

**XEROX Phaser™ 3400
Personal Laser Printer
Service Guide**

First printing: June 2001
071-0826-00

User safety summary

Terms in manual

CAUTION Conditions that can result in damage to the product.

WARNING Conditions that can result in personal injury or loss of life.

Power source: For 110 VAC printers, do not apply more than 135 Volts RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord and connector. For 220 VAC printers, do not apply more than 264 Volts RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord and connector. Refer to a qualified service technician for changes to the cord or connector.

Operation of product: Avoid electric shock by contacting a qualified service technician to replace fuses inside the product. Do not operate without the covers and panels properly installed. Do not operate in an atmosphere of explosive gases.

WARNING Turning the power off using the On/Off switch does not de-energize the printer. You must remove the power cord to disconnect the printer from the mains. Keep the power cord accessible for removal in case of an emergency.

Safety instructions: Read all installation instructions carefully before you plug the product into a power source.

Terms on product

CAUTION A personal injury hazard exists that may not be apparent. For example, a panel may cover the hazardous area. Also applies to a hazard to property including the product itself.

DANGER A personal injury hazard exists in the area where you see the sign.

Care of product: Disconnect the power plug by pulling the plug, not the cord. Disconnect the power plug if the power cord or plug is frayed or otherwise damaged, if you spill anything into the case, if product is exposed to any excess moisture, if product is dropped or damaged, if you suspect that the product needs servicing or repair, and whenever you clean the product.

Ground the product: Plug the three-wire power cord (with grounding prong) into grounded AC outlets only. If necessary, contact a licensed electrician to install a properly grounded outlet.

Read each Caution Carefully:

- Do not use the printer near water or in inclement weather.
- Do not place the printer on any unstable surface; the product may fall causing serious damage to the product. Select a work surface that is large enough to hold the printer.
- Slots and openings in the cabinet are provided for ventilation. Do not block or cover any of these openings. Do not place the printer in an enclosure unless the enclosure provides adequate ventilation.
- Never spill liquid of any kind on the printer.
- Do not place the printer in a location where someone may trip over the cords.
- Operate this printer using the power source (110 V or 220 V) indicated on the marking label.
- If you need to use an extension power cord with this printer, make sure that it uses a three-wire grounded cord and that the total ampere ratings for all of the products using the extension do not exceed the extension cord ampere rating.
- Do not allow anything to rest on the power cord or interface cables.
- Unplug the printer from the wall before cleaning. Do not use liquid cleaners or aerosol sprays. Use a damp cloth for cleaning.
- Do not touch the surface of the photo-sensitive drum, as marks or scratches may impair print quality.
- Do not expose the drum to direct light for extended periods of time.

Symbols as marked on product:

DANGER high voltage:



Protective ground (earth) terminal:



Use caution. Refer to the manual(s) for information:



Service Safety Summary

For qualified service personnel only: Refer also to the preceding User Safety Summary.

Note: Requirements for the AC power are on the label affixed to the rear of the printer. Check the AC voltage rating requirement before use.

- **Do not service alone:** Do not perform internal service or adjustment of this product unless another person capable of rendering first aid or resuscitation is present.
- **Use care when servicing with power:** Dangerous voltages may exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on.
- **Do not wear jewelry:** Remove jewelry prior to servicing. Rings, necklaces and other metallic objects could come into contact with dangerous voltages and currents.
- **Power source:** This product is intended to operate from a power source that will not apply more than 264 Volts rms between the supply conductors or between either supply conductor and ground. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation. For 110 VAC printers, do not apply more than 135 Volts RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord and connector. For 220 VAC printers, do not apply more than 264 Volts RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord and connector. Refer to a qualified service technician for changes to the cord or connector.

WARNING: If the product loses the ground connection, usage of knobs and controls (and other conductive parts) can cause an electrical shock.

- **Avoid spilling toner inside the machine:** Do not turn the printer over or on its side before removing the Printer Cartridge.
- **When replacing parts:** Use only the same part as the original. Replacing parts with a second vendor's part may cause faulty operation.

This product is certified under IEC 825 as a Class 1 Laser Product.

CLASS 1 LASER PRODUCT

The Xerox Phaser 3400 Laser Printer is certified to comply with Laser Product Performance Standards set by the U.S. Department of Health and Human Services as a Class 1 Laser Product. This means that this is a class of laser product that does not emit hazardous laser radiation; this is possible only because the laser beam is totally enclosed during all modes of customer operation.

Never operate and service the printer with the protective cover removed from the Laser Assembly. The laser and output of the laser scanner unit produces a beam that, if looked into, could cause eye damage. Service procedures must be followed exactly as written without change.

When servicing the machine or laser module, follow the procedures specified in the manual and there will be no hazards from the laser.

Federal Communications Commission Compliance

This equipment has been tested and found to comply with the limits set for a Class B digital device, as stated in Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and may radiate radio frequency energy. If not installed and used in accordance with the instructions provided, this equipment may cause disruptive interference to nearby radio and television communications. Even if the equipment is installed according to the instructions, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause disruptive interference to nearby radio and television reception, switch the equipment off to determine if it is the true cause of the interference. If the equipment is the cause of the interference, the user should try to minimize the interference by taking one or more of the following courses of action:

- Either re-orient or relocate the radio/television receiving antenna.
- Increase the separation between the equipment and the radio/television receiver.
- Connect the equipment to an AC outlet that is not on the same circuit as the radio/television receiver.
- If the previous solutions fail to bring results, you should consult either your equipment dealer or an experienced radio/television technician.

For more information on interference, refer to the Federal Communications Commission's booklet *How to Identify and Resolve Radio-TV Interference Problems*. This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402, Stock No. 004-000-00345-4.

Canadian Notice

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as described in the radio interference regulations of the Canadian Department of Communications.

Avis Canadien

Cet appareil numérique est conforme aux limites émission de bruits radioélectriques pour les appareils de classe B stipulés dans le règlement sur le brouillage radioélectrique du Ministère des Communications du Canada.

European Notice

This equipment was tested and is determined to be compliant with VDE requirements for a Class B device.

Hinweis

Hiermit wird bescheinigt, dass der Babe Laserdrucker, in bereinstimmung mit den Bestimmungen der Vfg 104ß 984 funkenstört ist. Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

ESD Precautions

Some semiconductor devices are easily damaged from static electricity. These components are Electrostatically Sensitive Devices (ESDs); examples include integrated circuits (ICs), Large-Scale Integrated circuits (LSIs), some field-effect transistors and semiconductor chip components. The following techniques will reduce the occurrence of component damage caused by static electricity:

Caution: Be sure the power is off to the chassis or circuit board, and observe all other safety precautions.

- Immediately before handling any semiconductor components assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist strap device. (Be sure to remove the strap before applying power to the unit under test to avoid potential shock.)
- After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
- Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
- Use only a ground-tip soldering iron when soldering or desoldering ESDs.
- Use only an anti-static solder removal device. Some solder removal devices are not rated as "anti-static"; these can accumulate a sufficient electrical charge to damage ESDs.
- Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
- Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
- Minimize body motions when handling unpackaged replacement ESDs. Motion such as your clothes brushing together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.
- Handle ICs and EPROMs carefully to avoid bending a pin.
- Pay attention to the direction of parts when mounting or inserting them on a PCB.
- Components can be permanently damaged if heated for longer than necessary while soldering. All components are susceptible to heat damage.

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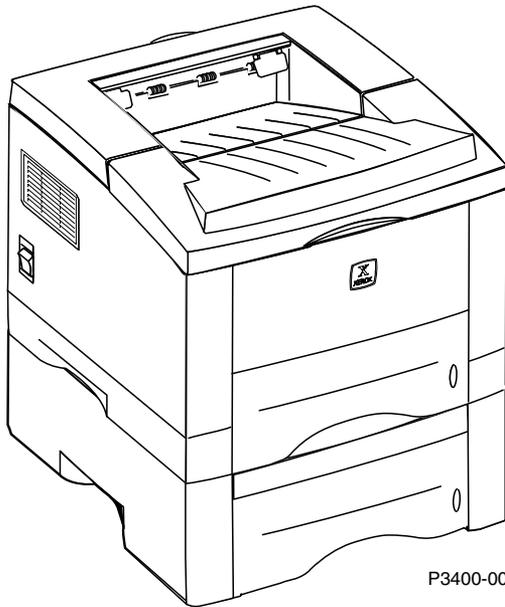
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General Information

The Xerox Phaser™ 3400 Service Quick Reference Guide is used for repairing, troubleshooting and maintaining the printer. This manual covers specific procedures, Repair Analysis Procedures, Troubleshooting, Removal and Replacement Procedures and FRU Parts List.



P3400-001

The Xerox Phaser 3400 Printer shown with Optional Paper Tray 2.

Organization of this manual

General Information

This section contains a general overview of the printer and basic information regarding printer base memory, specifications, media, electrical and regulatory information. For information on the Theory of Operation and Wiring diagrams for the Xerox Phaser 3400 printer please refer to the Service web site.

Printing a Cleaning or Configuration Page

This section contains instructions for printing a cleaning and configuration page.

Repair Analysis Procedures (RAPs) and Troubleshooting

This section contains a Service Flowchart for handling Repair Analysis Procedures for the printer and vital information regarding service call procedures. Basic troubleshooting for print quality, media and paper jams and printer operation problems are also covered.

FRU Removal and Replacement Procedures (RRPs)

This section provides procedures and illustrations for removing and replacing Field Replaceable Units (FRUs) within the printer.

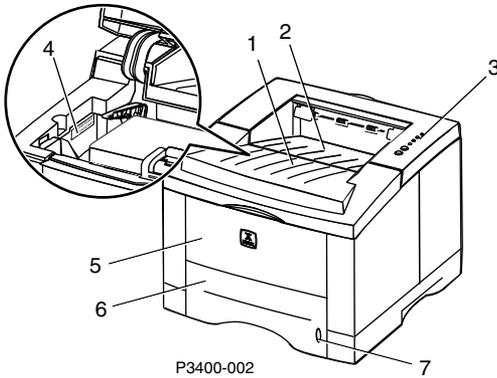
FRU Parts List

This section contains the parts list for all Field Replaceable Units and Consumer Replaceable Consumables. There are exploded views of the FRUs as well as specific part numbers for items available.

Phaser 3400 Printer Overview

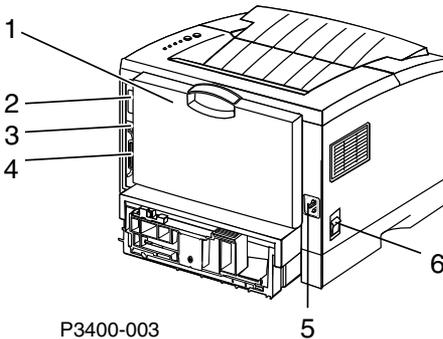
- The Xerox Phaser 3400 is a desktop laser printer capable of print speeds of 17 ppm (page per minute), on standard 8.5 x 11 and 16 ppm for A4, with a native resolution of 600 x 600 dpi (dots per inch). Using Image Enhancement technology, 1200 x 1200 dpi can be achieved with PCL6 and PostScript Level 3 drivers.
- The Xerox Phaser 3400 printer operates at 110 V at 60 Hz or 220 V at 50 Hz, using approximately 300 Watts in Print Mode, 70 Watts in Standby and 20 Watts in power saver mode.
- The system controller board contains a 133-MHz, 32-bit RISC processor. The standard memory capacity is 16 Mbytes, expandable to 80 Mbytes by adding an additional DIMM. The board contains flash ROM that allows for easy updating of the firmware.
- The Xerox Phaser 3400 printer comes standard with PCL5e and PCL6 emulation with 45 scalable fonts and 1 PCL bit-mapped font. The printer has PostScript Level 3 and Epson FX80 emulations.
- The Print Engine Controller Board generates all the voltages for the printer and controls the individual printer components.
- The Laser Assembly provides the exposure function for the xerographic procedure.
- The Print Cartridge is a Customer Replaceable Consumable (CRC).
- The Fuser Assembly contains the entire fuser subsystem and is a field replaceable unit (FRU).
- The printer can handle various types of media including paper, envelopes, transparencies and labels.
- Remote Control Panel software is provided with the Phaser 3400 printer. This software allows the user to modify the settings of the printer.
- The printer comes standard with one 550-sheet paper tray, a face-down output tray, a face-up output tray and a multi-purpose feeder.
- Options available for the Xerox Phaser 3400 printer:
 - 550-Sheet Lower Paper Feeder (called out as Paper Tray 2 throughout this manual).
 - SDRAM DIMM memory upgrade
 - Network Interface Card

Parts of the Printer



1. Top cover
2. Face-down tray (output)
3. Control Panel
4. Serial Number
5. Multi-purpose tray
6. Paper tray
7. Paper-level indicator

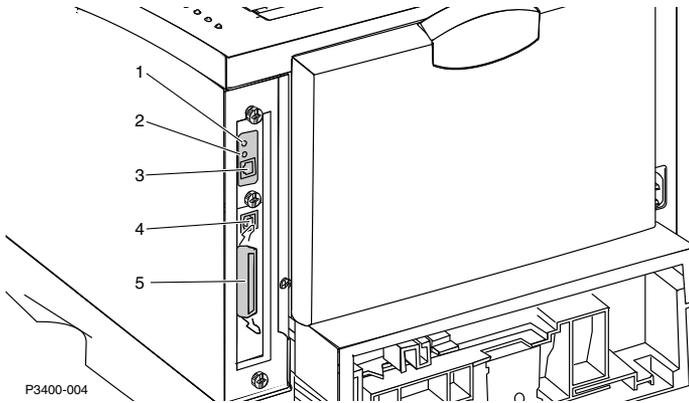
Front view of the Xerox Phaser 3400 printer.



1. Rear cover and rear face-up tray (output)
2. Optional Network card
3. USB interface connector
4. Parallel interface connector
5. Power Cord connector
6. Power Switch

Rear view of the Xerox Phaser 3400 printer.

Rear Panel



Rear Panel shown with optional Network Interface Card.

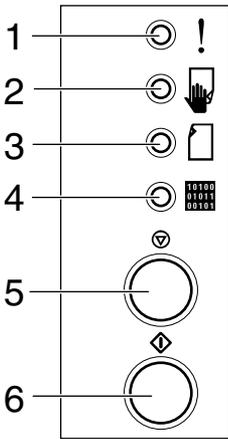
Communication Interfaces

The Xerox Phaser 3400 printer comes equipped with a USB and Parallel connection. There is an optional Network Interface Card available.

1. Top LED on = Connected to the Network.
2. Bottom LED blinking = The NIC card is functioning, live and ready to receive data.
3. **Optional** 10/100 BaseT NIC, Internal network card with LED lights.
4. USB (Universal Serial Bus) port, USB V.1.1 compliant is standard.
5. Parallel Port - Centronics IEEE P1284 Compliant bi-directional (Nibble, Byte and ECP).

Front Control Panel

The Front Control Panel is located on the top, right-side of the printer. The Control Panel includes two buttons and four LEDs indicating the printers status as follows:



P3400-005

1. Error light

- Blinking = Insufficient memory.
- Blinking alternating with the **Paper** light blinking = Output tray is full.
- 2 fast blinks, then off, then 2 fast blinks, then off repeating = Toner is getting low, replace Print Cartridge soon.
- On = Cover open, cartridge not installed or not seated properly. Fuser gate not closed.
- On with **Paper** light = Paper jam.

2. Manual-feed light

- On with **Data** light = Ready for a manual-feed job. Load paper in the multi-purpose tray and press the **Print** button to start the job.

