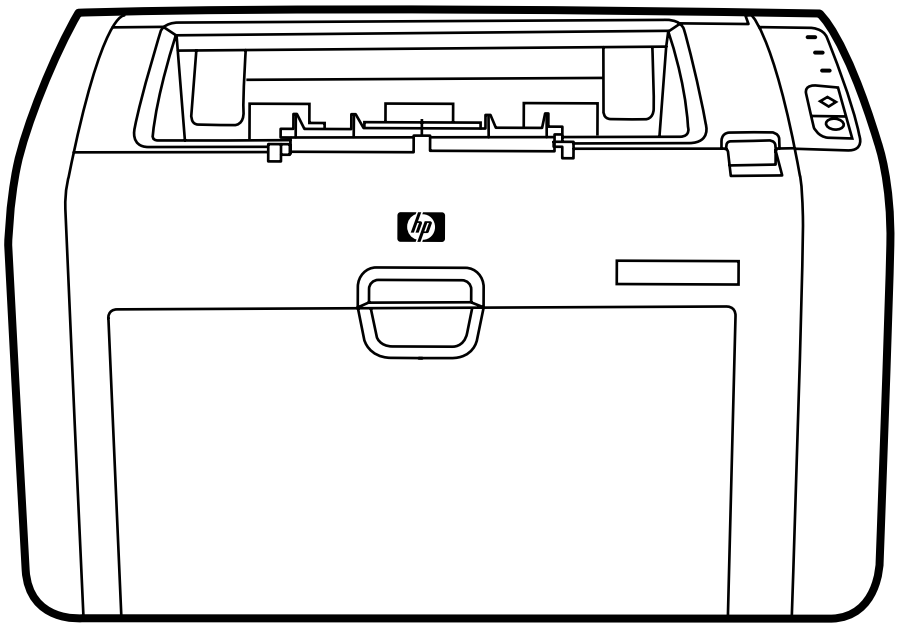
HP LaserJet 1022, 1022n, 1022nw
Service Manual



invent

HP LaserJet 1022 series printers

Service Manual

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Safety Information

WARNING!

Potential Shock Hazard

Always follow basic safety precautions when using this product to reduce risk of injury from fire or electric shock.

Read and understand all instructions in the user guide.

Observe all warnings and instructions marked on the product.

Use only a grounded electrical outlet when connecting the HP LaserJet 1022 series printer to a power source. If you don’t know whether the outlet is grounded, check with a qualified electrician.

Do not touch the contacts on the end of any of the sockets on the HP LaserJet 1022 series printer. Replace damaged cords immediately.

Unplug this product from wall outlets before cleaning.

Do not install or use this product near water or when you are wet.

Install the product securely on a stable surface.

Install the product in a protected location where no one can step on or trip over the power cord and the power cord will not be damaged.

If the product does not operate normally, see the online user guide.

Refer all servicing questions to qualified personnel.

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1 Product Information

This chapter provides general product information for HP LaserJet 1022 series printer.

- Product configurations
- Overview of product
- Product specifications
- Extended warranty
- Print-cartridge information
- Regulatory information

Product configurations

The HP LaserJet 1022 series printers are designed to print documents easily and with the laser quality that customers have come to expect from an HP LaserJet product. The following sections describe the configurations of the HP LaserJet 1022 series printers.

HP LaserJet 1022 printer

The HP LaserJet 1022 (HP LJ 1022) is the base model of the HP LaserJet 1022 series printers. It offers the following features:

- Prints up to 18 pages per minute (ppm) for A4-sized media, and 19 ppm for letter-size media
- 10 seconds or less to first page out
- ProRes 1200 print quality setting that provides fine-line detail at 1200 x 1200 dots per inch (dpi)
- 250-sheet input capacity (75-g/m^2 [20-lb] media)
- Priority input slot
- 125-sheet output bin capacity
- Prints watermarks, booklets, and multiple pages per sheet (N-up), and can print the first page on different media from the remainder of the document
- 8 MB of RAM
- Host-based and PCL5e printer driver
- 26 PCL fonts
- 2,000-page print cartridge
- USB 2.0 Hi-Speed port

HP LaserJet 1022n printer

The HP LaserJet 1022n (HP LJ 1022n) has all of the features of the HP LJ 1022, and also includes an internal network port.

HP LaserJet 1022nw printer

The HP LaserJet 1022nw (HP LJ 1022nw) has all of the features of the HP LJ 1022n, and also includes integrated 802.11b/g wireless connectivity.

NOTE For more information about this product, see the *HP LaserJet 1022nw Wireless User Guide*.

Overview of product

HP LaserJet 1022 series printers

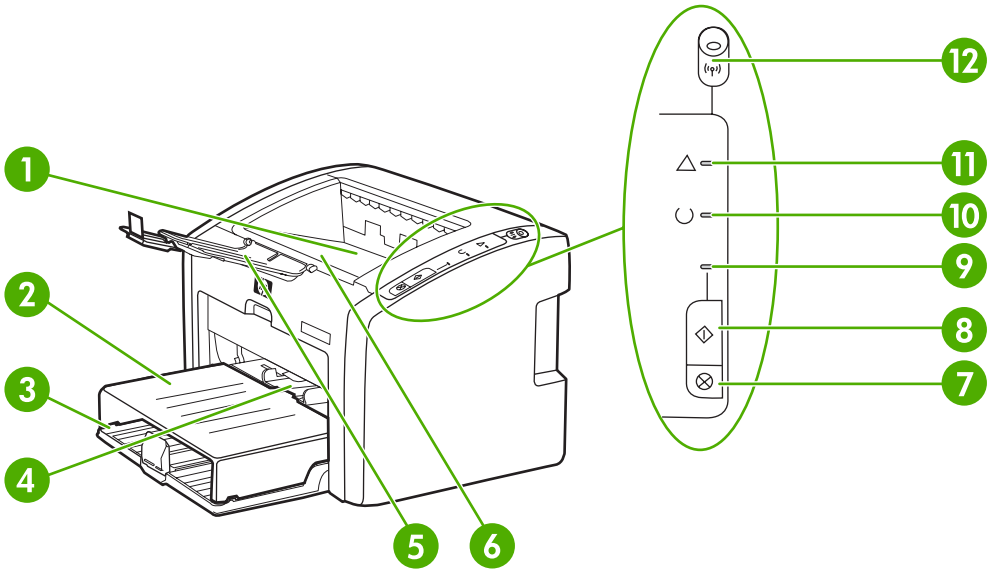


Figure 1-1 Front and right-side view

1	Output bin
2	Input-tray cover
3	250-sheet main input tray
4	Priority feed slot
5	Output-media support
6	Print-cartridge door
7	CANCEL JOB button
8	GO button
9	GO light
10	READY light
11	ATTENTION light
12	WIRELESS light (HP LJ 1022nw printer only)

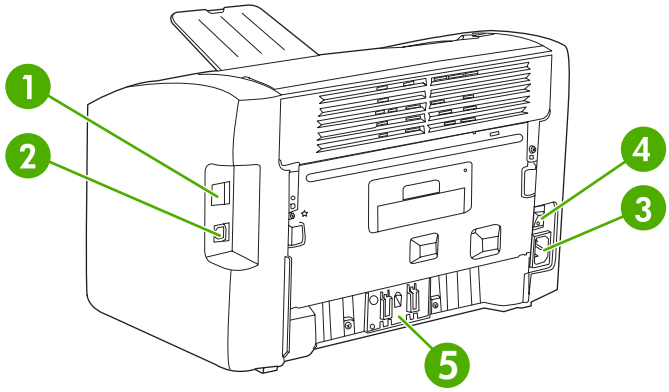


Figure 1-2 Back and left-side view

1	Internal network port (HP LJ 1022n and HP LJ 1022nw printers only)
2	USB port
3	Power receptacle
4	On/off switch
5	Separation pad

Model and serial numbers

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

The serial number contains information about the country/region of origin and the revision level, production code, and production number of the product.

The label also contains power-rating and regulatory information.

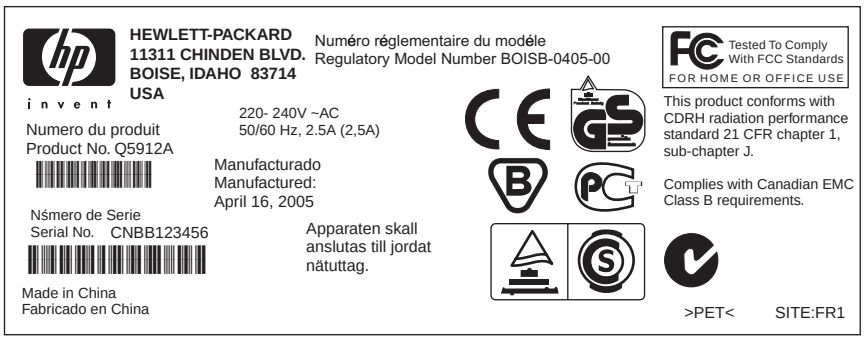


Figure 1-3 Model- and serial-number label

Hardware description

The HP LaserJet 1022 series printers provide ProRes technology for 1200 dpi resolution.

The product prints at 19 ppm for letter-size paper and 18 ppm for A4-size paper. With 1200 dpi printing, the product has exceptional text and graphics print quality. The simple control panel and improved paper handling make this product very easy to use.

The main input tray has a 250-sheet (75-g/m^2[20-lb] media) capacity for continuous, multiple-page printing. The priority input slot is used to manually feed single sheets of most recommended media. Both the main input tray and the priority input slot are center-justified for all supported media sizes. The output bin holds up to 100 sheets of 75-g/m^2 (20-lb) paper.

The product has a very fast first-page-out, at less than 8 seconds. The base memory contains 8 MB of RAM and an embedded 133 MHz processor.

The print engine has an average duty cycle of 1,000 pages per month (7,000 peak) or 50,000 total pages printed. The standard print-cartridge life is 2,000 pages, in accordance with ISO/IEC 19752.

NOTE Actual print cartridge life depends on specific usage.

Firmware description

The firmware in the product includes these features:

- Host-based printing
- PCL Level 5e
- EconoMode functionality

Product specifications

This section details the specifications for the HP LaserJet 1022 series printers.

Physical specifications

Table 1-1 Physical specifications

Model	Height	Depth	Width	Weight
HP LaserJet 1022 series printers	241 mm (9.5 inches)	245 mm (9.6 inches)	370 mm (14.6 inches)	6.3 kg (13.9 lb)

Printer performance

Table 1-2 Performance

Model	Print resolution (normal)	Print speed (A4-size media)
HP LaserJet 1022 series printers	1200 dpi (ProRes)	18 ppm

Environmental specification

Table 1-3 Environmental specifications

Category	Specification
Operating environment (unit plugged into an alternating current [ac] outlet)	■ Temperature: 10° to 32.5°C (50° to 90.5° F) ■ Humidity: 20 to 80% relative humidity (no condensation)
Storage environment (unit not plugged into an AC outlet)	■ Temperature: 0° to 40°C (32° to 104°F) ■ Humidity: 10 to 80% relative humidity (no condensation)

Electrical specifications

Table 1-4 Power requirements

Specification	110-volt models	220-volt models
Power requirements	110–127 V (±10%) 50/60 Hz (±2 Hz)	220–240 V (±10%) 50/60 Hz (±2 Hz)
Rated current	4.0 amps	2.5 amps

WARNING! Power sources are not interchangeable.

Table 1-5 Power consumption (average, in watts)[1]

Product model	Printing[2]	Ready[2]	PowerSave	Off
HP LaserJet 1022 series printers	300 W (110 V models) 250 W (220 V models)	4 W	4 W	0 W

1 Values are subject to change. See www.hp.com/support/lj1022 for current information.

2 Power reported is highest value measured for printing using all standard voltages. HP LaserJet 1022 printer print speed is 19 ppm (letter size) and 18 ppm (A4 size).

Acoustic emissions

Table 1-6 Acoustic emissions[1]

Sound power level	Declared per ISO 9296
Printing	L_{WAd} = <6.2 Bels (A) [62 dB (A)]
Ready	Inaudible
Sound pressure level—Bystander position	**Declared per ISO 9296**
Printing	L_{pAm} = ≤49 dB (A)
Ready	Inaudible

1 Values are subject to change. See www.hp.com/support/lj1022 for current information. Configuration tested: HP LaserJet 1022 printer using the standard tray, A4 paper, and simplex, continuous printing. HP LaserJet 1022 printer print speed is 19 ppm (letter size) and 18 ppm (A4 size). During other operations, acoustic emissions might vary.

Extended warranty

In most countries/regions, HP Care Pack provides additional coverage, beyond standard warranty for the HP device and for all HP-supplied internal components. This hardware maintenance can uplift the standard warranty, for example, from next-day to same-day service, or extend it up to 5 years. The HP Care Pack can provide Express Exchange or onsite service. For more information, see the support flyer that came with the device for the appropriate phone numbers and information.

Print-cartridge information

The print cartridge is designed to simplify replacement of the major consumable parts. The print cartridge contains the printing mechanism and a supply of toner.

The standard print-cartridge life is 2,000 pages, in accordance with ISO/IEC 19752.

NOTE Actual print cartridge life depends on specific usage.

Refilled print cartridges

While Hewlett-Packard does not prohibit the use of refilled print cartridges during the warranty period or while the product is under a maintenance contract, use of refilled cartridges is not recommended for the following reasons:

- Repairs resulting from the use of refilled cartridges are not covered under Hewlett-Packard warranty or maintenance contracts.
- Hewlett-Packard has no control or process to ensure that a refilled cartridge functions at the high level of reliability of a new HP LaserJet print cartridge. Hewlett-Packard also cannot predict the long-term reliability effect on the product from using the different toner formulations that are found in refilled cartridges.
- The print quality of HP LaserJet print cartridges influences the customer's perception of the product. Hewlett-Packard has no control over the actual print quality of a refilled cartridge.
- Parts that are critical to print quality might not be replaced when the cartridge is refilled with toner.

Recycling print cartridges

In order to reduce waste, Hewlett-Packard offers a recycling program. Cartridge components that do not wear out are recycled. Plastics and other materials are recycled. Hewlett-Packard pays the shipping costs from the user to the recycling plant (within the United States). To join this recycling effort, follow the instructions inside the print cartridge box. See www.hp.com/recycle for more information.

Regulatory information

FCC compliance

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 it is 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 Hewlett-Packard could void the user's authority to operate this equipment. Use of a shielded interface cable is required to comply with the Class B limits of Part 15 of FCC rules.

Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

«Conforme á la classe B des normes canadiennes de compatibilité électromagnétiques. «CEM».»

Korean EMI statement

사용자 안내문 (B급 기기)

이 기기는 비업무용으로 전자파장해 검정을 받은 기기로서, 주거 지역에서는 물론 모든 지역에서 사용할 수 있습니다.

Laser statement for Finland

LASERTURVALLISUUS

LUOKAN 1 LASERLAITE

KLASS 1 LASER APPARAT

HP LaserJet 1022, HP LaserJet 1022n, HP LaserJet 1022nw -laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalissa 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 ylittävälle 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 1022, HP LaserJet 1022n, HP LaserJet 1022nw-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 785-800 nm

Teho 5 mW

Luokan 3B laser

2 Installation and Operation

This chapter provides an overview of the appropriate operating environment, describes the control panel, describes media requirements, and describes how to load print media.

- Operating environment
- Identifying the control-panel components
- Media specifications
- Guidelines for using media
- Loading media
- Setting media types

Operating environment

Place the product on a sturdy, level surface in a well-ventilated area that meets the following environmental requirements:

- Temperature: 10° to 32.5°C (50° to 90.5°F)
- Humidity: 20 to 80% relative humidity (no condensation)
- Away from direct sunlight, open flames, and ammonia fumes
- With sufficient space around the product to accommodate proper access and ventilation requirements

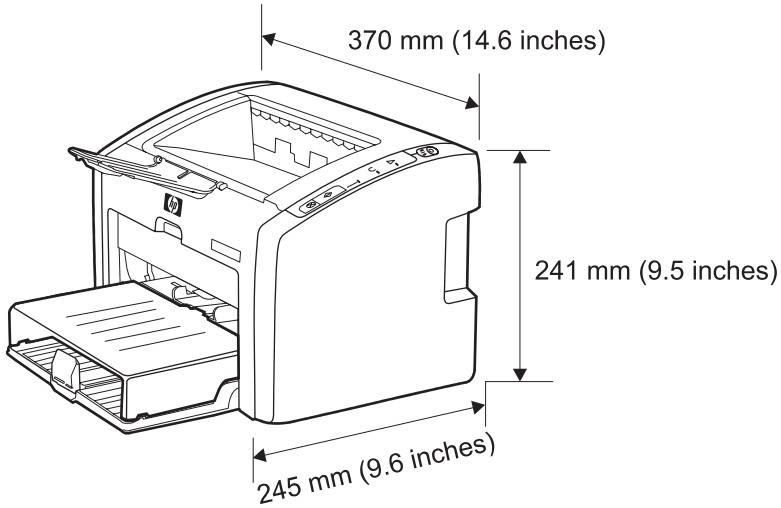


Figure 2-1 Dimensions of product

Identifying the control-panel components

The printer control panel has three lights and two buttons. The HP LaserJet 1022nw has an additional light (WIRELESS light) at the top of the control panel. These lights produce patterns that identify printer status.

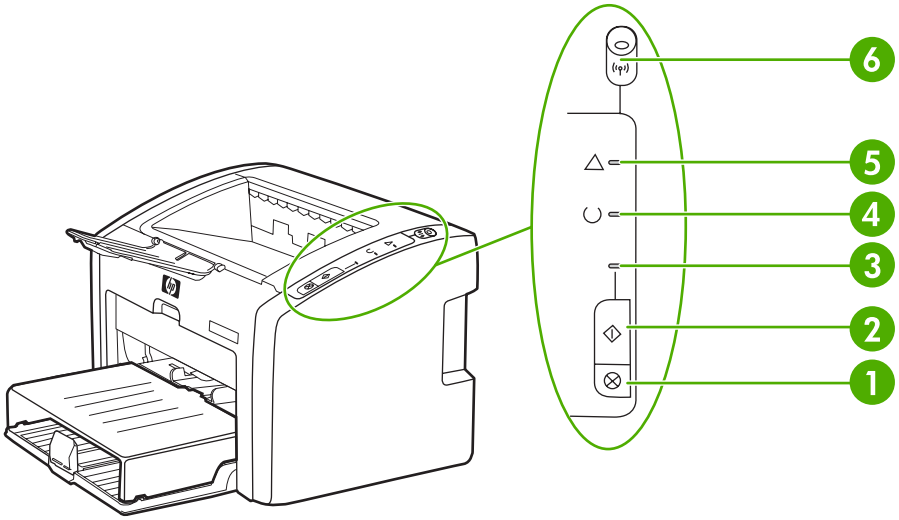


Figure 2-2 Control-panel lights and buttons

1	CANCEL JOB button: When the printer is processing data, press the CANCEL JOB button to cancel the print job.
2	GO button: To print a demo page or to continue printing while in manual feed mode, press and release the GO button. To print a configuration page, press and hold the GO button for 5 seconds.
3	GO light: Indicates that the product is receiving data when flashing.
4	READY light: Indicates that the product is ready to print.
5	ATTENTION light: Indicates that the input tray is empty, print-cartridge door is open, print cartridge is missing, or other errors.
6	WIRELESS light: (HP LJ 1022nw printer only) When the wireless light is on solid, a wireless connection has been established. When the wireless light is off, wireless operation is disabled. When the wireless light is flashing, the product is trying to establish a wireless connection.

Media specifications

The printers accept a variety of media. Properties such as weight, grain, and moisture content are important factors that affect printer performance and output quality. Media should conform to the guidelines in the user guide. Media that does not meet HP guidelines might cause poor print quality, increased media jams, or premature wear on the product, which might require printer repair.

CAUTION Damage that is caused by using media that does not meet HP specifications is not covered by the HP warranty or service agreements.

Supported media sizes

The printer supports media within this size range:

- **Minimum:** 76 x 127 mm (3 x 5 inches)
- **Maximum:** 216 x 356 mm (8.5 x 14 inches)

Table 2-1 Media sizes

Paper type	Metric	English
Letter	216 x 279 mm	8.5 x 11 inches
Legal	216 x 356 mm	8.5 x 14 inches
Executive	184 x 267 mm	7.25 x 10.5 inches
A4	210 x 297 mm	8.25 x 11.75 inches
COM10 envelopes	105 x 241 mm	4.13 x 9.5 inches
DL envelopes	110 x 220 mm	4.33 x 8.67 in
C5 envelopes	162 x 229 mm	6.4 x 9 inches
B5 envelopes	176 x 250 mm	6.9 x 9.85 inches
Monarch envelopes	98.5 x 191 mm	3.88 x 7.5 inches
Labels	(216 x 279 mm)	(8.5 x 11 inches)
Custom-size media	custom (within acceptable range)	custom (within acceptable range)

NOTE Narrow and heavy media can cause the printer to print more slowly.

Guidelines for using media

HP LaserJet printers produce documents that have excellent print quality. They can print on a variety of media types, such as paper (including up to 100% recycled fiber content paper), envelopes, labels, transparencies, and custom-sized media.

Paper and transparencies

Paper must be of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, holes, and curled or bent edges. Check the label on the paper package for details about the type of paper (such as bond or recycled).

Some paper causes print-quality problems, jamming, or damage to the printer.

NOTE Do not use letterhead that is printed with low-temperature inks, such as those used in some types of thermography, raised letterhead, or colored paper or preprinted forms that use inks incompatible with the printer temperature, which is 200°C (392°F) for 0.1 second.

Transparencies must be able to withstand 200°C (392°F), the maximum print temperature.

Common media problems table

Symptom	Problem with paper	Solution
Poor print quality or toner adhesion, or problems with feeding	Too moist, too rough, too smooth, or embossed faulty paper lot	Try another kind of paper that is between 100 and 250 Sheffield and has 4% to 6% moisture content.
Dropouts, jamming, or curl	Stored improperly	Store paper flat in its moisture-proof wrapping.
Increased gray background shading	Might be too heavy	Use lighter paper.
Excessive curl, or problems with feeding	Too moist, wrong grain direction, or short-grain construction	Use long-grain paper or change the media type to light.
Jamming, or damage to printer	Cutouts or perforations	Do not use paper that has cutouts or perforations.
Problems with feeding	Ragged edges	Make sure that the sliding media input guides on the input tray are correctly adjusted.
Moisture on the trailing edge of the paper	Too moist (media is steaming when it exits the printer)	Store paper in a low humidity area or air tight container or change the media type to light.

Labels

When selecting labels, consider the following factors:

- **Adhesives:** The adhesive material should be stable at 200°C (392°F), the printer's maximum temperature.
- **Arrangement:** Only use labels with no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams.
- **Curl:** Before printing, labels must lie flat with no more than 13 mm (0.5 inch) of curl in any direction.

- **Condition:** Do not use labels with wrinkles, bubbles, or other indications of separation. Never use a sheet of labels that has already been run through the printer.

Envelopes

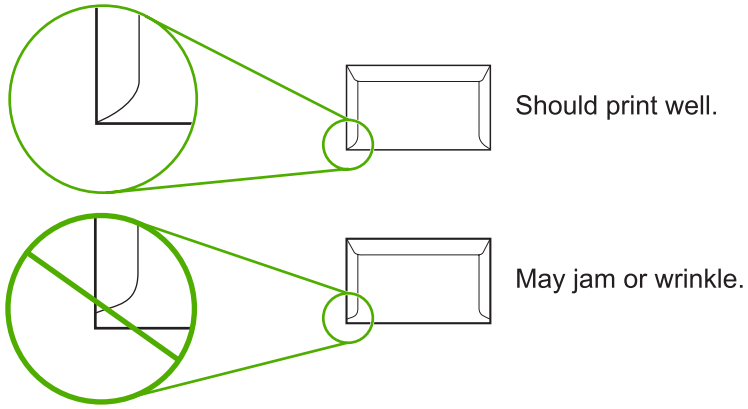
Envelope construction is critical. Envelope fold lines can vary considerably, not only between manufacturers but also within a box from the same manufacturer. Successful printing on envelopes depends on the quality of the envelopes. When selecting envelopes, consider the following factors:

- **Weight:** The weight of the envelope paper should not exceed 105 g/m^2 (28 lb), or jamming might result.
- **Construction:** Before printing, envelopes should lie flat with less than 6 mm (0.25 inch) curl and should not contain air. Envelopes that trap air may cause problems.
- **Condition:** Make sure that the envelopes are not wrinkled, nicked, or otherwise damaged.
- **Sizes:** From 90 x 160 mm (3.5 x 6.3 inches) to 178 x 254 mm (7 x 10 inches).

Store envelopes flat. If air is trapped in an envelope, creating an air bubble, the envelope might wrinkle during printing.

Envelopes with double-side seams

An envelope with double-side-seam construction (vertical seams at both ends of the envelope rather than diagonal seams) is more likely to wrinkle. Make sure the seam extends all the way to the corner of the envelope as shown in top figure of the following illustration:



Envelopes with adhesive strips or flaps

Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives compatible with the heat and pressure in the printer: 200°C (392°F). The extra flaps and strips might cause wrinkling, creasing, or jams.

Card stock and heavy media

For optimum performance, do not use paper heavier than 157-g/m ^{2} (42-lb). Paper that is too heavy might cause misfeeds, stacking problems, jams, poor toner fusing, poor print quality, or excessive mechanical wear.

Card-stock construction

- **Smoothness:** 135- to 157-g/m ^{2} (36- to 42-lb) card stock should have a smoothness rating of 100 to 180 Sheffield. 60- to135-g/m ^{2} (16- to 36-lb) card stock should have a smoothness rating of 100 to 250 Sheffield.
- **Construction** : Card stock should lie flat with less than 5 mm (0.2 inch) of curl.
- **Condition:** Make sure that the card stock is not wrinkled, nicked, or otherwise damaged.
- **Sizes:** Only use card stock within the following size ranges:
  - **Minimum:** 76 x 127 mm (3 x 5 inches)
  - **Maximum:** 216 x 356 mm (8.5 x 14 inches)

Card-stock guidelines

- Set margins at least 2 mm (0.08 inch) away from the edges.

Loading media

Loading media in the HP LaserJet 1022 series printers is simple and straightforward.

This section describes loading bulk media to print.

Main input tray

The main input tray holds up to 250 sheets of 75-g/m ^{2} (20-lb) paper or a 25 mm (0.98 inch) stack of heavier media. Load media with the top forward and the side to be printed on facing up. To prevent jams and skew, always adjust the side and rear media guides.

Priority feed slot

The priority feed slot is used to feed a single sheet of recommended media for manual feeding and special operations. It can hold one page of 75-g/m^2 (20-lb) paper, but is best used to feed a single sheet of heavy paper (163-g/m^2 [42-lb]) or card stock, or a single envelope or transparency. Load media with the top forward and the side to be printed on facing up. To prevent jams and skew, always adjust the side media guides.

If you try to print on media that is wrinkled, folded, or damaged in any way, a jam might occur. See the user guide for more information. See Jams on page 37.

NOTE When adding new media, make sure to remove all of the media from the input tray and straighten the stack of new media. This helps prevent multiple sheets of media from feeding through the printer at one time, and therefore reduces jams.

Specific types of media

- **Transparencies and labels:** Load transparencies and labels with the top forward and the side to be printed facing up. See the user guide on the product CD for more information.
- **Envelopes:** Load envelopes with the narrow, stamp side forward and the side to be printed facing up. See the user guide for more information.
- **Letterhead or preprinted forms:** Load with the top forward and the side to be printed facing up. See the user guide for more information.
- **Cards and custom-sized media:** Load with the narrow side forward and the side to be printed facing up. See the user guide for more information.

Setting media types

Use the procedure in this section to select the correct type of media for the print job. An incorrect media type setting might cause image-quality problems.

Set the media type

1. Open the **Printer Properties** dialog box.
2. Click **Printer Preferences**.
3. Select the correct media type from the **Type Is** drop down menu.
4. Click **OK** to close the **Printer Preferences** dialog box.
5. Click **OK** to close the **Printer Properties** dialog box.

3 Maintenance

This chapter describes the life expectancy of parts that wear, printer cleaning, printer maintenance, and the replacement of user-replaceable parts.

- Life expectancies of parts that wear
- Cleaning the product
- User-replaceable parts
- Jams

Life expectancies of parts that wear

Inspect any parts that wear when servicing the product. Replace them as needed, based on failure or wear rather than on usage.

The following table lists approximate schedules for replacing consumables.

Table 3-1 Life expectancies of parts that wear

Description	Part number	Life (estimated)	Remarks
Print cartridge (user-replaceable)	Q2612A	2,000 pages **NOTE** The declared cartridge yield value is stated in accordance with ISO/IEC 19752. For more information, see www.hp.com/go/pageyield.	When print becomes faint, redistribute the toner in the cartridge by gently rotating the cartridge from side to side, or replace the cartridge.
Pickup roller	RL1-0266-000CN	50,000 pages	Affects paper pickup
Printer separation pad	RC1-2048-000CN	50,000 pages	Affects paper separation (feeding one page at a time)
Fuser assembly (110-127 V)	RM1-2049-000CN	50,000 pages	Can affect print quality and paper movement
Fuser assembly (220-240 V)	RM1-2050-030CN	50,000 pages	Can affect print quality and paper movement
HP LJ 1022 printer 110 V	Q5912-67056 (replacement) Q5912-69056 (refurbished) Q5912-67001 (exchange engine w/formatter)	50,000 pages	Maximum life
HP LJ 1022n printer 110 V	Q5913-67056 (replacement) Q5913-69056 (refurbished) Q5913-67001 (exchange engine w/formatter)	50,000 pages	Maximum life
HP LJ 1022nw printer 110 V	Q5914-67056 (replacement) Q5914-69056 (refurbished) Q5914-67001 (exchange engine w/formatter)	50,000 pages	Maximum life
HP LJ 1022 printer 220 V	Q5912-67055 (replacement) Q5912-69055 (refurbished) Q5912-67002 (exchange engine w/formatter)	50,000 pages	Maximum life
HP LJ 1022n printer 220 V	Q5913-67055 (replacement) Q5913-69055 (refurbished)	50,000 pages	Maximum life

Table 3-1 Life expectancies of parts that wear (continued)

Description	Part number	Life (estimated)	Remarks
	Q5913-67002 (exchange engine w/formatter)		
HP LJ 1022nw printer 220 V	Q5914-67055 (replacement) Q5914-69055 (refurbished) Q5914-67002 (exchange engine w/formatter)	50,000 pages	Maximum life

Cleaning the product

WARNING! Before you perform these steps, unplug the product to avoid shock hazard.

To maintain quality, thoroughly clean the product at the following times:

- Any time a new print cartridge is installed
- After printing approximately 2,000 pages
- Whenever print-quality problems appear

Clean the outside of the product with a water-dampened cloth. Clean the inside with a dry, lint-free cloth (such as a lens tissue).

WARNING! Avoid touching the heating element in the fuser. It might be very hot and can cause burns.

CAUTION To avoid permanent damage to the product, do not use ammonia-based or ethyl alcohol-based cleaners on or around the product.

