



## *Service Manual*

**Lexmark E210**

**4510-001**

- ***Table of Contents***
- ***Start Diagnostics***
- ***Safety and Notices***
- ***Trademarks***
- ***Index***

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**4510-001**

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# Table of Contents

<b>Laser Notices</b> .....	<b>v</b>
<b>Safety Information</b> .....	<b>xiii</b>
<b>Preface</b> .....	<b>xviii</b>
<b>General Information</b> .....	<b>1-1</b>
Printer Side View - Locations .....	<b>1-1</b>
Maintenance Approach .....	<b>1-2</b>
Tools Required for Service .....	<b>1-2</b>
Abbreviations .....	<b>1-2</b>
<b>Diagnostic Aids</b> .....	<b>2-1</b>
Print Quality .....	<b>2-1</b>
Vertical Black Line and Band .....	<b>2-1</b>
Vertical White Line .....	<b>2-1</b>
Horizontal Black Band .....	<b>2-1</b>
Black/White Spots .....	<b>2-2</b>
Light Image .....	<b>2-2</b>
Dark or Black Image .....	<b>2-2</b>
Uneven Density .....	<b>2-3</b>
Background .....	<b>2-3</b>
Residual Image at 75 mm Intervals (1) .....	<b>2-3</b>
Residual Image at 75 mm Intervals (2) .....	<b>2-4</b>
Residual Image at 32 mm Intervals .....	<b>2-4</b>
Residual Image at 57 mm Intervals .....	<b>2-4</b>
Toner on Front of Page .....	<b>2-5</b>
Toner on Back of Page .....	<b>2-5</b>
Blank Page Printout (1) .....	<b>2-5</b>
Blank Page Printout (2) .....	<b>2-6</b>
Repeated marks or voids down page .....	<b>2-6</b>
Paper Feed .....	<b>2-7</b>
Printing in wrong position .....	<b>2-7</b>
Paper stopping, jamming, or feeding multiple sheets .....	<b>2-7</b>
Paper Path Jam 0 .....	<b>2-9</b>
Paper Path Jam 1 .....	<b>2-9</b>
Paper Path Jam 2 .....	<b>2-10</b>
Service .....	<b>2-10</b>
All LEDs blinking (Printhead Error) during a print job .....	<b>2-10</b>
All LEDs blinking (Fuser Error) at power up .....	<b>2-11</b>
The LED blinks once then all other LEDs blink (Over Heat Error)	

**2-11**

The LED blinks once then all other LEDs blink (Low Heat Error).

**2-12**

The LED blinks once then all other LEDs blink (Open Fuser Error)

**2-13**

False Paper Empty Indication .....2-13

False Paper Present Indication .....2-14

False Cover Open Indicator .....2-14

Error LED Off When Cover Open.....2-15

Drive Motor Does Not Operate.....2-15

No Power .....2-16

**Repair Information .....3-1**

Handling ESD-Sensitive Parts .....3-1

Front Cover .....3-2

Other Covers .....3-5

Operator Panel.....3-6

Printhead .....3-8

Transfer Roller .....3-10

Motor Assembly .....3-11

Pick Roller Clutch Solenoid .....3-11

HVPS Board.....3-12

Fuser Assembly .....3-13

Fuser Thermostat and Lamp .....3-15

LVPS Board .....3-17

Main Board and Input/Exit Sensor Board.....3-20

Pre-Transfer LED Assembly (PTL).....3-21

Pick Roller .....3-22

**Parts Catalog .....4-1**

**Index .....I-1**

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## Laser Notices

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### Laser notice

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The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for Class I (1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC 60825.

Class I laser products are not considered to be hazardous. The printer contains internally a Class IIIb (3b) laser that is nominally a 5 milliwatt gallium arsenide laser operating in the wavelength region of 770-795 nanometers. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

---

### Laser

Der Drucker erfüllt gemäß amtlicher Bestätigung der USA die Anforderungen der Bestimmung DHHS (Department of Health and Human Services) 21 CFR Teil J für Laserprodukte der Klasse I (1). In anderen Ländern gilt der Drucker als Laserprodukt der Klasse I, der die Anforderungen der IEC (International Electrotechnical Commission) 60825 gemäß amtlicher Bestätigung erfüllt.

Laserprodukte der Klasse I gelten als unschädlich. Im Inneren des Druckers befindet sich ein Laser der Klasse IIIb (3b), bei dem es sich um einen Galliumarsenlaser mit 5 Milliwatt handelt, der Wellen der Länge 770-795 Nanometer ausstrahlt. Das Lasersystem und der Drucker sind so konzipiert, daß im Normalbetrieb, bei der Wartung durch den Benutzer oder bei ordnungsgemäßer Wartung durch den Kundendienst Laserbestrahlung, die die Klasse I übersteigen würde, Menschen keinesfalls erreicht.

---

## Avis relatif à l'utilisation de laser

Pour les Etats-Unis : cette imprimante est certifiée conforme aux provisions DHHS 21 CFR alinéa J concernant les produits laser de Classe I (1). Pour les autres pays : cette imprimante répond aux normes IEC 60825 relatives aux produits laser de Classe I.

Les produits laser de Classe I sont considérés comme des produits non dangereux. Cette imprimante est équipée d'un laser de Classe IIIb (3b) (arséniure de gallium d'une puissance nominale de 5 milliwatts) émettant sur des longueurs d'onde comprises entre 770 et 795 nanomètres. L'imprimante et son système laser sont conçus pour impossible, dans des conditions normales d'utilisation, d'entretien par l'utilisateur ou de révision, l'exposition à des rayonnements laser supérieurs à des rayonnements de Classe I.

---

## Avvertenze sui prodotti laser

Questa stampante è certificata negli Stati Uniti per essere conforme ai requisiti del DHHS 21 CFR Sottocapitolo J per i prodotti laser di classe 1 ed è certificata negli altri Paesi come prodotto laser di classe 1 conforme ai requisiti della norma CEI 60825.

I prodotti laser di classe non sono considerati pericolosi. La stampante contiene al suo interno un laser di classe IIIb (3b) all'arseniuro di gallio della potenza di 5mW che opera sulla lunghezza d'onda compresa tra 770 e 795 nanometri. Il sistema laser e la stampante sono stati progettati in modo tale che le persone a contatto con la stampante, durante il normale funzionamento, le operazioni di servizio o quelle di assistenza tecnica, non ricevano radiazioni laser superiori al livello della classe 1.

---

## Avisos sobre el láser

Se certifica que, en los EE.UU., esta impresora cumple los requisitos para los productos láser de Clase I (1) establecidos en el subcapítulo J de la norma CFR 21 del DHHS (Departamento de Sanidad y Servicios) y, en los demás países, reúne todas las condiciones expuestas en la norma IEC 60825 para productos láser de Clase I (1).

Los productos láser de Clase I no se consideran peligrosos. La impresora contiene en su interior un láser de Clase IIIb (3b) de arseniuro de galio de funcionamiento nominal a 5 milivatios en una longitud de onda de 770 a 795 nanómetros. El sistema láser y la impresora están diseñados de forma que ninguna persona pueda verse afectada por ningún tipo de radiación láser superior al nivel de la Clase I durante su uso normal, el mantenimiento realizado por el usuario o cualquier otra situación de servicio técnico.

### Declaração sobre Laser

A impressora está certificada nos E.U.A. em conformidade com os requisitos da regulamentação DHHS 21 CFR Subcapítulo J para a Classe I (1) de produtos laser. Em outros locais, está certificada como um produto laser da Classe I, em conformidade com os requisitos da norma IEC 60825.

Os produtos laser da Classe I não são considerados perigosos. Internamente, a impressora contém um produto laser da Classe IIIb (3b), designado laser de arseneto de potássio, de 5 milliwatts, operando numa faixa de comprimento de onda entre 770 e 795 nanómetros. O sistema e a impressora laser foram concebidos de forma a nunca existir qualquer possibilidade de acesso humano a radiação laser superior a um nível de Classe I durante a operação normal, a manutenção feita pelo utilizador ou condições de assistência prescritas.

---

## Laserinformatie

De printer voldoet aan de eisen die gesteld worden aan een laserprodukt van klasse I. Voor de Verenigde Staten zijn deze eisen vastgelegd in DHHS 21 CFR Subchapter J, voor andere landen in IEC 60825.

Laserprodukten van klasse I worden niet als ongevaarlijk aangemerkt. De printer is voorzien van een laser van klasse IIIb (3b), dat wil zeggen een gallium arsenide-laser van 5 milliwatt met een golflengte van 770-795 nanometer. Het lasergedeelte en de printer zijn zo ontworpen dat bij normaal gebruik, bij onderhoud of reparatie conform de voorschriften, nooit blootstelling mogelijk is aan laserstraling boven een niveau zoals voorgeschreven is voor klasse 1.

---

## Lasermeddelelse

Printeren er godkendt som et Klasse I-laserprodukt, i overensstemmelse med kravene i IEC 60825.

Klasse I-laserprodukter betragtes ikke som farlige. Printeren indeholder internt en Klasse IIIB (3b)-laser, der nominelt er en 5 milliwatt galliumarsenid laser, som arbejder på bølgelængdeområdet 770-795 nanometer. Lasersystemet og printeren er udformet således, at mennesker aldrig udsættes for en laserstråling over Klasse I-niveau ved normal drift, brugervedligeholdelse eller obligatoriske servicebetingelser.



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## Huomautus laserlaitteesta

Tämä kirjoitin on Yhdysvalloissa luokan I (1) laserlaitteiden DHHS 21 CFR Subchapter J -määrityksen mukainen ja muualla luokan I laserlaitteiden IEC 60825 -määrityksen mukainen.

Luokan I laserlaitteiden ei katsota olevan vaarallisia käyttäjälle. Kirjoittimessa on sisäinen luokan IIIb (3b) 5 milliwatin galliumarsenidilaser, joka toimii aaltoalueella 770 - 795 nanometriä. Laserjärjestelmä ja kirjoitin on suunniteltu siten, että käyttäjä ei altistu luokan I määrityksiä voimakkaammalle säteilylle kirjoittimen normaalin toiminnan, käyttäjän tekemien huoltotoimien tai muiden huoltotoimien yhteydessä.

VARO! Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

WARNING! Osynlig laserstrålning när denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

---

## Laser-notis

Denna skrivare är i USA certifierad att motsvara kraven i DHHS 21 CFR, underparagraf J för laserprodukter av Klass I (1). I andra länder uppfyller skrivaren kraven för laserprodukter av Klass I enligt kraven i IEC 60825.

Laserprodukter i Klass I anses ej hälsovådliga. Skrivaren har en inbyggd laser av Klass IIIb (3b) som består av en laserenhet av gallium-arsenid på 5 milliwatt som arbetar i våglängdsområdet 770-795 nanometer. Lasersystemet och skrivaren är utformade så att det aldrig finns risk för att någon person utsätts för laserstrålning över Klass I-nivå vid normal användning, underhåll som utförs av användaren eller annan föreskriven serviceåtgärd.

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## Laser-melding

Skriveren er godkjent i USA etter kravene i DHHS 21 CFR, underkapittel J, for klasse I (1) laserprodukter, og er i andre land godkjent som et Klasse I-laserprodukt i samsvar med kravene i IEC 60825.

Klasse I-laserprodukter er ikke å betrakte som farlige. Skriveren inneholder internt en klasse IIIb (3b)-laser, som består av en gallium-arsenlaserenhet som avgir stråling i bølgelengdeområdet 770-795 nanometer. Lasersystemet og skriveren er utformet slik at personer aldri utsettes for laserstråling ut over klasse I-nivå under vanlig bruk, vedlikehold som utføres av brukeren, eller foreskrevne serviceoperasjoner.

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## Avís sobre el Làser

Segons ha estat certificat als Estats Units, aquesta impressora compleix els requisits de DHHS 21 CFR, apartat J, pels productes làser de classe I (1), i segons ha estat certificat en altres llocs, és un producte làser de classe I que compleix els requisits d'IEC 60825.

Els productes làser de classe I no es consideren perillosos. Aquesta impressora conté un làser de classe IIIb (3b) d'arseniür de gal.li, nominalment de 5 mil.liwats, i funciona a la regió de longitud d'ona de 770-795 nanòmetres. El sistema làser i la impressora han sigut concebuts de manera que mai hi hagi exposició a la radiació làser per sobre d'un nivell de classe I durant una operació normal, durant les tasques de manteniment d'usuari ni durant els serveis que satisfacin les condicions prescrites.

---

## Japanese Laser Notice

レーザーに関するお知らせ

このプリンターは、米国ではDHHS 21 CFRサブチャプターJのクラスI(1)の基準を満たしたレーザー製品であることが証明されています。また米国以外ではIEC 825の基準を満たしたクラスIのレーザー製品であることが証明されています。

クラスIのレーザー製品には危険性はないと考えられています。このプリンターはクラスIII b(3b)のレーザーを内蔵しています。このレーザーは、波長が770 ~ 795ナノメートルの範囲で、通常5ミリワットのガリウム砒化物を放射するレーザーです。このレーザーシステムとプリンターは、通常の操作、ユーザのメンテナンス、規定された修理においては、人体がクラスIのレベル以上のレーザー放射に晒されることのないよう設計されています。

---

## Chinese Laser Notice

注意：

本打印机被美国认证合乎 DHHS 21 CFR Subchapter I 对分类 I (1) 激光产品的标准，而在其他地区则被认证合乎 IEC 825 的标准。

分类 I 激光产品一般认为不具危险性，本打印机内部含有分类 IIIb (3b) 的激光，在操作过程中会产生 5 毫瓦含镓及砷的微量激光，其波长范围在 770-795 nm 之间。本激光系统及打印机的设计，在一般操作、使用者维护或规定内的维修情况下，不会使人体接触分类 I 以上等级的辐射。

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## Korean Laser Notice

본프린터는 1등급 레이저 제품들에 대한 DHHS 21 CFR Subchapter 3의 규정을 준수하고 있음을 미국에서 인증받았으며, 그외의 나라에서도 IEC 825 규정을 준수하는 1등급 레이저 제품으로서 인증을 받았습니다.

