



## *Service Manual*

**Optra™ E**

**4026-0XX**

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# Notices and Safety Information

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## Laser Notice

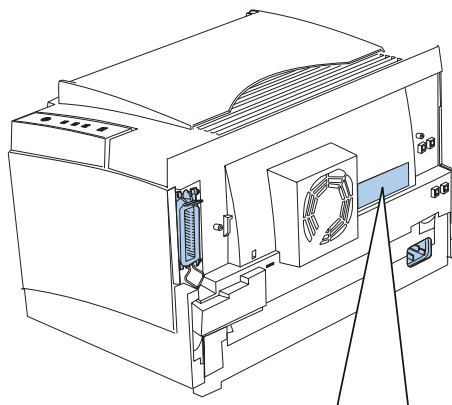
---

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 825.

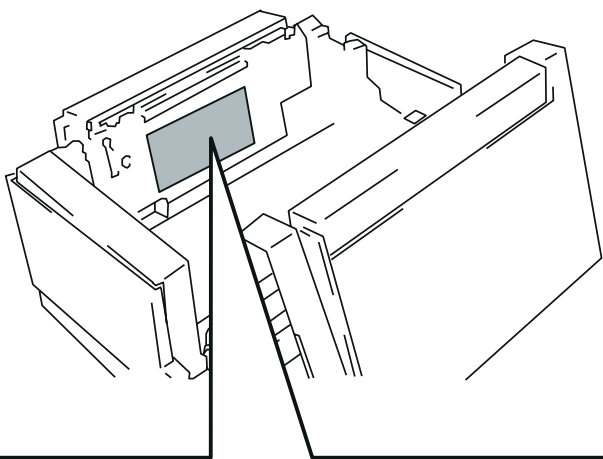
Class I laser products are not considered to be hazardous. The printer contains internally a Class IIb (3b) laser that is nominally a 5 milliwatt gallium arsenide laser operating in the wavelength region of 770-795 nanometers. The laser system and printer are designed so there is never any human access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

## 4026-0XX

Laser product labels are located on the back of the printer and on the printhead.



CLASS 1 LASER PRODUCT  
LASER KLASSE1 NACH IEC825  
LUOKAN 1 LASERLAITE  
APPAREIL A LASER DE CLASSE1  
TO IEC 825



CAUTION-  
ATTENTION-  
VORSICHT-  
VOORZICHTIG-  
ATTENZIONE  
AVISO-  
CUIDADO-  
VARO!  
WARNING-  
ADVARSEL-  
ADVARSEL-  
注意 -  
注意 -  
주의 -

INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM  
RADIATION LASER INVISIBLE. EVITER L'EXPOSITION AU RAYON LOPS DE L'OUVERTURE.  
ICHTBARE LASERSTRALUNG WENN ABOECKUNG GEOFFNET NICHT DEM STRAL AUSSETZEN  
ONZICHTBARE LASERSTRALING BIJ GEOPENDE KAP VERMIJD BLOOTSTELLING AAN STRAAL  
RADIAZIONILASERINVISIBILI.EVITAREL'ESPOSIZIONEIRETTAQUANDOSIAPRELASTAMPANTE  
RADIACION LASER INVISIBLE.CUANDO ESTE ABIERTA.EVITE LAEXPOSICIONALRADIACION  
RADIACAO LASER INVISIVEL.CUANDO ABRIR EVITE EXPOSICAO AOS RAIOS  
AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE ALA KATSO SÄTEESEEN  
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD STRÅLEN ÄR FARLIG.  
USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNEES UNNGÅ EKSPONERING FOR STRÅLEN  
USYNLIG LASERSTRÅLING VED ÅBNING UNNGÅ UDSÆTTELSE FOR STRÅLING  
무시할 수 없는 보이지 않는 레이저 빛 주의하십시오. 레이저 빛에 노출되지 않도록 하십시오.  
고장시 눈에 보이지 않는 레이저가 인식됩니다. 레이저 빛에 노출되지 않도록 하십시오.



---

## 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) 825 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 825 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 825.

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 825 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 825.

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 825.

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 825.

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 bølglængdeområdet 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.

---

## Huomautus laserlaitteesta

Tämä kirjoitin on Yhdysvalloissa luokan I (1) laserlaitteiden DHHS 21 CFR Subchapter J -määrityksen mukainen ja muualla luokan I laserlaitteiden IEC 825 -määrityksen mukainen.

Luokan I laserlaitteiden ei katsota olevan vaarallisia käyttäjälle. Kirjoittimessa on sisäinen luokan IIb (3b) 5 milliwatin galliumarsenidilaser, joka toimii aaltoalueella 770 - 795 nanometriä. Laserjärjestelmä ja kirjoitin on suunniteltu siten, että käyttäjä ei altistu luokan I määräyksiä 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 spärren 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 825.

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.

---

## 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 825.

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.

---

## 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 825.

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 (3 b) 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

主意：

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。

---

## 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 갈륨 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.

---

## Safety Information

- 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.
- The safety features of some parts may not always be obvious. Therefore, replacement parts must have the identical or equivalent characteristics as the original parts.

---

## Sicherheitshinweise

- 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.
- Ersatzteile müssen gleiche oder gleichwertige Merkmale wie die Originalteile aufweisen, da nicht immer offensichtlich ist, welche Teile des Geräts Sicherheitsmerkmale aufweisen.

---

## **Consignes de Sécurité**

- 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.
- Les normes de sécurité de certaines pièces n'étant pas toujours explicites, les pièces de rechange doivent être identiques ou conformes aux caractéristiques des pièces d'origine.

---

## **Norme di sicurezza**

- 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.
- Poiché non tutti i pezzi di ricambio garantiscono la stessa sicurezza, questi devono avere caratteristiche identiche o equivalenti a quelle dei pezzi originali.

---

## **Pautas de Seguridad**

- 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.

- Los dispositivos de seguridad de algunas piezas no siempre pueden reconocerse a simple vista. Por lo tanto, los recambios deben poseer características idénticas o equivalentes a las de las piezas originales.

---

## **Informações de Segurança**

- 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.
- Os dispositivos de segurança de algumas peças poderão não ser sempre suficientemente evidentes. Assim, as peças sobressalentes devem possuir características idênticas ou equivalentes às peças originais.

---

## **Informació de Seguretat**

- 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.
- Les característiques de seguretat d'algunes de les peces poden no ser òbvies. Per tant, les característiques dels recanvis hauran de ser idèntiques o equivalents a les de les peces originals.

---

## Chinese Safety Information

### 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，专业服务人员对此点必须有所了解，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。

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## Korean Safety Information

### 안전 사항

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## Ozone Information

This product does not produce measurable amounts of ozone gas.

## **Preface**

This manual is divided into the following chapters:

- “General Information” contains a general description of the printer, options, and the maintenance approach used to repair it. General environmental and safety instructions as well as special tools and test equipment are listed in this chapter.
- “Diagnostic Information” contains error code table, symptom table, and service checks used to isolate failing field replaceable units (FRUs).
- “Diagnostic Aids” contains tests and checks used to locate or repeat symptoms of printer problems.
- “Repair Information” provides instructions for making printer adjustments and removing and installing FRUs.
- “Connector Locations” uses illustrations to identify the major components and test points on the printer.
- “Parts Catalog” contains illustrations and part numbers for individual FRUs.

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## **1. General Information**

This printer is a letter-quality page printer designed to attach to an IBM Personal Computer or other computers compatible with the IBM Personal Computer (with 386 processor or higher).

The printer is available in models 4026-06A, 06C, 06D, and 06J without Flash memory and models 4026-06B and 06F with Flash memory. Model upgrade is not available.

The printer can print in various pitches and has bit image graphics capability, allowing the user to print advanced graphics. Model 4026-06D has PostScript Level 2 emulation.

The model 4026-070 printer includes a manual input guide, additional memory and font selections. The 4026-071 is a label printing model which also includes a manual input guide, additional memory and font selections.

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## **Options**

Memory upgrade options are 1MB, 2MB, and 4MB. The paper tray option is a 250 sheet secondary paper tray. Contact your point of purchase for options available in your country.

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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 error code charts, symptom index, service checks, and diagnostic aids to determine the symptom and repair the failure. After you complete the repair, perform tests as needed to verify the repair.

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## **Tools Required For Service**

Magnetic Phillips Screwdriver

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## Acronyms

CSU	Customer Setup
DRAM	Dynamic Random Access Memory
EP	Electrophotographic Process
EPROM	Erasable, Programmable Read-Only Memory
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
HVPS	High Voltage Power Supply
LASER	Light Amplification by Stimulated Emission of Radiation
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
LVPS	Low Voltage Power Supply
MROM	Masked Read Only Memory
NVRAM	Nonvolatile Random Access Memory
OEM	Original Equipment Manufacturer
PC	Photoconductor
POST	Power-On Self Test
ROM	Read Only Memory
SIMM	Single In-Line Memory Module
SRAM	Static Random Access Memory
UPR	Used Parts Return
V ac	Volts alternating current
V dc	Volts direct current

## 2. Diagnostic Information

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### Start

**CAUTION: NEVER manually actuate or disable the top cover interlock switch and the printhead shutter actuator at the same time.** To perform some of the service checks and tests, such as troubleshooting paper feed problems, you need to actuate the top cover interlock switch with the covers opened or removed and power applied to the machine. It is important for personal safety that you *DO NOT, FOR ANY REASON*, disable the printhead shutter actuator when power is on.

Remove power from the printer before you connect or disconnect any cable or electronic board or assembly for personal safety and to prevent damage to the printer.

Use the service error code, user error message, symptom table, service checks, and diagnostic aids in this chapter to determine the corrective action necessary to repair a malfunctioning printer.

The lights on the operator panel can indicate either a user error message or service error message. When a service error occurs the printer stops printing and all operator panel LEDs blink in a continuous pattern, indicating a service error, until the printer is powered off. If all operator panel LEDs are blinking, go to the **“Service Error Codes” on page 2-2**.

When a user error message occurs, one or two operator panel LEDs are on solid or blinking. Go to the **“User Error Message Table” on page 2-6**.

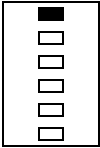
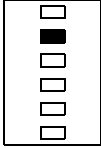
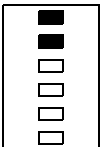
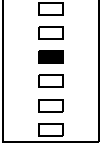
If your machine does not have a service error code and does not complete POST, go to the **“POST Symptom Table” on page 2-12**. If your machine completes POST without an error, and you have a symptom, go to the **“Symptom Table” on page 2-13**. Locate your symptom and take the appropriate action.

If a service error code appears while you are working on the machine, go to the **“Service Error Codes” on page 2-2** and take the indicated action for that error.

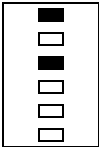
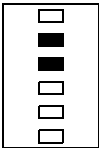
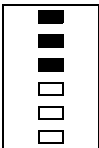
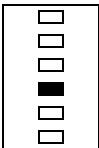
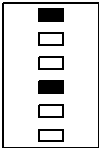
## Service Error Codes

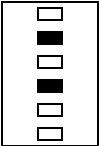
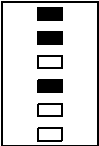
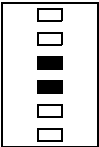
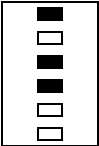
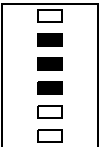
When a service error occurs the printer stops printing and all operator panel LEDs blink in a continuous pattern, indicating a service error, until the printer is powered off.

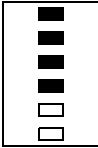
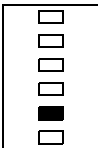
Press and release the operator panel button to display the service error code. Locate the blinking LEDs in the following table and take the indicated action.

Blinking Operator Panel LED	Action
Software Service Error Code 	Run the Printer Diagnostic Test to diagnose between the ROM SIMM and the controller board. If no other error code displays after the test completes, replace the controller board.
Fuser Failure Error 	Go to the <b>“Cold Fuser Service Check”</b> on page 2-18.
Mirror Motor Error 	The Polygon Mirror Motor is not rotating during printing. Replace the engine board. If this does not correct the problem, replace the printhead assembly.
Laser Diode Failure 	Replace the printhead assembly. If this does not correct the problem, replace the engine board.



Blinking Operator Panel LED	Action
<p>Controller Card Failure</p> 	<p>Replace Controller board</p>
<p>Optional Memory Error</p> 	<p>Replace the optional memory SIMM. If this does not correct the problem, replace the controller board.</p>
<p>Fan Failure Error</p> 	<p>Go to the "Fan Service Check" on page 2-17.</p>
<p>ROM Checksum Error</p> 	<p>Replace the ROM SIMM. If this does not correct the problem, replace the controller board.</p>
<p>Base Memory Error</p> 	<p>Replace Controller board</p>

Blinking Operator Panel LED	Action
<div>NVRAM Failure Error</div> <div></div>	Replace Controller board
<div>ASIC Register Failure Error</div> <div></div>	Replace Controller board
<div>ASIC SRAM Failure Error</div> <div></div>	Replace Controller board
<div>Flash Memory Failure Error</div> <div></div>	Replace the ROM SIMM w/Flash. If this does not correct the problem, replace the controller board.
<div>Font Checksum Failure Error</div> <div></div>	Replace the ROM SIMM. If this does not correct the problem, replace the controller board.

Blinking Operator Panel LED	Action
<p data-bbox="142 212 479 264">Engine Board Communications Failure Error</p> 	<p data-bbox="549 212 900 290">Replace the engine board. If this does not correct the problem, replace the controller board.</p>
<p data-bbox="142 475 466 500">Controller SRAM Failure Error</p> 	<p data-bbox="549 475 817 500">Replace Controller board</p>

## User Error Message Table

When a user error message occurs the printer stops printing and one or two operator panel LEDs are on solid or blinking until the printer is powered off. Locate the printer's LED Status in the following table and take the indicated action.

User Error Message	LED Status	Action
Paper Jam	Paper Jam on solid	Open cover and clear any paper jams. Close the top cover. If the error message is still present, go to the <b>"Paper Feed Service Check"</b> on page 2-34.
Load Manual Paper/ Envelope	Load Paper blinks and Press Button on solid	Load media into the manual slot and push the operator panel button to resume printing or do a front panel reset by pressing and holding the operator panel button for more than three seconds.
Load Paper/Load Envelope	Load Paper on solid and Press Button on solid	Load media in the appropriate paper tray and push the operator panel button to resume printing or do a front panel reset by pressing and holding the operator panel button for more than three seconds.
Top Cover Open	Error on solid	Close the top cover. If the error LED remains on solid and POST does not continue, go to the <b>"Cover Interlock Service Check"</b> on page 2-16

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<b>User Error Message</b>	<b>LED Status</b>	<b>Action</b>
Memory Full/Complex Page/Resolution Reduction Warning/Data Transmission Error	Error on solid and Press Button on solid	The printer memory is full or the page is too complex to print. The printer is forced to reduce the resolution of a formatted page to 300 dpi before printing, or the printer is unable to maintain the required data transfer rate. Go to the "User Secondary Error Message Table" on page 2-8.
Flash Memory Full	Error blinks and Press Button on solid	This condition only occurs when the Flash SIMM is installed. (4026-06B or 4026-06F) Go to the "User Secondary Error Message Table" on page 2-8.

## User Secondary Error Message Table

Press and release the operator panel button two times to display the user secondary error LED status. Each press and release action must be performed within a half second. Locate the printer's LED status in the following table and take the indicated action.

User Error Message	LED Status	Action
Complex Page	Ready, Error, and Press Button on solid	Switch the printing mode to a different printing mode using the Lexmark driver for Windows, or push the operator panel button to resume printing, or do a front panel reset by pressing and holding the operator panel button for more than three seconds.
Memory Full	Ready, Data, Error, and Press Button on solid	Change the printing mode to Quick Print Plus or reduce the complexity of the job or the resolution, or push the operator panel button to resume printing, or do a front panel reset by pressing and holding the operator panel button for more than three seconds.

User Error Message	LED Status	Action
Resolution Reduction	Ready, Data blinking and the Error, Press Button on solid	Switch from the GL/2 or raster mode to Quick Print Plus mode using the Lexmark driver for Windows, or press the operator panel button to resume printing, or do a front panel reset by pressing and holding the operator button for more than three seconds.
Data Transmission Error	Data, Error, and Press Button on solid	Switch to Print Accelerator using the Lexmark driver for Windows if 2MB of memory or more is installed, or switch to the GL/2 printing mode using the Lexmark driver for Windows, or push the operator panel button to resume printing, or do a front panel reset by pressing and holding the operator panel button for more than three seconds.
Flash Memory Full	Error blinking and Press Button on solid	This condition only occurs when the Flash memory is full.

## Power-On Self Test (POST)

When you turn the printer on, it performs a Power-On Self Test. Check for correct POST functioning by observing the following:

1. All LEDs come on solid.
2. The fan turns on for 2 seconds.
3. All the LEDs turn off.
4. The engine board checks the status of the cover interlock switch.
5. The LEDs begin to turn on then off sequentially.
6. The fan turns off.
7. The engine board checks the status of the paper exit sensor.
8. The engine board checks the status of the thermistor.
9. The fuser lamp turns on.

**Note:** The printer may be idle for up to 40 seconds as the fuser warms to operating temperature. Printer idle time is shorter if the fuser is already warm.

10. The polygon motor (printhead motor) turns on.
11. The main motor turns on.
12. The paper feed gears turn.
13. The print cartridge drive gear engages.
14. The paper feed take-up shaft and D-roll assembly rotates to home position. (The paper feed lift plate assembly is in the down position).
15. All the LEDs turn off.
16. Models 4026-06A, 06C, 06D and 06J, 070 and 071 - The Ready LED turns on solid and the Data LED blinks. Go to Step 17.  
Models 4026-06B and 06F - The Ready LED turns on solid and the Data LED blinks.
  - The controller board checks flash ROM installation.
  - The controller board verifies that flash is formatted.
  - The controller board attempts to format flash if unformatted.
  - The Data LED blinks during format.
  - The printer continues POST after format is complete.
  - If format fails, a "Flash Memory Failure" error displays.
17. The main drive motor turns off.



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18. The polygon motor (printhead motor) turns off.
19. The Data LED turns off.
20. The Ready LED stays on solid.

If your printer did not successfully complete POST, locate the symptom in the **"POST Symptom Table" on page 2-12** and take the appropriate action.

If the printer completes all these steps and no error indications are displayed, the printer has successfully completed the POST. If the printer has completed POST without an error and a symptom exists, go to the **"Symptom Table" on page 2-13**.