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

Cleaning the print path

The HP LJ 1022 series feature a special cleaning mode to clean the paper path.

NOTE This process requires a transparency to remove dust and toner from the print paper path. Do not use bond or rough paper.

Make sure that the transparency used in this cleaning process meets the media requirements for the printer.

If transparency film is unavailable, you can use copier-grade paper (70- to 90-g/m^2, or 18- to 24-lb) with a smooth surface. If you must use paper, perform the procedure two or three times to ensure thorough cleaning.

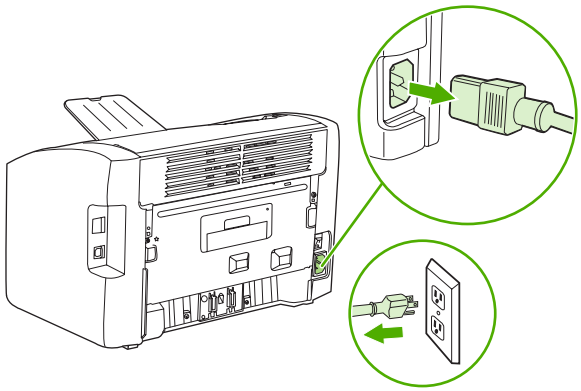
1. Make sure that the printer is idle and the READY light is on.
2. Load the transparency in the input tray.
3. Open the **Printer Properties** dialog box. Click the **Configure** tab, and then select **Start** in the **Cleaning Page** box. Follow the instructions in the **Cleaning Utility** dialog box.

NOTE The cleaning process takes approximately 3 minutes. The cleaning page will stop periodically during the cleaning process. Do not turn the printer off until the cleaning process has been completed. You might need to repeat the cleaning process several times to thoroughly clean the printer.

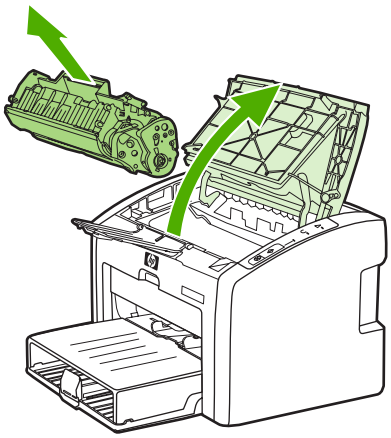
Cleaning the print-cartridge area

You do not need to clean the print-cartridge area often. However, cleaning this area can improve the quality of your printed sheets.

1 Turn off the printer, unplug and remove the power cord. Wait for the printer to cool.

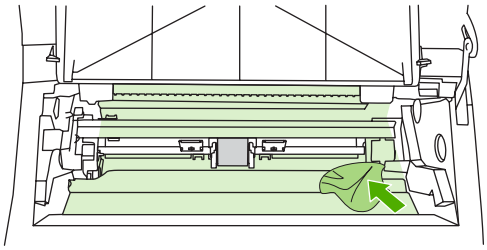


2 Open the print-cartridge door, and remove the print cartridge.

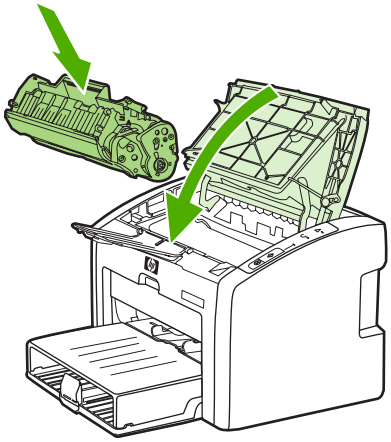


CAUTION To prevent damage, do not expose the print cartridge to light. Cover the print cartridge, if necessary. Also, do not touch the black-sponge transfer roller inside the printer. By doing so, you can damage the printer.

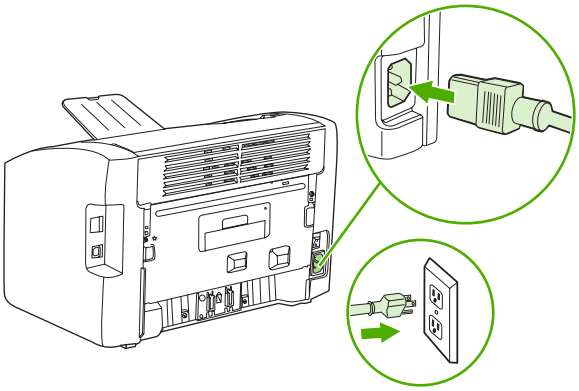
3 With a dry, lint-free cloth, wipe any residue from the media-path area and the print-cartridge cavity.



4 Replace the print cartridge, and close the print-cartridge door.



5 Plug in the printer, and then turn it on.

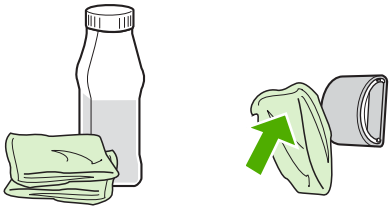


Cleaning the pickup roller

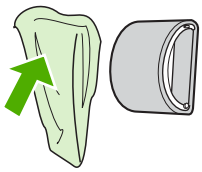
If you want to clean the pickup roller rather than replace it, use the following instructions.

Remove the pickup roller as described in steps 1 through 5 of Replacing the pickup roller on page 30. With the roller outside the printer, use the following steps to complete the cleaning.

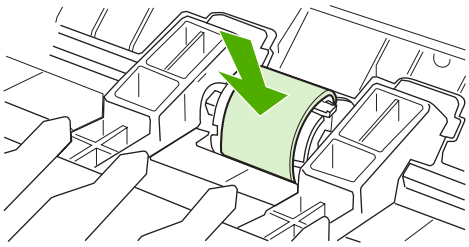
1 Dampen a lint-free cloth with water and scrub the roller.



2 Using a dry, lint-free cloth, wipe the pickup roller to remove loosened dirt.



3 Allow the pickup roller to dry completely before you reinstall it in the printer. To reinstall the pickup roller, see steps 6 through 9 of Replacing the pickup roller on page 30.



User-replaceable parts

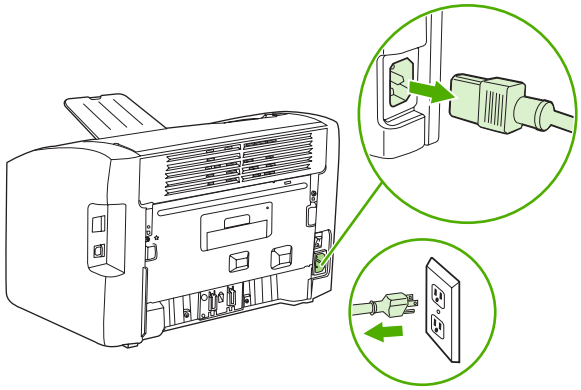
To order a new pickup roller or separation pad, go to www.partsdirect.hp.com.

Replacing the pickup roller

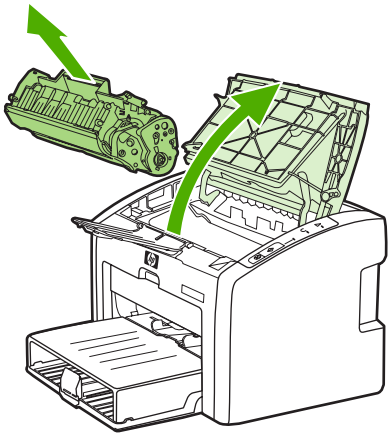
If the printer regularly misfeeds (no media feeds through) and cleaning the pickup roller does not fix the problem, replace the pickup roller.

CAUTION Failure to complete all of the steps in this procedure might damage the product.

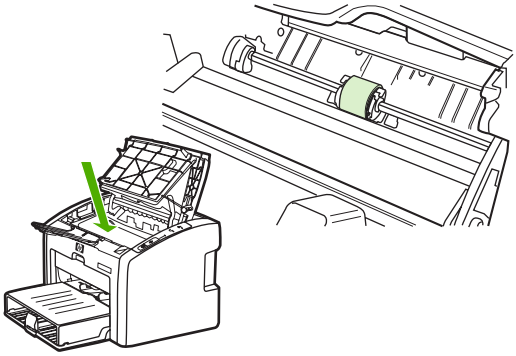
1 Turn off the printer, unplug and remove the power cord. Wait for the printer to cool.



2 Open the print-cartridge door, and remove the print cartridge.

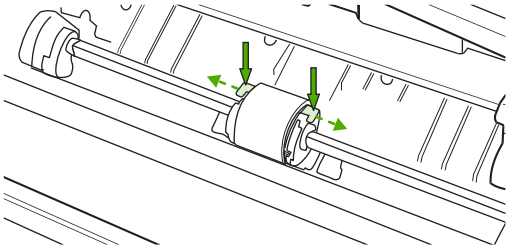


3 Locate the pickup roller.

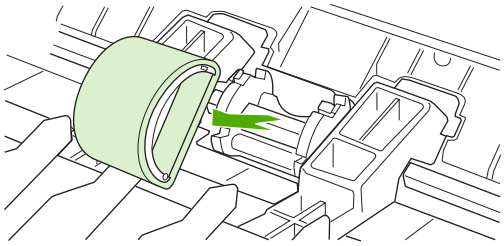


4 Gently release the small, white tabs on each side of the pickup roller by pushing them away from the roller, and then rotate the pickup roller toward the front.

CAUTION Use gentle pressure to release the small, white tabs to avoid breaking them.

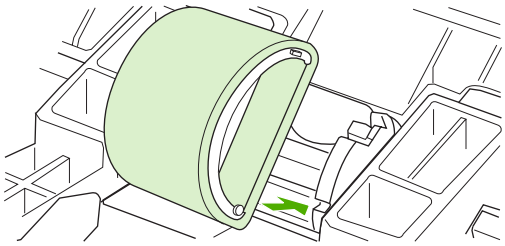


5 Gently pull the pickup roller up and out.

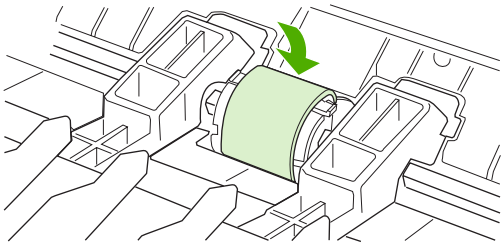


6 Position the new pickup roller in the slot of the previous pickup roller.

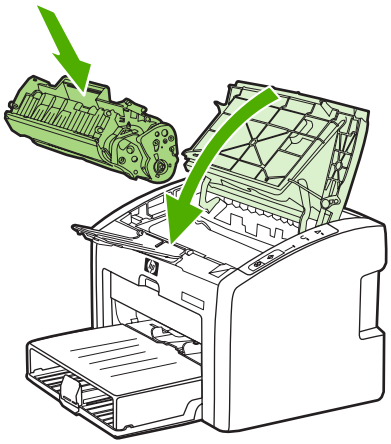
NOTE Circular and rectangular pegs on each side prevent you from incorrectly positioning the pickup roller.



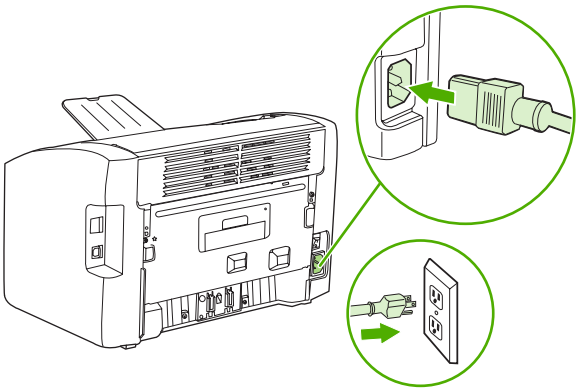
7 Rotate the top of the new pickup roller into position until the white tabs on each side of the roller snap the roller into place.



8 Reinstall the print cartridge and close the print cartridge door.



9 Plug in the printer, and then turn it on.



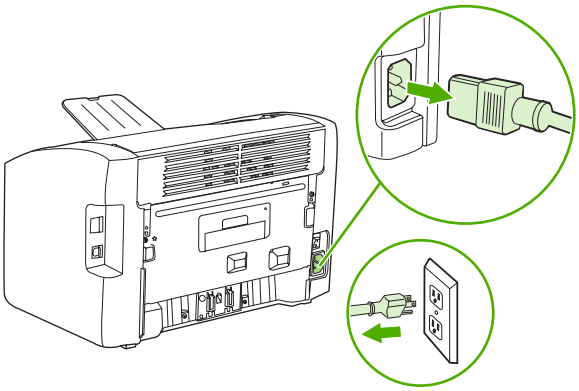
Replacing the separation pad

If the printer grabs more than one page at a time, you might have to replace the printer separation pad. Recurring feed problems indicate that the separation pad is worn.

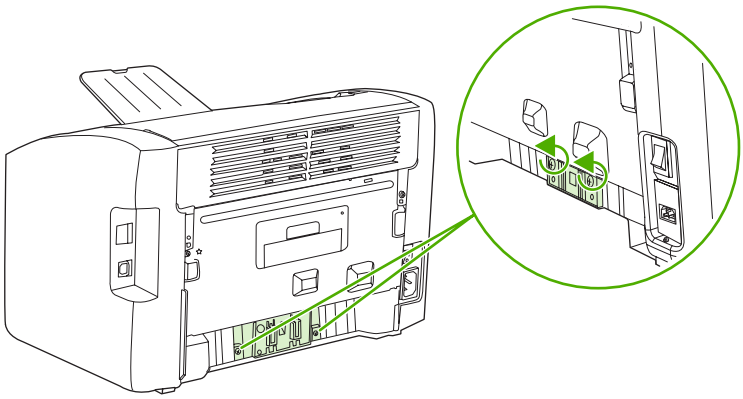
Normal use with good-quality media causes wear. The use of poor-quality media might require more frequent replacement of the separation pad.

NOTE Before you change the separation pad, clean the pickup roller. See Cleaning the pickup roller on page 29 for instructions. To order parts, go to www.partsdirect.hp.com.

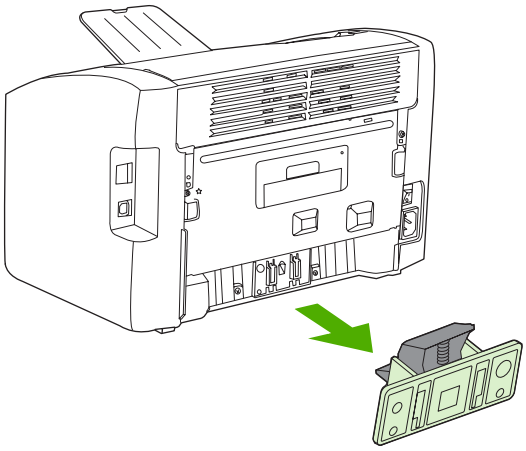
1 Turn off the printer, unplug and remove the power cord. Wait for the printer to cool.



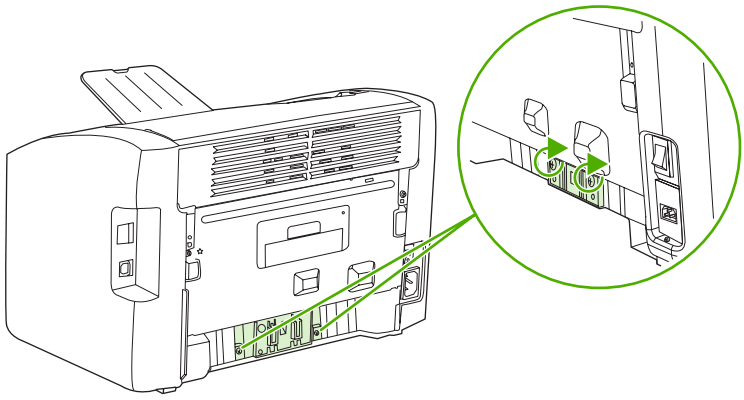
2 At the back of the printer, use a #2 Phillips screwdriver to unscrew the two screws that hold the separation pad in place.



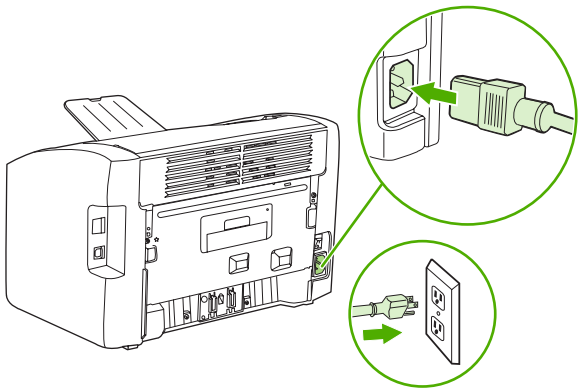
3 Remove the separation pad.



4 Insert the new separation pad, and screw it in place.



5 Plug the printer in, and then turn it on.



Replacing the main input tray (paper-pickup tray assembly)

If you break or damage the main input tray (also called the paper-pickup tray assembly), you can replace it. To order parts, go to www.partsdirect.hp.com.

1 Carefully flex the main input tray just enough to release one side.

NOTE Be careful not to break the hinge points.

Figure 3-1 Main input tray

2 Remove the main input tray.

Replacing the output-bin extension (delivery-tray assembly)

If you break or damage the output-bin extension (also called the delivery-tray assembly), you can replace it. To order parts, go to www.partsdirect.hp.com.

1 Carefully flex the sides of output-bin extension just enough to release the hinge pins.

NOTE

Be careful not to break the hinge pins (callout 1).

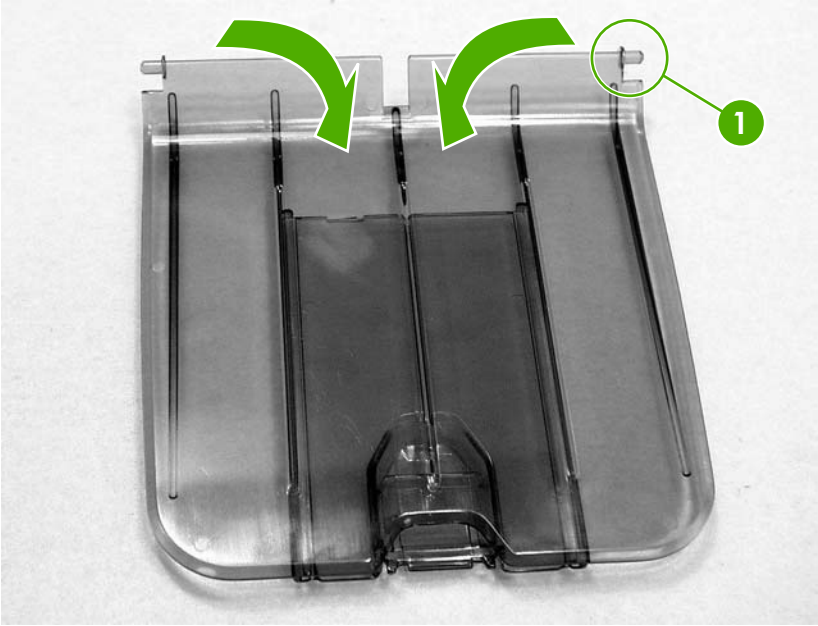


Figure 3-2 Output-bin extension

2 Remove the output-bin extension.

Jams

Clearing jams

CAUTION Do not use sharp objects, such as tweezers or needle nose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

CAUTION Always pull jammed media in the direction it would travel through the paper path. *Do not* pull jammed media against the direction of travel through the paper path to avoid damage to the printer.

To prevent damage to the printer when clearing jams, including jams in the output bin, always open the print-cartridge door and remove the print cartridge. Keep the door open and the cartridge out until the jam has been cleared. Opening the print-cartridge door and removing the print cartridge relieves tension on the printer rollers, which prevents damage to the printer and makes the removal of jammed pages easier.

Occasionally, media becomes jammed during a print job. You are notified of a media jam by an error from the software and the printer control panel lights. See Control-panel lights on page 95.

The following are some of the causes of media jams:

- The input trays are loaded improperly or are too full. See Loading media on page 20.

  NOTE When you add new media, always remove all of the media from the input tray and straighten the stack of new media. This helps prevent multiple sheets of media from feeding through the printer at one time, reducing media jams.

- The media does not meet HP specifications. See Media specifications on page 16.

Typical media jam locations

- **Print cartridge area**: See Removing a jammed page on page 38.
- **Input tray area**: If the page is still sticking out of the input tray, gently try to remove it from the input tray without tearing the page. If you feel resistance, see Removing a jammed page on page 38.
- **Output path**: If the page is sticking out of the output bin, see Removing a jammed page on page 38.

  NOTE There might be loose toner in the printer after a media jam. This toner clears up after a few sheets are printed.

Removing a jammed page

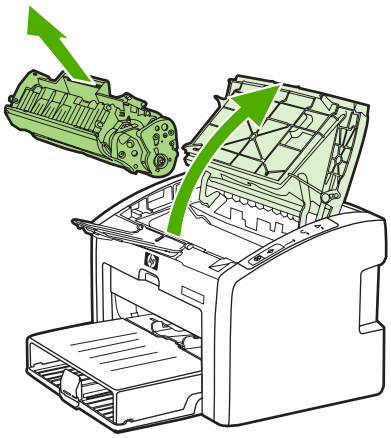
Use the procedures in this section to remove a jam.

CAUTION Media jams might result in loose toner on the page. If you get any toner on your clothes, wash them in cold water. *Hot water will permanently set the toner into the fabric*.

CAUTION To prevent damage to the printer when clearing jams, including jams in the output bin, always open the print cartridge door and remove the print cartridge.

To prevent damage to the print cartridge, minimize its exposure to direct light. Cover the print cartridge with a sheet of paper.

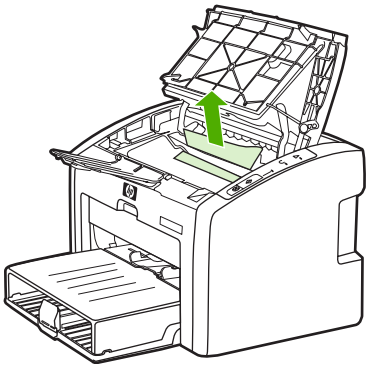
1 Open the print cartridge door, and remove the print cartridge.



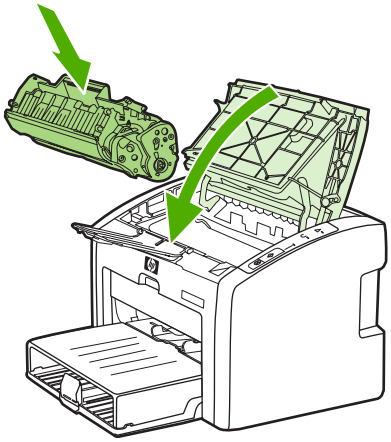
2 Grasp the middle edge of the side of the media that is most visible, and carefully pull it free from the printer.

CAUTION Do not use sharp objects, such as tweezers or needle nose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

CAUTION Always pull jammed media in the direction it would travel through the paper path. *Do not* forcefully pull jammed media against the direction of travel through the paper path to avoid damage to the printer.



3 When you have removed the jammed media, replace the print cartridge, and close the print cartridge door.



After clearing a media jam, you might need to turn the printer off then on again.

NOTE When you add new media, remove all of the media from the input tray and straighten the stack of new media.

4 Operational overview

This chapter describes the general components of the HP LaserJet 1022 series printers, and the theory of operation.

- Basic functions
- Formatter system
- Printer operation

Basic functions

The following are the major systems of the printer:

- Formatter and I/O functions
  - Formatter system
- Printer functions and operation
  - Engine control system (engine control unit [ECU] and engine power assembly)
  - Image-formation system
  - Paper-feed system

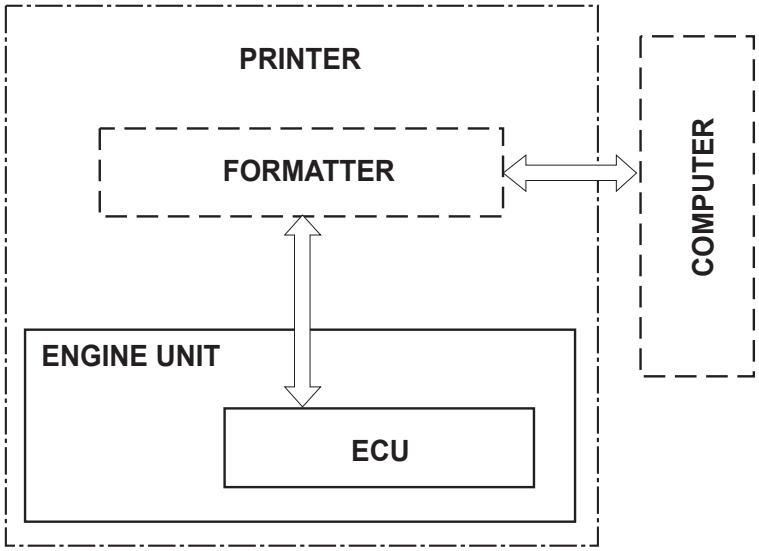


Figure 4-1 Basic configuration

Formatter system

The formatter coordinates the major systems. It is responsible for the following tasks:

- Receiving and processing print data from the printer interface (the computer)
- Monitoring the control panel and relaying printer-status information
- Coordinating image formation and timing with the print engine
- Communicating with the host computer through the bidirectional interface

The formatter receives print data from the universal serial bus (USB) 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 to the laser system. 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 uses an embedded Coldfire V4 microprocessor operating at 133 MHz.

RAM

- One bank of nonvolatile RAM (NVRAM) stores parameters.
- Dynamic random access memory (DRAM) provides temporary storage of the product program code and print data.
- The HP LaserJet 1022 series printers have 8 MB of RAM.

USB interface

The formatter receives incoming data through the USB interface. This interface provides high-speed, two-way communication between the printer and the host, allowing applications on the host computer to change printer settings and monitor printer status. The USB interface is compatible with the USB 2.0 specification.

Control panel

The control panel consists of the following components:

- Three status lights (the HP LaserJet 1022nw printer has a fourth WIRELESS status light).
- GO and CANCEL JOB buttons

Draft mode (EconoMode)

Depending on which driver is used, selecting draft or EconoMode from the driver allows the product to use less toner, extending the life of the print cartridge. There is a change in print quality when this setting is used.

NOTE HP does not recommend the full-time use of EconoMode. If EconoMode is used full-time when the average toner coverage is very low, it is possible that the toner supply will outlast the mechanical parts of the print cartridge.

HP Memory Enhancement technology (MEt)

HP (MEt) effectively doubles the standard memory through a variety of font- and data-compression methods.

Enhanced I/O

The Enhanced I/O feature uses printer memory to store data that the printer received from the host computer. When Enhanced I/O is enabled, you can send more data to the product in less time, so that you can return to your application sooner. Enhanced I/O has the following options:

- **Auto**: The product uses Enhanced I/O memory allocation to increase the speed of data transfer from the host computer to the product, if necessary. The default setting is Auto.
- **Off**: The product uses the minimum amount of product memory for storing data that the host computer sends.
- **Page protect**: The formatter creates the entire page image in page-buffer memory before physically moving the media through the printer. This process ensures that the entire page is printed.

Page complexity (ruling lines, complex graphics, or dense text) can exceed the printer's ability to create the page image quickly enough to keep pace with the image-formation process. If the page protect feature is disabled and a page is too complex, the page might print in parts (for example, the top half on one page and the bottom half on the next page). Some print-data loss is likely in these instances, and the ATTENTION light on the control panel will illuminate.

Printer operation

Printer functions are divided into five groups:

- Engine control
- Formatter
- Image formation
- Laser/scanner
- Pickup and feed

The following figure is a block diagram of the printer:

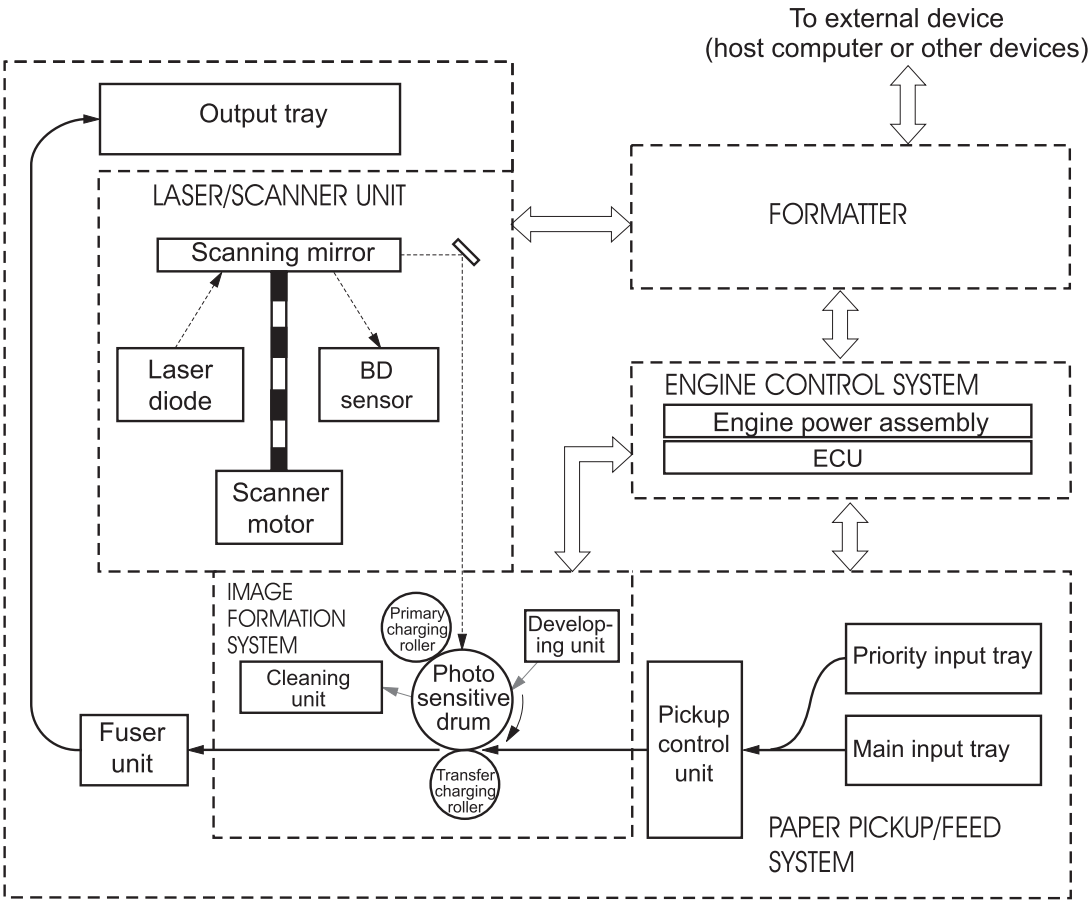


Figure 4-2 Printer functional-block diagram

Engine control system (engine control unit and power assembly)

The engine control system coordinates all print engine activities. The engine control system includes both the engine control unit (ECU) PCA and the engine power-assembly-PCA.

NOTE In other HP LaserJet products, the ECU and power functions are combined onto one PCA known as the controller PCA or the dc controller PCA. In the HP LaserJet 1022 series printers, the control functions are primarily relegated to the ECU PCA and the power functions to the engine-power-assembly PCA.

