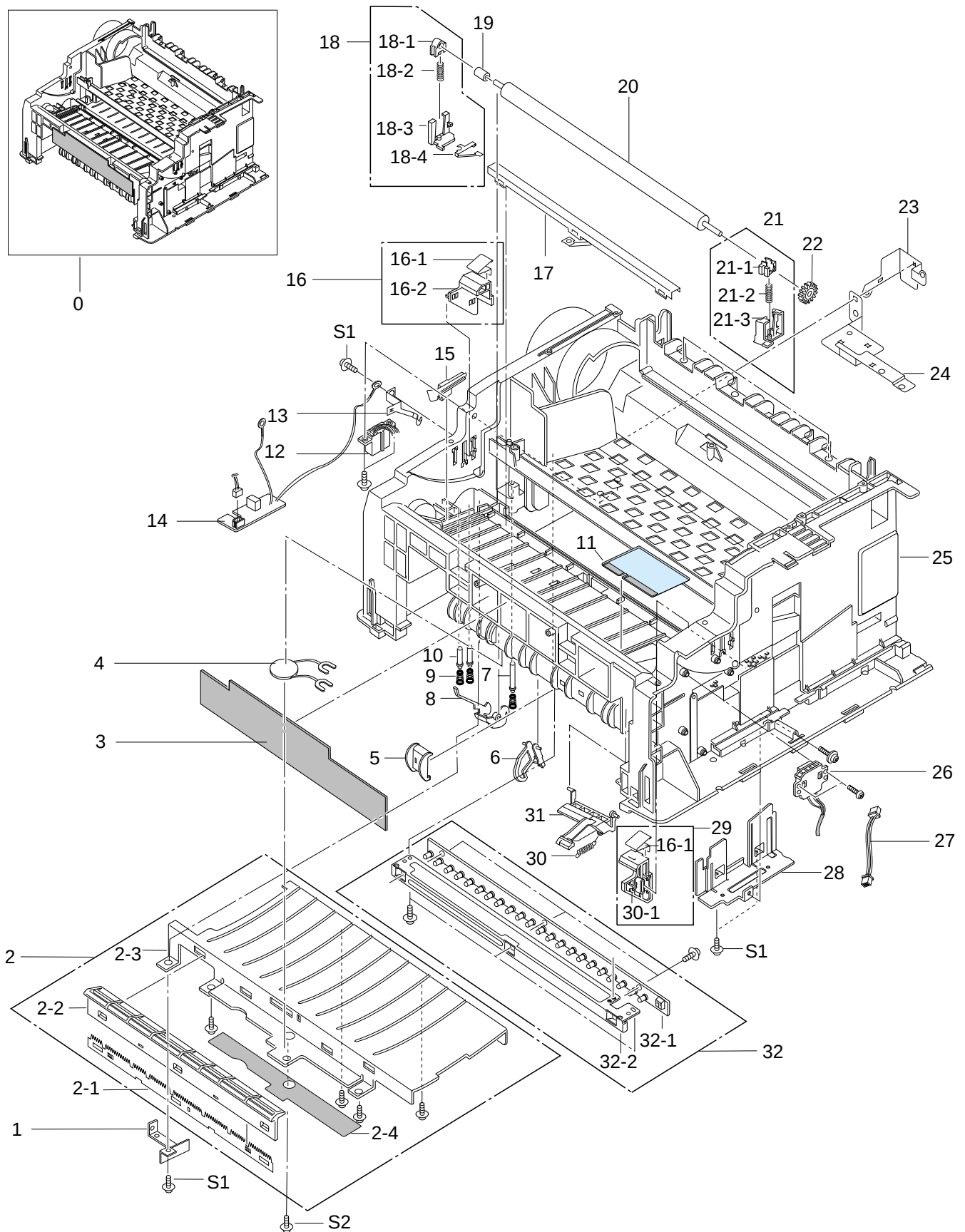
OPE Unit Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
0	ELA HOU-OPE ASS'Y	*	1	N	
1	ELA HOU-SCAN UPPER	*	1	N	
1-1	PMO-HOLDER RUBBER	JG72-40044A	1	Y	
1-2	PPR-SHEET ADF	JB72-10908A	1	Y	
1-3	RPR-RUBBER ADF	JG73-10003A	1	Y	
1-4	MEC-BRUSH ANTISTATIC	JG75-10004A	1	Y	
1-5	PMO-SCAN UPPER	*	1	N	
1-6	MEC-PINCH	JG75-10015A	1	Y	
1-7	SPRING-LEVER SENSOR	JC61-00007A	1	Y	
1-8	ICT-SHAFT PINCH	JF70-40521B	1	Y	
1-9	PMO-ROLL PINCH	JG72-40663A	2	Y	
1-10	ICT-SPRING COIL	JC61-00040A	1	Y	
1-11	PMO-SUPPORT ADF	JG72-41083A	1	Y	
1-12	PMO-LEVER SENSOR	JC72-41322A	1	Y	
1-13	CBF HARNESS-PINCH GND	JC39-00026A	1	Y	
1-14	RPR-SPONGE SDF	*	1	N	
1-15	MPR-TAPE ADF	*	1	N	
2	PBA SUB-OPE	JC81-00279A	1	Y	
3	RMO-RUBBER SCROLL	*	1	N	
4	RMO-RUBBER ONETOUCH	*	1	N	
5	PMO-KEY START	*	1	N	
6	PMO-KEY COPY	*	1	N	
7	PMO-KEY STOP	*	1	N	
8	PMO-KEY SCROLL	*	1	N	
9	PMO-KEY ONETOUCH	*	1	N	
10	MPR-COVER ADDRESS	*	1	N	
11	MPR-PAPER ADDRESS	refer the information	1	Y	
12	PCT-WINDOW LCD	*	1	N	
13	PMO-COVER OPE	refer the information	1	Y	
14	PMO-KEY MODE	*	1	N	
15	PMO-KEY TEL	*	1	N	
16	RMO-RUBBER TEL	*	1	N	
17	DISPLAY LCD	JG07-20001A	1	Y	
S1	SCREW-TAPTITE, FOR OPE	*	7	N	
S2	SCREW-TAPTITE, FOR PINCH	*	3	N	
S3	SCREW-TAPTITE	*	5	N	
S4	SCREW-TAPTITE, FOR LCD	*	1	N	

* Not Serviceable

5-4. Frame Assembly



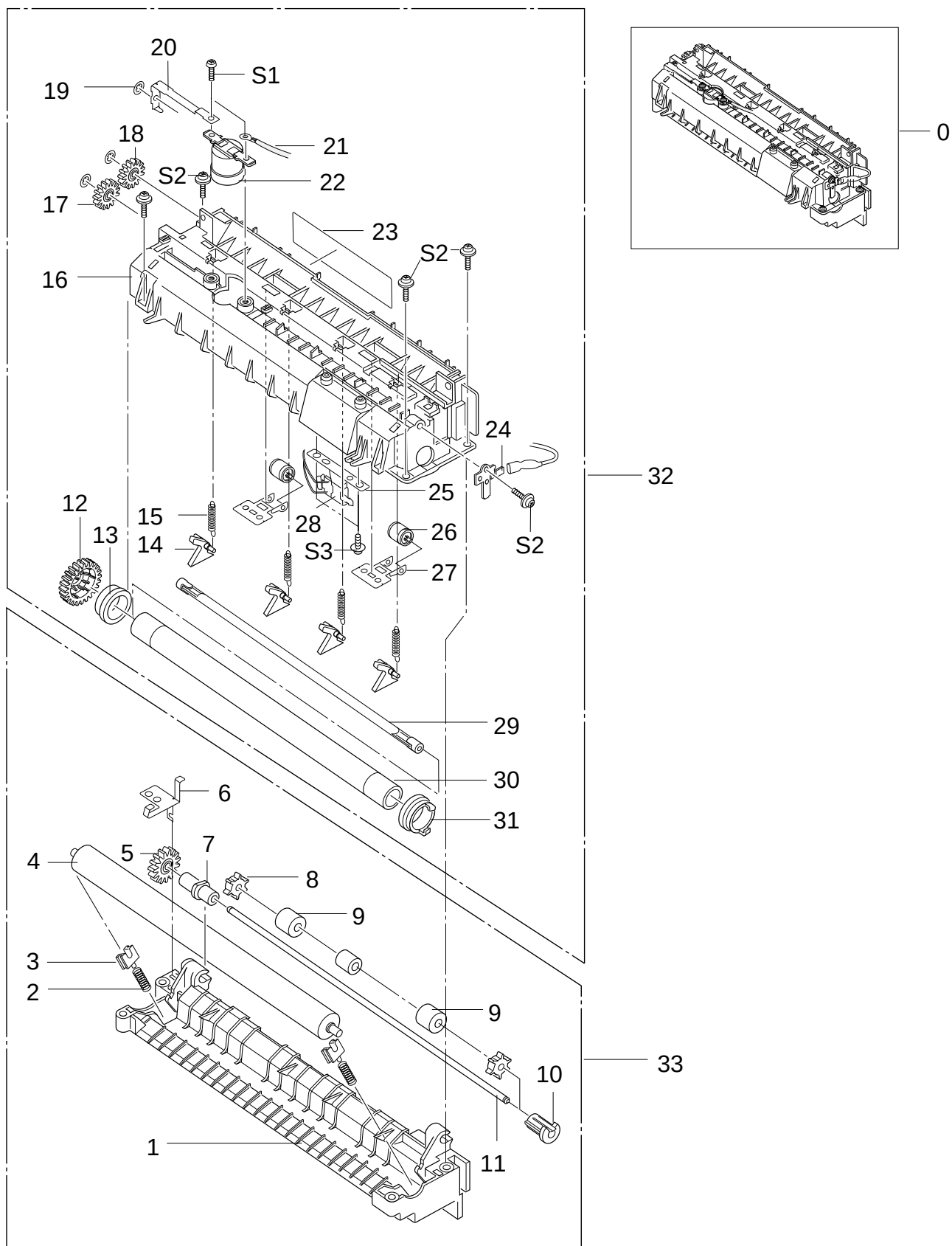
Frame Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
0	ELA HOU-FRAME BASE	*	1	N	
1	IPR-GROUND PLATE MOT	JC70-10013A	1	Y	
2	ELA ETC-TRANSFER, GUI	JC96-00281A	1	Y	
2-1	IPR-PLATE SAW	JC70-10232A	1	Y	
2-2	PMO-HOLDER SAW PLATE	JC72-40247A	1	Y	
2-3	IPR-GUIDE TRANSFER	JC70-10220A	1	Y	
2-4	PPR-FILM INSULATOR G	JC72-10002A	1	Y	
3	PMO-SHEET, COVER OPC	JC72-40909A	1	Y	
4	VARISTOR	1405-000152	1	Y	
5	PMO-PMO GUIDE SKEW	JC72-40369A	1	Y	
6	PMO-ACTUATOR EMPTY.	JC72-40225A	1	Y	
7	CONNECTOR-TERMINAL	3712-000166	1	Y	
8	PMO-ACTUATOR FEED	JC72-40226A	1	Y	
9	SPRING-CS	6107-000104	3	Y	
10	CONNECTOR-TERMINAL	3712-000165	2	Y	
11	PCT-FILM PATH	JC72-00066A	1	Y	
12	CBF HARNESS-SECOND	JC39-00035A	1	Y	
13	IPR-GND OPC	JC70-10217A	1	Y	
14	ELA-UNIT ZENER BD	JC96-01023A	1	Y	
15	IPR-BRKT DUST	JC70-10019A	1	Y	
16	ELA HOU-DEVELOPER, GU	JC96-00290A	1	Y	
16-1	SPRING-PS, G/DEV	JC61-70001A	2	Y	
16-2	PMO-GUIDE DEV, L	JC72-40274A	1	Y	
17	GROUND-TRANSFER PLATE	JC70-10215B	1	Y	
18	MEA ETC-TRANSFER, HOL	JC97-00901A	1	Y	
18-1	PMO-BUSH	JC72-40228A	1	Y	
18-2	SPRING-CS	6107-000115	1	Y	
18-3	BEARING-HOLDER TR	JC66-10204A	1	Y	
18-4	SPRING-PLATE TR	JC61-70203A	1	Y	
19	PMO-SPACER TR	JC72-40686A	1	Y	
20	MEC-ROLLER TRANSFER	JC75-10916A	1	Y	
21	MEC-TRANSFER HOL R	JC75-00067A	1	Y	
21-1	PMO-BUSHING TR12 (R)	JC72-41060A	1	Y	
21-2	SPRING-CS	JC61-00037A	1	Y	
21-3	PMO-HOLDER TR R (12)	JC72-41062A	1	Y	
22	GEAR-TRANSFER	JC66-40380A	1	Y	
23	IPR-EARTH PLATE, FU	JC70-10911A	1	Y	
24	IPR-GROU PLATE G/TR	JC70-10008A	1	Y	
25	PMO-BASE FRAME2	JC72-40314B	1	Y	
26	ASS'Y, SOCKET-CONTACT	JC96-70001J	1	Y	
27	CBF HARNESS MAIN-LIU (5P)	JC39-00023A	1	Y	
28	IPR-GROUND ICU	JC70-10006A	1	Y	
29	ELA HOU-DEVELOPER, GU	JC96-00291A	1	Y	
29-1	PMO-GUIDE DEV, R	JC72-40275A	1	Y	
30	SPRING-CVR OPEN (12)	JC61-70964A	1	Y	
31	PMO-ACTUATOR C/O	JC72-40269A	1	Y	
32	ELA UNIT-ERASE LAMP	*	1	N	
32-1	PCB-QUENCH	*	1	N	
32-2	IPR-BRKT ERASE	JC70-10002A	1	Y	
S1	SCREW-TAPTITE	*	10	N	
S2	SCREW-TAPTITE M3, L6	*	1	N	

* Not Serviceable

5-5. Fuser Assembly



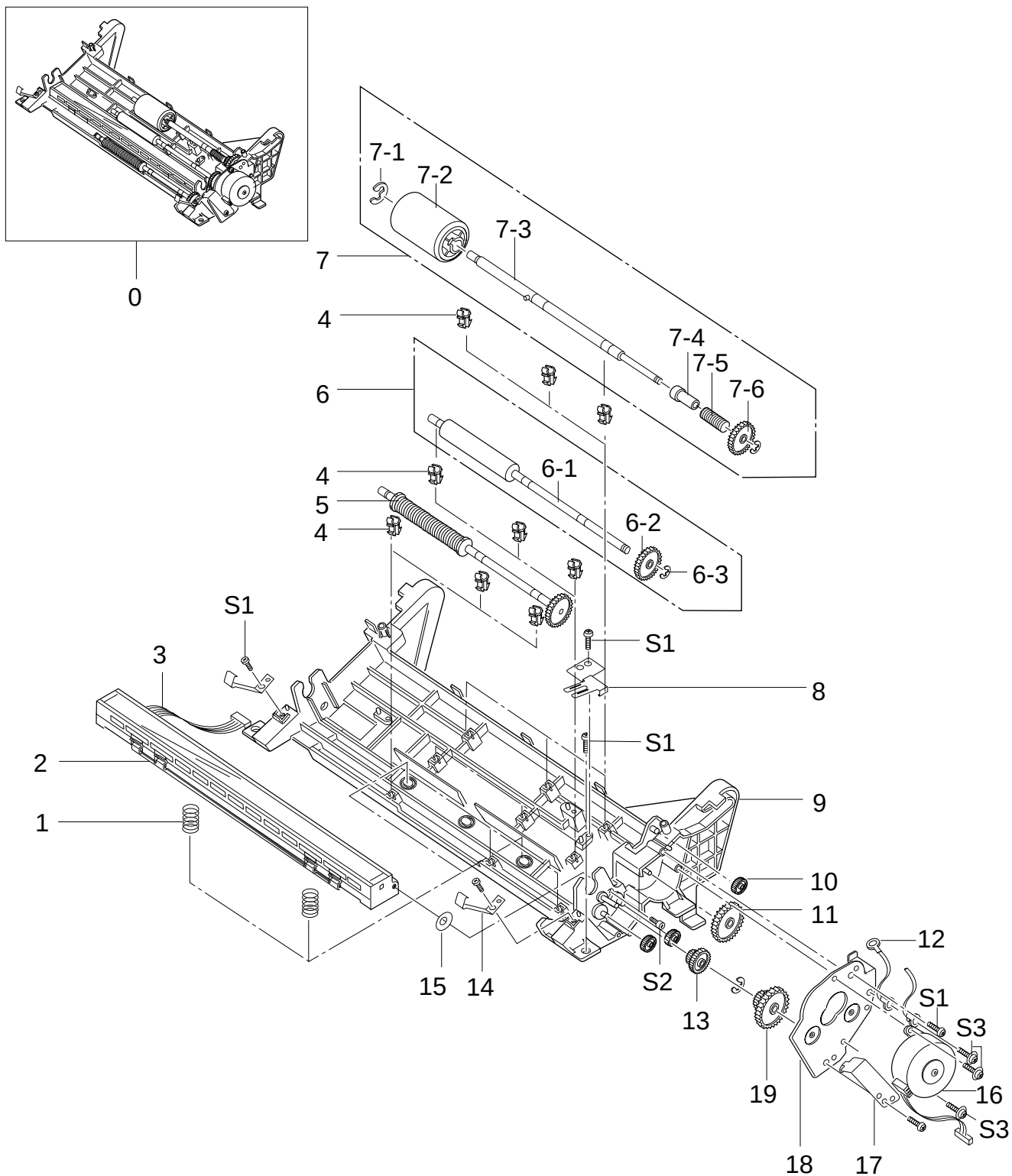
Fuser Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
0	ELA HOU-FUSER	JC96-01468A	1	Y	110V
	ELA HOU-FUSER	JC96-01468B	1	Y	220V
1	PMO-FRAME LOWER FUSER	*	1	N	
2	SPRING-CS	*	2	N	
3	BEARING-PRESSURE R	*	2	N	
4	UNIT/PRESSURE ROLLER	*	1	N	
5	GEAR-EXIT	*	1	N	
6	IPR-GROUND PLATE, FU	*	1	N	
7	BEARING-EXIT FU L	*	1	N	
8	RMO-RUBBER EXIT K	*	2	N	
9	RMO-RUBBER EXIT	*	2	N	
10	BEARING-EXIT FU	*	1	N	
11	ICT-SHAFT EXIT	*	1	N	
12	GEAR-FUSER	*	1	N	
13	BEARING-H/R L	*	1	N	
14	PMO-GUIDE CLAW	*	4	N	
15	SPRING-ES	*	4	N	
16	PMO-FRAME UPPER FUSER	*	1	N	
17	GEAR-EXIT/U ID	*	1	N	
18	GEAR-EXIT/L ID	*	1	N	
19	RING-CS	*	3	N	
20	NPR-ELECTRODE FU L	*	1	N	
21	CBF HARNESS	JC39-40019A	1	Y	110V
	CBF HARNESS	JC39-40007A	1	Y	220V
22	THERMOSTAT	*	1	N	
23	LABEL (R)-HOT FU	*	1	N	
24	NPR-ELECTRODE FU R	*	1	N	
25	SPRING-THERMIST	*	1	N	
26	PMO-ROLLER EXIT F/UP	JC72-40342A	2	Y	
27	SPRING-PS, EXIT F/UP	*	2	N	
28	THERMISTOR-NTC	1404-000001	1	Y	
29	LAMP-HALOGEN	4713-000001	1	Y	110V
	LAMP-HALOGEN	4713-000002	1	Y	220V
30	NEX-H/ROLLER	*	1	N	
31	BEARING-H/R R	*	1	N	
32	ELA-HOU-FUSER UPPER	JC96-01470A	1	Y	
33	ELA-HOU-FUSER LOWER	JC96-01469A	1	Y	
S1	SCREW-MACHINE	*	2	N	
S2	SCREW-TAPTITE	*	5	N	
S3	SCREW-TAPTITE	*	2	N	

