



Service Manual

Lexmark™ X264dn, X363dn, X364dn, X364dw

7013-235

7013-432

7013-436

7013-43W

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Notices and safety information

The following laser notice labels may be affixed to this printer.

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 60825-1.

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

Laser

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

Avis relatif à l'utilisation de laser

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

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

Avvertenze sui prodotti laser

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

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

Avisos sobre el láser

Se certifica que, en los EE.UU., esta impresora cumple los requisitos para los productos láser de Clase I (1) establecidos en el subcapítulo J de la norma CFR 21 del DHHS (Departamento de Sanidad y Servicios) y, en los demás países, reúne todas las condiciones expuestas en la norma IEC 60825-1 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 IIb (3b) de arseniuro de galio de funcionamiento nominal a 5 milivatios en una longitud de onda de 770 a 795 nanómetros. El sistema láser y la impresora están diseñados de forma que ninguna persona pueda verse afectada por ningún tipo de radiación láser superior al nivel de la Clase I durante su uso normal, el mantenimiento realizado por el usuario o cualquier otra situación de servicio técnico.

Declaração sobre Laser

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

Os produtos laser da Classe I não são considerados perigosos. Internamente, a impressora contém um produto laser da Classe IIb (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 laserproduct van klasse I. Voor de Verenigde Staten zijn deze eisen vastgelegd in DHHS 21 CFR Subchapter J, voor andere landen in IEC 60825-1.

Laserprodukten van klasse I worden niet als ongevaarlijk aangemerkt. De printer is voorzien van een laser van klasse IIb (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 voorgescreven is voor klasse 1.

Lasermeddelelse

Printeren er godkendt som et Klasse I-laserprodukt, i overensstemmelse med kravene i IEC 60825-1.

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.

Laserilmoitus

Tämä tulostin on sertifioitu Yhdysvalloissa DHHS 21 CFR Subchapter J -standardin mukaiseksi luokan I (1) -lasertuotteeksi ja muualla IEC 60825-1 -standardin mukaiseksi luokan I lasertuotteeksi.

Luokan I lasertuotteita ei pidetä haitallisina. Tulostimen sisällä on luokan IIb (3b) laser, joka on nimellisteholtaan 5 mW:n galliumarsenidilaser ja toimii 770 - 795 nanometrin aallonpituuksilla. Laserjärjestelmä ja tulostin ovat rakenteeltaan sellaisia, että käyttäjä ei joudu alttiiksi luokkaa 1 suuremmalle säteilylle normaalin käytön, ylläpidon tai huollon aikana.

Huomautus laserlaitteesta

Tämä kirjoitin on Yhdysvalloissa luokan I (1) laserlaitteiden DHHS 21 CFR Subchapter J -määrityksen mukainen ja muualla luokan I laserlaitteiden IEC 60825-1 -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 määräytyksiä voimakkaammalle säteilylle kirjoittimen normaalin toiminnan, käyttäjän tekemien huoltotoimien tai muiden huoltotoimien yhteydessä.

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

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

Laser-notis

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

Laserprodukter i Klass I anses ej hälsovådliga. Skrivaren har en inbyggd laser av Klass IIb (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 60825-1.

Klasse I-laserprodukter er ikke å betrakte som farlige. Skriveren inneholder internt en klasse IIb (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 60825-1.

Els productes làser de classe I no es consideren perillosos. Aquesta impressora conté un làser de classe IIb (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.

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

注意：

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

分类 I 激光产品一般认为不具危险性，本打印机内部含有分类 IIb (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。

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



CAUTION

This product contains a lithium battery. THERE IS A RISK OF EXPLOSION IF THE BATTERY IS REPLACED BY AN INCORRECT TYPE. Discard used batteries according to the battery manufacturer's instructions and local regulations.

- The safety of this product is based on testing and approvals of the original design and specific components. The manufacturer is not responsible for safety in the event of use of unauthorized replacement parts.
- The maintenance information for this product has been prepared for use by a professional service person and is not intended to be used by others.
- There may be an increased risk of electric shock and personal injury during disassembly and servicing of this product. Professional service personnel should understand this and take necessary precautions.
-  **CAUTION:** When you see this symbol, there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.

Consignes de sécurité

- La sécurité de ce produit repose sur des tests et des agrégations portant sur sa conception d'origine et sur des composants particuliers. Le fabricant n'assume aucune responsabilité concernant la sécurité en cas d'utilisation de pièces de rechange non agréées.
- 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.
-  **ATTENTION :** Ce symbole indique la présence d'une tension dangereuse dans la partie du produit sur laquelle vous travaillez. Débranchez le produit avant de commencer ou faites preuve de vigilance si l'exécution de la tâche exige que le produit reste sous tension.

Norme di sicurezza

- La sicurezza del prodotto si basa sui test e sull'approvazione del progetto originale e dei componenti specifici. Il produttore non è responsabile per la sicurezza in caso di sostituzione non autorizzata delle parti.
- 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.
-  **ATTENZIONE:** Questo simbolo indica la presenza di tensione pericolosa nell'area del prodotto. Scollegare il prodotto prima di iniziare o usare cautela se il prodotto deve essere alimentato per eseguire l'intervento.

Sicherheitshinweise

- Die Sicherheit dieses Produkts basiert auf Tests und Zulassungen des ursprünglichen Modells und bestimmter Bauteile. Bei Verwendung nicht genehmigter Ersatzteile wird vom Hersteller keine Verantwortung oder Haftung für die Sicherheit übernommen.
- Die Wartungsinformationen für dieses Produkt sind ausschließlich für die Verwendung durch einen Wartungsfachmann bestimmt.
- Während des Auseinandernehmens und der Wartung des Geräts besteht ein zusätzliches Risiko eines elektrischen Schlags und körperlicher Verletzung. Das zuständige Fachpersonal sollte entsprechende Vorsichtsmaßnahmen treffen.
-  **ACHTUNG:** Dieses Symbol weist auf eine gefährliche elektrische Spannung hin, die in diesem Bereich des Produkts auftreten kann. Ziehen Sie vor den Arbeiten am Gerät den Netzstecker des Geräts, bzw. arbeiten Sie mit großer Vorsicht, wenn das Produkt für die Ausführung der Arbeiten an den Strom angeschlossen sein muß.

Pautas de Seguridad

- La seguridad de este producto se basa en pruebas y aprobaciones del diseño original y componentes específicos. El fabricante no es responsable de la seguridad en caso de uso de piezas de repuesto no autorizadas.
- 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.
-  **PRECAUCIÓN:** este símbolo indica que el voltaje de la parte del equipo con la que está trabajando es peligroso. Antes de empezar, desenchufe el equipo o tenga cuidado si, para trabajar con él, debe conectarlo.

Informações de Segurança

- A segurança deste produto baseia-se em testes e aprovações do modelo original e de componentes específicos. O fabricante não é responsável pela segurança, no caso de uso de peças de substituição não autorizadas.
- 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.
-  **CUIDADO:** Quando vir este símbolo, existe a possível presença de uma potencial tensão perigosa na zona do produto em que está a trabalhar. Antes de começar, desligue o produto da tomada eléctrica ou seja cuidadoso caso o produto tenha de estar ligado à corrente eléctrica para realizar a tarefa necessária.

Informació de Seguretat

- La seguretat d'aquest producte es basa en l'avaluació i aprovació del disseny original i els components específics.
El fabricant no es fa responsable de les qüestions de seguretat si s'utilitzen peces de recanvi no autoritzades.
- 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.
-  **PRECAUCIÓ:** aquest símbol indica que el voltatge de la part de l'equip amb la qual esteu treballant és perillós. Abans de començar, desendolieu l'equip o extremeu les precaucions si, per treballar amb l'equip, l'heu de connectar.

안전 사항

- 본 제품은 원래 설계 및 특정 구성품에 대한 테스트 결과로 안정성이 입증된 것입니다. 따라서 무허가 교체부품을 사용하는 경우에는 제조업체에서 안전에 대한 책임을 지지 않습니다.
- 본 제품에 관한 유지 보수 설명서는 전문 서비스 기술자용으로 작성된 것이므로, 비전문가는 사용할 수 없습니다.
- 본 제품을 해체하거나 정비할 경우, 전기적인 충격을 받거나 상처를 입을 위험이 커집니다. 전문 서비스 기술자는 이 사실을 숙지하고, 필요한 예방 조치를 취하도록 하십시오.
-  **주의:** 이 표시는 해당영역에서 고압전류가 흐른다는 위험 표시입니다. 시작전에 플러그를 뽑으시거나, 주의를 기울여 주시기 바랍니다.

安全信息

- 本产品的安全性以原来设计和特定产品的测试结果和认证为基础。万一使用未经许可的替换部件，制造商不对安全性负责。
- 本产品的维护信息仅供专业服务人员使用，并不打算让其他人使用。
- 本产品在拆卸、维修时，遭受电击或人员受伤的危险性会增高，专业服务人员对这点必须有所了解，并采取必要的预防措施。
-  **切记:** 当您看到此符号时，说明在您工作的产品区域有危险电压的存在。请在开始操作前拔掉产品的电源线，或者在产品必须使用电源来执行任务时，小心从事。

Preface

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

- 1. **General information** contains a general description of the printer and the maintenance approach used to repair it. Special tools and test equipment, as well as general environmental and safety instructions, are discussed.
 - 2. **Diagnostic information** contains an error indicator table, symptom tables, and service checks used to isolate failing field replaceable units (FRUs).
 - 3. **Diagnostic aids** contains tests and checks used to locate or repeat symptoms of printer problems.
 - 4. **Repair information** provides instructions for making printer adjustments and removing and installing FRUs.
 - 5. **Connector locations** uses illustrations to identify the connector locations and test points on the printer.
 - 6. **Preventive maintenance** contains the lubrication specifications and recommendations to prevent problems.
 - 7. **Parts catalog** contains illustrations and part numbers for individual FRUs.
- Appendix A** contains service tips and information.
Appendix B contains representative print samples.

Conventions

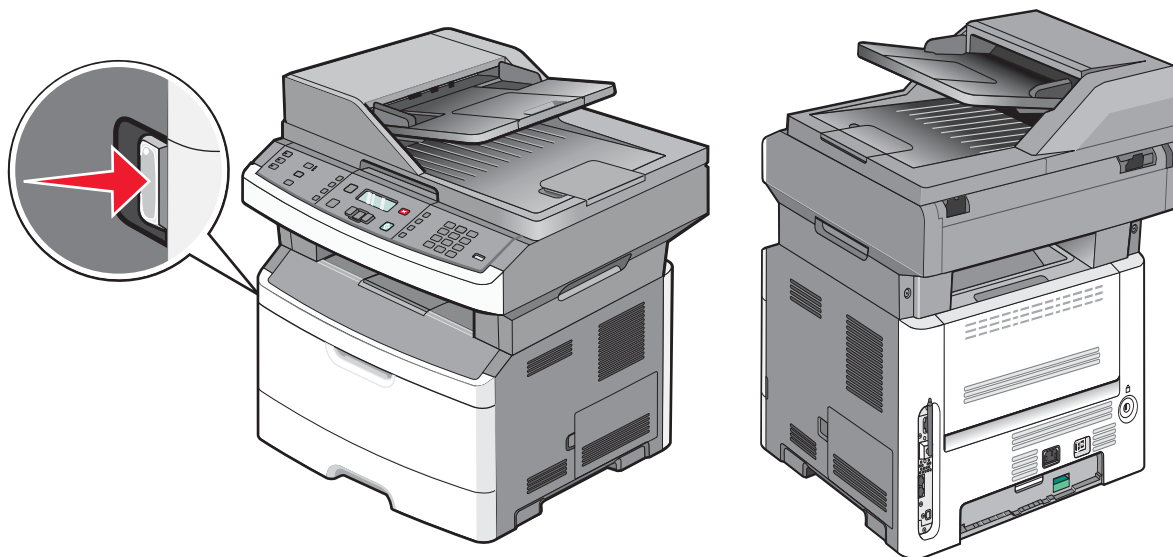
Note: A note provides additional information.
Warning: A warning identifies something that might damage the product hardware or software.

There are several types of caution statements:

	CAUTION A caution identifies something that might cause a servicer harm.
	CAUTION This type of caution indicates there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.
	CAUTION This type of caution indicates a hot surface.
	CAUTION This type of caution indicates a tipping hazard.

1. General information

The Lexmark™ X364dw, X364dn, X363dn, and X264dn are monochrome laser printers designed for single users or small workgroups.



Maintenance approach

The diagnostic information in this manual leads to the correct field replaceable unit (FRU) or part. Use the error code charts, symptom index, and service checks to determine the symptom and repair the failure. See **“Diagnostics information” on page 2-1** for more information. See **“Repair information” on page 4-1** to help identify parts. After completing the repair, perform tests as needed to verify the repair.

Overview of the operator panel

The operator panel is divided into three sections:

- Selections and settings area
- Display area
- Keypad area

Selections and settings contains ten buttons (Copy, Scan/Email, Fax, Content, Darkness, Duplex/2-sided, Copies, Scale, Options, and Address book) and three lights (Text, Text/Photo, and Photo) that light up to display the chosen content option.

The display area contains seven buttons (Menu, Back, Left arrow, Select, Right arrow, Start, and Stop/Cancel), an indicator light, and a 2-line liquid crystal display (LCD) that shows text.

The keypad area contains five buttons (Redial/Pause, Resolution, Options, Hook, and Shortcuts), a keypad, and a USB port.



For more information on the operator panel, see **“Overview of the operator panel and menus” on page 2-2.**

Specifications

Memory

Item	7013-235 Lexmark X264dn	7013-432 Lexmark X363dn	7013-436 Lexmark X364dn	7013-43W Lexmark X364dw
Standard memory	64MB	128MB	128MB	128MB
Maximum memory	64MB	128MB	128MB	128MB
Optional memory				
8MB	x	x	x	x
16MB	x	x	x	x
32MB	x	x	x	x
64MB	x	x	x	x
128MB	x	x	x	x
256MB	x	x	x	x
512MB	x	x	x	x
Standard flash memory	x	x	x	x
Maximum flash memory	64MB	64MB	64MB	64MB
Optional flash memory cards				
32MB card	x	x	x	x
64MB card	✓	✓	✓	✓
128MB card	x	x	x	x
256MB card	x	x	x	x
Available daughter card slots				
Font card	✓	✓	✓	✓
DLE	x	x	x	x

Print quality settings

Item	7013-235 Lexmark X264dn	7013-432 Lexmark X363dn	7013-436 Lexmark X364dn	7013-43W Lexmark X364dw
Image enhancement technology (IET)				
2 Bits/pel	✓	✓	✓	✓
4 Bits/pel	✓	✓	✓	✓
Print resolution				
300 dpi	✓	✓	✓	✓
600 dpi	✓	✓	✓	✓
• 1200 image quality (600 dpi with 2 bits/pel)	✓	✓	✓	✓
• 2400 image quality (600 dpi with 4 bits/pel)	✓	✓	✓	✓
• 4800 color quality (600 dpi with 4 bits/pel)	x	x	x	x
1200 dpi	✓	✓	✓	✓

Compatibility and connectivity

Item	7013-235 Lexmark X264dn	7013-432 Lexmark X363dn	7013-436 Lexmark X364dn	7013-43W Lexmark X364dw
Datastreams				
XPS	x	x	x	x
PCL 6 emulation	✓	✓	✓	✓
PostScript level 3 emulation	✓	✓	✓	✓
NPAP	✓	✓	✓	✓
PJL	✓	✓	✓	✓
PPDS	✓	✓	✓	✓
PDF (version 1.6)	x	✓	✓	✓
PictBridge	x	x	x	x
HTML (including DBCS)	x	x	x	x
Direcetimage	x	✓	✓	✓
Host based printing/graphics device interface				
• Version 1	x	x	x	x
• Version 2	x	x	x	x
• Version 3 (mono)	✓	✓	✓	✓
Compatibility	Windows/ Macintosh/Linux	Windows/ Macintosh/Linux	Windows/ Macintosh/Linux	Windows/ Macintosh/Linux
Standard connections				
Serial interface	x	x	x	x
Ethernet 10/100 Base T	✓	✓	✓	✓
USB-B (hi-speed) device port	✓	✓	✓	✓
Fax functionality	x	x	✓	✓
USB-A front host port (low/full speed)	x	✓	✓	✓
USB-A rear host port	x	x	x	x
802.11n wireless networking card	x	x	x	✓
Optional connections	x	x	x	x

Media trays and supply capacity

Item	7013-235 Lexmark X264dn	7013-432 Lexmark X363dn	7013-436 Lexmark X364dn	7013-43W Lexmark X364dw
Standard input sources				
Integrated 250-sheet tray	✓	✓	✓	✓
50-sheet MP feeder	x	✓	✓	✓
1-sheet manual feed slot	✓	x	x	x
Optional input sources				
250-sheet drawer	✓	✓	✓	✓
550-sheet drawer	✓	✓	✓	✓
Manual/integrated print duplex	Integrated	Integrated	Integrated	Integrated
ADF scanner type	Simplex	Recirculating duplex	Recirculating duplex	Recirculating duplex
Envelope conditioning	x	x	x	x
Instant on fuser	✓	✓	✓	✓
Standard output sources				
150-sheet sensing bin	✓	✓	✓	✓
Toner and photoconductor				
Toner cartridge	1,500 standard pages SWE ¹	3,000 standard pages SWE ¹		
X360 Series standard yield	x	3,500 standard pages SWE ¹		
High toner cartridge	x	9,000 standard pages ¹		
Photoconductor kit	Up to 30,000 pages ²			
¹ Declared value in accordance with ISO/IEC 19752				
² Up to 30,000 pages, based on an average of 3 pages per job and approximately 5% coverage per page. Yields may vary based on customer usage.				

Types of print media

Note: Ensure trays are properly loaded. Never mix media types within a tray.

Source	Sizes	Types	Weight	Input capacity* (sheets)
Input tray 1 (250-sheet tray)	A4, A5, A6, JIS ¹ -B5, letter, legal, executive, oficio (Mexico) ² , folio ² , statement, universal	Plain paper, transparency, recycled, labels, bond, letterhead, preprinted, colored paper, light paper, heavy paper, rough/cotton, custom type [x]	60-90 g/m ² (16-24 lb)	• 150 paper • 50 labels** • 10 transparencies
2nd Drawer option (250-sheet drawer, 550-sheet drawer)	A4, A5, JIS ¹ -B5, letter, legal, executive, oficio (Mexico) ² , folio ² , statement	Plain paper, recycled, labels, bond, letterhead, preprinted, colored paper, light paper, heavy paper, rough/cotton, custom type [x]]	60-90 g/m ² (16-24 lb)	• 1 paper • 1 labels**
Manual feeder slot	A4, A5, A6, JIS ¹ -B5, letter, legal, executive, oficio (Mexico) ² , folio ² , statement, universal	Plain paper, transparency, recycled, labels, bond, letterhead, preprinted, colored paper, light paper, heavy paper, rough/cotton, custom type [x]	60-163 g/m ² (16-43 lb)	• 1 paper • 1 label** • 1 transparency
		Card stock***	• 120-163 g/m² (16-43 lb) Index Bristol • 75-163 g/m² (46-100 lb) Tag	1
	7 ¾, 9, 10, DL, C5, B5, other	Envelopes, rough envelopes	75 g/m ² (20 lb)	1
Manual paper	A4, A5, A6, JIS ¹ -B5, letter, legal, executive, oficio (Mexico) ² , folio ² , statement, universal	Plain paper, transparency, recycled, labels, bond, letterhead, preprinted, colored paper, light paper, heavy paper, rough/cotton, custom type [x]	60-163 g/m ² (16-43 lb)	• 1 paper • 1 label** • 1 transparency
		Card stock***	• 120-163 g/m² (16-43 lb) Index Bristol • 75-163 g/m² (46-100 lb) Tag	1
Manual envelope	7 ¾, 9, 10, DL, C5, B5, other	Envelopes, rough envelopes, custom type [x]	75 g/m ² (20 lb)	1

Source	Sizes	Types	Weight	Input capacity* (sheets)
Duplex	A4, letter, legal, oficio (Mexico), folio	Plain paper, recycled, bond, letterhead, preprinted, colored paper, light paper, heavy paper, custom type [x]	60-90 g/m ² (16-24 lb)	• 250 paper • 550 paper
Automatic document feeder (ADF)	A4, A5, JIS ¹ -B5, letter, legal, executive, oficio (Mexico), folio, statement, universal, custom scan type [x]	Accepts any media type supported by the print engine		
Multipurpose feeder	A4, A5, A6, JIS ¹ -B5, letter, legal, executive, oficio (Mexico), folio, statement, universal	Plain paper, transparency, recycled, labels, bond, letterhead, preprinted, colored paper, light paper, heavy paper, rough/cotton, custom type [x]	60-163 g/m ² (16-43 lb)	• 50 paper • 15 labels** • 10 transparencies
		Card stock***	• 120-163 g/m² (16-43 lb) Index Bristol • 75-163 g/m² (46-100 lb) Tag	20
	7 ¾, 9, 10, DL, C5, B5, other	Envelopes Rough envelopes	75 g/m ² (20 lb)	7
Flatbed	Business card, 3 X 5, 4 X 6, A4, A5, JIS ¹ -B5, letter, executive, statement, universal, custom scan type [x]	Accepts any media type supported by the print engine		
* Capacity for 20 lb print media, unless otherwise noted. ** Use for occasional printing only. *** Grain short is recommended. Use rear exit for best results. ¹Japanese Industry Standard				

Digital imaging specifications

General specifications

ADF Scan speed

Simplex ADF - Up to 22 ppm

ADF Document handling

ADF input capacity - 50 sheets

ADF output capacity - 50 sheets

ADF document width - 4.9" (125mm) to 8.5" (216mm)

ADF document length - 5" (127mm) to 14.0" (356mm)

Resolution and color depth

- Resolution - 600 dpi optical
- Color depth - 24 bit RGB output, 8 bit/channel

Flatbed document specifications

- Document size- Up to A4 and letter
4.5" x 5.5" to 8.5"x11" (SEF)

Flatbed speed

3 seconds to scan, 3 seconds to return

Scanner operating environments

- Temperature - 10C to 35C
- Humidity - 15% RH to 85% RH

Storage environments

- Temperature - -20C to 43C
- Humidity - 5% RH to 95% RH

Tilt

This device should operate within the stated parameters when it is level within 10mm from front to back and 10mm side to side.

Scan and copy specific specifications

Duplex scan

Duplex and copy is available only on X360 Series machines.

Scan file output formats

- TIFF
- JPEG
- PDF

Supported compressions

- PDF - (1 bit,- JBIG2 CCIT G4, Flate), (8/24 bit - Flate JPEG)
- TIFF - (1 bit - CCITT G4), (8/24 bit - Packbits, LZW)
- JPG - (8/24 bit-JPG)

Supported scan destinations

- Temporary profile from a user's PC
- Scan to PC via network TWAIN
- Scan to PC using Web applet
- Scan to E-Mail
- Scan to USB (X364 models only)
- Lexmark Scan Center

Multiple copies

999 copies maximum

Reduce/Enlarge (copy only)

-25% to 400%

Fax specifications

Phone network connectivity

Phone networks types supported	PSTN or analog PABX (RJ-11)
ITU COMPATIBILITY Standard Resolution Fine Superfine Ultrafine Coding	Group 3/ECM 8 x 3.85 pels/mm (200X100dpi) (204x98) 8 x 7.7 pels/mm (200X200dpi) (204x196) 11.8 x 11.8 pels/mm(300x300 dpi) (204x391) 15.7 x 15.7 pels/mm (400x400 dpi) (408x391) ITU T.4 and T.6(MH, MR, MMR, JPEG)
Modem speed	V.34 2400-33,600 BPS V.17 7200-14,400 BPS V.27 2400-4800 BPS V.29 7200-9600 BPS
Compression	MH, MR, MMR, JPEG
Error correction	ITU T.30
Line interface selection	
Modular Plug Out Band Signal Level	Dual RJ-11C Guaranteed North American and Europe PTT standard
Input Level Range Ring Detection	-16dBm ~ -59dBm Complies with all regulatory requirements

Fax resolutions

Receive	200x100 dpi, 200x200 dpi, 300x300 dpi, 400x400 dpi, 204x98 dpi, 204x196 dpi, 204x391 dpi, 408x391 dpi
Send	200x100dpi, 200x200 dpi, 300x300 dpi

Miscellaneous FAX specifications

Fax memory	4 MB Flash (More than 320 pages based on ITU chart #1) User selectable parameters are stored in NVRAM.
Speed dial	Yes. 999 entries
Transmission	Approximately 3 seconds per page
Color fax	Yes
Fax from PC	Yes. Supported using PostScript driver for both local and network attach modes.
Caller ID	Yes
Junk FAX blocking	Yes - based on caller ID and remote station ID
Tone/Pulse	Tone: Default, Pulse: Yes
Fax forward	Yes
Broadcasting	Yes. 12 destinations
External phone interface	Yes
Manual mode	Yes
Fax shortcuts	Yes.
Fax content	Text, text/photo, photo
Fax perseveration	Yes
Halftoning	Yes

Tools

The removal and adjustment procedures require the following tools and equipment:

- Spring hook
- Needle nose pliers
- Volt-ohmmeter
- #1 and #2 Phillips screwdriver
- Slotted screwdriver

Acronyms

ac	Alternating Current
ACM	Autocompensator Mechanism (or paper feed)
ADF	Automatic document feeder
AFE	Analog front end
AIO	All-In-One
APS	Automatic Paper Size
ASIC	Application Specific Integrated Circuit
BLDC	Brushless DC Motor
BOR	Black Only Retract
BUD	Belt up down
C	Cyan
CCD	Charge-Couple Device
CCFL	Cold Cathode Fluorescent Lamp
CCW	Counter clockwise
CDB	Command Descriptor Blocks
CMYK	Cyan yellow magenta black
CPU	Central processing unit
CRC	Cyclic redundancy check
CRU	Customer Replaceable Unit
CSU	Customer Setup
CW	Clockwise
DBCS	Double byte character set
dc	Direct Current
DIMM	Dual Inline Memory Module
DLE	Downloadable emulator
DRAM	Dynamic random access memory
DVM	Digital multimeter
ECC	Error correcting code
ECM	Error correction mode
EDO	Enhanced Data Out
EEPROM	Electrical Erasable Programmable Read-Only Memory
ENA	External Network Adapter
EOL	End of line
EP	Electrophotographic process
EPROM	Erasable programmable read-only memory
ESD	Electrostatic Discharge
FB	Flatbed
FD	Facedown
FRU	Field replaceable unit
FU	Face up

GB	Gigabyte
GFI	Ground Fault Interrupter
GHz	Gigahertz
HBP	Host Based Printing
HCF	High-capacity feeder
HCIT	High-capacity Input Tray
HCOF	High-Capacity Output Finisher
HCPF	High-capacity feeder
HTML	Hypertext markup language
HV	High Voltage
HVPS	High voltage power supply
HVU	High voltage unit
Hz	Hertz
INTL	International
ITC	Internal Tray Card
ITU	Image Transfer Unit
K	Black (Key)
LAN	Local area network
LASER	Light amplification by stimulated emission of radiation
LCD	Liquid crystal display
LCM	Liquid Crystal Module
LD	Laser Diode
LED	Light emitting diode
LEF	Long edge feed
LES	Lexmark Embedded Solution (applications)
LSU	Laser Scanning Unit
LV	Low Voltage
LVPS	Low voltage power supply
M	Magenta
MB	Megabyte
MDC	Motor Driver Control
MFD	Multifunction Device
MFP	Multifunction Printer
MH	Message handling
MIF	Motor interface
mm	Millimeter
MMR	Modified modified read
MPF	Multipurpose feeder
MR	Modem ready
MROM	Masked Read Only Memory
MS	Microswitch
NAND	NAND (usage: NAND gate)
NVM	Nonvolatile Memory
NVRAM	Nonvolatile Random Access Memory
OCF	Operator correctable failure
OCR	Oil coating roll
OEM	Original Equipment Manufacturer
OHP	Overhead projector
OPC	Optical photo conductor
OPT	Optical Sensor
PC	Photoconductor
PDF	Portable Document Format
PICS	Problem isolation charts
PIN	Personal identification number

PIXEL	Picture element
PJL	Printer Job Language
POR	Power-on reset
POST	Power-on self test
PPDS	Personal Printer Data Stream
ppm	Pages per minute
PQET	Print Quality Enhancement Technology
PRC	Peoples' Republic of China
PSC	Parallel Synchronous Communications
PSD	Position Sensing Device
PSO	Participating Standards Organization
PWM	Pulse Width Modulation
RAM	Random access memory
RFID	Radio frequency identification
RH	Relative humidity
RIP	Raster image processor
ROM	Read-only memory
ROS	Read-only storage
RPM	Revolutions Per Minute
SCC	Scanner Control Card
SDRAM	Synchronous Dynamic Random Access Memory
SEF	Short edge feed
SIMM	Single Inline Memory Module
SOL	Solenoid
SOS	Start of scan
SRAM	Static random access memory
TAR	Toner Add Roll
TPS	Toner Patch Sensing
TTM	Tandem Tray Module
TVOC	Total Volatile Organic Compound
UAT	Universally Adjustable Tray
UPR	Used Parts Return
USB	Universal Serial Bus
V	Volts
V ac	Volts alternating current
V dc	Volts direct current
VOIP	Voice over internet protocol
VOM	Volt Ohmmeter
VTB	Vacuum Transport Belt
XPS	XML Paper Specification
Y	Yellow

2. Diagnostics information

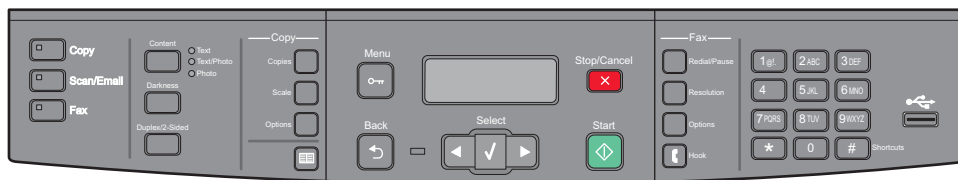
Start



CAUTION: Unplug power from the printer before connecting or disconnecting any cable, assembly, or electronic card. This is a precaution for personal safety and to prevent damage to the printer.

This chapter contains the codes and diagnostic tools to aid in providing corrective action for a malfunctioning printer. To determine the corrective action to repair a printer, look for the following information:

- A description of a problem. See **“Symptom tables” on page 2-23.**
- Information from the operator panel of the printer. See **“Overview of the operator panel and menus” on page 2-2.**



Power-On Self Test (POST) sequence

The following is an example of the events that occur during the POR sequence when the printer is turned on.

1. While code is being loaded into DRAM, dots scroll across the operator panel.
2. A screen is displayed with the memory and processor speed. A typical example of this message is:

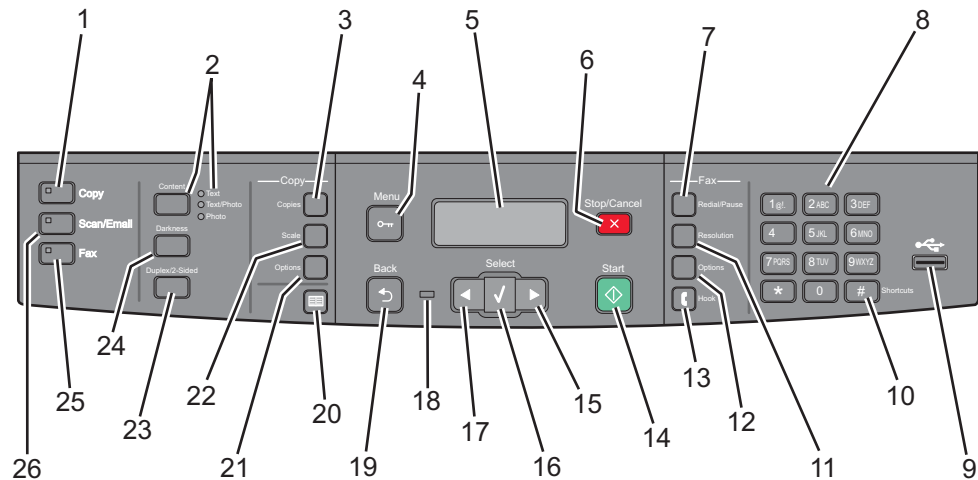
*xxx MB	267 Mhz
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3. Please wait is displayed.
4. Busy is displayed.
5. Close Door will be displayed if the cover is open.
6. Any cartridge errors, such as Defective Cartridge, are displayed.
7. Applicable maintenance messages are displayed.
8. Applicable toner low messages are displayed.
9. The printer displays Ready.

Overview of the operator panel and menus

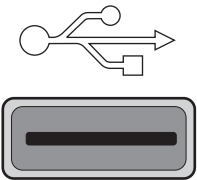
Understanding the operator panel

The printer operator panel has a four-line, back lit, grayscale display that can show both graphics and text. The Mode selection, job setup, Back, and Menu buttons are located to the left of the display, the navigation buttons are located below the display, and the start buttons, stop button, and numeric pad are located to the right of the display. In addition, there is a USB jack that enables printing of certain graphics formats as well as enabling PictBridge functionality.



Operator panel buttons

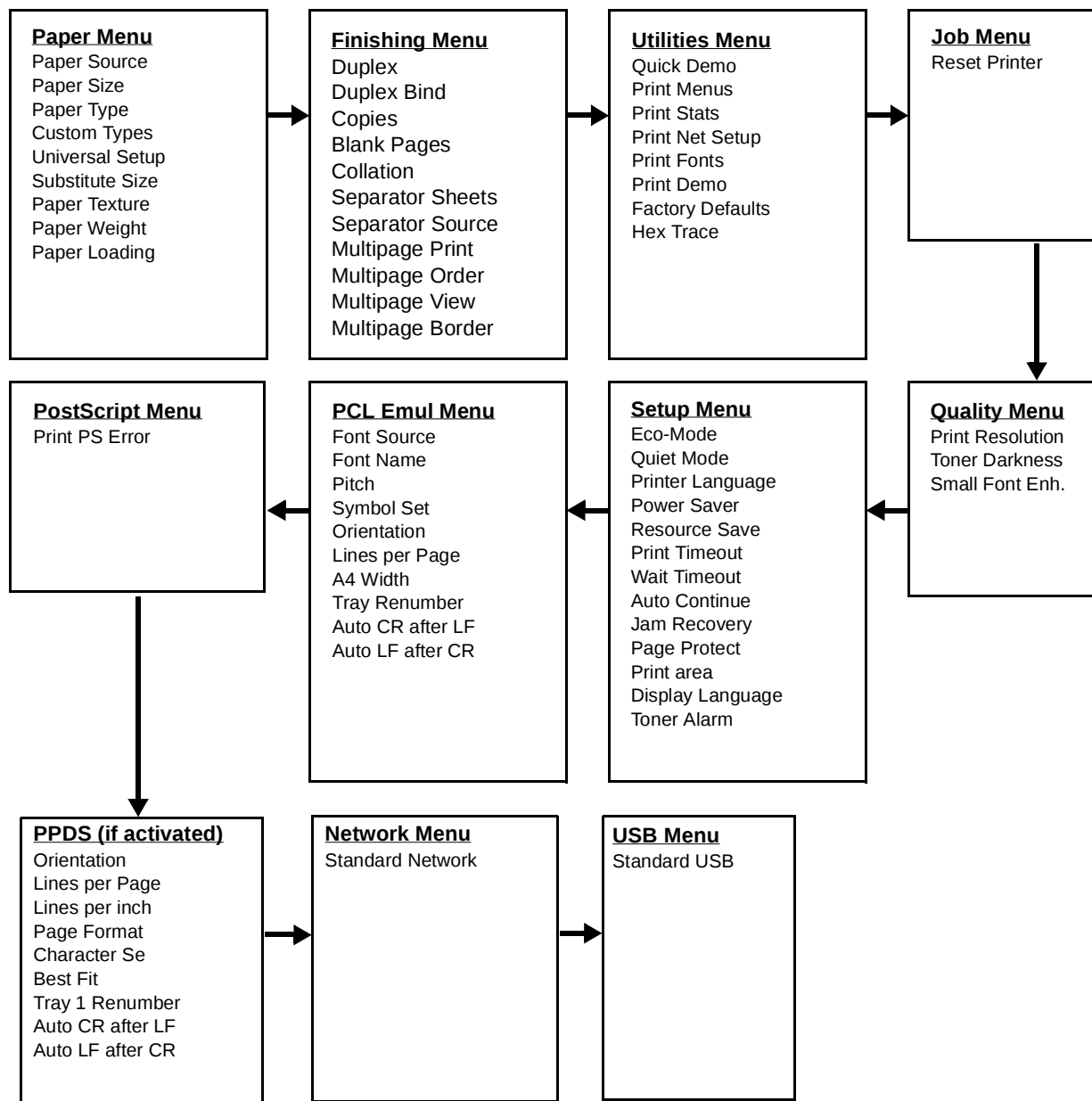
Number	Part	Button	Function
1	Copy button		Enables copy mode
2	Content button		- Enhances copy, scan, e-mail, or fax quality - Choose from Text, Text/Photo, or Photo
3	Copies button		Enters the number of copies to print
4	Menu button		Enters the administrative menus
5	LCD display screen		Displays: - Scanning, copying, faxing, and printing options - Status messages - Error messages

Number	Part	Button	Function
6	Stop/Cancel button		Stops/cancels all printer activity
7	Redial/Pause button		- Press once to cause a two- or three-second dial pause in a fax number. - Press to redial a fax number
8	Keypad		Enters numbers, letters, or symbols on the LCD display
9	Front USB port		Scans to a flash drive or prints supported file types Note: - The front USB port is not available on all models. - When a USB flash memory device is inserted into the printer, the printer can only scan to the USB device or print files from the USB device. All other printer functions are unavailable.
10	Shortcuts button		Enters the shortcut screen
11	Resolution button		Selects a dpi value for the scan (fax only button) Note: Press the right or left arrow buttons to scroll through the values, and then press select to enter a value.
12	Fax options button		Changes the Original Size, Broadcast, Delayed Send, and Cancel settings Note: The fax options button is not available on all models.
13	Hook button		Press once to take the telephone line off-hook. Press a second time to hang up the line. Note: The hook button is not available on all models.
14	Start button		Starts a copy or scan job
15	Right arrow button		Scrolls to the right on the display screen

Number	Part	Button	Function
16	Select button		Accepts menu selections and settings
17	Left arrow button		Scrolls to the left on the display screen
18	Indicator light		Indicates printer status: • Off: the printer is off • Blinking green: the printer is warming up, processing data, or printing • Solid green: the printer is on, but idle • Blinking red: operator intervention is needed
19	Back button		Returns one screen at a time to the Ready screen Note: If a flash drive is connected and the USB menu is displayed, then an error beep will sound when the back button is pressed.
20	Address book button		Opens the address book
21	Copy options button		Changes Original Size, Paper Source, and Collate settings
22	Scale button		Changes the size of the copied document to fit into the currently selected media size
23	Duplex 2-sided button		Scans or prints on both sides of the media. Note: The duplex 2-sided button is not available on all models.
24	Darkness button		Adjusts the current darkness settings
25	Fax button		Enters the fax function Note: The fax button is not available on all models.
26	Scan/Email button		Enters the scan or scan-to-e-mail function

Diagram of the printer menus

Not all menus or selections will be available on all models or in all situations. These are accessed through the driver.



Messages and error codes

User attendance messages

The printer control panel displays messages describing the current state of the printer and indicates possible printer problems that must be resolved. This topic provides a list of all printer messages, explains what they mean, and tells how to clear the messages.

The following table lists the messages in alphanumerical order. A message can also be located using the index.

User status and attendance messages

User primary message	Explanation
Close Door	Message clears when upper and lower doors are closed.
No Analog Phone Line	An analog line is not detected as being plugged into the modem. If the device is in Analog mode, this has a source of Fax. If the device is in Fax Server mode, and the 'Enable analog receive' Fax Server setting is set to 'On', this has a source of Fax Receive. If the device is in Fax Server mode and the 'Enable analog receive' Fax Server setting is set to 'Off', then this IR is not generated.
Memory Full, cannot send faxes	After a start, there is no memory to do the fax job. Attempted fax is canceled.
Fax Station Name not set up	
Fax Station number not set up.	
Insert Duplex Page in Tray <x>	Reload printed page in tray <x>. Cancel Job appears if the job can be canceled.
Install Tray <x> or Cancel job	Printer detects that tray <x> is missing, where x is 1 or 2. This message appears if the job was begun, but the paper has not yet been retrieved. The tray is no longer detected. Replace the indicated tray.
Load <source> <custom string>	Printer does not detect media meeting the description <custom string> in <source>, where <source> is Tray 1, Tray 2, Multi-Page Feeder (MP feeder), or Envelope Feeder. - Load the input source with the correct type and size media. - Cancel the current job.
Load <source> <custom type>	Printer does not detect media meeting the description <custom type> in <source>, where <source> is Tray 1 or Tray 2. - Load the input source with the correct type and size media. - Cancel the current job.
Load <source> <size>	Printer does not detect media meeting the size requested in the source indicated. - Load the input source with the correct type and size media. - Cancel the current job.
Load <source> <type> <size>	Printer does not detect media meeting the size or type requested in the source indicated. - Load the input source with the correct type and size media. - Cancel the current job.
Load Manual <custom type>	Printer does not detect media meeting the description <custom type> in the single sheet feeder (manual feeder). The following actions can be taken: - Load paper, and the job continues. - Press Select (▼), and choose an alternate source for media. - Cancel the current job.

User status and attendance messages (continued)

User primary message	Explanation
Load Manual <custom string>	Printer does not detect media meeting the description <custom string> in the single sheet feeder (manual feeder). The following actions can be taken: • Load paper and the job continues. • Press Select (), and choose an alternate source for media. • Cancel the current job.
Load Manual <size>	Printer does not detect media meeting the description <size> in the single sheet feeder (manual feeder). The following actions can be taken: • Load paper and the job continues. • Press Select (), and choose an alternate source for media. • Cancel the current job.
Load Manual <type> <size>	Printer does not detect media meeting the description <type> and <size> in the single sheet feeder (manual feeder). The following actions can be taken: • Load paper and the job continues. • Press Select (), and choose an alternate source for media. • Cancel the current job.
PJL OP Message	
PJL Seed Message	
PJL ST Message	Try one or more of the following: • Press Select () to clear the message, and continue printing. • Wait for the message to clear.
Remove Paper ADF	This posts when there is paper detected in the ADF upon POR or when the cover is closed (or any other situation that re-initiates the scanner). Message clears when paper is removed.
Remove Paper Standard Bin	The standard output bin is full or nearly full. Remove the media from the bin.
Unsupported USB Device, Please Remove	Remove the unrecognized device from the USB port on the front of the printer.
Unsupported USB Hub, please remove	Remove the unrecognized USB hub/device from the USB port on the front of the printer.
34 Short Paper	• Press Select () to clear the message and continue printing. The printer does not automatically reprint the page that prompted the message. • Check tray length and width guides to ensure paper is properly fitted in the tray. • Make sure the print job is requesting the correct size of paper. • Adjust the Paper Size setting for the size paper you are using. If MP Feeder Size is set to Universal, make sure the paper is large enough for the formatted data. • Cancel the current job.

User status and attendance messages (continued)

User primary message	Explanation
35 RES Save Off Deficient Memory	This message displays when the printer lacks sufficient memory to enable Resource Save. This message usually indicates the user has allocated too much memory for one or more of the printer link buffers; however, modification of other printer settings which affect the amount of available memory may also create this condition. If restoration of Resource Save is required after this message is received, the customer should install additional memory or set each link buffer to Auto. Once all link buffers are returned to Auto, you should exit the menu to activate the link buffer changes. Once the printer returns to the Ready state, you can enable Resource Save and go back and modify the link buffers again. Note the reduction of available memory to the link buffers when Resource Save has been enabled, and compare it to the memory available when Resource Save is disabled. - Press Select () to disable Resource Save and continue printing. To enable Resource Save after you get this message: - Make sure the link buffers are set to Auto, then exit the menus to activate the link buffer changes. - When Ready is displayed, enable Resource Save. - Install additional memory.
37 Insufficient Collation Area	This message is displayed when the printer memory used to store pages is too full to collate the print job. The following actions can be taken: - Press Select () to print the portion of the job already stored, and begin collating the rest of the job. - Press Menus () to access the Busy/Waiting Menu. The following functions are available. - Cancel Job Note: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.
37 Insufficient memory for flash defragment operation	This message is displayed when insufficient printer memory is available to perform Flash Memory Defragment operation. This message appears prior to the actual start of the defragment operation. Press Select () to stop the defragment operation. To perform the defragment operation, you can: - Delete fonts, macros, and other data in RAM. - Install additional printer memory. - Press Menus () to access the Busy/Waiting Menu. The following functions are available using the Busy/Waiting Menu: - Cancel Job - Reset Printer Note: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.
38 Memory Full	This message is displayed when the printer is processing an incoming job and there is not enough memory available to continue processing the job. The following actions can be taken: - Determine how to make more memory available to your print job by: - Deleting fonts, macros and other data in RAM. - Simplify your print job. - Install additional memory - Press Select () to clear the message and continue printing. The job may not print correctly. - Press Menus () to access the Busy/Waiting Menu. The following functions may be available: - Cancel Job

User status and attendance messages (continued)

User primary message	Explanation
39 Complex Page	This message is displayed when a page is too complex to print. The following actions can be taken: - Press Select () to clear the message and continue printing. The job may not print correctly. - Simplify the print job. - Press Menus () to access the Busy/Waiting Menu. The following functions may be available: - Cancel Job - Reset Printer Note: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.
50 PPDS Font Error	This error only occurs when a printer is formatting PPDS print data. The PPDS interpreter has detected a font error. When a specific font, which is not installed, is requested based on a PPDS mode Set Font Global command, a Select Code Page command, or a Comprehensive Font Selection command, and the printer Best Fit setting is off. If Best Fit is on, the printer performs a best fit search to find a similar font, and this error does not occur. This error also displays when the printer receives invalid PPDS download font data. The following actions can be taken while this message is displayed: - Press Select () to clear the message and continue printing. The job may not print correctly. - Press Menus () to access the Busy/Waiting Menu. The following functions may be available: - Cancel Job
51 Defective Flash Detected	Press Select () to clear the message and continue printing. You must install different flash memory before you can download any resources to flash.
52 Flash Full	- Press Select () to clear the message and continue printing. - Delete fonts, macros, and other data stored on the flash memory. - Install a larger capacity flash memory card.
53 Unformatted Flash	Press Select () to clear the message and continue printing. You must format the flash memory before you can store any resources on it. If the error message remains, the flash memory may be defective and require replacing.
54 Standard Network Software Error	This message is displayed when the RIP software detects that a network port is installed but cannot establish communications with it. - Press Select () to clear the message and continue printing. The job may not print correctly. - Program new firmware for the network interface. - Turn the printer power off and then back on to reset the printer.
54 Network <x> Software Error	The printer disables all communications to the associated network interface. No data may be received or sent from or to the associated interface. The user can program new firmware in the network using the USB port after this message clears. - Press Select () to clear the message and continue printing. The job may not print correctly. - Program new firmware for the network interface. - Turn the printer power off and then back on to reset the printer.

User status and attendance messages (continued)

User primary message	Explanation
56 Standard USB Port Disabled	This message may appear when data is sent to the printer across a USB port, but the port is disabled. Note: Once the error is displayed the first time, reporting of further errors is suppressed until the printer is reset or menus are entered. The following actions can be taken: - Press Select () to clear the message. Any data received on the USB port is discarded. - Press Menus () to access the Busy/Waiting Menu. The following functions may be available: - Turn the printer power off and then back on to reset the printer. - Reset Active Bin - Check Supply Levels Make sure the USB Buffer menu item is not set to Disabled. (Press Menus () to access the Administrative Menus, select Network/Ports, USB Menu, and USB Buffer.)
58 Too many Flash Options Installed	1. Turn off and unplug the printer. 2. Remove the excess flash memory. 3. Plug in the printer, and turn it on.
58 Too Many Trays Attached	1. Turn off and unplug the printer. 2. Remove the additional trays. 3. Plug in the printer, and turn it on.
84 PC Kit Life Warning	Replace the PC kit to ensure print quality.
84 Replace PC Kit	
88 Cartridge Low	This warning is displayed when the cartridge is low. Press Check to continue.
88 Cartridge Early Life Warning	
Scanner ADF cover open	The cover to the ADF is open. Close the ADF cover. If this doesn't remedy the problem, See "ADF cover open service check" on page 2-48.
Scan job too long	The scan job exceeds the maximum number of pages. - Break the scan job into multiple small jobs. - Cancel the scan job.
Paper cleared	Paper is cleared from ADF - Cancel job - Restart job - This can only be performed if job recovery is enabled and the job can be restarted. A new job with the same parameters is started.

Cartridge error messages

Error	Description	Action
30	Invalid refill	Replace the cartridge.
31	Missing or defective cartridge	
32	Unsupported print cartridge	

Paper jam error codes (200-series)

Note: The Event log (See **“Event Log” on page 3-15**) will list any of these errors that have occurred.

Repeating jams or jam messages can be caused by any of the following:

- Faulty/contaminated pick solenoids or worn cams of the solenoids.
- Faulty/contaminated flags or springs.
- Debris in the paper path.
- Media not of the specified length.

