

**HP**

**LaserJet**

**3100/3150**

## Service Manual





# HP LaserJet 3100/3150 Product

Service Manual \_\_\_\_\_

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# 1

# Product Information

## Chapter contents

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# Introduction

The HP LaserJet 3100/3150 product is a powerful business tool with the capabilities of a full range of office equipment. With the HP LaserJet 3100/3150 product, you can:

- **Print**—Easily print documents with the laser quality you have come to expect from an HP LaserJet printer.
- **Fax**—Use the HP LaserJet 3100/3150 product as a standalone fax machine to send and receive faxes, as well as perform advanced tasks such as forwarding faxes to other locations. Use the software to send faxes from and receive them to your computer.
- **Copy**—Make superior laser-quality copies. You can make up to 99 copies of a 30-page original. You can also enlarge, reduce, adjust contrast and collate.
- **Scan**—Scan important documents to create electronic files.
- **Use Software**—Use the software to print, fax, copy, or scan. Also use the software to store and organize scanned documents.



# Product features

**Table 1. Product features**

| <b>Feature</b>                 | <b>Description</b>  |
|--------------------------------|---|
| Print speed                    | 6 pages per minute (ppm)  |
| Copy speed                     | 6 ppm   |
| Fax transmission speed         | 6 seconds per page  |
| Margins for scanned items      | 0.16 in (4.06 mm) at leading and trailing edges<br>0.12 in (3.05 mm) at sides |
| Margins for printed pages      | 0.20 in (5.08 mm) at sides<br>0.25 in (6.35 mm) at leading and trailing edges |
| Fax compatibility              | International Telecommunications Union (ITU) Group 3                          |
| Fax coding schemes             | MR, MMR, MH, and JBIG   |
| Modem speed                    | 14,400 bits per second (bps)  |
| Speed dialing                  | Yes   |
| Distinctive ring detect        | Yes   |
| Multiple copies                | Up to 99 per job  |
| Copy Reduction/<br>Enlargement | 50% to 200%   |
| Memory                         | 2 megabytes (MB) (approximately 150 pages)                                    |
| Printer Duty Cycle             | 6,000 single-sided pages per month  |
| Document Scanner Duty<br>Cycle | 2,500 single-sided items per month  |

# Product specifications

**Table 2. Physical specifications**

| <b>Category</b>              | <b>Specification</b>   |
|------------------------------|--|
| Height                       | 10.71 in (272 mm) without supports attached;<br>15.91 in (404 mm) with supports attached |
| Depth                        | 15.36 in (390 mm) without supports attached;<br>23.55 in (598 mm) with supports attached |
| Width                        | 15.12 in (384 mm)  |
| Weight (cartridge installed) | 23.37 pounds (10.6 kilograms)  |

---

**Table 3. Performance specifications**

| <b>Category</b>  | <b>Specification</b>   |
|------------------|--|
| Print resolution | 600 dots per inch (dpi)  |
| Scan resolution  | 600 dpi enhanced; 300 dpi optical, with 256 levels of gray   |
| Fax resolution   | Standard: 203 by 98 dpi<br>Fine: 203 by 196 dpi<br>Superfine: 300 by 300 dpi (no halftone)<br>Photo: 300 by 300 dpi (halftone enabled) |
| Print speed      | 6 ppm  |
| Copy speed       | 6 ppm  |

---

**Table 4. Power specifications**

| <b>Category</b>                             | <b>Specification</b>   |
|---|--|
| Power requirements                          | 100 to 127 Volts alternating current (Vac) +/-10%; 50 to 60 hertz<br>220 to 240 Vac +/-10%; 50 hertz |
| Power consumption (in continuous copy mode) | 135 watts  |
| Power consumption (idle)                    | 9 watts  |
| Minimum recommended circuit capacity        | 4.2 amps (110 volts)<br>2 amps (220 volts)<br>(4.2 amps maximum pull)                                |

---

**Table 5. Operating acoustical emissions (per ISO 9296) specifications**

| <b>Category</b>   | <b>Specification</b> |
|---|----------------------|
| Sound Power Level,<br>$L_{WA_d}$ (1 bel = 10 decibels)  | 5.7 bels (B)         |
| Sound Pressure Level,<br>$L_{pAm}$ (Operator Position)  | 52 decibels (dB)     |
| Sound Pressure Level,<br>$L_{pAm}$ (Bystander Position) | 43 dB                |

---

**Table 6. Skew specifications**

| <b>Category</b>                 | <b>Specification</b>                |
|---------------------------------|-------------------------------------|
| Print skew—left                 | 0.6% (1.5 mm over 250 mm in length) |
| Print skew—right angle accuracy | 0.64% (1.2 mm over 190 mm in width) |
| Scan skew                       | 1.2%                                |

---

# Model and serial numbers

The model number and serial number are listed on an identification label located on the back of the printer.

- HP LaserJet 3100 product Model number C3948A
- HP LaserJet 3150 product Model number C4256A

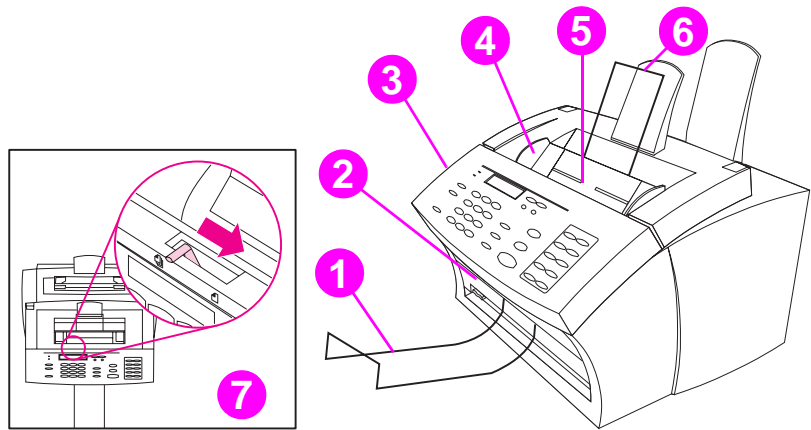
The serial number contains information about the Country of Origin, the Revision Level, the Production Code, and production number of the HP LaserJet 3100/3150 product.

The label also contains power rating and regulatory information. The label shown in Figure 1 below is a label from an HP LaserJet 3100 product.



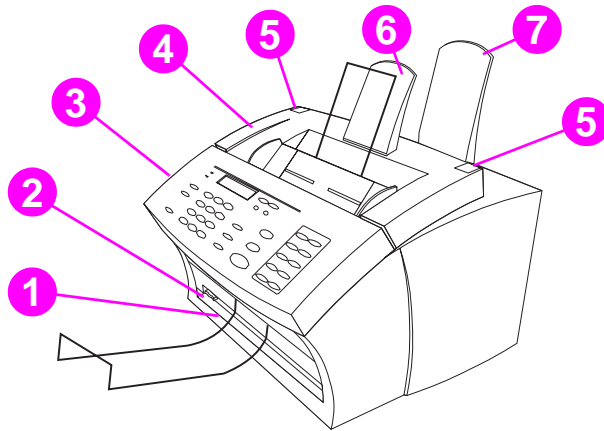
**Figure 1. Model and serial number label**

# Product overview



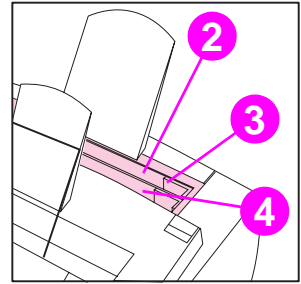
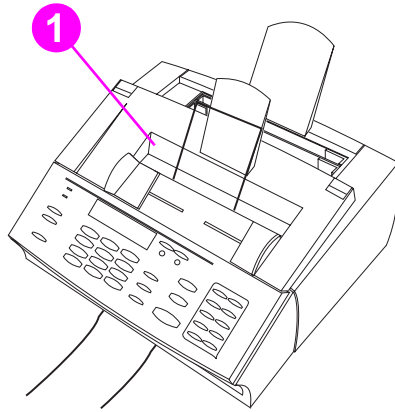
**Figure 2. Document scanner path**

- 1 Document output support
- 2 Document output slot
- 3 Document release door/control panel
- 4 Document feeder tray guides
- 5 Document feeder tray
- 6 Document feeder support
- 7 Special media lever



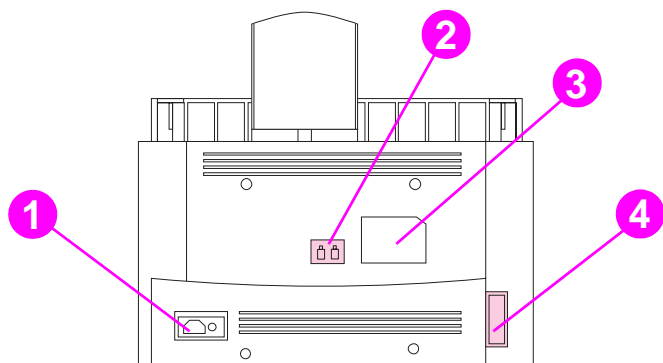
**Figure 3. Printer path (1 of 2)**

- 1 Front paper output
- 2 Paper path lever
- 3 Control panel
- 4 Printer door
- 5 Printer door release latches
- 6 Paper output support
- 7 Paper input support



**Figure 4. Printer path (2 of 2)**

- 1 Output bin
- 2 Input bin
- 3 Paper guides
- 4 Single-sheet input slot



**Figure 5. Rear view**

- 1 Power cable connector
- 2 Phone line connector (or connectors, depending on country)
- 3 Model and serial number label
- 4 Parallel cable connector



# Regulatory information

## Safety

### Transportation

Non-operating Magnetic Field Emissions, IATA Packaging Instructions 902

### Laser safety statement

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration has implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States. This printer is certified as a "Class 1" laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Since radiation emitted inside this printer is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

---

**WARNING!**

---

Using controls, making adjustments, or performing procedures other than those specified in this manual may result in exposure to hazardous radiation.

# Laser statement for Finland

## Luokan 1 laserlaite

### Klass 1 Laser Apparat

HP LaserJet 3100/3150 laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

### Varoitus!

Laitteen käyttäminen muulla kuin käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 yllittäväälle näkymättömälle lasersäteilylle.

### Varning!

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

### HUOLTO

HP LaserJet 3100/3150 -kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

### Varo!

Mikäli kirjoittimen suojakotelo avataan, olet alttiina näkymättömälle lasersäteilylle laitteen ollessa toiminnassa. Älä katso säteeseen.

### Varning!

Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsättas användaren för osynlig laserstrålning. Betrakta ej strålen.

Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista:

Aallonpituus 775-795 nm  
Teho 5 mW  
Luokan 3B laser

## FCC regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is located.
- Consult your dealer or an experienced radio/TV technician.

---

### Note

Any changes or modifications to the printer that are not expressly approved by HP could void the user's authority to operate this equipment.

---

### Note

Use of a shielded interface cable is required to comply with the Class B limits of Part 15 of FCC rules.

## FCC part 68 requirements

This equipment complies with FCC rules, Part 68. On the back of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all, areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

This equipment uses the following USOC jacks:

#### RJ11C

An FCC-compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant.

This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please see the numbers in the front of this manual for repair and (or) warranty information.

If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

The following repairs can be done by the customer:

Replace any original equipment that came with the HP LaserJet 3100/3150 product. This includes the toner cartridge, the supports for trays and bins, the power cord and the telephone cord.

It is recommended that the customer install an AC surge arrester in the AC outlet to which this device is connected. This is to avoid damage to the equipment caused by local lightning strikes and other electrical surges.

## **Telephone consumer protection act (U.S.)**

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided may not be a 900 number or any other number for which charges exceed local or long-distance transmission charges.)

In order to program this information into your facsimile, please see "Setting the fax header" and "Setting the time and date" in the user guide.

## IC CS-03 requirements

**NOTICE:** The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirement document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

**Caution:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Number (REN) of this device is 0.7.

**NOTICE:** The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Number of all the devices does not exceed 5.

The standard connecting arrangement code (telephone jack type) for equipment with direct connections to the telephone network is CA11A.

# Declaration of conformity

according to ISO/IEC Guide 22 and EN 45014

**Manufacturer's Name:** Hewlett-Packard Company

**Manufacturer's Address:** 11311 Chinden Boulevard  
Boise, Idaho 83714-1021, USA

## declares, that the product

**Product Name:** HP LaserJet 3100/3150 product  
**Model Number:** CxxxxA  
**Product Options:** ALL

## conforms to the following Product Specifications:

**Safety:** IEC 950:1991+A1+A2+A3 / EN 60950:1992+A1+A2+A3  
EN 41003:1993  
IEC 825-1:1993 / EN 60825-1:1994 Class 1 (Laser/LED)

**EMC:** CISPR 22:1993+A1 / EN 55022:1994 Class B<sup>1</sup>  
EN 50082-1:1992  
IEC 801-2:1991 / prEN 55024-2:1992-3kV CD, 8kV AD  
IEC 801-3:1984 / prEN 55024-3:1991-3 V/m  
IEC 801-4:1988 / prEN 55024-4:1992-0.5 kV Signal Lines  
1.0 kV Power Lines  
IEC 1000-3-2:1995 / EN61000-3-2:1995  
IEC 1000-3-3:1994 / EN61000-3-3:1995  
FCC Title 47 CFR, Part 15 Class B<sup>2</sup> / ICES-003, Issue 2  
AS / NZS 3548:1995 / CISPR 22:1993 Class B<sup>1</sup>

## Supplementary Information:

The product herewith complies with the requirements of the following Directives and carries the CE-marking accordingly:

- the EMC directive 89/336/EEC
- the Low Voltage Directive 73/23/EEC

<sup>1</sup>This product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.

<sup>2</sup>This Device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

March 25, 1997

## For Compliance Information ONLY, contact:

**Australia Contact:** Product Regulations Manager, Hewlett-Packard Australia Ltd., 31-41 Joseph Street, Blackburn, Victoria 3130, Australia

**European Contact:** Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe, Herrenberger Strasse 130, D-71034 Böblingen (FAX: +49-7031-14-3143)

**USA Contact:** Product Regulations Manager, Hewlett-Packard Company, PO Box 15, Mail Stop 160, Boise, ID, 83707-0015 (Phone: 208-396-6000)

## Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

Conforme à la classe B des normes canadiennes de compatibilité électromagnétique. << CEM>>.

## Environmental product stewardship program

### Protecting the environment

Hewlett-Packard Company is committed to providing quality products in an environmentally sound manner. This HP LaserJet printer has been designed with several attributes to minimize impacts on our environment.

#### **This HP LaserJet printer design eliminates:**

##### **Ozone production**

The printer does not use high-voltage corona wires in the electrophotographic process and therefore generates no appreciable ozone gas (O<sub>3</sub>). Instead, this printer uses charging rollers in the toner cartridge and in the print engine.

#### **This HP LaserJet printer design reduces:**

##### **Energy consumption**

Energy usage drops to as little as 9 watts while in idle mode. Not only does this save natural resources, but it also saves money without affecting the high performance of this product. This product qualifies for the ENERGY STAR. ENERGY STAR is a voluntary program established to encourage the development of energy-efficient office products. ENERGY STAR is a U.S. registered service mark of the U.S. Environmental Protection Agency.



As an ENERGY STAR partner, Hewlett-Packard Company has determined that this product meets ENERGY STAR Guidelines for energy efficiency.



## **Toner consumption**

Depending on the type of printer driver you have, you may be able to select a “draft” mode which uses about 50% less toner, thereby extending the life of the toner cartridge. This is only available using printer driver properties when printing or making copies from the software.

## **Paper use**

Depending on the type of program you use, you may be able to print 2 or 4 document pages on each printed page. This “N-up” printing practice and the printer’s manual duplex capability (two-sided printing) reduce paper usage and the resulting demands on natural resources.

## **The design of this HP LaserJet printer facilitates the recycling of:**

### **Plastics**

Plastic parts have marking according to international standards that enhance the ability to identify plastics for recycling purposes at the end of the product’s life.

## **HP LaserJet Printing Supplies**

In many countries, this product's printing supplies (e.g., toner cartridge, drum, fuser) can be returned to HP through the HP Planet Partners Printing Supplies Environmental Program. An easy-to-use and free takeback program is available in more than 20 countries. Multilingual program information and instructions are included in every new HP LaserJet toner cartridge and consumables package.

HP Planet Partners Printing Supplies Environmental Program Information

Since 1990, the HP LaserJet Toner Cartridge Recycling Program has collected more than 25 million used LaserJet toner cartridges that otherwise may have been discarded in the world's landfills. The HP LaserJet toner cartridges and consumables are collected and bulk shipped to our resource and recovery partners who disassemble the cartridge. After a thorough quality inspection, selected parts such as nuts, screws, and clips are reclaimed for use in new cartridges. Remaining materials are separated and converted into raw materials for use by other industries to make a variety of useful products.

## **Returns**

For a more environmentally responsible return of used cartridges and consumables, HP encourages the use of bulk returns. Simply bundle two or more cartridges or consumables together and use the single, pre-paid, pre-addressed UPS label that is supplied in the package.

For more information in the U.S. or Canada, call (1) (800) 340-2445 (U.S.) or (1) (800) 387-3867. Or, visit the HP LaserJet Supplies website at the following address:

<http://www.ljsupplies.com/planetpartners/>

For more information in Mexico, call 258-40-44 (Mexico City) or (1) (800) 900-7200 (outside Mexico City). Or, visit the website at the following address:

<http://www.hp.com/latinamerica>

All other customers should call their local HP Sales and Service Office or visit the following websites for further information regarding availability of the HP Planet Partners LaserJet Toner Cartridge and Consumables Recycling Program:

Latin America: <http://www.hp.com/latinamerica>

Asia/Pacific Region: <http://www.asiapacific.hp.com/planp1>

Europe: [http://www.hp.com/pays/eur\\_supplies/english/planetpartners](http://www.hp.com/pays/eur_supplies/english/planetpartners)

## **Paper**

This printer is suited for the use of recycled papers when the paper meets the guidelines outlined in the HP LaserJet Printer Family Paper Specification Guide (HP part number 5040-9072). This printer is suited for the use of recycled paper according to DIN 19 309.

**To ensure longevity of your HP LaserJet printer, HP provides the following:**

### **Extended warranty**

HP SupportPack provides coverage for the HP hardware product and all HP-supplied internal components. The hardware maintenance covers a three-year period from date of the HP product purchase. HP SupportPack must be purchased by the customer within 90 days of the HP product purchase. Information on HP SupportPack is available in a fax format by calling the U.S. HP FIRST (Fax Information Retrieval Support Technology) at (800) 333-1917.

After connecting, press 1, and then press 1 again. The document number is 9036. International customers can contact the nearest HP-authorized reseller about this service.

If you have access to the internet, please try the HP Support Services website about HP Support Pack at the following address:

<http://www.hp.com/ssg/serv.pack.html>

The following website contains worldwide customer service and support contact information:

<http://www.hp.com/ssg/contact/world.html>

### **Spare parts and consumables availability**

Spare parts and consumable supplies for this product will be made available for at least five years after production has stopped.

## **Material safety data sheet**

The Material Safety Data Sheet (MSDS) can be obtained by contacting the fax-on-demand service in the HP LaserJet Supplies website at the following address:

<http://www.hp.com/go/msds>

If you do not have access to the internet, call U.S. HP FIRST at (800) 231-9300. After connecting, press 1. Then, request document number 10164.

Non-U.S. customers should refer to the HP LaserJet 3150 product user guide for HP FIRST phone numbers and information.

# 2

# Installation and operation

## Chapter contents

|                                       |    |
|---------------------------------------|----|
| Operating environment . . . . .       | 36 |
| Media requirements . . . . .          | 37 |
| Toner cartridge information . . . . . | 38 |
| Control panel . . . . .               | 39 |

# Operating environment

The environmental requirements listed below must be maintained to ensure the proper operation of the HP LaserJet 3100/3150 product.

**Table 7. Environmental requirements**

| Category                       | Requirement   |
|--------------------------------|---|
| Operating (working or standby) | Temperature: 59 to 90.5 degrees Fahrenheit<br>(15 to 32.5 degrees Celsius)<br>Humidity: 10 to 80 percent relative humidity (no condensation)                                    |
| Non-operating                  | Temperature (toner cartridge): -4 to 104°F (-20 to 40°C);<br>Temperature (product): -4 to 140°F (-20 to 60°C)<br>Humidity: 10 to 90 percent relative humidity (no condensation) |
| Normal storage                 | Temperature: 32 to 95°F (0 to 35°C)<br>Humidity: 35 to 85 percent relative humidity   |

---

Consider the following before installing the printer:

- Install in a well-ventilated, dust-free area.
- Install on a hard, flat, continuous surface, with all four feet level. Do not install on carpet or other soft surfaces.
- Ensure adequate power is supplied.

---

## Note

Uninterruptible power supplies (UPS) may be used with the HP LaserJet 3100/3150 product.

- Install away from direct sunlight, open flames, or ammonia fumes. If the HP LaserJet 3100/3150 product is placed near a window, make sure the window has a curtain or blind to block direct sunlight.
- Install with enough space around the product for proper access and ventilation.
- Install away from the direct flow of exhaust from air ventilation systems.

# Media requirements

Media must be in good condition. Do not use media that is torn, worn, or irregular. The table below details media requirements of the HP LaserJet 3100/3150 product.

**Table 8. Media requirements**

## Input for paper input bin and single-sheet input slot (for printer path)

|                          |  |
|--------------------------|--|
| Media size               | Maximum: 8.5 by 14 in (216 by 356 mm)<br>Minimum: 3 by 5 in (76.2 by 127 mm)   |
| Media weight             | For paper output bin: 16 to 28 lb; (60 to 105 g/m <sup>2</sup> )<br>For front output slot: 16 to 42 lb (60 to 157 g/m <sup>2</sup> )       |
| Paper input bin capacity | Up to 100 sheets of media at 20 lb (75 g/m <sup>2</sup> ) weight or lighter (fewer than 100 sheets of heavier media) or up to 10 envelopes |

## Input for document feeder tray (for document scanner path)

|                               |  |
|-------------------------------|--|
| Item size                     | Maximum width: 8.5 in (216 mm)<br>Maximum length: 39 in (991 mm); up to 118 in (2997.2 mm) with “long pages” enabled<br>Minimum size: 2 by 3.5 in (51 by 89 mm)  |
| Item weight                   | Maximum: 28 lb (105 g/m <sup>2</sup> ) for normal use;<br>up to 67 lb (252 g/m <sup>2</sup> ) when using special media lever<br>Minimum: 12 lb (44 g/m <sup>2</sup> )  |
| Document feeder tray capacity | Up to 30 pages of an item at 20 lb (75 g/m <sup>2</sup> ) weight or lighter<br>Fewer than 30 pages of items up to 28 lb (105 g/m <sup>2</sup> ) weight<br>One page at a time of 12 to 67 lb (44 to 252 g/m <sup>2</sup> ) weight using special media lever |

## Output capacities

|                         |   |
|-------------------------|---|
| Paper output bin        | Up to 100 sheets of 20 lb (75 g/m <sup>2</sup> ) or lighter paper |
| Front paper output slot | Up to 20 pages of 20 lb (75 g/m <sup>2</sup> ) or lighter paper   |
| Document output tray    | Up to 30 pages of an item at 28 lb (105 g/m <sup>2</sup> )        |

---

# Toner cartridge information

Toner cartridges contain components that are sensitive to light, temperature, and humidity. Follow the recommendations in this section to ensure the highest quality and longest life of HP toner cartridges.

Keep the HP LaserJet 3100/3150 product within the following environmental conditions for optimum performance.

## Storage conditions

Toner cartridges are affected by their environment. Packaging protects toner cartridges from light and increases storage life. It is important to store cartridges in their original packaging until ready for installation.

When storing cartridges in a warehouse or work area, make sure the storage place meets the conditions specified in Table 6.

## Storing opened toner cartridges

Because cartridges do not have shutters to cover the laser beam access slot, they should be kept inside the HP LaserJet 3100/3150 product until empty. Toner cartridges that have had the toner sealing tape removed are also more vulnerable to environmental extremes.

If a toner cartridge must be removed from the HP LaserJet 3100/3150 product, always store the cartridge:

- Inside the protective bag in which it was originally packaged.
- In a dark cabinet, away from direct sunlight.
- Correct side up and in a horizontal position (not standing on end).
- Away from ammonia or organic solvent fumes.

---

### CAUTION

Never ship the HP LaserJet 3100/3150 product with a toner cartridge installed. Excessive vibration during shipping can cause toner to leak, contaminating the product and possibly damaging the drum. Never expose a cartridge to direct sunlight or to room light for more than a few minutes. Bright light can permanently damage a toner cartridge.

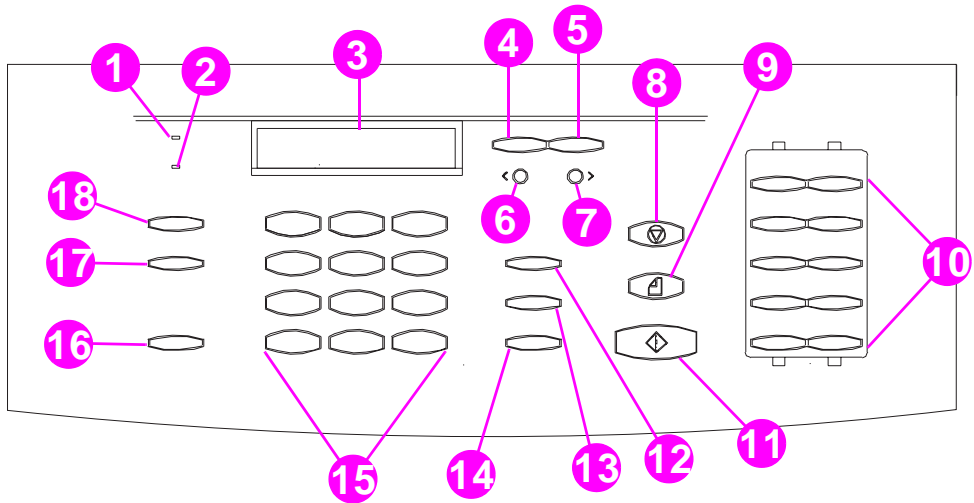
---

## Toner Recycling

See recycling information in Chapter 1.



# Control panel



**Figure 6. Control panel layout**

- |                          |                      |                      |
|--------------------------|----------------------|----------------------|
| 1. Ready light           | 7. Forward arrow key | 13. Speed-dial key   |
| 2. Error light           | 8. Stop/clear key    | 14. Redial/pause key |
| 3. Control panel display | 9. Copy key          | 15. Numeric keys     |
| 4. Enter/menu key        | 10. One-touch keys   | 16. Volume key       |
| 5. Backspace key         | 11. Start key        | 17. Resolution key   |
| 6. Back arrow key        | 12. Manual dial key  | 18. Contrast key     |
-

## Control panel messages

These control panel messages are listed alphabetically, and are accompanied by the cause for the message and steps to take to resolve the problem.

**Table 9. Control panel messages**

| Message                               | Cause  | Solution  |
|---------------------------------------|--|---|
| (number) is a Group Group not Allowed | The group-dial code you entered is assigned to a group, but a group cannot be dialed at this point. (Entries assigned as groups cannot be assigned into other groups.) | Enter a different one-touch key or speed-dial code that is not assigned.  |
| Already in Group                      | While programming a group-dial code, you tried to add a fax number that is already in the group.   | Continue by adding the next fax number you want to the group.   |
| Blacklisted (France only)             | The fax number you tried to dial has received a voice answer or no answer, was busy on the first dial and redials, or was busy with redials pending.                   | To clear the blacklist, unplug the fax machine's power cord from the power strip or outlet and plug it back in.   |
| Busy                                  | The fax line to which you sent a fax was busy. The HP LaserJet 3100/3150 product automatically redials the busy line the number of times specified.                    | Check the fax number and try again to send the fax. If the message appears again, try to send the fax to another fax machine or try again later.  |
| Cancel Group Edit ENTER to Confirm    | You pressed <b>BACK SPACE</b> while in a group-dial code in the Group Dial Setup Menu.   | Press <b>START</b> to return to the group-dial code and continue editing.<br>Press <b>ENTER/MENU</b> to go to the Group Dial Setup Menu. (Press <b>ENTER/MENU</b> again to choose a different group-dial code.)<br>Press <b>STOP/CLEAR</b> to exit the Menu settings. |

**Table 9. Control panel messages**

| <b>Message</b>                         | <b>Cause</b>   | <b>Solution</b>   |
|--|--|---|
| <b>Clear Document<br/>From Scanner</b> | Your document jammed while being fed through the document feeder tray or the HP LaserJet 3100/3150 product loaded multiple sheets of the document. | Open the document release door, remove the jammed item, and then close the door.  |
|  | The special media lever was in the wrong position for the document you sent.   | Remove the jammed item as detailed above. Then, check the special media lever. It should be to the left for regular-weight items or to the right for thick or light items, which must be fed one at a time. |
|  | The control panel configuration was set incorrectly.   | Check the control panel configuration for outgoing faxes, including the “send long pages” setting.  |

**Table 9. Control panel messages**

| <b>Message</b>             | <b>Cause</b>   | <b>Solution</b>   |
|----------------------------|--|---|
| <b>Communication Error</b> | An error occurred while trying to transmit a fax. Brief descriptions of communication errors are listed below: | Try again to send the fax.<br>Try to send the fax to another fax machine.<br>Make sure the telephone cord is securely connected. Then, check for a dial tone on the phone line by pressing <b>MANUAL DIAL</b> . |
|                            | 60 no RTC at end of fax  | Make sure the phone line is working by disconnecting the HP LaserJet 3100/3150 product, plugging in a telephone to the phone line, and making a voice call. Connect the product to a different phone line.      |
|                            | 81 memory filled up  | Reset the product by pressing and holding <b>STOP/CLEAR</b> for seven seconds.  |
|                            | 82 fax was too short   | Wait and try resending the fax later.   |
|                            | 84 power fail while receiving  |   |
|                            | 85 failed to train   |   |
|                            | 86 in ECM, fax data had error(s)   |   |
|                            | 87 NEC failed to decode (T.4 or T.6 coding error)  |   |
|                            | 88 received scan line exceeds 13 sec (T.4-3.2)   |   |
|                            | 89 modem setup timeout   |   |
|                            | 90 low speed command time out  |   |
|                            | 91 bad low speed command   |   |
|                            | 92 transmit error: no DIS  |   |
|                            | 93 transmit error: no answer   |   |
|                            | 94 transmit error: canceled by operator  |   |
|                            | 95 transmit error: failed to train   |   |
|                            | 96 transmit error: busy  |   |
|                            | 97 transmit error: no dial tone  |   |
|                            | 100 poll-in error: no document to poll   |   |
|                            | 101 document jam   |   |
|                            | 102 receive error: too many mailbox logs   |   |
|                            | 103 receive error: had poll document but no memory for receive   |   |
|                            | 104 transmit error: no MCF   |   |
|                            | 105 image processing chip fell behind  |   |
|                            | 106 transmit: modem output buffer error  |   |
|                            | 107 PIN received   |   |
|                            | 108 RR/RNR timeout   |   |
|                            | 109 generic ECM error  |   |
|                            | 110 possible missing/partial pages in ECM  |   |
|                            | 111 T4 bit not set in DIS  |   |
|                            | 112 wrong password   |   |
|                            | 113 communications error in remote setup (JetFax only)   |   |
|                            | 114 fax document was lost (JetFax only)  |   |
|                            | 115 blacklist  |   |
|                            | 116 SUB/PWD error  |   |
|                            | 117 timeout waiting for image processing chip  |   |
|                            | 118 no fax detected  |   |
|                            | 119 remote access  |   |
|                            | 120 caller disconnected prematurely  |   |

**Table 9. Control panel messages**

| <b>Message</b>                              | <b>Cause</b>   | <b>Solution</b>   |
|---|--|---|
| Configuration<br>Err # (number 1-4)         | An error was detected in the SRAM.   | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try plugging the power cord into a different power source.<br>If the error persists, see Chapter 6, "Troubleshooting." |
| Config. Stuck Addr                          | In Service Mode only, SRAM stuck address test.   | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord. If the error persists, see Chapter 6, "Troubleshooting."  |
| Config. Tied Addr.                          | In Service Mode only, SRAM tied address test.  | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord. If the error persists, see Chapter 6, "Troubleshooting."  |
| Decoding Error #<br>(number 1-3)            | There was an error in decoding with the image processing chip.                                 | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try plugging the power cord into a different power source.<br>If the error persists, see Chapter 6, "Troubleshooting." |
| Documents Were<br>Lost START to<br>Continue | Power to the HP LaserJet 3100/3150 product was interrupted, and documents in memory were lost. | Press <b>START</b> . The HP LaserJet 3100/3150 product prints a report. Check the Status column for the "Fax Document was Lost" message. The associated incoming and outgoing faxes should be resent.                 |
| Encoding Error                              | There was an error in encoding with the image processing chip.                                 | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord. If the error persists, see Chapter 6, "Troubleshooting."  |
| Errors Likely in<br>Pages                   | The fax transmission was completed, but there are likely to be errors in the pages specified.  | Try resending the fax or asking the sender to resend the fax to you.<br>Try faxing to another fax number.<br>Try connecting the product to a different phone line.  |

**Table 9. Control panel messages**

| <b>Message</b>                                   | <b>Cause</b>   | <b>Solution</b>  |
|--|--|--|
| <b>Fax Document was Lost</b>                     | Faxes in memory were lost as a result of a power failure.  | If you set up faxes to be sent at a future time or to be polled, or if the product was set to receive faxes to memory, print a fax log to identify the lost faxes. The lost faxes should be resent.  |
| <b>Fax Memory Error # (number 1-5)</b>           | An error was detected in DRAM.   | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try a different power source or surge protector.<br>If the error persists, see Chapter 6, "Troubleshooting."  |
| <b>Group is Empty, Use ONE-TOUCH/ SPEED DIAL</b> | Appears when you are creating a group-dial code.   | Begin adding fax numbers to the group-dial code. For more information, see "Programming group-dial codes from the control panel" in the user guide.  |
| <b>Input Limit Reached</b>                       | Too many fax numbers were dialed when you tried to send to an ad-hoc group.  | The maximum number of fax numbers that can be added to an ad-hoc group is 100. Resend the fax to 100 or fewer numbers.   |
| <b>Invalid Date or Time</b>                      | An invalid time or date was entered, such as 25:99 PM or June 35   | Re-enter the date and time. If the error persists, see Chapter 6, "Troubleshooting."   |
| <b>Keypad Test Failed</b>                        | In Service Mode only, the keypad test failed.  | Check the cabling connections and run the keypad test again.<br>If the error persists, see Chapter 6, "Troubleshooting."   |
| <b>Long Page? START to Continue</b>              | The HP LaserJet 3100/3150 product senses a document over 39 inches (991 mm), such as a banner, may be feeding through the document feeder tray or that a paper jam has occurred. | If there is no jam, quickly press <b>START</b> to continue scanning. If you do not press <b>START</b> within a few seconds, the product assumes that a page is jammed and cancels the job.<br>If there is a jam, remove it and restart the job.<br>If you are sending a fax or copying a document longer than 39 inches (991 mm), you can also set the control panel to use the "Send long pages" procedure. |

**Table 9. Control panel messages**

| <b>Message</b>                            | <b>Cause</b>  | <b>Solution</b>   |
|---|---|---|
| <b>Memory Full - Send Unscanned Pages</b> | During the fax job the memory filled. All pages of the fax have to be in memory for a fax job to work correctly. Only the pages that fit into memory were sent. | Reload the pages that were not sent and send them.  |
| <b>Memory is Full</b>                     | The HP LaserJet 3100/3150 product memory was completely filled during a copy or a scan.   | This message should clear automatically when the next task starts (for example when you start a copy or receive a fax).   |
| <b>Modem Error # (number 1-3)</b>         | An error was detected with the modem.   | Make sure that the telephone cord is securely connected on both ends. Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord. Try a different power source or surge protector.  |
| <b>No Answer</b>                          | You tried to send a fax, but the receiving fax line did not answer.   | Check the fax number and try again to send the fax. Try to send the fax to another fax machine or try again later.  |
| <b>No Dial Tone</b>                       | The HP LaserJet 3100/3150 product cannot detect a dial tone   | Make sure that the telephone cord is securely connected on both ends. Press and hold <b>STOP/CLEAR</b> for seven seconds to check for a dial tone. Make sure the phone line is working by disconnecting the HP LaserJet 3100/3150 product, plugging in a telephone to the phone line, and making a voice call. Connect the product to a different phone line. |
| <b>No Fax in (number) Tries</b>           | The HP LaserJet 3100/3150 product failed to connect to the receiving fax machine in the number of redials specified.  | Check the fax number and try again to send the fax. If the message appears again, try to send the fax to another fax machine or try again later.  |

**Table 9. Control panel messages**

| <b>Message</b>   | <b>Cause</b>   | <b>Solution</b>  |
|--|--|--|
| <b>No Memory for Report Erase/Print Document</b>       | <p>There is not enough memory to print a report because memory is being used to store faxes that have been received to memory.</p> <p>There is not enough memory to print a report because memory is being used to store faxes set up to be sent at a future time or to be polled.</p>     | <p>Print faxes that have been received to memory.</p> <p>If you have several faxes set up to be sent at a future time or to be polled, try clearing these faxes using job status.</p>                                      |
| <b>No Modem Installed</b>                              | <p>There is a problem with the line interface unit (LIU).</p>  | <p>Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.</p> <p>Connect the product to a different power source.</p> <p>If the error persists, see Chapter 6, "Troubleshooting."</p> |
| <b>No Room in Fax Log</b>                              | <p>The fax log was unable to print because of an error; for example, the product is out of paper.</p>  | <p>Solve the error condition so that the product can print the fax log.</p>  |
| <b>Not Enough Memory</b>                               | <p>There is not enough memory to complete the job indicated.</p>   | <p>Try again to send the job. If the error persists, press and hold <b>STOP/CLEAR</b> for seven seconds to reset the product.</p>  |
| <b>Not Enough Memory to Duplicate for COPY</b>         | <p>The HP LaserJet 3100/3150 product does not have enough memory to complete the copy job.</p>   | <p>Divide the copy job into smaller sections and then try again to copy.</p> <p>Use the Document Assistant to complete the copy job.</p>   |
| <b>No Fax Pages in Memory to Reprint</b>               | <p>The HP LaserJet 3100/3150 product attempted to execute "Reprint Last Fax" when nothing was in memory.</p>   | <p>Wait for a fax, then as soon as a fax is in the memory, the HP LaserJet 3100/3150 product will reprint the fax.</p>   |
| <b>Nov-22-93 06:30 PM (An incorrect date appears.)</b> | <p>The battery inside the HP LaserJet 3100/3150 product has failed, causing all Menu features to revert to the factory settings. Settings that contained alphabetic and numeric characters you entered, such as header information and speed-dial names and numbers, have been erased.</p> | <p>The battery should be replaced. You can continue to use the HP LaserJet 3100/3150 product without replacing the battery, but any information you enter will be erased again if power is lost.</p>                       |



**Table 9. Control panel messages**

| <b>Message</b>                         | <b>Cause</b>  | <b>Solution</b>   |
|--|---|---|
| Paper Bin is Empty<br>Please Add Paper | The paper input bin is empty.   | Load paper. If paper is already loaded, remove it. Check for and remove any jammed sheets and discard them. Then, reload the paper stack in the paper input bin.  |
| Password must be 4<br>Digits           | An attempt was made to enter a password that was not four digits.   | Re-enter four-digit password.   |
| Paused (Memory<br>Full)                | The HP LaserJet 3100/3150 product memory is full, and the current job in the document feeder tray is paused to wait for memory to become available.   | Reduce activity on the HP LaserJet 3100/3150 product, or wait for other jobs to finish so that memory will be freed. If there are faxes set up to be polled or sent at a future time, you may want to cancel these jobs to free memory.   |
| PC Not Detected<br>Address Invalid     | If you tried to send a document to an e-mail address in a one-touch key, speed-dial code, group-dial code, or to one that you entered manually at the control panel, the product must be directly connected to a computer using a parallel cable, the computer must be on, and a compatible e-mail program must be installed on the computer. | Make sure that the parallel cable is securely connected between the computer and the HP LaserJet 3100.3150 product. Make sure that the computer is on. Make sure that a compatible e-mail program and the JetSuite Pro software are installed on the computer.  |
| PC Print Timed Out                     | The print job took too long to print, and the HP LaserJet 3100/3150 product timed out.  | Let the “print jobs retry” continue for five minutes. If the HP LaserJet 3100/3150 product still does not print, cancel the current print job and resend it.  |
| Phone Number Error                     | Too many characters were entered when dialing a phone number.   | The maximum number of characters that can be entered is 60. If you have a number longer than 60 characters, break the number into smaller chunks. Enter the first part of the number, and press <b>REDIAL/PAUSE</b> as the last character in the first number. Then, enter the second part of the number as if it were a second number going to a group. When the product dials, it will treat both numbers as if they are one. |

**Table 9. Control panel messages**

| <b>Message</b>                                      | <b>Cause</b>  | <b>Solution</b>   |
|---|---|---|
| <b>Polling-In Error</b>                             | The HP LaserJet 3100/3150 product tried to poll another fax machine. The poll failed because there was no answer, the line was busy, or the other fax machine was not ready to be polled. | Make sure that the sender's fax machine is ready to be polled, and check the fax number. Then, set up to poll again.  |
| <b>Printer Comm Error</b>                           | There was an error in communicating with the HP LaserJet 3100/3150 product.   | Make sure that the parallel cable is securely connected between the HP LaserJet 3100/3150 product and the computer.<br>If the problem persists, unplug the power cord from the power source for 10 seconds, and then replug it in.<br>Try connecting the product to a different power source.<br>If the error persists, see Chapter 6, "Troubleshooting." |
| <b>Printer Comm Error<br/>^1</b>                    | In Service Mode only. There was an error in communicating with the HP LaserJet 3100/3150 product.   | Make sure that the parallel cable is securely connected between the HP LaserJet 3100/3150 product and the computer.<br>If the problem persists, unplug the power cord from the power source for 5 seconds, and then replug it in.<br>If neither of these solutions works, see Chapter 6, "Troubleshooting."   |
| <b>Printer Cover Open<br/>or No Cartridge</b>       | The printer door is open or the toner cartridge is not installed properly.  | Make sure that the printer door is closed.<br>Check the toner cartridge for proper installation.  |
| <b>Printer Fixing Error<br/>Replace Fixing Unit</b> | There is an error with the print engine.  | Unplug the power cord from the power source for 10 seconds, and then replug it in.<br>Try connecting the product to a different power source.<br>If the error persists, see Chapter 6, "Troubleshooting."   |

**Table 9. Control panel messages**

| <b>Message</b>                                  | <b>Cause</b>   | <b>Solution</b>   |
|---|--|---|
| <b>Printer is Busy</b>                          | The HP LaserJet 3100/3150 product is temporarily unavailable for other types of printing (such as printing faxes or copies). | No action is needed. If you already started another job, such as you sent a copy job through the document feeder tray and it was scanned in or you requested a report to print, the job will be completed when the HP LaserJet 3100/3150 product becomes available.                                 |
| <b>Printer Laser Error<br/>Call for Service</b> | The printer door is not latched securely.<br><br>A problem has occurred with the print engine.                               | Open the printer door and reclose it making sure both latches are secure.<br><br>Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try connecting the product to a different power source.<br>If the error persists, see Chapter 6, "Troubleshooting." |
| <b>Printer Motor Error<br/>Call for Service</b> | A problem has occurred with the print engine.  | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try connecting the product to a different power source.<br>If the error persists, see Chapter 6, "Troubleshooting."  |
| <b>Printer Paper Jam<br/>Check Paper Path</b>   | A paper jam has occurred.  | Clear the jam. The job should continue to print. If it doesn't, try reprinting the job.   |
| <b>Printer signal error</b>                     | The printer door is not latched securely.<br><br>There was an error in the HP LaserJet 3100/3150 product print unit.         | Open the printer door and reclose it making sure both latches are secure.<br><br>Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try connecting the product to a different power source.<br>If the error persists, see Chapter 6, "Troubleshooting." |
| <b>Receive Error</b>                            | An error occurred while the HP LaserJet 3100/3150 product was receiving a fax.   | Ask the sender to resend the fax.<br>If the error persists, see Chapter 6, "Troubleshooting."   |

**Table 9. Control panel messages**

| <b>Message</b>                 | <b>Cause</b>  | <b>Solution</b>  |
|--------------------------------|---|--|
| <b>Redial Failed</b>           | Attempts to redial a fax number failed.                           | Try resending the fax. If the fax still fails to transmit, call the recipient to make sure that the fax machine is on and ready.<br>Make sure that you are dialing the correct fax number.<br>Disconnect the telephone cord from both the product and the wall outlet and then reconnect it.<br>Press and hold down <b>STOP/CLEAR</b> for 7 seconds to check for a dial tone.<br>Make sure the phone line is working by disconnecting the HP LaserJet 3100/3150 product, plugging in a telephone to the phone line, and making a voice call.<br>Connect the product to a different phone line.<br>If the error persists, see Chapter 6, "Troubleshooting." |
| <b>Remote Fax was Busy</b>     | The fax number dialed was busy.                                   | Try again later.   |
| <b>Scan Reference Error</b>    | There was an error detected in the HP LaserJet 3100/3150 product. | Recalibrate the document scanner.  |
| <b>Scanner Error #1</b>        | An error has occurred in the SRAM.                                | Press and hold down the <b>STOP/CLEAR</b> key for 7 seconds to reset the product. If the error persists, unplug the power cord from its power source for 10 seconds, and then replug it in.<br>Try connecting the product to a different power source.<br>If the error persists, see Chapter 6, "Troubleshooting."   |
| <b>Scanner isn't Available</b> | The document scanner mechanism is in use.                         | Wait until the document scanner has finished the current job before sending the next job.  |
| <b>Scanner Jam - Reload</b>    | A document has jammed in the document scanner area.               | Pull open the document release door and then remove the jammed document.   |

**Table 9. Control panel messages**

| <b>Message</b>                             | <b>Cause</b>  | <b>Solution</b>   |
|--|---|---|
| <b>Speed Dial (number) is not Assigned</b> | You tried to dial a speed-dial code that doesn't have a fax number stored in it or you assigned a non-defined one-touch key to a group. | Choose a speed-dial code to which you have already assigned a fax number.   |
| <b>System Error</b>                        | An error has occurred.  | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try connecting the product to a different power source.<br>If the error persists, record the three-digit error number in the message and see Chapter 6, "Troubleshooting." |
| <b>There are No Documents in Memory</b>    | HP LaserJet 3100/3150 product tried to print faxes from memory when no faxes had been received to memory.                               | No action is required. There are no faxes to retrieve.  |
| <b>Unrecognized Format</b>                 | When printing, the incorrect printer driver was selected or an error occurred on the parallel interface.                                | After selecting the <b>Print</b> command in the program from which you are printing, select the <b>HP LaserJet 3100</b> or <b>3150</b> as the printer. Reprint the job.<br>Disconnect and reconnect the parallel cable from both the product and the computer             |
| <b>Unsuccessful Call</b>                   | The fax number entered could not be reached.  | Check the fax number and try resending the fax.<br>Try to send the fax to another fax machine or try again later.   |

## Menu tree

The following page shows the layout of the menu settings in a hierarchical diagram. You may want to refer to this menu tree before making changes to settings and features. To see the current settings, print a configuration report. Current settings are marked with an asterisk (\*).

The service menu and the extended service menu are discussed in Chapter 6, “Troubleshooting.”

### To print a menu tree

- 1 Press **ENTER/MENU**.
- 2 Use the **<** and **>** keys to select **Reports** and press **ENTER/MENU**.
- 3 Use the **<** and **>** keys to select **Print the Menu** and press **ENTER/MENU**.

The HP LaserJet 3100/3150 product exits the menu settings and prints the menu tree.

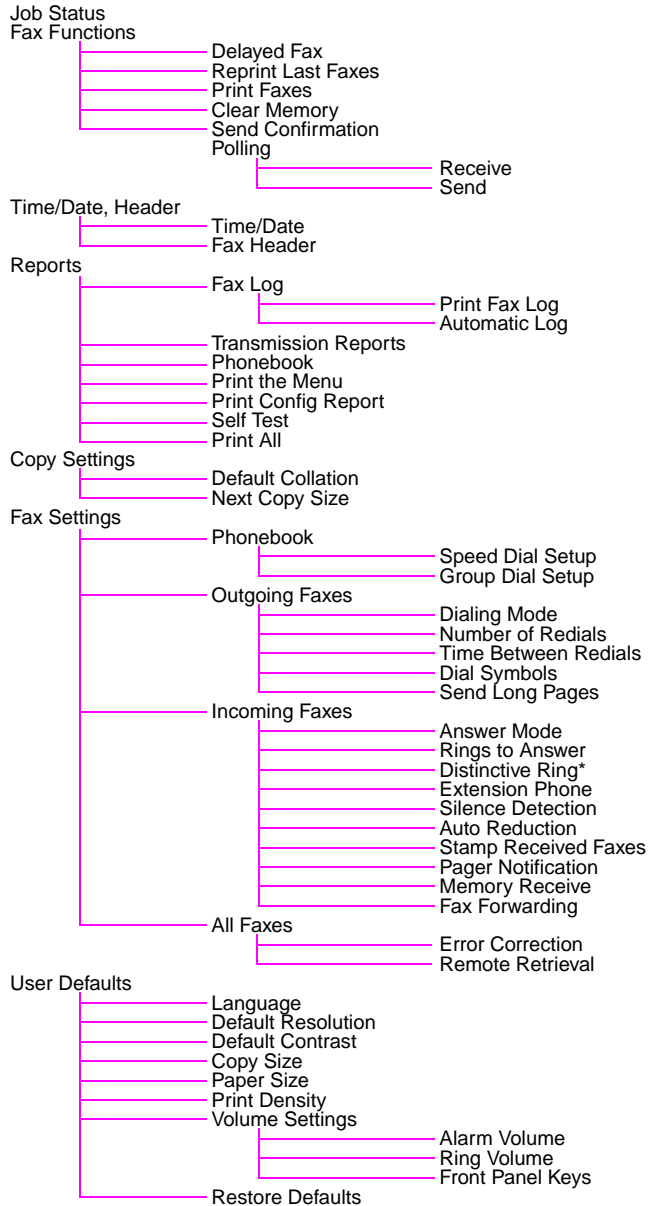
## Menu tree for the HP LaserJet 3100 product

Press **ENTER/MENU** to access the Menu.

Use the **< and >** keys to select one of the choices below and press **ENTER/MENU**.

Use the **< and >** keys to select one of the choices below and press **ENTER/MENU**.

Use the **< and >** keys to select one of the choices below and press **ENTER/MENU**, or see the display.



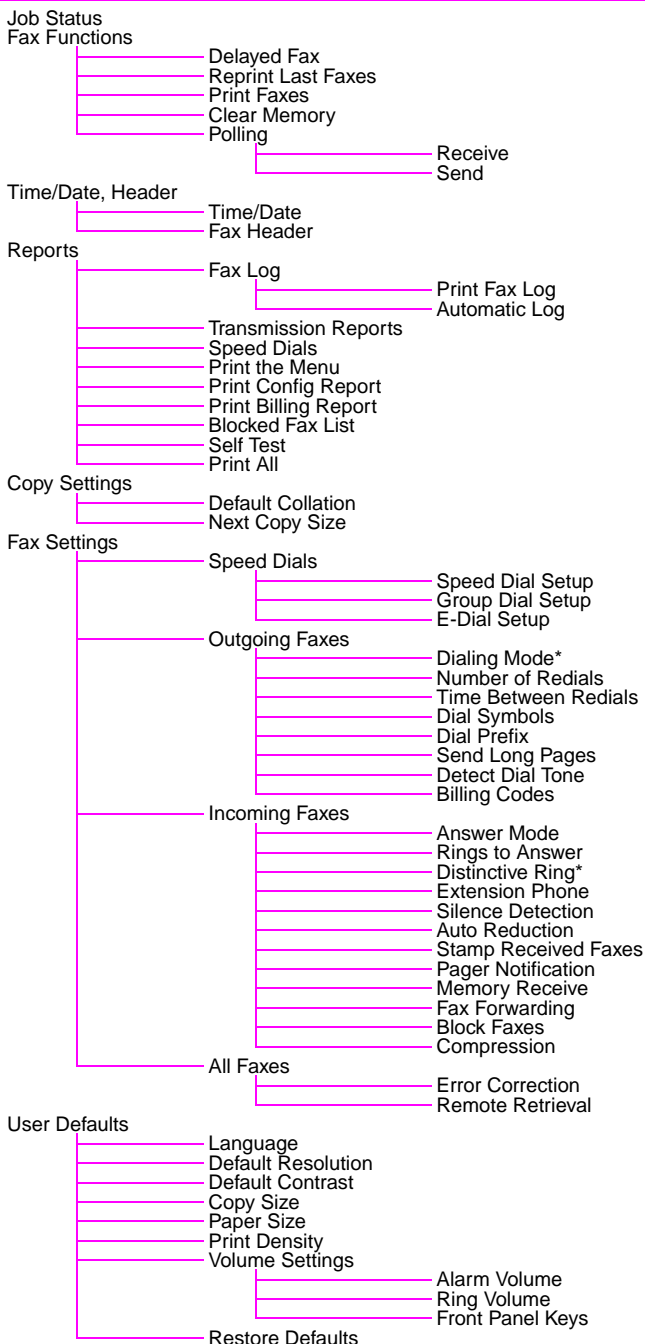
## Menu tree for the HP LaserJet 3150 product

Press **ENTER/MENU** to access the Menu.