3. Paper light

- On = Out of paper.
- On with **Error** light = Paper jam.
- Blinking alternating with the **Error** light blinking = Output tray is full.

4. Data light

- On = Ready to receive data.
- On with **Manual-feed** light = Ready for a manual-feed job.
- Slow blink = Receiving data.
- Fast blink = Printing.

5. Cancel button

- To cancel a print job, hold down the **Cancel** button until all lights blink, then release the button.

6. Print Button

- When the **Manual-feed** light is on and paper is loaded in the multi-purpose tray, press the **Print** button to feed the paper into the printer.
- To print a **configuration page**, hold the **Print** button until all lights blink, then release the button.

Front Control Panel

If all lights are blinking, this indicates a system error. Turn the power off and then back on to attempt to clear.

Paper Input Devices

Media Weights and Types

Input Source *	Acceptable Weight
Tray 1, Optional Tray 2,	16-28 lbs. (60-105 g/m ²)
Multi-purpose tray	16-43 lbs. (60-163 g/m ²)

* Can use preprinted, letterhead, or colored paper also

Supported Paper and Print Media

Print Media

Media Size		Tray 1	Tray 2	Multi-Purpose Tray
Letter	8.5 x 11 in.	•	•	•
Legal	8.5 x 14 in.	•	•	•
Executive	7.25 x 10.5 in.	•	•	•
A4	210 x 297 mm	•	•	•
A5	148 x 210 mm			•
A6	105 x 148 mm			•
Folio	8.5 x 13 in.	•	•	•
B5-JIS	182 x 257 mm	•	•	•
B5-ISO	176 x 250 mm	•	•	•
Custom Sizes ‡				•
Envelopes **				
COM-10 *	4.1 x 9.5 in.			•
Monarch *	3.8 x 7.5 in.			•
C5 *	162 x 229 mm			•
DL *	110 x 220 mm			•
B5 *	176 x 250 mm			•
#9 *	176 x 250 mm			•
Transparencies				•
Labels				•

‡ Minimum size: 80 x 148 mm (3.15 x 5.83 in.); maximum size: 215.9 x 355.6 mm (8.5 x 14 in.)

* Print single-sided only

** For envelopes, open the rear face-up tray for output. The optional 550-sheet paper tray 2 can also handle envelopes.

General Specifications

Printer Capabilities

The Xerox Phaser 3400 printer comes equipped with 16 Mbytes standard on-board memory and is expandable as shown below to a maximum of 80 Mbytes.

Adding additional RAM:

- Improves system performance
- Improves processing of complex jobs

Memory

SDRAM Memory	Standard: 16-Mbyte Option DIMM Module: 16-, 32-, 64-Mbyte **see table below**
--------------	---

Memory Expansion

Memory can expand to include a 16-, 32-, 64-Mbyte DIMM. The memory DIMM is a customer-installable device and can only be purchased from Xerox. The DIMM is an unbuffered, Xerox proprietary, (100-pin, 50-ns, No Parity, 3.3 SDRAM DIMM).

Note *Memory can be installed in the lower DIMM slot only.*

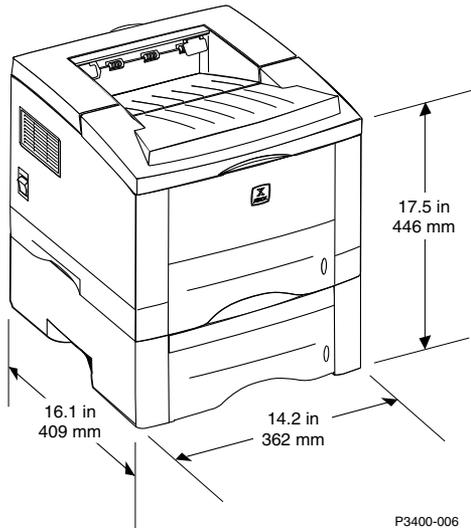
Memory Expansion Options

Memory Upgrade	Part Number
16-Mbyte DIMM	097S02718
32-Mbyte DIMM	097S02719
64-Mbyte DIMM	097S02720

Physical Dimensions

Place the printer on a flat, stable surface near your workstation. Leave enough space around the printer so you can easily perform the following:

- Open the printer top cover.
- Load paper.
- Retrieve paper.
- Open the front multi-purpose feeder tray and retrieve paper from the rear output face-down tray.
- Allow air circulation around the vents to prevent the printer from overheating.

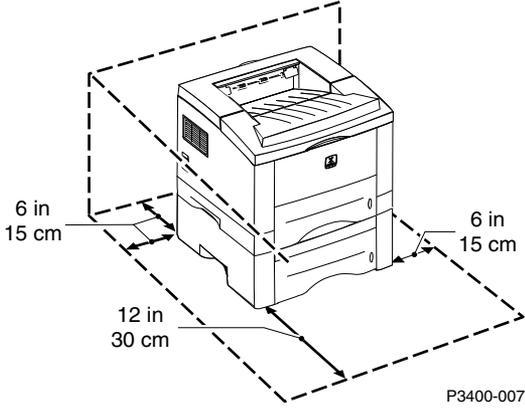


Physical Dimensions

Dimensions	Specifications
Height	299 mm / 11.8 in. - (One Paper Tray) 446 mm / 17.5 in. - (with Optional Paper Tray 2)
Width	362 mm / 14.2 in.
Depth	409 mm / 16.1 in.
Weight (110-V Model)	11 kg / 24.2 lbs.
Weight (220-V Model)	11 kg / 24.2 lbs.

Printer Clearances

- Always place the printer on a flat, stable surface.
- Maintain the clearance distances below for ventilation purposes on all sides.
- Do not obstruct the cables, paper trays or output trays.



Printer Clearances

Clearance	Specification
Front	30 cm (12 in.)
Back	15 cm (6 in.)
Right	15 cm (6 in.)
Left	15 cm (6 in.)
Top	30 cm (12 in.)

Electrical Specifications

The Xerox Phaser 3400 printers are available in either a 110- or a 220-Volt configuration.

Electrical Specifications

Input Voltage		110 Voltage	220 Voltage
	Nominal input	100-127 VAC	200-240 VAC
	Input range	90-135 VAC	180-264 VAC
	Nominal Frequency	50/60 Hz	50/60 Hz
	Frequency Tolerance	±3 Hz	±3 Hz
Power Consumption (above input voltages)	Print Mode	300 W or Less (average)	
	Standby Mode	70 W	
	Sleep Mode	20 W (Energy Star Compliant)	
Rush Current	40 A from cold to start		
Insulation Resistance	DC 500 V / 1 mm	> 100M Ohms	
Electrostatic Discharge	Criteria	Contact	Air
	-SOFT FAIL	6 kV	10 kV
	-HARD FAIL	8 kV	12 kV
Surge	IEC 1000-4-5 level 3		
Impulse Noise	1200 V, 50~1000 ns, 3 min.		
Voltage Dip	100% / 1 cycle	50% / 2 cycle	20% / 4 cycle
Voltage Fluctuation	Voltage ±23%, 10 min.		
Voltage Strength	Less than 130 V / AC 1.0 kV Less than 250 V / AC 1.5 kV		
Ground Continuity	25 A / 3 sec. = 0.1 Ohms		

Power On/Off

The Xerox Phaser 3400 printer has an on/off power switch located on the left rear corner of the printer. The printer is equipped with a grounded power socket.

Power Saver Mode

Power Saver Mode reduces power consumption. The Power Saver menu selection can be modified by the user in the Remote Control Panel (RCP). The software for the RCP needs to be installed from the CD-ROM that accompanied the printer. The default value for entering Power Saver Mode is 30 minutes, and power consumption is then consumed at under 20 Watts.

Environmental Specifications

The printer must not be exposed to any of the following:

- Abrupt changes in temperature or humidity
- Condensation
- Direct sunlight
- Chemicals
- Vibration
- Dusty or dirty environments

Environmental Specifications

	Operating	Packed (Storage)	Unpacked
Temperature	10 - 30° C 50 - 86° F	-20 - 40° C -4 - 104° F	5 - 35° C 41 - 95° F
Humidity	20 - 80%	10 - 90%	20 - 80%
Noise Level		Standby - Under 35 dB Printing - Under 49 dB	
Altitude	2,500 m / 8,200 ft. 0.25 Atmospheric Pressure		

Functional Specifications

Functional Specifications

Function	Specification																				
Resolution - dpi (dots per inch)	True 600 x 600 dpi RET of 1200 x 1200 dpi																				
Source of Light	Grayscale 128 - 600 dpi Grayscale 200 - 1200 dpi																				
Print Method	Laser Diode (LSU: Laser Scanner Unit)																				
Feed Method	Non-Impact Electrophotography																				
Warm Up	Cassette or Manual, Option Feeder																				
First Print Out	Sleep to Standby = 40 seconds																				
	<table border="1"> <thead> <tr> <th></th> <th>Tray 1</th> <th>Tray 2</th> <th>MPF Tray</th> </tr> </thead> <tbody> <tr> <td>A4/Letter</td> <td>< 14 sec.</td> <td>< 15 sec.</td> <td>< 14 sec.</td> </tr> <tr> <td>Legal</td> <td>< 15 sec.</td> <td>< 16 sec.</td> <td>< 15 sec.</td> </tr> <tr> <td>Envelope (COM 10)</td> <td>N/A</td> <td>< 15 sec.</td> <td>< 14 sec.</td> </tr> </tbody> </table>		Tray 1	Tray 2	MPF Tray	A4/Letter	< 14 sec.	< 15 sec.	< 14 sec.	Legal	< 15 sec.	< 16 sec.	< 15 sec.	Envelope (COM 10)	N/A	< 15 sec.	< 14 sec.				
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Print Speed - ppm (pages per minute)	<table border="1"> <thead> <tr> <th></th> <th>Tray 1</th> <th>Tray 2</th> <th>MPF Tray</th> </tr> </thead> <tbody> <tr> <td>A4</td> <td>16 ppm</td> <td>14.6 ppm</td> <td>13.7 ppm</td> </tr> <tr> <td>Letter</td> <td>17 ppm</td> <td>15 ppm</td> <td>13.7 ppm</td> </tr> <tr> <td>Legal</td> <td>13.7 ppm</td> <td>13.5 ppm</td> <td>13.7 ppm</td> </tr> <tr> <td>Envelope</td> <td>N/A</td> <td>13.5 ppm</td> <td>13.7 ppm</td> </tr> </tbody> </table>		Tray 1	Tray 2	MPF Tray	A4	16 ppm	14.6 ppm	13.7 ppm	Letter	17 ppm	15 ppm	13.7 ppm	Legal	13.7 ppm	13.5 ppm	13.7 ppm	Envelope	N/A	13.5 ppm	13.7 ppm
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Legal	13.7 ppm	13.5 ppm	13.7 ppm																		
Envelope	N/A	13.5 ppm	13.7 ppm																		
Toner Supply	Print Cartridge																				
Xerographics	Developing: Non-magnetic Contact Developing Charging: Conductive Roller Charging Toner supply Method: Exchanging Cartridge Transfer System: Conductive Roller Transfer Fusing System: Temperature and Pressure																				
Ozone Emissions	Less than 0.1 ppm																				
Emulation	PCL5e, PCL6, PostScript Level 3, Epson FX8050, IBM pro printer																				
Font	1 bitmap 45 scalable																				
CPU	133-MHz, 32-bit RISC processor. Motorola Power PC EC603e.																				

Xerox Supplies and Accessories

Customer-Replaceable Consumables (CRCs)

Item	Part Number
High-capacity Laser Print Cartridge ■ Prints approximately 8,000 pages *	106R00462
Standard Laser Print Cartridge ■ Prints approximately 4,000 pages *	106R00461
* Based on 5% coverage on A4-/Letter-size paper	

Accessories

Item	Size	Part Number
Optional Paper Tray 2 Assembly ■ Holds up to 550 sheets of paper ■ Adds a second tray, for increased paper-printing capacity ■ Increases printing versatility and convenience	A4/Letter	097S02716
Phaser 3400 printer Memory Upgrade ■ Guaranteed performance ■ Faster image processing ■ Specifically designed for the Phaser 3400 printer	16 Mbytes 32 Mbytes 64 Mbytes	097S02718 097S02719 097S02720
Network Interface Card Kit ■ Adds network capability		097S02722
Repackaging Kit		695K12330

Remote Control Panel

The Remote Control Panel has several different functions and is also used to set printer-specific features such as econo mode and Power Saver time limits. The RCP provides seven different tabbed control panels:

- Printing
- Config
- Job
- Test
- PCL5e
- PostScript 3
- About

For instructions on installing the software and information on the RCP please see the User Guide or Reference Guide documentation.

The Remote Control Panel is a Windows utility that enables you to do the following:

- Set printer-specific settings in the printer.
- Set up the printer to work with DOS applications that run inside the Windows MS-DOS Command Prompt window.

The Remote Control Panel can be used when the printer is connected via the parallel interface for all Windows operating systems. The Remote Control Panel can be used through the USB or parallel port for Windows 98 SE, Windows Me, Windows NT and Windows 2000.

Install the Remote Control Panel utility from the Xerox Phaser 3400 printer CD-ROM.

To change settings using the Remote Control Panel:

1. Click **Start**, select **Programs**, select **Xerox Phaser 3400 Utility**, and then click **Remote Control Panel**.
2. Make changes to the Remote Control Panel settings on the various tabs. For information about the settings on these tabs, access the online help by clicking the **Help** button.
3. Send the changed settings to the printer by pressing the **Send** button.

Note *Settings selected in the print driver override settings selected in the Remote Control Panel.*

Network Interface Specifications

Network Interface Specifications

Network	Specifications
Network Operating Systems	Windows 95/98, Windows 98 SE, Windows NT 4.0, Windows 2000 and Windows Me. NetWare 4.x, NDS and Bindery Mode /RPRINT, PSERVER Mode UNIX AppleTalk
Network Protocols Supported	TCP/IP: Windows 95/98 SE, Win NT, Windows 2000, Windows Me IPX/SPX: Windows 95/98, Windows 98 SE, Win NT, Windows 2000, Windows Me and Novell Netware DLC/LLC: Windows 95/98 SE, Windows NT, Windows 2000, EtherTalk: AppleTalk SNMP: for Network Printer Administration
Network Card Interface	Ethernet 10/100 BaseT (Auto Negotiation)
Network Management Software	Samsung's Admin. Software Utility (SyncThru) SNMP and MIB-II Support GUI-based utility for Windows Systems Test-based Utility for UNIX Systems HTTP server for web-browser-based network management

Printing a Cleaning or Configuration Page

This section covers the printing of a cleaning page and a configuration page.

Print Cartridge Cleaning Procedure

This procedure is used to remove excess toner and contamination from the Print Cartridge.

Press and hold the Print button until all four LEDs remain lighted (not blinking) then release the button. The printer will produce one page. Depending on the contamination, the page may contain a heavy concentration of background. More than one cleaning cycle may be required to remove contamination. Replace the printer cartridge if cleaning cycles do not resolve the print-quality problem(s).

Printing a configuration page

- 1.** Ensure that the printer is in Ready Mode and that the paper tray contains fresh paper.
- 2.** Press and hold the Print Button until all LEDs flash.
- 3.** Release the Print Button; only the Ready LED flashes and all other LEDs are off.
- 4.** A configuration page is printed.

Repair Analysis Procedures (RAPs)

Using Repair Analysis Procedure Tables

In each of the following Repair Analysis Procedures you are instructed to check specific parts or operations of the printer. These checks will be followed by a probable cause and a possible solution to the problem.

