

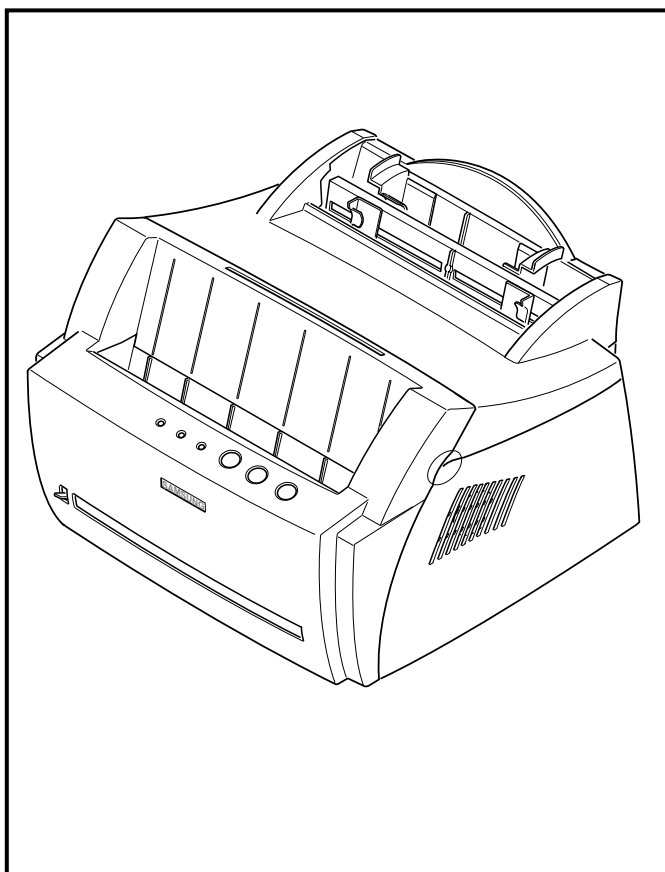


LASER PRINTER

ML-4500/XEV

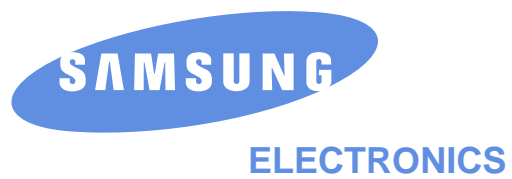
SERVICE *Manual*

LASER PRINTER



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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.

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 Super Capacitor or Lithium Battery Precautions

1. Exercise caution when replacing a super capacitor or 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. Super capacitor or Lithium batteries contain toxic substances and should not be opened, crushed, or burned for disposal.

2. Specification

2-1 Printer

Print Speed	8 PPM (Letter 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	Center Reference Loading	
Paper	Size Normal Paper : A4,Letter,Legal,B5, Executive, A5 Envelope : Normal Envelope Length : 149 ~ 365mm Width : 100 ~ 216mm Weight : For MPF, 60 ~ 90g/m ² For Manual, 60 ~ 163g/m ²	Bin Type
Paper Capacity	MPF : 150 Sheets (based on 75g/m ²) Manual Slot : 1 Sheet	
Paper Stacker Capacity	Face up : 100 Sheets (75g/m ² , 20 lb)	
Warming up Time	30 Sec	
First Printing Time	Stand-By : 20Sec Power Save Mode : Less than 5min	
Power Rating	AC 110V ~ 120V ± 15% 50/60Hz ± 3Hz, AC 220V ~ 240V ± 15% 50/60Hz ± 3Hz	
Power Consumption	Avg. 180Wh	
Power Saving Consumption	Avg. 10Wh Sleep Mode	
Certification & Compliance	FCC, C-UL, CE, CB, TUV	
Acoustic Noise	Stand-by : Less than 35dB Sleep Mode : Less than 29dB Operating : Less than 50dB	

Specification

Toner Cartridge	One-Cartridge type
Expected Life Span	50,000 Sheets
Operating Environment	Temperature : 10 ~ 32°C Humidity : 20 ~ 85%
Storage Environment	Temperature : -20 ~ 40°C Humidity : 10 ~ 95%RH
Weight	Net : Max.6.5kg(with Accessory) Gross : Max. 9kg
External Dimension	329(W) X 343(D) x 224(H)mm
Developer	<ul style="list-style-type: none">. Life Span : 5% Pattern,Min. 2,500 / 1,000 Sheets. Developing : Non-magnetic Contact Developing. Charging : Conductive Roller Charging. Density Adjustment : Normal /Economic Mode selectable by the PC driver (Only ML-4500). Toner Supply Method : Exchanging Toner Cartridge. New Developer Checkable. Transfer System : Conductive Roller Transfer. Fusing System : Temperature & Pressure. OZONE Emission : Max. 0.1 PPM(8 Hours)

2-2 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 Max. 0.2(Including Continuous Print)	
Background Uniformity		
Fusing	Min. 80% (All Black)	75g/m ²
Start Position	Top : x ± 4.23mm, Side : y ± 4mm	From Left
Skew	Top : Max. ± 1.5mm/117.9mm Side : Max. ± 1.8mm/241.3mm	
Orthogonality	± 1.0mm	
Horizontal Scan	± 0.6mm/208mm (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 10mm (10 Sheets, 75g/m ² Paper) After Cooling : Less than 10mm (10 Sheets, 75g/m ² Paper)	
Reliability		
Insulation Resistance	Less than 10 MΩ (at DC 500V)	
Dielectric Strength	AC 1000V (DC 1420V), 10mA	
Ground Continuity	Less than 0.1Ω	
Voltage DIP	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/3 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 SMPS	
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	

2-3 SMPS (Switching Mode Power Supply)

Input (AC)

AC Input Voltage	Europe	USA
Minimum	198V	90V
Typical	230V	120V
Maximum	264V	135V
Max. AC Input Current	2.5Amps	3Amps
Max. Inrush Current	Ap-p (at 20°C)	

Output (DC)

Line Regulation	24V \pm 10%
	5V \pm 5%
Road Regulation	24V \pm 10%
	5V \pm 5%, -5V \pm 5%
Ripple Noise	24V : Peak 300mV
	-5V : Peak 500mV
	5V : Peak 500mV
Over Current Protect	24V : 2.7A \pm 10% (by Circuit)
	5V : A \pm 10% (by Circuit)
Over Voltage Protect	24V : 33VDC
	5V : 5.6VDC

3. Disassembly and Reassembly

3-1 General Precautions on Disassembly

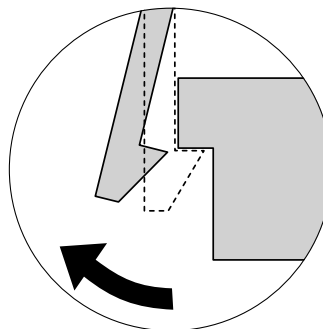
When you disassemble and reassemble components, you must use extreme caution. The close proximity of cables to moving parts makes proper routing a must. If components are removed, any cables disturbed by the procedure must be restored as close as possible to their original positions. Before removing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

Whenever servicing the machine, you must perform as follows:

1. Remove the print cartridge. Do not expose the cartridge to direct room light or sun light, and be careful not to scratch the drum surface.
2. Turn the power switch off.
3. Unplug all the cables from the printer.
4. Replace with only an authorized component.
5. Do not force to open or fasten a plastic material component.
6. Be careful no obstacles are included when you reassemble components.
7. When you reassemble components, be careful small size components are located in place.
8. If you turn the machine over to replace some parts, toner or paper particles may contaminate the LSU window. Protect the LSU window with clean paper.

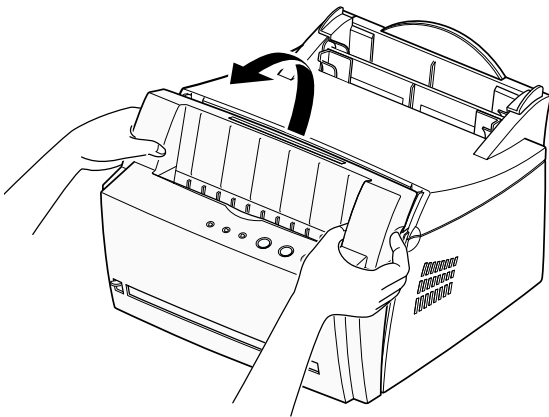
Releasing Plastic Latches

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.

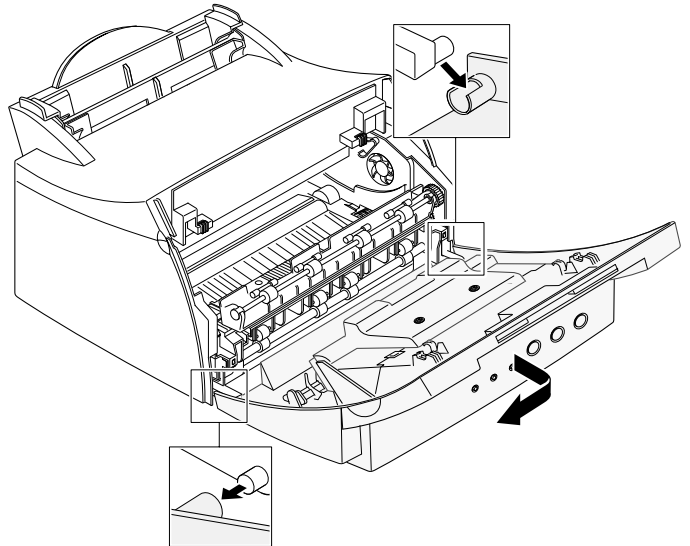


3-2 OPE Cover

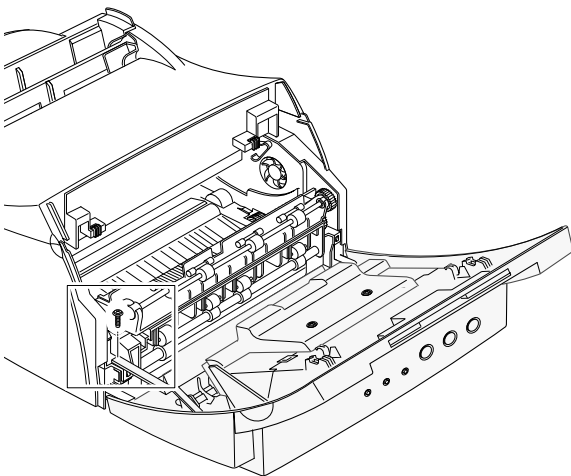
1. Hold both sides of the cover and pull it towards you.



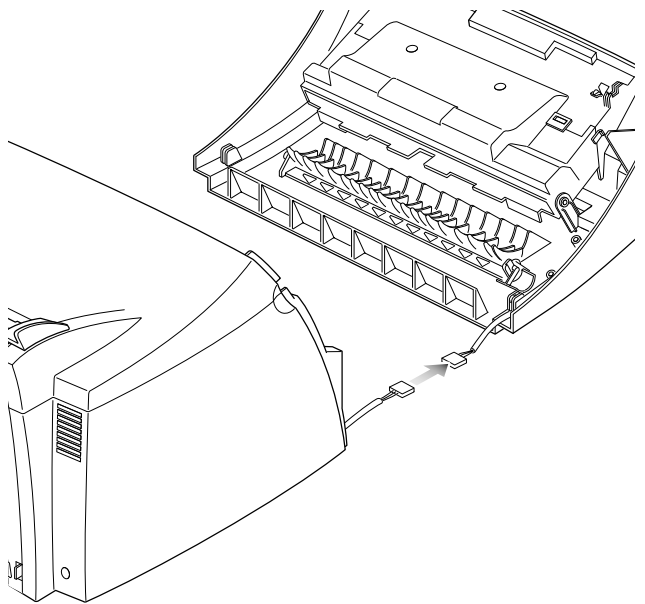
3. Release the right-bottom of the cover, then pull it in the direction of arrow to release the other end.



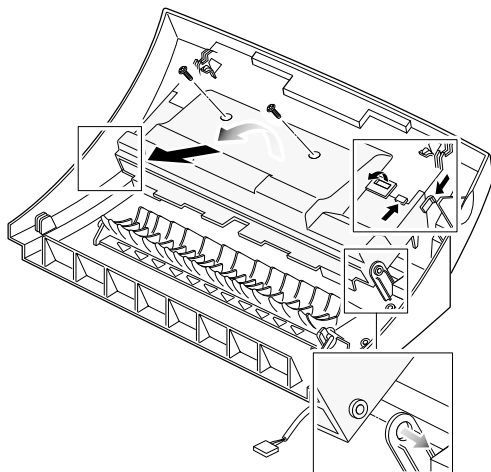
2. Remove the one screw to release the stopper securing the cover to the main body.



4. Unplug the connector connecting the OPE cover to the main body and remove the cover.

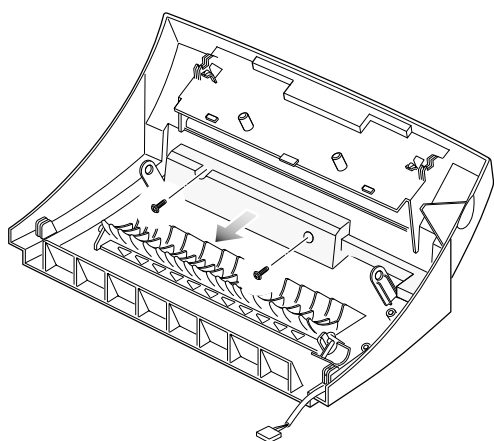


5. Remove the two screws and pull the guide stacker in the direction of arrow. Then Spread out the parts securing the guide stacker on both sides to release the cover.

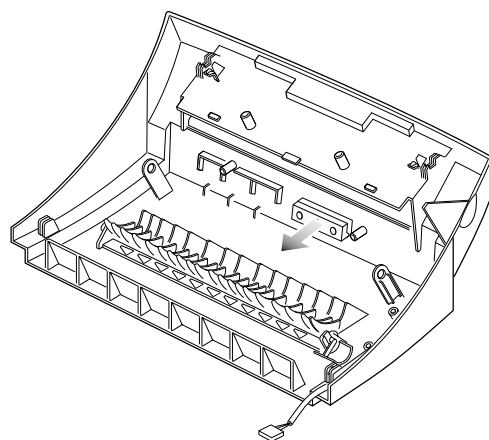


3-3 OPE Board

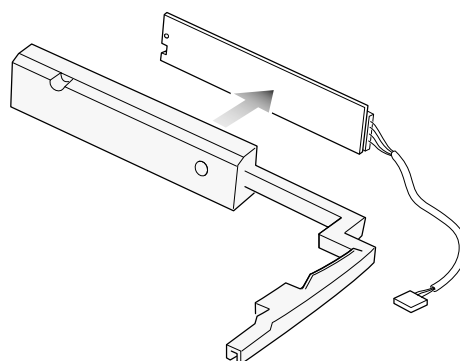
1. Before you remove the board, you should remove the OPE cover (see page 3-2).
2. Remove the three screws, then remove the cover PCB.



3. Remove the LED.

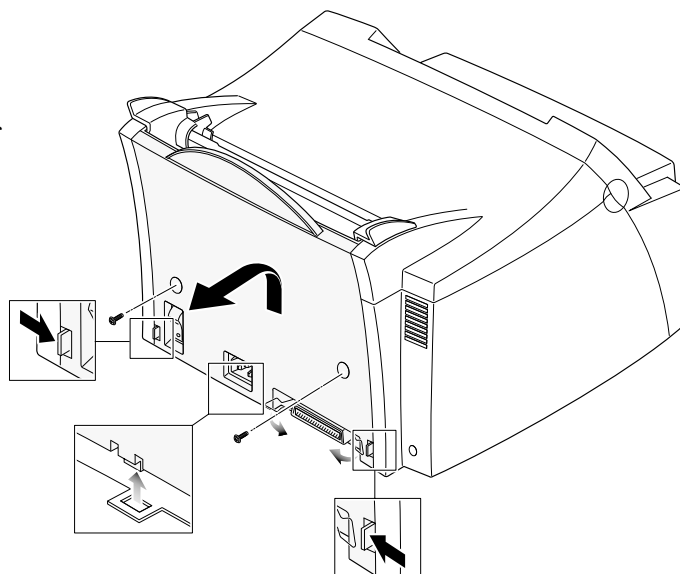


4. Remove the PCB from the cover PCB.



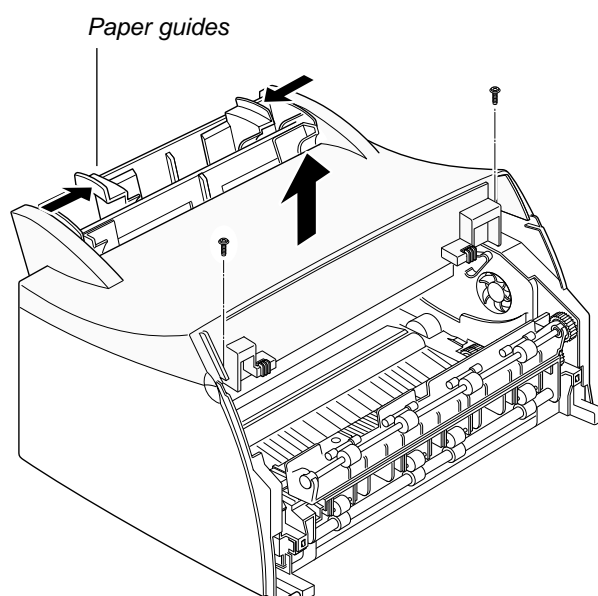
3-4 Rear Cover

1. Remove the two screws on the back of the machine.
2. Pull the handles on both sides in the direction of the arrows then lift the rear cover to unlatch it from the bottom, then remove the cover.



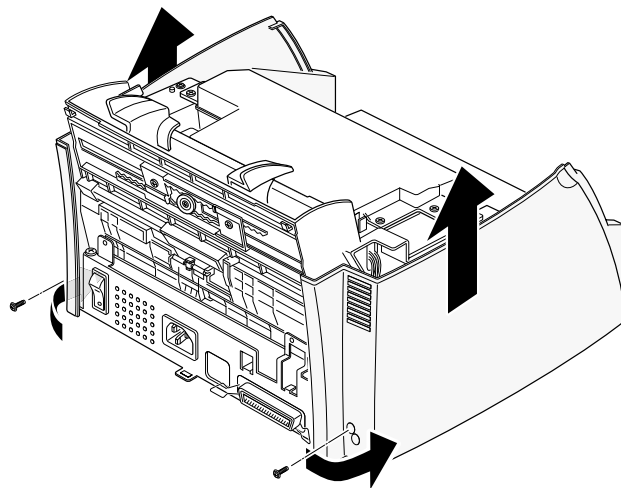
3-5 Top Cover

1. Before you remove the top cover, you should remove:
 - OPE cover (see page 3-2)
 - Rear cover (see above)
2. Slide the paper guide on the paper tray inwards. Remove the two screws on the top cover, then remove the cover.



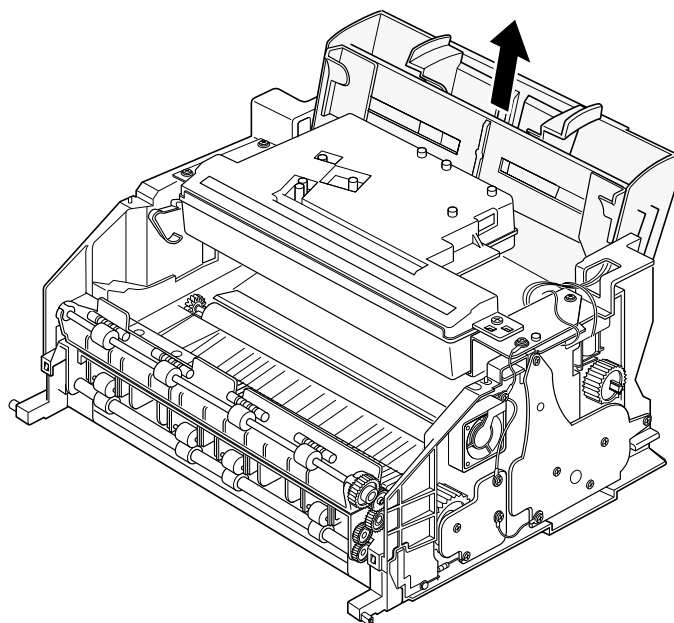
3-6 Side covers (R, L)

1. Before you remove the top cover, you should remove:
 - OPE cover (see page 3-2)
 - Rear cover (see page 3-4)
 - Top cover (see page 3-4).
2. Remove the two screws and pull the left and right side covers in the direction of arrow.



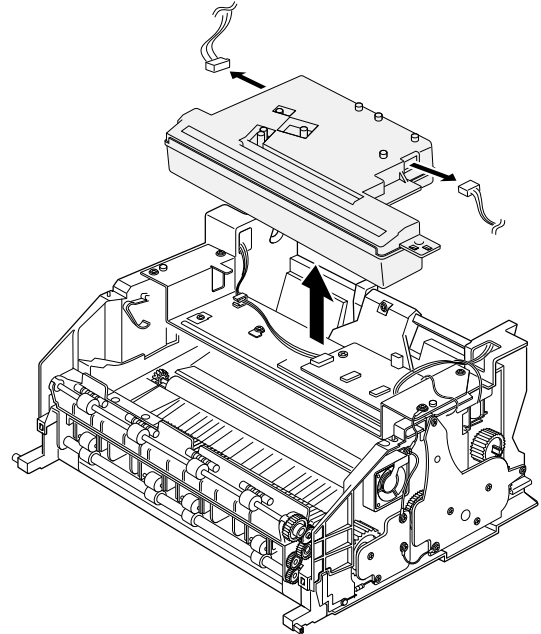
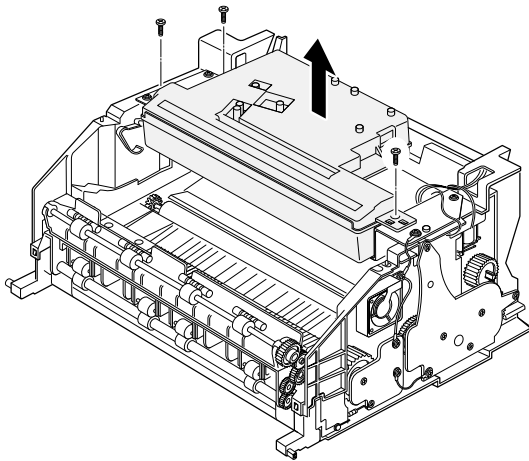
3-7 Paper Tray

1. Before you remove the paper tray, you should remove:
 - OPE cover (see page 3-2)
 - Rear cover (see page 3-4)
 - Top cover (see page 3-4)
 - Side covers (see above)
2. Take out the tray from the main frame.



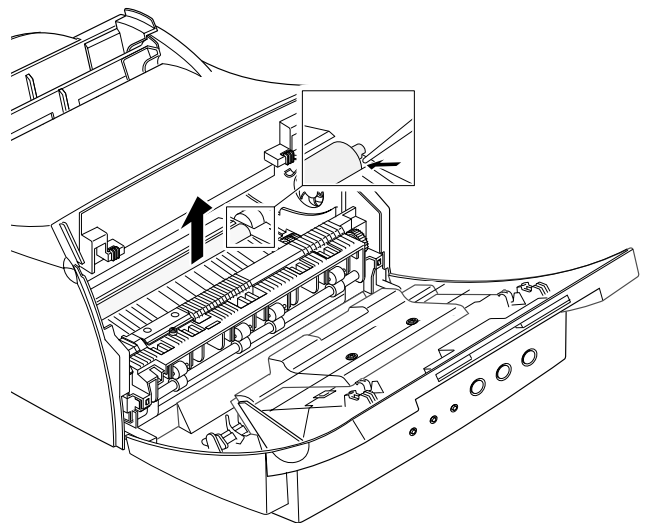
3-8 LSU

1. Before you remove the LSU, you should remove:
 - All covers (see page 3-2, 3-4, 3-5)
2. Remove the three screws securing the LSU.
3. Unplug two connectors from the LSU and remove the LSU.



3-9 Transfer Roller

1. Open the front cover.
2. Lift the transfer roller using a proper tool as shown in the figure and take out the roller.

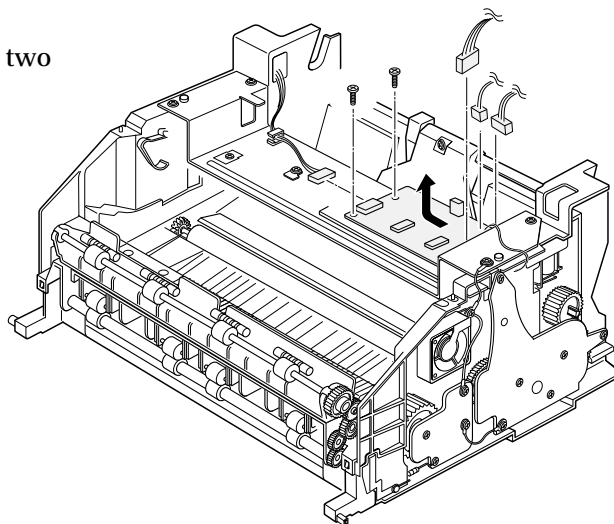


3-10 Engine Board

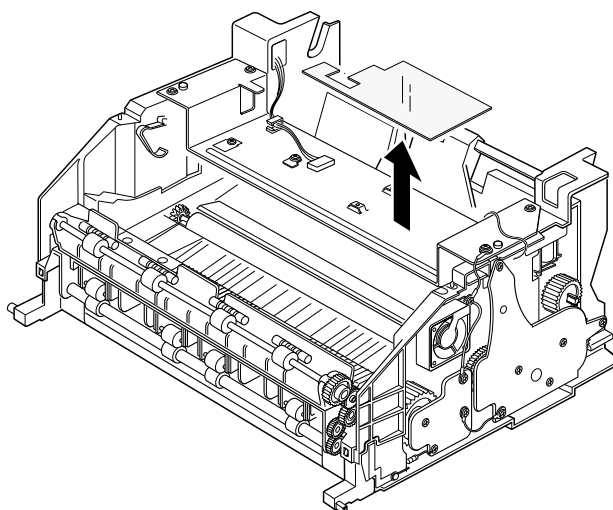
1. Before you remove the engine board, you should remove:

- All covers (see page 3-2, 3-4, 3-5)
- LSU (see page 3-6)

2. Unplug the four connectors and remove the two screws from the engine board, then pull the board in the direction of arrow.



3. Remove the Insulator which was under the engine board.

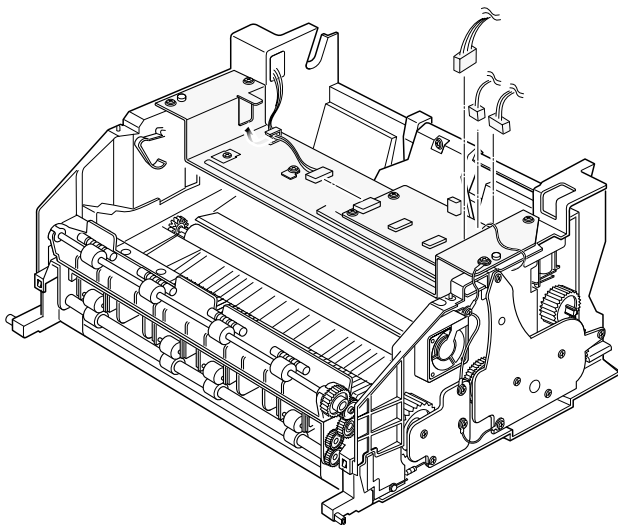


3-11 Pick-up Roller ass'y

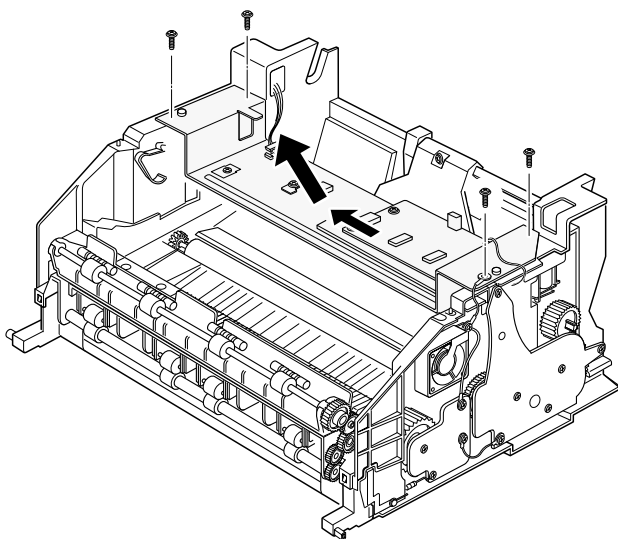
1. Before you remove the pick-up roller ass'y, you should remove:

- All covers (see page 3-2, 3-4, 3-5)
- LSU (see page 3-6)

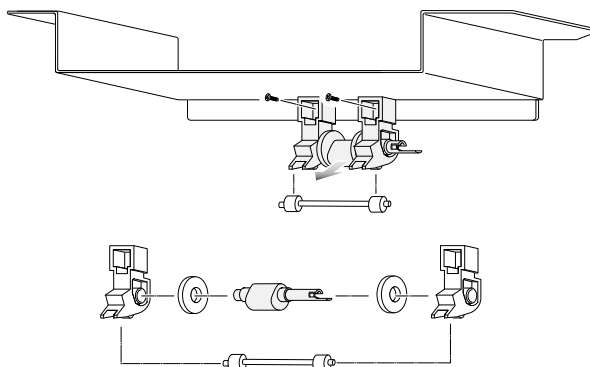
2. Unplug all the connectors from the engine board.



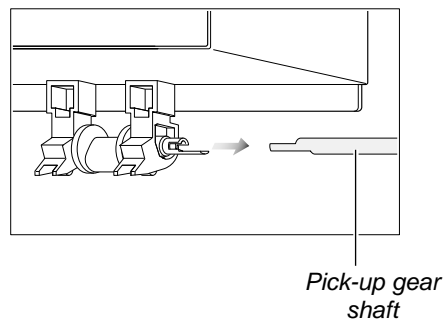
3. Remove the four screws securing the plate and remove the plate as shown below.



4. Remove the two screws and remove the roller from the plate.



Note: When you reassemble the pick-up roller, make sure that the right end of the pick-up roller fits into the pick-up gear shaft.

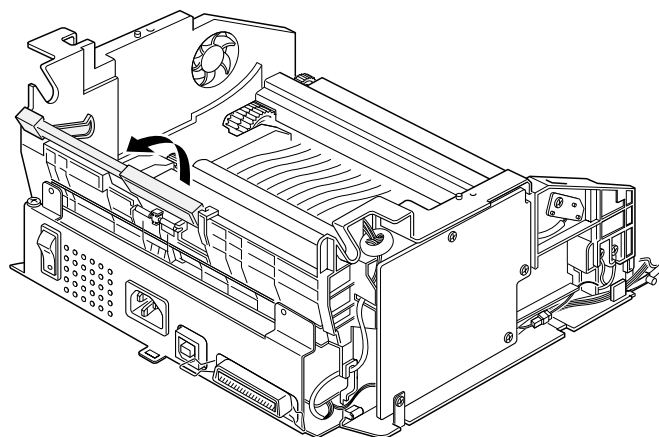


3-12 Knock-up ass'y

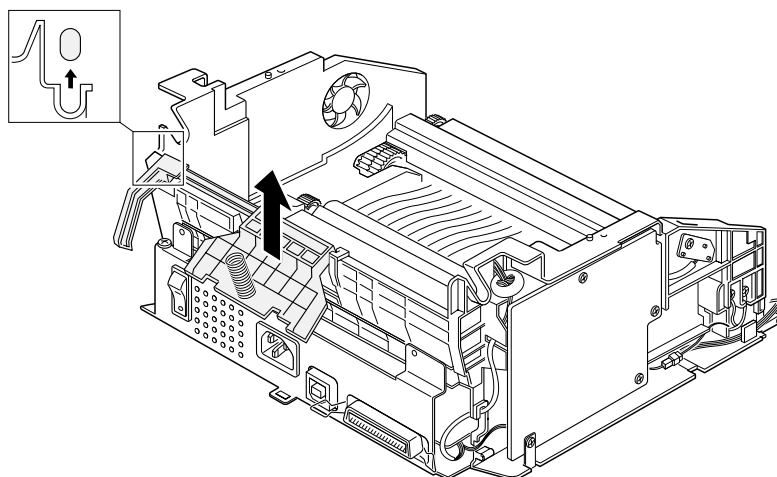
1. Before you remove the knock-up ass'y, you should remove:

- All covers (see page 3-2, 3-4, 3-5)
- LSU (see page 3-6)
- Plate in the pick-up roller ass'y (see page 3-8)

2. Pull the knock-up ass'y fully backward.

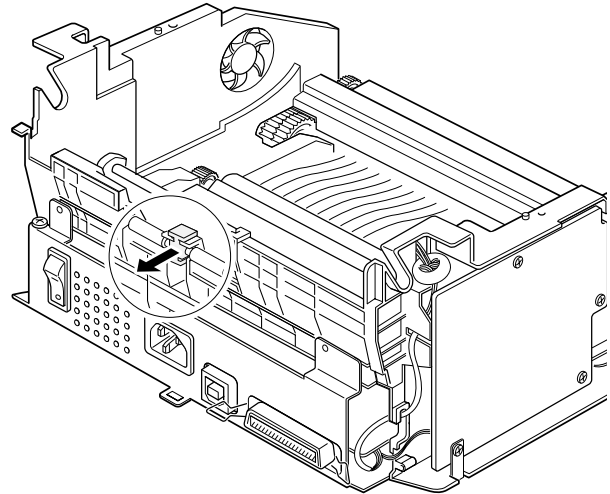


3. Remove the knock-up ass'y from the main frame.
Make sure it is properly unlatched.



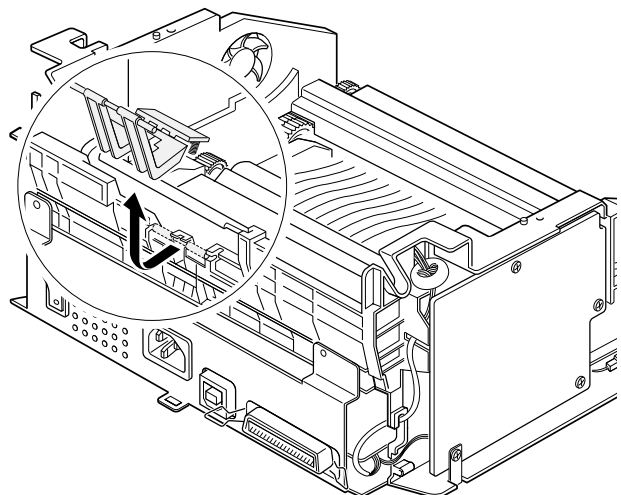
3-13 Cap-pad

1. Before you remove the cap-pad, you should remove:
 - All covers (see page 3-2, 3-4, 3-5)
 - LSU (see page 3-6)
 - Plate in the pick-up roller ass'y (see page 3-8)
 - Knock-up ass'y (see page 3-10)
2. Take out the cap-pad from the main frame.



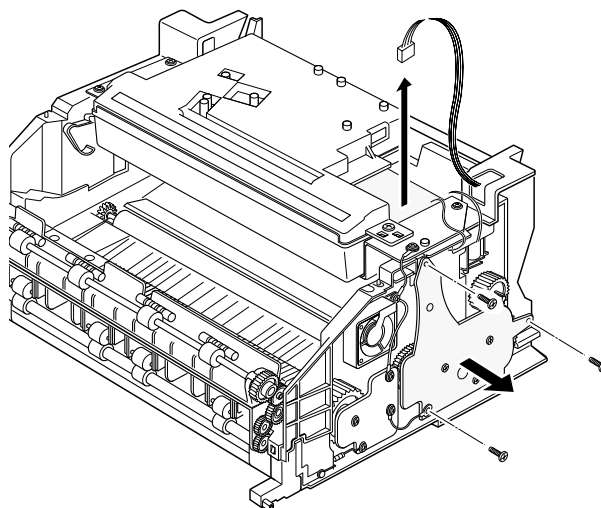
3-14 Holder-pad

1. Before you remove the holder-pad, you should remove:
 - All covers (see page 3-2, 3-4, 3-5)
 - LSU (see page 3-6)
 - Plate in the pick-up roller ass'y (see page 3-8)
 - Knock-up ass'y (see page 3-10)
2. Remove the holder-pad from the main frame.



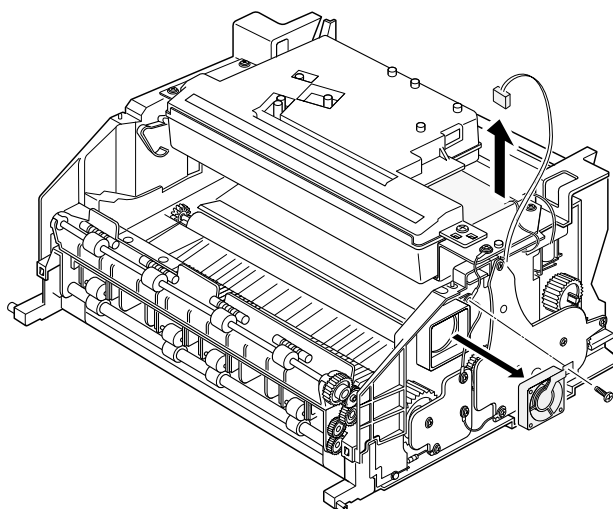
3-15 Motor ass'y

1. Before you remove the motor ass'y, you should remove:
 - All covers (see page 3-2, 3-4, 3-5)
2. Remove the three screws securing the motor ass'y and unplug one connector from the engine board, then remove the motor ass'y.



3-16 Fan

1. Before you remove the fan, you should remove:
 - All covers (see page 3-2, 3-4, 3-5)
2. Unplug the one connector on the fan from the engine board, remove the one screw, then remove the fan.

