



Service Manual

Lexmark™ X340, X340n, and X342n

7003-XXX

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Edition: March 9, 2007

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Notices and safety information

The following laser notice labels may be affixed to this printer as shown:

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 voorgeschreven 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.

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

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

VARNING! Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

Laser-notis

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

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

Laser-melding

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

Klasse I-laserprodukter er ikke å betrakte som farlige. Skriveren inneholder internt en klasse IIIb (3b)-laser, som består av en gallium-arsenlaserenhet som avgir stråling i bølglengdeområdet 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 IIIb (3b) d'arseniür de gal.li, nominalment de 5 mil.liwats, i funciona a la regió de longitud d'ona de 770-795 nanòmetres. El sistema làser i la impressora han sigut concebuts de manera que mai hi hagi exposició a la radiació làser per sobre d'un nivell de classe I durant una operació normal, durant les tasques de manteniment d'usuari ni durant els serveis que satisfacin les condicions prescrites.

レーザーに関するお知らせ

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

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

注意：

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

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

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.

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Safety information

- 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, desendolleu 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 기술자 용으로 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.

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™ X340, X340n, and X342n are MFPs that combine print, scan, copy, e-mail, and fax features into a single device designed for small workgroups.

Maintenance approach

The diagnostic information in this manual leads you to the correct field replaceable unit (FRU) or part. Use the error code charts, symptom index, and service checks to determine the symptom and repair the failure. See **“Diagnostic 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.

MFP Specifications

Minimum clearance requirements

Top	7 inches
Left side	2 inches
Right side	3 inches
Rear	8 inches
Front	16 inches

Memory

Item	7003-100 Lexmark X340	7003-050 Lexmark X340n	7003-110 Lexmark X342n
Base memory	64MB	64MB	64MB

Note: Optional memory, flash memory, and Lexmark solution cards are not supported on these devices.

Print speed

Media Size	7003-100 Lexmark X340	7003-050 Lexmark X340n	7003-110 Lexmark X342n
Letter—8.5 x 11 in.	27 ppm	27 ppm	27 ppm
A4—210 x 297 mm	25 ppm	25 ppm	25 ppm
Speed measured on media from tray 1 at 600 x 600 dpi.			

Note: Time to first print is 10 seconds.

Supported operating systems

The Lexmark X340, X340n, and X342n MFPs are compatible with following operating systems:

- Microsoft Windows 2000 Professional
- Microsoft Windows 2000 Server
- Microsoft Windows 2000 Advanced Server
- Microsoft Windows 2000 Server running Terminal Services
- Microsoft Windows 2000 Server running Terminal Services under Citrix™ MetaFrame™ 1.8
- Microsoft Windows 2000 Server running Terminal Services under Citrix MetaFrame XP 1.0
- Microsoft Windows XP
- Microsoft Windows Server 2003 Standard Edition
- Microsoft Windows Server 2003 Enterprise Edition
- Microsoft Windows Server 2003 running Terminal Server
- Microsoft Windows Server 2003 running Terminal Server with Citrix MetaFrame XP 1.0

Note: Citrix MetaFrame applications are limited to printing only.

Connectivity and compatibility

Attachments	
Standard USB 2.0 interface	X340, X340n and X342n
Fax Modem	X340, X340n and X342n
10/100 Base - TX *	X340n, and X342n

*Ethernet connectivity is provided by an internal USB 2.0 daughtercard.

Supported external network connections

- Lexmark N4000e ethernet 10Base/100BaseTX
- Lexmark N4050e wireless 802.11g
- Lexmark wireless 802.11g print server

Fonts

Fonts/options	
PCL scalable	12
PCL bitmap	1

Note: There is no font card support.

Media trays and supply capacity

Item	7003-100 Lexmark X340	7003-050 Lexmark X340n	7003-110 Lexmark X342n
Available input trays			
250-sheet tray	4	4	4
Single-sheet manual feeder	4	4	4
550-sheet optional drawer	4	4	4
Toner and photoconductor			
Toner cartridge yield	1,500 pages* (X 340 starter toner cartridge) 2500 pages (X 342n starter toner cartridge) 2500 pages (X340, X340n, and X342n replacement cartridge) 6000 pages (X342 replacement cartridge)		
PC kit yield	30,000 pages*		
*Photoconductor yield based on approximately 5% coverage of pages.			

Types of print media

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

Source	Sizes	Types	Weight	Input capacity (sheets)
Tray 1 (250-sheet tray)	A4 ^d , A5, JIS B5, letter, legal, executive, folio, statement	Plain paper, transparencies, paper labels ^a	60–90 g/m ² (16–24 lb)	250 paper, 50 labels ^a , 50 transparencies
Tray 2 (550-sheet)	A4 ^d , A5, JIS B5, letter, legal, executive, folio, statement	Plain paper, transparencies, paper labels ^a	60–163 g/m ² (16–43 lb)	550 paper, 50 labels ^a , 50 transparencies, card stock ^b
Manual feeder	A4 ^d , A5, JIS B5, letter, legal, executive, folio, statement	Plain paper, transparencies, paper labels ^a , card stock ^b	60–163 g/m ² (16–43 lb)	1 sheet
	7¾, 9, 10, DL, C5, B5, other ^d	Envelopes		

^aDual web, integrated, or vinyl labels are not supported.

^bCard stock up to 90# Index. Short grain is recommended.

^cMaximum and minimum sizes for other envelopes are 98.4 x 162 mm to 176 x 250 mm (3.87 x 6.38 in. to 6.93 x 9.84 in.

^d The paper size must be set to A4 in the Size/Type menu item and on the driver to avoid jams.

Media weights	
Heavy	4
Normal	4
Light	4

Media textures	
Rough	4
Normal	4
Smooth	4

Scanner specifications

General	
Resolution	- Optical—600 dpi - Enhanced—9600X9600 dpi
TWAIN resolution	9600 dpi
WIA resolution	1200 dpi
Color depth	48 bits internal/24 bit output
Lamp warm up time	80% maximum output in 40 seconds
Maximum document width	216mm (8.5")

ADF	
Scan speed @600x300 dpi	- Mono A4—15 ppm - Color A4—7 ppm
Paper Capacity	50 sheets of 20 lb paper 30 sheets cotton
Document width	148mm–216 mm (5.8"–8.5")
Document length	127mm–356mm (5"–14")
Time to first copy	- From ready/standby –14 seconds - From power saver–40seconds

Flatbed	
Time to first copy	- From ready/standby–12 seconds - From power saver–40 seconds
Document size	4.5" x 5.5" to 8.5" x 14" SEF

Note: The CCD module incorporates a CCD lock feature. This lock must be moved to the open position in order for the scanner to operate. The MFP will display Scanner locked if the CCD is locked during POST.

Note: Network scan is available only on the X340n, and X342n. The X340n and X342n are compatible with the Lexmark ScanBack™ utility. The ScanBack utility is bundled with the X342n.

Fax Specifications

Transmission rate	3 pages per minute
Compression	MH, MR, MMR
Resolutions	Receive: 200X100 dpi, 200X200 dpi, 300X300 dpi, 400X400 dpi, 204X98 dpi, 204X196 dpi, 204X391 dpi, 408X391 dpi Send: 200X100 dpi, 200X200 dpi, 300X300 dpi
Modem speed	2400–33,600 BPS maximum, V34 half duplex. 7200–14,400 BPS, V.17 2400–4800 BPS, V.27 7200–9600 BPS, V.29
Speed dial	Maximum of 99 (Based on 10 digit phone numbers)
Group fax	99 locations (Based on 10 digit phone numbers with a maximum of 512 characters)
Broadcast	209 locations
Manual fax	Yes
Fax from PC	Not supported

Tips on preventing jams

You can avoid most paper jams by correctly loading paper and specialty media.

The following hints can help you avoid paper jams:

- Do not load wrinkled, creased, or damp paper.
- Never mix media types within a tray.
- Flex, fan, and straighten paper before you load it.
- Do not exceed the maximum stack height.
- Push all trays *firmly* into the printer after loading them.
- Make sure the guides in the trays are positioned snugly against the paper or specialty media.
- Do not remove paper trays while a job is printing. Wait for a **Load Paper** or **Ready** light sequence before you remove the tray.
- 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 embossing
 - 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 paper. Refer to the *Card Stock & Label Guide* available on the Lexmark Web site at www.lexmark.com for more information about which paper provides optimum results for the current printing environment.

Tools

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

- Magnetic tip Phillips screwdrivers, large and small
- Volt-ohmmeter

Acronyms

ACM	Autocompensator Mechanism (or paper feed)
ADF	Automatic document feeder
AFE	Analog front end
ASIC	Application Specific Integrated Circuit
CBM	Complete Bill Of Material
CCD	Charge coupled device
CRC	Cyclic redundancy check
DBCS	Double byte character set
DIMM	Dual In-Line Memory Module
ECC	Error correcting code
ECM	Error correction mode
ENA	External Network Adapter
EOL	End of line
FB	Flatbed
FRU	Field Replaceable Unit
HBP	Host Based Printing
HV	High Voltage
HVPS	High Voltage Power Supply
INTL	International
LCD	Liquid crystal diode
LED	Light emitting diode
LVPS	Low Voltage Power Supply
MFP	Multi Function Printer
MH	Message handling
MMR	Modified modified read
MR	Modem ready
NAND	NAND (usage: NAND gate)
NVRAM	Nonvolatile Random Access Memory
OPC	Optical photo conductor
PCL	Printer Control Language
POR	Power-On Reset
POST	Power-On Self Test
PPDS	Personal Printer Data Stream
PRC	Peoples' Republic of China
PSO	Participating Standards Organization
RAM	Random access memory
RIP	Raster Image Processor
SDR	Synchronous Dynamic RAM
SEF	Short edge feed
SRAM	Synchronous RAM
USB	Universal Serial Bus
V ac	Volts alternating current
V dc	Volts direct current

2. Diagnostic information

Start



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

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

- If you do not complete POST, verify the sequence of events during the POST. See **“Power-On Reset (POR) sequence” on page 2-1.**
- If you have a description of a problem, but no error message, see **“Symptom tables” on page 2-2.**
- If you have an error indication, see one of the following:
 - **“Service error codes” on page 2-7**
 - **“User attendance messages” on page 2-10**
 - **“Paper jam messages” on page 2-9**

Power-On Reset (POR) sequence

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

1. The function and scan quality LEDs illuminate for one second and then flash three times.
2. Loading is displayed on the operator panel.
3. CCD lamp illuminates. The scanner performs a calibration.
4. The main motor runs momentarily.
5. The scanner CCD returns to the home position.
6. Close Door will be posted if the cover is open.
7. Any cartridge errors, such as Defective Cartridge, are posted.
8. Applicable maintenance messages are posted. For example, 80 Scheduled Maintenance.
9. Applicable toner low messages are posted.
10. The MFP displays Ready. The function LED, scan type LED, and scan darkness LEDs illuminate.

Symptom tables

POST symptom table

These symptoms may appear during the POST (Power-on Self Test). See **“Power-On Reset (POR) sequence” on page 2-1** for the sequence when the MFP is turned on.

POST symptom table

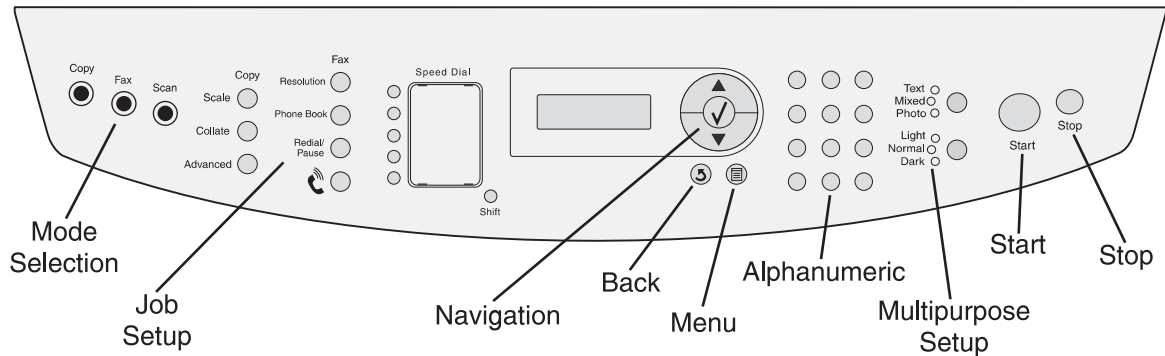
Symptom	Action
The main motor, cooling fan, and fuser do not come on.	See “Controller card service check” on page 2-21.
POST completes except lights do not come on.	See “Operator panel service check” on page 2-27.
POST complete except display does not function.	See “Operator panel service check” on page 2-27.
Main motor does not come on.	See “Main motor service check” on page 2-25.
Black boxes appear on the display, and the MFP fails to function	Turn off the MFP, wait ten seconds, and restart the MFP.
Fan does not come on.	See “Cooling fan service check” on page 2-20.
Fuser lamp does not come on.	See “Cold fuser service check” on page 2-20.
Fuser lamp never turns off.	See “Hot fuser service check” on page 2-24.
The paper feed picks and tries to feed paper.	See “Paper feed service checks” on page 2-29.
CCD Lamp fails to illuminate.	See “CCD service check” on page 2-20.
False Scanner Lock displayed.	Check to see if the scanner is locked. Unlock the scanner if it is locked. If the scanner was unlocked, see “CCD service check” on page 2-20.

MFP symptom table

Symptom	Action
Front access cover will not close	See “Cover interlock switch service check” on page 2-22.
Fuser parts melted	See “Hot fuser service check” on page 2-24.
Toner not fused to the paper	See “Poor fusing of image” on page 2-32.
Blank page	See “Blank page” on page 2-31.
Black page	See “Black page” on page 2-31.
Heavy background	See “Heavy background” on page 2-32.
Light print	See “Light print” on page 2-33.
White or black lines or bands	See “White or black lines or bands” on page 2-33.

Symptom	Action
Toner on back of page	See “Toner on back of page” on page 2-33.
Paper jams	See “Paper feed service checks” on page 2-29.
Main motor noisy or does not move	See “Main motor service check” on page 2-25.
Paper never picks	See “Paper never picks” on page 2-29.
Paper feeds continuously	See “Paper picks during POST and/or continuously” on page 2-29.
Skewed paper	Printhead misalignment results in skewed horizontal lines but a consistent margin top to bottom of page. Paper feed misalignment results in entire image rotated on the paper. See “Paper feed service checks” on page 2-29.
Paper wrinkled or bent	See “Paper “trees,” wrinkles, stacks poorly or curls” on page 2-30.
Top cover will not close	See “Controller card service check” on page 2-21.
Operator panel button does not respond	See “Operator panel service check” on page 2-27 or “Controller card service check” on page 2-21.
Operator panel light does not light or is very dim	See “Controller card service check” on page 2-21.
Fan noisy or not working	See “Cooling fan service check” on page 2-20.
Dead machine (no power)	See “Dead machine service check” on page 2-22.
Paper does not feed into the ADF	See “ADF service check” on page 2-19.
MFP produces a black page when copying a document.	See “CCD service check” on page 2-20.
Paper jams in ADF.	See “ADF service check” on page 2-19.
False Open ADF Cover Remove Paper	See “ADF service check” on page 2-19.
9.7.01 service transfer error is displayed	Check the connection at J7 on the controller card. Inspect the cable if the connection is ok. Replace the power supply if needed.
SucERR:900xx No Modem is displayed	Inspect the modem cable. Reinsert the cable if necessary.
Device does not power up after flashing firmware.	Do not power the device down. It will automatically reboot. Power the device down, wait a few minutes and reboot.
Device does not show it's status on the operator panel when the firmware is being flashed.	Make sure the device is in Ready mode before flashing the firmware.

Understand the operator panel



Buttons

Use the operator panel buttons to open a menu, scroll through a list of values, change MFP settings, and respond to MFP messages.

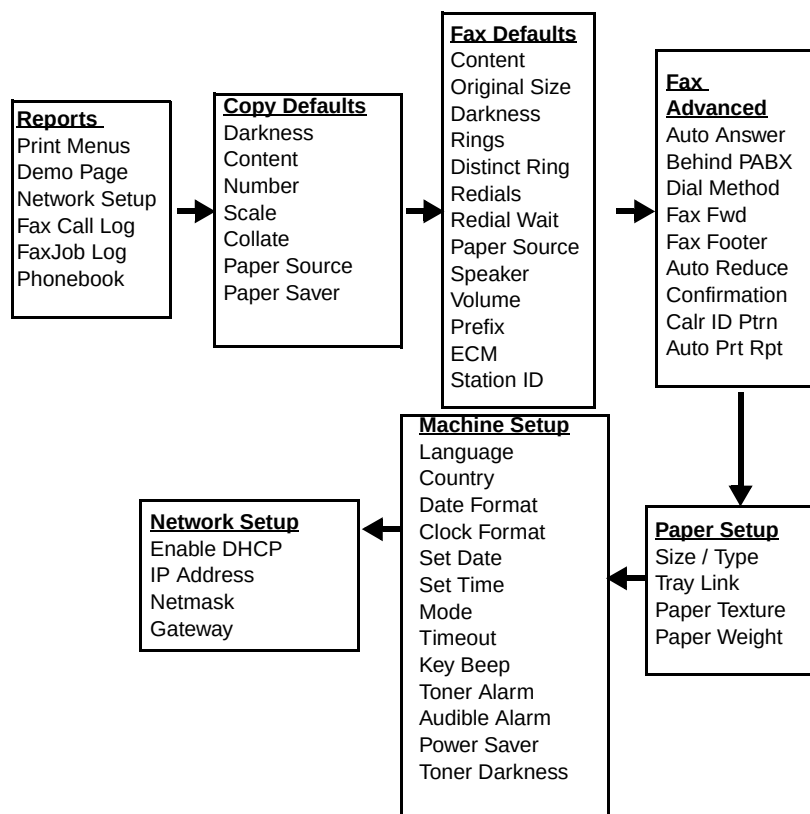
Note: Buttons act on the information displayed on the second line of the operator panel.

The following information describes the functions of each button:.

Button	Function
Mode selection	Press the Fax, Copy, or Scan mode selection buttons to switch between fax, copy, and scan modes. Note: The mode selected from the mode selection buttons is for the current job only. The MFP reverts to it's default mode after the job is ran.
Job Setup Buttons	Press a job setting button to switch to either the copy or fax mode, and adjust the job setting indicated by the button. Copy mode job settings button actions: Scale—Pressing the scale button activates the scale setting which controls the size of the copied document as compared to the original document. Collate—Pressing the collate button activates the collate setting. The collate setting controls the sequence in which multiple page jobs are printed. Options—Pressing the options button activates the options setting which controls value of the paper source and paper saver settings. Fax mode job settings button actions: Phone book—Pressing the phone book button enables the phone book function. The phone book function searches, manages, and prints information in the MFP phone book. Redial/Pause—Pressing this button tells the MFP to insert a three second pause or redial the last fax number dialed. Options—Pressing the options button activates the options setting. The options setting controls: • Access to the fax broadcast function. • Delay sending a fax. • Cancel a fax. Phone book—This feature allows the user to search and manage information in the MFP phone book. Telephone Icon—manually send or receive a fax. 5 speed dial buttons—Access the first five pre-programmed shortcuts. Shift—Gain access to shortcuts 6 -10.

Button	Function
Display panel	2 X 16 character backlit LCD(DBCS capable).
Navigation keys	Use the navigation buttons to navigate the MFP administrative menus. Press  to navigate up the current active menu. Press  to navigate down the current active menu. Press  to select the currently displayed menu, or activate the currently displayed menu item.
Back	Press  to return to the previous menu level or to the ready state.
Menu	Press Menu to take the MFP out of the ready state. When Menu is pressed, the administrative menu is displayed.
Alphanumeric keys	The alphanumeric keys are used to enter numbers and special characters (e.g. "+" or ",") and/or letters.
Multi-purpose job setup buttons	Press the Content button to select the type of content being faxed or copied. Photos, Mixed, and Text are the available selections. Press the Darkness button to set the lightness, or darkness of a copy or fax.
Start	Press Start to: • Initiate a copy, fax, or scan job. • Clear some operator panel messages. • Resume printing after loading media and clearing paper jams. • Exit Power Saver. If you have changed MFP settings from the operator panel menus, press Start before sending a job to print. The MFP must display Ready for jobs to print. If any additional information needs to be specified to start a function, a request for information will be displayed on the panel.
Stop	Press Stop at the Ready, Busy, or Waiting message to temporarily take the MFP offline. The message changes to Not Ready. No data is lost. All settings associated with the currently active mode or job are set to default.

Using the MFP menus



Messages and error codes

Service error codes

Service error codes are generally non-recoverable except in an intermittent condition when you can POR the MFP to temporarily recover from the error condition.

Service error codes (9xx)

Error	Description	Action
900	Service RIP software	Server firmware problem. Turn off the MFP for one minute. If that does not fix the problem, contact the next level of support.
900	Service (No Modem)	The MFP did not detect the modem. See “Modem service check” on page 2-26.
902	General engine software failure	An unrecoverable engine software error. Reset the MFP (POR). If the problem continues, replace the controller card. A 902.33 error will occur if Tray 2 is set as the default, and Tray2 is improperly, or not attached to the MFP.
914	DC Pick Motor	Verify motor is plugged into controller card correctly. Also, check the load condition. Replace the drawer 2 assembly.
917	Transfer roll	The most likely cause is a faulty HVPS. It may also indicate a problem in the transfer roll area. Go to “Transfer roll service check” on page 2-38.
920	Fuser Error Indicates that the fuser is below temperature when printing.	Go to “Fuser service check” on page 2-23.
921	Fuser Error Indicates that the fuser is below proper temperature during standby or idle time.	Go to “Cold fuser service check” on page 2-20.
922	Fuser Error Fuser failed to reach standby temperature.	Verify line voltage to the fuser. Go to “Fuser service check” on page 2-23.
923	Fuser Error Fuser is too hot during printing or when MFP is idle.	Go to “Fuser service check” on page 2-23.
924	Fuser Error An open circuit has been detected in the fuser thermistor circuit.	Check cabling and connectors. Go to “Fuser service check” on page 2-23.
925	Fuser Error Incorrect fuser lamp is installed.	Replace fuser with the correct fuser. See “Fuser removal” on page 4-20.
927	Fan Error Fan is stalling.	Replace the fan. See “Fan removal” on page 4-18.

Service error codes (9xx) (Continued)

Error	Description	Action
929	Toner Sensor	The toner sensor is not operating properly, the developer drive assembly is not operating properly, or the toner cartridge is defective. See “Toner sensor service check” on page 2-38.
931	Printhead Error—no first hsync	Check for unplugged printhead (J12 on the controller card), faulty cabling, or faulty printhead.
932	Printhead—lost hsyncs	Replace the printhead.
934	Printhead—mirror motor lost lock	Replace the printhead.
935	Printhead—mirror motor unable to reach operating speed.	Faulty printhead, cabling, or connector.
936	Transport motor — initial lock failure	Indicates a problem with the main drive motor or a jam occurred during the motor ramp-up to speed.
937	Transport motor — lost lock	Faulty motor or a jam occurred after motor ramp-up to speed. Possible problem with the main drive.
941	Scanner — AFE R/W Error for scanner	Replace the controller card.
942	Scanner — Home sensor error	See “CCD service check” on page 2-20.
943	Scanner — Motor stall	Restart the MFP. If the problem remains, replace the CCD unit.
944	Scanner — Lamp error	Restart the MFP. Verify that the lamp is not illuminating during the startup. See “CCD service check” on page 2-20.
948	Fax Storage	There is an unrecoverable problem with the flash file system used for fax storage.
953	NVRAM Failure	Replace the controller card.
960	RAM soldered on the card is bad	Indicates a DRAM Memory Error on the controller card. Replace the controller card.

Non 9xx service errors

Error	Description	Action
Scanner Locked Unlock Scanner	Scanner CCD module is locked.	Lift flatbed cover and move the sliding switch, located to the left of the flatbed, to the unlocked position.
Open ADF cover Remove Paper	Paper jammed in the ADF module.	Remove the paper from the ADF. If this does not remedy the problem see “ADF service check” on page 2-19.

Paper jam messages

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

- Faulty pick solenoids or worn cams of the solenoids
- Faulty flags or springs
- Worn backup rollers at the reference guide
- Improperly adjusted reference guide
- Debris in the paper path
- Paper not of the specified length

Note: For more information, see **“Paperpath sensor service check” on page 2-28.**

Paper jam messages

Message	Explanation
200 Paper Jam Remove Cartridge	The input sensor under print cartridge is covered too long or is covered during POR or when Go is pressed after clearing a different jam or problem. The exit sensor could also be covered. Remove the print cartridge and open the rear door to remove the media. If the message is displayed after the paper is removed, the MPF sensor or controller card might be faulty.
201 Paper Jam Remove Cartridge	Paper is jammed between the MFP input and exit sensor. Remove the print cartridge to clear the paper path. If the message is displayed after the paper is removed, the input sensor or controller card might be faulty.
202 Paper Jam Open Rear Door	The exit sensor is either covered during POR or covered too long. Open the rear door to access the jam area. If the message is displayed after the paper is removed, the exit sensor or controller card might be faulty. Ensure that the rear door to the printer is properly closed.
241 Paper Jam Check Tray 1	Paper is jammed between Tray 1 and the input sensor.
242 Paper Jam Check Tray 2	Tray 2 pass thru sensor is covered during warm-up. Try opening Tray 2. If the tray is difficult to remove, then you may have to remove the tray above or below the tray to remove the jammed pages.
251 Paper Jam Check Manual Feeder	Sensor at the manual feeder indicates paper is stuck in the path. Remove the paper, and check the flag/sensor.
290 Scanner Jam Remove Originals	Paper in the ADF is covering the paper present sensor. See “ADF service check” on page 2-19.
291 Scanner Jam	Paper in the ADF is covering the paper present and paper path sensors. See “ADF service check” on page 2-19.
292 Scanner Jam	Paper in the ADF is covering the paper path sensor. See “ADF service check” on page 2-19.

User attendance messages

Printer specific user attendance messages

Message	Explanation
Change <source> <type><size>	This message displays when none of the MFP input sources contain the size and/or type of media requested by the current print job. The following actions may be taken: - Press , Start, or the 1 digit to clear the message and continue printing. Note: Clearing the message this way will change the input source size and type stored in NVRAM to the type specified in the prompt. - Press the 2 digit. The MFP will process the job using the media currently installed in the input device.
Check Tray x Connection	Tray x=Tray 2. This messages displays for the following conditions: - The specified device may have been removed from the MFP, possibly to clear a paper jam or to uninstall the option. - The option may be attached to the MFP, but a communications problem may prevent the MFP from detecting the option. For example, there may be a poor connection or a hardware failure. - The following actions may be taken: - If the option was temporarily removed or not connected properly, reattach or reconnect it. - Press Go to execute a configuration change which notifies the MFP the option has been hot unplugged (removed with the power on). Note: This action is not available if the MFP is in Diagnostics Mode or running diagnostics. - If the device is experiencing a hardware problem, turn the MFP off and on.
Close Front Door	Close the front door. The message clears when the front door is closed. See "Cover interlock switch service check" on page 2-22 if this message is displayed with the door closed.
Load Manual <type><size>	The MFP has received a job that identifies the MPF as the input source. The following actions may be taken: - If paper is loaded in the MPF, press  or Start to begin printing. - If paper isn't loaded in the MPF, load paper into the MPF.
Load Media<source><type> <size>	The input source used by a job is empty. The following actions may be taken: - Load paper tray 1 or 2, and press  or Start to resume printing. - Press Stop to cancel the job.
31.xx Missing or Defective Cart.	- The cartridge may be missing and the front door closed. Return the cartridge. - The cartridge may be defective. Replace the cartridge.
32.xx Unsupported Print Cartridge	An unsupported toner cartridge is installed. A supported cartridge must be installed.
33.xx Chg Cart Invalid Refill	Remove the toner cartridge, and install a new cartridge.

Printer specific user attendance messages (Continued)

Message	Explanation
34 Short Paper	The MFP determines the paper length is too short to print the formatted data. This occurs when the MFP does not know the actual paper size loaded in the tray. Make sure the Paper Size setting is correct for the size paper that is being used. The following actions may be taken: Press  or Start to clear the message and continue printing. Press Stop to cancel the job.
37 Insufficient Collation Area	This message displays when the MFP memory is insufficient to collate the pages of the print job. Press  or Start to clear the message. Press Stop to cancel the job.
38 Memory Full	This message displays when the MFP is processing an incoming job and there is insufficient memory available to continue processing the job. The following actions may be taken: • Press  or Start to clear the message and continue printing. • Press Stop to cancel the print job. Clearing the error this way may cause data loss.
54 Std Network Software Error	This error displays when a network port is detected, but the MFP cannot establish communications with it. Press Go to clear the message. The MFP disables all communications to the network interface.
56 Standard USB Port Disabled	Displayed when status is requested over the USB port, but the port has been disabled. Once the error has been displayed for the first time, reporting of further errors is suppressed until the menus are entered or the MFP is reset. The following actions may be taken: • Press Go to clear the message. The MFP discards any data received on the USB port. • Press Menu until Busy/Waiting appears, and select Reset Printer.
84 Photoconductor Life Warning	This message displays when the photoconductor unit is near end of life. Press  or Start to clear the message and continue printing. Press Stop to cancel the job being processed.
84 Replace Photoconductor	This message displays when the photoconductor is at the end of life. The photoconductor must be replaced.
88 Toner Low	This message displays when toner low occurs and the toner low alarm is activated. Press  or Start to clear the message and continue printing. Press Stop to cancel the job being processed.

Fax and scanner specific user attendance messages

Message	Explanation
Change <source> Plain <size>	This message is displayed during a fax operation when the Auto Reduce setting is “no”, and the media installed in the input tray is too small to print the fax being received. To resolve this issue, perform one of the following options: • Press  or 1 to begin printing. The media size stored in NVRAM will automatically change to the size specified on the prompt. • Press 2 on the numeric keypad. The device will print on the media installed. Clipping might occur.
Phone Line Disconnected	Check the phone line connection. Reconnect the phone line if needed.
Scanning Failed	An error occurred that prevented the scanner from sending the scanned document to its destination. Press Stop to clear this message.
Q Link Busy	The Q Link software on the PC is installed but isn't receiving data. Press Stop , Start , or  to clear the message and cancel the job.

