SERVICE MANUAL

A4 Color Page Printer

EPSON AcuLaser C1900
AcuLaser C900

COLOR IMAGING
EPSON

EPSON®

SEPG02003

Notice

PRECAUTIONS

Precautionary notations throughout the text are categorized relative to 1)Personal injury and 2) damage to equipment.

DANGER   Signals a precaution which, if ignored, could result in serious or fatal personal injury. Great caution should be exercised in performing procedures preceded by DANGER Headings.

WARNING   Signals a precaution which, if ignored, could result in damage to equipment.

The precautionary measures itemized below should always be observed when performing repair/maintenance procedures.

DANGER

1. ALWAYS DISCONNECT THE PRODUCT FROM THE POWER SOURCE AND PERIPHERAL DEVICES PERFORMING ANY MAINTENANCE OR REPAIR PROCEDURES.

2. NO WORK SHOULD BE PERFORMED ON THE UNIT BY PERSONS UNFAMILIAR WITH BASIC SAFETY MEASURES AS DICTATED FOR ALL ELECTRONICS TECHNICIANS IN THEIR LINE OF WORK.

3. WHEN PERFORMING TESTING AS DICTATED WITHIN THIS MANUAL, DO NOT CONNECT THE UNIT TO A POWER SOURCE UNTIL INSTRUCTED TO DO SO. WHEN THE POWER SUPPLY CABLE MUST BE CONNECTED, USE EXTREME CAUTION IN WORKING ON POWER SUPPLY AND OTHER ELECTRONIC COMPONENTS.

4. WHEN DISASSEMBLING OR ASSEMBLING A PRODUCT, MAKE SURE TO WEAR GLOVES TO AVOID INJURIER FROM METAL PARTS WITH SHARP EDGES.

WARNING

1. REPAIRS ON EPSON PRODUCT SHOULD BE PERFORMED ONLY BY AN EPSON CERTIFIED REPAIR TECHNICIAN.

2. MAKE CERTAIN THAT THE SOURCE VOLTAGES IS THE SAME AS THE RATED VOLTAGE, LISTED ON THE SERIAL NUMBER/RATING PLATE. IF THE EPSON PRODUCT HAS A PRIMARY AC RATING DIFFERENT FROM AVAILABLE POWER SOURCE, DO NOT CONNECT IT TO THE POWER SOURCE.

3. ALWAYS VERIFY THAT THE EPSON PRODUCT HAS BEEN DISCONNECTED FROM THE POWER SOURCE BEFORE REMOVING OR REPLACING PRINTED CIRCUIT BOARDS AND/OR INDIVIDUAL CHIPS.

4. IN ORDER TO PROTECT SENSITIVE MICROPROCESSORS AND CIRCUITRY, USE STATIC DISCHARGE EQUIPMENT, SUCH AS ANTI-STATIC WRIST STRAPS, WHEN ACCESSING INTERNAL COMPONENTS.

5. DO NOT REPLACE IMPERFECTLY FUNCTIONING COMPONENTS WITH COMPONENTS WHICH ARE NOT MANUFACTURED BY EPSON. IF SECOND SOURCE IC OR OTHER COMPONENTS WHICH HAVE NOT BEEN APPROVED ARE USED, THEY COULD CAUSE DAMAGE TO THE EPSON PRODUCT, OR COULD VOID THE WARRANTY OFFERED BY EPSON.

About This Manual

This manual describes basic functions, theory of electrical and mechanical operations, maintenance and repair procedures of the printer. The instructions and procedures included herein are intended for the experienced repair technicians, and attention should be given to the precautions on the preceding page.

Manual Configuration

This manual consists of six chapters and Appendix.

CHAPTER 1.PRODUCT DESCRIPTIONS
Provides a general overview and specifications of the product.

CHAPTER 2.OPERATING PRINCIPLES
Describes the theory of electrical and mechanical operations of the product.

CHAPTER 3.TROUBLESHOOTING
Describes the step-by-step procedures for the troubleshooting.

CHAPTER 4.DISASSEMBLY / ASSEMBLY
Describes the step-by-step procedures for disassembling and assembling the product.

CHAPTER 5.ADJUSTMENT
Provides Epson-approved methods for adjustment.

CHAPTER 6.MAINTENANCE
Provides preventive maintenance procedures and the lists of Epson-approved lubricants and adhesives required for servicing the product.

APPENDIX Provides the following additional information for reference:
• Connector pin assignments
• Electric circuit boards components layout
• Electrical circuit boards schematics
• Exploded diagram & Parts List

Symbols Used in this Manual

Various symbols are used throughout this manual either to provide additional information on a specific topic or to warn of possible danger present during a procedure or an action. Be aware of all symbols when they are used, and always read NOTE, CAUTION, or WARNING messages.

ADJUSTMENT REQUIRED — Indicates an operating or maintenance procedure, practice or condition that is necessary to keep the product's quality.

CAUTION — Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.

CHECK POINT — May indicate an operating or maintenance procedure, practice or condition that is necessary to accomplish a task efficiently. It may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.

WARNING — Indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in injury or loss of life.

Safety Precautions for Inspection and Service

When performing inspection and service procedures, observe the following precautions to prevent accidents and ensure utmost safety.

* Depending on the model, some of the precautions given in the following do not apply.

Different markings are used to denote specific meanings as detailed below.

WARNING	**Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**

CAUTION	**Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.**

The following graphic symbols are used to give instructions that need to be observed.

Used to call the service technician's attention to what is graphically represented inside the marking (including a warning).

Used to prohibit the service technician's from doing what is graphically represented inside the marking.

Used to instruct the service technician's to do what is graphically represented inside the marking.

WARNING

1.Always observe precautions.

- Parts requiring special attention in this product will include a label containing the mark shown on the left plus precautionary notes. Be sure to observe the precautions.
- Be sure to observe the "Safety Information" given in the Operator's Manual.

2.Before starting the procedures, be sure to unplug the power cord.

- This product contains a high-voltage unit and a circuit with a large current capacity that may cause an electric shock or burn.
- The product also contains parts that can jerk suddenly and cause injury.
- If this product uses a laser, laser beam leakage may cause eye damage or blindness.

3.Use the specified parts.

- For replacement parts, always use the genuine parts specified in the manufacturer's parts manual. Installing a wrong or unauthorized part could cause dielectric breakdown, overload, or undermine safety devices resulting in possible electric shock or fire.
- Replace a blown electrical fuse or thermal fuse with its corresponding genuine part specified in the manufacturer's parts manual. Installing a fuse of a different make or rating could lead to a possible fire. If a thermal fuse blows frequently, the temperature control system may have a problem and action must be taken to eliminate the cause of the problem.

4. Handle the power cord with care and never use a multiple outlet.

- Do not break, crush or otherwise damage the power cord. Placing a heavy object on the power cord, or pulling or bending it may damage it, resulting in a possible fire or electric shock.
- Do not use a multiple outlet to which any other appliance or machine is connected.
- Be sure the power outlet meets or exceeds the specified capacity.

5. Be careful with the high-voltage parts.

- A part marked with the symbol shown on the left carries a high voltage. Touching it could result in an electric shock or burn. Be sure to unplug the power cord before servicing this part or the parts near it.

6. Do not work with wet hands.

- Do not unplug or plug in the power cord, or perform any kind of service or inspection with wet hands. Doing so could result in an electric shock.

7. Do not touch a high-temperature part.

- A part marked with the symbol shown on the left and other parts such as the exposure lamp and fusing roller can be very hot while the machine is energized. Touching them may result in a burn.
- Wait until these parts have cooled down before replacing them or any surrounding parts.

8. Maintain a grounded connection at all times.
   (This item may not apply in the USA.)

- Be sure to connect the ground wire to the ground terminal even when performing an inspection or repair. Without proper grounding, electrical leakage could result in an electric shock or fire.
- Never connect the ground wire to a gas pipe, water pipe, telephone ground wire, or a lightning conductor.

9. Do not remodel the product.

- Modifying this product in a manner not authorized by the manufacturer may result in a fire or electric shock. If this product uses a laser, laser beam leakage may cause eye damage or blindness.

10. Restore all parts and harnesses to their original positions.

- To promote safety and prevent product damage, make sure the harnesses are returned to their original positions and properly secured in their clamps and saddles in order to avoid hot parts, high-voltage parts, sharp edges, or being crushed.
- To promote safety, make sure that all tubing and other insulating materials are returned to their original positions. Make sure that floating components mounted on the circuit boards are at their correct distance and position off the boards.

! CAUTION

1.Precautions for Service Jobs

- A toothed washer and spring washer, if used originally, must be reinstalled. Omitting them may result in contact failure which could cause an electric shock or fire.
- When reassembling parts, make sure that the correct screws (size, type) are used in the correct places. Using the wrong screw could lead to stripped threads, poorly secured parts, poor insulating or grounding, and result in a malfunction, electric shock or injury.
- Take great care to avoid personal injury from possible burrs and sharp edges on the parts, frames and chassis of the product.
- When moving the product or removing an option, use care not to injure your back or allow your hands to be caught in mechanisms.

2.Precautions for Servicing with Covers and Parts Removed

- Wherever feasible, keep all parts and covers mounted when energizing the product.
- If energizing the product with a cover removed is absolutely unavoidable, do not touch any exposed live parts and use care not to allow your clothing to be caught in the moving parts. Never leave a product in this condition unattended.
- Never place disassembled parts or a container of liquid on the product. Parts falling into, or the liquid spilling inside, the mechanism could result in an electric shock or fire.
- Never use a flammable spray near the product. This could result in a fire.
- Make sure the power cord is unplugged before removing or installing circuit boards or plugging in or unplugging connectors.
- Always use the interlock switch actuating jig to actuate an interlock switch when a cover is opened or removed. The use of folded paper or some other object may damage the interlock switch mechanism, possibly resulting in an electric shock, injury or blindness.

3.Precautions for the Working Environment

- The product must be placed on a flat, level surface that is stable and secure.
- Never place this product or its parts on an unsteady or tilting workbench when servicing.
- Provide good ventilation at regular intervals if a service job must be done in a confined space for a long period of time.
- Avoid dusty locations and places exposed to oil or steam.
- Avoid working positions that may block the ventilation ports of the product.

4.Precautions for Handling Batteries
(Lithium, Nickel-Cadmium, etc.)

- Replace a rundown battery with the same type as specified in the manufacturer's parts manual.
- Before installing a new battery, make sure of the correct polarity of the installation or the battery could burst.
- Dispose of used batteries according to the local regulations. Never dispose of them at the user's premises or attempt to try to discharge one.

5. Precautions for the Laser Beam
(Only for Products Employing a Laser)

- Removing the cover marked with the following caution label could lead to possible exposure to the laser beam, resulting in eye damage or blindness. Be sure to unplug the power cord before removing this cover.
- If removing this cover while the power is ON is unavoidable, be sure to wear protective laser goggles that meet specifications.
- Make sure that no one enters the room when the machine is in this condition.
- When handling the laser unit, observe the "Precautions for Handling Laser Equipment."

⚠	注意：	ここを開くとクラス3B不可視レーザ光がでます。ビームを直接見たり、触れたりしないでください。
⚠	CAUTION–	CLASS 3B INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM
⚠	VORSICHT–	KLASSE 3B UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN
⚠	ADVARSEL–	KLASSE 3B USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN
⚠	VARO !	AVATTAESSA OLET ALTTIINA LUOKAN 3B NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN
⚠	ADVARSEL–	USYNLIG KLASSE 3B LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING
⚠	VARNING–	OSYNLIG LASERSTRÅLNING KLASS 3B NÄR DENNA DEL AV ÖPPNAD STRÅLEN ÄR FARLIG
⚠	注意：	当您打开这里时，会出现三级乙类的不可见激光射线，请不要直视或接触光线。
⚠	주의 :	이곳을 열면 눈에 보이지 않는 클래스3B 레이저광선이 나옵니다. 광선에의 노출을 피해 주십시오.

DANGER ⌂

Invisible laser radiation when open.
AVOID   DIRECT   EXPOSURE
TO   BEAM
0947-7127-01

Other Precautions

- When handling circuit boards, observe the "HANDLING of PWBs".
- The PC Drum is a very delicate component. Observe the precautions given in "HANDLING OF THE PC DRUM" because mishandling may result in serious image problems.
- Note that replacement of a circuit board may call for readjustments or resetting of particular items, or software installation.

Precautions for Service

When performing inspection and service procedures, observe the following precautions to prevent mishandling of the machine and its parts.

* Depending on the model, some of the precautions given in the following do not apply.

PRECAUTIONS BEFORE SERVICE

☐ When the user is using a word processor or personal computer from a wall outlet of the same line, take necessary steps to prevent the circuit breaker from opening due to overloads.

☐ Never disturb the LAN by breaking or making a network connection, altering termination, installing or removing networking hardware or software, or shutting down networked devices without the knowledge and express permission of the network administrator or the shop supervisor.

HOW TO USE THIS BOOK

☐ DIS/REASSEMBLY, ADJUSTMENT

  ■ To reassemble the product, reverse the order of disassembly unless otherwise specified.

☐ TROUBLESHOOTING

  ■ If a component on a PWB or any other functional unit including a motor is defective, the text only instructs you to replace the whole PWB or functional unit and does not give troubleshooting procedures applicable within the defective unit.

■ All troubleshooting procedures contained herein assume that there are no breaks in the harnesses and cords and all connectors are plugged into the right positions.

■ The procedures preclude possible malfunctions due to noise and other external causes.

PRECAUTIONS FOR SERVICE

☐ Check the area surrounding the service site for any signs of damage, wear or need of repair.

☐ Keep all disassembled parts in good order and keep tools under control so that none will be lost or damaged.

☐ After completing a service job, perform a safety check. Make sure that all parts, wiring and screws are returned to their original positions.

☐ Do not pull out the toner hopper while the toner bottle is turning. This could result in a damaged motor or locking mechanism.

☐ If the product is to be run with the front door open, make sure that the toner hopper is in the locked position.

☐ Do not use an air gun or vacuum cleaner for cleaning the ATDC Sensor and other sensors, as they can cause electrostatic destruction. Use a blower brush and cloth. If a unit containing these sensors is to be cleaned, first remove the sensors from the unit.

PRECAUTIONS FOR DISASSEMBLY/REASSEMBLY

□ Be sure to unplug the copier from the outlet before attempting to service the copier.

□ The basic rule is not to operate the copier anytime during disassembly. If it is absolutely necessary to run the copier with its covers removed, use care not to allow your clothing to be caught in revolving parts such as the timing belt and gears.

□ Before attempting to replace parts and unplug connectors, make sure that the power cord of the copier has been unplugged from the wall outlet.

□ Be sure to use the Interlock Switch Actuating Jig whenever it is necessary to actuate the Interlock Switch with the covers left open or removed.

□ While the product is energized, do not unplug or plug connectors into the circuit boards or harnesses.

□ Never use flammable sprays near the copier.

□ A used battery should be disposed of according to the local regulations and never be discarded casually or left unattended at the user's premises.

□ When reassembling parts, make sure that the correct screws (size, type) and toothed washer are used in the correct places.

□ If it becomes necessary to replace the thermal fuse or any other fuse mounted on a board, be sure to use one of the rating marked on the blown fuse. Always note the rating marked on the fuse, as the rating and mounting site or number used are subject to change without notice.

PRECAUTIONS FOR CIRCUIT INSPECTION

□ Never create a closed circuit across connector pins except those specified in the text and on the printed circuit.

□ When creating a closed circuit and measuring a voltage across connector pins specified in the text, be sure to use the GND wire.

HANDLING OF PWBS

□ During Transportation/Storage:

■ During transportation or when in storage, new P.W. Boards must not be indiscriminately removed from their protective conductive bags.

■ Do not store or place P.W. Boards in a location exposed to direct sunlight and high temperature.

■ When it becomes absolutely necessary to remove a Board from its conductive bag or case, always place it on its conductive mat in an area as free as possible from static electricity.

■ Do not touch the pins of the ICs with your bare hands.

■ Protect the PWBs from any external force so that they are not bent or damaged.

□ During Inspection/Replacement:

■ Avoid checking the IC directly with a multimeter; use connectors on the Board.

■ Never create a closed circuit across IC pins with a metal tool.

■ Before unplugging connectors from the P.W. Boards, make sure that the power cord has been unplugged from the outlet.

- When removing a Board from its conductive bag or conductive case, do not touch the pins of the ICs or the printed pattern. Place it in position by holding only the edges of the Board.

- When touching the PWB, wear a wrist strap and connect its cord to a securely grounded place whenever possible. If you cannot wear a wrist strap, touch a metal part to discharge static electricity before touching the PWB.

- Note that replacement of a PWB may call for readjustments or resetting of particular items.

HANDLING OF OTHER PARTS

☐ The magnet roller generates a strong magnetic field. Do not bring it near a watch, floppy disk, magnetic card, or CRT tube.

HANDLING OF THE PC DRUM

* Only for Products Not Employing an Imaging Cartridge.

☐ During Transportation/Storage:

- Use the specified carton whenever moving or storing the PC Drum.

- The storage temperature is in the range between -20°C and +40°C.

- In summer, avoid leaving the PC Drum in a car for a long time.

☐ Handling:

- Ensure that the correct PC Drum is used.

- Whenever the PC Drum has been removed from the copier, store it in its carton or protect it with a Drum Cloth.

- The PC Drum exhibits greatest light fatigue after being exposed to strong light over an extended period of time. Never, therefore, expose it to direct sunlight.

- Use care not to contaminate the surface of the PC Drum with oil-base solvent, fingerprints, and other foreign matter.

- Do not scratch the surface of the PC Drum.

- Do not apply chemicals to the surface of the PC Drum.

- Do not attempt to wipe clean the surface of the PC Drum.

If, however, the surface is contaminated with fingerprints, clean it using the following procedure.
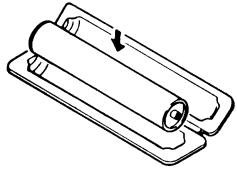
1. Place the PC Drum into one half of its carton.
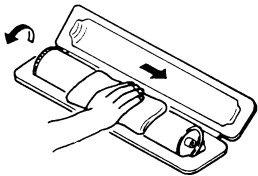
2. Gently wipe the residual toner off the surface of the PC Drum with a dry, Dust-Free Cotton Pad.

A. Turn the PC Drum so that the area of its surface on which the line of toner left by the Cleaning Blade is present is facing straight up. Wipe the surface in one continuous movement from the rear edge of the PC Drum to the front edge and off the surface of the PC Drum.

B. Turn the PC Drum slightly and wipe the newly exposed surface area with a CLEAN face of the Dust-Free Cotton Pad. Repeat this procedure until the entire surface of the PC Drum has been thoroughly cleaned.

*At this time, always use a CLEAN face of the dry Dust-Free Cotton Pad until no toner is evident on the face of the Pad after wiping.
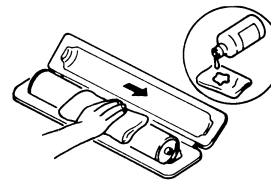
3. Soak a small amount of either ethyl alcohol or isopropyl alcohol into a clean, unused Dust-Free Cotton Pad which has been folded over into quarters. Now, wipe the surface of the PC Drum in one continuous movement from its rear edge to its front edge and off its surface one to two times.

*Never move the Pad back and forth.
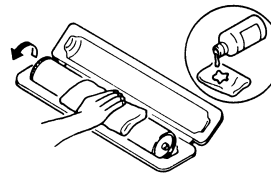
4. Using the SAME face of the Pad, repeat the procedure explained in the latter half of step 3 until the entire surface of the PC Drum has been wiped. Always OVERLAP the areas when wiping. Two complete turns of the PC Drum would be appropriate for cleaning.

NOTE:

☐ **Even when the PC Drum is only locally dirtied, wipe the entire surface.**

☐ **Do not expose the PC Drum to direct sunlight. Clean it as quickly as possible even under interior illumination.**

☐ **If dirt remains after cleaning, repeat the entire procedure from the beginning one more time.**

HANDLING OF THE IMAGING CARTRIDGE

* Only for Products Employing an Imaging Cartridge.

☐ During Transportation/Storage:

- The storage temperature is in the range between -20°C and +40°C.

- In summer, avoid leaving the Imaging Cartridge in a car for a long time.

☐ Handling:

- Store the Imaging Cartridge in a place that is not exposed to direct sunlight.

☐ Precautionary Information on the PC Drum Inside the Imaging Cartridge:

- Use care not to contaminate the surface of the PC Drum with oil-base solvent, fingerprints, and other foreign matter.

- Do not scratch the surface of the PC Drum.

- Do not attempt to wipe clean the surface of the PC Drum.

| ⚡ WARNING **WARNING** |
|---|
| 🚫 **Do not throw the toner cartridge or toner into an open flame. The hot toner may scatter and cause burns or other damage.** |

SAFETY INFORMATION

LASER SAFETY

This is a digital machine certified as a class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

INTERNAL LASER RADIATION

semiconductor laser	
Maximum average radiation power(*)	4.68 µW
Wavelength	770-795 nm

    *:Laser Aperture of the Print Head Unit

☐ This product employs a Class 3b laser diode that emits an invisible laser beam. The laser diode and the scanning polygon mirror are incorporated in the print head unit.

☐ The print head unit is NOT A FIELD SERVICE ITEM. Therefore, the print head unit should not be opened under any circumstances.

Laser Aperture of the Print Head Unit
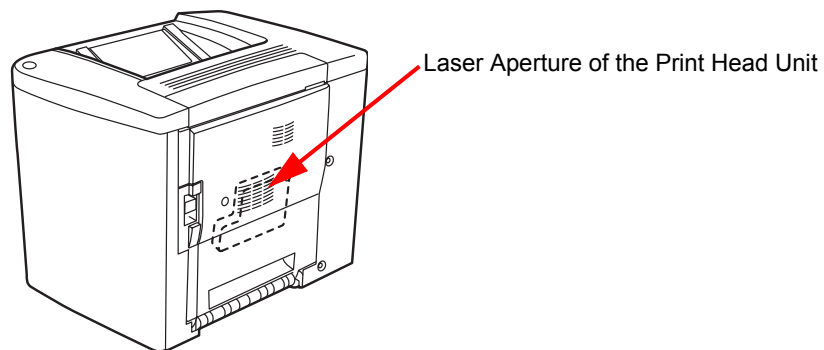
the U.S.A., Canada (CDRH Regulation)

■ This machine is certified as a Class I Laser product under Radiation Performance Standard according to the Food, Drug and Cosmetic Act of 1990. Compliance is mandatory for Laser products marketed in the United States and is reported to the Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration of the U.S. Department of Health and Human Services (DHHS). This means that the device does not produce hazardous laser radiation.

■ The label shown to page 15 indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

CAUTION
Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

semiconductor laser	
Maximum power of the laser diode	5 mW
Wavelength	770-795 nm

All Areas

CAUTION
Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

semiconductor laser	
Maximum power of the laser diode	5 mW
Wavelength	770-795 nm

Denmark

ADVARSEL
Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. Klasse 1 laser produkt der opfylder IEC60825 sikkerheds kravene.

halvlederlaser	
Laserdiodens højeste styrke	5 mW
bølgelængden	770-795 nm

Norway

ADVERSEL
Dersom apparatet brukes på annen måte enn spesifisert i denne bruksanvisning, kan brukeren utsettes för unsynlig laserstrålning, som overskrider grensen for laser klass 1.

halvleder laser	
Maksimal effekt till laserdiode	5 mW
bølgelengde	770-795 nm

Finland, Sweden

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

VAROITUS!
Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

puolijohdelaser	
Laserdiodin suurin teho	5 mW
aallonpituus	770-795 nm

VARNING!
Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

halvledarlaser	
Den maximala effekten för laserdioden	5 mW
våglängden	770-795 nm

VARO!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.
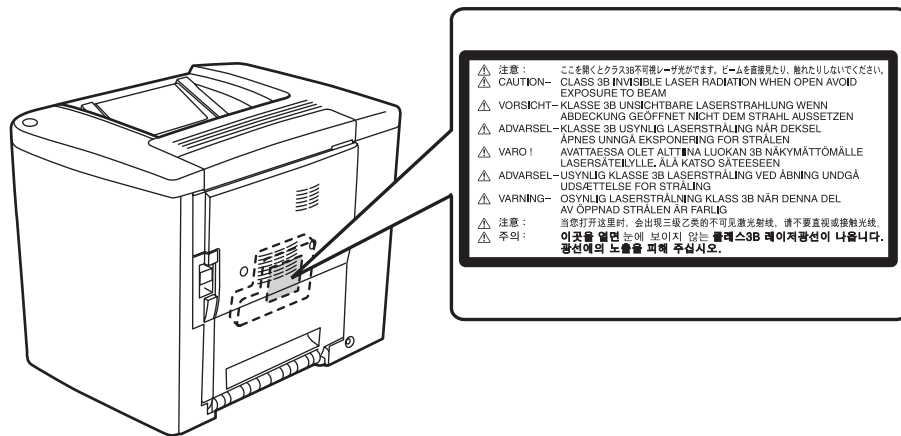
VARNING!
Osynlig laserstråining när denna del är öppnad och spärren är urkopplad. Betrakta ej stråien.

LASER SAFETY LABEL

A laser safety label is attached to the outside of the machine as shown below.

LASER CAUTION LABEL

A laser caution label is attached to the inside of the machine as shown below.

PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

☐ When laser protective goggles are to be used, select ones with a lens conforming to the above specifications.

☐ When a disassembly job needs to be performed in the laser beam path, such as when working around the printerhead and PC Drum, be sure first to turn the printer OFF.

☐ If the job requires that the printer be left ON, take off your watch and ring and wear laser protective goggles.

☐ A highly reflective tool can be dangerous if it is brought into the laser beam path. Use utmost care when handling tools on the user's premises.

Revision Status

Revision	Date of Issue	Description
0	June 3, 2002	Partial release (Chapter 1/ Chapter4) (provisional)
A	September 30, 2002	First release

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PRODUCT DESCRIPTION

1.1 Product Description

AcuLaser C1900/AcuLaser C900 are non-impact color page printer that takes advantage of the laser and electrophotographic technology.

1.1.1 Features

ENGINE FEATURES

☐ True 600 dpi high resolution full color printing engine. (AcuLaser C900)

☐ New, low-price color engine supporting A4-size paper (AcuLaser C1900)

☐ 4.0 ppm (A4 color) /16.0 ppm (A4 monochrome) print speed.

☐ Duplex printing supported (A4/LT).

☐ Compact and light weight, with body size about 70%, weight about 65%, and foot print about 85% of AcuLaser C2000

☐ Resolution

AcuLaser C1900   : 600dpi

AcuLaser C900   : 600dpi / 300dpi

☐ Paper feed

Table 1-1. Paper feed

Model	Standard paper feed	Postcards, Transparencies, Thick Paper, or Labels	option
AcuLaser C1900	MP Tray (200 sheets)	-	Optional (Lower Cassette Unit) Paper Source (500 sheets)
AcuLaser C900	MP tray (200 sheets)	MP tray (50 sheets)	An optional paper cassette unit (500 sheet, A4/LT only)

☐ A maximum of 200 sheets can be output face-down.

☐ Low noise level (target)

Sleep Mode   : 39dB (A)

While printing   : 54dB (A)

☐ Use of newly developed polymerized toner, making oil-less fixing possible

☐ 1.5 K pre-installed toner
1.5 K toner for each color included with package
4.5 K toner for Optional use

CONTROLLER FEATURES

<AcuLaser C1900>

☐ New RISC CPU: PowerPC 300 MHz (SPC603ei)

☐ RAM: Standard 32MB
Expandable up to a maximum of 1GB

SDRAM DIMM supporting standard PC100 and PC133 (32, 64, 128, 256, or 512 MB) can be used. For memory expansion of 544 MB or more, the standard 32 MB DIMM must be replaced.

☐ Color technologies
AcuLaser Color Halftoning installed

☐ Three types of standard interfaces installed

■ 10/100baseTx Ethernet

■ IEEE1284 parallel interface (Compatibility, Nibble, ECP)

■ USB 1.1 (2.0 FS 12Mbps Certified)

NOTE: Support for optional Type-B interface

☐ RAM expansion can increase the performance and speed of the AcuLaser Color Halftoning drawing area, print speed, resolution, receive buffer size, and collated printing (Collate in Printer).

☐ HDD (optional) can be installed
New HDD that is also used by AcuLaser C8600 is supported.
(The old type of HDD cannot be used)

☐ Improved color stability brought by new AIDC control Color stability matching or exceeding AcuLaser C1000 is targeted.

\<AcuLaser C900\>

☐ Host based controller

- CPU: VR4305-48MHz

- Standard RAM: 16 MB,
  with additional RAM DIMM expanding to a maximum of 144 MB

☐ Color technologies
CPGI, CRIT (Color RIT) installed

☐ Two types of standard interfaces installed

- IEEE1284 compatible parallel interface supporting ECP

- USB I/F

SOFTWARE FEATURE

\<AcuLaser C1900\>

☐ Emulation included as standard
ESC/Page Color mode
LJ4, GL2, ESC/P2, FX, I239X, ESC/Page (monochrome mode)

☐ Optional emulation
Adobe PostScript 3

☐ Ability to update the firmware
Supply of program on Flash DIMM makes update of firmware possible
(no MASK during mass production).

☐ Ability to update the engine controller program.
This function is only supported for the evaluation sample.

☐ DCC command support.
Diag command only.

\<AcuLaser C900\>

☐ ESC/PageS installed

- Color supported

- Duplex printing supported

☐ Network compatibility

- Use of background job commands establish network connections.
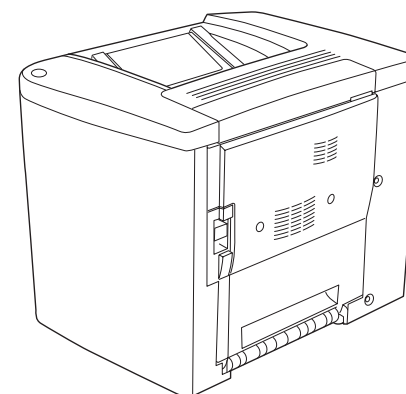
Figure 1-1. External Appearance

1.2 Basic Specifications

1.2.1 Process Specifications

☐ Printer formula
Semi-conductor laser beam scan and elector photography with dry single
component no electromagnetic toner.

☐ Light Source
Semi-conductor laser

☐ Photoconductor Unit
OPC (organic photoconductive conductor) drum

☐ Charging
Needle electrode scorotron charger

☐ Development
Exposed area development

☐ Toner
Nonmagnetic one-component toner

☐ Primary Transfer
Electrode roller transfer method

☐ Intermediate Transfer
Intermediate transfer belt method

☐ Secondary Transfer
Roller transfer method

☐ Fixing
Heated roller fuser method

☐ Density Adjustment
Automatic adjustment (not adjustable by user)

1.2.2 Printer Basic Specifications

☐ Resolution
600 dpi

☐ Warming Up Time

■ 100 V, 120 V   : 180 seconds or less (in 23 °C 55%RH, rated voltage)

■ 220~240 V   : 180 seconds or less (in 23 °C 55%RH, rated voltage)

☐ Printing Mode

■ B/W mode   : A regular monochrome mode that prints fastest.

■ Color mode   : A color mode that uses Y, M, C, K toners.

☐ Speed Mode

■ Standard mode   : Paper feeding at the main unit's fastest speed.

■ Low-speed <1> mode : Reduce the envelope feeding speed to retain the
quality.

■ Low-speed <2> mode : Reduces paper feeding speed to ensure satisfactory
fusing at printing on thick paper, label sheets or
coated paper exceeding $90g/m^2$ (24 lb).

■ Low-speed <3> mode : Reduce the paper feeding speed to retain the fixity of
printing on transparencies.

☐ First Printing Time[*1]

  ■ B/W mode

Table 1-2. First Printing Time (Unit: seconds max.)

Printing mode \ Paper size	Simplex printing			Duplex printing[*2]
	Standard mode	Low-speed <2> mode	Low-speed <3> mode	Standard mode
A4	14.0	23.0	28.0	25.0
A5	14.0	23.0	-	-
B5	14.0	23.0	-	-
Letter	14.0	23.0	28.0	25.0
Japanese official postcard	-	22.0	-	-
Japanese official returned postcard	-	23.0	-	-

  ■ Color mode

Table 1-3. First Printing Time (Unit: seconds max.)

Printing mode \ Paper size	Simplex printing			Duplex printing[*2]
	Standard mode	Low-speed <2> mode	Low-speed <3> mode	Standard mode
A4	25.0	34.0	40.0	39.0
A5	25.0	34.0	-	-
B5	25.0	34.0	-	-
Letter	25.0	34.0	40.0	39.0
Japanese official postcard	-	33.0	-	-
Japanese official returned postcard	-	34.0	-	-

Note *1: The above values are periods from when the printer receives the start command to when it completes ejecting the first sheet.

    *2: The above periods are the same in all the paper feed bins.

☐ Continuous Printing Speed

  ■ B/W mode

Table 1-4. Continuous Printing Speed (Unit: ppm)

Printing mode \ Paper size	Simplex printing				Duplex printing
	Standard mode	Low-speed <1> mode	Low-speed <2> mode	Low-speed <3> mode	Standard mode
A4	16.0	-	3.3	2.5	10.0
A5	16.0	-	3.5	-	-
B5	16.0	-	3.4	-	-
Letter	16.0	-	3.3	2.5	10.0
Japanese official postcard	-	-	3.6	-	-
Japanese official returned postcard	-	-	3.5	-	-
Envelope C6 Yokei #6 * /MON/DL	-	4.1	-	-	-
Envelope Yokei #0 /Yokei #4 * C5/Com-#10	-	4.0	-	-	-
User defined 148 mm ≤ L<210 mm	-	-	3.5	-	-
User defined 210 mm ≤ L ≤ 297 mm	16.0	-	3.3	-	-
User defined 297 mm <L ≤ 356 mm	8.0	-	-	-	-

Note *: JIS envelope

NOTE **1:** *L: Paper length*

      2: *Paper width is between 92 mm and 216 mm*

■ Color mode

Table 1-5. Continuous Printing Speed (Unit: ppm)

Printing mode \ Paper size	Simplex printing				Duplex printing
	Standard mode	Low-speed <1> mode	Low-speed <2> mode	Low-speed <3> mode	Standard mode
A4	4.0	-	2.0	1.6	4.0
A5	4.0	-	2.0	-	-
B5	4.0	-	2.0	-	-
Letter	4.0	-	2.0	1.6	4.0
Japanese official postcard	-	-	2.1	-	-
Japanese Official both-way postcard	-	-	2.0	-	-
Envelope C6	-	2.3	-	-	-
Envelope MON/C5/Com-#10/DL Yokei #0*/Yokei #4* Yokei #6*	-	2.2	-	-	-
User defined 148 mm ≤ L<210 mm	-	-	2.0	-	-
User defined 210 mm ≤ L ≤ 297 mm	4.0	-	2.0	-	-
User defined 297 mm < L ≤ 356 mm 2.0	2.0	-	-	-	-

Note *:   JIS envelope

NOTE   *1:*   *L: Paper length*

            2:   *Paper width is between 92 mm and 216 mm*

□ Paper Feed Reference
  Centerline reference for each paper size, and for both the MP tray and optional cassette unit (option).

□ Paper Feed

Table 1-6. Paper Feed

	Paper source	Capacity (Height)	Paper size for paper feed	Applicable paper type
Standard	MP tray	200 sheets (23mmMax)	A4,A5,B5,Letter,GLT,HLT,Exective	Plain paper 60 ~ 90 g/m^2
		50 sheets	Transparency: A4, Letter	-
		50 sheets	Label: A4, Letter	-
		50 sheets	Thick paper: A4,A5,B5,Letter,GLT,HLT,Exective	91 ~ 163 g/m^2
		50 sheets	Label: A4, Letter	-
		10 sheets	Envelope: C5, C6, Com-10, DL, Monarch, Yokei #0 *,Yokei #4 *,Yokei #6 *	-
		50 sheets	Postcard (for domestic models): Japanese official postcard, Japanese official returned postcard	190 g/m^2
Optional	Optional 500sheets cassette unit	500 sheets (57mmMax)	A4 or Letter (fixed on the factory default)	60 ~ 90 g/m^2

Note *:   JIS envelope

☐ Applicable Paper Sizes, Paper Types, and Paper Orientation

Table 1-7. Applicable Paper Sizes, Paper Types, and Paper Orientation

Paper Size		Paper size Unit mm (inch)		MP tray	Optional*1 cassette unit	Duplex print unit	Paper Orientation
		Vertical (length)	Horizontal (width)				
Plain paper	A4	297.00	210.00	○	○	○	SEF
	A5	210.00	148.00	○	-	-	SEF
	B5	257.00	182.00	○	-	-	SEF
	Letter	279.40 (11.00)	215.90 (8.50)	○	○	○	SEF
	Half Letter	215.90 (8.50)	139.70 (5.50)	○	-	-	SEF
	EXECUTIVE	266.70 (10.50)	184.15 (7.25)	○	-	-	SEF
	G.Letter	266.70 (10.50)	203.20 (8.00)	○	-	-	SEF

Table 1-7. Applicable Paper Sizes, Paper Types, and Paper Orientation **(continued)**

Paper Size		Paper size Unit mm (inch)		MP tray	Optional*1 cassette unit	Duplex print unit	Paper Orientation
		Vertical (length)	Horizontal (width)				
Special applications	Japanese official postcard *4	148.00	100.00	○	-	-	SEF
	Japanese official returned postcard *4	200.00	148.00	○	-	-	SEF
	Transparency	A4:297.00 LT:279.40	A4: 210.00 LT:215.90	○	-	-	SEF
	Label	A4:297.00 LT:279.40	A4: 210.00 LT:215.90	○	-	-	SEF
	Envelope*2 MONARCH	190.5 (7 1/2)	98.43 (3 7/8)	○	-	-	SEF*3
	Com-10	241.30 (9 1/2)	104.78 (4 1/8)	○	-	-	SEF*3
	DL	220.00	110.00	○	-	-	SEF*3
	C5	229.00	162.00	○	-	-	SEF*3
	C6	162.00	114.00	○	-	-	SEF*3
	Yokei #0 *5	235.00	120.00	○	-	-	SEF*3
	Yokei #4 *5	235.00	105.00	○	-	-	SEF*3
	Yokei #6 *5	190.00	98.00	○	-	-	SEF*3

Note *1: The dedicated cassette for A4 only or Letter only (by factory default).

*2: The supported envelope sizes differ depending on destination.

*3: Refer to "Envelope Orientation" *(p.28)* for details on feeding direction of envelopes.
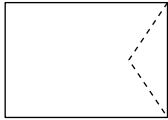
*4: Curls must be straightened.

*5: JIS envelope.

NOTE **1:** *SEF (Short Edge Feed): The short edge of the paper is fed to the printer.*

2: *"-": Not supported.*

■ Envelope Orientation

Feeding direction →		
Envelope types	MONARCH, DL Com-#10, C6 Yokei #0*, Yokei #4* Yokei #6 *	C5

Note ＊:　　JIS envelope.

NOTE **1:** *Envelopes must be loaded facing the printing side up with the flaps heading forward or backward to the paper feed direction.*

2: *Opened flaps must be closed.*

3: *Printing on the backside (where a flap seal is being sealed) is not possible.*

4: *Only envelopes without adhesive or adhesive tapes can be used.*

☐ Paper Sizes for Feeding

Regular paper sizes or user defined paper sizes within applicable paper sizes below.

■ Main unit

Paper width: 92.00 mm ~ 216.00 mm

Paper length: 148.00 mm[*1] ~ 356.00 mm

Paper thickness: 60 g/m^2 ~ 163 g/m^2 (190 g/m^2: Japanese official postcard)

Note *1: 148.00 mm ~ 356.00 mm in low-speed <2> mode only and
210.00 mm ~ 356.00 mm in standard mode

■ Duplex print unit

Paper size: A4, Letter

Paper thickness: 60 g/m^2 ~ 90 g/m^2

NOTE: *Only regular sizes are supported, while user defined paper size cannot be used.*

■ Optional 500-sheet cassette unit

Paper size: Fixed on A4 or Letter

Paper thickness: 60 g/m^2 ~ 90 g/m^2

☐ Output Paper Capacity
Face-down (FD) tray only 200 sheets

☐ Dimensions and Weights

Table 1-8. Outline Dimensions and Weight

Paper source		Width	Depth	Height	Weight
Stand-alone	Main unit	429 mm	521 mm	406 mm	29 kg [*2]
	Optional cassette unit	380 mm	485 mm	178 mm	5.3 kg
	Duplex print unit	96 mm	340 mm	330 mm	2.0 kg
Options Installed	Main unit+ Optional cassette unit	469 mm	521 mm	526 mm	34.3 kg
	Main unit + Duplex print unit	473 mm	521 mm	406 mm	31.0 kg

Note *1:　This value includes the height of the right-side paper path.

*2:　This value includes the weight of the consumables, controller circuit board and operation panel.

Note :　Dimensions have a tolerance of ±5mm and weights have a tolerance of ±0.5kg.

☐ Consumables

■ Developer cartridge (Black, Cyan, Yellow, Magenta)

■ Photoconductor unit

■ Transfer belt unit

■ Waste toner collector

☐ Regular Replacement Parts

■ Fuser unit

■ Second transfer roll

☐ Power Supply

100 V ± 10%　　　　 : 50Hz$^{\pm3Hz}$ / 60 Hz$^{\pm3Hz}$

120 V ± 10%　　　　 : 50Hz$^{\pm3Hz}$ / 60 Hz$^{\pm3Hz}$

220 ~ 240 V ± 10%　 : 50Hz$^{\pm3Hz}$ / 60 Hz$^{\pm3Hz}$

■ Power supply to the controller

     5.0 V ± 5%, 2 A or less

     3.3 V ± 5%, 5 A or less

☐ Power Consumption

\<AcuLaser C1900\>

Table 1-9. Power Consumption (AcuLaser C1900)

		100 V	120 V	230 V
Maximum current rated		100 V:13 A or less	11 A or less	7 A or less
Power Consumption	Maximum	1100 W	1100 W	1100 W
	Average at continuous printing in B/W	-	372 Wh	352 Wh
	Average at continuous printing in color	-	247 Wh	241 Wh
	Average during standby with heating ON	-	108 Wh	107 Wh
	Average during sleep mode with heater OFF	30 W or less	15 W or less	12 W or less
	Powered off mode	0Wh	0Wh	0Wh

\<AcuLaser C900\>

Table 1-10. Power Consumption (AcuLaser C900)

		100 V	120 V	230 V
Maximum current rated		100 V:13 A or less	11 A or less	7 A or less
Power Consumption	Maximum	1100 W	1100 W	1100 W
	Average at continuous printing in B/W	352Wh	351 Wh	352 Wh
	Average at continuous printing in color	253Wh	243 Wh	243 Wh
	Average during standby with heating ON	108Wh	111 Wh	100 Wh
	Average during sleep mode with heater OFF	10 W or less	11 W or less	8 W or less
	Powered off mode	0Wh	0Wh	0Wh

☐ Product Lifetime

  ■ Main unit   : 200 k pages printed or five years, whichever comes first

  ■ Optional cassette unit : 200 k pages printed or five years, whichever comes first

  ■ Duplex print unit : 200 k pages printed or five years, whichever comes first

☐ Noise

Table 1-11. Noise

		In printing	In standby
Main unit	Color mode	54 dB(A) or less	39 dB(A) or less
	B/W mode	54 dB(A) or less	
When full-options are installed*		54 dB(A) or less	39 dB(A) or less

Note *: The noise with all options installed is the value actually measured.

☐ Exhaust Gas

Ozone concentration   : 0.02m g/m^3 or less
                        (New Blue Angel standard compliance)

Styrene concentration   : 0.07m g/m^3 or less
                        (New Blue Angel standard compliance)

Dust concentration   : 0.150m g/m^3 or less
                        (New Blue Angel standard compliance)

Nitrogen dioxide   : 5 ppm or less
Carbon monoxide   : 30 ppm or less

☐ Hazardous Materials
None of the Photoconductor (OPC), toners, or plastic contains is hazardous material.

NOTE: Note: For the standards, refer to "1.2.8 Compatible Standard (p. 36)".

☐ Current Consumed (Rating)

Table 1-12. Current Consumed

	5V	24V
Optional 500-sheet Cassette Unit	0.2A	1A
Duplex Unit	0.1A	0.4A

1.2.3 Paper Specifications

1.2.3.1 Paper type

☐ Standard Paper

   ■ Domestic:
     FX P paper (B/W), EPSON high-quality plain paper (A4/LT)

   ■ Overseas:
     4024 paper (20 lb) (B/W), EPSON high-quality plain paper (A4/LT)

☐ Plain paper

   60 g/m² ~ 90 g/m² (16 lb ~ 24 lb)
   Generally applied copy paper, recycled paper

☐ Special Applications

   ■ EPSON Dedicated transparency sheet (A4/LT)
   ■ EPSON dedicated coated paper (A4)
   ■ Japanese official postcard (for domestic models)
   ■ Japanese official returned postcard (for domestic models) with no crease
   ■ Label
   ■ Thick paper (91 g/m² ~ 163 g/m²)
   ■ Envelope

NOTE   *1:*   *lb: Ream weight = lb / 500 sheets / 17" × 22"*
                g/m²: 1 g/m² = 0.2659763 lb

        2:   *When purchasing bulk paper, be sure to check that the paper can be properly fed beforehand.*

CAUTION !

Paper that Causes Printing Defects, Paper Jams or Printer Malfunctions if Used

- Copy papers (carbon papers, non-carbon papers), thermal papers, impact papers, acid-based papers
- Papers that are too thin or too thick
- Papers that are wet or damp
- Papers with special coatings or paper for color printers with processed surfaces
- Papers that are too smooth (slick and slippery) or too rough on its surfaces
- Papers with significantly different roughness on each surface of front and back side
- Papers with punch holes for binders or perforations
- Creased, curled or torn paper
- Irregularly shaped paper or paper with non-perpendicular corners
- Labels that peel off easily
- Papers with glue, staples or paper clips attached to it
- Special applications for ink jet papers (super-fine, glossy paper or film, etc.)
- Papers that were previously used in a thermal or ink jet printer
- Transparencies for other color/monochrome laser printers or photocopiers
- Sheets already printed on other color / monochrome laser printers or photocopiers
- Sheets of paper stuck together
- 4-page jointed postcard, and Japanese official postcard, nonofficial postcard, sealed postcard for ink jet printers
- Iron print coated paper (for both inkjet and laser printers)
- Sheets deteriorate or discolor by at 180°C or cooler

CHECK POINT ✔

When "Kamo mail" Japanese official postcards or illustrated postcards are used, paper feed roller may be soiled with paper dust, causing difficulties in feeding these postcards properly. In this case cleaning is required following the "6.1.2 Cleaning" *(p.217)*.

1.2.3.2 Paper Feeding

Table 1-13. Paper Feeding

Paper source		Recommended paper	Plain paper	Special applications					
				Transparency	Japanese official postcard	Label	Thick paper (91 ~ 163 g/m²) Coated paper	Envelope
Standard	MP tray	○	△	△	△	△	△	△
Optional	Optional 500-sheet cassette unit	○	△	×	×	×	×	×
	Duplex print unit	○	△	×	×	×	×	×

○ : The paper feed reliability and image quality assured.

△ : Paper feeding and printing are possible, however only for the use of generally applied types of paper.
The Image quality is not assured.

× : Paper feeding is impossible.

1.2.3.3 Printing Area

☐ Maximum Printable Area: Width 208 mm / length 348 mm

☐ Guaranteed Printing Area: All area of a sheet, which is up to the paper size 216 mm × 297 mm or less, except 4 mm of vertical and horizontal margins

NOTE: *A Paper that exceeds the paper length 297 mm is not supported (refer to the diagram below).*
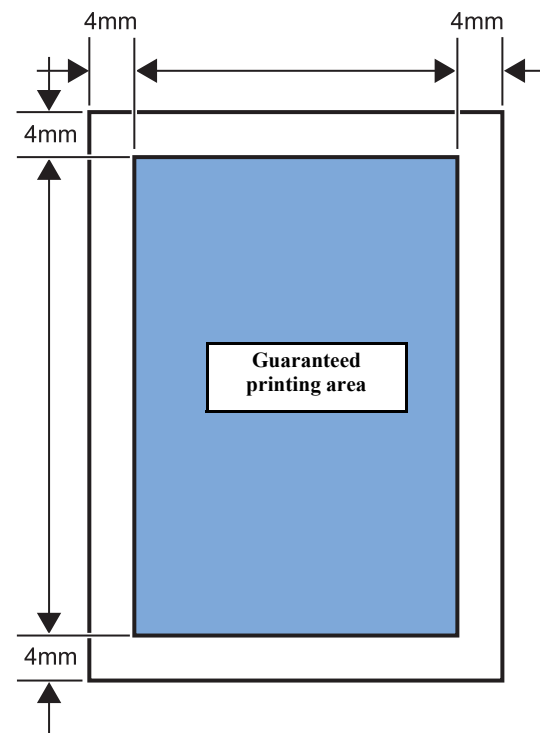
print_area01.eps

Figure 1-2. Guaranteed printing area

NOTE: *The printing area may differ depending on each printer product specification (emulation mode).*

1.2.4 Reliability and Maintainability

1.2.4.1 Reliability

☐ MPBF/MTBF

■ Main unit: 35,000 pages or more / 3,000 hours or more [1]

   *NOTE: *1: Monthly operating hours: Over 300 hours (average)*

☐ Paper Feed Reliability [1]

Table 1-14. Paper Feed Reliability

	Simplex printing	Duplex printing
Paper jam rate	1/2000 sheets or less	1/1000 sheets or less
Miss-feed	1/2000 sheets or less	-
Multiple-sheet feed rate [2]	1/500 sheets or less	-
Wrinkled paper	1/1000 sheets or less	1/500 sheets or less
Creased paper at the top edge (for 1 c or more [3])	1/1000 sheets or less	1/500 sheets or less

Note *1: Standard environment: 15 ~ 25°C, 35 ~ 70%RH
         Defines the reliability of humidity-no adjusted paper of the plain paper (A4, Letter).

   *2: Multiple-sheet feed rate does not include performance at the boundary between the original paper and the replenished paper that occurs after replenishing paper.

   *3: 1 C indicates 1 mm of crease at a corner.

☐ Printing Start Position Accuracy

Simplex printing	Main scanning direction reference position (c)	±2.0mm
	Sub scanning direction reference position (a)	±2.5mm
Duplex printing	Main scanning direction reference position (c)	±3.0mm
	Sub scanning direction reference position (a)	±2.5mm

print_area02.eps
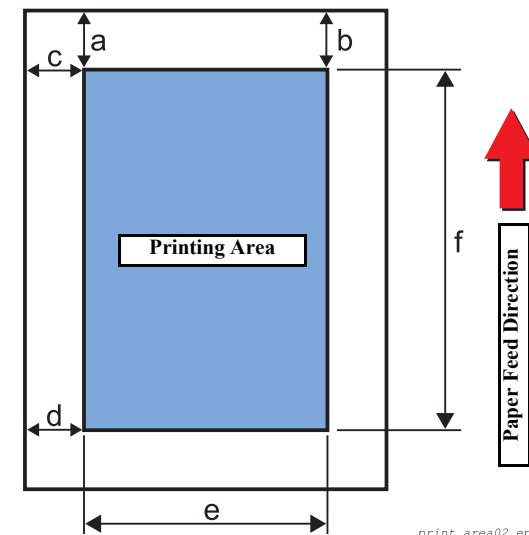
☐ Skew
The table below shows specification values converted to dot-2 pattern reference.

Table 1-15. Skew

		A4
Simplex printing	Main scanning direction (|c-d|)	2.12 mm
	Sub scanning direction (|a-b|)	1.56 mm
Duplex printing	Main scanning direction (|c-d|)	3.19 mm
	Sub scanning direction (|a-b|)	2.60 mm

Metric length

Table 1-16. Skew

		A4
Simplex printing	Main scanning direction (|c-d|)	195.58 mm
	Sub scanning direction (|a-b|)	281.61 mm
Duplex printing	Main scanning direction (|c-d|)	195.58 mm
	Sub scanning direction (|a-b|)	281.61 mm

☐ Height of Curl of Printed Pages

Table 1-17. Height of Curl of Printed Pages

Paper type	Height of curl
Standard paper, plain paper	30 mm or less
Transparency	15 mm or less
Other special applications	Not regulated

NOTE 1: Same in both simplex printing and duplex printing

2: Measuring conditions
Non arrayed monochrome printing with 5% of image occupation rate, or color printing with 5% of image occupation rate for each color (20% in total). Measured after 1 p/J of intermittent printing for 10 sheets and leaving unattended for one minute.
Image occupation rate and alignment pattern differ depending on printing condition.

1.2.4.2 Durability

☐ Printing Volume

- Average 3,000 pages / per month

- Maximum 35,000 pages / per month

NOTE: The standard mode provides print ratio between color <2P/J> and monochrome <3P/J> as color: monochrome = 1: 3

1.2.4.3 Maintenance

☐ MTTR Within 30 minutes in average.
(Time required for service personnel to determine and correct the cause of the malfunction)

1.2.5 Operating Conditions (Including Consumables)

☐ Air Temperature and Humidity

Table 1-18.

	Temperature (°C)	Humidity (%RH)	Others
Printer is in operation	10 ~ 35	15 ~ 85	With no condensation
Printer is stopped	0 ~ 35	10 ~ 85	Unattended time: 72 hours or less

☐ Air Pressure (Altitude)
741 hPa or more (2,500 m or less)

☐ Level
1° difference or less in front and back, or left and right.

☐ Lighting
3,000 lx or less (no exposure to direct sunlight)

☐ Space Requirements
In order to ensure that the printer operates properly, provide at least as sufficient space as shown in the figure below.

NOTE: *The space height required above the top cover is 200 mm or more.*
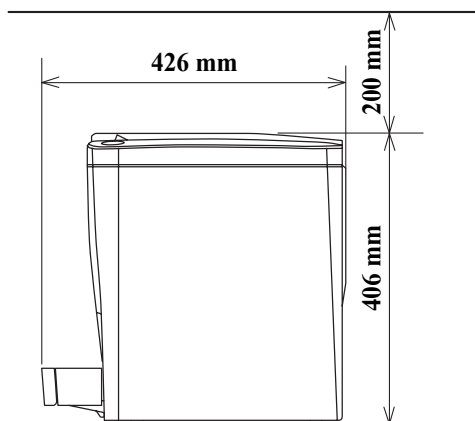
Figure 1-3. Required Surrounding Space (Front View)
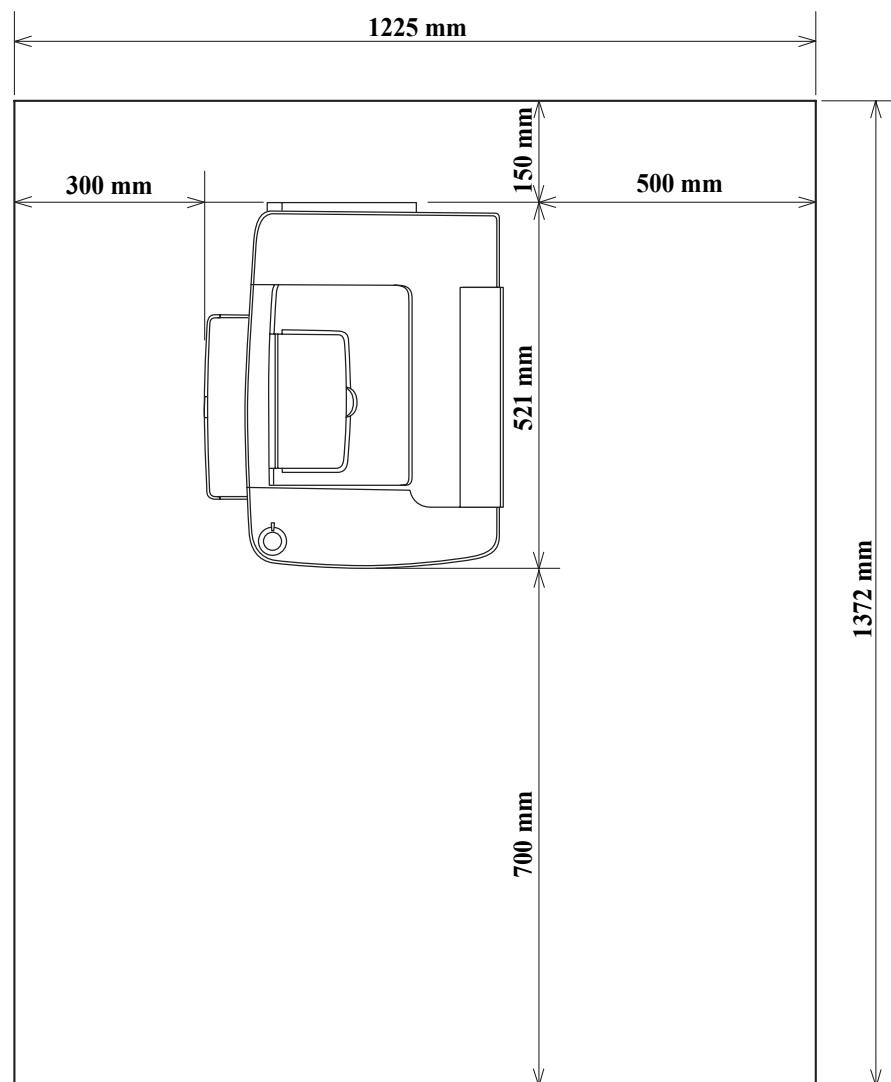
Figure 1-4. Required Surrounding Space (Top View)

1.2.6 Storage and Transport Environments of the Packaged Printer Main Unit and Optional Products

NOTE: *Including Bundled Consumables*

☐ Temperature and Humidity Conditions

Table 1-19.

	Temperature	Humidity	Warranty period
Normal Conditions	0 to 35 °C	30 to 85% RH *2	18 month after production
Severe Conditions	High temperature: 35 ~ 40 °C *1	High humidity: 85 ~ 95% RH *2	1/30 of 18 months
	Low temperature: -20 ~ 0 °C	Low humidity: 10 ~ 30% RH *2	

Note *1: 35 ~ 55 °C when the DEVELOPER cartridges and photoconductor unit are uninstalled.

   *2: Condensation must be avoided.

☐ Barometric Pressure for Storage (Altitude):741 ~ 1013 hPa

   NOTE: *1 613 ~ 1013 hPa when the DEVELOPER cartridges and photoconductor unit are uninstalled.*

☐ Dropping   : No damage must occur for packaged products in dropping from 52 cm height, and in 1 corner, 3 edges, 6 sides of direction. Compliant with the EPSON transport assessment standard (T-AE05-001-001).

☐ Vibration   : Must conform to the JIS Z0200-1999 level 1

☐ Compression : Refer to Packing Specifications.

☐ Size   : Refer to Packing Specifications.

☐ Weight   : Refer to Packing Specifications.

☐ Loading   : Refer to Packing Specifications.

☐ Pallet Size   : Refer to Packing Specifications.

1.2.7 Electrical Feature

In the following items, all options are excluded.

☐ Fast Transient / Burst (AC Line Noise)

   The following conditions shall be met in the "IEC61000-4-4" compliant evaluation.

   1kV   : No error excepting minor dot errors.

   1.8kV   : No Component damaged.

☐ Instantaneous Outages

   ■ DIP 100% of instantaneous outages (at rated voltage - 10%) for 1-cycle

   ■ No deterioration in the printing quality.

   ■ The following condition shall be met in the "IEC61000-4-11" compliant evaluation.

      • 95% lowered 0.5 cycle   : No error excepting minor dot errors.
      • 30% lowered 25 cycle   : No component damaged.
      • 95% lowered 250 cycle   : No component damaged.

☐ Resistance to Static Electricity

   The following condition shall be met in the "IEC61000-4-2" compliant evaluation.

   ■ Contact discharge 8 kV   : No error in any devices.

   ■ Discharge into the air 15 kV : No error in any devices.

☐ Inrush Current

   ■ 1/2-cycle   : 50 A or less (0-peak) (At 23 ℃ or higher)

   <Reference: Actually measured value including heater inrush>

      • 100V: 1/2 cycle 88.0 A (0-peak)
      • 120V: 1/2 cycle 66.0 A (0-peak)
      • 220V: 1/2 cycle 35.6 A (0-peak)
      • 240V: 1/2 cycle 38.0 A (0-peak)

   (By cold start at 23°C)

☐ Insulation Resistance
   10 MΩ or more

☐ Withstand Voltage

Breakdown must not occur when the voltages shown in the table below are applied for one minute.

Table 1-20. Withstand Voltage

	Across primary and chassis
For 100/120 V system models	AC1,000 V
For 220 V system models	AC1,500 V

☐ Leak Current

100 V: 0.25 mA or less [1]

120 V: 3.5 mA or less

220 V: 3.5 mA or less

*NOTE: *1: The measuring method is compliant with "PC-11-1988".*

1.2.8 Compatible Standard

☐ Safety Standard

100 V/120 V	UL1950 3rd Edition CSA C22.2 No.950-95 3rd
200 V system	IEC60950 2nd + Amd 1, 2, 3, 4 EN60950: 2nd + Amd 1, 2, 3, 4, 11 (1997) Annex ZB, ZC

☐ Safety Standard (Laser Transmission)

120 V	FDA21CFR Chapter 1 Subchapter J Part1040
200 V system	EN60825-1 + A11

<Reference>

• Laser diode
Wavelength (Min. ~ Max.:)) 770 ~ 795 nm

Max. output rating: 5 mW

☐ EMI

100 V	VCCI Class B J55022 Class B
120 V	FCC 47CFR Part 15 Subpart B, Class B CNS13483 Class B ICES-003 Issue 3 Class B (C108.8-M1983)
200 V system	EN 55022 Class B CISPR Publication22 Class B

☐ Electrical higher harmonics wave

■ Complies with the Higher Harmonics Restraint Guidelines

■ 100 V: Compliant with JBMG-3 (1995)

■ 200 V: Compliant with EN61000-3-2 Class A

☐ Electrical Power Consumption
Conforms to the International Energy Star Program standards

☐ Others

 ■ Toner : No materials hazardous to human health
    (conforms to OSHA, TSCA, and EINECS)

 ■ OPC : No materials hazardous to human health
    (conforms to OSHA)

 ■ Ozone generation : Compliance with UL 478, the 5th edition

 ■ Materials : Compliance with the Swiss Environmental Protection
    Standards (contains no CdS)

1.2.9 Consumable / Regular Replacement Component Specifications

1.2.9.1 Specifications

☐ Consumables

Table 1-21. Consumable Specifications

Name	Component	Lifetime specifications[1]	External dimension	Weight	Initial toner filling
Developer cartridge (Black, Magenta, Cyan, Yellow	Developer, toner hopper	4.5 K images or more [1]	80 (W) 300 (D) 60 (H)	0.7 kg	150 g
		1.5 K images or more [1]		0.6 kg	63 kg
Photoconductor unit	Photoconductor unit method	45 K images [2]	101 (W) 365 (D) 65 (H)	0.56 kg	-
Transfer unit	Transfer belt unit, etc.	210 K images [2]	252 (W) 373 (D) 133 (H)	3.0 kg	-
Waste toner collector	Waste toner collector	25 K images [3]	284 (W) 48 (D) 288 (H)	0.2 kg	-

Note *1: Average number of printed pages in printing with 5% of image occupation rate (A4). The lifetime differs according to paper sizes and printing methods (such as toner save processing).

 *2: The lifetime differs by number of times of powering on and off, and media used. The lifetime is shortened in printing on special applications such as thick paper, postcard, envelope, transparency.

 *3: Average number of printed pages in printing with 5% of image occupation rate (A4). The lifetime differs according to printing occupation rate

 *4: See "1.2.9.3 Lives of Components *(p.39)*".

☐　Regular Replacement Parts

Table 1-22. Regular Replacement Parts

Name	Lifetime specifications[1]
Fuser Unit	120 K pages
Second transfer roll	120 K pages

Note *1：　See "1.2.9.3 Lives of Components *(p.39)* "

1.2.9.2 Storage and Transport Environments for Packages

☐　Temperature and Humidity Conditions

Table 1-23.

	Temperature	Humidity	Warranty Period [2]
Normal conditions	0 ~ 35 °C	30 ~ 85%RH [1]	18 month (unopened)
Severe conditions	High temperature:35 ~ 40 °C Low temperature:-20 ~ 0 °C	High humidity:85 ~ 95%RH [1] Low humidity:10 ~ 30%RH [1]	1/30 of 18 month

Note *1：　Condensation must be avoided

　　*2：　Storage period after unsealing is up to 12 months under operating environments.
　　　　Condensation must be avoided

☐　Barometric Pressure in Storage (Altitude)
　　740 ~ 1013 hPa

☐　Dropping for Packages
　　No damage in JIS Z0200-1999 Level 1.

☐　Vibration for Packages
　　No damage in the following conditions.

　　　　Frequency　　　　　　：　5 ~ 100 Hz (5 minutes)

　　　　Acceleration　　　　　：　7.35 m/s^2 (0.75 G)

　　　　Excitation direction　：　X, Y, Z directions

　　　　Excitation time　　　：　60 minutes for each direction of X, Y, Z
　　　　　　　　　　　　　　　　(180 minutes in total)

☐　Packaging Specifications
　　Refer to the packing specifications.

1.2.9.3 Lives of Components

☐ B/W mode

Table 1-24. Lives of Components (B/W mode)

Component	Specification	Speed Mode	Continuous Printing (Unit: Pages)
Developer Cartridge	4.5k images [*1] <Black>	Standard	4.5k
		Low-speed <2>	4.5k
		Low-speed <3>	4.5k
	1.5k images [*2] <Black>	Standard	1.5k
		Low-speed <2>	1.5k
		Low-speed <3>	1.5k
Photoconductor Unit	45k images	Standard	45k
		Low-speed <2>	15k
		Low-speed <3>	15k
Transfer Belt Unit	210k images	Standard	210k
		Low-speed <2>	70k
		Low-speed <3>	70k
Waste Toner Collector	25k images	Standard	25k
		Low-speed <2>	25k
		Low-speed <3>	25k
Fuser Unit	120k pages	Standard	120k
		Low-speed <2>	120k
		Low-speed <3>	120k
Second Transfer roll	120k pages	Standard	120k
		Low-speed <2>	120k
		Low-speed <3>	120k

☐ Color mode

Table 1-25. Lives of Components (Color mode)

Component	Specification	Speed Mode	Continuous Printing (Unit: Pages)
Developer Cartridge	4.5k images [*1] <Y,M,C>	Standard	4.5k
		Low-speed <2>	4.5k
		Low-speed <3>	4.5k
	4.5k images [*1] <Black>	Standard	4.5k
		Low-speed <2>	4.5k
		Low-speed <3>	4.5k
	1.5k images [*1] <Y,M,C>	Standard	1.5k
		Low-speed <2>	1.5k
		Low-speed <3>	1.5k
	1.5k images [*1] <Black>	Standard	1.5k
		Low-speed <2>	1.5k
		Low-speed <3>	1.5k
Photoconductor Unit	45k images	Standard	11.25k
		Low-speed <2>	7.5k
		Low-speed <3>	7.5k
Transfer Belt Unit	210k images	Standard	52.5k
		Low-speed <2>	35k
		Low-speed <3>	35k
Waste Toner Collector	25k images	Standard	6.25k
		Low-speed <2>	6.25k
		Low-speed <3>	6.25k
Fuser Unit	120k pages	Standard	120k
		Low-speed <2>	120k
		Low-speed <3>	120k
Second Transfer roll	120k pages	Standard	120k
		Low-speed <2>	120k
		Low-speed <3>	120k

NOTE 1: Operation currently taken into consideration as conditions for life determination
- AIDC
- ATVC
- Preliminary operation at the time of consumables exchange. (T/C, D/C)

2: Operation currently witch not taken into consideration as conditions for life determination.
- Power ON/OFF
- Jam processing

3: Paper kind
- Low-speed<2>: Thick paper / Coated paper
- Low-speed<3>: Transparency

Note *1: 4.5k cartridge: Up to 6000 pages (A4size) / print ratio less than 5%.

*2: 1.5k cartridge: Up to 2000 pages (A4size) / print ratio less than 5%.

1.3 Controller Unit Specifications

1.3.1 Controller Basic Specifications

\<AcuLaser C1900\>

- ☐ CPU   : SPC603ei 300Mhz

- ☐ Enhanced technology   : AcuLaser Color Halftoning,
  CRIT/RIT(VIPS + CDMC)

- ☐ ROM   : 4MB Flash (program) + 4MB MASK (fonts)

- ☐ RAM   : Standard 32MB
  1 GB maximum (Standard 32 MB RAM DIMM must be replaced) For RAM expansion, use 168-pin SDRAM DIMM compatible with PC100 or PC133 available commercially.

- ☐ NVRAM   : 128Kbit (16KB)

- ☐ Expansion slot   : RAM DIMM 2 slots
  (1 slot already used up by Standard RAM)
  ROM DIMM 1 slot (for optional PS)

- ☐ Control Panel   : 20 digits × 1 LCD, 6 buttons and 3 LEDs

- ☐ Interface   : 10/100baseTx Ethernet
  USB 1.1(2.0 FS 12Mbps Certified)
  IEEE1284 parallel (ECP, Nibble, Compatibility),
  B Type connector
  Type-B 1 slot (Level 3 supported)

- ☐ HDD   : Installable as an option, which is common with AcuLaser C8600

- ☐ Printer Mode   : ESC/Page Color mode, ESC/Page(B/W) mode
  LJ4, GL/2, ESC/P2, FX, I239X
  EJL, PJL, RCC, DIAG mode
  Adobe PostScript 3 (Optional)

- ☐ Installation Format   : Fixed to the printer body

\<AcuLaser C900\>

- ☐ CPU   : VR4305-48MHz

- ☐ Enhanced technology   : CPGI (supporting monochrome) installed
  CRIT, RIT

- ☐ RAM   : Standard:16MB, Maximum:144MB

- ☐ DIMM Options   : SDRAM DIMM dedicated to AcuLaser C1000/
  AcuLaser C7000 (the shape of slot is different from PC slots)
  16 MB, 32 MB, 64 MB and 128 MB

- ☐ Program ROM   : 2MB (32bit width)

- ☐ EEPROM   : 256 byte

- ☐ Control Panel   : 2 LEDs

- ☐ Interface
  - ■ Standard
    - • Parallel   : 1ch, IEEE1284 compatible bi-directional, B-Type connector, Compatibility, Nibble, ECP
    - • USB1.1   : 1ch
  - ■ Options   : Type-B 1 slot (compatible with Level-2) However, currently only Leo2.1 is supported.

- ☐ Printer Mode   : ESC/PageS Printing System

1.3.2 Differences in Jumper Settings between Designated Markets

For AcuLaser C1900 / AcuLaser C900, the following settings are made according to the designated market. Settings are determined at the factory because of use of jumper resistance.

<AcuLaser C1900>

Table 1-26. Jumper Setting

Jumper			
Pattern Jumper	JP501	1-2	SSCG Spread Setting
	JP502	2-3	SSCG Setting (Clock rate)
	JP503	1-2	
	JP504	1-2	SSCG Setting (Diffuse value designation)
	JP505	2-3	
DIC Jumper	JP403	Short	Paper Unit System Designation (mm/inch)
	JP404	Open	Default Paper Setting (A4/Letter)
	JP701	Open	Network Auto Negotiation Setting
	JP702	Open	

<AcuLaser C900>

Table 1-27. Jumper Setting

Jumper				
Pattern Jumper (INPT1) : at WS, ES	R191 JP103	Open	1	
DIC Jumper Switch (INPT1): at production				
Pattern Jumper (INPT0)	R190	Open	1	Default Setting for MP Tray Paper Size: A4
		Short	0	Default Setting for MP Tray Paper Size: LT
DIC Jumper Switch (INPT2)	JP102	Open	1	Parallel Interface Receive Mode: Nibble
		Short	0	Parallel Interface Receive Mode: ECP

1.3.3 External I/F Specifications

<AcuLaser C1900>

AcuLaser C1900 has the following host interfaces as standards:

☐ IEEE1284 parallel interface

☐ USB 1.1 (2.0 FS 12Mbps Certified)

☐ 10/100baseTx Ethernet

☐ Option: Type-B interface (Level 3 supported)
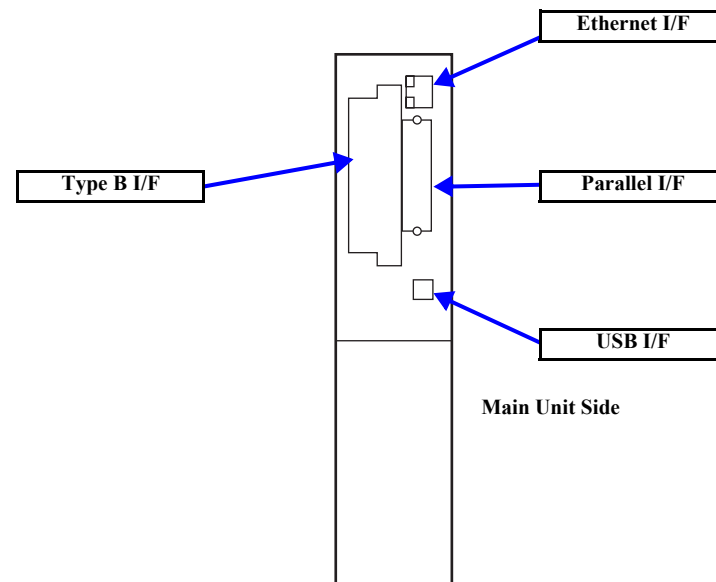
IF01.eps

Figure 1-5. Position of host interface

<AcuLaser C900>

AcuLaser C900 has the following host interfaces as standards:

☐ IEEE1284 parallel interface

☐ USB interface

☐ Optional Type-B I/F 1slot -(Option)

*NOTE: Switching between host interfaces is automatic only. Each interface
cannot be switched on and off individually.*
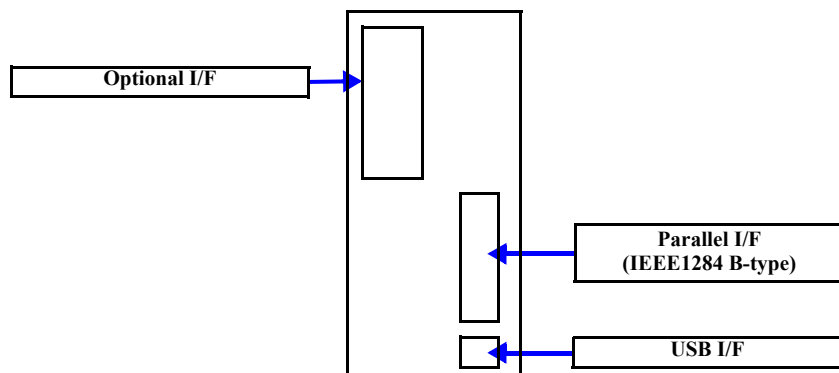
Figure 1-6. Position of host interface

1.3.3.1 Parallel Interface Specifications

<AcuLaser C1900>

☐ Interface Type
IEEE 1284 bi-directional high speed parallel interface

☐ Operating Modes
Compatibility, Nibble, ECP

☐ Connector Model Names
57RE-40360-830B(D7A) DDK or equivalent products

☐ Conforming Plugs
Amphenol or equivalents

The initial value for this printer Device ID is as shown below.

In the following description, in order to make it easier to read, carriage returns have been added, but actually, the character string is continuous without carriage return codes being included. The CMD items are not in the same order. MODE and STATUS items are not included. In the contents of DES items, MFG and MDL are connected by a space.

`**`*[1]`;`

`MFG:EPSON;`

`CMD:PJL,EJL,ESCPL2,ESCP9,PRPXL24-01,PCL,HPGL2-01,ESCPAGE-04,ESCPAGECOLOR-01**`*[2]`;`

`MDL:**`*[3]`;`

`CLS:PRINTER;`

`DES:**`*[4]`;`

MFG, MDL, DES and CID of Device ID are re-definable. (This must not be included in the manual.) And the CID field does not respond with the default value, but responds with the defined character string only when redefined.

Device ID when redefined is as follows. "xxxxx" is the user-defined character string.

```
MFG:*****;
```

```
CMD: PJL,EJL,ESCPL2,ESCP9,PRPXL24-01,PCL,HPGL2-01,ESCPAGE-
04,ESCPAGECOLOR-01***²;
```

```
MDL:*****;
```

```
CLS:PRINTER;
```

```
DES:*****;
```

```
CID:*****;
```

Note *1: Contains a hexadecimal value od Device ID's "total number of characters+2"

   *2: "POSTSCRIPT" is added only when the PostScript3 module is installed

   *3: Indicates the model name   AcuLaser C1900

   *4: Indicates the maker and model name EPSON   AcuLaser C1900

\<AcuLaser C900\>

The default device ID setting for AcuLaser C900 is as follows:

```
MFG:EPSON;CMD:ESCPAGES-02;MDL: AL-C900;CLS:PRINTER;
DES:EPSON AL-C900;
```

Switching between communication modes is achieved by changing the jumper setting (JP102/jumper switch INPT2) on the controller board.