General Notes on Using Repair Analysis Procedures

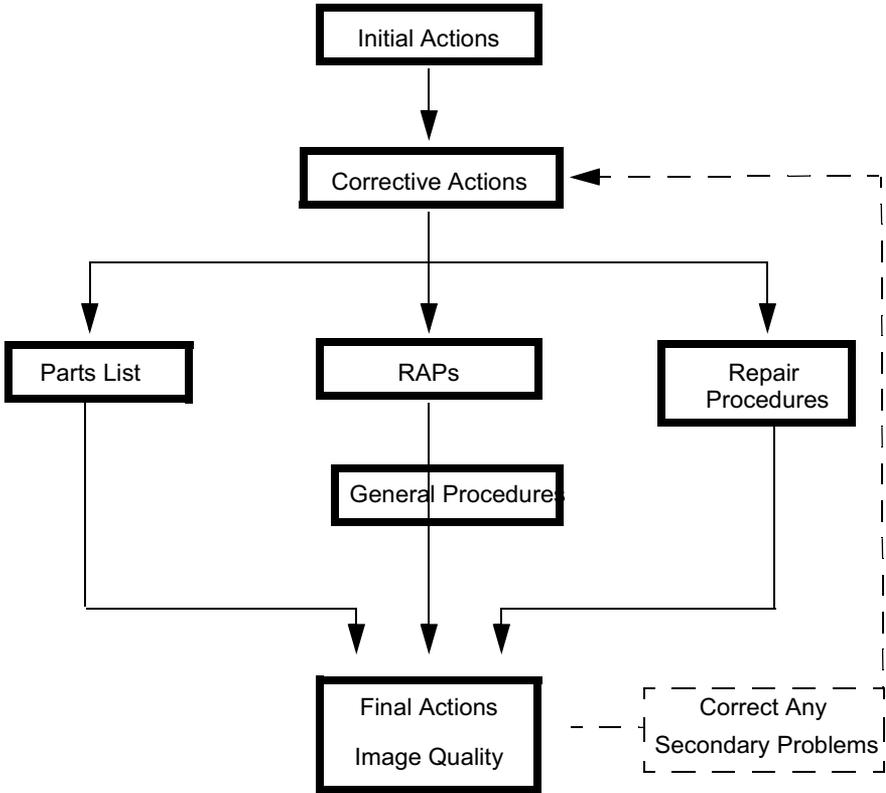
1. Repair Analysis Procedures may instruct you to remove or replace a component. Refer to the FRU Removal and Replacement Procedures section for information on how to remove and reinstall a component.
2. When a Repair Analysis Procedure instructs you to replace a non-spared component, and that component is part of a larger assembly, you must replace the entire assembly.

Before Starting a Repair Analysis Procedures

1. Is the AC power provided at the wall outlet within specifications for this printer; either 110 VAC or 220 VAC?
2. Is the AC power cord in good condition (not frayed or broken)?
3. Is one end of the AC power cord connected to the printer?
4. Is the other end of the AC power cord plugged into a grounded three-pronged AC wall outlet?
5. Is the printer located in an area where the temperature and humidity are moderate and stable as recommended in the General Information section?
6. Is the printer located in an area that is free of dust?
7. Is the printer located away from water outlets, steamers, electric heaters, volatile gases, or open flames?
8. Is the printer shielded from the direct rays of the sun?
9. Does the printer have the correct ventilation space around all sides as recommended in the General Information section?
10. Is the printer sitting on a level and stable surface?
11. Is the paper stock used in the printer as recommended in the User Guide?
12. Does the customer use the printer as instructed in the User Guide?
13. Are consumables replaced at the intervals recommended in the General Information section?
14. Ensure that the Printer Cartridge is properly installed.
15. Are all of the printer assemblies in place and are all printer covers and doors firmly closed?

Service Call Procedures

The basic troubleshooting steps are outlined in the Call Flow Diagram below. All service calls begin with Initial Actions and end with Final Actions.



Call Flow Diagram.

Initial Actions

1. Question the operator and verify the problem.
2. Check that the printer paper path is clear of foreign matter such as staples, paper clips and paper scraps.
3. Verify that the registration and exit actuators are in place and move freely.
4. After you have identified the problem symptom, check the following items:
 - The printer is connected to a wall power outlet, and the outlet is supplying the correct voltage.
 - The printer power cord is not frayed or broken.
 - The printer is correctly grounded.
 - The printer is in an appropriate operating environment, with no extremes of heat, humidity or dirt.
 - The printer is not exposed to direct sunlight.
 - The printer is on a level, stable surface.

Corrective Actions

1. If the printer has an obvious failure or fault, you can go directly to the appropriate Repair Analysis Procedure in this section and begin corrective action.
2. If the fault is not obvious, follow the initial Repair Analysis Procedure, “Entry-Level Procedure and Printer Operation Problems” on page 22 to identify the problem and begin its corrective action.
3. After all corrective actions have been made, perform the Final Actions.

Final Actions

1. Correct any secondary problems.
2. Reinstall the printer covers.
3. Clean the printer and the work area.
4. Send a print job to verify all input trays for proper printer operation.
5. Close the call.

RAP 1 Entry-Level Procedure and Printer Operation Problems

If you are experiencing problems with the printer, perform the following actions:

1. Optional Tray 2 only: Ensure that the RCP/Print driver is set to feed from the main Tray 1.
2. Power the printer off and check the paper path for jammed paper or other obstacles.
3. Ensure that the paper tray has a good supply of fresh paper and the tray is fully inserted in the printer.
4. Ensure that the Print Cartridge is properly installed.
5. Ensure that all covers are properly closed.
6. Print a configuration page to verify operation and print quality. For more information on printing a configuration page, refer to "Printing a configuration page" on page 17.

Note *DCU Codes are for Depot repair only.*

Entry-Level RAP

Problem Identifier	Check List	Solution
Main Drive motor does not run.	<ol style="list-style-type: none"> 1. Verify correct AC voltage. 2. Verify power switch is on. 3. Verify Top Cover, Print Cartridge and Fuser Gate interlocks are functional. 4. Close all covers. 	Error remains? Replace in the following order: <ul style="list-style-type: none"> ■ Print Engine Controller Board (RRP - 10) ■ System Controller Board (RRP - 11) ■ Main Drive Motor Assembly (RRP - 8)
Error LED on steady (DCU code 64)	<ol style="list-style-type: none"> 1. Verify Top Cover, Print Cartridge and Fuser Gate interlocks are closed and operational. 	Error remains? Replace in the following order: <ul style="list-style-type: none"> ■ Print Engine Controller Board (RRP - 10) ■ System Controller Board (RRP - 11)
Paper LED on when Tray is full. (DCU code 70)	<ol style="list-style-type: none"> 1. Fill paper tray with fresh paper. 2. Verify out-of-paper actuator is in the correct position and moves without binding. 	Error remains? Replace in the following order: <ul style="list-style-type: none"> ■ Print Engine Controller Board (RRP - 10) ■ System Controller Board (RRP - 11)
Output tray full Alternating LED blinks between the Error and Paper LEDs (DCU code 76)	<ol style="list-style-type: none"> 1. Empty output tray. Does the blinking continue with the tray empty? 2. Verify the Stack-Full Actuator is in the correct position and moves without binding. 3. Check harness connections to the Stack-Full Sensor to see if all connections are good. 	Error remains? Replace in the following order: <ul style="list-style-type: none"> ■ Exit Transport Assembly (RRP - 6) ■ System Controller Board (RRP - 11)

Entry-Level RAP (cont'd.)

Problem Identifier	Check List	Solution
Low-Toner Warning LED blinks = 2 on, 1 off	<ol style="list-style-type: none"> 1. Replace Toner Cartridge. 2. Verify spring contacts on the printer make contact with the Cartridge low-toner sensor. 	Error remains? Replace in the following order: ■ System Controller Board (RRP - 11) ■ Print Engine Controller Board (RRP - 10)
Printer Problem LED blinks = all 4	<ol style="list-style-type: none"> 1. Power the printer off, wait 20 seconds and power the printer back on. 2. Run several print jobs to verify operation. 3. Remove the Fuser Assembly and measure the resistance of the heat rod and over heat thermostat. 	Resistance infinite (open?) ■ Replace Fuser Assembly (RRP - 7) Error remains? Replace in the following order: ■ Print Engine Controller Board (RRP - 10) ■ Laser Assembly (RRP - 12)
All LEDs off/ Control Panel	<ol style="list-style-type: none"> 1. Power the printer off, wait 20 seconds and power the printer back on. 2. Run several print jobs to verify operation. 3. Reseat the Control Panel Harness on the System Controller Board. 	Error remains? ■ Replace the System Controller Board (RRP - 11)
Memory (SDRAM DIMM)	<ol style="list-style-type: none"> 1. The configuration page displays the added optional memory and the DIMM is installed in the lower slot on the System Controller Board? 	No - Ensure SDRAM DIMM is fully seated and is installed in the lower DIMM slot. Yes - Replace in the following order: ■ SDRAM DIMM ■ System Controller Board (RRP - 11)

Print-Image Quality Specifications

Use A4- or letter-size paper when troubleshooting an image-quality problem. Verify the Remote Control Panel settings to determine whether an image-quality problem is being caused by the printer or by the PC. If the configuration page prints normally, but in the online mode the prints have an image-quality problem, the problem may be in the System Controller Board, Interface Cable, or with the Host computer.

Component Circumference Table

Number	Roller	Abnormal Image Period	Component
1	Drum	95.6 mm	Print Cartridge
2	Charge Roller	38.5 mm	Print Cartridge
3	Supply Roller	45.3 mm	Print Cartridge
4	Developer Roller	47.1 mm	Print Cartridge
5	Transfer Roller	56.1 mm	Transfer Roller
6	Heat Roller	69.3 mm	Fuser Assembly
7	Pressure Roller	81.6 mm	Fuser Assembly

Print-Image Quality Specifications

Problem Identifier	
Skew	Tray 1 Optional Tray 2
A. Vertical Skew	<1.75 mm (0.07 in.) < 2.0 mm (0.08 in.)
B. Horizontal Skew	<1.5 mm (0.06 in.) < 2.0 mm (0.08 in.)
Print Registration	
Left Print Position Accuracy	± 1.5 mm (± 0.06 in.)
Top Print Position Accuracy	± 2.0 mm (± 0.08 in.)
Print Magnification	
Vertical (applied to 250 mm length)	<± 1.5 mm (± 0.06 in.)
Horizontal (applied to 180 mm length)	<± 1.0 mm (± 0.04 in.)
Bowing	
Horizontal (applied to 200 mm length)	<± 0.5 mm (± 0.02 in.)
Image Density ID	The average ID 1.30 at room temperature.
Background Density	Using a Chroma meter, the value must be 1.0
Void Spots	No more than 2 "Voids" per 25 mm (0.98 in.) square. less than 0.2 mm(0.008 in.) Not specified less than 0.6 mm(0.024 in.) less than 6 per page larger than 0.6 mm (0.024 in.)unacceptable
Black Spots	No more than 2 "Black Spots" per 25 mm (0.98 in.) square. less than 0.2 mm(0.008 in.) Not specified less than 0.6 mm(0.024 in.) less than 6 per page larger than 0.6 mm (0.024 in.)unacceptable

RAP 2 Print Image-Quality Problems

Perform the Print Cartridge cleaning procedure before proceeding with print-quality troubleshooting routines. The Print Cartridge cleaning procedure can be found on page 17.

Print Quality RAP Table

Image Defect	Possible Cause	Solution
No Image/Blank Prints Prints have no visible image	<ol style="list-style-type: none">1. Seal tape not removed from cartridge.2. Low or No Toner.3. Defective ground to Printer Cartridge4. System Controller Board5. Incorrect High-Voltage output (HVPS)	<ol style="list-style-type: none">1. Ensure that sealing tape has been removed.2. Verify Print Cartridge ground.3. Verify continuity between the cartridge ground and frame.4. Replace in the following order:<ul style="list-style-type: none">■ Print Cartridge (RRP - 3)■ System Controller Board (RRP - 11)■ (HVPS) (RRP - 13)■ Laser Assembly (RRP - 12)
Light Prints: All areas of the print are light	<ol style="list-style-type: none">1. Media (paper)2. Verify Remote Control Panel settings.3. Seal tape not removed from cartridge.4. Low toner.5. Transfer Roller.6. Laser contamination or obstruction.7. Incorrect High-Voltage output (HVPS).	<ol style="list-style-type: none">1. Verify paper meets printer specifications. Print 20 to 30 pages using the recommended paper.2. Verify that the Remote Control Panel is not set to Economode or that Toner Density menu is not set to "light."3. Ensure that the sealing tape has been removed.4. Verify low toner warning LEDs are not flashing. Remove the Print Cartridge and shake, reinstall or replace.5. Inspect the Transfer Roller for contamination and verify high-voltage contacts. Replace as required.6. Inspect the Laser assembly for any obstructions; clean laser.7. Replace the High-Voltage Power Supply Board (HVPS) (RRP - 13)
Black Prints: The prints are completely black, has no visible image.	<ol style="list-style-type: none">1. No charge voltage. (HVPS)2. Printer Cartridge.3. System Controller board.4. Print Engine board.5. Laser on all the time.	<ol style="list-style-type: none">1. Verify the high-voltage contacts are operational and make good contact with the print cartridge.2. Replace in the following order:<ul style="list-style-type: none">■ Print Cartridge (RRP - 3)■ (HVPS) High Voltage Power supply board (RRP - 13)■ System Controller (RRP - 11)■ Print Engine Controller Board (RRP - 10)■ Laser assembly (RRP - 12)

Print Quality RAP Table (cont'd.)

Image Defect	Possible Cause	Solution
Dark Image: All areas of the print are too dark.	<ol style="list-style-type: none"> 1. Verify Remote Control Panel settings. 2. Print Cartridge. 3. High-Voltage outputs incorrect (Developer Bias voltage). 4. Laser assembly. 	<ol style="list-style-type: none"> 1. Verify Remote Control Panel setting for the Toner Density menu is not set to "dark." 2. Verify that the high-voltage contacts are operational and make good contact with the print cartridge. 3. Replace the following in order: <ul style="list-style-type: none"> ■ Print Cartridge (RRP - 3) ■ (HVPS) High Voltage Power supply board (RRP - 13) ■ Laser assembly (RRP - 12)
Background: Uniform toner contamination in non-image area	<ol style="list-style-type: none"> 1. Media (paper). 2. Operating environment. 3. Print Cartridge. 4. Transfer Roller. 5. Incorrect High Voltage outputs. 6. Discharge (PTL) LED's. 	<ol style="list-style-type: none"> 1. Verify that paper meets printer specifications. Print 20 to 30 pages using recommended paper. 2. Printer is installed in specified environment? 3. Replace Print Cartridge. 4. Inspect Transfer Roller for contamination and good electrical contact, replace if required. 5. Replace (HVPS) High Voltage Power supply board (RRP - 13) 6. Inspect and clean discharge PTL LED's.
Ghosting: The image from the previous page prints on consecutive pages.	<ol style="list-style-type: none"> 1. Operating environment. 2. Media (paper). 3. Print Cartridge. 4. Transfer Roller. 5. Fuser assembly. 6. High Voltage outputs incorrect. 	<p>Note: Refer to the Component Circumference Table for defect pitch.</p> <ol style="list-style-type: none"> 1. Printer is installed in specified environment? 2. Verify that paper meets printer specifications. Print 20 to 30 pages using recommended paper. 3. Determine ghosting pitch and replace the corresponding assembly. 4. Replace (HVPS) High-Voltage Power supply board (RRP - 13).
Non-Uniform Image: The Line darkness and solid-area density image vary across the print.	<ol style="list-style-type: none"> 1. Printer Cartridge. 2. Printer Cartridge grounding. 3. Unstable High Voltage output. 4. Transfer Roller contamination. 5. Laser Window or optic contamination. 	<ol style="list-style-type: none"> 1. Ensure that Cartridge is not out of toner. Inspect Drum for deterioration or contamination. If defective, replace the Print Cartridge. 2. Verify Printer Cartridge ground. Check continuity between cartridge ground contact and frame ground. Ensure that the drum contact is clean and undamaged. 3. Inspect the Transfer Roller spring tension and bearing contacts. 4. Remove Laser assembly, clean or replace as necessary (RRP - 12). 5. Replace the High-voltage power supply board (RRP - 13).

