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Service Manual

Lexmark™ X940e & X945e MFP

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Notices and safety information

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

Laser notice

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

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

Laser

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

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

Avis relatif à l'utilisation de laser

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

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

Avvertenze sui prodotti laser

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

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

Avisos sobre el láser

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

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

Declaração sobre Laser

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

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

Laserinformatie

De printer voldoet aan de eisen die gesteld worden aan een laserprodukt van klasse I. Voor de Verenigde Staten zijn deze eisen vastgelegd in DHHS 21 CFR Subchapter J, voor andere landen in IEC 60825-1.

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

Lasermeddelelse

Printeren er godkendt som et Klasse I-laserprodukt, i overenstemmelse 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 bølgelængdeområdet 770-795 nanometer. Lasersystemet og printeren er udformet således, at mennesker aldrig udsættes for en laserstråling over Klasse I-niveau ved normal drift, brugervedligeholdelse eller obligatoriske servicebetingelser.

Laserilmoitus

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

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

Huomautus laserlaitteesta

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

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

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

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 bølgelengdeområdet 770-795 nanometer. Lasersystemet og skriveren er utformet slik at personer aldri utsettes for laserstråling ut over klasse I-nivå under vanlig bruk, vedlikehold som utføres av brukeren, eller foreskrevne serviceoperasjoner.

Avís sobre el Làser

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

Els productes làser de classe I no es consideren perillosos. Aquesta impressora conté un làser de classe 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 СFR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ID(3b)のレーザーを内蔵しています。この レーザーは、波長が770 ~ 795ナノメーターの範囲で、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.

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

Safety information

- The 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 agréations 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 f
 ür dieses Produkt sind ausschlie
 ßlich f
 ür 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 segunrança, 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 안정 성이 입증된 것입니다. 따라서 무허가 교체부품을 사용하는 경 우에는 제조업체에서 안전에 대한 책임을 지지 않습니다.
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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.
- Parts catalog contains illustrations and part numbers for individual FRUs.
 Appendix A contains service tips and information.
 Appendix B contains representative print samples.

Conventions

Note: A note provides additional information.

Warning: A warning identifies something that might damage the product hardware or software.

There are several types of caution statements:



CAUTION

A caution identifies something that might cause a servicer harm.



CAUTION

This type of caution indicates there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.



CAUTION

This type of caution indicates a hot surface.



CAUTION

This type of caution indicates a tipping hazard.

1. General information

The Lexmark[™] X940e and X945e are color laser MFPs that provide print, copy, scan, and fax functions. All information in this service manual pertains to both models unless explicitly noted.

Printer technology

Color laser

Processor

• 1.25 GHz

Memory

- Standard: 512 MB
- Maximum: 1024 MB
- Hard Drive: 80 GB

Acoustics

All measurements were made in accordance with ISO 7779 and reported in conformance with ISO 9296.

Mode	Sound pressure level (dBA)	Sound power level (Bels)
Printing	52	6.9
Copying	53	7.2
Scanning Standby mode	54 32	7.0

Environment

Specified operating environment		
Operating temperature	15.6 C to 32.2 C (6o to 90°F	
Relative humidity	8% to 80%	
Altitude	2,500 meters (8,200 feet)	

Connectivity

- Standard USB and internet
- Optional parallel and serial

Size and weight - without finisher

- Size: H x W x D 42 x 27 x 25 in. (1153 x 660 x 810 mm)
- Weight: 383 lb. (174 kg)

Specifications

Scanner	
Scanner type	White Xe lamp
Scan Technology	CCD

Scanner			
Number of light sources	1		
Color bit depth	24		
Maximum optical resolution	600 x 600		
Scan area - flatbed	297 x 432 mm		
Scanner ADF			
Туре	C-path (duplexing)		
Optical resolution ADF (mono)	Maximum 600 x 600 dpi		
Optical resolution ADF (color)	Maximum 600 x 300 dpi		
Document capacity	75 sheets (80 g/m ²) bond		
Media weight	Maximum 32 lb (128g/m ²)		
Media weight	Minimum 16 lb (38 g/m ²) (50 g/m ² for duplex mode)		
Speed - maximum	Mono: up to 45 SPM		
(Letter/A4 long-edge fed)	Color: up to 45 SPM		
Scan area - ADF	Maximum 11.7 x 17 inches (297 x 432 mm)		
	Minimum 5.5 x 8.25 inches (139.7 x 210 mm)		
Enlargement/reduction capability	25 to 400%		

Printer overview



CAUTION: Do not set up this product or make any electrical or cabling connections, such as the power cord or options and features, during a lightning storm.

Basic model

The following illustration shows a printer with its base features.



Configured model



The following illustration shows a fully configured printer. Items denoted with an asterisk (*) are options.

Printer theory

Media transport

Media transport path

Media is supplied from the MPF, tray 1, 2, 3 or 4, and is transported to the printer along the media transport path shown below.



MFP paper path rolls


MFP sensors



Functions of main components

- Media tray assembly
- Media feed unit assembly
- MPF
- Xerographics
- Transfer
- Fuser
- Drive
- Electrical components and rolls

Media tray assembly

It is necessary to adjust the media tray rear guide and media tray end guide of the media tray assembly to match the media size.

Rear media guide

The rear media tray guide assembly can be adjusted to different media sizes by moving it to the front or rear. The rear guide come into contact with the media and hold it in position.

End guide

The media tray assembly is designed so it can adapt to the media length in the media feed direction by moving the end guide to the left or right.

Bottom plate

The force pushing up the bottom plate is transmitted by the driving force of the motor on the media feed unit assembly. The bottom plate is pushed up by the rotation of the lift up shaft, which causes the supplied media to come in contact with the pick roll.

Media tray assembly



Detection of media size

The media size set for the media tray assembly is transmitted to the switch (media size) by moving these guides. The media size is detected by the on/off information of these switches.

Media feed unit assembly

Since tray 1 and tray 2 are functionally equivalent in terms of the switch (media size), sensor (media out), sensor (media level) and sensor (pre-feed), only the components of one tray are described here.

The media feed unit assembly is a mechanical unit supplying media from the media tray assembly to the printer. The driving force, from the media feed lift motor on the media feed unit assembly, is transmitted to the three media feed rolls to feed media.

When the pick roll picks up media, the remaining media decreases, and the actuator of the sensor (media level) lowers accordingly. When the sensor (media level) detects the lowering, the media feed lift motor is activated to lift the lift up shaft and the bottom plate accordingly. Thus, the remaining media is ready to be fed.

Media feed/lift motor

This motor is activated to feed media and to lift the bottom plate. When feeding media, it rotates forward to drive the pick roll. When lifting the bottom plate, it rotates reversely to drive the tray module gears to lift the lift up shaft.

Switch (media size)

This switch (media size) sets the size of media supplied from each media tray assembly. A signal indicating the media size is transmitted as a voltage to the printer engine card assembly.

Sensor (media out)

If media runs out in a media tray assembly, the actuator lowers and the actuator flag, unlocks the sensing area of the sensor (media out). The sensor light is transmitted. When the sensing area is blocked (media is present), the signal is off.

Sensor (media level)

This sensor detects by the actuator position whether media in the media tray assembly is lifted. When the flag of the actuator unblocks the sensing area of the sensor (media level), the sensor detects that the media has been lifted.

Sensor (feed-out)

This sensor detects the media just after it is fed from the media feed unit. When the flag of the actuator unblocks the sensing area of the sensor (feed-out), the sensor detects that the media is present. The sensor (feed-out) is also used as a relay sensor along the media path up to the sensor (registration) in order for the engine to monitor media location.



Multi-purpose feeder (MPF)

The MPF is a mechanical unit suppling media to the printer. The driving force from the MPF/transport drive motor is transmitted to the MPF feed roll to feed media.

MPF feed roll

The MPF feed rolls feed media set on the MPF and into the printer.

MPF pick solenoid

The MPF pick solenoid transmits the driving force from the MPF/transport drive to the MPF feed rolls.

Sensor (MPF media out)

The sensor (MPF media out) detects whether media is present on the MPF.

Sensor (MPF media width)

The MPF side guides detects the width (length in the main scanning direction) of media on the MPF. MPF pick solenoid



Media size

The following table details the standard paper and envelope sizes supported by the Lexmark X945e MFPs and options.

Media	Width	Length
A4	210 mm	297 mm
A5	148 mm	210 mm
A3	297 mm	420 mm
JIS B5	182 mm	257 mm
JIS B4	257 mm	364 mm
Letter	8.5 inches	11 inches
Tabloid	11 inches	17 inches
Legal	8.5 inches	14 inches
Executive	7.25 inches	10.5 inches
Folio	8.5 inches	13 inches

Media	Width	Length
Statement	5.5 inches	8.5 inches
Universal	140 to 297 mm	98.4 to 432 mm
	5.5 to 11.7 inches	3.9 to 17 inches
MPF only	105 to 305 mm	148 to 482 mm
	4.1 to 12 inches	5.8 to 19 inches
7 3/4 Envelope	98.4 mm	190.5 mm
	3.875 inches	7.5 inches
10 Envelope	104.8 mm	241.3 mm
	4.12 inches	9.5 inches
DL Envelope	110 mm	220 mm
	4.33 inches	8.66 inches
CS Envelope	162 mm	229 mm
	6.38 inches	9.01 inches
Other Envelope	89 mm to 297 mm	98.4 to 431 mm
	3.5 to 11.7 inches	3.8 to 17 inches
Transparencies (Letter and A4)	8.5 inches	11 inches
	210 mm	297 mm

Registration

Sensor (registration)

The sensor (registration) is located just before the registration roll assembly can detect whether media exists in the registration path.

Sensor (transparency detect)

This sensor is used to detect transparency media in order to automatically adjust feed speed, charge biases and fuser temperatures.

Registration clutch

The registration clutch transmits the drive force of the K developer/transport drive motor to the registration roll assembly.

Media transport roll assembly

The media transport roll assembly feeds paper from tray 2, tray 3 and tray 4 toward the registration roll assembly.

Registration roll assembly



The registration roll assembly feeds the media at the precise moment to ensure that printed images are precisely placed. The registration roll assembly feeds media from all trays to the transfer belt.

Transfer belt drive motor assembly

This motor is used to rotate the transfer belt.

Transfer belt cleaning assembly

This assembly is used to remove residual toner images from the transfer belt after 2nd transfer and before the next print cycle.

Transfer

The transfer belt unit assembly contains the four 1st transfer rolls; these 1st transfer rolls are referred to as the CMYK transfer rolls. The CMYK transfer rolls are positively charged to remove the developed toner image from the four drums. The negatively charged toner image is attracted by positive charges on the surface of the transfer belt. Thus, the toner image is transferred from the drum surface to the transfer belt surface. During black (K) only, operation the CMY transfer rolls are retracted to reduce wear on the transfer belt surface and CMY drums.

Transfer belt steering motor

This motor is used to ensure that the transfer belt is properly tracking. If the transfer belt starts to track off-center then the transfer belt steering motor will activate to keep the transfer belt centered and tracking properly.

2nd transfer roll assembly

The 2nd transfer roll assembly applies positive charges to the rear surface of the media when the media passes between the 2nd transfer roll assembly and the transfer belt. The negatively charged toner image is attracted by positive charges on the surface of the media. Thus, the toner image is transferred from the transfer belt surface to the media surface.

2nd transfer roll retract motor

The 2nd transfer roll retract motor is used to retract the 2nd transfer roll assembly when printing processes are not occurring.

Sensor (2nd transfer roll HP)

The sensor (2nd transfer roll HP) is used to detect the home position of the 2nd transfer roll assembly.



Printhead assembly

The printhead scans the four drum surface with four laser beams. It consists of four components: laser diode (LD) card assembly, printhead motor, polygon mirror, and four start of scan card assemblies.

- 1. LD card assembly generates a laser beam with the four LDs. The beam is turned on or off according to a print data signal. The printhead contains 4 LD card assemblies for the colors CMY & K.
- 2. Printhead motor/polygon mirror the polygon mirror is mounted to the shaft of the printhead motor, and is rotated at a high speed by the printhead motor. The mirror rotation shifts the incidence and reflection angles of a laser beam to scan the laser beam in the drum axial direction. The laser beam reaches the polygon mirror as it passes through multiple lenses, mirrors, and windows. The laser beam then arrives at the drum surface.
- SOS card assembly when a laser beam hits the SOS sensor on the SOS card assembly, the beam is converted to an electrical signal (SOS signal), and detects the initial position where a scan starts on each line.

When a laser beam is scanned across the drum surface from one end to the other while turning on and off the beam, one line of latent image is created. If the scanning by the laser beam is repeated while rotating the drum, a two-dimensional image is created. The resolution in the scanning direction (from right to left) is determined by the rotational speed of the printhead motor, depending on how quickly the laser is adjusted. The resolution in the process direction (from top to bottom) is determined by the rotational speed of the printhead motor. (The higher the scanning speed becomes, the sconer the scanning of the next row can be started.)







Printhead shutter

The printhead shutter tightly covers the slit glass through which laser beams from the printhead pass to write the four drums. To prevent the seal glass from becoming dirty, the shutter stays closed except when laser beams are written onto the drums.

The printhead shutter motor assembly is used to prevent contamination from obstructing the printhead slit glasses. The printhead shutters for yellow, magenta, cyan and black are opened or closed simultaneously by the printhead shutter motor assembly.

Fuser



Heat roll

The heat roll is a hollow metal tube with a coated surface. This tube is heated by the inner heater lamp. The heat is applied to the media passing between the heat roll and pressure roll, fusing the toner on the media.

Pressure belt

The pressure belt is used to apply pressure to the media surface for fusing. Pressure is applied to the media between the pressure belt and heat roll, pressing the melted toner against the media.



Heater lamp

The heater lamp is a quartz glass tube containing a heater coil. A terminal is mounted to the end of the heater rod via a harness. Two heater lamps are used: the main heater lamp to heat the entire heat roll, and the sub heater lamp to heat the central portion of the heat roll.

Thermostat

If the heat roll temperature exceeds the preset temperature, the thermostat cuts off the circuits of the main heater lamp and sub heater lamp.

Front thermistor

The front thermistor monitors the surface temperature of the media-feed portion of the heat roll to control on/off of the main heater lamp and sub heater lamp.

Rear thermistor

The rear thermistor monitors the surface temperature at the rear side of the heat roll to switch the heater lamp to on.

Fuser exit sensor

The fuser exit sensor detects the arrival of media at the detection point in the exit area of the fuser, and also detects the ejection of media from this point.

Exit



The standard media exit ejects printed media from the printer to the standard bin 1.

Standard media exit roll assembly

The media exit roll assembly feeds printed media from the fuser to the standard bin.

Sensor (standard bin full)

The sensor (standard bin full) detects whether the standard bin is full by moving the actuator up and down.

Standard media exit shift motor

The standard media exit shift motor allows the standard media exit roll assembly to shift back and forth to perform off-set sorting.

Duplex diverter gate

The duplex diverter gate switches the media transport path. When the duplex diverter gate is lifted, media is fed to the standard bin. When it is lowered, media is fed to the duplex.



Drive

K developer/transport drive motor assembly

The K developer/transport drive motor is a DC motor that drives the K developer unit assembly, registration roll, 2nd transfer roll, fuser and standard media exit rolls.

MPF/transport drive motor

The MPF/transport drive motor is a stepper motor that drives the MPF unit assembly and media transport roll.



CMYK PC cartridge drive motor assembly

The CMYK PC cartridge drive motor assembly uses dual DC brushless motors that drive the four drums in the four PC cartridges.



CMY developer drive motor assembly

The CMY developer drive motor assembly uses a DC brushless motor to drive the three color developer unit assemblies.

K developer clutch

This clutch is used to engage the K developer unit assembly and is driven by the K-developer transfer drive motor assembly.



The CMYK toner add motor assembly consists of 4 separate DC motors. Each color of toner has its own motor that is used to rotate the toner auger inside the toner cartridge and drive the auger inside the toner add assembly.

Waste toner agitator motor assembly



The waste toner agitator motor assembly is used to rotate an auger inside the waste toner cartridge in order to distribute collected waste toner evenly to prevent spillage and overflow.

Electrical components and controller

Switch (main power)

Turning on/off the switch, power supplies/cuts off the main power of the printer.

Finisher AC output

Supplies power to the finisher from the AC drive card assembly.

Switch (printer front door interlock) and switch (printer left door interlock)

The switch is a safety switch to cut off a 24 VDC power supply from the LVPS card assembly to the high volt power supply (HVPS) card assembly, printer engine card assembly and to the dual motor assembly, while the printer front door assembly and the printer left door assembly are open.

Switch (printer left lower door interlock)

The switch (left lower door interlock) detects open or close of the printer left lower door assembly.

Fuser cooling fan

The fuser cooling fan discharges air from the printer to prevent excessive temperature increase.

AC drive card assembly

The AC drive card assembly accepts the main source voltage and distributes it to secondary power supplies and circuit boards. It also contains the fuser relay to feed/cut off AC power to the heater lamps of the fuser unit assembly.

5V LVPS card assembly

The LVPS card assembly generates low voltages 5V for logic circuits, 5 V for laser diodes from AC power.

24V LVPS card assembly

The LVPS card assembly generates 24 V for motors/clutches from AC power.

CMYK transfer roll HVPS card assembly

The CMYK transfer roll HVPS card assembly generates AC power and feeds it to the CMYK transfer rolls inside the transfer belt unit assembly.

Developer roll HVPS card assembly

The HVPS card assembly generates AC power and feeds it to the four developer rolls, the transfer belt unit assembly and the 2nd transfer roll assembly

Charge roll HVPS card assembly

The HVPS card assembly generates AC power and feeds it to the four charge rolls.



Upper printer engine card assembly

The upper printer engine card assembly controls printing operation based on the communication with the RIP card assembly and optional peripherals. It also controls toner dispense, erase lamps and fuser control.

Lower printer engine card assembly

The lower printer engine card assembly controls printing operation based on the communication with the RIP card assembly and on sensor/switch information. It also controls many of the drive motors, clutches and solenoids.

RIP card assembly

The RIP card assembly connected to the printer engine card assembly controls the entire system as well as the printhead operations.



Media size control

Media tray assembly feeding

The following table gives the states (on/off) of the switches on the switch (media size), corresponding to the media sizes of the media tray assembly.

Note: The switches on the switch (media size) are denoted by "S/W2", "S/W4", "S/W3", "S/W5", and "S/W1" respectively from the left side.

Media size	Analog switch				Digital switch
	S/W1	S/W2	S/W3	S/W4	S/W5
No media tray assembly	Off	Off	Off	Off	Off
5.5" X 8.5"SEF/A5 SEF	Off	Off	On	Off	Off
B5 SEF	Off	Off	On	On	On
8.5" X 13"SEF	Off	On	Off	On	Off
8.5" X 14"SEF	Off	On	Off	On	On
A4 SEF	Off	On	On	Off	Off
8.5" X 11"SEF	Off	On	On	Off	On
A4 LEF	On	Off	On	Off	Off
A3 SEF	On	Off	On	On	Off
B5 LEF/executive LEF	On	On	Off	Off	On
8K SEF(TFX/GCO)	On	On	Off	On	Off
B4 SEF	On	On	Off	On	On
8.5" X 11"LEF	On	On	On	Off	Off
16K LEF(TFX/GCO)	On	On	On	Off	On
11" X 17"LEF	On	On	On	On	On

Printhead control

Rotation of printhead motor

The on/off control of the printhead motor is performed according to the mode of operation as shown below.

Operation mode	PRINTHEAD motor on/off
Standby mode	Always off
Print mode	Turns on upon receiving the signal from the controller, and turns off after a preset time has passed from the end of printing. Also turns off if a print command is not received within 30 seconds from the reception of the signal.
Sleep mode	Always off

Determination of printhead ready

The printhead goes into ready state after the specified period passes since the reception of the printhead MPA start signal and the SOS cycle exceeds the reference value.

Printhead reference value

Printhead reference value	Description
Ready reference value	SOS signal interval (equivalent to 98% or more of the rated RPM of the printhead motor)
Fail reference value	SOS signal interval (less than 98% of the rated rpm of the printhead motor)

Fuser control

Fuser control method

The on/off control of the main/sub heater lamps is performed based on the fuser control temperature. The fuser transmits between the five states (warm up, ready, standby, print, and low power) depending on the heat roll surface temperature or printer conditions.

The fuser temperature control starts when the fuser ready in the AC drive card assembly is turned on after a preset time period has passed from power on. If a failure occurs, the heater lamps are turned off, the fuser ready is turned off, and then the fuser temperature control is stopped.

Main/sub heater lamps on/off control

The front and rear thermistors detect the heat roll surface temperature (fuser temperature) to regulate the temperature at the target control temperature by turning on or off the main/sub heater lamps.

Fuser warm-up

The fuser warm-up starts at the time of power on, interlock open or close, jam reset, or return from the low power mode, and ends when the ready temperature is attained, when a failure occurs, or when executing diagnosis.



Xerographic process during a print cycle

The Charge Roll places a uniform negative electrostatic charge on the surface of the drum. The drum surface is made of a photoconductive material that holds an electrical charge as long as the drum remains in darkness. Light striking the drum discharges the surface charge.



The charge roll is a conductive roll that is positioned slightly above the surface of the drum. The HVPS supplies the charge roll with two voltages; a negative DC charge voltage and an AC discharge voltage that is used for electrically cleaning the drum.



Exposure

The Printhead generates a beam of laser light. Image data received from the RIP card assembly modulates this beam, turning it on and off according to image information that is received from the host computer and software.

Through the use of a series of rotating and stationary mirrors within the Printhead, the beam scans the negative charged drum surface. Whenever the print controller sends a command to print a black pixel, the laser switches on long enough to shine onto the drum at a single pixel point. That point is now discharged and slightly less negative than the surrounding negative charge. The less negative areas are considered positive. This discharge/no discharge process creates an invisible, electrostatic image on the surface of the drum. This image is called a **latent** image.



Development

The toner contained within the PC Cartridge has a magnetic property that causes it to adhere to the Magnetic Roll. The Metering Blade spreads the toner into a very thin layer on the Magnetic Roll. Friction between the Magnetic Roll and the CM Blade generates a small electrical charge that is transferred to the toner.

The surface of the Magnetic Roll is made up of a thin sheet of conductive material. The HVPS supplies the Magnetic Roll with two voltages: a DC voltage and an AC voltage. The DC voltage is used to transfer toner from the Magnetic Roll to the surface of the drum. The AC voltage agitates the toner on the Magnetic Roll, making toner transfer easier.

The Magnetic Roll maintains a negative DC electrical potential. Negative charged areas of the drum have a lower electrical potential, or higher relative negative value than the Magnetic Roll. Discharged areas of the drum have a higher electrical potential, or lower relative negative value, than the Magnetic Roll. A discharged point on the surface of the drum now appears less negative in relation to the negative charge on the Magnetic Roll.

The toner adhering to the Magnet Roll is always in contact with the drum surface. When a less negative point on the drum (a discharged area) comes in contact with the more negative charged toner on the Magnet Roll, toner transfers from the Magnet Roll to that point on the drum. There is now a visible toner image on the drum surface. The image is called a *developed* image.



Transfer

As the paper travels between the 2nd transfer Roll and the transfer belt surface, the Transfer Roll applies a positive charge to the back of the printing paper. This positive charge transfers the negative charged toner image from the transfer belt to the top surface of the paper. The toner image is now on the paper and the paper

is now stuck to the transfer belt due to the relative electrical differences between the negative electrical charge of the inner conductive layer of the drum and the positive electrical charge of the paper.



Cleaning

The Cleaning Blade removes any toner that remains on the drum after the transfer process. The toner that the Cleaning Blade removes is collected inside the sealed PC Cartridge and reused.



Discharge

At both the start and the end of each individual printer cycle, the erase lamps electrically clean the drum. The light emitted removes any residual DC charge that was left from the previous print cycle.



The image density sensor assembly uses a reflection type sensor that detects a pre-placed toner patch and image on the transfer belt and outputs pulses when the central line of the patch image aligns with the central line of the detector. The sensor outputs pulses at the timing the patch image passes the sensor. Therefore, observing changes of intervals at which pulses are output leads to color mis-registration detection. If no color mis-registration occurs, pulses are output at regular intervals.

Document scanning

The document scanning section of this machine consists of a scanner that reads a single-sheet document placed on the platen glass and a document feeder that can transport a multiple-sheet document and flip the sheets for two-sided scanning.

This ADF employs a constant velocity transport system that scans images by feeding the document at a constant speed over the specified position (scan position) where the carriage (full/half rate carriage) of the scanner unit assembly is fixed.



Document scanning at platen

Shown below is the operational overview of document scanning at the platen.



The full rate carriage and half rate carriage travel to read the document.

The exposure lamp is installed on the full rate carriage. As the full rate carriage travels, the document on the platen glass is scanned and exposed with the exposure lamp.

In conjunction with the full rate carriage, the half rate carriage travels half of the stroke of the full rate carriage.

The optical image of the exposed document is reflected by the scanner 1st mirror of the full rate carriage and directed to the scanner lens via the scanner 2nd mirror and the scanner 3rd mirror of the half rate carriage.

The image data is read with the scanner CCD image sensor assembly.

Document scanning at ADF

Shown below is the document feed path from the ADF.



A document sheet set in the document tray assembly is fed through the ADF feed roll, ADF pick roll, and ADF registration roll assembly. The document image is scanned at the scan position, and the document sheet is ejected through the ADF feed-out roll assembly and the ADF exit roll assembly. For a duplex document sheet, the image on side 1 is scanned at the scan position and then the document sheet is inverted and fed to the ADF transport roll assembly again.

Described below is the overview of the steps before document scanning and that of simplex and duplex document scanning modes.

Setting a document

When a document is set on the document tray assembly and the lead edge is pushed into the tray until it stops, the ADF document set actuator moves to place the sensor (ADF document set) in the unshielded (unblocked) state. Then the machine recognizes that the document has been set properly, turning on the document set LED.

Preparation for feed

Pressing the start button with the document set in the document tray will start feeding the document.

First the pick roll moves down and presses the document on the document tray to enable document feed.

The pick roll moves down with the normal rotation of the pick roll position motor assembly and it moves up with the reverse rotation of the pick roll position motor assembly.

Upon completion of document feed, the pick roll returns to the normal (raised) position.

Pre-feed

In the pre-feed step, a document sheet is fed from the Feed roll to the ADF transport roll assembly. To correct the skew, side1 of the document sheet is thrust against the ADF transport roll assembly rotating in the reverse direction, and side2 is thrust against the ADF transport roll assembly at rest.

With the pick roll at the down position (see Preparation for feed), the ADF feed motor assembly rotates in the reverse direction (CCW direction) to drive the pick roll and Feed roll. The pick roll feeds the top document sheet on the document tray toward the Feed roll. The Feed roll nipped by the separation roll feeds the document sheets (from the pick roll) one by one. When the sensor (ADF sheet through) detects a document sheet, the machine recognizes that feed of the first document sheet is complete.

When the sensor (ADF pre-registration) detects a document sheet, the ADF feed motor assembly slows down. As a result, the document sheet stops against the ADF transport roll assembly, correcting the skew.



Pre-registration

In the pre-registration step, the document sheet (fed to the ADF transport roll assembly in the pre-feed step) is fed to the ADF registration roll assembly, and then the lead edge of the document sheet is fed from the ADF registration roll assembly, to the scan feed reference position (Wait Position) located upstream from the scan position, where the document stops. Thus, registration of the lead edge of the document is performed.

When the document sheet is fed to the ADF transport roll assembly, the ADF feed motor assembly changes its rotational direction to the normal direction (CW direction) to drive the ADF transport roll assembly. The ADF transport roll assembly feeds the document sheet toward the ADF registration roll assembly. When the sensor (ADF pre-registration) detects the document sheet, the ADF registration motor rotates in the reverse direction (CCW direction) to drive the ADF registration roll assembly, and ADF exit roll assembly. The ADF registration roll assembly. The ADF registration roll assembly feeds the document sheet toward the sensor (CCW direction) to drive the ADF registration roll assembly, ADF feed-out roll assembly, and ADF exit roll assembly. The ADF registration roll assembly feeds the document sheet (fed from the ADF transport roll assembly) to the scan feed reference position.

When the sensor (ADF registration) detects the document sheet, the ADF feed motor assembly slows down. From this moment on, the ADF feed motor assembly and ADF registration motor decelerate continuously until the document stops in the predetermined amount of time. At this point, the document sheet stops with the lead edge nipped by the ADF registration roll assembly at 15 mm from the top. This is when the document sheet stops at the scan feed reference position.

ADF transport roll assembly



ADF registration roll assembly

Scan control

Scanning of the image illuminated with the exposure lamp of the full rate carriage is controlled by changing the feed speed according to the copy magnification.

The document sheet stopping at the scan feed reference position is then fed to the scan position when the scan signal is sent from the main unit of the machine after the predetermined time lapse following the paper detection at sensor (ADF registration). Upon receipt of the scan signal, the ADF feed motor assembly rotates in the normal direction (CW direction) to drive the ADF transport roll assembly and the ADF registration motor rotates in the reverse direction (CCW direction) to drive the ADF registration roll assembly, ADF feed-out roll assembly, and ADF exit roll assembly. Each motor gradually accelerates up to the specified speed. When the document sheet passes the scan position at the specified speed, the images on the document sheets are exposed by scanning with the exposure lamp of the full rate carriage, and are read by the CCD image sensor assembly.

When the predetermined period of time has elapsed since the document sheet ceased to be detected by the sensor (ADF pre-registration), the ADF feed motor assembly stops.

When the predetermined period of time has elapsed since the document sheet passed through the sensor (ADF inverter), the ADF registration motor stops.

Inversion

In the inversion step, the document sheet is inverted at the inverter gate and fed to the ADF transport roll assembly again. By thrusting the document sheet against the ADF transport roll assembly at rest, the skew of the inverted document sheet is corrected.

This enables scanning of a duplex document.

When the predetermined period of time has elapsed since the document sheet passed the sensor (inverter), the ADF registration motor starts rotating in the normal direction (CW direction) to drive the ADF exit roll assembly in the direction opposite to the exit direction. Thus, the document sheet is inverted and fed to the ADF transport roll assembly again.

When the sensor (ADF pre-registration) detects the document sheet, the ADF registration motor decelerates until it stops.

The inverter gate is so designed that the document sheet fed toward the exit can pass through it smoothly. When the trail edge of the document sheet has passed through the inverter gate, it closes the downstream document feed path. Thus the document sheet is fed over the inverter gate up to the ADF transport roll assembly when fed backward, thereby inverting the document sheet.



Simplex document

For two simplex document sheets, feed is performed in the following sequence:

- 1. The first document sheet is fed to the ADF transport roll assembly. (see Pre-feed)
- 2. The document is fed to the ADF registration roll assembly, and then fed to the scan feed reference position. (see Pre-registration)
- 3. The document sheet is fed at the feed speed corresponding to the selected magnification, and the image on it is scanned with the exposure lamp at the scan position. (see Scan control)
- As the image is scanned, the document sheet is fed and ejected by the ADF feed-out roll assembly and ADF exit roll assembly that are driven by the ADF registration motor turning in the reverse direction (CCW direction).
- 5. When the trail edge of the first document sheet has passed through the sensor (ADF pre-registration), the feed of the second document sheet starts.



Duplex document

The ADF scans the image on Side 1 (side facing up when set on the tray), inverts the document sheet, scans the image on Side 2 (side facing down when set on the tray), and then ejects the document sheet while inverting it.

Therefore, the duplex document sheet is ejected with Side 2 up as with the simplex document sheet.

For two simplex documents, feed is performed in the following sequence.

- 1. The first document sheet (Side 1) is fed to the ADF transport roll assembly. (see Pre-feed)
- 2. The document sheet (Side 1) is fed to the ADF registration roll assembly and then fed to the scan feed reference position. (see Pre-registration)
- 3. The document sheet (Side 1) is fed at the feed speed corresponding to the selected magnification, and the image is scanned with the exposure lamp at the scan position. (see Scan control)
- 4. As the image is scanned, the document (Side 1) is fed by the ADF feed-out roll assembly and ADF exit roll assembly that are driven by the ADF registration motor rotating in the reverse direction (CCW direction). When the trail edge of the document has passed through the sensor (inverter), the ADF registration motor changes its rotational direction to the normal direction (CW direction) to drive the ADF exit roll assembly in the opposite direction. Thus, the document sheet is inverted and fed to the ADF transport roll assembly again.
- 5. When the sensor (ADF pre-registration) detects the lead edge of the document sheet (Side 2), the inverter solenoid assembly is turned on to release the nipped ADF exit roll assembly and exit pinch roll. If these rolls are not released, the lead edge of the document sheet (Side 2) reaches the ADF exit roll assembly before the trail edge of the document sheet (Side 2) leaves the ADF exit roll assembly when the document sheet (Side 2) is long in the slow scanning direction.
- 6. The document sheet (Side 2) is fed to the ADF registration roll assembly and then fed to the scan feed reference position. (see Pre-registration)
- 7. The document sheet (Side 2) is fed at the feed speed corresponding to the selected magnification, and the image on it is scanned with the exposure lamp at the scan position. (see Scan control)
- 8. When the trail edge of the document sheet (Side 2) passes through the sensor (ADF pre-registration), the inverter solenoid assembly is turned off to nip the ADF exit roll assembly and exit pinch roll.
- 9. As the image is scanned, the document sheet (Side 2) is fed by the ADF feed-out roll assembly and ADF exit roll assembly that are driven by the ADF registration motor turning in the reverse direction (CCW direction). When the trail edge of the document sheet (Side 2) has passed through the sensor (inverter), the ADF registration motor changes its rotational direction to the normal direction (CW direction) to drive the ADF exit roll assembly in the opposite direction. Thus, the document sheet (Side 2) is inverted and fed toward the ADF transport roll assembly again.
- 10. At the same time, the ADF feed motor assembly rotates in the normal direction (CW direction) to drive the ADF transport roll assembly, thus feeding the document sheet (Side 1) toward the exit.

- 11. When the sensor (ADF pre-registration) detects the lead edge of document sheet (Side 1), the inverter solenoid assembly is turned on to release the nipped ADF exit roll assembly and exit pinch roll, and the ADF registration motor decelerates and stops.
- 12. After the predetermined time, the ADF registration motor starts rotating in the reverse direction (CCW direction) to drive the ADF registration roll assembly and ADF feed-out roll assembly in the exit direction in order to feed the document sheet (Side 1).
- 13. When the trail edge of the document sheet (Side 1) passes the sensor (ADF pre-registration), the inverter solenoid assembly is turned off to nip the ADF exit roll assembly and exit pinch roll, thereby ejecting the document sheet with the ADF exit roll assembly.
- 14. At this timing, the feed of the second document sheet starts.
- 15. The subsequent steps are the same as those for the first document sheet.



Image data flow

The image date from the document set on the scanner unit assembly or ADF goes through the following components before it is printed at the Engine section.



Drive torque transfer scheme

ADF feed motor assembly

The rotational force of the ADF feed motor assembly is transferred to each document feeding roll as shown below.



ADF registration motor

The rotational force of the ADF registration motor is transferred to each document feeding roll as shown below.




Names and functions of components

The sections below describe the functions of main components of the scanner.

Scanner unit assembly

Sensor (platen length APS 1)

Sensor (platen length APS 2)

The document length in the slow scanning direction is detected by a combination of the two reflector sensors.

Switch (platen interlock)

A switch that detects whether the ADF is open and determines the timing of platen document size detection.

Sensor (ADF angle)

A sensor that detects the angle at which the ADF opens and determines the timing of platen document size detection.

Scanner drive motor assembly

A stepping motor that drives the full rate carriage and the half rate carriage.

Sensor (scanner HP)

A sensor that detects the HP position of the full rate carriage.

The rear portion of the full rate carriage frame functions as an actuator that shields the sensor (scanner HP) for detection.

Scanner exposure lamp

A xenon lamp to which the document is exposed.

Exposure lamp PS card assembly

A card that switches on/off the exposure lamp according to the signal from the scanner controller card assembly.

Lens assembly

A kit that consists of a lens used to read the document and a CCD image sensor used to photoelectrically convert the image data read from the document.

Scanner controller card assembly

A card that controls the scanner section.

Scanner cooling fan





ADF

Sensor (ADF tray length 1)

Sensor (ADF tray length 2)

The document length in the slow scanning direction is detected by a combination of these two sensors.

Sensor (document tray width 1)

Sensor (document tray width 2)

Sensor (document tray width 3)

The document length in the fast scanning direction is detected by the combination of these three sensors detecting the position of the tray on which the document is set.

Sensor (ADF document set)

A sensor that detects the presence or absence of a document on the ADF document tray.

(Presence: Beam is unshielded (unblocked). Absence: Beam is shielded (blocked).)

Pick roll position motor assembly

A stepping motor that moves the pick roll vertically.

Sensor (pick roll position HP)

A sensor that detects the home position of the pick roll.

ADF Document Set LED

An LED that illuminates when a document is set on the ADF Document Tray.

Switch (ADF left cover interlock)

A switch that detects whether the ADF left cover assembly is open.

ADF controller card assembly

A card that controls the ADF unit assembly. The ADF controller card assembly is connected to and controlled by the Scanner controller card assembly.



Sensor (ADF APS 1)

Sensor (ADF APS 2)

Sensor (ADF APS 3)

These are sensors that detect the fast-scanning-directional width of the moving document.

Sensor (ADF sheet through)

The ADF sensor (ADF sheet through) is installed immediately downstream from the Feed roll to detect completion of document feed. (document is present: shielded (blocked); document is absent: unshielded (unblocked))

Sensor (ADF pre-registration)

The ADF sensor (ADF pre-registration) is installed immediately upstream from the ADF transport roll assembly to detect that the preceding document sheet has left the ADF transport roll assembly, triggering the pre-feed of the next document sheet.

Sensor (ADF registration)

The sensor (ADF registration) is installed upstream from the ADF registration roll assembly to detect that the preceding document sheet has left the ADF registration roll assembly, triggering the pre-registration of the next document sheet.

Sensor (ADF inverter)

The sensor (ADF inverter) is installed immediately downstream from the ADF feed-out roll assembly to detect the ejection of a document sheet.

ADF feed motor assembly

The feed motor assembly is a stepping motor that rotates the pick roll and feed roll in the reverse direction (CCW direction) and rotates the ADF transport roll assembly in the normal direction (CW direction).

When this motor rotates in the reverse direction, the ADF transport roll assembly stops.

ADF registration motor

The registration motor is a stepping motor that rotates the ADF registration roll assembly, ADF feed-out roll assembly, and ADF exit roll assembly in the reverse direction (CCW direction) and rotates the ADF exit roll assembly in the normal direction (CW direction).

When this motor rotates in the normal direction, the ADF registration roll assembly and ADF feed-out roll assembly run idle.

Inverter solenoid assembly

This solenoid nips or releases the ADF exit roll assembly and exit pinch roll.

Normally, the ADF exit roll assembly and exit pinch roll are nipped.

On: Released Off: Nipped



Control

Document size detection at scanner unit assembly

The width (fast-scan-directional size) of the document sheet on the Platen Grass is detected with the CCD image sensor, and the length (slow-scanning-directional size) is detected with the sensor (platen length APS 1) and the sensor (platen length APS 2).

Document size detection timing

The size of the document sheet on the platen glass is detected at the following timings:

- When the Platen Cover (ADF) is closed
- When the START button is pressed with the Platen Cover (ADF) open

Identification of standard document sizes

The width of the document sheet is detected in millimeters with the CCD image sensor to determine the size in the fast scanning direction. With respect to a pair of documents whose sizes in the fast scanning direction are the same, the document size is determined by detecting paper presence/absence at the positions of sensor (platen length APS 1) and sensor (platen length APS 2) (e.g., A4LEF vs. A3SEF; 8.5x11SEF vs. 8.5x13SEF).

The standard document sizes to be identified by the same given detection information are defined on an area-by-area basis. Each area is to be set in the system data.

The figure below shows the positional relationships among the scan position of the CCD image sensor and the positions of sensor (platen length APS 1) and the sensor (platen length APS 2).



Shown below are the combinations of document size, detection range in the fast scanning direction, and sensors.