Table 1-28. Communication Mode by JP102 Setting

JP102 Setting	Communication Mode	Explanation
Open	Nibble	The ECP communication mode is not supported, and the Reverse mode is only available in the Nibble communication mode.
Short	ECP	The ECP communication is supported (ECP is the default setting)

NOTE: *For details on the jumper setting, refer to* "1.3.2 Differences in Jumper Settings between Designated Markets" *(p.42)*.

1.3.3.2 USB Interface Specifications

Universal Serial Bus Specification Rev.2.0 FS is supported, at 12 Mbps.

AcuLaser C1900/AcuLaser C900 has an 18-digit serial ID. The ID is printed on the bottom of the Status sheet. Each of the 18 digits denotes the following information.

1, 2:	A number of 00 to 99. Acquired for each model. "16" for AcuLaser C1900. "17" for AcuLaser C900.
3:	"P" for page printer
4, 5:	PC number on the assembly belt
6, 7:	Year of assembly
8, 9:	Month of assembly
10, 11:	Day of assembly
12, 13:	Hour of assembly
14, 15:	Minute of assembly
16, 17:	Second of assembly
18:	Reserved digit (0 is normally specified)

The specified USB serial numbers are confirmed in the Status Sheet. The numbers are displayed on the bottom left of the Status Sheet, next to the ROM version.

> **CAUTION**
> **!**
>
> **If the Main Board is replaced for repair, the USB serial number must be changed to another USB ID. Consequently, a computer connected to the repaired printer recognizes the printer as a different one, requiring the printer to reinstall a USB port driver. Refer to USB ID Input *(p.209)*.**

1.3.3.3 Ethernet Interface Specifications (AcuLaser C1900)

☐ Interface Types:
   10Base T, 100Base TX, Half Duplex, Full Duplex: auto switching when the power is turned On.

☐ Printing Protocols

   ■ TCP/IP
     LPR, FTP, IPP, PORT2501, PORT9100

   ■ Microsoft Network
     SMB

   ■ Netware
     Operating mode
     Standby (factory default), NDS Print Server, Bindery Print Server, Remote Printer

   ■ AppleTalk

☐ Control Protocols

   ■ TCP/IP
     SNMP, ENPC, HTTP, TELNET, DHCP, BOOTP, PING

   ■ Microsoft Network
     Auto-IP, SSDP

   ■ NetBEUI
     SNMP, ENPC

   ■ Netware
     SNMP, ENPC

   ■ AppleTalk
     SNMP, ENPC

NOTE: *ENPC:EPSON Network Peripheral Control Protocol*
         IPP: Internet Printing Protocol

☐ Connector Name   : RJ45

☐ Compatible Cable   : 2-pair STP (10BaseT, 100BaseTX)

In order to conform to FCC Class B, EN55022 Class B and VCCI Class B, a shielded type cable shall be used.

Table 1-29. Pin Arrangement

Pin	Signal Name	I/O	Pin	Signal Name	I/O
1	Tx+	O	5	N.C.	–
2	Tx–	O	6	Rx–	I
3	Rx+	I	7	N.C.	–
4	N.C.	–	8	N.C.	–

☐ Entity Type   : Refer to "1.3.3.4 Type B Interface Specifications" *(p.46)*.

1.3.3.4 Type B Interface Specifications

AcuLaser C1900/AcuLaser C900 has one Type B optional interface slot as standards.

<AcuLaser C1900>

☐ Main System Type:

**MTP600dpi,PW5100dt600dpi,PRG(*****)rev,AP800ma,
SPD0fast,D4**

> *NOTE: ***** ROM version.*

☐ Printer Name   : The factory default setting is the same as Product Name.

☐ Product Name   : AcuLaserC1900

☐ Emulation Type   : See Table 1-30

☐ Entity Type   : See Table 1-30

Table 1-30. Emulation Type and Entity Type

Emulation	Emulation Type	Entity Type
PS[*1]	POSTSCRIPT-00[*1]	LaserWriter[*1]
ESC/Page Color	ESCPAGECOLOR-01	EPSONPAGECOLOR1
ESC/Page	ESCPAGE-04	-
LJ4	PCL5E-00	EPSONPCL5
I239X	PRPXL24-01	EPSONPRPXL24
GL2	HPGL2-01	EPSONHPGL2
FX	ESCP9	EPSONFX
ESCP2	ESCPL2	EPSONLQ2

Note *1： Added when the PostScript 3 module is installed.

■ Emulation Type

<If Emulation is set to AUTO>

- When PS is not started：AUTO (Emulation Types 1, 2, 3...)
- When PS is started   ：EJL
  (POSTSCRIPT-00, other Emulation Types 1, 2, 3...)

<If Emulation is Fixed>

- EJL (Default Emulation Type, other Emulation Types 1, 2, 3,...)

■ Entity Type

<If Emulation is set to AUTO>

- Refer to the above list.

<If Emulation is Fixed>

- The Default Emulation Type and EPSONPAGECOLOR1 are returned.

<AcuLaser C900>

Only Leo2.1 can be used for the Type-B optional interface of AcuLaser C900

☐ Main System Type:

**MTP600dpi,PW5100dt600dpi,PRG(*****)rev, AP800ma,
SPD0fast,GDI**

> *NOTE: ***** ROM version.*

☐ Printer Name   : AL-C900

☐ Product Name   : AL-C900

☐ Emulation Type   : ESCPAGES-02

☐ Entity Type   : EPSONPAGES2

1.4 Control Panel

1.4.1 External Appearance and Names of Parts

<AcuLaser C1900>

Panel_av01.eps
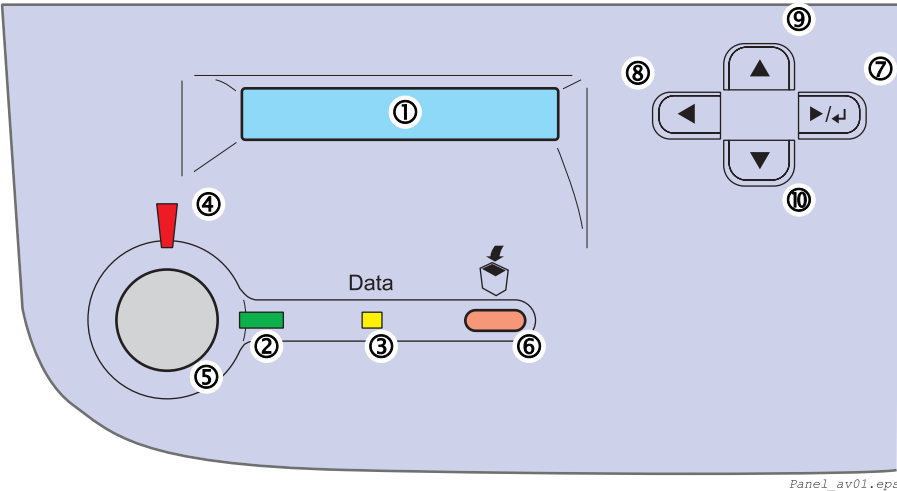
Figure 1-7. Control Panel of AcuLaser C1900

Table 1-31. Control Panel Description of AcuLaser C1900

No.	Name	Note
①	LCD Panel	1 line x 20 characters
②	Ready LED	Color: Green
③	Data LED	Color: Yellow
④	Error LED	Color: Red
⑤	Start/Stop Button	
⑥	Cancel Job Button	
⑦	Enter Button	3 for password input *1
⑧	Back Button	1 for password input *1
⑨	Up Button	2 for password input *1
⑩	Down Button	4 for password input *1

Note *1:   The key assignment of passwords in indicated (embedded) on the case.

<AcuLaser C900>
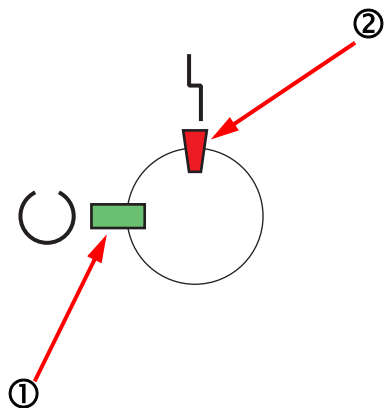
Panel_900C.eps

Figure 1-8. Control Panel of AcuLaser C900

Table 1-32. Control Panel Description of AcuLaser C900

No.	Name	Note
①	Ready LED	Color: Green
②	Error LED	Color: Red

☐ Meaning of LED Flashing

Table 1-33. Meaning of LED Flashing on AcuLaser C900

Ready LED	Error LED	Supplement	Meaning
Off	Off	-	Power off
Off	On	-	Controller fatal errors • Video error • Data expansion error • EEPROM access error • Software error
Blink 1	Off	-	Warming up, and Data receiving, Reset, Calibrating Printer, Cooling Down, Please Wait
Blink 3	Off	-	Warning of consumables (4 types)
Blink 1	Blink 1	Blink alternately	Engine error
Blink 1	Blink 1	Blink simultaneously	RAM check error, no installed RAM
Blink 1 and Off	Blink 1	Repeat this state two times	Other IPL error
Blink 1	On	-	Protocol error
On	Off	-	Ready to print, Printing Job, Standby, Warning (other than consumables)
On	Blink 1	-	Recoverable errors • Check Media Type • Install consumables (3 types) • Clean Sensor • Replace Consumables (4 types) • Paper Set • Invalid Size • Underrun Error • Mem Overflow • Duplex Mem Overflow • Invalid AUX I/F Card
On	On	-	Paper Out, Paper Jam, Duplex Paper Size Error, Cover Open (2 types)

NOTE 1: After the power on, two LEDs will light up and then go out about 1.5 seconds later.

2: During RAMCHECK, the Ready LED blinks faster than Blink 1
    (On for 0.1 sec. and then off for 0.1 sec.)

3: Three types of blink are available:
    Blink 1 is a fast blink that goes on and then off for 0.3 second each
    Blink 2 goes on and then off for 0.6 second each
    Blink 3 is a slow blink that goes on for 0.6 second and then off for 2.4 seconds.

1.4.2 List of Panel Settings (Only with AcuLaser C1900)

This printer's setting item list is shown below.
Values shown in bold and underlined characters are the factory default setting values.

Table 1-34. Function Setting (1)

Menu	Item	Value
Information Menu	Status Sheet	
	Reserve Job List[*1]	
	Form Overlay List[*2]	
	Network Status Sheet[*3]	
	AUX Status Sheet[*4, *5]	
	PS3 Status Sheet[*6]	
	PS3 Font List[*6]	
	ESC/Page Font Sample[*7]	
	LJ4 Font Sample	
	ESCP2 Font Sample	
	FX Font Sample	
	I239X Font Sample	
	C Toner[*8]	E****F, E***□F, E**□□F, E*□□□F, E□□□□F
	M Toner[*8]	E****F, E***□F, E**□□F, E*□□□F, E□□□□F
	Y Toner[*8]	E****F, E***□F, E**□□F, E*□□□F, E□□□□F
	K Toner[*8]	E****F, E***□F, E**□□F, E*□□□F, E□□□□F
	Photocondctr[*8]	E****F, E***□F, E**□□F, E*□□□F, E□□□□F
	Total Pages[*8]	0 ~ 99999999
	Color Pages[*8]	0 ~ 99999999
	B/W Pages[*8]	0 ~ 99999999
Status Menu[*9]		

Table 1-34. Function Setting (1) (continued)

Menu	Item	Value
Tray Menu	MP Tray Size	**A4**[*10], A5, B5, **LT**[*10], HLT, GLT, EXE, MON, C10, DL, C5, C6, IB5
	LC Size[*11, *12]	**A4**, LT
	MP Type	**Plain**, Letterhead, Recycled, Color, Trnsprncy, Labels
	LC Type	**Plain**, Recycled, Color

Note *1:   Displayed only when a Job is registered in Quick Print Job

      *2:   Displayed and can be executed only when Form Overlay is implemented

      *3:   Displayed only when the printer starts with Network menu → Network I/F = On

      *4:   Displayed only when Type-B level 3 is installed

      *5:   Displayed only when the printer starts with AUX menu → AUX I/F = On

      *6:   Displayed only when the optional PostScript3 module is installed

      *7:   Not displayed on the panel, but can be executed from EJL

      *8:   Can only be viewed but not modified

      *9:   Displayed only when warning is occurred. All warnings occurred when entering SelecType Mode can be confirmed in this menu.

   *10:   A4 or LT, depending on the default paper size of the controller configuration when shipped from the factory.

   *11:   Displayed only when the optional Cassette Unit is installed

   *12:   Set the paper size of Paper Cassette Unit to use. The factory default is not depend on the controller configuration and always set to A4.

   *13:   Can be automatically set to Envelope by the engine if MP Tray Size is set to Envelope (MON, C10, DL, C5, C6, IB5). The print speed for Envelope is approximately 2 ppm. Letter Head, Transparency, and Label cannot be used in the LC.

Table 1-35. Function Setting (2)

Menu	Item	Value
Emulation Menu	Parallel	**Auto**, LJ4, ESCP2, FX, I239X, PS3*1, GL2
	USB	**Auto**, LJ4, ESCP2, FX, I239X, PS3*1, GL2
	Network	**Auto**, LJ4, ESCP2, FX, I239X, PS3*1, GL2
	AUX*2	**Auto**, LJ4, ESCP2, FX, I239X, PS3*1, GL2
Printing Menu	Page Size	**A4***3, A5, B5, **LT***3, HLT, GLT, EXE, MON, C10, DL, C5, C6, IB5, CTM*5
	Wide A4	**Off**, On
	Orientation	**Port**, Land
	Resolution	**600**, 300
	RITech	**On**, Off
	Toner Save	**Off**, On
	Image Optimum	**Auto**, Off, On
	Top Offset	-99.0 ~ **0.0** ~ 99.0 mm step 0.5 mm
	LeftOffset	-99.0 ~ **0.0** ~ 99.0 mm step 0.5 mm
	T Offset B*4	-99.0 ~ **0.0** ~ 99.0 mm step 0.5 mm
	L Offset B*4	-99.0 ~ **0.0** ~ 99.0 mm step 0.5 mm
Setup Menu	Lang	**English**
	Lang	Francais
	Sprache	Deutsch
	LINGUA	ITALIANO
	LENG	ESPANOL
	SPRAK	SVENSKA
	Sprog	Dansk
	Taal	Nederl.
	KIELI	SUOMI
	Ling.	Portugues
	Time Out	0, 5 ~ **60** ~ 300 step 1
	Paper Source	**Auto**, MP, LC*6
	MP Mode	**Normal**, Last
	Manual Feed	**Off**, On

Table 1-35. Function Setting (2) (continued)

Menu	Item	Value
Setup Menu	Copies	**1** - 999
	Quantity*7	**1** - 999
	Duplex*8	**Off**, On
	Binding*8	**Long Edge**, Short Edge
	Start Page*8	**Front**, Back
	Paper Type	**Normal**, Thick, Envelope, Trnsprnc, Coated
	Page Side*11	**Front**, Back
	Skip Blank Page*9	**Off**, On
	Auto Eject Page	**Off**, On
	Size Ignore	**Off**, On
	Auto Cont	**Off**, On
	Page Protect	**Auto**, On
	Toner Out*9	**Stop**, Continue
	LCD Contrast	0 - **7** - 15
	Panel Lock*10	**Off**, On

Note *1: Displayed only when the optional PostScript3 module is installed

*2: Displayed only when a Type-B interface card is installed

*3: Depending on the default paper size of the controller configuration when shipped from the factory

*4: Displayed only when the optional Duplex Print Unit is installed

*5: For CTM (user defined) paper size (width x height), the minimum is 92 x 148 mm and the maximum is 216 x 297 mm.

*6: Displayed only when the optional Cassette Unit is installed

*7: Not displayed on the panel, and not included in the Status sheet either. Possible to be set at EJL or PJL. Not stored in NVRAM.

*8: Displayed only when the optional Duplex Print Unit is installed

*9: Valid in the ESC/Page, PCL5e, ESCP2, FX, and I239X modes

*10: Not displayed on the panel, and not included in the Status sheet either. Possible to be set at JL.

*11: Set "Back" when print on the backside of the manual duplex printing.

*12: Even if the toner out occurs, Replace Toner xxxx error will not occur when "Toner Out = Continue". As a result, the continuous printing is possible but in this case, the print quality is not guaranteed. Note when this setting is used with Continue.

Table 1-36. Function Setting (3)

Menu	Item	Value
Quick Print Job Menu[*1]	User	xxxxxxxxxxxxxx
	Job[*2]	xxxxxxxxxxxxxx
	Copies[*3]	1 ~ 999
	Delete[*3,*4]	
ConfidentialJob Menu[*5]	User	xxxxxxxxxxxxxx
	Enter Password[*6]	XXXX
	Job[*7]	xxxxxxxxxxxxxx
	Copies[*8]	1 ~ 999
	Delete[*8, *9]	
Reset Menu	Clear Warning	
	Clear All Warnings	
	Reset	
	Reset All	
	SelecType Init	
	Change Toner C[*10]	
	Change Toner M[*10]	
	Change Toner Y[*10]	
	Change Toner K[*10]	
Parallel Menu[*11]	Parallel I/F	**On**, Off
	Speed	**Fast**, Normal
	Bi-D	Nibble, **ECP**, Off
	Buffer Size	**Normal**, Maximum, Minimum
USB Menu[*11]	USB I/F	**On**, Off
	Buffer Size	**Normal**, Maximum, Minimum

Note *1: Not displayed when nothing is registered in Verify Job, Re-print Job, and Stored Job

*2: Displayed only when Quick Print Job menu → User=<User name> is selected

*3: Displayed only when Quick Print Job menu → Job=<Job name>is selected. After its execution, the control returns after exiting the SelecType mode.

*4: By executing "Delete" the menu changes to "Job". "User" is displayed when no job is registered. When there is no "User", quit the SelecType menu.

*5: Not displayed when nothing is registered in Confidential Job.

*6: Displayed only when ConfidentialJob menu → User=<User name> is selected. Password is inputted by the 1(Back), 2(Up), 3(Enter) and 4(Down) buttons.

*7: Displayed only when there is a job matching the password entered after ConfidentialJob menu → Enter Password=<password> is inputted.

*8: Displayed only when ConfidentialJob menu → Job=<Job name> is selected. After its execution, the control returns after exiting the SelecType mode.

*9: By executing "Delete" the menu changes to "Job". "User" is displayed when no job is registered. When there is no "User", quit the SelecType menu.

*10: Use this function when replacing a toner cartridge before "Replace Toner uuuu" occurs. The selected toner cartridge moves to the replacing position.

*11: The value is reflected immediately on the Status sheet and EJL read-back, but changed practically after a warm boot or restarting of the printer.

Table 1-37. Function Setting (4)

Menu	Item	Value
Network Menu[*1]	Network I/F	**On**, Off
	Network Config[*2]	**No**, Yes
	Get IPAddress[*3]	Panel, **Auto**, PING
	IP[*3, *4]	0.0.0.0 ~ **192**.**168**.**192**.**168** ~ 255.255.255.255
	SM[*3]	0.0.0.0 ~ **255**.**255**.**255**.**0** ~ 255.255.255.255
	GW[*3]	0.0.0.0 ~ **255**.**255**.**255**.**255**
	Buffer Size	**Normal**, Maximum, Minimum
AUX Menu[*5, *6]	AUX I/F	**On**, Off
	AUX Config[*7]	**No**, Yes
	Get IPAddress[*8]	Panel, Auto, PING
	IP[*8, *9]	0.0.0.0 ~ 255.255.255.255
	SM[*8]	0.0.0.0 ~ 255.255.255.255
	GW[*8]	0.0.0.0 ~ 255.255.255.255
	NetWare[*8]	On, Off
	AppleTalk[*8]	On, Off
	NetBEUI[*8]	On, Off
	AUX Init[*10]	
	Buffer Size	**Normal**, Maximum, Minimum
ESC/Page Menu[*11]	Auto CR	**On**, Off
	Auto FF	**On**, Off
	CR Function	**CR**, CR+LF
	LF Function	**CR+LF**, LF
	FF Function	**CR+FF**, FF
	Error Code	**Ignore**, Space
	Avoid Error	**Off**, On
	PGI	**On**, Off
	TriColorSpace	**Normal**, sRGB
	CM Media Type	**Off**, Opt1, Opt2

Note *1: The value is reflected immediately on the Status sheet and EJL read-back, but changed practically after a warm boot or restarting of the printer.

*2: After the printer moves to "On Line", The value is automatically updated to No.

*3: Displayed only when Network menu→Network Config=Yes

*4: Not displayed when Network menu→Get IPAddress=Auto

*5: Displayed only when the Type-B host interface is installed

*6: The value is reflected immediately to the Status sheet and EJL read-back, but changed practically after a warm boot or restarting of the printer.

*7: Displayed only when Type-B Level 3 is installed. After the printer moves to "On Line", The value is automatically updated to No.

*8: Displayed only when Type-B Level 3 is installed and when AUX menu→AUX Config=Yes. The content of the setting depends on the Type-B Level 3 board setting. The value of the setting is valid when the printer is ready to print and the network card is started again. For this reason, when the value of the setting is changed, if "AUX Status Sheet" of the Information menu is executed before exiting the panel setting menu, the previous value of the setting before the change is printed.

*9: Not displayed when AUX menu → Get IPAddress=Auto

*10: Displayed only when Type-B Level 3 is installed and when AUX menu→AUX Config=Yes

*11: Not displayed on the panel, and not included in the Status sheet either. Possible to be set at EJL.

Table 1-38. Function Setting (5)

Menu	Item	Value
LJ4 Menu	FontSource	**Resident**, Download*1, ROM A*2
	Font Number	**0** ~ available (Max 65535)
	Pitch*3	0.44 ~ **10.0** ~ 99.99 cpi step 0.01cpi
	Height*3	4.00 ~ **12.0** ~ 999.75 pt step 0.25 pt
	SymSet	**IBM-US**, Roman-8, Roman-9, ECM94-1, 8859-2 ISO,8859-9 ISO, 8859-10ISO, 8859-15ISO, PcBlt775, IBM-DN, PcMultiling, PcE.Europe, PcTk437, PcEur858, Pc1004, WiAnsi, WiE.Europe, WiTurkish, WiBALT, DeskTop, PsText, VeInternati, VeUS, MsPublishin, Math-8, PsMath, VeMath, PiFont, Legal, UK, ANSI ASCII, Swedis2, Italian, Spanish, German, Norweg1, French2, Windows, McText, PcIcelandic*4, PcLt774*4, PcTurk1*4, PcPortugues*4, PcEt850*4, PcTurk2*4, PcCanFrench*4, PcSl437*4, PcNordic*4, 8859-3 ISO*4, 8859-4 ISO*4, WiBaltic*4, WiEstonian*4, WiLatvian*4, Mazowia*4, CodeMJK*4, BpBRASCII**4, BpAbicomp*4, PcGk437*4, PcGk851*4, PcGk869*4, 8859-7 ISO*4, WiGreek*4, Europe3*4, PcCy855*4, PcCy866*4, PcLt866*4, PcUkr866*4, PcLit771*4, 8859-5 ISO*4, WiCyrillic*4, Bulgarian*4, Hebrew7*4, 8859-8 ISO*4, Hebrew8*4, PcHe862*4, Arabic8*4, PcAr864*4, 8859-6 ISO*4, OCR A*4, OCR B*4
	Form	5 ~ **60***5 ~ **64***5 ~ 128 Lines
	Source SymSet	0 ~ **277** ~ 3199
	Dest SymSet	0 ~ **277** ~ 3199
	CR Function	**CR**, CR+LF
	LF Function	**LF**, CR+LF
	Tray Assign	4, **4K**, 5S

Table 1-38. Function Setting (5) (continued)

Menu	Item	Value
GL2 Menu	GLMode	**LJ4GL2**, Gllike
	Scale	**Off**, A0, A1, A2, A3
	Origin	**Corner**, Center
	Pen	**Pen0**, Pen1, Pen2*6, Pen3*6, Pen4*6, Pen5*6, Pen6*6
	End	**Butt**, Square, Triangular, Round
	Join	**Mitered**, Miteredbeveled, Triangular, Round, Beveled, None
	Pen0	0.05 ~ **0.35** ~ 5.00 mm step0.05 mm
	Pen1	0.05 ~ **0.35** ~ 5.00 mm step0.05 mm
	Pen2*6	0.05 ~ **0.35** ~ 5.00 mm step0.05 mm
	Pen3*6	0.05 ~ **0.35** ~ 5.00 mm step0.05 mm
	Pen4*6	0.05 ~ **0.35** ~ 5.00 mm step0.05 mm
	Pen5*6	0.05 ~ **0.35** ~ 5.00 mm step0.05 mm
	Pen6*6	0.05 ~ **0.35** ~ 5.00 mm step0.05 mm

Note *1: Displayed only when some download fonts exist

     *2: Displayed when the optional font module is in the optional ROM DIMM socket

     *3: One of them is displayed, depending on the type of font selected. If the font is Fixed Pitch, "Pitch" is displayed. If the font is Proportional Spacing, "Height" is displayed. For bitmap fonts, neither is displayed. If Font Source and Font Number are changed, both "Pitch" and "Height" are displayed until the next LJ4 mode starts.

     *4: When Value of LJ4 menu→SymSet is changed to this Symbol set, this causes Font Source=Resident and Font Number=0. Therefore, if the printing using this Symbol set is desired, values of Font Source and Font Number must be set to the font supporting this Symbol set.

     *5: The default is 64 if the default paper size of the controller configuration when shipped from the factory is A4, or 60 if the paper size is LT.

     *6: Displayed only in the GLlike mode

Table 1-39. Function Setting (6)

Menu	Item	Value
PS3 Menu*1	Error Sheet	**Off**, On
	Coloration	**Color**, Mono, TrueCol.
	Image Protect	**Off**, On
ESCP2 Menu	Font	**Courier**, Prestige, Roman, Sans serif, Roman T, Orator S, Sans H, Script, OCR A, OCR B
	Pitch	**10cpi**, 12cpi, 15cpi, Prop.
	Condensed	**Off**, On
	T.Margin	0.40 ~ **0.50** ~ 1.50 inch step 0.05 inch
	Text	1 ~ **62**^{*2} ~ **66**^{*2} ~ available(Max:67) Lines
	CGTable	**PcUSA**, Italic, PcMultilin, PcPortugue, PcCanFrenc, PcNordic, PcTurkish2, PcIcelandic, PcE.Europe, BpBRASCII, BpAbicomp, Roman-8, PcEur858, ISO Latin1, 8859-15ISO, PcSl437, PcTurkish1, 8859-9 ISO, Mazowia, CodeMJK, PcGk437, PcGk851, PcGk869, 8859-7 ISO, PcCy855, PcCy866, PcUkr866, PcLit771, Bulgarian, Hebrew7, Hebrew8, PcHe862, PcAr864
	Country	**USA**, France, Germany, UK, Denmark, Sweden, Italy, Spain1, Japan, Norway, Denmark2, Spain2, LatinAmeric, Korea, Legal
	Auto CR	**On**, Off
	Auto LF	**Off**, On
	Bit Image	**Dark**, Light, BarCode
	ZeroChar	**0**, Ø
FX Menu	Font	**Courier**, Prestige, Roman, Sans serif, Script, Orator S, OCR A, OCR B
	Pitch	**10cpi**, 12cpi, 15cpi, Prop.
	Condensed	**Off**, On
	T.Margin	0.40 ~ **0.50** ~ 1.50 inch step 0.05 inch
	Text	1 ~ **62**^{*2} ~ **66**^{*2} ~ available(Max:67) Lines
	CGTable	**PcUSA**, Italic, PcMultilin, PcPortugue, PcCanFrenc, PcNordic, PcTurkish2, PcIcelandic, PcE.Europe, BpBRASCII, BpAbicomp, Roman-8, PcEur858, ISO Latin1, 8859-15ISO

Table 1-39. Function Setting (6) (continued)

Menu	Item	Value
FX Menu	Country	**USA**, France, Germany, UK, Denmark, Sweden, Italy, Spain1, Japan, Norway, Denmark2, Spain2, LatinAmeric
	Auto CR	**On**, Off
	Auto LF	**Off**, On
	Bit Image	**Dark**, Light, BarCode
	ZeroChar	**0**, Ø
I239X Menu	Font	**Courier**, Prestige, Gothic, Orator, Script, Presentor, Sans serif
	Pitch	**10cpi**, 12cpi, 15 cpi, 17 cpi, 20 cpi, 24 cpi, Prop.
	Code Page	**437**, 850, 858, 860, 863, 865
	T.Margin	0.30 ~ **0.40** ~ 1.50 inch step 0.05 inch
	Text	1 ~ **63**^{*3} ~ **67**^{*3} ~ available(Max: 67) Lines
	Auto CR	**Off**, On
	Auto LF	**Off**, On
	Alt. Graphics	**Off**, On
	Bit Image	**Dark**, Light
	ZeroChar	**0**, Ø
	CharacterSet	**1**^{*4}, 2^{*4}

Note *1: Displayed only when the optional PostScript3 module is installed

  *2: The default is 66 if the default paper size of the controller configuration when shipped from the factory is A4, or 62 if the paper size is LT.

  *3: The default is 67 if the default paper size of the controller configuration when shipped from the factory is A4, or 63 if the paper size is LT.

  *4: The default is 2 if the default paper size of the controller configuration when shipped from the factory is A4, or 1 if the paper size is LT.

Table 1-40. Function Setting (7)

Menu	Item	Value
Support Menu[*1]	HDD Format[*2]	
	PS3 HDD Init[*2,*3]	
	Sleep Mode[*4]	**Enable**, Disable
Printer Adjust Menu[*5]	Developer Duty	0, 1, 2, 3, 4
	Normal	-15 ~ 0 ~ 15 step 1
	Thick	-15 ~ 0 ~ 15 step 1
	Trnsprnc	-15 ~ 0 ~ 15 step 1
	Envelope	-15 ~ 0 ~ 15 step 1
	Thick Back	-15 ~ 0 ~ 15 step 1
Maintenance Menu[*5]	Engine Status Sheet	
	Reset Fuser Counter	
	Fuser Temp.	-20 ~ **0** ~ 20 step 1
	Clear Error Log	

Note *1:   This setting menu is displayed only when the support mode has been activated by the hidden operation when the power is turned on.

   *2:   Displayed and possible to be executed only when HDD is installed

   *3:   Displayed only when the optional PostScript3 module is installed

   *4:   The STANDBYTIME command (nondisclosure) of EJL is also supported. The default value is 30 minutes.

   *5:   This setting menu is displayed only when the maintenance mode has been activated by the hidden operation when the power is turned on. Displayed always in English regardless of the value of Setup→Lang.

A list of user setting items which are not included in the setup menu are shown below. Depending on the panel initialization menu, these are not cleared when the settings are initialized.

1.4.3 Explanation of Each Setting Menu and Items (Only with AcuLaser C1900)

The followings describe the items which are specified only for AcuLaser C1900.

☐ Information Menu

■ C Toner, M Toner, Y Toner, K Toner

The remaining toner amount of C (cyan), M (magenta), Y (yellow), and K (black), are displayed in five levels (read-only, for display only).

E****F : 100% ≥ Remaining Toner ≥ 76%

E***F : 74% ≥ Remaining Toner ≥ 52%

E**F   : 50% ≥ Remaining Toner ≥ 26%

E*F   : 24% ≥ Remaining Toner ≥ 2%

EF   : Remaining Toner = 0%

> **CHECK POINT** ✔
>
> **The remaining amount of toner of each toner cartridge, as measured on the engine side in the range from 0% to 100% in units of 2%, is returned to the controller. This state is always started from 100% even if 1.5K toner is installed. It is necessary to convert into the remaining amount on the controller side because the toner information received from the engine is a use rate.**

■ Photocondctr

The life of the Photoconductor unit is displayed in five levels (read-only, for display only).

E****F : 100% ≥ Remaining Toner ≥ 76%

E***F : 74% ≥ Remaining Toner ≥ 52%

E**F   : 50% ≥ Remaining Toner ≥ 26%

E*F   : 24% ≥ Remaining Toner ≥ 2%

EF   : Remaining Toner = 0%

> **CHECK POINT** ✔
>
> **The counter value is counted on the engine side. It is necessary to convert into the remaining amount on the controller side because the Photoconductor information received from the engine is a use rate.**

☐ Status Menu
All warnings which have occurred when entered SelecType Mode are displayed in this menu. When no warning is available, this menu is not displayed.

☐ Setup Menu

■ Paper Type
Add Envelope and Coated. Use Envelope when printing undefined envelopes and Coated when printing EPSON Color Laser Coated Paper. In case when selected the standard envelope(C5, C6, C10 or Monarch), the printer setting will automatically change to envelope setting. If Envelope, Thick, Transprnc and Coated are selected, the continuous print speed becomes slower.

☐ Reset Menu

■ Clear Warning
The warnings other than consumables and regular replacement components are cleared now.

■ Clear All Warnings
All warnings are cleared now.

■ Change Toner C, Change Toner M, Change Toner Y, Change Toner K
Use them when replacing a toner cartridge before "uuuu Toner Cart Out" occurs. When the toner cartridge to replace is specified and the Enter button pressed, the panel displays "Please Wait" and the printer moves to the position for replacing the toner cartridge. Then, the printer displays "Replace Toner x" (x = C, M, Y or K that is specified) and enters the wait state. Normally this process will be finished at several seconds, but if the printer is entering the sleep mode, it may take several minutes occasionally.

When this operation is executed, the sleep mode is released once and the printing process is not performed. Moreover, the Reset, Job Cancel, and Form Feed specified with EJL or MIB during this process become invalid. Reset All is valid during this process. This process ends when the cover is opened and closed

without replacing the toner. This process can not be executed during the occurrence of the operator call inside the printer, so that it is recommend to confirms the state or the Sleep state before this process is executed.

☐ Support Menu
This setting menu is displayed only when the support mode has been activated by a special operation when the power is turned on, and can be selected.

■ HDD Format
Format the Hard Disk unit. This Item is displayed and execute only when the optional HDD unit is installed. "Formatting HDD" is displayed while executing the format. After finishing the format, the printer will execute the warm boot. During this procedure, all interfaces shall not be connected to the printer to avoid incorrect operations.

CHECK POINT ✓	**After FAT is initialized, "00H" is written in all data areas for models before AcuLaser C1900 but for models after AcuLaser C1900, only FAT is initialized. (HDD Format finished only a few seconds.)**

■ Sleep Mode
In the model after AcuLaser C1900, the name is changed from Standby Mode to Sleep Mode. The name has been changed only in the name, and the function is the same as Standby Mode. Sleep Mode = Disable is added at the bottom of the setup menu of the status sheet only when this setting is set to Disable.

☐ Printer Adjust Menu

■ Developer Duty
This function is almost same as the Density of monochrome laser printer. The amount of the adhesion of the toner is adjusted. The larger the value is, the thicker the density gets. Normally, the print density is controlled automatically. Use this function for the adjustment manually. This setting is applied to all colors. (Individual setting is not possible.)

■ Normal, Thick, Trnsprnc, Envelope, Thick Back
Adjust the transfer voltage of each paper type. Normally, the transfer voltage is controlled automatically. Use this function for the adjustment manually. Thick Back is the transfer current adjustment for printing the back side of thick paper.

☐ Maintenance Menu
This setting menu is displayed and can be selected only when the maintenance mode has been activated by the hidden operation when the power is turned on. This setting is used for maintenance by service persons.

■ Engine Status Sheet
Pressing the Enter button starts to print the Engine Status sheet. If data remains in the mode, a paper is ejected. Always make sure there is no engine-related service call before entering the maintenance mode. Printing is performed with the RITech, Toner Save and Resolution settings when the printer starts; for other settings, the factory defaults are used. Even after printing, the User default environment (settings) does not change. When printing is underway, the LCD display blinks.

■ Reset Fuser Counter
Reset the counter of the Fuser Unit consumption and count up the exchange counter. This must be done after the Fuser Unit is replaced with a new one. Pressing the Enter button triggers a warm boot of the printer.

■ Fuser Temp.
To change the fusing temperature in case of the printing with a special media. The temperature setting can be changed to the standard value in 5°C/Step. Consider enough when this function is used because it is possible to rise the fuser temperature at 100 degree. Pressing the Enter button triggers a warm boot of the printer.

■ Clear Error Log
Clear the Error Log List for printing the Engine Status sheet. (The Error Log contains the latest 20 logs.) Pressing the Enter button triggers a warm boot of the printer.

1.4.4 Special Operations (Only with AcuLaser C1900)

☐ List of Operating Functions

The special service operations supported by AcuLaser C1900 are shown below.

| CHECK POINT ✓ | **Functions other than Hex dump and the Support Mode are not disclosed publicly to users.** |

Table 1-41. List of Operating Functions

Function	Operating Method
Hex Dump	Turn on the power while pressing the Start/Stop button
Support Mode	Turn on the power while pressing the Down button
Initialization of EEPROM	Turn on the power while pressing the Back, Job Cancel, and Start/Stop buttons
Panel Setting Value Initialization	Turn on the power while pressing the Job Cancel button
Forced Deleting of the Flash ROM A Module	Turn on the power while pressing the Up, Down, Enter, and Job Cancel buttons
Program ROM Update	Turn on the power while pressing the Down, Job Cancel, and Start/Stop buttons
ROM Module Copy	Turn on the power while pressing the Enter, Job Cancel, and Start/Stop buttons
Maintenance Mode	Turn on the power while pressing the Back, Up, Down, and Enter buttons
Engine program update	Turn on the power while pressing the Up, Down, Job Cancel, and Start/Stop buttons
CPU reset in a Service Call occurrence	Press the Back, Up, Down, Enter, and Job Cancel buttons when a Service Call error occurs
Detailed Information Display in a Service Call occurrence	Press the Back, Enter, and Job Cancel buttons when a Service Call occurs

Table 1-41. List of Operating Functions (continued)

Function	Operating Method
Printing of the Error sheet	Press the Enter button after resetting the CPU when a Service Call error occurs
Forcible AIDC	Remove all papers from all input trays and open the cover (Front Cover, Cover AB or Cover DM) in the Ready state and then close it. (This operation is invalid in the sleep mode or the error state.)

☐ Specific Functions

This section describes functions specific to this printer.

■ EEPROM initialization
The consumptions of each toner, the Photoconductor unit, the intermediate transfer unit, and the fixing unit are recorded on the engine side. This information is not cleared by the Initializing of EEPROM.

1.4.5 Printer Setting Items (Only with AcuLaser C900)

This section describes setting items for AcuLaser C900.

For setting of the items described below, use the "Printer Setting" dialog box on the "Optional Settings" of the printer driver.

Since there are no character strings administrated by the printer, the names of setting items and setting values referred to below are only for explanation. Therefore, these names may not match the character strings displayed in driver's user interfaces or the status sheet.

1.4.5.1 Setting Items stored on the Printer Side

Values shown in bold and underlined characters are the factory default setting values.

Table 1-42. Setting Items stored on the Printer Side

Setting	Value
Sleep	**30**, 60, 120, 180 minutes, OFF
Paper Source Priority	**MP Tray** [*1], **LC** [*1], LC Only
MP Tray Size	**A4** [*1], A5, B5, **LT**[*1], HLT, GLT, EXE, Postcard, W Postcard, MON, C10, DL, C5, C6, IB5, Yokei#0, Yokei#4, Yokei#6
LC Size	**A4**, LT
Toner Out Error	**Stop**, Continue
Fuser Temp.	-20 ~ **0** ~ 20

Note *1: The default setting is determined depending on the destination.

☐ Standby
Set the power saving function to reduce the power consumption when the printer is in the standby mode.
The printer can use five setting values, while the driver is limited to:

■ ON (30 minutes), OFF

☐ Paper Source Priority
Set a priority order when Auto Selection is selected by the paper source setting and the paper sources matches the designated paper size.
This is the same function as the "MP Mode" function of ESC/Page models.

■ MP Tray　：MP tray > Cassette

■ LC　　　：Cassette > MP tray

■ LC only　：Cassette

However, to continue printing when the paper sources has no paper which matches the target paper size, papers are fed from the paper sources in the order of MP tray > cassette.
The default setting differs depending on the destinations: "MP tray" for worldwide models.

NOTE: *The printer can set "LC only", but the driver cannot select it since the same function is can be achieved by selecting a cassette from the paper source.*

☐ MP Tray Size
Assign a paper size for the MP tray. If the printing is continued after the "Paper Set" error occurrence and the paper size designated by the printing data matches the paper size which is actually fed, the paper size will be stored in memory. The default value is either "A4" or "LT" depending on the jumper setting (R190/INPT0) on the controller board.

NOTE: *The paper sizes which can be handled by the MP Tray Size function of AcuLaser C900 driver is limited to:*
A4, A5, B5, LT, HLT, GLT, EXE, MON, C10, DL, C5, C6, IB5

☐ LC Size
Specify a paper size for the optional cassette size. The default value is not affected by the controller configurations and is always set to "A4".

☐ Toner Out Error
Select whether "uuuu Toner Out" is to be indicated and the printing is to be stopped or "uuuu Toner Low" is to be kept indicated when the amount of remaining toner indicated by the toner counter reaches 0%.

1.4.5.2 Setting Items which are Valid only in the Job and are not Stored in Printer

Table 1-43. Setting Items which are Valid only in the Job and are not Stored in Printer

Setting	Value
Paper Source	Auto, MP Tray, LC
Paper Size	A4, A5, B5, LT, HLT, GLT, EXE, Postcard,W Postcard, MON, C10, DL, C5, C6, IB5, Yokei#0, Yokei#4, Yokei#6, Undefined
Copies	1 ~ 999
Resolution	FAST, FINE
Duplex Printing	ON, OFF
RITech	ON, OFF
Toner Save	ON, OFF
Top Offset	-30 ~ 0 ~ 30 mm
Left Offset	-30 ~ 0 ~ 30 mm
Paper Type	Normal, Thick, Transparency, Coated paper, Envelope
Page Side	Front, Back
Size Ignore	ON, OFF
Avoid Error	ON, OFF

Users can select setting values above with the driver, and the printer operates according to the selected setting values.

☐ Paper Source
Paper feeders are selected by the paper source setting.
Actually, however, paper feeders are selected in the following priority order, since the paper type and the paper size settings influence the selection of paper feeders.

■ Paper Type = Thick paper, Transparency, `Coated paper`, or Envelope:
The MP tray is selected

■ Paper Type = Normal, and Paper Size = postcards or envelope:
The MP tray is selected

■ Paper Type = Normal, and Paper Size ≠ postcards or envelope

• Paper Source =MP Tray or LC:
The designated paper feeders are selected.

• Paper Source=AUTO, when the feeders which match up to the designated paper sizes are available:
According to the priority order, paper feeders are selected.

• Paper Source=AUTO, when the feeders which match up to the designated paper sizes are not available:
According to the priority order, paper feeders are selected among the feeders which have papers.

NOTE: By the driver, when Paper Type ≠ Normal or Paper Size = F4 or envelope, the MP tray can be selected.

☐ Paper Size
A paper size for printing is selected by the paper size setting.
Like the MP tray Size, paper size permits the setting of paper sizes supported by the driver.
Undefined means the paper width is 92 to 216 mm and the paper length is 148 to 297 mm. However, for sheets of paper with a length not shorter than 148 mm but shorter than 210 mm, printing is carried out in the low-speed <2> mode.

☐ Copies
The number of multi-copies is designated by the copies setting.

☐ Resolution
A resolution for internal processing is selected by the resolution setting.

☐ Duplex Printing
Select Simplex printing or Duplex printing.
Permit Duplex printing only when the paper size is A4 or LT. With any other paper size, the selection of Duplex printing is invalid, displaying the error message "Can't print duplex".

NOTE: *The driver also provides the ability to cancel Duplex printing in the paper size and paper type settings.*

☐ RITech
The RITech function can be enabled or disabled in the RITech setting.

☐ Toner Save
Select whether the Toner Save function is enabled or disabled.

☐ Top Offset
Set the print starting vertical position on a sheet.

NOTE: *The printer permits the setting in the range of about -30.0 ~ 30.0 mm in 1-dot increments, while the setting by the driver is limited to - 9 ~ 9mm in 1-millimeter increments.*
Binding margins for Duplex printing with the Top Offset setting value are limited to 0 ~ 30 mm in 1-millimeter increments.

☐ Left Offset
Set the print starting horizontal position on a sheet.

NOTE: *The printer permits the setting in the range of about - 30.0 ~ 30.0 mm in 1-dot increments, while the setting by the driver is limited to - 9 ~ 9 mm in 1-millimeter increments.*
Binding margins for Duplex printing with the Top Offset setting value are limited to 0 ~ 30 mm in 1-millimeter increments.

☐ Paper Type
Printing speed, fuser temperature and other necessary settings are determined for the paper type for use.
When the paper type is Envelope, an envelope is printed using an undefined paper size. Printing becomes 2/3 faster than the Thick paper setting.

☐ Page Side
In the manual duplex printing mode, this setting determines whether to use the side of a sheet being printed first (Front) or the opposite side to the already printed side (Back).

NOTE: *The user must be advised to select the paper side in combination with paper types. This setting is required at printing on thick paper, coated paper or postcards. For printing on a postcard (back side), set "postcard" or "double postcard" as the paper size, "plain paper" as the paper type and "back" as the paper side.*

☐ Size Ignore
Select whether or not to ignore the errors "Paper Set" and "Check Paper Size".

☐ Avoid Error
Select whether or not to avoid occurrence of any of the followings: "Paper Set", "Invalid Size", "Mem Overflow", "Duplex Mem Overflow"

■ ON: The printer continues printing without displaying any of the above errors. "Paper Set" does not occur, but "Check Paper Size" appears if the paper size of the fed sheet is not as designated. None of "Invalid Size", "Mem Overflow", and "Duplex Mem Overflow" occurs, but "Print Failure" appears.

■ OFF: Once any of the aforementioned errors occur, the printer will not recover until receiving a release command through the ESCPAGES-02 protocol.

"Avoid Error" is intended not to suspend the printer for a long time such condition that the printer is not monitored sufficiently, for example, in the case of printing with the printer used as a shared printer.

1.4.5.3 Setting Items Requiring Control by the Printer for Each Printing or Status Change

Table 1-44. Setting Items Requiring Control by the Printer for Each Printing or Status Change

Control items	Range of values
Monochrome Pages	0 ~ 99999999 pages
Color Pages	0 ~ 99999999 pages
MP Tray Feed Counter	0 ~ 200 pages
LC Feed Counter	0 ~ 500 pages
Jam Counter	0 ~ 65535 times
C Toner Change	0 ~ 255 times
M Toner Change	0 ~ 255 times
Y Toner Change	0 ~ 255 times
K Toner Change	0 ~ 255 times
Photoconductor Change	0 ~ 255 times
Error Code	6001 ~ 6999
Total Pages of Error occurrence	0 ~ 99999999 pages
AIDC value at C 25%	0 ~ 255
AIDC value at C 50%	0 ~ 255
AIDC value at C 75%	0 ~ 255
AIDC value at M 25%	0 ~ 255
AIDC value at M 50%	0 ~ 255
AIDC value at M 75%	0 ~ 255
AIDC value at Y 25%	0 ~ 255
AIDC value at Y 50%	0 ~ 255
AIDC value at Y 75%	0 ~ 255
AIDC value at K 25%	0 ~ 255
AIDC value at K 50%	0 ~ 255
AIDC value at K 75%	0 ~ 255

☐ Monochrome Pages[2]
This indicates the total number of printed pages in monochrome only.
The total number of printed pages required for the status information etc. is the sum of the number in color and in monochrome.

☐ Color Pages[2]
The total number of printed pages in color only

☐ MP Tray Feed Counter
Counter for controlling the remaining paper in the MP tray

☐ LC Feed Counter
Counter for controlling the remaining paper in the Lower Cassette

☐ Jam Counter[1]
The number of paper jams

☐ C Toner Change[1]
The number of times the C Toner Cartridge has been replaced. The count is triggered when a new C Toner Cartridge is detected.

☐ M Toner Change[1]
The number of times the M Toner Cartridge has been replaced. The count is triggered when a new M Toner Cartridge is detected.

☐ Y Toner Change[1]
The number of times the Y Toner Cartridge has been replaced. The count is triggered when a new Y Toner Cartridge is detected.

☐ K Toner Change[1]
The number of times the K Toner Cartridge has been replaced. The count is triggered when a new K Toner Cartridge is detected.

☐ Photoconductor Change[1]
The number of times the Photoconductor Unit has been replaced. The count is triggered when a new Photoconductor Unit is detected.

☐ Error Code[1]
The newest engine error code is saved. When an engine error occurs, the error code is stored.

☐ Total Pages of Error occurrence[1]
The total number of printed pages when the latest engine error occurs

❑ AIDC value at C 25%[*1]
   AIDC value at C 25% determined by the last AIDC processing. The value is stored
   when AIDC processes.

❑ AIDC value at C 50%[*1]
   AIDC value at C 50% determined by the last AIDC processing. The value is stored
   when AIDC processes.

❑ AIDC value at C 75%[*1]
   AIDC value at C 75% determined by the last AIDC processing. The value is stored
   when AIDC processes.

❑ AIDC value at M 25%[*1]
   AIDC value at M 25% determined by the last AIDC processing. The value is
   stored when AIDC processes.

❑ AIDC value at M 50%[*1]
   AIDC value at M 50% determined by the last AIDC processing. The value is
   stored when AIDC processes.

❑ AIDC value at M 75%[*1]
   AIDC value at M 75% determined by the last AIDC processing. The value is
   stored when AIDC processes.

❑ AIDC value at Y 25%[*1]
   AIDC value at Y 25% determined by the last AIDC processing. The value is stored
   when AIDC processes.

❑ AIDC value at Y 50%[*1]
   AIDC value at Y 50% determined by the last AIDC processing. The value is stored
   when AIDC processes.

❑ AIDC value at Y 75%[*1]
   AIDC value at Y 75% determined by the last AIDC processing. The value is stored
   when AIDC processes.

❑ AIDC value at K 25%[*1]
   AIDC value at K 25% determined by the last AIDC processing. The value is stored
   when AIDC processes.

❑ AIDC value at K 50%[*1]
   AIDC value at K 50% determined by the last AIDC processing. The value is stored
   when AIDC processes.

❑ AIDC value at K 75%[*1]
   AIDC value at K 75% determined by the last AIDC processing. The value is stored
   when AIDC processes.

The above values will be reset to zero when the InitializeEEPROM clear command of
the ESCPAGES-02 protocol is executed. This operation will be performed by a hidden
function of the printer driver.

Note *1： The information is used in the Engine status sheet.

　　　*2： Possible to take a value of the ESCPAGES-02 protocol.

1.4.5.4 Settings controlled by the mechanical controller, but requiring reading out and changing the values

Table 1-45. Setting Item

Setting Item	Outline of the operation
Amount of C Toner used	Read-only, counter cleared when a new one is detected
Amount of M Toner used	Read-only, counter cleared when a new one is detected
Amount of Y Toner used	Read-only, counter cleared when a new one is detected
Amount of K Toner used	Read-only, counter cleared when a new one is detected
Life counter of C Toner	Read-only, counter cleared when a new one is detected
Life Counter of M Toner	Read-only, counter cleared when a new one is detected
Life Counter of Y Toner	Read-only, counter cleared when a new one is detected
Life Counter of K Toner	Read-only, counter cleared when a new one is detected
Amount of Photoconductor Unit used	Read-only, counter cleared when a new one is detected
Amount of Transfer Belt used	Read-only, counter cleared when a new one is detected
Amount of Fuser Unit used	Clearing counter, read-only
Development bias adjustment	Changing a setting value (1 ~ 4), read-only
Normal paper second transfer voltage adjustment	Changing a setting value (-15 ~ 15), read-only
Thick paper second transfer voltage adjustment	Changing a setting value (-15 ~ 15), read-only
Transparency second transfer voltage adjustment	Changing a setting value (-15 ~ 15), read-only
Envelope second transfer voltage adjustment	Changing a setting value (-15 ~ 15), read-only
Postcard second transfer voltage adjustment	Changing a setting value (-15 ~ 15), read-only
Back side of Thick paper second transfer voltage adjustment	Changing a setting value (-15 ~ 15), read-only
Back side of Postcard second transfer voltage adjustment	Changing a setting value (-15 ~ 15), read-only
Back side of Duplex second transfer voltage adjustment	Changing a setting value (-15 ~ 15), read-only
Capacity of C Toner	Changing a setting value (1.5k, 4.5k), read-only
Capacity of M Toner	Changing a setting value (1.5k, 4.5k), read-only

Table 1-45. Setting Item   (continued)

Setting Item	Outline of the operation
Capacity of Y Toner	Changing a setting value (1.5k, 4.5k), read-only
Capacity of K Toner	Changing a setting value (1.5k, 4.5k), read-only
Mechanical control version	Read-only

❑ Amount of C Toner used/Amount of M Toner used/Amount of Y Toner used/ Amount of K Toner used:
   Indicate the consumption amount, from 0 to 100% (in 2% increment), expressed as a counter value using the dot counter circuit. For the 1.5 k capacity toner, this value is same as above.

❑ Life counter of C Toner/Life Counter of M Toner/Life Counter of Y Toner/ Life Counter of K Toner:
   The total number of printed pages after a new one is detected.

❑ Amount of Photoconductor Unit used
   Indicate the consumption amount of the photoconductor unit, from 0 to 100% (in 2% increment).

❑ Amount of Transfer Belt used
   Indicate the consumption amount of the transfer belt, from 0 to 100% (in 2% increment).

❑ Amount of Fuser Unit used
   Indicate the consumption amount of the fuser unit, from 0 to 100% (in 2% increment).

NOTE: Since the fuser unit does not support the new unit detecting function, the controller clears the counter.

❑ Normal paper second transfer voltage adjustment
   Adjust the second transfer voltage determined by the picture stabilization control on normal papers.

❑ Thick paper second transfer voltage adjustment
   Adjust the second transfer voltage determined by the picture stabilization control on thick papers.

❑ Transparency second transfer voltage adjustment
   Adjust the second transfer voltage determined by the picture stabilization control on transparencies.

□ Envelope second transfer voltage adjustment
Adjust the second transfer voltage determined by the picture stabilization control
on envelopes.

□ Postcard second transfer voltage adjustment
Adjust the second transfer voltage determined by the picture stabilization control
on postcards.

□ Back side of Thick paper second transfer voltage adjustment
Adjust the second transfer voltage determined by the picture stabilization control
on back side of thick papers.

□ Back side of Postcard second transfer voltage adjustment
Adjust the second transfer voltage determined by the picture stabilization control
on back side of postcards

□ Back side of duplex second transfer voltage adjustment
Adjust the second transfer voltage determined by the picture stabilization control
on back side of duplex papers.

□ Capacity of C Toner/Capacity of M Toner/Capacity of Y Toner/
Capacity of K Toner:
Set the toner cartridge capacity to 1.5k (supplied with the main unit) or 4.5k. The
mechanical controller changes the setting to 4.5k when a new one is detected, so
this function purposes to set 1.5k in the manufacturing process.

□ Mechanical control version
Firmware version of the mechanical control

1.4.5.5 Settings specified regardless of Job and not stored in the printer

Table 1-46.

Setting Item	Range of values
Change Toner	C, M, Y, K

□ Change Toner
Specify the toner cartridge to replace in other cases than the "Toner Out" error.

1.4.6 Special Setting Operation (Only with AcuLaser C900)

With AL-C900, which is a host-based printer, the special setting as described below can be made via the printer driver.

CAUTION !	**The special setting operation is not disclosed to users.**

EEPROM INITIALIZATION

1. Open the "Optional Settings" page of the printer driver.

CHECK POINT ✓	**This operation does not function if it is displayed through "printer property" on Windows-NT.**

2. While pressing the [ALT] + [CTRL] + [SHIFT] + "W" keys together on the Keyboard, click any point in the blank area (area free from such images as buttons) on the "Optional Settings" page.
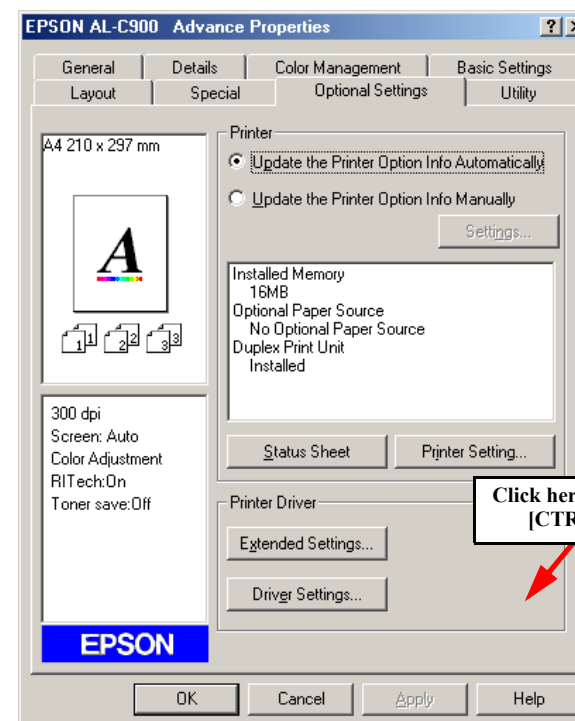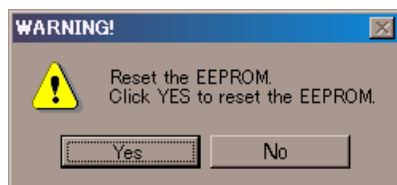

Figure 1-9. EEPROM Initialization

3. On the dialog screen for confirmation, click the "OK" button to execute EEPROM initialization.

WARNING!

Reset the EEPROM.
Click YES to reset the EEPROM.

Yes   No

CAUTION

!

Once you execute this operation, the cumulative number of printed sheets and the cumulative replacement counts of toner cartridges and photoconductor unit will be reset to zero. Remember this before executing this operation.

TRANSFER VOLTAGE OFFSET SETTING

1. Open the "Optional Settings" page of the printer driver.

2. While pressing the [ALT] + [CTRL] + "Z" keys together on the Keyboard, click the "Printer Setting" button.

EPSON AL-C900   Advance Properties

General | Details | Color Management | Basic Settings
Layout | Special | Optional Settings | Utility

A4 210 x 297 mm

Printer
- ○ Update the Printer Option Info Automatically
- ○ Update the Printer Option Info Manually
  - Settings...

Installed Memory
  16MB
Optional Paper Source
  No Optional Paper Source
Duplex Print Unit
  Installed

300 dpi
Screen: Auto
Color Adjustment
RITech:On
Toner save:Off

Status Sheet   Printer Setting...

Printer Driver
Extended Settings...

Driver Settings...

EPSON

OK   Cancel   Apply   Help

Click while pressing [ALT] + [CTRL] + "Z"

Figure 1-10. Transfer Voltage Offset Setting Screen

3. On the dialog screen for "Transfer Voltage Offset Setting", select the item requiring setting and make setting.
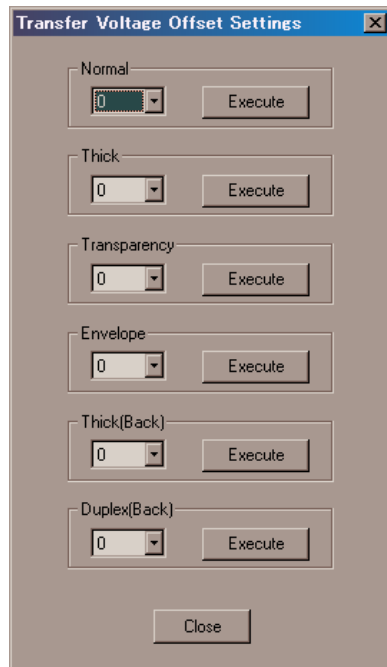
CAUTION **!**	**Usually, the transfer voltage is automatically adjusted. However, you are advised to use the transfer voltage offset setting function when automatic adjustment does not compensate adequately (satisfactory image quality is not obtained), especially, when special paper is used. With the same paper type for which the setting has been changed, the image quality may be affected depending on the specifications for the paper which is actually used. Take due care.**

1.4.7 Printer Status Checking

The status sheet and engine status sheet can be output to check the settings, conditions of use and other status of the printer.

1.4.7.1 Status sheet

<AcuLaser C1900>

The following page gives an example of the Status sheet printout.

The language used in the Status sheet changes depending on the selected language.

The printout example uses English in this case.
The IP address is printed only when GetIPAddress = Panel, but not printed when Auto is selected. When the setting value is changed, the IP address to be used in the next startup is printed, while the IP address in the operation is printed on the Network status sheet.

☐ Information

Describe Name (English only, 36 digits), Remaining Amount (10 digits), Warning (20 digits), and Model Number (30 digits) of consumables that can be replaced by the user. "Needed Soon" is added when the amount reaches the level where a warning occurs.

Table 1-47. User Replaceable Consumables

Name	Part Number
Developer Cartridge Cyan	S050099
Developer Cartridge Magenta	S050098
Developer Cartridge Yellow	S050097
Developer Cartridge Black	S050100
Photoconductor Unit	S051083
Transfer Unit	S053009
Waste Toner Collector	S050101

☐ When options are installed:

RAM DIMM	: Memory size added to Installed memory and Available memory.
Type-B I/F	: AUX is added to Installed interface.
Lower Cassette	: Lower cassette is added to other options.
Duplex Print Unit	: Duplex print unit is added to other options.
HDD	: Hard disk x.x GB is added to other options. x.x indicates the hard disk drive capacity, expressed up to one decimal point if required.
PS3	: Adobe PostScript3 is added to Installed emulation. Version of PS3 is added to Firmware revision.

☐ The lowest description section of the Status sheet gives:

IAxxxx	: Date of firmware
e/n/none	: Parallel interface's communication mode e: ECP, n: Nibble, none: Compatibility
*	: Displayed if the program can be updated (Flash DIMM)
Axxxx	: Color lookup table version
Jxxxxxx	: The number of jams
IC x x x x	: The number of toner cartridge replacement for each color (in order of CMYK). May be one or more digits are used, depending on the number.
16Pxxxxxxxxxxxxxx	: USB ID
F/H	: USB's communication mode. This printer always uses F.
MCxxxxxxx	: Mechanical control version

☐ Color calibration description

NOTE: *This function will be realized in the Utility for Adobe PS3 kit.*

This indicates G: Increase Graduation, D: Increase Definition, 600: 600 dpi, and C: Coated, also means 600 dpi and the calibration data for Increase Graduation depending on the combination, and is displayed only when the calibration data is registered in the EEPROM.
This indicates MMMM: Month, DD: Day, YYYY: Year, HH: Hour, and MM: Minute of the date and time when the calibration table is created.

EPSON   ☐(Logo) EPSON AcuLaser C1900

Status Sheet

Information		Part Numbers
Developer Cartridge Cyan	E■■■■F	S050099
Developer Cartridge Magenta	E■■■■F	S050098
Developer Cartridge Yellow	E■■■■F	S050097
Developer Cartridge Black	E■■■■F	S050100
Photoconductor Unit	E■■■■F	S051083
Transfer Unit	E■■■■F	S053009
Waste Toner Collector		S050101
Total Pages	456	
Color Pages	400	
B/W Pages	56	

Default Settings

Tray Manu
MP Tray Size = A4
LC Size = A4
MP Type = Plain
LC Type = plain

Emulation Menu
Parallel = Auto
USB = Auto
Network= Auto
AUX = Auto

Printing Menu
Page Size = A4
Wide A4 = Off
Orientation = Port
RITech = On
Toner Save = Off
Image Optimum = Auto
Top Offset = 0.0mm
Left Offset = 0.0mm
T Offset B = 0.0mm
L Offset B = 0.0mm

Setup Menu
Lang = English
Timeout = 60
Paper Source = Auto
MP Mode = Normal
Manual Feed = Off
Copies = 1
Duplex = Off
Binding = Long Edge
Start Page = Front
Paper Type = Normal
Page Side = Front
Skip Blank Page = Off
Auto Eject Page = Off
Size Ignore = Off
Auto Cont = Off
Page Protect = Auto
LCD Contrast = 7

Parallel Menu
Parallel I/F = On
Speed = Fast
Bi-D = ECP
Buffer Size = Normal

USB Menu
USB I/F = On
Buffer Size = Normal

Network Menu
Network I/F = On
Network Config = No
Get IPAddress = Auto
IP = xxx.xxx.xxx.xxx
SM = xxx.xxx.xxx.xxx
GW = xxx.xxx.xxx.xxx
Buffer Size = Normal

AUX Menu
AUX I/F = On
AUX Config = No
Buffer Size = Normal

LJ4 Menu
FontSource = Resident
Font Number = 0
Pitch = 10.00cpi
SymSet = IBM-US
Form = 64Lines
Source SymSet = 277
Dest SymSet = 277
CR Function = CR
LF Function = LF
Tray Assign = 4K

GL2 Menu
GL Mode = LJ4GL2
Scale = Off
Origin = Corner
Pen = Pen0
End = Butt
Join = Mitered
Pen0 = 0.35mm
Pen1 = 0.35mm

PS3 Menu
Error Sheet = Off
Coloration = Color
Image Protect = Off

ESCP2 Menu
Font = Courier
Pitch = 10cpi
Condensed = Off
T.Margin = 0.50inch
Text = 66Lines
CGTable = PcUSA
Country = USA
Auto CR = On
Auto LF = Off
Bit Image = Dark
ZeroChar = 0

FX Menu
Font = Courier
Pitch = 10cpi
Condensed = Off
T.Margin = 0.50inch
Text = 66Lines
CGTable = PcUSA
Country = USA
Auto CR = On
Auto LF = Off
Bit Image = Dark
ZeroChar = 0

I239X Menu
Font = Courier
Pitch = 10cpi
Code PAge = 437
T.Margin = 0.40inch
Text = 67Lines
Auto CR = On
Auto LF = Off
Alt.Graphics = Off
Bit Image = Dark
ZeroChar = 0
CharacterSet = 2

Hardware Configuration

Installed Memory	64_MB (65536KB)	Other Options
Available Memory	58.3_MB (59774KB)	Lower Cassette
Firmware Revision	xxxxx	Duplex Unit
Font Data Revision	xxxxx	Hard Disk 5.5_GB
Installed Emulation	LJ4,GL2	
	ESC/Page-Color	
	ESCP2,FX,I239X	
Installed Interface	Parallel	
	USB	
	Network	
	AUX	

IAxxxxAxxxxJxxxxxxICx x x x16Pxxxxxxxxxxxxxxxxxxxx FMCxxxxxxx

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<AcuLaser C900>

An example of the printed status sheet is shown on the next page.
The status sheet draws up the printing data at the printer driver side. The information of consumables is shown regarding the consumables where the consumables warning status bit is ON.

- IAxxxx indicates the firmware version.

- Axxxxxxxx indicates the printer screen version in a 8-digit number.

- MCxxxxxx indicates the mechanical controller version of the engine main unit in a 6-digit number.

- 17Pxxxxxxxxxxxxxxx indicates the USB ID only when the status sheet is executed from the parallel interface or the USB interface.


EPSON AcuLaser™ C900

EPSON

EPSON AcuLaser™ C900

Status Sheet

Sleep Mode	Enable
Paper Source Priority	MP Tray
MP Tray Size	A4
LC Size	A4
Toner Out Error	Stop
Total Pages	8453
Color Pages	6272
Installed Memory	144MB
Communication Mode	ECP
Interface	Parallel USB AUX
Paper Source	MP Tray LC
Other Options	Duplex Unit

		Parts Numbers
Cyan Toner	E ■■■■ F	S050099
Magenta Toner	E ■■■■ F	S050098
Yellow Toner	E ■■■■ F	S050097
Black Toner	E ■■■■ F	S050100
Photoconductor	E ■■■ F	S051083
Waste Toner Collector		S050101

Error Lights

Paper Out, Paper Jam,
Feed Error, Cover Open

Toner Out, Consumable at End of Service Life,
Other Error: Check Status Monitor 3 for details

Warming Up,
Receiving Data

Toner Low or
Consumable Near End of Service Life

IA0628 A56315361 MC230001 17P250208081118310

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1.4.8 Reserve Job List (Only for AcuLaser C1900)

Reserve job list printing.
Use this function to print the job attribute registered in the Quick print job menu.
Contents (in the order): User name (alphabetical order), Job name (alphabetical order), and Job type

☐ Example

EPSONAL-C1900
Reserve Job List

Quick Print Job

User Name	Job Name	Job Type
0unknown	0Untitled	Verify
0unknown	9Untitled	Stored
0unknown	AUntitled	Verify
0unknown	zUntitled	Verify
9unknown	Untitled	Verify
Aunknown	Untitled	Verify
unknown	Untitled	Re-Print

Total Job Number: XX

1.4.9 Form Overlay List (Only for AcuLaser C1900)

Print the form attribute for up to 200 forms of Form overlay registered on the HDD. The contents are described as follows;

☐ Name

■ Maximum 2420 bytes

Numerals	: 0~9 (ASCII 30H~39H)
Capital letters	: A~Z (ASCII 41H~5AH)
Small letters	: a~z (ASCII 61H~7AH)

■ Form names are sorted and displayed.
Form names are sorted in the order of:

{(number(0>1..9))>alphabet(A>a>B>b>....>Z>z)}

For the same file name, the one added first takes priority. The one with a name containing not even character comes on the top.

☐ Comment

■ Maximum 40 bytes

Numerals	: 0~9	(ASCII 30H~39H)
Capital letters	: A~Z	(ASCII 41H~5AH)
Small letters	: a~z	(ASCII 61H~7AH)
Space	:	(ASCII 29H)
Symbols	: ! " # $%& ' ( ) * + , - . /	(ASCII 21H~2FH)
	: ; < = > ?	(ASCII 3AH~3FH)
	[	(ASCII 5BH)
	]	(ASCII 5DH)
	_	(ASCII 5FH)
	{	(ASCII 7BH)
	}	(ASCII 7DH)

☐ Date: 24 bytes

□ Example

EPSONAL-C1900

Name	Comment	Date
form1		MMMMDDYYYYHH:MM
form2		MMMMDDYYYYHH:MM

Total Number: XXX

1.4.10 Network Status Sheet (Only for AcuLaser C1900)

The following page gives an example of the Network Status sheet printout. The Network status sheet is not localized. The Network status sheet describes the current operating status, but does not indicate the setting values.
If the values and names are unused or undefined, these are shown with (NONE).

```
HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
HH EPSON Network Status Sheet (1/2) HH
HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
<General Information>
Card Type                   Built-in 10Base-T/100BaseTX Print Server
MAC Address                 00:00:48:XX:XX:XX
Hardware                    Ver.01.00
Software                    Ver.02.02

Printer Model               AL-C1900

Network Link Status         10BASE-T,Half Duplex

<TCP/IP>
Get IPAddress               Auto
IP Address                  192.168.192.168
Subnet Mask                 255.255.255.0
Default Gateway             255.255.255.255
Use a private IP address
 when an IP address cannot
 be assigned by the DHCP
 server.                    Disable
Set by PING                 Disable
Universal Plug and Play     Disable
Universal Plug and Play
Device Name                 (NONE)

<IPP>
IPP URL                     http://xxx.xxx.xxx.xxx:631/EPSON_IPP_Printer
Printer Name                EPSON_IPP_Printer
Location                    (NONE)

<SNMP>
Read Community              public
IP Trap 1                   Disable
IP Trap Address 1           (NONE)
IP Trap Community 1         (NONE)
IP Trap 2                   Disable
IP Trap Address 2           (NONE)
IP Trap Community 2         (NONE)
IPX Trap 1                  Disable
IPX Trap Address 1          (NONE)
IPX Trap Community 1        (NONE)
IPX Trap 2                  Disable
IPX Trap Address 2          (NONE)
IPX Trap Community 2        (NONE)
HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH AL-C1900 HH
```

```
HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
HH EPSON Network Status Sheet (2/2) HH
HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
<NetWare(R)>                Enable
Network Address             00000000:000000000000
Primary Frame Type          Ethernet_802.3
Mode                        Standby
Print Server Name           (NONE)
Polling Interval            (NONE)
NDS Tree                    (NONE)
NDS Context                 (NONE)
Primary File Server Name    (NONE)
Primary Print Server Name   (NONE)
Printer Port Number         (NONE)

<NetBEUI>                   Enable
NetBIOS Name                EPXXXXXX
Workgroup Name              WORKGROUP
Device Name                 EPSON

<AppleTalk(R)>              Enable
Printer Name                AL-C1900-XXXXXX
Zone Name                   XXXX
Network Number Set          Auto
Network Number              XXXXX
Node ID                     XXXXX
Entity Type #1              EPSONPAGECOLOR1
Entity Type #2              EPSONPCL5
Entity Type #3              EPSONPRPXL24
Entity Type #4              EPSONHPGL2
Entity Type #5              EPSONFX
Entity Type #6              EPSONLQ2


HHHHHHHHHHHHHHHHHHHHHHHHHHHHH AL-C1900 HH
```

1.4.11 Engine Status Sheet

\<AcuLaser C1900\>

The following pages give an example of the Engine status sheet printout. The Engine status sheet is not localized. The numerical values in the example are maximum limit count values. As a new feature, the number of planes when the paper type is "Thick", "Transprnc", "Envelope" or "Coated" is counted and then displayed.

☐ Total Count

Total Pages	:	The total number of pages printed up to now, which is same as Total Pages on the Information menu
Total Planes	:	Total print planes
Color Pages	:	The total number of color pages printed up to now, which is same as Color Pages on the Information menu
Thick Planes	:	The total plane number of printed pages using the Thick Paper, Transparency and Envelope setting
Thick Color Pages	:	The total page number of printed color pages using the Thick Paper, Transparency and Envelope setting. Total monochrome pages = Thick planes - (Total color pages) x 4

☐ Jam Count   : Number of jam occurrence

☐ ET Cartridge   : Toner consumption and cartridge replacement count of each toner cartridge. the consumption amount is a value read from the engine.

C Toner	:	The C Toner's usage rate and number of Images. It is cleared when a new toner cartridge is set.
M Toner	:	The M Toner's usage rate and number of Images. It is cleared when a new toner cartridge is set.
Y Toner	:	The Y Toner's usage rate and number of Images. It is cleared when a new toner cartridge is set.
K Toner	:	The K Toner's usage rate and number of Images. It is cleared when a new toner cartridge is set.
C Toner Change	:	The number of C Toner replacement, which is counted when a new toner cartridge is installed.
M Toner Change	:	The number of M Toner replacement, which is counted when a new toner cartridge is installed.
Y Toner Change	:	The number of Y Toner replacement, which is counted when a new toner cartridge is installed.
K Toner Change	:	The number of K Toner replacement, which is counted when a new toner cartridge is installed.

☐ Photoconductor   : The photoconductor's usage rate, which is a value read from the engine and is cleared when a new Photoconductor unit is installed

☐ Photoconductor Change : The number of Photoconductor replacement, which is counted when a new Photoconductor unit is installed

☐ Fuser   : The Fuser Unit's usage rate, which is a value read from the engine and is cleared when Reset Fuser Counter from the Maintenance menu is executed

☐ Transfer Unit   : The Transfer Unit's usage rate, which is a value read from the engine and is cleared when a new Transfer Unit is installed

☐ Transfer Unit Change : The number of Transfer Unit replacement, which is counted when a new Transfer Unit is installed

☐ Fuser Temp.   : Current Fuser Temperature, which is a value read from the engine.

☐ Developer Duty   : The current developer density, which is a value read from the engine.

☐ 2nd BTR Offset   : The current transfer voltage setting for each paper type, which is a value read from the engine.

☐ Color   : AIDC value(0 ~ 255) for CMYK color.

☐ Engine Version MCU   : The mechanism controller's version, which is a value read from the engine

☐ Error Log   : Display the latest 20 logs of panel message, EJL status code, and Total Pages for the error that has occurred. The latest item is displayed first. Target errors are service errors (errors after printing is ready) and jams. If an error occurs with the same Total Pages that has already been recorded, then this error is not recorded.

