

5. Exploded Views and Parts List

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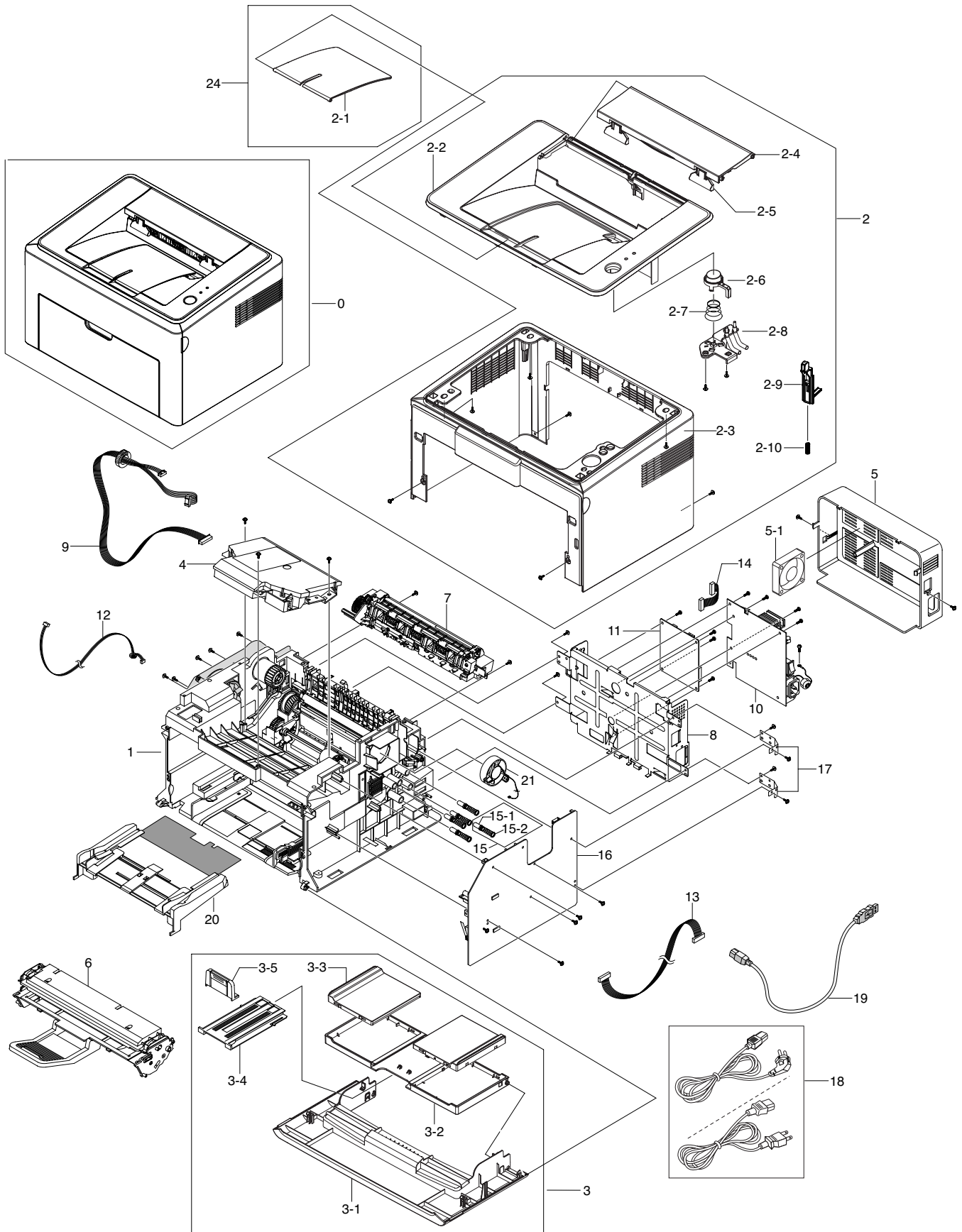
LASER PRINTER



The keynote of Product

- Speed
ML-1640 : 16 ppm (A4), 17 ppm (Ltr)
ML-2240 : 22ppm (A4), 23 ppm (Ltr)
- Emulation : GDI
- Processor : 150 Mhz Jupiter4e CPU
- Memory : 8 MB
- Toner cartridge : Initial (0.7K), Sales (1.5K)
- MP tray : Only ML-2240
- Interface : Full Speed USB 2.0
- Machine life : 50K (pages)

5.1 Main Assembly



Main Parts List

*SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

*Grade : Parts Class"A,B,C,D,E"

Drawer#	SEC_CODE	DESCRIPTION	QTY	Service	Grade	Remark
5.1-0	ML-2240	SET				
5.1-0	ML-1640	SET				
5.1-1	JC96-05123A	ELA UNIT-FRAME	1	SA	A	2240
5.1-1	JC96-05120A	ELA UNIT-FRAME	1	SA	A	1640
5.1-2	JC97-03181A	MEA-COVER MAIN	1	SA	A	1640
5.1-2	JC97-03182E	MEA-COVER MAIN	1	SA	A	1645
5.1-2-1	JC61-01460D	GUIDE-STACKER COVER	1	SNA	B	1640
5.1-2-1	JC61-01460E	GUIDE-STACKER COVER	1	SNA	B	1645
5.1-2-2	JC63-01886A	COVER-TOP	1	SA	B	1640
5.1-2-2	JC63-01886M	COVER-TOP	1	SA	B	1645
5.1-2-3	JC63-01887A	COVER-MAIN	1	SA	B	1640
5.1-2-3	JC63-01887B	COVER-MAIN	1	SA	B	1645
5.1-2-4	JC63-01888A	COVER-JAM	1	SA	B	1640
5.1-2-4	JC63-01888B	COVER-JAM	1	SA	B	1645
5.1-2-5	JC72-01343A	PMO-SUB_M_STACKER	2	SA	D	
5.1-2-6	JC64-00406A	KEY-ONLINE	1	SNA	D	
5.1-2-7	6107-001169	SPRING-CS	1	SA	B	
5.1-2-8	JC67-00301A	LENS-LED	1	SA	B	
5.1-2-9	JC66-02005A	ACTUATOR-JAM	1	SNA	B	
5.1-2-10	JC61-00049A	SPRING ETC-TR(KOR)	1	SNA	B	
5.1-3	JC97-03183A	MEA UNIT-COVER FRONT	1	SA	B	1645
5.1-3	JC97-03184A	MEA UNIT-COVER FRONT	1	SA	B	1640
5.1-3-1	JC63-01883A	COVER-FRONT	1	SA	B	1640
5.1-3-1	JC63-01883B	COVER-FRONT	1	SA	B	1645
5.1-3-2	JC63-01885A	COVER-CASSETTE	1	SA	B	1640
5.1-3-2	JC63-01885B	COVER-CASSETTE	1	SA	B	1645
5.1-3-3	JC63-01890A	COVER-DUMMY CASSETTE	2	SA	B	1640
5.1-3-3	JC63-01890B	COVER-DUMMY CASSETTE	2	SA	B	1645
5.1-3-4	JC63-00628F	TRAY-EXTENSION LARGE	1	SA	B	
5.1-3-5	JC63-00629F	TRAY-EXTENSION SMALL	1	SA	B	
5.1-4	JC96-04065A	ELA UNIT-LSU	1	SA	A	
5.1-5	JC63-01892A	COVER-SMPS	1	SA	B	1640
5.1-5	JC63-01892B	COVER-SMPS	1	SA	B	1645
5.1-5-1	JC31-00092A	FAN	1	SA	A	
5.1-6	JC96-05045A	CARTRIDGE-TONER	1	SNA	B	1640/2240