## POST Symptom Table

Symptom	Action
POST completes except one or more LEDs do not come on.	Go to the "Operator Panel Service Check" on page 2-27.
None of the LEDs come on.	Go to the "Operator Panel Service Check" on page 2-27.
The printer is dead (No LEDs come on, no motor turns)	Go to the "Low Voltage Power Supply Service Check" on page 2-22.
The fan does not come on.	Go to the "Fan Service Check" on page 2-17
The fuser lamp does not come on.	Go to the "Cold Fuser Service Check" on page 2-18.
The polygon motor does not come on.	Replace the printhead assembly. If this does not fix the problem, replace the engine board.
The main drive motor does not come on.	Go to the "Main Drive Motor Service Check" on page 2-25.
The paper feed gears do not turn.	Go to the "Paper Feed Service Check" on page 2-34.
The paper feed solenoid picks and tries to feed paper.	Go to the "Paper Feed Service Check" on page 2-34.
The toner/print cartridge gears do not turn.	Go to the "Main Drive Motor Service Check" on page 2-25.

## Symptom Table

Locate your symptom in the following table and take the appropriate action

Symptom	Action
Dead printer	Go to the "Low Voltage Power Supply Service Check" on page 2-22.
Fan not working	Go to the "Fan Service Check" on page 2-17.
Fan noisy	Go to the "Fan Service Check" on page 2-17
Fuser parts melted	Go to the "Cold Fuser Service Check" on page 2-18.
Fuser Lamp doesn't light	Go to the "Cold Fuser Service Check" on page 2-18.
Toner not fused to the paper	Go to the "Cold Fuser Service Check" on page 2-18.
Blank page	Go to the "Print Quality Service Check" on page 2-38.
Black page	Go to the "Print Quality Service Check" on page 2-38.
High or heavy background	Go to the "Print Quality Service Check" on page 2-38.
Offset print (image around characters)	Go to the "Print Quality Service Check" on page 2-38.
Poor image (characters washed out)	Go to the "Print Quality Service Check" on page 2-38.
Paper jams	Go to the "Paper Feed Service Check" on page 2-34.
Main Drive Motor noisy	Go to the "Main Drive Motor Service Check" on page 2-25.
Main Drive Motor does not move	Go to the "Main Drive Motor Service Check" on page 2-25.
Main Drive Motor runs backward	Replace the Engine board.

Symptom	Action
Paper is not picked or never leaves the primary tray	Go to the "Paper Feed Frame Assembly Service Check" on page 2-37.
Paper is not picked or never leaves the optional paper tray (Tray 2)	Go to the "Optional Paper Tray Two Service Check" on page 2-28.
Paper feeds continuously	Go to the "Paper Feed Service Check" on page 2-34.
Paper fails to exit printer or stack in output bin	Go to the "Paper Feed Service Check" on page 2-34.
Paper skew	Go to the "Paper Feed Service Check" on page 2-34.
Toner on the back of the page	Go to the "Transfer Assembly Service Check" on page 2-44.
Poor print quality	Go to the "Print Quality Service Check" on page 2-38.
Incorrect characters print	Go to the "Print Quality Service Check" on page 2-38.
Printer not communicating with host	Go to the "Parallel Port Service Check" on page 2-34.
White or black lines or bands	Go to the "Print Quality Service Check" on page 2-38.
Paper wrinkled or bent	Go to the "Paper Feed Service Check" on page 2-34.
Top cover will not close	Go to the "Cover Interlock Service Check" on page 2-16.
Light print	Go to the "Print Quality Service Check" on page 2-38

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## Service Checks

### Charge Brush Service Check

**Note:** The charge brush charges the photoconductor and is located inside the photoconductor unit.

	FRU	Action
1	Photoconductor Unit	<p>Spots and marks can be caused by a defective charge brush inside the photoconductor unit. If there are any spots or marks, especially ones that appear in the same spot on the printed page, replace the photoconductor unit.</p> <p>Check the photoconductor unit for a damaged charge brush contact.</p>
2	Main Drive Motor Gears	<p>Be sure the main drive motor and gears are operating correctly and turning the charge brush.</p>
3	Charge Brush Bias Contact (right side frame)	<p>Check the charge brush bias contact located on the right side frame for damage, corrosion, wear or pitting. Intermittent failure of the charge brush contact can cause an all black page, horizontal black bars or lines. If any of these are found, replace the charge brush bias contact.</p>
4	Photoconductor Unit Ground Contact	<p>Check the photoconductor unit ground contact on the right side frame for damage. Intermittent failure of the photoconductor unit ground contact can cause print quality problems such as an all black page, horizontal black bars or lines. If any of these are found, replace the photoconductor unit ground contact.</p>
5	HVPS board	<p>Unplug the machine and check the HVPS for correct mounting, pitted or discolored contacts. If the HVPS is damaged, replace as necessary. If no problems are found replace the photoconductor unit assembly.</p>

## Cover Interlock Service Check

	FRU	Action
1	Right Hand Transfer Bracket	Check the right hand transfer bracket actuator arm to be sure it contacts the interlock switch actuator mounted in the LVPS.  Replace the bracket if the arm is damaged or broken.
2	Top Cover Interlock Switch	If the interlock switch is being actuated correctly, check the continuity of the switch between CN7A-1 and CN7A-2 on the cable as you activate the switch. If incorrect, replace the LVPS.
3	LVPS	Be sure the voltage at CN7-1 measures +24 V dc. If incorrect, turn the printer power off and disconnect the LVPS cable from the engine board. Turn the printer power on. The voltage on the LVPS cable pin 1 should measure approximately +24 V dc. If incorrect, replace the LVPS. If correct, go to the <b>"Low Voltage Power Supply Service Check"</b> on page 2-22.

## D-Roll Assembly Service Check

	FRU	Action
1	D-Roll	Check the D-roll for wear, broken, or worn parts. Replace as necessary.
2	D-Roll Clutch Assembly	Be sure the clutch assembly operates correctly. Replace as necessary.
3	Solenoid	Be sure the paper feed solenoid operates correctly. If the solenoid fails to pick, go to the <b>"Paper Take-Up Solenoid Service Check"</b> on page 2-32.
4	Paper Feed Drive Gears	Be sure the main drive/paper feed gears operate correctly. Check for broken teeth or damaged gears. Replace as necessary.

## Exit Sensor Service Check

	FRU	Action
1	Engine Board	Disconnect the exit sensor cable from the engine board. Check for +4.5 V dc to +5.5 V dc at CN8-1. If incorrect, replace the engine board.
2	Exit Sensor	Be sure the exit sensor is snapped in place and the cable is firmly connected.
3	Exit Sensor Flag	<p>Check the flag for damage and free movement and replace as necessary. Be sure the exit sensor spring is properly installed and not disconnected, damaged, or missing.</p> <p>Reconnect the exit sensor cable and check the voltage at CN8-3 on the engine board as you press the exit sensor flag. The voltage should change as the flag is moved in and out of the sensor. If incorrect, replace the exit sensor.</p>
4	Exit Sensor Cable	Check the continuity of the cable. If incorrect, replace the exit sensor cable.

## Fan Service Check

	FRU	Action
1	Engine Board	<p>Turn the printer power off. Disconnect CN11 on the engine board. Turn the printer on and measure the voltage between CN11-1 and CN11-2. The voltage should read approximately +24 V dc. If incorrect, replace the engine board.</p> <p>If correct, turn the printer off and connect CN11. Monitor the voltage between ground and CN11-1 (FAN*) immediately as you power on the printer. The voltage should go from +24 V dc with the fan motor off to approximately 0 V dc when the motor turns on. If incorrect, replace the fan motor and cable assembly.</p>
2	Fan Motor/Cable	Be sure the fan is properly installed if the fan is noisy. If correct, replace the fan motor assembly.

Cold Fuser Service Check

If all the Cold Fuser Service Check items are correct, go to the “Hot Fuser Service Check” on page 2-20

**Note:** Toner buildup on the fuser input guide, paper separator, hot roll and backup roll causes paper jams.

When toner is partially fused to the paper it is usually caused by low fuser temperature.

Avoid handling the lamp as much as possible as it is easily broken. Be careful not to touch the glass housing with bare hands as the skin contains acids that can weaken the glass.

When making checks and handling the fuser lamp make sure you allow enough time for the fuser lamp and associated parts to cool.

	FRU	Action
1	Line Voltage	The voltage to the printer must be within the following limits.  100 V ac (90 V ac - 110 V ac) Japan  120 V ac (108 V ac - 132 V ac) U.S.  220/230 V ac (207 Vac - 253 V ac) W.T.
2	Fuser Lamp	Turn off the printer and wait a few minutes for the fuser lamp to cool. Turn the machine on and observe the lamp turning on during POST. You can see the lamp through the left rear vents of the top cover. If the lamp lights, be sure the correct voltage lamp is installed. The voltage rating is stamped on one of the ceramic end pieces.



	FRU	Action
3	Thermistor	<p>If the fuser lamp comes on and a fuser failure LED error code displays, be sure the thermistor is contacting the hot roll and the thermistor cable is firmly seated in connector CN2 on the engine board.</p> <p>Check for excessive toner buildup on the surface of the thermistor. Clean or replace as necessary.</p> <p>Turn the printer power off and disconnect the thermistor cable from CN2 on the engine board. Measure the resistance of the thermistor between CN2-1 and CN2-2. The resistance should measure 250K ohms or less. If incorrect, replace the thermistor and cable assembly. If correct, replace the engine board.</p> <p><b>Note:</b> The thermistor assembly is fragile. Use care when handling to avoid damage.</p>
4	Fuser Lamp Cable	<p>If the fuser lamp does not come on and a fuser failure LED error code displays, unplug the printer power cord and check the continuity between the fuser cable contacts in the lower fuser cover. If incorrect, check the continuity of the fuser lamp, thermal fuse and terminals. Repair or replace as necessary. If correct, check the continuity of the fuser lamp cable. If incorrect, replace the cable. If correct, replace the following FRUs one at a time in the order shown:</p> <p>Engine Board</p> <p>LVPS</p> <p>If the lamp does not come on and the Error LED is on solid, go to the <b>"Fan Service Check" on page 2-17</b></p>
5	Fuser Thermostat (4026-06C and 06F)	<p>Check the fuser thermostat if the fuser lamp does not come on or if it comes on and does not go off. Unplug the printer power cord and check the thermostat to be sure that it opens and closes properly. Replace as necessary.</p>

# Hot Fuser Service Check

**Note:** If you replace the fuser assembly for overheating, also replace the engine board.

**CAUTION: FUSER PARTS MAY BE HOT.**

	FRU	Action
1	Fuser Assembly	<p>Check for melted or damaged hot roll bearings, drive gear, paper separators, thermistor, hot roll, backup roll or frame parts. If the fuser assembly shows evidence of overheating or thermal damage, repair as necessary.</p> <p><b>Note:</b> If the lower fuser frame is damaged, replace the complete assembly.</p>
2	Engine Board	Replace the engine board if the fuser continues to operate erratic or overheats.

# Input Sensor Service Check

If the paper never leaves the tray or fails to be picked from the tray, go to the **“Paper Feed Service Check” on page 2-34.**

	FRU	Action
1	Paper	<p>Check the paper for rough edges, creases, tears, or folds.</p> <p>Be sure the paper leaves the paper tray as soon as it is picked by the D-Roll. If it does not, go to the <b>“Paper Feed Service Check” on page 2-34.</b></p>
2	Envelopes (if being used)	<p>Be sure no more than 10 envelopes are stacked in the input paper tray. They may not pick or may jam at the input sensor or paper separator.</p> <p><b>Note:</b> Coated papers, synthetic papers, multi-sheet forms, thermal papers, envelopes with windows, holes, cutouts, perforations, string-ties, metal fasteners, exposed flap adhesive, excessive curl, bent corners and some labels cause problems.</p>

	FRU	Action
3	Input Sensor Flag	Check the flag for damage, especially at the front edge, Be sure the flag moves freely. Replace the flag as necessary.
4	Input Sensor	<p>Be sure the input sensor is correctly installed and the sensor/solenoid cable is properly connected.</p> <p>Disconnect the input sensor cable from the CN3 connector on the engine board. The voltage at CN3-1 measures between +4.5 V dc and +5.5 V dc. If incorrect, replace the engine board.</p> <p>If correct, reconnect the input sensor cable at CN3. Monitor the voltage at CN3-3 while moving the sensor flag in and out. The voltage changes from +2 V dc to 0 V dc. If incorrect, check the input sensor/solenoid cable continuity. If cable continuity is incorrect, replace the paper feed frame assembly. If cable continuity is correct, replace the following FRUs one at a time in the order shown:</p> <p>Input Sensor</p> <p>Engine Board</p>

## Low Voltage Power Supply Service Check

**Note:** The controller board, HVPS and printhead assembly receive power from the LVPS through the engine board.

If the machine is dead, be sure the controller board is correctly seated in the engine board connector.

Check and reseal all cables.

### Dead Printer

	FRU	Action
1	Line Voltage	<p>Check the AC line voltage. The voltages should be within the following limits:</p> <p>100 V ac (90 V ac - 110 V ac) Japan</p> <p>120 V ac (108 V ac - 132 V ac) U.S.</p> <p>220/230 V ac (207 V ac - 253 V ac) W.T.</p>
2	LVPS	<p>The voltage measures approximately +5 V dc between CN7-4 and ground on the engine board. If incorrect, disconnect CN7 on the engine board and measure the voltage between CN7-4 (+5 V dc) and CN7-3 (+5 V ground). The reading should measure approximately +5 V dc.</p> <p>If +5 V dc is not present, unplug the printer line cord and check fuse F1. If the fuse is open, replace the fuse. If the fuse is not open, replace the LVPS.</p>
3	Engine Board	<p>If +5 V dc is present when CN7 is disconnected then disconnect CN2, CN4, CN5, CN9 and CN10 from the engine board. Also disconnect the controller board and remove the ROM SIMM and any optional memory SIMMs. Reconnect CN7 and check for +5 V dc. If incorrect, replace the engine board.</p>
4	Controller Board	<p>Reinstall the controller board. Check for +5 V dc at CN7-4. If incorrect, replace the controller board.</p>

	FRU	Action
5	ROM SIMM and Optional Memory SIMM	Reinstall the ROM SIMM. Check for +5 V dc at CN7-4. If incorrect, replace the ROM SIMM.  Reinstall the optional memory SIMM if one was installed. Check for +5 V dc at CN7-4. If incorrect, replace the optional memory SIMM.
6	HVPS	Reconnect CN4 and check for +5 V dc at CN7-4. If incorrect, replace the HVPS.
7	Printhead Assembly	Reconnect CN5 and CN10. Check for +5 V dc at CN7-4. If incorrect, replace the printhead assembly.
8	Thermistor	Reconnect CN2 and check for +5 V dc at CN7-4. If incorrect, replace the thermistor/cable assembly.

### Post Incomplete - ERROR LED remains on solid

**Note:** Be sure the top cover is closed when doing the following checks.

	FRU	Action
1	LVPS	Disconnect the LVPS cable from the engine board. The voltage measures approximately +24 V dc between pin 1 (+24 V dc) and pin 2 (+24 V dc ground). If incorrect, replace the LVPS.
2	Engine Board	Reconnect the LVPS cable and measure the voltage on CN7-1. The reading should measure approximately +24 V dc. If incorrect, disconnect CN3, CN4, CN6, CN9, CN10 and CN11 from the engine board. The voltage on CN7-1 measures +24 V dc. If incorrect, replace the engine board. If correct, reconnect one cable at a time checking the voltage at CN7-1 until the FRU causing the problem is found. Replace the failing FRU.  If the CN3 or CN9 are causing the problem, it is necessary to disconnect each solenoid and check the voltage at CN7-1. Replace the failing FRU.

**Fuse F1 continues to open after being replaced**

	FRU	Action
1	Fuse F1	<p>If fuse F1 continues to open after being replaced, disconnect CN7 from the engine board and turn the printer power on. If F1 opens, replace the LVPS.</p> <p>If F1 does not open with CN7 disconnected, check the following:</p> <p>Turn the printer power off and disconnect all the cables connected to the engine board and remove the controller board. Reconnect each cable and the controller board one at a time until the FRU causing F1 to open is found. Replace the failing FRU.</p>

## Main Drive Motor Service Check

	FRU	Action
1	Main Drive Motor	<p>Disconnect CN6 from the engine board. Check the motor for shorts between each pin on CN2 and the motor case. If continuity is indicated, replace the motor.</p> <p>Check the resistance between the following pins on the cable connector. If incorrect, replace the motor. If correct, replace the engine board.</p> <p>CN2-1 to CN2-2, 8 - 10 ohms</p> <p>CN2-1 to CN2-1, 8 - 10 ohms</p> <p>CN2-1 to CN2-4, 8 - 10 ohms</p> <p>CN2-2 to CN2-3, 8 - 10 ohms</p> <p>CN2-2 to CN2-4, 8 - 10 ohms</p> <p>CN2-3 to CN2-4, 8 - 10 ohms</p> <p>CN2-1 to CN2-5, 3 - 5 ohms</p> <p>CN2-2 to CN2-5, 3 - 5 ohms</p> <p>CN2-3 to CN2-5, 3 - 5 ohms</p> <p>CN2-4 to CN2-5, 3 - 5 ohms</p>
2	Left Side Frame Gears	Remove the toner cartridge and print cartridge. Manually rotate the paper feed gears on the left side frame assembly and check for smooth movement with no binds. If there are binds or the gears do not turn, repair as necessary.
3	Paper Feed Frame Assembly	Be sure the paper feed frame assembly is correctly installed and the drive gear is engaging correctly.
4	Associated Gears	Check the fuser gears, print cartridge, transfer roll gear and photoconductor unit gears to make sure they turn freely. Repair as necessary.