Table 1-48. Information and Methods of Management List

Information Name	Count Processing and Storage Location	Range	Units	Counting Conditions	Clear Conditions
Total Pages	Controller	~99,999,999	Pages	When printing	(EEPROM initialization)
Total Planes	Controller	~99,999,999	Planes	When transcribing	(EEPROM initialization)
Color Pages	Controller	~99,999,999	Pages	When printing	(EEPROM initialization)
Thick Planes	Controller	~99,999,999	Planes	When printing	(EEPROM initialization)
Thick Color Pages	Controller	~99,999,999	Pages	When printing	(EEPROM initialization)
Jam Count	Controller	~100,000	Counts	When a jam occurs	(EEPROM initialization)
C Toner	Engine	0 ~ 100	%	When printing	Detecting a new C Toner
		0 ~ 16,777,215	Images	C toner TOD	Detecting a new C Toner
M Toner	Engine	0 ~ 100	%	When printing	Detecting a new M Toner
		0 ~ 16,777,215	Images	M toner TOD	Detecting a new M Toner
Y Toner	Engine	0 ~ 100	%	When printing	Detecting a new Y Toner
		0 ~ 16,777,215	Images	Y toner TOD	Detecting a new Y Toner
K Toner	Engine	0 ~ 100	%	When printing	Detecting a new K Toner
		0 ~ 16,777,215	Planes	K toner TOD	Detecting a new K Toner
C Toner Changes	Controller	0 ~ 10,000	Counts	When replacing C toner	(EEPROM initialization)
M Toner Changes	Controller	0 ~ 10,000	Counts	When replacing C toner	(EEPROM initialization)
Y Toner Changes	Controller	0 ~ 10,000	Counts	When replacing C toner	(EEPROM initialization)
K Toner Changes	Controller	0 ~ 10,000	Counts	When replacing C toner	(EEPROM initialization)
Photoconductor	Engine	0 ~ 100	%	When printing	Detecting a new Photoconductor
Photoconductor Change	Controller	0 ~ 10,000	Counts	When replacing Photoconductor	(EEPROM initialization)
Fuser	Engine	0 ~ 100	%	When printing	SelecType
Transfer Unit	Engine	0 ~ 100	%	When printing	Detecting a new Transfer Unit
Transfer Unit Change	Controller	0 ~ 10,000	Counts	When replacing Transfer Unit	(EEPROM initialization)
Fuser Temp	Controller	-20 ~ 20	-	-	(EEPROM initialization)
Developer Duty	Engine	1 ~ 5	-	-	None

Table 1-48. Information and Methods of Management List (continued)

Information Name	Count Processing and Storage Location	Range	Units	Counting Conditions	Clear Conditions
2nd BTR Offset	Engine	-15 ~ 15	-	-	None
Color	Controller	0 ~ 255	-	-	(EEPROM initialization)
MCU	Controller	-	-	-	-
Error Code 1	Controller	-	-	When an error occurs	SelecType,
Error Page 1	Controller	-	-	When an error occurs	(EEPROM initialization)
:	:	:	:	:	
Error Code 20	Controller	-	-	When an error occurs	
Error Page 20	Controller	-	-	When an error occurs	

Note : Values in parentheses in Clear Condition column are cleared as a result. If a value exceeds the range, then there is no guarantee of the value managed by the controller to exceed that.

```
Engine Status Sheet

Total Counts
  Total Pages            99,999,999 pages
  Total Planes           99,999,999 planes
  Color Pages            99,999,999 pages
  Thick Planes           99,999,999 Planes
  Thick Color Pages      99,999,999 pages
ET Cartridge
  C Toner                100 %, 16,777,215 images
  M Toner                100 %, 16,777,215 images
  Y Toner                100 %, 16,777,215 images
  K Toner                100 %, 16,777,215 images
  C Toner Change         10,000
  M Toner Change         10,000
  Y Toner Change         10,000
  K Toner Change         10,000
Consumables
  Photo Conductor        100 %
  Photo Conductor Change 10,000
  Fuser                  100 %
  Transfer  Unit         100 %
  Transfer Unit Change   10,000
Engine  Setting
  Fuser  Temp.           0
  Developer Duty         2
  2nd BTR Offset
    Normal               0
    Thick                0
    Transparency         0
    Envelope             0
    Thick Back           0
Color
  C                      123 156 245
  M                      123 156 245
  Y                      123 156 245
  K                      123 156 245
Engine Version
  MCU                    xxxxxx
Error Log
  Panel Message          Code      page
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
  zzzzzzzzzzzzzzzzzzzzz  xxxx      YY,YYY,YYY
```

<AcuLaser C900>

The engine status sheet can be output by using the dedicated program. For details, refer to .

```
Engine Status Sheet

Total Counts
    Total Pages             99999999 pages
    Total Planes            99999999 planes
    Color Pages             99999999 pages
    Jam Counts              65535
ET Cartridge
    C Toner                 100 %, 10000 planes, 1500
    M Toner                 100 %, 10000 planes, 1500
    Y Toner                 100 %, 10000 planes, 1500
    K Toner                 100 %, 10000 planes, 4500
    C Toner Change          255
    M Toner Change          255
    Y Toner Change          255
    K Toner Change          255
Consumables
    Photoconductor          100 %
    Photoconductor Change   255
    Fuser                   100 %
    Transfer Unit           100 %
Engine Setting
    Fuser Temp.             0
    Developer Duty          2
    2nd BTR Offset
        Normal              0
        Thick               0
        Transparency        0
        Envelope            0
        Card                0
        Thick Back          0
        Card Back           0
        Duplex Back         0
Color
    C                       63 127 191
    M                       63 127 191
    Y                       63 127 191
    K                       63 127 191
Engine Version
    MCU                     999999
Error Log
    Page                    99999999
    Code                    6999
```

1.5 RAM Expansion

\<AcuLaser C1900\>

Insufficient memory triggers to display the following errors:

"Mem Overflow", "Image Optimum", "Need Memory", "Duplex Mem Overflow"

In these cases, it may be possible to overcome the problem by one of the following methods.

- ■ Set the resolution on 300 dpi in the case of B/W printing.

- ■ In the case of color printing, change the compression format (Lossy compression)

- ■ Make the receiving buffer size smaller.

- ■ Set an I/F which is not used to OFF.

CHECK POINT ✔	**Additional memories must be installed to avoid memory insufficiency properly. Additional memory expanding to a maximum of 1 GB.** **(SDRAM DIMM compatible with PC-100 or PC-133 of 32/64/128/ 256/512 MB)**

\<AcuLaser C900\>

The following errors or warnings appear in this printer in case of insufficient memory.

"Print Underrun", "Mem Overflow", "Duplex Mem Overflow", "Image Optimum", "Need Memory"

CHECK POINT ✔	**Changing the resolution to 300 dpi avoids these errors in some cases, but to avoid memory insufficiency properly, additional memories must be installed.** **Additional memory expanding to a maximum of 144 MB.** **SDRAM DIMM dedicated to Aculaser C1000/AcuLaser C7000 (The shape of slot is different from PC slots) 16 MB, 32 MB, 64 MB and 128 MB**

1.6 Handling Precautions

1.6.1 Caution when there is a Power Failure

AcuLaser C1900 / AcuLaser C900 is equipped internally with nonvolatile memory
(E2PROM). This nonvolatile memory preserves the settings for printer functions, and
if the power is cut during writing to the nonvolatile memory, the contents of the
nonvolatile memory can not be guaranteed, with the result that when the power is
turned on again, or when Reset All is executed, the panel setting values will return to
the default settings, or a Service call error will occur.

With AcuLaser C1900, HDD can also be connected to this printer, but if the power is
cut during writing to the HDD, the writing contents can not be guaranteed, so a HDD
error may occur. Accordingly, in the following cases, the power to AcuLaser C1900
should not be cut while writing to the nonvolatile memory or to the HDD.

- From the time the power is turned on until the On Line LED lights up
  continuously.

- While the Ready LED is blinking.

- While the printer is printing (while the paper feed motor is operating).

- While the Data LED lights up, or when it is blinking.

1.6.2 Caution Regarding High Temperature Parts

Take care not to touch the Fuser unit while the printer, is being opened to remove a
paper jam, etc., since the temperature of the Fuser unit inside the printer becomes high.

1.7 Network Environment (Only for AcuLaser C900)

The following restrictions apply to AcuLaser C900.

☐ Network Environment

Table 1-49. Applicable Network Environment

	Windows 95/98/Me	Windows NT4.0/2000	Mac
LPR	○	○	-
Port 9100	○	○	-
FTP	×	×	-
IPP	×	×	-
NetBEUI	×	×	-
AppleTalk	-	-	○
Netware	×	×	-
NDPS Gateway	×	×	-

○ :   Recommended environment

× :   The print quality is not guaranteed.
      (While printing is possible by sending the print data, the print results are not guaranteed.)

NOTE 1: Epson Net Direct Print is necessary for use of LPR or Port 9100 on Windows95/98/Me.

  2: For LPR or Port 9100 on Windows NT4.0/2000, Windows standard LPR or Epson Net Direct Print can be used.

  3: The default setting of NetBEUI and Netware is "ENABLE" in Leo 2.1. But AcuLaser C900 does not support these protocols because Status Monitor can not communicate with AcuLaser C900 via these protocols. The network setup section in AcuLaser C900 manual describes that users or administrators should set NetBEUI and Netware protocol to DISABLE.

  4: FTP, IPP and NDPS Gateway protocols can not be set to DISABLE and users can send data to AcuLaser C900 via these protocols. But the Status Monitor can not communicate with the printer via these protocols, so that protocols are out of guarantee. The AcuLaser C900 users manual describes that these protocols are out of guarantee.

☐ Limitations to Network Printing
    Only Leo 2.1 can be used.
    Leo 1.x and 2.0 can not be used. But Leo 2.0 can be updated to Leo 2.1.

☐ Other Information
    The Network status sheet of Leo2.1 can be printed.
    The Paper source selection is set to the paper source that has the paper size of the factory default setting of the MP Tray.

1.8 Host Requirements (Only for AcuLaser C900)

☐ Windows

Table 1-50. Windows

	CPU	RAM	HDD free space	Interface
Recommended Host	Pentium II 450MHz or higher	96MB or more	500MB (for driver spool)	IEEE1284 ECP USB 100BaseTx Ethernet
Minimum Requirements	Pentium 233MHz	64MB		

☐ Macintosh

Table 1-51. Macintosh

	CPU	RAM	Interface
Recommended Host	PowerPC G3 500MHz or higher	128MB or more	USB AppleTalk
Minimum Requirements	PowerPC G3 233MHz	128MB	

1.9 AIDC Control

☐ Conditions for performing the AIDC control

■ When the power is ON or returned from the power saving after printing more than 200 sheets following the previous AIDC control or the image stabilizing control.

☐ Conditions for performing the image stabilizing control.

■ When the power is ON or returned from the power saving after printing more than 1000 sheets following the previous image stabilizing control.

■ Right after the Toners, the Photoconductor unit or the Transfer belt is replaced.

■ After the Life counter is cleared following the replacement of the Fuser Unit. (Because the 2nd Transfer roller which is replaced at the same time affects the image quality.)

■ When Forced executions of the image stabilizing control are commanded.

■ When the environment such as humidity or the like has significantly changed from the previous when the power is supplied.

☐ Forced commands of the image stabilizing control

This is a function to perform the tone compensation control again when correct results have not been obtained by the control.

1. The printer is not in error condition.
2. Remove papers from all paper feeders.
3. The image stabilizing control is performed after the cover which opens/closes printer covers (the Front cover, the AB cover and the DM cover) is closed.

1.10 External Appearance and Parts Name

1.10.1 Overall Dimensions

426 mm

406 mm

473 mm

526 mm

469 mm

Figure 1-12. Overall Dimensions (with Options installed)

521 mm

Figure 1-11. Overall Dimensions (Main Unit only)

1.10.2 Names of Parts

Paper Eject Extension Tray

Control Panel

Right Cover Open/Close Lock Lever
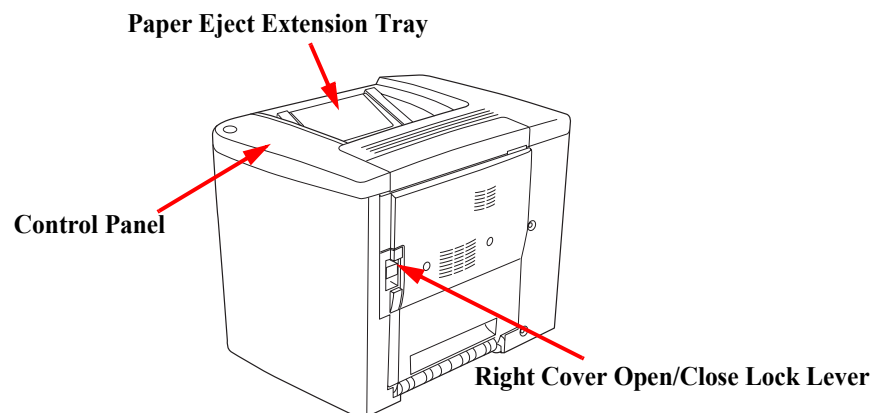
Figure 1-13. Names of Parts 1

Ethernet I/F Connector

Optional I/F Slot Cover

Parallel I/F Connector

Grounding Screws (two)

USB I/F Connector

MP Tray

MP Tray Cover

Power Switch
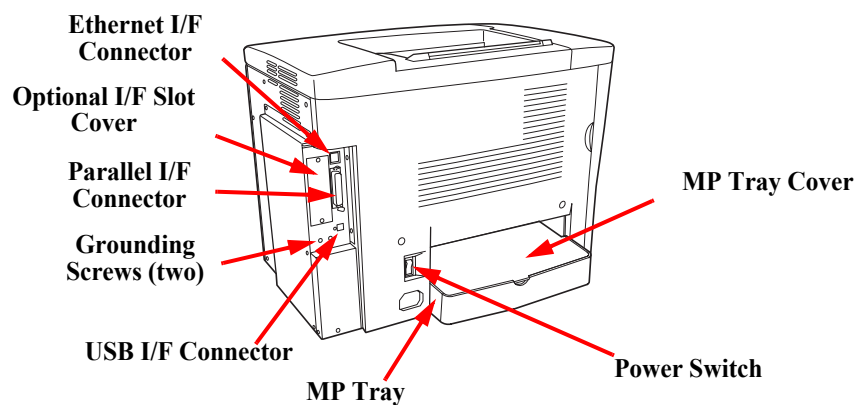
Figure 1-14. Names of Parts 2 (AcuLaser C1900)

Grounding Screws (two)

Optional I/F Slot Cover

Parallel I/F Connector

USB I/F Connector

MP Tray

MP Tray Cover

Power Switch
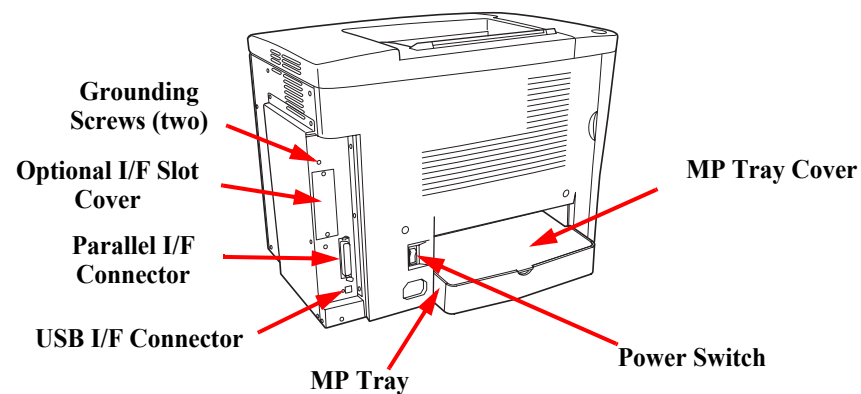
Figure 1-15. Names of Parts 3 (AcuLaser C900)

Duplex Unit (Option)

500-sheet Cassette Paper Feed Unit (Option)

500-sheet Cassette Unit (Option)
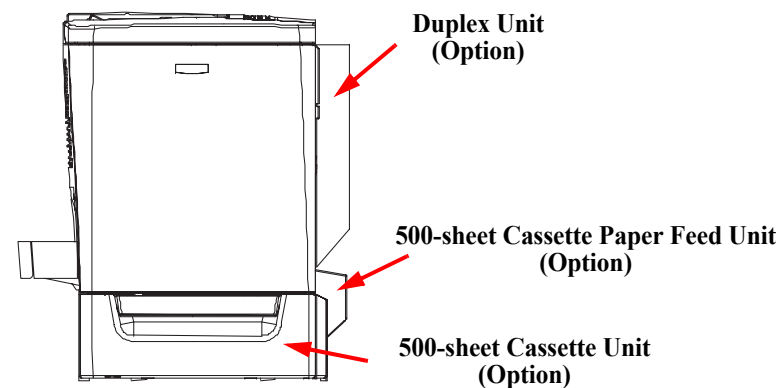
Figure 1-16. Names of Parts 4 (with Options installed)
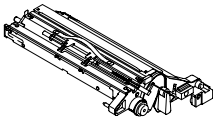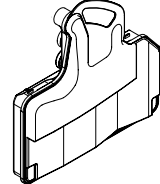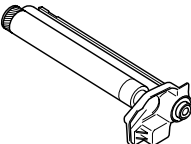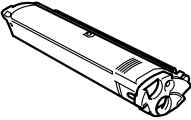
Transfer Belt Unit	Waste Toner Box	Photoconductor Unit	Toner Cartridge

Figure 1-17. Names of Consumables

1.11 Differences in Specifications

1.11.1 Differences between AcuLaser C1900 and AcuLaser C2000

☐ Engine specifications comparison

Table 1-52.

		AcuLaser C1900	AcuLaser C2000	Remark
Print Speed		4 ppm / 16 ppm	5 ppm / 20 ppm	
Paper Input	Maximum	700 sheets	1150 sheets	
	MP Tray	200	150	
	LC1	500 (option)	500 (standard)	
	LC2	-	500 (option)	
Paper Output		200 (face down)	500 (face down)	
Print Volume	Average	3 K sheets/month	8 K sheets/month	
	Maximum	35 K sheets/month	35 K sheets/month	
Noise		39 / 54 dB (A)	41 / 55 dB (A)	Sleep / Printing
Life		200 K sheets	500 K sheets	
Toner	Pre Install	1.5 K sheets	6 K sheets	per color
	After Market	4.5 K sheets	6 K sheets	per color
Weight		about 29 Kg	about 44.5 Kg	
Size	Width	429 mm	463 mm	
	Depth	521 mm	559 mm	
	Height	406 mm	511 mm	Avocet's size includes the projecting part of the MP tray.
Consumables	Photoconductor Unit	45 K images	30 K images	
	Second Transfer Unit	210 K images	100 K images	
	Waste Toner Collector	25 K images	30 K images	
	Fuser Unit	120 K sheets	100 K sheets	
	Transfer Roller	120 K sheets	100 K sheets	
	Fuser Oil Roll	-	30 K sheets	

☐ Controller specifications comparison

Table 1-53.

		AcuLaser C1900	AcuLaser C2000	Remark
CPU		SPC603ei - 300 M	R5000 - 266 M	
RAM	Standard	32 MB	32 MB	
	Maximum	1 GB	512 MB	
Interface		IEEE1284	IEEE1284	
		USB 1.1 (2.0 FS 12Mbps Certified)	-	
		10/100BaseTx	10/100BaseTx	
		Type-B slot	Type-B slot	
Panel		20 × 1 LCD	20 × 1 LCD	
		6 switch	8 switch	
		3 LEDs	6 LEDs	

1.11.2 Differences between AcuLaser C900 and AcuLaser C1000

AcuLaser C900 is different from AcuLaser C1000 in the following points:

☐ Usability

- The both-way postcard is added to the paper sizes supported (for domestic models).

- The toner cartridge must be replaced while the printer is powered on.

- Specify the toner to replace from the driver, when replacing it before it expires.

- The standard paper feed device is just one tray, but you can add one more optional cassette.

☐ Service

- The fuser oil roll is removed, and the service life of Photoconductor Unit and Transfer Belt are extended.

- Improving the AIDC control upgrades the picture stabilization.

- Since Waste T Box is not set with Photoconductor Unit, the packing box becomes compact.

- The printing density level, second transfer voltage, and fuser temperature can be adjusted.

- The ESCPAGES-02 command can be used to print Engine Status Sheet.

- The life of the Fuser Unit is elongated and also there is no worry about breakage of belts. Therefore, the "printing impossible" error caused by expiration of life does not occur and the "near end" warning is not given.

- The toner supplied with the main unit has a shorter service life than the one designated commercially as consumable.

- Since Waste T Box is not set with Photoconductor Unit, the Waste T Box has a shorter service life than Photoconductor Unit.

- After Fuser Unit is replaced, the counter must be cleared using the exclusive tool.

CHAPTER

2

OPERATING PRINCIPLES

2.1 Mechanism Overview

The following figure is the mechanism sectional drawing that helps you understand the basic mechanism of AcuLaser C1900 / AcuLaser C900.

Table 2-1. Major Components

No.	Name of Component
1	Toner Cartridge Rack
2	OPC Drum
3	Transfer Belt Unit
4	Paper Eject Roller
5	Fusing Roller
6	Second Transfer Roll
7	Timing Roller
8	Transportation Roller
9	Paper Feed Roller
10	Second Paper Feed Roller
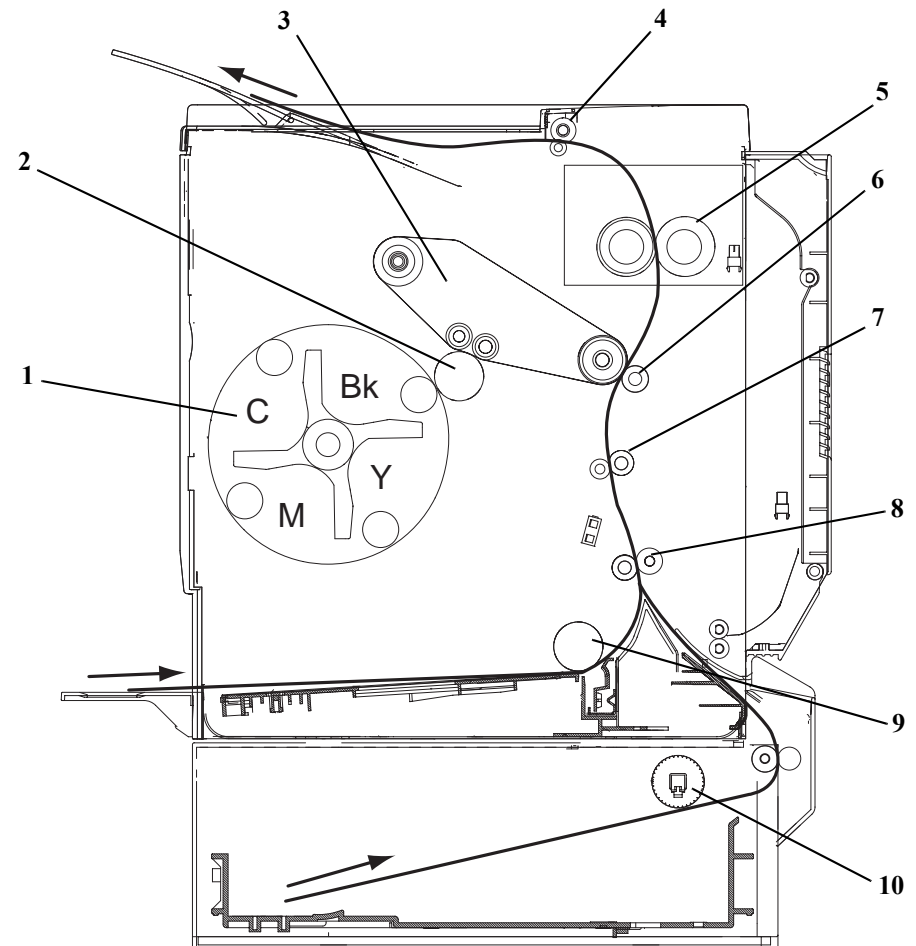
Figure 2-1. Sectional View of Mechanism

2.1.1 Locations of Electric Parts

Table 2-2. Electric Parts

Symbol	Name	Symbol	Name
H1	Fusing Roller Heater Lamp	SL1	MP Tray Paper Feed Solenoid
H2	Pressure Roller Heater Lamp	HS1	Temperature/Humidity Sensor
TH1	Thermistor	PU	Power Supply Unit
TS1	Thermostat	S1	Power supply switch
SL5	Second Transfer Roller Pressure Solenoid	PC8	Toner Cartridge Detection Sensor
M5	Fuser Cooling Fan Motor	HV	High Pressure Unit
SL3	Timing Roller Pressure Solenoid	PC4	Rack Black Position Detection Sensor
PC11	Fuser Loop Detection Sensor	SL4	Cleaner Pressure Flapper Solenoid
SL2	Transport Roller Solenoid	CL1	Rack Clutch
S3	Right Door Switch	PC9	Belt Cleaner Position Detection Sensor
PC12	Paper Transport Sensor	M2	Rack Motor
S5	Waste Toner Box Setting Switch	AIDC	AIDC Sensor
PC7	2nd Transfer Roller Pressure Position Detection Sensor	M1	Main Motor
PC6	Waste Toner Full Sensor	PWB-A	Master Board
PC3A	OHP Sensor	M4	Power Supply Cooling Fan Motor
PC2	Timing Roller Front Sensor	M6	Exhaust Fan Motor
S4	Laser Safety Switch	SL6	Fuser Loop Flapper Solenoid
S2	Front Door Switch	PH	Print Head Unit
PC1	MP Tray Paper Empty Sensor	PC10	Eject Sensor
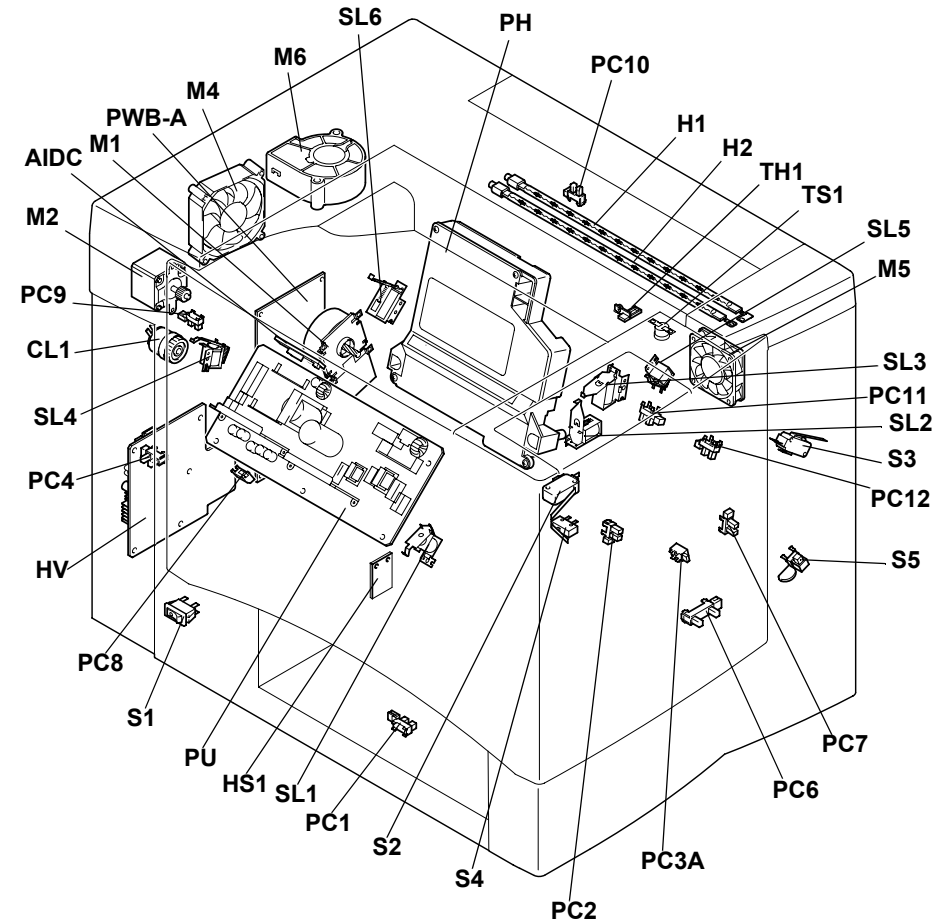
Figure 2-2. Locations of Electric Parts

Table 2-3. Various Sensors

Unit	Detecting matter	Detecting method	Remark
Developer Cartridge	Presence	Reflection photo switch detecting method	Detects chipped gear
	New product	Reflection photo switch detecting method	Detects chipped gear
	Remaining amount	Acquires gas gauge (0 ~ 100%, in 2% steps) and image counter via controller	Gas gauge: Displays dot counter in 2% steps
	Insertion when powering on	Reflection photo switch detecting method	• Removal/installation and replacement are possible without powering off • No mechanical defect • Removal/installation state is updated when cover is closed
	Near end	Near end value is not set for engine	Controller sets near end value
	Empty	Counted faster detection between gas gauge and image counter	Gas gauge: When reaches to 0% Image counter: When reaches to 6000/2000 images *1
Photoconductor Unit	Presence	Contact conduction method	
	New product	Fuse method (cuts new fuse)	
	Insertion when powering on	Contact conduction method	• Insertion is possible without powering off • No mechanical defect • Insertion state is updated when cover is closed
	Amount consumed	Gas gauge (0 ~ 100%, in 2% steps)	Measures operating time (rotation time of motor) Accounts every 30 seconds
	Near end	Near end value is not set for engine	Controller sets near end value
	End	Notifies a flag when gas gauge reaches to 0%	Controller performs processing of forbidding printing

Table 2-3. Various Sensors (continued)

Unit	Detecting matter	Detecting method	Remark
Waste Toner Collector	Presence	Leaf switch	
	Near full, Full	Near: Photo interrupter End: Notifies a flag when soft counter reaches to end	• Soft counter from when detecting near to when detecting full • After detecting, forbids printing in 200 images
Transfer Unit	Presence	None (However, when it fails in initialization of a belt, it is judged that it is not equipped with the transfer belt unit.)	(A service call error displayed)
	New product	Fuse method (cuts new fuse)	
	Amount consumed	Near end value is not set for engine	
	Near end	Near end value is not set for engine	Controller sets near end value
	End	Near end value is not set for engine	Controller sets end value (Refer to product specifications)
MP tray	Paper out	Transmission photo switch	
Optional 500-sheet cassette	Unit	Connector contact	
	Presence	Transmission photo switch	
	Near empty	Transmission photo switch	Remaining amount: Detects at 50 ± 30 (80 g/m^2 paper) sheets
	Paper out	Transmission photo switch	

Table 2-3. Various Sensors (continued)

Unit	Detecting matter	Detecting method	Remark
Fuser Unit	Presence	None	"Abnormal warm-up" error occurs when it is not installed
	New product	None	When new product installed: Performs counter reset from controller
	Insertion when powering on	None	
	Amount consumed	Near end value is not set for engine	
	Near end	Near end value is not set for engine	Controller sets near end value
	End	End value is not set for engine	
Second Transfer Roll	Presence	None	(By service personnel)
	New product	None	
	Insertion when powering on	None	
	Amount consumed	None	
	Near end	None	
	End	None	

Note "*1": 4.5k cartridge: Up to 6000 pages (A4size) / print ratio less than 5%.
            1.5k cartridge: Up to 2000 pages (A4size) / print ratio less than 5%.

2.2 Operation Sequence

☐ Full Color Printing on A4 Plain Paper
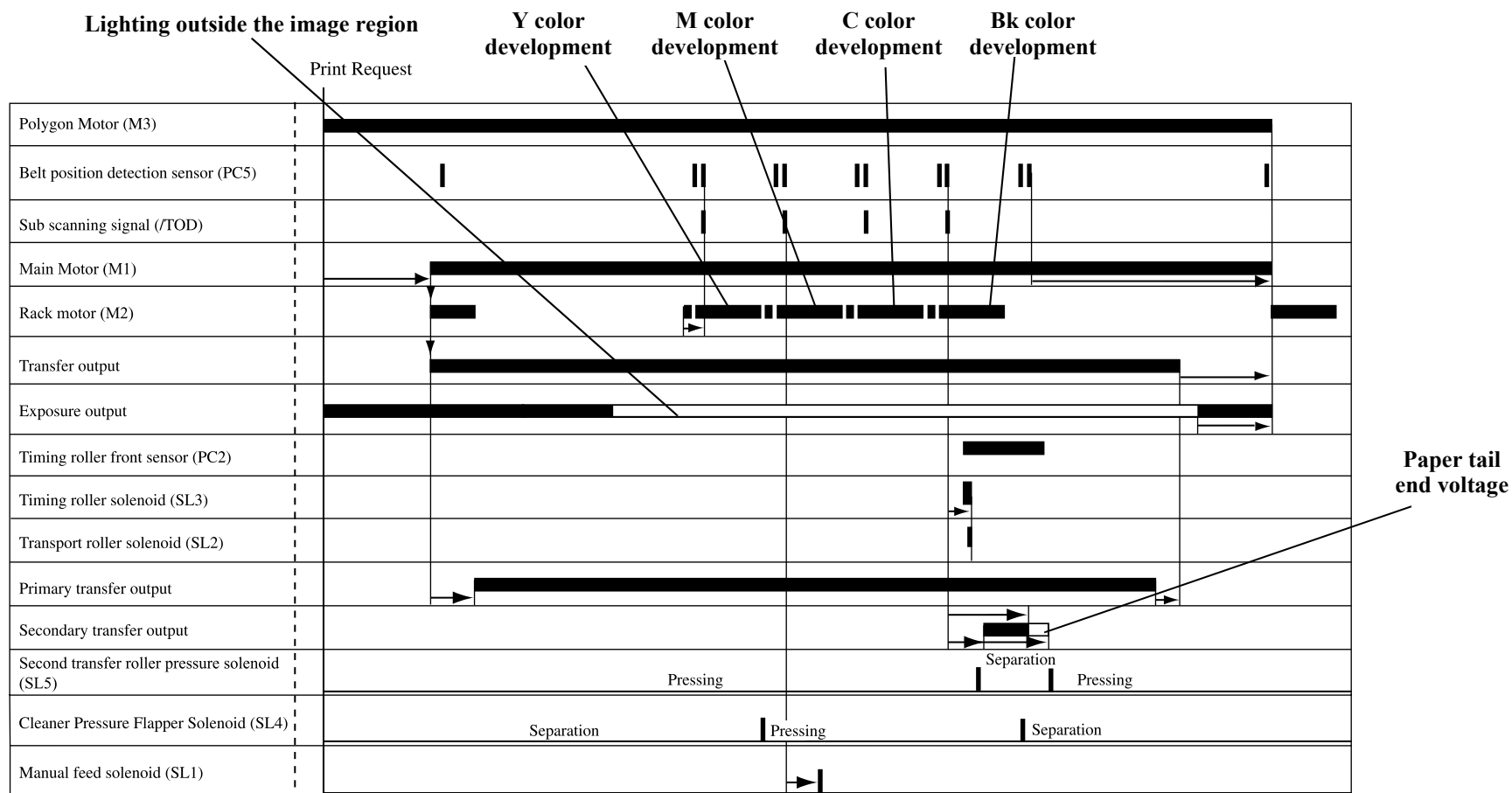
2.3 Image Stabilization Control

The image stabilization control as described below is performed to stabilize the output images.

Table 2-4. Image Stabilization Control

Purpose	Control	Sensor
To stabilize image density	AIDC control	AIDC sensor (AIDC detection)
To stabilize pixel depth		
To stabilize transfer	Transfer output control	Temperature/humidity sensor

☐ AIDC detection

Measures the amount of toner adhering to the transfer belt and stabilizes color reproducibility.

Toner Adhesion	Reflected Light	Output
Much	Small quantity	Low
Little	Large quantity	High

1. An LED radiates infrared rays onto the toner pattern on the transfer belt.

2. The light receiver detects the infrared rays reflected by the toner pattern on the transfer belt.

3. A voltage corresponding to the intensity of the reflected light is output to the Main Board Assy (PWB-A).

AIDC sensor
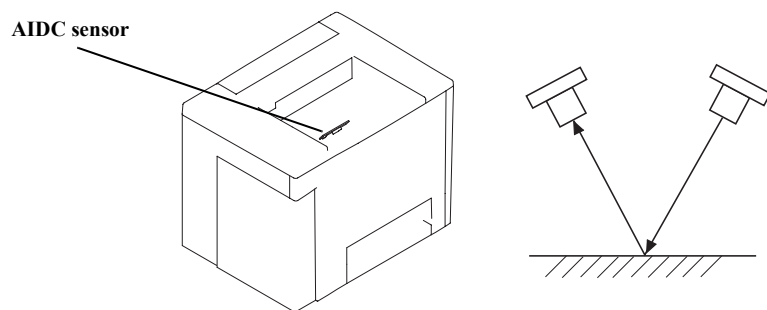
☐ Outline of AIDC control

AIDC control as described below is performed to ensure image stabilization.

Table 2-5. AIDC Control Items

Control	Description
Ds correction control	Sets development bias.
LED light adjustment control	Adjusts the quantity of light to be emitted by the LED.
Belt surface level correction control	Used for laser light adjustment and gamma correction control.
Solid color toner adhesion control	Keeps the amount of toner adhesion to the OPC drum at a constant level.
Laser light adjustment control	Ensures a constant level of black line reproduction and white line reproduction.
	Adjusts the quantity of laser light for a certain amount of toner consumed.
Gamma correction control	Corrects the pixel depth by the controller.

☐ Ds correction control
Sets an optimum development bias to prevent image fogging or uneven density.

☐ LED light adjustment control
Adjusts the quantity of light emitted by the LED to ensure a constant output value from the sensor relative to the surface of the intermediate transfer belt to which no toner is adhering, in order to control the fluctuation in characteristics the AIDC sensor which can occur due to the lapse of time or dirt.

☐ Belt surface level correction control
Measures the variation of the reflection factor of the intermediate transfer belt due to the lapse of time and uses the measurement result for correction in the laser light adjustment control and gamma correction control.

☐ Solid color toner adhesion control
Adjusts the ratio of the pulse width of development bias to ensure a constant amount of toner adhesion (amount of development) formed on the OPC drum relative to 100% solid image.

☐ Laser light adjustment control
Adjusts the quantity of laser light to ensure a constant black and white lines reproducibility and a constant amount of toner consumed relative to environmental variations and change with the lapse of time in photoconductor characteristics, development characteristics or electric change characteristics.

☐ Gamma correction control
Forms a pattern on the transfer belt, measures the density of the pattern with the AIDC sensor and sends the measurement result to the controller for correction of pixel depth.

☐ Timing for control operation

In the image stabilization control, each control item is executed as required depending on the circumstances.

Table 2-6. Operation Timing

Timing for Control Operation		Processing
At detection of new intermediate transfer belt	A	Ds correction control → LED light adjustment control → Belt surface level correction control → Solid color toner adhesion control → Laser light adjustment control → Gamma correction control
At detection of new Photoconductor Unit/Toner Cartridge		
At environmental change		
After 1000-sheet printing *1		
After 200-sheet printing *2	B	Solid color toner adhesion control → Laser light adjustment control → Gamma correction control
At indication by controller	C	Gamma correction control

Note "*1": When 1000 sheets or more have been printed since the previous processing of A was executed.

    "*2": When 200 sheets or more have been printed since the previous processing of A or B was executed.

☐ Temperature/humidity sensor

The output voltage is determined from the value calculated by ATVC control and the value (environment) detected by the temperature/humidity sensor.

Temperature/humidity sensor (HS1)
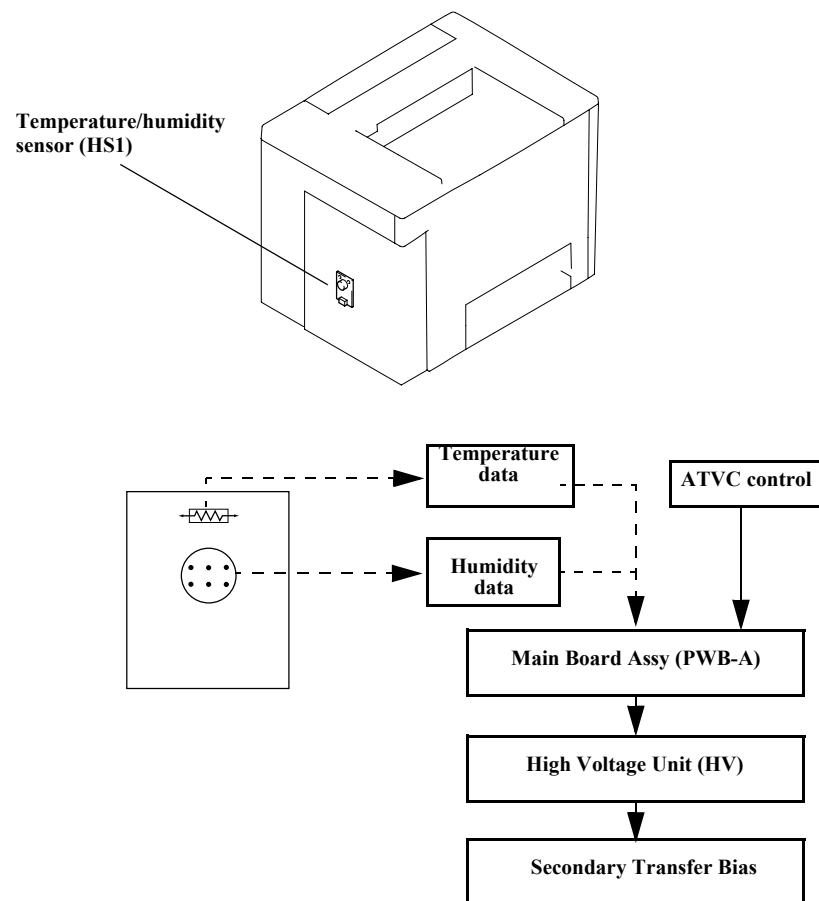
2.3.1 Execution Conditions for Image Stabilization Control (Only for AcuLaser C900)

EXECUTION TIMING FOR IMAGE STABILIZATION CONTROL

☐ At turning power on or recovery from sleep mode after printing of 1,000 sheets or more counted from the previous execution of image stabilization control

☐ Immediately after replacement of a toner cartridge, the Photoconductor Unit or intermediate transfer belt

☐ After clearing of the life counter following the replacement of the Fuser Unit (The secondary transfer roller replaced simultaneously can affect image quality.)

☐ Forced execution of image stabilization control

☐ At turning power on if ambient conditions, such as humidity, are detected to have changed significantly compared with those at previous power turning on

AIDC CONTROL EXECUTION TIMING

At turning power on or recovery from sleep mode after printing of 200 sheets or more counted from the previous execution of AIDC control or image stabilization control

FORCED EXECUTION OF IMAGE STABILIZATION CONTROL

When proper result is not obtained by pixel depth correction control, the image stabilization control processing can be forcedly executed by the following procedure:

1. Make certain that the printer is not in "error" status, remove the paper from all the paper feeders.
2. Open and close one of the printer covers (Front, AB and DM). After completion of closing the cover, the image stabilization control will be executed.
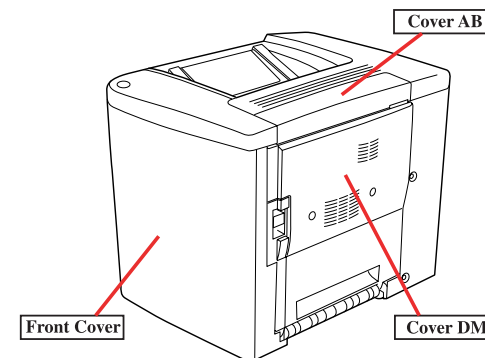
Figure 2-3. Locations of Covers

"ACULASER C900" DIFFERENCE FROM ACULASER C1000 CONCERNING AIDC CONTROL EXECUTION

Concerning AIDC control execution, AL-C900 is different from AcuLaser C1000 in the following points:

Table 2-7. "AcuLaser C900" Difference from AcuLaser C1000

	AcuLaser C1000	AcuLaser C900
At turning power on	AIDC control is always executed at power on.	The previous control value has been stored and AIDC control is executed only when necessary.
At opening and closing cover	At opening and closing a cover except at occurrence of paper jam, AIDC control is always executed.	Control is executed only when a cover is opened and closed for replacement of consumable or forced execution of image stabilization control.
At recovery from sleep mode	Not executed	AIDC control is executed depending on the number of printed sheets counted from the previous execution of control.

2.3.2 Engine Restrictions

TONER DUTY LIMIT VALUE

200% (to prevent from winding around the fuser unit)

NOTE: *However, a hardware stop will not be forcibly performed when it exceeds 200% at the engine side.*

FAN CONTROL

☐ Rear Fan (Fan 1)
  ■ Reaching the full speed 20 seconds after start of printing
  ■ Slowing down to the half speed 15 seconds after completion of printing
  ■ Off during sleep mode

☐ Sirocco Fan (Fan 2)
  ■ Turned on simultaneously with start of printing
  ■ Turned off 90 seconds after completion of printing
  ■ Off during sleep mode

FUSER CONTROL

☐ Fuser roller modification prevention control
It prevents changing by passage of time.

  1. The intermediate transfer belt rotate 4 times per holding the sleep mode for 14 days.

  2. The intermediate transfer belt rotate 2 times per holding the standby mode for 13 hours.

☐ Feed operation delay control of an envelope / Transparency
In the case that the inside temperature of printer is 28 and envelope is chosen as paper type, the feed operation may be delayed by the fuser temperature around that.

  ■ Delay time
  Envelope: 0 ~ 80sec
  Transparency: 0 ~ 44sec
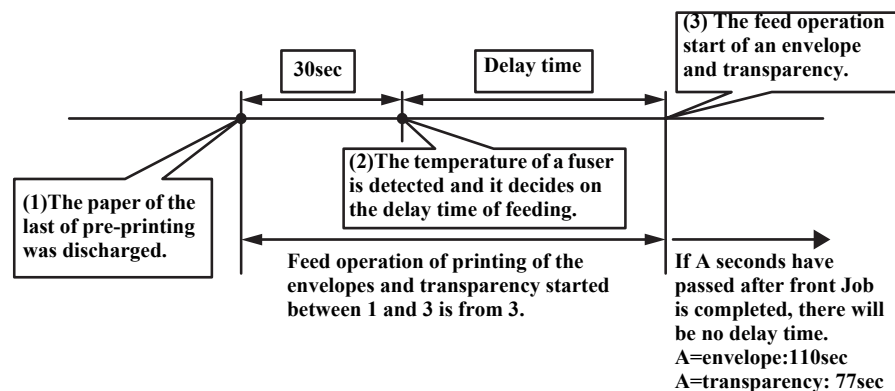
Figure 2-4. Printing Start Delay Control for Envelope and Transparency

2.4 Description of Mechanisms

2.4.1 Paper Path

☐ Paper feeding system
   1-way paper feeding system from the MP Tray (200 sheets).

NOTE: The 2-way paper feeding system is available by adding the optional 500-sheet Cassette Unit.

The paper fed by the Paper Feed Roller is transported in the route constituted by Transport Roller → Timing Roller → Transfer Roller → Fusing Roller → Paper Eject Roller and ejected into Paper Eject Tray.

Face-down Paper Eject

Duplex Unit (Option)

OPC Drum

Bk

C

Y

M

MP Tray

500-sheet Cassette Unit (Option)
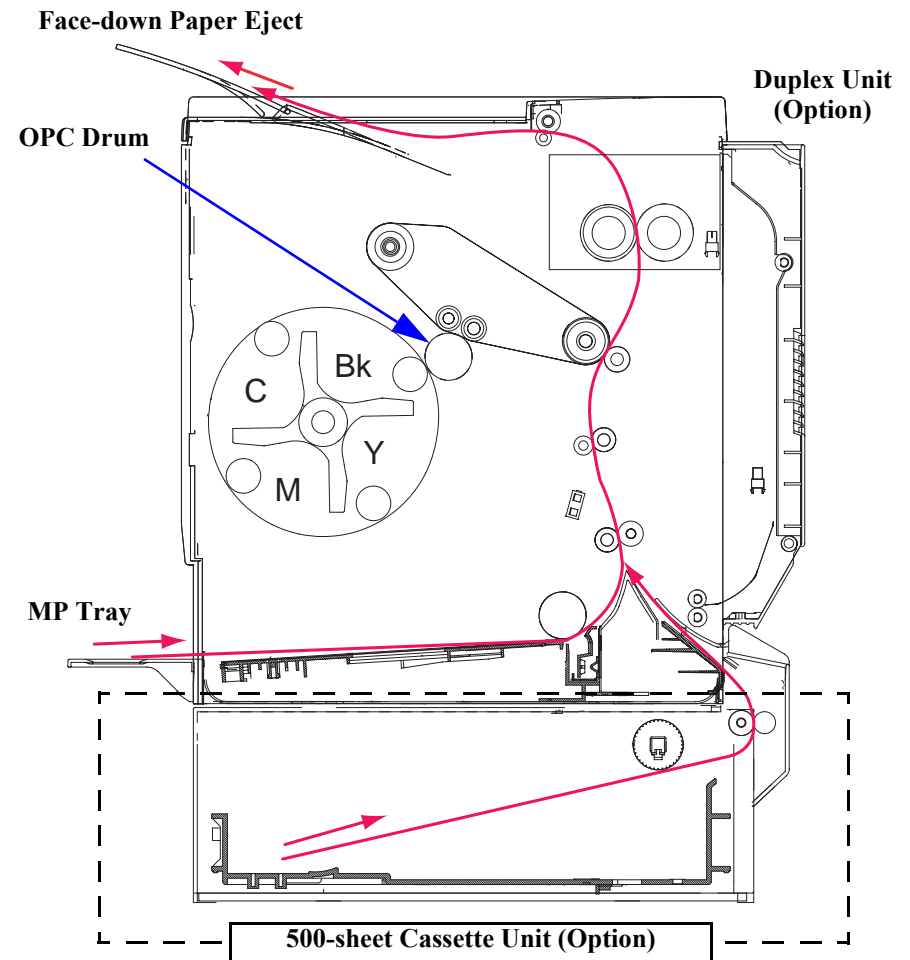
Figure 2-5. Paper Path

2.4.2 Photoconductor Unit

2.4.2.1 OPC Drum

☐ OPC (Organic Photoconductor):
   This photoconductor is of a laminate type consisting of a carrier generation layer and an electric charge retaining layer applied onto an aluminum base (cylinder).

Electric charge retaining layer

Carrier generation layer

Aluminum base

1167M007AA

1139M007AA
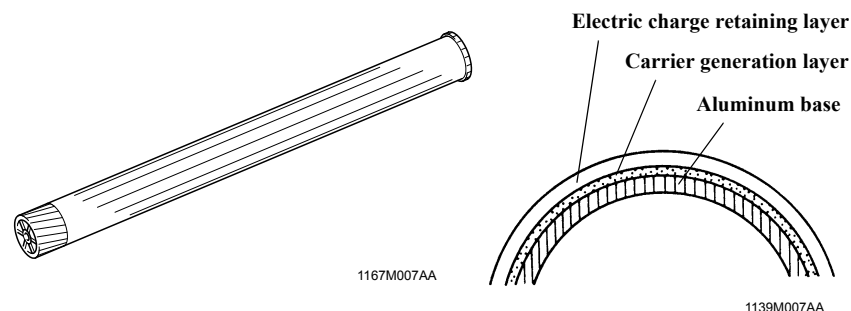
Figure 2-6. OPC Drum (Organic Photoconductor)

CAUTION	The organic photoconductor can deteriorate by sensitivity change due to light fatigue if is exposed to light for an extended period of time. To prevent such deterioration, when the OPC Drum has been taken out of the printer body, cover it with a clean soft cloth to protect it from exposure to light. In handling the Photoconductor Unit, take great care that no dirt adheres to the surface of the photoconductor.

☐ Grounding of OPC drum
   The grounding contact of the OPC drum is located in its rear inside and always in contact with the shaft. When the Photoconductor Unit is installed in the printer body, the shaft of the Photoconductor Unit comes in contact with the grounding plate in the printer body to achieve grounding. Thus, the electric charge on the OPC drum exposed to light is grounded through the Grounding Contact, the Shaft and the Grounding Plate to the Frame.

Grounding Contact

OPC Drum

Grounding Plate

Shaft
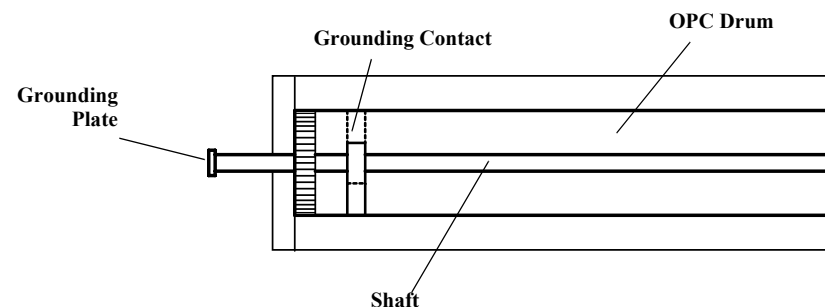
Figure 2-7. Grounding of OPC drum

2.4.2.2 Charging Process

Charging is carried out by the needle electrode scorotron charger.
The OPC drum is charged evenly by the corona discharge from the charger via the Grid Mesh.
Ozone generation is suppressed thanks to corona discharge concentration on the side of grid mesh by use of the needle electrode type charger.

Needle Electrode Charger

OPC Drum

Grid Mesh

Electrification Bias

Charge Bias
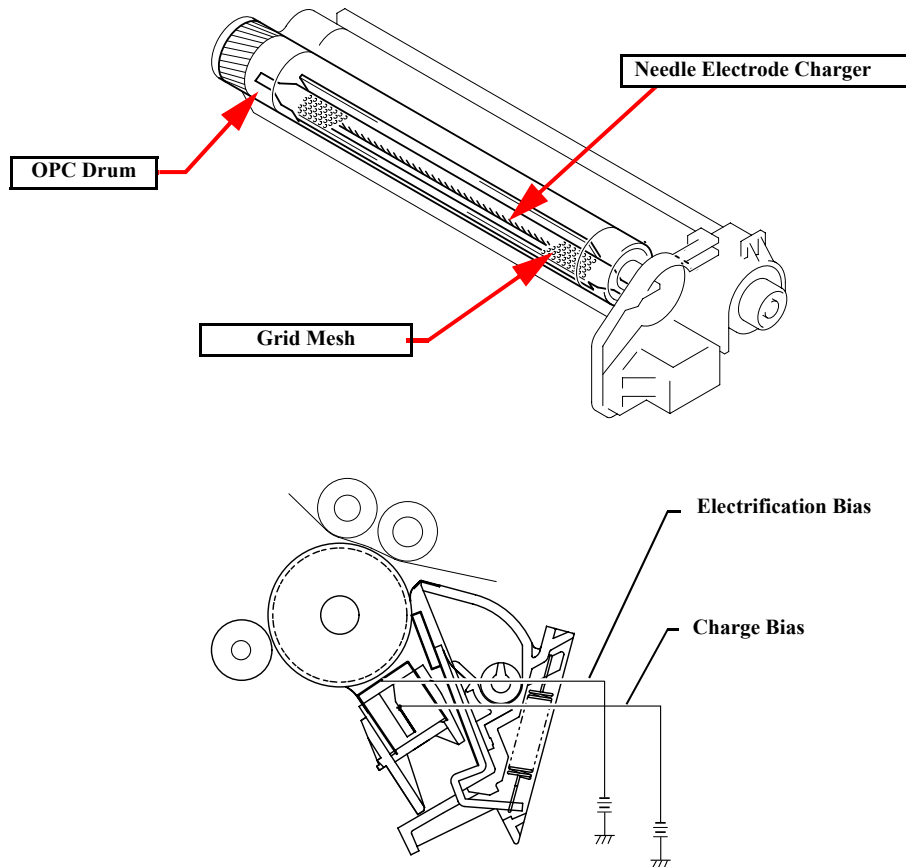
Figure 2-8. Charging Mechanism

2.4.3 Exposure Process

The laser beam from the print head creates an electrostatic latent image on the OPC drum surface.

SUB SCANNING DIRECTION (VERTICAL SCANNING DIRECTION)

When the printer receives the PRINT signal, the polygon motor (M3) and the main motor (M1) operate, and paper feeding is started.

Printing in the sub scanning direction is started when the belt location detection sensor is turned on.

MAIN SCANNING DIRECTION (HORIZONTAL SCANNING DIRECTION)

Upon receiving the SOS sensor signal from the Laser Control Board, the printer starts printing in the main scanning direction.

PRINTABLE AREA

Figure 2-10 at right shows the printable area in the sub scanning direction and the main scanning direction.
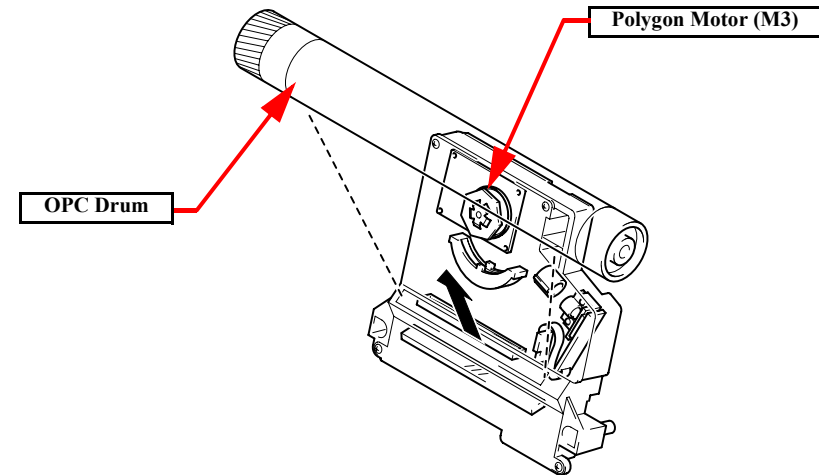
Figure 2-9. Exposure Control
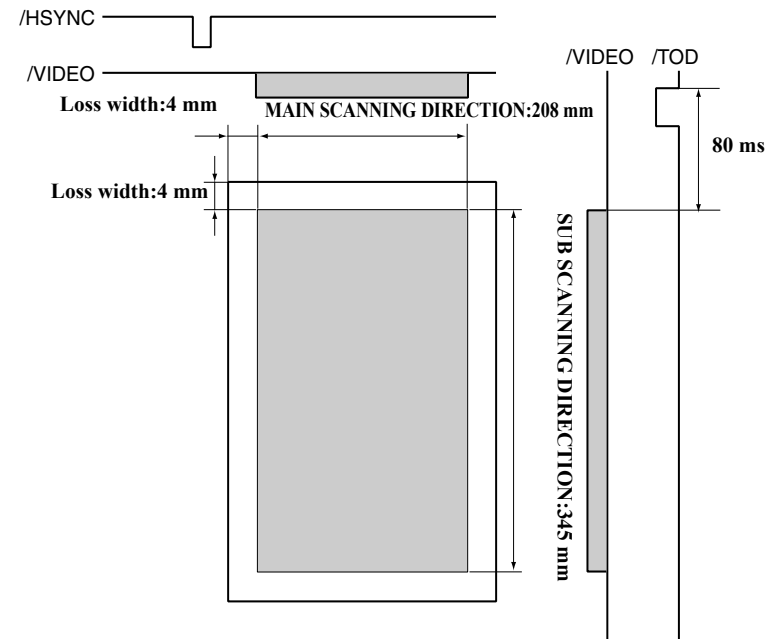
Figure 2-10. Printable Area

2.4.4 Development Process

2.4.4.1 Toner Cartridge Rack

At printing in individual colors, the Toner Cartridge Rack is turned to locate the relevant one of the toner cartridges for the four colors (Bk, Y, M and C) at the development position.

DRIVING OF TONER CARTRIDGE RACK

The Toner Cartridge Rack is driven by the Rack Motor (M2).

DRIVING OF DEVELOPMENT ROLLER

The Development Roller is driven by the Rack Motor (M2) and the Development Roller Gears.

When the Toner Cartridge Rack has stopped at the development position, the Rack Motor (M2) and the Development Roller Gears drives to rotate the Development Roller.
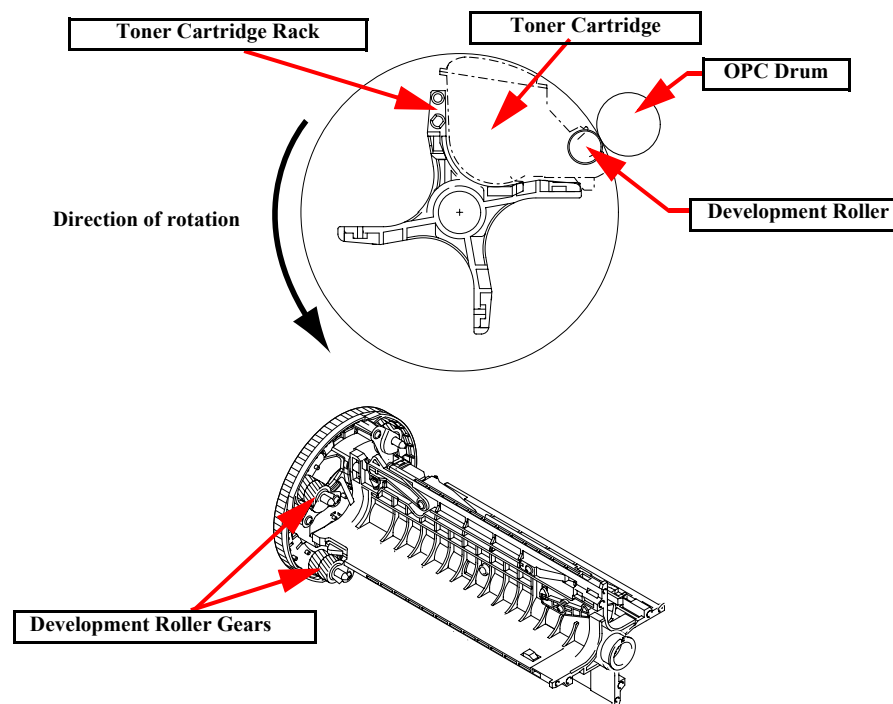
Figure 2-11. Driving of Toner Cartridge Rack
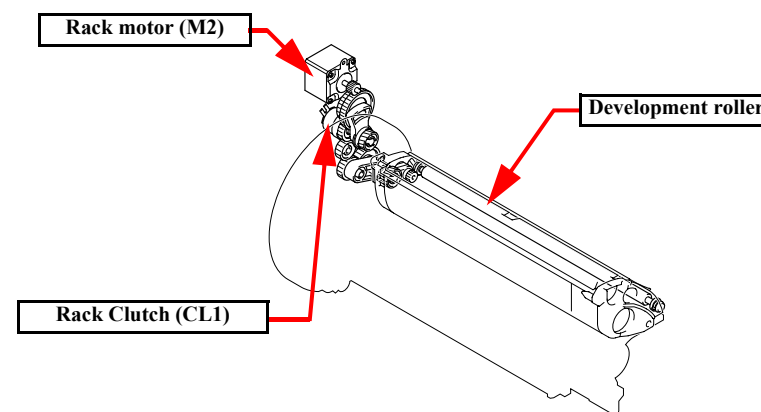
Figure 2-12. Driving of Development Roller

2.4.4.2 Development Position

TONER CARTRIDGE RACK STOP POSITION FOR DEVELOPMENT

The toner cartridge for each color is stopped at the development position by the operation of the Rack Lock Lever and the Rack Position Detection Sensor (PC4).

The Toner Cartridge Rack rotates, the Rack Lock Lever drops into the groove for stopping at development position, the light to the Rack Black Position Detection Sensor (PC4) is transmitted and the toner cartridge the relevant color stops at the development position.

STANDBY POSITION OF TONER CARTRIDGE RACK

The standby position is such that the stop position for development is 20 degrees before the black toner cartridge.

When the Toner Cartridge Rack rotates and the Rack Lock Lever passes the groove for black position detection (light to PC4: intercepted Å® transmitted), rotation of the rack is decelerated.
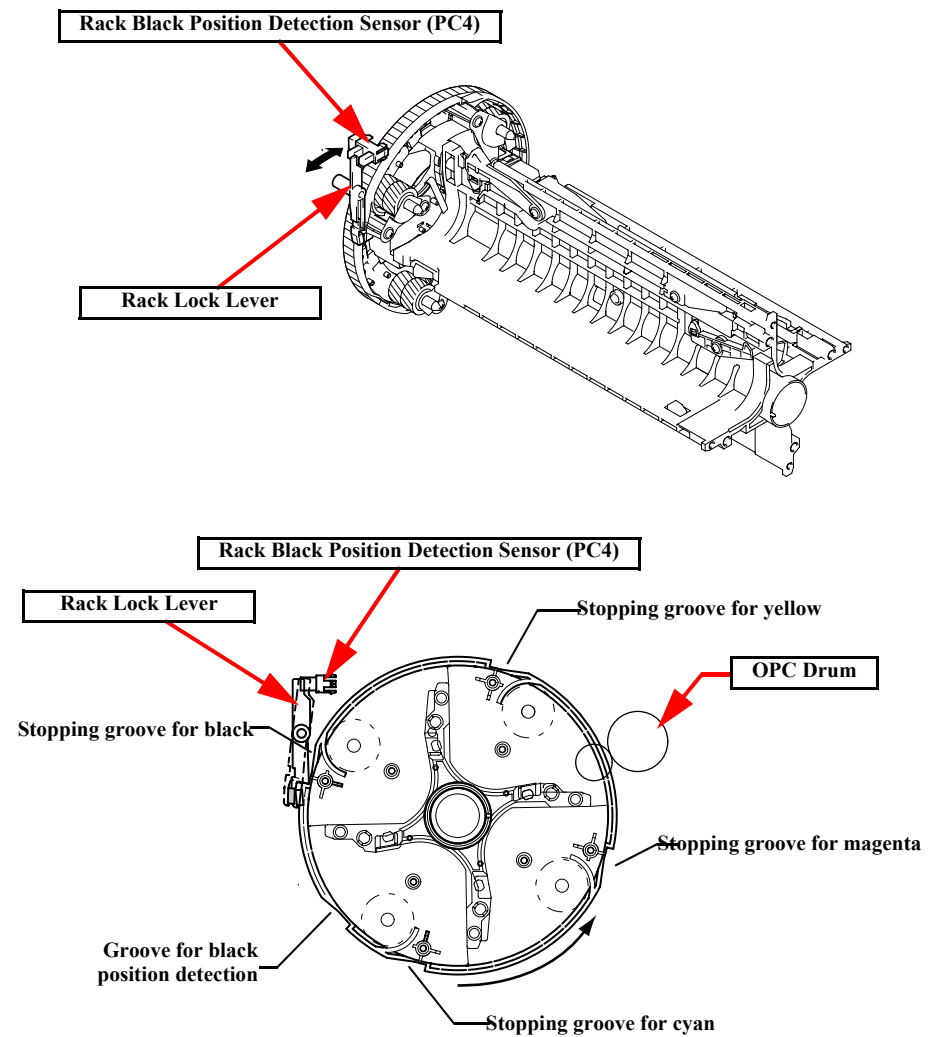
Figure 2-13. Toner Cartridge Rack Stop Position for Development

2.4.4.3 Toner Cartridge

OVERVIEW

The toner cartridge is constructed as shown in Figure 2-12 at right.

Table 2-8. Construction of Toner Cartridge

No.	Name	Function
1	Toner hopper	-
2	Toner agitation wing	-
3	Toner transportation roller	-
4	Development roller	An amount of toner restricted by the toner restriction blades is applied to this development roller.
5	OPC Drum	-
6	1st restriction blade	Restricts the amount of toner adhesion to the development roller.
7	2nd restriction blade	
8	Bias seal	Collects toner that did not stick to the OPC drum.
9	Development blade bias	-
10	Development bias	Ensures a proper amount of toner adhesion to the OPC drum by applying development bias to the development roller.
11	Development seal bias	-

TONER EMPTY DETECTION

The amount of toner consumed is calculated from the number of printed sheets to detect "Toner Empty" status.

At detection of "Toner Empty" status, the control panel displays the relevant message.
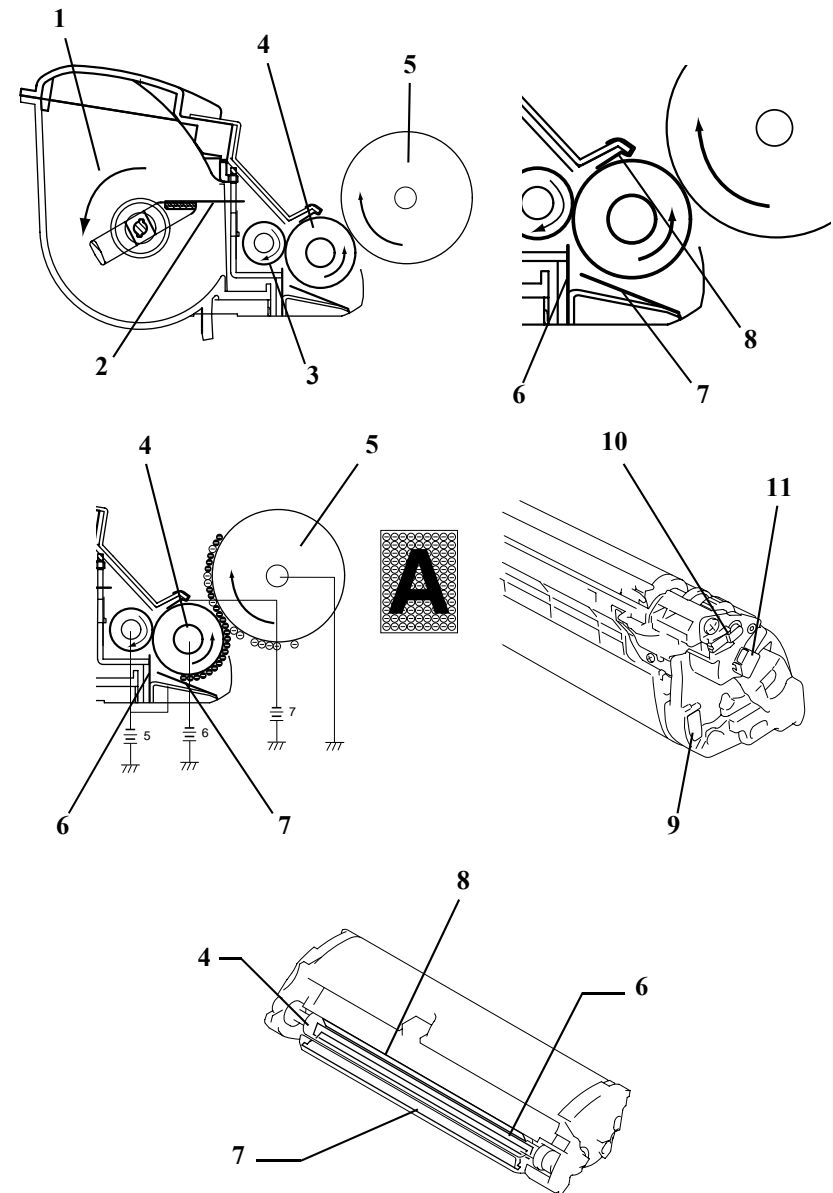
Figure 2-14. Construction of Toner Cartridge

DETECTION OF TONER CARTRIDGE

The presence/absence of a toner cartridge is detected with the toner cartridge detection sensor (PC8) and reflector.

Table 2-9. Detection Method

	Reflected Light
Toner cartridge absent	Absent
Toner cartridge present	Present
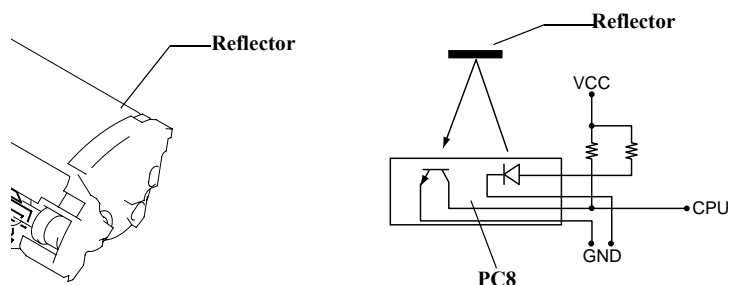
Figure 2-15. Detection of Toner Cartridge

DETECTION OF NEW TONER CARTRIDGE

1. Set a new toner cartridge.

2. Close the front door. Turn on the main switch.

3. Rotate the Toner Cartridge Rack and stop it where the black toner cartridge is located at the stop position for development.

4. The toner cartridge detection sensor detects the "Set" / "Unset" of a toner cartridge.

5. Since the new toner cartridge has the reflector hidden, the reflected light is absent and the toner cartridge detection sensor detects "Unset".

6. The toner cartridge detected as "Unset" is stopped at the development position and the development roller is rotated.

7. As a result of rotation of the development roller, the reflector is pushed out and the toner cartridge detection sensor (PC8) detects "Set".

8. Each of the other toner cartridges is stopped at the stop position for development and if it is a new one, the steps 4 to 7 above are followed. ((For each color cartridge))

By operation above, the toner cartridge is detected to be a new one, if so.
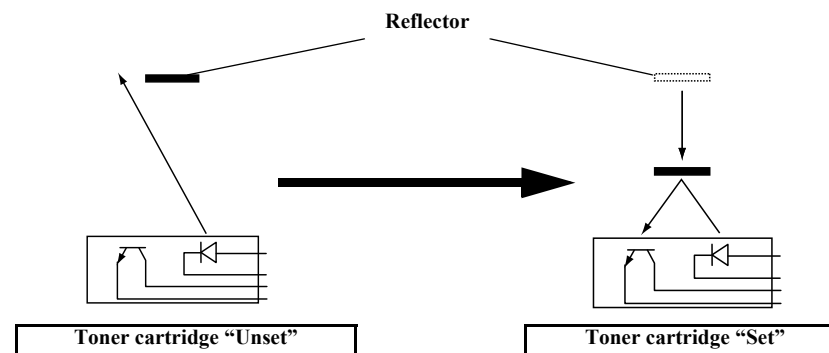
Figure 2-16. Detection of New Toner Cartridge

2.4.5 Transfer Process

2.4.5.1 Transfer Belt Unit

OVERVIEW
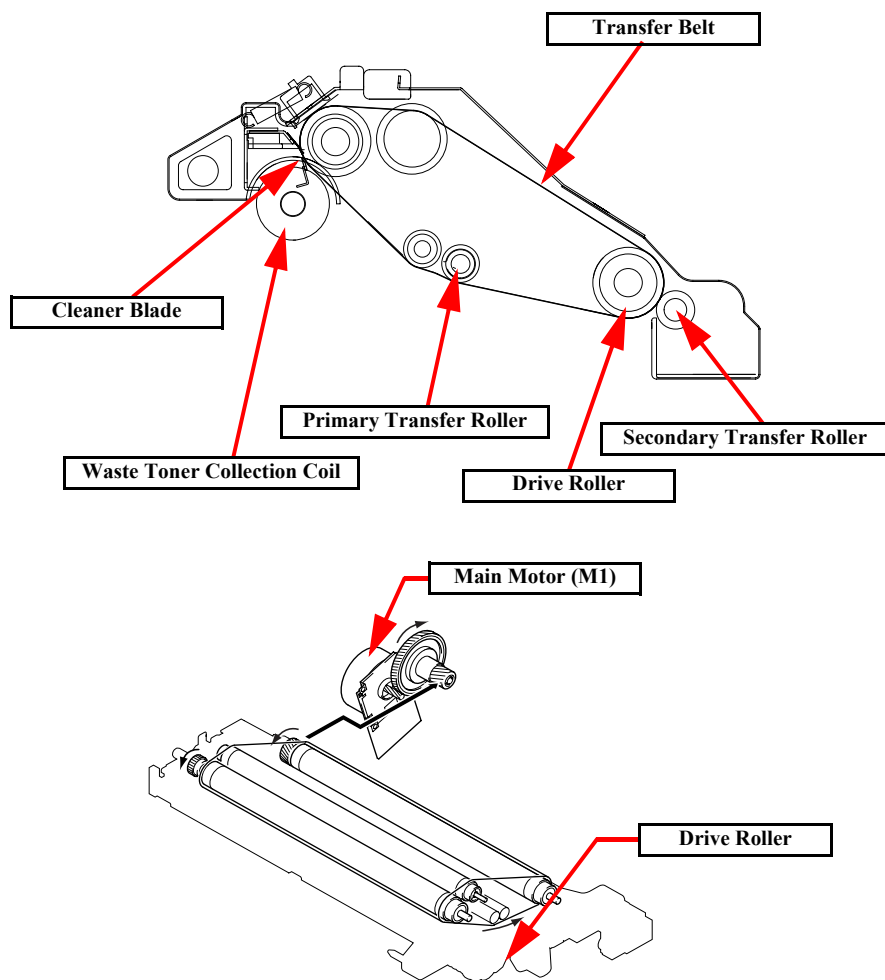
Figure 2-17. Transfer Belt Unit

PRIMARY TRANSFER

The toner image on the OPC drum is transferred onto the transfer belt by applying intermediate transfer bias to the Primary Transfer Roller.
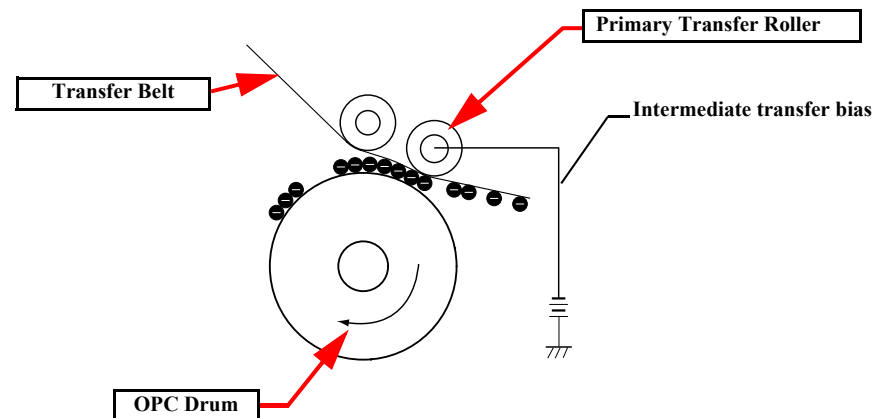
SECONDARY TRANSFER

The toner image on the transfer belt is transferred onto the paper by applying secondary transfer bias to the Secondary Transfer Roller.
The residual charge on the paper is removed with the charge remover.
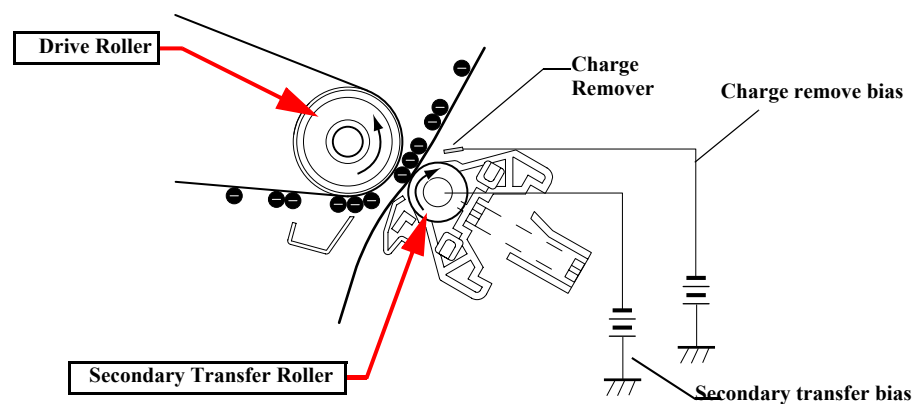
SECONDARY TRANSFER ROLLER PRESSED / SEPARATED

The secondary transfer roller is pressed and separated by turning on and off of the secondary transfer roller pressure solenoid (SL5) which activates rotation of the cam on the printer body.
When the secondary transfer roller pressure solenoid (SL5) is turned on, the cam on the printer body rotates and the secondary transfer roller is separated.
The position of the pressed/separated roller is detected by the transfer roller position detection sensor (PC7).