Error	Description	Action
200.00	Paper jam around input sensor.	Remove the PC kit and paper or debris at the input sensor.
200.01	Classic input jam. The media is too long over the input sensor. Possible causes include multi-sheet feed, tray size sensing problem, and media slippage.	First, remove the PC kit and paper or debris at the input sensor. Then, inspect the flag on the input sensor. It should rotate freely. Replace the sensor if necessary. Finally, check the paper size settings in the printer and the driver.
200.02	The main input sensor never became uncovered from the sheet ahead.	
200.03	The video never started on the page at the input sensor within two inches after hitting the input sensor	Check the printhead. See “Printhead service check” on page 2-43 .
200.04	The media at the input sensor before interrupt occurred—not enough time elapsed since the printhead started to expect the printhead mirror motor lock. Possible causes include bouncy sensor or exceptionally fast pick—perhaps due to media pre-staged in the source tray.	Carefully remove the tray and notice if the leading edge of the media is pointed upward and out of the tray. If so, then inspect the tray wear strips and replace if necessary. Inspect the input sensor flag and replace it if it does not rotate freely or is too loose.
200.06	Imaged page not expected page (bouncy passthru sensor)	Remove the toner cartridge/PC kit. At the front, remove the upper front guide, and inspect the flag on the manual input sensor. If the flag is loose, then replace it. See “Media manual input sensor removal” on page 4-53 .
200.08	Media reached the input sensor before the EP was ready	Inspect the tray for prestaging. Verify the proper media and inspect the tray wear strips. Replace the wear strips if necessary.
200.09	Transfer servo never started	Inspect the LVPS/HVPS. See “Controller board service check” on page 2-26 .
200.12	Media detected at manual feeder sensor when not expected. Possible causes include user insert of media when motor is running or pre-staged media in the tray.	Carefully remove the tray and notice if the leading edge of the media is pointed upward and out of the tray. If so, then inspect the tray wear strips and replace if necessary. Inspect the input sensor flag and replace it if it does not rotate freely or is too loose.

Error	Description	Action
200.13	The input sensor is covered when the media is not expected (media in machine during warm-up).	Remove the toner cartridge/PC kit and inspect the input sensor flag. Replace the flag if necessary.
200.14	Trailing edge cleared manual feed, but did not successfully debounce the sensor. Potential causes are a small gap or a bouncy manual feed sensor.	Remove the toner cartridge/PC kit. At the front, remove the upper front guide, and inspect the flag on the manual input sensor. If the flag is loose, then replace it. See "Media manual input sensor removal" on page 4-53.
200.15	UNRECOVERABLE NO GAP JAM. Engine detected no gap at the manual feeder sensor, attempted to open the gap by stopping the feed rolls, but no trailing edge was ever seen at the input sensor.	Remove the toner cartridge/PC kit. At the front, remove the upper front guide, and inspect the flag on the manual input sensor. If the flag is loose, then replace it. See "Media manual input sensor removal" on page 4-53. Verify that the media is approved. Inspect the wear strips in the input tray, and replace if necessary.
200.16	Transport motor error detected	Inspect the main motor. See "Main motor service check" on page 2-30.
200.17	Took too long to ramp up transport motor	
200.18	Manual feeder sensor never became uncovered from the sheet ahead.	Remove the toner cartridge/PC kit. At the front, remove the upper front guide, and inspect the flag on the manual input sensor. If the flag is loose, then replace it. See "Media manual input sensor removal" on page 4-53.
200.19	The media never reached the input sensor, but was detected at manual feeder sensor.	Remove the toner cartridge/PC kit, and inspect for debris in the paper path. Check the bottom of the PC kit for any obstructions. Remove the upper front guide, and inspect the pinch rollers.
200.20	The media is too long over the manual feeder sensor. Possible causes include multi-sheet feed, media size (length) problem, pre-staged media in the tray.	Verify that the media is approved. Inspect the wear strips in the tray, and replace if they are worn.
200.22	FAILED SMALL GAP OR NO GAP JAM RECOVERY. Engine detected small gap or no gap at the manual feeder sensor, opened the gap by stopping the feed rolls, but never saw the leading edge of the second page at the input sensor.	
200.23	Laser Servo never started due to potential conflict with the transfer servo. Possible causes: slow or missing transport motor positional feedback, or the media is transferred too quickly to the input sensor.	Verify that the media is approved. Inspect the wear strips in the tray, and replace if they are worn. Check the main motor. See "Main motor service check" on page 2-30.
200.24	The measured gap at the input sensor is too small to meet the video delivery requirements. (There is not enough time since prior image finished to start new image)	Verify that the media is approved. Inspect the wear strips in the tray, and replace if they are worn.
200.26	The trailing edge never cleared the input sensor when feeding out the media that was detected during warm-up.	
200.27	Printhead Driver: Mirror motor fell out of lock condition after the media at the input sensor—more time elapsed since the printhead than the expected stable lock time, but less than the printhead jitter-stable specification.	Check the printhead. See "Printhead service check" on page 2-43.
	Mirror motor fell out of lock condition after media at the input sensor—more time elapsed since the printhead than expected stable lock time, but less than the printhead jitter-stable specification.	

Error	Description	Action
200.28	First writing line of a page at the developer nip, but laser servo cleanup is not complete. Likely pre staged media or a fast paper feed.	Verify that the media is approved. Inspect the wear strips in the tray, and replace if they are worn.
200.29	Printhead drive control out of range due to an external event beyond what the control is designed to handle. Probable causes: ESD or noise on hsync signal.	Check the cable routing for the printhead. See "Printhead service check" on page 2-43.
200.30	Narrow media sensor covered during warm-up.	Check that the narrow media flag rotates freely and securely. If it is dislodged or broken, then replace the rear exit guide. See "Rear exit guide assembly with sensor and reversing solenoid removal" on page 4-69.
200.32	Media more than 14 inches too long over the manual feeder sensor. Possible causes include multi-sheet feed or pre-staged media in the tray.	Verify that the media is approved. Inspect the wear strips in the tray, and replace if they are worn.
200.33	Page from tray 1 did not reach the input sensor after multiple attempts. Page did make it out of the tray at least as far as the manual feeder sensor. Possible cause is that the page stalled at the alignment gate.	Verify that the pick tires are clean, not worn, or filled with paper dust. Replace the pick tires if necessary. See "ACM pick tire roller removal" on page 4-3.
200.34	Timed out waiting for page from tray 1 to reach the input sensor after multiple pick attempts, but the page was later detected at the input sensor while waiting for any page(s) ahead to clear the paper path. Possible cause is that the page is delayed at the alignment gate.	The alignment roller may be binding. Call the next level of support.
200.35	Failed to create hsync during auto alignment	Check the printhead. See "Printhead service check" on page 2-43.
200.36	Lost hsyncs during auto alignment	
200.37	Timeout on data collection during auto alignment	
200.38	Interpage servo gap is smaller than expected for printhead offset target evaluation	
200.42	Rogue sheet is at the manual feed sensor while flushing the paper path prior to declaring MPF source empty.	Retry alignment.
200.43	The media is at the input sensor before interruption occurs. Possible causes include bouncy sensor or an exceptionally small gap, perhaps due to the media being pre-staged in the source tray.	Remove the media, realign the stock, and re-insert. Do not let the top sheets to go beyond the wear strips.
201.00	Paper jam between input and exit sensor	Remove the toner cartridge/PC kit and check for obstructions between the input sensor and the fuser. If the media continues to stop at the entrance or in the fuser, then replace the fuser. See "Fuser removal" on page 4-30.
201.01	Transport motor identification failed to identify either motor after two tries.	Check the main motor. See "Main motor service check" on page 2-30.
201.02	Exit sensor never made by leading edge of page. Also known as internal jam.	Remove the PC kit and paper or debris at the input sensor.
201.03	Video never started on the page at the input sensor within two inches after hitting the input sensor	Check the printhead. See "Printhead service check" on page 2-43.
201.05	Restart attempted after an internal jam without the cover open/close event. It is likely that the jam was never cleared.	Check the paper path and remove any media in the path.

Error	Description	Action
201.25	Exit sensor never made by leading edge of media when feeding out the media that was detected during warm-up.	Remove the toner cartridge/PC kit and check for obstructions between the input sensor and the fuser. If the media continues to stop at the entrance or in the fuser, then replace the fuser. See "Fuser removal" on page 4-30.
201.26	Page at fuser nip before fuser started ramping toward desired temperature. Indicates code may be receiving more interrupts than intended	
201.27	Page at fuser nip before fuser reached acceptable operating temperature. Page arrived at fuser earlier than expected, so it was probably staged prematurely.	
202.00	Paper jam around exit sensor.	Open the rear cover, and look for obstructions in the path way. If there are none, then inspect for damage at the fuser, rear door, exit guide, and top cover. Often, the leading edge of the media will indicate the vicinity of damage. If damage is found, then replace the damaged part. Note: Print a page with the rear door open to isolate the fuser from the other parts.
202.01	Exit sensor never broke on the trailing edge of the sheet at the exit sensor.	Open the rear door, and inspect the flag on the exit sensor. The flag is located behind the fuser exit rollers, about mid printer. If the flag does not rotate freely or has no spring action, then replace the fuser. See "Fuser removal" on page 4-30.
202.02	Exit sensor never broke from sheet ahead of page heading toward the exit sensor.	
202.06	Exit sensor bounced	
202.13	Exit sensor covered, media not expected (media not in machine during warm-up)	
202.25	Exit sensor never broke from the sheet ahead of the page heading toward the exit sensor when feeding out the media detected during warm-up.	
202.26	Trailing edge never cleared exit sensor when feeding out media that was detected during warm-up.	Open the rear door, and inspect the flag on the exit sensor. The flag is located behind the fuser exit rollers, about mid printer. If the flag does not rotate freely or has no spring action, then replace the fuser. See "Fuser removal" on page 4-30.
202.32	Long media or shingled multi feed stopped before sending to duplex.	Check the paper setting and correct if needed. While feeding along the media, and immediately after it enters the output bin, open the rear door and obscure the trailing edge and the sensor flag. If there is slippage in the exit guide, then replace the exit guide. See "Rear exit guide assembly with sensor and reversing solenoid removal" on page 4-69.

Error	Description	Action
231.00	Duplex jam while reversing into the device	Open the rear cover and look for obstructions between the rear cover ribs, the fuser exit rollers, and below. The media entering the duplex passes outside the exit roller while the media exiting the fuser passes above and inside the exit rollers. Remove the tray, open the duplex door, and remove the obstructions. If there are no obstructions and the problem persists, then disconnect all of the cables, tilt the printer onto its back (be sure to protect the antenna on a wireless unit), and inspect the flag of the duplex sensor. If the flag does not rotate freely, then replace the paper input and duplex sensor. See "Paper input and duplex sensor assembly removal" on page 4-65. Check the belt and drive of the duplex unit. Replace it if necessary.
231.01	Duplex sensor never made by leading edge reversing into the duplex.	
231.02	Bouncy duplex sensor never made.	
232.00	Duplex jam while staging in the device	
232.01	Duplex sensor never broke by the sheet ahead after reversing into the duplex.	
232.02	Page in duplex ahead of current reversing page never staged.	
233.00	Duplex jam while picking from the device	
233.01	Page in duplex never picked.	
233.02	Feed error picking from the duplex.	
233.03	Paper never reached the input sensor, but was detected at the manual feed sensor.	
234.01	Duplex sensor covered during warm-up.	Check the media. Duplex supports A4, letter, legal, oficio, and folio media sizes.
235.01	Invalid duplex media	
241.00	Paper jam near tray 1.	Remove the tray and inspect the media path for obstructions. Check the pick rollers. Replace the pick rollers if they are worn or clogged with dust. See "ACM pick tire roller removal" on page 4-3. Also check the wear strips and the manual feeder, and replace if necessary.
241.10	Second pick attempt failed from Tray 1	
241.12	Second pick from manual feeder, tray 1, or feeder failed when the media was in the source while other sheets were committed to the paper path.	
241.16	Failed to feed from tray 1. Pages in the paper path have been flushed to the output bin.	
241.17	MISIDENTIFIED SMALL GAP JAM. Engine detected small gap at the manual feeder sensor, attempted to open the gap by stopping the feed rolls, trailing edge was seen at the input sensor, manual feeder sensor is no longer covered.	
241.19	Second pick attempted failed from Tray 1, no pages printed since calling a 241.10 or a prior 241.19.	Remove Tray 2 and inspect for obstruction in the paper path. Check the pick tires for wear or paper dust. Replace if necessary. Check the wear strips and replace if necessary.
242.00	Paper jam near tray 2.	
242.01	Took too long to ramp up dc feed motor	
242.08	Received lots of dc feed interrupts before losing them	Check the connection with Tray 2. (Lift the printer and re-set it on Tray 2.) If the error persists, then replace Tray 2.
242.10	Second pick attempt failed from Tray 2	Remove Tray 2 and inspect for obstruction in the paper path. Check the pick tires for wear or paper dust. Replace if necessary. Check the wear strips and replace if necessary.
242.12	Second pick from manual feeder, tray 1, or feeder failed when media was in the source, other sheets were committed to the paper path.	Check the wear strips and replace them if worn.

Error	Description	Action
242.16	Failed to feed from tray 2. Pages in the paper path have been flushed to the output bin.	Remove Tray 2 and inspect for obstruction in the paper path. Check the pick tires for wear or paper dust. Replace if necessary. Check the wear strips and replace if necessary.
251.00	Paper jam near the manual feeder.	Inspect the pick roller on the MPF or the rollers on the manual feed. If the MPF pick roller is damaged or worn, then replace the MPF. For a printer with a manual feed only (no MPF), clean the roller.
251.10	Second pick attempt failed from manual feeder.	
251.11	Failed to feed from manual feeder. Pages in the paper path have been flushed to the output bin.	
251.12	Second pick from manual feeder, tray 1, or feeder failed when media was in the source while the other sheets were committed to the paper path.	
251.19	Media never reached the input sensor from the manual feeder.	
251.20	The media in the MPF has been pushed in too far.	Remove the media, realign the stock, and re-insert. Do not let the top sheets to go beyond the wear strips.
251.21	The media in the MPF has been pushed in too far.	
290.02	Scanner ADF Feed Jam. The scanner ADF has failed to feed a page to the ADF interval sensor.	Remove the sheet of paper from the ADF. Retry the job. If the error recurs, see “ADF paper jam service check” on page 2-49.
290.10	Scanner Static Jam - 1st scanner sensor. Scanner ADF detects paper at the first scanner sensor while the ADF is in an idle state.	Remove all paper from the ADF. Retry the job. If the error recurs, see “ADF paper jam service check” on page 2-49.
291.00	Scanner Static Jam - 2nd scanner sensor. Scanner ADF detects paper at the second scanner sensor while the ADF is in an idle state.	
292.00	Scanner jam, remove all originals from the scanner. This message appears if the ADF cover is open while paper is fed through the ADF.	Remove the paper from the ADF, and close the ADF cover. If the error recurs, see “ADF cover open service check” on page 2-48.
293.02	Flatbed cover open. The MFP senses that the flatbed cover is open.	Close the flatbed cover. See “ADF cover open service check” on page 2-48.
294.04	Scanner jam, remove all originals from the scanner. Jam at the ADF exit sensor.	294.06 Remove all paper from the ADF. If the error recurs, see “ADF paper jam service check” on page 2-49.
294.05	Scanner jam, remove all originals from the scanner. A jam is detected at the ADF exit sensor.	
294.06	ADF Backfeed Jam. A jam is detected at the ADF exit sensor.	

Service error codes

Service error codes are generally non-recoverable except in an intermittent condition when the printer can be put into POR to temporarily recover from the error condition.

Error	Description	Action
8xx.xx Scanner service errors		
840.01 Scanner disabled	Scanner disabled: the scanner is disabled and cannot be used.	Enter the configuration menu, and re-enable the scanner module. See "840.xx service check" on page 2-44.
840.02 Scanner auto disabled		This message is posted when the MFP PORs. Enter the configuration menu, and re-enable the scanner module. See "840.xx service check" on page 2-44.
841.00	Image pipeline ASIC	See "CCD service check" on page 2-46. Also, see "Flatbed home position service check" on page 2-47.
841.01	Service image processing unit: AFE register mismatch	
841.02		
841.03	Service image processing unit: SCNCHN DMA	
841.04	Service image processing unit: new line too soon interrupt	Check the sequencer settings. See "CCD service check" on page 2-46. Also, see "Flatbed home position service check" on page 2-47.
841.07	Service image processing unit: tonal data overrun	See "CCD service check" on page 2-46. Also, see "Flatbed home position service check" on page 2-47.
841.09	Service image processing unit: image processing too slow	
841.96	System time out: SIZAR out of band interrupt	
841.97	Service image processing unit: output data uncollected	
841.98	Service image processing unit: SCNCHN DMA underrun	
841.99	Service image processing unit interrupt handler delayed crash	
842.00	Scanner failure: communication failure	See "CCD service check" on page 2-46.
843.00	Scanner failure: carriage failed to home or move to desired position	Carriage mechanical failure. See "Flatbed motor service check" on page 2-46.
843.01	Scanner Failure: ADF mechanical failure	See "ADF paper jam service check" on page 2-49.

Error	Description	Action
843.02	Scanner Failure: general mechanical failure detected	See “CCD service check” on page 2-46.
843.03	Scanner Failure: pick roller engage failure	
843.04	Scanner Failure: pick roller disengage failure	
844.yy	Scanner failure: lamp failure	
844.00	Front scan module output level error	
844.01	Front scan module lamp level too low: front Mono channel, Front Color channels, Front Red channel, Front Green channel, and/or Front Blue channel is detected to have low lamp level.	
844.02		
844.03	Rear scan module lamp level too low: Rear Mono channel, Rear Color channels, Rear Red channel, Rear Green channel, and/or Rear Blue channel is detected to have low lamp level.	
845.yy	CCD failure	Check each channel (mono, R, G, B) for identical values indicating bad cable and/or SCC card. Excessive noise test for the dark data indicating some sort of CCD or analog electronics issue on that channel or channels. See “CCD service check” on page 2-46.
845.00	Front scan module cable failure or SCC card failure	
845.01	Rear scan module cable failure or SCC card failure	See “CCD service check” on page 2-46.
845.02	Cable/SCC failure: front scan module connector or cable failure.	
845.03	Cable/SCC failure: rear scan module connector or cable failure	
846.00	Front calibration strip unusable	
846.01	Rear calibration strip unusable	
846.02	Front calibration strip too far left	
846.03	Front calibration strip too far right	
846.04	Front calibration strip has excessive skew	
846.05	Front calibration strip has excessive bow	
846.06	Front calibration strip has excessive dark area: front excessive variability for Mono, Red, Green, or Blue.	
846.07	Front magnification exceeds limits: rear excessive variability for Mono, Red, Green, or Blue.	

Error	Description	Action
847.00	Modem failure: the Configuration ID bit that describes the device's modem doesn't match the actual modem installed in the device.	Replace the controller board. See “Controller board service check” on page 2-26.
847.01	Fax storage: the amount of flash storage available on the device is too small. Note: The NAND Flash partition can shrink as bit failures cause blocks to be invalidated.	
847.02	Fax storage: the device's flash partition is invalid or unavailable.	
848.01	Modem/Config ID mismatch: a device has a modem installed, but its Configuration ID indicates that a modem shouldn't be present.	
849.01	HD/Config ID mismatch: a device has a hard drive installed, but its Configuration ID indicates that a hard drive shouldn't be present.	
Engine software service errors		
902.xx	Engine software error	Replace the controller board. See “Controller board service check” on page 2-26.
903.xx	Paperport link driver error	
904.xx	Interface violation by RIP	
905.xx	Interface violation by paperport device	
906.xx	RIP interface drive error	
DC pick motor errors		
910.xx	DC pick motor stall	
911.xx	DC pick motor excessive PWM	
912.xx	DC pick motor below speed	
913.xx	DC pick motor over speed	
914.00	DC pick motor error	
914.01	Lost encoder feedback	
Transfer service errors		
917.xx	Transfer service error	Replace the transfer roll. See “Transfer roll service check” on page 2-43.
Fuser service errors		
920.00	Under temperature during steady state control.	Replace the fuser. See “Fuser service check” on page 2-29.
921.00	Under temperature during standby control.	
922.00	Fuser failed to ramp to target temperature	
923.00	Fuser is over temperature.	
924.00	Open thermistor check.	
925.xx	Wrong fuser installed. The fuser type stored in the cartridge ID does not match the actual fuser installed in the printer.	
Fan service errors		
927.00	Service fan error	Replace the fan. See “Cooling fan service check” on page 2-27.

Error	Description	Action
Toner service errors		
929.00	Toner sensor error	Remove the toner cartridge, and shake it Try a different toner cartridge, if possible. If the error persists, then replace the toner level sensor. See “Toner level sensor removal” on page 4-75.
929.01	No home window	
929.02	No sensor transition (closed)	
929.03	No sensor transition (open)	
Printhead service errors		
930.xx	Wrong printhead installed	Replace the printhead. See “Printhead service check” on page 2-43.
931.xx	No first hsync	
932.xx	Lost hsyncs	
933.xx	Mirror motor locked: No hsync received	
935.xx	Motor unable to reach operating speed	
Transport motor service errors		
936.xx	Transport motor initial lock failure	Replace the main motor gear drive. See “Main motor service check” on page 2-30.
937.00	Main transport motor lost lock	
Power supply service errors		
940.00	LVPS service error	Replace the LVPS/HVPS. See “LVPS/HVPS service check” on page 2-29.
Controller board and operator panel service errors		
948.xx	Failed engine board	Replace the controller board. See “Controller board service check” on page 2-26.
949.xx		
950.xx	Mismatch between EEPROM and mirror memory Note: A new controller board or operator panel has been installed, and has not been properly prepared for this use. Install a new note. Do not install both the controller board and the operator panel at the same time without a POR in between.	Install a new controller bored or operator panel. See “Controller board service check” on page 2-26 or “Operator panel service check” on page 2-31.
951.xx	Error with secure NVRAM on the controller board	Replace the controller board. See “Controller board service check” on page 2-26.
952.xx	A recoverable MVRAM Cyclic Redundancy Check error occurred.	Performing POR will clear this error.
953.xx	NVRAM chip failure with mirror	Replace the operator panel. See “Operator panel service check” on page 2-31.

Error	Description	Action
954.xx	NVRAM chip failure with system part.	Replace the controller board. See “Controller board service check” on page 2-26.
955.xx	The code ROM or NAND flash failed the Cyclic Redundancy Check or the NAND experienced an uncorrectible multi-bit failure.	
956.00	RIP card failure: processor failure	
956.01	Processor overtemp	
957.xx	RIP card failure: ASIC failure	
958.xx	Printer has performed more than 100 “shift and reflash” operations as a result of ECC bit corrections	
Firmware or controller board errors		
959.01	Controller verification failure of boot code	Call the next level of support to update the firmware, or replace the controller board. See “Controller board service check” on page 2-26.
959.02	Failure to authenticate Signature Verification Code	
959.03	Signature Verification Code failed to authenticate a code partition.	Update firmware and call the next level of support, or replace the controller board. See “Controller board service check” on page 2-26.
959.04	Jump to unverified address	
959.05	Unknown boot failure	
959.20	Chipset hardware failure	Replace the controller board. See “Controller board service check” on page 2-26.
959.21	Chipset did not respond to command request.	
959.22	Challenge secret failure	
959.23	Self test failed during initialization.	
959.24	EEPROM retention error	
959.25	Insufficient device space during HW prog	
959.26	Incremental counter reset exceeds maximum value	
959.27	Increment count failed due to max value limit	
959.28	Invalid SP memory configuration	
Memory and emulation errors		
960.xx	RAM memory error: RAM soldered on the controller board is bad	Replace the controller board. See “Controller board service check” on page 2-26.
961.xx	RAM memory error: memory card in slot is bad.	Replace the memory card.
964.xx	Download Emulation Cyclic Redundancy Check Error: checksum failure detected in the emulation header or emulation file.	Disable the Download Emulation. Program the download emulation into the firmware card again. If this does not resolve the problem, then replace the firmware card and download the emulation again.
Network errors		
975.xx	Unrecognizable network	Call the next level of support.
976.xx	Unrecoverable software error in network port	

Error	Description	Action
978.xx	Bad checksum while programming network port	Call the next level of support.
979.xx	Flash parts failed while programing network port	
Other errors		
980.xx	Engine experiencing unreliable communication with the specified device	Call the next level of support.
981.xx	Engine protocol violation detected by the specified device	
982.xx	Communications error detected by the specified device	
983.xx	Invalid command received by the specified device	
984.xx	Invalid command parameter received by the specified device	
990.xx	An equipment check condition has occurred in the specified device, but the device is unable to identify the exact component failure.	
991.xx	The specified device has detected an equipment check in its system card.	

Symptom tables

POST symptom table

Symptom	Action
The main motor, cooling fan, and fuser do not come on.	See “Cover interlock switch service check” on page 2-27.
POST completes, but the LCD does not come on.	See “Operator panel service check” on page 2-31.
Main motor does not come on.	See “Main motor service check” on page 2-30.
Fan does not come on.	See “Cooling fan service check” on page 2-27.
Fuser does not cycle.	See “Fuser service check” on page 2-29.
Fuser does not turn on and off.	See “Fuser service check” on page 2-29.
The paper feed picks and tries to feed media.	See “Paper feed service checks” on page 2-31.

Note: Investigate any displayed codes before proceeding with these symptoms. For example, a missing toner cartridge will prevent POST from completing.

Printer symptom table

Symptom	Action
Fan noisy or fan not working.	See “Cooling fan service check” on page 2-27.
Fuser parts melted.	See “LVPS/HVPS service check” on page 2-29.
Toner not fused to the media.	See “Fuser service check” on page 2-29 or “Solving print quality problems” on page 2-40.
Paper jams.	See “Paper feed service checks” on page 2-31.
Main motor noisy or not moving.	See “Main motor service check” on page 2-30.
Media skew.	See “Paper feed service checks” on page 2-31.
Printer not communicating with host.	See “USB port service check” on page 2-33.
Front access door will not close.	See “Cover interlock switch service check” on page 2-27.
Operator panel button not responding.	See “Operator panel service check” on page 2-31.
Operator panel lights are off or very dim.	See “Operator panel service check” on page 2-31.
Blank page.	See “Blank page” on page 2-36.
Black page.	See “Black page” on page 2-37.
Heavy background.	See “Heavy background” on page 2-37.
Light print.	See “Light print” on page 2-39.
White or black lines or bands.	See “White or black lines or bands” on page 2-39.
Toner on back of page.	See “Toner on back of page” on page 2-39.
Media never picks.	See “Media never picks” on page 2-32.
Media feeds continuously.	See “Media occasionally mispicks or picks multiple sheets at once” on page 2-32.
Media wrinkled or bent.	See “Media “trees,” wrinkles, stacks poorly, or curls” on page 2-33.
Dead machine (no power).	See “Dead machine service check” on page 2-28.
Print quality problems • Light print • Blurred characters • Toner on both sides of media • Toner not fused • Streaks • Blank pages	See “Solving print quality problems” on page 2-40.

Scan/fax /copy symptom table

Symptom	Action
840.xx scanner error	See "840.xx service check" on page 2-44.
ADF will not duplex (Duplex ADF only)	See "ADF Duplex service check" on page 2-51.
ADF skew	See "ADF feed errors service check" on page 2-50.
Multiple pages feed into ADF	
Documents wont feed into ADF	
Scanner makes buzzing noise on startup or during a scan.	See "Flatbed home position service check" on page 2-47.
Document feeds, but jams in ADF.	See "ADF paper jam service check" on page 2-49.
Black streaks on scans	See "ADF streak service check" on page 2-48.
Blank page	See "Black or blank page copy service check" on page 2-46.
Black page	
No dial tone	See "Modem / fax card service check" on page 2-52.
Machine dials a number but fails to make a connection with another fax machine.	The other fax machine may be turned off. Ask the fax recipient to check their machine.
Incoming fax has blank spaces or poor quality.	1. The sending fax machine may be faulty. 2. The sending fax machine may have a dirty document glass. 3. A noisy phone line can cause errors. 4. Check the MFP print quality by making a copy. 5. The print cartridge may be empty. Replace as necessary.
Invalid fax partition, or fax partition too small.	See "Format Fax Storage" on page 3-29.
Some words on an incoming fax are stretched.	The sending fax machine had a temporary jam.
Faxes fail to transmit.	See "Fax transmission service check" on page 2-53.
Fax reception fails.	See "Fax reception service check" on page 2-55.

Service checks



Service checks which involve measuring voltages on the LVPS/HVPS (low voltage power supply/ high voltage power supply board) should be performed with the printer positioned on its back side.

Note: When making voltage readings, always use frame ground unless another ground is specified. See the wiring diagram in the back of the book for more information.

Controller board service check

Controller board service check

FRU	Action
Controller board assembly Warning: Do not replace the operator panel and controller board at the same time. Each card contains the printer settings. When either of these cards is new, it obtains some of the settings from the other card. Settings are lost when both are new and replaced at the same time.	POST (Power-On Self Test) Note: The printer should complete POST in approximately 30 seconds. If the printer fails to display lights or activate the drive motor, fuser, or fan, then check the following order: 1. Power to the LVPS/HVPS 2. Power from the LVPS/HVPS to the controller board 3. Cables are plugged in correctly, especially for the operator panel. The printer will not power-up without a functioning operator panel. 4. The controller board assembly. The LED adjacent to J12 will be illuminated if the card is powered and good. 5. The operator panel. See “Operator panel service check” on page 2-31.
	Verify +24 V dc input from the LVPS/HVPS. 1. Turn the printer off. 2. Disconnect the LVPS/HVPS cable from the controller board at J22. 3. Turn the printer on. 4. Verify +24 V dc on positions 6, 17, and 19 of the cable connector (LVPS/HVPS). 5. If voltage is correct, then check the continuity in the other conductors of the cable. If the cable is good, then turn the printer off, and check the connectors to the controller board. 6. Verify that pins 10, 12, 14, 16, and 18 on both the cable and the card connector are grounded. 7. If grounds are not correct on the cable, but the cable passes continuity otherwise, then check the LVPS/HVPS. 8. If the grounds are not correct on the controller board, then replace the controller board. (Check with one probe on the connector pin and the other on the card's ground plane found at each screw head.)
	Controller board voltage outputs Turn the printer off, and plug the LVPS/HVPS cable into J22 of the controller board. See the wiring diagram at the end of the manual which identifies the output voltages and grounds for a good controller board. Turn the printer off before plugging or unplugging any connectors.

Controller board service check (continued)

FRU	Action						
 LVPS/HVPS	Verify main power to controller board With the printer off, unplug the LVPS/HVPS cable at J22 on the controller board. Verify grounds on pins 10, 12, 14, 16 and 18 for both the cable and the controller board. If any of these grounds are incorrect, then check the cable for continuity. If the cable fails continuity, then call the next level of support. Turn the printer on with the cable still unplugged, and verify the following on the cable (controller board will not be powered): <table border="1"> <thead> <tr> <th>Pins</th><th>Voltage</th></tr> </thead> <tbody> <tr> <td>6, 17, 19</td><td>+24 V dc</td></tr> <tr> <td>1, 3-5, 11, 13, 15</td><td>+5 V dc</td></tr> </tbody> </table> If any of the voltages are incorrect, then replace the LVPS/HVPS. See “Dead machine service check” on page 2-28.	Pins	Voltage	6, 17, 19	+24 V dc	1, 3-5, 11, 13, 15	+5 V dc
Pins	Voltage						
6, 17, 19	+24 V dc						
1, 3-5, 11, 13, 15	+5 V dc						

Cooling fan service check

FRU	Action
Cooling fan	Make sure the fan cable plug is properly seated at J13 (controller board). Turn the printer on. Within a few seconds, the controller board assembly should apply +24 V dc to pin 2. • If voltage is not present, then check or replace the controller board. See “Controller board removal” on page 4-13. • If voltage is present, then check pin 1 for 24 V dc as well. If it is close to 24 V dc while the fan is still idle, then replace the fan. See “Fan removal” on page 4-22.

Cover interlock switch service check

Note: Make sure a print cartridge assembly is installed and the cover closes all the way, engaging the cover open switch lever.

FRU	Action
Cover interlock switch	Disconnect the cover interlock cable from the controller board at J6. With the printer turned off: 1. Verify continuity between cable pin 1 and pin 2 with the door closed and discontinuity with the door open. 2. Verify continuity between cable pin 1 and pin 3 with the door open and discontinuity with the door closed. 3. Verify discontinuity between cable pins 2 and 3 whether the door is open or closed. • If any fail, then replace the cover interlock switch. • If both pass continuity, then turn the printer on, and measure +5 V dc on pin 2 at J6 on the controller board. • Verify pin 3 at J6 is ground. • If voltage or ground is not present, then see “Controller board service check” on page 2-26 for more information.

Dead machine service check

CAUTION: Check the AC line voltage. The voltage should be within the following limits:

- 100 V ac (volts alternating current)-127 V ac for the 110 V printer
- 200 V ac-240 V ac for the 220 V printer

FRU	Action								
 LVPS/HVPS	Unplug the printer. Remove the LVPS/HVPS, and check the fuses for continuity. • If open, then replace the LVPS/HVPS. • If not open, then check the switch continuity across its conductors with the switch on. Turn the switch off. Plug the AC line into the LVPS/HVPS and switch unit on. Note: Voltages are exposed at several places on the board. Do these verifications, and then unplug the AC cord from the power supply: <table data-bbox="738 651 1117 892"> <tr> <th>Pins</th><th>Voltage</th></tr> <tr> <td>CN201-6, 17, 19</td><td>+24 V dc</td></tr> <tr> <td>CN201-10, 12, 14, 16, 18</td><td>Ground</td></tr> <tr> <td>CN201-1,3, 5, 11,13, 15</td><td>+5 V dc</td></tr> </table> • If voltages are not correct, then replace the LVPS/HVPS. • If voltages are correct, then check the controller board. See “Controller board service check” on page 2-26.	Pins	Voltage	CN201-6, 17, 19	+24 V dc	CN201-10, 12, 14, 16, 18	Ground	CN201-1,3, 5, 11,13, 15	+5 V dc
Pins	Voltage								
CN201-6, 17, 19	+24 V dc								
CN201-10, 12, 14, 16, 18	Ground								
CN201-1,3, 5, 11,13, 15	+5 V dc								

Fuser service check

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

The line voltage to the printer must be within the following limits:

- 100 V ac-127 V ac for the 110 V model printer
- 200 V ac-240 V ac for the 220 V model printer



This printer uses a belt fuser and therefore does not have a lamp.

Fuser service check

FRU	Action
 Fuser power cable LVPS/HVPS Fuser	Unplug the printer, and disconnect the fuser cable plug from the LVPS/HVPS board connector at CN102. Check for continuity across the fuser by checking across the connector pins. • If there is continuity, then check the LVPS/HVPS. See “LVPS/HVPS service check” on page 2-29. • If there is no continuity, then disconnect the fuser power cable at both ends and check each conductor for continuity. Replace cable if necessary. • If the cable tests good, then replace the fuser. Reconnect the cables, turn the printer on, and at &12, check for approximately +5 V dc on pin 1 and ground on pin 2. If line voltage is incorrect on pin 1, then see “Controller board service check” on page 2-26 for more information.
 Fuser	Disconnect the thermistor cable from J11 on the controller board. Measure the resistance across the ends of the thermistor cable. Replace the fuser assembly if the resistance is lower than 1K ohm or shorted. Note: Resistance measures approximately 400K ohms when cool and 1K ohms hot.

LVPS/HVPS service check

FRU	Action
 LVPS/HVPS	LVPS portion of board Fuses that open typically indicate a faulty LVPS/HVPS. Disconnect the power cable, and open the LVPS/HVPS enough to test the switch. The switch will show continuity across the conductors with a meter when the switch is on. If the switch is good, then see “Dead machine service check” on page 2-28 for more diagnostics. HVPS portion of board Problems with the HVPS are exhibited in the print quality. See “Networking service check” on page 2-34 for more information.

Main motor service check

FRU	Action						
 Main motor gear drive Main motor cable LVPS/HVPS Controller board Warning: Do not replace the operator panel and controller board at the same time. Each card contains the printer settings. When either of these cards is new, it obtains the settings from the other card. Settings are lost when both are new and replaced at the same time.	Turn off the printer, and unplug the main motor cable at J19. Turn on the printer, and check for the following voltages at J19: <table data-bbox="721 390 1135 520"> <tr> <th>J19 pins</th><th>Voltages</th></tr> <tr> <td>Pins 1-4, 6</td><td>Approx. 5 V dc</td></tr> <tr> <td>Pins 7-9</td><td>18 V dc-24 V dc</td></tr> </table> Verify ground at pin 5 for both the card and cable. - If these voltages are correct, then check the main motor cable for continuity. - Remove the left side cover to access the connector on the motor. - If continuity exists on each wire, then replace the main motor gear drive which includes the motor. - If continuity does not exist on one or more of the wires, then call the next level of support. - If these voltages are not correct, then see “Controller board connector pin values” on page 5-3, or replace the controller board. See “Controller board removal” on page 4-13.	J19 pins	Voltages	Pins 1-4, 6	Approx. 5 V dc	Pins 7-9	18 V dc-24 V dc
J19 pins	Voltages						
Pins 1-4, 6	Approx. 5 V dc						
Pins 7-9	18 V dc-24 V dc						

Operator panel service check

Inspect the operator panel cable for damage. Make sure the cable is plugged in securely. Run POST, and check each light for proper operation. See **“Power-On Self Test (POST) sequence” on page 2-1.**

LCD Operator panel service check

FRU	Action
Operator panel (LCD) Controller board Warning: Do not replace the operator panel and controller board at the same time. Each card contains the printer settings. When either of these cards is new, it obtains the settings from the other card. Settings are lost when both are new and replaced at the same time.	Lights If the LCD does not come on, then open the controller board cage and locate the operator panel connector at J14. Make sure the cable is properly connected to the controller board and the controller board has input voltage to it. With the printer on, verify the following without disconnecting the cable: • Pins 1, 3, 5, and 6: 3.3 v • Pin 2: 5 v • Pins 4 and 7: GND If these are approximately correct and the operator panel is not functioning, then replace the operator panel. If any are incorrect, then see “Controller board service check” on page 2-26. Buttons If the buttons do not respond, then replace the operator panel. There is no test or repair for the faulty switches on the operator panel.

Paper feed service checks

Paper jam error indication during POST

FRU	Action
Fuser (exit sensor)	If the exit sensor flag, which is visible at the back of the fuser, is in any position other than vertical, then the printer will display a paper jam. Make sure the flag is operating freely. Replace the fuser if the sensor is damaged.
Input/duplex sensor Manual feed sensor	Make sure the input paper feed sensors are working properly. A stuck or incorrectly installed sensor causes a paper jam indication.

Media picks but stops halfway through the printer

FRU	Action
Input/duplex sensors (under print cartridge assembly) Input sensor (manual)	Make sure the input sensors are working properly. Check for a broken or stuck flag on the input sensors. Clear anything that keeps the flags from rotating freely. Make sure the cables are seated on the controller board at J30 (input/duplex sensor) and J26 (manual input). Check for +5 V dc on pin 2 and 5 at J30 (input/duplex sensors) and pin 2 at J26 (Input sensor). Voltages on pins 1 and 4 at J30 pin 1 at J26 should change as the flags intersect with the sensor. • If correct, then replace the input paper feed sensor. • If these voltages are not correct, then replace the controller board. • Check the pick tires. Clean or replace as necessary.

Media never picks

FRU	Action
Paper feed (pick tires) tray 1 Paper feed (pick tires) tray 2 Media drive ASM Media feed clutch ASM Manual feed clutch ASM P/U and manual feed solenoid ACM drive shaft	Open the left cover, and verify that the solenoids and clutches are functioning when an attempt is made to feed the media. Make sure the rubber tires on the ACM are installed and clean. Replace the tires, ACM drive, clutch assemblies, solenoids, or drive shaft as necessary.

Media occasionally mispicks or picks multiple sheets at once

FRU	Action
Tray 1 Tray 2 (option)	Check tray for media catch points. If the sheet being fed stops momentarily, then the ACM applies additional vertical force, causing additional sheets to feed. Do not mix media types in one tray.
Paper pick tires (Tray 1 or tray 2)	Check the tires in the ACM assembly for signs of wear or damage. Replace the tires as necessary.
ACM clutch Manual feed clutch Media feed clutch ASM (tray 1 only) Manual feed clutch solenoid	Open left cover, and observe the solenoid and clutch actions at the ACM and manual feed shafts as a print job is attempted. Replace the faulty part.
Controller board P/U and manual feed solenoid ASM	Disconnect the solenoid cable at J27 on the controller board and measure the resistance across cable pins 1 and 2. • The resistance should be approximately 70 ohms. • If it is not, then replace the solenoid. • If the resistance is approximately 70 ohms, then check the controller board. Pin 1 at J27 should be +24 V dc. See “Controller board service check” on page 2-26 for more information. Replace controller board as necessary.

Media skews

FRU	Action
Paper feed (pick tires) tray 1 Paper feed (pick tires) tray 2 Tray 1 Tray 2 (option)	Check tires for debris. If tires are new, then try reversing each on its hub. Check side guides on Tray 1 and Tray 2. Guides set for a full stack of media may be too wide when the stack is short.

Media “trees,” wrinkles, stacks poorly, or curls

FRU	Action
Fuser	This problem is most likely due to a worn backup roll. It causes the printer to run hotter than required for the media being printed. Excessive heat can cause media treeing problems, poor stacking, or curl. Print the menu sheet found under Utilities. Look at the media settings. Some, such as card stock or rough texture, may require a higher fuser temperature, which leads to more of these problems (except stacking) in plain paper. • Change settings using the printer driver. • Use the local printer setup utility (included on the CD) to change the NVRAM settings. Try a different ream of paper. Moist media has a higher tendency to crease (treeing) and curl.

USB port service check

1. Perform a print test to make sure the printer prints correctly. Verify that the indicator light is on, then print the menu settings by selecting Print Menu under Utilities.
2. Be sure the printer USB cable is designed for bidirectional printing.
3. Be sure the user's application is set up correctly.
4. If the internal print test page prints correctly, the user's application/printer driver is set up correctly, and the correct USB cable is installed, but the printer still fails to print on command from the host computer, then replace the controller board.
5. Check the USB cable for continuity.

Networking service check

Note: Before starting this service check, print out the network setup page. This page is found under Menu - Reports - Network Setup. Consult the network administrator to verify that the physical and wireless network settings displayed on the network settings page for the device are properly configured. If a wireless network is used, verify that the printer is in range of the host computer or wireless access point, and there is no electronic interference. Have the network administrator verify that the device is using the correct SSID, and wireless security protocols. For more network troubleshooting information, consult the Lexmark Network Setup Guide.

Step	Questions / actions	Yes	No
1	If the device is physically connected to the network, verify that the ethernet cable is properly connected on both ends. Is the cable properly connected?	Go to step 3. If the network is wireless, got to step 3.	Go to step 2.
2	Connect the ethernet cable. Did this fix the problem?	Problem resolved	Go to step 3.
3	Check the printer's online status under Printers and Faxes on the host computer. Delete all print jobs in the print queue. Is the printer online and in a Ready state.	Go to step 5.	Go to step 4.
4	Change the printer status to online. Did this fix the issue?	Problem resolved.	Go to step 5.
5	Does the IP address displayed on the network settings page match the IP address in the port of the drivers using the printer?	Go to step 10.	Go to step 6.
6	Does the LAN use DHCP? Note: A printer should use a static IP address on a network.	Go to step 7.	Go to step 9.
7	Are the first two segments if the IP address 169.254?	Go to step 8.	Go to step 9
8	POR the printer. Is the problem resolved	Problem resolved	Go to step 10.
9	Reset the address on the printer to match the IP address on the driver. Did this resolve the issue?	Problem fixed.	Go to step 10.
10	Have the network admin verify that the printer and PC's IP address have identical subnet addresses. Are the subnet addresses the same?	Go to step 12.	Go to step 11.
11	Using the subnet address supplied by the network admin, assign a unique IP address to the printer. Note: The printer IP address should match the IP address on the printer driver. Did this fix the problem?	Problem resolved.	Go to step 12.
12	Is the device physically connected (ethernet cable) to the network?	Go to step 13.	Go to step15.

Step	Questions / actions	Yes	No
13	Try using a different ethernet cable. Did this remedy the situation?	Problem resolved	Go to step 14.
14	Have the network administrator check the network drop for activity. Is the drop functioning properly?	Replace the controller board. See "Controller board removal" on page 4-13.	Contact the network administrator.
15	Is the printer on the same wireless network as the other devices?	Go to step 17.	Go to step 16.
16	Assign the correct wireless network to the printer. Did this fix the problem?	Problem resolved	Go to step 17.
17	Are the other devices on the wireless network communicating properly?	Go to step 18.	Contact the network administrator.
18	Verify that the wireless card is properly seated on the controller board. Is the wireless card seated correctly?	Go to step 20.	Go to step 19.
19	Properly reseal the wireless card. Did this fix the problem?	Problem resolved.	Go to step 20.
20	Is the antenna damaged?	Go to step 22.	Go to step 21.
21	Replace the antenna. Did this fix the problem?	Problem resolved	Go to step 22.
22	Verify that the antenna is properly connected to the wireless card. Is it connected correctly?	Go to step 24.	Go to step 23.
23	Properly connect the antenna. Did this fix the problem?	Problem resolved	Go to step 24.
24	Check pin 6 for +3.3V, and Pin 5 for +5V. on connector J3 of the controller board. Pin 1 and 4 are GND. Are the voltages and GNDs correct?	Replace the wireless card. See "Wireless card removal" on page 4-82.	Replace the controller board. See "Controller board removal" on page 4-13.

Print quality service checks

Note: Ensure the cover closes tightly. A gap in the opening may allow light to expose the photoconductor, resulting in a 'dirty' print. Extreme environmental conditions, temperatures, and humidity will affect the print quality.

Using print quality test pages

To help isolate print quality problems, like streaking, print test pages using the print quality test pages. To print the print quality test pages:

1. Enter Configuration Menu.
 - a. Turn off the printer.
 - b. Turn on the printer while pressing and holding  and .
 - c. Hold  and  down until the first row of dots displays, and then release.
 - d. The message **CONFIG MENU** displays.
 - e. Press  to **Prt Quality Pgs**.
 - f. Press  to print the pages.
Four pages print to help evaluate print quality. The first page has various fonts and a graphic, the second page is gray with graphics, the third page is black, and the last page is blank.
2. Use the test pages to isolate problems such as light or toner streaks. See **"POST symptom table" on page 2-23** for solutions to these problems.
3. Press  to **Exit Config Menu**, and press .

To exit configuration, turn the printer off.

Note: Refer to the print defects guide at the end of the manual for repeating defects.

Blank page

FRU	Action
Toner cartridge (not a FRU)	Remove the toner cartridge, and gently shake it to evenly distribute the toner. Check for cartridge damage.
 Printhead LVPS/HVPS Controller board	Blank pages can be caused by a defective printhead assembly, LVPS/HVPS, or controller board. • Printhead errors typically result in printer service errors unless there is blockage of the beam or dust on the lens. Check the lens and opening for blockage. • Blank pages typically are caused by the PC roll not being properly charged. Try a different PC kit. • With the cartridge out, check the spring loaded contacts on the right side for free motion. None should be ground except for #4 contact from the front. Unplug the printer, and check the cable continuity between the LVPS/HVPS connector marked OPC (at CN202) and the corresponding wire form (spring) found about 14 mm above and to the right of the transfer roll gear. • If there is not continuity, then call the next level of service. Try a different toner cartridge and PC kit. • If those fail, then replace the LVPS/HVPS, controller board, or the printhead in that order. Also, see "Solving print quality problems" on page 2-40.

Black page

Note: Incorrect laser exposure or incorrect charging of the photoconductor causes an all black page. Always verify the same results from a different print cartridge assembly and developer before proceeding.

FRU	Action
Toner electrodes (not a FRU)	Check the three rearward electrodes below the toner cartridge assembly for contamination, damage, or a short to ground. Correct as necessary. Check continuity between the cable (DEV, TAR, and doctor blade) connection PCN3 and on the contact tips below the toner cartridge assembly. • If continuity fails, then call the next level of service.
 LVPS/HVPS board Controller board Miscellaneous cables	With the printer off, disconnect the LVPS/HVPS cable from J22 on the controller board. Turn the printer on, and verify +24 V dc on pins 17 and 19 of the cable. Verify +5 V dc on pins 1, 3, 5, 13, and 15. Verify ground on pins 10, 12, 14, 16, and 18. • If any of the values are incorrect, then replace LVPS/HVPS board. • If the grounds are incorrect, then check ground paths. • Check continuity in the cable. If the cable is bad, then call the next level of support. • If the values are correct and the toner electrodes are good, then replace the controller board. • See the “LVPS/HVPS service check” on page 2-29 and the “Controller board service check” on page 2-26, if necessary.

Heavy background

Poor development or poorly charged toner particles cause excessive background. This is more noticeable as the toner cartridge nears end-of-life.

FRU	Action
Toner cartridge (not a FRU) PC Kit (not a FRU)	Check the toner darkness setting in the driver. Try a lower setting. Make sure the toner cartridge and PC Kit are correctly installed and the high voltage contacts are clean. If the toner cartridge and PC Kit are installed correctly, then try a new PC Kit first and then toner cartridge.
 LVPS/HVPS Controller board	Check the contacts for correct installation and contamination where contact is made between the print cartridge assembly and spring contacts which connect to the LVPS/HVPS board at CN203. Clean as necessary. If this does not correct the problem, then replace the following FRUs one at a time in the order shown: • LVPS/HVPS board (See “Black page” on page 2-37 for pin values.) • Controller board

Partial blank image/white spots (no repeating pattern)

FRU	Action
Toner cartridge (not a FRU)	Remove the toner cartridge assembly, and gently shake the assembly to evenly distribute the toner. Check to make sure that the laser light path is not blocked. If toner cartridge is low, then try a new one.
Paper (not a FRU)	Make sure recommended media is being used. Check the media settings in the printer driver. A heavier media may require higher heat to properly fuse.