Sub error codes

The sub error codes are helpful troubleshooting a paper path problem. Each status byte has a different level of troubleshooting value for each area of the MFP. The following table displays up to 8 status bytes of data. Some or all of these bytes may be used to help diagnose a MFP problem. These status bytes are designed to help isolate paper jams and paper feed problems in the base MFP.

DU	xx	xx	xx	xx
DU	xx	xx	xx	xx

To identify the bytes:

	Byte 1	Byte 2	Byte 3	Byte 4
DU	xx	xx	xx	xx
DU	xx	xx	xx	xx
	Byte 5	Byte 6	Byte 7	Byte 8

Displayed error codes

When a 9xx or 2xx error displays:

- 1. Press and hold **Menu** and press ▼ to enter for sub error codes.
The first screen of information displays. Write down the information.
- 2. Continue pressing **Menu** and ▼ until each screen of information is obtained.
When the last screen displays, the original message displays.

Values

In the table below, the values for common variables are listed below:

- *media source*
 - 10=Multipurpose tray (MPT)
 - 11=Tray 1
 - 12=Tray 2
 - 13=Tray 3
 - 80=Duplex unit
- *media size*
 - 1=Letter
 - 2=Legal
 - 3=B5
 - 4=A4
 - 5=Executive
 - 6=A5
 - 7=Custom size
 - 9=7¾ in. envelope
 - A=#9 Envelope
 - B=#10 Envelope
 - C=8.661 in. Envelope
 - D=C5 Envelope
 - E=B5 Envelope
 - F=Legal envelope

Sub error codes

First 6 bytes sub error code data (xx can be any value)	Explanation	Possible error message
	Paper jam around input sensor	200.00
84 xx 02 x1 x2	Paper is over the input sensor too long. (x1=media size, x2=source) Possible causes are: • Multi sheet feeding. • Paper size is not the same as expected. • The media feeding from the source is slipping or media is slipping before exiting the input sensor.	200.01
84 xx 00 x1 x2 x3	This code indicates that the input sensor is still actuated from the first sheet and the second sheet is ready to arrive at the sensor. (x1=media size, x2=media source) • Check the MFP input sensor and flag for correct operation. The flag should operate freely. • Check for debris in the area of the input sensor. • Check the area of the transfer roll and input to the fuser for anything that might cause the paper to remain over the input sensor.	200.02
84 xx 05 x1	There was media at the input sensor too early. There was not enough time between printhead start and the printhead mirror motor to lock. Possible causes for this error are: • Paper might be pre-staged in the paper source tray. • Paper is picking too fast due to faulty paper feed assembly. • A defective input sensor.	200.04

Sub error codes (Continued)

First 6 bytes sub error code data (xx can be any value)	Explanation	Possible error message
84 xx 20 x1 x2	The imaged page is not the expected page. (x1=media size, x2=media source) Check the pass thru sensor to make sure it is operating properly. If no problem is found, it may still be necessary to try a new pass thru sensor.	200.06
84 xx 22 x1 x2 00	This code indicates that the media activated the input sensor before the MFP EP was ready. (x1=leading edge of media state, x2=trailing edge of media state)	200.08
84 xx 23 x1 x2 x3	The transfer servo never started. (x1=media size, x2=leading edge of media state, x3=trailing edge state). Possible causes: • Slow or missing main motor positional feedback. Paper too fast to input sensor. • Gap too small on interpage servo.	200.09
84 xx 26	This code indicates that media has activated the input sensor; however, the printhead fell out of lock condition or expected a stable lock too soon. The media may have also reached the input sensor early.	200.11
84 00 2A	Paper was detected at the manual feed sensor when it was not expected Possible causes: • User insertion of paper while a job was running. • Pre staged paper in the tray.	200.12
84 xx 04	The input sensor was covered (activated) during POST. • Clear the media or debris from the MFP. • Run the base sensor test (input sensor) from the diagnostic tests menu to test the input sensor and flag for correct operation.	200.13
84 xx 2B	Trailing edge of the paper cleared the manual feed sensor, but the sensor did not debounce. Possible causes: • Small gap • Bouncy (jammed) sensor)	200.14
84 xx 2C	Unrecoverable no gap jam. Engine detected no gap at the manual feeder sensor. An attempt was made to open the gap by stopping the feed rolls, but no trailing edge was ever detected by the input sensor.	200.15
84 xx 30 00 00 00	Transport motor error detected	200.16
84 xx 31	Too long of a delay to ramp up the transport motor.	200.17
84 xx 27	Manual feeder sensor never uncovered from the sheet ahead.	200.18
84 xx 28	Paper detected at the manual feeder sensor never reached the input sensor.	200.19
84 xx 29	Paper too long over the manual feed sensor. Go to "A4, oversized paperfeed service check" on page 2-30. Possible causes: • Multi-sheet feed. • Paper length. Printer driver set to letter when A4 paper is loaded. • Pre staged paper in the tray.	200.20

Sub error codes (Continued)

First 6 bytes sub error code data (xx can be any value)	Explanation	Possible error message
84 xx 2E	Failed no gap jam recovery. Engine detected no gap at the manual feeder sensor. An attempt was made to open the gap by stopping the feed rolls, but never saw the leading edge of the second page at the input sensor.	200.22
84 00 2F x1 x2 x3	Laser servo never started due to potential conflict with the transfer servo. (x1=bit 0: transfer servo started, bit 1: transport started; x2+x3=transfer servo count value) Possible causes: Slow or missing transport motor positional feedback.	200.23
84 xx 03 x1	The measured gap between sheets of media at the input sensor is too small to meet video requirements. x1=time by which the gap was too small.	200.24
84 xx 39	Mirror motor fell out of lock condition after paper at input sensor—more time elapsed since printhead expected stable lock time, but less than printhead jitter-stable specification.	200.27
	Paper jam between input and exit sensor	201.00
84 00 10	The main motor driver failed to detect a specific motor after two tries. Possible causes for this error are: • The main drive motor has stalled. • An incorrect main drive motor/gearbox assembly has been installed.	201.01
8D xx 00	The fuser exit sensor was never activated by the leading edge of the media fed through the MFP. • This error can be displayed after a 201 paper jam. • This can be caused by a defective fuser exit sensor assembly.	201.02
84 xx 01	Video never started on the page at the input sensor within 2 inches after hitting the input sensor.	201.03
8D 00 01 00 00 00	User pressed Go or  after an 8D xx 00 jam, but never opened the front cover. Need to open cover and clear any media under cartridge before continuing.	201.05
	Paper jam around the exit sensor.	202.00
89 xx 03	The fuser exit sensor did not detect the trailing edge of the media going through the fuser assembly. • This failure can be caused by a broken fuser exit sensor flag. • This may also be caused by erratic operation of exit sensor flag or exit sensor or a defective piece of media.	202.01
89 xx 04 x1	The fuser exit sensor never actuated from the sheet going through the fuser before the next page begins feeding. (x1=media size)	202.02
89 xx 0D	The fuser exit sensor bounced. Check the exit sensor for correct operation. Check the sensor cable to J10 on the controller card. Also, the controller card may be failing.	202.06

Sub error codes (Continued)

First 6 bytes sub error code data (xx can be any value)	Explanation	Possible error message
89 00 01 	The exit sensor at the fuser is activated by a piece of media indicating there is a piece of media in the machine during POST. Check for media in the exit of the fuser assembly or redrive assembly. Feed a sheet of paper, and if the same error occurs after clearing the fuser or the same error occurs when no media is present, check the exit sensor assembly.	202.13
	Paper jam near Tray 1	241.00
8E xx 09 x1	The second pick from the MPF or Tray 1 failed when other sheets were committed to the paper path. (x1=media source)	241.12
8E xx 08	Failure to feed from Tray 1. Pages in the paper path have been flushed to the output bin.	241.16
84 xx 2D	Misidentified no gap jam. Engine detected no gap at the at the manual feed sensor. An attempt was made to open the gap by stopping the feed rolls. A trailing edge was seen at the input sensor. The manual feeder sensor is no longer covered. Go to "A4, oversized paperfeed service check" on page 2-30.	241.18
	Paper jam near Tray 2	242.00
8E xx 11	Took too long to ramp up DC feed motor	242.01
8E xx 10	Received lots of DC interrupts before losing them	242.08
8E xx 09 x1	The second pick from the MPF or Tray 1 failed when other sheets were committed to the paper path. (x1=media source)	242.12
8E xx 08	Failure to feed from Tray 2. Pages in the paper path have been flushed to the output bin.	242.16
	Paper jam near manual feeder.	251.00
8E xx 09 x1	The second pick from the MPF or Tray 1 failed when other sheets were committed to the paper path. (x1=media source)	251.12
8E xx 08	Failure to feed from Tray 1. Pages in the paper path have been flushed to the output bin.	251.11
84 xx 3B	Paper never reached the input sensor from the manual feeder. Possible cause: Defective input sensor	251.19

Disconnects on the controller card

Always print a page from each paper source following a repair action. The following table is an aid to find a problem with a cable connection.

Error or message if cable is unplugged	Condition required to obtain error	Check connection at:	Connector name and description
No backlight and no text on the operator panel	POST. No power delivered to controller card	J7	HVPS-LVPS (low voltage power supply)
No backlight, no text on operator panel	POST	J5	OP-PANEL (operator panel) Go to “Dead machine service check” on page 2-22.
917	POST	J19	FAN
924.01	POST	J15	TH1 (thermistor)
929	Print multiple pages	J18	MPF SENSOR (multipurpose feeder sensor and toner sensor)
931	POST	J12	LSU (laser printhead)
935	POST	J11	MMTR (mirror motor)
936	POST	J9	MAIN MOTOR (transport motor)
940	POST	J13	LVPS (low voltage power supply control)
Front Cover Open Pls close cover	POST	J13	CO (cover open switch)
Load MP Feeder	Pick paper from MPF	J101	SOL (multipurpose feeder solenoid)
Paper Empty Pls add paper	Pick paper from tray 1	J101	SOL (paperfeed solenoid)
31.05 Missing or invalid print cartridge	POST	J14	SC (smart chip)
Unlock Scanner Scanner Lock	POST	J4	CCD

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 MFP positioned on its back side.

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

ADF service check

FRU	Action
ADF	Ensure that the proper paper size is being used in the ADF. Are the paper guides on the ADF tray properly adjusted? Inspect the ADF separator roll and ADF separator pad for wear. If they are worn, replace them. If excessive jamming occurs at the white mylar sheet located at the bottom of the ADF unit, replace the ADF unit. Inspect the paper present and paper position sensors on the ADF. • Check for dirt in the sensors. Clean if needed. • Check the flags on the sensor. Are they able to move freely? If the sensor flags are damaged, replace the sensor assembly.
ADF card	If the sensor flags are ok, check to see if they are properly connected to the ADF card (located in the ADF). Replace sensor assembly if needed.
Controller card	Make sure the ADF cable is securely connected to the ADF card and the controller card. If the cable is properly connected, perform the following checks: • Check the ADF cable for continuity. • Check pin 15 on controller card connector J3 for +5V. • Check pin 19 on controller card connector J3for +24V. • Pins 6,14,17,18,20,and 22 should be ground. If voltages are present, replace the ADF card. If that does not fix the problem, replace the ADF. If replacing the ADF does not fix the problem, replace the controller card.
ADF pick pad	If the ADF is multi feeding, check the ADF pick roller and pad for dirt. Remove them from the MFP, and clean them with a lint free cloth and isopropyl alcohol. If the leading edge of the paper is damaged, instruct the user to lessen the number of documents being copied from the ADF at one time.
ADF separator roller	If thin, glossy paper, or carbon forms are used in the ADF, use the high friction pick pad (40X3499).
ADF paper tray and extender.	If there are excessive misfeeds from the ADF, verify the the ADF paper tray and extender are properly installed.
ADF cover	Skews and jams at the ADF paper present sensor might be caused by an improperly closed ADF cover. Ensure the ADF cover is closed properly.

CCD service check

FRU	Action
CCD  Controller card	If you are receiving a 942 error, check the home position sensor for dirt, and ensure that the sensor is properly connected to the CCD. Ensure that connectors J1 and J4 are properly connected. Inspect both ribbon cable connections on CCD for proper connection. If connector J1 is properly connected, verify the following voltages on the controller card. Check pin 1 for +5V, pin 5 for +24V, and pin 18 for +24V. Pins 2, 4, 6, 13, 16, and 17 are ground. If connector J4 is properly connected, verify the following voltages on the controller card. Check pin 19 for +12V and pin 20 for +5V. If voltages are present, replace the CCD. If there are voltage irregularities, replace the controller card.

Cold fuser service check

Make sure the correct voltage lamp is installed. The voltage rating is stamped on one of the lamp contacts.

FRU	Action
 Fuser AC cables LVPS/HVPS Fuser	If the fuser lamp comes on and a fuser failure light error code displays, be sure the thermistor is contacting the hot roll and the thermistor cable is firmly seated in connector J15 on the controller card. Check for excessive toner buildup on the surface of the thermistor. Clean as necessary. With the MFP unplugged, disconnect the thermistor cable from J15 on the controller card. Measure the resistance of the thermistor. The resistance measures from approximately 1K ohms immediately after printing or POR to approximately 240K ohms when thermistor reaches room temperature. (It may take 30 minutes to cool.) Replace the fuser assembly as necessary.

Cooling fan service check

FRU	Action
Cooling fan	Make sure the fan cable plug is properly seated at J19 (controller card). Turn the MFP off, and disconnect the cooling fan cable from connector J19 on the controller card. Turn the MFP on. Within a few seconds, the controller card assembly should apply between +24 V dc to pin 2. See “Controller card” on page 5-4 for more information. If voltage is present and the fan is not turning, replace the cooling fan. If the fan still doesn't function, replace the controller card. Note: The fan speed is controlled by a module on the controller card. Between +8 V and +24 V dc are constantly supplied at pin 2 (J19). Pin 1 is ground while pin 3 receives feedback from the fan motor. If voltage is not present, see “Controller card” on page 5-4 for more information.

Controller card service check

FRU	Action
Controller card assembly	Verify +24 V dc input from the LVPS/HVPS. • Turn the MFP off. • Disconnect the LVPS/HVPS cable from the controller card at J7. See “Controller card” on page 5-4 for more information. • Turn the MFP on. Verify +24 V dc from the cable connector of J7, pins 9 and 10. Verify that pin 7 on both the cable and the card connectors is ground. • If voltage is correct, check the continuity in the cable. If the cable is good, see the “Controller card” on page 5-4 for more information. • If grounds are not correct on the cable, first check it for continuity and then check the LVPS/HVPS. See “LVPS/HVPS service check” on page 2-25 • If the grounds are not correct on the controller card, replace the controller card. (Check with one probe on the connector pin and the other on the ground plane of the card found at each screw head.) Note: With all cables connected, the MFP should complete POST within approximately 12–15 seconds in the following sequence: 1. The function and scan quality LEDs illuminate for one second and then flash three times. 2. Loading is displayed on the operator panel. 3. The CCD illuminates, and the scanner performs a calibration. 4. The drive motor runs. 5. The scanner CCD returns to the home position. 6. Error messages are displayed if applicable. 7. The MFP cycles down into standby mode/ready. Ready is displayed on the operator panel. If immediately following power-on, the operator panel lights are active but the MFP does not go through steps 1 and 2 above, replace the controller card assembly.

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 card at J13. Verify continuity between cable pin 1 and pin 2 with the door closed but not open. Verify continuity between cable pin 1 and pin 3 with the door open but not closed. • If either fail continuity, replace the cover interlock switch. • If both pass continuity, turn the MFP on and verify +5 V dc on pin 2 at J13 on the controller card. • Verify pins 1 and 3 are ground. • If voltage or ground is not present, see “Controller card service check” on page 2-21 for more information. Verify discontinuity between pins 2 and 3 whether the door is open or closed. Replace the cover interlock switch if faulty.

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 MFP
- 200 V ac – 240 V ac for the 220 V MFP

FRU	Action
 LVPS/HVPS	Unplug the MFP, and check the fuses on the LVPS/HVPS board for continuity. • If open, replace the LVPS/HVPS board. - If fuse opens again, see “LVPS/HVPS service check” on page 2-25 for more information. • If not open, unplug the cables at CN102 and CN201 (fuser and controller card respectively). Plug LVPS/HVPS board to source, and turn switch on. Verify 24 V dc on pins 9 and 10 at connector CN201. Verify line voltage (110 or 220 V ac) across pins 1 and 2 of CN102. • If either voltage is not correct, replace the LVPS/HVPS board. • If both voltages are correct, check the controller card. See “Controller card service check” on page 2-21 for more information. Verify grounds.

Fax quality service check

Diagnosing fax problems

Problem	Solution
No dial tone	See “Modem service check” on page 2-26.
Ring tone volume for incoming faxes too low	Replace controller card.
Document does not feed in the ADF.	See “ADF service check” on page 2-19.
Lines on documents sent out.	Check the flatbed glass for marks or scratches.
SCVERR:facdata.c725 is displayed when faxing a job larger than 254 pages.	Break the job up into multiple jobs less than 254 pages.
Some words on an incoming fax are stretched.	Fax machine sending the fax had a temporary jam.
Fax quality low, erratic performance	Update firmware to build 115.
FAX INITIAL FAIL is displayed	Inspect the modem cable. Replace the modem cable if needed.

Note: Some fax-quality issues might be scanner-related. See **“Scan quality service checks” on page 2-37.**

Fuser service check

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

Note: Improper fusing can result from incorrect media settings in the driver, or on the MFP. Check those settings before servicing the fuser.

Note: Make sure the correct voltage fuser is being used on the MFP.

Warning: Avoid handling the lamp as much as possible, as it is easily broken. Be careful not to touch the glass housing with bare hands, because skin acids can weaken the glass. The lamp is not a service part.

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

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

Turn the MFP off, and wait a few minutes for the fuser lamp to cool. Turn the MFP on, and observe the lamp turning on during POST.



You can see the light from the lamp by opening the left side cover and observing the upper opening through which the fuser power cables pass.

Fuser service check (continued)

FRU	Action
 Lamp cable LVPS/HVPS Fuser	Unplug the MFP and disconnect the fuser lamp cable plug from the LVPS/HVPS board connector CN102. Check for continuity across the fuser lamp by checking across the connector pins. • If there is continuity, go to Step 1: Continuity. • If there is no continuity, go to Step 2: No continuity. Step 1: Continuity Turn the MFP on with only the fuser power disconnected. Measure the voltage at connector CN102 on the LVPS/HVPS. It should match the line voltage. If line voltage is not present, see “LVPS/HVPS service check” on page 2-25 for more information. Make sure the fuser thermistor is correctly connected to the controller board. If the problem persists, disconnect the thermistor cable at J15 and check for less than +5 V dc on pin 1. Pin 2 should be ground. If line voltage is incorrect on pin 1, see “Controller card service check” on page 2-21 for more information. Step 2: No continuity Check the lamp cable for continuity. • If correct, replace the fuser. • If incorrect, replace the lamp cable. Disconnect the thermistor cable from J15 on the controller card. Measure the resistance across the ends of the thermistor cable. See “Controller card” on page 5-4 for more information. Replace the fuser assembly if the resistance is lower than 1K ohm or shorted. Note: Resistance measures approximately 240K ohms when cool and 1.4K ohms hot.

Hot fuser service check

Note: Ensure correct fuser is installed.

FRU	Action
 Fuser AC cables LVPS/HVPS Fuser	Measure the resistance of the thermistor. The resistance measures from approximately 1K ohms immediately after printing or POR to approximately 240K ohms when thermistor reaches room temperature. (It may take 30 minutes to cool.) Replace the fuser assembly as necessary.

LVPS/HVPS service check

FRU	Action
 LVPS/HVPS	LVPS portion of board Fuses that open typically indicate a faulty LVPS/HVPS. Use the voltage meter to verify the appropriate voltage at the MFP end of the power cable. Remove the LVPS/HVPS assembly from the MFP. Check continuity on the fuses. If either fuse has opened, replace the card. Ensure the switch is off, and plug the power cord into the card. Turn the switch on. CAUTIONThe card has several points where AC voltage is exposed. Carefully verify the AC voltage between pins 1 and 2 matches the power cable (wall) voltage. • If voltage is incorrect, replace the card assembly. • Verify +24 V dc from pins 9 and 10 at CN201. • If voltage is incorrect, replace the card assembly. HVPS portion of board Problems with the HVPS are exhibited in the print quality. See “Print quality service checks” on page 2-31 for more information.

Main motor service check

FRU	Action
 Main motor cable LVPS/HVPS Controller card	Verify +24 V dc at J8, pin 8 and +5 V dc at pin 6 (controller card). Verify ground at pins 2 and 7 for both the card and cable. • If these voltages are correct, check the main motor cable for continuity. - Remove rear cover to access connector on motor. - If continuity exists on each wire, call next level of service. - If continuity does not exist on one or more of the wires, replace the motor cable. • If these voltages are not correct, see the “LVPS/HVPS service check” on page 2-25, or replace the controller card. Note: The main motor is not a service part.

Modem service check

FRU	Action
Modem Controller card	Ensure the phone line is properly connected to the top RJ-11 jack of the modem and phone jack on the wall. Ensure the modem cable is properly connected to the J69 on the modem card and J69 on the controller card. Check the connectors on both cards for damage. Check pin 1 on J69 for +5V. Check pins 3 and 4 for +3.3V. Pins 2, 9, 14, 18, 22, and 27 should be ground. If voltages are present, replace the modem card. If the voltages are not present, replace the controller card.

Network card service check

FRU	Action
Network daughtercard Controller card	In the MFP Administration menu, ensure DHCP is activated if the network uses DHCP. In diagnostics, ensure the PRINTER MODEL is set to the correct printer model. If the USB jack is connected to a device, disconnect it. The USB and network jacks cannot operate simultaneously. Ensure the network cable is properly connected to the RJ-45 jack of the network card. Are the LEDs on the jack illuminated? Ensure that the network daughtercard is securely fastened to J44 on the controller card. Check the connectors on the network daughtercard and controller card for damage. Check pin 1 on the network daughtercard for 5V. Pin 4 is ground. If voltages are present, replace the network daughtercard. If the voltages are not present, replace the controller card.
Firmware	Device does not receive an IP address when DHCP is used. Update with EC1 network card firmware.

Operator panel service check

Inspect the operator panel cable for damage. Make sure the cable is plugged in securely.

POR the MFP, and check each light for proper operation.

Operator panel service check

FRU	Action
Operator panel Controller card	Buttons Check connector J5, pin 5 for 3.3 V. If the voltage is present, replace the operator panel. If the voltage is not present, replace the controller card. Lights If the lights don't illuminate, make sure the cable is properly connected to the controller card and the operator panel. Ensure the controller card has input voltage to it. Verify +24 V dc on cable pins 9 and 10 at J7. • Check for +5 V dc at J5, pin 14. See "Controller card service check" on page 2-21 or page 4 for more information. • If these voltages are not correct, replace the controller card. • If these voltages are correct, replace the operator panel. If more than one light does not turn on or an individual light stays on solid during POST, replace the operator panel. If all lights are dim and operate erratically during POST or all lights come on and stay on solid during POST, replace the FRUs in the following order one at a time: • Controller card • Operator panel

Paperpath sensor service check

FRU	Action
All sensors	Check all the sensor flags for breakage or if they are jammed. Check all the sensors for dirt.
MPF sensor	Check pin 1 on connector J18 for +5V and pin 2 on J18 for +3.3 V. Pin 3 should be ground.
Exit sensor	Check pin 1 on connector J10 for +5V and pin2 on J10 for +3.3V. Pin 3 should be ground.
Paper in sensor	Check pin 1 on connector J20 for +5V and pin2 on J20 for +3.3V. Pin 3 should be ground.
Controller card	If any of the readings are incorrect, replace the controller card. If they are correct, replace the malfunctioning sensor.

Printhead service check

FRU	Action
 Printhead	Unplug the MFP. Disconnect the printhead cables from J11 and J12 on the controller card. Turn the MFP on. On the controller card, verify +24 V dc on pin 5 at J11 and +5 V dc on pin 7 at J12. Verify grounds on pin 4 at J11 and on pins 2, 6, and 8 at J12. - If voltages or grounds are incorrect, check the controller card. See “Controller card service check” on page 2-21 for more information. - If voltages are correct, replace the printhead (cables are included).

Paper feed service checks

Paper jam error indication during POST

FRU	Action
Exit sensor	If the exit sensor flag is not resting within the paper exit sensor during POST, the MFP displays a paper jam message. Make sure the flag is operating freely and is correctly installed.
Input sensor Input sensor #1 (under print cartridge assembly) and Input sensor #2 (manual)	Make sure the input paper feed sensors are working properly. A stuck or incorrectly installed sensor causes this error.

Paper picks during POST and/or continuously

FRU	Action
ACM (auto comp mechanism or paper feed) clutch Manual feed clutch	Check the ACM clutch for wear. The solenoid interacts with the clutch to control the motion of the pick tires. If the ratchet teeth of the ACM clutch assembly are worn or broken, the solenoid may not stop the ACM from rotating. Replace the ACM clutch assembly if necessary. Check the manual feed clutch for the same damage.

Paper picks but stops half way through the MFP

FRU	Action
Input sensor #1 (under print cartridge assembly) and Input sensor #2 (manual)	Make sure the input sensors are working properly. Check for a broken or stuck flag on the input sensors. Make sure the cables are seated on the controller card at J20 (Tray 1 input) and J18 (manual input). Check for less than +5 V dc on pin 1 at J20 (Tray 1 input) and pin 3 at J18 (manual input sensor). • If correct, replace the input paper feed sensor. • If these voltages are not correct, replace the controller card.

Paper never picks

FRU	Action
Paper feed (pick tires)	Open the left cover, and verify the solenoid and clutch are functioning when an attempt is made to feed the paper. Make sure the rubber tires are installed and clean. Replace if necessary.
Paper tray	Check the rear guide in the paper tray for proper adjustment.

Paper occasionally picks or picks multiple sheets at once

FRU	Action
Tray 1 Tray 2 (option)	Check tray for paper catch points. If the sheet being fed stops momentarily, the ACM applies additional vertical force causing additional sheets to feed. Do not mix paper types.
Paper pick tires	Check the tires in the ACM assembly for signs of wear or damage. Replace the tires as necessary.
ACM clutch complete bill of material (CBM) Manual feed clutch CBM	Open the 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 card	Disconnect the solenoid cable at J101 on the controller card. Measure the resistance across cable pins 1 and 2 and then pins 3 and 4. • The resistance should be 180–210 ohms. • If it is not, call the next level of service. • If the resistance is 180–210 ohms, check the controller card. See “Controller card service check” on page 2-21 for more information. Replace controller card as necessary.

Paper “trees,” wrinkles, stacks poorly or curls

FRU	Action
Fuser	This problem is most likely due to a worn backup roll. It causes the MFP to run hotter than required for the media being printed. Excessive heat can cause paper treeing problems, poor stacking, or curl.

A4, oversized paperfeed service check

Symptom	Action
200.20 and 241.18 paper jams when using A4 paper.	Verify that the Size/Type item in the Paper Setup menu is set to A4. Verify A4 is chosen as the paper size in the printer driver. Both of these items need to be set to A4 when printing A4 paper. Note: These jams can also occur if the Size/Type setting and drivers are set to letter, and the paper length exceeds the letter paper length by 1/2 inch.

Print quality service checks

Note: Ensure cover is closed tightly. A gap in the opening may allow light to expose the photoconductor resulting in a 'dirty' print.

Using print quality test pages

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 card Toner electrodes (cable assembly)	Blank pages can be caused by a defective printhead assembly, LVPS/HVPS, or controller card. • Printhead errors typically result in MFP service errors. • Blank pages typically are caused by the PC roll not being properly discharged. Try a different PC kit. Unplug the MFP and check continuity between the LVPS/HVPS connection pads marked OPC and the corresponding pin inside the MFP. If there is not continuity, call the next level of service. Try a different toner cartridge and PC kit. If those fail, replace the LVPS/HVPS.

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 electrodes below the print cartridge assembly for contamination or damage. Correct as necessary. Check continuity between the cable connections on the contact tips below the print cartridge assembly. If continuity fails, call the next level of service.
 LVPS/HVPS board Controller card	With the MFP off, disconnect the LVPS/HVPS cable from J7 on the controller card. Turn the MFP on and verify +24 V dc on pin 9 of the cable. Verify ground on pin 8. • If the voltage is incorrect, replace LVPS/HVPS board. • If voltage is correct and the toner electrodes are good, replace the controller card.
CCD	If the MFP prints a black page when copying a page but prints a job from the host PC properly, see "CCD service check" on page 2-20.

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)	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, try a new PC Kit first, and then try a new toner cartridge.
 LVPS/HVPS Controller card	Check the contacts for correct installation and contamination where contact is made between the print cartridge assembly and LVPS/HVPS board. Clean as necessary. If this does not correct the problem, replace the following FRUs one at a time in the order shown: • LVPS/HVPS board • Controller card

Partial blank image/white spots (no periodic pattern)

FRU	Action
Toner cartridge (not a FRU)	Remove the toner cartridge assembly, and gently shake the assembly to evenly distribute the toner. If toner cartridge is low, try a new toner cartridge.
Paper (not a FRU)	Make sure recommended paper is being used.

Variation in image density horizontally across page

FRU	Action
PC Kit (not a FRU)	The charge roll may have an unbalanced pressure against the photoconductor (PC) drum. Try a new PC Kit.
Transfer roll	Check the springs in the left and right transfer roll bearings. The bearing assemblies should support the transfer roll, applying even pressure to the PC drum. Replace the transfer roll assembly if the springs or bearing 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
Paper (not a FRU)	Make sure recommended paper is being used. Check the media type and texture settings on the MFP and in the driver.
Fuser	The fuser may not be operating at the proper temperature to fuse the toner to the paper. See "Fuser service check" on page 2-23 for more information.