	<b>FRU</b>	<b>Action</b>
5	Motor Noise	<p>Check the motor for proper mounting, tight mounting screws, and gear mesh. If incorrect, repair as necessary. If correct, replace the main drive motor.</p> <p>If the motor continues to make noise after the motor is replaced, replace the engine board.</p>



## Operator Panel Service Check

	FRU	Action
1	Operator Panel Assembly	<p><u>LEDs</u> Be sure the operator panel cable is properly seated in J5 on the controller board.</p> <p>Run POST and check each LED for proper operation.</p> <p>If more than one LED does not light or an individual LED stays on solid during POST, replace the following FRUs one at a time in the order shown: Controller board Operator panel</p> <p>If all LEDs are very dim and operate erratically during POST or all LEDs come on and stay on solid during POST replace the following FRUs one at a time in the order shown: Operator panel assembly Controller board</p> <p>If none of the LEDs are on, be sure +5 V dc is present at J1-2 on the controller board. If correct, replace the operator panel assembly. If incorrect, replace the controller board.</p> <p>If all the LEDs come on and remain on, replace the following FRUs one at a time in the order shown: Operator Panel Assembly Controller Board</p> <p><u>Button Inoperative</u> Disconnect the operator panel cable at J5 on the controller board. Check the continuity between J5-5 and J5-6 on the cable as you press the button. The meter should read from approximately 10K ohms to approximately zero ohms when the button is pressed.</p> <p>If the continuity is incorrect, replace the operator panel assembly. If correct, replace the following FRUs one at a time in the order shown: Operator Panel Assembly Controller Board</p>

### Optional Paper Tray Two Service Check

Check the following before servicing tray two:

- Be sure tray one is working correctly.
- Be sure the second paper tray is correctly installed and the second paper tray connector on the base printer properly contacts the second paper tray connector in the second paper tray.
- Be sure the second paper tray is selected in the user's application and no other application is on the selected port.
- Be sure the base printer and tray two connectors are not damaged.
- Be sure the second paper tray drive gear in the base printer operates correctly.
- Check the paper feed frame assembly for any obstruction or damage in the area of the second paper tray feed slot that can cause the paper to catch or jam.

**Note:** Only paper can feed from tray two. Envelopes, label sheets, and transparencies must feed from tray one or manual feed.

### Wrinkled or damaged paper

	FRU	Action
1	Paper	Check the paper supply for wrinkled, damaged or out of specification paper. Correct as necessary.
2	Paper Path	Check the paper feed lift plate assembly, paper empty flag, paper separators, paper feed rollers or anything in the paper path that might catch the paper or cause the paper to wrinkle.

### Paper fails to leave Paper Tray Two - Solenoid never picks

	FRU	Action
1	Paper	Check the paper supply for any paper that may cause a problem.

	FRU	Action
2	Paper Lift Plate Assembly	Check the lift plate assembly, release button, button spring, release arm and all related hardware for proper operation. Be sure the lift plate D-roll pad mounted on the top of the lift plate is not worn, contaminated or missing. Repair as necessary.
3	Paper Empty Sensor Flag	Check the paper sensor flag for damage and proper operation. Repair or replace as necessary.
4	Paper Empty Sensor	Be sure the voltage at CN9-4 on the engine board is between +4.5 V dc and +5.5 V dc. If incorrect, replace the engine board. If correct, check the voltage at CN9-6. The voltage changes from approximately +2.00 V dc to 0 V dc as you manually move the sensor flag in and out of the sensor. If incorrect, be sure tray two cable measures continuity. If incorrect, replace the cable. If correct, replace the tray two sensor board.
5	Second Paper Tray Solenoid/ Engine Board/Solenoid Cable/ Tray Two Cable	<p>Be sure the solenoid cable is connected to the paper sensor board cable and the cable is properly connected to the sensor board.</p> <p>Disconnect CN9 at the engine board. The voltage measures approximately +24 V dc at CN9-1. If incorrect, replace the engine board. If correct, reconnect CN9 and measure the voltage again at CN9-1. If the voltage continues to be incorrect, check the resistance of the solenoid at the solenoid cable connector which measures from 60 to 90 ohms. If incorrect, replace the tray two solenoid. If correct, be sure the solenoid to sensor board cable measures continuity. If incorrect, replace the sensor board and cable assembly. If correct, be sure the tray two to engine board cable measures continuity. If incorrect, replace the cable. If correct, replace the tray two sensor board.</p>

**Paper Tray Two feeds paper. - Paper does not reach the input sensor in the base printer.**

	FRU	Action
1	Second Paper Tray Gear Assembly	Be sure the second paper tray drive assembly operates properly by manually feeding paper through the second paper tray. Repair as necessary.
2	Second Paper Tray D-Roll	Be sure the D-roll assembly operates properly. Repair as necessary.
3	Second Paper Tray D-Roll Clutch Assembly	Be sure the D-roll clutch assembly operates properly. Repair as necessary.
4	Paper Feed Shaft, Gear and Roller	Be sure the paper feed gear, shaft and roller operate properly. Repair as necessary.
5	Paper Feed Roller, Holder and Spring Assembly	Be sure the paper feed roller, holder and spring that is mounted on the tray two base frame operates properly. Repair as necessary.
6	Base Printer Paper Feed Frame Assembly	<p>Be sure there is no obstruction or damage at the tray two feed slot in the bottom of the paper feed frame. Repair as necessary.</p> <p>Note: If the problem appears to be with the base printer paper feed frame, go to the <b>"Paper Feed Frame Assembly Service Check"</b> on page 2-37</p>

Paper Tray Two selected in the application. Paper does not feed from Tray Two but instead feeds from Tray One. Tray Two reset to Tray One in printer utility.

	FRU	Action
1	Engine Board	<p>Be sure the voltage at CN9-8 on the engine board measures approximately 0 V dc. If incorrect, turn the printer power off and measure the resistance between ground and CN9-8. Be sure the resistance measures 0 ohms. If incorrect, be sure the tray two cable measures continuity. If incorrect, replace the cable. If correct, replace the following FRUs one at a time in the order shown:</p> <p>Engine Board</p> <p>Tray Two Sensor Board</p>

## Paper Take-Up Solenoid Service Check

	FRU	Action
1	Solenoid	<p>Be sure the solenoid/engine board cable is firmly seated in connector CN3 on the engine board.</p> <p>Be sure the solenoid cable is firmly seated in the solenoid/engine board cable connector at the solenoid.</p> <p>Check the solenoid for proper mechanical operation and that the solenoid spring is not broken, loose, or stretched. Replace parts as necessary.</p> <p>Be sure the solenoid to paper lift plate ground strap is installed correctly.</p> <p>Disconnect the solenoid cable from CN3 on the engine board. Check the resistance of the solenoid between CN3-5 and CN3-6 on the cable. The resistance should measure between 60 to 90 ohms.</p> <p>Check the continuity of the solenoid/engine board cable. If the cable continuity is correct, replace the solenoid. If the cable continuity is incorrect, replace the paper feed frame assembly.</p> <p>Disconnect the solenoid from the solenoid/engine board cable at the solenoid and check the resistance between each pin on the solenoid connector and the solenoid frame. If continuity is indicated, replace the solenoid assembly.</p>

	FRU	Action
2	Engine Board	<p>Disconnect the solenoid/input sensor cable from CN3 on the engine board. Check the voltage at CN3-5. The voltage should measure approximately +24 V dc. If incorrect, replace the engine board.</p> <p>If the voltage reads approximately +24 V dc, check the voltage at CN3-6 while running a test page. The voltage should measure 0 V dc and read approximately 1 V dc at the time the solenoid should pick. If incorrect, replace the engine board.</p>

## Parallel Port Service Check

1. Do a print test to be sure the printer prints correctly.
2. Be sure the printer parallel cable is designed for bi-directional printing.
3. Be sure the user application is set up correctly. Improper set up can prevent establishing a communication link with the printer.
4. Be sure controller board jumper J3 is located on pins two and three. J3 in this position causes the parallel port pull-up resistors to be disabled. Some computers have open collector outputs which require enabling the parallel port pull-up resistors.

Do the following to enable the pull-up resistors:

Turn the printer power off.

Place J3 between pins one and two.

Turn the printer power on and run POST.

Run a print test page from the host.

5. If the printer still does not print, return J3 to the original position.
6. If the internal print test page prints correctly, the user application and printer driver is set up correctly and the correct printer parallel bi-directional cable is installed. If the printer fails to print on command from the host, replace the controller board.

## Paper Feed Service Check

**CAUTION:** To check the paper feed it may be necessary to run the machine with the covers removed and the top cover interlock disabled. If this is necessary, NEVER disable both the top cover interlock and the printhead shutter actuator at the same time.

If it is necessary to run the machine to check for paper feed problems, open the top cover and disable the top cover interlock switch. You can feed paper after POST has completed by running the Normal Mode Print Test. To check some of the paper feed for proper operation, it may be necessary to remove the toner cartridge and photoconductor unit assemblies. Do not expose the photoconductor unit to direct sunlight. Keep it covered. The photoconductor will be damaged if exposed to light for any length of time.



**Wrinkled Paper/Envelope/Transparency**

	FRU	Action
1	Paper	Check the paper supply for wrinkled or damaged paper, out of specification paper, envelopes or transparency material. Correct as necessary.
2	Paper Path	Check the paper feed lift plate assembly, input sensor actuator, paper separators, paper feed rollers or anything in the paper path that might catch the paper or cause the paper to wrinkle.

**Paper Never Leaves The Tray or Fails To Reach The Input Sensor**

**Note:** Remove the Optional Second Paper Tray if installed before performing the following checks.

	FRU	Action
1	Paper	Check the paper supply for any paper, envelope, transparency, label, or index cards that may be causing a problem.
2	Paper Take-Up Solenoid	Be sure the paper take-up solenoid is picking. If incorrect go to the <b>"Paper Take-Up Solenoid Service Check" on page 2-32.</b>
3	Paper Frame Assembly	Check the paper feed frame assembly for proper operation. If incorrect go to the <b>"Paper Feed Frame Assembly Service Check" on page 2-37.</b>
4	D-Roll Assembly	Check the D-Roll assembly for proper operation. If incorrect go to the <b>"D-Roll Assembly Service Check" on page 2-16</b>
5	Paper Lift Plate Assembly	Check the paper lift plate assembly for proper operation. If incorrect, replace the paper lift plate assembly.
6	Print Media Selection Lever  (Models 06C and 06F)	Check the print media selection lever on models 06C and 06F for the correct setting. This is determined by the media being used ( labels, card stock, paper, etc. ).

## Paper Never Reaches The Exit Sensor

	FRU	Action
1	Input Sensor	Check the input sensor for proper operation. If incorrect, go to the <b>"Input Sensor Service Check"</b> on page 2-20.
2	D-Roll Assembly	Check the D-Roll assembly for proper operation. If incorrect go to the <b>"D-Roll Assembly Service Check"</b> on page 2-16.
3	Paper Feed Frame Assembly	Check the paper feed frame assembly. If paper is not being fed to the fuser assembly, go to the <b>"Paper Feed Frame Assembly Service Check"</b> on page 2-37.
4	Fuser Assembly	Be sure the fuser assembly is free of excessive toner or other contamination and is operating correctly. Repair as necessary.

## Paper Jam In The Fuser Assembly

	FRU	Action
1	Fuser Assembly	Check the fuser assembly for excessive toner build-up on the input paper guide, paper separators, hot roll, backup roll and any signs of damage, overheating, or broken and damaged parts. Repair as necessary.
2	Exit Sensor	<b>Go to the "Exit Sensor Service Check" on page 2-17.</b>

## Any Jam After The Exit Sensor

	FRU	Action
1	Fuser Assembly	Manually turn the fuser drive gear and be sure the fuser drive assembly is working correctly. Be sure the paper feed exit shaft and gear are also operating properly. Repair as necessary.
2	Exit Sensor	<b>Go to the "Exit Sensor Service Check" on page 2-17.</b>

	FRU	Action
3	Paper Feed Exit Shaft/ Roller Assembly	Check the paper feed exit shaft, rollers, and gear for proper operation. Repair as necessary.
4	Paper Feed Exit Shaft Ground Terminal	Be sure the paper feed exit shaft ground terminal is properly installed.  <b>Note:</b> A poor ground contact allows static buildup on the roller and causes paper feed problems.
5	Top Cover	Check the top cover to be sure it does not interfere with the paper as it exits the fuser.

## Paper Feed Frame Assembly Service Check

	FRU	Action
1	Paper	Check the paper supply for any problems that might prevent the paper feeding from the paper feed lift tray.
2	Frame Assembly	<p>Check the paper feed roller shaft gear for proper operation or damage. If incorrect, repair as necessary. Check the paper feed roller assembly for proper operation or damage. If incorrect, replace the roller assembly.</p> <p>Check the paper separators for sticking, binding, or damage. Replace as necessary.</p> <p>Check the frame for signs of damage or warped surfaces. If incorrect, replace the frame assembly.</p>

## Print Quality Service Check

Before you perform the Print Quality Service Check, do the following:

- The toner cartridge can cause a variety of print quality problems. Be sure the toner cartridge is in good condition, works correctly, and is not low on toner. If in doubt, install a new toner cartridge before you proceed. The printer does not have a toner sensor. If the print is light, remove the toner cartridge and gently shake it to evenly distribute the toner.
- Turn PQET off.
- Set the print darkness setting to normal.
- Place the printer in the 300 dpi mode.
- Be sure the printer is clean, especially around the paper path, print cartridge, and photoconductor unit.
- Some types of paper can cause print quality problems. Print quality problems can also be caused by extreme environmental conditions like high temperature and humidity.
- An incorrect printer driver for the installed software can cause problems. Incorrect characters could print and the copy may not fit the page correctly
- Turn off PostScript on model 4026-06D before performing the Print Quality Service Check.

	FRU	Action
1	Toner Cartridge	Be sure the cartridge is installed correctly and not low on toner. Be sure the toner cartridge drive operates correctly.
2	Photoconductor Unit	Be sure the photoconductor unit is correctly installed and the cartridge drive is operating correctly.  If you have vertical marks or horizontal black bars on the page and these marks or bars are 126 mm (4.9 inches) or 55 mm (2.2 inches) apart, check the photoconductor unit.
3	Transfer Assembly	Replace the transfer assembly if you have a horizontal black bar 57 mm from the top of page.

## Spot or Marks At Same Spot On Every Print

**Note:** Do not expose the photoconductor to light any longer than necessary when you remove the photoconductor unit from the printer.

	FRU	Action
1	Photoconductor Unit Assembly	Remove the photoconductor unit assembly and check the photoconductor for voids, spots, or damage.
2	Fuser Paper Separators	If black spots are observed approximately 70 mm apart, check the fuser paper separators for toner buildup. Clean or replace as necessary.

## Blank Page

	FRU	Action
1	Toner Cartridge	Remove the toner cartridge and gently shake the assembly to evenly distribute the toner.
2	Printhead	Be sure the printhead actuator in the top cover actuates the printhead switch in the printhead assembly.
3	Printhead Assembly	Blank pages can be caused by a defective printhead assembly or engine board. If the toner cartridge is operating correctly, replace the printhead assembly. If this does not correct the problem, replace the engine board.

## All Black Page

**Note:** Incorrect laser exposure or incorrect charging of the photoconductor causes an all black page.

	FRU	Action
1	Right Side Frame Terminals	Check for a bent, broken, contaminated, or pitted drum charge bias terminal or drum ground terminal located on the right side frame. Replace as necessary.

	FRU	Action
2	Cables/Connectors	Be sure the printhead cables to the engine board are properly seated.
3	HVPS Contacts	Be sure the HVPS is correctly installed. Be sure the two high voltage contacts and the ground contact are not damaged. Repair as necessary.
4	HVPS Cover	Check the HVPS cover for pitted or damaged contacts. Replace as necessary.
5	Printhead Assembly, Engine Board, HVPS	If all the previous checks are correct, replace the following FRUs one at a time in the order shown:  Printhead Assembly  Engine board  HVPS

### White or Black Lines or Bands

**Note:** Poor image development, incorrect charging of the photoconductor, incorrect laser exposure, poor image transfer, or poor fusing causes white/black bands or lines.

	FRU	Action
1	Toner Cartridge	Remove the toner cartridge and gently shake to evenly distribute the toner. Check the cartridge drive gear and contacts for damage. Replace the toner cartridge as necessary.
2	Photoconductor Unit	Check the photoconductor unit for damage to the drive gear or contact. Replace as necessary.

	FRU	Action
3	Transfer Corona Cleaning	Clean the corona wire to remove any toner that has accumulated. Open the top cover and locate the cleaning tool. Unsnap the cleaning tool from its holder. The corona wire is located directly in front of the transfer unit. Hook the cleaning tool under the transfer unit with the clear "needle" facing you. As you slide the cleaning tool back and forth a few times to remove any toner buildup, you hear a clicking sound. If you do not hear this sound, the tool is not seated correctly. Return the cleaning tool to its mounting in the top cover and close the cover.
4	Fuser Assembly	Check the fuser for toner buildup. Be sure the hot roll, backup roll, and thermistor are not damaged. Repair as necessary.
5	Transfer Assembly	Go to the <b>"Transfer Assembly Service Check" on page 2-44.</b>
6	Printhead	If all the previous checks are correct, replace the printhead assembly.

### Offset Print

	FRU	Action
1	Fuser	Replace the lower fuser assembly.

## Excessive Background

**Note:** Poor development or poorly charged toner particles causes excessive background. This is more noticeable as the toner cartridge nears end of life.

	FRU	Action
1	Toner Cartridge, Photoconductor Unit	<p>Be sure the toner cartridge and photoconductor unit are installed correctly. If installed correctly, try a new toner cartridge and then a new photoconductor unit. If a new toner cartridge or photoconductor unit does not correct the problem, replace the following FRUs one at a time in the order shown:</p> <p>HVPS</p> <p>Engine board</p>

## White Spots

	FRU	Action
1	Transfer Assembly	<p>Check the transfer assembly for any signs of broken parts, pitting, contamination or foreign objects attached to or in the area of the transfer roll.</p> <p>If no problem is found, replace the following FRUs one at a time in the order shown:</p> <p>Transfer Assembly</p> <p>HVPS</p>

## Light Print

	FRU	Action
1	Photoconductor Unit	<p>Be sure the photoconductor unit is correctly installed. Check the cartridge for damage and pitted or contaminated contacts. If no problem is found, replace the photoconductor unit.</p>



	FRU	Action
2	Toner Cartridge	Replace the toner cartridge if the cartridge is nearing the end of life.
3	Transfer Assembly	<p>Check the transfer roll for toner buildup and contamination. Clean the transfer roll by performing POST two or three times.</p> <p>Light print or black vertical streaks can be caused by an open transfer leakage current circuit. Check the transfer roll right side contact, TFR board lead and the TFR Leakage board (PWB-T) for damage or poor contact.</p> <p>If light print is still a problem, replace the following FRUs one at a time in the order shown:</p> <p>HVPS</p> <p>Transfer Assembly</p> <p>TFR Leakage board PWB-T</p> <p>Engine board</p>

### Toner on backside of printed page

**Note:** Toner on the back of the printed page can be caused by poor fusing, improper development, or incorrect charging.

	FRU	Action
1	Fuser Assembly	<p>Check the hot roll and backup roll for toner buildup. Clean or replace as necessary.</p> <p>If the fuser assembly is clean and functioning correctly, replace the following FRUs one at a time in the order shown:</p> <p>HVPS</p> <p>Engine board</p>

## Registration Service Check

**Note:** Use the Service Test Page to check the registration.

	FRU	Action
1	Paper	Be sure the paper is correctly installed in the paper tray.
2	Registration Adjustment	Perform the registration adjustment when the engine board is replaced.