Variation in image density horizontally across page

FRU	Action
PC Kit (not a FRU)	The charge roll may have an unbalanced force against the PC (photoconductor) drum. Try a new PC Kit.
Transfer roll	Note: Do not touch the transfer roll except at its ends. Place a sheet of paper over the roll to prevent damage from finger oils or hand lotion. Check the springs in the left and right transfer roll bearings. The bearing assemblies should support the transfer roll, applying evenly distributed forces to the PC drum. Replace the transfer roll assembly if the springs or bearings show signs of damage, or fatigue. Inspect the transfer roll for signs of wear, damage or contamination. Replace as necessary.

Poor fusing of image

FRU	Action
Fuser	The fuser may not be operating at the proper temperature to fuse the toner to the paper. See "LVPS/HVPS service check" on page 2-29 for more information. Try changing the setting to heavier paper or even card stock.
Media (not a FRU)	Make sure recommended media is being used. Check the media settings in the printer driver.

Light print

FRU	Action
Toner cartridge (not a FRU)	Make sure the toner cartridge and PC Kit are installed correctly and that the toner cartridge is not low on toner. If the problem continues, then install a new toner cartridge. Recheck condition before replacing PC Kit, if necessary.
 Transfer roll LVPS/HVPS card	Check the transfer roll for signs of toner buildup and contamination. Inspect the HVPS contact (transfer roll) for contamination. Verify the high voltage cable is plugged into the LVPS/HVPS. If all components appear free of contamination, then replace the following FRUs one at a time in the order shown: • Transfer roll • LVPS/HVPS card

White or black lines or bands

FRU	Action
Print cartridge assembly (not a FRU) Developer drive coupling assembly Main motor gear drive	Banding appears as light or dark horizontal lines on a uniformly gray page or on a page with a large area of graphics. Banding is primarily due to a variation in the speed of the media as it feeds through the printer, especially in the developer and transfer process. It may also be a result of overly dry or moist environments. With the printer off, check to make sure that the laser beam is not blocked. Inspect the toner cartridge and paper feed components, especially the drive coupler and drive gears for debris, binds, or damage.

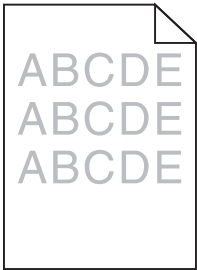
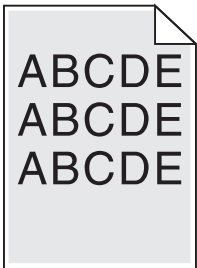
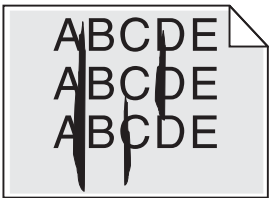
Toner on back of page

FRU	Action
Photoconductor kit (not a FRU)	Print a menu page found under Utilities, and check settings for media type. Inspect the overall paper path for signs of spilled toner. Gently clean the contaminated areas with a soft cloth.
Fuser	Inspect the fuser for signs of contamination. Replace the fuser as necessary.
Transfer roll	A transfer roll contaminated with toner can cause toner to transfer to the back of pages. Inspect the transfer roll for contamination and its cable for continuity.
HVPS or controller board	Loss of the proper high voltages can cause excessive toner to contaminate the transfer roller. None of these voltages can be measured, but the contacts and continuities can be checked. To check the lower voltage, see J502 on the wiring diagram. Replace the LVPS/ HVPS or controller board as necessary.

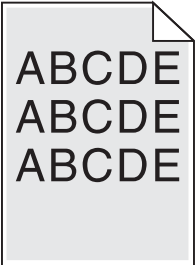
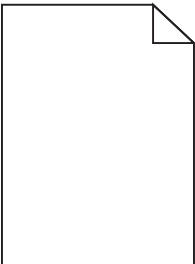
Solving print quality problems

Note: Refer to the print defects guide at the end of the manual for repeating defects.

Print quality problems

Problem	Cause/action
Light or blurred characters. 	Light print See “Light print” on page 2-39. The toner cartridge may be getting low on toner: • Remove the toner cartridge and print cartridge assembly. • Shake it from side to side to redistribute the toner. • Reinstall it, and recheck for condition. • Make sure to use the recommended print media (see media types and sizes in the <i>User's Guide</i>). • Use MarkVision™ Professional to define the custom type setting for media type, media texture, or media weight. • The toner cartridge or PC Kit may be defective. Replace the PC Kit first, and recheck. Blurred characters Blurred images, including characters, are usually caused by a defective printhead. Vertical white lines See “Vertical streaks” on page 2-40. Vertical white lines may be caused by the laser beam, which may be partially blocked. With the printer off, clear the path or clean the lens. The toner cartridge or fuser may be defective. Try a different toner cartridge. Inspect the fuser at its entry for debris.
Toner smudges appear on the front or back of the page. 	• Make sure the media is straight and unwrinkled. • Replace the PC Kit, and recheck before replacing the toner cartridge. See “Toner on back of page” on page 2-39 for more information.
Vertical or horizontal streaks appear on the page 	Vertical streaks Something could be caught between the PC kit and the fuser. Check the paper path around the fuser entry. Try a different toner cartridge. Vertical white lines may be caused by the laser beam, which may be partially blocked. With the printer off, clear the path or clean the lens. The toner cartridge or fuser may be defective. Try a different toner cartridge. Inspect the fuser at its entry for debris. Horizontal streaks The toner cartridge or the fuser may be the cause due to excessive page count or defect. Replace as needed. If the lines are parallel and match the two intended ghost images, then the Form Type may be incorrectly set. Check those settings. The PC cleaner sump may be full. Replace the PC kit.

Print quality problems (continued)

Problem	Cause/action
Toner smears or rubs off the page. 	• Toner is not being fused to the paper. Replace the fuser. • Change the media texture setting in the driver. If special media is being used, such as card stock or labels, then be sure to select the correct media type. • Try a different kind of paper. Paper designed for copiers gives the best quality fusing.
The print is getting light, but the printer has not indicated it is low on toner.	• Toner is becoming low in the cartridge. • The Toner Low message does not display if the 1,500-page toner cartridge is installed. • Remove the toner cartridge, and gently shake it from side to side to redistribute the toner. • Replace the toner cartridge.
The Toner Low message displays.	• Remove the toner cartridge, and gently shake it from side to side to redistribute the toner. • Replace the toner cartridge.
Solid black areas on transparencies	• There is a mismatch in the transparency and what the software is expecting. • Choose a different fill pattern in the software program. • Remove the toner cartridge, and gently shake it from side to side to redistribute the toner. • Try a different type of transparency. • Replace the toner cartridge.
Faint images or repetitive spots appear on the page.	• Select a different media type or form type setting from the printer driver. • Try a different type of paper. Media designed for copiers gives the best quality. • Replace the toner cartridge.
Pages are blank. 	• The print cartridge may be out of toner or defective. Replace the cartridge. • There may be a software error. Re-initialize the printer by turning it off and back on. • With the printer off, check the printhead beam path. If clear, then check for a printhead error on POR. See "Printhead service check" on page 2-43. • Also, see "Blank page" on page 2-36.

Print quality problems (continued)

Problem	Cause/action
The printer is on and indicates ready, but nothing prints.	• Make sure the USB cable is not damaged and is firmly plugged into the connector on the back of the printer. • Make sure the toner cartridge assembly is installed properly. • Print the menu page found under Utilities. - If a menu settings page cannot be printed, then contact the next level of support. - If a menu settings page can be printed, then the problem is one of the following: • Computer • Software program • Cable • (USB only) A failed controller board. Replace card. Note: Test by unplugging USB and plugging it with the printer on. If the computer indicates "unknown device," then replace the controller board.
Toner Low light is on and printing stops.	If a 3.5K or more page toner cartridge is being used and the Toner Low alarm is set to on, then the printer stops printing until the toner cartridge is replaced.
The Error light alone is on.	Make sure the front printer cover is closed.
The Toner Low light is blinking, and the Error light is on.	• Make sure the toner cartridge is installed correctly. • Install a new toner cartridge.
The media skews or buckles.	• Tray is overfilled or media is too loose. • Don't overfill Tray 1 or the optional Tray 2 (see media capacities in the media types and sizes table in the <i>User's Guide</i>). • Make sure the paper guides are flush against the edges of the media.
The media sticks together, resulting in the printer feeding multiple sheets.	• The friction between sheets is too high. • Remove the media from Tray 1 or Tray 2, and fan it. • Don't overfill Tray 1 or the optional Tray 2 (see media capacities in the media types and sizes chart in the <i>User's Reference</i>).
The media fails to feed from Tray 1.	• Frictional force between tires and media is less than resisting force. • Remove the media from Tray 1, and fan it. • Make sure Tray 1 is selected from the printer driver. Do not overfill the tray. • Check the condition of the rubber on the paper feed rolls. Replace if worn or contaminated. • Verify that the ACM clutch is functioning correctly.
The media fails to feed from the optional Tray 2.	• Incorrect tray selection or inadequate picking force by tires. • Make sure the correct tray and media type are selected from the driver. • Make sure the tray is pushed all the way in. • Remove the media from the optional Tray 2, fan it, and reload. • Check the rubber on the paper feed tires for dirt or any other debris. Replace as necessary. • Check the paper path in the tray for burrs or debris that may hinder media movement. • Make sure the media does not exceed the stack height indicator.
Load Paper displays even though there is media loaded in the optional Tray 2.	• The input sensor does not sense media after picking. • Make sure the tray is pushed all the way in. • Press . • Check the feed tires. (See two preceding actions.)
The printer does not print after a paper jam has been cleared.	• The printer is waiting on the next command. • Clear all jams. • Press and release , or open and close the printer cover to restart the printer. • Make sure the print cartridge assembly is installed properly.

Print quality problems (continued)

Problem	Cause/action
Unexpected characters print, or characters are missing.	• Ensure correct printer driver is being used. • Select hex trace mode to determine what the problem is. • Restore factory defaults. • Make sure the USB cable or USB cable is firmly plugged in at the back of the printer.
Jobs are not printing, and an error message is displayed.	• The printer is waiting for an appropriate command. • Make sure the print cartridge assembly is installed properly. • Make sure the printer front cover is closed.
While in PostScript 3 emulation, the printer is flushing data (an error message is displayed).	• Ensure the correct PostScript driver is being used. • The printer doesn't have enough memory to print the job. Install more memory.

Printhead service check

FRU	Action
 Printhead Note: New printhead must be aligned. See "Printhead assembly electronic adjustment" on page 3-23.	Turn the printer off. Disconnect the printhead cables from J12 and J8 on the controller board. Turn the printer on with the front door closed. On the controller board, verify +5 V dc on pin 10 at J12 and +5 V dc on pins 1, 2, and 3 at J8. Verify grounds on pins 2, 4, and 7 at J12 and on pin 4 at J8. • If voltages or grounds are incorrect, then check the controller board. See "Controller board service check" on page 2-26 for more information. • If voltages are correct, then replace the printhead (comes with cables).

Transfer roll service check

FRU	Action
 Transfer roll	Note: Do not touch the transfer roll except at its ends. Place a sheet of paper over the roll to prevent damage from finger oils or hand lotion. Check the springs in the left and right transfer roll bearings. Do not try to move the left spring. The bearing assemblies should support the transfer roll, applying evenly distributed forces to the PC drum. Replace the transfer roll assembly if the springs or bearings show signs of damage or fatigue. Inspect the transfer roll for signs of wear, damage, or contamination. Replace as necessary.

Tray 2 service check

FRU	Action
Tray 2	Turn the printer off. Separate the printer from Tray 2. Turn the printer on and check the voltages on connector J28 on the controller board. See the wiring diagram at the end of the service manual, or "Controller board connector pin values" on page 5-3 for the J31 connector. Pins 1, 4: 3.3 V Pin 2: 24 V Pin 6: Ground If the voltages are incorrect, then replace the controller board. If the voltages are correct, then try using Tray 2 again. If the printer error persists, then replace Tray 2.

840.xx service check

Step	Questions / actions	Yes	No
1	POR the machine into configuration mode. Go to the disable scanner menu item. See "Disable Scanner" on page 3-31. Select "Enable ADF/FB -Enabled and press ☒ to save the change. POR the MFP to operating mode. Try running a copy from the ADF and flatbed. Did the 840.xx error recur?	Go to step 2.	Stop. Problem resolved.
2	Re-enter Configuration mode, scroll to and select the Disable Scanner menu item. Does the screen display ADF Disabled or Auto Disabled?	Go to step 3.	Go to step 8.
3	Check the ADF cable connections on the ADF relay card and connector J4 on the controller board. Also inspect the cable connections on JFBM1, J1 and J2 on the controller board. Are the connections properly connected?	Go to step 5.	Go to step 4.
4	Properly connect the connections on the ADF relay card and controller board. POR the machine into configuration mode. Go to the disable scanner menu item. See "Disable Scanner" on page 3-31. Select "Enable ADF/FB -Enabled and press ☒ to save the change. POR the MFP to operating mode. Try running a copy from the ADF and flatbed. Did the 840.xx error recur?	Go to step 5.	Stop. Problem solved.
5	Check the continuity on the ADF cable. Is there continuity?	Go to step 7.	Go to step 6.

Step	Questions / actions	Yes	No
6	Replace the ADF cable. POR the machine into configuration mode. Go to the disable scanner menu item. See “Disable Scanner” on page 3-31. Select “Enable ADF/FB -Enabled and press ☒ to save the change. POR the MFP to operating mode. Try running a copy from the ADF and flatbed. Did the 840.xx error recur?	Go to step 7.	Stop. Problem solved.
7	Replace the ADF unit. See “ADF removal” on page 4-4. POR the machine into configuration mode. Go to the disable scanner menu item. See “Disable Scanner” on page 3-31. Select “Enable ADF/FB -Enabled and press ☒ to save the change. POR the MFP to operating mode. Run a copy from the ADF. Did the 840.xx error recur?	Go to step 8.	Stop. Problem solved.
8	Inspect JFBM1, J1 and J2 on the controller board. Are the connections properly connected?	Go to step 10.	Go to step 9.
9	Properly connect all the connections. Did the 840.xx error recur?	Stop Problem solved.	Go to step 10.
10	Replace the flatbed unit. See “Flatbed removal” on page 4-24. POR the machine into configuration mode. Go to the disable scanner menu item. See “Disable Scanner” on page 3-31. Select “Enable ADF/FB -Enabled and press ☒ to save the change. POR the MFP to operating mode. Run a copy from the flatbed. Did the 840.xx error recur?	Go to step 11.	Stop. Problem solved.
11	Replace the controller board. See “Controller board removal” on page 4-13. Did this fix the problem?	Problem solved.	Contact second-level support.

Black or blank page copy service check

Step	Questions / actions	Yes	No
1	Print a menu page, or a page from the host. Is the page black?	See “Networking service check” on page 2-34	Go to step 2.
2	Is the copy an ADF scan?	Go to step 3.	Go to step 4.
3	Run a flatbed copy. Is it blank or black?	Go to step 5	Go to step 4
4	Did the sheet feed into the ADF?		Go to step 5.
5	Is the CCD ribbon cable properly connected to J2 on the controller board?	Go to step 6.	Properly connect the ribbon cable to J2.
6	Check for +14VDC on Pin 33 and 34 on connector J2. Pin 31 and 32 are +5VDC. Are the voltages present?	Replace the flatbed unit. See “Flatbed removal” on page 4-24.	Replace the controller board. See “Controller board removal” on page 4-13.

CCD service check

Step	Questions / actions	Yes	No
1	Restart the device, and retry the scan / copy job. Repeat this step with a few copy jobs. Does the error return?	Go to step 2.	No issue.
2	Is the CCD ribbon cable properly connected to J2 on the controller board?	Go to step 3.	Properly connect the ribbon cable to J2.
3	Replace the flatbed unit. See “Flatbed removal” on page 4-24. Did this resolve the issue?	Problem resolved.	Replace the controller board. See “Controller board removal” on page 4-13.

Flatbed motor service check

Step	Questions / actions	Yes	No
1	Ensure that the flatbed motor cable (JFBM1) is connected. Is the cable connected?	Go to step 2.	Properly connect the cable.
2	Check pin 1 in JFBM1 for voltage. The voltage is only present when a flatbed copy job is running. The voltage should measure +24V AC. Is voltage present?	Replace the flatbed unit. See “Flatbed removal” on page 4-24.	Replace the controller board. See “Controller board removal” on page 4-13.

Flatbed home position service check

Step	Questions / actions	Yes	No
1	POR the MFP. Does the CCD move and return to the home position?	Problem solved.	Go to step 2.
2	Perform the home position sensor test. See "Scanner Tests" on page 3-17. Is the sensor working properly?	Go to step 3.	Go to step 5.
3	Check JFBM1 on the controller for proper connection. Is it connected properly?	Go to step 4.	Properly connect the cable.
4	Check pin 1 in JFBM1 for voltage. The voltage is only present when a flatbed copy job is running. The voltage should measure +24V AC. Is voltage present?	Go to step 5.	Replace the controller board. See "Controller board removal" on page 4-13.
5	Ensure that the home position cable (JHS1) is connected. Is the cable connected?	Go to step 6.	Properly connect the cable.
6	Check pin 1 in J1 for voltage. The voltage should measure +5V DC. Pin 2 should be GND. Is voltage present and is it correct?	Replace the flatbed unit. See "Flatbed removal" on page 4-24.	Replace the controller board. See "Controller board removal" on page 4-13.

ADF cover open service check

Step	Questions / actions	Yes	No
1	Is the ADF cover properly closed?	Go to step 3.	Go to step 2.
2	Close the ADF cover. Does the problem go away?	Issue resolved	Go to step 3.
3	Perform the ADF cover open sensor test. See "Scanner Tests" on page 3-17 . Does the sensor work properly?	Go to step 4	Go to step 8.
4	On the bottom of the ADF cover, inspect the ADF cover closed sensor actuator. Does it move freely?	Go to step 6.	Go to step 5.
5	Fix the actuator so it moves freely. Does this fix the problem?	Issue resolved.	Go to step 6.
6	Remove the ADF rear cover and inspect the ADF cover closed sensor for dirt and debris. Is there dirt and debris present?	Go to step 7.	Go to step 8.
7	Clean the dirt and debris from the sensor. Does this fix the issue?	Issue resolved.	Go to step 8.
8	Inspect the connections on the ADF relay card in the ADF. Are all the connections properly connected?	Go to step 9.	Secure all the connections.
9	Check the ADF cable for continuity. Is there continuity?	Go to step 10.	Replace the ADF cable. See "ADF cable removal" on page 4-7 .
10	Check for signals or voltages from J4 on the controller board. Pin 11 and 12 should measure +24VDC. Pin 5 should measure +14VDC. Are there signals or voltages present?	Replace the ADF. See "ADF removal" on page 4-4 .	Replace the controller board. See "Controller board removal" on page 4-13 .

ADF streak service check

Step	Questions / actions	Yes	No
1	Do streaks appear on the middle of scans when using the ADF?	Clean the ADF glass on the flatbed using a lint-free cloth. Kit 40X0392 is available for cleaning the glass on the flatbed. Also, clean the separator roll and pad with a damp cloth.	No issue to fix.

ADF paper jam service check

Note: This service check should be used if the paper feeds and jams in the ADF. If the paper is not feeding into the ADF see **“ADF feed errors service check” on page 2-50.**

Step	Questions / actions	Yes	No
1	If the ADF is multi-feeding, check for dirt on the ADF separator pad and ADF separator rollers. Are they dirty?	Clean them with a lint free cloth and isopropyl alcohol.	Replace the separator pad and ADF pick roll.
2	If the paper is skewing when it is fed into the ADF, check the paper guide width. Is it set correctly?	Go to step 3.	Set the paper guides so they contact the edges of the paper.
3	If paper is skewing when fed or jamming check to see if the top cover is open or ajar. Is the ADF top cover open or ajar?	Properly close the top cover.	If the paper is jamming in the ADF, go to step 6.
4	Is paper failing to feed into the ADF?	Go to step 5.	There is no issue.
5	Perform the ADF paper present, scan 1st and scan 2nd sensor tests. See “Scanner Tests” on page 3-17. Are the sensors working properly?	Go to step 6.	Go to step 9.
6	Check the leading edge of the paper to ensure the paper is not curled or bent in a way that would keep it from contacting the paper present sensor actuator. Is the paper damaged?	Bad media.	Go to step 7.
7	Is there dirt in the sensors, or is the paper present actuator stuck?	Clean the sensors, or remove debris from the actuators.	Go to step 8.
8	Are the sensor actuators on the ADF mechanism cover damaged?	Replace the ADF.	Go to step 9.
9	Is the ADF connector properly connected to J4 on the controller board?	Go to step 10.	Properly connect the cable to the controller board.
10	Inspect the connections on the ADF relay card in the ADF. Are all the connections properly connected?	Go to step 11.	Secure all the connections.
11	Check the ADF cable for continuity. Is there continuity?	Go to step 12.	Replace the ADF cable.
12	Check for signals or voltages from J4 on the controller board. Pin 11 and 12 should measure +24VDC. Pin 5 should measure +14VDC. Are there signals or voltages present?	Replace the ADF unit. See “ADF removal” on page 4-4.	Replace the controller board. See “Controller board removal” on page 4-13.

ADF feed errors service check

Step	Questions / actions	Yes	No
1	If the ADF is multi-feeding, check for dirt on the ADF separator pad and ADF separator rollers. Are they dirty?	Clean them with a lint free cloth and isopropyl alcohol.	Replace the separator pad and ADF pick roll.
2	If the paper is skewing when it is fed into the ADF, check the paper guide width. Is it set correctly?	Go to step 3.	Set the paper guides so they contact the edges of the paper.
3	If paper is skewing when fed or jamming check to see if the top cover is open or ajar. Is the ADF top cover open or ajar?	Properly close the top cover.	If the paper is jamming in the ADF, see "ADF paper jam service check" on page 2-49.
4	Is paper failing to feed into the ADF?	Go to step 5.	There is no issue.
5	Is the leading edge of the paper wrinkled or torn?	Use different media.	Go to step 6.
6	Perform the ADF paper present sensor test. See "Scanner Tests" on page 3-17. Is the sensor working properly?	Go to step 7.	Properly connect all the connections in the ADF relay card.
7	Check the actuators to see if they are jammed, or damaged. Are they jammed or damaged?	Replace the ADF. See "ADF removal" on page 4-4.	Go to step 8.
8	Properly connect all the connections in the ADF relay card and controller board. Did this fix the situation?	Problem resolved	Go to step 9.
9	Check the ADF cable for continuity.	Go to step 6.	Replace the ADF cable. See "ADF cable removal" on page 4-7.
10	Replace the ADF. See "ADF removal" on page 4-4. Does this fix the situation?	Problem solved	Replace the controller board. See "Controller board removal" on page 4-13.

ADF Duplex service check

Step	Questions / actions	Yes	No
1	Perform sensor 1, and sensor 2 sensor tests. See "Scanner Tests" on page 3-17 . Are the sensors working properly?	Go to step 2.	Go to step 3.
2	Check the ADF sensor actuators to ensure they move freely. Are the actuators moving freely?	Go to step 3.	Attempt to clean the actuators. If the actuators are broken or still don't move freely, then replace the duplex ADF unit. See "ADF removal" on page 4-4 .
3	Check all the connections on the ADF relay card. Are they properly connected?	Go to step 4.	Properly connect all the connections.
4	Check the ADF cable to ensure it is properly connected to CN 15 on the ADF relay card, and main controller board at J4. Is the ADF cable properly connected?	Go to step 5.	Properly connect the ADF cable to its connections.
5	Check the ADF cable for continuity. Make sure pin 22 has continuity. Is there continuity on pin 22?	Go to step 6.	Replace the ADF cable. See "ADF cable removal" on page 4-7 .
6	Replace the ADF. See "ADF removal" on page 4-4 . Does this fix the situation?	Problem solved	Replace the controller board. See "ADF input tray removal" on page 4-8 .

Modem / fax card service check

Step	Questions / actions	Yes	No
1	Is the phone line properly connected to the modem card and the wall jack?	Go to step 3.	Go to step 2.
2	Properly connect the phone line to the modem card and wall jack. Did this fix the problem?	Problem resolved.	Go to step 3.
3	Test the phone line's ability to send and receive calls. Did the phone line work properly?	Go to step 5.	Go to step 4.
4	Use the MFP on a properly functioning phone jack. Did this fix the problem?	Problem resolved.	Go to step 5.
5	Is the modem card ribbon cable properly connected to the controller board at JMOD2 and the modem card?	Go to step 7.	Go to step 6.
6	Properly connect the modem card cable to the modem card and controller board. Did this fix the problem?	Problem resolved.	Go to step 7.
7	Check the modem card ribbon cable for continuity. Is there continuity?	Go to step 8.	Replace the modem card cable.
8	Check the voltages from connector J39 on the controller board. Check Pin 4 and 5 for +3.3VDC. Pin 7 for +5VDC. 9, 11, 13, 15, 17, and 19 are grounds. Are the signals or voltages present?	Replace the modem card.	Replace the controller board. See "Controller board removal" on page 4-13.

Fax transmission service check

Note: Before performing this service check, verify that the correct country code for the MFP is selected. This setting must match the country in which the MFP is used to transmit and receive faxes. If the setting is wrong, the modem settings can be changed in the Fax/SE menu. See step 14. These settings should only be performed with guidance from your second-level support.

Step	Questions / actions	Yes	No
1	Is the phone line properly connected to the modem card and the wall jack?	Go to step 3.	Go to step 2.
2	Properly connect the phone line to the modem card and wall jack. Did this fix the problem?	Problem resolved.	Go to step 3.
3	Test the phone line's ability to send and receive calls. Did the phone line work properly?	Go to step 5.	Go to step 4.
4	Use the MFP on a properly functioning phone jack. Did this fix the problem?	Problem resolved.	Go to step 5.
5	Is the phone line being used by the MFP an analog line?	Go to step 8.	Go to step 6.
6	Is the line being used a VOIP line?	Go to step 7.	Go to step 8.
7	Have the system administrator verify that the VOIP server is configured to receive faxes. Is the server properly configured?	Go to step 8.	Stop here. The issue is VOIP related. The VOIP provider needs to change the server configuration.
8	Is the MFP on a PABX?	Go to step 9.	Go to step 10.
9	Enable Behind a PABX under fax settings in the Administration menu. Did this fix the issue?	Problem fixed.	Disable Behind a PABX , and go to step 10.
10	Is a dial prefix needed to get an outside line?	Go to step 11.	Go to step 12.
11	Try sending a fax using a dial prefix. Did the fax transmit?	Problem fixed.	Go to step 12.
12	Is the fax failing to send to one specific destination?	Go to step 13.	Go to step 14.
13	Check the device that cannot receive a fax. Can it send a fax?	Go to step 14.	Stop here. The issue is with the other device.
14	Press **411 to enter the Fax/SE Menu. Select "Print Logs". Print the T30 transmission log. Check the error being reported with the fax error code table. See "Service error codes" on page 2-17 . Perform the suggested resolution for the error. Did this fix the problem?	Problem resolved.	Go to step 15.

Step	Questions / actions	Yes	No
15	Adjust the "Transmit Level" setting in the SE menu. Press **411 to enter the SE menu, enter Modem settings, and select "Transmit Level". Test by adjusting the transmitted signal strength by decreasing/increasing the 'Transmit Level' setting in steps of 1db. For example, if default value is -11 db, changing it to -12db will decrease the signal strength by 1db, and changing it to -10db will increase the signal strength by 1db. Recommended adjustment range is ± 5 db (in 1db steps) from the default value. Did this fix the problem?	Stop. Problem resolved.	Go to your second-level of support. See "Escalating a fax issue to second-level support" on page 2-57.

Fax reception service check

Step	Questions / actions	Yes	No
1	Is the phone line properly connected to the modem card and the wall jack?	Go to step 3.	Go to step 2.
2	Properly connect the phone line to the modem card and wall jack. Did this fix the problem?	Problem resolved.	Go to step 3.
3	Check for a dial tone. Is there a dial tone?	Go to step 4.	Go to step 6.
4	Use a telephone to test the phone line's ability to send and receive calls. Did the phone line work properly?	Go to 7.	Go to step 5.
5	Use a telephone handset to verify the phone line is free of static or external noise. Is the phone line noise-free?	Go to step 7.	Go to step 6.
6	Use the MFP on a properly functioning phone jack. Did this fix the problem?	Problem resolved.	Go to step 7.
7	In <diags / config menu>, verify that the Enable Fax Receive setting is on. Is the setting set to on?	Go to step 9.	Go to step 8.
8	Set "Enable Fax Receive" to On. Did this fix the problem?	Problem resolved.	Go to step 9.
9	Is Distinctive Ring enabled?	Go to step 11.	Go to step 10.
10	Turn on Distinctive ring. Did this fix the problem?	Problem resolved.	Go to step 11.
11	Is the phone line analog?	Go to step 13.	Go to step 12.
12	Is the VOIP server configured to support fax?	Go to step 13.	Stop here. This is an issue with the VOIP provider.
13	Does the MFP have reception issues with only a certain remote device?	Go to step 14.	Go to step 15.
14	Verify communications with a different remote device. Can the other device receive faxes?	The issue is with the other device.	Go to step 15.
15	Go to the Administrator menu. Enter the Fax settings - Analog Fax Settings submenu. Verify the Block No Name Fax user setting. Is it enabled?	Go to step 16.	Go to step 17.
16	Disable Block No Name Fax user setting. Did this fix the issue?	Problem resolved.	Go to step 17.

Step	Questions / actions	Yes	No
17	Go to the Administrator menu. Enter the Fax settings - Analog Fax Settings submenu. Verify the remote device number is not in the Banned Fax List user setting. Is the remote device number in the banned fax list?	Go to step 18.	Go to step 19.
18	Remove the remote number from the banned fax list. Did this fix the problem?	Problem resolved.	Go to step 19.
19	Adjust the "Receive Threshold" setting in the SE menu. Press **411 to enter the SE menu, enter Modem settings, and select "Receive Threshold". Test by adjusting the received signal level by decreasing/increasing the "Receive Threshold" setting in steps of 2db. For example, if default value is -43 db, changing it to -45db will decrease the received signal level by 2db, and changing it to -41db will increase the received signal level by 2db. Recommended adjustment range is between -33db and -48db (in 2db steps). Did this fix the problem?	Problem resolved.	Go to step 20.
20	Press **411 to enter the SE Menu. Select "Print Logs". Print the T30 transmission/ job log. Check the error code being reported. See "Service error codes" on page 2-17 . Perform the suggested resolution for the error. Did this fix the problem?	Problem resolved.	Contact your second-level of support. See "Escalating a fax issue to second-level support" on page 2-57 .

Escalating a fax issue to second-level support

Before contacting the second-level support, go to the SE menu on the MFP and generate a Fax error file. This file contains machine settings information and debug information that will help second-level support determine the cause of a failure.

To generate the fax error file, perform the following steps:

1. In a Web browser, type `http://MFP ip address/se`.
2. The MFP's SE menu page will display. Click the "Dump Job History" link. The following displays:

Fax Job Log							
Wednesday, 2006-02-08 11:25							
Action	Date	Time	Job #	Length	Station Name/Number	Pages	Status
SCAN	1969-12-31	19:00				9	OK
SEND	2006-02-01	13:55	73	17:53	4039	2	CANCELED
SEND	2006-02-01	13:56	74	17:53	4039	0	CANCELED

3. Write down the type of connection, the type of error, and the job in which the error occurred.
4. In the Web browser address bar, type `http://MFP ipaddress/se`.
5. Click **Report a Fax Problem (A)**. The fax check list displays.
6. Fill in the requested information. This is where you will type in the information you retrieved in step 3. Second-level support can assist you if you have questions about the information requested on the page.

Title/Name of Tester	Your Name	Date of Event	Date of Event	mm/dd/yyyy
Customer	Customer Name	Time of Event	Time of Event	hh:mm [A,P]M
Job ID	Job ID	#####		
Describe the Physical Connection:				
Type:	Description:		Channel Quality:	
☒ Analog	☐ VoIP/FoIP		☒ Clear	
☐ Digital	☐ PAB		☐ OK	
	☐ ISD		☐ Some Noise	
			☐ Very Noisy	

Note: The fields requesting the code levels, model number, type of problem are auto-filled. If the information is not in the fields, it can be retrieved from the SE menu. The SE menu can be accessed by pressing ****411** on the keypad or typing `http://MFP ipaddress/se` in a Web browser.

7. After all the requested information is entered into the Fax Checklist Web page, press the **Submit** button on the bottom of the page. A dialogue asking you to save the file will appear.

Note: The file generated by the MFP is not automatically transmitted to second-level support. It is placed on the computer desktop.

8. Enter a name for the file, and indicate where you want to save the file.
9. Press **OK**. The file appears on the desktop.
10. E-mail the file to second-level support.

3. Diagnostic aids

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

Menu key combinations

There are different test menus that can be accessed during POR to identify problems with the printer.

Configuration Menu	1. Turn off printer. 2. Press and hold  and .  3. Turn on the printer. 4. Release the buttons when Performing Self Test displays.	The Configuration Menu group contains a set of menus, settings, and operations which are infrequently required by a user. Generally, the options made available in this menu group are used to configure a printer for operation. See “Configuration Menu” on page 3-26 for more information.
Diagnostics Mode	1. Turn off printer. 2. Press and hold  and .  3. Turn on the printer. 4. Release the buttons when Performing Self Test displays.	The Diagnostics Mode group contains the settings and operations used while manufacturing and servicing the printer. See “Diagnostics Menu (Diag Menu)” on page 3-2 for more information.

These menus do not require a POR to access them:

Network SE Menu	1. Enter Customer Network/Ports menu. 2. Press and hold Left () and Right (.  3. Release the buttons when the menu appears.	This menu contains settings for fine tuning the communication settings for the network interfaces and protocols.
FAX SE Menu	1. Enter **411 while in the Home Prime screen.	This should be used only under the guidance of second-level support. See “Fax transmission service check” on page 2-53 and “Fax reception service check” on page 2-55.
SE Menu	1. From a Web browser on a host PC, add /se to the printer IP address.	
Invalid Engine Code Mode	1. Turn off the MFP. 2. Press and hold Back () and Left (.	This mode is used if the machine has invalid code and needs the correct code loaded. After entering this mode, the firmware code can be updated.
Additional error message information	While error displays on panel, press Back () and Right (.	Access secondary debug information.

Diagnostics Menu (Diag Menu)

Note: Tray 2 refers to the 650-sheet tray located in the 650-sheet Duo Drawer assembly.

Diagnostics menu structure

When the Diagnostics mode is entered, each Diagnostics main menu item displays on the operator panel. When a diagnostic test is selected from the main menu, a sub menu displays, and each individual test displays in the order shown. Any options that are referred to in the menus are displayed when the option is installed.

Available tests

The tests display on the operator panel in the order shown:

Diagnostics mode tests

REGISTRATION	
Printer	These tests are performed to adjust the print head registration. See “Registration” on page 3-4.
Top Margin	
Bottom Margin	
Left Margin	
Skew	
Quick Test	
MISC TESTS	
Motor Detect	See “Motor Detect” on page 3-6.
PRINT TESTS	
Tray 1	See “Print Tests” on page 3-6.
Tray 2 (if installed)	
Manual Feeder (if installed)	
MP Feeder (if installed)	
Prt Quality Pgs	See “Prt Quality Pages” on page 3-26.
HARDWARE TESTS	
Panel Test	See “Panel Test” on page 3-7.
Button Test	See “Button Test” on page 3-7.
DRAM Test	See “DRAM Test” on page 3-7.
USB HS Test Mode	
DUPLEX TESTS (if installed)	
Quick Test	See “Quick Test (duplex)” on page 3-9.
Left Margin	See “Left Margin (duplex)” on page 3-9.
Top Margin	See “Top Margin (duplex)” on page 3-10.
Sensor Test	See “Sensor Test (duplex)” on page 3-10.
Duplex Feed 1	
INPUT TRAY TESTS (if Tray 2 is installed)	
Feed Tests	See “Feed Tests” on page 3-11.
OUTPUT BIN TESTS	
Feed Tests	See “Feed Tests” on page 3-11.
Sensor Test	See “Sensor Test” on page 3-11.

Diagnostics mode tests (continued)

BASE SENSOR TEST	See “Base Sensor Test” on page 3-12.
Front Door	
Input	
Fuser Exit	
Standard Bin	
DEVICE TESTS	See “Printer Setup” on page 3-12.
Flash Test	
PRINTER SETUP	
Defaults	See “Defaults” on page 3-12.
Perm Page Count	See “Page Counts” on page 3-12.
Serial Number	See “Serial Number” on page 3-13.
Engine Setting 1 through 4	
Model Name	See “Model Name” on page 3-13.
Configuration ID	See “Configuration ID” on page 3-13.
Edge to Edge	
Enable Edge to Edge Copy	See “Enable Edge to Edge Copy” on page 3-14.
EP SETUP	
EP Defaults	See “EP Defaults” on page 3-14.
Fuser Temp	See “Fuser Temperature (Fuser Temp)” on page 3-14.
Transfer Adjust	See “Transfer” on page 3-14.
Print Contrast	See “Print Contrast” on page 3-14.
Charge Roll	See “Charge Roll” on page 3-14.
Gap Adjust	See “Gap Adjust” on page 3-14.
Auto Dark Adj	See “Automatic Darkness Adjustment (Auto Dark Adj)” on page 3-15.
REPORTS	
Main Settings Page	See “Main Settings Page” on page 3-15.
EVENT LOG	
Display Log	See “Display Log” on page 3-15.
Print Log	See “Print Log” on page 3-16.
Clear Log	See “Clear Log” on page 3-16.
Scanner Tests	
ASIC Test	See “ASIC Test” on page 3-17.
Feed test	See “Feed Test” on page 3-17.
Sensor Test	See “Sensor Test” on page 3-17.
EXIT DIAGNOSTICS	This selection exits Diagnostics mode, and Resetting the Printer displays. The printer performs a POR and returns to normal mode.

Registration

The Registration menu settings adjusts the margins. To set print registration, select **REGISTRATION** from the Diagnostics menu. The following will display:

REGISTRATION
Top Margin

Note: Pressing  will display one margin setting per line below the **REGISTRATION** header.

The **REGISTRATION** settings and values are:

Setting	Value
Top Margin	-16...16 (0)*
Bottom Margin	-20...20 (0)*
Left Margin	-25...25 (0)*
Print Quick Test Page	None

Margins

To change the value of any margin setting, press  or  to increase or decrease the margin setting value, and then press  to save. The panel displays Submitting changes . . . and returns to the initial **REGISTRATION** menu screen. To exit the margin setting menu without changing the setting's value, press .

Top Margin

This setting moves the top margin up or down. Increasing the margin value moves text down the page and increases the amount of space between the page's top edge and the top margin. Decreasing the margin value moves text up the page and narrows the amount of space between the page's top edge and the top margin. The default margin is 1/6 inch.

Note: Modifying the top margin moves the entire image either up or down on the physical page. In order to preserve the bottom margin, changing the top margin does not compress or expand the image.

Bottom Margin

This setting moves the bottom margin up or down. Increasing the margin value moves text down the page and narrows the amount of space between the bottom edge of the page and the bottom margin. Decreasing the margin value moves text up the page and widens the amount of space between the bottom edge of the page and the bottom margin. The default margin is 1/6 inch.

Note: Modifying the bottom margin affects the rate of the stepper motor and may cause the page image to be compressed or expanded.

Left Margin

These settings move the position of the margin right or left. Increasing the margin value moves the margin to the right. Decreasing the margin value moves the margin to the left. The default margin is 1/4 inch.

Note: Modifying the left and right margins moves the entire image left or right on the physical page. In order to preserve the right margin, changing the left margin does not compress or expand the image.

Quick Test page

Print a Quick Test page to verify that the **REGISTRATION** margin values are set appropriately. The **Quick Test** page consists of the following:

- Alignment diamonds
- Horizontal lines used for skew adjustment
- General device information (current page count, installed memory, etc.)
- The printer's serial number, code levels, and print registration settings

While the Quick Test page prints, **Printing . . .** will display. No buttons are active while the Quick Test page prints. When the Quick Test page is finished printing, the display returns to the initial **REGISTRATION** menu screen.

Note: Print the Quick Test page on Letter- or A4-sized media.

Print tests

This setting tests the printer's ability to generate printed output from each of its installed input sources and to test the printer's current print quality.

Input sources

PRINT TESTS contains the following installed input sources:

- Tray1
- Manual Feeder
- MP Feeder

Press  or  to scroll through the **PRINT TESTS** menu, and then press  to select the desired input source. **Single** or **Continuous** is displayed on the screen. A **Single** test feeds one sheet of media from the selected input and prints a test page on it. No buttons are active during the **Single** test. The **Continuous** test feeds media from the selected input and prints test pages until  is pressed. The printer always generates a simplex version of the Print Test page in its default resolution. While the **Single** or **Continuous** tests print, **Printing . . .** will display. After the **Single** test prints or the **Continuous** test is canceled, the display returns to the **PRINT TESTS** menu screen.

Note: The type of media installed in the selected input source will affect the contents of the page.

Print Quality Pages (Prt Quality Pgs)

This setting reports the values of a broad range of printer settings and tests the printer's ability to generate acceptable printed output. Press  to print the report. **Printing Quality Test Pages** will display. Once started, the printing cannot be canceled and no buttons are active until the printing completes.

Miscellaneous Tests

Motor Detect

This test initiates an automatic motor detection process that should be performed whenever the controller board is replaced.

To run Motor Detect:

1. Select **MISC TESTS** in the Diag Menu, and press **Select** (✓).
Remove Cartridge. Press **Select** appears.
2. Select **Motor Detect**.
Note: Do not press **Select** yet.
3. Remove all toner cartridges and the imaging unit.
4. Close the front cover.
If you press **Select** before closing the front cover, a message appears: **Close Cover**. Press **Select**.
5. Press **Select** (✓).
Motor Detection In Progress... appears.
The motor detection process takes about 10 seconds, and stops automatically.
Detect Complete. Rebooting... appears, and the printer performs a POR (Power On Reset).

Print Tests

This setting tests the printer's ability to generate printed output from each of its installed input sources and to test the printer's current print quality.

Input sources

PRINT TESTS contains the following installed input sources:

- Tray1
- Manual Feeder
- MP Feeder

Press ◀ or ▶ to scroll through the **PRINT TESTS** menu, and then press ✓ to select the desired input source. **Single** or **Continuous** is displayed on the screen. A **Single** test feeds one sheet of media from the selected input and prints a test page on it. No buttons are active during the **Single** test. The **Continuous** test feeds media from the selected input and prints test pages until ✕ is pressed. The printer always generates a simplex version of the Print Test page in its default resolution. While the **Single** or **Continuous** tests print, **Printing...** will display. After the **Single** test prints or the **Continuous** test is canceled, the display returns to the **PRINT TESTS** menu screen.

Note: The type of media installed in the selected input source will affect the contents of the page.

Print Quality Pages (Prt Quality Pgs)

This setting reports the values of a broad range of printer settings and tests the printer's ability to generate acceptable printed output. Press ✓ to print the report. **Printing Quality Test Pages** will display. Once started, the printing cannot be canceled and no buttons are active until the printing completes.

Hardware Tests

Panel Test

This test verifies the operator panel LCD function.

To run the Panel Test:

1. Select **Hardware Tests** from Diag Menu, and press **Select** (✓).
2. Select **Panel Test**, and press **Select** (✓).
The Panel Test continually executes.

Press **Stop** (✗) to cancel the test.

Button Test

This test verifies the operator panel button function.

To run the Button Test:

1. Select **Hardware Tests** from Diag Menu, and press **Select** (✓).
2. Select **Button Test**, and press **Select** (✓).
Press count : 0 appears.
Press each operator panel button, and watch to see if the number of press counts increases by one for each press.
Note: If you press **Stop** (✗), you end the test.

Press **Stop** (✗) to cancel the test.

DRAM Test

This test checks the validity of DRAM, both standard and optional. The test writes patterns of data to DRAM to verify that each bit in memory can be set and read correctly.

To run the DRAM Test:

1. Select **Hardware Tests** in Diag Menu, and press **Select** (✓).
2. Select **DRAM Test**, and press **Select** (✓).
 - a. The printer displays:

DRAM Test Testing...

- b. The printer initiates a POR of the printer, and the following screen is displayed:

Resetting the Printer

- c. After the POR, the printer begins testing the memory.

DRAM Test	128M
P:#####	F:#####

P:##### represents the number of times the memory test has passed and finished successfully. Initially, 000000 displays with the maximum pass count being 99,999.

F:##### represents the number of times the memory test has failed and finished with errors. Initially, 0000 displays with the maximum fail count being 99,999.

3. Once all the memory is tested, the test stops.

To stop the test early, turn off the printer.

CACHE Test

The CACHE Test is used to verify the processor cache is functioning properly.

1. Select **Hardware Test** in Diag Menu, and press **Select** (✓).
2. Select **CACHE Test**, and press **Select** (✓).
 - a. The printer displays:

CACHE Test Testing...

- b. The printer initiates a POR of the printer, and the following screen is displayed:

Resetting the
Printer

- c. Upon completion of the POR, the following screen is displayed:

CACHE Test x100
P:##### F:#####

P:##### represents the number of times the CACHE Test has passed, finished successfully.

Initially, 000000 is displayed. The maximum pass count is 999,999.

F:##### represents the number of times the CACHE Test has failed, finished with errors.

Initially, 000000 is displayed. The maximum fail count is 999,999.

3. To stop the test, turn the printer off.

Duplex Tests

Quick Test (duplex)

This test prints a duplex version of the Quick Test that can be used to verify the correct placement of the top margin on the back side of a duplex page.

Note: Before you set the duplex top margin, be sure to set the registration. See **“Registration” on page 3-4**.

The paper you choose to print the page on should be either Letter or A4.

To run the Quick Test (duplex):

1. Select **DUPLEX TESTS** from Diag Menu, and press **Select** ().
2. Select **Quick Test**, and press **Select** ().
3. Select **Single** or **Continuous**, and press **Select** ().
 - The single Duplex Quick test prints the Quick Test on front and back.
 - The printer attempts to print the Quick Test Page from the default paper source.
 - Check the Quick Test Page for the correct offset between the placement of the first scan line on the front and back side of the duplexed sheet.

For information about changing the margin, see **“Top Margin (duplex)” on page 3-10**.

The single test stops automatically when a single duplex sheet is printed, and the continuous test continues until you press **Stop** ().

Left Margin (duplex)

This setting shifts the image on the backside of the duplex sheet to the left or right to correctly position it on the page. Therefore, be sure to set the top margin in REGISTRATION before setting the duplex top margin. See **“Registration” on page 3-4**.

To set the Left Margin (duplex):

1. Select **DUPLEX TESTS** from Diag Menu, and press **Select** ().
2. Select **Quick Test**, and press **Select** ().
3. Select **Single**, and press **Select** ().
4. Hold the page to the light to see whether the left margin of the back aligns with the left margin of the front.
5. Select **Left Margin** from DUPLEX TESTS.
6. Use  or  to select the margin setting you need to change.
 - Each increment shifts the duplex left margin by 4 pixels at 500 dpi (0.0067 inches or 0.1693 mm).
 - The Left Margin (duplex) range is -25 to + 25, and the default value is 0.
 - An increase in the value moves the backside left margin to the right, and widens the left margin. A decrease moves the backside left margin to the left, and narrows the left margin.
7. Press **Select** () to save the new value.
8. Print the Quick Test (duplex) again (steps 1-4) to verify the adjustment. Repeat if necessary.

Top Margin (duplex)

This setting controls the offset between the first scan line on the front of the duplex page and the first scan line on the back of the page. Therefore, be sure to set the top margin in REGISTRATION before setting the duplex top margin. See **“Registration” on page 3-4**.

To set the Top Margin (duplex):

1. Select **DUPLEX TESTS** from Diag Menu, and press **Select** (✓).
2. Select **Quick Test**, and press **Select** (✓).
3. Select **Single**, and press **Select** (✓).
4. Hold the page to the light to see whether the top margin of the back aligns with the top margin of the front.
5. Select **Top Margin** from DUPLEX TESTS.
6. Use  or  to select the margin setting you need to change.
 - Each increment shifts the duplex top margin by 1/100 of an inch.
 - The Top Margin (duplex) range is -50 to +50, and the default value is 0.
 - An increase in the value moves the backside top margin down and widens the top margin. A decrease moves the top margin upward and narrows the top margin.
7. Press **Select** (✓) to save the new value.
8. Print the Quick Test (duplex) again (steps 1-4) to verify the adjustment. Repeat if necessary.

Sensor Test (duplex)

This test determines if the duplex sensors and switches are working correctly.

To run the Sensor Test:

1. Select **DUPLEX TESTS** from Diag Menu, and press **Select** (✓).
2. Select **Sensor Test**, and press **Select** (✓).
 The printer displays Sensor Test Testing.... The exit sensor (the optical sensor located in the return paper path) and the input sensor (the optical sensor located in the back part of the duplex unit) are tested and reported as Open or Closed. Toggle the sensors to change the message, and verify the sensors are working correctly.

Press **Back** () to exit the sensor test.

Input Tray tests

Feed Tests

This test allows you to observe the paper path of media as it passes through the printer. Any installed input tray can be tested. The pages fed through the printer are blank.

To run the Feed Test:

1. Select **INPUT TRAY TESTS** from Diag Menu, and press **Select** (✓).
2. Select **Feed Tests**, and press **Select** (✓).
3. Select the tray to be tested. Choices are installed trays, including Tray 1, Tray 2, and MP Feeder.
4. Open the upper rear door to view the paper path.
Note: Do not open the upper front door. The test will not run if the front door is open.
5. Select **Single** or **Continuous**, and press **Select** (✓).
 - Single— a single sheet of blank paper is fed, and the test stops.
 - Continuous— sheets are fed continuously until **Stop** (✗) is pressed.

Output Bin Tests

The **Output bin tests** setting is used to test the printer's output bins and its sensors.