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, install a new toner cartridge. Recheck condition before replacing PC Kit if necessary.
 Transfer roll LVPS/HVPS board	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, replace the following FRUs one at a time in the order shown: • Transfer roll • LVPS/HVPS board

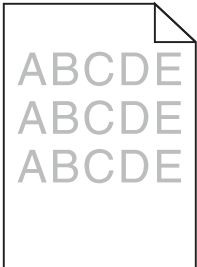
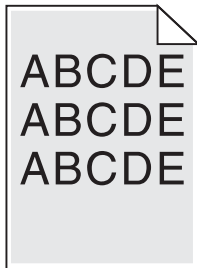
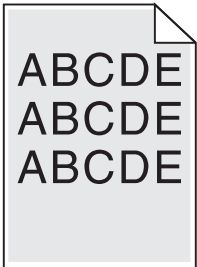
White or black lines or bands

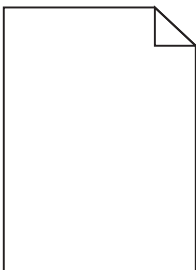
FRU	Action
Print cartridge assembly (not a FRU) Developer drive coupling assembly	Banding appears as light or dark horizontal lines on a uniformly gray page or on a page with a large area of graphics. Banding is primarily due to a variation in the speed of the paper as it feeds through the MFP, especially in the developer and transfer process. 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
PC Kit (not a FRU)	Inspect the overall paper path for signs of spilled toner. Gently clean the contaminated areas with a soft cloth or compressed air.
Fuser	The fuser hot roll can cause toner deposits on the back of the paper if toner is building up on the hot roll. This buildup may transfer to the backup roll, later transferring to the back of the paper. Inspect the hot roll and backup roller 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 printed pages. Inspect the transfer roll for contamination, and replace as necessary.

Solving print quality problems

Problem	Action
Light or blurred characters. 	Light print 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 you are using recommended print media (see media types and sizes in the <i>User's Reference</i>.) • 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. See "Light print" on page 2-33.
Toner smudges appear on the front or back of the page. 	• Make sure the paper is straight and unwrinkled. • Make sure you are using recommended print media (see media types and sizes in the <i>User's Reference</i>.) • Replace the PC Kit and recheck before replacing the toner cartridge. See "Toner on back of page" on page 2-33 for more information.
Vertical or horizontal streaks appear on the page. 	Replace the toner cartridge for vertical black streaks. Wipe the glass lens clean with a soft tissue for vertical "white" streaks. For horizontal streaks, see "White or black lines or bands" on page 2-33 for more information.
Toner smears or rubs off the page. 	• Replace the fuser. The toner is not being fused. See "Fuser service check" on page 2-23 for more information. • Try a different kind of paper. Paper designed for copiers gives the best quality fusing. • For all media types, check the media type and texture settings in the driver and on the MFP. • Change the media texture setting. If the setting is not in your driver, you can download the correct Lexmark setup utility from the Lexmark Web site at www.lexmark.com.
The print is getting light but the Toner Low message is not displayed.	• Remove the toner cartridge, and gently shake it from side to side to redistribute the toner. • Replace the toner cartridge.

Problem	Action
The Toner Low message is displayed.	- Remove the toner cartridge, and gently shake it from side to side to redistribute the toner (6K cartridge only). - Replace the toner cartridge.
Solid black areas on transparencies or white streaks on paper.	- Choose a different fill pattern in your software program. - Try a different type of paper. Paper designed for copiers gives the best quality. - Remove the toner cartridge, and gently shake it from side to side to redistribute the toner. - Replace the toner cartridge.
Faint images or repetitive spots appear on the page.	- Select a different media type or form type setting from your MFP driver. - Try a different type of paper. Paper designed for copiers gives the best quality. - Replace the toner cartridge.
Groups of black spots appear in grayscale images.	Toner cartridge may be damaged. Replace the toner cartridge.
Pages are blank. 	- The print cartridge may be out of toner or defective. Replace the cartridge. - You may have a software error. Try turning the MFP off and back on. - Check the printhead. See “Paper feed service checks” on page 2-29 for more information.
The MFP is on, but nothing prints.	- Make sure the toner cartridge assembly is installed properly. - Is the MFP processing a scan job? The MFP does not print while scanning. - Make sure the network or USB cable is not damaged and is firmly plugged into the connector on the back of the MFP. - Print a menu settings page just to save space. - If you cannot print a menu settings page, call the next level of support. - If you can print a menu settings page, the problem is one of the following: - Computer - Software program - Cable (USB only) failed ASIC or controller card. Replace card. Note: Test by unplugging USB and replugging it with the MFP on. If the computer indicates “unknown device,” replace the controller card.
Toner Low message is displayed and printing stops.	Press Start . Print quality will be diminished.
Close Front Door message is displayed.	Make sure the printer cover is closed.
The media skews or buckles.	- 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 Reference</i>). - Make sure the paper guides are flush against the edges of the media.

Problem	Action
The paper sticks together/MFP feeds multiple sheets of paper.	- Remove the paper from Tray 1 or the optional 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 paper fails to feed from Tray 1.	- Remove the paper from Tray 1, and fan the paper. - Make sure Tray 1 is selected from the MFP driver. - Do not overfill the tray. - Check the condition of the rubber on the paper feed rolls. - Verify clutch for ACM is not slipping.
The paper fails to feed from the optional Tray 2.	- Make sure the optional Tray 2 is selected from the MFP driver. - Make sure the tray is pushed all the way in. - Remove the paper from the optional Tray 2 and fan it. - Check the rubber on the paper feed tires. - Check the paper path in the tray for burrs or debris that may hinder paper movement. - Make sure the paper does not exceed the stack height indicator.
The display indicates the MFP is out of paper even though there is paper loaded in the optional Tray 2.	- Make sure the tray is pushed all the way in. - Press Start or .
The MFP does not print after a paper jam has been cleared.	- Clear all jams. - Press Start or . Open and close the MFP cover to restart the MFP. - Make sure the print cartridge assembly is installed properly.
Unexpected characters print or characters are missing.	- Ensure correct MFP driver is being used. - Reset MFP to user default settings. - Restore factory defaults. - Make sure the USB cable is firmly plugged in at the back of the MFP.
Jobs are not printing, and MFP display shows an error message.	- Make sure the print cartridge assembly is installed properly. - Make sure the MFP top cover is closed.

Scan quality service checks

Image unclear

Problem	Action
Scanner not properly calibrated	Perform scanner calibration. Go to “” on page 3-8.
Dirt on flatbed glass or calibration reference plate	Clean glass with isopropyl alcohol.
Black page	If the MFP can print normal pages from the host PC see “CCD service check” on page 2-20.
Lamp too dark	Perform CCD service check. See “CCD service check” on page 2-20.
Scanner not properly registered	Perform scanner registration in diagnostics. Go to “Scanner Registration” on page 3-7.
Scanner not performing multipage scans	The WIA driver cannot multipage scan by default. Set the driver for multipage, or use a TWAIN driver.
75 dpi images shift to left when scanning to the network.	Download EC1 network daughtercard update.

Irregular movement

Problem	Action
Flatbed motor failure	Perform CCD service check. See “CCD service check” on page 2-20.
Loose belt	Visually inspect the belt. If the belt is worn or loose, replace the scanner base assembly.
Scanner Freezes (No message)	Is the user using TWAIN and WIA (Microsoft Windows) scan drivers simultaneously. These drivers cannot be used at the same time.
Home position sensor failure	See “CCD service check” on page 2-20.
Skewed images from the ADF	If there is skew on the last 3 or 4 inches of an image, ensure the flatbed cover is properly closed.

No image

Problem	Action
Flatbed cover open	Close the flatbed cover.
Flatbed motor failure	See “CCD service check” on page 2-20.
Scanner produces blank pages	Replace the controller card.
Paper in ADF does not feed	Go to “ADF service check” on page 2-19.
Unable to scan to PC	Check to see if the PC and MFP are connected on the network. Go to “Network card service check” on page 2-26.

Toner sensor service check

FRU	Action
Toner sensor	Try a different toner cartridge. If changing the toner cartridge doesn't fix the problem, check pin 1 in J17 for +5V. Pin 3 is ground. If the voltage is present, replace the toner sensor.
Controller card	If the voltage on pin 1 is incorrect, replace the controller card.

Transfer roll service check

FRU	Action
 Transfer roll	Check transfer roll area for debris, and clean as necessary. Verify continuity between the spring below the left side bearing and the transfer roll shaft. Verify continuity in the spring and the cable connection on the LVPS/HVPS. Inspect the roll for signs of wear or damage, and replace if necessary.

3. Diagnostic aids

Accessing service menus

Use the following key sequence to enter diagnostics mode.

Note: The printer does not need a POR to enter diagnostics mode.

Note: The X340, X340n, and X342n do not have a configuration menu.

Diagnostics Mode	1. Press and release the Menu key. 2. Press and release the * key. 3. Press and release the # key. Note: Release the * key before pressing the # key.	The Diagnostics Mode group contains the settings and operations used while manufacturing and servicing the MFP. When diagnostics mode is entered, one of the diagnostic menu items will display automatically. See “Available menu items” on page 3-2.
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Printing menus

To print a listing of menus:

1. Press **Menu**. The **Reports** menu is displayed.
2. Press  . The **Print Menus** menu item is displayed.
3. Press  again. The menus will print out.

Diagnostics mode

Available menu items

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

SERIAL NUMBER - Go to “Serial number” on page 3-3.
String
USB - Go to “USB” on page 3-3.
PRINTER MODEL - Go to “Printer Model” on page 3-4
X340
X340n
X 342n
POWER SUPPLY ID - Go to “Power supply ID” on page 3-4.
110v / 220v
COUNT RESET
Page Count - Go to “Page Count” on page 3-4.
Print
Copy
Fax
Total
Fax Usage - Go to “Fax Usage” on page 3-5.
Sent
Received
Scan Usage - Go to “Scan Usage” on page 3-5.
Copy
Fax
Local
Total Flatbed
Total ADF
NETWORK MENU - Go to “Network menu” on page 3-5.
Print Debug
Force Speed
NVRAM Reset
REGISTRATION
Printer Registration -Go to “Printer Registration” on page 3-6.
Skew Page
Top Margin
Left Margin
Bottom Margin
Scanner Registration - Go to “Scanner Registration” on page 3-7.
Test Copy
ADF Registration
Flatbed Registration

SCANNER CALIBRATION - Go to “” on page 3-8.
Restore Default
ATM MENU - Go to “ATM menu” on page 3-9. Do not change these settings.
FAX SETTINGS - Go to “Fax settings” on page 3-9.
Fax Modulations
Detect EOLs
Autoprint T30 Log
Print T30 Log
Print CND Log
Print Stack Info
Station ID
Faxtrace Mask
Print User Settings
Right Margin
HOMOLOGATION SETTINGS - Go to “Homologation settings” on page 3-11. Do not change these settings.
UTILITIES - Go to “Utilities” on page 3-11.
Reset System: Menu Defaults
Reset System: Fax NVRAM
Reset System: CLR Phonebook
Reset System: Erase EFS

Note: To exit diagnostics mode, press the **STOP** button or the back button.

Serial number

This menu item is used to set the serial number for the MFP.

To set the serial number:

1. Use **Up** or **Down** to scroll to **Serial Number**.
2. Press  to select **Serial Number**.
3. Enter a value in the highlighted digit using the numeric keypad. The cursor advances to the right when a digit is entered.
To enter a specific digit, use **Up** to move the cursor to the left or **Down** to move the cursor to the right.

USB

Use the USB menu item to set the USB speed.

To set the USB speed:

1. Use **Up** or **Down** to scroll to **USB**.
2. Press  to select **USB**.
3. Toggle between the High Speed and Full Speed settings using **Up** or **Down**.
4. When the desired setting is displayed, press . The MFP will automatically reboot.

Printer Model

Printer model is used to indicate the model of the MFP. This menu item must be set after a new controller card is installed

To set the printer model:

1. Enter **DIAGNOSTICS**.
2. Use **UP** or **Down** to scroll to **Printer Model**.
3. Press .
4. Use **Up** or **Down** to scroll to the model type of MFP.
5. Press .

Printer Model Saved is displayed.

Reboot MFP is displayed.

The MFP reboots.

Note: The model type can only be set one time.

Power supply ID

This setting is used to indicate whether a 110V, or 220V power supply is being used on the MFP. This setting needs to be set on a 220V machine to avoid flicker issues.

To set the power supply ID:

1. Use **Up** or **Down** to scroll to **Power Supply ID**.
 2. Press  to select **Power Supply ID**.
 3. Use **Up** or **Down** to toggle between 110V and 220V.
 4. When the desired setting is displayed, press  to choose the setting.
- The operator panel will display Saved and return to **Power Supply ID**.

Note: The 110V setting should be used for the 100V Japan model.

Count reset

The count reset menu item is used to view and reset the machine counts. All counts are reset using the numeric keypad.

Page Count

After selecting the Count reset menu item, Page Count is the first item displayed. Press the  key to select the page count sub menu item. The following sequence is used for all Page Count sub-menu settings.

1. Use **Up** or **Down** to toggle between **Print**, **ADF** copy, and **FB** copy counter items.
2. When the desired count is displayed, press . The count for the selected item is displayed.
3. Enter 0 to reset the count.
4. Press . The new count is saved, and the display returns to the selected Page Count sub menu item.
5. Press **Down** to advance to the next page count item, or press  twice to return to the **Count Reset** menu item.

Fax Usage

Fax Usage is the second item displayed in the **Count Reset** menu. When Fax Usage is displayed, press the  key to select the Fax Usage sub menu item. The following sequence is used for all Fax Usage sub menu settings.

1. Use **Up** or **Down** to toggle between the **ADF**, **Flatbed**, and **Received** counter items.
2. When the desired count is displayed, press . The count for the selected item is displayed.
3. Enter 0 to reset the count.
4. Press . The new count is saved, and the display returns to the selected Fax Usage sub menu item.
5. Press the **Down** key to advance to the next page count item, or press  twice to return to the **Count Reset** menu item.

Scan Usage

Scan Usage is the final item displayed in the **Count Reset** menu. When Scan Usage is displayed, press the  key to select the Scan Usage sub menu item. The following sequence is used for all Scan Usage sub menu settings.

1. Use **Up** or **Down** to toggle between the **Total ADF** and **Total Flatbed** items.
2. When the desired count is displayed, press . The count for the selected item is displayed.
3. Enter 0 to reset the count.
4. Press . The new count is saved, and the display returns to the selected Scan Usage sub menu item.
5. Press the **Down** key to advance to the next page count item, or press  twice to return to the **Count Reset** menu item.

Network menu

Print Debug

The Print Debug menu item prints a debug report.

To print the debug report do the following:

1. Use **Up** or **Down** to scroll to **Network Menu**.
2. Press  to select **Print Debug**.
The print debug report prints.
The display returns to **Network Menu** in the diagnostics menu.

Force Speed

The force speed menu setting can be used to change the communication connection setting for the network card. To change the connection setting, perform the following tasks:

1. In the Network Menu, use the arrow keys to scroll to **Force Speed**.
2. Press  to select **Force Speed**.
Connecting... is displayed.
3. If the attempt to retrieve the connection value setting is unsuccessful, Connection failed is displayed, and the MFP returns to Ready mode.
If the attempt is successful, the current connection value is displayed.
4. Use **Up** or **Down** to scroll through the list of available connection settings. They are **Auto**, **10 full**, **10 half**, **100 full**, and **100 half**.
5. When the desired setting is displayed, press .
6. The MFP displays Connecting....
If the setting is successfully changed, the display returns to Ready mode.

NVRAM Reset

The NVRAM reset menu item is used to reset the network settings in the MFP's NVRAM.

To reset the NVRAM, perform the following tasks:

1. In the **Network Menu**, scroll to **NVRAM Reset**.
2. Press  to select **NVRAM Reset**.
The MFP will display Are you sure? Yes=1, No=2.
3. Press **1**, or **2** on the numeric keypad.
Pressing **1** will display resetting, and then return you to the **Network Menu**. Pressing **2** returns you to the **Network Menu** item.

Registration

Printer Registration

Printer registration is performed to set the top, left, and bottom margins of the MFP. The right margin is set automatically when the left margin is set. Printer registration needs to be performed whenever the controller card or printhead are replaced.

Note: Before setting the printer registration, ensure that the paper size selected in the **Paper Setup** menu matches the paper size loaded in the tray.

Note: Always set the top and left margins first. This should be sufficient for proper registration of the printer.

The print registration range is:

Variable	Description	Value
S	sign	blank for positive values, "-" for negative values
B=	Bottom margin	-10 to +10—Each increment causes approximately 0.559 mm shift in the bottom margin.
T=	Top margin	-16 to +16—Each increment causes approximately 1.69mm shift in the top margin.
L=	Left margin	-16 to +16—Each increment causes approximately 3.39mm shift in the left margin.

To set the printer registration, perform the following steps:

1. Select **REGISTRATION** from the Diagnostics menu.
2. Select **PRINTER** from **REGISTRATION**.
[Skew Page] displays.
3. Press .
The skew page prints out. The MFP exits diagnostics mode and returns to **Ready**.
The skew page contains the following information that can be used for setting the registration:
 - Firmware version. If the firmware version is prior to version **XXXX**, contact your second level of support to obtain the latest version of firmware.
 - Paper size (A4 or Letter)
 - Top, left, right, and bottom margin settings.
4. Perform steps 1 and 2.
5. Scroll down to **Top mrgn**.
6. Press .
7. Use **Up** and **Down** to adjust the margin.
8. Press  to save the margin setting.

9. Print a skew page to check the margins. The arrow on the top margin should be fully visible.

10. Repeat steps 1 through 9 for **Left Mrgn** and **Bottom Mrgn**.

Note: The margins for the top, left and bottom are properly set when the arrows on the four arrows are fully visible.

Scanner Registration

Go to the **Reports** menu and print a menu page. If the firmware version is build 67, follow the procedure below but use the guidelines shown in **“Using the test copy page rulers to determine correct scanner registration with build 67 firmware” on page 3-8** to set the scanner registration. Contact your second level support to obtain the latest firmware build. If the firmware is build 112 or later, follow steps 1 through 19 only.

The scanner registration function is used to set the left margin on the ADF and flatbed. The top, right, and bottom margins are set automatically when the left margin is set. To set the registration, perform the following steps:

1. In the diagnostics menu, use the **Up** or **Down** keys to scroll to the **Registration** menu item.
2. Press  to select the **Registration** menu item from the diagnostics menu.
3. Use the **Up** or **Down** keys to scroll to the **Scanner** submenu item.
4. Press  to select **Scanner**.
5. **Test Copy** is the default menu item.
6. Press .
7. If you are using the paper supplied with the service part, remove it from the tube and flatten it out.
8. Place the sheet of light blue paper in the flatbed, or ADF. If the paper is going in the ADF, Insert the paper with the curl down.
9. Press .
10. Use the **Up** or **Down** keys to scroll between A4 and letter.
11. Press  to print out a the test copy page. The MFP returns to ready mode.
12. Reenter diagnostics.
13. Reenter the **Registration** menu, and select the **Scanner** submenu item.
14. Use the **Up** or **Down** keys to scroll to the **FB Lft Mrgn**, or **ADF Lft Mrgn** submenu item. Press  to select the desired menu.
15. Using the test copy printed earlier, use the rulers on the right and left sides of the page to adjust your left margin.
16. Use the up and down arrow keys to shift the left margin to its desired margin. Pressing the **Up** key moves the margins to the left. Pressing the **Down** key moves the margins to the right.
17. Press  to save the new setting.
18. Scroll to **Test Copy**.
19. Press .
20. Use the **Up** and **Down** keys to scroll to A4 or Letter (build 122 or later).
21. Press . A test copy prints.
22. Inspect the margins. The scanner registration is properly set when the edges of the paper line up with 0 on all the test copy rulers.
23. Repeat steps 12 to 22 until the correct registration values are set.

Using the test copy page rulers to determine correct scanner registration with build 67 firmware

The test copy sheet contains rulers that are used to determine the correct margin position. The following diagrams show where the margins for letter and A4 paper need to line up on the flatbed or ADF to determine correct scanner registration.

Correct letter and A4 flatbed registration

Flatbed registration is correct when the left margin equals 0 for letter and A4 paper, and the right margin equals 0 for letter and 15 for A4.



Correct ADF registration with letter paper

The ADF registration for letter paper is correct when the left and right margins equal 0. The following illustration shows the correct registration.



Correct ADF registration with A4 paper

The ADF registration for letter paper is correct when the left margin equals 8 and right margin equals -8. The following illustration shows the correct registration.



Scanner calibration

The scanner calibration menu item is used to restore the scanner calibration values to their default settings. To calibrate the scanner, perform the following steps:

1. Use **Up** or **Down** to scroll to **Scanner Calibration**.
2. Press  to select **Calibration** from the diagnostics menu.
3. Press  .
The scanner automatically calibrates.

ATM menu

Note: These settings should only be adjusted at the discretion of your second level support.

Fax settings

Note: FAX settings menu items should only be adjusted at the discretion of your second level support.

Fax Modulations

The **Fax Modulations** menu item is used to enable or disable fax communications protocols.

To use this setting, perform the following steps:

1. Select **Fax Modulations** by pressing  when it is displayed.
2. Use **Up** or **Down** to scroll to the desired communication setting.
3. When the desired setting is displayed, press  .
4. Use **Up** or **Down** to toggle between **Enable** and **Disable**.
5. When the desired setting is displayed, press  .
Saved is displayed.

Detect EOLs

Detect EOLs is used to set the number of EOLs to detect at the end of a non-ECM fax before accepting a page as good. To set the number of EOLs, perform the following steps:

1. In the **Fax Settings** menu, scroll to **Detect EOLs**.
2. Press  .
3. Use **Up** or **Down** to move to desired digit. The cursor will flash on the digit to be changed.
4. Use the numeric keypad to enter the desired value in the highlighted digit.
5. Press  . The setting is saved.

AutoPrint T30 Log

This setting is used to enable the MFP to print a T30 log which can be used to help second level support troubleshoot a FAX issue. To enable this setting, perform the following steps:

1. Select **AutoPrint T30 Log**.
2. Use **Up** or **Down** to toggle between **Enable** and **Disable**.
3. When the desired setting is displayed, press  .
Saved is displayed.

Print T30 Log

This setting is used to print a T30 log which can be used to help second level support troubleshoot a FAX issue. To print a T30 log perform the following steps:

1. Select **Print T30 Log**.
2. Press  .
The T30 log is printed.

Print All T30 Logs

This setting is used to print all T30 logs which can be used to help second level support troubleshoot a FAX issue. To print a T30 log perform the following steps:

1. Select **Print All T30 Logs**.
2. Press  .
All T30 logs are printed.

Print CND logs

This setting is used to print a CND log which lists all caller IDs. To print a CND log, perform the following tasks:

1. Select **Print CND Log**.
2. Press  .
The CND log is printed.

Print Stack Info

This setting is used to print stack information which can be used to help second level support troubleshoot a FAX issue. To print the stack information, perform the following tasks:

1. Select **Print Stack Info**.
2. Press  .
The stack information is printed.

Station ID

This setting determines whether a station name or station number is used to identify the fax machine. To use this setting, perform the following tasks:

1. Select **Station ID**.
2. Use **Up** or **Down** to toggle between **Station Name** and **Station Number**.
3. When the desired setting is displayed, press  .
Saved is displayed.

Faxtrace Mask

Do not alter the **Faxtrace Mask** setting.

Print User Settings

This setting is used to print the fax user settings. To print the user settings, perform the following tasks:

1. Select **Print User Settings**.
2. Press  .
The user settings information is printed.

Homologation settings

Note: These settings should only be adjusted at the discretion of your second level support. Use the **Print All** item in the **Homologation Settings** menu to get a print out of the settings before calling your second level support center.

Utilities

The **Utilities** menu item resets the Menu defaults, Fax NVRAM, the phonebook, and the flash file system. Menu defaults.

Menu Defaults is the first item to appear when the **Utilities** menu item is selected. To clear the menu defaults, do the following.

1. Press  to select **Menu Defaults**.
2. Press  again. Resetting... is displayed.
The MFP reboots.

Warning: All customer settings will be used when **Menu Defaults** is used.

Fax NVRAM

Fax NVRAM resets the NVRAM to its default settings.

Note: When this menu setting is used, the device is configured for use in the United States.

Perform the following steps to reset the FAX NVRAM.

1. In the **Utilities** menu, use the **Up** and **Down** to scroll to **FAXNVRAM**.
2. Press  to select **FAXNVRAM**.
3. Press  .
 - Resetting... displays.
 - MFP returns to **Ready** mode.

Clr Phonebook

Clr Phonebook erases all the FAX phonebook entries.

Perform the follow steps to clear the phonebook entries:

1. Press  to select **Clr Phonebook**.
2. Press  again. Clearing... displays.
The MFP returns to **Ready** mode.

ERASE FFS

ERASE FFS deletes all data in the flash file system. The flash file system is used to hold data that is queued up for transmission, or printing.

The following steps are performed to clear the flash file system:

1. Press  to select **ERASE EFS**.
2. Press  again. Completed... is displayed.
 - ERASE SECTOR is displayed. The MFP erases the flash memory.
 - Partition Disk is displayed.
 - Writing MBR is displayed.
 - Format Disk is displayed. The flash memory is reformatted.
 - The MFP reboots. at the end of the self test, Reformatted is displayed.

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

Removal procedures

1. Remove the toner cartridge and paper tray before removing other MFP parts. The toner cartridge should be protected from light while out of the MFP.
2. We recommend disconnecting all external cables from the MFP to prevent damage during service.
3. Unless otherwise stated, re-install the parts in reverse order of removal.
4. When re-installing a part held with several screws, start all screws before final tightening.

Covers

Extender cover removal

1. Locate the latches on the left and right sides of the extender cover.
2. Push the latches and pull the cover away from the rear of the MFP.

Front access cover removal

1. Open the front access cover.
2. Place thumbs on the inside of the respective hinge.

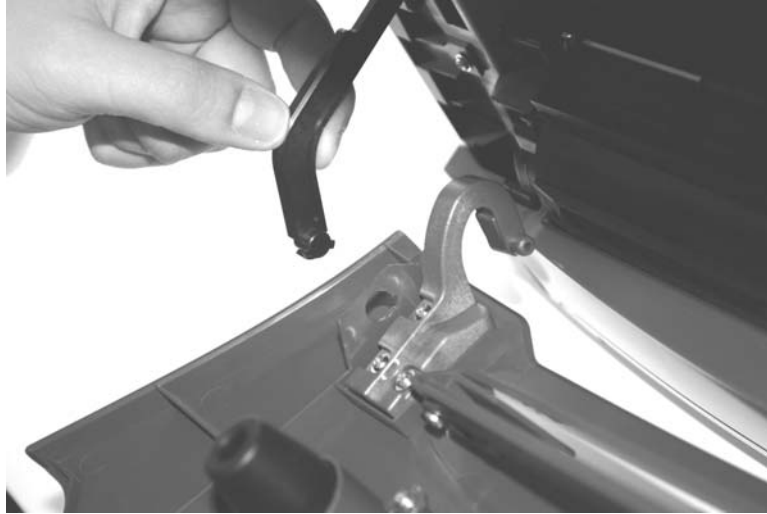


3. Force the left hinge out of its socket, and relax it above the socket.
4. Force the right hinge out of its socket, and lift it above the socket.

Warning: Do not pull the fuser link out of the MFP any farther than when the door is fully open. Otherwise, the link extension may dislodge the cartridge coupler.

5. Carefully lift the cover free from the printer base frame.

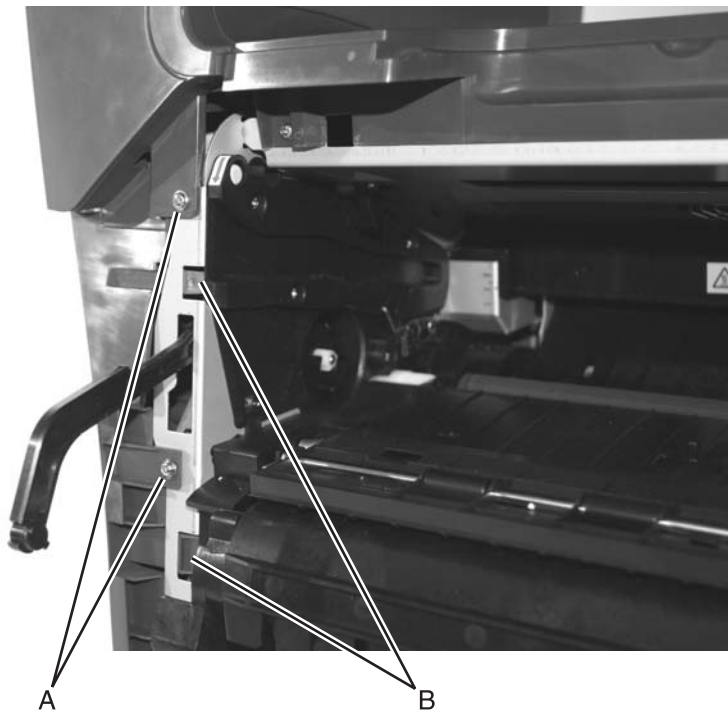
6. Use your left hand to hold the fuser link at the cover joint while rotating the right side of the cover slightly away from the MFP to disengage the link.



7. Remove the front access cover.

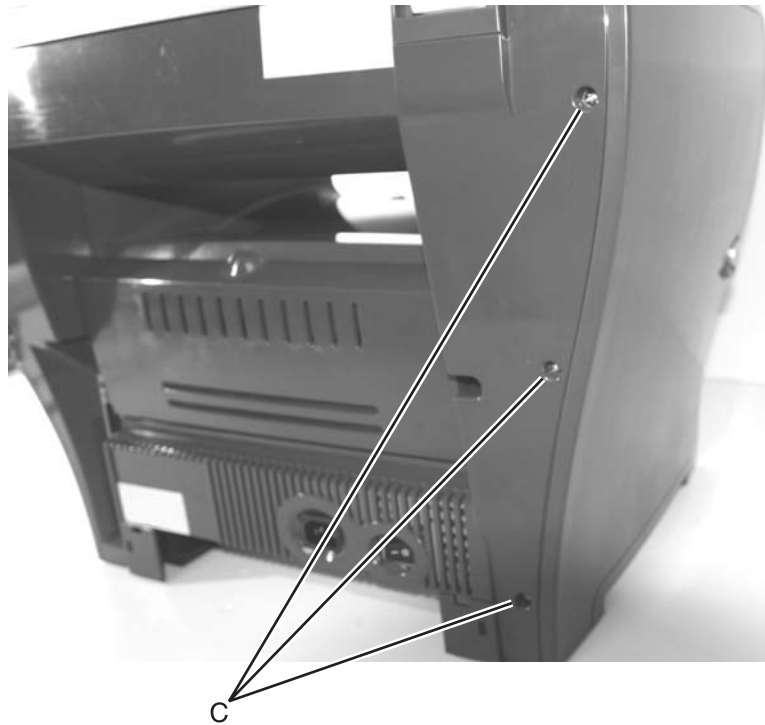
Left side cover removal

1. Open the front access cover to expose two screws (A) and the two latches (B) securing the left side cover.



2. Remove the two screws.

3. Remove the three screws (C) that secure the left cover to the rear cover.



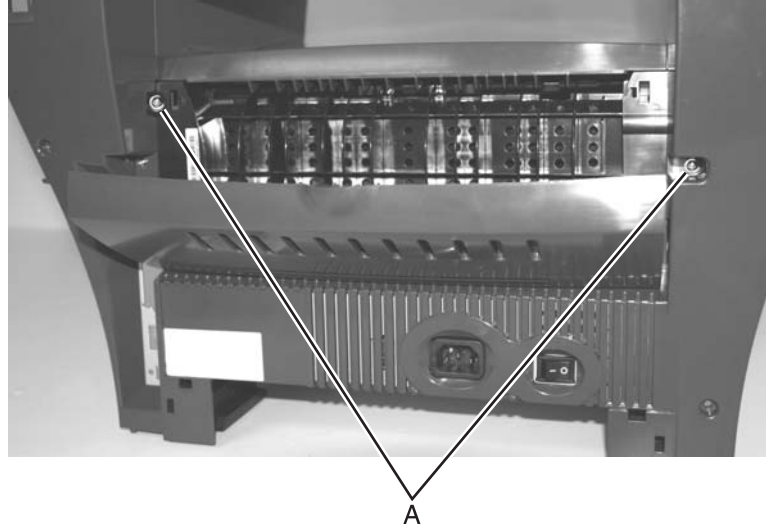
4. Release the latches with the right hand while applying opening force with the left hand.
5. While pulling the left side cover away from the MFP, lift the left cover upwards to disengage it from the scanner top cover.