	Width (Fast scanning direction: mm)		Length (Slow scanning direction)			Area		
Document Size	Fast scanning Width	Detection Range	Sensor (platen length APS 1)	Sensor (platen length APS 2)	0	1	2	
Japanese Post Card SEF	100.0	90–115	Off	Off	X	Х	N	
Post Card SEF	101.6				N	0	Х	
A6 SEF	105.0				0	Ν	0	
5 X 7 SEF	127.0	115–138	Off	Off	Ν	0	Ν	
B6 SEF	128.0				0	Ν	0	
5.5 X 8.5 SEF	139.7	138–163	Off	Off	Х	0	Х	
A5 SEF	148.0				0	Х	0	
Japanese Post Card LEF	148.0				Х	Х	Ν	
Post Card LEF	152.4				N	Ν	Х	
B5 SEF	182.0	163–188	On	Off	0	Х	0	
16kai SEF	194.0/ 195.0	188–202	On/Off	Off	Х	Х	X*3	
A5 LEF	210.0	202–213	Off	Off	0	X*3	0	
A4 SEF	210.0		On	On/Off	0	X*3	0	
5.5 X 8.5 LEF	215.9	213–226	Off	Off	O ^{*1}	0	X*3	
8.5 X 11 SEF	215.9		On	Off	0 ^{*1}	0	X*3	
8.5 X 12.4 SEF	215.9		On	On	Ν	Ν	Х	
8.5 X 13 SEF	215.9				0	Ν	Х	
8.5X 14 SEF	215.9				Ν	0	Х	
8 X 10 LEF	254.0	226–262	Off	Off	Ν	X*4	Х	
B5 LEF	257.0				O ^{*2}	Х	0	
B4 SEF	257.0		On	On	0	Х	0	
Executive LEF	266.7	262–267	Off	Off	Х	O ^{*4}	Х	
8 X 10.5 LEF	266.7				X*2	Ν	Х	
16kai LEF	267.0/	267–275	Off	Off	Х	Х	X*3	
8kai SEF	270.0		On	On/Off	Х	Х	X*3	
8.5 X 11 LEF	279.4	275–289	Off	Off	O ^{*2}	0	X*5	
11 X 14.9 SEF	279.4		On	On	Ν	Ν	Х	
11 X 17 SEF	279.4				0	0	X ^{*5}	

	Width (Fast scanning direction: mm)		Length (Slow scanning direction)		Area		
Document Size	Fast scanning Width	Detection Range	Sensor (platen length APS 1)	Sensor (platen length APS 2)	0	1	2
A4 LEF	297.2	289–307	Off	Off	0	0	O ^{*5}
A3 SEF	297.2		On	On	0	0	O ^{*5}

O: Detectable by default.

N: Detectable by replacing the document size marked as O with the system data having the same detection information.

- X: Not detectable.
- *1 : Changeable from 5.5 X 8.5 LEF to A5 LEF, or from 8.5 X 11 SEF to A4 SEF by the system data.
- ^{*2}: Changeable from B5 LEF or 8.5 X 11 LEF to 8 X 10.5 LEF by the system data.
- ^{*3}: Detectable by setting the system data.
- ^{*4:} Changeable from Executive LEF to 8 X10 LEF.
- ^{*5}: Changeable from A4 LEF to 8.5 X 11 LEF, or from A3 SEF to 11 X 17 SEF.

ADF document size detection

The ADF first detects the document size when the document is set on the document tray, and detects the document size again when the document travels.

When the document is set on the document tray, the document size is determined by a combination of ON/off status of the sensor (ADF APS 1), sensor (ADF APS 2) and the sensor (ADF APS 3) for detecting the document width (in the fast scanning direction) and ON/off status of the sensor (document tray length 1) and the sensor (document tray length 2) for detecting the document length (in the slow scanning direction).

The document width is detected according to whether the sensor (document tray width 1), sensor (document tray width 2) and the sensor (document tray width 3) are shielded (blocked) or unshielded (unblocked) by the document tray size actuator moving in conjunction with guides of the document tray.

The document length is detected according to whether the sensor (document tray length 1) and the sensor (document tray length 2) are shielded (blocked) or unshielded (unblocked) by the document set on the tray.

When different-sized sheets are stacked on the tray, the document size is determined by using the largest possible combination of width and length obtained from the sheets.



The standard document sizes to be identified by the same given detection information are defined on an area-by-area basis. Each area is to be set in the system data.

The table below shows the combinations of document sizes and sensors.

Document Size	Width (Fast scanning direction) Sensor (document tray width *)		Length (Slow scanning direction) Sensor (document tray length *)		Area			
	1	2	3	1	2	0	1	2
5.5 X 8.5 SEF	Off	Off	Off	On	Off	Х	0	Х
A5 SEF						0	Х	0
B5 SEF	Off	Off	Off	On	Off	Х	Х	0
8 X 10 SEF						Х	0	Х
8 X 10.5 SEF						0	Х	Х
A5 LEF	Off	On	Off	Off	Off	0	0	0
A4 SEF				On	Off	0	0	0
5.5 X 8.5 LEF	Off	On	On	Off	Off	0	0	0
8.5 X 11 SEF				On	Off	0	0	0
8.5 X 13 SEF				On	On	0	Х	Х
8.5 X 14 SEF						Х	0	0
8 X 10 LEF	On	Off	On	On	Off	0	0	0
B5 LEF				Off	Off	0	0	0
B4 SEF				On	On	0	0	0
8 X 10.5 LEF	On	Off	Off	On	Off	0	0	Х
Executive LEF				Off	Off	0	0	Х
16kai LEF						Х	Х	0
8kai SEF				On	On	0	0	0
8.5 X 11 LEF	On	On	Off	On	Off	0	0	0
11 X 17 SEF				On	On	0	0	0
A4 LEF	On	On	On	On	Off	0	0	0
A3 SEF				On	On	0	0	0

O: Detectable

X: Not Detectable

While the document is traveling, document size detection is performed as follows.

When the document goes through the sensor (ADF APS 1), sensor (ADF APS 2) and the sensor (ADF APS 3), the document width in the fast scanning direction is detected according to the combination of shielded/ unshielded status of each sensor.

The document length in the slow scanning direction is detected by the scanning time measured from the moment when the document starts scanning from the wait position (see Pre-registration) until its tail end passes through the sensor (ADF sheet through).

Document scanning steps

The CCD image sensor is used to read image data from the document. To stabilize the read image data, the CCD image sensor output is adjusted and the read image data is compensated.

The CCD image sensor output is adjusted with the gain/offset voltage of the amplifier in the analog circuit. This adjustment includes AGC and AOC.

In addition, the reference data is collected and compensation values are calculated to compensate for the read image data. This compensation includes shading compensation, white variation compensation, and black variation compensation. These adjustment and compensation steps are detailed below.

The reference data is prepared by reading the image data of a white reference plate via the CCD image sensor.

AGC (auto gain control): white level coarse adjustment

AGC is a function that adjusts the gain so that the CCD image sensor output becomes as specified when the exposure lamp is on. AGC functions as a coarse white level adjustment of the image. AGC is performed at initialization.

AOC (auto offset control)

AOC is a function that adjusts the offset voltage so that the CCD image sensor output becomes as specified when the exposure lamp is off. AOC functions as a black level adjustment of the image. AOC is performed at initialization.

Shading compensation

Shading compensation is a function that compensates for pixel-to-pixel sensitivity variation of the CCD image sensor and pixel-to-pixel output variation of the CCD image sensor that is caused by illumination non uniformity in the fast scanning direction of the optical system.

Shading compensation is performed at initialization.

White level variation compensation

White level variation compensation is performed to compensate for variation in light quantity of the exposure lamp.

White level variation compensation includes two processes: acquisition of white variation compensation reference data during initialization and white variation compensation during document scanning.

For the ADF, white level variation compensation is performed at both the white reference plate position of the platen and at the white reference plate of the scanner read position.

Black level variation compensation

Black level variation compensation is performed to compensate for variation in black level that is caused by the temperature drift of the CCD image sensor and analog circuit.

Black level variation compensation is performed during document scanning.

For the platen, black level variation compensation is performed at the white reference plate position of the platen. For the ADF, black level variation compensation is performed at the scanner read position.

TTM theory



Media transport path

Media is supplied from tray 2, tray 3 or tray 4, and is transported to the printer along the media transport path shown below.



Media transport path

The following is a cross section of the printer and the tandem tray module, showing the main components directly associated with the media path and transport.



Functions of main components

When the TTM is installed under the printer, additional trays are available.

Media tray assembly

It is necessary to adjust the rear side guides in the media tray assembly to match the media size.

Rear media guide

The rear media guide can be adjusted to different media sizes by moving it to the front or rear. The guide comes into contact with the rear edge of the media and holds it in position.

Bottom plate

The force pushing up the bottom plate is transmitted by the driving force of the motor on the media feed unit assembly. The bottom plate is pushed up by the rotation of the lift up shaft, which causes the supplied media to come in contact with the pick roll.

The force pushing up the bottom plate of tray 3 is transmitted by the driving force of the media feed lift motor on the media feed unit assembly to the media lift shaft assembly through the tray lift gear assembly 3. The bottom plate is lifted up via the rear tray cables, front right cable and front left cable by the rotation of the tray lift shaft assembly, which causes the supplied media to come into contact with the pick roll.

The force pushing up the bottom plate of tray 4 is transmitted to the tray lift shaft assembly through the tray lift gear assembly 4. The bottom plate is lifted up via the front tray cables and rear tray cables by the rotation of the tray lift shaft assembly, which causes the supplied media to contact the pick roll.

Tray 2 media tray assembly





Tray 3 or 4 media tray assembly

TTM media feed units

Media feed unit assembly

Since the tray 3 and tray 4 are functionally equivalent in terms of the switch (TTM media size), sensor (media out), sensor (media level) and sensor (pre-feed), only the components of one tray are described here.

The media feed unit assembly is a mechanical unit supplying media from the media tray assembly to the printer. The driving force from the media feed lift motor on the media feed unit assembly is transmitted to the three roll assemblies to feed media.

When the pick roll picks up sheets of media and the remaining media decreases, the media level actuator of the sensor (media level) lowers accordingly.

Media feed lift motor

The media feed lift motor is activated to feed media and to lift the bottom plate. While feeding media, it rotates forward to drive the pick roll. When lifting the bottom plate, it rotates in reverse to drive the tray module gears to turn the lift up shaft.

Switch (media size)

This switch (media size) sets the size of media supplied from each media tray a

Switch (TTM media size)

The switch (TTM media size) switches the setting of the size of media supplied from each media tray assembly. A signal indicating the set size is transmitted as a voltage to the printer engine card assembly.

Sensor (media out)

If there is no media in the media tray assembly, the media out actuator lowers and the flag of the media out actuator that has stayed in the sensor (media out) sensing area leaves there. Thus, the light of the sensor is transmitted. When the sensing area is blocked (media is present), the signal turns off.

Sensor (media level)

This sensor detects by the actuator position whether media in the media tray assembly is lifted. When the flag of the actuator leaves the sensor (media level) sensing area, the sensor detects that the media has been lifted.



Main components

Switch (tray module left door interlock)

The switch (tray module left door interlock) detects open/close of the tray module left door assembly.

Sensor (tray 2 feed-out)

The sensor (tray 2 feed-out) detects media fed from trays 2, 3, or 4.

Sensor (tray 3 feed-out)

The sensor (tray 3 feed-out) detects media fed from the tray 3 or tray 4.

Sensor (tray 4 feed-out)

The sensor (tray 4 feed-out) detects media fed from the tray 4.

Tray module media transport roll assembly

The tray module transport roll assembly feeds media from the tray 3 or tray 4 to the printer.

Tray module drive motor

This motor is used to drive the media transport mechanism in the tray module.

TTM tray 4 media transport motor

This motor is used in the TTM to transport media from the tray 4 towards the tray module left door assembly.

TTM controller card assembly

The TTM controller card assembly, which contains a CPU, controls media feed in the tandem tray module upon receiving a command from the upper printer engine card assembly and sensor/switch information.



Switch (TTM media size)

The following table gives on/off states of the switches on the switch (TTM media size), corresponding to the media sizes of the media tray assembly.

Note: The switches (TTM media size) are denoted by "S/W1" and "S/W3" respectively from the left side.

Madia Siza	Analog switch			
media Size	S/W1	S/W3		
No Tray	Off	Off		
B5L/7.25" x 10.5"L	Off	On		
8.5" x 11"L	On	Off		
A4L	On	On		

3TM theory



Media transport

Media transport path

Media is supplied from tray 3 or tray 4, and is transported to the printer along the media transport path shown below.



Media transport path

The following is a cross section of the printer and the tandem tray module, showing the main components directly associated with the media path and transport.



Functions of main components

When the 3TM is installed under the printer, additional trays are available.

Media tray assembly

Media feed unit assembly

It is necessary to adjust the guide and the end guide in the media tray assembly to match the media size.

Rear media guide

The rear media guide can be adjusted to different media sizes by moving it to the front or rear. The guide comes into contact with the rear edge of the media and holds it in position.

Bottom plate

The force pushing up the bottom plate is transmitted by the driving force of the motor on the media feed unit assembly. The bottom plate is pushed up by the rotation of the lift up shaft, which causes the supplied media to come in contact with the pick roll.

Tray 2, 3, 4 media tray assembly



3TM media feed units

Media feed unit assembly

Since the tray 2, tray 3, and tray 4 are functionally equivalent in terms of the switch (media size), sensor (media out), sensor (media level) and sensor (pre-feed), only the components of one tray are described here.

The media feed unit assembly is a mechanical unit supplying media from the media tray assembly to the printer. The driving force from the media feed lift motor on the media feed unit assembly is transmitted to the three roll assemblies to feed media.

When the pick roll picks up sheets of media and the remaining media decreases, the media level actuator of the sensor (media level) lowers accordingly.

Media feed lift motor

The media feed lift motor is activated to feed media and to lift the bottom plate. While feeding media, it rotates forward to drive the pick roll. When lifting the bottom plate, it rotates in reverse to drive the tray module gears to turn the lift up shaft.

Switch (media size)

The switch (media size) switches the setting of the size of media supplied from each media tray assembly. A signal indicating the set size is transmitted as a voltage to the printer engine card assembly.

Sensor (media out)

If there is no media in the media tray assembly, the media out actuator lowers and the flag of the media out actuator that has stayed in the sensor (media out) sensing area leaves there. Thus, the light of the sensor is transmitted. When the sensing area is blocked (media is present), the signal turns off.

Sensor (media level)

This sensor detects by the actuator position whether media in the media tray assembly is lifted. When the flag of the actuator leaves the sensor (media level) sensing area, the sensor detects that the media has been lifted.



Main components

Switch (tray module left door interlock)

The switch (tray module left door interlock) detects open/close of the tray module left door assembly.

Sensor (tray 2 feed-out)

The sensor (tray 2 feed-out) detects media fed from trays 2, 3, or 4.

Sensor (tray 3 feed-out)

The sensor (tray 3 feed-out) detects media fed from the tray 3 or tray 4.

Sensor (tray 4 feed-out)

The sensor (tray 4 feed-out) detects media fed from the tray 4.

Tray module media transport roll assembly

The tray module transport roll assembly feeds media from the tray 3 or tray 4 to the printer.

Tray module drive motor

This motor is used to drive the media transport mechanism in the tray module.

3TM controller card assembly

The 3TM controller card assembly, which contains a CPU, controls media feed in the tandem tray module upon receiving a command from the upper printer engine card assembly and sensor/switch information.



Switch (media size)

The following table gives on/off states of the switches on the switch (media size), corresponding to the media sizes of the media tray assembly.

Note: The switches (media size) are denoted by "S/W1" and "S/W3" respectively from the left side.

Madia Siza	Analog switch			
media Size	S/W1	S/W3		
No Tray	Off	Off		
B5L/7.25" x 10.5"L	Off	On		
8.5" x 11"L	On	Off		
A4L	On	On		

1TM theory



Media transport path

Media is supplied from tray 3 or tray 4, and is transported to the printer along the media transport path shown below.



Media transport path

The following is a cross section of the printer and the 1TM, showing the main components directly associated with the media path and transport.



Functions of main components

When the 1TM is installed under the printer, additional trays are available.

Media tray assembly

It is necessary to adjust the rear and the end guide in the media tray assembly to match the media size.

Rear media guide

The rear media guide can be adjusted to different media sizes by moving it to the front or rear. The guide comes into contact with the rear edge of the media and holds it in position.

Bottom plate

The force pushing up the bottom plate is transmitted by the driving force of the motor on the media feed unit assembly. The bottom plate is pushed up by the rotation of the lift up shaft, which causes the supplied media to come in contact with the pick roll.

Tray 2 media tray assembly



1TM media feed units

Media feed unit assembly

The media feed unit assembly is a mechanical unit supplying media from the media tray assembly to the printer. The driving force from the media feed lift motor on the media feed unit assembly is transmitted to the three roll assemblies to feed media.

When the pick roll picks up sheets of media and the remaining media decreases, the media level actuator of the sensor (media level) lowers accordingly.

Media feed lift motor

The media feed lift motor is activated to feed media and to lift the bottom plate. While feeding media, it rotates forward to drive the pick roll. When lifting the bottom plate, it rotates in reverse to drive the tray module gears to turn the lift up shaft.

Switch (media size)

The switch (media size) switches the setting of the size of media supplied from each media tray assembly. A signal indicating the set size is transmitted as a voltage to the printer engine card assembly.

Sensor (media out)

If there is no media in the media tray assembly, the media out actuator lowers and the flag of the media out actuator that has stayed in the sensor (media out) sensing area leaves there. Thus, the light of the sensor is transmitted. When the sensing area is blocked (media is present), the signal turns off.

Sensor (media level)

This sensor detects by the actuator position whether media in the media tray assembly is lifted. When the flag of the actuator leaves the sensor (media level) sensing area, the sensor detects that the media has been lifted.



Main components

Switch (tray module left door interlock)

The switch (tray module left door interlock) detects open/close of the tray module left door assembly.

Sensor (tray 2 feed-out)

The sensor (tray 2 feed-out) detects media fed from the tray 2.

Tray module media transport roll assembly

The tray module transport roll assembly feeds media from the tray 2.

Tray module drive motor

This motor is used to drive the media transport mechanism in the tray module.

1TM controller card assembly

The 1TM controller card assembly, which contains a CPU, controls media feed in the 1TM upon receiving a command from the upper printer engine card assembly and sensor/switch information.



Switch (media size)

The following table gives on/off states of the switches on the switch (media size), corresponding to the media sizes of the media tray assembly.

Note: The switches (media size) are denoted by "S/W1" and "S/W3" respectively from the left side.

Madia Siza	Analog switch			
media Size	S/W1	S/W3		
No Tray	Off	Off		
B5L/7.25" x 10.5"L	Off	On		
8.5" x 11"L	On	Off		
A4L	On	On		
Duplex



Layout of media transport path

The main components associated with the media path and transport with the duplex installed.



Functions of main components

When the duplex is installed to the left of the printer, duplex (double-sided) printing is available with the printer.

The following outlines the functions of the main components of the duplex.

Switch (duplex left door interlock)

The switch (left door interlock) detects open/close of the left door.

Sensor (duplex wait)

The sensor (duplex wait) detects whether media is remaining in the duplex.

Duplex media transport roll assembly

The two duplex media transport roll assemblies and the duplex media center transport roll assembly re-feeds the media printed on the front side through the duplex to print on the rear side.

Duplex controller card assembly

The duplex controller card assembly that contains a CPU controls media feed in the duplex upon receiving a command from the upper printer engine card assembly and sensor/switch information.

Duplex drive motor

The duplex drive motor transmits driving force to the two duplex media transport roll assemblies and the duplex media center transport roll assembly middle that feeds media.



Tools required for service

Flat-blade screwdriver #1 Phillips screwdriver, magnetic #2 Phillips screwdriver, magnetic short-blade Needle nose pliers Diagonal side cutters Spring hook Analog or digital multi meter Parallel wrap plug 1319128 Twinax/serial debug cable (#1381963) Coax/serial debug cable (#1381964) 5.5 mm hexdriver (magnetic) Color toner vacuum Fine incremental ruler

Acronyms

1TM	1 Tray Module
3TM	3 Tray Module
AC	Alternating Current
ADF	Automatic Document Feeder
APS	Automatic Paper Size
ASIC	Application Specific Integrated Circuit
ATC	Automatic Toner Control
CRU	Customer Replaceable Unit
CSU	Customer Setup
CCW	Counterclockwise
CW	Clockwise
DC	Direct Current
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
EDO	Enhanced Data Out
EP	Electrophotographic Process
EPROM	Erasable Programmable Read-only Memory
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
GB	Gigabyte
GFI	Ground Fault Interrupter
HCF	High-Capacity Feeder
HVPS	High Voltage Power Supply
LASER	Light Amplification by Stimulated Emission of Badiation
	Liquid Crystal Display
	Laser Diode
	Light-Emitting Diode
IFF	Long Edge Feed
I VPS	Low Voltage Power Supply
MPF	Multi-Purpose Feeder
MS	Microswitch
NVM	Nonvolatile Memory
NVRAM	Nonvolatile Bandom Access Memory
OFM	Original Equipment Manufacturer
OPT	Ontical Sensor
PC	Photoconductor
PEI	
POR	Power-on Beset
POST	Power-on Self Test
PPM	Pages Per Minute
PSC	Parallel Synchronous Communications
PSD	Position Sensing Device
PWM	Pulse Width Modulation
REID	Badio Frequency Identification
RIP	Baster Imaging Processor
ROM	Bead only Memory
RDM	Revolutions Por Minuto
SDRAM	Synchronous Dual Bandom Access Momory
	Short Edge Eged
SIMM	Single Inline Memory Module
	Start of soan
000	Start OF SCALL

SRAM	Static Random Access Memory
TTM	Tandem Tray Module
TVOC	Total Volatile Organic Compound
UPR	Used Parts Return
V	Volts
V ac	Volts alternating current
V dc	Volts direct current

2. Diagnostic information

Start



CAUTION

Unplug the power cord from the electrical outlet before you connect or disconnect any cable electronic board or assembly.

CAUTION

If the printer is kept on, never touch the conductive parts if not specifically required. The power switch and inlet of the low voltage power supply card (LVPS card) assembly is live even while the power supply is cut off. Never touch the live parts.



CAUTION

Be careful to avoid burns by safely handling hot parts.



CAUTION

The standard finisher weight is 59 kg (130 lb.) and requires at least two people to lift it safely. The booklet finisher weight is 87.5 kg (193 lb.) and requires at least four people to lift it safely. Make sure your fingers are not under the finisher when you lift or set it down.

The MFP weighs approximately 173kg (383 lb.) and requires at least four people to lift it safely. Make sure your fingers are not under the MFP when you lift or set it down.

- **Warning:** When operating the driving units using the diagnostics or other tools, be sure to keep them covered unless otherwise specified.
- **Warning:** When operating the driving units using the diagnostics or other tools, never touch the driving units. When operating the driving units using diagnostics or other tools, be sure to follow the procedures in this manual.
- Warning: Servicers should wear a wrist band or the like to remove static electricity from their body, grounding their body while working. Go to "Handling ESD-sensitive parts" on page 4-1.

Note: There may be printer error messages that are not contained in this service manual. Call your next level support for assistance.

Confirm the installation status

Be sure to check the following items before starting the troubleshooting procedures.

- With the power cord unplugged from the wall outlet, check that the cord is free from breakage, short-circuit, disconnected wire, or incorrect connection in the power cord.
- The printer is properly grounded. Check the power cord ground terminal.
- The printer is not installed at a place subjected to extreme temperature, extreme humidity or rapid changes in temperature.
- The printer is not installed close to water service, humidifier, heat generating unit, fire, in a very dusty place, or a place exposed to air flow from the air conditioning system.
- The printer is not installed in a place where volatile gas or inflammable gas is generated.
- The printer is not installed in direct sun.
- The printer is installed on a level and stable surface.
- · Media meets specifications and is installed properly.
- Customer maintenance parts have been replaced at the specified intervals.
- Check all attached options for proper attachment and electrical connection.
- Refer to the User's Guide for proper installation.

Power-on Reset sequence

The following is an example of the events that occur during the POR sequence:

- **1.** Turn the machine on.
- 2. The Lexmark splash screen appears with a progress bar in the center until the code is loaded.
- **3.** The scanner exposure lamp flashes several times.
- 4. The fuser cooling fan turns on.
- **5.** The fuser unit assembly lamps turn on.
- 6. The RIP card assembly cooling fan turns on.
- 7. Operator panel LED becomes solid.
- 8. The transport motor turns on.

The following is an example of the screen that appears after the code is loaded.



Control panel 0 #-(*) F 9- \Diamond

Callout	Control panel item		Function
1	LCD	A liquid crystal di buttons, menus, making selection	isplay (LCD) which shows home screen menu items, and values. Allows for s within Copy, Fax, and so on.
2	Indicator light	Gives information colors red and gr	n about the status of the MFP using the reen.
		Status	Indicates
		Off	MFP power is off.
		Blinking green	MFP is warming up, processing data, or printing a job.
		Solid green	MFP is on, but idle.
		Solid red	Operator intervention is required.
3	0–9 Note: Referred to as the numeric keypad	Press these butto screen has a field Also, use these b	ons to enter numbers when the LCD d that accepts the entry of numbers. buttons to dial phone numbers for faxes.
		Note: If a number without pressing and changes the	er is pressed while on the home screen the # button first, the Copy menu opens Copy Quantity.
4	# (Pound or number character)	Press this button	:
		 For a shortcu Within phone enter it twice From the hon item, E-mail I menu item to 	It identifier. numbers. For a Fax number with a #, — ##. ne screen, the Fax Destination List menu Destination List menu item, or Profile List access shortcuts.

5	Dial Pause	Press to cause a two- or three-second dial pause in a fax number. The button only functions within the Fax menu or with fax functions.
		Press from the home screen to redial a fax number.
		When outside of the Fax menu, fax function, or home screen, pressing Dial Pause causes an error beep.
		When sending a fax, in the Fax To: field, a Dial Pause press is represented by a comma (,).
6	Home t	Press to return to home/start screen.
7	Start	Press to initiate the current job indicated on the control panel.
		From the home screen, press it to start a copy job with the default settings.
		If pressed while a job runs through the scanner, the button has no effect.
8	Stop	Press to cause the printing or scanning to stop.
		During a scan job, the scanner finishes scanning the current page and then stops, which means paper may remain in the automatic document feeder (ADF).
		During a print job, the print media path is cleared before the printing stops.
		Stopping appears on the control panel during this process.
9	Backspace	Within the Copy menu, which is accessed by touching the Copy button, press Backspace to delete the right- most digit of the value in the Copy Count. The default value of 1 appears if the entire number is deleted by pressing Backspace numerous times.
		Within the Fax Destination List, press Backspace to delete the right-most digit of a number entered manually. It also deletes an entire shortcut entry. Once an entire line is deleted, another press of Backspace causes the cursor to move up one line.
		Within the E-mail Destination List, press Backspace to delete the character to the left of the cursor. If the entry is in a shortcut, the entire entry is deleted.
10	Asterisk (*)	* is used as part of a fax number or as an alphanumeric character.
11	USB Direct interface	The host Universal Serial Bus (USB) direct interface on the control panel is used to plug in a USB flash memory device and print any Portable Document Format (PDF) (.pdf file), Joint Photographic Experts Group (JPEG) (.jpeg or .jpg file), Tagged Image File Format (TIFF) (.tiff or .tif file), Graphics Interchange Format (GIF) (.gif file), Basic Multilingual Plane (BMP) (.bmp file), Portable Network Graphics (PNG) (.png file), Picture eXchange (PCX) (.pcx file), and PC Paintbrush File Format (.dcx file) files.
		document to a USB flash memory device using the PDF, TIFF, or JPEG formats.

Home screen and Home screen buttons

After the MFP is turned on and a short warm-up period occurs, the LCD shows the following basic screen which is referred to as the Home screen. Use the Home screen buttons to initiate an action such as copy, fax, or scan, to open the menu screen, or to respond to messages.



Callout number	Button	Function
1	Сору	Touch to access the Copy menus. If the home screen is shown, press a number to access the Copy menus, too.
2	E-mail	Touch to access the E-mail menus. It is possible to scan a document directly to an e-mail address.
3	Menus (A key is shown on the button.)	Touch to access the menus. These menus are only available when the MFP is in the Ready state.
		The Menus button is on a gray bar called the navigation bar. The bar contains other buttons described as follows.
4	Status message bar	Shows the current MFP status such as Ready or Busy.
		Shows MFP conditions such as Toner Low.
		Shows intervention messages to give instructions on what the user should do so the MFP can continue processing, such as Close door or insert print cartridge.
5	Status/Supplies	Appears on the LCD whenever the MFP status includes a message requiring intervention. Touch it to access the messages screen for more information on the message including how to clear it.
6	? (Tips)	All menus have a Tips button. Tips is a context-sensitive Help feature within the LCD touch screens.

7	FTP	Touch to access the File Transfer Protocol (FTP) menus. A document can be scanned directly to an FTP site.
8	Fax	Touch to access the Fax menus.

Other buttons may appear on the Home screen. They are:

Button	Button name	Function
	Release Held Faxes (or Held Faxes if in Manual Mode)	There are held faxes with a Check the sensor (sheet through) for proper operation. Hold time previously set. To access the list of held faxes, touch this button.
	Search Held Jobs	 To search on any of the following items and return any matches: User names for held or confidential print jobs Job names for held jobs, excluding confidential print jobs Profile names Bookmark container or job names USB container or job names for supported extensions only
	Held Jobs	To open a screen containing all the held jobs containers.
	Lock Device	 This button appears on the screen when the MFP is unlocked and Device Lockout Personal Identification Number (PIN) is not null or empty. To lock the MFP: 1 Touch Lock Device to open a PIN entry screen. 2. Enter the correct PIN to lock the control panel which locks both the control panel buttons and the touch-screen buttons. Once the control panel is locked, the PIN entry screen clears, and the Lock Device button is replaced with the Unlock Device button. Note: If an invalid PIN is entered, Invalid PIN. appears. A pop-up screen appears with the Continue button. Touch Continue. The home screen returns with the Lock Device button.

	Unlock Device	 This button appears on the screen when the MFP is locked. The control panel buttons and shortcuts cannot be used while it appears, and no default copy starts may occur. To unlock the MFP: 1 Touch Unlock Device to open a PIN entry screen. 2. Enter the correct PIN to unlock the numeric keypad (0–9) and the Backspace button on the control panel. Note: If an invalid PIN is entered, Invalid PIN. appears. A pop-up screen appears with the Continue button. Touch Continue. The home screen returns with the Unlock Device button.
Cancel Jobs	Cancel Jobs	To open the Cancel Jobs screen. The Cancel Jobs screen shows any of the following items under three headings on the screen which are Print, Fax, and Network: • print job • copy job • fax • profile • FTP • e-mail send Each heading has its own list of jobs shown in a column under the heading. Each column can only show three jobs per screen. The job appears as a button. If more than three jobs exist in a column, then the down arrow appears at the bottom of the column. Each touch of the down arrow accesses one job in the list. When more than three jobs exist, once the fourth job in the list is reached, then an up arrow appears at the top of the column. For illustrations of the up and down arrow buttons, see <color>Information on touch-screen buttons.</color>

Using the LCD touch-screen buttons

The following section provides information on navigating through several screens. Only a few are chosen to demonstrate the use of the buttons.

Sample screen one



Information on touch-screen buttons

Button	Button name	Function or description
	Touch button	Touch the select button to have another screen appear with additional items. On the first screen, the user default setting is shown. Once the select button is touched, and the next screen appears, touching another item shown on the screen changes the user default setting.
	Left scroll decrease button	Touch the left scroll decrease button to scroll to another value in decreasing order.
•	Right scroll increase button	Touch the right scroll increase button to scroll to another value in increasing order.

Button	Button name	Function or description
	Left arrow button	 Touch the left arrow button to scroll left to: Reach a decreased value shown by an illustration. See a full text field on the left.
	Right arrow button	 Touch the right arrow button to scroll right to: Reach an increased value shown by an illustration. See a full text field on the right.
Scan the ADF	Scan the ADF Scan the flatbed	On the gray navigation bar, these two choices indicate that two types of scanning are possible. One may choose to scan from the ADF or the flatbed.
	Submit	A green button indicates a choice. If a different value within a menu item is touched, it needs to be saved to become the current user default setting. To save the value as the new user default setting, touch Submit .
Scan the flatbed		Submit
	Back	When the Back button is shaped like this, no other navigation is possible from this screen except to go back. If any other choice is made on the navigation bar, the screen closes.
Back		For example, in <color>Sample screen one, all the selections for scanning have been made. One of the preceding green buttons should be touched. The only other button available is Back. Touch Back to return to the previous screen, and all the settings for the scan job made on Sample screen one are lost.</color>
Back	Back	When the Back button is shaped like this, both forward and backward navigation is possible from this screen, so there are other options available on the screen besides selecting Back .

Sample screen two

C

Legal (8.5 x 14 in.)	
Executive (7.25 x 10.5 in.)	0
Folio (8. 5 x 13 in.)	0
Statement (5.5 x 8.5 in.)	0
A4 (210 x 297 mm)	0

Information on touch-screen buttons

Button	Button name	Function or description
	Down arrow	Touch the down arrow to move down to the next item in a list, such as a list of menu items or values. The down arrow does not appear on a screen with a short listing. It only appears if the entire listing cannot be seen on one screen. On the last screen of the listing, the down arrow is gray to indicate that it is not active since the end of the list appears on this screen.
	Up arrow	Touch the up arrow to move up to the next item in a list, such as a list of menu items or values. When on the first screen presented with a long list, the up arrow is gray to indicate that it is not active. On the second screen needed to show the rest of the listed item, the up arrow is blue to show that it is active.
	Unselected radio button	This is an unselected radio button.
	Touched radio button	This is a selected radio button. Touch a radio button to select it. The radio button changes color to show it is selected. In <color>Sample screen two, the only paper size selected is Letter.</color>

Button	Button name	Function or description
Cancel Job	Cancel Job	See "Cancel Jobs" on page 2-7.
Continue	Continue	 Touch Continue after a menu item or value on a screen is selected and more changes need to be made for a job from the original screen. Once Continue is touched, the original screen appears. For example, if one touched Copy on the home screen, the Copy screen appears like "Sample screen one" on page 2-8. The following example shows how the Continue button reacts. 1 Touch the select button by the Copy to box and a new screen appears. 2. Touch MP Feeder and a new screen appears. 3. Touch Legal and a new screen appears. 5. Touch Plain Paper for the type of print media needed. 6. Touch Continue. The Copy screen returns to allow other selections besides Copy to. The other settings on the Copy screen available are Duplex, Scale, Darkness, Collate, and Copies. Touch Continue to return to the original screen and make other setting changes for a copy job before the Copy it button is touched to start the job.

Other touch-screen buttons

Button	Button name	Function or description
	Custom	Allows for creating a custom button based on the user's needs.
Cancel	Cancel	Touch Cancel to cancel an action or a selection. Touch to cancel out of a screen and return to the previous screen.
	Touch	Touch to select a menu. The next screen appears showing menu items. Touch to select a menu item. The next screen appears showing values.

Button	Button name	Function or description
Done	Done	Allows specifying that a job is finished. For example, when scanning an original document, one could indicate that the last page is scanned, and then printing the job would begin.
Back	Back	Touch the Back button to return to the previous screen, and no settings are saved on the screen where it was touched. The Back button appears on each menu screen except for the home screen.
	Home	Touch the Home button to return to the home screen. The Home button appears on every screen except the home screen. See the " Home screen and Home screen buttons" on page 2-5.
	Grayed out button	When this button appears, it looks faded with a faded word on it. It means the button is not active or unavailable on this screen. It was probably active on the previous screen, but the selections made on the previous screen caused it to be unavailable on the current screen.
	Gray button	Touch this button to select the action appearing on the button.

Features

Feature	Feature name	Description
<u>Menus</u> <arrow>‡ <u>Settings</u> <arrow>‡ <u>Copy</u> <u>Settings</u> <arrow>‡ Number of Copies</arrow></arrow></arrow>	Menu trail line	A line is located at the top of each menu screen. This feature acts as a trail. It gives the exact location within the menus. Touch any of the underlined words to return to that menu or menu item. The Number of Copies is not underlined since this is the current screen. If this feature is used on the Number of Copies screen before the Number of Copies is set and saved, then the selection is not saved, and it does not become the user default setting.
	Attendance message alert	If an attendance message occurs which closes a function, such as copy or fax, then a blinking red exclamation point appears over the function button on the home screen. This feature indicates an attendance message exists.

To enter the diagnostic menu:

- 1. Turn off the printer.
- 2. Press and hold the ${\bf 3}$ and ${\bf 6}$ buttons simultaneously.
- 3. Turn on the printer.
- 4. Release the buttons after 10 seconds.

Error code table

Error code or message	Error contents	Description/Action
298.01	Scanner power cable missing or unplugged	The scanner is not receiving input power. Go to "298.01 Scanner cable missing or unplugged" on page 2-108.
Scanner jam	Sensor (ADF registration) lag jam	The media reached the sensor (ADF registration) but did not clear it within the specified time. Go to "290.13 Sensor (ADF registration) lag jam" on page 2-77.
200.00 Paper jam	Sensor (registration) late jam	The media is late reaching the sensor (registration) within the specified time after being fed from any given media tray. Go to "200.00 Sensor (registration) late jam" on page 2-38 .
200.01 Paper jam	Sensor (registration) lag jam	The media reached the sensor (registration) but did not clear it within the specified time. Go to "200.01 Sensor (registration) lag jam" on page 2-39.
200.02 Paper jam	Sensor static jam	Media remains in the areas shown on the operator panel after power on. Go to "200.02 Sensor static jam" on page 2-41 .
200.03 Paper jam	Sensor (media on belt) late jam	The media is late reaching the sensor (media on belt) within the specified time after reaching the sensor (registration). Go to "200.03 Sensor (media on belt) late jam" on page 2-42.
201.00 Paper jam	Sensor (fuser exit) late jam	The media is late reaching the sensor (fuser exit) within the specified time after reaching the sensor (registration). Go to "201.00 Sensor (fuser exit) late jam" on page 2-43.
202.00 Paper jam	Sensor (fuser exit) lag jam	The media reached the sensor (fuser exit) but did not clear it within the specified time. Go to "202.00 Sensor (fuser exit) lag jam" on page 2-45.
230.00 Paper jam	Sensor (duplex wait) late jam (duplex media feed)	The media is late reaching the sensor (duplex wait) within the specified time after the duplex media inverter clutch is turned on. Go to "230.00 Sensor (duplex wait) late jam (duplex media feed)" on page 2-46.