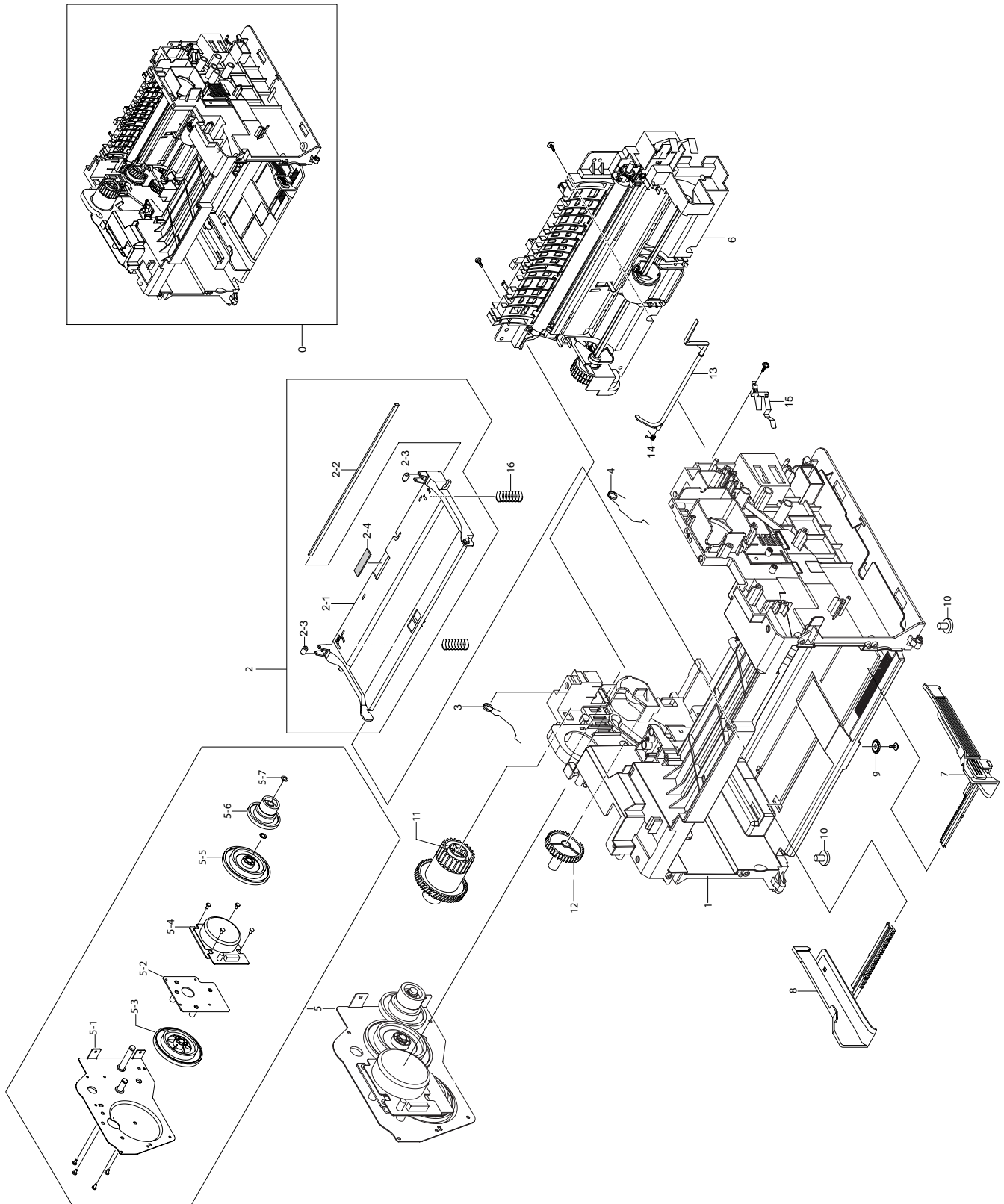
Main Parts List

*SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

*Grade : Parts Class"A,B,C,D,E"

Drawer#	SEC_CODE	DESCRIPTION	QT'Y	Service	Grade	Remark
5.1-7	JC96-05121A	ELA HOU-FUSER	1	SA	A	1640/110V
5.1-7	JC96-05122B	ELA HOU-FUSER	1	SA	A	ML-1640/XIP
5.1-7	JC96-05124A	ELA HOU-FUSER	1	SA	A	2240/110V
5.1-7	JC96-05125A	ELA HOU-FUSER	1	SA	A	2240/220V
5.1-8	JC63-01930A	SHIELD-ENGINE	1	SA	B	
5.1-9	JC39-00936A	HARNESS-LSU	1	SA	B	
5.1-10	JC44-00109A	SMPS-V1_VE	1	SA	A	1640/110V
5.1-10	JC44-00110A	SMPS-V2C_VE	1	SA	A	1640/220V
5.1-10	JC44-00086A	SMPS-V1	1	SA	D	2240/110V
5.1-10	JC44-00087A	SMPS-V2C	1	SA	D	2240/220V
5.1-11	JC92-02027A	PBA-MAIN	1	SA	B	
5.1-11	JC92-02018A	PBA-MAIN	1	SA	B	
5.1-12	JC39-00937A	HARNESS-MOTOR	1	SA	B	1640
5.1-12	JC39-00932A	HARNESS-MOTOR	1	SA	B	2240
5.1-13	JC39-00400A	CBF HARNESS-HVPS	1	SA	A	
5.1-14	JC39-00402A	CBF HARNESS-SMPS	1	SA	A	
5.1-15	JC96-01672A	ELA UNIT-TERMINAL TR L	3	SA	D	
5.1-15-1	JC61-00031A	SPRING ETC--HV LARGE	1	SNA	A	
5.1-15-2	JC70-40912A	ICT-SHAFT HV LARGE	1	SA	D	
5.1-16	JC44-00167A	HVPS	1	SA	A	
5.1-17	JC63-00631A	GROUND-P-HVPS	2	SNA	A	
5.1-18	3903-000042	CBF-POWER CORD	1	SA	B	220V
5.1-18	3903-000085	CBF-POWER CORD	1	SA	B	110V
5.1-19	3722-002303	JACK-USB	1	SA	A	
5.1-20	JC97-02239G	MEA UNIT-MP TRAY	1	SA	A	2240
5.1-21	JC31-00085A	FAN-DC	1	SA	A	

5.2 Frame Assembly (ML-2240)



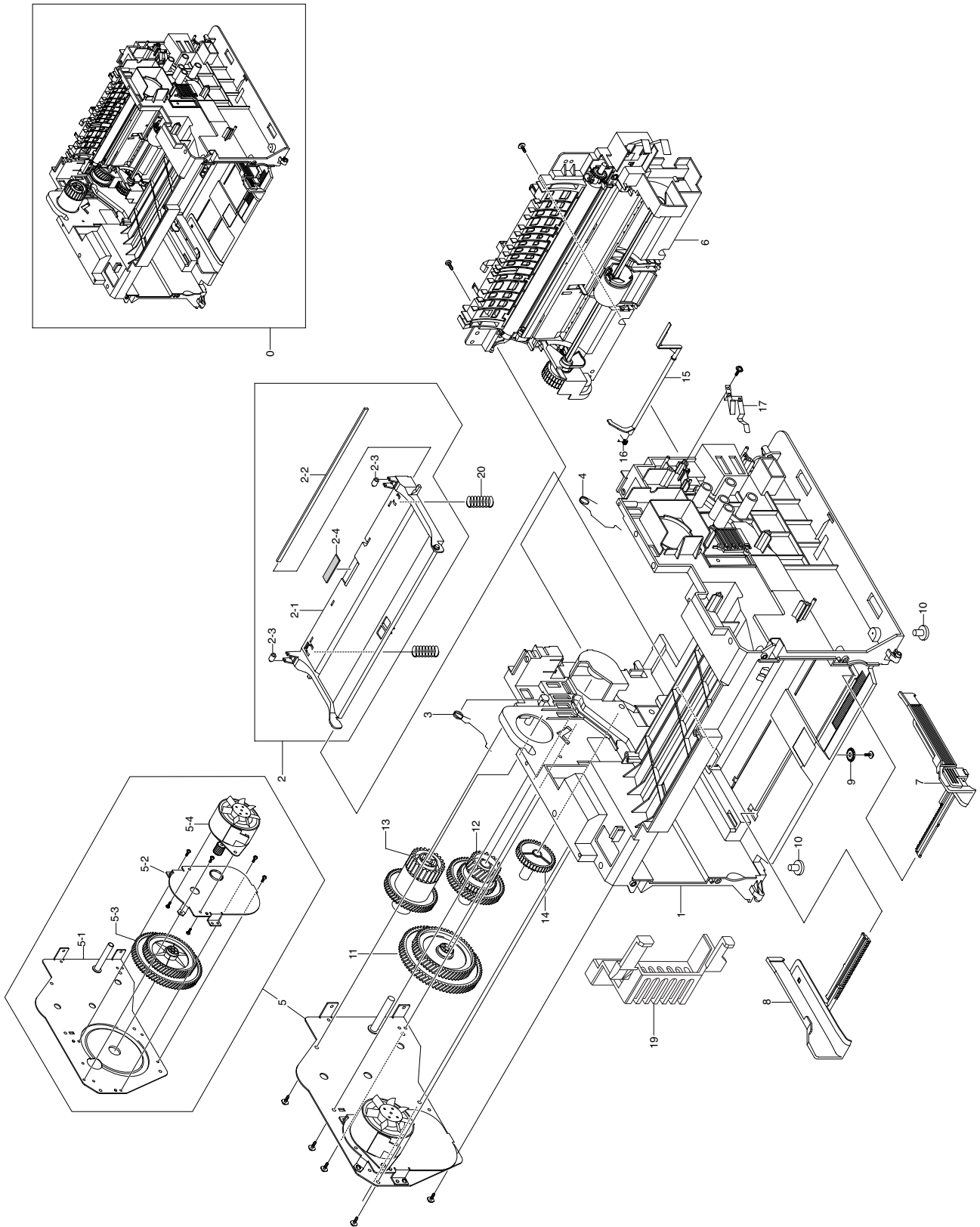
Frame Parts List(ML-2240)

*SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

*Grade : Parts Class"A,B,C,D,E"

Drawer#	SEC_CODE	DESCRIPTION	QT'Y	Service	Grade	Remark
5.2-0	JC96-05123A	ELA UNIT-FRAME	1	SA	A	
5.2-1	JC61-02567A	FRAME-BASE	1	SA	A	
5.2-2	JC97-02218A	MEA UNIT-PLATE KNOCK_UP	1	SA	A	
5.2-2-1	JC61-01158A	PLATE-M-KNOCK_UP	1	SA	A	
5.2-2-2	JC66-00720A	SHAFT-P-CORE	1	SA	A	
5.2-2-3	JC72-01004A	PMO-IDLE KNOCK UP MP	2	SA	A	
5.2-2-4	JC74-00011A	MPR-PAD KNOCK UP MP	1	SA	A	
5.2-3	JC61-01258A	SPRING ETC-TORSION DEVE_L	1	SA	A	
5.2-4	JC61-01259A	SPRING ETC-TORSION DEVE_R	1	SA	A	
5.2-5	JC96-05018A	ELA UNIT-DRIVE	1	SA	A	
5.2-5-1	JC61-02619A	BRACKET-GEAR	1	SNA	D	
5.2-5-2	JC61-02577A	BRACKET-MOTOR	1	SNA	B	
5.2-5-3	JC66-01998A	GEAR-RDCN A	1	SNA	B	
5.2-5-4	JC31-00090B	MOTOR BLDC	1	SNA	A	
5.2-5-5	JC66-01999A	GEAR-RDCN B	1	SNA	B	
5.2-5-6	JC66-00806A	GEAR-OPC DR 76/38/29	1	SA	A	
5.2-5-7	6031-000023	WASHER-PLAIN	2	SA	A	
5.2-6	JC97-02218A	MEA UNIT-PLATE KNOCK_UP	1	SA	A	
5.2-7	JC70-00500C	ADJUST-CASSETTE_R	1	SA	A	
5.2-8	JC70-00499C	ADJUST-CASSETTE_L	1	SA	A	
5.2-9	JG66-40003A	GEAR-PINION	1	SA	A	
5.2-10	JC61-00836A	FOOT-FRONT	2	SA	A	
5.2-11	JC66-00807A	GEAR-FUSER DR 63/35	1	SA	A	
5.2-12	JC66-00808A	GEAR-FEED DR 41	1	SA	A	
5.2-13	JC66-00822A	LEVER-M-ACTUATOR_EMPTY	1	SA	A	
5.2-14	JB61-00076A	SPRING ETC-TORSION DOC (CC2-F)	1	SA	A	
5.2-15	JC63-00622A	GROUND-P-OPC	1	SA	A	
5.2-16	6107-001503	SPRING-CS	2	SA	A	

5.3 Frame Assembly(ML-1640)



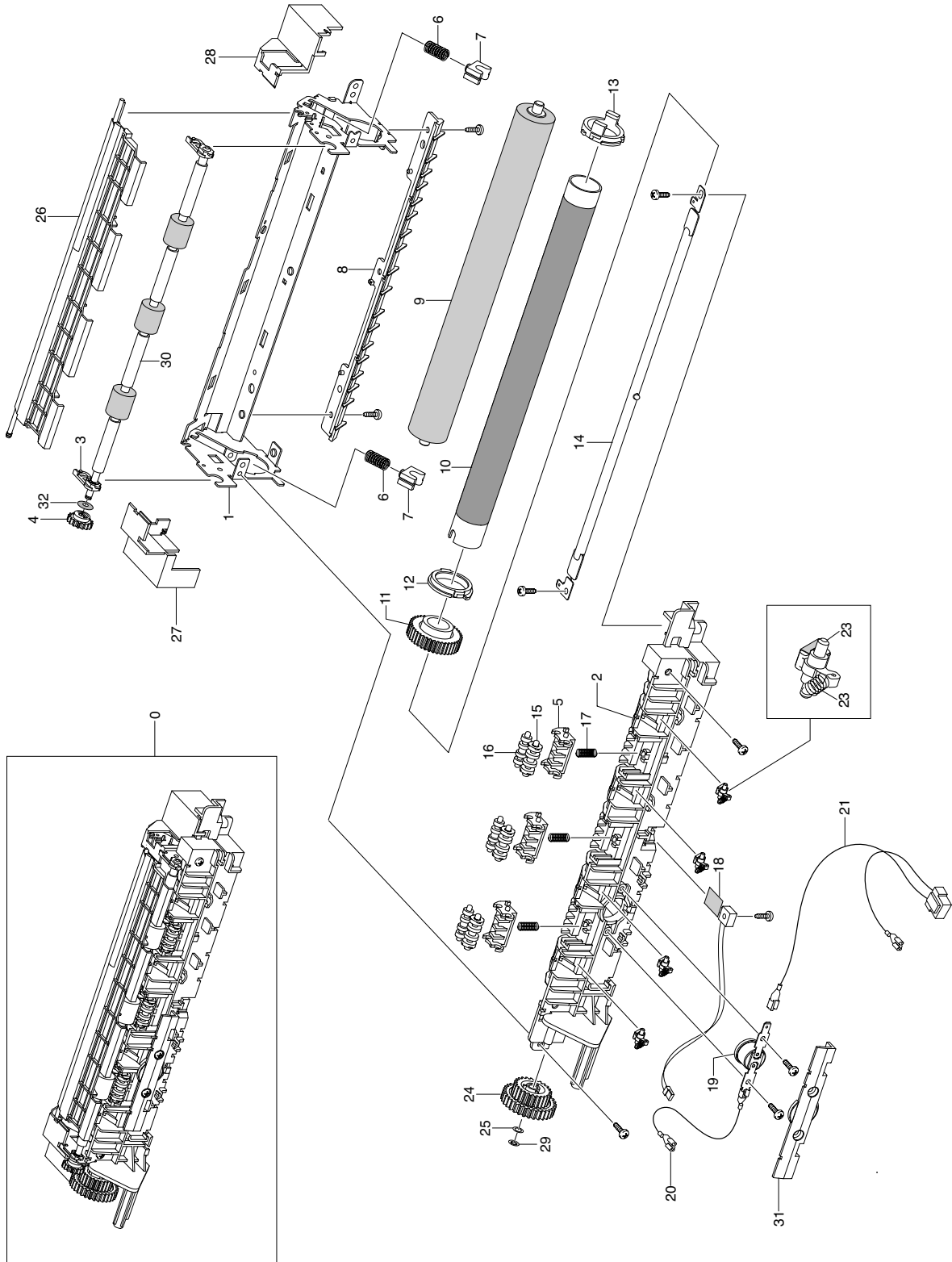
Frame Parts List(ML-1640)

*SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

*Grade : Parts Class"A,B,C,D,E"

Drawer#	SEC_CODE	DESCRIPTION	QT'Y	Service	Grade	Remark
5.3-0	JC96-05120A	ELA UNIT-FRAME	1	SA	A	
5.3-1	JC61-01152A	FRAME-M-BASE	1	SNA	A	
5.3-2	JC97-02218A	MEA UNIT-PLATE KNOCK_UP	1	SA	A	
5.3-2-1	JC61-01158A	PLATE-M-KNOCK_UP	1	SA	A	
5.3-2-2	JC66-00720A	SHAFT-P-CORE	1	SA	A	
5.3-2-3	JC72-01004A	PMO-IDLE KNOCK UP MP	2	SA	A	
5.3-2-4	JC74-00011A	MPR-PAD KNOCK UP MP	1	SA	A	
5.3-3	JC61-01258A	SPRING ETC-TORSION DEVE_L	1	SA	A	
5.3-4	JC61-01259A	SPRING ETC-TORSION DEVE_R	1	SA	A	
5.3-5	JC96-05116A	ELA UNIT-DRIVE	1	SA	A	
5.3-5-1	JC61-01153A	BRACKET-P-GEAR	1	SNA	A	
5.3-5-2	JC61-01154A	BRACKET-P-MOTOR	1	SNA	A	
5.3-5-3	JC66-00804A	GEAR-RDCN 139/83	1	SA	A	
5.3-5-4	JC31-00112A	MOTOR STEP	1	SA	A	
5.3-6	JC97-02218A	MEA UNIT-PLATE KNOCK_UP	1	SA	A	
5.3-7	JC70-00500C	ADJUST-CASSETTE_R	1	SA	A	
5.3-8	JC70-00499C	ADJUST-CASSETTE_L	1	SA	A	
5.3-9	JG66-40003A	GEAR-PINION	1	SA	A	
5.3-10	JC61-00836A	FOOT-FRONT	2	SA	A	
5.3-11	JC66-00805A	GEAR-RDCN 113/83	1	SA	A	
5.3-12	JC66-00806A	GEAR-OPC DR 76/38/29	1	SA	A	
5.3-13	JC66-00807A	GEAR-FUSER DR 63/35	1	SA	A	
5.3-14	JC66-00808A	GEAR-FEED DR 41	1	SA	A	
5.3-15	JC66-00822A	LEVER-M-ACTUATOR_EMPTY	1	SA	A	
5.3-16	JB61-00076A	SPRING ETC-TORSION DOC (CC2-F)	1	SA	A	
5.3-17	JC63-00622A	GROUND-P-OPC	1	SA	A	
5.3-18	JC61-00025A	SPRING ETC-CS-CHARGE APOLLO	2	SNA	A	
5.3-19	JC67-00110A	CAP-M-MOTOR	1	SNA	A	

5.4 Fuser Unit



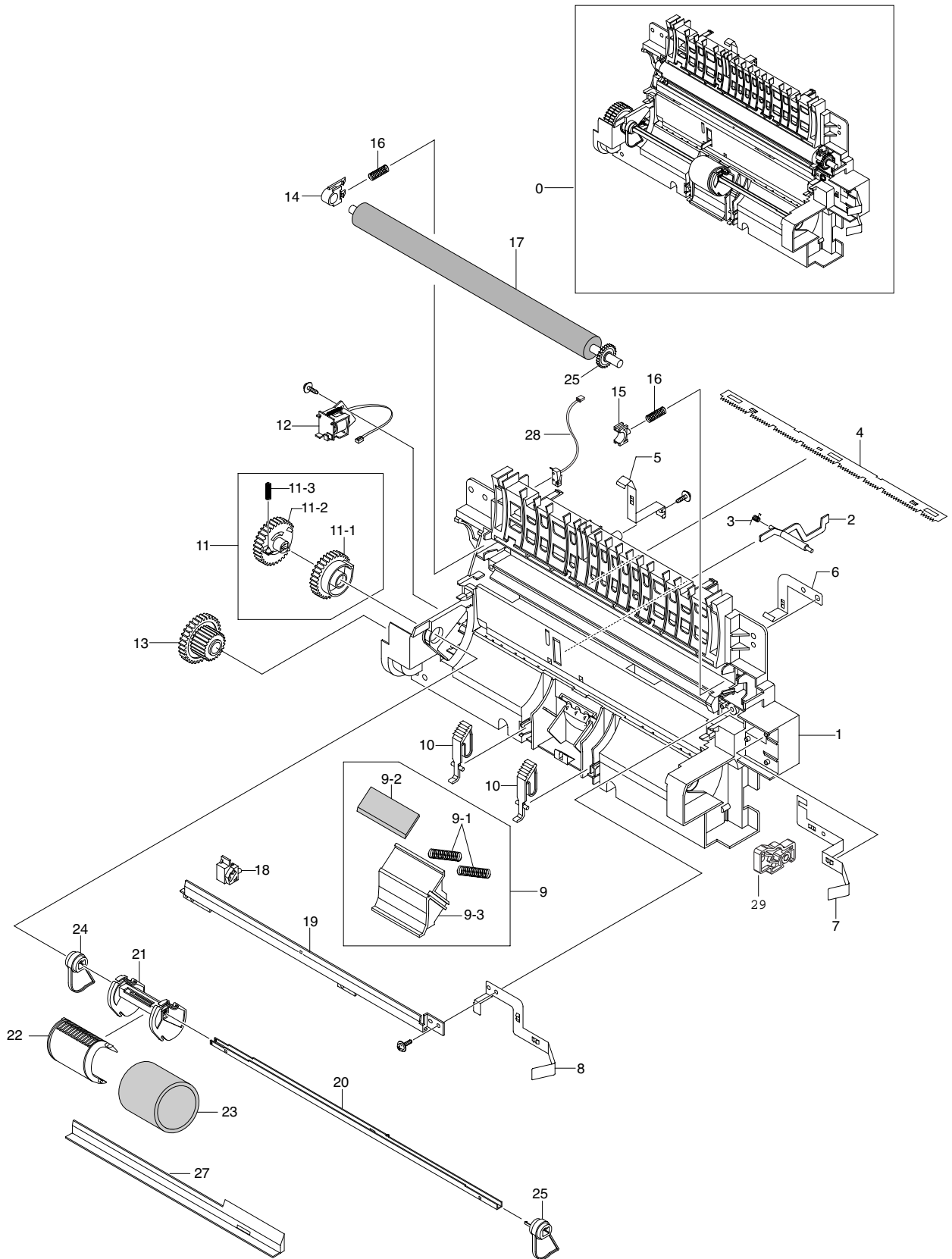
Fuser Parts List

*SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

*Grade : Parts Class"A,B,C,D,E"