6. Remove the left side cover.

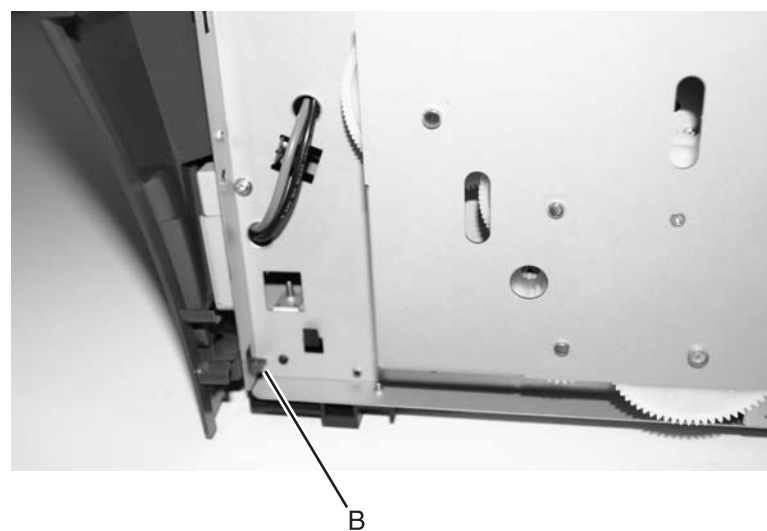
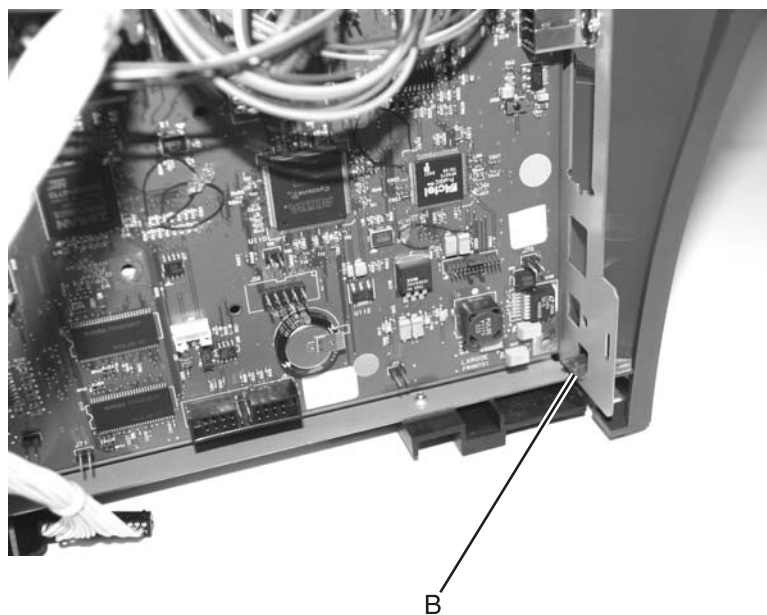
Rear cover removal

1. Remove the upper and lower right side covers. See **“Upper right side cover removal”** on page 4-8 for more information.
2. Remove the left side cover. See **“Left side cover removal”** on page 4-3 for more information.
3. Remove the two screws (A) securing the cover.



4. Open the rear door (rear exit tray).

5. Push and release the tabs (B) on both sides of the rear cover. I

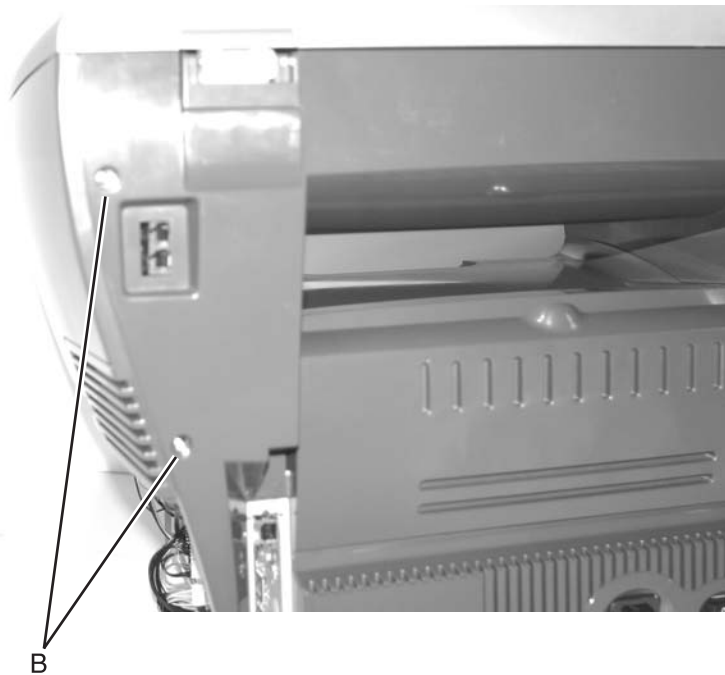
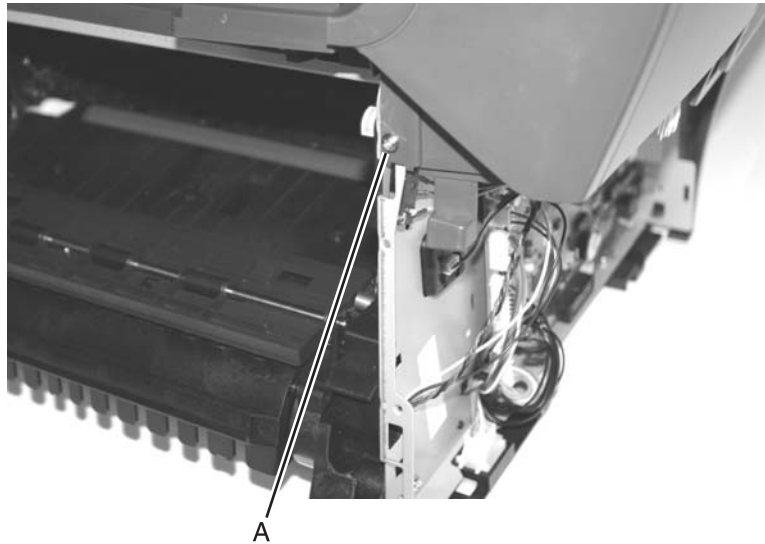


6. While lifting the scanner lid up, lift the rear cover, unhook it from the scanner top and the frame at the bottom and remove.



Upper right side cover removal

1. Remove the lower right side cover. See **“Lower right side cover removal”** on page 4-10.
2. Remove one screw (A) from the front and the two screws (B) on the rear side.



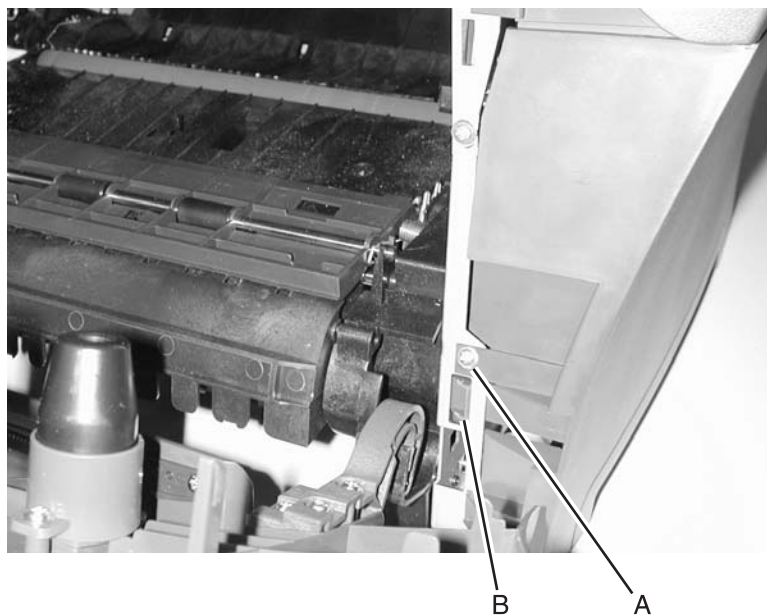
3. Open the rear door (output tray).

4. Swing the cover upwards and away from the MFP.



Lower right side cover removal

1. Remove the screw(A) holding the lower right side cover.



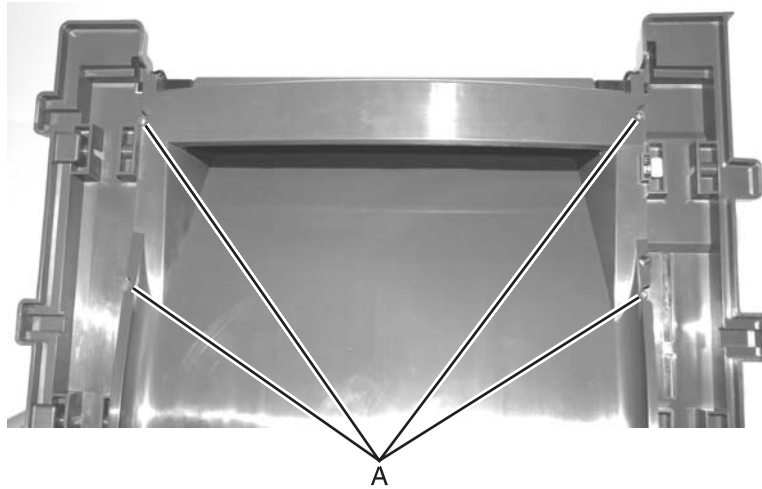
2. Release the latch (B) on the front of the lower right side cover.
3. Swing the lower right side cover open.
4. Lift the MFP up slightly, and disengage the lower hinge.



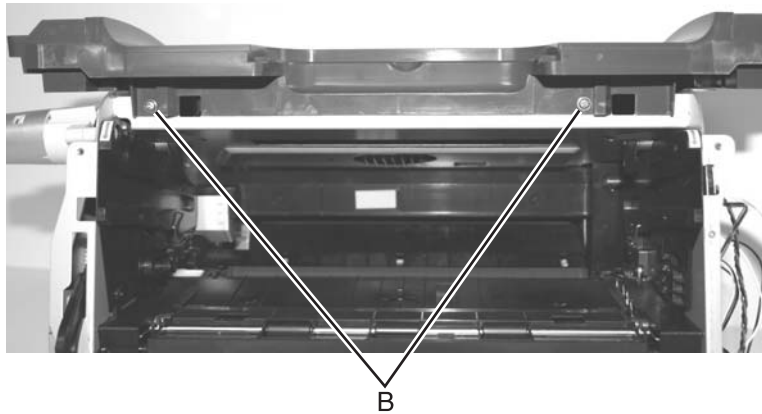
5. Disengage the upper hinge.
6. Remove the lower right cover.

Top cover removal

1. Remove the scanner assembly. See **“Scanner base assembly removal”** on page 4-51.
2. Remove four screws (A) that secure the top cover to the printer frame.



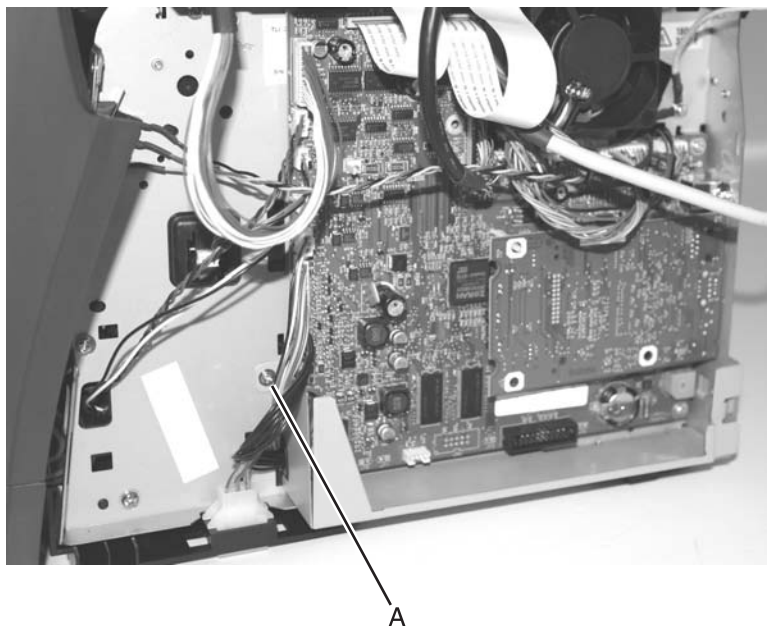
3. Remove two screws (B) at the front of the top cover just behind the access door.



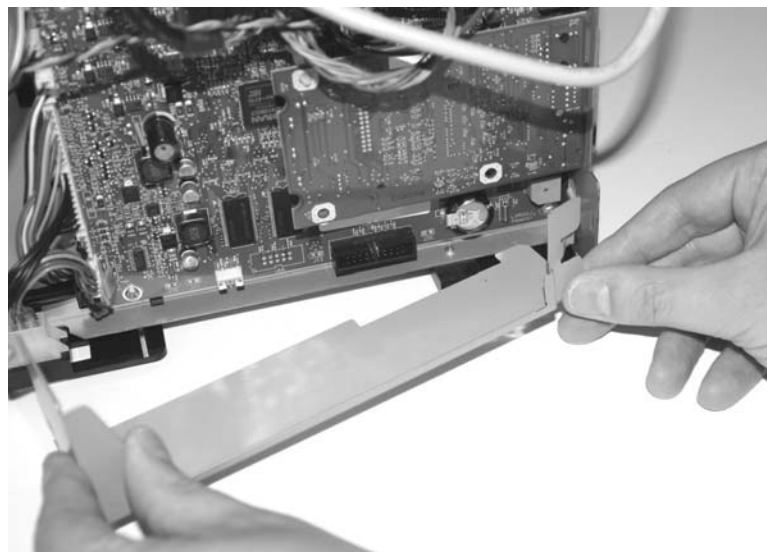
4. Lift and remove the top cover.

Card cage removal

1. Remove lower right cover. Go to **“Lower right side cover removal”** on page 4-10.
2. Remove screw (A) securing the card cage to the frame.



3. Press in metal tab and remove card cage.



Controller card removal

Warning: Always touch a ground before touching the card.

Warning: Handle the card by the edges.

Note: Use part number 40X4828 for the X342n, and 40X2632 for the X340 and X340n.

1. Remove the upper right cover. See **“Upper right side cover removal”** on page 4-8.
2. Remove the card cage. See **“Card cage removal”** on page 4-12.
3. Remove snap on toroid holding the cables at the top of the controller card.

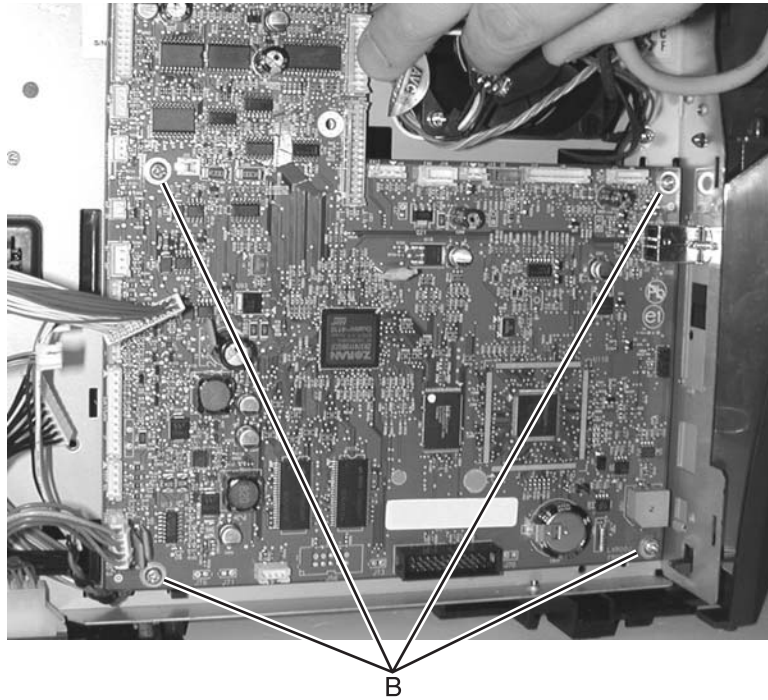


4. Disconnect all the cables to the controller card.
5. Remove the network card (X340n, and X342n only). Go to **“Network card removal”** on page 4-29.
6. Remove the screw (A) securing the USB port to the frame at the back of the MFP.



A

7. Remove four screws (B) that secure the controller card to the metal side frame.



8. Carefully lift the card and remove.

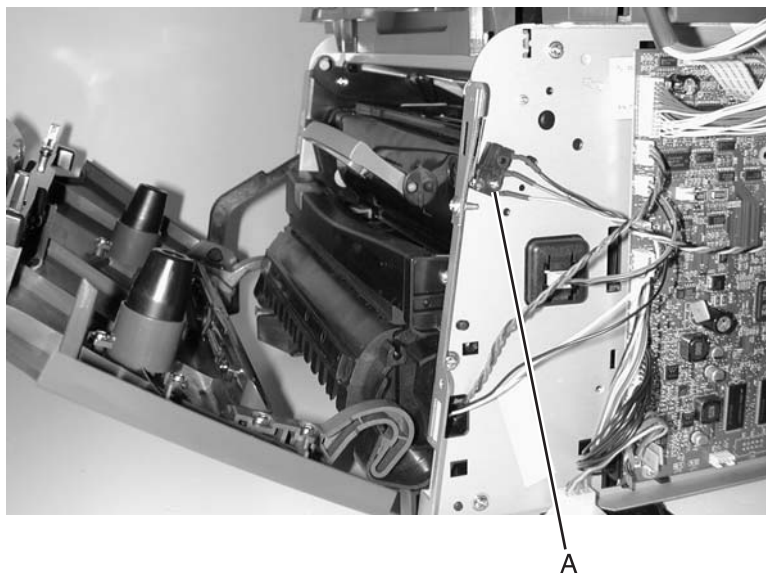
Note: The scanner registration and calibration, as well as printer registration, must be set after replacing the controller card. Go to **“Registration” on page 3-6** and Go to **“” on page 3-8**. Also, the model type must be set in the diagnostics menu. Go to **“Printer Model” on page 3-4**. Finally, the serial number, **“Serial number” on page 3-3** and power supply ID, **“Power supply ID” on page 3-4** must be set.

Cover open sensor removal

1. Open the lower right side cover.
2. Remove the toroid from the group of cables located at the top of the controller card.



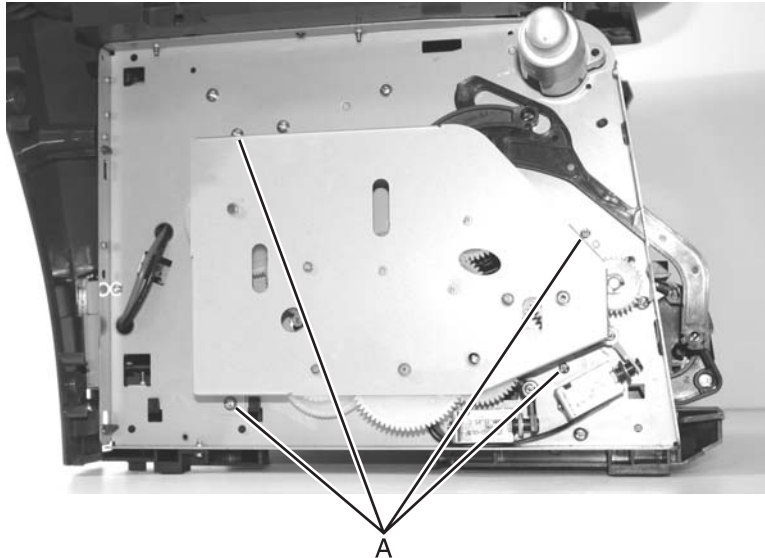
3. Disconnect the cover open switch at J13 on the controller card and extract the cable.
4. Use a small Phillips screwdriver to remove the screw (A) that secures the sensor to the printer frame.



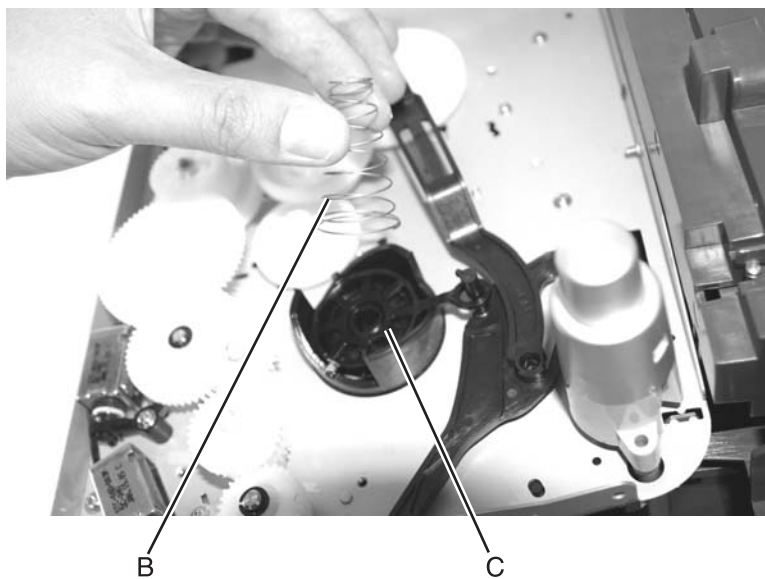
5. Slide the sensor from the positioning post.

Developer drive coupling assembly removal

1. Remove the left side cover. See **“Left side cover removal”** on page 4-3.
2. Carefully place the MFP on its right side. Protect the cover from marring.
3. Remove four screws (A) in the gear train metal cover.

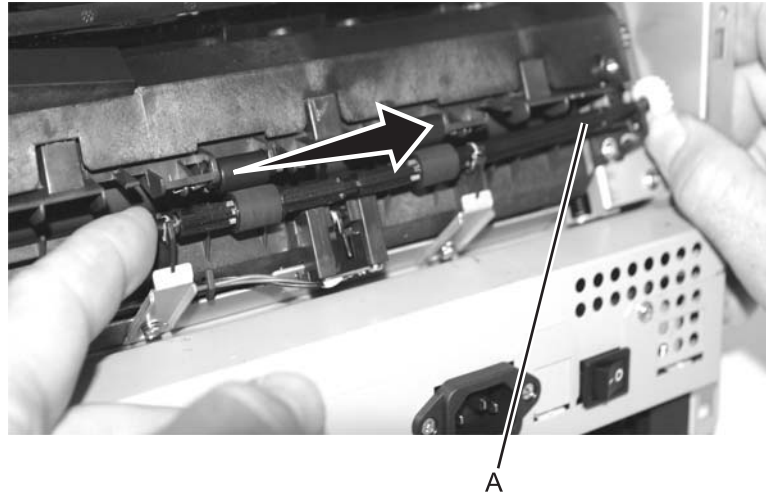


4. Remove the gear train metal cover.
5. Remove the conical spring (B) and the developer drive coupling assembly (C).



Exit sensor removal (on the fuser)

1. Remove the paper exit guide assembly. See **"Paper exit guide assembly removal" on page 4-31** for more information.
2. Unplug the exit sensor at J10 on the controller card.
3. Push the shaft (A) to the right using your right thumb against the inside gear surface and left index finger against the opposite end of the shaft.

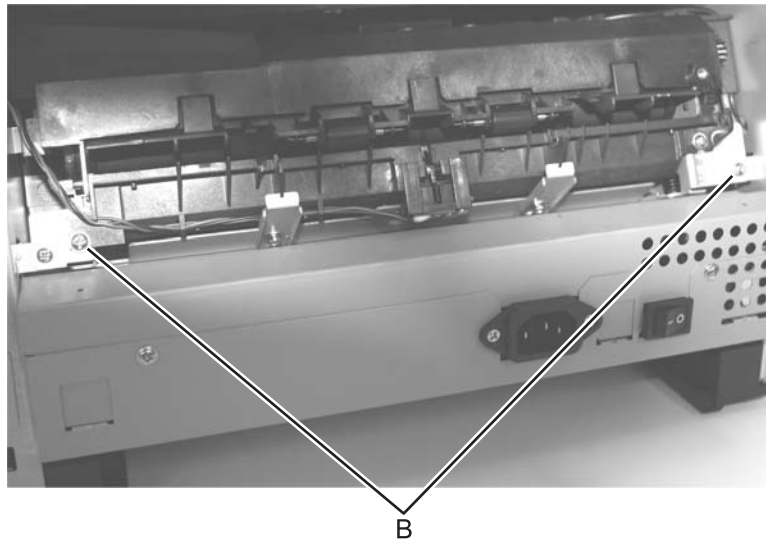


Warning: There will be some lubricant on the gear and shaft. Be sure to wipe hands clean with each contact to prevent spreading lubricant to other areas.

4. Align the two flats with the opening of the bearing support, and lift the right end of the shaft through the support.
5. Swing the shaft away from the MFP to expose the sensor flag.



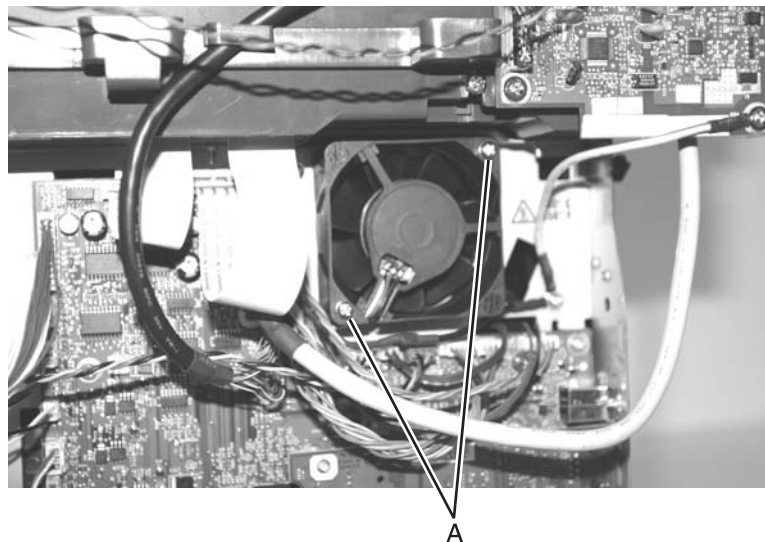
6. Remove the two screws (B) securing the fuser.



7. Slide the fuser out just enough to access the screw holding the sensor.
8. Remove the sensor and its attached cable.
9. Observe the orientation of the flag and spring before replacing units.

Fan removal

1. Open the upper right side cover. See **“Upper right side cover removal”** on page 4-8.
2. Unplug the fan from the controller card at J19.
3. Remove two screws (A) holding the fan to the metal side frame.

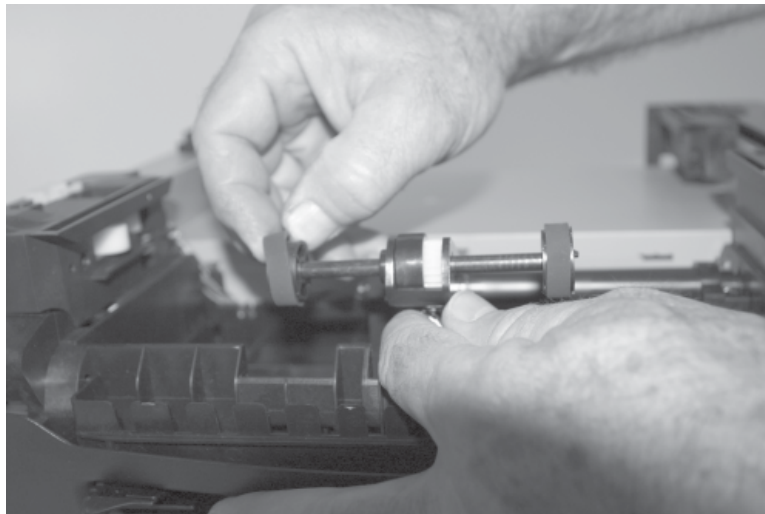


4. Remove the fan from the MFP.



Feed rollers (autocompensator tires) removal

1. Remove the paper tray.
2. Remove the toner cartridge.
3. Tilt the MFP onto its back.
4. Remove old tires.



5. Ensure the new tires are captured between the rims of the plastic hub.



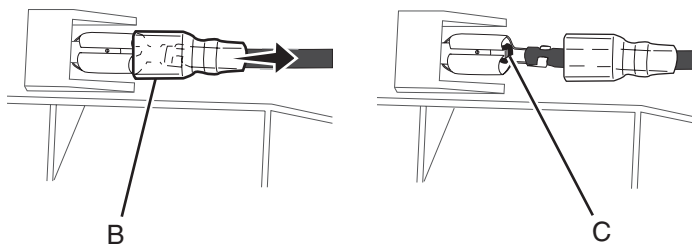
Fuser removal

1. Remove the paper exit guide assembly. See **"Paper exit guide assembly removal"** on page 4-31 for more information.
2. Remove the two screws (A) securing the fuser.



A

3. Disconnect the thermistor cable at J15 and exit sensor at J10 on the controller card.
4. Slide the fuser out far enough to expose and disconnect the AC cable connections.