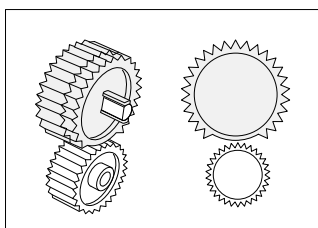


3-17 Gear Pick-up ass'y

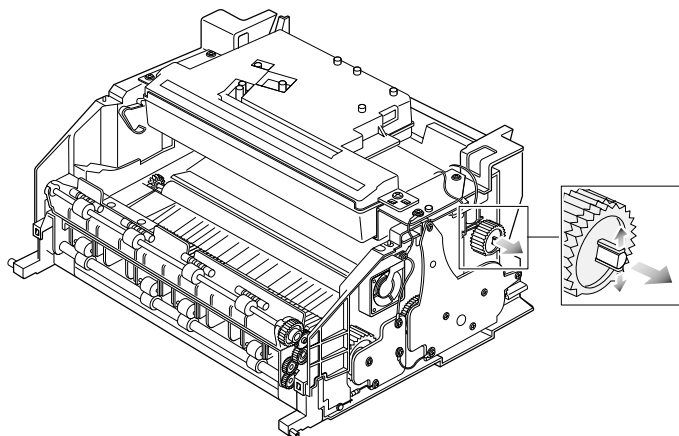
1. Before you remove the gear pick-up ass'y, you should remove:

- All covers (see page 3-2, 3-4, 3-5)

Note: When you reassemble the gear, make sure that the direction of the gear is correct.



2. Spread out the two snap-fits on the gear to release the gear, then remove the gear pick-up ass'y from the main frame.

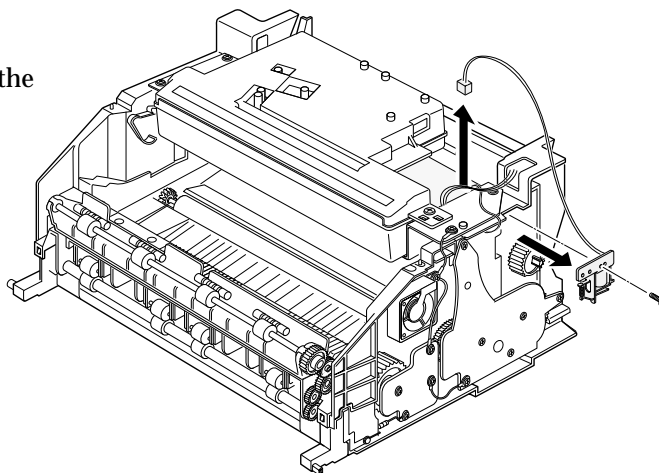


3-18 Solenoid

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

- All covers (see page 3-2, 3-4, 3-5)

2. Unplug the connector on the solenoid from the engine board, remove the one screw, then remove the solenoid.



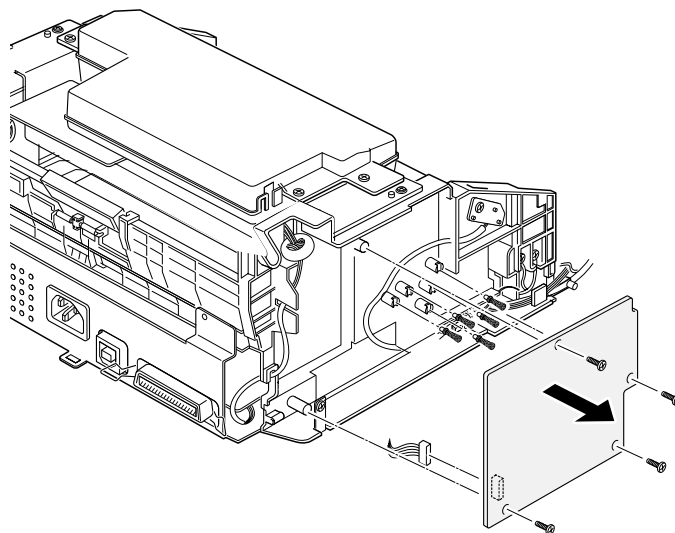
3-19 HVPS Board

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

- All covers (see page 3-2, 3-4, 3-5)

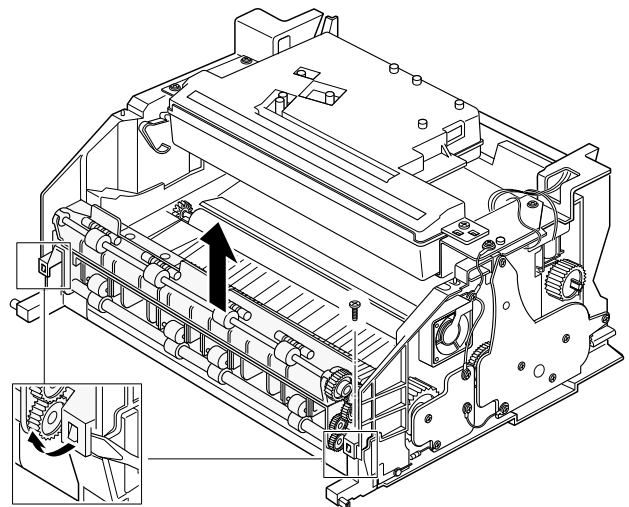
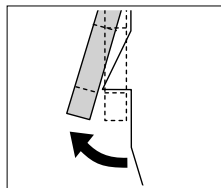
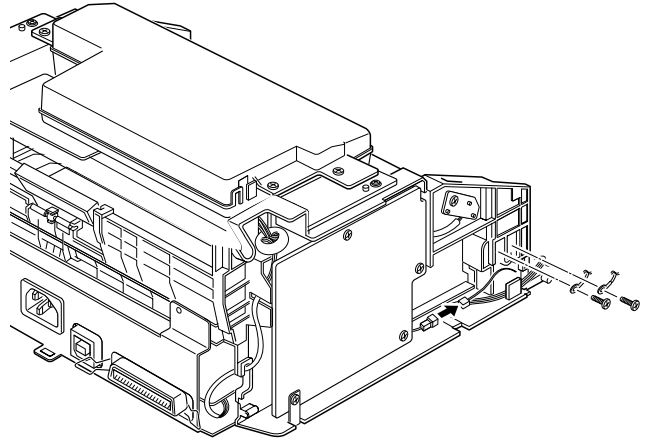
2. Remove three screws and the connector from the HVPS board, then remove the board.

Note: when you reassemble the board, make sure that the five terminals are correctly inserted in place.



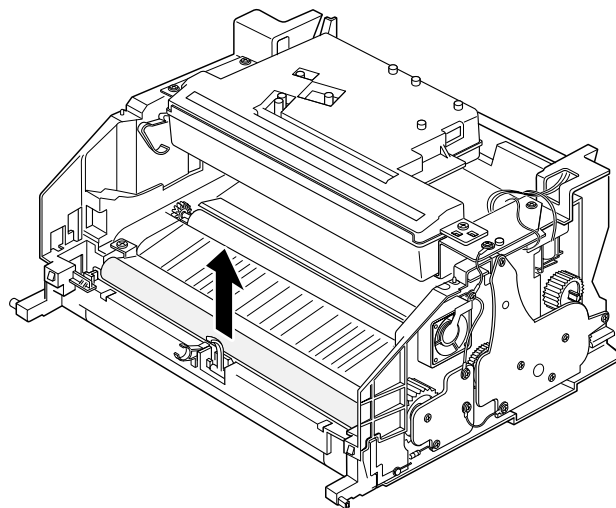
3-20 Fuser ass'y

1. Before you remove the fuser ass'y, you should remove:
 - All covers (see page 3-2, 3-4, 3-5)
2. Remove the two ground screws and unplug the one connector as shown in the figure.
3. Remove the one screw and unlatch the fuser ass'y using a proper tool as shown in the figure, then remove the fuser ass'y.



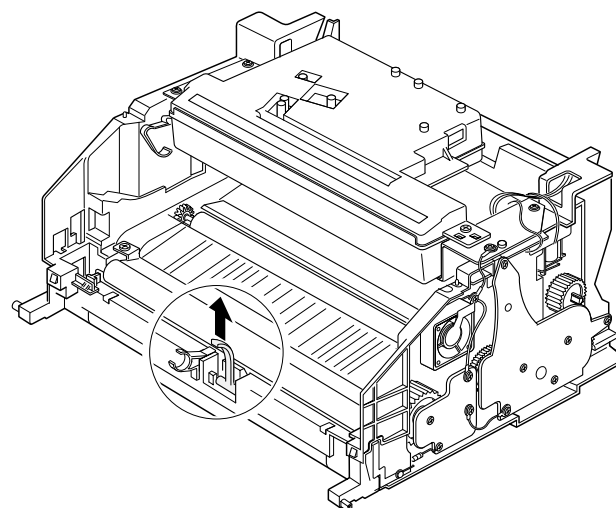
3-21 Pressure Roller

1. Before you remove the pressure roller, you should remove:
 - All covers (see page 3-2, 3-4, 3-5)
 - Fuser ass'y (see page 3-15)
2. Lift and remove the pressure roller from the main frame.



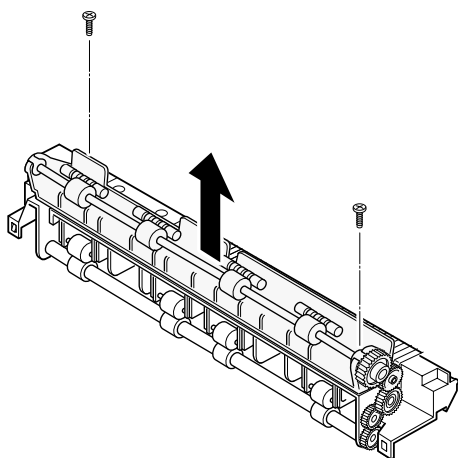
3-22 Actuator-exit

1. Before you remove the actuator-exit, you should remove:
 - All covers (see page 3-2, 3-4, 3-5)
 - Fuser ass'y (see page 3-15)
2. Lift and remove the actuator-exit from the main frame.

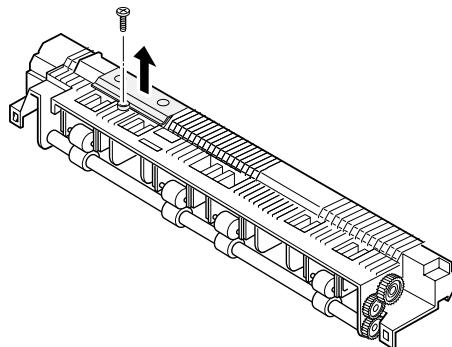


3-23 Thermostat

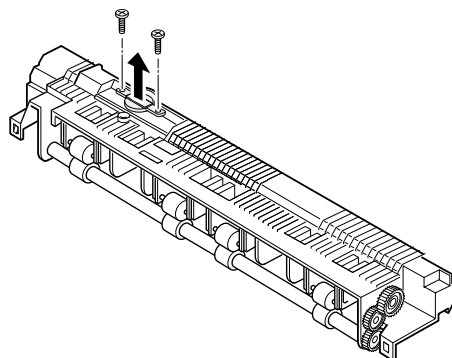
1. Before you remove the thermostat, you should remove:
 - All covers (see page 3-2, 3-4, 3-5)
 - Fuser ass'y (see page 3-15)
2. Remove the two screw securing the face up and remove the face up.



3. On the fuser ass'y, remove the one screw, then remove the thermostat cover.

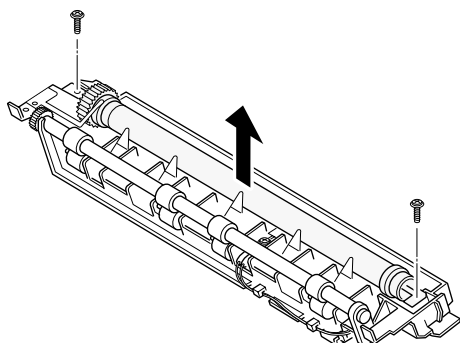


4. Remove the two screws and take out thermostat from the fuser ass'y.

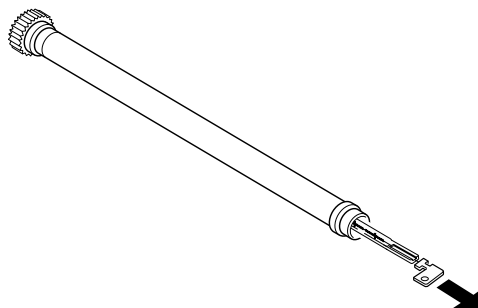


3-24 Halogen Lamp

1. Before you remove the thermostat, you should remove:
 - All covers (see page 3-2, 3-4, 3-5)
 - Fuser ass'y (see page 3-15)
2. On the fuser ass'y, remove the two screws, then remove the heat roller.



3. Remove the halogen lamp from the heat roller.



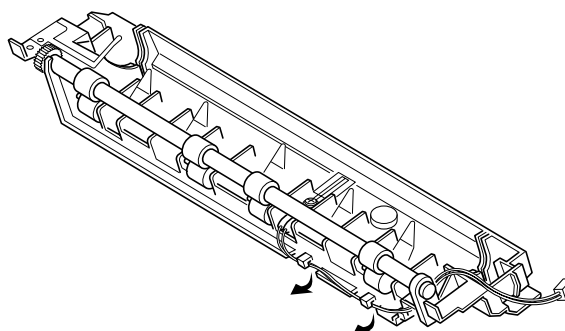
3-25 Thermistor

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

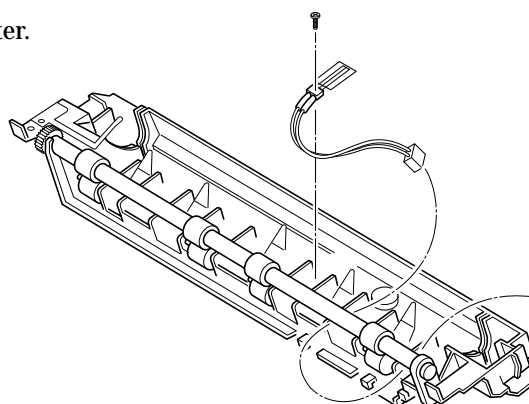
- All covers (see page 3-2, 3-4, 3-5)
- Fuser ass'y (see page 3-15)

2. On the fuser ass'y, remove the heat roller as described on page 3-17.

3. Unwrap the thermistor wire as shown in the figure.

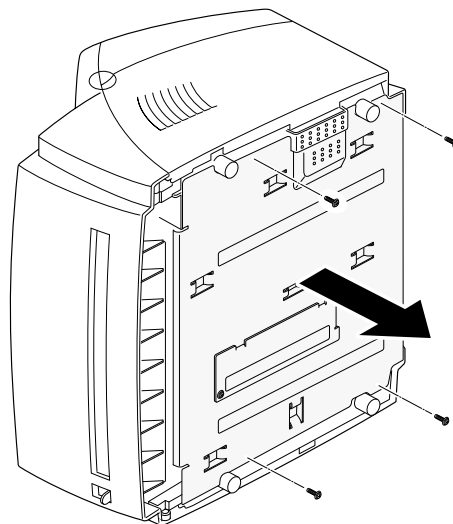
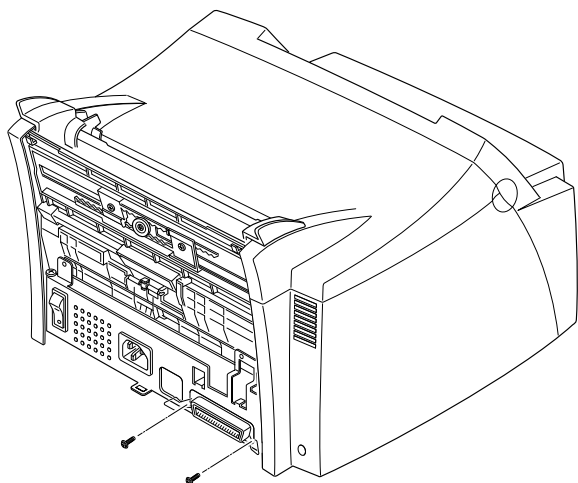


4. Remove the one screw, then remove the thermistor.



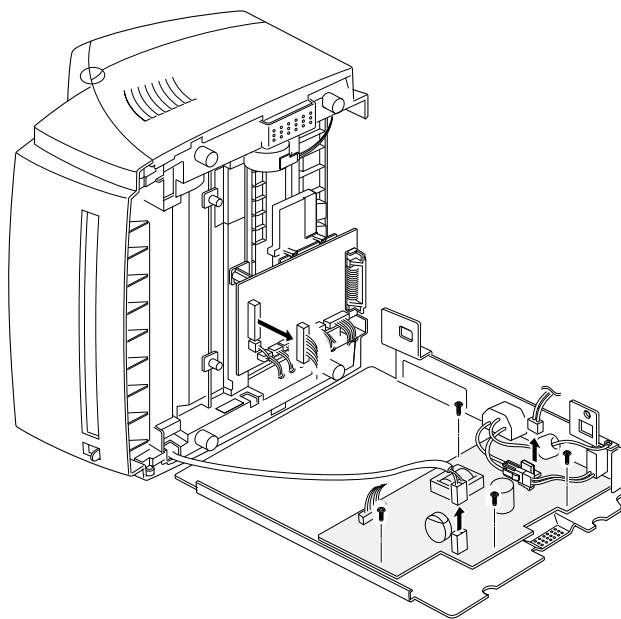
3-26 Shield Engine ass'y

1. Before you remove the shield engine ass'y, you should remove:
 - Rear cover (see page 3-4)
2. Remove the two screws.
3. Remove the four screws securing the shield engine ass'y and remove the shield engine ass'y from the main frame.



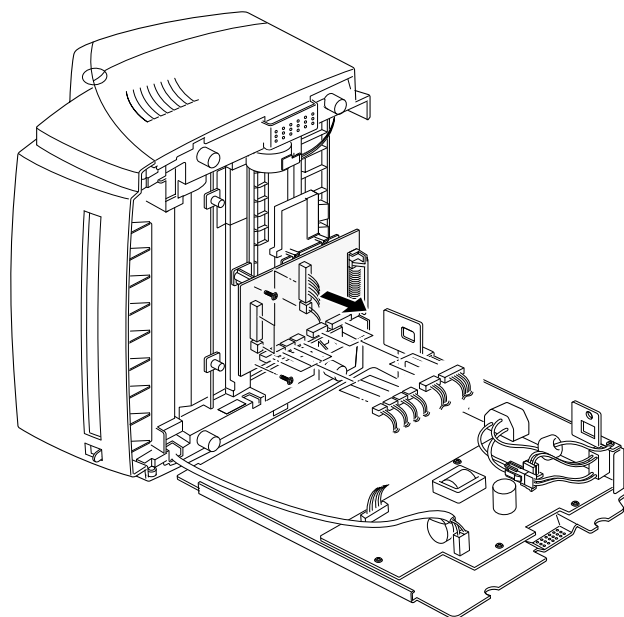
3-27 SMPS Board

1. Before you remove the SMPS board, you should remove:
 - Rear cover (see page 3-4)
 - Shield engine ass'y (see above)
2. Remove the four screws and on the SMPS board, unplug the two connectors from the SMPS board and the one connector from the main board, then remove the SMPS board.



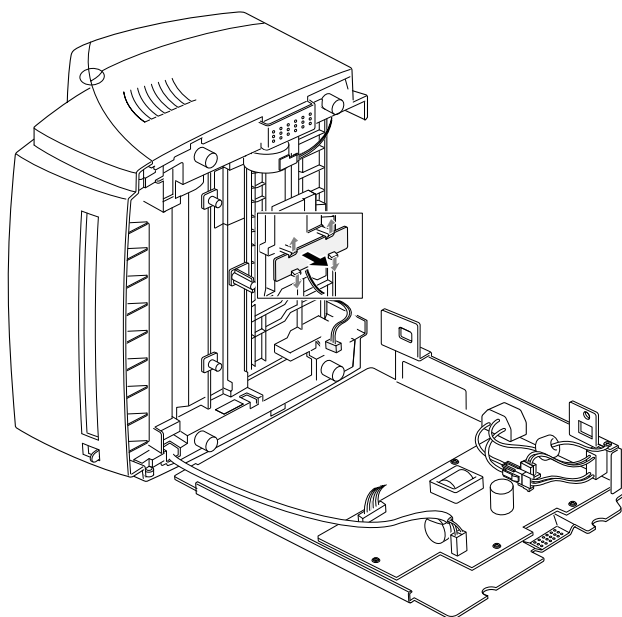
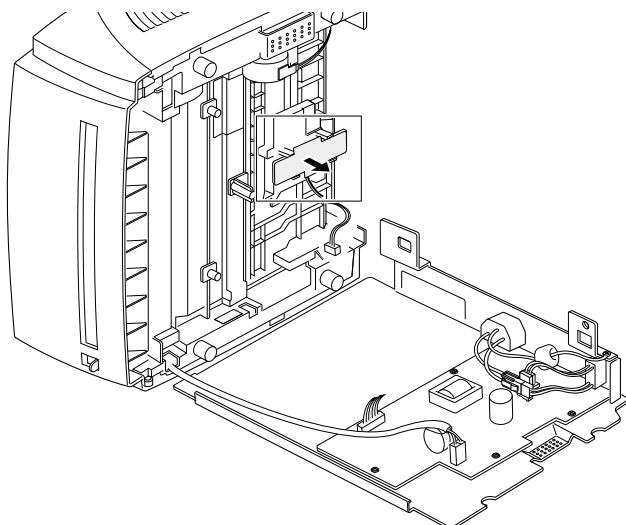
3-28 Main Board

1. Before you remove the main board, you should remove:
 - Rear cover (see page 3-4)
 - Shield engine ass'y (see page 3-19)
2. Remove the two screws unplug and all the connectors from the main board, then remove the board.



3-29 Sensor Board

1. Before you remove the sensor board, you should remove:
 - Rear cover (see page 3-4)
 - Shield engine ass'y (see page 3-19)
2. Release four snap-fits securing the insulator engine board and remove the insulator engine board.
3. Release four snap-fits securing the sensor board, then remove the sensor board.

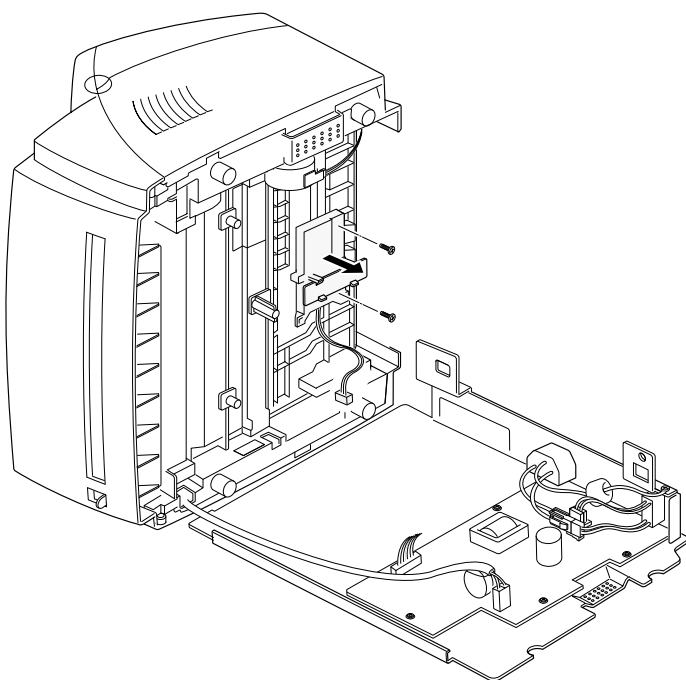


3-30 Feed Sensor and Empty Sensor

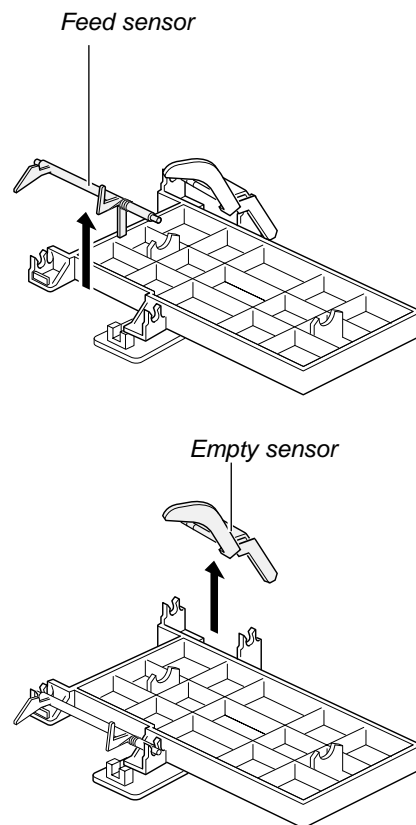
1. Before you remove these parts, you should remove:

- Rear cover (see page 3-4)
- Shield engine ass'y (see page 3-19)

2. Unplug the one connector from the main board and remove the two screws securing the holder feed ass'y, then remove the holder feeder ass'y.



3. Remove the feed sensor and the empty sensor.

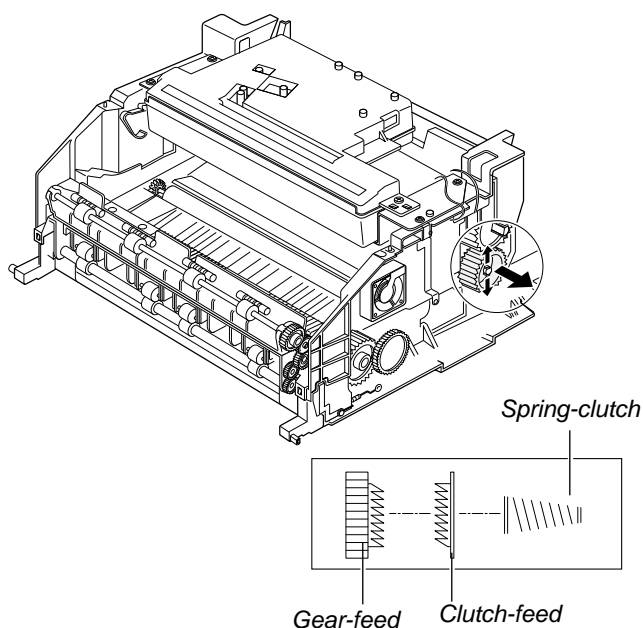


3-31 Feed Roller

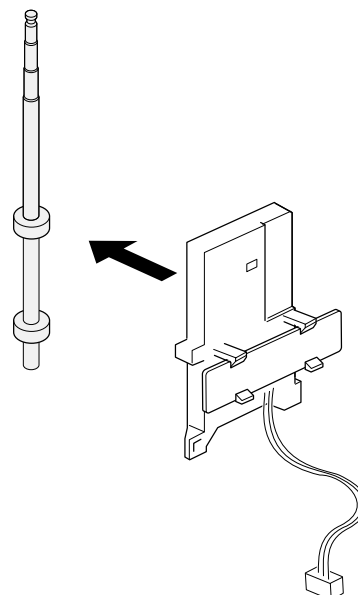
1. Before you remove the roller, you should remove:

- All covers (see page 3-2, 3-4, 3-5)
- Motor ass'y (see page 3-12)

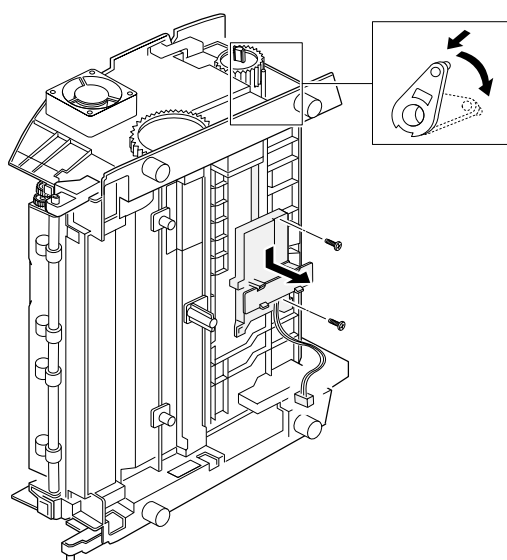
2. Spread out the two snap-fits on the gear to release the gear, then remove gear-feed, spring-clutch and clutch-feed from the gear.



3. Remove the feed roller from the holder.



3. Rotate the pick-up bushing in the direction of arrow, then remove the the feed roller ass'y.



MEMO

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	REPLACEMENT CYCLE
Cartridge	2,500 Pages
Pickup Roller	60,000 Pages
Feed Roller	60,000 Pages
Transfer Roller	60,000 Pages
Fuser	60,000 Pages
Driver	60,000 Pages

4-2 Print Quality

No	Roller	Abnormal image period	Kind of abnormal image
1	OPC Drum	75.4mm	•White spot on black image •Black spot
2	Charge Roller	37.7mm	Black spot
3	Supply Roller	26.8mm	Horizontal density band
4	Develope Roller	31.6mm	Horizontal density band
5	Transfer Roller	47.1mm	Black side contamination/transfer fault
6	Heat Roller	57.1mm	Black spot, White spot
7	Pressure Roller	56.5mm	Black side contamination

4-3 DCU Control

4-3-1 DCU Setup

DCU is used to diagnose the printer malfunctions. To use DCU, open and remove the Printer's exit cover in front, and remove the bottom cover from left. Connect the DCU harness wire (10 pin-to-4 pin) to CN9 (4 pins) on the control board.

4-3-2 Status Code

Connect the DCU to the printer and turn power on. The DCU display Status Code in the 7 segment LEDs. There are two kinds of Status Codes; Normal and Error. And their codes mean the printer operating status.

NORMAL STATUS CODE

These codes mean paper location on the paper path when the printer is printing, or warming up.

61	Warm up	The printer warms up when the printer is turned on or the cover is closed, or wake from sleep mode.
00~05	Ready(paper type)	The printer is in printable state. The paper type is sensed after one page printing. 00: Legal , 01: Letter , 02: A4 , 03: EXEC , 04: B5 , 05: Folio
20	Print Start	The code is displayed when engine controller is received 'PRINT' command from the video controller.
30	Feed Sensor On	It means that paper is passing the feed sensor.
40	Feed Sensor Off	It means that paper passed the feed sensor.
50	Paper out	It means that paper passed the exit sensor.
69	Sleep Mode	It means that the printer fuser is turned off, and the power consumption is minimized.

ERROR STATUS CODE

If the printer stops printing by any malfunction, the DCU displays its error status code.

60,62,68	Fuser Error	These codes mean the fuser error status. Heat lamp, thermistor, thermostat open or thermistor short. The 'Low Temperature Error' is checked when the printer is printing. 60: Open Fuser Error 62: Low Heat Error 68: Over Heat Error
64	Cover Open	The printer cover open or no toner cartridge in the machine.
70	No Paper	The paper is not loaded in the printer paper tray.
71	Paper Jam 0	Displays when the paper leading edge stops between the pick-up unit and the feed sensor.
72	Paper Jam 1	Displays when the paper leading edge stops between the feed sensor and the exit sensor.
73	Paper Jam 2	Displays when the paper leading edge stops after the exit sensor.
95	LSU Not Ready	The LSU scanner motor is not ready or 'Hsync' signal is not output.

4-3-3 Diagnostic Mode

When the printer malfunction occurs and DCU displays Error Status Code, you can use the Diagnostic Mode to find a problem and fix it.

DIAGNOSTIC CODE

When you fix the malfunction, you can make only a unit of machine operated in Diagnostic mode. To enter Diagnostic mode, push three buttons ([DOWN], [SHIFT], [STOP]) simultaneously and turn the printer power on. When the DCU displays '78', release the keys in 2-3 seconds, then the DCU displays '00'. By using [UP] or [SHIFT] and [DOWN] keys, select the desired Diagnostic Code, and push the [ENTER] key to perform the operation. To stop its operation, push the [SHIFT] and [ENTER] buttons.

00	MAIN MOTOR OPERATING SYSTEM Only main motor turns continuously.
01	MAIN HIGH VOLTAGE ON (THV) There is output of -1550V to MHV terminal.
02	TRANSFER HIGH VOLTAGE (-) ON (THV -) There is output of -1300V to THV terminal.
03	TRANSFER HIGH VOLTAGE (+) REFERENCE ON (THV +) There is output of +1300V to THV terminal.
04	DEV/SUPPLY HIGH VOLTAGE There is output DEV and SUPPLY high voltage to each HV terminals. At this time, the left one of three LEDs (Diagnostic Mode Indicator) in the DCU lights, and DEV HV is -630V. To change this voltage, push the [UP] button, and two (center and right) of three LEDs light, there are output -530V to DEV HV terminal.
05	LSU OPERATING SYSTEM The scanning motor in LSU turns and the right one of three LEDs lights. To check the LD (Laser Diode) in the LSU at this state, push the [UP] button, the LD is driven, and the center LED lights. If the LD is normal, all three LEDs light.
06	PICKUP CLUTCH ON The solenoid in machine operate. To release the solenoid, push the [SHIFT] and [ENTER] buttons.
07	PEMPTY/PWIDTH/NEW CRU SENSOR TEST When you make the actuator of PEMPTY/PWIDTH sensor operate, the left or right one of three LEDs lights. If you set new CRU in the machine in this mode, the right LED lights.
08	FEED & EXIT SENSOR TEST The feed & exit sensor also can be tested by the same method of the code '06'.

09	COVER OPEN SENSOR TEST Same method of the code '06'.
10	FUSER TEST When you push the [ENTER] button, the right LED lights, and the fuser temperature raises to Ready. If you push the [UP] button, the center LED lights, and it raises to printing temperature. When you push the [UP] button once more, the left LED lights, and it raises overheating temperature.
11	HOT BURN TEST When you push the [ENTER] button in this code, the machine prints endlessly without any sensing operation. To stop this operation, turn the printer power off.
12	CLEANING MODE PRINT MODE The machine prints one page to clean the OPC drum in CRU.
13	THV (+) TRIGGER, ALL HV There is all output of high voltages to each HV terminal, and the LSU/FAN operate. In this mode, the engine controller senses electric resistance of the transfer roller, and output transfer high voltage corresponding to it. If there isn't CRU in the machine, THV output is +199V ~ +2100V.
14	PTL TEST This operation mean PTL LED status.
15	FAN TEST This operation mean FAN status.

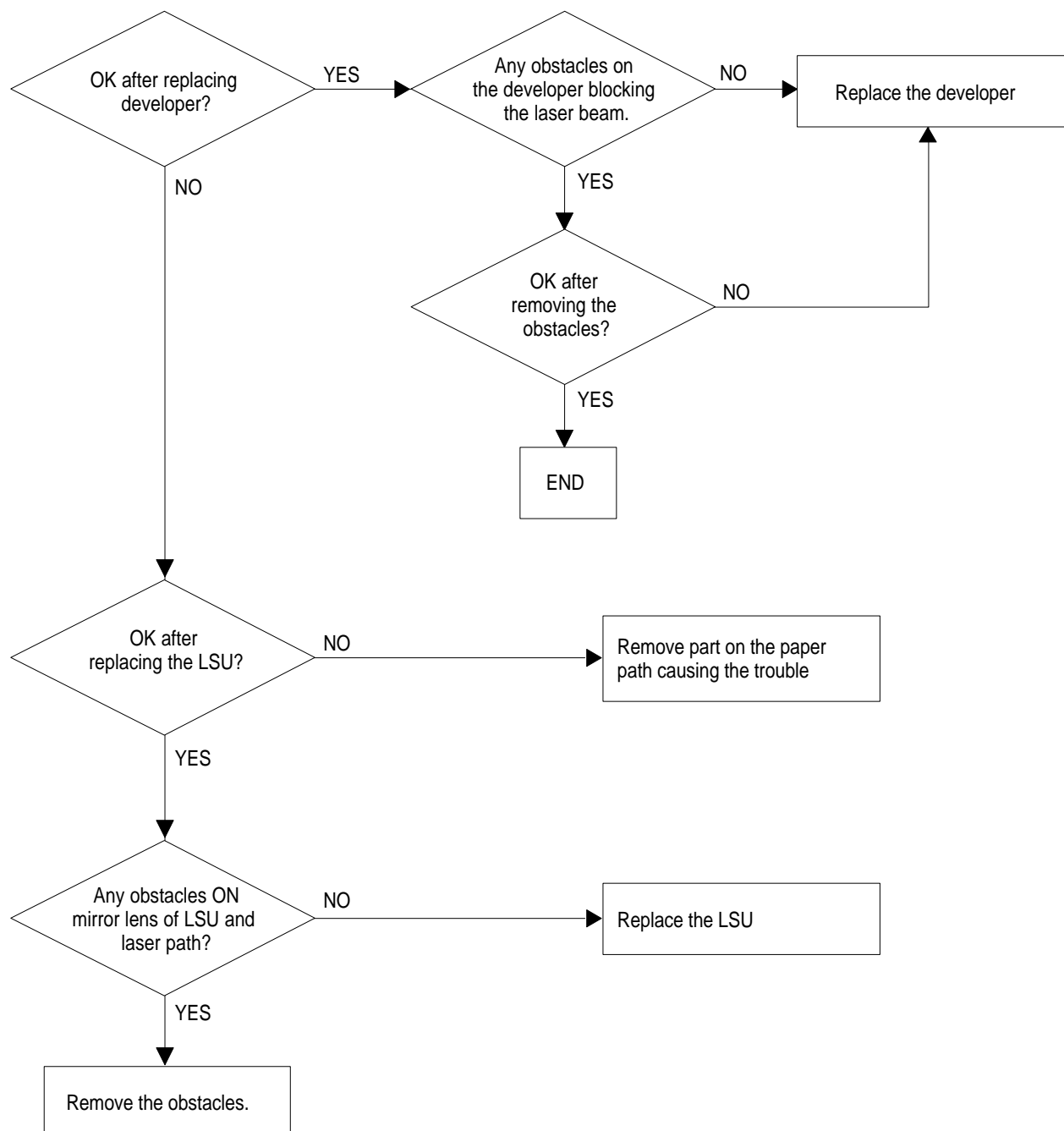
4-3-4 Self Test Button

When you push this button, the machine prints 'vertical line' pattern while it is pushed.