Drawer#	SEC_CODE	DESCRIPTION	QT'Y	Service	Grade	Remark
5.4-0	JC96-05121A	ELA HOU-FUSER	1	SA	A	1640/110V
5.4-0	JC96-05122A	ELA HOU-FUSER	1	SA	A	ML-1640/XSA
5.4-0	JC96-05124A	ELA HOU-FUSER	1	SA	A	2240/110V
5.4-0	JC96-05125A	ELA HOU-FUSER	1	SA	A	2240/220V
5.4-1	JC61-01162A	FRAME-P-FUSER	1	SNA	A	
5.4-2	JC63-00615A	COVER-M_FUSER	1	SNA	D	
5.4-3	JC61-01177A	HOLDER-M-EXIT R	2	SA	A	
5.4-4	JC66-00810A	GEAR-EXIT_DRV17	1	SA	B	
5.4-5	JC61-01172A	HOLDER-M-EXIT F/DOWN	3	SNA	A	
5.4-6	6107-001168	SPRING-CS	2	SA	D	
5.4-7	JC66-10901A	BUSH-PRESSURE R	2	SA	A	
5.4-8	JC61-00595A	GUIDE-M-INPUT	1	SNA	A	
5.4-9	JC66-00600A	ROLLER-PRESSURE	1	SA	A	
5.4-10	JC66-00601B	ROLLER-HEAT	1	SA	A	
5.4-11	JC66-00564A	GEAR-FUSER Z37	1	SA	D	
5.4-12	JC61-00589A	BUSH-M-HR L	1	SA	A	
5.4-13	JC61-00590A	BUSH-M-HR R	1	SA	A	
5.4-14	4713-001202	LAMP-HALOGEN	1	SA	A	1640/220V
5.4-14	4713-001203	LAMP-HALOGEN	1	SA	A	1640/110V
5.4-14	4713-001211	LAMP-HALOGEN	1	SA	A	2240/110V
5.4-14	4713-001212	LAMP-HALOGEN	1	SA	D	2240/220V
5.4-15	JC66-00824A	ROLLER-M-EXIT MAIN	3	SA	D	
5.4-16	JC66-00830A	ROLLER-M-EXIT FR	3	SA	D	
5.4-17	6107-001163	SPRING-CS	3	SA	D	
5.4-18	1404-001451	THERMISTOR-NTC ASSY	1	SA	A	
5.4-19	4712-001032	THERMOSTAT	1	SA	A	
5.4-20	JC39-00404A	CBF HARNESS-FUSER JOINT	1	SA	A	
5.4-21	JC39-00403A	CBF HARNESS-FUSER(110V)	1	SA	A	110V
5.4-21	JC39-00403B	CBF HARNESS-FUSER(220V)	1	SA	A	220V
5.4-22	JC61-00064A	SPRING ETC-CLAW	4	SA	A	
5.4-23	JC61-02580A	GUIDE-CLAW	4	SA	A	
5.4-24	JC66-00801A	GEAR-EXIT_DR38/25	1	SNA	D	
5.4-25	6031-001051	WASHER-PLAIN	1	SNA	A	
5.4-26	JC63-00637A	COVER-M-FUSER-DUMMY	1	SNA	D	
5.4-27	JC63-00639A	COVER-M-LAMP-L	1	SNA	D	
5.4-28	JC63-00638A	COVER-M-LAMP-R	1	SNA	D	
5.4-29	6044-000001	RING-CS	1	SNA	B	
5.4-30	JC66-00826A	ROLLER-EXIT F/DOWN	1	SA	A	
5.4-31	JC67-00085A	CAP-M-THERMO	1	SNA	A	

5.5 Paper Path Unit



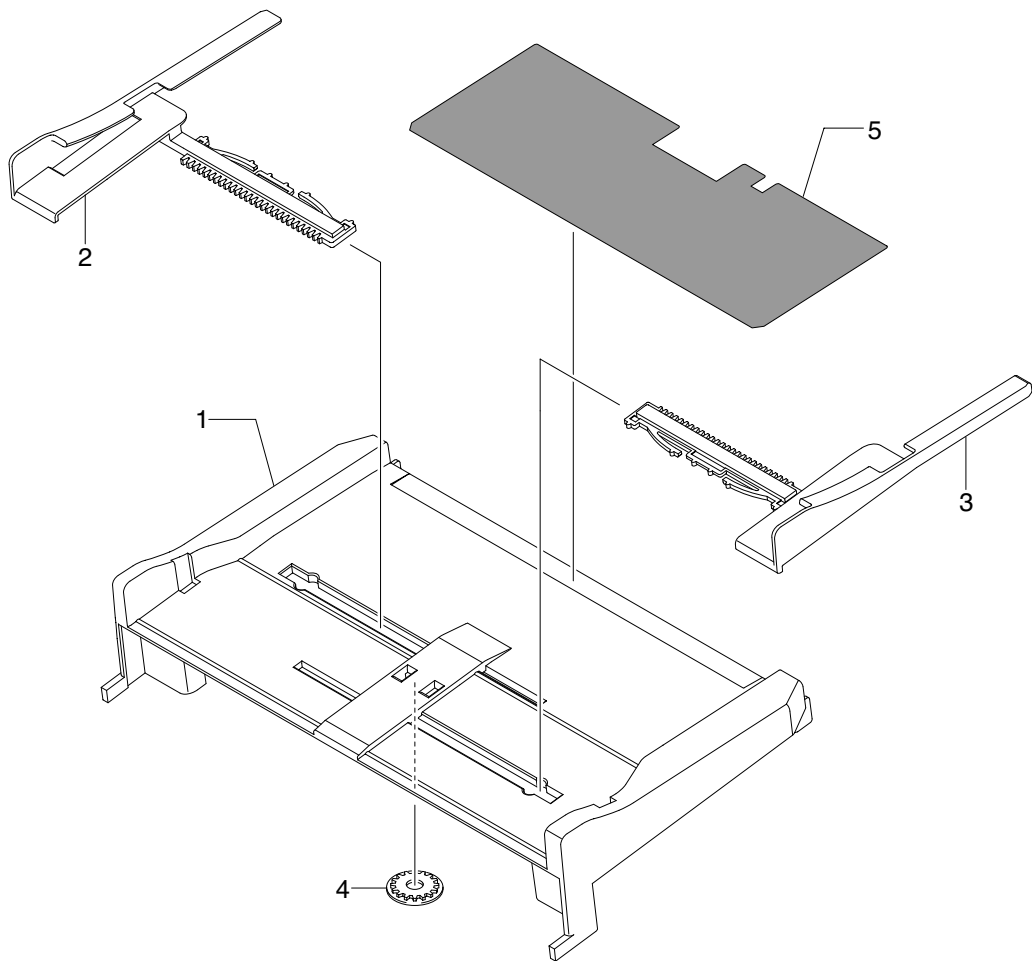
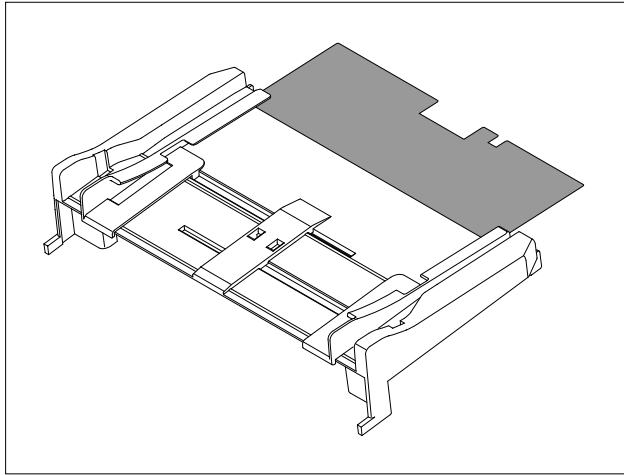
Paper Path Parts List

*SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

*Grade : Parts Class"A,B,C,D,E"

Drawer#	SEC_CODE	DESCRIPTION	QT'Y	Service	Grade	Remark
5.5-0	JC97-03248A	MEA UNIT-FRAME PAPER PATH	1	SA	B	1640
5.5-0	JC97-03199A	MEA UNIT-FRAME PAPER PATH	1	SA	B	2240
5.5-1	JC61-01161A	GUIDE-M-PAPER PATH	1	SA	A	
5.5-2	JC66-00814A	LEVER-ACTUATOR FEED SENSOR	1	SA	A	
5.5-3	JB61-00107A	SPRING ETC-LEVER SENSOR	1	SA	A	
5.5-4	JC70-10232A	IPR-PLATE SAW	1	SA	D	
5.5-5	JC63-00625A	GROUND-P-VARISTOR	1	SNA	A	
5.5-6	JC63-00624A	GROUND-P-ZENER	1	SA	A	
5.5-7	JC63-00623A	GROUND-P-THV	1	SNA	A	
5.5-8	JC63-00626A	GROUND-P-SAW	1	SNA	A	
5.5-9	JC97-02217A	MEA-UNIT HOLDER PAD	1	SA	A	
5.5-9-1	JC61-70911A	SPRING ETC-EXIT ROLL FD	2	SA	A	
5.5-9-2	JC69-01568A	PAD-FRICTION	1	SNA	B	
5.5-9-3	JC61-01169A	HOLDER-M-PAD	1	SA	A	
5.5-10	JC66-00815A	LEVER-M-KICKER P/U	2	SA	D	
5.5-11	JC97-02179A	MEA UNIT-PICK UP GEAR	1	SA	A	
5.5-11-1	JC66-00803A	GEAR-PICK_UP B	1	SA	A	
5.5-11-2	JC66-00802A	GEAR-PICK_UP A	1	SA	A	
5.5-11-3	6107-001167	SPRING-CS	1	SA	D	
5.5-12	JC33-00028B	SOLENOID-MP	1	SA	A	
5.5-13	JC66-00809A	GEAR-FEED 35/19	1	SA	A	
5.5-14	JC61-00588A	BUSH-M-TR L	1	SA	A	
5.5-15	JC72-00102A	PMO-BUSHING_TR(L)	1	SA	A	
5.5-16	JC61-70940A	SPRING ETC-TR(12)	2	SA	A	
5.5-17	JC66-00725A	ROLLER-TRANSFER	1	SA	A	
5.5-18	JC61-00583A	HOLDER-PTL	1	SA	A	
5.5-19	JC70-00307A	IPR-P-EARTH TRANSFER	1	SA	A	
5.5-20	JC66-00829A	SHAFT-P-PICK_UP	1	SA	B	
5.5-21	JC61-01151A	HOUSING-M-PICK_U	1	SA	A	
5.5-22	JC61-01173A	HOUSING-M-PICK_UP B	1	SA	A	
5.5-23	JC73-00211A	RUBBER-PICK_UP	1	SA	A	
5.5-24	JC66-01935A	CAM-PICKUP L	1	SA	B	
5.5-25	JC66-01936A	CAM-PICKUP R	1	SA	B	
5.5-26	JC66-00813A	GEAR-TRANSFER	1	SA	A	
5.5-27	JC61-01281A	BRACKET-P-BAR_PICK_UP	1	SNA	A	
5.5-28	JC39-00482A	CBF HARNESS-MICRO SW	1	SA	A	
5.5-29	JC61-01548A	HOLDER-M-CAM	1	SNA	A	2240