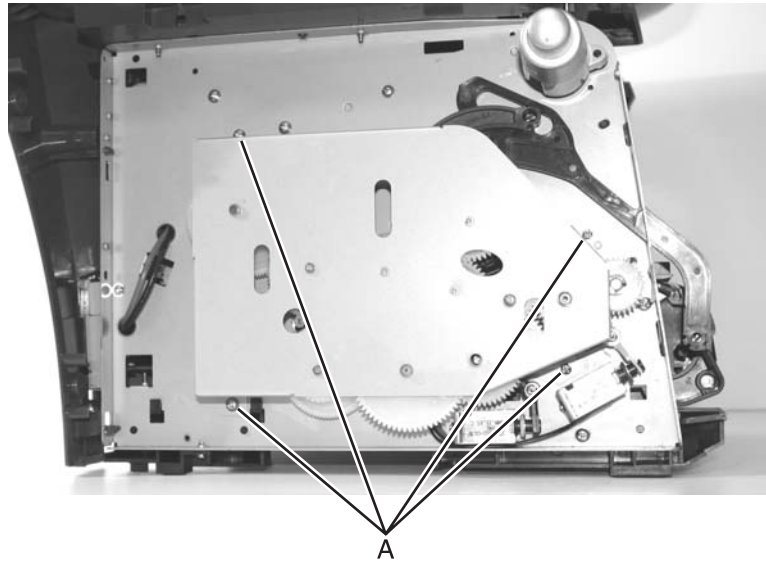
B

C

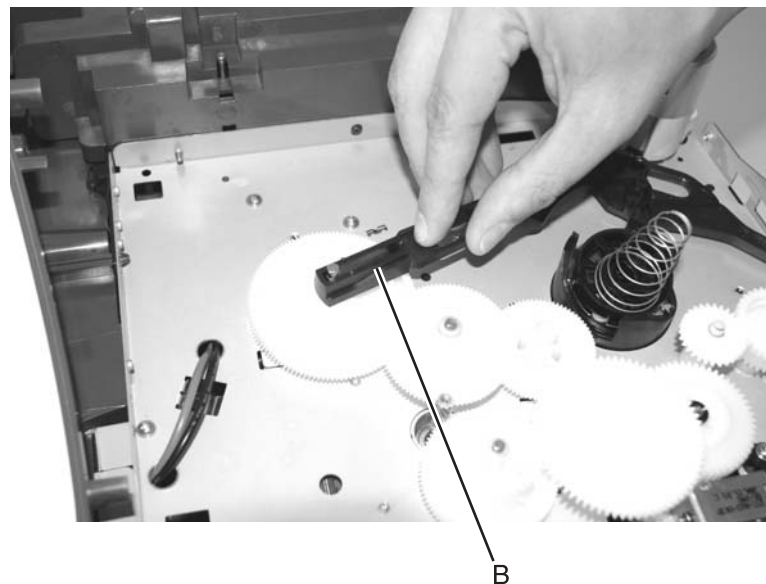
5. To disconnect the fuser power cables, slide the insulation (B) back to expose the connectors. Press the tang (C) on the connector to disconnect the cable connector.
6. Remove the fuser. Avoid damaging the insulation on the exit sensor and thermistor cables.
Note: Be sure to slide the insulation back in place after reconnecting the cables.

Fuser idle gear links removal

1. Remove the front access cover. See **“Front access cover removal”** on page 4-2 for more information.
2. Remove the left side cover. See **“Left side cover removal”** on page 4-3.
3. Place MFP on its right side. Protect the cover from being marred.
4. Remove the four screws (A) securing the gear train cover.



5. Remove the gear train cover.
6. Grasp the rear link with your index fingers and thumb on each side of the shaft, and unsnap the link (B) from the shaft.

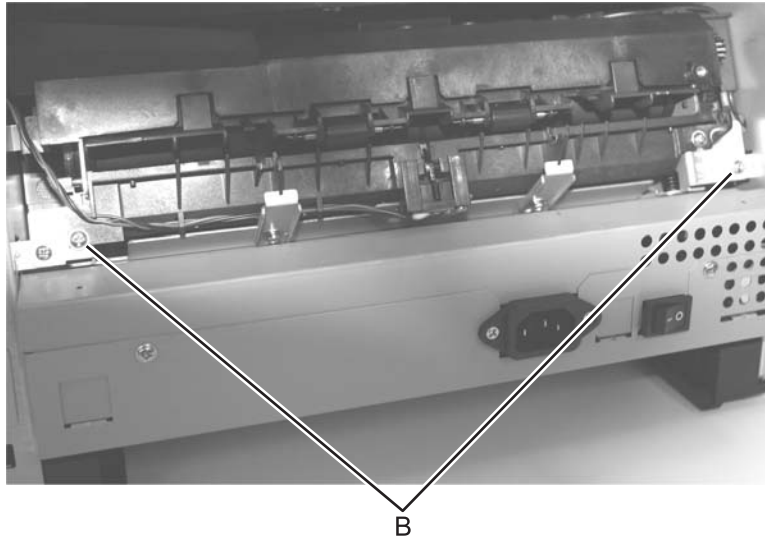


7. Disconnect front link from coupler, and remove links.



Fuser power cable removal

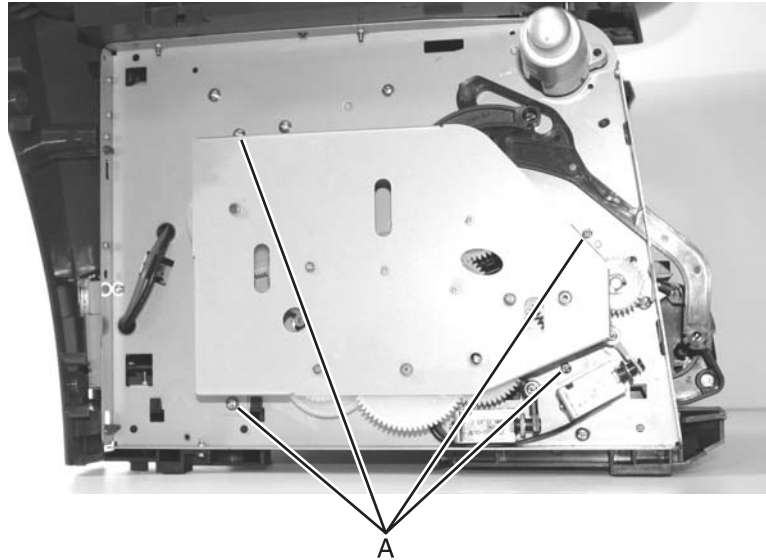
1. Remove the LVPS/HVPS card. See **“LVPS/HVPS card assembly removal” on page 4-26** for more information.
Note: The cable can be reached without fully removing the card.
2. Remove the rear cover. See **“Rear cover removal” on page 4-5** for more information.
3. Remove the exit guide assembly. See **“Paper exit guide assembly removal” on page 4-31** for more information.
4. Remove the two screws (B) from the lower corners of the fuser.



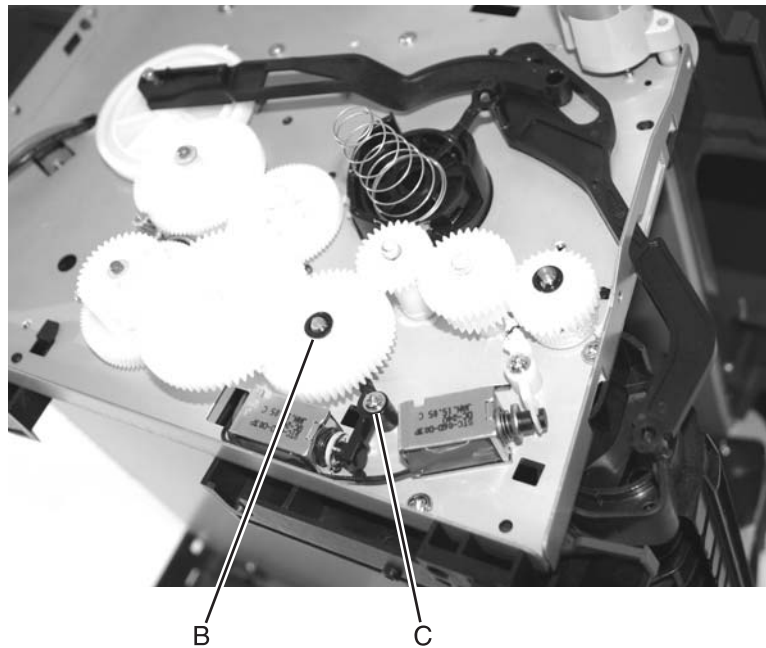
5. Slide the fuser out far enough to expose and disconnect the AC cable connections.
6. Extract the fuser power cable.

Input roller clutch and lever removal (autocompensator clutch)

1. Remove the left side cover. See **“Left side cover removal”** on page 4-3.
2. Place the MFP on its right side. Protect the cover from being marred.
3. Remove four screws (A) in the gear train metal cover.



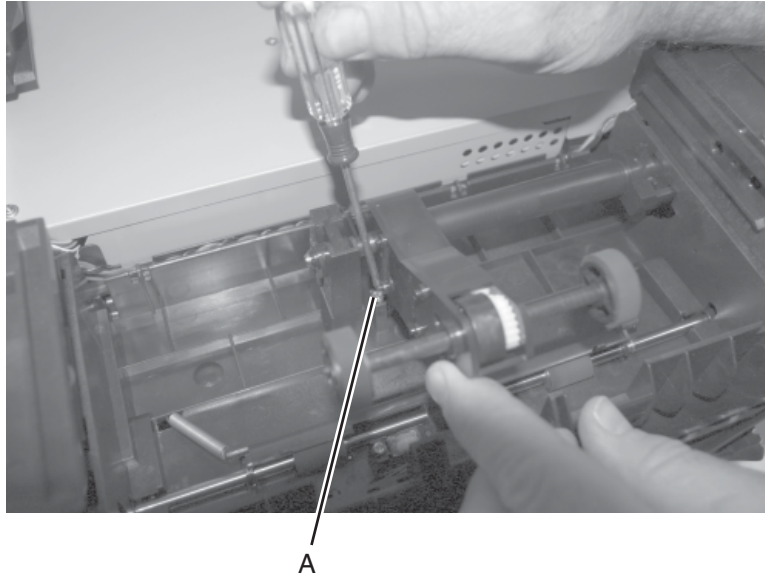
4. Remove the clip (B) from the shaft of the input roller clutch assembly.



5. Remove the screw and lever (pawl) (C).
6. Remove the clutch assembly. If the pieces come apart, they can be easily reassembled if necessary.

Input sensor #1 removal

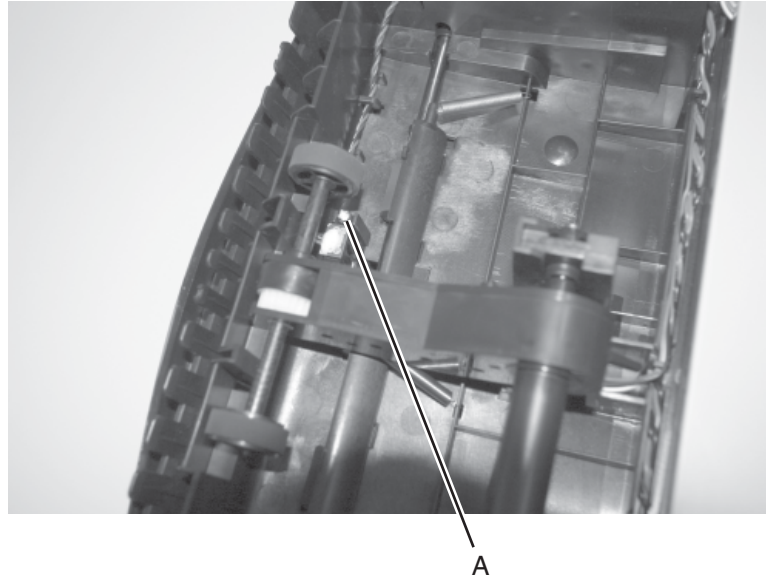
1. Remove the right side cover. See **“Upper right side cover removal” on page 4-8** for more information.
2. Disconnect the sensor cable at J20 on the controller card (front, near top of card).
3. Carefully place the MFP on its back.
4. Using a small shank screwdriver, remove the screw (A) behind the ACM (auto compensator) pivot that holds the paper sensor in place.



5. Remove the sensor and the attached cable, flag, and spring.
6. Re-install the sensor so that the flag is spring loaded against the pages as it advances in its path.
7. Verify the cable is captured and out of the paper path.

Input sensor #2 (manual feed) removal

1. Open the right side cover. See **“Upper right side cover removal” on page 4-8** for more information.
2. Disconnect the sensor cable at J18 on the controller card (front, top of card).
3. Remove the paper tray.
4. Carefully place the MFP on its back with the bottom of the MFP facing you. Remove the screw (A) beside the left pick tire.



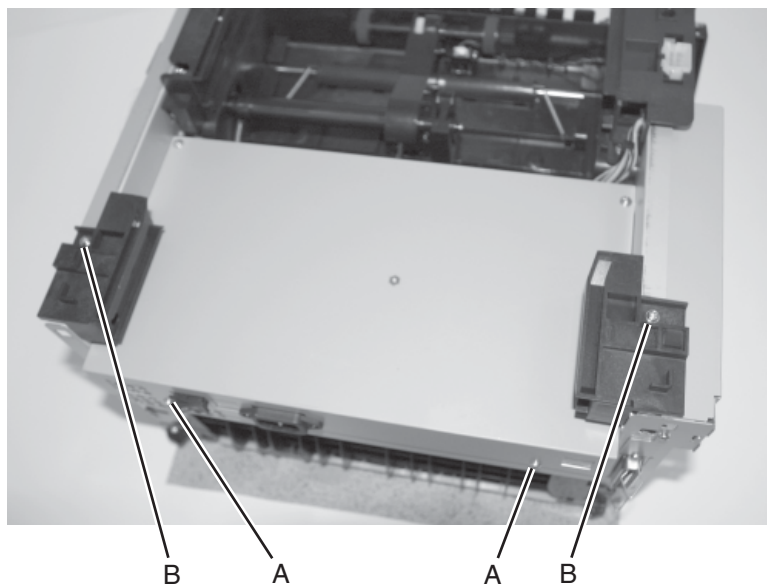
5. Remove the sensor and its attached cable.
6. Re-install the new sensor in the same orientation as the old. The flag should be spring loaded against the leading edge of an advancing sheet.
7. Verify the cable is captured and away from the paper path.



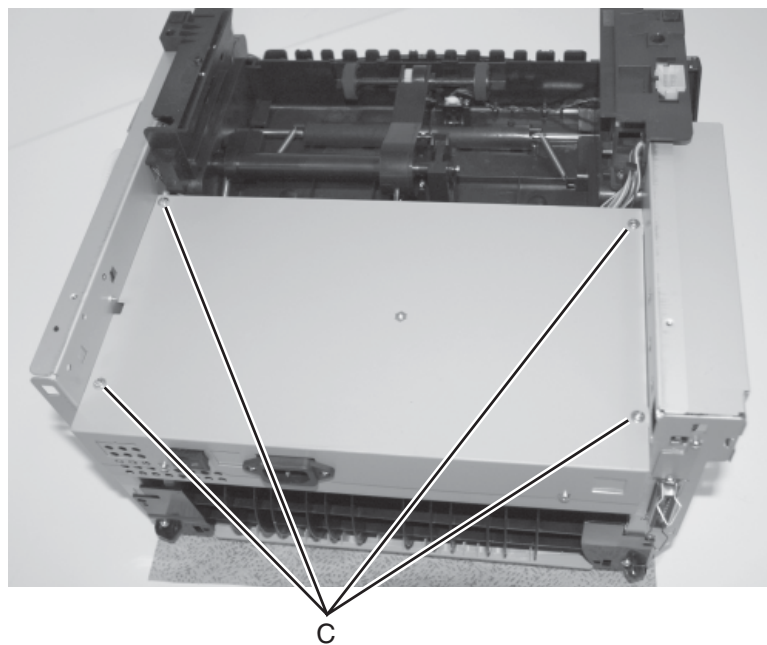
LVPS/HVPS card assembly removal

Note: After installing the new power supply, ensure that the correct firmware setting for the power supply is set. See **“Power supply ID” on page 3-4.**

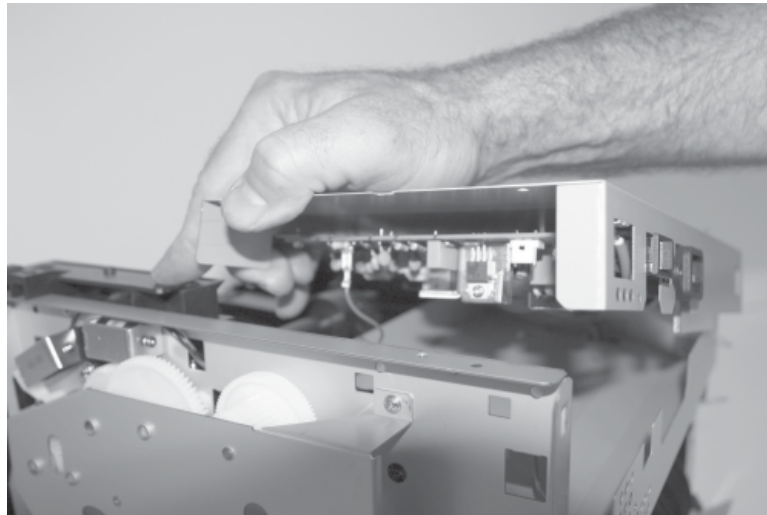
1. Remove the cover extender (if installed), paper tray, and the rear cover. See **“Rear cover removal” on page 4-5** for more information.
2. Remove two screws (A), one left of the power switch and the other at the opposite side of the panel.
3. Place the MFP onto its back with the rear and bottom of the MFP in view.
4. Remove the screws (B) securing the two foot brackets.



5. Remove four screws (C) in the bottom of the metal cover.



6. Move the cover so the connecting cables can be unplugged.



7. Rotate the power supply assembly so the remaining cables can be removed.



8. Remove the LVPS/HVPS card and cover.



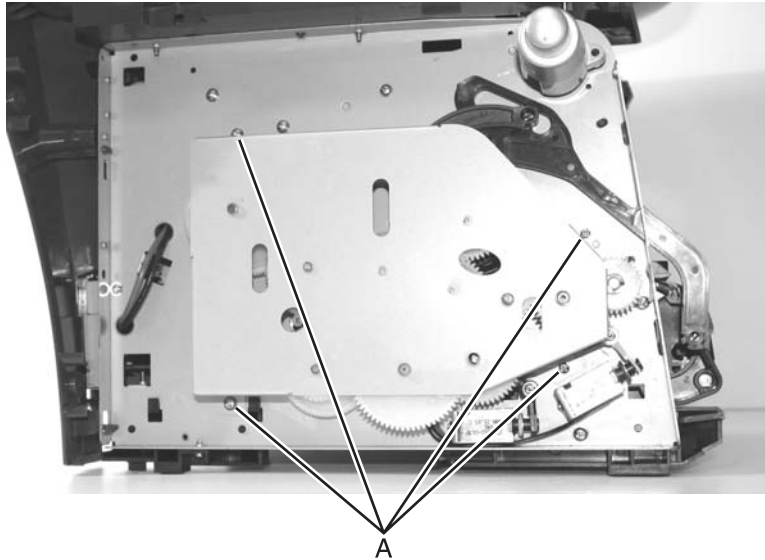
LVPS/HVPS to controller card cable removal

1. Remove the LVPS/HVPS card. See **“LVPS/HVPS card assembly removal”** on page 4-26 for more information.
2. Remove the controller card cover. See **“Controller card removal”** on page 4-13 for more information.
3. Unplug the cable at J7 on the controller card, and extract the cable.

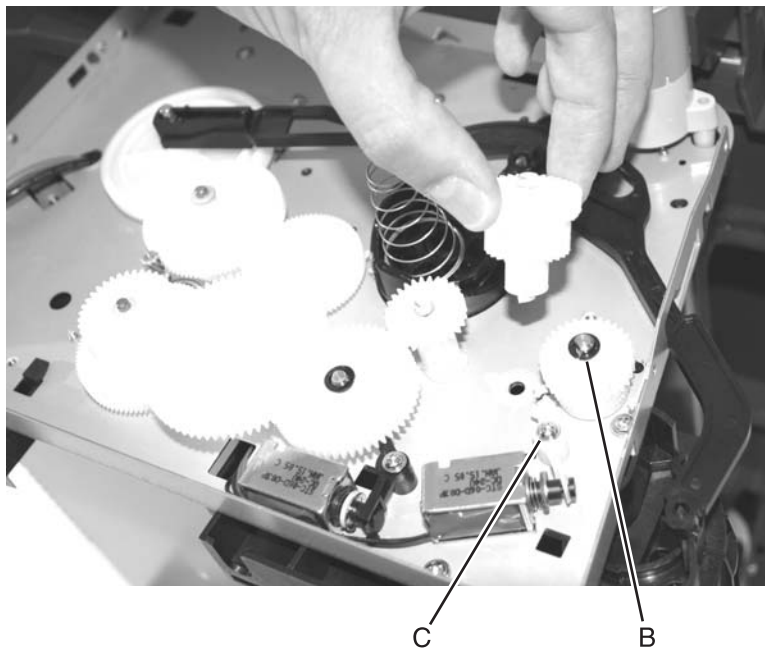
Note: The card may not have to be completely removed to disconnect the cable.

Manual feed clutch assembly removal

1. Remove the left side cover. See **"Left side cover removal"** on page 4-3
2. Place the MFP on its right side. Protect the cover from being marred.
3. Remove the four screws (A) in the gear train metal cover.



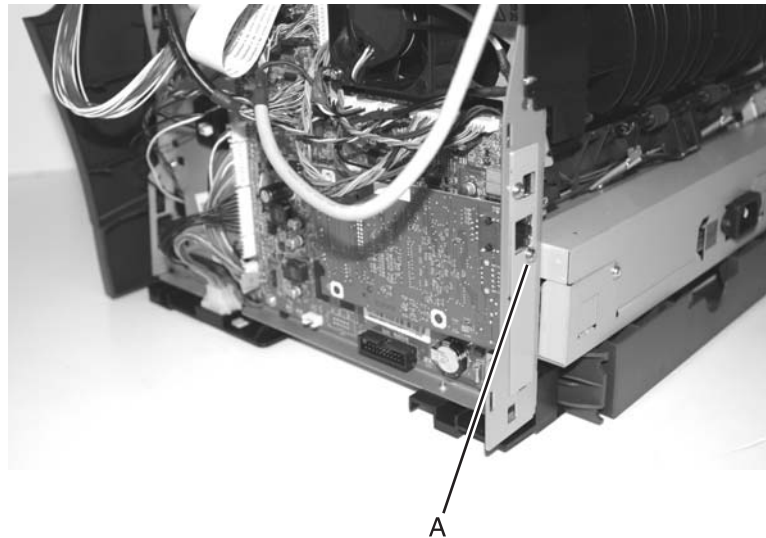
4. Remove the clip (B) from the shaft of the pick up clutch assembly.



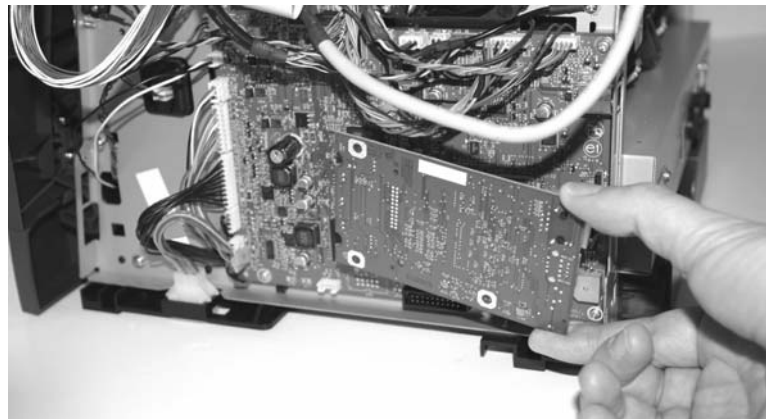
5. Remove the screw (C) and lever (pawl).
6. Remove the clutch assembly. If the pieces come apart, they can be easily reassembled if necessary.

Network card removal

1. Remove lower right side cover. Go to **"Lower right side cover removal"** on page 4-10.
2. Remove the card cage. Go to **"Card cage removal"** on page 4-12.
3. Disconnect the ground wire connecting the network card to the controller card.
4. Remove the screw that secures the network card to the rear plate on the MFP frame.
Note: When reattaching the network card, attach the card to the rear plate and stand off before inserting the 4 connecting pins into J44 on the controller card.



5. Carefully remove the network card from the MFP.

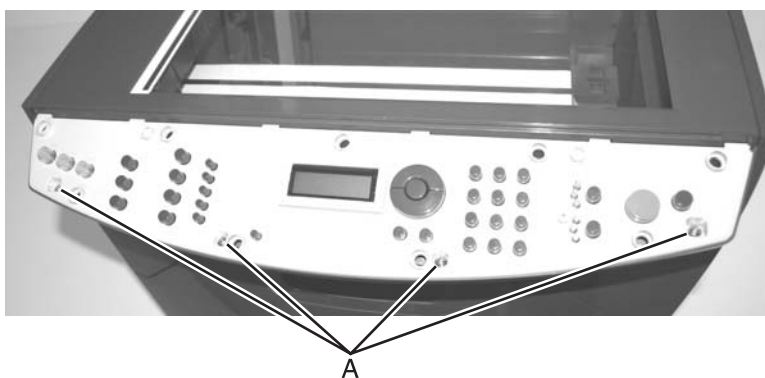


Operator panel assembly removal

1. Remove the operator panel overlay.



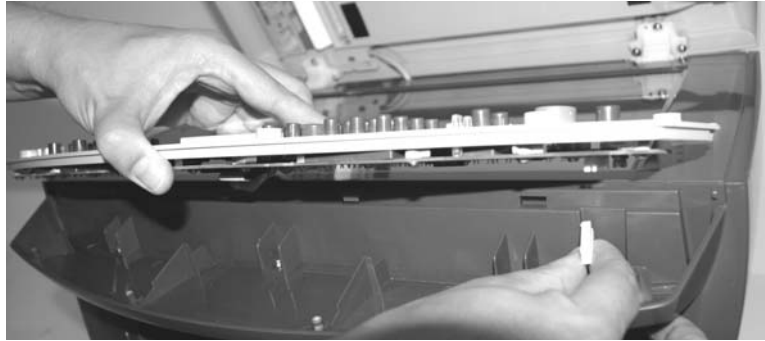
2. Remove the 4 screws (A) from that secure the operator panel to the scanner base assembly.



3. Lift the operator panel assembly up, and gently pull it away from the scanner top.



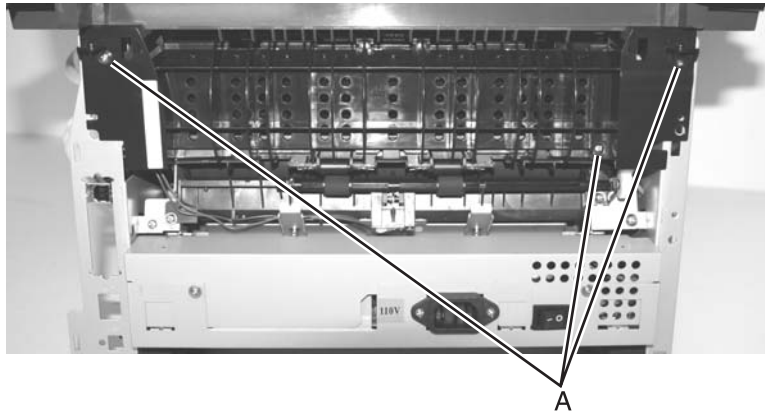
4. Disconnect the operator panel cable.



5. Remove the operator panel assembly.

Paper exit guide assembly removal

1. Remove the rear cover. See **"Rear cover removal"** on page 4-5 for more information.
2. Remove the three screws (A) securing the exit guide.



3. Remove the paper exit guide assembly.

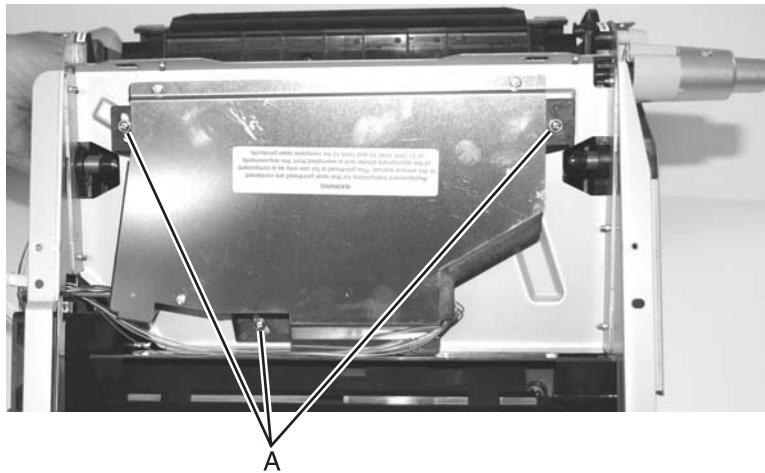
Reinstallation note: It may be necessary to rotate the gears to mesh with the fuser and drive gear.

Printhead removal

1. Remove the top cover. See **“Top cover removal” on page 4-11** for more information.
2. Remove the toroid from the group of cables at the top of the controller card.



3. Unplug the printhead cables at locations J11 and J12 on the controller card and on the printhead.
4. Remove three screws (A) that secure the printhead to the cross brace, and lift the printhead out.



Note: Notice the alignment of the printhead at each screw before removing the screws.

Note: Printer registration must be set after replacing the printhead. See Go to **“Registration” on page 3-6**.

Transfer roll removal

Note: Handle the transfer roll as little as possible.

1. Open the front access cover.
2. Place a sheet of paper around the transfer roll to protect it.
3. At the right side of the transfer roll, squeeze the holder arms with the left hand while lifting with the right. Stop when the holder is unlatched.