Error code or message	Error contents	Description/Action
231.00 Paper jam	Sensor (registration) late jam (duplex media feed)	The media is late reaching the sensor (registration) within the specified time after the duplex drive motor is turned on.
		Go to "231.01 Sensor (registration) late jam (duplex media feed)" on page 2-50.
231.01 Paper jam	Sensor (registration) late jam (duplex media feed)	The media is late reaching the sensor (registration) within the specified time after reaching the sensor (duplex wait).
		Go to "231.01 Sensor (registration) late jam (duplex media feed)" on page 2-50.
241.00 Paper Jam	Sensor (tray 1 feed-out) late jam.	The media is late reaching the sensor (tray 1 feed- out) within the specified time after the tray 1 media feed lift motor is turned on.
		Go to "241.00 Sensor (tray 1 feed-out) late jam" on page 2-52.
242.00 Paper jam	Sensor (tray 2 feed-out) late jam.	The media is late reaching the sensor (tray 2 feed- out) within the specified time after the tray 2 media feed lift motor is turned on.
		Go to "242.00 Sensor (tray 2 feed-out) late jam" on page 2-54.
242.01 Paper jam	Sensor (tray 1 feed-out) late jam (feeding from tray 2)	The media is late reaching the sensor (tray 1 feed- out) within the specified time after reaching the sensor (tray 2 feed-out).
		Go to "242.01 Sensor (tray 1 feed-out) late jam (feeding from tray 2)" on page 2-55.
243.00 Paper jam	Sensor (tray 3 feed-out) late jam.	The media is late reaching the sensor (tray 3 feed- out) within the specified time after the tray 3 media feed lift motor is turned on.
		TTM equipped machines go to "243.00 Sensor (tray 3 feed-out) late jam" on page 2-56.
		3TM equipped machines refer to the <i>Options Service Manual.</i>
243.01 Paper jam	Sensor (tray 2 feed-out) late jam (feeding from tray 3)	The media is late reaching the sensor (tray 2 feed- out) within the specified time after reaching the sensor (tray 3 feed-out).
		TTM equipped machines go to "243.01 Sensor (tray 2 feed-out) late jam (feeding from tray 3)" on page 2-58.
		3TM equipped machines refer to <i>Options Service Manual.</i>
244.00 Paper jam	Sensor (tray 4 feed-out) late jam.	The media is late reaching the sensor (tray 4 feed- out) within the specified time after the tray 4 media feed lift motor is turned on.
		TTM equipped machines go to "244.00 Sensor (tray 4 feed-out) late jam" on page 2-60.
		3TM equipped machines refer to <i>Options Service Manual.</i>

Error code or message	Error contents	Description/Action
244.01 Paper jam	Sensor (tray 3 feed-out) late jam (feeding from tray 4)	The media is late reaching the sensor (tray 3 feed- out) within the specified time after reaching the sensor (tray 4 feed-out).
		TTM equipped machines go to "244.01 Sensor (tray 3 feed-out) on jam (feeding from tray 4)" on page 2-62.
		3TM equipped machines refer to the Options Service Manual.
250.00 Paper jam	Sensor (registration) late jam (feeding from the MPF)	The media is late reaching the sensor (registration) within the specified time after the MPF pick solenoid is turned on.
		Go to "250.00 Sensor (registration) late jam (feeding from the MPF)" on page 2-63.
280.00 Paper jam	Sensor (bridge unit media entrance) late jam	The media is late reaching the sensor (bridge unit media entrance) within the specified time after reaching the sensor (fuser exit).
		Refer to the Finisher Service Manual.
280.01 Paper iam	Sensor (bridge unit media entrance) static jam	Media remains on the sensor (bridge unit media entrance).
		Refer to the Finisher Service Manual.
281.00 Paper jam	Sensor (bridge unit media exit) late jam	The media is late reaching the sensor (bridge unit media exit) within the specified time after reaching the sensor (bridge unit media entrance).
		Refer to the Finisher Service Manual.
281.03 Paper jam	Sensor (bridge unit media exit) static jam	Media remains on the sensor (bridge unit media exit).
		Refer to the Finisher Service Manual.
281.04 Paper jam	Sensor (bridge unit exit bin) late jam.	Sensor (bridge unit exit bin) is not turned on within the specified time after the sensor (bridge unit media entrance) is turned on.
		Refer to the Finisher Service Manual.
281.05 Paper jam	Sensor (bridge unit exit bin) lag jam.	Sensor (bridge unit exit bin) is not turned off within the specified time after the sensor (bridge unit exit bin) is turned on.
		Refer to Finisher Service Manual.
281.06 Paper jam	Sensor (bridge unit exit bin) static jam.	Paper remains on the sensor (bridge unit exit bin). Refer to the <i>Finisher Service Manual</i> .
282.00	Sensor (finisher media	The media is late reaching the sensor (finisher
Paper jam	entrance) late jam	media entrance) within the specified time after
		Refer to the Finisher Service Manual.
282.01	Sensor (finisher media	Paper remains on the sensor (finisher media
Paper jam	entrance) static jam	entrance). Refer to the <i>Finisher Service Manual</i> .
283.00 Paper jam	Sensor (buffer path) late jam	The media is late reaching the sensor (buffer path) within the specified time after reaching the sensor (finisher media entrance).
		Refer to the <i>Finisher Service Manual</i> .

Error code or message	Error contents	Description/Action
283.03 Paper jam	Sensor (buffer path) static jam	Paper remains on the sensor (finisher buffer path). Refer to the <i>Finisher Service Manual</i> .
284.00 Paper jam	Sensor (lower media exit) late jam	The media is late reaching the sensor (lower media exit) within the specified time after reaching the sensor (buffer path). Refer to the <i>Finisher Service Manual</i> .
284.03 Paper jam	Sensor (lower media exit) lag jam	The media reached the sensor (lower media exit) but did not clear it within the specified time. Refer to the <i>Finisher Service Manual</i> .
284.05 Paper jam	Sensor (lower media exit) static jam	Media remains on the sensor (lower media exit). Refer to the <i>Finisher Service Manual.</i>
285.00 Paper jam	Sensor (compiler media in) lag jam	The media reached the sensor (lower media exit) but did not clear it within the specified time. Refer to the <i>Finisher Service Manual</i> .
286.00 Paper jam	Sensor (compiler media in) static jam	Media remains on the sensor (compiler media in). Refer to the <i>Finisher Service Manual.</i>
287.00 Paper jam	Sensor (upper media exit) late jam	The media is late reaching the sensor (upper media exit) within the specified time after reaching the sensor (finisher media entrance). Refer to the <i>Finisher Service Manual.</i>
287.01 Paper jam	Sensor (upper media exit) lag jam	The media reached the sensor (upper media exit) but did not clear it within the specified time. Refer to the <i>Finisher Service Manual.</i>
287.05 Paper jam	Sensor (upper media exit) static jam	Media remains on the sensor (upper media exit). Refer to the <i>Finisher Service Manual</i> .
288.00 Paper jam	Sensor (diverter gate) late jam	The media is late reaching the sensor (diverter gate) within the specified time after reaching the sensor (bridge unit media exit). Refer to the <i>Finisher Service Manual.</i>
288.01 Paper jam	Sensor (diverter gate) static jam A (to top bin)	The media reached the sensor (diverter gate) but did not clear it within the specified time. Refer to the <i>Finisher Service Manual</i> .
288.04 Paper jam	Sensor (diverter gate) static jam B (to stacker bin)	The media reached the sensor (diverter gate) but did not clear it within the specified time. Refer to the <i>Finisher Service Manual.</i>
289.00 Paper jam	Sensor (booklet media entrance) late jam	The media is late reaching the sensor (booklet media entrance) within the specified time after reaching the sensor (bridge unit media exit). Refer to the <i>Finisher Service Manual</i> .
289.01 Paper jam	Sensor (booklet media entrance) lag jam	The media reached the sensor (booklet media entrance) but did not clear it within the specified time. Refer to the <i>Finisher Service Manual.</i>

Error code or message	Error contents	Description/Action
289.02 Paper jam	Sensor (booklet media entrance) static jam	Media remains on the sensor (diverter gate). Refer to the <i>Finisher Service Manual.</i>
289.03 Paper jam	Sensor (booklet compiler in) static jam	Media remains on the sensor (booklet compiler in). Refer to the <i>Finisher Service Manual.</i>
289.04 Paper jam	Sensor (booklet media exit) late jam	The media is late reaching the sensor (booklet media exit) within the specified time after the booklet folding solenoid is turned on. Refer to the <i>Finisher Service Manual</i> .
289.05 Paper jam	Sensor (booklet media exit) lag jam	The media reached the sensor (booklet media exit) but did not clear it within the specified time. Refer to the <i>Finisher Service Manual.</i>
289.06 Paper jam	Sensor (booklet media exit) static jam	Media remains on the sensor (booklet media exit). Refer to the <i>Finisher Service Manual.</i>
290.00 Scanner jam	Switch (sheet through) static jam	Media remains on the sensor (sheet through). Go to "290.00 Switch (sheet through) static jam" on page 2-65.
290.01 Scanner jam	Sensor (sheet through) late jam	The media is late reaching the sensor (sheet through) within the specified time after the ADF feed drive motor assembly is turned on. Go to "290.01 Sensor (sheet through) late jam" on page 2-66.
290.02 Scanner jam	Sensor (ADF pre-registration) late jam (side 1)	The media is late reaching the sensor (ADF pre- registration) within the specified time after the ADF feed drive motor assembly is turned on. Go to "290.02 Sensor (ADF pre-registration) late jam (side 1)" on page 2-68.
290.03 Scanner jam	Sensor (ADF pre-registration) lag jam	The media reached the sensor (ADF pre- registration) but did not clear it within the specified time. Go to "290.03 Sensor (ADF pre-registration) lag jam" on page 2-69.
290.10 Scanner jam	Sensor (ADF pre-registration) static jam	Media remains on the sensor (ADF pre-registration). Go to "290.10 Sensor (ADF pre-registration) static jam" on page 2-72.
290.11 Scanner jam	Sensor (ADF registration) late jam (side 1)	The media is late reaching the sensor (ADF registration) within the specified time after the ADF feed drive motor assembly is turned on. Go to "290.11 Sensor (ADF registration) late jam (side 1)" on page 2-73.
290.12 Scanner jam	Sensor (ADF registration) late jam (side 2)	The media is late reaching the sensor (ADF registration) within the specified time after reaching the sensor (ADF pre-registration). Go to "290.12 Sensor (ADF registration) late jam (side 2)" on page 2-74.

Error code or message	Error contents	Description/Action
290.14 Scanner jam	Sensor (ADF inverter) late jam (Inverting)	The media is late reaching the sensor (ADF inverter) within the specified time after reaching the sensor (ADF registration).
		Go to "290.14 Sensor (ADF inverter) late jam (Inverting)" on page 2-79.
290.15 Scanner jam	Sensor (ADF registration) lag jam (inverting)	The media reached the sensor (registration) but did not clear it within the specified time.
		Go to "290.15 Sensor (ADF registration) lag jam (inverting)" on page 2-81.
290.20 Scanner jam	Sensor (ADF width APS1), sensor (ADF width APS 2) and the sensor (ADF width	Media remain on the sensor (ADF width APS1), sensor (ADF width APS 2) and the sensor (ADF width APS 3).
	APS 3) static jam	Go to "290.20 Sensor (ADF width APS1), sensor (ADF width APS 2) and sensor (ADF width APS 3) static jam" on page 2-84.
290.21 Scanner jam	Sensor (ADF width APS 1) static jam	Media remains on the sensor (ADF width APS 1). Go to "290.21 Sensor (ADF width APS 1) static jam" on page 2-85.
290.22 Scanner jam	Sensor (ADF width APS 2) static jam	Media remains on the sensor (ADF width APS 2). Go to "290.22 Sensor (ADF width APS 2) static
200.22	Sanaar (ADE width ADS 2)	jam" on page 2-86.
Scanner jam	static jam	Go to "290.23 Sensor (ADF width APS 3) static jam" on page 2-87.
291.00	Sensor (ADF registration)	Media remains on the sensor (ADF registration).
Scanner jam	Static jam	Go to "291.00 Sensor (ADF registration) static jam" on page 2-88.
291.01 Scanner jam	Sensor (ADF inverter) lag jam (Inverting)	The media reached the sensor (ADF inverter) but did not clear it within the specified time.
		Go to "291.01 Sensor (ADF inverter) lag jam (inverting)" on page 2-88.
291.02 Scanner jam	Sensor (ADF inverter) late jam 2	The media is late reaching the sensor (ADF inverter) within the specified time after the ADF registration motor is turned on.
		Go to "291.02 Sensor (ADF inverter) late jam 2" on page 2-90.
291.03	Sensor (ADF inverter) lag jam	The media reached the sensor (ADF inverter) but did not clear it within the specified time.
Scanner jam		Go to "291.03 Sensor (ADF inverter) lag jam" on page 2-92.
292.01	ADF raised jam	The ADF unit assembly was raised while the ADF was operating.
Scanner jam		Go to "292.01 ADF raised jam" on page 2-94.
292.02 Scanner jam	ADF left cover jam	The ADF left cover was opened while the ADF was operating.

Error code or message	Error contents	Description/Action
293.00 Scapper jam	Document missing jam	The system did not detect a set document when it was instructed to feed from the ADF.
ocanner jann		Go to "293.00 Document missing jam" on page 2-94.
294.00	Sensor (ADF inverter) static	Media remains on the sensor (ADF inverter).
Scanner jam	jam	Go to "294.00 Sensor (ADF inverter) static jam" on page 2-95.
294.01 Scanner jam	Sensor (ADF pre-registration) late jam (side 2)	The media is late reaching the sensor (ADF pre- registration) within the specified time after the ADF registration motor was turned on.
		Go to "294.01 Sensor (ADF pre-registration) late jam (side 2)" on page 2-96.
294.02 Scanner jam	Sensor (ADF pre-registration) lag jam (inverting)	The media reached the sensor (ADF pre- registration) but did not clear it within the specified time.
		Go to "294.02 Sensor (ADF pre-registration) lag jam (inverting)" on page 2-98.
295.00	Size mismatch Jam (mix-	During mixed original document feeding, it was
Scanner jam	Size)	different from the width of the document guide.
		Go to "295.00 Size mismatch jam (mix-size)" on page 2-101.
295.01	Size mismatch Jam (no mix- size)	The second and subsequent documents are different size from the first document.
Scanner jam		Go to "295.01 Size mismatch jam (no mix-size)" on page 2-103.
295.02	Invalid combine size jam	An invalid document size combination was
Scanner jam		Go to "295.02 Invalid combine size jam" on page 2-104.
295.03 Scappor jam	Media too short size jam	The system detected a document with a length shorter than 115mm in the Slow Scan Direction.
Scanner jam		Go to "295.03 Too short size jam" on page 2-105.
295.04 Scanner iam	Media too long size jam	The system detected a document with the following length in the Slow Scan Direction:
eleanner jann		Simplex mode: 672.4mm or longer Dupley mode: 420.1mm or longer
		Go to "295.04 Too long size jam" on page 2-106.
295.05 Scappor ism	Mixed size not supported	When feeding mixed size originals, the user has selected a fixed size from the menu settings.
ocanner jann		"295.05 Mixed size not supported" on page 2-108.
31 Missing or	<color> toner cartridge detection error</color>	The <color> toner cartridge is defective or not installed.</color>
defective <color> cartridge</color>		Go to " <color> toner cartridge detection error" on page 2-191.</color>

Error code or message	Error contents	Description/Action
31 Missing or defective black cartridge	Black toner cartridge detection error	The Black toner cartridge is defective not installed. Go to "Toner cartridge error" on page 2-184.
32 Replace unsupported <color> cartridge</color>	Incorrect <color> toner cartridge error.</color>	A <color>) toner cartridge of an incorrect specification is installed. Go to "Incorrect <color> toner cartridge error" on page 2-192.</color></color>
32 Replace unsupported Black cartridge	Incorrect black toner cartridge error.	A black toner cartridge of an incorrect specification is installed. Go to "Incorrect black toner cartridge error" on page 2-192.
34 Check tray 2 guides	Tray 2 media size mismatch error	The media tray assembly 2 side guide or end guide is not properly set. Go to " Tray 2 media size mismatch error " on page 2-193.
34 Check tray 1 guides.	Tray 1 media size mismatch error	The media tray assembly 1 side guide or end guide is not properly set. Go to " Tray 1 media size mismatch error " on page 2-192.
34 Check tray 3 guides	Tray 3 media size mismatch error	The media tray assembly 3 side guide or end guide is not properly set. Go to " Tray 3 media size mismatch error " on page 2-194.
34 Check tray 4 guides	Tray 4 media size mismatch error	The media tray assembly 4 side guide or end guide is not properly set. Go to " Tray 4 media size mismatch error " on page 2-194.
34 Incorrect paper type, check tray 1	Tray 1 media type mismatch error	The sensor (transparency detect) did not detect transparency media. Go to " Tray 1 media type mismatch error " on page 2-195.
34 Incorrect paper type, check tray 2	Tray 2 media type mismatch error	The sensor (transparency detect) did not detect transparency media. Go to " Tray 2 media type mismatch error " on page 2-196.
34 Incorrect paper type, check tray 3	Tray 3 media type mismatch error	The sensor (transparency detect) did not detect transparency media. Go to "Tray 3 media type mismatch error" on page 2-197.
34 Incorrect paper type, check tray 4	Tray 4 media type mismatch error	The sensor (transparency detect) did not detect transparency media. Go to "Tray 4 media type mismatch error" on page 2-197.
80 Scheduled maintenance 100K kit	100K maintenance required	Service is required to maintain printer performance. Go to "100K maintenance required" on page 2-181.

Error code or message	Error contents	Description/Action
80 Scheduled maintenance 600K kit	600K maintenance required	Service is required to maintain printer performance. Go to "600K maintenance required" on page 2-181.
80 Scheduled maintenance ADF kit	ADF maintenance required	Service is required to maintain printer performance. Go to " ADF maintenance required " on page 2-182.
82 Replace waste toner	Waste toner cartridge full	Replace the waste toner cartridge. Go to "Waste toner cartridge full" on page 2-185.
82 Waste toner missing	Waste toner cartridge not detected	Reinstall the waste toner cartridge. Go to "Waste toner cartridge not detected" on page 2-185.
82 Waste toner nearly full	Waste toner cartridge nearly full	Waste toner cartridge is nearing the replacement interval. Go to "Waste toner cartridge nearly full" on page 2-186.
84 (color) PC unit missing	(Color) PC cartridge not detected	A (color) PC cartridge is not installed or not installed properly. Go to " <color> PC cartridge not detected</color> " on page 2-187.
84 Black PC unit life warning	K PC cartridge nearly exhausted	The black PC cartridge is nearing the replacement interval. Go to " K PC cartridge nearly exhausted " on page 2-188.
84 Color PC unit life warning	K PC cartridges nearly exhausted.	All color PC cartridges are nearing the replacement interval. Go to "K PC cartridge nearly exhausted" on page 2-188.
84 Replace black PC unit	K PC cartridge exhausted	The black PC cartridge requires replacing. Go to " K PC cartridge exhausted " on page 2-189.
84 Replace color PC units	CMY PC cartridges exhausted	All color PC cartridges require replacing. Go to "CMY PC cartridges exhausted" on page 2-188.
84 Unsupported (color) PC unit	(Color) PC cartridge invalid	A (color) PC cartridge of an incorrect specification is installed. Got to " <color> PC cartridge invalid" on page 2-187.</color>
88 (Color) toner low	(Color) toner cartridge nearly empty	The (color) toner cartridge is nearing the replacement interval. Go to " <color> toner cartridge nearly empty" on page 2-189.</color>
88 Replace (color) toner	(Color) toner cartridge empty	The (color) toner cartridge requires replacing. Go to " <color> toner cartridge empty" on</color> page 2-190.

Error code or message	Error contents	Description/Action
841.00 Service image pipeline	Image pipeline ASIC error	The image pipeline for processing the data that comes from the scanner, prior to being printed, has failed.
		841.00 Image pipeline ASIC error" on page 2-108.
842.00	Scanner communication error	Controller detected a communication error.
Service scanner failure		Go to "842.00 Scanner communication error" on page 2-109.
842.01	Scanner communication error	Controller detected a communication error packet
Service scanner failure		Go to "842.01 Scanner communication error" on page 2-110.
842.02	Scanner communication error	Controller detected a communication error. Invalid
Service scanner failure		Go to "842.02 Scanner communication error" on page 2-110.
842.03	Scanner communication error	Controller detected a communication error. Invalid
Service scanner failure		Go to "842.03 Scanner communication error" on page 2-111.
842.04	Scanner communication	Controller detected a communication error. Invalid
Service scanner failure	the above component	Go to "842.04 Scanner communication error" on page 2-111.
842.10 Service	Scanner unit assembly - ADF communication error	Communication error occurred between the scanner controller card assembly and the ADF controller card assembly.
scanner fallure		Go to "842.10 Scanner unit assembly - ADF communication error" on page 2-112.
842.11 Service	Scanner communication error (by scanner)	Communication error occurred between the scanner controller card assembly and the RIP card assembly.
scanner fallure		Go to "842.11 Scanner communication error (by scanner)" on page 2-112.
842.12 Service	Scanner unit assembly communication error	Communication error occurred between the scanner controller card assembly and the RIP card
scanner failure		Go to "842.12 Scanner unit assembly communication error" on page 2-113.
843.00 Service	Sensor (scanner HP) error	An error occurred while counting the pulses of the scanner drive motor assembly.
scanner failure		After the Carriage Motor turned on, the sensor (scanner HP) did not turn on within the specified time.
		Go to "843.00 Sensor (scanner HP) error" on page 2-114.

Error code or message	Error contents	Description/Action
843.01 Service scanner failure	Scanner carriage over run error	The scanner carriage has overrun. Go to " 843.01 Scanner carriage over run error " on page 2-115.
843.10 Service scanner failure	ADF RAM test error	The ADF controller card assembly RAM has failed in the read/write operation. (It checks at the time of power on) Go to "843.10 ADF RAM test error" on page 2-115.
843.11 Service scanner failure	ADF EEPROM error	The ADF-EEPROM failed during the read/write operation. Go to "843.11 ADF EEPROM error" on page 2-115.
843.12 Service scanner failure	ADF pick roll position lift up error	After the pick roll position motor assembly started reverse rotation, the sensor (pick roll position HP) did not turn on within the specified time. After the pick roll position motor assembly started normal rotation, the sensor (pick roll position HP) did not turn off within the specified time. Go to "843.12 ADF pick roll position lift up error" on page 2-116.
843.20 Service scanner failure	Scanner unit assembly connection error	There is an open circuit in the scanner interface cable assembly between the scanner controller card assembly and the RIP card assembly. Go to "843.20 Scanner unit assembly connection error" on page 2-117
843.21 Service scanner failure	Scanner unit assembly EEPROM error	The scanner unit assembly EEPROM failed during the read/write operation. Go to "843.21 Scanner unit assembly EEPROM error" on page 2-117.
843.22 Service scanner failure	Scanner unit assembly EEPROM sub system error	The scanner unit assembly EEPROM failed during the read/write operation. Go to "843.22 Scanner unit assembly EEPROM sub system error" on page 2-118.
843.23 Service scanner failure	Scanner cooling fan error	The scanner cooling fan has failed. Go to " 843.23 Scanner cooling fan error " on page 2-118.
843.24 Service scanner failure	Image processing error	An error occurred in the image-processing system. Go to "843.24 Image processing error" on page 2-119.
843.25 Service scanner failure	Scanner controller card assembly error 1	An internal processing error occurred in the scanner controller card assembly. Go to "843.25 Scanner controller card assembly error 1" on page 2-119.
843.26 Service scanner failure	Scanner controller card assembly error 2	An internal processing error occurred in the scanner controller card assembly. Go to "843.26 Scanner controller card assembly error 2" on page 2-120.

Error code or message	Error contents	Description/Action
844.00	Exposure lamp error	A error has occurred with the exposure lamp.
Service scanner failure		Go to "844.00 Exposure lamp error" on page 2-121.
844.01 Service	White reference/exposure lamp Illumination error	The large platen glass is not properly installed or missing
scanner failure		The white reference initialization of the scanner unit assembly has failed after a POR or the amount of light from the exposure lamp is inadequate at the start of the scan.
		Go to "844.01 White reference/exposure lamp illumination error" on page 2-122.
845.00 Service	CCD error	A error has occurred with the CCD sensor assembly.
scanner failure		Go to "845.00 CCD error" on page 2-123.
845.01 Service	CCD initialization (lamp on) error	The CCD does not make a correct output when it receives a specified amount of light.
scanner failure		Go to "845.01 CCD initialization (lamp on) error" on page 2-124.
845.02	CCD initialization (lamp off) error	The CCD does not make a correct output when light is absent.
scanner failure		Go to "845.02 CCD initialization (lamp off) error" on page 2-125.
846.00	Scanner communication error	Controller detected errors. Scanner download timeout
Service scanner failure		Go to "846.00 Scanner communication error" on page 2-125.
846.01	Scanner communication error	Controller detected errors. Detected I/O error
Service scanner failure		Go to "846.01 Scanner communication error" on page 2-126.
846.10 Service scanner failure	Sensor (ADF width APS X) error	The combinations of outputs from the sensor (ADF width APS 1), sensor (ADF width APS 2) and sensor (ADF width APS 3) are abnormal.
		Go to "846.10 Sensor (ADF width APS X) error" on page 2-126.
846.12	Scanner unit assembly	A software error was detected by the scanner
Service scanner failure		Go to "846.12 Scanner unit assembly software logic error" on page 2-127.
846.13	Switch (platen interlock) open	The system detected that the switch (platen
Service scanner error		Go to "846.13 Switch (platen interlock) open" on page 2-128.
847.00 Service modem	Fax modem error	The configuration ID bit that describes the device's modem does not match the actual modem installed in the device.
		Go to "847.00 Modem error" on page 2-128.

Error code or message	Error contents	Description/Action
847.01	Fax storage	The remaining memory available on the hard drive is too small.
Service lax		Go to "847.01 Fax storage error" on page 2-129.
848.00 Service modem	Fax modem/configuration ID mismatch	The device does not have a modem installed, even though its configuration ID indicates that a modem should be present.
		Go to "848.00 Fax/modem configuration ID mismatch" on page 2-130.
849.00 Service hard drive	Hard drive/configuration ID mismatch	The device does not have a hard drive installed, even though its configuration ID indicates that a hard drive should be present.
		Go to "849.00 Hard drive/configuration ID mismatch" on page 2-130.
900.xx Service BIP	RIP card assembly software error	A error has occurred in the RIP card assembly software.
software		Go to "900.XX RIP card assembly software error" on page 2-130.
901.xx Service engine	RIP card assembly software error	A error has occurred in the RIP card assembly software.
error		Go to "900.XX RIP card assembly software error" on page 2-130.
903.00	K developer/transport drive	K developer/transport drive motor error does not
Service motor error		Go to "903.00 K developer/transport drive assembly motor error" on page 2-131.
903.01	K PC drive motor error	The K PC cartridge drive motor does not rotate at the specified speed
Service motor error		Go to "903.01 K PC drive motor error" on page 2-132.
903.02	CMY PC drive motor error	The CMY PC cartridge drive motor does not rotate at the specified speed.
error		Go to "903.02 CMY PC drive motor error" on page 2-133.
903.03	Developer drive motor error	The developer drive motor does not rotate at the specified speed.
Service motor error		Go to "903.03 Developer drive motor error" on page 2-134.
904.00	Sensor (transfer belt HP) late error	The sensor (transfer belt HP) does not detect the transfer belt home position in the specified time or
Service transfer belt		the transfer belt is damaged or torn in half.
		If this error has occurred more than three times, it
		must be reset inside diagnostic mode before troubleshooting can begin or the machine can operate.
		Go to "904.00 Sensor (transfer belt HP) late error" on page 2-135.

Error code or message	Error contents	Description/Action
904.01 Service transfer belt	Transfer belt position failure	The transfer belt is out of correct position or the transfer belt cleaning assembly is missing. Go to Go to "904.01 Transfer belt position
		failure" on page 2-135.
904.02 Service	Sensor (transfer belt edge) failure	The sensor (transfer belt edge detect) is not detecting the transfer belt edge properly.
transfer belt		Go to "904.02 Sensor (transfer belt edge) failure" on page 2-136.
904.03 Service transfer belt	Sensor (2nd transfer roll retract HP) late error	The sensing area of the sensor (2nd transfer roll retract HP) is not interrupted within the specified time when the 2nd transfer roll is moving to the home position.
		Go to "904.03 Sensor (2nd transfer roll retract HP) late error" on page 2-137.
904.04 Service transfer belt	Sensor (2nd transfer roll retract HP) lag error	The sensing area of the sensor (2nd transfer roll retract HP) remains interrupted within the specified time when the 2nd transfer roll is moving from the home position.
		Go to "904.04 Sensor (2nd transfer roll retract HP) lag error" on page 2-138.
904.05 Service transfer belt	Sensor (CMY transfer roll retract HP) late error	The sensing area of the sensor (CMY transfer roll retract HP) is not interrupted within the specified time when the CMY retract rolls are moving to the home position.
		Go to "904.05 Sensor (CMY transfer roll retract HP) late error" on page 2-139
904.06 Service transfer belt	Sensor (CMY transfer roll retract HP) lag or transfer belt unit assembly missing.	The sensing area of the sensor (CMY transfer roll retract HP) remains interrupted within the specified time when the CMY transfer roll is moving from the home position.
		Go to "904.06 Sensor (CMY transfer roll retract HP) lag error" on page 2-140.
904.07 Service transfer belt	CMY transfer roll retract motor time out	The CMY transfer roll retract motor has failed. Go to "904.07 CMY transfer roll retract motor time out" on page 2-140.
905.00	NVM read/write cannot be	Engine NVM read/write has failed.
Service engine error	executed error	Go to "905.00 NVM read/write cannot be executed error" on page 2-140.
905.01	Marking device video error	Internal processing error occurred in printer engine.
Service engine error		Go to "905.01 Marking device video error" on page 2-141.
905.02	Marking device Xerographic	Internal processing error occurred in printer engine.
Service engine error	error	Go to "905.02 Marking device Xerographics error" on page 2-141.
905.03 Service engine error	Marking device other1 error	Internal processing error occurred in printer engine. Go to "905.03 Marking device other1 error" on page 2-142.

Error code or message	Error contents	Description/Action
905.04 Service engine error	Marking device paper handling error	Internal processing error occurred in printer engine. Go to "905.04 Marking device paper handling error" on page 2-142.
905.05 Service engine error	Marking device other2 error	Internal processing error occurred in printer engine. Go to "905.05 Marking device other2 error" on page 2-142.
907.00 Printhead error	Printhead polygon mirror motor error	The printhead polygon mirror motor has failed or does not rotate at the specified speed. Go to "907.00 Printhead polygon mirror motor error" on page 2-142
907.01 Printhead error	Y laser SOS internal error	The interval of the printhead start of scan Y signals exceed the specified value. Go to "907.01 Y laser SOS internal error" on page 2-143.
907.02 Printhead error	M laser SOS internal error	The interval of the printhead start of scan M signals exceed the specified value. Go to "907.02 M laser SOS internal error" on page 2-143.
907.03 Printhead error	C laser SOS internal error	The interval of the printhead start of scan C signals exceed the specified value. Go to "907.03 C laser SOS internal error" on page 2-144.
907.04 Printhead error	K laser SOS internal error	The interval of the printhead start of scan K signals exceed the specified value. Go to "907.04 K laser SOS internal error" on page 2-144.
907.05 Printhead error	Printhead control error	Operation error of the printhead ASIC in the printer engine. An error occurred during the read/write test. Go to "907.05 Printhead control error" on page 2-144.
908.00 Service engine error	Waste toner full error	After the sensor (waste toner full) turned on, the pixel count exceed the specified value. Go to "908.00 Waste toner full error" on page 2-145.
911.00 Service engine error	24V LVPS cooling fan error	When the 24V LVPS cooling fan was operating, fan lock was detected for more than 30 seconds. Go to "911.00 24V LVPS cooling fan error" on page 2-145.
911.01 Service engine error	Transfer belt drive motor cooling fan error	When the transfer belt drive motor cooling fan was operating, fan lock was detected for more than 30 seconds. Go to "911.01 Transfer belt drive motor cooling fan error" on page 2-146.
911.02 Service engine error	Fuser cooling fan lock error	When the Fuser cooling fan was operating, fan lock was detected for more than 30 seconds. Go to "911.02 Fuser cooling fan lock error" on page 2-146.

Error code or message	Error contents	Description/Action
918.00 Service std. bin 1 error	Standard media exit shift error	An internal processing error occurred in the upper printer engine card assembly. Go to "918.00 Standard media exit shift error" on
920.00	Fuser main lamp overheat	page 2-147. The front thermistor detected an abnormal high
Service fuser error	error	temperature. This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur. Go to "920.00 Fuser main lamp overheat error"
920.01	Front thermistor	The system detected an open circuit in the fuser
Service fuser error	disconnection error	front thermistor. Go to "920.01 Front thermistor disconnection error" on page 2-148.
920.02 Sopuico fusor	Fuser sub lamp overheat error	The rear thermistor detected an abnormal high temperature.
error		This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur.
		Go to "920.02 Fuser sub lamp overheat error" on page 2-149.
920.03	Rear thermistor disconnection error	The system detected an open circuit in the fuser rear thermistor.
error		Go to "920.03 Rear thermistor disconnection error" on page 2-149.
920.04 Service fuser error	Main lamp warm up error	The fuser temperature did not reach the ready temperature in the specified time or the incorrect voltage fuser is installed.
		Go to "920.04 Main lamp warm up error" on page 2-150.
920.05	Main lamp on-time error	The main lamp was turned on for 20 seconds or longer.
error		Go to "920.05 Main lamp on-time error" on page 2-150.
920.06	Sub lamp warm up error	The fuser temperature did not reach the ready temperature in the specified time
Service fuser error		Go to "920.06 Sub lamp warm-up failure" on page 2-151.
920.07	Sub lamp on-time error	The Sub lamp was turned on for 20 seconds or
Service fuser error		Go to "920.07 Sub lamp on-time error" on page 2-152.
924.00	Yellow toner RFID communication error	Communication error with the Y sensor (RFID toner cartridge) has occurred.
error		Go to "924.00 Yellow toner RFID communication error" on page 2-152.

Error code or message	Error contents	Description/Action
924.01 Service engine	Magenta toner RFID communication error	Communication error with the M sensor (RFID toner cartridge) has occurred.
error		Go to "924.01 Magenta toner RFID communication error" on page 2-153.
924.02 Service engine	Cyan toner RFID communication error	Communication error with the C sensor (RFID toner cartridge) has occurred.
error		Go to "924.02 Cyan toner RFID communication error" on page 2-153.
924.03 Service engine	Black toner RFID communication error	Communication error with the K sensor (RFID toner cartridge) has occurred.
error		Go to "924.03 Black toner RFID communication error" on page 2-153.
925.00 Service PC	Sensor (Y ATC)	Outputs of the sensor (Y ATC) are not in the specified range.
cartridge		This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur.
		Go to "925.00 Sensor (Y ATC) error" on page 2-154.
925.01	Sensor (M ATC)	Outputs of the sensor (M ATC) are not in the specified range.
cartridge		This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur.
		Go to "925.01 Sensor (M ATC) error" on page 2-155.
925.02 Service PC	Sensor (C ATC)	Outputs of the sensor (C ATC) are not in the specified range.
cartridge		This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur.
		Go to "925.02 Sensor (C ATC) error" on page 2-155.
925.03 Service PC	Sensor (K ATC)	Outputs of the sensor (K ATC) are not in the specified range.
cartridge		This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur.
		Go to "925.03 Sensor (K ATC) error" on page 2-156.
940.00	MPF Tray 5 size sensing	The MPF size width sensor has failed.
Service MPF failure	enor	Go to "940.00 MPF tray 5 size sensing error" on page 2-156.
941.00	Switch (media size) size sensing error (trav 1)	The tray 1 switch (media size) detected an invalid size setting.
Service tray 1 failure		Go to "941.00 Switch (media size) size sensing error (tray 1)" on page 2-157.

Error code or message	Error contents	Description/Action		
941.01 Service tray 1 failure	sensor (media level) late error (tray 1)	The sensing area of the sensor (media level) in the media tray 1 is not interrupted within the specified time after the lift tray has risen to operating level. Go to "941.01 Sensor (media level) late error (tray 1)" on page 2-157 .		
942.00 Service tray 2 failure	Switch (media size) size sensing error (tray 2)	The tray 2 switch (media size) detected an invalid size setting.		
		error (tray 2)" on page 2-158.		
942.01 Service tray 2	Sensor (media level) late error (tray 2)	The sensing area of the sensor (media level) in the media tray 2 is not interrupted within the specified time after the lift tray has risen to operating level.		
lailure		Go to "942.01 Sensor (media level) late error (tray 2)" on page 2-159		
943.00	Switch (media size) size sensing error (tray 3)	The tray 3 switch (media size) detected an invalid size setting.		
Service tray 3 failure		Go to "943.00 Switch (media size) size sensing error (tray 3)" on page 2-160.		
943.01	Sensor (media level) late error (tray 3)	The sensing area of the sensor (media level) in the media trav 3 is not interrupted within the specified		
failure		time after the lift tray has risen to operating level.		
		Go to "943.01 Sensor (media level) late error (tray 3)" on page 2-161.		
944.00	Switch (media size) size	The tray 4 switch (media size) detected an invalid size setting		
Service tray 4 failure	failure	Go to "944.00 Switch (media size) size sensing error (tray 4)" on page 2-162.		
944.01	Sensor (media level) late	The sensing area of the sensor (media level) in the media trav 4 is not interrupted within the specified		
Service tray 4 failure		time after the lift tray has risen to operating level. Go to "944.01 Sensor (media level) late error (tray 4)" on page 2-163.		
Error code or message	Error contents	Description/Action		
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950.00 through 950.29	EPROM mismatch failure	This error code indicates a mismatch between the operator panel assembly and the interconnect card assembly.		
NVRAM mismatch		Warning: In the event of replacement of any one of the following components:		
		RIP card assemblyInterconnect card assembly		
		Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one, or the printer will be rendered inoperable.		
		Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.		
		Go to Go to "950.00 through 950.29 EPROM mismatch failure" on page 2-164.		
950.30 through 950.60	EPROM mismatch failure	This error code indicates a mismatch between the RIP card assembly and the interconnect card assembly.		
NVRAM mismatch		Warning: In the event of replacement of any one of the following components:		
		RIP card assemblyInterconnect card assembly		
		Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one, or the printer will be rendered inoperable.		
		Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.		
		Go to Go to "950.30 through 950.60 EPROM mismatch failure" on page 2-165.		
951.XX RIP card assembly NVRAM A failure has occurred in the RIP card as		A failure has occurred in the RIP card asm NVRAM.		
Service NVRAM failure		Go to Go to "951.XX RIP card assembly NVRAM failure" on page 2-166.		
952.XX Service NV	Interconnect card assembly NVRAM CRC failure	A recoverable NVRAM Cyclic redundancy check (CRC) error occurred.		
failure		Go to Go to "952.XX Interconnect card assembly NVRAM CRC failure" on page 2-166.		

Error code or message	Error contents	Description/Action	
953.XX Service	Operator panel assembly NVRAM failure	NVRAM chip failure with operator panel assembly (mirror).	
NVRAM failure		Go to Go to "953.XX Operator panel assembly NVRAM failure" on page 2-166.	
954.XX	Interconnect card assembly NVRAM failure	NVRAM chip failure with interconnect card assembly.	
NVRAM failure		Go to Go to "954.XX Interconnect card assembly NVRAM failure" on page 2-167.	
955.XX	RIP card assembly NAND CRC failure	The code ROM or NAND flash failed the cyclic redundancy check.	
CRC		Go to Go to "955.XX RIP card assembly NAND CRC failure" on page 2-167.	
956.00	RIP card assembly processor	The RIP card processor has failed.	
Service system board	tallure	Go to Go to "956.00 RIP card assembly processor failure" on page 2-168.	
956.01 Service system	RIP card assembly processor over temperature failure	The RIP card assembly has exceeded safe operating temperature.	
board		Go to Go to "956.01 RIP card assembly processor over temperature failure" on page 2-168.	
956.02	RIP card assembly cooling fan failure	The RIP card assembly cooling fan is not functioning properly.	
board		Go to Go to "956.02 RIP card assembly cooling fan failure" on page 2-168.	
956.03	RIP card assembly FPGA	The RIP card assembly has failed.	
Service system board	tallure	Go to Go to "956.03 RIP card assembly FPGA failure" on page 2-169.	
980.00 Service tray 2 comm	Communication error with 1TM, 3TM or TTM assembly	A communication error has occurred with the 1TM,3TM or TTM controller card assembly and the upper printer engine card assembly.	
		Go to Go to "980.00 Communication error with 1TM, 3TM, or TTM assembly" on page 2-169.	
980.01	HVPS controller	A communication error has occurred with the	
Service device comm	communication end	printer engine card assembly.	
		Go to Go to "980.01 HVPS controller communication error" on page 2-170.	
980.02 Service device	Communication error between printer and RIP card assembly	A communication error has occurred with the RIP card assembly and the upper printer engine card assembly and the.	
COMM		Go to "980.02 Communication error between printer and RIP card assembly" on page 2-170.	
980.03 Service finisher comm	Communication error with finisher controller card assembly	A communication error has occurred with the upper printer engine card assembly and the finisher controller card assembly.	
		Go to "980.03 Communication error with finisher controller card assembly" on page 2-171.	