1등급 레이저 제품들은 안전한 것으로 간주됩니다. 본 프린터는 5 밀리와트 가륨 아르세나이드 레이저로서 770-795 나노미터의 파장대에서 활동하는 Class III (3b) 레이저를 내부에 갖고 있습니다. 본 레이저 시스템과 프린터는 정상 작동 중이나 유지 보수 중 또는 규정된 서비스 상태에서 상기의 Class I 수준의 레이저 방출에 사람이 절대 접근할 수 없도록 설계되어 있습니다.

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## Safety Information

- This product is designed, tested and approved to meet strict global safety standards with the use of specific Lexmark components. The safety features of some parts may not always be obvious. Lexmark is not responsible for the use of other replacement parts.
- The maintenance information for this product has been prepared for use by a professional service person and is not intended to be used by others.
- There may be an increased risk of electric shock and personal injury during disassembly and servicing of this product. Professional service personnel should understand this and take necessary precautions.

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## Consignes de Sécurité

- Ce produit a été conçu, testé et approuvé pour respecter les normes strictes de sécurité globale lors de l'utilisation de composants Lexmark spécifiques. Les caractéristiques de sécurité de certains éléments ne sont pas toujours évidentes. Lexmark ne peut être tenu responsable de l'utilisation d'autres pièces de rechange.
- Les consignes d'entretien et de réparation de ce produit s'adressent uniquement à un personnel de maintenance qualifié.
- Le démontage et l'entretien de ce produit pouvant présenter certains risques électriques, le personnel d'entretien qualifié devra prendre toutes les précautions nécessaires.

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## Norme di sicurezza

- Il prodotto è stato progettato, testato e approvato in conformità a severi standard di sicurezza e per l'utilizzo con componenti Lexmark specifici. Le caratteristiche di sicurezza di alcune parti non sempre sono di immediata comprensione. Lexmark non è responsabile per l'utilizzo di parti di ricambio di altri produttori.
- Le informazioni riguardanti la manutenzione di questo prodotto sono indirizzate soltanto al personale di assistenza autorizzato.
- Durante lo smontaggio e la manutenzione di questo prodotto, il rischio di subire scosse elettriche e danni alla persona è più elevato. Il personale di assistenza autorizzato, deve, quindi, adottare le precauzioni necessarie.

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## Sicherheitshinweise

- Dieses Produkt und die zugehörigen Komponenten wurden entworfen und getestet, um beim Einsatz die weltweit gültigen Sicherheitsanforderungen zu erfüllen. Die sicherheitsrelevanten Funktionen der Bauteile und Optionen sind nicht immer offensichtlich. Sofern Teile eingesetzt werden, die nicht von Lexmark sind, wird von Lexmark keinerlei Verantwortung oder Haftung für dieses Produkt übernommen.
- Die Wartungsinformationen für dieses Produkt sind ausschließlich für die Verwendung durch einen Wartungsfachmann bestimmt.
- Während des Auseinandernehmens und der Wartung des Geräts besteht ein zusätzliches Risiko eines elektrischen Schlags und körperlicher Verletzung. Das zuständige Fachpersonal sollte entsprechende Vorsichtsmaßnahmen treffen.

---

## Pautas de Seguridad

- Este producto se ha diseñado, verificado y aprobado para cumplir los más estrictos estándares de seguridad global usando los componentes específicos de Lexmark. Puede que las características de seguridad de algunas piezas no sean siempre evidentes. Lexmark no se hace responsable del uso de otras piezas de recambio.
- La información sobre el mantenimiento de este producto está dirigida exclusivamente al personal cualificado de mantenimiento.
- Existe mayor riesgo de descarga eléctrica y de daños personales durante el desmontaje y la reparación de la máquina. El personal cualificado debe ser consciente de este peligro y tomar las precauciones necesarias.

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## Informações de Segurança

- Este produto foi concebido, testado e aprovado para satisfazer os padrões globais de segurança na utilização de componentes específicos da Lexmark. As funções de segurança de alguns dos componentes podem não ser sempre óbvias. A Lexmark não é responsável pela utilização de outros componentes de substituição.
- As informações de segurança relativas a este produto destinam-se a profissionais destes serviços e não devem ser utilizadas por outras pessoas.
- Risco de choques eléctricos e ferimentos graves durante a desmontagem e manutenção deste produto. Os profissionais destes serviços devem estar avisados deste facto e tomar os cuidados necessários.

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## Informació de Seguretat

- Aquest producte està dissenyat, comprovat i aprovat per tal d'acomplir les estrictes normes de seguretat globals amb la utilització de components específics de Lexmark. Les característiques de seguretat d'algunes peces pot ser que no sempre siguin òbvies. Lexmark no es responsabilitza de l'ús d'altres peces de recanvi.
- La informació pel manteniment d'aquest producte està orientada exclusivament a professionals i no està destinada a ningú que no ho sigui.
- El risc de xoc elèctric i de danys personals pot augmentar durant el procés de desmuntatge i de servei d'aquest producte. El personal professional ha d'estar-ne assabentat i prendre les mesures convenients.



### 안전 사항

- 본 제품에 관한 유지 보수 설명서는 전문 서비스 기술자 용으로 작성된 것이므로 비 전문가가 사용할 수 없습니다.
- 본제품을 해체하거나 정비할 경우 전기적인 충격을 받거나 상처를 입을 위험이 커집니다. 전문 서비스 기술자는 이 사실을 숙지하고 필요한 예방 조치를 취하도록 하십시오.
- 일부 부품의 안전성은 항상 보장되지 않습니다. 따라서, 교체 부품은 원래 부품과 같거나 동등한 특성을 가진 제품을 사용하여야합니다.

### 安全资讯

- 本产品的维护资讯仅供专业服务人员使用，而非针对一般使用者。
- 本产品在拆卸、维修的时候，遭受电击或人员受伤的危险性会增高，专业服务人员对这点必须有所了解，并采取必要的预防措施。
- 有些零件的安全功能可能不明显。因此，所替换零件的性能一定要与原有的零件一致。

---

# Preface

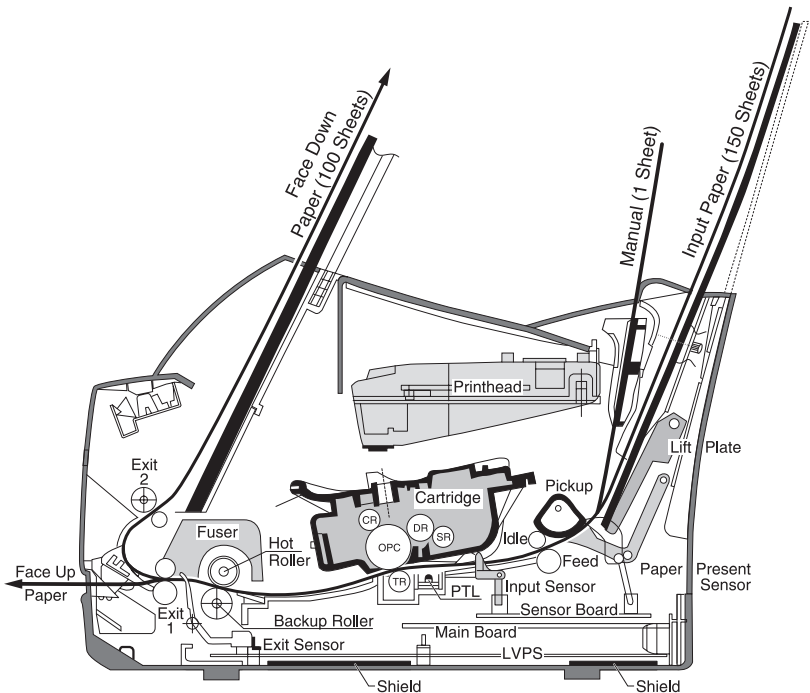
This manual contains maintenance procedures for service personnel. It is divided into the following chapters:

1. **General Information** contains a general description of the printer and the maintenance approach used to repair it. Special tools and test equipment are listed.
2. **Diagnostic Aids** contains error indications and symptom tables used to isolate failing field replaceable units (FRUs).
3. **Repair Information** provides instructions for making printer adjustments and removing and installing FRUs.
4. **Parts Catalog** contains illustrations and part numbers for individual FRUs.

# 1. General Information

The Lexmark™ E210 is a versatile, productive laser printer equipped with special features that improve print quality. The Lexmark E210 provides the customer the option to select either 300 dpi or 600 dpi resolution. The E210 allows the customer to customize documents by using watermarks, printing preprinted forms, letterhead and posters on plain paper. The E210 can print on a wide variety of laser media including envelopes, transparencies, bond paper up to 43 lb, labels and card stock. The E210 is compatible with a wide range of systems including Windows 95/98/Me/NT 4.0/2000 and Linux.

## Printer Side View - Locations



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## Maintenance Approach

The diagnostic information in this manual leads you to the correct field replaceable unit (FRU) or part. Use the user error messages, and diagnostic aids to determine the printer problem and repair the failure. After you complete the repair, perform tests as needed to verify the repair.

### Tools Required for Service

- Analog or digital multimeter
- Pliers: diagonal and needle-nose
- Screwdrivers: #1 and #2 Phillips
- Cotton Swab

---

## Abbreviations

ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
LED	Light-Emitting Diode
PTL	Pre-Transfer LED
V ac	Volts alternating current
V dc	Volts direct current

## 2. Diagnostic Aids

### Print Quality

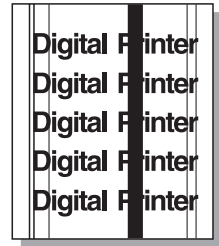
#### Vertical Black Line and Band

**Description:**

1. Straight thin black vertical line
2. Dark black vertical bands

Possible causes:

- Toner cartridge failure
- Foreign material between transfer/charge/development rollers
- Deformed transfer roller

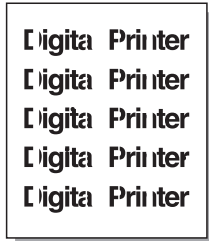


#### Vertical White Line

**Description:** White vertical voids

Possible causes:

- Toner cartridge failure
- Printhead failure
- Fuser failure

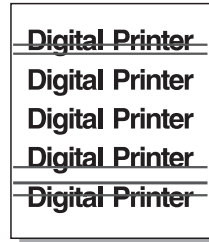


#### Horizontal Black Band

**Description:** Dark or blurry horizontal stripes

Possible causes:

- Toner cartridge failure
- Bad or dirty voltage contacts



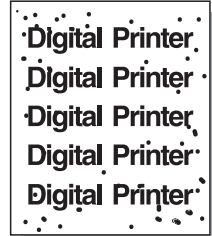
## Black/White Spots

### Description:

1. Dark or blurry black spots occur periodically.
2. White spots occur periodically.

### Possible Causes:

- Toner cartridge failure
- Transfer roller failure



## Light Image

**Description:** The printed image is light, with no residual image.

### Possible causes:

- Toner save mode on
- Toner cartridge failure
- Bad or dirty voltage contacts
- HVPS failure



## Dark or Black Image

**Description:** The printed image is dark.

### Possible causes:

- Bad or dirty high voltage contacts
- Loose HVPS cable connection at the engine board
- HVPS failure



## Uneven Density

**Description:** Print density is uneven from left to right.

Possible causes:

- Toner cartridge failure
- Improper transfer roller installation
- Transfer roller failure



## Background

**Description:** Background appears in print area.

Possible causes:

- Recycled or poor quality paper
- Toner cartridge failure
- Dirty transfer roll
- Transfer roll failure
- HVPS failure

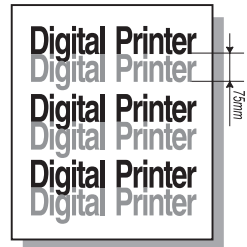


## Residual Image at 75 mm Intervals (1)

**Description:** Residual image occurs at 75 mm intervals.

Possible causes:

- Toner cartridge failure
- Bad or dirty high voltage contacts
- Transfer roller failure
- Engine board failure

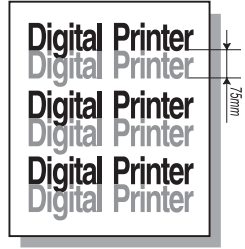


## Residual Image at 75 mm Intervals (2)

**Description:** Residual image occurs at 75 mm intervals when printing card stock or transparencies.

Possible cause:

- Software not set to card stock or transparency mode

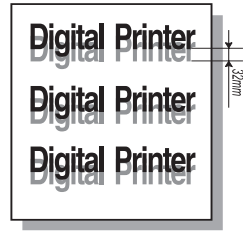


## Residual Image at 32 mm Intervals

**Description:** Residual image occurs in the black image printing at 32 mm intervals.

Possible causes:

- Toner cartridge failure
- Bad or dirty high voltage contacts

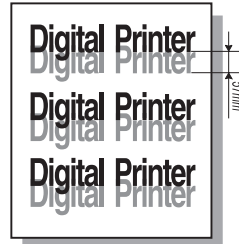


## Residual Image at 57 mm Intervals

**Description:** Residual image occurs at 57 mm intervals.

Possible causes:

- Fuser temperature maintained too high. Check for toner buildup on hot roller and thermistor surface. Clean or replace fuser if necessary.