The ECU controls the following systems and functions:

- **Printer-engine control**
  - Paper-motion monitoring and control (printing)
  - Motor
- **Printer laser/scanner unit**

The engine power assembly provides the following features in the power system:

- AC power distribution
- DC power distribution
- Overcurrent/overvoltage protection
- High-voltage power distribution

Printer-engine-control system

Paper motion monitoring and control

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

For a detailed explanation of paper movement and the interaction of the sensors and pickup solenoid with the paper-movement process, see Printer-paper feed system on page 51.

Motor

The ECU controls the motor. The motor drives all of the paper movement in the printer.

Printer laser/scanner unit

The ECU sends signals to the laser/scanner assembly to modulate the laser diode on and off modes and to drive the laser/scanner motor.

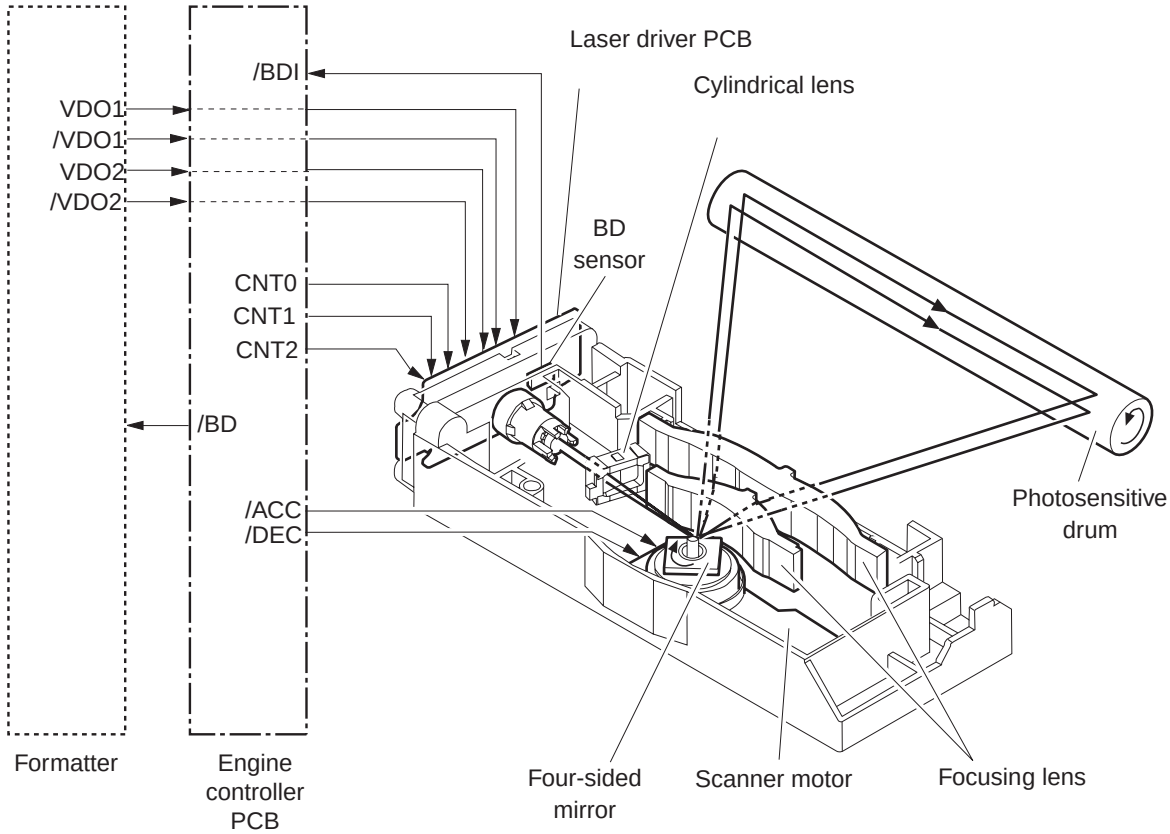


Figure 4-3 Laser/scanner operation

Power system on the engine-power assembly

The engine-power assembly provides the ac, dc, and high-voltage power supply circuits.

AC power distribution

The ac power circuitry supplies ac voltage whenever the power cord is connected to the ac power source and the power switch is on. The ac voltage is distributed to the dc power supply circuitry and to the ac driver circuitry, which controls ac voltage to the fuser-assembly heating element.

DC power distribution

The dc power distribution circuitry, located on the engine power assembly, distributes +3.3 Vdc, +5 Vdc, and +24 Vdc as follows:

■ +3.3 Vdc	ECU, sensors, formatter
■ +5 Vdc	ECU
■ +24 Vdc	Main motor, laser/scanner motor, solenoid, high-voltage power supply, fuser, safety circuit, door switch

Overcurrent/overvoltage

Two overvoltage devices are in this product:

- Fuse F101 provides overcurrent protection for the fusing-system circuitry.
- Fuse F102 (110 V products only) provides overcurrent protection to the printer dc power supply circuitry.

You can check or replace the fuses by removing the left cover. If either of these fuses fails, replace the engine-power assembly.

High-voltage power distribution

The high-voltage power supply applies an overlap of dc and ac voltage to the primary charging roller and to the developing roller. This circuit also applies a positive or negative dc voltage to the transfer roller according to the instructions from the engine control unit.

This circuit also controls the image density by changing the primary ac voltage and the developing ac bias according to the print density setting. See Setting media types on page 21.

The high-voltage power supply is disabled when the print-cartridge door is open.

To change the print density, open the **Printer Properties** dialog box, Select the **Configure** tab. Use the slide bar in the **Print Density** area of the dialog box to change the print density setting. Click **OK** to close the **Printer Properties** dialog box.

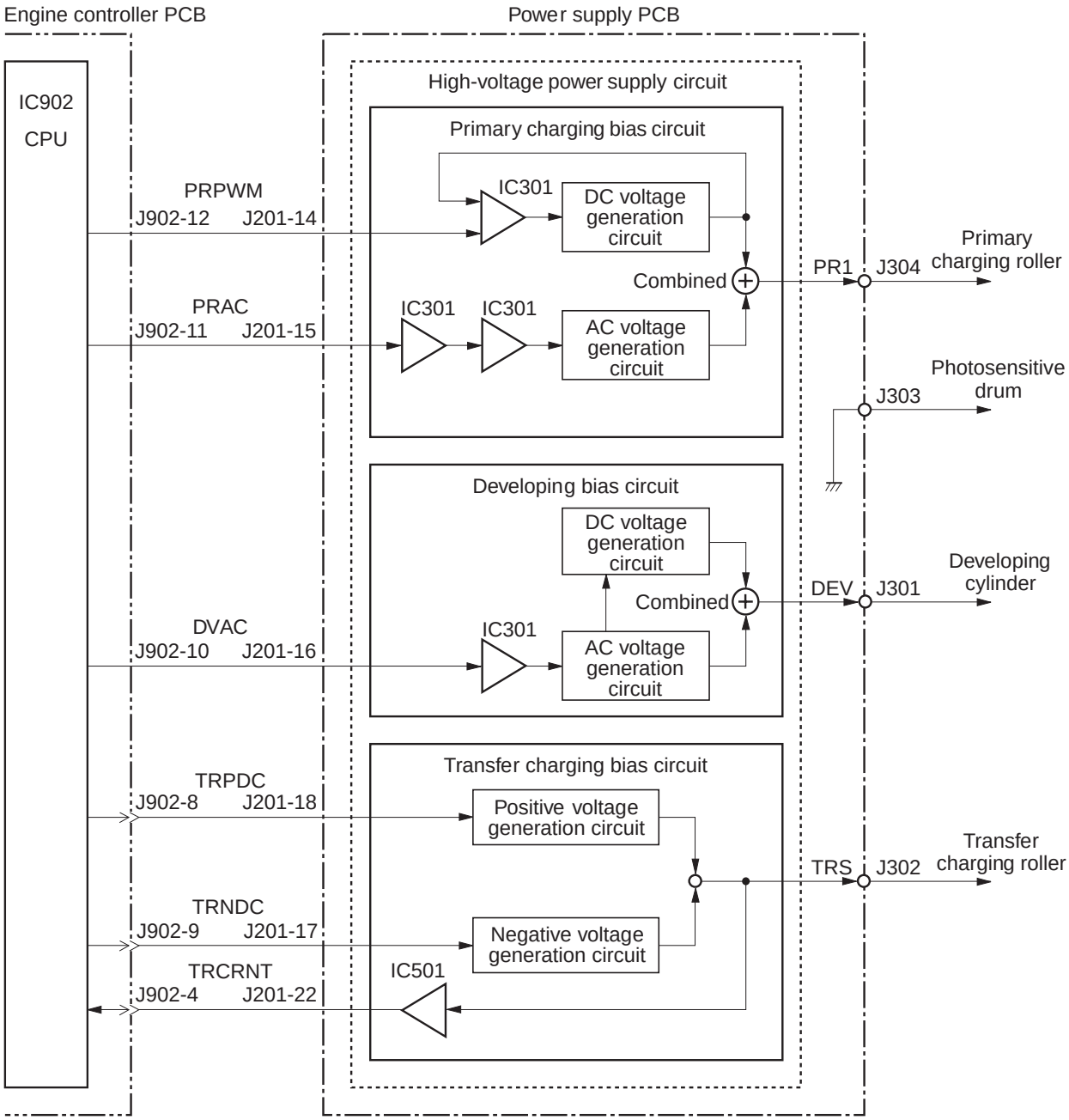


Figure 4-4 High-voltage power supply circuit

Image-formation system

Laser printing requires the interaction of several different technologies, including electronics, optics, and electrophotographic, to provide a printed page. Each process functions independently and must be coordinated with the other printer processes. Image formation consists of seven processes, which are described in the following section.

The seven image-formation processes

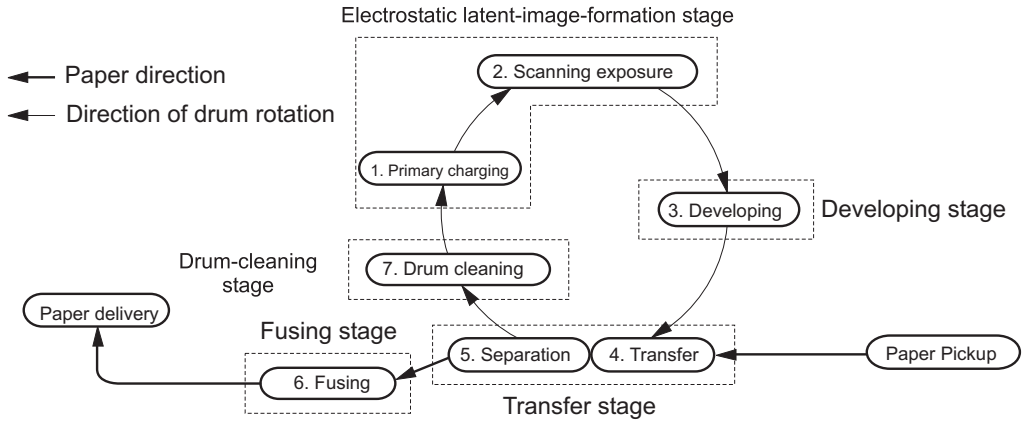


Figure 4-5 Image-formation block diagram

1 **Conditioning stage (primary charging)**—This process applies a uniform negative charge to the surface of the drum with the primary charging roller, which is located in the print 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, the primary charging roller applies a negative dc bias to create a uniform negative potential on the drum surface. The print density setting modifies the dc voltage.

2 **Writing stage (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 print 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 sweeps the entire length of the drum while the drum rotates, 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.

3 **Developing stage**—During this 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 it is repelled from the negatively charged (unexposed) areas.

4 **Transfer stage**—During this process, the toner image on the drum surface is transferred to the media. The transfer roller applies a positive charge to the back of the media, which attracts the negatively charged toner on the drum surface to the media. After separation, the drum is cleaned and conditioned for the next image.

5 **Separation stage**—During this process, the media separates from the drum. To stabilize the feed system and prevent toner dropouts on the printed image at low temperature and humidity, the static eliminator reduces the charge on the back of the media.

6 **Fusing stage**—During this process, the heat and pressure fuse the toner into the media to produce a permanent image. The media passes between a heated fusing element and a soft pressure roller, which melt the toner and press it into the media.

7 **Drum-cleaning stage**—During this process, the cleaning blade is in contact with the surface of the drum at all times. As the drum rotates during printing, the cleaning blade wipes excess toner off the drum and stores it in the waste toner receptacle.

Print cartridge

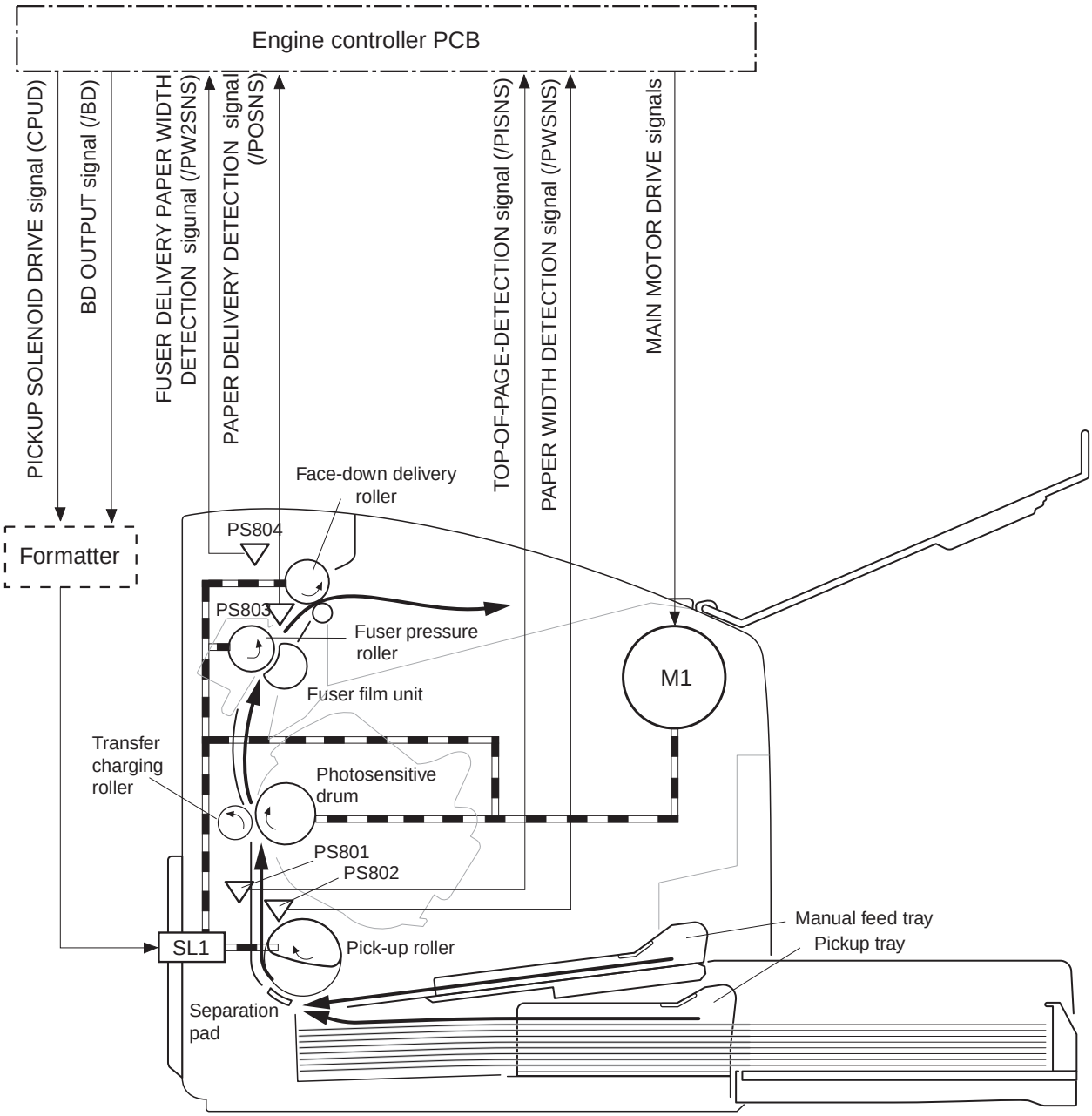
As the focal point of the image-formation system, the print cartridge contains toner and houses the cleaning, conditioning, and developing stages of the process. The print cartridge contains the photosensitive drum, primary charging roller, developing station, toner cavity, and cleaning station. By including these components (which wear, degrade, or are consumed) in the replaceable print cartridge, the need for many service calls is eliminated. The special photosensitive properties of the drum form an image on the drum surface and then transfer the image to media.

CAUTION The print cartridge does not include a light-blocking shutter. Do not expose the drum to light, which can permanently damage the drum. Protect the print cartridge whenever you remove it by covering it with paper.

Printer-paper feed system

The main input tray and the priority feed slot merge into one main input area. The printer senses the media as it enters the paper-feed path and passes the top of page sensor (PS801). It does not sense the presence of media before the beginning the print cycle. The following steps occur when the product receives a print job.

Step 1	The ECU activates the motor (M1). Paper motion begins when the ECU energizes the pickup solenoid (SL1).
Step 2	The paper pickup roller rotates once. The paper-lift plate pushes the media against the pickup roller.
Step 3	Using friction, 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 holds the remainder of the stack in place.
Step 4	The feed-assembly drive-rollers advance the media to the top-of-page sensor (PS801). This sensor informs the ECU of the exact location of the leading edge of media, so that the image being written on the photosensitive drum can be precisely positioned on the page.
Step 5	The feed-assembly drive-rollers then advance the media to the transfer area where the toner image on the photosensitive drum is transferred to the media.
Step 6	After the image is transferred, the media enters the fuser assembly where heat from the fuser and pressure from the pressure roller permanently bond the toner image to media. The paper-delivery sensor (PS803) determines that the media has successfully moved out of the fusing area.
Step 7	The fuser-assembly exit rollers deliver media to the output bin face-down.



PS801: Top-of-page sensor
PS802: Paper-width sensor
PS803: Paper-delivery sensor
PS804: Fuser delivery paper width sensor
M1: Main motor
SL1: Pickup solenoid

Figure 4-6 Printer paper path

Jam detection

The top-of-page sensor (PS801) and the paper-delivery sensor (PS803) detect media moving through the printer. If a jam is detected, the ECU immediately stops the printing process and the jam light on the control panel illuminates.

Conditions of jam detection

- **Pickup-delay jam**—Paper does not reach the top-of-page sensor (PS801) within 1.4 seconds after the pickup solenoid (SL1) has been turned on, a second pickup operation is attempted, and paper again does not reach the top-of-page sensor within 1.4 seconds.
- **Pickup stationary jam**—The top-of-page sensor (PS801) does not detect the trailing edge of media within 4.6 seconds of detecting the leading edge.
- **Delivery-delay jam**—The paper-delivery sensor (PS803) does not detect the leading edge of media within 2.1 seconds after the top-of-page sensor (PS801) detects the leading edge.
- **Wrapping jam**—The paper-delivery sensor (PS803) does not detect the trailing edge of the media within 1.5 seconds after the top-of-page sensor (PS801) detects the leading edge and within ten seconds after the paper-delivery sensor (PS803) detects the leading edge.
- **Delivery-stationary jam**—The paper delivery sensor (PS803) does not detect the leading edge of media within 2.2 seconds after the top-of-page sensor (PS801) detects the trailing edge.
- **Residual media jam**—The top-of-page sensor (PS801) or the paper-delivery sensor (PS803) detects media during the initial rotation period.
- **Door-open jam**—The top-of-page sensor (PS801) or the paper-delivery sensor (PS803) detect media while the print cartridge door is open.

Solenoid, sensors, switches, and motor

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

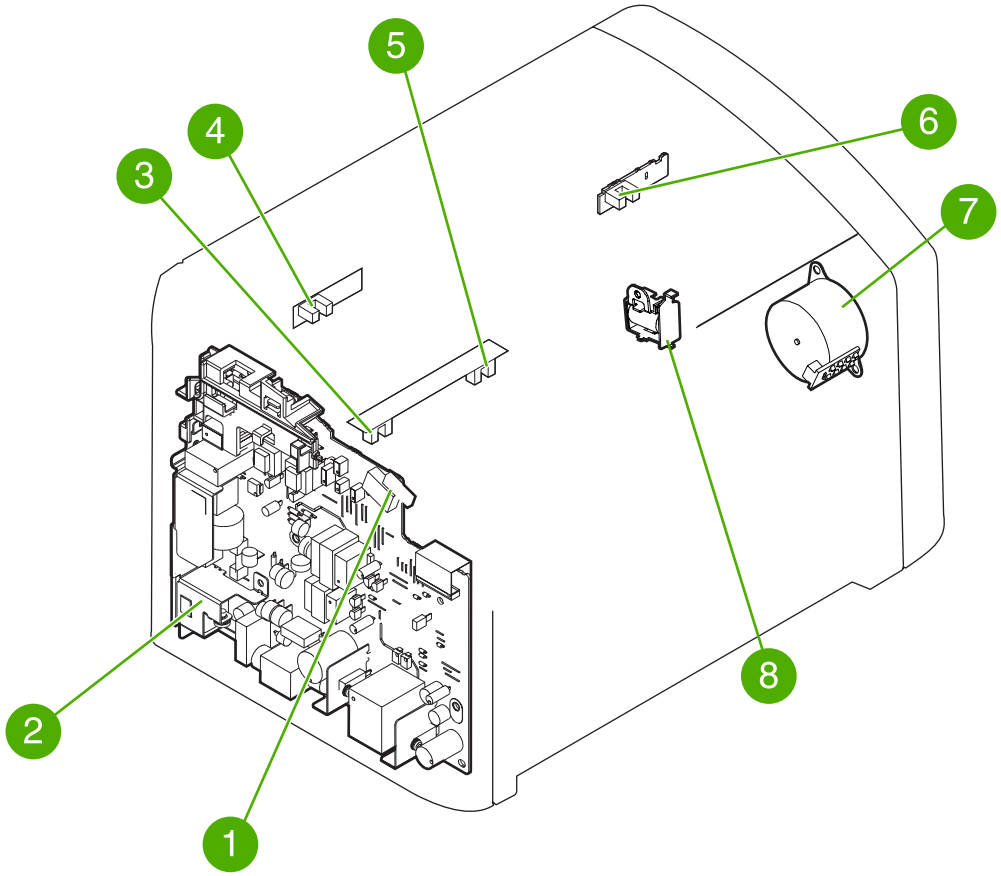


Figure 4-7 Solenoid, sensors, switches, and motor

1	The door switch detects whether or not the print-cartridge door is closed. Printing cannot continue until the print-cartridge door is closed.
2	Power switch
3	The paper-width sensor senses the width of the paper.
4	The paper-delivery sensor senses when paper has successfully moved out of the fusing area.
5	Top-of-page sensor detects the leading and trailing edges of the paper. It synchronizes the photosensitive drum and the top of the paper.
6	Fuser delivery paper-width sensor
7	Motor
8	Solenoid

Basic sequence of operation (formatter-to-printer)

The microprocessor (CPU) on the ECU controls the printer operation sequence. The following events take place during normal printer operation.

Table 4-1 Basic sequence of operation

Period	Purpose	Remarks
WAIT: After the product is turned on until the end of the initial rotation of the main motor.	To clear the drum surface of potential and to clean the primary charging roller.	Detects whether or not the cartridge is installed.
STBY (Standby): From the end of the WAIT period or the LSTR period until the pickup command is sent from the formatter. Or, from the end of the LSTR period until the product is turned off.	To pause until the product is ready to print.	
INTR (Initial Rotation Period): After the pickup command has been sent from the formatter until the media reaches the top-of-page sensor (PS801).	To stabilize the photosensitive drum sensitivity in preparation for printing, and to clean the primary charging roller.	
PRINT (Print): From the end of the initial rotation until the primary voltage goes OFF.	To form images on the photosensitive drum based on the VIDEO signals (/VDO, VDO) sent from the formatter and to transfer the toner image onto the media.	
LSTR (Last Rotation Period): After the primary voltage goes OFF until the main motor stops rotating.	To deliver the last page, and to clean the primary charging roller.	When the pickup command is sent from the video controller, the printer enters the INTR period immediately after the end of the LSTR period.

Figure 4-8 Printer timing diagram

NOTE The timing chart is for one sheet of A4-size media.

5 Removal and replacement

This chapter describes the removal and replacement of field-replaceable units (FRUs) only.

- Removal and replacement strategy
- User-replaceable parts
- Covers
- Internal assemblies

Removal and replacement strategy

This chapter contains detailed steps and images that show parts removal. Replacement is generally the reverse of removal. Occasionally, notes are included to provide directions for difficult or critical replacement procedures.

WARNING! Remove the power cord before attempting to service the product. If this warning is not followed, severe injury can result, as well as damage to the device. Certain functional checks during troubleshooting must be performed with power supplied to the product. However, the power supply should be disconnected during removal of any parts.

Sheet metal and plastic edges in the product can be sharp. Use caution when working on the product.

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

CAUTION Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation. If an ESD workstation is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

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

Required tools

- #2 Phillips screwdriver with magnetic tip
- Small flat-blade screwdriver
- Needle-nose pliers
- ESD mat (if one is available)

CAUTION Do not use a pozidrive screwdriver or any motorized screwdriver. These can damage screws or screw threads on the product.

CAUTION Do *not* pull directly on the wires when a connector is disconnected. *Always* pull on the plastic body of a connector to avoid damaging the connector wires.

Before performing service

- Remove all media.
- Unplug the power cable.
- Place the product on an ESD mat (if available).
- Remove the input-tray cover.
- Remove the print cartridge.

Print cartridge

1 Open the print-cartridge door on the top of the printer.

2 Remove the print cartridge.

CAUTION To prevent damage, do not expose the print cartridge to light. Cover it with a piece of paper.

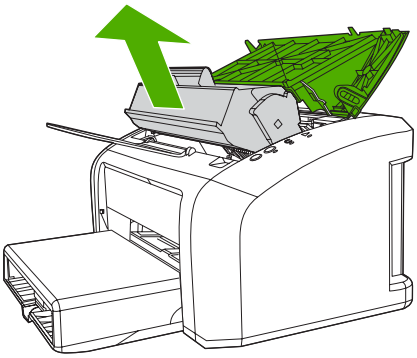


Figure 5-1 Removing the print cartridge

Parts removal order

Use the following illustration to determine which parts must be removed before removing other parts.

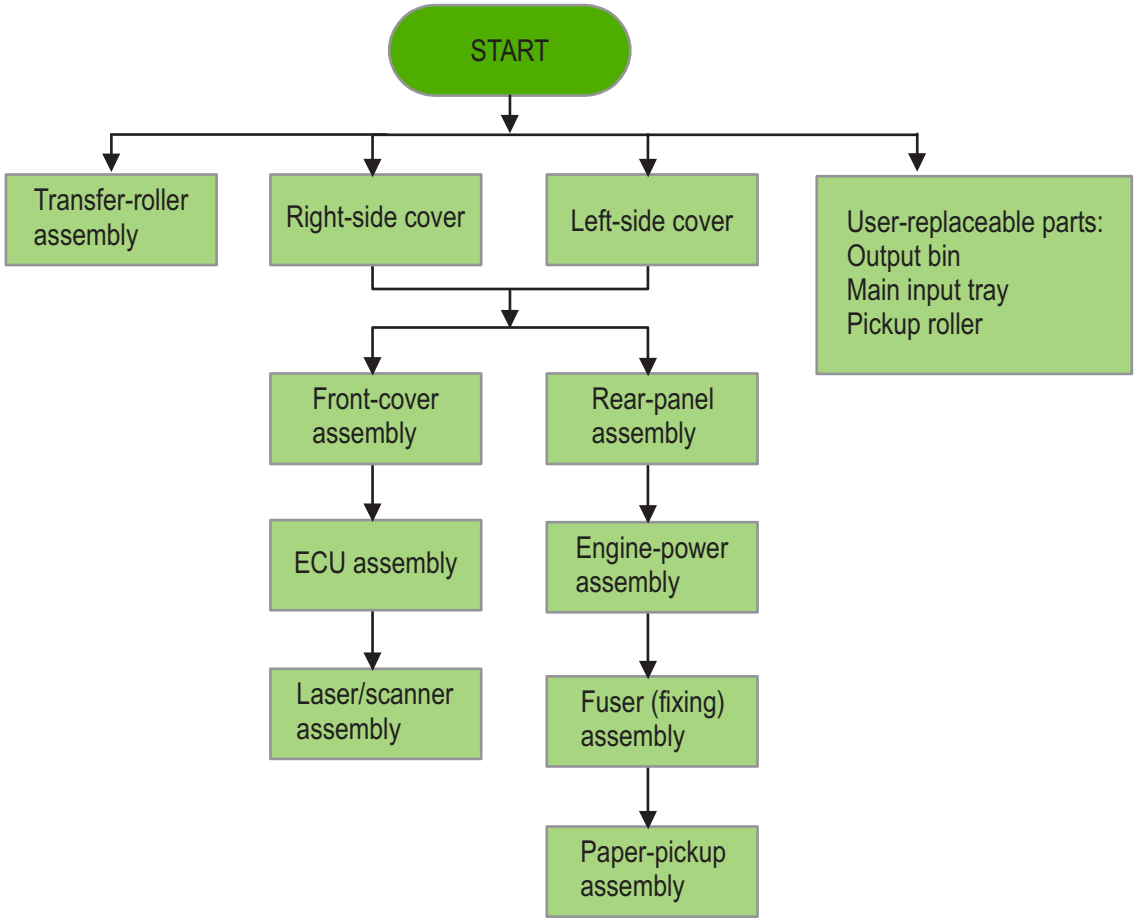


Figure 5-2 Parts-removal block diagram

User-replaceable parts

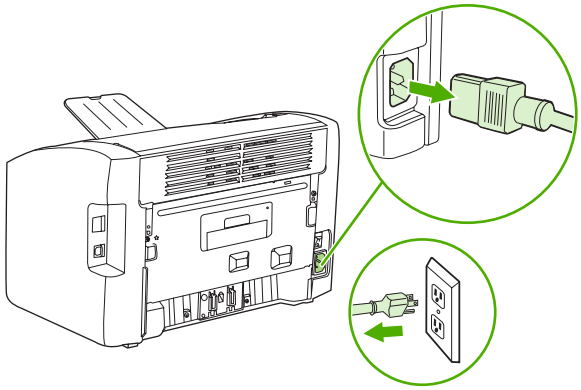
To order a new pickup roller or separation pad, go to www.partsdirect.hp.com.

Replacing the pickup roller

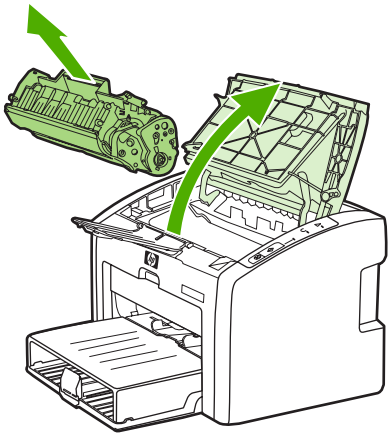
If the printer regularly misfeeds (no media feeds through) and cleaning the pickup roller does not fix the problem, replace the pickup roller.