Feed Tests

This test verifies that the media from the printer's default input source feeds to the specific output bin. Press ✓ to select **Single**, or press ▶ and ✓ to select **Continuous**. The **Single** test feeds one sheet of media to the default output bin. No buttons are active during this test. The **Continuous** test feeds media to the default output bin until ✗ is pressed. The indicator light blinks green, and the operator panel displays [Select Output Bin] Feeding... while either of these tests perform.

Sensor Test

This test verifies that the selected output bin's sensors are working correctly. The following sensors are available in each output bin:

Output bin	Full sensor	Near full sensor	Passthru 1 sensor	Passthru 2 sensor	Level sensor*
Standard bin	✓	x	x	x	x
-bin Mailbox	x	x	✓	✓	✓

*This sensor will register the following levels: "empty," "normal," "near full," and "full."

Press ✓ to select this test from the **Output bin tests** menu, and then press ✓ again to select the desired output bin. Closed will display on the operator panel if the sensor is closed. Open will display on the operator panel if the sensor is open. If the wrong message is displayed, then the sensor is malfunctioning. To exit the **Sensor Test**, press ⏮ or ✗.

Base Sensor Test

These tests allow you to verify the correct functioning of the front door, input, and output sensors.

1. Select **Base Sensor Test** from Diag Menu, and press **Select** (✓).
2. Select the sensor you want to test, and press **Select** (✓).

The following test are available:

Sensor	Value	How to test
Input	Value opened/value closed	Remove the cartridge, and toggle the narrow media actuator manually.
Front door	Value opened/value closed	Open and close the front door.
Narrow media	Narrow and wide	Toggle the narrow media actuator manually.
Fuser exit	Value opened/ value closed	Open the front door. Activate the fuser exit flag. The sensor should change state.
Manual feed	Value opened/value closed	Toggle the actuator.

To exit the test, press  or .

Printer Setup

Defaults

US/Non-US defaults changes whether the printer uses the US factory defaults or the non-US factory defaults. The settings affected include paper size, envelope size, PCL symbol set, code pages, and units of measure.

Warning: Changing this setting resets the printer to factory defaults, and data may be lost. It cannot be undone.

Page Counts

You can view, but not change any of the three counts displayed under PAGE COUNTS.

To view the PRT Color Pg Count, the PRT Mono Pg Count, or the Perm Page Count:

1. Select **PRINTER SETUP** from DIAGNOSTICS, and press **Select** (✓).
2. Select **PAGE COUNTS**, and press **Select** (✓).
3. Select the page count you wish to view:
 - PRT Color Pg Count
 - PRT Mono Pg Count
 - Perm Page Count
4. Press **Select** (✓).
The value of the page count appears.

Press **Back** () to return to PRINTER SETUP.

Serial Number

The serial number can only be viewed. It cannot be changed.

To view or change the serial number:

1. Select **PRINTER SETUP** from DIAGNOSTICS, and press **Select** (✓).
2. Select **Serial number**, and press **Select** (✓).

Press **Back** (↩) to return to PRINTER SETUP.

Engine Setting 1 through 4

Warning: Do not change these settings unless requested to do so by your next level of support.

Model Name

The model name can only be viewed and cannot be changed.

Configuration ID

The two configuration IDs are used to communicate information about certain areas of the printer that cannot be determined using hardware sensors. The configuration IDs are originally set at the factory when the printer is manufactured. However, the servicer may need to reset Configuration ID 1 or Configuration ID 2 whenever the controller board is replaced. The IDs consist of eight digits. The first seven digits in each ID are hexadecimal numbers, while the last digit is a checksum of the preceding seven digits. Each ID can contain a combination of the digits 0 through 9, and the letters A through F.

Note: When the printer detects a Configuration ID that is not defined or invalid, the following occurs:

- The default standard model Configuration ID is used instead.
- Configuration ID is the only function available in DIAGNOSTICS.
- Unless the menu is in DIAGNOSTICS, Check Config ID displays.

To set the configuration ID:

1. Select **PRINTER SETUP** from DIAGNOSTICS, and press **Select** (✓).
2. Select **Configuration ID**, and press **Select** (✓).

The current value for Configuration ID 1 appears with the left character or digit underlined.

3. Enter the Configuration ID 1.
 - Change the left character or digit first.
 - To change a character or digit, press ◀ to decrease or ▶ to increase the underlined value, and press **Select** (✓).
 - To move to the next character or digit, press ◀ or ▶, and press **Select** (✓).
 - When you press **Select** (✓) on the last digit, the value will be submitted.
 - If **Invalid ID** appears, the entry is discarded, and the previous Configuration ID 1 is displayed on the screen.
 - If the process is successful, **Submitting Selection** appears on the display, followed by the current value for Configuration ID 2.
4. Repeat the steps for entering the Configuration ID 2, and press **Select** (✓).
 - If the Configuration ID 2 is validated, **Submitting Selection** appears, and a check (✓) appears next to **Printer Setup**.
5. Restart the printer. A POR is not automatically performed.

Enable Edge to Edge Copy

This setting is set to either on or off. Off is the default setting.

Reset Fuser Count

Resets the fuser count value to zero. The Event Log records each time that a user executes the Reset Fuser Count operation. See **“Event Log” on page 3-27** for more information. This setting appears only if the Maintenance Warning and Intervention function is enabled in the printer Configuration ID.

To reset the fuser count:

1. Select **Printer Setup** from Diag Menu, and press **Select** (✓).
2. Select **Reset Fuser Cnt**, and press **Select** (✓).
3. Select **Reset**, and press **Select** (✓).
Resetting Fuser Count Value appears.

To cancel a reset, press **Back** (↩).

EP Setup

EP Setup displays the following selections:

- EP Defaults
- Fuser Temperature (Fuser Temp)
- Transfer
- Print Contrast
- Gap Adjust
- Automatic Darkness Adjustment (Auto Dark Adj)

EP Defaults

Restores all EP settings to factory default values. Selections are **Restore** and **Do Not Restore**.

Fuser Temperature (Fuser Temp)

Changing this setting can reduce media curl or melting of some letterhead images. Selections are **Normal** (default), **Lower**, and **Lowest**.

Transfer

The transfer can be adjusted to **Low**, **Medium**, or **High**. The default setting is Medium.

Print Contrast

The print contrast can be adjusted to **Low**, **Medium**, or **High**. The default setting is Medium.

Charge Roll

The charge roll can be adjusted to **Low**, **Medium**, or **High**. The default setting is Medium.

Gap Adjust

Adjusts the minimum gap between sheets during printing. This setting reduces speed (pages per minute), but can be used to reduce curl of printed media and improve stacking in the output bin.

The range is 0 (default) to 255. Adjusting by one results in 9 mm of increased gap.

Automatic Darkness Adjustment (Auto Dark Adj)

This setting attempts to optimize the amount of toner used when printing with a specific operating point. Each time this setting executes, the printer performs the following:

- Calibrates its toner density sensor
- Measures the reflectivity of its bare drum
- Prints patches on the drum and measures the drum's reflectivity through the patches
- Cleans the transfer roll
- Calculates reflectivity ratios and operating points in order to attain each operating point's darkness target
- Modifies the EP mechanism as necessary to adjust toner darkness.

No messages are displayed on the operator panel to give any indication that this test is running. When deactivated, the printer disables.

Reports

Main Settings Page

To print the Menu Settings Page:

1. Select **Reports** from Diag Menu, and press **Select** (✓).
2. Select **Menu Settings Page**, and press **Select** (✓).

Event Log

Display Log

The event log provides a history of printer errors. It contains the 12 most recent errors that have occurred on the printer. The most recent error displays in position 1, and the oldest error displays in position 12 (if 12 errors have occurred). If an error occurs after the log is full, the oldest error is discarded. Identical errors in consecutive positions in the log are entered, so there may be repetitions. All 2xx and 9xx error messages are stored in the event log.

To view the event log:

1. Select **EVENT LOG** from Diag Menu, and press **Select** (✓).
2. Select **Display Log**, and press **Select** (✓).

Up to three error codes display at a time. Press ◀ or ▶ to view additional error codes. Press ▶ to view additional details.

Press **Back** (↶) to return to the EVENT LOG menu.

Print Log

Additional diagnostic information is available when you print the event log from DIAGNOSTICS rather than CONFIG MENU.

The Event Log printed from DIAGNOSTICS includes:

- Detailed printer information, including code versions
- Time and date stamps
- Page counts for most errors
- Additional debug information in some cases

The printed event log can be faxed to your next level of support for verification or diagnosis.

To print the event log:

1. Select **EVENT LOG** from **DIAGNOSTICS**, and press **Select** (✓).
2. Select **Print Log**, and press **Select** (✓).

Press **Back** (↶) to return to **EVENT LOG**.

Clear Log

Use **Clear Log** to remove the current information in the Event Log. This affects both the viewed log and the printed log information.

1. Select **Clear Log** from the Event Log menu, and press **Select** (✓).
2. Select **YES** to clear the Event Log or **NO** to exit the Clear Log menu. If **YES** is selected, **Deleting EVENT LOG** displays on the screen.

Press **Back** (↶) to return to **EVENT LOG**.

Scanner Tests

ASIC Test

This test initiates a scan of the scanner ASIC's memory.

While this test is executing **ASIC Test Running** is displayed. When the test is complete, **ASIC Test Passed** is displayed if the ASIC memory is okay. **ASIC Test Failed** is displayed if the test fails. Press the **Back** or **Stop** buttons to clear the display message.

Feed Test

This test executes a continuous feed test from ADF or flatbed.

Note: Neither test produces printed output, or increments any MPS counters.

After selecting this test, <DISPLAY> is displayed.

Running. Flatbed:xxxx ADF:xxxx is displayed while the feed test is executing. To stop the test, press **Back** or **Stop**. If an error occurs during the test, **Feed Test failed Flatbed:xxxx ADF:xxxx** is displayed. Press **Return** or **Stop** to clear the message.

Sensor Test

A series of sensor tests are available to test the scanner's ADF and flatbed sensor functionality. The following table lists the available tests.

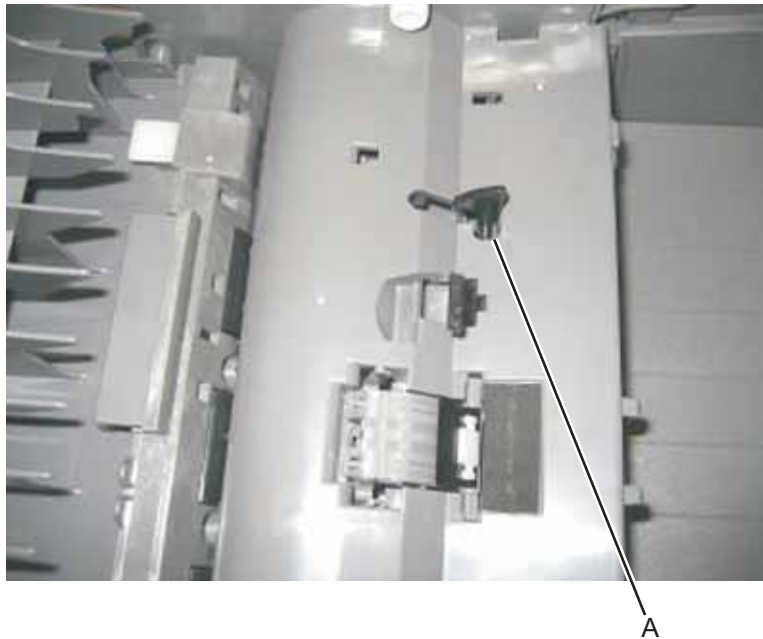
Scanner sensor tests

Sensor	Toggle state and description
ADF paper present	Closed: Paper not present in the ADF Open: Paper present in the ADF
FB cover closing	Closed: Flatbed cover in process of closing Open: Flatbed cover open
Home sensor	Closed: Scanner carriage not positioned over the home sensor. Open: Scanner carriage positioned over the home sensor.
ADF cover open	Closed: ADF cover closed Open: ADF cover open
Scan 1st sensor	Closed: Paper isn't above this sensor. Open: Paper is being fed from the ADF and the top edge passes over this sensor.
Scan 2nd sensor	Closed: Paper isn't above this sensor Open: Paper is being fed from the ADF and the top edge passes over this sensor.

ADF paper present sensor test

This test should be used if the ADF fails to feed paper when a scan is performed. To test this sensor, perform the following steps:

1. In the sensor test menu, press  or  to scroll to the ADF paper present test.
2. Press **Select** (). Starting Test displays. ADF Paper : Closed displays.
3. Press the ADF paper present sensor actuator (A) the top of the ADF unit. ADF Paper : Open should display if the sensor is working properly.



4. Press **Back** () to exit the test and return to the Scanner sensor tests.

FB Cover closing sensor test

This test verifies the functionality of the FB cover closed sensor. To test this sensor, perform the following steps:

1. In the sensor test menu, press  or  to scroll to the FB Cover closing sensor test.
2. Press **Select** (). Starting Test displays. FB Cover : Closed displays.
3. Lift the flatbed cover, and depress the FB cover actuator (A).



A

4. FB Cover : Open should display if the sensor is working properly.
5. Press **Back** () to exit the test and return to the Scanner sensor tests.

Home sensor test

This test verifies the functionality of the home position sensor. To test this sensor, perform the following steps:

1. In the sensor test menu, press  or  to scroll to the Home sensor test.
2. Press **Select** ().
3. Starting Test displays.
4. Home: Closed displays.
5. Home: Open should display if the sensor is working properly.
6. Press **Back** () to exit the test and return to the Scanner sensor tests.

ADF Cover closed sensor test

This test verifies the functionality of the ADF cover closed sensor. To test this sensor, perform the following steps:

1. In the sensor test menu, press  or  to scroll to the ADF Cover closed sensor test.
2. Press **Select** ().
3. Starting Test displays.
4. ADF Cover: Closed displays.
5. Lift the ADF top cover.
6. ADF Cover: Open should display if the sensor is working properly.
7. Press **Back** () to exit the test and return to the Scanner sensor tests.

Sensor 1 test

This test verifies the functionality of scan sensor 1. To test this sensor, perform the following steps:

1. In the sensor test menu, press  or  to scroll to the Sensor1 test.
2. Press **Select** () . Starting Test displays. Sensor 1: Closed displays.
3. Lift the ADF top cover, and close the ADF cover sensor by pressing down on the ADF sensor actuator (A) with a small, flatblade screwdriver.



A

4. Press the Sensor 1 actuator (B) located in the ADF paper path. Sensor 1: Open should display if the sensor is working properly.



B

5. Press **Back** () to exit the test and return to the Scanner sensor tests.

Sensor2 test

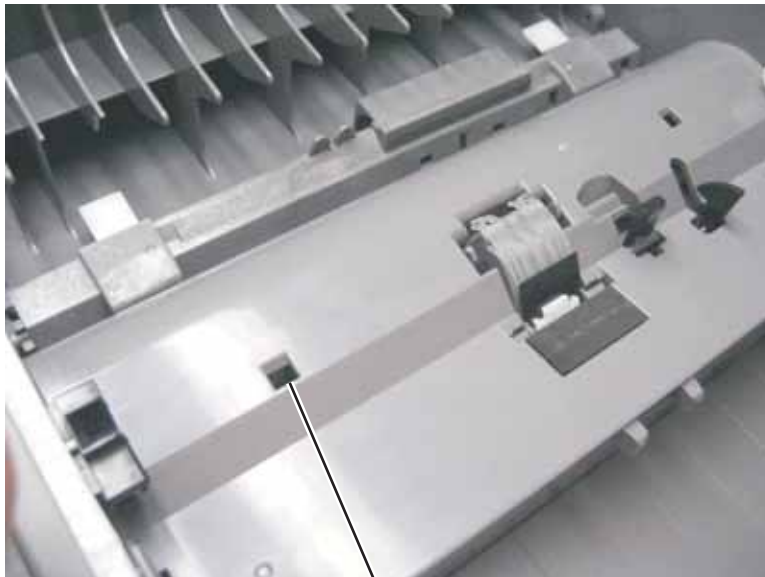
This test verifies the functionality of scan sensor 2. To test this sensor, perform the following steps:

1. In the sensor test menu, press  or  to scroll to the Sensor 2 test.
2. Press **Select** () **Starting Test** displays. Sensor 2: Closed displays.
3. Lift the ADF top cover, and close the ADF cover sensor (A) by pressing down on the ADF sensor actuator with a small flatblade screwdriver.



A

4. Move the Sensor 2 actuator by inserting a small screwdriver into the hole (B) and gently toggling the actuator. Sensor 2: Open should display if the sensor is working properly.



B

5. Press **Back** () to exit the test and return to the Scanner sensor tests.

EXIT Diags

Press **Select** () to exit Diag Menu. The printer performs a power-on reset and returns to normal mode.

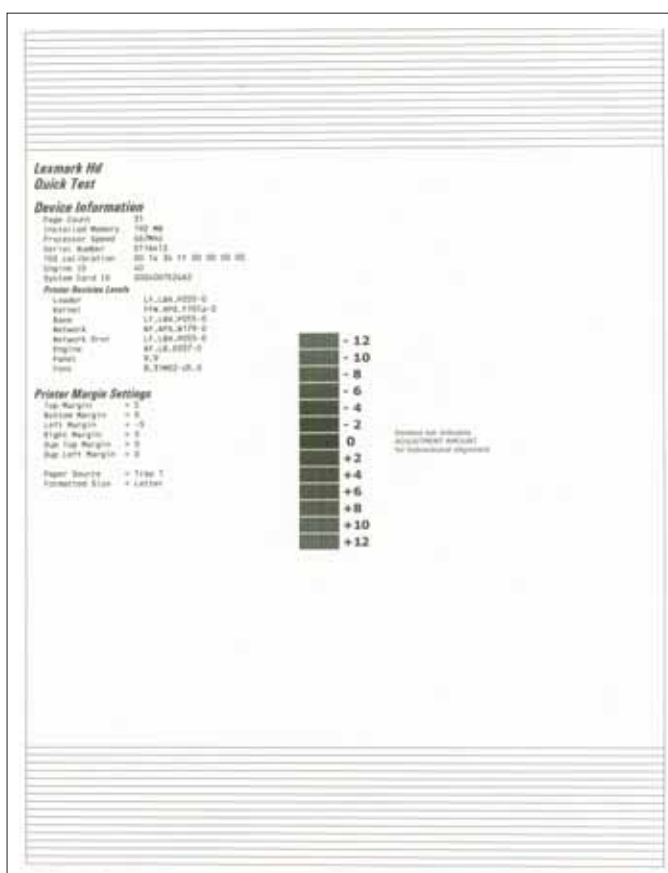
Printhead assembly electronic adjustment

A step-by-step process to align a new printhead.

Note: Before aligning the printhead electronically, first align the printhead mechanically, if needed. See **“Printhead assembly mechanical adjustment” on page 3-24.**

1. Enter the Diagnostics menu. See **“Diagnostics Menu (Diag Menu)” on page 3-2.**
2. Press ☒ to enter the Registration menu.
3. Press ☒ to print the Quick test page.

**Quick Test page
(sample only; use actual sheet)**



4. In the Registration menu, select the right margin setting.
5. To determine the margin setting, choose the value that is closest to the darkest bar on the center graph of the margin page. Add that value to the current right margin setting printed on the left hand side of the margin page. (The right margin setting will also appear on the operator panel display.) For example, if the right margin setting on the page is -2, and the number that is closest to the darkest line on the graph is 3 (-2+3), then the right margin setting will be equal to +1.
6. Press ☐ or ☒ to the desired setting, and press ☒.

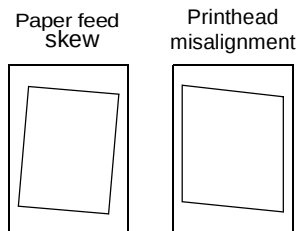
7. Print the Quick Test page again, and check that the darkest line in the center graph is equal to zero. If it is, then check to see if the left, top, and bottom margins are detected. If it is not, then repeat step 5.

Note: The alignment of the left margin positions the plane to the right or left. The alignment of the right margin does not alter the margins and should only be used to adjust the printhead.

Printhead assembly mechanical adjustment

A printhead needs to be correctly positioned after it has been removed. Use a pencil to mark the screw locations of the old printhead on the metal frame. Align the new printhead relative to the location of the old printhead.

Note: Skew is caused by a sheet being fed through the printer while misaligned. The entire image is rotated relative to the sheet edges. However, a mechanically misaligned printhead causes the horizontal lines to appear skewed while the vertical lines remain parallel to the vertical edges. There are no adjustments for skew. Check the pick roll (paper pick assembly) for wear, the paper path for obstructions, the fuser for proper setting, and the tray paper guides for fit to the media.

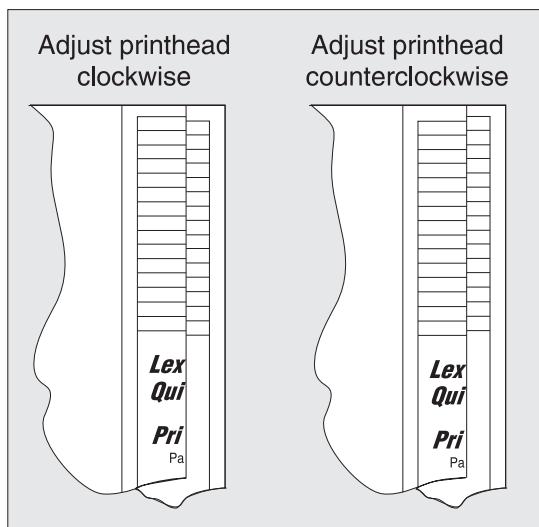


To adjust the printhead:

1. Enter the Diagnostics Menu. See **"Diagnostics Menu (Diag Menu)"** on page 3-2.
2. Select PRINT TESTS.
3. Select Tray 1.
4. Select Single.
5. Fold the printed test page on the left side so that a few millimeters of grid lines wrap around the outside of the fold. See image below.
6. Fold a second vertical fold near the center so that the left side top edge aligns with the right side top edge.



7. If the grid lines of the right flap align below the corresponding lines on the left flap, then adjust the printhead clockwise relative to the printer and recheck. (See the left side of the figure below.) If the grid lines of the left flap align below the corresponding lines of the right side, then adjust the printhead counterclockwise. (See the right side of the figure below.)



8. After obtaining a properly adjusted image on the paper, tighten all three screws.

Note: The printhead **must** be aligned electronically. See **"Printhead assembly electronic adjustment"** on **page 3-23**.

Configuration Menu

Available tests

The tests display on the operator panel in the order shown for all models.

Configuration menu

USB Scan to Local	See "USB Scan to Local" on page 3-26.
Prt Quality Pgs	See "Prt Quality Pages" on page 3-26.
Reports	See "Reports" on page 3-27.
Panel Menus	See "Panel Menus" on page 3-27.
PPDS Emulation	See "PPDS Emulation" on page 3-27.
Demo Mode	See "Demo Mode" on page 3-28.
Factory Defaults	See "Factory defaults" on page 3-28.
Energy Conserve	See "Energy Conserve" on page 3-28.
Min Copy Memory	See "Min Copy Memory" on page 3-29.
NumPad Job Assist	See "NumPad Job Assist" on page 3-29.
Format Fax Storage	See "Format Fax Storage" on page 3-29.
ADF Edge Erase	See "ADF Edge Erase" on page 3-29.
FB Edge Erase	See "FB Edge Erase" on page 3-30.
Scanner Manual Registration	See "Scanner Manual Registration" on page 3-30.
Disable Scanner	See "Disable Scanner" on page 3-31.
Font Sharpening	See "Font Sharpening" on page 3-32.
USB Speed	See "USB Speed" on page 3-32.
Exit Config Menu	This selection exits Configuration Menu, and Resetting the Printer displays. The printer performs a POR and returns to normal mode. See "Exit Config Menu" on page 3-32.

USB Scan to Local

USB Scan to Local enumerates a USB simple device or USB composite device. In the off position, the simple USB device is enumerated; in the on position, the composite USB device is enumerated.

Prt Quality Pages

The Prt Quality Pages can be printed from both the Configuration Menu and the Diagnostics Menu. The Configuration Menu is limited in information compared to the pages printed from the Diagnostics Menu.

To help isolate print quality problems, print the Print Quality Test Pages. The pages are formatted. The Printing Quality Test Pages message appears, then the pages print. The message remains on the operator panel until all the pages print.

Press **Select** (☒) to print the pages. The Print Quality Test Pages contain several pages. The first page which is printed in English text contains only a mixture of text and graphics. The information includes values of the Quality Menu settings in Settings and printer and toner cartridge configuration information. The remaining pages contain only graphics.

Reports

Menu Settings Page

Print the menu settings pages to list the customer settings and to verify printer options are installed correctly. It is helpful to print the customer settings before you restore factory defaults or make major changes.

To print the menu settings:

1. Select **Reports** from the Config Menu, and press **Select** (.
2. Select **Menu Settings Page**, and press **Select** (.

Event Log

Lets the system support person print a limited set of the information contained in the Diagnostics Menu version of the printed Event Log. For a sample of a printout, see **“Event Log” on page 3-15**. The limited Configuration log and the full Diagnostics log printed versions show the same operator panel messages when they print and follow the same layout guidelines.

To print the event log:

1. Select **Reports** from the Config Menu, and press **Select** (.
2. Select **Print Log**, and press **Select** () to begin printing the log.

Panel Menus

Lets the system support person enable or disable the operator panel menus. Selecting **On** (the default) allows users to change values for the printer. **Off** disables the users' access to menus. If a user presses **Menu** () , they receive a message that the panel menus are locked. When set to **Off**, this setting restricts all menu access, even to menus or items set for PIN access. However, when set to **On**, all PIN restrictions are in restored.

This menu item appears only when the PJI PASSWORD Environment variable is set to 0.

PPDS Emulation

Activates or deactivates the Personal Printer Data Stream (PPDS) emulation language. This menu item appears only if the PPDS interpreter is available.

Demo Mode

Lets marketing personnel or merchandisers demonstrate the printer to potential customers by printing the demo page.

Selections include Deactivate (default) and Activate. Select **Deactivate** to turn Demo Mode off; or select **Activate** to turn Demo Mode on.

Factory defaults

Sets the majority of printer values back to their factory default settings.

Warning: This selection cannot be reversed, so this operation should be used only as a last resort to fix any printer problem. When factory default settings are restored:

- All downloaded resources (fonts, macros, symbol sets) in the printer memory (RAM) are deleted.
- All menu settings return to the factory default setting *except*:
 - The Display Language setting in the Setup Menu.
 - All settings in the Serial Menu, Network Menu, Infrared Menu, Local Talk Menu, and USB Menu.

To print current menu settings:

It is recommended that you first print the customer's current settings by printing a copy of the Menu Settings pages. Customer settings are available from the Ready prompt, Diagnostics Menu settings are available in the Diagnostics Menu, and Config Menu settings are available in the Config Menu.

1. Turn off the printer, or select **Exit Config Menu**.
2. At the Ready prompt, select **Menus** (), and press **Select** ().
3. Select **Reports**, and press **Select** ().
4. Select **Menu Settings Page**, and press **Select** ().
5. Enter the Diagnostic Menu, select **Reports**, **Menu Settings Page**, and press **Select** ().
See **"Menu Settings Page" on page 3-27**.
6. Turn off the printer, or select **Exit Diags**.
7. Enter Configuration Menu, select **Reports**, **Menu Settings Page**, and press **Select** ().
See **"Menu Settings Page" on page 3-27**.

To reset factory defaults:

1. Select **Reports** from the Config Menu, and press **Select** ().
2. Select **Factory Defaults**, and press **Select** ().
3. Select **Restore Base** (for locally attached printers) or **Restore STD NET** (if you have integrated network support).
Submitting Changes... appears on the operator panel, and then the printer PORs (restarts in Ready mode).

Energy Conserve

Affects the values that appear in the Power Saver menu item in the Setup Menu. This menu item appears only when the printer model does not support Automatic Power Saver or has deactivated Automatic Power Saver. The menu item affects only the values that are displayed in the Power Saver menu item.

Select **Off** in Energy Conserve to allow Power Saver in the customer menu to display Disable as an option. If **Disable** is selected in the customer Power Saver, the printer deactivates the Power Saver feature. Select **On** (the default) in Energy Conserve to prevent **Disable** from appearing as an option in the Power Saver setting, and preventing the customer from turning off Power Saver.

Min Copy Memory

This setting allocates the amount of DRAM memory to be used for storing copy jobs in the queue. 25, 35, 50, 80 and 100 MB are the available settings. To adjust the minimum copy memory, perform the following steps:

1. In the configuration menu, scroll to the MinCopy Memory item, and press .
2. Use the  or  to increase or decrease the setting's value.
3. When the desired value is displayed, press .

NumPad Job Assist

This setting determines if a user can configure and initiate a job using the operator panels hard buttons. When activated, a user can choose a function (copy, fax, etc...), enter specific values for a limited number of settings and then initiate the job with a series of key presses. The values for this setting are On and Off. The default for this setting is Off.

Format Fax Storage

This setting allows the user to format non-volatile fax storage memory. While formatting is taking place, Formatting Fax Flash DO NOT POWER OFF appears. After formatting is complete, the display reverts to the main menu.

ADF Edge Erase

This menu item sets the size, in millimeters, of the no-print area around an ADF scan job. All copy jobs have a minimum of a two-millimeter border. Copy jobs will use the setting or two millimeters, whichever is larger.

To adjust the ADF edge erase setting, perform the following steps:

1. In the Configuration menu, select the ADF Edge Erase menu item.
2. Press  or  to increase or decrease the setting's value.
3. When the desired value is displayed, press .

FB Edge Erase

This menu item sets the size, in millimeters, of the no print area around a flatbed scan job. Copy jobs will use the setting or two millimeters, whichever is larger.

To adjust the flatbed edge erase setting, perform the following steps:

1. In the Configuration menu, select the FB Edge Erase menu item.
2. Use the ◀ or ▶ to increase or decrease the setting's value.
3. When the desired value is displayed, press ✓.

Scanner Manual Registration

This item is used to manually register the flatbed and ADF on the MFP's scanner unit. Registration should be performed whenever the ADF unit, flatbed unit, or controller card are replaced.

To manually register the ADF perform the following steps:

1. In the Configuration Menu, scroll to the Scanner Manual Registration menu item.
2. Press ✓.
3. Scroll to the Print Quick Test Page menu item.
4. Press ✓.
5. To view and adjust the simplex ADF registration, place the quick test page into the ADF, scroll to the Copy Quick Test Page item, and press ✓.
6. After the quick test page copies, scroll to ADF and press ✓.
7. Scroll to Horizontal Adjust, and press ✓.
8. Use the ◀ or ▶ to increase or decrease the setting's value.

Note: Each button press moves the margin values one pixel in the respective direction.

9. Press ✓ to accept the value.
10. Scroll to Top Edge, and press ✓.
11. Use the ◀ or ▶ to increase or decrease the setting's value.

Note: Pressing ◀ moves the margin up, and pressing ▶ moves the margin down.

12. Press ✓ to accept the value.

To manually register a Duplex ADF, perform the following steps:

1. In the Configuration Menu, scroll to the Scanner Manual Registration menu item.
2. Press ✓.
3. Scroll to the Print Quick Test Page menu item.
4. Press ✓.
5. To view and adjust the duplex ADF front side registration, place the quick test page faceup into the ADF, scroll to the Copy Quick Test Page item, and press ✓.
6. After the quick test page copies, scroll to ADF Frontside, and press ✓.
7. Scroll to Horizontal Adjust, and press ✓.
8. Use the ◀ or ▶ to increase or decrease the setting's value.

Note: Each button press moves the margin values one pixel in the respective direction.

9. Press ✓ to accept the value.
10. Scroll to Top Edge, and press ✓.
11. Use the ◀ or ▶ to increase or decrease the setting's value.

Note: Pressing ◀ moves the margin up, and pressing ▶ moves the margin down.

12. Press ✓ to accept the value.
13. To view and adjust the duplex ADF backside registration, place the quick test page facedown up into the ADF, scroll to the Copy Quick Test Page item, and press ✓.
14. After the quick test page copies, scroll to ADF Backside, and press ✓.
15. Scroll to Horizontal Adjust, and press ✓.

16. Use the  or  to increase or decrease the setting's value.
Note: Each button press moves the margin values one pixel in the respective direction.
17. Press  to accept the value.
18. Scroll to Top Edge, and press .
19. Use the  or  to increase or decrease the setting's value.
Note: Pressing  moves the margin up, and pressing  moves the margin down.
20. Press  to accept the value.

To manually register the flatbed, perform the following steps:

1. In the Configuration Menu, scroll to the Scanner Manual Registration menu item.
2. Press .
3. Scroll to the Print Quick Test Page menu item.
4. Press .
5. To view and adjust the flatbed registration, place the quick test page into the flatbed, scroll to the Copy Quick Test Page item, and press .
6. After the quick test page copies, scroll to Flatbed, and press .
7. Scroll to Left Edge, and press .
8. Use the  or  to increase or decrease the setting's value.
Note: Each button press moves the margin values one pixel in the respective direction.
9. Press .
10. Scroll to Top Edge, and press .
11. Use the  or  to increase or decrease the setting's value.
Note: Pressing  moves the margin up, and pressing  moves the margin down.
12. Press  to accept the value.

To exit REGISTRATION, press **BACK**  or **STOP** .

Disable Scanner

This menu item is used to disable the MFP scanner if it is malfunctioning. The MFP must be powered off and on for the new settings to take effect. To change the setting, perform the following steps:

1. In the configuration menu, use the arrow keys to scroll to the Disable Scanner menu item.
2. Press .
3. Use the arrow key to scroll to the desired setting. The options are Enable ADF/FB, Disable ADF/FB, Disable ADF only, Auto Disabled.
4. Press .
5. Press **BACK** .
6. Scroll to **Exit Config Menu**.
7. Press . The device restarts.

Font Sharpening

This setting is used to set a text point size value below which the high-frequency screens will be used when printing data. This setting affects only PCL, PostScript and PDF emulators.

Settings are in the range of 0–150 (24 is the default). For example, if the value is set to 24, then all fonts sized 24 points or less use the high-frequency screens.

To adjust the Font Sharpening setting, perform the following steps:

1. In the configuration menu, scroll to the Font Sharpening menu item, and press .
2. Use the  or  to increase or decrease the setting's value. Pressing  decreases the value, and pressing  increases the value.
3. Press  to accept the setting.

Reduced Curl

This setting only applies to devices with an instant on fuser. The settings are On and Off. Off is the default setting. When set to On, throughput is reduced. The On setting can be used on paper only.

USB Speed

The USB Speed setting is used to set the throughput of the USB port on the MFP. The settings are Auto, which is the default, and Full. Full forces the USB port to run at full speed.

Exit Config Menu

With the Exit Config menu item displayed, press **Select** () to exit the Configuration Menu. The printer performs a power-on reset and returns to normal mode.

SE Menu

Note: This is not the Fax SE menu. To enter the Fax SE menu, press **411 from the Ready screen.

Note: This menu should be used as directed by second-level support.

Print SE Menus

General

Copyright - Displays copyright information.

Optra Forms mode - On or off

Code Revision Info

Network Code Level - Displays network code level

Network Compile Info - Displays compile information

Printer Code Level - Displays printer code information

Printer Compile Info - Displays compile information

History

Print History

Mark History

History Mode

MAC

Set Card Speed

LAA

Keep Alive

NVRAM

Dump NVRAM

Re-init NVRAM

NPAP

Print Alerts

TCP/IP

netstat -r

arp -a

Allow SNMP Set

MTU

Meditech Mode

Raw LPR Mode

Gather Debug

Enable Debug

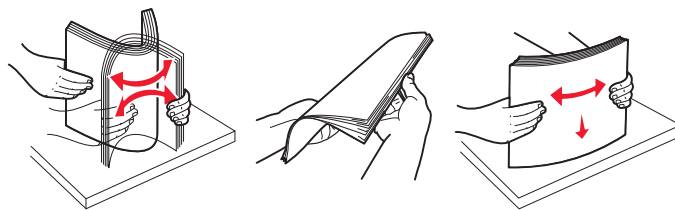
Paper jams

Avoiding jams

Most paper jams can be avoided by correctly loading paper and specialty media in the printer.

The following hints can help prevent paper jams:

- Use only the recommended print media.
- Do not overload the print media sources. Make sure the stack height does not exceed the maximum height indicated by the stack line on the labels in the sources.
- Do not load wrinkled, creased, damp, or curled print media.
- Flex, fan, and straighten print media before loading it. If jams do occur with the print media, then try feeding one sheet at a time through the manual feeder.



- Do not mix print media sizes, weights, or types in the same print media source.
- Push all trays in firmly after loading them.

Note: Make sure the media stack is below the maximum media fill indicators on the 250-sheet tray before pushing the tray into the printer.

- Make sure paper guides are positioned before loading the paper or specialty media.
- Do not remove trays while a job is printing.
- Before loading transparencies, fan the stack to prevent sheets from sticking together.
- Do not use envelopes that:
 - Have excessive curl
 - Are stuck together
 - Are damaged in any way
 - Contain windows, holes, perforations, cutouts, or embossments
 - Have metal clasps, string ties, or metal folding bars
 - Have postage stamps attached
 - Have any exposed adhesive when the flap is in the sealed position
- Use only recommended media. Refer to the *Card Stock & Label Guide* available on the Lexmark Web site at www.lexmark.com for more information about which media provides optimum results for the current printing environment.

Understanding paper jam codes and locations

200-202 paper jams



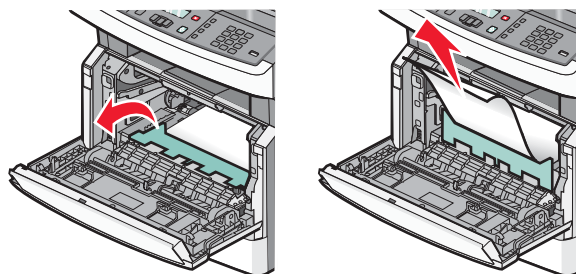
CAUTION

The fuser and the area inside of the printer near the fuser may be hot. Allow the surface to cool before removing media from this area.

1. Remove the paper tray from the printer.
2. If there is a paper jam, then remove the paper jam.



3. If there is not a paper jam, then open the front door, and remove the photoconductor kit and toner cartridge.
4. Lift the flap at the front of the printer, and remove any jammed sheets.

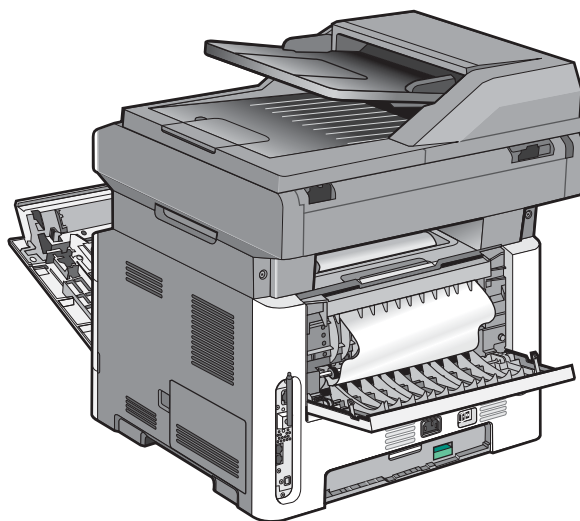


5. If there is not a paper jam at the front of the printer, then open the rear door, and remove the paper jam.
6. Close the rear door, and reinstall the photoconductor kit and toner cartridge.
7. Close the front door, and press .

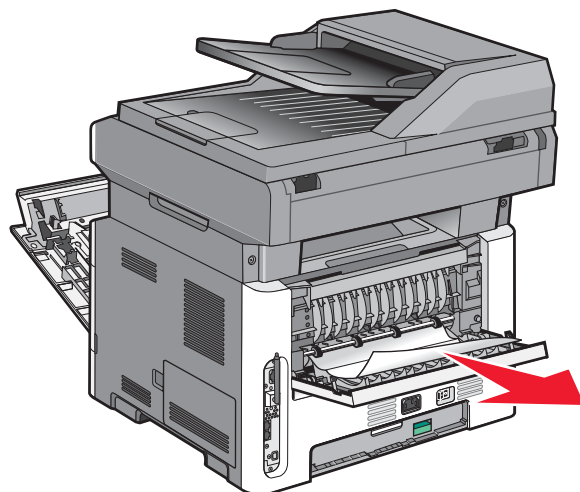
231 paper jam**CAUTION**

The fuser and the area inside of the printer near the fuser may be hot. Allow the surface to cool before removing media from this area.

1. Open the front door.
2. Open the rear door.



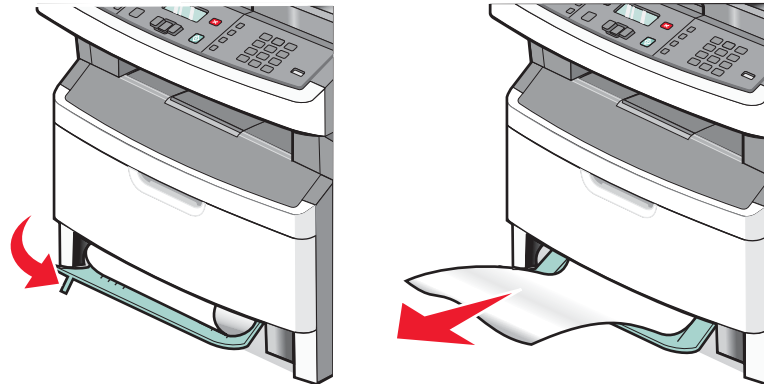
3. Remove the paper jam.



4. Close the rear door.
5. Close the front door, and press .

233 paper jam

1. Remove the paper tray from the printer.
2. Locate the lever shown, and pull it down to release and to remove the jammed sheets.



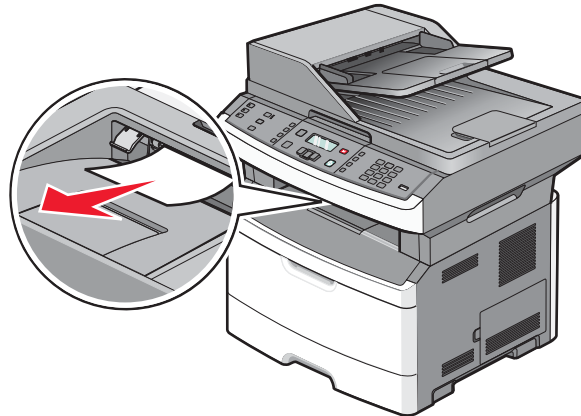
3. Reinstall the paper tray, and press .

234 paper jam

A single jam or multiple jams are in the duplex area of the printer when the printer is turned on. To locate and remove the jammed sheets, complete all steps in **“231 paper jam” on page 3-36** and **“233 paper jam” on page 3-37**.

235 paper jam

1. Gently pull the jammed sheet out of the standard exit bin.



2. Press .

242 paper jam

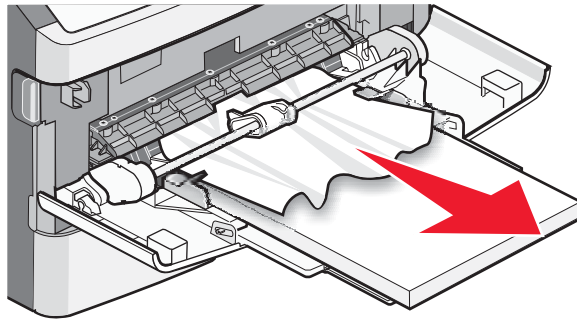
1. Remove the optional paper tray from the printer.
2. Remove the paper jam.



3. Reinstall the optional paper tray, and press .

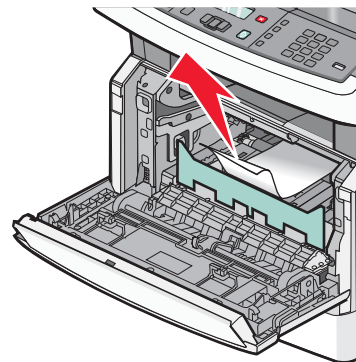
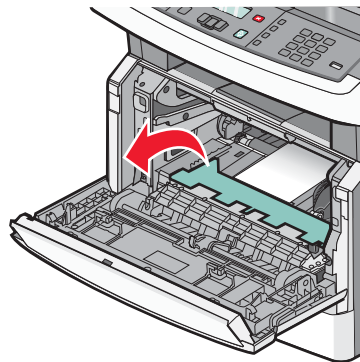
251 paper jam

A sheet of paper or specialty media failed to feed completely from the multipurpose feeder. Part of it may still be visible. If it is visible, then gently pull the jammed sheets from the front of the multipurpose feeder.



If the sheet is not visible, then complete the following steps:

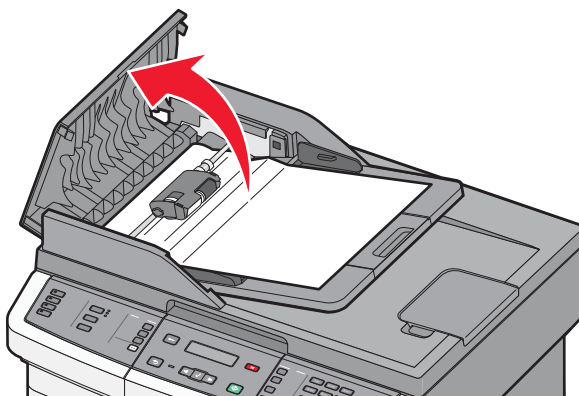
1. Open the front door, and remove the photoconductor kit and toner cartridge.
2. Lift the flap at the front of the printer, and remove any jammed sheets of paper that are short lengths of paper.



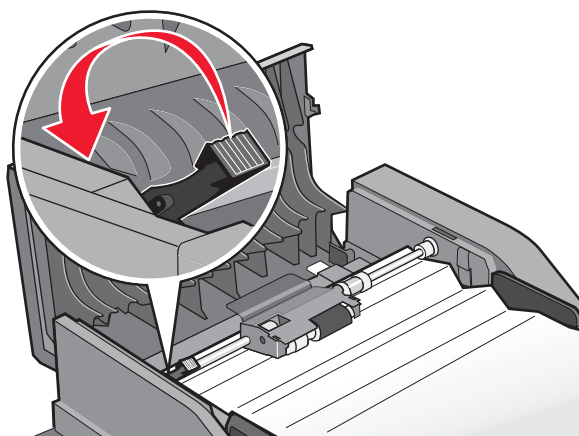
3. Align, and insert the unit.
4. Close the front door, and press .

290-294 paper jams

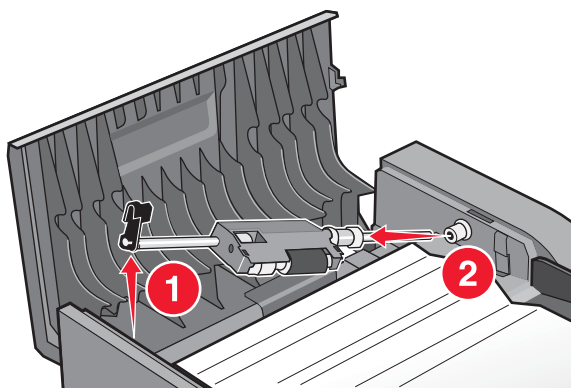
1. Remove all original documents from the ADF.
2. Open the ADF cover.



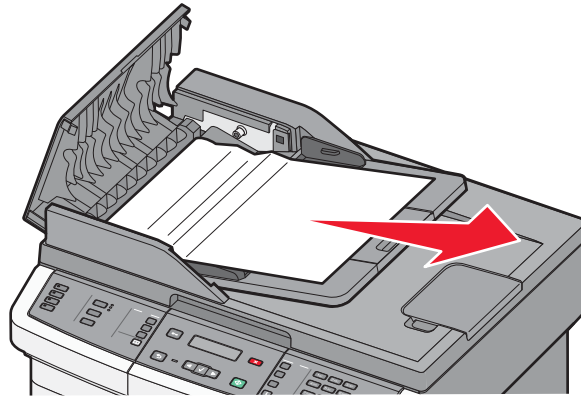
3. Unlock the separator roll.



4. Remove the separator roll.



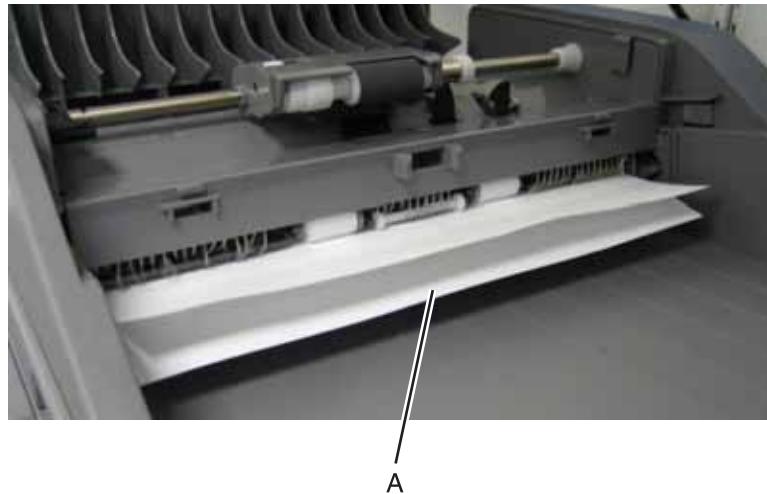
5. Remove the jammed paper.



6. Reinstall the separator roll, and lock into place.
7. Close the ADF cover, and press ☒.

291.xx ADF paper jams

1. Remove all original documents from the ADF input tray.
2. Remove the ADF input tray. See **“ADF input tray removal” on page 4-8.**
3. Remove the original from the ADF by pulling the lower sheet (A) from the ADF exit.



4. Replace the ADF input tray.

Updating printer firmware

Using a USB flash drive

The device firmware can be updated from a USB flash drive on models equipped with a USB direct interface on the operator panel. The printer must be in a Ready state in order to perform the code update. A MFP that is in Invalid Code Mode cannot be updated via the USB thumbdrive

Warning: Before performing a firmware update on the device, contact your second level support to confirm, or obtain the correct code. The wrong code, or wrong level of code could lead to a malfunction or render the device inoperable.