## Toner on Front of Page

**Description:** The background on the front of the printed page is stained with toner.

Possible causes:

- Toner cartridge failure
- Transfer roller failure

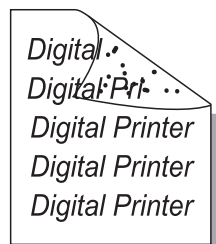


## Toner on Back of Page

**Description:** The back of the page is stained with toner at 47 mm intervals.

Possible causes:

- Transfer roller failure
- Fuser failure (dirty)

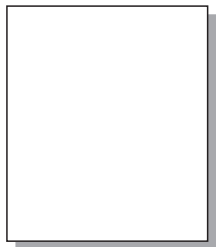


## Blank Page Printout (1)

**Description:** Blank page is printed.

Possible cause:

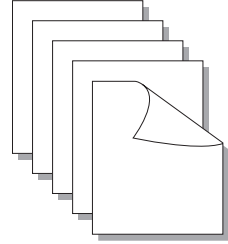
- Bad or dirty high voltage contacts



## Blank Page Printout (2)

### Description:

1. Blank page is printed.
2. One or several blank pages are printed.
3. When the printer turns on, several blank pages print.



### Possible causes:

- Bad or dirty high voltage contacts
- Pick solenoid failure
- Main board failure

## Repeated marks or voids down page

Distance Between Repeated Mark	Related Printer Components	Action
27 mm	Supply Roller	Replace Toner Cartridge
32 mm	Develop Roller	Replace Toner Cartridge
37 mm	Charge Roller	Replace Toner Cartridge
47 mm	Transfer Roller	Replace Transfer Roller
58 mm	Fuser Hotroll	Replace Fuser
60 mm	Fuser Backup Roll	Replace Fuser
75 mm	OPC Drum	Replace Toner Cartridge

## Paper Feed

### Printing in wrong position

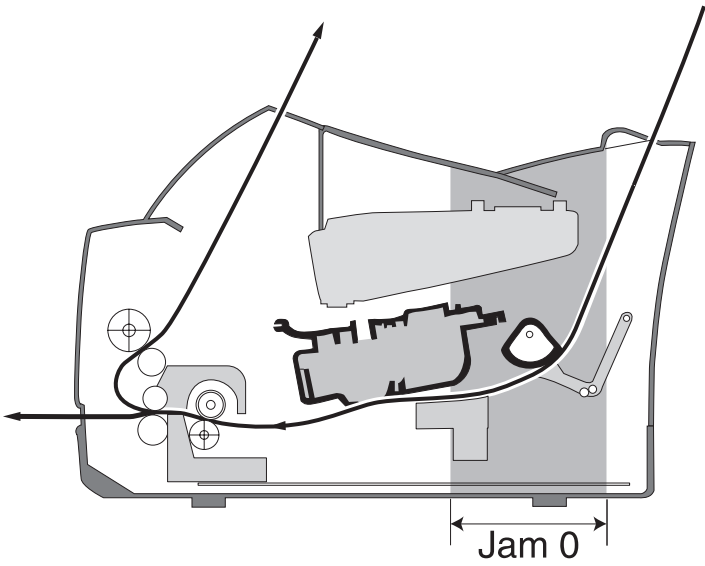
Step	Printing begins at the wrong position on the paper	Yes	No
1	Check for obstructions in the input tray that could cause incorrect feeding. Are there obstructions?	Remove the obstructions	Go to step 2
2	Check the paper present actuator for binds. Is it binding?	Correct the binding problem	Replace the paper present actuator

### Paper stopping, jamming, or feeding multiple sheets

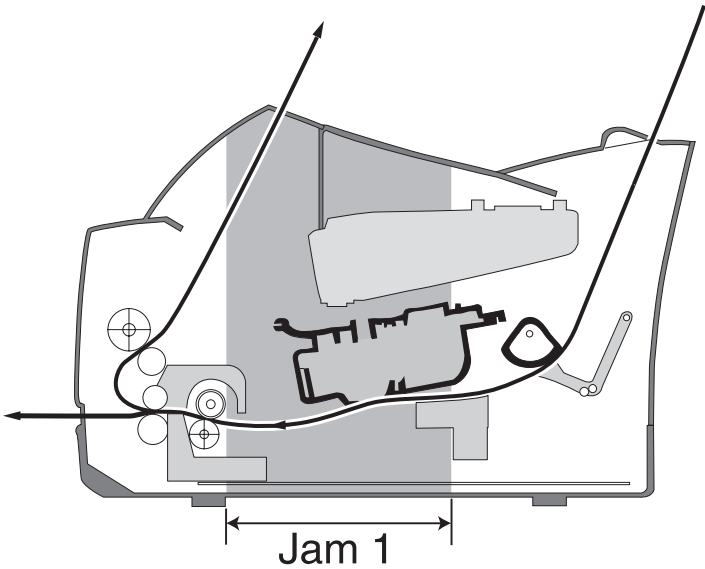
Step	Paper stops or jams at various points in the printer or feeds multiple sheets	Yes	No
1	Does the paper exit the input tray? See <b>“Paper Path Jam 0” on page 2-9.</b>	Go to step 2	Go to step 4
2	Does the paper stop just after exiting input tray? See <b>“Paper Path Jam 1” on page 2-9.</b>	Go to step 8	Go to step 3
3	Is the paper jammed in front of or just inside the fuser? See <b>“Paper Path Jam 2” on page 2-10.</b>	Go to step 9	Go to step 7
4	Check for obstructions in the input tray. Are there obstructions?	Remove obstructions	Go to step 5

Step	Paper stops or jams at various points in the printer or feeds multiple sheets	Yes	No
5	Clean the feed rollers. Did this resolve the problem?	Problem resolved	Go to step 6
6	Check for loose or damaged input tray side pads. Are they in good condition?	Replace the paper feed solenoid	Replace the side pads
7	Is the paper jammed inside the fuser as it exits the printer? See <b>“Paper Path Jam 2” on page 2-10.</b>	Replace the fuser	Go to step 10
8	Check the paper feed actuator for binding. Is it binding?	Correct the binding or replace the paper feed actuator	Replace the sensor board
9	Check the paper feed actuator for damage or binds. Is it damaged or binding?	Correct the binding or replace the paper feed actuator	Replace the LVPS
10	Is the Paper LED on after the paper exits the printer?	Go to step 11	Go to step 12
11	Check the exit sensor actuator for binds or damage. Is it binding or damaged?	Correct the binding or replace the paper feed actuator	Replace the LVPS
12	Is the paper jammed in the fuser?	Replace the fuser	Go to step 13
13	Is the printer feeding multiple sheets?	Clean the friction pad. Go to step 14	No problem found
14	Did cleaning the friction pad resolve the problem?	Problem resolved	Replace the solenoid

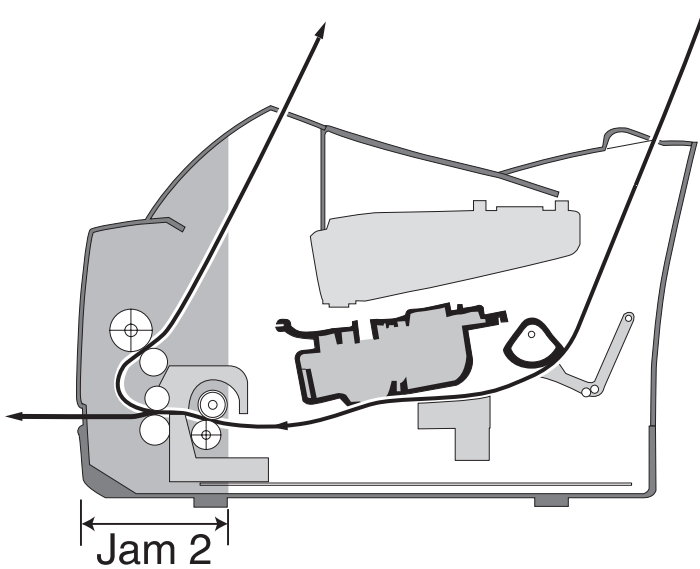
### Paper Path Jam 0



### Paper Path Jam 1



## Paper Path Jam 2




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## Service

### All LEDs blinking (Printhead Error) during a print job

Step	All LEDs blink when attempting a print job	Yes	No
1	Are all the printhead cables correctly connected?	Replace the printhead. Go to step 2.	Properly connect the cables.
2	Did printhead replacement resolve the problem?	Problem resolved.	Replace the main board. Go to step 3.
3	Did main board replacement resolve the problem?	Problem resolved.	Replace the printhead cables.

## All LEDs blinking (Fuser Error) at power up

Step	All LEDs blink when attempting at power up	Yes	No
1	Check the thermostat for continuity. Is there continuity?	Go to step 2.	Replace the thermostat.
2	Check the lamp for continuity. Is there continuity?	Go to step 3.	Replace the lamp.
3	Check the thermistor for wear. Is the thermistor worn?	Replace the fuser.	Go to step 4.
4	Check for 110 V ac across the 2 pins of connector CN502 on the LVPS. Is 110 V ac present?	Go to step 5.	Replace LVPS.
5	Check the fuser gears for wear or other damage. Is the gear damaged?	Replace the fuser.	Replace the main board.

## The LED blinks once then all other LEDs blink (Over Heat Error)

This message is displayed when the printer detects the fuser is hotter than it should be via feedback through the fuser thermistor.

Step		Yes	No
1	Replace the fuser. Did this resolve the problem?	Problem Resolved.	Replace the LVPS. Go to step 2.
2	Did LVPS replacement resolve the problem?	Problem Resolved.	Replace the engine board.

## The LED blinks once then all other LEDs blink (Low Heat Error)

This message occurs when the printer is warming up. If the temperature is not correct at a certain threshold, this message is posted.

Step		Yes	No
1	Check the fuser lamp. Is the correct voltage lamp installed?	Go to step 2.	Replace with proper voltage lamp. Go to step 2 if problem persists.
2	Replace the LVPS. Did this resolve the problem?	Problem Resolved.	Replace the fuser. Go to step 3.
3	Did fuser replacement resolve the problem?	Problem Resolved.	Replace the engine board. Go to step 4.
4	Did engine board replacement resolve the problem?	Problem resolved.	Replace the controller board.



## The LED blinks once then all other LEDs blink (Open Fuser Error)

This message occurs when the printer detects no change of temperature in the fuser

Step		Yes	No
1	Is there continuity across the fuser lamp wires?	Go to step 4.	Replace the TCO. Problem resolved.
2	Remove the TCO. Is there continuity across the TCO?	Go to step 3.	Replace the lamp. Problem resolved.
3	Is there continuity across the lamp?	Go to step 4.	Replace the engine board. Go to step 5.
4	Replace the LVPS. Did LVPS replacement resolve problem?	Problem Resolved.	Replace the engine board. Go to step 5.
5	Did replacement of the engine board resolve the problem?	Problem resolved.	Replace the controller board.

## False Paper Empty Indication

Step	Paper LED on when paper is present in the input tray	Yes	No
1	Check the paper present sensor actuator for breakage or binding. Is there breakage or binding?	Replace the paper present actuator.	Replace the sensor board.

## False Paper Present Indication

Step	Paper LED off when paper is not present in the input tray	Yes	No
1	Check the paper present sensor actuator for breakage or binding. Is there breakage or binding?	Replace the paper present actuator.	Go to step 2.
2	Replace the sensor board.		

## False Cover Open Indicator

Step	The error LED is on when the cover is closed	Yes	No
1	Open the front cover and check the cover open switch actuator that is attached to the front cover. Is the actuator broken?	Replace the front cover.	Go to step 2.
2	Disconnect the cover open sensor connector from the main board. Check for continuity at the connector while deflecting the actuator on the switch. Does the continuity change with deflection of the actuator?	Replace the main board.	Replace the cover open switch.

## Error LED Off When Cover Open

Step	The error LED is off when the cover is open	Yes	No
1	Disconnect the cover open sensor connector from the main board. Check for continuity at the connector while deflecting the actuator on the switch. Does the continuity change with deflection of the actuator?	Replace the main board.	Replace the cover open switch.

## Drive Motor Does Not Operate

Step	Motor does not run when attempting to run a print job	Yes	No
1	Check for proper connection of the motor connector on the SMPS board. Is it properly connected?	Go to step 2.	Properly connect the connector.
2	Check for continuity of the cable between the drive motor and the LVPS. Is there continuity?	Go to step 3.	Replace the cable.
3	Replace the drive motor. Did this resolve the problem?	Problem resolved.	Replace the LVPS.