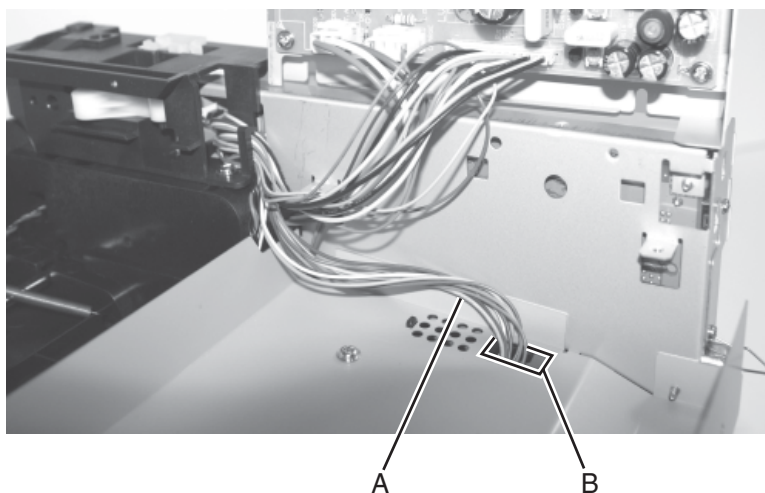
4. At the left side of the transfer roll, squeeze the holder arms with the right hand while lifting with the left hand. Stop when the left holder is unlatched.
5. With a hand at each end, lift the transfer roll out. The springs should remain in place.

Reinstallation note: Verify the springs are inserted into the bearings when re-installing.



Transport motor cable removal

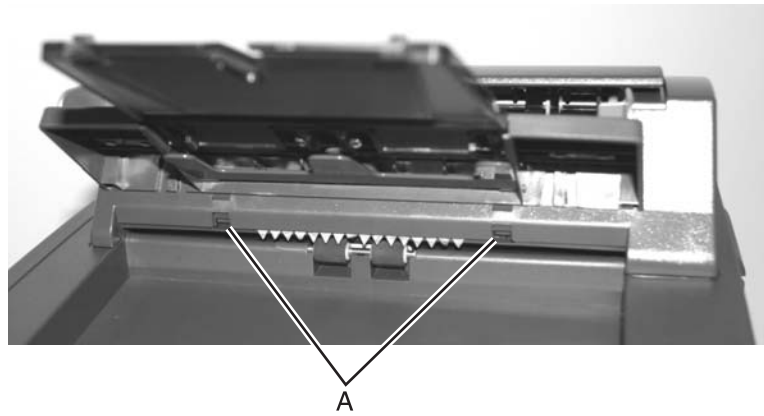
1. Remove the right cover. See **“Upper right side cover removal”** on page 4-8 for more information.
2. Unplug the transport motor cable (XPRT) at J9.
3. Remove the LVPS/HVPS card assembly. See **“LVPS/HVPS card assembly removal”** on page 4-26 for more information.
4. Extract the cable through the side frame, leaving it free at the opening above the LVPS/HVPS.
5. Remove the fuser. See **“Fuser removal”** on page 4-20 for more information.
6. Extract the cable (A) through the side frame leaving it free at the opening (B) above the LVPS/HVPS.



7. Unplug the cable at the motor, and install the new cable.

Scanner ADF paper tray removal

1. Locate tabs (A) beneath the paper tray.

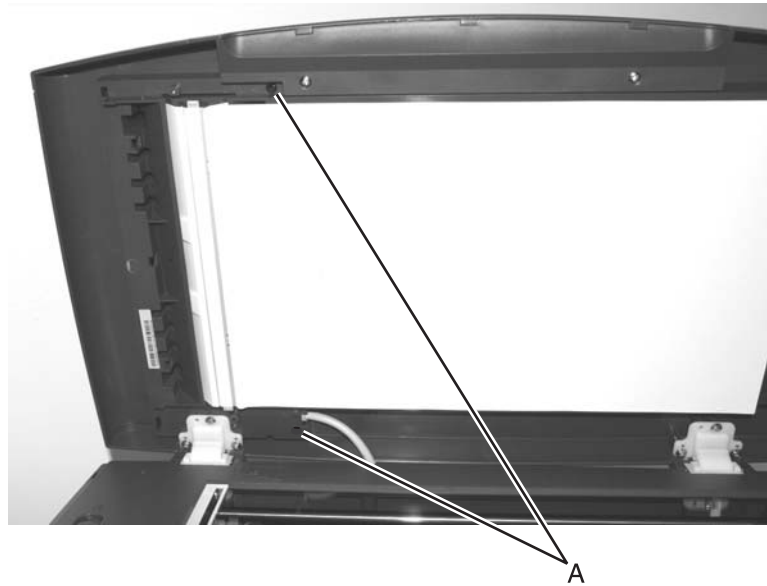


2. Pull the tabs back, and remove the paper tray from the ADF assembly.

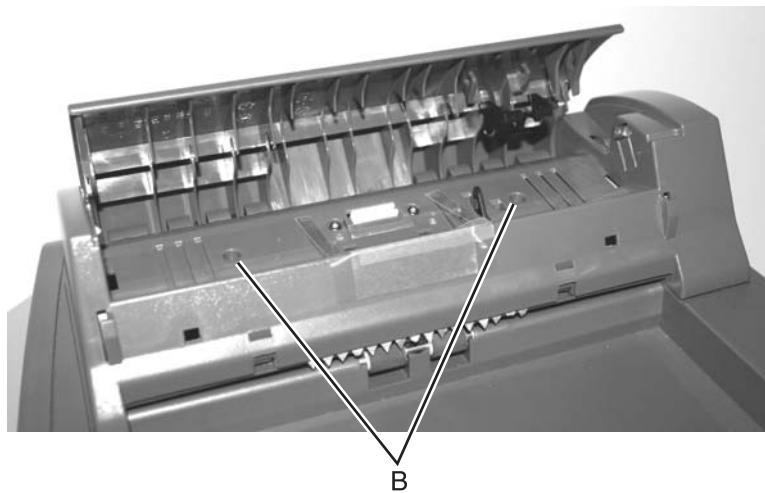


Scanner ADF top assembly removal

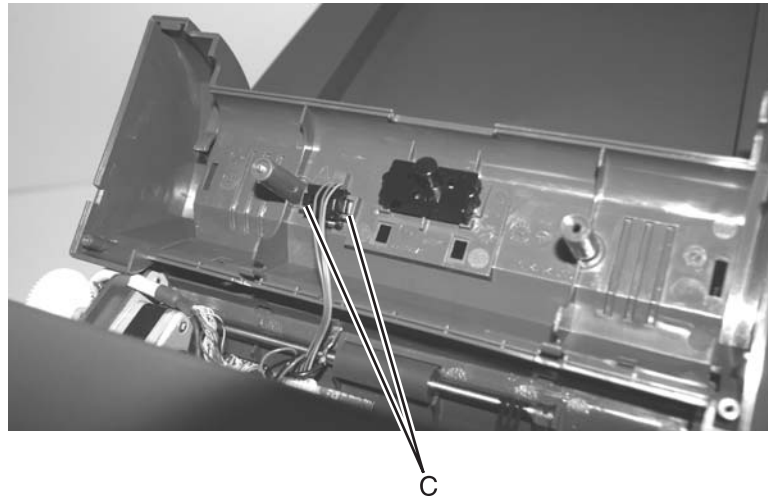
1. Remove the ADF paper tray. Go to **“Scanner ADF paper tray removal”** on page 4-35.
2. Remove the ADF pick roll. Go to **“Scanner ADF pick roll assembly removal”** on page 4-39.
3. Remove the ADF separator pad. Go to **“Scanner ADF separator pad removal”** on page 4-38.
4. Remove the two screws (A) that secures the ADF assembly to the flatbed cover.



5. Remove two screws (B) that secure the top of the ADF assembly.



6. Pinch the tabs (C) that fasten the paper present sensor to the ADF top assembly.



7. Remove the top half of the ADF assembly.



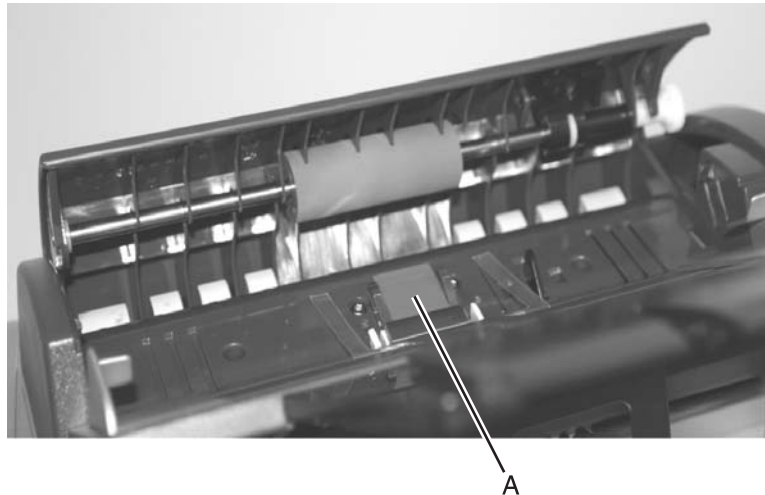
Scanner ADF top cover removal

1. Remove the ADF assembly. See **"Scanner ADF assembly removal" on page 4-42.**
2. Lift the ADF top cover all the way back, and pull it away from the ADF unit.

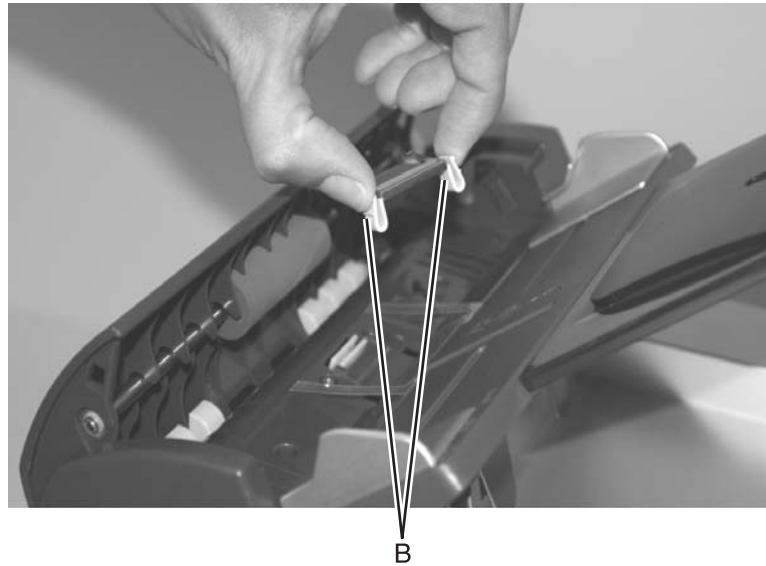


Scanner ADF separator pad removal

1. Open ADF top cover.
2. Locate the ADF separator pad (A).

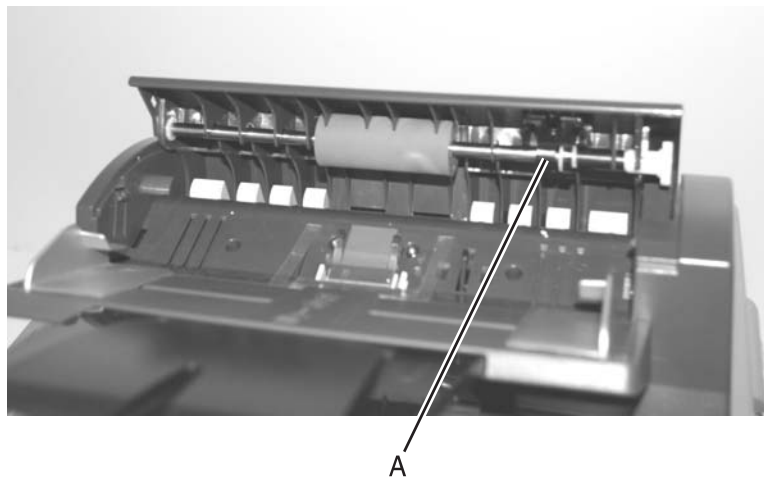


3. While pinching the green separator pad guide locks (B) inward, lift and remove the ADF separator pad out of the ADF unit.

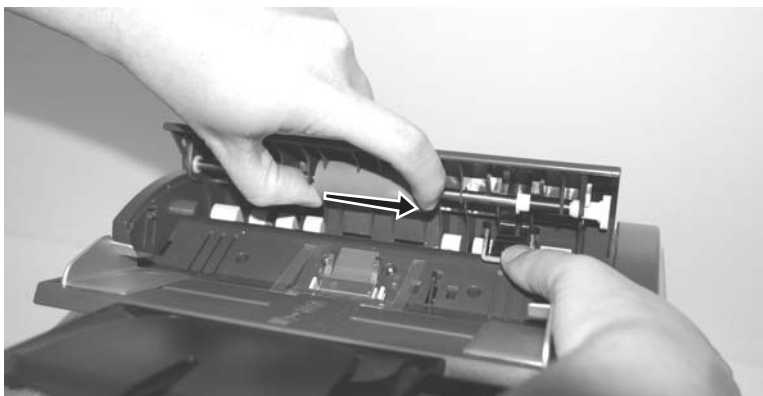


Scanner ADF pick roll assembly removal

1. Open the ADF top cover.
2. Open the green pick roll hinge (A) by pinching the hinge and gently pulling it down.



3. Hold the ADF pickroll hinge down, and push the ADF pick roll assembly toward the rear of the ADF.

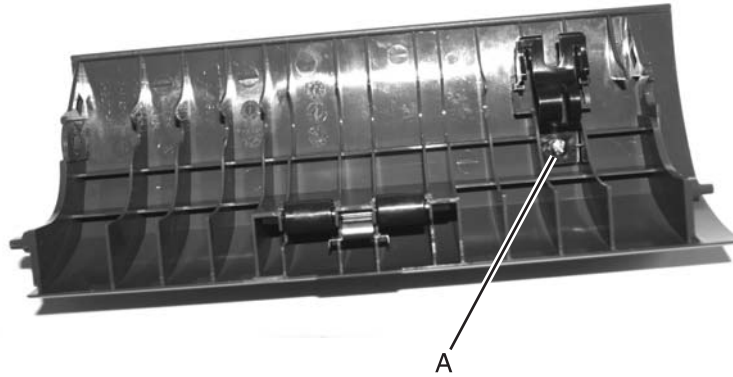


4. Pivot the front of the ADF pickroll assembly to the right, and lift the ADF pick roll assembly out of the ADF unit.



Scanner ADF pick roll hinge removal

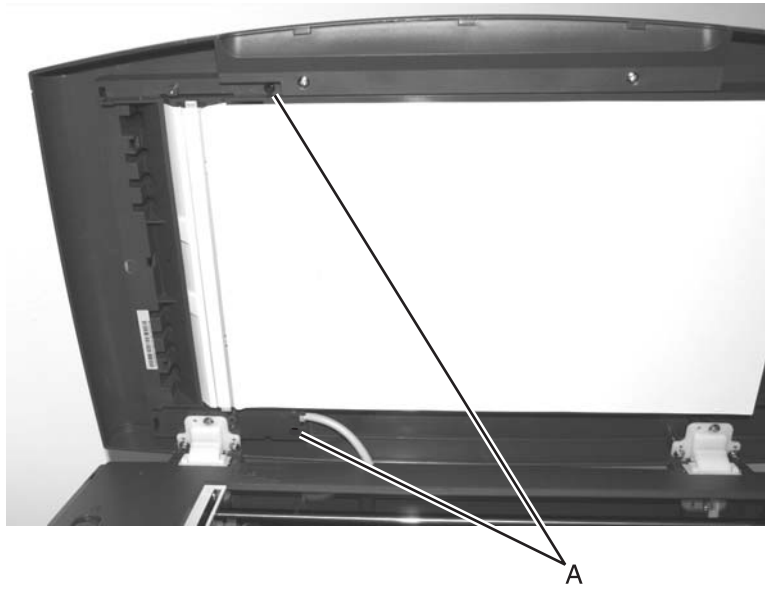
1. Open the ADF top cover.
2. Remove the ADF pick roll. assembly. See **"Scanner ADF pick roll assembly removal" on page 4-39.**
3. Remove the screw (A) that secures the pick roll hinge to the ADF top cover.
Note: The cover is removed for illustrative purposes only.



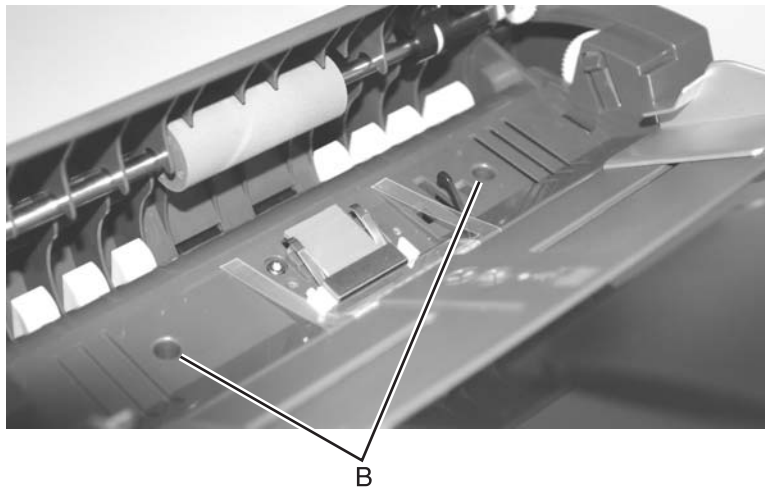
4. Remove the ADF pickroll hinge.

Scanner ADF assembly removal

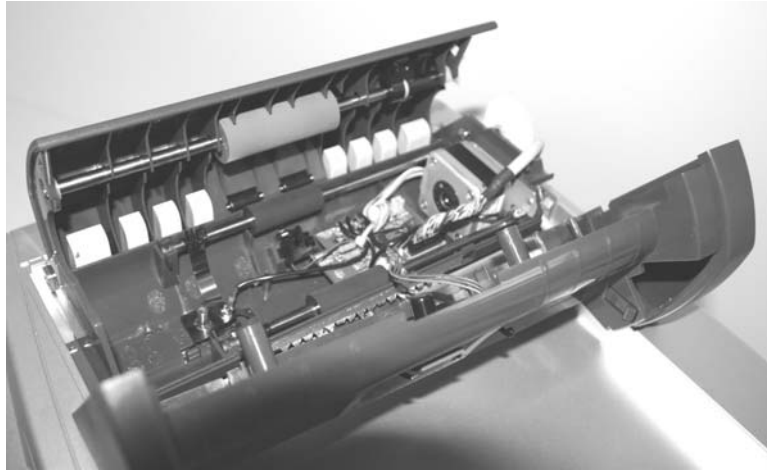
1. Remove the two screws (A) that secures the ADF assembly to the flatbed cover.



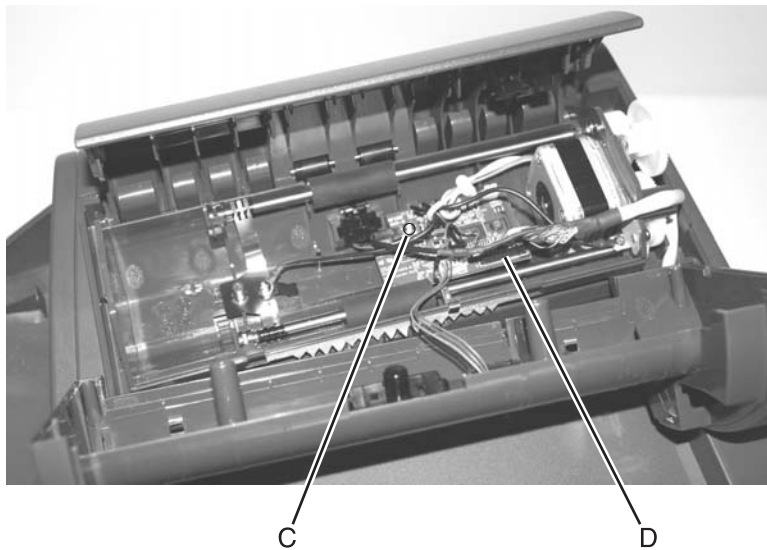
2. Open the ADF top cover.
3. Remove the ADF paper tray assembly. Go to **“Scanner ADF paper tray removal”** on page 4-35.
4. Remove two screws (B) that secure the top of the ADF assembly.



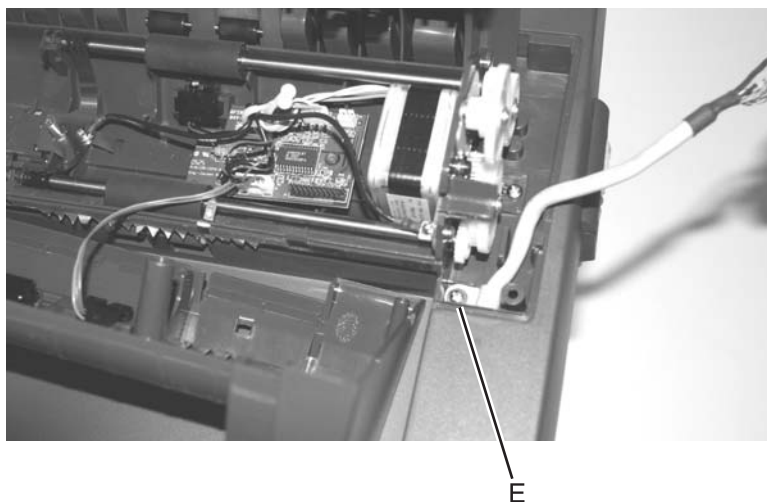
5. Open the ADF assembly.



6. Disconnect the ADF ground (C), and the ADF cable (D).



7. Disconnect the screw (E) holding the ADF cable.



8. Remove the two inner screws that secure the ADF to the flatbed cover.
9. Remove the ADF assembly.

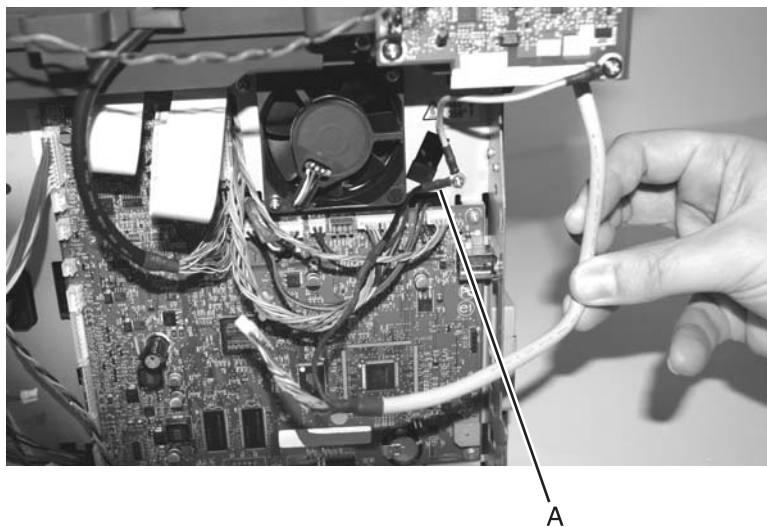
Note: The scanner registration and calibration must be set after replacing the ADF assembly. See “” on page 3-8, and “Scanner Registration” on page 3-7.

Scanner ADF cable removal

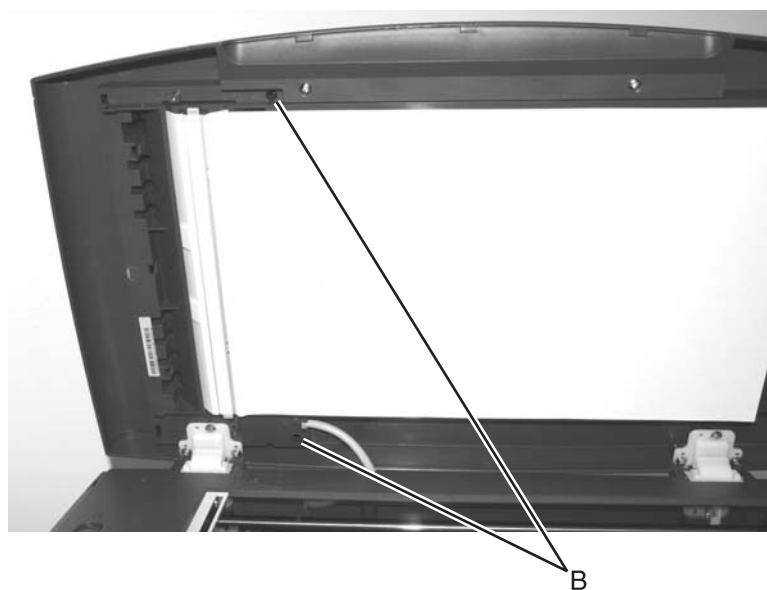
1. Remove rear cover. See **"Rear cover removal"** on page 4-5.
2. Disconnect the ADF cable from J3 on the controller card.



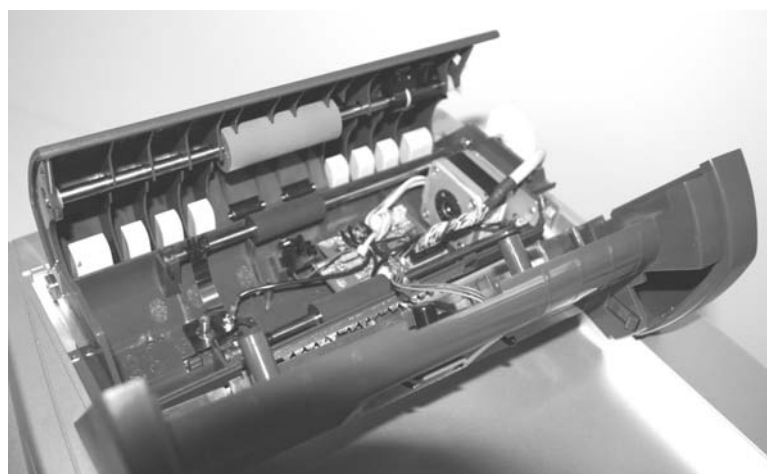
3. Disconnect the ground wire (A).



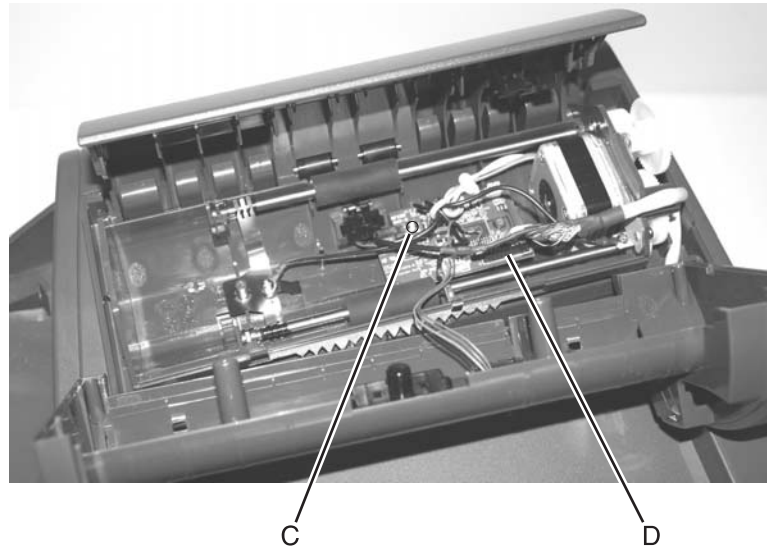
4. Remove the two screws (B) that secure the top of the ADF assembly.



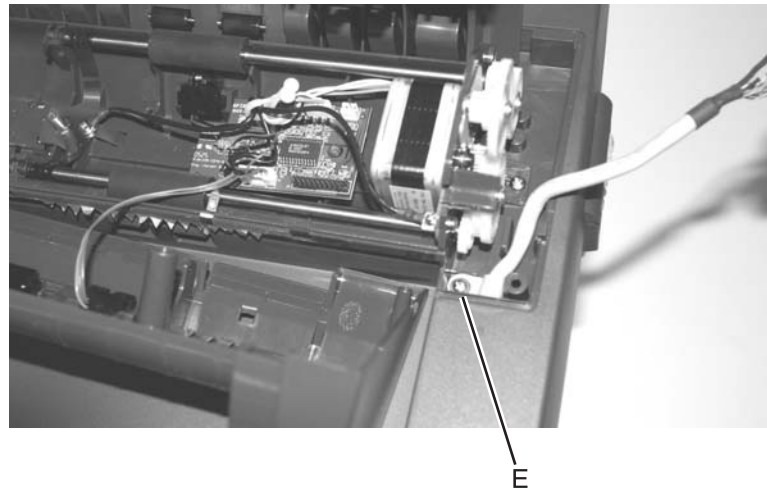
5. Open the ADF assembly.



6. Disconnect the ground (C) and ADF cable (D).



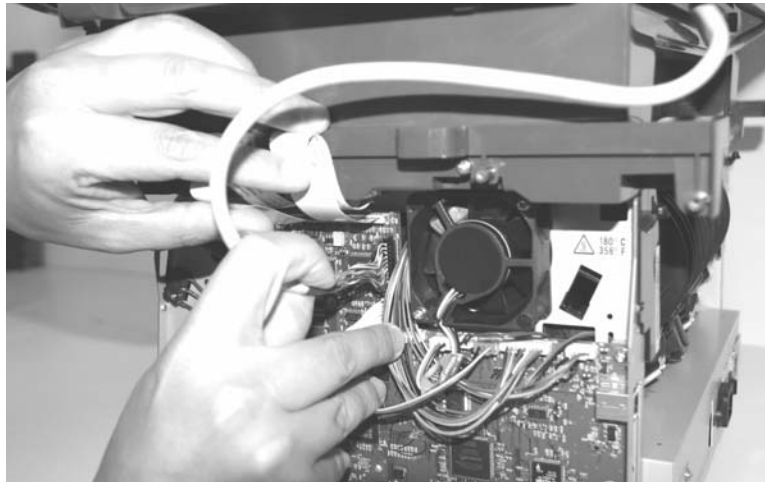
7. Remove the screw (E) and ADF cable clamp.