Print Quality RAP Table (cont'd.)

Image Defect	Possible Cause	Solution
Black Spots/Marks: There are spots and/or marks of toner on the printed side of the page.	<ol style="list-style-type: none"> 1. Print Cartridge. 2. Fuser assembly. 3. Paper transports. 4. Transfer Roller. 	<p>Note: Refer to the Component Circumference Table for defect pitch.</p> <ol style="list-style-type: none"> 1. Replace the Print Cartridge (RRP - 3). 2. Inspect /clean/replace Fuser assembly as necessary. 3. Clean contamination from paper transports and exit rollers. 4. Clean /replace Transfer Roller (RRP - 9)
Spot Deletions: Solid areas are marked with irregular white spots.	<ol style="list-style-type: none"> 1. Damp paper. 2. Print Cartridge. 3. Transfer Roller. 	<ol style="list-style-type: none"> 1. Replace paper. 2. Deletions repeat every 95.6 mm? Replace Print Cartridge (RRP - 3). 3. Remove the Transfer Roller and clean (dust off). If deletions repeat every 56.1 mm, replace transfer roller.
Horizontal Bands: Dark bands appearing in the horizontal direction.	<ol style="list-style-type: none"> 1. Print Cartridge. 2. Fuser assembly. 3. Transfer roller. 4. High Voltage outputs incorrect. 5. Laser assembly. 	<ol style="list-style-type: none"> 1. Replace the Print Cartridge. 2. Inspect /clean/replace Fuser assembly as necessary (RRP - 7). 3. Inspect the Transfer Roller spring tension and bearing contacts. 4. Replace the High Voltage Power Supply Board (RRP - 13). 5. Replace Laser assembly (RRP - 12).
Character Defects: Garbled print, missing, repeating or scrambled characters are problems relating to font data or character generation.	<ol style="list-style-type: none"> 1. Loose/defective interface cables, cable not within specification. 2. Optional DIMM memory. 3. System Controller board. 	<ol style="list-style-type: none"> 1. Inspect cable connections; verify cables are meet specification requirements. 2. Replace optional DIMM memory. 3. Replace System Controller Board (RRP - 11).
Unfused Image: Part or all of the image is unfused.	<ol style="list-style-type: none"> 1. Paper quality (damp paper). 2. Operating environment. 3. Remote Control Panel settings. 4. Fuser Assembly. 5. Print Engine board. 	<ol style="list-style-type: none"> 1. Paper is too thick, damp or contains a high percentage of cotton. 2. Printer is installed in specified environment? 3. Verify Remote Control Panel settings, such as envelope. 4. Inspect /clean/replace Fuser assembly as necessary (RRP - 7). 5. Replace Print engine board (RRP - 10).
Skewed Image: The printed image is not parallel with the sides of the page.	<ol style="list-style-type: none"> 1. Paper. 2. Paper tray. 3. Pick up roll assembly/Paper transportation. 4. Fuser assembly. 	<ol style="list-style-type: none"> 1. Inspect paper for damage. Replace as necessary. 2. Check paper tray for damage. Properly install fresh paper in the paper tray. 3. Inspect Pick-up roller assembly, Replace as necessary (RRP - 4). 4. Inspect paper transportation areas for proper operation. 5. Inspect /clean/replace Fuser assembly as necessary (RRP - 7).

Print Quality RAP Table (cont'd.)

Image Defect	Possible Cause	Solution
<p>Skips/Smears: Skips, loss or stretching of the image in bands across the process direction.</p> <p>Smears, the distortion of the image in bands across the process direction that causes the image to appear blurred or compressed.</p>	<ol style="list-style-type: none"> 1. Paper transportation. 2. Main drive motor assembly. 3. Fuser assembly. 4. Print Cartridge. 	<ol style="list-style-type: none"> 1. Inspect paper transportation areas for proper operation. 2. Inspect main drive motor assembly for damage or worn gears. Replace as necessary (RRP - 8). 3. Inspect /clean/replace Fuser assembly as necessary (RRP - 7). 4. Replace Print Cartridge (RRP - 3).
<p>OHP Print Distortion: Trembling appearance when printing on transparencies.</p>	<ol style="list-style-type: none"> 1. Remote Control Panel settings. 2. Recommended Media. 3. Transfer roller voltage. 	<ol style="list-style-type: none"> 1. Verify Remote Control Panel is configured to Transparency mode. 2. Verify transparency meets printer specifications. 3. Inspect the Transfer Roller spring tension and bearing contacts. 4. Replace High Voltage Power Supply Board (RRP - 13).

RAP 3 Paper Jams and Paper Feed Problems

(Error and Paper LEDs “ON”)

When troubleshooting paper jam and feed errors, use the following table. Perform, in order, the procedures in the checklist first. If you have performed all procedures in the checklist and still receive the error, go to the solution column and replace the specified parts in the order they are given.

For replacing or removing specific parts, go to “Removal and Replacement Procedures (RRPs)” on page 37 and follow the appropriate procedure.

Note *DCU codes are used for Depot repair only.*

Prior to performing any of the Jam procedures, verify that the Registration and Fuser Exit actuators are not held actuated and move without binding.

Note *Refer to printer paper path on page 32 for actuator locations.*

Paper Jam Error Table

Paper Jam Location	Check List	Solution
Paper mis-feed from Main Tray (Tray 1) Paper mis-feed. Paper does not reach the registration sensor in the specified time. (DCU code 71)	<ol style="list-style-type: none"> 1. Ensure that the paper is loaded correctly. 2. Ensure that the Feed Solenoid release arm is not binding and moves freely. 3. Ensure that the Pick-Up Roller rotates when the solenoid release arm actuates. 4. Inspect/Clean the feed roll. 	Error still remains? Replace in the following order: <ul style="list-style-type: none"> ■ Print Engine Controller Board (RRP - 10). ■ Pick-Up Roller Assembly (RRP - 4). ■ Paper Tray.
Paper mis-feed from Optional Second Tray (Tray 2) (DCU code 72)	<ol style="list-style-type: none"> 1. Ensure that the paper is loaded correctly, inspect tray for damage or missing parts. 2. Inspect main tray (tray 1) chute for obstructions. 3. Inspect/clean feed roll, pinch roller and retard/drag pads. 4. Inspect interface connector between printer and optional tray (Tray 2). 	Error still remains? Replace in the following order: <ul style="list-style-type: none"> ■ Optional tray (tray 2). ■ Print Engine Controller Board (RRP - 10).
Paper mis-feed from Multi-Purpose tray. (DCU code 73)	<ol style="list-style-type: none"> 1. Ensure that the paper is loaded correctly. 2. Inspect the MPF actuator for binding. 3. Verify MPF release solenoid is operational. 4. Inspect and clean the feed roller and retard/drag pads. 	Error still remains? <ul style="list-style-type: none"> ■ Repair or replace the MPF actuator. Replace the following: <ul style="list-style-type: none"> ■ Multi-Purpose Feeder Assembly (RRP - 5).

Paper Jam Error Table (cont'd.)

Paper Jam Location	Check List	Solution
<p>Registration/Feed Jam Paper does not leave the registration sensor in the specified amount of time, registration sensor held actuated.</p> <p>(DCU code 01)</p>	<ol style="list-style-type: none"> 1. Inspect the Registration Switch Actuator for binding. 2. Ensure that the Bias Transfer Roller turns freely. 3. Inspect paper transport areas for obstructions. 4. Verify that the Fuser Assembly is operational. Rotates when fuser motor is on? 5. Ensure that the Print Cartridge is not binding or stalling. 	<p>Error remains? Repair or replace the registration switch.</p> <p>Replace in the following order:</p> <ul style="list-style-type: none"> ■ Print Engine Controller Board (RRP - 10). ■ Replace the Bias Transfer Roller (RRP - 9). ■ Replace the Fuser Assembly .
<p>Exit Jam Paper does not leave the Fuser Exit sensor in the specified amount of time, Fuser switch held actuated.</p>	<ol style="list-style-type: none"> 1. Inspect Fuser Exit Actuator for binding. 2. Inspect the Exit Transport assembly and verify correct operation. 3. Verify that the Fuser assembly is operational. Rotates when Fuser motor is on? 4. Ensure that there is no paper wrapped around the fuser rollers. 5. Verify that the Fuser Exit sensor is operational. 	<p>Error still remains? Replace in the following order:</p> <ul style="list-style-type: none"> ■ Fuser Assembly (RRP - 7). ■ Exit Transport Assembly (RRP - 6). ■ Print Engine Controller Board (RRP - 10).

Printer Paper Path

Papers that meet the specifications may be fed from the paper trays 1 and 2, or the multi-purpose tray. If you use thick paper (from the RCP Menu) with a weight of more than 105 g/m² (60 lb), you must insert the paper into the multi-purpose tray and select the paper type.

Envelopes can be fed from the multi-purpose tray or optional tray 2.

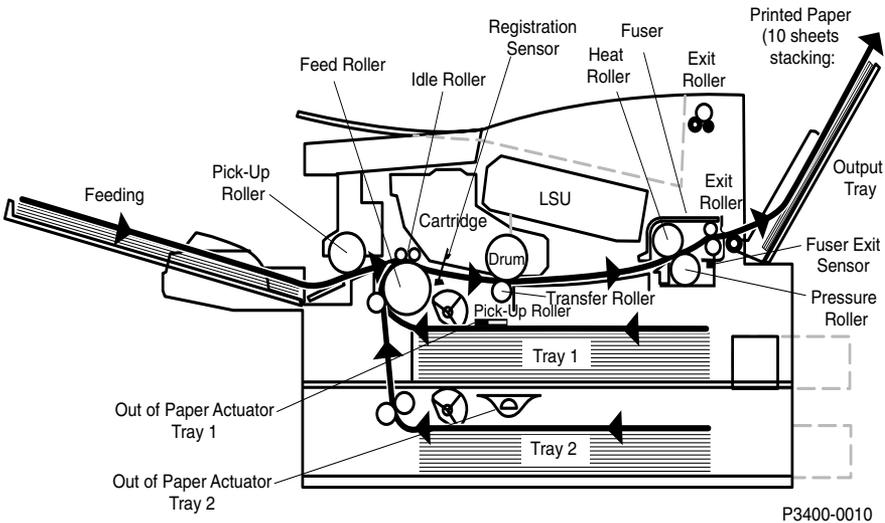
Paper Limitations

The following are recommended for optimum performance:

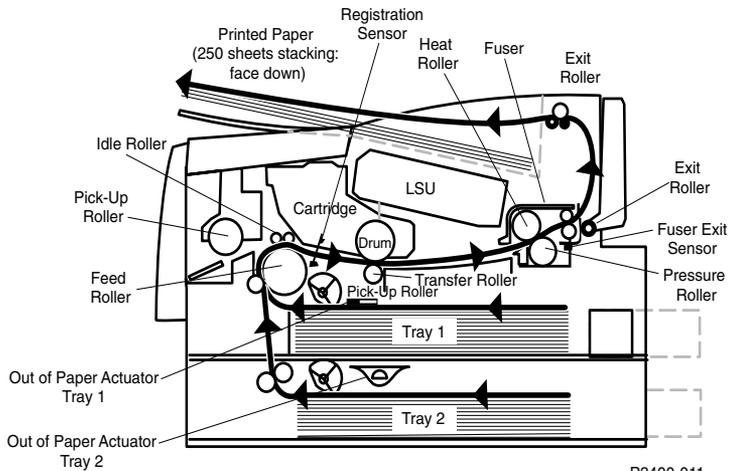
- Adhesive label sheets specifically designed for laser printers.
- Transparencies specifically designed for laser printers.
- Envelopes with a seal must have adhesives compatible with the heat and pressure of the printer's fusing process.

Avoid:

- Paper with embossed lettering, perforations, or rough texture.
- Paper to which color was added after the paper was made.
- Printed forms whose ink is not for laser printing.



Paper Path to the Face-Up Output Tray.



Paper Path to the Face-Down Output Tray.

Paper Empty Sensor

The paper supply is monitored by the paper empty sensor. When the tray runs out of paper, the sensor will send a signal to the Print Engine Controller Board and the paper LED will illuminate.

Paper Feed Drive

The drive for all rollers is provided by the main drive motor and a series of drive gears. When the main motor turns, all the paper path components turn except the Pick-Up Roller. The Pick-Up Roller assembly includes a mechanical clutch, released by the paper feed solenoid.

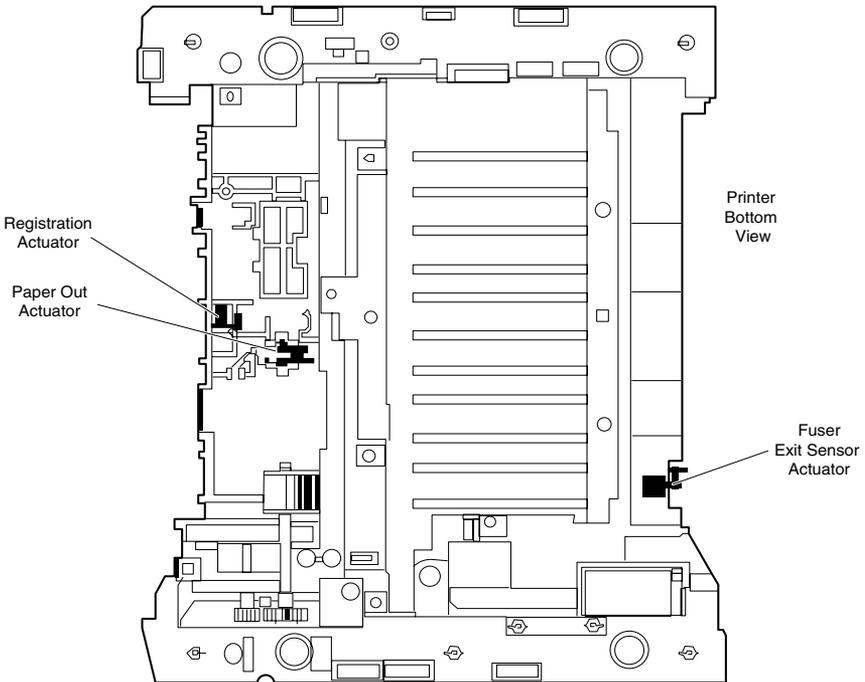
Paper Feed Sequence

When the Print Engine Controller Board is ready to feed paper, it energizes the paper feed solenoid. The solenoid armature releases the media unit clutch and the pick up roller makes one revolution. This drives the paper to the Feed Roller and Pinch Roller. Note the shape of the Pick-Up Roller. The flat side always faces the paper supply when not feeding paper. This shape allows paper to be moved in and out of the assembly.

The feed roller and pinch roller now drive the paper toward the transfer area. Before arriving at the transfer area, the paper actuates the registration sensor.

Registration Sensor

The registration sensor has two purposes. First, it is used to monitor paper movement. If the paper takes too long getting to the sensor, or it stays at the sensor too long, the Print Engine Controller Board will shut down the printer and light both the Paper and Error LEDs on the control panel. Second, the signal generated by the sensor tells the Print Engine Controller Board that the paper is almost at the transfer area and it is time to start the xerographic process. It is important that the leading edge of the paper enters the transfer area at the same time that the leading edge of the drums developed image reaches the transfer area.