Secondary Transfer Roller Pressure Solenoid (SL5)

Secondary Transfer Roller

Drive Roller

Secondary Transfer Roller

Spring

Pressure Lever

Transfer Roller Position Detection Sensor

Cam
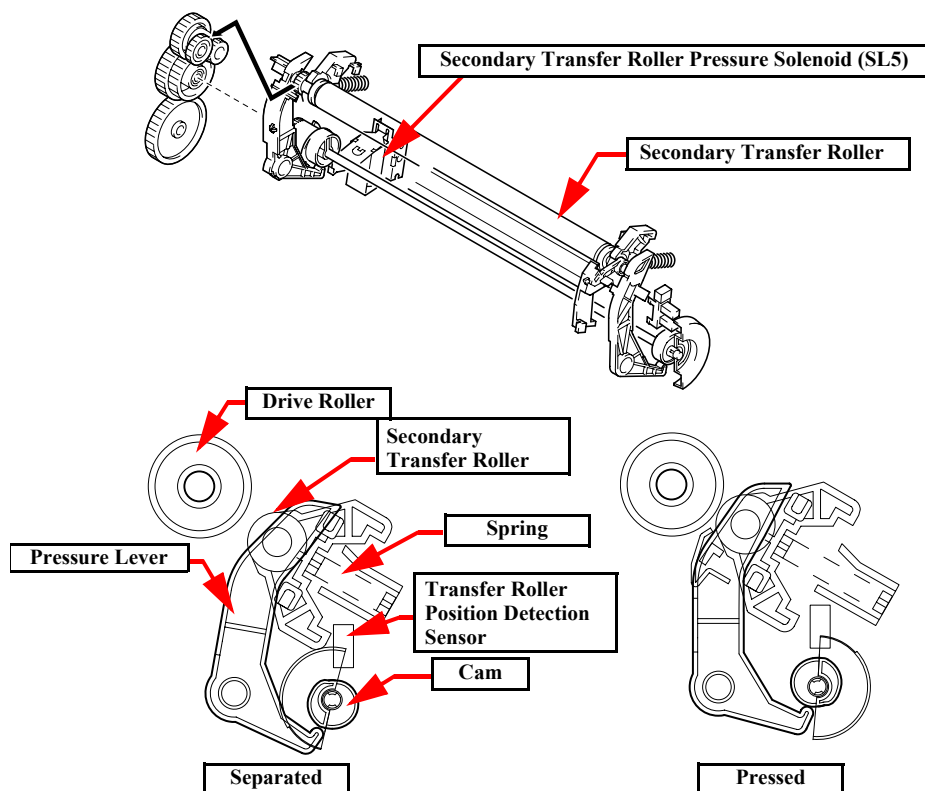
Separated

Pressed

SECONDARY TRANSFER ROLLER PRESSING/SEPARATION TIMING

Pressing	Before the paper enters under the secondary transfer roller
Separation	After the tail end of the paper has passed the secondary transfer roller

2.4.5.2 Secondary Transfer Roller Cleaning

Inverse bias is output to the secondary transfer roller to remove the residual toner on the secondary transfer roller.
The removed residual toner is placed on the transfer belt and then collected with the cleaning blade.

OPERATION TIMING

- A predetermined time after preliminary rotation
- After the paper has passed the secondary transfer roller, if a size error occurred
- Before secondary transfer ATVC
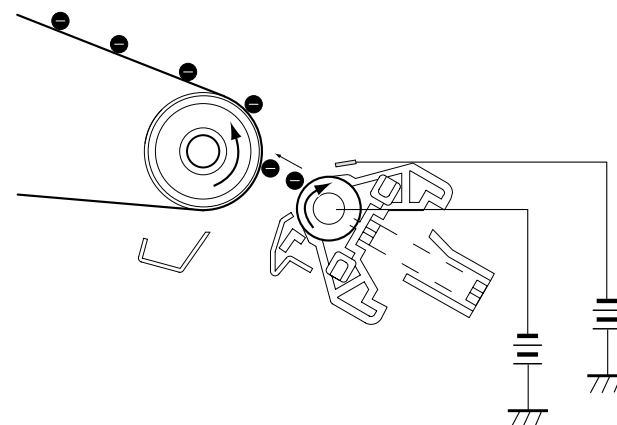
2.4.5.3 Transfer Belt Cleaner Mechanism

TRANSFER BELT CLEANER

The cleaning blade removes the residual toner on the transfer belt.

Belt Position Detection Sensor (PC5)

Cam

Cleaner Pressure Flapper Solenoid (SL4)

Cleaner Counter-roller

Cleaning Blade
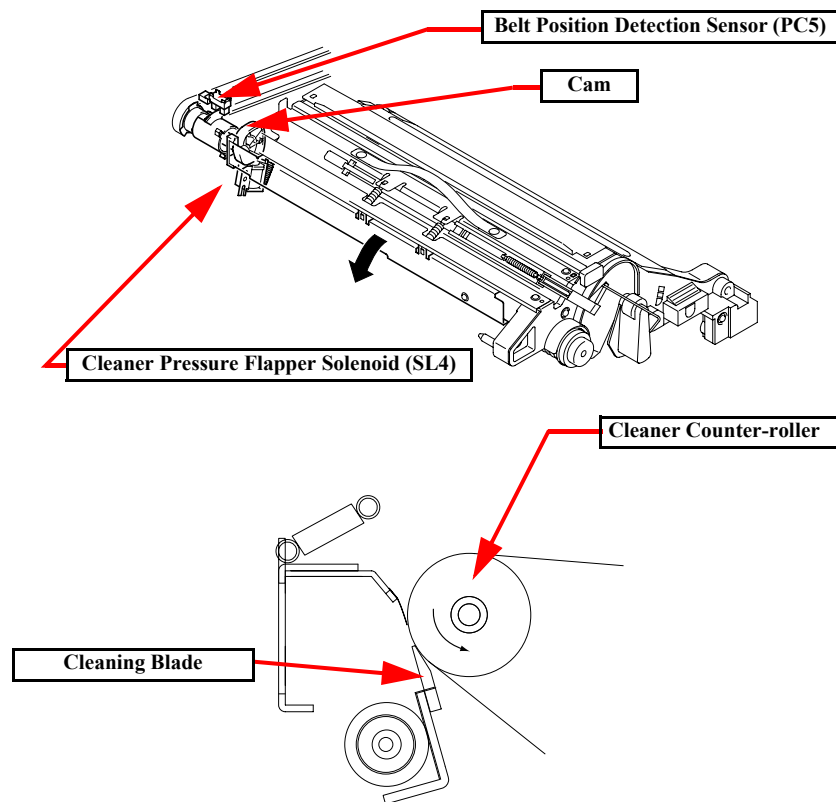
Figure 2-18. Transfer Belt Cleaner Mechanism

TRANSFER BELT CLEANER SEPARATION

The transfer belt cleaner is separated by turning on and off of the Cleaner Pressure Flapper Solenoid (SL4) which activates rotation of the cam on the printer body.
(Driven by the main motor)
The cam driven on the printer body is brought into contact directly with the cleaner housing to estrange the transfer belt cleaner. As the cam rotates and the belt cleaner position detection sensor (PC9) is turned off, the transfer belt cleaner is detected to be separated.
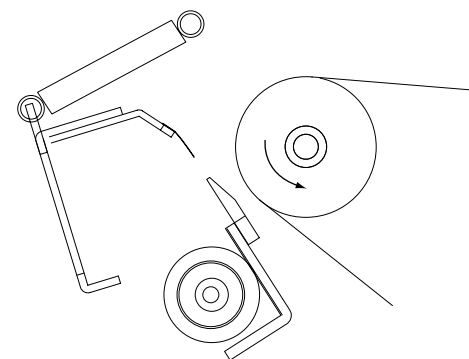
Figure 2-19. Transfer Belt Cleaner Separation

Main Motor (M1)   ON
                       OFF

Belt Position Detection Sensor

Cleaner Pressure   ON
Flapper Solenoid (SL4)   OFF

Press   Estrange   Press

*Color printing
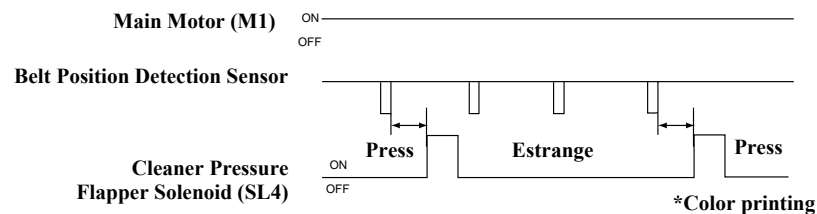
2.4.5.4 Waste Toner Box

The Waste Toner Box collects waste toner on the transfer belt and the waste toner on the OPC drum.

The waste toner on the OPC drum is scraped off the cleaner blade and collected by the waste toner collection coil.

The waste toner on the intermediate transfer belt is removed by the transfer belt cleaner and collected by the waste toner collection coil.
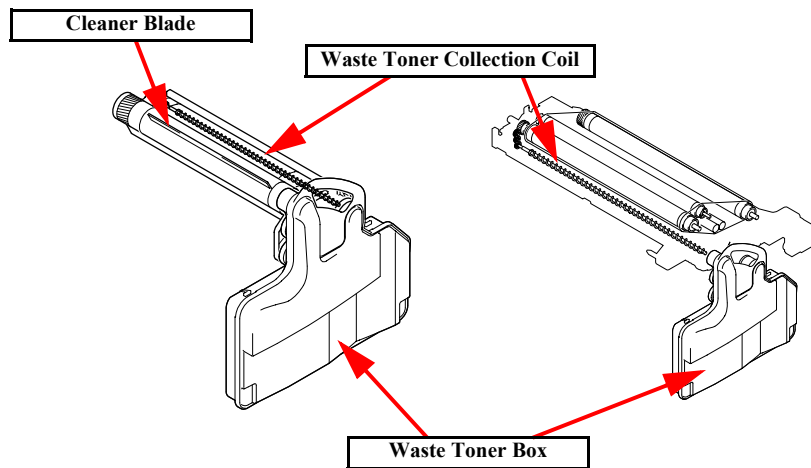
Figure 2-20. Waste Toner Box

2.4.5.5 Waste Toner Box Detection

WASTE TONER BOX DETECTION

Whether the Waste Toner Box is mounted or not is detected by the Waste Toner Box Detection Switch (S5).

WASTE TONER FULL DETECTION

Waste toner full sensor (PC6) detects if the Waste Toner Box is full of waste toner or not. "Full of waste toner" is detected when the light to the sensor is intercepted with the waste toner in the bottle.
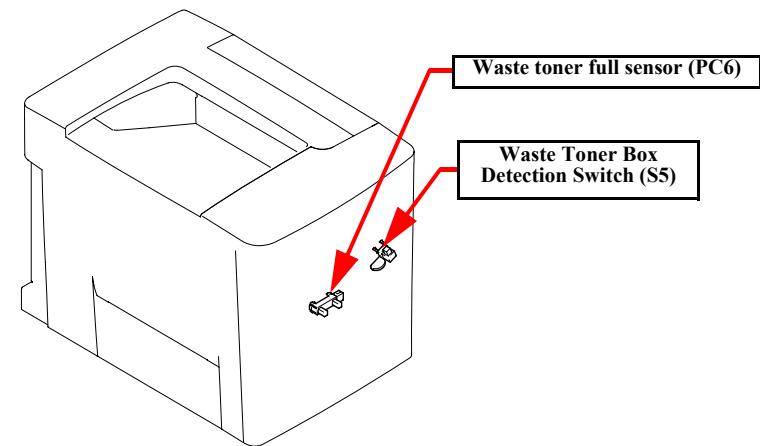
Figure 2-21. Waste Toner Full Detection

2.4.6 Fusing Process

2.4.6.1 Fuser Unit

OVERVIEW

In this process, the toner transferred to the paper in the transfer process is fused to the paper. For fusing, this printer uses the heat roller fusing system. The sheet with toner on passes between the heat roller, which is heated up by the heater lamp, and the back-up roller. During this passage, heat and pressure are applied to permanently fuse the toner to the paper.
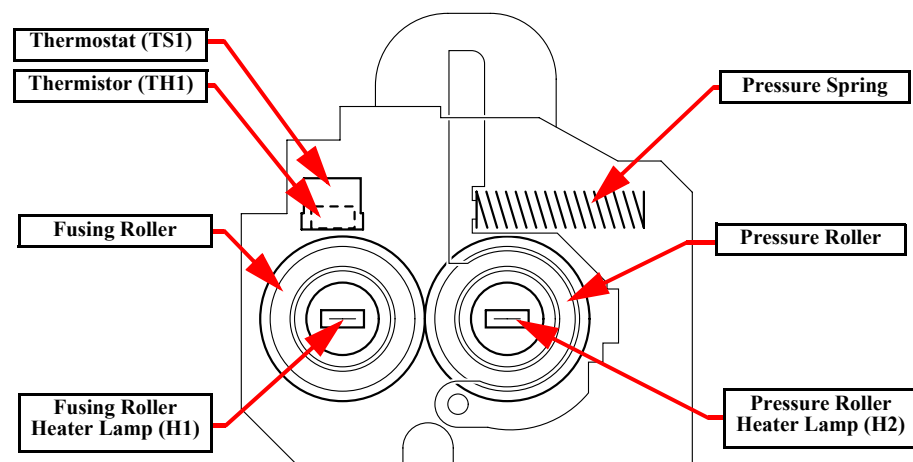
Figure 2-22. Fuser Unit

DRIVE

The fuser mechanism is driven by the main motor (M1).
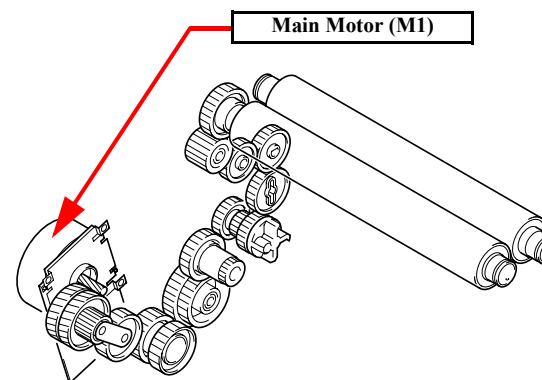
Figure 2-23. Drive

FUSING ROLLER PRESSING

The fusing roller and pressure roller must always be in the pressed position except when they are released from pressure for maintenance work or parts replacement. At the occurrence of paper jam in the fuser area, release the fusing roller from the pressure by bringing the fusing jam removal lever into the release position.
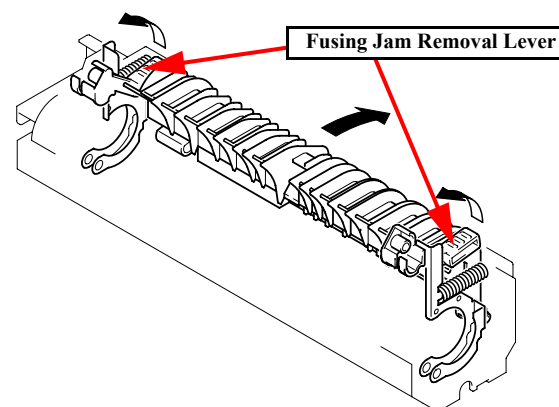
Figure 2-24. Fusing Roller Pressing

2.4.7 Fusing Temperature Control

FUSING TEMPERATURE CONTROL CIRCUIT

The resistance of the thermistor (TH) mounted on the fusing roller varies with temperature, particularly, lowers as temperature rises. The output from the thermistor (TH) is input to the analog port of the CPU of the control circuit.

As temperature rises and the resistance of the thermistor (TH) lowers, the voltage input to the analog port lowers.

The CPU monitors the output from the thermistor and turns on and off power to the heater to control the temperature of the Fusing Roller.

To turn on the fusing roller heater lamp (H1), the CPU turns the heater remote output signal "ON (L)". By turning the heater remote output signal "ON (L)", the triac of the DC regulated power supply is turned on and the AC voltage is applied to the fusing heater lamp(H1) to heat the heater.

If the temperature of the Fusing Roller is too high, the too-high temperature detection circuit operates to stop forcibly the current to the fusing heater lamp (H1).
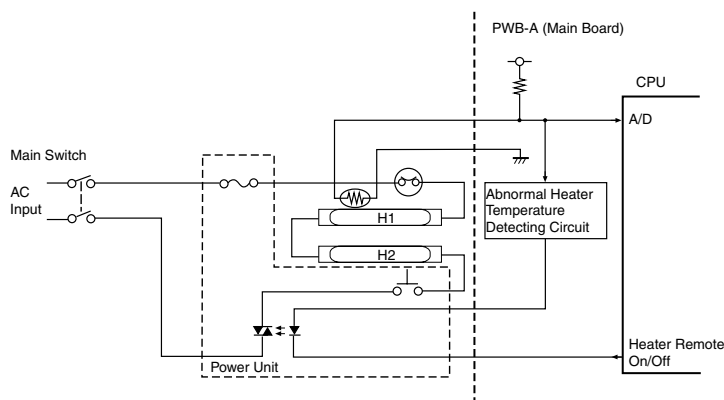
FUSING TEMPERATURE CONTROL

The fusing roller heater lamp (H1) inside the Fusing Roller and the pressure roller heater lamp (H2) execute temperature control as described below.

The surface temperature of the Fusing Roller is converted to an electric signal by the thermistor (TH1) for detection.

WARM-UP CONTROL

The preset temperature for warming up is 170°C.

Once the temperature of the Fusing Roller has reached the preset level, the fusing roller heater lamp and pressure roller heater lamp are turned off.

STANDBY TEMPERATURE ADJUSTMENT CONTROL

The preset temperature for standby is 171°C.

PRINTING TEMPERATURE ADJUSTMENT CONTROL (DURING MONOCHROME PRINTING)

The preset temperature for printing is as indicated in Table below:

Table 2-10. Printing Temperature Adjustment Control (Monochrome)

	Plain Paper	Thick Paper or Post Card	Transparency	Envelope	Small Size *
Preset Temperature	157°C	157°C	157°C	166°C	152°C

Note "*": Small size paper: Plain paper with a length of 226 mm or less

PRINTING TEMPERATURE ADJUSTMENT CONTROL (DURING COLOR PRINTING)

The preset temperature for printing is as indicated in Table below:

Table 2-11. Printing Temperature Adjustment Control (Color)

	Plain Paper	Thick Paper or Post Card	Transparency	Envelope	Small Size *
Preset Temperature	174°C	174°C	166°C	166°C	169°C

Note "*": Small size paper: Plain paper with a length of 226 mm or less
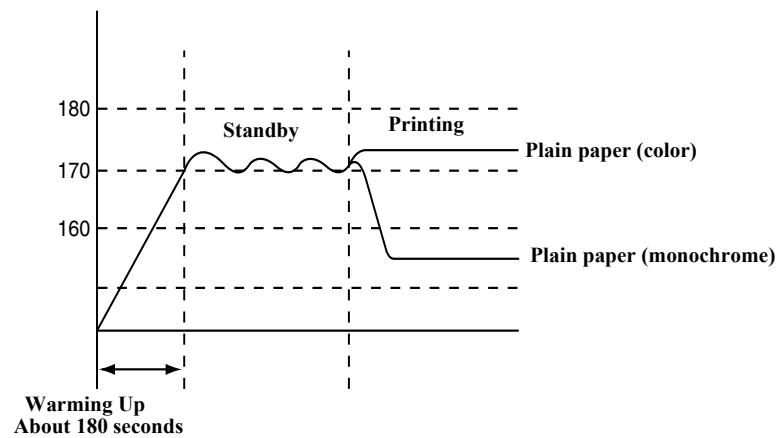
Figure 2-25. Temperature Control

2.4.8 Paper Feed Mechanism

2.4.8.1 MP Tray

PAPER FEED OPERATION

The MP Tray consists of the paper feed roller, push-up plate and manual paper feed solenoid (SL1).

When the manual paper feed solenoid (SL1) is turned on, the cam starts rotating.
At the same time, the tray is pushed up by the push-up plate and the paper on the tray is fed into the printer body by the paper feed roller.

PAPER EMPTY SENSOR

The MP tray paper empty sensor (PC1) is mounted at the bottom of the MP Tray to detect "empty of paper" in the MP Tray.

When there is paper, the actuator is pushed down and the light to the sensor is transmitted.

When there is no paper, the actuator is lifted, the light to the sensor is intercepted.
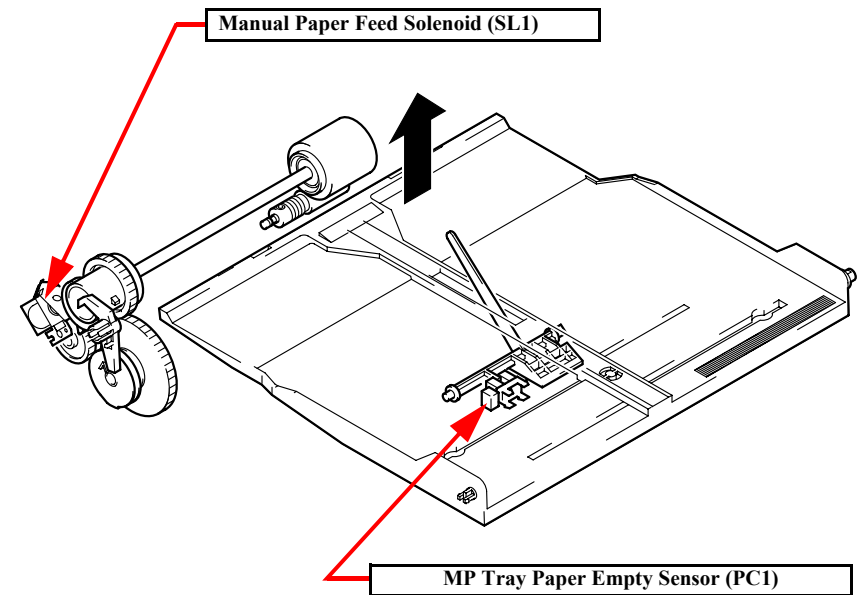
Figure 2-26. Paper Feed Mechanism (MP Tray)
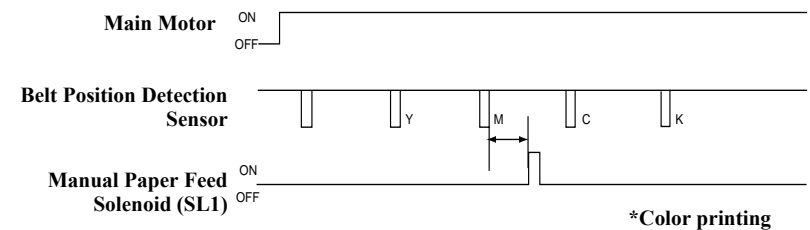
Figure 2-27. PAPER EMPTY SENSOR

2.4.8.2 500-sheet Cassette Unit (Option)

PAPER FEED OPERATION

Since the 500-sheet Cassette Unit does not have any drive motor, the driving power to the 500-sheet Cassette Unit for feeding and carrying paper is transmitted from the printer (from M1) via the connecting gear.

Paper feed method is the same as with the MP tray. However, paper separation method is different; the roller separation method is used for the MP tray, while the separator claw is used for the 500-sheet Cassette Unit.

The 2nd paper feed solenoid (SL7) is controlled from the printer side via the control board (PWB-A) of the 500-sheet Cassette Unit.

PAPER EMPTY SENSOR

"Empty of paper" is detected by the 2nd tray paper empty sensor (PC16).

When there is paper, the actuator is lifted and the light to the sensor is intercepted.

When there is no paper, the actuator is pushed down and the light to the sensor is transmitted.

PAPER NEAR EMPTY SENSOR (PC14)

"Near empty of paper" is detected by the paper near empty sensor.

"Near empty of paper" status is detected when the number of remaining sheets of paper is within a specified range.

Table 2-12. Timing for Detection of "Near Empty of Paper"

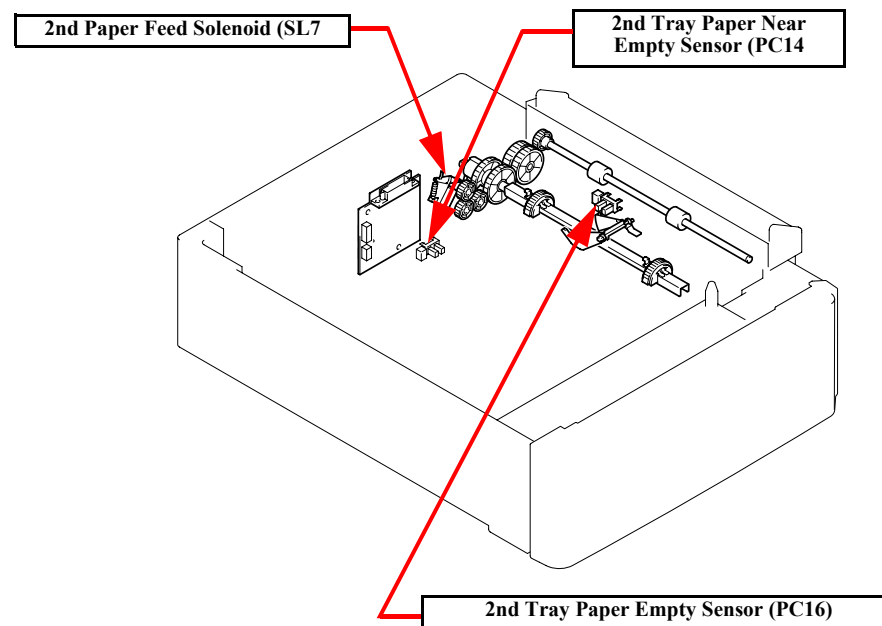|	Specified Range of Remaining Paper
Near empty detection	50 ± 25 sheets

Figure 2-28. Paper Feed Mechanism (500-sheet Cassette Unit)

2.4.9 Other Mechanisms

2.4.9.1 Duplex Unit (option)

DRIVE

The Duplex Unit is driven as follows: the paper after printing on one side is fed into the paper eject tray once and when the tail end of the paper has left the guide behind the paper eject roller, the paper eject roller starts rotating to transport the paper into the Duplex Unit.

With the Duplex Unit installed, the paper eject roller is separated from the drive on the printer body and is driven by the paper eject motor in the Duplex Unit.

The transport roller in the Duplex Unit is driven by the transport motor in the Duplex Unit.

The paper is transported into the printer body by the transport roller.
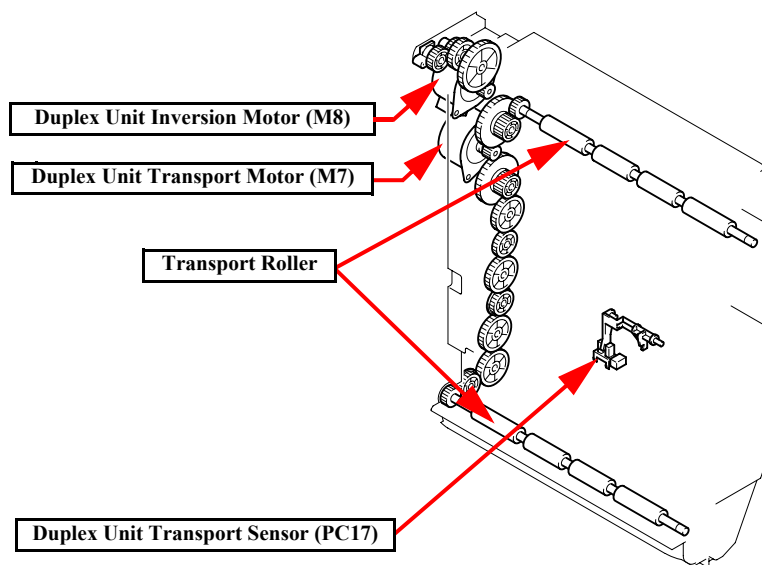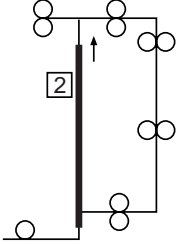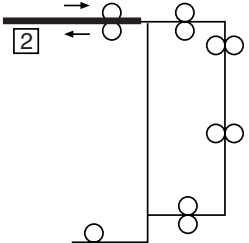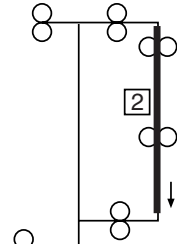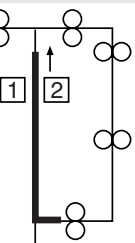

Figure 2-29. Mechanism of Duplex Unit

PAPER LOAD METHOD

Table 2-13. 1-sheet Circulation Method

	Function
	1. A sheet of paper is loaded and the image of the 2nd page is printed.
	2. The sheet is fed to the paper eject tray once and immediately before the sheet leaves the paper eject roller, the paper eject roller changes the direction of rotation. 3. The sheet of paper is transported into the Duplex Unit.
	4. The sheet in the Duplex Unit stops once at the refeed position.
	5. The image of the 1st page is printed on the sheet refed from the Duplex Unit. 6. The sheet of paper is ejected.

Note: Steps 2 to 6 above are repeated for the subsequent sheets of paper.
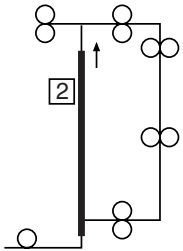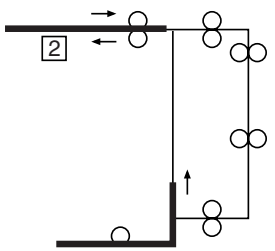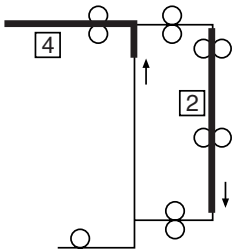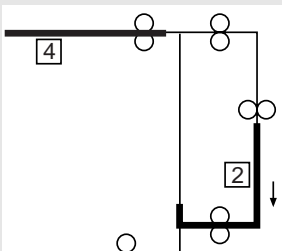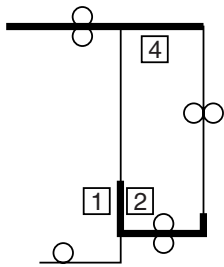
Table 2-14. 2-sheet Circulation Method

	Function
	1. The 1st sheet of paper is loaded and the image of the 2nd page is printed.
	2. The sheet is fed to the paper eject tray once and immediately before the sheet leaves the paper eject roller, the paper eject roller changes the direction of rotation. 3. The sheet of paper is transported into the Duplex Unit. 4. At the same time, the 2nd sheet of paper is loaded.
	5. The sheet in the Duplex Unit stops once at the refeed position. 6. The image of the 4th page is printed on the 2nd sheet of paper.
	7. The 1st sheet of paper is refed. 8. The 2nd sheet is fed to the paper eject tray once and immediately before the sheet leaves the paper eject roller, the paper eject roller changes the direction of rotation.

Table 2-14. 2-sheet Circulation Method (continued)

	Function
	9. The image of the 1th page is printed on the 1st sheet of paper. 10. The 2nd sheet of paper is transported into the Duplex Unit.
	11. Simultaneously with ejection of the 1st sheet of paper, the image of the 3rd page is printed on the 2nd sheet.
	12. Simultaneously with ejection of the 2nd sheet of paper, the 3rd paper is loaded and the image of the 6th page is printed.

Note: Steps 2 to 12 above are repeated for the subsequent sheets of paper.
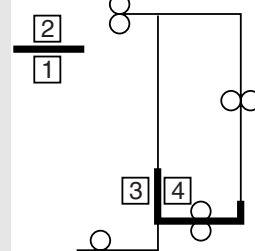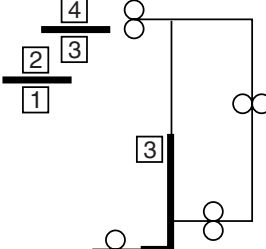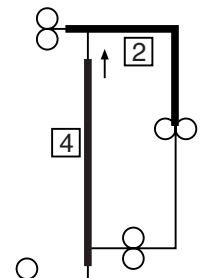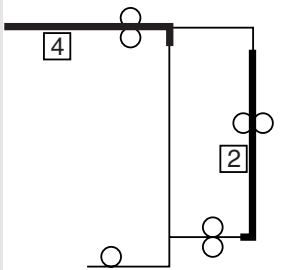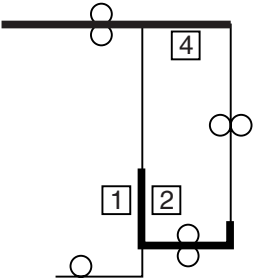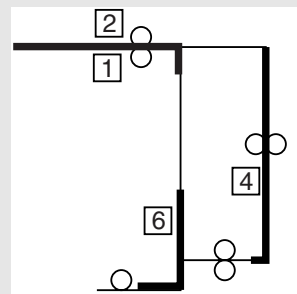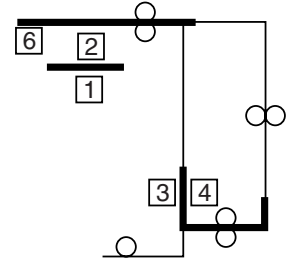
Table 2-15. 2-sheet Alternation Method
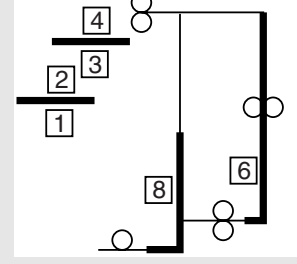
	Function
	1. The 1st sheet of paper is loaded and the image of the 2nd page is printed. 2. The sheet is fed to the paper eject tray once and immediately before the sheet leaves the paper eject roller, the paper eject roller changes the direction of rotation. 3. The 1st sheet of paper is transported into the Duplex Unit. 4. At the same time, the 2nd sheet of paper is loaded and the image of the 4th page is printed.
	5. The 1st sheet stops once at the refeed position. 6. The 2nd sheet is fed to the paper eject tray once.
	7. The image of the 1st page is printed. 8. Immediately before the 2nd sheet leaves the paper eject roller, the paper eject roller changes the direction of rotation. 9. The 2nd sheet of paper is transported into the Duplex Unit.

Table 2-15. 2-sheet Alternation Method (continued)

	Function
	10. The 1st sheet of paper is ejected. 11. At the same time, the 3rd sheet is loaded. 12. The 2nd sheet stops once at the refeed position.
	13. The image of the 3rd page is printed. 14. Immediately before the 3rd sheet leaves the paper eject roller, the paper eject roller changes the direction of rotation. 15. The 3rd sheet of paper is transported into the Duplex Unit.
	16. The 2nd sheet of paper is ejected. 17. At the same time, the 4th sheet is loaded. 18. The 3rd sheet stops once at the refeed position.

Note: Steps 13 to 18 above are repeated for the subsequent sheets of paper.

2.5 Controller Board Operating Principles

<AuLaser C1900>

PRINCIPAL FEATURES

- PowerPC architecture SPC603ei-300MHz featuring a high cost performance is employed for the CPU.
- 100 MHz system clock
- A maximum of 1 GB memory can be mounted.
- Power consumption is reduced thanks to use of devices operating at low voltages.
- User interface improved by use of the new type control panel
- USB1.1 mounted
- Compression speed enhanced by CDMC
- DMA transfer of HDD and network data
- EMI reduced by differential operation of video signals
- Cost reduced by reduced circuit board area

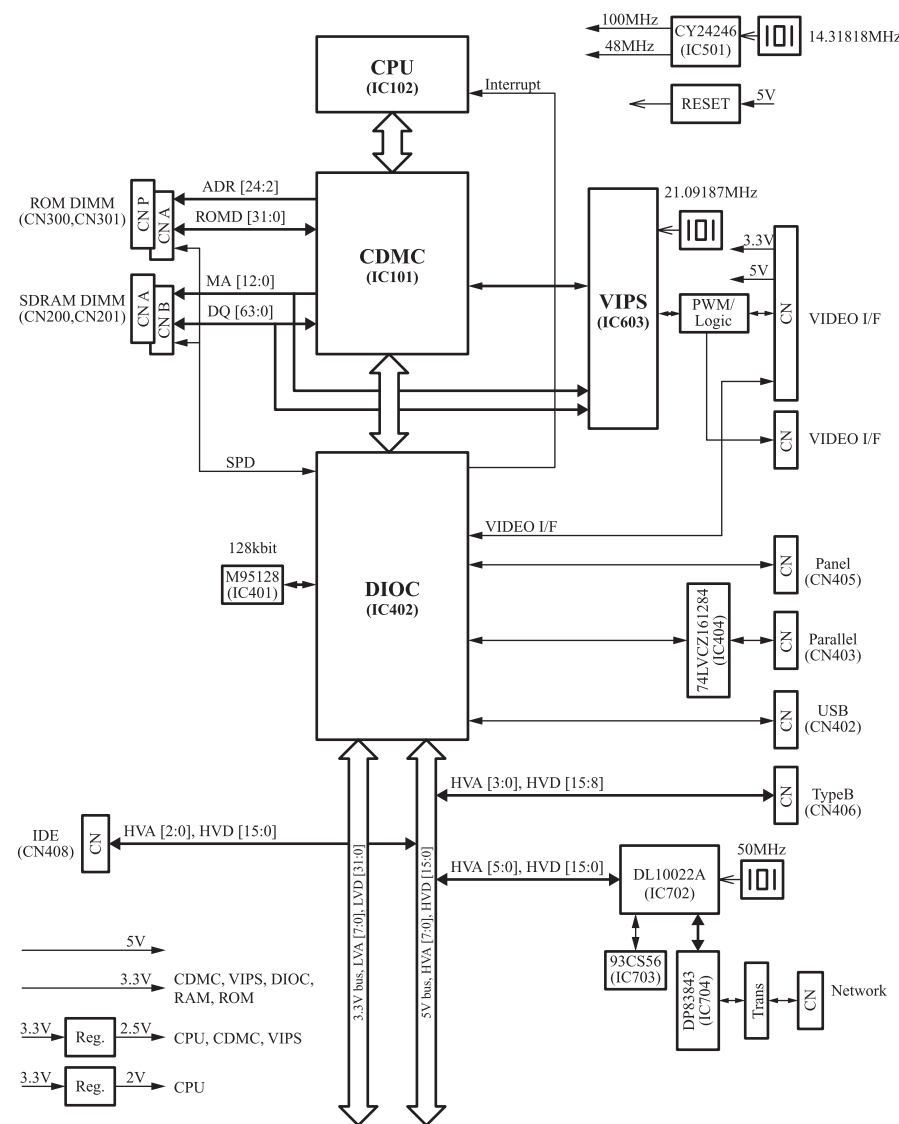The following is the C485MAIN board block diagram.

Figure 2-30. C485MAIN Board Block Diagram (AcuLaser C1900)

CONSTITUTION OF MAIN CONTROL CIRCUIT BOARD

☐ Main Board Assy: C485 MAIN

☐ Memory Board Assy: C309 PROG (IPL, Code, Font)

SPECIFICATIONS

Table 2-16. Major Elements

Name		Location	Remarks
CPU		IC102	SPC603ei-300
ASIC	CDMC	IC101	E05B92NA ASIC which is connected to CPU and controls access to memory and peripheral devices
	VIPS	IC603	E05B93BA Video control ASIC which enhances halftoning characteristics of color laser printer
	DIOC	IC402	E05B72BA ASIC equipped with the basic interfaces necessary to printer
SSCG		IC501	Clock driver
ROM DIMM	Standard	CN300	1 slot. IPL/Code/Font
	Optional	CN301	1 slot.
EEPROM		IC401	128kbit Hardware control
SDRAM DIMM	Standard/ optional	CN200	For standard/optional printer memory (1 slot) 168-pin. 32, 64, 128, 256, 512 MB (Standard: 32MB)
	Optional	CN201	For optional printer memory (1 slot) 168-pin. 32, 64, 128, 256, 512 MB (Max. 1GB)
PWM		IC602	IC for pulse width modulation for connection to VIPS
Control Panel		CN405	Connector for the newly employed Control Panel. Controlled by DIOC.
VIDEO I/F		CN600	Connected to the video I/F of NC-L6001 (Minolta).
Standard I/F	Parallel I/F	CN403	This controller is equipped with 1 channel of Parallel I/F. Parallel I/F is controlled by DIOC.Connected to the video I/F of.NC-L6001 (Minolta).
	USB I/F	CN402	1 slot. USB 1.1

Table 2-16. Major Elements (continued)

Name		Location	Remarks
Expansion I/F	Type-B	CN406	1 slot. Connected to the HV bus of DIOC.
	IDE	CN408	For hard disk (option). Connected to the HV bus of DIOC. Compatible with EPL-N2120.
	Network I/F	CN701	Connector for Network board. Connected to the HV bus of DIOC.

<AcuLaser C900>

PRINCIPAL FEATURES

- Host-based printer controller using ESC/PageS-Printing System as the language
- Engine specifications: A4, 4 ppm for color / 16 ppm for monochrome, 600 dpi, duplex printing available as an option
- NEC-made VR4305 employed as the CPU
- HTC employed as the new memory + I/O + image processing integrated ASIC
- 16 MB of RAM as standard. A maximum of 144 MB available with optional RAM
- Parallel interface (Compatibility/Nibble/ECP) and USB 1.1 interface mounted as standard
- 1 channel of Type B slot for an optional interface (Only Leo2 supported)
- Network by Type-B
- Color image processing functions (CPGI and CRIT) incorporated
- 48 MHz bus frequency

The following is the C494MAIN board block diagram.
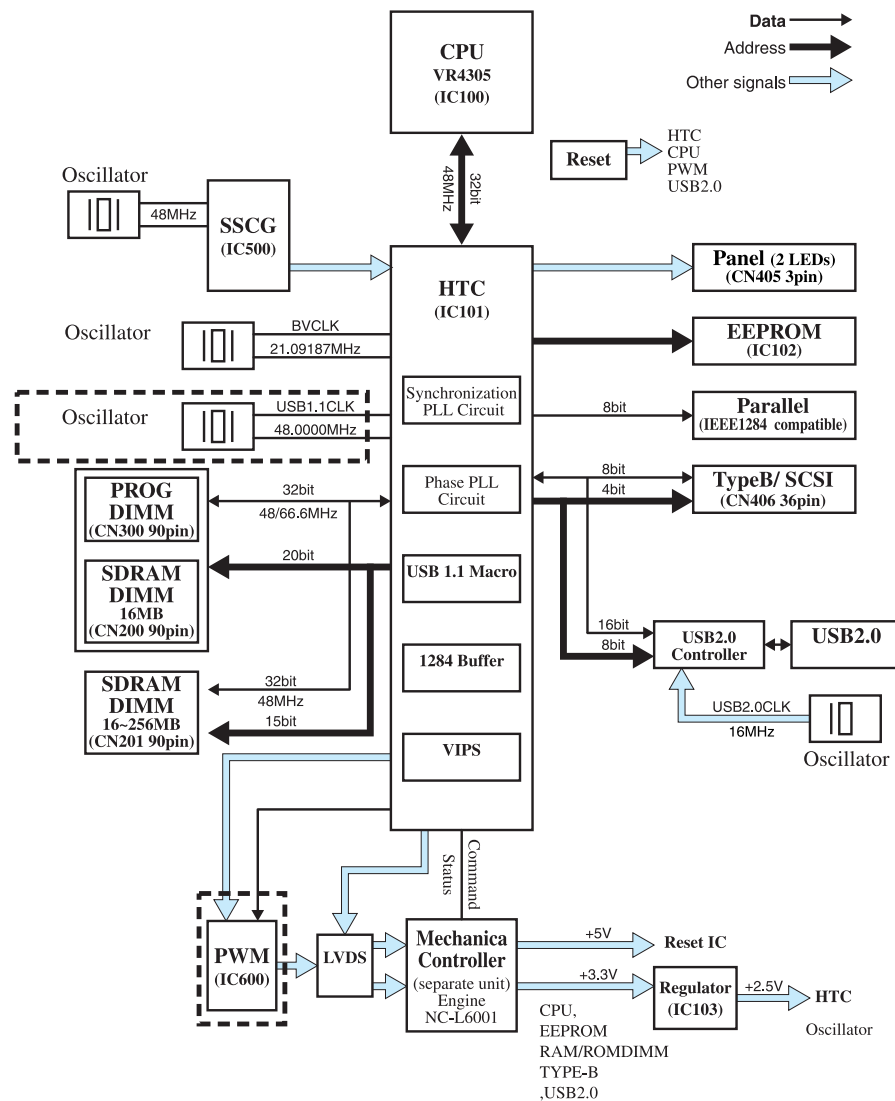
Block_C9.eps

Figure 2-31. C494MAIN Board Block Diagram (AcuLaser C900)

CONSTITUTION OF MAIN CONTROL CIRCUIT BOARD

☐ Main Board Assy: C494 MAIN

☐ Memory Board Assy: C468 PROG (IPL, Code)

SPECIFICATIONS

Table 2-17. Major Elements

Name		Location	Remarks
CPU		IC100	VR4305-80
HTC		IC101	E05C01BA Memory control and I/O control integrated ASIC
ROM DIMM		CN300	ROM/RAM mixed slot (1 slot) 2or4MB PROG (IPL, Code)
SDRAM DIMM	Standard	CN200	1 slot. Max.144MB 16,32,64,128MB (Standard:16MB)
	Optional	CN201	1 slot. 16 ~ 256MB
EEPROM		IC102	2kbit 93C56
PWM		IC600	IC for pulse width modulation for connection to HTC
SSCG		IC500	Clock driver

CHAPTER
3

TROUBLESHOOTING

3.1 Overview

This Chapter describes the items necessary for or to be used in troubleshooting.

3.2 Status Display (AcuLaser C1900)

3.2.1 Service Call Error Status

Listed below are service call errors of AcuLaser C1900/AcuLaser C900.

☐   Engine Related

Table 3-1. List of Service Call Errors (Engine Related)

Error Category E	Error Code ggg	Explanation	Refer to
E	004	Engine board problem	p.124
E	005	Flash ROM problem	p.125
E	008	Main motor problem	p.125
E	011	Sirocco fan problem	p.125
E	012	Power supply cooling fan problem	p.145
E	014	Suction fan problem	p.126
E	016	Polygon motor problem	p.126
E	018	Laser problem	p.126
E	020	Secondary transfer voltage contact/release problem	p.146
E	021	Transfer belt cleaner contact/release problem	p.146
E	022	Transfer belt rotation problem	p.146
E	023	Imaging rack rotation problem	p.147
E	024	Fuser roller temperature increase problem	p.128
E	025	Fuser roller low temperature problem	p.128
E	026	Fuser roller high temperature problem	p.128
E	027	Fuser roller thermistor problem	p.128
E	033	Transparency detection sensor problem	p.148
E	041	Main unit memory counter problem	p.148
E	042	Main unit memory data problem	p.148
E	043	Main unit memory access problem	p.148
E	044	Main unit memory installation problem	p.148
E	998	Engine communication error	p.149

☐   Controller Related

Table 3-2. List of Service Call Errors (Controller Related)

Error Category C	Error Code ffff	Explanation
C	0017	CPU error (Interrupt exception)
C	0088	CPU error (System call exception)
C	0089	CPU error (Break point exception)
C	0091	CPU error (Disabled floating-point exception)
C	0300	CPU error (Reserved (undefined) exception)
C	0301	CPU error (Machine check exception)
C	0302	CPU error (Data access exception)
C	0303	CPU error (Instruction access exception)
C	0304	CPU error (Alignment exception)
C	0305	CPU error (Program exception)
C	0306	CPU error (Trace exception)
C	0307	CPU error (Performance monitor exception)
C	0308	CPU error (System administration interrupt exception)
C	0309	CPU error (Temperature management interrupt exception)
C	0800	IPL error (Controller defective)
C	0998	Engine communication error (Only when powering on)
C	0999	No Engine Flash ROM program data
C	1002	Standard RAM error (When the standard size is not determined, etc.)
C	1010	Verify error
C	1020	RAM error (Slot 0)
C	1021	RAM error (Slot 1)
C	1100	ROM checksum error (bit 0 ~ 15) (Font)
C	1101	ROM checksum error (bit 16 ~ 31) (Font)
C	1120	ROM checksum error (bit 0 ~ 7) (Program)
C	1121	ROM checksum error (bit 8 ~ 15) (Program)
C	1122	ROM checksum error (bit 16 ~ 23) (Program)
C	1123	ROM checksum error (bit 24 ~ 31) (Program)

Table 3-2. List of Service Call Errors (Controller Related) (continued)

Error Category C	Error Code ffff	Explanation
C	1170	Optional Font ROM module checksum error
C	1180	Optional ROM module A checksum error
C	1181	Optional ROM module B checksum error
C	1185	Unsupported ROM module
C	1200	EEPROM write error
C	1210	EEPROM write count limit
C	1400	Engine initialization malfunction
C	1500	CCNV hardware error
C	1550	Compression SRAM initialization hardware error
C	1600	Video related hardware error (including PWM IC calibration error)
C	1700	Built-in network hardware error
C	1800	SPD error of ROM module
C	1999	Other hardware error
C	2000	Software error

3.2.1.1 Details of Service Call Errors and Remedy

For troubles which can occur as service call errors, this section describes the details and remedy of such troubles according to the corresponding respective error codes.

ERROR CODE: Cffff "CONTROLLER ERROR"

The controller-related errors which can be detected in AcuLaser C1900 are as listed in Table 3-2.

☐ Remedy
Turn off the power to the printer once and turn it on again and check to see if the same error occurs again. If it occurs again, replace the Mechanism Controller Board with a new one.

ERROR CODE: E004 "ENGINE BOARD PROBLEM"

☐ Detection Timing
When a communication error in the Engine Board (PWB-A) is detected

☐ Solution
■ Parts which can cause the alarm:
• Engine Board (PWB-A)

Table 3-3.

Step	Action	Refer to	WARNING DIAGRAM Control Signal
1	Replace the PWB-A.	-	-

ERROR CODE: E005 "FLASH ROM PROBLEM"

☐ Detection Timing
When an abnormality in contents of flash ROM on the Engine Board (PWB-A) is detected.

☐ Solution
■ Parts which can cause the alarm:
• Engine Board (PWB-A)

Table 3-4.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Replace the PWB-A.	-	-

ERROR CODE: E008 "MAIN MOTOR PROBLEM"

☐ Detection Timing
When the Main Motor (M1) does not operate at turning on the power switch.

☐ Solution
■ Parts which can cause the alarm:
• Main Motor (M1)
• Engine Board (PWB-A)
• Power Supply Unit (PU)

Table 3-5.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the operation of M1.	p.162	M1_REM
2	Replace the PU.	-	-
3	Replace the PWB-A.	-	-

ERROR CODE: E011 "SIROCCO FAN PROBLEM"

☐ Detection Timing
When the Exhaust Fan Motor (M6) does not operate at turning on the main switch.

☐ Solution
■ Parts which can cause the alarm:
• Exhaust Fan Motor (M6)
• Engine Board (PWB-A)
• Power Supply Unit (PU)

Table 3-6.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the operation of M6.	p.162	M6_REM
2	Replace the PU.	-	-
3	Replace the PWB-A.	-	-

ERROR CODE: E012 "POWER SUPPLY COOLING FAN PROBLEM"

☐ Detection Timing
When the Power Coolant Fan Motor (M4) does not operate at turning on the main switch.

☐ Solution
■ Parts which can cause the alarm:
• Power Supply Cooling Fan Motor (M4)
• Engine Board (PWB-A)
• Power Supply Unit (PU)

Table 3-7.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the operation of M4.	p.162	M4_REM
2	Replace the PU.	-	-
3	Replace the PWB-A.	-	-

ERROR CODE: E014 "SUCTION FAN PROBLEM"

☐ Detection Timing

When the Fuser Cooling Fan Motor (M5) does not operate at turning on the main switch.

☐ Solution

■ Parts which can cause the alarm:

- Fuser Cooling Fan Motor (M5)
- Engine Board (PWB-A)
- Power Supply Unit (PU)

Table 3-8.

Step	Action	Refer to	WARNING DIAGRAM	
			Control Signal	
1	Check the operation of M5.	p.162	M5_REM	
2	Replace the PU.	-	-	
3	Replace the PWB-A.	-	-	

ERROR CODE: E016 "POLYGON MOTOR PROBLEM"
ERROR CODE: E018 "LASER PROBLEM"

☐ Detection Timing

When the Polygon Motor does not operate, or the laser diode (LD) does not emit the laser beam.

☐ Solution

■ Electric parts which can cause the trouble:

- Print Head Unit
- Engine Board (PWB-A)
- Power Supply Unit (PU)

Table 3-9.

Step	Action	Refer to	WARNING DIAGRAM	
			Control Signal	
1	Replace the print head unit.	-	-	
2	Replace the PU.	-	-	
3	Replace the PWB-A.	-	-	

ERROR CODE: E020
"SECONDARY TRANSFER VOLTAGE CONTACT/RELEASE PROBLEM"

☐ Detection Timing

When pressing or separation of the Secondary Transfer Roller is impossible.

☐ Solution

■ Electric parts which can cause the trouble:

- Transfer Roller Pressure Solenoid (SL2)
- Transfer Roller Pressure Position Detection Sensor (PC7)
- Engine Board (PWB-A)

Table 3-10.

Step	Action	Refer to	WARNING DIAGRAM	
			Control Signal	
1	Check the operation of PC7.	p.161	PC7_ON	
2	Replace the pressing/separation mechanism parts of the Secondary Transfer Roller.	-	-	
3	Check the operation of SL2.	p.162	SL2_REM	
4	Replace the PWB-A.	-	-	

ERROR CODE: E021
"TRANSFER BELT CLEANER CONTACT/RELEASE PROBLEM"

☐ Detection Timing
 When pressing or separation of the Transfer Belt Cleaner is impossible.

☐ Solution
 ■ Electric parts which can cause the trouble:
  • Cleaner Pressure Flapper Solenoid (SL4)
  • Belt Cleaner Position Detect Sensor (PC9)
  • Engine Board (PWB-A)

Table 3-11.

Step	Action	Refer to	WARNING DIAGRAM	
			Control Signal	
1	Check the operation of PC9.	p.161	PC9_ON	
2	Replace the pressing/separation mechanism parts of the Belt Cleaner.	-	-	
3	Check the operation of SL4.	p.162	SL4_REM	
4	Replace the PWB-A.	-	-	

ERROR CODE: E022 "TRANSFER BELT ROTATION PROBLEM"

☐ Detection Timing
 When the transfer belt of the Transfer Belt Unit does not operate.

☐ Solution

Table 3-12.

Step	Action	Refer to	WARNING DIAGRAM	
			Control Signal	
1	Replace the transfer belt unit.	-	-	

ERROR CODE: E023 "IMAGING RACK ROTATION PROBLEM"

☐ Detection Timing
 When the Toner Cartridge Rack does not turn.

☐ Solution
 ■ Electric parts which can cause the trouble:
  • Rack motor (M2)
  • Rack Clutch (CL1)
  • Rack Black Position Detection Sensor (PC4)
  • Engine Board (PWB-A)

Table 3-13.

Step	Action	Refer to	WARNING DIAGRAM	
			Control Signal	
1	Check the operation of PC4.	p.161	PC4_ON	
2	Check the operation of M2.	p.162	CL1_REM	
3	Check the operation of CL1.	p.162	-	
4	Replace the PWB-A.	-	-	

ERROR CODE: E024
"FUSER ROLLER TEMPERATURE INCREASE PROBLEM"
ERROR CODE: E025 "FUSER ROLLER LOW TEMPERATURE PROBLEM"

☐ Detection Timing
When 80°C is not reached in 100 seconds after start of warming up.
When the fusing roller temperature has dropped and remained below 70°C for 10 seconds during standby.

☐ Solution

■ Electric parts which can cause the trouble:

• Fusing Roller Heater Lamp (H1)
• Pressure Roller Heater Lamp (H2)
• Thermostat (TS1)
• Engine Board (PWB-A)
• Power Supply Unit (PU)

Table 3-14.

Step	Check Item	Yes/No	Remedy	WARNING DIAGRAM
				Control Signal
1	Check the continuity of H1 and H2.	NO	Replace the H1, H2.	-
2	Check the continuity of TS1.	NO	Replace the TS1.	-
3	Check to see if the resistance of TH1 is infinite. (Between CN18-1 and 2 on thermistor side)	YES	Clean TH1 or replace the Fuser Unit.	HEATER
		NO	Replace the PU.	
			Replace the PWB-A.	

ERROR CODE: E026
"FUSER ROLLER HIGH TEMPERATURE PROBLEM"
ERROR CODE: E027 "FUSER ROLLER THERMISTOR PROBLEM"

☐ Detection Timing
When the Fuser Roller temperature is 220°C or higher for 0.1 second.

When between 40 seconds and 50 seconds after start of warming up of the Fuser Roller, the Fuser Roller temperature does not rise for one second by 5°C from that at start of fuser warming up.

☐ Solution

■ Electric parts which can cause the trouble:

• Thermistor (TH1)
• Engine Board (PWB-A)

Table 3-15.

Step	Check Item	Yes/No	Remedy	WARNING DIAGRAM
				Control Signal
1	Check to see if TH1 is shorted. (Between CN18-1 and 2 on thermistor side)	YES	Clean TH1.	HEATER
			Replace the Fuser Unit.	
		NO	Replace the PU.	
			Replace the PWB-A.	

ERROR CODE: E033 "TRANSPARENCY DETECTION SENSOR PROBLEM"

- ☐ Detection Timing
  Transparency is not detected.

- ☐ Solution
  - ■ Electric parts which can cause the trouble:
    - OHP Sensor (PC3A)
    - Engine Board (PWB-A)

Table 3-16.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the operation of PC3A.	p.161	PC3_REM
2	Replace the PWB-A.	-	-

EEPROM ERROR
·ERROR CODE: E041 "MAIN UNIT MEMORY COUNTER PROBLEM"
·ERROR CODE: E042 "MAIN UNIT MEMORY DATA PROBLEM"
·ERROR CODE: E043 "MAIN UNIT MEMORY ACCESS PROBLEM"
·ERROR CODE: E044
"MAIN UNIT MEMORY INSTALLATION PROBLEM"

- ☐ <Detection Timing>
  EEPROM error detection

- ☐ Solution
  - ■ Electric parts which can cause the trouble:
    - EEPROM
    - Engine Board (PWB-A)

Table 3-17.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Replace the EEPROM.	-	-
2	Replace the PWB-A.	-	-

ERROR CODE: E998 "ENGINE COMMUNICATION ERROR"

- ☐ Detection Timing
  Any error has occurred in communication through the video interfere between the Main Board and the Engine Board.

- ☐ Solution
  - ■ Electric parts which can cause the trouble:
    - Main Board (C485MAIN)
    - Engine Board (PWB-A)

Table 3-18.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the connection between Main Board and Engine Board.	-	-
2	Replace the Main Board (C485MAIN).	-	-
3	Replace the Engine Board (PWB-A).	-	-

3.2.2 Printer Status

The printer status list is shown below.

Table 3-19. Messages

LED Message	Category	Status code	Refer to
(Displayed when Power is Turned On)	Status		
Service Req Cffff*5	Service Call Error	6000	p.124
Service Req Eggg*6	Service Call Error	6001 ~ 6999	p.123
Formatting HDD	Status	-	p.132
Optional RAM Error	Error	-	p.134
ROM CHECK	Status	-	p.132
RAM CHECK	Status	-	p.132
HDD CHECK	Status	-	p.132
Self Test	Status	-	p.132
Reset All	Status	1004	p.132
Reset	Status	1004	p.132
Cancel All Print Job	Status	1003	p.132
Cancel Print Job	Status (job cancelled by panel)	1003	p.132
Unable Clear Error	Status	-	p.132
Check Duplex P-Size	Error	4016	p.134
Check Media Type	Error	4226	p.134
Jam xxxx (x=A, B, C, DM)	Error	4008,4009,4017	p.135
uuuu Toner Cart Out	Error (uuuu = CMYK, only the relevant item is displayed)	4049 ~ 4063	p.135
Install Photocondctr	Error	4022	p.136
Install Waste T Box	Error	4023	p.136
Clean Sensor	Error	4228	p.136
Replace Toner uuuu	Error	4065 ~ 4079	p.136
Replace Photocondctr	Error	4028	p.136
Replace Waste T Box	Error	4029	p.136
Replace TransferUnit	Error	4224	p.136

Table 3-19. Messages (continued)

LED Message	Category	Status code	Refer to
Printer Open	Error	4002	p.136
Cover C Open	Error	4037	p.136
Please Wait	Status	1019	p.133
Manual Feed ttt*3	Error	1013	p.137
Can't Print Duplex	Error	3005	p.137
Paper Out sss*2 ttt*4	Error	4010	p.137
Paper Set sss*2 ttt*4	Error	3003	p.137
Print Overrun	Error	3000	p.138
Mem Overflow	Error	3001	p.138
Duplex Mem Overflow	Error	3004	p.138
Invalid HDD	Error	4202	p.138
Invalid PS3	Error	4201	p.138
Invalid AUX I/F Card	Error	4014	p.139
Invalid ROM A	Error	4003	p.139
Write Error ROM A	Error	4006	p.139
Write Error ROM P	Error	4006	p.139
Reset to Save	Status	-	p.133
Writing ROM A	Status	1005	p.133
Writing ROM P	Status	1005	p.133
Menus Locked	Warning	1001	p.139
(Panel Setting Display)			
Hard Disk full	Warning	2569	p.139
Reserve Job Canceled	Warning	2565	p.139
PS3 Hard Disk full	Warning	2561	p.139
Form Data Canceled	Warning	2570	p.140
Collate disabled	Warning	2013	p.140
Check Paper Size	Warning	2004	p.140
Image Optimum	Warning	2002	p.140
Check Paper Type	Warning	2008	p.140
Need Memory	Warning	2003	p.140

Table 3-19. Messages (continued)

LED Message	Category	Status code	Refer to
Format Error ROM A	Warning	2000	p.141
Form Feed	Status	1008	p.133
(Displayed during test printing)		1010	
Warming Up	Status	1006	p.133
Calibrating Printer	Status	1014	p.133
Cooling Down	Status	1016	p.133
Offline	Status	1001	p.133
Cancel Print Job	Status (job cancelled by host)	1003	p.132
uuuu Toner Low	Warning (uuuu = CMYK, only the relevant item is displayed)	2017 ~ 2031	p.141
Worn Photoconductor	Warning	2010	p.141
Waste T Box Nearfull	Warning	2011	p.141
Worn Fuser	Warning	2562	p.141
Worn Tranfer Unit	Warning	2563	p.141
Sleep	Status	1007	p.134
Ready	Status	1000	p.134
(Printing)	Status	1009	
(Communication with inactive I/F)	Status	1012	
(Job being executed (printing possible))	Status	1002	

Note *1： Jam may occur at multiple locations. In this case, they are displayed at the same time. Also, the jam location names are separated with a space.

*2： The appropriate value among those (except Auto) for Paper Source of the Setup menu as described in "1.4.2 List of Panel Settings (Only with AcuLaser C1900) *(p.49)*" is displayed.

*3： The appropriate value among those for Paper Size of the Printing menu as described in "1.4.2 List of Panel Settings (Only with AcuLaser C1900) *(p.49)*" is displayed.

*4： The appropriate value among those for paper size of the Tray menu as described in "1.4.2 List of Panel Settings (Only with AcuLaser C1900) *(p.49)*" is displayed.

*5： See the description on controller-related errors in "Table 3-2. List of Service Call Errors (Controller Related) *(p.123)*".

*6： See the description on engine-related errors in "Table 3-1. List of Service Call Errors (Engine Related) *(p.123)*".

3.2.3 Details of Status Messages and Treatment Method

FORMATTING HDD (STATUS CODE: XXXX)

☐ Description
    The printer is formatting the HDD.

☐ Treatment method
    After formatting the HDD, the printer reboots.

ROM CHECK (STATUS CODE: XXXX)

☐ Description
    The printer is performing checksum of ROM and checking its format.

☐ Treatment method
    If there is no error found, the printer proceeds to RAM CHECK.

RAM CHECK (STATUS CODE: XXXX)

☐ Description
    The printer is checking the operation of RAM and RAM capacity.

☐ Treatment method
    The printer proceeds to HDD CHECK if there is an HDD mounted or to Self Test
    if there is no HDD mounted.

HDD CHECK (STATUS CODE: XXXX)

☐ Description
    The printer is checking the operation of the HDD.

☐ Treatment method
    If there is no error found, the printer proceeds to Self Test.

SELF TEST (STATUS CODE: XXXX)

☐ Description
    The printer is performing self-diagnostics and initialization.

☐ Treatment method
    If there is no error found, the printer displays a ready message depending on the
    printer status and becomes ready to print.

RESET ALL (STATUS CODE: 1004)

☐ Description
    The printer is in process of warm booting.

☐ Treatment method
    Upon completion of warm booting, the printer proceeds to Reset.

RESET (STATUS CODE: 1004)

☐ Description
    The printer is in process of resetting.

☐ Treatment method
    Upon completion of resetting, the printer is ready for printing.

CANCEL ALL PRINT JOB (STATUS CODE: 1003)

☐ Description
    The printer is canceling all the jobs.

☐ Treatment method
    Wait until canceling is completed.

CANCEL PRINT JOB (STATUS CODE: 1003)

☐ Description
    The printer is canceling the job.The LCD flashes the message.

☐ Treatment method
    Wait until canceling is completed.

UNABLE CLEAR ERROR (STATUS CODE: XXXX)

☐ Description
    Indicates that error status can not be cleared by pressing the Start/Stop button.

☐ Treatment method
    If there is no error found, the printer displays a ready message depending on the
    printer status and becomes ready to print.

PLEASE WAIT (STATUS CODE: 1019)

☐ Description
  After executing Change Toner x, this message appears until the toner cartridge to replace moves to the required position.

☐ Treatment method
  Once it moves to the required position, the message changes to "Replace Toner x". Do not open printer cover during this message is displayed on the panel.

RESET TO SAVE (STATUS CODE: XXXX)

☐ Description
  During execution of a job, panel setting was changed in the panel setting mode.

☐ Treatment method
  The printer is recovered from this status by either of the following actions:

  1. By pressing the Start/Stop button, the printer recovers from this status and becomes ready for printing. However, change of panel setting is not reflected until the JOB currently executed is completed.

  2. By "Reset" or "Reset All", the printer becomes ready for printing and change of panel setting is reflected immediately. However, the print data are all deleted.

WRITING ROM A (STATUS CODE: 1005)

☐ Description
  The printer is wiring data in the form overlay module.

☐ Treatment method
  Upon successful completion of writing, the printer returns to the original state.

WRITING ROM P (STATUS CODE: 1005)

NOTE: *Not opened to users*

☐ Description
  The printer is writing the program data in the program RUM module.

☐ Treatment method
  Upon successful completion of writing, the printer returns to the original state.

FORM FEED (STATUS CODE: 1008)

☐ Description
  By accepting the holding down of the Start/Stop button for more than two seconds in the "printing impossible" state, the printer is forcedly printing the printable data remaining inside and is ejecting the printed paper. After completion of paper ejection, the printer remains in the "printing impossible" (offline) state.

WARMING UP (STATUS CODE: 1006)

☐ Description
  One of the READY messages. The engine is warming up. The LCD flashes "Warming Up".

☐ Treatment method
  Upon completion of warming up, the printer becomes ready for printing.

CALIBRATING PRINTER (STATUS CODE: 1014)

☐ Description
  One of the READY messages. The printer is calibrating the engine.The LCD flashes "Calibrating Printer".

☐ Treatment method
  Wait about one minute, until the printer recovers automatically.

COOLING DOWN (STATUS CODE: 1016)

☐ Description
  One of the READY messages. The printer is cooling down. The LCD flashes "Cooling Down".

☐ Treatment method
  Wait about one minute, until the printer recovers automatically.

OFFLINE (STATUS CODE: 1001)

☐ Description
  The printer can prepare printing data or receive data, but does not start printing.

☐ Treatment method
  Pressing the Start/Stop button will restore the printer to the "ready to print" status. Executing "Reset" or "Reset All" will delete all the printing data.

SLEEP (STATUS CODE: 1007)

☐ Description
One of the READY messages. The printer is in a low power consumption mode. Upon receiving printing data, the printer becomes ready for printing.

READY (STATUS CODE: 1000)

☐ Description
One of the READY messages. The printer is ready for printing.

3.2.4 Details of Error Status and Remedy

OPTIONAL RAM ERROR (STATUS CODE: XXXX)

☐ Description
The optional RAM is faulty.

☐ Treatment method
Turn off the power and remove the optional RAM module, and then turn on the power.

CHECK DUPLEX P-SIZE (STATUS CODE: 4016)

☐ Description
Since the size of the paper fed in duplex printing is different from the paper size preset for printing, printing stops and a paper jam occurs.

☐ Treatment method
Insert paper of the appropriate size, open the covers on the paper feeding routes, remove the jammed paper, and then close the covers. The printer performs warming up and then resumes printing from the data at which the error occurred.

CHECK MEDIA TYPE (STATUS CODE: 4226)

☐ Description
Since paper other than transparencies was fed in transparency printing, or a transparency was fed in nontransparency printing, the printer canceled printing and ejected the sheet. In duplex printing, the sheet remains in the duplex printing unit that is causing a paper jam.

☐ Treatment method

1. If transparency is specified, set transparency. If transparency is not specified, set plain paper. Pressing the Start/Stop button will let the printer recover from the error status, and the printer will start printing.

2. If the printer does not resume printing, execute "Reset" or "Reset All" or press the "Job Cancel" button to delete the print job data or hold it down for more than two seconds to delete the data of all the print jobs.

JAM XXXX (STATUS CODE: 4008, 4009, 4017)

Table 3-20.

Panel	Status Code	Meaning
x = A	4009	Jam occurs at the MP Tray. Open the Cover AB and pull down movable transportation guide (under) and pulled out jammed paper and close the Cover AB. After this, this error will clear automatically.
x = B	4008	Jam occurs at the second transfer unit, fuser unit or paper exiting unit. Open the Cover AB and pulled out jammed paper and close the Cover AB. After this, this error will clear automatically. The following three kinds of processing exist by the place where jam is occurred. In case of fuser unit; raise the pressure release lever of the fuser unit and pulled out jammed paper downward. In case of second transfer unit; raise the movable transportation guide (upper) and pulled out jammed paper downward. In case of jammed paper remaining in Cover AB; Pulled out jammed paper.
x = C	4009	Jam occurs at the optional lower cassette unit. Open the Cover C and pulled out the jammed paper and close Cover C. After this, this error will clear automatically.
x = DM	4017	Jam occurs at the Duplex unit Open the Cover DM and pulled out the jammed paper and close Cover DM. After this, this error will clear automatically.

Note : Multiple jams may occur at the same time; in this case. JAM A B C DM or a similar message appears.In this case priority of Status Code is, 4008 > 4009 > 4017.
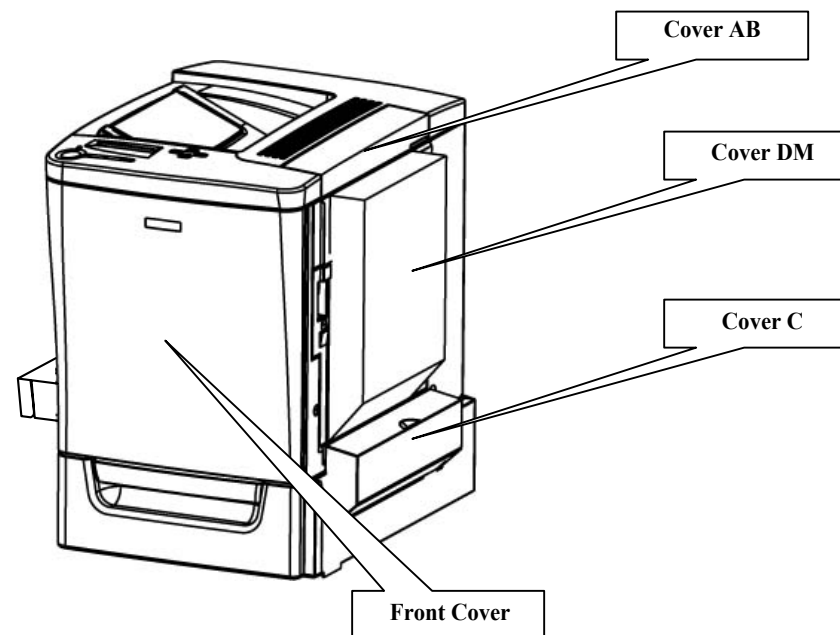
UUUU TONER CART OUT (STATUS CODE: 4049~4063)

□ Description
Displayed when the toner cartridge indicated by uuuu is not inserted.

INSTALL PHOTOCONDCTR (STATUS CODE: 4022)

□ Description
The OPC drum has not been installed. Or it is not in the correct position.

□ Treatment method
Open the cover, install the OPC drum correctly and close the door. Then printer will recover from the error status.

INSTALL WASTE T BOX (STATUS CODE: 4023)

☐ Description
The Waste Toner Box has not been installed.

☐ Treatment method
Open the cover, install the Waste Toner Box and close the door. Then printer will recover from the error status.

CLEAN SENSOR (STATUS CODE: 4228)

☐ Description
The sensor window for engine adjustment is soiled.

☐ Treatment method
Open the cover, turn the lever for sensor cleaning and close the door. Then printer will recover from the error status.

REPLACE TONER U OR REPLACE TONER UUUU (STATUS CODE: 4065~4079)

☐ Description
This message appears after Toner Out is occurred or Change Toner u (u= C, M, Y or K) is selected from the Reset Menu and the toner cartridge has moved to the replacement position.

☐ Treatment method
After the u toner cartridge is replaced and the front cover closed, the printer returns to its normal state.

REPLACE PHOTOCONDCTR (STATUS CODE: 4028)

☐ Description
Since the OPC drum life detector has detected the expiration of the life of the OPC drum, the printer has stopped printing.

☐ Treatment method
Open the cover, replace the OPC drum with a new one and close the door. Then printer will recover from the error status.

REPLACE WASTE T BOX (STATUS CODE: 4029)

☐ Description
Since the Waste Toner Box Full detector has detected that the Waste Toner Box is full, the printer has stopped printing.

☐ Treatment method
Open the cover, replace the Waste Toner Box with a new one and close the door. Then printer will recover from the error status.