* Not Serviceable

5-6. TX Unit Assembly



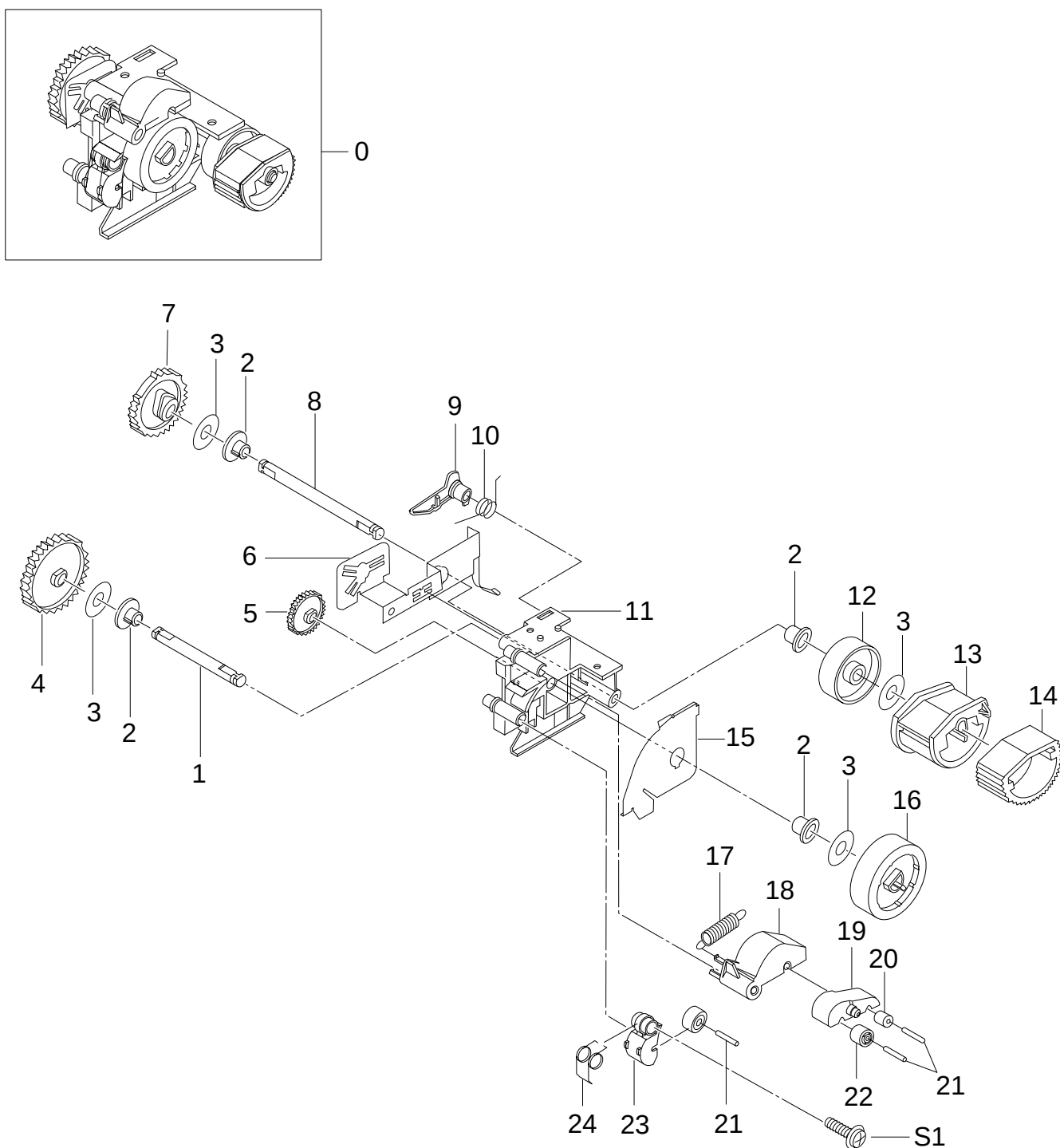
TX Unit Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
0	ELA HOU-SCAN LOWER	*	1	N	
1	SPRING-CIS (CANON)	JG61-70533A	2	Y	
2	CONTACT IMAGE SENSOR	0609-001103	1	Y	
3	CBF HARNESS-CIS-MAIN	JC39-00025A	1	Y	
4	PMO-BUSHING TX (B4)	JG72-40744A	9	Y	
5	PMO-SHAFT EXIT	JG72-40042A	1	Y	
6	MEC-DRIVE ROLLER	*	1	N	
6-1	MEC-ROLLER DRIVE6000	*	1	N	
6-2	PMO-GEAR DRIVE (B4)	JG72-40740A	1	Y	
6-3	RING-C	6044-000159	3	Y	
7	MEC ETC-ADF ROLLER	*	1	N	
7-1	RING-C	6044-000156	1	Y	
7-2	MEC-ROLLER ADF	JG75-10016A	1	Y	
7-3	ICT-SHAFT ADF	JG70-40547A	1	Y	
7-4	PMO-BUSHING HOLDER	JG72-40732A	1	Y	
7-5	ICT-SPRING CLUTCH	JG70-40534A	1	Y	
7-6	PMO-GEAR ADF	JG72-40659A	1	Y	
8	IPR-GROUND DRIVE	JG70-10006A	1	Y	
9	PMO-SCAN LOWER	*	1	N	
10	GEAR-SPUR	JG66-40001A	3	Y	
11	GEAR-IDLE4920	JG66-40040A	1	Y	
12	CBF HARNESS-EARTH (CIS)	*	1	N	
13	GEAR-IDLE3315	JG66-40041A	1	Y	
14	LOCKER-TX	JG64-30001A	2	Y	
15	IPR-WASHER SPRING CU	JF70-10616A	1	Y	
16	MOTOR-STEP	3101-001197	1	Y	
17	IPR-GROUND CIS	*	1	N	
18	IPR-BRKT MOTER	JC70-11060A	1	Y	
19	PMO-GEAR TRANS (B4)	JG72-40741A	1	Y	
S1	SCREW-TAPTITE	*	6	N	
S2	SPECIAL SCREW	JG60-10001A	2	Y	
S3	SCREW-TAPTITE	*	3	N	

* Not Serviceable

5-7. Pick Up Assembly



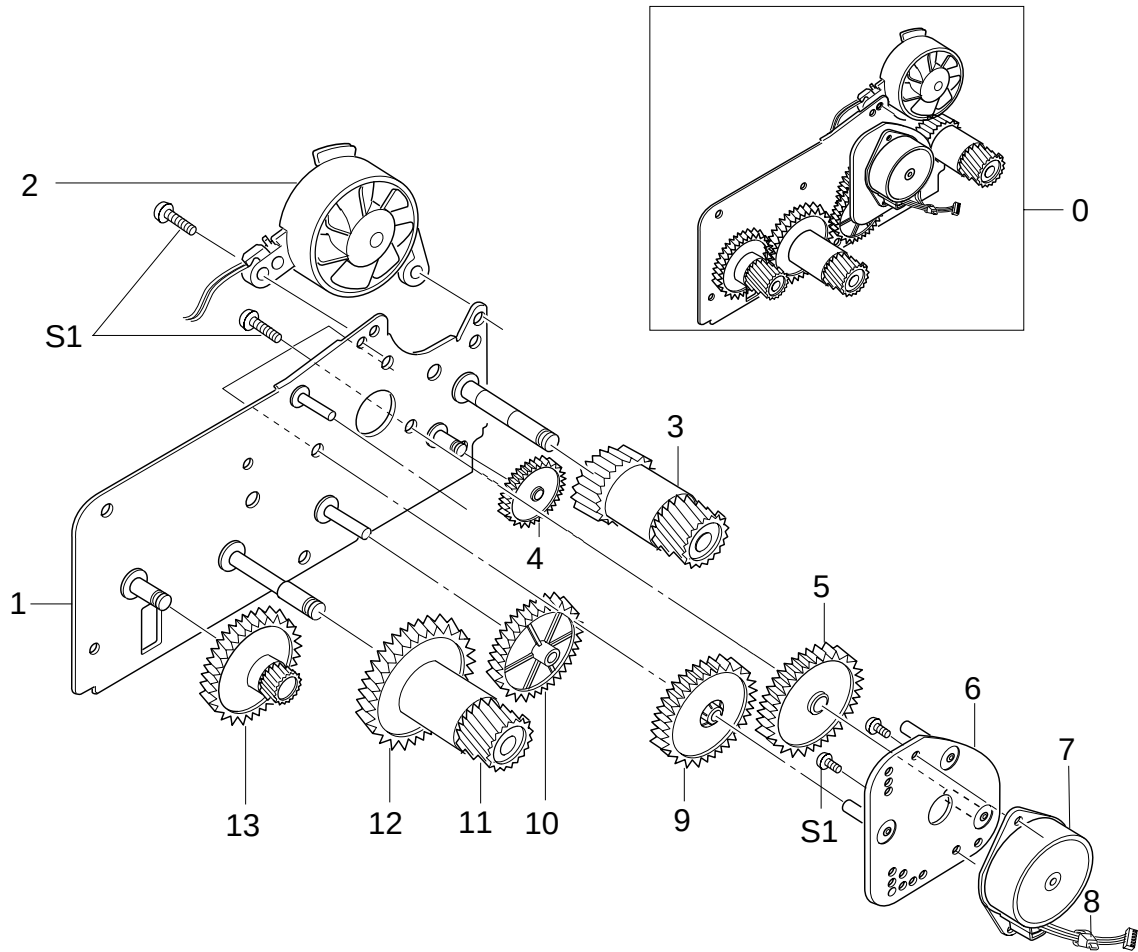
Pick Up Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
0	MEA RACK-FEEDER	JC97-01078A	1	Y	
1	IPR-SHAFT FEED	JC70-10229A	1	Y	
2	BEARING-PICK UP	JC66-10202A	4	Y	
3	WASHER-PLAIN	*	4	N	
4	GEAR-FEED	JC66-40375A	1	Y	
5	GEAR-PICK UP (12)	JC66-40958A	1	Y	
6	IPR-GND FEED	JC70-10991A	1	Y	
7	GEAR-P/UP DRIVE	JC66-40219A	1	Y	
8	IPR-SHAFT PICK UP	JC70-10231A	1	Y	
9	PMO-LEVER PICK UP	JC72-41339A	1	Y	
10	SPRING-PICK UP (12)	JC61-70966A	1	Y	
11	PMO-FRAME FEED	*	1	N	
12	PMO-IDLE PICK UP	JC72-41234A	1	Y	
13	PMO-HOUSING P/UP	JC72-40252A	1	Y	
14	PMO-RUBBER PICK UP	JC73-40907A	1	Y	
15	IPR-GUIDE FEED	JC70-10992A	1	Y	
16	PMO-ROLL FEED, DRV 12	JC72-41295A	1	Y	
17	SPRING-FEED (2)	JC61-70942A	1	Y	
18	PMO-HOLDER FEED (2)	JC72-41185A	1	Y	
19	PMO-SUB HOLDER FEED	JC72-40266A	1	Y	
20	PMO-ROLLER FEED S	JC72-40262A	1	Y	
21	IPR-SHAFT FEED IDLER	JC70-10230A	1	Y	
22	PMO-ROLLER FEED L	JC72-40261A	2	Y	
23	PMO-HOLDER FEED (1)	JC72-41184A	1	Y	
24	SPRING-FEED (1)	JC61-70941A	1	Y	
S1	SCREW-TAPTITE	6003-000002	1	Y	

* Not Serviceable

5-8. Motor Assembly



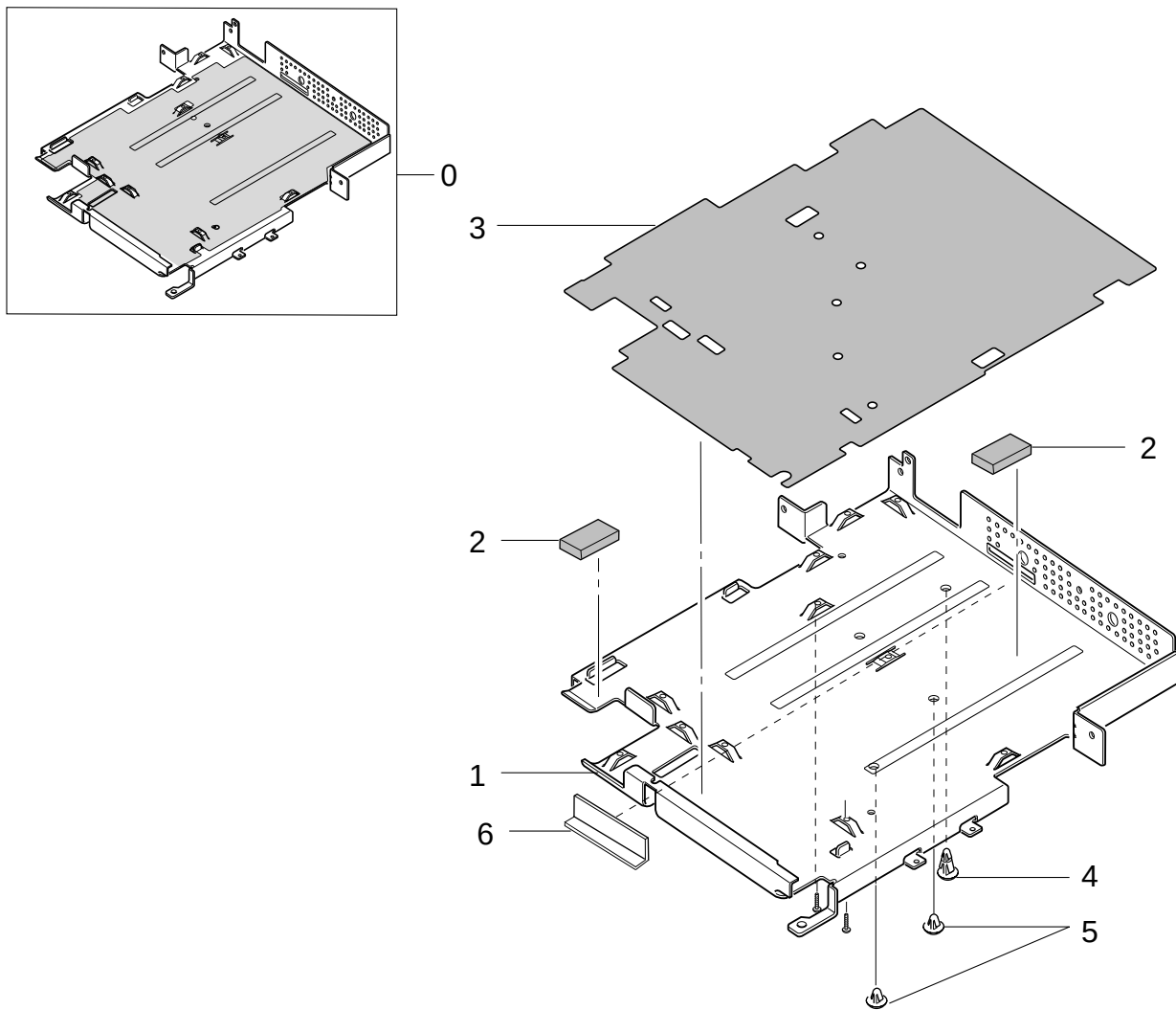
Motor Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
0	ELA HOU-MOTOR MAIN	JC96-01544A	1	Y	
1	IPR-BRKT GEAR	JC70-10903A	1	Y	
2	FAN-MOTOR FAN	JC31-30502B	1	Y	
3	GEAR-FUSER DRIVE	*	1	N	
4	GEAR-IDLE FU	*	1	N	
5	GEAR-125/18	*	1	N	
6	IPR-BRKT, MOTOR	*	1	N	
7	MOTOR-STEP	JC31-10100F	1	Y	
8	CABLE TIE	6501-000115	2	Y	
9	GEAR-132/25	*	1	N	
10	GEAR-IDLE OPC	*	1	N	
11	GEAR-OPC DRV2	*	1	N	
12	GEAR-OPC DRIVE	*	1	N	
13	GEAR-FEED DRV	*	1	N	
S1	SCREW-MACHINE	*	6	N	

* Not Serviceable

5-9 PCU Assembly



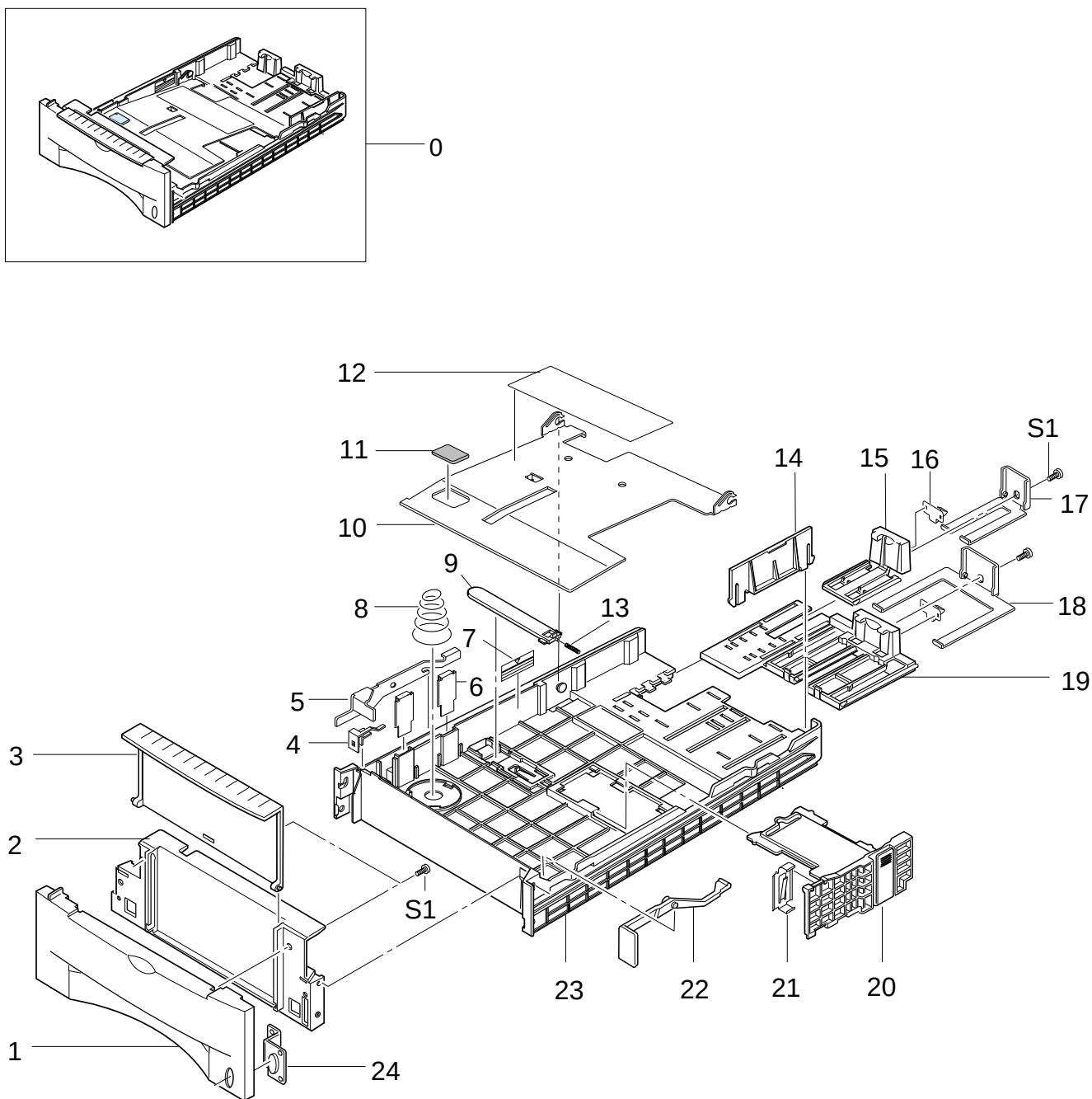
PCU Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
0	MEC-SHIELD ASS'Y	JC75-00065A	1	Y	
1	NPR-SHIELD PCU	JC71-10320A	1	Y	
2	RCT-FOOT PCU	JC73-30911A	2	Y	
3	PPR-INSULATOR PCU	JC72-10379A	1	Y	
4	SUPPORTER	*	1	N	
5	SUPPORTER	6103-001040	2	Y	
6	PPR-INSULATOR IC	JC72-10901A	1	Y	