P3400-012

Printer Sensors

Note

The registration and paper out sensors are mounted on the Print Engine Controller Board. The Fuser Exit sensor is mounted on the rear frame.

Paper Transport

The feed and pinch rollers continue to drive the paper into the transfer area where the image is transferred from the drum to the paper.

The paper continues to the fusing area where it goes between the fuser rollers. The heat roll is heated by a halogen lamp. When the paper goes between the heat roll and the pressure roll, the toner is melted into the paper, forming a permanent image. The temperature of the heat roll is monitored by a thermistor that sends signals to the Print Engine Controller Board.

The Fuser drives the paper into the exit rollers and the exit rollers drive the paper into either the Face Up or Face Down output tray.

Fuser Exit Sensor

The Exit Sensor monitors the paper movement. If the paper takes too long getting to the sensor, or it stays on the sensor too long, the Print Engine Controller Board will shut down the printer and light the Paper and Error LEDs.

Removal and Replacement Procedures (RRPs)

Removal and Replacement Procedures (RRPs)

This section contains the removal and replacement procedures for spared parts in the printer. In most cases, to reinstall a part, simply reverse the Removal Procedure shown.

Locations given in the Removal and Replacement Procedures are always referenced from the front of the printer as you are facing the control panel.

The following notations apply:

- Arrows in the illustration show direction of movement.
- The number at the bottom of the illustration is used by developers for tracking and control purposes and has no bearing on part numbers.

Preparation

Before you begin any Removal and Replacement Procedure:

1. Switch OFF the printer power and disconnect the power cord from the AC wall outlet.
2. Remove the Print Cartridge and protect it from exposure to light
3. Remove the paper tray(s).
4. Disconnect all computer interface cables from the printer.
5. Wear an electrostatic discharge wrist strap to help prevent damage to the sensitive electronics of the printer circuit boards.
6. Wait at least 30 minutes after you have switched OFF printer power for the Fuser to cool before you work on or around the Fuser.
7. Do not use force to remove or install printer components.
8. Use only the screw size and type designated in the RRP. The wrong screw could easily damage tapped holes.
9. Be careful that no obstacles are included when you reassemble components.
10. If you turn the printer over to replace some parts, toner or paper particles may contaminate the Laser window. Protect the Laser window with clean paper.

Note *Always verify proper printer operation after removing or replacing parts of the printer.*

RRP - 1 Main Cover

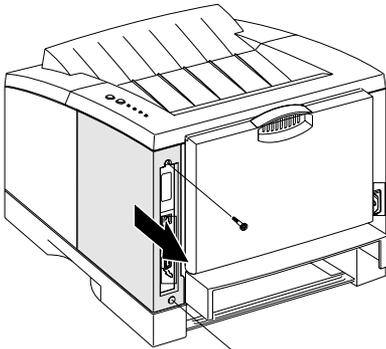


Fig. 1

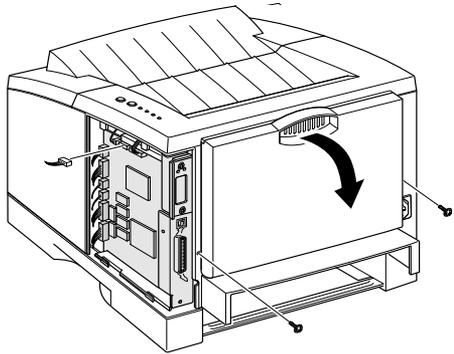


Fig. 2

P3400-015

Removal

1. Switch the printer power off and disconnect the AC power cord.
2. Remove the Print Cartridge (RRP - 3).
3. Remove the two thumb screws from the System Controller Board Cover and remove the cover (Fig 1).
4. Disconnect the control panel harness (CN18) from the System Controller Board (Fig 2).
5. Remove the two screws from the rear of the printer cover (Fig 2).
6. Open the rear cover and Multi-Purpose Feeder cover.
7. Open the top cover and remove the two screws securing the Main Cover (Fig 3).

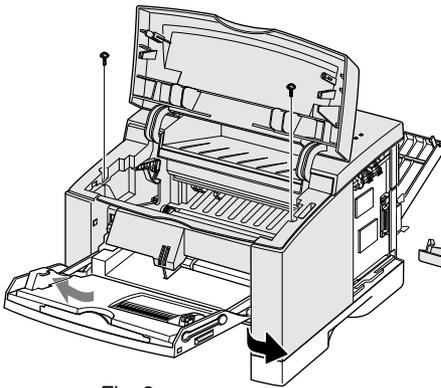


Fig. 3

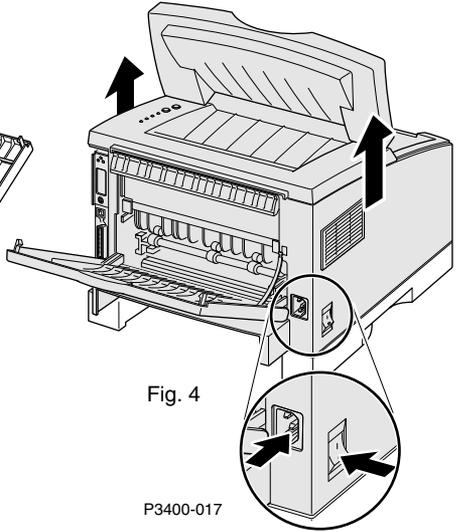


Fig. 4

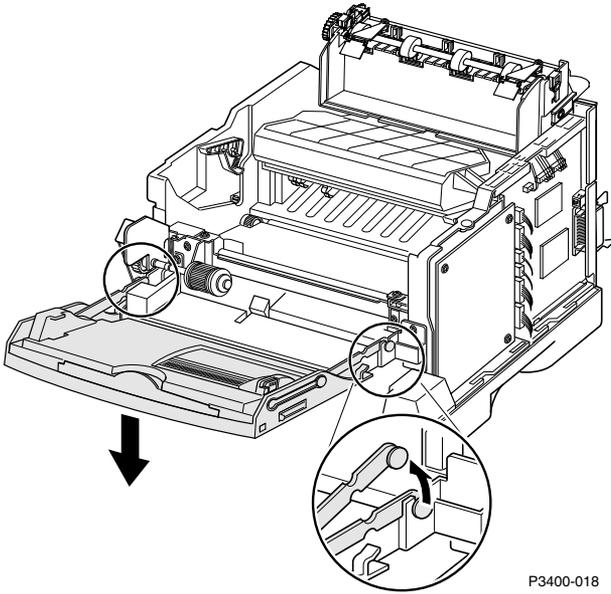
P3400-017

8. Lift up on the Main Cover and remove (Fig 4).

Replacement

Note *When replacing the main cover, be careful not to snap off the Multi-Purpose Feeder actuator.*

RRP - 2 Multi-Purpose Feeder Cover (MPF)



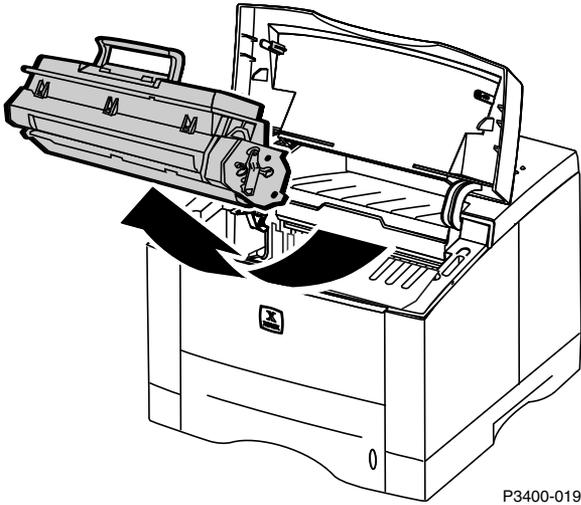
Removal

1. Switch the printer power off and disconnect the AC power cord.
2. Remove the Main Cover (RRP - 1).
3. Unlatch the stopper arms and the hinge snap-ons securing the Multi-Purpose Feeder.
4. Remove the feeder cover.

Replacement

Note *When replacing the main cover, be careful not to snap off the Multi-Purpose Feeder actuator.*

RRP - 3 Print Cartridge



Removal

1. Open the Main Cover.
2. Grasp the Printer Cartridge handle and remove the cartridge by pulling it up and out of the printer.

Caution *If the Print Cartridge is going to be out for longer than a few moments, be sure to protect it from the light.*

RRP - 4 Pick-Up Roll Assembly

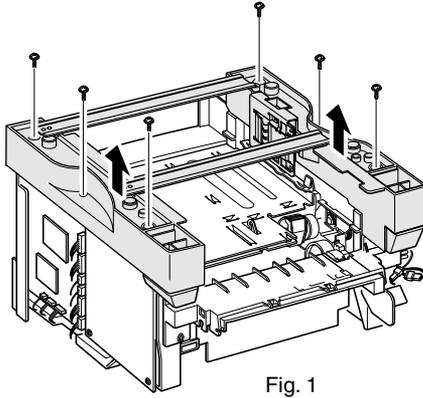


Fig. 1

Removal

1. Switch the printer power off and disconnect the AC power cord.
2. Remove the Paper Tray.
3. Remove the Print Cartridge (RRP - 3).
4. If the optional tray 2 is installed, remove it from the base printer.
5. Turn the printer upside down and remove the six screws securing the base to the printer (Fig 1).
6. Disconnect the size board connector and remove base from printer.

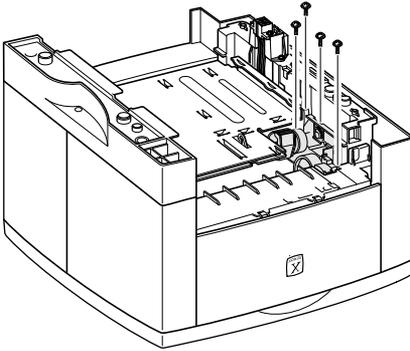


Fig. 1

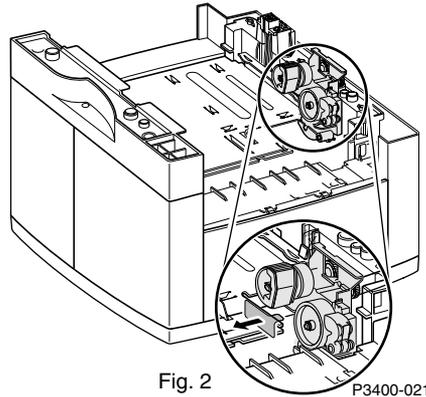
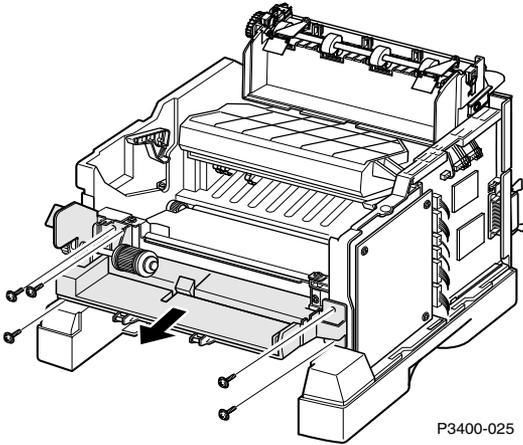


Fig. 2

P3400-021

7. Remove four screws securing the Pick-Up Assembly and lift the assembly out; See Fig 1 above.
8. Check the pick-up rubber wear. If the rubber is heavily worn, replace the pick-up roll assembly (Fig 2).

RRP - 5 Multi-Purpose Feeder (MPF) Assembly



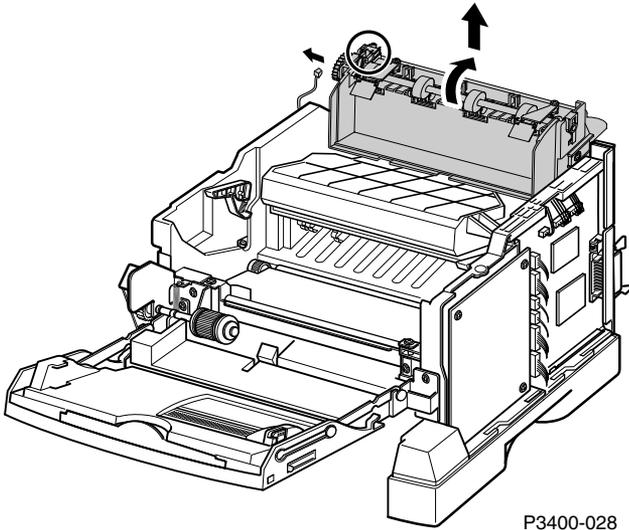
Removal

1. Switch the printer power off and disconnect the AC power cord.
2. Remove the Main Cover (RRP - 1).
3. Remove the MPF Cover (RRP - 2).
4. Disconnect the two connectors and remove the five screws securing the MPF Assembly.
5. Remove the MPF Assembly.
6. Check the wear on the pick-up roller rubber. If the rubber is worn, replace the entire assembly.

Replacement

Note *When replacing the Main Cover, be careful not to snap off the MPF actuator.*

RRP - 6 Fuser Exit Assembly



P3400-028

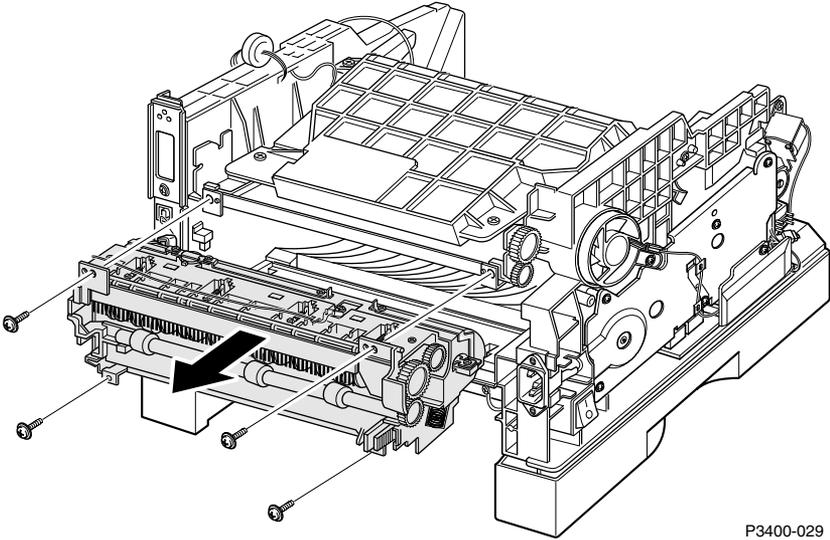
Removal

1. Switch the printer power off and disconnect the AC power cord.
2. Remove the Main Cover (RRP - 1).
3. Disconnect the connector from the Stack Height Sensor.
4. Remove the Exit Assembly in the direction of the arrow.

Replacement

Note *When replacing the main cover, be careful not to snap off the Multi-Purpose Feeder actuator.*

RRP - 7 Fuser Assembly



P3400-029

Removal

1. Switch the printer power off and disconnect the AC power cord.
2. Remove the Main Cover (RRP - 1).
3. Remove the four screws (two brass on top and two black on bottom).