## No Power

Step	When printer power is turned on, LEDs not on	Yes	No
1	Check the power cord for damage and correct connection. Did you find damage or a faulty connection?	Repair or replace the power cord as necessary.	Go to step 2.
2	Replace the LVPS. Did this resolve the problem?	Problem resolved.	Replace the operator panel.
3	Did operator panel replacement resolve the problem?	Problem resolved.	Replace main board.

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## 3. Repair Information

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### Handling ESD-Sensitive Parts

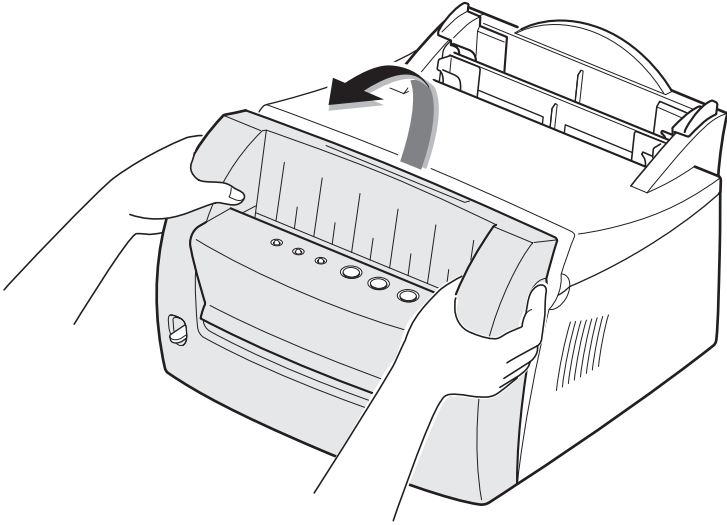
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Many electronic products use parts that are known to be sensitive to electrostatic discharge (ESD). To prevent damage to ESD-sensitive parts, follow the instructions below in addition to all the usual precautions, such as turning off power before removing logic boards:

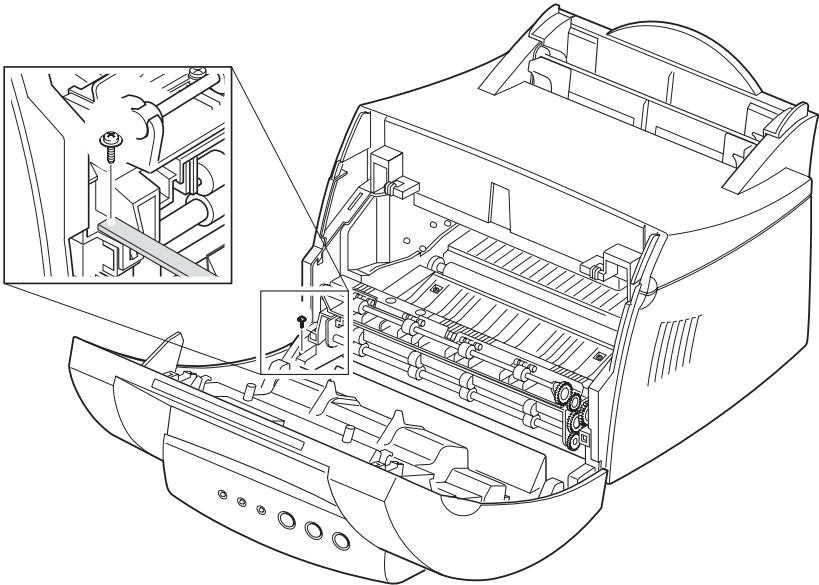
- Keep the ESD-sensitive part in its original shipping container (a special “ESD bag”) until you are ready to install the part into the printer.
- Make the least-possible movements with your body to prevent an increase of static electricity from clothing fibers, carpets, and furniture.
- Secure the ESD wrist strap around your wrist and connect the wrist band to the engine ground point. This discharges any static electricity, in your body, to the printer.
- Hold the ESD-sensitive part by its edge connector shroud (cover); do not touch the pins. If you are removing a pluggable module, use the correct tool.
- Do not place the ESD-sensitive part on the printer cover or on a metal table, as electrical grounding may occur, which increases the risk of damage due to the discharge path your body could establish through the ESD-sensitive part. (Large metal objects can be discharge paths without being grounded.)
- When laying the ESD-sensitive part down, always return it to the ESD-sensitive bag.
- If possible, keep all ESD-sensitive parts in a grounded metal cabinet (case).
- Take care working with ESD-sensitive parts when cold weather heating is used, as low humidity increases static electricity.

## Front Cover

1. Pull the cover open.

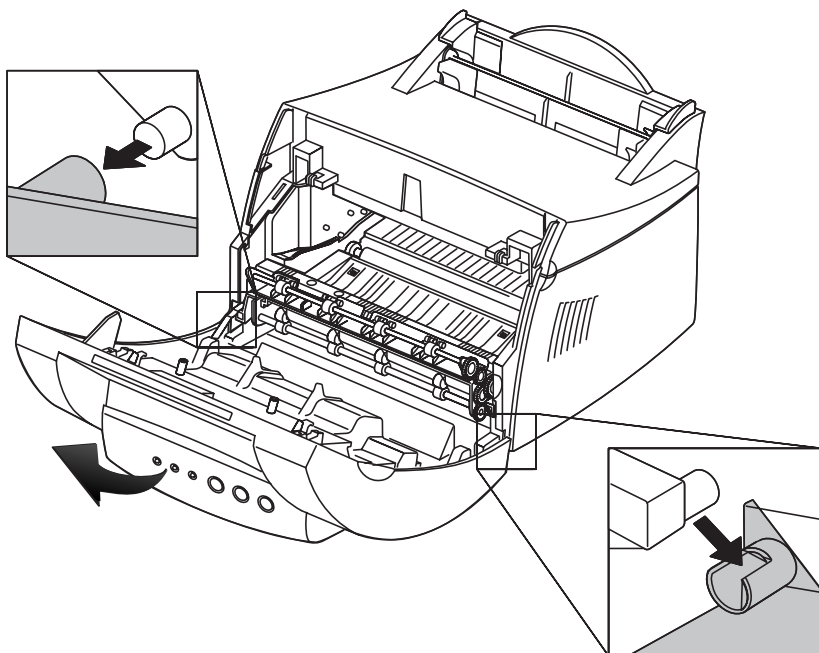


2. Remove the screw and remove the stopper that holds the printer cover.

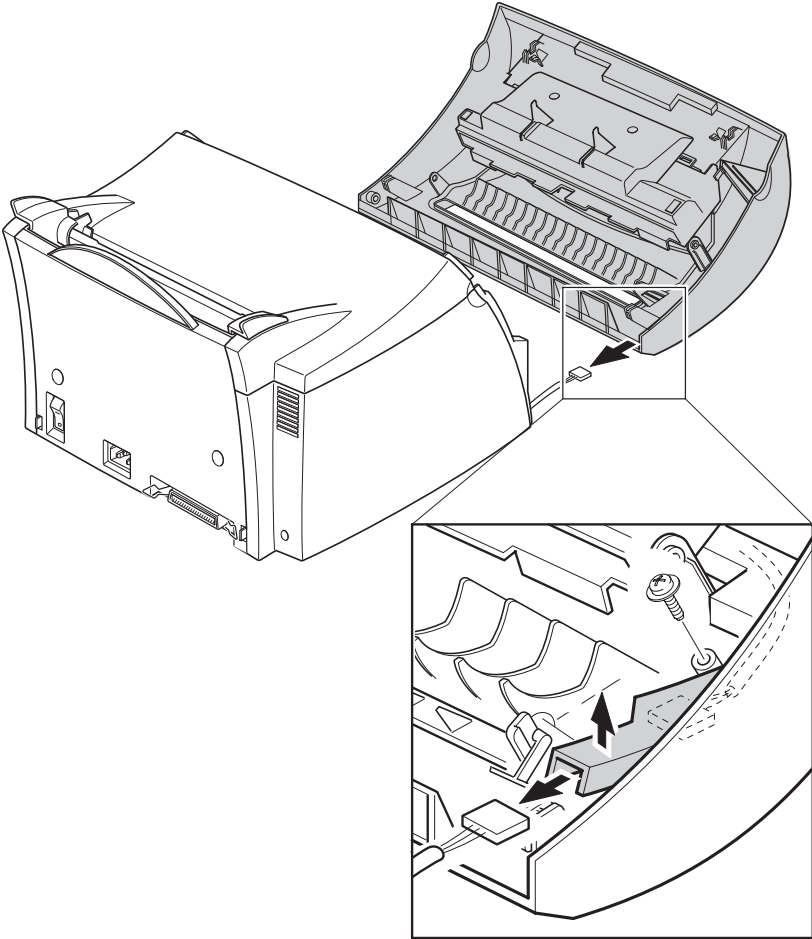


## 4510-001

3. Pull the right lower side off the post and to the right. Then push the cover in the direction of the arrow to loosen the lower left part.



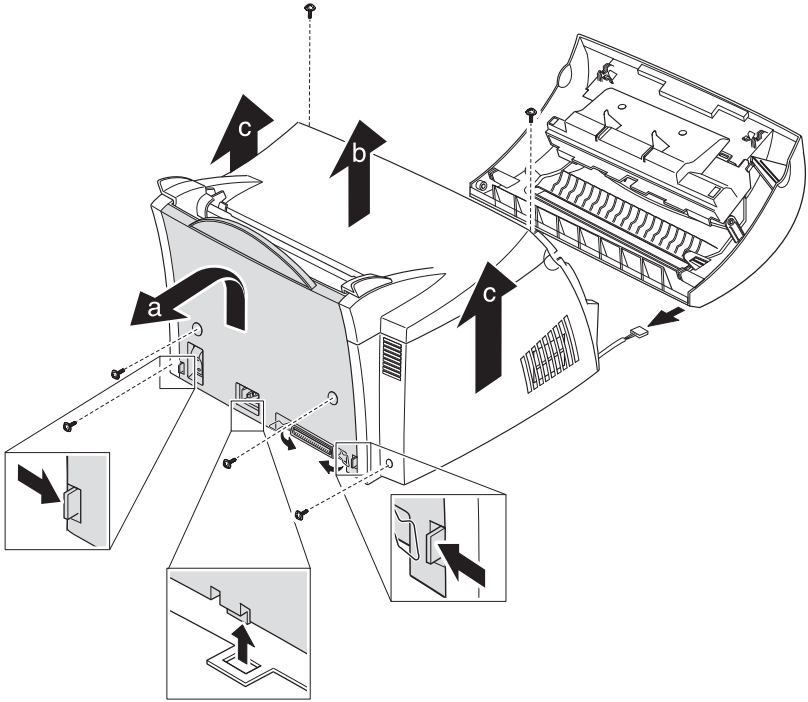
4. Remove the screw that secures the operator panel harness cover, disconnect the connector and remove the cover.





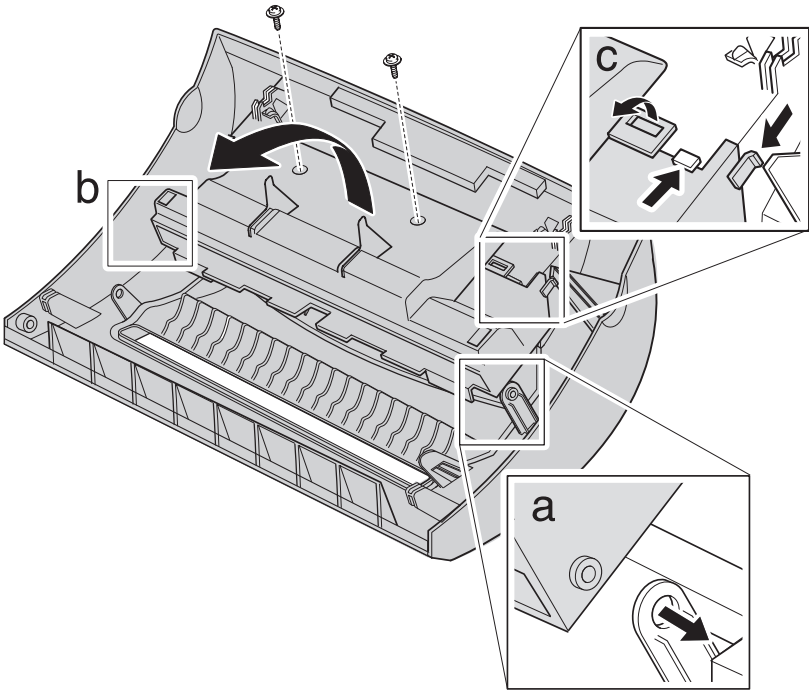
## Other Covers

1. Rear Cover: Remove the cover in the direction of (a).
2. Top Cover: Remove the cover in the direction of (b).
3. Side cover L, R: Remove the cover in the direction of (c).