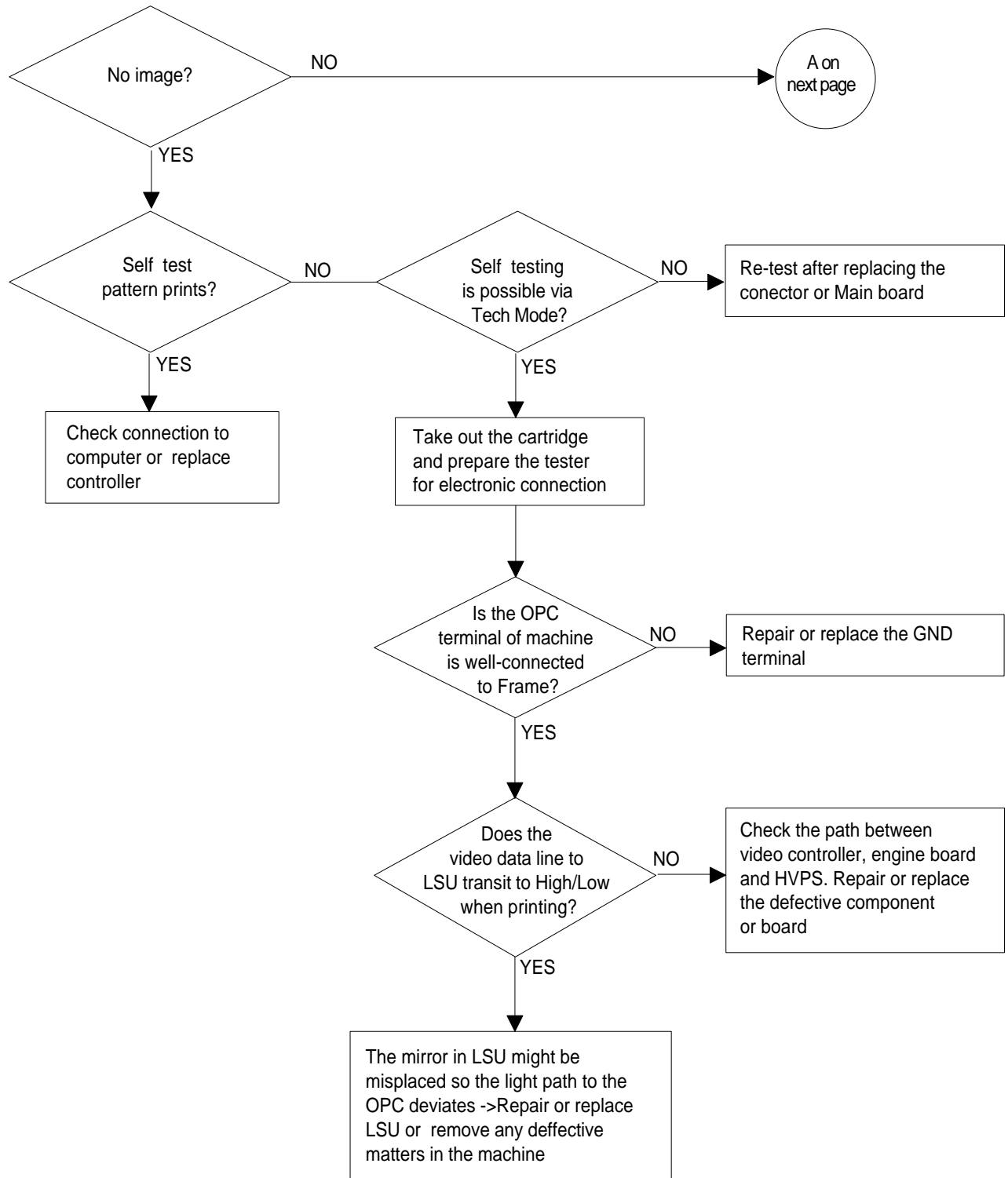
When you push this button and turn the Printer power on, the DCU displays code '89', and the Printer warms up. After warmed up, it is in 'Ready' state, and code '88' is displayed in DCU. In this mode, the machine does all printing operation (demo page printing and printing the data from PC) without all sensor operating. If you diagnose the control board with malfunction printer engine, this mode is very useful.

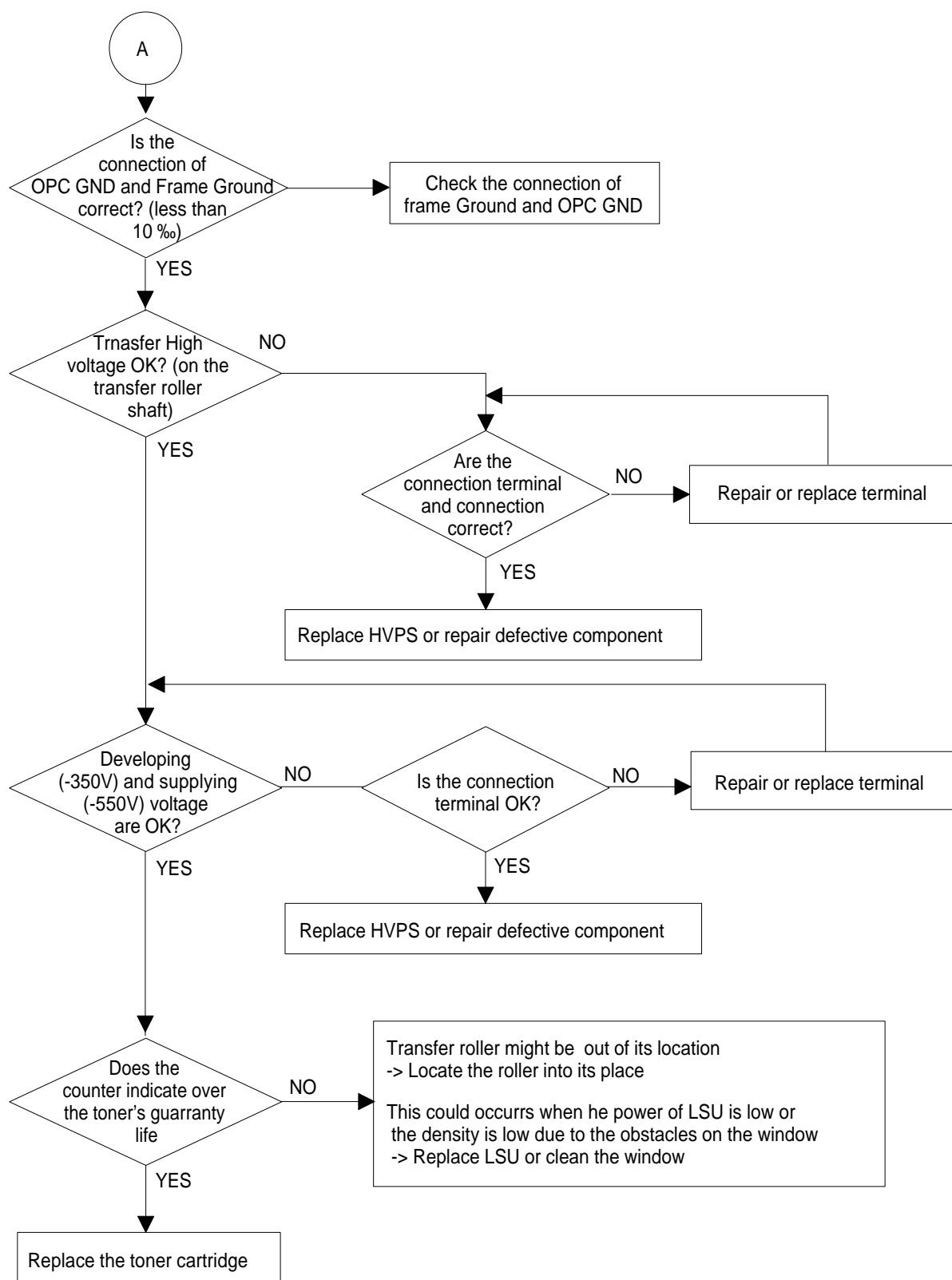
4-4 Troubleshooting Flow Chart

Vertical black line and band

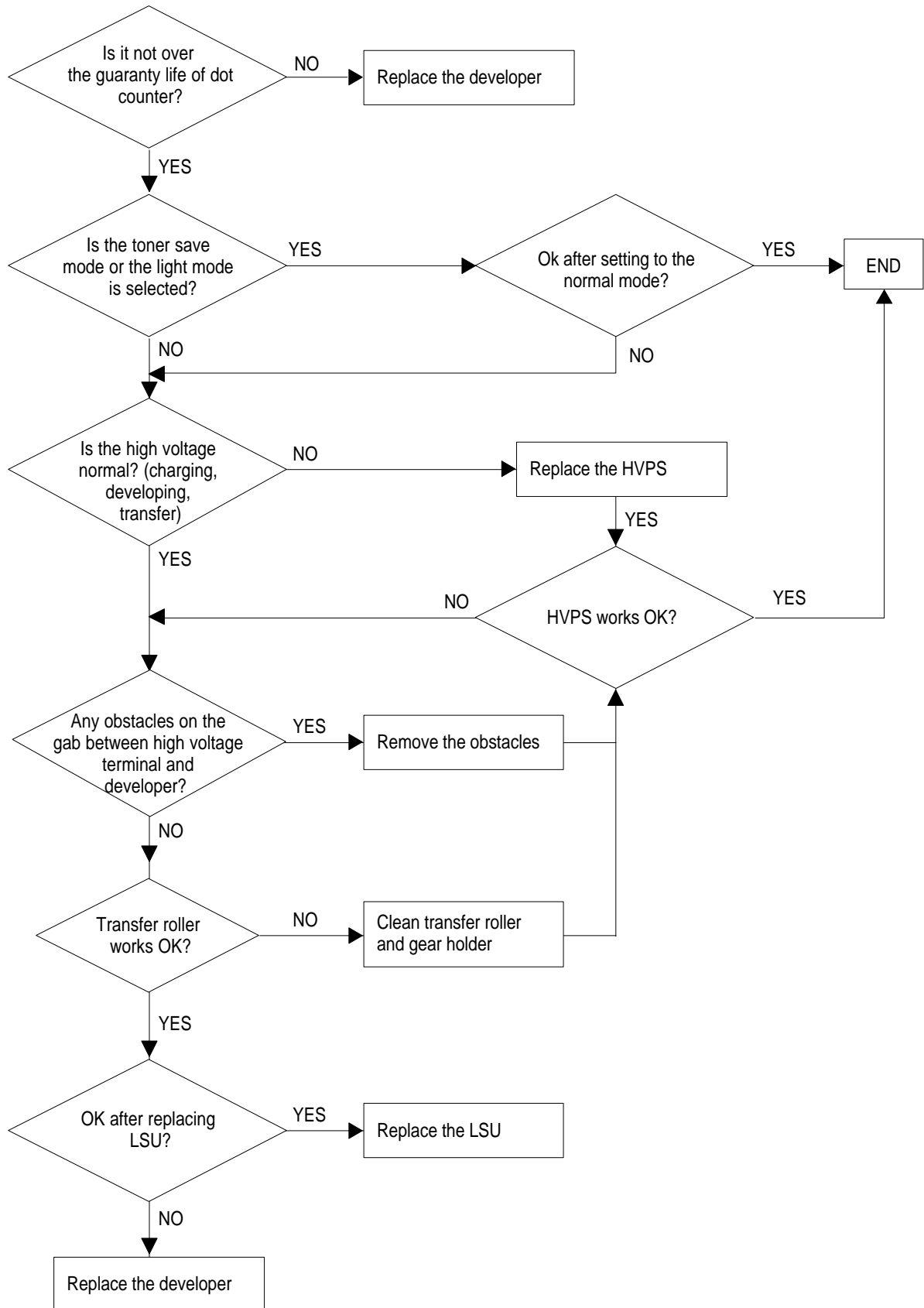


No Image

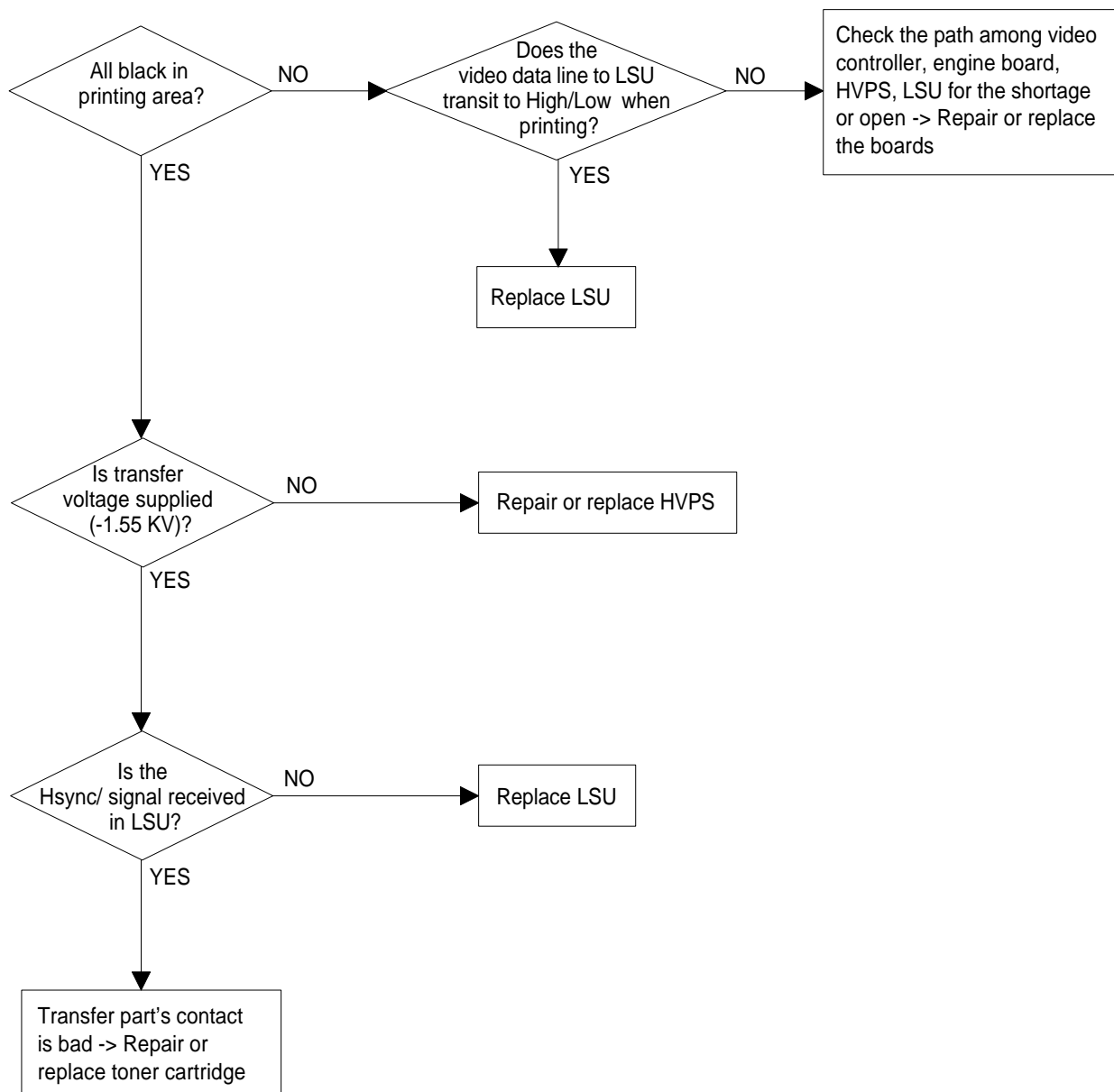




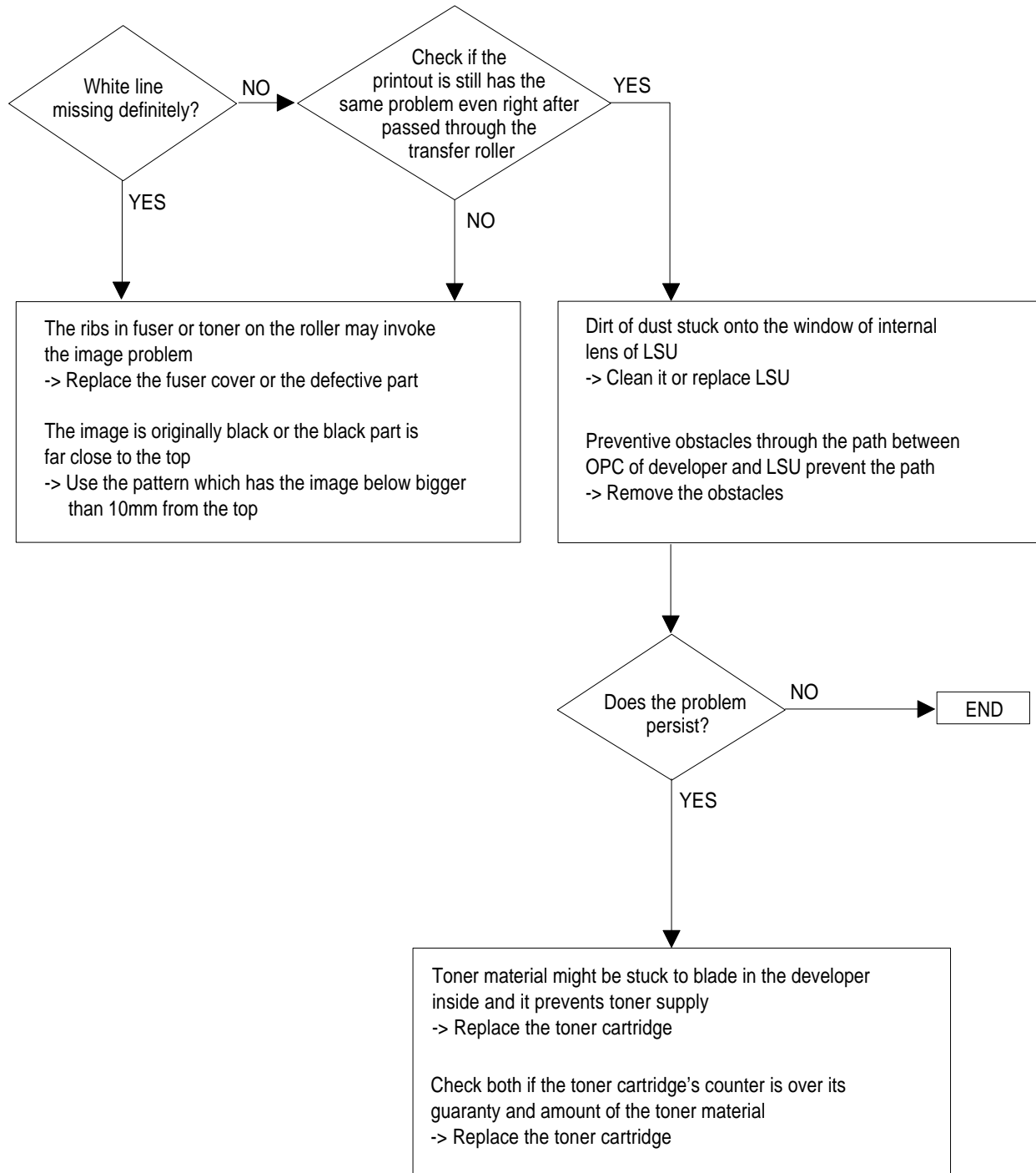
Light image



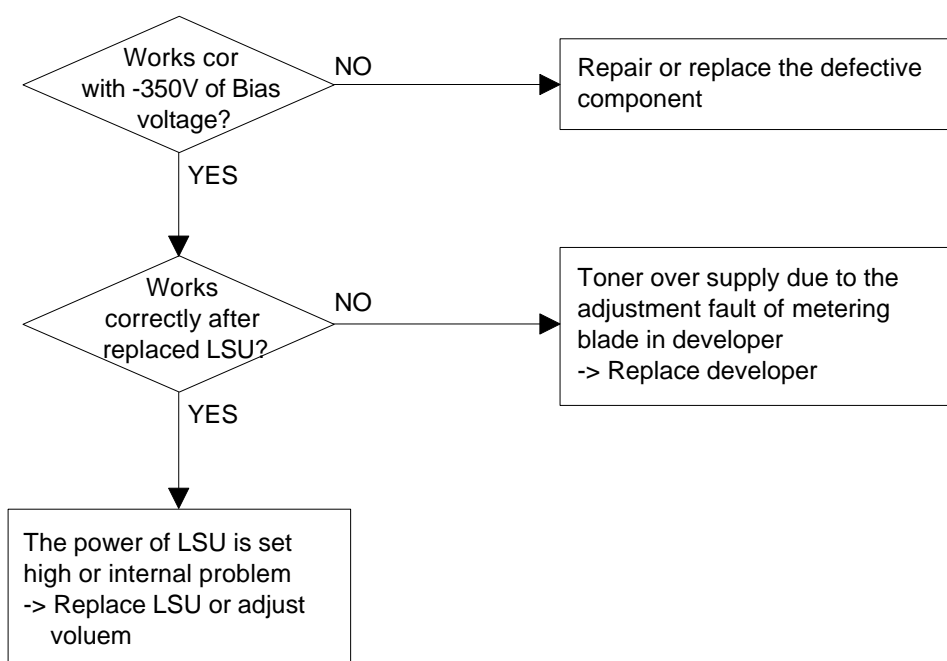
All Black



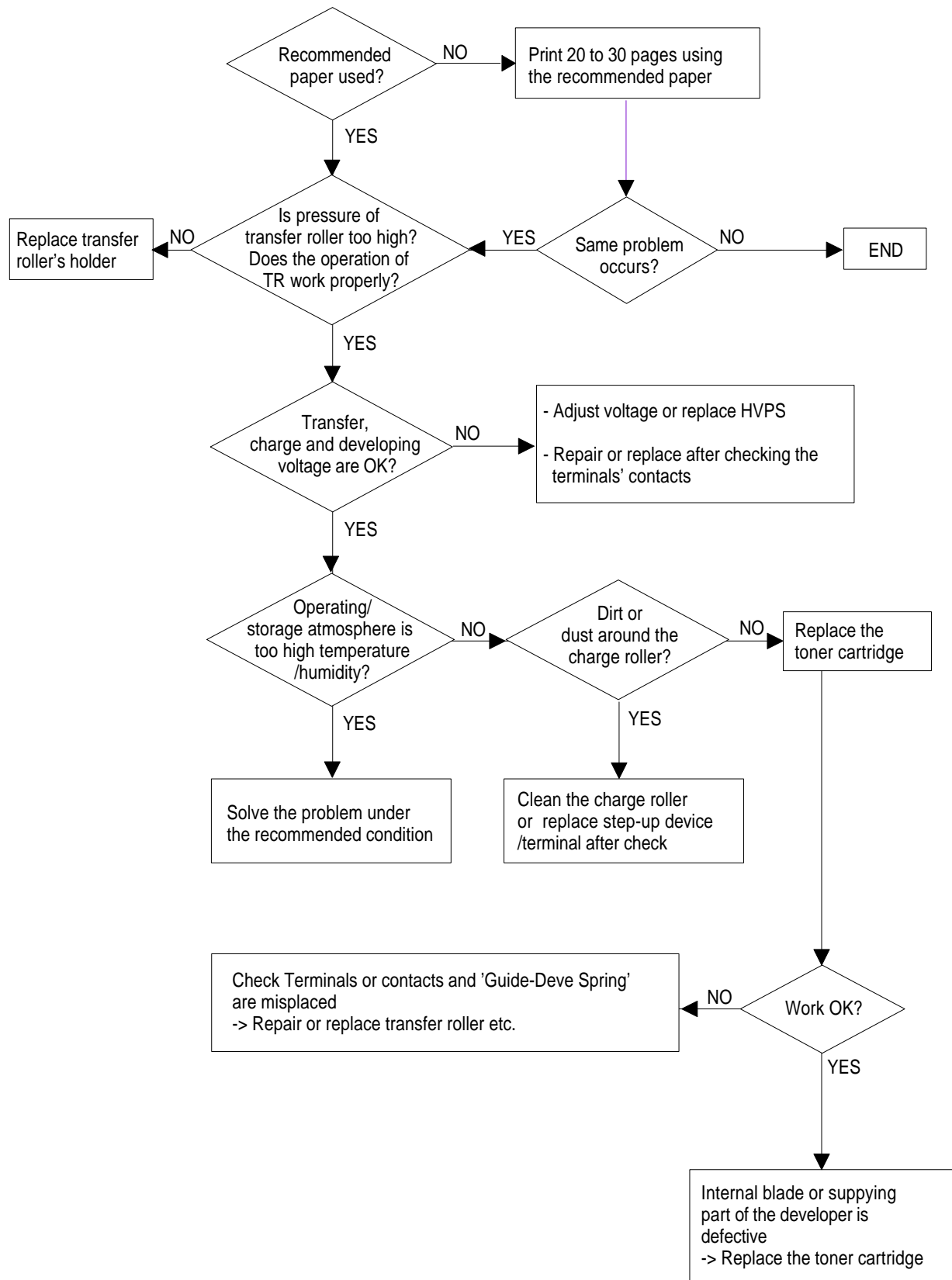
Vertical White Line (Band)