Use the **<** and **>** keys to select one of the choices below and press **ENTER/MENU**.

Use the **<** and **>** keys to select one of the choices below and press **ENTER/MENU**.

Use the **<** and **>** keys to select one of the choices below and press **ENTER/MENU**, or see the display.



\* denotes limited availability.



# 3

# Maintenance

## Chapter contents

|  |    |
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| Cleaning and maintaining the equipment . . . . . | 57 |
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## Life expectancies of consumables

Inspect the consumables when servicing the HP LaserJet 3100/3150. Replace consumables as needed, based on failures or wear, not strictly on usage.

The following table lists approximate schedules for replacing consumables.

**Table 10. Life expectancies of consumables**

| Description   | Part number                                    | Estimated life (pages) | Remarks  |
|---|--|------------------------|--|
| Toner cartridge (user replaceable)                                | C3906A   | 2,500*                 | When print becomes faint, redistribute toner in the cartridge. |
| Printer transfer roller   | RF5-1534-000CN                                 | 50,000                 | Can affect print quality and/or paper movement.                |
| Printer pickup roller assembly                                    | RG5-3486-040CN                                 | 50,000                 | Look for glazing and/or cracks.                                |
| Printer separation pad and subpads                                | RY7-5008-000CN                                 | 50,000                 | Can affect paper movement.                                     |
| Heating element   | RG5-4678-000CN (110V)<br>RG5-4681-000CN (220V) | 50,000                 | Can affect print quality and/or paper movement.                |
| Pressure roller   | RF5-2362-000CN                                 | 50,000                 | Look for marks on pressure roller or upper Teflon sleeve.      |
| Document scanner pickup roller assembly                           | RG5-4688-000CN                                 | 25,000                 | Look for glazing and/or cracks.                                |
| Document scanner separation pad kit                               | RY7-5055-000CN                                 | 25,000                 | Can affect document movement.                                  |
| Document scanner feed roller and document scanner delivery roller | RG5-4223-000CN<br>(Document scanner assembly)  | 25,000                 | Can affect document movement.                                  |

\* The estimated toner cartridge life is based on Letter- or A4-sized paper with an average of 5% toner coverage and a medium density setting. Toner cartridge life can be extended further by conserving toner using draft mode settings.

# Cleaning and maintaining the equipment

---

**WARNING!**

---

Before you perform these steps, unplug the printer to avoid shock hazard.

To maintain quality, thoroughly clean the HP LaserJet 3100/3150 product:

- Any time a new toner cartridge is installed.
- After printing approximately 2,500 pages.
- Whenever print quality problems appear.

Clean the outside of the printer with a slightly water-dampened cloth. Clean the inside with only a dry, lint-free cloth (such as lens tissues).

To avoid permanent damage to the toner cartridge, do not use ammonia-based cleaners on or around the HP LaserJet 3100/3150 product.

---

**WARNING!**

---

When cleaning around the printer door area, avoid touching the heating element. It might be very hot and can cause burns.

---

**CAUTION**

---

Do not touch the surface of the transfer roller. Contaminants on the roller can cause print quality problems.

---

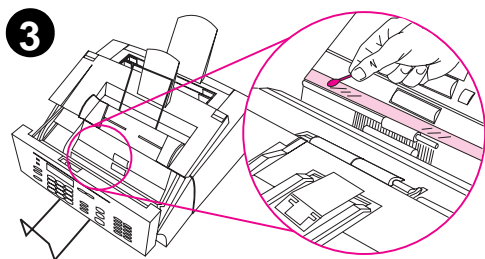
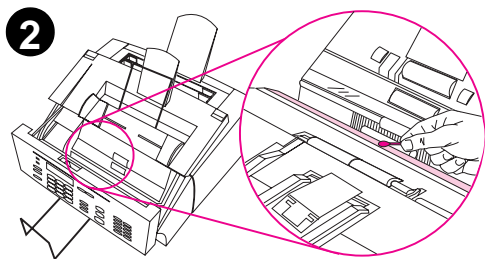
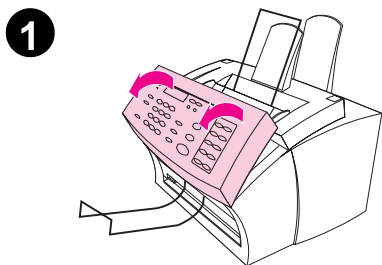
**Note**

---

Be careful not to touch the glass surface of the image sensor. If you inadvertently touch the glass, clean it according to the instructions on the following pages.

---

# Cleaning the document scanner path



Clean parts of the document scanner if the ink on items you are scanning can be smudged with your hand, or if the parts have excessive amounts of dust or dirt on them. Also clean these parts if there are smudges, lines, or other marks on original documents, copies, or scans of documents.

---

## WARNING!

Before cleaning the HP LaserJet 3100/3150 product, disconnect it from the power source.

---

- 1 Open the document release door.
- 2 If the white sheet is dirty, clean it with a dry cotton swab. If there is still something on the white sheet, dab a swab in a small amount of isopropyl alcohol and gently clean the white sheet.

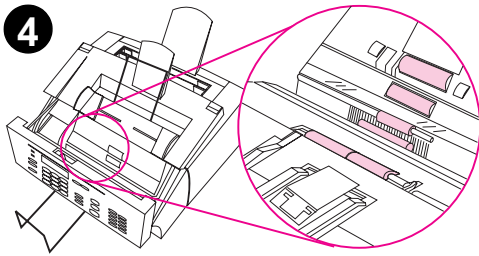
---

## CAUTION

When you use alcohol, only use a very small amount. Exposing internal parts to dripping alcohol can damage them.

---

- 3 If the glass surface of the contact image sensor is dirty, clean it with a dry cotton swab. If there is still something on the glass, dab a swab in a small amount of isopropyl alcohol and gently clean the glass.



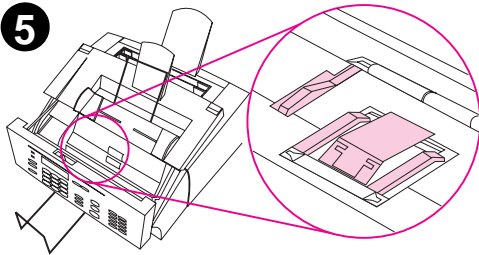
- 4 Inspect each of the six rollers in the document scanner area for dirt or debris. Using a lint-free cloth dampened with a small amount of isopropyl alcohol, wipe any dirty rollers using a side-to-side motion.

---

**CAUTION**

Do not spray alcohol or any other liquid directly into the HP LaserJet 3100/3150 product. Doing so can damage the product.

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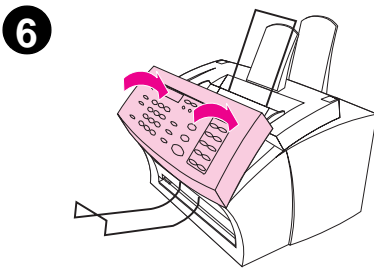


---

**CAUTION**

As much as possible, avoid touching the white sheet and the glass surface with alcohol.

---



- 5 Near the top, inside edge of the document release door, inspect the three pressure feet and pad for dirt or debris. If they are dirty, clean them with a lint-free cloth dampened with a small amount of alcohol.
- 6 Close the document release door after allowing alcohol to dry.

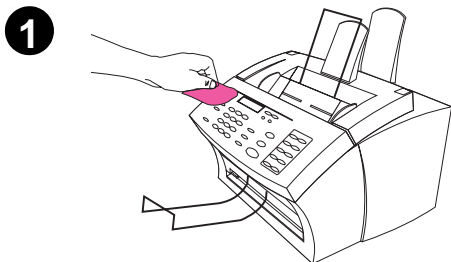
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**Note**

If, after cleaning the document scanner path, you still notice that copies, items scanned to the computer, or faxes you send have black or white lines running through them, see Chapter 6, "Troubleshooting," for information about recalibrating the document scanner and interpreting the calibration graph.

---

## Cleaning the print path



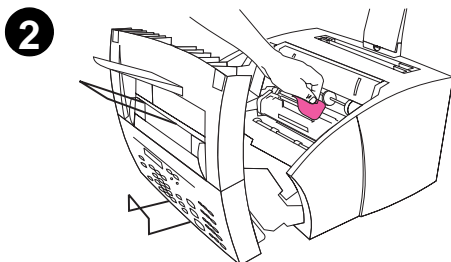
Clean the print path to re-establish print quality if you frequently duplex or if you notice other marks on printed pages.

---

### WARNING!

Before cleaning the HP LaserJet 3100/3150 product, disconnect it from the power source.

---



- 1 Clean the outside of the device with a slightly damp cloth (use only water).

---

### CAUTION

Using ammonia-based cleaners on or around the HP LaserJet 3100/3150 product can damage it.

---

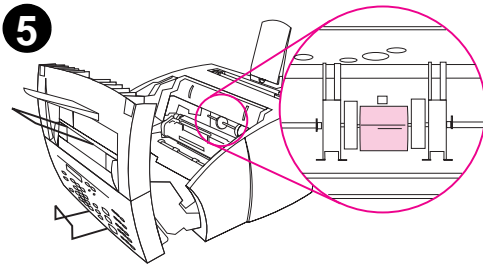
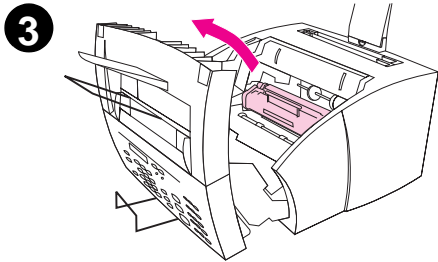
- 2 Use the two latches on the printer door to open it. Clean the inside of the HP LaserJet 3100/3150 product with a dry, lint-free cloth. Remove all dust, spilled toner, and particles of paper.

---

### CAUTION

Only use a dry, lint-free cloth to remove dust and toner. Using a vacuum or other device to clean inside the product can damage it. Also, do not touch the transfer roller. Touching it can reduce the print quality of output.

---



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**Note**

If toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. Hot water and the heat of the dryer set toner into the fabric.

---

**3** Remove the toner cartridge.

---

**Note**

If you notice excessive amounts of toner inside the HP LaserJet 3100/3150 product, the toner cartridge may be defective. Use HP LaserJet toner cartridges to ensure high-quality printing and to reduce incidence of excessive toner.

---

**4** Dab a lint-free cloth in isopropyl alcohol.

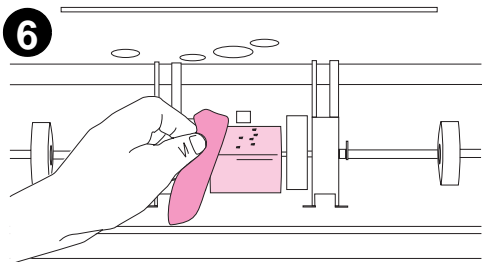
**5** Locate the light gray pickup roller near the center in the opening.

---

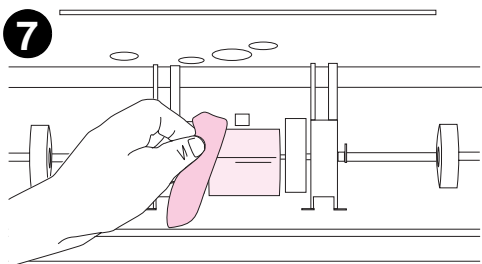
**Note**

Do not touch the transfer roller. Touching it can reduce the print quality of output.

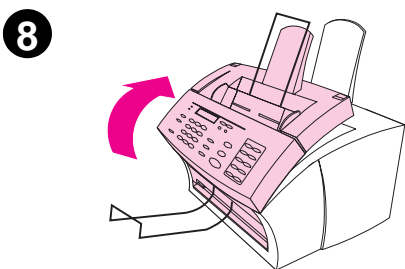
---



**6** Scrub the exposed area (top and front) of the pickup roller using a side-to-side motion. Do not rotate the roller to clean the unexposed sides.



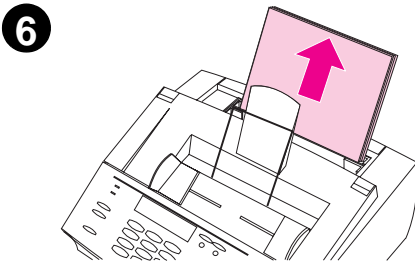
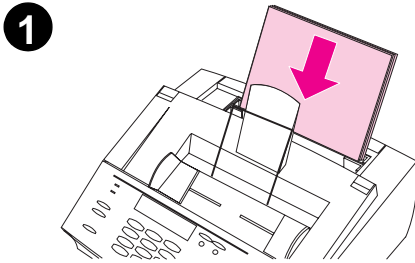
**7** Using a dry, lint-free cloth, dry the exposed area of the pickup roller using a side-to-side motion.



**8** After the alcohol inside the product has dried completely, replace the toner cartridge and close the printer door.



# Using a cleaning page



After you have cleaned the printer parts, use this procedure to print and use a cleaning page, if needed. This cleaning page can help remove toner specks on your printed pages.

## To use a cleaning page

- 1 Place a stack of plain letter- or A4-sized paper into the paper input bin. (Do not use thick or rough paper.)
- 2 For Windows 9x, open Windows Explorer.  
- Or -  
For Windows 3.1x, open File Manager.
- 3 Open the JetSuite folder (if the JetSuite Pro software was installed to the default location, the path is "C:\JetSuite").

---

### Note

If you do not have access to JetSuite Pro software, a cleaning page is available from the HP web addresses:

<http://www.hp.com/support/lj3100>

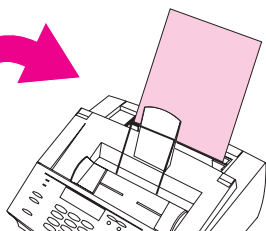
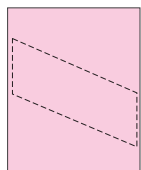
-or-

<http://www.hp.com/support/lj3150>

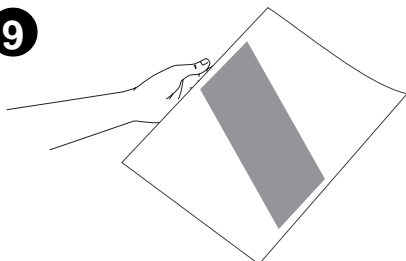
---

- 4 Double-click **CleanPg.jsd** to open the cleaning page.
- 5 When the document opens in the JetSuite Pro software, click **Print** in the link icon bar at the bottom of the dialog.
- 6 After the cleaning page has printed, remove the stack of paper from the paper input bin.

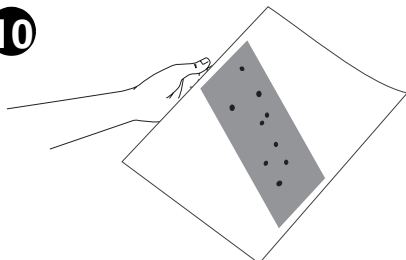
7



9



10



7 Place the cleaning page into the paper input bin, top first, face down.

8 Print a different file.

9 Inspect the page. If there are no shiny, black spots on the page's black strip, the print path is clean. Discard the page, and the procedure has been completed.

10 If there are shiny, black spots on the page's black strip, toner has been cleaned from the print path. Discard the page. Repeat steps 1 through 9 until there are no shiny, black spots on the page.

---

**Note**

If toner specks appear often and there is a frequent need to clean the print path, try using a different type of paper, and make sure the paper meets HP paper specifications. If the problem persists, see Chapter 6, "Troubleshooting," for detailed information about repetitive defects and other image quality problems.

---

# 4

# Functional overview

## Chapter contents

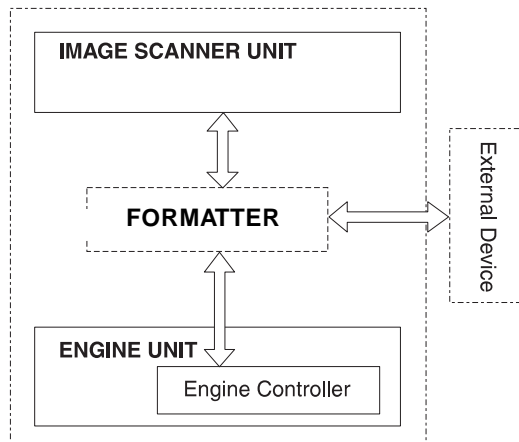
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# Basic functions

This chapter presents a functional overview of the HP LaserJet 3100/3150 product's processes. The following systems are discussed:

- optical system (document scanner)
- ECU (engine controller unit) system/power system
- formatter system
- image formation system
- paper feed system (printer) and document feed system (document scanner)
- laser/scanner system
- telecommunications system/line interface unit (LIU)

The HP LaserJet 3100/3150 product consists of the printer and the document scanner. Operation sequences of the printer are controlled by the ECU. Operation sequences of the document scanner are controlled by the video controller.



**Figure 7. Basic configuration**

# Printer functions

Printer functions are divided into four groups:

- engine control
- image formation
- printer laser/scanner
- pickup/feed

The following figure is a block diagram of the printer unit:

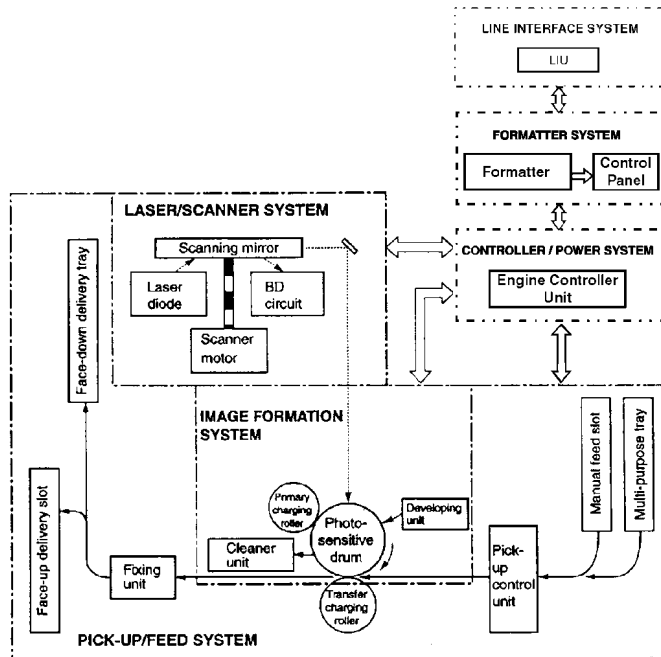


Figure 8. Printer unit functional block diagram

# ECU/power system

The ECU coordinates all print engine activities, drives the laser, and coordinates print data from the formatter with the image formation process. The ECU also includes power supply and distribution circuitry. The ECU controls the following systems and functions:

- print engine control
  - laser/scanner drive
  - paper motion photosensors (paper out, paper registration, and paper exit sensors)
  - motor
- power system
  - AC power distribution
  - DC power distribution
  - overcurrent/undervoltage protection
  - high-voltage power distribution

The following figure shows the various ECU loads:

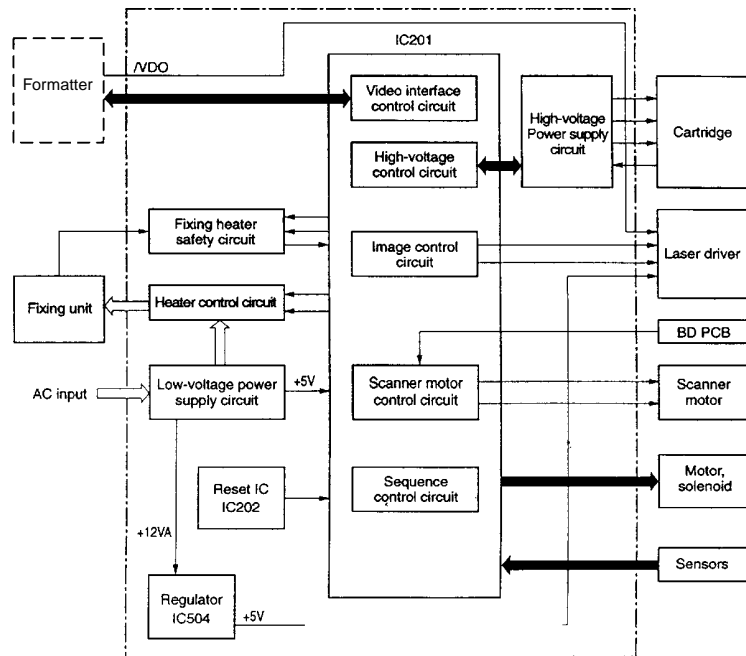


Figure 9. ECU loads

# **Print engine control system**

## **Printer laser/scanner drive**

Based on information received from the formatter, the ECU sends signals to the laser/scanner assembly to modulate the laser diode “on” and “off” and to drive the laser/scanner motor. For more information, see “Image formation system” later in this chapter.

## **Paper motion monitoring and control**

The ECU controls paper motion by continuously monitoring the various paper sensors and coordinating the timing with the other print processes.

For a detailed explanation of paper movement, and the interaction of photosensors and solenoid with the paper movement process, see the “Printer feed system” section later in this chapter.

## **12-volt DC power shutoff switch**

The 12-volt DC power shutoff switch (SW101), located on the top of the printer, is activated by the printer door. The front door must be closed before the printer can resume printing.

## **Engine test switch**

The engine test switch (SW201), located on the ECU, is activated manually from the bottom of the HP LaserJet 3100/3150 product. The switch causes the print engine to perform a self-diagnostic which bypasses the formatter and prints a full page of black vertical lines. This test is useful for troubleshooting printer problems because it isolates the print engine from the formatter. (See the “Engine test” section of Chapter 6, “Troubleshooting,” for more information about engine tests.)

## **Motor**

The motor is controlled by the ECU. The motor provides all of the printer's paper movement.

## Power system (on ECU)

The AC, DC, and high-voltage power supply circuits are all contained within the ECU.

### AC power distribution

The AC power circuitry supplies AC voltage whenever the power cord is connected to the AC power source. AC voltage is distributed to the DC power supply circuitry and to the AC driver circuitry, which controls AC voltage to the fusing assembly's heating element.

### DC power distribution

The DC power distribution circuitry, located on the ECU, distributes +5 V DC and +12 V DC as follows:

**Table 11. DC power distribution**

|           |   |
|-----------|---|
| +5 V DC:  | Formatter<br>Photosensors<br>DC Controller Circuitry<br>Laser/Beam Detect Circuitry |
| +12 V DC: | Motor<br>Scanner Motor<br>Solenoid  |
| +12VA DC: | High Voltage Power Supply   |

---

### Overcurrent/overvoltage

There are two overvoltage devices in this printer:

- Fuse F101 provides overcurrent protection for the fixing system circuitry. To check or replace the fuse requires the removal of the ECU. Fuse 102 (found only on 110V units) provides overcurrent protection to the printer DC power supply circuitry.
- In addition, the +12V DC and +5V DC power circuitry contains an overcurrent protection circuit which automatically shuts off the output voltage when an overcurrent condition occurs due to a short or abnormal voltage on the load side.



## High-voltage power distribution

The high-voltage power supply PCA applies an overlap of DC and AC voltage to the primary charging roller and the developing roller. This circuit also applies a positive or negative DC voltage to the transfer roller according to the instructions from the ECU.

This circuit also controls the image density by changing the primary AC voltage and the developing AC bias according to the print density setting.

High voltage is disabled when SW101 is open (in other words, when the printer door is open).

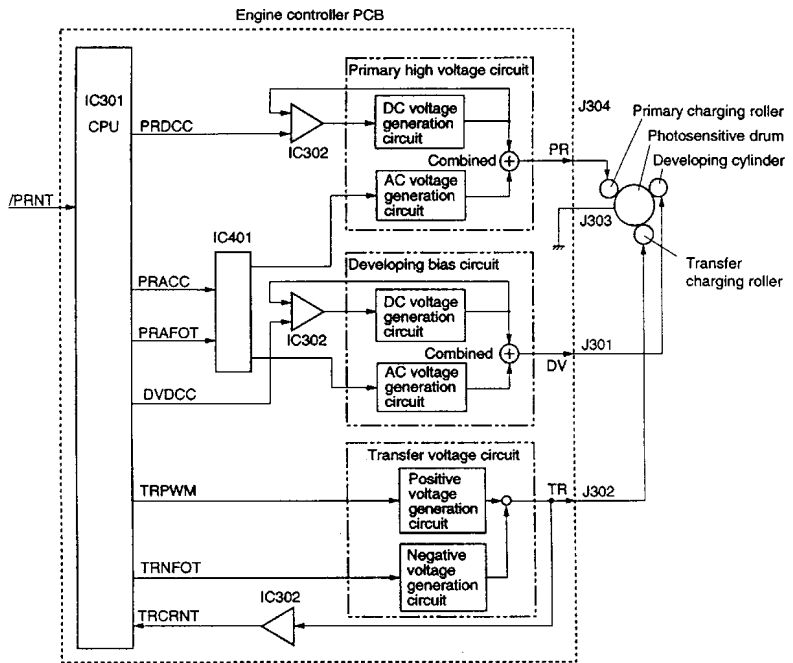


Figure 10. High-voltage power supply circuit

# Formatter system

The formatter is responsible for the following:

- controlling the document scanner
- formatting and controlling faxes
- formatting and controlling copies
- receiving and processing print data from the printer interface
- monitoring the control panel and relaying printer status information
- developing and coordinating data placement and timing with the print engine
- communicating with the host computer through the bidirectional interface

The formatter receives print data from the bidirectional ECP interface and converts it into a dot image. The ECU synchronizes the image formation system with the paper feed system and signals the formatter to send the print image data. The formatter sends the print image data (dots) in the form of a video signal and the printing process begins.

## Central processing unit

The formatter incorporates a Motorola 68030 custom microprocessor operating at 25.2 megahertz (MHz).

## Memory

Memory can be cleared by removing the formatter board. For information about removing the formatter board, see Chapter 5, "Removal and replacement."

### Read-only memory (ROM)

- Flash ROM stores the microprocessor control program.
- Masked ROM, also known as Boot ROM, stores startup sequences, commands, and the demo page.

## **Random-access memory (RAM)**

- One bank of RAM, which is battery-backed, stores parameters. Another two banks of RAM are used for temporary storage.
- DRAM (Dynamic RAM) provides temporary storage of fax, copy, scan, and print data.

## **Parallel interface**

The formatter receives incoming data through its bidirectional ECP interface. This interface provides high speed and two-way communication between the printer and the host, allowing the user to change printer settings and monitor printer status from the host computer.

## **Control panel**

- two front panel status lights
- control panel keyboard
- control panel display

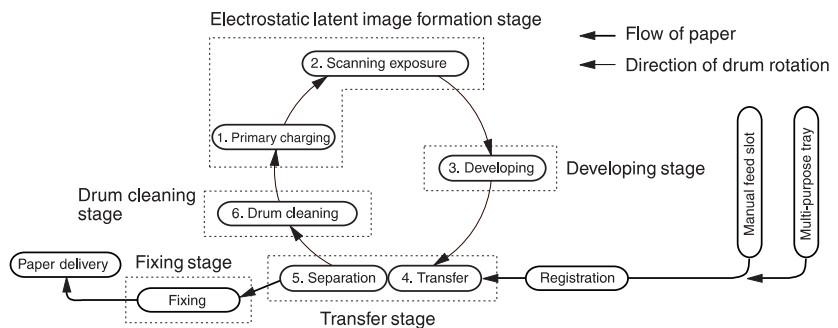
## **Draft mode**

Depending on the printer driver, selecting a “draft” or “economy” mode from the printer driver allows the HP LaserJet 3100/3150 product to use approximately 50% less toner, extending the life of the toner cartridge. This is only available using printer driver properties when printing or making copies from the software.

# Image formation system

Laser printing requires the interaction of several different technologies (such as electronics, optics, and electrophotographics) to provide a printed page. Each process functions independently and must be coordinated with the other printer processes. Image formation consists of six processes:

- Step 1. Primary charging
- Step 2. Scanning exposure
- Step 3. Developing
- Step 4. Transferring
- Step 5. Separating
- Step 6. Drum cleaning



**Figure 11. Image formation block diagram**

## Toner cartridge

As the heart of the image formation system, the toner cartridge houses the cleaning, conditioning, and developing steps of the process. The toner cartridge contains the photosensitive primary charging roller, developing station, toner cavity, and cleaning station. Including these components (which wear, degrade, or are consumed) in the replaceable toner cartridge eliminates the need for a service call when replacement is required. The special photosensitive properties of the drum allow an image to be formed on the drum surface and then transferred to paper.

---

**CAUTION**

---

The printer's toner cartridge does not include a light-blocking shutter. Be careful to avoid exposing the drum to light, which can permanently damage the drum. Protect the cartridge whenever removing it from the printer.

## **Step 1: Primary charging**

This process consists of applying a uniform negative charge to the surface of the drum with the primary charging roller, located in the toner cartridge. The primary charging roller is coated with conductive rubber. An AC bias is applied to the roller to erase any residual charges from any previous image. In addition, a negative DC bias is applied by the charging roller to create a uniform negative potential on the drum surface. The amount of DC voltage is modified by the print density setting.

## **Step 2: Scanning exposure**

During this process, a modulated laser diode projects the beam onto a rotating scanning mirror. As the mirror rotates, the beam reflects off the mirror, first through a set of focusing lenses, then off a mirror, and finally through a slot in the top of the toner cartridge, and onto the photosensitive drum. The beam sweeps the drum from left to right, discharging the negative potential wherever the beam strikes the surface. This creates a latent electrostatic image, which later is developed into a visible image.

Because the beam is sweeping the entire length of the drum and the drum is rotating, the entire surface area of the drum can be covered. At the end of each sweep, the beam strikes the beam detect lens, generating the beam detect signal (BD signal). The BD signal is sent to the ECU, where it is converted to an electrical signal used to synchronize the output of the next scan line of data.

## **Step 3: Developing**

At this stage of the process, the latent electrostatic image is present on the drum. The toner particles obtain a negative surface charge by rubbing against the developing cylinder which is connected to a negative DC supply. The negatively charged toner is attracted to the discharged (exposed, grounded) areas of the drum, and repelled from the negatively charged (unexposed) areas.

## **Step 4: Transferring**

During the transferring process, the toner image on the drum surface is transferred to the paper. A positive charge applied to the back of the paper by the transfer roller causes the negatively charged toner on the drum surface to be attracted to the paper. After separation, the drum is cleaned and conditioned for the next image.

## **Step 5: Separating**

During the separating process, the paper separates from the drum. To stabilize the feed system and prevent dropouts on the printed image at low temperature and humidity, the charge on the back of the paper is reduced by the static charge eliminator.

## **Step 6: Drum cleaning**

The cleaning blade is in contact with the surface of the drum at all times. As the drum rotates during printing, excess toner is wiped off and stored in the waste toner receptacle.

## **Fixing stage**

During the fixing process, the toner is fused into the paper by heat and pressure to produce a permanent image. The paper passes between a heated fusing element and a soft pressure roller. This melts the toner and presses it into the paper.

# Printer feed system

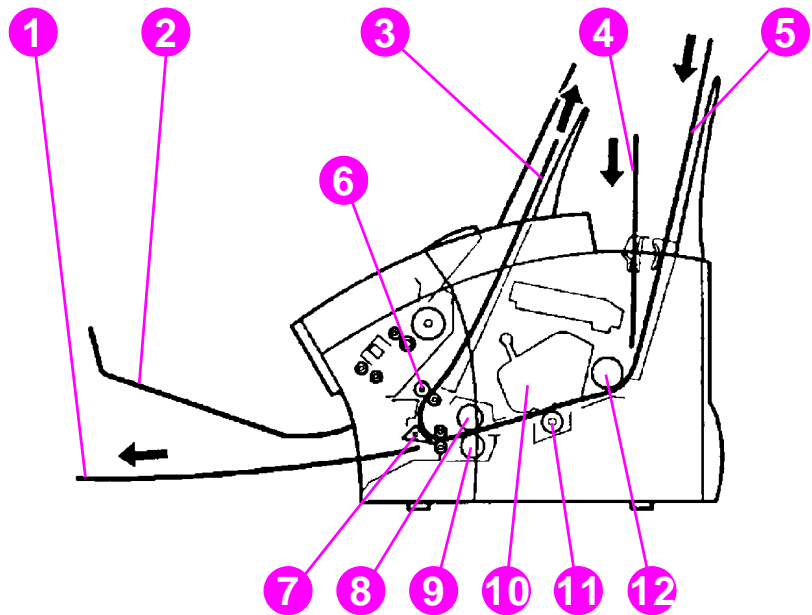
Both the paper input bin and the single-sheet input slot merge into one, main input area. Paper placed in either of these areas enables the paper-out sensor (PS202), which informs the ECU that paper is present.

When the printer receives a print job and is ready to print, the ECU enables the laser/scanner assembly and the motor. Paper motion begins when the ECU energizes solenoid SL1. This causes the paper pickup roller to rotate once. Two actions occur as a result of this rotation. First, the paper kick plate pushes the paper against the pickup roller. Second, the pickup roller grabs the top sheet and advances it to the feed assembly drive rollers. To ensure that only one sheet is fed, a main separation pad and two subpads hold the remainder of the stack in place.

The feed assembly drive rollers advance the paper to the paper registration photosensor (PS203). This sensor informs the ECU of the exact location of the paper's leading edge, so that the image being written on the photosensitive drum can be precisely positioned on the page. The feed assembly drive rollers then advance the paper to the transfer area where the toner image on the photosensitive drum is transferred to paper.

After the image is transferred, the paper enters the fusing assembly where heat from the fuser and pressure from the pressure roller permanently bond the toner image to paper. The paper exit sensor (PS201) determines that paper has successfully moved out of the fusing area. The fusing assembly exit rollers deliver paper to either the paper output bin or the front paper output slot, depending upon the position of the face-up/face-down lever.

The following figure shows a simplified printer paper path.



**Figure 12. Simplified paper path**

- 1 Face-up output path
- 2 Document output support
- 3 Face-down output path
- 4 Single-sheet input slot
- 5 Paper input bin
- 6 Delivery roller
- 7 Face-up/face-down lever
- 8 Fixing unit
- 9 Pressure roller
- 10 Toner cartridge
- 11 Transfer roller
- 12 Pickup roller



## Paper jam detection

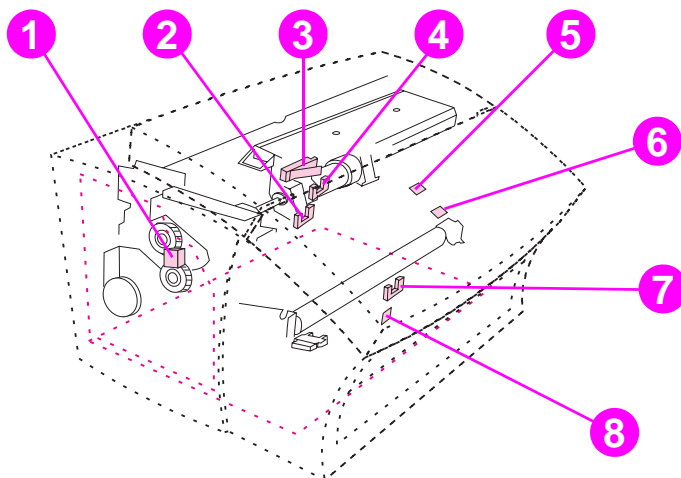
The paper out sensor (PS202), paper registration sensor (PS203), and the paper exit sensor (PS201) detect paper moving through the HP LaserJet 3100/3150 product. If a paper jam is detected, the ECU immediately stops the printing process and displays a paper jam message on the control panel.

A paper jam can be detected under any of the following conditions:

- Power-on jams. Paper is present under either PS201 or PS203 at power-on.
- Pickup jams. Paper does not reach and clear photosensor PS203 within a specified period of time. The time period begins when the Paper Pickup Solenoid (SL1) is energized.
- Delay jams. Paper does not reach or clear a specific photosensor within a specified period of time.

## Solenoid, photosensors, and switches

The following figure shows the locations of the solenoid, photosensors, and switches.



**Figure 13. Solenoid, photosensors, and switches**

|   |                                     |   |
|---|-------------------------------------|---|
| 1 | Pickup solenoid (SL1).              | Enables the pickup roller.  |
| 2 | Paper registration sensor (PS203).  | Detects the leading and trailing edges of the paper. Synchronizes the photosensitive drum and the top of the paper.   |
| 3 | Door open/cartridge sensor (SW101). | Detects whether or not the printer door is closed and the toner cartridge is present. Printing cannot continue until the printer door is closed and the toner cartridge is in its correct position. |
| 4 | Paper out sensor (PS202).           | If the sensor does not sense paper in the paper input bin or the single-sheet input slot, the control panel displays the paper-out message. Paper must be loaded before printing can resume.        |
| 5 | Document sensor (PS801)             | Detects the presence of a document in the document input bin.   |
| 6 | Edge of document sensor (PS802)     | Detects the leading edge of a document in the document scanner path.  |
| 7 | Paper exit sensor (PS201).          | Senses when paper has successfully moved out of the fixing area.  |
| 8 | Engine test switch (SW201).         | See Chapter 6, "Troubleshooting," for information about engine tests.   |

# Document scanner system

The document scanner system consists of the optical system and document pickup and feed systems.

The optical system, also known as the contact image sensor, contains the following:

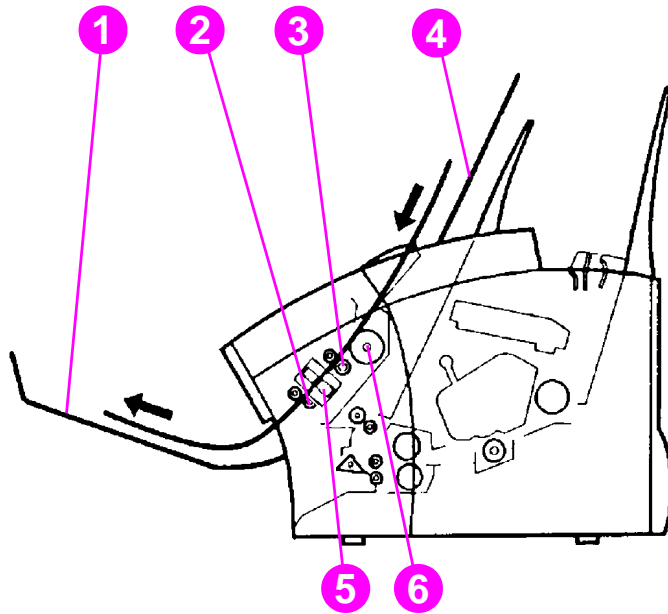
- light-emitting diode (LED) array
- contact glass
- rod lens array
- phototransistor array

The LED array, which emits light from two types of LEDs, is controlled by the formatter. The contact glass refracts the light to documents. Light reflected from documents passes through the rod lens array to the phototransistor array.

The phototransistor array consists of 2,574 phototransistors: 11 driver circuits that amplify the light reception output in units of 234 phototransistors. The image data is converted and sent from the driver circuits to the formatter.

The document pickup and feed systems contain a pickup roller, a feed roller, and a delivery roller, all of which are driven by the document scanner motor. There are also two photosensors in the document path. PS801 detects the presence of a document and PS802 detects the leading edge of a document.

The following figure shows a simplified Document scanner document path.



**Figure 14. Simplified document path**

- 1 Document output support
- 2 Document delivery roller
- 3 Document feed roller
- 4 Document input bin
- 5 Contact image sensor
- 6 Document pickup roller

## Basic sequence of operation (formatter-to-printer)

The formatter and the ECU share information during printer operation. The ECU-to-formatter connector (J201) forms a link which operates as a serial data bus. This allows printer status, command information, and dot-image data to be passed between the two. The following events take place during normal printer operation:

**Table 12. Timing**

| Period  | Purpose  | Remarks   |
|---|--|---|
| WAIT (WAIT period)<br>From power ON to the end of the initial rotation of the main motor.   | To clear the drum surface of its charge and to clean the transfer charging roller.   |   |
| STBY (STANDBY)<br>From the end of the WAIT period or the LSTR period until the input of the /PRNT signal from the video controller. Or from the end of the LSTR period until power OFF. | To maintain the printer in ready mode.   |   |
| INTR (INITIAL ROTATION period)<br>From the input of the /PRNT signal from the video controller until the end of the APC operation.  | To stabilize the photosensitive drum sensitivity in preparation for printing. Also to clean the transfer charging roller.            |   |
| PRINT (print)<br>From the end of initial rotation until the motor stops.  | To form images on the photosensitive drum based on the /VDO signal from the video controller and transfers the toner image to paper. |   |
| LSTR (LAST ROTATION period)<br>From when the primary high voltage (DC) goes OFF until the main motor stops.   | To deliver the last page. Also to clean the transfer charging roller.  | The printer enters the INTR period when the /PRNT signal is sent from the video controller. |

C. Basic Sequence of Operation

• Timing chart for printing two A4-size sheets continuously

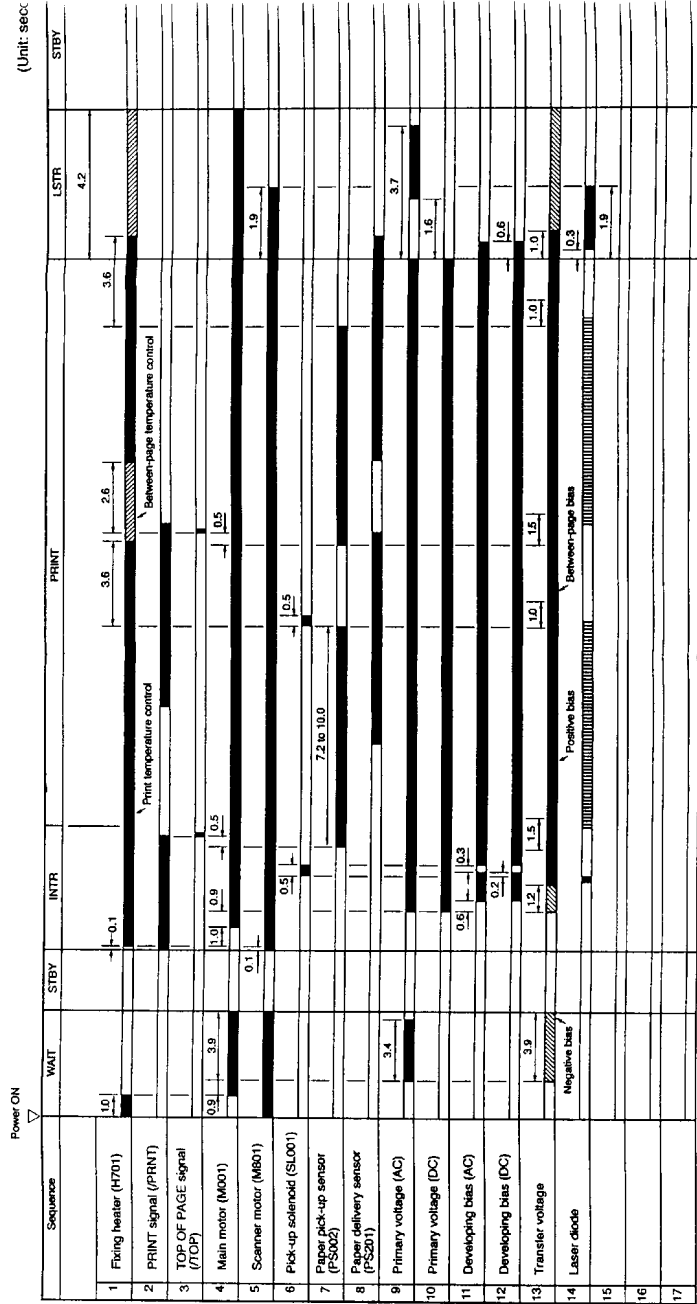


Figure 15. General timing diagram

# 5

# Removal and replacement

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# Removal and replacement strategy

This chapter documents removal and replacement of field replaceable units (FRUs) only.

Replacement is generally the reverse of removal. Occasionally, notes are included to provide direction for difficult or critical replacement procedures.

---

## WARNING!

Unplug the power cord from the power outlet before attempting to service the HP LaserJet 3100/3150 product. If this warning is not followed, severe injury can result. Certain functional checks must be performed during troubleshooting with power supplied to the product. However, the power supply should be disconnected during disassembly.

Never operate or service the HP LaserJet 3100/3150 product with the protective cover removed from the laser/scanner assembly. The reflected beam, although invisible, can damage your eyes.

The sheet metal edges of the HP LaserJet 3100/3150 product can be sharp. Exercise caution when working the HP LaserJet 3100/3150 product.

---

---

## CAUTION

The HP LaserJet 3100/3150 product contains parts that are electrostatic discharge (ESD) sensitive. Always perform servicing at an ESD-protected workstation.

---

---

## CAUTION

If possible, print the configuration report before working on the product. Removing the screws from the formatter board clears the settings in memory. Clearing the settings can render the product illegal or inoperable. The list of configuration settings can assist in restoring the settings.

---

---

## Note

To install a self-tapping screw, first turn it counterclockwise to align it with the existing thread pattern, then carefully turn clockwise to tighten. Do not overtighten. If a self-tapping screw-hole becomes stripped, repair the screw-hole or replace the affected assembly.

---

---

## Note

Always remove the toner cartridge before removing or replacing parts.

---



## Before performing service . . .

- Print internal reports.
- Remove all media from the product.
- Unplug all cables from the product, beginning with the power cable.
- Place the product on an ESD mat.
- Remove all supports and bins.
- Remove the toner cartridge.

## After completing service . . .

- Restore the country code softswitch for the appropriate country.
- Make sure the latest firmware is installed on the product.
- Restore customer configuration settings.

## Required tools

- #1 Phillips screwdriver with a magnetic tip
- #2 Phillips screwdriver with a magnetic tip
- small flatblade screwdriver
- needlenose pliers
- ESD mat

A 5.5 mm hexhead nutdriver might also prove useful, but is not required.

---

### CAUTION

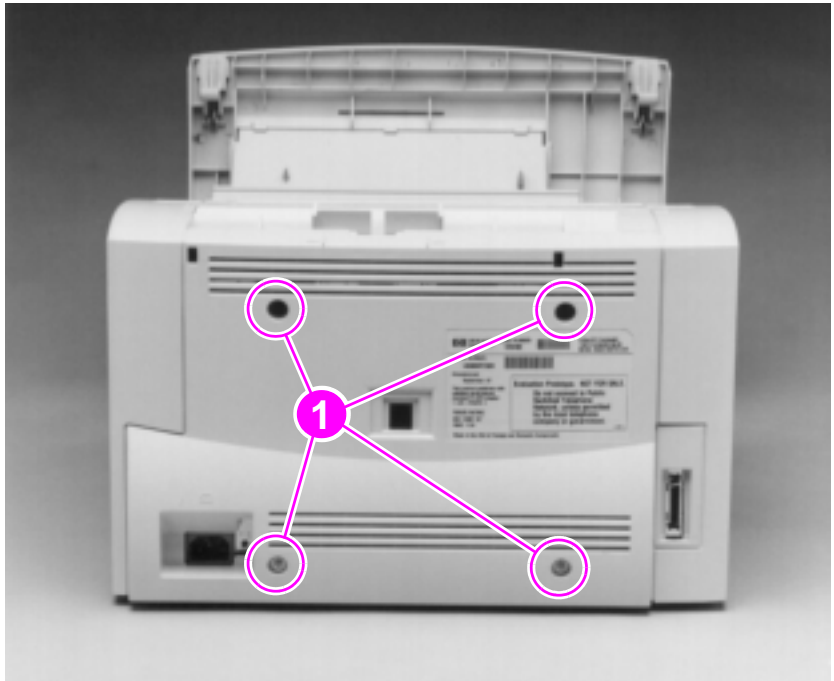
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A Posidriv screwdriver will damage screw heads on the HP LaserJet 3100/3150 product. Use Phillips only.

# Covers

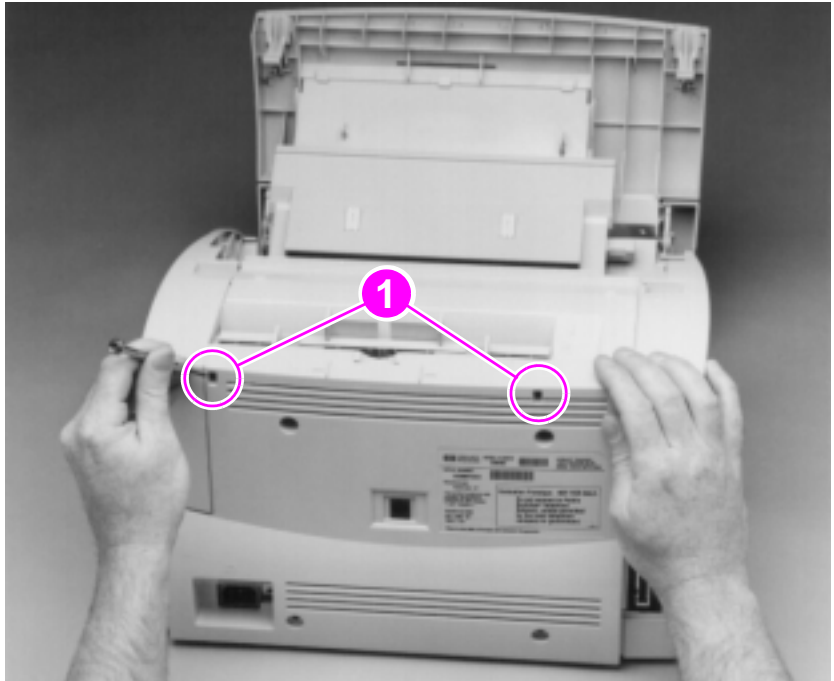
## Back cover

- 1 Unplug the power cord and phone cord(s) and remove the parallel cable from the back of the printer.
- 2 Remove all supports and bins.
- 3 Press the printer door release latches and open the printer door.
- 4 Remove the toner cartridge.
- 5 Rotate the HP LaserJet 3100/3150 product so that you face the back of the product.
- 6 Remove the four (4) screws (callout 1) from the back cover.



**Figure 16. Back cover removal (1 of 2)**

- 7 Insert the small flatblade screwdriver into the openings (callout 1) at the top of the back cover to pop the upper corners.



**Figure 17. Back cover removal (2 of 2)**

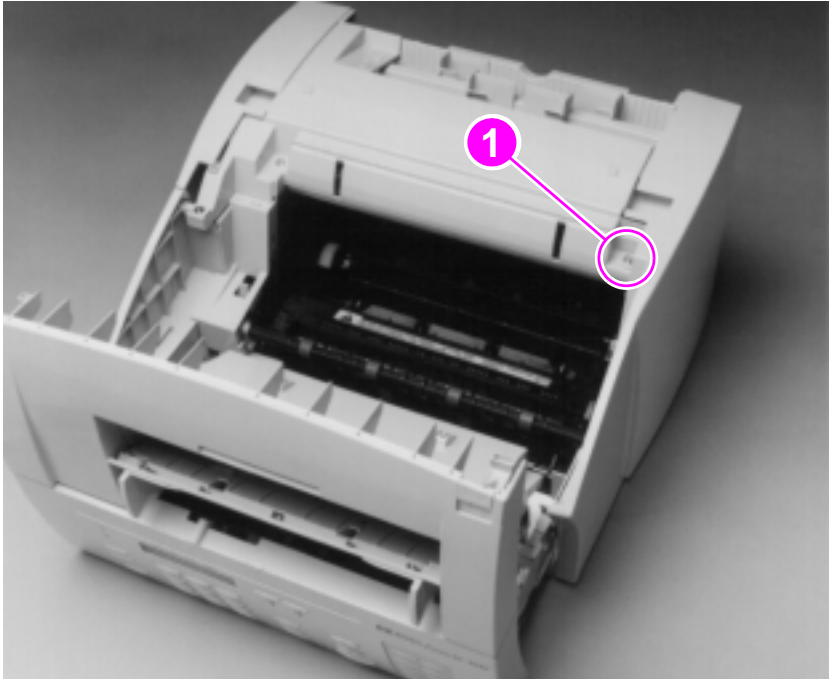
- 8 Remove the back cover by grabbing it on both sides and pulling it away.