REPLACE TRANSFER UNIT (STATUS CODE: 4224)

☐ Description
Since the transfer belt unit life detector has detected the expiration of the life of the transfer belt unit, the printer has stopped printing.

☐ Treatment method
Open the cover, replace the transfer belt unit with a new one and close the door. Then printer will recover from the error status.

PRINTER OPEN (STATUS CODE: 4002)

☐ Description
Displayed when one of the following covers is open: Front cover, Cover AB or Cover DM

COVER C OPEN (STATUS CODE: 4037)

☐ Description
Displayed when the optional lower cassette Unit cover is open

MANUAL FEED TTT (STATUS CODE: 1013)

☐ Description
This error occurs if a printing request takes place when "Manual Feed=On" has been specified by the command or on the panel.

☐ Treatment method

1. Press the Start/Stop button, and the printer will perform printing by feeding paper from the top-priority paper feeder among the feeders where paper has been set. This error occurs only at the beginning of the job; once printing is started, the error never occur at printing on any of the subsequent sheets of paper. However, this error occurs again when the paper has been used up. "Check Paper Size" does not occur even when Size Ignore = Off.

2. To cancel printing, execute "Reset" or "Reset All" or press the "Job Cancel" button. Printing does not start even when Auto Cont = On.

CAN'T PRINT DUPLEX (STATUS CODE: 3005)

☐ Description
If duplex printing is impossible for restrictions to duplex printing, this error occurs before starting to print on the sheet.

☐ Treatment method

1. Press the Start/Stop button, and the printer will recover from the error status and start printing (simplex printing, however). If the cause of the error lies in setting of paper feeders, changing the setting can let the printer recover from the error status and perform duplex printing.

2. When Auto Cont = On, the printer will start simplex printing a certain time later.

3. To cancel printing, execute "Reset" or "Reset All" or press the "Job Cancel" button.

PAPER OUT SSS TTT (STATUS CODE: 4010)

☐ Description

This error occurs in either of the following cases:

1. There is no paper in the selected paper feeder tttt.

2. None of the paper feeders has any paper, even when there is no printing request. When none of the paper feeders has any paper, only "Paper Out", without tttt or sss, is displayed.
When both ttt and sss are selected automatically, neither ttt nor sss are displayed. When ttt is selected automatically, the LCD shows, among the values for Paper Source, the relevant value other than Auto.

☐ Treatment method
Placing paper in the displayed paper feeder will let the printer automatically recover from the error.

■ In the case of 1 above:
Place paper of size sss in the paper feeder tttt, and the printer will automatically recover and perform printing.

■ In the case of 2 above:
Place paper in any paper feeder, and the printer will automatically recover from the error status.

PAPER SET SSS TTT (STATUS CODE: 3003)

☐ Description
If the paper size set in the selected paper feeder differs from the paper size sss which has been set for printing, this error occurs before printing on that page. This error does not occur when Size Ignore = On.

☐ Treatment method

1. Place paper of size sss in the paper feeder tttt and press the Start/Stop button. Then the printer will recover from the error status and perform printing by feeding paper from the paper feeder ttt. Even when the paper in the paper feeder is not replaced, paper will be fed from ttt.

2. When Auto Cont = On, the printer will resume printing a certain time later by feeding paper from the paper feeder tttt.

3. To cancel printing, execute "Reset" or "Reset All" or press the "Job Cancel" button.

PRINT OVERRUN (STATUS CODE: 3000)

☐ Description
During printing, if the printing data is so complicated that image processing can not keep pace with the engine operation, the printer ejects the paper on which printing has been performed midway and stops printing. Printing may be achieved by retrying after setting "Page Protect = On".

☐ Treatment method

1. Pressing the Start/Stop button will let the printer recover from the error status. Then if there is available memory, the printer will start printing on the page where the error occurred and try only once to continue printing or, if possible, actually continue printing using the whole available memory. In case there is no available memory remaining or if the OVERRUN error has occurred again, delete the printing data for the page where the printer failed in printing and start printing on the subsequent pages.

2. When Auto Cont = On, the printer operates a certain time later the same way as the case the Start/Stop button is pressed.

3. To cancel printing, execute "Reset" or "Reset All" or press the "Job Cancel" button.

MEM OVERFLOW (STATUS CODE: 3001)

☐ Description
If lack of memory has occurred during processing, the printer ejects the paper on which printing has been performed midway and stops printing.

☐ Treatment method

1. Pressing the Start/Stop button will let the printer recover from the error status. The result of printing in this case will be in accordance with the language specifications.

2. When Auto Cont = On, the printer operates a certain time later the same way as the case the Start/Stop button is pressed.

3. To cancel printing, execute "Reset" or "Reset All" or press the "Job Cancel" button.

DUPLEX MEM OVERFLOW (STATUS CODE: 3004)

☐ Description
Since memory available for printing on the back side is insufficient, the printer performs printing on the front side only and ejects the paper, then stops printing. When the number of copies has been specified, the specification is invalidated. (Warning of invalidating printing of multiple copies does not appear.)

☐ Treatment method

1. Set the paper printed only on its front side in the paper feeder with the unprinted side on the normal printing side and press the Start/Stop button. Then the printer will recover from the error status and perform printing on the back side, then eject the paper after inverting it through the Duplex Unit.

2. When Auto Cont = On, a certain time later the printer performs printing the back side on the normal printing side of the next page and ejects the paper after inverting it through the Duplex Unit.after inverting it through the Duplex Unit.

3. To cancel printing, execute "Reset" or "Reset All" or press the "Job Cancel" button.

INVALID HDD (STATUS CODE: 4202)

☐ Description
An HDD which can not be used with this printer has been installed.

☐ Treatment method
Turn off the power and reinstall or remove the HDD. Then turn on the power again.

INVALID PS3 (STATUS CODE: 4201)

☐ Description
A PS3 module which can not be used with this printer has been installed.

☐ Treatment method
Turn off the power and reinstall the PS3 module or remove the PS3 module and PS font module. Then turn on the power again.

INVALID AUX I/F CARD (STATUS CODE: 4014)

☐ Description
An I/F card which can not be used with this printer has been installed.

☐ Treatment method
Turn off the power and remove the I/F card. Then turn on the power again.

INVALID ROM A (STATUS CODE: 4003)

☐ Description
A ROM module which can not be used with this printer has been inserted in the slot as indicated on the LCD. Or the ROM module can not be recognized correctly because of faulty contact.

☐ Treatment method
Turn off the power and reinstall or remove the ROM module. Then turn on the power again.

WRITE ERROR ROM A (STATUS CODE: 4006)

☐ Description
Writing in a write unable ROM module was tried. Or writing did not completed successfully. Or the slot A does not have a ROM module inserted.

☐ Treatment method
Turn off the power once and then turn it on again or execute "Reset All".

WRITE ERROR ROM P (STATUS CODE: 4006)

NOTE: Not opened to users

☐ Description
Writing did not completed successfully. The printer failed in receiving data or the checksum of the received data does not agree. There was not sufficient memory to receive the data en bloc. The designated device value is not correct.

☐ Treatment method

1. Turn off the power once and then turn it on again.

2. Execute "Reset All".

3. If neither of the treatment methods above works, the error occurs as a service call error.

3.2.5 Details of Warning Status and Remedy

MENUS LOCKED (STATUS CODE: 1001)

☐ Description
When "Panel Lock = On" has been set, say, by EJL, this warning appears if setting change on the control panel is tried. The setting value is not changed.

☐ Treatment method
Set "Panel Lock =Off" by EJL or WebAssist, and setting change on the control panel will be allowed.

HARD DISK FULL (STATUS CODE: 2569)

☐ Description
Since the storage area of the hard disk is full, it can not store multiple-copy printing data, form data or reserve job data.

☐ Treatment method
Delete unnecessary form data and reserve job data.

RESERVE JOB CANCELED (STATUS CODE: 2565)

☐ Description
The printer failed in registration of a reserve job.

☐ Treatment method

1. If the number of registered reserve jobs has reached the maximum value, delete one job from the registration list. For confidential jobs, once you execute printing of one of them, the executed job will be deleted from the registration list, thus reducing the number of registered reserve jobs.

2. If the memory capacity for registration, add memory. Install an optional HDD.

PS3 HARD DISK FULL (STATUS CODE: 2561)

☐ Description
During PS3 font download, the storage area of the hard disk became full and the font was not stored in memory.

☐ Treatment method
Delete fonts which were downloaded before to create a free area in the hard disk.

FORM DATA CANCELED (STATUS CODE: 2570)

☐ Description
  When registration of form data was impossible, this warning appears. The form data is not registered, but discarded.

☐ Treatment method

  1. When the maximum number up to which registration is permitted has been reached:
     Delete one form from the registration list.

  2. When the storage capacity of the hard disk for registration is insufficient:
     Delete a number of forms from the registration list so as to create a free area enough to register the form you would like to.

  3. When there is no hard disk installed:
     Install a hard disk.

COLLATE DISABLED (STATUS CODE: 2013)

☐ Description
  Because of insufficient memory, the entire printing data of the job can not be stored, thus printing of the specified number of copies can not be realized. Or in the sorter mode, the number of copies exceeding the number of multiple bins has been designated. Printing of only one copy up to the last page is achieved.

☐ Treatment method
  Install an additional RAM module or HDD to extend the storage area for printing data. In the sorter mode, limit the number of copies to the number of bins.

CHECK PAPER SIZE (STATUS CODE: 2004)

☐ Description
  The fed paper size is different from the Page Size preset for printing. This warning appears only when Size Ignore=Off. Depending on the paper sizes, there may be a case where the difference in paper size can not be detected.

☐ Treatment method
  Correct the paper size in the paper feeder and the paper size setting for printing so that they agree with each other. In case this message has been displayed, you are advised before clearing the message to check to see if there are any printed sheets whose size is different from the paper size preset for printing.

IMAGE OPTIMUM (STATUS CODE: 2002)

☐ Description
  Because of insufficient memory, printing was not achieved in the designated resolution, but was performed with some conditions omitted.

☐ Treatment method
  Install an additional RAM module or designate a lower resolution. In case this message has been displayed, you are advised before clearing the message to check to see if there are any sheets part of which has been printed in a lower quality.

CHECK PAPER TYPE (STATUS CODE: 2008)

☐ Description
  When Paper Source=Auto and a paper type had been designated but there was no paper feeder with which both the paper size and paper type agreed, paper was fed from the paper feeder with which the paper size agreed but the paper type did not agree. When there is a paper feeder with which only the paper type agrees, the LCD displays "Paper Set". If you press the Start/Stop button in this state, the printer feeds paper from the paper feeder with which the paper size agrees and results in this warning. The LCD shows "Paper Out" when there is a paper feeder with which both the paper size and paper type agree but there is no paper therein.

☐ Treatment method
  Check to see if the paper feeder has been set for the paper type to be selected.

NEED MEMORY (STATUS CODE: 2003)

☐ Description
  If memory runs short during data decompression processing, data compression and decompression in memory is performed. This warning is displayed when the number of times data compression in memory has been performed exceeds the threshold value. Printing takes time longer than usual because of repeated compression and decompression. After occurrence of this warning, if the printer enters a state requiring to reduce the resolution, the display changes to "Image Optimum".

☐ Treatment method
  There is no problem with print quality. However, adding RAM or lowering resolution is recommended for faster printing.

FORMAT ERROR ROM A (STATUS CODE: 2000)

☐ Description
This message is displayed when a ROM module which permits writing but is not formatted has been installed.

☐ Treatment method
Even when this message is displayed, there is no problem if it is for the first time that the ROM module is subjected to writing. After writing in a ROM module, however, if this message appears, there may a case where writing was not completed successfully or the memory is broken. In such a case, try to write again and if the same message appears again, turn off the power and remove the ROM module.

OCCURRENCE CONDITION OF WARNING MESSAGE OF EACH CONSUMABLES

Table 3-1.

Message	Description
uuuu Toner Low (Status code: 2017~2031)	This warning will occur when either 20% or less amount of the toner or 6400 plain or more use of toner is detected.
Worn Photoconductor (Status code: 2010)	This warning will occur when 14% or less amount of photoconductor remainder is detected.
Waste T Box Nearfull (Status code: 2011)	This warning will occur before 200 images of its life of Waste Toner Collector.
Worn Fuser (Status code: 2562)	This warning will occur when 2% or less amount of the fuser unit remainder is detected.
Worn Transfer Unit (Status code: 2563)	This warning will occur when 4% or less amount of transfer unit remainder is detected.

DISPLAY OF WARNING MESSAGE

☐ Description
When two or more warnings have been occurred, an upper and lower icon is added to the 20th digit of LCD.
Up or down switch is pressed at this time, Status Menu of SelecType will be displayed.
Under this condition, enter Status Menu when the Enter switch is pressed and the warnings can be confirmed.

3.3 Status Display (AcuLaser C900)

This section describes the outline of status/error display by the status monitor "EPSON Printer Window !3".

3.3.1 Service Call Error Status

At the occurrence of a service call error, the error code is displayed in "EPSON Printer Window !3".
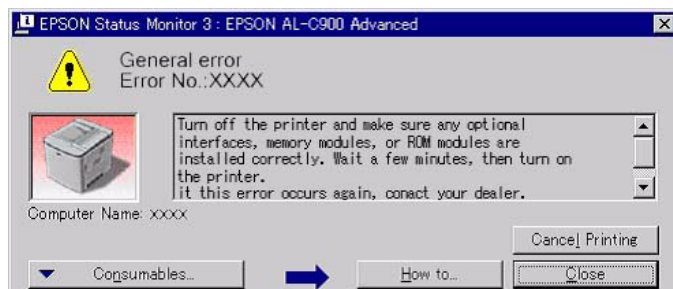Figure 3-1 below shows an image of the status monitor.

Figure 3-1. EPSON Printer Window !3 Display

NOTE: *The status No. is displayed at xxxx.*

Listed below are service call errors of AL-C1900/AL-C900.

☐ Engine Related

Table 3-2. List of Service Call Errors (Engine Related)

Error code	Description	Refer to
6004	Engine board error	p.144
6005	Flash ROM error	p.144
6008	Main motor error	p.144
6011	Exhaust fan error	p.145
6012	Power coolant fan error	p.145
6014	Fuser cooling fan error	p.145
6016	Polygon motor error	p.145
6018	Laser error	p.145
6020	Secondary transfer roller pressing/separation error	p.146
6021	Transfer belt cleaner clearance error	p.146
6022	Transfer belt rotation error	p.146
6023	Developing rack rotation error	p.147
6024	Fuser roller / warming up error	p.147
6025	Fusing roller / low temperature error	p.147
6026	Fusing roller / high temperature error	p.148
6027	Fusing roller / thermistor error	p.148
6033	Transparency detection sensor error	p.148
6041	Memory counter error	p.148
6042	Memory data error	p.148
6043	Memory access error	p.148
6044	Memory installation error	p.148
6998	Engine communication error	p.149

☐ Controller Related

Table 3-3. List of Service Call Errors (Controller Related)

Internal error code	Description
0017	CPU error (undefined interruption)
0081	CPU error (TLB modification exception)
0082	CPU error (TLB miss exception [Load/Fetch])
0083	CPU error (TLB miss exception [Store])
0084	CPU error (address error exception [Load/Fetch])
0085	CPU error (address error exception [Store])
0086	CPU error (bus error exception [Fetch])
0087	CPU error (bus error exception [Load/Store])
0088	CPU error (SYSCALL exception)
0089	CPU error (Break exception)
0090	CPU error (reserving command exception)
0091	CPU error (unused coprocessor exception)
0092	CPU error (FPU exception)
0093	CPU error (TLB exception)
0094	CPU error (XTLB exception)
0095	CPU error (cache exception)
0096	CPU error (Trap exception)
0097	CPU error (FPU exception)
0098	CPU error (watch exception)
0128 ~ 0254	CPU error (undefined trap)
0255	CPU error (NMI exception)
0256	CPU error (divide by 0)
0257	CPU error (arithmetic overflow)
0258	CPU error (break occurrence)
0800	IPL error (controller defect)
0998	Engine communication error (only when power-on)
0999	Engine flash ROM has no program data
1002	Standard RAM error (standard size is undefined, etc.)

Table 3-3. List of Service Call Errors (Controller Related) (continued)

Internal error code	Description
1010	Verification error
1020	RAM error (slot 0)
1021	RAM error (slot 1)
1120	ROM checksum error (bit 0 to 7) (program)
1121	ROM checksum error (bit 8 to 15) (program)
1122	ROM checksum error (bit 16 to 23) (program)
1123	ROM checksum error (bit 24 to 31) (program)
1200	EEPROM writing error
1210	EEPROM writing times limit
1400	Engine initialization error
1500	CCNV hardware error
1550	Initialization hardware error for SRAM for compression
1600	Video series hardware error (including PWM IC calibration error)
1610	Video series hardware error (VCNV error)
1800	Illegal SPD (not appeared in Tanager)
1999	Other hardware errors
2000	Software error

3.3.1.1 Details of Service Call Errors and Remedy

For troubles which can occur as service call errors, this section describes the details and remedy of such troubles according to the corresponding respective error codes.

ERROR CODE: 6000 "CONTROLLER ERROR"

All the error codes for controller errors are 6000.
The controller-related errors which can be detected in AL-C1900 are listed in Table 3-2 and those in AL-C900 are as listed in Table 3-2.

☐ Remedy
   Turn off the power to the printer once and turn it on again and check to see if the same error occurs again. If it occurs again, replace the Main Controller with a new one.

ERROR CODE: 6004 "ENGINE BOARD ERROR"

☐ Detection Timing
   When a communication error in the Engine Board (PWB-A) is detected

☐ Solution
   ■ Parts which can cause the alarm:
     • Engine Board (PWB-A)

Table 3-21.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Replace the PWB-A.	-	-

ERROR CODE: 6005 "FLASH ROM ERROR"

☐ Detection Timing
   When an abnormality in contents of flash ROM on the Engine Board (PWB-A) is detected.

☐ Solution
   ■ Parts which can cause the alarm:
     • Engine Board (PWB-A)

Table 3-22.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Replace the PWB-A.	-	-

ERROR CODE: 6008 "MAIN MOTOR ERROR"

☐ Detection Timing
   When the Main Motor (M1) does not operate at turning on the power switch.

☐ Solution
   ■ Parts which can cause the alarm:
     • Main Motor (M1)
     • Engine Board (PWB-A)
     • Power Supply Unit (PU)

Table 3-23.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the operation of M1.	p.162	M1_REM
2	Replace the PU.	-	-
3	Replace the PWB-A.	-	-

ERROR CODE: 6011 "EXHAUST FAN MOTOR ERROR"

☐ Detection Timing
   When the Exhaust Fan Motor (M6) does not operate at turning on the main switch.

☐ Solution
   ■ Parts which can cause the alarm:
      • Exhaust Fan Motor (M6)
      • Engine Board (PWB-A)
      • Power Supply Unit (PU)

Table 3-24.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the operation of M6.	p.162	M6_REM
2	Replace the PU.	-	-
3	Replace the PWB-A.	-	-

ERROR CODE: 6012 "POWER COOLANT FAN ERROR"

☐ Detection Timing
   When the Power Coolant Fan Motor (M4) does not operate at turning on the main switch.

☐ Solution
   ■ Parts which can cause the alarm:
      • Power Supply Cooling Fan Motor (M4)
      • Engine Board (PWB-A)
      • Power Supply Unit (PU)

Table 3-25.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the operation of M4.	p.162	M4_REM
2	Replace the PU.	-	-
3	Replace the PWB-A.	-	-

ERROR CODE: 6014 "FUSER COOLING FAN MOT ERROR"

☐ Detection Timing
   When the Fuser Cooling Fan Motor (M5) does not operate at turning on the main switch.

☐ Solution
   ■ Parts which can cause the alarm:
      • Fuser Cooling Fan Motor (M5)
      • Engine Board (PWB-A)
      • Power Supply Unit (PU)

Table 3-26.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the operation of M5.	p.162	M5_REM
2	Replace the PU.	-	-
3	Replace the PWB-A.	-	-

ERROR CODE: 6016 "POLYGON MOTOR ERROR"
ERROR CODE: 6018 "LASER ERROR"

☐ Detection Timing
   When the Polygon Motor does not operate, or the laser diode (LD) does not emit the laser beam.

☐ Solution
   ■ Electric parts which can cause the trouble:
      • Print Head Unit
      • Engine Board (PWB-A)
      • Power Supply Unit (PU)

Table 3-27.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Replace the print head unit.	-	-
2	Replace the PU.	-	-
3	Replace the PWB-A.	-	-

ERROR CODE: 6020
"SECONDARY TRANSFER ROLLER PRESSING/SEPARATION ERROR"

☐ Detection Timing
   When pressing or separation of the Secondary Transfer Roller is impossible.

☐ Solution
   ■ Electric parts which can cause the trouble:
     • Transfer Roller Pressure Solenoid (SL2)
     • Transfer Roller Pressure Position Detection Sensor (PC7)
     • Engine Board (PWB-A)

Table 3-28.

Step	Action	Refer to	WARNING DIAGRAM Control Signal
1	Check the operation of PC7.	p.161	PC7_ON
2	Replace the pressing/separation mechanism parts of the Secondary Transfer Roller.	-	-
3	Check the operation of SL2.	p.162	SL2_REM
4	Replace the PWB-A.	-	-

ERROR CODE: 6021 "TRANSFER BELT CLEANER CLEARANCE ERROR"

☐ Detection Timing
   When pressing or separation of the Transfer Belt Cleaner is impossible.

☐ Solution
   ■ Electric parts which can cause the trouble:
     • Cleaner Pressure Flapper Solenoid (SL4)
     • Belt Cleaner Position Detect Sensor (PC9)
     • Engine Board (PWB-A)

Table 3-29.

Step	Action	Refer to	WARNING DIAGRAM Control Signal
1	Check the operation of PC9.	p.161	PC9_ON
2	Replace the pressing/separation mechanism parts of the Belt Cleaner.	-	-
3	Check the operation of SL4.	p.162	SL4_REM
4	Replace the PWB-A.	-	-

ERROR CODE: 6022 "TRANSFER BELT ROTATION ERROR"

☐ Detection Timing
   When the transfer belt of the Intermediate Transfer Belt Unit does not operate.

☐ Solution

Table 3-30.

Step	Action	Refer to	WARNING DIAGRAM Control Signal
1	Replace the transfer belt unit.	-	-

ERROR CODE: 6023 "DEVELOPING RACK ROTATION ERROR"

☐ Detection Timing
   When the Toner Cartridge Rack does not turn.

☐ Solution
   ■ Electric parts which can cause the trouble:
   - Rack motor (M2)
   - Rack Clutch (CL1)
   - Rack Black Position Detection Sensor (PC4)
   - Engine Board (PWB-A)

Table 3-31.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the operation of PC4.	p.161	PC4_ON
2	Check the operation of M2.	p.162	CL1_REM
3	Check the operation of CL1.	p.162	-
4	Replace the PWB-A.	-	-

ERROR CODE: 6024 "FUSING ROLLER / WARMING UP ERROR"
ERROR CODE: 6025 "FUSING ROLLER / LOW TEMPERATURE ERROR"

☐ Detection Timing
   When 80C is not reached in 100 seconds after start of warming up.
   When the fusing roller temperature has dropped and remained below 70C for 10 seconds during standby.

☐ Solution
   ■ Electric parts which can cause the trouble:
   - Fusing Roller Heater Lamp (H1)
   - Pressure Roller Heater Lamp (H2)
   - Thermostat (TS1)
   - Engine Board (PWB-A)
   - Power Supply Unit (PU)

Table 3-32.

Step	Check Item	Yes/No	Remedy	WARNING DIAGRAM
				Control Signal
1	Check the continuity of H1 and H2.	NO	Replace the H1, H2.	-
2	Check the continuity of TS1.	NO	Replace the TS1.	-
3	Check to see if the resistance of TH1 is infinite. (Between CN18-1 and 2 on thermistor side)	YES	Clean TH1 or replace the Fuser Unit.	HEATER
		NO	Replace the PU.	
			Replace the PWB-A.	

ERROR CODE: 6026 "FUSING ROLLER / HIGH TEMPERATURE ERROR"
ERROR CODE: 6027 "FUSING ROLLER / THERMISTOR ERROR"

☐ Detection Timing
  When the Fusing Roller temperature is 220°C or higher for 0.1 second.

  When between 40 seconds and 50 seconds after start of warming up of the Fusing Roller, the Fusing Roller temperature does not rise for one second by 5°C from that at start of fuser warming up.

☐ Solution
  ■ Electric parts which can cause the trouble:
    • Thermistor (TH1)
    • Engine Board (PWB-A)

Table 3-33.

Step	Check Item	Yes/No	Remedy	WARNING DIAGRAM
				Control Signal
1	Check to see if TH1 is shorted. (Between CN18-1 and 2 on thermistor side)	YES	Clean TH1.	HEATER
			Replace the Fuser Unit.	
		NO	Replace the PU.	
			Replace the PWB-A.	

ERROR CODE: 6033 "TRANSPARENCY DETECTION SENSOR ERROR"

☐ Detection Timing
  Transparency is not detected.

☐ Solution
  ■ Electric parts which can cause the trouble:
    • OHP Sensor (PC3A)
    • Engine Board (PWB-A)

Table 3-34.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the operation of PC3A.	p.161	PC3_REM
2	Replace the PWB-A.	-	-

EEPROM ERROR
·ERROR CODE: 6041 "MEMORY COUNTER ERROR"
·ERROR CODE: 6042 "MEMORY DATA ERROR"
·ERROR CODE: 6043 "MEMORY ACCESS ERROR"
·ERROR CODE: 6044 "MEMORY INSTALLATION ERROR"

☐ <Detection Timing>
  EEPROM error detection

☐ Solution
  ■ Electric parts which can cause the trouble:
    • EEPROM
    • Engine Board (PWB-A)

Table 3-35.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Replace the EEPROM.	-	-
2	Replace the PWB-A.	-	-

ERROR CODE: 6998 "ENGINE COMMUNICATION ERROR"

☐ Detection Timing

Any error has occurred in communication through the video interfere between the Main Board and the Engine Board.

☐ Solution

■ Electric parts which can cause the trouble:

• Main Board (C494MAIN)

• Engine Board (PWB-A)

Table 3-36.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Check the connection between Main Board and Engine Board.	-	-
2	Replace the Main Board (C494MAIN).	-	-
3	Replace the Engine Board (PWB-A).	-	-

3.3.2 Printer Status

The printer status list is shown below.

Table 3-37. Messages (AcuLaser C900)

Message	Type	Status code	Refer to
Controller Error	Service Call Error	6000	p.144
Engine Error	Service Call Error	6001 ~ 6999	
Protocol Error	Protocol Error	-	
Resetting printer	Status	1004	p.151
Incorrect paper size for duplex printing	Error	4016	p.152
Incorrect media - transparency	Error	4226	p.152
Paper jam - cover AB	Error	4008	p.152
Paper jam - MP tray or cassette	Error	4009	p.152
Paper jam - cover DM	Error	4017	p.152
Developer cartridges installed incorrectly	Error	4049 ~ 4063	p.152
Photoconductor unit installed incorrectly	Error	4022	p.152
Waste toner collector installed incorrectly	Error	4023	p.152
Engine sensor dirty	Error	4228	p.153
Toner out -or- Change Toner mode	Error	4065~4079	p.153
Photoconductor unit at end of service life	Error	4028	p.153
Waste toner collector full	Error	4029	p.153
Transfer unit at end of service life	Error	4224	p.153
Front cover, cover AB, or cover DM open	Error	4002	p.153
Cover C open	Error	4037	p.153
Setting developer cartridge position	Status	1019	p.151
Paper out	Error	4010	p.153
Incorrect paper size[*1],[*2]	Error	3003	p.154
Incorrect paper size[*1]	Error	3002	p.154
Page contains too much data to process	Error	3000	p.154
Insufficient printer memory [*1]	Error	3001	p.154
Not enough printer memory to print using duplex function [*1]	Error	3004	p.155
Optional interface card error	Error	4014	p.155

Table 3-37. Messages (AcuLaser C900)

Message	Type	Status code	Refer to
Only one sheet printed	Warning	2013	p.155
Printing on incorrect paper size [*2]	Warning	2004	p.155
Print quality decreased	Warning	2002	p.155
Unable to perform duplex printing	Warning	2005	p.156
Incorrect paper size setting or insufficient printer memory	Warning	2568	p.156
Insufficient printer memory	Warning	2003	p.156
Unable to properly manage color printing	Warning	2567	p.156
Warming up	Status	1006	p.151
Adjusting print function	Status	1014	p.151
Cooling down	Status	1016	p.151
Consumables near end of service life	Warning	2017~2031	p.157
Consumables near end of service life	Warning	2010	p.157
Consumables near end of service life	Warning	2011	p.157
Consumables near end of service life	Warning	2563	p.157
Power saving mode	Status	1007	p.151
Ready	Status	1000	p.151
Printing	Status	1009	p.151
Printing	Status	1002	p.151
Printing data from another port	Status	1012	p.151

Note *1: When "Avoid Error = ON" is set, this error does not occur.

   *2: When "Size Ignore = ON" is set, this error/warning does not occur.

   *3: The relationship between the paper jam location and the status code is described below. If more than one paper jams occur, status code 1. is determined first, followed by the other status codes specified in the priority order of 2. to 4.

   1. 4008: B (near the paper ejecting area of cover AB)
   2. 4009: A (near the paper feeding area of cover AB)
   3. 4009: Cover C
   4. 4017: Cover DM

3.3.3 Details of Status Messages and Treatment Method

RESETTING PRINTER (STATUS CODE: 1004)

- ☐ Description
  The printer is being reset. This status occurs when EEPROM is cleared. It is not caused by operations by the user.

SETTING DEVELOPER CARTRIDGE POSITION (STATUS CODE: 1019)

- ☐ Description
  The toner to replace (during change toner) is moving to the defined position.

- ☐ Treatment method.
  The display is changed to "Replace Toner uuuu" when the toner arrives at the defined position.

WARMING UP (STATUS CODE: 1006)

- ☐ Description
  The printer is warming up.

- ☐ Treatment method
  The printer recovers automatically within 180 seconds.

ADJUSTING PRINT FUNCTION (STATUS CODE: 1014)

- ☐ Description
  The printer engine is being adjusted.
  This is performed automatically in the following cases.

  - ■ When a consumable is replaced
  - ■ When the cover is opened and closed not because of paper jam (mode to enforce AIDC)
  - ■ When the printer is turned on after more than 200 sheets from last AIDC or after recovering from the standby status
  - ■ When the printer is turned on after more than 1000 sheets from the picture stabilization control or after recovering from the standby status.

COOLING DOWN (STATUS CODE: 1016)

- ☐ Description
  The printer engine is cooling down.
  Internal temperature is too high to print transparencies. In this case, the print stops until the internal temperature becomes suitable for printing transparencies.

- ☐ Treatment method
  The printer becomes ready automatically after approximately one minute, and then it resumes printing.

POWER SAVING MODE (STATUS CODE: 1007)

- ☐ Description
  The printer is in the sleep mode.

- ☐ Treatment method
  The printer recovers and becomes ready to print after receiving print data.

READY (STATUS CODE: 1000)

- ☐ Description
  The printer is in the normal state.

PRINTING (STATUS CODE: 1002)

- ☐ Description
  The printer is processing the print job.

PRINTING (STATUS CODE: 1009)

- ☐ Description
  The printer is printing.

PRINTING DATA FROM ANOTHER PORT (STATUS CODE: 1012)

- ☐ Description
  Printing is in progress via the other interface.

- ☐ Treatment method
  The printing starts automatically after finishing the current job.

3.3.4 Details of Error Status and Remedy

INCORRECT PAPER SIZE FOR DUPLEX PRINTING (STATUS CODE: 4016)

☐ Description

Since the size of the paper fed in duplex printing and the paper size in the paper cassette detected (or the paper size in the MP tray specified by data) are different, printing stops and a paper jam occurs.

This error is recovered when no more paper jams are detected and cover AB is closed. After error recovery, data retained in the printer memory is recovered.

☐ Remedy

Insert paper of the appropriate size, open the covers on the paper feeding routes, remove the jammed paper, and then close the covers. Printing resumes from the jammed page. The pop-up message of the EPSON Status Monitor disappears after error recovery.

INCORRECT MEDIA - TRANSPARENCY (STATUS CODE: 4226)

☐ Description

If paper other than transparencies is fed in transparency printing, or if a transparency is fed in nontransparency printing, the printer cancels printing and ejects the sheet.

If a transparency is fed by mistake in duplex printing, the sheet remains in the duplex printing unit that is causing a paper jam.

The Continue command of the ESCPAGES-02 protocol clears the error, and then printing resumes.

The ResetPrinter command clears the error in the printer engine, resetting the printer to its initial state.

After error recovery by the Continue command, data retained in the printer memory is recovered.

☐ Remedy

If wrong paper is loaded, reinsert the appropriate paper and then select [Reprint] in the EPSON Status Monitor.

To reprint after modifying driver settings, select [Cancel Printing] in the EPSON Status Monitor.

PAPER JAM - COVER AB (STATUS CODE: 4008)
PAPER JAM - MP TRAY OR CASSETTE (STATUS CODE: 4009)
PAPER JAM - COVER DM (STATUS CODE: 4017)

☐ Description

A paper jam occurs.

The error status information can identify the following paper jam locations only: near the paper ejecting area of cover AB (inside of the printer), near the paper feeding area of cover AB, below cover C (paper feeding area), or below cover DM (duplex print unit). It cannot indicate multiple locations.

The error is cleared when no more paper jams are detected.

After error recovery, data for one page retained in the printer memory is recovered if it is possible.

However, if the data does not exist, the printer returns the resend request a status. The data can be recovered when the printer does not perform a flying start.

☐ Remedy

Remove the jammed paper and close the covers or units. Printing resumes from the jammed page.

The pop-up message of the EPSON Status Monitor disappears after error recovery.

DEVELOPER CARTRIDGES INSTALLED INCORRECTLY
(STATUS CODE: 4049~4063)
PHOTOCONDUCTOR UNIT INSTALLED INCORRECTLY
(STATUS CODE: 4022)
WASTE TONER COLLECTOR INSTALLED INCORRECTLY
(STATUS CODE: 4023)

☐ Description

The consumables are not installed, or are not installed correctly.

When the printer detects that the consumables are set correctly, the error is cleared.

☐ Remedy

Installing the consumables correctly and then closing the opened cover clears these errors. As a result, the pop-up message of the EPSON Status Monitor disappears.

ENGINE SENSOR DIRTY (STATUS CODE: 4228)

☐ Description
The sensor window for adjusting the printer engine is stained.
The error is cleared when no more soil in the printer head filter is detected.

☐ Remedy
Opening the front cover to clean the printer head filter and then closing the cover clears these errors.
As a result, the pop-up message of the EPSON Status Monitor disappears.

TONER OUT -OR- CHANGE TONER MODE (STATUS CODE: 4065~4079)

☐ Description
The displayed toner has reached the end of its service life, or the driver etc. specifies replacing the toner cartridge.
When the consumables expire while printing is underway, the operation stops before the next page is printed.
Replacing a new one clears the error.

☐ Remedy
Replacing the displayed toner that stops at a replaceable position and then closing the opened cover clears these errors. As a result, the pop-up message of the EPSON Status Monitor disappears.
When multiple toners are displayed, the toner stops at a replaceable position in the order of C, K, Y, and M. Replacing the applicable one and then closing the front cover moves the toner to the next replaceable position; open the front cover again and then replace the next one.

PHOTOCONDUCTOR UNIT AT END OF SERVICE LIFE (STATUS CODE: 4028)
WASTE TONER COLLECTOR FULL (STATUS CODE: 4029)
TRANSFER UNIT AT END OF SERVICE LIFE (STATUS CODE: 4224)

☐ Description
The consumables have reached the end of its service life.
When the consumables expire while printing is underway, the operation stops before the next page is printed.
Replacing a new photoconductor unit or the transfer belt clears the error.

☐ Remedy
Replacing the consumables, and then closing the opened cover clears these errors.
As a result, the pop-up message of the EPSON Status Monitor disappears.

FRONT COVER, COVER AB, OR COVER DM OPEN (STATUS CODE: 4002)

☐ Description
A printer cover is open.
When the printer detects that none of the covers are open, the error is cleared.
The errors cannot indicate which cover is open among the front cover, cover AB, and cover DM.

☐ Remedy
Closing the cover clears these errors. As a result, the pop-up message of the EPSON Status Monitor disappears.

COVER C OPEN (STATUS CODE: 4037)

☐ Description
Cover C is open.
When the printer detects that none of covers are open, the error is cleared.

☐ Remedy
Closing the cover C clears these errors. As a result, the pop-up message of the EPSON Status Monitor disappears.

PAPER OUT (STATUS CODE: 4010)

☐ Description
Since the selected paper source does not load paper in printing, operation stops before printing starts.
When paper is detected in the selected paper source, the error is cleared and printing starts.
Even if all the paper sources have no paper, the error does not appear unless printing is performed.

☐ Remedy
Inserting paper in the selected paper source clears the error. As a result, the pop-up message of the EPSON Status Monitor disappears.

INCORRECT PAPER SIZE (STATUS CODE: 3003)

☐ Description

Since the paper size specified by the print data differs from the paper size recognized by the size detection method of the Paper Source setting, the operation stops before printing starts.

The Continue command of the ESCPAGES-02 protocol clears the error, and printing resumes. The ResetPrinter command clears the error in the printer engine, resetting the printer to its initial status.

This error does not occur when the specified paper size is an undefined paper size, and when "Size Ignore = ON" and "Avoid Error = ON" are selected.

☐ Remedy

Insert the appropriate paper, and then select [Continue] in the EPSON Status Monitor.

To reprint after modifying driver settings, select [Cancel Printing] in the EPSON Status Monitor.

INCORRECT PAPER SIZE (STATUS CODE: 3002)

☐ Description

If paper larger than A4/LT (such as A3) is specified, or a different feeding direction is selected (such as A4 Long Edge Feed), the operation stops before printing starts.

The Continue command of the ESCPAGES-02 protocol clears the error, and printing resumes.

When "Avoid Error = ON" is set, the printer displays the "Print Failure" error status instead of this error, and resumes printing from the next page.

☐ Remedy

To print pages after "Invalid Size", select [Continue] in the EPSON Status Monitor.

To reprint after modifying the driver settings, select [Cancel Printing] in the EPSON Status Monitor.

Since the printer driver clips data to the A4 paper size, this error does not occur in practice.

PAGE CONTAINS TOO MUCH DATA TO PROCESS (STATUS CODE: 3000)

☐ Description

The print data has cut off in document processing, and the printer starts printing in timeout. However, the band data is insufficient.

Printing does not succeed because data configuring the band for printing is not completely received when printing flying starts, or the memory is insufficient for a flying start due to "Near Buffer Full".

Resetting the printer to its initial state by the ResetPrinter command of the ESCPAGES-02 protocol clears the error.

☐ Remedy

If data is not completely received, selecting [Reprint] in the EPSON Status Monitor may allow successful printing in some cases; as a result the driver resends data without a flying start.

To reprint after modifying driver settings, select [Cancel Printing] in the EPSON Status Monitor.

INSUFFICIENT PRINTER MEMORY (STATUS CODE: 3001)

☐ Description

Because of insufficient memory, data for one page is not saved.

The Continue command of the ESCPAGES-02 protocol clears the error, and printing resumes from the next page.

When "Avoid Error = ON" is set, the printer displays the "Print Failure" error status instead of this error, and resumes printing from the next page.

☐ Remedy

To print pages after the memory error, select [Continue] in the EPSON Status Monitor.

To reprint after modifying the driver settings, select [Cancel Printing] in the EPSON Status Monitor.

NOT ENOUGH PRINTER MEMORY TO PRINT USING DUPLEX FUNCTION (STATUS CODE: 3004)

☐ Description

Because of insufficient memory, data for the front page (the second side of duplex) is not saved.

The Continue command of the ESCPAGES-02 protocol clears the error, and printing resumes from the next combination of front/back.

When "Avoid Error = ON" is set, the printer displays the "Print Failure" error status instead of this error, and resumes printing the next combination of front/back.

☐ Remedy

To print pages after the memory error, select [Continue] in the EPSON Status Monitor.

To reprint after modifying the driver settings, select [Cancel Printing] in the EPSON Status Monitor.

OPTIONAL INTERFACE CARD ERROR (STATUS CODE: 4014)

☐ Description

An interface card that cannot be used is installed.

Since the printer looks for interface cards only when it is turned on, this error does not recover while the printer is powered on.

Only interface cards compatible with expanding background job commands are supported.

The printer does not receive data only. Therefore, it is possible to display this status in the EPSON Status Monitor or updating the Type-B firmware.

☐ Remedy

Turn off the printer, remove the invalid interface card, and then turn it on again.

3.3.5 Details of Warning Status and Remedy

ONLY ONE SHEET PRINTED (STATUS CODE: 2013)

☐ Description

Band data of pages for multi-copying is not saved for one page entirely.

The ResetFlag command of the ESCPAGES-02 protocol clears this warning.

In some cases, this warning status occurs before data for one page is completely sent; however, continuing to send the data prints only one sheet.

☐ Remedy

This warning occurs only when a flying start is performed, and since data is resent (number of copies n - 1) times, this warning status is not displayed in the user interface.

PRINTING ON INCORRECT PAPER SIZE (STATUS CODE: 2004)

☐ Description

The size of the paper actually fed is different from the paper size recognized by the paper size detection method of the Paper Source setting (or the paper size in the MP tray specified by data).

The ResetFlag command of the ESCPAGES-02 protocol clears this warning.

This warning does not occur when the specified paper size is an undefined paper size, and when "Size Ignore = ON" is selected.

☐ Remedy

Clicking the [Close] button closes the pop-up message of the EPSON Status Monitor. However, if an error of higher priority occurs just after that, the display changes to the error display. From this point, error handling is applied, and the status never goes back to the "Check Paper Size" warning.

PRINT QUALITY DECREASED (STATUS CODE: 2002)

☐ Description

Because of insufficient printer memory, printing is performed with non-reversible compression. The printer does not process non-reversible compression, but transmitted data is already compressed nonreversible.

The ResetFlag command of the ESCPAGES-02 protocol clears this warning.

☐ Remedy
   Clicking the [Close] button closes the pop-up message of the EPSON Status
   Monitor. However, if an error of higher priority occurs just after that, the display
   changes to the error display. From this point, error handling is applied, and the
   status never goes back to the "Image Optimum" warning.

UNABLE TO PERFORM DUPLEX PRINTING (STATUS CODE: 2005)

☐ Description
   Since duplex printing is impossible due to restrictions on duplex printing, simplex
   printing is performed.
   Because the printer does not transpose pages of sent data, simplex printing
   proceeds in the order from a back page to a front page.
   The ResetFlag command of the ESCPAGES-02 protocol clears this warning.
   This status is the "Can't print duplex" error for ESC/Page models; however, since
   this status should not occur in normal operations, it is changed to a warning.

☐ Remedy
   Clicking the [Close] button closes the pop-up message of the EPSON Status
   Monitor. However, if an error of higher priority occurs just after that, the display
   changes to the error display. From this point, error handling is applied, and the
   status never goes back to the "Can't print duplex" warning.

INCORRECT PAPER SIZE SETTING OR INSUFFICIENT PRINTER MEMORY (STATUS CODE: 2568)

☐ Description
   Since the "Invalid Size", "Mem Overflow", "Duplex Mem Overflow" errors occur
   when "Avoid Error = ON" is set, printing continues with display of this warning.
   When the Avoid Error is enabled on a ESC/Page printer, the error messages appear
   for about five seconds. However, in the case of a host-based printer, the Status
   Monitor cannot monitor these errors completely. Therefore, the specification has
   been changed to clear these errors immediately and display this warning.

☐ Remedy
   Clicking the [Close] button closes the pop-up message of the EPSON Status
   Monitor. However, if an error of higher priority occurs just after that, the display
   changes to the error display. From this point, error handling is applied, and the
   status never goes back to the "Print Failure" warning.

INSUFFICIENT PRINTER MEMORY (STATUS CODE: 2003)

☐ Description
   Printing is performed with a flying start due to the buffer-full status.
   However, if insufficient memory is available in printing, the "Print Underrun"
   error occurs.
   This status does not occur in printing from network printing where a flying start is
   not applicable.
   The same print result is obtained also in the case where the memory is enough.

☐ Remedy
   Clicking the [Close] button closes the pop-up message of the EPSON Status
   Monitor. However, if an error of higher priority occurs just after that, the display
   changes to the error display. From this point, error handling is applied, and the
   status never goes back to the "Need Memory" warning.

UNABLE TO PROPERLY MANAGE COLOR PRINTING (STATUS CODE: 2567)

☐ Description
   Since color screen adjustment for print data does not match the color screen
   installed on the printer, printing continues with display of this warning.

☐ Remedy
   This warning always occurs when the screen between the driver and printer does
   not match.
   Clicking the [Close] button closes the pop-up message of the EPSON Status
   Monitor. However, if an error of higher priority occurs just after that, the display
   changes to the error display. From this point, error handling is applied, and the
   status never goes back to the "Screen Mismatch" warning.

CONSUMABLES NEAR END OF SERVICE LIFE
 (STATUS CODE: 2017~2031, 2010, 2011, 2563)

☐ Description
 These warnings indicate that consumables must be replaced soon.
 The toner related warnings also indicate which of CMYK toners must be replaced.
 The warnings related to consumables are cleared when no more states of end or
 near end are detected. The ResetFlag command of the ESCPAGES-02 protocol
 also clears the warnings.
 However, the function to clear the warnings for consumables from the EPSON
 Status Monitor is not supported.
 Each consumable can be used until the status changes to replace error, but it is
 desirable to replace it when these warnings appear.

☐ Remedy
 After printing, the EPSON Status Monitor pop-up appears, and this display
 disappears when the [Close] button is clicked or consumables are replaced.
 "Other warnings = OFF" can be selected in the Monitoring Preferences settings of
 the EPSON Status Monitor.

☐ Warning time of consumables and fixed replacement parts

 ■ CMYK Toner Cartridge
  The amount of toner used is more than 80% or the service life counter
  becomes 6400, whichever is reached first.

 ■ Photoconductor
  The amount used is more than 86%.

 ■ Waste T Box
  The engine sensor detects that the toner is near its end (the service life means
  200 image life remaining).

 ■ Fuser Unit
  Use exceeding the designed life does not result in damage to the printer
  mechanism. Therefore, use without occurrence of "near end" is 98% or above.

 ■ Transfer Belt
  The amount used is more than 96%.

3.4 Check Points and Remedy for Paper Jam

3.4.1 Initial Checking

If any paper jam has occurred, check the initial check items as listed below first. If any problem is found as a result of initial checking, take an appropriate action for solution.

Table 3-1.

Check Item	Solution
Is the paper used as specified?	Replace the paper.
Is the paper free from curling, waving or moisture?	Replace the paper. Tell the customer how to store paper.
Is the paper path free from foreign matters, dirt or deformation?	Clean the paper path or replace relevant parts.
Are the rollers free from dirt, deformation or wear?	Clean or replace the relevant roller.
Is the paper size consistent with the restraint plate?	Ensure consistency.
Do the actuators operate normally?	Repair or replace the relevant actuator.

3.4.2 Locations of Jam Detection Sensors

☐   When Duplex Unit and 500-sheet Cassette Unit are installed
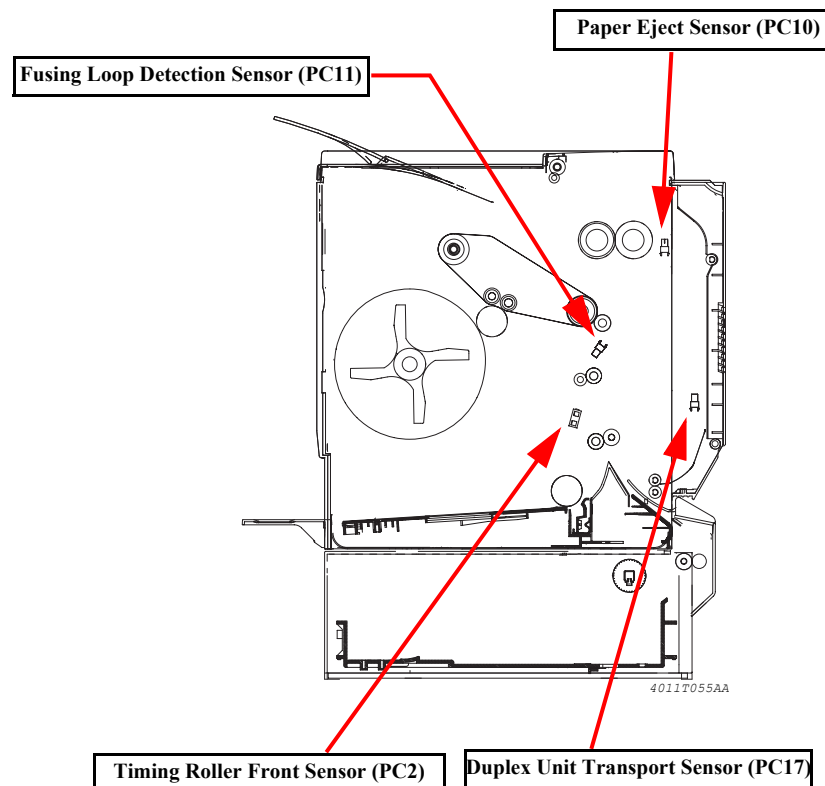
Figure 3-2. Locations of Jam Detection Sensors

3.4.3 Jam Detection Timing / Action to be Taken

JAM IN MANUAL PAPER FEED AREA

☐ Detection Timing

Table 3-2. Detection Timing

Category	Explanation
Jam detection in manual paper feed area	Even on the lapse of a predetermined time after turning on of the manual paper feed solenoid (SL1), the front end of the paper does not intercept the light to the timing roller front sensor (PC2).
Size error detection in MP tray	The light to the timing roller front sensor (PC2) is not transmitted even on the lapse of a predetermined time after the paper intercepted the light to the sensor (PC2).

☐ Solution
  ■ Electric parts which may cause paper jam
  • Timing Roller Front Sensor (PC2)
  • Manual Paper Feed Solenoid (SL1)
  • Engine Board (PWB-A)

Table 3-3.

Step	Action	Refer to	WARNING DIAGRAM Control Signal
1	Initial checking	p.158	-
2	Check the operation of PC2	p.161	PC2_ON
3	Check the operation of SL1	p.162	SL1_REM
4	Replace the PWB-A.	-	-

JAM IN SECONDARY TRANSFER AREA

☐ Detection Timing

Table 3-4. Detection Timing

Category	Explanation
Jam detection in secondary transfer area	The light to the timing roller front sensor (PC2) is not transmitted even on the lapse of a predetermined time after the paper intercepted the light to the sensor (PC2).
	The light to the fusing loop detection sensor (PC11) is not intercepted even after the paper has passed the interception position.
Remaining paper detection in secondary transfer area	The light to the timing roller front sensor (PC2) is intercepted when the main switch is turned on, the door and cover are opened and closed or a jam or trouble is cleared.

☐ Solution
  ■ Electric parts which may cause paper jam
  • Timing Roller Front Sensor (PC2)
  • Fusing Loop Detection Sensor (PC11)
  • Engine Board (PWB-A)

Table 3-5.

Step	Action	Refer to	WARNING DIAGRAM Control Signal
1	Initial checking	p.158	-
2	Check the operation of PC2	p.161	PC2_ON
3	Check the operation of PC11	p.161	PC11_ON
4	Replace the PWB-A.	-	-

FUSER AREA JAM / PAPER EJECT AREA JAM

☐ Detection Timing

Table 3-6. Detection Timing

Category	Explanation
Paper eject area jam	The light to the paper eject sensor (PC10) is not transmitted even when a predetermined time has passed since the paper intercepted the light to the sensor (PC10).
Retaining paper detection in paper eject area	The light to the paper eject sensor (PC10) is intercepted when the main switch is turned on, the door and cover are opened and closed or a jam or trouble is cleared.

☐ Solution

   ■ Electric parts which can cause the jam:
- Paper Eject Sensor (PC10)
- Engine Board (PWB-A)

Table 3-7.

Step	Action	Refer to	WARNING DIAGRAM Control Signal
1	Initial checking	p.158	-
2	Check the operation of PC10.	p.161	PC10_ON
3	Replace the PWB-A.	-	-

500-SHEET CASSETTE UNIT PAPER EJECT AREA

☐ Detection Timing

Table 3-8. Detection Timing

Category	Explanation
Paper feed area jam	Even on the lapse of a predetermined time after turning on of the 2nd paper feed solenoid (SL7), the front end of the paper does not intercept the light to the timing roller front sensor (PC2).
Remaining paper detection in 2nd tray	The light to the timing roller front sensor (PC2) is intercepted when the main switch is turned on, the door and cover are opened and closed or a jam or trouble is cleared.

☐ Solution

   ■ Electric parts which can cause the jam:
- 2nd Paper Feed Solenoid (SL7)
- Timing Roller Front Sensor (PC2)
- 500-sheet Cassette Unit Control Board (PWB-A)

Table 3-9.

Step	Action	Refer to	WARNING DIAGRAM Control Signal
1	Initial checking	p.158	-
2	Check the operation of PC2.	p.161	PC2_ON
3	Check the operation of SL7.	p.162	SL7_REM
4	Replace the PWB-A.	-	-

TRANSPORT COMPONENT OF DUPLEX UNIT / INVERSION AND SIDING COMPONENT OF DUPLEX UNIT

☐ Detection Timing

Table 3-10. Detection Timing

Category	Explanation
Inversion and siding component / transport component jam	Even on the lapse of a predetermined time, the paper does not intercept the light to the duplex unit transport sensor (PC17).
Retaining paper detection in transport component	The light to the duplex unit transport sensor (PC17) is intercepted when the main switch is turned on, the door and cover are opened and closed or a jam or trouble is cleared.

☐ Solution

■ Electric parts which can cause the jam:
  • Duplex Unit Transport Sensor (PC17)
  • Duplex Unit Control Board (PWB-A)

Table 3-11.

Step	Action	Refer to	WARNING DIAGRAM
			Control Signal
1	Initial checking	p.158	-
2	Check the operation of PC17.	p.161	PC17_ON
3	Replace the PWB-A.	-	-

3.4.4 Checking Method for Electric Parts

At occurrence of a paper jam or any other trouble, you can check the relevant electric parts for their normality by the method as described below:

SENSOR

Table 3-12. Checking Method (Sensor)

Step	Check Item	Yes/No	Solution
1	Does the input signal to Control Board change when light to the sensor is intercepted? (H → L, L → H)	NO	Replace the sensor
		YES	Replace the Control Board
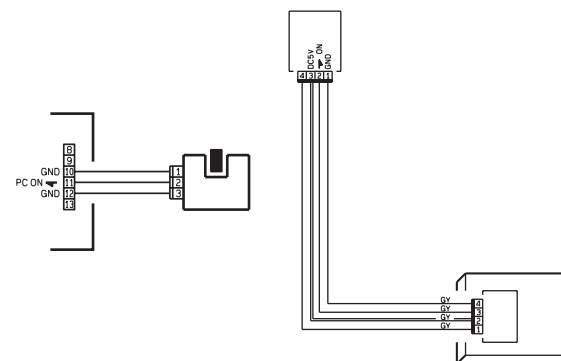
SWITCH

Table 3-13. Checking Method (Switch)
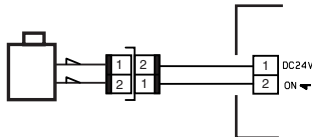
Step	Check Item	Yes/No	Solution
1	Does the input signal (NO) to Control Board turn L → H when the switch is turned on?	NO	Replace the sensor
		YES	Replace the Control Board
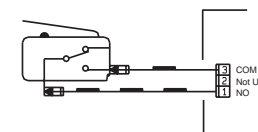
SOLENOID

Table 3-14. Checking Method (Solenoid)
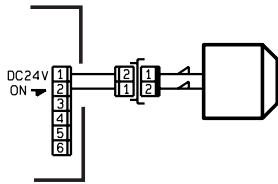
Step	Check Item	Yes/No	Solution
1	Does the output signal (NO) from Control Board turn H → L when the solenoid is turned on?	NO	Replace the Control Board
		YES	Replace the solenoid

CLUTCH

Table 3-15. Checking Method (Clutch)

Step	Check Item	Yes/No	Solution
1	Does the output signal (NO) from Control Board turn H → L when the clutch is turned on?	NO	Replace the Control Board
		YES	Replace the clutch

MOTOR

Table 3-16. Checking Method 1 (Motor)

Step	Check Item	Yes/No	Solution
1	Is the LOCK signal on Control Board "H" when the printer is standing by?	NO	Replace the Control Board Replace the motor
2	Does the REM signal on Control Board turn H → L when the motor is turned on?	YES	Replace the motor
		NO	Replace the Control Board
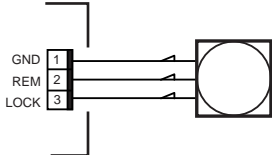
Table 3-17. Checking Method 2 (Motor)

Step	Check Item	Yes/No	Solution
1	Does the input signal to Control Board turn H → L when the motor is turned on? (The input signal varies with the direction of rotation.)	NO	Replace the motor
		YES	Replace the Control Board
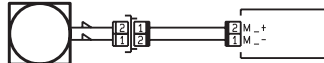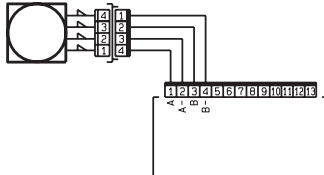
Table 3-18. Checking Method 3 (Motor)

Step	Check Item	Yes/No	Solution
1	Are the relay connector of the motor and the print jack on Control Board connected properly?	NO	Replace the motor or Control Board
		YES	Connect the connector and print jack properly

3.5 Details of Print Quality Trouble and Remedy

If any print quality problem occurs, replace the toner cartridge and the photoconductor unit first, and determine whether the problem is caused by a cartridge or caused by the printer.

Table 3-19. Troubleshooting for Print Quality Problems
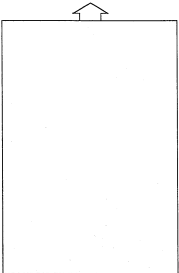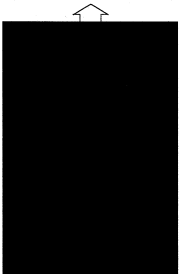
Abnormal Image	Cause	Solution
All White 0951o211	Defective OPC Drum	Replace the Photoconductor Unit.
	Abnormal laser emission	Replace the Print Head Unit.
		Replace the Engine Board (PWB-A).
	Defective developing bias	Replace the Engine Board (PWB-A).
All Black 0951o213	Abnormal laser emission	Replace Print Head.
	Abnormal charging	Replace the Engine Board (PWB-A).

Table 3-19. Troubleshooting for Print Quality Problems (continued)
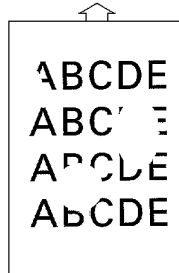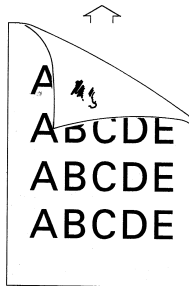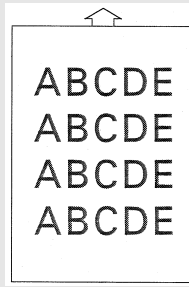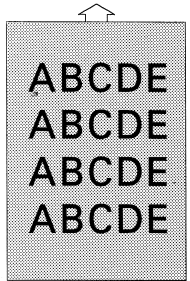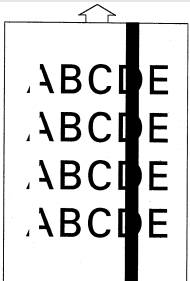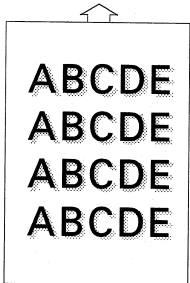
Abnormal Image	Cause	Solution
White Out 0951o220	Paper is wet	Replace paper.
	Improper transfer	Replace the Second Transfer Roller.
		Replace the Engine Board (PWB-A).
		Replace the Transfer Belt Unit.
Back of Paper Gets Dirty 0951o226	Fusing roller is dirty	Replace the Fusing Roller.
	Transfer roller is dirty	Replace the Second Transfer Roller.
	Paper path is dirty	Clean the Paper Path.
Low Image Density 0951o214	No toner in Toner Cartridge	Replace the Toner Cartridge.
	Defective OPC Drum (life has expired)	Replace the Photoconductor Unit.
	Defective developing bias	Replace the Engine Board (PWB-A).
	Improper transfer	Replace the Second Transfer Roller.
		Replace the Engine Board (PWB-A).
		Replace the Transfer Belt Unit.

Table 3-19. Troubleshooting for Print Quality Problems (continued)

Abnormal Image	Cause	Solution
Foggy Background ABCDE ABCDE ABCDE ABCDE 0951o218	Defective developing bias	Replace the Engine Board (PWB-A).
	Defective OPC Drum (life has expired)	Replace the Photoconductor Unit.
White Line / Black Line ABCDE ABCDE ABCDE ABCDE 0951o222	There is scar or damage on the OPC drum	Replace the Photoconductor Unit.
	Defective print head	Replace the Print Head Unit.
		Replace the Engine Board (PWB-A).
Offset Image ABCDE ABCDE ABCDE ABCDE 0951o219	Defective fusing roller	Replace the Fusing Roller.
	Defective transfer roller	Replace the Second Transfer Roller.
		Replace the Transfer Belt Unit.

CHAPTER

4

DISASSEMBLY AND ASSEMBLY

4.1 Overview

This section describes procedures for disassembling the main components of the product. Unless otherwise specified, disassembly units or components can be reassembled by reversing the disassembly procedure. Things, if not strictly observed, that could result in injury or loss of life are described under the heading "Warning". Precautions for any disassembly or assembly procedures are described under the heading "CAUTION". Chips for disassembling procedures are described under the heading "CHECK POINT".

If the assembling procedure is different from the reversed procedure of the disassembling, the procedure is described under the heading "REASSEMBLY".

Any adjustments required after disassembling the units are described under the heading "ADJUSTMENT REQUIRED". When you have to remove any units or parts that are not described in this chapter, refer to the exploded diagrams in the appendix.

Read precautions described in the next section before starting.

4.1.1 Precautions

See the precautions given under the heading "WARNING" and "CAUTION" in the following column when disassembling or assembling the product.

WARNING	
■	**Disconnect the power cable before disassembling or assembling the printer. If you need to work on the printer with power applied, strictly follow the instructions in this manual.**
■	**Always wear gloves for disassembly and reassembly to avoid injury from sharp metal edges.**
■	**To protect sensitive microprocessors and circuitry, use static discharge equipment, such as anti-static wrist straps, when accessing internal components.**
■	**Do not expose yourself to the laser beam to prevent injury (blindness).**
■	**When you perform maintenance or service of the laser printer, never open any cover on which a warning label about laser beam has been affixed.**
■	**Understand how the laser beam functions and take maximum precautions not to injure yourself or anyone around you. When working on the FUSER ASSY or nearby parts, be sure to wait until the temperature of the parts cools down to a safe level.** *Wait at least 40 minutes before you start working on the printer.*
■	**To avoid dust explosion or ignition, never bring any consumables close to flame or throw them into fire.**
■	**Take great care not to put developer or toner contained in the consumables into your mouth or eye or not to inhale it.**
■	**Take due care that no one around you put developer or toner into the mouth or eye or inhale it. Spread a sheet of paper inside and around the printer to prevent soiling.**
■	**When developer or oil stuck to your skin or clothes, wipe it off with a dry cloth carefully and wash it away with water completely.**

CAUTION ⚠

- Avant de commencer, assurez vous que l'imprimante soit eteinte et que le cordon d'alimentation soit debranche.

CAUTION ⚠

- Use only recommended tools for disassembling, assembling or adjusting the printer.
- Observe the specified torque when tightening screws.
- Apply lubricants and adhesives as specified. (See Chapter 6 for details.)
- Make the specified adjustments when you disassemble the printer. (See Chapter 5 for details.)
- Take following precautions when connecting or disconnecting flat cables.

1. To disconnect a flat cable, unlock the connector first and then pull out the cable.

cable_F01.eps
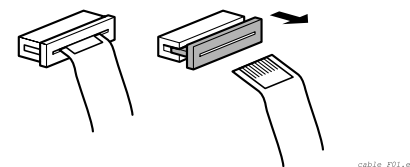
2. Connect each flat cable with its terminal side facing upward.

cable_F02.eps
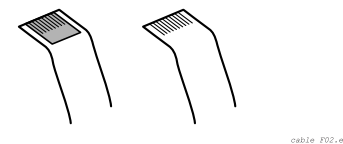
3. To connect a flat cable, insert the cable first and then lock the connector.

cable_F03.eps
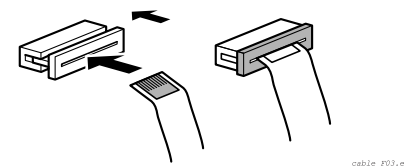
4.1.2 Tools

Use only specified tools to avoid damaging the printer.

Table 4-1. Tools

Name	Commercial Availability	Code
Phillips screwdriver No. 1	Available	B743800100
Phillips screwdriver No. 2	Available	B743800500
Mini Phillips screwdriver		
Slotted screwdriver	Available	B743000100

4.1.3 Screws

Table 4-2. Screws

Ref. No.	Nominal Size	Name and Specification	Appearance
1305	3×6	+ Pan Head Screw - with Spring Washer and Plain Washer (Sems)	
1308	3×8		
3501	3×6	+ Cup Screw	
3504	3×8		
3907	3×8	+ Bind B-tite Screw	
1112	3×6	+ Bind S-tite Screw	
3704	3×8	+ Cup B-tite Screw	

4.2 Main Unit Disassembly

The flowchart below shows step-by-step disassembly procedure. When disassembling each component, refer to the page number shown in the figure.

Open the Front Door.

4.2.1 Before Disassembling the Printer (p171)

Waste Toner Box, Transfer Belt Unit and Photoconductor unit Removal

4.4.1 Upper Front Cover *(p176)*

4.3.1 Secondary Transfer Roller *(p174)*

4.4.7 Front Cover *(p178)*

4.4.3 Front Door *(p177)*

4.4.8 Right Door *(p179)*

4.4.2 Top Cover *(p176)*

4.5.13 Fuser Unit Removal (p193)

4.5.14 Fusing Cooling Fan Motor (M5) *(p195)*

4.5.1 Main Board (C485MAIN/ C494MAIN) *(p182)*

4.3.2 Fuser Unit *(p174)*

Heater Lamp (H1, H2)

4.5.15 Paper Load Roller *(p196)*

Thermistor (TH1)

4.5.16 Separation Roller *(p196)*

Thermostat (TS1)

4.5.17 Printer Head Unit (PH) *(p197)*

4.4.4 Rear Cover *(p177)*

4.4.6 Left Cover *(p178)*

Fusing Roller

4.5.2 Engine Board (PWB-A) *(p183)*

4.5.3 Exhaust Fan Motor (M6) *(p184)*

4.5.4 Power Supply Fan Motor (M4) *(p184)*

4.5.5 Power Supply Unit (PU) *(p185)*

4.5.11 Multi Purpose Tray *(p191)*

Heating Roller

4.5.10 Main Motor Ass'y *(p190)*

4.5.18 Manual Paper Feed Solenoid (SL1) *(p199)*

4.5.7 High Voltage Unit (HV) *(p187)*

4.5.6 AIDC Sensor *(p186)*

4.5.12 Paper Empty Sensor *(p192)*

4.5.8 Cleaner Pressure Flapper Solenoid (SL4) *(p188)*

4.5.9 Rack Motor (M2) *(p189)*

Note: The components shown with an underline are Regular Replacement Parts.

Flowchart 4-1. Disassembly Flowchart of AcuLaser C1900 / AcuLaser C900

```
┌──────────────────┐                    ┌────────────────────────────────────────┐
│  Extension Unit  │─────────────┬─────▶│ 4.6.1  The 2nd Paper Load Roller (p203) │
└──────────────────┘             │      └────────────────────────────────────────┘
                                 │
                                 │      ┌────────────────────────────────────────┐
                                 └─────▶│ 4.6.2  500-sheet Cassette Unit Control  │
                                        │        Board (PWB-A) (p204)             │
                                        └────────────────────────────────────────┘
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┌──────────────────┐
│   Duplex Unit    │
└──────────────────┘
         │
         ▼
┌──────────────────────┐                ┌────────────────────────────────────────┐
│ 4.7.1  Duplex Unit   │─────────┬─────▶│ 4.7.2  Paper Feed Sensor (p205)         │
│   Control Board      │         │      └────────────────────────────────────────┘
│   (PWB-A) (p205)     │         │
└──────────────────────┘         │      ┌────────────────────────────────────────┐
                                 └─────▶│ 4.7.3  Reverse Motor / Transfer Motor   │
                                        │        (p206)                           │
                                        └────────────────────────────────────────┘
```
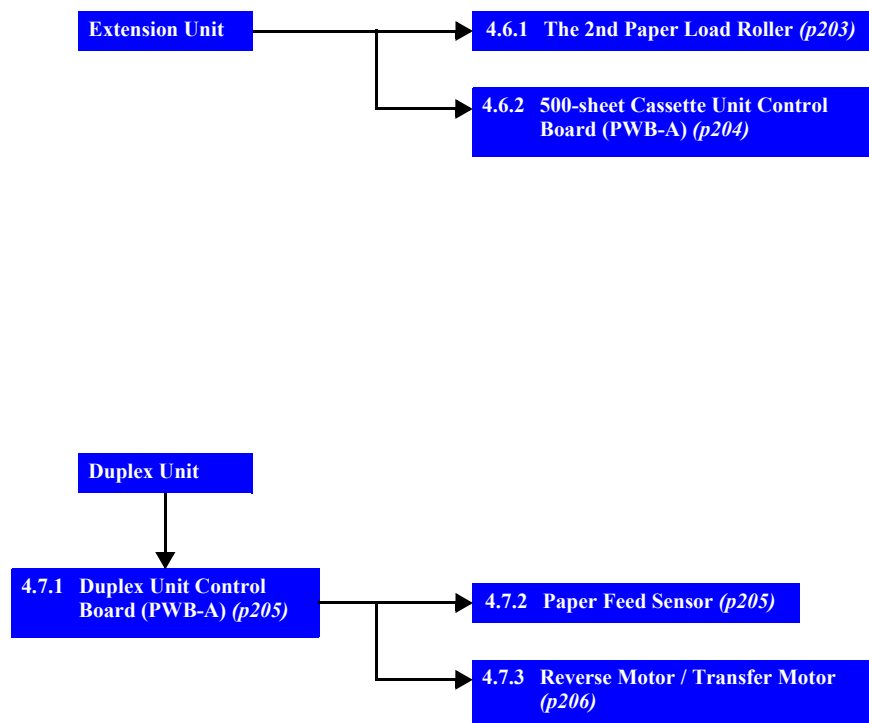
Flowchart 4-2. Disassembly Flowchart of Option Unit

4.2.1 Before Disassembling the Printer

Be sure to remove the following units before disassembling the printer.

- ■ Waste Toner Box
- ■ Photoconductor Unit
- ■ Toner Cartridge (4 colors)
- ■ Transfer Belt Unit

Photoconductor unit

Toner Cartridge × 4

Waste Toner Box

Transfer Belt Unit
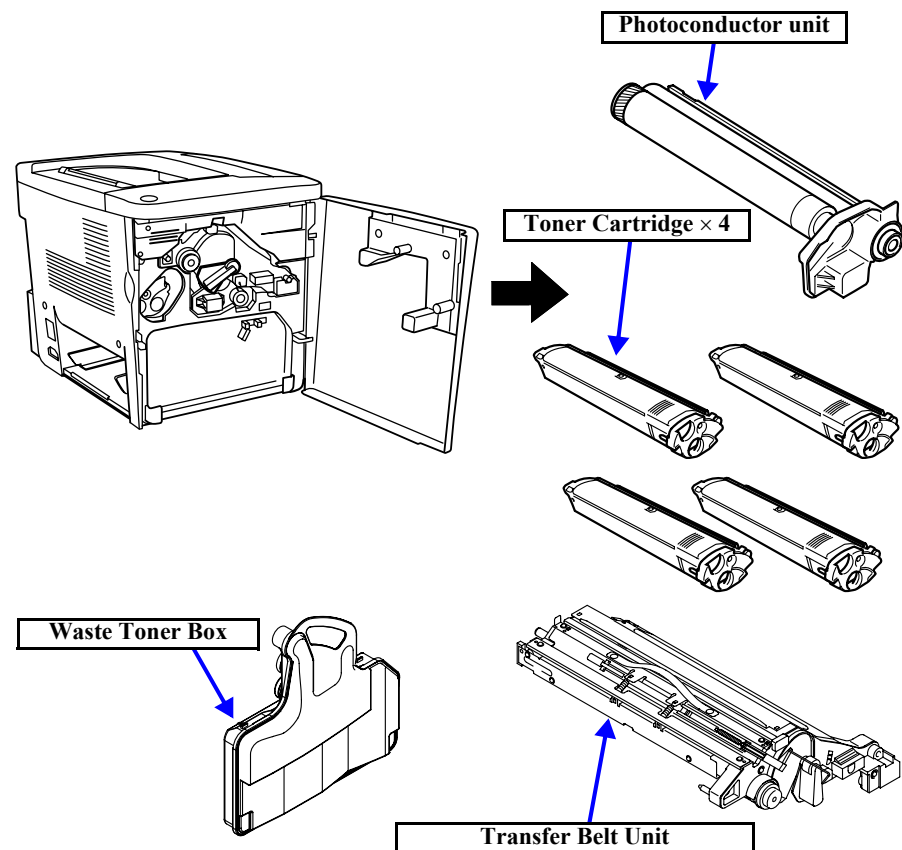
DisPre02.eps

Figure 4-1. Units to be Removed before Disassembling the Printer

4.2.1.1 Toner Cartridge Removal

With AcuLaser C1900/AcuLaser C900, removing the toner cartridges must be generally performed with the printer in the ready-to-print status, since the removal and installation of toner cartridges require control by the printer driver. On the repair site, however, follow the following procedure:

1. Open the Front Cover.

2. Pull off the toner cartridge which is seen in the opening for mounting toner cartridges.

3. Next, with a thin screwdriver, push in the round portion seen in the slot which is located to the left of the opening for mounting toner cartridges. At the same time, by holding the tab on the toner cartridge, turn the rotary member counterclockwise until the toner cartridge to be removed next is seen in the opening.

4. Release the pushed-in round portion back and pull off the toner cartridge.

5. Repeat steps 3 to 4 above until all the toner cartridges have been removed.

Push in the round portion seen in the slot to unlock the rotary member.
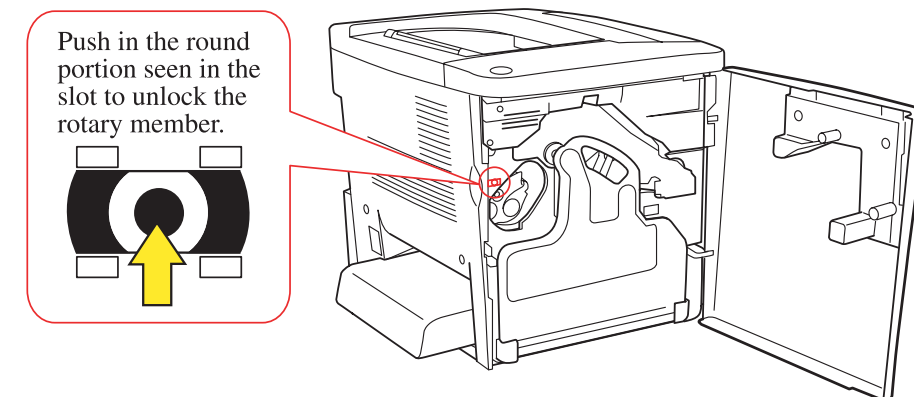
4.2.1.2 Removal of Other Units

WASTE TONER BOX

1. Open the front door.

2. Remove the Waste Toner Box.
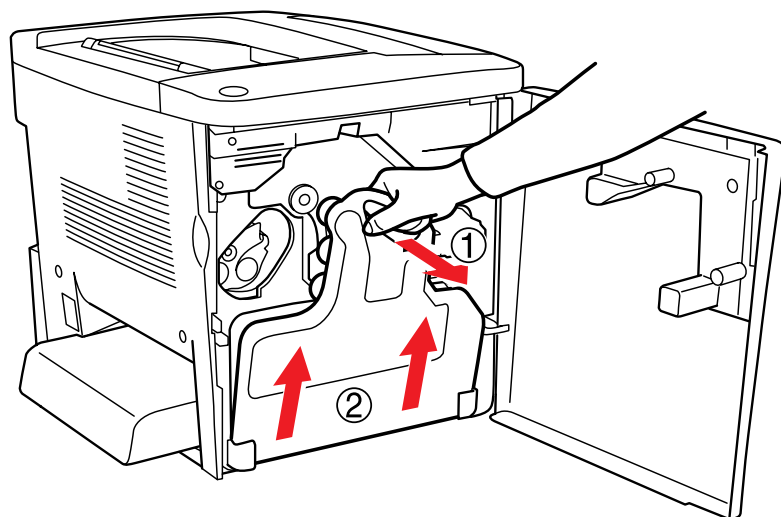
CAUTION !	Take care that waste toner does not spill from the removed Waste Toner Box. If deemed necessary, put the supplied cap on the opening of the Waste Toner Box.