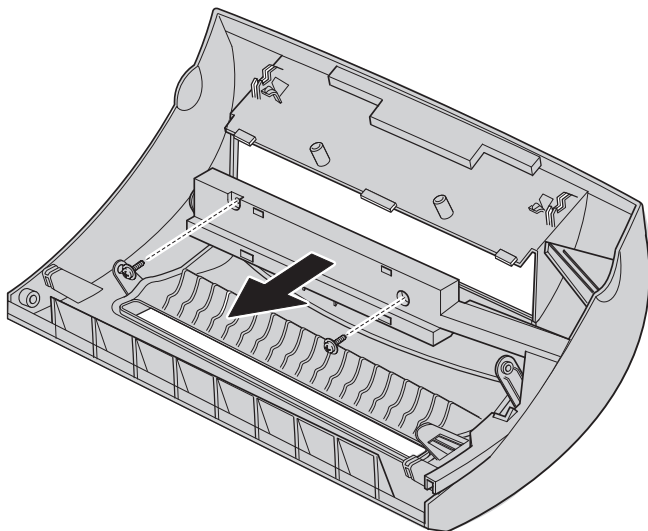
## Operator Panel

1. Before removing the operator panel, you should remove the front cover.
2. Remove two screws of the operator panel cover, and widen the hooks (a) (b) (c) to remove.

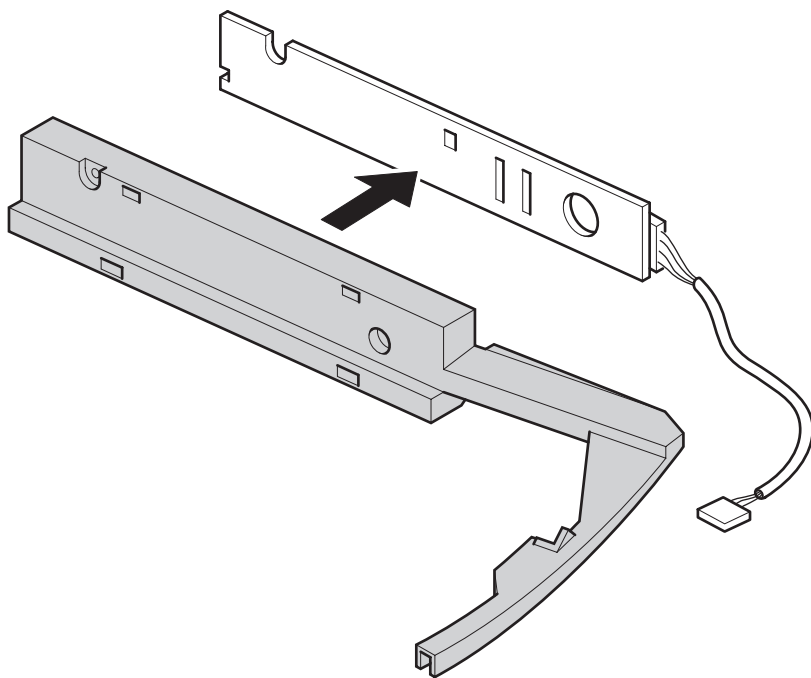


**4510-001**

3. Remove two screws, and remove the operator panel.

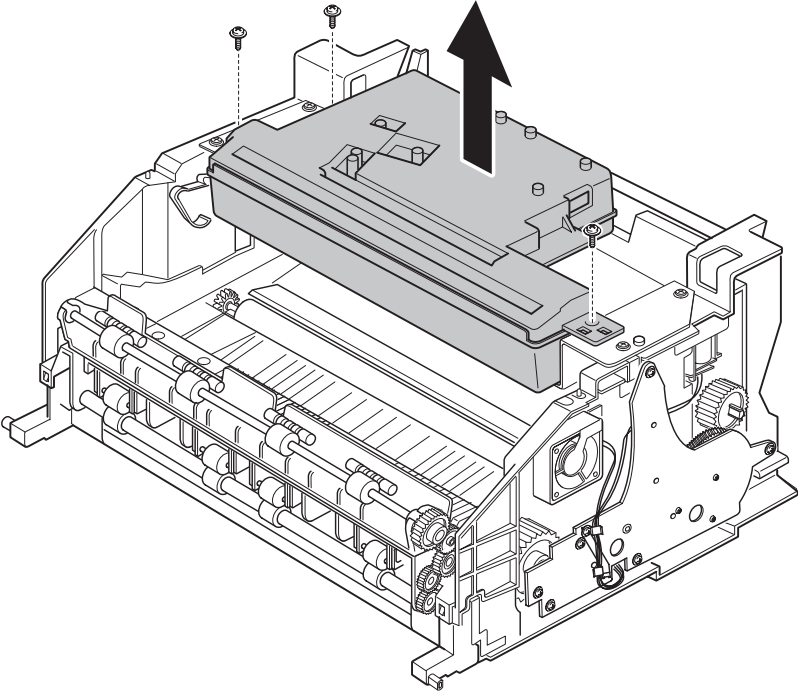


4. Remove the operator panel from the operator panel cover.



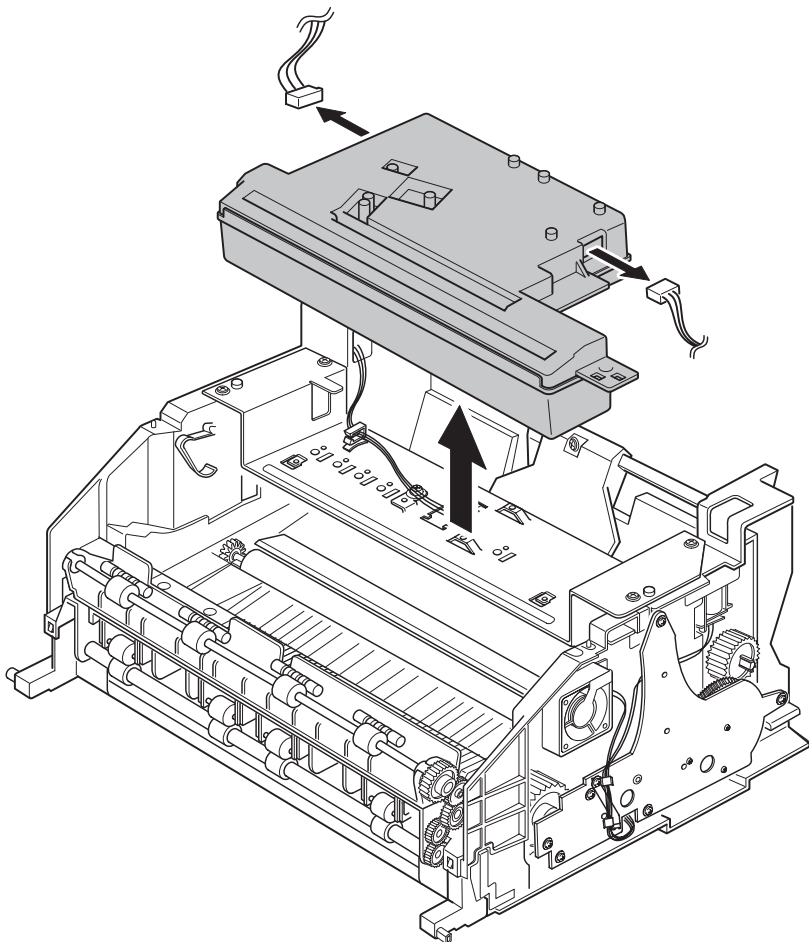
## Printhead

1. Before removing the printhead, remove the rear cover and the top cover.
2. Remove three screws securing the printhead.



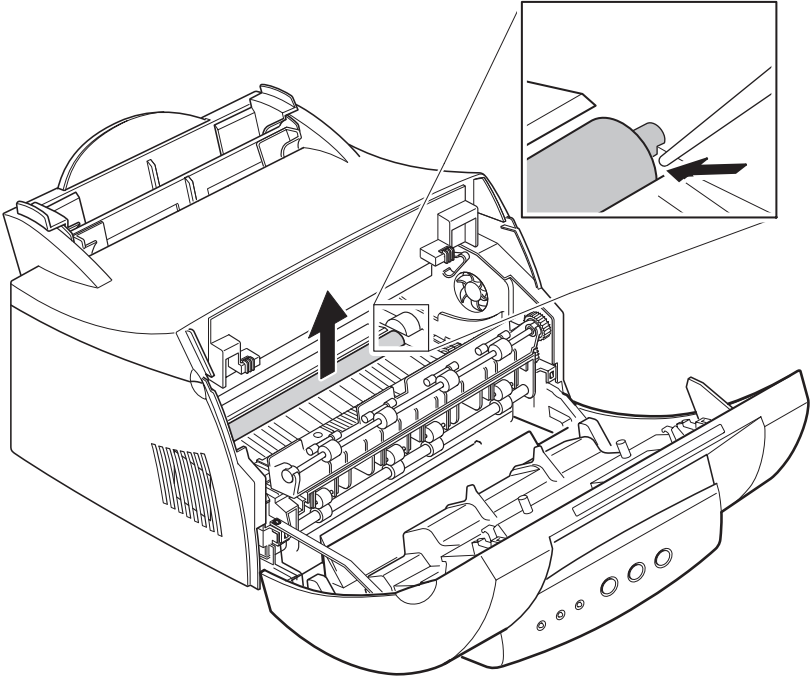
## 4510-001

3. Remove two connectors from the printhead, and then remove the printhead.



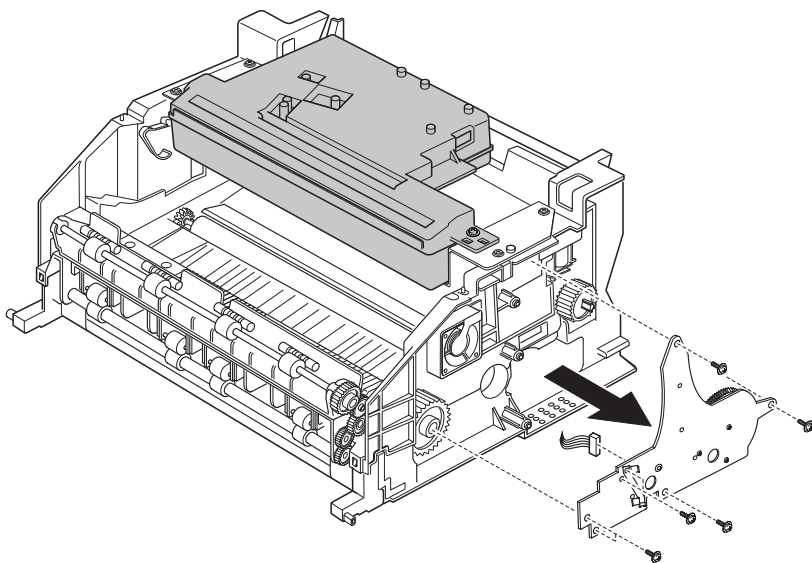
## Transfer Roller

1. Open the front cover.
2. Use a flat blade screwdriver to pry the right end of the roller up and remove the transfer roller.



## Motor Assembly

1. Before removing the motor assembly, remove the front cover, top cover, rear cover, right side cover, and the metal bottom cover.
2. Remove five screws securing the motor assembly and remove a connector from the motor assembly. Then remove the motor assembly.

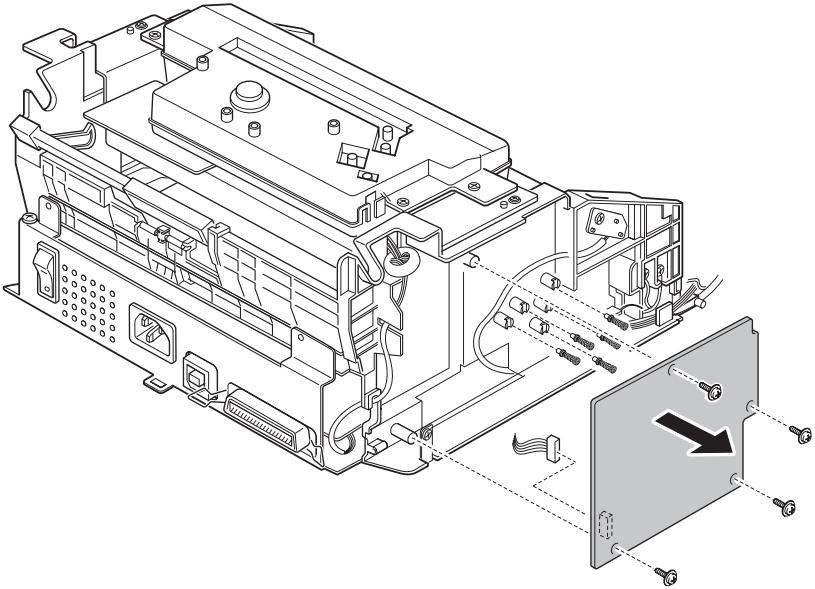


## Pick Roller Clutch Solenoid

1. Before removing the solenoid, remove the top cover, rear cover, right side cover and the metal bottom cover.
2. Disconnect the solenoid connector from the LVPS.
3. Remove the screw securing the solenoid.
4. Remove the solenoid.

## HVPS Board

1. Before removing the HVPS board, remove the top cover, rear cover, and left side cover.
2. Remove four screws and a connector from the HVPS board, and then remove board.