### **To reinstall**

After placing the back cover in its correct position, squeeze the back cover and the paper input tray together to secure the back cover.

## Right side cover

- 1 Remove the back cover.
- 2 Rotate the HP LaserJet 3100/3150 product so that you face its right side.
- 3 Remove one (1) screw (callout 1) from the top of the right side cover.



**Figure 18. Right side cover removal**

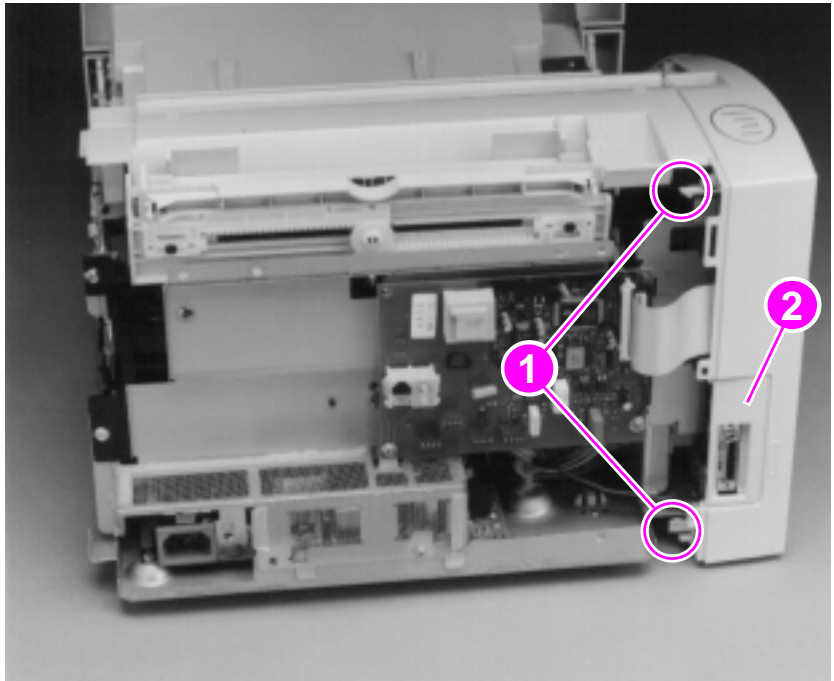
- 4 Pop the latches at the top of the cover.
- 5 Remove the cover by lifting it up and off the latches at the bottom of the cover.

### To reinstall

Attach the cover at the bottom latches before repositioning the cover.

## Left side cover

- 1 Remove the back cover.
- 2 Rotate the HP LaserJet 3100/3150 product so that you face the back of the product.
- 3 Pop the latches at the top and bottom (callout 1), at the back of the product.



**Figure 19. Left side cover removal**

- 4 Remove the left side cover by rotating it away from and toward the front of the product.

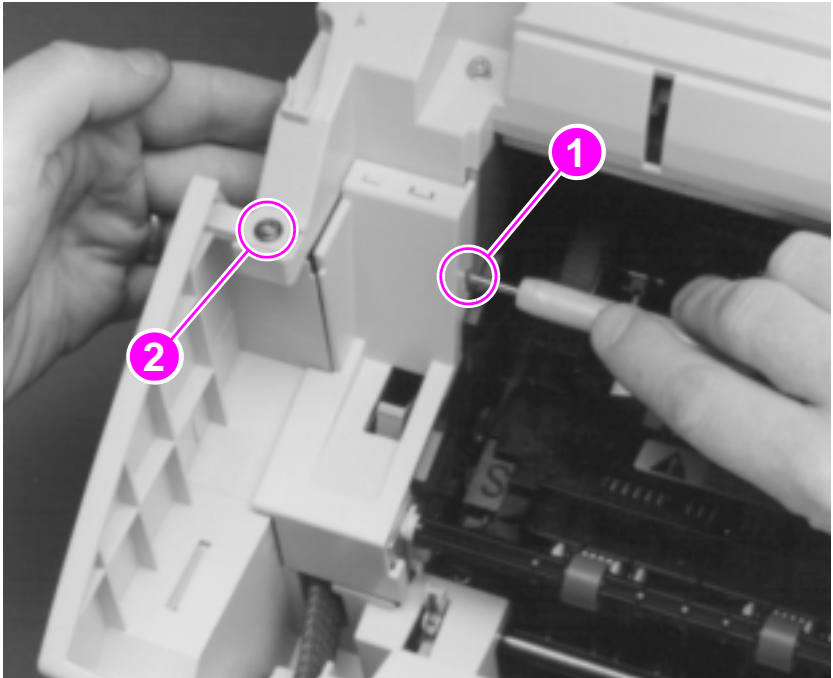
The I/O bezel (callout 2) separates from the left side cover as the cover is removed.

### To reinstall

Reinstall the left side cover before snapping the I/O bezel into place.

## Left front cover

- 1 Remove the back cover and the left side cover.
- 2 Rotate the HP LaserJet 3100/3150 product so that you face its left side.
- 3 Remove the pressure release lever cover by inserting the small flatblade screwdriver into the slot (callout 1) to release the latch, and then pressing up from the left side of the product.
- 4 Remove one (1) screw (callout 2) from the top of the left front cover.

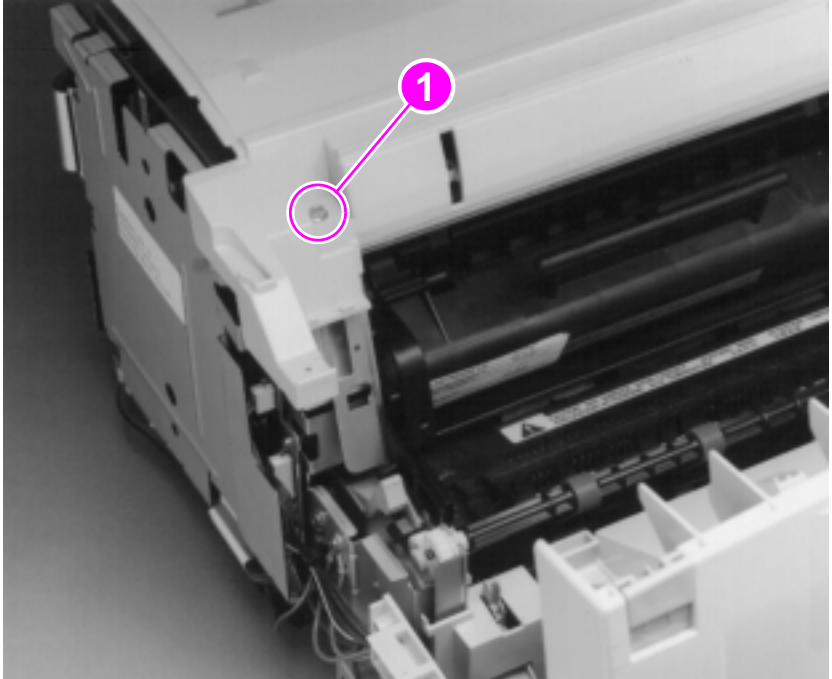


**Figure 20. Left front cover removal**

- 5 Remove the cover by popping the tab at the top and lifting the cover up and away from the HP LaserJet 3100/3150 product.

## Top cover

- 1 Remove the back cover, the right side cover, the left side cover, and the left front cover.
- 2 Remove one (1) screw (callout 1) from the top of the top cover.



**Figure 21. Top cover removal**

- 3 Lift the top cover off the product.
- 4 Lift the input bin straight up and away from the product.

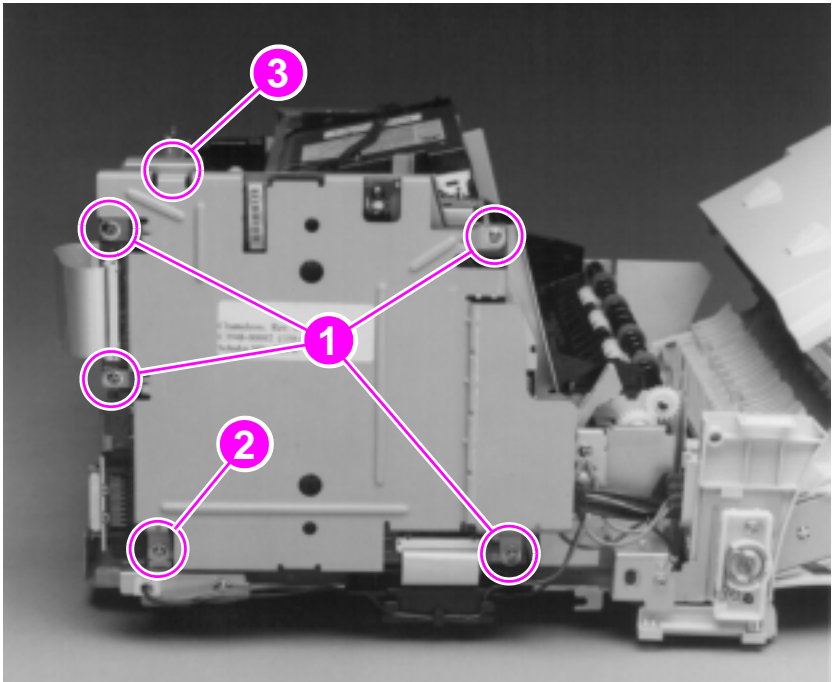
## RFI shield

- 1 Remove all covers.
- 2 Remove four (4) screws (callout 1) from the RFI shield.

### CAUTION

When step 3 below is performed, all memory is cleared from the formatter, including country-specific settings. Clearing memory can render the product illegal or inoperable. See the section in Chapter 6, "Troubleshooting," about softswitches to restore the country code.

- 3 Remove the fifth screw (callout 2) from the RFI shield.



**Figure 22. RFI shield removal**

- 4 Remove the RFI shield by lifting the shield up and off the hook (callout 3).



# Document scanner assemblies

## Printer door

- 1 Press the printer door release latches and open the printer door.
- 2 Remove all covers and the RFI shield.
- 3 Pull the four (4) cables (callout 1) from the connectors aligned vertically along the right side of the formatter board, and then open tie-wrap that holds all four cables to release the cables.
- 4 Remove the three (3) grounding screws (callout 2).

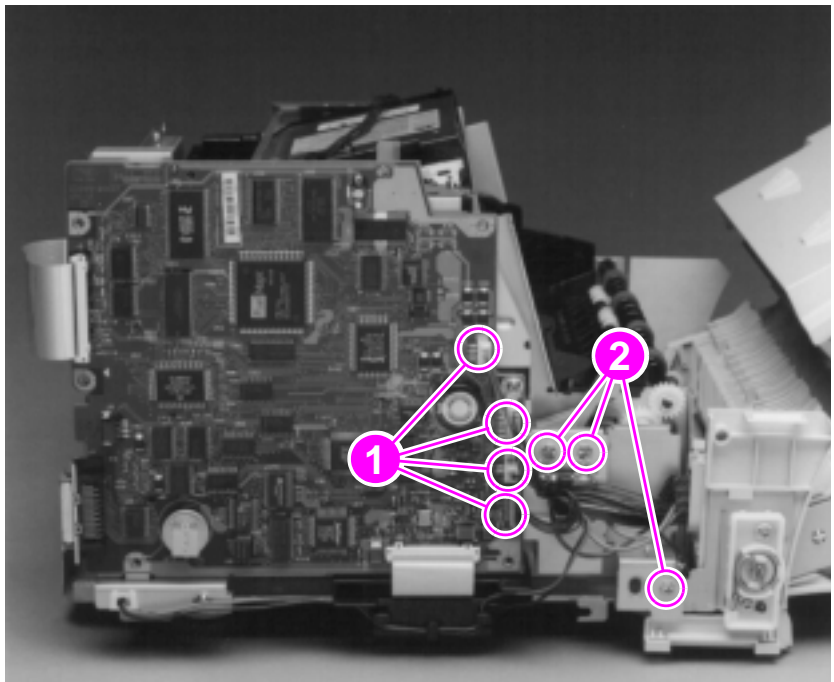


Figure 23. Printer door removal (1 of 3)

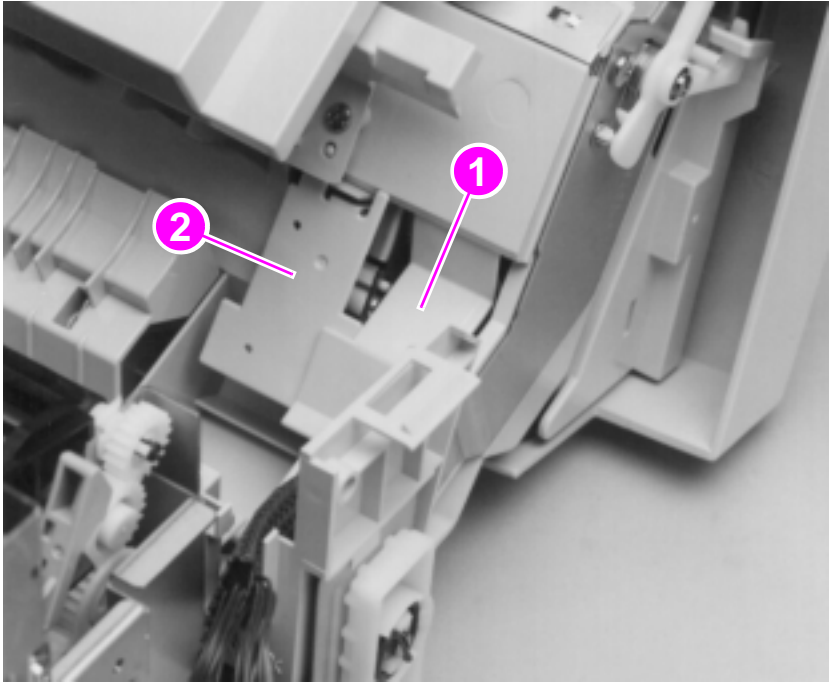
---

### Note

---

Upon reinstallation, make sure that you reinstall the grounding wires to their correct locations.

- 5 Remove the printer door cable guide (callout 1) by rocking it free and lifting it out.
- 6 Remove the spacer (callout 2) by releasing the latch at one end and then lifting it out.



**Figure 24. Printer door removal (2 of 3)**

- 7 Rotate the HP LaserJet 3100/3150 product so that you face the front.

Tabs on the printer door hinge covers prevent the hinge covers from becoming dislodged. The tabs flex inward (toward the middle of the product) to release the hinge covers.

- 8 Beginning with the left hinge cover, use the small flatblade screwdriver to pry the tab inward.
- 9 When the hinge cover is released from the printer door, rotate the hinge cover up and then slide it off the hinge.



**Figure 25. Printer door removal (3 of 3)**

- 10 Repeat the procedure to remove the right hinge cover.
- 11 Lift the printer door off the hinges.

## Document release door

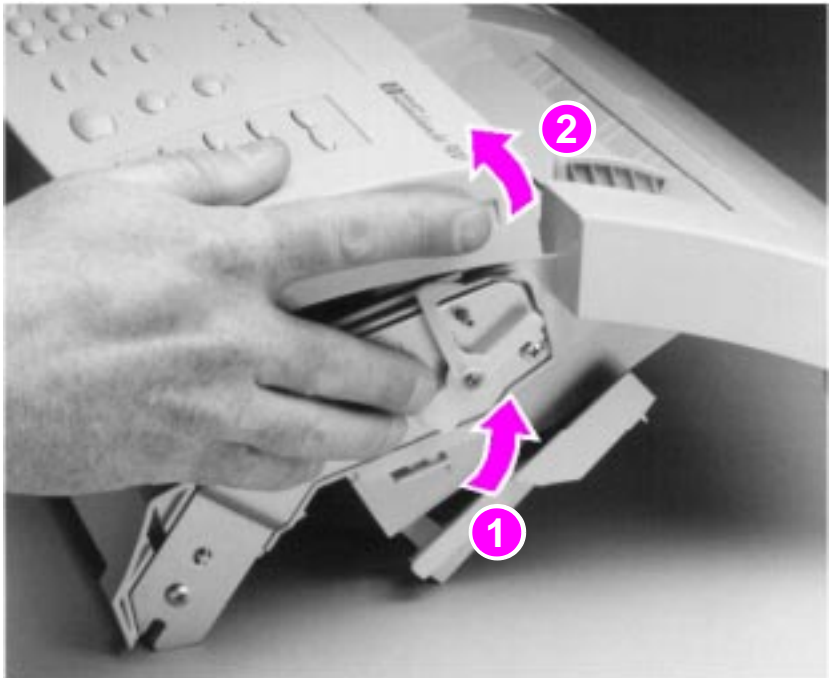
---

### Note

Although it is possible to separate the document release door from the printer door without opening or removing the printer door, HP recommends that you remove the printer door before replacing components of the document release door.

---

- 1 Remove the printer door from the HP LaserJet 3100/3150 product.
- 2 Release the interlocks (callout 1) on each side of the document release door and lift open the door (callout 2).



**Figure 26. Document release door removal (1 of 2)**

- 3 Rotate the strap on the left side of the printer door to unhook the strap.

- 4 To release the right hinge of the document release door from the printer door, use one hand to simultaneously press the right side of the document release door toward the left and pull the printer door frame to the right.

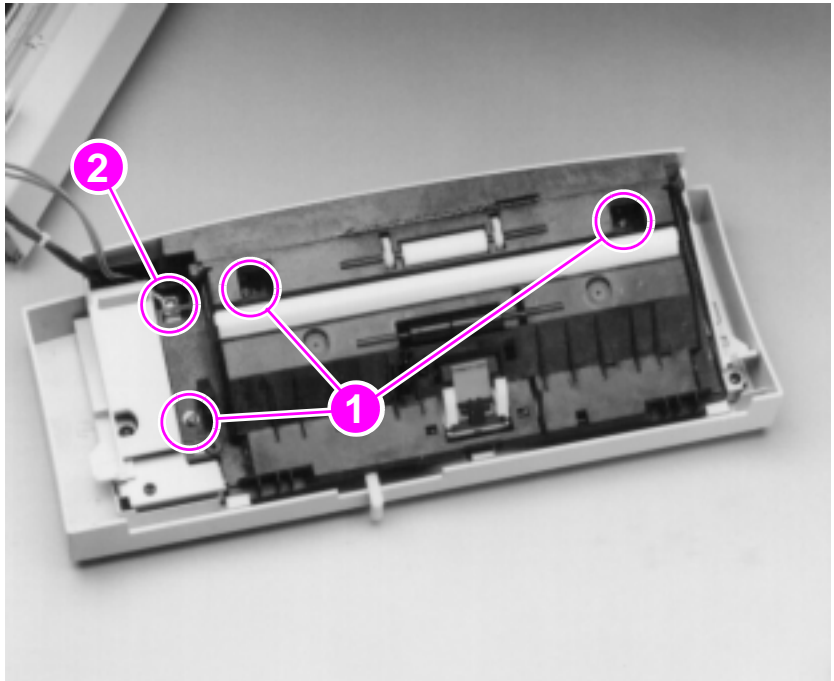


**Figure 27. Document release door removal (2 of 2)**

- 5 Lift out the right side of the document release door, and then slide it to the right to release the left hinge.

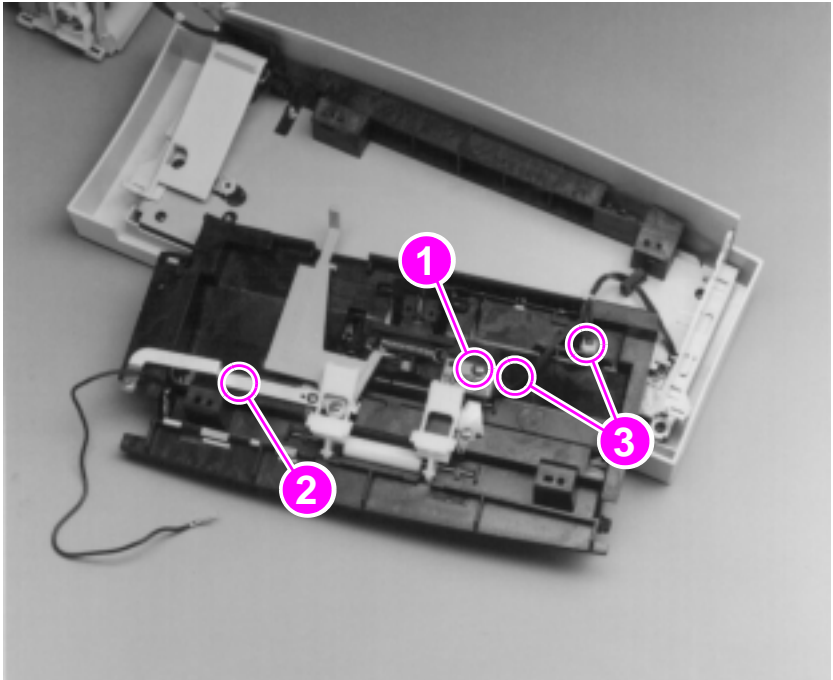
## Upper guide assembly

- 1 Remove the three (3) screws (callout 1) from the upper guide assembly.
- 2 On some HP LaserJet 3100 products, there is a fourth screw (callout 2) to remove.
- 3 Lift up and rotate the assembly toward you.



**Figure 28. Upper guide assembly removal (1 of 2)**

- 4 Remove the screw (callout 1) from one of the small printed circuit boards.
- 5 On all HP LaserJet 3150 products and on some HP LaserJet 3100 products, there is an additional screw (callout 2) to remove.
- 6 Release two (2) cables (callout 3) from their connectors, one on each of the small printed circuit boards.



**Figure 29. Upper guide assembly removal (2 of 2)**

### **To reinstall**

Make sure that the assembly is inserted correctly into the three notches.

## Contact image sensor

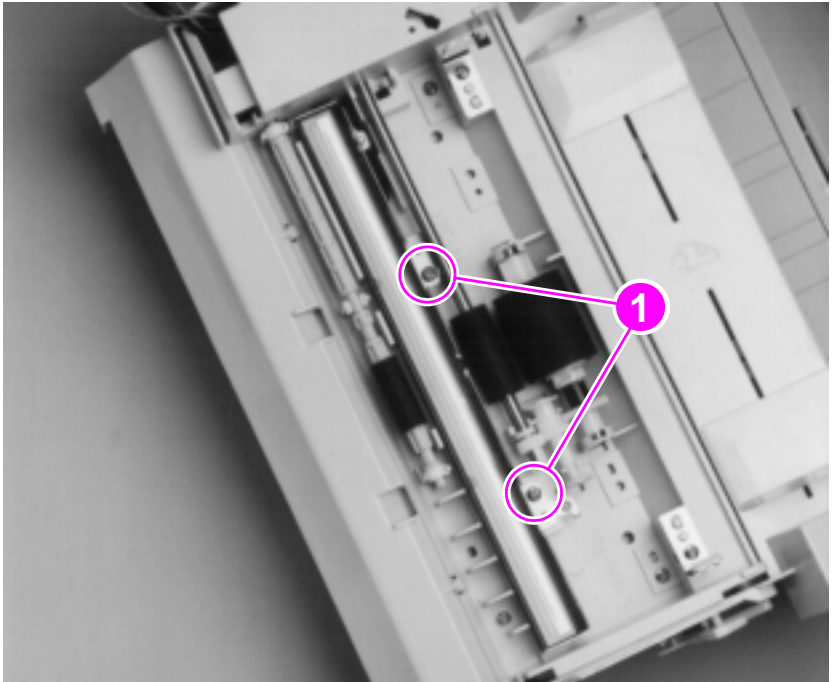
- 1 Remove the document scanner guide by lifting it up while pressing the two tabs at the left side of the assembly.



**Figure 30. Contact image sensor removal (1 of 2)**



- 2 Release the contact image sensor and its mounting plate by removing the two (2) screws (callout 1) from the mounting plate.



**Figure 31. Contact image sensor removal (2 of 2)**

- 3 Lift up the contact image sensor and its mounting plate together.
- 4 Remove the grounding screw and the cable from the bottom of the contact image sensor.

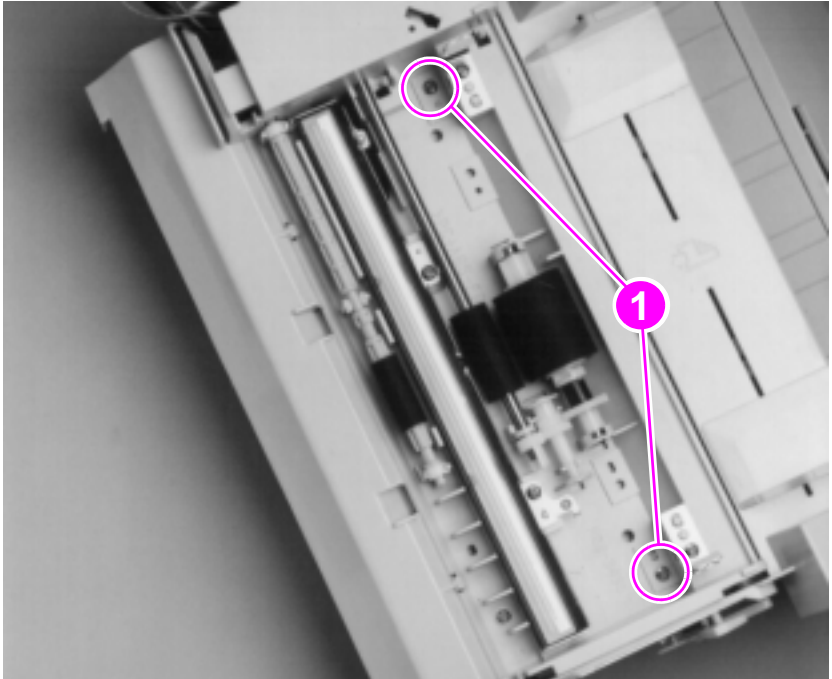
---

**Note**

Clean the scanner glass after the contact image sensor is reinstalled.

## Document scanner assembly/motor

- 1 Remove the document scanner guide by lifting it up while pressing the two tabs at the left side of the assembly (see Figure 30).
- 2 Remove the two (2) screws (callout 1) from the document scanner assembly.

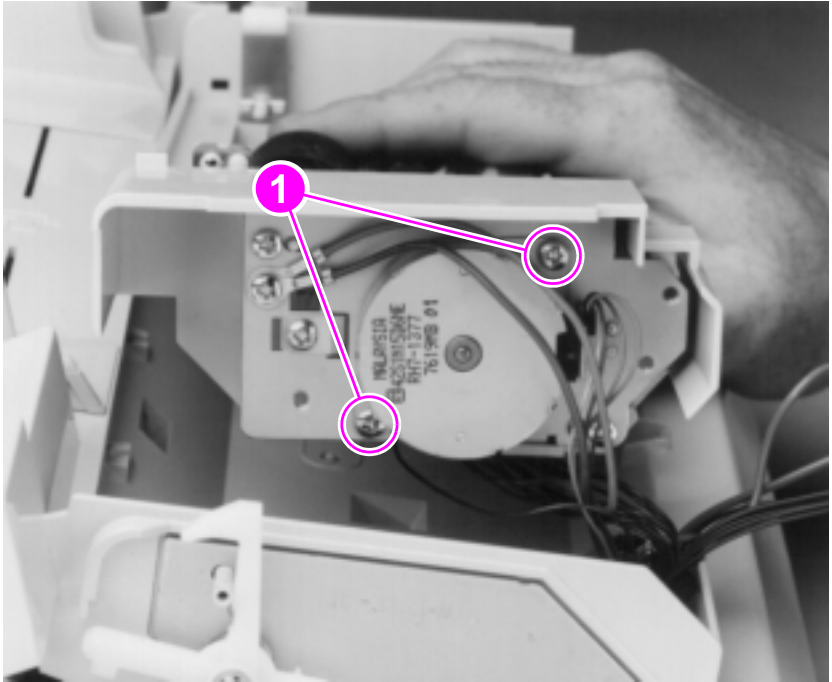


**Figure 32. Document scanner assembly/motor removal (1 of 2)**

- 3 Use firm pressure to lift the document scanner assembly while sliding it in the direction of the input bins to release the document scanner assembly.

The scanner motor is located on the left side of the document scanner assembly.

- 4 Remove the two (2) screws (callout 1) from the document scanner motor.



**Figure 33. Document scanner assembly/motor removal (2 of 2)**

- 5 Lift the document scanner motor straight out.

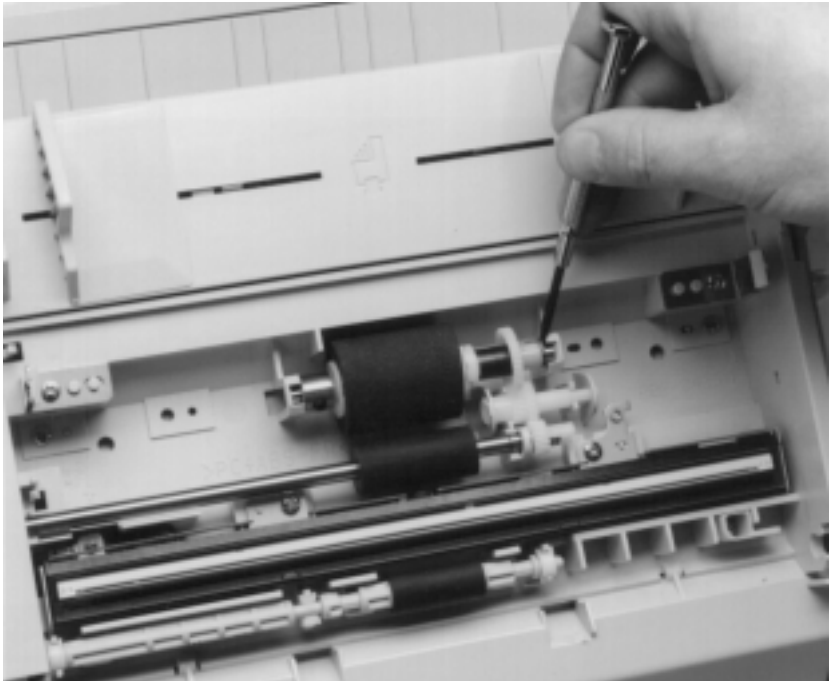
### **To reinstall**

Reinstall the document scanner motor to the same position as before its removal. If the motor is not reinstalled to the same position, the cables might not reach their connectors.

## Document scanner pickup roller

It is possible to remove the document scanner pickup roller without removing the document release door. However, the steps below detail pickup roller removal with the assumption that the document release door has already been removed.

- 1 Remove the document scanner guide by lifting it up while pressing the two tabs at the left side of the assembly (see Figure 30).
- 2 Use the small flatblade screwdriver to pry the right end of the pickup roller shaft from its plastic mounting.



**Figure 34. Document scanner pickup roller removal**

- 3 Lift the right end of the pickup roller shaft out of its mounting; the left end should follow easily.

---

### Note

Once the pickup roller shaft has been removed, parts can easily fall off of the shaft. Upon reinstallation, make sure that all of the parts have been replaced on the shaft in the correct order.

---

# Internal assemblies

## LIU board

- 1 Remove the back cover.
- 2 Pull out slightly the connector for the flat, flexible cable (callout 1) to release the cable and disconnect the cable from the LIU board.

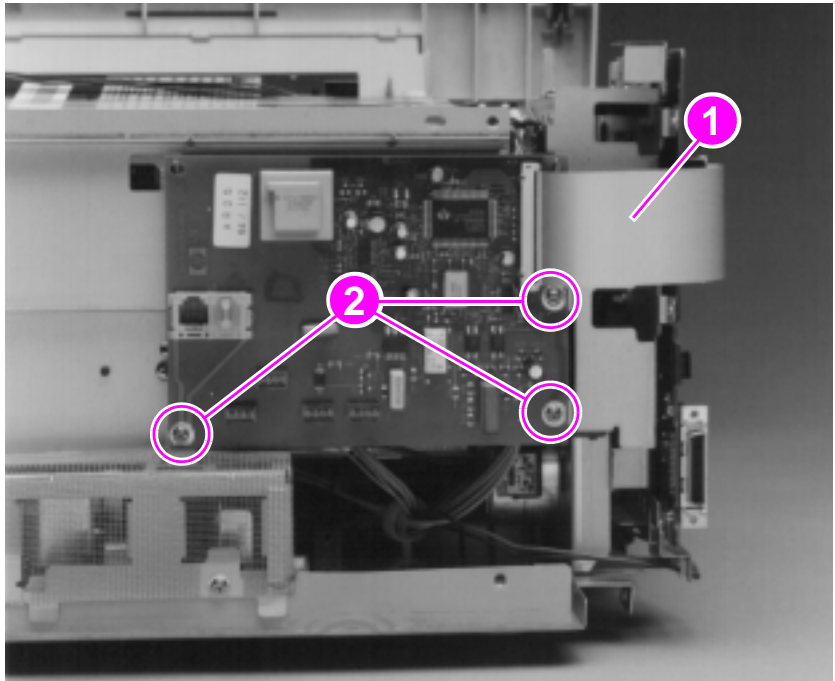
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### Note

The flat, flexible cable must be reinstalled to the same orientation. Examine the cable and make notes about its orientation to make sure that you reinstall it correctly.

---

- 3 Remove the three (3) screws (callout 2) from the LIU board.



**Figure 35. LIU board removal**

- 4 Remove the LIU board by rotating the board up and off the hooks.

## Formatter board

- 1 Remove all covers and the RFI shield.
- 2 If the LIU board has not been removed from the product, pull out slightly the connector for the flat, flexible cable (callout 1) at the left side of the formatter board to release the cable, and then disconnect the cable from the formatter board.
- 3 Pull out slightly the connector for the flat, flexible cable (callout 2) at the bottom of the formatter board to release the cable, and then disconnect the cable from the formatter board.

---

### Note

Both flat, flexible cables must be reinstalled to the same orientation. Examine the cables and make notes about their orientations to make sure that you reinstall them correctly.

---

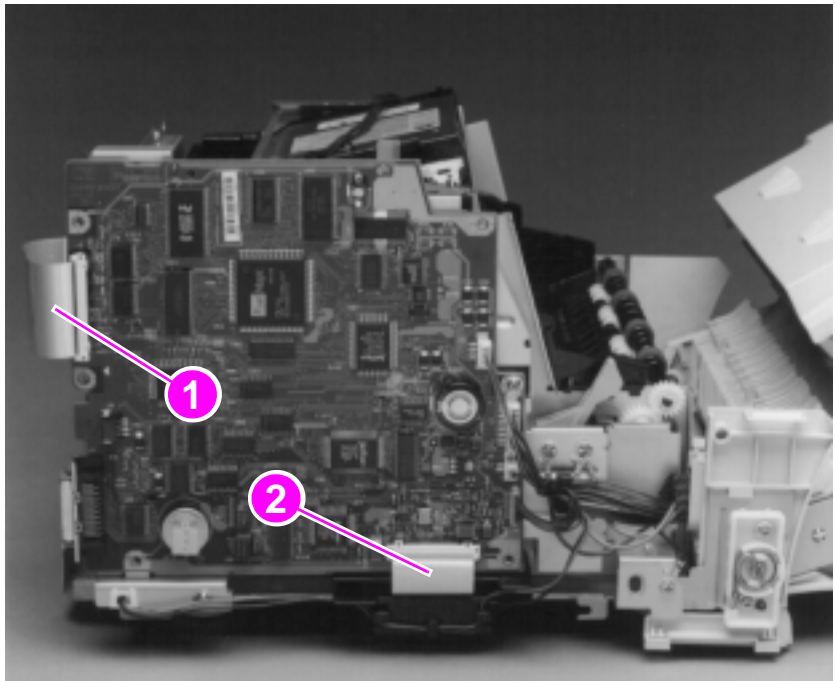
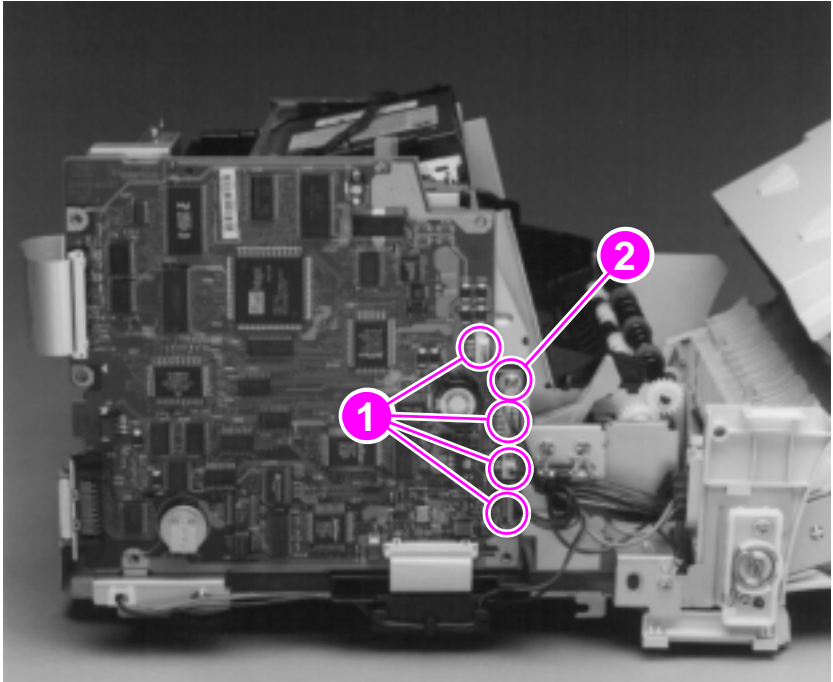


Figure 36. Formatter board removal (1 of 2)

- 4 Pull the four (4) cables from the connectors (callout 1) aligned vertically along the right side of the formatter board, and then open the tie-wrap that holds all four cables to release the cables.
- 5 Remove the remaining screw from the formatter board (callout 2).



**Figure 37. Formatter board removal (2 of 2)**

- 6 Remove the formatter board by lifting it up and off the hooks.

---

**CAUTION**

---

Placing the formatter board on a conductive surface can damage the board. Place the formatter board on an ESD mat.

---

**Note**

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See Chapter 6, “Troubleshooting,” for information about how to download the most recent firmware version and software program versions from the HP website (<http://www.hp.com/cposupport/>). Updating the firmware and software at the same time ensures their complete compatibility.

## Metal side plate

- 1 Remove all covers, the LIU board, the RFI shield, and the formatter board.
- 2 Remove the two (2) screws (callout 1) from the grounding plate and lift the grounding plate from the product.
- 3 Remove the three (3) grounding screws (callout 2).

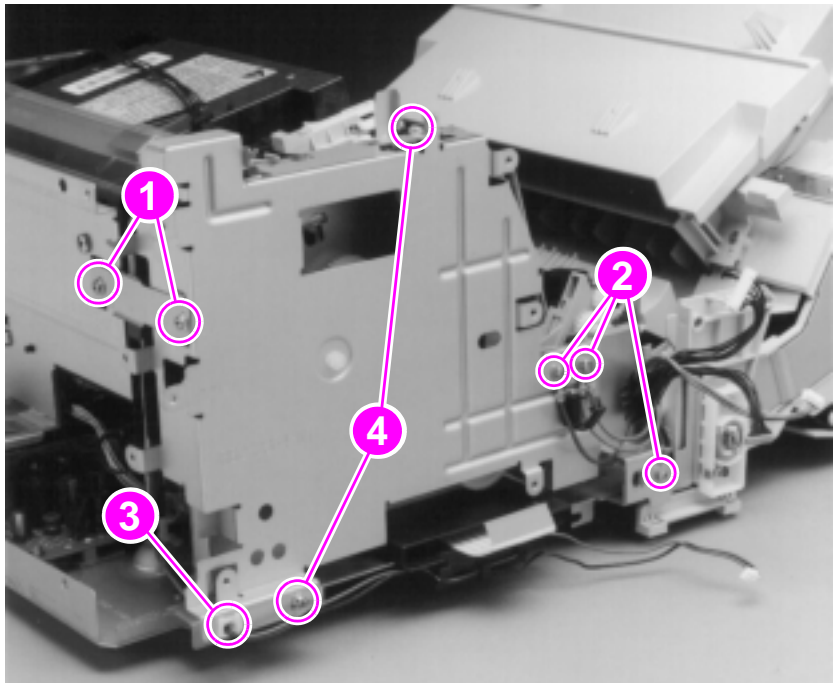
---

### Note

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Upon reinstallation, make sure that you reinstall the grounding wires to their correct locations.

- 4 Release the cable guide from the frame (callout 3).
- 5 Remove the remaining two (2) screws (callout 4) from the metal side plate.



**Figure 38. Metal side plate removal**

- 6 Remove the metal side plate by popping the latch on top, near the back, and lifting it away.



## Exit roller

- 1 Remove all covers, the RFI shield, and the printer door.
- 2 Pry in the tab at the lower end of the left exit roller bushing and pull it inward.
- 3 Release the exit roller by rotating the tab up.



**Figure 39. Exit roller removal**

- 4 Remove the exit roller by lifting up the left end; the right end follows easily.

## Delivery assembly

- 1 Remove all covers, the RFI shield, the printer door, and the exit roller.
- 2 Remove the cartridge guide by pressing in the tab (callout 1) and sliding the guide toward the front of the HP LaserJet 3100/3150 product (callout 2).

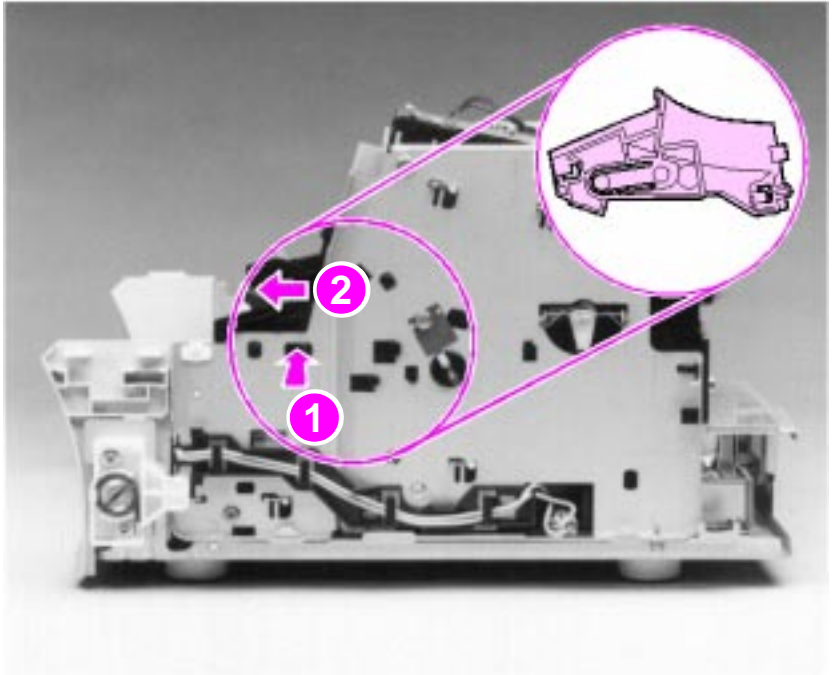
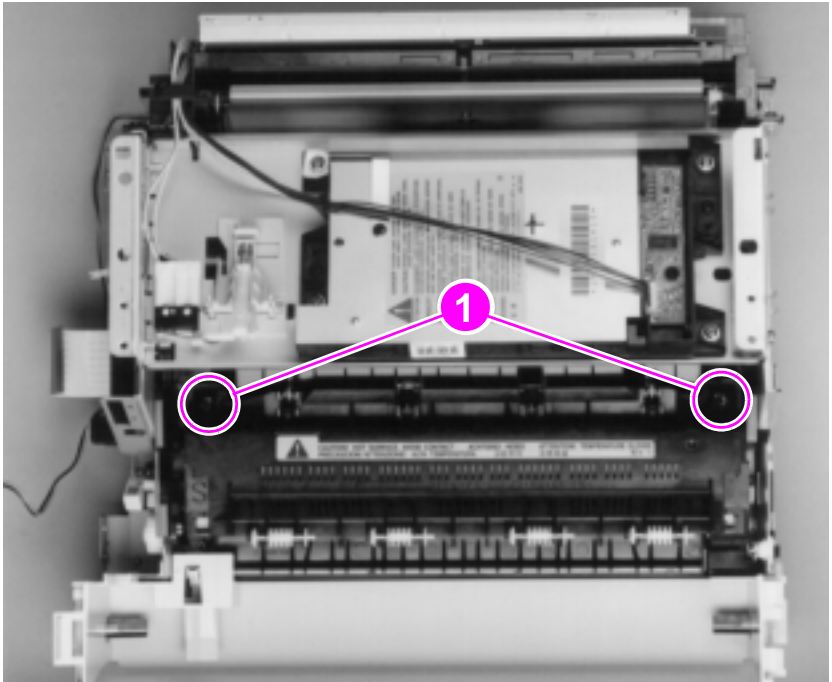


Figure 40. Delivery assembly removal (1 of 2)

- 3 Use the magnetic screwdriver to remove the two (2) screws (callout 1).



**Figure 41. Delivery assembly removal (2 of 2)**

- 4 Rotate the rear of the delivery assembly up and forward and lift it out of the printer.

---

**Note**

---

Upon reinstallation, the tabs on the front end of the delivery assembly must fit under the sheet metal fuser plate below to correctly reseat the delivery assembly.

## Fuser pressure plate

- 1 Remove all covers, the RFI shield, the printer door, the exit roller, and the delivery assembly.
- 2 Remove the two (2) screws (callout 1).
- 3 Press the fuser plate retainer clips out (callout 2) to release the pressure plate.
- 4 Rotate the plate around and toward the back (callout 3) and lift up to remove it.

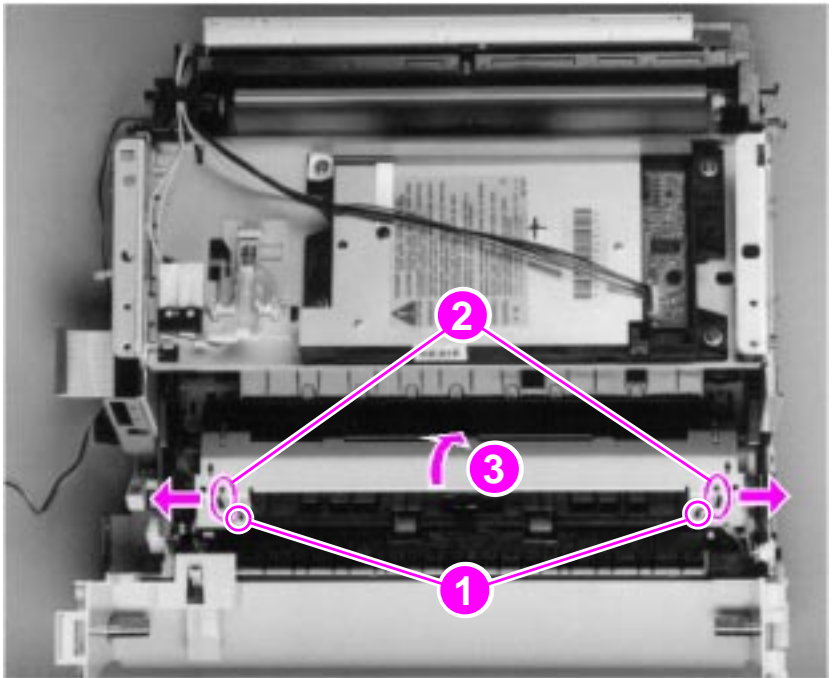
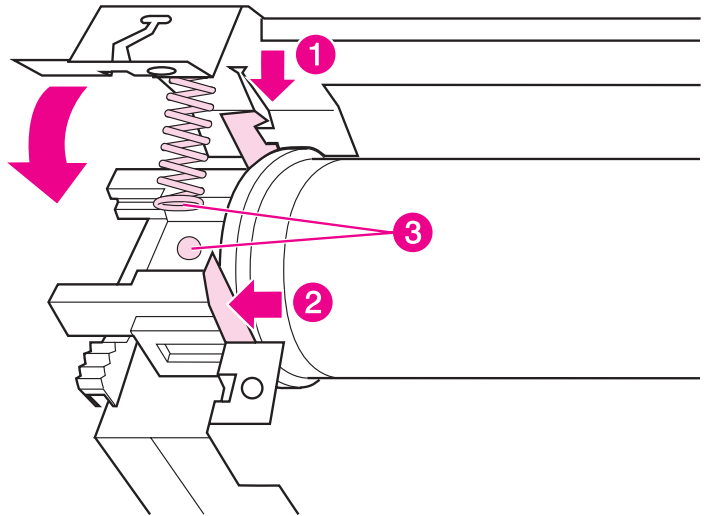


Figure 42. Fuser pressure plate removal

## To reinstall

The fuser pressure plate is held in place by four locking mechanisms in each corner. Place the rear slits in the plate over the rear brackets that hold the fusing assembly (callout 1). Lower the plate over the retaining clips, pressing on both sides of the fuser pressure plate (callout 2). It is important that the spring is placed over the positioning pin (callout 3) because inadequate pressure will cause fusing problems. Replace the screws.



**Figure 43. Fuser pressure plate replacement**

## Front casing

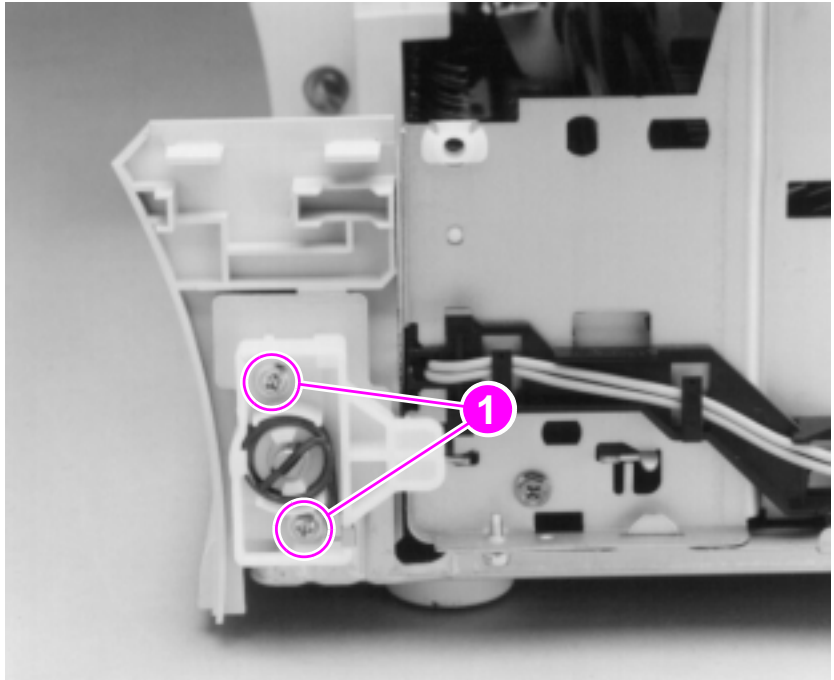
- 1 Remove all covers, the RFI shield, and the printer door.
- 2 Remove the two (2) screws (callout 1) from the right hinge holder.

---

### Note

The lower screw on each of the hinge holders secures a small metal grounding plate. Upon reinstallation, make sure the grounding plates are in the correct position.

---



**Figure 44. Front casing removal**

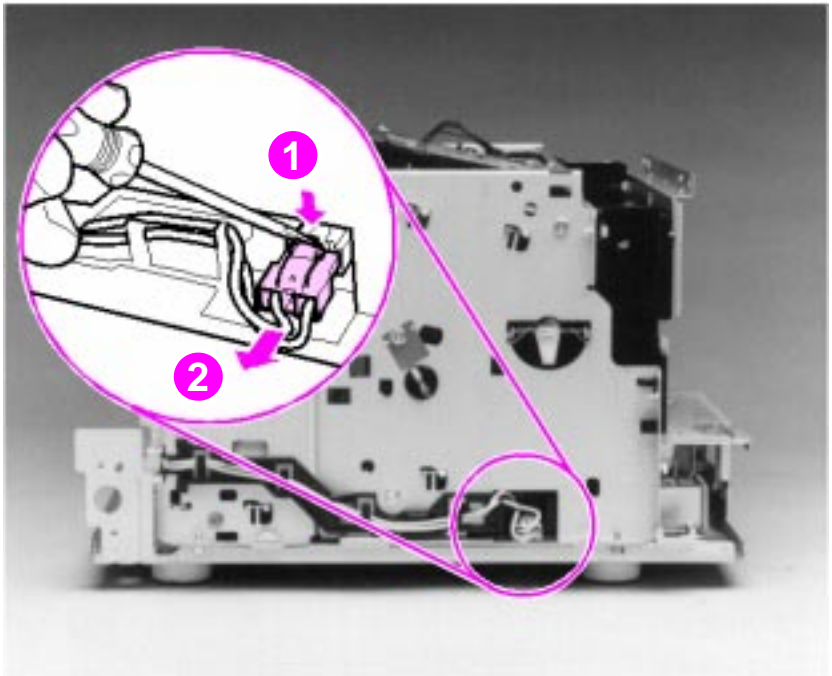
- 3 Lift the right hinge holder from the frame.
- 4 Repeat the procedure to remove the left hinge holder.
- 5 Lift the front of the product up slightly and press the tabs at the bottom of the product to release the front casing.
- 6 Lift the front casing away from the product.