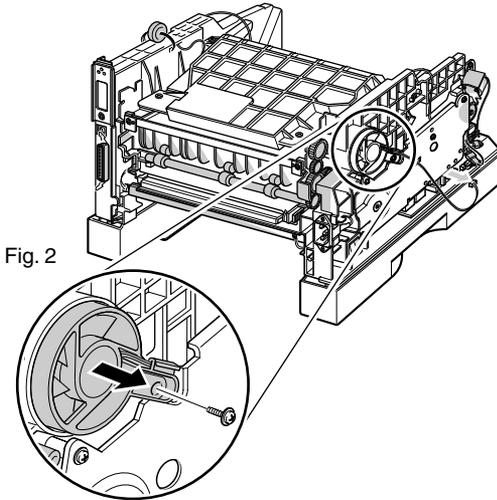
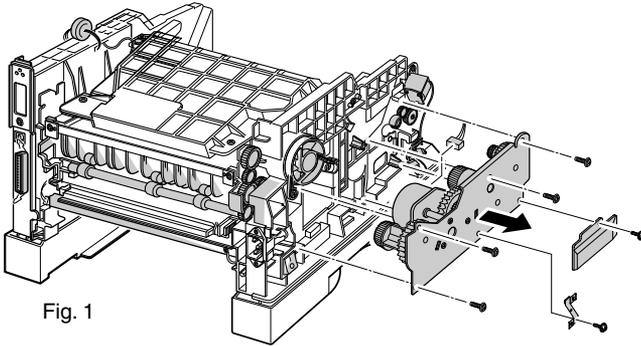
Note *Be sure to replace the appropriate screws when reassembling the Fuser Assembly.*

4. Unplug the connector and remove the Fuser Assembly.

Replacement

Note *When replacing the main cover, be careful not to snap off the Multi-Purpose Feeder actuator.*

RRP - 8 Main Drive Motor Assembly



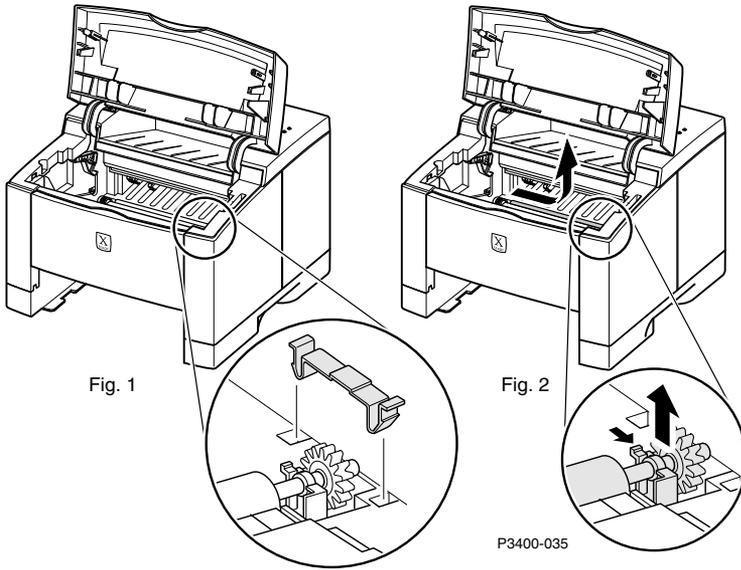
P3400-033

Removal

1. Switch the printer power off and disconnect the AC power cord.
2. Remove the Main Cover (RRP - 1).
3. Remove the screw securing the fan to the printer (Fig 2).
4. Remove the fan but do not disconnect the fan harness.
5. Remove the six screws from the gear bracket and unplug one connector from the main drive motor (Fig 1).
6. Disconnect the connector from the interface board.
7. Remove Drive Assembly.

Note *When replacing the main cover, be careful not to snap off the Multi-Purpose Feeder actuator.*

RRP - 9 Bias Transfer Roller



Note *If you are going to replace the Roller, Save the Clip, Bushings and Gear from the Bias Transfer Roller.*

Removal

1. Switch the printer power off and disconnect the AC power cord.
2. Open the printer cover.
3. Remove the Print Cartridge (RRP - 3).
4. Remove the gear cover (Fig 1).
5. Push in the bushing clip at the end of the Bias Transfer Roller and remove the Roller (Fig 2).

Note *Be careful not to touch the Bias Transfer Roller with your hands or drop the gear off the Shaft end.*

6. Pull the Bias Transfer Roller to the right until the left end of the roll is clear of the bushing.
7. Remove the Bias Transfer Roller out of the printer.

Note *Ensure that the Gear on the right end of the Bias Transfer Roller is in place.*

Replacement

1. If installing a new Transfer Roller, remove the bushings and gear from the old roller and place on the new roller.

RRP - 10 Print Engine Controller Board

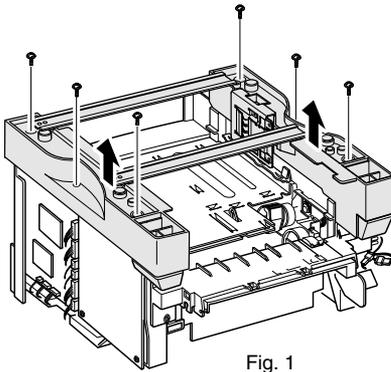


Fig. 1

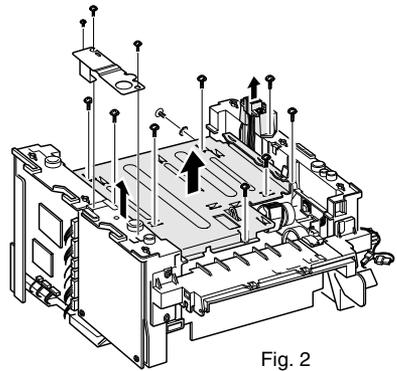


Fig. 2

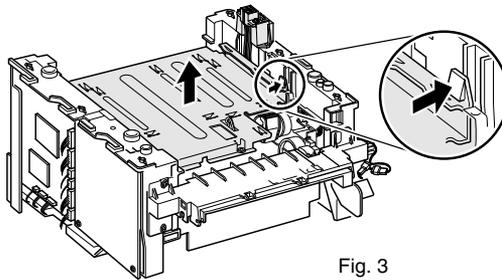


Fig. 3

P3400-036

Removal

1. Switch the printer power off and disconnect the AC power cord.
2. Remove the Main Cover (RRP - 1).
3. Remove six screws from the Base and disconnect the size board harness connector (Fig 1).
4. Remove 11 screws securing the Print Engine Controller Board (Fig 2).
5. Release the Pick-Up Solenoid to clear the Pick-Up Roller.
6. While pushing the latch to release, lift up on the shield and unplug all connectors (Fig 3).
7. Remove the Print Engine Controller Board from the printer.

Note Do not bind the registration actuator against the print engine controller board. Ensure that the registration actuator moves freely.

Replacement

Note When replacing the main cover, be careful not to snap off the Multi-Purpose Feeder actuator.

RRP - 11 System Controller Board

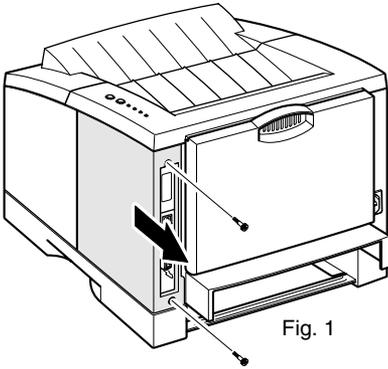


Fig. 1

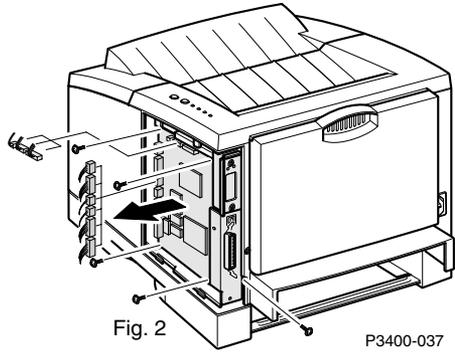


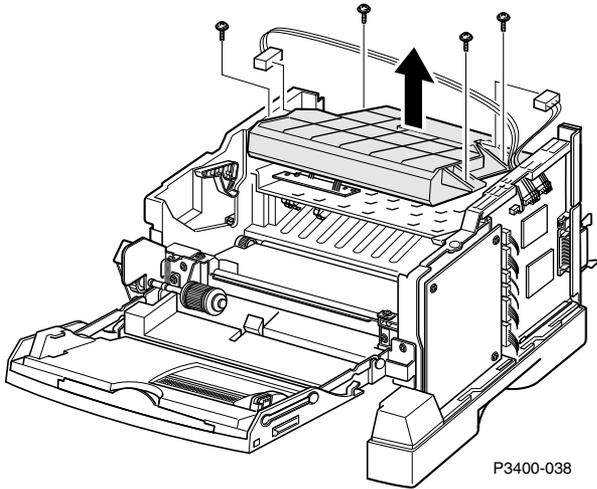
Fig. 2

P3400-037

Removal

1. Switch the printer power off and disconnect the AC power cord.
2. Disconnect any interface cables attached to the System Controller Board.
3. Remove two screws securing the System Controller Board Cover.
4. Remove the Cover (Fig 1).
5. Detach all connectors from the System Controller Board (Fig 2).
6. Remove the five screws securing the Board (Fig 2).
7. Remove the Board from the printer.

RRP - 12 Laser Assembly



Removal

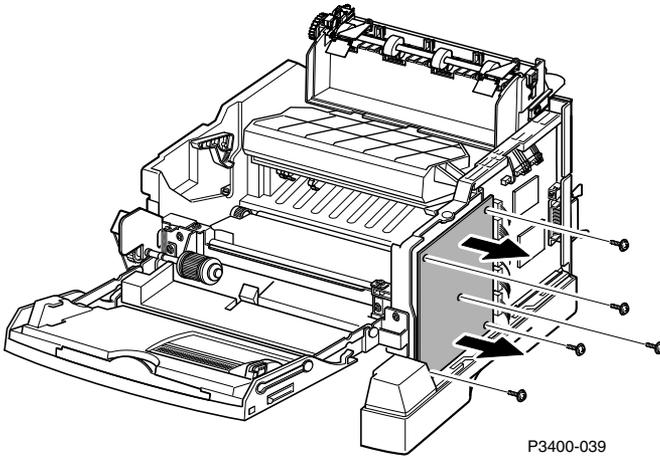
1. Switch the printer power off and disconnect the AC power cord.
2. Remove the Main Cover (RRP - 1).
3. Remove the Fuser Exit Assembly (RRP - 6).
4. Remove the four screws securing the Laser Assembly and Fan Duct.
5. Disconnect the two connectors from the Laser Assembly.
6. Remove the Laser Assembly.

Replacement

1. Clean the Laser window.

Note *When replacing the main cover, be careful not to snap off the Multi-Purpose Feeder actuator.*

RRP - 13 High Voltage Power Supply Board (HVPS)



Removal

1. Switch the printer off and disconnect the AC power cord.
2. Remove the Main Covers (RRP - 1).
3. Remove the five screws to remove the High Voltage Power Supply Board.
4. Remove the three connectors from the High Voltage Power Supply Board.

Caution *The four HVPS spring contacts can fall out of position if the printer is tilted to the side. If the springs are removed caution needs to be used to ensure that the proper spring is replaced in its proper location. Not all the springs are alike.*

Replacement

Note *When replacing the main cover be careful not to snap off the Multi-Purpose Feeder actuator.*

RRP - 14 Installing Additional Memory

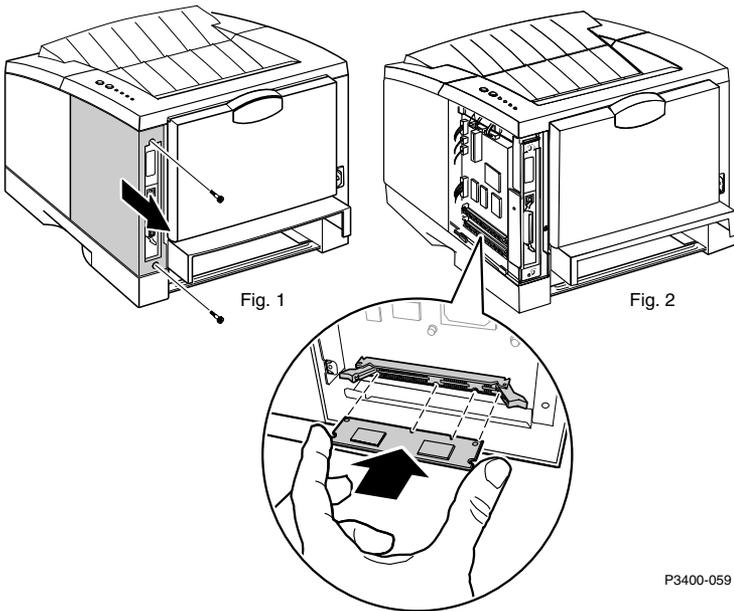
The printer comes equipped with 16 Mbytes of resident base memory, which is expandable to 80 Mbytes by installing additional DIMMs.

The system has two slots, one is dedicated to an SDRAM

Note *Memory can be installed into the lower DIMM slot only.*

To install additional memory:

1. Switch off the printer and disconnect the AC power cord.
2. Disconnect **all** cables from the back of the printer.
3. Remove two screws securing the System Controller Board Cover and remove the cover (Fig 1).

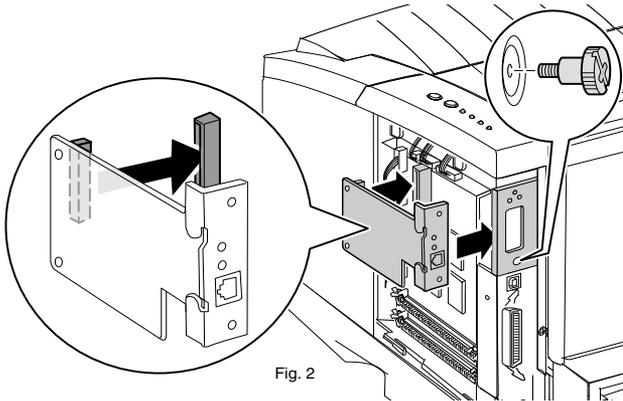
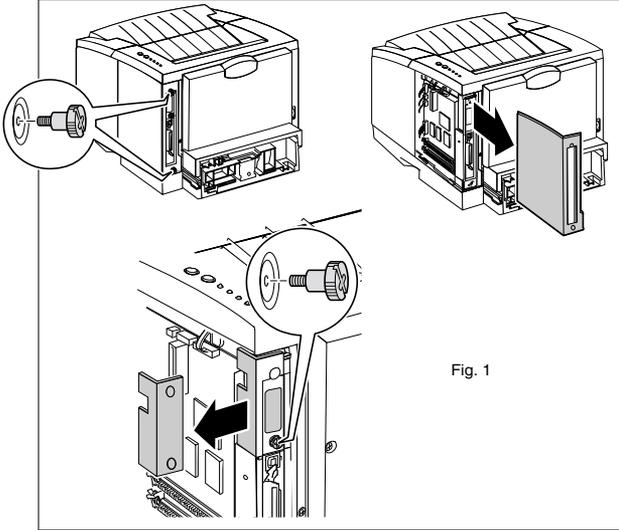


4. Install the memory DIMM into the lower memory slot (Fig 2).

Note *The top DIMM slot is currently not used.*

5. Push gently on the DIMM until it clicks into place.
6. Print a configuration page to verify that the memory is working and installed properly.
7. Slide the System Controller Board Cover back in place and secure with two screws.