Note: Make sure the **Enable Drive**, and **Update Code** settings are enabled. These settings are found in the **Flash Drive** menu under the **Settings** menu in the Administrative menus.

To update the code using a USB flash drive, perform the following steps:

1. Insert the flash drive into the USB port located on the operator panel. USB Menu: Print from USB displays. If Print from USB doesn't display by default, use the ◀ or ▶ buttons to navigate to the **Print from USB** command.
 2. Press **Select** (✓). You now have access to the directory structure of the flash drive.
 3. Use the ◀ or ▶ buttons to navigate to the desired firmware file. The file will have a .fls extension on it.
 4. When the desired file is displayed, press **Select** (✓). Program Device : Yes displays.
 5. Press **Select** (✓). The printer will start the update process. Various status and progress messages will appear.
- Warning:** Do not turn the machine off until the update is complete. When the code update is completed, the MFP will automatically POR and return to a **Ready** state.

Using a networked computer to update the MFP firmware over a network

Using FTP

Note: The servicer must have an understanding of how to use FTP before attempting to update the firmware using this method.

The MFP firmware can be updated by performing the following steps:

1. POR the MFP to a **Ready** state.
2. Go to the **TCP/IP** menu in the MFP's administrative menu to retrieve the IP address.
3. From a command line prompt on a computer on the network, open an FTP session to the MFP's IP address.
4. Use a PUT command to place the firmware file on the MFP. Various status and progress messages will appear. The MFP will reboot. The FTP session will terminate.
5. Repeat steps 2 through 4 for any other files.

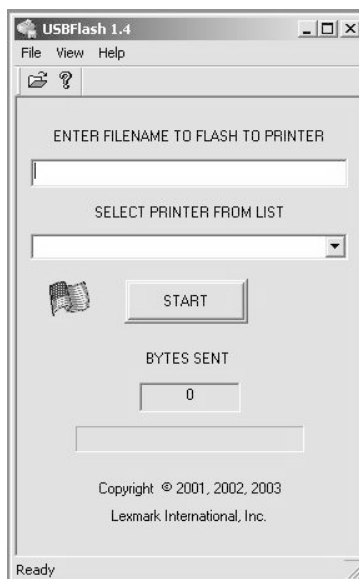
Using the MFP's Web server

1. On a computer attached to the network, open a Web browser.
2. Enter the MFP's IP address in the address bar of the Web browser.
3. When the MFP's home page opens, click **Configuration**.
4. Click the **Update Firmware** link on the Configuration page.
5. Click the **Browse** button.
6. In the browser that opens, browse to the file you want to use
7. Click **Open**. Various status and progress messages will appear. The MFP will reboot. The HTTP session will terminate.
8. Repeat steps 2 through 7 for any other files.

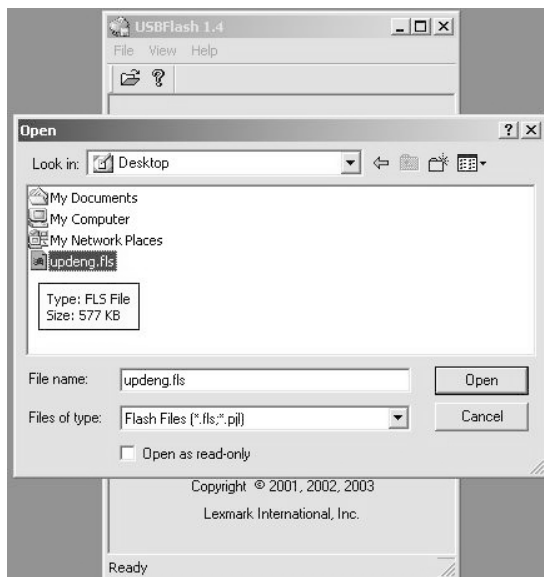
Using the host computer to update the MFP firmware over USB

Note: This procedure uses the program, USB Flash. USBUtil is a command line USB flash utility that can also be used to update firmware from a host computer via USB. To use any USB flashing utility, the MFP must be installed on the host computer so a USB virtual printer port can be established on the host computer. The virtual printer port is needed so the host computer can communicate with the MFP.

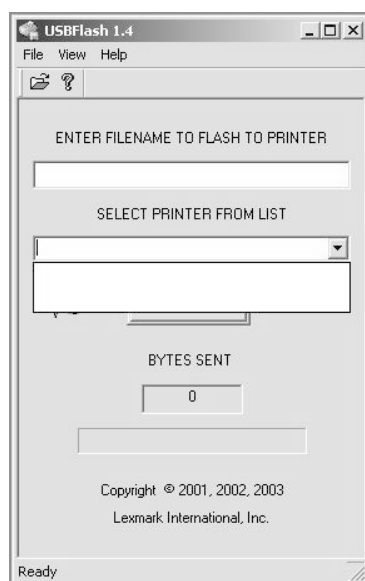
1. Open the USB Utility.



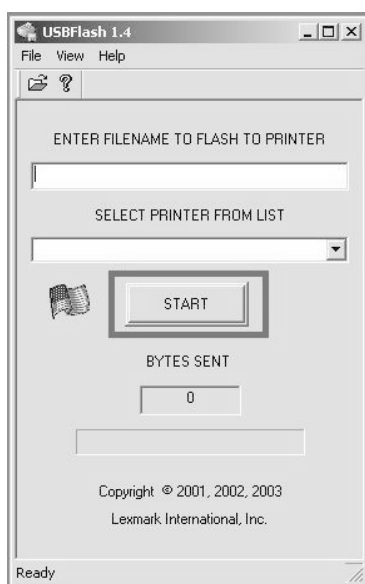
2. Browse for flash file.



3. Select the MFP from the list of printers installed on the computer.



4. Press **Start**.

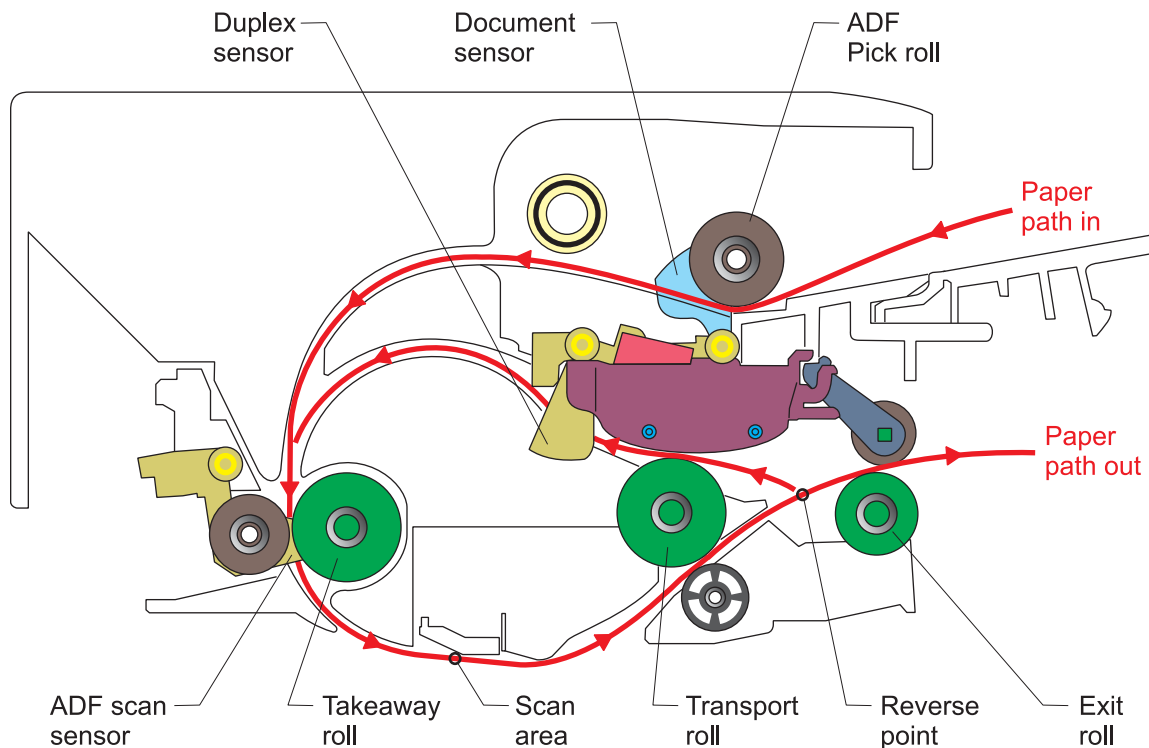


5. Repeat these steps for every file you are updating on the MFP.

Scanner theory

Duplex ADF

The following illustration shows the paper path, rollers, and sensors used in the duplex ADF.



The duplex ADF enables the user to create duplex scans automatically, eliminating the need to stop the scanning process to flip the media being duplicated. The ADF uses a step motor, and a series of sensors to determine the media's position in the paper path during the scan process.

The following steps are performed in creating a duplex scan on the duplex ADF.

1. The scanner control unit, on the controller board receives a command to create a scan, fax, or copy.
2. A signal is sent to the ADF to poll the paper present sensor to check if the media to be scanned is in the correct position. The media must be placed in the ADF input tray so it actuates the paper present sensor. If the ADF paper present sensor isn't actuated, a flatbed scan is run by default.
3. If the media has actuated the paper present sensor, an ADF scan is executed. At this point the roller on the pick arm assembly drops and advances the paper into the ADF, actuating the document sensor. Actuating this sensor determines that this will be the first side of the document to be scanned.
4. When the document sensor is actuated, a signal is sent to flatbed to move the CCD imaging unit to the ADF scan area. When the CCD reaches the ADF scan area, a calibration is performed on the CCD.
5. The media is advanced to ADF scan sensor which is located by the takeaway roll. If the paper does not reach the ADF scan sensor in a predetermined length of time, a jam error will be generated.

6. When the ADF scan sensor is actuated the paper advances to the scan area. While the paper is advancing to the scan area, the ADF motor generates pulses which are stored in an on-board counter. These counts along with the ADF scan sensor ensure that the media is travelling at the correct speed through the scan area. The speed the document travels through the ADF scan area is dependent on the image DPI specified by the user.
7. After a predetermined number of counts, the media reaches the scan area and the image acquisition process is initiated. While the image acquisition process is executing, the ADF scan sensor is being polled to determine if the trailing edge of the media has reached the sensor.
8. Once the trailing edge of the scan media has reached the ADF scan sensor, that sensor goes to the off position. After the ADF scan sensor is switched off, the image acquisition process continues for a predetermined length of time.
9. When the image acquisition process is completed, the trailing edge of the media continues to the reverse point. If the scan job is simplex, only the media continues to the exit roller and exits the ADF.
10. If the scan job is a duplex scan job, a solenoid on the ADF is actuated when the trailing edge of the media reaches the reverse point. This solenoid moves a diverter gate to the down position and engages a reversing gear on the exit roll.
11. The reversed exit roll pulls the paper back into the ADF. The transport roll then moves the media to the duplex sensor. When the duplex sensor is actuated, the exit roll stops. Also, the duplex sensor indicates that this is the second side of the media to be scanned.
12. After actuating the duplex sensor, the transport roll moves the media to the take away roll and the ADF scan sensor. Like the first pass of the media, the image acquisition process is repeated for the second side of the media.
13. When the trailing edge of the media reaches the reverse point the second time, the solenoid again moves the diverter gate to the down position and reverses the exit roll. The paper goes back into the ADF unit for a third time. The paper passes through the paper path, but no imaging occurs. This pass is to turn the paper over to the original side up. On the third pass of the media trailing edge over the reverse point, the solenoid is not actuated and the paper passes out of the ADF.

4. Repair information

Warning: Read the following before handling electronic parts.

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 cards:

- Keep the ESD-sensitive part in its original shipping container (a special “ESD bag”) until the part is ready to be installed into the printer.
- Make the least-possible body movements 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 printer.
- Hold the ESD-sensitive part by its edge connector shroud (cover); do not touch its pins. If a pluggable module is being removed, then use the correct tool.
- Do not place the ESD-sensitive part on the MFP cover or on a metal table; if the ESD-sensitive part needs to be put down for any reason, then 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 the machine is not being worked on, 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.

Removal procedures

Note:

- Remove the toner cartridge and media tray before removing other printer parts. The toner cartridge should be protected from light while out of the printer.
- We recommend disconnecting all external cables from the printer to prevent damage during service.
- Unless otherwise stated, reinstall the parts in reverse order of removal.
- When reinstalling a part held with several screws, start all screws before final tightening.
- Remove the paper tray and print cartridge before proceeding with a removal.



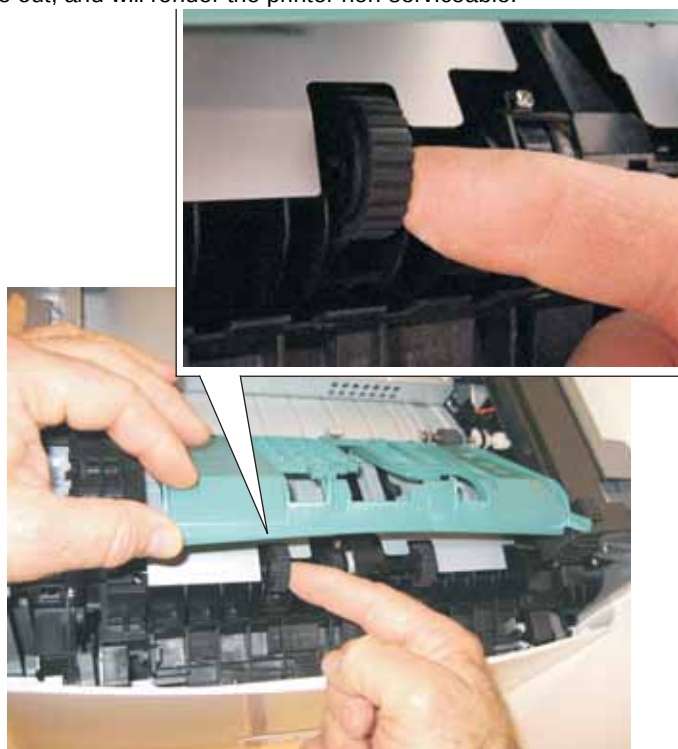
ACM pick tire roller removal

1. Place the printer on its side.

Note: Be careful to not mar the finish of the printer.

2. Open the duplex jam door just far enough to pull out the ACM pick tires.

Warning: Open the duplex door only far enough to remove the ACM pick tires. If the door is opened too far, then it can become disengaged and interfere with the paper tray. The tray may go in but will not come out, and will render the printer non-serviceable.

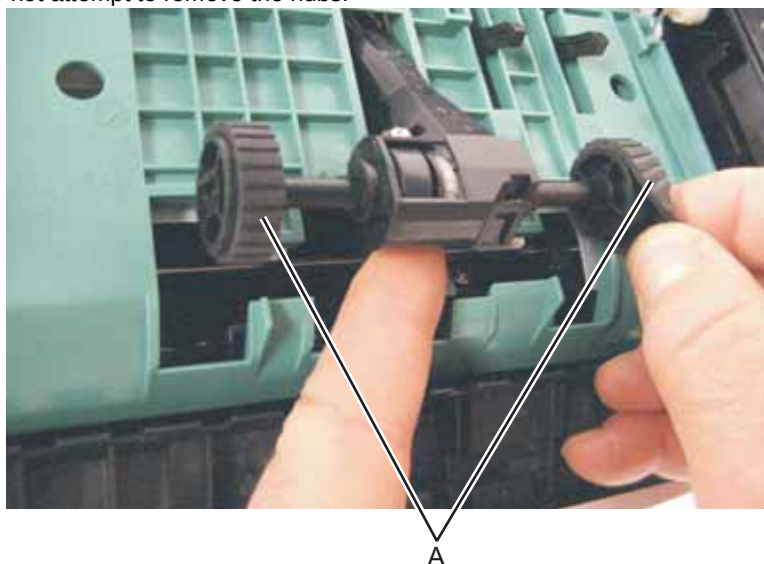


3. After the ACM pick tires have been pulled out, close the duplex door.

4. Remove the ACM pick tire roller (A).

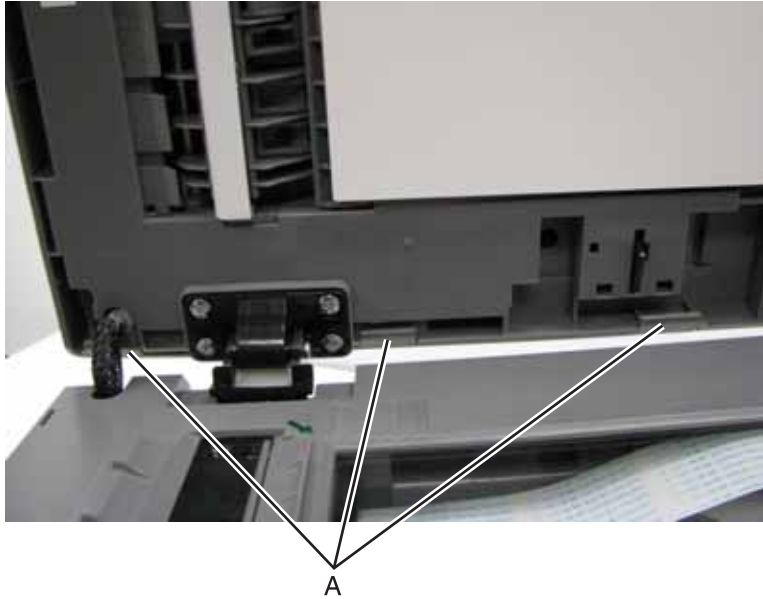
Note:

- If the left hub is gray, then disconnect the old right and left tire/hub assemblies from the ACM, and replace with the new right and left tire/hub assemblies.
- If the left hub is black, then remove the old right and left tires from the ACM hubs, and replace with the new tires. Do not attempt to remove the hubs.



ADF removal

1. Tilt the flatbed cover to the upright position.
2. Lift the ADF up and away from the flatbed.
3. While lifting the ADF, use a flatblade screwdriver to pry open the two tabs of the Simplex, or the three tabs (A) of the Duplex on the bottom of the ADF cover.



4. Remove the ADF rear cover from the ADF assembly.

Note: Save the ADF rear cover for use on the new ADF unit.

5. Disconnect the ADF cable (B) and the ground cable (C) from the ADF assembly.

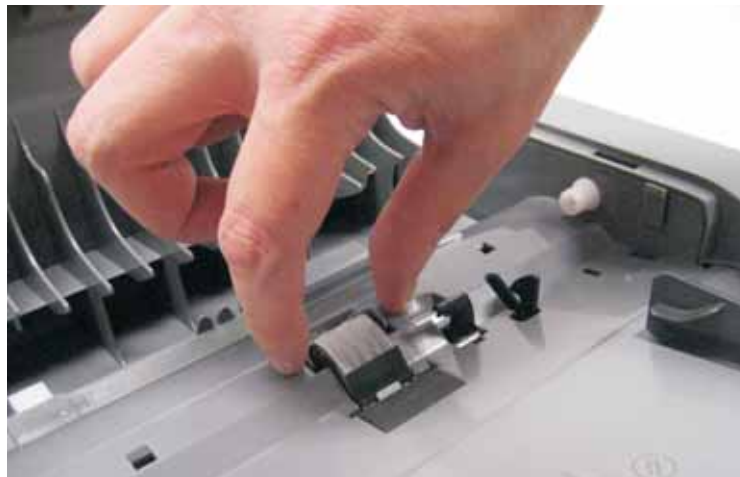


6. Carefully pull the ADF cable and grommet (D) away from the ADF assembly.



D

7. Lift the ADF to an upright position.
8. Use a screwdriver to release the left hinge (E) from the flatbed unit.



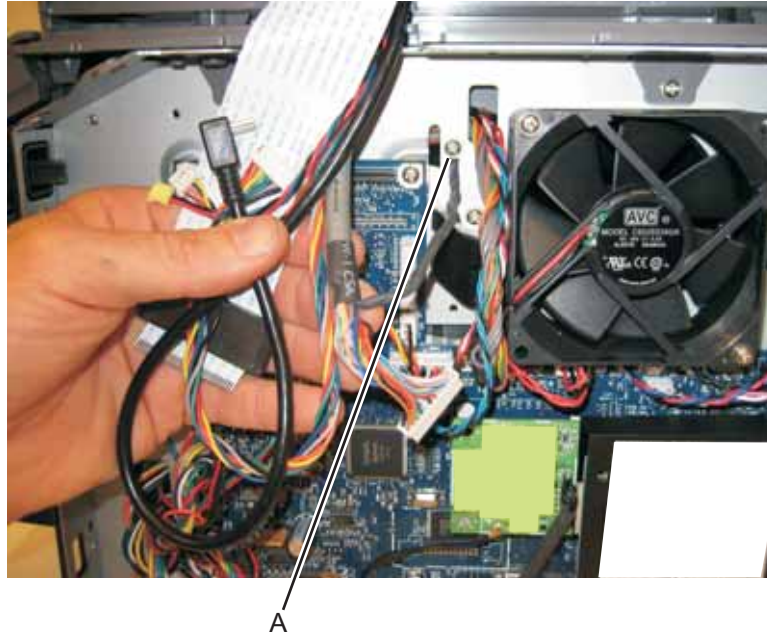
9. Remove the ADF assembly.



Note: Perform the ADF registration procedure after installing the new ADF unit. See **“Scanner Manual Registration” on page 3-30**.

ADF cable removal

1. Remove the flatbed. See **"Flatbed removal"** on page 4-24.
2. Remove the ground screw (A).



3. Disconnect the ADF cable from J4 on the controller board.
4. Un-route the ADF cable from the scanner tub frame assembly.



5. Remove the ADF cable.

ADF input tray removal

1. Firmly grasp the ADF input tray on both sides.



2. Pull the ADF input tray out of the ADF.

ADF scanner assembly removal

1. Remove the rear door and cover. See **"Rear door and cover removal"** on page 4-67.
2. Remove the front scanner cover. See **"Front scanner cover removal"** on page 4-29.
3. Remove the right side scanner cover. See **"Right side scanner cover removal"** on page 4-73.
4. Remove the right side printer cover. See **"Right side printer cover removal"** on page 4-71.
5. Remove the left side scanner cover. See **"Left side scanner cover removal"** on page 4-35.
6. Remove the left side printer cover. See **"Left side printer cover removal"** on page 4-33.
7. Disconnect the operator panel cable at J14, the flatbed motor cable at JFBM1, the home sensor cable at J1, the CCD ribbon cable at J2, and the USB cable at J20 from the controller board.
8. Remove the ground screw (A), and disconnect the ADF cable.



A

9. Remove the two screws (B) from the right side of the scanner tub frame assembly.



B

10. Remove the two screws (C) from the left side of the scanner tub frame assembly.



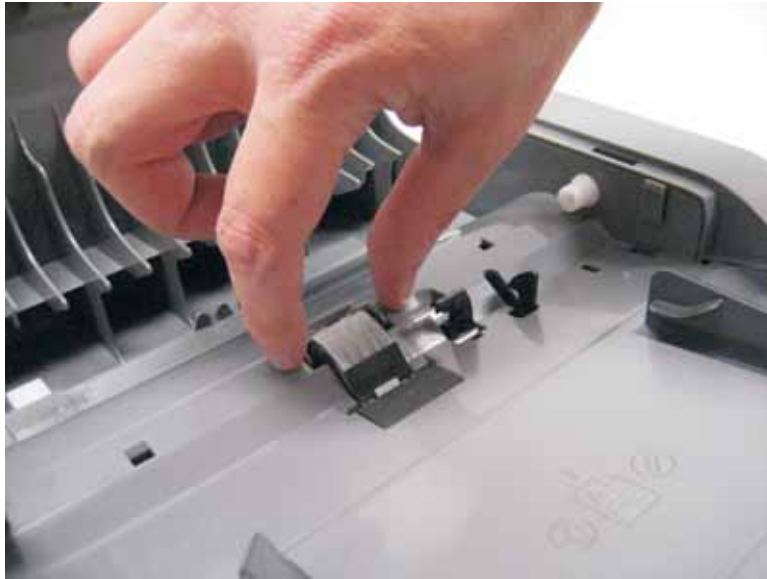
C

11. Lift the ADF scanner assembly, and remove.

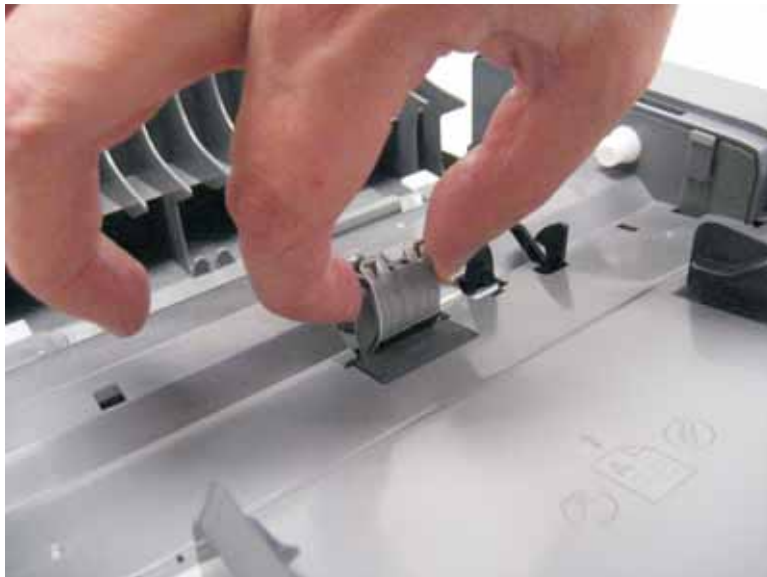


ADF separator pad removal

1. Remove the ADF separator roll. See **“ADF separator roll assembly removal”** on page 4-12.
2. Pinch the two tabs on each side of the pad inward.



3. Tilt the pad up, and lift it out of the ADF assembly.

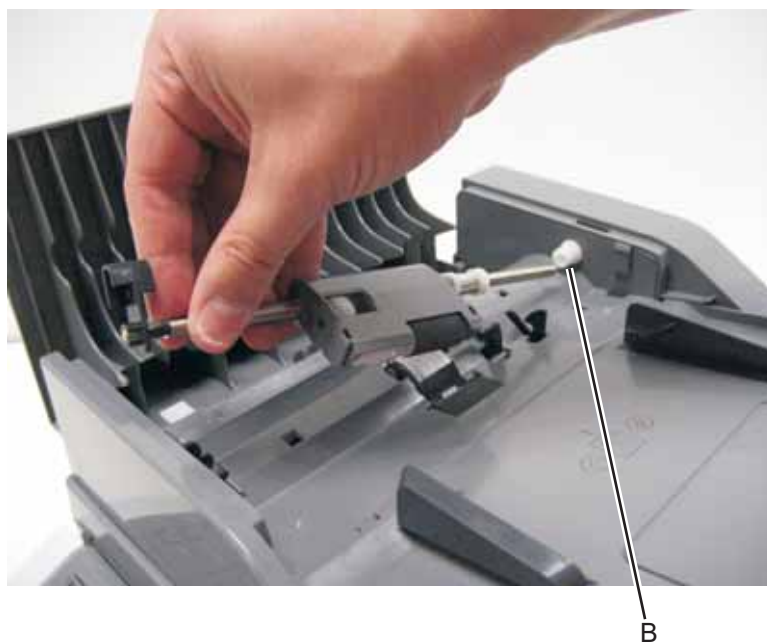


ADF separator roll assembly removal

1. Lift the locking lever (A).

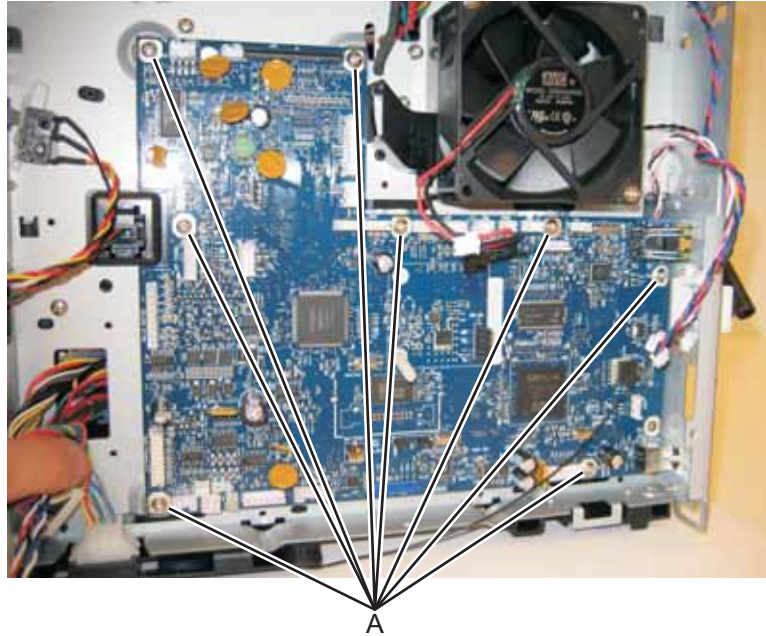


2. Slightly lift the separator roll assembly, and pull it out of the mount (B) on the opposite side.

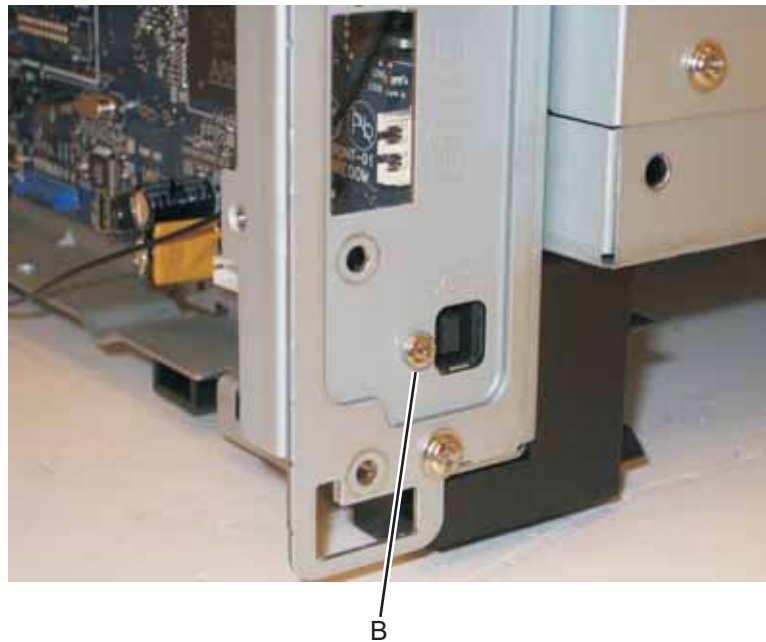


Controller board removal

1. Remove the right side printer cover. See **"Right side printer cover removal"** on page 4-71.
2. Remove the fax card. See **"Fax card removal"** on page 4-23.
3. Disconnect all cables from the controller board.
4. Remove the eight screws (A) from the controller board.



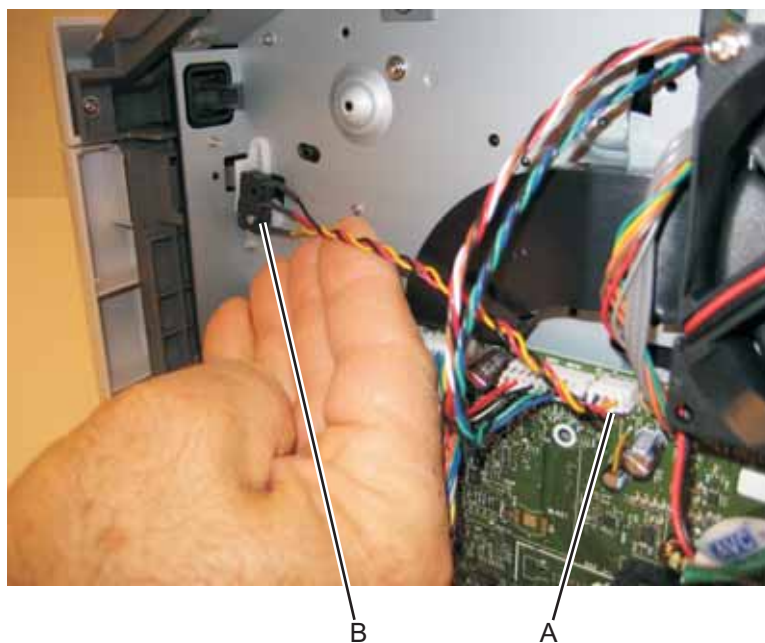
5. Remove the screw (B) from the right rear of the printer.



6. Remove the controller board.

Cover open sensor removal

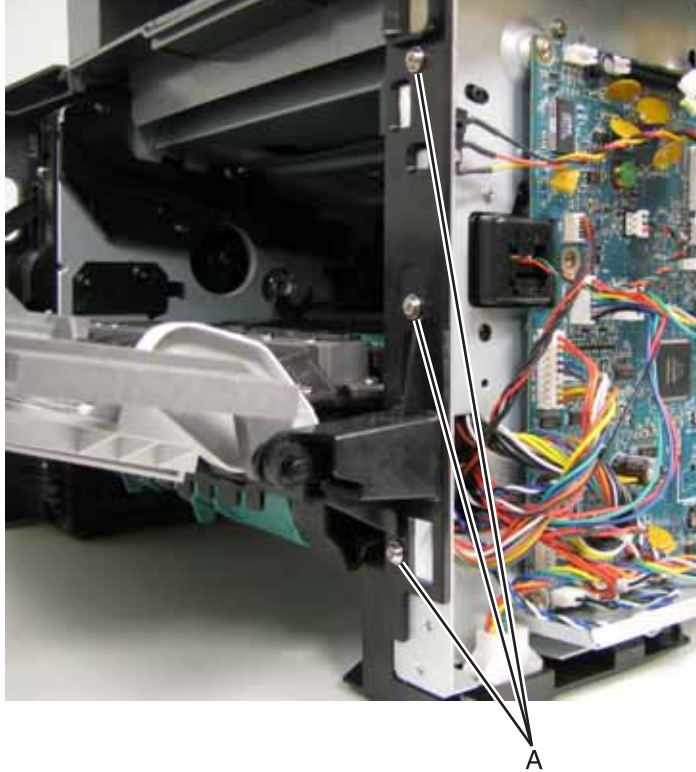
1. Remove the right side printer cover. See **“Right side printer cover removal”** on page 4-71.
2. Disconnect the cable (A) from J6 on the controller board.
3. Use a #1 Phillips screwdriver to remove the screw (B) holding the sensor.



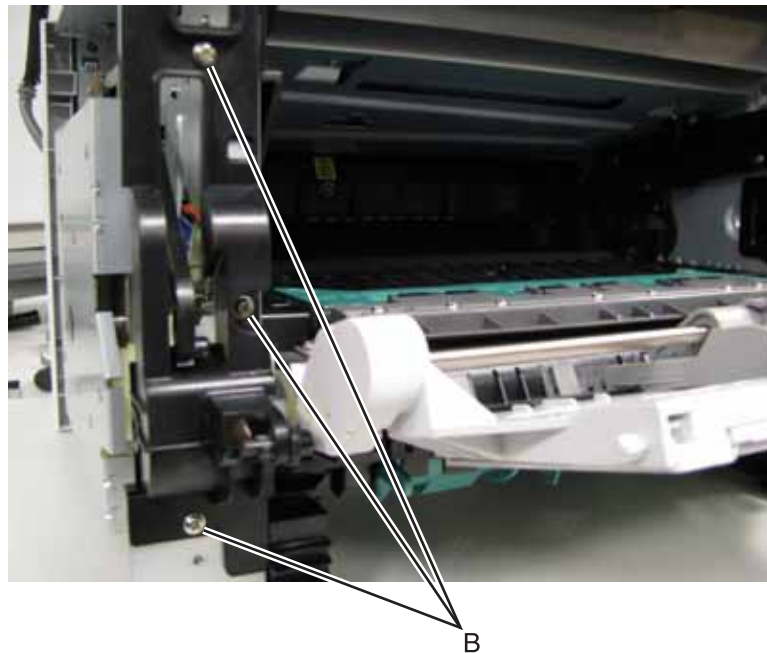
4. Remove the cover open sensor.

Door mount removal

1. Open the front cover.
2. Remove the lower access door assembly. See [“Lower access door assembly removal” on page 4-37](#).
3. Remove the left side printer cover. See [“Left side printer cover removal” on page 4-33](#).
4. Remove the right side cover. See [“Right side printer cover removal” on page 4-71](#).
5. Remove the three screws (A) from the right side of the printer.



6. Remove the three screws (B) from the left side of the printer.



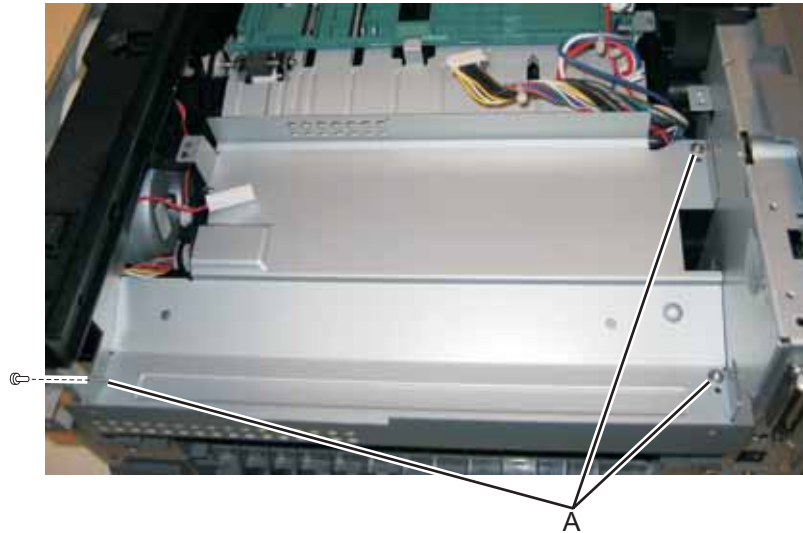
7. Remove the door mounts.

Duplex removal

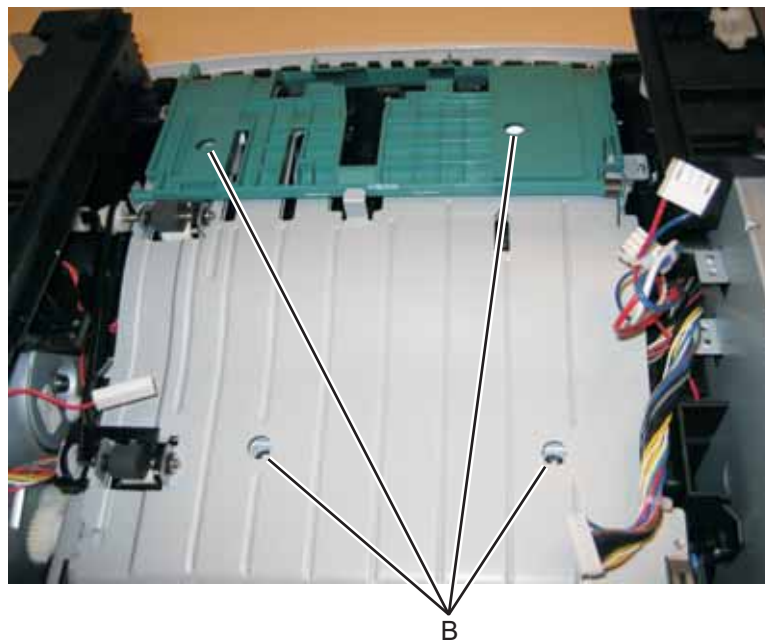
1. Remove the right side printer cover. See **"Right side printer cover removal"** on page 4-71.
2. Remove the LVPS/HVPS. See **"LVPS/HVPS removal"** on page 4-39.
3. Place the printer on its right side.

Note: Be careful to not mar the finish of the printer.

4. Remove the three screws (A) from the shield.



5. Remove the four screws (B) from the duplex.



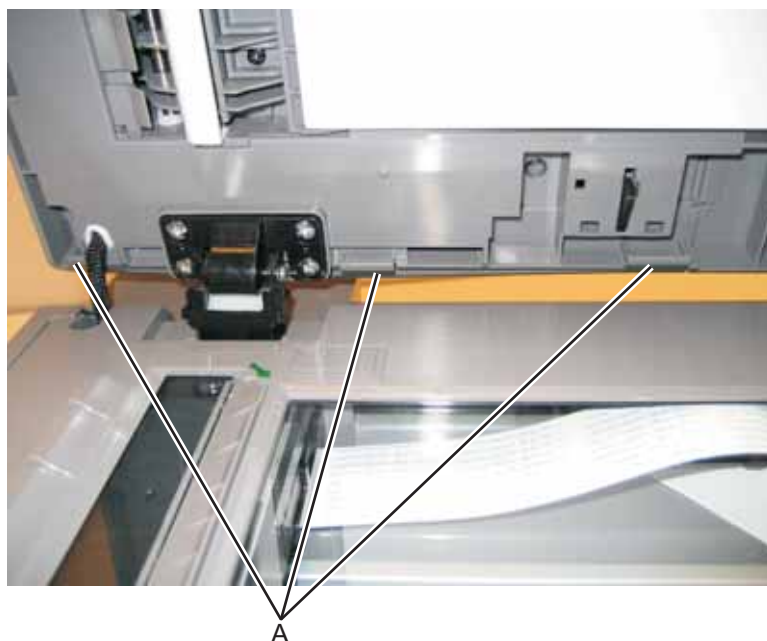
6. Lift the duplex slightly, push to the left, and tilt to clear the right side of the printer.



7. Remove the duplex.

Duplex ADF rear cover removal

1. While lifting the ADF, use a flatblade screwdriver to pry open the three tabs (A) on the bottom of the ADF cover.

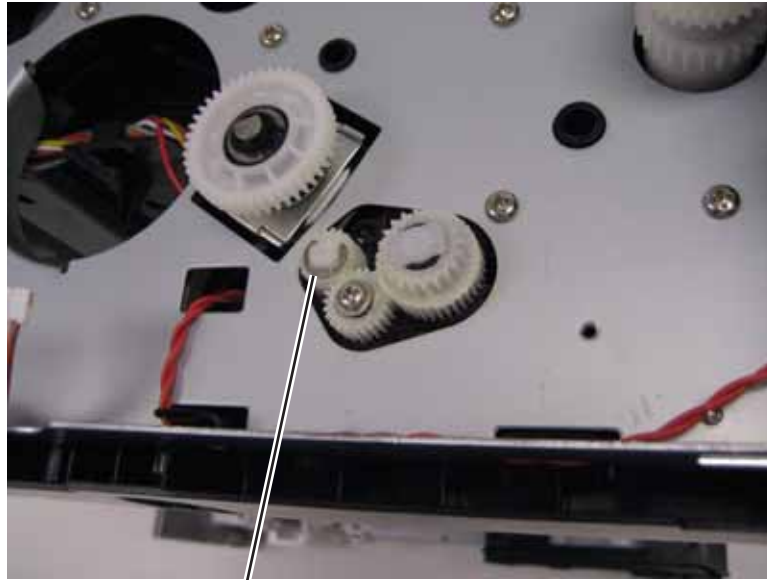


2. Lift and remove the rear cover from the ADF assembly.



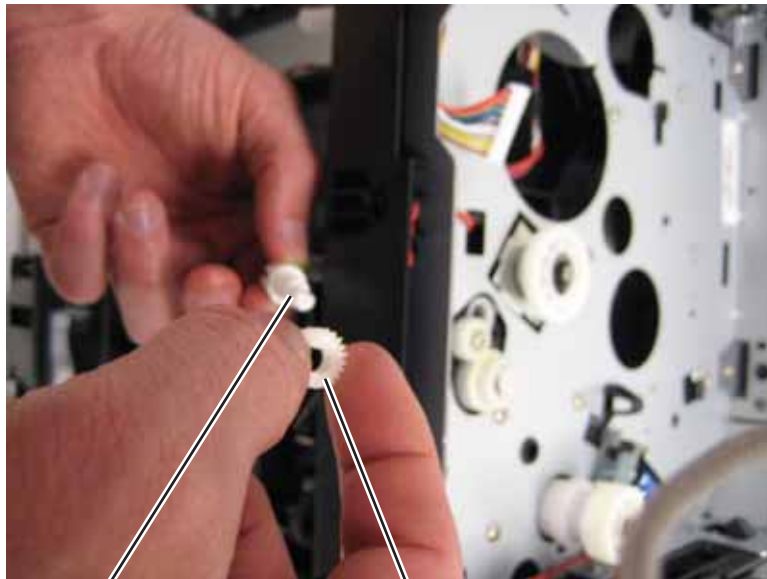
Duplex/main motor gear drive interface removal

1. Remove the LVPS/HVPS. See **“LVPS/HVPS removal”** on page 4-39.
2. Remove the duplex. See **“Duplex removal”** on page 4-16.
3. Remove the main motor gear drive. See **“Main motor gear drive removal”** on page 4-42.
4. Remove the e-clip (A) from the gear.



A

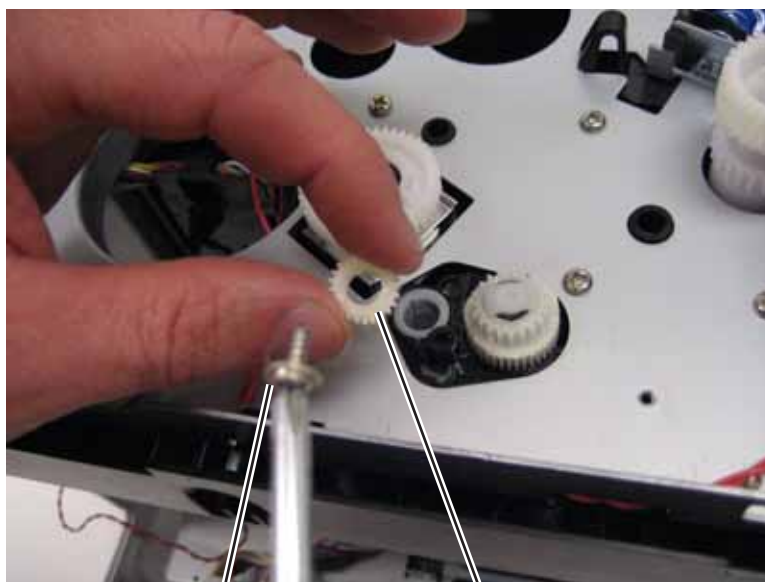
5. Remove the gear (B) and gear shaft (C).



C

B

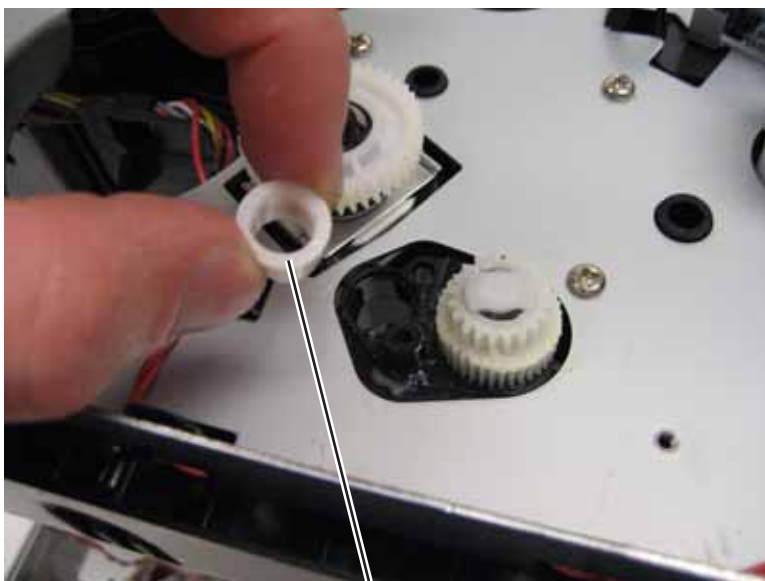
6. Remove the screw (D) from the gear (E).