### To reinstall

Make sure that the paper path lever hooks into the face-up/face-down lever correctly.

## Heating element

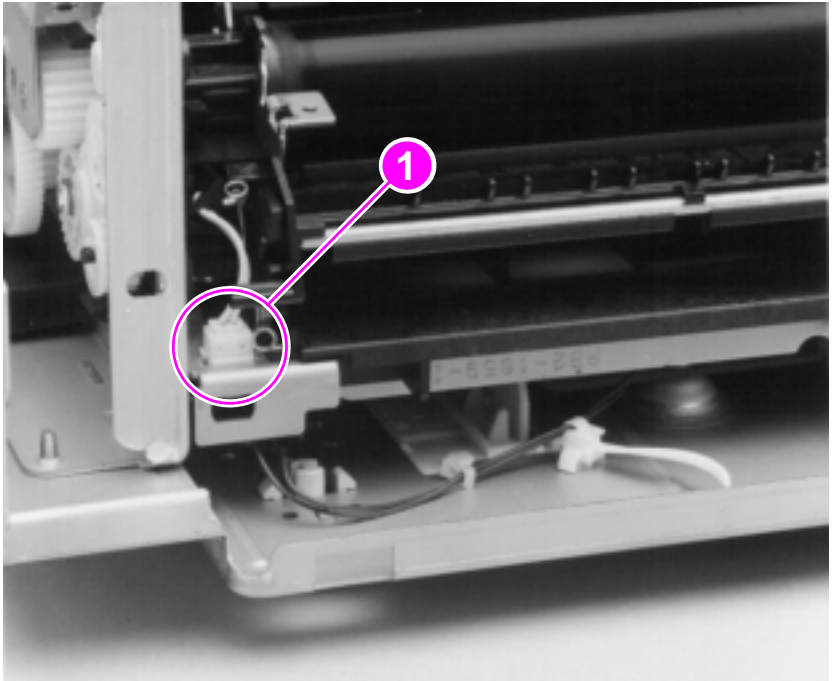
- 1 Remove all covers, the RFI shield, the printer door, the exit roller, the delivery assembly, the fuser pressure plate, and the front casing.
- 2 Disconnect the AC voltage to the heating element by releasing the connector located on the ECU. Press down on the connector release with the small flatblade screwdriver (callout 1). (Because this is a small space, it is much easier to reach the connector with a screwdriver.) Pull the connector straight out (callout 2).



**Figure 45. Heating element removal (1 of 2)**

- 3 Remove the wire from the wire guides along the right side of the printer.

- 4 Disconnect the thermistor feedback connector (callout 1) in the left, front side of the fusing assembly.



**Figure 46. Heating element removal (2 of 2)**

- 5 Lift the heating element out.

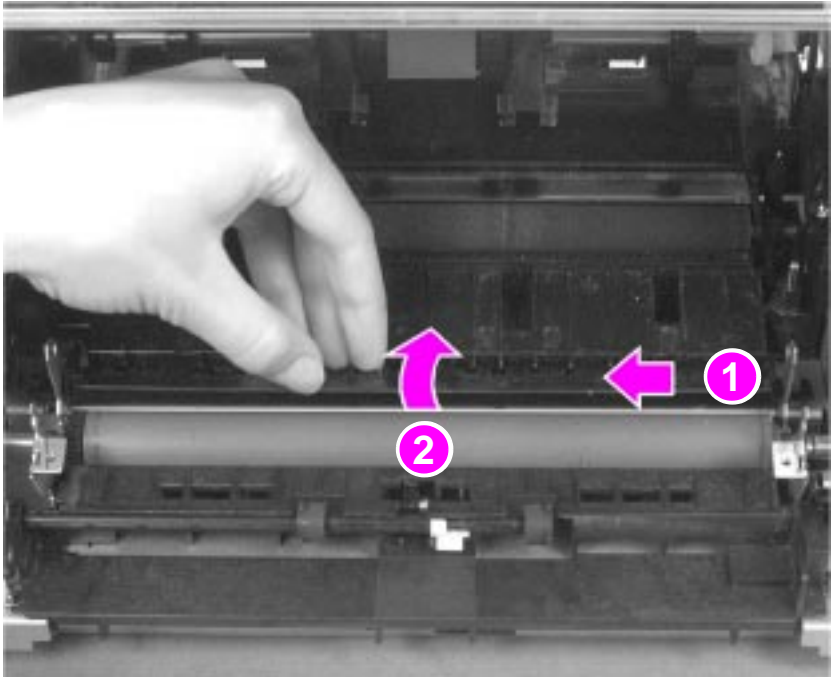
### **To reinstall**

Make sure the connectors are properly reattached and that the thermistor feedback cable is routed behind the face-up/face-down lever.



## Pressure roller

- 1 Remove all covers, the RFI shield, the printer door, the exit roller, the delivery assembly, the fuser pressure plate, the front casing, and the heating element.
- 2 Remove the pressure roller guide by lifting the edge (callout 1) and then rolling it gently backward (callout 2).



**Figure 47. Pressure roller guide removal**

- 3 Lift the right end of the pressure roller up and out of the printer chassis.

---

### Note

The right end of the pressure roller is greased.

- 4 The left side will follow easily with the pressure roller gear still attached.

---

### Note

When reinstalling the pressure roller, apply a drop of pressure roller grease to the grounding plate on the right end of the shaft. See Chapter 7, "Parts and diagrams," for information about ordering pressure roller grease.

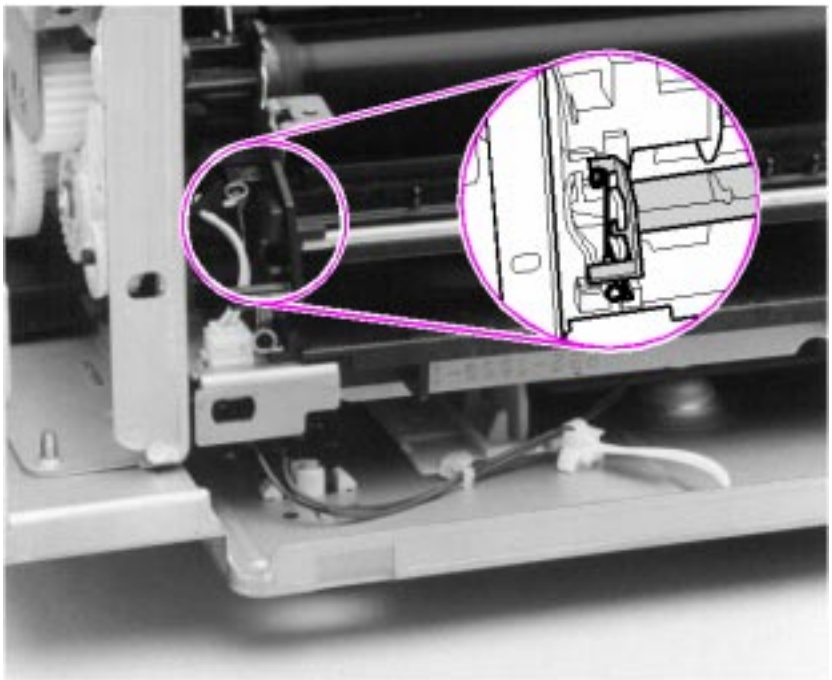
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## Face-up/face-down lever

- 1 Remove all covers, the RFI shield, the printer door, the exit roller, the delivery assembly, the fuser pressure plate, the front casing, the heating element, and the pressure roller.
- 2 Rotate the lever forward 90 degrees (past the spring) and pull it straight out the front of the printer.

### To reinstall

- 1 Make sure the lever arm is on the left and is initially pointing downward.
- 2 Pull the spring forward using needlenose pliers.
- 3 Slide the short, round tabs into the grooves on the separation guide assembly. The machined ridges on the lever will face you.
- 4 Release the spring so it falls in place in front of the square tab.



**Figure 48. Face-up/face-down lever replacement**

---

#### Note

You can tell when the lever is in place because there are two plastic grooves that fit precisely in front of the exit rollers, and you should be able to feel the spring's release mechanism.

---

## Fuser exit roller assembly

- 1 Remove all covers, the RFI shield, the printer door, the exit roller, the delivery assembly, the fuser pressure plate, the front casing, the heating element, the pressure roller, and the face-up/face-down lever.
- 2 Remove the gear from the left end of the roller shaft by pressing down on the catching mechanism with the small flatblade screwdriver and pulling the gear away.
- 3 Remove the exit roller assembly by pressing the small, white tab upward (callout 1) and rotating it around (callout 2).
- 4 Slide the exit roller assembly forward and out to the right of the printer.

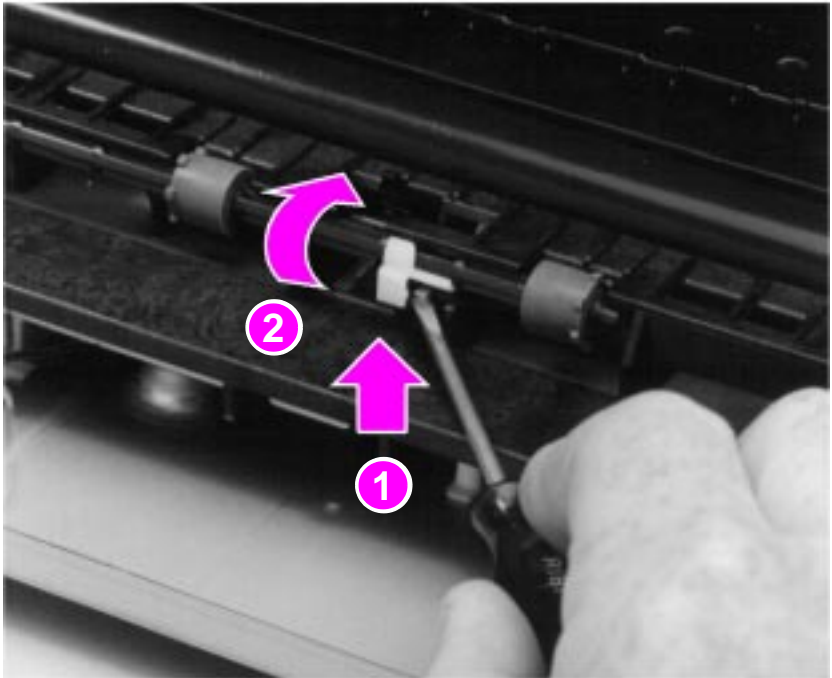


Figure 49. Fuser exit roller assembly removal

## Paper exit sensor flag

- 1 Remove all covers, the RFI shield, the printer door, the exit roller, the delivery assembly, and fuser pressure plate.

### Note

Before proceeding, examine the paper exit sensor flag. It is important to note the position of the spring mechanism on the flag. The spring must be reinstalled to exactly this position, because installing it incorrectly will cause a control panel error message.

- 2 Remove the paper exit sensor flag by pressing down on the left side and pulling up on the right side.

### To reinstall

Place the left side of the flag in the correct position first, then slide the right side into place, making certain the spring is on top of the flag. If the spring exerts no pressure on the flag, it may require respringing by giving the spring an extra turn before reinstalling. The flag should fit snugly in place.

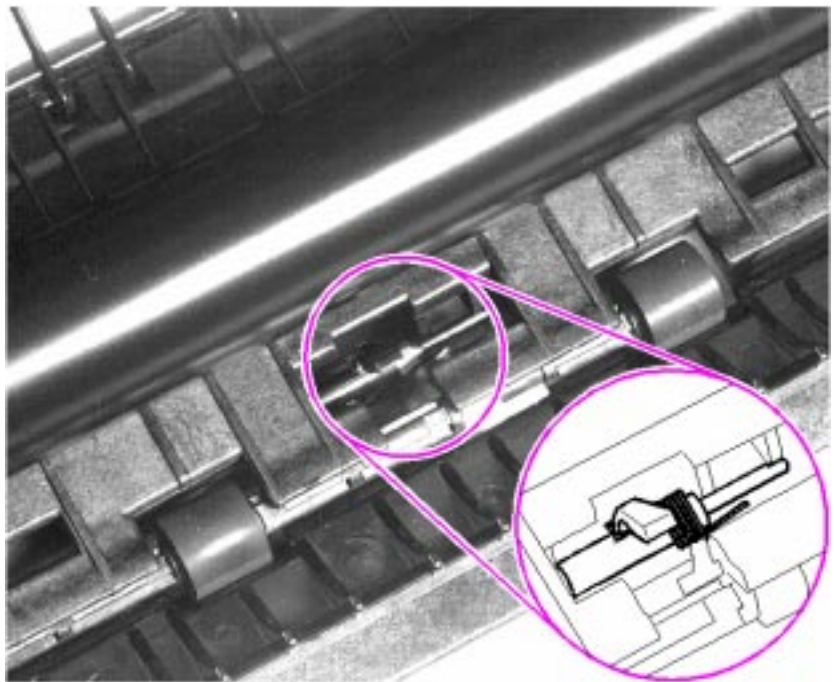


Figure 50. Paper exit sensor flag replacement

## Laser/scanner assembly

- 1 Remove all covers.
- 2 Remove both laser/scanner connectors.
- 3 Remove the four (4) screws (callout 1).
- 4 Lift the assembly straight off.

---

### Note

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One of the four screws is longer than the other three. Upon reinstallation, the longer screw must be replaced in its original location.

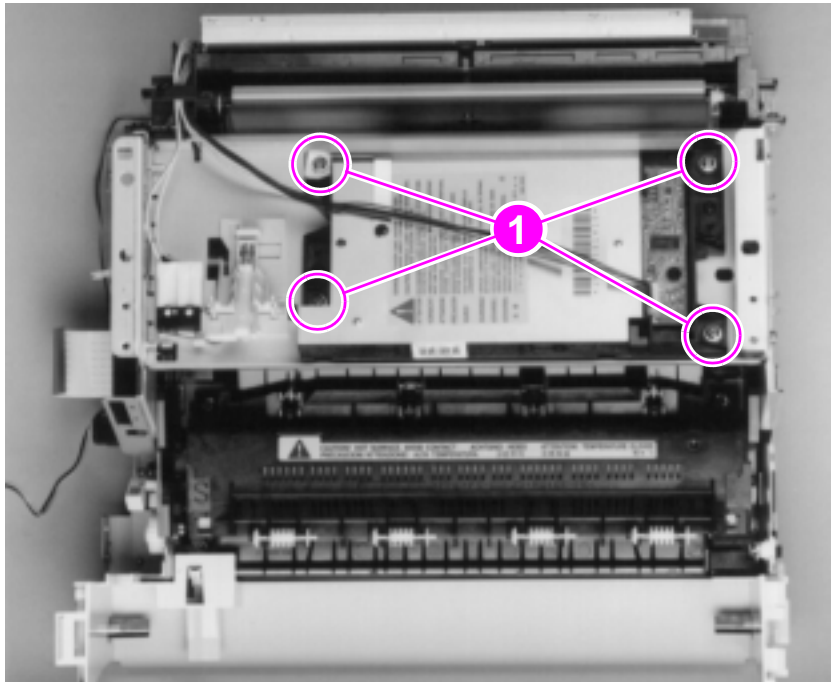
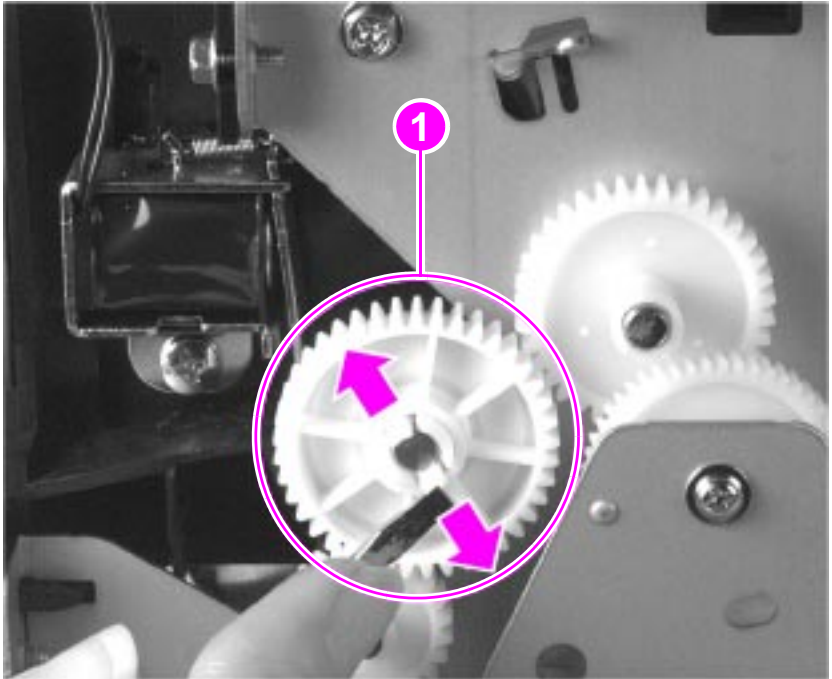


Figure 51. Laser/scanner assembly removal

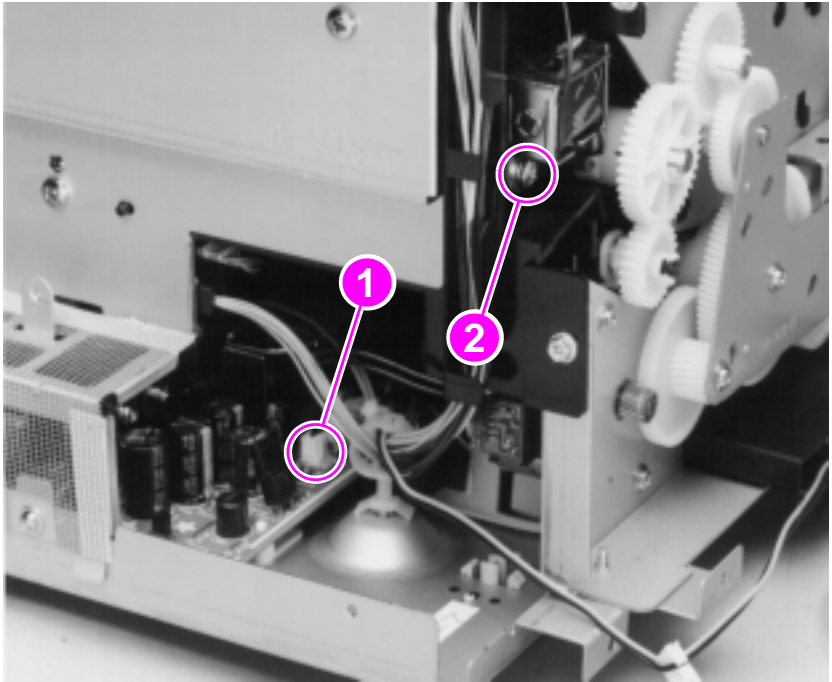
## Solenoid

- 1 Remove all covers, the RFI shield, the LIU board, the formatter board, and the metal side plate.
- 2 On the left side of the printer, remove the paper pickup gear (callout 1) by pressing the tabs in the center of the gear outward and pulling the gear off.



**Figure 52. Solenoid removal (1 of 2)**

- 3 Remove the solenoid connector (callout 1) from the ECU.
- 4 Remove the self-tapping screw (callout 2) that holds the solenoid in place.
- 5 Unthread the wires from the printer chassis.
- 6 Lift the solenoid off.



**Figure 53. Solenoid removal (2 of 2)**

### **To reinstall**

The paper pickup gear is keyed to go on the shaft in only one way.

## Pickup roller assembly

- 1 Remove all covers, the RFI shield, the printer door, the LIU board, the formatter board, the metal side plate, and the paper pickup gear.
- 2 Remove the pickup roller grounding clip on the right of the printer by lifting each end of the clip up and over the two metal guides and sliding the clip off.

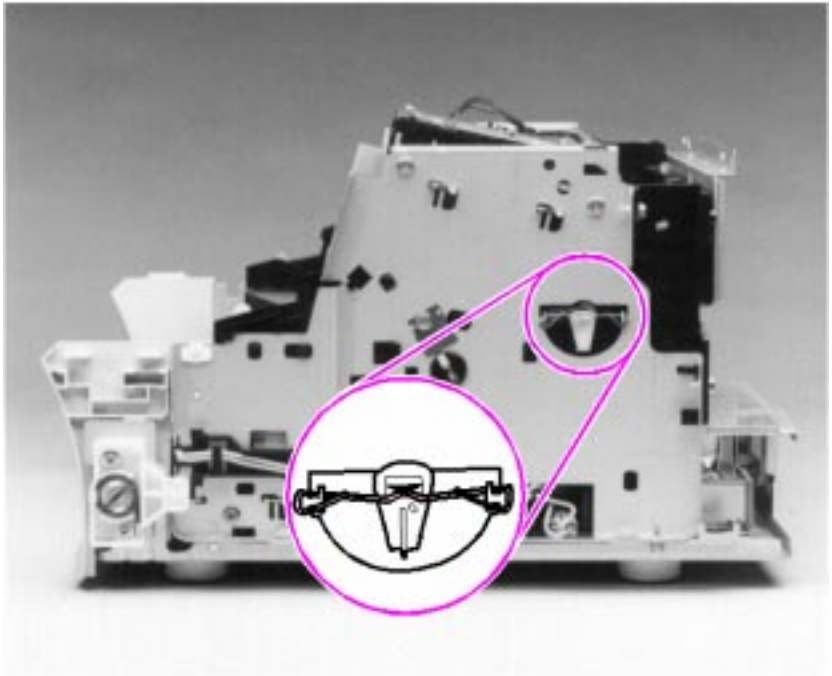
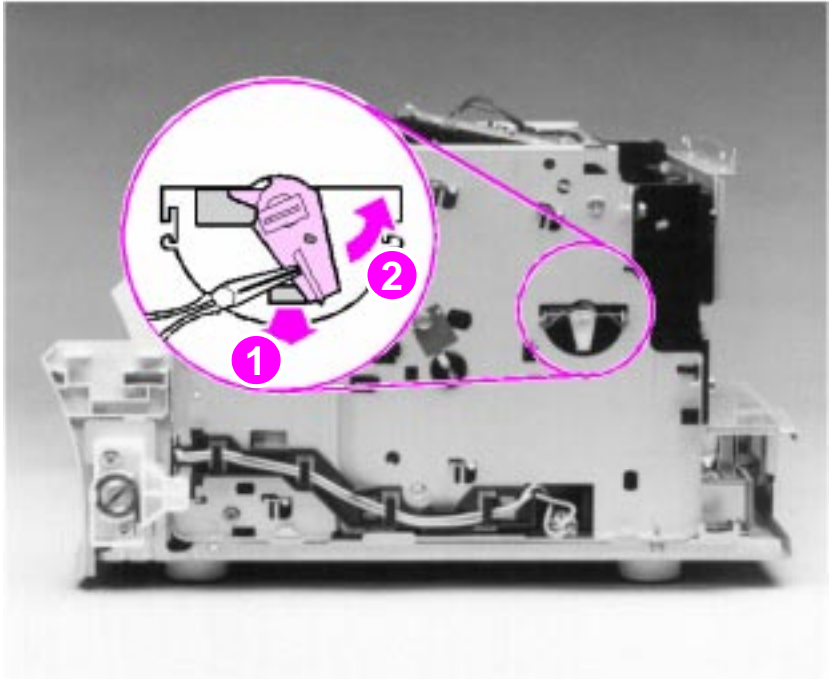


Figure 54. Pickup roller assembly removal (1 of 2)



- Using needlenose pliers, pull the bottom of the bushing out (callout 1), then turn it counterclockwise (callout 2) to release it.



**Figure 55. Pickup roller assembly removal (2 of 2)**

- Lift the bushing out.
- From inside the front of the printer, slide the right side of the pickup roller assembly forward, then lift the left side out.

---

**Note**

If you replace the pickup roller assembly, also replace the separation pad and subpads (order a separation pad and subpads under a single order number). See the removal procedures for the separation pad and subpads later in this chapter and also see Figure 96, "Paper pickup assembly," in Chapter 7.

---

## To reinstall

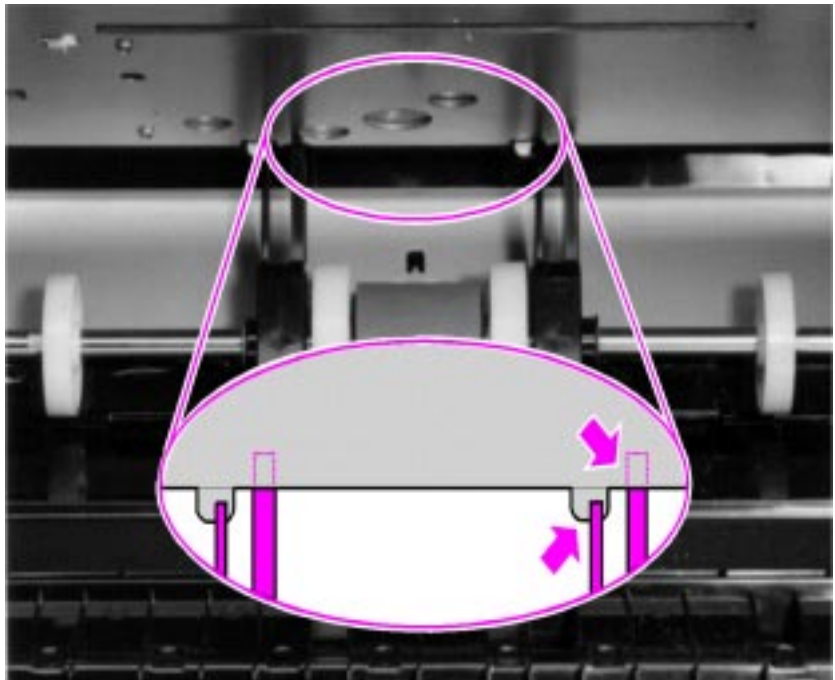
After placing the pickup roller shaft through on the left side, line up the idler roller tabs while repositioning the right side. Rock the shaft back and forth until the pickup roller and the idler roller tabs are correctly reinstalled.

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### Note

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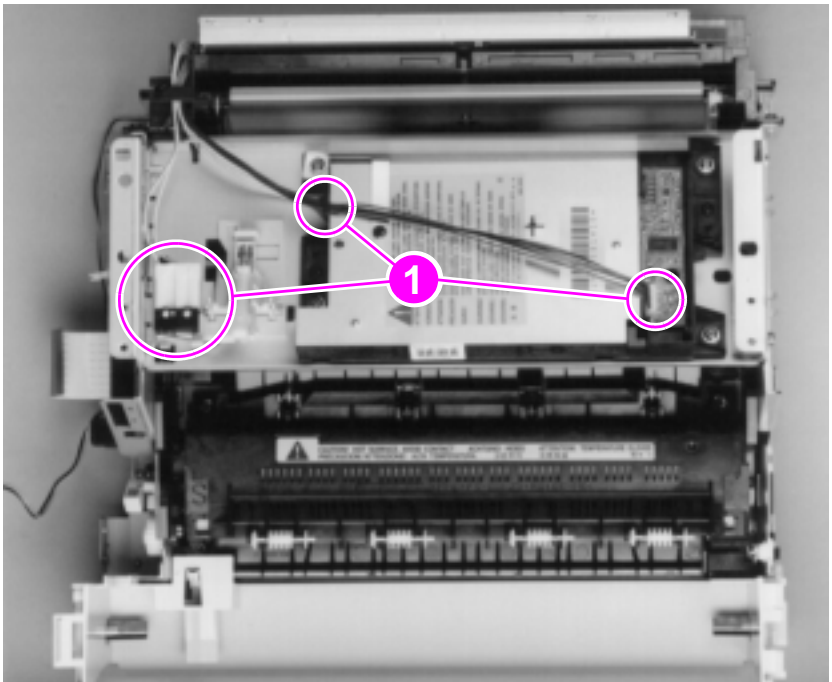
It is important that the pickup roller is placed back in with the two idler roller tabs up, so that they fit into the underside of the metal chassis behind the laser/scanner assembly.



**Figure 56. Paper pickup roller assembly replacement**

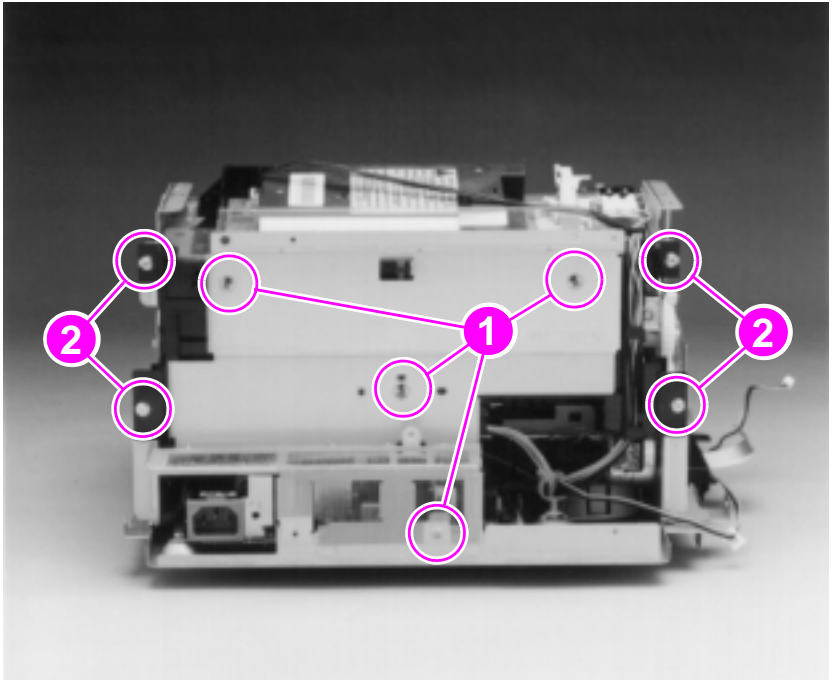
## Paper feed frame

- 1 Remove all covers, the RFI shield, the printer door, the LIU board, the formatter board, the metal side plate, the paper pickup gear, and the pickup roller assembly.
- 2 Disconnect the following:
  - Solenoid from the ECU at J204 (see Figure 53, callout 1).
  - Two connectors from the laser/scanner and the connector from SW101 (callout 1).



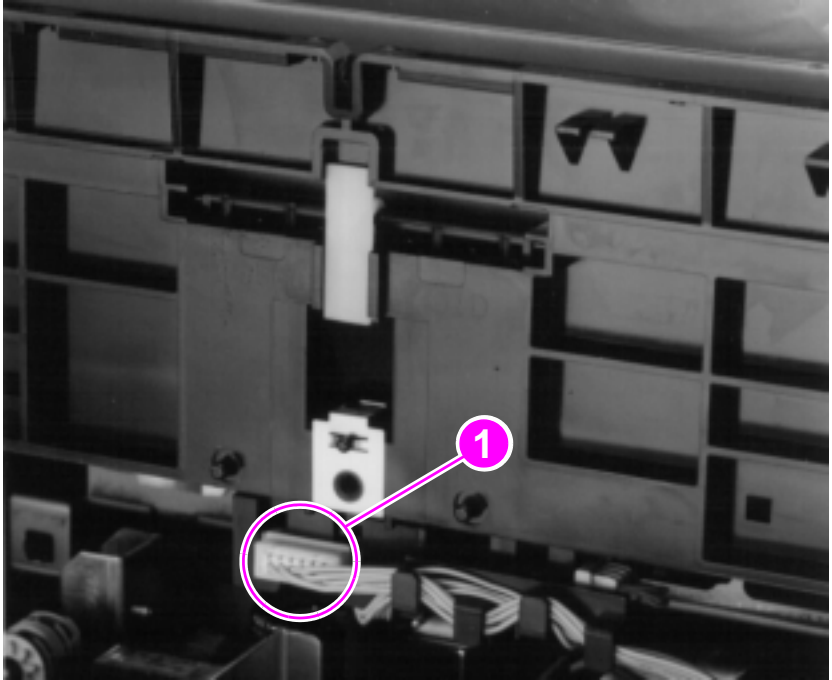
**Figure 57. Paper feed frame removal (1 of 3)**

- 3 Remove the four (4) screws (callout 1) from the back sheet metal plate and lift it off.
- 4 Remove the four (4) screws (callout 2) from the paper feed frame.



**Figure 58. Paper feed frame removal (2 of 3)**

- 5 Release the sensor unit connector (callout 1).



**Figure 59. Paper feed frame removal (3 of 3)**

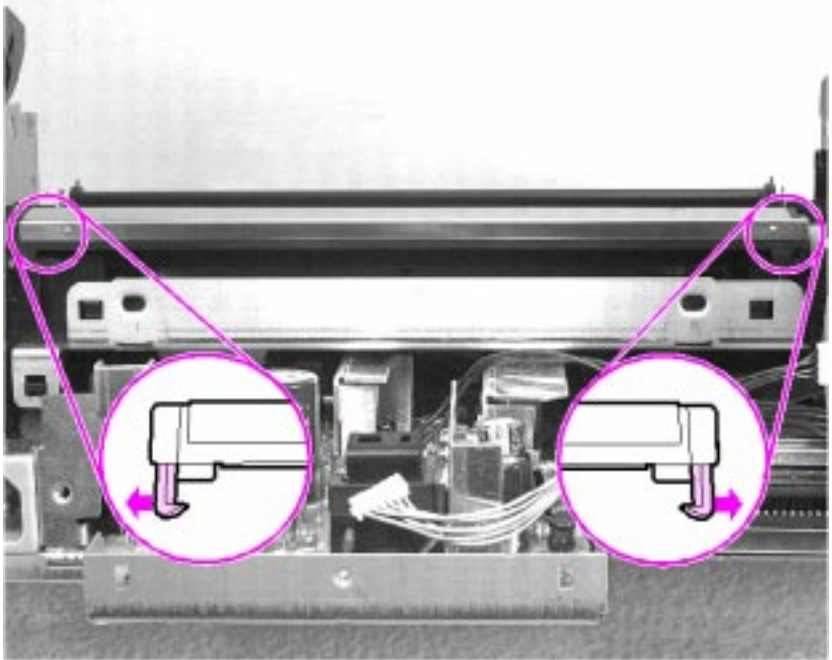
- 6 Verify that all cables are clear of the frame and pull the frame straight back to remove it.

### **To reinstall**

The paper feed frame may be easier to reinstall if you place the printer on its front, so that you can apply pressure while putting the screws back in place.

## Transfer roller guide and transfer roller

- 1 Remove all covers, the RFI shield, the printer door, the LIU board, the formatter board, the metal side plate, the paper pickup gear, the pickup roller assembly, and the paper feed frame.
- 2 Looking at the back of the printer, note the two small, hook-shaped release tabs on each end of the transfer roller guide. Using the small flatblade screwdriver, carefully pry each tab outward to release it.
- 3 Roll the released portion of the guide up. To remove the transfer roller guide, pull it off each end of the transfer roller shaft. This exposes the transfer roller.



**Figure 60. Transfer roller guide and transfer roller removal**

### **CAUTION**

Do not touch the transfer roller or otherwise allow it to be contaminated.

- 4 Working from the front of the printer, gently pry the gear side of the transfer roller out first, then slide the other side out of its socket.

## Kick plate

### CAUTION

Be careful working with the kick plate and separation pad. The spring underneath the kick plate might stay attached to the kick plate, but it is also likely to spring away from the kick plate. Place the spring aside for separation pad disassembly.

- 1 Remove all covers, the RFI shield, the printer door, the LIU board, the formatter board, the metal side plate, the paper pickup gear, and the pickup roller assembly.
- 2 Press the separation pad.
- 3 Allow the kick plate to pivot upward (a spring underneath will push it up) and lift the kick plate off its mounting pins.

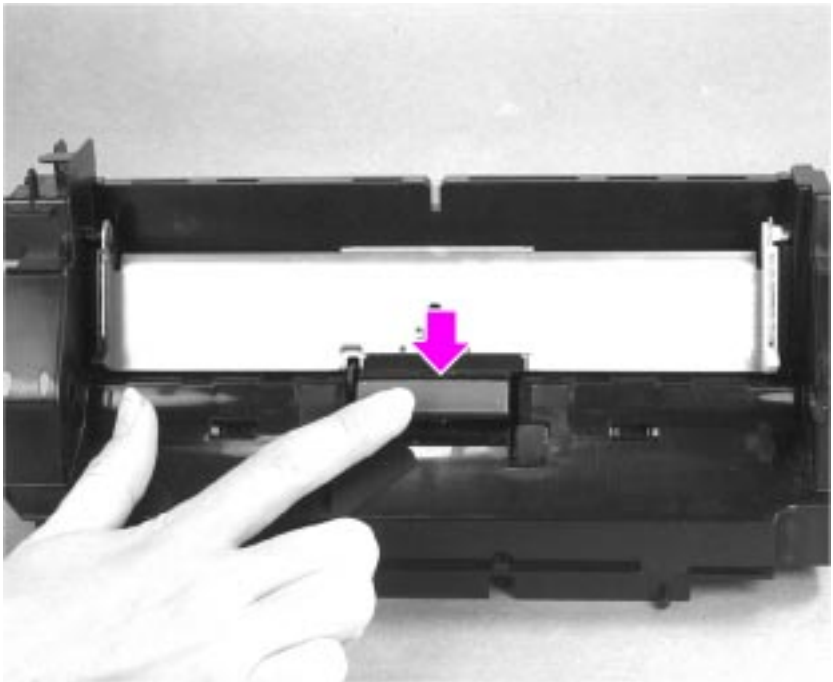
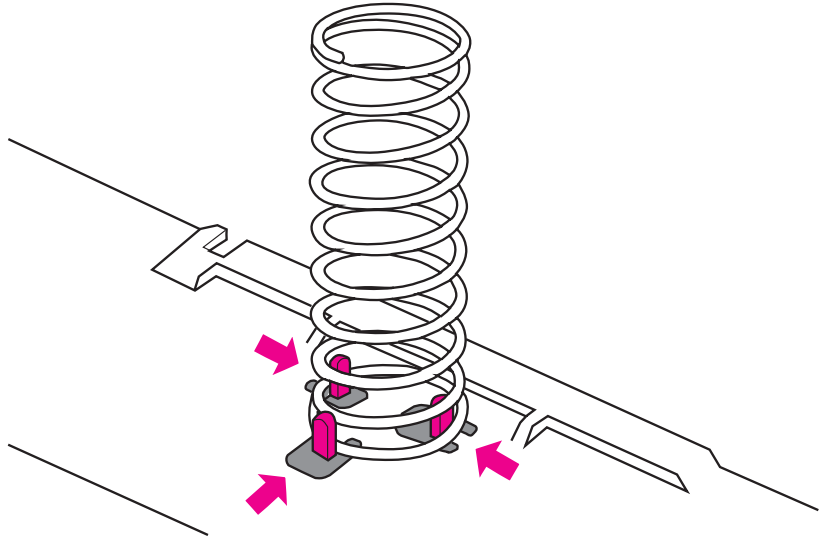


Figure 61. Kick plate removal

## To reinstall

If the spring on the kick plate does not remain attached to the kick plate, replace the spring, making certain the diameter of the spring surrounds two lower pins on the kick plate and rests inside the third pin. Use needlenose pliers to place the spring correctly.



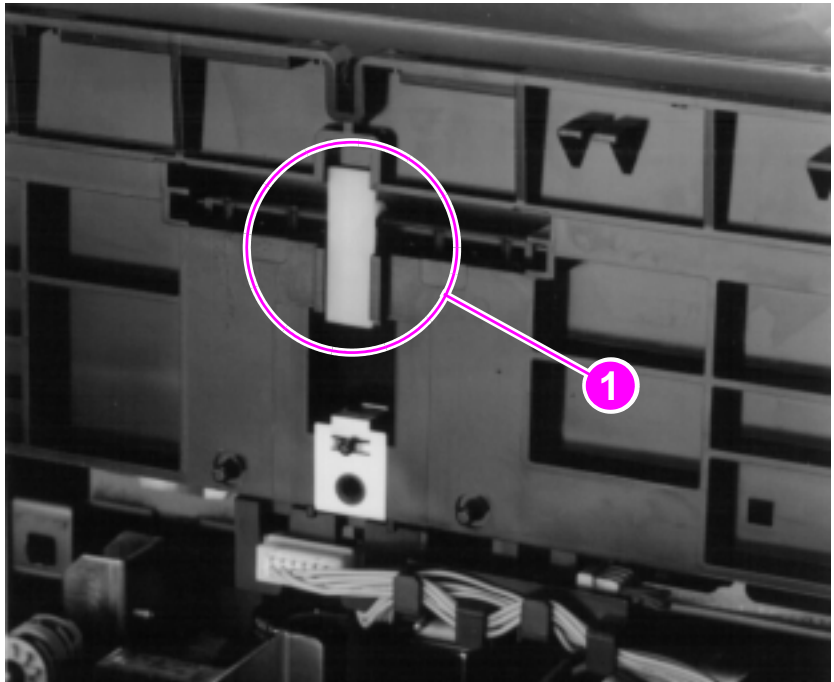
**Figure 62. Kick plate spring replacement**

While rotating the kick plate into place, guide the other end of the spring onto the silver grounding plate located on the paper feed frame.



## Separation pad

- 1 Remove all covers, the RFI shield, the printer door, the LIU board, the formatter board, the metal side plate, the paper pickup gear, the pickup roller assembly, and the kick plate.
- 2 Lift the bottom of the white plastic tab (callout 1) on the rear of the paper feed frame up slightly and slide it up, toward the top of the paper feed frame. This will release the separation pad.
- 3 Lift the separation pad 90 degrees and slide its mounting pins out of their retainers.



**Figure 63. Separation pad removal**

---

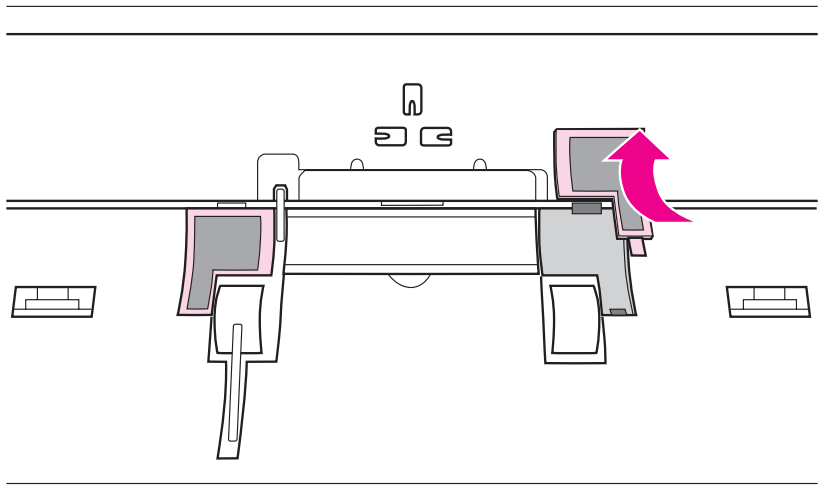
### Note

If you replace the separation pad, also replace the pickup roller assembly and subpads. See the removal procedures for subpads on the following page and also see Figure 96, “Paper pickup assembly,” in Chapter 7.

---

## Subpads

- 1 Place your index finger on the subpad.
- 2 Press toward the top of the printer.



**Figure 64. Subpad removal**

### Note

If you replace the subpads, also replace the pickup roller assembly and the separation pad. See the removal procedures for the separation pad on the previous page and also see Figure 96, “Paper pickup assembly,” in Chapter 7.

## Feed assembly

The feed assembly is located in the paper feed frame.

- 1 Remove all covers, the RFI shield, the printer door, the LIU board, the formatter board, the metal side plate, the paper pickup gear, the pickup roller assembly, and the paper feed frame.
- 2 Turn the paper feed frame upside down.
- 3 Remove the feed roller shaft by lifting the plastic tab up (callout 1) and sliding it out the side (callout 2) of the paper feed frame.

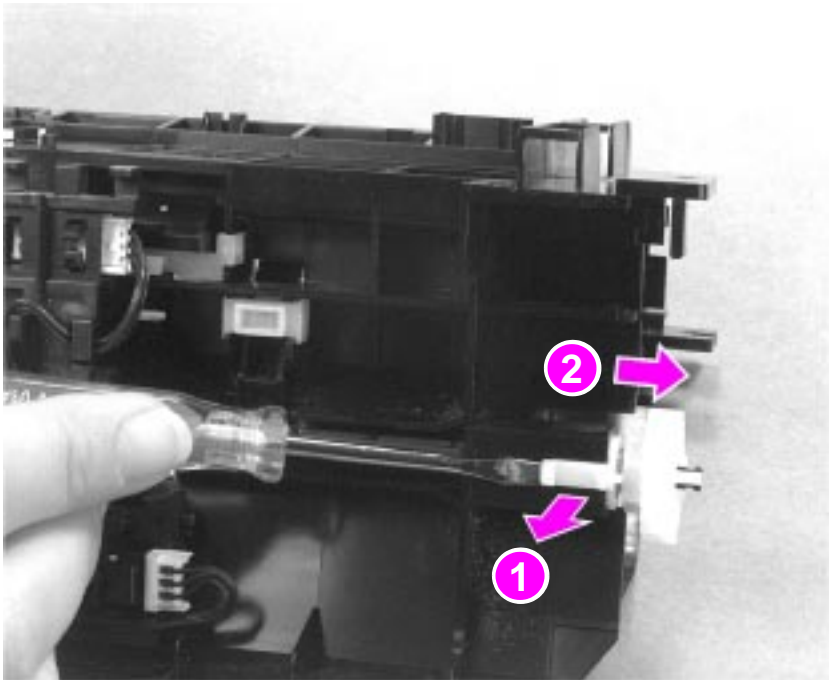


Figure 65. Feed assembly removal (1 of 3)

- 4 Remove the self-tapping screw (callout 1) that holds the feed assembly in place.

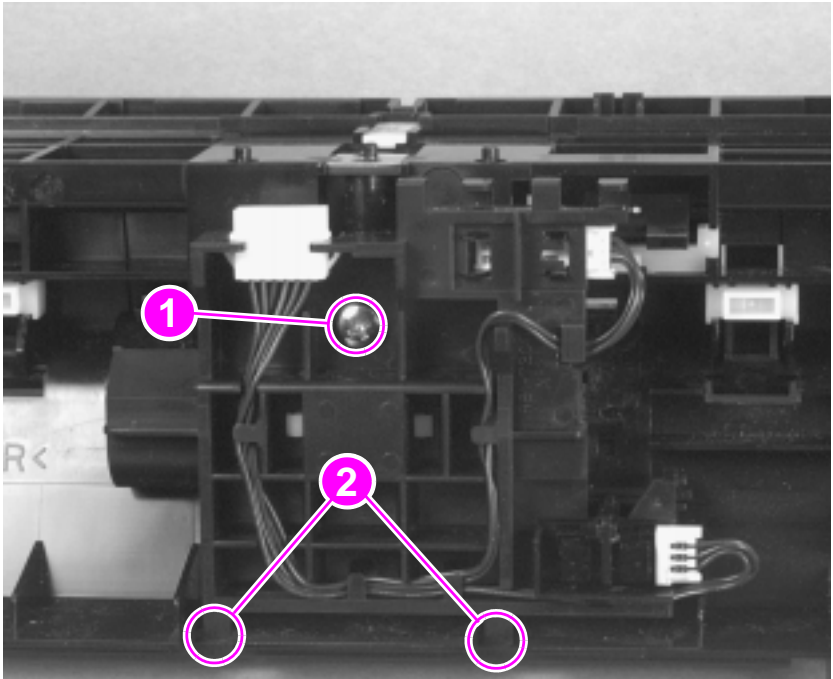
---

**Note**

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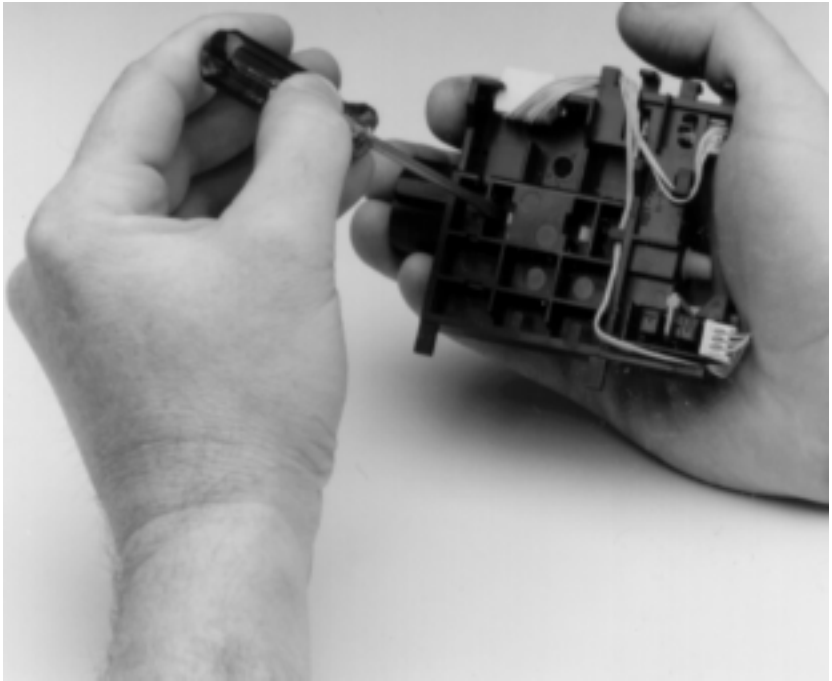
Before proceeding, examine the tabs and how they fit into their slots (callout 2). The tabs must be reinstalled to exactly this position.

- 5 Remove the feed assembly.



**Figure 66. Feed assembly removal (2 of 3)**

- 6 Turn the feed assembly over and place it in one hand with the roller-side down. Pop one of the tabs on the other side and the feed roller should fall into your hand.



**Figure 67. Feed assembly removal (3 of 3)**

### **To reinstall**

Before securing the screw, ensure the tabs on the feed assembly are positioned in their slots on the paper feed frame. Failure to do so will cause paper feed problems.

## Bottom assemblies

### Cable guide

- 1 Remove all covers, the RFI shield, the printer door, the LIU board, the formatter board, and the metal side plate.
- 2 Two tabs hold the cable guide on the printer chassis. Press each tab inward.
- 3 Pull the cable guide out.