5.6 MP Tray Assembly (Only ML-2240)



MP Tray Parts List

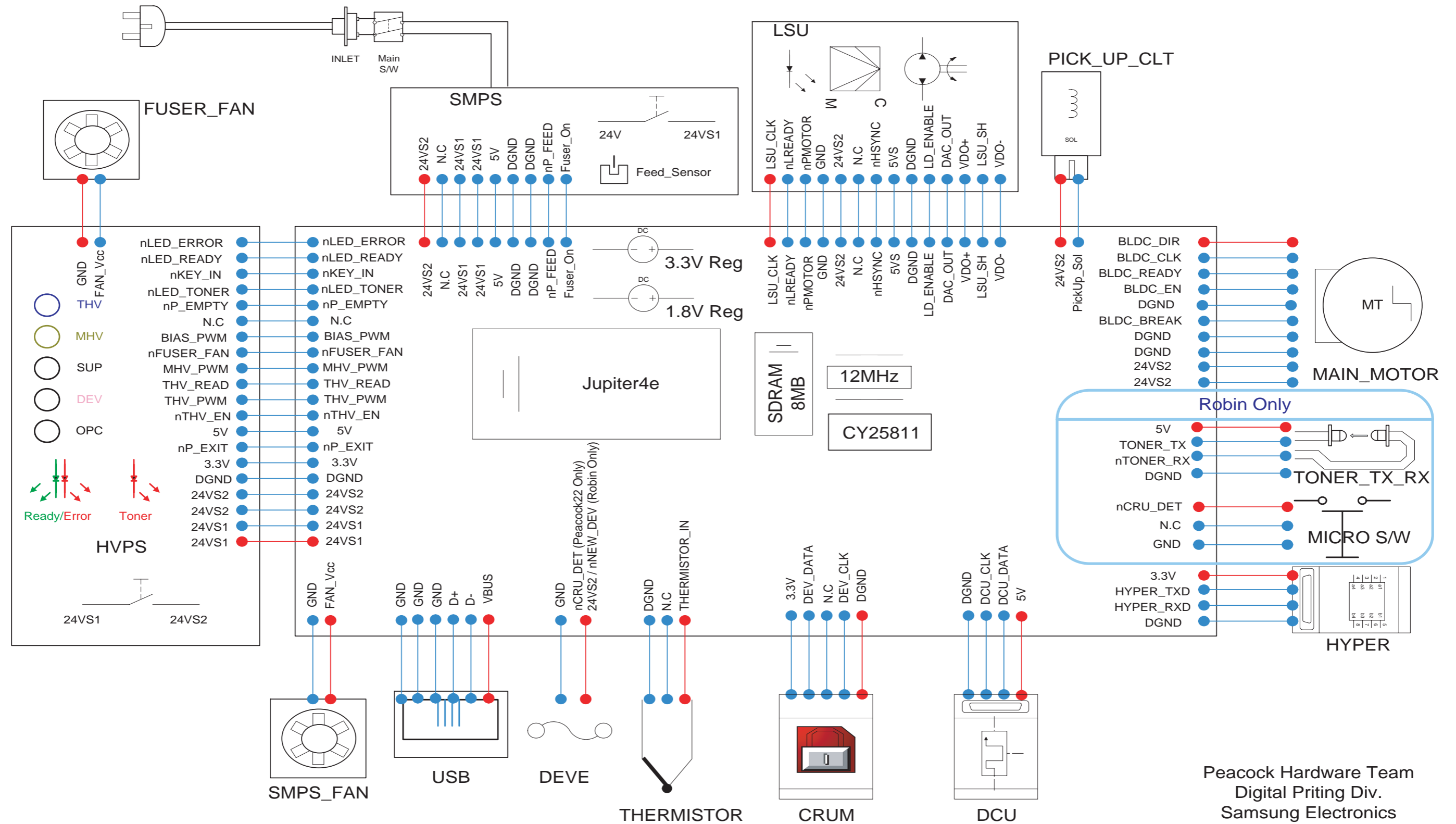
*SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

*Grade : Parts Class"A,B,C,D,E"

Drawer#	SEC_CODE	DESCRIPTION	QT'Y	Service	Grade	Remark
5.6-0	JC97-02239G	MEA UNIT-MP TRAY	1	SA	B	
5.6-1	JC61-01263F	PLATE-MP	1	SA	B	
5.6-2	JC70-00514E	ADJUST-MP L	1	SA	B	
5.6-3	JC70-00515E	ADJUST-MP R	1	SA	B	
5.6-4	JG66-40003A	GEAR-PINION	1	SA	B	
5.6-5	JC63-00711A	SHEET-MP	1	SA	B	

6. System Diagram

Block / Connection Diagram_Peacock22 / Robin



Peacock Hardware Team
Digital Priting Div.
Samsung Electronics
Jan.21.2008

7. Reference Information

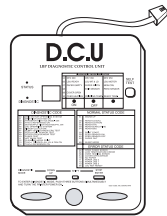
This chapter contains the tools list, list of abbreviations used in this manual, and a guide to the location space required when installing the printer. A definition of tests pages and Wireless Network information definition is also included.

7.1 Tool for Troubleshooting

The following tools are recommended safe and easy troubleshooting as described in this service manual.

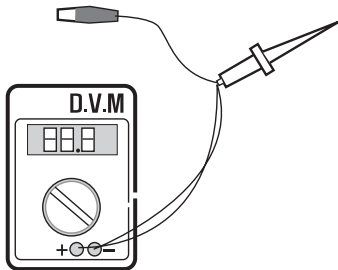
- **DCU (Diagnostic Control Unit)**

Standard : Test equipment to diagnose the Laser printer supplied by Samsung Electronics.



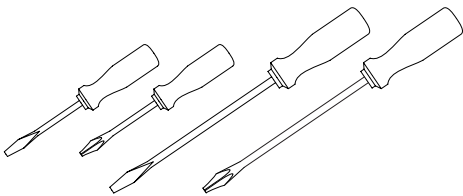
- **DVM (Digital Volt Meter)**

Standard : Indicates more than 3 digits.



- **Driver**

Standard : "-" type, "+" type (M3 long, M3 short, M2 long, M2 short).



- **Tweezers**

Standard : For general home use, small type.



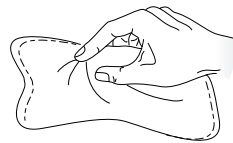
- **Cotton Swab**

Standard : For general home use, for medical service.