## Transfer Assembly Service Check

**Note:** The transfer assembly left and right transfer bracket springs bias the transfer assembly toward the photoconductor unit. Be sure the transfer assembly is free to move and biased toward the photoconductor unit.

	FRU	Action
1	Transfer Assembly	<p>Be sure the transfer assembly is correctly installed and the left and right transfer brackets are properly positioned and fastened. Be sure the left and right transfer bracket springs are correctly installed and the transfer assembly is free to move.</p> <p>Check the transfer roll for toner buildup or damage. Check the transfer roll drive gear for damage or broken teeth. Check the transfer roll for binds or improper operation and the right side contact for damage. Replace the transfer assembly as necessary.</p> <p>Replace the transfer assembly if you have a horizontal black bar 57 mm from the top of page.</p> <p>Check the Transfer Leakage board, wiring, contacts and transfer roll for signs of damage or poor contact.</p>

## Transfer Corona Service Check

	FRU	Action
1	Transfer Corona	<p>Be sure the transfer corona is clean. Clean with the transfer cleaning tool located on the upper fuser cover.</p> <p>Check the high voltage contacts for pitting, contamination, or damage. Be sure the corona assembly is correctly installed in the transfer assembly. Replace as necessary.</p> <p>Be sure the wires T and TRET are not broken or damaged, and are properly connected to the transfer assembly and the HVPS. Replace as necessary.</p>

## ROM SIMM Service Check

	FRU	Action
1	ROM SIMM	<p>Be sure the correct ROM SIMM is installed. Models 4026-06B and 06F require ROM SIMM with flash.</p> <p>Be sure the ROM SIMM is correctly installed in location socket (J8).</p>

### 3. Diagnostic Aids

This chapter explains the tests and procedures you can run to identify printer failures and verify that repairs have corrected the problem.

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#### Power-On Self Test (Post)

The printer performs the following Power-On Self Test when powered on:

1. All LEDs come on solid.
2. The fan turns on for 2 seconds.
3. All the LEDs turn off.
4. The engine board checks the status of the cover interlock switch.
5. The LEDs begin to turn on then off continuously.
6. The fan turns off.
7. The engine board checks the status of the paper exit sensor.
8. The engine board checks the status of the thermistor.
9. The fuser lamp turns on.

**Note:** The printer may be idle for up to 40 seconds as the fuser warms to operating temperature. Printer idle time is shorter if the fuser is already warm.

10. The polygon motor (printhead motor) turns on.
11. The main motor turns on.
12. The paper feed gears turn.
13. The print cartridge drive gear engages.
14. The paper feed take-up shaft and D-roll assembly rotates to home position. (The paper feed lift plate assembly is in the down position).
15. All the LEDs turn off.

## **4026-0XX**

16. Models 4026-06A, 06C, 06D and 06J, 070 and 071 - The Ready LED turns on solid and the Data LED blinks. Go to Step 17.  
Models 4026-06B and 06F - The Ready LED turns on solid and the Data LED blinks.
  - The controller board checks flash ROM installation.
  - The controller board verifies that flash is formatted.
  - The controller board attempts to format flash if unformatted.
  - The Data LED blinks during format.
  - The printer continues POST after format is complete.
  - If format fails, a "Flash Memory Failure" error displays.
17. The main drive motor turns off.
18. The polygon motor (printhead motor) turns off.
19. The Data LED turns off.
20. The Ready LED stays on solid.

If the printer completes all these steps and no error indications are displayed, the printer has successfully completed the POST.

---

## Diagnostic Tests

### Printer Diagnostic Test

The following tests run sequentially when performing this test:

- Standard Memory Test
- Optional Memory Test
- Microcode Check
- LED Test
- Read/Write ASIC Register Test
- Read/Write ASIC SRAM Test
- Read/Write controller board SRAM Test

Perform the following steps to run the Printer Diagnostic Test:

1. Turn the printer off.
2. Open the top cover.
3. Press and hold the operator panel button as you turn on the printer. Release the button once the printer's indicator lights come on.
4. Wait until the Error LED (top cover open indication) comes on.
5. Close the top cover.
6. The Ready LED comes on solid and the Data LED blinks. (This is the printer Busy Mode indication).
7. If all the diagnostic tests run correctly, the Ready LED goes off and the Data LED continues to blink. If a test fails, the error light pattern for the service error code displays on the operator panel.

## Service Diagnostic Test Page

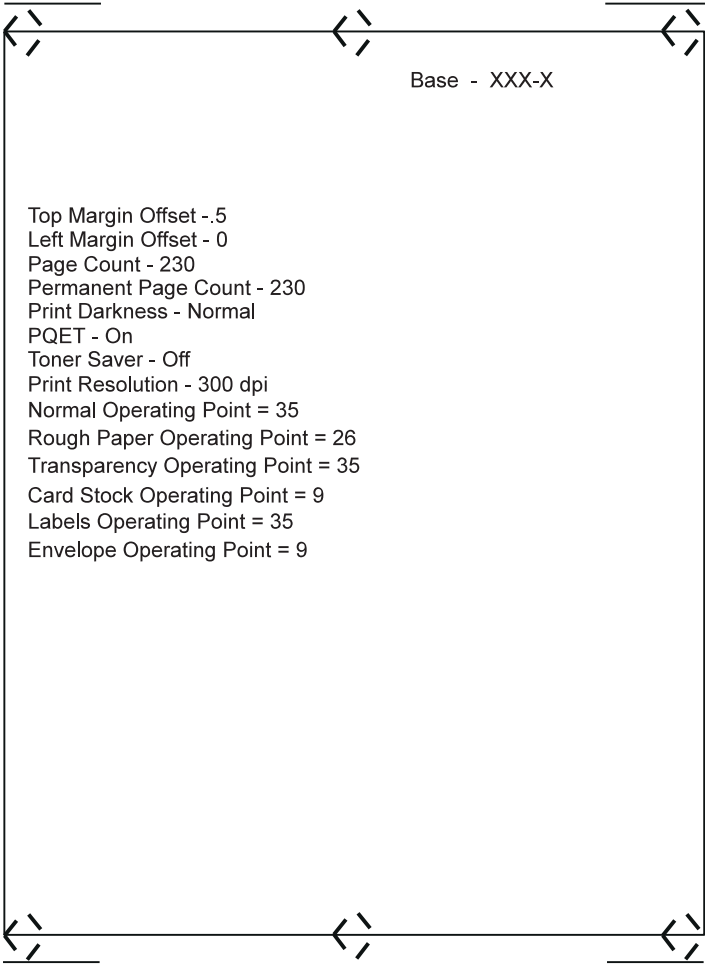
The service diagnostic test page includes registration marks to aid in adjusting print registration and also includes the installed printer base code level. The service test page displays the user default values for the following:

- Top Margin Offset
- Left Margin Offset
- Printer Page Count
- Permanent Page Count
- Print Darkness Setting
- PQET Setting (on/off)
- Toner Saver (on/off)
- Print Resolution

Perform the following steps to print the Service Diagnostic Test Page:

1. Turn the printer off.
2. Open the top cover.
3. Press and hold the operator panel button as you turn on the printer.
4. Wait until the Error LED comes on solid.
5. Close the top cover.
6. The Ready LED is on solid and the Data LED blinks continuously.
7. When the test is complete the Ready LED goes off and the Data LED continues to blink.
8. Press the operator panel button briefly.
9. The Ready and Data LEDs blink and the Service Diagnostic Test Page prints. The test page requires several seconds to start printing.
10. When the test page has finished printing the Ready LED comes on solid and Data LED goes off.

**Note:** After the diagnostic test page prints, the printer automatically exits the diagnostic mode and returns to the normal mode.



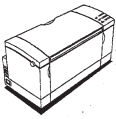


## **User Mode Print Test Page**

The User Mode Print Test Page displays the user default values, installed options, printer features, various typefaces, and the installed printer base code level.

1. Be sure the Ready LED is on solid (printer is in the ready state).
2. Press and release the operator panel button.
3. The Ready and Data LEDs blink continuously.
4. The test page prints and the operator panel Ready LED comes on solid and the Data light turns off.
5. The printer returns to the ready state.

## Lexmark Optra E LaserPrinter



*True 600 dpi*

*MarkVision*

*Quick Print+*

*Toner Saver*

*PQET enhancement*



As an Energy Star Partner, Lexmark International, Inc. has determined that this product meets the Energy Star guidelines for energy efficiency.

## 26 Scalable Typefaces

Courier  
Courier Bold  
Courier Italic  
Courier Bold Italic

Letter Gothic  
Letter Gothic Bold  
Letter Gothic Italic

CG Times  
CG Times Bold  
CG Times Italic  
CG Times Bold Italic

*Coronet*

Univers Medium  
Univers Bold  
Univers Medium Italic  
Univers Bold Italic

Univers Medium Condensed  
Univers Bold Condensed  
Univers Medium Condensed Italic  
Univers Bold Condensed Italic

Antique Olive  
Antique Olive Bold  
Antique Olive Italic

Albertus Medium  
Albertus Extrabold

Wingdings

Base - 42F- 0

### User Default Settings

Paper Source - Tray 1  
Tray 1 Size - Letter  
Manual Paper Size - Letter  
Manual Env Size - 10 Envelope  
Printer Language - PCL 5 Emulation  
NPA Mode - Auto  
Advanced Status - On  
Auto Continue - Off  
Print Darkness - Normal  
Power Saver - 15  
PQET - On  
Toner Saver - Off  
Parallel Protocol - Fastbytes  
Honor Init - Off  
Auto CR After LF - Off  
Auto LF After CR - Off  
Jam Recovery - Auto  
Print Timeout - Disabled  
Page Protect - Off  
Print Resolution - 300 dpi  
Symbol Set - 8U Roman-8  
Orientation - Portrait  
Lines per Page - 60  
Font Source - Resident  
Font Name - Courier  
Pitch - 10.00  
Copies - 1

### Installed Options

Installed Memory: 1MB Memory  
1MB Flash  
Page Count - 226

## **Paper Feed Timing**

The following describes the timing of paper flow through the printer to aid in diagnosing paper jam problems. Detection of paper in the printer paper feed path is accomplished by the low or high status condition of the paper entry and paper exit sensors. The timing of the paper as it leaves the input paper tray, passes the input sensor, exit sensor and into the exit tray, determines normal paper flow or a paper jam.

**Single Sheet Printing:** When condition two in the following list is detected and there is no paper in the paper path the printer powers down except for the fuser lamp and fan motor.

**Multi Sheet Printing:** When condition two in the following list is detected and paper is in the paper path the printer powers down except for the fan motor.

- Both the paper entry and paper exit sensors are activated whenever the printer is turned on or the top cover is closed.
- If the paper does not activate the paper entry sensor in the base printer within two seconds after the D-roll starts rotating or within four seconds after the D-roll in the optional second paper tray, if installed, starts rotating, a paper feed error occurs.
- If the paper entry sensor does not deactivate within eleven seconds after the paper leading edge has activated the sensor, a paper jam error occurs.
- If the paper exit sensor is not activated within 3.5 to 4.5 seconds after the leading edge of the paper has activated the paper entry sensor, a paper jam error occurs.
- If the paper exit sensor is not deactivated within 3.4 to 4.7 seconds by the trailing edge of the paper, a paper jam error occurs.

## Fuser Operation

Fuser Mode	Printer Action
Warm-Up Mode	When the printer power is turned on the fuser lamp turns on until the hot roll temperature reaches approximately 172 degrees centigrade.
Standby Mode	The hot roll temperature reaches approximately 156 degrees centigrade. If this temperature is maintained for three minutes, the printer switches to low temperature standby mode and the hot roll is maintained at 112 degrees centigrade.
Print Cycle	<p>The hot roll is maintained at 172 degrees centigrade if the engine board receives a print command from the controller board.</p> <p>Note: The hot roll temperature is slightly higher on models 06C and 06F during the print cycle.</p>

## Fuser Control

The thermistor detects the hot roll temperature and sends a corresponding analog signal to the engine board. The engine board turns the lamp on or off depending on the analog signal from the thermistor.

If the thermistor detects a high temperature failure but the fuser lamp does not turn off, the thermal fuse opens (thermostat on models 4026-06C and 06F) and the engine board turns the fuser lamp off.

## Configuration Mode

The configuration mode gives the ability to set the following printer functions through the operator panel:

Hex Trace  
NPA Mode (Parallel)  
Parallel Protocol  
Advanced Status  
PPDA Activated  
Auto CRLF/LFCR

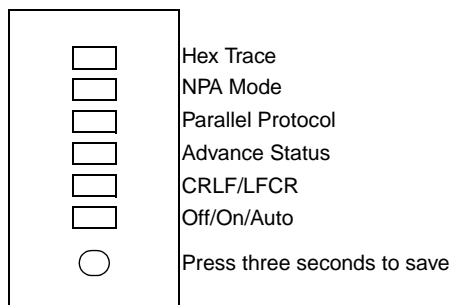
Perform the following steps to enter the configuration mode:

1. Turn the printer power off.
2. Open the top cover.
3. Turn the printer power on.
4. Top Cover Open (Error LED on) is displayed on the operator panel.
5. Double-click the operator panel button.
6. The printer is in the configuration mode. The Ready LED is on solid. The Data, Load Paper, Paper Jam, Error and Press Button are off.

**Note:** Closing the top cover causes the printer to exit the configuration mode. Repeat the steps to reaccess the configuration mode.

### Configuration Mode Operator Panel Overlay

The following overlay indicates the operator panel LED and button designations when in the configuration mode.



**Operator Panel Configuration Mode Button Definition**

<b>Term</b>	<b>Description</b>	<b>Result</b>
Brief Button Press	Press the operator panel button no longer than three seconds.	This action moves through the configuration mode value list.
Long Button Press	Press and hold the operator panel button for more than three seconds.	This action selects and saves the value for the menu item displayed. To indicate that the setting is saved, it is displayed on the operator panel.
Double-Click Button Press	Press and release the operator panel button two times. Each press and release action must be performed within a half second.	This action moves through the configuration mode value list.

## Hex Trace

Use Hex Trace to isolate the cause of print problems. When a job is printed, the printer operator panel displays the Hex Trace indication, (Ready LED blinking), showing that the printer remains in the Hex Trace mode. Turn the printer power off or do a front panel reset (long button press) to exit the Hex Trace mode.

Perform the following steps to enter the Hex Trace mode:

1. Enter the configuration mode.
2. Do a brief button press.
3. The Ready LED is on and the Press Button (Off/On/Auto) is on or off indicating the value selected. A brief button press causes the printer to cycle through the valid settings for Hex Trace and the Press Button LED turns on or off.

Operator Panel LED Status	Action
Off/On/Auto LED and Hex Trace LED is off	<p>A long button press causes the printer to exit configuration mode and enter the normal printing mode or a demo printing mode.</p> <p>A double-click button press causes the next menu item, NPA mode, to display</p>
Off/On/Auto LED and Hex Trace LED is on	<p>A long button press causes the printer to exit the configuration mode and enter Hex Trace mode.</p> <p>A double-click button press causes the next menu item, NPA mode, to display.</p>

4. Press and hold the button until the Saved setting indication, (all LEDs on solid) is posted.
5. When the Error LED comes on, close the top cover.
6. The printer completes POST with the Ready LED blinking indicating the printer is in the Hex Trace mode.
7. Do a double-click to proceed to the next mode. Do an operator panel reset or turn the printer off to exit the Hex Trace mode.

## **Restoring Factory Defaults**

Restoring factory defaults returns the printer settings to the original factory settings.

Perform the following steps to invoke factory defaults:

1. Turn the printer power off.
2. Open the top cover.
3. Turn the printer power on. The printer starts POST.
4. The operator panel Error LED comes on solid.
5. Press and hold the operator panel button until all the LEDs are on solid indicating the printer is restoring factory defaults.
6. Release the button. The printer indicates the operation is complete by turning all the LEDs off except the Error LED.
7. The configuration mode can be selected by doing a brief button press or closing the top cover which causes the printer to enter either the normal mode or the demo mode.



## 4. Repair Information

**WARNING:** Read the following before handling electronic parts.

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### Handling ESD-Sensitive Parts

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:

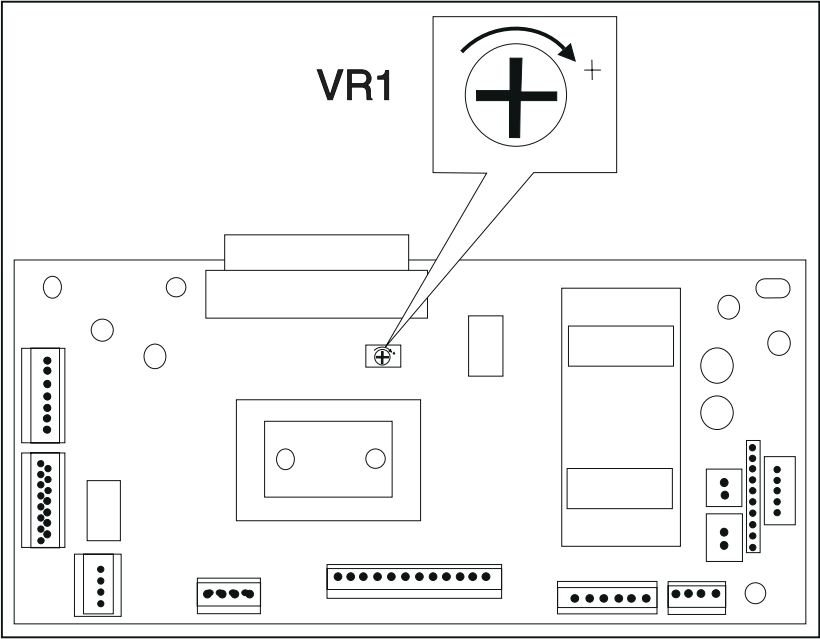
- Keep the ESD-sensitive part in its original shipping container (a special “ESD bag”) until you are ready to install the part into the machine.
- Make the least-possible movements with your body to prevent an increase of static electricity from clothing fibers, carpets, and furniture.
- Put the ESD wrist strap on your wrist. Connect the wrist band to the system ground point. This discharges any static electricity in your body to the machine.
- Hold the ESD-sensitive part by its edge connector shroud (cover); do not touch its pins. If you are removing a pluggable module, use the correct tool.
- Do not place the ESD-sensitive part on the machine cover or on a metal table; if you need to put down the ESD-sensitive part for any reason, first put it into its special bag.
- Machine covers and metal tables are electrical grounds. They increase the risk of damage because they make a discharge path from your body through the ESD-sensitive part. (Large metal objects can be discharge paths without being grounded.)
- Prevent ESD-sensitive parts from being accidentally touched by other personnel. Install machine covers when you are not working on the machine, and do not put unprotected ESD-sensitive parts on a table.
- If possible, keep all ESD-sensitive parts in a grounded metal cabinet (case).
- Be extra careful in working with ESD-sensitive parts when cold-weather heating is used because low humidity increases static electricity.