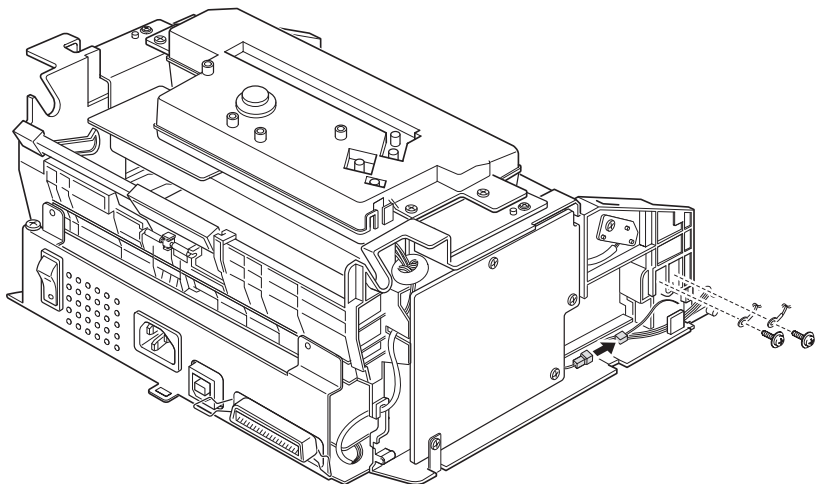


**Note:** When you reassemble the HVPS board, make sure that the five terminals are in place.

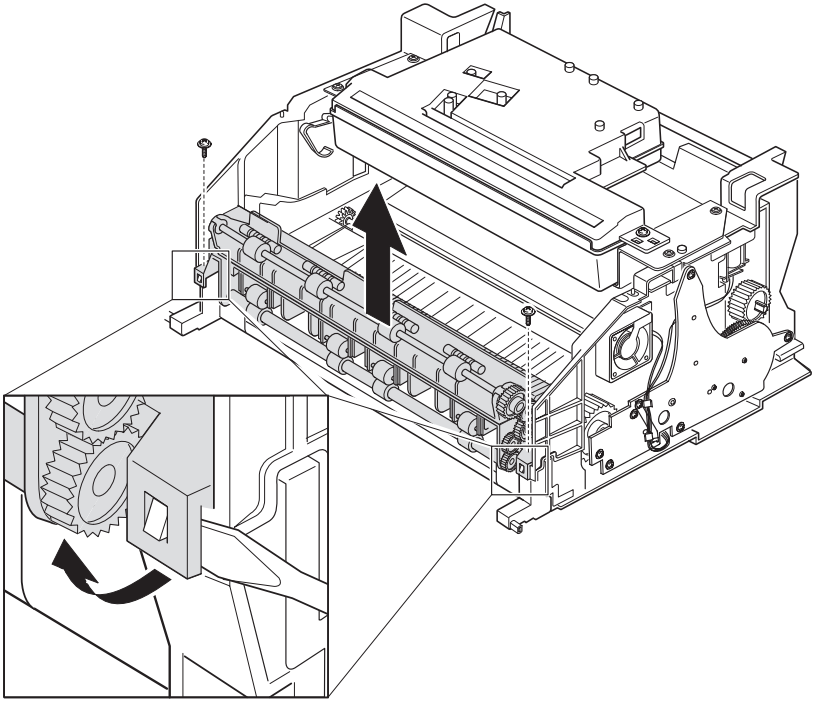


## Fuser Assembly

1. Before removing the fuser assembly, remove the front cover and left cover.
2. Remove two terminal screws and a connector.

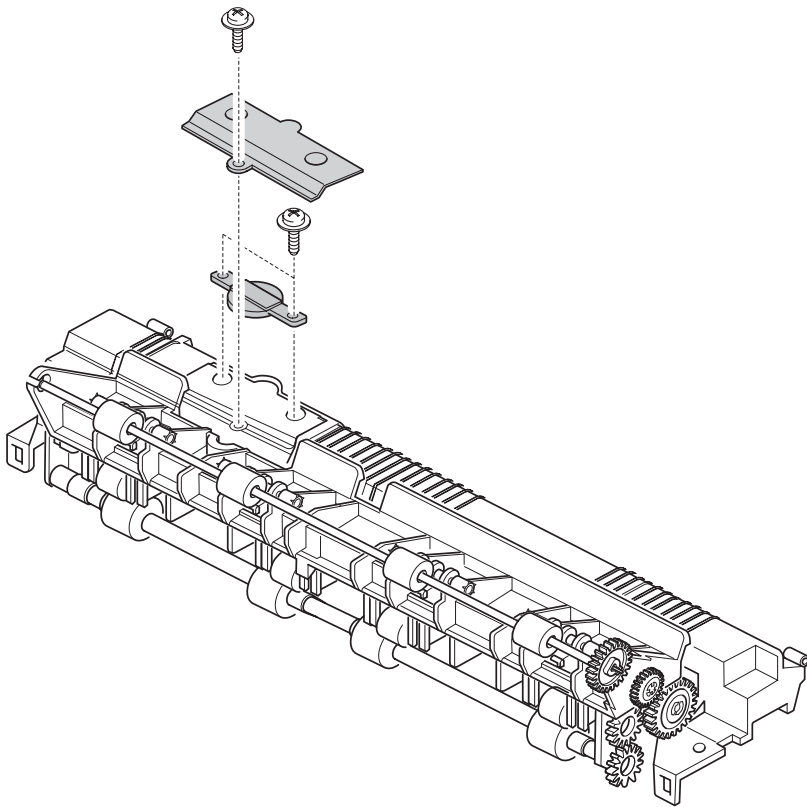


3. Remove remaining screws. Use a flat blade screwdriver to unlatch the fuser assembly and remove.



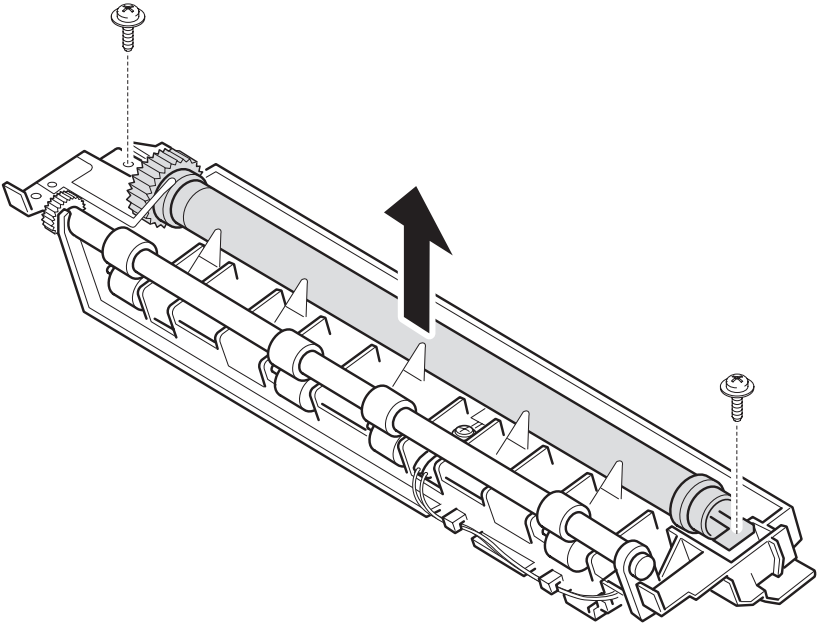
## Fuser Thermostat and Lamp

1. Remove screw from the fuser assembly and remove the thermostat cover. Remove the two screws securing the thermostat.

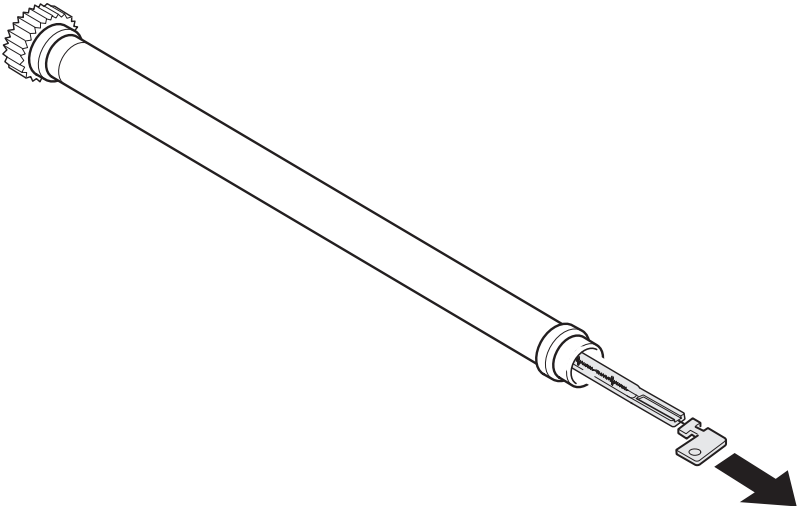


## 4510-001

2. Remove two screws from the fuser assembly, and remove the hot roller.



3. Remove the lamp from the hot roller.

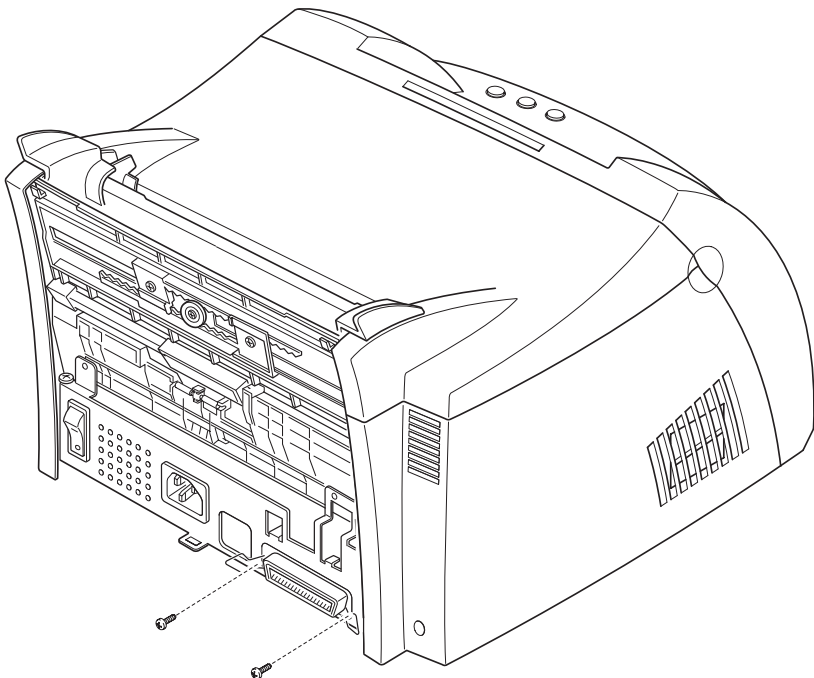


**Note:** When you reassemble the lamp, handle it with care as it is fragile.

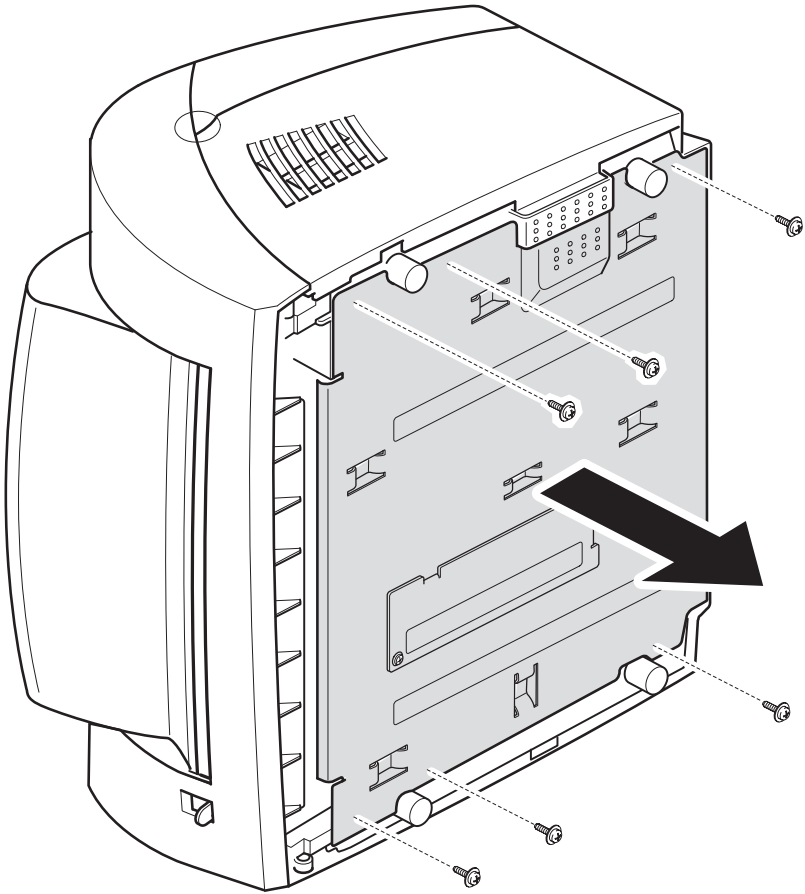
4510-001

## LVPS Board

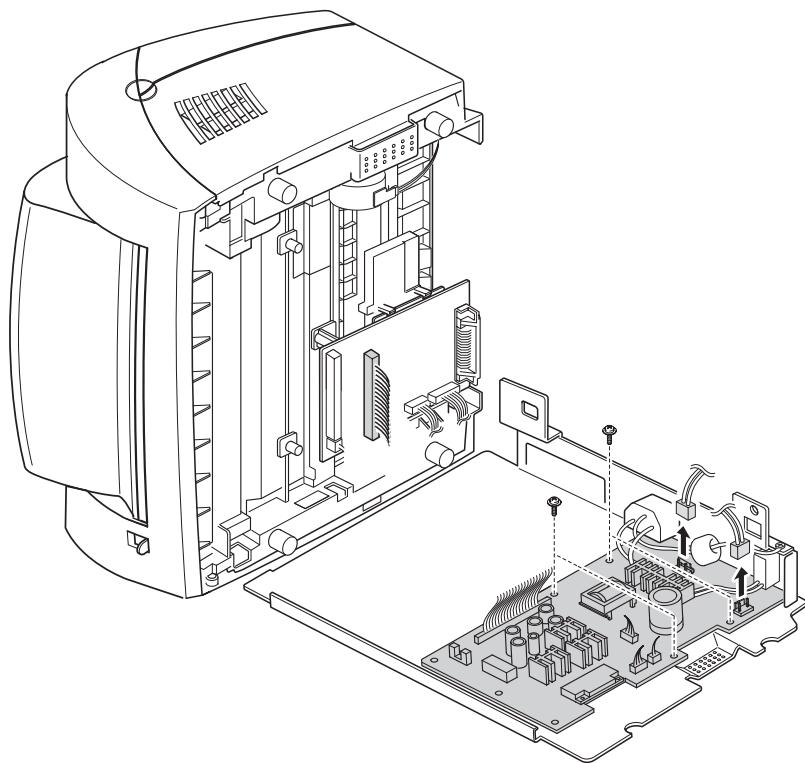
1. Before removing the LVPS board, remove the rear cover.
2. Remove two screws.