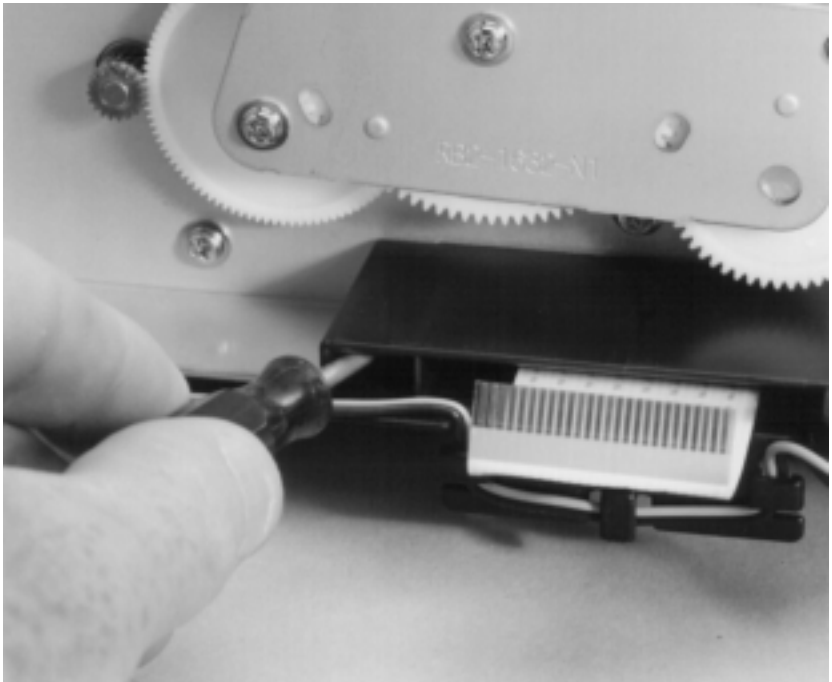
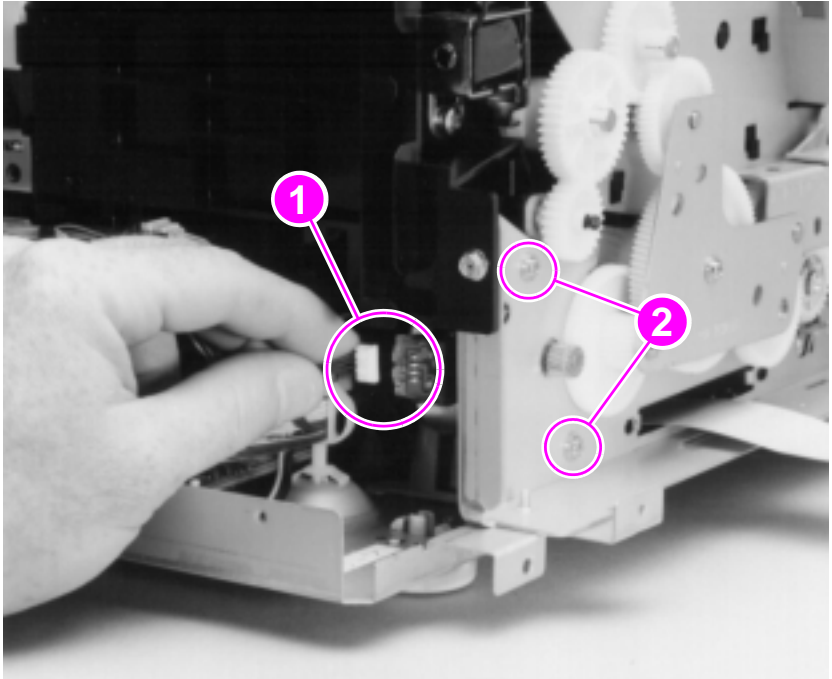


Figure 68. Cable guide removal

## Main Motor

- 1 Remove all covers, the RFI shield, the printer door, the LIU board, the formatter board, and the metal side plate.
- 2 Remove the motor connector (callout 1).
- 3 Remove two (2) motor screws (callout 2).
- 4 Lift the motor out.



**Figure 69. Motor removal**

## ECU

Remove all covers, the RFI shield, the printer door, the LIU board, the formatter board, the metal side plate, and the front casing.

- 1 Disconnect the motor connector from the motor.
- 2 Release all connectors from the ECU.
- 3 Tip the printer on its top, with the front facing you.
- 4 Remove the five (5) screws (callout 1) from the bottom plate.

One of the screws is a grounding screw. The location of the grounding screw is marked by a star etched into the bottom plate.

---

### Note

Make certain when you reinstall the ECU that the grounding screw with the washer is replaced in the same location.

---

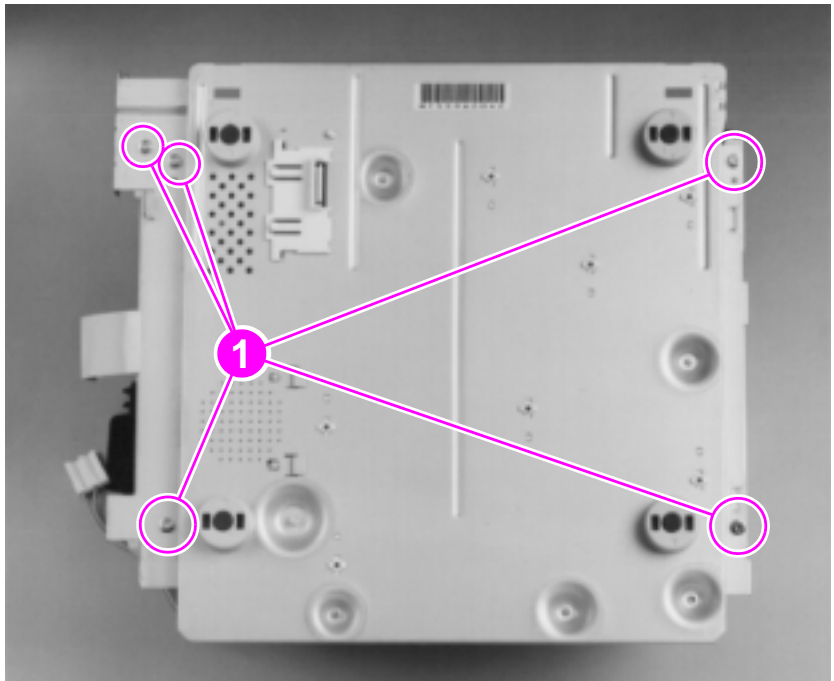
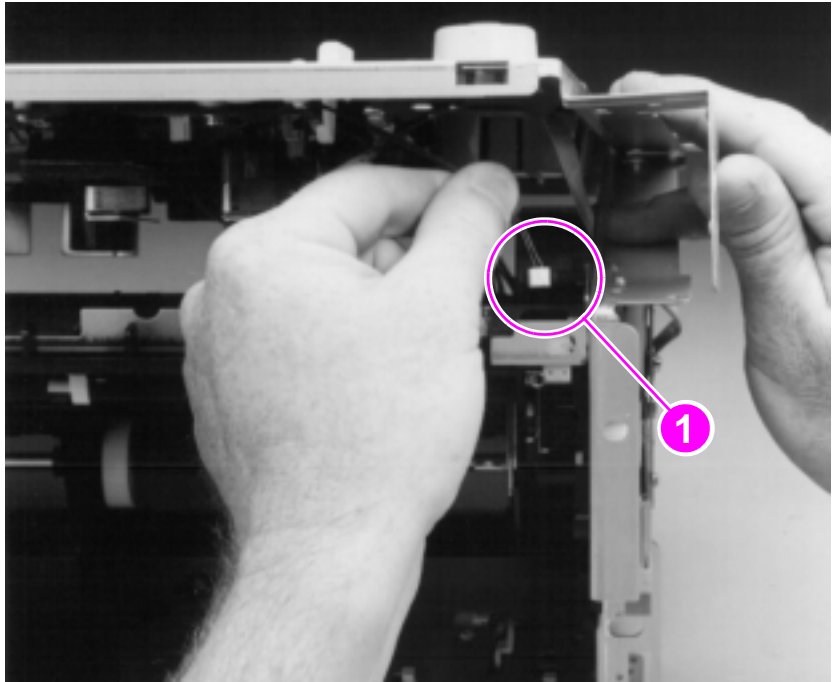


Figure 70. ECU removal (1 of 4)



- 5 Lift the bottom plate and release the fusing assembly connector (callout 1).



**Figure 71. ECU removal (2 of 4)**

- 6 Lift the bottom plate from the product and place it on its feet.

---

**CAUTION**

---

Placing the ECU on a conductive surface can damage the unit. Place the ECU on an ESD mat.

- 7 Squeeze the speaker cover to release it from the bottom plate and lift it off the bottom plate.

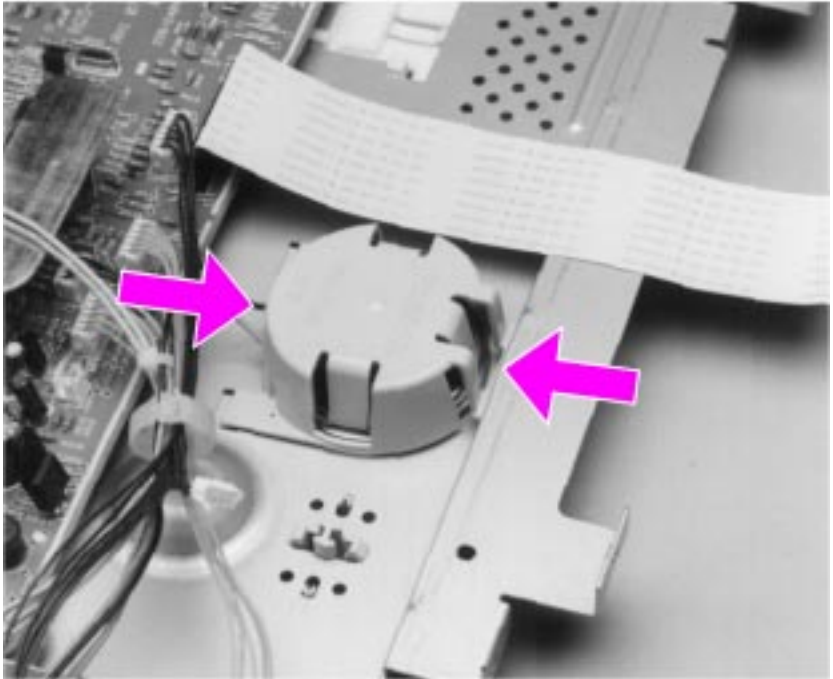


Figure 72. ECU removal (3 of 4)

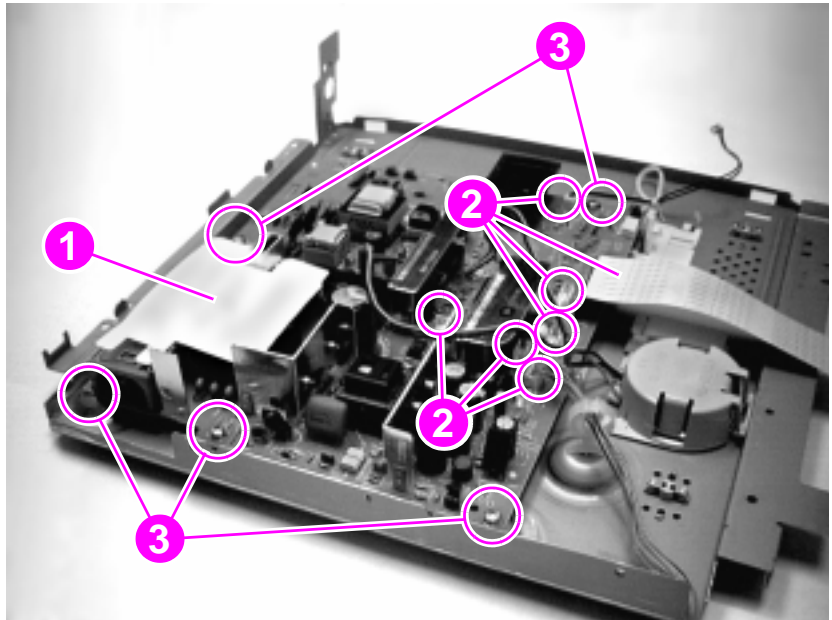
---

**Note**

---

In Figure 73 below, the photograph shows the ECU from an HP LaserJet 3150 product. Some HP LaserJet 3100 products do not contain the protective sheet (callout 1).

- 8 Remove the (7) remaining cables (callout 2).
- 9 Remove the screws (5) that secure the ECU to the bottom plate (callout 3).



**Figure 73. ECU removal (4 of 4)**

- 10 Remove the ECU by lifting gently on the side opposite the formatter, then sliding it out.

---

**Note**

---

When ordering, the ECU does not come with any cables. Reuse the cables from the product on which you are working or see Chapter 7, "Parts and diagrams," for ordering information.

## Feet

- 1 Insert the small flatblade screwdriver into the foot to release the tab.
- 2 Lift off the foot.



**Figure 74. Feet removal**

# 6

# Troubleshooting

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# Basic troubleshooting

| Verification steps  | Possible problems                              | Solutions   |
|---|--|---|
| <p><b>Is Power On successful?</b><br/>When the product is connected to a grounded power source, the printer motor should rotate for approximately six seconds and the document scanner motor should rotate for approximately two seconds.</p> | <p>No power.</p>                               | <ol style="list-style-type: none"> <li>1. Verify that the product is plugged in.</li> <li>2. Verify that the power cable is functional.</li> <li>3. Verify that FU102 on the ECU is not open.</li> <li>4. If all of these conditions are correct, replace the ECU.</li> </ol>   |
|   | <p>Printer motor does not rotate.</p>          | <ol style="list-style-type: none"> <li>1. Verify that the toner cartridge is present.</li> <li>2. Verify that the printer door is closed.</li> <li>3. Verify that paper is loaded in the paper input bin.</li> <li>4. Verify that printer path paper sensors are functional.</li> <li>5. Verify that the motor connector J1 is seated into J401 of the ECU.</li> <li>6. Verify that the motor is correctly mounted to the printer chassis.</li> <li>7. If all of these conditions are correct, replace the ECU.</li> <li>8. If, after replacing the ECU, the printer motor still does not rotate, replace the motor.</li> </ol> |
|   | <p>Document scanner motor does not rotate.</p> | <ol style="list-style-type: none"> <li>1. Verify that the document scanner motor connector is seated in the formatter.</li> <li>2. Verify that the document scanner motor is correctly mounted in the document scanner assembly.</li> <li>3. If these conditions are met, replace the document scanner motor.</li> <li>4. If, after replacing the motor, the document scanner motor still does not rotate, replace the formatter.</li> <li>5. If, after replacing the formatter, the document scanner motor still does not rotate, replace the ECU.</li> </ol>  |

| Verification steps  | Possible problems  | Solutions  |
|---|--|--|
| <p><b>Is the product ready?</b><br/>The control panel should function without error messages.</p>   | <p>Control panel display an error message, such as “Encoding Error.”</p> <p>Control panel is not functional.</p> <p>Control panel does not function correctly.</p>   | <p>Consult the list of common messages later in this chapter to correct the error.</p> <p>Verify that the control panel cable is seated into both the control panel at J9 and the formatter board at J3. If the cable is connected correctly, replace the control panel.</p> <ol style="list-style-type: none"> <li>1. Verify that the control panel cable is seated into both the control panel at J9 and the formatter board at J3.</li> <li>2. Use the extended service menu, if available, to run control panel tests.</li> <li>3. If, after running control panel tests, the control panel still does not function correctly, replace the control panel.</li> <li>4. If after replacing the control panel, the control panel still does not function correctly, perform an engine test, which is discussed later in this chapter.</li> <li>5. If the engine test is not successful, replace the ECU.</li> </ol> <p>-Or-</p> <p>If the engine test is successful, replace the formatter.</p> |
| <p><b>Do engine tests and internal reports print?</b><br/>Print an engine test, which is discussed later in this chapter. The engine test should print without paper feed problems or print quality problems. Also print internal reports (follow the instructions under “To print all reports at once” later in this chapter). The product will print a phone book report, a menu report, a fax activity report, a configuration report, and a test report. The test report contains an error log, which documents recent error messages. The error log can be helpful in verifying operation of the product. All internal reports should print without paper feed problems or print quality problems.</p> | <p>Engine test is not successful.</p> <p>Internal reports do not print.</p> <p>Poor print quality.</p> <p>Paper does not move smoothly through the printer paper path.</p> <p>Control panel displays an error message.</p> | <p>Replace the ECU.</p> <p>If the engine test is successful, but internal reports do not print, replace the formatter.</p> <p>See “Solving image defects” later in this chapter.</p> <p>Isolate printer paper path problems by performing a paper path check, which is discussed later in this chapter.</p> <p>Consult the list of common messages in Chapter 2 to correct the error.</p>  |

| Verification steps   | Possible problems  | Solutions   |
|--|--|---|
| <p><b>Is the copy function operational?</b><br/>Place the reports into the document scanner input bin and copy them to the printer. Reports should feed smoothly through the document scanner path and copies should print without print quality problems.</p> | <p>Poor copy quality.</p> <p>Paper does not move smoothly through the document scanner path.</p> <p>Configuration set incorrectly.</p>   | <p>If the print quality from the internal reports and engine test was acceptable, but the print quality of the copies is not, clean the contact image sensor and the white sheet, and then recalibrate the document scanner. (See Chapter 3, “Maintenance,” for cleaning procedures; recalibration is discussed later in this chapter.) If, after performing the maintenance, the problem persists, replace the contact image sensor.</p> <p>Clear the document scanner path of obstructions. Check photosensors PS801 and PS802 to make sure that they operate correctly. If the problem persists, replace document scanner rollers or guides as appropriate.</p> <p>Review and reset configuration.</p> |
| <p><b>Does the product send a fax?</b><br/>Connect the phone line and verify the dial tone (using a hand set, if necessary). Attempt to send a fax.</p>  | <p>Telephone line is not operational or the product is not plugged into the telephone line.</p> <p>The telephone cord is plugged into the wrong connector.</p> <p>Firmware is not current.</p> <p>Product's fax settings are set incorrectly.</p> <p>The LIU is not operational.</p> | <p>Make sure that the product is plugged into a telephone line that you know works. Press <b>MANUAL DIAL</b> and listen for the dial tone to check the line.</p> <p>In some countries, the HP LaserJet 3100/3150 product has two connectors. Try plugging the phone cord into the other connector.</p> <p>Check the firmware version. See “Firmware and software downloads” later in this chapter.</p> <p>Review and reset the product's fax settings.</p> <p>Replace the LIU.</p>  |



| <b>Verification steps</b>   | <b>Possible problems</b>   | <b>Solutions</b>  |
|---|--|---|
| <p><b>Does the product receive a fax?</b><br/>Use another fax machine to send a fax to the product.</p>   | <p>Too many telephone devices are plugged in, or telephone devices are not connected in the correct order.</p> <p>Firmware is not current.</p> <p>Product's fax settings are set incorrectly.</p> <p>The LIU is not operational.</p> | <p>Make the HP LaserJet 3100/3150 product the only device on the telephone line and try again to receive the fax.</p> <p>Check the firmware version. See "Firmware and software downloads" later in this chapter.</p> <p>Review and reset the product's fax settings.</p> <p>Replace the LIU.</p>                     |
| <p><b>Is the software installed correctly?</b></p>  | <p>Software is not installed or an error occurred during software installation.</p>  | <p>Uninstall the software. Find and delete the file named "Jetsuite.Ini." Reload the product's software. Make sure you use a bidirectional port setting.</p>  |
| <p><b>Does the product print from the computer?</b><br/>Connect the parallel cable to the product and the computer. Use a word processing application to send a print job to the printer.</p>                   | <p>The parallel cable is not connected.</p> <p>An incorrect printer driver is selected.</p> <p>Other devices are connected to the parallel port.</p> <p>There is an LPT port driver problem in Windows 9x.</p>                       | <p>Connect the cable.</p> <p>Reset the printer driver.</p> <p>Disconnect the other devices and try again to print.</p> <p>Reset the computer's port settings.</p>   |
| <p><b>Does the product scan to the computer?</b><br/>Initiate a scan from either the computer's basic desktop software or from the product.</p>   | <p>Other devices are connected to the parallel port.</p> <p>The BIOS settings for the parallel port are set incorrectly.</p> <p>The computer's parallel port hardware is not bidirectional.</p>                                      | <p>Disconnect the other devices and try again to scan.</p> <p>Reset the computer's port settings. If the problem persists, reset the BIOS settings in CMOS. (See the user's guide for more information about BIOS settings.)</p> <p>Check hardware documentation to see if the port configuration can be changed.</p> |
| <p><b>Does the product send a fax from the computer?</b><br/>Initiate a fax from the computer's basic desktop software. Initiate another fax, this time using a "print to fax" command from an application.</p> | <p>An incorrect fax driver is selected.</p>  | <p>Reset the fax driver.</p>  |

# Error messages

These control panel messages are listed alphabetically and are accompanied by the cause for the message and steps to take to resolve the problem.

| Message                             | Cause  | Solution   |
|-------------------------------------|--|--|
| Configuration<br>Err # (number 1-4) | An error was detected in the SRAM.                             | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try connecting the product to a different power source or surge protector.<br>If the error persists, replace the formatter. |
| Config. Stuck Addr                  | In Service Mode only, SRAM stuck address test.                 | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>If the error persists, replace the formatter.   |
| Config. Tied Addr.                  | In Service Mode only, SRAM tied address test.                  | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>If the error persists, replace the formatter.   |
| Decoding Error<br>#(number 1-3)     | There was an error in decoding with the image processing chip. | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try connecting the product to a different power source or surge protector.<br>If the error persists, replace the formatter. |
| Encoding Error                      | There was an error in encoding with the image processing chip. | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>If the error persists, replace the formatter.   |

| Message   | Cause   | Solution  |
|---|---|---|
| Fax Memory Error # (number 1-5)   | An error was detected in DRAM.  | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try connecting the product to a different power source or surge protector.<br>If the error persists, replace the formatter.  |
| Keypad Test Failed  | In Service Mode only, the keypad test failed.   | Check the cabling connections and run the keypad test again.<br>If the error persists, replace the control panel.<br>Run the keypad test again.<br>If, after replacing the control panel, the error persists, replace the formatter.  |
| Modem Error # (number 1-3)  | An error was detected with the modem.   | Check the cabling connections.<br>If the error persists, unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>If the error persists, replace the LIU.<br>If, after replacing the LIU, the error persists, replace the formatter.                      |
| No Modem Installed  | There is a problem in the LIU.  | Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.<br>Try connecting the product to a different power source or surge protector.<br>If the error persists, replace the LIU.<br>If, after replacing the LIU, the error persists, replace the formatter. |
| Nov-22-93 06:30 PM (or any other incorrect date that cannot be reset to the correct date) | The battery inside the HP LaserJet 3100/3150 product has failed, causing all Menu features to revert to the factory settings. Settings that contained alphabetic and numeric characters you entered, such as header information and speed-dial names and numbers, have been erased. | Replace the formatter.  |

| Message                                     | Cause   | Solution  |
|---|---|---|
| Printer Comm Error                          | There was an error in communicating with the HP LaserJet 3100/3150 product.                       | <p>Make sure that the parallel cable is securely connected between the HP LaserJet 3100/3150 product and the computer. Use the clips to clip the cable to its connector.</p> <p>If the error persists, unplug the power cord from the power source for 10 seconds, and then replug it in.</p> <p>Try connecting the product to a different power source or surge protector.</p> <p>If neither of these solutions works, replace the formatter.</p>          |
| Printer Comm Error<br>^1                    | In Service Mode only. There was an error in communicating with the HP LaserJet 3100/3150 product. | <p>Make sure that the parallel cable is securely connected between the HP LaserJet 3100/3150 product and the computer. Use the clips to clip the cable to its connector.</p> <p>If the error persists, unplug the power cord from the power source for 10 seconds, and then replug it in.</p> <p>If neither of these solutions works, replace the formatter.</p>  |
| Printer Fixing Error<br>Replace Fixing Unit | There is an error in the print engine.  | <p>Unplug the power cord from the power source for 10 seconds, and then replug it in.</p> <p>Try connecting the product to a different power source.</p> <p>Check the cabling connections to the heating element.</p> <p>Perform the "Heating element check," which is discussed later in this chapter.</p> <p>If the error persists, replace the heating element.</p> <p>If, after replacing the heating element, the error persists, replace the ECU.</p> |

| <b>Message</b>                                  | <b>Cause</b>  | <b>Solution</b>  |
|---|---|--|
| <b>Printer Laser Error<br/>Call for Service</b> | The printer door is open or has been damaged.                       | Open the printer door and examine the door for damage. If the printer door is not damaged, close the door, making sure both of the release latches are closed correctly.   |
|   | A problem has occurred with the print engine.                       | Check the cabling connections to the laser/scanner.<br>If the error persists, unplug the power cord from the power source, wait 10 seconds, and replug in the power cord. Try connecting the product to a different power source or surge protector. If the error persists, replace the laser/scanner.   |
| <b>Printer Motor Error<br/>Call for Service</b> | A problem has occurred in the print engine.                         | Check the cabling connections to the motor.<br>If the error persists, unplug the power cord from the power source, wait 10 seconds, and replug in the power cord. Try connecting the product to a different power source or surge protector. If the error persists, replace the motor. If, after replacing the motor, the error persists, replace the ECU. |
| <b>Printer signal error</b>                     | The printer door is open or has been damaged.                       | Open the printer door and examine the door for damage. If the printer door is not damaged, close the door, making sure both of the release latches are closed correctly.   |
|   | There was an error in the HP LaserJet 3100/3150 product print unit. | Check the cabling connections to the ECU.<br>Try connecting the product to a different power source or surge protector. If the error persists, unplug the power cord from the power source, wait 10 seconds, and replug in the power cord. If the error persists, replace the ECU.   |
| <b>Scan Reference Error</b>                     | There was an error detected in the HP LaserJet 3100/3150 product.   | Check the cabling connections to the contact image sensor.<br>If the error persists, follow the instructions later in this chapter to recalibrate the document scanner. If the error persists after recalibration, replace the contact image sensor.   |

| Message          | Cause   | Solution  |
|------------------|---|---|
| Scanner Error #1 | An error has occurred in the document scanner.    | <p>Press and hold down the <b>STOP/CLEAR</b> key for 7 seconds to reset the product. If the error persists, check the cabling connections.</p> <p>If the error persists, unplug the power cord from its power source for 10 seconds, and then replug it in.</p> <p>Try connecting the product to a different power source or surge protector.</p> <p>If none of these methods clears the error, replace the contact image sensor.</p> <p>If, after replacing the contact image sensor, the error persists, replace the formatter.</p> |
| System Error     | An error has occurred that may require servicing. | <p>Unplug the power cord from the power source, wait 10 seconds, and replug in the power cord.</p> <p>Try connecting the product to a different power source or surge protector.</p> <p>If the error persists, replace the formatter.</p>   |

# Image formation troubleshooting

## Check the toner cartridge

Image formation defects are many times the result of toner cartridge problems. If there is any doubt, always replace the toner cartridge before troubleshooting image defects.

Use the following checklist to ensure that the toner cartridge is still operable.

- Ensure that the toner cartridge is seated properly in place.
- Inspect the toner cartridge for remaining toner.
- Check the expiration date stamped on the toner cartridge box.
- Check the toner cartridge to see if it has been disassembled or refilled.
- Inspect the cartridge to see if toner is leaking through worn seals.
- Check the surface of the photosensitive drum in the cartridge to see if it has been damaged or scratched. Touching the drum contaminates the photosensitive surface and can cause spotting and image defects.
- Blurred areas on printed pages indicate that the photosensitive drum in the cartridge has been overexposed to light. Because overexposure to light causes permanent damage to the photosensitive drum, the cartridge should be replaced.

---

### Note

---

A toner cartridge weighs 730 grams (26.1 ounces) when it is full and 640 grams (22.7 ounces) when it is empty.

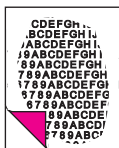
## To redistribute toner in the cartridge

Before installing a new cartridge, or when toner begins to run low, redistribute the toner by rotating the cartridge back and forth five or six times.

# Solving image quality problems

Use the following table to help solve problems with printed pages. See also “Solving paper feed problems” in this chapter.

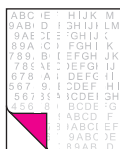
| Problem  | Cause   | Solution   |
|--|---|--|
| Parts of the page around the edges aren't printing.                  | <p>The HP LaserJet 3100/3150 product cannot print to the edge of the paper. The HP LaserJet 3100/3150 product has minimum margins on each edge of 0.25 in (6.4 mm).</p> <p>If printing or copying, the reduction setting is set incorrectly.</p>                  | <p>To get the image to fit into this printable area, slightly reduce the size of the image.</p> <p>For printing, check the reduction setting in the “Print” or “Setup” window from within the program you are using. For copying, check the reduction setting on the control panel or from the auto prompt.</p>  |
| Images will not print.   | <p>The HP LaserJet 3100/3150 product is not plugged in.</p> <p>The parallel cable is loose.</p>   | <p>Make sure that the HP LaserJet 3100/3150 product is plugged into a live wall outlet or power strip.</p> <p>Check that the parallel cable is securely connected between the HP LaserJet 3100/3150 product and the computer.</p>  |
| Faxes you send, copies, or scanned images are too light or too dark. | <p>The contrast is not set correctly.</p> <p>The original image is very light or very dark.</p> <p>The scanned image is too light or too dark because the original was on a colored paper.</p> <p>The HP LaserJet 3100/3150 product needs to be recalibrated.</p> | <p>Adjust the contrast and resolution settings from the control panel or the Document Assistant.</p> <p>Adjust the resolution and/or contrast setting(s) from the dialog box that appears after you click <b>Scan</b> on the Document Assistant.</p> <p>If the original was on a colored paper, including a brown recycled paper, the text may not be clear. Adjust the resolution, contrast, and/or brightness settings from the dialog box that appears after you click <b>Scan</b> on the Document Assistant.</p> <p>Follow the instructions later in this chapter to recalibrate the document scanner.</p> |





| Problem | Cause | Solution |
|---------|-------|----------|
|---------|-------|----------|

Print is faded or you notice a block of vertically aligned white streaks.



The toner cartridge is getting low on toner.

Redistribute the toner or replace the toner cartridge.

The HP LaserJet 3100/3150 product needs to be cleaned.

See the appropriate sections of Chapter 3, "Maintenance."

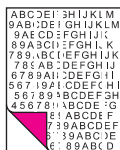
The paper you are using does not meet HP's paper specifications (for example, it is too moist or too rough).

Make sure that the media meets specifications detailed in HP's media specifications guide.

Toner density setting is not adjusted correctly.

Adjust the setting from the control panel.

or print is not faded, but vertical white stripes appear on the page.



A part of the HP LaserJet 3100/3150 product is damaged.

Follow the steps in "Basic troubleshooting" to isolate the problem.

The internal mirror or optics are contaminated.

Clean the mirror by blowing air through the laser/scanner to remove any dust particles.

The laser/scanner is damaged.

Replace the laser/scanner.

The document scanner needs to be recalibrated.

Follow the instructions later in this chapter to recalibrate the document scanner.

There is a problem in the contact image sensor.

Replace the contact image sensor

There is a problem in the formatter.

Replace the formatter.

Stains or smudges appear as small, round, black dots on the front or back of a page. Sometimes inconsistent stains appear.

The paper you are using does not meet HP's paper specifications (for example, it is too moist or too rough).

Make sure that the media meets specifications detailed in HP's media specifications guide.

You are printing on the wrong side of the paper.

Remove the paper from the paper input bin and turn it over. (The wrapper on many reams of paper has an arrow indicating the print side.)


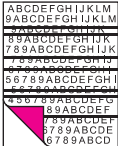





The HP LaserJet 3100/3150 product needs to be cleaned.

See Chapter 3, "Maintenance," for instructions on cleaning the product and using a cleaning page.

The toner cartridge is damaged.

Replace the toner cartridge if maintenance procedures do not improve print quality.

| Problem  | Cause   | Solution  |
|--|---|---|
| Vertically-aligned black streaks or smears appear on successive pages.             | The HP LaserJet 3100/3150 product needs to be cleaned.                              | See the appropriate sections of Chapter 3, "Maintenance."   |
|  | The toner cartridge is damaged.   | Replace the toner cartridge if maintenance procedures do not improve print quality.                           |
|   | There is a problem in the heating element.  | Perform the "Heating element check," which is discussed later in this chapter.                                |
|  | If scanned images have unwanted lines through them:                                 |   |
| Horizontally aligned black streaks or smears appear.                               | There is ink, glue, white-out, or some other substance on the contact image sensor. | See the appropriate sections of Chapter 3, "Maintenance."   |
|  | Slick paper caused the document scanner trouble in scanning.                        | Use a carrier sheet to send the item.   |
| The HP LaserJet 3100/3150 product needs to be recalibrated.                        | Follow the instructions later in this chapter to recalibrate the document scanner.  |   |
|  | The toner cartridge was improperly installed.                                       | Make sure you removed the entire length of the sealing tape from the toner cartridge before you installed it. |
|  | The toner cartridge is defective.   | Replace the toner cartridge.  |
| The HP LaserJet 3100/3150 product needs to be cleaned.                             | There is a problem in the heating element.  | Perform the "Heating element check," which is discussed later in this chapter.                                |
|  | A gear is damaged.  | Perform the "Drum rotation functional check," which is discussed later in this chapter.                       |
| There is a problem in the laser/scanner.   | Replace the laser/scanner.  |   |
| If horizontal lines appear in margins and across entire pages on faxes you send:   |   |   |
| The HP LaserJet 3100/3150 product needs to be cleaned.                             | See the appropriate sections of Chapter 3, "Maintenance."                           |   |
| There is a problem in the contact image sensor.                                    | Replace the contact image sensor.   |   |

| Problem  | Cause  | Solution   |
|--|--|--|
| <p>Light character shadows or repetitive marks appear on the page.</p>                                    | A roller is damaged.   | Use the “Repetitive image defect ruler” later in this chapter to determine which roller is damaged. Replace the roller.  |
|  | The HP LaserJet 3100/3150 product needs to be cleaned.   | See the appropriate sections of Chapter 3, “Maintenance.”  |
|  | If you are using transparencies, they do not meet HP’s specifications.   | Make sure that the media meets specifications detailed in HP’s media specifications guide.   |
|  | The paper’s texture is too coarse.   | Try changing to a paper with a smoother finish.  |
|  | The toner cartridge is damaged, causing a repetitive black flaw on every printout.   | Replace the toner cartridge.   |
|  | The toner cartridge’s photosensitive drum has been overexposed to bright light, causing repetitive defects (usually a fuzzy black area).                               | Replace the toner cartridge.   |
|  | <hr/>  |  |
| <p>Character voids appear (white areas within the parts of characters that should be solid black).</p>  | The paper or transparencies do not meet HP’s specifications.   | Make sure that the media meets specifications detailed in HP’s media specifications guide.   |
|  | You are printing on the wrong surface of the paper.  | Remove the paper and turn it around. (The wrapper on many reams of paper has an arrow indicating the print side.)  |
| <p>Background scatter appears on a printed page.</p>    | Background scatter results from bits of toner distributed on the front or back of a printed page. Background scatter often is isolated to a specific area of the page. | Try changing the print density setting. If that doesn’t work, change the paper type, weight, or surface finish. If background scatter occurs on an envelope, try moving the text to an area with no seams. Printing on seams can cause this problem. |
|  | Toner has spilled inside the product.  | See the appropriate sections of Chapter 3, “Maintenance.”  |
|  | The pickup roller is dirty.  | See the appropriate sections of Chapter 3, “Maintenance.”  |

| Problem | Cause | Solution |
|---------|-------|----------|
|---------|-------|----------|

The page is completely black.



The toner cartridge was improperly installed.

Remove the cartridge and reinstall it.

The toner cartridge is defective.

Replace the toner cartridge.

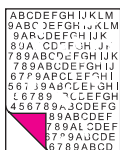
Discontinuities exist in the high-voltage contact points.

Perform the "High-voltage power supply check," which is discussed later in this chapter.

There is a problem in the ECU or the laser/scanner.

Follow the steps in "Basic troubleshooting" to isolate the problem. Replace the ECU or the laser/scanner, as needed.

Characters are only partially printed (also referred to as dropouts).



A single sheet of paper is defective.

Try reprinting the job.

The print density needs to be adjusted.

Adjust the print density from the control panel.

The moisture content of the paper is inconsistent or the paper has moist or wet spots on the surface.

Make sure that the media meets specifications detailed in HP's media specifications guide.

The paper was damaged by inconsistent manufacturing processes.

Make sure that the media meets specifications detailed in HP's media specifications guide.

A "draft mode" or "economy mode" is selected in the software.

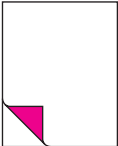
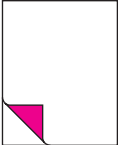

Try a "normal" or "best" setting.




The bottom of the printed page is blank or part of a graphic's image is cut off.



The page is too complex. (There is not enough memory to process the page.)

Set the resolution to 300 dpi through your software or printer driver. See the online help for printer driver issues.

| Problem   | Cause  | Solution  |
|---|--|---|
| <p>Blank pages print occasionally.</p>  | <p>Page length and margins are not set correctly for the paper size.</p>   | <p>If you are printing on small paper and your page is blank, try printing on larger paper to see where the image is printing. Adjust the margins accordingly.</p>  |
|    | <p>Your HP LaserJet 3100/3150 product is feeding two or more sheets of paper at a time because the paper is difficult to separate.</p> | <p>Remove the paper from the paper input bin and align the edges of the paper. “Break” the ream of paper by curving it into an upside-down u-shape. Try turning the paper around to feed the other end first, or use a different type of paper.</p> |
|   | <p>Your software application is sending an extra page-eject command.</p>   | <p>Clean the pickup roller and the separation pad. If the problem persists, replace the separation pad.</p>   |
|   |  | <p>Check your software’s printing configuration information. If you are using a word-processing program, check for a natural page break and a forced page break that are close to each other.</p>   |
| <p>Blank pages are always printing</p>  | <p>The toner cartridge was improperly installed.</p>   | <p>Make sure you removed the entire length of the sealing tape from the toner cartridge before you installed it.</p>  |
|   | <p>The toner cartridge is completely out of toner.</p>   | <p>Replace the toner cartridge.</p>   |
|   | <p>Discontinuities exist in the high-voltage contact points.</p>   | <p>Perform the “High-voltage power supply check,” which is discussed later in this chapter.</p>   |
|   | <p>There is a problem in a part of the product.</p>  | <p>Print a self-test page. If the page is blank, follow the steps in “Basic troubleshooting” to isolate the problem. Replace the laser/ scanner or the ECU as needed.</p>   |
| <p>Print is misaligned on the page (skewed pages).</p>                              | <p>The paper input bin is overfilled.</p>  | <p>Remove some of the paper.</p>  |
|  | <p>The guides are adjusted improperly.</p>   | <p>Be sure to center the paper with the paper guides. Also, verify that the paper guides are not adjusted too tightly or too loosely against the paper.</p>   |
|   | <p>The paper’s weight or surface finish does not meet HP’s specifications.</p>   | <p>Make sure that the media meets specifications detailed in HP’s media specifications guide.</p>   |

| Problem   | Cause   | Solution   |
|---|---|--|
| Scanned images have black dots or streaks in top and bottom margins.                | There is ink, glue, white-out, or some other substance on the contact image sensor. | See the appropriate sections of Chapter 3, "Maintenance."  |
|    | There is a problem in the contact image sensor.                                     | Replace the contact image sensor.  |
| Scanned text is not clear.  | The contrast, resolution, or brightness needs to be adjusted before scanning.       | Adjust the resolution, contrast and/or brightness setting(s) from the dialog box that appears after you click <b>Scan</b> on the Document Assistant.   |
|    | The original is on colored paper.   | If the original was on a colored paper, including a brown recycled paper, the text may not be clear. Try adjusting the resolution, contrast, and/or brightness settings from the dialog box that appears after you click <b>Scan</b> on the Document Assistant.  |
| Scanned images print at a reduced size.   | The JetSuite Pro software reduced the image.  | If necessary, the JetSuite Pro software automatically reduces the size of the image to fit it on the page. For example, if you scan an 8.5- by 11-inch (215.9- by 279.4-mm) page, then the image in the JetSuite Pro software will be exact same size edge to edge. However, most printers cannot print right up to the edge of the paper. To get the image to fit into this printable area, you must slightly reduce the size of the image. |
|  |   |  |

# Solving paper feed problems

Use the following table to solve problems related to moving paper or documents through the HP LaserJet 3100/3150 product.

| Problem   | Cause   | Solution   |
|---|---|--|
| Pages are coming out curled or wrinkled from the HP LaserJet 3100/3150 product. | Paper is curled or wrinkled when using the paper output bin.  | Use the front paper output slot by pushing the paper path lever to the lower position.   |
|   | Paper is not stored properly.   | Whenever possible, store paper in its sealed ream at room temperature.   |
|   | There is debris in the fixing unit.   | See the appropriate sections of Chapter 3, "Maintenance."  |
| Long pages stop feeding through the document scanner.                           | The document feeder tray guides are not set correctly, are broken, or are missing.                                    | Check for broken or missing document feeder tray guides and replace as necessary.  |
|   | The maximum scannable page length is 39 inches (991 mm). If the page is longer, scanning stops at 39 inches (991 mm). | <p>Do not try to pull the page out because you may damage the document scanner. To remove the page, open the document release door and remove the jammed media.</p> <p>Then, rescan the page. When the document scanner reaches the 39 inches (991 mm) mark, the control panel displays <b>Long Page? START to Continue</b> for a few moments only. Quickly press <b>START</b> to continue scanning. If you do not, the message disappears and the document scanner stops scanning because it thinks the page has jammed.</p> <p>If you are sending a fax or copying a document longer than 39 inches (991 mm), you can also set the control panel configuration to "Send long pages," which ensures that long pages feed without having to monitor the task and press <b>START</b> before the document scanner shuts off.</p> |

| <b>Problem</b>   | <b>Cause</b>  | <b>Solution</b>  |
|--|---|--|
| <b>Print is misaligned on the page (skewed pages).</b> | The paper input bin is overfilled.                                      | Remove some of the paper.  |
|  | The paper guides are not set correctly, are broken, or are missing.     | Be sure to center the paper with the guides. Verify that the guides are not adjusted too tightly or too loosely against the paper. Check for broken or missing paper guides and replace as necessary.                      |
|  | The paper's weight or surface finish does not meet HP's specifications. | Make sure that the media meets specifications detailed in HP's media specifications guide.   |
| <b>Scanned items are crooked.</b>                      | The document feeder tray guides are not adjusted properly.              | Be sure to center the paper with the guides. Also, verify that the guides are not adjusted too tightly or too loosely against the paper. Check for broken or missing document feeder tray guides and replace as necessary. |



| <b>Problem</b>  | <b>Cause</b>   | <b>Solution</b>  |
|---|--|--|
| <p>The HP LaserJet 3100/3150 product is feeding multiple sheets or jams frequently from the paper input bin or single-sheet input slot.</p> | Paper guides are not adjusted properly.  | Slide the guides against the sides of the stack in the paper input bin or against the single sheet in the single-sheet input slot to center the paper. Make sure the guides are not adjusted too tightly.              |
|   | Paper was not removed from the paper input bin before filling the bin.   | Always remove paper from the paper input bin before refilling the bin.   |
|   | The paper input bin is overfilled.   | Remove some of the sheets. The paper input bin can hold up to 100 sheets of 20-lb (75g/m <sup>2</sup> ) bond weight paper (less for heavier paper) or up to 7 to 10 envelopes.   |
|   | More than one sheet was placed in the single-sheet input slot.   | Place only one sheet at a time in the single-sheet input slot.   |
|   | The paper was poorly cut by the manufacturer and is sticking together.   | “Break” the ream of paper by curving it into an upside-down u-shape; this may effectively decrease multifeeds. Also try turning the paper around to feed the opposite end first, or use a different type of paper.     |
|   | The paper does not meet HP’s specifications for print media.   | Make sure that the media meets specifications detailed in HP’s media specifications guide.   |
|   | The output capacity was exceeded in the paper output bin or front paper output slot.                                   | Do not allow more than 100 sheets of 20-lb (75g/m <sup>2</sup> ) bond weight paper (less for heavier paper) to fill the paper output bin. Do not allow more media to stack up in front of the front paper output slot. |
|   | The pickup roller is dirty.  | See the appropriate sections of Chapter 3, “Maintenance.”  |
|   | The pickup roller is damaged.  | Replace the pickup roller.   |
|   | The separation pad is dirty.   | Clean the separation pad.  |
| The separation pad is damaged.  | Replace the separation pad.  |  |
| A sensor isn’t operating properly.  | Check the sensors to make sure that none of them are jammed. If a sensor cannot be “unjammed,” replace the sensor.     |  |
| There is a problem in the paper path.   | Perform the “Paper path check,” which is discussed later in this chapter, to determine which parts should be replaced. |  |

| <b>Problem</b>  | <b>Cause</b>  | <b>Solution</b>  |
|---|---|--|
| <p>The HP LaserJet 3100/3150 product is feeding multiple sheets or jams frequently from the document feeder tray.</p> | The special media lever is in the incorrect position.                                       | The special media lever should be to the left to send regular-weight documents. The lever should be to the right to send thick documents, which can only be loaded one page at a time.   |
|   | Guides are not adjusted properly.   | Remove the document from the document feeder tray. Straighten the item, then reinsert it. Slide the guides against the sides of the item to center it. Make sure the guides are not adjusted too tightly.                                  |
|   | The document feeder tray is overfilled.   | Remove some of the sheets. The document feeder tray can hold up to 30 pages, depending on the thickness of the pages.  |
|   | The item was too thick, too slick, or otherwise did not meet specifications.                | Make sure that the media meets specifications detailed in HP's media specifications guide.   |
|   | The output capacity was exceeded in the document output tray.                               | Do not allow more than 30 pages to stack up in the document output tray.   |
|   | The document scanner pickup roller or separation pad is dirty and cannot feed the document. | See the appropriate sections of Chapter 3, "Maintenance."  |
|   | The document scanner pickup roller or separation pad is damaged or worn.                    | Replace the roller or pad.   |
|   | A sensor isn't operating properly.  | Check the sensors to make sure that none of them are jammed. If a sensor cannot be "unjammed," replace the sensor.   |
| <p>Items loaded in the document feeder tray fall forward out of the tray.</p>   | There is a problem in the document scanner path.  | Check the path for obstructions. Replace any damaged parts, including damaged gears.   |
|   | The item is on a very lightweight media.  | Do not try to pull the page out because you may damage the document scanner. Open the document release door and remove the jammed media. Then, curl or roll the item in the direction of the printed side, unroll it, and reload the item. |

# Solving general software problems

Use the following table to solve problems related to the software and problems that might occur when installing the software or changing settings manually.

| Problem   | Cause  | Solution  |
|---|--|---|
| On a computer such as a laptop that is regularly disconnected from the product, you receive the following message: "JetSuite Fax has detected that the HP LaserJet 3150 is switched off or is not connected to the computer." | The message always appears if the software detects the product is not connected.       | In the installation program, there is an option to select if you have a laptop. Rerun the installation program and select this option.  |
| In Windows 95 or 98, the New Hardware Found dialog box re-appears each time the computer restarts.  | Windows Plug and Play is continuing to detect the HP LaserJet 3150 product.            | <p><i>For Windows 95:</i> If it is available, select the <b>Do not install a driver (Windows will not prompt you again)</b> option and click <b>OK</b> on the dialog box. Otherwise, when the dialog box appears, click <b>Next</b> and then click <b>Finish</b>.</p> <p><i>For Windows 98:</i> Click <b>Next</b>. When asked to choose Search or Display, click <b>Search</b> and click <b>Next</b>. When asked for the location to search, clear all three check boxes and click <b>Next</b>. Click <b>Next</b> again and then click <b>Finish</b>.</p> |
| When installing software, you receive this message: "Setup has determined that you do not have enough disk space on the selected drive. Please reduce the set of install components or change the install drive."             | The JetSuite software requires at least 40 MB of available disk space to be installed. | After you select the JetSuite software and data directories, the installation program checks that your computer has enough available disk space. Try deleting unnecessary files or archiving older data to floppy disks or some other medium.   |

| <b>Problem</b>  | <b>Cause</b>  | <b>Solution</b>  |
|---|---|--|
| The software did not install (Windows 95, 98, or NT4.0)   | All programs <i>except</i> Systray and Explorer should be closed.   | To check in Windows 95 or 98, press <b>CTRL+ALT+DELETE</b> . If other programs are open, click one and click <b>End Task</b> . Repeat for all other open programs. Then, reinstall the software.<br>To check in Windows NT 4.0, press <b>CTRL+ALT+DELETE</b> . On the <b>Applications</b> tab, if other programs are open, click one and click <b>End Task</b> . Repeat for all other open programs. Then, reinstall the software.   |
| The computer cannot read the installation CD-ROM or floppy disks.   | The correct drive may not have been specified.<br><br>The CD-ROM or floppy disks may be damaged.  | Check for the proper disk drive letter. Often, it is <b>D</b> or <b>E</b> for the CD-ROM drive or <b>A</b> or <b>B</b> for the floppy disk drive.<br><br>Contact HP Customer Care. See page 60.  |
| You receive this message "There are not enough free COM ports on this system. You must have at least one available COM port to install this software."  | The software needs at least one COM port. At least one COM port is not available.   | See the documentation for your computer to free a COM port.  |
| When the product is directly connected to your computer, you receive this message: "JetSuite Fax has detected that the HP LaserJet 3150 is either switched off or is not connected to your computer." | The parallel cable is loose or not directly connected.<br><br>The power cord is loose.<br><br>The parallel cable may be faulty.<br><br>The BIOS setting for your computer may not be set correctly. | Make sure the parallel cable between the computer and the HP LaserJet 3150 product is securely connected.<br><br>Make sure the power cord is securely connected between the HP LaserJet 3150 product and the power source.<br><br>If you have another "size C" parallel cable, try attaching it to the HP LaserJet 3150 product.<br><br>Ensure that the computer has a parallel port with a bidirectional data bus. (EPP or unidirectional ports are not supported.)<br>Change the parallel port mode setting in the computer's BIOS. HP recommends setting it to ECP or bidirectional, but other modes may also work. For instructions on changing the setting, see Appendix C in the user guide, see the computer documentation, or contact the computer manufacturer. |

| <b>Problem</b>   | <b>Cause</b>  | <b>Solution</b>  |
|--|---|--|
| <p>When the product is connected to the network using an HP JetDirect print server, you receive this message: "JetSuite Fax has detected that the HP LaserJet 3150 is either switched off or is not connected to your computer."</p> | The power cord is loose.  | Make sure the power cord is securely connected between the HP LaserJet 3150 product and the power source. Also, ensure the power cord for the HP JetDirect print server is securely connected to the power source. |
|  | The network cord is loose.  | Ensure the network cable is securely connect between the HP JetDirect print server and the wall outlet for the network. Also ensure the network cable between the computer and the wall is securely connected.     |
|  | The parallel cable is loose or not directly connected.  | Make sure the parallel cable between the HP JetDirect print server and the HP LaserJet 3150 product is securely connected.   |
|  | The parallel cable may be faulty.   | If you have another "size C" parallel cable, try connecting it between the HP LaserJet 3150 product and the HP JetDirect print server.   |
|  | The HP JetDirect print server may not be configured yet (TCP/IP).                                   | Use the HP JetAdmin software, the HP WebJet Admin software, BOOTP, DHCP, or telnet to configure the HP JetDirect print server.   |
| HP JetDirect print server is incorrectly configured (TCP/IP).  | See the documentation that came with the HP JetDirect print server for troubleshooting information. |  |
| <p>When the product is connected to the network using an HP JetDirect print server, you receive this message: "All in One configuration cannot continue because the required protocols were not found on your computer."</p>         | The IPX/SPX or TCP/IP protocols are not installed on your computer.                                 | Install an IPX/SPX protocol that is compatible with NW Link or a TCP/IP protocol on your computer.   |

| Problem   | Cause  | Solution   |
|---|--|--|
| <p>When the product is connected to the network using an HP JetDirect print server, you receive one of these messages:</p> <ul style="list-style-type: none"> <li>● “The configuration wizard did not find your HP LaserJet 3150 All in One on the network.”</li> <li>● “The configuration wizard was unable to find an All in One at the specified address.”</li> <li>● “The JetDirect model found at the specified address does not support All in One devices.”</li> </ul> | <p>The print server you are using is not one of the HP JetDirect print servers that works with the product.</p> <p>The power cord is loose.</p> <p>The network cord is loose.</p> <p>The parallel cable is loose or not directly connected.</p> <p>The parallel cable may be faulty.</p> <p>The HP JetDirect print server may not be configured yet (TCP/IP).</p> <p>HP JetDirect print server is incorrectly configured (TCP/IP).</p> | <p>See “Connecting to a network using an HP JetDirect print server” on page 10 for a list of compatible HP JetDirect print servers.</p> <p>Make sure the power cord is securely connected between the HP LaserJet 3150 product and the power source. Also, ensure the power cord for the HP JetDirect print server is securely connected to the power source.</p> <p>Ensure the network cable is securely connect between the HP JetDirect print server and the wall outlet for the network. Also ensure the network cable between the computer and the wall is securely connected.</p> <p>Make sure the parallel cable between the HP JetDirect print server and the HP LaserJet 3150 product is securely connected.</p> <p>If you have another “size C” parallel cable, try connecting it between the HP LaserJet 3150 product and the HP JetDirect print server.</p> <p>Use the HP JetAdmin software, the HP WebJet Admin software, BOOTP, DHCP, or telnet to configure the HP JetDirect print server.</p> <p>See the documentation that came with the HP JetDirect print server for troubleshooting information.</p> |

# Functional checks

## Simple hardware test

A simple test of the hardware is printing and copying the demonstration page.

### To perform the simple hardware test

- 1 At the product control panel, press **VOLUME+CONTRAST** simultaneously to print the demonstration page.
- 2 Copy the demonstration page by placing it in the document feeder tray, waiting for the product to load the page, and then pressing **COPY**.

## Engine test

The engine test is used to verify that the print engine is functioning correctly. The formatter is bypassed during an engine test, so the engine test is useful for isolating printer problems. The engine test prints vertical lines down the entire printable area of a page and is also useful for checking and adjusting registration.

### Engine test button location

The engine test switch is accessible without removing the covers. It is located on the bottom of the HP LaserJet 3100/3150 product.