# Adjustment Procedures

**CAUTION:** Be sure to unplug the power cord whenever you are working on the printer with one of the covers removed.

## Print Registration Adjustment

Print the service diagnostic test page after you replace the engine board. Check the position of the bottom left and right registration lines. Adjust VR1 on the engine board to position both lines exactly on the trailing edge of the page. A slight turn on VR1 produces significant change in the registration line position. Turning the adjustment clockwise increases the gap between the registration lines and the trailing edge of the page and counter clockwise decreases the gap.









# Removal Procedures

**CAUTION:** Be sure to unplug the power cord whenever you are working on the printer with one of the covers removed.

Use caution when the photoconductor unit is out of the machine. Do not expose it to light for more than 15 - 20 minutes.

## Screw Identification Table

Illust.	No.	D X L (mm)
	4011	3X8
	3704	3X8
	4307	3X8

Illust.	No.	D X L (mm)
	3501	3X6
	3504	3X8
	3519	3X12
	3907	3X6
	1308	3X8

## Board Cage Removal

1. Remove the controller board.
2. Remove the engine board.
3. Remove the two remaining screws that hold the board cage to the mainframe.
4. Note the way the cables are routed to the engine board before removing the board cage.
5. Remove the board cage.

## Cover Removals

### Input Paper Tray

1. Press the left and right tray latches to allow the tray to rest at the lowest position.
2. Press the center of the input paper tray slightly to release the left and right side frame tabs.
3. Remove the input paper tray.

### Left Side Cover

1. Loosen the two screws on the left side frame.
2. Release the bottom cover tabs.
3. Gently pull up and remove the left side cover.

### Right Side Cover

1. Remove the two side cover screws that attach the right side cover to the board cage.
2. Rotate the right side cover down and remove.

**Note:** Be sure the lower front side cover mounting is properly snapped into place when you reinstall the right side cover. If installing a new right side cover on models 06C and 06F, transfer the print registration information label from the old cover to the new cover.

### Front Cover

Pull the front cover up and forward to remove.

## **Top Cover**

1. Unplug the power cord from the machine.
2. Remove the toner cartridge and P.C. drum.
3. Remove the left, right, and front covers.
4. Disconnect CN7, CN11, CN2, and CN8 from the engine board.
5. Remove the fuser lamp cable cover.
6. Remove the cable cover from the LVPS.
7. Disconnect the fuser lamp connector from the LVPS.
8. Remove the transfer assembly from the top cover.
9. Carefully disconnect the red leads.
10. Note the mounting and orientation of the left and right transfer assembly tension springs.
11. Remove the transfer assembly left and right tension springs.
12. Grasp the top cover. Use a screwdriver to pry the top cover left and right pivot arms from the main frame mounting pins.
13. Remove the top cover.

## **Controller Board Removal**

1. Unplug the power cord from the machine.
2. Remove the right cover.
3. Disconnect the operator panel cable, J5 from the controller board.
4. Remove the operator panel.
5. Remove the two screws that mount the board cage.
6. Remove the two screws that mount the Centronix parallel interface connector to the board cage bracket.
7. Remove the three screws that mount the controller board.
8. Remove the controller board.

## D-Roll Removal

1. Remove the paper feed input tray assembly.
2. Remove the paper lift plate assembly.
3. Remove the manual feed guide plate.
4. Remove the engine board.
5. Remove the controller board.
6. Remove the paper feed frame assembly.
7. Remove the left side plate assembly.
8. Remove the C-clip from both ends of the D-roll shaft.
9. Remove the D-roll clutch cam assembly.

**Note:** When you remove the clutch cam assembly, the D-roll shaft pin can fall from the shaft. Be careful not to lose the pin.

10. Slide the D-roll shaft slightly toward the left.
11. Remove the D-roll shaft by lifting and pulling the shaft toward the center of the printer.

## Engine Board Removal

1. Unplug the power cord from the machine.
2. Remove the controller board.
3. Disconnect all the cables from the engine board.
4. Remove the three board mounting screws and remove the engine board.

## Exit Sensor Removal

1. Remove the fuser upper and lower frame assemblies.
2. Disconnect the exit sensor cable.
3. Unsnap the sensor from the frame and remove.

## Exit Sensor Flag Removal

1. Remove the fuser upper and lower frame assemblies. Note how the exit sensor flag torsion spring is mounted.
2. Unsnap the flag from the frame.

**Note:** Be careful when you handle the flag and spring. They are easily damaged.

## Exit Paper Feed Roller Assembly Removal

1. Remove the transfer assembly.
2. Remove the fuser upper and lower frame assemblies.
3. Note the orientation of the notches in the left and right bushings. Reinstall with the notches facing away from the top cover.
4. Be sure the right end of the shaft contacts the ground strap.

## Fan Removal

1. Unplug the power cord from the machine.
2. Disconnect the fan cable from the engine board.
3. Remove the top cover.
4. Remove the transfer assembly.
5. Remove the fuser upper and lower frame assemblies.
6. Remove the top cover cable cover.
7. Remove the screw holding the fan assembly to the rear of the top cover.
8. Unlatch the fan cover assembly from the top cover.
9. Remove the fan assembly.

**CAUTION: Be sure the fuser assembly has cooled before working on any of the following fuser FRUs.**

## Fuser Lamp Removal

1. Remove the fuser upper frame assembly.
2. **Caution:** Hold the left side fuser support plate and carefully remove the support plate screw. There is pressure against the other end of the lamp therefore care must be used when you remove the lamp from the fuser. Grip the lamp by the ceramic end piece and remove it from the fuser assembly. Be careful not to touch the glass.
3. Remove the fuser lamp.

## **Fuser Lower Frame Assembly Removal**

1. Remove the top cover.
2. Remove the fuser upper frame assembly.
3. Remove the four fuser lower frame assembly mounting screws.
4. Use a screwdriver to unlatch the left end of the fuser cable cover and remove the cover.
5. Remove the fuser lower frame assembly.

## **Fuser Upper Frame Assembly Removal**

1. Remove the top cover.
2. Remove the left and right transfer assembly mounting brackets on models 4026-06A, 06B, 06D, and 06J. Remove the left and right transfer assembly mounting screws on models 4026-06C and 06F.
3. Remove the five screws that hold the fuser upper frame assembly and the left hand gear assembly.
4. Disconnect the exit sensor and thermistor cables.
5. Remove the fuser upper frame assembly.

## **Fuser Paper Separator Removal**

1. Remove the top cover.
2. Remove the fuser upper frame assembly.
3. Note the type and location of each separator. The location and type are determined during manufacture.
4. Use a screwdriver to release the latch that holds the separator in position.
5. Remove the paper separator.



## HVPS Board Removal

1. Unplug the power cord from the machine.
2. Remove the HVPS cover.
3. Disconnect CN1 from the HVPS board.
4. Disconnect the transfer assembly high voltage connector from T1 on the HVPS board.
5. Disconnect the red transfer assembly wire at TRET on the HVPS board.
6. Remove the four HVPS board mounting screws.
7. Remove the HVPS board.

## HVPS Cover Removal

1. Unplug the power cord from the machine.
2. Remove the screw holding the HVPS cover to the main frame.
3. Insert a screwdriver in the HVPS cover slot and release the cover latch.
4. Remove the HVPS cover.

## Left Side Plate Removal

1. Unplug the power cord from the machine.
2. Remove the left, right, and front covers.
3. Remove the printhead assembly.
4. Remove the main drive motor.
5. Remove the four screws holding the left side plate to the main frame.
6. Slide the left side plate toward the front of the machine and remove.

**Note:** The main drive/paper feed gears are free to fall from their mounting studs with the left side plate removed. Be careful not to lose the gears.

## **LVPS Removal**

1. Remove the top cover.
2. Remove the four screws that secure the back of the rear frame to the LVPS.
3. Remove the two screws that hold the top of the rear frame to the LVPS and remove the rear frame.
4. Remove the two screws mounting the on/off switch to the main frame.
5. Remove the four screws holding the LVPS to the main frame.
6. Maneuver and lift the LVPS from the main frame.

## **Main Drive Motor Removal**

1. Unplug the power cord from the machine.
2. Remove the right, left, and front covers.
3. Disconnect the main drive motor cable CN6 from the engine board.
4. Remove the two screws mounting the main drive motor to the left side plate.
5. Remove the main drive motor.

## **Main Drive/Paper Feed Gears Removal**

1. Unplug the power cord from the machine.
2. Remove the right, left, and front covers.
3. Remove the printhead assembly.
4. Remove the main drive motor.
5. Remove the left side plate.
6. Remove the main drive/paper feed gears.

## **Manual Paper Feed Guide Plate Removal**

1. Remove the paper feed input tray assembly.
2. Remove the paper lift plate assembly.
3. Remove the screw holding the manual feed guide plate to the main frame.
4. Remove the manual paper feed guide plate.

## **Operator Panel Removal**

1. Unplug the power cord from the machine.
2. Remove the toner cartridge and P.C. drum.
3. Disconnect the operator panel cable from the controller board.
4. Loosen the front operator panel mounting screw from the board cage.
5. Remove the rear operator panel mounting screw from the board cage.
6. Remove the operator panel.

## **Paper Entry Sensor Removal**

1. Remove the paper feed input tray assembly.
2. Remove the paper lift plate assembly.
3. Remove the manual feed guide plate.
4. Remove the engine board.
5. Remove the controller board.
6. Remove the paper feed frame assembly.
7. Disconnect the paper entry sensor cable.
8. Use a screwdriver to release the paper entry sensor latches.
9. Remove the paper entry sensor.

## **Paper Entry Sensor Flag Removal**

1. Remove the paper feed input tray assembly.
2. Remove the paper lift plate assembly.
3. Remove the manual feed guide plate.
4. Remove the engine board.
5. Remove the controller board.
6. Remove the paper feed frame assembly.
7. Use a screwdriver to gently apply outward pressure on the flag pivots to release the flag from the mounting.
8. Remove the paper entry sensor flag.

## **Paper Feed Frame Assembly Removal**

1. Unplug the power cord from the machine.
2. Remove the paper feed input tray assembly.
3. Remove the paper lift plate assembly.
4. Remove the manual feed guide plate.
5. Disconnect the paper feed sensor/solenoid cable CN3 from the engine board.
6. Remove the engine board.
7. Remove the controller board.
8. Remove the paper feed frame assembly.

## **Paper Feed Solenoid Removal**

1. Remove the paper feed input tray assembly.
2. Remove the paper lift plate assembly.
3. Remove the manual feed guide plate.
4. Remove the engine board.
5. Remove the controller board.
6. Remove the paper feed frame assembly.
7. Remove the paper feed solenoid mounting screw.
8. Disconnect the solenoid cable.
9. Remove the paper feed solenoid.

## **Paper Feed Input Tray Assembly Removal**

1. Place the printer on it's back.
2. Remove the four screws holding the paper feed input tray assembly to the frame.
3. Remove the paper feed input tray assembly.

## **Paper Lift Plate Assembly Removal**

1. Place the printer on it's back.
2. Remove the paper feed input tray assembly.
3. Press the lift plate assembly to the left.
4. Remove the paper lift plate assembly.

## **Paper Separator Removal**

1. Remove the paper feed input tray assembly.
2. Remove the lift plate assembly.
3. Remove the manual feed guide plate.
4. Remove the engine board.
5. Remove the controller board.
6. Remove the paper feed frame assembly.
7. Use a screwdriver to release either side of the separator latches.
8. Remove the paper separator.

## **Printhead Removal**

1. Unplug the power cord from the machine.
2. Remove the left, right, and front covers.
3. Disconnect CN5 and CN10 printhead cables from the engine board.
4. Remove the four screws from the main frame.
5. Remove the 14 mm screw located in the center of the lower frame.
6. Gently pry the printhead locator tabs from the left and right main frame mounting slots and remove the printhead.

## **Print Media Selection Lever Removal (06C/06F/071)**

1. Place the printer on it's back.
2. Remove the selection lever mounting screw.
3. Remove the print media selection lever.

## **Second Paper Tray Option Connector Removal**

1. Unplug the power cord from the machine.
2. Remove the left, right, and front covers.
3. Disconnect the CN9 cable from the engine board.
4. Remove the two screws holding the option connector to the main frame.
5. Remove the second paper tray option connector.

## **Thermal Fuse Removal (06A/06B/06D/06J/070)**

1. Remove the top cover.
2. Remove the fuser upper frame assembly.
3. Remove the two screws mounting the thermal fuse.
4. Remove the thermal fuse.

## **Thermostat Removal (06C/06F/071)**

1. Remove the top cover.
2. Remove the fuser upper frame assembly.
3. Remove the two thermostat mounting screws.
4. Remove the fuser thermostat.

## **Thermistor Removal**

1. Remove the fuser lower frame assembly.
2. Remove the screw that holds the thermistor to the left side of the fuser lower frame assembly.
3. Note the routing of the thermistor cable and remove the thermistor.

## **Transfer Unit Removal**

Models 4026-06A, 06B, 06D, 06J and 070

1. Remove the top cover.
2. Remove the screw holding the right transfer assembly bracket.
3. Note the mounting and orientation of the left and right transfer assembly tension springs.
4. Remove the transfer assembly.
5. Remove the transfer assembly tension springs.

## **4026-0XX**

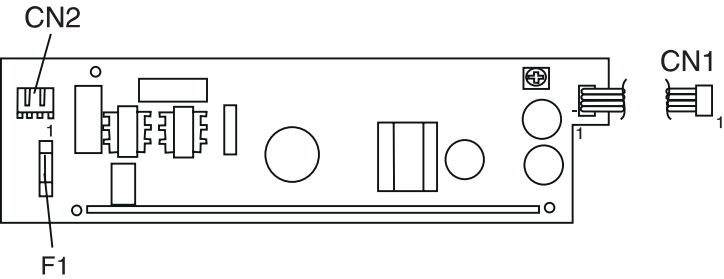
Models 4026-06C, 06F and 071

1. Open the top cover.
2. Remove the transfer cable cover screw and transfer cable cover.
3. Remove the two screws that hold the transfer unit to the rear of the top cover.
4. Unplug the wire to the transfer roll assembly. Pay attention to the wire routing.
5. Remove the transfer unit.

5. Connector Locations

Low Voltage Power Supply

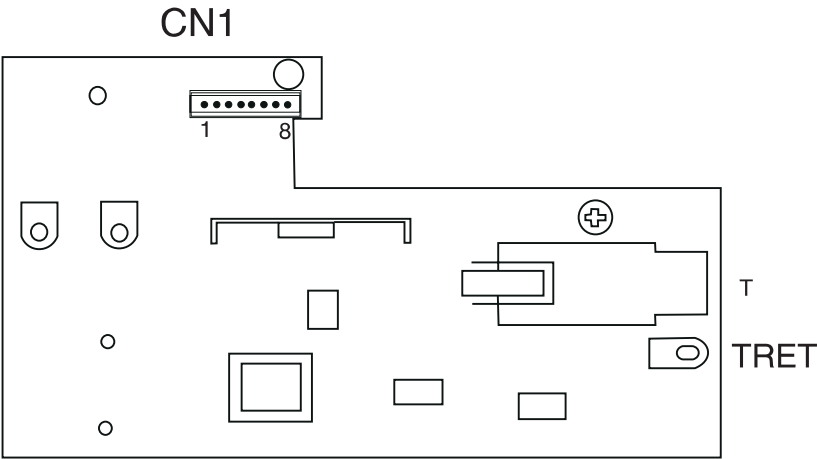
Connector	Pin No.	Signal
CN1 Engine Board	1	+24 V dc
	2	GND
	3	GND
	4	+5 V dc
	5	FUSER LAMP*
CN2 Fuser Lamp/ Thermal Fuse	1	HEAT N
	2	NO CONNECTION
	3	HEAT L





High Voltage Power Supply

Connector	Pin No.	Signal
CN1 Engine Board	1	HV C
	2	HV T*
	3	HV SEL 2*
	4	HV SEL 1*
	5	HV B
	6	BIAS MON
	7	GND
	8	+24 V dc
T	T	HV to TRANSFER CORONA CHARGE
TRET	TRET	HV to TRANSFER CORONA HOUSING



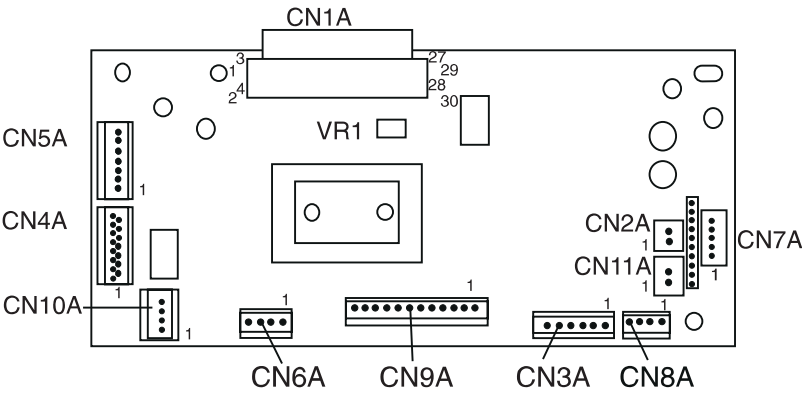
## Engine Board

CN1A Controller Board			
Pin No.	Signal	Pin No.	Signal
1	NO CONNECTION	16	CMD*
2	NO CONNECTION	17	CTBSY*
3	NO CONNECTION	18	PRINT*
4	NO CONNECTION	19	SRCLK*
5	GND	20	GND
6	RESET*	21	GND
7	GND	22	VIDEO*
8	GND	23	+5 V dc
9	GND	24	GND
10	HSYND*	25	+5 V dc
11	EPRDY*	26	GND
12	PRRDY*	27	+5 V dc
13	TDD*	28	CPRDY*
14	ETBSY*	29	+5 V dc
15	STS*	30	TEST*

Connector	Pin	Signal
CN2A Thermistor	1	THERMISTOR
	2	+5 V dc
CN3A Paper Entry Sensor and Paper Take-up Solenoid	1	ANODE (PC1)
	2	GND
	3	PC1*
	4	NO CONNECTON
	5	+24 V dc
	6	FEED1*