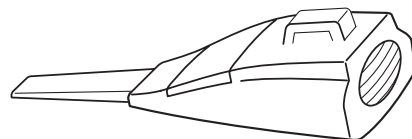


- **Cleaning Equipments**

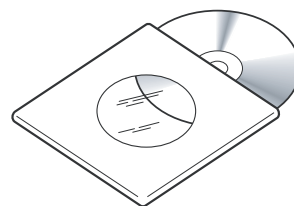
Standard : An IPA(Isopropyl Alcohol)dry wipe tissue or a gentle neutral detergent and lint-free cloth.



- **Vacuum Cleaner**



- **Software (Driver) installation CD ROM**



7.2 Acronyms and Abbreviations(1)

The table below explains the abbreviations and acronyms used in this service manual. Where abbreviations or acronyms are used in the text please refer to this table.

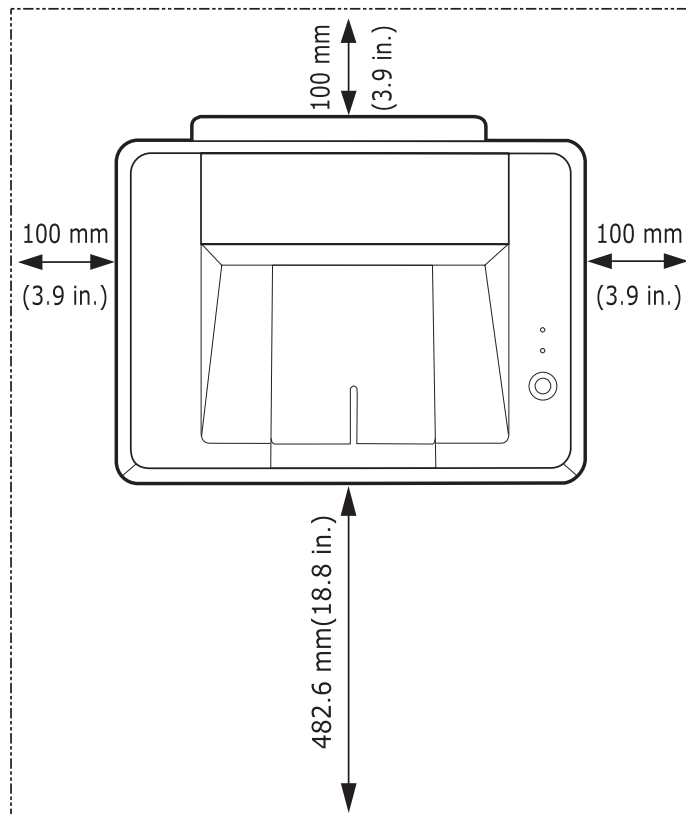
Abbreviations	Explanation
AP	Access Point
AC	Alternating Current
APC	Auto Power Control
ASIC	Application Specific Integrated Circuit
ASSY	assembly
BIOS	Basic Input Output System
BLDC	Brush-less Direct Current
CMOS	Complementary Metal Oxide Semiconductor
CN	connector
CON	connector
CPU	Central Processing Unit
dB	decibel
dbA	decibel A
dBm	decibel milliwatt
DC	direct current
DCU	Diagnostic Control Unit
DPI	Dot Per Inch
DRAM	Dynamic Random Access Memory
DVM	Digital Voltmeter
ECP	Enhanced Capability Port
EDC	Embedded Diagnostic control
EEPROM	Electrically Erasable Programmable Read Only Memory
EMI	Electro Magnetic Interference
EP	electrophotographic
EPP	Enhanced Parallel Port
FPOT	First Printout Time
FW	firmware
GDI	graphics device interface
GND	ground
HBP	Host Based Printing
HDD	Hard Disk Drive
H/H	High temperature and high marshy place
HV	high voltage
HVPS	High Voltage Power Supply
I/F	interface
I/O	Input and Output
IC	integrated circuit
IDE	Intelligent Drive electronics or Imbedded Drive Electronics

Acronyms and Abbreviations(2)

Abbreviations	Explanation
IEEE	Institute of Electrical and Electronics Engineers. Inc
IPA	Isopropy Alcohol
IPM	Images Per Minute
LAN	local area network
lb	pound(s)
LBP	Laser Beam Printer
LCD	Liquid Crystal Display
LED	Light Emitting Diode
L/L	Low temperature and low marshy place
LSU	Laser Scanning Unit
MB	megabyte
MHz	megahertz
MPF	Multi Purpose Feeder
NIC	Network Interface Card
N/N	Normal temperature and normal marshy place
NVRAM	nonvolatile random access memory
OPC	Organic Photo Conductor
OPE	Operate Panel Equipment
PBA	Printed Board Assembly
PCL	Printer Command Language , Printer Control Language
PDL	Page Discription Language
PPM	Page Per Minute
PPS	Pulse Per Second
PS	Post Script
PTL	Pre-Transfer Lamp
PWM	Pulse Width Modulation
Q-PID	Quick Printer Initiating Device
Q'ty	quantity
RAM	Random Access Memory
ROM	Read Only Memory
SCF	Second Cassette Feeder
SMPS	Switching Mode Power Supply
SPGP	Samsung Printer Graphic Processor
SPL	Samsung Printer Language
Spool	Simultaneous Peripheral Operation Online
SW	switch
sync	synchronous or synchronization
USB	Universal Serial Bus
WECA	Wireless Ethernet Compatibility Alliance

7.3 Selecting printer locations

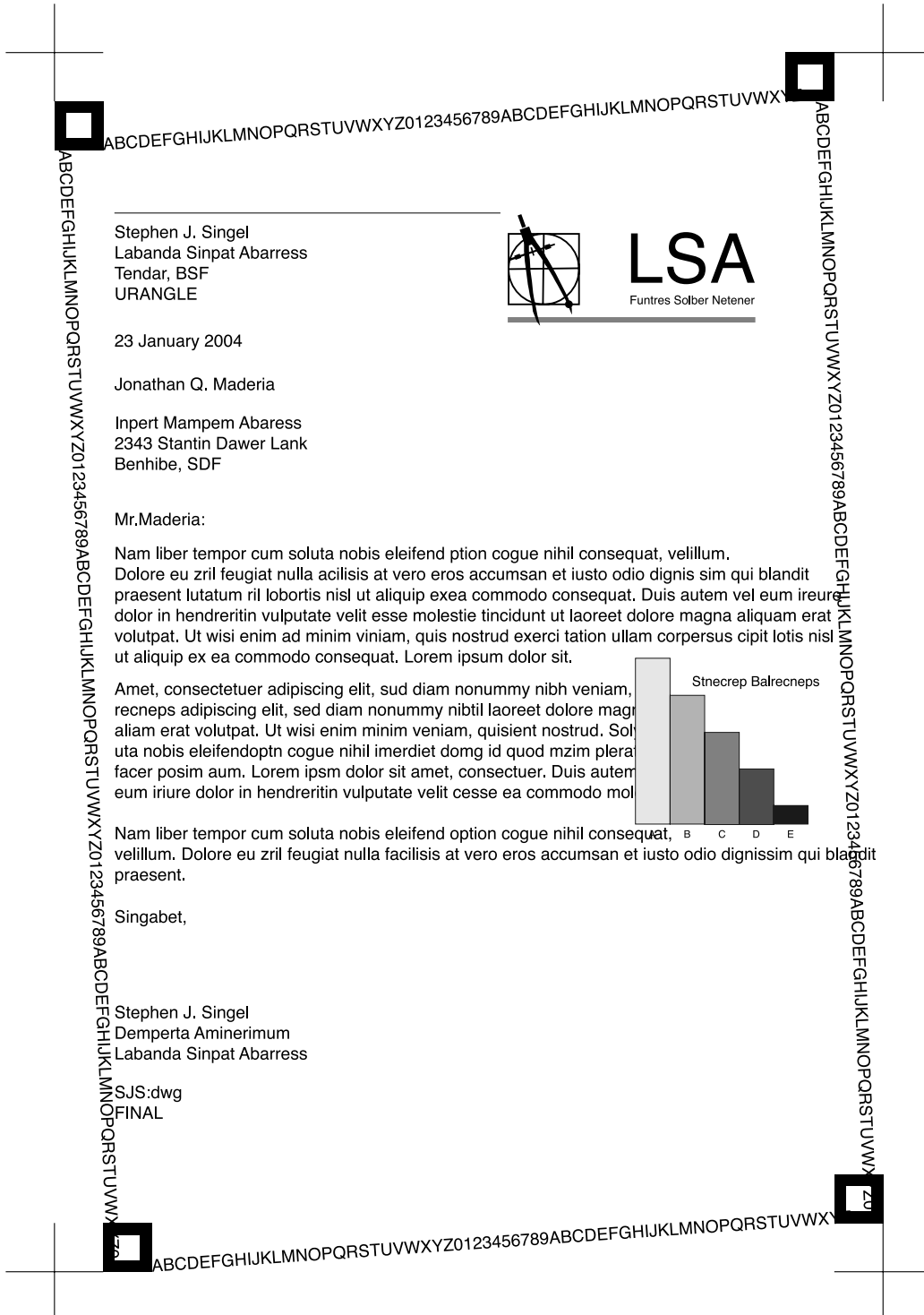
- Leave enough room to open the printer trays, covers, and allow for proper ventilation. (see diagram below)
- Provide the proper environment :
 - A firm, level surface
 - Away from the direct airflow of air conditioners, heaters, or ventilators
 - Free of extreme fluctuations of temperature, sunlight, or humidity
 - Clean, dry, and free of dust