PHOTOCONDUCTOR UNIT

3. Turn the lock lever upward for unlocking.

4. Pull out the Photoconductor Unit by holding the end green label area of the unit and while unlocking it.
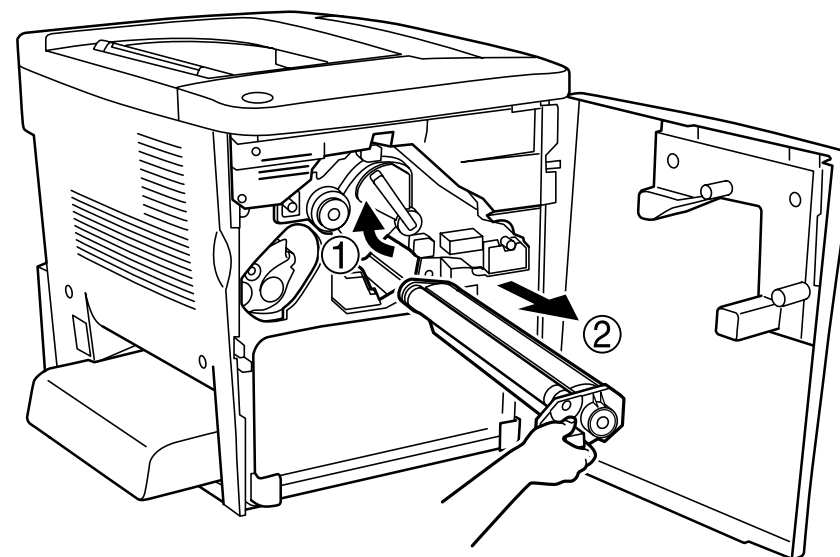
CAUTION !	■ Take care not to expose the removed Photoconductor Unit to any strong light or the direct rays of the sun. If deemed necessary, cover the Photoconductor Unit with a cloth to intercept the light. ■ Never touch the photoconductor roller (green roller) of the Photoconductor Unit with your bare hand or scratch the roller; otherwise, printed image would be faulty. ■ Take great care that static electricity discharge to the surface of the photoconductor does not occur. Such electric discharge can cause faulty printed image. (Wear a static control strap.)

5. Open the Right Cover of the printer and remove the two screws securing the Transfer Belt Unit.
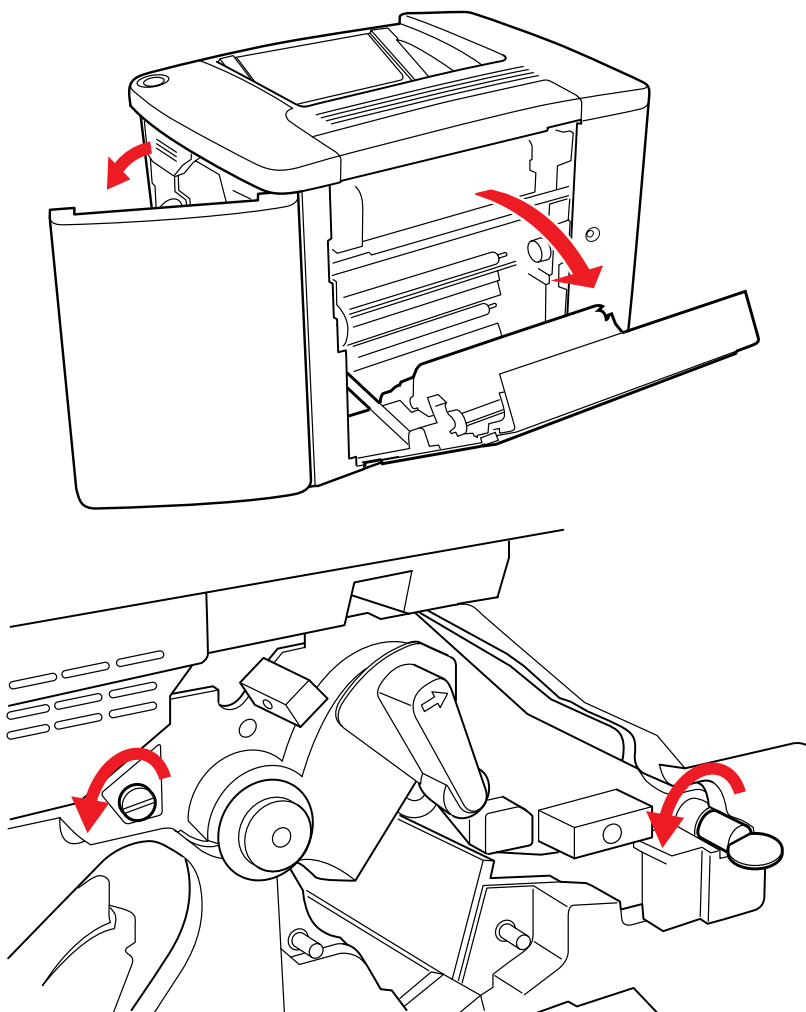
> **CAUTION** ⚠ When removing the Transfer Belt Unit, be sure to open the Right Cover of the printer beforehand. Removing or installing the Transfer Belt Unit with the Right Cover of the printer closed can damage the Transfer Belt Unit.

TRANSFER BELT UNIT

6. Hold the end tab of the Transfer Belt Unit and draw out the Transfer Belt Unit. However, draw it out while lifting it slightly by holding the handle found on the top of the Transfer Belt Unit.
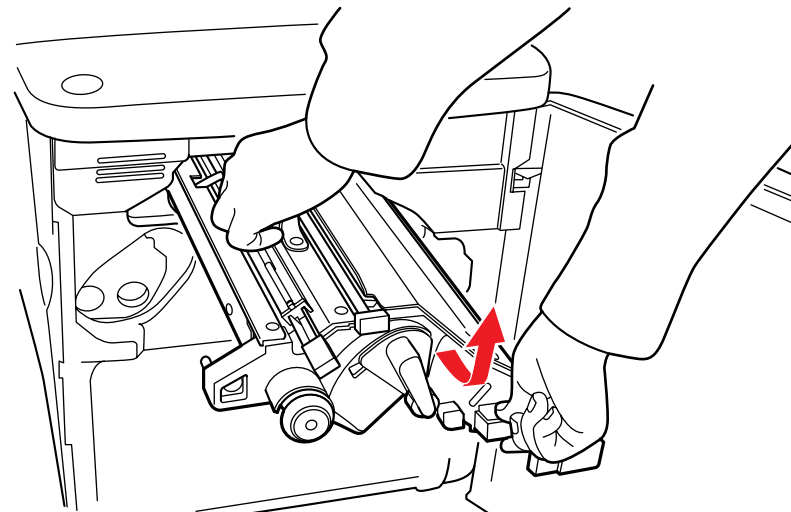
> **CAUTION** ⚠
> ■ Never touch the surface of the transfer belt with your hand. In addition, take great care not to scratch the belt. (Hand grease on the belt surface or dirty or scratched belt can cause faulty printed image.)
> ■ Take great care that static electricity discharge to the surface of the transfer belt does not occur. Such electric discharge can cause faulty printed image. (Wear a static control strap.)

4.3 Periodical Replacement Parts Removal

4.3.1 Secondary Transfer Roller

1. Open the Right Door.

2. Remove the Transfer Roller while opening the shaft holder (white color) levers found at the left and right shaft ends of the Transfer Roller to unlock it.
    (See *"Figure 4-2 (p.174)"*)
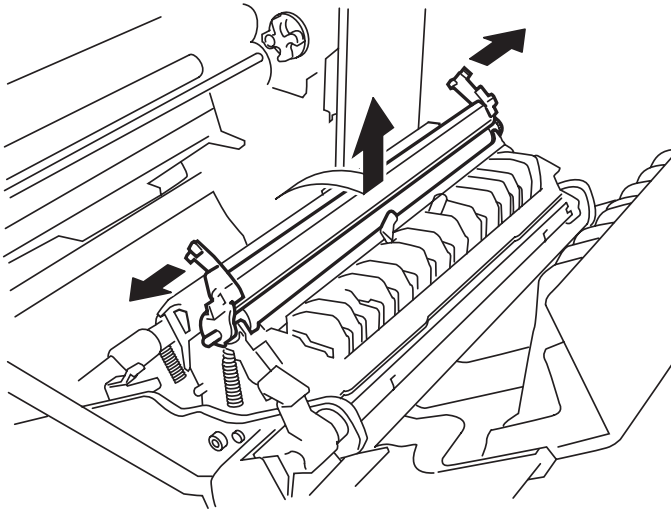
Figure 4-2. Transfer Roller Removal

4.3.2 Fuser Unit

1. Open the Front Cover.

2. *Remove the Top Cover. (p.176)*

3. Open the Right Door.

4. Remove the Fuser Unit Cover. (2 screws)
    (See *"Figure 4-3 (p.174)"*)
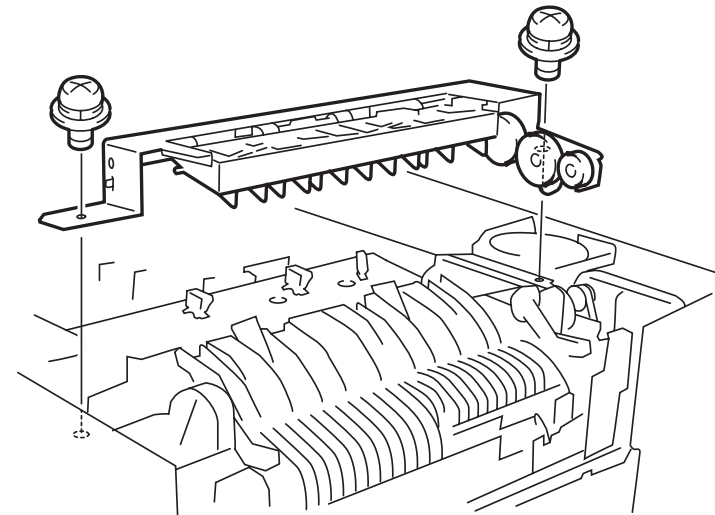
Figure 4-3. Fuser Unit Cover Removal

5. Disconnect the connector from the Power Supply Unit and then remove the wires from the code folder.

6. Remove the Fuser Unit from the Printer. (2 screws, 2 connectors)
    (See *"Figure 4-4 (p.175)"*)
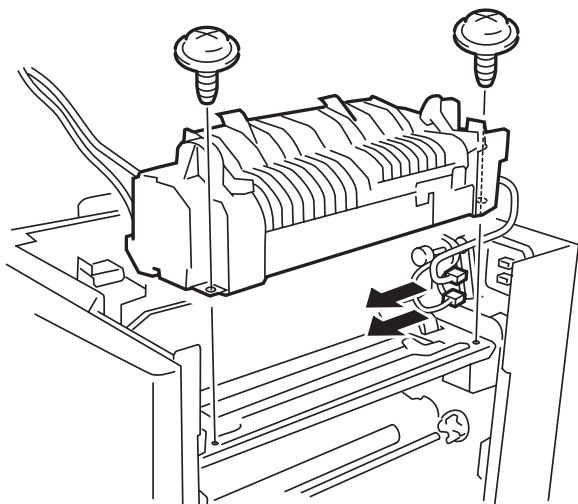
Figure 4-4. Fuser Unit Removal

CAUTION ⚠	wOn the bottom of the Fuser Unit, there is a hook engaged with the printer body frame. For removal of the Fuser Unit, tilt the front side of the Fuser Unit rearward and lift it. (In installation, ensure that the hook is engaged with the printer body frame properly.)

Reassembly	When installing the Fuser Unit Cover, make sure that the black resin roller and gray rubber roller in a pair face each other with their centers in alignment. (Unless the rollers are in alignment, paper can not be fed properly, thus causing a paper jam.) (See *"Figure 4-5 (p.175)"*)
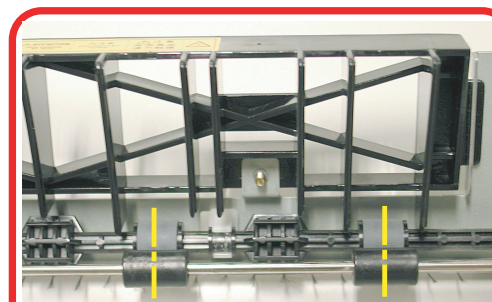
The rollers in a pair must face each other with their centers in alignment.
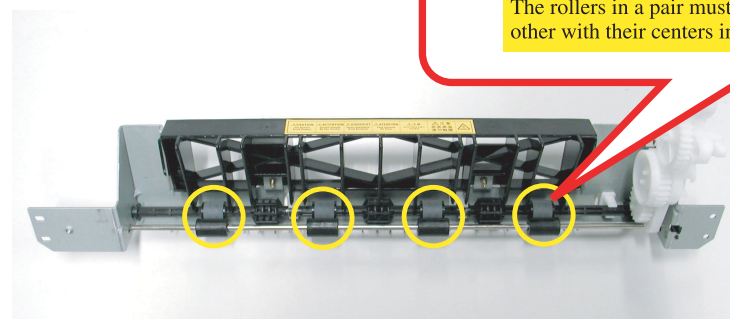
Figure 4-5. Installing the Fuser Unit Cover

4.4 Cover Removal

4.4.1 Upper Front Cover

1. Open the Front Door and the Right Door.

2. Remove the three screws securing the Panel Cover.

3. Disengage the four hooks on the top of the Panel Cover and remove the Panel Cover.

> **CAUTION**
> **!**
>
> **The Panel Cover has the LED Board mounted, to which the cable is connected. Do not place the removed Panel Cover far away from the printer body.**

4. Disconnect the cable connected to the Panel Cover Board.
   (See *"Figure 4-6 (p.176)"*)
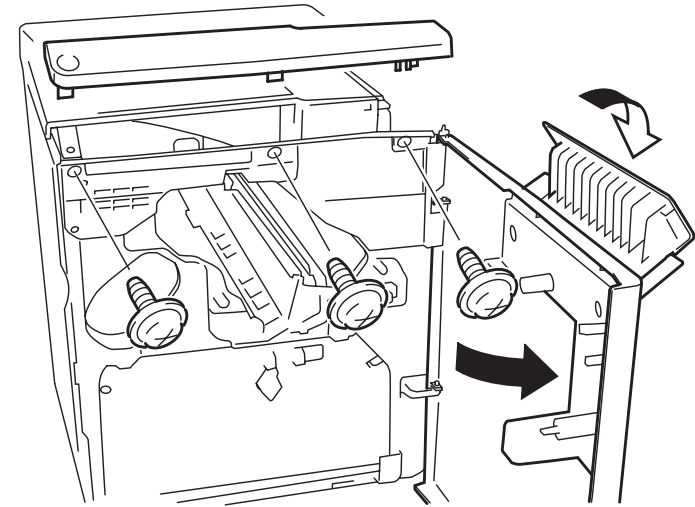
Figure 4-6. Upper Front Cover Removal

4.4.2 Top Cover

1. *Remove the Upper Front Cover. (p.176)*

2. Remove the Top Cover. (5 screws)
   (See *"Figure 4-7 (p.176)"*)
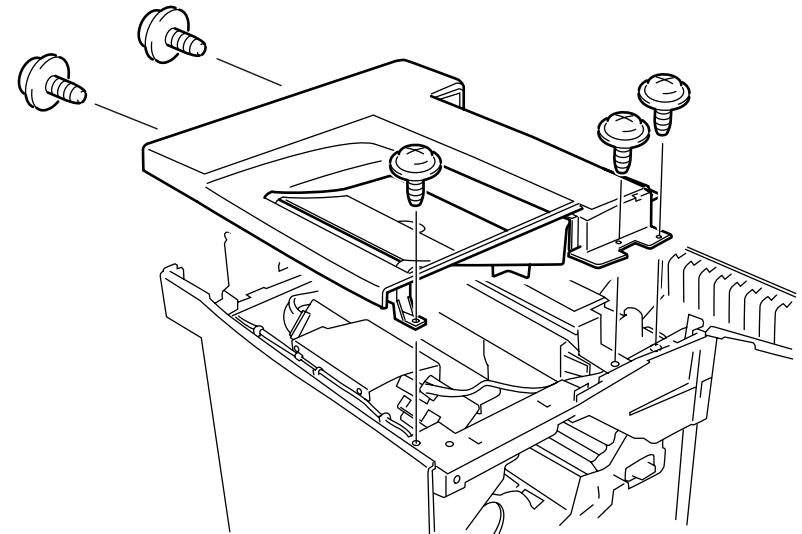
Figure 4-7. Top Cover Removal

4.4.3 Front Door

1. *Remove the Upper Front Cover. (p.176)*

2. Remove the Front Door by pulling it off upward.

4.4.4 Rear Cover

1. Loose the screws of the Controller Board Protection Cover and then remove the Protection Cover. (9 screws)

2. Remove the Rear Cover. (7 screws)

4.4.5 Upper Rear Cover

1. *Remove the Top Cover. (p.176)*

2. *Remove the Rear Cover. (p.177)*

3. Remove the Upper Rear Cover. (3 screws)
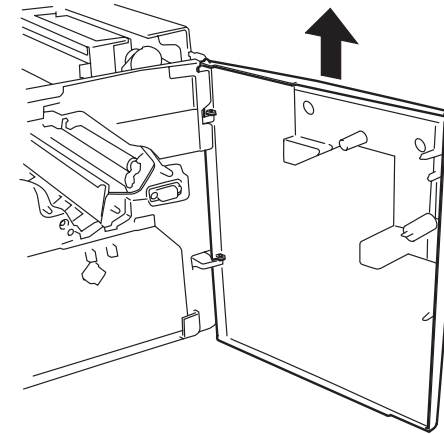
Figure 4-8. Front Door Removal
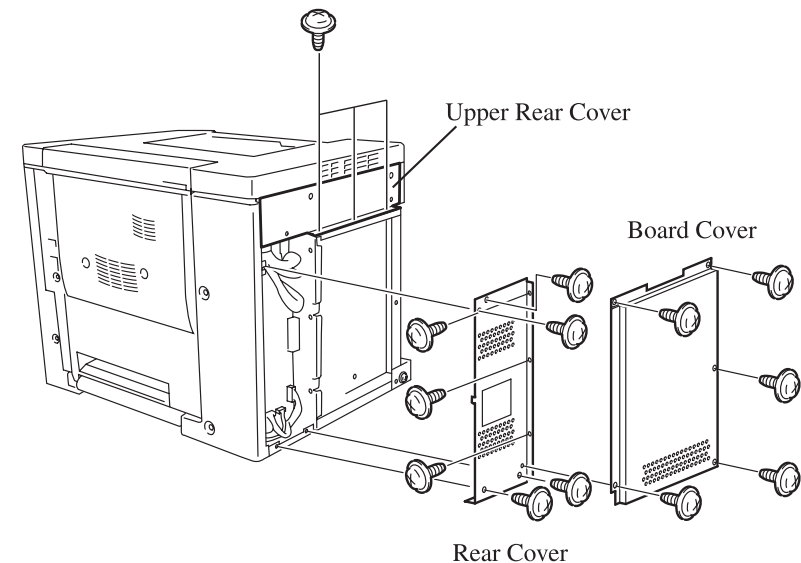
Figure 4-9. Removing the Rear Cover and Upper Rear Cover

4.4.6 Left Cover

1. Remove the MP Tray Top Cover and the MP Tray from the printer body.

2. *Remove the Upper Front Cover. (p.176)*

3. *Remove the Top Cover. (p.176)*

4. Remove the Left Cover. (3 screws)
    (See *"Figure 4-10 (p.178)"*)

Reassembly | The Left Cover is provided with two hooks at its top and two hooks at its bottom. In installation, make sure that all the four hooks are engaged with the printer body.

4.4.7 Front Cover

1. *Remove the Upper Front Cover. (p.176)*

2. *Remove the Top Cover. (p.176)*

3. *Remove the Front Door. (p.177)*

4. Remove the Front Cover. (5 screws)
    (See *"Figure 4-11 (p.178)"*)
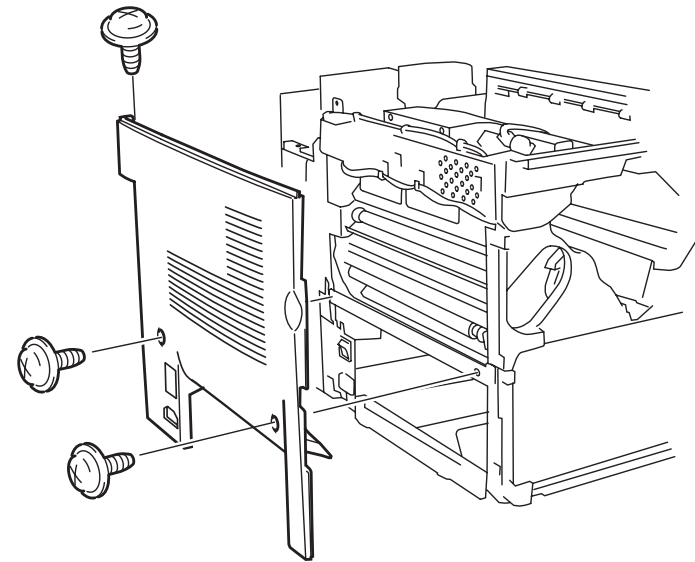
Figure 4-10. Left Cover Removal
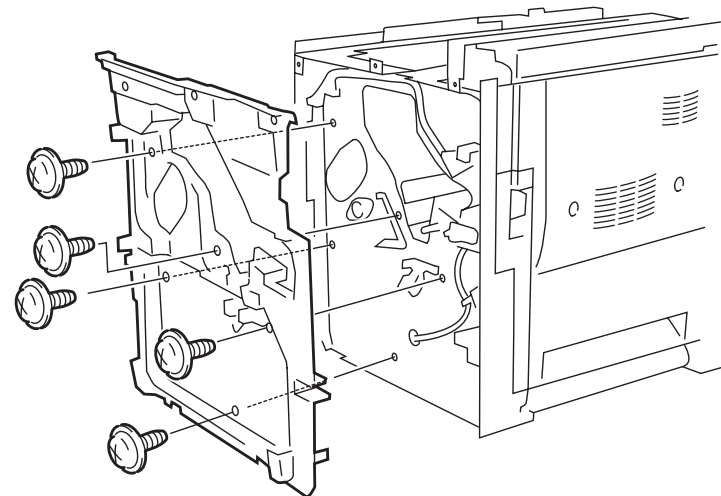
Figure 4-11. Front Cover Removal

4.4.8 Right Door

4. Remove the Right Front Cover and Right Rear Cover.
   (Securing screws: 1 screw for Right Front Cover and 2 screws for Right Rear Cover)
   (See *"Figure 4-12 (p.179)"*)
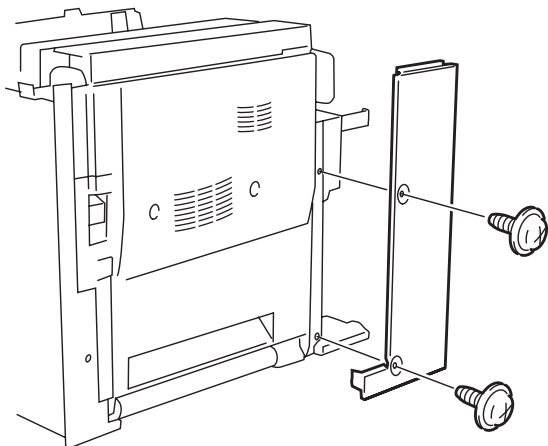
Figure 4-12. Right Rear Cover Removal

5. Pull off the harness from the connectors (PJ16, PJ17 and PJ29) on the PWB-A Board and remove the harness from the cord holders.

6. With the Right Door opened, remove the one screw while supporting the Right Door with your hand and remove the strap.
   (See *"Figure 4-14 (p.179)"*)
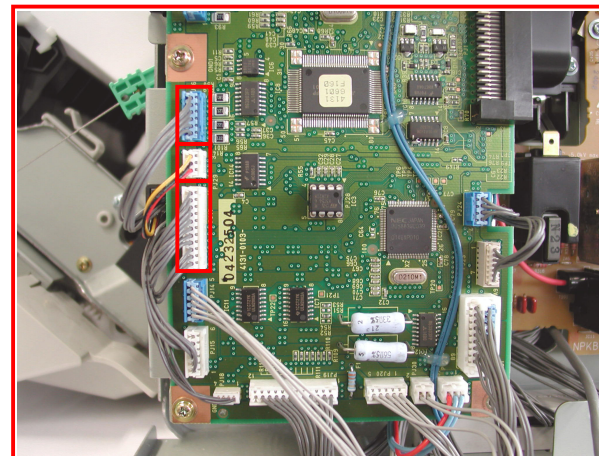
From the following connectors on the Right Door, disconnect the Harness connected to the Engine Board (PWB-A): PJ16, PJ17 and PJ29

Figure 4-13. Harness Disconnection
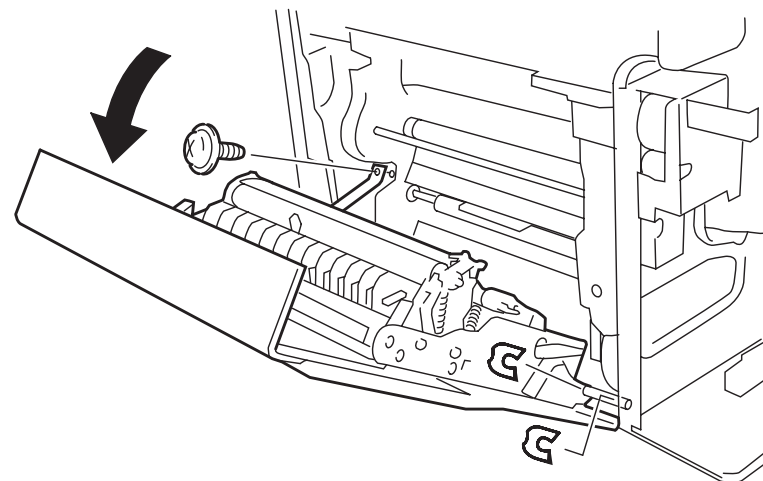
Figure 4-14. Right Door Removal 1

7. Remove the two resin C-rings (white) put on the retaining shaft at its right end. (See *"Figure 4-15 (p.180)"*)

8. With the Right Door lifted slightly from the completely opened position, disengage from the frame the end of the torsion spring installed on the left end of the door retaining shaft. (See *"Figure 4-16 (p.180)"*)

C-ring

Torsion Spring
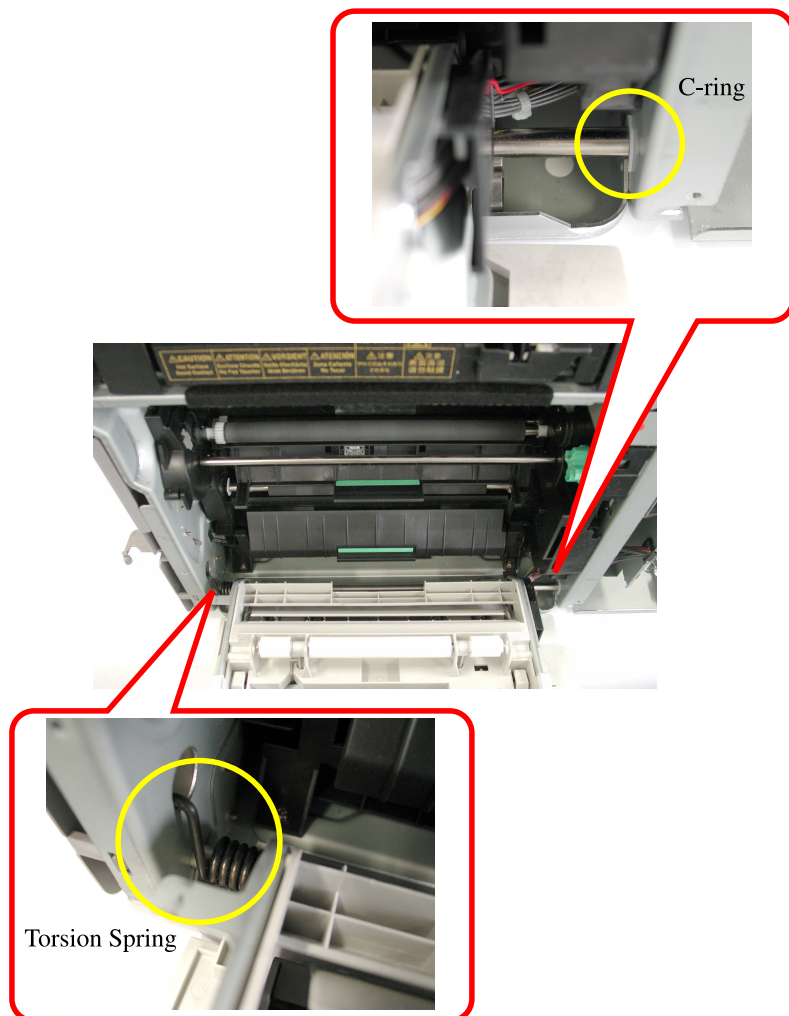
Figure 4-15. Right Door Removal 2

From outside of the frame, remove the spring catch toward inside of the frame.
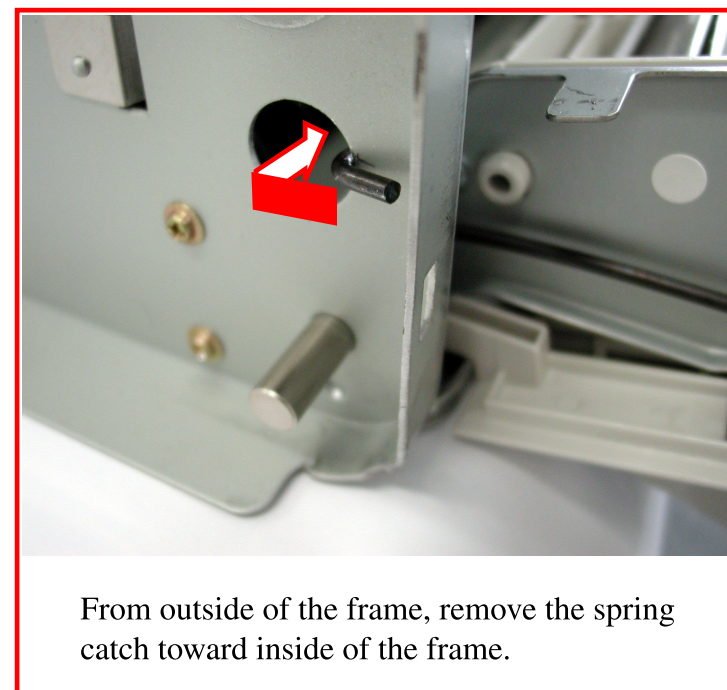
Figure 4-16. Right Door Removal 3

9. Pull off the retaining shaft toward the right of the printer body and remove the Right
    Door.
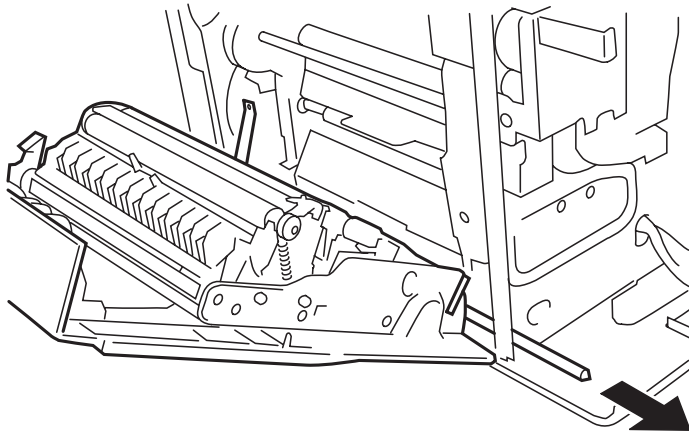
Figure 4-17. Right Door Removal 4

Reassembly	**For installing the Right Door, follow the following procedure for easy work.**

For installing the Right Door, follow the following procedure for easy work.
1. **Engage the long end of the torsion spring on the left side with the hole in the frame of the Right Door.**
2. **Insert the retaining shaft. (Pass the shaft through the torsion spring located on the left side.)**
3. **While supporting the Right Door at a slightly opened position, near the closed position, engage the short end of the torsion spring with the hole in the frame.**
4. **Install the two C-rings on the right end of the retaining shaft.**

4.5 Printer Main Parts Disassembly and Assembly

4.5.1 Main Board (C485MAIN/C494MAIN)

1. Remove the Rear Cover *(p.177)*

2. Disconnect the two cables connected to the Main Board.

3. Remove the covers for the interface connectors on the Main Board.
   (11 screws in total: 6 screws securing the cover, 2 screws securing to the parallel I/F connector, 1 screw securing to the USB I/F connector and 2 screws the Type-B slot cover.)

4. Shift the Main Board in the lateral direction to disengage it from the connection to the Engine Board, and take out the Main Board.
   (AcuLaser C1900: 10 screws, AcuLaser C900: 9 screws)
   (See *"Figure 4-18 (p.182)"*)
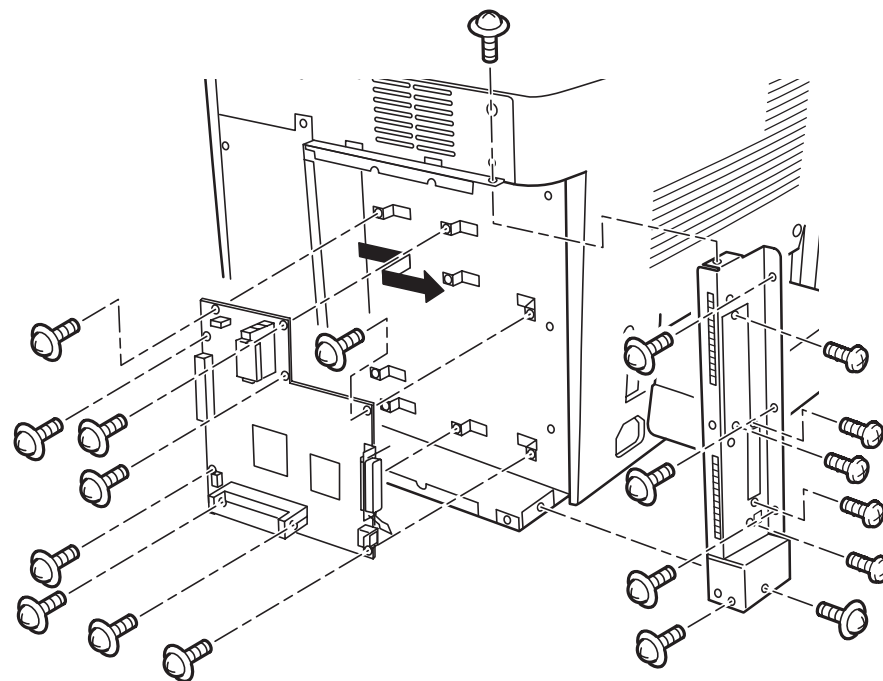
Figure 4-18. Main Board Removal

4.5.2 Engine Board (PWB-A)

1. *Remove the Main Board (C485MAIN/C494MAIN). (p.182)*

2. Remove the wires from the code folder.

3. Disconnect all of the connectors (27 locations) and then remove the PWB-A Board. (5 screws)   (See *"Figure 4-19 (p.183)"*)

| CAUTION ! | When replacing the Engine Board on the repair site, never forget to remove EEPROM (IC3) from the IC socket (PJ28) on the old board and install it in the IC socket on the new Engine Board. In doing so, take care not to confuse the orientation of the IC and not to damage IC terminals. |
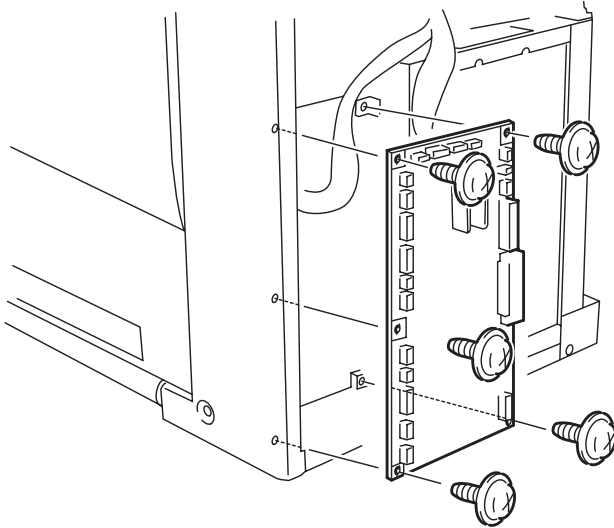
EEPROM (IC3)

Figure 4-19. Engine Board Removal
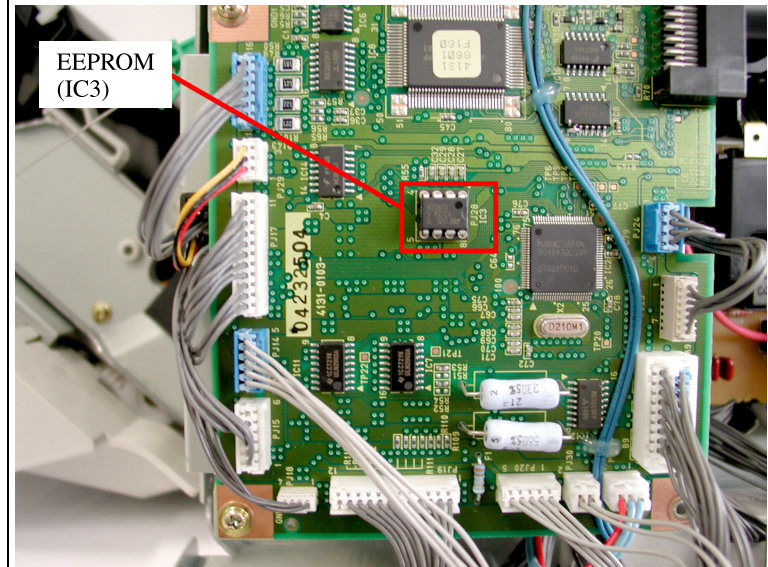
| CAUTION ! | When reinstalling the Engine Board, take care not to catch any harness. |

4.5.3 Exhaust Fan Motor (M6)

1. *Remove the Upper Front Cover. (p.176)*

2. *Remove the Top Cover. (p.176)*

3. *Remove the Rear Cover. (p.177)*

4. Disconnect the connector (PJ6) of the PWB-A Board and then remove the wires from the code folder.

5. Remove the Exhaust Fan Motor. (2 screws)

4.5.4 Power Supply Fan Motor (M4)

1. *Remove the Upper Front Cover. (p.176)*

2. *Remove the Top Cover. (p.176)*

3. Open the Right Door.

4. *Remove the Rear Cover. (p.177)*

5. Disconnect the connector (PJ5) from the PWB-A Board and then remove the wires from the code folder.

6. *Remove the Upper Rear Cover. (p.177)*

7. Remove the Power Supply Fan Motor. (2 screws)
   (See *"Figure 4-21 (p.184)"*)
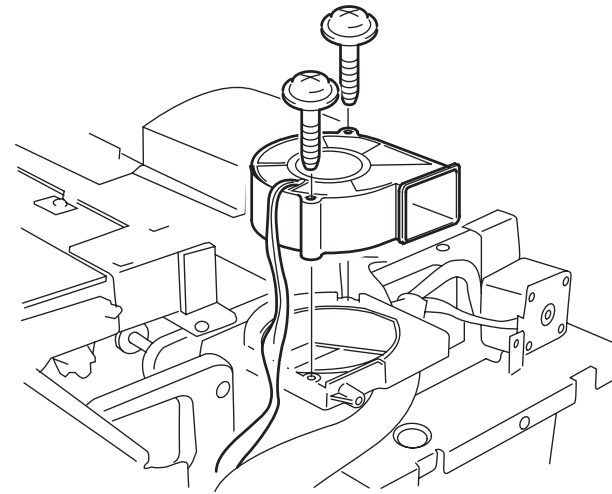
Figure 4-20. Exhaust Fan Motor Removal
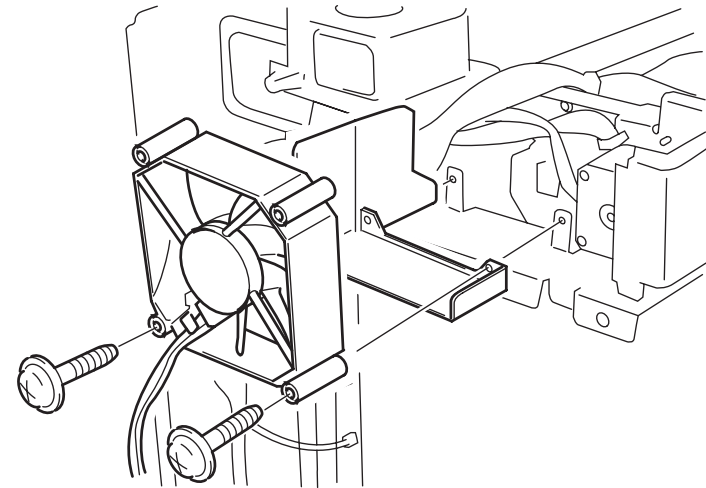
Figure 4-21. Power Supply Fan Motor Removal

4.5.5 Power Supply Unit (PU)

1. *Remove the Upper Front Cover. (p.176)*

2. *Remove the Top Cover. (p.176)*

3. *Remove the Left Cover. (p.178)*

4. Remove the Protection Cover. (3 screws)
   (See *"Figure 4-22 (p.185)")*

5. Remove the wires from the code folder.

6. Remove the Power Supply Unit(PU). (3 screws, 5 connectors, 3 code folders)
   (See *"Figure 4-23 (p.185)")*

CAUTION !	When connecting the harness to the connector on the Power Supply Unit, take care not to apply excessive force.
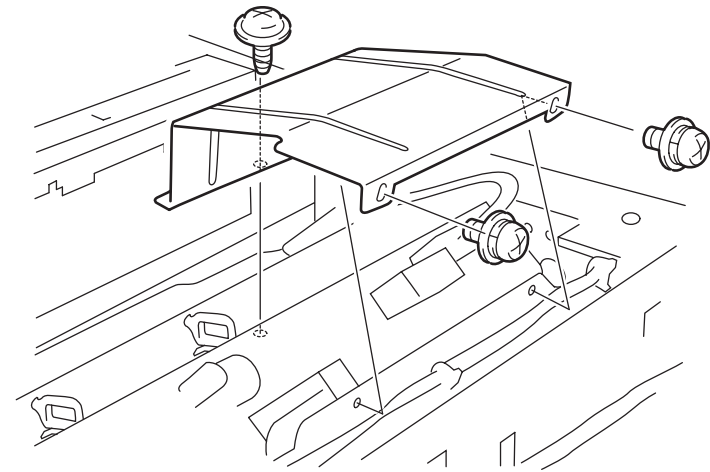
Figure 4-22. Protection Cover (Power Supply Unit) Removal
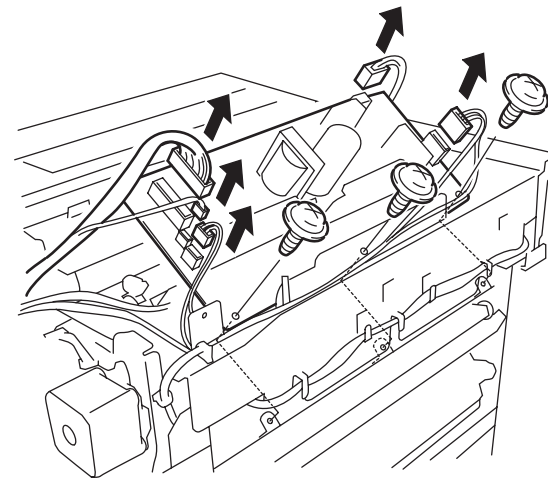
Figure 4-23. Power Supply Unit Removal

4.5.6 AIDC Sensor

1. *Remove the Upper Front Cover. (p.176)*

2. *Remove the Top Cover. (p.176)*

3. *Remove the Left Cover. (p.178)*

4. *Remove the Power Supply Unit (PU). (p.185)*

5. Remove the AIDC Sensor. (1 screw)
   (See *"Figure 4-24 (p.186)"*)
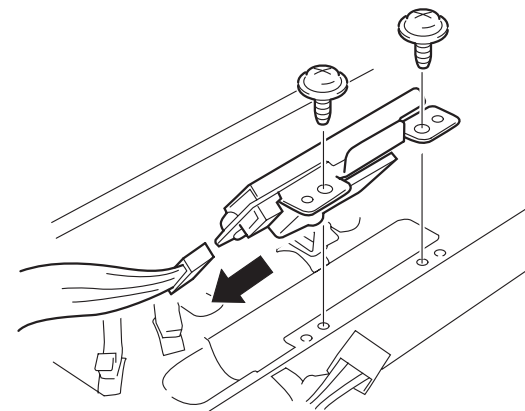
Sen_AIDC01.eps

Figure 4-24. AIDC Sensor Removal

4.5.7 High Voltage Unit (HV)

1. *Remove the Left Cover. (p.178)*

2. *Remove the Rear Cover. (p.177)*

3. *Remove the Upper Rear Cover. (p.177)*

4. *Remove the Engine Board (PWB-A). (p.183)*

5. *Remove the Power Supply Fan Motor (M4). (p.184)*

6. Remove the Controller Box. (5 screws)
   (See *"Figure 4-25 (p.187)"*)

7. Remove the High Voltage Unit (HV). (4 screws, 4 connectors, 4 board holders)
   (See *"Figure 4-26 (p.187)"*)

CAUTION

> ■ **When installing the High Voltage Unit, never forget to install the cover (transparent plastic plate) on the back of the High Voltage Unit.**
>
> ■ **The process system high voltage terminals are to be in direct contact with the high voltage transformer (T301) on the back side and components mounting side of the High Voltage Unit Board. Make sure that they are in contact properly. (Improper contact affects the quality of printed image.)**
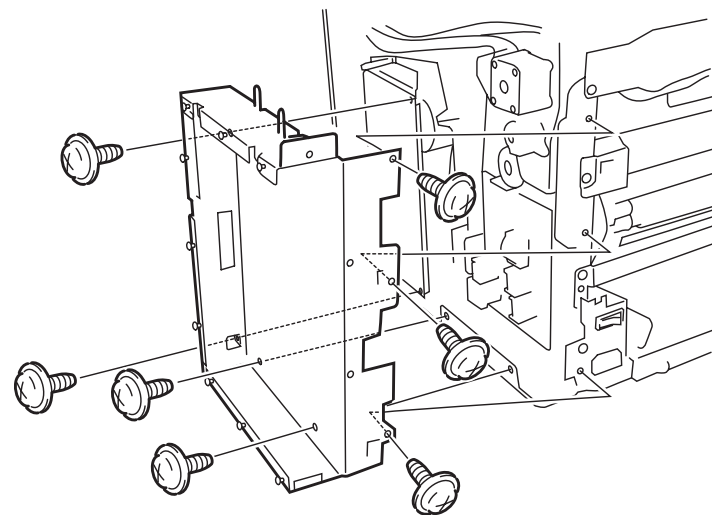
Figure 4-25. Controller Box Removal
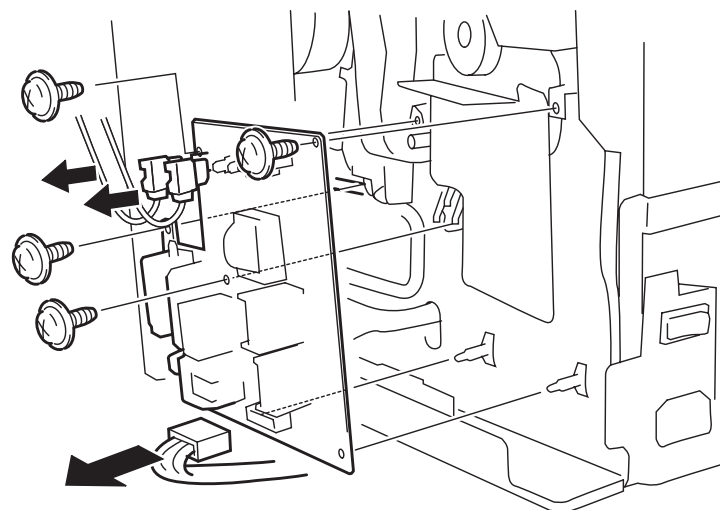
Figure 4-26. High Voltage Unit Removal

4.5.8 Cleaner Pressure Flapper Solenoid (SL4)

1. *Remove the Upper Front Cover. (p.176)*

2. *Remove the Top Cover. (p.176)*

3. *Remove the Rear Cover. (p.177)*

4. *Remove the Left Cover. (p.178)*

5. *Remove the Power Supply Fan Motor (M4). (p.184)*

6. *Remove the High Voltage Unit (HV). (p.187)*

7. Remove the Cleaner Pressure Flapper Solenoid. (1 screw)
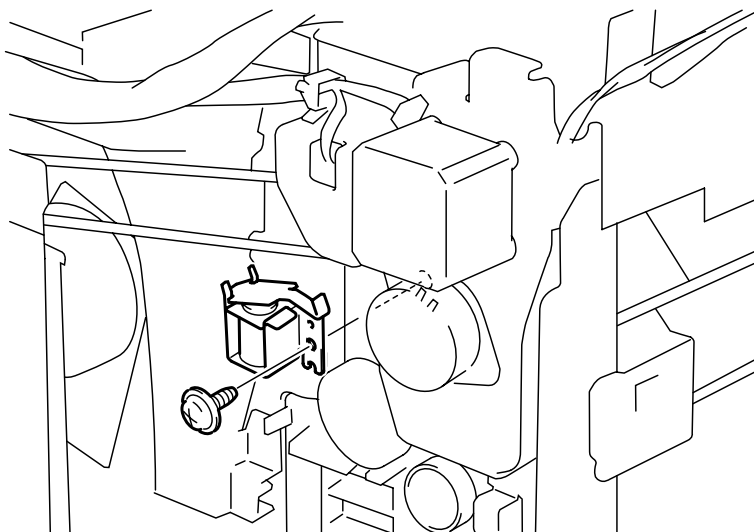   (See *"Figure 4-27 (p.188)"*)

Figure 4-27. Removing the Cleaner Pressure Flapper Solenoid

Reassembly

When installing the Cleaner Pressure Flapper Solenoid, adjust the following positions:
- **Position of the cam inside the frame**
- **Position of the solenoid claw**

The center rib on the cam must be in the horizontal position.

The claw of the solenoid must be hooked properly on the projection of the clutch.
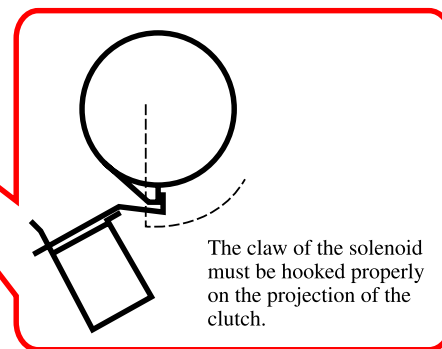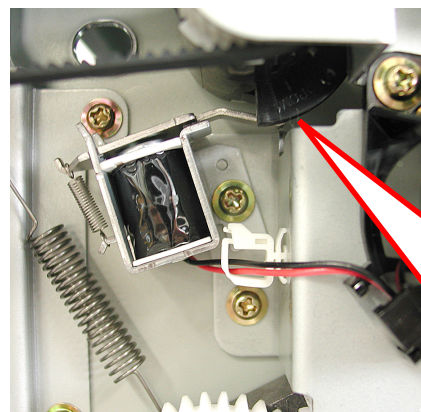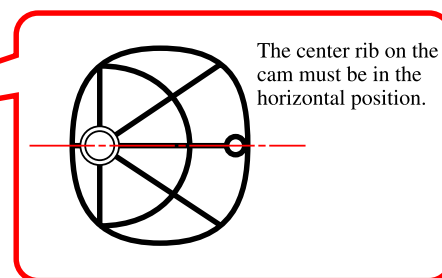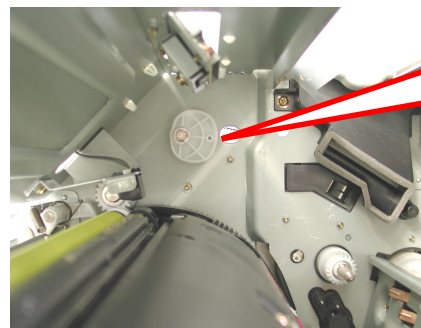
Figure 4-28. Mounting Position of Cleaner Pressure Flapper Solenoid

4.5.9 Rack Motor (M2)

1. *Remove the Cleaner Pressure Flapper Solenoid (SL4). (p.188)*

2. Remove the cam inside the printer body (1 E-ring) and remove the Rack Drive Assy. (5 screws, 2 sets of harness)
(See *"Figure 4-29 (p.189)"*)

3. Remove the shaft of the Rack Clutch and remove the Drive Gear.
(1 E-ring) (See *"Figure 4-30 (p.189)"*)

4. Remove the Rack Motor (2 screws)
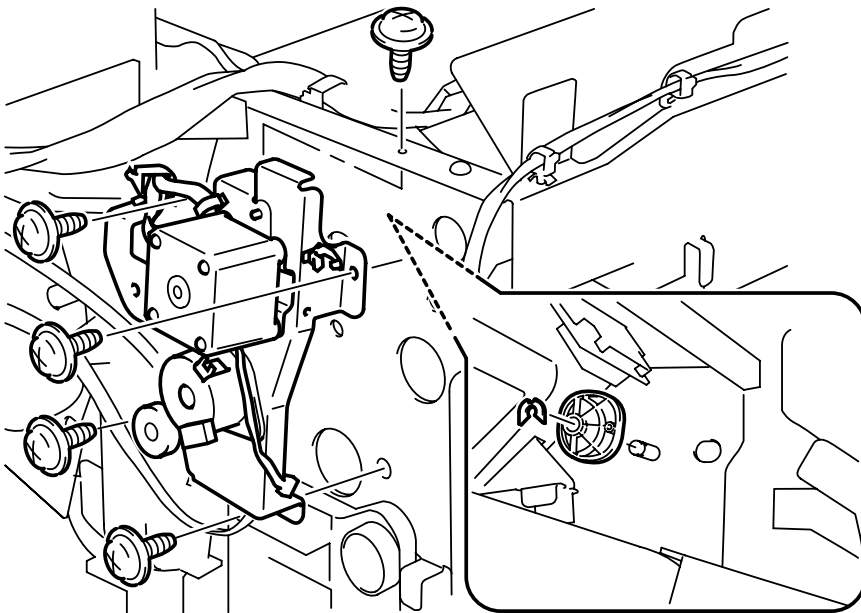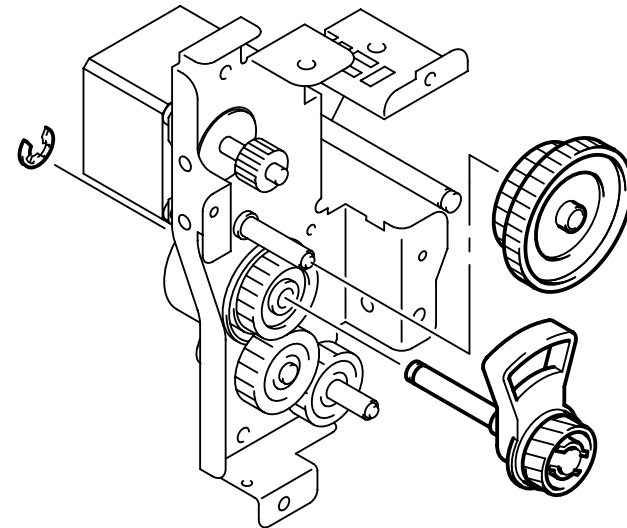(See *"Figure 4-31 (p.189)"*)

Figure 4-30. Removing the Drive Gear

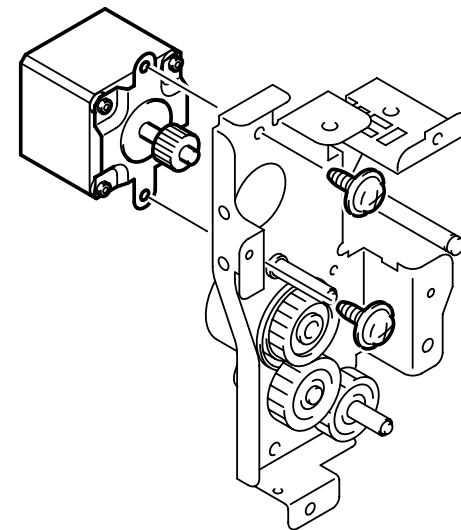**Figure 4-29. Removing the Rack Drive Assy**

Figure 4-31. Removing the Rack Motor

4.5.10 Main Motor Ass'y

1. *Remove the Rear Cover. (p.177)*

2. *Remove the Engine Board (PWB-A). (p.183)*

3. Remove the Controller Box.
   (See *"Figure 4-25 (p.187)"*)

4. Remove the wires from the code folder and then remove the Ass'y Cover. (2 screws)
   (See *"Figure 4-32 (p.190)"*)

5. Remove the Fuser Loop Flapper Solenoid (SL6). (1 screw)
   (See *"Figure 4-33 (p.190)"*)

6. Remove the Main Motor Ass'y. (4 screws)
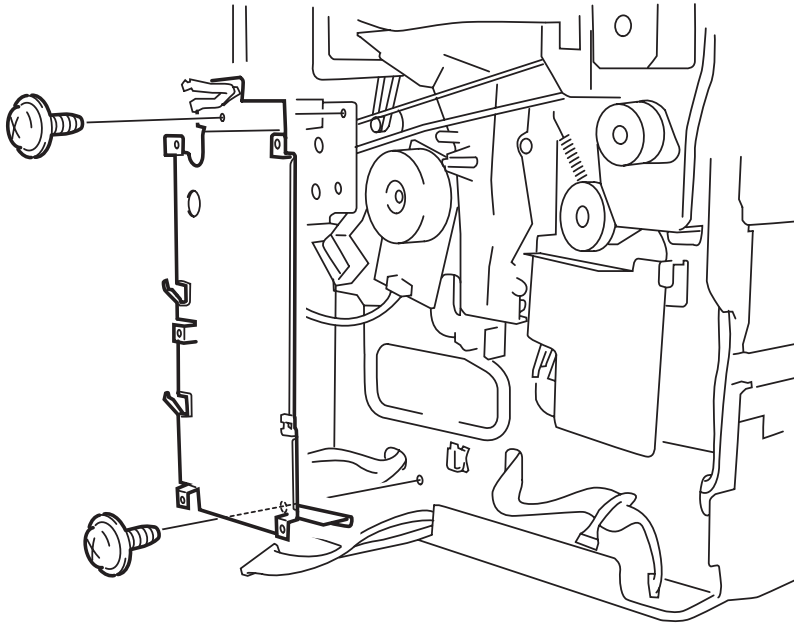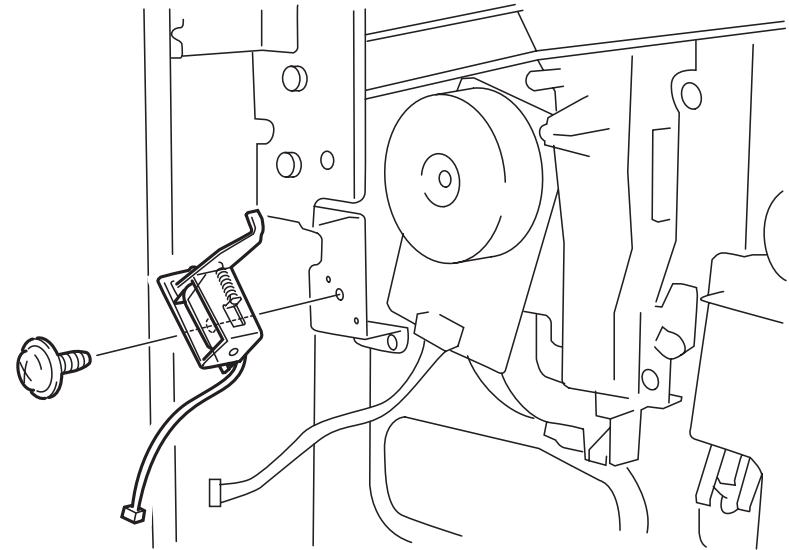   (See *"Figure 4-34 (p.190)"*)

Figure 4-33. Fuser Loop Flapper Solenoid (SL6) Removal

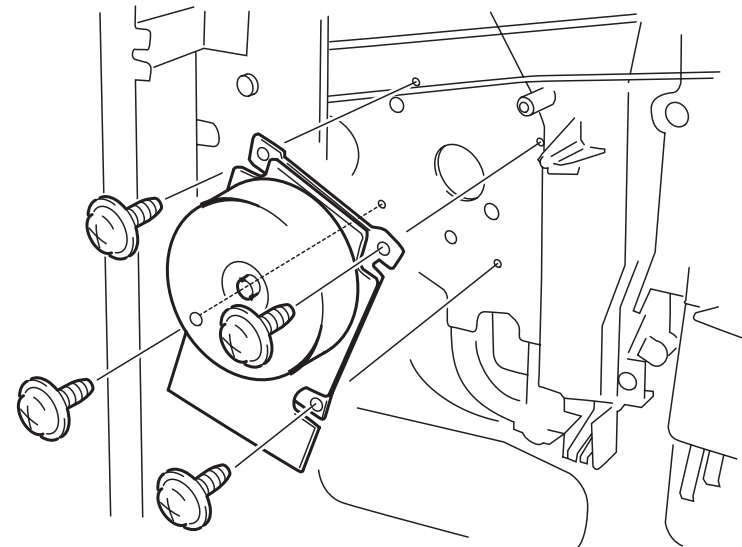**Figure 4-32. Ass'y Cover Removal**

Figure 4-34. Main Motor Ass'y Removal

4.5.11 Multi Purpose Tray

1. *Remove the Upper Front Cover. (p.176)*

2. *Remove the Top Cover. (p.176)*

3. *Remove the Front Door. (p.177)*

4. *Remove the Left Cover. (p.178)*

5. Remove the Switch Box. (2 screws)
   (See *"Figure 4-35 (p.191)"*)

> **CHECK POINT** ✔
>
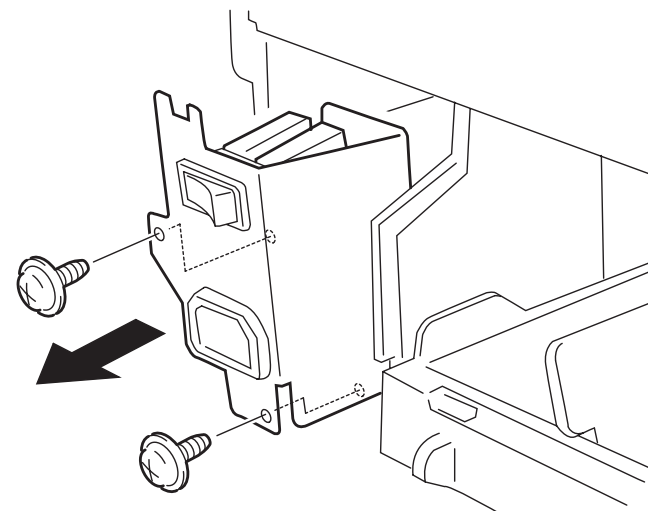> **Remove the Switch Box while disengaging the one hook from the frame.**

6. Remove the Multi Purpose Tray. (1 C-ring)
   (See *"Figure 4-36 (p.191)"*)

> **CAUTION** ❗
>
> **The actuator of the Paper Empty Sensor is passing through the tray. If you remove the tray with the actuator left passing through, the actuator will be broken.**
> **To avoid breaking the actuator, after disengaging the Multi Purpose Tray from the Tray Bottom Cover, pull off the Multi Purpose Tray while pressing the actuator with your hand.**
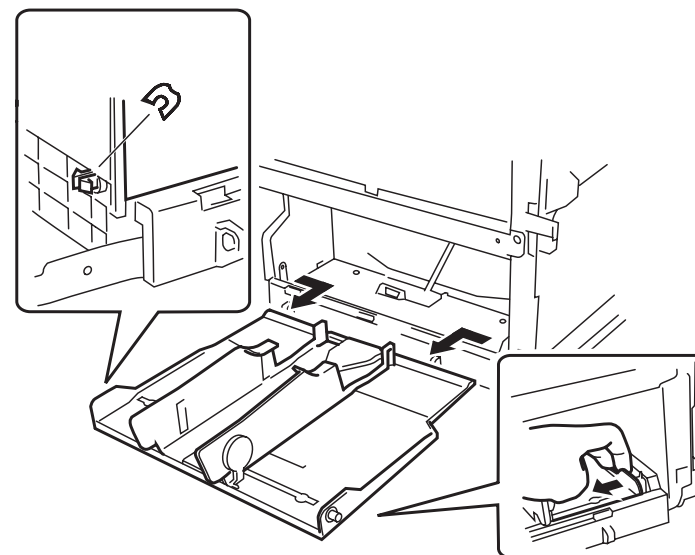

Figure 4-35. Switch Box Removal

Figure 4-36. Multi Purpose Tray Removal

4.5.12 Paper Empty Sensor

1. *Remove the Upper Front Cover. (p.176)*

2. *Remove the Top Cover. (p.176)*

3. *Remove the Front Door. (p.177)*

4. *Remove the Left Cover. (p.178)*

5. *Remove the Multi Purpose Tray. (p.191)*

6. Remove the Try Bottom Cover by using a mini-screw driver. (2 screws)
   (See *"Figure 4-37 (p.192)"*)

7. Remove the Sensor Fixing Plate and then disconnect the connector. (1 connector)

8. Remove the Paper Empty Sensor.
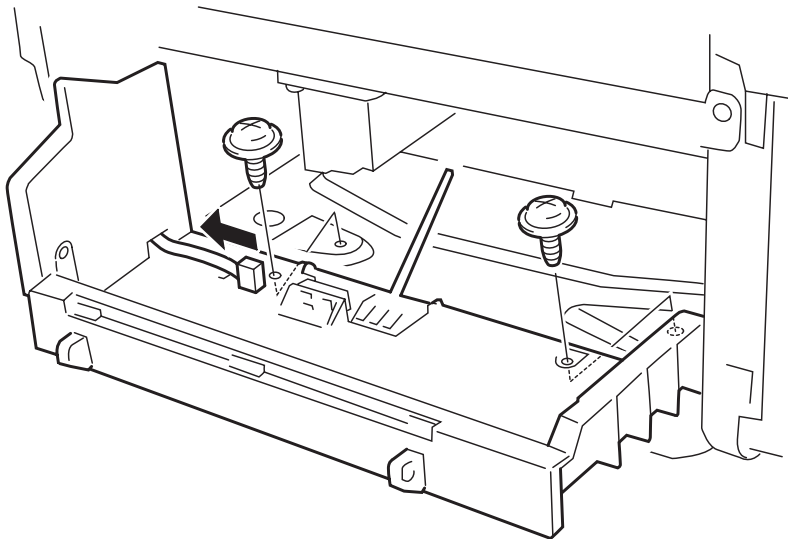   (See *"Figure 4-38 (p.192)"*)

Sen_PENP02.eps

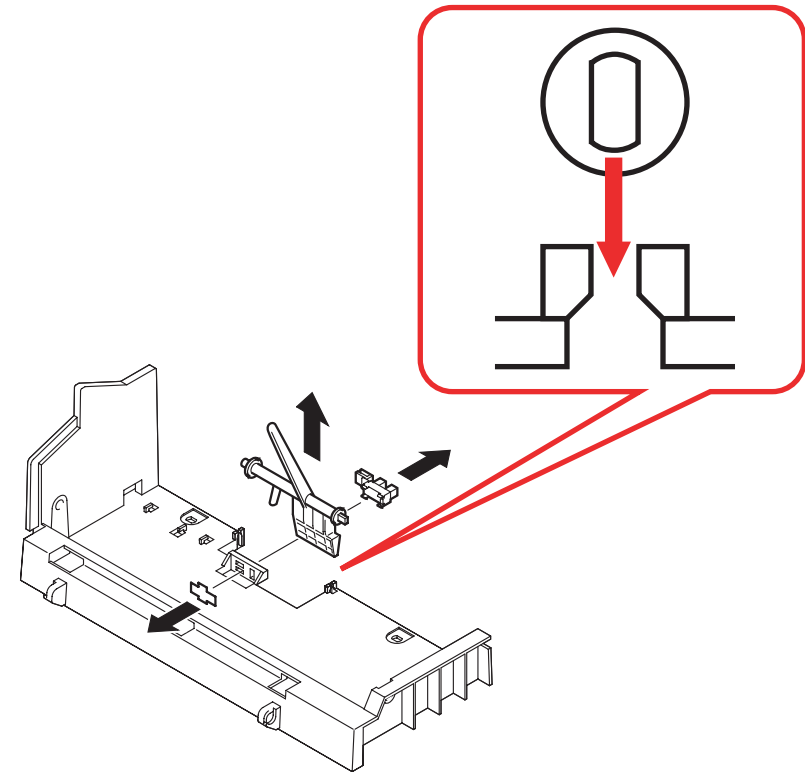**Figure 4-38. Paper Empty Sensor Removal**

Reassembly	Install the actuator of the sensor, with attention paid to the fitting shape of the shaft, in the orientation as shown in Figure 4-38 above.

Figure 4-37. Tray Bottom Cover Removal

4.5.13 Fuser Unit Removal

CHECK POINT ✓

Follow the following procedures when the following parts being within the Fuser Unit are replaced by an individual part due to an image error or a part defect.