Error code or message	Error contents	Description/Action	
981.00 Service finisher error	Sensor (stacker bin level 1) late error Sensor (stacker bin level 2) late error	The sensing area of the sensor (stacker bin level 1) or Sensor (stacker bin level 2) is not interrupted within the specified period after the stacker bin starts rising. Refer to the <i>Finisher Service Manual</i> .	
981.01 Service finisher error	Stacker bin upper limit error	The sensing area of the sensor (stacker bin upper limit) is not interrupted when the stacker bin raises to its uppermost limit. Refer to the <i>Finisher Service Manual</i> .	
981.02 Service finisher error	Stacker bin lower limit error	The stacker bin lowers beyond the specified lower limit within the specified time. Refer to the <i>Finisher Service Manual</i> .	
982.00 Service finisher error	Sensor (front tamper HP) late error	The sensing area of the sensor (front tamper HP) is not interrupted when the front tamper starts moving to the home position. Refer to the <i>Finisher Service Manual</i> .	
982.01 Service finisher error	Sensor (front tamper HP) lag error	The sensing area of the sensor (front tamper HP) remains interrupted within the specified time after the front tamper starts moving from the home position. Refer to the <i>Finisher Service Manual</i> .	
983.00 Service finisher error	Sensor (rear tamper HP) late error	The sensing area of the sensor (rear tamper HP) is not interrupted when the rear tamper starts moving to the home position. Refer to the <i>Finisher Service Manual</i> .	
983.01 Service finisher error	Sensor (rear tamper HP) lag error	The sensing area of the sensor (rear tamper HP) remains interrupted within the specified time after the rear tamper starts moving from the home position. Refer to the <i>Finisher Service Manual</i> .	
984.00 Service finisher error	Sensor (punch unit HP) late error	The sensing area of the sensor (punch unit HP) is not interrupted during the specified time after the punch unit starts moving to the home position. Refer to the <i>Finisher Service Manual</i> .	
984.01 Service finisher error	Sensor (punch unit HP) lag error	The sensing area of the sensor (punch unit HP) remains interrupted within the specified time after the punch unit starts moving from the home position. Refer to the <i>Finisher Service Manual</i> .	
985.00 Service finisher error	Sensor (punch carriage shift HP) late error	The sensing are of the sensor (punch carriage shift HP) is not interrupted within the specified time after the punch carriage starts moving to the home position. Refer to the <i>Finisher Service Manual</i> .	
985.01 Service finisher error	Sensor (punch carriage shift HP) lag error	The sensor (punch carriage shift HP) remains interrupted within the specified time after the punch carriage starts moving from the home position. Refer to the <i>Finisher Service Manual</i> .	

Error code or message	Error contents	Description/Action	
986.00 Service finisher error	Sensor (media eject clamp HP) late error	The sensing area of the sensor (media eject clamp HP) is not interrupted within the specified time after the eject clamp starts moving to the home position.	
		Refer to the Finisher Service Manual.	
986.01 Service finisher error	Sensor (media eject clamp HP) lag error	The sensing area of the sensor (media eject clamp HP) remains interrupted within the specified time after the eject clamp starts moving from the home position. Befer to the <i>Einisher Service Manual</i>	
987.00 Service finisher error	Sensor (media eject shaft HP) late error	The sensing area of the sensor (media eject shaft HP) is not interrupted within the specified time after the media eject shaft starts moving to the home position. Refer to the <i>Finisher Service Manual</i> .	
007.04			
987.01 Service finisher error	Sensor (media eject shaft HP) lag error	He sensing area of the sensor (media eject shaft HP) remains interrupted within the specified time after the media eject shaft starts moving from the home position.	
		Refer to the Finisher Service Manual.	
988.01 Service finisher	Sensor (punch unit side reg 1) lag error	The sensor (punch unit side reg 1) or sensor (punch unit side reg 2) did not detect any media correctly.	
error	Sensor (punch unit side reg 2) lag error	Refer to the Finisher Service Manual.	
989.00 Service finisher error	Stapler unit error	The sensing area of the sensor (stapler unit motor HP) inside the stapler unit assembly is not interrupted within the specified timer after the stapler unit motor starts moving to the home position.	
		Refer to the Finisher Service Manual.	
990.00 Service finisher error	Sensor (stapler carriage HP) late error	The sensing area of the sensor (stapler carriage HP) is not interrupted within the specified time after the stapler carriage starts moving to the home position.	
		Refer to the Finisher Service Manual.	
990.01 Service finisher error	Sensor (stapler carriage HP) lag error	The sensing area of the sensor (stapler carriage HP) remains interrupted within the specified time after the stapler carriage starts moving from the home position.	
		Refer to the Finisher Service Manual.	
991.00 Service finisher error	Sensor (booklet front tamper HP) late error	The sensing area of the sensor (booklet front tamper HP) is not interrupted within the specified time after the front booklet tamper starts moving to the home position.	
		Refer to the Finisher Service Manual.	
991.01 Service finisher error	Sensor (booklet front tamper HP) lag error	The sensing area of the sensor (booklet front tamper HP) remains interrupted within the specified time after the front booklet tamper starts moving from the home position.	
		Refer to the Finisher Service Manual.	

Error code or message	Error contents	Description/Action		
991.02 Service finisher error	Sensor (booklet rear tamper HP) late error	The sensing area of the sensor (booklet rear tamper HP) is not interrupted within the specified time after the rear booklet tamper starts moving to the home position.		
		Refer to the Finisher Service Manual.		
991.03 Service finisher error	Sensor (booklet rear tamper HP) lag error	The sensing area of the sensor (booklet rear tamper HP) remains interrupted within the specified time after the rear booklet tamper starts moving from the home position.		
991.04 Service finisher error	Sensor (booklet end guide HP) late error	The sensing area of the sensor (booklet end guide HP) is not interrupted within the specified time after the booklet end guide starts moving to the home position.		
		Refer to the Finisher Service Manual.		
991.05 Service finisher error	Sensor (booklet end guide HP) lag error	The sensing area of the sensor (booklet end guide HP) remains interrupted within the specified time after the booklet end guide starts moving from the home position.		
		Refer to the Finisher Service Manual.		
991.06 Sensor (booklet unit interlock) error booklet maker was not co the finisher front door ass		The sensor (booklet unit interlock) detected that the booklet maker was not completely inserted when the finisher front door assembly was closed		
error		Refer to the Finisher Service Manual.		
991.07 Service finisher	Sensor (booklet compiler no media) no media detected	The sensing area of the sensor (booklet compiler no media) did not detect any media when the booklet stapler motor was activated.		
error		Refer to the Finisher Service Manual.		
991.08 Service finisher	Sensor (booklet knife HP) late error	The sensing area of the sensor (booklet knife HP) is not interrupted within the specified time after the booklet knife started moving to home position		
error		Refer to the <i>Finisher Service Manual.</i>		
991.09 Service finisher	Sensor (booklet knife HP) lag error	The sensing area of the sensor (booklet knife HP) remains interrupted within the specified time after the booklet knife started moving from home position.		
error		Refer to the Finisher Service Manual.		
991.10 Service finisher error	Sensor (booklet knife folding) late error	The sensing area of the sensor (booklet knife folding) is not interrupted within the specified time after the booklet knife solenoid was activated.		
		Refer to the Finisher Service Manual.		
991.11	Booklet stapler error	The booklet stapler unit has failed.		
Service finisher Refer to the <i>Fin</i> error		Refer to the Finisher Service Manual.		
991.12	Communication error with	A communication error has occurred with the		
Service finisher error	assembly	controller card assembly and the finisher		
5		Refer to the Finisher Service Manual.		

Error code or message	Error contents	Description/Action	
991.13 Service finisher	Booklet unit maker error	Booklet set recovery was detected too many times for the same job. Perform a POR.	
error		Refer to the Finisher Service Manual.	
992.00 Service finisher error	Sensor (de-curler clutch HP) late error	The sensing area of the sensor (de-curler cam HP) is not interrupted within the specified time after the de-curler roll assembly (nip) starts moving to the home position. Refer to the <i>Finisher Service Manual</i> .	
992.01 Service finisher error	Sensor (de-curler clutch HP) lag error	The sensing area of the sensor (de-curler cam HP) remains interrupted within the specified time after the de-curler roll assembly (nip) starts moving from the home position.	
		Refer to the Finisher Service Manual.	
Close cover F	Bridge unit cover is open.	The bridge unit assembly cover is open. Refer to the <i>Finisher Service Manual</i> .	
Close door A	Printer left door open.	The printer left door assembly is open, or the printer left door closed actuator is damaged. Go to "Printer left door open" on page 2-179.	
Close door B	Duplex left door assembly open.	The Duplex left door assembly is open. Go to "Duplex left door assembly open" on page 2-172.	
Close door C	Printer left lower door assembly open	The printer lower left door assembly is open. Go to "Printer left lower door assembly open" on page 2-180.	
Close door D	1TM, 3TM or TTM left door assembly open	The 1TM, 3TM or TTM tray left door assembly is open. Go to "1TM, 3TM or TTM left door assembly open" on page 2-171.	
Close door E	Printer front door assembly open	Printer front door assembly is open. Go to "Printer front door assembly open" on page 2-178.	
Close door G	Finisher front door open.	The finisher front door is open. Refer to the <i>Finisher Service Manual</i> .	
Close door J	Transfer belt access door open.	The transfer belt access door is open. Go to "Transfer belt access door open" on page 2-180.	
Close surface H	Eject cover open.	The finisher eject cover is open. Refer to the <i>Finisher Service Manual.</i>	
Empty hole punch box	Punch waste box full.	The punch waste box is full. Refer to the <i>Finisher Service Manual.</i>	
Insert hole punch box	Punch waste box missing.	No punch waste box. Refer to the <i>Finisher Service Manual.</i>	
Load staples	Staple cartridge empty.	Staple cartridge empty. Refer to the <i>Finisher Service Manual</i> .	

Error code or message	Error contents	Description/Action	
Load tray x with <media></media>	No media in the selected media tray.	Media is not loaded in the tray. Go to " No media in the selected media tray" on page 2-175.	
Remove paper from bin 1	Finisher upper media bin full.	Stacker set over count The upper media bin has reached maximum capacity. Refer to the <i>Finisher Service Manual.</i>	
Remove paper from bin 2	Stacker media bin full (no mix)	The stacker media bin has reached maximum capacity (no mix). Refer to the <i>Finisher Service Manual.</i>	
Remove paper from bin 2	Stacker media bin full (mix size)	The stacker media bin has reached maximum capacity (mix size). Refer to the <i>Finisher Service Manual</i> .	
Remove paper from standard output bin	Standard bin 1 full.	Media in standard bin 1 is at maximum capacity. Go to "Standard media bin full" on page 2-182 .	
Scanner ADF cover open	ADF left cover assembly is open	The ADF left cover assembly is open. Go to "ADF left cover assembly is open" on page 2-183.	
Scanner missing cable unplugged	Scanner unit assembly not detected	The scanner unit assembly is unplugged or missing. Go to "Scanner unit assembly not detected" on page 2-182.	
Toner unsupported	Toner cartridge RFID error	A toner cartridge of a different specification is installed. Go to " Toner cartridge set error " on page 2-184.	

Service checks

200.00 Sensor (registration) late jam

Step	Check	Yes	No
1	Check the media position.	Remove the	Go to step 2.
	Does the media touch the sensor (registration)?	media.	
2	Check the registration/transport roll assembly. Is the above component free of excess wear and contamination?	Go to step 3.	Clean or replace the registration / transport roll assembly.
			Go to "Registration / transport roll assembly removal" on page 4-36.
3	 Check the sensor (registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Media Path. 4. Touch Registration. Does the display on the operator panel, change every time	Go to step 5.	Go to step 4.
	the sensing area of the above sensor is interrupted or blocked?		
4	Check the sensor (registration) for proper connection.	Replace the	Replace the
	Is the above component properly connected?	(registration).	connection.
		Go to "Sensor (registration) removal" on page 4-37.	
5	Check the transport roll/MPF drive motor assembly for proper operation.	Go to step 7.	Go to step 6.
	Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.		
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Printer Motor Test. Touch MPF/transport drive motor. 		
	Does the above component operate properly?		
6	Check the MPF / transport drive motor assembly for proper connection.	Replace the MPF/ transport drive motor assembly.	Replace the connection.
		Go to "MPF / transport drive motor assembly removal" on page 4-104.	

Step	Check	Yes	No
7	 Check the Replace the K developer/transport drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch. K developer/transport drive motor. Does the above component operate properly? 	Go to step 9.	Go to step 8.
8	Check the K developer/transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the K developer / transport drive motor assembly. Go to "K developer / transport drive motor assembly removal" on page 4-95.	Replace the connection.
9	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

200.01 Sensor (registration) lag jam

Step	Check	Yes	No
1	Check the media position.	Remove the	Go to step 2.
	Does the media touch the sensor (registration)?	media.	
2	Check the registration/transport roll assembly.	Go to step 3.	Clean or replace
	Is the above component free of excess wear and contamination?		transport roll assembly.
			Go to "Registration / transport roll assembly removal" on page 4-36.
3	Check the fuser unit drive gear for excess wear and damage.	Go to step 4.	Replace the fuser unit assembly.
	Is the above component free of excess wear and damage?		Go to "Fuser unit assembly removal" on page 4-15.

Step	Check	Yes	No
4	 Check the sensor (registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Media Path. 4. Touch Registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or	Go to step 6.	Go to step 5.
5	blocked? Check the sensor (registration) for proper connection. Is the above component properly connected?	Replace the sensor (registration). Go to "Sensor (registration)	Replace the connection.
6	Check the sensor (fuser exit) for proper operation.	removal" on page 4-37. Go to step 8.	Go to step 7.
	 Enter the Diagnostics Menu. Touch BASE SENSOR TEST. Touch Media Path. Touch Fuser exit 		
	Caution: The area around the actuator is very hot. Allow the fuser area to cool before proceeding. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
7	Check the sensor (fuser exit) for proper connection. Is the above component properly connected?	Replace the sensor (fuser exit). Go to "Sensor (fuser exit) removal" on page 4-25.	Replace the connection.
8	Check the registration clutch for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Registration clutch. Does the above component make an audible clicking sound when activated?	Go to step 10.	Go to step 9.
9	Check the registration clutch for proper connection. Is the above component properly connected?	Replace the registration clutch. Go to "Registration clutch removal" on page 4-37.	Replace the connection.

Step	Check	Yes	No
10	 Check the Replace the K developer/transport drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch K developer/transport drive motor. 	Go to step 12.	Go to step 11.
11	Check the Replace the K developer/transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the K developer/ transport drive motor assembly. Go to "K developer / transport drive motor assembly removal" on page 4-95.	Replace the connection.
12	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

200.02 Sensor static jam

Step	Check	Yes	No
1	Check the media position in the area shown on the operator panel.	Remove the media.	Go to step 2.
	Is media present in the area shown on the operator panel?		
2	Check the sensor in the appropriate area for proper operation.	Go to step 4.	Go to step 3.
	 Enter the Diagnostics Menu. Touch BASE SENSOR TEST. Touch Media Path. Touch Registration. 		
	Does the display on the operator panel, change every time the sensing area of the appropriate sensor is interrupted or blocked?		
3	Check the appropriate sensor for proper connection. Is the above component properly connected?	Replace the appropriate sensor.	Replace the connection.

Step	Check	Yes	No
4	POR the machine. Does the error continue?	Replace the lower printer engine card assembly.	Problem solved.
		Go to "Lower printer engine card assembly removal" on page 4-79.	

200.03 Sensor (media on belt) late jam

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled, curled or damaged?	Replace the damaged media with new.	Go to step 2.
2	Check the media position. Does the media touch the sensor (media on belt)?	Remove the media.	Go to step 3.
3	Check the 2nd transfer roll assembly for excess wear or damage. Is the above component free of excess wear and damage?	Go to step 4.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
4	 Check the sensor (media on belt) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Media Path. 4. Touch Media on belt. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (media on belt) for proper connection. Is the above component properly connected?	Replace the sensor (media on belt). Go to "Sensor (media on belt) removal" on page 4-30.	Replace the connection.
6	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

201.00 Sensor (fuser exit) late jam

Step	Check	Yes	No
1	Check the media position. Does the media touch the sensor (fuser exit)?	Remove the media.	Go to step 2.
2	Check the fuser exit actuator. Does the fuser exit actuator attached to the sensor (fuser exit) appear to be binding or sticking in its normal resting position and not allowing media to pass?	Replace the sensor (fuser exit) Go to "Sensor (fuser exit) removal" on page 4-25.	Go to step 3.
3	Check the 2nd transfer roll assembly. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 4.	Clean or replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
4	 Check the sensor (fuser exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Media Path. 4. Touch Fuser exit. Caution: The area around the actuator is very hot. Allow the fuser area to cool before proceeding. Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (fuser exit) for proper connection. Is the above component properly connected?	Replace the sensor (fuser exit). Go to "Sensor (fuser exit) removal" on page 4-25.	Replace the connection.
6	 Check the duplex diverter gate solenoid for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Duplex diverter gate solenoid. 	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	Check the duplex diverter gate solenoid for proper connection. Is the above component properly connected?	Replace the duplex media inverter assembly. Go to "Duplex media inverter assembly removal" on page 4-9.	Replace the connection.
8	 Check the registration clutch for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Registrat clutch. Does the above component make an audible clicking sound when activated?	Go to step 10.	Go to step 9.
9	Check the registration clutch for proper connection. Is the registration clutch properly connected?	Replace the registration clutch. Go to "Registration clutch removal" on page 4-37.	Replace the connection.
10	 Check the Replace the K developer/transport drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch K developer/transport drive motor. Does the above component operate properly? 	Go to step 12.	Go to step 11.
11	Check the K developer/transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the K developer/ transport drive motor assembly. Go to "K developer / transport drive motor assembly removal" on page 4-95.	Replace the connection.

Step	Check	Yes	No
12	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly.	Problem solved.
		Go to "Lower printer engine card assembly removal" on page 4-79.	

202.00 Sensor (fuser exit) lag jam

Step	Check	Yes	No
1	Check the media position. Does the media touch the sensor (fuser exit)?	Remove the media.	Go to step 2.
2	 Check the sensor (fuser exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Media Path. 4. Touch Fuser exit. Caution: The area around the actuator is very hot. Allow the fuser area to cool before proceeding.	Go to step 4.	Go to step 3.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
3	Check the sensor (fuser exit) for proper connection. Is the above component properly connected?	Replace the sensor (fuser exit). Go to "Sensor (fuser exit) removal" on page 4-25.	Replace the connection.
4	 Check the duplex diverter gate solenoid for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Duplex diverter gate solenoid. 	Go to step 6.	Go to step 5.
5	Check the duplex diverter gate solenoid for proper connection. Is the above component properly connected?	Replace duplex media inverter assembly. Go to "Duplex media inverter assembly removal" on page 4-9.	Replace the connection.

Step	Check	Yes	No
6	Check the Replace the K developer/transport drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch K developer/transport drive motor. Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Check the K developer/transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the K developer/ transport drive motor assembly. Go to "K developer / transport drive motor assembly removal" on page 4-95.	Replace the connection.
8	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

230.00 Sensor (duplex wait) late jam (duplex media feed)

Step	Check	Yes	No
1	Check the media position.	Remove the media.	Go to step 2.
	Does the media remain in standard media exit?		
2	Check the duplex unit assembly rolls.	Go to step 3.	Clean or replace the
	Are the duplex unit assembly rolls free of excess wear and contamination?		assembly.
			Go to "Duplex unit assembly removal" on page 4-10.
3	Check the sensor (duplex wait) for proper operation.	Go to step 5.	Go to step 4.
	 Enter the Diagnostics Menu. Touch DUPLEX TESTS. Touch Sensor Test. Touch Duplex wait. 		
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		

Step	Check	Yes	No
4	Check the sensor (duplex wait) for proper connection. Is the above component properly connected?	Replace the sensor (duplex wait). Go to "Sensor (duplex wait) removal" on page 4-11.	Replace the connection.
5	 Check the duplex diverter gate solenoid for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Duplex diverter gate solenoid. 	Go to step 7.	Go to step 6.
6	Check the duplex diverter gate solenoid for proper connection. Is the above component properly connected?	Replace duplex media inverter assembly. Go to "Duplex media inverter assembly removal" on page 4-9.	Replace the connection.
7	 Check the duplex drive motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Duplex drive motor. 	Go to step 9.	Go to step 8.
8	Check the duplex drive motor for proper connection. Is the above component properly connected?	Replace duplex drive motor. Go to "Duplex drive motor removal" on page 4-13.	Replace the connection.

Step	Check	Yes	No
9	 Check the duplex media inverter clutch for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Registrat clutch. Does the above component make an audible clicking sound when activated? 	Go to step 11.	Go to step 10.
10	Check the duplex media inverter clutch for proper connection. Is the registration clutch properly connected?	Replace the duplex media inverter assembly. Go to "Duplex media inverter assembly removal" on page 4-9.	Replace the connection.
11	Perform a 2 sided print test. Does the error remain?	Replace the duplex controller card assembly. Go to "Duplex controller card assembly removal" on page 4-14. Go to step 12.	Problem solved.
12	Perform a 2 sided print test. Does the error remain?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

231.00 Sensor (registration) late jam (duplex feed)

Step	Check	Yes	No
1	Check the media position.	Remove the media.	Go to step 2.
	Does the media remain in standard media exit?		
2	Check the duplex unit assembly rolls. Are the duplex unit assembly rolls free of excess wear and contamination?	Go to step 3.	Clean or replace the duplex unit assembly. Go to "Duplex unit
			assembly removal" on page 4-10.

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Step	Check	Yes	No
3	 Check the sensor (registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TESTS. 3. Touch Media Path. 4. Touch Registration. 	Go to step 5.	Go to step 4.
	or blocked?		
4	Check the sensor (registration) for proper connection. Is the above component properly connected?	Replace the sensor (registration). Go to "Sensor (registration) removal" on page 4-37.	Replace the connection.
5	 Check the duplex diverter gate solenoid for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Duplex diverter gate solenoid. Does the above component operate properly? 	Go to step 7.	Go to step 6.
6	Check the duplex diverter gate solenoid for proper connection. Is the above component properly connected?	Replace duplex media inverter assembly. Go to "Duplex media inverter assembly removal" on page 4-9.	Replace the connection.
7	 Check the duplex drive motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Duplex drive motor. 	Go to step 9.	Go to step 8.
8	Check the duplex drive motor for proper connection. Is the above component properly connected?	Replace duplex drive motor. Go to "Duplex drive motor removal" on page 4-13.	Replace the connection.

Step	Check	Yes	No
9	 Check the duplex media inverter clutch for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Registrat clutch. Does the above component make an audible clicking sound when activated?	Go to step 11.	Go to step 10.
10	Check the duplex media inverter clutch for proper connection. Is the registration clutch properly connected?	Replace the duplex media inverter assembly. Go to "Duplex media inverter assembly removal" on page 4-9.	Replace the connection.
11	Perform a 2 sided print test. Does the error remain?	Replace the duplex controller card assembly. Go to "Duplex controller card assembly removal" on page 4-14. Go to step 12.	Problem solved.
12	Perform a 2 sided print test. Does the error remain?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

231.01 Sensor (registration) late jam (duplex media feed)

Step	Check	Yes	No
1	Check the media position.	Remove the media.	Go to step 2.
	Does the media remain in standard media exit?		
2	Check the duplex unit assembly rolls. Are the duplex unit assembly rolls free of excess wear and contamination?	Go to step 3.	Clean or replace the duplex unit assembly. Go to "Duplex unit assembly removal" on page 4-10

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Step	Check	Yes	No
3	 Check the sensor (registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TESTS. 3. Touch Media Path. 4. Touch Registration. Does the display on the operator panel, change every	Go to step 5.	Go to step 4.
	time the sensing area of the above sensor is interrupted or blocked?		
4	Check the sensor (registration) for proper connection. Is the above component properly connected?	Replace the sensor (registration). Go to "Sensor (registration) removal" on page 4-37.	Replace the connection.
5	 Check the duplex diverter gate solenoid for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Duplex diverter gate solenoid. 	Go to step 7.	Go to step 6
6	Check the duplex diverter gate solenoid for proper connection. Is the above component properly connected?	Replace duplex media inverter assembly. Go to "Duplex media inverter assembly removal" on page 4-9.	Replace the connection.
7	 Check the duplex drive motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Duplex drive motor. Does the above component operate properly? 	Go to step 9.	Go to step 8.
8	Check the duplex drive motor for proper connection. Is the above component properly connected?	Replace duplex drive motor. Go to "Duplex drive motor removal" on page 4-13.	Replace the connection.

Step	Check	Yes	No
9	 Check the duplex media inverter clutch for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Test. 4. Touch Registrat clutch. Does the above component make an audible clicking sound when activated? 	Go to step 11.	Go to step 10.
10	Check the duplex media inverter clutch for proper connection. Is the registration clutch properly connected?	Replace the duplex media inverter assembly. Go to "Duplex media inverter assembly removal" on page 4-9.	Replace the connection.
11	Perform a 2 sided print test. Does the error remain?	Replace the duplex controller card assembly. Go to "Duplex controller card assembly removal" on page 4-14. Go to step 12.	Problem solved.
12	Perform a 2 sided print test. Does the error remain?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

241.00 Sensor (tray 1 feed-out) late jam

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the damaged media with new.	Go to step 2.
2	Check the media size setup. Does the media size, in use, match the size set for tray 1?	Go to step 3.	Replace the media, or change the media size setup.

Step	Check	Yes	No
3	Check the feed roll, separation roll, and pick roll for media tray 1. Are the above components free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separating roll, or pick roll. Go to "Feed roll removal" on page 4-105, "Separation roll removal" on page 4-107, and "Pick roll removal" on page 4-106.
4	Check the media position. Does the media touch the sensor (tray 1 feed-out)?	Remove the media.	Go to step 5.
5	 Check the sensor (tray 1 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 1. 5. Touch Feed-out. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Check the sensor (tray 1 feed-out) for proper connection. Is the above component properly connected?	Replace the sensor (tray 1 feed-out).	Replace the connection.
7	 Check the media feed lift motor in media tray 1 for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer motor tests. 4. Touch Tray 1 media feed/lift motor. 	Go to step 9.	Skip to step 8.
8	Check the media feed lift motor for proper connection. Is the above component properly connected?	Replace the media feed lift motor. Go to "Media feed lift motor removal" on page 4-112.	Replace the connection.
9	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

242.00 Sensor (tray 2 feed-out) late jam

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the damaged media with new.	Go to step 2.
2	Check the media size setup. Does the media size, in use, match the size set for tray 2?	Go to step 3.	Replace the media, or change the media size setup.
3	Check the feed roll, separation roll, and pick roll for media tray 2. Are the above components free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separating roll, or pick roll. Go to "Feed roll removal" on page 4-105, "Separation roll removal" on page 4-107, and "Pick roll removal" on page 4-106.
4	Check the media position. Does the media touch the sensor (tray 2 feed-out)?	Remove the media.	Go to step 5
5	 Check the sensor (tray 2 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 2. 5. Touch Feed-out. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Check the sensor (tray 2 feed-out) for proper connection. Is the above component properly connected?	Replace the sensor (tray 2 feed-out).	Replace the connection.
7	Check the media feed lift motor in media tray 2 for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer motor tests. 4. Touch Tray 2 media feed/lift motor. Does the above component operate properly?	Go to step 9.	Skip to step 8.
8	Check the media feed lift motor for proper connection. Is the above component properly connected?	Replace the media feed lift motor. Go to "Media feed lift motor removal" on page 4-112.	Replace the connection.

Step	Check	Yes	No
9	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly.	Problem solved.
		Go to "Lower printer engine card assembly removal" on page 4-79.	

242.01 Sensor (tray 1 feed-out) late jam (feeding from tray 2)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the damaged media with new.	Go to step 2.
2	Check the media position. Does the media touch the sensor (tray 1 feed-out)?	Remove the media.	Go to step 5.
3	 Check the sensor (tray 1 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 1. 5. Touch Feed-out. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (tray 1 feed-out) for proper connection. Is the above component properly connected?	Replace the sensor (tray 1 feed-out).	Replace the connection.
5	 Check the sensor (tray 2 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 2. 5. Touch Feed-out. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Check the sensor (tray 2 feed-out) for proper connection. Is the above component properly connected?	Replace the sensor (tray 2 feed-out).	Replace the connection.

Step	Check	Yes	No
7	Check the MPF/transport drive motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.	Go to step 9.	Skip to step 8.
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Printer motor tests. Touch MPF/transport drive motor. Does the above component operate properly?		
8	Check the MPF/transport drive motor for proper connection. Is the above component properly connected?	Replace the MPF / transport drive motor.	Replace the connection.
		Go to "MPF / transport drive motor assembly removal" on page 4-104.	
9	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly.	Problem solved.
		Go to "Lower printer engine card assembly removal" on page 4-79.	

243.00 Sensor (tray 3 feed-out) late jam

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the damaged media with new.	Go to step 2.
2	Check the media size setup. Does the media size, in use, match the size set for tray 3?	Go to step 3.	Replace the media, or change the media size setup.
3	Check the feed roll, separation roll, and pick roll for media tray 3. Are the above components free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separating roll, or pick roll. Go to "Feed roll removal" on page 4-105, "Separation roll removal" on page 4-107, and "Pick roll removal" on page 4-106.
4	Check the media position. Does the media touch the sensor (tray 3 feed-out)?	Remove the media.	Go to step 5

Step	Check	Yes	No
5	 Check the sensor (tray 3 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 3. 5. Touch Feed-out. 	Go to step 7.	Go to step 6.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
6	Check the sensor (tray 3 feed-out) for proper connection.	Replace the sensor (tray 3 feed-out).	Replace the connection.
7	Check the media feed lift motor in media tray 3 for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer motor tests. 4. Touch Tray 3 media feed/lift motor.	Go to step 9.	Skip to step 8.
8	Check the media feed lift motor for proper connection. Is the above component properly connected?	Replace the media feed lift motor. Go to "Media feed lift motor removal" on page 4-112.	Replace the connection.
9	Perform a print test. Does the error continue?	Replace the 1TM controller card assembly or the 3TM controller card assembly or the TTM controller card assembly. Go to "1X 500- sheet drawer (1TM)—1TM controller card assembly removal" on page 4-251"3X 500-sheet drawer (3TM)—3TM controller card assembly removal" on page 4-230 or "2000-sheet dual input (TTM)—TTM controller card assembly removal" on page 4-200. Go to step 10.	Problem solved.

Step	Check	Yes	No
10	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly.	Problem solved.
		Go to "Lower printer engine card assembly removal" on page 4-79.	

243.01 Sensor (tray 2 feed-out) late jam (feeding from tray 3)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the damaged media with new.	Go to step 2.
2	Check the media position. Does the media touch the sensor (tray 2 feed-out)?	Remove the media.	Go to step 5
3	 Check the sensor (tray 2 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 2. 5. Touch Feed-out. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (tray 2 feed-out) for proper connection. Is the above component properly connected?	Replace the sensor (tray 2 feed-out).	Replace the connection.
5	 Check the sensor (tray 3 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 3. 5. Touch Feed-out. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Check the sensor (tray 3 feed-out) for proper connection. Is the above component properly connected?	Replace the sensor (tray 3 feed-out).	Replace the connection.

Step	Check	Yes	No
7	 Check the tray module drive motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer motor tests. 4. Touch Tray module drive motor. 	Go to step 9.	Skip to step 8.
8	Check the tray module drive motor for proper connection. Is the above component properly connected?	Replace the tray module drive motor. Go to "2000-sheet dual input (TTM)— tray module drive motor assembly removal" on page 4-202 or "2000-sheet dual input (TTM)—tray module drive motor assembly removal" on page 4-202.	Replace the connection.
9	Perform a print test. Does the error continue?	Replace the 1TM controller card assembly or the 3TM controller card assembly or the TTM controller card assembly. Go to "1X 500- sheet drawer (1TM)—1TM controller card assembly removal" on page 4-251"3X 500-sheet drawer (3TM)—3TM controller card assembly removal" on page 4-230 or "2000-sheet dual input (TTM)—TTM controller card assembly removal" on page 4-204. Go to step 10.	Problem solved.
10	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

244.00 Sensor (tray 4 feed-out) late jam

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the damaged media with new.	Go to step 2.
2	Check the media size setup. Does the media size, in use, match the size set for tray 4?	Go to step 3.	Replace the media, or change the media size setup.
3	Check the feed roll, separation roll, and pick roll for media tray 4. Are the above components free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separating roll, or pick roll. Go to "Feed roll removal" on page 4-105, "Separation roll removal" on page 4-107, and "Pick roll removal" on page 4-106.
4	Check the media position. Does the media touch the sensor (tray 4 feed-out)?	Remove the media.	Go to step 5.
5	 Check the sensor (tray 4 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 4. 5. Touch Feed-out. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Check the sensor (tray 4 feed-out) for proper connection. Is the above component properly connected?	Replace the sensor (tray 4 feed-out).	Replace the connection.
7	Check the media feed lift motor in media tray 4 for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer motor tests. 4. Touch Tray 4 media feed/lift motor. Does the above component operate properly?	Go to step 9.	Skip to step 8.
8	Check the media feed lift motor for proper connection. Is the above component properly connected?	Replace the media feed lift motor. Go to "Media feed lift motor removal" on page 4-112.	Replace the connection.

Step	Check	Yes	No
9	 Check the TTM tray 4 transport motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer motor tests. 4. Touch TTM tray 4 media transport motor Does the above component operate properly? 	Go to step 9.	Skip to step 8.
10	Check the TTM tray 4 transport motor for proper connection. Is the above component properly connected?	Replace the TTM tray 4 transport motor. Go to "2000-sheet dual input (TTM)— TTM tray 4 transport motor removal" on page 4-204.	Replace the connection.
11	Perform a print test. Does the error continue?	Replace the 1TM controller card assembly or the 3TM controller card assembly or the TTM controller card assembly. Go to "1X 500- sheet drawer (1TM)—1TM controller card assembly removal" on page 4-251"3X 500-sheet drawer (3TM)—3TM controller card assembly removal" on page 4-230 or "2000-sheet dual input (TTM)—TTM controller card assembly removal" on page 4-204. Go to step 12.	Problem solved.
12	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

244.01 Sensor (tray 3 feed-out) on jam (feeding from tray 4)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the damaged media with new.	Go to step 2.
2	Check the media position. Does the media touch the sensor (tray 3 feed-out)?	Remove the media.	Go to step 5.
3	 Check the sensor (tray 3 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 3. 5. Touch Feed-out. Does the display on the operator panel, change every	Go to step 5.	Go to step 4.
	time the sensing area of the above sensor is interrupted or blocked?		
4	Check the sensor (tray 3 feed-out) for proper connection. Is the above component properly connected?	Replace the sensor (tray 3 feed-out).	Replace the connection.
5	 Check the sensor (tray 4 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 4. 5. Touch Feed-out. 	Go to step 7.	Go to step 6.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
6	Check the sensor (tray 4 feed-out) for proper connection. Is the above component properly connected?	Replace the sensor (tray 4 feed-out).	Replace the connection.
7	 Check the tray module drive motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer motor tests. 4. Touch Tray module drive motor. 	Go to step 9.	Skip to step 8.

Step	Check	Yes	No
8	Check the tray module drive motor for proper connection. Is the above component properly connected?	Replace the tray module drive motor. Go to "2000-sheet dual input (TTM)— tray module drive motor assembly removal" on page 4-202 or "2000-sheet dual input (TTM)—tray module drive motor assembly removal" on page 4-202.	Replace the connection.
9	Perform a print test. Does the error continue?	Replace the 1TM controller card assembly or the 3TM controller card assembly or the TTM controller card assembly. Go to "1X 500- sheet drawer (1TM)—1TM controller card assembly removal" on page 4-251"3X 500-sheet drawer (3TM)—3TM controller card assembly removal" on page 4-230 or "2000-sheet dual input (TTM)—TTM controller card assembly removal" on page 4-204. Go to step 10.	Problem solved.
10	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

250.00 Sensor (registration) late jam (feeding from the MPF)

Step	Check	Yes	No
1	Check the media condition. Is the media in the MPF tray crumpled or damaged?	Replace the media with new; ensure it is dry.	Go to step 2.
2	Check the media size setup. Does the media size in use match the size set for MPF tray?	Go to step 3.	Replace the media or change the media size setup.
3	Check the media position. Does the media touch the sensor (registration)?	Remove the media.	Go to step 4.

Step	Check	Yes	No
4	Check the pick feed rolls. Are the pick rolls free of excess wear and contamination?	Go to step 5.	Clean or replace the pick rolls. Go to "Pick roll
			removal" on page 4-106.
5	 Check the sensor (registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Media Path. 4. Touch Registration. 	Go to step 7.	Go to step 6.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
6	Check the sensor (registration) for proper connection connection.	Replace the sensor (registration).	Replace the connection.
	is the above component property connected :	Go to "Sensor (registration) removal" on page 4-37.	
7	Check the MPF pick solenoid for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.	Go to step 9.	Go to step 8.
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Printer Motor Test. Touch MPF pick solenoid. 		
8	Check the MPF pick solenoid for proper connection connection.	Replace the MPF	Replace the connection.
	Is the above component properly connected?	assembly. Go to "MPF feed unit assembly removal" on page 4-8.	
9	Check the MPF/transport drive motor for proper operation.	Go to step 11.	Skip to step 10.
	 Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer motor tests. 4. Touch MPF/transport drive motor. 		
	Does the above component operate properly?		

Step	Check	Yes	No
10	Check the MPF/transport drive motor for proper connection. Is the above component properly connected?	Replace the MPF/ transport drive motor.	Replace the connection.
		Go to "MPF / transport drive motor assembly removal" on page 4-104.	
11	Perform a print test.	Replace the lower	Problem solved.
	Does the error continue?	assembly.	
		Go to "Lower printer engine card assembly removal" on page 4-79.	

290.00 Switch (sheet through) static jam

Step	Check	Yes	No
1	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	 Check the sensor (sheet through) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch Sheet through. 	Go to step 4.	Go to step 3.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
3	Check the sensor (sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (sheet through).	Replace the connection.
		Go to "Sensor (sheet through) removal" on page 4-157.	
4	Place an undamaged document in the ADF, and perform a ADF test.	Replace the ADF controller card assembly.	Problem solved.
		Go to "ADF controller card assembly removal" on page 4-137.	
		Go to step 5.	
5	Place an undamaged document in the ADF, and perform a ADF test.	Replace the RIP card assembly.	Problem solved.
	Does the error remain?	Go to "RIP card assembly removal" on page 4-72.	

290.01 Sensor (sheet through) late jam

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	 Check the pick roll position motor assembly. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch Pick roll position mtr. 	Go to step 6.	Go to step 5.
5	Check the pick roll position motor assembly connection. Is the above component properly connected?	Replace the pick roll position motor assembly. Go to "Pick roll position motor assembly removal" on page 4-143.	Replace the connection.
Step	Check	Yes	No
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6	Check the ADF feed drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF feed drv mtr.	Go to step 8.	Go to step 7.
	Does the above component operate properly?		
7	Check the ADF feed drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF feed drive motor assembly. Go to "ADF feed drive motor assembly removal" on page 4-133.	Replace the connection.
8	 Check the sensor (sheet through) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch Sheet through. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 10.	Go to step 9.
9	Check the sensor (sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (sheet through). Go to "Sensor (sheet through) removal" on page 4-157.	Replace the connection.
10	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 11.	Problem solved.
11	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

290.02 Sensor (ADF pre-registration) late jam (side 1)

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	 Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF pre registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre- registration). Go to "Sensor (ADF pre- registration) removal" on page 4-149.	Replace the connection.

Step	Check	Yes	No
6	Check the ADF feed drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.	Go to step 8.	Go to step 7.
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Scanner Motor Tests. Touch ADF feed drv mtr. Does the above component operate properly?		
7	Check the ADF feed drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF feed drive motor assembly. Go to "ADF feed drive motor assembly removal" on page 4-133.	Replace the connection.
8	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 9.	Problem solved.
9	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

290.03 Sensor (ADF pre-registration) lag jam

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.

Step	Check	Yes	No
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	 Check the sensor (sheet through) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch Sheet through. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (sheet through). Go to "Sensor (sheet through) removal" on page 4-157.	Replace the connection.
6	 Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF pre registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 8.	Go to step 7.
7	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre- registration). Go to "Sensor (ADF pre- registration) removal" on page 4-149.	Replace the connection.

Step	Check	Yes	No
8	Check the ADF feed drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.	Go to step 10.	Go to step 9.
	 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF feed drv mtr. 		
9	Does the above component operate properly?	Benlace the ADF	Benlace the
	connection. Is the above component properly connected?	feed drive motor assembly. Go to "ADF feed drive motor assembly	connection.
		removal" on page 4-133.	
10	Check the ADF registration motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.	Go to step 12.	Go to step 11.
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Scanner Motor Tests. Touch ADF registration drv mtr. Touch Forward or reverse. 		
	Does the above component operate properly?		
11	Check the ADF registration motor for proper connection. Is the above component properly connected?	Replace the ADF registration motor.	Replace the connection.
		Go to "ADF registration motor removal" on page 4-158.	
12	Place an undamaged document in the ADF, and perform a ADF test.	Replace the ADF controller card assembly.	Problem solved.
	Does the error remain?	Go to "ADF controller card assembly removal" on page 4-137.	