CAUTION Failure to complete all of the steps in this procedure might damage the product.

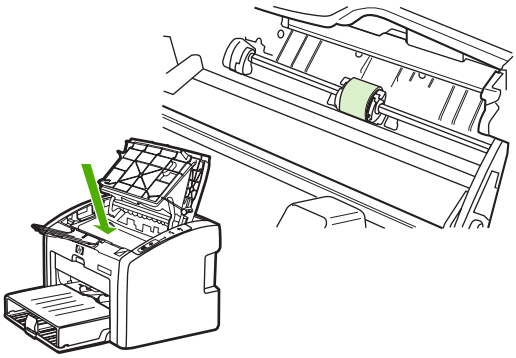
1 Turn off the printer, unplug and remove the power cord. Wait for the printer to cool.



2 Open the print-cartridge door, and remove the print cartridge.

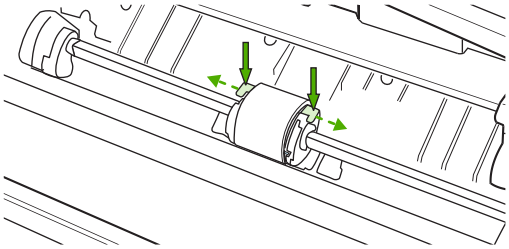


3 Locate the pickup roller.

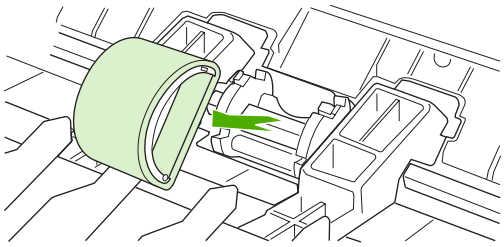


4 Gently release the small, white tabs on each side of the pickup roller by pushing them away from the roller, and then rotate the pickup roller toward the front.

CAUTION Use gentle pressure to release the small, white tabs to avoid breaking them.

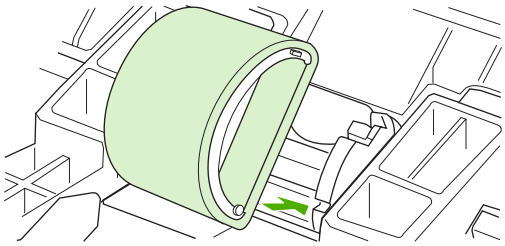


5 Gently pull the pickup roller up and out.

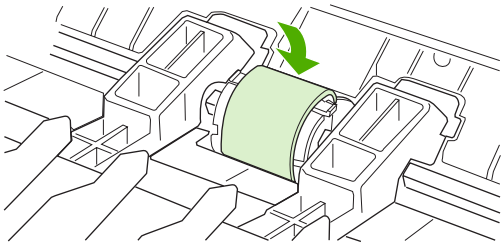


6 Position the new pickup roller in the slot of the previous pickup roller.

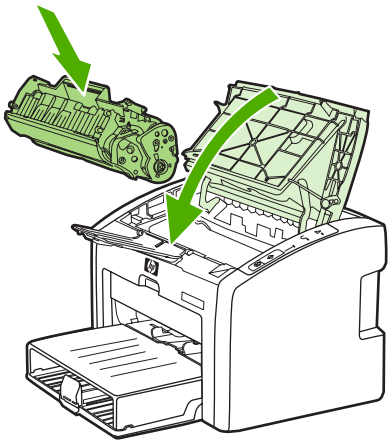
NOTE Circular and rectangular pegs on each side prevent you from incorrectly positioning the pickup roller.



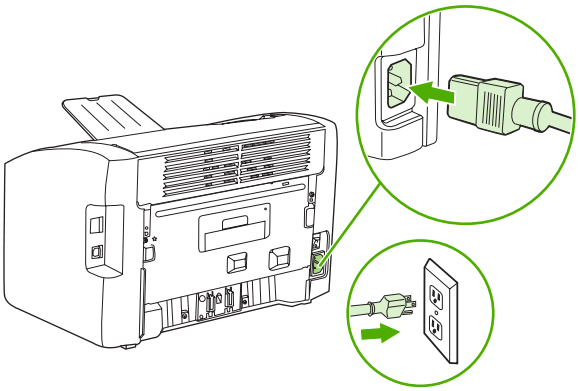
7 Rotate the top of the new pickup roller into position until the white tabs on each side of the roller snap the roller into place.



8 Reinstall the print cartridge and close the print cartridge door.



9 Plug in the printer, and then turn it on.



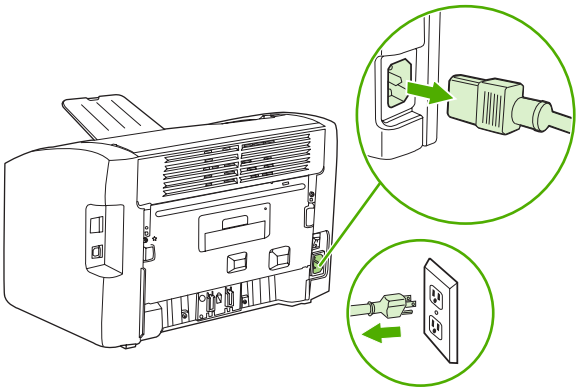
Replacing the separation pad

If the printer grabs more than one page at a time, you might have to replace the printer separation pad. Recurring feed problems indicate that the separation pad is worn.

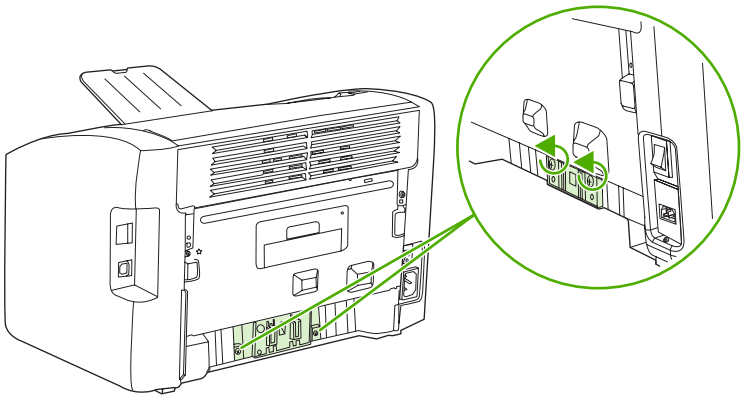
Normal use with good-quality media causes wear. The use of poor media might require more frequent replacement of the separation pad.

NOTE Before you change the separation pad, clean the pickup roller. See Cleaning the pickup roller on page 29 for instructions. To order parts, go to www.partsdirect.hp.com.

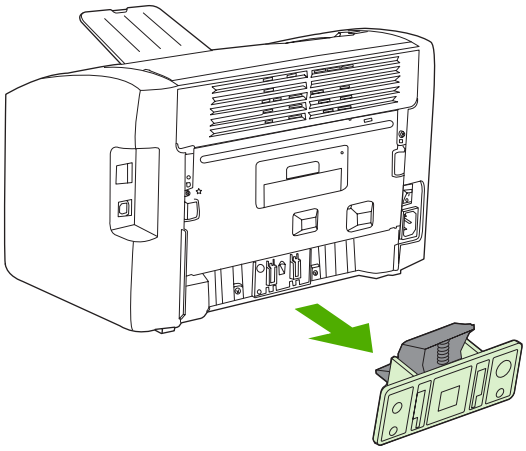
1 Turn off the printer, unplug and remove the power cord. Wait for the printer to cool.



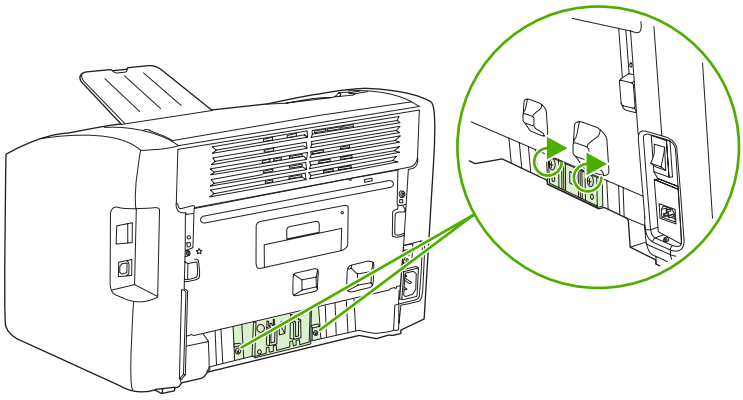
2 At the back of the printer, use a #2 Phillips screwdriver to unscrew the two screws that hold the separation pad in place.



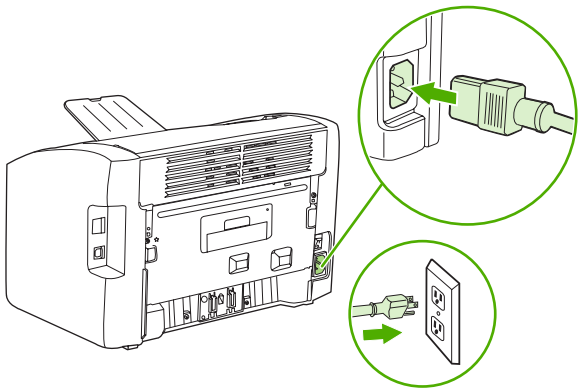
3 Remove the separation pad.



4 Insert the new separation pad, and screw it in place.



5 Plug the printer in, and then turn it on.



Replacing the main input tray (paper-pickup tray assembly)

If you break or damage the main input tray (also called the paper-pickup tray assembly), you can replace it.

1 Carefully flex the main input tray just enough to release one side.

NOTE Be careful not to break the hinge points.

Figure 5-3 Remove the main input tray

2 Remove the main input tray.

Replacing the output-bin extension (delivery-tray assembly)

If you break or damage the output-bin extension (also called the delivery-tray assembly), you can replace it. To order parts, go to www.partsdirect.hp.com.

1 Carefully flex the output-bin extension just enough to release the hinge pins.

NOTE Be careful not to break the hinge pins (callout 1).

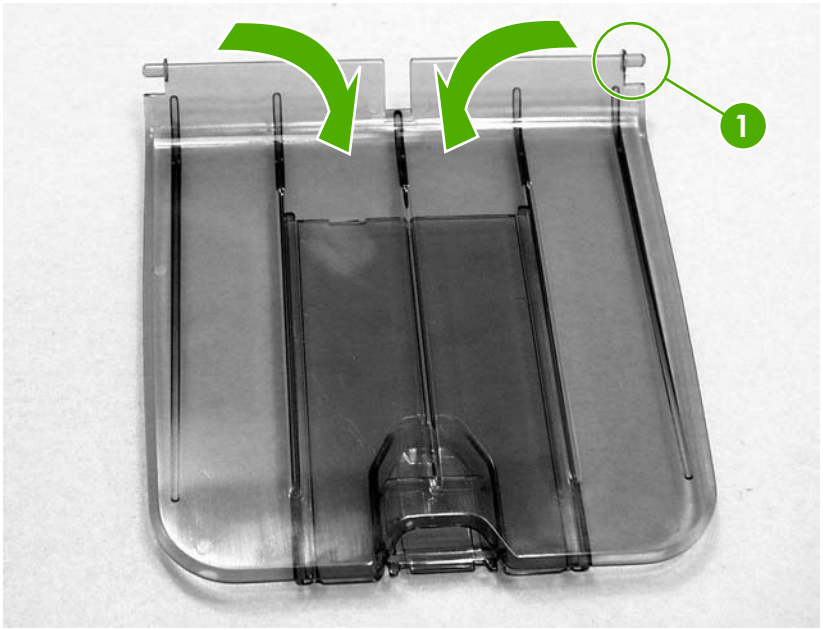


Figure 5-4 Output-bin extension

2 Remove the output-bin extension.

Covers

Remove the covers to access the internal replaceable parts.

Right-side cover

1 Before removing the cover, examine Figure 5-5 Remove the right-side cover (1 of 4) on page 68 and note the location of tabs on the cover.

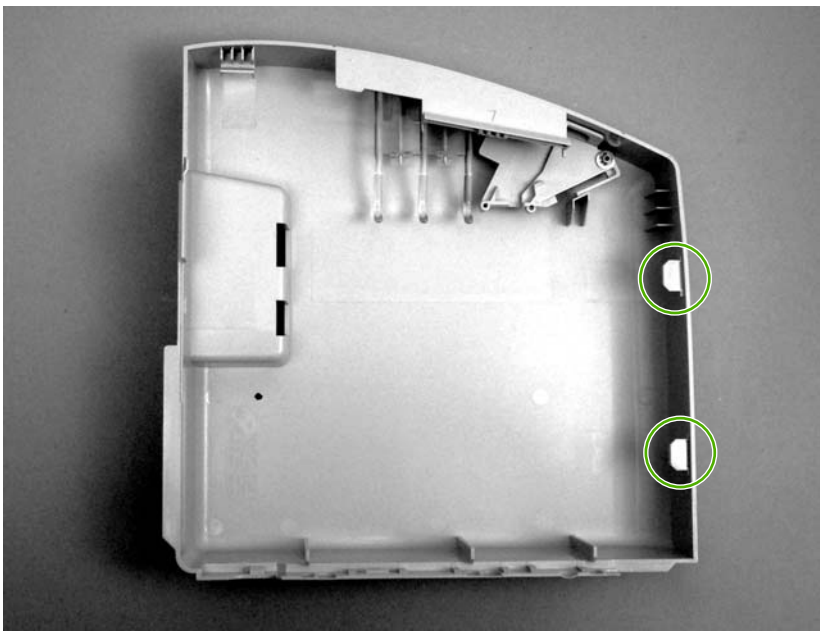


Figure 5-5 Remove the right-side cover (1 of 4)

2 Remove one screw (callout 1) and then release one tab (callout 2)

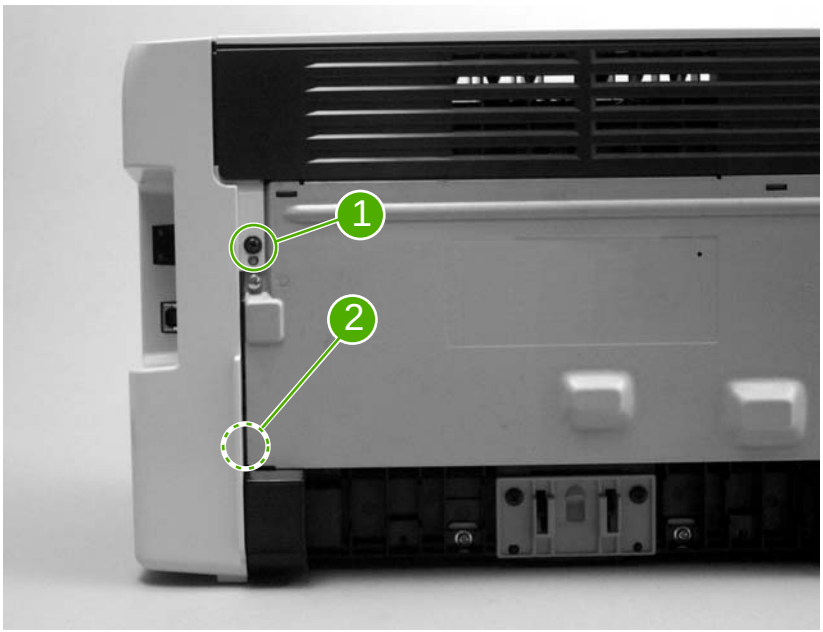


Figure 5-6 Remove the right-side cover (2 of 4)

3 Open the print-cartridge door. Grasp the cover, and carefully pry up on the cover to release one tab.

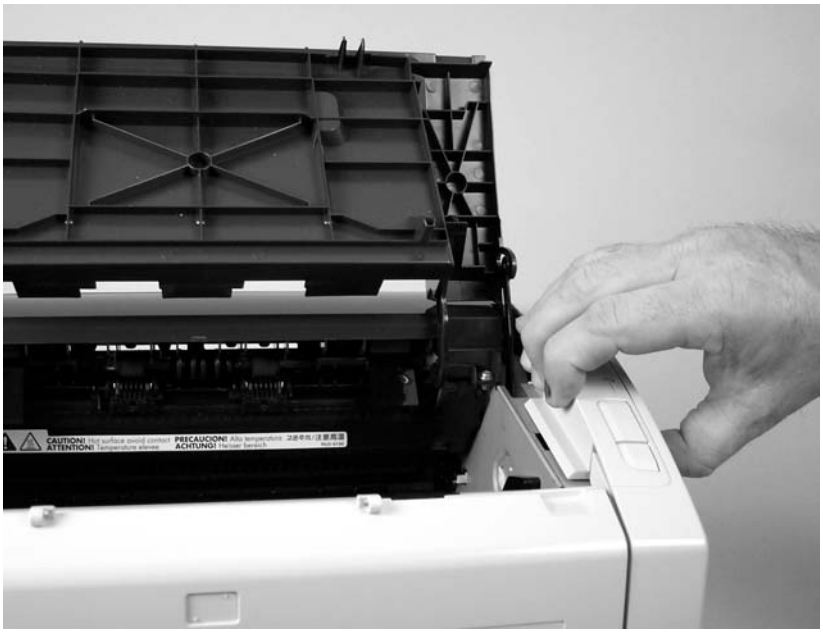


Figure 5-7 Remove the right-side cover (3 of 4)

4 Slightly rotate the back of the cover away from the product, and then slide the cover forward to remove it.

NOTE If the cover cannot be removed easily, release one additional tab that is located on the bottom of the printer near the center of the cover.

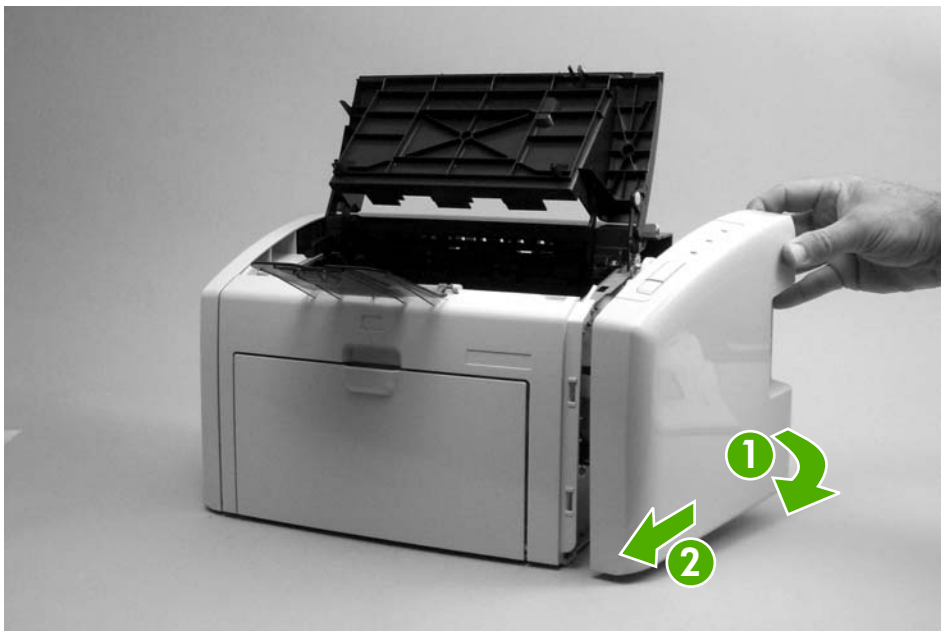


Figure 5-8 Remove the right-side cover (4 of 4)

Left-side cover

Removing the left-side cover is similar to removing the right-side cover. Use the steps and figures for removing the right-side cover, except start the procedure by examining the tabs on the *left side* and removing the screw on the *left side*.

NOTE If the cover cannot be removed easily, release one additional tab that is located on the bottom of the printer near the center of the cover.

Rear panel and top-cover assembly

NOTE This procedure removes the rear panel and the top-cover assembly (the assembly consists of the print-cartridge door and the fuser cover).

1. Remove the following assemblies.
   - Right-side cover. See Right-side cover on page 68.
   - Left-side cover. See Left-side cover on page 70.
2. Open the print-cartridge door.
3. Remove one screw (callout 1).

Figure 5-9 Remove the rear panel and top-cover assembly (1 of 6)

4 Squeeze the two retaining tabs on the plastic door-link clip to release it from the hinge arm on the print-cartridge door.

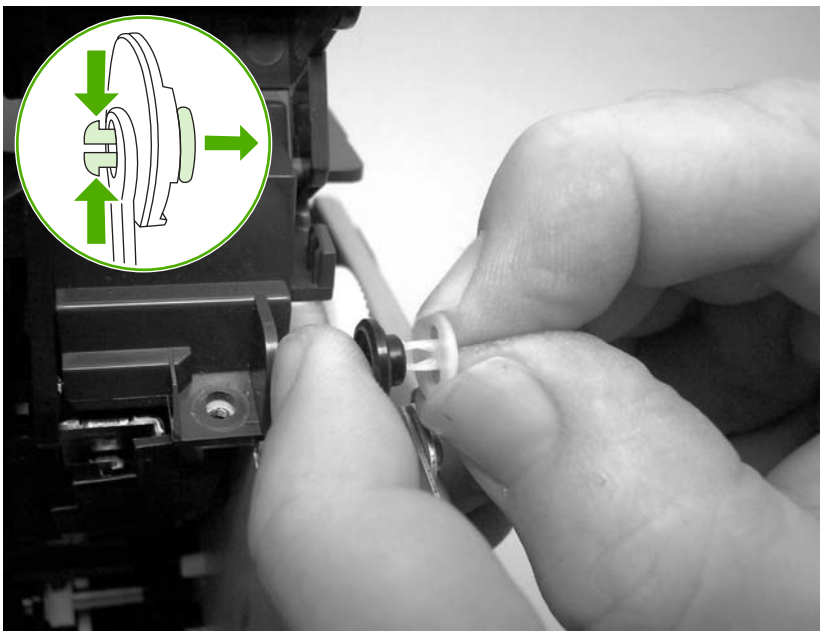


Figure 5-10 Remove the rear panel and top-cover assembly (2 of 6)

Hint Reinsert the plastic door-link clip in the hinge arm or store it with the screws to prevent losing it.

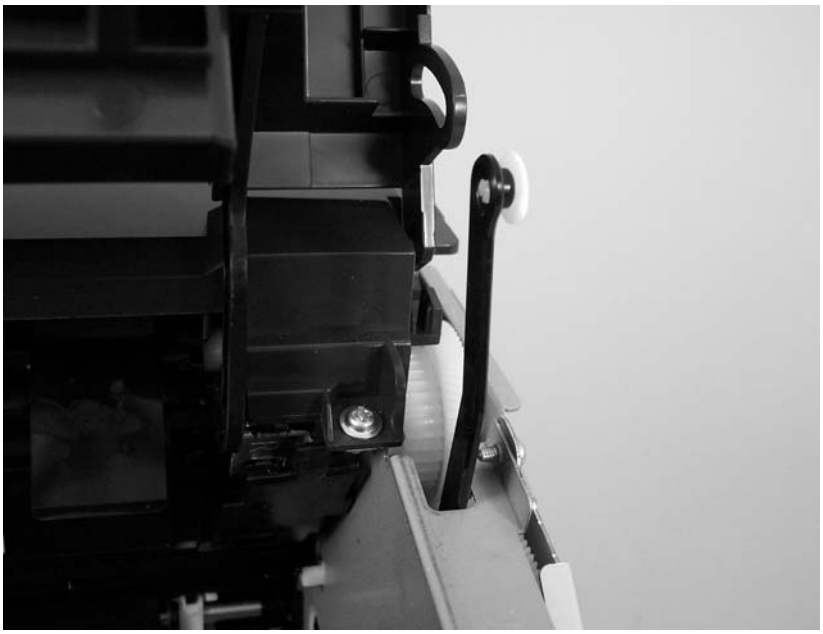


Figure 5-11 Remove the rear panel and top-cover assembly (3 of 6)

5 Remove one screw (callout 1) from the back of the product.

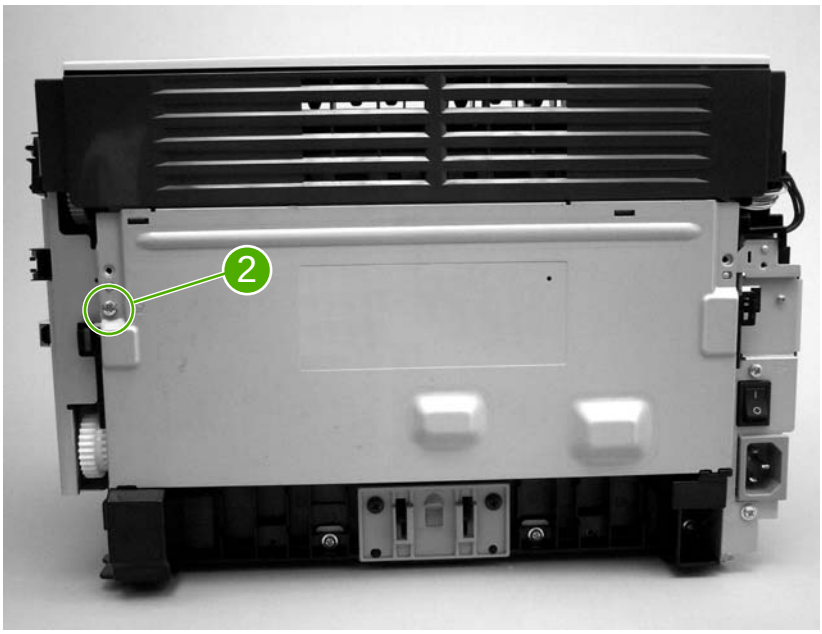


Figure 5-12 Remove the rear panel and top-cover assembly (4 of 6)

6 The top-cover assembly and metal rear panel are interlocked with plastic tabs. Plastic tabs also secure the metal rear panel at the bottom. Lift up the top cover assembly at the top and pull it back slightly. Lift the rear panel up off the tabs on the bottom.

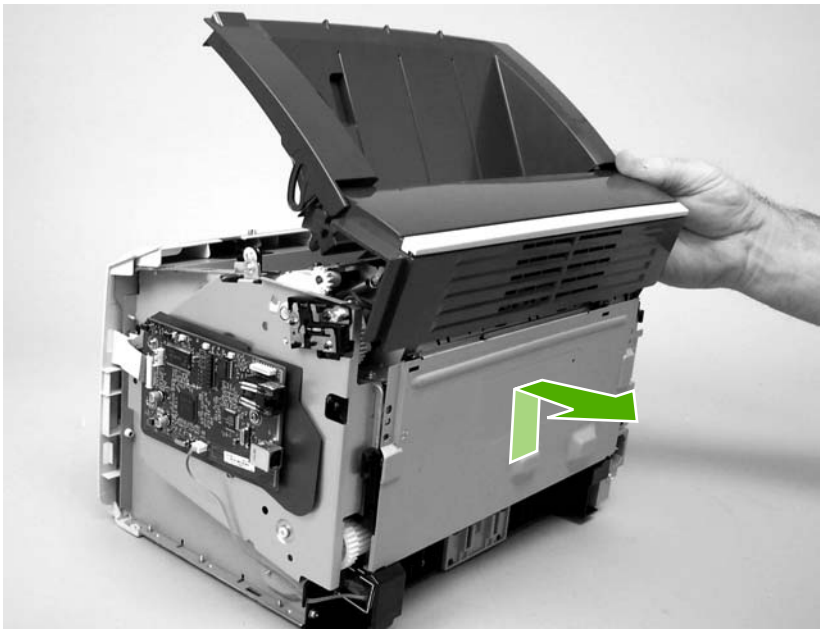


Figure 5-13 Remove the rear panel and top-cover assembly (5 of 6)

7 Lift up on the top-cover assembly to remove it.

Hint When the cover is reinstalled, make sure that the tab on the left side of the assembly is fitted into the slot in the printer chassis.

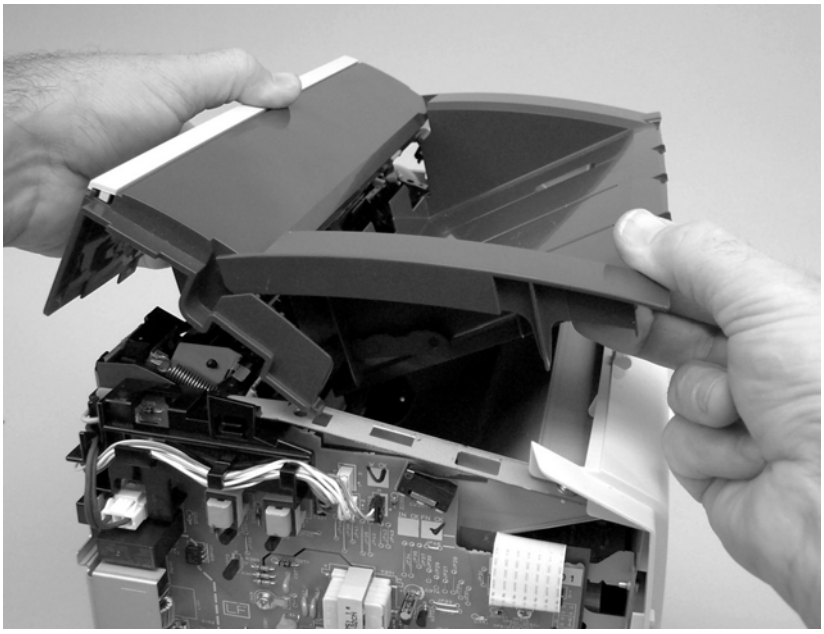


Figure 5-14 Remove the rear panel and top-cover assembly (6 of 6)

Reinstalling the top-cover assembly

1 To reinstall the top-cover assembly, raise the two pressure-release levers.

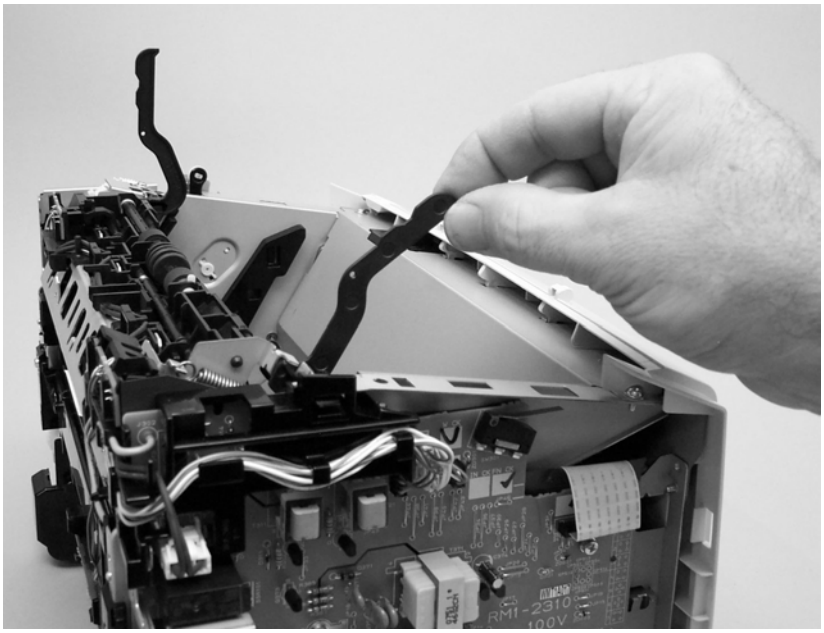


Figure 5-15 Reinstall the top-cover assembly (1 of 2)

2 Position the top-cover assembly over the pressure-release levers (callout 1), and lower it onto the chassis. Make sure that the pressure-release levers are inserted through the slots (callout 2) on the top-cover assembly.