D

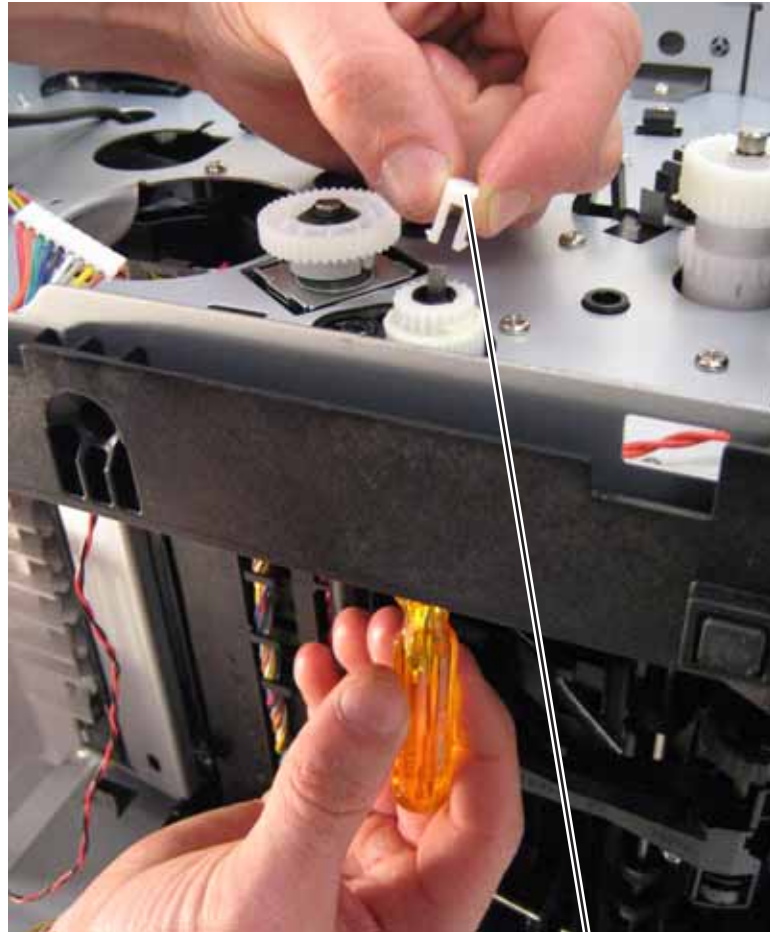
E

7. Remove the plastic bushing (F).



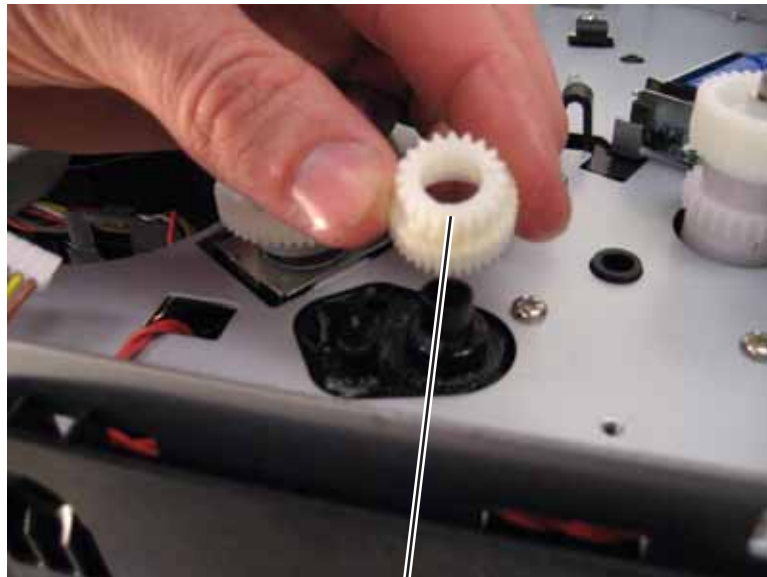
F

8. Use a screwdriver to loosen the retainer clip (G) from the gear.



G

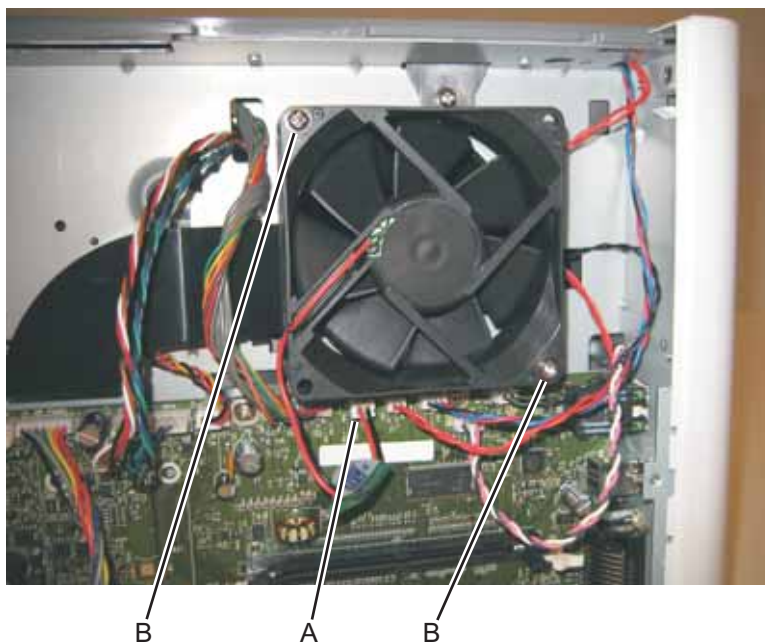
9. Remove the gear (H).



H

Fan removal

1. Remove the right side printer cover. See **“Right side printer cover removal”** on page 4-71.
2. Disconnect the cable (A) from J13 on the controller board, and remove the two screws (B) holding the fan to the right side frame.



3. Remove the fan.

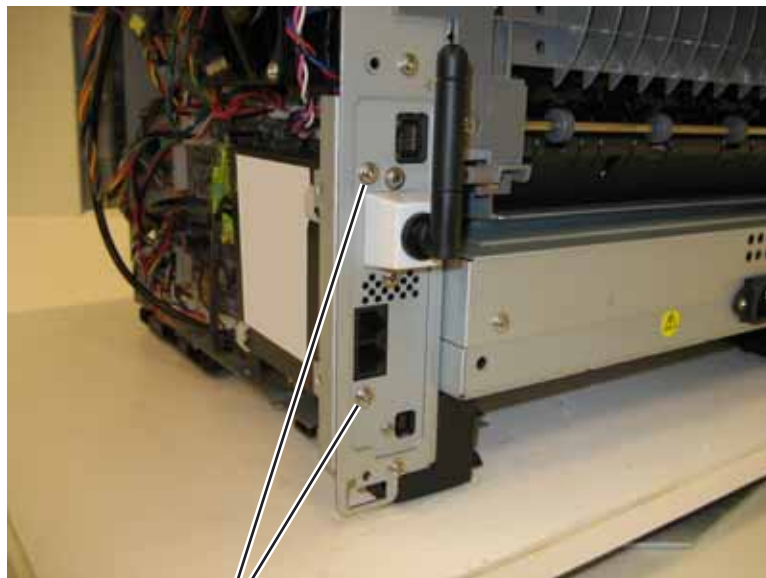
Fax card removal



CAUTION

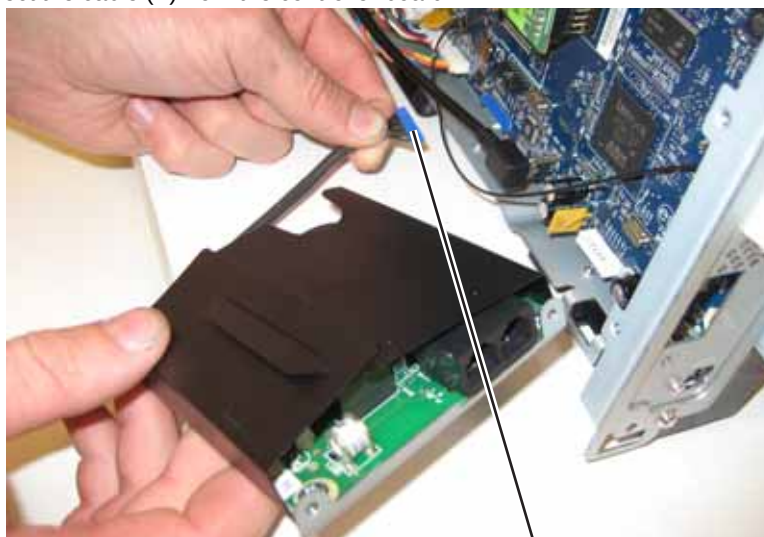
This product contains a lithium battery. THERE IS A RISK OF EXPLOSION IF THE BATTERY IS REPLACED BY AN INCORRECT TYPE. Discard used batteries according to the battery manufacturer's instructions and local regulations.

1. Remove the rear door and cover. See **"Rear door and cover removal"** on page 4-67.
2. Remove the right side printer cover. See **"Right side printer cover removal"** on page 4-71.
3. Remove the two screws (A) securing the fax card to the printer frame.



A

4. Disconnect the cable (B) from the controller board.

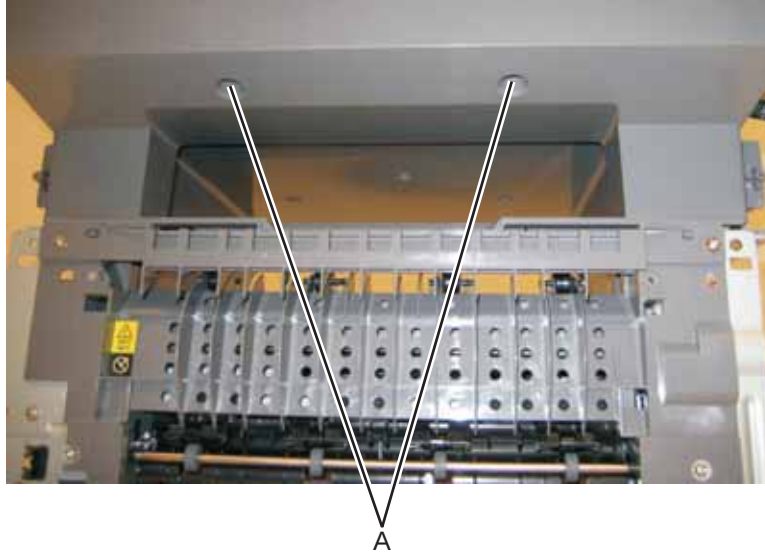


B

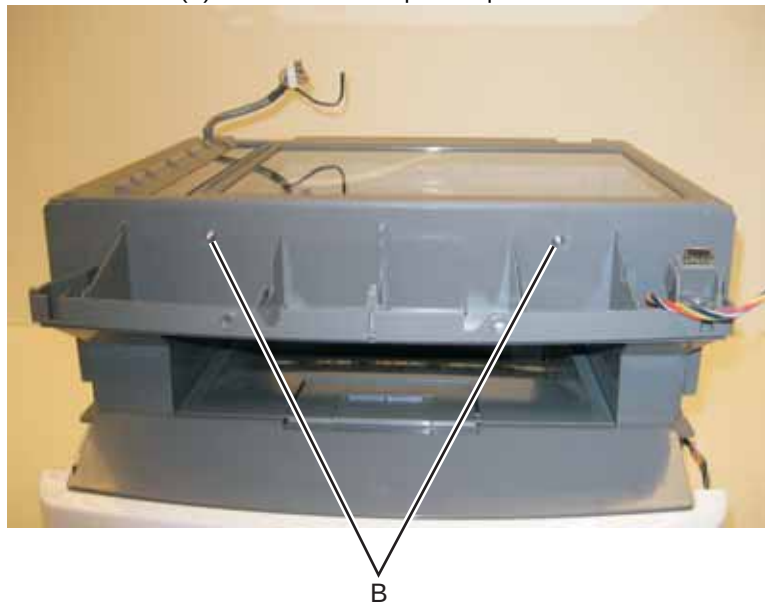
5. Remove the fax card.

Flatbed removal

1. Remove the ADF. See **“ADF removal” on page 4-4** or **“Toner level sensor removal” on page 4-75**.
2. Remove the left side scanner cover. See **“Left side scanner cover removal” on page 4-35**.
3. Remove the right side scanner cover. See **“Right side scanner cover removal” on page 4-73**.
4. Remove the right side printer cover. See **“Right side printer cover removal” on page 4-71**.
5. Remove the operator panel. See **“Operator panel removal” on page 4-63**.
6. Remove the two screws (A) from the rear of the tub.

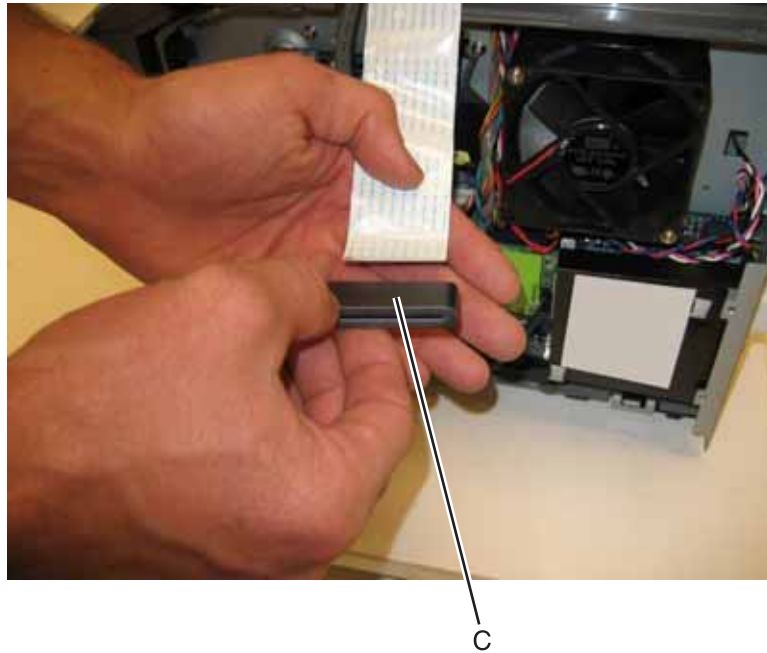


7. Remove the two screws (B) from behind the operator panel.



8. Disconnect the ribbon cable from J12, the flatbed motor cable from JFBM1, and the home sensor cable from J1 on the controller board.

- 9.** Remove the torroid (C) from the ribbon cable.



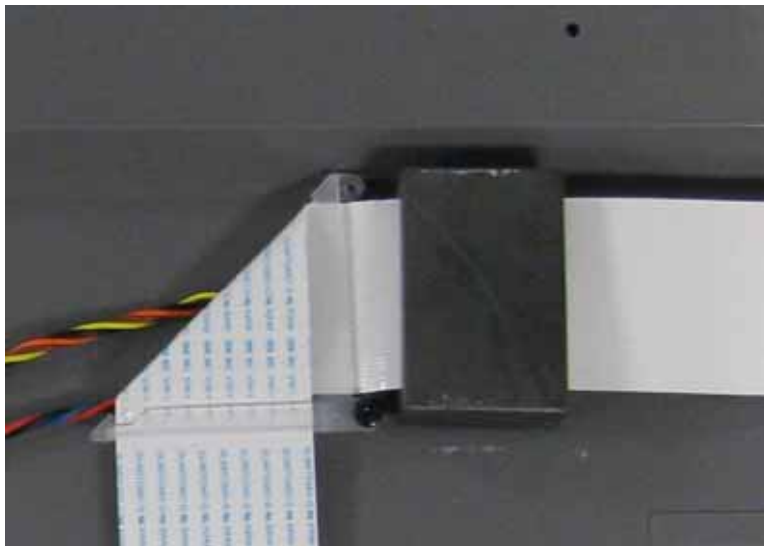
- 10.** Lift the scanner, and remove all cables.



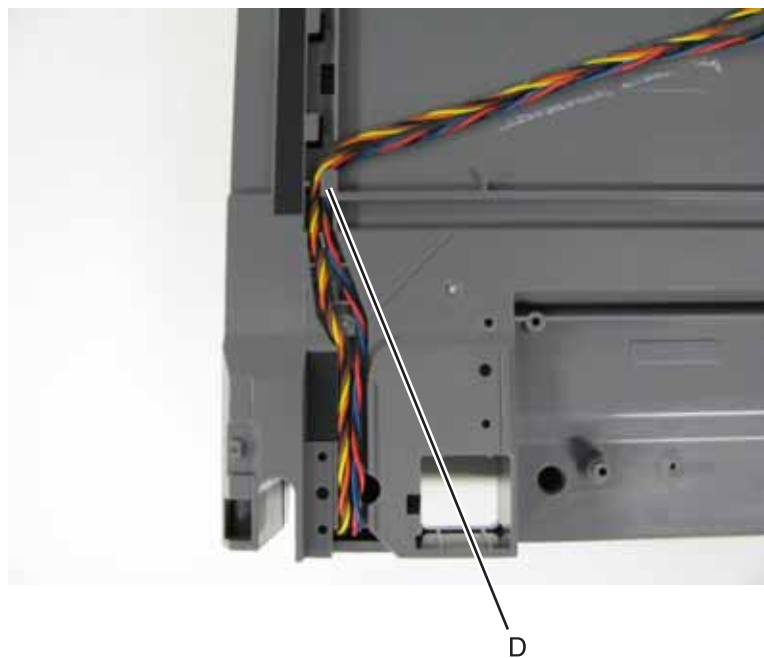
- 11.** Remove the scanner.

Installation note:

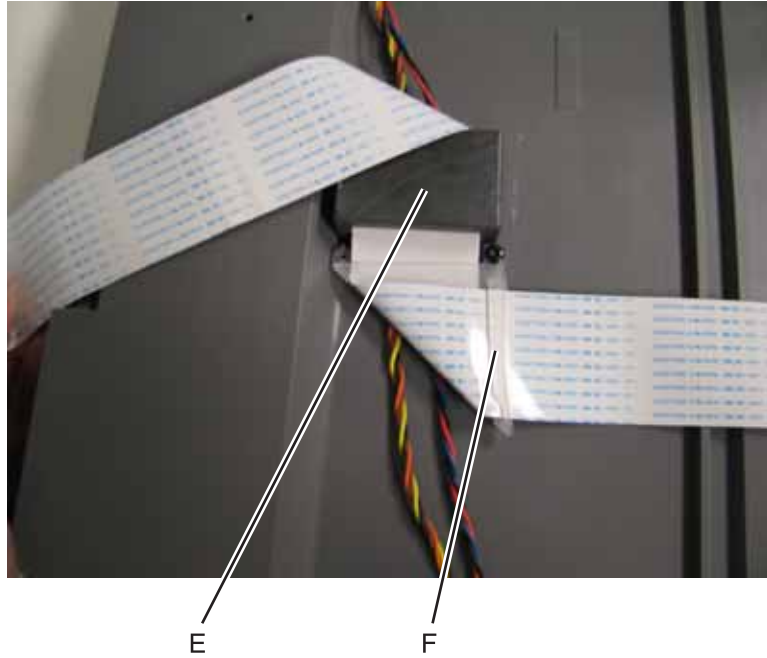
1. Remove the clear plastic guide from the old flatbed and attach it to the new flatbed.
2. Route the CCD ribbon cable through the guide as shown below.



3. Install the large torroid from the old ribbon cable onto the CCD ribbon cable as shown above.
4. Route the flatbed motor cable and the home sensor cables in the channel and under the tab (D).



5. Route the flatbed motor cable and the home sensor cables under the ribbon cable folding guide (E) and torroid (F).

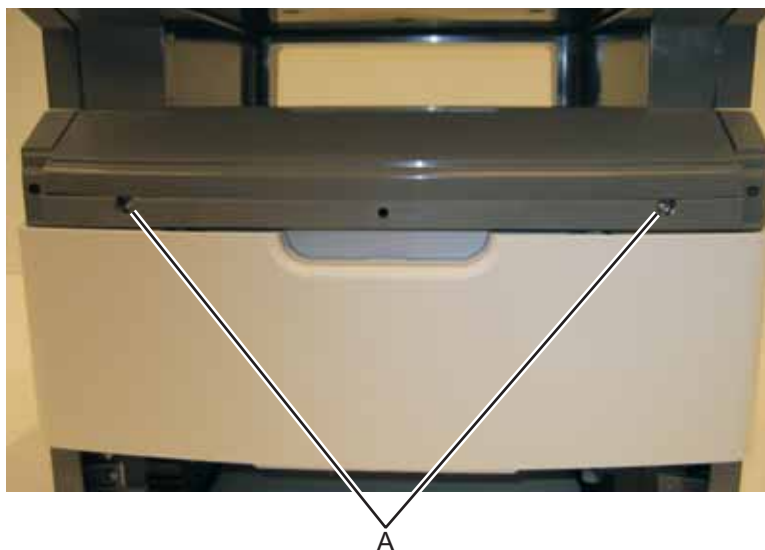


6. After the cables are folded and routed, the flatbed assembly should look like the picture below.



Front door access cover blank removal

1. Remove the nameplate blank cover. See **"Nameplate blank cover removal" on page 4-62.**
2. Remove the two screws (A).



3. Remove the front door access cover blank.

Front scanner cover removal

1. Use a flathead screwdriver to pry the front scanner cover away from the printer.

Note: Be careful to not mar the finish of the printer.

2. Pull the scanner cover away from the operator panel.

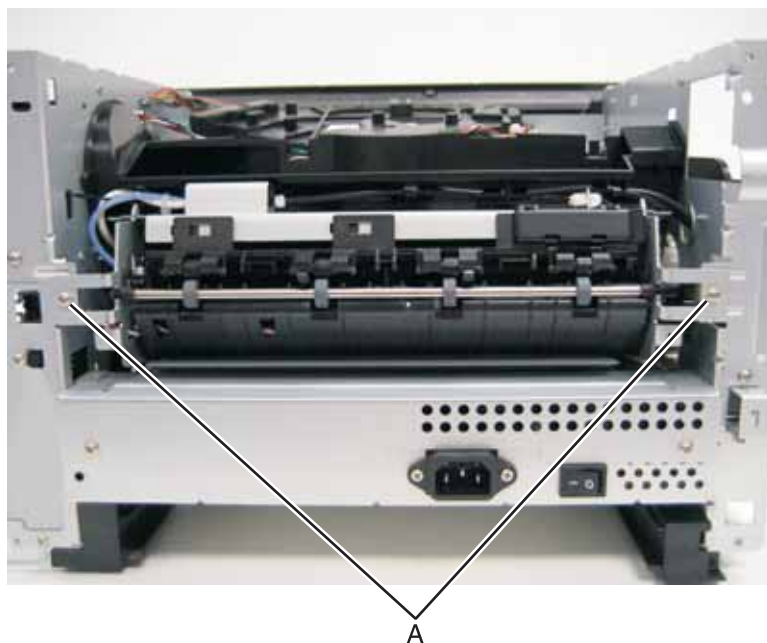


3. Remove the front scanner cover.

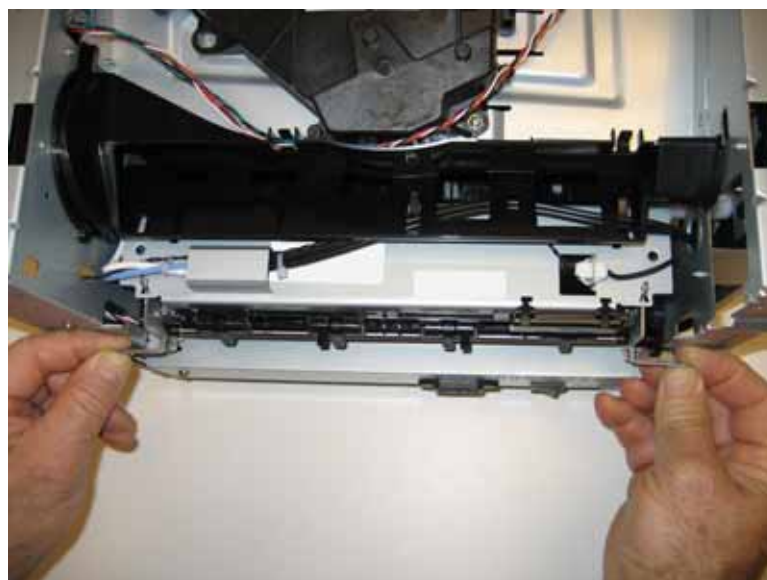
Fuser removal



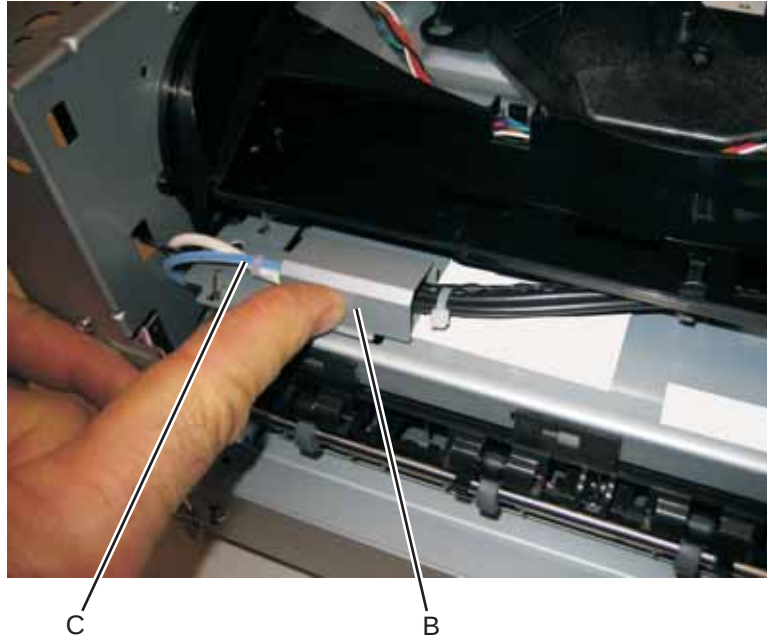
1. Remove the rear exit guide. See **“Rear exit guide assembly with sensor and reversing solenoid removal” on page 4-69.**
2. Remove the two screws (A).



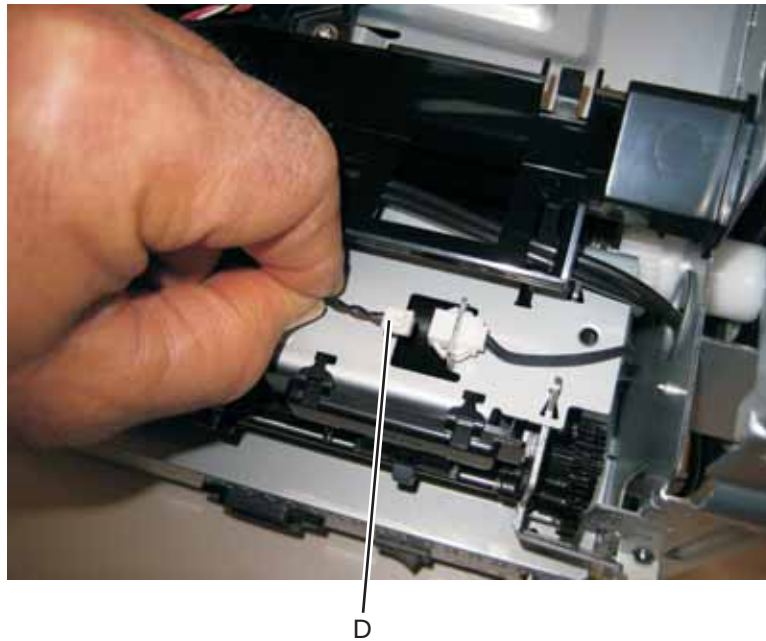
3. Partially pull the fuser forward for better access.



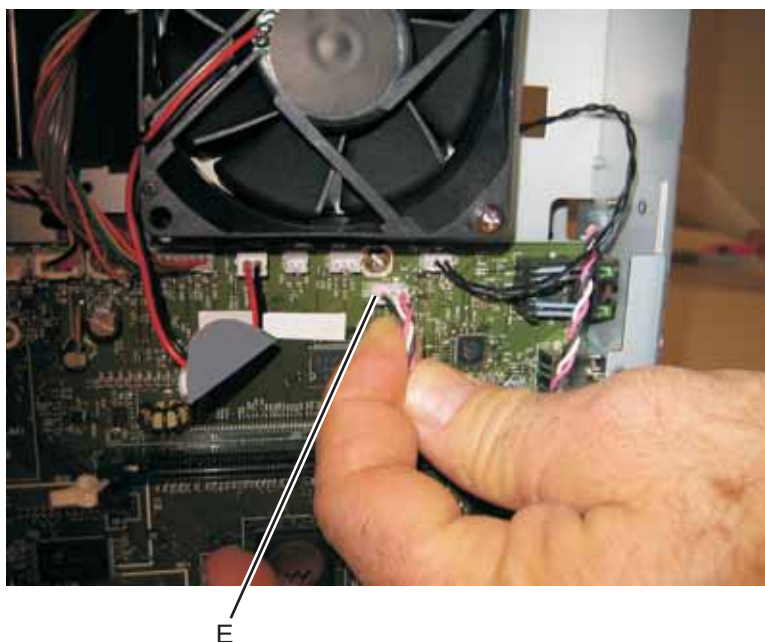
4. Push in on the cable connector cover (B), and remove.
5. Disconnect the AC cable (C).



6. Disconnect the thermistor cable (D).



7. Disconnect the exit sensor cable (E) from the controller board.



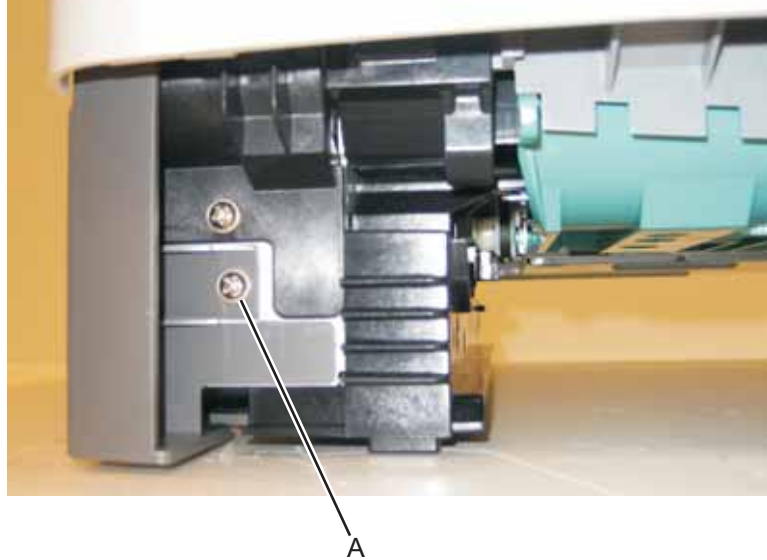
8. Remove the fuser.

Note:

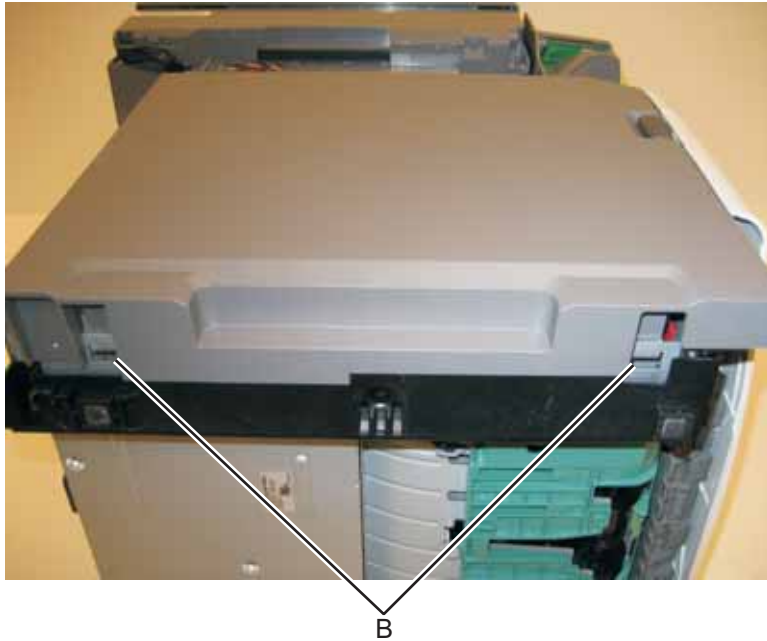
- Be careful to not damage the gears during the fuser installation.
- Be sure to reinstall the AC cable during the fuser installation.

Left side printer cover removal

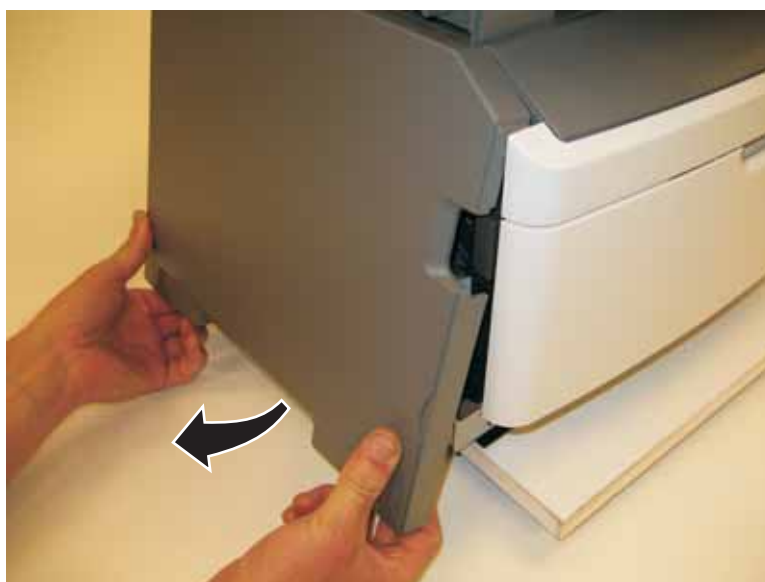
1. Remove the rear door and cover. See **"Rear door and cover removal"** on page 4-67.
2. Remove the left side scanner cover. See **"Left side scanner cover removal"** on page 4-35.
3. Remove the screw (A) from the front of the printer.



4. Press in on the tabs (B).



5. Swing the left side printer cover out, and lift to remove.



Left side scanner cover removal

1. Remove the front scanner cover. See **"Left side scanner cover removal"** on page 4-35.
2. Remove the screw (A) from the front of the printer.



3. Remove the screw (B) from the rear of the printer.



4. Lift up on the ADF scanner cover, and disconnect the left side scanner cover.



5. Remove the left side scanner cover.

Lower access door assembly removal

1. Remove the MPF tray. See **“MPF tray removal” on page 4-59.**
2. Disconnect the right door hinge (A) from the printer frame.



A

3. Disconnect the left door hinge (B) from the printer frame.



B

4. Disconnect the fuser link (C).



5. Remove the lower access door assembly.

LVPS/HVPS removal



1. Remove the rear door cover. See **“Rear door and cover removal”** on page 4-67.
2. Remove the left side printer cover. See **“Left side printer cover removal”** on page 4-33.
3. Place the printer on its right side.

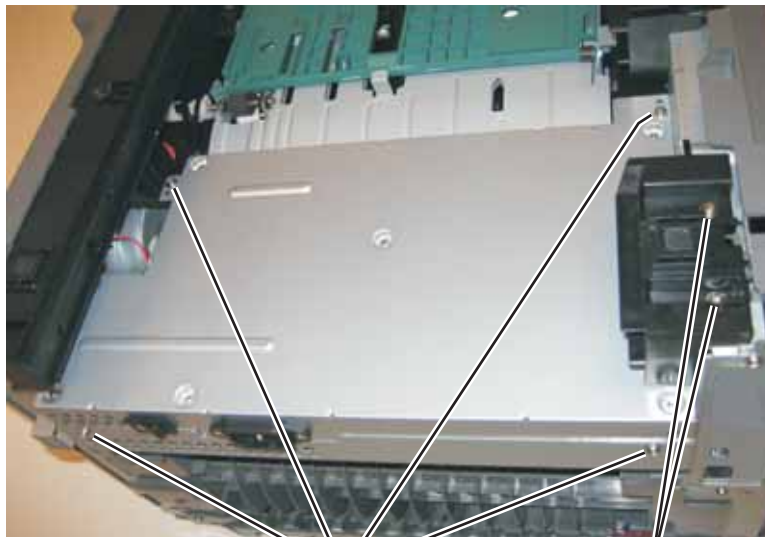
Note: Be careful to not mar the finish of the printer.

4. Disconnect the fuser power cable (A).



A

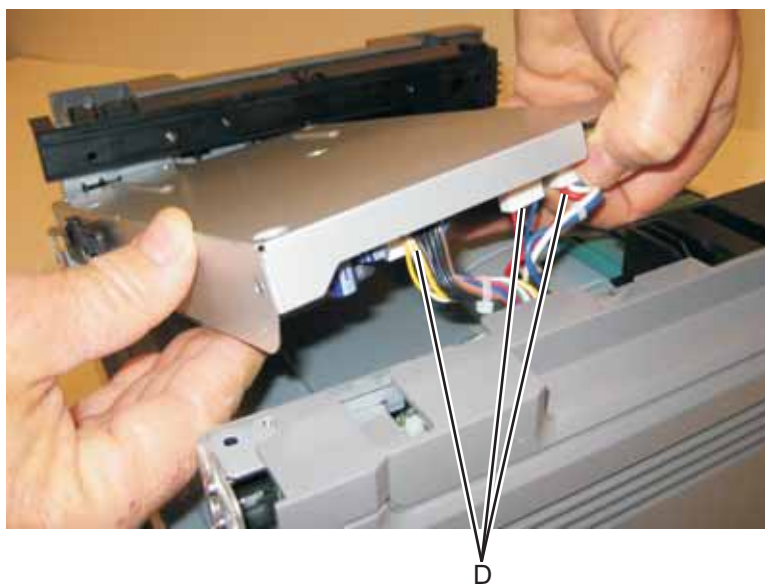
5. Remove the two screws (B) from the right rear foot, and the four screws (C) from the LVPS/HVPS shield.



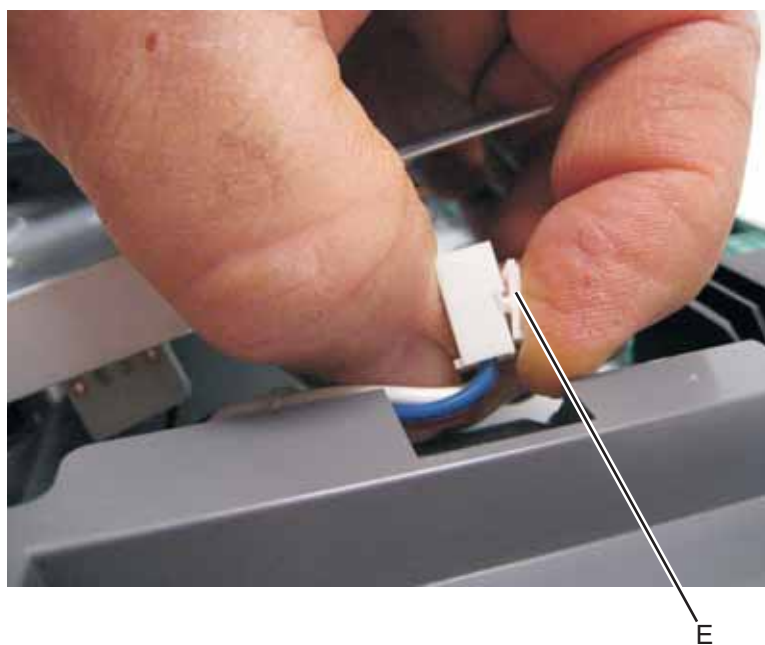
C

B

6. Lift the LVPS/HVPS, and disconnect the three cables (D).



Note: Squeeze the clip to remove the cables from their connectors (E).



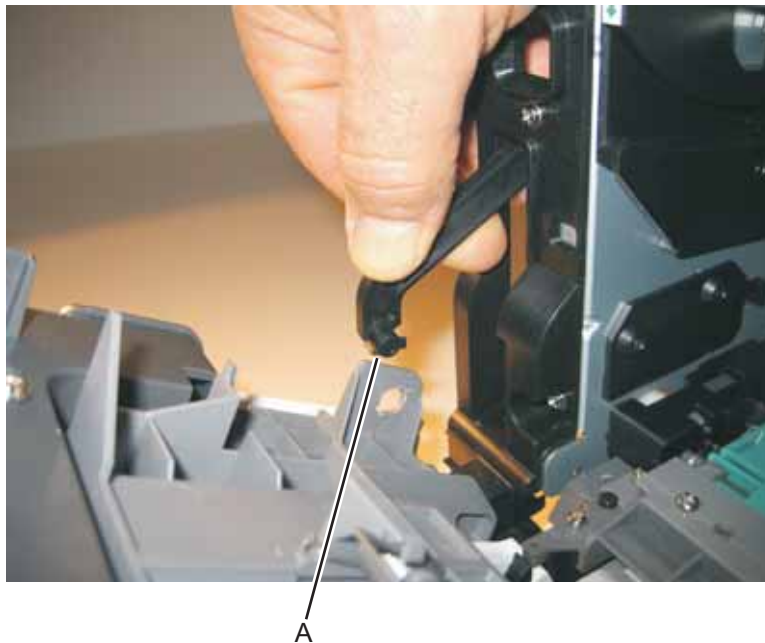
7. Disconnect the transfer roll cable (F).



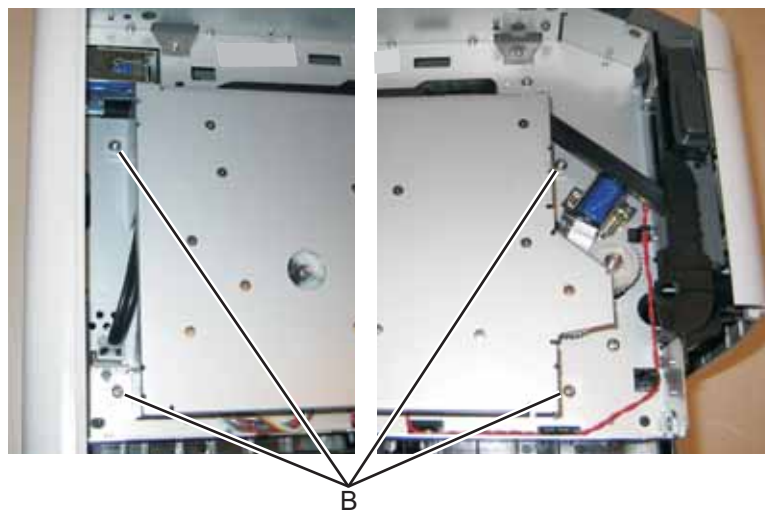
8. Lift and remove the LVPS/HVPS.

Main motor gear drive removal

1. Remove the left side printer cover. See **"Left side printer cover removal"** on page 4-33.
2. Disconnect the fuser link (A) from the front access door.



3. Place the printer on its right side.
- Note:** Be careful to not mar the finish of the printer.
4. Remove the four screws (B) from the main motor gear drive.



5. Lift the gear drive, and disconnect the main motor gear drive cable (C).

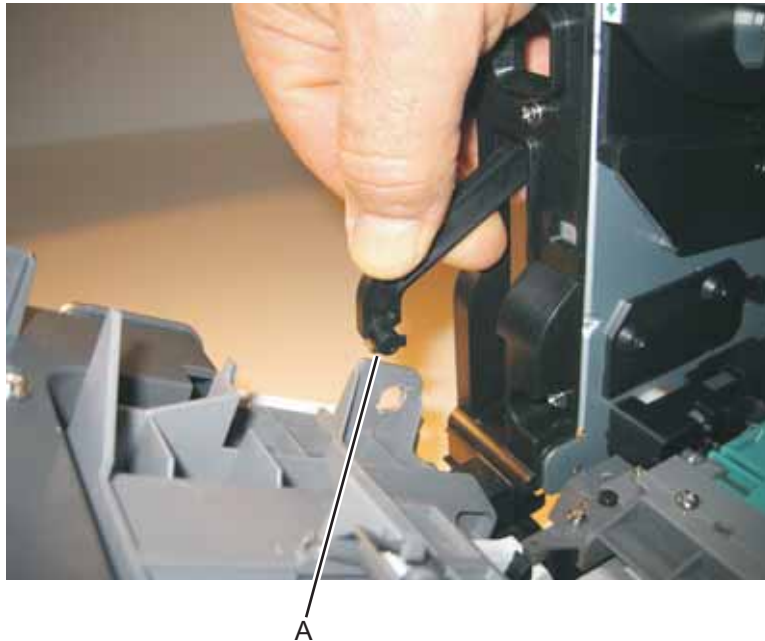


C

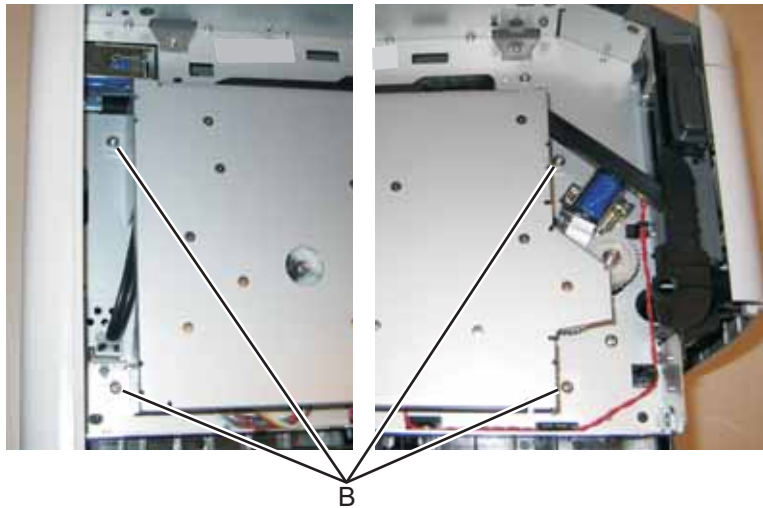
6. Remove the main motor gear drive.

Manual feed clutch removal

1. Remove the left side printer cover. See **“Left side printer cover removal”** on page 4-33.
2. Open the front access door, and disconnect the fuser link (A).



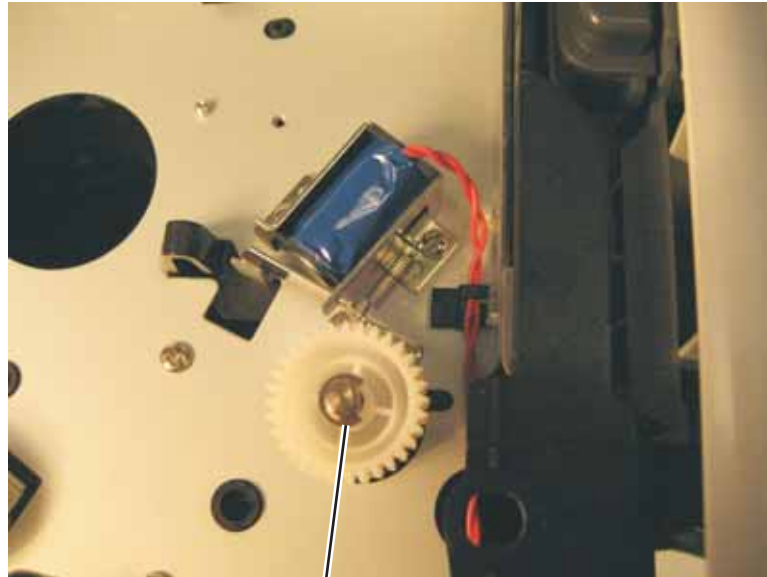
3. Place the printer on its right side.
- Note:** Be careful to not mar the finish of the printer.
4. Remove the four screws (B) from the main motor gear drive.



5. Rotate the main motor gear drive enough to access the manual feed solenoid.

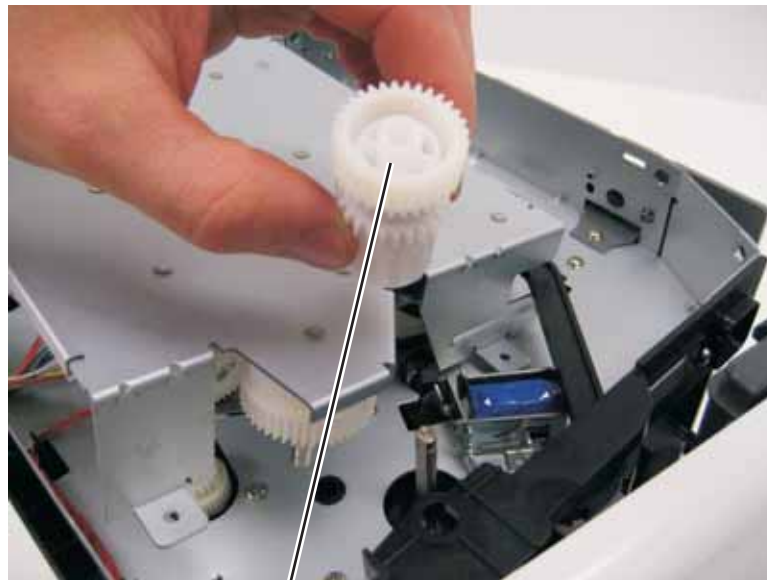
6. Use a screwdriver to remove the e-clip (C) from the manual feed clutch.

Note: The picture below shows the E260d, E260dn printer. The manual feed clutch removal is the same for the MFP models.



C

7. Remove the manual feed clutch (D).



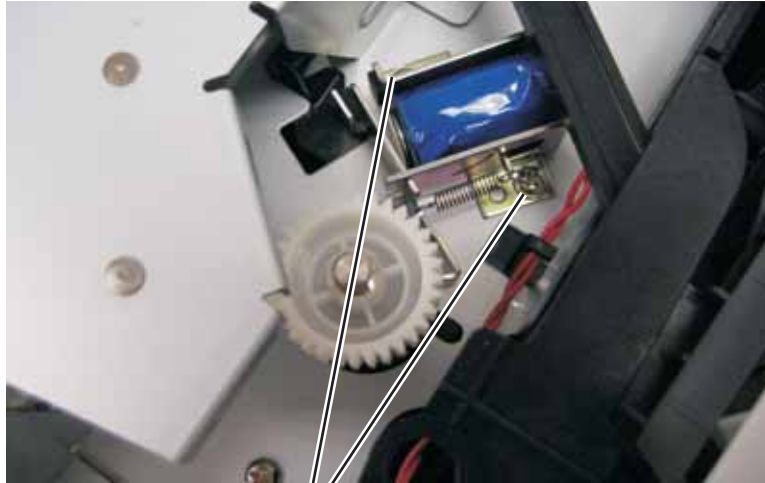
D

Manual feed solenoid removal

1. Remove the right side printer cover. See **“Right side printer cover removal”** on page 4-71.
2. Remove the duplex. See **“Duplex removal”** on page 4-16.
3. Open the front access door, and place the printer on its right side.

Note: Be careful to not mar the finish of the printer.