Connector	Pin	Signal
<b>CN4A HVPS</b>	1	HV C
	2	HV T*
	3	HV SEL2*
	4	HV SEL1*
	5	HV B
	6	BIAS MON
	7	GND
	8	+24 V dc
<b>CN5A Laser Diode Drive Board</b>	1	S SCAN
	2	CO
	3	LD APC2 (LDVR2)
	4	LD APC1 (LDVR1)
	5	GND
	6	L DATA*
	7	+5 V dc
<b>CN6A Main Motor</b>	1	PHASE A
	2	PHASE A*
	3	PHASE B
	4	PHASE B*
<b>CN7A LVPS</b>	1	+24 V dc
	2	GND
	3	GND
	4	+5 V dc
	5	FUSER LAMP*
<b>CN8A Paper Exit Sensor</b>	1	ANODE (PC3)
	2	GND
	3	PC3*

Connector	Pin	Signal
<b>CN9A 2nd Paper Tray (Option)</b>	1	+24 V dc
	2	FEED 2*
	3	NO CONNECTION
	4	+5 V dc
	5	GND
	6	P EMP2
	7	PSIZED
	8	2NDBIN*
	9	MM/INCH
	10	CHECK0*
	11	CHECK1*
	12	CHECK2*
<b>CN10A Polygon Motor</b>	1	NO CONNECTION
	2	+24 V dc
	3	GND
	4	+5 V dc
	5	POLYGON CONTROL
<b>CN11A Fan Motor</b>	1	FAN*
	2	+24 V dc



## Second Paper Tray Sensor Board (Option)

Connector	Pin No.	Signal
CN1A Engine Board	1	CHECK2*
	2	CHECK1*
	3	CHECK0*
	4	MM/INCH
	5	2NDBIN*
	6	PSIZEO
	7	P EMP 2
	8	GND
	9	+5 V dc
	10	NO CONNECTION
	11	FEED2*
	12	+24 V dc
CN3A Paper Take-up Solenoid - 2nd Paper Tray (Option)	1	+24 V dc
	2	FEED2*

## Controller Board

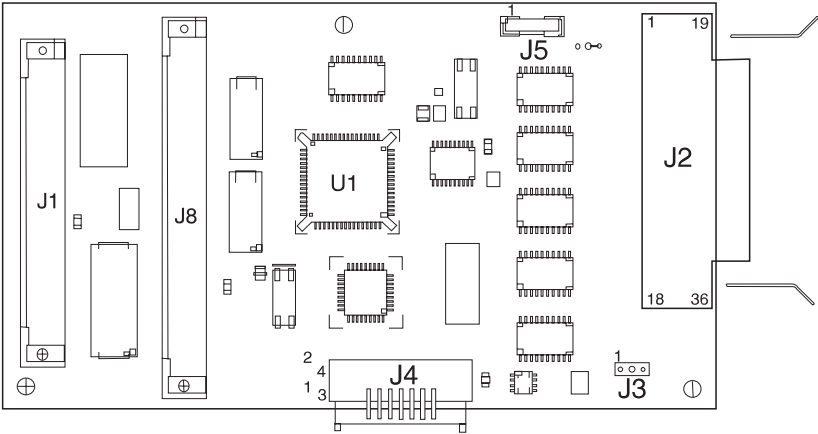
Connector	Pin No.	Signal
J5 Operator Panel	1	GND
	2	+5 V dc
	3	OP DAT
	4	OP CLK
	5	OP BTN 1
	6	OP BTN 2

J4 Engine Board			
Pin No.	Signal	Pin No.	Signal
1	NO CONNECTION	16	CMD
2	NO CONNECTION	17	CTBSY
3	NO CONNECTION	18	PRINT
4	NO CONNECTION	19	SRCLK
5	GND	20	GND
6	RESET*	21	GND
7	GND	22	R VIDEO*
8	GND	23	+5 V dc
9	GND	24	GND
10	RHSYNC*	25	+5 V dc
11	EPRDY*	26	GND
12	PRRDY*	27	+5 V dc
13	TOD*	28	CPRDY
14	ETBSY*	29	+5 V dc
15	STS*	30	NO CONNECTION

Connector	Pin No.	Signal
J3 Pullup Power	1	+5 V dc
	2	+5 V dc JUMPER
	3	NO CONNECTION

J2 Parallel Port			
Pin No.	Signal	Pin No.	Signal
1	RSTROBE*	19	GND
2	D0	20	GND
3	D1	21	GND
4	D2	22	GND
5	D3	23	GND
6	D4	24	GND
7	D5	25	GND
8	D6	26	GND
9	D7	27	GND
10	RACK*	28	GND
11	RBUSY	29	GND
12	RPERROR	30	GND
13	RSELOUT	31	RINIT*
14	RAUTOFD*	32	RFAULT*
15	GND	33	GND
16	GND	34	GND
17	GND	35	GND
18	PLH	36	RSELECTIN*





## Paper Exit Sensor

Connector	Pin No.	Signal
CN3S Engine Board	1	ANODE (PC3)
	2	GND
	3	PC3*

## Paper Entry Sensor

Connector	Pin No.	Signal
CN1S Engine Board	1	PC1*
	2	GND
	3	ANODE (PC1)

## Paper Feed Solenoid

Connector	Pin No.	Signal
CN2S Engine Board	1	+24 V dc
	2	FEED1*

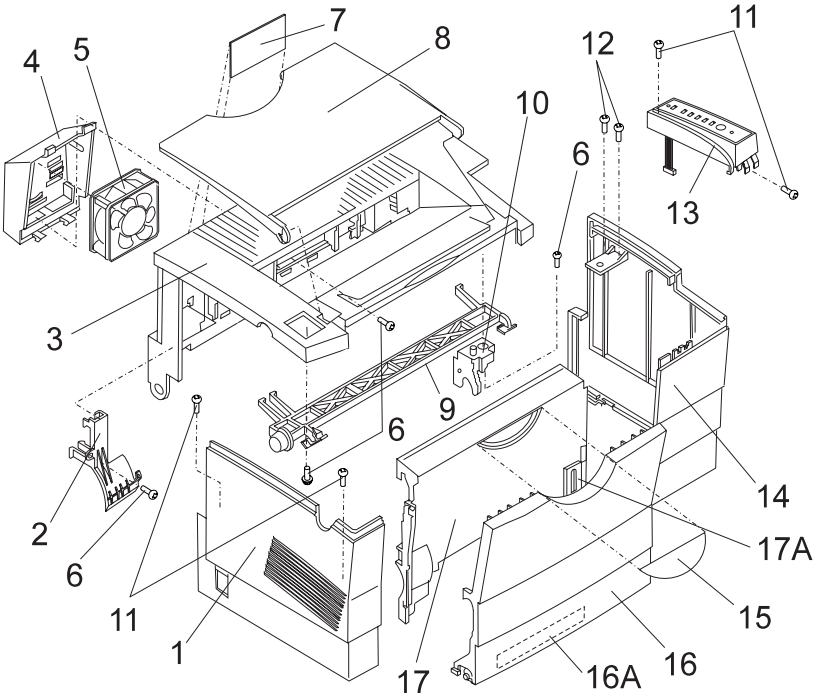
## 6. Parts Catalog

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### How To Use This Parts Catalog

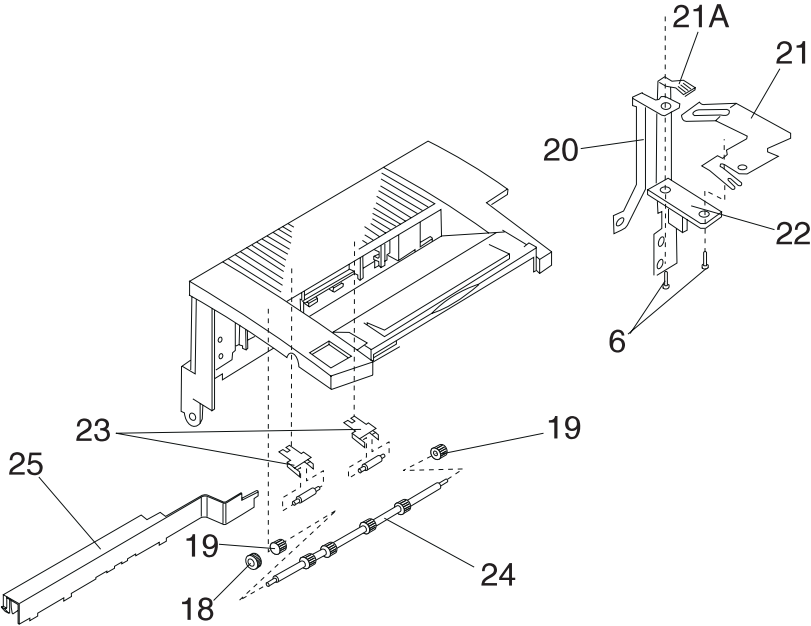
- **SIMILAR ASSEMBLIES:** If two assemblies contain a majority of identical parts, they are broken down on the same list. Common parts are shown by one index number. Parts peculiar to one or the other of the assemblies are listed separately and identified by description.
- **AR:** (As Required) in the Units column indicates that the quantity is not the same for all machines.
- **NS:** (Not Shown) in the Asm-Index column indicates that the part is procurable but is not pictured in the illustration.
- **PP:** (Parts Packet) in the parts description column indicates the part is contained in a parts packet.
- **INDENTURE:** The indenture is marked by a series of dots located before the parts description. The indenture indicates the relationship of a part to the next higher assembly. For example:
  - INDENTURE RELATIONSHIP OF PARTS
  - (No dot) MAIN ASSEMBLY
  - (One dot) o Detail parts of a main assembly
  - (One dot) o Subassembly of the main assembly
  - (Two dot) o o Detail part of a one-dot subassembly
  - (Two dot) o o Subassembly of a one-dot subassembly

Assembly 1: Covers



Asm-Index	Part Number	Units	Description
1-1	69G8341	1	Left Side Cover
1-2	69G9969	1	Cover, Cable 06A/06B/06D/06J/070
1-2	11A7376	1	Cover, Cable 06C/06F/071
1-3	69G8301	1	Top Cover 06A/06B/06D/06J/070
1-3	11A7377	1	Top Cover 06C/06F/071
1-4	69G8306	1	Fan Cover 06A/06B/06D/06J/070
1-4	11A7378	1	Fan Cover 06C/06F/071
1-5	69G8305	1	Fan 06A/06B/06D/06J/070
1-5	11A7379	1	Fan 06C/06F/071
1-6		8	Screw, Type 3704 PP 69G9974
1-7	69G9990	1	Label, S/N Blank
1-8	69G8340	1	Exit Paper Tray
1-9	69G8303	1	Cover Release Assembly
1-10	69G8302	1	Printhead Interlock Actuator
1-11		4	Screw, Type 3504 PP 69G9974
1-12		2	Screw, Type 4011 PP 69G9974
1-13	69G8396	1	Operator Panel Assembly inc. English Overlay
1-13	69G9981	1	Operator Panel Assembly inc. Overlay W.T. Kit
1-13	11A7458	1	Operator Panel Assembly inc. Japanese Overlay
1-14	69G8342	1	Right Side Cover with shield
1-15	69G9690	1	Logo, Optra E 06A/06B/06J
1-15	11A7443	1	Logo, Optra Ep 06D
1-15	11A7380	1	Logo, Optra Es 06C/06F/071
1-15	11A7759	1	Logo, Optra E+ 070
1-16	69G8344	1	Input Paper Tray
1-16A	11A7463	1	Label, Lever Overlay Sheet U.S.
1-16A	11A7464	1	Label, Lever Overlay Sheet W.T.
1-17	69G8343	1	Front Cover
1-17A	69G8298	1	Input Paper Tray Extended Guide w/screw
NS	11A7758	1	Input Tray Legs, Left and Right Side
NS	11A7757	1	Input Tray Cover Assembly
NS	11A7761	1	Manual Feed Tray Right Paper Guide

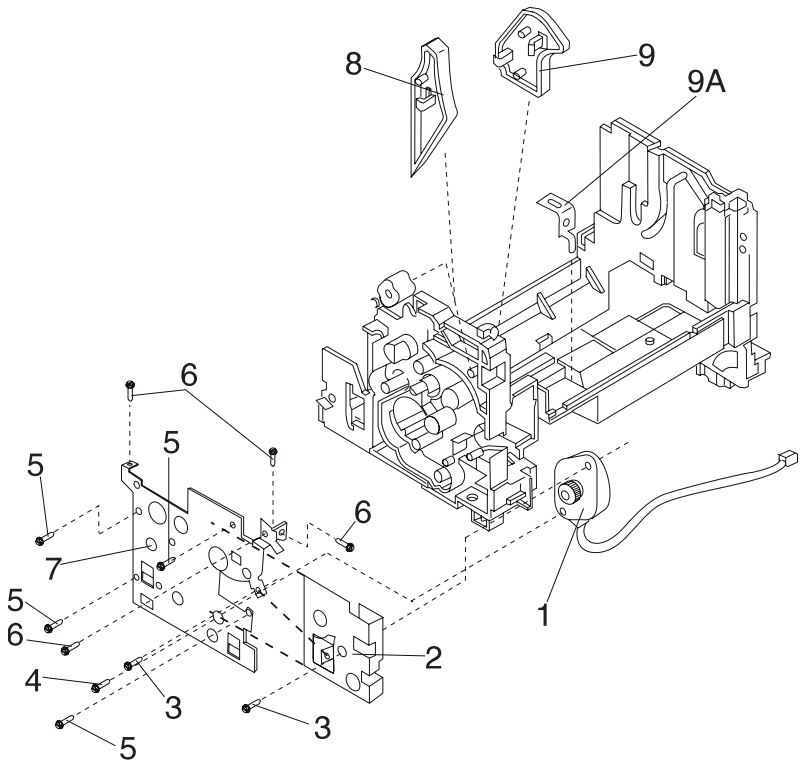
Assembly 1: Covers (continued)



**4026-0XX**

<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
1-18	69G8337	1	Gear, 15T
1-19	69G8338	2	Bushing
1-20	11A7404	1	Terminal, PWB-R to Fuser Frame
1-21	69G9998	1	Terminal, Paper Feed Exit Shaft to Board PWB-R
1-21A	11A7403	1	Terminal, Top Cover Ground to PWB-T
1-22	69G9999	1	Board, PWB-R
1-23	69G9971	2	Exit Paper Feed Roller/Clip Assembly
1-24	69G8336	1	Exit Paper Feed Roller/Shaft Assembly 06A/ 06B/06D/06J/070
1-24	11A7465	1	Exit Paper Feed Roller/Shaft Assembly 06C/ 06F/071
1-25	69G8304	1	Cover, Wiring Harness Cable

Assembly 2: Frame

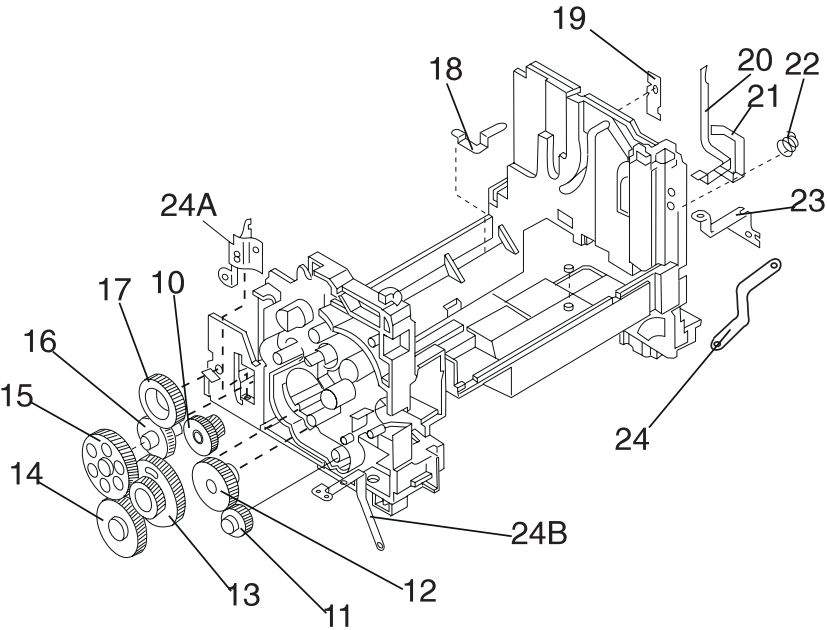




**4026-0XX**

<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
2-1	69G9962	1	Motor, Main Drive 06A/06B/06D/06J/070
2-1	11A7381	1	Motor, Main Drive 06C/06F/071
2-2	69G9691	1	Left Side Plate Motor Bracket 06A/06B/06D/06J/070
2-2	11A7382	1	Left Side Plate Motor Bracket 06C/06F/071
2-3		2	Screw, Type 1308 PP 69G9974
2-4		1	Screw, Type 3501 PP 69G9974
2-5		3	Screw, Type 3704 PP 69G9974
2-6		2	Screw, Type 3504 PP 69G9974
2-7		1	Left Side Plate
2-8	69G8346	1	Guide, photoconductor unit
2-9	69G8347	1	Guide, Toner Cartridge/Photoconductor Unit
2-9A	11A7420	1	Bracket, Printhead Mounting

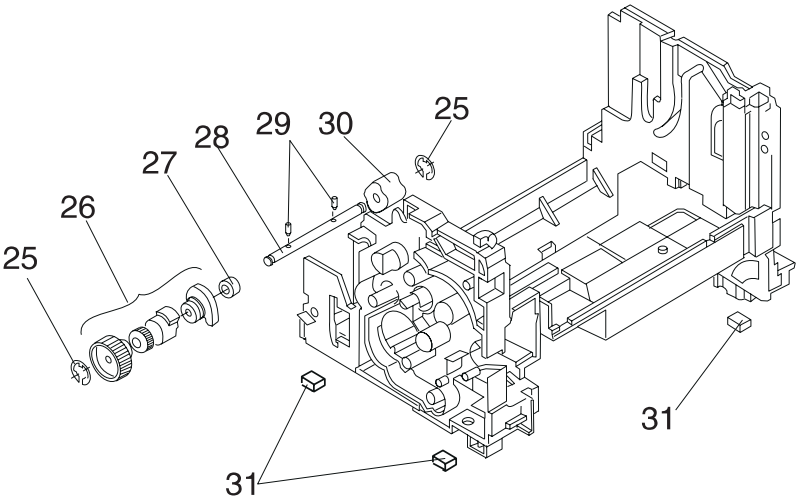
Assembly 2: Frame (continued)