* Not Serviceable

5-10. Cassette Assembly



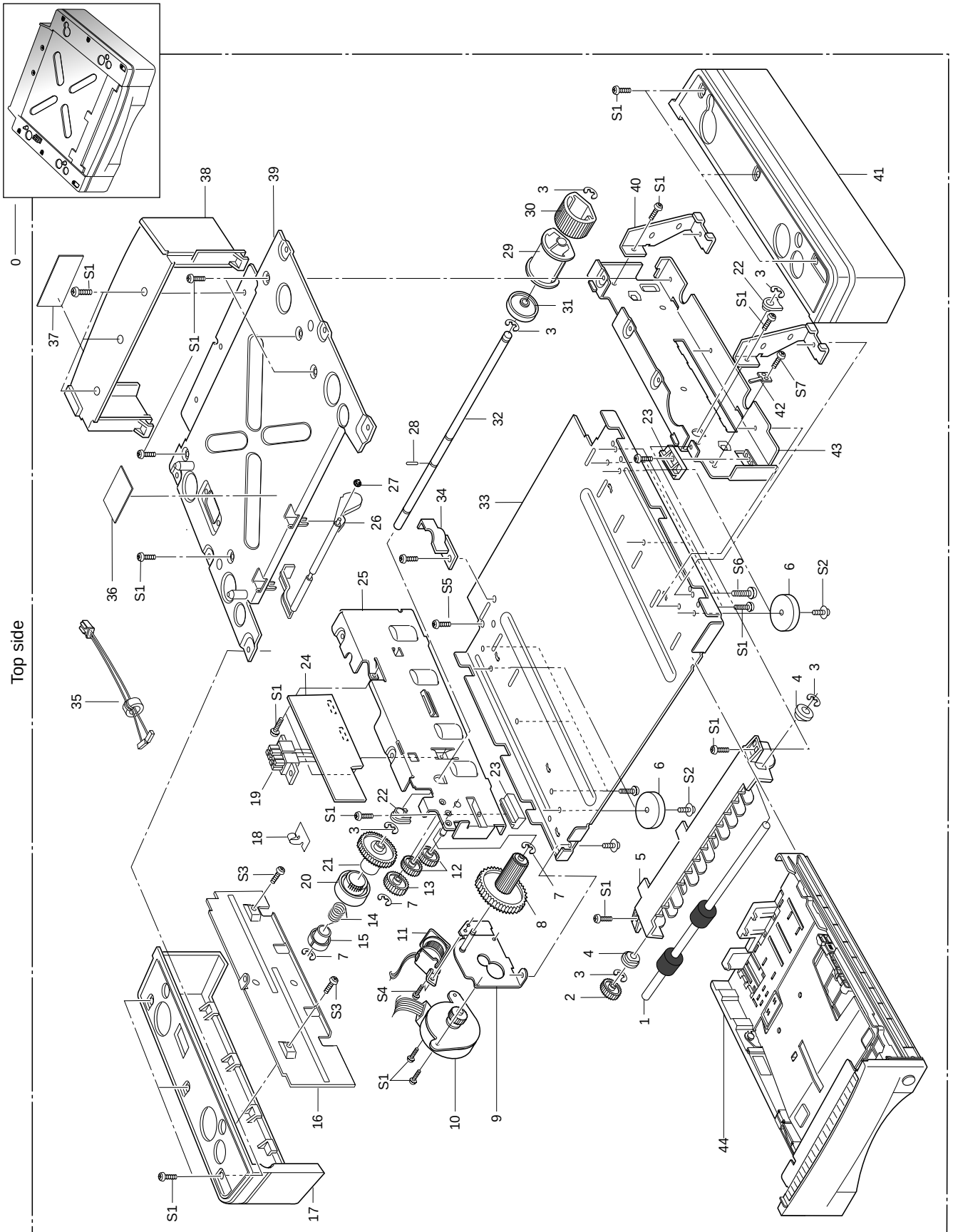
Cassette Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
0	MEA UNIT-FEEDER CASSETTE	JC97-01077A	1	Y	A4 Letter
	MEA UNIT-FEEDER CASSETTE	JC97-01077B	1	Y	
1	PMO-GUIDE SUB CAST	JC72-41225B	1	Y	
2	PCT-GUIDE CASSETTE M	*	1	N	
3	PMO-TRAY MANUAL	*	1	N	
4	PMO-HOLDER FINGER	JC72-41182A	1	Y	
5	IPR-FINGER	*	1	N	
6	IPR-GUIDE PAPER	*	2	N	
7	LABEL (R)-HEIGHT	*	1	N	
8	SPRING-KNOCK UP (12)	JC61-70951A	1	Y	
9	PMO-LOCKER PLATE	JC72-41210A	1	Y	
10	IPR-PLT KNOCK UP (12)	JC70-11022A	1	Y	
11	RPR-MMP PAD	*	1	N	
12	LABEL (R)-PLATE	*	1	N	
13	SPRING-LOCKER, PLATE	JG61-70531A	1	Y	
14	PMO-GUIDE REAR	JC72-41180A	1	Y	
15	PMO-GUIDE LETTER	JC72-41392A	1	Y	
16	IPR-TENSION LETTER	JC70-11085A	2	Y	
17	IPR-BRACKET LETTER	JC70-11087A	1	Y	
18	IPR-BRACKET LEGAL	JC70-11086A	1	Y	
19	PMO-GUIDE LEGAL	JC72-41393A	1	Y	
20	PMO-ADJUSTER S CAST	JC72-41394A	1	Y	
21	IPR-GUIDE PLATE	JC70-10993A	1	Y	
22	PMO-INDICATOR EMPTY	*	1	N	
23	PMO-FRAME CASSETTE P	JC72-41382D	1	Y	
24	PMO-WINDOW EMPTY	JC72-41386A	1	Y	

* Not Serviceable

5-11. Second Cassette Frame Assembly



Second Cassette Frame Assembly Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA.	Remark
0	ELA HOU-SCF(SF-6800)	JC96-01525A	1	Y	Only Msys6800
1	ROLLER-INNER UPPER	*	1	N	
2	GEAR-FEED	*	1	N	
3	E-RING	*	4	N	
4	BEARING ROLLER IDLER	*	2	N	
5	GUIDE INNER UPPER	*	1	N	
6	FOOT RUBBER	*	4	N	
7	E-RING	*	5	N	
8	GEAR DOUBLE OPTION	*	1	N	
9	BRKT MOTOR (SCF)	*	1	N	
10	STEP MOTOR	*	1	N	
11	SOLENOID-MAGNET	*	1	N	
12	GEAR IDLE Z19	*	2	N	
13	GEAR IDLER OPTION	*	1	N	
14	SPRING-TS,CLUTCH	*	1	N	
15	HUB CLUTCH	*	1	N	
16	SHIELD-PCB	*	1	N	
17	COVER-LEFT	*	1	N	
18	CABLE CLAMP	*	1	N	
19	CBF HARNESS	*	1	N	
20	COLLAR CLUTCH P1	*	1	N	
21	GEAR P/UP OPTION	*	1	N	
22	BEARING-FEED	*	2	N	
23	GUIDE RAIL	*	2	N	
24	PBA MAIN	*	1	N	
25	FRAME LEFT(SCF)	*	1	N	
26	ACTUATOR-ARM	*	1	N	
27	CS STOP RING	*	1	N	
28	PIN PARELLED,P/U	*		N	
29	HODER-HOUSING	*	1	N	
30	RUBBER P/UP	*	1	N	
31	IDLE-SCF	*	1	N	
32	SHAFT PICKUP	*	1	N	
33	FRAME LOWER	*	1	N	
34	STOPPER-SCF	*	1	N	
35	CBF HARNESS	*	1	N	
36	LABEL WARNING	*	1	N	
37	LABEL(R)-SCF(12)	*	1	N	
38	COVER-REAR	*	1	N	
39	FRAME UPPER	*	1	N	
40	BRKT SUPPORT	*	2	N	
41	COVER-RIGHT	*	1	N	
42	GROUND ROLLER	*	1	N	
43	FRAME RIGHT(SCF)	*	1	N	
44	ELA HOU-CASSETTE(SCF)	*	1	N	
S1	TAPTITE SCREW	*	23	N	
S2	TAPTITE SCREW	*	4	N	
S3	TAPTITE SCREW	*	9	N	
S4	MACHINE SCREW	*	4	N	
S5	MACHINE SCREW	*	2	N	
S6	MACHINE SCREW	*	2	N	
S7	TAPTITE SCREW	*	1	N	

* Not Serviceable

MEMO

6. Electrical Parts Lists

6-1. Main PBA(MSYS-6800)

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
JC92-01136A			PBA MAIN-MAIN
0401-000116	"D1,D4,D8,D9"	4	DIODE-SWITCHING "MMSD914T1,100V,200mA,225mW,4nS"
0401-000116	"D10,D11"	2	DIODE-SWITCHING "MMSD914T1,100V,200mA,225mW,4nS"
0404-000112	D6	1	DIODE-SCHOTTKY "RB420D,25V,100mA,SOT-23,TP"
0404-000112	D7	1	DIODE-SCHOTTKY "RB420D,25V,100mA,SOT-23,TP"
0501-000010	Q3	1	TR-SMALL SIGNAL "KSC1008,NPN,800mW,TO-92,TP,120"
0501-000385	Q2	1	TR-SMALL SIGNAL "KSC5019-MAT,NPN,750mW,TO-92,TP"
0501-000279	Q7	1	TR-SMALL SIGNAL "KSA1182-Y,PNP,150mW,SOT-23,TP,"
0501-000457	"Q2,Q4,Q6"	3	TR-SMALL SIGNAL "MMBT2222A,NPN,225mW,SOT-23,TP,"
0801-000379	U100	1	IC-CMOS LOGIC "74HC00,NAND GATE,SOP,14P,150MI"
0801-001055	U20	1	IC-CMOS LOGIC "74VHC08,AND GATE,SOP,14P,150MI"
0803-003058	U17	1	IC-TTL "74F1071,ESD,SOP,20P,-,TP,PLA"
1001-000170	U4	1	IC-ANALOG SWITCH "MC14051BD,SPDT CMOS,SOP,16P,15"
1001-000171	U6	1	IC-ANALOG SWITCH "MC14053BD,SPDT CMOS,SOP,16P,15"
1003-000243	"U1,U2"	2	IC-MOTOR DRIVER "PBL3717A,DIP,16P,300MIL,-,1.2m"
1105-001252	U15	1	IC-DRAM "416C4104,4MX16BIT,TSOP,50P,400MIL,50NS,5V,10%,PLASTIC"
1105-001252	U16	1	IC-DRAM "416C4104,4MX16BIT,TSOP,50P,400MIL,50NS,5V,10%,PLASTIC"
1106-001069	U18	1	IC-SRAM "62256,32Kx8BIT,SOP,28P,450MIL,"
1107-001121	U13	1	IC-FLASH MEMORY "29F800,512Kx16BIT,TSOP,48P,720"
1201-000114	U8	1	IC-AUDIO AMP "386,SOP,8P,150MIL,SINGLE,26V/m"
1201-000178	U9	1	IC-OP AMP "82,SOP,8P,150MIL,DUAL,150V/mV,"
1201-000423	"U3,U5,U7"	3	IC-OP AMP "4558,SOP,8P,150MIL,DUAL,20V/mV"
1203-000495	U19	1	IC-RESET "7045,TO-92,3P,-,PLASTIC,4.3/4."
1203-001026	U10	1	IC-POS.FIXED REG. "33269,DPAK,3P,265MIL,PLASTIC,3.37/3.33V40TO+150C,800MA"
1205-001134	U11	1	IC-MODEM "KS16117Q,QFP,100P,-,PLASTIC,5V"
1405-001008	TH1	1	VARISTOR "400V,500A,7.0x3.3mm,TP"
1405-001075	"TH2,TH3"	2	VARISTOR "470V,400A,7.5X6MM,TP"
2001-000202	"R42,R43"	2	R-CARBON "0.5OHM,5%,1/2W,AA,TP,3.3X9MM"
2007-000002	R8	1	R-CHIP "75KOHM,5%,1/10W,DA,TP,2012"
2007-000011	R63	1	R-CHIP "200OHM,1%,1/10W,DA,TP,2012"
2007-000028	"R86,R87"	2	R-CHIP "39OHM,5%,1/10W,DA,TP,2012"
2007-000029	"R111,R127,R128"	3	R-CHIP "0OHM,5%,1/10W,DA,TP,2012"
2007-000029	"R131,R142"	2	R-CHIP "0OHM,5%,1/10W,DA,TP,2012"
2007-000029	"R23,R64,R96,R97"	4	R-CHIP "0OHM,5%,1/10W,DA,TP,2012"
2007-000221	R52	1	R-CHIP "1.2KOHM,5%,1/10W,DA,TP,2012"
2007-000241	"R37,R146"	2	R-CHIP "1.5KOHM,5%,1/10W,DA,TP,2012"
2007-000282	"R22,R27,R30"	3	R-CHIP "100KOHM,5%,1/10W,DA,TP,2012"
2007-000290	"R126,R138,R139"	3	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000290	"R140,R141"	2	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000290	"R88,R89,R90,R91"	4	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000290	"R93,R94,R95"	3	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000290		4	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000297	"R11,R14"	2	R-CHIP "10KOHM,1%,1/10W,DA,TP,2012"
2007-000300	"R110,R120"	2	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000300	"R121,R122,R123"	3	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000300	"R125,R143"	2	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000300	R144	1	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000300	"R20,R24,R25,R53"	4	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000304	R75	1	R-CHIP "10MOHM,5%,1/10W,DA,TP,2012"
2007-000308	"R28,R136"	2	R-CHIP "10OHM,5%,1/10W,DA,TP,2012"
2007-000312	R132	1	R-CHIP "10OHM,5%,1/8W,DA,TP,3216"
2007-000325	R32	1	R-CHIP "118KOHM,1%,1/10W,DA,TP,2012"
2007-000395	"R1,R6,R16"	3	R-CHIP "150KOHM,5%,1/10W,DA,TP,2012"
2007-000409	"R4,R9"	2	R-CHIP "15KOHM,5%,1/10W,DA,TP,2012"
2007-000435	R12	1	R-CHIP "17.4KOHM,1%,1/10W,DA,TP,2012"
2007-000444	R147	1	R-CHIP "180KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R133,R149"	2	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R39,R41,R44,R47"	4	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R56,R57,R65,R66"	4	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R60,R61,R115"	3	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R67,R68,R69,R79"	4	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R80,R109,R118"	3	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000477	"R2,R17"	2	R-CHIP "1MOHM,5%,1/10W,DA,TP,2012"
2007-000565	R145	1	R-CHIP "220KOHM,5%,1/10W,DA,TP,2012"

Main PBA(MSYS-6800)

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION	
2007-000572	"R59,R72,R73"	3	R-CHIP	"220OHM,5%,1/10W,DA,TP,2012"
2007-000586	R26	1	R-CHIP	"22KOHM,5%,1/10W,DA,TP,2012"
2007-000603	R33	1	R-CHIP	"240KOHM,5%,1/10W,DA,TP,2012"
2007-000653	R21	1	R-CHIP	"27KOHM,5%,1/10W,DA,TP,2012"
2007-000668	R104	1	R-CHIP	"2KOHM,1%,1/10W,DA,TP,2012"
2007-000703	R36	1	R-CHIP	"3.6KOHM,5%,1/10W,DA,TP,2012"
2007-000728	"R15,R29,R31"	3	R-CHIP	"300OHM,5%,1/10W,DA,TP,2012"
2007-000757	R35	1	R-CHIP	"330KOHM,5%,1/10W,DA,TP,2012"
2007-000774	"R10,R13"	2	R-CHIP	"33KOHM,5%,1/10W,DA,TP,2012"
2007-000781	"R107,R108,R116"	3	R-CHIP	"33OHM,5%,1/10W,DA,TP,2012"
2007-000781	"R117,R119"	2	R-CHIP	"33OHM,5%,1/10W,DA,TP,2012"
2007-000781	"R81,R82,R83"	3	R-CHIP	"33OHM,5%,1/10W,DA,TP,2012"
2007-000844	R3	1	R-CHIP	"3KOHM,5%,1/10W,DA,TP,2012"
2007-000872	R113	1	R-CHIP	"4.7KOHM,5%,1/10W,DA,TP,2012"
2007-000920	R34	1	R-CHIP	"47.5KOHM,1%,1/10W,DA,TP,2012"
2007-000941	"R58,R70,R71"	3	R-CHIP	"47KOHM,5%,1/10W,DA,TP,2012"
2007-000961	R62	1	R-CHIP	"5.1KOHM,1%,1/10W,DA,TP,2012"
2007-000964	"R19,R76,R77,R78"	4	R-CHIP	"5.1KOHM,5%,1/10W,DA,TP,2012"
2007-000964	"R84,R106"	2	R-CHIP	"5.1KOHM,5%,1/10W,DA,TP,2012"
2007-001039	"R18,R38,R40"	3	R-CHIP	"56KOHM,5%,1/10W,DA,TP,2012"
2007-001133	R134	1	R-CHIP	"68OHM,5%,1/10W,DA,TP,2012"
2007-001201	"R135,R148"	2	R-CHIP	"820OHM,5%,1/10W,DA,TP,2012"
2007-001220	"R5,R7"	2	R-CHIP	"86.6KOHM,1%,1/10W,DA,TP,2012"
2007-001289	R54	1	R-CHIP	"20OHM,5%,1/4W,DA,TP,3225"
2007-001653	R55	1	R-CHIP	"1.8KOHM,1%,1/10W,DA,TP,2012"
2011-001094	"RA1,RA2,RA3,RA4"	4	R-NETWORK	"39ohm,5%,1/16W,L,CHIP,8P,TP"
2011-001094	RA5	1	R-NETWORK	"39ohm,5%,1/16W,L,CHIP,8P,TP"
2203-000192	"C100,C101"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C104,C105,C106"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C108,C109,C110"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C11,C13,C15,C17"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C111,C113"	2	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C149,C150,C151"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C152,C153,C154"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C18,C19,C20,C22"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C23,C24,C26,C27"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C29,C31,C34,C35"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C38,C40,C43,C47"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C49,C56,C57"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C64,C65,C66,C69"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C73,C74,C77,C84"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C85,C91,C92,C94"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C95,C96,C98"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C99,C103,C112"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000239	"C115,C116,C117"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C119,C120,C127"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C128,C129,C130"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C131,C132,C133"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C134,C135,C136"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	C148	1	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C81,C86,C87,C88"	4	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C89,C107,C114"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C9,C80"	2	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000260	C123	1	"C-CERAMIC,CHIP"	"10nF,10%,50V,X7R,TP,2012"
2203-000316	C25	1	"C-CERAMIC,CHIP"	"0.12nF,5%,50V,NP0,TP,2012"
2203-000389	"C4,C5"	2	"C-CERAMIC,CHIP"	"0.015nF,5%,50V,NP0,TP,2012"
2203-000429	C68	1	"C-CERAMIC,CHIP"	"0.018nF,5%,50V,NP0,TP,2012"
2203-000455	"C139~C143"	5	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000455	"C144~C147"	4	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000455	"C16,C21,C28,C33"	4	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000455	"C37,C53,C54,C124,C138"	5	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000595	"C52,C59,C60,C61"	4	"C-CERAMIC,CHIP"	"0.22nF,5%,50V,NP0,TP,2012"
2203-000595	"C62,C63,C70,C71"	4	"C-CERAMIC,CHIP"	"0.22nF,5%,50V,NP0,TP,2012"
2203-000634	"C12,C14,C67"	3	"C-CERAMIC,CHIP"	"0.022nF,5%,50V,NP0,TP,2012"
2203-000858	C48	1	"C-CERAMIC,CHIP"	"0.039nF,5%,50V,NP0,TP,2012"
2203-000938	"C78,C79,C82,C83"	4	"C-CERAMIC,CHIP"	"0.47nF,5%,50V,NP0,TP,2012"
2203-000938	"C93,C97,C137"	3	"C-CERAMIC,CHIP"	"0.47nF,5%,50V,NP0,TP,2012"

Main PBA(MSYS-6800)

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
2203-000989	C32	1	"C-CERAMIC,CHIP" "47nF,10%,50V,X7R,TP,2012"
2203-001143	C30	1	"C-CERAMIC,CHIP" "68nF,10%,50V,X7R,TP,2012"
2203-001158	C36	1	"C-CERAMIC,CHIP" "0.068nF,5%,50V,NP0,TP,2012"
2203-001223	"C39,C41,C42,C44,C90"	5	"C-CERAMIC,CHIP" "0.82nF,10%,50V,X7R,TP,2012"
2401-000042	"C55,C125,C126"	3	C-AL "100uF,20%,16V,GP,TP,6.3x7,5"
2401-001197	"C102,C118,C121,C122"	4	C-AL "33uF,20%,50V,GP,TP,6.3x7,-"
2401-001197	"C6,C7,C45,C50,"	4	C-AL "33uF,20%,50V,GP,TP,6.3x7,-"
2401-001294	C10	1	C-AL "4700uF,20%,10V,GP,-,13x25,5mm"
2404-000128	"C2,C3"	2	"C-TA,CHIP" "10uF,20%,16V,-,TP,6032,-"
2402-000179	"C121,C122"	2	"C-AL" "SMD,47uF,20%,16V GP,TP,6.6x6.6x5.4"
2404-000151	"C1,C46"	2	"C-TA,CHIP" "1uF,20%,16V,-,TP,3216,-"
2703-000125	L1	1	INDUCTOR-SMD "10uH,10%,1.25x2x1.25mm"
2703-000204	L2	1	INDUCTOR-SMD "390uH,10%,3.2x4.5x2.6mm"
2801-003330	X1	1	CRYSTAL-UNIT "38.00053MHz,15ppm,28-AAM,18pF,"
2801-003376	OSC1	1	CRYSTAL-UNIT "0.032768MHz,20ppm,28-AAY,12.5p"
2804-001333	OSC2	1	OSCILLATOR-CLOCK "15.1808MHz,100ppm,10TTL&CMOS(30pF),BK,5V,20mA"
2901-000229	"F1,F2"	2	FILTER-EMI SMD "50V,300mA,-,22nF,4.5x1.8x3.2mm"
3702-001001	CN6	1	CONNECTOR-RIBBON "36P,FEMALE,ANGLE,AUF"
3711-000398	CN2	1	CONNECTOR-HEADER "BOX,10P,1R,2mm,STRAIGHT,SN"
3711-000443	CN1	1	CONNECTOR-HEADER "BOX,2P,1R,2mm,STRAIGHT,SN"
3711-000470	"CN3,CN9"	2	CONNECTOR-HEADER "3WALL,4P,1R,2mm,STRAIGHT,SN"
3711-000484	"CN8,CN12"	2	CONNECTOR-HEADER "3WALL,5P,1R,2mm,STRAIGHT,SN"
3711-000665	CN7	1	CONNECTOR-HEADER "BOX,12P,1R,2mm,ANGLE,SN"
3711-000865	CN11	1	CONNECTOR-HEADER "BOX,3P,1R,2mm,STRAIGHT,SN"
3711-002002	CN13	1	CONNECTOR-HEADER "-,22P,2R,2mm,STRAIGHT,SN"
3711-003204	CN10	1	CONNECTOR-HEADER "BOX,24P,2R,2mm,STRAIGHT,SN"
3711-003968	CN4	1	CONNECTOR-HEADER "BOX,3P,1R,2.5mm,STRAIGHT,SN"
3722-000255	MJ2	1	JACK-MODULAR "6P/4C,-,AU30U,IVORY,-"
3722-000574	MJ1	1	JACK-MODULAR "6P/6C,-,AU,-,-"
4301-000108	M1	1	BATTERY-LI "3V,220mAh,BUTTON,20x3.2mm,NO"
4302-001005	M2	1	BATTERY-NIH(2ND) "4.8V,70mAh,CYLINDRICAL,20mAh/3"
JB13-00003A	U14	1	IC ASIC-CHORUS "SF-3100,KS32C65100,QFP,208P,30.6X30.6X4.1"
JC41-00019A	MAIN_PCB	1	PCB-MAIN "SF-6700,FR-2,4L,1.6T,145X135"