- Heat Roller
- Thermistor (TH1)
- Heater Lamp (H1, H2)
- Thermostat (TS1)

1. *Remove the Fuser Unit. (p.174)*

2. Remove the cover. (2 screws)
   (See *"Figure 4-39 (p.193)"*)

3. Remove the Fusing Roller Heater Lamp (H1) and Heating Roller Heater Lamp (H2).
   (6 screws)(See *"Figure 4-40 (p.193)"*)

Reassembly ↩

Do not mistake the locations of the screws securing the lead wires.
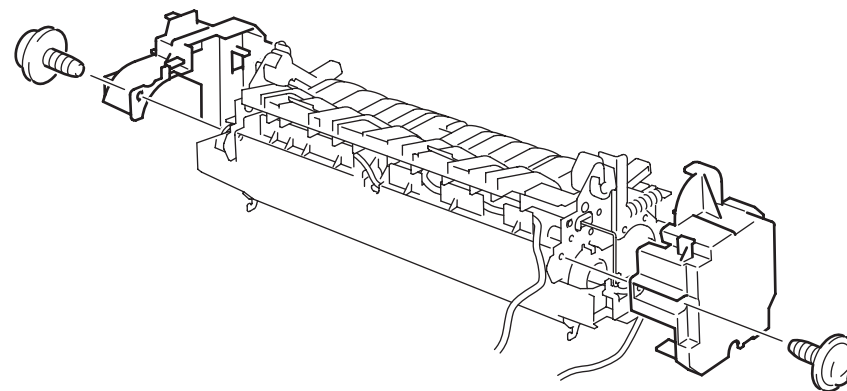

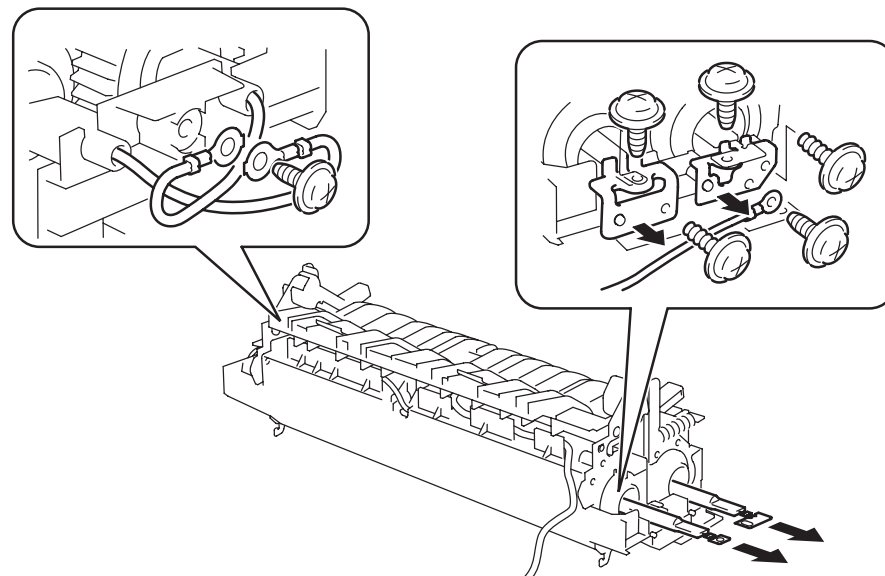**Figure 4-39. Fuser Unit Cover Removal**

Figure 4-40. Removing the Fusing Roller Heater Lamp and Heating Roller Heater Lamp

4. Remove the Release Lever, the Fusing Front Guide Plate and the Fusing Rear Guide Plate. (2 screws) (See *"Figure 4-41 (p.194)"*)

5. Remove the Thermistor (TH1) and the Thermostat (TS1). (3 screws) (See *"Figure 4-42 (p.194)"*)

6. Remove the Fusing Roller and Pressure Roller. (screws, E-rings, C-rings) (See *"Figure 4-43 (p.194)"*)

Reassembly

Install the Fusing Roller and Pressure Roller so that they are not out of alignment excessively.
Misalignment: ±3 mm maximum

Figure 4-42. Thermistor / Thermostat Removal
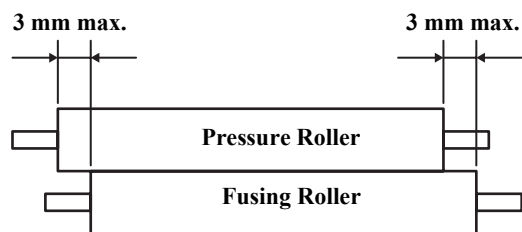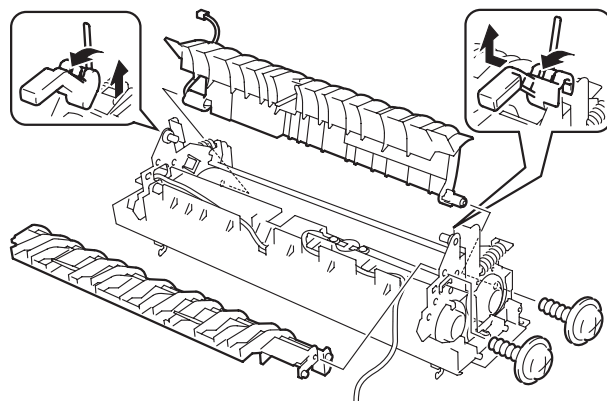
Figure 4-41. Fusing Guide Plate Removal
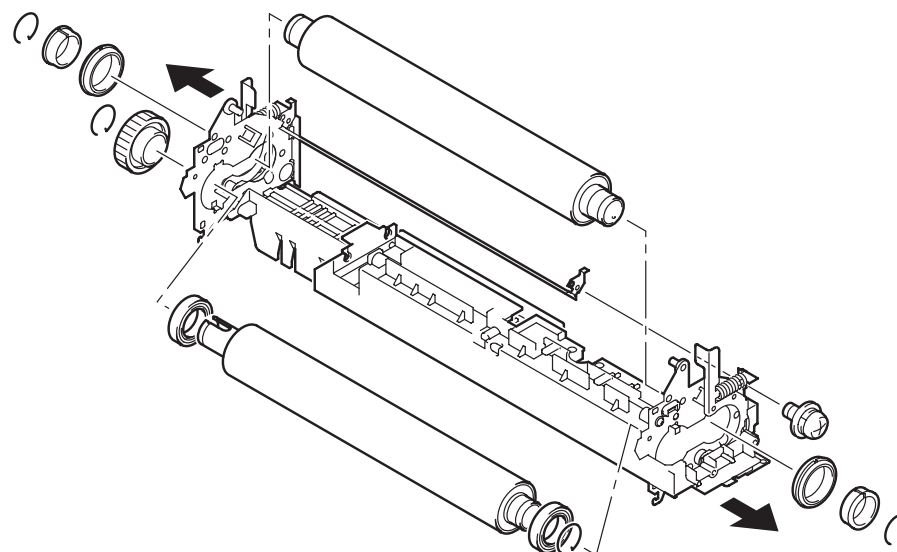
Figure 4-43. Heat Roller Removal

4.5.14 Fusing Cooling Fan Motor (M5)

1. *Remove the Rear Cover. (p.177)*

2. Disconnect the connectors (PJ16, PJ17, PJ29) from the PWB-A board and then remove the wires from the code folder.

3. *Remove the Right Door. (p.179)*

4. Remove the Right Door Cover. (3 screws)
    (See *"Figure 4-44 (p.195)"*)

5. Remove the Right Front Cover. (1 screw)

6. Remove the Paper Eject Unit. (6 screws)
    (See *"Figure 4-45 (p.195)"*)

7. Remove the wires from the code folder.

8. Remove the Fusing Cooling Fan Motor. (2 screws)
    (See *"Figure 4-46 (p.195)"*)
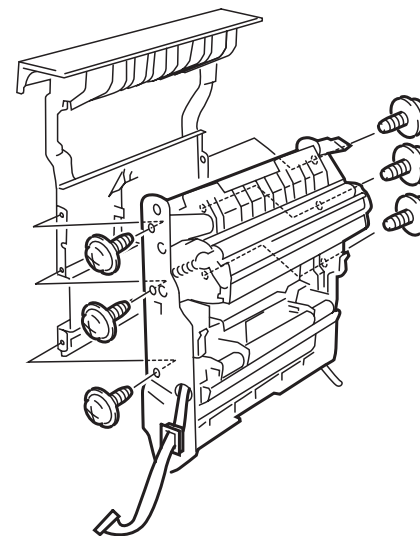
Figure 4-45. Paper Eject Unit Removal
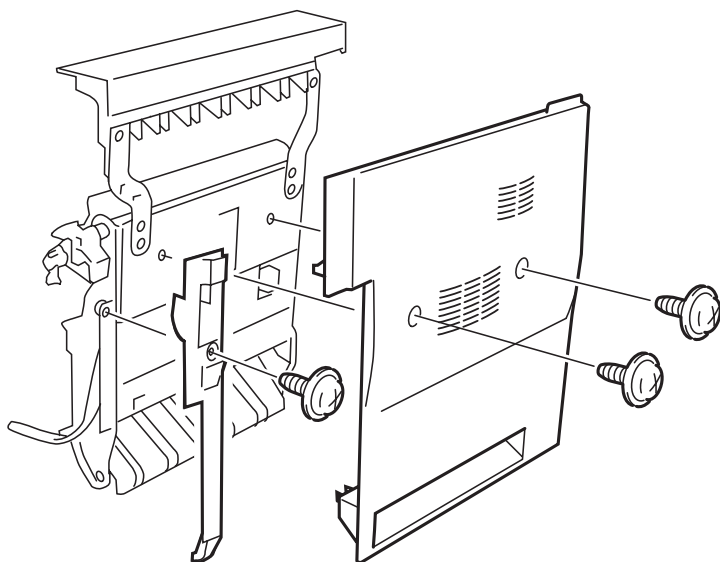
Figure 4-44. Right Door Cover / Right Front Cover Removal
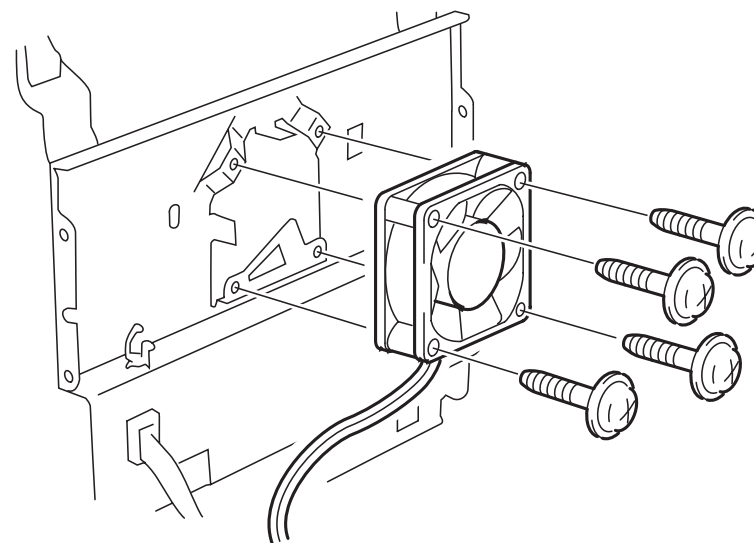
Figure 4-46. Fusing Cooling Fan Motor Removal

4.5.15 Paper Load Roller

1. Open the Right Door, remove the one screw and remove the strap from the door.

2. Release the right and left shafts and remove the guide.

3. Remove the tab and pull off the Paper Load Roller from the shaft.
    (See *"Figure 4-47 (p.196)"*)

4. Take out the removed Paper Load Roller through the opening on the Multi Purpose Tray mounting side.

Reassembly	**When installing the guide, set the torsion spring installed on the right shaft in the proper position.**
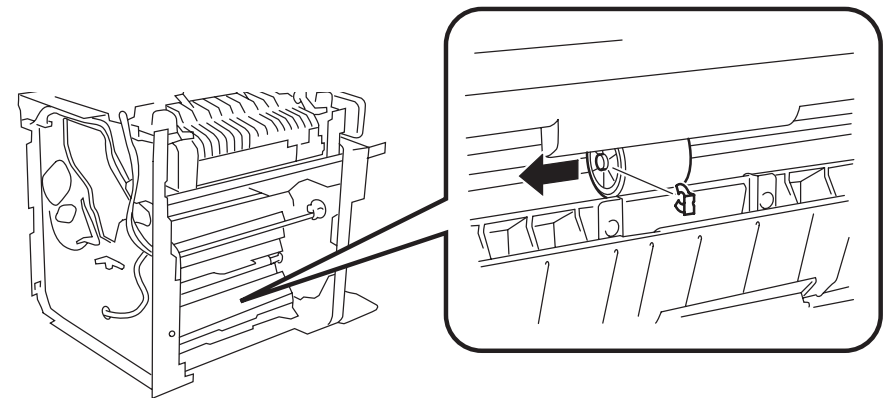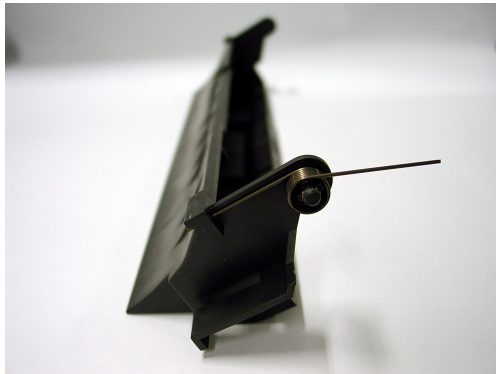
Figure 4-47. Paper Load Roller Removal

4.5.16 Separation Roller

1. *Remove the Right Door. (p.179)*

2. Remove the Separation Roller Ass'y.
    (See *"Figure 4-48 (p.196)"*)
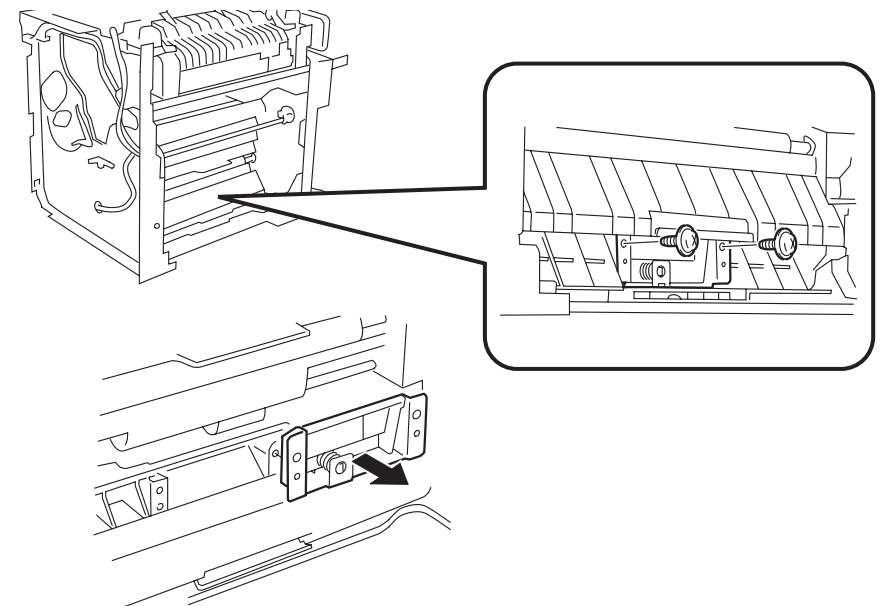
Roller_Saba01.eps

Figure 4-48. Separation Roller Removal

4.5.17 Printer Head Unit (PH)

1. *Remove the Upper Front Cover. (p.176)*

2. *Remove the Top Cover. (p.176)*

3. *Remove the Rear Cover. (p.177)*

4. *Remove the Right Door. (p.179)*

5. *Remove the Front Cover. (p.178)*

6. Remove the Laser Lens Cover. (1 screw)
   (See *"Figure 4-49 (p.197)"*)
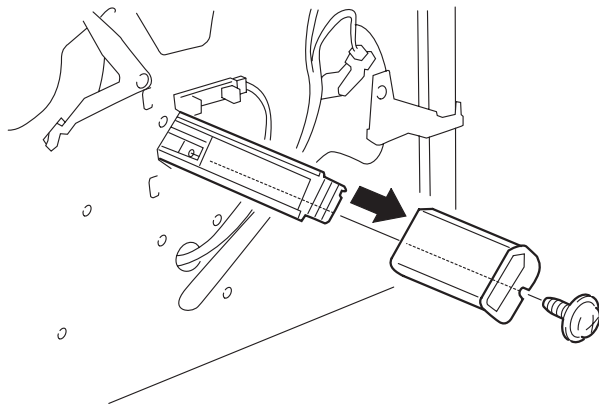
P-Head02.eps

Figure 4-49. Laser Lens Cover Removal

7. Remove the two screws securing the Drum Unit Slide Cover and remove it from the fixed position. Then turn over the cover and disconnect the three sets of harness from the terminals on the back, and take out the cover. (See *"Figure 4-50 (p.197)"*)

CAUTION !	**Do not touch the terminals (copper) on the back of the Drum Unit Slide Cover with your bare hand. (To avoid loss of continuity caused by corrosion)**

Connector: Large/cable: light blue
Connector: Small/cable: light blue
Connector: Large/cable: red

Front ⟵   Drum Unit Slide Cover   ⟶ Rear
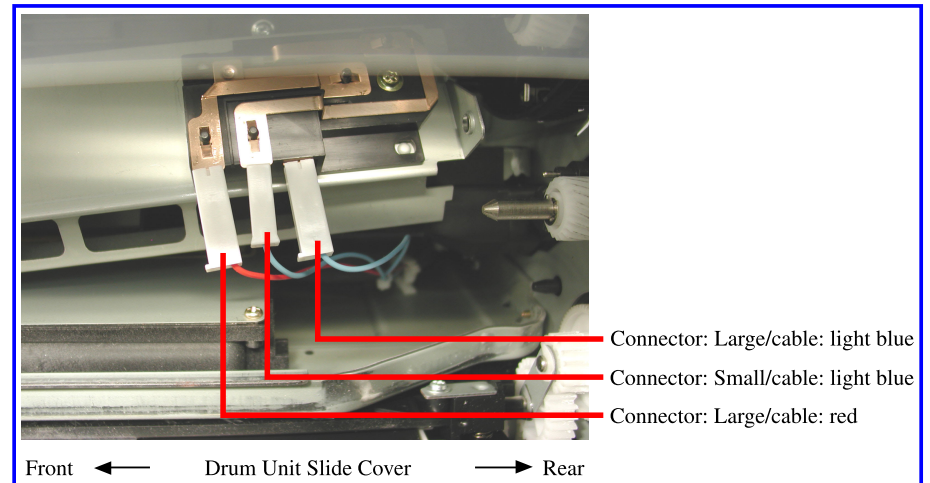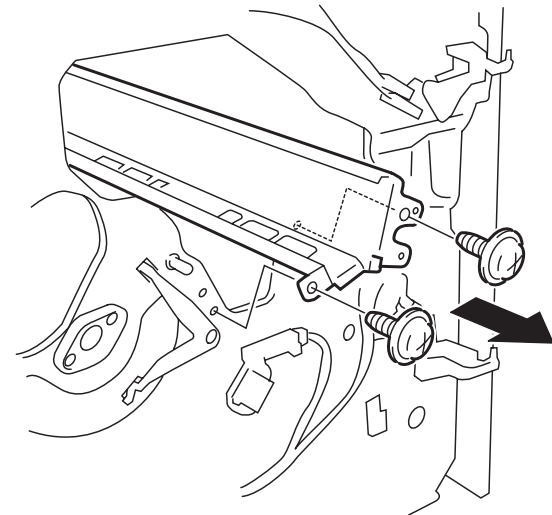
Figure 4-50. Drum Unit Slide Cover Removal

8.   Remove the Print Head Cover. (2 screws)
     (See *"Figure 4-51 (p.198)"*)

9.   Disconnect the following harness from the connectors on the following circuit boards:

     ■   Engine Board
         PJ23, PJ24

     ■   Main Board
         CN801

10. Remove the Print Head (PH). (3 screws)
     (See *"Figure 4-52 (p.198)"*)

CHECK POINT ✓	**Remove the screws securing the Print Head under either of the following conditions:** ■ **The guide has been removed.** ■ **The guide is open and held with your hand.**
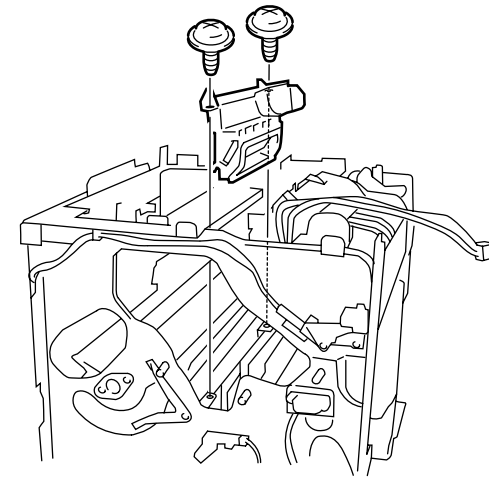
Figure 4-51. Print Head Cover Removal
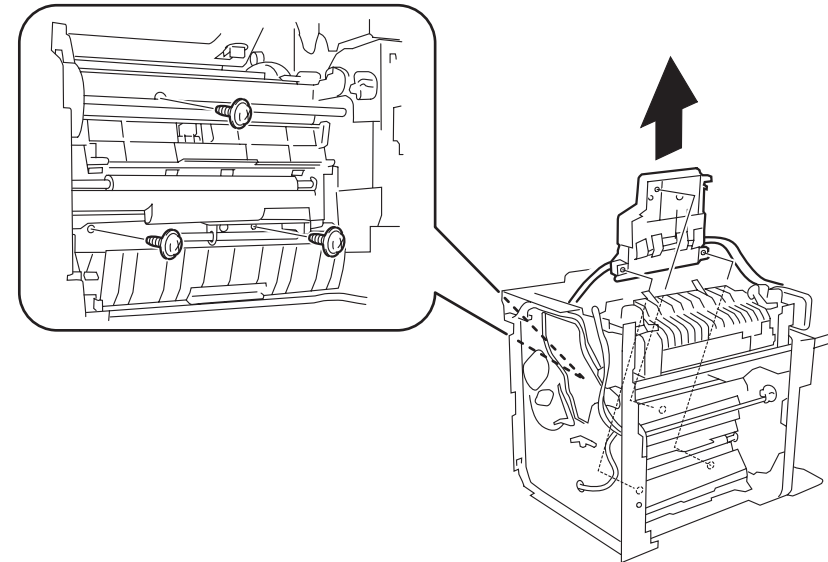
P-Head04.eps

Figure 4-52. Print Head Removal

4.5.18 Manual Paper Feed Solenoid (SL1)

1. *Remove the Upper Front Cover. (p.176)*

2. *Remove the Top Cover. (p.176)*

3. *Remove the Rear Cover. (p.177)*

4. *Remove the Left Cover. (p.178)*

5. *Remove the Right Door. (p.179)*

6. *Remove the Front Cover. (p.178)*

7. *Remove the High Voltage Unit (HV). (p.187)*

8. *Remove the Engine Board (PWB-A). (p.183)*

9. Remove the Bottom Plate. (11 screws)
   (See *"Figure 4-53 (p.199)"*)

10. Remove the Manual Paper Feed Assy. (5 screws)
    (See *"Figure 4-54 (p.199)"*)

11. Remove the Manual Paper Feed Solenoid. (1 screw)
    (See *"Figure 4-55 (p.199)"*)

Figure 4-54. Removing the Manual Paper Feed Assy

Figure 4-53. Removing the Bottom Plate
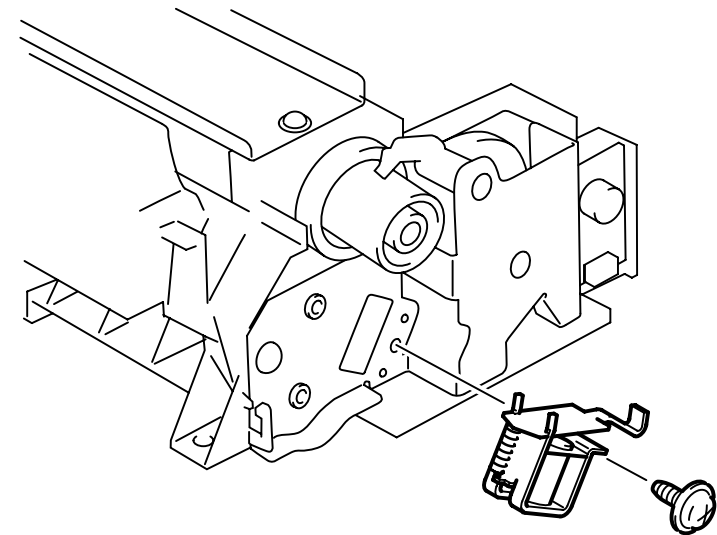
Figure 4-55. Removing the Manual Paper Feed Solenoid

4.5.19 Fuser Deceleration Drive Assy

1. *Remove the Rear Cover. (p.177)*

2. *Remove the Engine Board (PWB-A). (p.183)*

3. Remove the Controller Box. *(p187)*

4. Release the wiring from the cord holder and remove the Assy Cover.
   (2 screws)   *(p190)*

5. Remove the Fuser Loop Flapper Solenoid (SL6). (1 screw)
   (p190)

6. Remove the C-rings and shaft holders from the two shafts mounted on the Fuser Loop
   Flapper Solenoid. (See *"Figure 4-56 (p.200)"*)

7. Remove the Fuser Deceleration Drive Assy. (4 screws)

CAUTION !	In installation, make sure that the projection on the frame is engaged with the guide hole in the Fuser Deceleration Drive Assy properly.
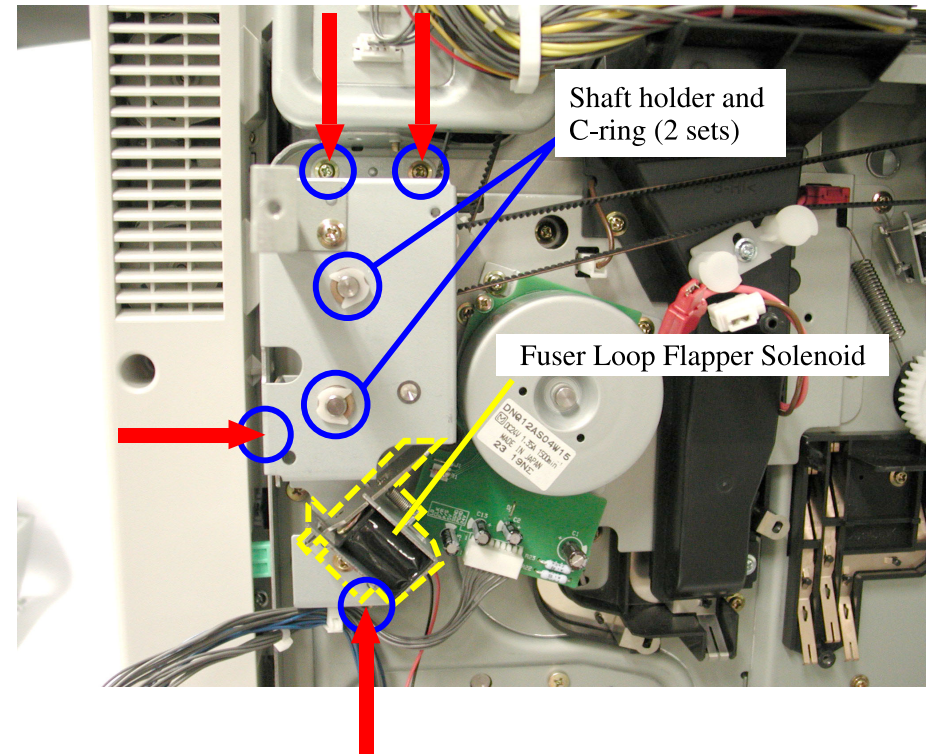
Figure 4-56. Removing the Fuser Deceleration Drive Assy

4.5.20 Rack

1. *Remove the High Voltage Unit (HV). (p.187)*

2. Remove the HV Contact Assy. (3 screws) (See *"Figure 4-57 (p.201)"*)

3. While supporting it with your hand, rotate the Rack to a position where you can see through the cut area of the frame the screw securing a toner cartridge mounting frame on the Rack.

4. Remove the screws securing the toner cartridge mounting frame. (4 screws in total) (See *"Figure 4-58 (p.201)"*)

5. Remove the Rack Fulcrum Cover. (2 screws) (See *"Figure 4-59 (p.201)"*)

6. Separate the toner cartridge mounting frame from the Rack and take them out through cut areas of the frame, respectively. (See *"Figure (p.201)"*)

One screw for toner cartridge mounting frame for each color

Figure 4-58. Removing the Screws securing the Toner Cartridge Mounting Frame

Figure 4-57. Removing the HV Thermal Assy
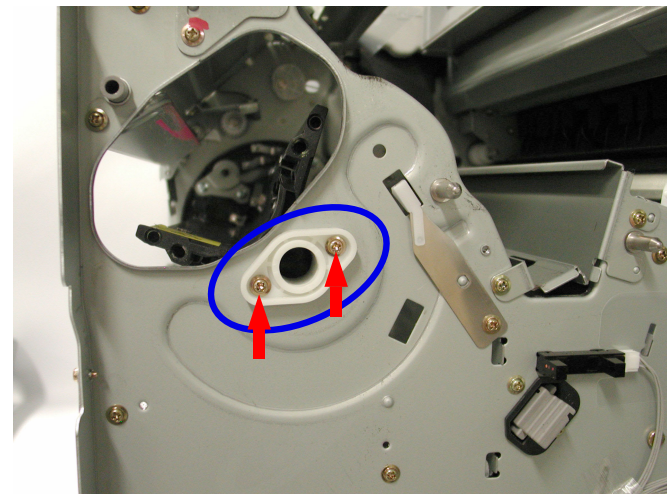
Figure 4-59. Removing the Rack Fulcrum Cover
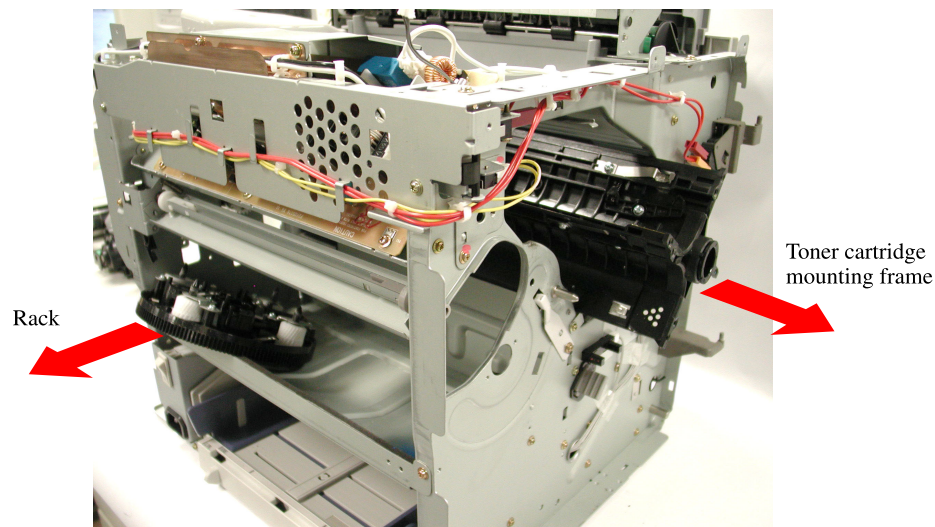
Figure 4-60. Removing the Rack

Rack

Toner cartridge
mounting frame

Reassembly

Remember that the Rack and the Toner Cartridge Mounting Frame can be installed in only one proper orientation, that is, can not be installed in a wrong orientation.

Toner cartridge
mounting frame

Rack

2 projections here only
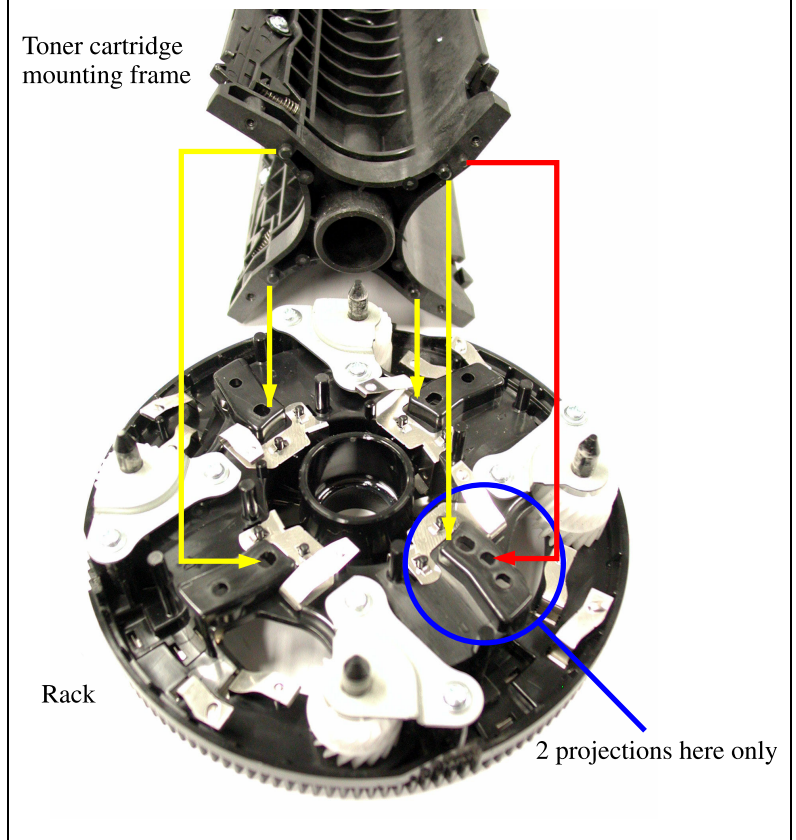
4.6 Extension Unit Disassembly and Assembly

4.6.1 The 2nd Paper Load Roller

1. Separate the 500-sheet Cassette Unit from the printer body.

2. Remove the Paper Load Roller as shown in Fig. 4-60.

   1. Lift the knob of the Paper Load Roller up.
   2. Put the Paper Load Roller aside to the right direction.
   3. Remove the Paper Load Roller.

3. Install a new Paper Load Roller according to the reverse order of the above procedure 2.

opt_ca01.eps
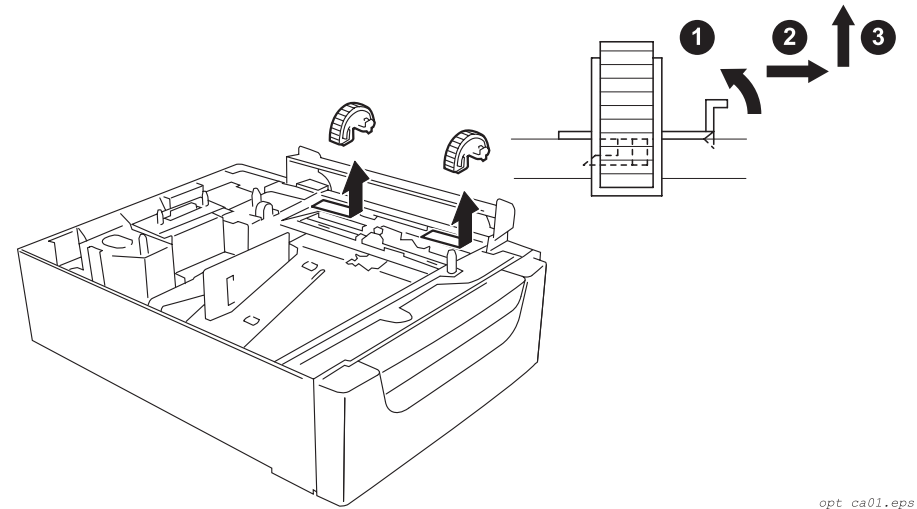
Figure 4-61. The 2nd Paper Load Roller Removal

4.6.2 500-sheet Cassette Unit Control Board (PWB-A)

1. Disconnect the connector and take out the 500-sheet Cassette Unit Control Board Assy.
    (3 screws) (See *"Figure 4-62 (p.204)"*)

2. Remove the cover. (1 screw)
    (See *"Figure 4-63 (p.204)"*)

3. Remove the 500-sheet Cassette Unit Control Board. (2 screws)
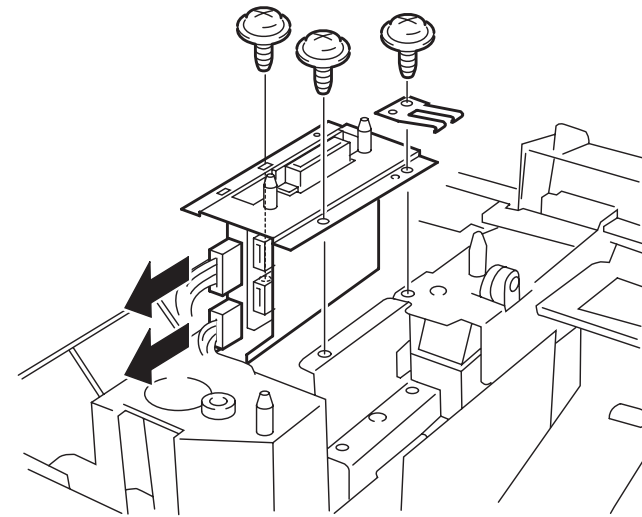
Figure 4-62. Removing the 500-sheet Cassette Unit Control Board Assy
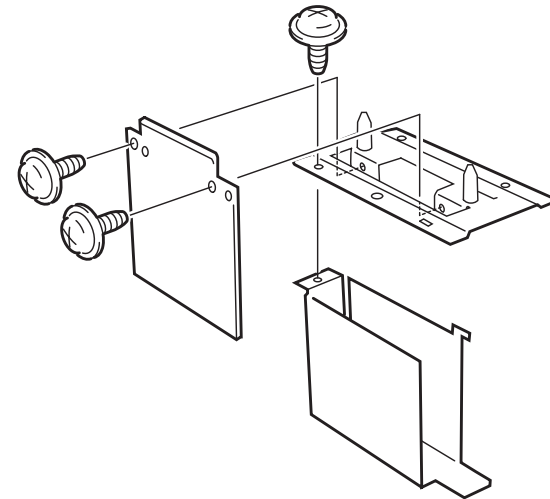
Figure 4-63. Removing the 500-sheet Cassette Unit Control Board

4.7 Duplex Unit Disassembly and Assembly

4.7.1 Duplex Unit Control Board (PWB-A)

1. Separate the Duplex Unit from the Printer.

2. Remove the Board Protection Cover. (2 screws)
   (See *"Figure 4-64 (p.205)"*)

3. Remove the Duplex Unit Control Board. (1 screw, 3 connectors)
   (See *"Figure 4-65 (p.205)"*)

4.7.2 Paper Feed Sensor

1. Separate the Duplex Unit from the Printer.

2. *Remove the Duplex Unit Control Board (PWB-A). (p.205)*

3. Remove the Sensor Fixing Plate and then remove the Paper Feed Sensor. (1 connector)
   (See *"Figure 4-66 (p.205)"*)
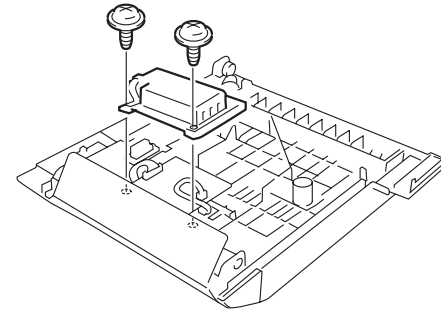
opt_dup01.eps

Figure 4-64. Board Protection Cover Removal
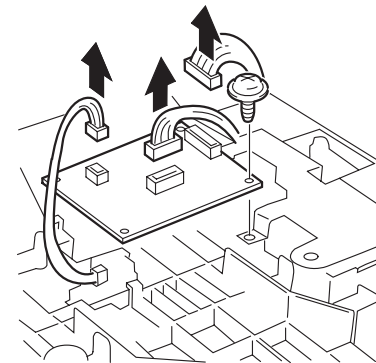
opt_dup02.eps

Figure 4-65. Control Board (Duplex Unit) Removal
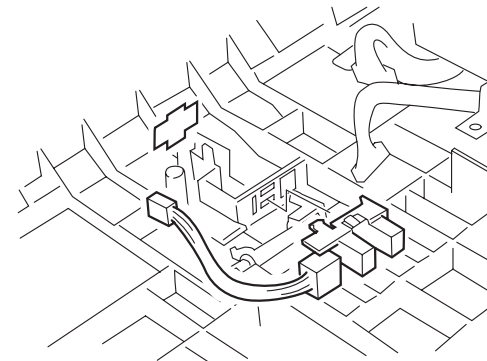
opt_dup03.eps

Figure 4-66. Paper Feed Sensor Removal

4.7.3 Reverse Motor / Transfer Motor

1. Separate the Duplex Unit from the Printer.

2. Remove the Board Protection Cover.

3. Disconnect the connector (PJ1) from the Duplex Unit Control Board (PWB-A).

4. Remove the cover of the Duplex Unit (1 screw) and then remove the wires from the code folder.
    (See *"Figure 4-67 (p.206)"*)

5. Remove the Reverse Motor and the Transfer Motor. (4 screws)
    (See *"Figure 4-68 (p.206)"*)
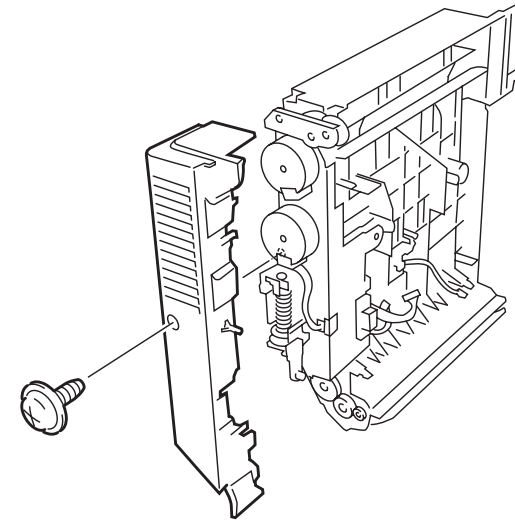
Figure 4-67. Cover (Duplex Cover) Removal
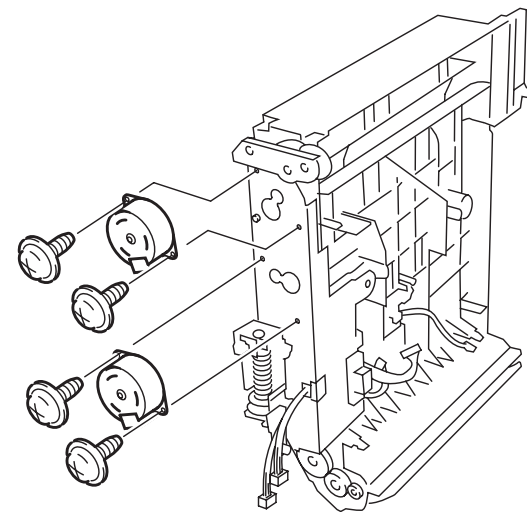
Figure 4-68. Reverse Motor / Transfer Motor Removal

ADJUSTMENT

5.1 Overview

This section describes the adjustments required according to service components once they have been replaced and also describes procedures for such adjustments.

5.2 USB ID Input

AcuLaser C1900/AcuLaser C900 comes with the USB interface as standard, and the PC connected to the AcuLaser C8600 via the USB interface identifies the printer by referring to the USB ID information unique to each printer.

Since this USB ID information is stored on EEPROM on the MAIN Board of the printer, you have to re-define the ID information by the procedure described below when you have replaced the MAIN Board for repair.

CAUTION !	When you repair the printer and re-define the USB ID information, you have to tell the user to uninstall the previously installed printer driver as it refers to the old USB ID information.

The program for USB ID input and the supported operating environment are as follows:

☐ Program
   AcuLaser C1900:   FUSBID_EJLE.exe
   AcuLaser C900:   USBID_HBE.exe

☐ Operating environment
   ■ OS: Windows95 OSR2.0 or later or Windows98
   ■ Port used: LPT1 ~ LPT3 (Windows95/98)

5.2.1 Installation Procedure for Program

Copy the adjustment program file onto the desktop or into a folder.

5.2.2 Procedure for Program Operation

CAUTION !	■ **Do not start the adjustment program before connecting the parallel cable to the printer.** ■ **This program can not be executed together with EPW (Epson Printer Window) on Windows 95/98. Be sure to terminate the EPW before starting the adjustment program.** ■ **If the power to the printer is turned off or the parallel cable is disconnected during running of the adjustment program, be sure to restart the program.** ■ **On the "Details of Display" tab of "Property of Screen", do not change "font size."**

1. When you execute the program, the menu window shown below will appear.

2. Select the model name "AcuLaser C1900", then click the OK button.

3. When the window as shown below is displayed, check "USB ID input" and click the OK button.

4. When the window as shown below appears, input the serial number (10 digits) of the printer and click "Ok" button to store the USB ID information (18 digits in total) in EEPROM on the main board of the printer.

5.2.3 USB ID Confirmation

> **CAUTION** ❗ **Once you have input a new USB ID, never forget to confirm it on the status sheet.**

1. Execute the program which was used to write the USB ID, and select the model name.

2. When the window as shown below appears, check "Verify USB ID" and click the OK button.

3. The window as shown below will appear and a status sheet will be printed automatically.

4. Check that the USB ID printed on the status sheet is identical with that shown on the window.
    After completion of confirmation, press the Return button.

5.3 Service Utility (AcuLaser C900)

5.3.1 Overview

This service utility, designed for exclusive use with AcuLaser C900 must be used to execute any of the following operations for maintenance and checks of AcuLaser C900:

☐ Printing the engine status sheet

☐ Initializing the relevant counter when you have replaced any of the Regularly Replaced Part and Major After-Sales Service Parts specified on page 214.

☐ Registering USB ID

5.3.1.1 Operating Environment

You can use this service utility under the following conditions:

☐ OS
  ■ Windows 95/98
  ■ Windows Me
  ■ Windows NT4.0
  ■ Windows 2000
  ■ Windows XP

☐ Interface
  ■ Parallel interface
     Can be used only in a mode where bidirectional communication is permitted.
  ■ USB
  ■ Network interface
     Only TCP/IP by Type-B connection is supported.

5.3.1.2 Conditions for Use

This service utility does not require any special installation procedure. It can be copied on the personal computer or can be executed directly from the CD-ROM or floppy disk, but only under the following conditions:

☐ PC
   The printer driver for AcuLaser C900 has been installed and is ready for use.

CAUTION

!

Once you execute printing the engine status sheet by "Engine Status Sheet" *(p.213)* with network connected, communication with the printer will be disabled. In such a case, turn off the power to the printer once and then turn it on again.

5.3.2 How to Use the Service Utility

This section describes how to use this service utility.

5.3.2.1 Starting the Service Utility

1. Double click the icon for this service utility (STA3HBC.exe) to start it.

Figure 5-1. Icon for Service Utility

2. The PC where the service utility is started will display the printer select window based on the printer driver information installed on the PC. Select "AcuLaser C900" and click the [OK] button.
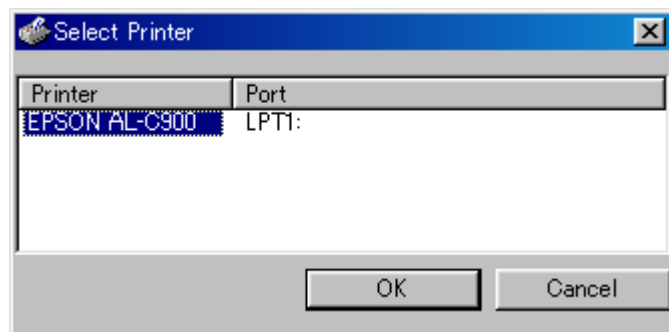
Figure 5-2. Printer Select Window

After the [OK] button is clicked, the PC checks for connection to the selected printer. If the PC has failed in connection to the selected printer, the screen will display the error message as shown below. Then click the [OK] button, and the service utility will be terminated.

Figure 5-3. If Failed in Connection

Possible causes of this error are as listed below. Make certain that the PC and the printer are connected properly, and then start the service utility again.

■   The power to the printer is not turned on.

■   The cable is not connected properly.

■   The printer you have selected is not AcuLaser C900.

3. Upon confirming the connection to the selected printer, the PC will display the menu
    screen as shown below and the service utility will be ready for execution of each
    function. To terminate the service utility, click the [Close] button.

Printer Information Display

Printing the Engine Status Sheet

Initializing the counter

(Select the relevant component)

Registering the USB ID
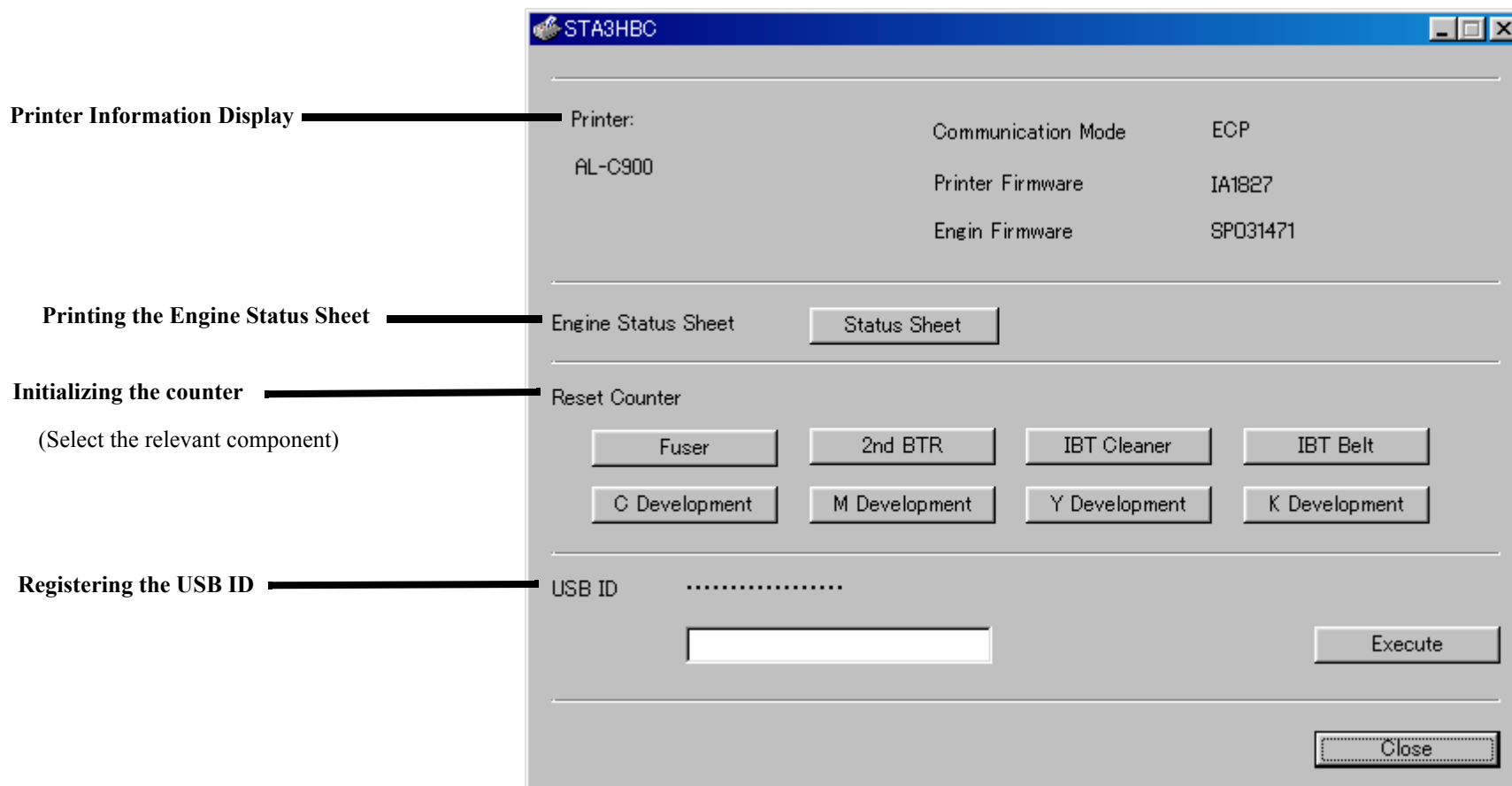
Figure 5-4. Menu Screen of Service Utility

CAUTION ❗	For "Reset Counter" on the program menu screen as shown above, no button other than [Fuser] functions. (AcuLaser C900 requires counter clear only for [Fuser].)

CHECK POINT ✔	With this program, only the [Fuser] button operates when it is pressed. No processing will be executed even when any button other than [Fuser] is pressed.

5.3.2.2 Functions

This service utility can execute the following functions:

☐ "Printer" information

- ■ Name of the printer connected ("AcuLaser C900")
- ■ "Communication Mode" information
  Displays the interface connected
  - Nibble (parallel interface)
  - ECP (parallel interface)
  - USB
  - I/F Card (Type-B / Network I/F)
- ■ "Printer Firmware" information
  Firmware version currently installed
- ■ "Engine Firmware" information
  Mechanical controller firmware version currently installed

☐ "Engine Status Sheet"
Prints the engine status sheet.

☐ "Reset Counter"
Initializes the counters for the Regularly Replaced Part and After-Sales Service Parts whose lives are controlled by the printer. The parts for which the counter must be initialized are as follows:

- ■ "Fuser" (Main Fuser Assembly: Regularly Replaced Part)

☐ "USB ID"
Registers the ID number for the USB interface in EEPROM on the Main Board.

5.3.3 Operation

5.3.3.1 Engine Status Sheet

Click the [Status Sheet] button to print the engine status sheet.

CHECK POINT ✔	**Since the paper size supported is only A4, set A4 size paper in the printer.**

When the engine status sheet is being printed, the process control (Cycle Up / Cycle Down process control) of the engine will be forcedly carried out.

5.3.3.2 Reset Counter

When you have replaced any of the Regularly Replaced Part and After-Sales Service Parts specified above, be sure to reset the relevant counter.

CHECK POINT ✔	**Once you have executed resetting, you can never undo the resetting. To warn you not to execute resetting carelessly, the confirmation screen as shown below will be displayed when the [Execute] button for Reset Counter has been clicked. Click [OK] to execute initializing the counter or click [Cancel] to terminate the service utility without executing resetting.**
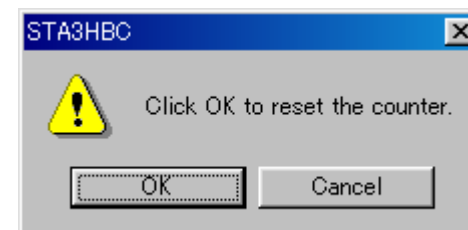
5.3.3.3 USB ID

When the Main Board has been replaced, register the ID number assigned to the USB interface.

Input the assigned ID number in the ID input box and click the [execute] button. Then the input ID number will be stored in EEPROM on the Main Board. The USB ID value displayed above the input box is the initial value displayed at the utility start. The newly registered value is not displayed immediately only by clicking the [Execute] button. If it is necessary to display the registered value soon, terminate the service utility once and then start it again.

> **CHECK POINT** ✓
>
> - **This function can not be used with network connection.**
> - **For replacing the Main Board, note down the USB ID value of the old Main Board and input the same value into the newly installed Main Board. (The USB ID value will not be generated automatically by the service utility.)**
> - **Since the ID value can be registered only in the specified format, the following checks will be performed.**
>   - **More than 18 digits can be input in the input box. However, the digits exceeding 18 digits are ignored, while "0" is set at each blank position if you input less than 18 digits.**
>   - **The value to be input must contain the alphanumeric characters specified below at the specified positions, respectively. Any value which does not contain these characters at the correct positions will be invalid and will not be written.**
>
> | | |
> |---|---|
> | **1st/2nd position:** | **AcuLaser C1900 "16"** |
> | | **AcuLaser C900 "17"** |
> | **3rd position:** | **"P"** |
> | **18th position:** | **"0"** |

MAINTENANCE

6.1 Maintenance

This chapter explains the maintenance of AcuLaser C1900 / AcuLaser C900. The maintenance of AcuLaser C1900 / AcuLaser C900 is designed for users to do maintenance.
No lubrication or adhesion is required for AcuLaser C1900 / AcuLaser C900.

6.1.1 Consumables and Regular Replacement Parts

AcuLaser C900 requires the replacement of the Consumables (by user) and Regular Replacement Parts (by serviceman) as listed in Table 6-1 below:

Table 6-1. Consumables and Regular Replacement Parts

Name	Time for Replacement	Replacement by
Developer Cartridge	4.5k Pages [*1]	User
	1.5k Pages [*1]	User
Photoconductor Unit	45k Pages [*1]	User
Intermediate Transfer Unit	210k Pages [*1]	User
Waste Toner Collector	25k Pages [*1]	User
Fuser Unit [*2]	120k Pages	Serviceman
Secondary Transfer Roller [*2]	120k Pages	Serviceman

Note *1： The time for replacement is displayed by "EPSON Printer Window !3".

　　　*2： With AcuLaser C900, the warning of life of the Fuser Unit or Secondary Transfer Roller does not appear. For maintenance, therefore, replace the Fuser Unit and Secondary Transfer Roller immediately when a malfunction or print quality trouble related to these components has occurred. Replace the Fuser Unit and Secondary Transfer Roller at the same time.

CAUTION !	Upon replacement of the Fuser Unit and Secondary Transfer Roller, be sure to reset the counter. (Refer to "Initializing the counter" *(p.213)*)

6.1.2 Cleaning

Wipe off the dirt on the exterior surface of the printer with a dry and soft clean cloth. If the dirt is not easy to remove, use a neutral detergent. Vacuum the dust and paper strips inside the printer.
The table below specifies the cleaning method for the part. Use of any cleaning method other than specified can affect the printer function.

Table 6-2. Cleaning

Cleaning Part	Period	Cleaning Method
Paper load roller	When paper feed performance deteriorates	Wipe it with a dry cloth

CAUTION !	Do not use thinner or benzine since it may deteriorate the plastic parts and rubber parts.

APPENDIX

7.1 Schematic Wiring Diagram
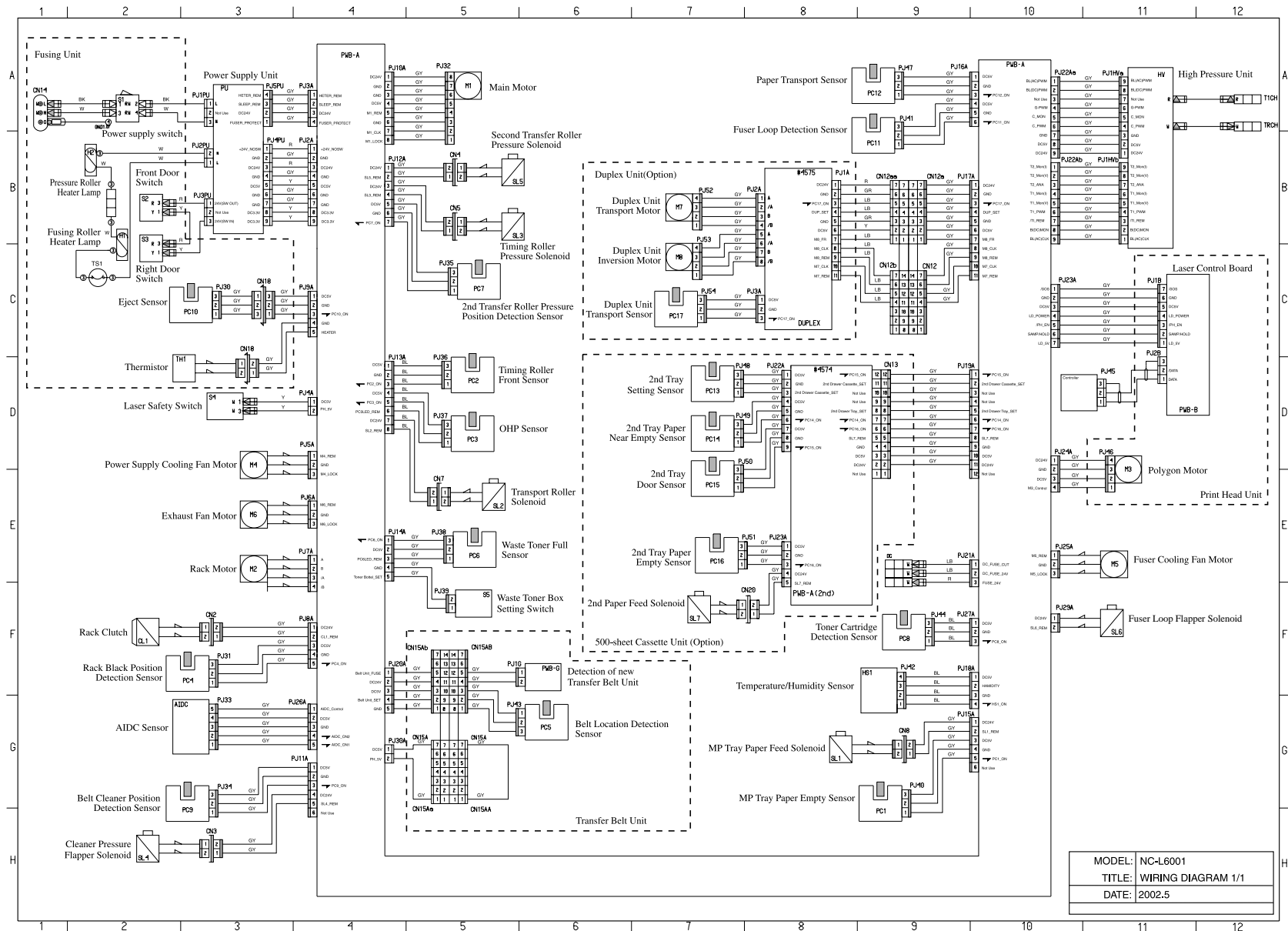
7.2 Connectors and Jumpers on Circuit Boards

C485MAIN BOARD

Table 7-1. C485MAIN Board -- Connectors

Connector	Function
CN200	SDRAM-DIMM slot (S0) - Standard memory module installed
CN201	SDRAM-DIMM slot (S1) - Expansion slot
CN300	ROM-DIMM Slot (P) - Code ROM
CN301	ROM-DIMM Slot (A) - Optional slot
CN402	USB I/F Connector (2.0 FS 12Mbps certified)
CN403	IEEE1284 Parallel I/F (Compatibility/Nibble/ECP)
CN406	Type-B Optional I/F Slot (Level-3)
CN405	[To Control Panel]
CN408	[To Optional HDD Unit (IDE)]
CN600	[To PWB-A Board]
CN601	[To Print Head Unit] (LVDS video signals)
CN701	On-board Ethernet Network I/F (10BASE/100BASE-T)

Table 7-2. C485MAIN Board -- Jumpers

Jumper	Description
JP403	Measurement unit definition (mm/inch) (Short : unit=mm / Open : unit=inch)
JP404	Default Paper Size Setting (Short : Letter / Open : A4)
JP701	Network Negotiation Settings (Open : Auto negotiation)
JP702	Network Negotiation Settings (Open : Auto negotiation)
JP401	Factory use only (Open)
JP402	Factory use only (Open)
JP501	Factory use only (1-2 Short)
JP502	Factory use only (2-3 Short)
JP503	Factory use only (1-2 Short)
JP504	Factory use only (1-2 Short)
JP505	Factory use only (2-3 Short)

Note : Underlined = Setting at shipment from the factory (initial value)

Blue: Connector
Orange: Socket
Red: Jumper switch
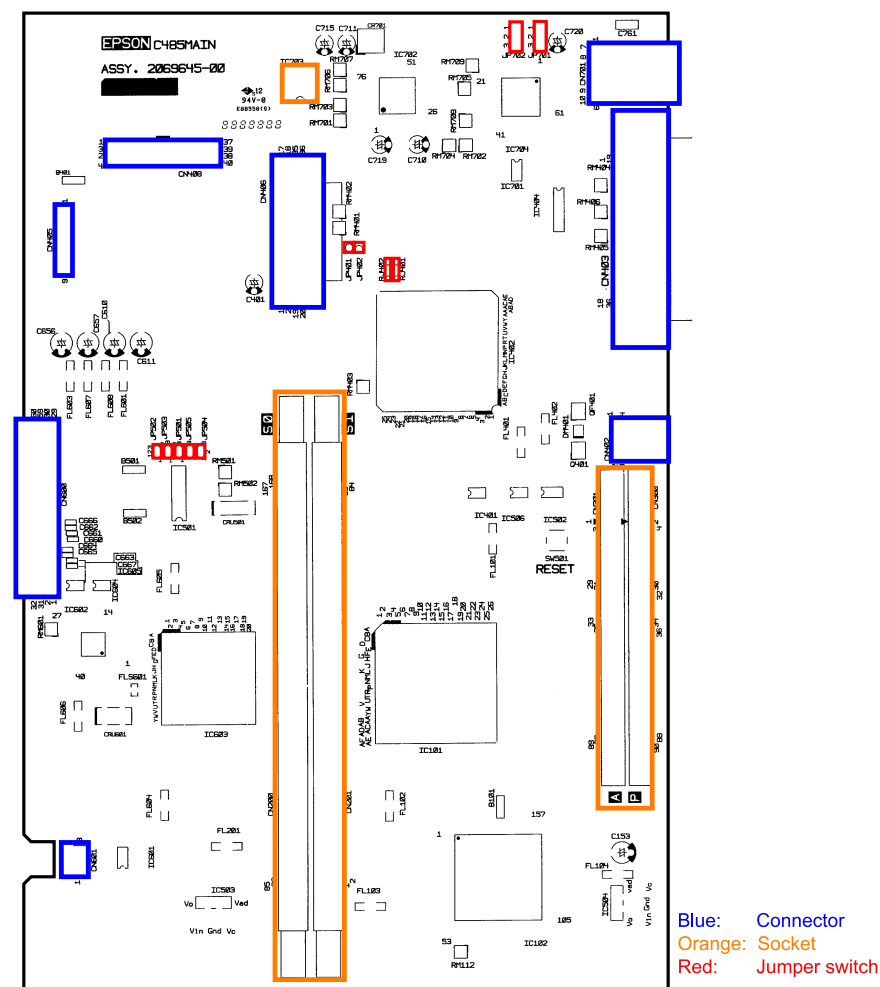
Figure 7-1. Connector and Jumper Locations on C485MAIN Board

C494MAIN BOARD

Table 7-3. C494MAIN Board -- Connectors

Connector	Function
CN401	IEEE1284 parallel interface (Compatibility, Nibble, ECP)
CN402	USB I/F(USB 1.1)
CN405	Parallel I/F connector
CN406	Type-B I/F (Level 2 supported)
CN200	SDRAM-DIMM socket
CN300	ROM-DIMM socket (Code ROM-DIMM mounted)
CN800	Connector for connection to Engine Board (PWB-A)
CN801	Connector for connection to video signal output (Connects differential output (+/-) via IC601 (LVDS))

Table 7-4. C494MAIN Board -- Jumpers

Jumper	Function
JP102	Parallel I/F mode setting (Short: ECP / Open: Nibble)
JP103	Intended market setting (Short: Japan / Open: Other than Japan)
R190	Initial value setting for paper size on tray (Short: Letter / Open: A4)

Note : Underlined = Setting at shipment from the factory (initial value)
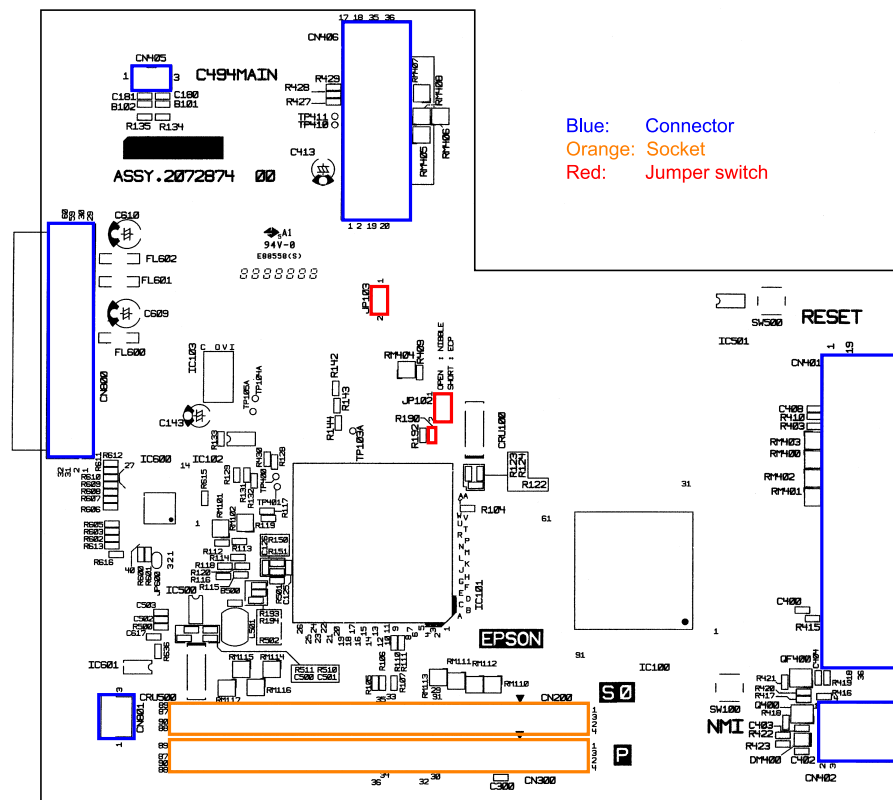
Figure 7-2. Connector and Jumper Locations on C494MAIN Board

ENGINE BOARD (PWB-A)
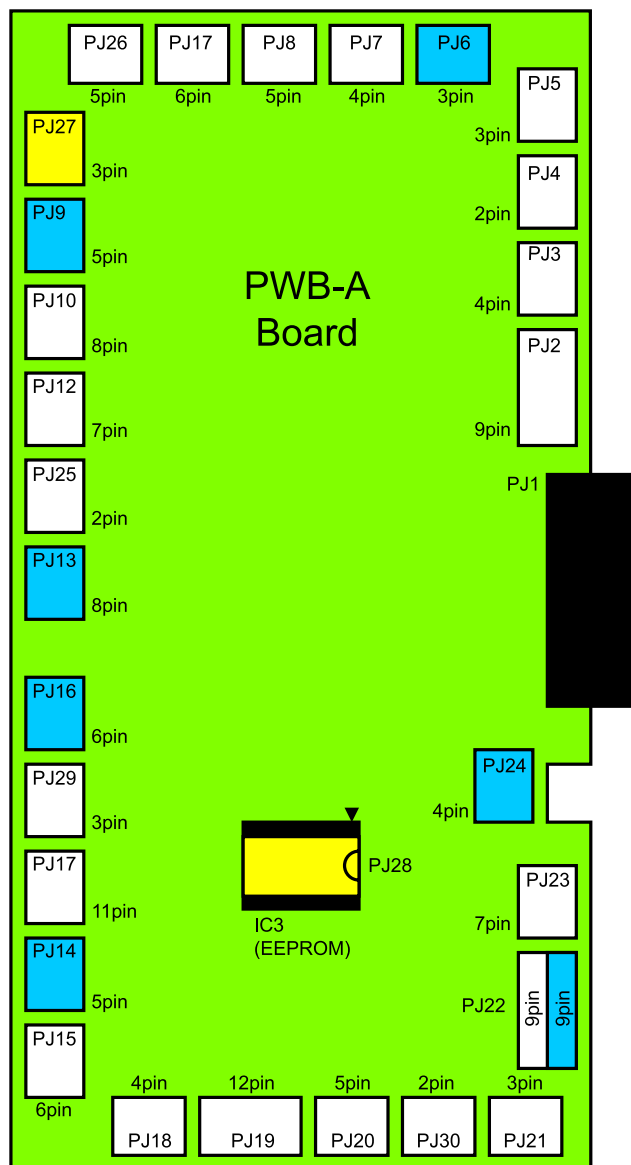
Figure 7-3. Engine Board (PWB-A) -- Connector Locations

Table 7-5. Engine Board (PWB-A) -- Connectors

Connector	Function
PJ1	Connector for connection to Main Board (C494MAIN)
PJ2	Connector for connection to Power Supply Board (LVPS)
PJ3	Connector for connection to Power Supply Board (LVPS)
PJ4	⇒ Laser Safety Switch (S4)
PJ5	⇒ Power Supply Cooling Fan Motor (M4)
PJ6	⇒ Exhaust Fan Motor (M6)
PJ7	⇒ Rack Motor (M2)
PJ8	⇒ Rack Clutch (CL1) ⇒ Rack Black Position Detection Sensor (PC4)
PJ9	⇒ Paper Eject Sensor (PC18) ⇒ Thermistor (TH1)
PJ10	⇒ Main Motor (M1)
PJ11	⇒ Belt Cleaner Position Detection Sensor (PC9) ⇒Cleaner Pressure Flapper Solenoid (SL4)
PJ12	⇒ Second Transfer Roller Pressure Solenoid (Sl5) ⇒ Timing Roller Pressure Solenoid (Sl3) ⇒ 2nd Transfer Roller Pressure Position Detection Sensor (PC7)
PJ13	⇒ Timing Roller Front Sensor (PC2) ⇒ OHP Sensor (PC3) ⇒ Transport Roller Solenoid (SL2)
PJ14	⇒ Waste Toner Full Sensor (PC6) ⇒ Waste Toner Box Setting Switch (S5)
PJ15	⇒ MP Tray Paper Feed Solenoid (SL1) ⇒ MP Tray Paper Empty Sensor (PC1)
PJ16	⇒ Paper Transport Sensor (PC12) ⇒ Fuser Loop Detection Sensor (PC11)
PJ17	Connector for connection to Duplex Unit
PJ18	⇒ Temperature/Humidity Sensor (HS1)

Table 7-5. Engine Board (PWB-A) -- Connectors (continued)

Connector	Function
PJ19	Connector for connection to Optional Cassette Unit
PJ20	⇒ Detection of Intermediate Transfer Belt Unit (PWB-G) ⇒ Belt Location Detection Sensor (PC5)
PJ21	Harness for connection to detection terminals for presence of Photoconductor Unit or new Photoconductor Unit (Connection to the terminals on the back of the Drum Unit Slide Cover)
PJ22	Connector for connection to High Voltage Power Supply Board (HVPS)
PJ23	Connector for connection to Laser Control Board (on PH Unit)
PJ24	⇒ Polygon Motor (M3)
PJ25	⇒ Fuser Cooling Fan Motor (M5)
PJ26	⇒ AIDC Sensor (AIDC)
PJ27	⇒ Toner Cartridge Detection Sensor (PC8)
PJ28	Socket for EEPROM (IC3)
PJ29	⇒ Fuser Loop Flapper Solenoid (SL6)
PJ30	(The same circuit that is used for PJ14)

C485-CASE-001

The parts to which no reference number
is assigned will not be available as
after-sale service parts.
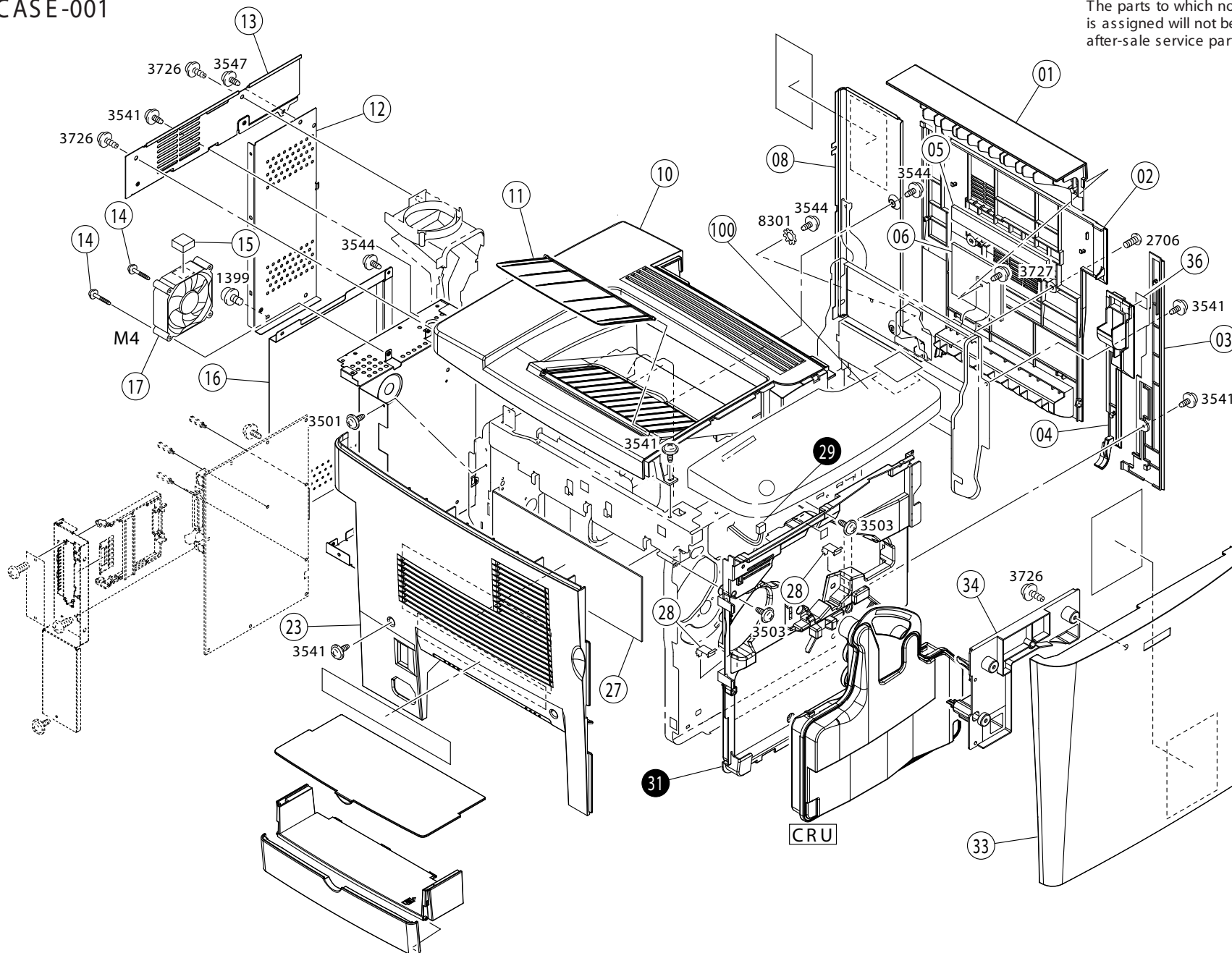
FOR EPSON AcuLaser C1900 NO.01-1 Rev.01 C485

CRU

18

3504

18

18

19

2101

21   101

2518

20

3544

22

FOR EPSON AcuLaser C1900 NO.01-2 Rev.01 C485

C485-MECH-001

01

3726
3501
3727
3727
9301
03
3727
02
3504
3548
3727
PC11
04
M5
3727
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04
06
11
10
09
PC12
08
07
3727
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18
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9302
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17
12
9301
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16
19
3501
14
19
13
3501
3727
21
20

FOR EPSON AcuLaser C1900 NO.02 Rev.01 C485

C485-MECH-002

CRU

05

3504

PC4

3501

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07

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09

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3501

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3504

13

3504

11

3501

3501

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04

3501

14

3501

FOR EPSON AcuLaser C1900 NO.03 Rev.01 C485

C485-MECH-003

The parts to which no reference number
is assigned will not be available as
after-sale service parts.

FOR EPSON AcuLaser C1900 NO.04 Rev.01 C485

C485-MECH-004

FOR EPSON AcuLaser C1900 NO.05 Rev.01 C485

The parts to which no reference number
is assigned will not be available as
after-sale service parts.

02
3501
3504
03
PWB-A
04
3727
3504
3501
HV
06
05
3501
01
1305
AIDC
3501
3501
14
16
07
15
08
13
12
PC8
3501
3501
S1
09
3501
10
1318
11 PU
3504

FOR EPSON AcuLaser C1900 NO.06 Rev.01 C485

C485-MECH-006

FOR EPSON AcuLaser C1900 NO.07 Rev.01 C485

The parts to which no reference number
is assigned will not be available as
after-sale service parts.

P/H

05
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3734

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1308

3501

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1305
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3501
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3501
16
S5
3501
3501
PC6
17
04
S2
04
3501
9303
S4
1301

15
S3
3930
3504
14
3501
3501
10
09
3524
3501

13
12
3501
11
12

FOR EPSON AcuLaser C1900 NO.08 Rev.01 C485

C485-MECH-008

The parts to which no reference number is assigned will not be available as after-sale service parts.

01
01
3727
3727
1305
9107
9302
9112
9107
9107
3931
SL5
08
3727
3727
SL3
09
SL2
09
3727
3727
3727
3727
9107
9107
02
PC2
PC3A
06
05
04
03
07
06
PC3B
10
0509
0509
0508
0509
9301
9107
0509
06
PC7
9301
9107
9112
01
01
3501

FOR EPSON AcuLaser C1900 NO.09 Rev.01 C485

C485-MECH-009

SL1

3501

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3727

9107

20 19 18 17 16

15

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13

14

HS1

3727

9107

12

25

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3727

27

32

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11

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02

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3727

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3547

9302

03

04

09

9303

08

07

3547

06

3727

05

29 28

9302

PC1

3547

31

FOR EPSON AcuLaser C1900 NO.10 Rev.01 C485

C485-TOOL-001

01

02

03

04

05

06

07

FOR EPSON AcuLaser C1900 NO.11　Rev.01 C485

C494-CASE-001

The parts to which no reference number
is assigned will not be available as
after-sale service parts.

FOR LP-1500C/EPSON AcuLaser C900 NO.01-1 Rev.01 C494

CRU

102

3504

19

2101

21

101

22

2518

20

3544

FOR LP-1500C/EPSON AcuLaser C900 NO.01-2 Rev.01 C494

C494-MECH-001

The parts to which no reference number
is assigned will not be available as
after-sale service parts.