**Figure 75. Engine test switch location**

### To print an engine test

Lift the front of the product and squeeze the engine test switch. A single test page is printed.



## Internal reports

Use the control panel to print configuration reports, self-test reports, and demonstration pages. The configuration report shows the settings selected from the control panel. The self-test report contains results of the completed self-test, including modem speed, number of pages printed, and recent error messages.

### To print a configuration report

- 1 Press **ENTER/MENU**.
- 2 Use the **<** and **>** keys to select `Reports` and press **ENTER/MENU**.
- 3 Use the **<** and **>** keys to select `Print Config Report` and press **ENTER/MENU**.

### To run a self-test and print a self-test report

- 1 Press **ENTER/MENU**.
- 2 Use the **<** and **>** keys to select `Reports` and press **ENTER/MENU**.
- 3 Use the **<** and **>** keys to select `Self Test` and press **ENTER/MENU**.

### To print a demonstration page

Press **VOLUME+CONTRAST** simultaneously.

## Printing all reports at once

When you print all reports at once, the following reports are printed:

- **Fax activity report**—recent faxes sent and received, and status
- **Billing log** (if enabled)—prints by billing code (HP LaserJet 3150 product only)
- **Block fax list** (if enabled)—fax numbers you have blocked (HP LaserJet 3150 product only)
- **Transmission report**—information about specific outgoing faxes
- **Configuration report**—current control panel settings, including the following sections:
  - System information
  - Reports
  - Fax settings
  - User defaults
  - Service
  - Softswitch settings
  - Page counts
- **Test report**—results of self-tests, including the following sections:
  - System information
  - Self-test results
  - Most recent error messages
  - Page counts
- **Menu report**—the control panel menu tree
- **Phonebook report**—one-touch, speed dial, and group dial report

### To print all reports at once

- 1 Press **ENTER/MENU**.
- 2 Use the **<** and **>** keys to select **Reports** and press **ENTER/MENU**.
- 3 Use the **<** and **>** keys to select **Print All** and press **ENTER/MENU**.

## Half-self test functional check

The electrophotographic process can be subdivided into the following stages:

- Image formation stage (charges the drum and writes a latent image to the drum with the laser)
- Development stage (forms a toner image on the drum)
- Transfer stage (transfers the image to paper)
- Cleaning stage (removes excess toner from the drum)
- Fixing stage (applies heat and pressure to make the image on paper permanent)

The purpose of the half-self test check is to determine which process is malfunctioning. Perform the test as follows:

- 1 Initiate a self test.
- 2 Open the printer door after the paper advances half-way through the printer (about 8 seconds after the motor begins rotation). The leading edge of the paper should have advanced past the toner cartridge.
- 3 Remove the toner cartridge.
- 4 Open the toner cartridge drum shield to view the drum surface. If a dark and distinct toner image is present on the drum surface, assume that the first two functions of the electrophotographic process are functioning (image formation and development). Troubleshoot the failure as a transfer or fixing problem.

If there is no image on the photosensitive drum, perform the following functional checks:

- 1 Make sure you have removed the entire length of the sealing tape from the toner cartridge before you installed the cartridge.
- 2 Perform a drum rotation functional check.
- 3 Perform a high-voltage power supply check.

## Drum rotation functional check

The photosensitive drum, located in the toner cartridge, must rotate for the print process to work. The photosensitive drum receives its drive from the main drive assembly. To verify that the drum is rotating:

- 1 Open the printer door.
- 2 Remove the toner cartridge.
- 3 Mark the drive gear on the cartridge with a felt-tipped marker. Note the position of the mark.
- 4 Install the toner cartridge and close the printer door. The start-up sequence should rotate the drum enough to move the mark.
- 5 Open the printer and inspect the gear that was marked in step 3. Verify that the mark moved.

If the mark did not move, inspect the main drive assembly to make sure that it is meshing with the toner cartridge gears. If the drive gears appear functional and the drum does not move, replace the toner cartridge.

---

### Note

---

This test is especially important if refilled toner cartridges have been used.

## Heating element check

- 1 Paper passes between the heating element and a soft pressure roller to fuse toner to the paper. To verify that the heating element is functioning correctly:
- 2 Unplug the HP LaserJet 3100/3150 product for at least ten minutes.
- 3 Verify that the thermistor connector (see Figure 46) is seated into both the printer chassis and J206 of the ECU.
- 4 Remove the heating element connector (see Figure 45) from the ECU. To measure the continuity of the heating element, measure the resistance between pins one and two of the cable.

---

### Note

Normal resistance is 30 ohms +/- 10 ohms.

- 5 If no resistance is measured, replace the heating element.
- 6 Remove the thermistor connector (see Figure 46) and measure the resistance between pins one and two.

---

### Note

Normal resistance is 440K ohms +/- 30K ohms at 68° F (20° C).

- 7 If no resistance is measured, replace the heating element.

## High-voltage power supply check

The high-voltage power supply PCA provides the necessary voltages for the electrophotographic processes.

### Checking the toner cartridge connection points

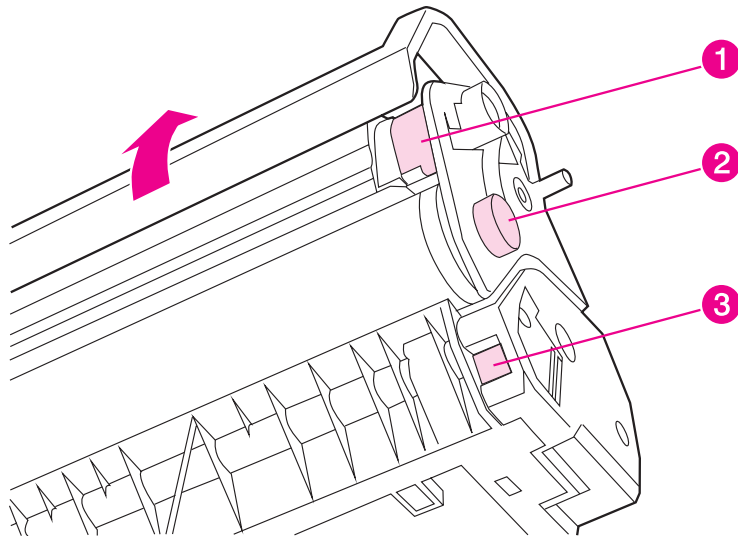
Visually inspect the three connection points on the underside, right end of the toner cartridge: charging (callout 1), drum ground (callout 2), and developing roller (callout 3). If they are dirty or corroded, clean the connections, or, if they are damaged, replace the toner cartridge.

---

**Note**

---

Use only alcohol to clean the connections.



**Figure 76. Toner cartridge high-voltage connection points**

## Checking the high-voltage connector assembly

The assembly uses three spring-loaded pins to contact the toner cartridge: charging (callout 1), drum ground (callout 2), and developing roller (callout 3). Verify that the pins are not dirty or corroded and that the spring-loading action is functional. If the pins are dirty, clean them using alcohol only. If they are damaged, replace the high voltage connector assembly.

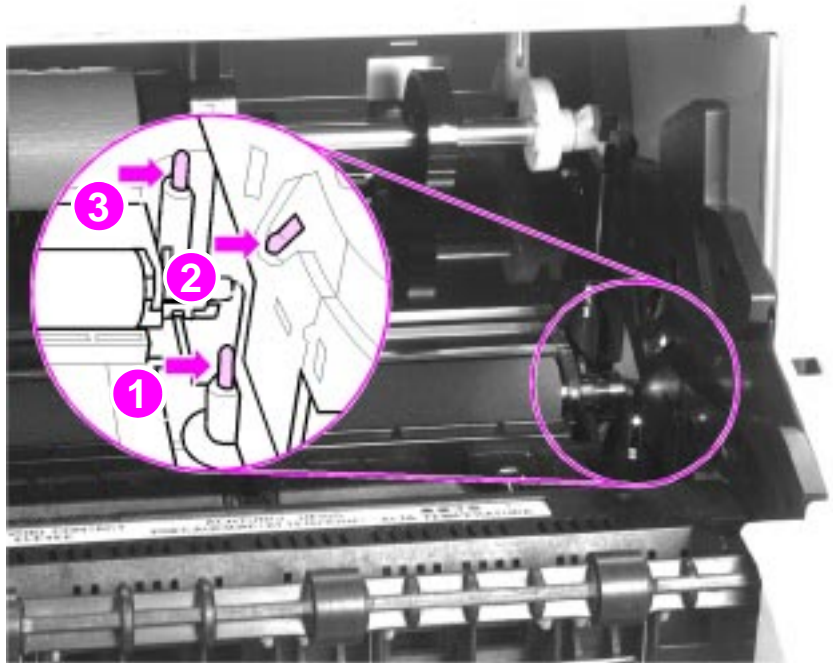


Figure 77. High-voltage connector assembly

## Paper curl

Paper curl is inherent to the laser printing processes, and occurs when paper is subjected to heat. Paper curl tends to relax as the paper cools while resting on a flat surface. The specification for maximum paper curl when the paper is lying flat before print is 0.2 inches (5 mm).

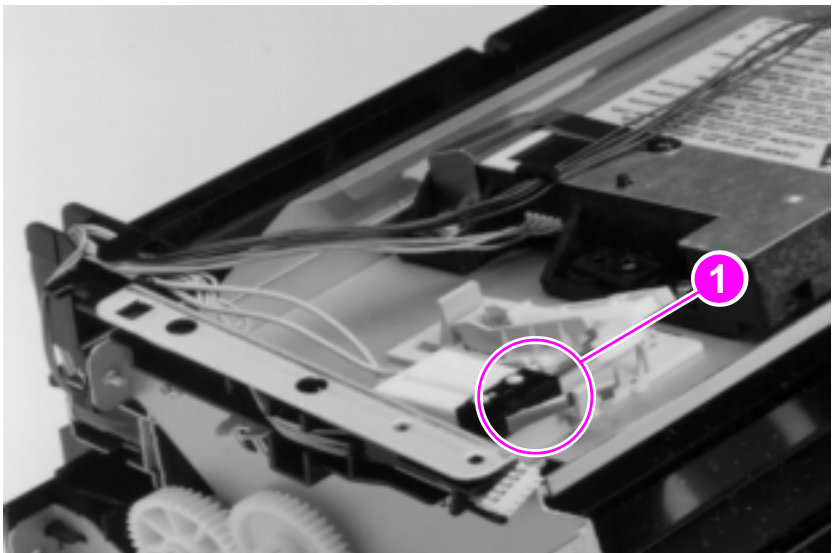
## Paper path check

If paper is not being picked up or is not moving through the paper path, you may want to observe all of the paper motion activities. Overriding SW101 allows you to observe:

- Motor rotation
- Solenoid action
- Kick plate motion
- Paper pickup roller motion
- Drive roller, transfer roller, fuser roller and gear, and delivery roller motion

### To override SW101

- 1 Remove the covers.
- 2 Press SW101 (callout 1).



**Figure 78. Overriding SW101**

- 3 While SW101 is engaged, perform an Engine Test to observe paper motion. (See procedures earlier in this chapter.)



# Troubleshooting tools

## Paper path and components

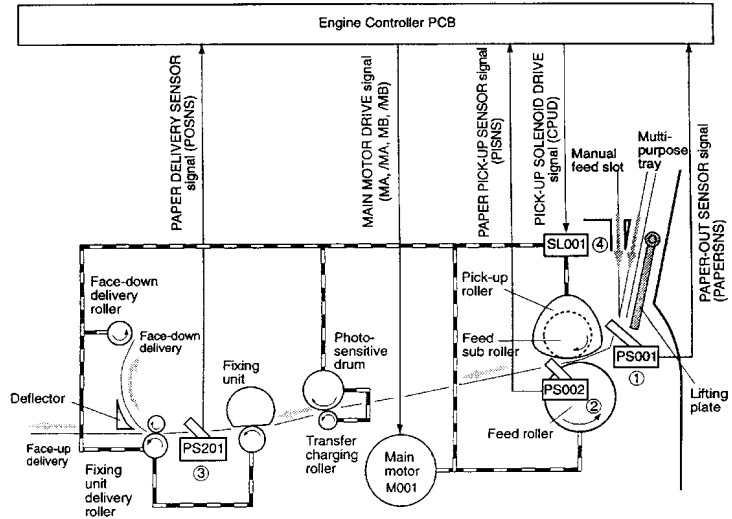


Figure 79. Paper path and components

## Document path and components

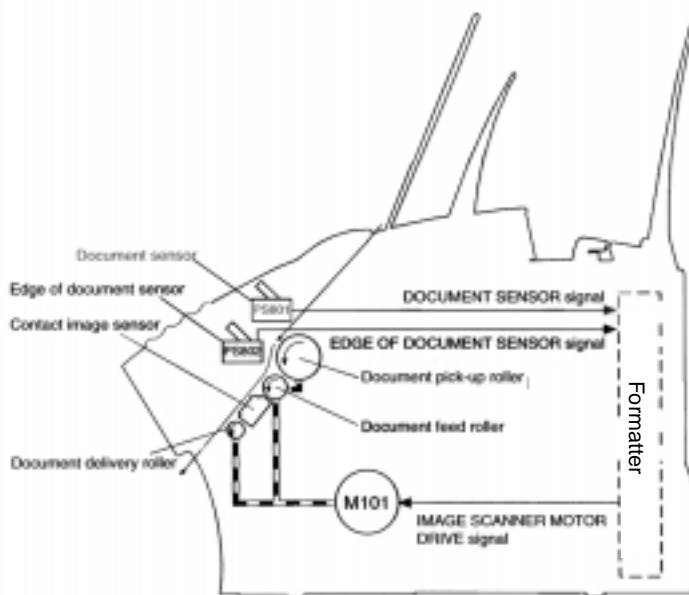
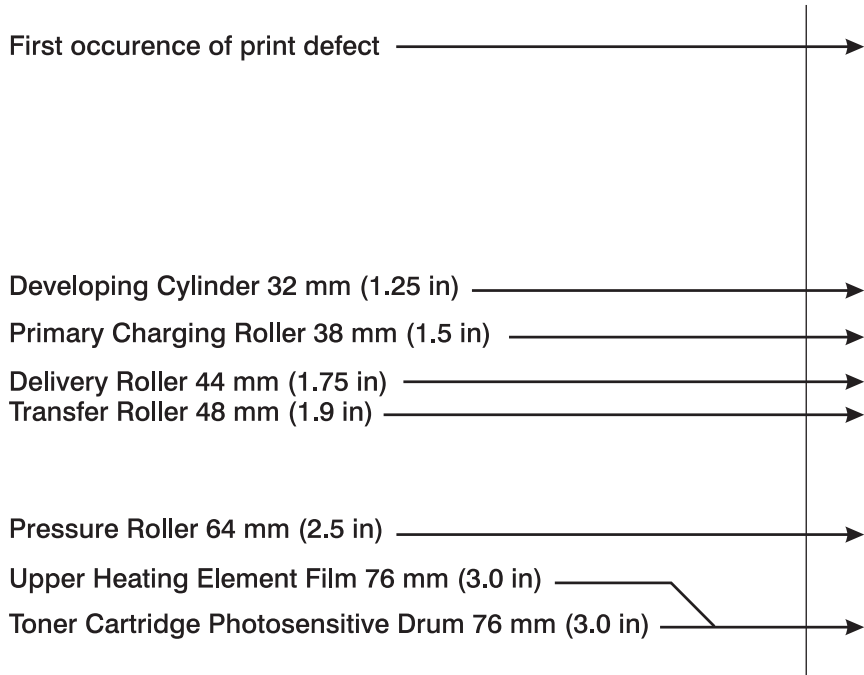


Figure 80. Document path and components

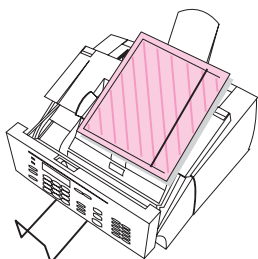
## Repetitive image defect ruler



**Figure 81. Repetitive image defect ruler**

## Document scanner recalibration

2



If copies, items scanned to the computer, or faxes you send have vertical black or white lines running through them, recalibration might be necessary.

Recalibrating the document scanner produces a calibration graph. Successful interpretation of the calibration graph is key to solving vertical black or white lines on scanned images.

### To recalibrate the document scanner and interpret the calibration graph

- 1 Clean the HP LaserJet 3100/3150 product as detailed in Chapter 3, "Maintenance."
- 2 Before recalibrating the document scanner, open the document scanner and place a page that contains the black or white lines between the guides, just above the contact image sensor glass. The black or white line points to a portion of the glass that requires extra attention.
- 3 Clean the contact image sensor glass at the point indicated by the black or white line.

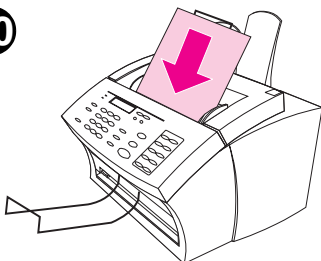
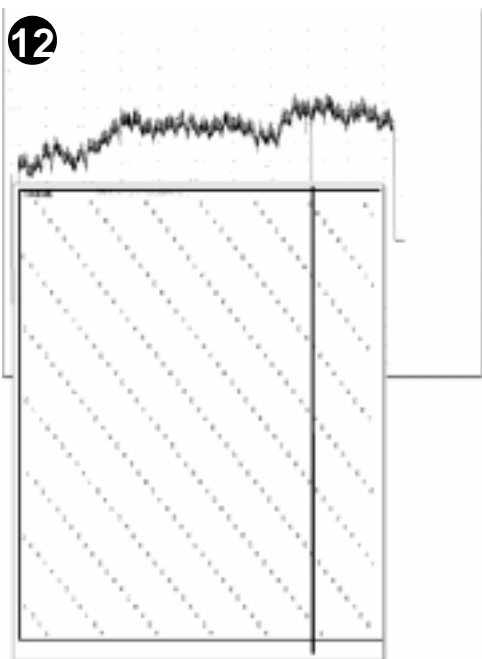
---

#### Note

If toner is the contaminant, you might have to scrape it off of the glass. Be careful not to scratch the glass.

---

- 4 Print a demonstration page by pressing **VOLUME+CONTRAST** simultaneously.
- 5 Copy the demonstration page.

**10****12**

- 6 If the vertical black or white line appears on the copy of the demonstration page, continue with steps 7 through 12 below.
- 7 On the control panel, press **ENTER/MENU**.
- 8 Press **<** once to display *Service* and press **ENTER/MENU**.
- 9 Use the **<** and **>** keys to select *Scan Correction* and press **ENTER/MENU**.
- 10 Insert a blank, bright white piece of letter-sized paper into the document feeder tray. The HP LaserJet 3100/3150 product pulls the piece of paper through and then prints a calibration graph.
- 11 Examine the calibration graph. A dip in the calibration graph can indicate an image defect.

---

**Note**

Dips at the ends of the calibration graph are normal.

---

- 12 Line up the calibration graph with a newly copied page. If the dip in the calibration graph corresponds to the black or white line, the contaminant is likely internal and the contact image sensor assembly should be replaced.

# Main wiring

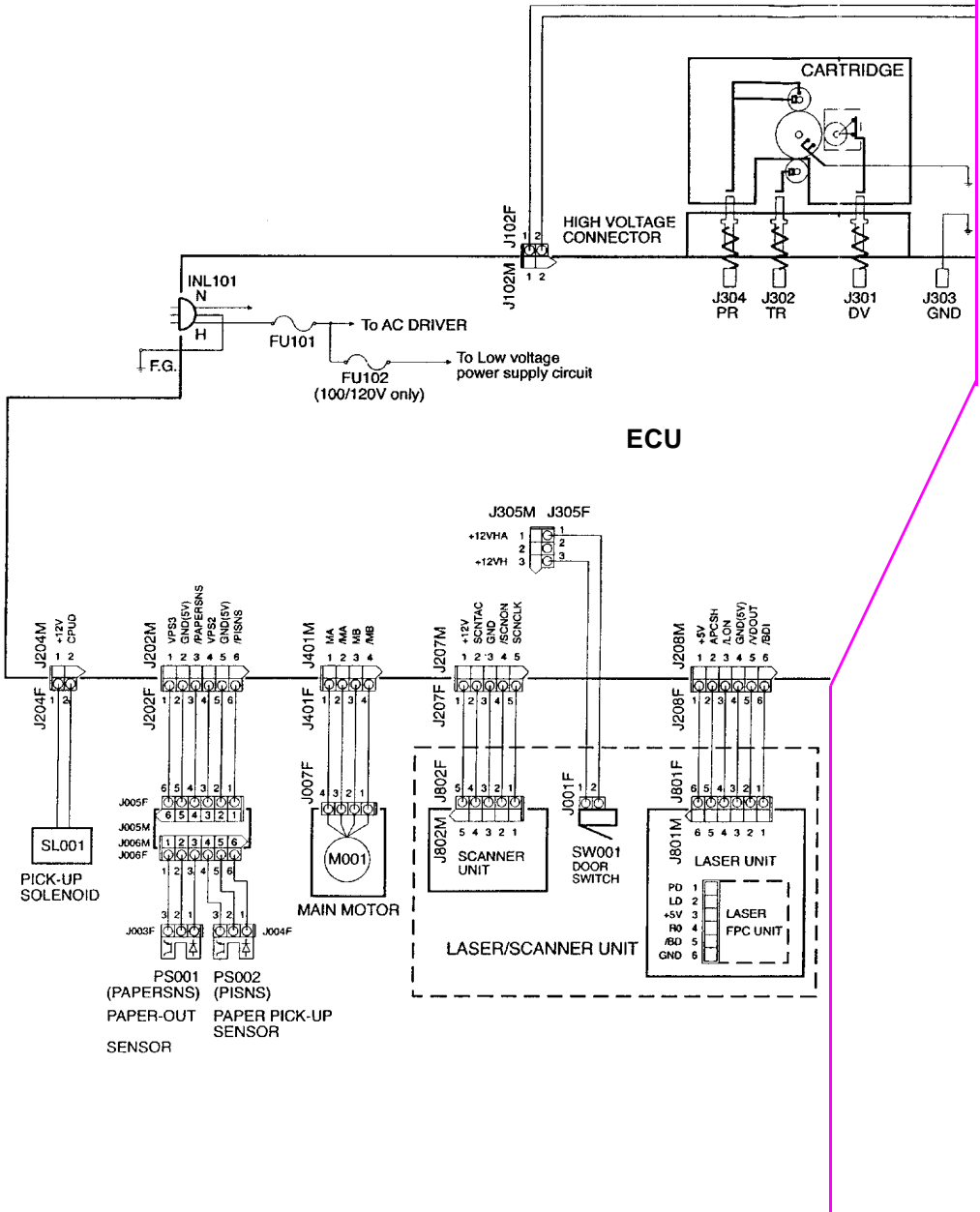


Figure 82. General circuit diagram (1 of 2)

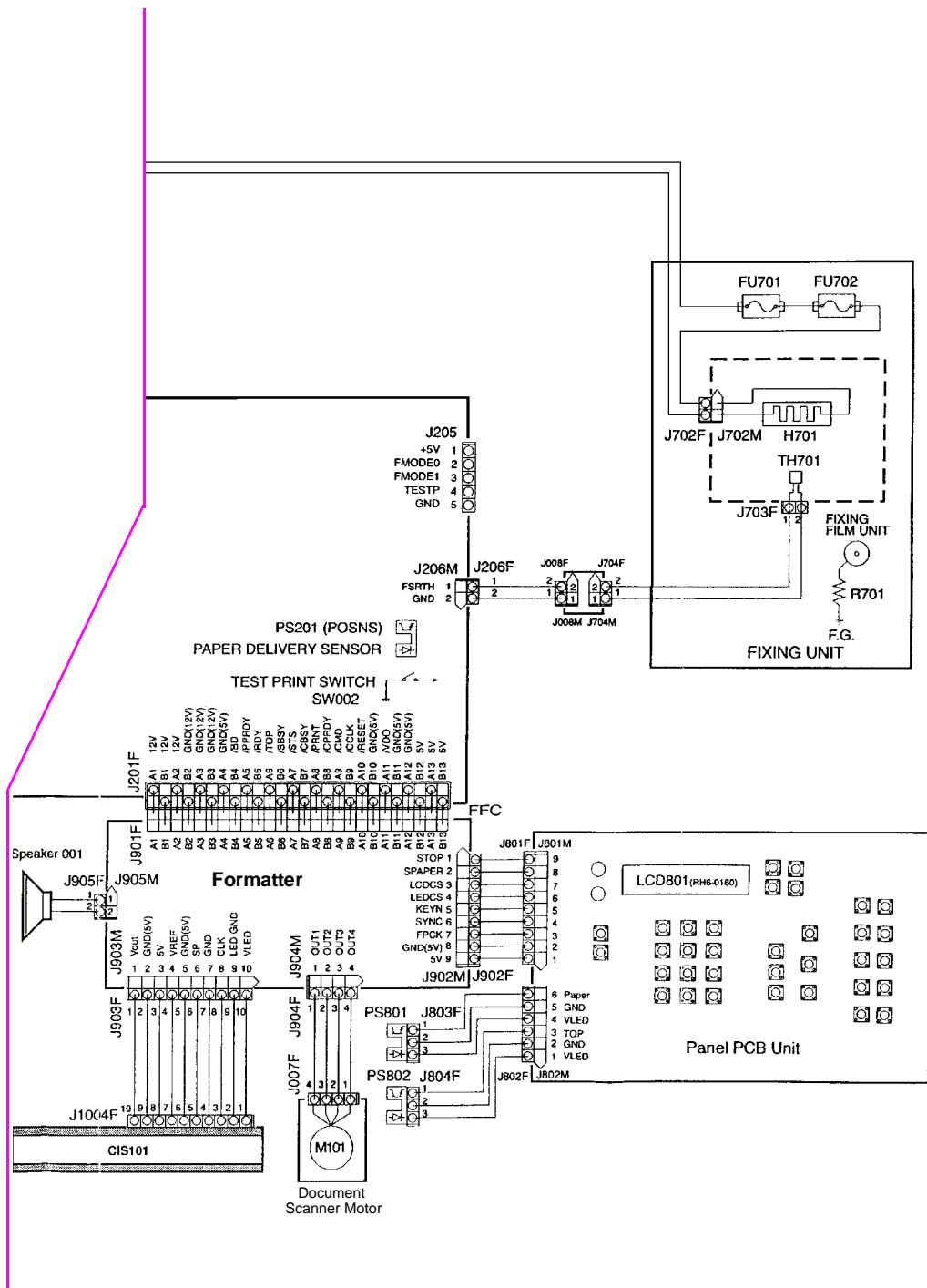


Figure 83. General circuit diagram (2 of 2)

# Service menus

## Control panel service menu

Use the control panel menu, under “service,” to set up remote servicing and to recalibrate the document scanner.

The service portion of the control panel menu is shown below in a hierarchical diagram:

**Table 13. Control panel service menu**

| Press <b>ENTER/MENU</b> to access the control panel menu.  | Use the <b>&lt;</b> and <b>&gt;</b> keys to select “Service” and press <b>ENTER/MENU</b> . | Use the <b>&lt;</b> and <b>&gt;</b> keys to select one of the choices below and press <b>ENTER/MENU</b> . | Use the <b>&lt;</b> and <b>&gt;</b> keys to select one of the choices below and press <b>Enter/Menu</b> , or see the display. |
|--|--|---|---|
| <pre>graph LR; Service --&gt; Remote_test[Remote test]; Service --&gt; Remote_setup[Remote setup]; Service --&gt; T30[T.30 protocol trace]; Service --&gt; Scan_correction[Scan correction]; Remote_setup --&gt; Receive_setup[Receive setup]; Remote_setup --&gt; Send_setup[Send setup];</pre> |  |   |   |

## Tests in control panel service mode

Brief explanations of tests in the control panel service mode are shown below:

- **Remote test** sets up the product to test through the fax line.
- **Remote setup**, followed by **Receive setup** or **Send setup** allows for softswitch settings to be sent or received through the fax line.
- **T.30 protocol trace** allows you to set how often the test is run.



## **Extended service menu**

Use the extended service mode to run various self-tests and to change softswitch settings, such as the country code softswitch setting.

The following page shows the layout of the extended service menu settings in a hierarchical diagram.

**Table 14. Extended service menu tree**

Press **BACKSPACE##** to access the extended service menu. Use the **<** and **>** keys to select one of the choices below and press **ENTER/MENU**. Use the **<** and **>** keys to select one of the choices below and press **ENTER/MENU**. See the display for further instructions. Notes about some of the menu choices are shown below:

Reports

- \_\_\_\_\_ Help
- \_\_\_\_\_ T.30 protocol trace
- \_\_\_\_\_ SRAM dump
- \_\_\_\_\_ Scanner plots
- \_\_\_\_\_ Log debug report
- \_\_\_\_\_ Task stacks
- \_\_\_\_\_ Translations
- \_\_\_\_\_ Printer fonts

**Help** prints a menu report for the product.

Memory/softswitch

- \_\_\_\_\_ Softswitches
- \_\_\_\_\_ Clear memory
- \_\_\_\_\_ Check documents
- \_\_\_\_\_ Edit SRAM
- \_\_\_\_\_ SRAM dump
- \_\_\_\_\_ version

See "To change the country code softswitch" on the following pages.

Control panel

- \_\_\_\_\_ Keypad test
- \_\_\_\_\_ LCD test
- \_\_\_\_\_ Control panel test
- \_\_\_\_\_ Sensor states
- \_\_\_\_\_ Speaker test
- \_\_\_\_\_ All LCD characters

Various tests under **Control panel** can assist in troubleshooting the product.

Scanner

- \_\_\_\_\_ Scanner plots
- \_\_\_\_\_ Scanner LED
- \_\_\_\_\_ ADF feed test
- \_\_\_\_\_ ADF motor test
- \_\_\_\_\_ Do TWAIN scan
- \_\_\_\_\_ White ref summary

**Scanner LED** is the contact image sensor light bar test.  
**ADF feed test** runs the document feeder pickup rollers once.  
**ADF motor test** runs the document scanner motor.

Self test

- \_\_\_\_\_ Burn-in
- \_\_\_\_\_ Individual diag
- \_\_\_\_\_ System reset

**Burn-in** prints a report after running the following tests: Program test, Configuration test #1, Fax memory test #2, Modem test #2, Scanner test #1, Scanner LED.

Modem/PTT

- \_\_\_\_\_ Modem tone
- \_\_\_\_\_ Modem modulation
- \_\_\_\_\_ Modem type

## Self-test in extended service mode

If you perform a self-test from the extended service menu, the printed report will also show firmware revision number and details.

### Note

Print the internal reports before performing extended service mode tests. The reports contain a record of all settings and can assist you in restoring the product to its settings.

The table below lists the tests that are performed during a self-test and the actions to take when tests fail:

**Table 15. Extended service mode self-test failures**

| Test                     | If the test fails, take these actions:  |
|--------------------------|---|
| Configuration test #1    | Replace the formatter.  |
| Fax memory test #1       |   |
| Program test #1          | <ol style="list-style-type: none"><li>1. Cycle power by unplugging the power cord from the power source, waiting 10 seconds, and replugging in the power cord.</li><li>2. If the test fails again, clear all memory (see the extended service menu tree).</li><li>3. If the test fails again, replace the formatter.</li></ol>  |
| Configuration test #2    |   |
| Configuration test #3    |   |
| Configuration test #4    |   |
| Fax memory test #2       |   |
| Fax memory test #3       |   |
| Fax memory test #4       |   |
| Fax memory test #5       |   |
| Modem 1 test #1          |   |
| Modem 1 test #2          |   |
| Modem 1 test #3          |   |
| Modem 1 dial tone detect | <ol style="list-style-type: none"><li>1. Make sure that the telephone cable is plugged into the correct connector on the product and that the telephone line is operational (use a telephone to test the line).</li><li>2. If the test fails again, check the configuration settings in the control panel.</li><li>3. If the test fails again, replace the LIU.</li></ol>   |
| Scanner test #1          | <p>This test fails under normal conditions if the document scanner is busy. If the document scanner is not busy:</p> <ol style="list-style-type: none"><li>1. Cycle power by unplugging the power cord from the power source, waiting 10 seconds, and replugging in the power cord.</li><li>2. If the test fails again, clear all memory (see the extended service menu tree).</li><li>3. If the test fails again, replace the formatter.</li></ol> |

## Other tests in extended service mode

The chart below shows tests that can be performed in extended service mode and a brief explanation of each test:

**Table 16. Extended service mode tests**

| <b>Test</b>            | <b>Explanation</b>  |
|------------------------|---|
| Keypad test            | Tests all keypad keys by pressing in sequence.  |
| LCD test               | Tests the control panel display.  |
| Control panel test     | Tests the control panel lights  |
| Sensor states          | Shows current detector activation levels. The control panel display shows the percentage of time each detector is activated.        |
| All LCD characters     | Scrolls through the full list of control panel display characters.  |
| Scanner plots          | Tests and recalibrates the document scanner.  |
| Scanner LED            | After selecting this menu item, lift the document release door and verify that all of the LEDs in the contact image sensor are lit. |
| ADF feed test          | Runs the document scanner pickup rollers once.  |
| ADF motor test         | Runs the document scanner motor.  |
| Individual diagnostics | Run individual tests from the self-test sequence (see Table 15).  |
| Modem tone             | Generates tones with various frequencies from 300 Hz to 2425 Hz.  |
| Modem modulation       | Generates various fax identification signals.   |

---

## Reports in extended service mode

The chart below shows reports that can be printed from extended service mode and a brief explanation of each report:

**Table 17. Extended service mode reports**

| <b>Report</b>                                | <b>Explanation</b>  |
|--|---|
| T.30 protocol trace                          | Prints a report of the G3 protocol transmissions and receptions. See the section about fax trace reports later in this chapter for detailed information about the report.   |
| SRAM dump                                    | Prints SRAM address values in an address range you select.  |
| Scanner plots                                | Prints the calibration page.  |
| Log debug report                             | Prints detailed fax and memory address information. Fax information includes job number, start time used, fax ID, transmission type, pages, communication mode, and status.   |
| Task stacks                                  | Prints address locations of various tasks.  |
| Translations                                 | Prints text strings used in the display, beginning with the number you select. These text strings are printed in the language currently in use by the product. You can compare the numbers in this report to the numbers in an English report to translate non-English messages on the display. |
| Printer fonts                                | Prints all characters of fonts available in memory.   |
| Firmware version (under "memory/softswitch") | Shows firmware revision information on the control panel display.   |
| White reference summary (under "scanner")    | Displays average, minimum, and maximum white reference values.  |

---

## Clear memory in extended service mode

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### CAUTION

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Clearing memory clears all parameters, which can render the product illegal or inoperable. Print the internal reports before clearing memory in extended service mode. The reports contain a record of all settings and can assist you in restoring the product to its settings.

To perform a system reset, use extended service mode to choose Memory/softswitch, and then choose Clear memory. Use the < and > keys to select the memory you want to clear:

- Documents (and log) deletes all documents stored in memory and all log information.
- Phonebook deletes all numbers stored in the phonebook.
- Configuration resets all menu settings printed in the configuration report to their defaults.
- Softswitches resets all softswitches but the country code softswitch to their defaults.
- Counters resets all page counts except the total number of pages printed. These page counts are printed at the end of the configuration report.
- Everything deletes and resets all of the above. Information retained includes white reference curve, total page count, country code, and serial number.

# Softswitches

Any time the RFI shield is removed from the product, or when softswitches are reset to defaults, the country code softswitch must be reset.

Extended service mode allows you to change softswitches on the product. A softswitch is a set of one to eight bits (a sequence of eight 1's and 0's), as needed. See the software technical reference for a complete list of softswitches.

## To change the country code softswitch

- 1 Enter **Backspace#\*\*** to access the extended service menu.
- 2 Press **<** or **>** until **Memory/Softswitches** appears below **Service** on the control panel.
- 3 Press the **Enter/Menu**.
- 4 If **Softswitches** does not appear below **Memory/Softswitches** on the control panel, press **<** or **>** until it appears.
- 5 Press **Enter/Menu**.
- 6 Use the keypad to enter **101** (the "country code" softswitch).
- 7 Press **Enter/Menu**.

- 8 Use the keypad to enter the sequence that corresponds to the country in which the product is used, according to the table below:

**Table 18. Country code softswitch sequences**

|                |                   |                |                   |
|----------------|-------------------|----------------|-------------------|
| Australia      | 00001011 (0B hex) | Malaysia       | 00100000 (20 hex) |
| Austria        | 00011001 (19 hex) | Mexico         | 00101011 (2B hex) |
| Belgium        | 00001110 (0E hex) | Netherlands    | 00001101 (0D hex) |
| Canada         | 00101001 (29 hex) | New Zealand    | 00001111 (0F hex) |
| China          | 00010100 (14 hex) | Norway         | 00000101 (05 hex) |
| Denmark        | 00001100 (0C hex) | Poland         | 00011011 (1B hex) |
| Eire (Ireland) | 00000010 (02 hex) | Russia         | 00011101 (1D hex) |
| Finland        | 00001000 (08 hex) | Singapore      | 00010001 (11 hex) |
| France         | 00000111 (07 hex) | Spain          | 00011000 (18 hex) |
| Germany        | 00000110 (06 hex) | Sweden         | 00000100 (04 hex) |
| Hong Kong      | 00010011 (13 hex) | Switzerland    | 00000011 (03 hex) |
| Hungary        | 00010010 (12 hex) | Ukraine        | 00101110 (2E hex) |
| Israel         | 00010110 (16 hex) | United Kingdom | 00000001 (01 hex) |
| Italy          | 00001010 (0A hex) | United States  | 00000000 (00 hex) |

- 9 Press **Enter/Menu** to complete the softswitch change.
- 10 Press **Stop/Clear**.
- 11 Enter **Backspace#\*\*** to exit the extended service menu.

---

**Note**

---

If you do not complete step 11 above, the product will exit extended service mode within a few minutes.



## Firmware and software downloads

Newer versions of the firmware and software for the HP LaserJet 3100/3150 product can be downloaded to the product from the following websites:

- <http://www.hp.com/support/lj3100/>
- <http://www.hp.com/support/lj3150/>

After you connect to the site, click “Drivers and Software.” Locate and click the firmware or software you want to download, and then click “Download Now.”

---

### Note

Write down the path and default directory to which the firmware or software file is downloaded; you will have to access the file once downloading is complete.

Detailed instructions for how to install the newer firmware and software are available at the website, including instructions for manual installation.

## Hardware, software, and firmware compatibility

The table below shows software and firmware compatibility with HP LaserJet 3100 and 3150 product formatters and control panels.

**Table 19. Hardware, software, and firmware compatibility**

| If you have:      | with:                 | and you have:  |  |  |  |
|-------------------|-----------------------|--|--|--|--|
|                   |                       | LJ 3100 software with:   |  | LJ 3150 software with:   |  |
|                   |                       | 3100 firmware  | 3150 firmware  | 3100 firmware  | 3150 firmware  |
| LJ 3100 formatter | LJ 3100 control panel | Recommended configuration.   | Not recommended; “garbage” characters might appear on the control panel. | Not recommended; software is incompatible.                               | Not recommended; “garbage” characters might appear on the control panel. |
|                   | LJ 3150 control panel | Not recommended; “garbage” characters might appear on the control panel. | Not recommended; “garbage” characters might appear on the control panel. | Not recommended; “garbage” characters might appear on the control panel. | Not recommended; “garbage” characters might appear on the control panel. |
| LJ 3150 formatter | LJ 3100 control panel | Not recommended; “garbage” characters might appear on the control panel. | Not recommended; “garbage” characters might appear on the control panel. | Not recommended; “garbage” characters might appear on the control panel. | Not recommended; “garbage” characters might appear on the control panel. |
|                   | LJ 3150 control panel | Not recommended; “garbage” characters might appear on the control panel. | Not recommended; software is incompatible.                               | Not recommended; “garbage” characters might appear on the control panel. | Recommended configuration.   |

It is easy to see from the table above that the only way to ensure complete compatibility is to have either:

- HP LaserJet 3100 product components with no HP LaserJet 3150 product components
- or
- HP LaserJet 3150 product components with no HP LaserJet 3100 product components.

# Fax trace report

Use the control panel service menu to choose `T.30 Protocol Trace` and then select `At` the end of each call. Configure another fax machine, preferably another HP LaserJet 3100 or 3150 product, to the same (or similar) settings.

Send a fax from the product or receive a fax to the product from the other fax machine. The fax trace report prints after the fax prints.

Explanations of some of the report's column heading follow:

- **Start time** is the time the fax begins. Match it with the fax log of errors.
- **Type** is the type of fax activity, send or receive.
- **Mode** is the transmission mode. If it begins with "EC," error correction was turned on. The set of three numbers is the BAUD rate divided by 100. For example, "EC144" in the mode column means that error correction was on and the transmission speed was 14,400 bps.
- **Status** explains the status of the fax:
  - "Completed" means that the fax was successful.
  - "Pending" faxes are in memory or are printing.
  - Error numbers and their meanings appear in the user guide.

## Translating the fax trace report

Print a fax log report (see the user guide for instructions). The fax log report contains information about the product's interpretation of the problem.

Read the time sequences, looking for abnormal activity on the fax trace report. See Table 20, Fax phase sequence, and Table 21, Appropriate responses, to separate normal from abnormal activity. Fax abbreviations appear in Table 22.

Identify the phase in which the error occurred.

---

### Note

??? is an unidentified command.

Examples of a successfully sent fax and a successfully received fax appear after the tables.

**Table 20. Fax phase sequence**

| Sequence  | Calling station  | Called station   |
|---|--|--|
| <b>Phase A—Call setup sequence</b>  |  |  |
| 1   | Ring signal  |  |
| 2   | CNG tone beep, 1100Hz 1 second   |  |
| 3   |  | Transmit CED, 3 seconds, 2100 Hz   |
| 4   |  | Transmit NSF   |
| 5   |  | Transmit CSI   |
| 6   |  | Transmit DIS   |
| 7   | DIS detected   |  |
| <b>Phase B—Pre-message procedure (negotiate compatible format/protocol)</b> |  |  |
| 8   | Transmit TSI   |  |
| 9   | Transmit DCS, select mode  |  |
| 10  |  | DCS detected   |
| 11  | Transmit TCF/training  |  |
| 12  | Transmit FSK   |  |
| 13  |  | Training (synchronize signals), check for errors                               |
| 14  |  | Transmit CFR   |
| 15  | Detect CFR   |  |
| <b>Phase C—Message transmission (page/scan transmission)</b>                |  |  |
| 16  | Transmit message (FSK, followed by date)   |  |
| 17  |  | Receive message (SCAN), check for errors                                       |
| 18  | Transmit FSK   |  |
| 19  | At end of message, send one of the following: <ul style="list-style-type: none"> <li>● EOM</li> <li>● EOP</li> <li>● MPS</li> <li>● PRI-Q</li> <li>● PPS-NULL</li> <li>● PPS-MPS</li> <li>● PPS-EOM</li> <li>● PPS-EOP</li> <li>● PPS-PRI-Q</li> </ul> |  |
| <b>Phase D—Post-message transmission (next page/end of transmission)</b>    |  |  |
| 20  |  | Detect EOM, EOP, MPS, PRI-Q, PPS-NULL, PPS-MPS, PPS-EOM, PPS-EOP, or PPS-PRI-Q |
| 21  |  | Transmit MCF response to confirmation signals of post-message responses        |
| <b>Phase E—Call release (hangup sequence)</b>                               |  |  |
| 21  | Transmit DCN   |  |
| 22  |  | Station hangs up   |

**Table 21. Appropriate responses**

| <b>Commands</b>   | <b>Comments</b>  | <b>Appropriate responses</b>   |
|---|--|--|
| (NSF) (CSI) DIS   | Identifying capabilities: from a manual receiver or an auto-answer unit        | (NSC) (CIG) DTC<br>(TSI) DCS<br>(NSF) (CSI) DIS<br>(CRP) (TSI) (NSS)<br>(PWD) (SEP) (CIG) DTC<br>(PWD) (SUB) (TSI) DCS |
| (NSC) (CIG) DTC   | Mode setting command: from calling unit  | (TSI) DCS<br>(NSF) (CSI) DIS   |
| (PWD) (SEP) (CIG) DTC   | Poll operation   | (CRP) (TSI) (NSS)  |
| (TSI) DCS<br>(TSI) (NSS)  | Mode setting command: from manual transmitter or automatic receiver            | CFR<br>FTT<br>(NSC) (CIG) DTC  |
| (PWD) (SUB) (TSI) DCS   | This command is always followed by phasing/training.                           | (NSC) (CIG) DTC  |
| CTC   | Mode setting command: from the transmitter to the receiver                     | (CTR)<br>(CRP)   |
| (EOR-NULL)  | Indicates the next block transmission from the transmitter to the receiver     | (ERR)<br>(RNR)<br>(CRP)  |
| Any one of the following:<br>● (EOR-EOP)<br>● (EOR-EOM)<br>● (EOR-PRI-MPS)<br>● (EOR-PRI-EOP)<br>● (EOR-PRI-EOM)                | The receiver   | (ERR)<br>(RNR)<br>PIN<br>(CRP)   |
| Any one of the following:<br>● MPS<br>● EOP<br>● EOM<br>● (PRI-MPS)<br>● (PRI-EOP)<br>● (PRI-EOM)                               | Post-message commands  | MCF<br>RTP<br>RTN<br>PIP<br>PIN<br>(CRP)   |
| (PPS-NULL)  | Post-message command for a partial page from the transmitter to the receiver   | (PPR)<br>MCF<br>(RNR)<br>(CRP)   |
| Any one of the following:<br>● (PPS-MPS)<br>● (PPS-EOP)<br>● (PPS-EOM)<br>● (PPS-PRI-MPS)<br>● (PPS-PRI-EOP)<br>● (PPS-PRI-EOM) | Post-message commands for a complete page from the transmitter to the receiver | (PPR)<br>MCF<br>(RNR)<br>PIP<br>PIN<br>(CRP)   |
| (RR)  | Ask for the status of the receiver: from the transmitter to the receiver       | (RNR)<br>(ERR)<br>MCF<br>PIP<br>PIN<br>(CRP)   |
| DCN   | Phase E command  | None   |

**Table 22. Fax abbreviations**

| <b>Abbreviation</b> | <b>Function</b>  | <b>Signal format (“X”= any #)</b>   |
|---------------------|--|---|
| CED                 | Called station identification  | 2100 Hz   |
| CFR                 | Confirmation to receive  | X010 0001 1850 or 1650 Hz for 3 seconds   |
| CIG                 | Calling subscriber identification  | 1000 0010   |
| CNG                 | Calling tone   | 1100 Hz for 500 ms  |
| CRP                 | Command repeat   | X101 1000   |
| CSI                 | Called subscriber identification   | 0000 0010   |
| CTC                 | Continue to correct  | X100 1000   |
| CTR                 | Response to continue to correct  | X010 0011   |
| DBM                 | -dBm signal strength detected from sending station (number is deviation from average value)  | Range in -10 to -43 (-43 is a weak signal; see explanation below Figure 85, Example of a successfully received fax) |
| DCN                 | Disconnect   | X101 1111   |
| DCS                 | Digital command signal   | X100 0001   |
| DIS                 | Digital identification signal  | 0000 0001   |
| DTC                 | Digital transmit command   | 1000 0001   |
| DOM                 | End of message   | X111 0001 1100 Hz   |
| EOP                 | End of procedure   | X111 0100   |
| EOR                 | End of retransmission  | X111 0011   |
| EQM                 | Eye quality monitor—a measure of the modem signal quality, lower numbers indicate better signals                                       | 0-99  |
| ERR                 | Response for end of retransmission   | X011 1000   |
| ECD                 | Facsimile coded date   | 0110 0000   |
| FCF                 | Facsimile  |   |
| FCS                 | Frame check sequence   |   |
| FDM                 | File diagnostics message   | X011 1111   |
| FIF                 | Facsimile information field  |   |
| FSK                 | Frequency shift key. Low-speed command identifier separating commands/scans; precedes command mode.                                    |   |
| FTT                 | Failure to train. The 1.5 seconds of the Training Check Frame (TCF) indicates line conditions are not good enough for this modulation. | X010 0010   |
| GC                  | Group command  | 1300 Hz for 1.5 to 100 seconds<br>2100 Hz for 1.5 to 100 seconds  |
| GI                  | Group identification   | 1650 or 1850 Hz   |
| HDLC                | High-level data link control   |   |
| LCS                 | Line conditioning signals  | 1100 Hz   |

**Table 22. Fax abbreviations**

| <b>Abbreviation</b> | <b>Function</b>                        | <b>Signal format ("X"= any #)</b>  |
|---------------------|--|--|
| MCF                 | Message confirmation                   | X011 0001<br>1650 or 1850 Hz   |
| MSG                 | Message received high speed data       |  |
| MPS                 | Multi-page signal                      | X111 0010  |
| NSF                 | Non-standard facilities command        | 1000 0100  |
| NSF                 | Non-standard facilities                | 0000 0100  |
| NSS                 | Non-standard setup                     | X100 0100  |
| PID                 | Procedure interrupt disconnect         | X011 0110  |
| PIN                 | Procedural interrupt negative          | X011 0100  |
| PIP                 | Procedural interrupt positive          | X011 0101  |
| PIS                 | Procedural interrupt signal            | 462 Hz for 3 seconds   |
| PPS                 | Partial page signal                    | X111 1101  |
| PPS-EOM             | Partial page signal—end of message     | X111 1101  |
| PPS-EOP             | Partial page signal—end of procedure   | X111 1101  |
| PPS-MPS             | Partial page signal—multi-page signal  | X111 1101  |
| PPS-NULL            | Partial page signal—null               | X111 1101  |
| PPR                 | Partial page request                   | X011 1101  |
| PRI-EOM             | Procedure interrupt—end of message     | X111 1001  |
| PRI-EOP             | Procedure interrupt—end of procedure   | X111 1100  |
| PRI-MPS             | Procedure interrupt—multi-page signal  | X111 1010  |
| RCP                 | Return to control for partial page     | 0110 0001  |
| RNR                 | Receive not ready                      | X011 0111  |
| RR                  | Receive ready                          | X111 0110  |
| RTC                 | Return to control mode                 | Six EOLs   |
| RTN                 | Retrain negative                       | X011 0010  |
| RTP                 | Retrain positive                       | X011 0011  |
| TCF                 | Training check                         | Zeroes for 1 5 5   |
| TSI                 | Transmitting subscriber identification | X100 0010  |
| PWD                 | Password (for polling)                 | 1000 0011  |
| PWD                 | Password (for transmission)            | X100 0101  |
| SCAN                | Data packets or scan line count        |  |
| SEP                 | Selective polling                      | 1000 0101  |
| SUB                 | Sub-address                            | X100 0011  |
| V.xx                | Protocol version used (Group 3 only)   | V.27 = 4800/2400<br>V.29 = 9600/7200<br>V.33 = 14400/12000<br>V.17 = 14400/12000/9600/7200 |
| XID                 | Exchange identification procedure      |  |
| ???                 | Unidentified command sequence          |  |

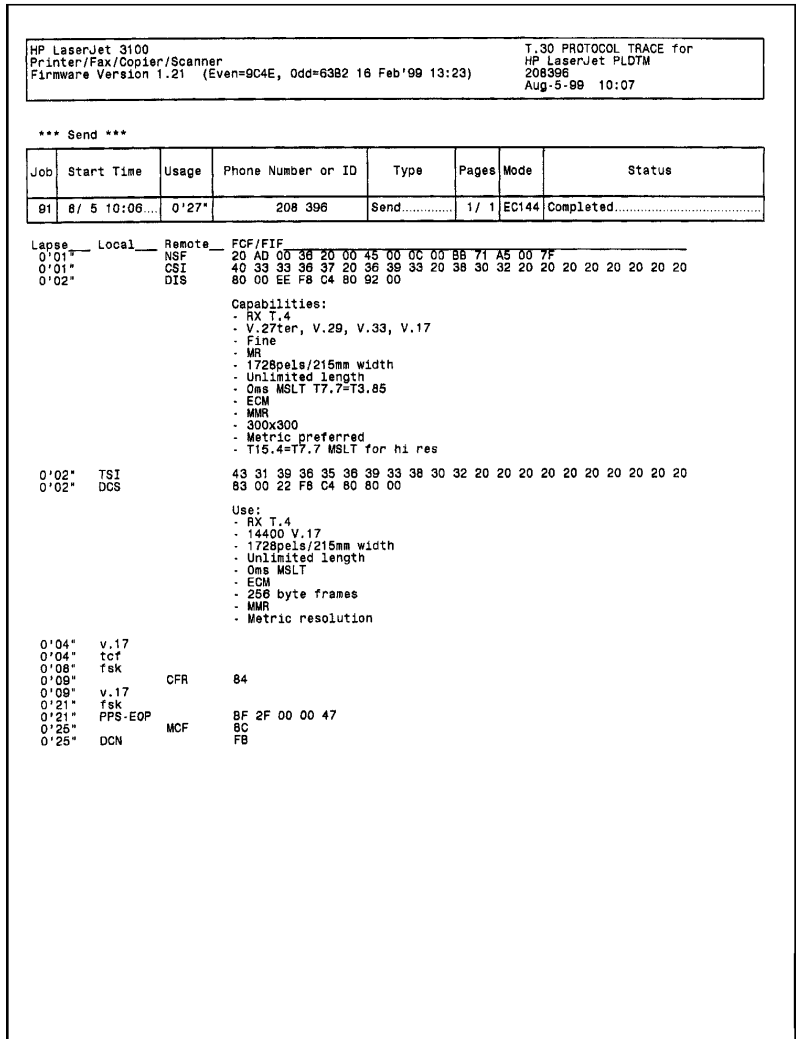
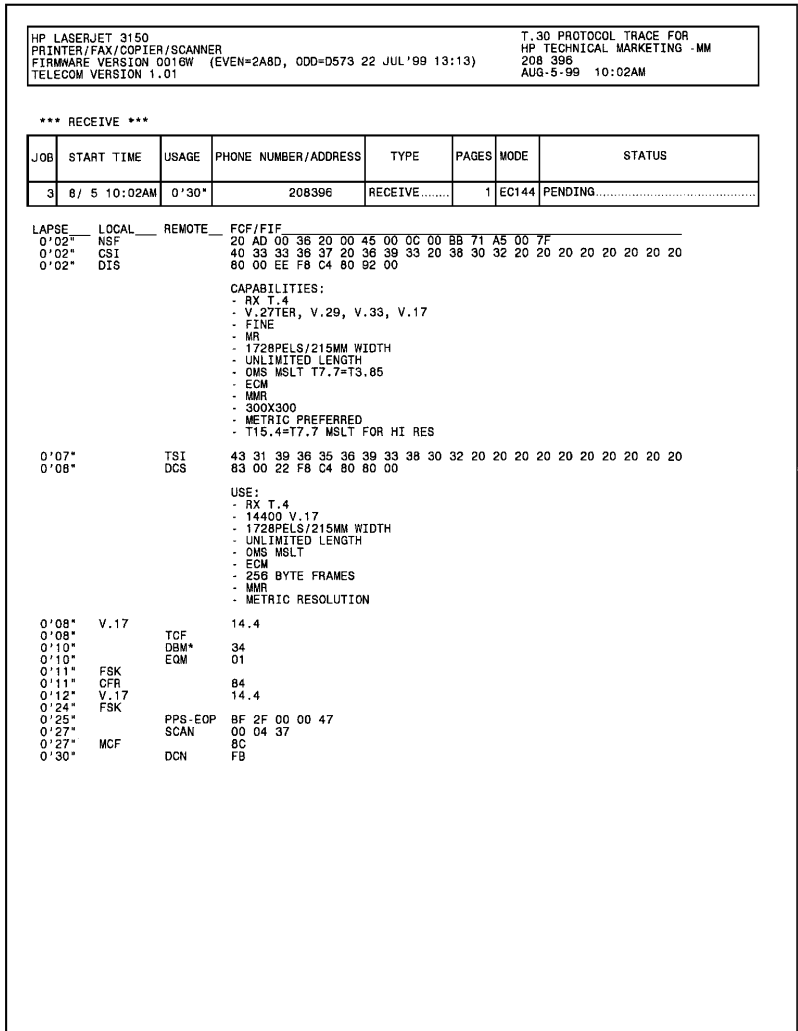


Figure 84. Example of a successfully sent fax

**Note**

Phase A, call establishment, does not show up on a trace report. Phase C is the phase in which faxed pages are transferred.