Step	Check	Yes	No
13	Place an undamaged document in the ADF, and perform a ADF test.	Replace the RIP card assembly.	Problem solved.
	Does the error remain?	Go to "RIP card assembly removal" on page 4-72.	

290.10 Sensor (ADF pre-registration) static jam

Step	Check	Yes	No
1	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	 Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF pre registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre-registration). Go to "Sensor (ADF pre- registration) removal" on page 4-149.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 5.	Problem solved.
5	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

290.11 Sensor (ADF registration) late jam (side 1)

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	 Check the sensor (ADF registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF registration). Go to "Sensor (ADF registration) removal" on page 4-148.	Replace the connection.

Step	Check	Yes	No
6	 Check the ADF feed drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF feed drv mtr. Does the above component operate properly? 	Replace the ADF feed drive motor assembly. Go to "ADF feed drive motor assembly removal" on page 4-133.	Go to step 7.
7	Check the ADF feed drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF feed drive motor assembly. Go to "ADF feed drive motor assembly removal" on page 4-133.	Replace the connection.
8	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 9.	Problem solved.
9	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

290.12 Sensor (ADF registration) late jam (side 2)

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.

Step	Check	Yes	No
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	Check the inverter gate condition. Is the inverter gate free of damage and warpage and does it move smoothly?	Go to step 5.	Replace the inverter gate. Go to "Inverter gate removal" on page 4-151.
5	 Check the sensor (ADF registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Check the sensor (ADF registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF registration). Go to "Sensor (ADF registration) removal" on page 4-148.	Replace the connection.
7	 Check the ADF feed drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF feed drv mtr. 	Go to step 9.	Go to step 8.
	Does the above component operate properly?		

Step	Check	Yes	No
8	Check the ADF feed drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF feed drive motor assembly. Go to "ADF feed drive motor assembly removal" on page 4-133.	Replace the connection.
9	 Check the inverter solenoid assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch Inverter solenoid. 	Go to step 11.	Go to step 10.
10	Check the inverter solenoid assembly for proper connection. Is the above component properly connected?	Replace the inverter solenoid assembly. Go to "Inverter solenoid assembly removal" on page 4-138.	Replace the connection.
11	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 12.	Problem solved.
12	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

290.13 Sensor (ADF registration) lag jam

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	 Remove the registration pad cover and clean the black registration pad shown in the diagram below. 1. Raise the ADF to the full upright position. 2. Remove the two screws securing the registration pad cover. 3. Remove the registration pad cover. 4. Clean or replace the black registration pad of excess paper dust. 5. Reinstall the registration pad cover. 	Go to step 3.	Problem solved.
	Registration pad cover Black registration pad Black registration pad Place several undamaged documents in the ADF, and perform an ADF test.		
3	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 4.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.

Step	Check	Yes	No
4	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 5.	Remove all contaminates from the media path.
5	 Check the sensor (ADF registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF registration. 	Go to step 7.	Go to step 6.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
6	Check the sensor (ADF registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF registration). Go to "Sensor (ADF registration) removal" on page 4-148.	Replace the connection.
7	 Check the ADF registration motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF registration drv mtr. 5. Touch Forward or reverse. 	Go to step 9.	Go to step 8.
8	Check the ADF registration motor for proper connection. Is the above component properly connected?	Replace the ADF registration motor. Go to "ADF registration motor removal" on page 4-158.	Replace the connection.
9	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 10.	Problem solved.
10	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

290.14 Sensor (ADF inverter) late jam (Inverting)

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	 Check the sensor (ADF inverter) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF inverter. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF inverter) for proper connection. Is the above component properly connected?	Replace the sensor (ADF inverter). Go to "Sensor (ADF inverter) removal" on page 4-150.	Replace the connection.

Step	Check	Yes	No
6	 Check the ADF registration motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF registration drv mtr. 5. Touch Forward or reverse. 	Go to step 8.	Go to step 7.
7	Check the ADF registration motor for proper connection. Is the above component properly connected?	Replace the ADF registration motor. Go to "ADF registration motor removal" on page 4-158.	Replace the connection.
8	 Check the sensor (ADF registration) for proper operation. Perform the sensor (ADF registration) test. Open the ADF left cover assembly. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 10.	Go to step 9.
9	Check the sensor (ADF registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF registration). Go to "Sensor (ADF registration) removal" on page 4-148.	Replace the connection.
10	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 11.	Problem solved.
11	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

290.15 Sensor (ADF registration) lag jam (inverting)

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/ pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	 Check the sensor (ADF registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF registration). Go to "Sensor (ADF registration) removal" on page 4-148.	Replace the connection.

Step	Check	Yes	No
6	 Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF pre registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 8.	Go to step 7.
7	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre- registration). Go to "Sensor (ADF pre- registration) removal" on page 4-149.	Replace the connection.
8	Check the ADF feed drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF feed drv mtr. Does the above component operate properly?	Go to step 10.	Go to step 9.
9	Check the ADF feed drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF feed drive motor assembly. Go to "ADF feed drive motor assembly removal" on page 4-133.	Replace the connection.

Step	Check	Yes	No
10	Check the inverter solenoid assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests.	Go to step 12.	Go to step 11.
	Does the above component operate properly?		
11	Check the inverter solenoid assembly for proper connection. Is the above component properly connected?	Replace the inverter solenoid assembly. Go to "Inverter solenoid assembly removal" on page 4-138.	Replace the connection.
12	 Check the ADF registration motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF registration drv mtr. 5. Touch Forward or reverse. 	Go to step 14.	Go to step 13.
13	Check the ADF registration motor for proper connection. Is the above component properly connected?	Replace the ADF registration motor. Go to "ADF registration motor removal" on page 4-158.	Replace the connection.
14	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 15.	Problem solved.

Step	Check	Yes	No
15	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	Problem solved.

290.20 Sensor (ADF width APS1), sensor (ADF width APS 2) and sensor (ADF width APS 3) static jam

Step	Check	Yes	No
1	Check the document size. Is the correct size document being inserted into the ADF?	Go to step 2.	Insert the proper size document into the ADF.
2	Check the connection of each ADF controller card assembly connector. Is each connector of ADF controller card assembly connected properly?	Go to step 3.	Connect each connector of ADF controller card assembly properly.
3	 Check the sensor (ADF width APS 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 1. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (ADF width APS 1) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 1). Go to "Sensor (ADF width APS 1) removal" on page 4-145.	Replace the connection.
5	 Check the sensor (ADF width APS 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 2. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Check the sensor (ADF width APS 2) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 2). Go to "Sensor (ADF width APS 2) removal" on page 4-146.	Replace the connection.

Step	Check	Yes	No
7	 Check the sensor (ADF width APS 3) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 3. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 9.	Go to step 8.
8	Check the sensor (ADF width APS 3) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 3). Go to "Sensor (ADF width APS 3) removal" on page 4-147.	Replace the connection.
9	Perform a POR. Does the error remain when the power is turned off/on?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 10.	Problem solved.
10	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to " RIP card assembly removal " on page 4-72 .	Problem solved.

290.21 Sensor (ADF width APS 1) static jam

Step	Check	Yes	No
1	Check the media path.	Go to step 2.	Remove any media
	Is the media path free of media or media fragments?		fragments.
2	 Check the sensor (ADF width APS 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 1. 	Go to step 4.	Go to step 3.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		

Step	Check	Yes	No
3	Check the sensor (ADF width APS 1) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 1).	Replace the connection.
		Go to "Sensor (ADF width APS 1) removal" on page 4-145.	
4	Place an undamaged document in the ADF, and perform a ADF test.	Replace the ADF controller card assembly.	Problem solved.
		Go to "ADF controller card assembly removal" on page 4-137	
		Go to step 5.	
5	Place an undamaged document in the ADF, and perform a ADF test.	Replace the RIP card assembly.	Problem solved.
	Does the error remain?	Go to "RIP card assembly removal" on page 4-72.	

290.22 Sensor (ADF width APS 2) static jam

Step	Check	Yes	No
1	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	 Check the sensor (ADF width APS 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 2. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF width APS 2) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 2). Go to "Sensor (ADF width APS 2) removal" on page 4-146.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 5.	Problem solved.

Step	Check	Yes	No
5	Place an undamaged document in the ADF, and perform a ADF test.	Replace the RIP card assembly.	Problem solved.
	Does the error remain?	Go to " RIP card assembly removal" on page 4-72.	

290.23 Sensor (ADF width APS 3) static jam

Step	Check	Yes	No
1	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	 Check the sensor (ADF width APS 3) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 3. 	Go to step 4.	Go to step 3.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
3	Check the sensor (ADF width APS 3) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 3). Go to "Sensor (ADF width APS 3) removal" on page 4-147.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 5.	Problem solved.
5	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

291.00 Sensor (ADF registration) static jam

Step	Check	Yes	No
1	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	 Check the sensor (ADF registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF registration). Go to "Sensor (ADF registration) removal" on page 4-148.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 5.	Problem solved.
5	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

291.01 Sensor (ADF inverter) lag jam (inverting)

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.

Step	Check	Yes	No
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	 Check the sensor (ADF inverter) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF inverter. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF inverter) for proper connection. Is the above component properly connected?	Replace the sensor (ADF inverter). Go to "Sensor (ADF inverter) removal" on page 4-150.	Replace the connection.
6	 Check the ADF registration motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF registration drv mtr. 5. Touch Forward or reverse. 	Go to step 8.	Go to step 7.
7	Check the ADF registration motor for proper connection. Is the above component properly connected?	Replace the ADF registration motor. Go to "ADF registration motor removal" on page 4-158.	Replace the connection.

Step	Check	Yes	No
8	Place an undamaged document in the ADF, and perform a ADF test.	Replace the ADF controller card assembly.	Problem solved.
		Go to "ADF controller card assembly removal" on page 4-137.	
		Go to step 9.	
9	Place an undamaged document in the ADF, and perform a ADF test.	Replace the RIP card assembly.	Problem solved.
	Does the error remain?	Go to " RIP card assembly removal" on page 4-72.	

291.02 Sensor (ADF inverter) late jam 2

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	 Check the sensor (ADF inverter) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF inverter. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.

Step	Check	Yes	No
5	Check the sensor (ADF inverter) for proper connection. Is the above component properly connected?	Replace the sensor (ADF inverter). Go to "Sensor (ADF inverter) removal" on page 4-150.	Replace the connection.
6	Check the inverter gate condition. Is the inverter gate free of damage and warpage and does it move smoothly?	Go to step 7.	Replace the inverter gate. Go to "Inverter gate removal" on page 4-151.
7	 Check the ADF registration motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF registration drv mtr. 5. Touch Forward or reverse. 	Go to step 9.	Go to step 8.
8	Check the ADF registration motor for proper connection. Is the above component properly connected?	Replace the ADF registration motor. Go to "ADF registration motor removal" on page 4-158.	Replace the connection.
9	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 10.	Problem solved.
10	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	Problem solved.

291.03 Sensor (ADF inverter) lag jam

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	 Check the sensor (ADF inverter) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF inverter. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF inverter) for proper connection. Is the above component properly connected?	Replace the sensor (ADF inverter). Go to "Sensor (ADF inverter) removal" on page 4-150.	Replace the connection.
6	 Check the sensor (ADF registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	Check the sensor (ADF registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF registration). Go to "Sensor (ADF inverter) removal" on page 4-150.	Replace the connection.
8	Check the inverter gate condition. Is the inverter gate free of damage and warpage and does it move smoothly?	Go to step 9.	Replace the inverter gate. Go to "Inverter gate removal" on page 4-151.
9	 Check the ADF registration motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF registration drv mtr. 5. Touch Forward or reverse. 	Go to step 11.	Go to step 10.
10	Check the ADF registration motor for proper connection. Is the above component properly connected?	Replace the ADF registration motor. Go to "ADF registration motor removal" on page 4-158.	Replace the connection.
11	 Check the inverter solenoid assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch Inverter solenoid. 	Go to step 13.	Go to step 12.
12	Check the inverter solenoid assembly for proper connection. Is the above component properly connected?	Replace the inverter solenoid assembly. Go to "Inverter solenoid assembly removal" on page 4-138.	Replace the connection.

Step	Check	Yes	No
13	Place an undamaged document in the ADF, and perform a ADF test.	Replace the ADF controller card assembly.	Problem solved.
		Go to "ADF controller card assembly removal" on page 4-137.	
		Go to step 14.	
14	Place an undamaged document in the ADF, and perform a ADF test.	Replace the RIP card assembly.	Problem solved.
	Does the error remain?	Go to " RIP card assembly removal" on page 4-72.	

292.01 ADF raised jam

Step	Check	Yes	No
1	Remove all documents from the ADF.	Perform a POR.	Problem solved.
	Does the error remain?		

292.02 ADF left cover jam

Step	Check	Yes	No
1	Remove all documents from the ADF.	Perform a POR.	Problem solved.
	Does the error remain?		

293.00 Document missing jam

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.

Step	Check	Yes	No
2	 Check the sensor (document set) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch Document set. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (document set) for proper connection. Is the above component properly connected?	Replace the sensor (document set). Go to "Sensor (document set) removal" on page 4-156.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 5.	Problem solved.
5	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

294.00 Sensor (ADF inverter) static jam

Step	Check	Yes	No
1	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	Check the sensor (ADF inverter) for proper operation. Enter the Diagnostics Menu. Touch SCANNER TESTS. Touch Sensor Tests. Touch ADF inverter. 	Go to step 4.	Go to step 3.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		

Step	Check	Yes	No
3	Check the sensor (ADF inverter) for proper connection. Is the above component properly connected?	Replace the sensor (ADF inverter).	Replace the connection.
		Go to "Sensor (ADF inverter) removal" on page 4-150.	
4	Place an undamaged document in the ADF, and perform a ADF test.	Replace the ADF controller card assembly.	Problem solved.
	Does the error remain?	Go to "ADF controller card assembly removal" on page 4-137.	
		Go to step 5.	
5	Place an undamaged document in the ADF, and perform a ADF test.	Replace the RIP card assembly.	Problem solved.
		Go to " RIP card assembly removal" on page 4-72.	

294.01 Sensor (ADF pre-registration) late jam (side 2)

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.

Step	Check	Yes	No
4	Check the inverter gate condition. Is the inverter gate free of damage and warpage, and does it move smoothly?	Go to step 5.	Replace the inverter gate. Go to "Inverter gate removal" on page 4-151.
5	 Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF pre registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre- registration). Go to "Sensor (ADF pre- registration) removal" on page 4-149.	Replace the connection.
7	 Check the ADF registration motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF registration drv mtr. 5. Touch Forward or reverse. 	Go to step 9.	Go to step 8.
8	Check the ADF registration motor for proper connection. Is the above component properly connected?	Replace the ADF registration motor. Go to "ADF registration motor removal" on page 4-158.	Replace the connection.

Step	Check	Yes	No
9	 Check the inverter solenoid assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch Inverter solenoid. Does the above component operate properly? 	Go to step 11.	Go to step 10.
10	Check the inverter solenoid assembly for proper connection. Is the above component properly connected?	Replace the inverter solenoid assembly. Go to "Inverter solenoid assembly removal" on page 4-138.	Replace the connection.
11	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 12.	Problem solved.
12	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

294.02 Sensor (ADF pre-registration) lag jam (inverting)

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.

Step	Check	Yes	No
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to "ADF feed/ pick roll assembly removal" on page 4-141 or "ADF separation roll guide assembly" on page 4-154.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	 Check the sensor (sheet through) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch Sheet through. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (sheet through). Go to "Sensor (sheet through) removal" on page 4-157.	Replace the connection.
6	 Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF pre registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 8.	Go to step 7.
7	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre- registration). Go to "Sensor (ADF pre- registration) removal" on page 4-149.	Replace the connection.

Step	Check	Yes	No
8	Check the ADF feed drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS.	Go to step 10.	Go to step 9.
	4. Touch ADF feed drv mtr. Does the above component operate properly?		
9	Check the ADF feed drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF feed drive motor assembly. Go to "ADF feed drive motor assembly removal" on page 4-133.	Replace the connection.
10	 Check the inverter solenoid assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch Inverter solenoid. 	Go to step 12.	Go to step 11.
11	Check the inverter solenoid assembly for proper connection. Is the above component properly connected?	Replace the inverter solenoid assembly. Go to "Inverter solenoid assembly removal" on page 4-138.	Replace the connection.

Step	Check	Yes	No
12	Check the ADF registration motor for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu.	Go to step 14.	Go to step 13.
	 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch ADF registration drv mtr. 5. Touch Forward or reverse. Does the above component operate properly?		
13	Check the ADF registration motor for proper connection. Is the above component properly connected?	Replace the ADF registration motor. Go to "ADF registration motor removal" on page 4-158.	Replace the connection.
14	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 15.	Problem solved.
15	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

295.00 Size mismatch jam (mix-size)

Step	Check	Yes	No
1	Check the document tray media guide position. Are the document tray media guides set correctly?	Go to step 2.	Adjust the document tray media guides to the proper position.

Step	Check	Yes	No
2	 Check the sensor (ADF width APS 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 1. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or	Go to step 2.	Go to step 3.
3	blocked? Check the sensor (ADF width APS 1) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 1). Go to "Sensor (ADF width APS 1) removal" on page 4-145.	Replace the connection.
4	 Check the sensor (ADF width APS 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 2. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF width APS 2) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 2). Go to "Sensor (ADF width APS 2) removal" on page 4-146.	Replace the connection.
6	 Check the sensor (ADF width APS 3) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 3. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 8.	Go to step 7.
7	Check the sensor (ADF width APS 3) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 3). Go to "Sensor (ADF width APS 3) removal" on page 4-147.	Replace the connection.
Step	Check	Yes	No
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8	Place an undamaged document in the ADF, and perform a ADF test.	Replace the ADF controller card assembly.	Problem solved.
		Go to "ADF controller card assembly removal" on page 4-137.	
		Go to step 9.	
9	Place an undamaged document in the ADF, and perform a ADF test.	Replace the RIP card assembly.	Problem solved.
	Does the error remain?	Go to " RIP card assembly removal" on page 4-72.	

295.01 Size mismatch jam (no mix-size)

Step	Check	Yes	No
1	Check the document size. Is the correct size document being inserted into the ADF?	Go to step 2.	Insert the proper size document into the ADF.
2	Check the document tray media guide position. Are the document tray media guides set correctly?	Go to step 3.	Adjust the document tray media guides to the proper position.
3	Check the connection of each ADF controller card assembly connector. Is each connector of ADF controller card assembly connected properly?	Go to step 4.	Connect each connector of ADF controller card assembly properly.
4	Perform a POR. Does the error remain when the power is turned off/on?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 5.	Problem solved.
5	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	Problem solved.

295.02 Invalid combine size jam

Step	Check	Yes	No
1	Check the document size.	Go to step 2.	Insert the proper
	Is the correct size document being inserted into the ADF?		the ADF.
2	Check the document tray media guide position.	Go to step 3.	Adjust the document tray
	Are the document tray media guides set correctly?		media guides to the proper position.
3	Check the connection of each ADF controller card assembly connector.	Go to step 4.	Connect each connector of ADF
	Is each connector of ADF controller card assembly connected properly?		assembly properly.
4	 Check the sensor (ADF width APS 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 1. 	Go to step 6.	Go to step 5.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
5	Check the sensor (ADF width APS 1) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 1).	Replace the connection.
		Go to "Sensor (ADF width APS 1) removal" on page 4-145.	
6	Check the sensor (ADF width APS 2) for proper operation.	Go to step 8.	Go to step 7.
	 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 2. 		
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
7	Check the sensor (ADF width APS 2) for proper connection.	Replace the sensor (ADF	Replace the connection.
	is the above component properly connected?	width APS 2).	
		Go to "Sensor (ADF width APS 2) removal" on page 4-146.	

Step	Check	Yes	No
8	 Check the sensor (ADF width APS 3) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 3. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 10.	Go to step 9.
9	Check the sensor (ADF width APS 3) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 3). Go to "Sensor (ADF width APS 3) removal" on page 4-147.	Replace the connection.
10	Perform a POR. Does the error remain when the power is turned off/on?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 11.	Problem solved.
11	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

295.03 Too short size jam

Step	Check	Yes	No
1	Check the document size.	Go to step 2.	Insert the proper
	Is the correct size document being inserted into the ADF?		the ADF.
2	 Check the sensor (sheet through) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch Sheet through. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.

Step	Check	Yes	No
3	Check the sensor (sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (sheet through). Go to "Sensor (sheet through) removal" on page 4-157.	Replace the connection.
4	 Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF pre registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre- registration). Go to "Sensor (ADF pre- registration) removal" on page 4-149.	Replace the connection.
6	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 7.	Problem solved.
7	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

295.04 Too long size jam

Step	Check	Yes	No
1	Check the document size. Is the correct size document being inserted into the ADF?	Go to step 2.	Insert the proper size document into the ADF.

Step	Check	Yes	No
2	 Check the sensor (sheet through) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch Sheet through. 	Go to step 4.	Go to step 3.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
3	Check the sensor (sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (sheet through). Go to "Sensor (sheet through) removal" on page 4-157.	Replace the connection.
4	 Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF pre registration. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre- registration). Go to "Sensor (ADF pre- registration) removal" on page 4-149.	Replace the connection.
6	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Go to step 7.	Problem solved.
7	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

295.05 Mixed size not supported

Step	Check	Yes	No
1	Check the mixed sizes setting. Is the above setting properly selected for mixed sizes?	Perform a POR and refeed originals.	Select mixed sizes setting.

298.01 Scanner cable missing or unplugged

Step	Check	Yes	No
1	Check the scanner main power connection.	Go to step 2.	Replace the
	Is the above component properly connected?		
2	2 Check the multiple connections on the scanner controller F card assembly.	Replace the scanner controller	Replace the connections.
	Are all the connections on the above component properly connected?	Go to Go to "Scanner controller card assembly removal" on page 4-122.	
3	Perform a POR.	Replace the RIP card assembly.	Problem solved.
	again?	Go to " RIP card assembly removal" on page 4-72	

Black toner cartridge detection error 841.00 Image pipeline ASIC error

Step	Check	Yes	No
1	Check the black toner cartridge for proper installation. Is the above component properly installed?	Go to step 3.	Reinstall the black toner cartridge.
2	Replace t he black toner cartridge. Does the error continue?	Got to step 3.	Problem solved.
3	Check the sensor (RFID toner cartridge) for the black toner cartridge for proper connection. Is the above component properly connected?	Replace the sensor (RFID toner cartridge). Go to "Sensor (RFID toner cartridge) removal" on page 4-108.	Replace the connection.
4	Perform a POR. Does the error remain when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

Step	Check	Yes	No
5	Perform a POR.	Replace the RIP card assembly.	Problem solved.
	again?	Go to " RIP card assembly removal" on page 4-72.	

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

842.00 Scanner communication error

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Step	Check	Yes	No
1	Check the scanner interface cable assembly connection between the RIP card assembly and the scanner unit assembly.	Go to step 2.	Replace the connection.
	Is the scanner interface cable assembly connected properly?		
2	Check all connections of the scanner controller card assembly.	Go to step 3.	Connect each
	Are the connections of the scanner controller card assembly connected properly?		scanner controller card assembly properly.
3	Perform a POR.	Replace the	Problem solved.
	Does the error remain when the power is turned off/on?	controller card assembly.	
		Go to "Scanner controller card assembly removal" on page 4-122.	
		Go to step 4.	
4	Perform a POR.	Replace the RIP card assembly.	Problem solved.
	Does the error remain when the power is turned off/on again?	Go to " RIP card assembly removal" on page 4-72.	

Step	Check	Yes	No
1	Check the scanner interface cable assembly connection between the RIP card assembly and the scanner unit assembly.	Go to step 2.	Replace the connection.
	Is the scanner interface cable assembly connected properly?		
2	Check all connections of the scanner controller card assembly.	Go to step 3.	Connect each
	Are the connections of the scanner controller card assembly connected properly?		connector of the scanner controller card assembly properly.
3	Perform a POR.	Replace the	Problem solved.
	Does the error remain when the power is turned off/on?	scanner controller card assembly.	
		Go to "Scanner controller card assembly removal" on page 4-122.	
		Go to step 4.	
4	Perform a POR.	Replace the RIP card assembly.	Problem solved.
	Does the error remain when the power is turned on/on again?	Go to " RIP card assembly removal" on page 4-72.	

842.02 Scanner communication error

Step	Check	Yes	No
1	Check the scanner interface cable assembly connection between the RIP card assembly and the scanner unit assembly.	Go to step 2.	Replace the connection.
	Is the scanner interface cable assembly connected properly?		
2	Check all connections of the scanner controller card assembly. Are the connections of the scanner controller card assembly connected properly?	Go to step 3.	Connect each connector of the scanner controller card assembly properly.
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122. Go to step 4.	Problem solved.

Step	Check	Yes	No
4	Perform a POR.	Replace the RIP card assembly.	Problem solved.
		Go to "RIP card assembly removal" on page 4-72.	

842.03 Scanner communication error

Step	Check	Yes	No
1	Check the scanner interface cable assembly connection between the RIP card assembly and the scanner unit assembly.	Go to step 2.	Replace the connection.
	Is the scanner interface cable assembly connected properly?		
2	Check all connections of the scanner controller card assembly. Are the connections of the scanner controller card assembly connected properly?	Go to step 3.	Connect each connector of the scanner controller card assembly properly.
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122. Go to step 4.	Problem solved.
4	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	Problem solved.

842.04 Scanner communication error

Step	Check	Yes	No
1	Check the scanner interface cable assembly connection between the RIP card assembly and the scanner unit assembly.	Go to step 2.	Replace the connection.
	Is the scanner interface cable assembly connected properly?		
2	Check all connections of the scanner controller card assembly. Are the connections of the scanner controller card assembly connected properly?	Go to step 3.	Connect each connector of the scanner controller card assembly properly.

Step	Check	Yes	No
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.	Problem solved.
		Go to "Scanner controller card assembly removal" on page 4-122.	
		Go to step 4.	
4	Perform a POR.	Replace the RIP card assembly.	Problem solved.
	bees the error remain when the power is turned biron again:	Go to " RIP card assembly removal" on page 4-72.	

842.10 Scanner unit assembly - ADF communication error

Step	Check	Yes	No
1	Check all connections of the scanner controller card assembly.	Go to step 2.	Replace all connections.
	Are the connections of the scanner controller card assembly connected properly?		
2	Check all connections of the ADF controller card assembly.	Go to step 3.	Replace all
	Are the connections of the ADF controller card assembly connected properly?		connections.
3	Perform a POR.	Replace the ADF	Problem solved.
	Does the error remain when the power is turned off/on?	controller card assembly.	
		Go to "ADF controller card assembly removal" on page 4-137.	
4	Perform a POR.	Replace the	Problem solved.
	Does the error remain when the power is turned off/on?	card assembly.	
		Go to "Scanner controller card assembly removal" on page 4-122.	

842.11 Scanner communication error (by scanner)

Step	Check	Yes	No
1	Check all connections of the scanner controller card assembly. Are the connections of the scanner controller card assembly connected properly?	Go to step 2.	Replace all connections.

Step	Check	Yes	No
2	Check all connections of the ADF controller card assembly.	Go to step 3.	Replace all
	Are the connections of the ADF controller card assembly connected properly?		connections.
3	Perform a POR.	Replace the	Problem solved.
	Does the error remain when the power is turned off/on?	card assembly.	
		Go to "ADF controller card assembly removal" on page 4-137.	
4	Perform a POR.	Replace the	Problem solved.
	Does the error remain when the power is turned off/on?	controller card assembly.	
		Go to "Scanner controller card assembly removal" on page 4-122.	

842.12 Scanner unit assembly communication error

Step	Check	Yes	No
1	Check all connections of the scanner controller card assembly.	Go to step 2.	Replace all connections.
	Are the connections of the scanner controller card assembly connected properly?		
2	Check all connections of the ADF controller card assembly.	Go to step 3.	Replace all
	Are the connections of the ADF controller card assembly connected properly?		connections.
3	Perform a POR.	Replace the	Problem solved.
	Does the error remain when the power is turned off/on?	ADF controller card assembly.	
		Go to "ADF controller card assembly removal" on page 4-137.	
4	Perform a POR.	Replace the	Problem solved.
	Does the error remain when the power is turned off/on?	scanner controller card assembly.	
		Go to "Scanner controller card assembly removal" on page 4-122.	

843.00 Sensor (scanner HP) error

Step	Check	Yes	No
1	Check the scanner carriage rails. Is there any foreign substance on the scanner rails?	Clean and lubricate the scanner carriage rails.	Go to step 2.
2	 Check the sensor (scanner HP) for operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch Scanner HP. 	Go to step 4.	Go to step 3.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
3	Check the sensor (scanner HP) for connection. Is the above component properly connected?	Replace the sensor (scanner HP). Go to "Sensor (scanner HP) removal" on page 4-123.	Replace the connection.
4	 Check the scanner drive motor assembly. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch Scanner drv mtr. 5. Touch Forward or reverse. 	Go to step 6.	Go to step 5.
5	Check the scanner drive motor assembly for connection. Is the above component properly connected?	Replace the scanner drive motor assembly. Go to "Scanner drive motor assembly removal" on page 4-120.	Replace the connection.
6	Place media on the large platen and perform a scanner test. Does the error remain?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.	Problem solved.

843.01 Scanner carriage over run error

Step	Check	Yes	No
1	Check the connections of the scanner controller card assembly. Are the connectors of the scanner controller card assembly connected properly?	Go to step 2.	Connect each connector of the scanner controller card assembly properly.
2	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.	Problem solved.

843.10 ADF RAM test error

Step	Check	Yes	No
1	Check the connection between the ADF controller card assembly and the scanner controller card assembly. Are the ADF controller card assembly and the scanner controller card assembly connected properly?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137.	Connect the ADF controller card assembly and the scanner controller card assembly properly.
2	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.	Go to step 3.

843.11 ADF EEPROM error

Step	Check	Yes	No
1	Check the connection of each ADF controller card assembly connector. Is each connector of ADF controller card assembly connected properly?	Go to step 2.	Connect each connector of ADF controller card assembly

Step	Check	Yes	No
2	Perform a POR. Does the error remain when the power is turned off/on?	Replace the ADF controller card assembly.	Problem solved.
		Go to "ADF controller card assembly removal" on page 4-137.	

843.12 ADF pick roll position lift up error

Step	Check	Yes	No
1	Check the feed/pick roll assembly.	Go to step 2.	Replace the feed/
	Remove the left cover media guide. Does The feed/pick roll assembly moves smoothly up/down when the gears are manually rotated?		pick roll assembly.
2	Check the sensor (pick roll position HP) for operation.	Go to step 4.	Go to step 3.
	 Enter the Diagnostics Menu. Touch SCANNER TESTS. Touch Sensor Tests. Touch Pick roll position HP. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
2	Check the sensor (pick roll position HP) for connection	Roplace the	Boplace the
3	Is the above component properly connected?	sensor (pick roll position HP).	connection.
		Go to "Sensor (pick roll position HP) removal" on page 4-140.	
4	Check the pick roll position motor assembly.	Go to step 6.	Go to step 5.
	Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.		
	 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch Pick roll position mtr. 		
	Does the pick roll position motor assembly raise and lower properly?		

Step	Check	Yes	No
5	Check the pick roll position motor assembly for connection. Is the above component properly connected?	Replace the pick roll position motor assembly.	Replace the connection.
		Go to "Pick roll position motor assembly removal" on page 4-143.	
6	Place an undamaged document in the ADF, and perform a ADF test.	Replace the ADF controller card assembly.	Go to step 7.
		Go to "ADF controller card assembly removal" on page 4-137.	

843.20 Scanner unit assembly connection error

Step	Check	Yes	No
1	Check the connection of each ADF controller card assembly connector. Is each connector of ADF controller card assembly connected properly?	Go to step 2.	Connect each connector of ADF controller card assembly properly.
2	Check the connection of each RIP card assembly connector. Are the connectors of the RIP card assembly connected properly?	Go to step 3.	Connect each connector of the RIP card assembly properly.
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137.	Problem solved.

843.21 Scanner unit assembly EEPROM error

Step	Check	Yes	No
1	Check the connections of the scanner controller card assembly connector. Is each connector of scanner controller card assembly	Go to step 2.	Connect each connector of the scanner
	connected properly?		assembly properly.

Step	Check	Yes	No
2	Perform a POR. Does the error remain when the power is turned off/on?	Replace the ADF controller card assembly.	Problem solved.
		Go to "ADF controller card assembly removal" on page 4-137.	

843.22 Scanner unit assembly EEPROM sub system error

Step	Check	Yes	No
1	Check the connection of each scanner controller card assembly connector. Are the connectors of the scanner controller card assembly connected properly?	Go to step 2.	Connect each connector of the scanner controller card assembly properly.
2	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.	Problem solved.
		Go to "Scanner controller card assembly removal" on page 4-122.	

843.23 Scanner cooling fan error

Step	Check	Yes	No
1	Check the scanner cooling fan operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. Perform the scanner cooling fan test. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch Scanner cooling fan speed increase when the test is performed?	Go to step 2.	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.

Step	Check	Yes	No
2	Check the scanner cooling fan for connection. Is the above fan connected properly?	Replace the scanner cooling fan.	Replace the connection.
		Go to "Scanner PS cooling fan removal" on page 4-126.	
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.	Problem solved.
		Go to "Scanner controller card assembly removal" on page 4-122.	

843.24 Image processing error

Step	Check	Yes	No
1	Check the connections of the scanner controller card assembly. Are the connectors of the scanner controller card assembly connected properly?	Go to step 2.	Connect each connector of the scanner controller card assembly properly.
2	Check the software version for the scanner controller card assembly. Is the version of the software of the scanner controller card assembly correct?	Go to step 3.	Upgrade the software of the scanner controller card assembly.
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on	Problem solved.

843.25 Scanner controller card assembly error 1

Step	Check	Yes	No
1	Check the connection of each scanner controller card assembly connector. Is each connector of scanner controller card assembly connected properly?	Go to step 2.	Connect each connector of scanner controller card assembly properly.

Step	Check	Yes	No
2	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.	Problem solved.
		Go to "Scanner controller card assembly removal" on page 4-122.	
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the CCD card /lens assembly.	Problem solved.
		Go to "CCD card/lens assembly removal" on page 4-118.	
4	Perform a POR.	Replace the	Problem solved.
	Does the error remain when the power is turned off/on again?	assembly.	
		Go to "Scanner PS card assembly removal" on page 4-125.	

843.26 Scanner controller card assembly error 2

Step	Check	Yes	No
1	Check the connection of each scanner controller card assembly connector. Is each connector of scanner controller card assembly connected properly?	Go to step 2.	Connect each connector of scanner controller card assembly properly.
2	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.	Problem solved.
3	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the scanner PS card assembly. Go to "Scanner PS card assembly removal" on page 4-125.	Problem solved.

Step	Check	Yes	No
1	Check the exposure lamp for operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.	Go to step 6.	Go to step 3.
	 Perform the exposure lamp test. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch Exposure lamp. 		
	Does the exposure lamp operate properly?		
2	Check the exposure lamp for connection.	Replace the exposure lamp.	Replace the connection.
	is the above component propeny connected :	Go to "Exposure lamp removal" on page 4-121.	
3	Check the exposure lamp PS card assembly. Is the above card properly connected to the scanner controller card assembly?	Replace the exposure lamp PS card assembly.	Replace the connection.
		"Exposure lamp PS card assembly removal" on page 4-121.	
4	Check the scanner PS card assembly for connection. Is the above card connected properly?	Replace the scanner PS card assembly.	Replace the connection.
		Go to "Scanner PS card assembly removal" on page 4-125.	
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.	Problem solved.
		controller card assembly removal" on page 4-122.	

Step	Check	Yes	No
1	Check the large platen glass. Is the large platen glass installed properly?	Go to step 2.	Remove and clean the large platen glass.
			Go to "Large platen glass removal" on page 4-116.
			Reinstall the large platen glass properly.
			Go to step 3.
2	Remove the large platen glass. Go to "Large platen glass removal" on page 4-116.	Clean the bottom of the large platen glass in	Go to step 4.
	white reference strip for contamination.	the vicinity of the white reference	
		Reinstall the large platen glass properly.	
		Go to step 3.	
3	Perform a POR.	Go to step 4.	Problem solved.
	Does the error remain?		
4	Check the exposure lamp for operation.	Go to step 8.	Go to step 5.
	Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.		
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Scanner Motor Tests. 		
	4. Touch Exposure lamp.		
	Does the exposure lamp operate properly?		
5	Check the exposure lamp for connection	Replace the	Replace the
Ū	Is the above component properly connected?	exposure lamp.	connection.
		Go to "Exposure lamp removal" on page 4-121.	
6	Check the exposure lamp PS card assembly.	Replace the	Replace the
	Is the above card properly connected to the scanner controller card assembly?	exposure lamp PS card assembly.	connection.
		"Exposure lamp PS card assembly removal" on page 4-121.	

844.01 White reference/exposure lamp illumination error

Step	Check	Yes	No
7	Check the scanner PS card assembly for connection. Is the above card connected properly?	Replace the scanner PS card assembly.	Replace the connection.
		Go to "Scanner PS card assembly removal" on page 4-125.	
8	Perform a POR. Does the error continue when the power is turned off/on?	Replace the scanner controller card assembly.	Problem solved.
		Go to "Scanner controller card assembly removal" on page 4-122.	

845.00 CCD error

Step	Check	Yes	No
1	Check the CCD/lens assembly connection. Is the CCD/lens assembly connected properly?	Go to step 2.	Replace the connection.
2	Check all the connections on the scanner controller card assembly. Are all the connections connected properly?	Replace the CCD/lens assembly.	Replace the connection.
3	Perform a POR. Does the error remain?	Replace the scanner controller card assembly. Go to "Scanner	
		controller card assembly removal" on page 4-122.	

Step	Check	Yes	No
1	Check the exposure lamp for operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. Enter the Diagnostics Menu	Go to step 6.	Go to step 3.
	 2. Touch MOTOR TESTS. 3. Touch Scanner Motor Tests. 4. Touch Exposure lamp. Does the exposure lamp operate properly?		
2	Check the exposure lamp for connection. Is the above component properly connected?	Replace the exposure lamp. Go to "Exposure lamp removal" on page 4-121.	Replace the connection.
3	Check the exposure lamp PS card assembly. Is the above card properly connected to the scanner controller card assembly?	Replace the exposure lamp PS card assembly. "Exposure lamp PS card assembly removal" on page 4-121.	Replace the connection.
4	Check the scanner PS card assembly for connection. Is the above card connected properly?	Replace the scanner PS card assembly. Go to "Scanner PS card assembly removal" on page 4-125.	Replace the connection.
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.	Problem solved.

845.01 CCD initialization (lamp on) error

845.02 CCD initialization (lamp off) error

Step	Check	Yes	No
1	Check the connection of the scanner controller card assembly. Are the connectors of the scanner controller card assembly connected properly?	Go to step 2.	Connect each connector of the scanner controller card assembly properly.
2	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.	Problem solved.
3	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the scanner PS card assembly. Go to "Scanner PS card assembly removal" on page 4-125.	Problem solved.

846.00 Scanner communication error

Step	Check	Yes	No
1	Check the scanner interface cable assembly connection between the RIP card assembly and the scanner unit assembly.	Go to step 2.	Replace the connection.
	Is the scanner interface cable assembly connected properly?		
2	Check all connections of the scanner controller card assembly. Are the connections of the scanner controller card assembly connected properly?	Go to step 3.	Connect each connector of the scanner controller card assembly properly.
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122. Go to step 4.	Problem solved.

846.01 Scanner communication error

Step	Check	Yes	No
1	Check the scanner interface cable assembly connection between the RIP card assembly and the scanner unit assembly.	Go to step 2.	Replace the connection.
	Is the scanner interface cable assembly connected properly?		
2	Check all connections of the scanner controller card assembly. Are the connections of the scanner controller card assembly connected properly?	Go to step 3.	Connect each connector of the scanner controller card assembly properly.
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122. Go to step 4.	Problem solved.

846.10 Sensor (ADF width APS X) error

Step	Check	Yes	No
1	 Check the sensor (ADF width APS 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 1. 	Go to step 2.	Go to step 3.
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
2	Check the sensor (ADF width APS 1) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 1). Go to "Sensor (ADF width APS 1) removal" on page 4-145.	Replace the connection.
3	 Check the sensor (ADF width APS 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 2. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.