4. Remove the two screws (A).



A

5. Remove the three screws (B) from the left door mount.



B

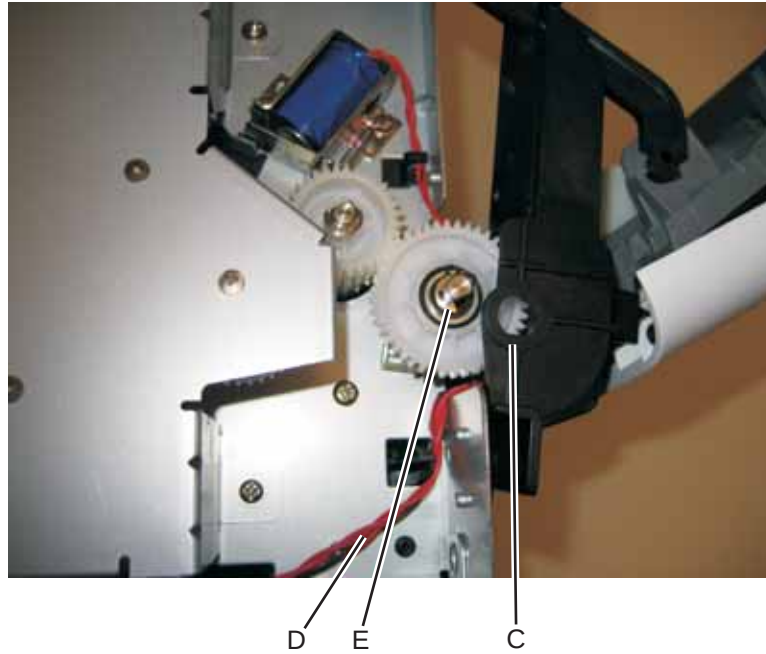
6. Lift the left door mount (C) away from the side frame, and unroute the cable (D) with a spring hook.
7. Reinstall the left door mount, and place the printer on its top.

Note: Be careful to not mar the finish of the printer.

8. Disconnect the cable (D) from J25 on the controller board, and remove the manual feed solenoid.

Installation note:

Install the two screws holding the new solenoid in place, and route the cable (D) behind the MPF clutch (E).



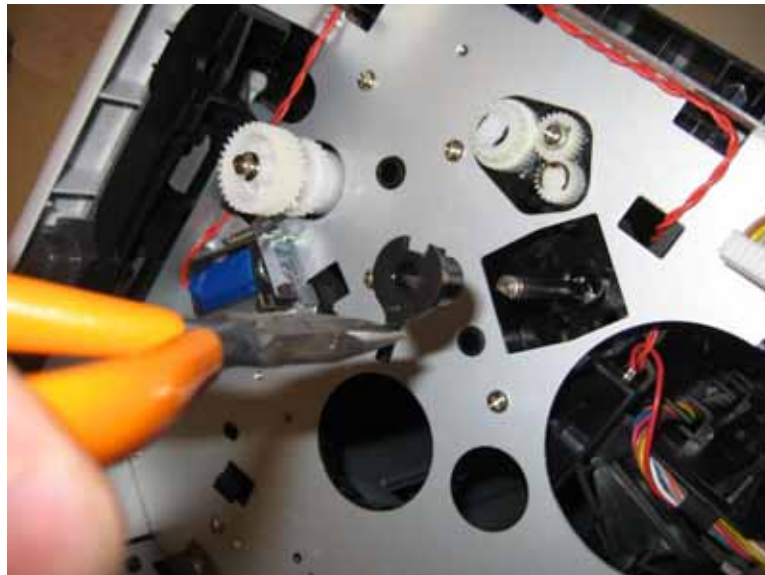
Media ACM ASM feeder removal

1. Remove the left side printer cover. See **“Left side printer cover removal”** on page 4-33.
2. Remove the LVPS/HVPS. See **“LVPS/HVPS removal”** on page 4-39.
3. Remove the duplex. See **“Duplex removal”** on page 4-16.
4. Remove the main motor gear drive. See **“Main motor gear drive removal”** on page 4-42.
5. Remove the media feed clutch. See **“Media feed clutch with cable removal”** on page 4-51.
6. Use a screwdriver to pop the shaft retainer tab (A) loose from the ACM feed shaft.

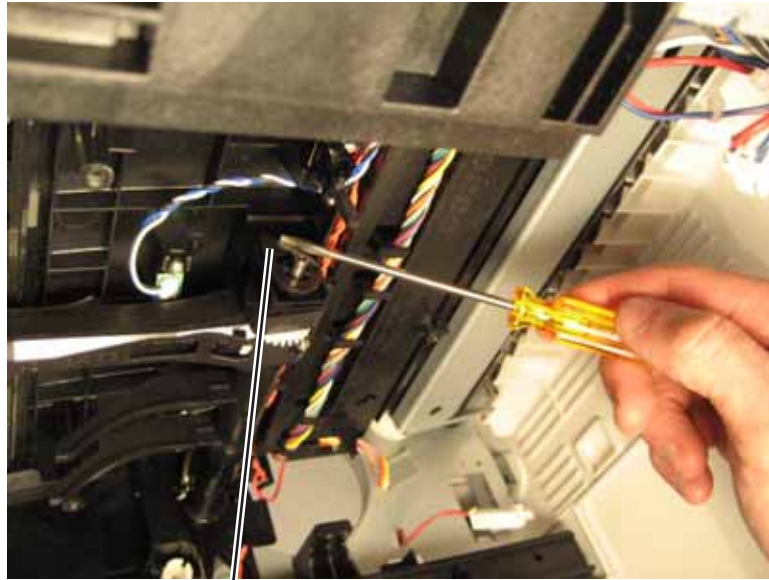


A

7. Use a small pair of pliers to remove the shaft retainer tab.



8. Use a screwdriver to pop the inner shaft lock (B) loose.



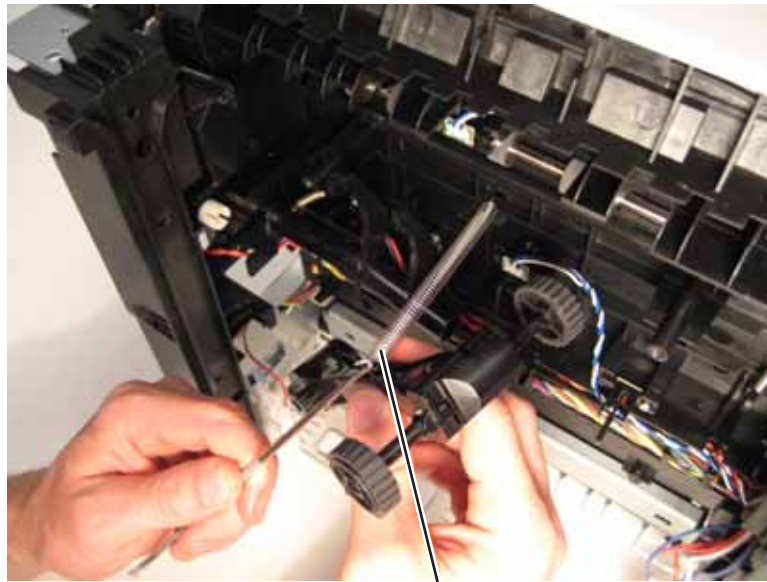
B

9. Remove the inner shaft lock (C).



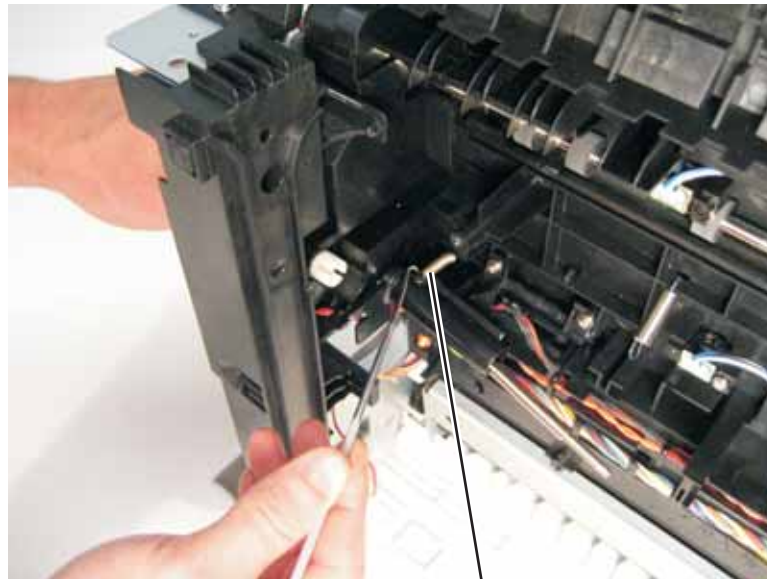
C

10. Pull out the auto compensator shaft, and remove the spring (D).



D

11. Remove the auto compensator shaft.
12. Disconnect the spring (E) from the cylinder.



E

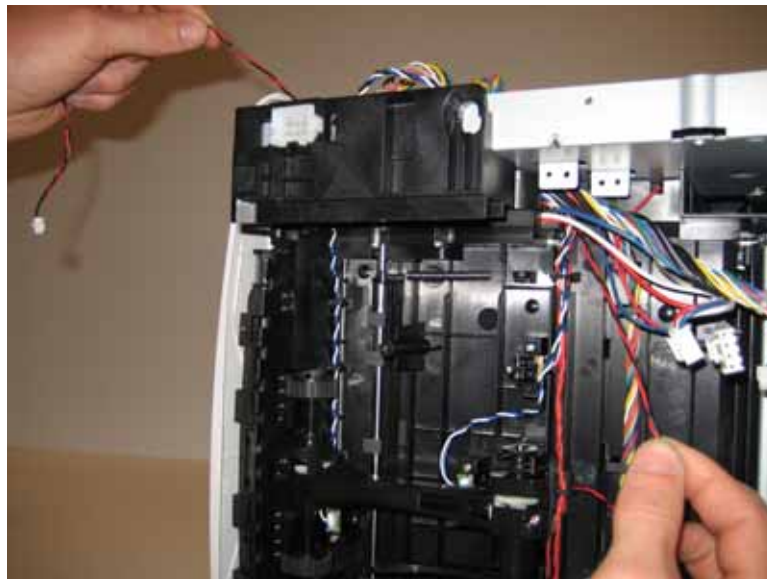
13. Remove the media ACM ASM feeder.

Media feed clutch with cable removal

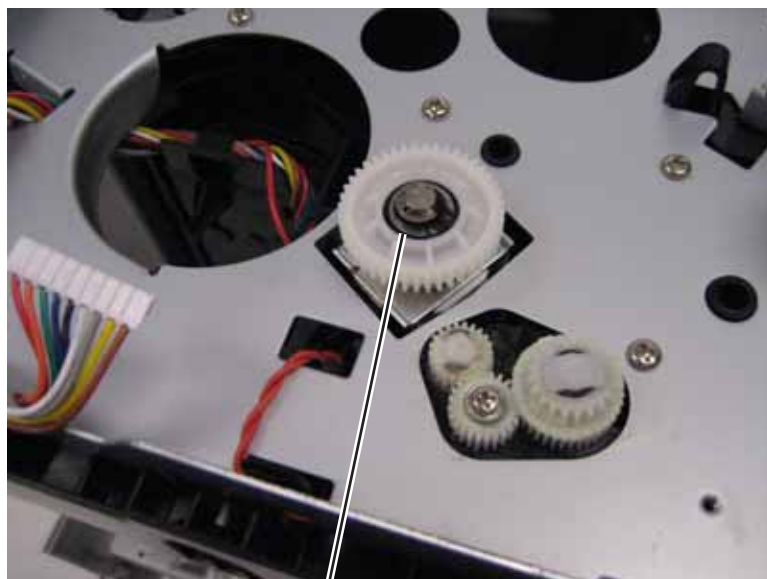
1. Remove the main motor gear drive. See **“Main motor gear drive removal”** on page 4-42.
2. Remove the duplex. See **“Duplex removal”** on page 4-16.
3. Disconnect the media feed clutch cable (A) from the controller board.



4. Unroute the cable from the bottom of the printer.

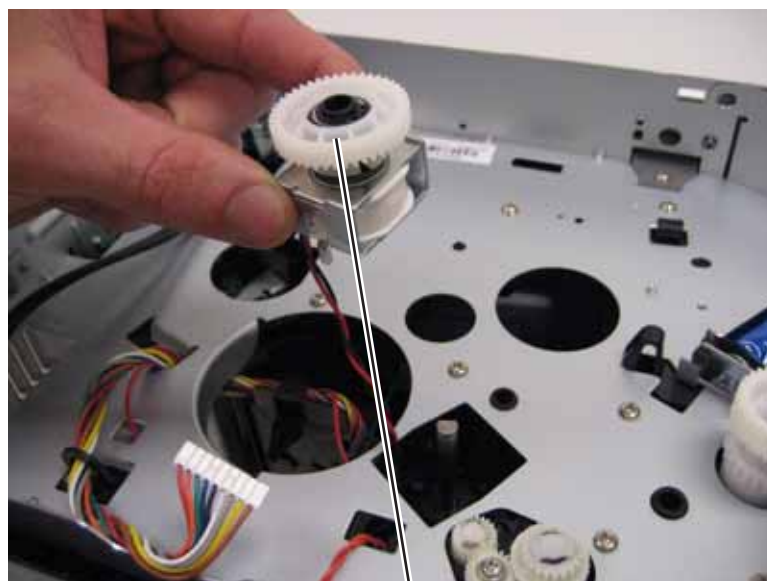


5. Remove the e-clip (B).



B

6. Remove the media feed clutch with cable (C).



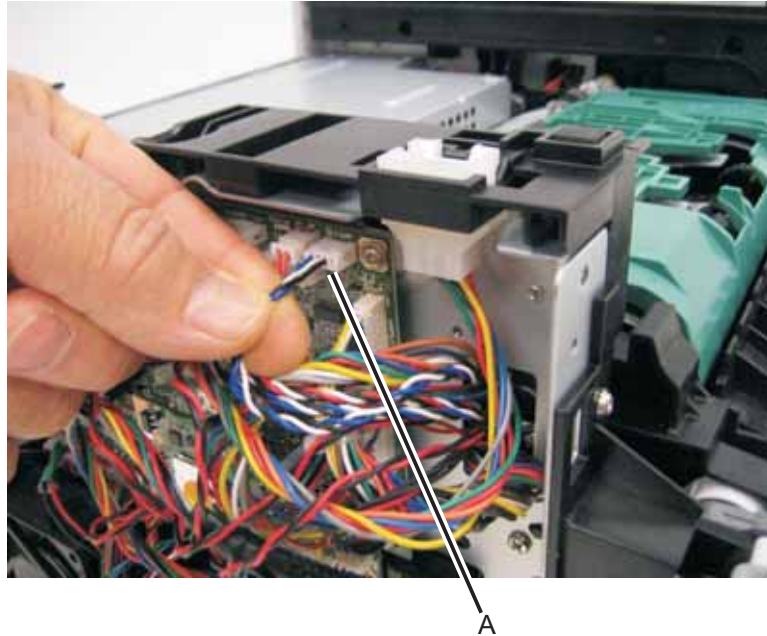
C

Media manual input sensor removal

1. Remove the right side printer cover. See **"Right side printer cover removal"** on page 4-71.
2. Place the machine on its side.

Note: Be careful to not mar the finish of the printer.

3. Disconnect the sensor cable (A) from J26 (MPFS) on the controller board.



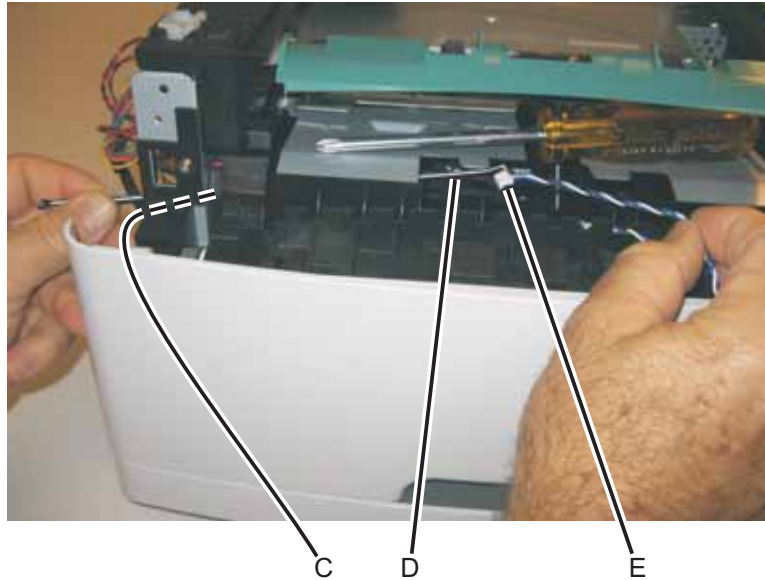
4. Remove the screw (B).



5. Free the cable from its retainers, and pull it through the opening toward the sensor mount.

Reinstallation note:

- Prop open the duplex door, and insert the hook end of the spring hook through the frame opening (C) from the controller board side. Extend the hook until the sensor connector can be hooked.
- Hook the spring hook (D) to the connector (E), and pull it through the opening.



- Place the sensor into position, and reconnect the cable on the controller board.
- Using the spring hook, be sure to reroute the cable through the three retainers (F) between the sensor and side frame.



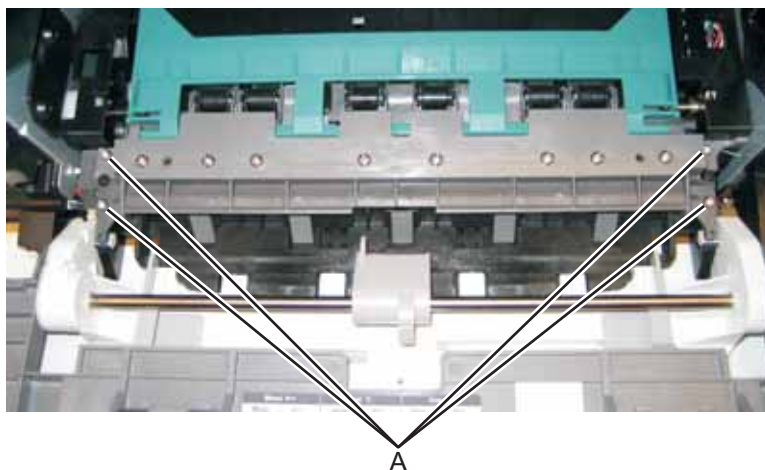
Note: If the cable is not properly installed in its retainers, then the loose cable will obstruct the paper path.

Warning: Check to make sure the duplex paper jam door is in its proper position. If it is not, then the paper tray will become lodged and the printer will need to be replaced.

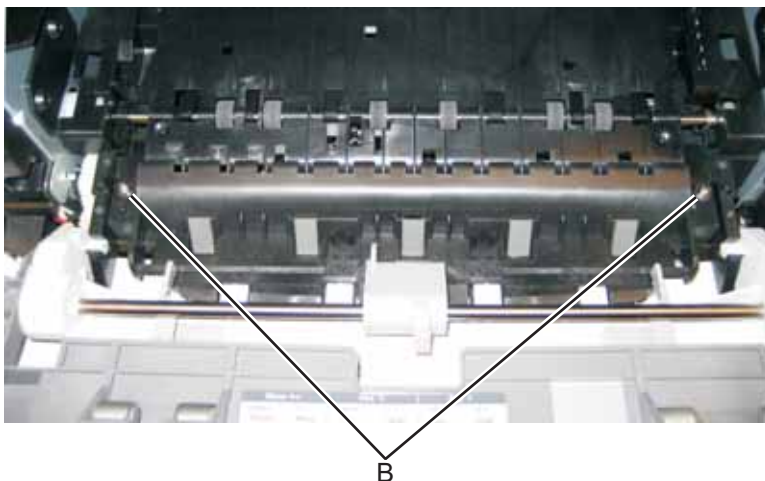


Multipurpose feeder (MPF) removal

1. Open the front access door.
2. Remove the four screws (A) from the upper front guide.



3. Remove the upper front guide.
4. Remove the two screws (B).

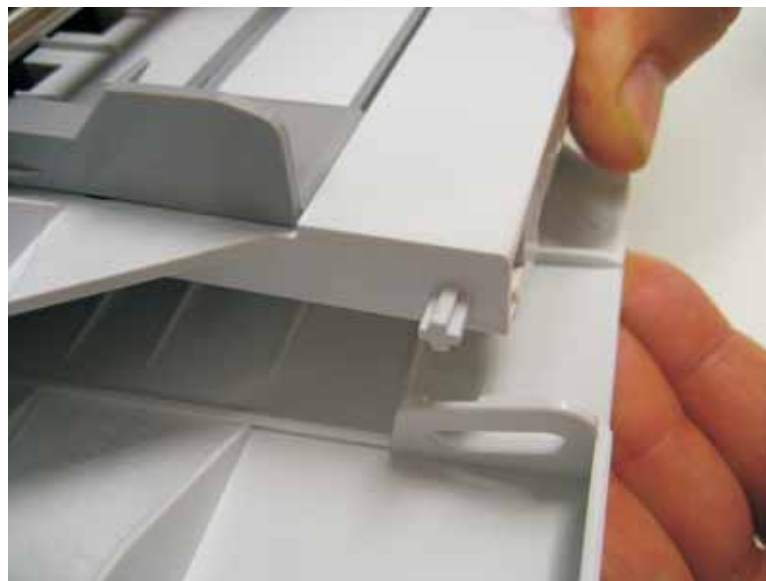


5. Close the front access door, and pull up on the MPF by the steel shaft until the MPF lifts from its hinges.

Note: The picture below shows the E460dn, E460dw printer. The multipurpose feeder removal is the same for all MFP models.



6. Disconnect the MPF from the lower front cover.

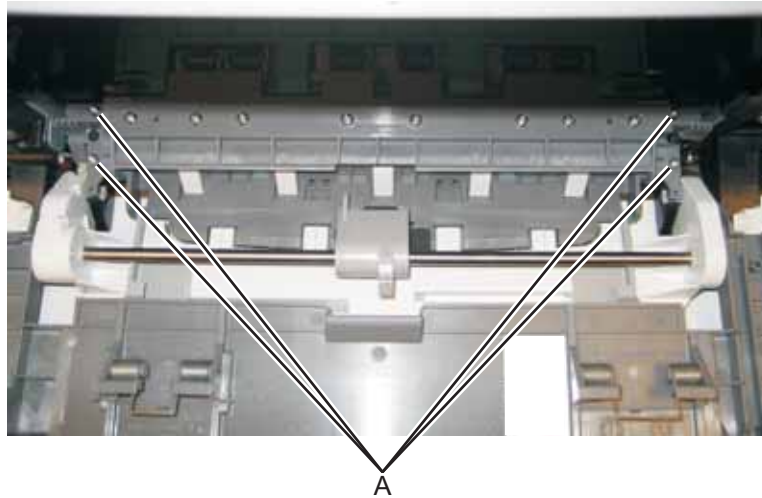


7. Open the front access door, and remove the lower paper guide.



MPF tray removal

1. Open the lower front cover.
2. Remove the four screws (A).

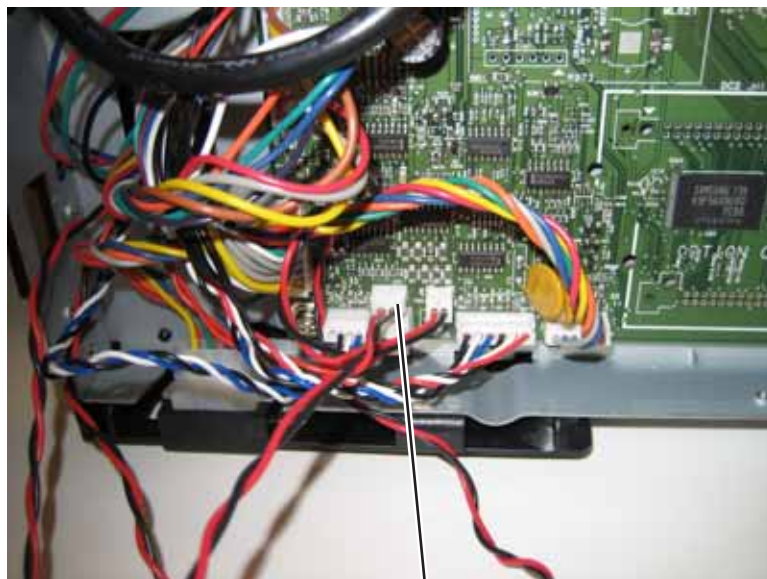


3. Disconnect the MPF tray, and remove.



Multipurpose feeder (MPF) feed clutch removal

1. Remove the left side printer cover. See **“Left side printer cover removal”** on page 4-33.
2. Remove the duplex. See **“Duplex removal”** on page 4-16.
3. Disconnect the cable (A) from J29 on the controller board.



A

4. Place the printer on its right side.

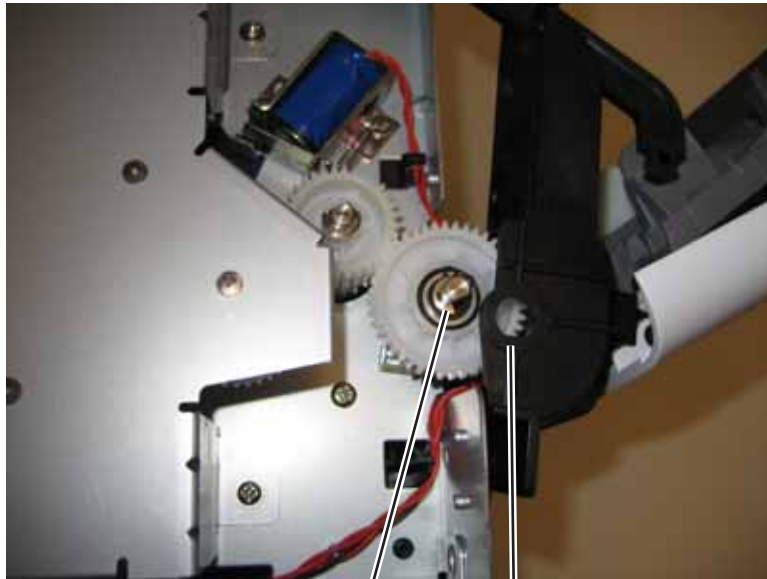
Note: Be careful to not damage any cables or mar the finish of the printer.

5. Remove the three screws (B) from the left side of the printer.



B

6. Disconnect the left hinge (C) from the feed clutch, and remove the e-clip (D).



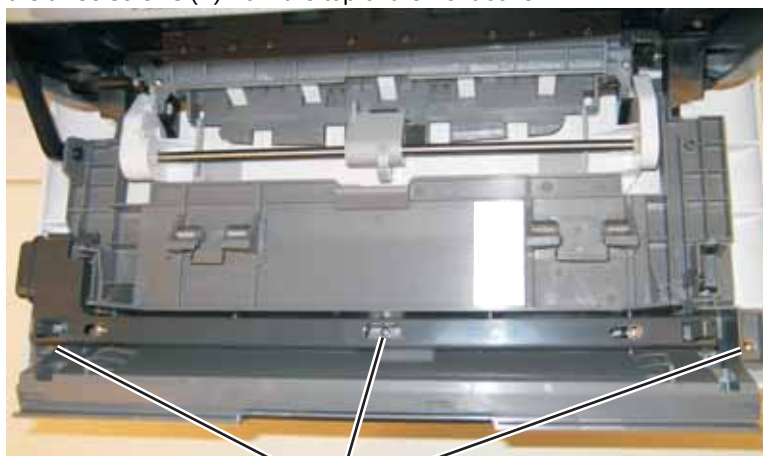
D

C

7. Lift and remove the multipurpose feeder (MPF) feed clutch.

Nameplate blank cover removal

1. Open the front cover.
2. Remove the three screws (A) from the top of the front cover.



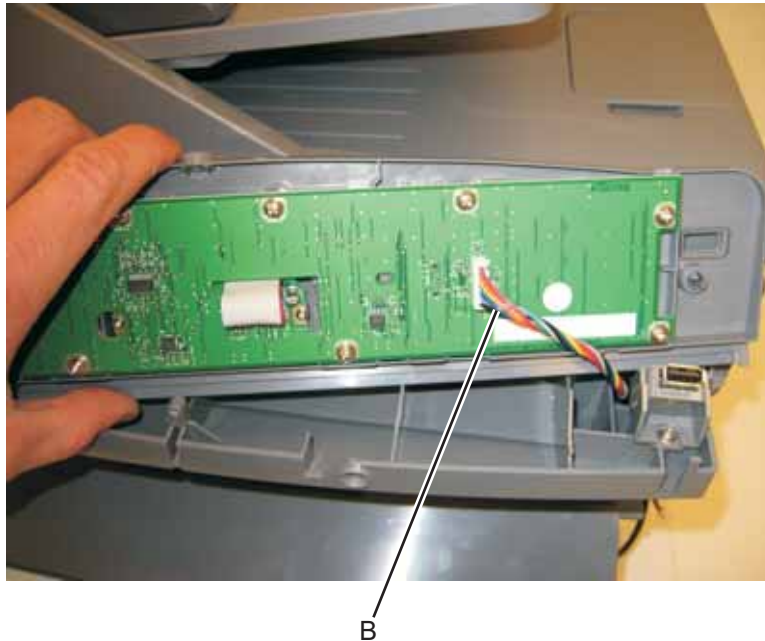
3. Remove the nameplate blank cover.

Operator panel removal

1. Remove the front scanner cover. See **"Front scanner cover removal"** on page 4-29.
2. Remove the right side scanner cover. See **"Right side scanner cover removal"** on page 4-73.
3. Remove the left side scanner cover. See **"Left side scanner cover removal"** on page 4-35.
4. Remove the screw (A) from the front of the printer.



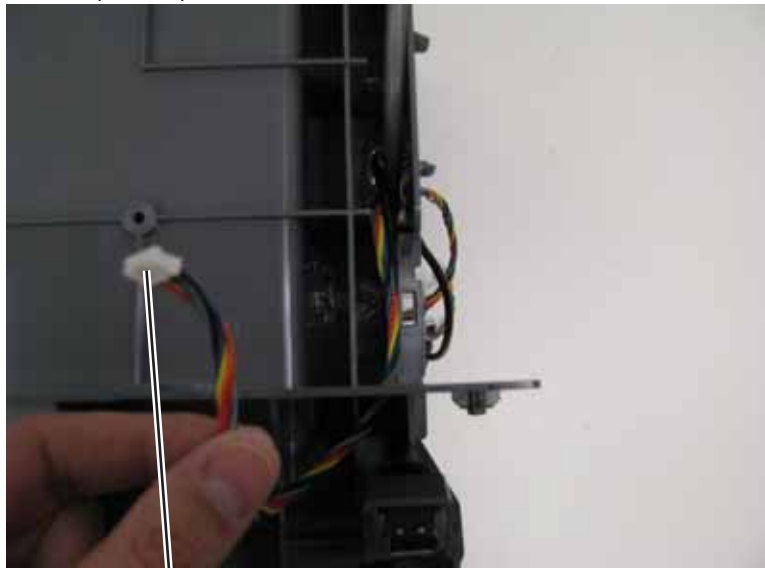
5. Lift the operator panel, and disconnect the cable (B).



6. Remove the operator panel.
7. Remove the bezel from the operator panel.

Operator panel cable removal

1. Remove the ADF scanner assembly. See **“ADF scanner assembly removal”** on page 4-9.
2. Disconnect the operator panel cable from J14 on the controller board.



A

3. Un-route the operator panel cable from the scanner tub frame assembly.



4. Remove the operator panel cable.

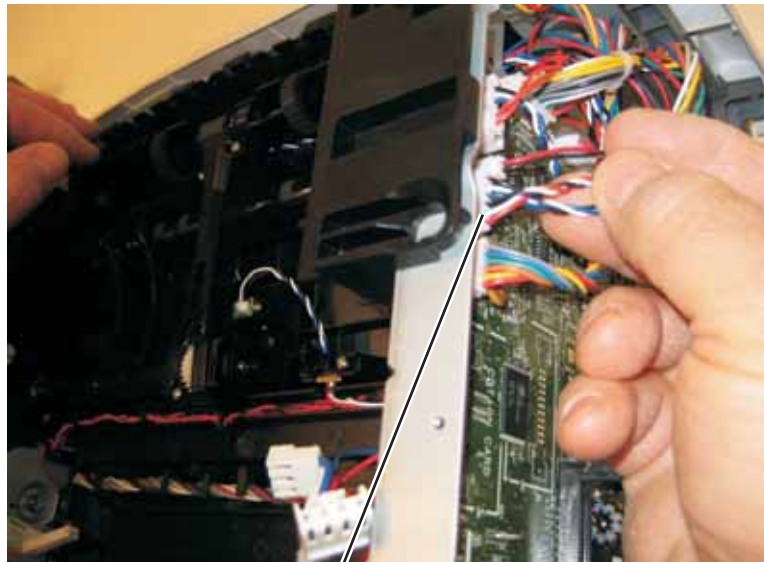
Paper input and duplex sensor assembly removal

1. Remove the right side printer cover. See **“Right side printer cover removal”** on page 4-71.
2. Remove the duplex. See **“Duplex removal”** on page 4-16.
3. Remove the two screws (A) from the sensors.



A

4. Disconnect the sensor cable (B) from J30 on the controller board.

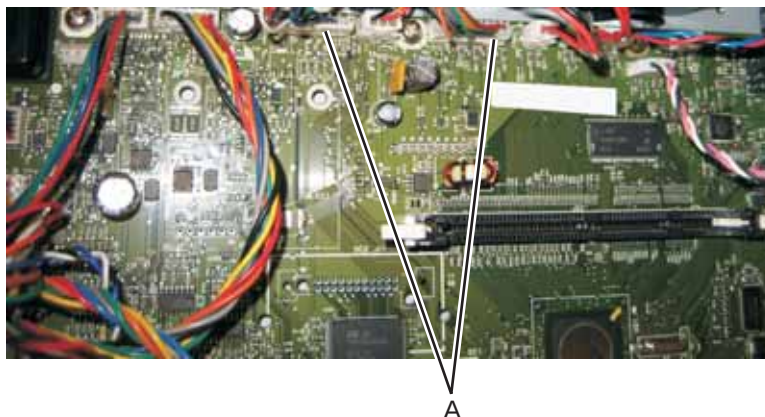


B

5. Remove the paper input and duplex sensor assembly.

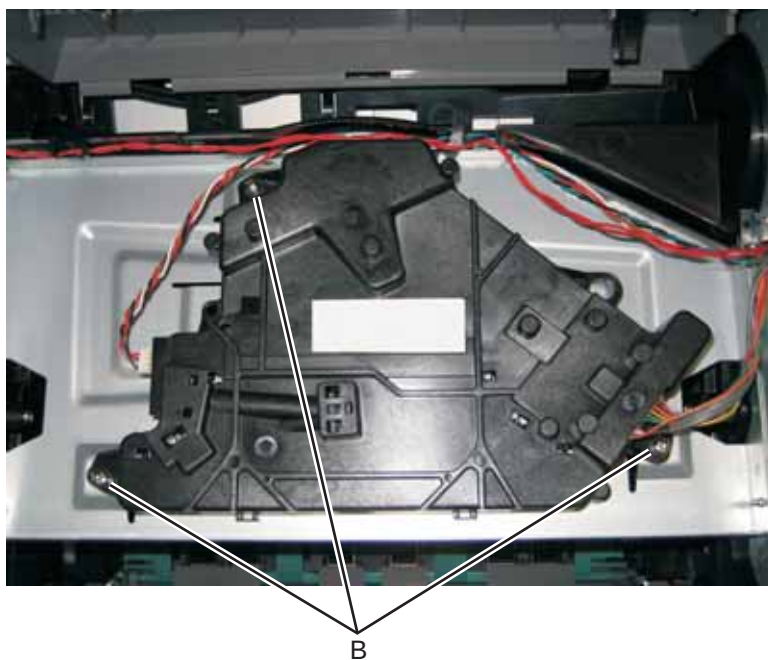
Printhead removal

1. Remove the top cover. See **“Top printer cover removal”** on page 4-76.
2. Remove the right side printer cover. See **“Right side printer cover removal”** on page 4-71.
3. Disconnect the two cables (A) from J12 and J8 on the controller board, and unroute them back through the frame toward the printhead.



4. Remove the three screws (B).

Note: Use a pencil to mark the screw locations of the printhead on the metal frame. Align the new printhead relative to the location of the old printhead. See **“Printhead assembly mechanical adjustment”** on page 3-24.



5. Remove the printhead.

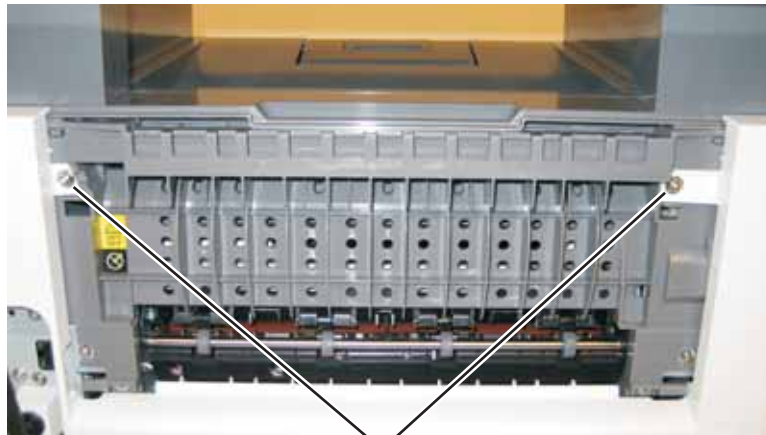
Rear door and cover removal

1. Open the rear door.
2. Pull the rear door up at an angle, disconnect the door from the notch (A), and remove.



A

3. Remove the two screws (B) from the top of the rear cover.



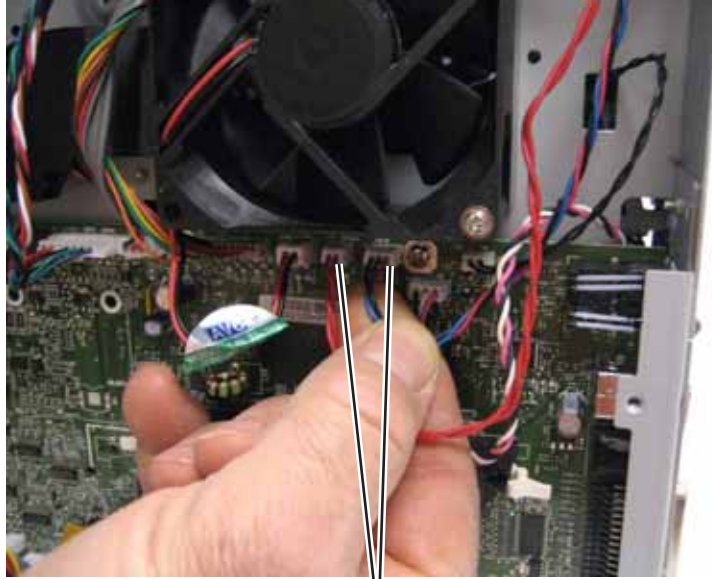
B

4. Tilt the rear cover, and lift to remove.



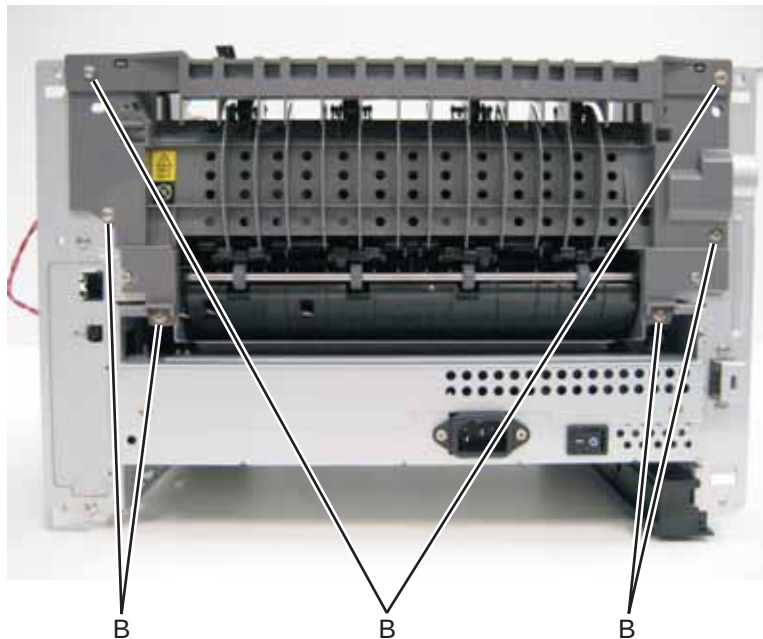
Rear exit guide assembly with sensor and reversing solenoid removal

1. Remove the top printer cover. See **"Top printer cover removal"** on page 4-76.
2. Remove the rear door and cover. See **"Rear door and cover removal"** on page 4-67.
3. Disconnect the narrow media sensor cable and the reversing solenoid cable (A) from J9 and J10 on the controller board.

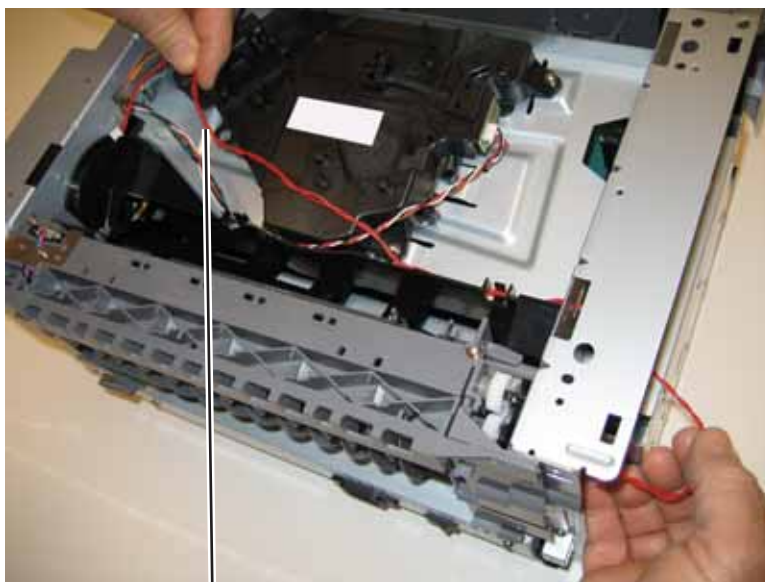


A

4. Remove the six screws (B) from the rear exit guide assembly.

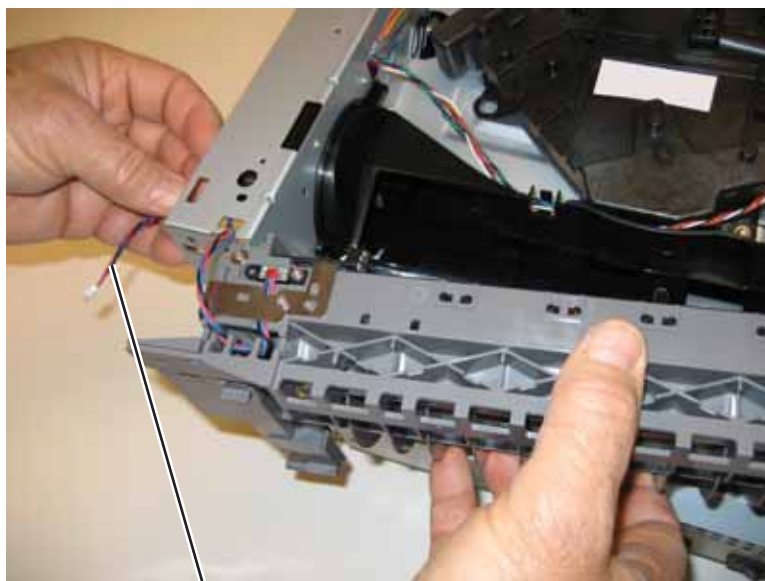


5. Remove the solenoid cable (C) through the opening.



C

6. Remove the narrow media sensor cable (D) through the opening.



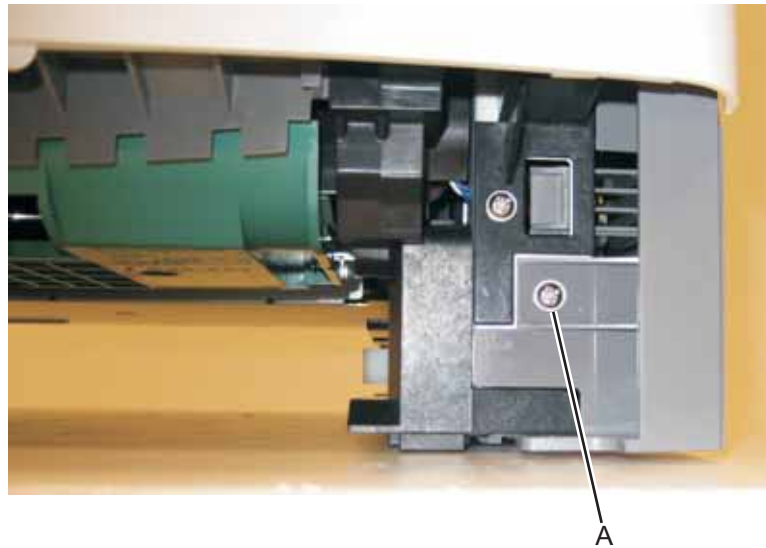
D

7. Remove the rear exit guide assembly.

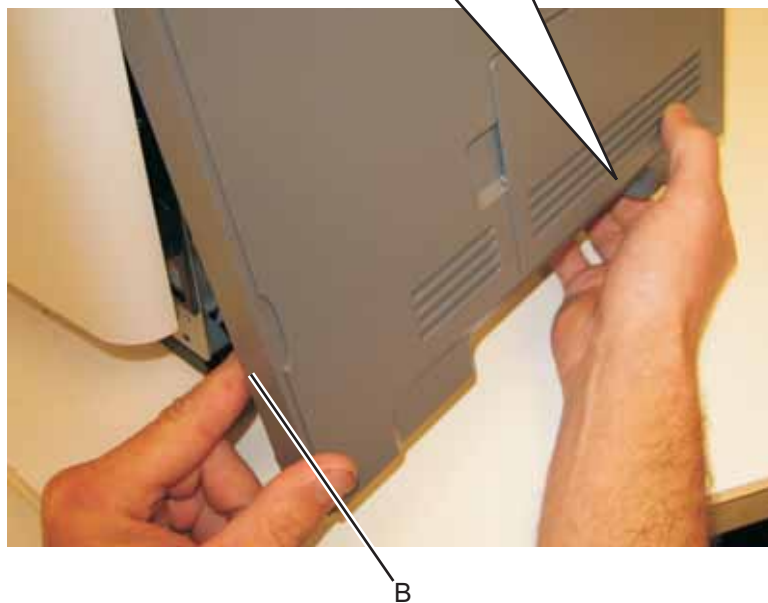
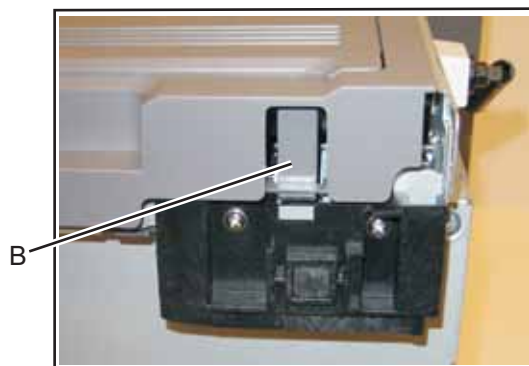
Note: Be careful to not damage the gears during the rear exit guide assembly removal and reinstallation.

Right side printer cover removal

1. Remove the rear door and cover. See **"Rear door and cover removal"** on page 4-67.
2. Remove the front scanner cover. See **"Front scanner cover removal"** on page 4-29.
3. Remove the right side scanner cover. See **"Right side scanner cover removal"** on page 4-73.
4. Remove the screw (A) from the front of the printer.



5. Press in on the tabs (B), and swing the right side printer cover out.



6. Lift the right side printer cover, and remove.



Right side scanner cover removal

1. Lift the ADF scanner cover, and remove the front scanner cover. See **"Front scanner cover removal"** on **page 4-29**.
2. Remove the screw (A) from the front of the printer.



3. Remove the screw (B) from the rear of the printer.

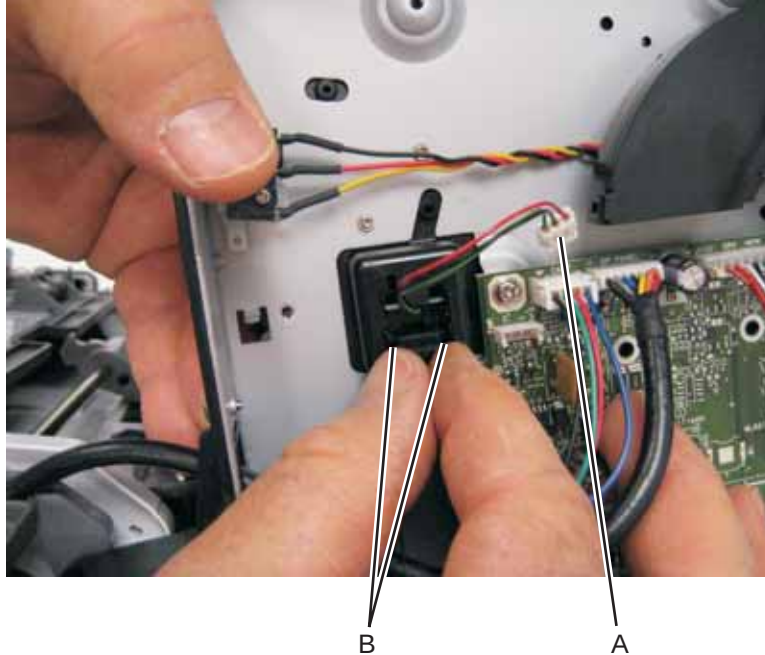


4. Disconnect the right side scanner cover from the printer, and remove.



Toner level sensor removal

1. Open the front access door.
2. Remove the right side printer cover. See **“Right side printer cover removal”** on page 4-71.
3. Disconnect the toner level sensor cable (A) from J5 on the controller board.
4. Squeeze the lower tabs (B) of the toner level sensor, and push it from its holder.



5. Remove the toner level sensor through the inside of the printer.

Note: The toner level sensor must be installed properly, or the printer will not function.