**4026-0XX**

<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
2-10		1	Gear, 20/41T PP 69G9989
2-11		1	Gear, 29T PP 69G9989
2-12		1	Gear, 22/57T PP 69G9989
2-13		1	Gear, 44/109T PP 69G9989
2-14		1	Gear, 29/65T PP 69G9989
2-15		1	Gear, 25/72T PP 69G9989
2-16		1	Gear, 22/45T PP 69G9989
2-17		1	Gear, 50T PP 69G9989
2-18	69G8358	1	Terminal, Rt Side Ground LVPS to Bd Cage
2-19	69G8360	1	Terminal, Rt Side Photoconductor Unit Ground
2-20	69G8361	1	Terminal, Rt Side, Photoconductor Unit Charge Bias
2-21	69G8362	1	Terminal, Rt Side Toner Cartridge
2-22	69G8357	1	Spring, Rt Side Frame, Cartridge Latching PP 69G9987
2-23	69G8359	1	Terminal, Rt Side Ground HVPS to Bd Cage
2-24	69G9982	1	Terminal, Ground
2-24A	11A7424	1	Terminal, Left Side Plate to LVPS
2-24B	11A7425	1	Terminal, Left Side Plate to Lift Plate

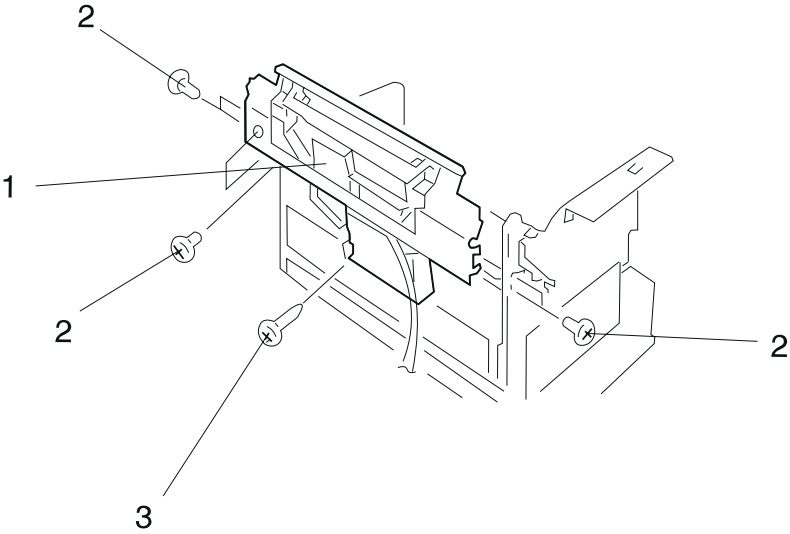
Assembly 2: Frame (continued)



**4026-0XX**

<b>Asm- Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
2-25		2	C-Clip, Type 9107 PP 69G9986
2-26	69G8377	1	Clutch Cam Assembly
2-27	69G8379	1	Bushing
2-28	69G8393	1	D-Roll Shaft
2-29	69G9991	2	Pin, D-Roll Shaft
2-30	69G8375	1	D-Roll
2-31	69G8363	4	Rubber Foot 06A/06B/06D/06J
2-31	11A7467	4	Rubber Foot 06C/06F

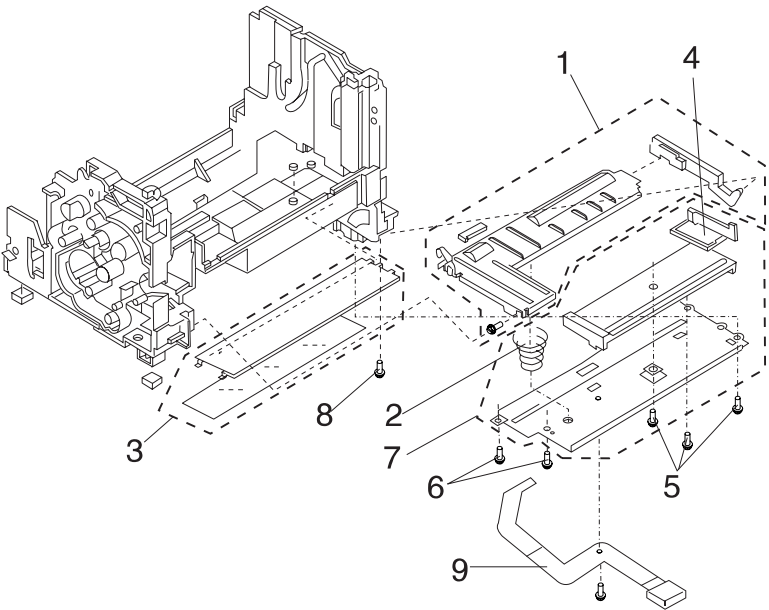
Assembly 3: Printhead



**4026-0XX**

Asm- Index	Part Number	Units	Description
3-1	69G8364	1	Printhead Assembly 600 dpi
3-2		5	Screw, Type 3504 PP 69G9974
3-3		1	Screw, Type 3519 PP 69G9974

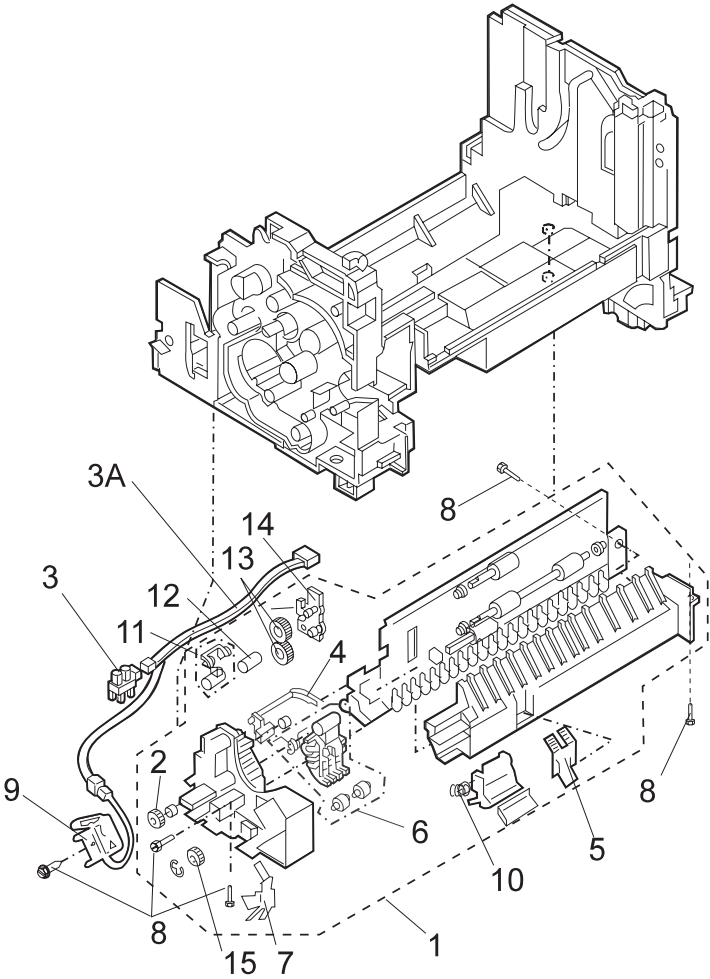
Assembly 4: Paper Feed Input Tray





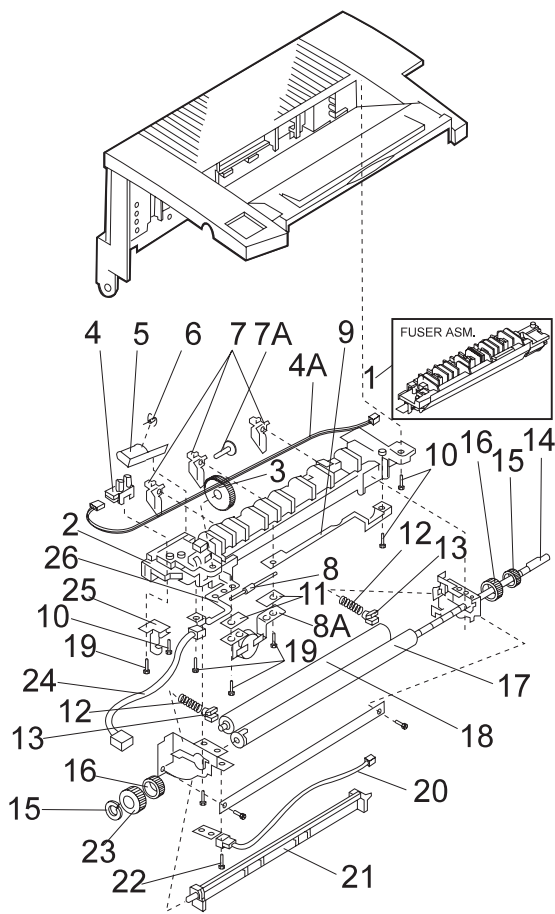
<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
4-1	11A7419	1	Lift Plate Assembly
4-2	69G8367	1	Pressure Spring
4-3	69G8394	1	Guide Plate, Manual Feed 06A/06B/06D/06J/070
4-3	11A7460	1	Guide Plate, Manual Feed 06C/06F/071
4-4	69G8366	1	Guide, Movable Paper
4-5	69G8365	3	Screw, Type 3704 PP 69G9974
4-6		2	Screw, Type 3504 PP 69G9974
4-7		1	Paper Feed Input Tray Assembly 06A/06B/06D/06J/070
4-7		1	Paper Feed Input Tray Assembly 06C/06F
4-8	11A7462	1	Screw, Type 3907 PP 69G9974
4-9		1	Lever, Print Media Selection w/screw 06C/06F/071

Assembly 5: Paper Feed Frame



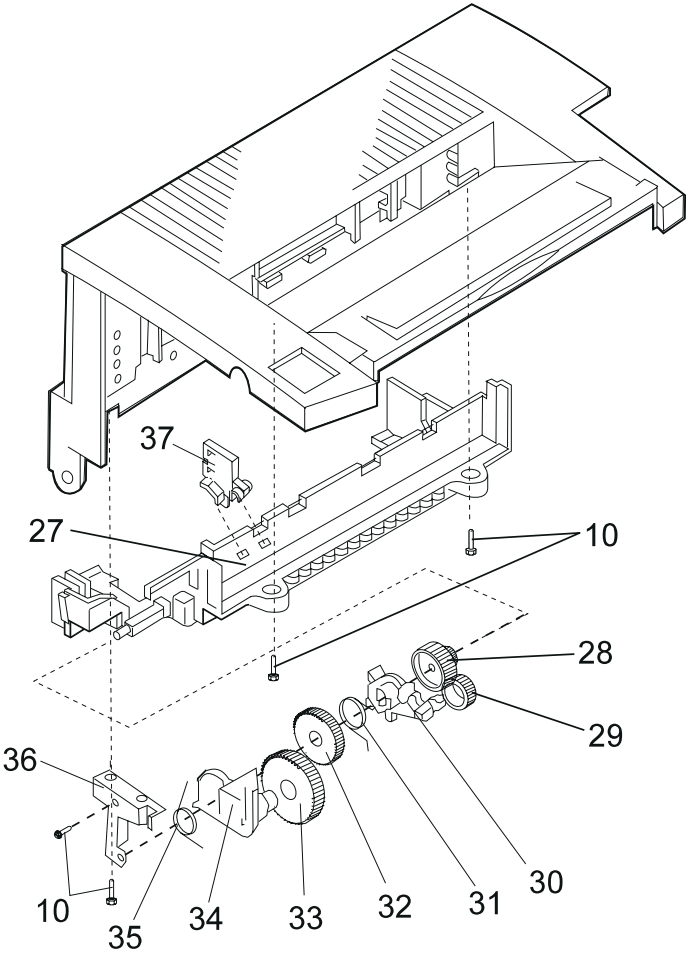
<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
5-1	69G8368	1	Paper Feed Frame Assembly 06A/06B/06D/06J/070
5-1	11A7384	1	Paper Feed Frame Assembly 06C/06F/071
5-2	69G8369	1	Gear, 16T Top Paper Feed
5-3	69G8371	1	Sensor, Paper Entry
5-3A	11A7409	1	Cable, Input Sensor/Solenoid to Engine Board
5-4	69G8372	1	Flag, Paper Entry Sensor
5-5	69G8373	1	Separator, Paper 06A/06B/06D/06J/070
5-5	11A7459	1	Separator, Paper 06C/06F/071
5-6	11A7442	1	Front Paper Feed Pressure Roller Assembly
5-7	69G8374	1	Terminal, Solenoid Ground
5-8		5	Screw, Type 3907 PP 69G9974
5-9	69G8370	1	Solenoid, Paper Feed
5-10	11A7386	2	Spring, Pressure 06C/06F/071
5-11	11A7385	1	Bracket, Rear Paper Feed Pressure Roller 06C/06F/071
5-12	11A7389	1	Rear Paper Feed Pressure Roller 06C/06F/071
5-13	11A7387	2	Gears, Idler 16T 06C/06F/071
5-14	11A7388	1	Bracket, Idler Gear 06C/06F/071
5-15	11A7461	1	Gear, 16T Bottom Paper Feed

Assembly 6: Fuser



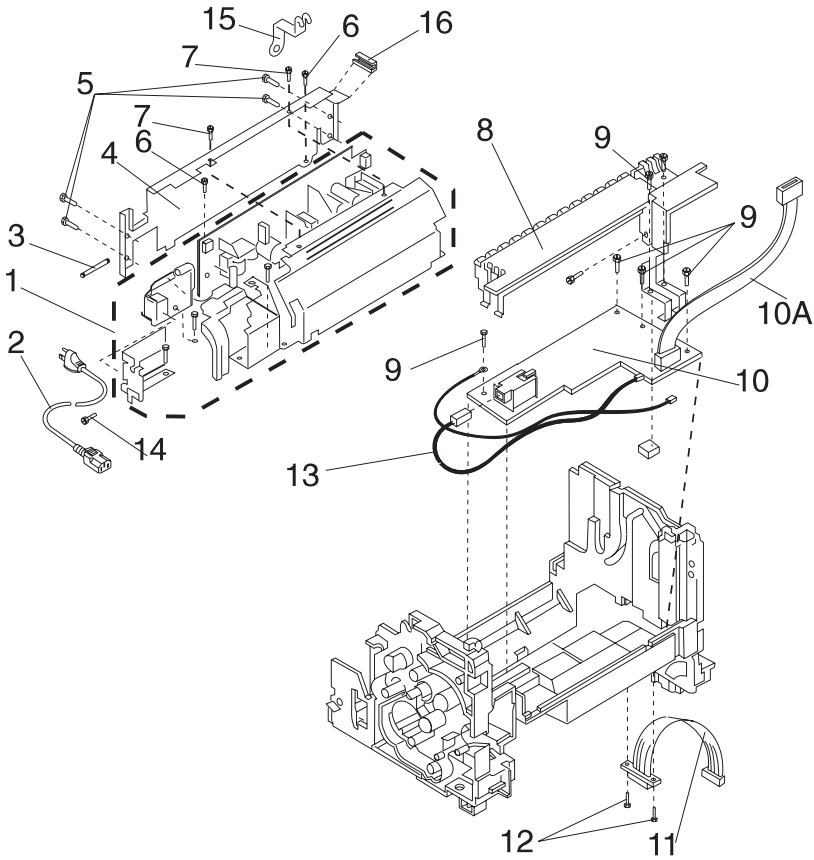
Asm-Index	Part Number	Units	Description
6-1	69G8312	1	Fuser Assembly, 120 V ac 06A/06B/06D/070
6-1	11A7390	1	Fuser Assembly, 120 V ac 06C/06F/071
6-1	11A7455	1	Fuser Assembly, 100 V ac 06J
6-1	69G8313	1	Fuser Assembly, 220/230 V ac 06A/06B/06D/070
6-1	11A7391	1	Fuser Assembly, 220/230 V ac 06C/06F/071
6-2	69G8328	1	Lower Fuser Assembly 06A/06B/06D/06J/070
6-2	11A7392	1	Lower Fuser Assembly 06C/06F/071
6-3		1	Gear, 40T PP 69G9988
6-4	69G8371	1	Sensor, Paper Exit
6-4A	11A7408	1	Cable, Paper Exit Sensor
6-5	69G8332	1	Flag, Paper Exit Sensor
6-6	11A7423	1	Spring, Exit Sensor Flag
6-7	69G8333	3	Separator, Paper Hot Roll 06A/06B/06D/06J/070
6-7	11A7393	3	Separator, Paper Hot Roll 06C/06F/071
6-7A	11A7421	1	Separator Roll
6-8	69G8314	1	Thermal Fuse 06A/06B/06D/06J/070
6-8A	11A7394	1	Thermostat 06C/06F/071
6-9	69G8327	1	Terminal, Fuser Lamp Right Side 06A/06B/06D/06J/070
6-9	11A7395	1	Terminal, Thermostat/Fuser Lamp Right Side 06C/06F/071
6-10		9	Screw, Type 3704 PP 69G9974
6-11	69G8329	2	Support Plate, Thermal Fuse 06A/06B/06D/06J/071
6-12	69G9973	2	Spring, Backup Roll PP 69G9987
6-13	11A7422	2	Bracket, Backup Roll Spring
6-14	69G8315	1	Fuser Lamp, 120 V ac
6-14	69G8316	1	Fuser Lamp, 220/230 V ac
6-14	11A7456	1	Fuser Lamp, 100 V ac 06J
6-15	69G9694	2	G-Ring, Hot Roll
6-16	69G9695	2	Bearing, Hot Roll
6-17	69G9977	1	Hot Roll 06A/06B/06D/06J/070
6-17	11A7396	1	Hot Roll 06C/06F/071

Assembly 6: Fuser (continued)



<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
6-18	69G9978	1	Backup Roll 06A/06B/06D/06J/070
6-18	11A7397	1	Backup Roll 06C/06F/071
6-19		4	Screw, Type 1305 PP 69G9974
6-20	69G8317	1	Thermistor 06A/06B/06D/06J/070
6-20	11A7398	1	Thermistor 06C/06F/071
6-21	69G8330	1	Separator, Paper
6-22		1	Screw, Type 3504 PP 69G9974
6-23		1	Gear, 30T PP 69G9988
6-24	69G8325	1	Cable, Fuser Lamp
6-25	69G8326	1	Terminal, Fuser Lamp Left side
6-26	69G9979	1	Terminal, Fuser Lamp/Thermal Fuse
6-26	11A7399	1	Terminal, Thermostat Left Side 06C/06F/071
6-27	69G8318	1	Upper Fuser Assembly
6-28		1	Gear, 21/38T PP 69G9988
6-29		1	Gear, 22T PP 69G9988
6-30	69G9697		Lever, Fuser Drive
6-31	69G8323	1	Spring, Inside PP 69G9987
6-32			Gear, 44T PP 69G9988
6-33		1	Gear, 25/50T PP 69G9988
6-34	69G9698		Arm, Fuser Drive
6-35	69G8324	1	Spring, Outside PP 69G9987
6-36	69G9699		Bracket, Fuser Drive
6-37	11A7431	1	Transfer Corona cleaning tool