Step	Check	Yes	No
4	Check the sensor (ADF width APS 2) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 2). Go to "Sensor (ADF width APS 2) removal" on page 4-146.	Replace the connection.
5	 Check the sensor (ADF width APS 3) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF width APS 3. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 8.	Go to step 7.
6	Check the sensor (ADF width APS 3) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 3). Go to "Sensor (ADF width APS 3) removal" on page 4-147.	Replace the connection.
7	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137.	Go to step 8.

846.12 Scanner unit assembly software logic error

Step	Check	Yes	No
1	Check the software version for the scanner controller card assembly.	Go to step 2.	Upgrade the software of the
	Is the version of the software of the scanner controller card assembly correct?		card assembly.
2	Perform a POR.	Replace the	Problem solved.
	Does the error remain when the power is turned off/on?	controller card assembly.	
		Go to "Scanner controller card assembly removal" on page 4-122.	

846.13 Switch (platen interlock) open

Step	Check	Yes	No
1	Check the ADF for opening and closing. Does the ADF lay completely flush on the scanner unit when it is in its closed position?	Go to step 2.	Inspect and adjust the ADF left hinge and right hinge as required.
2	Check the sensor (ADF angle) for proper installation. Is the sensor (ADF angle) installed correctly?	Go to step 3.	Reinstall the sensor (ADF angle).
3	 Check the sensor (ADF angle) for operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF angle. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (ADF angle) for connection. Is the above component properly connected?	Replace the sensor (ADF angle). Go to "Sensor (ADF angle) removal" on page 4-124.	Replace the connection.
5	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.	Go to step 6.

847.00 Modem error

s	Step	Check	Yes	No
	1	Confirm the configuration ID is set correctly. Is the configuration ID set correctly?	Go to step 2.	Set the configuration ID correctly.
				Go to "Configuration ID" on page 3-19.

Step	Check	Yes	No
2	Check the fax interface card assembly (modem) connection. Is the fax interface card assembly (modem) connected properly?	Replace the fax interface card assembly (modem) and properly set configuration ID.	Replace the connection.
		Go to "Fax interface card (modem) assembly removal" on page 4-73.	
		Go to "Configuration ID" on page 3-19.	
3	Perform a POR.	Replace the RIP	Problem solved.
	Does the error remain when the power is turned off/on again?	Go to "RIP card assembly removal" on page 4-72.	

847.01 Fax storage error

Step	Check	Yes	No
1	Perform a POR.	Perform format fax storage.	Problem solved.
		Warning: Perfor ming format fax storage will erase all fax information.	
		Go to "Format Fax Storage" on page 3-42.	
2	Check the hard drive data and power connections.	Replace the hard drive.	Problem solved.
	is the hard drive connected properly?	Go to "Hard drive removal" on page 4-73.	

Step	Check	Yes	No
1	Check the fax interface card assembly (modem) connection. Is the fax interface card assembly (modem) connected properly?	Replace the fax interface card assembly (modem) and properly set configuration ID.	Replace the connection.
		Go to "Fax interface card (modem) assembly removal" on page 4-73.	
		Go to "Configuration ID" on page 3-19.	
2	Perform a POR.	Replace the RIP card assembly.	Problem solved.
		Go to " RIP card assembly removal" on page 4-72.	

848.00 Fax/modem configuration ID mismatch

849.00 Hard drive/configuration ID mismatch

Step	Check	Yes	No
1	Check the hard drive data and power connections. Are the above connections connected properly?	Replace the hard drive. Go to "Hard drive removal" on page 4-73.	Replace the connections.
2	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

900.XX RIP card assembly software error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests.
			If the problem remains, go to step 2.

Step	Check	Yes	No
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the RIP card assembly. Go to " RIP card assembly removal " on page 4-72 . Go to step 3.	Problem solved.

901.XX RIP card assembly software error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72. Go to step 3.	Problem solved.
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

903.00 K developer/transport drive assembly motor error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests.
			If the problem remains, go to step 2.

Step	Check	Yes	No
2	 Check the K developer/transport drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor Tests 4. Touch K developer/transport drive motor Does the above component operate properly? 	Go to step 4.	Go to step 3.
3	Check the K developer/transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the K developer/ transport drive motor assembly. Go to "K developer / transport drive motor assembly removal" on page 4-95.	Replace the connection.
4	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

903.01 K PC drive motor error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several print tests.
	Does the error occur when the power is turned off/on?		If the problem remains, go to step 2.

Step	Check	Yes	No
2	Check the CMYK PC cartridge drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS.	Go to step 4.	Go to step 3.
	 3. Touch Printer Motor Tests 4. Touch K PC cartridge drive motor. Does the above component operate properly?		
3	Check the CMYK PC cartridge drive motor assembly for proper connection. Is the above component properly connected?	Replace the CMYK PC cartridge drive motor assembly. Go to "CMYK PC	Replace the connection.
		motor assembly removal" on page 4-90.	
4	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly.	Problem solved.
		Go to "Lower printer engine card assembly removal" on page 4-79.	

903.02 CMY PC drive motor error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several
	Does the error occur when the power is turned off/on?		If the problem remains, go to step 2.
2	Check the CMYK PC cartridge drive motor assembly for proper operation.	Go to step 4.	Go to step 3.
	Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.		
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Printer Motor Tests Touch CMY cartridge drive motor 		
	Does the above component operate properly?		

Step	Check	Yes	No
3	Check the CMYK PC cartridge drive motor assembly for proper connection. Is the above component properly connected?	Replace the CMYK PC cartridge drive motor assembly.	Replace the connection.
		Go to "CMYK PC cartridge drive motor assembly removal" on page 4-90.	
4	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

903.03 Developer drive motor error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests.
			remains, go to step 2.
2	Check the CMY developer drive motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor tests 4. Touch CMY developer drive motor.	Go to step 4.	Go to step 3.
	Does the above component operate properly?		
3	Check the CMY developer drive motor assembly for proper connection.	Replace the CMY developer drive motor assembly.	Replace the connection.
	is the above component properly connected?	Go to "CMY developer drive motor assembly removal" on page 4-89.	

Step	Check	Yes	No
4	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

904.00 Sensor (transfer belt HP) late error

Step	Check	Yes	No
1	Reset the transfer belt HP failure lock out condition. 1. Enter the Diagnostics Menu. 2. Touch Trans belt fail HP. 3. Touch Trans belt fail HP.	Go to step 2.	Go to step 3.
	Does the transfer belt appear damaged or torn in half?		
2	Check the transfer belt cleaning assembly for proper installation. Is the above component installed properly?	Go to step 3.	Reinstall the transfer belt cleaning assembly.
3	Perform a POR.	Go to step 4.	Perform several print tests.
	Does the error occur when the power is turned on/on:		If the problem remains, go to step 4.
4	Replace the transfer belt unit assembly. To to "Transfer belt unit assembly removal" on page 4-16.	Replace the lower printer engine card assembly.	Problem solved.
		Go to "Lower printer engine card assembly removal" on page 4-79.	

904.01 Transfer belt position failure

Step	Check	Yes	No
1	Check the transfer belt unit assembly for proper installation. Is the above component properly installed?	Go to step 3.	Re-install the transfer belt unit assembly.
2	Check the transfer belt cleaning assembly for proper installation. Is the above component installed properly?	Go to step 3.	Reinstall the transfer belt cleaning assembly.
3	Check the transfer belt unit assembly for damage. Is the above component free of damage to the frame and the belt?	Go to step 4.	Replace the transfer belt unit assembly.

Step	Check	Yes	No
4	Check the transfer belt steering motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor tests	Go to step 6.	Go to step 5.
	4. Touch Transfer belt steering motor. Does the above component operate properly?		
5	Check the transfer belt steering motor for proper connection.	Replace the transfer belt steering motor.	Replace the connection.
		Go to "Transfer belt steering motor removal" on page 4-63.	
6	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly.	Problem solved.
		Go to "Lower printer engine card assembly removal" on page 4-79.	

904.02 Sensor (transfer belt edge) failure

Step	Check	Yes	No
1	Check the transfer belt unit assembly for proper installation. Is the above component properly installed?	Go to step 2.	Re-install the transfer belt unit assembly.
2	Check the transfer belt unit assembly for damage. Is the above component free of damage to the frame and the belt?	Go to step 3.	Replace the transfer belt unit assembly.
3	Check the transfer belt steering motor assembly for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch MOTOR TESTS. 3. Touch Printer Motor tests 4. Touch Transfer belt steering motor. Does the above component operate properly?	Go to step 5.	Go to step 4.

Step	Check	Yes	No
4	Check the transfer belt steering motor for proper connection. Is the above component properly connected.	Replace the transfer belt steering motor. Go to "Transfer belt steering motor removal" on page 4-63.	Replace the connection.
5	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

904.03 Sensor (2nd transfer roll retract HP) late error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to step 2.
2	 Check the sensor (2nd transfer roll HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch Base Sensor Tests. 3. Touch Media Path. 4. Touch 2nd transfer roll retract HP. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (2nd transfer roll HP) for proper connection. Is the above component properly connected?	Replace the sensor (2nd transfer roll retract HP). Go to "Sensor (2nd transfer roll retract HP) removal" on page 4-34.	Replace the connection.
4	 Check the 2nd transfer roll retract motor for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TESTS. 3. Touch Media Path. 4. Touch 2nd transfer roll retract HP. 	Go to step 6.	Skip to step 5.

Step	Check	Yes	No
5	Check the 2nd transfer roll retract motor for proper connection. Is the above component properly connected?	Replace the 2nd transfer roll retract motor assembly. Go to "2nd transfer roll retract motor assembly removal" on page 4-35.	Replace the connection.
6	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.
7	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

904.04 Sensor (2nd transfer roll retract HP) lag error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several print tests.
	Does the error occur when the power is turned off/on?		If the problem remains, go to step 2.
2	Check the sensor (2nd transfer roll HP) for proper operation.	Go to step 4.	Go to step 3.
	 Enter the Diagnostics Menu. Touch Base Sensor Tests. Touch Media Path. Touch 2nd transfer roll retract HP. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
3	Check the sensor (2nd transfer roll HP) for proper connection. Is the above component properly connected?	Replace the sensor (2nd transfer roll retract HP).	Replace the connection.
		Go to "Sensor (2nd transfer roll retract HP) removal" on page 4-34.	
Step	Check	Yes	No
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4	 Caution: Check the 2nd transfer roll retract motor for proper operation. When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 	Go to step 6.	Skip to step 5.
	2. Touch MOTOR TESTS. 3. Touch Printer motor tests		
	4. Touch 2nd transfer roll retract motor		
	Does the above component operate properly?		
5	Check the 2nd transfer roll retract motor for proper connection.	Replace the 2nd transfer roll retract	Replace the connection.
	Is the above component properly connected?	motor. Go to	
6	Perform a print test.	Replace the lower	Problem solved.
	Does the error continue?	assembly.	
		Go to "Lower printer engine card assembly removal" on page 4-79.	
7	Perform a POR.	Replace the lower	Problem solved.
	Does the error occur when the power is turned off/on?	assembly.	
		Go to "Lower printer engine card assembly removal" on page 4-79.	

904.05 Sensor (CMY transfer roll retract HP) late error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to step 2.
2	Replace the transfer belt unit assembly. Go to "Transfer belt unit assembly removal" on page 4-16 . Does the error remain?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

904.06 Sensor (CMY transfer roll retract HP) lag error

Step	Check	Yes	No
1	Check the transfer belt unit assembly. Is the above component properly installed?	To to step 2	Properly reinstall the transfer belt unit assembly.
2	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 3.	Perform several print tests. If the problem remains, go to step 3.
3	Replace the transfer belt unit assembly. Go to "Transfer belt unit assembly removal" on page 4-16. Does the error remain?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

904.07 CMY transfer roll retract motor time out

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to
2	Replace the transfer belt unit assembly. Go to "Transfer belt unit assembly removal" on page 4-16. Does the error remain?	Replace the lower printer engine card assembly. Go to "Lower	step 2. Problem solved.
		printer engine card assembly removal" on page 4-79.	

905.00 NVM read/write cannot be executed error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several print tests.
			If the problem remains, go to step 2.

Step	Check	Yes	No
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

905.01 Marking device video error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

905.02 Marking device Xerographics error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

905.04 Marking device paper handling error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

905.05 Marking device other2 error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

907.00 Printhead polygon mirror motor error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several print tests.
	Does the error occur when the power is turned on/on?		If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds.	Go to step 3.	Problem solved.
	Does the error occur when the power is turned off/on again?		

Step	Check	Yes	No
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the printhead assembly.	Problem solved.
		Go to "Printhead assembly removal" on page 4-94.	

907.01 Y laser SOS internal error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several
	Does the error occur when the power is turned off/on?		If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds.	Go to step 3.	Problem solved.
	Does the error occur when the power is turned off/on again?		
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the printhead assembly. Go to "Printhead assembly removal" on page 4 04	Problem solved.

907.02 M laser SOS internal error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several print tests.
	Does the error occur when the power is turned on/on?		If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds.	Go to step 3.	Problem solved.
	Does the error occur when the power is turned off/on again?		
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the printhead assembly.	Problem solved.
		Go to "Printhead assembly removal" on page 4-94.	

907.03 C laser SOS internal error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Go to step 3.	Problem solved.
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the printhead assembly. Go to "Printhead assembly removal" on page 4-94.	Problem solved.

907.04 K laser SOS internal error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several
	Does the error occur when the power is turned off/on?		If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds.	Go to step 3.	Problem solved.
	Does the error occur when the power is turned off/on again?		
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the printhead assembly. Go to "Printhead assembly	Problem solved.
		removal" on page 4-94.	

907.05 Printhead control error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several print tests.
	Does the error occur when the power is turned on/on?		If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds.	Go to step 3.	Problem solved.
	Does the error occur when the power is turned off/on again?		

Step	Check	Yes	No
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the printhead assembly.	Problem solved.
		Go to "Printhead assembly removal" on page 4-94.	

908.00 Waste toner full error

Step	Check	Yes	No
1	Reinstall the waste toner cartridge. Does the error remain?	Replace the waste toner cartridge.	Problem solved.
2	 Check the sensor (waste toner full) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Devices. 4. Touch Waste toner cartridge full. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (waste toner full) for proper connection. Is the above component properly connected?	Replace the sensor (waste toner full).	Replace the connection.
4	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

911.00 24V LVPS cooling fan error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests.
			If the problem remains, go to step 2.
2	Check the 24V LVPS cooling fan assembly for proper connection.	Replace the 24V LVPS cooling fan assembly.	Replace the connection.
	is the above component propeny connected?	Go to "24V LVPS cooling fan removal" on page 4-87.	

Step	Check	Yes	No
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly.	Problem solved.
		Go to "Lower printer engine card assembly removal" on page 4-79.	

911.01 Transfer belt drive motor cooling fan error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to step 2.
2	Check the transfer belt drive motor cooling fan assembly for proper connection. Is the above component properly connected?	Replace the transfer belt drive motor cooling fan assembly. Go to "Transfer belt drive motor cooling fan removal" on page 4-80.	Replace the connection.
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

911.02 Fuser cooling fan lock error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several print tests.
			If the problem remains, go to step 2.

Step	Check	Yes	No
2	Check the fuser cooling fan for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.	Go to step 4.	Go to step 3.
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Fuser cooling fan. Does the above component operate properly?		
3	Check the fuser cooling fan for proper connection. Is the above component properly connected?	Replace the fuser cooling fan. Go to "Fuser cooling fan removal" on page 4-91	Replace the connection.
4	Perform a POR. Does the error occur when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

918.00 Standard media exit shift error

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

920.00 Fuser main lamp overheat error

Step	Check	Yes	No
1	Reset the fuser overheat failure lock out condition.	Go to step 2.	Go to step 5.
	 Enter the Diagnostics Menu. Touch Fuser temp fail clear. Touch Fuser temp fail clear. 		
	Perform a POR. Does the error occur when the power is turned off/on?		

Step	Check	Yes	No
2	Reset the fuser overheat failure lock out condition. Check the fuser unit assembly for a media jam. Is there a media jam in the fuser unit assembly?	Remove the media.	Go to step 3.
3	Check the fuser unit assembly for proper installation. Is the fuser unit assembly installed properly?	Go to step 4.	Install the fuser unit assembly properly.
4	Check the fuser unit assembly for proper connection. Is the above component properly connected.	Go to step 5.	Repair the connection.
5	Perform a print test. Does the error continue?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15. Go to step 6.	Problem solved.
6	Perform a POR. Does the error occur when the power is turned off/on?	Replace the AC drive card bracket assembly. Go to "AC drive card bracket assembly removal" on page 4-99.	Problem solved.

920.01 Front thermistor disconnection error

Step	Check	Yes	No
1	Check the fuser unit assembly for a media jam. Is there a media jam in the fuser unit assembly?	Remove the media.	Go to step 2.
2	Check the fuser unit assembly for proper installation. Is the fuser unit assembly installed properly?	Go to step 3.	Install the fuser unit assembly properly.
3	Check the fuser unit assembly for proper connection. Is the above component properly connected.	Go to step 4.	Repair the connection.
4	Perform a POR. Does the error occur when the power is turned off/on?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15.	Problem solved.

920.02 Fuser sub lamp overheat error

Step	Check	Yes	No
1	 Reset the fuser overheat failure lock out condition. 1. Enter the Diagnostics Menu. 2. Touch Fuser temp fail clear. 3. Touch Fuser temp fail clear. 	Go to step 2.	Go to step 5.
	Perform a POR.		
2	Does the error occur when the power is turned off/on? Reset the fuser overheat failure lock out condition. Check the fuser unit assembly for a media jam. Is there a media jam in the fuser unit assembly?	Remove the media.	Go to step 3.
3	Check the fuser unit assembly for proper installation. Is the fuser unit assembly installed properly?	Go to step 4.	Install the fuser unit assembly properly.
4	Check the fuser unit assembly for proper connection. Is the above component properly connected.	Go to step 5.	Repair the connection.
5	Perform a print test. Does the error continue?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15. Go to step 6.	Problem solved.
6	Perform a POR. Does the error occur when the power is turned off/on?	Replace the AC drive card bracket assembly. Go to "AC drive card bracket assembly removal" on page 4-99.	Problem solved.

920.03 Rear thermistor disconnection error

Step	Check	Yes	No
1	Check the fuser unit assembly for a media jam. Is there a media jam in the fuser unit assembly?	Remove the media.	Go to step 2.
2	Check the fuser unit assembly for proper installation. Is the fuser unit assembly installed properly?	Go to step 3.	Install the fuser unit assembly properly.
3	Check the fuser unit assembly for proper connection. Is the above component properly connected.	Go to step 4.	Repair the connection.

Step	Check	Yes	No
4	Perform a POR.	Replace the fuser unit assembly.	Problem solved.
		Go to "Fuser unit assembly removal" on page 4-15.	

920.04 Main lamp warm up error

Step	Check	Yes	No
1	Check for proper voltage fuser. Does the fuser unit assembly voltage match the voltage required for the machine?	Go to step 2.	Install the appropriate voltage fuser unit assembly.
2	Check the fuser unit assembly for a media jam. Is there a media jam in the fuser unit assembly?	Remove the media.	Go to step 3.
3	Check the fuser unit assembly for proper installation. Is the fuser unit assembly installed properly?	Go to step 4.	Install the fuser unit assembly properly.
4	Check the fuser unit assembly for proper connection. Is the above component properly connected.	Go to step 5.	Repair the connection.
5	Perform a print test. Does the error continue?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15. Go to step 6.	Problem solved.
6	Perform a POR. Does the error occur when the power is turned off/on?	Replace the AC drive card bracket assembly. Go to "AC drive card bracket assembly removal" on page 4-99.	Problem solved.

920.05 Main lamp on-time error

Step	Check	Yes	No
1	Check the fuser unit assembly for a media jam. Is there a media jam in the fuser unit assembly?	Remove the media.	Go to step 2.
2	Check the fuser unit assembly for proper installation. Is the fuser unit assembly installed properly?	Go to step 3.	Install the fuser unit assembly properly.

Step	Check	Yes	No
3	Check the fuser unit assembly for proper connection. Is the above component properly connected.	Go to step 4.	Repair the connection.
4	Perform a print test. Does the error continue?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15. Go to step 5.	Problem solved.
5	Perform a POR. Does the error occur when the power is turned off/on?	Replace the AC drive card bracket assembly. Go to "AC drive card bracket assembly removal" on page 4-99.	Problem solved.

920.06 Sub lamp warm-up failure

Step	Check	Yes	No
1	Check the fuser unit assembly for a media jam. Is there a media jam in the fuser unit assembly?	Remove the media.	Go to step 2.
2	Check the fuser unit assembly for proper installation. Is the fuser unit assembly installed properly?	Go to step 3.	Install the fuser unit assembly properly.
3	Check the fuser unit assembly for proper connection. Is the above component properly connected.	Go to step 4.	Repair the connection.
4	Perform a print test. Does the error continue?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15. Go to step 5.	Problem solved.
5	Perform a POR. Does the error occur when the power is turned off/on?	Replace the AC drive card bracket assembly. Go to "AC drive card bracket assembly removal" on page 4-99.	Problem solved.

Step	Check	Yes	No
1	Check the fuser unit assembly for a media jam. Is there a media jam in the fuser unit assembly?	Remove the media.	Go to step 2.
2	Check the fuser unit assembly for proper installation. Is the fuser unit assembly installed properly?	Go to step 3.	Install the fuser unit assembly properly.
3	Check the fuser unit assembly for proper connection. Is the above component properly connected.	Go to step 4.	Repair the connection.
4	Perform a print test. Does the error continue?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15. Go to step 5.	Problem solved.
5	Perform a POR. Does the error occur when the power is turned off/on?	Replace the AC drive card bracket assembly. Go to "AC drive card bracket assembly removal" on page 4-99.	Problem solved.

924.00 Yellow toner RFID communication error

Step	Check	Yes	No
1	Check the Y toner cartridge. Is the Y toner cartridge properly installed?	Go to step 2.	Reinstall the Y toner cartridge.
2	Check the sensor (Y toner RFID) for proper connection. Is the above component properly connected?	Replace the CMYK toner add motor assembly. Go to "CMYK toner add motor assembly removal" on page 4-92.	Replace the connection.
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

924.01 Magenta toner RFID communication error

Step	Check	Yes	No
1	Check the M toner cartridge.	Go to step 2.	Reinstall the M
	Is the M toner cartridge properly installed?		torier cartiloge.
2	Check the sensor (M toner RFID) for proper connection. Is the above component properly connected?	M toner RFID) for proper connection. ponent properly connected? Replace the CMYK toner add motor assembly.	Replace the connection.
		Go to "CMYK toner add motor assembly removal" on page 4-92.	
3	Perform a POR.	Replace the upper	Problem solved.
	Does the error occur when the power is turned off/on?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

924.02 Cyan toner RFID communication error

Step	Check	Yes	No
1	Check the C toner cartridge.	Go to step 2.	Reinstall the C
	Is the C toner cartridge properly installed?		toner carthuge.
2	Check the sensor (C toner RFID) for proper connection. Is the above component properly connected?	Replace the CMYK toner add motor assembly.	Replace the connection.
		Go to "CMYK toner add motor assembly removal" on page 4-92.	
3	Perform a POR.	Replace the upper	r Problem solved.
	Does the error occur when the power is turned off/on?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

924.03 Black toner RFID communication error

Step	Check	Yes	No
1	Check the K toner cartridge. Is the K toner cartridge properly installed?	Go to step 2.	Reinstall the K toner cartridge.

Step	Check	Yes	No
2	Check the sensor (Y toner RFID) for proper connection. Is the above component properly connected?	Replace the CMYK toner add motor assembly.	Replace the connection.
		toner add motor assembly removal" on page 4-92.	
3	Perform a POR.	Replace the upper	Problem solved.
	Does the error occur when the power is turned off/on?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

925.00 Sensor (Y ATC) error

Step	Check	Yes	No
1	Reset the Y ATC failure lock out condition. 1. Enter diagnostic mode 2. Touch Dev unit reset. 2. Touch Y channel Perform a very large print test. Does the error remain?	Go to step 2.	Problem solved.
2	Check the sensor (Y ATC) for proper connection. Is the above component properly connected?	Replace the Y developer unit assembly. Go to "Developer unit assembly removal" on page 4-53.	Replace the connection.
3	Perform a very large print test. Does the error continue?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

925.01 Sensor (M ATC) error

Step	Check	Yes	No
1	 Reset the M ATC failure lock out condition. 1. Enter diagnostic mode 2. Touch Dev unit reset. 2. Touch M channel Perform a very large print test. Does the error remain? 	Go to step 2.	Problem solved.
2	Check the sensor (M ATC) for proper connection. Is the above component properly connected?	Replace the M Developer unit assembly. Go to "Developer unit assembly removal" on page 4-53.	Replace the connection.
3	Perform a very large print test. Does the error continue?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

925.02 Sensor (C ATC) error

Step	Check	Yes	No
1	Reset the C ATC failure lock out condition. 1. Enter diagnostic mode 2. Touch Dev unit reset. 2. Touch C channel Perform a very large print test. Does the error continue?	Go to step 2.	Problem solved.
2	Check the sensor (C ATC) for proper connection. Is the above component properly connected?	Replace the C Developer unit assembly. Go to "Developer unit assembly removal" on page 4-53.	Replace the connection.
3	Perform a very large print test. Does the error continue?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

925.03 Sensor (K ATC) error

Step	Check	Yes	No
1	 Reset the K ATC failure lock out condition. 1. Enter diagnostic mode 2. Touch Dev unit reset. 2. Touch K channel Perform a very large print test. Does the error continue? 	Go to step 2.	Problem solved.
2	Check the sensor (K ATC) for proper connection. Is the above component properly connected?	Replace the K Developer unit assembly. Go to "Developer unit assembly removal" on page 4-53.	Replace the connection.
3	Perform a very large print test. Does the error continue?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

940.00 MPF tray 5 size sensing error

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Problem solved.
	Does the error occur when the power is turned off/on?		
2	Check the MPF feed unit assembly. Is the above component properly connected?	Replace the MPF feed unit assembly. Go to "MPF feed unit assembly removal" on page 4-8.	Replace the connection.
3	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

941.00 Switch (media size) size sensing error (tray 1)

Step	Check	Yes	No
1	Check the media. Is media loaded in tray 1properly?	Go to step 2.	Load media properly.
2	Check the media tray. Are the size sensing mechanisms on the back and the bottom of the media tray damaged.	Replace the media tray assembly.	Go to step 3.
3	 Check the tray 1 switch (media size) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor Test. 4. Touch Tray 1. 5. Touch Tray 1 present. Does the display on the operator panel, change every time the media tray is opened and closed?	Go to step 5.	Go to step 4.
4	Check the tray 1 switch (media size) for proper connection. Is the above component properly connected?	Replace the switch (media size). Go to "Switch (media size) removal" on page 4-113.	Replace the connection.
5	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

941.01 Sensor (media level) late error (tray 1)

Step	Check	Yes	No
1	Check the media.	Go to step 2.	Load media
	Is media loaded in tray 1 properly?		property.
2	 Check the sensor (media level) (tray 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor Test. 4. Touch Tray 1. 5. Touch Media level. 	Go to step 4.	Go to step 3.
	Does the display on the operator panel, change every time the media tray is opened and closed?		

Step	Check	Yes	No
3	Check the sensor (media level) (tray 1) for proper connection. Is the above component properly connected?	Replace the sensor (media level).	Replace the connection.
		(media level) removal" on page 4-24.	
4	Check the media feed/lift motor (tray 1) for proper operation. Caution: When performing motor tests,	Go to step 6.	Go to step 5.
	switches are overridden.		
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Tray 1 media feed/lift motor. 		
	Warning: The media tray must be opened before performing this test or paper jam may occur.		
	Does the above component operate properly?		
5	Check the media feed/lift motor (tray 1) for proper connection.	Replace the media feed/lift motor.	Replace the connection.
	Is the above component properly connected?	Go to "Media feed lift motor removal" on page 4-112.	
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

942.00 Switch (media size) size sensing error (tray 2)

Step	Check	Yes	No
1	Check the media. Is media loaded in tray 2 properly?	Go to step 2.	Load media properly.
2	Check the media tray. Are the size sensing mechanisms on the back and the bottom of the media tray damaged.	Replace the media tray assembly.	Go to step 3.

Step	Check	Yes	No
3	 Check the tray 2 switch (media size) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor Test. 4. Touch Tray 2. 5. Touch Tray 2 present. Does the display on the operator panel, change every time the media tray is opened and closed?	Go to step 5.	Go to step 4.
4	Check the tray 2 switch (media size) for proper connection. Is the above component properly connected?	Replace the switch (media size). Go to "Switch (media size) removal" on page 4-113.	Replace the connection.
5	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

942.01 Sensor (media level) late error (tray 2)

Step	Check	Yes	No
1	Check the media.	Go to step 2.	Load media properly.
	Is media loaded in tray 2 properly?		F F J.
2	 Check the sensor (media level) (tray 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor Test. 4. Touch Tray 2. 5. Touch Media level. Does the display on the operator panel, change every time the media tray is opened and closed?	Go to step 4.	Go to step 3.
3	Check the sensor (media level) (tray 2) for proper connection. Is the above component properly connected?	Replace the sensor (media level). Go to "Sensor (media level) removal" on page 4-24.	Replace the connection.

Step	Check	Yes	No
4	Check the media feed/lift motor (tray 2) for proper operation. Caution: When performing motor tests,	Go to step 6.	Go to step 5.
	ensure that all cover and door interlock switches are overridden.		
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Tray 2 media feed/lift motor. 		
	Warning: The media tray must be opened before performing this test or paper jam may occur.		
	Does the above component operate properly?		
5	Check the media feed/lift motor (tray 2) for proper connection.	Replace the media feed/lift motor.	Replace the connection.
	Is the above component properly connected?	Go to "Media feed lift motor removal" on page 4-112.	
6	Perform a POR.	Replace the upper	Problem solved.
	Does the error continue when the power is turned off/on?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

943.00 Switch (media size) size sensing error (tray 3)

Step	Check	Yes	No
1	Check the media. Is media loaded in tray 3 properly?	Go to step 2.	Load media properly.
2	Check the media tray. Are the size sensing mechanisms on the back and the bottom of the media tray damaged.	Replace the media tray assembly.	Go to step 3.
3	 Check the tray 3 switch (media size) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor Test. 4. Touch Tray 3. 5. Touch Tray 3 present. Does the display on the operator panel, change every time the media tray is opened and closed?	Go to step 5.	Go to step 4.

Step	Check	Yes	No
4	3TM equipped machines check the tray 3 switch (media size) for proper connection. TTM equipped machines check the tray 3 Switch (TTM media size for proper connection. Is the above component properly connected?	Replace the switch (media size) for 3TM. Go to "3X 500- sheet drawer (3TM)—switch (media size) removal" on page 4-211. Replace the switch (TTM media size) for TTM. "2000-sheet dual input (TTM)— switch (TTM media size) removal" on page 4-181.	Replace the connection.
5	Perform a POR. Does the error continue when the power is turned off/ on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

943.01 Sensor (media level) late error (tray 3)

Step	Check	Yes	No
1	Check the media.	Go to step 2.	Load media
	Is media loaded in tray 3 properly?		propenty.
2	 Check the sensor (media level) (tray 3) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor Test. 4. Touch Tray 3. 5. Touch Media level. Does the display on the operator panel, change every time the media tray is opened and closed?	Go to step 4.	Go to step 3.
3	Check the sensor (media level) (tray 3) for proper connection. Is the above component properly connected?	Replace the sensor (media level). Go to "Sensor (media level) removal" on page 4-24.	Replace the connection.

Step	Check	Yes	No
4	Check the media feed/lift motor (tray 3) for proper operation. Caution: When performing motor tests,	Go to step 6.	Go to step 5.
	switches are overridden.		
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Tray 3 media feed/lift motor. 		
	Warning: The media tray must be opened before performing this test or paper jam may occur.		
	Does the above component operate properly?		
5	Check the media feed/lift motor (tray 3) for proper connection.	Replace the media feed/lift motor.	Replace the connection.
	Is the above component properly connected?	Go to "Media feed lift motor removal" on page 4-112.	
6	Perform a POR.	Replace the upper	Problem solved.
	Does the error continue when the power is turned off/on?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

944.00 Switch (media size) size sensing error (tray 4)

Step	Check	Yes	No
1	Check the media.	Go to step 2.	Load media properly.
	Is media loaded in tray 4 property?		F - F - 7
2	Check the media tray.	Replace the media	Go to step 3.
	Are the size sensing mechanisms on the back and the bottom of the media tray damaged.	tray assembly.	
3	Check the tray 4 switch (media size) for proper operation.	Go to step 5.	Go to step 4.
	 Enter the Diagnostics Menu. Touch INPUT TRAY TESTS. Touch Sensor Test. Touch Tray 4. Touch Tray 4 present. 		
	Does the display on the operator panel, change every time the media tray is opened and closed?		

Step	Check	Yes	No
4	3TM equipped machines check the tray 4 switch (media size) for proper connection. TTM equipped machines check the tray 4 Switch (TTM media size for proper connection. Is the above component properly connected?	Replace the switch (media size) for 3TM. Go to "3X 500- sheet drawer (3TM)—switch (media size) removal" on page 4-211. Replace the switch (TTM media size) for TTM. "2000-sheet dual input (TTM)— switch (TTM media size) removal" on page 4-181.	Replace the connection.
5	Perform a POR. Does the error continue when the power is turned off/ on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

944.01 Sensor (media level) late error (tray 4)

Step	Check	Yes	No
1	Check the media.	Go to step 2.	Load media properly.
	Is media loaded in tray 4 properly?		F F J.
2	 Check the sensor (media level) (tray 4) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor Test. 4. Touch Tray 4. 5. Touch Media level. Does the display on the operator panel, change every time the media tray is opened and closed?	Go to step 4.	Go to step 3.
3	Check the sensor (media level) (tray 4) for proper connection. Is the above component properly connected?	Replace the sensor (media level). Go to "Sensor (media level) removal" on page 4-24.	Replace the connection.

Step	Check	Yes	No
4	Check the media feed/lift motor (tray 4) for proper operation. Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.	Go to step 6.	Go to step 5.
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Tray 4 media feed/lift motor. Warning: The media tray must be opened before performing this test or paper jam may occur.		
	Does the above component operate properly?		
5	Check the media feed/lift motor (tray 4) for proper connection.	Replace the media feed/lift motor.	Replace the connection.
	Is the above component properly connected?	Go to "Media feed lift motor removal" on page 4-112.	
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

950.00 through 950.29 EPROM mismatch failure

Warning: In the event of replacement of any one of the following components:

- RIP card assembly
- · Interconnect card assembly

Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one, or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.

Step	Check	Yes	No
1	Check the interconnect card assembly.	Go to step 3.	Go to step 2.
	Was the interconnect card assembly recently replaced?		
2	Check the operator panel assembly. Was the operator panel recently replaced?	Go to step 4.	Contact next level of support.
3	Replace the current interconnect card assembly with the original interconnect card assembly.	Go to step 5.	Problem solved.
	Does the error remain?		

4	Replace the current operator panel with the original panel.	Go to step 6.	Problem solved.
	Go to "Operator panel assembly removal" on page 4-118.		
	Does the error remain?		
5	If problem remains, replace the original interconnect card assembly with a new and not previously installed interconnect card assembly.	Contact the next level of support.	Problem solved.
	Does the error remain?		
6	If problem remains, replace the original panel assembly with a new and not previously installed interconnect card assembly.	Contact the next level of support.	Problem solved.
	Go to "Interconnect card assembly removal" on page 4-74.		
	Does the error remain?		

950.30 through 950.60 EPROM mismatch failure

Warning: In the event of replacement of any one of the following components:

- · RIP card assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one, or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.

Step	Check	Yes	No
1	Check the interconnect card assembly.	Go to step 3.	Go to step 2.
	Was the interconnect card assembly recently replaced?		
2	Check the RIP card assembly.	Go to step 4.	Contact next level
	Was the RIP card assembly recently replaced?		of support.
3	Replace the current interconnect card assembly with the original interconnect card assembly.	Go to step 5	Problem solved.
	Does the error remain?		
4	Replace the current RIP card assembly with the original RIP card assembly.	Go to step 6.	Problem solved.
	Go to "Interconnect card assembly removal" on page 4-74.		
	Does the error remain?		
5	If problem remains, replace the original interconnect card assembly with a new and not previously installed interconnect card assembly.	Contact the next level of support.	Problem solved.
	Does the error remain?		
6	If problem remains, replace the original panel assembly with a new and not previously installed interconnect card assembly.	Contact the next level of support.	Problem solved.
	Go to "Interconnect card assembly removal" on page 4-74.		
	Does the error remain?		

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the RIP card assembly. Go to " RIP card assembly removal " on page 4-72 . Go to step 3.	Problem solved.

952.XX Interconnect card assembly NVRAM CRC failure

Step	Check	Yes	No
1	Perform a POR.	Go to step 2.	Perform several print tests.
	Does the error occur when the power is turned on/on?		If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the interconnect card assembly.	Problem solved.
		Go to "Interconnect card assembly removal" on page 4-74.	
		Go to step 3.	
3	Perform a print test.	Replace the RIP card assembly.	Problem solved.
		Go to " RIP card assembly removal" on page 4-72.	

953.XX Operator panel assembly NVRAM failure

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests.
			If the problem remains, go to step 2.

Step	Check	Yes	No
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the operator panel assembly.	Problem solved.
		Go to "Operator panel assembly removal" on page 4-118.	
		Go to step 3.	
3	Perform a print test.	Replace the RIP card assembly.	Problem solved.
		Go to " RIP card assembly removal" on page 4-72.	
		Go to step 4.	

954.XX Interconnect card assembly NVRAM failure

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the inner connect card assembly. Go to "Interconnect card assembly removal" on page 4-74. Go to step 3.	Problem solved.
3	Perform a print test. Does the error still occur?	Replace the RIP card assembly. Go to " RIP card assembly removal " on page 4-72 . Go to step 4.	Problem solved.

955.XX RIP card assembly NAND CRC failure

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests.
	Does the endrocour when the power is turned biron:		If the problem remains, go to step 2.

Step	Check	Yes	No
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

956.00 RIP card assembly processor failure

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

956.01 RIP card assembly processor over temperature failure

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests.
			If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds.	Go to step 3.	Problem solved.
	Does the error occur when the power is turned off/on again?		
3	Check the RIP card cooling fan and heatsink for proper installation.	Replace the RIP card assembly.	Install the RIP card cooling fan
	Is the RIP card cooling fan and heatsink installed correctly?	Go to " RIP card assembly removal" on page 4-72.	and heatsink correctly.

956.02 RIP card assembly cooling fan failure

S	Step	Check	Yes	No
1		Perform a POR.	Go to step 2.	Perform several print tests.
				If the problem remains, go to step 2.

Step	Check	Yes	No
2	Turn the printer off for 60 seconds.	Go to step 3.	Problem solved.
	Does the error occur when the power is turned off/on again?		
3	Checking the RIP card assembly cooling fan and heatsink attachment. Is the above fan attached properly?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Reattach the RIP card assembly cooling fan and heatsink.

956.03 RIP card assembly FPGA failure

Step	Check	Yes	No
1	Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Perform several print tests. If the problem remains, go to step 2.
2	Turn the printer off for 60 seconds. Does the error occur when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

980.00 Communication error with 1TM, 3TM, or TTM assembly

Step	Check	Yes	No
1	Check the 1TM, 2TM or TTM controller card assembly and the printer engine card assembly for proper connection.	Go to step 2.	Replace the connection.
	Is the above component properly connected?		
2	Perform a POR. Does the error continue when the power is turned off/ on?	Replace the 1TM, 3TM or the TTM TTM controller card assembly.	Problem solved.
		Go to "1X 500- sheet drawer (1TM)—1TM controller card assembly removal" on page 4-251, "3X 500-sheet drawer (3TM)—3TM controller card assembly removal" on page 4-230 or "2000-sheet dual input (TTM)—TTM controller card assembly removal" on page 4-204.	
		Go to step 3.	