6-2. Main PBA(MSYS-6750)

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
JC92-01136B			PBA MAIN-MAIN
0401-000116	"D1,D4,D8,D9"	4	DIODE-SWITCHING "MMSD914T1,100V,200mA,225mW,4nS"
0401-000116	"D10,D11"	2	DIODE-SWITCHING "MMSD914T1,100V,200mA,225mW,4nS"
0404-000112	D6	1	DIODE-SCHOTTKY "RB420D,25V,100mA,SOT-23,TP"
0404-000112	D7	1	DIODE-SCHOTTKY "RB420D,25V,100mA,SOT-23,TP"
0501-000010	Q3	1	TR-SMALL SIGNAL "KSC1008,NPN,800mW,TO-92,TP,120"
0501-000279	Q7	1	TR-SMALL SIGNAL "KSA1182-Y,PNP,150mW,SOT-23,TP,"
0501-000385	Q2	1	TR-SMALL SIGNAL "KSC5019-MTA,NPN,750mW,TO-92,TP"
0501-000457	"Q4,Q6"	2	TR-SMALL SIGNAL "MMBT2222A,NPN,225mW,SOT-23,TP,"
0801-000379	U100	1	IC-CMOS LOGIC "74HC00,NAND GATE,SOP,14P,150MI"
0801-001055	U20	1	IC-CMOS LOGIC "74VHC08,AND GATE,SOP,14P,150MI"
0803-003058	U17	1	IC-TTL "74F1071,ESD,SOP,20P,-,-,TP,PLA"
1001-000170	U4	1	IC-ANALOG SWITCH "MC14051BD,SPDT CMOS,SOP,16P,15"
1001-000171	U6	1	IC-ANALOG SWITCH "MC14053BD,SPDT CMOS,SOP,16P,15"
1003-000243	"U1,U2"	2	IC-MOTOR DRIVER "PBL3717A,DIP,16P,300MIL,-,1.2m"
1105-001252	U16	1	IC-DRAM "4MX16BIT,TOP,50P,400MIL,50NS,5V,10%,PLASTIC,0TO+70C,2MA,CMOS,ST"
1106-001069	U18	1	IC-SRAM "62256,32Kx8BIT,SOP,28P,450MIL,"
1107-001121	U13	1	IC-FLASH MEMORY "29F800,512Kx16BIT,TOP,48P,720"
1201-000114	U8	1	IC-AUDIO AMP "386,SOP,8P,150MIL,SINGLE,26V/m"
1201-000178	U9	1	IC-OP AMP "82,SOP,8P,150MIL,DUAL,150V/mV,"
1201-000423	"U3,U5,U7"	3	IC-OP AMP "4558,SOP,8P,150MIL,DUAL,20V/mV"
1203-000495	U19	1	IC-RESET "7045,TO-92,3P,-,-,PLASTIC,4.3/4."
1203-001026	U10	1	IC-POSI.FIXED REG. "33269,DPK,3P,265MIL,PLASTIC,3.3/3.3V40TO+150C,800MA,-,ST"
1205-001134	U11	1	IC-MODEM "KS16117Q,QFP,100P,-,-,PLASTIC,5V"
1405-001008	TH1	1	VARIATOR "400V,500A,7.0x3.3mm,TP"
1405-001075	"TH2,TH3"	2	VARIATOR "470V,400A,7.5X6MM,TP"
2001-000202	"R42,R43"	2	R-CARBON "0.5OHM,5%,1/2W,AA,TP,3.3X9MM"
2007-000001	R26	1	R-CHIP "68KOHM,5%,1/10W,DA,TP,2012"
2007-000002	R8	1	R-CHIP "75KOHM,5%,1/10W,DA,TP,2012"
2007-000011	R63	1	R-CHIP "200OHM,1%,1/10W,DA,TP,2012"
2007-000028	"R86,R87"	2	R-CHIP "39OHM,5%,1/10W,DA,TP,2012"
2007-000029	"R111,R127,R128"	3	R-CHIP "0OHM,5%,1/10W,DA,TP,2012"
2007-000029	"R131,R142,R60,R61"	4	R-CHIP "0OHM,5%,1/10W,DA,TP,2012"
2007-000029	"R23,R64,R96,R97"	4	R-CHIP "0OHM,5%,1/10W,DA,TP,2012"
2007-000221	R52	1	R-CHIP "1.2KOHM,5%,1/10W,DA,TP,2012"
2007-000241	"R37,R146"	2	R-CHIP "1.5KOHM,5%,1/10W,DA,TP,2012"
2007-000282	"R22,R27,R30"	3	R-CHIP "100KOHM,5%,1/10W,DA,TP,2012"
2007-000290	"R126,R138,R139"	3	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000290	"R140,R141"	2	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000290	"R88,R89,R90,R91"	4	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000290	"R93,R94,R95"	3	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000290	"R98,R99,R101,R103"	4	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000297	"R11,R14"	2	R-CHIP "10KOHM,1%,1/10W,DA,TP,2012"
2007-000300	"R110,R120"	2	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000300	"R121,R122,R123"	3	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000300	"R125,R143"	2	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000300	R144	1	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000300	"R20,R24,R25,R53"	4	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000304	R75	1	R-CHIP "10MOHM,5%,1/10W,DA,TP,2012"
2007-000308	"R28,R136"	2	R-CHIP "10OHM,5%,1/10W,DA,TP,2012"
2007-000312	R132	1	R-CHIP "10OHM,5%,1/8W,DA,TP,3216"
2007-000325	"R32,R6"	2	R-CHIP "118KOHM,1%,1/10W,DA,TP,2012"
2007-000395	R1	1	R-CHIP "150KOHM,5%,1/10W,DA,TP,2012"
2007-000409	"R4,R9"	2	R-CHIP "15KOHM,5%,1/10W,DA,TP,2012"
2007-000435	R12	1	R-CHIP "17.4KOHM,1%,1/10W,DA,TP,2012"
2007-000444	R147	1	R-CHIP "180KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R115,R150"	2	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R133,R149"	2	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R39,R41,R44,R47"	4	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R56,R57,R65,R66"	4	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R67,R68,R69,R79"	4	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R80,R109,R118"	3	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000477	"R2,R17"	2	R-CHIP "1MOHM,5%,1/10W,DA,TP,2012"
2007-000523	R151	1	R-CHIP "2.7MOHM,5%,1/10W,DA,TP,2012"
2007-000565	R145	1	R-CHIP "220KOHM,5%,1/10W,DA,TP,2012"
2007-000572	"R59,R72,R73"	3	R-CHIP "220OHM,5%,1/10W,DA,TP,2012"
2007-000603	R33	1	R-CHIP "240KOHM,5%,1/10W,DA,TP,2012"

Main PBA(MSYS-6750)

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION	
2007-000653	R21	1	R-CHIP	"27KOHM,5%,1/10W,DA,TP,2012"
2007-000668	R55	1	R-CHIP	"2KOHM,1%,1/10W,DA,TP,2012"
2007-000703	R36	1	R-CHIP	"3.6KOHM,5%,1/10W,DA,TP,2012"
2007-000728	"R15,R29,R31"	3	R-CHIP	"300OHM,5%,1/10W,DA,TP,2012"
2007-000757	R35	1	R-CHIP	"330KOHM,5%,1/10W,DA,TP,2012"
2007-000774	"R10,R13"	2	R-CHIP	"33KOHM,5%,1/10W,DA,TP,2012"
2007-000781	"R107,R108,R116"	3	R-CHIP	"33OHM,5%,1/10W,DA,TP,2012"
2007-000781	"R117,R119"	2	R-CHIP	"33OHM,5%,1/10W,DA,TP,2012"
2007-000781	"R81,R82,R83"	3	R-CHIP	"33OHM,5%,1/10W,DA,TP,2012"
2007-000844	R3	1	R-CHIP	"3KOHM,5%,1/10W,DA,TP,2012"
2007-000872	R113	1	R-CHIP	"4.7KOHM,5%,1/10W,DA,TP,2012"
2007-000872	R62	1	R-CHIP	"4.7KOHM,5%,1/10W,DA,TP,2012"
2007-000920	R34	1	R-CHIP	"47.5KOHM,1%,1/10W,DA,TP,2012"
2007-000941	"R58,R70,R71"	3	R-CHIP	"47KOHM,5%,1/10W,DA,TP,2012"
2007-000964	"R19,R76,R77,R78"	4	R-CHIP	"5.1KOHM,5%,1/10W,DA,TP,2012"
2007-000964	"R84,R106"	2	R-CHIP	"5.1KOHM,5%,1/10W,DA,TP,2012"
2007-001039	"R18,R38,R40"	3	R-CHIP	"56KOHM,5%,1/10W,DA,TP,2012"
2007-001133	R134	1	R-CHIP	"68OHM,5%,1/10W,DA,TP,2012"
2007-001201	"R135,R148"	2	R-CHIP	"820OHM,5%,1/10W,DA,TP,2012"
2007-001220	"R5,R7,R16"	3	R-CHIP	"86.6KOHM,1%,1/10W,DA,TP,2012"
2007-001289	R54	1	R-CHIP	"20OHM,5%,1/4W,DA,TP,3225"
2011-001094	"RA1,RA2,RA3,RA4"	4	R-NETWORK	"39ohm,5%,63mW,L,CHIP,8P,TP"
2011-001094	RA5	1	R-NETWORK	"39ohm,5%,63mW,L,CHIP,8P,TP"
2203-000192	"C100,C101"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C104,C105,C106"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C108,C109,C110"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C11,C13,C15,C17"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C111,C113"	2	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C149,C150,C151"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C152,C153,C154"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C18,C19,C20,C22"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C23,C24,C26,C27"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C29,C31,C34,C35"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C38,C40,C43,C47"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C49,C56,C57"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C64,C65,C66,C69"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C73,C74,C77,C84"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C85,C91,C92,C94"	4	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C95,C96,C98"	3	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000239	"C115,C116,C117"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C119,C120,C127"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C128,C129,C130"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C131,C132,C133"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C134,C135,C136"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	C148	1	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C81,C86,C87,C88"	4	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C89,C107,C114"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C9,C80"	2	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000260	C123	1	"C-CERAMIC,CHIP"	"10nF,10%,50V,X7R,TP,2012"
2203-000316	C25	1	"C-CERAMIC,CHIP"	"0.12nF,5%,50V,NP0,TP,2012"
2203-000389	"C4,C5"	2	"C-CERAMIC,CHIP"	"0.015nF,5%,50V,NP0,TP,2012"
2203-000429	C68	1	"C-CERAMIC,CHIP"	"0.018nF,5%,50V,NP0,TP,2012"
2203-000455	"C139~C143"	5	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000455	"C144~C147"	4	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000455	"C16,C21,C28,C33"	4	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000455	"C37,53,54,124,138"	5	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000595	"C52,C59,C60,C61"	4	"C-CERAMIC,CHIP"	"0.22nF,5%,50V,NP0,TP,2012"
2203-000595	"C62,C63,C70,C71"	4	"C-CERAMIC,CHIP"	"0.22nF,5%,50V,NP0,TP,2012"
2203-000634	"C12,C14,C67"	3	"C-CERAMIC,CHIP"	"0.022nF,5%,50V,NP0,TP,2012"
2203-000858	C48	1	"C-CERAMIC,CHIP"	"0.039nF,5%,50V,NP0,TP,2012"
2203-000938	"C78,C79,C82,C83"	4	"C-CERAMIC,CHIP"	"0.47nF,5%,50V,NP0,TP,2012"
2203-000938	"C93,C97,C137"	3	"C-CERAMIC,CHIP"	"0.47nF,5%,50V,NP0,TP,2012"
2203-000989	C32	1	"C-CERAMIC,CHIP"	"47nF,10%,50V,X7R,TP,2012"
2203-001143	C30	1	"C-CERAMIC,CHIP"	"68nF,10%,50V,X7R,TP,2012"
2203-001158	C36	1	"C-CERAMIC,CHIP"	"0.068nF,5%,50V,NP0,TP,2012"
2203-001223	"C39,41,42,44,90"	5	"C-CERAMIC,CHIP"	"0.82nF,10%,50V,X7R,TP,2012"
2401-000042	"C55,C125,C126"	3	C-AL	"100uF,20%,16V,GP,TP,6.3x7,5"

Main PBA(MSYS-6750)

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION	
2401-001197	"C102,C118"	2	C-AL	"33uF,20%,50V,GP,TP,6.3x7,-"
2401-001197	"C6,C7,C45,C50,"	4	C-AL	"33uF,20%,50V,GP,TP,6.3x7,-"
2401-001294	C10	1	C-AL	"4700uF,20%,10V,GP,-,13x25,5mm"
2402-000179	"C121,C122"	2	"C-AL,SMD"	"47uF,20%,16V,GP,TP,6.6x6.6x5.4"
2404-000128	"C2,C3"	2	"C-TA,CHIP"	"10uF,20%,16V,-,TP,6032,-"
2404-000151	"C1,C46"	2	"C-TA,CHIP"	"1uF,20%,16V,-,TP,3216,-"
2703-000125	L1	1	INDUCTOR-SMD	"10uH,10%,1.25x2x1.25mm"
2703-000204	L2	1	INDUCTOR-SMD	"390uH,10%,3.2x4.5x2.6mm"
2801-003330	X1	1	CRYSTAL-UNIT	"38.00053MHz,15ppm,28-AAM,18pF,"
2801-003376	OSC1	1	CRYSTAL-UNIT	"0.032768MHz,20ppm,28-AAY,12.5p"
2804-001333	OSC2	1	OSCILLATOR-CLOCK	"15.1808MHz,100ppm,10TTL&CMOS(30pF),BK,5V,20mA"
2901-000229	"F1,F2"	2	FILTER-EMI SMD	"50V,300mA,-,22nF,4.5x1.8x3.2mm"
3702-001001	CN6	1	CONNECTOR-RIBBON	"36P,FEMALE,ANGLE,AUF"
3711-000398	CN2	1	CONNECTOR-HEADER	"BOX,10P,1R,2mm,STRAIGHT,SN"
3711-000443	CN1	1	CONNECTOR-HEADER	"BOX,2P,1R,2mm,STRAIGHT,SN"
3711-000470	"CN3,CN9"	2	CONNECTOR-HEADER	"3WALL,4P,1R,2mm,STRAIGHT,SN"
3711-000484	"CN8,CN12"	2	CONNECTOR-HEADER	"3WALL,5P,1R,2mm,STRAIGHT,SN"
3711-000665	CN7	1	CONNECTOR-HEADER	"BOX,12P,1R,2mm,ANGLE,SN"
3711-000865	CN11	1	CONNECTOR-HEADER	"BOX,3P,1R,2mm,STRAIGHT,SN"
3711-002002	CN13	1	CONNECTOR-HEADER	"-,22P,2R,2mm,STRAIGHT,SN"
3711-003204	CN10	1	CONNECTOR-HEADER	"BOX,24P,2R,2mm,STRAIGHT,SN"
3711-003968	CN4	1	CONNECTOR-HEADER	"BOX,3P,1R,2.5mm,STRAIGHT,SN"
3722-000255	MJ2	1	JACK-MODULAR	"6P/4C,-,AU30U,IVORY,-"
3722-000574	MJ1	1	JACK-MODULAR	"6P/6C,-,AU,-,-"
4301-000108	M1	1	BATTERY-LI	"3V,220mAh,BUTTON,20x3.2mm,NO"
4302-001005	M2	1	BATTERY-NIH(2ND)	"4.8V,70mAh,CYLINDRICAL,20mAh/3"
JB13-00003A	U14	1	IC ASIC-CHORUS	"SF-3100,KS32C65100,QFP,208P,30.6X30.6X4.1"
JC41-00019A	MAIN_PCB	1	PCB-MAIN	"SF-6700,FR-2,4L,1.6T,145X135"

6-3. Engine PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
JC92-01137A			PBA MAIN-ENGINE
0401-000005	"D215,D218,D221"	3	DIODE-SWITCHING "1N4148,100V,200MA,DO-35,TP"
0401-000005	"D3,D4,D8,D209"	4	DIODE-SWITCHING "1N4148,100V,200MA,DO-35,TP"
0401-000005	D300	1	DIODE-SWITCHING "1N4148,100V,200MA,DO-35,TP"
0402-000129	"D1,D2"	2	DIODE-RECTIFIER "1N4003,200V,1A,DO-41,TP"
0402-001193	"D201,D202,D203,D204"	4	DIODE-RECTIFIER "SHV-04,4KV,20mA,-,TP"
0402-001193	"D206,D208,D210"	3	DIODE-RECTIFIER "SHV-04,4KV,20mA,-,TP"
0402-001193	D214	1	DIODE-RECTIFIER "SHV-04,4KV,20mA,-,TP"
0403-000356	ZD201	1	DIODE-ZENER "UZ5.6BCB,5.6V,5.46-5.7V,500mW,"
0403-000367	ZD202	1	DIODE-ZENER "UZ7.5BSC,7.5V,7.33-7.64V,500mW"
0403-000471	ZD203	1	DIODE-ZENER "1N5271B,100V,5%,500mW,DO-35,TP"
0403-000471	"ZD204,ZD205"	2	DIODE-ZENER "1N5271B,100V,5%,500mW,DO-35,TP"
0501-000010	"Q1,Q2,Q3,Q4"	4	TR-SMALL SIGNAL "KSC1008,NPN,800mW,TO-92,TP,120"
0501-000010	"Q10,Q11,Q12,Q211"	4	TR-SMALL SIGNAL "KSC1008,NPN,800mW,TO-92,TP,120"
0501-000010	"Q212,Q213"	2	TR-SMALL SIGNAL "KSC1008,NPN,800mW,TO-92,TP,120"
0501-000010	"Q5,Q6,Q7,Q8"	4	TR-SMALL SIGNAL "KSC1008,NPN,800mW,TO-92,TP,120"
0501-000294	"Q207,Q208,Q214"	3	TR-SMALL SIGNAL "KSA708-Y,PNP,800mW,TO-92,TP,12"
0502-000245	Q9	1	TR-POWER "KSB1151-Y,PNP,1.3W,TO-126,-,16"
0502-001124	"Q201,Q203"	2	TR-POWER "KSD526,NPN,30W,TO-220,BK,120-2"
0502-001124	"Q202,Q204"	2	TR-POWER "KSD526,NPN,30W,TO-220,BK,120-2"
0604-001033	"OP1,OP2"	2	PHOTO-INTERRUPTER "TR,-,150mW,DIP-4,ST"
0801-001262	U211	1	IC-CMOS LOGIC "74HC4060,BINARY COUNTER,DIP,16"
0803-001097	U203	1	IC-TTL "7407,BUFFER/DRIVER,DIP,14P,300"
0803-001211	U204	1	IC-TTL "74LS14,SCHMITT INVERTER,DIP,14P,300MIL,HEX,ST+E69"
1003-001038	U1	1	IC-MOTOR DRIVER "SMA7029M,ZIP,15P,-,SINGLE,1.5A"
1201-000229	U201	1	IC-OP AMP "324,DIP,14P,300MIL,QUAD,100V/m"
1202-000103	U5	1	IC-VOLTAGE COMP. "393,DIP,8P,300MIL,DUAL,36V,CMO"
1203-000259	U202	1	IC-POS.FIXED REG. "7818,TO-220,3P,-,PLASTIC,17.3/"
2001-000005	"R221,R231"	2	R-CARBON "390ohm,5%,1/8W,AA,TP,1.8X3.2mm"
2001-000006	"R2,R3"	2	R-CARBON "2.4KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000012	R236	1	R-CARBON "680KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000015	"R8,R62"	2	R-CARBON(S) "0.5OHM,5%,1/2W,AA,TP,2.4X6.4MM"
2001-000019	"R217,R230"	2	R-CARBON(S) "10OHM,5%,1/2W,AA,TP,2.4X6.4MM"
2001-000221	R39	1	R-CARBON "1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000273	"R215,R238,R281,R282"	4	R-CARBON "100KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000281	"R15,R24,R29,R71,R81"	5	R-CARBON "100OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000281	"R73,R290,R291,R292"	4	R-CARBON "100OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000290	R278	1	R-CARBON "10KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000362	"R16,R23"	2	R-CARBON "150OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000429	"R12,R18,R34,R41"	4	R-CARBON "1KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000429	R289	1	R-CARBON "1KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000429	"R42,R44,R49,R83"	4	R-CARBON "1KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000435	R72	1	R-CARBON "1MOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000449	"R225,R250,R254,R287"	4	R-CARBON "2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000449	R288	1	R-CARBON "2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000482	R277	1	R-CARBON "200KOHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000522	R268	1	R-CARBON "22KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000563	R253	1	R-CARBON "27KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000633	R283	1	R-CARBON "30KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000660	"R257,R263,R264,R266"	4	R-CARBON "33KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000660	R285	1	R-CARBON "33KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000734	R51	1	R-CARBON "4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000761	R218	1	R-CARBON "430OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000786	R227	1	R-CARBON "47KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000786	"R9,R10,R223,R224"	4	R-CARBON "47KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000812	"R232,R261,R267"	3	R-CARBON "5.6KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000812	"R26,R28,R38"	3	R-CARBON "5.6KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000812	"R40,R59,R60,R61,R82"	5	R-CARBON "5.6KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000812	"R7,R11,R13,R19"	4	R-CARBON "5.6KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000832	"R4,R20"	2	R-CARBON "510OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000989	R247	1	R-CARBON "820KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-001015	R262	1	R-CARBON "9.1KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-001093	R48	1	R-CARBON(S) "2.2KOHM,5%,1/2W,AA,TP,2.4X6.4MM"
2001-001165	"R216,R219"	2	R-CARBON(S) "56OHM,5%,1/2W,AA,TP,2.4X6.4MM"
2001-001408	"R210,212,226,229,239"	5	R-CARBON(S) "3.3MOHM,5%,1/2W,AA,TP,2.4X6.4MM"
2003-000547	"R5,R6"	2	R-METAL OXIDE(S) "1ohm,5%,3W,AA,TP,6x16mm"
2004-000151	R57	1	R-METAL "1.5Kohm,1%,1/8W,AA,TP,1.8x3.2m"