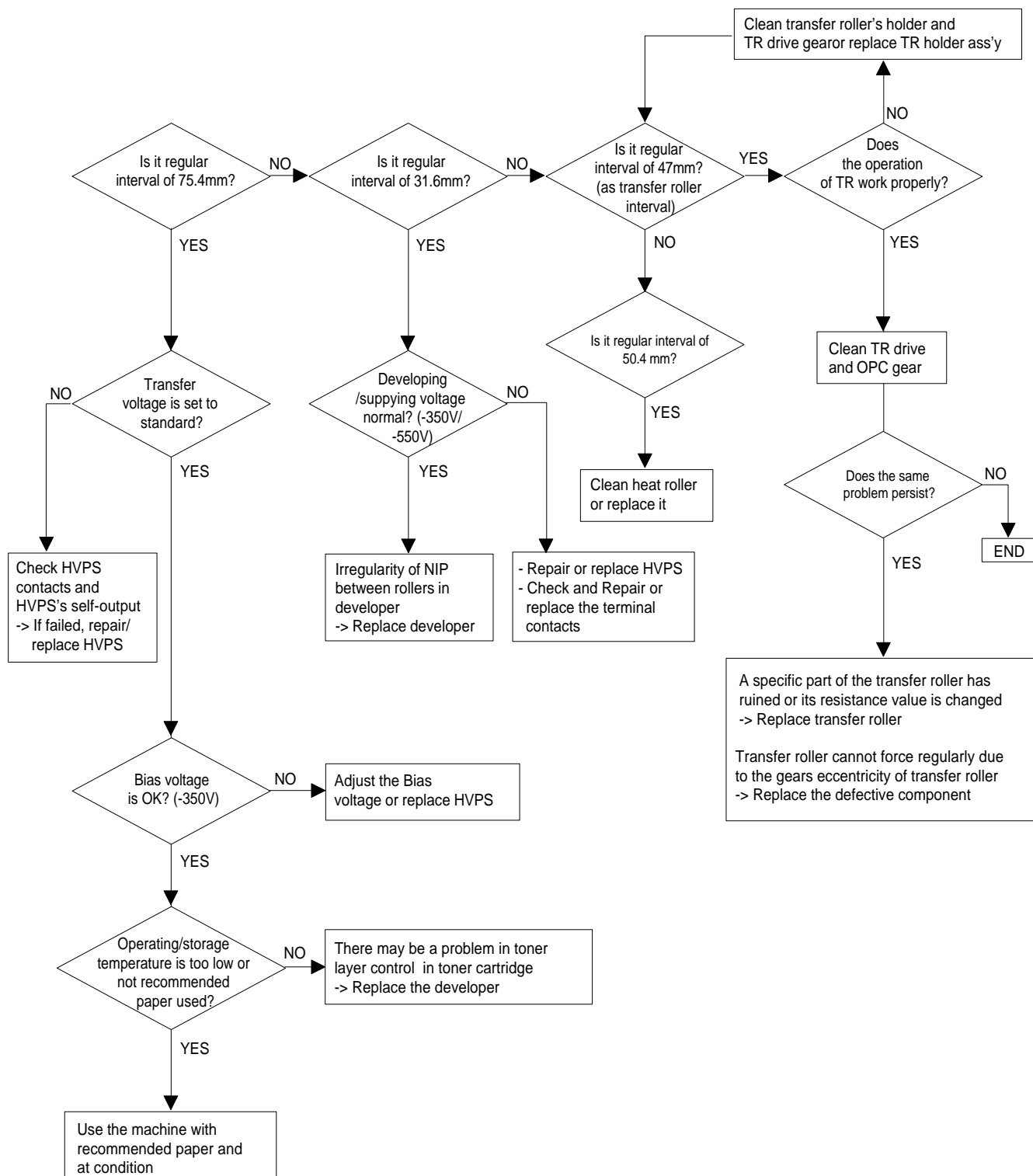
Dark Image



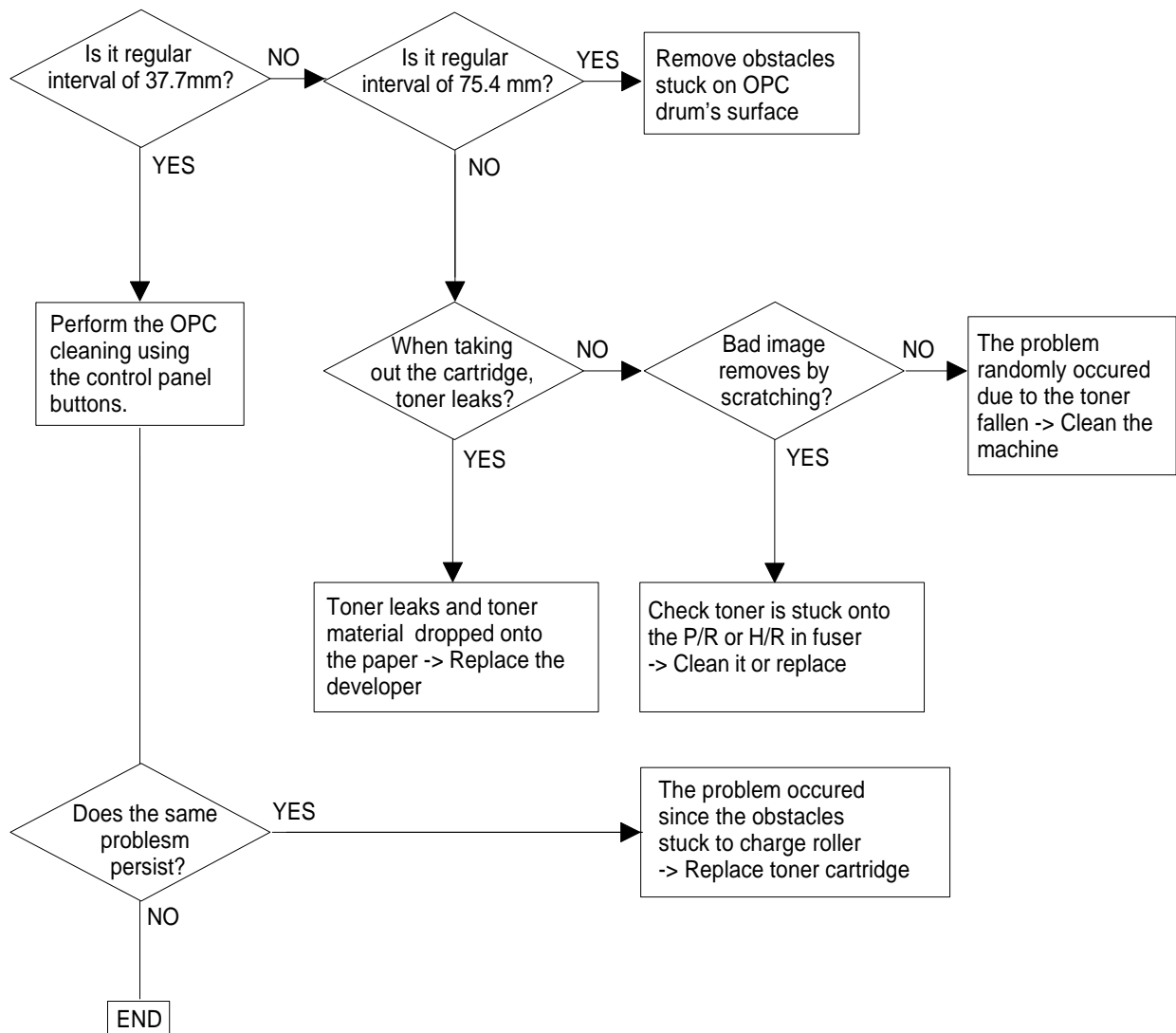
Background



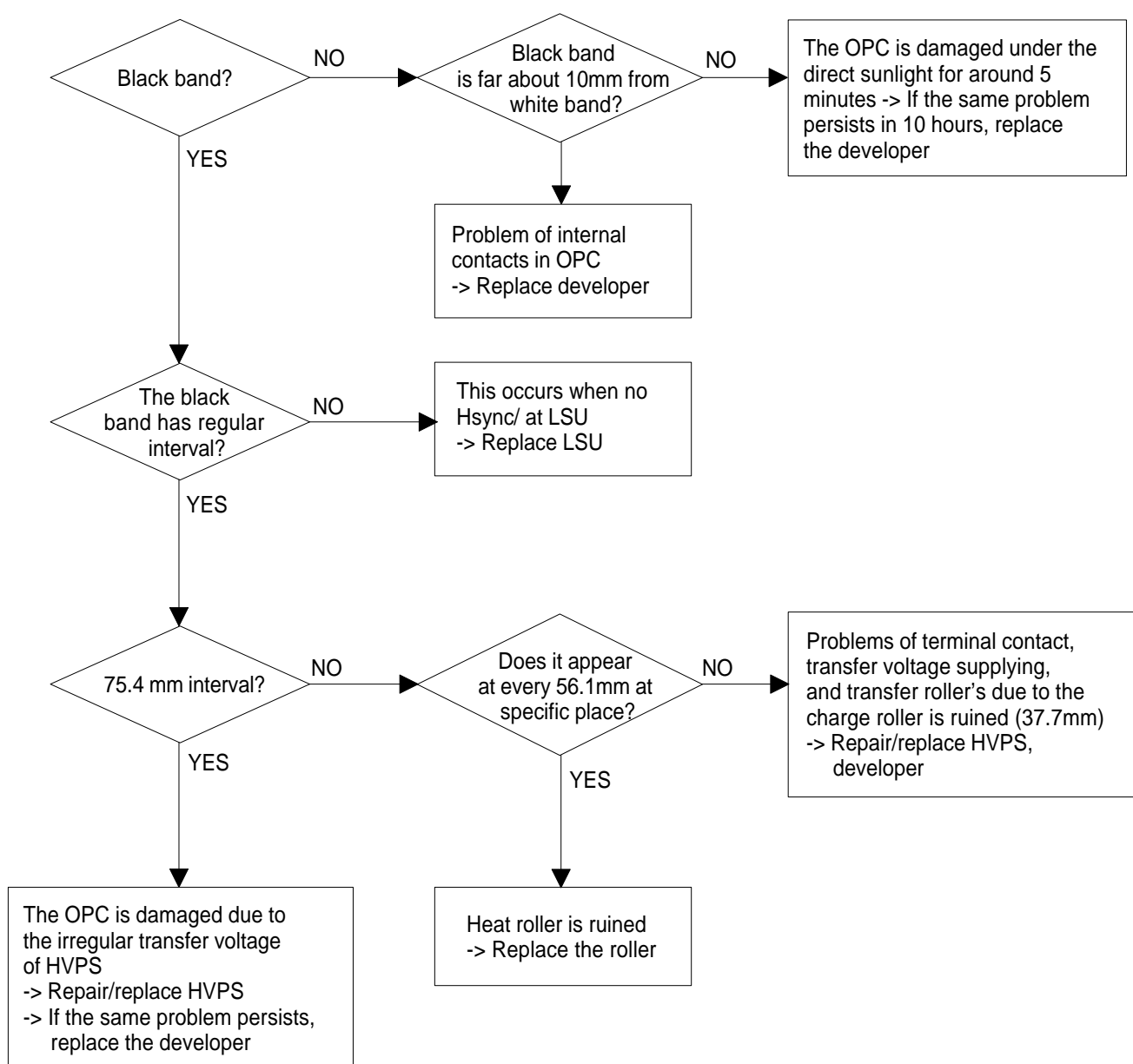
Ghost



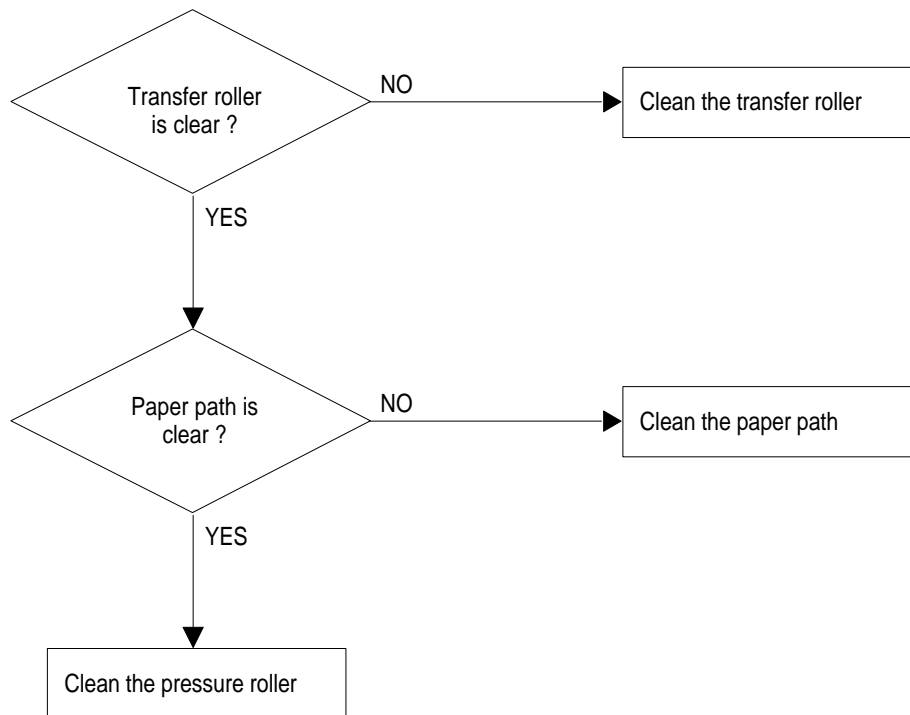
Black Spot



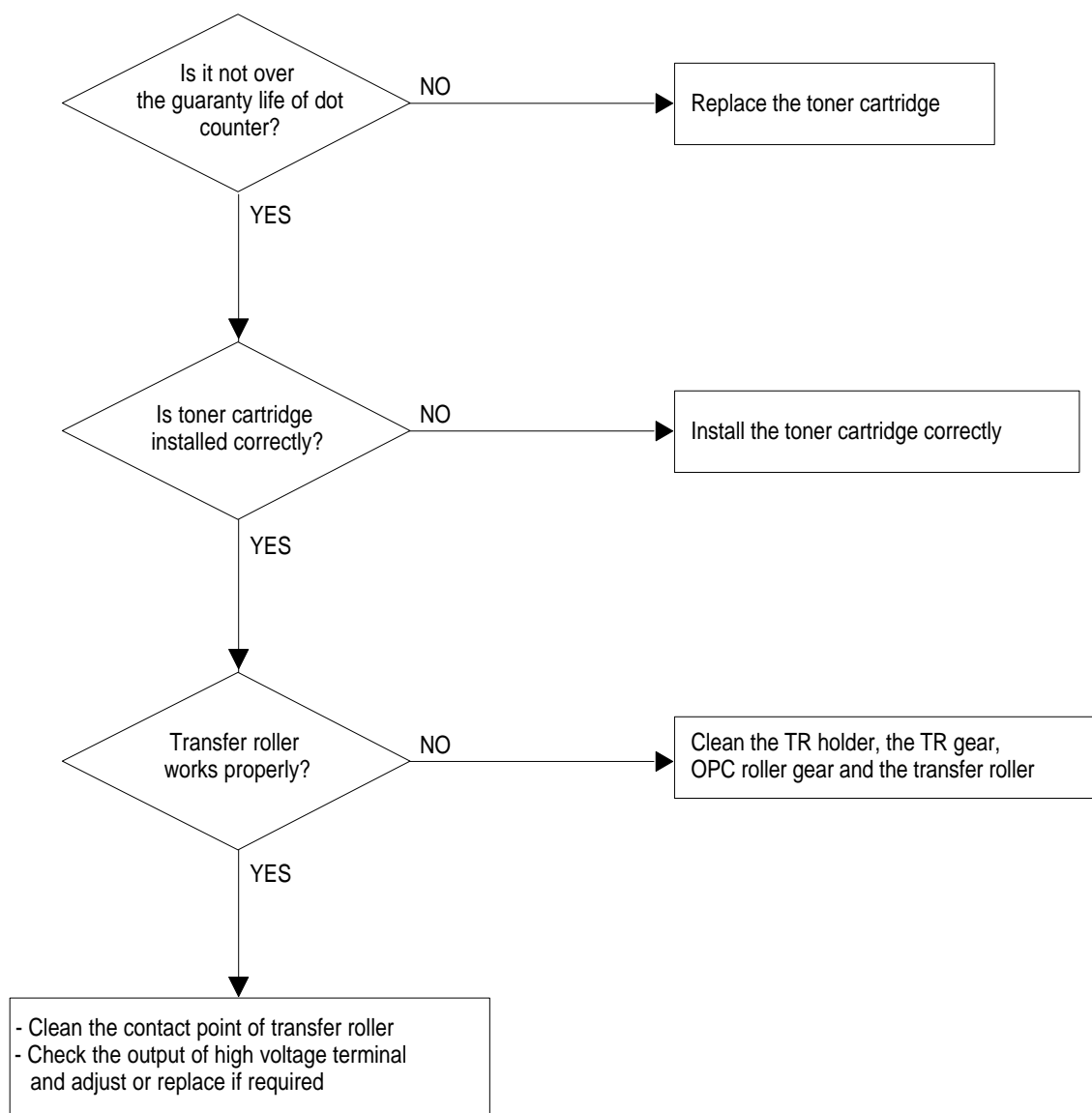
Horizontal Band



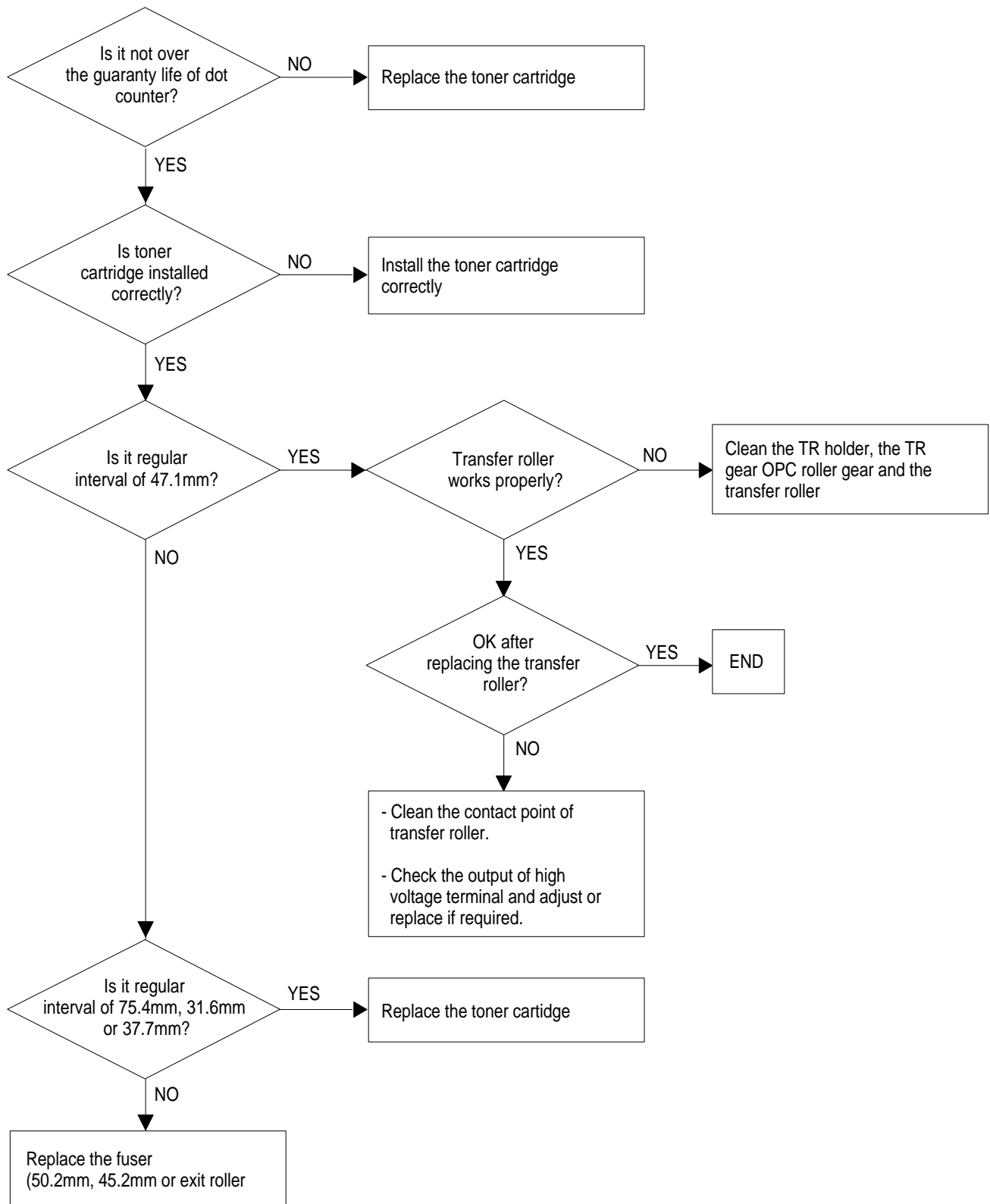
Toner Contaminations on Back of Paper



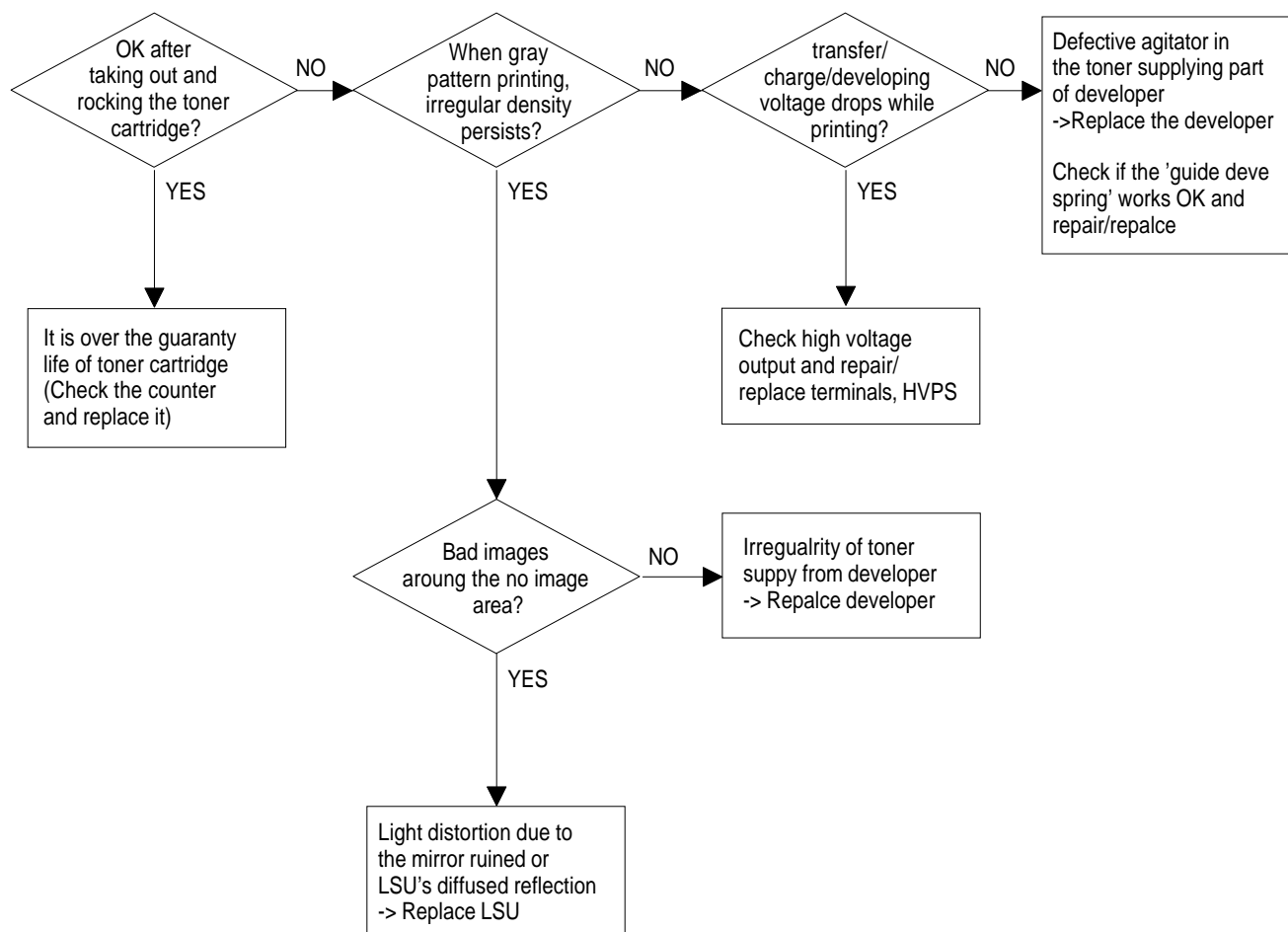
Partial Blank Image (not Periodic)



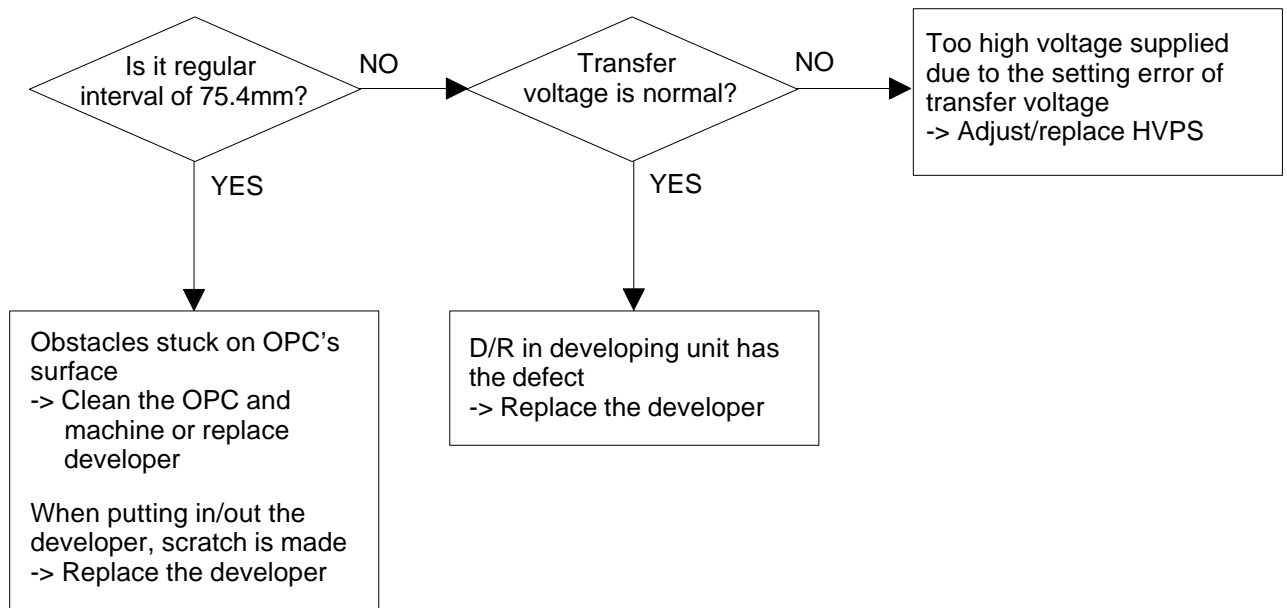
Partial Blank Image (Periodic)



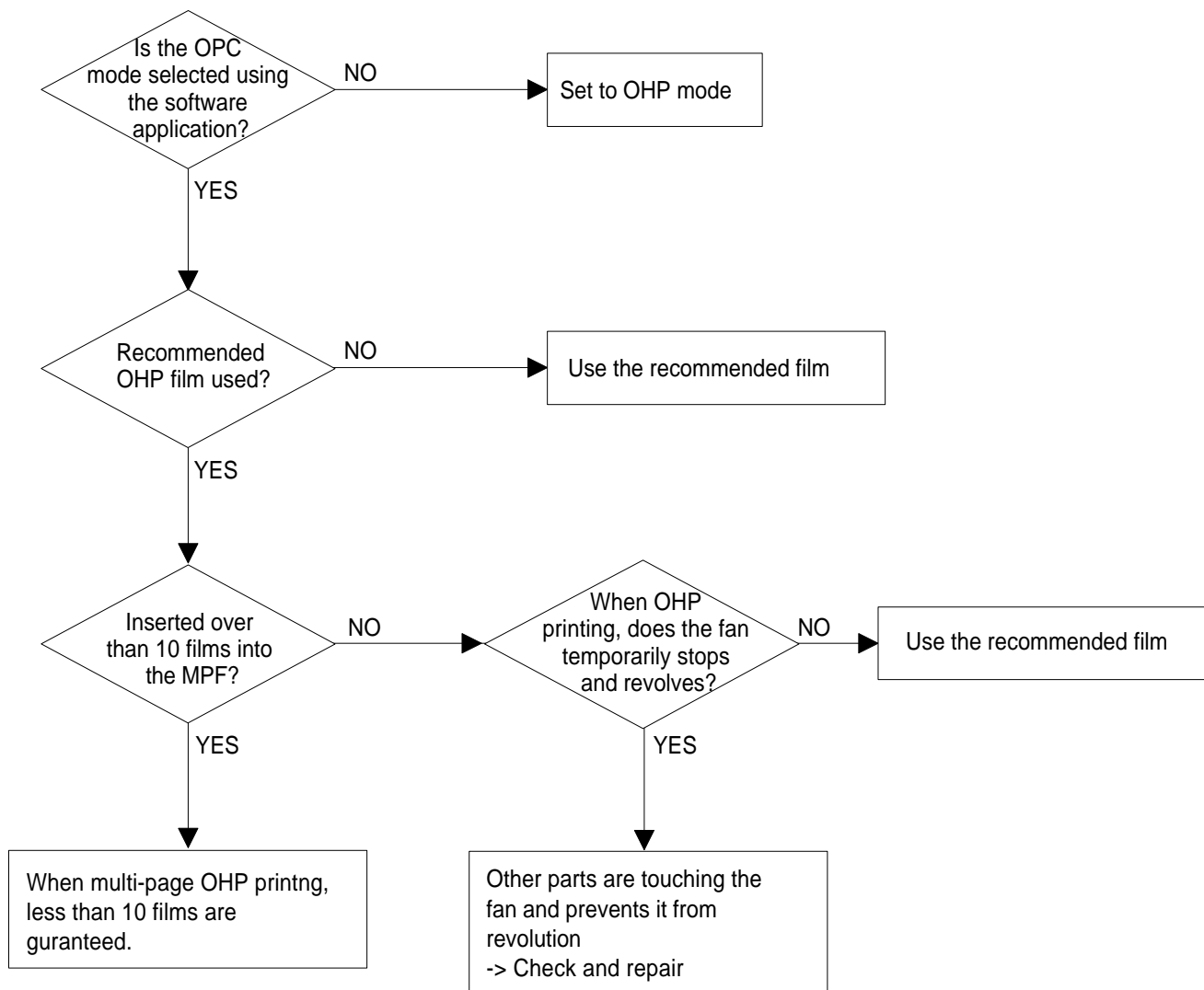
Irregular Density



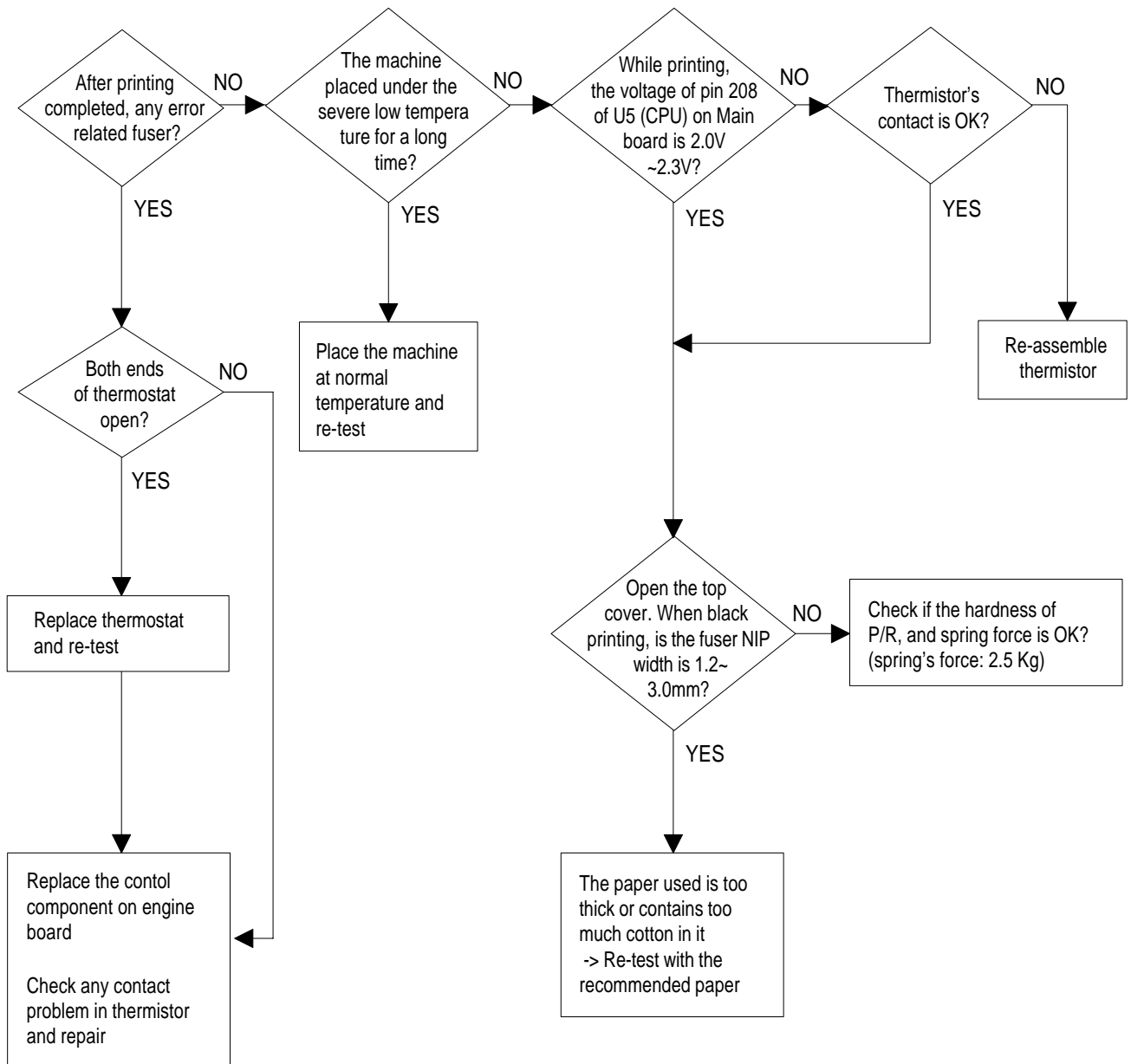
White Spot



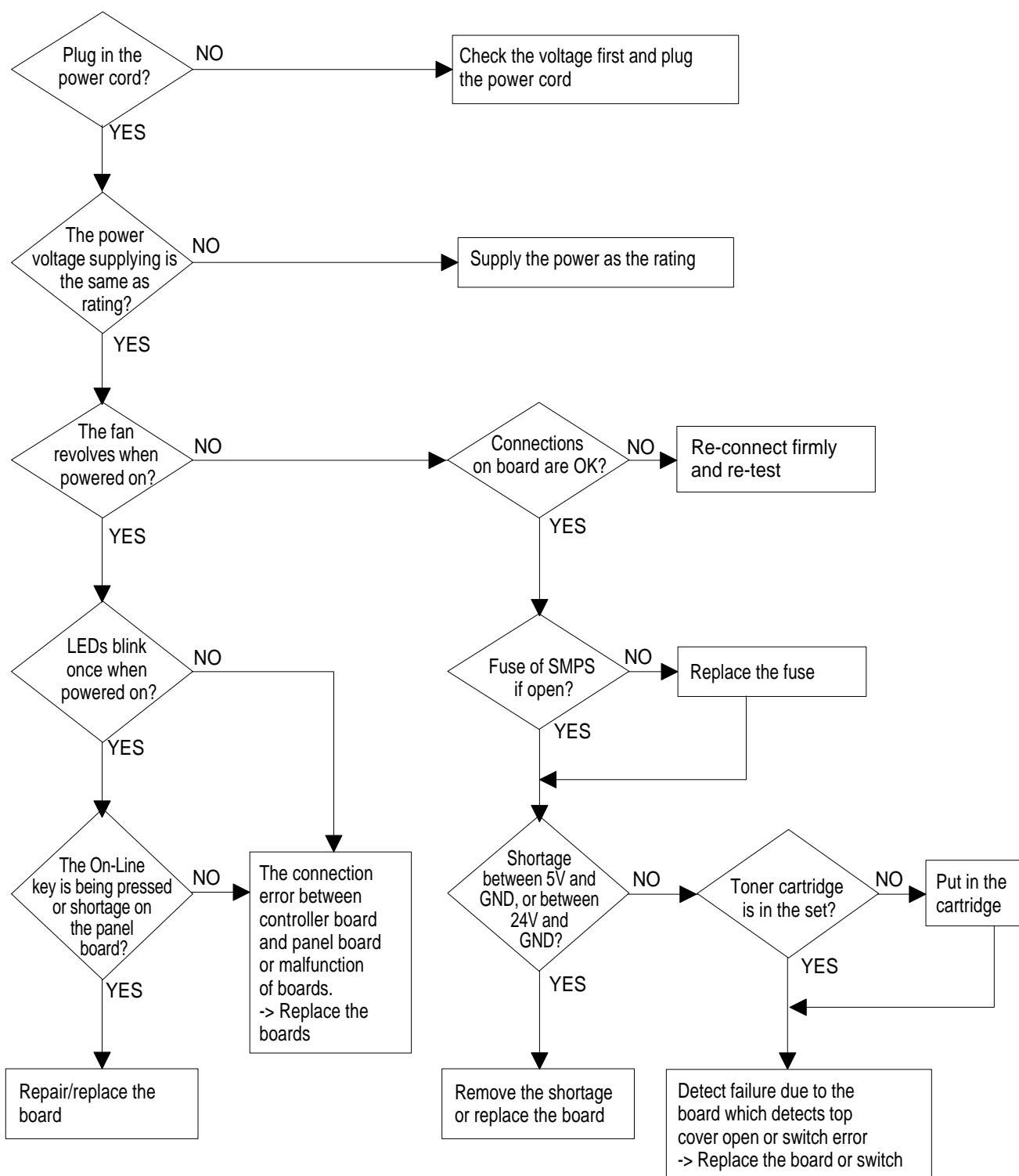
Trembling at the End When OHP Printing



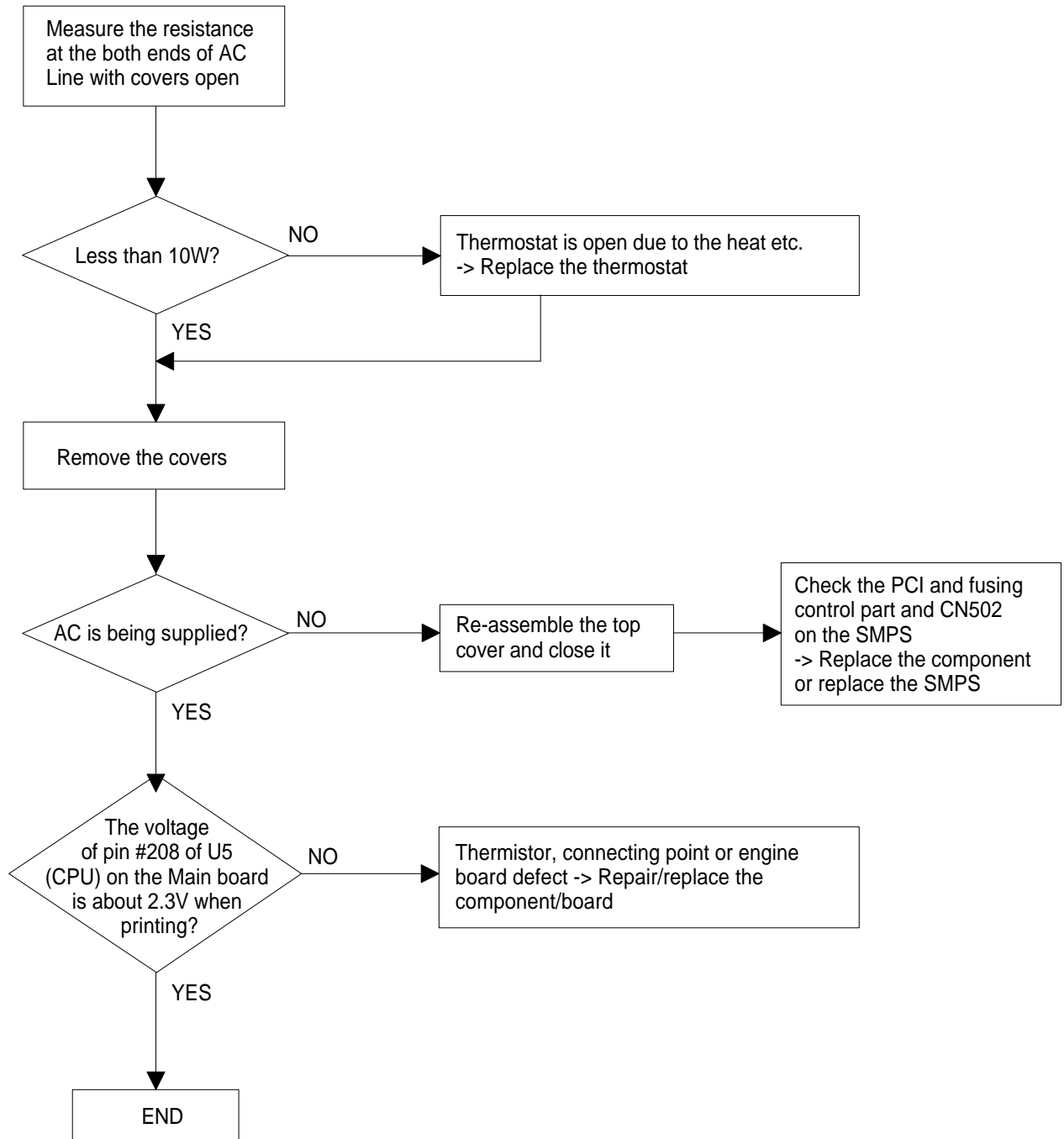
Poor Fusing Grade



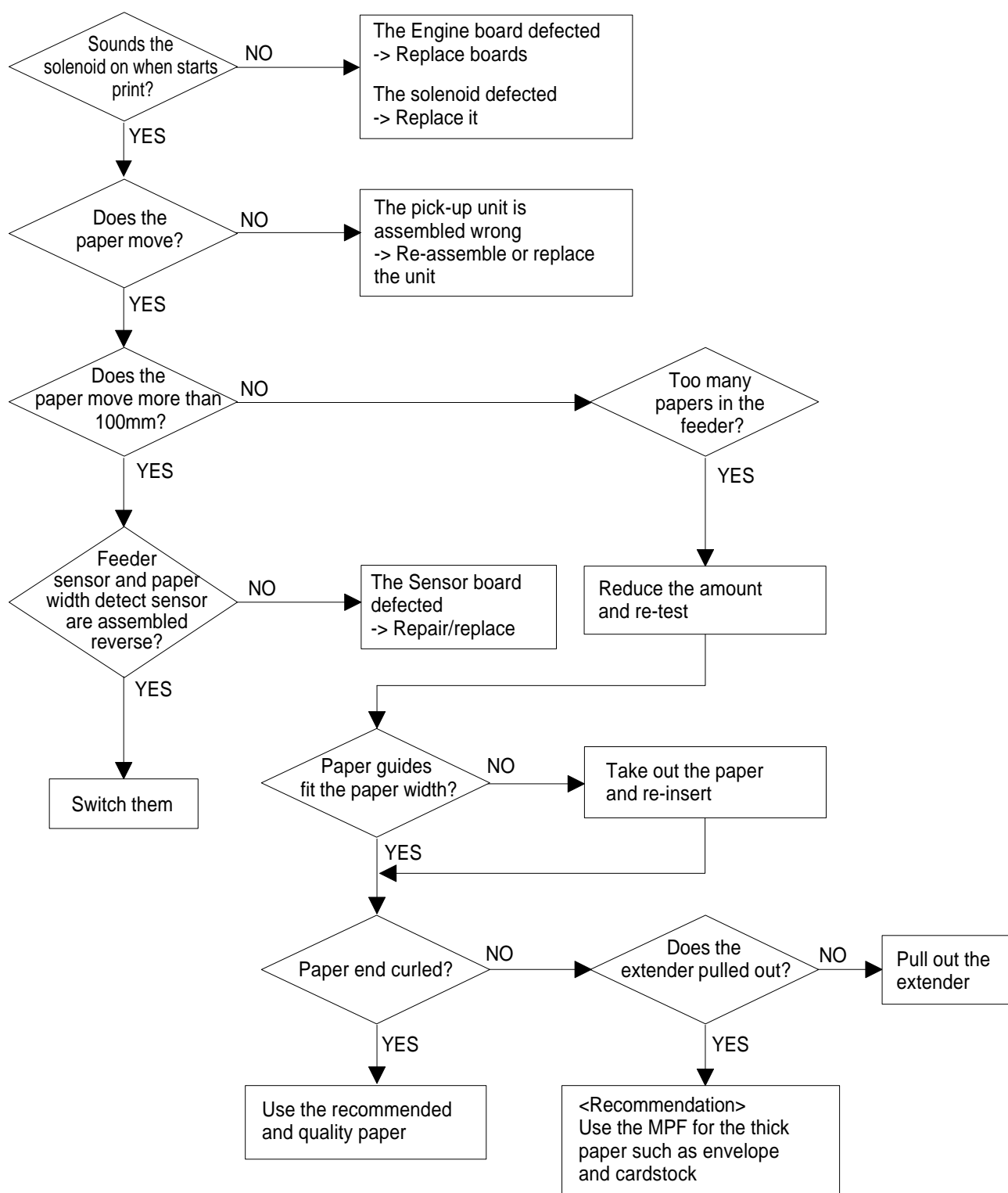
No Power (LED Off)



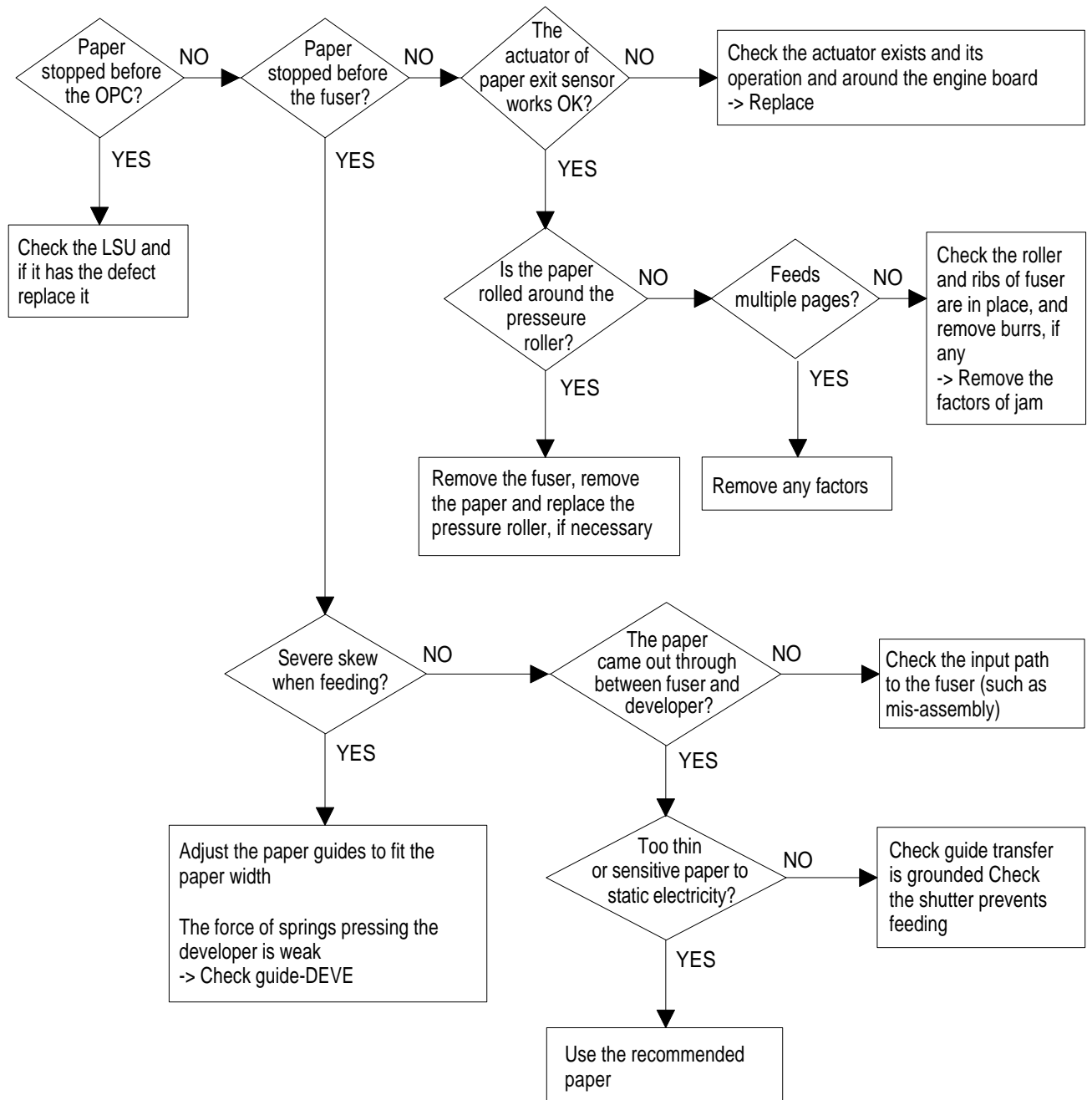
Fuser Error

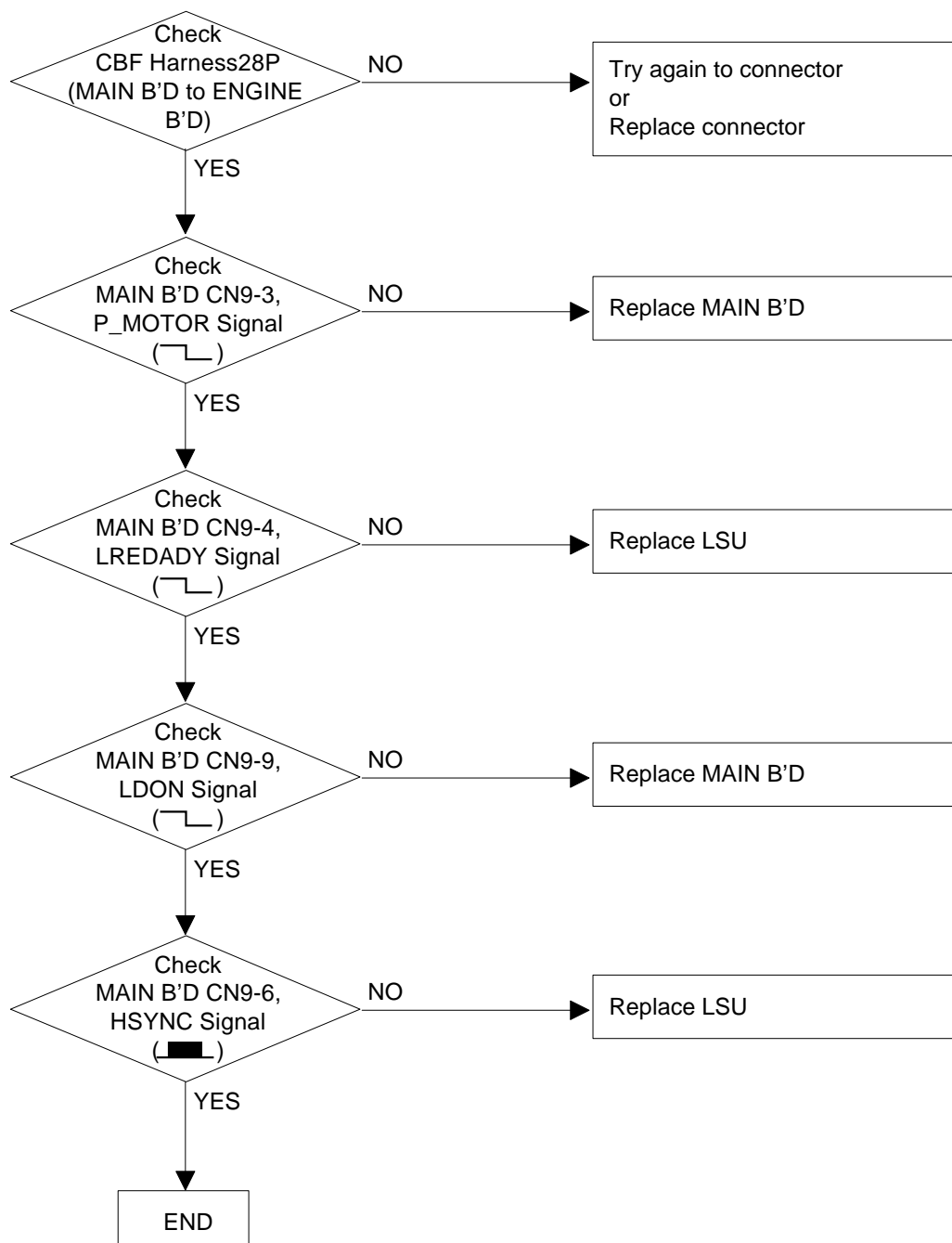


Paper Jam (Mis-feeding)