Step	Check	Yes	No
3	Perform a POR. Does the error continue when the power is turned off/	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

980.01 HVPS controller communication error

Step	Check	Yes	No
1	Check the developer roll HVPS card assembly and the printer engine card assembly for proper connection.	Go to step 2.	Replace the connection.
	Is the above component properly connected?		
2	Perform a POR. Does the error continue when the power is turned off/on?	Replace the developer roll HVPS card assembly. Go to "Developer / transfer roll HVPS card assembly removal" on page 4-102. Go to step 3.	Problem solved.
3	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

980.02 Communication error between printer and RIP card assembly

St	ep	Check	Yes	No
	1	Check the RIP card assembly and the printer engine card assembly for proper connection.	Go to step 2.	Replace the connection.
		Is the above component properly connected?		
1	2	Perform a POR.	Replace the RIP	Problem solved.
		Does the error continue when the power is turned off/on?	card assembly.	
			Go to "RIP card assembly removal" on page 4-72.	
			Go to step 3.	

Step	Check	Yes	No
3	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

980.03 Communication error with finisher *controller card assembly*

Step	Check	Yes	No
1	Check the finisher controller card assembly and the printer engine card assembly for proper connection.	Go to step 2.	Replace the connection.
	Is the above component properly connected?		
2	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly.	Problem solved.
		Refer to the Finisher Service Manual.	
		Go to step 3.	
3	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

1TM, 3TM or TTM left door assembly open

Step	Check	Yes	No
1	Check the 1TM, 3TM or TTM left door for proper operation. Is the above component open and close properly?	Go to step 2.	Replace the 1TM, 3TM or TTM left door assembly. Go to "1X 500- sheet drawer (1TM)—traymodule left door assembly removal" on page 4-249, "3X 500-sheet drawer (3TM)—3TM left door assembly removal" on page 4-228 or "2000-sheet dual input (TTM)—left door assembly removal" on

Step	Check	Yes	No
2	 Check the switch (tray module left door interlock) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Cover and Door. 4. Touch Door D tray module left. 	Go to step 4.	Go to step 3.
	time the actuator on the above switch is operated?		2
3	Check the switch (tray module left door interlock) for proper connection. Is the above switch properly connected?	Replace the switch (tray module left door interlock). Go to "1X 500- sheet drawer (1TM)—switch (tray module left door interlock) removal" on page 4-250.	Replace the connection.
4	Perform a POR. Does the error continue when the power is turned off/ on?	Replace the 1TM, 3TM, or TTM controller card assembly. Go to "1X 500- sheet drawer (1TM)—1TM controller card assembly removal" on page 4-251, Go to "3X 500-sheet drawer (3TM)—3TM controller card assembly removal" on page 4-230, or Go to "2000-sheet dual input (TTM)— TTM controller card assembly removal" on page 4-204. Go to step 5.	Problem solved.
5	Perform a POR. Does the error continue when the power is turned off/ on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

Duplex left door assembly open

Step	Check	Yes	No
1	Check the duplex left door for proper operation. Does the above component open and close properly?	Go to step 2.	Replace the duplex unit assembly.
			Go to "Duplex unit assembly removal" on page 4-10.

Step	Check	Yes	No
2	 Check the switch (duplex left door interlock) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch DUPLEX TESTS. 3. Touch Sensor Test. 4. Touch Door D duplex left. Does the display on the operator panel change every time the actuator on the above switch is operated?	Reconnect the connector on the printer engine card assembly.	Go to step 3.
3	Check the switch (duplex left door interlock) for proper connection. Is the above switch connected properly?	Replace the switch (duplex left door interlock). Go to "Switch (duplex left door interlock) removal" on page 4-11.	Replace the connection.
4	Perform a POR. Does the error continue when the power is turned off/ on?	Replace the duplex controller card assembly. Go to "Duplex controller card assembly removal" on page 4-14. Go to step 5.	Problem solved.
5	Perform a POR. Does the error continue when the power is turned off/ on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

Media size mismatch in width

Step	Check	Yes	No	
1	Check the media.	Go to step 2.	Load media properly.	
	Is media properly loaded in the tray?		property.	
2	Check the media. Is the rear media tray guide, and media tray end guide of tray 1 or tray 2 set correctly?	Go to step 3.	Set the guides properly.	
3	Check the switch (media size) for proper installation. Pull out the media tray to visually check it. Is the switch (media size) for media tray 1 and media tray 2 installed correctly?	Go to step 4.	Install the switch (media size) for each media tray correctly.	

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Step	Check	Yes	No
4	Check the switch (media size) connection for tray 1 and/or tray 2. Is the switch (media size) properly connected for tray 1 and/or tray 2?	Replace the required switch (media size). Go to "Switch (media size) removal" on page 4-113.	Replace the connection.
5	Perform a print test. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

Media size mismatch in width

Step	Check	Yes	No
1	Check the media. Pull out the tray, and visually check it. Is the media loaded in tray properly?	Go to step 2.	Load media properly.
2	Check the media. Pull out the tray, and visually check it. Are the front media guide and rear media guide on tray 3 or tray 4 set correctly?	Go to step 3.	Set the parts correctly.
3	Check the switch (TTM media size) for proper installation. Pull out the tray, and visually check it. Is the switch (TTM media size) for tray 3 or tray 4 installed properly?	Go to step 4.	Install the switch (TTM media size) correctly. Go to "2000-sheet dual input (TTM)— switch (TTM media size) removal" on page 4-181.
4	Check the switch (TTM media size) for proper connection. Check tray 3 and tray 4. Are the above sensors connected properly?	Replace the appropriate switch (TTM media size). Go to "2000-sheet dual input (TTM)— switch (TTM media size) removal" on page 4-181.	Replace the connection.
5	Check the appropriate 1TM, 3TM, or TTM controller card assembly and the printer engine card assembly for proper connection. Are connectors P541 and P413 on the above cards connected properly?	Go to step 6.	Replace the connection.
Step	Check	Yes	No
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6	Perform a print test. Does the error remain?	Replace the appropriate 1TM, 3TM, or TTM controller card assembly. Go to "1X 500- sheet drawer (1TM)—1TM controller card assembly removal" on page 4-251, Go to "3X 500-sheet drawer (3TM)—3TM controller card assembly removal" on page 4-230, or Go to "2000-sheet dual input (TTM)— TTM controller card assembly removal" on page 4-204. Go to step 7.	Problem solved.
7	Perform a print test. Does the error remain?	Replace the printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

No media in the selected media tray

Check	Yes	No
Check the media. Is media loaded in the selected tray?	Go to step 2.	Load media properly.
	Check Check the media. Is media loaded in the selected tray?	Check Yes Check the media. Go to step 2. Is media loaded in the selected tray? Go to step 2.

Step	Check	Yes	No
2	Check the sensor (media out) for operation. Enter the Diagnostics Menu. Touch INPUT TRAY TESTS. Touch Sensor test. Touch Tray 1. Touch Media out. Enter the Diagnostics Menu. Touch INPUT TRAY TESTS. Touch Sensor test. Touch Sensor test. Touch Sensor test. Touch Tray 2. Touch Media out. 1. Enter the Diagnostics Menu. 2. Touch Media out. 1. Enter the Diagnostics Menu. 2. Touch Media out. 1. Enter the Diagnostics Menu. 2. Touch Media out. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch Tray 3. 5. Touch Media out. 1. Enter the Diagnostics Menu. 2. Touch Media out. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch TRAY 3. 5. Touch Media out. 1. Enter the Diagnostics Menu. 2. Touch INPUT TRAY TESTS. 3. Touch Sensor test. 4. Touch TRAY 4. 5. Touch Media out. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (media out) connection for proper connection on the appropriate media tray. Is the above component connected properly?	Replace the appropriate sensor (media out). Go to "1X 500- sheet drawer (1TM)—sensor (media out) removal" on page 4-242, "3X 500-sheet drawer (3TM)—sensor (media out) removal" on page 4-220, or "2000-sheet dual input (TTM)— sensor (media out) removal" on page 4-191.	Replace the connection.
4	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

Paper is installed (short edge) in the media paper tray

Step	Check	Yes	No
1	Is the media installed (short edge) orientation in the media tray assembly as opposed to long edge?	Turn media 90 degrees or enable short edge feeding which is found in the config menu (press select and right arrow at power on), and then find the menu item short edge printing.	Go to step 2.
2	Perform a print test. Does the error remain?	Replace the printer engine card assembly. Go "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

PC cartridge end of life

Step	Check	Yes	No
1	Check the appropriate PC cartridge for proper installation. Is the appropriate PC cartridge installed properly?	Go to step 2.	Install the appropriate PC cartridge properly.
2	Check the appropriate PC cartridge for damage. Does the appropriate PC cartridge appear damaged?	Replace the appropriate PC cartridge.	Go to step 3.
3	Check the developer interlock plate assembly for damage. Is the above component damaged?	Replace the developer interlock plate assembly.	Go to step 4.
		Go to Go to "Developer interlock plate assembly removal" on page 4-49.	
4	Perform a print test. Does the error continue?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

Printer front door assembly open

Step	Check	Yes	No
1	Check the printer front door for proper operation. Does the above component open and close properly?	Go to step 2.	Replace the printer front door assembly.
			Go to "Printer front door assembly removal" on page 4-3.
2	 Check the switch (printer front door interlock) for operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Cover and Door. 4. Touch Door E printer front. 	Go to step 4.	Go to step 3.
3	Check the switch (printer front door interlock) for proper connection. Is the above component properly connected.	Replace the switch (printer front door interlock). Go to "Switch (printer front door interlock) removal" on page 4-67.	Replace the connection.
4	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

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Printer left door open

Step	Check	Yes	No
1	Check the printer left door closed actuator located on the rear of the printer left door assembly for damage. Is the above component, as shown in the graphic below, free of damage?	Go to step 2.	Replace the printer left door closed actuator (40X0498).
2	Check the printer left door for proper operation. Does the above component open and close properly?	Go to step 3.	Replace the printer left door assembly. Go to "Printer left door assembly removal" on page 4-26.
3	 Check the sensor (printer left door interlock) for operation. 1. Enter the Diagnostics Menu. 2. Select BASE SENSOR TEST. 3. Select Cover and Door. 4. Select Door A left side. Does the display on the operator panel change every time the actuator on the above switch is operated?	Go to step 5.	Go to step 4.
4	Check the switch (printer left door interlock) for proper connection. Is the above component properly connected?	Replace the switch (printer left door interlock). Go to "Switch (printer left door interlock) removal" on page 4-19.	Replace the connection.
5	Perform a print test. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

Transfer belt access door open

Step	Check	Yes	No
1	Check the transfer belt access door for proper operation. Does the above component open and close properly?	Go to step 2.	Replace the printer right cover assembly.
			Go to "Printer left door damper removal" on page 4-28.
2	 Check the switch (transfer belt access door interlock) for operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Cover and Door. 4. Touch Door E Transfer Belt access. 	Go to step 4.	Go to step 3.
	Does the display on the operator panel change every time the actuator on the above switch is operated?		
3	Check the switch (transfer belt access door interlock) for proper connection. Is the above component properly connected?	Replace the switch (transfer belt access door interlock).	Replace the connection.
		Go to "Switch (transfer belt access door interlock) removal" on page 4-81.	
4	Perform a print test. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	

Printer left lower door assembly open

Step	Check	Yes	No
1	Check the printer left lower door for proper operation. Does the above component open and close properly?	Go to step 2.	Replace the printer left lower door assembly.
			Go to "Printer left lower door assembly removal" on page 4-8.

Step	Check	Yes	No
2	 Check the switch (printer left lower door interlock) for operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Cover and Door. 4. Touch Door B left/lower. Does the display on the operator panel change every time the actuator on the above switch is operated?	Go to step 4.	Go to step 3.
3	Check the switch (printer left lower door interlock) connection. Is the above component properly connected?	Replace the switch (printer left lower door interlock). Go to "Switch (printer left door interlock) removal" on page 4-19.	Replace the connection.
4	Perform a print test. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

100K maintenance required

Step	Check	Yes	No
1	Install the 100K maintenance kit. Does the message still occur?	Reset the 100K maintenance counter.	Problem solved.
		Go to "Scheduled maintenance" on page 6-3.	

600K maintenance required

Step	Check	Yes	No
1	Install the 600K maintenance kit. Does the message still occur?	Reset the 600K maintenance counter.	Problem solved.
		Go to "Scheduled maintenance" on page 6-3.	

ADF maintenance required

Step	Check	Yes	No
1	Install the ADF maintenance kit. Does the message still occur?	Reset the ADF maintenance counter.	Problem solved.
		Go to "Scheduled maintenance" on page 6-3.	

Standard media bin full

Step	Check	Yes	No
1	Check the actuator for movement.	Go to step 2.	Reinstall the standard media
	down normally?		bin full actuator.
2	 Check the sensor (standard bin full exit 1) for operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Exit level. 4. Touch Standard bin full 1. 	Go to step 5.	Go to step 3.
	Does the display, on the operator panel, change every time the sensing area is blocked?		
3	Check the sensor (standard media bin full) connection. Is the sensor (standard bin full 1) properly connected?	Replace the sensor (standard media bin full).	Replace the connection.
		Go to "Sensor (standard media bin full) removal" on page 4-21.	
4	Perform a print test.	Replace the	Problem solved.
	Does the error continue?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

Scanner unit assembly not detected

Step	Check	Yes	No
1	Check the scanner interface cable assembly connection between the RIP card assembly and the scanner unit assembly.	Go to step 2.	Replace the connection.
	Is the above component properly connected?		
2	Check all connections of the scanner controller card assembly. Are the connections of the above component properly connected?	Go to step 3.	Replace the connection.

Step	Check	Yes	No
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.	Problem solved.
		Go to "Scanner controller card assembly removal" on page 4-122.	
		Go to step 4.	
4	Perform a POR.	Replace the RIP	Problem solved.
	Does the error remain when the power is turned off/on again?	Go to "RIP card assembly removal" on page 4-72.	

ADF left cover assembly is open

Step	Check	Yes	No
1	Check the plastic actuator of the ADF left cover assembly. Is the above component present and attached properly?	Go to step 2.	Replace the ADF left cover assembly.
			Go to "ADF left cover assembly removal" on page 4-131.
2	Check the actuating lever of the switch (ADF left cover interlock).	Go to step 3.	Adjust the actuating lever for proper alignment
	Is the above actuating lever attached and aligned properly?		proper angrimerit.
3	 Check the switch (ADF left cover interlock) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch SCANNER TESTS. 3. Touch Sensor Tests. 4. Touch ADF left cover interlock. Does the display on the operator panel change every time the actuator on the above switch is operated?	Go to step 5.	Go to step 4.
4	Check the switch (ADF left cover interlock) for proper connection. Is the above component properly connected?	Replace the switch (ADF left cover interlock).	Replace the connection.
5	Perform a POR.	Replace the upper	Problem solved.
	Does the error remain when the power is turned off/on again?	printer engine card assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

Toner cartridge error

Step	Check	Yes	No
1	Check the toner cartridge installation. Is the correct toner cartridge properly installed?	Go to step 2.	Install the correct toner cartridge properly.
2	Checking the sensor (RFID toner cartridge) for proper installation. Is the sensor (RFID toner cartridge) installed correctly?	Go to step 3.	Install the sensor (RFID toner cartridge) correctly.
3	Checking the sensor (RFID toner cartridge) connection. Is the sensor (RFID toner cartridge) properly connected?	Replace the sensor (RFID toner cartridge). Go to Go to "Sensor (RFID toner cartridge) removal" on page 4-108.	Replace the connection.
4	 Perform a print test. Does the error continue? 	Replace the printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

Toner cartridge set error

Step	Check	Yes	No
1	Checking the toner cartridge for correct installation.	Go to step 2.	Reinstall the toner
	Open the printer front door assembly. Is the toner cartridge installed properly?		cannage propeny.
2	Checking the toner cartridge. Is the toner cartridge damaged?	Replace the toner cartridge.	Go to step 3.
3	Checking the toner cartridge guide assembly. Remove the top cover assembly. Is the toner cartridge guide assembly damaged?	Replace the toner cartridge.	Go to step 4.
4	Checking the appropriate color sensor (RFID toner cartridge). Is the above sensor attached and connected properly?	Replace the appropriate sensor (RFID toner cartridge).	Go to step 5.
		Go to "Sensor (RFID toner cartridge) removal" on page 4-108.	
5	Perform a print test.	Replace the	Problem solved.
	Does the error remain?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

Waste toner cartridge full

Step	Check	Yes	No
1	Check the waste toner cartridge. Is the above component properly installed?	Go to step 2.	Reinstall the waste toner cartridge.
2	 Check the sensor (waste toner cartridge full) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TEST. 3. Touch Exit level. 4. Touch Standard bin full 1. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 3.
3	Check the sensor (waste toner cartridge full) connection. Is the above component properly connected?	Replace the sensor (waste toner cartridge full). Go to "Sensor (waste toner cartridge full) removal" on page 4-40.	Replace the connection.
4	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.

Waste toner cartridge not detected

Step	Check	Yes	No
1	Check the waste toner cartridge.	Go to step 2.	Reinstall the waste
	Is the above component properly installed?		toner cartiloge.
2	Check the switch (waste toner cartridge interlock).	Go to step 4.	Go to step 3.
	Is the above component free of damage?		
3	Check the switch (waste toner cartridge interlock) for proper connection.	Replace the switch (waste toner	Replace the connection.
	Is the above component properly connected?	interlock).	
		Go to "Switch (waste toner cartridge interlock) removal" on page 4-42.	

Step	Check	Yes	No
4	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the upper printer engine card assembly. Go to "Upper printer engine	Problem solved.
		card assembly removal" on page 4-76.	

Waste toner cartridge nearly full

Step	Check	Yes	No
1	Check the waste toner cartridge.	Go to step 2.	Reinstall the waste
	Is the above component properly installed?		toner cannoge.
2	Check the sensor (waste toner cartridge full) for proper operation.	Go to step 5.	Go to step 3.
	 Enter the Diagnostics Menu. Touch BASE SENSOR TEST. 		
	 Touch Exit level. Touch Standard bin full 1. 		
	Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?		
3	Check the sensor (waste toner cartridge full) connection.	Replace the	Replace the
	Is the above component properly connected?	toner cartridge full).	connection.
		Go to "Sensor (waste toner cartridge full) removal" on page 4-40.	
4	Perform a POR.	Replace the upper	Problem solved.
	Does the error remain when the power is turned off/on again?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

<Color> PC cartridge not detected

Step	Check	Yes	No
1	Check the appropriate PC cartridge. Is the above component properly installed?	Go to step 2.	Reinstall the appropriate PC cartridge.
			cartridge unit removal" on page 4-44.
2	Replace the appropriate PC cartridge.	Go to step 3.	Problem solved.
	Does the error remain?		
3	Perform a POR.	Replace the upper	Problem solved.
	Does the error remain when the power is turned off/on again?	printer engine card assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

<Color> PC cartridge invalid

Step	Check	Yes	No
1	Check the appropriate PC cartridge.	Go to step 2.	Reinstall the
	Is the above component the correct part number and installed properly?		cartridge.
			Go to "PC cartridge unit removal" on page 4-44.
2	Replace the appropriate PC cartridge.	Go to step 3.	Problem solved.
	Does the error remain?		
3	Has the upper printer engine card been recently been replaced?	Go to step 4.	Go to step 6.
4	Was the NVM board removed from the defective upper printer engine board and installed on the replacement upper printer engine board?	Go to step 6.	Go to step 5.
5	Remove the NVM board from the defective upper printer engine board and installed on the replacement upper printer engine board or upper printer engine board currently in the printer.	Go to step 6	Problem solved.
	Does the error continue?		
6	Perform a POR.	Replace the upper	Problem solved.
	Does the error continue when the power is turned off/on again?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

CMY PC cartridges nearly exhausted

Step	Check	Yes	No
1	Check the CMY PC cartridges.	Go to step 2.	Reinstall the CMY PC cartridges.
			Go to "PC cartridge unit removal" on page 4-44.
2	Replace the CMY PC cartridges.	Go to step 3.	Problem solved.
	Does the error remain?		
3	Perform a POR.	Replace the upper	Problem solved.
	Does the error remain when the power is turned off/on assembly.	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

CMY PC cartridges exhausted

Step	Check	Yes	No
1	Check the CMY PC cartridges.	Go to step 2.	Reinstall the CMY PC cartridges.
			Go to "PC cartridge unit removal" on page 4-44.
2	Replace the CMY PC cartridges.	Go to step 3.	Problem solved.
	Does the error remain?		
3	Perform a POR.	Replace the upper	Problem solved.
	Does the error remain when the power is turned off/on again?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

K PC cartridge nearly exhausted

Step	Check	Yes	No
1	Check the K PC cartridge. Is the above component properly installed?	Go to step 2.	Reinstall the K PC cartridge. Go to "PC cartridge unit removal" on page 4-44.

Step	Check	Yes	No
2	Replace the K PC cartridge.	Go to step 3.	Problem solved.
	Does the error remain?		
3	Perform a POR.	Replace the upper	Problem solved.
	Does the error remain when the power is turned off/on again?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

K PC cartridge exhausted

Step	Check	Yes	No
1	Check the K PC cartridge.	Go to step 2.	Reinstall the K PC cartridge.
			Go to "PC cartridge unit removal" on page 4-44.
2	Replace the K PC cartridge.	Go to step 3.	Problem solved.
	Does the error remain?		
3	Perform a POR.	Replace the upper printer engine card assembly.	Problem solved.
	Does the error remain when the power is turned off/on again?		
		Go to "Upper printer engine card assembly removal" on page 4-76.	

<Color> toner cartridge nearly empty

Step	Check	Yes	No
1	Check the appropriate toner cartridge.	Go to step 2.	Replace the toner cartridge.
	Does the appropriate toner cartridge contain toner?		ean an aiger
2	Check the appropriate toner cartridge for proper installation.	Go to step 3.	Reinstall the
	Is the appropriate above component properly installed?		cartridge.
3	Check the gear rotation in the appropriate toner add assembly.	Go to step 4.	Replace the appropriate toner
	Does the gear, located at the lower part of the above component rotate smoothly?		Go to "CMY toner add assembly removal" on page 4-47 or "K toner add assembly removal" on page 4-48.

Step	Check	Yes	No
4	Check the appropriate toner add assembly chute for clogging.	Go to step 5.	Clean any obstructions.
	Is the chute, located at the lower part of the above component, free of clogs and obstructions?		
5	Check the appropriate segment of the CMYK toner add motor assembly for operation.	Go to step 7.	Go to step 6.
	Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.		
	Warning: Only perform this test in segments of three seconds or less or toner spill will occur.		
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Printer Motor Test. Touch C, M, Y or K toner add motor. 		
	Does the above component operate properly?		
6	Check the CMYK toner add motor assembly connection. Is the above component properly connected?	Replace the CMYK toner add motor assembly.	Replace the connection.
		Go to "CMYK toner add motor assembly removal" on page 4-92.	
7	Perform a POR.	Replace the upper	Problem solved.
	Does the error remain when the power is turned off/on again?	assembly.	
		Go to "Upper printer engine card assembly removal" on page 4-76.	

<Color> toner cartridge empty

Step	Check	Yes	No
1	Check the appropriate toner cartridge.	Go to step 2.	Replace the toner cartridge.
	Does the appropriate toner cartridge contain toner?		
2	Check the appropriate toner cartridge for proper installation.	Go to step 3.	Reinstall the appropriate toner cartridge.
	Is the appropriate above component properly installed?		
3	Check the gear rotation in the appropriate toner add assembly.	Go to step 4.	Replace the appropriate toner
	Does the gear, located at the lower part of the above component rotate smoothly?		add assembly.
			4 go to's

Step	Check	Yes	No
4	Check the appropriate toner add assembly chute for clogging.	Go to step 5.	Clean any obstructions.
	Is the chute, located at the lower part of the above component, free of clogs and obstructions?		
5	Check the appropriate segment of the CMYK toner add motor assembly for operation.	Go to step 7.	Go to step 6.
	Caution: When performing motor tests, ensure that all cover and door interlock switches are overridden.		
	Warning: Only perform this test in segments of three seconds or less or toner spill will occur.		
	 Enter the Diagnostics Menu. Touch MOTOR TESTS. Touch Printer Motor Test. Touch C, M, Y or K toner add motor. 		
	Does the above component operate properly?		
6	Check the CMYK toner add motor assembly connection. Is the above component properly connected?	Replace the CMYK toner add motor assembly.	Replace the connection.
		Go to "CMYK toner add motor assembly removal" on page 4-92.	
7	Perform a POR. Does the error remain when the power is turned off/on	Replace the upper printer engine card assembly.	Problem solved.
	agan.	Go to "Upper printer engine card assembly removal" on page 4-76.	

<Color> toner cartridge detection error

Step	Check	Yes	No
1	Check the <color> toner cartridge for proper installation. Is the above component properly installed?</color>	Go to step 3.	Reinstall the <color> toner cartridge.</color>
2	Replace the <color> toner cartridge. Does the error continue?</color>	Got to step 3.	Problem solved.
3	Check the sensor (RFID toner cartridge) for the <color> toner cartridge for proper connection. Is the above component properly connected?</color>	Replace the sensor (RFID toner cartridge). Go to "Sensor (RFID toner cartridge) removal" on page 4-108.	Replace the connection.

Step	Check	Yes	No
4	Perform a POR. Does the error remain when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	
5	Perform a POR. Rep	Replace the RIP	Problem solved.
	Does the error remain when the power is turned off/on again?	Go to "RIP card	
		assembly removal" on page 4-72.	

Incorrect black toner cartridge error

Step	Check	Yes	No
1	Check the black toner cartridge for correct specification according to product make and model. Is the correct specification black toner cartridge installed.	Install a new correct specification black toner cartridge.	Reinstall the correct specification black toner cartridge.

Incorrect <color> toner cartridge error

Step	Check	Yes	No
1	Check the <color> toner cartridge for correct specification according to product make and model. Is the correct specification <color> toner cartridge installed.</color></color>	Install a new correct specification <color> toner cartridge.</color>	Reinstall the correct specification <color> toner cartridge.</color>

Tray 1 media size mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 1 side guide. Is the above component set properly?	Go to step 2.	Properly set the media tray assembly side guide.
2	Check the media tray assembly 1 end guide. Is the above component set properly?	Go to step 3.	Properly set the media tray assembly end guide.
3	Check the media tray assembly for damage. Is the above component damaged?	Replace the media tray assembly.	Go to step 4.

Step	Check	Yes	No
4	Check the switch (media size) for proper connection. Is the above component properly connected?	Replace the switch (media size)	Replace the connection.
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.
6	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

Tray 2 media size mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 2 side guide. Is the above component set properly?	Go to step 2.	Properly set the media tray assembly side guide.
2	Check the media tray assembly 2 end guide. Is the above component set properly?	Go to step 3.	Properly set the media tray assembly end guide.
3	Check the media tray assembly for damage. Is the above component damaged?	Replace the media tray assembly.	Go to step 4.
4	Check the switch (media size) for proper connection. Is the above component properly connected?	Replace the switch (media size)	Replace the connection.
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the upper printer engine card assembly.	Problem solved.
		Go to "Upper printer engine card assembly removal" on page 4-76.	
6	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

Tray 3 media size mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 3 side guide. Is the above component set properly?	Go to step 2.	Properly set the media tray assembly side guide.
2	Check the media tray assembly 3 end guide. Is the above component set properly?	Go to step 3.	Properly set the media tray assembly end guide.
3	Check the media tray assembly for damage. Is the above component damaged?	Replace the media tray assembly.	Go to step 4.
4	Check the switch (media size) for proper connection. Is the above component properly connected?	Replace the switch (media size)	Replace the connection.
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.
6	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

Tray 4 media size mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 4 side guide. Is the above component set properly?	Go to step 2.	Properly set the media tray assembly side guide.
2	Check the media tray assembly 4 end guide. Is the above component set properly?	Go to step 3.	Properly set the media tray assembly end guide.
3	Check the media tray assembly for damage. Is the above component damaged?	Replace the media tray assembly.	Go to step 4.
4	Check the switch (media size) for proper connection. Is the above component properly connected?	Replace the switch (media size)	Replace the connection.

Step	Check	Yes	No
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76.	Problem solved.
6	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

Tray 1 media type mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 1 for the correct media type.	Go to step 2.	Install the correct media.
	Does the above tray contain the correct type of media?		
2	Check the media tray assembly 1 for the transparencies. Does the media tray 1 assembly contain transparencies?	Ensure that the media tray assembly is supposed to be configured for transparencies or replace them with standard media.	Go to step 3.
3	 Check the sensor (transparency detect) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TESTS. 3. Touch Media path. 4. Touch Transparency detect Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (transparency detect) for proper connection. Is the above component properly connected?	Replace the sensor (transparency detect). Go to "Sensor (transparency detect) removal" on page 4-38.	Replace the connection.
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.

Step	Check	Yes	No
6	Perform a POR.	Replace the RIP card assembly.	Problem solved.
	again?	Go to " RIP card assembly removal" on page 4-72.	

Tray 2 media type mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 2 for the correct media type.	Go to step 2.	Install the correct media.
	Does the above tray contain the correct type of media?	—	
2	Check the media tray assembly 2 for the transparencies. Does the media tray 1 assembly contain transparencies?	Ensure that the media tray assembly is supposed to be configured for transparencies or replace them with standard media.	Go to step 3.
3	 Check the sensor (transparency detect) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TESTS. 3. Touch Media path. 4. Touch Transparency detect Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (transparency detect) for proper connection. Is the above component properly connected?	Replace the sensor (transparency detect). Go to "Sensor (transparency detect) removal" on page 4-38.	Replace the connection.
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.
6	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

Tray 3 media type mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 3 for the correct media type. Does the above tray contain the correct type of media?	Go to step 2.	Install the correct media.
0	Check the media tray accomply 2 for the transportation	Encure that the	Co to stop 2
2	Does the media tray 1 assembly contain transparencies?	media tray assembly is supposed to be configured for transparencies or replace them with standard media.	Go to step 3.
3	 Check the sensor (transparency detect) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TESTS. 3. Touch Media path. 4. Touch Transparency detect Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (transparency detect) for proper connection. Is the above component properly connected?	Replace the sensor (transparency detect). Go to "Sensor (transparency detect) removal" on page 4-38.	Replace the connection.
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.
6	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

Tray 4 media type mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 4 for the correct media type.	Go to step 2.	Install the correct media.
	Does the above tray contain the correct type of media?		

Step	Check	Yes	No
2	Check the media tray assembly 4 for the transparencies. Does the media tray 1 assembly contain transparencies?	Ensure that the media tray assembly is supposed to be configured for transparencies or replace them with standard media.	Go to step 3.
3	 Check the sensor (transparency detect) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch BASE SENSOR TESTS. 3. Touch Media path. 4. Touch Transparency detect Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (transparency detect) for proper connection. Is the above component properly connected?	Replace the sensor (transparency detect). Go to "Sensor (transparency detect) removal" on page 4-38.	Replace the connection.
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the lower printer engine card assembly. Go to "Lower printer engine card assembly removal" on page 4-79.	Problem solved.
6	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

Image quality trouble

Printer Related Troubleshooting

Note: First, get a printout as a base, and follow the symptom table to identify the possible failing FRU's.

Image quality symptoms

- Faint print (low contrast)— "Faint print (Low contrast)" on page 2-200.
- Blank print (no print)— "Blank print (no print)" on page 2-202.
- Solid black— "Solid black" on page 2-204.
- Vertical blank lines (White stripes in media transport direction)— "Vertical lines and bands (process direction)" on page 2-205.
- Horizontal band—"Horizontal white stripes or bands (side to side direction)" on page 2-207
- Vertical stripes— "Vertical stripes (process direction)" on page 2-209.
- Horizontal stripes— "Horizontal stripes (side to side direction)" on page 2-211.
- Partial lack— "Partial lack" on page 2-213.
- Spots— "Spots" on page 2-215.
- Afterimage— "After image" on page 2-216.
- Background (fog)— "Background (fog)" on page 2-218.
- Skew—"Skew" on page 2-220.
- Media damage— "Media damage" on page 2-222.
- No fuse—"No fuse" on page 2-224.
- Color mis-registration—Go to "Color misregistration" on page 2-225.
- Deletions—Go to "Deletions" on page 2-226.
- High frequency bands—Go to "Hightfrequency bands" on page 2-227.

Note: When horizontal lines and/or spots occur periodically, it is possibly caused by a particular roll. In this case, measure the interval on the print test, and check the relation to the roll in the printer. The interval does not necessarily match circumference of the roll.

Image Quality

Faint print (Low contrast)



Before starting, check the media route for foreign objects, such as staples, clips, and scraps, in the media path.

Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media, and perform a print test. Is the image density normal?	Problem solved.	Go to step 2.
2	Check the four toner cartridges. Re-print the defective image. Is the image density normal?	Problem solved.	Replace any empty toner cartridges.
3	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 4.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
4	Check the four PC cartridges for proper installation. Check the PC cartridge connections. Are the PC cartridge connections free of excess wear and contamination?	Go to step 5.	Correct and clean contaminated pins, or replace the appropriate PC cartridge or connector.
5	Check the laser beam route. Check for debris between the printhead assembly and the PC drum. Check the four printhead assembly windows for contamination. Is the laser beam route free of debris and the glass window, in the printhead assembly, free of contamination?	Go to step 6.	Remove debris or clean the printhead assembly window.

Step	Check	Yes	No
6	Check the toner add motor assembly. Replace the toner add motor assembly. Go to "CMYK toner add motor assembly removal" on page 4-92. Does the error continue.	Go to step 7.	Problem solved.
7	Check the developer/transfer roll HVPS card assembly. Replace the developer/transfer roll HVPS card assembly. Go to "Developer / transfer roll HVPS card assembly removal" on page 4-102. Perform a print test. Does the problem remain?	Go to step 8.	Problem solved.
8	Check the printhead assembly. Replace the printhead assembly. Go to " Printhead assembly removal " on page 4-94. Does the error continue?	Go to step 9.	Problem solved.
9	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the problem remain?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	Problem solved.

Blank print (no print)



Check the media path for foreign objects such as staples, clips, scraps of media.

Step	Check	Yes	No
1	Check the four toner cartridges. Re-print the defective image. Is the image density normal?	Problem solved.	Replace any empty toner cartridges.
2	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 3.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
3	Check the four PC cartridges for proper installation. Check the PC cartridge connections. Are the PC cartridge connections free of excess wear and contamination?	Go to step 4.	Correct and clean contaminated pins, or replace the appropriate PC cartridge or connector.
4	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
5	Check the toner add motor assembly. Replace the toner add motor assembly. Go to "CMYK toner add motor assembly removal" on page 4-92. Does the error continue.	Go to step 6.	Problem solved.
6	Check the printhead installation. Is the printhead assembly installed properly with two screws?	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	Check the printhead assembly installation. Install the printhead assembly properly, and perform a print test. Does the problem remain?	Go to step 8.	Problem solved.
8	Check the printhead assembly for connection. Is the above component properly connected?	Go to step 9.	Replace the connection.
9	Check the developer/transfer roll HVPS card assembly. Replace the developer/transfer roll HVPS card assembly. Go to "Developer / transfer roll HVPS card assembly removal" on page 4-102. Perform a print test. Does the problem remain?	Go to step 10.	Problem solved.
10	Replace the printhead assembly. Go to " Printhead assembly removal " on page 4-94. Does the error continue?	Go to step 11.	Problem solved.
11	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the problem remain?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

Solid black



Check the media path for foreign objects such as staples, clips, scraps of media.

Step	Check	Yes	No
1	Check the four PC cartridges for proper installation. Check the PC cartridge connections. Are the PC cartridge connections free of excess wear and contamination?	Go to step 2.	Correct and clean contaminated pins, or replace the appropriate PC cartridge or connector.
2	Check the charge roll HVPS card assembly connections Is the above component properly connected?	Go to step 3	Replace the connection.
3	Replace the charge roll HVPS card assembly. Go to "Charge roll HVPS card assembly removal" on page 4-103. Perform a print test. Does the error continue?	Go to step 4.	Problem solved.
4	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	Problem solved.

Vertical lines and bands (process direction)



Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media.	Go to step 2.	Problem solved.
	Re-print the defective image. Does the error continue?		
2	Is the media transfer route and the media path clear of debris?	Go to step 3.	Remove debris or contamination.
3	Check the laser beam route. Check for debris between the printhead assembly and the PC drum. Check the four printhead assembly windows for contamination. Is the laser beam route free of debris and the glass window, in the printhead assembly, free of contamination?	Go to step 4.	Remove debris or clean the printhead assembly window.
4	Check the four PC cartridges for proper installation. Check the PC cartridge connections. Are the PC cartridge connections free of excess wear and contamination?	Go to step 5.	Correct and clean contaminated pins, or replace the appropriate PC cartridge or connector.
5	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 6.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
6	Replace the transfer belt unit assembly. Go to " Transfer belt unit assembly removal" on page 4-16. Does the problem remain?	Go to step 7.	Problem solved.
7	Check the printhead assembly. Replace the printhead assembly. Go to " Printhead assembly removal " on page 4-94. Does the error continue?	Go to step 8.	Problem solved.

Step	Check	Yes	No
8	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the problem remain?	Go to step 9.	Problem solved.
9	Check the printhead assembly for connection. Is the above component properly connected?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Replace the connection.

Horizontal white stripes or bands (side to side direction)



Step	Check	Yes	No
1	Check the media condition. Load new, dry, and recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Are the media transfer route and the media path free of contamination and debris?	Go to step 3.	Remove debris or contamination.
3	Check the four toner cartridges. Re-print the defective image. Is the image density normal?	Problem solved.	Replace any empty toner cartridges.
4	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 5.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
5	Replace the transfer belt unit assembly. Go to "Transfer belt unit assembly removal" on page 4-16. Does the problem remain?	Go to step 6.	Problem solved.
6	Replace the four developer units and four developer carriers. Go to "Developer unit assembly removal" on page 4-53 and "Developer carrier removal and replacement" on page 4-56. Does the problem remain?	Go to step 7.	Problem solved.
7	Check the developer/transfer roll HVPS card assembly. Replace the developer/transfer roll HVPS card assembly. Go to "Developer / transfer roll HVPS card assembly removal" on page 4-102. Perform a print test. Does the problem remain?	Go to step 8.	Problem solved.

Step	Check	Yes	No
8	Check the printhead assembly. Replace the printhead assembly. Go to " Printhead assembly removal " on page 4-94. Does the error continue?	Go to step 9.	Problem solved.
9	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	problem solved.

Vertical stripes (process direction)



Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Are the media transfer route and the media path free of contamination or debris?	Go to step 3.	Remove debris or contamination.
3	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 4.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
4	Check the four PC cartridges for proper installation. Check the PC cartridge connections. Are the PC cartridge connections free of excess wear and contamination?	Go to step 5.	Correct and clean contaminated pins, or replace the appropriate PC cartridge or connector.
5	Replace the transfer belt unit assembly. Go to " Transfer belt unit assembly removal" on page 4-16. Does the problem remain?	Go to step 6.	Problem solved.
6	Check the heat roll and pressure roll. Remove the fuser unit assembly. CAUTION: Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15.	Go to step 8.

Step	Check	Yes	No
7	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to " Upper printer engine card assembly removal " on page 4-76. Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.
Horizontal stripes (side to side direction)



Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the media transfer route. Check the media route for contamination or obstacles.	Go to step 3.	Remove obstacles or contamination.
3	Check the four PC cartridges for proper installation. Check the PC cartridge connections. Are the PC cartridge connections free of excess wear and contamination?	Go to step 4.	Correct and clean contaminated pins, or replace the appropriate PC cartridge or connector.
4	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 5.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
5	Replace the transfer belt unit assembly. Go to " Transfer belt unit assembly removal " on page 4-16. Does the problem remain?	Go to step 6.	Problem solved.
6	Check the heat roll and pressure roll. Remove the fuser unit assembly. CAUTION: Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15.	Go to step 6.

Step	Check	Yes	No
7	Check the developer/transfer roll HVPS card assembly. Replace the developer/transfer roll HVPS card assembly. Go to "Developer / transfer roll HVPS card assembly removal" on page 4-102. Perform a print test. Does the problem remain?	Go to step 8.	Problem solved.
8	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

Partial lack



Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the problem remain?	Go to step 2.	Problem solved.
2	Check the four toner cartridges. Re-print the defective image. Is the image density normal?	Problem solved.	Replace any empty toner cartridges.
3	Check the laser beam route. Check for debris between the printhead assembly and the PC drum. Check the four printhead assembly windows for contamination. Is the laser beam route free of debris and the glass window, in the printhead assembly, free of contamination?	Go to step 4.	Remove debris or clean the printhead assembly window.
4	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 5.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
5	Replace the transfer belt unit assembly. Go to "Transfer belt unit assembly removal" on page 4-16. Does the problem remain?	Go to step 6.	Problem solved.
6	Check the printhead installation. Is the printhead assembly installed properly with two screws?	Go to step 8.	Go to step 7.
7	Check the printhead assembly installation. Install the printhead assembly properly, and perform a print test. Does the problem remain?	Go to step 8.	Problem solved.