Engine PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION	
2004-000178	"R284,R286"	2	R-METAL	"1.8Kohm,2%,1/8W,AA,TP,1.8x3.2mm"
2004-000218	R222	1	R-METAL	"10Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-000345	"R17,R22"	2	R-METAL	"15Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-000433	"R58,R213,R45"	3	R-METAL	"1Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-000517	R235	1	R-METAL	"200Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-000628	R280	1	R-METAL	"26.1Kohm,1%,1/8W,AA,TP,1.8x3.2"
2004-000680	R293	1	R-METAL	"2Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-000699	R47	1	R-METAL	"3.3Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-000884	R37	1	R-METAL	"4.3Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-000965	R279	1	R-METAL	"470Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-001023	R35	1	R-METAL	"5.6Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-001231	R269	1	R-METAL	"75Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-001315	R234	1	R-METAL	"86.6Kohm,1%,1/8W,AA,TP,1.8x3.2"
2004-001357	R233	1	R-METAL	"93.1Kohm,1%,1/8W,AA,TP,1.8x3.2"
2004-001364	R1	1	R-METAL	"97.6ohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-002001	R63	1	R-METAL	"12.1Kohm,1%,1/8W,AA,TP,1.8x3.2"
2004-004805	R258	1	R-METAL	"430Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-004806	R237	1	R-METAL	"46Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2009-000001	"R211,R214"	2	R-METAL GLAZE	"30Mohm,5%,1/2W,-,BK,19.5x15x8mm"
2009-000002	R220	1	R-METAL GLAZE	"200Mohm,5%,1/2W,-,BK,19.5x15x8"
2009-001041	"R201,R202,R203,R205"	4	R-METAL GLAZE	"2Mohm,1%,1/4W,AA,TP,3X9mm"
2009-001041	"R206,R208,R209"	3	R-METAL GLAZE	"2Mohm,1%,1/4W,AA,TP,3X9mm"
2009-001042	"R204,R207"	2	R-METAL GLAZE	"4.7Mohm,1%,1/4W,AA,TP,3x9mm"
2009-001105	R302	1	R-METAL GLAZE	"100Kohm,1%,1/2W,AA,TP,3.3x9mm"
2009-001106	"R303,R304"	2	R-METAL GLAZE	"50Kohm,1%,1/2W,AA,TP,3.3x9mm"
2009-001107	"R300,R301"	2	R-METAL GLAZE	"10Mohm,1%,1/4W,AA,TP,2.6x6.2mm"
2103-000156	VR201	1	VR-SEMI	"10Kohm,10%,1/2W,TOP"
2103-000156	VR202	1	VR-SEMI	"10Kohm,10%,1/2W,TOP"
2103-001079	VR203	1	VR-SEMI	"100Kohm,15%,1/2W,TOP"
2201-000003	C205	1	"C-CERAMIC,DISC"	"68pF,10%,2KV,SL,TP,8x5,5"
2201-000004	"C203,C213,C220"	3	"C-CERAMIC,DISC"	"100pF,10%,2KV,SL,TP,8x5,5"
2201-000017	"C16,C17,C22,C43"	4	"C-CERAMIC,DISC"	"1nF,10%,50V,Y5P,TP,4x3.5,5"
2201-000017	"C45,C240"	2	"C-CERAMIC,DISC"	"1nF,10%,50V,Y5P,TP,4x3.5,5"
2201-000019	C238	1	"C-CERAMIC,DISC"	"10nF,+80-20%,500V,Y5V,TP,13.5x"
2201-000119	"C226,C227,C229"	3	"C-CERAMIC,DISC"	"100nF,+80-20%,50V,Y5V,TP,8x3.5"
2201-000119	"C26,C46,C37,C77"	4	"C-CERAMIC,DISC"	"100nF,+80-20%,50V,Y5V,TP,8x3.5"
2201-000119	"C78,C79,C209,C222"	4	"C-CERAMIC,DISC"	"100nF,+80-20%,50V,Y5V,TP,8x3.5"
2201-000138	"C30,C31"	2	"C-CERAMIC,DISC"	"100pF,10%,50V,Y5P,TP,4.0x4.0,2"
2201-000162	"C300,C301"	2	"C-CERAMIC,DISC"	"10nF,+80-20%,50V,Y5V,TP,6.3x3.5"
2201-000177	"C217,C236,C237,C239"	4	"C-CERAMIC,DISC"	"10nF,10%,50V,Y5P,TP,12.5x4.0,5"
2201-000177	"C8,C9,C24,C36"	4	"C-CERAMIC,DISC"	"10nF,10%,50V,Y5P,TP,12.5x4.0,5"
2201-000215	C225	1	"C-CERAMIC,DISC"	"120pF,5%,50V,CH,TP,9.5x3,5"
2201-000326	"C218,C223,C230"	3	"C-CERAMIC,DISC"	"2.2nF,10%,50V,Y5P,TP,6.5x3,5"
2201-000391	"C81,C82"	2	"C-CERAMIC,DISC"	"22pF,5%,50V,SL,TP,5.0x3.0,5"
2201-000469	"C25,C44"	2	"C-CERAMIC,DISC"	"330pF,10%,500V,Y5P,TP,6x4,5"
2201-000473	"C207,C208,C210,C214"	4	"C-CERAMIC,DISC"	"33nF,+80-20%,50V,Y5V,TP,6x3,5"
2201-000558	"C4,C7"	2	"C-CERAMIC,DISC"	"470pF,10%,50V,Y5P,TP,5x3,5"
2201-000724	"C201,C202,C204,C206"	4	"C-CERAMIC,DISC"	"470pF,0.1,3KV,Y5P,TP,8x5,5"
2201-000724	"C212,C216,C219"	3	"C-CERAMIC,DISC"	"470pF,0.1,3KV,Y5P,TP,8x5,5"
2201-000724	C234	1	"C-CERAMIC,DISC"	"470pF,0.1,3KV,Y5P,TP,8x5,5"
2202-000002	"C10,C12"	2	"C-CERAMIC,MLC-AXIAL"	"10nF,0.05,500V,X7R,TP,5.1x6.4x"
2202-000186	"C2,C3"	2	"C-CERAMIC,MLC-AXIAL"	"2.2nF,5%,50V,NPO,TP,3.8x7.4,-"
2301-000490	C221	1	"C-FILM,PEF"	"4.7nF,5%,100V,TP,5.8x3.1x12.5,-"
2401-001197	"C74,C75,C76"	3	C-AL	"33uF,20%,50V,GP,TP,6.3x7,-"
2401-002144	"C6,C11"	2	C-AL	"47uF,20%,16V,GP,TP,5x11,5"
2401-002300	"C5,C228"	2	C-AL	"47uF,20%,50V,GP,TP,6.3x11,5"
2902-001011	BD1	1	FILTER-LINE	"-, -, -"
3301-000344	"FB2,FB3,FB11,FB12"	4	CORE-FERRITE BEAD	"ZZ,3.5x6.5mm,-,-"
3405-000125	"SW151,SW152"	2	SWITCH-MICRO	"125V,5A,50gf,SPDT"
3711-000517	CN6	1	CONNECTOR-HEADER	"3WALL,8P,1R,2mm,STRAIGHT,SN"
3711-002002	CN1	1	CONNECTOR-HEADER	"-,22P,2R,2mm,STRAIGHT,SN"
3711-003203	CN8	1	CONNECTOR-HEADER	"3WALL,6P,1R,2.0mm,STRAIGHT,SN"
3711-003204	"CN2,CN3"	2	CONNECTOR-HEADER	"BOX,24P,2R,2mm,STRAIGHT,SN"
3711-003207	CN7	1	CONNECTOR-HEADER	"BOX,13P,1R,2mm,STRAIGHT,SN"
3711-003968	CN4	1	CONNECTOR-HEADER	"BOX,3P,1R,2.5mm,STRAIGHT,SN"
JC26-20100A	T203	1	TRANS AF-	"ML-80,-,1.3UH"
JC26-20301B	"T201,T202,T204"	3	TRANS AF-	"ML-80,-,95MH"

Engine PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
JC33-10501B	CLUTCH	1	SOLENOID-6000 "ML-6000,24VDC,72W,57,39X39X22,"
JC39-40511A	"JP1,JP2,JP3,JP4"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP10,JP11,JP12,JP13"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP100JP102,JP105"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP106~JP109"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP110,JP114,JP116,JP117"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP124,JP125,JP126,JP128"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP129,JP131,JP135,JP137"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP138,JP139,JP140,JP141"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP145,JP146,JP147,JP148"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP149,JP151,JP152"	3	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP156,JP157,JP158,JP159"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP16,JP17,JP18,JP19"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP160,JP161,JP162,JP163"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP164,JP165,JP166,JP168"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP169,JP170,JP173"	3	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP176,JP177,JP178,JP179"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP180,JP181,JP183,JP185"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP186,JP190,JP191"	3	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP192,JP193,JP194"	3	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP20,JP21,JP22,JP23"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP25,JP27,JP28,JP31"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP305,JP306"	2	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP307,JP309,JP310,JP311"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP312,JP314,JP315,JP317"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP318,JP320"	2	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP32,JP33,JP34,JP35"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP322,JP323,JS2"	3	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP326,JP324,JP325"	3	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP36,JP37,JP38,JP39"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP40,JP41,JP42,JP43"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP44,JP45,JP49,JP50"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP52,JP53,JP56,JP59"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP6,JP7,JP8,JP9"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP60,JP61,JP62,JP63"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP64,JP65,JP67,JP68"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP70,JP72,JP73,JP75"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP76,JP77,JP78,JP79"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP81,JP84,JP85,JP87"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP88,JP89,JP90,JP92"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"JP94,JP95,JP97,JP99"	4	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC41-00024A	PCB_ENGINE	1	PCB-ENGINE "SF-6700,FR-1,1L,1.6T,-"
JC62-30002A	HS202	2	HEAT SINK-SMPS "ML-80,AL,-"
JC70-10909A	"MHV,DEV,SUPPLY,THV"	4	IPR-CONNECTOR HV "ML-80,AL,T0.8,-"
JF62-30201A	HS201	1	HEAT SINK "HVPS,SPCC,t1.0"

6-4.OPE PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION	
JC92-01139A			PBA SUB-OPE	
0401-000116	"D1,D2,D3,D4,D5,D6,D7"	7	DIODE-SWITCHING	"MMSD914T1,100V,200mA,225mW,4nS"
0604-000167	S1	1	PHOTO-INTERRUPTER	"TR,-,-,BK"
0604-001006	S2	1	PHOTO-INTERRUPTER	"TR,-,-,DIP-4,BK"
2007-000011	"R23,R24"	2	R-CHIP	"200OHM,1%,1/10W,DA,TP,2012"
2007-000029	"R14,R16,R17,R22,R28"	5	R-CHIP	"0OHM,5%,1/10W,DA,TP,2012"
2007-000033	"J1,J2,J3,J4,J5,J6"	6	R-CHIP	"0OHM,5%,1/8W,DA,TP,3216"
2007-000300	R13	1	R-CHIP	"10KOHM,5%,1/10W,DA,TP,2012"
2007-000401	"R20,R21"	2	R-CHIP	"150OHM,5%,1/10W,DA,TP,2012"
2007-000493	R26	1	R-CHIP	"2.2KOHM,5%,1/10W,DA,TP,2012"
2007-000586	"R2,R3,R4,R5,R6,R7"	6	R-CHIP	"22KOHM,5%,1/10W,DA,TP,2012"
2007-000586	"R8,R9,R10,R11,R12"	5	R-CHIP	"22KOHM,5%,1/10W,DA,TP,2012"
2007-000822	R27	1	R-CHIP	"390OHM,5%,1/10W,DA,TP,2012"
2203-000206	"C5,C6,C7,C8,C9"	5	"C-CERAMIC,CHIP"	"100nF,10%,50V,X7R,TP,2012"
2203-000239	"C10,C11,C12"	3	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000595	"C2,C3,C4"	3	"C-CERAMIC,CHIP"	"0.22nF,5%,50V,NP0,TP,2012"
2203-001002	"C13,C14"	2	"C-CERAMIC,CHIP"	"0.047nF,5%,50V,NP0,TP,2012"
2401-000414	C15	1	C-AL	"10uF,20%,16V,GP,TP,4x7,5"
2802-000185	X1	1	RESONATOR-CERAMIC	"7.37MHz,0.5%,TP,10.0x5.0x10.0m"
JB13-00004A	U1	1	IC ASIC-OPE	"SF-3100,HT48C5,SSOP,48P,16.18X10.67X2.79"
JC39-00020A	OPE-MAIN HARNESS	1	CBF HARNESS-OPE-MAIN	"SF-6700,CBF,UL1061,200,BL/RD,AWG26"
JC41-00021A	PCB OPE	1	PCB-OPE	"SF-6700,DS-1107A,1L,1.6T,303.5X126.5"
JG07-20001A	LCD	1	DISPLAY LCD-	"SF4000,UC-162937-TNAR5-A,BLK/G"
JG39-41019A	OPE-LCD HARNESS	1	CBF HARNESS-LCD	"SF4400,WIRE,UL2878,40mm,GRY,#2"

6-5. LIU PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
JC92-01138A			PBA SUB-LIU
0401-000116	D7	1	DIODE-SWITCHING "MMSD914T1,100V,200mA,225mW,4nS"
0402-000132	"D1,D2,D3,D4"	4	DIODE-RECTIFIER "1N4004,400V,1A,DO-41,TP"
0403-000153	"ZD1,ZD2"	2	DIODE-ZENER "1N4746A,18V,5%,1W,DO-41,TP"
0403-000525	"ZD3,ZD4,ZD5,ZD6"	4	DIODE-ZENER "1N4733A,5.1V,5%,1W,DO-41,TP"
0501-000338	"Q8,Q9"	2	TR-SMALL SIGNAL "2SC2812,NPN,200mW,SOT-23,TP,20"
0502-000133	Q4	1	TR-POWER "2SA1156,PNP,1W,TO-126,-,40-80"
0505-000335	Q1	1	FET-SILICON "VN2410M,N,240V,0.19A,10ohm,7.9"
0604-000118	"U1,U3"	2	PHOTO-COUPLER "TR,20-300%,200mW,DIP-4,ST"
0604-000237	U2	1	PHOTO-COUPLER "TR,50-600%,200mW,DIP-4,ST"
1405-000170	VAR2	1	VARISTOR "82V,1200A,9x4.1mm,TP"
1405-000226	VAR3	1	VARISTOR "-,25A,5mm,TP"
2001-000025	R12	1	R-CARBON "75OHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000110	R15	1	R-CARBON "100OHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000499	R8	1	R-CARBON "200OHM,2%,1/2W,AA,TP,3.3X9MM"
2003-000178	R9	1	R-METAL OXIDE "15Kohm,5%,1W,AA,TP,4.3x12mm"
2007-000029	"J1,J3,J7,J8,J9,J11"	6	R-CHIP "00HM,5%,1/10W,DA,TP,2012"
2007-000029	"J12,J13,J14,J20,J21,J23"	6	R-CHIP "00HM,5%,1/10W,DA,TP,2012"
2007-000029	R19	1	R-CHIP "00HM,5%,1/10W,DA,TP,2012"
2007-000254	"R25,R26"	2	"1.62KOHM,1%,1/10W,DA,TP,2012"
2007-000282	R5	1	R-CHIP "100KOHM,5%,1/10W,DA,TP,2012"
2007-000282	R6	1	R-CHIP "100KOHM,5%,1/10W,DA,TP,2012"
2007-000686	"R22,R24"	2	R-CHIP "3.3KOHM,5%,1/10W,DA,TP,2012"
2007-000738	R21	1	R-CHIP "30KOHM,5%,1/10W,DA,TP,2012"
2007-000872	R18	1	R-CHIP "4.7KOHM,5%,1/10W,DA,TP,2012"
2007-000931	R14	1	R-CHIP "470OHM,5%,1/10W,DA,TP,2012"
2007-001092	R23	1	R-CHIP "620OHM,5%,1/10W,DA,TP,2012"
2007-001118	R3	1	R-CHIP "680OHM,5%,1/10W,DA,TP,2012"
2203-000239	"C18,C19"	2	"C-CERAMIC,CHIP" "0.1nF,5%,50V,NP0,TP,2012"
2203-000455	C14	1	"C-CERAMIC,CHIP" "1nF,5%,50V,NP0,TP,2012"
2203-000609	C10	1	"C-CERAMIC,CHIP" "22nF,10%,50V,X7R,TP,2012"
2301-001027	C11	1	"C-FILM,PEF" "15nF,10%,250V,TP,9.5x12x4.5,5m"
2305-000505	C1	1	"C-FILM,MPEF" "1uF,10%,250V,BK,6x8.5x14.5,15m"
2401-000026	C15	1	C-AL "3.3UF,20%,50V,GP,TP,5X11,5"
2401-000030	C2	1	C-AL "22uF,20%,25V,GP,TP,5x11,5"
2401-000603	C13	1	C-AL "1uF,20%,50V,GP,TP,5x11,5"
2401-000958	C9	1	C-AL "22uF,20%,50V,BP,-,10x12.5mm,5m"
2401-001775	C7	1	C-AL "470nF,20%,50V,GP,TP,4x7,5"
3501-001153	K1	1	RELAY-MINIATURE "5VDC,200MW,2000MA,2FORMC,4MS,4MS"
3711-002806	CN2	1	CONNECTOR-HEADER "BOX,5P,1R,2mm,STRAIGHT,SN"
JB26-00001A	T2	1	TRANS-MATCHING-REMOTE "SF-3100,-,30KOHM:30KOHM"
JB26-00002A	T1	1	TRANS-MATCHING-FAX "SF-3100,-,600OHM:600OHM"
JC39-00024A	LIU-MAIN(12PIN)	1	CBF HARNESS-MAIN-LIU(12P) "SF-6700,CBF,UL1061,75,BL/RD,AWG26"
JC39-40511A	"J18,J19,J22,J24,J25,J26"	6	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J2,J10"	2	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J4,J5,J6"	3	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC41-00020A	LIU PCB	1	PCB-LIU "SF-6700,FR-1,1L,1.6T,100X138"
JF26-10052A	L2	1	TRANS PULSE- "SF50,500V,10MOHM"