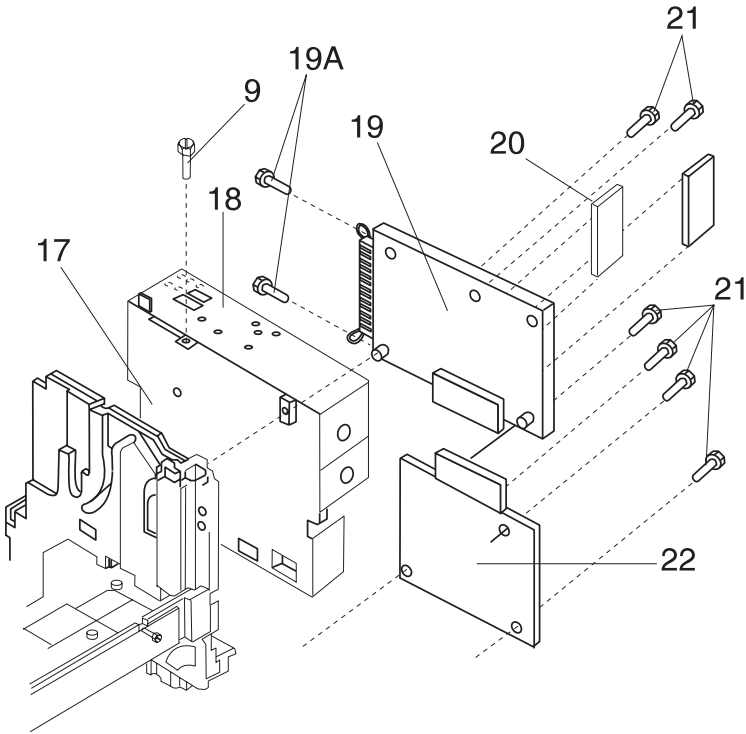
Assembly 7: Electronics





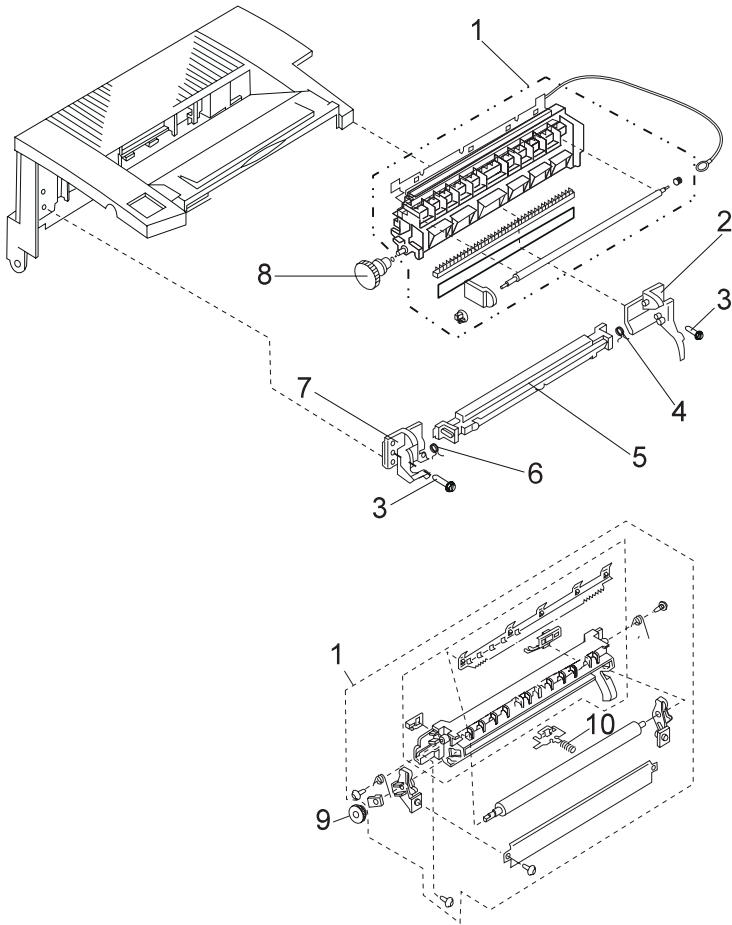
Asm-Index	Part Number	Units	Description
7-1	69G8380	1	Power Supply, 120 V ac U.S.
7-1	69G8382	1	Power Supply, 220/230 V ac W.T.
7-1	11A7454	1	Power Supply, 100 V ac Japan
7-2	1339526	1	Power Cord; U.S., AP-Taiwan, Australia, Bolivia, Brazil, Canada, Columbia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Hong Kong, Mexico, Nicaragua, Panama, Peru (HV), Venezuela
7-2	1342536	1	Power Cord; Argentina, Paraguay, Uruguay
7-2	1339520	1	Power Cord; Austria, Belgium, Eastern Countries, Finland, France, Germany, Greece, Iceland, Netherlands, Norway, Portugal, Spain, Sweden, Turkey
7-2	1339519	1	Power Cord; Bahrain, Egypt, Iraq, Ireland, Jordan, Kuwait, Oman Qatar, Sudan, U.K., Yeman
7-2	1342534	1	Power Cord; Chile (HV)
7-2	1339525	1	Power Cord; Denmark
7-2	1339521	1	Power Cord; Israel
7-2	1339524	1	Power Cord; Italy
7-2	70G0496	1	Power Cord; Japan
7-2	1339517	1	Power Cord; Saudi Arabia
7-2	1339523	1	Power Cord; South Africa
7-2	1339522	1	Power Cord; Switzerland
7-3	69G8381	1	Fuse, 125 V ac, 5 A
7-3	69G9976	1	Fuse, 250 V ac, 3.15 A
7-3	11A7457	1	Fuse, 125 V ac, 6.3 A
7-4	69G9972	1	Rear Frame
7-5		4	Screw, Type 3504 PP 69G9974
7-6		2	Screw, Type 3907 PP 69G9974
7-7		1	Screw, Type 4307 PP 69G9974
7-8	69G8356	1	Cover, High Voltage Power Supply
7-9		4	Screw, Type 3704 PP 69G9974
7-10	69G8383	1	Board, HVPS 06A/06B/06D/06J/070
7-10	11A7400	1	Board, HVPS 06C/06F/071
7-10A	11A7410	1	Cable, HVPS to Engine Board
7-11	69G8385	1	Cable, 2nd Paper Drawer

Assembly 7: Electronics (continued)



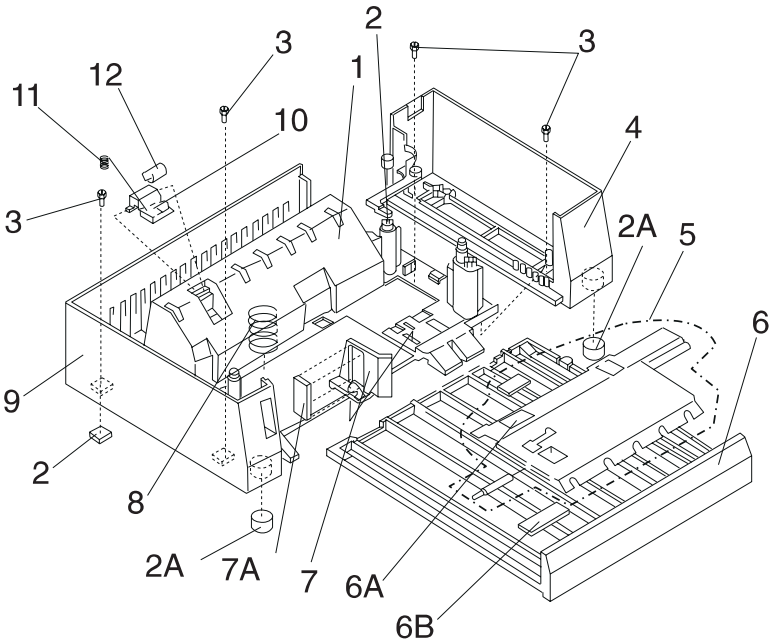
<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
7-15	11A7417	1	Terminal, Rear Frame Ground to Control Card Cage
7-12		2	Screw, shouldered cable mtg. PP 69G9974
7-13	11A7406	1	Cable, Transfer Assembly to HVPS
7-14		1	Screw, Type 3501 PP 69G9974
7-16	11A7418	1	Cover, LVPS Edge
7-17	69G9985	1	Controller Board Cage
7-18	69G8386	1	Controller Board Bracket W/O Cage
7-19	11A7439	1	Controller Board W/O ROM SIMM includes Print Registration Diskette 06A/06B/06C/06F/06J
7-19	69G8262	1	Controller Board W/O ROM SIMM includes Print Registration Diskette 06D/070/071
7-19A	11A7433	2	Screw, 4/40 Controller Board to Board Cage
7-20	69G9983	1	ROM SIMM 06A/06J
7-20	69G9984	1	ROM SIMM w/Flash 06B
7-20	11A7296	1	ROM SIMM 06C/070/071
7-20	11A7272	1	ROM SIMM 06D
7-20	11A7300	1	ROM SIMM w/Flash 06F
7-21		6	Screw, Type 3501 PP 69G9974
7-22	69G8384	1	Engine Board 06A/06B/06D/06J
7-22	11A7451	1	Engine Board 06C/06F
7-22	11A7762	1	Engine Board 070/071

Assembly 8: Transfer Assembly



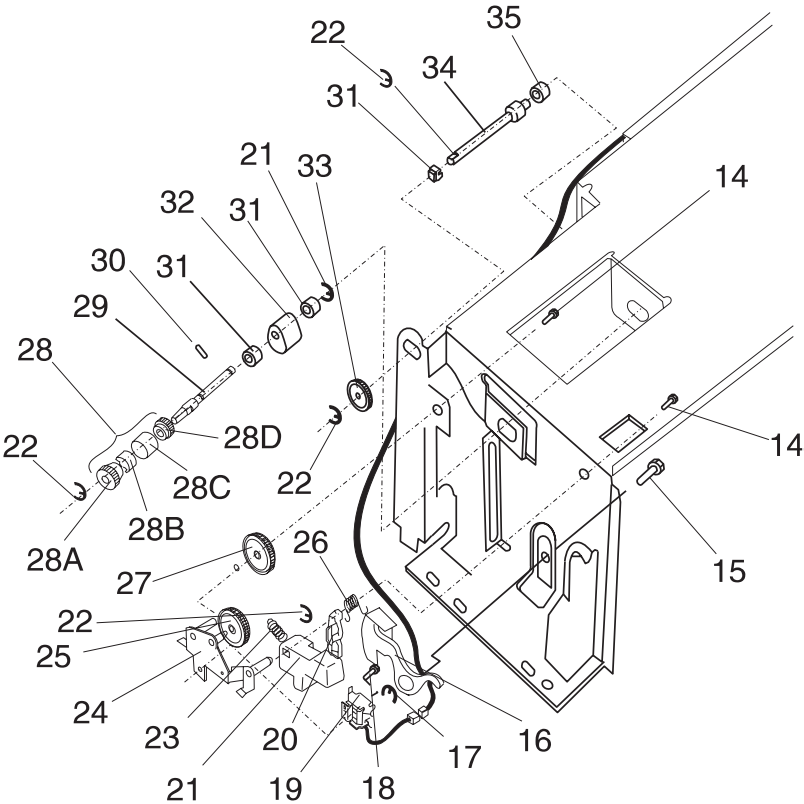
<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
8-1	69G8307	1	Transfer Assembly 06A/06B/06D/06J/070
8-1	11A7452	1	Transfer Assembly 06C/06F/071
8-2	69G8310	1	Right Transfer Frame Guide 06A/06B/06D/06J/070
8-3		2	Screw, Type 3704 PP 69G9974 06A/06B/06D/06J/070
8-4	69G9987	1	Spring, Right Transfer Guide 06A/06B/06D/06J/070 PP
8-5	69G9968	1	Transfer Corona Assembly 06A/06B/06D/06J/070
8-6	69G9987	1	Spring, Left Transfer Guide 06A/06B/06D/06J/070 PP
8-7	69G8308	1	Left Transfer Frame Guide 06A/06B/06D/06J/070
8-8	69G8309	1	Gear, 18/21T 06A/06B/06D/06J/070
8-9	11A7453	1	Gear, 18/21T 06C/06F/071
8-10	11A7383	1	Spring, Pressure 06C/06F/071

Assembly 9: Option - Second Paper Drawer



<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
9-1	69G9929	1	Frame, Base
9-2	69G9927	2	Foot, square rubber
9-2A	11A7416	2	Foot, round rubber
9-3		7	Screw, Type 3704 PP 11A7434
9-4	69G9926	1	Right Side Cover
9-5	69G9937	1	Lift Plate Assembly
9-6	69G9928	1	Tray, Paper
9-6A	11A7428	1	Pad
9-6B	11A7429	1	Label, Paper Set
9-7	69G9933	1	Adjustable Paper Guide
9-7A	11A7430	1	Regulating Plate, paper guide
9-8	69G9938	1	Spring, Lift Plate
9-9	69G9925	1	Left Side Cover
9-10	69G9931	1	Bracket, Roller
9-11		1	Spring, PP 11A7436
9-12	69G9930	1	Roller

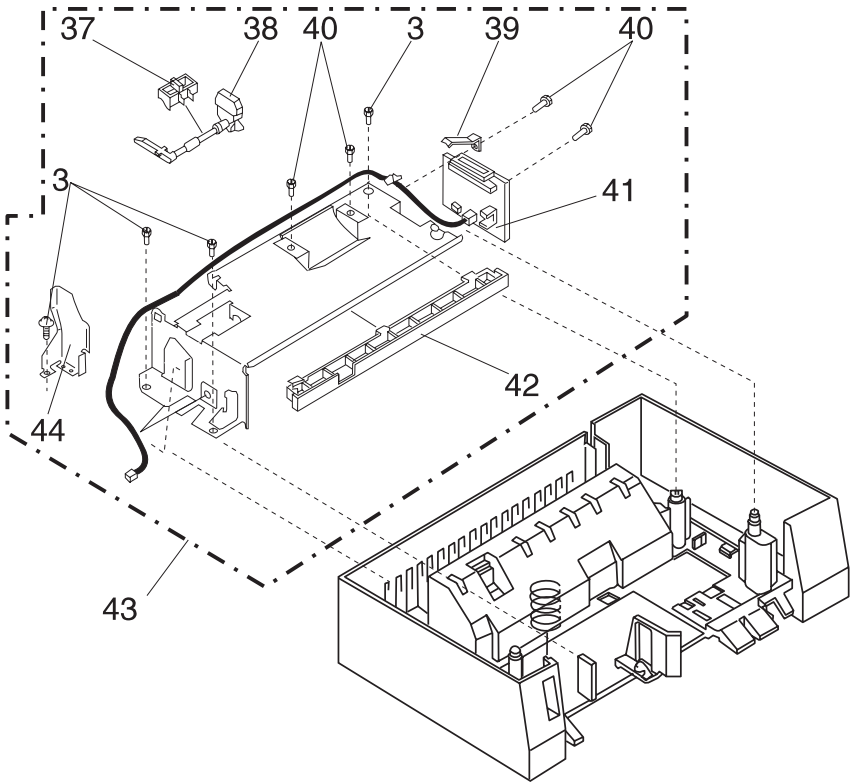
Assembly 9: Option - Second Paper Drawer (continued)





<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
9-14		2	Screw, Type 1305 PP 11A7434
9-15	69G9942	1	Stud, Solenoid Mounting
9-16	69G9965	1	Lever, Lift Plate Release
9-17		1	C-Clip, Type 9105 PP 69G9986
9-18		2	Screw, Type 3504 PP 11A7434
9-19	69G8370	1	Solenoid
9-20	69G9958	1	Lever, Knockoff
9-21	69G9963	1	Button, Lift Plate Release
9-22		5	C-Clip, Type 9107 PP 69G9986
9-23		1	Spring, Lift Plate Release Button PP 11A7436
9-24	69G9943	1	Bracket
9-25	69G9945	1	Gear, 13/45T
9-26		1	Spring, Torsion Release Lever PP 11A7436
9-27	69G9944	1	Gear, 41T
9-28	69G9946	1	Clutch Assembly, complete
9-28A	69G9947	1	Gear, 28T
9-28B		1	Spring, Clutch PP 11A7436
9-28C	69G9949	1	Ratchet
9-28D	11A7414	1	Collar, clutch
9-29	69G9955	1	Shaft, D-Roll
9-30	69G9991	1	Pin, D-Roll Shaft
9-31	69G9957	3	Bushing, D-Roll Shaft
9-32	69G9956	1	D-Roll
9-33	69G9953	1	Gear, 14T
9-34	69G9950	1	Paper Feed Shaft W/Roller
9-35	69G9951	1	Bushing, Paper Feed Shaft, Inside

Assembly 9: Option - Second Paper Drawer (continued)



Asm- Index	Part Number	Units	Description
9-37	69G9959	1	Bracket, Sensor Flag
9-38	69G9960	1	Sensor Flag
9-39	69G9935	1	Ground Terminal
9-40		4	Screw, Type 3501 PP 11A7434
9-41	69G9934	1	Sensor/Interface Board
9-42	69G9940	1	Cover, Front.
9-43	69G9939	1	Paper Feed Assembly, complete
9-44	11A7427	1	Guide Plate

**Assembly 10: Options**

<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
10	1364936	1	Memory SIMM, 1MB
10	1364906	1	Memory SIMM, 2MB
10	1364907	1	Memory SIMM, 4MB
10	1368706	1	Serial Adapter
10	12G0116	1	Printer Cable, Macintosh

**Assembly 11: Miscellaneous**

<b>Asm-Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
11	69G9986	1	Parts Packet, C-Clips for printer and Second Paper Drawer
11	69G9987	1	Parts Packet, Springs
11	69G9988	1	Parts Packet, Fuser Gears
11	69G9989	1	Parts Packet, Paper Feed Gears
11	69G9974	1	Parts Packet, Screws
11	11A7436	1	Parts Packet, Second Paper Drawer Springs
11	11A7434	1	Parts Packet, Second Paper Drawer Screws

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