3726
3501
3727
9301
3727
03
3727
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02
3504
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3501
3727
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PC11
3548
M5
3727
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04
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07
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10
09
PC12
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FOR LP-1500C/EPSON AcuLaser C900 NO.02 Rev.01 C494

C494-MECH-002

CRU

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3504

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02

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PC4

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3501

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13

3504

3501

3501

FOR LP-1500C/EPSON AcuLaser C900 NO.03 Rev.01 C494

C494-MECH-003

FOR LP-1500C/EPSON AcuLaser C900 NO.04 Rev.01 C494

C494-MECH-004

FOR LP-1500C/EPSON AcuLaser C900 NO.05 Rev.01 C494

C494-MECH-005

02
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PWB-A
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AIDC
3727
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HV
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S1
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PU
3504
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1318

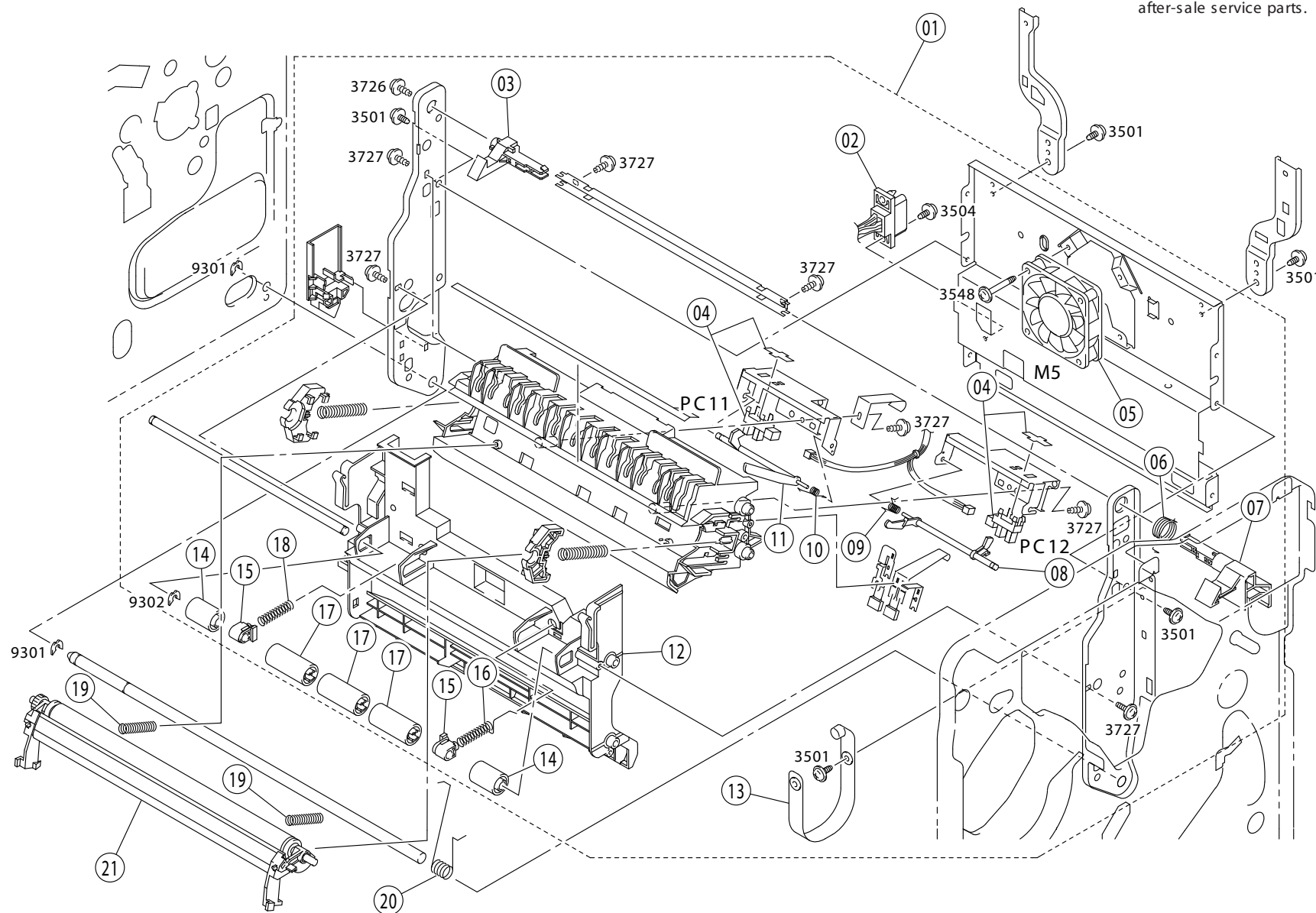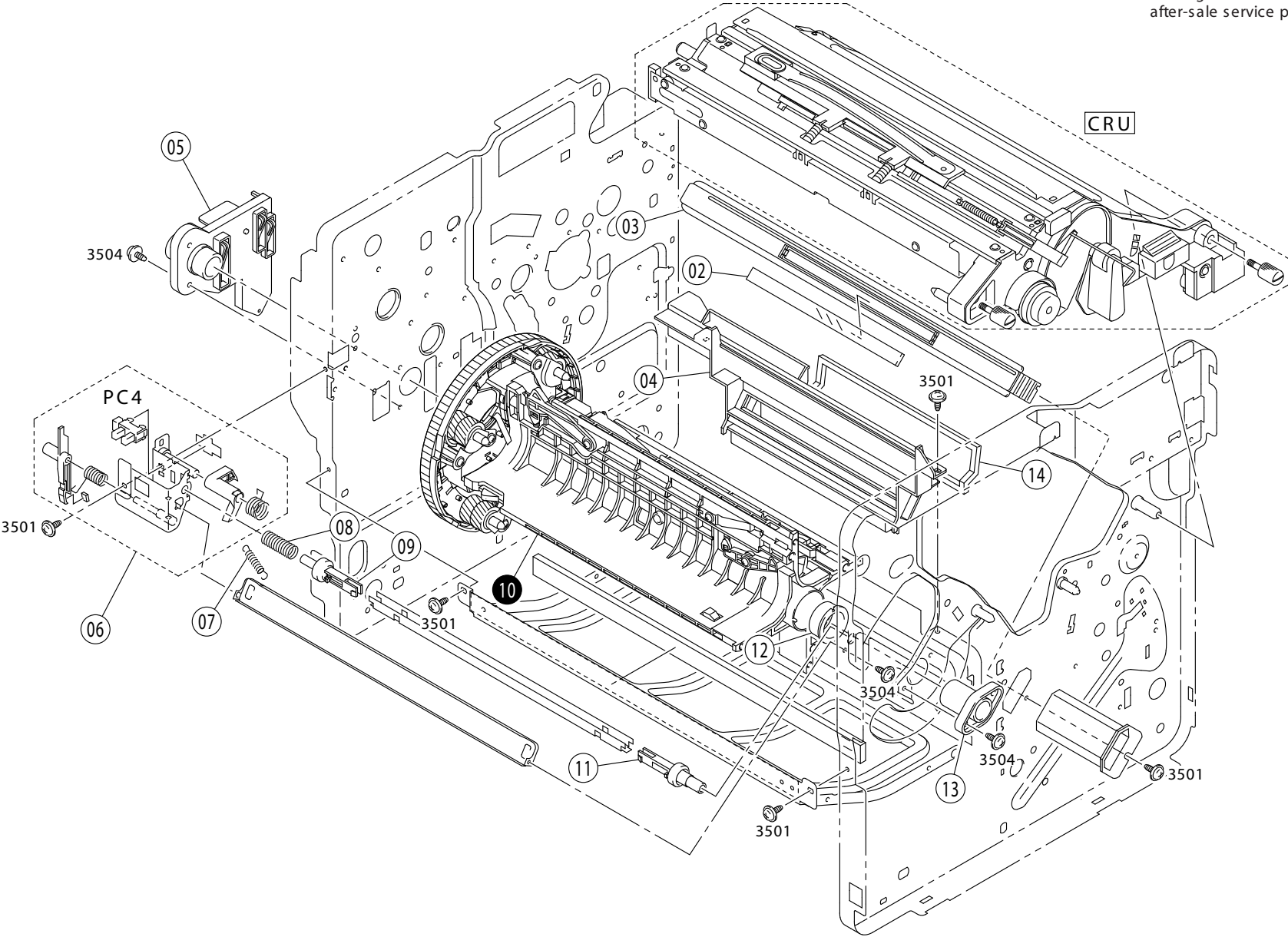FOR LP-1500C/EPSON AcuLaser C900 NO.06 Rev.01 C494

The parts to which no reference number
is assigned will not be available as
after-sale service parts.

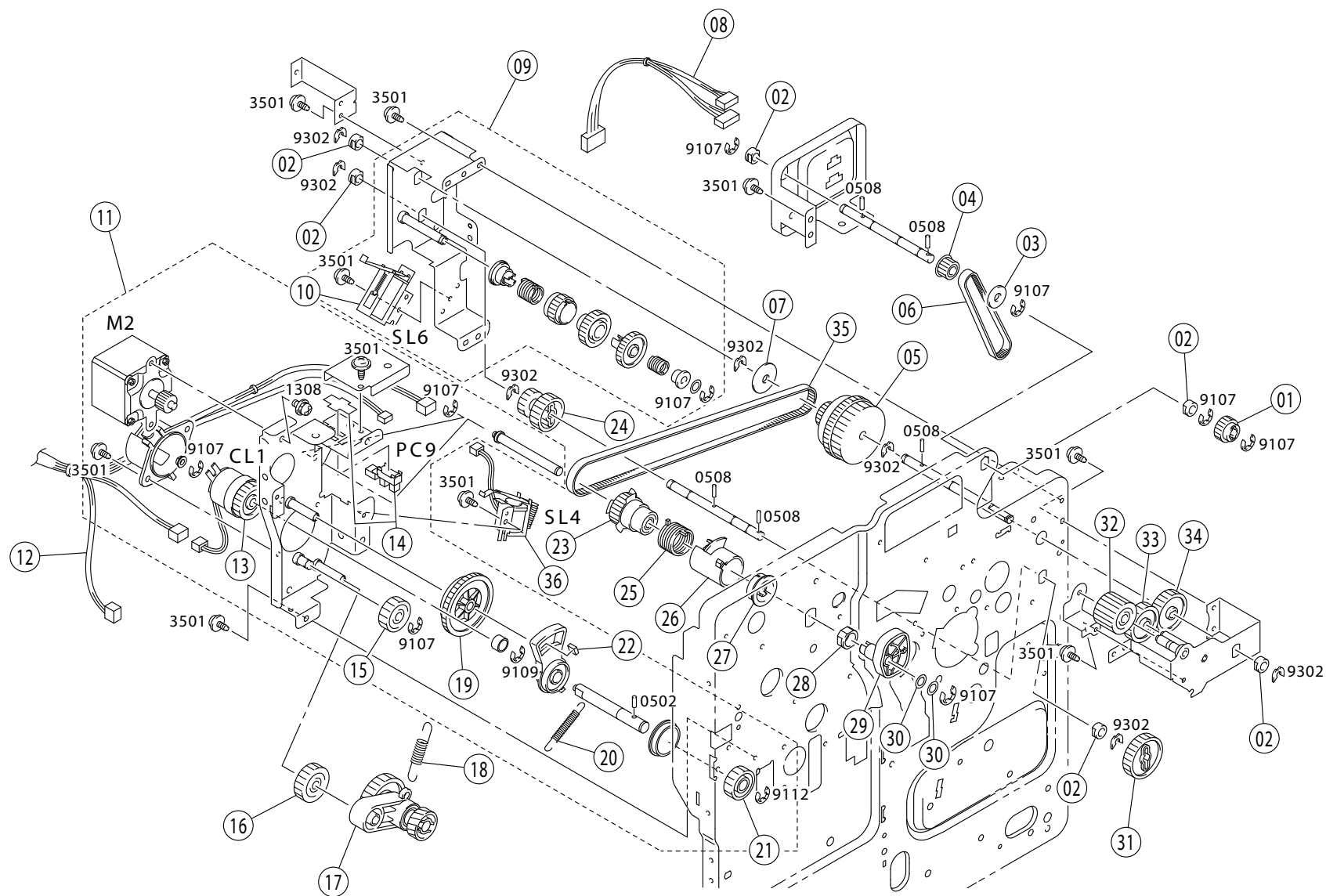FOR LP-1500C/EPSON AcuLaser C900 NO.07 Rev.01 C494

C494-MECH-007

The parts to which no reference number
is assigned will not be available as
after-sale service parts.

P/H

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04
3501
PC6
3501
17
S5
3501
S2
3524
3501
S4
9303
1301

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3501
3501
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S3
3930
3504
3501
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3501
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3501
11
12
10
09

FOR LP-1500C/EPSON AcuLaser C900 NO.08 Rev.01 C494

C494-MECH-008

The parts to which no reference number
is assigned will not be available as
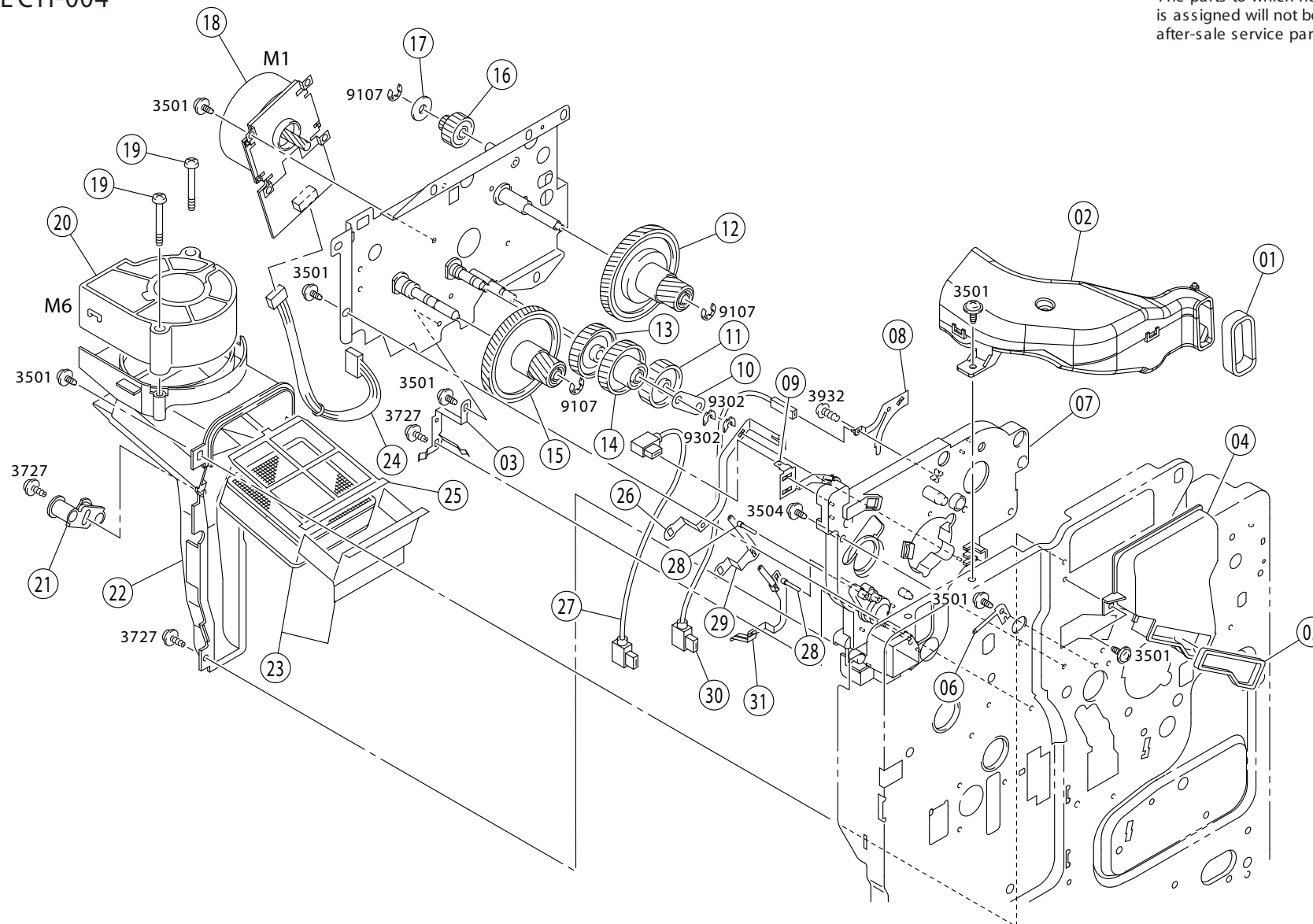after-sale service parts.

01
01
3727
1305
3727
9107
9302
9112
3727
SL2
09 3727
3727
02
06
PC2
PC3A
05
04
03
07
9107
3931
3727
08
SL5
3727
SL3
09
9107
01
0509
10
0509
PC3B
9301
0509
0508
0509
06
PC7
9301
06
9107
9112
01
01
3501

FOR LP-1500C/EPSON AcuLaser C900 NO.09 Rev.01 C494

C494-MECH-009
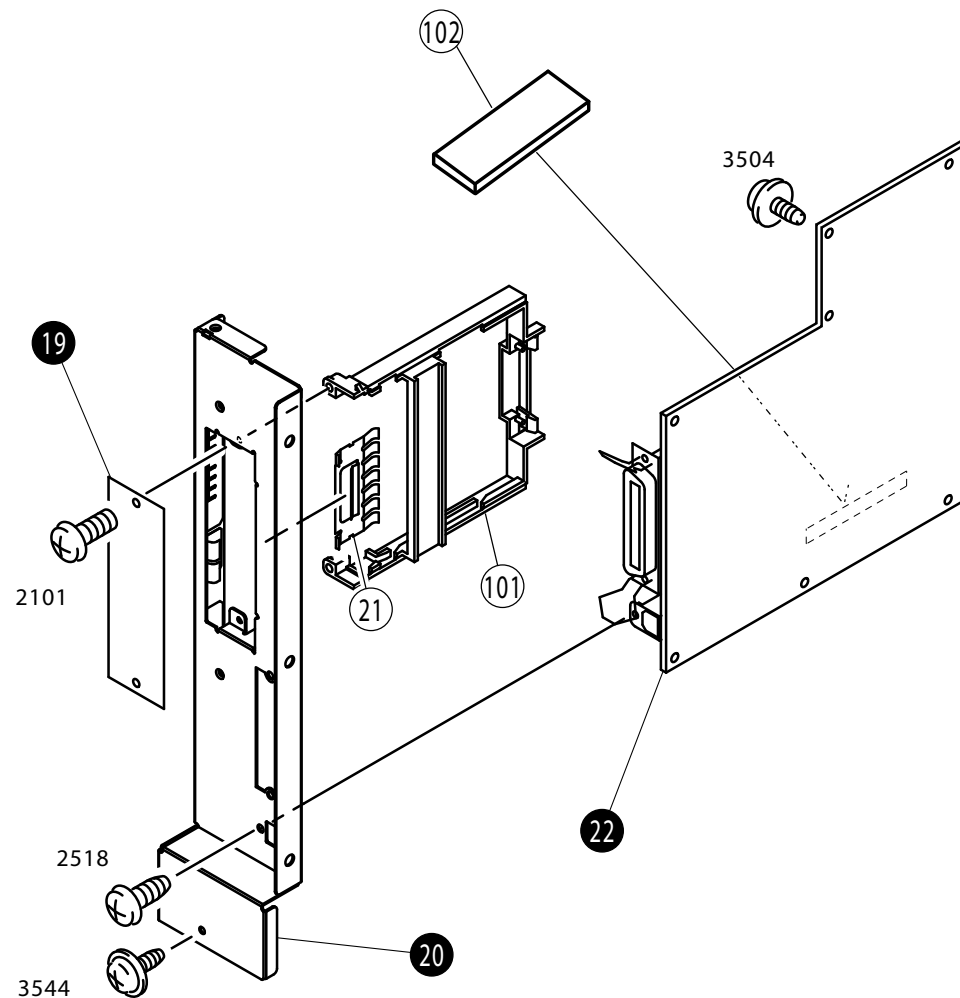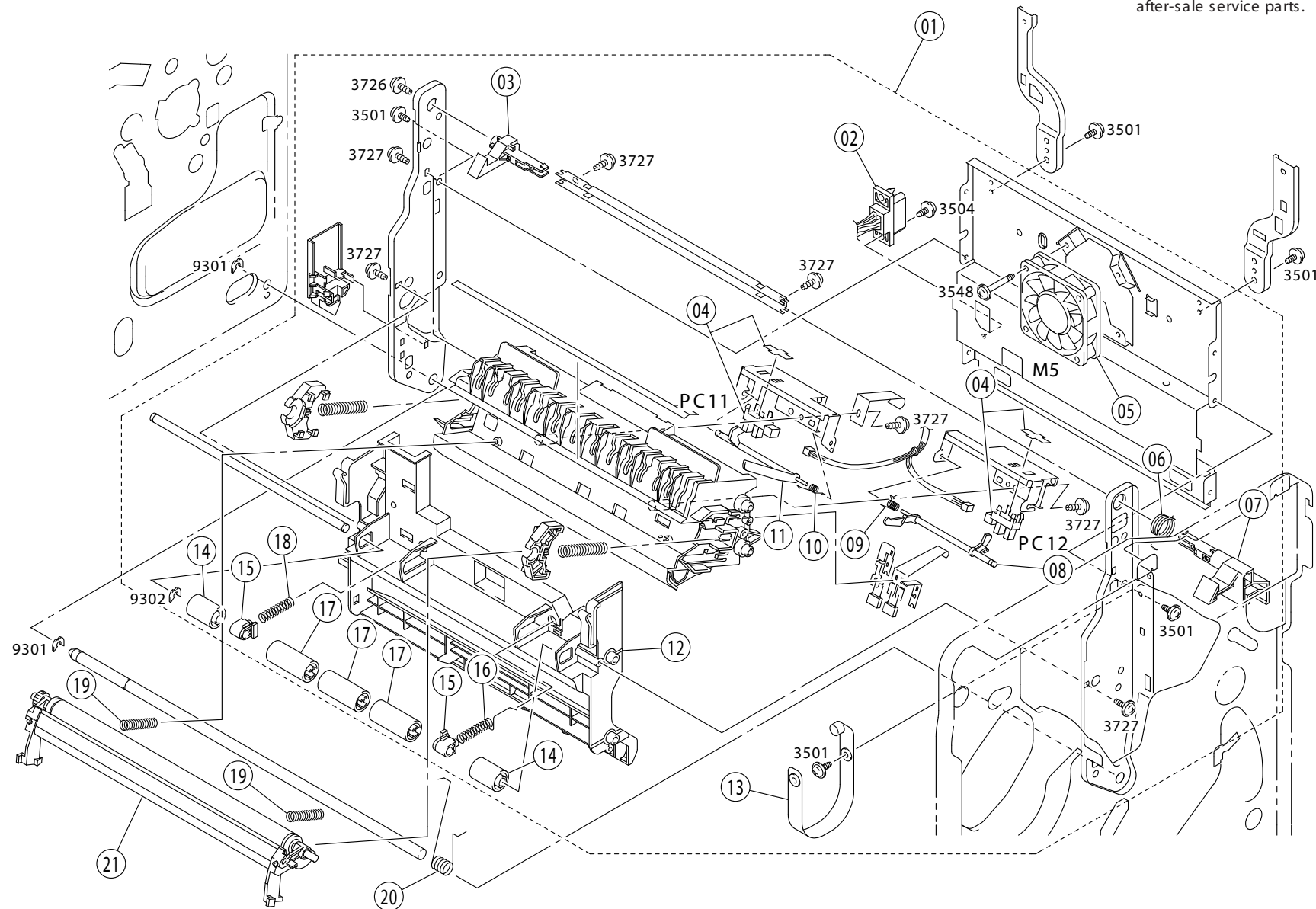
The parts to which no reference number is assigned will not be available as after-sale service parts.

FOR LP-1500C/EPSON AcuLaser C900 NO.10 Rev.01 C494

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FOR LP-1500C/EPSON AcuLaser C900 NO.11 Rev.01 C494
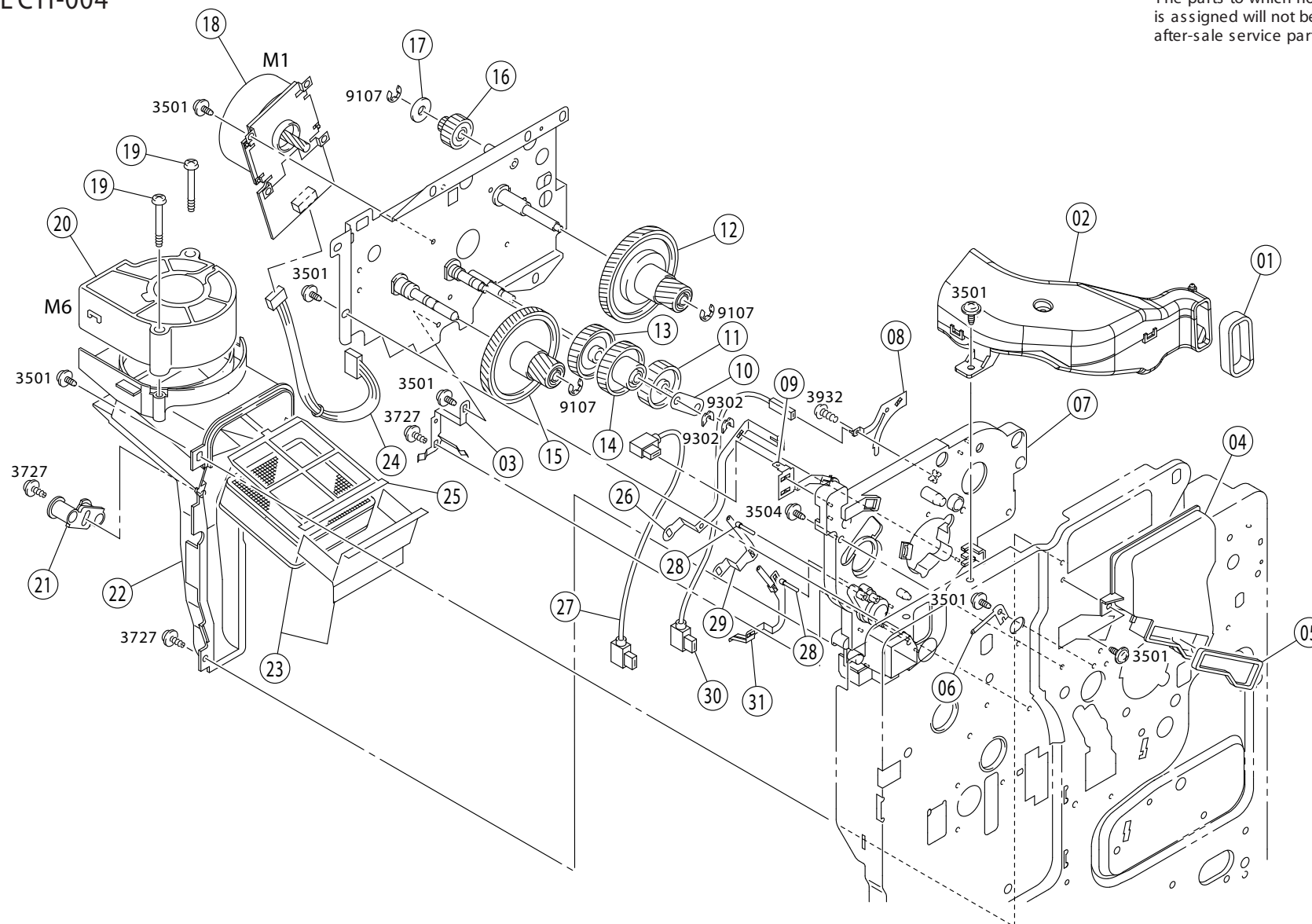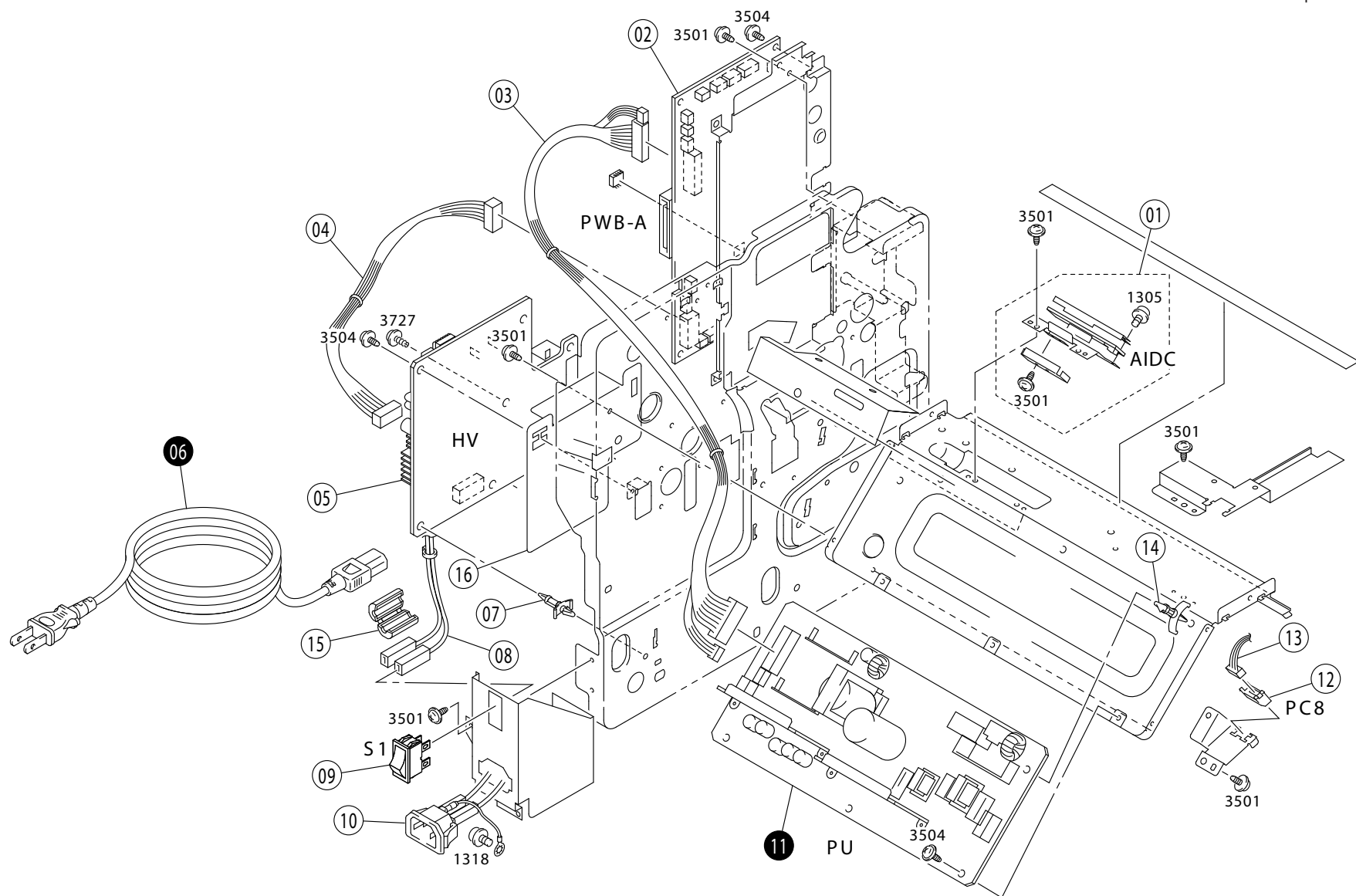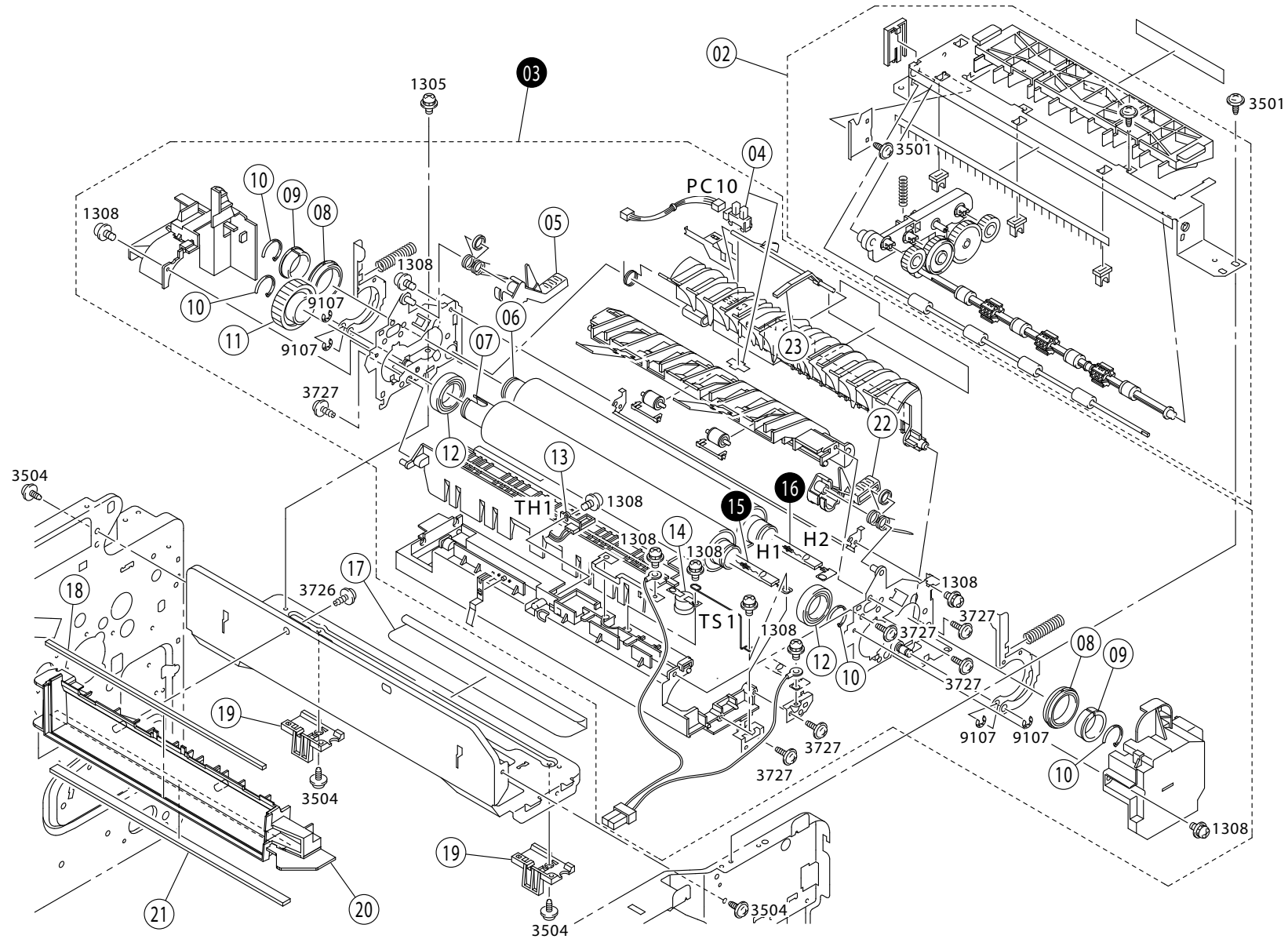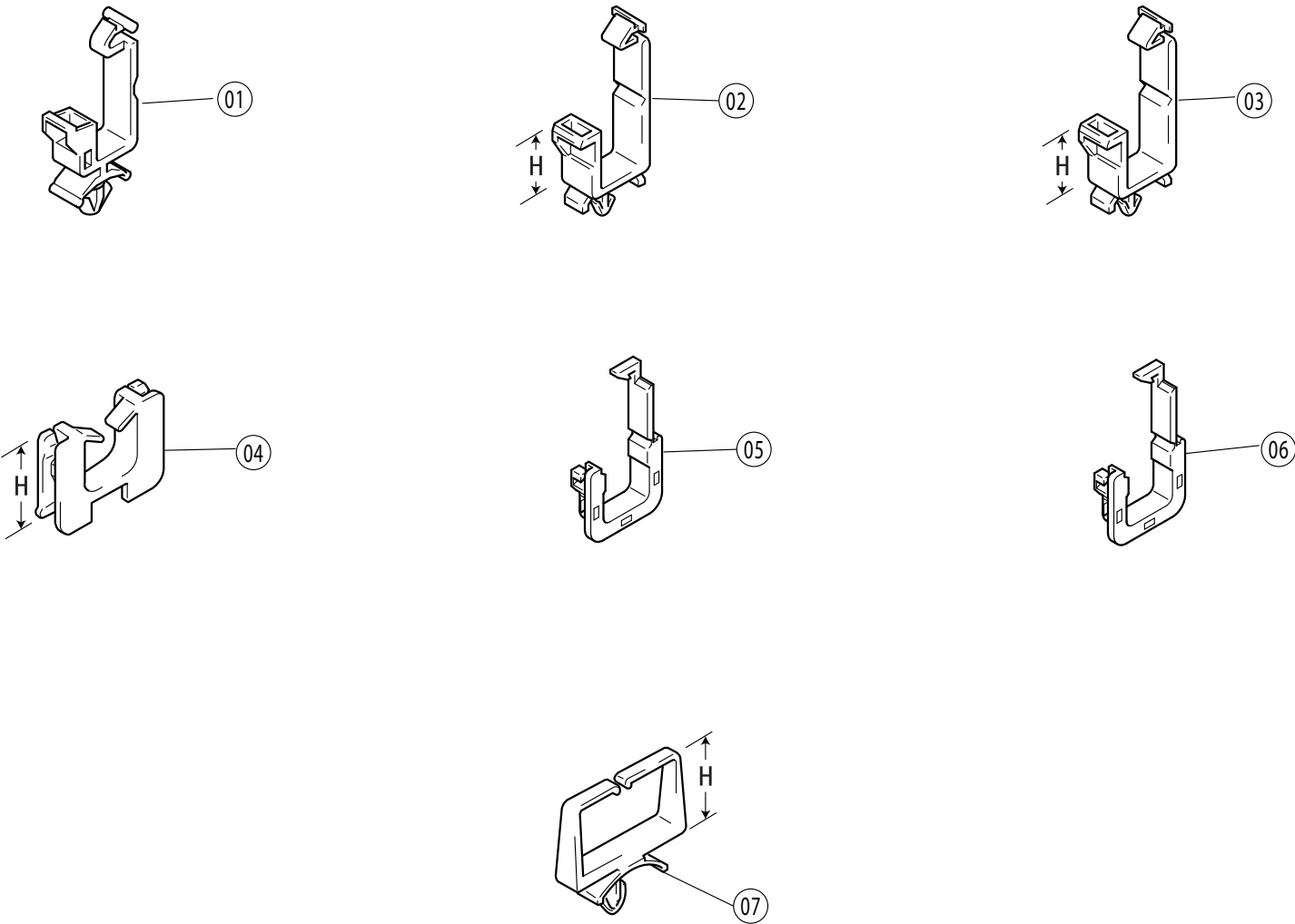
7.3 ASP List

This section shows the ASP list of EPSON AcuLaser C1900/AcuLaser C900

ACULASER C1900

Table 7-6. ASP List for AcuLaser C1900

Ref No.	Part Name
01-01	RIGHT COVER
01-02	RIGHT COVER
01-03	RIGHT COVER
01-04	RIGHT COVER
01-05	SEAL
01-06	FILTER
01-08	RIGHT COVER
01-10	TOP COVER
01-100	CONTORL PANEL
01-11	TRAY
01-12	REAR COVER
01-13	REAR COVER
01-14	SCREW
01-15	SOUND SHIELD
01-16	COVER
01-17	FAN MOTOR
01-23	LEFT COVER
01-27	FILTER
01-28	PLATE SPRING
01-29	WIRE HARNESS
01-31	COVER
01-33	FRONT COVER
01-34	LEVER
1399	SCREW
2706	SCREW

Table 7-6. ASP List for AcuLaser C1900 (continued)

Ref No.	Part Name
3501	TAPPING SCREW
3503	TAPPING SCREW
3541	TAPPING SCREW
3544	TAPPING SCREW
3547	SCREW
3726	TAPPING SCREW
3727	TAPPING SCREW
8301	WASHER
01-101	GUIDE RAIL
01-18	SHOULDER SCREW
01-19	COVER
01-20	BRACKET
01-21	GROUND PLATE
01-22	"BOARD ASSY., MAIN"
2101	SCREW
2518	SCREW
3504	TAPPING SCREW
IC101	ASIC
IC401	EEP-ROM(BLANK)
IC402	ASIC
IC603	ASIC
IC702	PERIPHERAL IC
02-01	SIDE OPEN ASSY
02-02	WIRE HARNESS ASSY
02-03	PAWL
02-04	PHOTO INTERRUPUTER
02-05	FAN MOTOR
02-06	TORSION SPRING
02-07	PAWL
02-08	ACTUATOR

Table 7-6. ASP List for AcuLaser C1900 (continued)

Ref No.	Part Name
02-09	TORSION SPRING
02-10	TORSION SPRING
02-11	ACUTUATOR
02-12	GUIDE PLATE
02-13	BAND
02-14	ROLL
02-15	BISHING
02-16	PRESSURE SPRING
02-17	ROLL
02-18	PRESSURE SPRING
02-19	PRESSURE SPRING
02-20	TORSION SPRING
02-21	2ND TRANSFER ROLLER ASSY
03-02	FILTER
03-03	HOLDER
03-04	COVER
03-05	HOLDER ASSY
03-06	LOCK LEVER ASSY
03-07	TENSION SPRING
03-08	PRESSURE SPRING
03-09	HOLDER
03-10	RACK ASSY
03-11	HILDER
03-12	COLLER
03-13	SHAFT
03-14	SEAL
04-01	GEAR
04-02	BUSHING
04-03	FLANGE
04-04	PULLEY

Table 7-6. ASP List for AcuLaser C1900 (continued)

Ref No.	Part Name
04-05	DRIVING ASSY
04-06	TIMING BELT
04-07	FLANGE
04-08	WIRE HARNESS ASSY
04-09	FUSION DECELERATION UNIT
04-10	SOLENOID
04-11	RACK DRIVE ASSY
04-12	WIRE HARNESS ASSY
04-13	CLUTCH
04-14	PHOTO INTERRUPUTER
04-15	GEAR
04-16	GEAR
04-17	LEVER ASSY
04-18	TENSION SPRING
04-19	GEAR
04-20	TENSION SPRING
04-21	GEAR
04-22	SOUND SHIELD
04-23	PULLEY
04-24	GEAR
04-25	TORSION SPRING
04-26	RATCHET
04-27	DRUM
04-28	BUSHING
04-29	CAM
04-30	WASHER
04-31	GEAR
04-32	GEAR
04-33	GEAR
04-34	GEAR

Table 7-6. ASP List for AcuLaser C1900 (continued)

Ref No.	Part Name
04-35	TIMING BELT
04-36	SOLENOID
05-01	SEAL
05-02	DUCT ASSY
05-03	CONTACT
05-04	DUCT
05-05	SEAL
05-06	EARTH GROUND
05-07	HOLDER
05-08	CONTACT
05-09	CONTACT
05-10	GUIDE
05-11	GEAR
05-12	GEAR
05-13	GEAR
05-14	GEAR
05-15	GEAR
05-16	GEAR
05-17	FLANGE
05-18	MOTOR
05-19	TAPPING SCREW
05-20	FAN MOTOR
05-21	GUIDE
05-22	DUCT
05-23	FILTER KIT
05-24	WIRE HARNESS ASSY
05-25	BRACKET
05-26	CONTACT
05-27	WIRE HARNESS ASSY
05-28	PIN

Table 7-6. ASP List for AcuLaser C1900 (continued)

Ref No.	Part Name
05-29	CONTACT
05-30	WIRE HARNESS ASSY
05-31	CONTACT
0502	PIN
0508	PIN
0509	PIN
06-01	AIDC ASSY
06-02	PWB ASSY
06-03	WIRE HARNESS ASSY
06-04	WIRE HARNESS ASSY
06-05	HV TRANSFORMER
06-06	POWER CORD
06-07	PWB SUPPORT 12.7H
06-08	WIRE HARNESS ASSY
06-09	SWITCH
06-10	WIRE HARNESS ASSY
06-11	POWER SUPPLY 100V
06-12	SOLID STATE SWITCH
06-13	WIRE HARNESS ASSY
06-14	PWB SUPPORT9.53H
06-15	FERRITE CORE
06-16	COVER
07-02	PAPER EXIT ASSY
07-03	FUSING UNIT 120V
07-04	PHOTO INTERRUPUTER
07-05	LEVER
07-06	ROLLER
07-07	ROLLER
07-08	BALL BEARING
07-09	BUSHING

Table 7-6. ASP List for AcuLaser C1900 (continued)

Ref No.	Part Name
07-10	RING
07-11	GEAR
07-12	BALL BEARING
07-13	THERMISTOR
07-14	THERMAL SWITCH
07-15	HALOGEN LAMP 120V
07-16	HALOGEN LAMP 120V
07-17	PROTECTION
07-18	SEAL
07-19	PAWL
07-20	COVER
07-21	SEAL
07-22	LEVER
07-23	ACTUATOR
08-01	PRINT HEAD ASSY
08-02	HOLDER ASSY
08-03	WIRE HARNESS ASSY
08-04	RUBBER FOOT
08-05	HOLDER
08-06	WIRE HARNESS ASSY
08-07	SHOULDER SCREW
08-08	FRONT COVER SW ASSY
08-09	WIRE HARNESS ASSY
08-10	WIRE HARNESS ASSY
08-11	COVER
08-12	SHOULDER SCREW
08-13	PLUG HOUSING
08-14	WIRE HARNESS ASSY
08-15	TRANSPORT SWITCH ASSY
08-16	PUSHBUTTON SWITCH

Table 7-6. ASP List for AcuLaser C1900 (continued)

Ref No.	Part Name
08-17	SOLID STATE SWITCH
09-01	SHOULDER SCREW
09-02	TRANSFER UNIT
09-03	CLEANING PAD
09-04	TORSION SPRING
09-05	SOLID STATE SWITCH
09-06	PHOTO INTERRUPUTER
09-07	ACTUATOR
09-08	SOLENOID
09-09	SOLENOID
09-10	SOLID STATE SWITCH
10-02	GUIDE
10-03	PRESSURE SPRING
10-04	HOLDER
10-05	TENSION SPRING
10-06	STOPPER
10-07	GUIDE
10-08	GUIDE PLATE
10-09	ROLLER ASSY
10-10	STOP RING
10-11	ROLLER
10-12	BUSHING
10-13	HUMIDITY CONVERTION EL.
10-14	GEAR
10-15	ROLL
10-16	GEAR
10-17	TORSION SPRING
10-18	RATCHET
10-19	DRUM
10-20	WASHER

Table 7-6. ASP List for AcuLaser C1900 (continued)

Ref No.	Part Name
10-21	LEVER
10-22	TENSION SPRING
10-23	SOLENOID
10-24	WIRE HARNESS ASSY
10-25	TORSION SPRING
10-26	GEAR
10-27	LIFTING PLATE ASSY
10-28	ACUTUATOR
10-29	PHOTO INTERRUPUTER
10-31	COVER
10-32	FRICTION SHEET
10-33	TORSION SPRING
1301	SCREW
1305	SCREW
1308	SCREW
1318	SCREW
3524	TAPPING SCREW
3548	TAPPING SCREW
3734	SCREW
3930	SCREW
3931	TAPPING SCREW
3932	SCREW
9107	RETAINING RING
9109	RETAINING RING
9112	RETAINING RING
9301	RETAINING RING
9302	RETAINING RING
9303	RETAINING RING
11-01	WIRING SADDLE
11-02	WIRING SADDLE 9.2H

Table 7-6. ASP List for AcuLaser C1900 (continued)

Ref No.	Part Name
11-03	WIRING SADDLE 15.2H
11-04	EDGE COVER 8.5H
11-05	EDGE COVER
11-06	EDGE COVER
11-07	WIRING SADDLE 6.4H

ACULASER C900

Table 7-7. ASP List for AcuLaser C900

Ref No.	Part Name
01-01	RIGHT COVER
01-02	RIGHT COVER
01-03	RIGHT COVER
01-04	RIGHT COVER
01-05	SEAL
01-06	FILTER
01-08	RIGHT COVER
01-10	TOP COVER
01-100	CONTORL PANEL
01-11	TRAY
01-12	REAR COVER
01-13	REAR COVER
01-14	SCREW
01-15	SOUND SHIELD
01-16	COVER
01-17	FAN MOTOR
01-23	LEFT COVER
01-24	COVER
01-25	TRAY
01-27	FILTER
01-28	PLATE SPRING
01-29	WIRE HARNESS
01-31	COVER
01-33	FRONT COVER
01-34	LEVER
01-37	COVER
1399	SCREW
2706	SCREW

Table 7-7. ASP List for AcuLaser C900 (continued)

Ref No.	Part Name
3501	TAPPING SCREW
3503	TAPPING SCREW
3541	TAPPING SCREW
3544	TAPPING SCREW
3547	SCREW
3726	TAPPING SCREW
3727	TAPPING SCREW
8301	WASHER
01-101	GUIDE RAIL
01-102	"BOARD ASSY.,MEMORY"
01-19	"COVER,TYPE-B"
01-20	BRACKET
01-21	GROUND PLATE
01-22	"BOARD ASSY.,MAIN"
2101	SCREW
2518	SCREW
3504	TAPPING SCREW
IC101	ASIC
IC102	EEP-ROM
02-01	SIDE OPEN ASSY
02-02	WIRE HARNESS ASSY
02-03	PAWL
02-04	PHOTO INTERRUPUTER
02-05	FAN MOTOR
02-06	TORSION SPRING
02-07	PAWL
02-08	ACTUATOR
02-09	TORSION SPRING
02-10	TORSION SPRING
02-11	ACUTUATOR

Table 7-7. ASP List for AcuLaser C900 (continued)

Ref No.	Part Name
02-12	GUIDE PLATE
02-13	BAND
02-14	ROLL
02-15	BISHING
02-16	PRESSURE SPRING
02-17	ROLL
02-18	PRESSURE SPRING
02-19	PRESSURE SPRING
02-20	TORSION SPRING
02-21	2ND TRANSFER ROLLER ASSY
03-02	FILTER
03-03	HOLDER
03-04	COVER
03-05	HOLDER ASSY
03-06	LOCK LEVER ASSY
03-07	TENSION SPRING
03-08	PRESSURE SPRING
03-09	HOLDER
03-10	RACK ASSY
03-11	HILDER
03-12	COLLER
03-13	SHAFT
03-14	SEAL
04-01	GEAR
04-02	BUSHING
04-03	FLANGE
04-04	PULLEY
04-05	DRIVING ASSY
04-06	TIMING BELT
04-07	FLANGE

Table 7-7. ASP List for AcuLaser C900 (continued)

Ref No.	Part Name
04-08	WIRE HARNESS ASSY
04-09	FUSION DECELERATION UNIT
04-10	SOLENOID
04-11	RACK DRIVE ASSY
04-12	WIRE HARNESS ASSY
04-13	CLUTCH
04-14	PHOTO INTERRUPUTER
04-15	GEAR
04-16	GEAR
04-17	LEVER ASSY
04-18	TENSION SPRING
04-19	GEAR
04-20	TENSION SPRING
04-21	GEAR
04-22	SOUND SHIELD
04-23	PULLEY
04-24	GEAR
04-25	TORSION SPRING
04-26	RATCHET
04-27	DRUM
04-28	BUSHING
04-29	CAM
04-30	WASHER
04-31	GEAR
04-32	GEAR
04-33	GEAR
04-34	GEAR
04-35	TIMING BELT
04-36	SOLENOID
05-01	SEAL

Table 7-7. ASP List for AcuLaser C900 (continued)

Ref No.	Part Name
05-02	DUCT ASSY
05-03	CONTACT
05-04	DUCT
05-05	SEAL
05-06	EARTH GROUND
05-07	HOLDER
05-08	CONTACT
05-09	CONTACT
05-10	GUIDE
05-11	GEAR
05-12	GEAR
05-13	GEAR
05-14	GEAR
05-15	GEAR
05-16	GEAR
05-17	FLANGE
05-18	MOTOR
05-19	TAPPING SCREW
05-20	FAN MOTOR
05-21	GUIDE
05-22	DUCT
05-23	FILTER KIT
05-24	WIRE HARNESS ASSY
05-25	BRACKET
05-26	CONTACT
05-27	WIRE HARNESS ASSY
05-28	PIN
05-29	CONTACT
05-30	WIRE HARNESS ASSY
05-31	CONTACT

Table 7-7. ASP List for AcuLaser C900 (continued)

Ref No.	Part Name
0502	PIN
0508	PIN
0509	PIN
06-01	AIDC ASSY
06-02	PWB ASSY
06-03	WIRE HARNESS ASSY
06-04	WIRE HARNESS ASSY
06-05	HV TRANSFORMER
06-06	POWER CORD
06-07	PWB SUPPORT 12.7H
06-08	WIRE HARNESS ASSY
06-09	SWITCH
06-10	WIRE HARNESS ASSY
06-11	POWER SUPPLY 200V
06-12	SOLID STATE SWITCH
06-13	WIRE HARNESS ASSY
06-14	PWB SUPPORT9.53H
06-15	FERRITE CORE
06-16	COVER
07-02	PAPER EXIT ASSY
07-03	FUSING UNIT 240V
07-04	PHOTO INTERRUPUTER
07-05	LEVER
07-06	ROLLER
07-07	ROLLER
07-08	BALL BEARING
07-09	BUSHING
07-10	RING
07-11	GEAR
07-12	BALL BEARING

Table 7-7. ASP List for AcuLaser C900 (continued)

Ref No.	Part Name
07-13	THERMISTOR
07-14	THERMAL SWITCH
07-15	HALOGEN LAMP 240V
07-16	HALOGEN LAMP 240V
07-17	PROTECTION
07-18	SEAL
07-19	PAWL
07-20	COVER
07-21	SEAL
07-22	LEVER
07-23	ACTUATOR
08-01	PRINT HEAD ASSY
08-02	HOLDER ASSY
08-03	WIRE HARNESS ASSY
08-04	RUBBER FOOT
08-05	HOLDER
08-06	WIRE HARNESS ASSY
08-07	SHOULDER SCREW
08-08	FRONT COVER SW ASSY
08-09	WIRE HARNESS ASSY
08-10	WIRE HARNESS ASSY
08-11	COVER
08-12	SHOULDER SCREW
08-13	PLUG HOUSING
08-14	WIRE HARNESS ASSY
08-15	TRANSPORT SWITCH ASSY
08-16	PUSHBUTTON SWITCH
08-17	SOLID STATE SWITCH
09-01	SHOULDER SCREW
09-02	TRANSFER UNIT

Table 7-7. ASP List for AcuLaser C900 (continued)

Ref No.	Part Name
09-03	CLEANING PAD
09-04	TORSION SPRING
09-05	SOLID STATE SWITCH
09-06	PHOTO INTERRUPUTER
09-07	ACTUATOR
09-08	SOLENOID
09-09	SOLENOID
09-10	SOLID STATE SWITCH
10-02	GUIDE
10-03	PRESSURE SPRING
10-04	HOLDER
10-05	TENSION SPRING
10-06	STOPPER
10-07	GUIDE
10-08	GUIDE PLATE
10-09	ROLLER ASSY
10-10	STOP RING
10-11	ROLLER
10-12	BUSHING
10-13	HUMIDITY CONVERTION EL.
10-14	GEAR
10-15	ROLL
10-16	GEAR
10-17	TORSION SPRING
10-18	RATCHET
10-19	DRUM
10-20	WASHER
10-21	LEVER
10-22	TENSION SPRING
10-23	SOLENOID

Table 7-7. ASP List for AcuLaser C900 (continued)

Ref No.	Part Name
10-24	WIRE HARNESS ASSY
10-25	TORSION SPRING
10-26	GEAR
10-27	LIFTING PLATE ASSY
10-28	ACUTUATOR
10-29	PHOTO INTERRUPUTER
10-31	COVER
10-32	FRICTION SHEET
10-33	TORSION SPRING
1301	SCREW
1305	SCREW
1308	SCREW
1318	SCREW
3524	TAPPING SCREW
3548	TAPPING SCREW
3734	SCREW
3930	SCREW
3931	TAPPING SCREW
3932	SCREW
9107	RETAINING RING
9109	RETAINING RING
9112	RETAINING RING
9301	RETAINING RING
9302	RETAINING RING
9303	RETAINING RING
11-01	WIRING SADDLE
11-02	WIRING SADDLE 9.2H
11-03	WIRING SADDLE 15.2H
11-04	EDGE COVER 8.5H
11-05	EDGE COVER

Table 7-7. ASP List for AcuLaser C900 (continued)

Ref No.	Part Name
11-06	EDGE COVER
11-07	WIRING SADDLE 6.4H

7.4 Circuit Diagram

The following pages show circuit diagram of the controller.

Model: AcuLaser C1900
Board: C485MAIN BOARD
Sheet: 1 of 7
Rev. : A

Model: AcuLaser C1900
Board: C485MAIN BOARD
Sheet: 2 of 7
Rev. : A

Model: AcuLaser C1900
Board: C485MAIN BOARD
Sheet: 3 of 7
Rev. : A

Model: AcuLaser C1900
Board: C485MAIN BOARD
Sheet: 4 of 7
Rev. : A

Model: AcuLaser C1900
Board: C485MAIN BOARD
Sheet: 5 of 7
Rev. : A
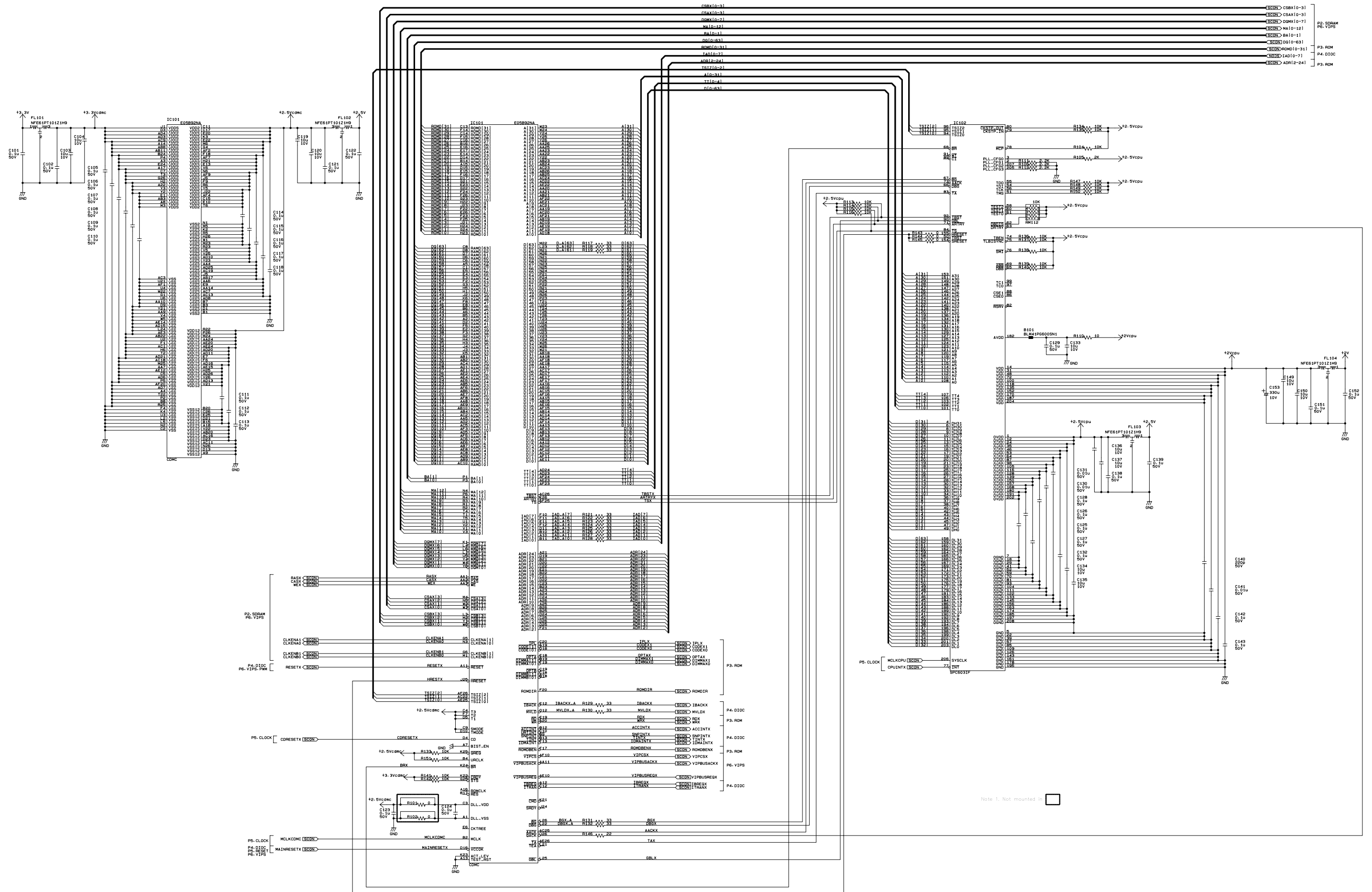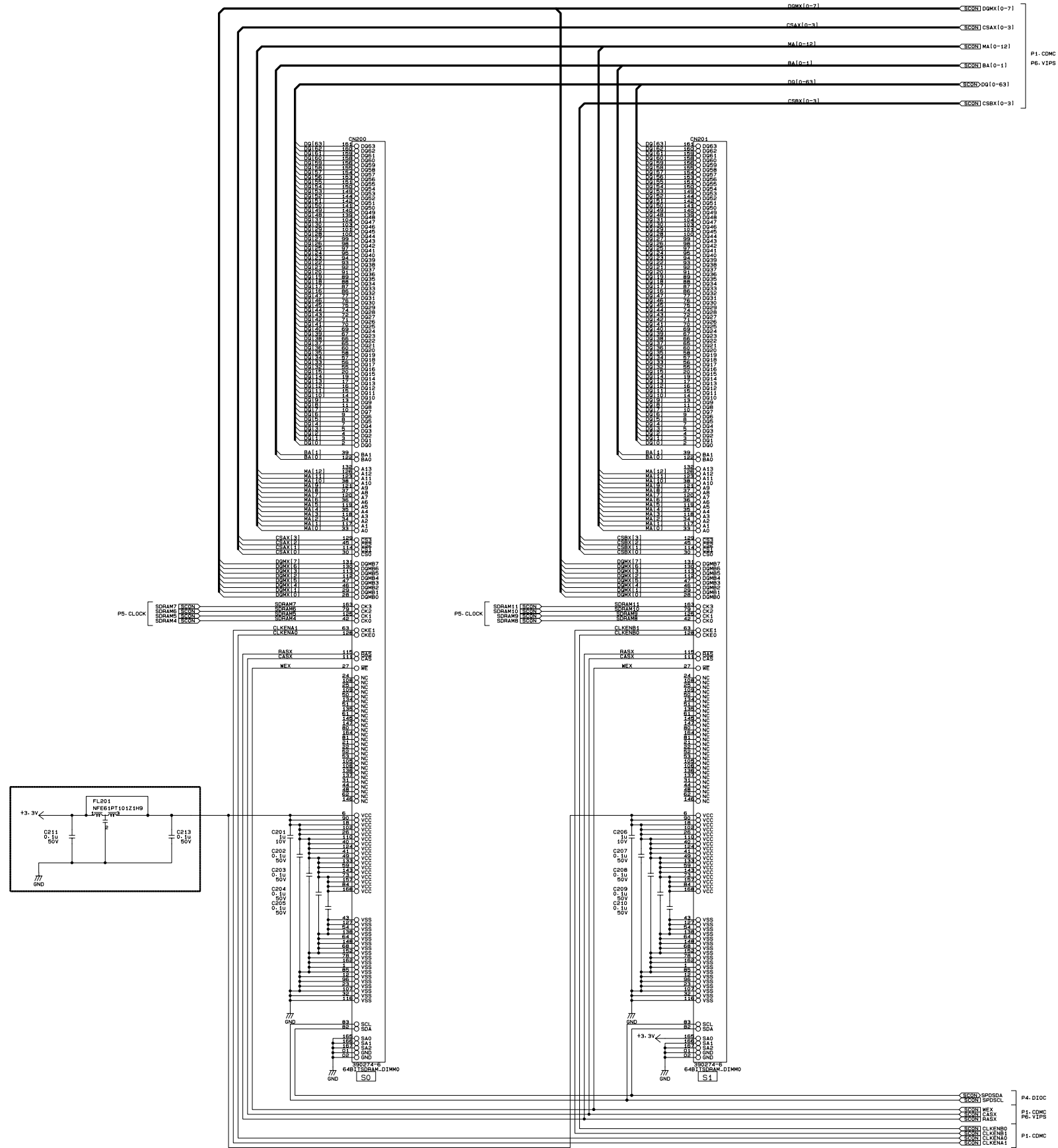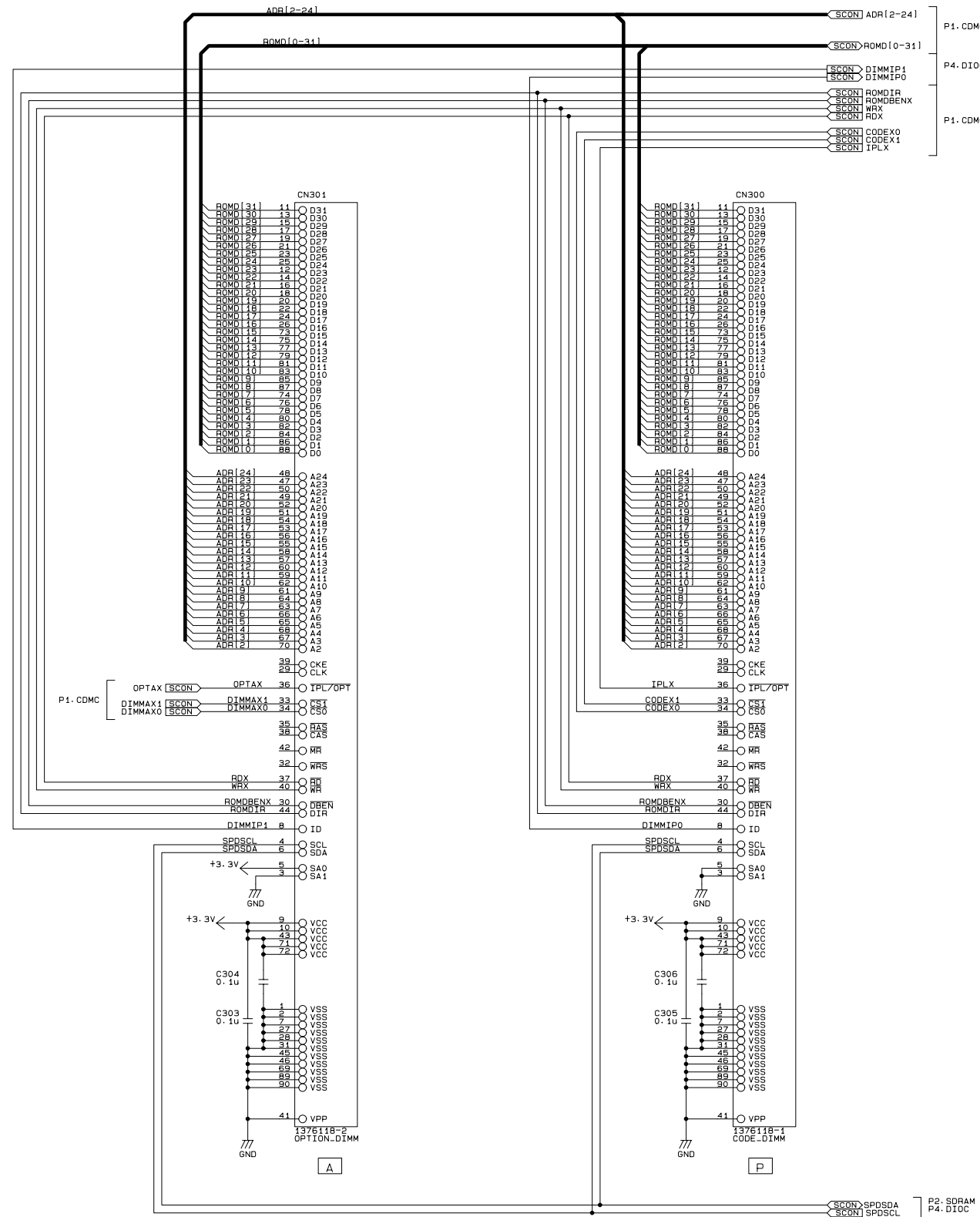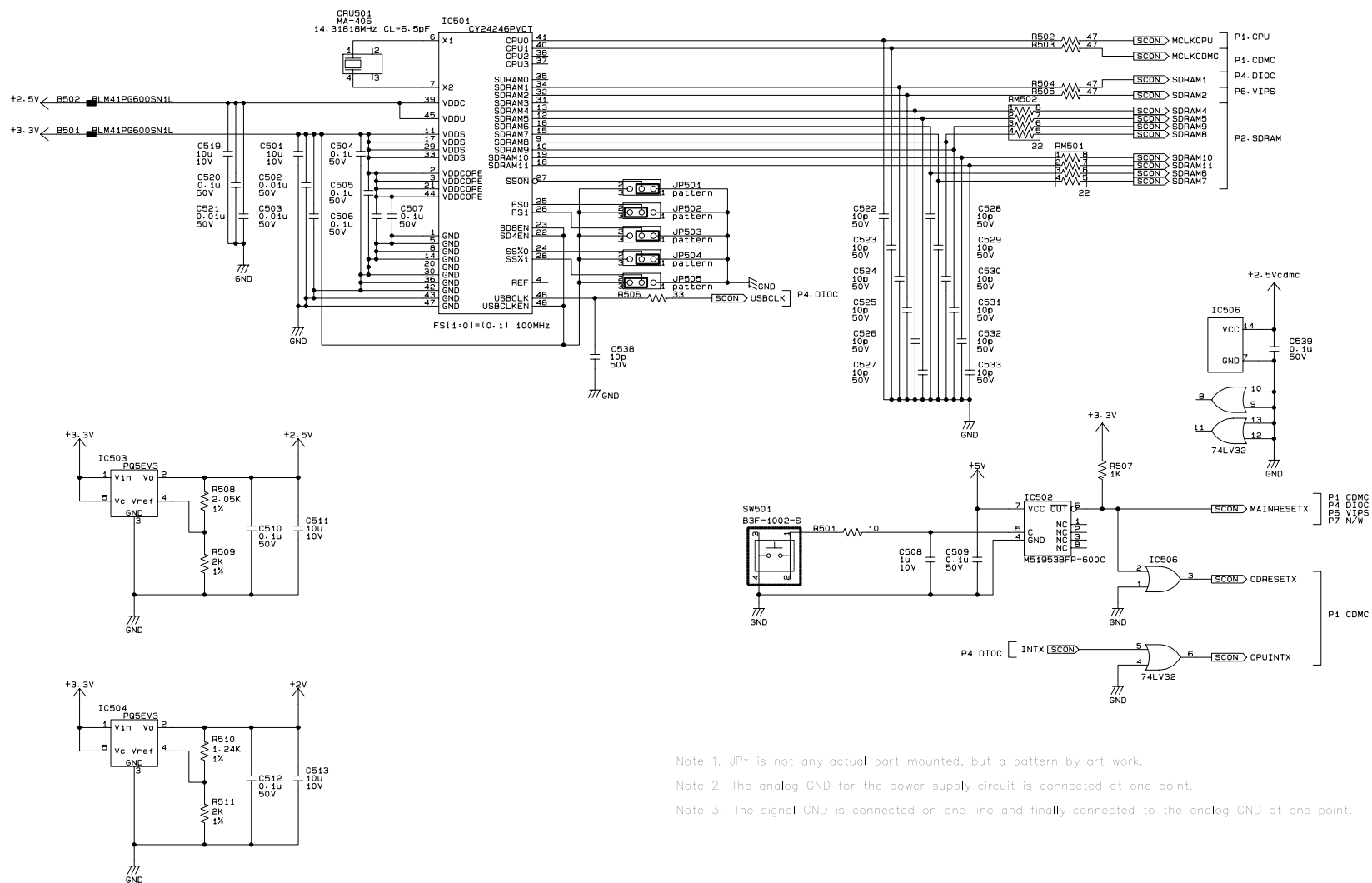
Note 1. JP* is not any actual part mounted, but a pattern by art work.

Note 2. The analog GND for the power supply circuit is connected at one point.

Note 3. The signal GND is connected on one line and finally connected to the analog GND at one point.

CRU501
MA-406
14.3181BMHz CL=6.5pF

IC501
CY24246PVCT

CPU0 41
CPU1 40
CPU2 38
CPU3 37
SDRAM0 35
SDRAM1 34
SDRAM2 32
SDRAM3 31
SDRAM4 13
SDRAM5 12
SDRAM6 15
SDRAM7 9
SDRAM8 17
SDRAM9 10
SDRAM10 19
SDRAM11 18

X1 1
X2 7
VDDC 39
VDDU 45
VDDS 11
VDDS 17
VDDS 29
VDDS 33
VDDCORE 2
VDDCORE 3
VDDCORE 21
VDDCORE 44
SSON 27
FS0 25
FS1 26
SDBEN 23
SD4EN 22
SS%0 24
SS%1 28
REF 4
USBCLK 46
USBCLKEN 48

GND 1
GND 5
GND 8
GND 14
GND 20
GND 30
GND 36
GND 42
GND 43
GND 47

FS[1:0]=(0.1) 100MHz

+2.5V B502 BLM41PG600SN1L
+3.3V B501 BLM41PG600SN1L

C519 10u 10V
C520 0.01u 50V
C521 0.01u 50V
C501 10u 10V
C502 0.01u 50V
C503 0.01u 50V
C504 0.1u 50V
C505 0.1u 50V
C506 0.1u 50V
C507 0.1u 50V

JP501 pattern
JP502 pattern
JP503 pattern
JP504 pattern
JP505 pattern

R506 33
SCON USBCLK P4.DIOC

C538 10p 50V

R502 47 SCON MCLKCPU P1.CPU
R503 47 SCON MCLKCDMC P1.CDMC
R504 47 SCON SDRAM1 P4.DIOC
R505 47 SCON SDRAM2 P6.VIPS

RM502
SCON SDRAM4
SCON SDRAM5
SCON SDRAM9
SCON SDRAM8
22

RM501
SCON SDRAM10
SCON SDRAM11
SCON SDRAM6
SCON SDRAM7
22

P2.SDRAM

C522 10p 50V
C523 10p 50V
C524 10p 50V
C525 10p 50V
C526 10p 50V
C527 10p 50V
C528 10p 50V
C529 10p 50V
C530 10p 50V
C531 10p 50V
C532 10p 50V
C533 10p 50V

+2.5Vcdmc
IC506
VCC 14
GND 7
C539 0.1u 50V

74LV32

IC503 PQ5EV3
+3.3V
Vin Vo 2
Vc Vref 4
GND 3
R508 2.05K 1%
R509 2K 1%
C510 0.1u 50V
C511 10u 10V
+2.5V

IC504 PQ5EV3
+3.3V
Vin Vo
Vc Vref
GND
R510 1.24K 1%
R511 2K 1%
C512 0.1u 50V
C513 10u 10V
+2V

SW501
B3F-1002-S
R501 10
C508 1u 10V
C509 0.1u 50V

+5V
IC502
VCC OUT 6
NC 1
NC 2
NC 3
NC 4
C
GND
M51953BFP-600C

+3.3V
R507 1K

SCON MAINRESETX
P1 CDMC
P4 DIOC
P6 VIPS
P7 N/W

IC506
SCON CDRESETX
P1 CDMC

P4 DIOC INTX SCON
74LV32
SCON CPUINTX

Note 1: Not mounted :

Note 1. Not mounted in

2. Jumper setting

JP701	JP702	Description
open	open	Auto negotiation 10/100M Full/Half
1-2	1-2	Auto negotiation 10M Full/Half
2-3	1-2	Auto negotiation 100M Full/Half
1-2	2-3	Auto negotiation 100M Full/Half
2-3	2-3	Auto negotiation 10M Half
open	1-2	10M Half
open	2-3	10M Full
1-2	open	100M Half
2-3	open	100M Full

RX/Link
light:Link
blink:Rx
Off: No Link

SPEED
light:100M
Off: 10M

PHY Address = 1

IC703
99/93CS56

IC702
DL10022

IC704
DP83843BVJE

IC701
M51958AFP-600C

Model: AcuLaser C1900
Board: C485MAIN BOARD
Sheet: 7 of 7
Rev. : A

Model: AcuLaser C900 / LP-1500C
Board: C494MAIN BOARD
Sheet: 1 of 4
Rev. : A

Model: AcuLaser C900 / LP-1500C
Board: C494MAIN BOARD
Sheet: 2 of 4
Rev. : A

GND
C500 10p 50V
C501 10p 50V
GND
CRU500 MA-406 48.0000MHz
R510 220
R511 1M
IC500 HD151TS304
1 IN SSCLKOUT
5 OUT CLKOUT
2 VDD
SEL0
SEL1
3 GND
GND

C504 0.01u 50V
L501 2.2uH
GND
+3.3V
R500 0
SSCG_VDD
C502 1u 10V
C503 0.1u 50V
GND

SSCLKOUT R501 33
CLKOUT B500 R502 100
BLM18BA750SN
SCON MCLK
SCON USBCLK
Sheet 1, HTC

RESET
SW500 B3F-1002-S
R503 10
C506 1u 10V
C507 0.1u 50V
Not mounted
GND

+5V
+3.3V
R504 1K
IC501
7 VCC OUT 6
5 C
4 GND
NC
NC
NC
NC
M51953BFP-600C

SCON RESETIX
Sheet 1, HTC, NETWORK_DEBUG

Model: AcuLaser C900 / LP-1500C
Board: C494MAIN BOARD
Sheet: 3 of 4
Rev. : A

Model: AcuLaser C900 / LP-1500C
Board: C494MAIN BOARD
Sheet: 4 of 4
Rev. : A