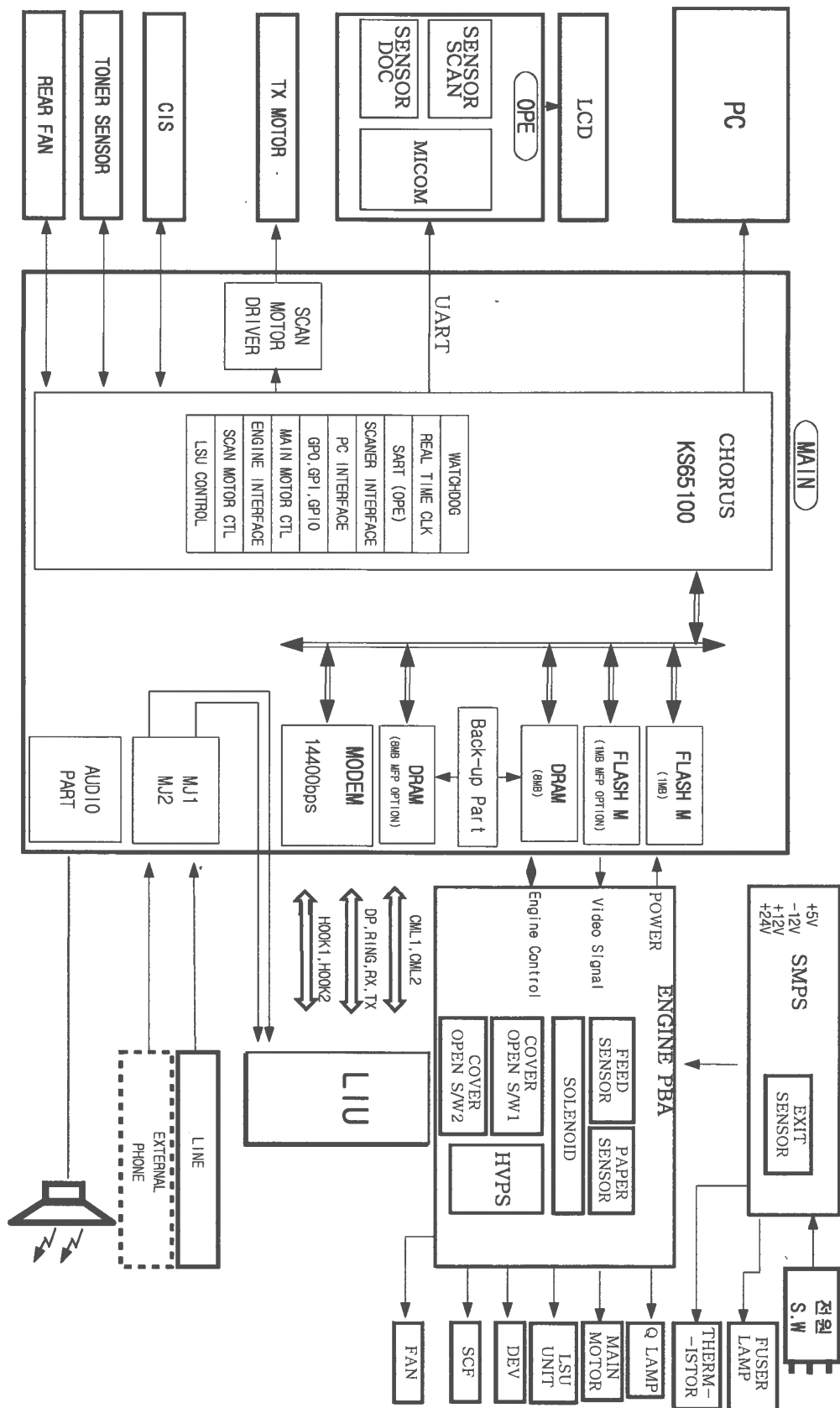
6-6. SCF PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
			PBA MAIN-SCF
0402-000132		1	DIODE-RECTIFIER "1N4004,400V,1A,DO-41,TP"
0501-000010		1	TR-SMALL SIGNAL "KSC1008,NPN,800mW,TO-92,TP,120"
0501-000399		1	TR-SMALL SIGNAL "KSC945-G,NPN,250mW,TO-92,TP,20"
0604-000180	OP1	1	PHOTO-INTERRUPTER"TR,-,-,-"
0801-000242	U4	1	IC-CMOS LOGIC "4040,BINARY COUNTER,DIP,16P,30"
0801-000873	U1	1	IC-CMOS LOGIC "4069,INVERTER,DIP,14P,300MIL,H"
0803-001022	U5	1	IC-TTL "74LS20,NAND GATE,DIP,14P,300MI"
0803-001217	"U2,U3"	2	IC-TTL "74LS74,D FLIP-FLOP,DIP,14P,300"
1003-000241	U6	1	IC-MOTOR DRIVER "UDN2916B,DIP,24P,300MIL,-,-,ST"
2001-000003	R10	1	R-CARBON "330ohm,5%,1/8W,AA,TP,1.8x3.2mm"
2001-000202	"R3,R6"	2	R-CARBON "0.5OHM,5%,1/2W,AA,TP,3.3X9MM"
2001-000290	"R9,R13,R14"	3	R-CARBON "10KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000362	R12	1	R-CARBON "150OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000429	"R4,R5,R11"	3	R-CARBON "1KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000435	R1	1	R-CARBON "1MOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000734	R2	1	R-CARBON "4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-001000	"R7,R8"	2	R-CARBON "82KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2201-000017	"C1,C2"	2	"C-CERAMIC,DISC" "1nF,10%,50V,Y5P,TP,4x3.5,5"
2201-000138	"C12,C13"	2	"C-CERAMIC,DISC" "100pF,10%,50V,Y5P,TP,4.0X4.0,2"
2201-000558	"C14,C15"	2	"C-CERAMIC,DISC" "470pF,10%,50V,Y5P,TP,5x3,5"
2202-000632	"C4,~C9,C11"	7	"C-CERAMIC,MLC-AXIAL " "100nF,20%,50V,Z5U,TP,2.5x4.3,-"
2401-000480	"C3,C10"	2	C-AL "10uF,20%,50V,GP,TP,5x11,5"
2802-000154	X1	1	RESONATOR-CERAMIC "480KHz,0.5%,BK,7.6x3.5x9.5mm"
3711-001060	CN2	1	CONNECTOR-HEADER"BOX,6P,1R,2.5mm,STRAIGHT,SN"
3711-001108	CN1	1	CONNECTOR-HEADER"BOX,8P,1R,2mm,STRAIGHT,SN"
6003-000179		2	SCREW-TAPTITE "PH,+,S,M3,L6,ZPC(YEL),SWRCH18A"
6502-000003		1	CABLE CLAMP "DAMC-101,-,-,-,NYLON66"
JC41-10303A		1	PCB-SUB "ML80ACSF,FR4,2L,1.6T,140X50"

6-7. SENSOR PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
			PBA MAIN-SENSOR
0501-000399	Q1	1	TR-SMALL SIGNAL "KSC945-G,NPN,250mW,TO-92,TP,20"
0601-001276	LED1	1	LED-IR "ROUND,5,20,5,-,-"
0603-001025	LED2	1	PHOTO-TR "NPN,30V,4V,50mA,150mW,BK"
2001-000290	"R1,R3,R5"	3	R-CARBON "10KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000734	R2	1	R-CARBON "4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2004-000201	R4	1	R-METAL "100ohm,1%,1/4W,AA,TP,2.4x6.4mm"
2201-000469	C1	1	"C-CERAMIC,DISC" "330pF,10%,500V,Y5P,TP,6x4,5"
JC41-10507A	PCB TONER SENSOR	1	PCB-TONER SENSOR "MLF-800,FR-1,1L,T1.6mm,32X29mm"

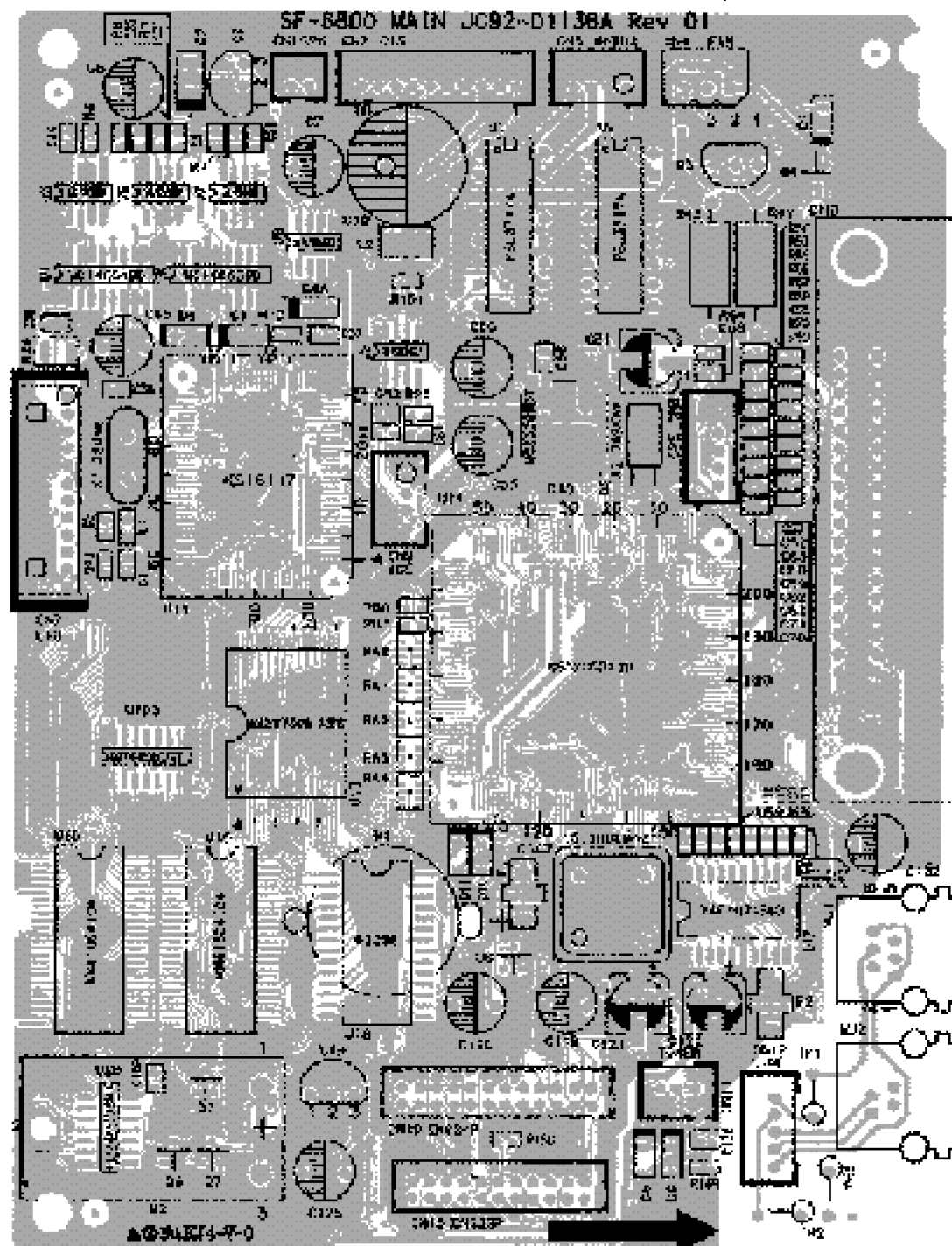
7. Block diagram



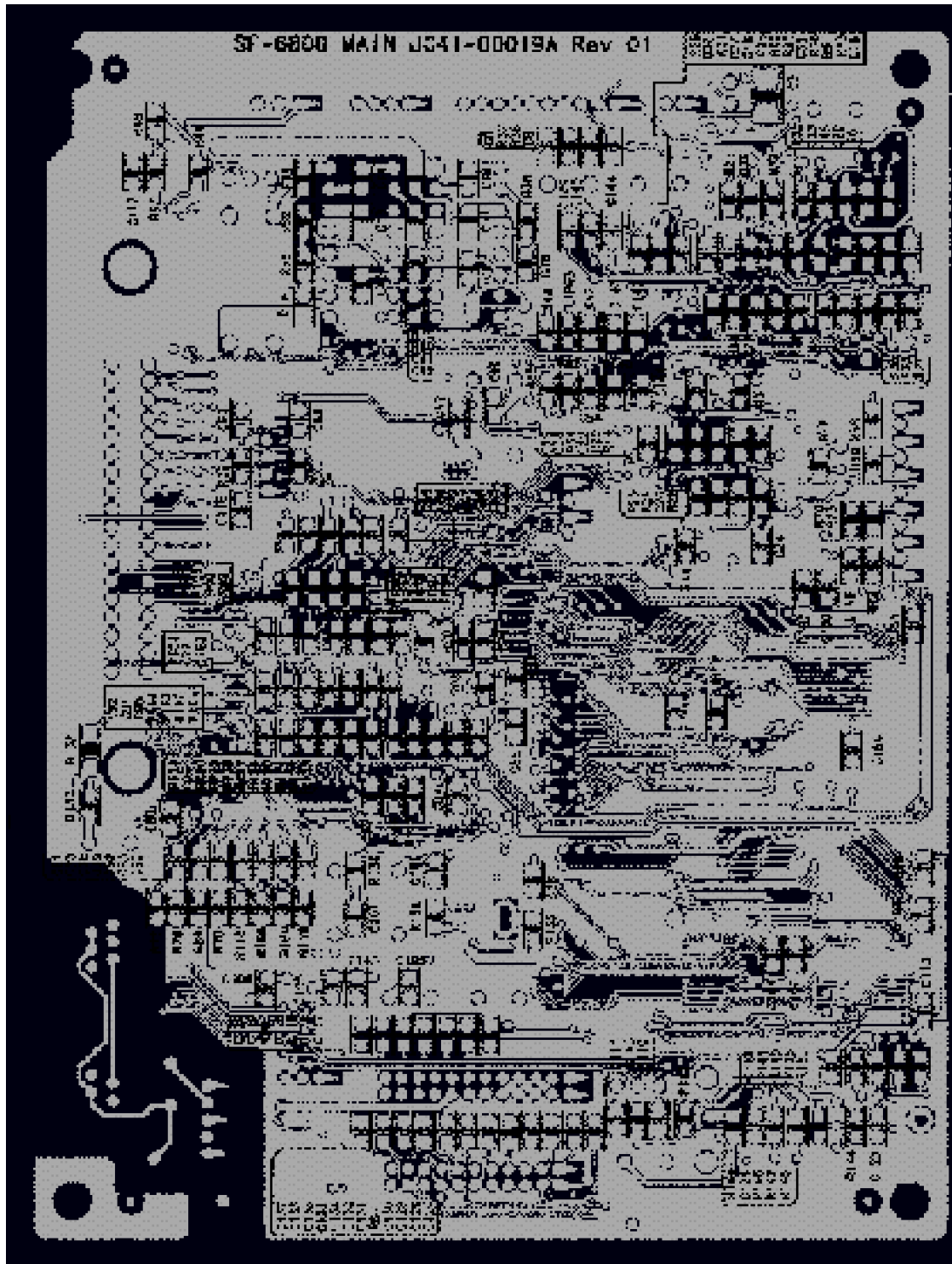
MEMO

9.PCB Diagrams

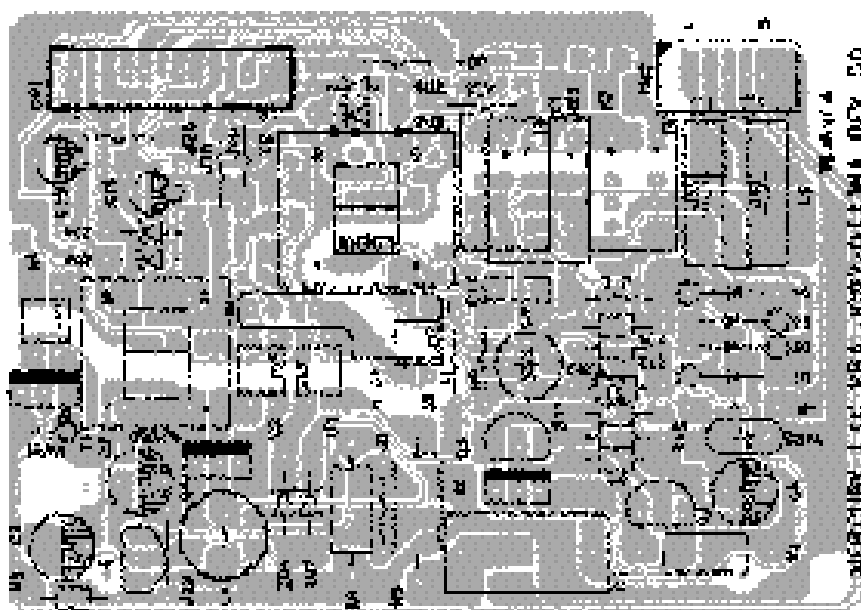
9-1 Main PCB Diagram(Top)



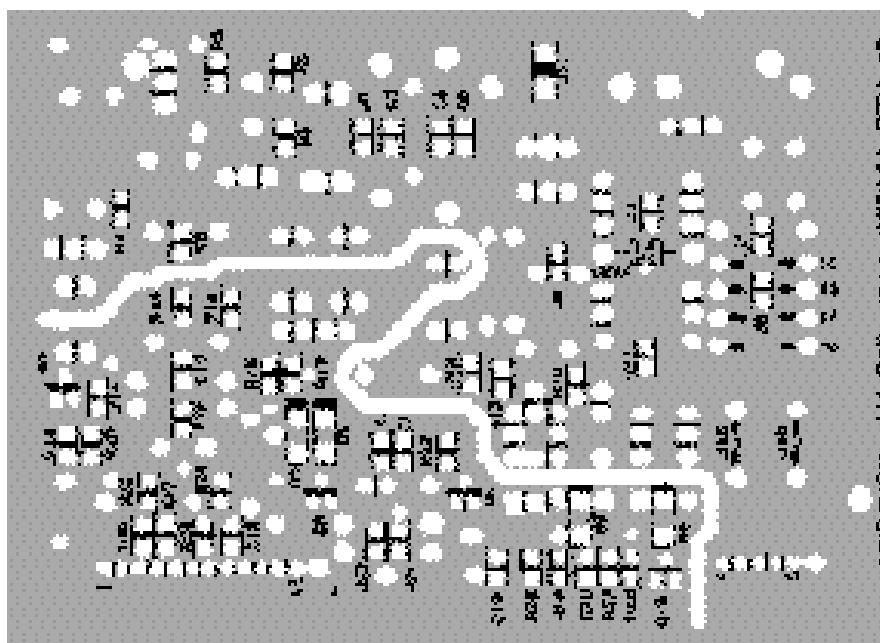
9-2 Main PCB Diagram(Bottom)



9-3 LIU PCB Diagram(Top)

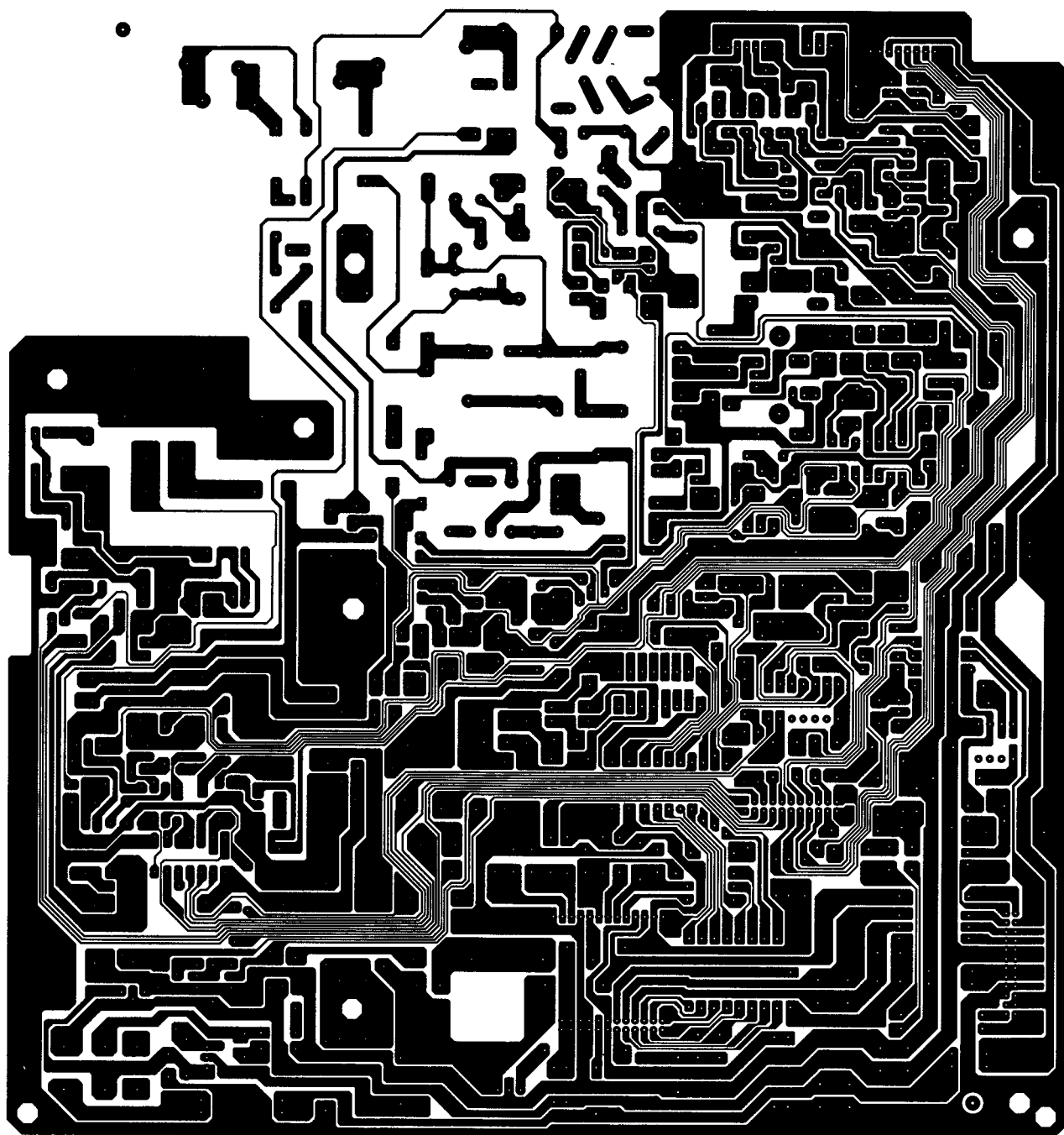


9-4 LIU PCB Diagram(Bottom)