Paper Jam (Jam1)



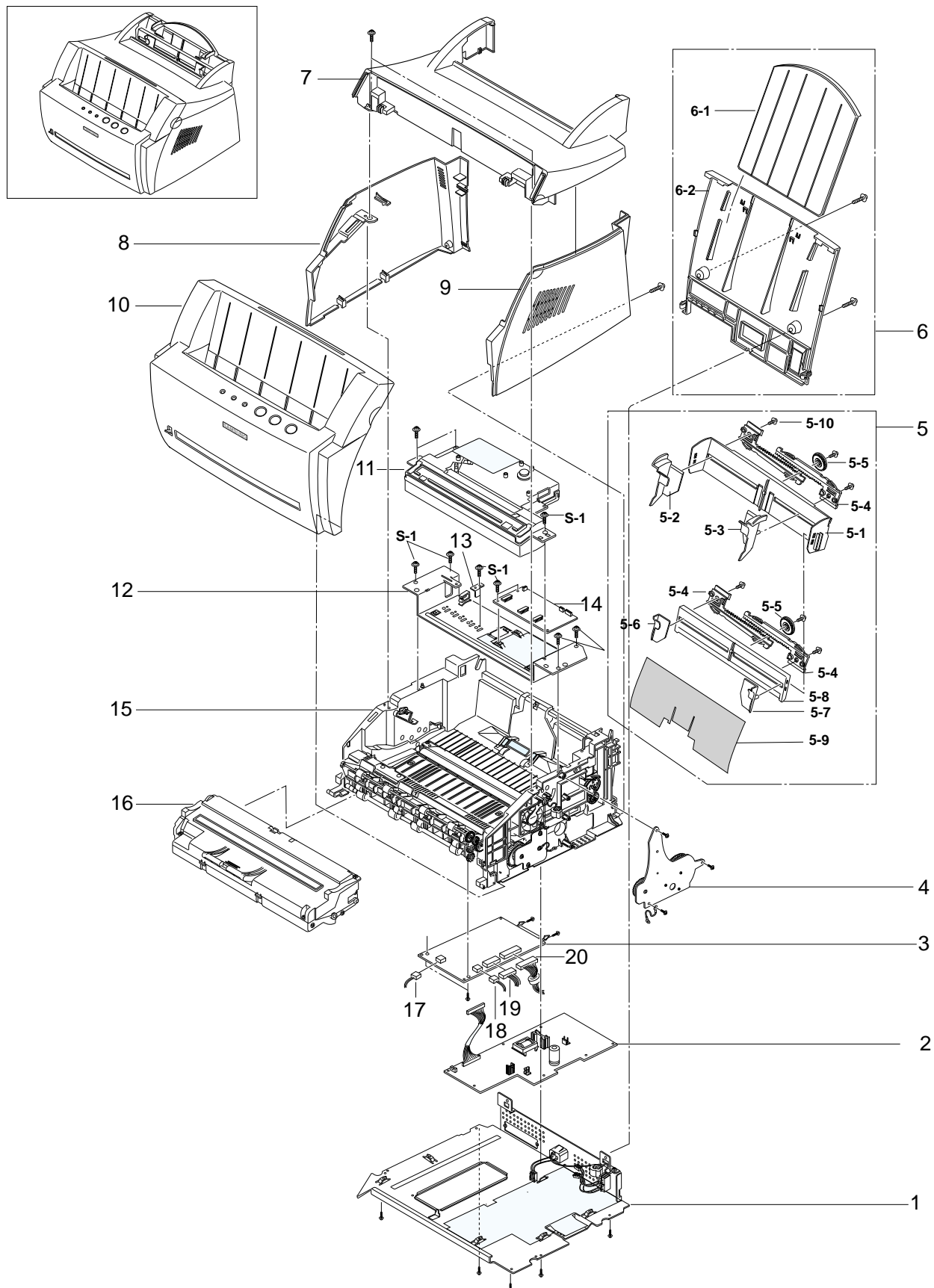
LSU Error

Memo

5. Exploded Views and Parts Lists



- 5-1 Main Exploded View**
- 5-2 Front Exploded View**
- 5-3 Engine/Frame Lower Exploded View**
- 5-4 Fuser Exploded View**
- 5-5 Shield Engine Unit Exploded View**
- 5-6 RX Drive Exploded View**
- 5-7 Plate-Upper Unit Exploded View**

5-1 Main Exploded View



Main Parts Lists

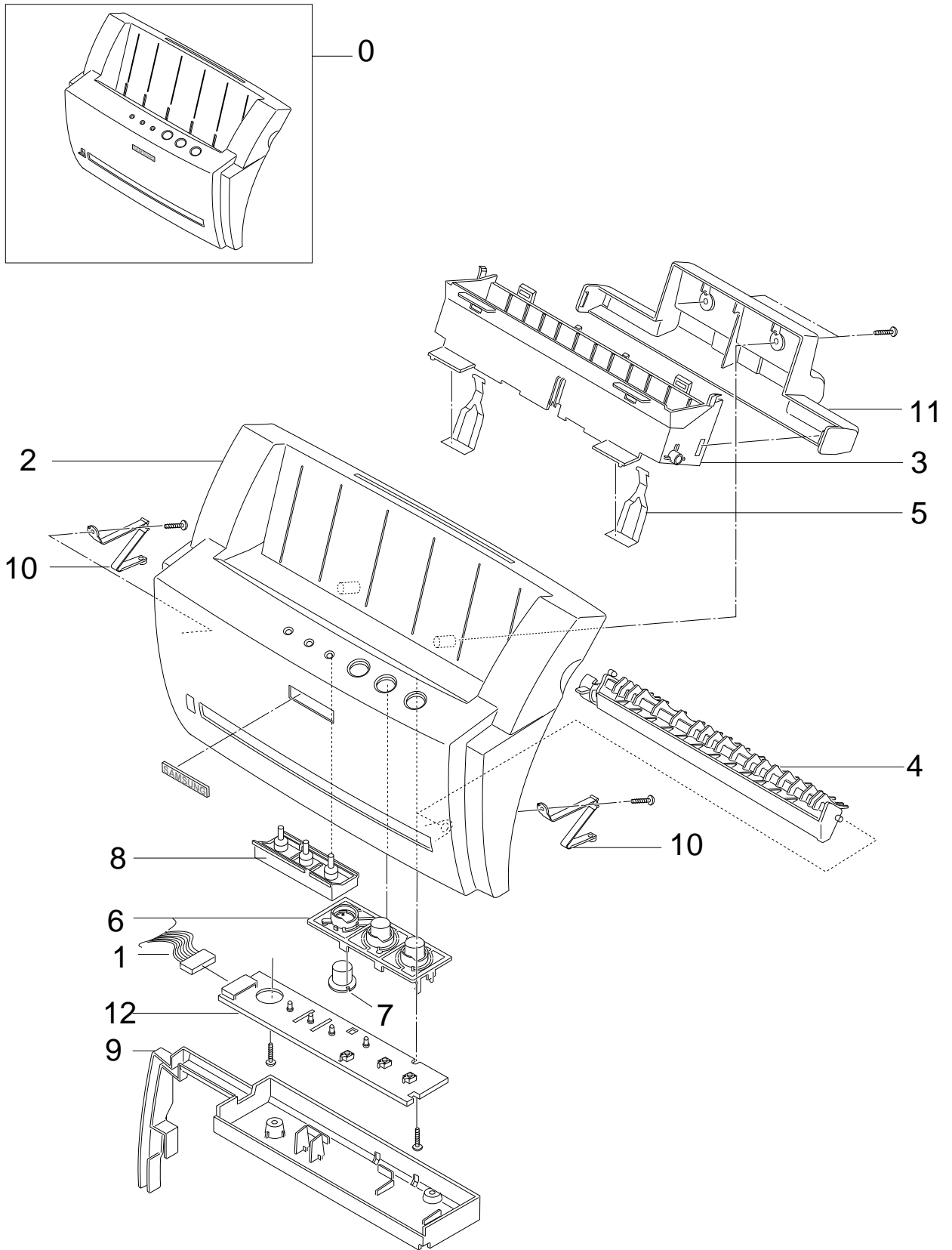
SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
1	ELA-HOU-SHIELD ENGINE	*	1	X	
2		SMPS-4500 V1	1	O	110V
2		SMPS-4500 V2	1	O	220V
3	PBA MAIN CTRL-GDI	JC92-01288A	1	O	
4	ELA HOU-RX DRIVE	JC96-01755A	1	O	
5	MEC-TRAY(P)	JC75-00099A	1	O	
5-1	PMO-TRAY_AUTO	*	1	X	
5-2	PMO-ADJUST_AUTO, L	*	1	X	
5-3	PMO-ADJUST_AUTO, R	*	1	X	
5-4	PMO-GEAR_ADJUST RACK	*	4	X	
5-5	PMO-GEAR_PINION	*	2	X	
5-6	PMO-ADJUST MANUAL, L	*	1	X	
5-7	PMO-ADJUST MANUAL, R	*	1	X	
5-8	TRAY MANUAL, PAPER	*	1	X	
5-9	FILM MANUAL	*	1	X	
5-10	TAPTITE-SCREW	*	6	X	
6	MEC-COVER REAR	JC75-00094A	1	O	
6-1	PMO-TRAY_LARGE	*	1	X	
6-2	PMO-COVER REAR	*	1	X	
7	PMO-COVER TOP	JC72-00522A	1	O	
8	PMO-COVER SIDE(L)	JC72-00523A	1	O	
9	PMO-COVER SIDE(R)	JC72-00524A	1	O	
10	ELA HOU-COVER FRONT	JC96-01758M	1	O	
11	UNIT-LSU	JC59-00006A	1	O	
12	MEC-PLATE UPPER	JC75-00111A	1	O	
13	IPR-PLATE_CHANNEL	JC70-00058A	1	O	
14	PBA SUB-MOTOR	JC92-01273A	1	O	
15		ELA HOU-FRAME LOWER	1	O	110V
15		ELA HOU-FRAME LOWER	1	O	220V
16	ELA UNIT-DEVE SET	*	1	X	
17	CBF HARNESS-MAIN PANEL	JC39-00112B	1	O	
18	CBF HARNESS-THERMISTOR	JC39-00045A	1	O	
19	CBF HARNESS-MAIN_HVPS	JC39-00109A	1	O	
20	CBF HARNESS-LSU	JC39-00043A	1	O	

Indicate part is for electrical safety components

O: Service available X: Service not available

5-2 Front Exploded View



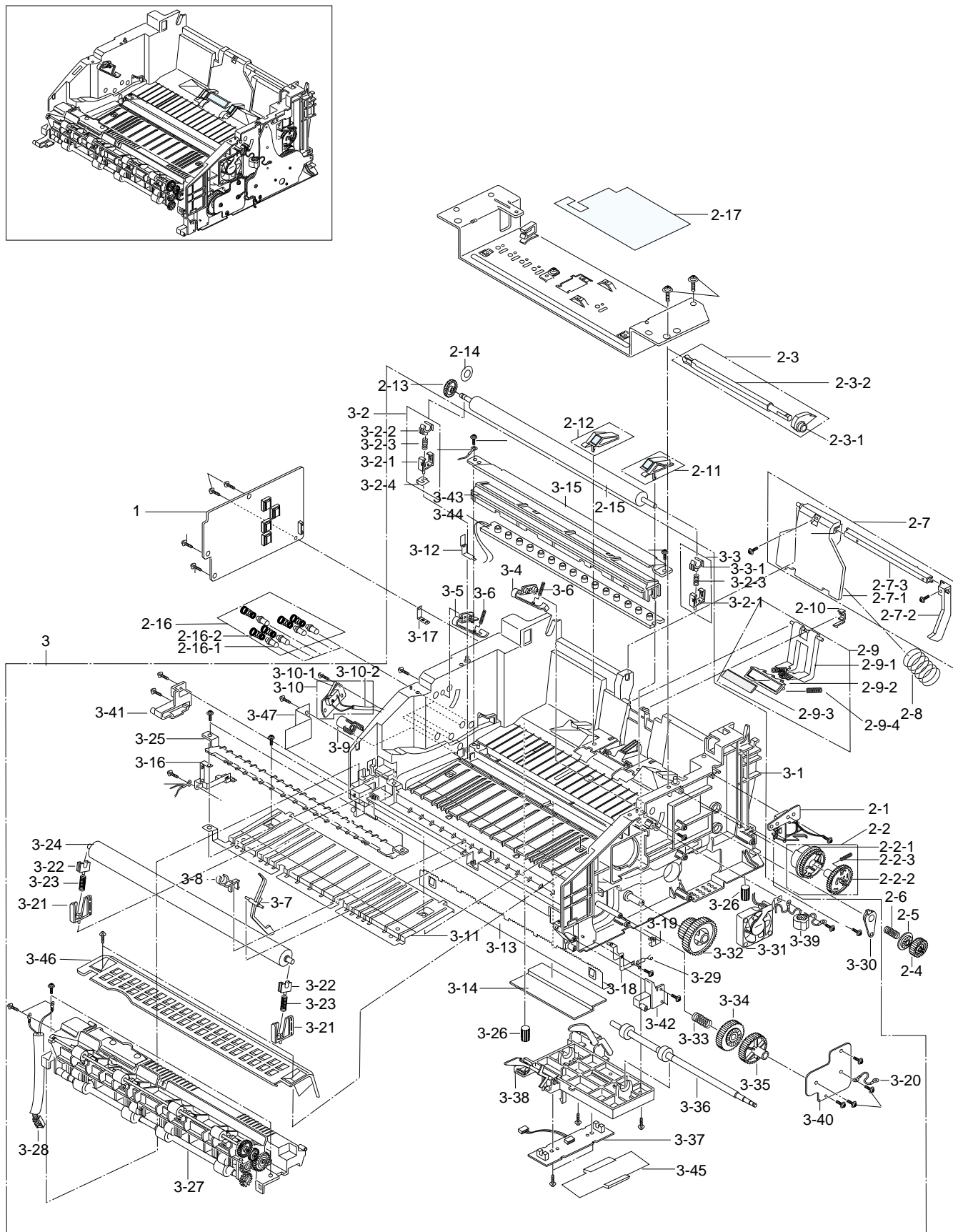
Front Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	ELA HOU-COVER FRONT	JC96-01758M	1	O	
1	CBF HARNESS-PANEL MAIN	*	1	X	
2	PMO-COVER FRONT	*	1	X	
3	PMO-GUIDE STACKER	*	1	X	
4	PMO-DOOR FACE UP	*	1	X	
5	PPR-SHEET PAPER GUIDE	*	2	X	
6	PMO-KEY A	*	1	X	
7	PMO-KEY B	*	1	X	
8	PMO-LENS SED	*	1	X	
9	PMO-COVER PCB	*	1	X	
10	PMO-STOPPER	*	1	X	
11	PMO-BRKT PUSH DEVE	*	1	X	
12	PBA SUB DISP-PANEL	*	1	X	

O: Service available X: Service not available

5-3 Engine/Frame Lower Exploded View



Engine/Frame Lower Parts Lists


SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
1	SMPS-HVPS	JC44-00017A	1	O	
2	ELA HOU-ENGINE ASS'Y	*	1	X	
2-1	SOLENOID-(APOLLO)	JC33-00002A	1	O	
2-2	MEC-GEAR PICKUP	JC75-00056A	1	O	
2-2-1	PMO-GEAR_PICKUP,1	*	1	X	
2-2-2	PMO-GEAR_PICKUP,2	*	1	X	
2-2-3	SPRING-PICKUP,GEAR	*	1	X	
2-3	MEC-CAM PICKUP	JC75-00072A	1	O	
2-3-1	PMO-CAM_PICKUP	*	1	X	
2-3-2	PMO-SHAFT_PICKUP	*	1	X	
2-4	PMO-GEAR_FEED	JC72-00115A	1	O	
2-5	PMO-CLUTCH_FEED	JC72-00116A	1	O	
2-6	SPRING-CLUTCH	JC61-00012A	1	O	
2-7	MEC-KNOCKUP ASS'Y	JC75-00053A	1	O	
2-7-1	PMO-PLATE_KNOCKUP	*	1	X	
2-7-2	PMO-CAM-KNOCKUP	*	1	X	
2-7-3	IPR-BAR_KNOCKUP	*	1	X	
S-6	SCREW-TAPTITE	*	2	X	
2-8	SPRING-KNOCK UP	JC61-00023A	1	O	
2-9	MEC-HOLDER PAD	JC75-00093A	1	O	
2-9-1	PMO-HOLDER_PAD	JC72-00535A	1	O	
2-9-2	PMO-HOLDER_PAD	*	1	X	
2-9-3	RPR-PAD FRICTION	*	1	X	
2-9-4	SPRING-PAD	*	2	X	
2-10	PMO-CAP_PAD	JC72-00124A	2	O	
2-11	MEC-SIDE PAD(R)	JC75-00051B	1	O	
2-12	MEC-SIDE PAD(L)	JC75-00050B	1	O	
2-13	PMO-GEAR_TRANSFER	JC72-00179A	1	O	
2-14	PPR-SPACER DR	*	1	X	
2-15	MEC-TRANSFER ROLLER	JC75-00035A	1	O	
2-16	MEC-TERMINAL	JC75-00049A	5	O	
2-16-1	TERMINAL	*	1	X	
2-16-2	SPRING-HV APOLLO	*	1	X	
2-17	PCT-INSULATOR ENG BD	*	1	X	
S-1	SCREW-TAPTITE	*	9	X	

O: Service available X: Service not available

Engine/Frame Lower Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
3	 ELA HOU-FRAME LOWER	*	1	O	110V
3	ELA HOU-FRAME LOWER	JC96-01757B	1	O	220V
3-1	PMO-FRAME LOWER	*	1	X	
3-2	MEA ETC-HOLDER TR L	*	1	X	
3-2-1	PMO-HOLDER TR	*	1	X	
3-2-2	PMO-BUSHING_TR(L)	*	1	X	
3-2-3	SPRING-TR	*	1	X	
3-2-4	IPR-PLATE_TR	*	1	X	
3-3	MEA ETC-HOLDER TR R	*	1	X	
3-2-1	PMO-HOLDER TR	*	1	X	
3-3-1	PMO-BUSHING_TR(R)	*	1	X	
3-2-3	SPRING-TR	*	1	X	
3-4	PMO-CAP PLTE GU/DEV R	*	1	X	
3-5	PMO-CAP PLTE GU/DEV L	*	1	X	
3-6	SPRING-GUIDE DEVE	*	2	X	
3-7	PMO-ACTUATOR_EXIT	*	1	X	
3-8	PMO-HOLDER_EXIT	*	1	X	
3-9	PMO-BUSHING_TERMINAL	*	1	X	
3-10	ELA HOU-OPEN SENSOR	*	1	X	
3-10-1	IPR-BRKT_SENSOR	*	1	X	
3-10-2	CBF-HARNESS COVER	*	1	X	
S-10	SCREW-TAPTITE	*	1	X	
3-11	IPR-GUIDE-TR	*	1	X	
3-12	IPR-PLATE-TERMINAL	*	1	X	
3-13	IPR-SAW_PLATE	*	1	X	
3-14	PCT-FILM SAW	*	1	X	
3-15	IPR-EARTH_TRANS	*	1	X	
3-16	IPR-GROUND_GUIDE	*	1	X	
3-17	IPR-GROUND_HVPS	*	1	X	
3-18	IPR-GROUND_FUSER	*	1	X	
3-19	IPR-GROUND_DRIVE	*	1	X	
3-20	CBF HARNESS-OPE GND	*	2	X	
3-21	PMO-HOLDER_PR	*	1	X	
3-22	BEARING-PRESSUE R	*	1	X	
3-23	SPRING-PR	*	1	X	

 Indicate part is for electrical safety components

O: Service available X: Service not available

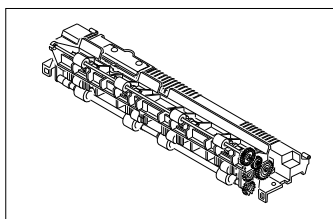
SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
3-24	MEC-ROLLER_PRESSURE	*	1	X	
3-25	PMO-GUIDE_INPUT	*	1	X	
3-26	RMO-RUBBER_FOOT	*	2	X	
3-27	ELA HOU-FUSER ASS'Y	JC96-02028B	1	O	110V
3-27	ELA HOU-FUSER ASS'Y	JC96-02028A	1	O	220V
3-28	CBF-HARNESS FUSER	*	1	X	
3-29	ELA HOU-MOTOR GND	*	1	X	
3-30	PMO-BUSHING SHAFT	*	1	X	
3-31	FAN-DC	3103-001085	1	O	
3-32	PMO-GEAR_83/35	*	1	X	
3-33	SPRING-FUSER DR	*	1	X	
3-34	PMO-GEAR_FU_IN 47	*	1	X	
3-35	PMO-GEAR_FU_OUT 47	*	1	X	
3-36	MEC-ROLLER FEED	*	1	X	
3-37	PBA MAIN-SENSOR	*	1	X	
3-38	EMC-HOLDER FEED	*	1	X	
3-39	CBF HARNESS-MOTOR GND	*	1	X	
3-40	IRP-BRKT FUSER DRV	*	1	X	
3-41	PMO-HINGE FRONT(L)	*	1	X	
3-42	PMO-HINGE FRONT(R)	*	1	X	
3-43	PMO-COVER PTL	*	1	X	
3-44	ELA HOU-PTL	*	1	X	
3-45	PCT-INSULATOR SENSOR BD	*	1	X	
3-46	PMO-FRONT FUSER	*	1	X	
3-47	PCT-COVER SHEET LAMP	*	1	X	
S-1	SCREW-TAPTITE	*	10	X	
S-2	SCREW-TAPTITE	*	2	X	

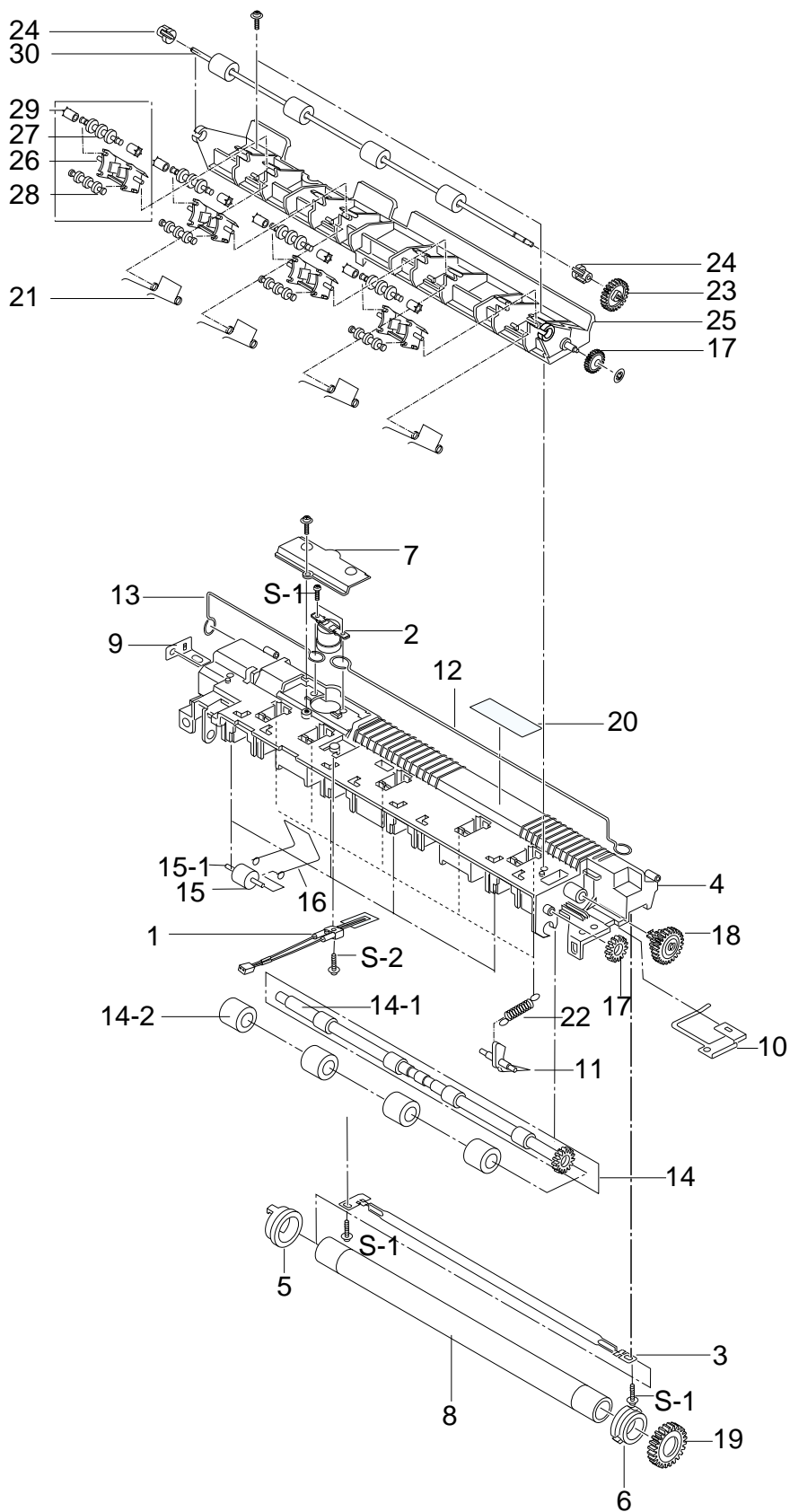

 Indicate part is for electrical safety components

O: Service available X: Service not available

5-4 Fuser Exploded View



0



Fuser Parts Lists

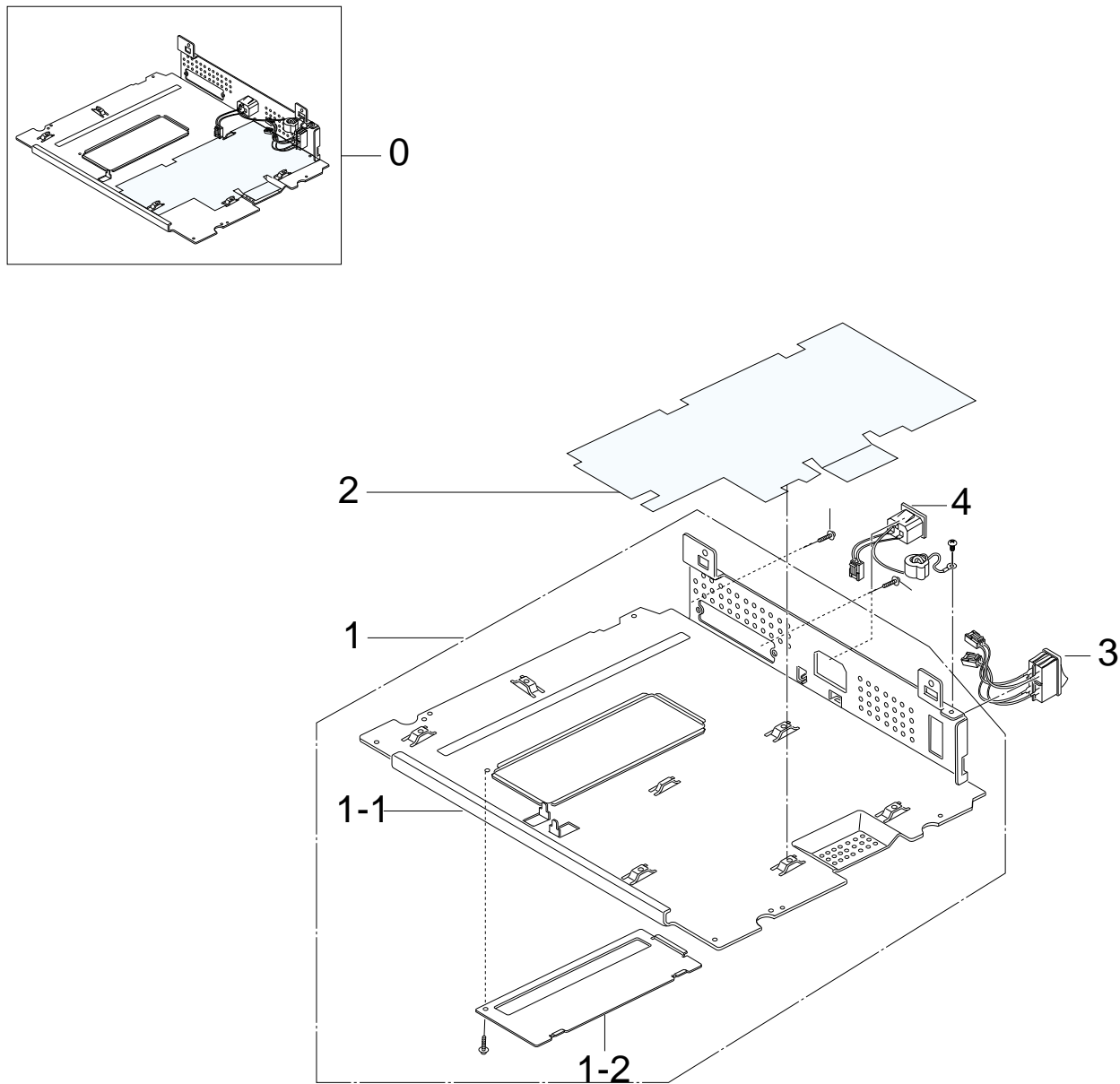
SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0 0 	ELA HOU-FUSER ASS'Y	JC96-02028B	1	O	110V
	ELA HOU-FUSER ASS'Y	JC96-02028A	1	O	220V
1	THERMISTOR-NTC	1404-001188	1	O	
2	THERMOSTAT-150C	4712-000001	1	O	
3 3 	LAMP-HALOGEN	4713-001120	1	O	110V
	LAMP-HALOGEN	4713-001121	1	O	220V
4	PMO-COVER FUSER	*	1	X	
5	PMO-BUSHING H/R, L	*	1	X	
6	PMO-BUSHING H/R, R	*	1	X	
7	PMO-COVER_THERMOSTAT	*	1	X	
8	NPR-ROLLER HEAT	JC71-00012A	1	O	
9	IPR-ELECTRODE_PLATE	*	1	X	
10	IPR-GROUND_FU	*	1	X	
11	PMO-GUIDE CLAW	*	5	X	
12	ELECTRODE-WIRE,1	*	1	X	
13	ELECTRODE-WIRE,S	*	1	X	
14	MEA ETC-SHAFT EXIT	*	1	X	
14-1	PMO-SHAFT_EXIT(Z15)	*	1	X	
14-2	RMO-RUBBER_EXIT	*	4	X	
15	PMO-ROLLER_IDLE EXIT	*	4	O	
15-1	IPR-PIN ROLLER EXIT	*	4	X	
16	SPRING-EXIT	*	4	X	
17	PMO-GEAR_EXIT_DRV16	*	1	X	
18	PMO-GEAR_EXIT_IDLE	*	1	X	
19	PMO-GEAR_FUSER	*	1	X	
20	LABEL (R)-CAU_HOT_FU	*	1	X	
21	SPRING-EXIT DOWN	*	4	X	
22	SPRING-ES, GUIDE CLAW	*	4	X	
23	GEAR-EXIT F/DOWN	*	5	X	
24	BEARING-EXIT FU L	*	2	X	
25	PMO-COVER FUSER F/DOWN	*	1	X	
26	PMO-HOLDER_EXIT_DOWN	*	4	X	
27	PMO-EXIT_DOWN_L	*	4	X	
28	PMO-EXIT_DOWN_S	*	4	X	
29	RMO-RUBBER-KICKER	*	8	X	
30	MEC-UNIT_EXIT, F_DOWN	*	1	X	
S-1	SCREW TAPTITE	*	5	X	
S-2	SCREW TAPTITE	*	1	X	

 Indicate part is for electrical safety components

O: Service available X: Service not available

5-5 Shield Engine Unit Exploded View



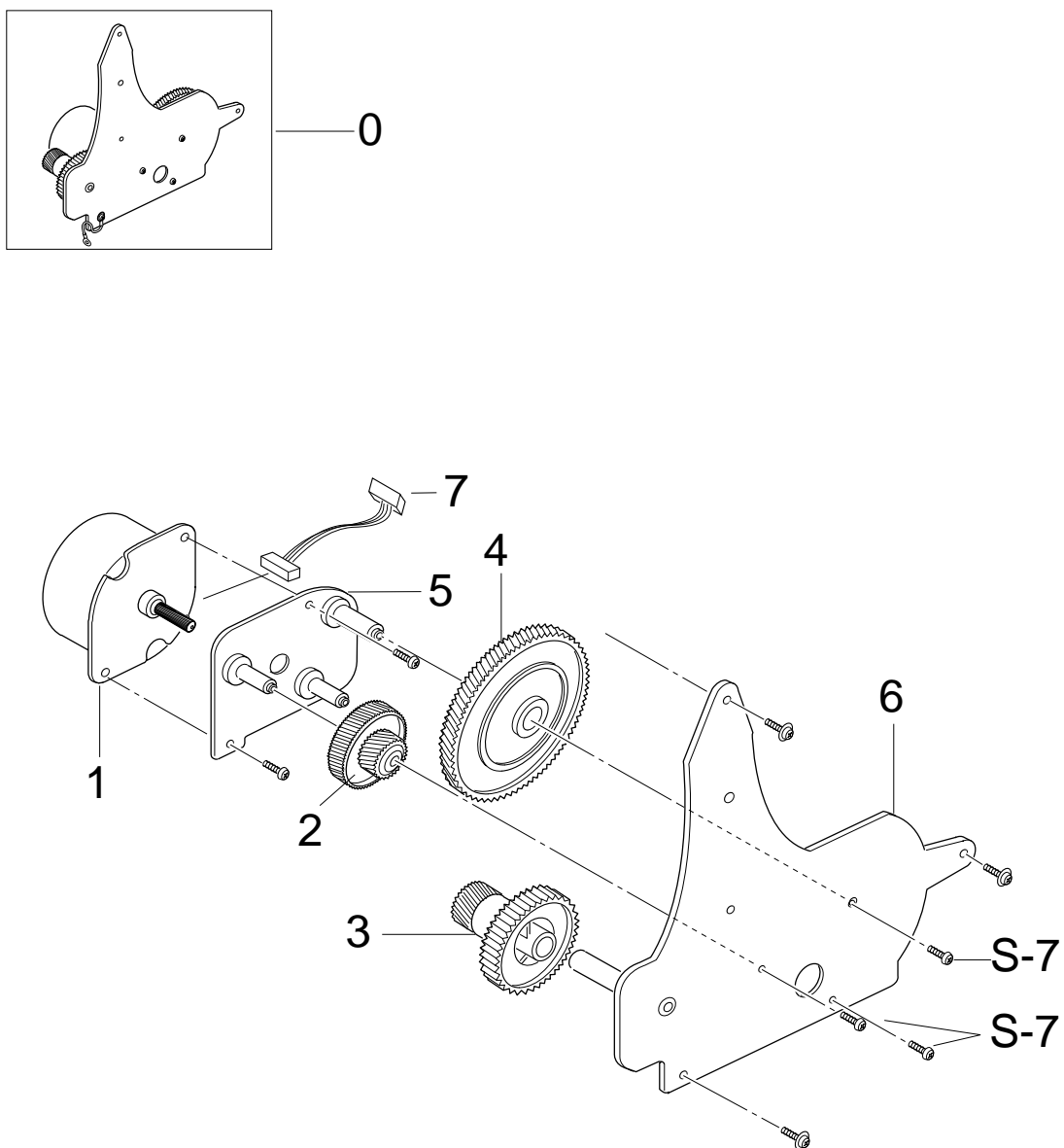
Shield Engine Unit Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	ELA HOU-SHIELD ENGINE	*	1	X	
1	MEC-SHIELD BRKT CONTROLLER	*	1	X	
1-1	IPR-SHIELD ENGINE	*	1	X	
1-2	IPR-BRKT CONTROLLER	JC70-00131A	1	O	
2	PCT-INSULATOR SMPS	JC72-00555A	1	O	
3	CBF HARNESS-SWITCH ASS'Y	JC39-00134A	1	O	
4	CBF HARNESS-INLET ASS'Y	JC39-00134A	1	O	
S-1	SCREW-MACHINE	*		X	
S-2	SCREW-TAPTITE	*		X	
S-3	SCREW-TAPTITE	*		X	