**Figure 85. Example of a successfully received fax**

### Explanation of DBM

-dBm values shown on the fax trace report are hexadecimal numbers. Convert the value to a base-10 number and then divide by 5 to check signal strength. Using the example above, where DBM=34:

$$34 \text{ (hex)} = 52 \text{ (decimal)} \quad \text{and} \quad 52/5 = 10.4$$

Assuming a negative value, -10.4 falls into the range of -10 to -43 (with -43 being a weak signal). -10.4 is, therefore, a strong signal.



# 7

## Parts and diagrams

### Chapter contents

|   |     |
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| Consumables and accessories . . . . .             | 211 |
| Common hardware . . . . .                         | 214 |
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# How to use the parts lists and diagrams

The figures in this chapter illustrate the major subassemblies in the printer and their component parts. A table (material list) follows each exploded assembly diagram. Each table lists the reference designator, the associated part number for the item, and a description of the part.

While looking for a part number, pay careful attention to the voltage listed in the description column to make sure that the part number selected is for the correct model of printer.

## Ordering parts

All standard part numbers listed are stocked and may be ordered from HP's Support Materials Organization (SMO), or Support Materials, Europe (SME).

- Hewlett-Packard Co.  
Support Materials Organization  
8050 Foothills Blvd.  
Roseville, CA 95678  
Parts Direct Ordering: (800) 227-8164 (U.S. Only)
- Hewlett-Packard Co.  
Support Materials, Europe  
Wolf-Hirth Strasse 33  
D-7030 Boblingen, Germany

The website <http://www.hpisis.com/> can be used by HP partners only; a login and password are required.

You can also contact Hewlett-Packard at (916) 783-0804 to find out part numbers for the HP LaserJet 3100/3150 product. Contact a local HP Parts Coordinator for other local phone numbers.

## Consumables and accessories

The following items are available through a local authorized HP dealer. To find a dealer near you (or if your dealer is temporarily out of stock), call the HP Customer Information Center at (800) 752-0900.

**Table 23. Consumables and accessories**

| Item  | Product number     | Description   |
|---|--------------------|---|
| Toner cartridge   | C3906A             | Replacement toner cartridge   |
| HP LaserJet size C Printer<br>Parallel cables (IEEE-1284) | 8120-8668          | 2-meter, A to C   |
|   | C2946A (8182-0004) | 3-meter, A to C   |
|   | C2947A             | 10-meter, A to C  |
| Phone cables and adapters                                 | 5040-9078          | Phone cable—Canada, Mexico, U.S.  |
|   | C3948-60126        | Phone cable—Austria   |
|   | C3948-60121        | Phone cable—Belgium   |
|   | C3948-60105        | Phone cable—Denmark   |
|   | C3948-60115        | Phone cable—France  |
|   | C3948-60118        | Phone cable—Germany   |
|   | C3948-60113        | Phone cable—Hong Kong, New Zealand, United Kingdom  |
|   | C3948-60114        | Phone cable—Netherlands   |
|   | C3948-60103        | Phone cable—Norway/Finland  |
|   | C3948-60104        | Phone cable—Sweden  |
|   | 5040-9208          | RJ-11 phone cable—Australia, China, Hungary, Ireland, Israel, Italy, Malaysia, Poland, Russia, Singapore, Spain, Switzerland, Ukraine |
|   | C3948-60106        | T-adaptor—Australia, China, Hungary, Ireland, Israel, Italy, Malaysia, Poland, Russia, Singapore, Spain, Switzerland, Ukraine         |

**Table 23. Consumables and accessories**

| <b>Item</b>  | <b>Product number</b> | <b>Description</b>  |
|--------------|-----------------------|---|
| Power cables | 8120-6810             | Power cable—Australia, New Zealand  |
|              | 8120-6811             | Power cable—Austria, Belgium, Finland, France, Germany, Hungary, Italy, Netherlands, Norway, Poland, Russia, Spain, Sweden, Ukraine |
|              | 8120-6812             | Power cable—Canada, Mexico, U.S.  |
|              | 8120-8707             | Power cable—China   |
|              | 8120-6814             | Power cable—Denmark   |
|              | 8120-8706             | Power cable—Hong Kong   |
|              | 8120-6809             | Power cable—Ireland, United Kingdom   |
|              | 8120-6800             | Power cable—Israel  |
|              | 8120-8454             | Power cable—Malaysia, Singapore   |
|              | 8120-6815             | Switzerland   |

## Ordering consumables

The consumables and accessories listed in Table 23 may be ordered from Hewlett-Packard.

The phone numbers are:

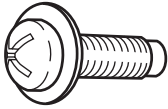
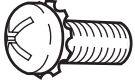
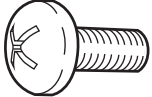
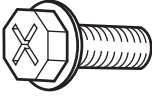
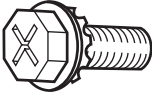
- U.S.: (800) 538-8787
- Canada: (800) 387-3154 (Toronto: (516) 671-8383)
- United Kingdom: 0734-441212
- Germany: 0130-3322

Contact a local HP Parts Coordinator for other local phone numbers.

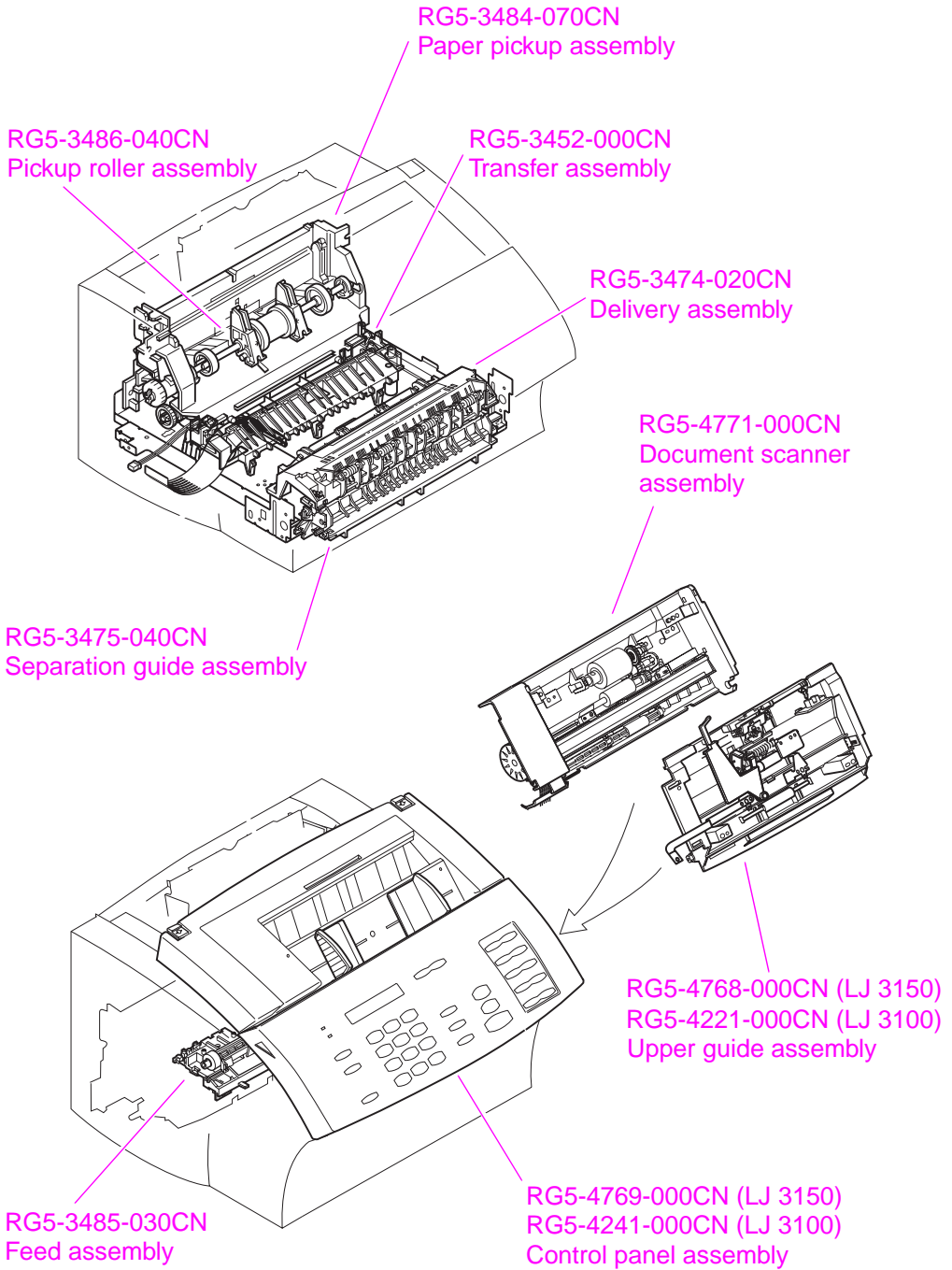
Parts that have no reference designator or part number are not field replacement parts and cannot be ordered through SMO.

# Common hardware

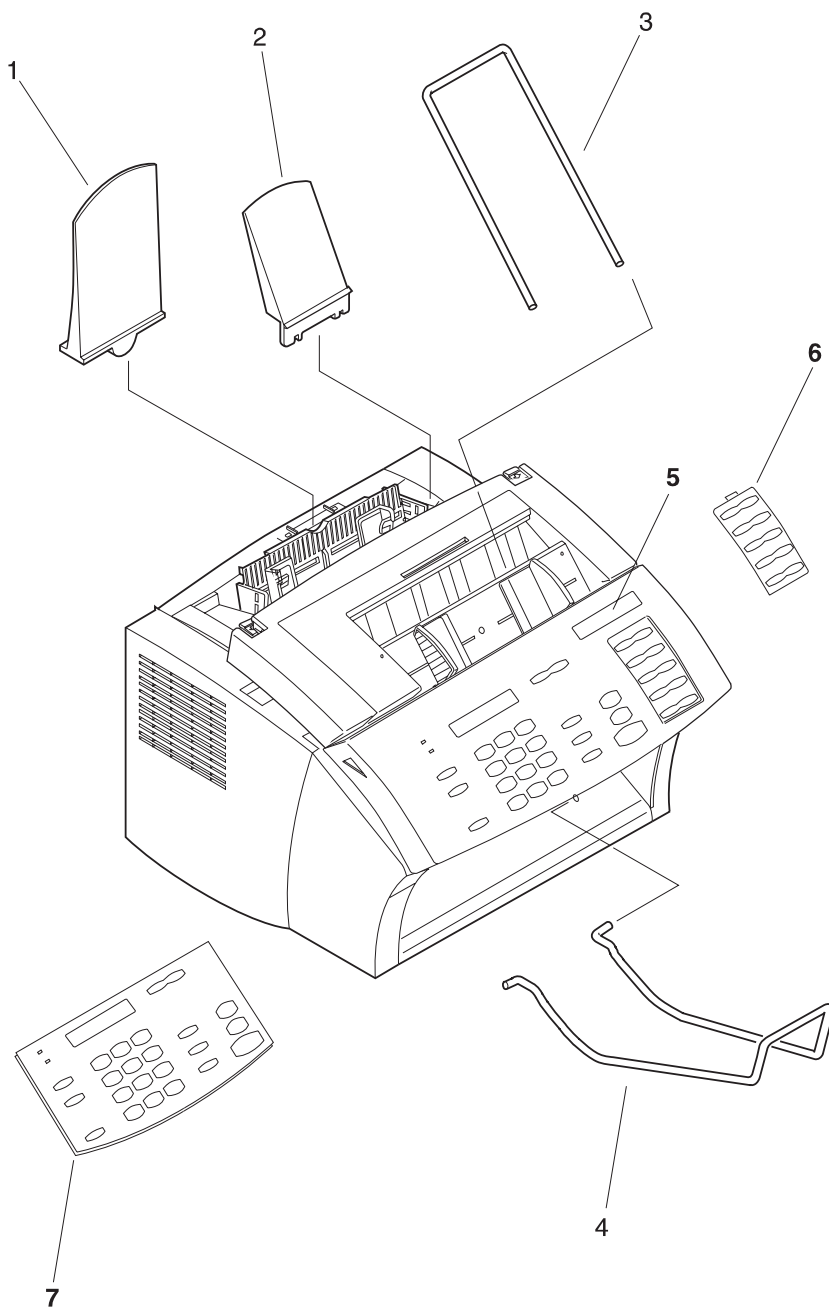
**Table 24. Common fasteners**

| Example   | Description                |
|---|----------------------------|
|    | Screw, machine, truss head |
|    | Screw, star                |
|    | Screw, self-tapping        |
|    | Screw, hex-head            |
|  | Screw, hex-head, star      |





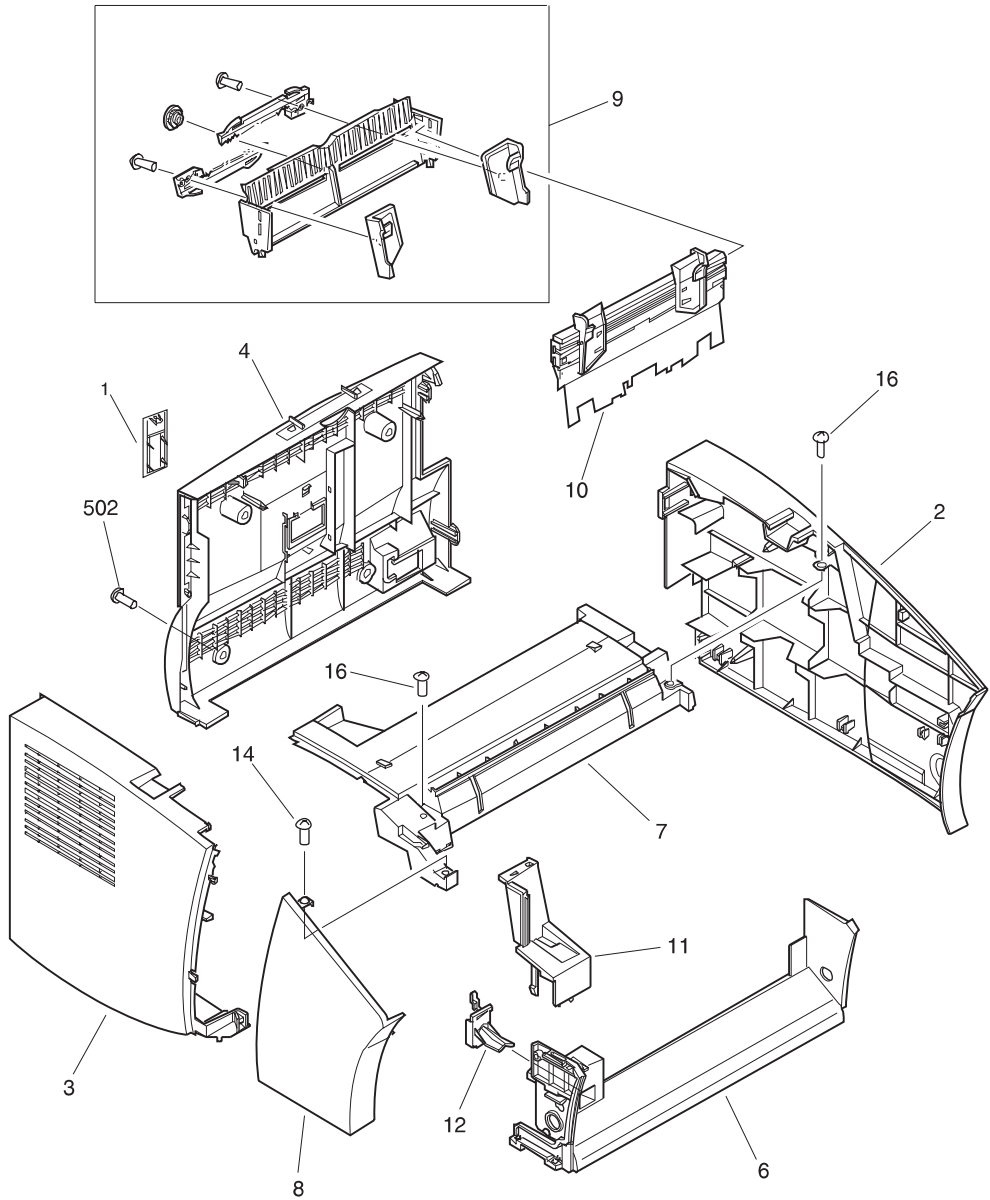
**Figure 86. Major assembly locations**



**Figure 87. Supports**

**Table 25. Supports**

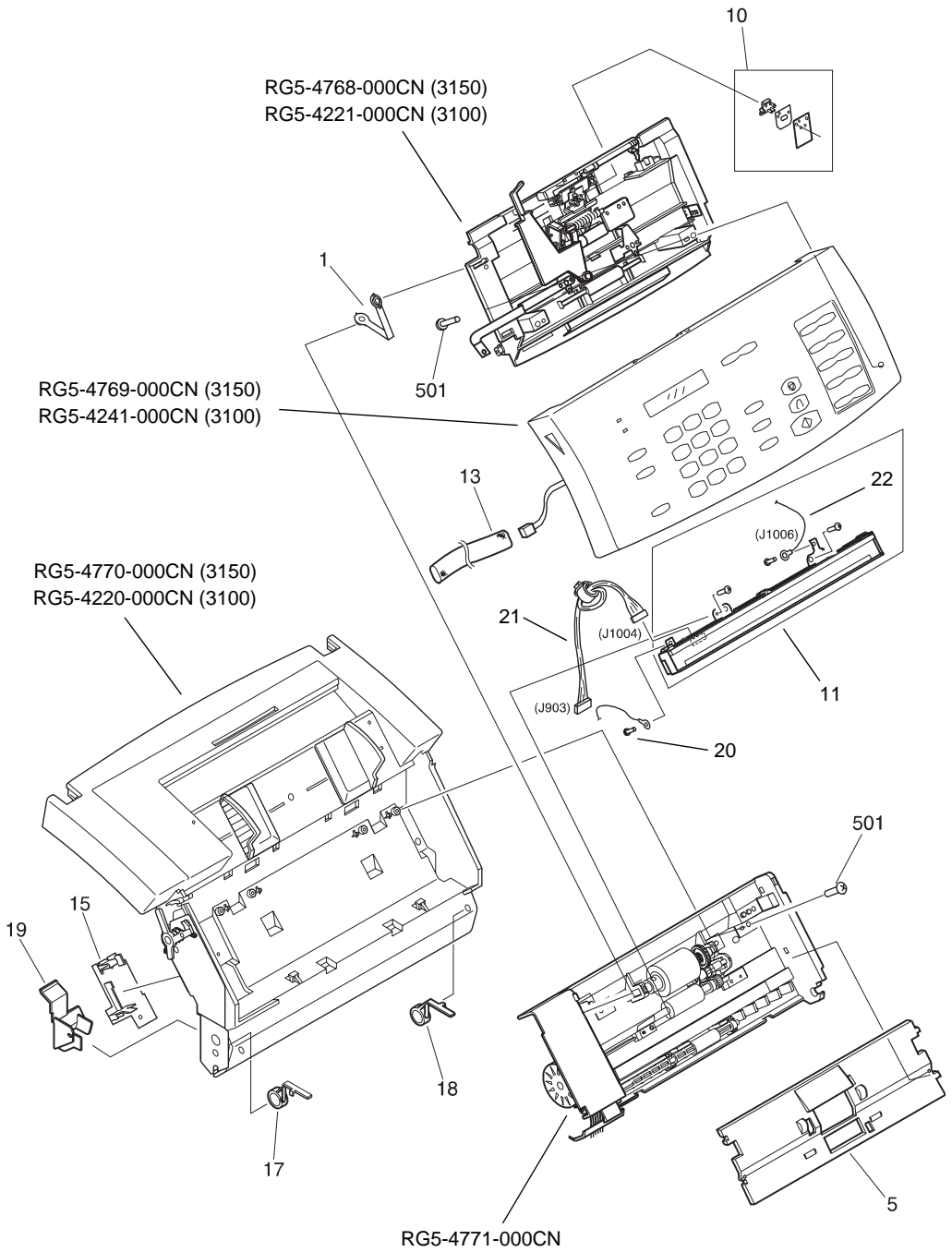
| <b>Reference</b> | <b>Part number</b> | <b>Description</b>                        |
|------------------|--------------------|---|
| 1                | RB2-3362-000CN     | Paper input support                       |
| 2                | RB2-3410-000CN     | Paper output support                      |
| 3                | RB2-3455-000CN     | Document feeder support                   |
| 4                | RB2-3470-000CN     | Document output support                   |
| 5                | C4256-40001        | Nameplate—LJ 3150                         |
| 6                | RB2-3393-000CN     | One-touch pad overlay sheet               |
| 7                | C3948-00019        | Control panel overlay—Danish              |
|                  | C4256-00036        | Control panel overlay—Dutch               |
|                  | C4256-00020        | Control panel overlay—Finnish             |
|                  | C4256-00037        | Control panel overlay—French              |
|                  | C3948-00010        | Control panel overlay—German              |
|                  | C4256-00038        | Control panel overlay—Hungarian           |
|                  | C3948-00038        | Control panel overlay—Israel/Hebrew       |
|                  | C4256-00034        | Control panel overlay—Italian             |
|                  | C4256-00021        | Control panel overlay—Norwegian           |
|                  | C4256-00006        | Control panel overlay—Polish              |
|                  | C4256-00035        | Control panel overlay—Russian             |
|                  | C4256-00007        | Control panel overlay—Simplified Chinese  |
|                  | C4256-00033        | Control panel overlay—Spanish             |
|                  | C3948-00022        | Control panel overlay—Swedish             |
|                  | C3948-00037        | Control panel overlay—Traditional Chinese |



**Figure 88. External covers and panels**

**Table 26. External covers and panels**

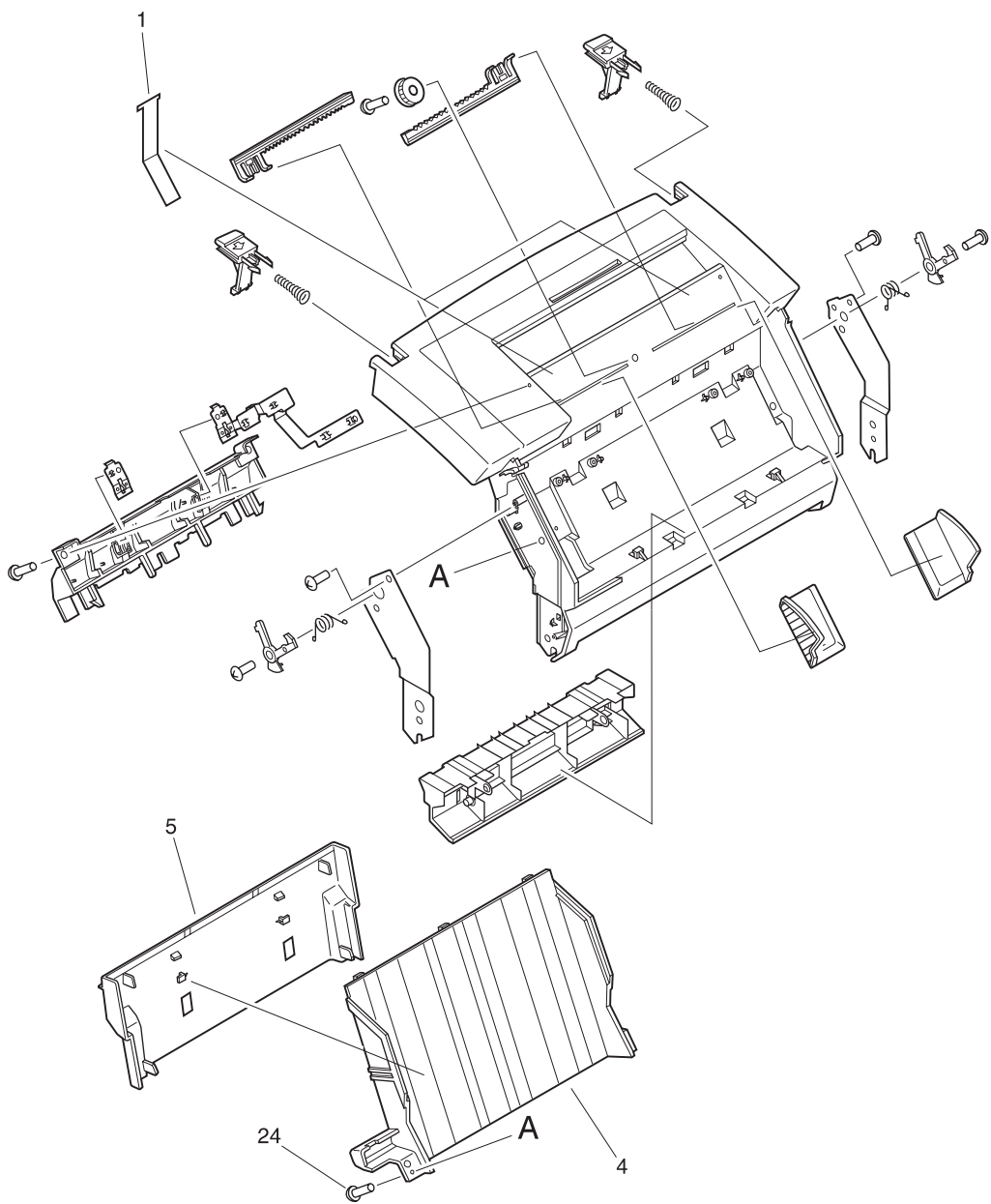
| <b>Reference</b> | <b>Part number</b> | <b>Description</b>                          |
|------------------|--------------------|---|
| 1                | C3948-40010        | I/O bezel                                   |
| 2                | RB2-3341-000CN     | Right cover                                 |
| 3                | RB2-3360-000CN     | Left cover                                  |
| 4                | RB2-3361-000CN     | Rear cover                                  |
| 6                | RB2-3449-000CN     | Front casing                                |
| 7                | RB2-3450-000CN     | Top cover                                   |
| 8                | RB2-3451-000CN     | Left front cover                            |
| 9                | RG5-3488-000CN     | Input bin assembly                          |
| 10               | RG5-4763-000CN     | Single-sheet input slot assembly            |
| 11               | RB2-3452-000CN     | Pressure release lever cover                |
| 12               | RB2-3448-000CN     | Paper path lever—LJ 3150 (darker in color)  |
|                  | RB2-3453-000CN     | Paper path lever—LJ 3100 (lighter in color) |
| 14               | XA9-0476-000CN     | Screw, TP, M3X8                             |
| 16               | XA9-0724-000CN     | Screw, M3X8 (2)                             |
| 502              | XA9-0497-000CN     | Screw, M4X6 (4)                             |



**Figure 89. Printer door (1 of 2)**

**Table 27. Printer door (1 of 2)**

| <b>Reference</b> | <b>Part number</b> | <b>Description</b>                           |
|------------------|--------------------|--|
|                  | RG5-4770-000CN     | Printer door assembly—LJ 3150                |
|                  | RG5-4220-000CN     | Printer door assembly—LJ 3100                |
|                  | RG5-4768-000CN     | Upper guide assembly—LJ 3150                 |
|                  | RG5-4221-000CN     | Upper guide assembly—LJ 3100                 |
|                  | RG5-4771-000CN     | Document scanner assembly                    |
|                  | RG5-4769-000CN     | Control panel assembly—LJ 3150               |
|                  | RG5-4241-000CN     | Control panel assembly—LJ 3100               |
| 1                | RB2-3354-000CN     | Strap  |
| 5                | RB2-3436-000CN     | Document scanner guide                       |
| 10               | RY7-5055-000CN     | Separation pad kit for document scanner path |
| 11               | RG5-4239-000CN     | Contact image sensor assembly                |
| 13               | RB2-3351-000CN     | Cable tube                                   |
| 15               | RB2-3454-000CN     | Spacer                                       |
| 17               | RB2-3468-000CN     | Left hinge cover                             |
| 18               | RB2-3469-000CN     | Right hinge cover                            |
| 19               | RB2-3409-000CN     | Cable guide                                  |
| 20               | FA9-1449-000CN     | Screw—LJ 3100                                |
|                  | XA9-0779-000CN     | Screw—LJ 3150                                |
| 21               | RG5-4233-000CN     | Cable, contact image sensor (J1004 to J903)  |
| 22               | RG5-4238-000CN     | Cable, CIS grounding                         |
| 501              | XB4-7300-807CN     | Screw, tapping, truss head, M3X8 (7)         |

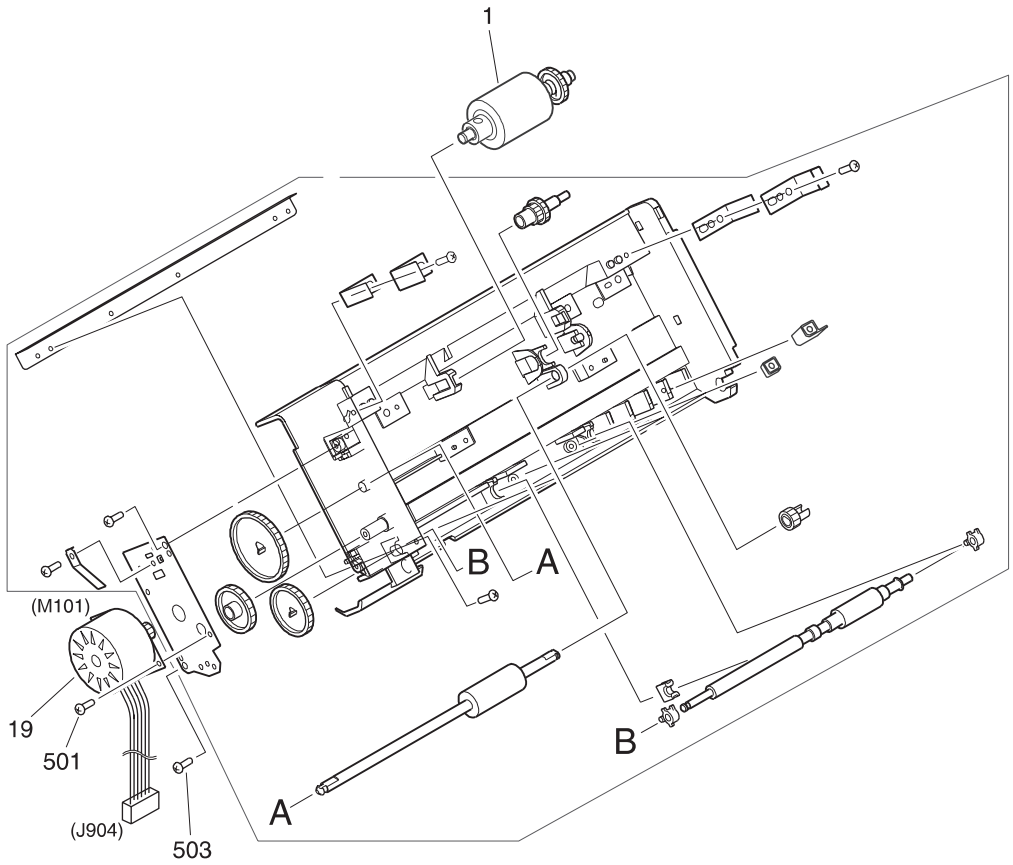


**Figure 90. Printer door (2 of 2)**



**Table 28. Printer door (2 of 2)**

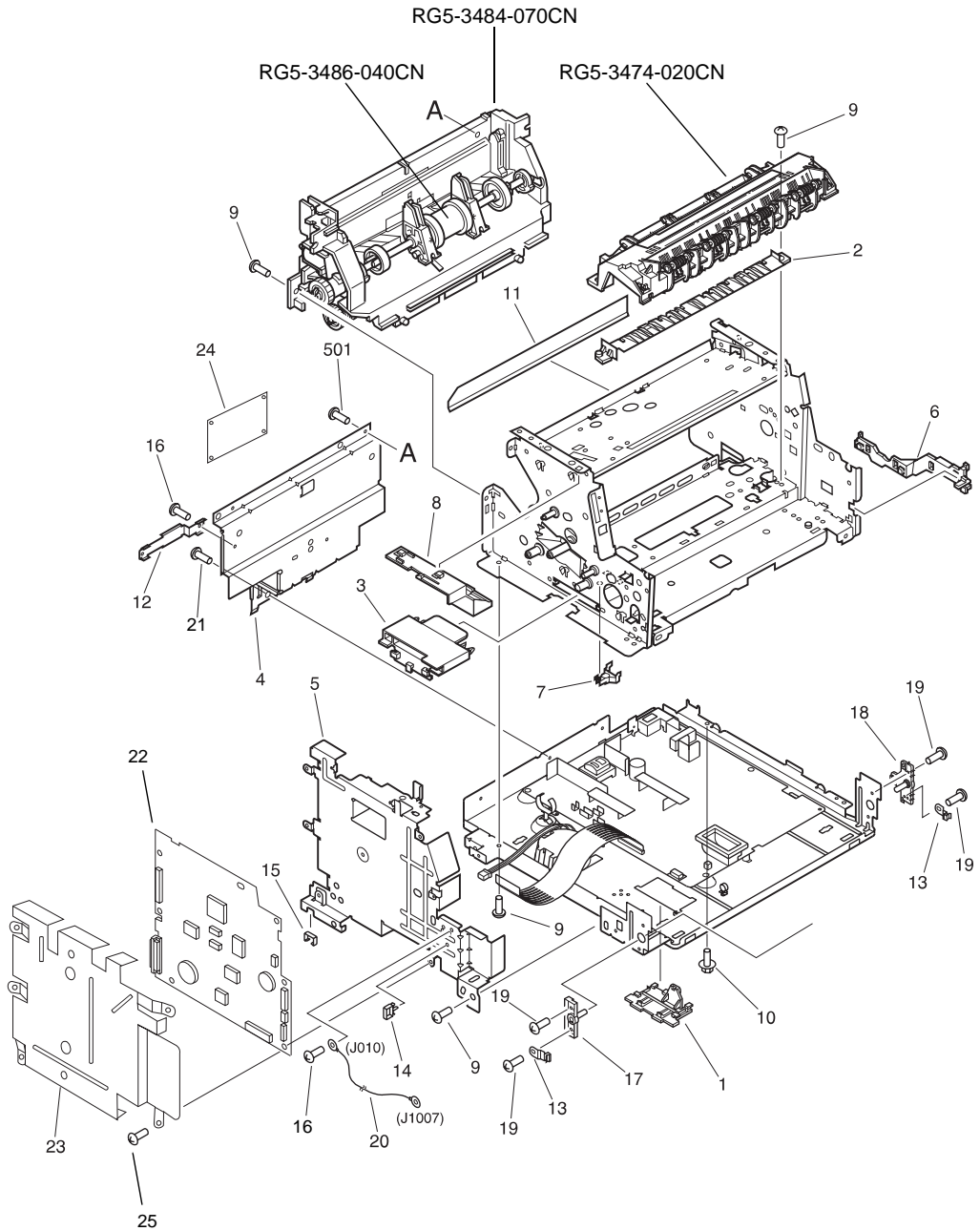
| <b>Reference</b> | <b>Part number</b> | <b>Description</b>            |
|------------------|--------------------|-------------------------------|
|                  | RG5-4770-000CN     | Printer door assembly—LJ 3150 |
|                  | RG5-4220-000CN     | Printer door assembly—LJ 3100 |
| 1                | RB2-3365-000CN     | Sheet, arching (2)            |
| 4                | RB2-3401-000CN     | Duct, 1                       |
| 5                | RB2-3402-000CN     | Duct, 2                       |
| 24               | XA9-0614-000CN     | Screw, M3X8 (4)               |



**Figure 91. Document scanner assembly**

**Table 29. Document scanner assembly**

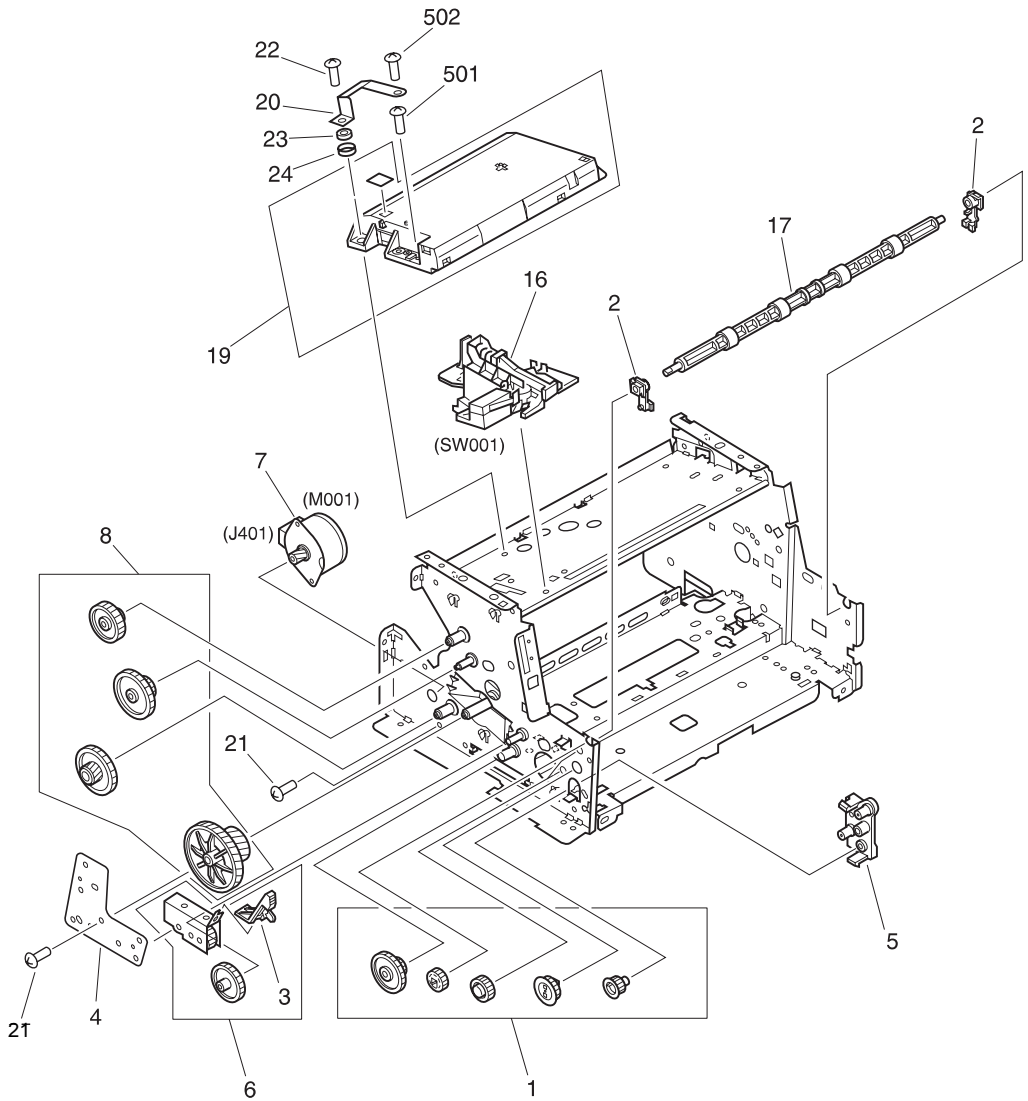
| <b>Reference</b> | <b>Part number</b> | <b>Description</b>                       |
|------------------|--------------------|--|
|                  | RG5-4771-000CN     | Document scanner assembly                |
| 1                | RG5-4772-000CN     | Pickup roller assembly, document scanner |
| 19               | RH7-1376-000CN     | Motor, AC 1.08W                          |
| 503              | XB4-7300-807CN     | Screw, M3X8                              |



**Figure 92. Internal components (1 of 3)**

**Table 30. Internal components (1 of 3)**

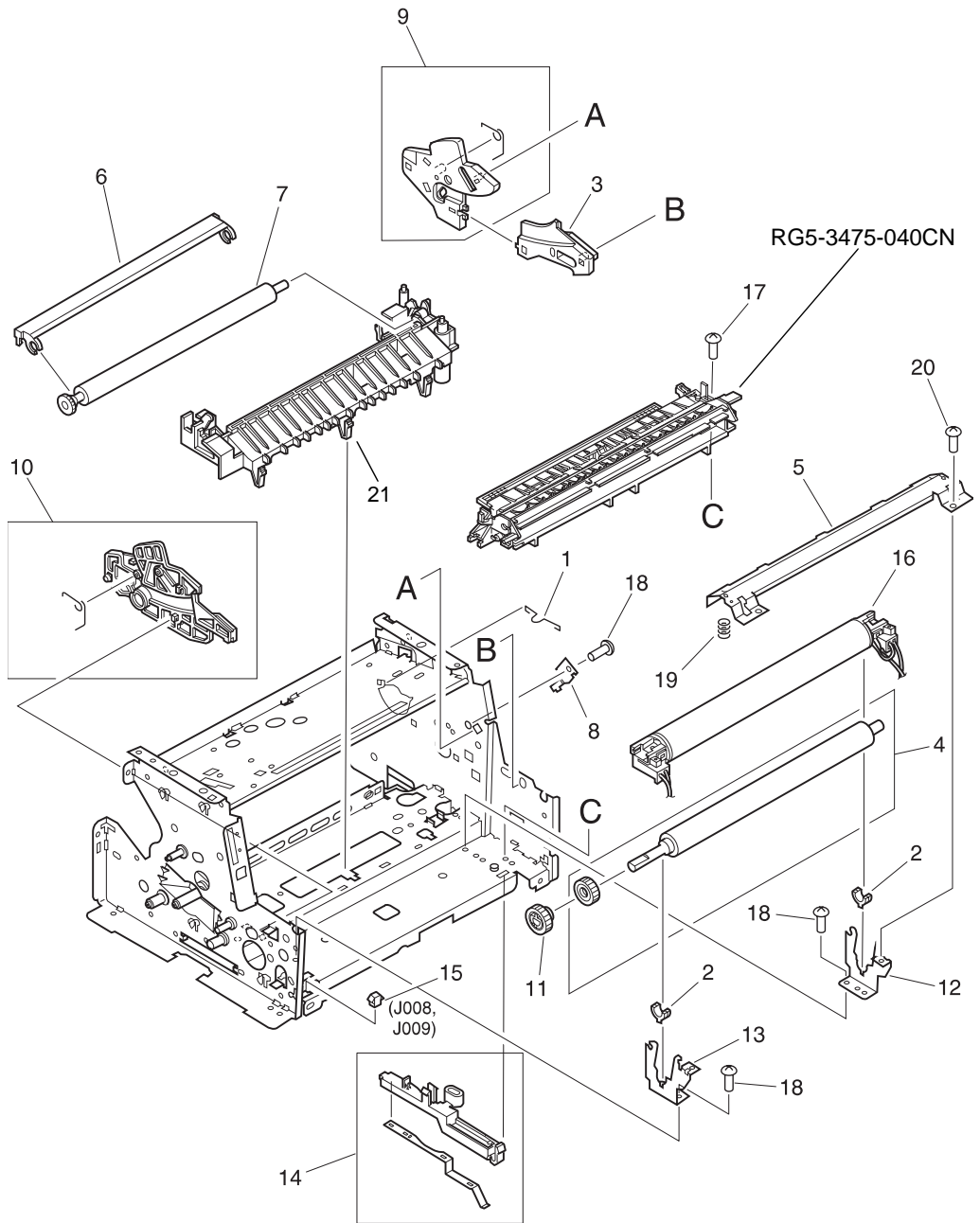
| Reference | Part number    | Description                              |
|-----------|----------------|--|
|           | RG5-3484-070CN | Paper pickup assembly                    |
|           | RG5-3486-040CN | Pickup roller assembly                   |
|           | RG5-3474-020CN | Delivery assembly                        |
| 1         | RB2-3345-000CN | Cap                                      |
| 2         | RB1-7247-000CN | Paper guide                              |
| 3         | RB2-3350-000CN | Cable guide, formatter                   |
| 4         | RF5-2664-000CN | Reinforcement plate                      |
| 5         | RB2-3364-000CN | Metal plate                              |
| 6         | RB1-7130-020CN | Cable guide                              |
| 7         | RB1-7234-000CN | Cap                                      |
| 8         | RB2-3366-000CN | Cable guide holder, formatter            |
| 9         | XA9-0724-000CN | Screw M3X8 (11)                          |
| 10        | XA9-0855-000CN | Screw, RS, with washer, M3X8             |
| 11        | RB1-7176-000CN | Guide sheet                              |
| 12        | RB2-4118-000CN | Grounding plate                          |
| 13        | RB2-3467-000CN | Grounding plate (2)                      |
| 14        | WT2-5178-000CN | Cable guide, control panel               |
| 15        | WT2-5300-000CN | Cable guide, frame                       |
| 16        | XA9-0779-000CN | Screw                                    |
| 17        | RB2-3465-000CN | Left hinge holder                        |
| 18        | RB2-3466-000CN | Right hinge holder                       |
| 19        | XA9-0434-000CN | Screw, TP, M3X4 (4)                      |
| 20        | RG5-4237-000CN | Cable, grounding, document scanner motor |
| 21        | XA9-0267-000CN | Screw                                    |
| 22        | C3949-60001    | Formatter—LJ 3100                        |
|           | C3949-69001    | Formatter—LJ 3100 (exchange)             |
|           | C3949-60002    | Formatter—LJ 3150                        |
|           | C3949-69002    | Formatter—LJ 3150 (exchange)             |
| 23        | C3948-00002    | RFI shield                               |
| 24        | C3948-60003    | LIU board (U.S.)                         |
| 24        | C3948-60004    | LIU board (worldwide)                    |
| 25        | 0515-2672      | Screw, M3X6 (9)                          |
| 501       | XB4-7400-807CN | Screw, tapping, truss head, M4X8 (3)     |



**Figure 93. Internal components (2 of 3)**

**Table 31. Internal components (2 of 3)**

| Reference   | Part number    | Description                      |
|---|----------------|----------------------------------|
| 1   | RY7-5005-000CN | Gear kit #1                      |
| 2   | RB1-7288-020CN | Bushing (2)                      |
| 3   | RB1-7105-000CN | Pressure release lever           |
| 4   | RB2-1632-000CN | Gear support plate               |
| 5   | RB1-7107-000CN | Gear holder                      |
| 6   | RY7-5007-000CN | Fuser release kit                |
| 7   | RH7-1320-000CN | Motor, DC 12V                    |
| 8   | RY7-5036-000CN | Gear kit #2                      |
| 16  | RG5-3453-000CN | Switch lever assembly            |
| 17  | RF5-2367-000CN | Exit roller                      |
| <b>Note:</b> The Following two parts (ref. 19 and 20) must <b>both</b> be replaced if replacing either one. |                |                                  |
| 19  | RG5-3497-050CN | Laser/scanner assembly           |
| 20  | RB1-7385-020CN | Grounding spring                 |
| 21  | XA9-0267-000CN | Screw, TP, M3X6 (2)              |
| 22  | XA9-0382-000CN | Screw, TP, M3X12                 |
| 23  | WE8-5192-000CN | Ferrite ring core                |
| 24  | RB9-0227-000CN | Spacer                           |
| 501   | XB6-7300-807CN | Screw, TP, M3X8 (5)              |
| 502   | XB4-7300-809CN | Screw, tapping, truss head, M3X8 |