8. Carefully remove the ADF cable from the ADF assembly.

Scanner flatbed cover removal

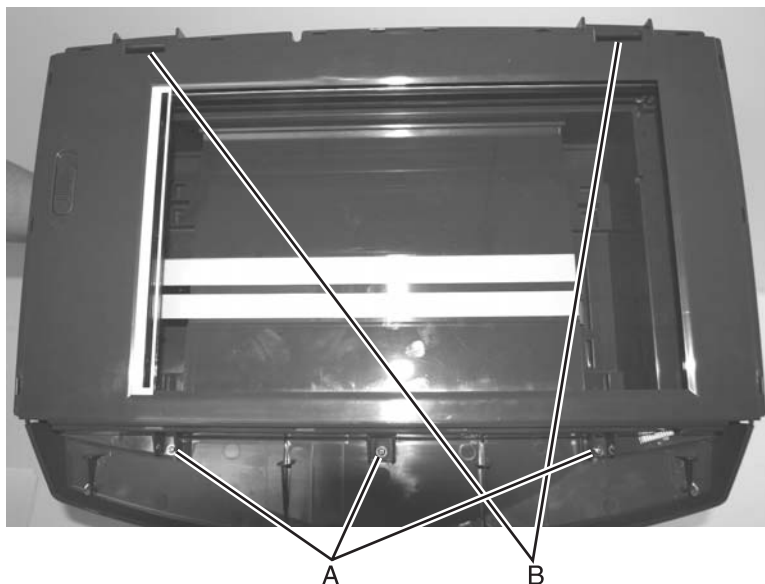
1. Remove the rear cover. See **“Rear cover removal” on page 4-5.**
2. Disconnect the ADF cable from J3 on the controller card.



3. Lift and remove the flatbed cover from the MFP.

Scanner top removal

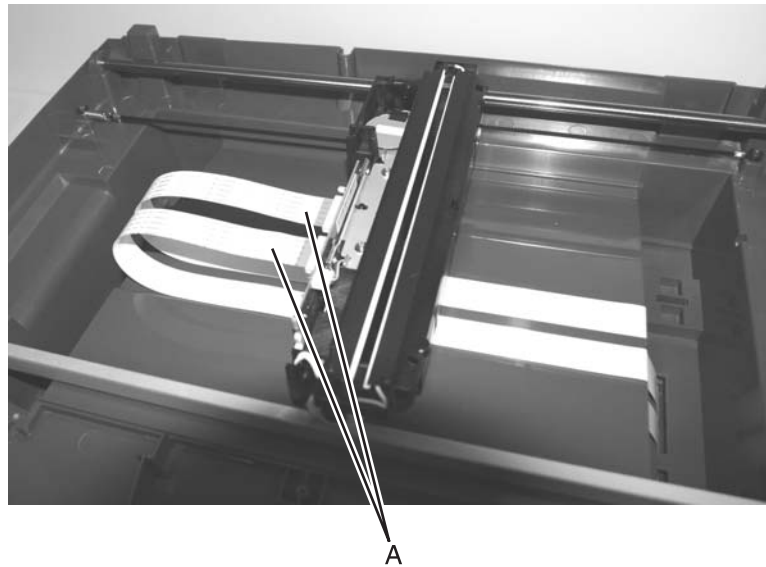
1. Remove rear cover. See **“Rear cover removal” on page 4-5.**
2. Open the lower right cover, and disconnect the ADF cable from J3 on the controller card.
3. Remove flatbed cover.
4. Remove operator panel. Go to **“Operator panel assembly removal” on page 4-30.**
5. Remove three screws (A) on the front of the scanner top.



6. Remove two screws (B) located on the rear of the scanner top.
7. Remove the scanner top.

Scanner CCD assembly removal

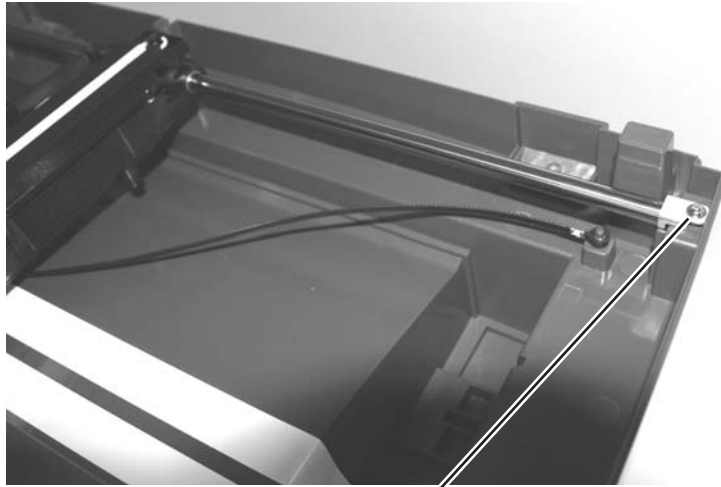
1. Remove the scanner top. See **“Scanner top removal” on page 4-48.**
2. Carefully remove the 18 and 20 pin ribbon cables (A) from the CCD.



3. Gently remove the geared belt from the CCD.
Note: Be careful to avoid touching the lamp in the CCD.



4. Remove the screw (B) that secures the guide rod retainer.



B

5. Remove the guide rod retainer.
6. Lift the guide rod, and slide the CCD off the guide rod.

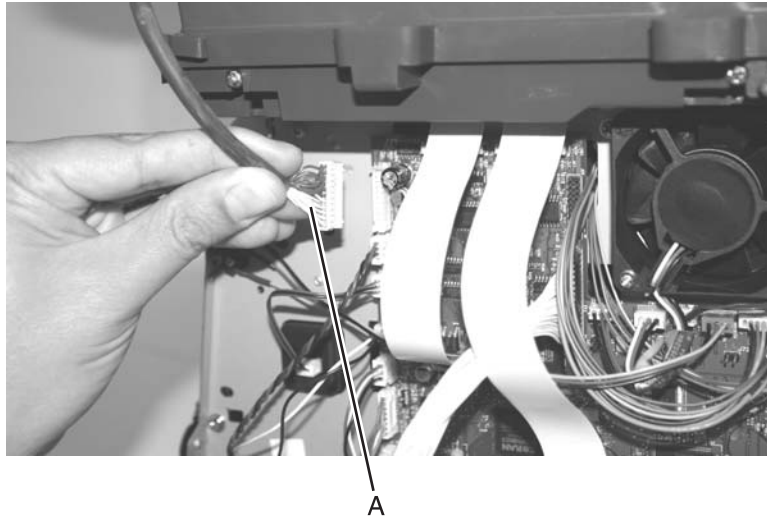


Note: The scanner registration and calibration must be set after replacing the CCD assembly. See “” on page 3-8, and “Scanner Registration” on page 3-7.

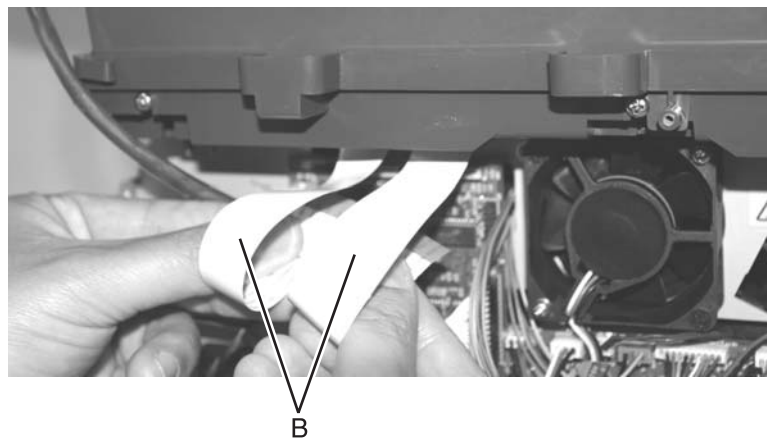
Note: If the CCD assembly has a mylar shield, remove the shield from the old CCD and install it on the new CCD assembly.

Scanner base assembly removal

1. Remove rear cover. See **"Rear cover removal" on page 4-5.**
2. Remove the modem card. See **"Modem card removal" on page 4-54.**
3. Disconnect the operator panel cable (A) from J5 on the controller card.

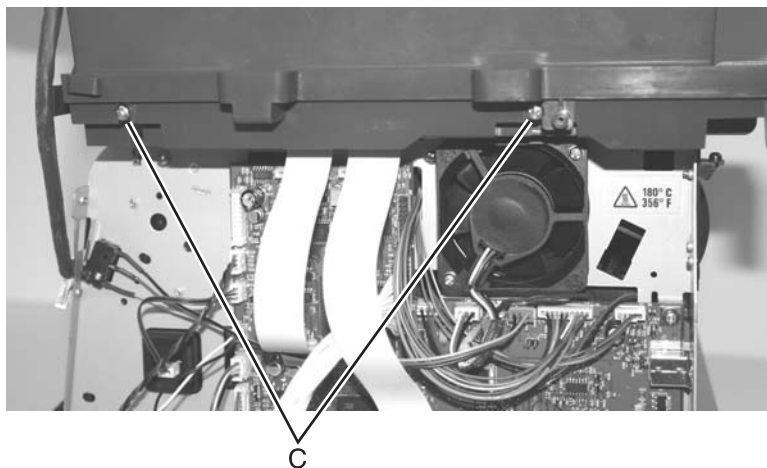


4. Disconnect the 18 and 22 pin ribbon cables (B) from connectors J1 and J4 on the controller card.

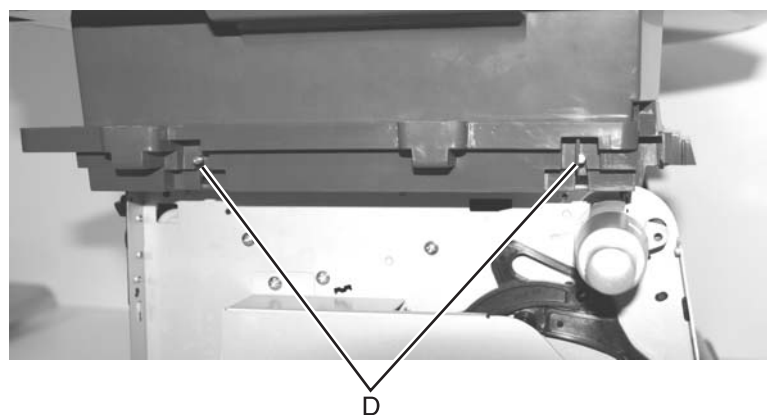


5. Disconnect the ADF cable from connector J3 on the controller card.
6. Remove the modem card. See **"Modem card removal" on page 4-54.**

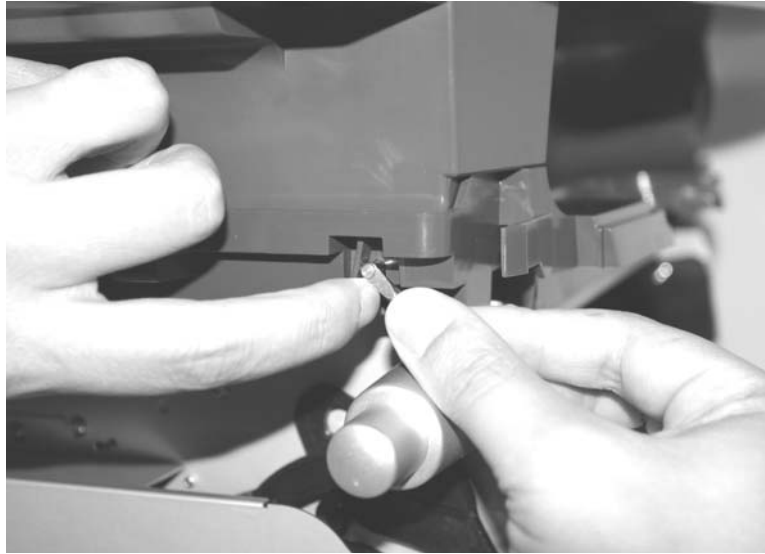
7. Remove two screws (C) on the right side of the MFP that attach the scanner unit to the printer base. Do not discard the screws. **I**



8. Locate the two pins (D) on the left side of the MFP that attach the scanner unit to the printer base. Do not discard the pins. **I**



9. Pull the plastic retaining tab back, place a flat blade screwdriver in the notch on the metal pin.



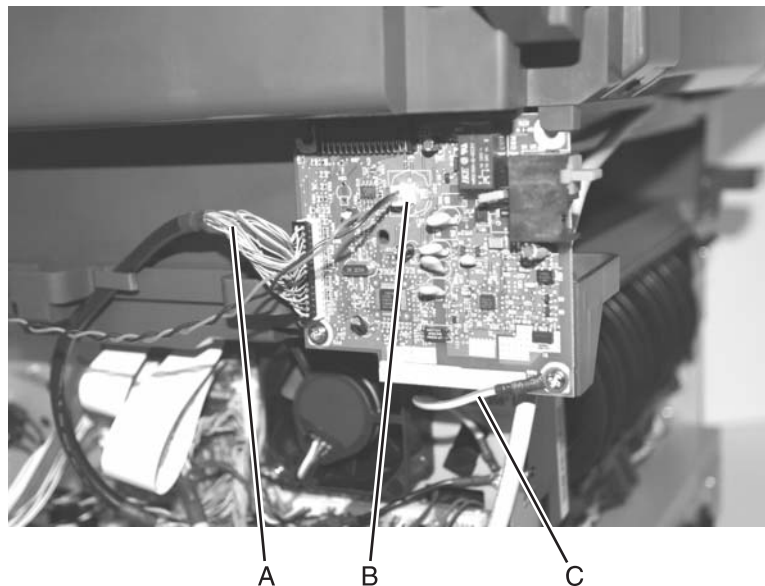
10. Remove the pin from the base.



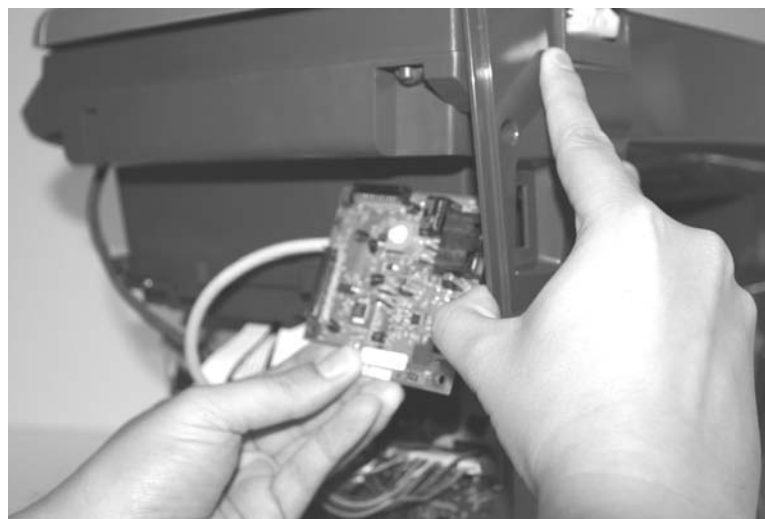
11. Repeat steps 8 and 9 for the second pin.
12. Lift the scanner assembly from the printer base.

Modem card removal

1. Remove upper right cover. See **“Upper right side cover removal”** on page 4-8.
2. Disconnect the modem cable (A), modem speaker wire (B), and ground wire (C) from the modem card.

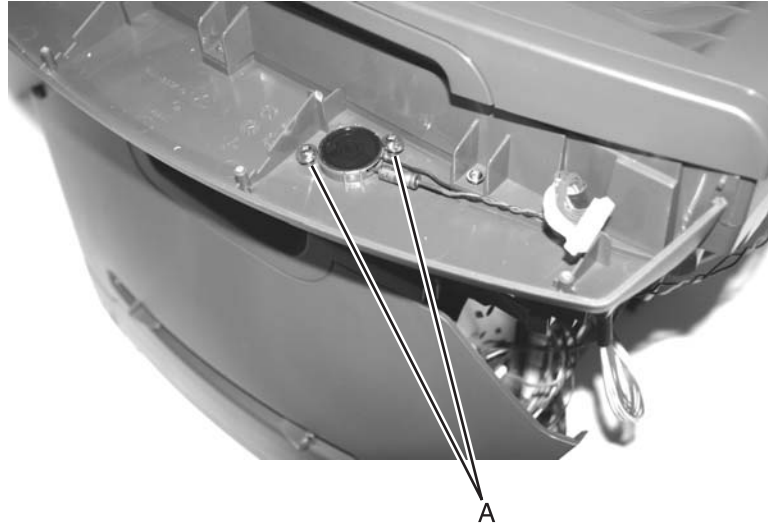


3. Remove the other screw from the bottom of the modem card.
4. While prying the rear cover back, slide the modem card down, and remove the modem card from the MFP.

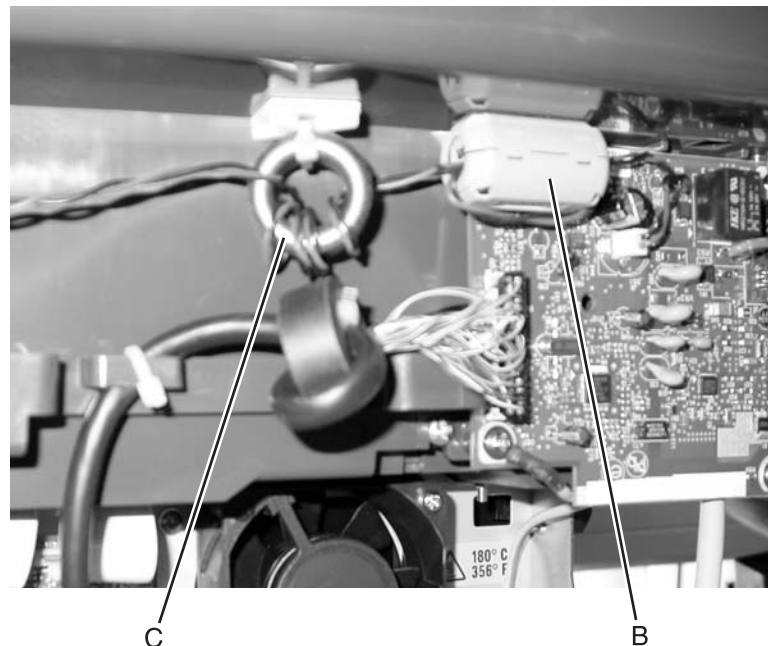


Modem speaker assembly removal

1. Remove upper right side cover. Go to **"Upper right side cover removal" on page 4-8.**
2. Remove operator panel. Go to **"Operator panel assembly removal" on page 4-30.**
3. Remove the two screws (A) securing the modem speakers to the scanner base assembly.



4. Disconnect the modem speaker cable from the modem card.
5. Remove the snap on toroid (B) from the cable. The toroid will be used on the new modem speaker assembly.



6. Unwrap the modem speaker cable from the toroid (C) that is fastened to the scanner base assembly. The new modem speaker cable will need to be wrapped four times around this toroid when it is installed.
7. Remove the modem speaker assembly.

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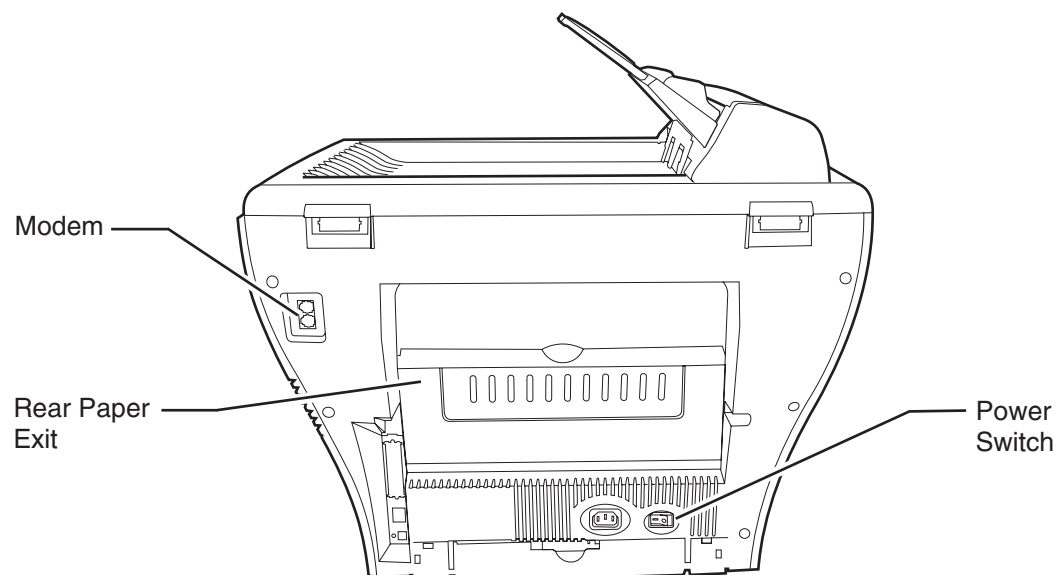
5. Locations and connections

Locations

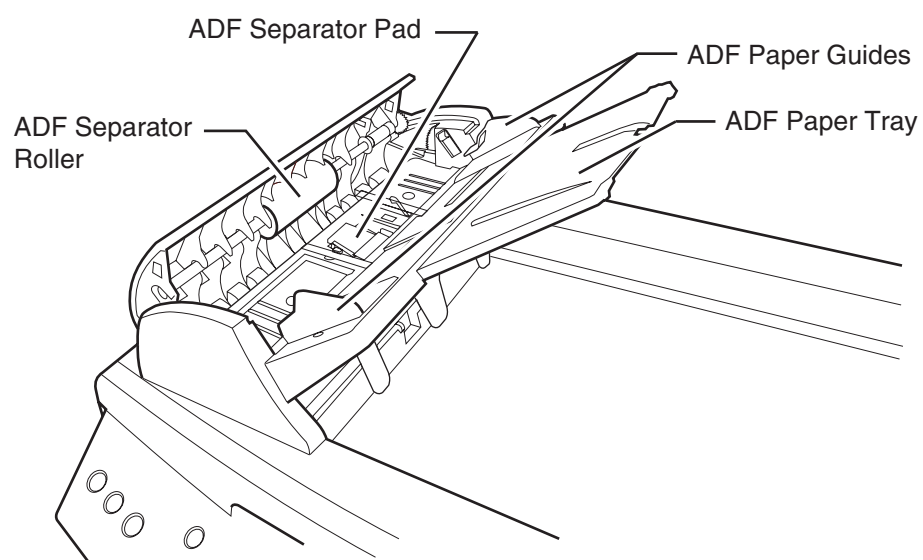
Front view



Rear view

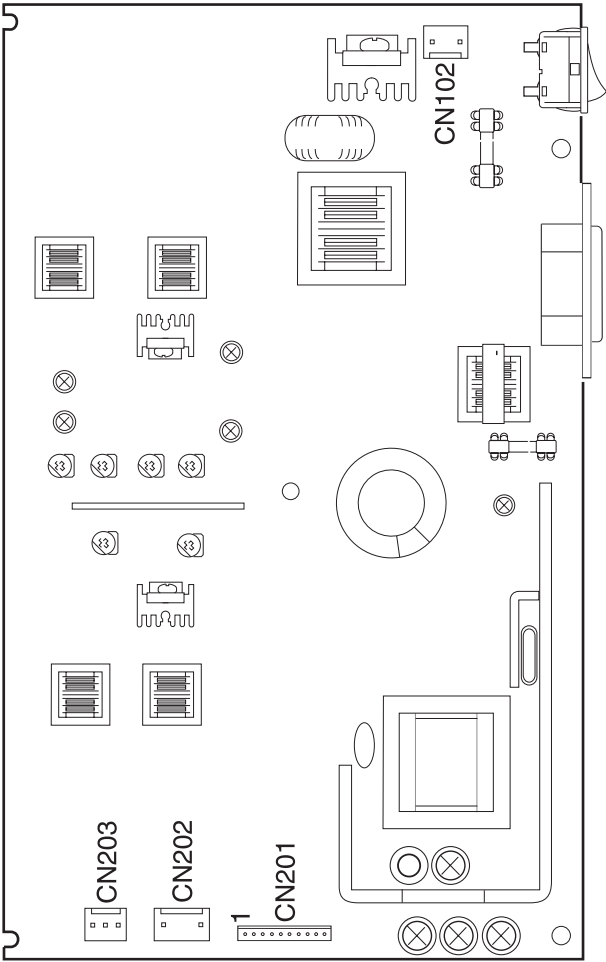


ADF



Connections

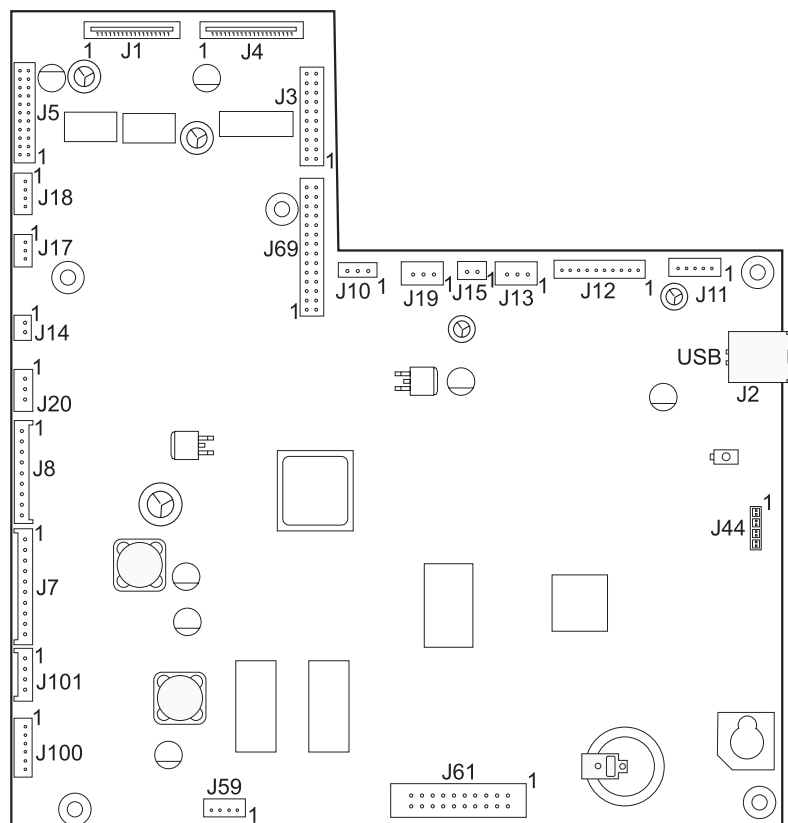
Power supply board



Power supply board connections

Conn	Connects to	# wires	Wire colors
CN102	Fuser	2	Blue, white
CN201	Controller card	10	Black
CN202	Charge roll	2	Red, blue
CN203	Developer	3	Red, white, blue
TAP201	Transfer roll	1	Red

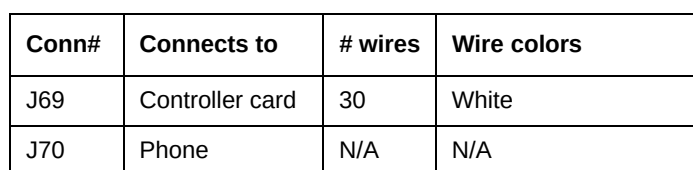
Controller card



Controller card connections

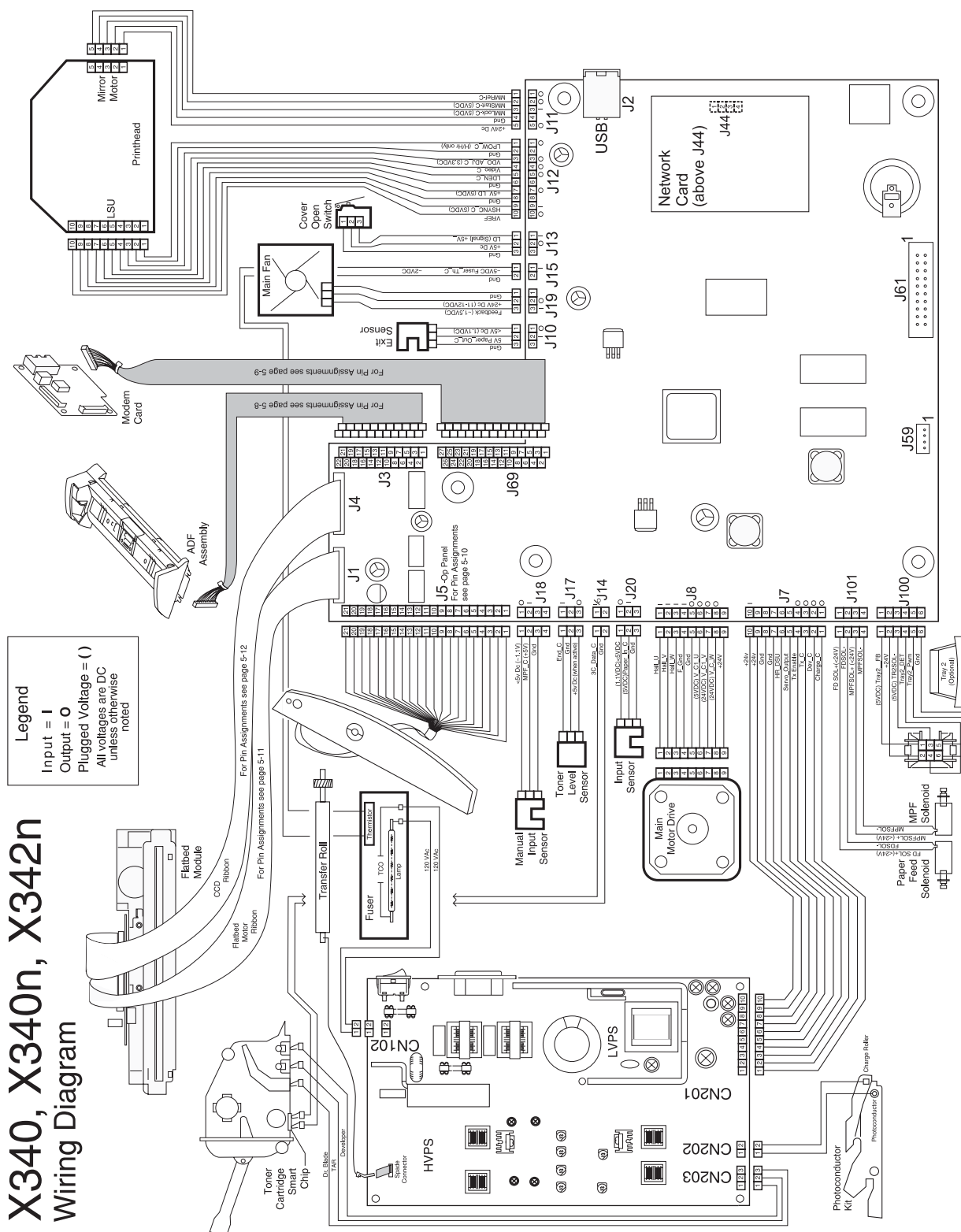
Conn #	Name	Connects to	# wires	Wire colors
J100	Tray 2	Tray 2	6	Red, yellow, orange, green, blue, grey
J101	SOL	Paperfeed solenoids	4	2 red, 2 black
J7	HVPS/ LVPS	Power Supplies	10	10 black
J9	XPRT	Main motor	9	Red, orange, green, blue, purple, white, grey, yellow
J20	IN	Input sensor	3	Red, white, black
J14	SC	Smart chip	2	White, black
J17	TNR	Toner sensor	3	Green, black, red
J18	MPF	Manual feed sensor	3	Red, purple, black
J5		Operator panel	22	12 red, 10 white
J1	FB	Flatbed	18	Ribbon cable
J4	CCD	CCD	22	Ribbon cable
J3	ADF	ADF motor/ sensors	21	Cable
J69	FAX	Modem board	30	30 White
J10	EXIT	Exit sensor	3	Red, blue, black
J19	Fan	Fan	3	Black, red, white
J15	TH1	Thermistor	2	2 black
J13	CO	Cover open sensor	3	Yellow, red, black
J12	LSU	Printhead	10	Red, orange, green, white, blue, black, yellow, grey, purple
J11	MM	Mirror motor	5	Red, orange, green grey, yellow
J2	USB	USB to PC	4	Cable to host PC
J44	NET	Network Card	0	Card mounts directly to the controller card.