O: Service available X: Service not available

5-6 RX Drive Exploded View



RX Drive Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	ELA HOU-RX DRIVE	JC96-01755A	1	O	
1	MOTOR-STEP	JC31-00005A	1	O	
2	PMO-GEAR_71/28	*	1	X	
-3	PMO-GEAR_73/22	*	1	X	
4	PMO-GEAR_132/19	*	1	X	
5	IPR-BRKT_MOTOR	*	1	X	
6	IPR-BRKT_GEAR	*	1	X	
7	CBF-HARNESS_MOTOR	*	1	X	
S-7	SCREW-MACHINE	*	5	X	

O: Service available X: Service not available

5-7 Plate-Upper Unit Exploded View

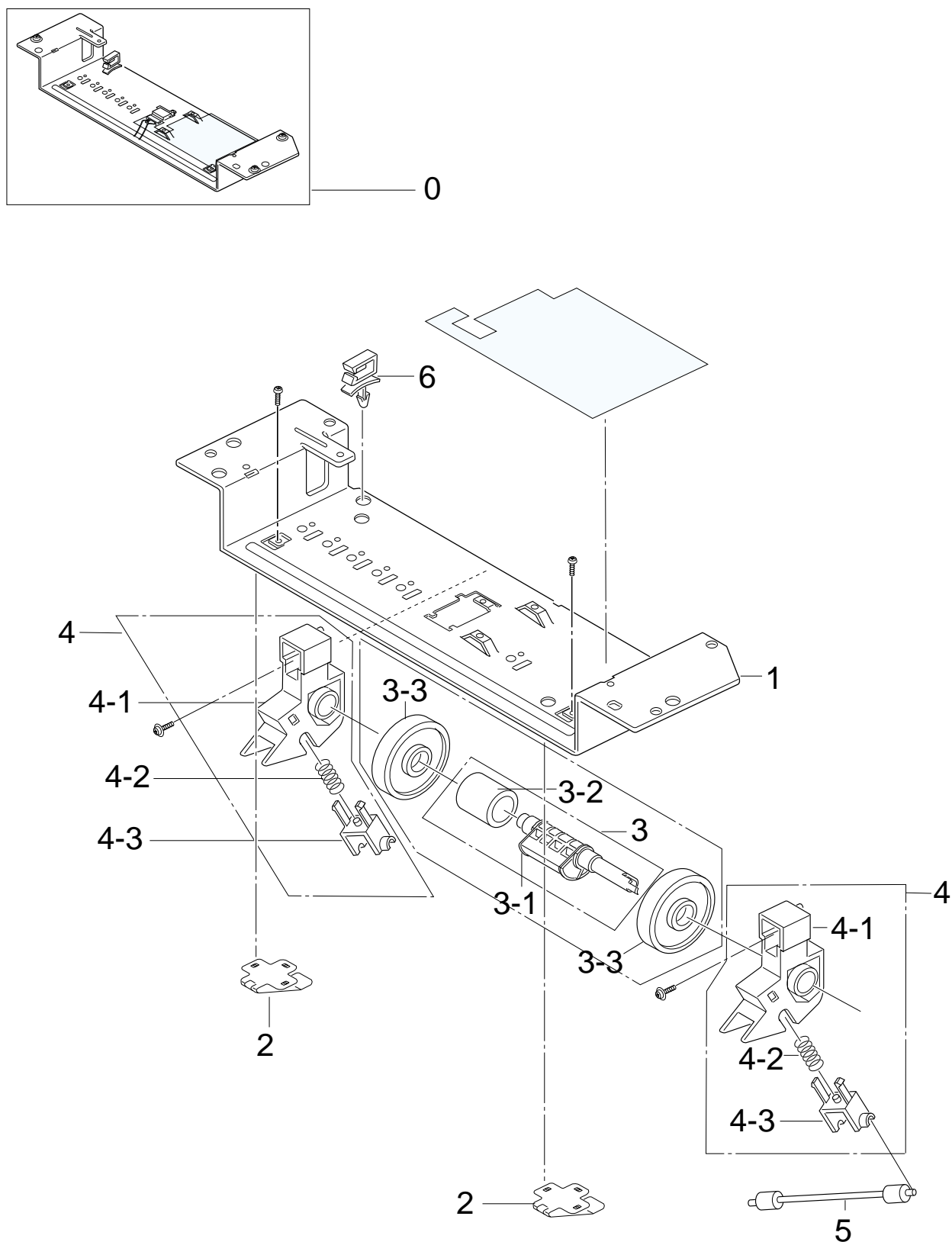


Plate-Upper Unit Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	MEC-PLATE UPPER	JC75-00111A	1	O	
1	IPR-UPPER-PLATE	*	1	X	
2	IPR-PLATE SPRING DEV	*	2	X	
3	MEA ETC-ROLLER PICKUP	*	1	X	
3-1	PMO-HOUSING_PICKUP	*	1	X	
3-2	RMO-ROLLER_PICKUP	*	1	X	
3-3	PMO-IDLE_PICKUP	*	2	X	
4	MEA ETC-IDLE FEED	*	2	X	
4-1	PMO-HOLDER_PICKUP	*	1	X	
4-2	SPRING-FEED	*	1	X	
4-3	PMO-HOLDER_IDLE,FEED	*	1	X	
5	ICT-ROLLER_IDLE,FEED	*	1	X	
6	CABLE CLAMP	*	1	X	
S-1	SCREW TAPTITE	*	3	X	
S-9	SCREW TAPTITE	*	2	X	

O: Service available X: Service not available

Memo

BOM

DNA : Delivery Not Available SNA : Service Not Available

Level	Parts Code	Description	Staus
1	0105-001032	PAPER-ART;75g,W210,-,WHITE,HANSOI,L297	
1	JC39-00043A	CBF HARNESS-LSU;SF-5100,#26,UL 1061,350m	
1	JC44-00016A	SMPS-4500 V2;ML-4500,AC/DC,44.5W,220-240	
1	JC44-00017A	SMPS-HVPS;ML-4500,-,-,+24/+5V	
1	JC59-00006A	UNIT-LSU;ML-4300,-,600DPI,-,-,-	
1	JC69-00136K	BOX(P)-MAIN(XEV);ML-4500,SW,OFFSET,346,4	
1	JC70-00058A	IPR-PLATE_CHANNEL;SF-5100,SECC,1.2,-	
1	JC75-00099A	MEC-TRAY(P);ML-4500,SAMSUNG,NTR,-,-,-	
L 2	6003-000264	SCREW-TAPTITE;PWH,+,B,M3,L6,ZPC(YEL),SWR	
L 2	6003-000264	SCREW-TAPTITE;PWH,+,B,M3,L6,ZPC(YEL),SWR	
L 2	JC66-40934A	GEAR-ADJUST RACK;ML-5000A,POM,WHT,-,-	
L 2	JC72-00164A	PMO-TRAY_AUTO;SF-5100,HIPS,LIGHT-GRAY,-,	
L 2	JC72-00165A	PMO-ADJUST_AUTO,L;SF-5100,HIPS,LIGHT-GRA	
L 2	JC72-00166A	PMO-ADJUST_AUTO,R;SF-5100,HIPS,LIGHT-GRA	
L 2	JC72-00313A	PCT-FILM MANUAL;SF-5100,PVC,NTR,-,-	
L 2	JC72-41146A	PMO-ADJUST MANUAL R;ML-5000A,HIPS,IVR,HB	
L 2	JC72-41147A	PMO-ADJUST MANUAL L;ML-5000A,HIPS,IVR,HB	
L 2	JC72-41168E	PMO-TRAY MANUAL PAPER;SF-5100,HIPS,IVR,V	
2	JG66-40003A	GEAR-PINION;SF4000,POM,WHT,M1,Z16	
1	JC75-00111A	MEC-PLATE UPPER;ML-5080I,SAMSUNG,-,-,NTR	
L 2	6003-000113	SCREW-TAPTITE;BH,+,B,M3,L4,ZPC(YEL),SM20	
L 2	6003-000266	SCREW-TAPTITE;PWH,+,S,M3,L6,ZPC(YEL),SWR	
L 2	6502-000130	CABLE CLAMP;DAWS-1NA,-,-,-,NTR	
L 2	JC61-00011A	SPRING-FEED;SF-5100,SUS304WPB,4.8,0.6,13	
L 2	JC70-00036A	IPR-UPPER-PLATE;SF-5100,SECC,1.2,-	
L 2	JC70-00154A	ICT-ROLLER IDEL FEED;ML-5080I,SUM24L NI,	
L 2	JC70-10223A	IPR-PLATE SPRING DEV;ML-80,SUS,T0.5,-	
L 2	JC72-00111A	PMO-HOLDER_PICKUP;SF-5100,POM,WHT,-,-	
L 2	JC72-00112A	PMO-HOLDER_IDLE,FEED;SF-5100,POM,WHT,-,-	
L 2	JC97-01308A	MEA ETC-ROLLER PICK UP;SF-5100,SAMSUNG,-	
L 3	JC72-00109A	PMO-HOUSING_PICKUP;SF-5100,PC+GF10%,BLK,	
L 3	JC72-00110A	PMO-IDLE_PICKUP;SF-5100,POM,BLK,-,-	
L 3	JC73-00018A	RMO-ROLLER_PICKUP;SF-5100,EPDM+IR,24*18*	
1	JC92-01271A	PBA MAIN CTRL-GDI;ML-4500,SEC,FOREIGN,GD	
L 2	0202-000118	SOLDER-WIRE;KR-19 RMA,-,D0.8,-,-	
L 2	1203-000495	IC-RESET;7045,T0-92,3P,-,PLASTIC,4.3/4.	
L 2	2001-001140	R-CARBON(S);39ohm,5%,1/2W,AA,TP,2.4x6.4m	
L 2	2401-000032	C-AL;100 UF,20%,50V,GP,10	
L 2	2401-000042	C-AL;100uF,20%,16V,GP,6.3x7mm,2.5mm	
L 2	2801-000199	CRYSTAL-UNIT;20MHz,50ppm,28-AAA,16pF,50o	
L 2	2804-001374	OSCILLATOR-CLOCK;28.74448MHz,100ppm,10TT	
L 2	3301-000344	CORE-FERRITE BEAD;ZZ,3.5x6.5mm,-,-	
L 2	3702-000118	CONNECTOR-RIBBON;36P,FEMALE,ANGLE,AU	
L 2	3711-000428	CONNECTOR-HEADER;3WALL,15P,1R,2mm,STRAIG	
L 2	3711-000470	CONNECTOR-HEADER;3WALL,4P,1R,2mm,STRAIGH	
L 2	3711-000524	CONNECTOR-HEADER;3WALL,9P,1R,2mm,STRAIGH	
L 2	3711-002410	CONNECTOR-HEADER;BOX,10P,2R,2mm,STRAIGHT	
L 2	3711-003408	CONNECTOR-HEADER;BOX,2P,1R,2mm,STRAIGHT,	
L 2	3711-003968	CONNECTOR-HEADER;BOX,3P,1R,2.5mm,STRAIGH	
L 2	3711-003969	CONNECTOR-HEADER;BOX,2P,1R,2.5mm,STRAIGH	
L 2	3711-003981	CONNECTOR-HEADER;BOX,28P,2R,2mm,STRAIGHT	
L 2	JC94-00243A	PHANTOM AU JC92-01271A	

L	3	0202-000108	SOLDER-CREAM;RMA-010 T-322,S63,-,-
L	3	0204-001068	BONDERITE;#3609,-,-,10cc/30cc
L	3	0401-000116	DIODE-SWITCHING;MMSD914T1,100V,200mA,225
L	3	0404-000112	DIODE-SCHOTTKY;RB420D,25V,100mA,SOT-23,T
L	3	0501-000338	TR-SMALL SIGNAL;KSC1623,NPN,60V,50V,150m
L	3	0801-001090	IC-CMOS LOGIC;74HC14,SCHMITT INVERTER,S
L	3	0803-001392	IC-TTL;7406,BUFFER/DRIVER,SOP,14P,300
L	3	0803-003058	IC-TTL;74F1071,ESD,SOP,20P,-,-,TP,PLA
L	3	1103-000133	IC-EEPROM;93C66,256K*16BIT,SOP,8P,150MIL
L	3	1105-001213	IC-DRAM;416C1204,1Mx16BIT,SOJ,42P,400M
L	3	1107-001209	IC-FLASH MEMORY;29F400,512Kx8/256Kx16Bit
L	3	1202-000164	IC-VOLTAGE COMP.;393,SOP,8P,150MIL,DUAL,
L	3	1203-001026	IC-POSI.FIXED REG.;33269,DPAK,3P,265MIL,
L	3	2007-000026	R-CHIP;200OHM,5%,1/10W,R,TP,+250PP
L	3	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012
L	3	2007-000221	R-CHIP;1.2Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000290	R-CHIP;100ohm,5%,1/10W,DA,TP,2012
L	3	2007-000290	R-CHIP;100ohm,5%,1/10W,DA,TP,2012
L	3	2007-000300	R-CHIP;10Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000300	R-CHIP;10Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000300	R-CHIP;10Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000300	R-CHIP;10Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000401	R-CHIP;150ohm,5%,1/10W,DA,TP,2012
L	3	2007-000468	R-CHIP;1Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000468	R-CHIP;1Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000477	R-CHIP;1Mohm,5%,1/10W,DA,TP,2012
L	3	2007-000671	R-CHIP;2Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000774	R-CHIP;33Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000781	R-CHIP;33ohm,5%,1/10W,DA,TP,2012
L	3	2007-000781	R-CHIP;33ohm,5%,1/10W,DA,TP,2012
L	3	2007-000859	R-CHIP;4.3Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000872	R-CHIP;4.7Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000964	R-CHIP;5.1Kohm,5%,1/10W,DA,TP,2012
L	3	2007-000981	R-CHIP;5.6Kohm,5%,1/10W,DA,TP,2012
L	3	2007-001133	R-CHIP;68ohm,5%,1/10W,DA,TP,2012
L	3	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,201
L	3	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,201
L	3	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,201
L	3	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,201
L	3	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,201
L	3	2203-000239	C-CERAMIC,CHIP;100pF,5%,50V,NPO,2012,-,T
L	3	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,2012,-,T
L	3	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,2012,-,T
L	3	2203-000455	C-CERAMIC,CHIP;1nF,5%,50V,NPO,2012,-,TP
L	3	2203-000455	C-CERAMIC,CHIP;1nF,5%,50V,NPO,2012,-,TP
L	3	2203-000455	C-CERAMIC,CHIP;1nF,5%,50V,NPO,2012,-,TP
L	3	2203-000595	C-CERAMIC,CHIP;220pF,5%,50V,NPO,2012,-,T
L	3	2203-000634	C-CERAMIC,CHIP;22pF,5%,50V,NPO,2012,-,TP
L	3	2203-000818	C-CERAMIC,CHIP;33pF,5%,50V,NPO,2012,-,TP
L	3	2203-000938	C-CERAMIC,CHIP;470pF,10%,50V,NPO,2012,-,
L	3	2203-001223	C-CERAMIC,CHIP;820pF,10%,50V,X7R,2012,2.
L	3	2402-000135	C-AL,SMD;22uF,20%,16V,-,5.3x5.3x5.2mm,-
L	3	2404-000468	C-TA,CHIP;33uF,20%,16V,GP,TP,7343,-
L	3	2901-001178	FILTER-EMI SMD;25V,2A,-,100000pF,2x1.25x
L	3	3301-000317	CORE-FERRITE BEAD;AB,2x1.25x0.9mm,-,-
L	3	JB13-00003A	IC ASIC-CHORUS;SF-3100,KS32C65100,QFP,20
L	3	JC41-00072A	PCB-MAIN;ML-4500,FR-4,2L,1.6T,168x103mm

	L	3	1105-001293	IC-DRAM;4C1,1MX16Bit,SOJ,42P,400MIL,50nS
	L	3	1203-001455	IC-POSI.FIXED REG.;1117,DPAK,3P,265MIL,P
L	2		JC68-00573A	LABEL(R)-BARCODE;ML-4500,PET,T0.05,10mm,
1			JC96-01755A	ELA HOU-RX DRIVE;ML-4500,SAMSUNG,-,DRIVE
L	2		0205-000005	GREASE-BEARING;EP56,-,-
L	2		6001-000131	SCREW-MACHINE;BH,+,M3,L6,ZPC(YEL),SM20C,
L	2		JC31-00005A	MOTOR-STEP 7.5;ML-4500,24VDC,1.1A,651PPS
L	2		JC39-00110A	CBF HARNESS-MOTOR;ML-4500,CBF,UL 1061,4P
L	2		JC70-00128A	IPR-BRKT MOTOR;ML-4500,SECC,1.6,-
L	2		JC70-00129A	IPR-BRKT GEAR;ML-4500,SECC,1.6,-
L	2		JC72-00152A	PMO-GEAR_71/28;SF-5100,POM(NW-02),WHT,-,
L	2		JC72-00153A	PMO-GEAR_73/22;SF-5100,POM(M90-44),WHT,-
L	2		JC72-00158A	PMO-GEAR_132/19;SF-5100,POM(NW-02),WHT,-
1			JC96-01757B	ELA HOU-FRAME LOWER(220V);ML-4500,SAMSUN
L	2		0205-000005	GREASE-BEARING;EP56,-,-
L	2		3103-001085	FAN-DC;24V,80mA,4800rpm,-,0.131mmH20
L	2		6003-000119	SCREW-TAPTITE;BH,+,B,M3,L8,CBLACK,SWRCH1
L	2		6003-000196	SCREW-TAPTITE;PWH,+,B,M3,L10,NI PLT,SWRC
L	2		JB39-00017A	CBF HARNESS-EARTH (TX MOTOR);SF-3100,CBF
L	2		JC39-00036A	CBF HARNESS-OPE GND;SF-5100,#18,UL 1007,
L	2		JC39-00042A	CBF HARNESS-FUSER;SF-5100,#18,UL 3122,30
L	2		JC39-00064A	CBF HARNESS-MOTOR GND;SF-5100,#18,UL1007
L	2		JC61-00014A	SPRING-P/R (APOLLO);SF-5100,SUS304WPB,5.
L	2		JC61-00016A	SPRING-FUSER DR;SF-5100,SUS304WPB,12.6,0
L	2		JC61-00038A	SPRING-GUIDE DEVE;SF-5100,SWP,5.1,0.7,17
L	2		JC66-10205A	BEARING-PRESSURE R;ML-80,PPS,-,-,-
L	2		JC70-00030A	IPR-SAW_PLATE;SF-5100,SUS304,0.15,-
L	2		JC70-00031A	IPR-EARTH_TRANS;SF-5100,SECC,1.0,-
L	2		JC70-00032A	IPR-GROUND_GUIDE;SF-5100,SUS304,0.2,-
L	2		JC70-00034A	IPR-GROUND_HVPS;SF-5100,SUS304,0.2,-
L	2		JC70-00035A	IPR-GROUND_FUSER;SF-5100,SUS304,0.2,-
L	2		JC70-00039A	IPR-GUIDE-TR;SF-5100,SECC,0.5,BLACK-PLAT
L	2		JC70-00040A	IPR-PLATE-TERMINAL;SF-5100,SUS304,0.2,-
L	2		JC70-00067A	IPR-GROUND DRIVE;SF-5100,SUS304 ,T0.2,-
L	2		JC70-00108A	IPR-BRKT FUSER DRV;SF-5100,SECC,T1.6,-
L	2		JC72-00103A	PMO-BUSHING_TERMINAL;SF-5100,ABS,BLK,-,-
L	2		JC72-00130A	PMO-ACTUATOR_EXIT;SF-5100,PC,BLK,-,-
L	2		JC72-00149A	PMO-GUIDE_INPUT;SF-5100,PBT+GF30%,BLK,-,
L	2		JC72-00154A	PMO-GEAR_83/35;SF-5100,POM(NW-02),WHT,-,
L	2		JC72-00155A	PMO-GEAR_FU_IN 47;SF-5100,POM(M90-44),WH
L	2		JC72-00157A	PMO-GEAR_FU_OUT 47;SF-5100,POM(M90-44),W
L	2		JC72-00217A	PCT-FILM SAW;SF-5100,PET(0.3T),NTR,-,-
L	2		JC72-00525A	PMO-HINGE FRONT(L);ML-4500,ABS+PC,IVR,V0
L	2		JC72-00526A	PMO-HINGE FRONT(R);ML-4500,ABS+PC,IVR,V0
L	2		JC72-00531A	PMO-HOLDER PR;ML-4500,PC,NTR,-,-
L	2		JC72-00532A	PMO-HOLDER EXIT;ML-4500,PC,NTR,-,-
L	2		JC72-00533A	PMO-FRAME LOWER;ML-4500,PC+ABS,NTR,-,-
L	2		JC72-00534A	PMO-COVER PTL;ML-4500,PC ,TRP,-,-
L	2		JC72-00570A	PCT-INSULATOR SENSOR BD;ML-4500,PVC(0.4T
L	2		JC72-00591A	PMO-FRONT FUSER;ML-4500,-,PBFGF30%,BLK,-
L	2		JC72-00596A	PCT-COVER SHEET LAMP;ML-4500,PVC(0.5T),-
L	2		JC72-41135A	PMO-CAP PLTE G/DEV R;ML-5000A,POM,BLK,-,
L	2		JC72-41173A	PMO-CAP PLTE G/DEV L;ML-5000A,POM,BLK,-,
L	2		JC73-00027A	RMO-RUBBER_FOOT;SF-5100,CR RUBBER,6.8*6.
L	2		JC75-00054A	MEC-ROLLER FEED;SF-5100,SAMSUNG,NTR
L	3		JC73-00038A	RPR-ROLLER FEED;SF-5100,EPDM,7.8*16.3,NT

	L	3	JC75-00092A	MEC-SHAFT FEED;SF-5100,SAMSUNG,NTR
L	2		JC75-00055A	MEC-HOLDER FEED;SF-5100,SAMSUNG,NTR
	L	3	JC72-00114A	PMO-HOLDER_FEED;SF-5100,ABS,BLK,-,-
	L	3	JC72-00117A	PMO-BUSHING_FEED;SF-5100,POM,WHT,-,-
	L	3	JC72-00118A	PMO-ACTUATOR_EMPTY;SF-5100,ABS,BLK,-,-
	L	3	JC72-00119A	PMO-ACTUATOR_FEED;SF-5100,ABS+PC,BLK,-,-
	L	3	JC61-00019A	SPRING-ACT, FEED;SF-5100,SUS304WPB,4.3,0
L	2		JC75-00091A	MEC-ROLLER_PRESSURE;ML-4500,SAMSUNG,NTR
L	2		JC75-00106C	MEC-HOLDER TR L;ML-4500,SAMSUNG,NTR,-,-
	L	3	JC61-00061A	SPRING-TR45;ML-4500,SWP,0.4,-,16.2,-,-,-
	L	3	JC70-00029A	IPR-PLATE_TR;SF-5100,SUS304,0.2,-
	L	3	JC72-00100C	PMO-HOLDER TR;ML-4500,-,PC,BRN,-,-,-
	L	3	JC72-00102A	PMO-BUSHING_TR(L);SF-5100,POM, BLK,-,-
L	2		JC75-00107C	MEC-HOLDER TR R;ML-4500,SAMSUNG,NTR,-,-
	L	3	JC61-00061A	SPRING-TR45;ML-4500,SWP,0.4,-,16.2,-,-,-
	L	3	JC72-00100C	PMO-HOLDER TR;ML-4500,-,PC,BRN,-,-,-
	L	3	JC72-00101A	PMO-BUSHING_TR(R);SF-5100,POM CE-20,BLK,
L	2		JC92-01197A	PBA MAIN-SENSOR;SF-5100,SEC,SENSOR B'D,-
	L	3	0604-001155	PHOTO-INTERRUPTER;TR,-,175MW,DIP,ST
	L	3	0604-001155	PHOTO-INTERRUPTER;TR,-,175MW,DIP,ST
	L	3	JC39-00039A	CBF HARNESS-MAIN/SENSOR;SF-5100,#26,UL 1
	L	3	JC94-00134A	100/XEU
	L	4	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	L	4	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	L	4	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm
	L	4	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm
	L	4	JC41-00033A	PCB-SENSOR;SF-5100,FR-1,1L,1.6,82*20
	L	4	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm
L	2		JC96-01579A	ELA HOU-MOTOR GND;SF-5100,HANSUNG,100Moh
L	2		JC96-01584A	ELA HOU-OPEN SENSOR;SF-5100,SAMSUNG,-,OP
	L	3	6003-000152	SCREW-TAPTITE;PH,+,B,M2,L10,ZPC(YEL),SWR
	L	3	JC39-00041A	CBF HARNESS-COVER;SF-5100,#22,UL 1007,17
	L	3	JC70-00038A	IPR-BRKT-SENSOR;SF-5100,SECC,1.0,-
L	2		JC96-01760A	ELA HOU-FUSER ASS'Y;ML-4500,SAMSUNG,-,FU
	L	3	0105-001032	PAPER-ART;75g,W210,-,WHITE,HANSOI,L297
	L	3	0205-001003	GREASE-BEARING;NYOGEL774,DAMPING GREASE,
	L	3	1404-001188	THERMISTOR-NTC;2.119,5%,-,0.4mW/C,BK
	L	3	4712-000001	THERMOSTAT-150C;125/250V,15/7.5A,150+-5C
	L	3	4713-001121	LAMP-HALOGEN;230V,2000mA,400W,REF,-,-,6p
	L	3	6003-000119	SCREW-TAPTITE;BH,+,B,M3,L8,CBLACK,SWRCH1
	L	3	JC61-00017A	SPRING-EXIT;SF-5100,SUS304WPB,3,0.3,16,-
	L	3	JC61-00055A	SPRING-EXIT DOWN;ML-4500,SUS304WPB,0.5,3
	L	3	JC61-70962A	SPRING-ES,GUIDE CLAW;ML-5000A,SUS304WPB,
	L	3	JC66-00037A	GEAR-FUSER;ML-4500,NYLON 66,WHT,-,-
	L	3	JC66-00038A	GEAR-EXIT F/DOWN;ML-4500,POM,WHT,-,-
	L	3	JC66-10200A	BEARING-EXIT FU L;ML-80,POM,-,-,-
	L	3	JC68-30928B	LABEL(R)-CAU_HOT_FU;ML-5000A/XRX,PVC,40X
	L	3	JC70-00043A	IPR-ELECTRODE_PLATE;SF-5100,C5201P,0.3,-
	L	3	JC70-00044A	IPR-GROUND_FU;SF-5100,SUS304,0.2,-
	L	3	JC70-00064A	IPR-PIN ROLLER EXIT;SF-5100,SUS,2,-
	L	3	JC70-00065A	IPR-ELECTRODE WIRE,S;SF-5100,BRONSE,0.3R
	L	3	JC70-00066A	IPR-ELECTRODE WIRE1;SF-5100,BRONSE,0.3R,
	L	3	JC71-00012A	NPR-ROLLER HEAT;ML-4500,AL PIPE,2.6,-,-
	L	3	JC72-00133A	PMO-COVER_THERMOSTAT;SF-5100,PC,BLK,-,-
	L	3	JC72-00143A	PMO-GEAR_EXIT_DRV16;SF-5100,POM,BLK,-,-
	L	3	JC72-00146A	PMO-GEAR_EXIT_IDLE;SF-5100,POM,BLK,-,-

L	3	JC72-00527A	PMO-COVER FUSER;ML-4500,PET GF 30%,NTR,-
L	3	JC72-00528A	PMO-COVER FUSER F/DOWN;ML-4500,PET GF 30
L	3	JC72-00529A	PMO-BUSHING H/R R;ML-4500,PPS,NTR,-,-
L	3	JC72-00530A	PMO-BUSHING H/R L;ML-4500,PPS,NTR,-,-
L	3	JC72-00567A	PMO-ROLLER_IDLE EXIT;ML-4500,-,POM,WHT,-
L	3	JC72-41128A	PMO-GUIDE CLAW;ML-5000A,PEEK,BLK,V0,TEFR
L	3	JC72-41177A	PMO-HOLDER_EXIT_DOWN;ML-5000A,PC,BLK,-,-
L	3	JC72-41178A	PMO-EXIT_DOWN_L;ML-5000A,POM,BLK,-,-
L	3	JC72-41179A	PMO-EXIT_DOWN_S;ML-5000A,POM,BLK,-,-
L	3	JC73-40913A	RMO-RUBBER-KICKER;ML-5000A,URE,PI5XT1.5,
L	3	JC75-10968A	MEC-UNIT_EXIT,F_DOWN;ML-5000A,LEX,SUM24+
L	3	JC97-01306A	MEA ETC-SHAFT EXIT;SF-5100,SAMSUNG,-,SHA
	L 4	JC72-00150A	PMO-SHAFT_EXIT(Z15);SF-5100,PC,BLK,-,-
	L 4	JC73-00017A	RMO-RUBBER_EXIT;SF-5100,EPDM,11.8X13.8X2
L	3	JC75-10968B	MEC-EXIT,F/DOWN;ML-4500,SAMSUNG,NTR,-,-,
L	3	JC70-00275A	IPR-ELECTRODE_LAMP;ML-6200,C5210P,-,0.5T
L	2	JC96-02037A	ELA HOU-PTL ASS'Y;ML-4500,SEC,PTL PBA AS
	L 3	0601-001383	LED;ROUND,RED,3.0MM,700NM
	L 3	JC39-00113A	CBF HARNESS-PTL HARNESS;SF-5100,WIRE HAR
	L 3	JC41-10530A	PCB-PTL;ML-5500,FRI,1L,T1.6,218X8.5
	L 3	JC39-40557A	CBF HARNESS-2P;ML-5000A,FLAT,UL1061,110m
L	2	JG72-40849A	PMO-BUSHING SHAFT;SF6000,POM,BLK,VO,VH 0
1		JC96-01758M	ELA HOU-COVER FRONT(XEV);ML-4500,SAMSUNG
L	2	6003-000196	SCREW-TAPTITE;PWH,+,B,M3,L10,NI PLT,SWRC
L	2	JC39-00112B	CBF HARNESS-MAIN PANEL;ML-4500,CBF,UL 10
L	2	JC71-00008A	NPR-BADGE;ML-5200A,AL FORGING,T1.5,ANODI
L	2	JC72-00375A	PPR-SHEET PAEPR GUIDE;ML-5200A,PC,WHT,-,
L	2	JC72-00510M	PMO-COVER FRONT(XEV);ML-4500,RUSSIA,HIPS
L	2	JC72-00511A	PMO-GUIDE STACKER;ML-4500,HIPS,IVR,V0,C8
L	2	JC72-00513A	PMO-DOOR FACE UP;ML-4500,HIPS,IVR,V0,C87
L	2	JC72-00515A	PMO-KEY A;ML-4500,HIPS,IVR,V0,C8726
L	2	JC72-00516A	PMO-KEY B;ML-4500,PMMA,TRP,-,-
L	2	JC72-00517A	PMO-LENS SED;ML-4500,PMMA,CLEAR,-,-
L	2	JC72-00518A	PMO-COVER PCB;ML-4500,HIPS,IVR,HB,C8726
L	2	JC72-00519A	PMO-STOPPER;ML-4500,NYLON,NTR,-,-
L	2	JC72-00557A	PMO-BRKT PUSH DEVE;ML-4300,-,HIPS,IVR,V0
L	2	JC92-01280A	PBA SUB-LED PANEL;ML-4500,SEC,KOR,LED_PA
	L 3	0601-001254	LED;ROUND,YEL,3mm,585nm
	L 3	0601-001255	LED;ROUND,GRN,3mm,570nm
	L 3	0601-001261	LED;ROUND,RED,3mm,630nm
	L 3	2001-000323	R-CARBON;120ohm,5%,1/4W,AA,TP,2.4x6.4mm
	L 3	2202-000109	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5
	L 3	3404-000116	SWITCH-TACT;12V,50mA,160gf,6X6X3.6mm,SPS
	L 3	3711-004637	CONNECTOR-HEADER;BOX,9P,1R,2mm,ANGLE,SN
	L 3	JC41-00073A	PCB-DISPLAY;ML-4500,FR-1,1L,1.6T,166.5x2
1		JC96-01766A	ELA HOU-ENGINE ASS'Y;ML-4500,SAMSUNG,-,E
L	2	6003-000119	SCREW-TAPTITE;BH,+,B,M3,L8,CBLACK,SWRCH1
L	2	6003-000196	SCREW-TAPTITE;PWH,+,B,M3,L10,NI PLT,SWRC
L	2	JC33-00002A	SOLENOID-(APOLLO);SF-5100,DC24V,-,0.3A,2
L	2	JC39-00043A	CBF HARNESS-LSU;SF-5100,#26,UL 1061,350m
L	2	JC39-00045A	CBF HARNESS-THERMISTOR;SF-5100,#26,UL106
L	2	JC39-00109A	CBF HARNESS-MAIN-HVPS;ML-4500,CBF,UL1061
L	2	JC39-00111A	CBF HARNESS-PANEL MAIN;ML-4500,CBF,UL 10
L	2	JC61-00012A	SPRING-CLUTCH;SF-5100,SUS304WPB,8,0.45,1
L	2	JC61-00023A	SPRING-KNOCK UP;SF-5100,SUS304WPB,10.7,0
L	2	JC72-00115A	PMO-GEAR_FEED;SF-5100,POM,WHT,-,-

L	2	JC72-00116A	PMO-CLUTCH_FEED;SF-5100,POM,WHT,-,-	
L	2	JC72-00124A	PMO-CAP_PAD;SF-5100,POM,WHT,-,-	
L	2	JC72-00179A	PMO-GEAR_TRANSFER;SF-5100,POM(M90-44),WH	
L	2	JC72-00400A	PCT-INSULATOR ENG BD;SF-5100,PVC (T0.4),	
L	2	JC75-00049A	MEC-TERMINAL;SF-5100,SAMSUNG,IVR	
	L	3	JC61-00035A	SPRING-HV APOLLO;SF-5100,SUS304WPB,5.55,
	L	3	JC70-00050A	IPR-TERMINAL;SF-5100,SWRCH,4.4,NI COATIN
L	2	JC75-00050B	MEC-SIDE PAD(L);ML-4300I,SAMSUNG,-,-,-,-	
	L	3	JC72-00126B	PMO-HOLDER_PAD,L;ML-4300I,-,ABS+PC,WHT,-
	L	3	JC73-00057A	RPR-PAD SIDE;ML-4300,NBB(T1.0),7*12,NTR,
L	2	JC75-00051B	MEC-SIDE PAD(R);ML-4300I,SAMSUNG,-,-,-,-	
	L	3	JC72-00125B	PMO-HOLDER_PAD,R;ML-4300I,-,ABS+PC,WHT,-
	L	3	JC73-00057A	RPR-PAD SIDE;ML-4300,NBB(T1.0),7*12,NTR,
L	2	JC75-00053A	MEC-KNOCKUP ASS'Y;SF-5100,SAMSUNG,IVR	
	L	3	6003-000266	SCREW-TAPTITE;PWH,+,S,M3,L6,ZPC(YEL),SWR
	L	3	JC70-00042A	IPR-BAR_KNOCKUP;SF-5100,SECC,0.8,-
	L	3	JC72-00121A	PMO-PLATE-KNOCKUP;SF-5100,ABS+PC,BLK,-,-
	L	3	JC72-00122A	PMO-CAM-KNOCKUP;SF-5100,ABS+PC,BLK,-,-
L	2	JC75-00056A	MEC-GEAR PICK UP;SF-5100,SAMSUNG,NTR	
	L	3	JC61-00020A	SPRING-PICK UP GEAR;SF-5100,SUS304WPB,3.
	L	3	JC72-00104A	PMO-GEAR_PICKUP,1;SF-5100,POM,BLK,-,-
	L	3	JC72-00106A	PMO-GEAR_PICKUP,2;SF-5100,POM,BLK,-,-
L	2	JC75-00072A	MEC-CAM PICK UP;SF-5100,SAMSUNG,NTR	
	L	3	JC72-00108A	PMO-SHAFT_PICKUP;SF-5100,PC+GF10%,BLK,-,
	L	3	JC72-00107A	PMO-CAM_PICKUP;SF-5100,POM,WHT,-,-
L	2	JC75-00093A	MEC-HOLDER PAD;ML-4500,SAMSUNG,NTR	
	L	3	JC61-00054A	SPRING-PAD;ML-4500,SUS304-WPB,0.4,-,14.4
	L	3	JC72-00535A	PMO-HOLDER PAD;ML-4500,PC+ABS,NTR,-,-
	L	3	JC72-00536A	PMO-HOLDER PAD LARGE;ML-4500,PC+ABS,NTR,
	L	3	JC73-00062A	RPR-PAD FRICTION;ML-4500,NBB(T1.0),39.5*
L	2	JC92-01273A	PBA SUB-MOTOR;ML-4500,SEC,KOR,MOTOR_DRIV	
	L	3	1003-001102	IC-MOTOR DRIVER;TEA3718DP,DIP,16P,300MIL
	L	3	1003-001102	IC-MOTOR DRIVER;TEA3718DP,DIP,16P,300MIL
	L	3	2005-001114	R-WIRE WOUND,NON;0.44ohm,5%,2W,AA,TP,3.8
	L	3	3711-000470	CONNECTOR-HEADER;3WALL,4P,1R,2mm,STRAIGH
	L	3	3711-003346	CONNECTOR-HEADER;BOX,18P,2R,2mm,ANGLE,SN
	L	3	3711-003408	CONNECTOR-HEADER;BOX,2P,1R,2mm,STRAIGHT,
	L	3	3711-003968	CONNECTOR-HEADER;BOX,3P,1R,2.5mm,STRAIGH
	L	3	JC62-00002A	HEAT SINK-(4500);ML-4500,BRONZE,0.5,9.3,
	L	3	JC94-00242A	100/XEU
	L	4	0402-000129	DIODE-RECTIFIER;1N4003,200V,1A,DO-41
	L	4	0402-000129	DIODE-RECTIFIER;1N4003,200V,1A,DO-41
	L	4	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,80V,60V,700m
	L	4	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,80V,60V,700m
	L	4	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm
	L	4	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm
	L	4	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm
	L	4	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M
	L	4	2001-000812	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M
	L	4	2001-000812	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M
	L	4	2001-000832	R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm
	L	4	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm
	L	4	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm
	L	4	2001-000995	R-CARBON;820ohm,5%,1/8W,AA,TP,1.8x3.2mm
	L	4	2201-000391	C-CERAMIC,DISC;22PF,5%,50V,SL,5.0*3
	L	4	2201-000391	C-CERAMIC,DISC;22PF,5%,50V,SL,5.0*3