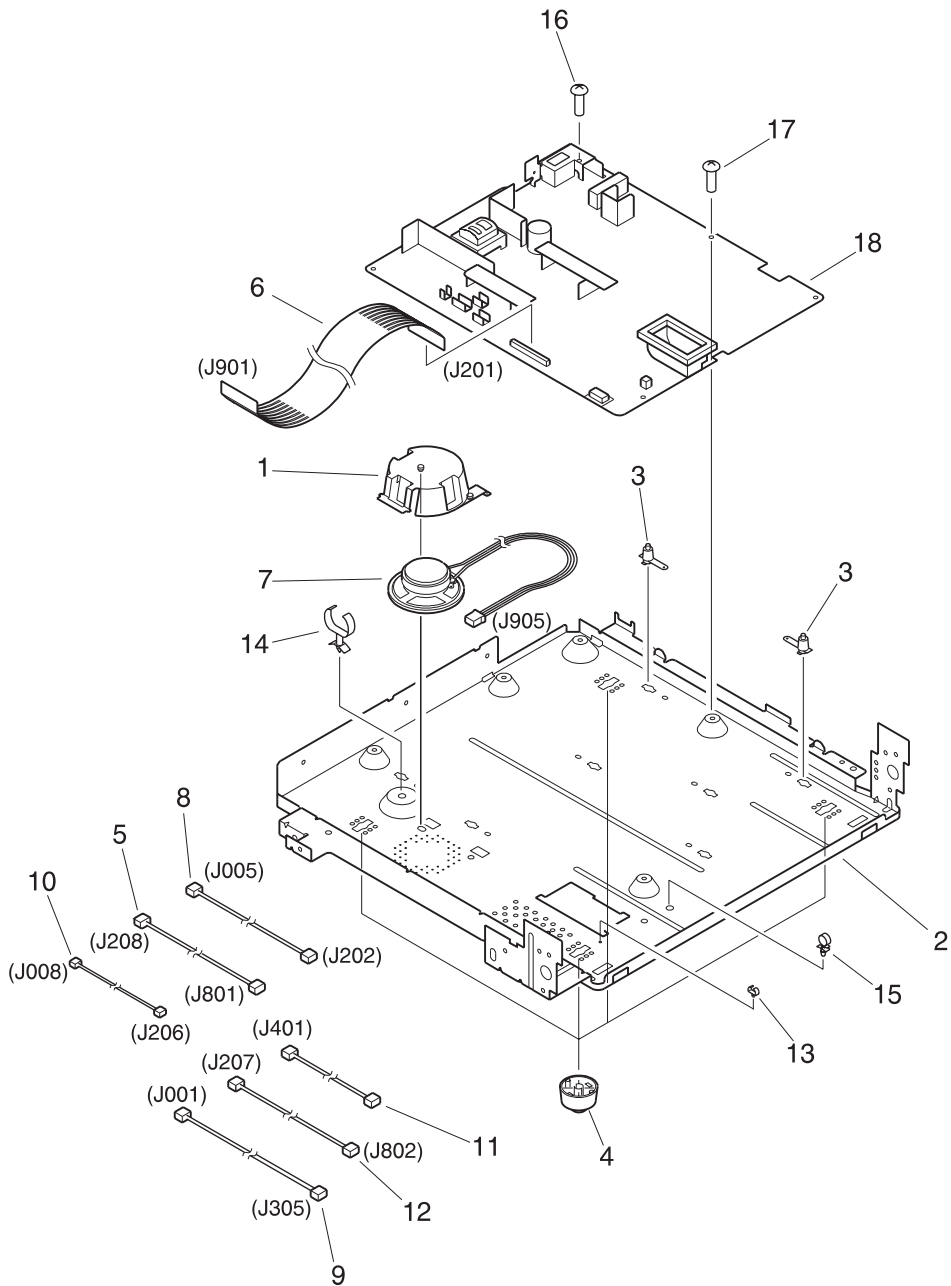


**Figure 94. Internal components (3 of 3)**



**Table 32. Internal components (3 of 3)**

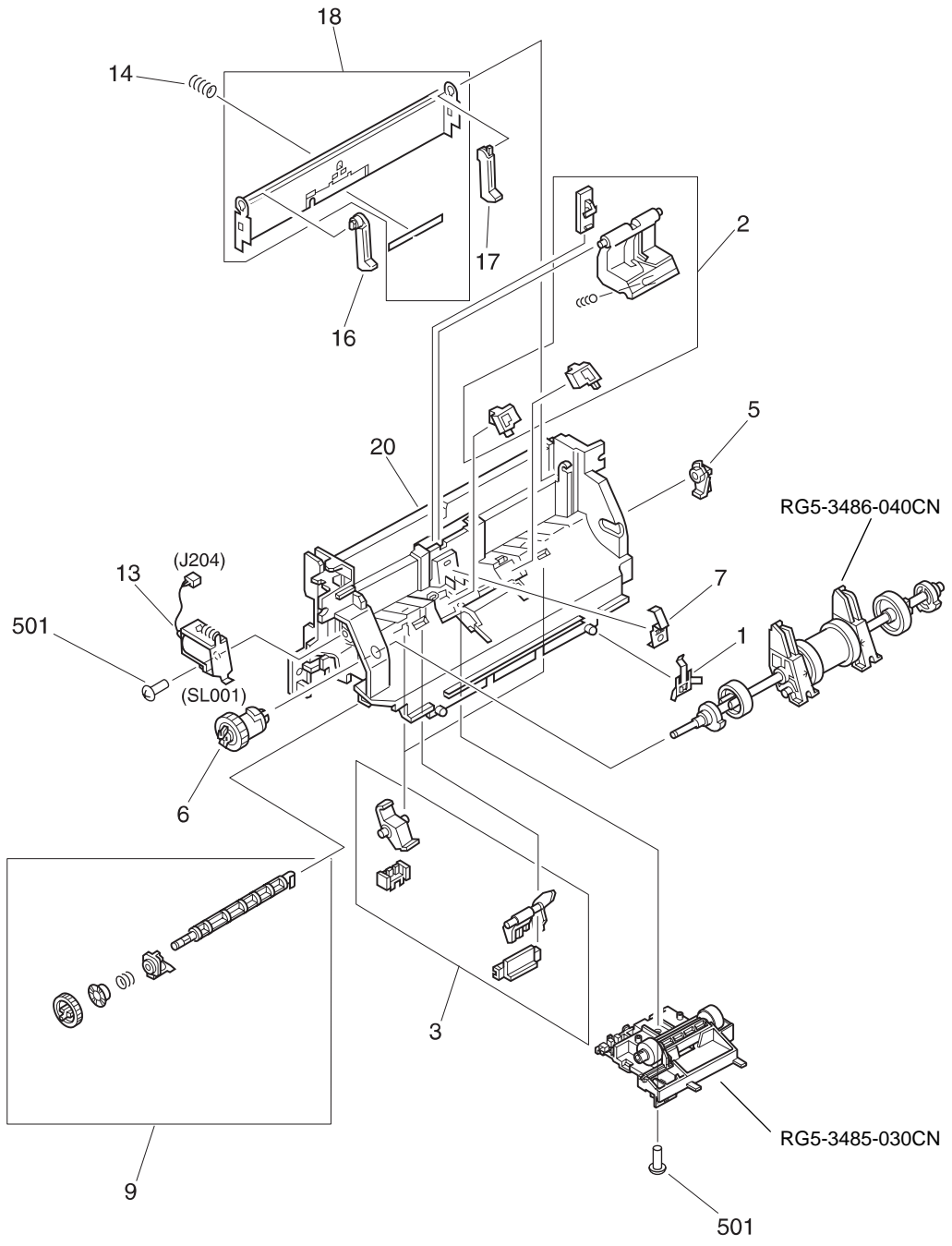
| <b>Reference</b> | <b>Part number</b> | <b>Description</b>           |
|------------------|--------------------|------------------------------|
|                  | RG5-3475-040CN     | Separation guide assembly    |
| 1                | RB1-7223-000CN     | Grounding clip               |
| 2                | RB1-7246-000CN     | Bushing (2)                  |
| 3                | RB1-7341-030CN     | Right cartridge guide #1     |
| 4                | RF5-2364-000CN     | Pressure roller              |
| 5                | RF5-1517-020CN     | Pressure plate               |
| 6                | RF5-2358-000CN     | Transfer guide               |
| 7                | RF5-1534-000CN     | Transfer roller              |
| 8                | RB1-7129-000CN     | Grounding metal              |
| 9                | RF5-1515-020CN     | Right cartridge guide #2     |
| 10               | RF5-1514-020CN     | Left cartridge guide         |
| 11               | RS5-0796-000CN     | Pressure roller gear (27T)   |
| 12               | RB1-7256-000CN     | Right side plate             |
| 13               | RB1-7255-000CN     | Left side plate              |
| 14               | RF5-1533-000CN     | Pressure roller ground guide |
| 15               | VS1-5057-002CN     | Fuser connector (2P)         |
| 16               | RG5-4678-000CN     | Fixing assembly, 110 V       |
| 16               | RG5-4681-000CN     | Fixing assembly, 220 V       |
| 17               | XA9-0724-000CN     | Screw, M3X8                  |
| 18               | XA9-0686-000CN     | Screw, M3X6                  |
| 19               | RS5-2508-000CN     | Spring, compression          |
| 20               | XA9-0824-000CN     | Screw, RS, M3X10             |
| 21               | RG5-3452-000CN     | Transfer guide assembly      |
|                  | CK-8006-000CN      | Pressure roller grease       |



**Figure 95. Electrical components assembly**

**Table 33. Electrical components assembly**

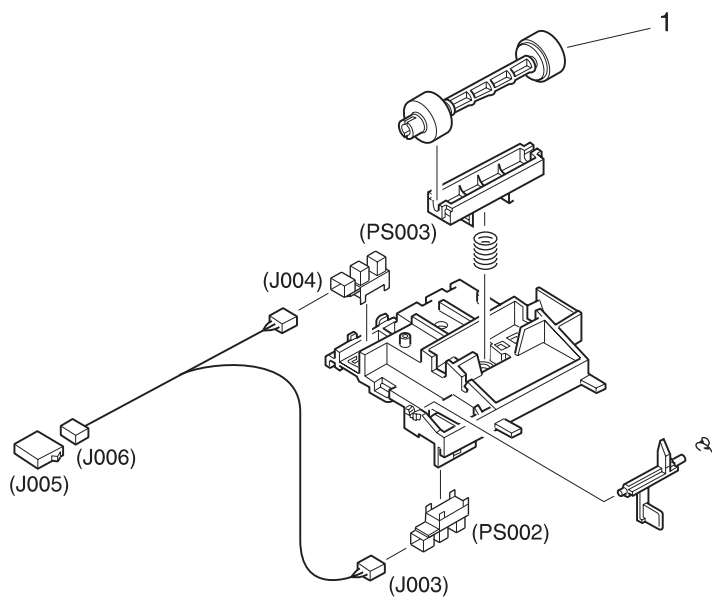
| Reference | Part number    | Description                   |
|-----------|----------------|-------------------------------|
| 1         | RB2-3346-000CN | Speaker mount                 |
| 2         | RB2-3342-000CN | Bottom plate                  |
| 3         | RB2-3347-000CN | Spacer, PCB (7)               |
| 4         | RF5-2663-000CN | Foot (4)                      |
| 5         | RG5-2035-000CN | Cable, laser                  |
| 6         | RH2-5346-000CN | Cable, formatter              |
| 7         | RH6-3845-000CN | Speaker                       |
| 8         | RG5-2029-000CN | Cable, paper pickup           |
| 9         | RG5-3662-000CN | Cable, door switch            |
| 10        | RG5-2032-000CN | Cable, thermistor             |
| 11        | RG5-2033-000CN | Cable, motor                  |
| 12        | RG5-3661-000CN | Cable, scanner                |
| 13        | WT2-0276-000CN | Clamp, wire                   |
| 14        | WT2-0367-000CN | Clamp, cable                  |
| 15        | WT2-5178-000CN | Clamp, cable                  |
| 16        | XA9-0828-000CN | Screw, with star washer, M3X4 |
| 17        | XA9-0890-000CN | Screw, with washer, M3X6 (4)  |
| 18        | RG5-4690-000CN | ECU, 110 V                    |
| 18        | RG5-4691-070CN | ECU, 220 V                    |
|           | C3948-60102    | Cable, LIU                    |



**Figure 96. Paper pickup assembly**

**Table 34. Paper pickup assembly**

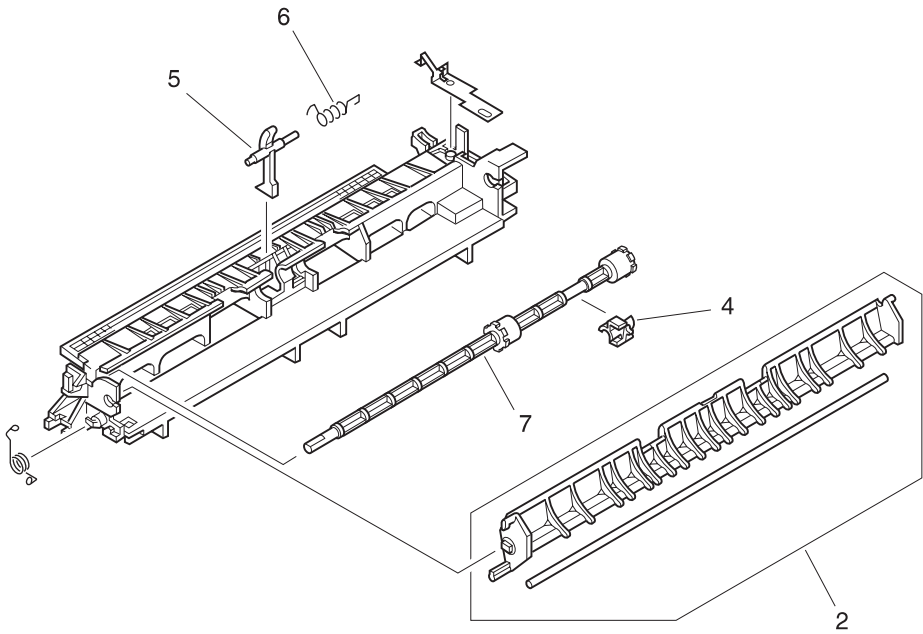
| Reference | Part number    | Description  |
|-----------|----------------|--|
|           | RG5-3484-070CN | Paper pickup assembly  |
|           | RG5-3485-030CN | Feed assembly  |
|           | RG5-3486-040CN | Pickup roller assembly ( <b>Note:</b> if replacing this part, also replace the separation pad kit, part number RY7-5008-000CN) |
| 1         | RB1-7172-000CN | Spring, grounding  |
| 2         | RY7-5008-000CN | Separation pad kit ( <b>Note:</b> if replacing this part, also replace the pickup roller assembly, part number RG5-3486-040CN) |
| 3         | RY7-5009-000CN | Input sensor assembly  |
| 5         | RB1-7184-000CN | Bushing  |
| 6         | RB1-7197-020CN | Clutch   |
| 7         | RB1-7199-000CN | Spring, grounding  |
| 9         | RG5-1947-000CN | Paper feed drive assembly  |
| 13        | RH7-5139-000CN | Solenoid   |
| 14        | RS5-2501-000CN | Spring, compression  |
| 16        | RB1-7185-000CN | Arm, plate, left   |
| 17        | RB1-7186-000CN | Arm, plate, right  |
| 18        | RF5-2372-000CN | Plate, middle  |
| 20        | RB1-7177-000CN | Frame, paper feed  |
| 501       | XB4-7401-000CN | Screw, tapping, pan head, M4X10 (2)  |



**Figure 97. Feed assembly**

**Table 35. Feeder assembly**

| <b>Reference</b> | <b>Part number</b> | <b>Description</b> |
|------------------|--------------------|--------------------|
|                  | RG5-3485-030CN     | Feed assembly      |
| 1                | RB2-1699-000CN     | Feed roller        |

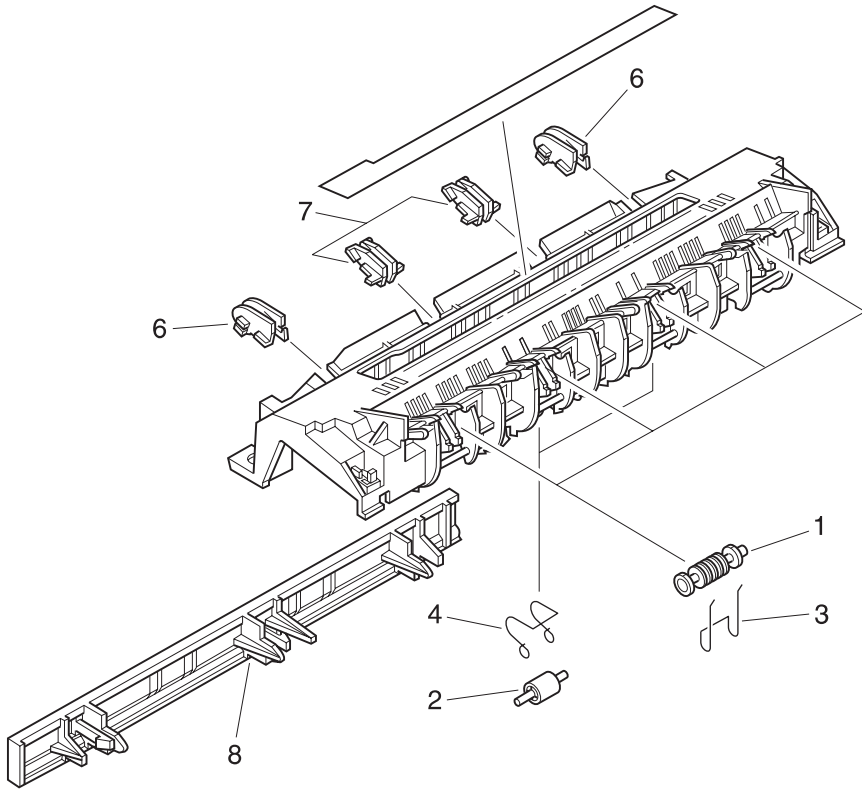


**Figure 98. Separation guide assembly**



**Table 36. Separation guide assembly**

| <b>Reference</b> | <b>Part number</b> | <b>Description</b>         |
|------------------|--------------------|----------------------------|
|                  | RG5-3475-040CN     | Separation guide assembly  |
| 2                | RG5-3476-000CN     | Face-up/face-down lever    |
| 4                | RB2-1690-000CN     | Fuser roller bushing       |
| 5                | RB1-7293-000CN     | Lever, sensor              |
| 6                | RB1-7294-000CN     | Spring, torsion            |
| 7                | RF5-2368-000CN     | Fuser exit roller assembly |



**Figure 99. Delivery assembly**

**Table 37. Delivery assembly**

| <b>Reference</b> | <b>Part number</b> | <b>Description</b>        |
|------------------|--------------------|---------------------------|
|                  | RG5-3474-020CN     | Delivery assembly         |
| 1                | RB1-7284-020CN     | Delivery roller #1 (4)    |
| 2                | RB2-1685-000CN     | Delivery roller #2 (2)    |
| 3                | RB1-7286-000CN     | Delivery spring #1 (4)    |
| 4                | RB1-7287-000CN     | Delivery spring #2 (2)    |
| 6                | RG5-3479-000CN     | Spur assembly outside (2) |
| 7                | RG5-3478-000CN     | Spur assembly inside (2)  |
| 8                | RB1-7334-000CN     | Jammed paper protector    |

# Alphabetical parts list

**Table 38. Alphabetical parts list**

| Part name                                   | Part number    | Figure # | Reference |
|---|----------------|----------|-----------|
| Arm, plate, left                            | RB1-7185-000CN | 96       | 16        |
| Arm, plate, right                           | RB1-7186-000CN | 96       | 17        |
| Bottom plate                                | RB2-3342-000CN | 95       | 2         |
| Bushing                                     | RB1-7184-000CN | 96       | 5         |
| Bushing (2)                                 | RB1-7246-000CN | 94       | 2         |
| Bushing (2)                                 | RB1-7288-020CN | 93       | 2         |
| Cable guide                                 | RB1-7130-020CN | 92       | 6         |
| Cable guide                                 | RB2-3409-000CN | 89       | 19        |
| Cable guide holder, formatter               | RB2-3366-000CN | 92       | 8         |
| Cable guide, control panel                  | WT2-5178-000CN | 92       | 14        |
| Cable guide, formatter                      | RB2-3350-000CN | 92       | 3         |
| Cable guide, frame                          | WT2-5300-000CN | 92       | 15        |
| Cable tube                                  | RB2-3351-000CN | 89       | 13        |
| Cable, CIS grounding                        | RG5-4238-000CN | 89       | 22        |
| Cable, contact image sensor (J1004 to J903) | RG5-4233-000CN | 89       | 21        |
| Cable, door switch                          | RG5-3662-000CN | 95       | 9         |
| Cable, formatter                            | RH2-5346-000CN | 95       | 6         |
| Cable, grounding, document scanner motor    | RG5-4237-000CN | 92       | 20        |
| Cable, laser                                | RG5-2035-000CN | 95       | 5         |
| Cable, LIU                                  | C3948-60102    | 95       |           |
| Cable, motor                                | RG5-2033-000CN | 95       | 11        |
| Cable, paper pickup                         | RG5-2029-000CN | 95       | 8         |
| Cable, scanner                              | RG5-3661-000CN | 95       | 12        |
| Cable, thermistor                           | RG5-2032-000CN | 95       | 10        |
| Cap   | RB1-7234-000CN | 92       | 7         |
| Cap   | RB2-3345-000CN | 92       | 1         |
| Clamp, cable                                | WT2-0367-000CN | 95       | 14        |
| Clamp, cable                                | WT2-5178-000CN | 95       | 15        |

**Table 38. Alphabetical parts list**

| <b>Part name</b>                          | <b>Part number</b> | <b>Figure #</b> | <b>Reference</b> |
|---|--------------------|-----------------|------------------|
| Clamp, wire                               | WT2-0276-000CN     | 95              | 13               |
| Clutch                                    | RB1-7197-020CN     | 96              | 6                |
| Contact image sensor assembly             | RG5-4239-000CN     | 89              | 11               |
| Control panel assembly—LJ 3100            | RG5-4241-000CN     | 89              |                  |
| Control panel assembly—LJ 3150            | RG5-4769-000CN     | 89              |                  |
| Control panel overlay—Danish              | C3948-00019        | 87              | 7                |
| Control panel overlay—Dutch               | C4256-00036        | 87              | 7                |
| Control panel overlay—Finnish             | C4256-00020        | 87              | 7                |
| Control panel overlay—French              | C4256-00037        | 87              | 7                |
| Control panel overlay—German              | C3948-00010        | 87              | 7                |
| Control panel overlay—Hungarian           | C4256-00038        | 87              | 7                |
| Control panel overlay—Israel/Hebrew       | C3948-00038        | 87              | 7                |
| Control panel overlay—Italian             | C4256-00034        | 87              | 7                |
| Control panel overlay—Norwegian           | C3948-00021        | 87              | 7                |
| Control panel overlay—Polish              | C4256-00006        | 87              | 7                |
| Control panel overlay—Russian             | C4256-00035        | 87              | 7                |
| Control panel overlay—Simplified Chinese  | C4256-00007        | 87              | 7                |
| Control panel overlay—Spanish             | C4256-00033        | 87              | 7                |
| Control panel overlay—Swedish             | C3948-00022        | 87              | 7                |
| Control panel overlay—Traditional Chinese | C3948-00037        | 87              | 7                |
| Delivery assembly                         | RG5-3474-020CN     | 92, 99          |                  |
| Delivery roller #1 (4)                    | RB1-7284-020CN     | 99              | 1                |
| Delivery roller #2 (2)                    | RB2-1685-000CN     | 99              | 2                |
| Delivery spring #1 (4)                    | RB1-7286-000CN     | 99              | 3                |
| Delivery spring #2 (2)                    | RB1-7287-000CN     | 99              | 4                |
| Document feeder support                   | RB2-3455-000CN     | 87              | 3                |
| Document output support                   | RB2-3470-000CN     | 87              | 4                |
| Document scanner assembly                 | RG5-4771-000CN     | 89, 91          |                  |
| Document scanner guide                    | RB2-3436-000CN     | 89              | 5                |
| Duct, 1                                   | RB2-3401-000CN     | 90              | 4                |
| Duct, 2                                   | RB2-3402-000CN     | 90              | 5                |

**Table 38. Alphabetical parts list**

| <b>Part name</b>             | <b>Part number</b> | <b>Figure #</b> | <b>Reference</b> |
|------------------------------|--------------------|-----------------|------------------|
| ECU, 110 V                   | RG5-4690-000CN     | 95              | 18               |
| ECU, 220 V                   | RG5-4691-070CN     | 95              | 18               |
| Exit roller                  | RF5-2367-000CN     | 93              | 17               |
| Face-up/face-down lever      | RG5-3476-000CN     | 98              | 2                |
| Feed assembly                | RG5-3485-030CN     | 96, 97          |                  |
| Feed roller                  | RB2-1699-000CN     | 97              | 1                |
| Ferrite ring core            | WE8-5192-000CN     | 93              | 23               |
| Fixing assembly, 110 V       | RG5-4678-000CN     | 94              | 16               |
| Fixing assembly, 220 V       | RG5-4681-000CN     | 94              | 16               |
| Foot (4)                     | RF5-2663-000CN     | 95              | 4                |
| Formatter—LJ 3100            | C3949-60001        | 92              | 22               |
| Formatter—LJ 3100 (exchange) | C3949-69001        | 92              | 22               |
| Formatter—LJ 3150            | C3949-60002        | 92              | 22               |
| Formatter—LJ 3150 (exchange) | C3949-69002        | 92              | 22               |
| Frame, paper feed            | RB1-7177-000CN     | 96              | 20               |
| Front casing                 | RB2-3449-000CN     | 88              | 6                |
| Fuser connector (2P)         | VS1-5057-002CN     | 94              | 15               |
| Fuser exit roller assembly   | RF5-2368-000CN     | 98              | 7                |
| Fuser release kit            | RY7-5007-000CN     | 93              | 6                |
| Fuser roller bushing         | RB2-1690-000CN     | 98              | 4                |
| Gear holder                  | RB1-7107-000CN     | 93              | 5                |
| Gear kit #1                  | RY7-5005-000CN     | 93              | 1                |
| Gear kit #2                  | RY7-5036-000CN     | 93              | 8                |
| Gear support plate           | RB2-1632-000CN     | 93              | 4                |
| Grounding clip               | RB1-7223-000CN     | 94              | 1                |
| Grounding metal              | RB1-7129-000CN     | 94              | 8                |
| Grounding plate              | RB2-4118-000CN     | 92              | 12               |
| Grounding plate (2)          | RB2-3467-000CN     | 92              | 13               |
| Grounding spring             | RB1-7385-020CN     | 93              | 20               |
| Guide sheet                  | RB1-7176-000CN     | 92              | 11               |
| I/O bezel                    | C3948-40010        | 88              | 1                |

**Table 38. Alphabetical parts list**

| <b>Part name</b>                            | <b>Part number</b> | <b>Figure #</b> | <b>Reference</b> |
|---|--------------------|-----------------|------------------|
| Input bin assembly                          | RG5-3488-000CN     | 88              | 9                |
| Input sensor assembly                       | RY7-5009-000CN     | 96              | 3                |
| Jammed paper protector                      | RB1-7334-000CN     | 99              | 8                |
| Laser/scanner assembly                      | RG5-3497-050CN     | 93              | 19               |
| Left cartridge guide                        | RF5-1514-020CN     | 94              | 10               |
| Left cover                                  | RB2-3360-000CN     | 88              | 3                |
| Left front cover                            | RB2-3451-000CN     | 88              | 8                |
| Left hinge cover                            | RB2-3468-000CN     | 89              | 17               |
| Left hinge holder                           | RB2-3465-000CN     | 92              | 17               |
| Left side plate                             | RB1-7255-000CN     | 94              | 13               |
| Lever, sensor                               | RB1-7293-000CN     | 98              | 5                |
| LIU board (U.S.)                            | C3948-60003        | 92              | 24               |
| LIU board (worldwide)                       | C3948-60004        | 92              | 24               |
| Metal plate                                 | RB2-3364-000CN     | 92              | 5                |
| Motor, AC 1.08W                             | RH7-1376-000CN     | 91              | 19               |
| Motor, DC 12V                               | RH7-1320-000CN     | 93              | 7                |
| Nameplate—LJ 3150                           | C4256-40001        | 87              | 5                |
| One-touch pad overlay sheet                 | RB2-3393-000CN     | 87              | 6                |
| Paper feed drive assembly                   | RG5-1947-000CN     | 96              | 9                |
| Paper guide                                 | RB1-7247-000CN     | 92              | 2                |
| Paper input support                         | RB2-3362-000CN     | 87              | 1                |
| Paper output support                        | RB2-3410-000CN     | 87              | 2                |
| Paper path lever—LJ 3100 (lighter in color) | RB2-3453-000CN     | 88              | 12               |
| Paper path lever—LJ 3150 (darker in color)  | RB2-3448-000CN     | 88              | 12               |
| Paper pickup assembly                       | RG5-3484-070CN     | 92, 96          |                  |
| Pickup roller assembly                      | RG5-3486-040CN     | 92, 96          |                  |
| Pickup roller assembly, document scanner    | RG5-4772-000CN     | 91              | 1                |
| Plate, middle                               | RF5-2372-000CN     | 96              | 18               |
| Pressure plate                              | RF5-1517-020CN     | 94              | 5                |
| Pressure release lever                      | RB1-7105-000CN     | 93              | 3                |
| Pressure release lever cover                | RB2-3452-000CN     | 88              | 11               |

**Table 38. Alphabetical parts list**

| <b>Part name</b>                    | <b>Part number</b> | <b>Figure #</b> | <b>Reference</b> |
|-------------------------------------|--------------------|-----------------|------------------|
| Pressure roller                     | RF5-2364-000CN     | 94              | 4                |
| Pressure roller gear (27T)          | RS5-0796-000CN     | 94              | 11               |
| Pressure roller grease              | CK-8006-000CN      | 94              |                  |
| Pressure roller ground guide        | RF5-1533-000CN     | 94              | 14               |
| Printer door assembly—LJ 3100       | RG5-4220-000CN     | 89, 90          |                  |
| Printer door assembly—LJ 3150       | RG5-4770-000CN     | 89, 90          |                  |
| Rear cover                          | RB2-3361-000CN     | 88              | 4                |
| Reinforcement plate                 | RF5-2664-000CN     | 92              | 4                |
| RFI shield                          | C3948-00002        | 92              | 23               |
| Right cartridge guide #1            | RB1-7341-030CN     | 94              | 3                |
| Right cartridge guide #2            | RF5-1515-020CN     | 94              | 9                |
| Right cover                         | RB2-3341-000CN     | 88              | 2                |
| Right hinge cover                   | RB2-3469-000CN     | 89              | 18               |
| Right hinge holder                  | RB2-3466-000CN     | 92              | 18               |
| Right side plate                    | RB1-7256-000CN     | 94              | 12               |
| Screw                               | XA9-0267-000CN     | 92              | 21               |
| Screw                               | XA9-0779-000CN     | 92              | 16               |
| Screw—LJ 3100                       | FA9-1449-000CN     | 89              | 20               |
| Screw—LJ 3150                       | XA9-0779-000CN     | 89              | 20               |
| Screw M3X8 (11)                     | XA9-0724-000CN     | 92              | 9                |
| Screw, M3X6 (9)                     | 0515-2672          | 92              | 25               |
| Screw, M3X6                         | XA9-0686-000CN     | 94              | 18               |
| Screw, M3X8                         | XA9-0724-000CN     | 94              | 17               |
| Screw, M3X8                         | XB4-7300-807CN     | 91              | 503              |
| Screw, M3X8 (2)                     | XA9-0724-000CN     | 88              | 16               |
| Screw, M3X8 (4)                     | XA9-0614-000CN     | 90              | 24               |
| Screw, M4X8 (4)                     | XA9-0497-000CN     | 88              | 502              |
| Screw, RS, M3X10                    | XA9-0824-000CN     | 94              | 20               |
| Screw, RS, with washer, M3X8        | XA9-0855-000CN     | 92              | 10               |
| Screw, tapping, pan head, M4X10 (2) | XB4-7401-000CN     | 96              | 501              |
| Screw, tapping, truss head, M3X8    | XB4-7300-809CN     | 93              | 502              |



**Table 38. Alphabetical parts list**

| <b>Part name</b>                             | <b>Part number</b> | <b>Figure #</b> | <b>Reference</b> |
|--|--------------------|-----------------|------------------|
| Screw, tapping, truss head, M3X8 (7)         | XB4-7300-807CN     | 89              | 501              |
| Screw, tapping, truss head, M4X8 (3)         | XB4-7400-807CN     | 92              | 501              |
| Screw, TP, M3X12                             | XA9-0382-000CN     | 93              | 22               |
| Screw, TP, M3X4 (4)                          | XA9-0434-000CN     | 92              | 19               |
| Screw, TP, M3X6 (2)                          | XA9-0267-000CN     | 93              | 21               |
| Screw, TP, M3X8                              | XA9-0476-000CN     | 88              | 14               |
| Screw, TP, M3X8 (5)                          | XB6-7300-807CN     | 93              | 501              |
| Screw, with star washer, M3X4                | XA9-0828-000CN     | 95              | 16               |
| Screw, with washer, M3X6 (4)                 | XA9-0890-000CN     | 95              | 17               |
| Separation guide assembly                    | RG5-3475-040CN     | 94, 98          |                  |
| Separation pad kit                           | RY7-5008-000CN     | 96              | 2                |
| Separation pad kit for document scanner path | RY7-5055-000CN     | 89              | 10               |
| Sheet, arching (2)                           | RB2-3365-000CN     | 90              | 1                |
| Single-sheet input slot assembly             | RG5-4763-000CN     | 88              | 10               |
| Solenoid                                     | RH7-5139-000CN     | 96              | 13               |
| Spacer                                       | RB2-3454-000CN     | 89              | 15               |
| Spacer                                       | RB9-0227-000CN     | 93              | 24               |
| Spacer, PCB (7)                              | RB2-3347-000CN     | 95              | 3                |
| Speaker                                      | RH6-3845-000CN     | 95              | 7                |
| Speaker mount                                | RB2-3346-000CN     | 95              | 1                |
| Spring, compression                          | RS5-2501-000CN     | 96              | 14               |
| Spring, compression                          | RS5-2508-000CN     | 94              | 19               |
| Spring, grounding                            | RB1-7172-000CN     | 96              | 1                |
| Spring, grounding                            | RB1-7199-000CN     | 96              | 7                |
| Spring, tension                              | RB1-7294-000CN     | 98              | 6                |
| Spur assembly inside (2)                     | RG5-3478-000CN     | 99              | 7                |
| Spur assembly outside (2)                    | RG5-3479-000CN     | 99              | 6                |
| Strap  | RB2-3354-000CN     | 89              | 1                |
| Switch lever assembly                        | RG5-3453-000CN     | 93              | 16               |
| Top cover                                    | RB2-3450-000CN     | 88              | 7                |

**Table 38. Alphabetical parts list**

| <b>Part name</b>             | <b>Part number</b> | <b>Figure #</b> | <b>Reference</b> |
|------------------------------|--------------------|-----------------|------------------|
| Transfer guide               | RF5-2358-000CN     | 94              | 6                |
| Transfer guide assembly      | RG5-3452-000CN     | 94              | 21               |
| Transfer roller              | RF5-1534-000CN     | 94              | 7                |
| Upper guide assembly—LJ 3100 | RG5-4221-000CN     | 89              |                  |
| Upper guide assembly—LJ 3150 | RG5-4768-000CN     | 89              |                  |

# Numerical parts list

**Table 39. Numerical parts list**

| Part number    | Part name                                 | Figure # | Reference |
|----------------|---|----------|-----------|
| 0515-2672      | Screw, M3X6 (9)                           | 92       | 25        |
| C3948-00002    | RFI shield                                | 92       | 23        |
| C3948-00010    | Control panel overlay—German              | 87       | 7         |
| C3948-00019    | Control panel overlay—Danish              | 87       | 7         |
| C3948-00021    | Control panel overlay—Norwegian           | 87       | 7         |
| C3948-00022    | Control panel overlay—Swedish             | 87       | 7         |
| C3948-00037    | Control panel overlay—Traditional Chinese | 87       | 7         |
| C3948-00038    | Control panel overlay—Israel/Hebrew       | 87       | 7         |
| C3948-40010    | I/O bezel                                 | 88       | 1         |
| C3948-60003    | LIU board (U.S.)                          | 92       | 24        |
| C3948-60004    | LIU board (worldwide)                     | 92       | 24        |
| C3948-60102    | Cable, LIU                                | 95       |           |
| C3949-60001    | Formatter—LJ 3100                         | 92       | 22        |
| C3949-60002    | Formatter—LJ 3150                         | 92       | 22        |
| C3949-69001    | Formatter—LJ 3100 (exchange)              | 92       | 22        |
| C3949-69002    | Formatter—LJ 3150 (exchange)              | 92       | 22        |
| C4256-00006    | Control panel overlay—Polish              | 87       | 7         |
| C4256-00007    | Control panel overlay—Simplified Chinese  | 87       | 7         |
| C4256-00020    | Control panel overlay—Finnish             | 87       | 7         |
| C4256-00033    | Control panel overlay—Spanish             | 87       | 7         |
| C4256-00034    | Control panel overlay—Italian             | 87       | 7         |
| C4256-00035    | Control panel overlay—Russian             | 87       | 7         |
| C4256-00036    | Control panel overlay—Dutch               | 87       | 7         |
| C4256-00037    | Control panel overlay—French              | 87       | 7         |
| C4256-00038    | Control panel overlay—Hungarian           | 87       | 7         |
| C4256-40001    | Nameplate—LJ 3150                         | 87       | 5         |
| CK-8006-000CN  | Pressure roller grease                    | 94       |           |
| FA9-1449-000CN | Screw—LJ 3100                             | 89       | 20        |
| RB1-7105-000CN | Pressure release lever                    | 93       | 3         |
| RB1-7107-000CN | Gear holder                               | 93       | 5         |

**Table 39. Numerical parts list**

| <b>Part number</b> | <b>Part name</b>         | <b>Figure #</b> | <b>Reference</b> |
|--------------------|--------------------------|-----------------|------------------|
| RB1-7129-000CN     | Grounding metal          | 94              | 8                |
| RB1-7130-020CN     | Cable guide              | 92              | 6                |
| RB1-7172-000CN     | Spring, grounding        | 96              | 1                |
| RB1-7176-000CN     | Guide sheet              | 92              | 11               |
| RB1-7177-000CN     | Frame, paper feed        | 96              | 20               |
| RB1-7184-000CN     | Bushing                  | 96              | 5                |
| RB1-7185-000CN     | Arm, plate, left         | 96              | 16               |
| RB1-7186-000CN     | Arm, plate, right        | 96              | 17               |
| RB1-7197-020CN     | Clutch                   | 96              | 6                |
| RB1-7199-000CN     | Spring, grounding        | 96              | 7                |
| RB1-7223-000CN     | Grounding clip           | 94              | 1                |
| RB1-7234-000CN     | Cap                      | 92              | 7                |
| RB1-7246-000CN     | Bushing (2)              | 94              | 2                |
| RB1-7247-000CN     | Paper guide              | 92              | 2                |
| RB1-7255-000CN     | Left side plate          | 94              | 13               |
| RB1-7256-000CN     | Right side plate         | 94              | 12               |
| RB1-7284-020CN     | Delivery roller #1 (4)   | 99              | 1                |
| RB1-7286-000CN     | Delivery spring #1 (4)   | 99              | 3                |
| RB1-7287-000CN     | Delivery spring #2 (2)   | 99              | 4                |
| RB1-7288-020CN     | Bushing (2)              | 93              | 2                |
| RB1-7293-000CN     | Lever, sensor            | 98              | 5                |
| RB1-7294-000CN     | Spring, torsion          | 98              | 6                |
| RB1-7334-000CN     | Jammed paper protector   | 99              | 8                |
| RB1-7341-030CN     | Right cartridge guide #1 | 94              | 3                |
| RB1-7385-020CN     | Grounding spring         | 93              | 20               |
| RB2-1632-000CN     | Gear support plate       | 93              | 4                |
| RB2-1685-000CN     | Delivery roller #2 (2)   | 99              | 2                |
| RB2-1690-000CN     | Fuser roller bushing     | 98              | 4                |
| RB2-1699-000CN     | Feed roller              | 97              | 1                |
| RB2-3341-000CN     | Right cover              | 88              | 2                |
| RB2-3342-000CN     | Bottom plate             | 95              | 2                |
| RB2-3345-000CN     | Cap                      | 92              | 1                |

**Table 39. Numerical parts list**

| <b>Part number</b> | <b>Part name</b>                            | <b>Figure #</b> | <b>Reference</b> |
|--------------------|---|-----------------|------------------|
| RB2-3346-000CN     | Speaker mount                               | 95              | 1                |
| RB2-3347-000CN     | Spacer, PCB (7)                             | 95              | 3                |
| RB2-3350-000CN     | Cable guide, formatter                      | 92              | 3                |
| RB2-3351-000CN     | Cable tube                                  | 89              | 13               |
| RB2-3354-000CN     | Strap                                       | 89              | 1                |
| RB2-3360-000CN     | Left cover                                  | 88              | 3                |
| RB2-3361-000CN     | Rear cover                                  | 88              | 4                |
| RB2-3362-000CN     | Paper input support                         | 87              | 1                |
| RB2-3364-000CN     | Metal plate                                 | 92              | 5                |
| RB2-3365-000CN     | Sheet, arching (2)                          | 90              | 1                |
| RB2-3366-000CN     | Cable guide holder, formatter               | 92              | 8                |
| RB2-3393-000CN     | One-touch pad overlay sheet                 | 87              | 6                |
| RB2-3401-000CN     | Duct, 1                                     | 90              | 4                |
| RB2-3402-000CN     | Duct, 2                                     | 90              | 5                |
| RB2-3409-000CN     | Cable guide                                 | 89              | 19               |
| RB2-3410-000CN     | Paper output support                        | 87              | 2                |
| RB2-3436-000CN     | Document scanner guide                      | 89              | 5                |
| RB2-3448-000CN     | Paper path lever—LJ 3150 (darker in color)  | 88              | 12               |
| RB2-3449-000CN     | Front casing                                | 88              | 6                |
| RB2-3450-000CN     | Top cover                                   | 88              | 7                |
| RB2-3451-000CN     | Left front cover                            | 88              | 8                |
| RB2-3452-000CN     | Pressure release lever cover                | 88              | 11               |
| RB2-3453-000CN     | Paper path lever—LJ 3100 (lighter in color) | 88              | 12               |
| RB2-3454-000CN     | Spacer                                      | 89              | 15               |
| RB2-3455-000CN     | Document feeder support                     | 87              | 3                |
| RB2-3465-000CN     | Left hinge holder                           | 92              | 17               |
| RB2-3466-000CN     | Right hinge holder                          | 92              | 18               |
| RB2-3467-000CN     | Grounding plate (2)                         | 92              | 13               |
| RB2-3468-000CN     | Left hinge cover                            | 89              | 17               |
| RB2-3469-000CN     | Right hinge cover                           | 89              | 18               |
| RB2-3470-000CN     | Document output support                     | 87              | 4                |
| RB2-4118-000CN     | Grounding plate                             | 92              | 12               |

**Table 39. Numerical parts list**

| <b>Part number</b> | <b>Part name</b>             | <b>Figure #</b> | <b>Reference</b> |
|--------------------|------------------------------|-----------------|------------------|
| RB9-0227-000CN     | Spacer                       | 93              | 24               |
| RF5-1514-020CN     | Left cartridge guide         | 94              | 10               |
| RF5-1515-020CN     | Right cartridge guide #2     | 94              | 9                |
| RF5-1517-020CN     | Pressure plate               | 94              | 5                |
| RF5-1533-000CN     | Pressure roller ground guide | 94              | 14               |
| RF5-1534-000CN     | Transfer roller              | 94              | 7                |
| RF5-2358-000CN     | Transfer guide               | 94              | 6                |
| RF5-2364-000CN     | Pressure roller              | 94              | 4                |
| RF5-2367-000CN     | Exit roller                  | 93              | 17               |
| RF5-2368-000CN     | Fuser exit roller assembly   | 98              | 7                |
| RF5-2372-000CN     | Plate, middle                | 96              | 18               |
| RF5-2663-000CN     | Foot (4)                     | 95              | 4                |
| RF5-2664-000CN     | Reinforcement plate          | 92              | 4                |
| RG5-1947-000CN     | Paper feed drive assembly    | 96              | 9                |
| RG5-2029-000CN     | Cable, paper pickup          | 95              | 8                |
| RG5-2032-000CN     | Cable, thermistor            | 95              | 10               |
| RG5-2033-000CN     | Cable, motor                 | 95              | 11               |
| RG5-2035-000CN     | Cable, laser                 | 95              | 5                |
| RG5-3452-000CN     | Transfer guide assembly      | 94              | 21               |
| RG5-3453-000CN     | Switch lever assembly        | 93              | 16               |
| RG5-3474-020CN     | Delivery assembly            | 92, 99          |                  |
| RG5-3475-040CN     | Separation guide assembly    | 94, 98          |                  |
| RG5-3476-000CN     | Face-up/face-down lever      | 98              | 2                |
| RG5-3478-000CN     | Spur assembly inside (2)     | 99              | 7                |
| RG5-3479-000CN     | Spur assembly outside (2)    | 99              | 6                |
| RG5-3484-070CN     | Paper pickup assembly        | 92, 96          |                  |
| RG5-3485-030CN     | Feed assembly                | 96, 97          |                  |
| RG5-3486-040CN     | Pickup roller assembly       | 92, 96          |                  |
| RG5-3488-000CN     | Input bin assembly           | 88              | 9                |
| RG5-3497-050CN     | Laser/scanner assembly       | 93              | 19               |
| RG5-3661-000CN     | Cable, scanner               | 95              | 12               |
| RG5-3662-000CN     | Cable, door switch           | 95              | 9                |

**Table 39. Numerical parts list**

| <b>Part number</b> | <b>Part name</b>                             | <b>Figure #</b> | <b>Reference</b> |
|--------------------|--|-----------------|------------------|
| RG5-4220-000CN     | Printer door assembly—LJ 3100                | 89, 90          |                  |
| RG5-4221-000CN     | Upper guide assembly—LJ 3100                 | 89              |                  |
| RG5-4233-000CN     | Cable, contact image sensor (J1004 to J903)  | 89              | 21               |
| RG5-4237-000CN     | Cable, grounding, document scanner motor     | 92              | 20               |
| RG5-4238-000CN     | Cable, CIS grounding                         | 89              | 22               |
| RG5-4239-000CN     | Contact image sensor assembly                | 89              | 11               |
| RG5-4241-000CN     | Control panel assembly—LJ 3100               | 89              |                  |
| RG5-4678-000CN     | Fixing assembly, 110 V                       | 94              | 16               |
| RG5-4681-000CN     | Fixing assembly, 220 V                       | 94              | 16               |
| RG5-4690-000CN     | ECU, 110 V                                   | 95              | 18               |
| RG5-4691-070CN     | ECU, 220 V                                   | 95              | 18               |
| RG5-4763-000CN     | Single-sheet input slot assembly             | 88              | 10               |
| RG5-4768-000CN     | Upper guide assembly                         | 89              |                  |
| RG5-4769-000CN     | Control panel assembly—LJ 3150               | 89              |                  |
| RG5-4770-000CN     | Printer door assembly—LJ 3150                | 89, 90          |                  |
| RG5-4771-000CN     | Document scanner assembly                    | 89, 91          |                  |
| RG5-4772-000CN     | Pickup roller assembly, document scanner     | 91              | 1                |
| RH2-5346-000CN     | Cable, formatter                             | 95              | 6                |
| RH6-3845-000CN     | Speaker                                      | 95              | 7                |
| RH7-1320-000CN     | Motor, DC 12V                                | 93              | 7                |
| RH7-1376-000CN     | Motor, AC 1.08W                              | 91              | 19               |
| RH7-5139-000CN     | Solenoid                                     | 96              | 13               |
| RS5-0796-000CN     | Pressure roller gear (27T)                   | 94              | 11               |
| RS5-2501-000CN     | Spring, compression                          | 96              | 14               |
| RS5-2508-000CN     | Spring, compression                          | 94              | 19               |
| RY7-5005-000CN     | Gear kit #1                                  | 93              | 1                |
| RY7-5007-000CN     | Fuser release kit                            | 93              | 6                |
| RY7-5008-000CN     | Separation pad kit                           | 96              | 2                |
| RY7-5009-000CN     | Input sensor assembly                        | 96              | 3                |
| RY7-5036-000CN     | Gear kit #2                                  | 93              | 8                |
| RY7-5055-000CN     | Separation pad kit for document scanner path | 89              | 10               |

**Table 39. Numerical parts list**

| <b>Part number</b> | <b>Part name</b>                     | <b>Figure #</b> | <b>Reference</b> |
|--------------------|--------------------------------------|-----------------|------------------|
| VS1-5057-002CN     | Fuser connector (2P)                 | 94              | 15               |
| WE8-5192-000CN     | Ferrite ring core                    | 93              | 23               |
| WT2-0276-000CN     | Clamp, wire                          | 95              | 13               |
| WT2-0367-000CN     | Clamp, cable                         | 95              | 14               |
| WT2-5178-000CN     | Cable guide, control panel           | 92              | 14               |
| WT2-5178-000CN     | Clamp, cable                         | 95              | 15               |
| WT2-5300-000CN     | Cable guide, frame                   | 92              | 15               |
| XA9-0267-000CN     | Screw                                | 92              | 21               |
| XA9-0267-000CN     | Screw, TP, M3X6 (2)                  | 93              | 21               |
| XA9-0382-000CN     | Screw, TP, M3X12                     | 93              | 22               |
| XA9-0434-000CN     | Screw, TP, M3X4 (4)                  | 92              | 19               |
| XA9-0476-000CN     | Screw, TP, M3X8                      | 88              | 14               |
| XA9-0497-000CN     | Screw, M4X8 (4)                      | 88              | 502              |
| XA9-0614-000CN     | Screw, M3X8 (4)                      | 90              | 24               |
| XA9-0686-000CN     | Screw, M3X6                          | 94              | 18               |
| XA9-0724-000CN     | Screw, M3X8 (11)                     | 92              | 9                |
| XA9-0724-000CN     | Screw, M3X8                          | 94              | 17               |
| XA9-0724-000CN     | Screw, M3X8 (2)                      | 88              | 16               |
| XA9-0779-000CN     | Screw                                | 92              | 16               |
| XA9-0779-000CN     | Screw—LJ 3150                        | 89              | 20               |
| XA9-0824-000CN     | Screw, RS, M3X10                     | 94              | 20               |
| XA9-0828-000CN     | Screw, with star washer, M3X4        | 95              | 16               |
| XA9-0855-000CN     | Screw, RS, with washer, M3X8         | 92              | 10               |
| XA9-0890-000CN     | Screw, with washer, M3X6 (4)         | 95              | 17               |
| XB4-7300-807CN     | Screw, M3X8                          | 91              | 503              |
| XB4-7300-807CN     | Screw, tapping, truss head, M3X8 (7) | 89              | 501              |
| XB4-7300-809CN     | Screw, tapping, truss head, M3X8     | 93              | 502              |
| XB4-7400-807CN     | Screw, tapping, truss head, M4X8 (3) | 92              | 501              |
| XB4-7401-000CN     | Screw, tapping, pan head, M4X10 (2)  | 96              | 501              |
| XB6-7300-807CN     | Screw, TP, M3X8 (5)                  | 93              | 501              |



# A

# Additional user notes

## Document scanner separation pad replacement

The document scanner separation pad is a user-replacable part that is ordered as part of a kit for either the HP LaserJet 3100 product and HP LaserJet 3150 product.

The “separation pad kit for document scanner path”—part number RY7-5055-000CN—contains three pieces:

- Document scanner separation pad
- Separation mylar
- Pad holder

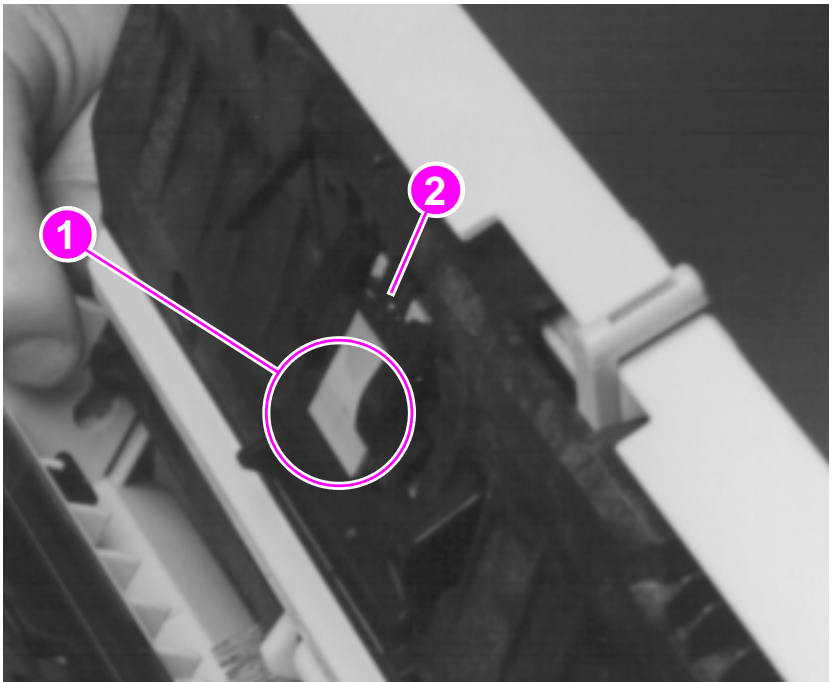
When the HP LaserJet 3100 product was introduced, the three pieces were ordered separately, with separate part numbers.

## When to replace the document scanner separation pad

Replace the document scanner separation pad when the document scanner feeds multiple sheets at once through the scanner path (double-feeds or multi-feeds). Recurring multi-feed problems indicate that the document scanner separation pad is worn.

## How to replace the document scanner separation pad

- 1 Lift open the document release door.
- 2 Rotate the strap on the left side of the printer door to unhook the strap.
- 3 Grasp the separation pad and mylar sheet together (callout 1, below) and lift them straight away from the document release door. This action should also release the pad holder (callout 2).



**Figure 100. Document scanner separation pad replacement**

- 4 Press the new pad holder, with pad and mylar attached, into position. It should snap into place.
- 5 Rehook the strap and close the document release door.

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