7.4 Sample Tests Patterns

The sample patterns shown below are the standard test patterns used in the factory. The life of the toner cartridge, developer cartridge and printing speed are measured with the pattern shown below (5%). The A4 ISO 19752 standard pattern samples are reproduced reduced to 70% of the actual A4 size.

A4 ISO 19752 Standard Patterns



7.5 Parts Life Cycle Maintenance Table

7.5.1 Parts Life Cycle Maintenance Table

Supplies	Life Cycle	Condition	Panel LED	Custmoer - Panel Manage	Responding
Toner Cartridge	1.5K: For Product	Toner Low	Toner LED : Red LED blinking	-	10% Remains
	0.7K: For Sale	Toner Uninstall	Online /Error LED : Red	-	
Fuser	50,000(page)	Thermistor Open Error (DCU Code : 60)	On line/Error LED : Red	Replaced at Exhausted	
		Low Heat Error (DCU Code : 62)	On line/Error LED : Red	Replaced at Exhausted	
		Over Heat Error (DCU Code : 68)	On line/Error LED : Red	Replaced at Exhausted	
Transer Roller	50,000(page)	Exhausted	No Indication	Replaced at Exhausted	
PickUP Roller	50,000(page)	Exhausted	No Indication	Replaced at Exhausted	

7.5.2 Toner Cartridge Criterion

1) Supplies Criterion (Toner Cartridge)

1. Cartridge Main Defects

- White Point, Black Point : White or Black point on printing image
- Image contamination : Dirty printing image
- Image Fainted : Entire Image is faded and vertical white line emerge

- Black Line : Vertical black line emerge on printing image

2) Defect Symptoms

Symptoms	Criterion	Remarks
White, Black Point	Clean Up OPC (10 times), if disappeared, no failure. - If continuous, failure	System Setup -> Maintenance-> Clean Drum
Image contamination (Toner leakage)	Dirty printing image or contaminated reverse side - Clean up OPC (10 times) and inside of machine with cloth, if disappeared, no failure.	
Image Fainted	After shake cartridge right and left 5~6 times, if printing image is not faded, no failure. (Toner Exhausted)	
Vertical Black Line	Vertical thin line emerge, if cartridge is scratched. - (Customer fault)	

7.6 Model Information

7.6.1 Understanding for Model Code

Model code is inscribed and managed by product standard operation.
If understand the standard operation. It will help to comprehend basic and derived model.

Classification	Model abbreviation				Feature/Properties					
	1	2	3	4	5	6	7	8	9	10
Example	M	L		-	1	6	4	0		
Definition	Product Classification		Color Product	Division between code	1. Speed of Engine - If same speed models are released simultaneously higher model is added +1 at speed code. - If over 10 models with same speed are brought into, tenth model is added +1. 2. Domestic Entry Model Distribution - C&C : Engine speed - Information : The first number deleted	1. New model, series model division - Over 3rd grade project 2. Valuable model division in market despite of not over 3rd grade - VE model, etc. (Valuable model is decided by product planning group with sales prospect)	1. Basic : 0 2. Series model division - Below 4th grade project .PC Bundle .Domestic distribution (Entry model excepted)	Main feature description - N : N/W - P : PS - S : N/W+PS - B : Bluetooth - T : 2nd CST - M : Mac Compatible - X : Scanner . Beside above feature description, product conception to product planning group responded	Space (Basic:Omitted)	
Code Description	Printer Class of Product Description : M	Laser Beginning letter of printer Description: L	Default = Omission. Only color printer "C" initial .Engine = E							
Description	Alphabet			-	Digit			Alphabet		

Classification	Model abbreviation				Feature/Properties					
	1	2	3	4	5	6	7	8	9	10
Example	M	L		-	2	2	4	0		
Definition	Product Classification		Color Product	Division between code	1. Speed of Engine - If same speed models are released simultaneously higher model is added +1 at speed code. - If over 10 models with same speed are brought into, tenth model is added +1. 2. Domestic Entry Model Distribution - C&C : Engine speed - Information : The first number deleted	1. New model, series model division - Over 3rd grade project 2. Valuable model division in market despite of not over 3rd grade - VE model, etc. (Valuable model is decided by product planning group with sales prospect)	1. Basic : 0 2. Series model division - Below 4th grade project .PC Bundle .Domestic distribution (Entry model excepted)	Main feature description - N : N/W - P : PS - S : N/W+PS - B : Bluetooth - T : 2nd CST - M : Mac Compatible - X : Scanner . Beside above feature description, product conception to product planning group responded	Space (Basic:Omitted)	
Code Description	Printer Class of Product Description : M	Laser Beginning letter of printer Description: L	Default = Omission. Only color printer "C" initial .Engine = E							
Description	Alphabet			-	Digit			Alphabet		

7.6.2 Understanding Material Code & Name

Material code and name is maintained by standard criteria.
If understand the criteria, it will help to order materials.

1. Two different description ways for material code. (● : Digit, ■ : Letter(Alphabet))

- Type 1 ●●●●●-●●●●●●●● ex) 2007-007961 R-CHIP
- Type 2 ■■■●●-●●●●●●■ ex)JB96-01268A ELA UNIT-COVER TOP

Type 1 : Parts managed by entire divisions : Materials used by all samsung products.
Most electrical parts are under the type 1.

Type 2 : Parts managed by a division : Material used by a certain product
Most mechanical parts are under type 2.

2. A/S Only material : Only for A/S, not related to product manufacturing.

3. Ass'y material : More than two materials are assembled. If the material order is out of service, the order can be processed by Ass'y material order.

Picture and numbers are also described on Service manual.

※ Ass'y Material and A/S Only material Code are recognizable by product name.

Those are under type 2 and known by material properties and beginning letters of product name.

Classification	Material Code	Material Name
A/S Only Material	**81-***** (JB81-00039A)	AS-***** (AS-FUSE)
A/S Only Material	**75-***** (JB75-00068A)	MEC-***** (MEC-CHUTE)
A/S Only Material	**92-***** (JB92-01131A)	PBA-***** (PBA MAIN-CONTROLLER)
A/S Only Material	**96-***** (JB96-01268A)	ELA-***** (ELA UNIT-COVER TOP)
A/S Only Material	**97-***** (JB97-01089A)	MEA-***** (MEA UNIT-PULLEY IDLE)

7.6.3 F/W Upgrade Method

※ If F/W needs Upgrade, F/W file and usbprn file are requested.

■ Check "Ready" condition with power ON.

1. Paralle cable case

- Start Download Rom file with "copy/b b255_706.fl5 lpt1:" commend on Dos Mode.
- Once Download are finished, "Reset Printer" is indicated on LCD window.
- Download finished ► Power ON/OFF.

2. USB cable case (Save attached file at certain directory)

- Start Download Rom file "usbprbs b255_706.fl5" on Dos Mode and push the enter key.
- Once Download are finished, "Reset Printer" is indicated on LCD window.
- Download finished ► Power ON/OFF.