Note: “Controller card pin assignments” on page 5-8 for voltage and signal information for connections J3, J69, J5, J1, and J4.



Wiring diagram

Note: See the fold out wiring diagram in the back of this book for a large view.



Controller card pin assignments

Note: Only J3, J69, J5, J1, and J4 pins are described in the following tables. The remaining connectors are described in the wiring diagram at the back of the manual.

J3 ADF

Pin #	Signal
1	AM_DIR
2	AM_STEP
3	PAPER_IN_P
4	AM_MS1
5	VREF_SW1
6	GND
7	
8	
9	AM_SLEEP
10	COVER_OPEN
11	AM_MS2
12	AM_RESET
13	VREF_SW2
14	GND
15	
16	PAPER_OUT_P
17	GND
18	GND
19	+24V
20	GND
22	GND

Note: Pin 21 does not have a connection.

J 69 Modem

Pin #	Signal
1	+5V
2	GND
3	+3.3V
4	+3.3V
5	SYSDATA0
6	SYSDATA1
7	SYSDATA2
8	SYSDATA3
9	GND
10	SYSDATA4
11	SYSDATA5
12	SYSDATA6
13	SYSDATA7
14	GND
15	SYSADR0
16	SYSADR1
17	SYSADR2
18	GND
19	SYSADR4
20	SYSADR5
21	SYSADR6
22	GND
23	FAXINT
24	SYS_WR
25	SYS_RD
26	FAX_CS2
27	GND
28	MOD_RDY
29	MOD_PRESENCE
30	RESET_TO_MODEM

J5 Operator panel

Pin #	Signal
1	UI_DATA_1
2	UI_DATA_0
3	UI_DATA_2
4	GND
5	VCC3
6	UI_DATA_3
7	UI_DATA_5
8	UI_DATA_4
9	UI_DATA_6
10	GND
11	VDD_UI
12	UI_DATA_7
13	LCDRW
14	VDD_UI
15	LCDE
16	GND
17	GND
18	LCDRS
19	GND
20	KBRD
21	NC_SPKR
22	KBWR

J1 Flatbed motor

Pin #	Signal
1	VDD5_MOTOR
2	GND
3	HMSEN
4	GND
5	V_24_MOTOR_FB
6	GND
7	FM_MS2
8	FM_MS1
9	FM_STEP
10	FM_DIR
11	FM_SLEEP
12	FM_RESET
13	GND
14	VREF_SW1
15	VREF_SW2
16	GND
17	GND
18	V24_LAMP

J4 CCD module

Pin #	Signal
1	GND
2	SH1
3	GND
4	CP
5	PH2
6	GND
7	GND
8	PH1
9	CCD_SW1
10	RS
11	GND
12	VOB_ODD
13	GND
14	VOG_EVEN1
15	GND
16	VOB_EVEN2
17	GND
18	GND
19	+12V
20	+5V

6. Preventive maintenance

Printer engine

The Lexmark X340, X340n and X342n printer engines do not require preventive maintenance.

Scanner

The ADF pick pad (40X2404/40X3499) should be replaced every 20,000 pages, and the ADF pick roller (40X2401) should be replaced every 60,000 pages.

Clean the flatbed glass using a lint free cloth. If the dirt is heavy, use a neutral cleanser or alcohol. Wipe the glass carefully so no cleanser remains.

If the ADF is multi feeding, check the ADF pick roller and pad for dirt. Remove these parts and clean them with a lint free cloth.

7003-XXX

7. Parts catalog

How to use this parts catalog

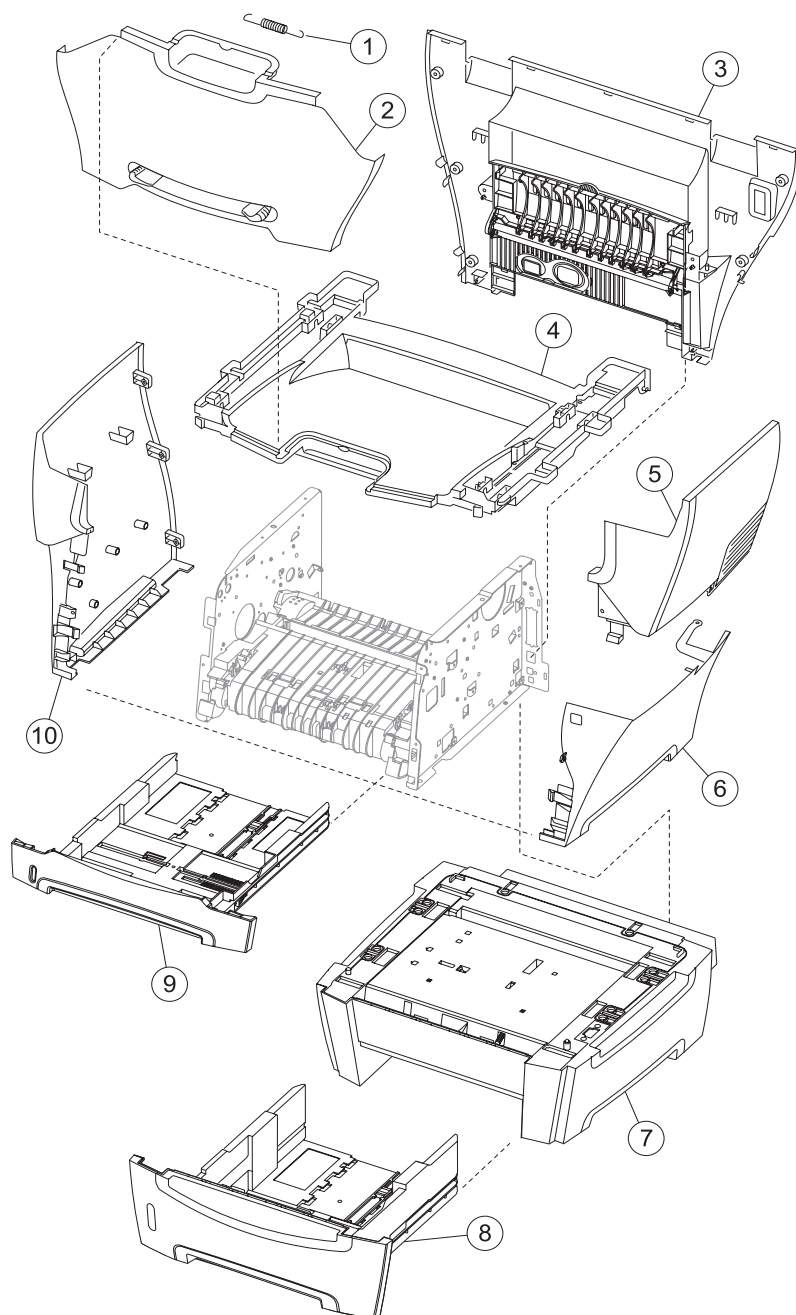
The following legend is used in the parts catalog:

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
7003-100	Lexmark X340
7003-050	Lexmark X340n
7003-110	Lexmark X342n

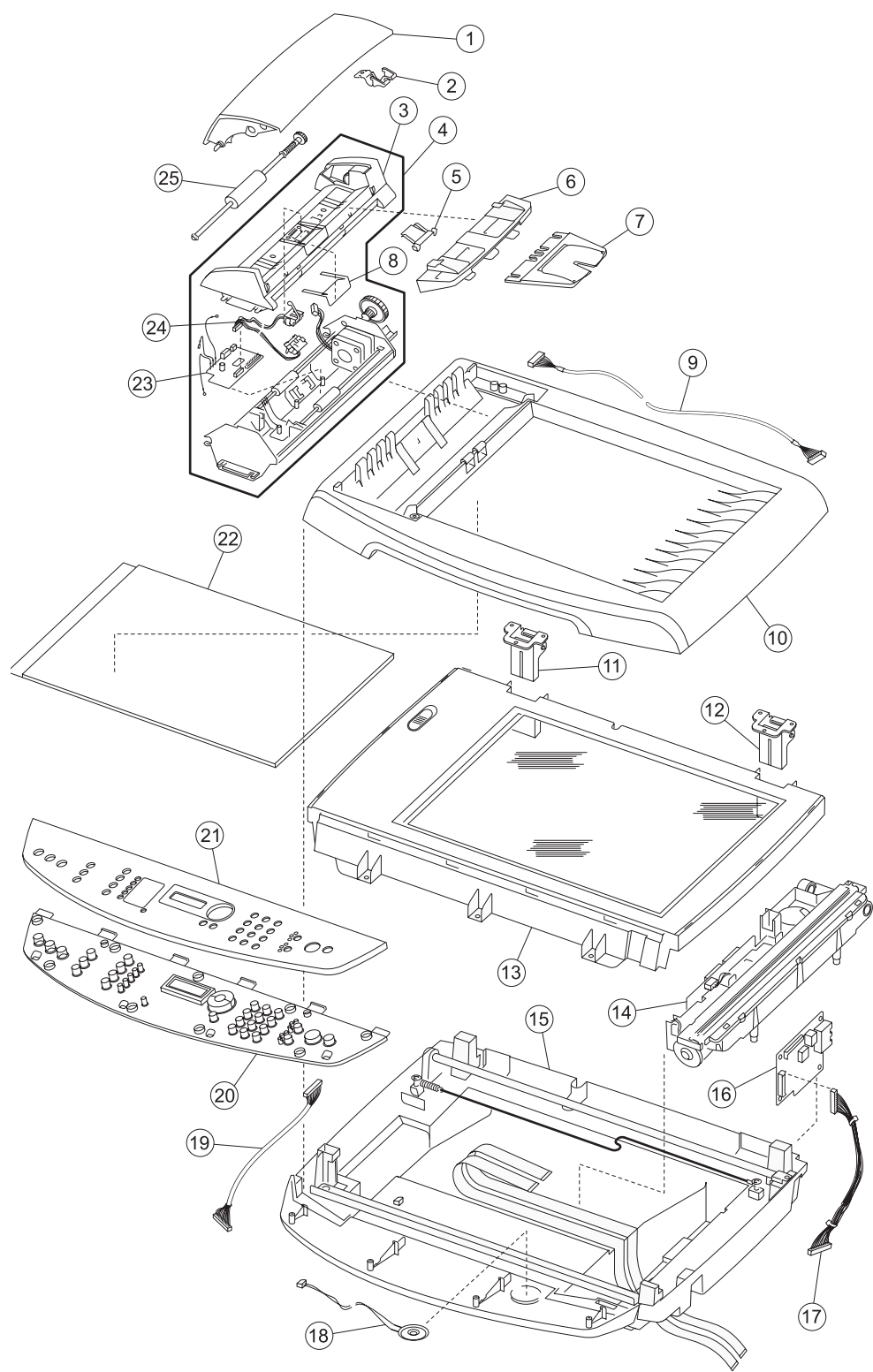
Assembly 1: Covers



Assembly 1: Covers

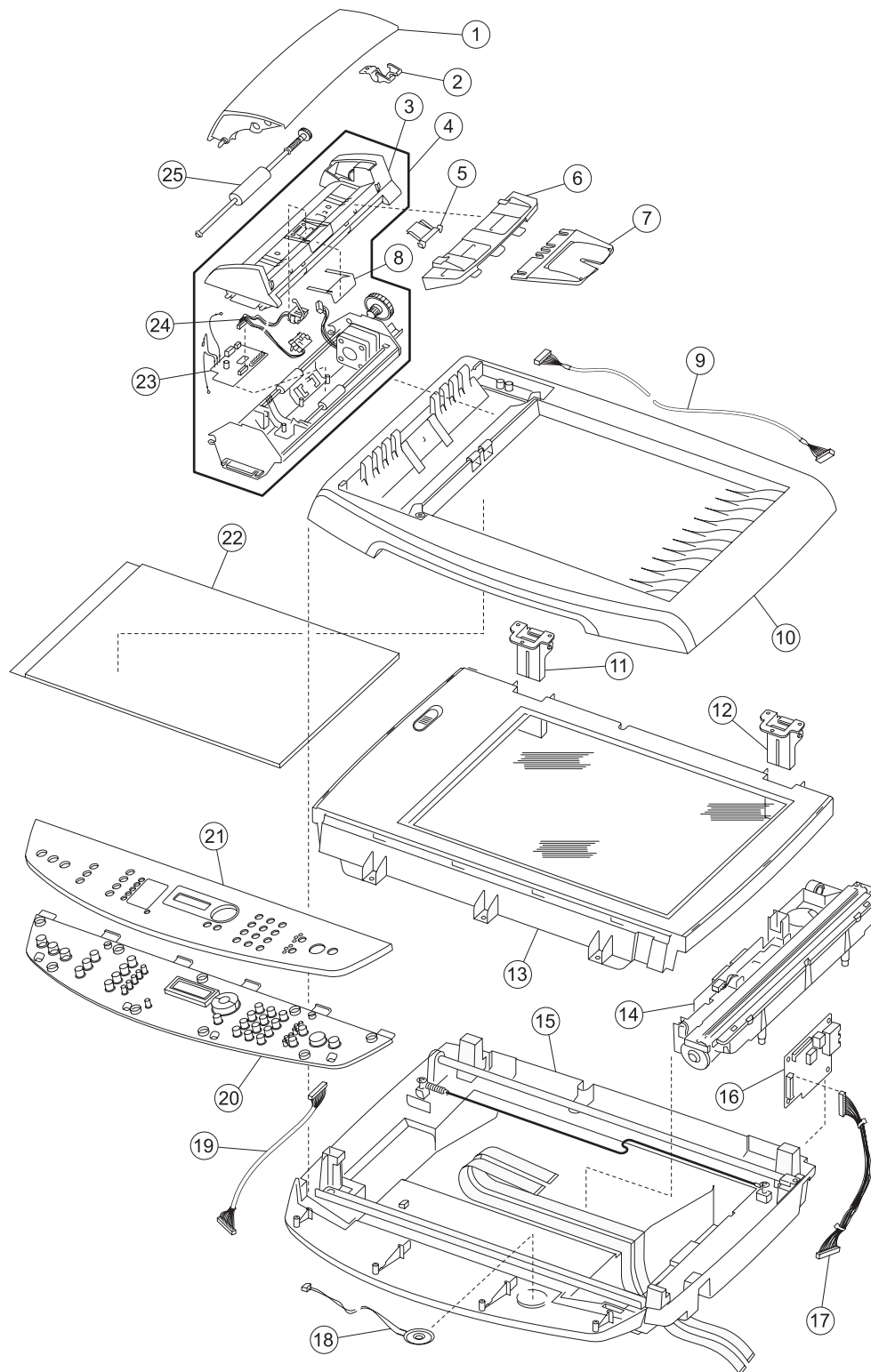
Asm-Index	Part number	Units/mach	Units/FRU	Description
1-1	40X1354	1	1	ACM and front door springs
2	40X2423	1	1	Front cover assembly
3	40X2422	1	1	Rear cover assembly
4	40X2421	1	1	Base top cover assembly
5	40X2425	1	1	Upper right side cover
6	40X2426	1	1	Lower right side cover
7	40X2433	1	1	Optional drawer 2 assembly (no tray)
8	40X2432	1	1	Optional tray 2
9	40X2420	1	1	Main tray
10	40X2424	1	1	Left side cover
NS	40X2429	1	1	Legal extender cover

Assembly 2: Scanner



Assembly 2: Scanner

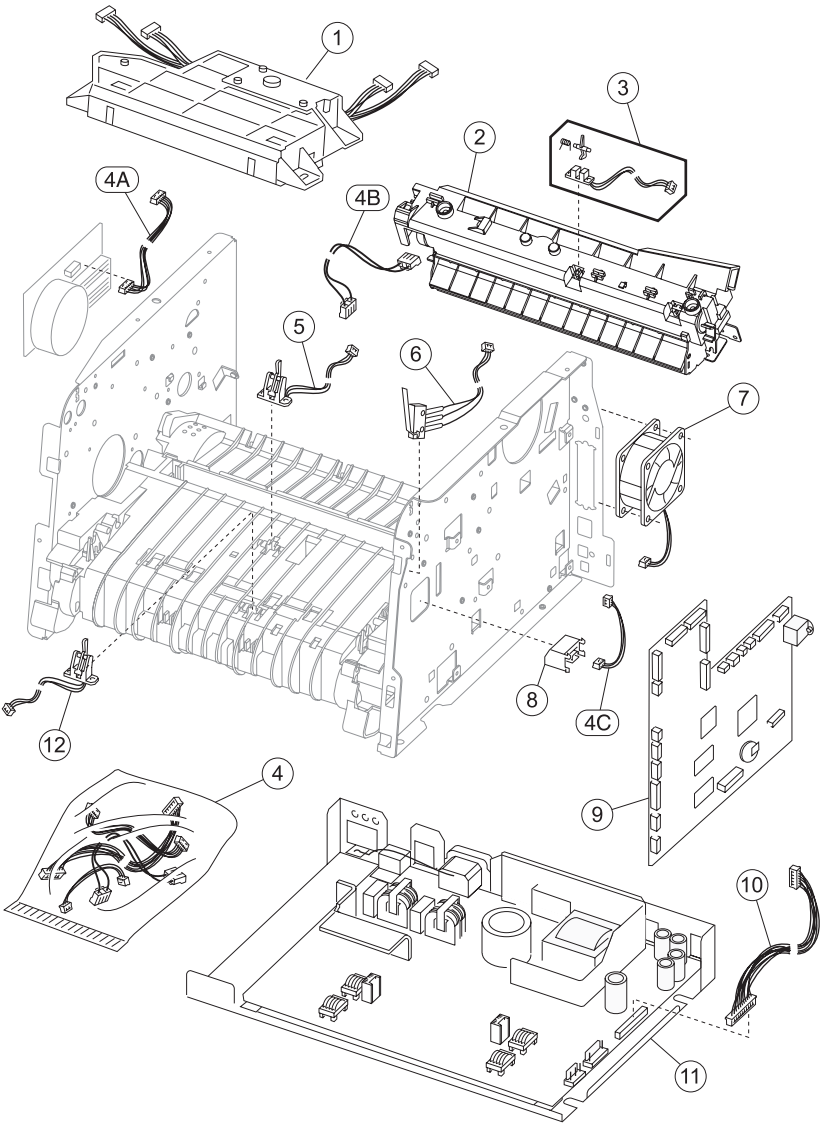
Asm-Index	Part number	Units/mach	Units/FRU	Description
1	40X2400	1	1	ADF top cover
2	40X2402	1	1	Pick roll hinge
3	40X2620	1	1	ADF top assembly
4	40X2629	1	1	ADF assembly
5	40X2404	1	1	Pick roll pad
5	40X3499	1	1	High friction pick roll pad
6	40X2406	1	1	ADF input tray assembly
7	40X2407	1	1	ADF extension assembly
8	40X2405	1	1	Mylar ADF guide
9	40X2408	1	1	ADF cable
10	40X2409	1	1	Flatbed cover
11	40X2412	1	1	Black flatbed stud
12	40X2413	1	1	Silver flatbed stud
13	40X2411	1	1	Scanner top housing
14	40X2631	1	1	CCD assembly
15	40X2415	1	1	Scanner base assembly
16	40X2427	1	1	Modem card
17	40X2428	1	1	Modem cable
18	40X2611	1	1	Modem speaker
19	40X2418	1	1	Operator panel cable
20	40X2417	1	1	Operator panel assembly
21	40X2690	1	1	X 340–X340n Operator panel overlay (English)
21	40X2706	1	1	X 342n Operator panel overlay (English)
21	40X2691	1	1	X 340–X340n Operator panel overlay (Spanish)
21	40X2707	1	1	X 342n Operator panel overlay (Spanish)
21	40X2692	1	1	X 340–X340n Operator panel overlay (French)
21	40X2708	1	1	X 342n Operator panel overlay (French)
21	40X2693	1	1	X 340–X340n Operator panel overlay (Brazilian Portuguese)
21	40X2709	1	1	X 342n Operator panel overlay (Brazilian Portuguese)
21	40X2694	1	1	X 340–X340n Operator panel overlay (German)
21	40X2710	1	1	X 342n Operator panel overlay (German)
21	40X2695	1	1	X 340–X340n Operator panel overlay (Italian)
21	40X2711	1	1	X 342n Operator panel overlay (Italian)
21	40X2696	1	1	X 340–X340n Operator panel overlay (Dutch)
21	40X2712	1	1	X 342n Operator panel overlay (Dutch)
21	40X2697	1	1	X 340–X340n Operator panel overlay (Danish)
21	40X2713	1	1	X 342n Operator panel overlay (Danish)

Assembly 2 (continued): Scanner

Assembly 2 (continued): Scanner

Asm-Index	Part number	Units/mach	Units/FRU	Description
21	40X2698	1	1	X 340–X340n Operator panel overlay (Norwegian)
21	40X2714	1	1	X 342n Operator panel overlay (Norwegian)
21	40X2699	1	1	X 340–X340n Operator panel overlay (Swedish)
21	40X2715	1	1	X 342n Operator panel overlay (Swedish)
21	40X2700	1	1	X 340–X340n Operator panel overlay (Finnish)
21	40X2716	1	1	X 342n Operator panel overlay (Finnish)
21	40X2701	1	1	X 340–X340n Operator panel overlay (Russian)
21	40X2717	1	1	X 342n Operator panel overlay (Russian)
21	40X2702	1	1	X 340–X340n Operator panel overlay (Polish)
21	40X2718	1	1	X 342n Operator panel overlay (Polish)
21	40X2703	1	1	X 340–X340n Operator panel overlay (Simplified Chinese)
21	40X2719	1	1	X 342n Operator panel overlay (Simplified Chinese)
21	40X2704	1	1	X 340–X340n Operator panel overlay (Traditional Chinese)
21	40X2720	1	1	X 342n Operator panel overlay (Traditional Chinese)
21	40X2705	1	1	X 340–X340n Operator panel overlay (Korean)
21	40X2721	1	1	X 342n Operator panel overlay (Korean)
22	40X2410	1	1	Flatbed cushion
23	40X2630	1	1	ADF card
24	40X2619	1	1	ADF sensor assembly
25	40X2401	1	1	ADF pick roll assembly
NS	40X2613	1	1	ADF nylon twist lock

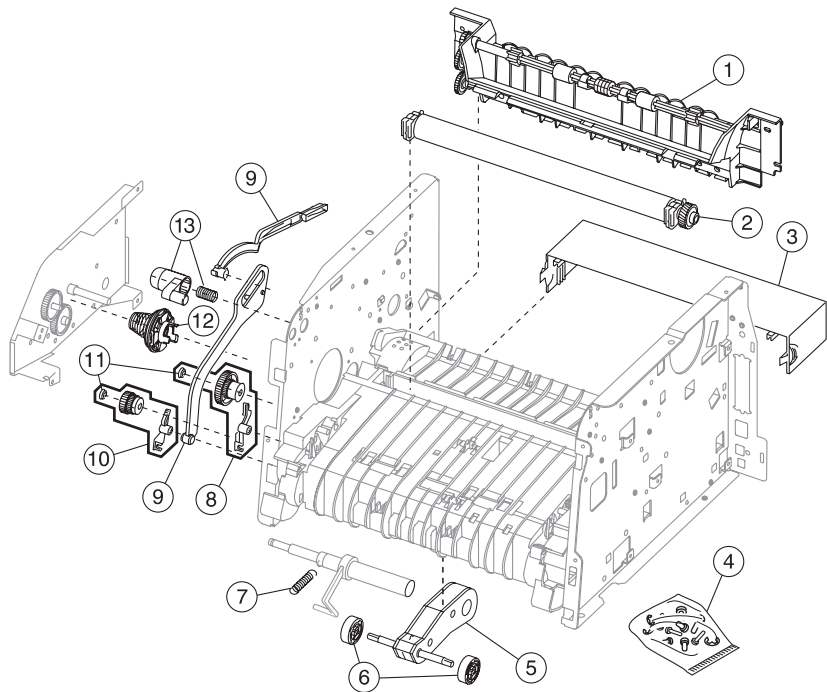
Assembly 3: Electronics



Assembly 3: Electronics

Asm-Index	Part number	Units/mach	Units/FRU	Description
3-1	40X1303	1	1	Laser/mirror print assembly, X340, X340n, X342n
2	40X1300	1	1	Fuser assembly, 110 V
2	40X1301	1	1	Fuser assembly, 220 V
2	40X1302	1	1	Fuser assembly, 100 V
3	40X1325	1	1	Exit sensor assembly
4	40X1333	1	1	Miscellaneous cable assemblies Note: Do not use the included LVPS/HVPS cable. Order part 40X2416. • Toner sensor • Fuser power • Main drive motor
5	40X1323	1	1	Input #1 sensor assembly
6	40X1326	1	1	Cover open sensor assembly
7	40X1328	1	1	Cooling fan
8	40X1332	1	1	Toner level sensor
9	40X2632	1	1	Controller card (X340–X340n)
9	40X4828	1	1	Controller card (X342n)
10	40X2416	1	1	LVPS to controller card cable
11	40X2430	1	1	LVPS/HVPS 110V card
11	40X2431	1	1	LVPS/HVPS 220V card
12	40X1324	1	1	Input #2 sensor assembly (manual feeder)
NS	40X2434	1	1	Network daughtercard
NS	40X2660	4	1	Ferrite core

Assembly 4: Frame



Assembly 4: Frame

Asm-Index	Part number	Units/mach	Units/FRU	Description
3-1	40X1334	1	1	Paper exit guide assembly
2	40X2822	1	1	Transfer, roll, bearings, gear, spring
3	40X2429	1	1	Legal extender cover
4	40X1353	N/A	N/A	Screws, miscellaneous (actual size) TP2NC-3.0+6P-Ni (2)   M3.0*0.5+6P-Ni, 2 Washer (2) MT3.0*0.5+6PF-Ni (5) TP2NC-3.0+6PF-Ni (4)  
5	40X4731	1	1	ASM, Pick arm
6	40X1319	2	2	Paper feed, rubber tires
7	40X1354	1		Front door and ACM springs
8	40X1331	1	1	Autocompensator clutch CBM
9	40X1338	1	1	Door-fuser idle gear link CBM
10	40X1330	1	1	Manual feed clutch CBM
11	40X1355	2	2	Plastic snap rings
12	40X1329	1	1	Developer drive coupling assembly
13	40X1337	1	1	Front access cover latch CBM

Assembly 5: Miscellaneous

Asm-Index	Part number	Units/mach	Units/FRU	Description
NS	12A2405	1	1	USB cable, packaged
NS	7376595	1		Field location package assembly
NS	40X0289	1	1	Power cord, 1.8M (straight)—USA, Canada
NS	40X0278	1	1	Power cord, 6 foot (straight)—Europe and others
NS	40X0288	1	1	Power cord, 6 foot—Argentina
NS	40X0271	1	1	Power cord, 6 foot—United Kingdom
NS	40X0275	1	1	Power cord, 6 foot (straight)—Israel
NS	40X0274	1	1	Power cord, 6 foot—Switzerland
NS	40X0276	1	1	Power cord, 6 foot—South Africa
NS	40X0287	1	1	Power cord, 6 foot (straight)—Traditional Italy
NS	40X0279	1	1	Power cord, 6 foot (straight)—Danish
NS	40X0277	1	1	Power cord, 6 foot (straight)—Brazil
NS	40X0282	1	1	Power cord, 1.8M (straight)—PRC
NS	40X0270	1	1	Power cord, 1.8M (straight)—Japan
NS	40X0280	1	1	Power cord, 1.8M (straight)—Korea
NS	40X0281	1	1	Power cord, 1.8M (straight)—Taiwan
NS	40X0296	1	1	Power cord, 1.8M (straight)—Australia

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40X2408	ADF cable	7-5
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40X2410	Flatbed cushion	7-7
40X2411	Scanner top housing	7-5
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40X2421	Base top cover assembly	7-3
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40X2620	ADF top assembly	7-5
40X2629	ADF assembly	7-5
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40X2631	CCD assembly	7-5
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40X2691	X 340-X340n Operator panel overlay (Spanish)	7-5
40X2692	X 340-X340n Operator panel overlay (French)	7-5
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40X2707	Operator panel overlay (Spanish network)	7-5
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40X2709	Operator panel overlay (Brazilian Portuguese network)	7-5
40X2710	Operator panel overlay (German network)	7-5
40X2711	Operator panel overlay (Italian network)	7-5
40X2712	Operator panel overlay (Dutch network)	7-5
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40X2714	Operator panel overlay (Norwegian network)	7-7
40X2715	Operator panel overlay (Swedish network)	7-7
40X2716	Operator panel overlay (Finnish network)	7-7
40X2717	Operator panel overlay (Russian network)	7-7
40X2718	Operator panel overlay (Polish network)	7-7
40X2719	Operator panel overlay (Simplified Chinese network)	7-7
40X2720	Operator panel overlay (Traditional Chinese network)	7-7

40X2721	Operator panel overlay (Korean network) -----	7-7
40X2822	Transfer, roll, bearings, gear, spring -----	7-11
40X3499	High friction pick roll pad -----	7-5
40X4828	Card, X342n controller -----	7-9
7376595	Field location package assembly -----	7-12

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X340, X340n, X342n

Wiring Diagram

Legend
 Input = **I**
 Output = **O**
 Plugged Voltage = **()**
 All voltages are DC
 unless otherwise
 noted