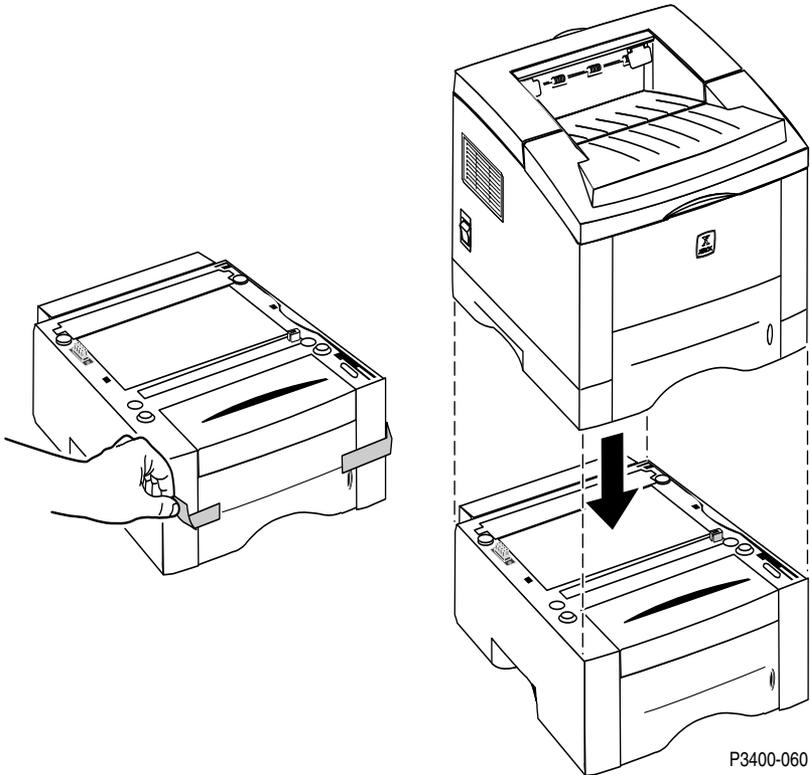
RRP - 15 Installing the Optional Network Card



P3400-058

1. Switch the printer power off and disconnect the AC power cord.
2. Remove the two thumb screws from the System Controller Board Cover and remove the cover (Fig 1).
3. Remove the thumbscrew and plate from the System Controller Board bracket (Fig 1).
4. Install the NIC card and the thumbscrew as shown in the diagram (Fig 2).
5. Replace the Cover and and two remaining thumb screws.
6. Print a configuration page to verify successful NIC card installation.
7. Install the Network drivers.

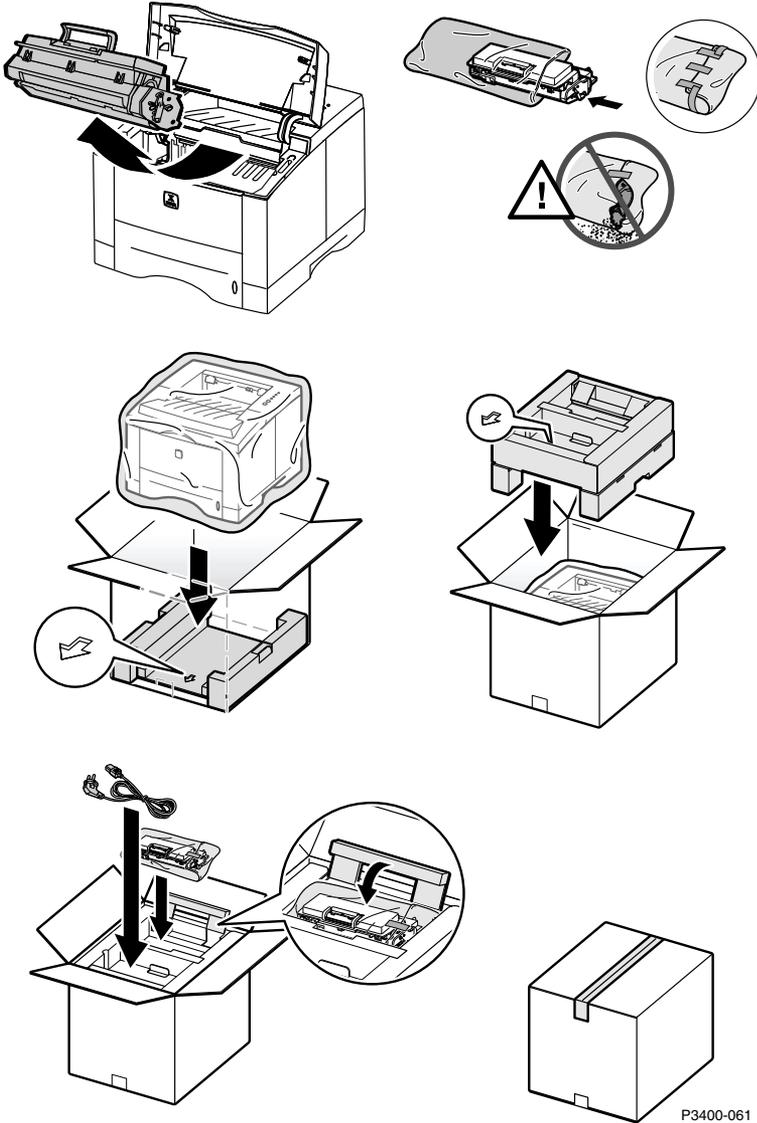
RRP - 16 Installing the Optional 550-sheet Lower Paper Tray 2



1. Switch the printer power off and disconnect the AC power cord.
2. Remove all sealing/packing tape from the optional feeder (Paper Tray 2).
3. Turn the printer off.
4. Disconnect all cords and cables.
5. Align the four corners of the feeder with the four corners of the printer and set the printer squarely onto the feeder.
6. Print a configuration sheet to verify correct installation.

RRP - 17 Repacking Instructions

If a printer needs to be sent to Depot Repair, remove all options, such as the NIC Card (RRP - 15), Memory (RRP - 14) and the optional lower Paper Tray 2 Assembly (RRP - 16). Remove the Print Cartridge and follow the directions below for repackaging.



P3400-061

FRU Parts List

This section provides a list of Field Replaceable Units for the Xerox Phaser 3400 Laser Printer.

Changes to the printer may be made to accommodate improved components as they become available. When ordering parts and/or supplies, it is important to include the following information:

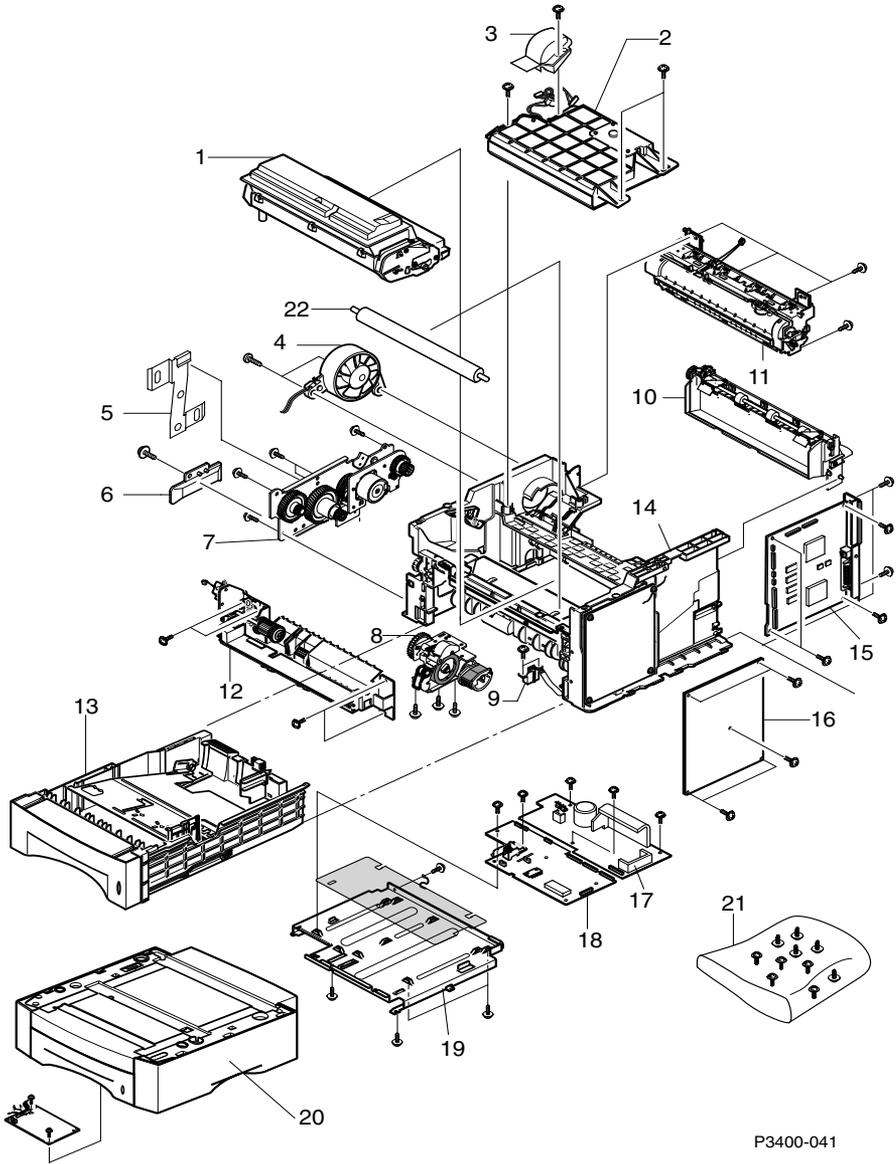
- Component's part number
- Printer type or model number
- Printer serial number
- Modification number, if any

Using the Parts List

1. The callout numbers shown in each part's exploded illustration corresponds to the parts list numbers for that illustration.
2. Throughout this manual, parts are identified by the prefix "PL", followed by a number, a decimal point and another number: For example, PL 1.3 means the part is item 3 of Parts List 1.
3. An asterisk (*) following a part name indicates that the page contains a note about this part.

Note *Only parts showing part numbers are available for support.
Parts not showing part numbers are available on the parent assembly.*

PL 1 - Main Assemblies

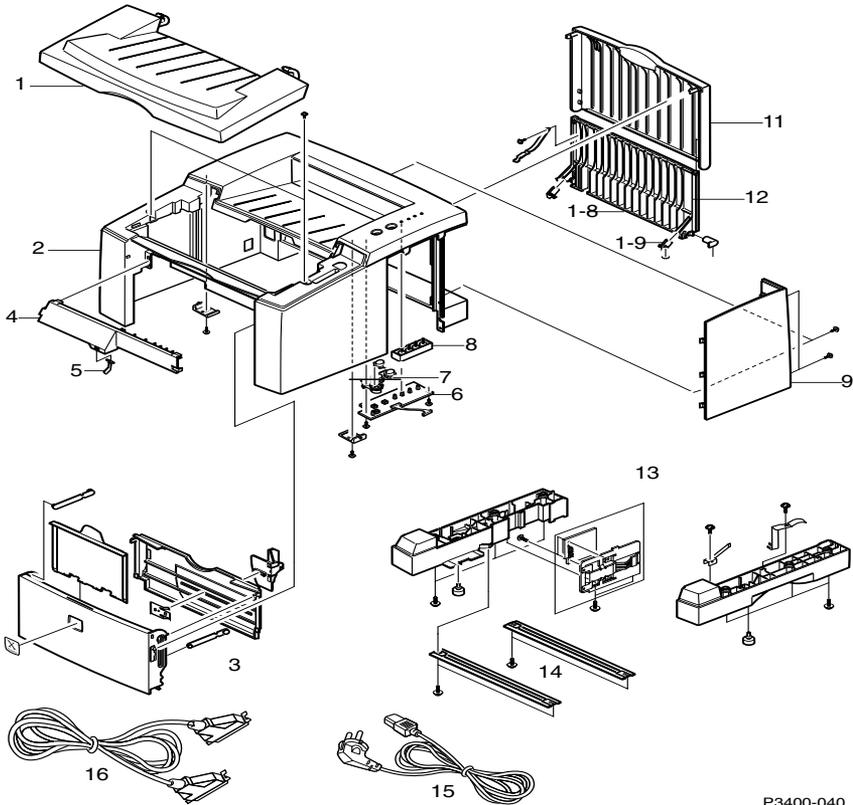


P3400-041

PL 1 - Major Assemblies

No	Part Number	Qty	Description
1.	106R00461	1	Print Cartridge 4K
	106R00462	1	Print Cartridge 8K
2.	062K13370	1	Laser Assembly (LSU)
3.		1	Fan Duct
4.		1	Fan
5.		1	Clamp
6.		1	
7.	127K42210	1	Main Drive Motor Assembly
8.	022N01301	1	Pick-Up Assembly
9.		1	Cap Sensor
10.	059K28920	1	Exit Assembly
11.	126K22080	1	110 V Fuser Assembly
	126K22090		220 V Fuser Assembly
12.	022N01304	1	Multi-Purpose Feeder Assembly
13.	109R00526	1	Standard 550-sheet Paper Tray
14.		1	Base Printer Assembly (110 V)
15.	160K88590	1	System Controller Board
16.	105E14930	1	High Voltage Power Supply Board
17 - 19	160K88600	1	110 V Print Engine Controller Board
	160K88610		220 V Print Engine Controller Board
20.	097S02716	1	Optional 550-sheet Feeder with Paper Tray 2
21.	600N01672	1	Screws (Hardware Kit)
22.	059K29120	1	Bias Transfer Roller

PL 2 - Covers and Base

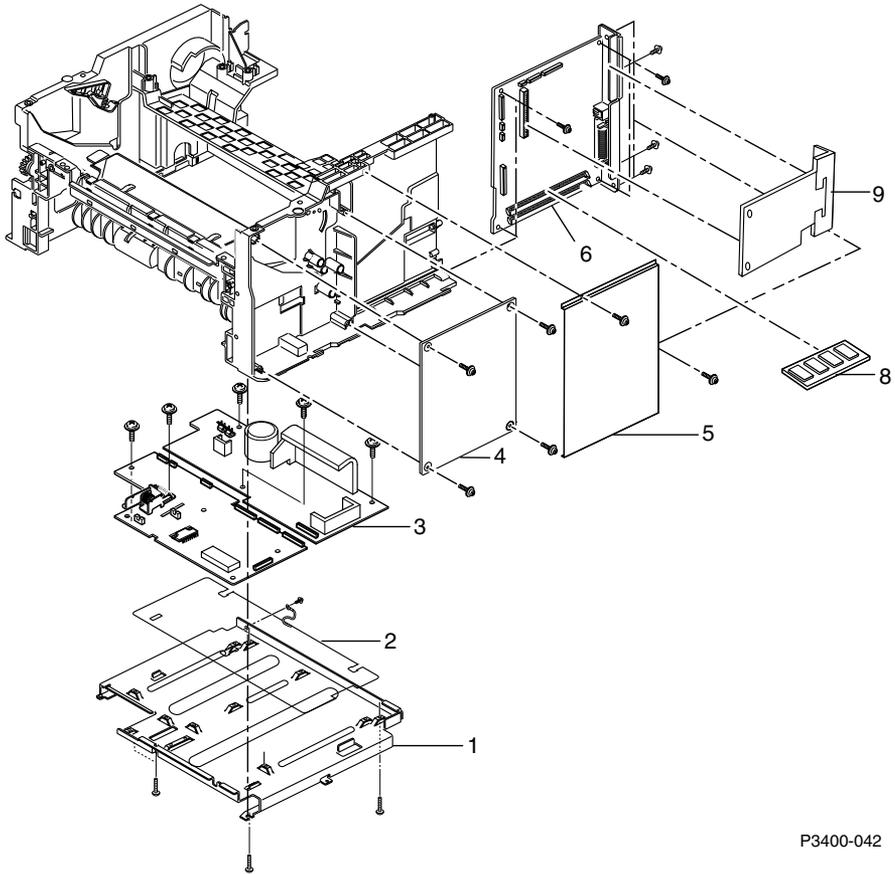


P3400-040

PL 2 - Covers and Base

No	Part Number	Qty	Description
1.			Top Cover
2.		1	Main Cover
3.		1	Multi-Purpose Feeder Tray Unit
4.		1	Multi-Purpose Tray Support
5.		1	Multi-Purpose Tray Empty Lever
6.		1	LED Panel
7.		1	Button Panel
8.		1	LED Lens
9.		1	System Controller Cover
10.			Exit Guide
11.		1	Rear Cover
12.		1	Output tray Cover
13.		2	Base Legs
14.		2	Base Brackets
15.	117E21930	1	Power Cord 110 V
16.	117E21940	1	Parallel Printer Cable