3. Remove the screws and remove the bottom cover.

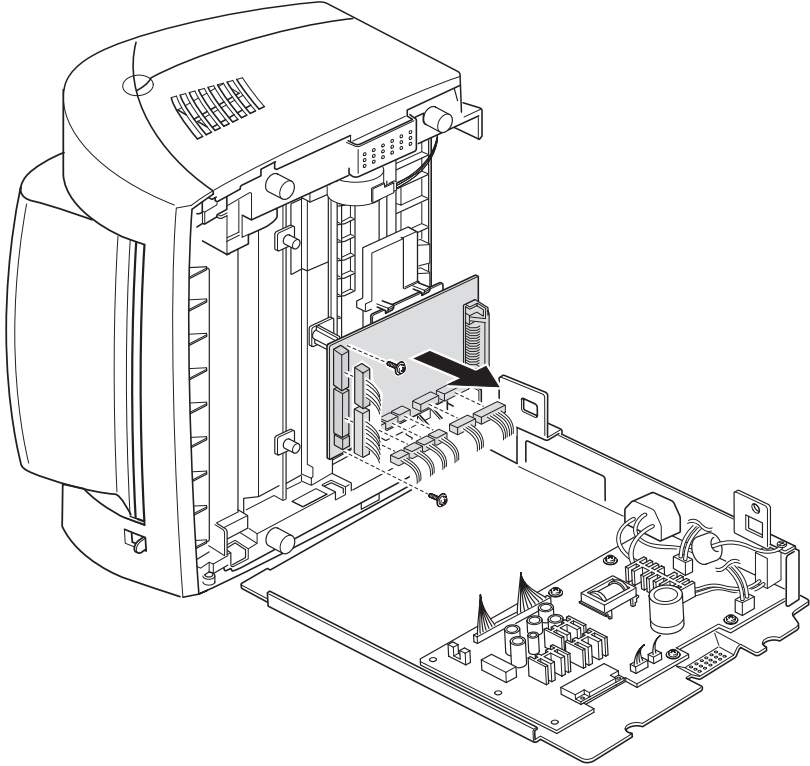


4. Unplug connector (CN5) from the main board and connectors (CN1, CN2, CN501, CN502) from LVPS. Remove the clip that secures the LVPS to the metal bottom pan. Remove five screws from the LVPS and remove the LVPS board.



## Main Board and Input/Exit Sensor Board

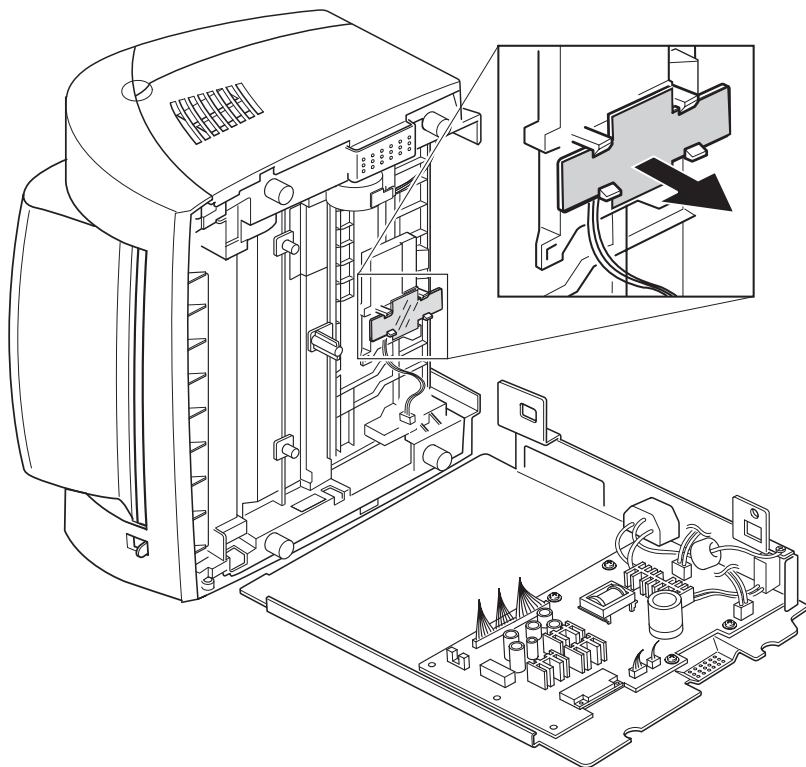
1. Before removing the main board, remove the rear cover, metal bottom cover, and the LVPS board.
2. Unplug all connectors, remove two screws from the main board, and then remove the board.



3. To remove the input/exit sensor board, release four snap-fits securing the insulator and then remove the insulator.



4. Release four snap-fits securing the sensor board and then remove the input/exit sensor board.



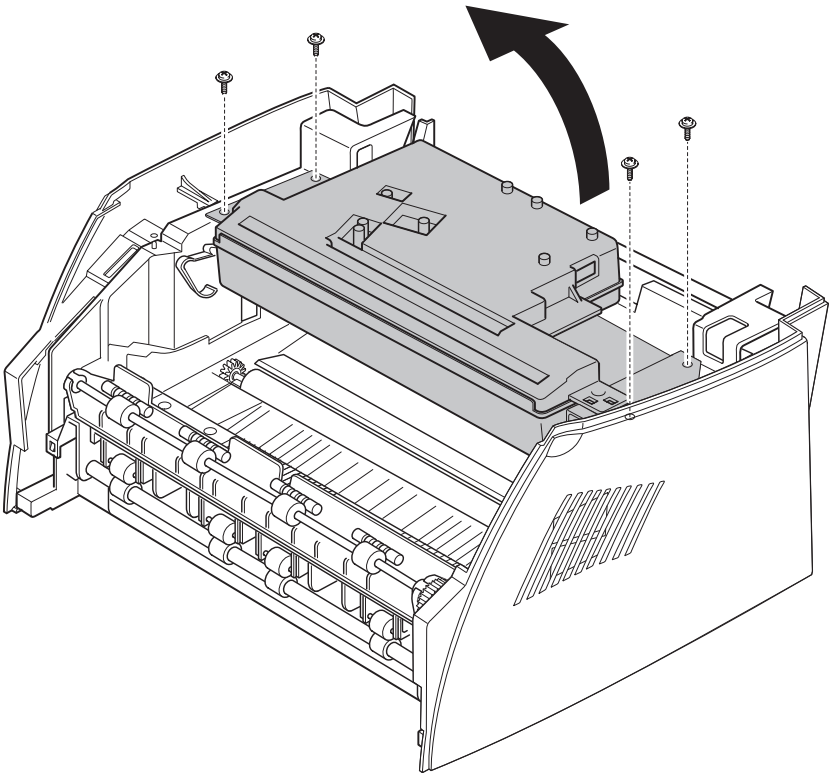
### Pre-Transfer LED Assembly (PTL)

1. Remove the transfer roller.
2. Remove the bottom metal cover and disconnect CN6 on the main board.
3. Remove the four screws securing the printhead plate.
4. Slide the printhead plate left to disengage the pick roller from the pick roller shaft.
5. Remove the two screws securing the PTL cover plate.
6. Remove the PTL.

## Pick Roller

There is more than one way to remove the pick roller, but the procedure below is the easiest.

1. Open the front cover, and remove the toner cartridge.
2. Remove the rear and top covers along with the paper input tray assembly.
3. Remove the four screws securing the printhead bracket to the plastic frame.
4. Lift the printhead bracket (with printhead still attached) upward and to the left to disconnect the pick roller assembly from the pick roller shaft.



5. Remove two screws securing the pick roller assembly to the printhead bracket.
6. Remove the pick roller assembly from the bracket.

**4510-001**

**Installation Note:**

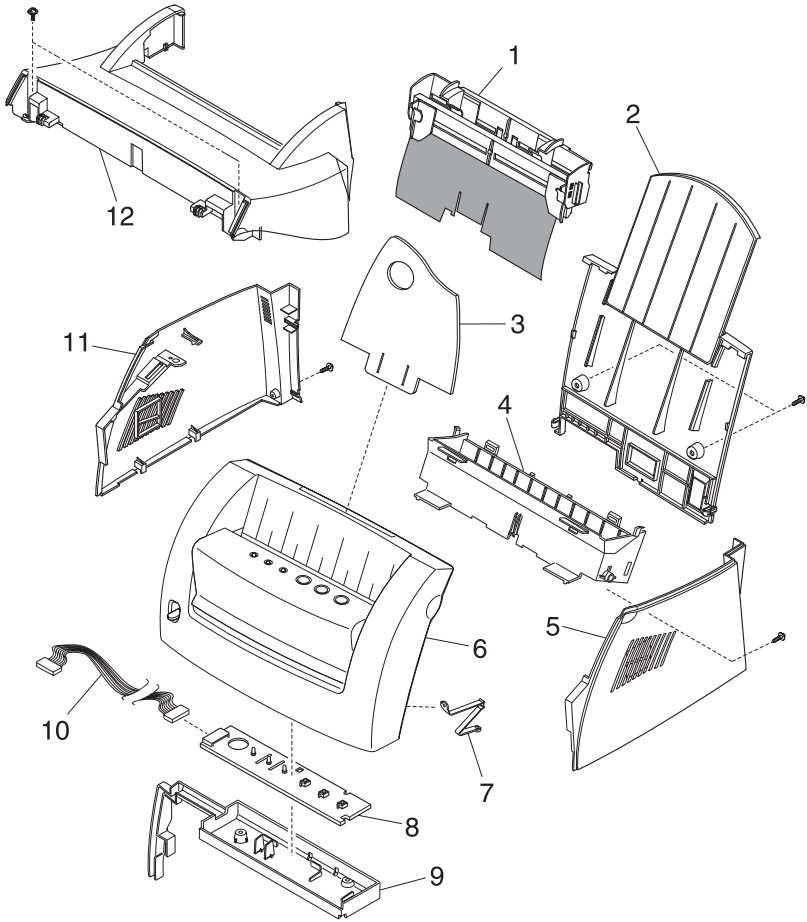
When repositioning the printhead bracket (with the pick roller assembly) to the plastic frame, push the lift plate down while carefully engaging the pick roller shaft to the pick roller assembly. This procedure is to ensure the lift plate properly rests under the pick roller.