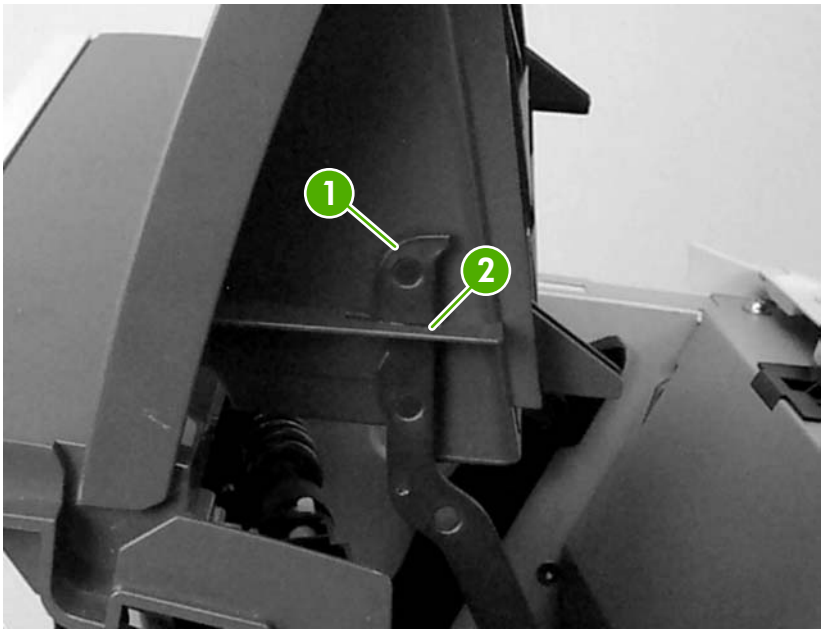
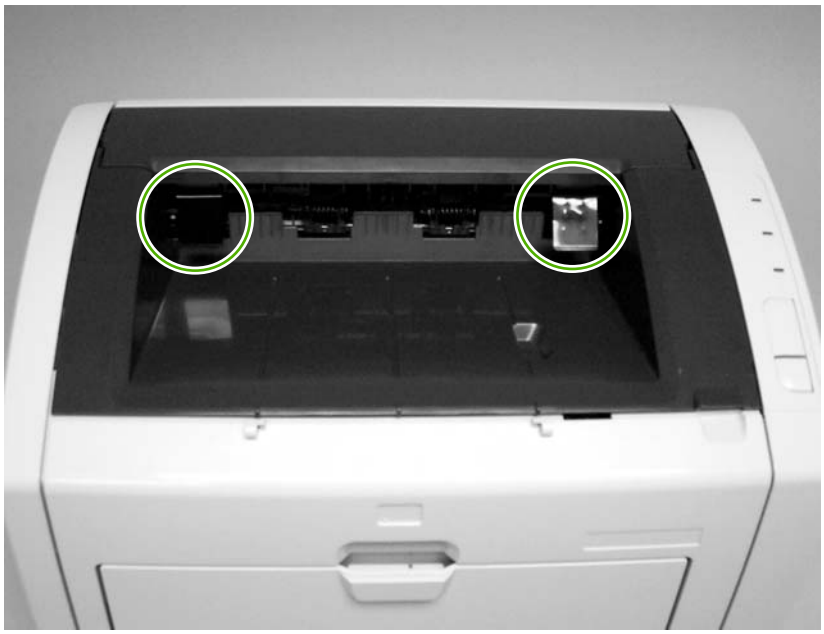


Figure 5-16 Reinstall the top-cover assembly (2 of 2)

CAUTION Make sure that the two plastic antistatic tabs are correctly positioned. The tabs must protrude into the output bin area.



Front cover

1 Remove the following assemblies.

- Right-side cover. See Right-side cover on page 68.
- Left-side cover. See Left-side cover on page 70.

2 Before removing the cover, examine Figure 5-17 Remove the front cover (1 of 3) on page 75 and note the locations of the plastic tabs at the top of the front cover. Open the print-cartridge door.

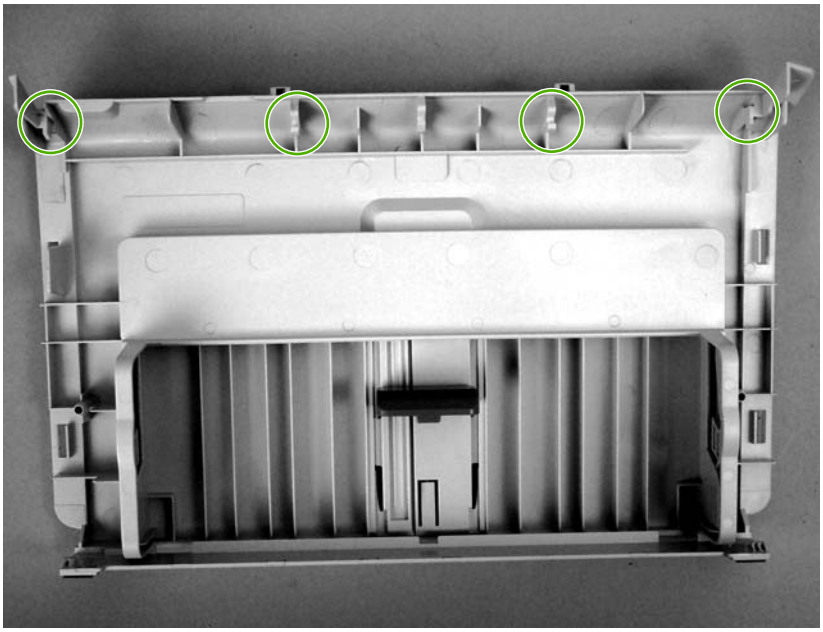


Figure 5-17 Remove the front cover (1 of 3)

3 Release the tab on the bottom right side of the front cover, and then pull the bottom of the cover away from the chassis. Repeat this step for the left side of the front cover.

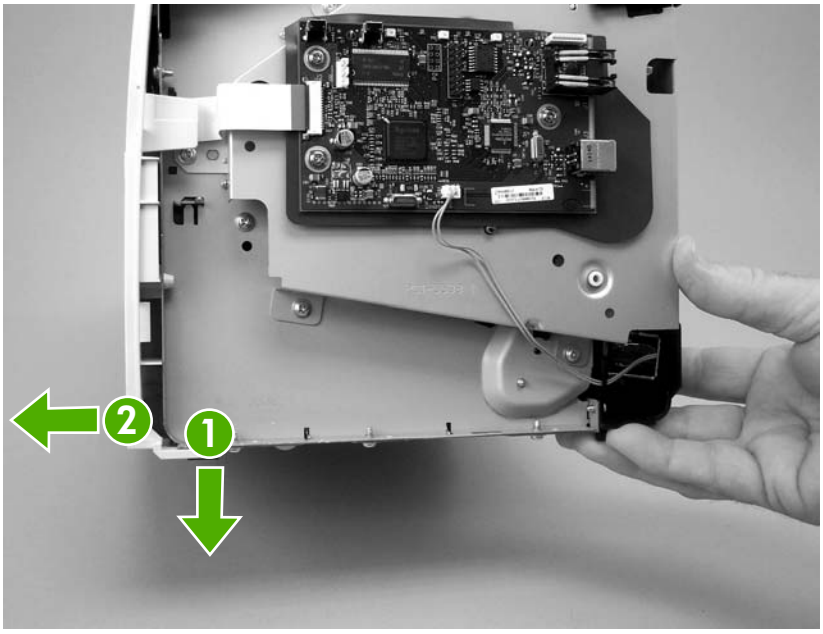


Figure 5-18 Remove the front cover (2 of 3)

4 With the bottom of the front cover released, pull up and back at the top of the cover while gently rocking it to release all of the tabs at the top and remove the cover.

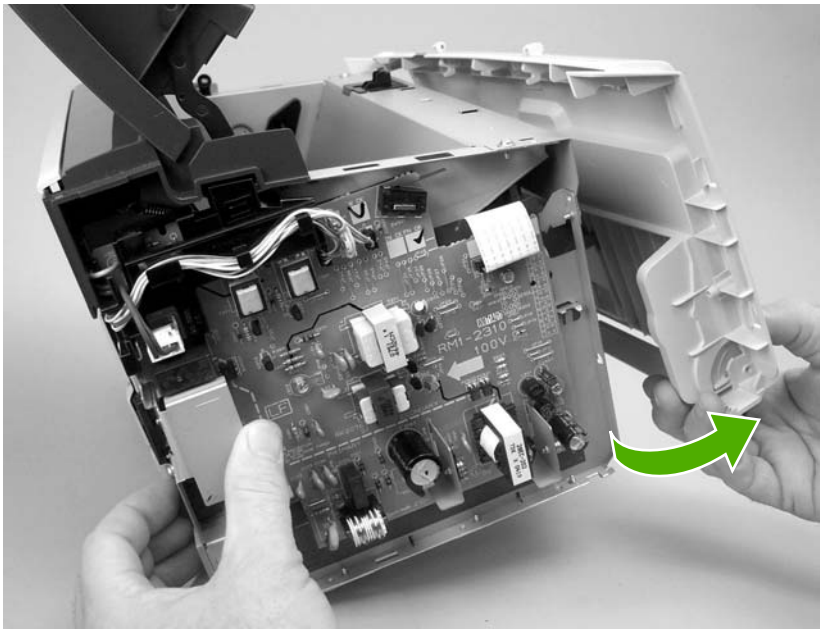


Figure 5-19 Remove the front cover (3 of 3)

Hint When reinstalling the front cover, make sure the tabs on the top of the cover are securely in place, and then press the bottom of the cover into place.

Internal assemblies

When replacing internal assemblies, make sure to transfer any component parts that are not provided with the new assembly from the failed assembly to the new assembly. For example, sensor PCBs are not included with the fuser assembly or the paper-pickup assembly. The sensor PCB from the failed assembly must be transferred to the new assembly

Transfer-roller assembly

Before proceeding, make sure it is absolutely necessary to remove the transfer roller.

CAUTION Be very careful not to break the paper guide that is removed during replacement of the transfer roller. This is not a service part. If the paper guide is broken, the entire printer must be replaced.

CAUTION Do not touch the black-sponge portion of the transfer roller. Skin oils and finger prints can cause print-quality problems.

1 Open the print-cartridge door, and then release the two tabs on the paper guide and rotate it up.

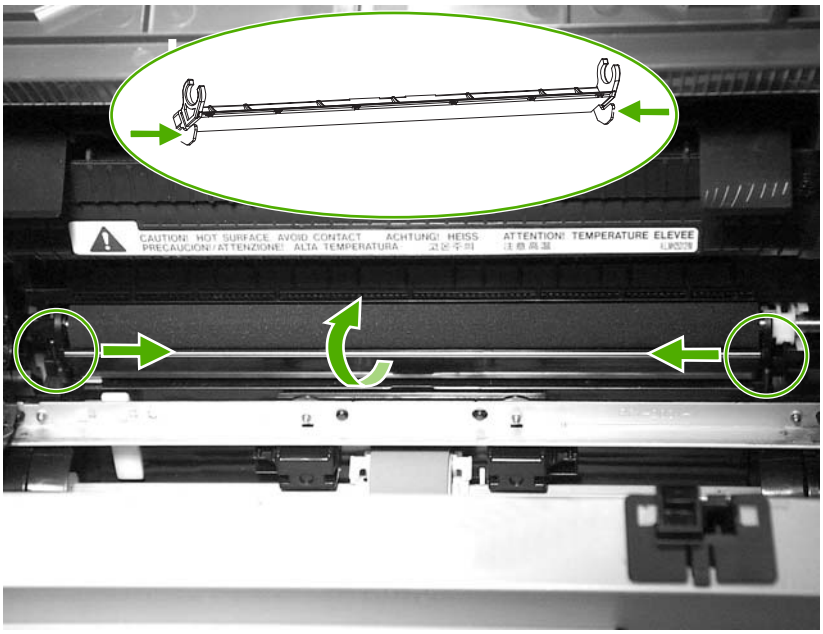


Figure 5-20 Remove the transfer roller (1 of 3)

2 The clamps on the paper guide fit over the bearings on each end of the transfer roller. *Do not touch the black-sponge portion of the transfer roller*. Grasp the right end of the paper guide and pull the clamp off the right bearing. Slide the paper guide slightly to the right, and the left clamp will slide off the left bearing.

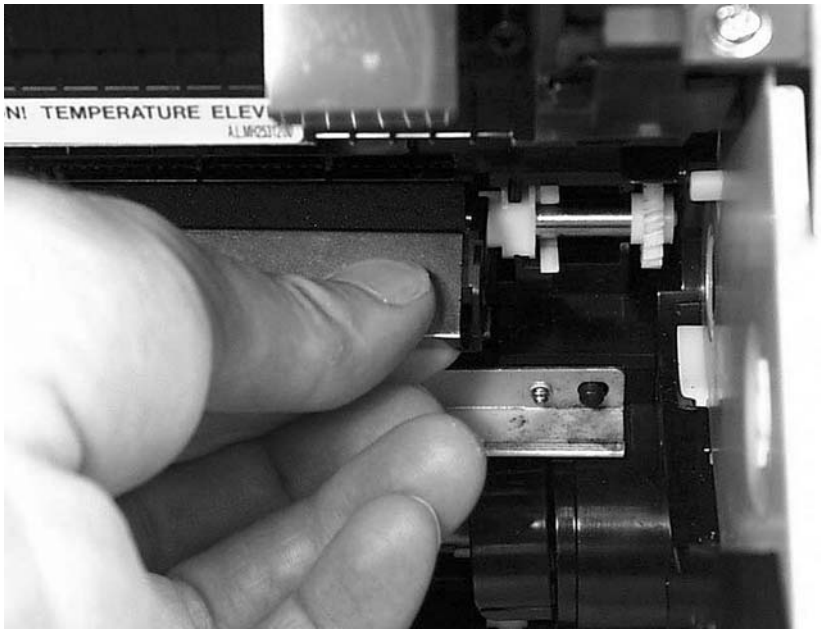


Figure 5-21 Remove the transfer roller (2 of 3)

3 Use needle-nose pliers or your fingers to squeeze the two small tabs on the transfer roller.

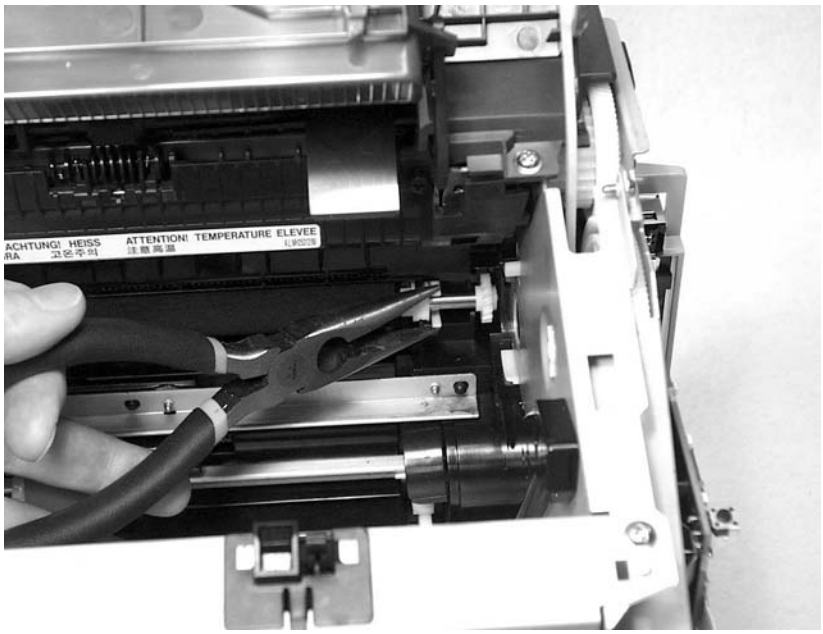


Figure 5-22 Remove the transfer roller (3 of 3)

4 Angle the transfer roller up while holding on to the gear on the right side. Slide the roller toward right side of the printer, and lift both the transfer roller and the transfer-roller guide out of the printer.

Reinstallation tip A small grounding spring is under the right transfer-roller bearing. When reinstalling the transfer roller, position this spring correctly under the right bearing. Reverse the removal process to install the new transfer roller. Then reinstall the paper guide by gently pressing the two ends of the guide onto the transfer-roller bearings until the clamps snap into place. Rotate the paper guide down until the tabs on both ends engage.

Engine-power assembly

1 Remove the following assemblies.

- Right-side cover. See Right-side cover on page 68.
- Left-side cover. See Left-side cover on page 70.
- Top-cover assembly. See Rear panel and top-cover assembly on page 70.
- Front cover. See Front cover on page 75.

2 Disconnect the six cables (callout 1) near the top of the power assembly.

CAUTION Do *not* pull directly on the wires when a connector is disconnected. *Always* pull on the plastic body of a connector to avoid damaging the connector wires.

3 Remove four screws (callout 2).

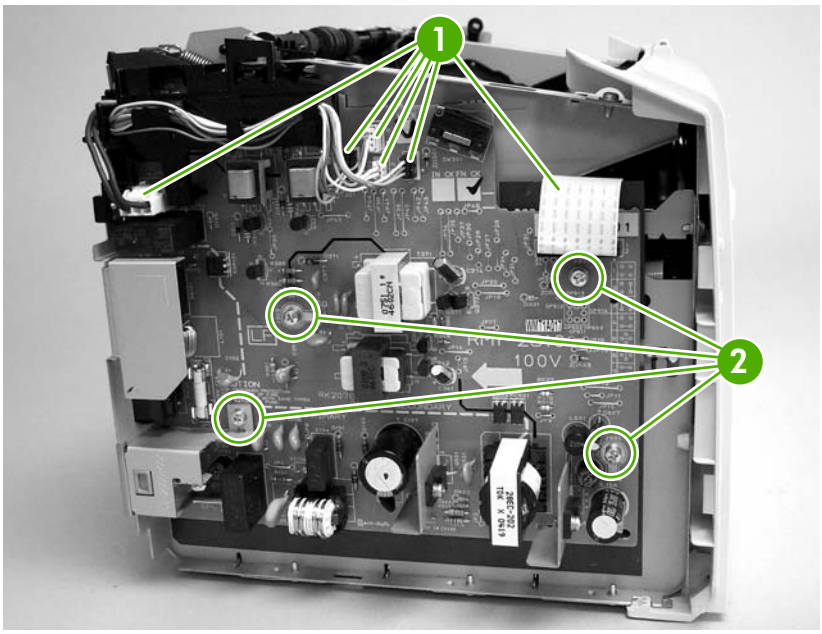


Figure 5-23 Remove the engine-power assembly (1 of 2)

4 Remove two screws from the back of the printer (callout 3), disconnect the high-voltage wire (callout 4) and then remove the power supply.

NOTE Be careful not to lose the two springs that are behind the engine-power assembly.

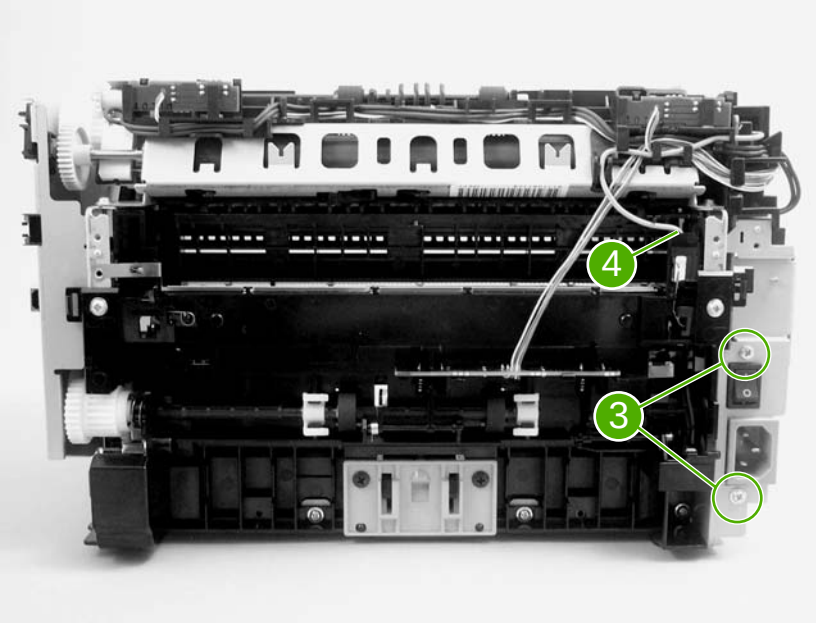


Figure 5-24 Remove the engine-power assembly (2 of 2)

Reinstallation tip When reinstalling the engine-power assembly, make sure that the cable guide is correctly installed by clipping it onto the PCB at the top, back corner and onto the metal casing.

Fuser (fixing) assembly

1 Remove the following assemblies.

- Right-side cover. See Right-side cover on page 68.
- Left-side cover. See Left-side cover on page 70.
- Top-cover assembly. See Rear panel and top-cover assembly on page 70.

2 Disconnect cables, as necessary, from near the top of the engine-power assembly and disconnect the high-voltage wire (callout 1) from the back of the printer.

> **CAUTION** Do *not* pull directly on the wires when a connector is disconnected. *Always* pull on the plastic body of a connector to avoid damaging the connector wires.

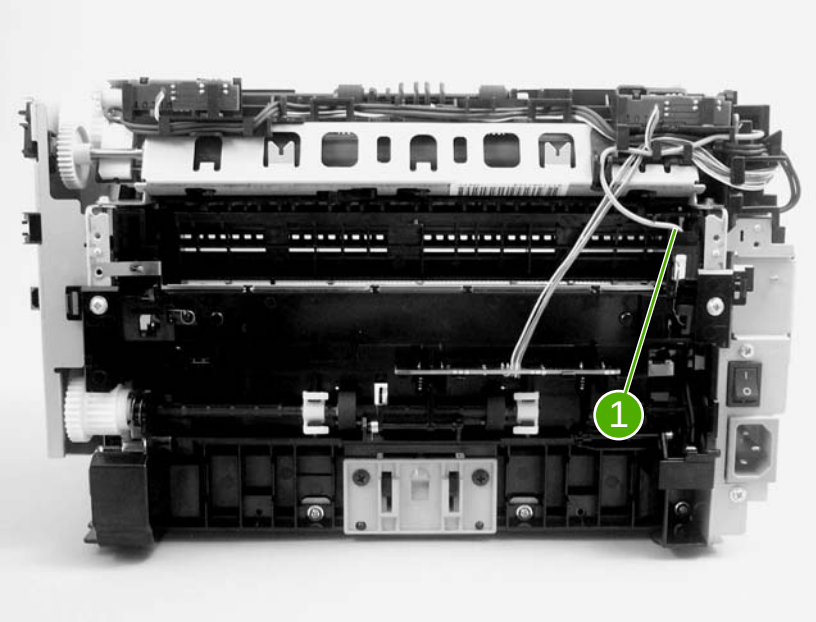


Figure 5-25 Remove the fuser (fixing) assembly (1 of 2)

3 Remove the wire harnesses from the plastic harness retainers.

4 Remove three screws (callout 2). (This figure shows the delivery-sensor PCB removed, but it is not necessary to remove this PCB in order to remove the fuser).

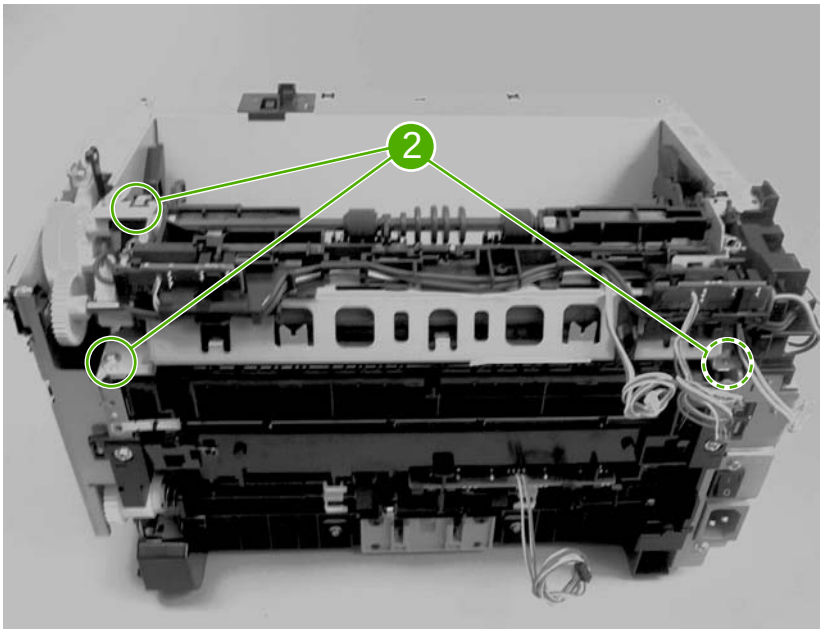
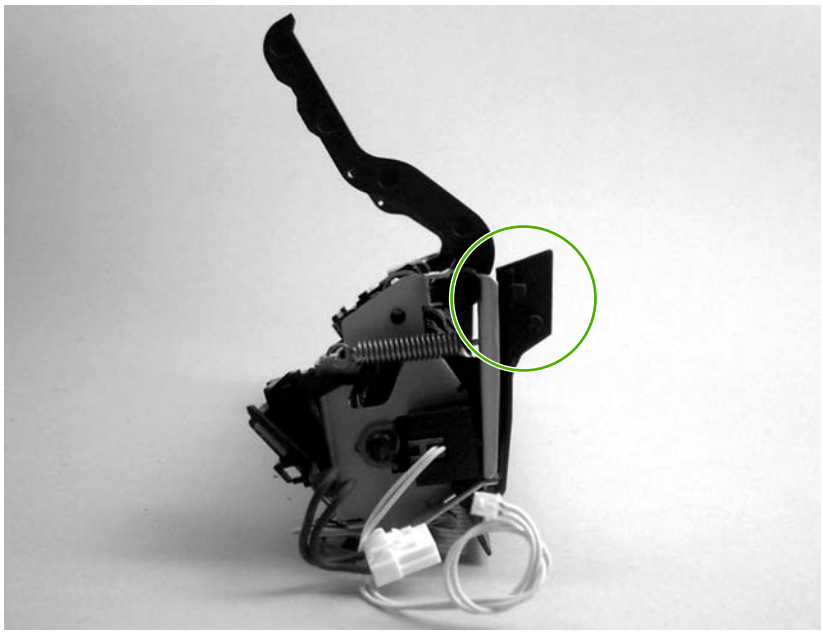


Figure 5-26 Remove the fuser (fixing) assembly (2 of 2)

5 Lift the end of the fuser assembly from the right side of the printer, and then remove it.

Reinstallation tip When replacing the fuser assembly, be sure to transfer the delivery sensor PCB from the old fuser to the new one.

NOTE When reinstalling the fuser assembly, be careful not to break the plastic tab on the assembly.



Paper-pickup assembly

1 Remove the following assemblies.

- Right-side cover. See Right-side cover on page 68.
- Left-side cover. See Left-side cover on page 70.
- Top-cover assembly. See Rear panel and top-cover assembly on page 70.
- Front cover. See Front cover on page 75.
- Transfer-roller assembly. See Transfer-roller assembly on page 77.
- Fuser (fixing) assembly. See Fuser (fixing) assembly on page 82.

2 Disconnect and unwind any additional wires as necessary to release the paper-pickup assembly. Unplug and unwind the wire from the solenoid to the formatter.

CAUTION Do *not* pull directly on the wires when a connector is disconnected. *Always* pull on the plastic body of a connector to avoid damaging the connector wires.

3 Remove six screws (callout 1), and then remove the paper-pickup assembly.

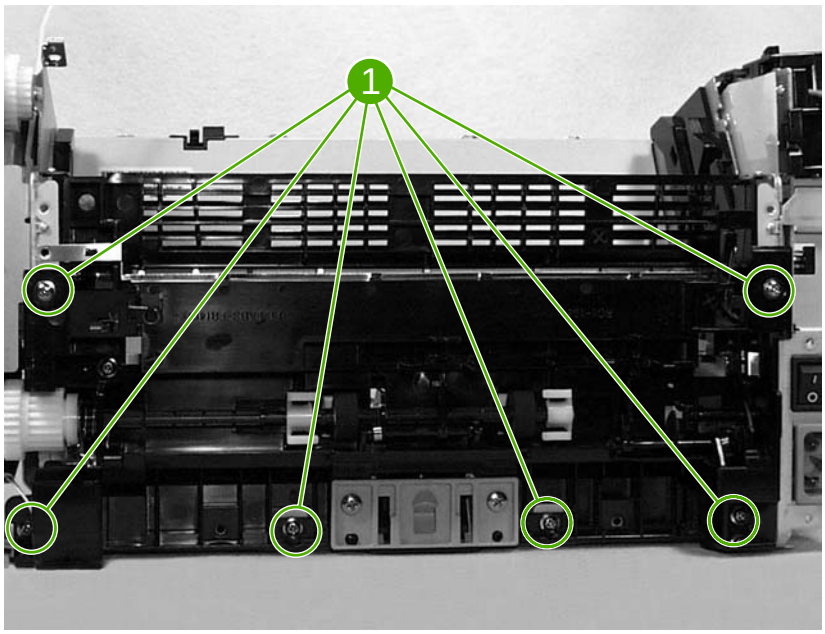


Figure 5-27 Remove the paper pickup assembly

Reinstallation tip When replacing the paper-pickup assembly, be sure to transfer the sensor PCB and, if necessary, the separation-pad assembly to the new paper-pickup assembly.

Engine control unit (ECU) assembly

1 Remove the following assemblies.

- Right-side cover. See Right-side cover on page 68.
- Left-side cover. See Left-side cover on page 70.
- Top-cover assembly. See Rear panel and top-cover assembly on page 70.
- Front cover. See Front cover on page 75.