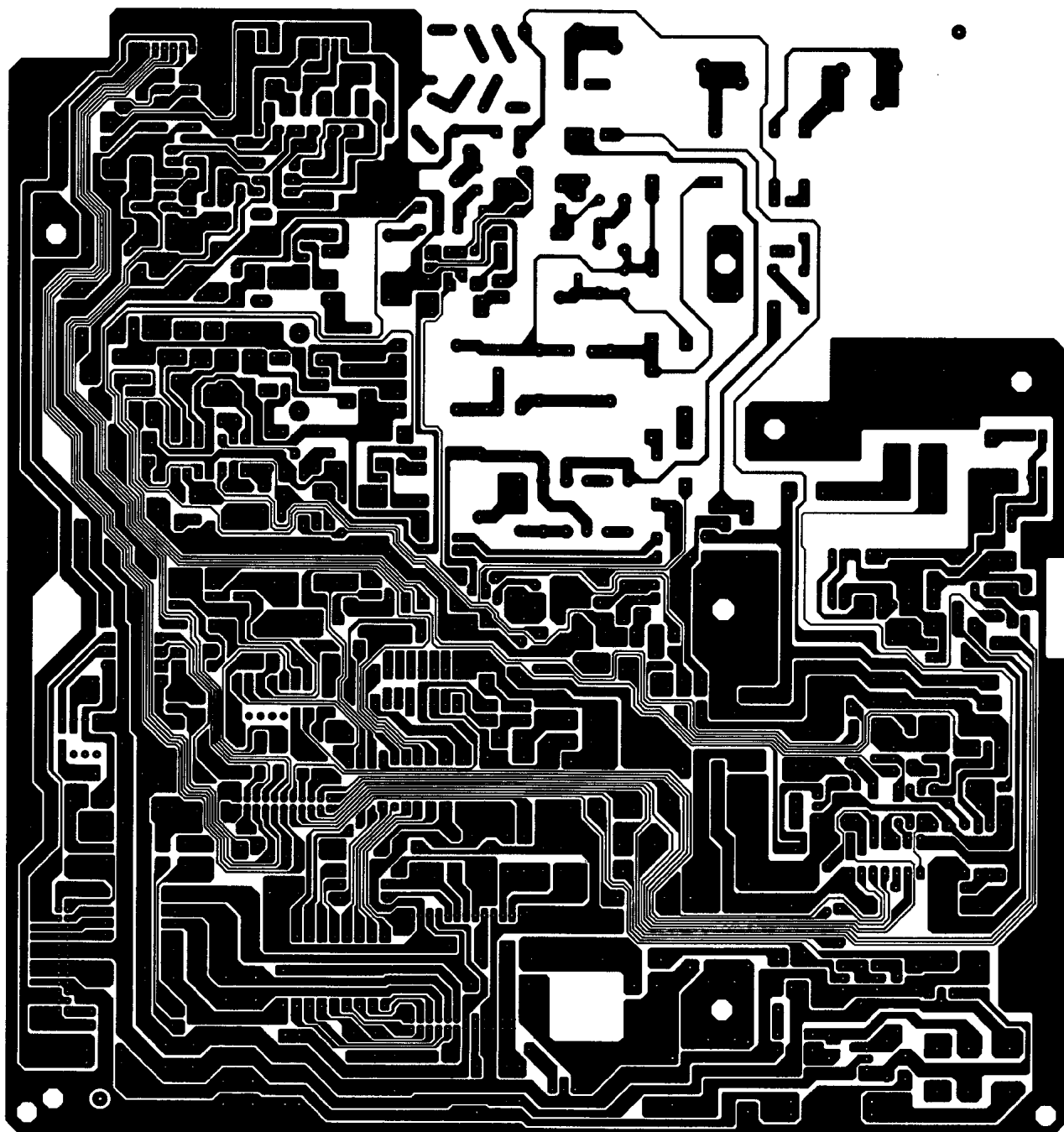
Engine PCB Diagram(Top)



9-6 Engine PCB Diagram(Bottom)

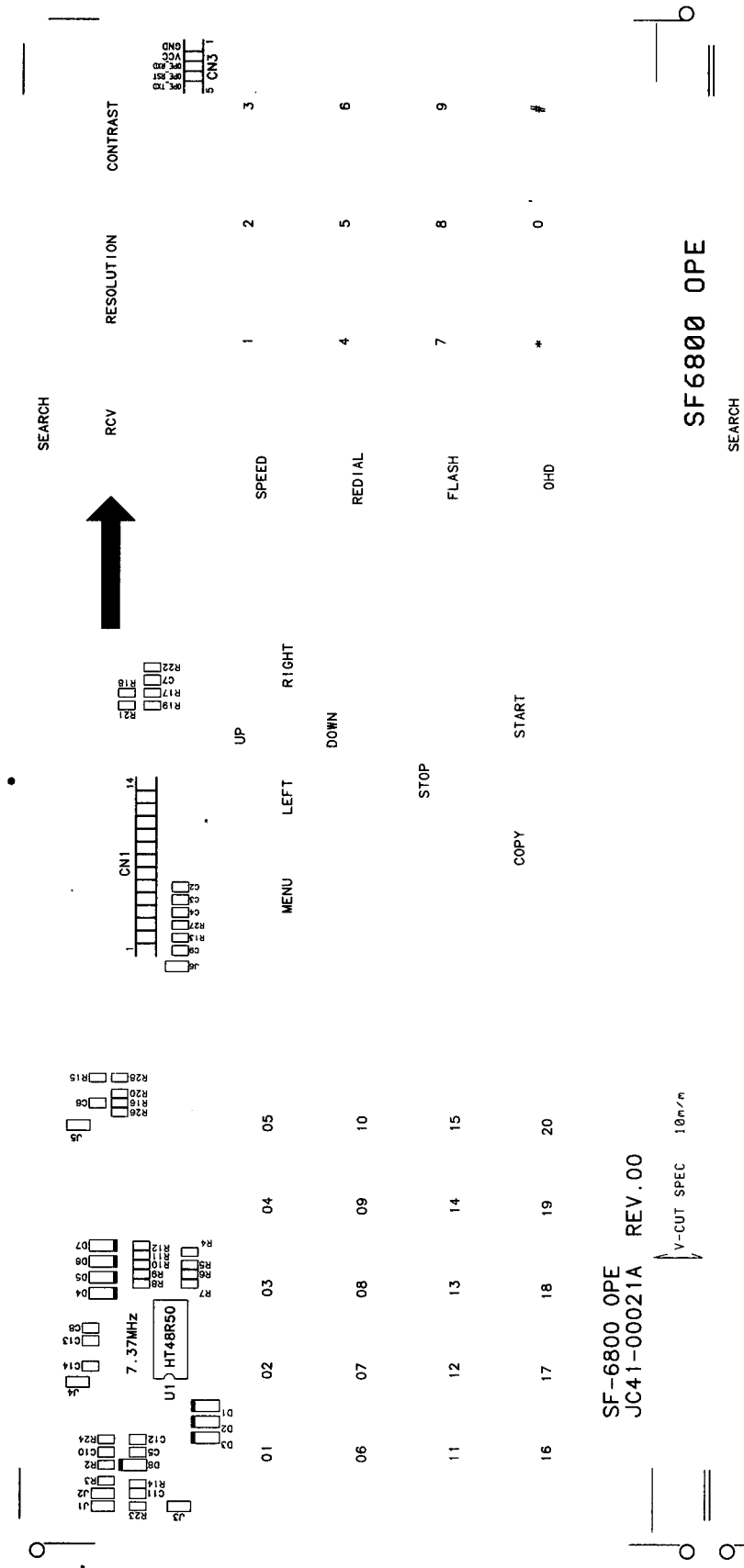


Engine PCB Diagram(Bottom)

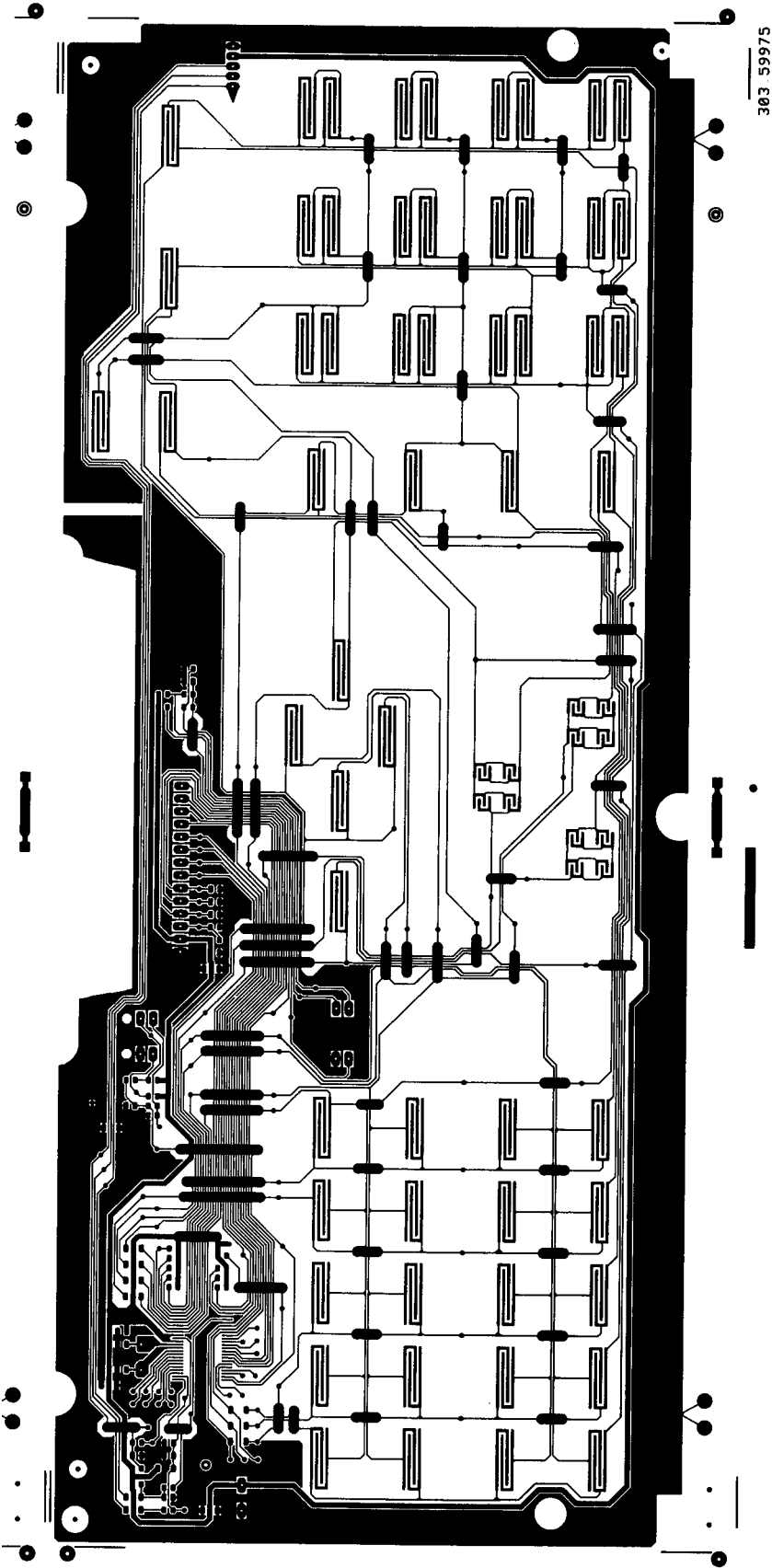


PCB Diagrams

9-7 OPE PCB Diagram

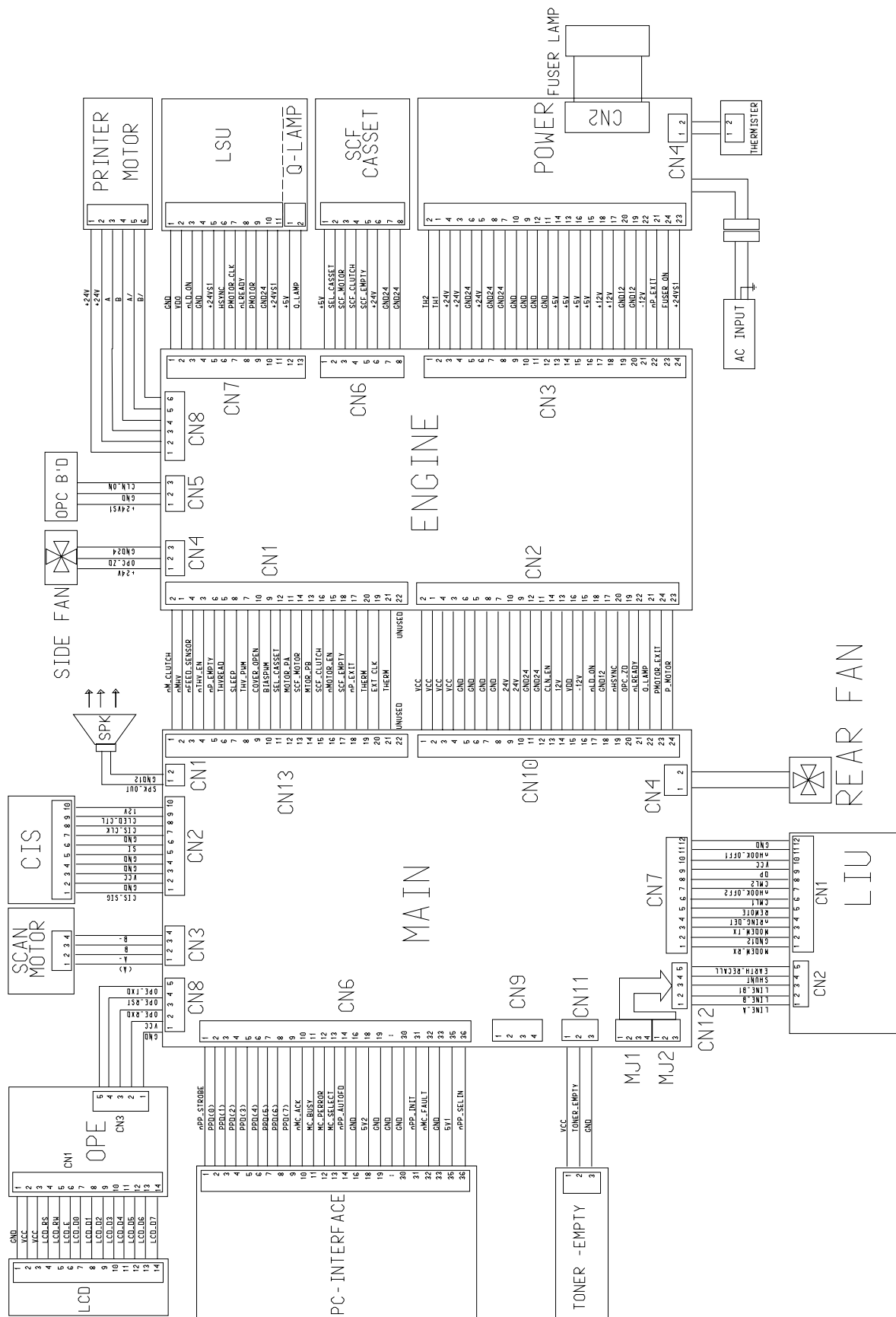


OPE PCB Diagram



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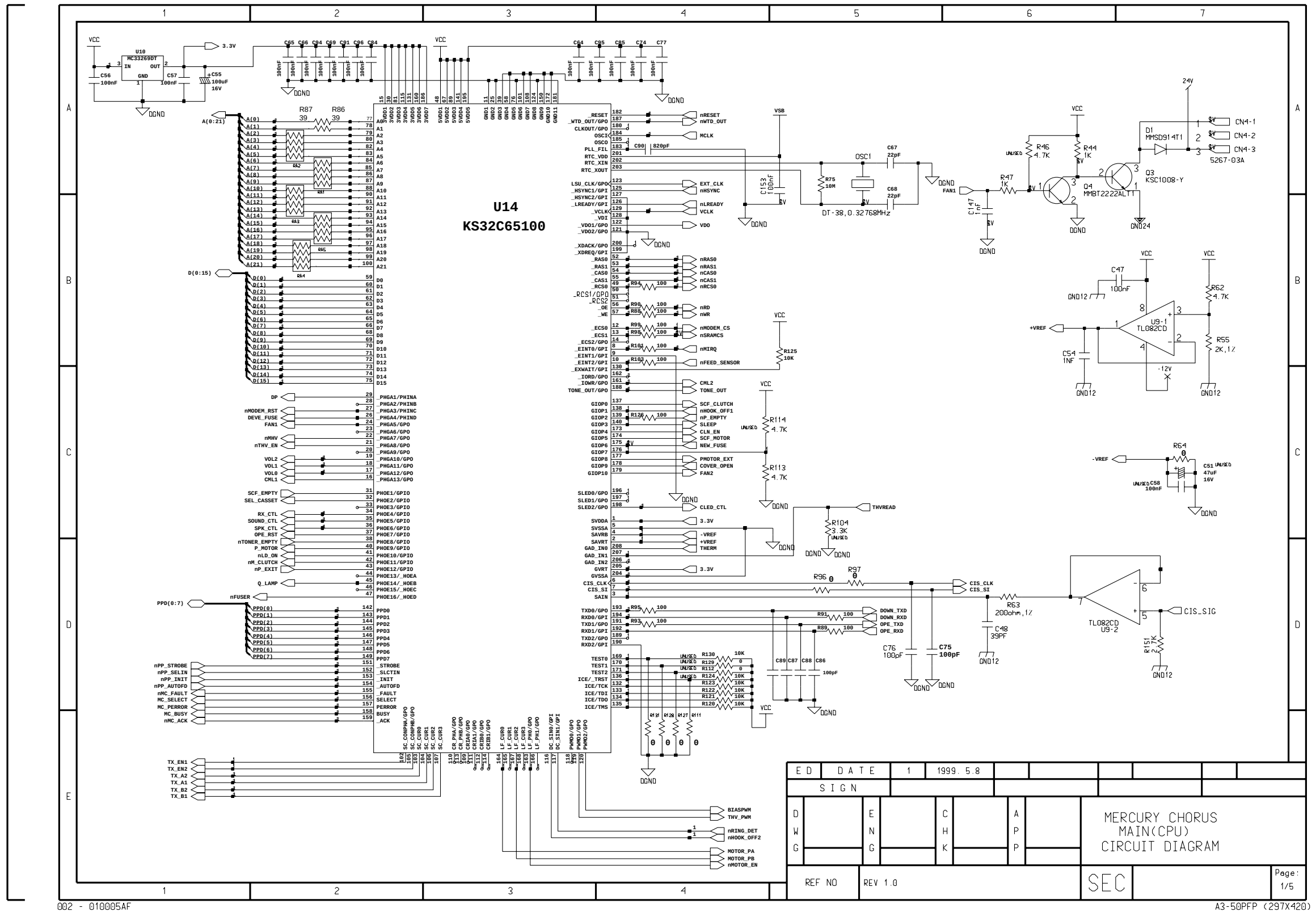
8-1



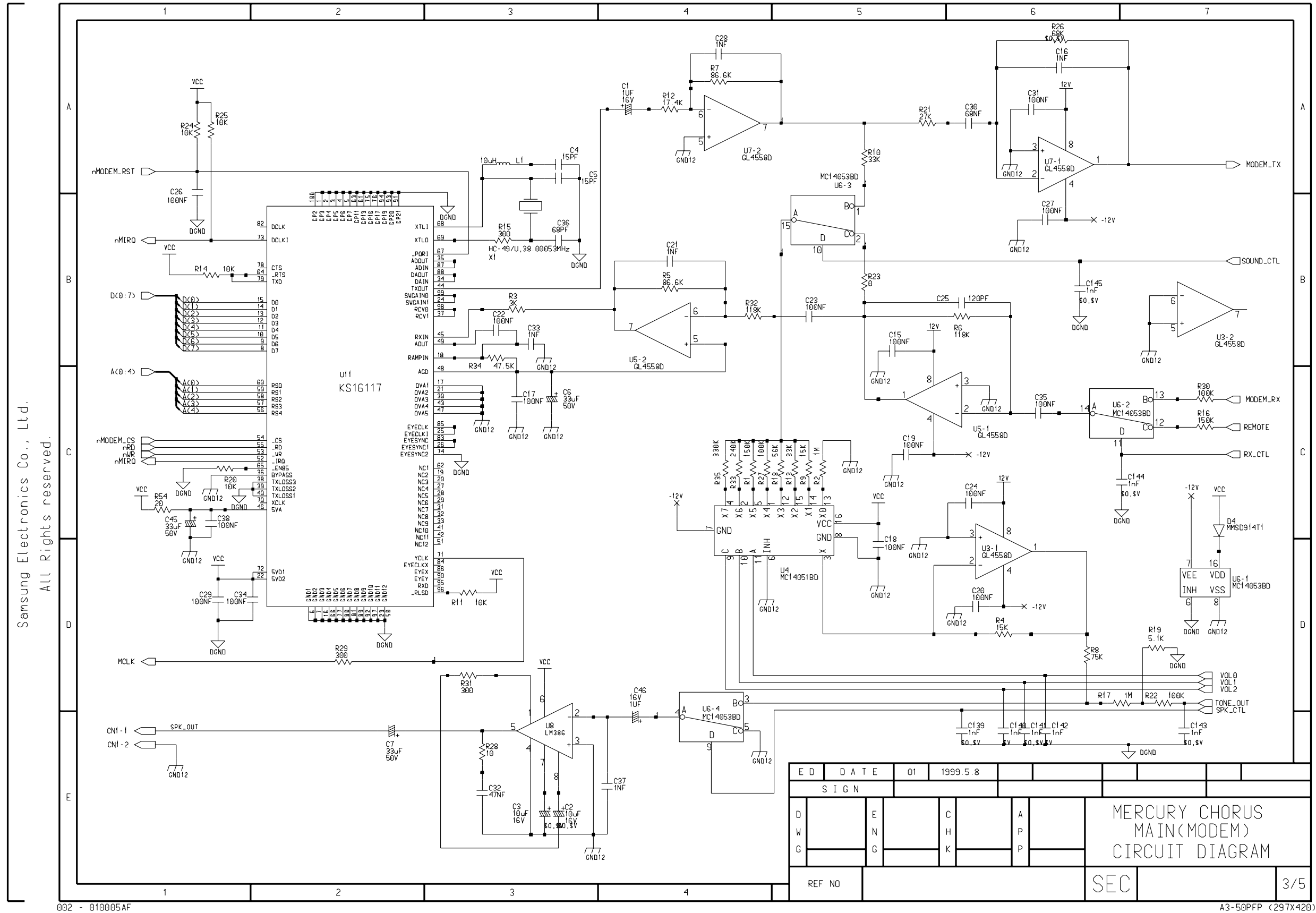
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10. Schematic Diagrams