**4510-001**

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## 4. Parts Catalog

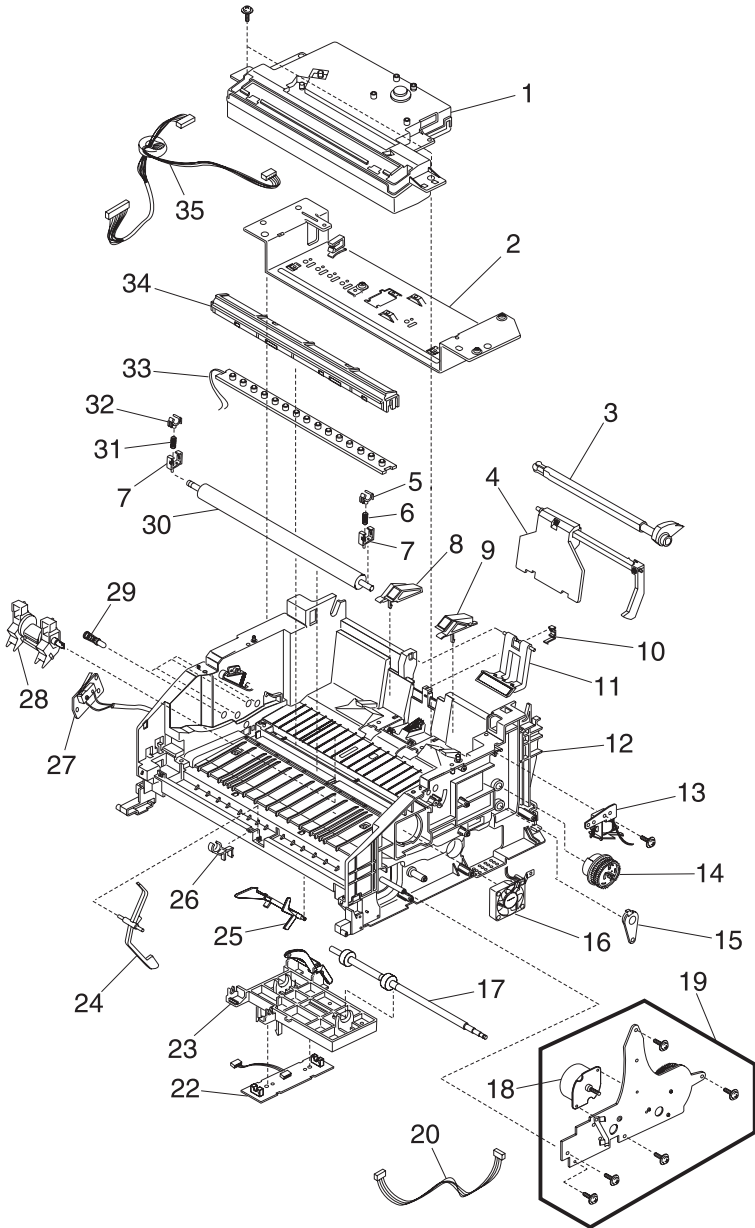
# Assembly 1: Covers



**Assembly 1: Covers**

<b>Asm-Index</b>	<b>Part Number</b>	<b>Unit</b>	<b>Description</b>
1-1	12G6768	1	Tray Assembly, Input
2	12G6765	1	Cover Assembly, Rear
3	12G6763	1	Extender, Paper Exit
4	12G6760	1	Guide, Stacker
5	12G6767	1	Cover, Right
6	12G6762	1	Cover, Front
7	12G6255	1	Support, Cover Open
8	12G6761	1	Panel, Operator
9	12G6796	1	Cover, Operator Panel
10	12G6776	1	Cable, Operator Panel
11	12G6766	1	Cover, Left
12	12G6764	1	Cover, Top

# Assembly 2: Engine

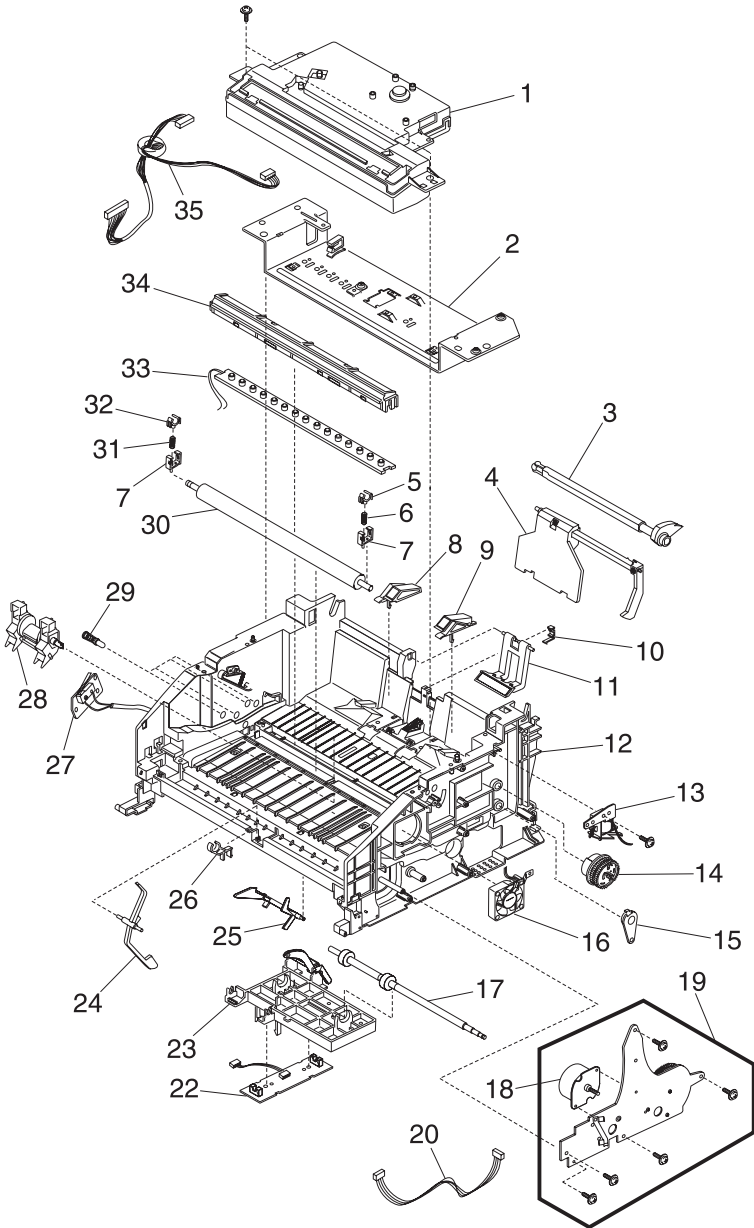




**Assembly 2: Engine**

<b>Asm-Index</b>	<b>Part Number</b>	<b>Unit</b>	<b>Description</b>
2-1	12G6795	1	Printhead Assembly Complete
2	12G6256	1	Plate, Printhead Mount
3	12G6784	1	Shaft, Pick Roller
4	12G6777	1	Plate, Lift
5	12G6259	1	Bushing, Transfer Roll Right
6	12G6262	1	Spring, Bushing, Right
7	12G6269	1	Housing, Transfer Roll Bushing
8	12G6785	1	Pad, Left Separator
9	12G6786	1	Pad, Right Separator
10	12G6778	1	Holder, Pad
11	12G6779	1	Pad, Main Separator
12	12G6769	1	Frame, Lower
13	12G6783	1	Solenoid, Pick Roller Clutch
14	12G6780	1	Clutch Assembly, Pick Roller Gear
15	12G6265	1	Bushing, Shaft
16	12G6771	1	Fan, Cooling
17	12G6266	1	Roller, Paper Feed
18	12G6798	1	Motor, Main
19	12G6794	1	Drive Assembly, Main
20	12G6799	1	Cable, Main Motor
22	12G6782	1	Card Assembly, Input/Exit Sensor
23	12G6267	1	Housing, Paper Feed Roller
24	12G6789	1	Flag, Exit Sensor
25	12G6788	1	Flag, Input Sensor
26	12G6263	1	Holder, Exit Roller
27	12G6257	1	Switch, Cover Open

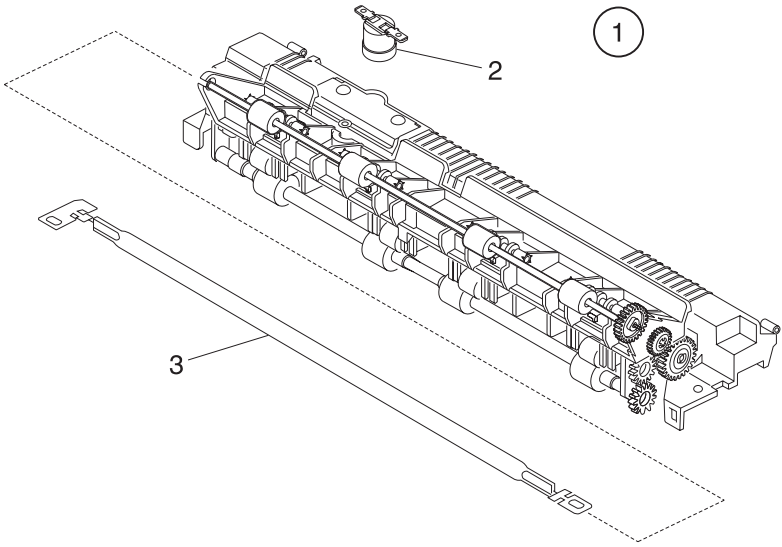
# Assembly 2 (cont.): Engine



**Assembly 2 (cont.): Engine**

<b>Asm-Index</b>	<b>Part Number</b>	<b>Unit</b>	<b>Description</b>
2-28	12G6787	1	Roll Assembly, Pick
29	12G6781	1	Contact Assembly, Toner Cartridge
30	12G6770	1	Roller, Transfer
31	12G6261	1	Spring, Bushing, Left
32	12G6260	1	Bushing, Transfer Roll Left
33	12G6258	1	Card Assembly, Pre-Transfer LED
34	12G6264	1	Cover, PTL Board
35	12G6797	1	Cable, Printhead

# Assembly 3: Fuser

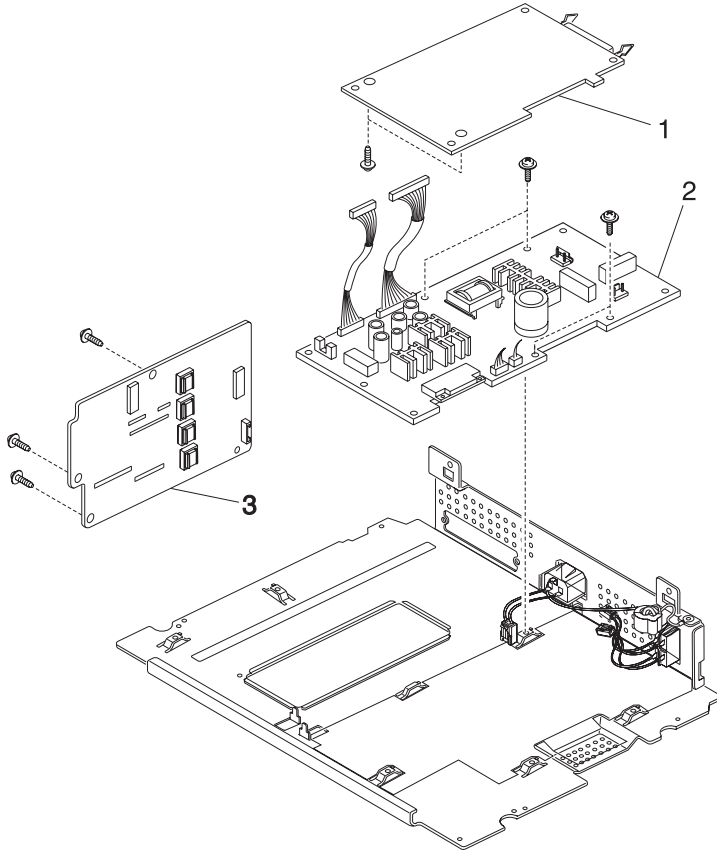


4510-001

### Assembly 3: Fuser

Asm-Index	Part Number	Unit	Description
3-1	12G6772	1	Fuser Assembly, Complete, 220 V
1	12G6773	1	Fuser Assembly, Complete, 110 V
2	12G0075	1	Thermostat (TCO)
3	12G6774	1	Lamp, Fuser, 220 V
3	12G6775	1	Lamp, Fuser, 110 V

# Assembly 4: Electronics



4510-001

### Assembly 4: Electronics

<b>Asm-Index</b>	<b>Part Number</b>	<b>Unit</b>	<b>Description</b>
4-1	12G6790	1	Card Assembly, Main
2	12G6791	1	Power Supply, Low Voltage, 220 V
2	12G6792	1	Power Supply, Low Voltage, 110 V
3	12G6793	1	Power Supply, High Voltage

**4510-001**



# Index

## A

Abbreviations 1-2

## E

ESD-Sensitive Parts 3-1

## P

Paper Feed 2-7

Parts Catalog 4-1

Print Quality 2-1

## R

### Removals

Front Cover 3-2

Fuser Assembly 3-13

Fuser Thermostat and Lamp  
3-15

HVPS Board 3-12

LVPS Board 3-17

Main Board and Sensor Board  
3-20

Motor Assembly 3-11

Operator Panel 3-6

Other Covers 3-5

Pick Roller Clutch 3-11

Pre-TransferLED Assembly (PTL)  
3-21

Printhead 3-8

Transfer Roller 3-10

Repair Information 3-1

## S

Safety Information xiii

Service 2-10

## T

Tools 1-2

## Part Numbers

12G0075 4-9

12G6255 4-3

12G6256 4-5

12G6257 4-5

12G6258 4-7

12G6259 4-5

12G6260 4-7

12G6261 4-7

12G6262 4-5

12G6263 4-5

12G6264 4-7

12G6265 4-5

12G6266 4-5

12G6267 4-5

12G6269 4-5

12G6760 4-3

12G6761 4-3

12G6762 4-3

12G6763 4-3

12G6764 4-3

12G6765 4-3

12G6766 4-3

12G6767 4-3

12G6768 4-3

12G6769 4-5

12G6770 4-7

12G6771 4-5

12G6772 4-9

12G6773 4-9

12g6774 4-9

12G6775 4-9

12G6776 4-3

12G6777 4-5

12G6778 4-5

12G6779 4-5

12G6780 4-5

12G6781 4-7

12G6782 4-5

12G6783 4-5

12G6784 4-5

12G6785 4-5

12G6786 4-5

12G6787 4-7

12G6788 4-5

12G6789 4-5

## 4510-001

12G6790	4-11
12G6791	4-11
12G6792	4-11
12G6793	4-11
12G6794	4-5
12G6795	4-5
12G6796	4-3
12G6797	4-7
12G6798	4-5
12G6799	4-5