2 Disconnect the flat flexible (ribbon) cable (callout 1) from the formatter, which is on the right side of the product.

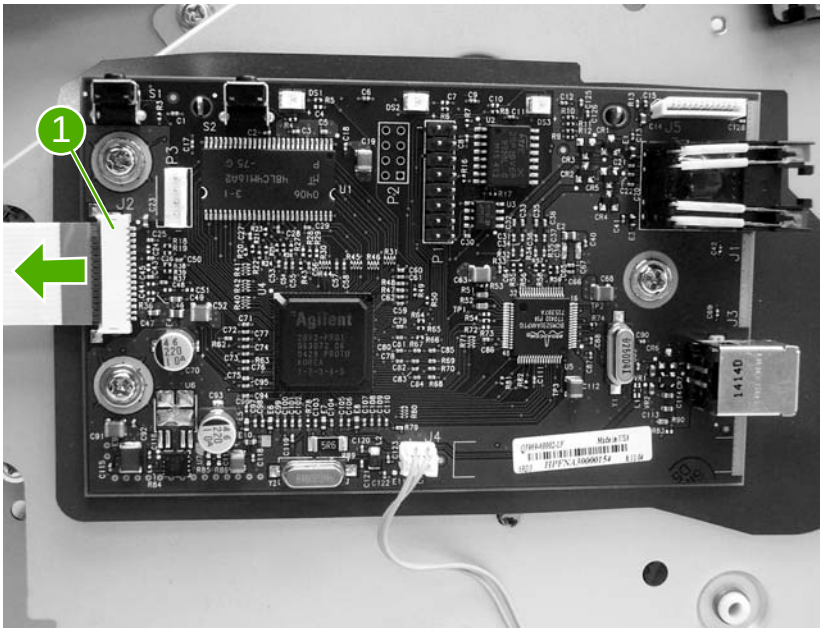


Figure 5-28 Remove the ECU assembly (1 of 6)

3 Disconnect the flat flexible (ribbon) cable (callout 2) from the engine-power assembly.

Figure 5-29 Remove the ECU assembly (2 of 6)

4 Remove four screws (callout 3).

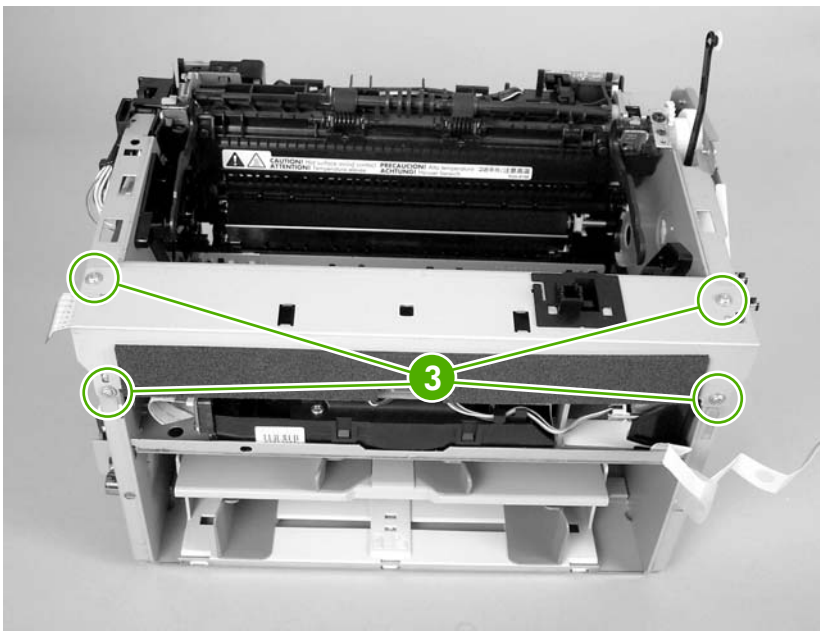


Figure 5-30 Remove the ECU assembly (3 of 6)

5 Lift the ECU cover up just enough to free it, and then tilt it back as far as it will go without forcing it.

6 Two sheet-metal hook hinges (one on each side) secure the cover. Use a screwdriver to push both hooks free, and then remove the ECU cover.

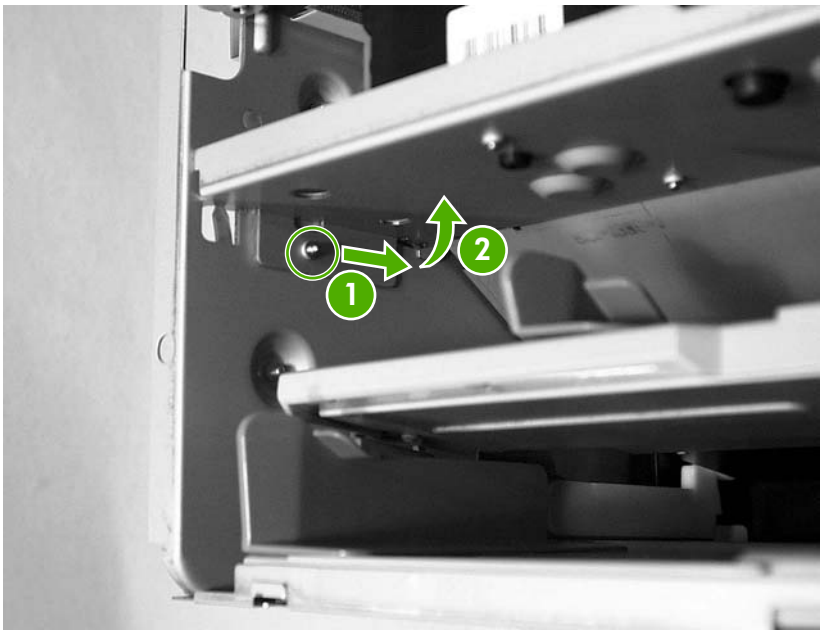


Figure 5-31 Remove the ECU assembly (4 of 6)

7 Release the plastic wire-retainer tab (arrow 1), and rotate the retainer up and away from the chassis (arrow 2).

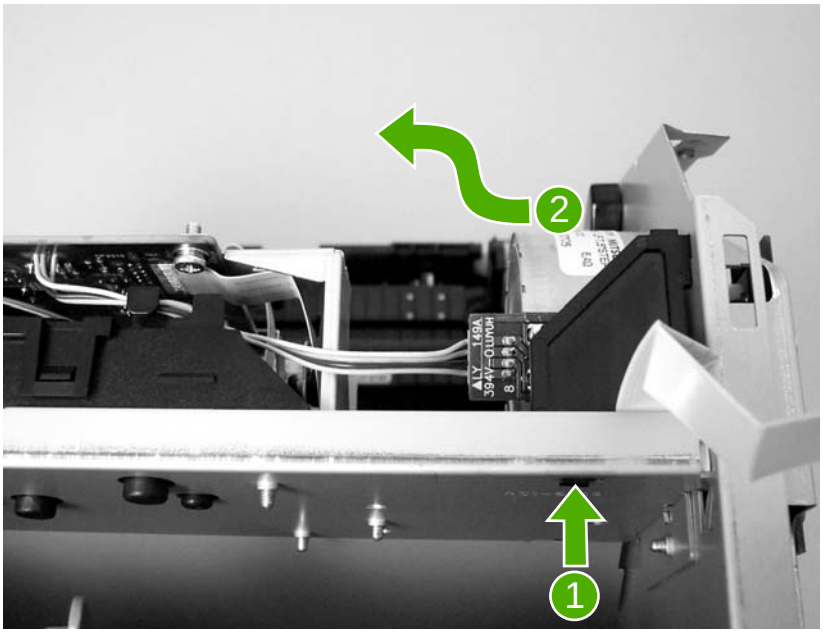


Figure 5-32 Remove the ECU assembly (5 of 6)

8 Disconnect one flat flexible (ribbon) cable and the connector to the step motor (callout 4). Remove two screws (callout 5). Loosen the tape (callout 6) that secures the cable to the chassis. As you remove the ECU, unplug the additional connector to the laser/scanner assembly.

CAUTION Do *not* pull directly on the wires when a connector is disconnected. *Always* pull on the plastic body of a connector to avoid damaging the connector wires.

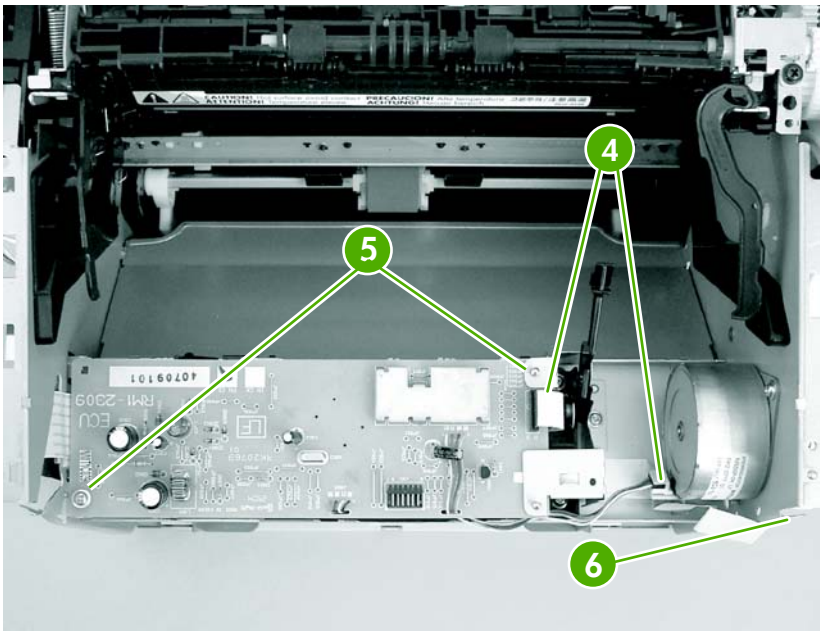


Figure 5-33 Remove the ECU assembly (6 of 6)

Reinstallation tip When reinstalling the ECU metal casing, make sure that the laser/scanner shutter lever is inserted correctly through the plastic guide.

Laser/scanner assembly

1 Remove the following assemblies.

- Right-side cover. See Right-side cover on page 68.
- Left-side cover. See Left-side cover on page 70.
- Top-cover assembly. See Rear panel and top-cover assembly on page 70.
- Front-cover. See Front cover on page 75.
- Engine control unit assembly. See Engine control unit (ECU) assembly on page 85.

2 Remove four screws (callout 1) and then remove the laser/scanner assembly.

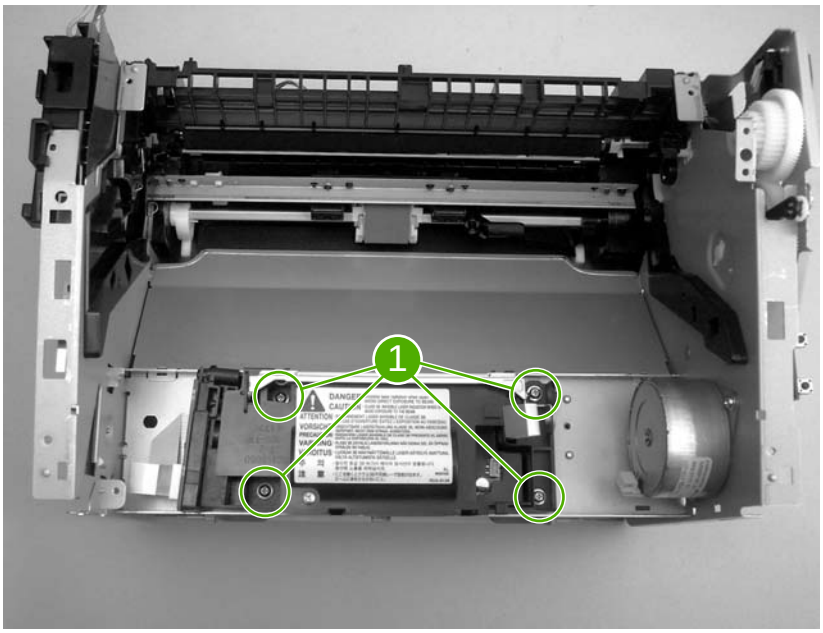


Figure 5-34 Removing the laser/scanner assembly

Reinstallation tip When replacing the laser/scanner assembly, be sure to transfer the laser shutter arm from the old assembly to the new one.

6 Troubleshooting

This chapter describes how to isolate and resolve printer problems, print-quality problems, and media problems. Troubleshooting details are provided to resolve problems or to isolate replaceable parts.

- Basic troubleshooting
- Reset the factory default settings (cold reset)
- Control-panel pages
- Control-panel lights
- Jams
- Print-quality troubleshooting
- Solving paper-feed problems
- Functional checks
- Troubleshooting tools
- Solenoid, sensors, switches, and motor

Basic troubleshooting

Basic troubleshooting

Table 6-1 Basic troubleshooting

Did the printer turn on?

Cause	Solution
No power is available because the power source, cable, or switch failed.	1 Verify that the product is plugged in. Make sure that the printer is plugged directly into a working wall receptacle. 2 Verify that the power cable is functional and that the power switch is on. 3 If these conditions are correct, replace the engine power assembly.
The printer motor does not rotate.	1 Make sure that the printer is plugged directly into a working wall receptacle. 2 Verify that the print-cartridge door is closed. 3 Verify that the print path is clear. If it is, verify that the print-path paper-sensor arms are clean and functional. 4 Verify that the cable from the ECU to the motor is connected. 5 If all of these conditions are correct, replace the ECU. See Engine control unit (ECU) assembly on page 85. 6 If, after replacing the ECU, the printer motor still does not rotate, replace the engine-power assembly. See Engine-power assembly on page 80. 7 If, after replacing the ECU and engine-power assembly, the printer motor still does not rotate, replace the printer.

The motor rotates, but the lights are not on.

Is the product ready?

Cause	Solution
The formatter is damaged or has a loose connection.	Verify that the formatter cables are connected correctly. If all cables are undamaged and seated correctly but the problem persists, replace the printer.

Print a demo page by pressing the Go button when the printer is idle.

Does the demo page print?

Cause	Solution

Table 6-1 Basic troubleshooting (continued)

Print a demo page by pressing the Go button when the printer is idle.

Does the demo page print?

Cause	Solution
The media does not move smoothly through the paper path.	If the media is consistently jamming and the paper path is clear, replace either the paper-pickup assembly or the fuser, depending on where it is jamming.
Poor print quality is evident.	See Print-quality troubleshooting on page 100

Is the software installed correctly?

Cause	Solution
The software is not installed correctly, or an error occurred during software installation.	Uninstall and then reinstall the product software. Make sure that you use the correct installation procedure and the correct port setting.

Connect the USB cable to the printer and the computer. Print a test page from the Printer Properties dialog box or print from a software program like Notepad.

Does the product print from the computer?

Cause	Solution
The cable is not connected correctly.	Reconnect the cable.
An incorrect driver is selected.	Select the correct driver.
Other devices are connected to the USB port.	Disconnect the other devices and try again to print.
An LPT port driver problem in Microsoft® Windows®.	Correct or reset the computer port settings.

Reset the factory default settings (cold reset)

Turning on the printer while pressing the Go and Cancel Job buttons restores the factory default settings.

1. Turn off the printer.
2. Press and hold the Go and Cancel Job buttons.
3. Turn the printer on and continue to press and hold the buttons until all three LEDs are blinking.
4. Release the buttons.

Control-panel pages

When the printer is in the Ready state, pressing the Go button for varying amounts of time produces important printer reports. Use the following procedure to initiate the reports, and see Table 6-2 Control-panel pages: time ranges on page 94 for the specific time ranges for each report.

1. Ensure that only the Ready light is on.
2. Press and hold the Go button.
3. Release the Go button after the amount of time shown in Table 6-2 Control-panel pages: time ranges on page 94 for the report you want.

Table 6-2 Control-panel pages: time ranges

Control-panel page	Time range	Light status	Results and notes
Demo Page	Release Go immediately.	Attention: off Ready: blinking Go: off	A demo page prints.
Configuration Report	Release Go after LED begins blinking.	Attention: off Ready: blinking Go: off	A configuration report prints.

Control-panel lights

The printer indicates status and errors through patterns of the Go, Ready, and Attention lights. If any lights are blinking, the error can usually be resolved.

1 If the error pattern occurs when printing, try pressing the Go button to continue.

2 Make sure that the print cartridge is installed correctly and the print-cartridge door is closed.

3 Turn the printer power off and then on again.

Control-panel light patterns

The lights on the printer, from back to front, are the Go, Ready, and Attention lights. Each light can be on solid or blinking. When the three blink in sequence, the activity is called “cycling.” In this document, the light status is represented as follows.

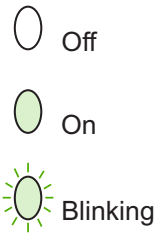


Figure 6-1 Printer-panel-lights legend

Table 6-3 Control-panel light patterns

State of the printer	Lights	Action
Initialization/startup		No action is necessary.
Ready - (The printer is ready, with no job activity.)		No action is necessary. (Pressing the Go button prints a demo page.)
Processing data - The product is processing or receiving data.		In the Data Processing state, the Ready light is blinking and the Go and Attention lights are off. Pressing Cancel Job cancels the current job without printing another page. The printer returns to the Ready state after the job has been canceled.
Cleaning mode - The product is processing a cleaning page.		Wait until the cleaning page is finished and the printer is in the Ready state. This might take up to two minutes. No action is necessary.

Table 6-3 Control-panel light patterns (continued)

State of the printer	Lights	Action
Out of memory - The product is out of memory.		The page you are printing might be too complex for the product's memory capacity. Try lowering the resolution.
Attention state - The print cartridge door is open, the trays contain no media, no print cartridge is installed, or media is jammed. The printer is in an error state that requires operator intervention.		Check the following: ■ Make sure that the print cartridge door is completely closed. ■ Make sure that media is loaded into the input tray. ■ Make sure that the print cartridge is correctly installed in the product. ■ Clear any media that is jammed in the product.
Fatal error - The product is in a nonrecoverable error state.		Turn off the printer, and then unplug the printer power cord for 30 minutes. Plug the printer power cord into the power outlet, and then turn the printer on. If the error persists, replace the printer. See Printer exchange on page 127.
All lights off		Make sure that the power switch is in the on position. Make sure that the product is plugged into a working power receptacle. Unplug both ends of the power cord, and then plug the power cord into both the printer and the power receptacle again.

Jams

Clearing jams

CAUTION Do not use sharp objects, such as tweezers or needle nose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

CAUTION Always pull jammed media in the direction it would travel through the paper path. *Do not* pull jammed media against the direction of travel through the paper path to avoid damage to the printer.

To prevent damage to the printer when clearing jams, including jams in the output bin, always open the print-cartridge door and remove the print cartridge. Keep the door open and the cartridge out until the jam has been cleared. Opening the print-cartridge door and removing the print cartridge relieves tension on the printer rollers, which prevents damage to the printer and makes the removal of jammed pages easier.

Occasionally, media becomes jammed during a print job. You are notified of a media jam by an error from the software and the printer control panel lights. See Control-panel lights on page 95.

The following are some of the causes of media jams:

- The input trays are loaded improperly or are too full. See Loading media on page 20.

  NOTE When you add new media, always remove all of the media from the input tray and straighten the stack of new media. This helps prevent multiple sheets of media from feeding through the printer at one time, reducing media jams.

- The media does not meet HP specifications. See Media specifications on page 16.

Typical media jam locations

- **Print cartridge area**: See Removing a jammed page on page 98.
- **Input tray area**: If the page is still sticking out of the input tray, gently try to remove it from the input tray without tearing the page. If you feel resistance, see Removing a jammed page on page 98.
- **Output path**: If the page is sticking out of the output bin, see Removing a jammed page on page 98.

  NOTE There might be loose toner in the printer after a media jam. This toner clears up after a few sheets are printed.

Removing a jammed page

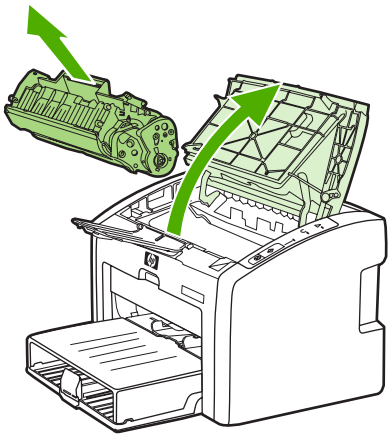
Use the procedures in this section to remove a jam.

CAUTION Media jams might result in loose toner on the page. If you get any toner on your clothes, wash them in cold water. *Hot water will permanently set the toner into the fabric*.

CAUTION To prevent damage to the printer when clearing jams, including jams in the output bin, always open the print cartridge door and remove the print cartridge.

To prevent damage to the print cartridge, minimize its exposure to direct light. Cover the print cartridge with a sheet of paper.

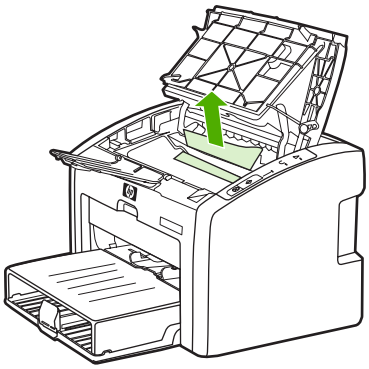
1 Open the print cartridge door, and remove the print cartridge.



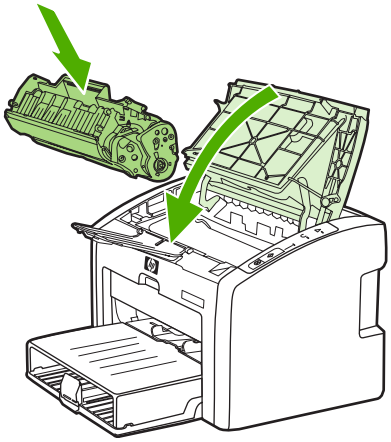
2 Grasp the middle edge of the side of the media that is most visible, and carefully pull it free from the printer.

CAUTION Do not use sharp objects, such as tweezers or needle nose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

CAUTION Always pull jammed media in the direction it would travel through the paper path. *Do not* forcefully pull jammed media against the direction of travel through the paper path to avoid damage to the printer.



3 When you have removed the jammed media, replace the print cartridge, and close the print cartridge door.



After clearing a media jam, you might need to turn the printer off then on again.

NOTE When you add new media, remove all of the media from the input tray and straighten the stack of new media.

Print-quality troubleshooting

Print-cartridge problems

Checking the print cartridge

Image-formation defects are frequently the result of problems in the print cartridge. If there is any doubt, always replace the print cartridge before troubleshooting image defects.

Hint If the transfer roller was recently replaced, print-quality problems might be the result of skin oils on the black-sponge portion of the transfer roller. *Do not* touch the black-sponge portion of the transfer roller when replacing it.

Use the following checklist to make sure that the print cartridge is still operable.

- Make sure that the print cartridge is installed properly and the shipping tape is removed.
- Check the print cartridge to see if it has been disassembled or refilled.
- Inspect the print 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.

To redistribute toner in the print cartridge

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

Solving print-quality problems

Use the following tables to help solve problems with printed pages.

If the problem occurs when printing, see Solving paper-feed problems on page 111.

Table 6-4 Solving print-quality problems

No page is produced.

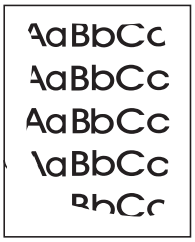
Cause	Solution
The product is not plugged in or power switch is off.	Make sure that the product is plugged into a live wall outlet or power strip and that the on/off switch is in the on position.
The printer is registering a jam.	Check the lights. If the ATTENTION light is flashing, the printer might be jammed. Clear the jam and press the GO button to clear the jam.
The computer cable is loose.	Make sure that the cable between the product and the computer is securely connected.

Table 6-4 Solving print-quality problems (continued)

Output pages are blank.

Cause	Solution
The tape was not removed from the print cartridge.	Remove the print cartridge, remove the tape, and reinstall the print cartridge.
The print cartridge is depleted.	Replace the print cartridge.
The high-voltage connection between the printer and the print cartridge has been interrupted.	Perform a High-voltage-contacts check on page 115.
The laser/scanner shutter lever is not installed correctly or is broken.	If the ECU was recently replaced, make sure that the laser/scanner shutter lever was inserted correctly through the plastic guide in the sheet-metal ECU cover when the cover was reinstalled. See Engine control unit (ECU) assembly on page 85. If the laser/scanner shutter lever is broken, replace the print cartridge door (part of the top cover assembly. See Rear panel and top-cover assembly on page 70.

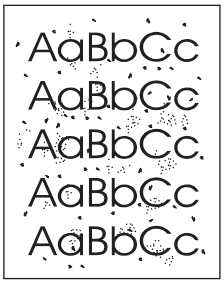
Parts of the page around the edges are not printing.



Cause	Solution
The printer cannot print all the way to the edge of the paper. The printer has minimum margins on each edge of approximately 6 mm (0.25 inch).	To make the image fit into this printable area, slightly reduce the size of the image. Open the **Printer Properties** dialog box, and then select **Printing Preferences**. Select the **Effects** tab and then click on the **Print Document On** check box in the **Fit to Page** area of the dialog box. if the a page size other than **Letter** is used, select the appropriate page size from the drop down menu. Click **OK** to close the **Printing Preferences** dialog box, and then click **OK** again to close the **Printer properties** dialog box.
The reduction setting is incorrect.	To make changes to the reduction settings, open the **Printer Properties** dialog box, and then select **Printing Preferences**. Select the **Effects** tab and then change the reduction settings in the **Fit to Page** area of the dialog box. Click **OK** to close the **Printing Preferences** dialog box, and then click **OK** again to close the **Printer properties** dialog box.
The paper-size setting is incorrect.	To make a change to the paper-size settings, open the **Printer Properties** dialog box, and then select **Printing Preferences**. Select the correct paper-size setting from the **Size is** drop down menu. Click **OK** to close the **Printing Preferences** dialog box, and then click **OK** again to close the **Printer properties** dialog box.

Table 6-4 Solving print-quality problems (continued)

Random toner specks appear on the printed page.



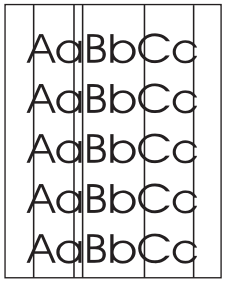
Cause	Solution
The media in use does not meet HP specifications (for example, it is too moist or too rough).	Make sure that the media meets specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.
The print path is dirty.	Clean the print path (see Cleaning the print path on page 26).

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

Cause	Solution
A single sheet of paper is defective.	Try reprinting the job.
The print density needs to be adjusted.	Open the **Printer Properties** dialog box, and then select the **Configure** tab. Use the slide bar in the **Print Density** area of the dialog box to change the print density setting. Click **OK** to close the printer properties dialog box.
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 the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.
The paper was damaged by inconsistent manufacturing processes.	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.
Economode is enabled.	Open the **Printer Properties** dialog box, and then select **Printing Preferences**. Select the **Finishing** tab, and then clear the **EconoMode (Save Toner)** check box.
The wrong type of paper is selected in the **Printer Preferences** dialog box.	Open the **Printer Properties** dialog box, and then click **Printing Preferences**. Select the correct media type from the **Type Is** drop down menu. Click **OK** to close the **Printing Preferences** dialog box, and then click **OK** again to close the **Printer properties** dialog box.
The print cartridge is depleted or damaged.	Replace the print cartridge.
Rarely, the fuser might be damaged.	Replace the fuser.

Table 6-4 Solving print-quality problems (continued)

Vertical black lines appear on the printed page.



Cause	Solution
The print cartridge is depleted or damaged.	Replace the print cartridge.
The main input tray cover is not correctly installed.	Make sure that the main input tray cover is correctly installed.
Rarely, the fuser is defective.	Replace the fuser.

The printed page has a gray background.

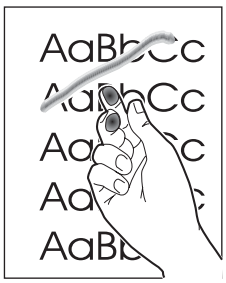
Cause	Solution
The main input tray cover is not correctly installed.	Make sure that the main input tray cover is correctly installed.
The print density setting is too high.	Open the **Printer Properties** dialog box, and then select the **Configure** tab. Use the slide bar in the **Print Density** area of the dialog box to change the print density setting. Click **OK** to close the **Printer Properties** dialog box.
The media basis weight is too high.	Change the media to a lower basis weight.
The print path needs to be cleaned.	Clean the print path (see Cleaning the print path on page 26).
The printer is operating in humidity or temperature conditions that are not within the recommended ranges.	Move the product to a different location.
The print cartridge is worn, damaged, or has been refilled.	Replace the print cartridge.

Table 6-4 Solving print-quality problems (continued)

Toner smears appear on the printed page.

Cause	Solution
If toner smears appear on the leading edge of the media, the media guides might be dirty.	Wipe the media guides with a dry, lint free cloth.
The print path needs to be cleaned.	Clean the print path (see Cleaning the print path on page 26).
The media in use does not meet HP specifications (for example, it is too moist or too rough).	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.
The paper was damaged by inconsistent manufacturing processes.	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.
The print cartridge is worn or damaged.	Replace the print cartridge.
The wrong type of media is selected in the **Printer Preferences** dialog box.	Open the **Printer Properties** dialog box, and then click **Printing Preferences**. Select the correct media type from the **Type Is** drop down menu. Click **OK** to close the **Printing Preferences** dialog box, and then click **OK** again to close the **Printer properties** dialog box.
The fuser is damaged.	Perform the Half self-test functional check on page 113. If the error persists, replace the fuser. If, after replacing the fuser, the error persists, replace the ECU.

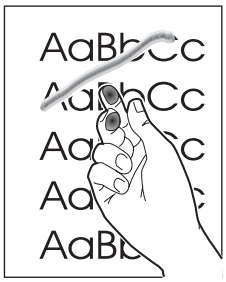
The toner is loose, and it does not stay attached to the printed page.



Cause	Solution
The media you are using does not meet HP specifications (for example, it is too moist or too rough).	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.
The wrong type of media is selected in the **Printer Preferences** dialog box.	Open the **Printer Properties** dialog box, and then click **Printing Preferences**. Select the correct media type from the **Type Is** drop down menu. Click **OK** to close the **Printing**

Table 6-4 Solving print-quality problems (continued)

The toner is loose, and it does not stay attached to the printed page.



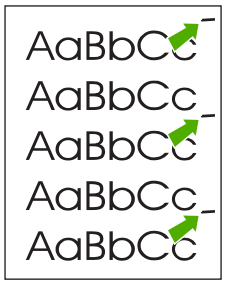
Cause	Solution
	Preferences dialog box, and then click **OK** again to close the **Printer properties** dialog box.
The print path needs to be cleaned.	Clean the print path (See Cleaning the print path on page 26).
The power strip is not working correctly or the ac power is not meeting the specified requirements.	Plug the product directly into an ac outlet. Ensure that the power source is clean.
The printer is operating in humidity or temperature conditions that are not within the recommended ranges.	Move the product to a different location.
The fuser is damaged.	Perform a Half self-test functional check on page 113. If the error persists, replace the fuser. If, after replacing the fuser, the error persists, replace the engine power assembly.

Repetitive vertical defects appear on the printed page.

Cause	Solution
The internal parts have toner on them.	If the defects occur on the back of the page, the problem will probably correct itself after a few more printed pages. Otherwise, clean the printer (see Cleaning the print path on page 26).

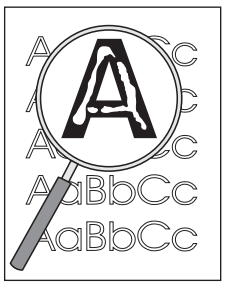
Table 6-4 Solving print-quality problems (continued)

Repetitive vertical defects appear on the printed page.