	L	4	2201-001057	C-CERAMIC,DISC;820pF,10%,50V,Y5P,TP,5x3,
	L	4	2201-001057	C-CERAMIC,DISC;820pF,10%,50V,Y5P,TP,5x3,
	L	4	2201-001057	C-CERAMIC,DISC;820pF,10%,50V,Y5P,TP,5x3,
	L	4	2201-001057	C-CERAMIC,DISC;820pF,10%,50V,Y5P,TP,5x3,
	L	4	2401-002300	C-AL;47uF,20%,50V,GP,6x11mm,5mm,TP
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC39-40511A	CBF-HARNESS;ML-80,JUMPER,AWG22,52mm,SILV
	L	4	JC41-00076A	PCB-ENGINE;ML-4500,FR-1,1L,-,1.6T,9.8x6.
	L	3	JB68-00073A	LABEL(R)-BAR CODE;SF-3000,PY,38X6.5,T0.1
	L	3	JF68-30527N	LABEL(R)-BAR CODE;SF500,PY,20X10,T0.1,WH
L	2		JC97-01321A	MEA RACK-TR ASS'Y;SF-5100,SAMSUNG,-,TR A
	L	3	JC72-00288A	PPR-SPACER DR;SF-5100,PET FILM, T0.08,-,
	L	3	JC75-00035A	MEC-TRANSFER ROLLER;SF-5100,SEC,NBR+SBR+
1			JC96-01767A	ELA HOU-SHIELD ENGINE;ML-4500,SAMSUNG,-,
L	2		6001-000568	SCREW-MACHINE;PH,+,M3,L8,NI PLT,SM20C,-
L	2		6003-000221	SCREW-TAPTITE;PWH,+,S,M4,L8,ZPC(YEL),SWR
L	2		6003-000266	SCREW-TAPTITE;PWH,+,S,M3,L6,ZPC(YEL),SWR
L	2		6031-000120	WASHER-E.T;M4,ID4.3,OD8.5,T0.45,ZPC(YEL)
L	2		JC39-00116A	CBF HARNESS-INLET;ML-4500,WIRE HARNESS,U
L	2		JC39-00117A	CBF HARNESS-INLET;ML-4500,WIRE HARNESS,U
L	2		JC72-00555A	PCT-INSULATOR SMPS;ML-4500,PVC(0.4T),-,N
L	2		JC75-00105A	MEC-SHIELD BRKT CONTROLL;ML-4500,SEC,SEC
	L	3	6003-000266	SCREW-TAPTITE;PWH,+,S,M3,L6,ZPC(YEL),SWR
	L	3	JC70-00130A	IPR-SHIELD ENGINE;ML-4500,SECC,0.8,-
	L	3	JC70-00131A	IPR-BRKT CONTROLLER;ML-4500,SECC,0.8,-
L	2		JC39-00134A	CBF HARNESS-INLET-SWITCH;ML-4500,WIRE-HA
1			JC96-01898A	ELA-UNIT DEVE APO8 E;ML-4500,SEC,XEG,SET
L	2		JC02-00005A	TONER-POLYESTER CLEANLESS;ML-4500,SMT-10
L	2		JC96-01724B	ELA UNIT-DEVE PUBLIC 2;ML-4500,SEC,PUBLI
	L	3	0105-001032	PAPER-ART;75g,W210,-,WHITE,HANSOI,L297
	L	3	0203-000007	TAPE-FILAMENT;3M,T0.15,W18,L55M,TRP
	L	3	0205-001059	GREASE-BEARING;PETAMO GHV 133,BEIGE,15KG
	L	3	0205-001067	GREASE-GRAPHITE;NYOGEL 756G,HYDRO CARBON
	L	3	6003-000119	SCREW-TAPTITE;BH,+,B,M3,L8,CBLACK,SWRCH1
	L	3	6031-000019	WASHER-PLAIN;-,ID6.1,OD8.5,T0.1,BLK,POLY
	L	3	6031-000022	WASHER-PLAIN;-,ID5.9,OD10.0,T0.13,BLK,PO
	L	3	6031-000023	WASHER-PLAIN;-,ID5.9,OD10.0,T0.5,BLK,POL
	L	3	6031-001051	WASHER-PLAIN;M4,ID4.1,OD7.0,T0.13,*,POLY
	L	3	JC61-00026A	SPRING-TS-CHARGE APOLLO;SF-5100,SWP-B,¥0
	L	3	JC66-00013A	GEAR-AGITATOR;SF-5100,POM(M90-44),BLK,M0
	L	3	JC66-00014A	GEAR-IDLE 26/11;SF-5100,POM(M90-44),BLK,
	L	3	JC66-00015A	GEAR-IDLE 18/17;SF-5100,POM(M90-44),BLK,
	L	3	JC66-00016A	GEAR-DEVE ROLLER;SF-5100,DELIN 500CL,BLK
	L	3	JC66-00017A	GEAR-SUPPLY ROLLER;SF-5100,DELIN 500CL,B
	L	3	JC68-00274A	LABEL(R)-RIBBON;SF-5100,100,-,BLK

L	3	JC68-00328A	MANUAL-ONE SHEET-DEVE APOLLO;SF-5100,SEC
L	3	JC68-10209B	LABEL(P)-PACK DEVE;ML-85,ART,34*84,G100,
L	3	JC68-10914D	LABEL(P)-SERIAL NO;ML-85,ART,70X15,G100,
L	3	JC69-00078A	BAG-DEVE APOLLO;SF-5100,CONDUTIVE T0.1 ,
L	3	JC70-00055A	ICT-SHAFT DEV;SF-5100,SUS 304,D4.0,NI(WH
L	3	JC72-00075A	PMO-FRAME DEV LOWER;SF-5100,ABS,BLK,-,-
L	3	JC72-00082A	PMO-BUSHING AGI R;SF-5100,POM,WHITE,-,-
L	3	JC72-00288A	PPR-SPACER DR;SF-5100,PET FILM, T0.08,-,
L	3	JC72-00288B	PPR-SPACER DR R;SF-5100,TETRON,WHT,T=0.1
L	3	JC72-00289A	PPR-FILM REAR APO;SF-5100,PET FILM, T0.2
L	3	JC72-00576A	PMO-FRAME DEVE UPPER;ML-4500,-,ABS,BLK,-
L	3	JC72-40232A	PMO-CAP AGITATOR;ML-80,PP,BLK,-,-
L	3	JC73-00019A	RPR-SEAL SUPPLY L;SF-5100,URETHANE RUBBE
L	3	JC73-00020A	RPR-SEAL SUPPLY R;SF-5100,URETHANE RUBBE
L	3	JC73-00021A	RPR-SEAL BLADE;SF-5100,URETHANE FOAM,219
L	3	JC73-00022A	RPR-SEAL LOWER;SF-5100,URETHANE FOAM,219
L	3	JC73-00023A	RPR-SEAL SIDE L;SF-5100,URETHANE FOAM,54
L	3	JC73-00024A	RPR-SEAL SIDE R;SF-5100,URETHANE FOAM,64
L	3	JC73-00048A	RPR-SEAL UPPER;SF-5100,URETHANE FOAM,42X
L	3	JC73-00055A	RPR-SEAL SPACE;SF-5100,URETHANE SPONGE ,
L	3	JC73-10914A	RPR-SEAL FILM;MLE-5000,URETHANE FOAM,10X
L	3	JC75-00028B	MEC-ASS'Y BLADE SUS;ML-4500,SEC,SECC+SUS
L	4	JC70-00022A	BRACKET-BLADE APOLLO;SF-5100,SECC,1.2T,-
L	4	JC70-10988A	IPR-SUS BLADE;MLE-5000,SUS301 1/2H 0.08T
L	3	JC75-00032B	MEC-DEVE ROLLER 8PPM;ML-4500,SEC,NBR+ECO
L	3	JC75-00034B	MEC-SUPPLY ROLLER;ML-4500,SEC,SILICONE F
L	3	JC75-00044A	MEC-BUSHING AGI L;SF-5100,SEC,POM+SANTOP
L	4	JC72-00081A	PMO-BUSHING AGI L;SF-5100,POM,WHITE,-,-
L	4	JC73-40906A	RMO-SEAL AGITATOR;MLE-5000,SANTOPRAIN,-,
L	3	JC75-00046A	MEC-CLEANING CR FELT;SF-5100,SEC,SECC+BR
L	4	JC70-00024A	BRACKET-FELT APOLLO;SF-5100,SECC,1.2T,-
L	4	JC74-00008A	MCT-FUR FOAM CR APO;SF-5100,FUR,T=9.5,-,
L	3	JC75-10973C	MEC-AGITATOR;SF-5100,SEC,ABS+PET 0.1T+0.
L	4	JC72-10924A	PPR-FILM AGITATOR;MLE-5000,PET T0.1,NTR,
L	4	JC72-10925A	PPR-FILM SUPPORT AGI;MLE-5000,PET T0.3,N
L	4	JC72-41109A	PMO-AGITATOR;MLE-5000,ABS(GF20%),NTR,HB,
L	3	JC97-01278A	MEA-ASS'Y PLATE DEV L;SF-5100,SEC,PC+POM
L	4	JC61-00025A	SPRING-CS-CHARGE APOLLO;SF-5100,SUS 304-
L	4	JC72-00077A	PMO-PLATE DEV L;SF-5100,PC,BLK,-,-
L	4	JC72-40332A	PMO-BUSHING_CHARGE;ML-80,POM,BLK,HB,-
L	3	JC97-01279A	MEA-ASS'Y CAP DEV L;SF-5100,SEC,ABS+URET
L	4	JC72-00079A	PMO-CAP DEV L;SF-5100,ABS,BLK,-,-
L	4	JC73-00025A	RPR-SEAL SIDE CAP;SF-5100,URETHANE FOAM,
L	3	JC97-01280A	MEA-ASS'Y CAP DEV R;SF-5100,SEC,ABS+URET
L	4	JC72-00080A	PMO-CAP DEV R;SF-5100,ABS,BLK,-,-
L	4	JC73-00025A	RPR-SEAL SIDE CAP;SF-5100,URETHANE FOAM,
L	3	JC97-01281A	MEA-ASS'Y PLATE DEV R;SF-5100,SEC,PC+POM
L	4	JC61-00025A	SPRING-CS-CHARGE APOLLO;SF-5100,SUS 304-
L	4	JC70-00153A	IPR-ELECTRODE CHARGE;ML-4500,SUS304 CSP-
L	4	JC70-50901A	IPM-BUSHING DEV R;MLE-5000,BRONZE,D7.0 X
L	4	JC72-00078A	PMO-PLATE DEV R;SF-5100,PC,BLK,-,-
L	4	JC72-00083A	PMO-HOLDER CR L;SF-5100,POM(C20),BLK,-,-
L	3	JC97-01282A	MEA UNIT-ASS'Y OPC DRUM;SF-5100,SEC,AL+U
L	4	0201-001162	ADHESIVE-CYA;LOCTITE403,NTR,1250,20G
L	4	JC66-00047A	GEAR-OPC L APOLLO PRT;ML-4500,PC LS1250,
L	4	JC71-00003A	NEX-OPC DRUM APOLLO;SF-5100,AL3003,φ24,

	L	4	JC75-00043A	MEC-GEAR OPC R;SF-5100,SEC,POM+C5210P-H
		5	JC66-00012A	GEAR-OPC R;SF-5100,POM(M90-44),BLK,M0.6,
		5	JC71-00002A	NPR-EARTH OPC APOLLO;SF-5100,C5210P-H,0.
	L	3	JC97-01283A	MEA-ASS'Y CHARGE ROLLER;SF-5100,SEC,NBR+
	L	4	JC66-00018A	GEAR-CHARGE ROLLER;SF-5100,POM(M90-44),B
	L	4	JC75-00033A	MEC-CHARGE ROLLER;SF-5100,SEC,NBR+ECO+SU
	L	3	JC68-30554A	LABEL(R)-FUSER;SL-1050,TETRON,-,T0.1,RED
1			JC97-01344A	MEA ETC-COVER ASS'Y;ML-4500,SAMSUNG,-,CO
L		2	6003-000196	SCREW-TAPTITE;PWH,+,B,M3,L10,NI PLT,SWRC
L		2	JC72-00522A	PMO-COVER TOP;ML-4500,HIPS,IVR,V0,C8726
L		2	JC72-00523A	PMO-COVER SIDE(L);ML-4500,HIPS,IVR,V0,C8
L		2	JC72-00524A	PMO-COVER SIDE(R);ML-4500,HIPS,IVR,V0,C8
L		2	JC75-00094A	MEC-COVER REAR;ML-4500,SAMSUNG,NTR
	L	3	JC72-00180A	PMO-TRAY_LARGE;SF-5100,HIPS,IVORY,-,-
	L	3	JC72-00520A	PMO-COVER REAR;ML-4500,HIPS,IVR,V0,C8726
1			JC99-01097G	INA-ACCESSORY(XEV);ML-4500,SAMSUNG,RUSSI
L		2	JC39-30002A	CBF-INTERFACE;1800MM,36P/25P,GRY,UL/CSA_
L		2	JC46-00103A	S/W APPLICATION-GDI;-,-,ML-4500,PRT DRV,1.
L		2	JC68-00638A	MAN(CARD)-WARRANTY;ML-6040,SER,RUSSIAN,R
L		2	JC68-00641A	MAN(BOOK)-SETUP GUIDE;ML-4500,SER,RUSSIA
L		2	JC69-00133A	BAG-PE ZIPPER;SF-5100P,LDPE,0.07,350,250
L		2	JC69-00134A	BOX(P)-KIT;ML-4500,SW, E,TOMSON,58,228,4
L		2	JC69-00135A	BOX(P)-KIT PAD;ML-4500,SW, E,PARTITION,-
L		2	JC72-00302A	PMO-SACKER RX;ML-5200A,HIPS,IVR,V0,VE-1
L		2	JF39-50053A	CBF-LINE CORD;-,-,250MM,BLK,-
L		2	JF68-10532B	LABEL(P)-BAR CODE;-,-,-,-
1			JC99-01098A	PAA WOOD-PACKING ASS'Y;ML-4500,SAMSUNG,-
L		2	0203-001100	TAPE-OPP MASKING;OPP/W75/CLR,T0.05,W75,L
L		2	JC69-00127A	CUSHION-MAIN(4500);ML-4500,EPS,450*120*3
L		2	JK69-30101A	BAG-PE SET;HDPE,T0.015,W800*L850,ECR
1			JC99-01111H	PAA WOOD-LABEL ASS'Y(XEV);ML-4500,SAMSUN
L		2	JC68-00415D	LABEL(R)-DEMO(XEV);ML-4500,PASCAL ECONOM
L		2	JC68-00477E	LABEL(P)-POP(XEV);ML-4500, ART 100g,-,82
L		2	JC68-10526A	LABEL(P)-VOLTAGE;-,-,ART,12.5X11,100(S),YE
L		2	JC68-10535A	LABEL(P)-ENERGY ST.;SLB-3105,ART,-,100(S
L		2	JC68-10909A	LABEL(P)-CAU,LSU;DEVE-ML(D),ART,130X20,1
L		2	JC68-10932A	LABEL(P)-BLANK(ML);ML-85/85G,ART,70X60,G
L		2	JC68-30004P	LABEL(R)-RATING;ML-4500,SIL,T0.05,44,90,
L		2	JF68-10532B	LABEL(P)-BAR CODE;-,-,-,-
L		2	JK75-10008A	RIBBON-BARCODE;ECR,RESIN/TYPE,KISCOM
1			JC99-01112A	INA-MATERIAL(A4);ML-4500,SAMSUNG,-,TEST
L		2	0105-000101	PAPER-ART;75G,W216,-,-,XEROX3R2047,-
L		2	0105-000107	PAPER-ART;-,-,W210,-,-,3M,L297
L		2	0105-001032	PAPER-ART;75g,W210,-,WHITE,HANSOI,L297
L		2	0203-000007	TAPE-FILAMENT;3M,T0.15,W18,L55M,TRP
L		2	0204-001068	BONDERITE;#3609,-,-,10cc/30cc
L		2	0205-000005	GREASE-BEARING;EP56,-,-
L		2	0205-001002	GREASE-BEARING;NYOGEL744,WITH PTFE,-
L		2	0205-001058	GREASE-SILICON;G40M,YEL,-
L		2	JC69-00050A	ENVELOPE-C5 WHITE;ML-6100,PAPER,WHT,20LB
L		2	JF68-30527A	LABEL(R)-DOC. LOAD;
L		2	JF68-30527N	LABEL(R)-BAR CODE;SF500,PY,20X10,T0.1,WH
L		2	0205-001056	GREASE-GRAPHITE;CRS841,WHT,-
1			4713-001121	LAMP-HALOGEN;230V,2000mA,400W,REF,-,-,6p
1			JC92-01288A	PBA MAIN-GDI CONTROLLER;ML-4500,SEC,WORL
L		2	0202-000118	SOLDER-WIRE;KR-19 RMA,-,D0.8,-,-

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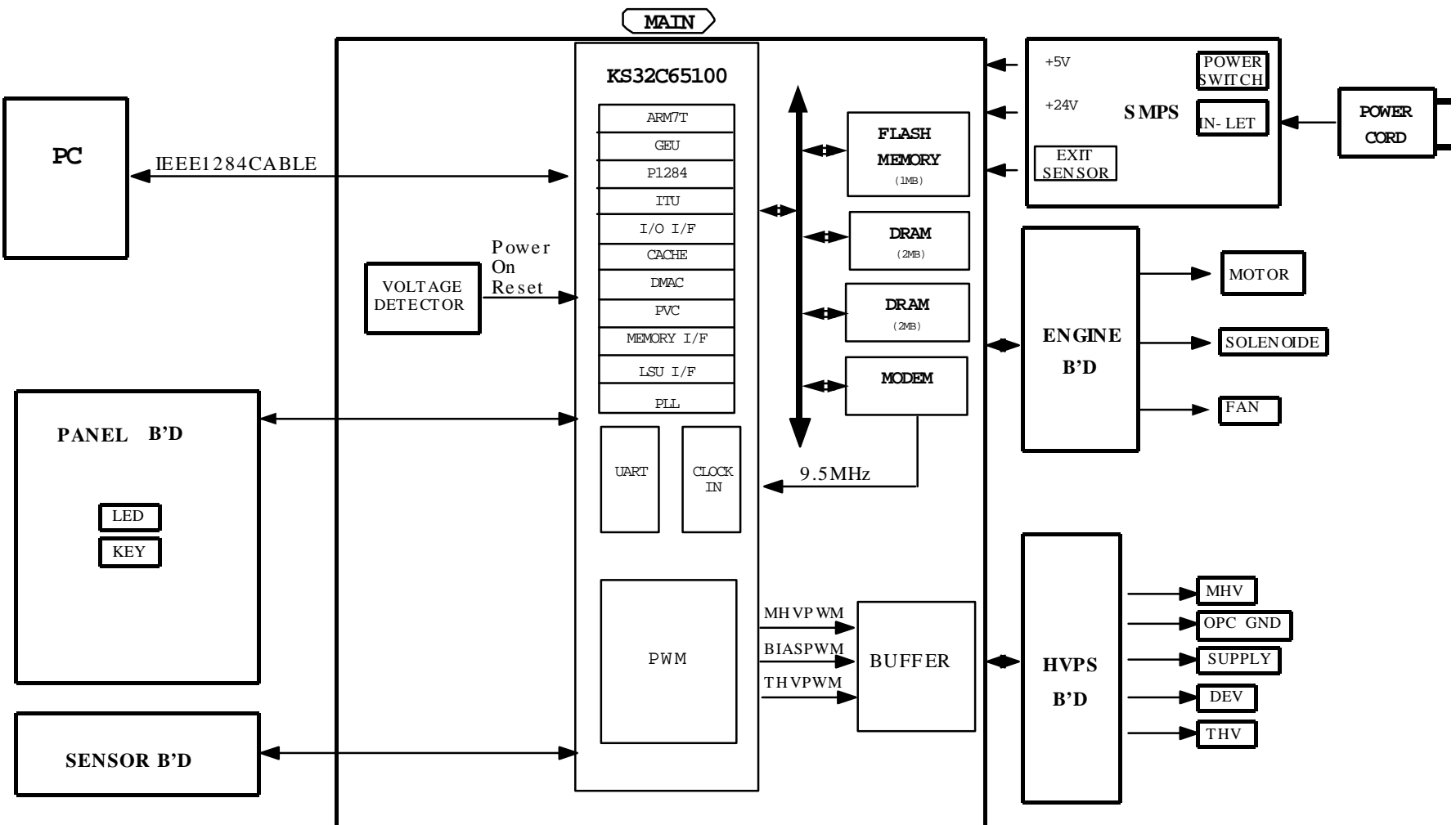
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L	3	2402-000135	C-AL,SMD;22uF,20%,16V,-,5.3x5.3x5.2mm,-
L	3	2404-000468	C-TA,CHIP;33uF,20%,16V,GP,TP,7343,-
L	3	2901-001178	FILTER-EMI SMD;25V,2A,-,100000pF,2x1.25x
L	3	2901-001178	FILTER-EMI SMD;25V,2A,-,100000pF,2x1.25x
L	3	2901-001178	FILTER-EMI SMD;25V,2A,-,100000pF,2x1.25x
L	3	2901-001178	FILTER-EMI SMD;25V,2A,-,100000pF,2x1.25x
L	3	3301-000317	CORE-FERRITE BEAD;AB,2x1.25x0.9mm,-,-
L	3	3301-000317	CORE-FERRITE BEAD;AB,2x1.25x0.9mm,-,-
L	3	3301-000317	CORE-FERRITE BEAD;AB,2x1.25x0.9mm,-,-
L	3	3301-000317	CORE-FERRITE BEAD;AB,2x1.25x0.9mm,-,-
L	3	JB13-00003A	IC ASIC-CHORUS;SF-3100,KS32C65100,QFP,20
L	3	JC41-00081A	PCB-MAIN;ML-4500,FR-4,2L,-,1.6T,168x103m
L	3	1105-000249	IC-DRAM;416C1200A,1MX16BIT,SOJ,42P,270
L	3	0404-000112	DIODE-SCHOTTKY;RB420D,25V,100mA,SOT-23,T
L	3	2007-000070	R-CHIP;0OHM,5%,1/16W,DA,TP,1608
L	2	1203-000495	IC-RESET;7045,T0-92,3P,-,PLASTIC,4.3/4.
L	2	2001-001140	R-CARBON(S);39ohm,5%,1/2W,AA,TP,2.4x6.4m
L	2	2401-000042	C-AL;100uF,20%,16V,GP,6.3x7mm,2.5mm

7. Block diagram

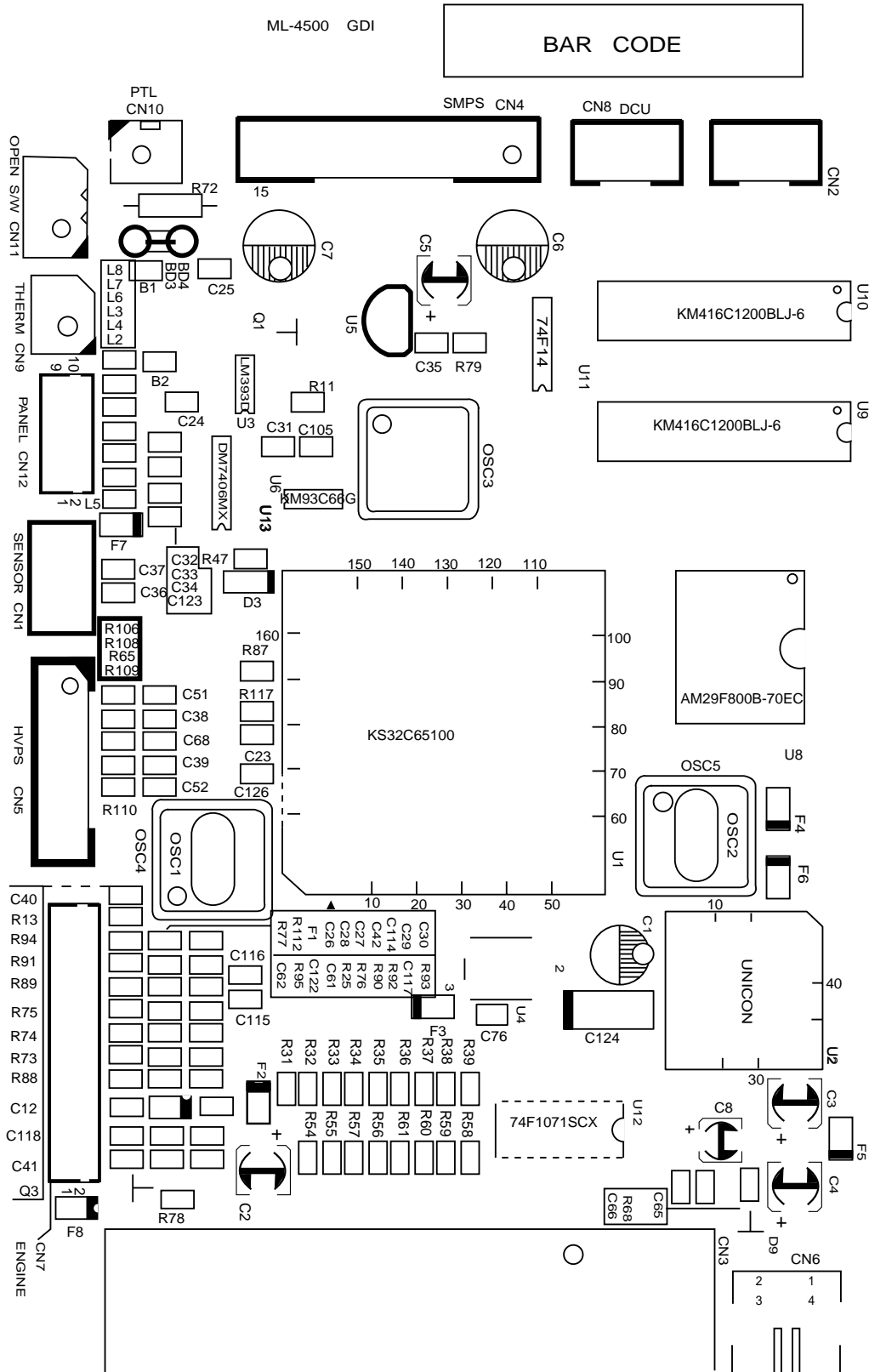


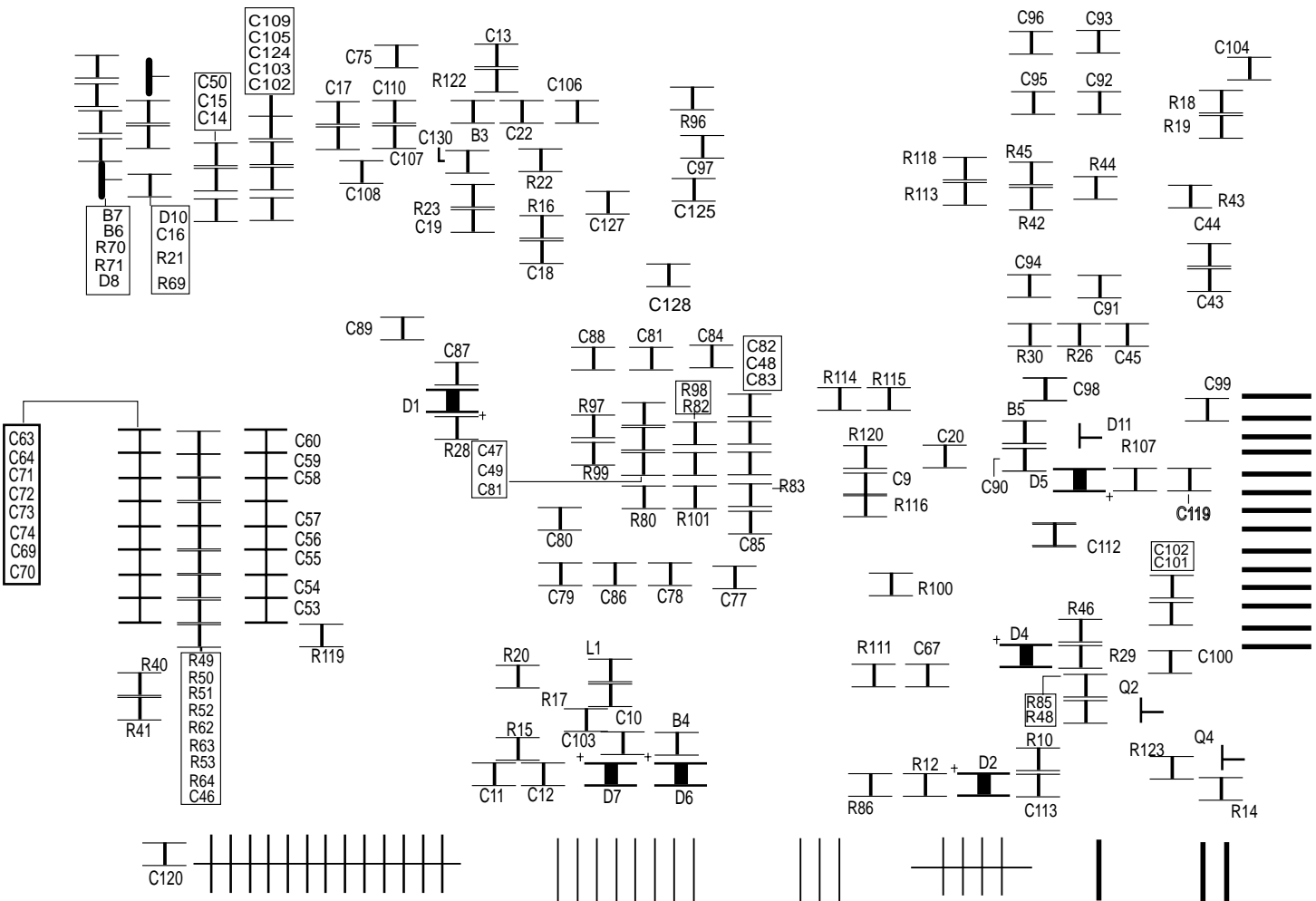
Block diagram

Memo

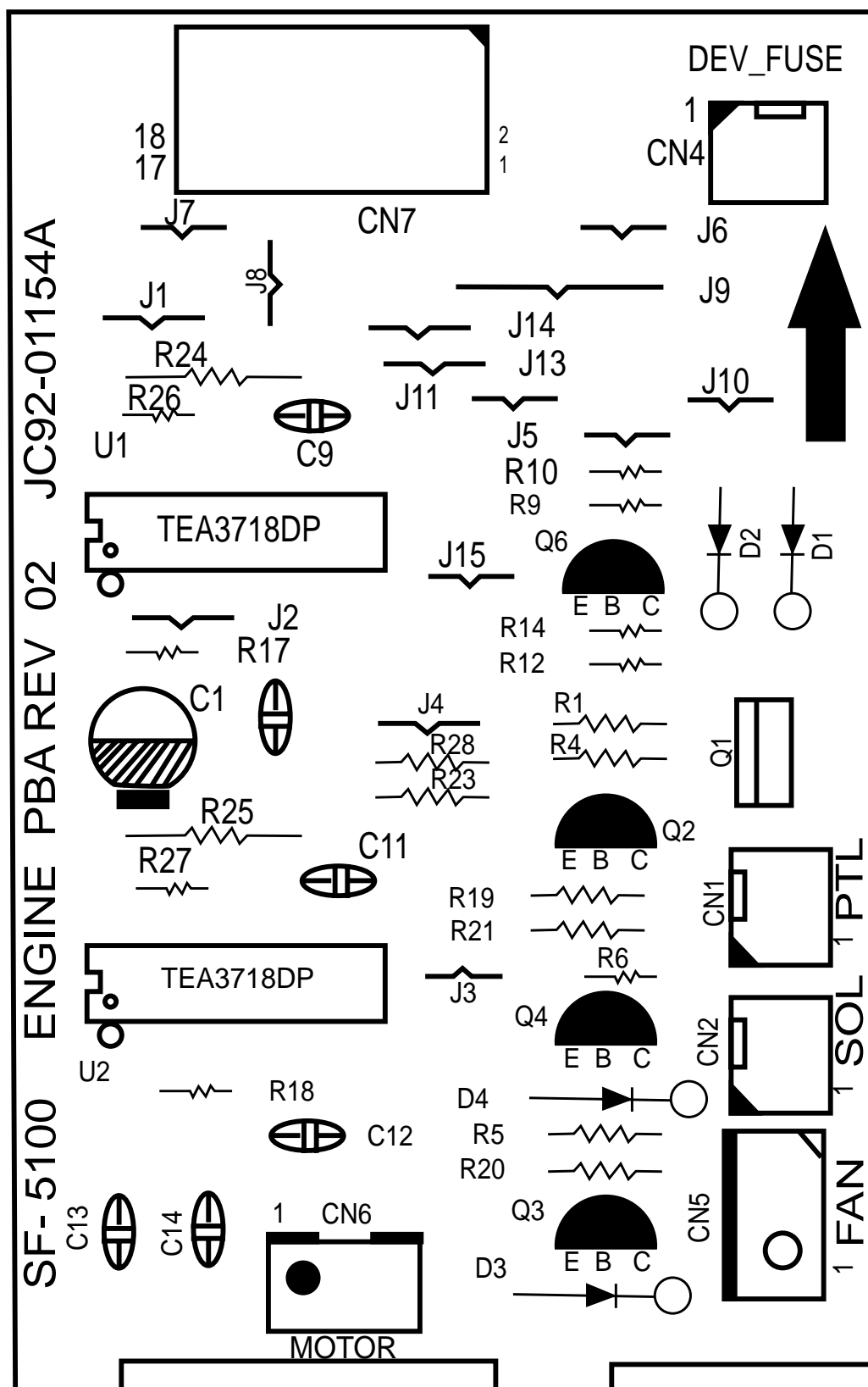
9. PCB Diagrams

9-1 Main PCB Diagram (Top)