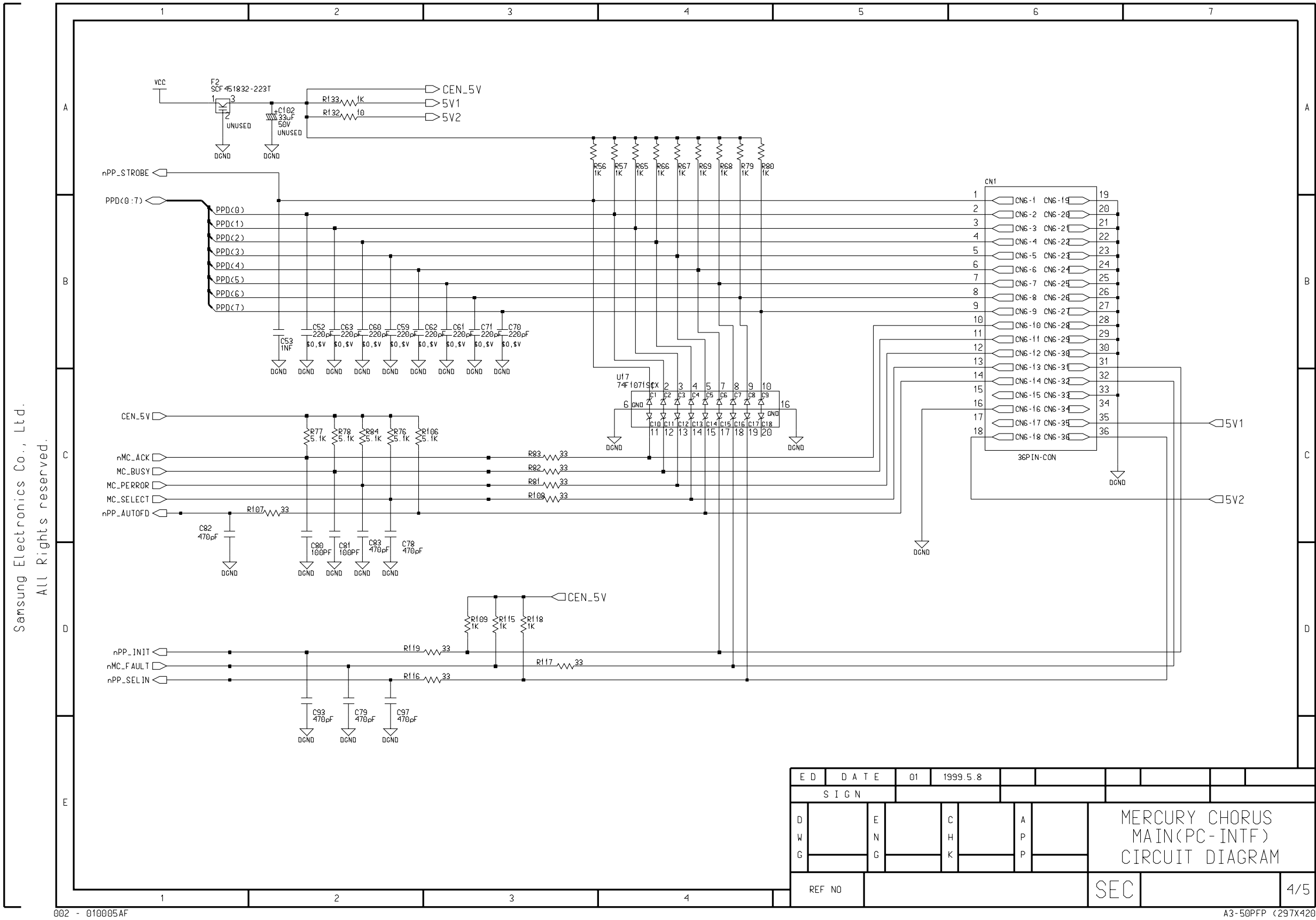
10-1 Main Circuit Diagram(1/5)



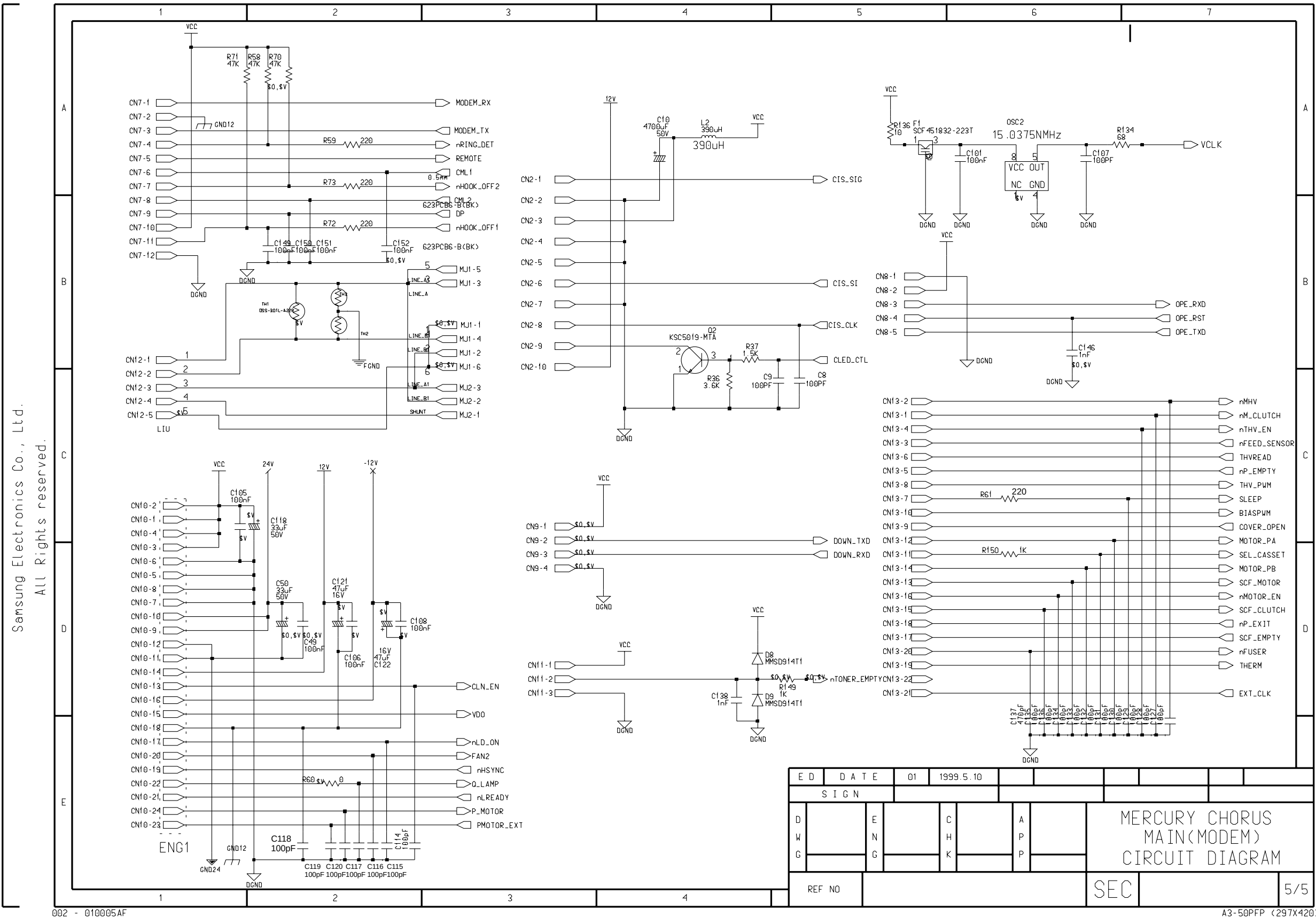
Main Circuit Diagram(3/5)



Main Circuit Diagram(4/5)

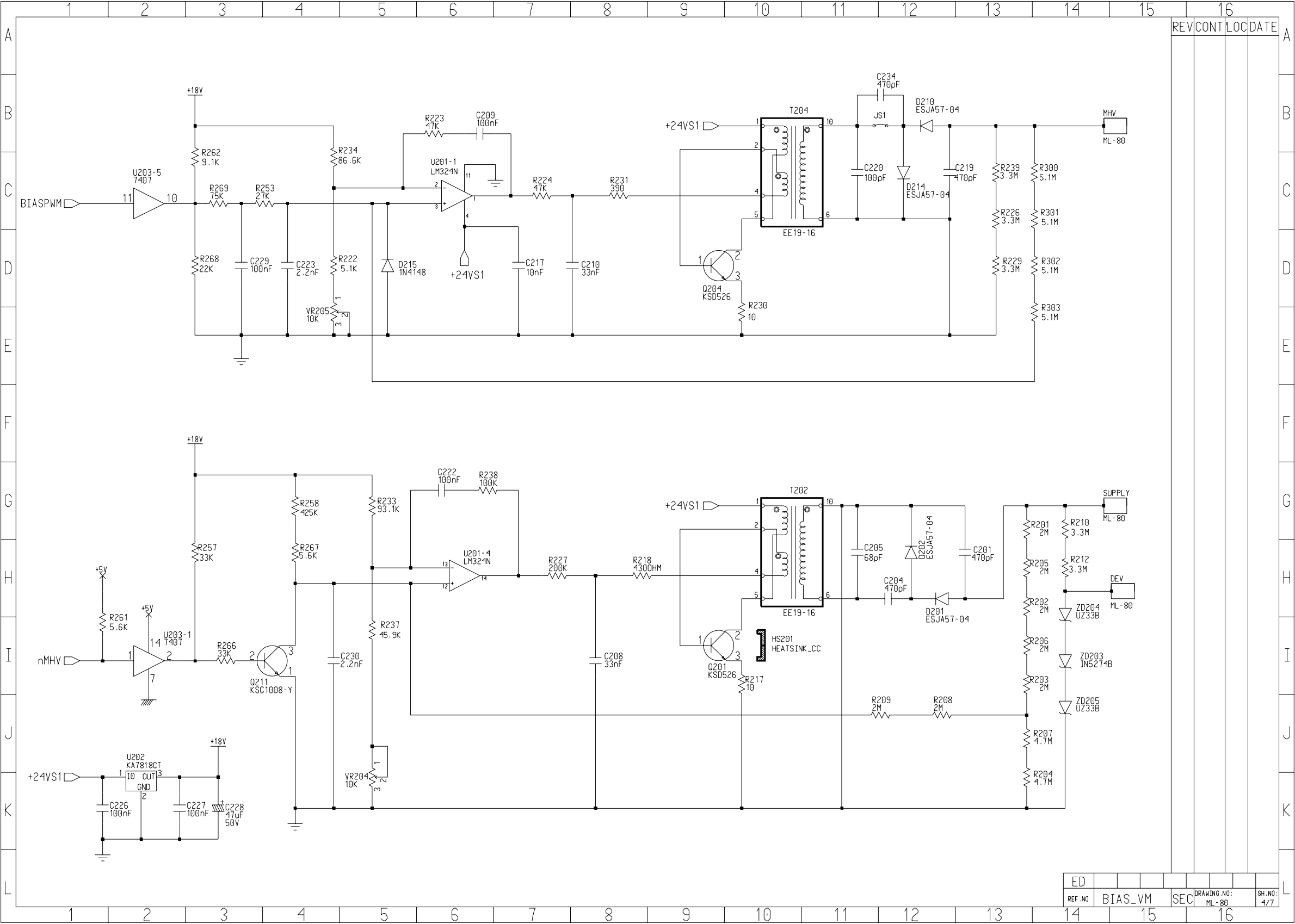


Main Circuit Diagram(5/5)

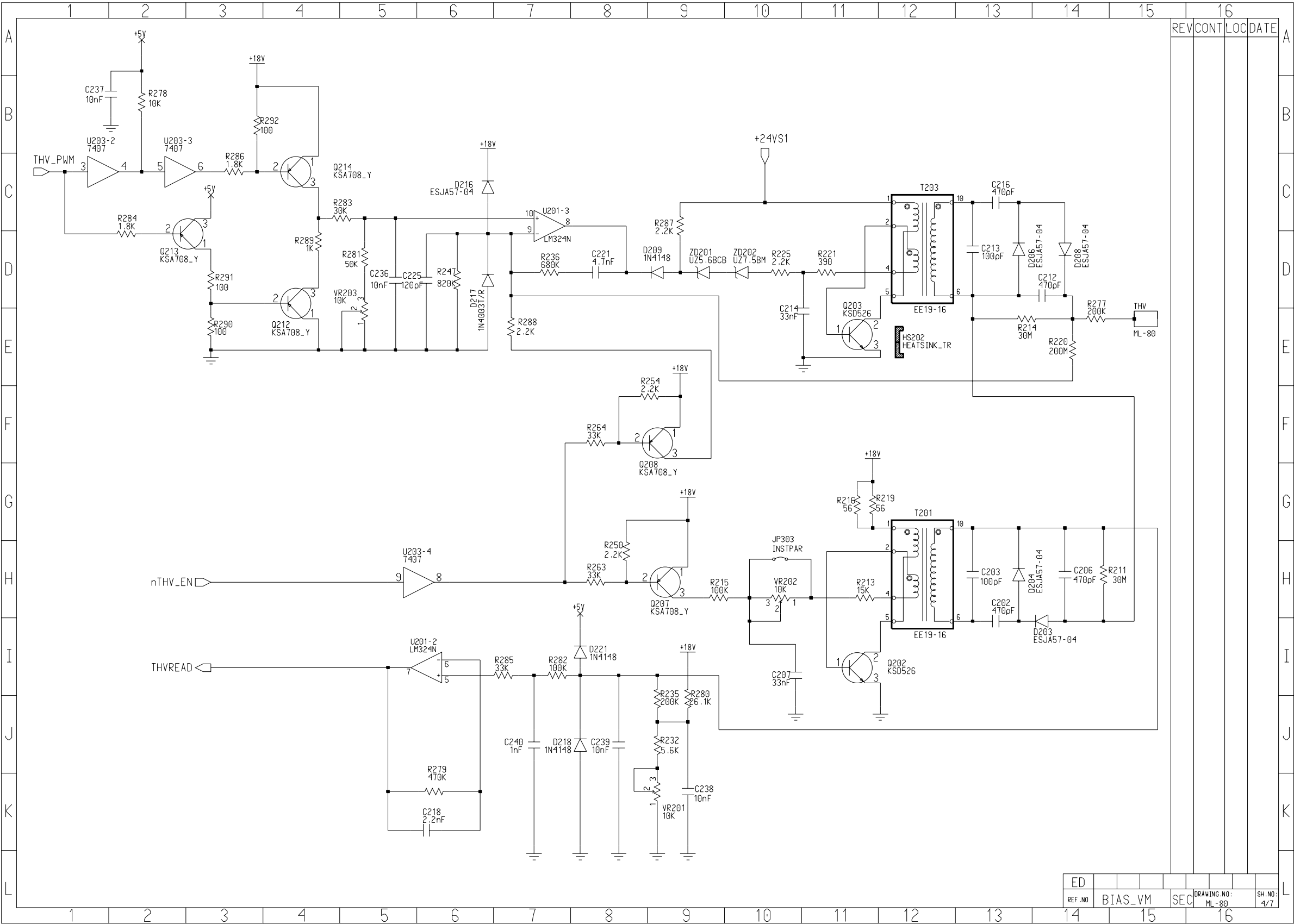


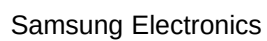


Engine Circuit Diagram(2/4)

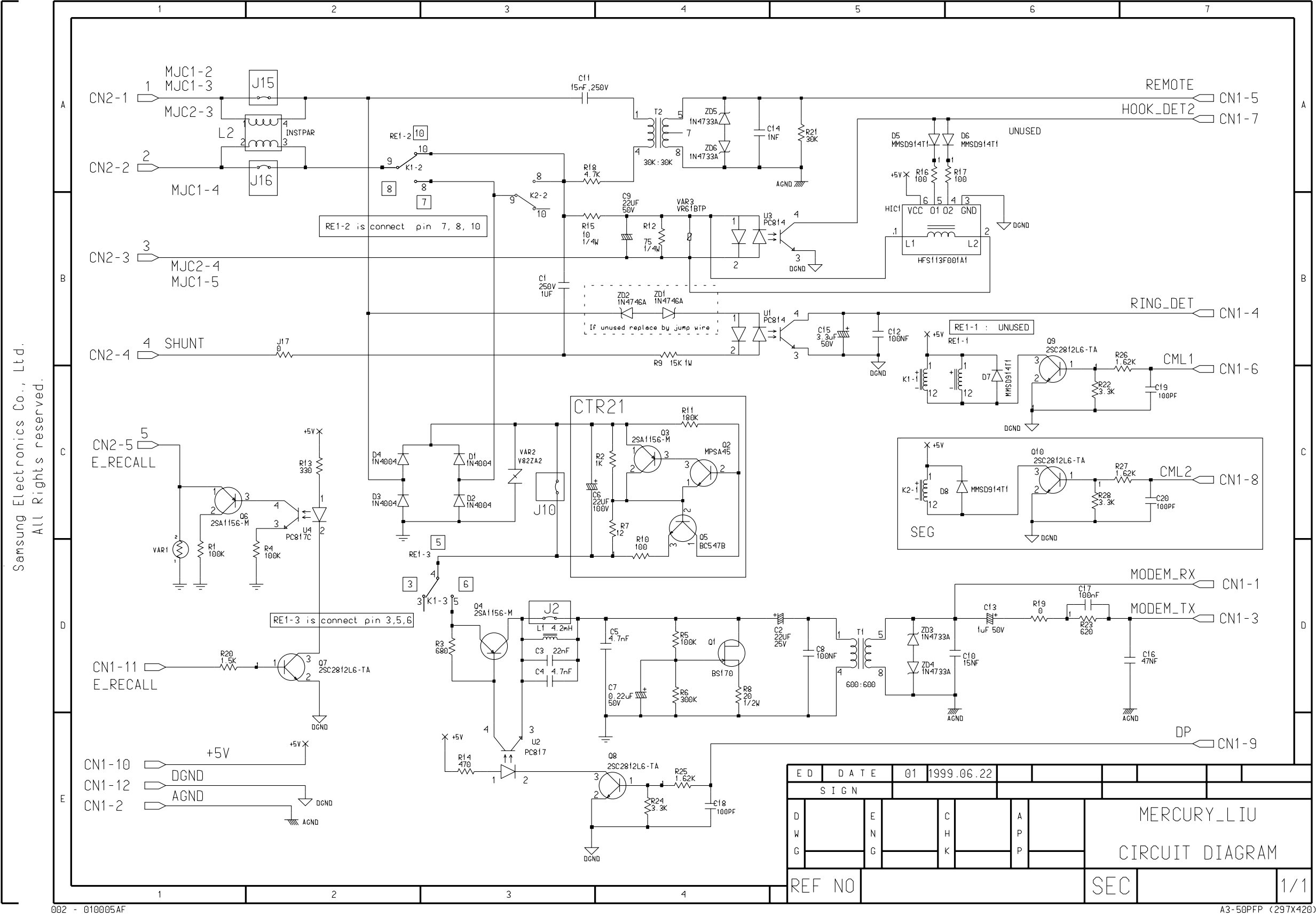


Engine Circuit Diagram(3/4)





10-3 LIU Circuit Diagram



10-4 OPE Circuit Diagram