Cause	Solution
The wrong type of media is selected in the **Printer Preferences** dialog box.	Open the **Printer Properties** dialog box, and then click **Printing Preferences**. Select the correct media type from the **Type Is** drop down menu. Click **OK** to close the **Printing Preferences** dialog box, and then click **OK** again to close the **Printer properties** dialog box.
If the repetitive mark occurs at equal distance on the page, either the print cartridge, transfer roller, paper pickup assembly, or fuser is damaged.	Use the repetitive-image-defect ruler to identify the spacing. Check the appropriate assembly and replace if necessary. (See Repetitive-image-defect ruler on page 117)

Characters are poorly formed and are producing hollow images.



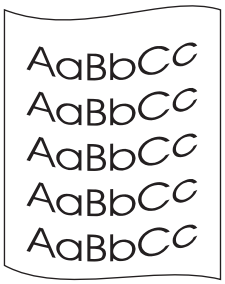
Cause	Solution
The wrong type of media is selected in the **Printer Preferences** dialog box.	Open the **Printer Properties** dialog box, and then click **Printing Preferences**. Select the correct media type from the **Type Is** drop down menu. Click **OK** to close the **Printing Preferences** dialog box, and then click **OK** again to close the **Printer properties** dialog box.
The media is too slick or too thick.	Try a different media. Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.

Table 6-4 Solving print-quality problems (continued)

Pages are skewed.

Cause	Solution
The media is loaded incorrectly.	Reload the media, and make sure that the side and rear media guides are not too tight against the media stack or too loose.
The input tray is too full.	Remove some of the sheets. The main input tray can hold up to 250 sheets of 75 g/m^2 (20-lb) bond-weight paper (or fewer pages of heavier media), or a stack no higher than 25 mm (0.98 inch). The priority input tray can hold one sheet of 75 g/m^2 (20-lb) bond-weight paper, one sheet of heavier media, or one envelope or card.
The media in use does not meet HP specifications (for example, it is too moist or too rough).	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.

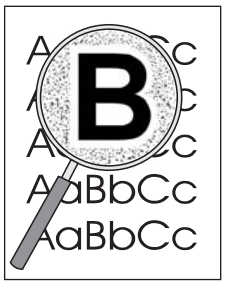
The printed page has curls or waves.



Cause	Solution
The printer is operating in humidity or temperature conditions that are not within the recommended ranges.	Move the product to a different location.
The wrong type of media is selected in the **Printer Preferences** dialog box.	Open the **Printer Properties** dialog box, and then click **Printing Preferences**. Select the correct media type from the **Type Is** drop down menu. Click **OK** to close the **Printing Preferences** dialog box, and then click **OK** again to close the **Printer properties** dialog box.
The media in use does not meet HP specifications (for example, it is too moist or too rough).	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.
There is too much media loaded in the main input tray.	Take some of the media out of the input tray.
The media was in the input tray for too long.	1 Turn the stack of media over and put it back in the tray. 2 Rotate the media 180° and put it back in the tray.

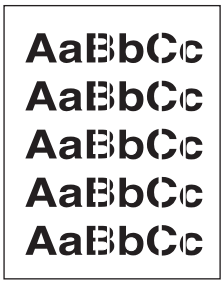
Table 6-4 Solving print-quality problems (continued)

Large amounts of toner are scattered around the characters.



Cause	Solution
The media resistivity is too high. (This most often happens when transparencies acquire a static charge.)	1 Use a different media. Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*. 2 Turn the stack of media over and put it back in the tray. 3 Use media (particularly transparencies) that is designed for laser printers.
The printer is operating in humidity or temperature conditions that are not within the recommended ranges (often, the humidity is too low).	Move the product to a different location.

Vertical white stripes appear.



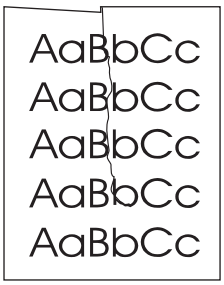
Cause	Solution
The toner is low or poorly distributed in the print cartridge.	Gently rock the print cartridge back and forth to redistribute the toner (see the illustration on the print cartridge). Replace the print cartridge.
The media you are using does not meet HP specifications (for example, it is too moist or too rough).	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.

Table 6-4 Solving print-quality problems (continued)

Printout is faded in areas.

Cause	Solution
If the entire page is light, the print density is too light or Econmode might be turned on.	Open the **Printer Properties** dialog box, and then click **Printer preferences**. Select the **Finishing** tab and make sure that the **EconoMode (Save Toner)** check box is not selected. Select **OK** to close the **Printer Preferences** dialog box. Select the **Configure** tab in the **Printer Properties** dialog box. Use the slide bar in the **Print Density** area of the dialog box to change the print density setting. Click **OK** to close the **Printer Properties** dialog box.
The printer is operating in humidity or temperature conditions that are not within the recommended ranges.	Move the product to a different location. Increase airflow around the printer to prevent condensation on the laser/scanner lens.
The toner is low or poorly distributed in the print cartridge.	Gently rock the print cartridge back and forth to redistribute the toner (see the illustration on the print cartridge). Replace the print cartridge.

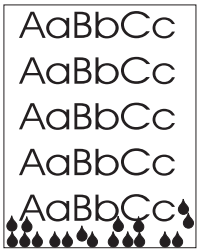
Wrinkles or creases appear in the printout



Cause	Solution
The media is not properly loaded.	Make sure the media is correctly loaded.
Damage or reused media is being used.	Do not use media that is damaged or has already been put through a copier or printer.
The media you are using does not meet HP specifications (for example, it is too moist or too rough).	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.

Table 6-4 Solving print-quality problems (continued)

Droplets of water are deposited on the trailing edge



Cause	Solution
Moisture in the printer is condensing on the fuser assembly. In excessively hot and humid areas, media retains moisture.	Try moving the printer to a less humid area. Try a different media.
NOTE Water droplets do not damage the printer.	

Solving paper-feed problems

Use the following table to solve problems related to moving paper or documents through the product.

Table 6-5 Solving paper-feed problems

Pages are coming out curled or wrinkled.

Cause	Solution
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.	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.
The paper is not stored properly.	Whenever possible, store paper in its sealed ream at room temperature.
The media is too long for the printer output bin.	Use the output-bin extension.
The printer is operating in humidity or temperature conditions that are not within the recommended ranges.	Move the product to a different location.
The wrong type of media is selected in the **Printer Preferences** dialog box.	Open the **Printer Properties** dialog box, and then click **Printing Preferences**. Select the correct media type from the **Type Is** drop down menu. Click **OK** to close the **Printing Preferences** dialog box, and then click **OK** again to close the **Printer properties** dialog box.
The media you are using does not meet HP specifications (for example, it is too moist or too rough).	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.
The media was in the input tray for too long.	1 Turn the stack of media over and put it back in the tray. 2 Rotate the media 180° and put it back in the tray.

Print is misaligned on the page (skewed pages).

Cause	Solution
The media is loaded incorrectly.	Reload the media, and make sure that the side and rear media guides are not too tight against the media stack or too loose.
The input tray is too full.	Remove some of the sheets. The main input tray can hold up to 250 sheets of 75 g/m^2 (20-lb) bond-weight paper (or fewer pages of heavier media), a stack no higher than 25 mm (.98 inch). The priority input tray can hold one sheet of 75 g/m^2 (20-lb) bond-weight paper, one sheet of heavier media, or one envelope or card.
The media you are using does not meet HP's specifications (for example, it is too moist or too rough).	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.

The printer feeds multiple sheets or jams frequently from the main input tray or priority input slot.

Cause	Solution

Table 6-5 Solving paper-feed problems (continued)

The printer feeds multiple sheets or jams frequently from the main input tray or priority input slot.

Cause	Solution
The paper guides are not adjusted correctly or the paper is not far enough forward.	Slide the guides against the sides of the stack in the main input tray or the priority input slot to center the paper. Make sure that the guides are not adjusted too tightly.
The stack is not neat or not aligned well on all sides.	Remove the media, and then align stack and replace it.
The main input tray is overfilled.	Remove some of the sheets. The main input tray can hold up to 250 sheets of 75 g/m^2 (20-lb) bond-weight paper (less for heavier paper) or from 20 to 30 envelopes.
The priority input slot is overfilled.	The priority input slot is designed to optimal feed single sheets. It can hold one sheet of 75 g/m^2 (20-lb) bond-weight paper (one sheet of heavier paper) or one envelope.
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 can 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 specifications for print media.	Make sure that the media meets the specifications detailed in the *HP LaserJet Printer Family Print Media Guide*.
The output capacity was exceeded in the paper output bin.	Do not allow more than 150 sheets of 75 g/m^2 (20-lb) bond-weight paper (less for heavier paper) to fill the paper output bin.
The pickup roller is dirty.	Clean the pickup roller.
The pickup roller is damaged.	Replace the pickup roller.
The separation pad is damaged.	Replace the separation pad.
A sensor is not operating correctly.	The chances of a sensor failing are very small. However, debris around the sensor arms can cause them to register a jam. Three sensors are in the printer: top-of-page sensor, paper-width sensor, and delivery sensor. Check them to ensure that the sensor arms can move freely. On the rare occasion of a failed sensor, replace the printer.

Functional checks

This section includes five functional checks for troubleshooting.

Half self-test functional check

The print 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 media)
- Cleaning stage (removes excess toner from the drum)
- Fusing stage (applies heat and pressure to make the image permanent on the media)

To perform a half self-test check

The purpose of the half self-test check is to begin the printing process and then interrupt it in the middle. Examining the printer components at that point allows you to determine which stage in the print process is malfunctioning.

1. Press the Go button to print a demo (self-test) page.
2. Open the print-cartridge door the instant the leading edge of the paper exits the printer.
3. Remove the print cartridge.
4. Open the print cartridge drum shield to view the drum surface. If a dark and distinct toner image is present on the drum surface, then the first two functions of the electrophotographic process are functioning (image-formation and development). Any failure is occurring in the transfer or fusing stage.

To perform other checks

If no image appears on the photosensitive drum, perform these checks:

1. Make sure that you remove the entire length of the sealing tape from the print cartridge before you install the cartridge. If the tape is not removed, then toner cannot reach the drum.
2. Perform a drum-rotation functional check to ensure that the drum is rotating (see Drum-rotation functional check on page 114).
3. Perform a high-voltage contact check. (see High-voltage-contacts check on page 115).

4 Check the fuser connections (callout 1) on the engine-power assembly. Also check the fuser ground connection at the back side of the printer.

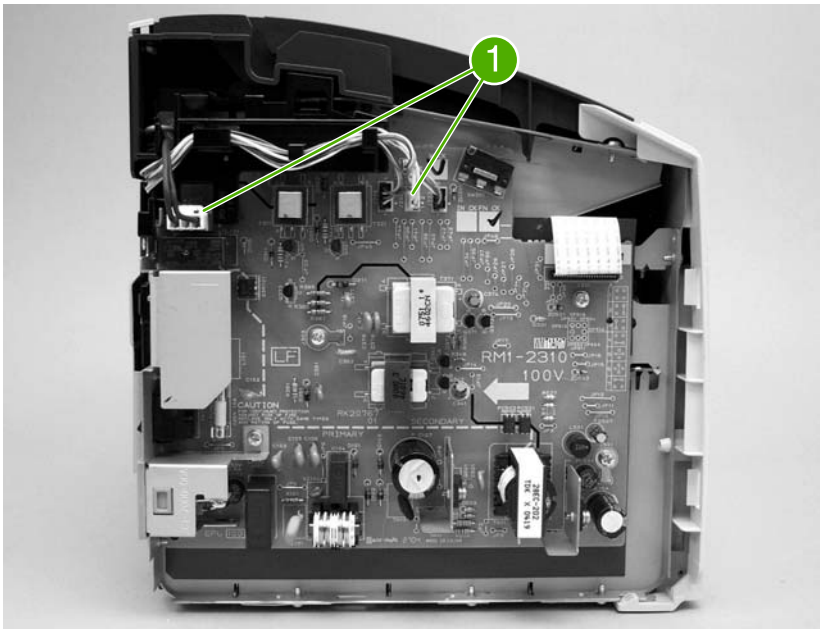


Figure 6-2 Check the fuser connections

If a transfer problem exists, replace the transfer roller (*do not* touch the black-sponge portion of the transfer roller). If a fuser problem exists, first check to make sure that the three cables to the fuser are correctly seated in the engine-power assembly.

Drum-rotation functional check

The photosensitive drum, located in the print cartridge, must rotate in order for the print process to work. The photosensitive drum receives its drive from the main motor through a system of gears on the right side of the printer.

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

1 Open the print-cartridge door.

2 Remove the print cartridge.

3 Mark the drive gear on the cartridge with a felt-tipped marker. Note the position of the mark.

4 Install the print cartridge and close the print-cartridge door. The startup sequence should rotate the drum enough to move the mark.

5 Open the print-cartridge door and inspect the gear that was marked in step 3. Verify that the mark moved.

If the mark did not move, inspect the drive shaft that moves into the print-cartridge area when the print-cartridge door is closed to make sure that it is meshing with the print cartridge. If the drive shaft looks functional and the drum does not move, replace the print cartridge. If the drive shaft is damaged, replace the printer.

High-voltage-contacts check

The high-voltage contacts in the printer must have a good connection with the contacts on the print cartridge to provide the necessary voltages for the electrophotographic processes.

To check the print-cartridge contacts

Remove the print cartridge and visually inspect the three connection points (callout 1) on the end of the print cartridge. If they are dirty or corroded, clean the connection. If they are damaged, replace the print cartridge.

NOTE Use a dry cloth to clean the connections.

Figure 6-3 Print-cartridge high-voltage contacts

To check the printer high-voltage contacts

The printer has three spring-loaded pins (callout 1) that make contact with the high-voltage points on the print cartridge. Verify that the pins are not dirty or corroded and that the spring-loading action is functional. If the pins are dirty or obstructed, clean them. If they are damaged, replace the printer.

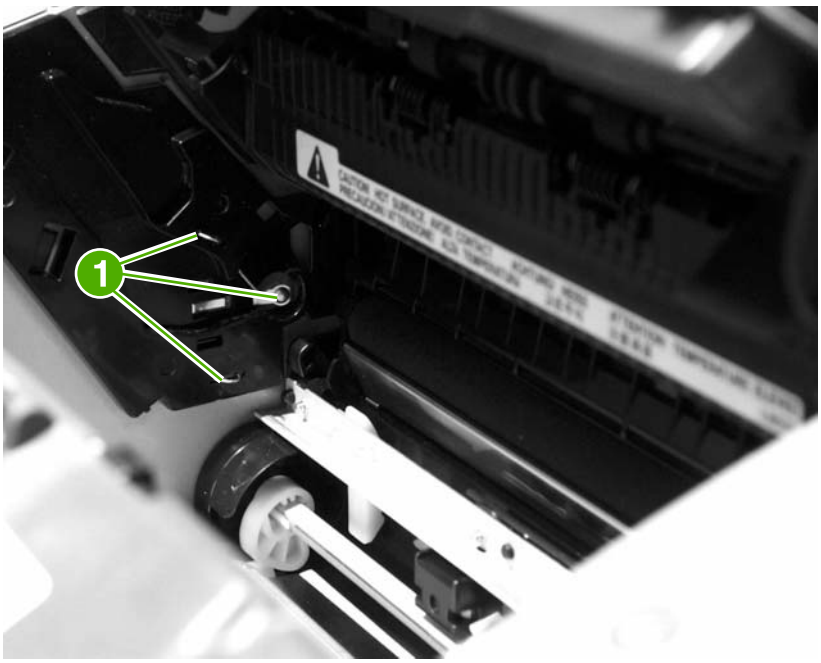


Figure 6-4 Printer high-voltage contacts

Troubleshooting tools

If the printer output has a consistent, repetitive defect, then use the following ruler to predict which part needs to be replaced based on the measured distance between the repetitions of the defect.

Repetitive-image-defect ruler

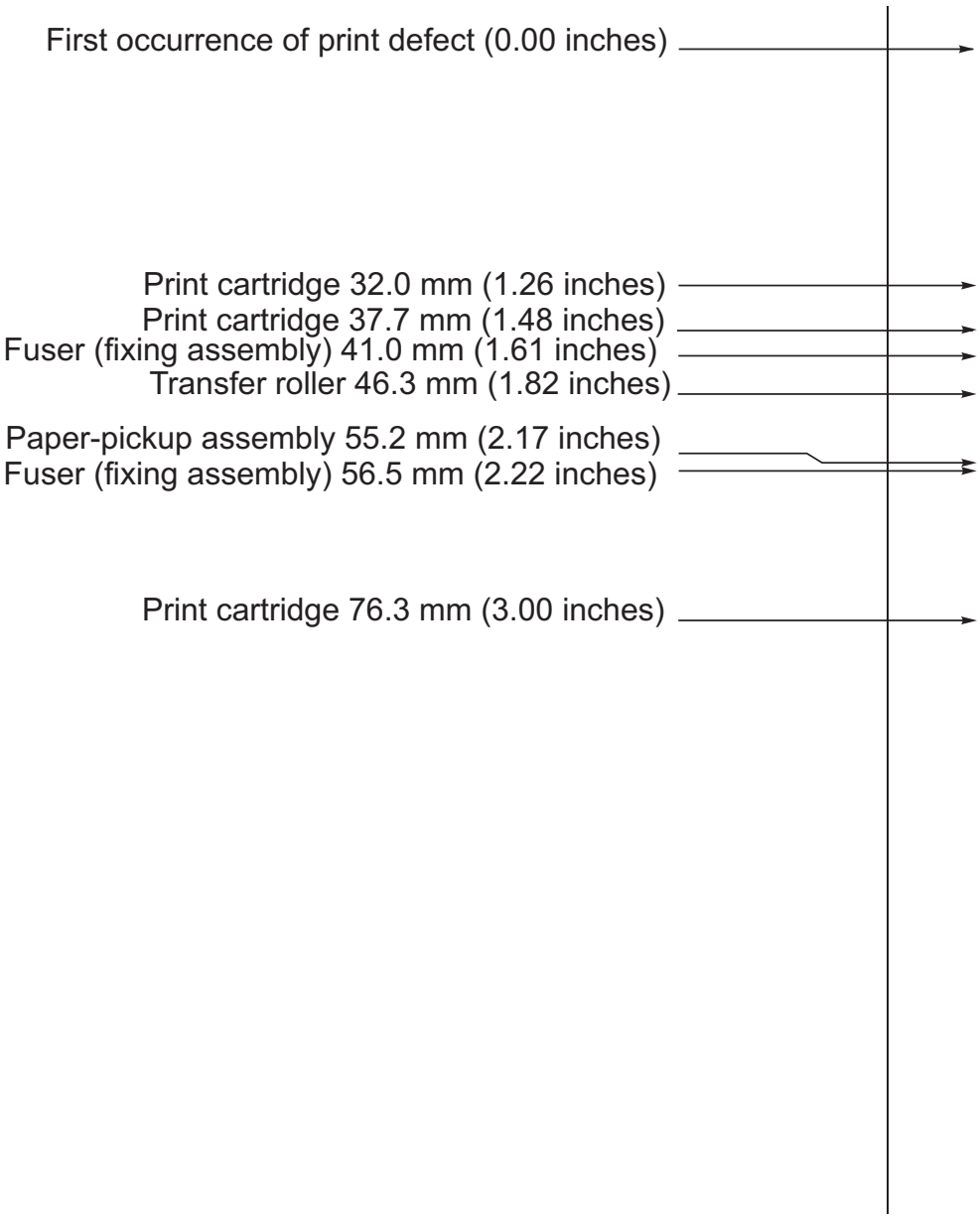


Figure 6-5 Repetitive-image-defect ruler

Circuit diagram

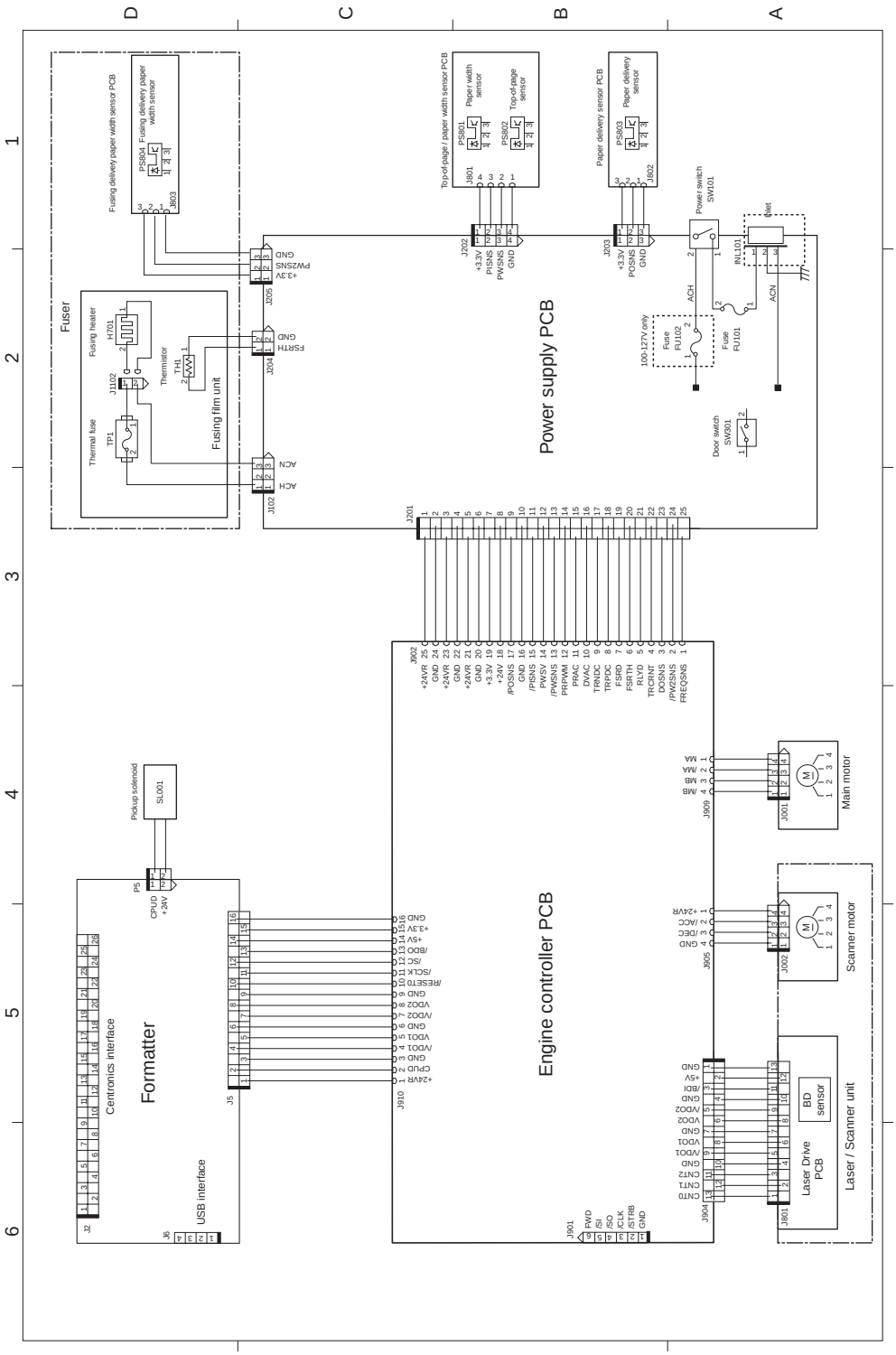


Figure 6-6 Circuit diagram

Solenoid, sensors, switches, and motor

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

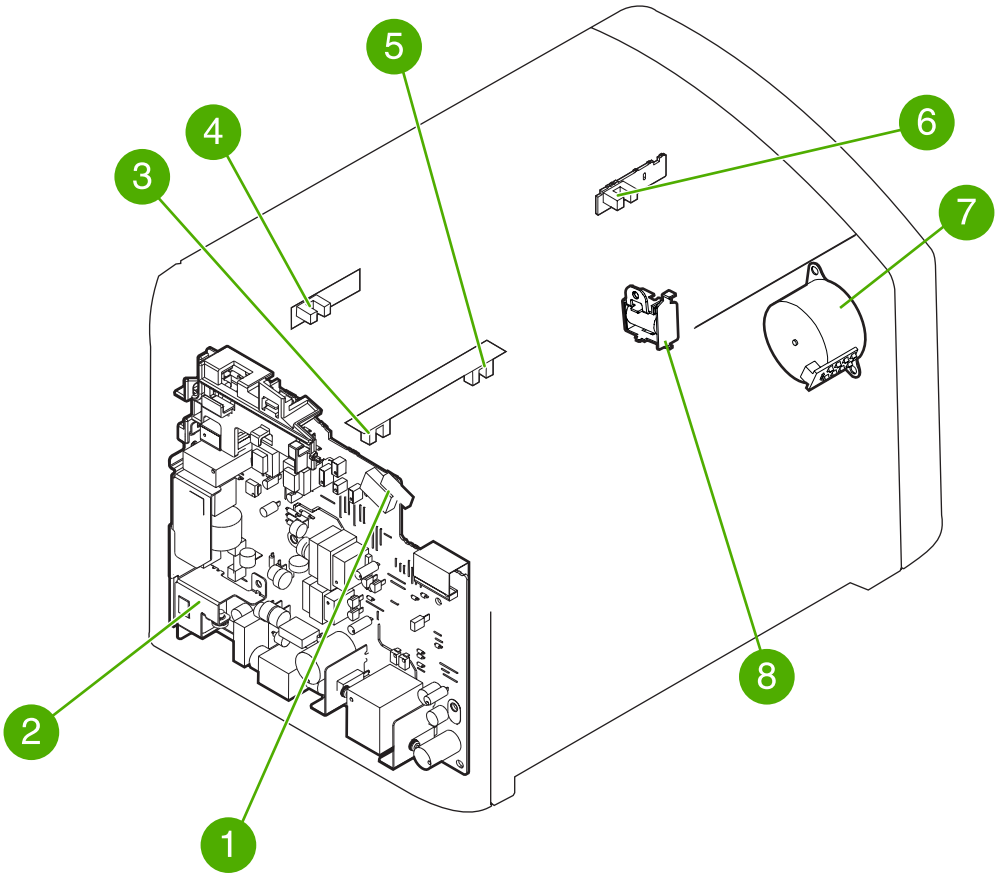


Figure 6-7 Solenoid, photosensors, switches, and motor

1	The door switch detects whether or not the print-cartridge door is closed. Printing cannot continue until the print-cartridge door is closed.
2	Power switch
3	The paper-width sensor senses the width of the media.
4	The paper-delivery sensor senses when media has successfully moved out of the fusing area.
5	The top-of-page sensor detects the leading and trailing edges of the media. It synchronizes the photosensitive drum and the top of the media.
6	Fuser-delivery paper-width sensor.
7	Motor
8	Solenoid

7 Parts and diagrams

This chapter provides an exploded view that shows the replaceable parts of the printer, tables of replaceable parts, and links to other resources.

- Ordering parts and supplies
- Accessories and consumables
- Printer exchange/parts
- External covers and panel
- Internal components
- Alphabetical parts list
- Numerical parts list

Ordering parts and supplies

This section describes web resources for ordering parts and for technical support, as well as resources for ordering related documentation and software.

Parts

Order replacement parts from the following Web site: http://www.hp.com/ssg/parts/direct_order.html

Related documentation and software

Order documentation and software from the Web sites listed in Table 7-1 Technical support websites on page 122.

Table 7-1 Technical support websites

HP Customer Care Online Software drivers, support documentation, and answers to frequently asked questions	www.hp.com/go/support
HP Technical Training (North America) Classes and schedules	www.hp.com/go/resellertraining
Parts Parts information	www.outfield.external.hp.com/spi/welcom.htm

Parts that wear

The parts that wear on the product are listed in chapter 3 of this manual. Parts are available directly from Hewlett-Packard at the following websites:

- HP Parts Store: www.hp.com/buy/parts
- Partsurfer: www.partsurfer.hp.com
- HP Parts Portal: www.hp.com/go/HPparts

Accessories and consumables

Accessories

Table 7-2 Accessories

Product name	Description	Product number	Part number
Print cartridges, cables, and HP Jetdirect Print Servers			
Print cartridge	2,000 page cartridge	Q2612A	Q2612–67901
Cables and interface accessories	1.8-meter (6-feet) USB cable	N/A	8120-8485
Cables and interface accessories	.6-meter (2-foot) USB cable	N/A	8121-0712
Cables and interface accessories	Power cord, US/Canada	N/A	8120-6812
Cables and interface accessories	Power cord, Europe	N/A	8120-6811
Cables and interface accessories	Power cord, Switzerland	N/A	8120-6815
Cables and interface accessories	Power cord, UK	N/A	8120-6809
Cables and interface accessories	Power cord, Danish	N/A	8120-6814
Cables and interface accessories	Power cord, South Africa	N/A	8120-6813
Cables and interface accessories	Power cord, Israel	N/A	8120-6800
Cables and interface accessories	Power cord, Australia / New Zealand	N/A	8120–6810
HP Jetdirect Print Server	Model EN3700 USB print server	J7942A	J7942-61011
HP Jetdirect Print Server	Model 310X Ethernet/Fast Ethernet (10/100Base-TX)	J6038A	J7942-61001
HP Jetdirect Print Server	Model 380x Wireless Ethernet (802.11b)	J6061A	J6061-61001
HP Jetdirect Print Server	Model WP110 Wireless Ethernet (802.11b)	J6062A	J6062-61011
Toner cloth	Ideal for wiping up toner spills and cleaning the printer	N/A	5090-3379

[1] (NOTE: If two parts are listed for one country/region, you can use either part regardless of the output rating.)

Common hardware

The product uses common Phillips-head screws as fasteners.

How to use the parts lists and diagrams

The figures in this chapter illustrate the major subassemblies in the product. A table follows the exploded assembly diagram. Each table lists the reference designator, the associated part number for the item, and a description of the part.

Parts that have no reference designator or part number are not field replaceable units (FRUs) and cannot be ordered. Failure of a part that is not listed as replaceable and is not included with a listed field replaceable unit requires replacement of the entire printer.

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 product model.