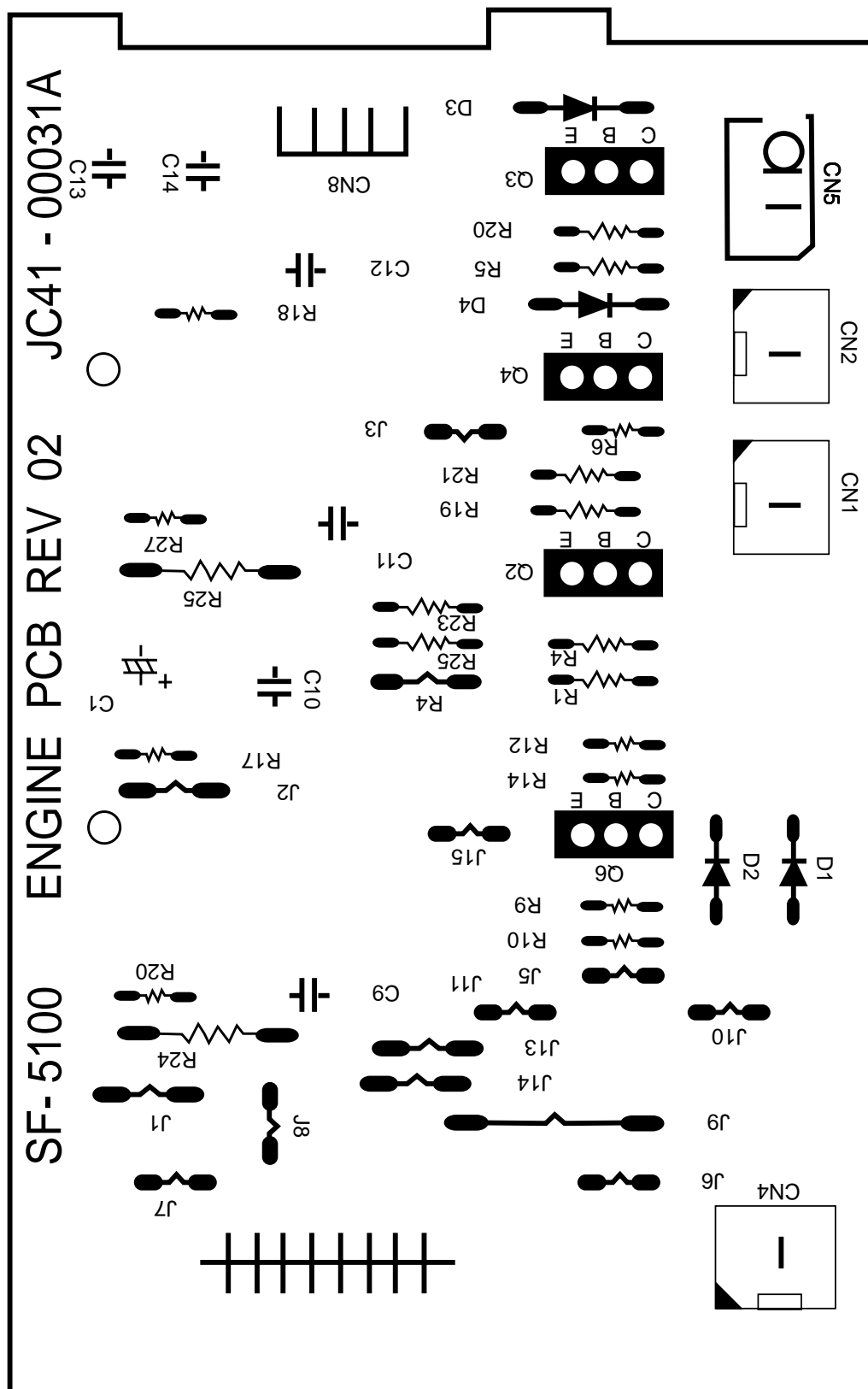




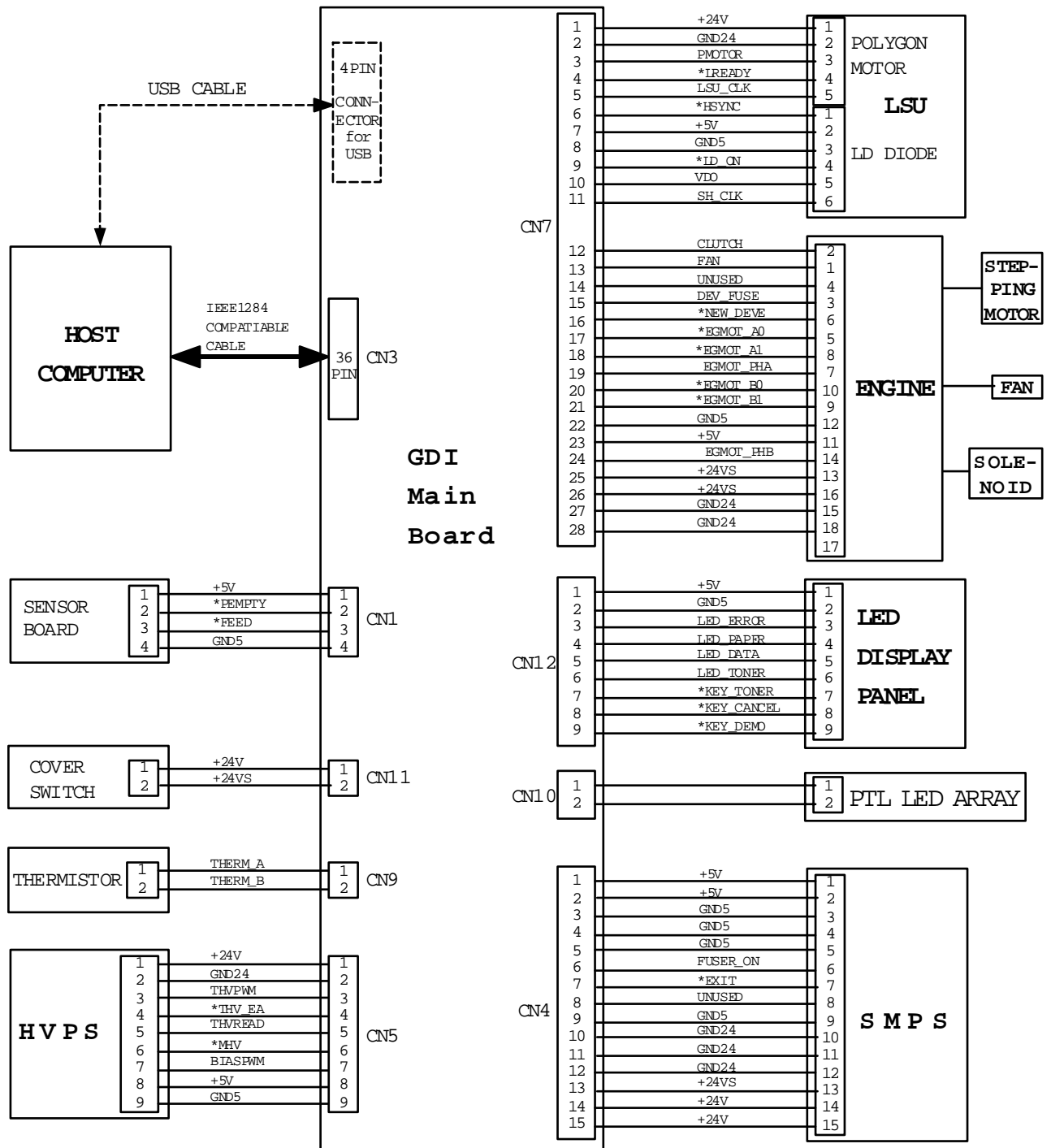
9-3 Engine PCB Diagram (TOP)



9-4 Engine PCB Diagram (Bottom)

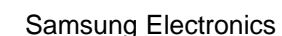


8. Connection diagram

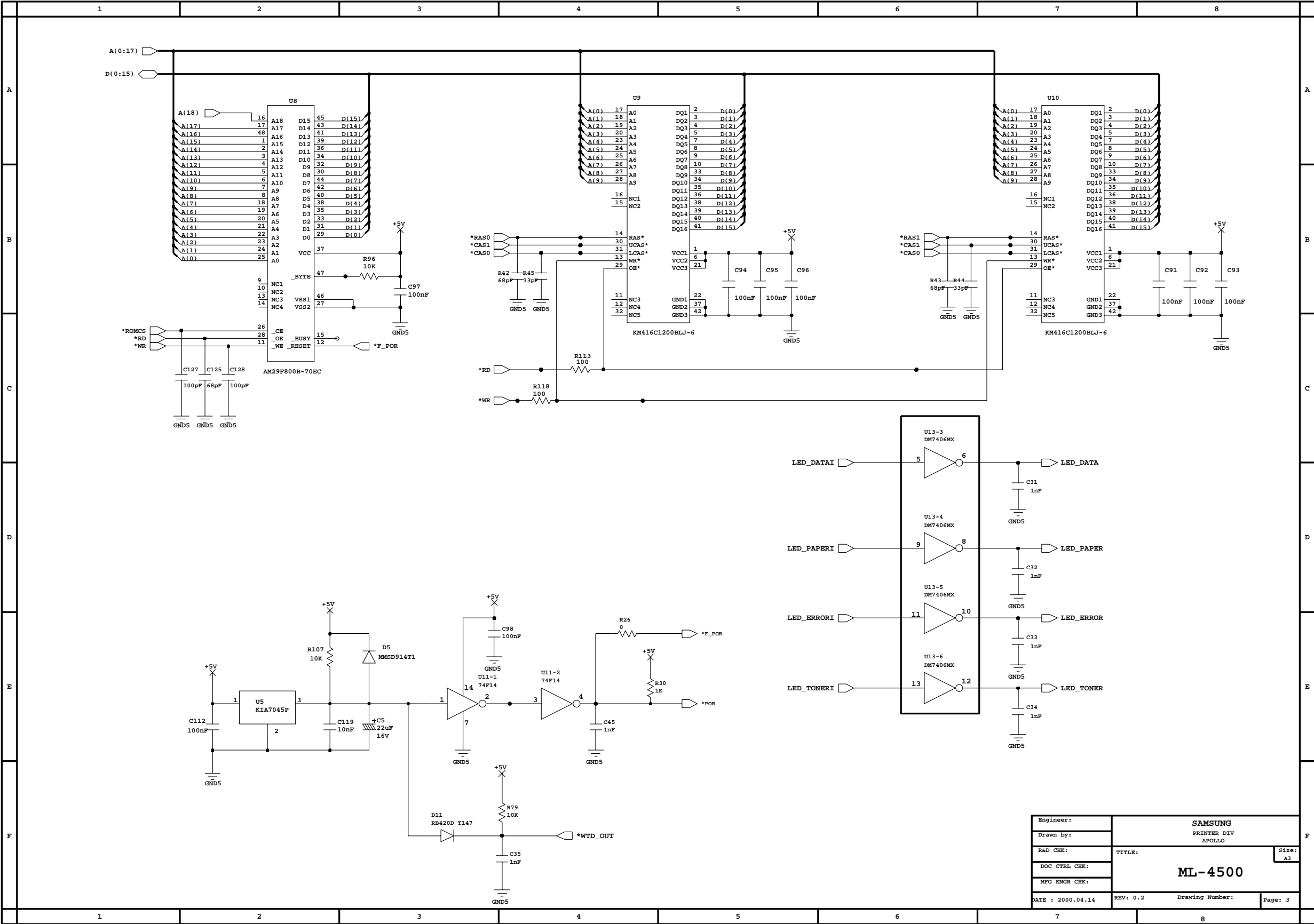


Memo

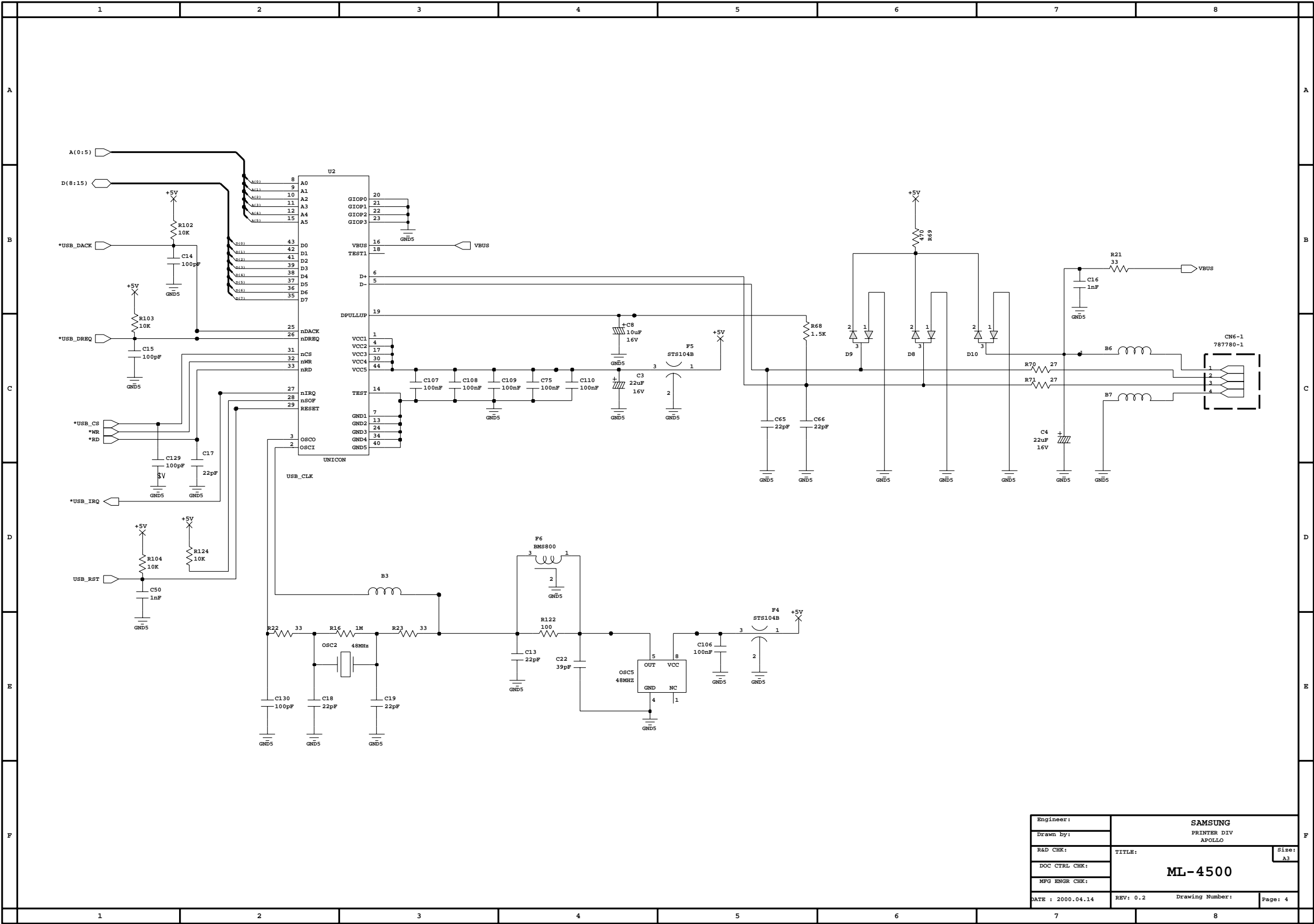




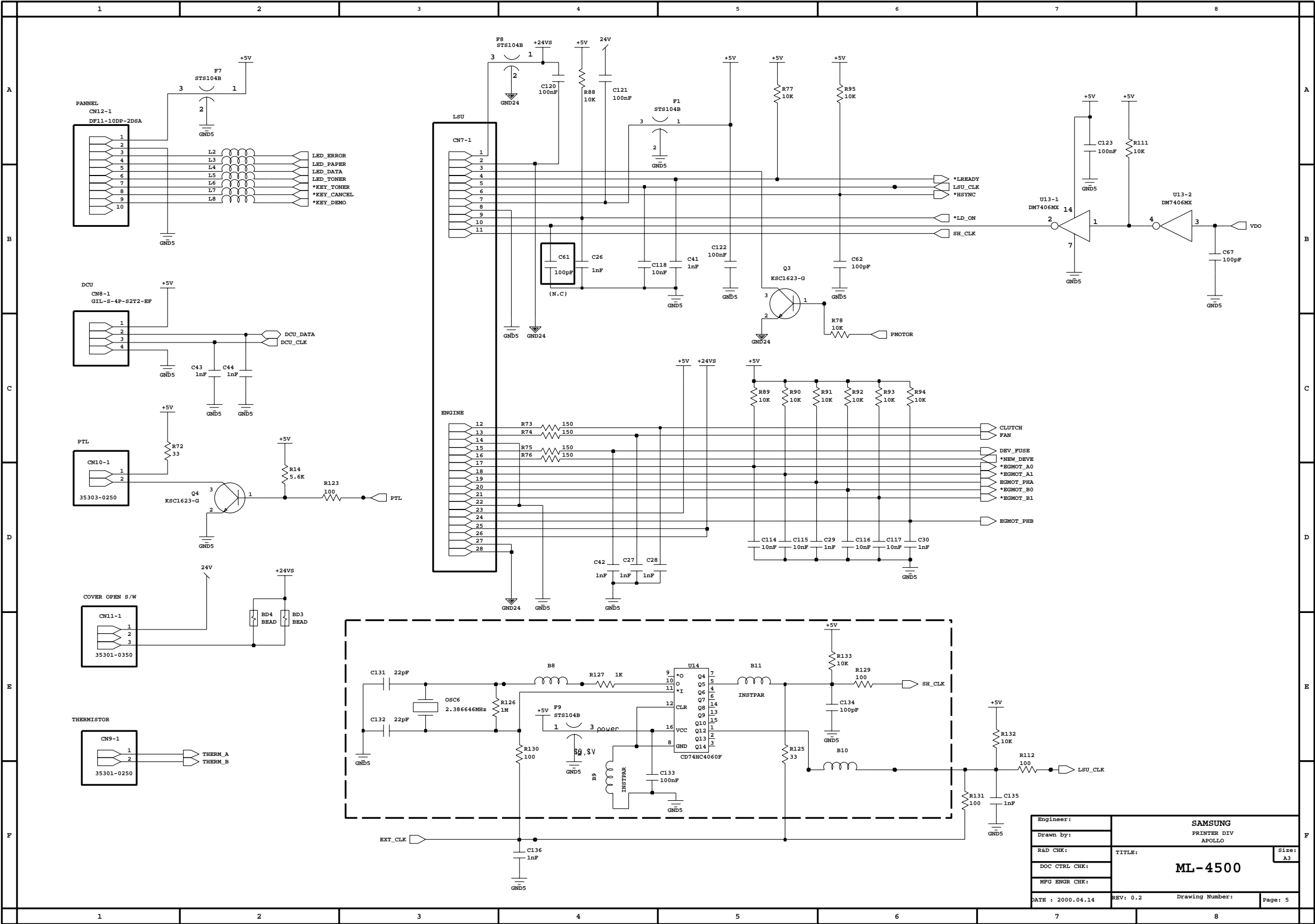
Main Circuit Diagram(3/5)



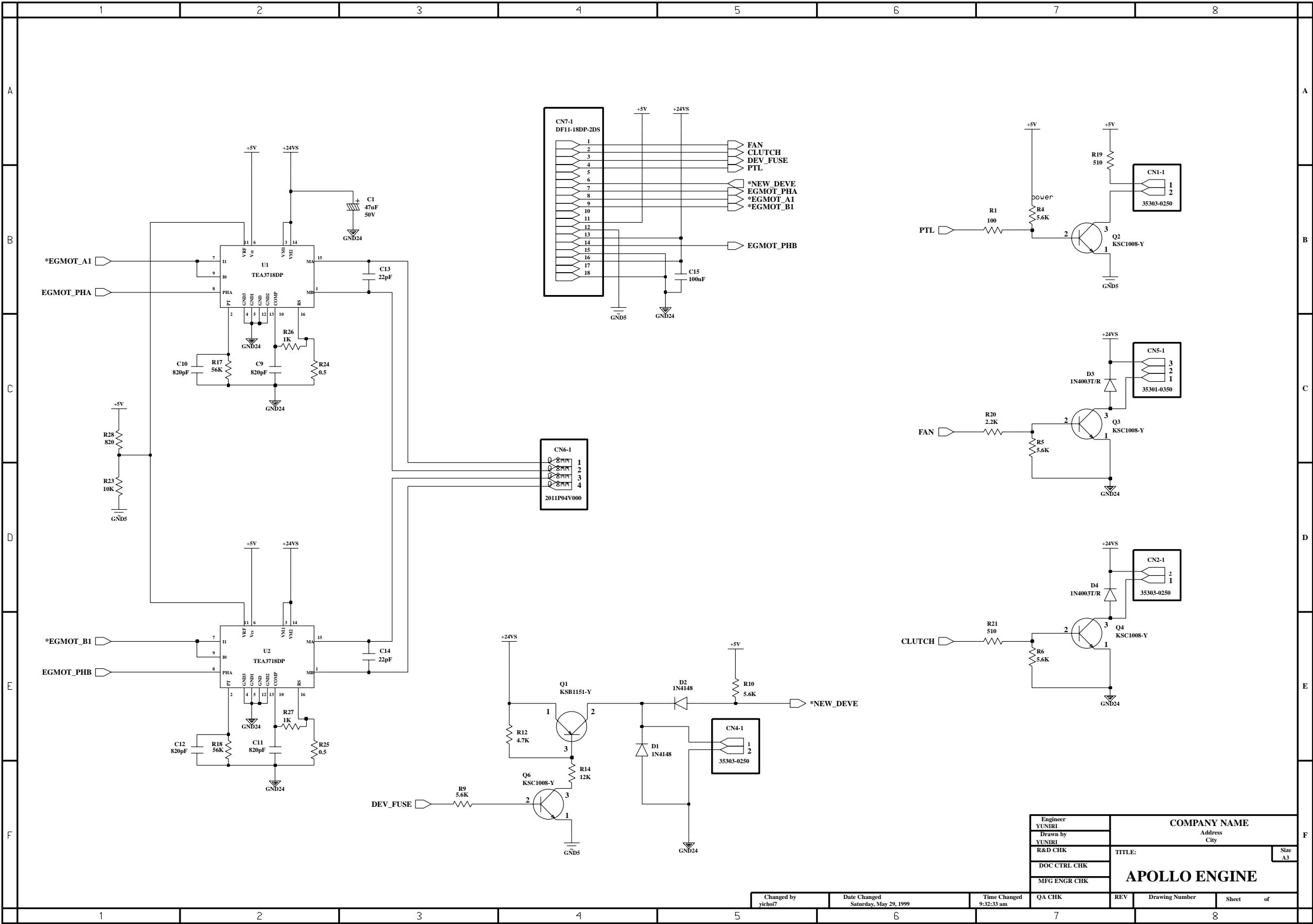
Main Circuit Diagram(4/5)



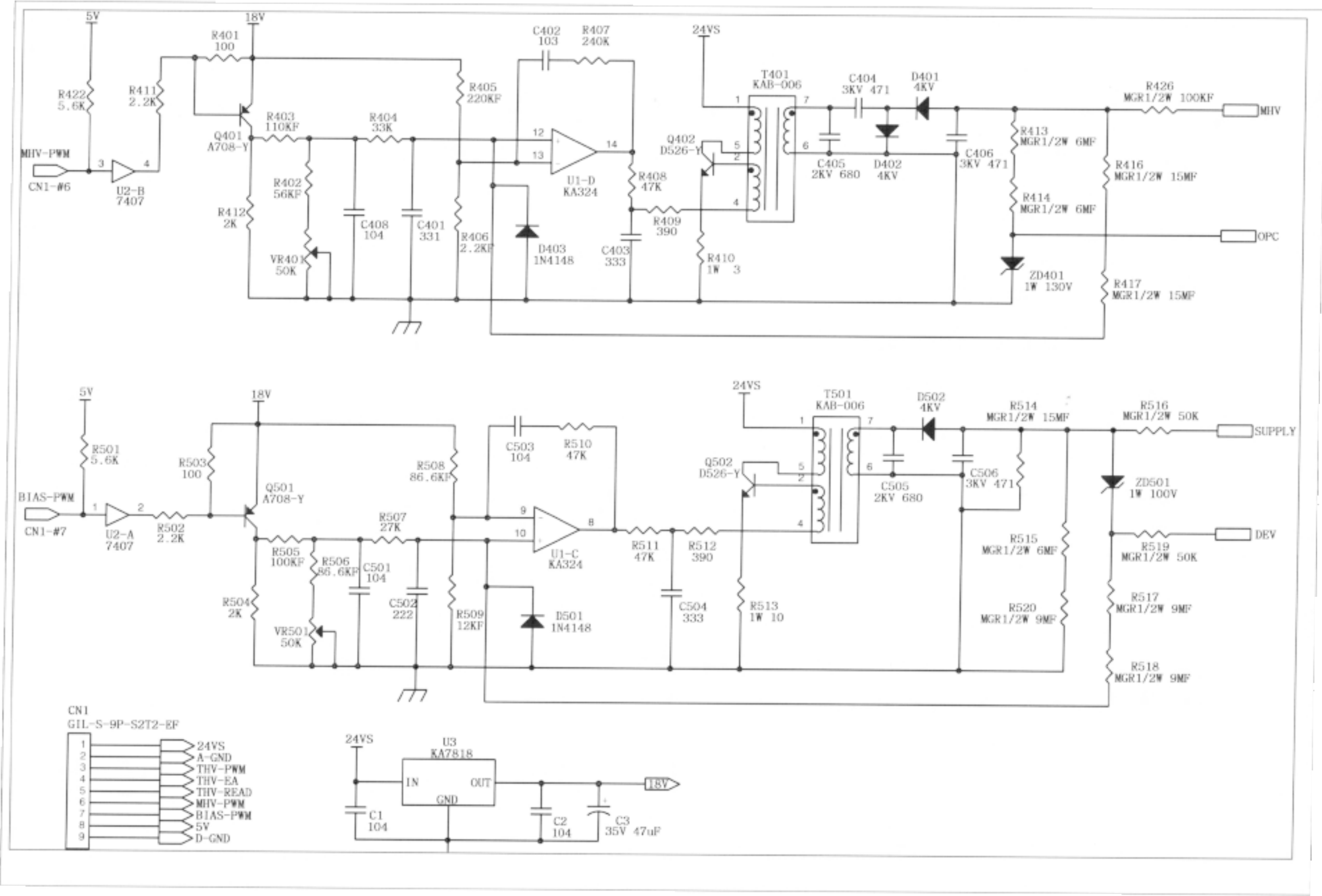
Main Circuit Diagram(5/5)



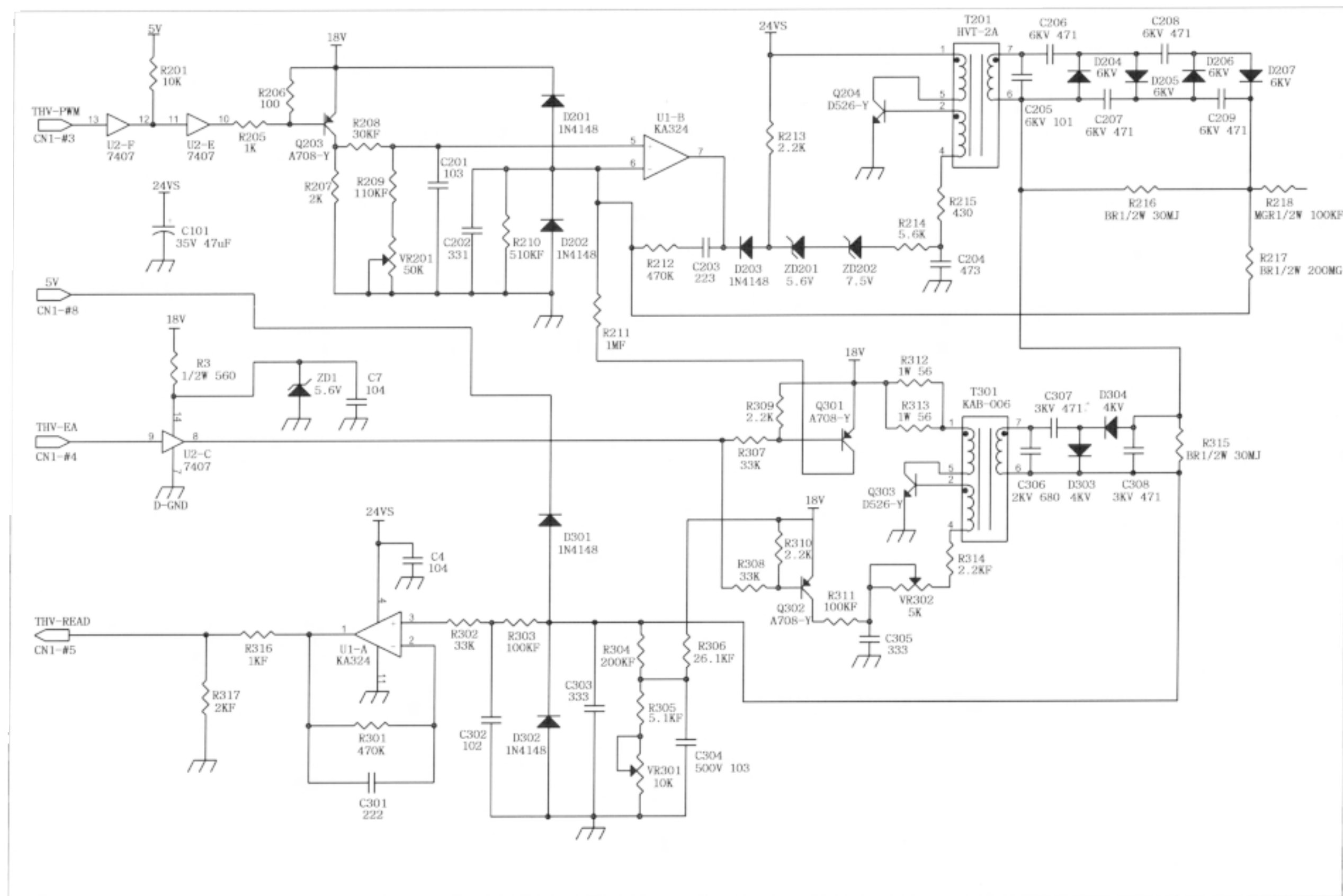
10-2 Engine Circuit Diagram



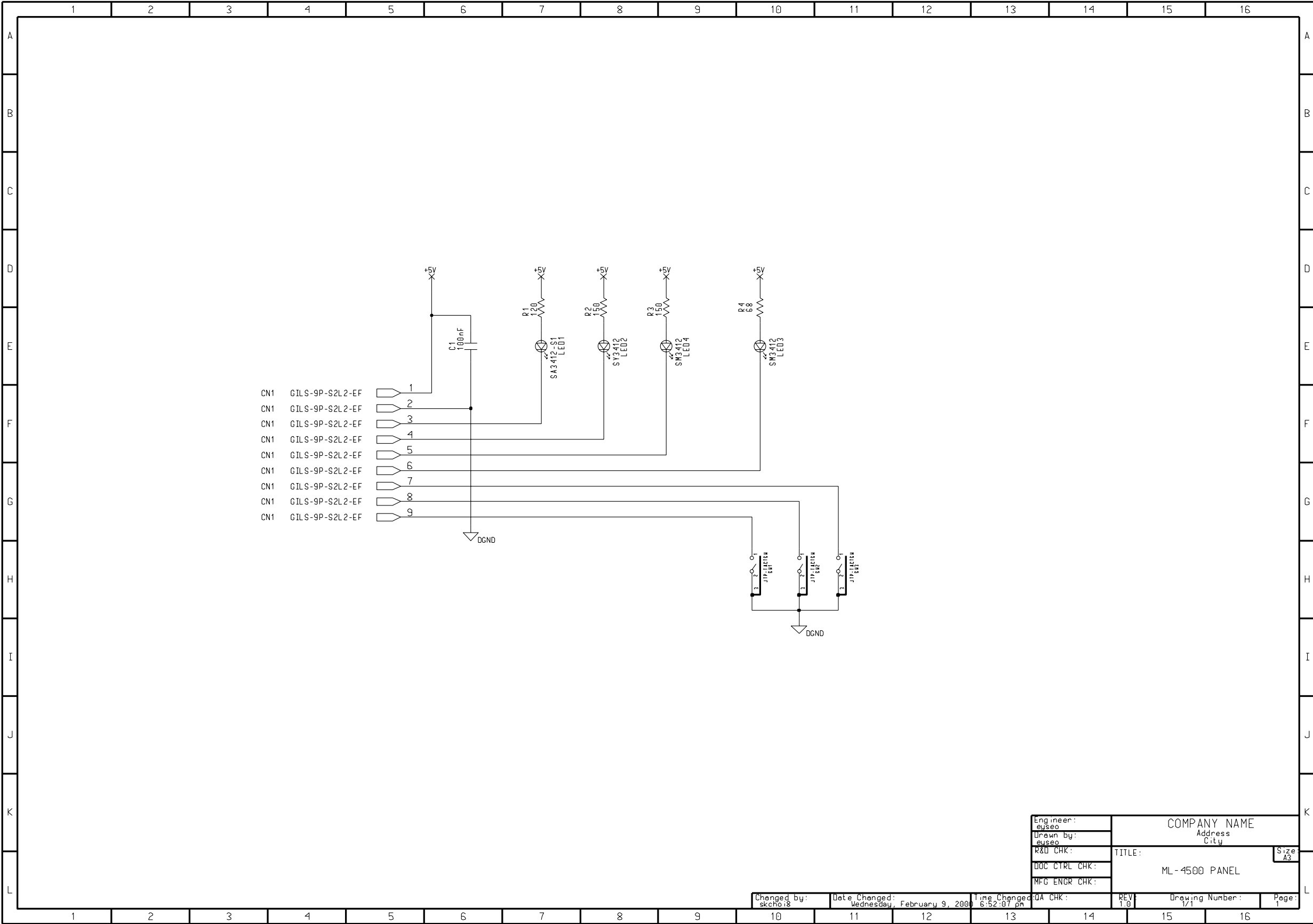
10-3 HVPS Circuit Diagram(1/2)



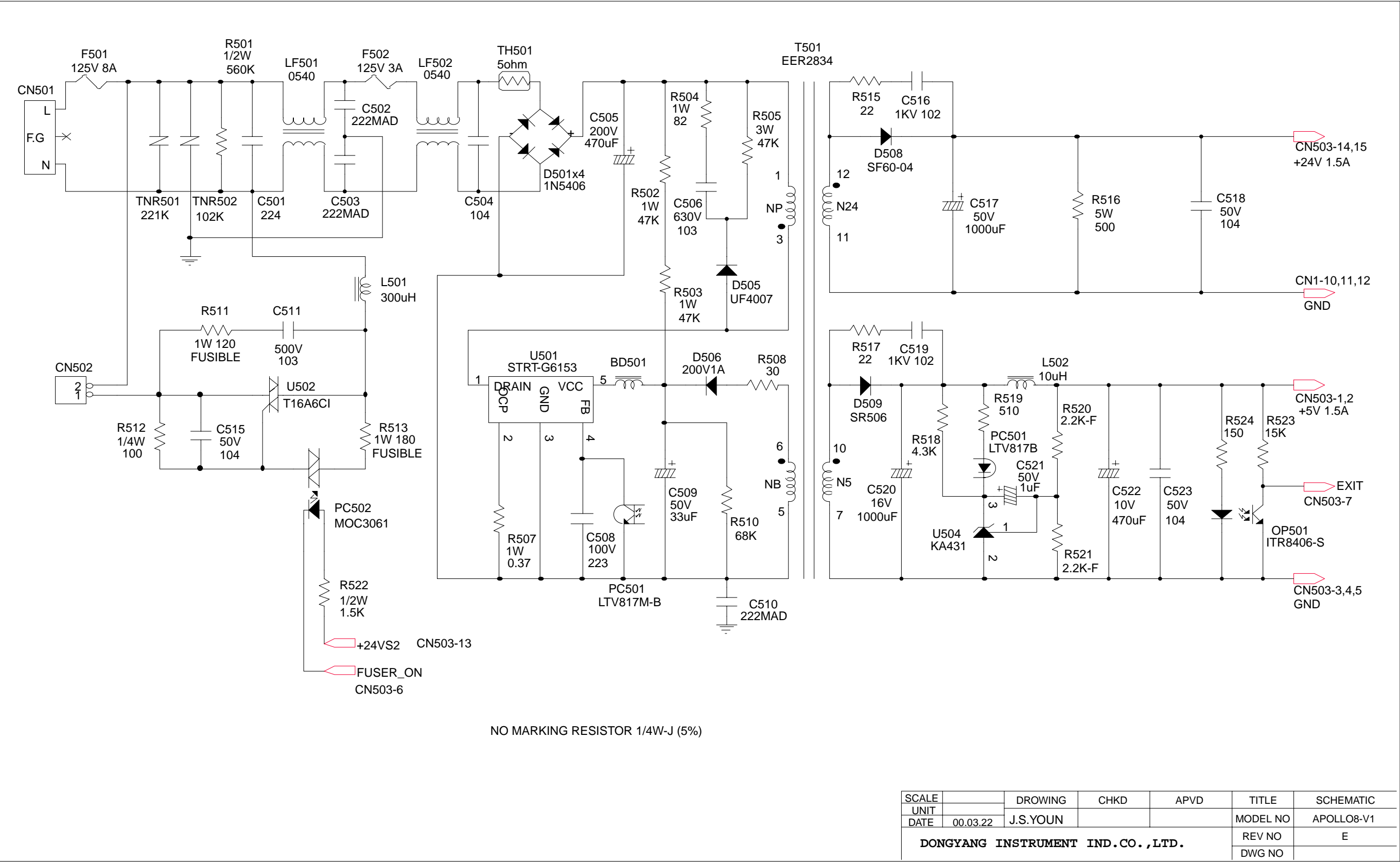
HVPS Circuit Diagram(2/2)



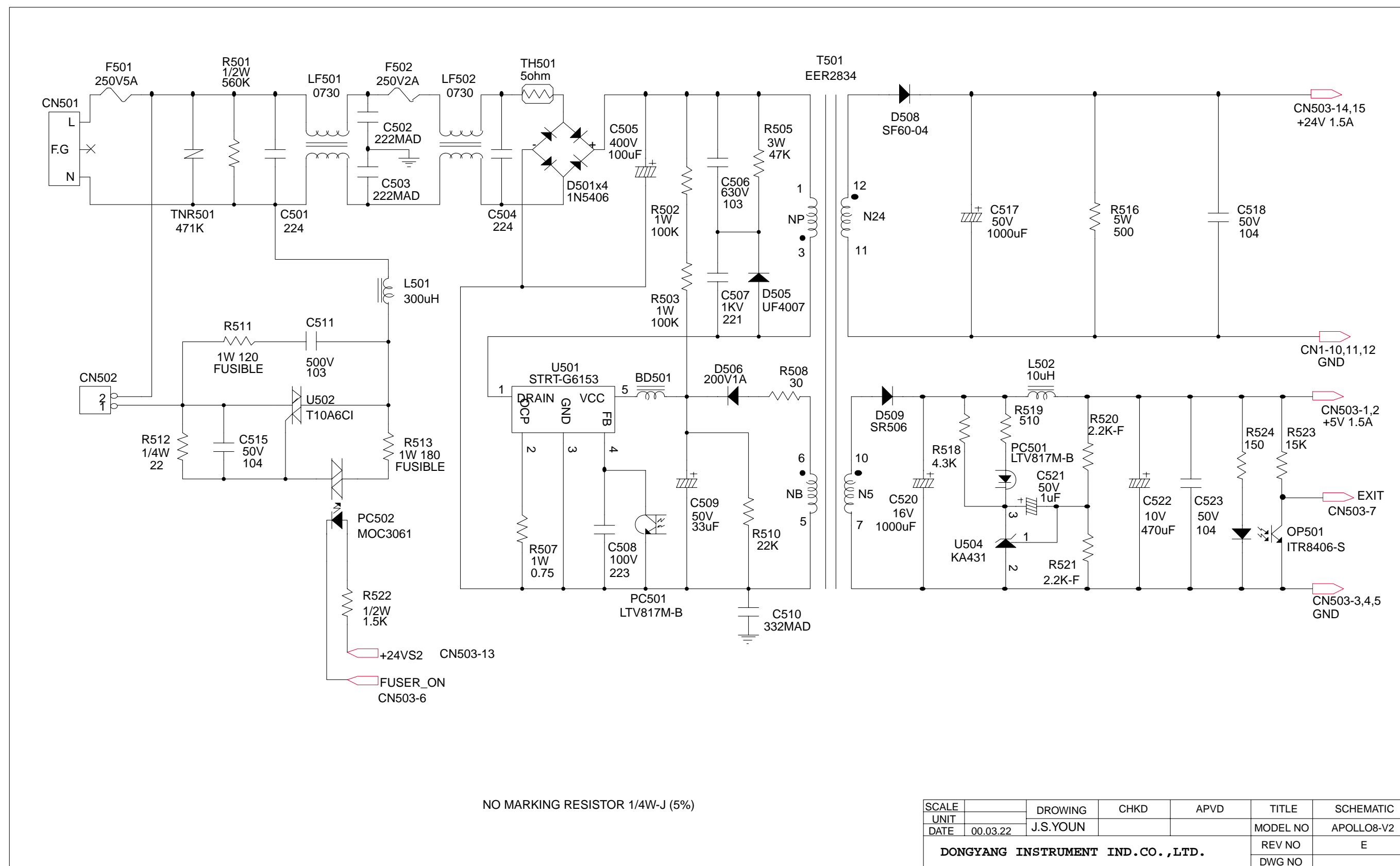
10-4 Panel Circuit Diagram



10-5 SMPS Circuit Diagram(110V)



10-6 SMPS Circuit Diagram(220V)



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