PL 3 - Main Boards, Optional NIC Card and Memory Expansion

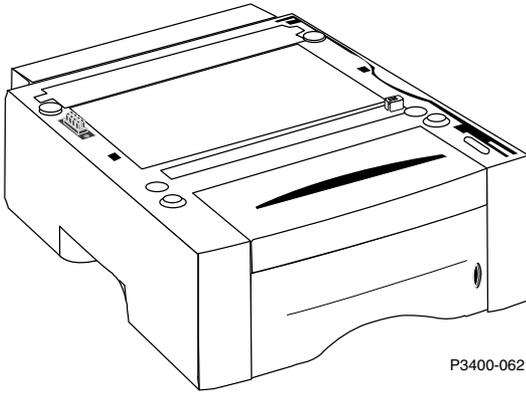


P3400-042

PL 3 - Main Boards, Optional NIC Card and Memory Expansion

No	Part Number	Qty	Description
1.			Shield
2.			Insulator
3.	160K88600	1	Main Engine Controller Board (110V)
	160K88610	1	Main Engine Controller Board (220V)
4.	105E14930	1	High Voltage Power Supply Board
5.		1	System Controller Board Cover
6.	160K88590	1	System Controller Board
7.			Currently Not Used
8.			RAM Memory Option Kit
	097S02718	1	16-Mbyte DIMM
	097S02719	1	32-Mbyte DIMM
	097S02720	1	64-Mbyte DIMM
9.	097S02722	1	Internal NIC 10/100 Base T Option

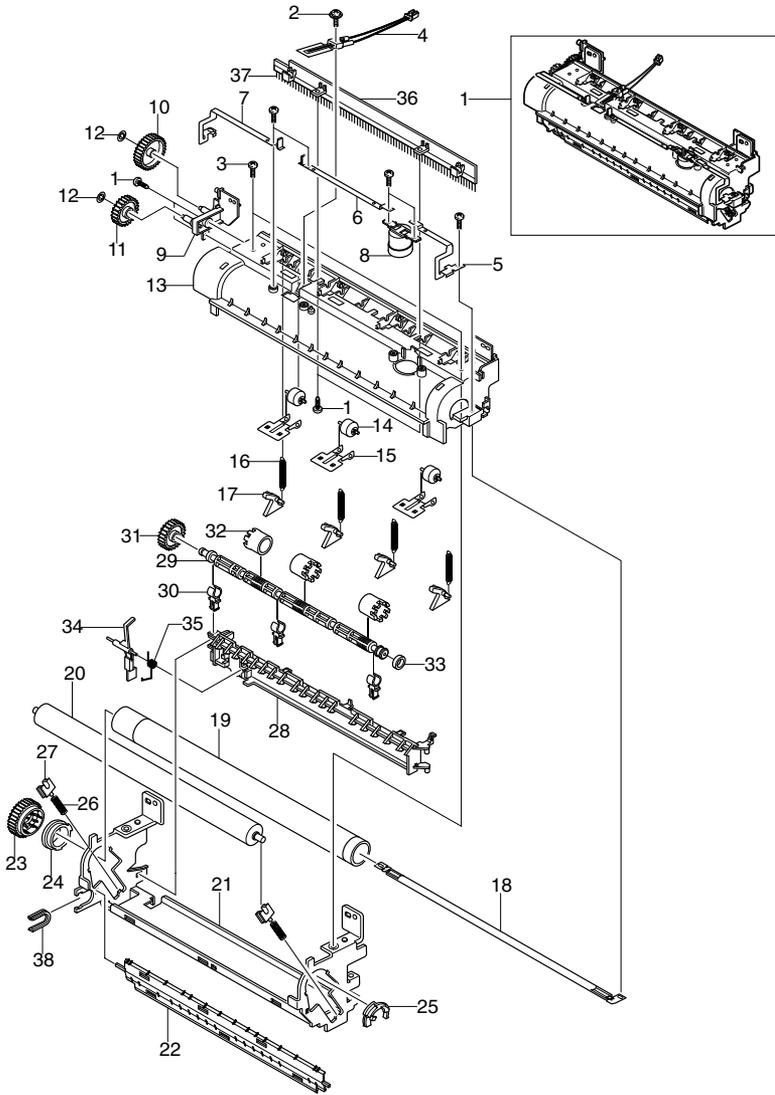
PL 4 - Optional Paper Trays



Optional Lower 550-sheet Paper Tray 2

No	Part Number	Qty	Description
1.	097S02716	1	Lower 550-sheet Optional Feeder and Paper Tray

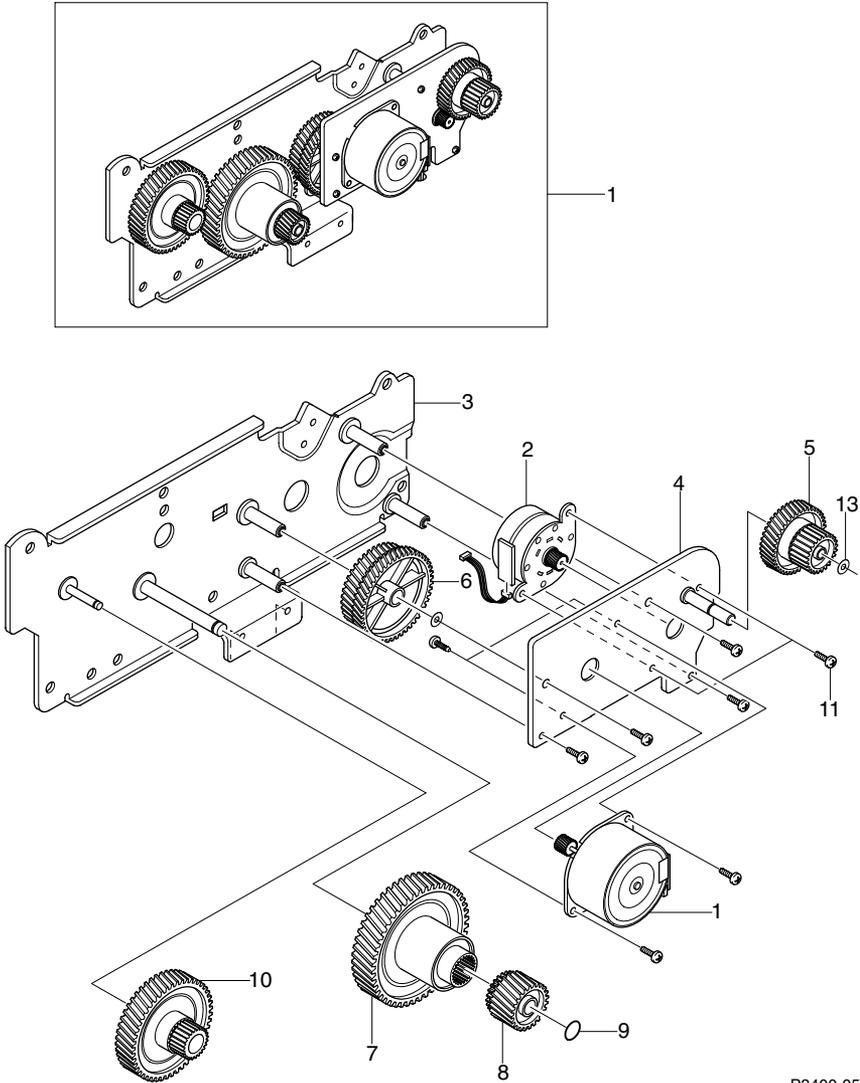
PL 5 - Fuser Assembly



P3400-056

**Fuser Assembly - Exploded View - Part #126K22080 110 V
#126K22090 220 V**

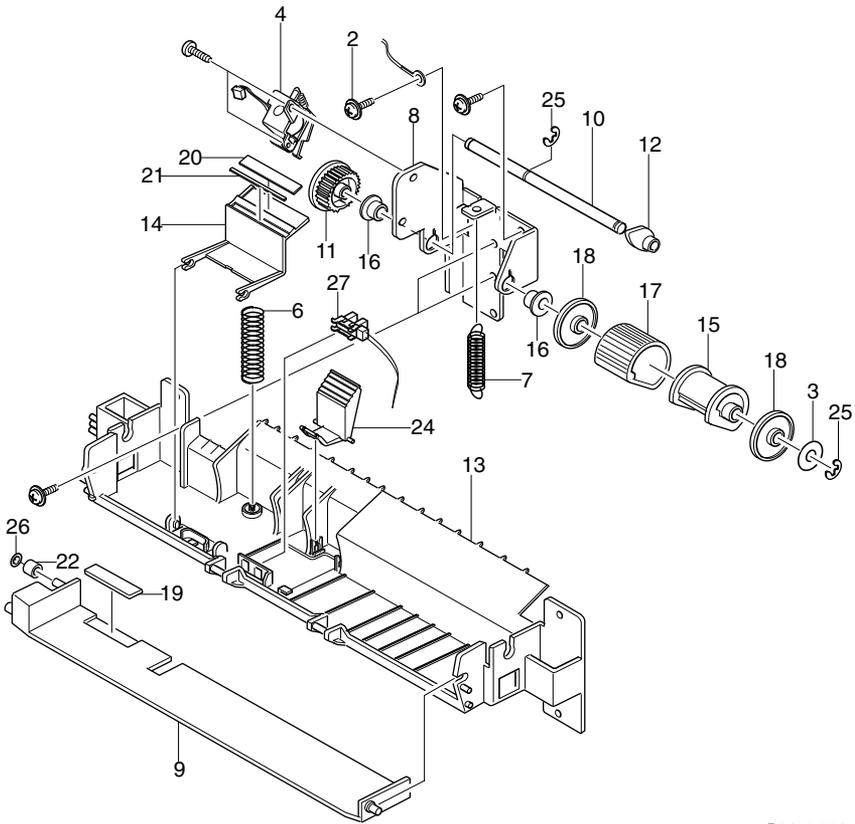
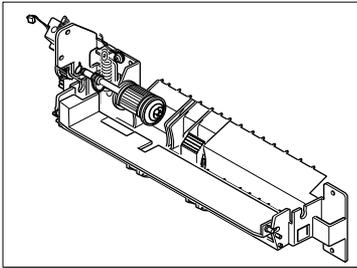
PL 6 - Main Drive Motor



P3400-051

Main Drive - Exploded View - Part #127K42210

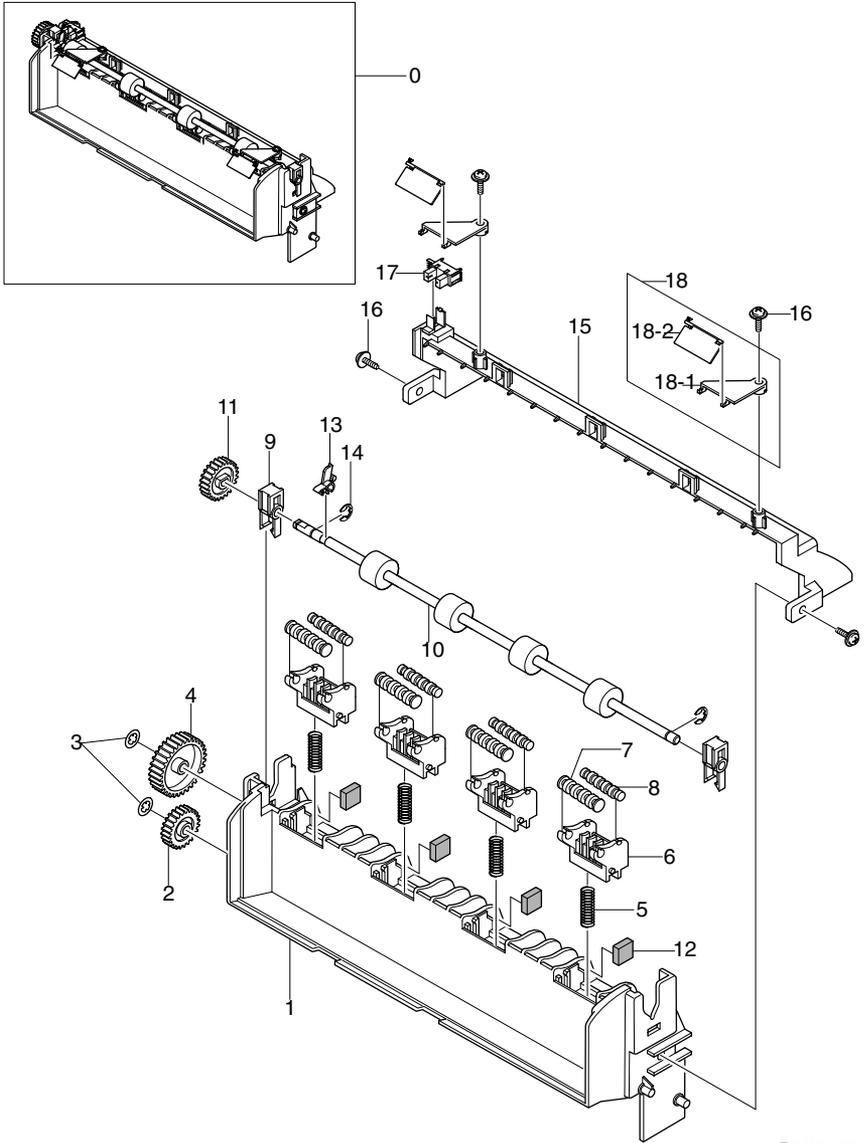
PL 8 - Multi-Purpose Feeder



P3400-054

Multi-Purpose Feeder - Exploded View - Part #022N01304

PL 9 - Exit Assembly



P3400-052

Exit Assembly - Exploded View - Part #059K28920

Parts List Summary Table

Description	Part Number
Pick-Up Roller Assembly	022N01301
Multi-Purpose Feeder Assy	022N01304
Exit Transport Assembly	059K28920
Bias Transfer Roller	059K29120
Laser Assembly	062K13370
High Voltage Power Supply	105E14930
Printer Cartridge w/ Recycling Campaign 4K	106R00461
Printer Cartridge w/ Recycling Campaign 8K	106R00462
550-sheet Paper Tray	109R00526
Power Cord, 110 V	117E21930
Printer Cable	117E21940
Fuser Assembly, 110 V	126K22080
Fuser Assembly, 220 V	126K22090
Main Drive Motor Assembly	127K42210
System Controller Board	160K88590
Print Engine Controller Board, 110 V	160K88600
Print Engine Controller Board, 220 V	160K88610
Hardware Kit	600N01672
Removal and Replacement Instructions	602E86670
Repackaging Kit	695K12330
Optional 550 Lower Paper Tray 2 (Cassette)	097S02716
16-Mbyte Memory DIMM Option Kit	097S02718
32-Mbyte Memory DIMM Option Kit	097S02719
64-Mbyte Memory DIMM Option Kit	097S02720
Internal NIC 10/100 Base T Option	097S02722
Product CD-ROM	301K05940
Service Guide Phaser 3400 Printer	071-0826-00