Printer exchange/parts

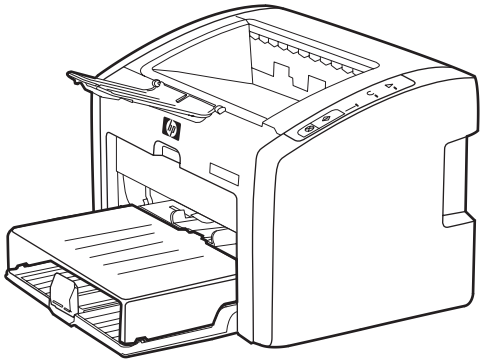


Table 7-3 Printer exchange

Ref	Description	Part number	Qty
1	HP LJ 1022-110V Printer (replacement)	Q5912–67056	1
1	HP LJ 1022-110V Printer (refurbished)	Q5912–69056	1
1	HP LJ 1022-110V Printer (exchange engine w/formatter)	Q5912–67056	1
1	HP LJ 1022-220V Printer (replacement)	Q5912–67055	1
1	HP LJ 1022-220V Printer (refurbished)	Q5912–69055	1
1	HP LJ 1022-220V Printer (exchange engine w/formatter)	Q5912–67055	1
1	HP LJ 1022n-110V Printer (replacement)	Q5913–67056	1
1	HP LJ 1022n-110V Printer (refurbished)	Q5913–69056	1
1	HP LJ 1022n-110V Printer (exchange engine w/formatter)	Q5913–67056	1
1	HP LJ 1022n-220V (replacement)	Q5913–67055	1
1	HP LJ 1022n-220V (refurbished)	Q5913–69055	1
1	HP LJ 1022n-220V (exchange engine w/formatter)	Q5913–67055	1
2	HP LJ 1022nw-110V (replacement)	Q5914–67056	1
2	HP LJ 1022nw-110V (refurbished)	Q5914–69056	1
2	HP LJ 1022nw-110V (exchange engine w/formatter)	Q5914–67056	1
2	HP LJ 1022nw-220V (replacement)	Q5914–67055	1
2	HP LJ 1022nw-220V (refurbished)	Q5914–69055	1
2	HP LJ 1022nw-220V (exchange engine w/formatter)	Q5914–67055	1
not shown	HP LJ 1022/1022n formatter	Q5427-60001	1
not shown	HP LJ 1022nw formatter	Q3969-60002	1
not shown	Nameplate HP LJ 1022n	Q5912-00001	1
not shown	Nameplate HP LJ 1022nw	Q5912-00002	1
not shown	Nameplate HP LJ 1022	Q5912-00005	1
not shown	HP LJ 1022nw wireless module	Q5914-60001	1
not shown	HP LJ 1022nw wireless cable	Q5914-60102	1
not shown	HP LJ 1022/1022n/1022nw network connector	Q5914-60102	1

External covers and panel

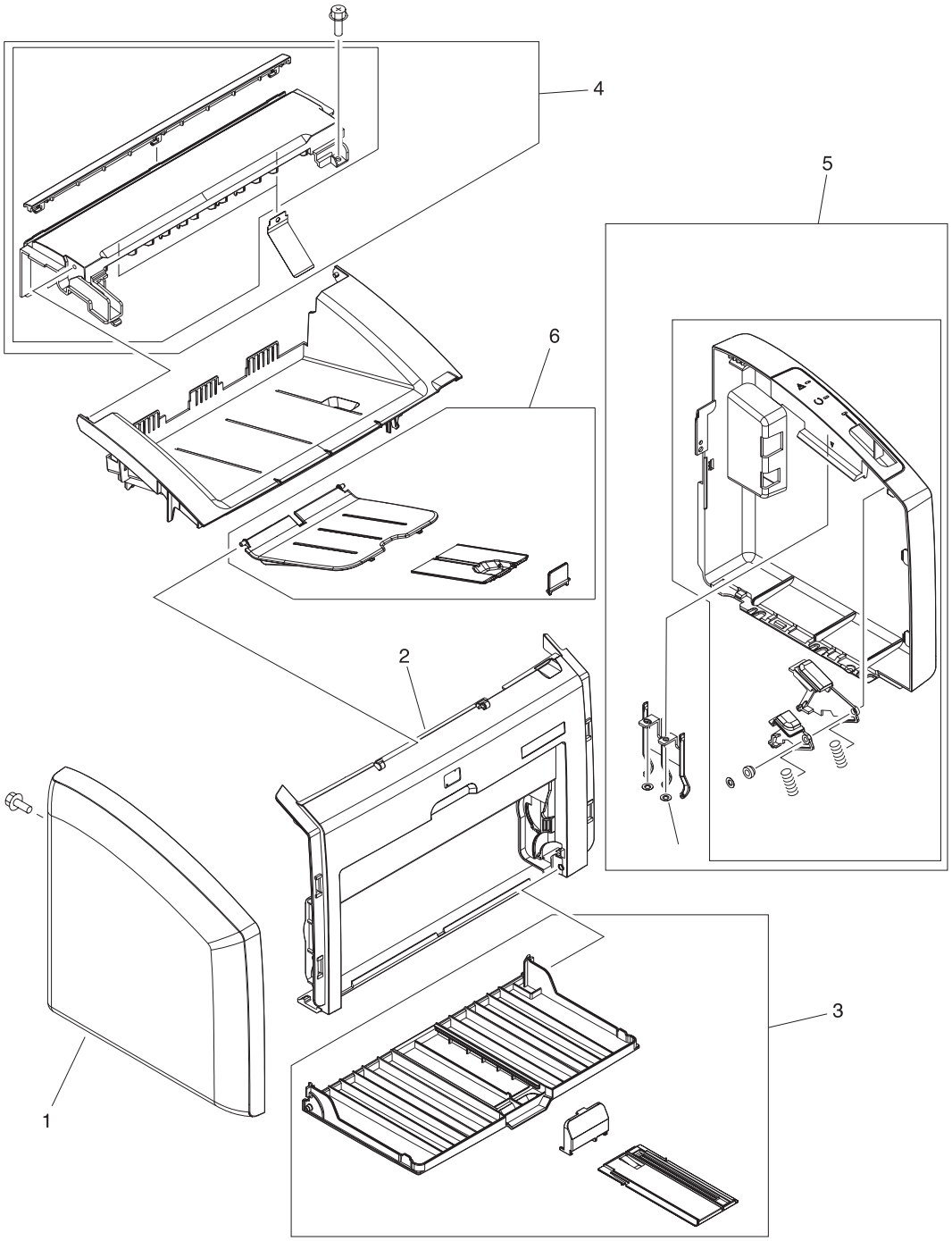


Figure 7-1 External covers and panels

Table 7-4 External covers and panels

Ref	Description	Part number	Qty
1	Cover, left	RC1-5524-000CN	1
2	Cover, front	RL1-0784-000CN	1
3	Paper pickup tray assembly (main input tray)	RM1-2035-000CN	1
4	Top cover assembly (includes fuser cover and print cartridge door)	RM1-2036-000CN	1
5	Cover, right assembly	RM1-2054-000CN	1
6	Output bin extension (delivery tray assembly)	RM1-2055-000CN	1

Internal components

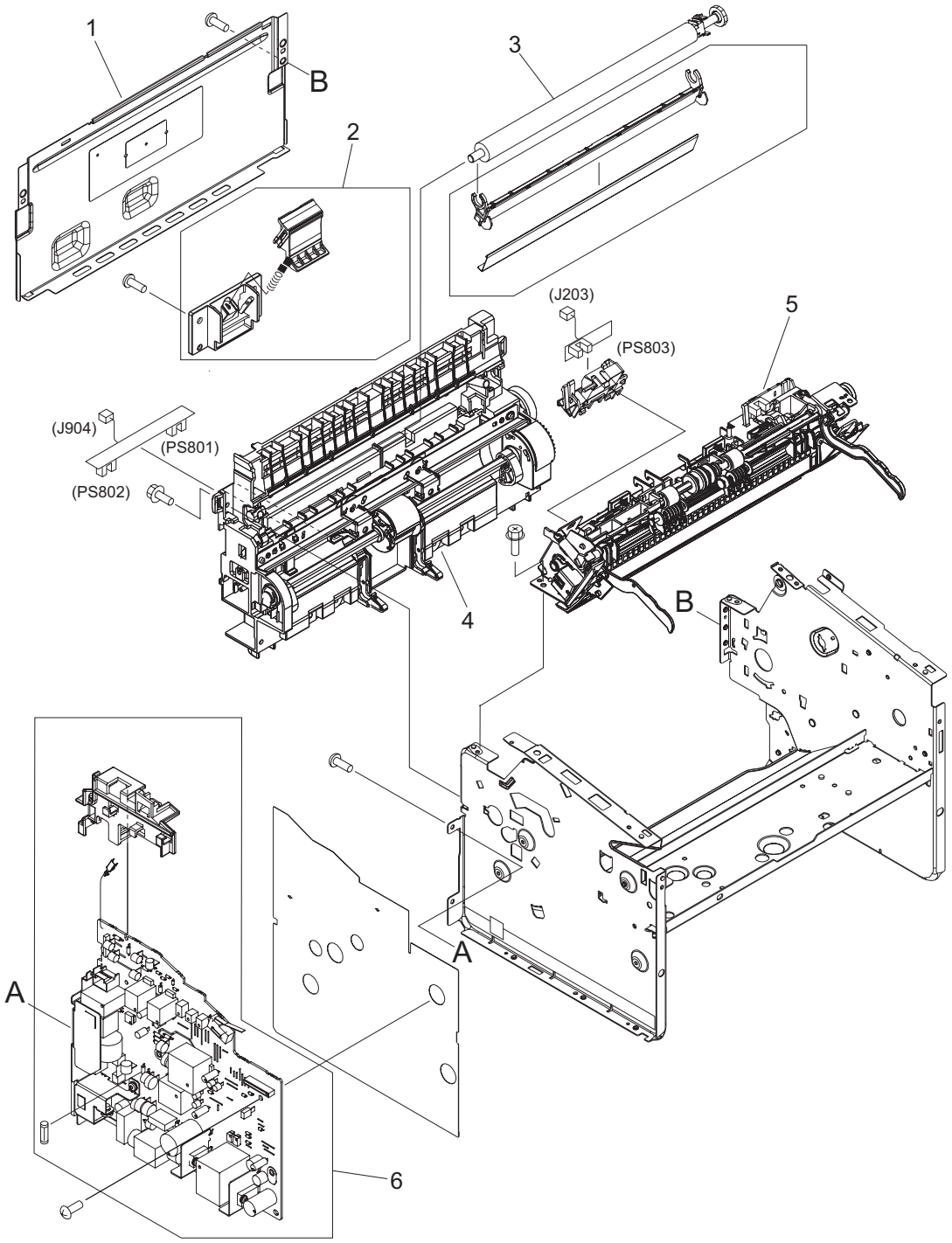


Figure 7-2 Internal components (1 of 3)

Table 7-5 Internal components (1 of 3)

Ref	Description	Part number	Qty
1	Panel, rear	RC1-5520-000CN	1
2	Separation pad assembly	RM1-2048-000CN	1
3	Transfer roller assembly	RM1-2062-000CN	1
4	Paper pickup assembly	RM1-2043-000CN	1
5	Fuser (fixing) assembly 110 to 127V	RM1-2049-000CN	1
5	Fuser (fixing) assembly 220 to 240 V	RM1-2050-000CN	1
6	Power supply 110 to 127 V	RM1-2310-000CN	1
6	Power supply 220 to 240 V	RM1-2311-000CN	1

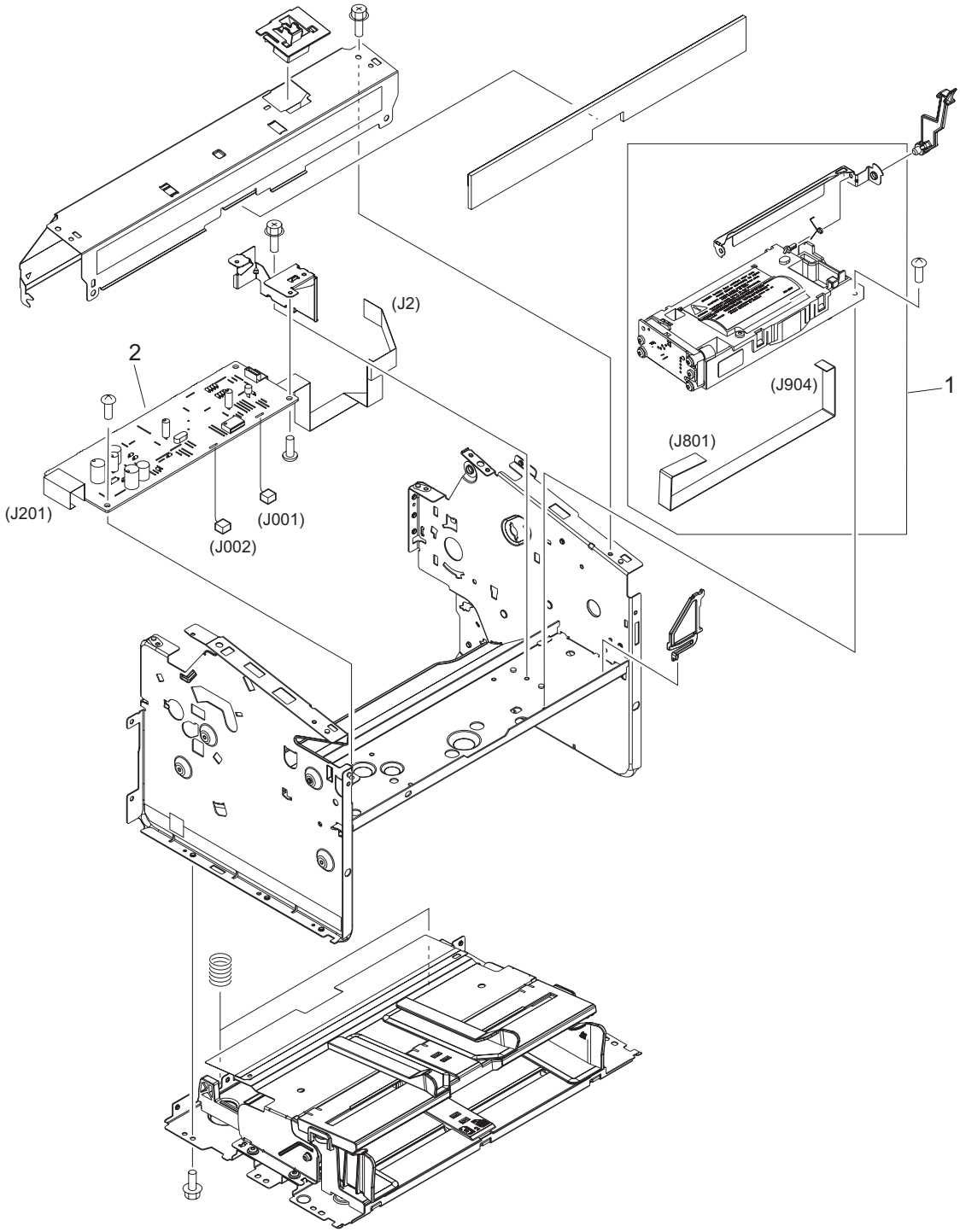


Figure 7-3 Internal components (2 of 3)

Table 7-6 Internal components (2 of 3)

Ref	Description	Part number	Qty
1	Laser/scanner assembly	RM1-2033-000CN	1
2	Engine controller unit (ECU)	RM1-2309-000CN	1

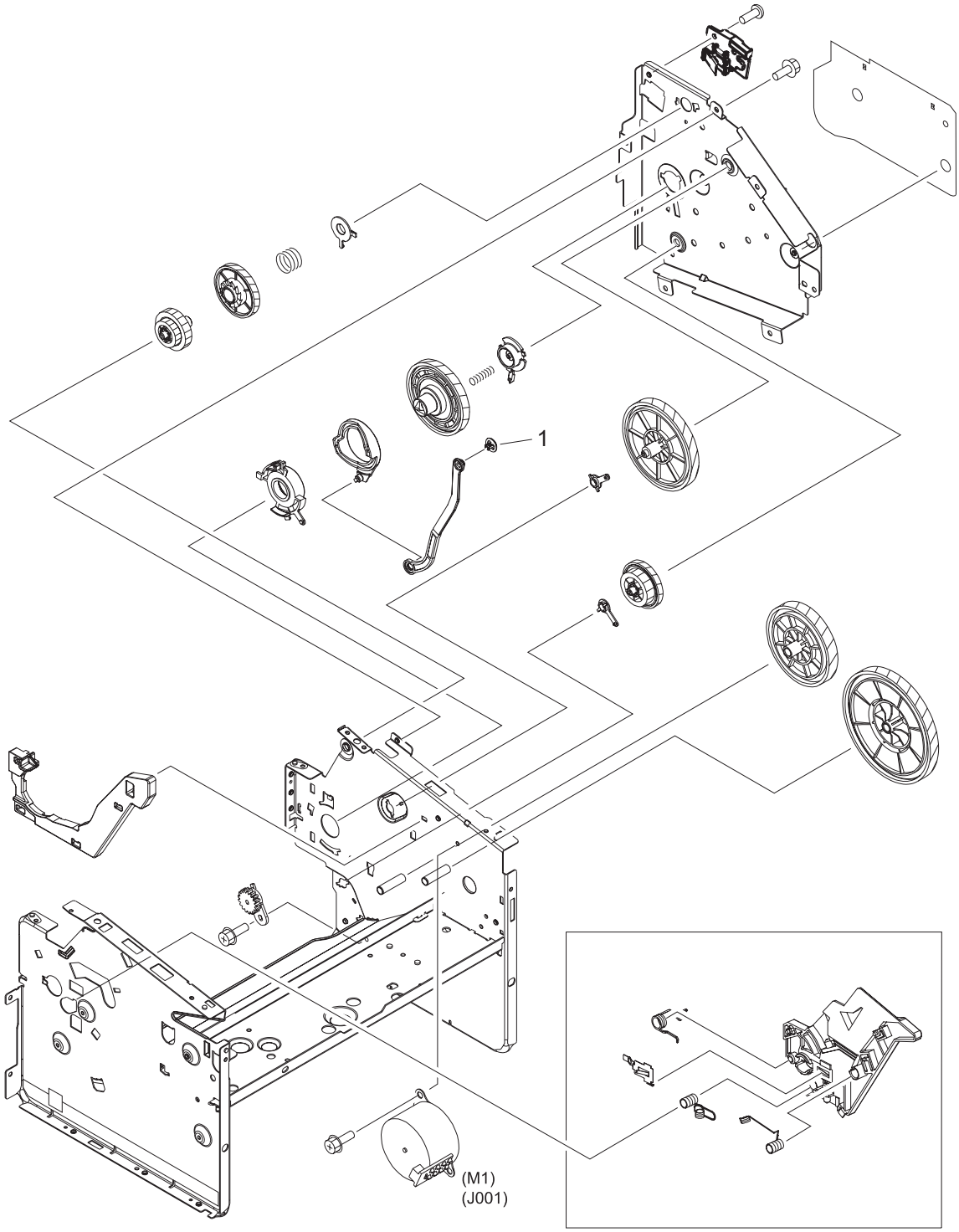


Figure 7-4 Internal components (3 of 3)

Table 7-7 Internal components (3 of 3)

Ref	Description	Part number	Qty
1	Stopper, door link clip	RC1–1957–000CN	1

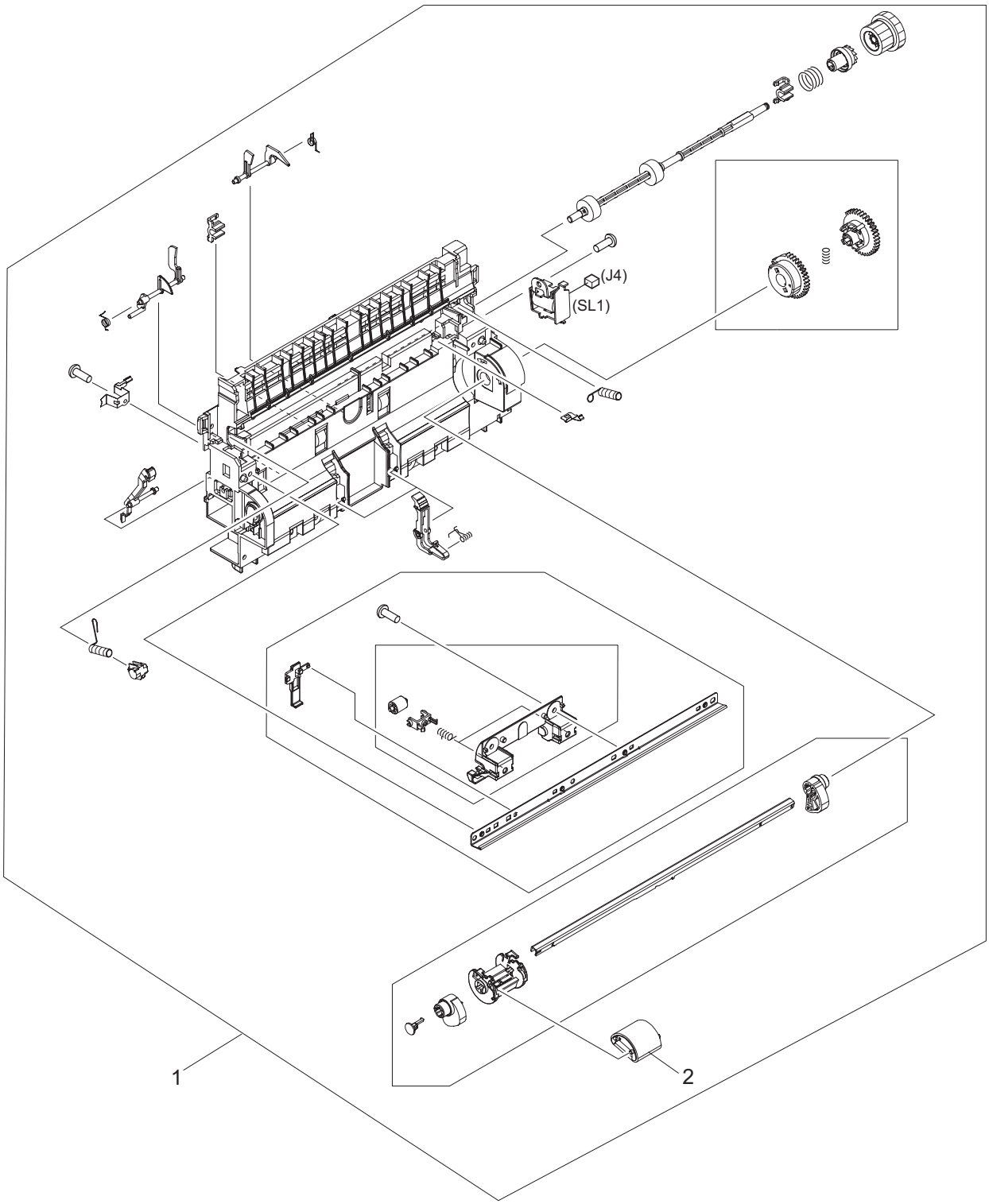


Figure 7-5 Paper-pickup assembly

Table 7-8 Paper-pickup assembly

Ref	Description	Part number	Qty
1	Paper-pickup assembly	RM1-2043-000CN	1
2	Roller, pickup	RL1-0266-000CN	1

Alphabetical parts list

Table 7-9 Alphabetical parts list

Description	Part number	Table and page
Cover, front	RL1-0784-000CN	External covers and panels on page 129
Cover, left	RC1-5524-000CN	External covers and panels on page 129
Cover, right assembly	RM1-2054-000CN	External covers and panels on page 129
Engine controller unit (ECU)	RM1-2309-000CN	Internal components (2 of 3) on page 133
Fuser (fixing) assembly 110 to 127V	RM1-2049-000CN	Internal components (1 of 3) on page 131
Fuser (fixing) assembly 220 to 240 V	RM1-2050-000CN	Internal components (1 of 3) on page 131
HP LJ 1022nw-220V (exchange engine w/formatter)	Q5914–67055	Printer exchange on page 127
HP LJ 1022nw-220V (refurbished)	Q5914–69055	Printer exchange on page 127
HP LJ 1022nw-220V (replacement)	Q5914–67055	Printer exchange on page 127
HP LJ 1022-110V Printer (exchange engine w/formatter)	Q5912–67056	Printer exchange on page 127
HP LJ 1022-110V Printer (refurbished)	Q5912–69056	Printer exchange on page 127
HP LJ 1022-110V Printer (replacement)	Q5912–67056	Printer exchange on page 127
HP LJ 1022-220V Printer (exchange engine w/formatter)	Q5912–67055	Printer exchange on page 127
HP LJ 1022-220V Printer (refurbished)	Q5912–69055	Printer exchange on page 127
HP LJ 1022-220V Printer (replacement)	Q5912–67055	Printer exchange on page 127
HP LJ 1022n-110V Printer (exchange engine w/formatter)	Q5913–67056	Printer exchange on page 127
HP LJ 1022n-110V Printer (refurbished)	Q5913–69056	Printer exchange on page 127
HP LJ 1022n-110V Printer (replacement)	Q5913–67056	Printer exchange on page 127
HP LJ 1022n-220V (exchange engine w/formatter)	Q5913–67055	Printer exchange on page 127
HP LJ 1022n-220V (refurbished)	Q5913–69055	Printer exchange on page 127
HP LJ 1022n-220V (replacement)	Q5913–67055	Printer exchange on page 127
HP LJ 1022nw-110V (exchange engine w/formatter)	Q5914–67056	Printer exchange on page 127
HP LJ 1022nw-110V (refurbished)	Q5914–69056	Printer exchange on page 127
HP LJ 1022nw-110V (replacement)	Q5914–67056	Printer exchange on page 127
HP LJ 1022/1022n formatter	Q5427-60001	Printer exchange on page 127

Table 7-9 Alphabetical parts list (continued)

Description	Part number	Table and page
HP LJ 1022/1022n/1022nw network connector	Q5914-60102	Printer exchange on page 127
HP LJ 1022nw formatter	Q3969-60002	Printer exchange on page 127
HP LJ 1022nw wireless cable	Q5914-60102	Printer exchange on page 127
HP LJ 1022nw wireless module	Q5914-60001	Printer exchange on page 127
Laser/scanner assembly	RM1-2033-000CN	Internal components (2 of 3) on page 133
Nameplate HP LJ 1022	Q5912-00005	Printer exchange on page 127
Nameplate HP LJ 1022n	Q5912-00001	Printer exchange on page 127
Nameplate HP LJ 1022nw	Q5912-00002	Printer exchange on page 127
Output bin extension (delivery tray assembly)	RM1-2055-000CN	External covers and panels on page 129
Panel, rear	RC1-5520-000CN	Internal components (1 of 3) on page 131
Paper pickup assembly	RM1-2043-000CN	Internal components (1 of 3) on page 131
Paper pickup tray assembly (main input tray)	RM1-2035-000CN	External covers and panels on page 129
Paper-pickup assembly	RM1-2043-000CN	Paper-pickup assembly on page 137
Power supply 110 to 127 V	RM1-2310-000CN	Internal components (1 of 3) on page 131
Power supply 220 to 240 V	RM1-2311-000CN	Internal components (1 of 3) on page 131
Roller, pickup	RL1-0266-000CN	Paper-pickup assembly on page 137
Separation pad assembly	RM1-2048-000CN	Internal components (1 of 3) on page 131
Stopper, door link clip	RC1–1957–000CN	Internal components (3 of 3) on page 135
Top cover assembly (includes fuser cover and print cartridge door)	RM1-2036-000CN	External covers and panels on page 129
Transfer roller assembly	RM1-2062-000CN	Internal components (1 of 3) on page 131

Numerical parts list

Table 7-10 Numerical parts list

Part number	Description	Table and page
Q3969-60002	HP LJ 1022nw formatter	Printer exchange on page 127
Q5427-60001	HP LJ 1022/1022n formatter	Printer exchange on page 127
Q5912-00001	Nameplate HP LJ 1022n	Printer exchange on page 127
Q5912-00002	Nameplate HP LJ 1022nw	Printer exchange on page 127
Q5912-00005	Nameplate HP LJ 1022	Printer exchange on page 127
Q5912–67055	HP LJ 1022-220V Printer (replacement)	Printer exchange on page 127
Q5912–67055	HP LJ 1022-220V Printer (exchange engine w/formatter)	Printer exchange on page 127
Q5912–67056	HP LJ 1022-110V Printer (replacement)	Printer exchange on page 127
Q5912–67056	HP LJ 1022-110V Printer (exchange engine w/formatter)	Printer exchange on page 127
Q5912–69055	HP LJ 1022-220V Printer (refurbished)	Printer exchange on page 127
Q5912–69056	HP LJ 1022-110V Printer (refurbished)	Printer exchange on page 127
Q5913–67055	HP LJ 1022n-220V (replacement)	Printer exchange on page 127
Q5913–67055	HP LJ 1022n-220V (exchange engine w/formatter)	Printer exchange on page 127
Q5913–67056	HP LJ 1022n-110V Printer (replacement)	Printer exchange on page 127
Q5913–67056	HP LJ 1022n-110V Printer (exchange engine w/formatter)	Printer exchange on page 127
Q5913–69055	HP LJ 1022n-220V (refurbished)	Printer exchange on page 127
Q5913–69056	HP LJ 1022n-110V Printer (refurbished)	Printer exchange on page 127
Q5914-60001	HP LJ 1022nw wireless module	Printer exchange on page 127
Q5914-60102	HP LJ 1022nw wireless cable	Printer exchange on page 127
Q5914-60102	HP LJ 1022/1022n/1022nw network connector	Printer exchange on page 127
Q5914–67055	HP LJ 1022nw-220V (replacement)	Printer exchange on page 127
Q5914–67055	HP LJ 1022nw-220V (exchange engine w/formatter)	Printer exchange on page 127
Q5914–67056	HP LJ 1022nw-110V (replacement)	Printer exchange on page 127
Q5914–67056	HP LJ 1022nw-110V (exchange engine w/formatter)	Printer exchange on page 127
Q5914–69055	HP LJ 1022nw-220V (refurbished)	Printer exchange on page 127
Q5914–69056	HP LJ 1022nw-110V (refurbished)	Printer exchange on page 127
RC1-5520-000CN	Panel, rear	Internal components (1 of 3) on page 131
RC1-5524-000CN	Cover, left	External covers and panels on page 129
RC1–1957–000CN	Stopper, door link clip	Internal components (3 of 3) on page 135

Table 7-10 Numerical parts list (continued)

Part number	Description	Table and page
RL1-0266-000CN	Roller, pickup	Paper-pickup assembly on page 137
RL1-0784-000CN	Cover, front	External covers and panels on page 129
RM1-2033-000CN	Laser/scanner assembly	Internal components (2 of 3) on page 133
RM1-2035-000CN	Paper pickup tray assembly (main input tray)	External covers and panels on page 129
RM1-2036-000CN	Top cover assembly (includes fuser cover and print cartridge door)	External covers and panels on page 129
RM1-2043-000CN	Paper pickup assembly	Internal components (1 of 3) on page 131
RM1-2043-000CN	Paper-pickup assembly	Paper-pickup assembly on page 137
RM1-2048-000CN	Separation pad assembly	Internal components (1 of 3) on page 131
RM1-2049-000CN	Fuser (fixing) assembly 110 to 127V	Internal components (1 of 3) on page 131
RM1-2050-000CN	Fuser (fixing) assembly 220 to 240 V	Internal components (1 of 3) on page 131
RM1-2054-000CN	Cover, right assembly	External covers and panels on page 129
RM1-2055-000CN	Output bin extension (delivery tray assembly)	External covers and panels on page 129
RM1-2062-000CN	Transfer roller assembly	Internal components (1 of 3) on page 131
RM1-2309-000CN	Engine controller unit (ECU)	Internal components (2 of 3) on page 133
RM1-2310-000CN	Power supply 110 to 127 V	Internal components (1 of 3) on page 131
RM1-2311-000CN	Power supply 220 to 240 V	Internal components (1 of 3) on page 131

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