Top printer cover removal

1. Remove the ADF scanner assembly. See **“ADF scanner assembly removal”** on page 4-9.
2. Open the front access door.
3. Lift the top printer cover, and remove.



Transfer roll removal

Note: A flashlight may be useful to remove the transfer roll.

1. Open the front access door.
2. At the right side of the transfer roll, squeeze the holder arms (A) with the left hand while lifting. Stop when the holder is unlatched.



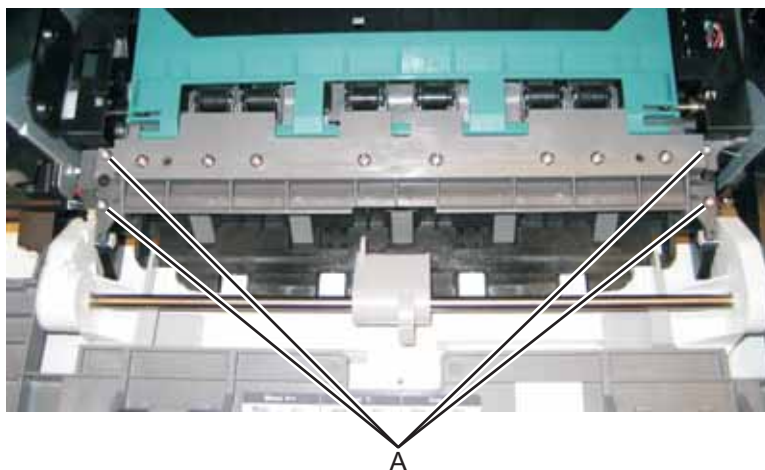
A

3. At the left side of the transfer roll, squeeze the holder arms with the right hand while lifting with the left hand. Stop when the left holder is unlatched.
4. With a hand at each end, lift the transfer roll out.

Note: Do not try removing the spring on the left; it is not removable but can be dislodged. The spring included with the FRU is to be used only if the old right-side spring is damaged or lost. Both springs must be positioned on posts that cannot be seen. If the old springs are moved, then feel the base of the springs to assure that they are on the posts. The top of the springs must be captured in the bearings of the transfer roll.

Upper front guide assembly removal

1. Open the front access door.
2. Remove the four screws (A) from the upper front guide.



3. Remove the upper front guide.

Wear strip (tray 1 and 250-sheet tray 2) removal

1. Hold the tray with the bottom up.
2. Use a spring hook to disconnect the strip from the top of the tray.



3. Remove the strip from inside the tray.



Wear strip (550-sheet tray 2) removal

1. Use a spring hook to disconnect the strip from the top of the tray.



2. Lift the strip, and remove.

Note: When replacing the strip (for all trays):

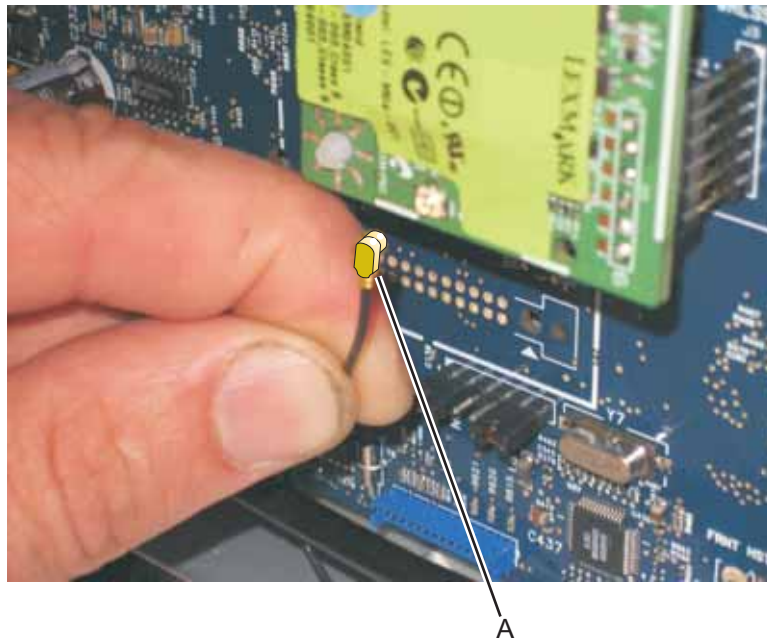
- Carefully insert the strip from the top of the tray, and push it down through the opening until it *clicks* into place.



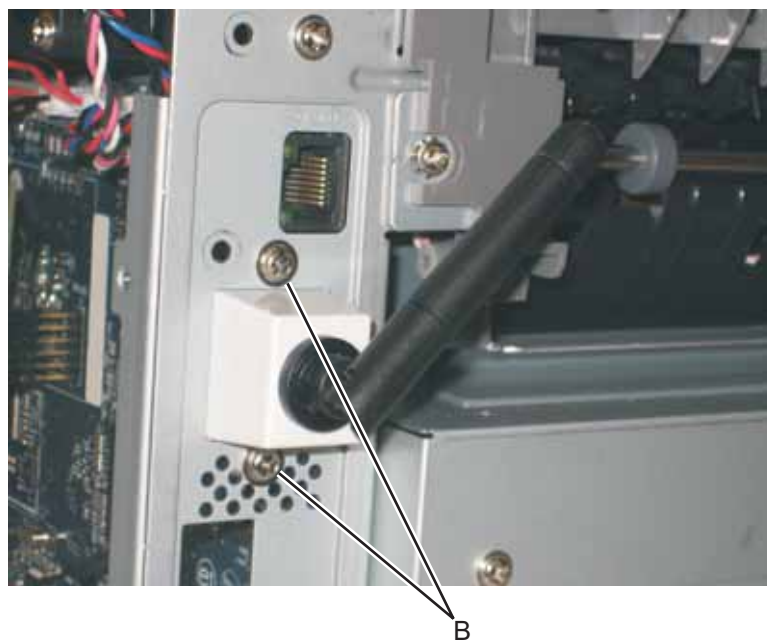
- Turn the tray over to view the bottom of the strip. Using the spring hook, check to make sure that the end of the strip is fastened tightly.
- Be sure that the drafted edge of the strip is installed toward the bottom of the tray.

Wireless antenna removal

1. Remove the right side printer cover. See **"Right side printer cover removal"** on page 4-71.
2. Disconnect the wireless card cable (A) from the wireless card.



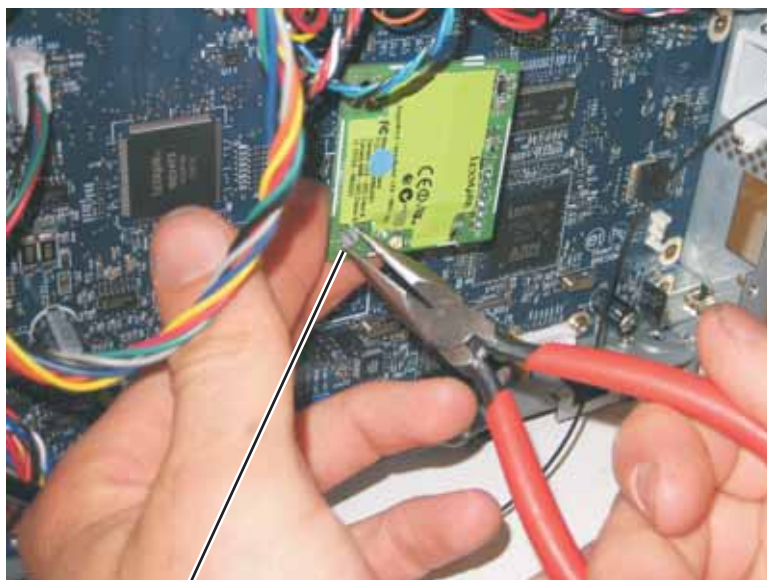
3. Remove the two screws (B) from the antenna.



4. Remove the wireless antenna.

Wireless card removal

1. Remove the right side printer cover. See **“Right side printer cover removal”** on page 4-71.
2. Remove the wireless antenna. See **“Wireless antenna removal”** on page 4-81.
3. Pinch the standoff (A) with a pair of needle-nosed pliers to remove the wireless card.

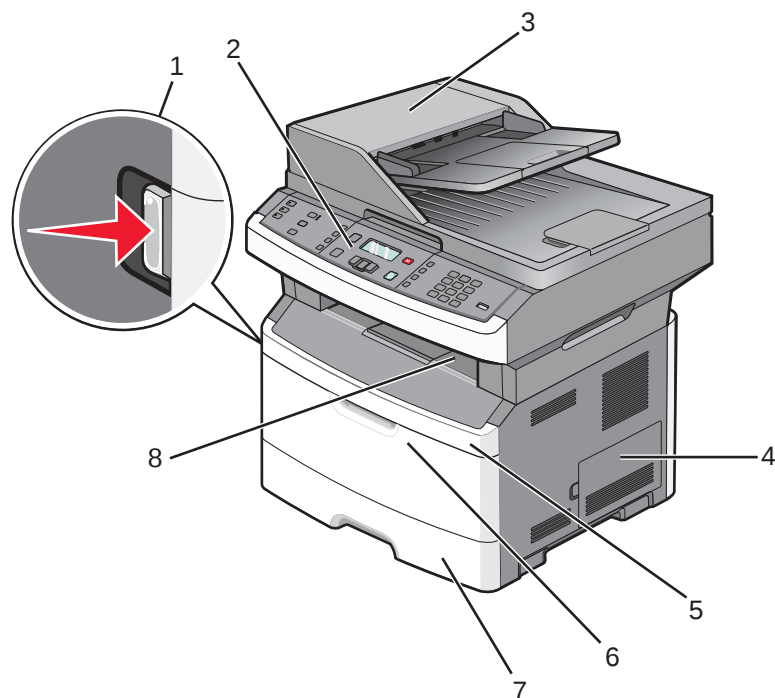


A

5. Locations and connections

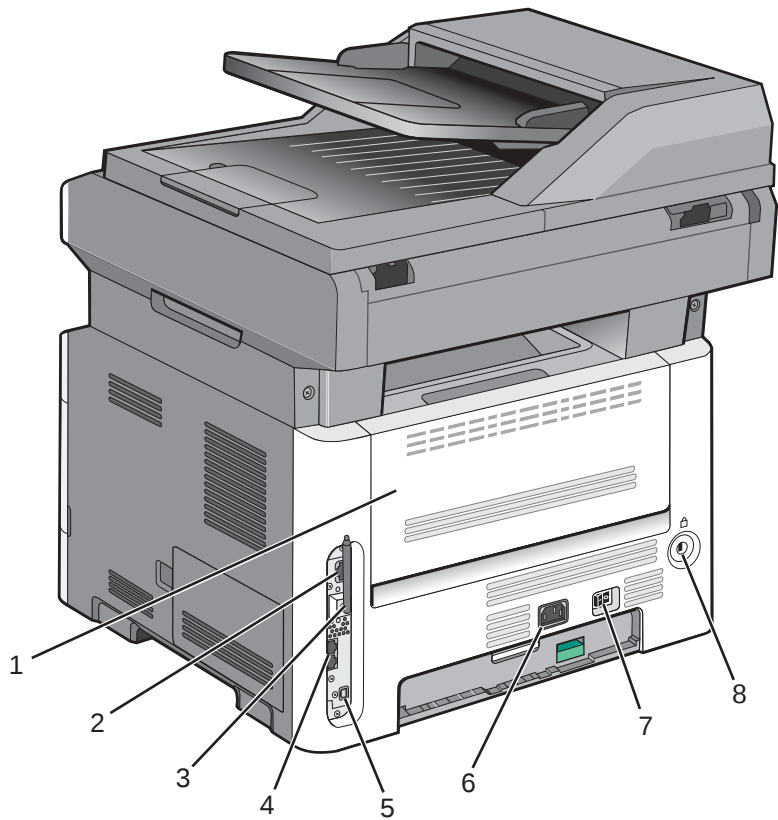
Locations

Front view



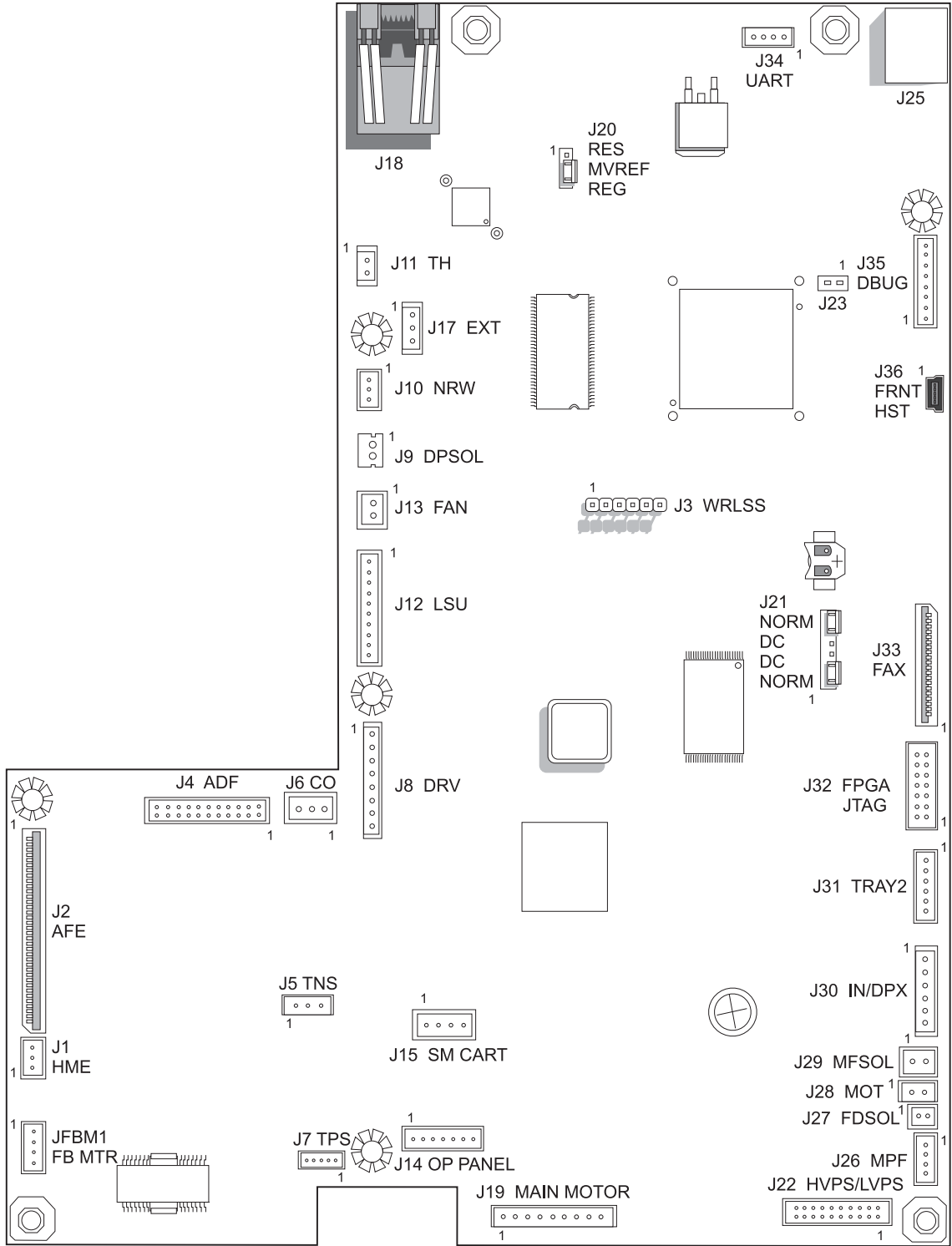
Number	Part
1	Front door release button
2	Printer control panel
3	Automatic document feeder (ADF)
4	Controller board door
5	Front door
6	Multipurpose feeder door Note: This could be the manual feeder door, depending on the printer model.
7	Standard 25-sheet tray (Tray 1)
8	Standard exit bin

Rear view



Number	Part
1	Rear door
2	Ethernet port
3	Wireless antenna Note: The wireless antenna appears on wireless models only.
4	Fax ports Note: Fax ports appear on fax models only.
5	USB port
6	Printer power cord socket
7	Power switch
8	Locking device

Controller board connector pin values



Note: See the wiring diagram at back of book.

These values were measured with all connections made (plugged) or with only one connector at a time unplugged to expose the pins. Always disconnect and connect with the printer power off. Otherwise, the values below may not match.

Connector	Pin #	Value	Connector description
Print engine connectors			
J3	1, 4	Ground	Wireless
	5	5V dc	
	6	3.3V dc	
J5	1	0.6 V dc	Toner level sensor
	2	Ground	
	3	0 V dc	
J6	1	5 V dc (door closed)	Cover open sensor
		0 V dc (door open)	
	2	5 V dc	
	3	Ground	
J7	1	5 V dc	Toner patch sensor
	3	1 V dc	
	4	Ground	
	5	5 V dc	
J8	1	> 0 V dc	Hsync (Printhead)
	2, 3	5 V dc	
	4, 5, 6, 7	Ground	
J9	1	24 V dc	Duplex solenoid
	2	24 V dc, 0V unplugged	
J10	1	5V unplugged	Narrow media sensor
	2	5 V dc	
	3	Ground	
J11	1	5 V dc	Thermistor
	2	Ground	
J12	1, 10	5 V dc	LSU
	9	2.9 V dc	
J13	1	24 V dc, 0V unplugged	Cooling fan
	2	24 V dc	
J14	2	5V dc	Operator panel
	4, 7	Ground	
	6	3.3V dc	
J15			Smart chip
J17	1	> 0 V dc, 5V dc unplugged	Exit sensor
	2	5 V dc	
	3	Ground	

Connector	Pin #	Value	Connector description
J19	1, 4	0.1 V dc, 5Vdc unplugged	Main motor
	2, 3, 6	5 V dc	
	5	Ground	
	7, 8, 9	24 V dc	
J22	1, 3, 5, 7, 11, 13, 15	5V dc unplugged	LVPS/HVPS
	4	5V dc unplugged	
	6	24V dc unplugged	
	17, 19	24V dc unplugged	
J26	1	1.1 V dc, 5V dc unplugged	MPF sensor
	2	5 V dc	
	3, 4	Ground	
J27	1	24 V dc	Paper feed clutch
	2	24 V dc, 0V dc unplugged	
J28	1	24 V dc	MPF clutch
	2	24 V dc, 0V dc unplugged	
J29	1	24 V dc	Manual clutch solenoid
	2	24 V dc, 0V dc unplugged	
J30	1, 4	1.1 V dc, 5V dc unplugged	Duplex/paper in
	2, 5	5 V dc	
	3, 6	Ground	
J31	1, 4	3.3 V dc	Tray 2
	2	24 V dc	
	6	Ground	
Scan-imaging connectors			
J1	1	+5V	Home sensor
	2	Ground	
	3	HOME_C	
J2	1	FB_LAMP_ON	CCD
	2	FB_POWER_SAVER	
	3	+14V	
	4	+14V	
	5	+5V	
	6	+5V	
	7	FBR_CCD_TRANSFER	
	8	Ground	
	9	FB_CCD_PHASE2_R	
	10	FB_CCD_PHASE1_R	
	11	Ground	
	12	FB_CCD_RESET_R	
J2 continued	13	Ground	CCD
	14	FB_CCD_CLAMP_R	

Connector	Pin #	Value	Connector description
J4	1	I0A_ADF_C	ADF
	2	I1A_ADF_C	
	3	Ground	
	4	DIRA_ADF_C	
	5	Ground	
	6	I0B_ADF_C	
	7	I1B_ADF_C	
	8	Ground	
	9	DIRB_ADF_C	
	10	Ground	
	11	+24V	
	12	+24V	
	13	Ground	
	14	+5V	
	15	PAP_PRES2_2	
	16	PAP_PRES3_C	
	17	VREF2_ADF_C	
	18	PAP_PRES_C	
	19	ADF_CVR_C	
	20	FIRST_SCAN_C	
	21	FB_CVR_C	
	22	SOL_EN_2	
J39	1	FAX_CS	Fax
	2	Ground	
	3	SPI_DI	
	4	Ground	
	5	SPI_DOUT	
	6	Ground	
	7	SPI_SCLK	
	8	Ground	
	9	FAX_INT	
	10	+5V	
	11	RESET_TO_MODEM	
	12	+3.3V	
	13	+3.3V	
	14	NC_J25_J4	
JFBM1	1	FBA-	Flatbed motor
	2	FBA	
	3	FBB	
	4	FBB-	

6. Preventive maintenance

This chapter describes procedures for printer preventive maintenance. Follow these recommendations to help prevent problems and maintain optimum performance.

Safety inspection guide

The purpose of this inspection guide is to aid you in identifying unsafe conditions.

If any unsafe conditions exist, then find out how serious the hazard could be and if you can continue before you correct the hazard.

Check the following items:

- Damaged, missing, or altered parts, especially in the area of the On/Off switch and the power supply
- Damaged, missing, or altered covers, especially in the area of the top cover and the power supply cover
- Possible safety exposure from any non-Lexmark attachments

Lubrication specifications

FRUs are typically lubricated as needed from the factory. If not, then lubricate only when parts are replaced or as needed, not on a scheduled basis. Use of lubricants other than those specified can cause premature failure. Some unauthorized lubricants may chemically attack parts. Use P/N 99A0394 (Nyogel 744) to lubricate appropriate areas. Lubricate gears that were lubricated in the original part.

Maintenance kits

The ADF maintenance kit (P/N 40X5807) will be available.

7. Parts catalog

How to use this parts catalog

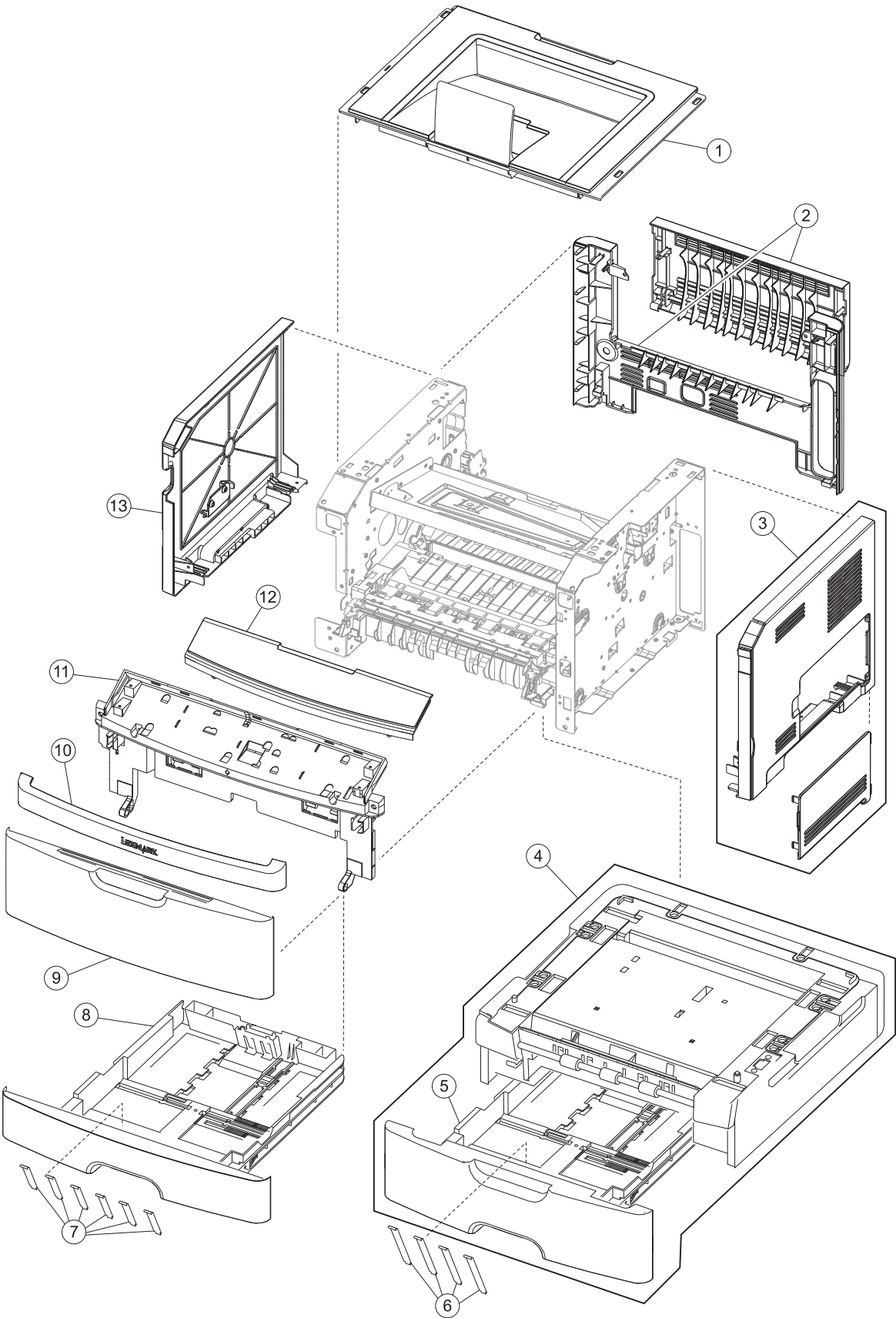
The following legend is used in the parts catalog:

Asm-Index	Part number	Units/mach	Units/FRU	Description
-----------	-------------	------------	-----------	-------------

- **Asm-index:** identifies the assembly and the item in the diagram. For example, 3-1 indicates assembly 3 and the item number 1.
- **Part number:** identifies the unique number that identifies this FRU.
- **Units/mach:** refers to the number of units actually used in the machine or product.
- **Units/FRU:** refers to the number of units packaged together and identified by the part number.
- **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.
- Model information used in the parts catalog.

Machine type and model	Description
7013-235	X264dn
7013-432	X363dn
7013-436	X364dn
7013-43W	X364dw

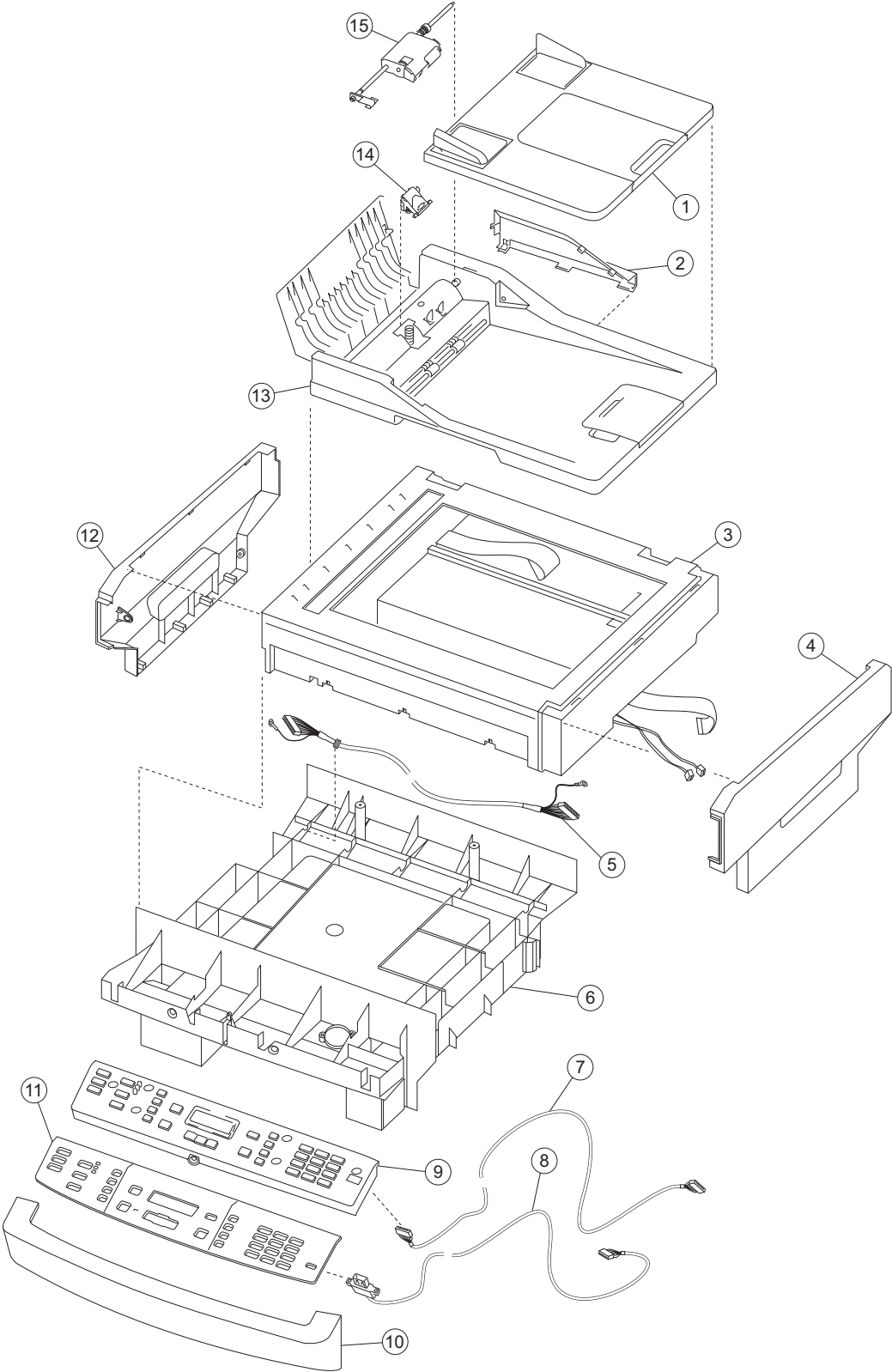
Assembly 1: Covers



Assembly 1: Covers

Asm-Index	Part number	Units/mach	Units/FRU	Description
1-1	40X5614	1	1	Top cover assembly
2	40X5377	1	1	Rear upper and lower cover assembly
3	40X5375	1	1	Right side cover
4	40X5398	1	1	Optional 250-sheet tray
4	40X5399	1	1	Optional 550-sheet tray
5	40X5394	1	1	250-sheet (Tray 2) assembly
5	40X5395	1	1	550-sheet (Tray 2) assembly
6	40X2855	1	4	Tray 2 wear strips (550-sheet tray only)
7	40X5382	1	6	Wear strips (250-sheet trays, optional and primary)
8	40X5381	1	1	Main tray
9	40X5379	1	1	Front door cover
10	40X5448	1	1	Nameplate cover
11	40X5806	1	1	Lower AIO access assembly
12	40X5778	1	1	Front access door cover
13	40X5374	1	1	Left side cover

Assembly 2: Scanner



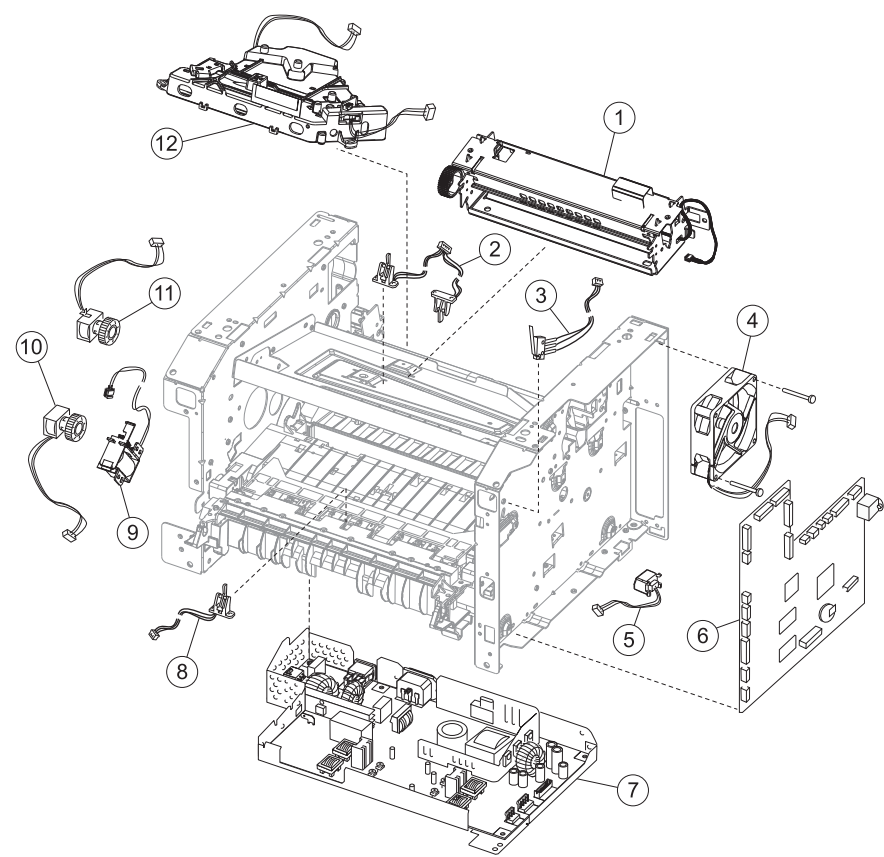
Assembly 2: Scanner

Asm-Index	Part number	Units/mach	Units/FRU	Description
2-1	40X5470	1	1	ADF input tray
2	40X5477	1	1	ADF rear simplex cover
2	40X5478	1	1	ADF rear duplex cover
3	40X5779	1	1	Flatbed assembly
4	40X5621	1	1	Right scanner cover
5	40X5622	1	1	ADF cable
6	40X5615	1	1	Tub cover
7	40X5623	1	1	Operator panel cable
8	40X5624	1	1	USB cable
9	40X5617	1	1	Operator panel X234/X364
9	40X5618	1	1	Operator panel X363
10	40X5616			Nameplate cover
11	40X0064	1	1	Bezel (French OP X264)
11	40X0089	1	1	Bezel (French OP X363)
11	40X0109	1	1	Bezel (French OP X364)
11	40X0118	1	1	Bezel (Italian OP X264)
11	40X0119	1	1	Bezel (Italian OP X363)
11	40X0128	1	1	Bezel (Italian OP X364)
11	40X0139	1	1	Bezel (German OP X264)
11	40X0146	1	1	Bezel (German OP X363)
11	40X0155	1	1	Bezel (German OP X364)
11	40X0158	1	1	Bezel (Spanish OP X264)
11	40X0166	1	1	Bezel (Spanish OP X363)
11	40X0167	1	1	Bezel (Spanish OP X364)
11	40X0169	1	1	Bezel (Brazilian Portuguese OP X264)
11	40X0170	1	1	Bezel (Brazilian Portuguese OP X363)
11	40X0171	1	1	Bezel (Brazilian Portuguese OP X364)
11	40X0172	1	1	Bezel (Dutch OP X264)
11	40X0173	1	1	Bezel (Dutch OP X363)
11	40X0175	1	1	Bezel (Dutch OP X364)
11	40X0176	1	1	Bezel (Danish OP X264)
11	40X0177	1	1	Bezel (Danish OP X363)
11	40X0178	1	1	Bezel (Danish OP X364)
11	40X0180	1	1	Bezel (Norwegian OP X264)
11	40X0181	1	1	Bezel (Norwegian OP X363)
11	40X0184	1	1	Bezel (Norwegian OP X364)
11	40X0185	1	1	Bezel (Swedish OP X264)
11	40X0186	1	1	Bezel (Swedish OP X363)
11	40X0214	1	1	Bezel (Swedish OP X364)
11	40X0227	1	1	Bezel (Finnish OP X264)
11	40X0242	1	1	Bezel (Finnish OP X363)
11	40X0243	1	1	Bezel (Finnish OP X364)
11	40X0247	1	1	Bezel (Russian OP X264)

Assembly 2: Scanner

Asm-Index	Part number	Units/ mach	Units/ FRU	Description
11	40X0261	1	1	Bezel (Russian OP X363)
11	40X0262	1	1	Bezel (Russian OP X364)
11	40X0315	1	1	Bezel (Polish OP X264)
11	40X0316	1	1	Bezel (Polish OP X363)
11	40X0317	1	1	Bezel (Polish OP X364)
11	40X0318	1	1	Bezel (Turkish OP X264)
11	40X0319	1	1	Bezel (Turkish OP X363)
11	40X0320	1	1	Bezel (Turkish OP X364)
11	40X0321	1	1	Bezel (Bulgarian OP X264)
11	40X0322	1	1	Bezel (Bulgarian OP X363)
11	40X0323	1	1	Bezel (Bulgarian OP X364)
11	40X0324	1	1	Bezel (Czech OP X264)
11	40X0325	1	1	Bezel (Czech OP X363)
11	40X0326	1	1	Bezel (Czech OP X364)
11	40X0327	1	1	Bezel (Hungarian OP X264)
11	40X0328	1	1	Bezel (Hungarian OP X363)
11	40X0329	1	1	Bezel (Hungarian OP X364)
11	40X0330	1	1	Bezel (Japanese OP X264)
11	40X0331	1	1	Bezel (Japanese OP X363)
11	40X0332	1	1	Bezel (Japanese OP X364)
11	40X0333	1	1	Bezel (Korean OP X264)
11	40X0334	1	1	Bezel (Korean OP X363)
11	40X0335	1	1	Bezel (Korean OP X364)
11	40X0336	1	1	Bezel (Traditional Chinese OP X264)
11	40X0337	1	1	Bezel (Traditional Chinese OP X363)
11	40X0338	1	1	Bezel (Traditional Chinese OP X364)
11	40X0339	1	1	Bezel (Simplified Chinese OP X264)
11	40X0340	1	1	Bezel (Simplified Chinese OP X363)
11	40X0341	1	1	Bezel (Simplified Chinese OP X364)
11	40X5771	1	1	Bezel (ASM op panel SB X264)
11	40X5772	1	1	Bezel (ASM op panel SB X363)
11	40X5773	1	1	Bezel (ASM op panel SB X364)
12	40X5620	1	1	Left scanner cover
13	40X0168	1	1	Simplex ADF
13	40X5468	1	1	Duplex ADF
14	40X5472	1	1	ADF separator pad
15	40X5471	1	1	ADF separator roll
NS	40X5539	1	1	Flatbed cushion (simplex ADF)
NS	40X5535	1	1	Flatbed cushion (duplex ADF)
NS	40X5807	1	1	ADF maintenance kit

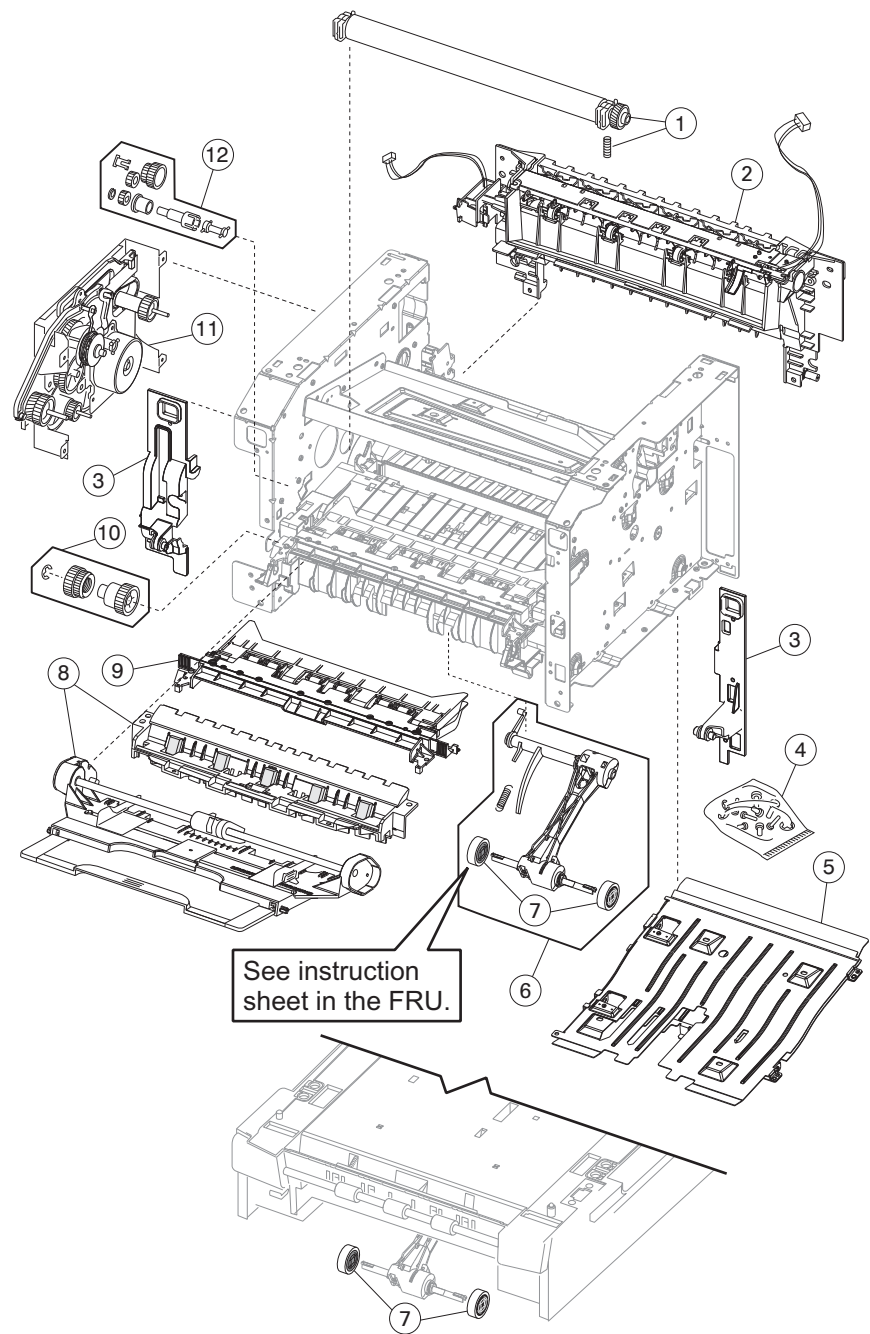
Assembly 3: Electronics



Assembly 3: Electronics

Asm-Index	Part number	Units/mach	Units/FRU	Description
3-1	40X5344	1		Fuser assembly, 110 V
1	40X5345	1		Fuser assembly, 220 V
1	40X5346	1		Fuser assembly, 100 V
2	40X5365	1	1	Duplex and media sensor assembly
3	40X5360	1	1	Access door open sensor assembly
4	40X5392	1	1	Cooling fan (screws included)
5	40X5385	1	1	Toner low sensor
6	40X5612	1	1	Controller board, X264
6	40X5613	1	1	Controller board, X363/X364
7	40X5361	1		LVPS/HVPS card assembly, 110 V/100 V
7	40X5362	1		LVPS/HVPS card assembly, 220 V
8	40X5366	1	1	Manual input sensor assembly
9	40X5369	1	1	Manual feed solenoid
10	40X5371	1	1	MPF feed clutch
11	40X5370	1	1	Media feed (ACM) clutch
12	40X5626	1		LSU (printhead)
NS	40X5320			Wireless antenna with clip
NS	40X5036			802.11 B/G/N wireless card assembly
NS	40X5056			Fax card

Assembly 4: Frame



Assembly 4: Frame

Asm-Index	Part number	Units/ mach	Units/ FRU	Description
3-1	40X5364	1		Transfer roll, bearings, gear, spring (CBM)
2	40X5372	1		Media exit guide assembly (redrive)
3	40X5397	1	1	Front mounts
4	40X5396	N/A		Screws, miscellaneous
			4	TP2NCX3X6PF-Ni
			4	TP2C-4.0+8PF-Ni
			4	M3.0*0.5+6PF-Ni
			2	M3.0*0.5+4PF-Ni
			2	M3.5*0.6+6P-Ni
5	40X5380	1	1	Complete duplex assembly
6	40X5453	1	1	Media (ACM) drive assembly
7	40X5451	2	2	Paper feed, ACM tires
7	40X5440	1	2	Tray 2 paper feed tires
8	40X5358	1	1	MPF tray assembly (X36x series only)
9	40X5383	1	1	Upper front frame assembly
10	40X5368	1	1	Manual feed clutch CBM
11	40X5367	1	1	Main drive gearbox (in motor)
12	40X5363	1	1	Duplex gear drive CBM

Assembly 5: Options

Asm-Index	Part number	Units/mach	Units/FRU	Description
NS	40X6339	1	1	64MB NAND flash memory
NS	40X1368	1	1	USB cable, packaged (2 m)

Assembly 6: Power cords

Asm-Index	Part number	Units/mach	Units/FRU	Description
NS	40X0297	1		Power cord, 1.8M (straight)– USA, Canada
NS	40X0278	1		Power cord, 6 foot (straight)– Europe and others
NS	40X0288	1		Power cord, 8 foot (straight)– Argentina
NS	40X0286	1		Power cord, 8 foot (straight)– United Kingdom
NS	40X0275	1		Power cord, 6 foot (straight)– Israel
NS	40X0274	1		Power cord, 6 foot (straight)– Switzerland
NS	40X0276	1		Power cord, 6 foot (straight)– South Africa
NS	40X0287	1		Power cord, 6 foot (straight)– Traditional Italy
NS	40X0279	1		Power cord, 6 foot (straight)– Denmark
NS	40X4596	1		Power cord, 6 foot (straight)– Brazil
NS	40X0282	1		Power cord, 1.8M (straight)– PRC
NS	40X0270	1		Power cord, 2.5M (straight)– Japan
NS	40X0280	1		Power cord, 1.8M (straight)– Korea
NS	40X0281	1		Power cord, 1.8M (straight)– Taiwan
NS	40X0296	1		Power cord, 1.8M (straight)– Australia

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40X0319	Bezel (Turkish OP X363) - - - - -	7-6
40X0320	Bezel (Turkish OP X364) - - - - -	7-6

40X0321	Bezel (Bulgarian OP X264) - - - - -	7-6
40X0322	Bezel (Bulgarian OP X363) - - - - -	7-6
40X0323	Bezel (Bulgarian OP X364) - - - - -	7-6
40X0324	Bezel (Czech OP X264) - - - - -	7-6
40X0325	Bezel (Czech OP X363) - - - - -	7-6
40X0326	Bezel (Czech OP X364) - - - - -	7-6
40X0327	Bezel (Hungarian OP X264) - - - - -	7-6
40X0328	Bezel (Hungarian OP X363) - - - - -	7-6
40X0329	Bezel (Hungarian OP X364) - - - - -	7-6
40X0330	Bezel (Japanese OP X264) - - - - -	7-6
40X0331	Bezel (Japanese OP X363) - - - - -	7-6
40X0332	Bezel (Japanese OP X364) - - - - -	7-6
40X0333	Bezel (Korean OP X264) - - - - -	7-6
40X0334	Bezel (Korean OP X363) - - - - -	7-6
40X0335	Bezel (Korean OP X364) - - - - -	7-6
40X0336	Bezel (Traditional Chinese OP X264) - - - - -	7-6
40X0337	BBezel (Traditional Chinese OP X363) - - - - -	7-6
40X0338	Bezel (Traditional Chinese OP X364) - - - - -	7-6
40X0339	Bezel (Simplified Chinese OP X264) - - - - -	7-6
40X0340	Bezel (Simplified Chinese OP X363) - - - - -	7-6
40X0341	Bezel (Simplified Chinese OP X364) - - - - -	7-6
40X1368	USB cable, packaged (2 m) - - - - -	7-11
40X2855	Tray 2 wear strips (550-sheet tray only) - - - - -	7-3
40X4596	Power cord, 6 foot (straight)– Brazil - - - - -	7-12
40X5036	802.11 B/G/N wireless card assembly - - - - -	7-8
40X5056	Fax card - - - - -	7-8
40X5320	Wireless antenna with clip - - - - -	7-8
40X5344	Fuser assembly, 110 V - - - - -	7-8
40X5345	Fuser assembly, 220 V - - - - -	7-8
40X5346	Fuser assembly, 100 V - - - - -	7-8
40X5358	MPF tray assembly (X36x series only) - - - - -	7-10
40X5360	Access door open sensor assembly - - - - -	7-8
40X5361	LVPS/HVPS card assembly, 110 V/100 V - - - - -	7-8
40X5362	LVPS/HVPS card assembly, 220 V - - - - -	7-8
40X5363	Duplex gear drive CBM - - - - -	7-10
40X5364	Transfer roll, bearings, gear, spring (CBM) - - - - -	7-10
40X5365	Duplex and media sensor assembly - - - - -	7-8
40X5366	Manual input sensor assembly - - - - -	7-8
40X5367	Main drive gearbox (in motor) - - - - -	7-10
40X5368	Manual feed clutch CBM - - - - -	7-10
40X5369	Manual feed solenoid - - - - -	7-8
40X5370	Media feed (ACM) clutch - - - - -	7-8
40X5371	MPF feed clutch - - - - -	7-8
40X5372	Media exit guide assembly (redrive) - - - - -	7-10
40X5374	Left side cover - - - - -	7-3
40X5375	Right side cover - - - - -	7-3
40X5377	Rear upper and lower cover assembly - - - - -	7-3
40X5379	Front door cover - - - - -	7-3
40X5380	Complete duplex assembly - - - - -	7-10
40X5381	Main tray - - - - -	7-3
40X5382	Wear strips (250-sheet trays, optional and primary) - - - - -	7-3
40X5383	Upper front frame assembly - - - - -	7-10
40X5385	Toner low sensor - - - - -	7-8
40X5392	Cooling fan (screws included) - - - - -	7-8
40X5394	Tray 2 assembly - - - - -	7-3
40X5395	550-sheet (Tray 2) assembly - - - - -	7-3
40X5396	Screws, miscellaneous - - - - -	7-10
40X5397	Front mounts - - - - -	7-10
40X5398	Optional 250-sheet tray - - - - -	7-3

40X5399	Optional 550-sheet tray	7-3
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40X5448	Nameplate cover	7-3
40X5451	Paper feed, ACM tires	7-10
40X5453	Media (ACM) drive assembly	7-10
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40X5471	ADF separator roll	7-6
40X5472	ADF separator pad	7-6
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