Step	Check	Yes	No
8	Check the printhead assembly. Replace the printhead assembly. Go to " Printhead assembly removal " on page 4-94. Does the error continue?	Go to step 9.	Problem solved.
9	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.

Spots



Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the media transfer route. Is the media route free of contamination or debris?	Go to step 3.	Remove debris or contamination.
3	Check the four PC cartridges for spots or other damage on the drum surfaces. Are the PC cartridges free of excess wear and contamination?	Go to step 4.	Replace the appropriate PC cartridge or connector.
4	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 5.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
5	Check the heat roll and pressure roll. Remove the fuser unit assembly. CAUTION: Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15.	Go to step 6.
6	Replace the transfer belt unit assembly. Go to " Transfer belt unit assembly removal" on page 4-16. Does the problem remain?	Go to step 7.	Problem solved.

Step	Check	Yes	No
7	Check the printhead assembly. Replace the printhead assembly. Go to " Printhead assembly removal " on page 4-94. Does the error continue?	Go to step 8.	Problem solved.
8	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

After image



The ghost appears on the media which, may be the image from the previous page or part of the page currently printing.

Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the four toner cartridges. Re-print the defective image. Is the image density normal?	Problem solved.	Replace any empty toner cartridges.
3	Check the heat roll and the pressure roll. Remove the fuser unit assembly. Caution: Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15.	Go to step 4.

Step	Check	Yes	No
4	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to " Upper printer engine card assembly removal " on page 4-76. Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	Problem solved.

Background (fog)



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Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the media transfer route. Is the media path free of contamination or debris.	Go to step 3.	Remove debris or contamination.
3	Check the four PC cartridges for proper installation. Check the PC cartridge connections. Are the PC cartridge connections free of excess wear and contamination?	Go to step 4.	Correct and clean contaminated pins, or replace the appropriate PC cartridge or connector.
4	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 5.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
5	Replace the four developer units and four developer carriers. Go to "Developer unit assembly removal" on page 4-53 and "Developer carrier removal and replacement" on page 4-56. Does the problem remain?	Go to step 6.	Problem solved.
6	Check the developer/transfer roll HVPS card assembly. Replace the developer/transfer roll HVPS card assembly. Go to "Developer / transfer roll HVPS card assembly removal" on page 4-102. Perform a print test. Does the problem remain?	Go to step 7.	Problem solved.

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Step	Check	Yes	No
7	Check the printhead assembly. Replace the printhead assembly. Go to " Printhead assembly removal " on page 4-94. Does the error continue?	Go to step 8.	Problem solved.
8	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

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Skew



The printed image is not paralleled with both sides of the media.

Step	Check	Yes	No
1	Check printer installation placement. Check the installation surface for irregularities. Check for damaged printer caster. Is the setup surface normal?	Go to step 2.	Correct the installation placement.
2	Properly load media into the media tray assembly and ensure all guides are set correctly. Properly install the media tray assembly into the printer. Re-print the defective image. Does the error continue?	Go to step 3.	Problem solved.
3	Check for obstructions in the area of the media feed units. Are the media feed unit assembly free from any obstructions?	Go to step 4.	Remove obstructions.
4	Is the printer left door assembly properly and evenly closed.	Go to step 5.	Open then properly close the printer left door assembly.
5	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 6.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.

Step	Check	Yes	No
6	Check the registration/transport roll assembly. Are all drive rolls on the registration/transport roll assembly free of contamination, wear and damage?	Go to step 7.	Replace registration/ transport roll assembly. Go to "Registration / transport roll assembly removal" on page 4-36.
7	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	Problem solved.

Media damage



Step	Check	Yes	No
1	Check printer installation placement. Check the installation surface for irregularities. Check for missing printer foot. Is the setup surface normal?	Go to step 2.	Correct the installation placement.
2	Check the media feed. Remove the media tray assembly. Properly load media in the media tray assembly. Properly install the media tray assembly in the printer. Re-print the defective image. Does the error continue?	Go to step 3.	Problem solved.
3	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 4.	Problem solved.
4	Check the 2nd transfer roll assembly for contamination and wear. Is the 2nd transfer roll assembly free of excess wear and contamination?	Go to step 5.	Replace the 2nd transfer roll assembly. Go to "2nd transfer roll assembly removal" on page 4-35.
5	Check the registration/transport roll assembly. Are all drive rolls on the registration/transport roll assembly free of contamination, wear and damage?	Go to step 6.	Replace registration/ transport roll assembly. Go to "Registration / transport roll assembly removal" on page 4-36.

Step	Check	Yes	No
6	Check the heat roll and pressure roll. Remove the fuser unit assembly. CAUTION: Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15.	Inspect the machine for obstructions in the media path.



Step	Check	Yes	No
1	Check the fuser unit assembly installation. Check that the levers, on both sides of the fuser unit assembly, are pushed down. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the problem remain?	Go to step 3.	Problem solved.
3	Check the heat roll and pressure roll. Remove the fuser unit assembly. CAUTION: Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to "Fuser unit assembly removal" on page 4-15 .	Go to step 4.
4	Check the connections on the AC drive card assembly. Replace the AC drive card assembly. Go to "AC drive card bracket assembly removal" on page 4-99 Does the error continue?	Go to step 5.	Problem solved.
5	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.

Color misregistration



Step	Check	Yes	No
1	Replace the transfer belt unit assembly. Go to "Transfer belt unit assembly removal" on page 4-16. Does the error remain?	Go to step 2.	Problem solved.
2	Replace the transfer belt steering motor. Go to "Transfer belt unit assembly removal" on page 4-16. Does the error remain?	Go to step 3.	Problem solved.
3	Adjust the color registration (Regcon). Go to "Color registration (RegCon)" on page 4-256.	Go to step 4.	Problem solved.
4	Replace the printhead. Go to " Printhead assembly removal " on page 4-94.	Go to step 5.	Problem solved.
5	Re-adjust the color registration (Regcon) for the new printhead. Go to "Color registration (RegCon)" on page 4-256. Does the error remain?	Go to step 6.	Problem solved.
6	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to "RIP card assembly removal" on page 4-72.	Problem solved.





Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the problem remain?	Go to step 2.	Problem solved.
2	Replace the transfer belt unit assembly. Go to "Transfer belt unit assembly removal" on page 4-16. Does the problem remain?	Go to step 3.	Problem solved.
3	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the problem continue?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	Problem solved.

Hightfrequency bands



Step	Check	Yes	No
1	Check the four PC cartridges for proper installation. Check the PC cartridge connections. Are the PC cartridge connections free of excess wear and contamination?	Go to step 2.	Correct and clean contaminated pins, or replace the appropriate PC cartridge or connector.
2	Replace the four developer units and four developer carriers. Go to "Developer unit assembly removal" on page 4-53 and "Developer carrier removal and replacement" on page 4-56. Does the problem remain?	Go to step 3.	Problem solved.
3	Replace the printhead. Go to " Printhead assembly removal" on page 4-94. Does the problem remain?	Go to step 2.	Problem solved.
4	Re-adjust the color registration (Regcon) for the new printhead. Go to "Color registration (RegCon)" on page 4-256. Does the problem remain?	Go to step 3.	Problem solved.
5	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to "Upper printer engine card assembly removal" on page 4-76. Perform a print test. Does the problem continue?	Replace the RIP card assembly. Go to " RIP card assembly removal " on page 4-72.	Problem solved.

ADF & Scanner Related Troubleshooting

Note: First, get a printout as a base, and follow the symptom table to identify the possible failing FRU's.

Image quality symptoms:

- Dark print "Faint print (Low contrast)" on page 2-200.
- Vertical stripes— "Vertical stripes (process direction)" on page 2-209.
- Horizontal stripes— "Horizontal stripes (side to side direction)" on page 2-211.
- Spots— "Spots" on page 2-215.
- Skew—"Skew" on page 2-220.
- Media damage— "Media damage" on page 2-222.

Note: When horizontal lines and/or spots occur periodically, it is possibly caused by a particular roll. In this case, measure the interval on the print test, and check the relation to the roll in the printer. The interval does not necessarily match circumference of the roll.

ADF & Scanner Image Quality

Dark image quality (using ADF or Scanner)



Before starting, check the media route for foreign objects, such as staples, clips, and scraps, in the media path.

Step	Check	Yes	No
1	Check the large and small platen glass on the scanner unit assembly. Is the large and small platen glass contaminated?	Clean both sides of the large and small platen glass.	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. Are the three mirrors contaminated or show signs of dust?	Clean the three mirrors in the scanner unit assembly.	Go to step 3.
3	Check the white strip on the bottom of the large platen glass. Is the white strip contaminated?	Clean the white strip and POR the machine.	Go to step 4.
4	Check the scanner lens. Is the scanner lens contaminated?	Clean the scanner lens.	Go to step 5.
5	Perform a print test using the ADF & scanner unit assemblies. Does the error continue?	Replace the CCD/card lens assembly. Go to "CCD card/lens assembly removal" on page 4-118	Problem solved.
6	Perform a print test using the ADF & scanner unit assemblies. Does the error continue?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.	Problem solved.

Vertical lines (process direction using the ADF)



Step	Check	Yes	No
1	Check the small platen glass on the scanner unit assembly. Is the large and small platen glass contaminated or damaged?	Clean or replace the small platen glass. Go to "Large platen glass removal" on page 4-116.	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. Are the three mirrors contaminated or show signs of dust?	Clean the three mirrors in the scanner unit assembly.	Go to step 3.
3	Check the white strip on the bottom of the large platen glass. Is the white strip contaminated?	Clean the white strip and POR the machine.	Go to step 4.
4	Perform a print test using the ADF unit assembly. Does the error continue?	Replace the CCD/lens assembly. Go to "CCD card/lens assembly removal" on page 4-118.	Problem solved.
5	Perform a print test using the ADF unit assembly. Does the error continue?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.	Problem solved.

Spots (using flatbed scanner)



Step	Check	Yes	No
1	Check the large platen glass on the scanner unit assembly. Is the large platen glass contaminated or damaged?	Clean or replace the large platen glass. Go to "Large platen glass removal" on page 4-116.	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. Are the three mirrors contaminated or show signs of dust?	Clean the three mirrors in the scanner unit assembly.	Go to step 3.
3	Check the white strip on the bottom of the large platen glass. Is the white strip contaminated?	Clean the white strip and POR the machine.	Go to step 4.
4	Perform a print test using the flatbed scanner assembly. Does the error continue?	Replace the CCD/lens assembly. Go to "CCD card/lens assembly removal" on page 4-118.	Problem solved.
5	Perform a print test using the flatbed scanner assembly. Does the error continue?	Replace the scanner controller card assembly. Go to "Scanner controller card assembly removal" on page 4-122.	Problem solved.

Skew (using ADF)



The printed image is not paralleled with both sides of the media.

Step	Check	Yes	No
1	Check printer installation placement. Check the installation surface for irregularities. Check for damaged printer caster. Is the setup surface normal?	Go to step 2.	Correct the installation placement.
2	Properly load document into the ADF unit assembly and ensure all guides are set correctly. Re-print the defective image. Does the error continue?	Go to step 3.	Problem solved.
3	Check for obstructions in the area of the media feed path in the ADF. Is the media feed path free from any obstructions?	Go to step 4.	Remove obstructions.
4	Is the ADF left cover assembly properly and evenly closed.	Go to step 5.	Open then properly close the ADF left cover assembly.
5	Check the ADF/pick roll assembly for damage and wear. Is the ADF feed/pick roll assembly free from damage and wear?	Go to step 6.	Replace the ADF feed/pick roll assembly. Go to "ADF feed/pick roll assembly removal" on page 4-141.
6	Check the separation guide assembly. Is the separation guide assembly free from damage and wear?	Go to step 7.	Replace the separation guide assembly. Go to "ADF separation roll guide assembly" on page 4-154.

Media damage (using ADF)



Step	Check	Yes	No
1	Properly load document into the ADF unit assembly and ensure all guides are set correctly. Re-print the defective image.	Go to step 2.	Problem solved.
	Does the error continue?		
2	Check for obstructions in the area of the media feed path in the ADF. Is the media feed path free from any obstructions?	Go to step 3.	Remove obstructions.
3	Is the ADF left cover assembly properly and evenly closed.	Go to step 4.	Open then properly close the ADF left cover assembly.
4	Check the ADF/pick roll assembly for damage and wear. Is the ADF feed/pick roll assembly free from damage and wear?	Go to step 5.	Replace the ADF feed/pick roll assembly. Go to "ADF feed/pick roll assembly removal" on page 4-141.
5	Check the separation guide assembly. Is the separation guide assembly free from damage and wear?	Go to step 6.	Replace the separation guide assembly. Go to "ADF separation roll guide assembly" on page 4-154.
6	Check the ADF controller card assembly. Replace the ADF controller card assembly. Go to "ADF controller card assembly removal" on page 4-137. Perform a print test using the ADF. Does the error continue?	Replace the RIP card assembly. Go to " RIP card assembly removal" on page 4-72.	Problem solved.

Select a menu or menu item for more details.

Color Menu Color Adjust Color Balance Color Correction Color Samples Color Saver Manual Color Print Mode Print Resolution Toner Darkness	Job Menu Cancel Job Reset Printer Print Buffer Cancel Fax Confidential Job Held Jobs Reset Active Bin	PCL Emul Menu Font Source Font Name Point Size Pitch Symbol Set Orientation Lines per Page A4 Width Auto CR after LF Auto LF after CR Tray Benumber	Serial Menu PCL SmartSwitch PS SmartSwitch NPA Mode Serial Buffer Job Buffering Serial Protocol Robust XON Baud Data Bits Parity Honor DSR	Supplies Menu <color> Toner Oiler Waste Bottle USB Menu PCL SmartSwitch PS SmartSwitch MAC Binary PS</color>
Finishing Menu Duplex Duplex Bind	PCL SmartSwitch PS SmartSwitch MAC Binary PS NPA Mode			USB Buffer Job Buffering
Copies Blank Pages Collation Separator Sheets Separator Source Hole Punch Offset Pages Staple Job Staple Prime Src Multipage Print Multipage Order Multipage View Multipage Border	Network Buffer Job Buffering Network <x> Setup Std Net Setup PCL SmartSwitch PS SmartSwitch NPA Mode Parallel Buffer Job Buffering Advanced Status Protocol Honor Init Parallel Mode 1</x>	Paper MenuPaper SourcePaper SizePaper TypeCustom TypesOutput BinConfigure BinsOverflow BinAssign Type/BinSubstitute SizeConfigure MPPaper TexturePaper WeightPaper LoadingUniversal Setup	Setup Menu Printer Language Printer Usage Power Saver Resource Save Download Target Print Timeout Auto Continue Wait Timeout Jam Recovery Page Protect Display Language Alarm Control Hole Punch Alarm Staple Alarm Toner Alarm	Utilities Menu Print Menus Print Net <x> Setup Print Fonts Print Directory Factory Defaults Format Flash Defragment Flash Format Disk Job Acct Stat Hex Trace Color Alignment Coverage Estimator</x>
Help Menu Print All Help Guide Printing Guide Supplies Guide Print Quality Color Quality Media Guide Connection Guide Moving Guide Print Defects	Parallel Mode 2 MAC Binary PS	PostScript Menu Print PS Error Font Priority Image Smoothing	Job Accounting Print Area Black & White Lock	

Jam Clearance

3. Diagnostic aids

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

Accessing service menus

Access the following menus to identify problems with the printer and run diagnostic tests.

Diagnostics Menu	 Turn off the printer. Press and hold the 3 and 6 buttons simultaneously. Turn on the printer. Polease the buttons after 10 	The Diagnostics Menu group consists of menus, settings, and operations that are used to diagnose various printer problems. Note: While the Diagnostics Menu Group is active, all host interfaces are offline.	
	seconds.	See "Entering Diagnostics Menus" on page 3-2	
		for more information.	
Configuration Menu	 Turn off the printer. Press and hold the 2 and 6 buttons simultaneously. Turn on the printer. Release the buttons after 10 seconds. 	The Configuration Menu group contains a set of menus, settings, and operations which are infrequently required by a user. Generally, the options made available in this menu group are used to configure a printer for operation. See "Entering Configuration Menu" on page 3-35 for more information.	

Diagnostics Menus

Entering Diagnostics Menus

- 1. Turn off the printer.
- 2. Press and hold the **3** and **6** buttons simultaneously.
- 3. Turn on the printer.
- 4. Release the buttons after 10 seconds.

Available tests

Tests appear on the LCD in the order shown:

MOTOR TESTS	See "MOTOR TESTS" on page 3-6.
Finisher Motor Tests	
Motor (entrance/paddle)	
Motor (buffer/transport)	
Motor (exit)	
Fin diverter solenoid	
Sub paddle solenoid	
Media eject clutch	
Media eject clamp motor	
Media eject motor	
Fin Buffer solenoid	
Punch carriage shift motor	
Punch unit motor	
Front tamper motor	
Rear tamper motor	
Stapler carriage motor	
Stapler unit motor	
Stacker bin lift motor	
Booklet end guide drive motor	
Booklet paddle drive motor	
Booklet front tamper motor	
Booklet rear tamper motor	
Booklet folder/exit drive motor	
Booklet media entrance drive motor	
Booklet knife solenoid	
Booklet bin media transport motor	
Bridge unit diverter gate solenoid	
De-curler clutch	
Bridge unit transport drive motor	
Booklet diverter gate solenoid	
Booklet stapler motor	

	Bridge unit bin media exit solenoid	
	Printer Motor Tests	
	Transfer belt steering motor	
	CMY PC cartridge drive motor	
	K PC cartridge drive motor	
	Printhead polygon mirror motor	
	Registration clutch	
	Tray 1 media feed/lift motor	
	Tray 2 media feed/lift motor	
	Tray 3 media feed/lift motor	
	Tray 4 media feed/lift motor	
	2nd transfer roll retract motor	
	K developer/transport motor	
	MPF pick solenoid	
	MFP/transport drive motor	
	Duplex drive motor	
	Inverter clutch	
	Duplex diverter gate solenoid	
	Transfer belt drive motor	
	C toner add motor	
	M toner add motor	
	Y toner add motor	
	K toner add motor	
	CMY developer drive motor	
	K developer clutch	
	Fuser cooling fan	
	Image density sensor shutter solenoid	
	Tray module drive motor	
	TTM tray 4 media transport motor	
	Waste toner auger motor	
	Printhead shutter motor	
	Standard exit shift motor	
	K erase lamp	
	CMY erase lamps	
Sca	anner Motor Tests	
	ADF feed drv mtr	
	Exposure lamp	
	ADF registration drv mtr	
	Scanner drv mtr	
	Inverter solenoid	
	Pick roll position mtr	
	Document set LED	

PRINT TESTS		See "PRINT TESTS" on page 3-7.		
	Tray 1			
	Tray 2			
	Tray 3			
	Tray 4			
	MP Feeder			
	Printing Quality Test Pages	See "Print Quality Test Pages" on page 3-7.		
HA	RDWARE TESTS	•		
	Panel Test	See "Panel Test" on page 3-8.		
	Button Test	See "Button Test" on page 3-8.		
	DRAM Test	See "DRAM Test" on page 3-9.		
	CACHE Test	See "CACHE Test" on page 3-9.		
DU	PLEX TESTS			
	Quick Test	See "Quick Test" on page 3-9.		
	Sensor Test	See "Sensor Test (duplex)" on page 3-10.		
INP	UT TRAY TESTS			
	Feed Tests	See "Feed Tests" on page 3-10.		
	Sensor Test	See "Sensor Test (input tray)" on page 3-11.		
OU	TPUT BIN TESTS			
	Feed to All Bins	See "Feed Tests (output bins)" on page 3-11.		
	Feed Tests	See "Feed To All Bins" on page 3-12.		
	Sensor Tests	See "Sensor Test (output bin)" on page 3-12.		
FIN	ISHER TESTS			
	Staple Test	See "Staple Test" on page 3-12.		
	Hole Punch Test	See "Hole Punch Test" on page 3-13.		
Feed Tests		See "Feed Tests (Finisher)" on page 3-13.		
	Sensor Tests	See "Sensor Test (Finisher)" on page 3-13.		
BA	SE SENSOR TESTS	See "BASE SENSOR TEST" on page 3-15.		
	Cover and Door			
	Devices			
	Exit Level			
	Media Path			
	Transfer Belt			
DE		See "DEVICE TESTS" on page 3-16.		
	Disk Test/Clean			
PR				
		See "Defaults" on page 3-18.		
	Prt Color Pg Count	See "Printed Color Page Count" on page 3-18.		
	Prt Mono Pg Count	See "Printed Mono Page Count" on page 3-19.		
	Perm Page Count	See "Permanent Page Count" on page 3-19.		
Serial Number See "Serial Number" on page 3-19.		See "Serial Number" on page 3-19.		
	Engine Setting 1 to 4	See "Engine Setting 1 to 4" on page 3-19.		

Model Name	See "Model Name" on page 3-19.		
Configuration ID	See "Configuration ID" on page 3-19.		
EVENT LOG			
Display Log	See "Display the Event Log" on page 3-21.		
Print Log	See "Print the Event Log" on page 3-22.		
Clear Log	See "Clear the Event Log" on page 3-22.		
SCANNER TESTS			
ASIC Test	See "ASIC Test" on page 3-23.		
Feed Test	See "Feed Test" on page 3-23.		
Scanner Manual Registration	See "Scanner Manual Registration" on page 3-24.		
Sensor Tests	See "Sensor Test (Scanner Tests)" on page 3-24.		
Trans Belt Fail Clear			
Trans Belt HP Fail Clear	See "Trans Belt HP Fail Clear" on page 3-25.		
Dev Unit Reset	See "Dev Unit Reset" on page 3-25.		
Y Channel			
M Channel			
C Channel			
K Channel			
Fuser Temp Fail Clear			
Fuser Temp Fail Clear	See "Fuser Temp Fail Clear" on page 3-25.		
ATC SENSOR FAILURE CLEAR	See "ATC SENSOR FAILURE CLEAR" on page 3-25.		
Y Channel (925.00)			
M Channel (925.01)			
C Channel (925.02)			
K Channel (925.03)			
ENGINE ADJUST	See "ENGINE ADJUST" on page 3-26.		
PH ADJUST (registration)			
ATC sensor Adjust Values			
ATC Sensor Adjust Cycles			
RegCon Adjust			
Booklet Fold Adjust	See "Booklet Fold Adjust" on page 3-29.		
Booklet Tamper Shift Adj			
Booklet Compile Position			
Booklet 2-sheet			
Booklet 15-sheet			
Booklet Fold Pos Fine Adj			
Booklet Staple Pos Fine Adj			
Finisher Config	See "Finisher Config" on page 3-29.		
Exit Diagnostics Menu	See "Exiting Diagnostics Menu" on page 3-34.		

MOTOR TESTS

The tests in this group allow you to test specific motors, and on some motors run them forward or reverse.

To run the MOTOR TESTS:

- 1. Touch MOTOR TESTS from the Diagnostics Menu.
- 2. Touch the test to run.

The following Finisher Motor Tests are available:

- Motor (entrance/paddle)
- Motor (buffer/transport)
- Motor (exit)
- · Fin diverter solenoid
- Sub paddle solenoid
- Media eject clutch
- Media eject clamp motor
- Media eject motor
- · Fin Buffer solenoid
- Punch carriage shift motor
- Punch unit motor
- Front tamper motor
- · Rear tamper motor
- · Stapler carriage motor
- Stapler unit motor •

The following Printer Motor Tests are available:

- Transfer belt steering motor
- CMY PC cartridge drive motor
- K PC cartridge drive motor
- Printhead polygon mirror motor
- · Registration clutch
- Tray 1 media feed/lift motor
- Tray 2 media feed/lift motor
- Tray 3 media feed/lift motor
- Tray 4 feed/lift motor
- 2nd transport roll retract motor
- K developer transport drive motor
- MPF pick solenoid
- MPF transport drive motor
- · Duplex drive motor
- · Inverter clutch
- Duplex diverter gate solenoid

The following Scanner Motor Tests are available:

3. During the test, Motor Running... appears on the LCD.

Note: If available, Forward and Reverse options appear on the LCD for selected tests.

- · ADF feed drv mtr
- · Exposure lamp
- · ADF registration drv mtr

Press **Stop** X to stop the test.

Scanner drv mtr

- Stacker bin lift motor
- · Booklet end guide drive motor
- · Booklet paddle drive motor
- Booklet front tamper motor
- Booklet rear tamper motor
- · Booklet folding/exit drive motor
- · Booklet media entrance drive motor
- Booklet transport motor
- · Booklet knife solenoid
- Booklet bin media transport motor
- Bridge unit diverter gate solenoid
- · De-curler clutch
- Bridge unit transport drive motor
- · Booklet diverter gate solenoid
- Booklet stapler motor
- Bridge unit bin media exit solenoid
- - Transfer belt drive motor
 - · C toner add motor
 - · M toner add motor
 - · Y toner add motor
 - · K toner add motor
 - · CMY developer drive motor
 - · K developer clutch
 - · Fuser cooling fan
 - · Image density sensor shutter solenoid
 - Tray module drive motor (TTM)
 - TTM tray 4 media transport motor
 - · Waste toner auger motor

 - Standard exit shift motor
 - · K erase lamps
 - CMY erase lamps

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- Inverter solenoid
 - Pick roll position mtr
 - Scanner drive reverse
- Document set LED

- - - · Printhead shutter motor

PRINT TESTS

To run the Print Tests:

- 1. Touch **PRINT TESTS** from the Diagnostics Menu.
- 2. Touch [Input Source] to verify that the printer can generate output from that source's media.
- 3. Touch **Printing Quality Test Pages** to view information about the printer's current settings and to test the printer's ability to generate quality output.

Input source	Appears on the LCD		
Tray 1	Tray 1 Printing		
Tray 2	Tray 2 Printing		
Tray 3	Tray 3 Printing		
Tray 4	Tray 4 Printing		
MP Feeder	MP Feeder Printing		
Printing Quality Test Pages	Printing Quality Test Pages		

4. Touch Single or Continuous.

- If **Single** is selected, a single page is printed.
- If Continuous is selected, printing continues until Stop is pressed to cancel the test.
 If a source is selected that contains envelopes, an envelope test pattern is printed. If Continuous is selected, the test pattern is printed only on the first envelope.

After a Single test has printed or a Continuous test canceled, the LCD returns to the [Input Source] screen.

Input Source Print Test

Regardless of the input source selected, the printer always generates a simplex version of the Print Test page using its default resolution.

Print Quality Test Pages

This setting enables you to view the values of a broad range of the device's settings and to test the device's ability to generate acceptable printed output.

The printer automatically generates a Print Quality Test page in English and an:

- 1. Entire printable area of the page is solid dark blue
- 2. Entire printable area of the page is solid dark magenta
- 3. Entire printable area of the page is solid dark yellow
- 4. Entire printable area of the page is solid dark black
- 5. Entire printable area of the page is solid light blue
- 6. Entire printable area of the page is solid pink
- 7. Entire printable area of the page is solid light yellow
- 8. Entire printable area of the page is solid gray

The device always uses the media that is currently installed in Tray 1 to print this report. Once started, printing cannot be canceled and all key presses are ignored until printing completes.

The test pages are always simplexed, regardless of the value of the duplex setting.

HARDWARE TESTS

Touch the following Hardware Tests from this menu:

- Panel Test
- Button Test
- DRAM Test
- CACHE Test

Panel Test

This test automatically toggles all pixels on the LCD through every contrast level beginning with the darkest to the brightest. This test shows non-functioning pixels as blank spaces during the darkest contrast.

This test continues until you press **Stop** (X), then the LCD returns to HARDWARE TESTS.

Button Test

The Button Test is used to verify the operation of each button on the operator panel.

To perform the Button Test:

- 1. Touch HARDWARE TESTS from the Diagnostics Menu.
- 2. Touch **Button Test**. The LCD displays a graphic of the operator panel buttons that matches the layout of the operator panel buttons.
- 3. Press any button on the operator panel and that button on the LCD appears shaded.
- 4. Release the button and the shading is removed.



Touch Back to exit the test.

DRAM Test

The DRAM Test is used to check the validity of both the printer's standard and optional DRAM. The test involves writing patterns of data to DRAM to verify that each bit in memory can be set and read correctly.

To run the DRAM Test:

- 1. Touch **HARDWARE TESTS** from the Diagnostics Menu.
- 2. Touch **DRAM Test**. DRAM Test Testing... appears on the LCD, and then Resetting the Printer appears. The printer automatically performs a POR.

The following type of message appears:

DRAM Test	256 MB	P : ######	F:####

- P:###### represents the number of times the memory test has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.
- F:##### represents the number of times the memory test has failed and finished with errors. Initially 0000 displays with the maximum fail count being 99,999. Initially only four digits appear, but additional digits appear as needed.

To stop this test before completion, turn the printer off.

CACHE Test

This test is used to verify the printer processor cache.

To run the CACHE Test:

- 1. Touch HARDWARE TESTS from the Diagnostics Menu.
- 2. Touch **CACHE Test**. CACHE Test Testing... appears on the LCD, and then Resetting the Printer appears. The printer automatically performs a POR.

The following type of message appears:

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

- P:###### represents the number of times the cache has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.
- F:##### represents the number of times the cache has failed and finished with errors. Initially 0000
 displays with the maximum fail count being 99,999. Initially only four digits appear, but additional
 digits appear as needed.

Each time a test is completed, the number of passes and failures is incremented. If the test fails, the message Failure appears for approximately three seconds, and the failure count increases by one.

The test continues until all of the printer processor's cache has been tested. Once the maximum pass count or fail count is reached, the test is stopped, and the final results display.

To stop this test before completion, turn the printer off.

DUPLEX TESTS

Quick Test

This test prints a duplex version of the Quick Test that can be used to verify that the correct placement of the top margin on the back side of a duplex page. You can run one duplexed page (**Single**), or continue printing duplexed pages (**Continuous**) until **Stop** (**Single**) is pressed.

Make sure either letter or A4 size paper is loaded in the default paper source. If the default source only supports envelopes, then the Quick Test will be printed from Tray 1.

To run the Quick Test:

- 1. Touch **DUPLEX TESTS** from the Diagnostics Menu.
- 2. Touch Quick Test.
- 3. Touch Single or Continuous. Quick Test Printing... appears on the LCD.
 - The single Duplex Quick test cannot be canceled.
 - The printer attempts to print the Quick Test Page from the default paper source. If the default paper source only supports envelopes, then the page is printed from Tray 1.
 - Check the Quick Test Page for the correct registration between the placement of the first scan line on the front and back side of a duplexed sheet.

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

Sensor Test (duplex)

This test is used to determine whether or not the duplex sensors and switches are working correctly. The test allows you to actuate the duplex input sensor located in the back part of the duplex unit and the duplex exit sensor located in the return paper path.

- 1. Touch **DUPLEX TESTS** from the Diagnostics Menu.
- 2. Touch Sensor Test.
- 3. Touch **Duplex wait** and Duplex wait Testing... appears on the LCD.
- 4. Touch Door B duplex left and Door B duplex left Testing...appears on the LCD.

You can manipulate the appropriate area of the printer to make the sensor toggle between "Open" and "Closed". If the wrong message is displayed, then the sensor must be malfunctioning.

Press **Stop** X to cancel the test.

INPUT TRAY TESTS

Feed Tests

Use this test to observe the paper path of media as it passes through the printer. No information is printed on the feed test pages since the laser is not engaged during this test.

You can perform the feed test using media from any installed input source. All pages used during the feed test are dropped into the default output bin.

To run the Input Tray Tests:

- 1. Touch INPUT TRAY TESTS from the Diagnostics Menu.
- 2. Touch the input source.

Input source	Appears on the LCD		
Tray 1	Tray 1 Feeding		
Tray 2	Tray 2 Feeding		
Tray 3	Tray 3 Feeding		
Tray 4	Tray 4 Feeding		
MP Feeder	MP Feeder Feeding		

3. Touch either **Single** or **Continuous**.

- **Single**—Feeds one sheet of media from the selected source.
- Continuous—Media continues feeding from the selected input source until Stop 🕺 is pressed.

Sensor Test (input tray)

This test is used to verify that a specific input tray's sensors are working correctly.

To run the Input Tray Sensor Test:

- 1. Touch **INPUT TRAY TESTS** from the Diagnostics Menu.
- 2. Touch Sensor Test.

After selecting **Sensor Test**, the LCD displays each installed input source, one source per line. When you select an input source, the LCD displays the selected input source in the header row, and then displays the name of each of the source's sensors below the header row, one to a line. You must select a specific sensor from this list in order to view and toggle the sensor's state. The table below indicates which sensors are available in each input tray.

Input source	Sensors				
	Feed-out ¹	Media out ²	Media level ³	Tray 1 present ⁴	
Tray 1	Yes	Yes	Yes	Yes	
Tray 2	Yes	Yes	Yes	Yes	
Tray 3	Yes	Yes	Yes	Yes	
Tray 4	Yes	Yes	Yes	Yes	
MP Feeder	No	Yes	No	No	

¹Feed-out Testing... appears on the LCD with the sensor's current state (Open or Closed). ²Media out Testing... appears on the LCD with the sensor's current state (Open or Closed). ³Media level Testing... appears on the LCD with the sensor's current state (Open or Closed). ⁴Tray 1 present... appears on the LCD with the sensor's current state (Open or Closed).

After selecting a specific sensor, you can manually toggle the sensor between its two values (Open or Closed). The LCD displays 0pen when the sensor is open, and Closed when the sensor is closed. If the wrong message is displayed, then the sensor must be malfunctioning.

Press Stop 🗙 to exit the test.

OUTPUT BIN TESTS

Feed Tests (output bins)

Use these tests to verify that media can be fed to a specific output bin. Media is fed from the default input source to the selected output bin. No information is printed on the media fed to the output bin because the printhead is not engaged during this test. These tests can use any media size or envelope supported by the printer.

To run the Feed Tests for the output bins:

- 1. Touch OUTPUT BIN TESTS from the Diagnostics Menu.
- 2. Touch Feed Tests.
- 3. Touch the output bin you want the paper to exit into. The standard bin as well as any output option bin installed on the printer is shown on the menu.
 - Standard Bin
 - Output Bin 1
- 4. Touch either **Single** or **Continuous**.
 - Single—Feeds one sheet of media from the selected source.

Continuous—Media continues feeding from the selected source until Stop 🗙 is pressed.

Press **Stop X** to return to the [Selected Output Bin].

While this test runs, [Selected Output Bin] Feeding...appears on the LCD. During Single tests, no buttons are active. However, during Continuous tests, you can press **Stop** 🗙 to cancel the test.

Feed To All Bins

This test can be used to verify that the printer can feed media to the standard bin or any installed output options. No information will be printed on the test pages, as the printhead is not engaged during the feed test. The media feeds from the default paper source.

To run the Feed To All Bins Test:

- 1. Touch OUTPUT BIN TESTS from the Diagnostics Menu.
- 2. Touch Feed To All Bins.

The printer feeds media from the default source to each installed bin. After the test is selected, the printer feeds a separate piece of media to the standard bin first, then it feeds a separate piece of media to each output bin installed. While this test runs, All Bin Test Feeding... appears on the LCD.

The test is continuous until **Stop** is pressed. If a test is canceled, All Bin Test Canceled... appears on the LCD and feeds any remaining media in the paper path to the appropriate output destination.

Sensor Test (output bin)

This test is used to verify that a specific output bin's sensors are working correctly.

To run the Output Bin Sensor Test

- 1. Touch OUTPUT BIN TESTS from the Diagnostics Menu.
- 2. Touch Sensor Test.
- 3. Touch Standard Bin.
- 4. Touch Standard bin full.

Standard bin full Testing...appears on the LCD and Standard bin full: [Open] or [Closed].

You can manually toggle the sensor between its two values (Open or Closed). The LCD displays 0pen when the sensor is open, and Closed when the sensor is closed. If the wrong message is displayed, then the sensor must be malfunctioning.

Press **Stop X** to exit the test.

FINISHER TESTS

Staple Test

This test is used to verify the functioning of the finisher's staple mechanism.

To run the Staple Test

- 1. Touch FINISHER TESTS from the Diagnostics Menu.
- 2. Touch Staple Test.

The printer feeds eight pieces of media from the default input source to the output bin that supports stapling. After all eight pieces of media are deposited, the device staples the packet. While this test runs, Staple Test Running... appears on the LCD.

Press **Stop** X to cancel the test.
Hole Punch Test

This test is used to verify that media can be fed to a finisher output bin and then hole punched. No information is printed on the feed test pages.

To run the Hole Punch Test:

- 1. Touch FINISHER TESTS from the Diagnostics Menu.
- 2. Touch Hole Punch Test.
- 3. Touch **3 Punch Test**.

Eight sheets of paper are fed, and then the pages are hole-punched with a 2-hole or 3-hole pattern depending on the selected punch test. Media is initially requested from the default input source and then output to the Finisher output bin.

The Hole Punch Test cannot be canceled. No buttons are active during this test. During the test, Hole Punch Test Running... appears on the LCD. After completion of the test, the display returns to the Hole Punch Test screen.

Feed Tests (Finisher)

This test is used to verify that media can be fed to a finisher output bin. This test feeds one sheet of media from the printer's default input source to a finisher output bin. The device can perform this test using any paper size that is supported by the finisher. No information is printed on the test page.

To run the Feed Test:

- 1. Touch **FINISHER TESTS** from the Diagnostics Menu.
- 2. Touch Feed Tests.

You cannot specify the output bin to which the device will feed the test page. Once begun, the Feed Test cannot be canceled. No buttons are active during the test. During this test, Feed Test Running... appears on the LCD.

Sensor Test (Finisher)

This test verifies that the sensors in the finisher are operating properly.

To run the Sensor Test:

- 1. Touch FINISHER TESTS from the Diagnostics Menu.
- 2. Touch Sensor Test.

The LCD displays the option's name in the header row and each of the option's sensors below the header row. You must select a specific sensor from this list in order to view and toggle the sensor's state. After selecting a specific sensor, [Sensor Name] Testing... appears on the LCD with the sensor's current state below this message. The tables below indicate which sensors are available for testing.

Available Cover and Door Sensors

Sensor Name

Door G finisher front Surface H eject cover Cover F bridge unit top

Available Bin Level Sensors

Sensor Name
Finisher upper media bin full
Stacker bin level1
Stacker bin level2
Stacker bin upper limit
Stacker bin no media
Stacker bin level encod

Available Media Path 1 Sensors

Sensor Name
Bridge unit media entrance
Bridge unit media exit
Finisher media entrance
Bridge unit media bin exit
Buffer path
Upper media exit
Lower media exit
Compiler media in
De-curler cam HP

Available Media Path 2 Sensors

Sensor Name
Diverter gate
Front tamper hp
Rear tamper hp
Media eject clamp hp
Media eject shaft hp

Available Booklet Path Sensors

Sensor Name
Booklet end guide HP
Booklet knife HP
Booklet knife folder
Booklet front tamper HP
Booklet rear tamper HP
Booklet unit media entrance
Booklet unit media exit
Booklet bin media present
Booklet compiler media present

Booklet unit interlock
Booklet front low staple
Booklet rear low staple

Available Punch and Staple Sensors

Sensor Name
Punch side reg1
Punch side reg2
Punch box set
Low staple
Punch carriage shift hp
Punch unit hp
Stapler carriage shift hp
Punch cam front
Punch hole select

After selecting one of the available sensors, you can manually toggle the sensor between its two values (Open or Closed). The LCD displays 0pen when the sensor is open, and Closed when the sensor is closed.

Press **Stop** 🗙 to exit the test.

BASE SENSOR TEST

This test verifies that the sensors in the base machine are operating properly.

To run the Base Sensor Test:

Touch **BASE SENSOR TEST** from the Diagnostics Menu. The panel displays **BASE SENSOR TEST** in the header row and the following categories of sensors below the header row:

- Cover and Door
- Devices
- Exit Level
- Media Path
- Transfer Belt

After you select a category of sensors, the panel displays the name of the selected category in the header row and each sensor in that category. You must select a specific sensor from this list to view and toggle the sensor's state. After you select a specific sensor, [Sensor Name] Testing... appears on the LCD and displays the sensor's name in the header row and the sensor's name and current state appears below the header row.

Cover and Door Sensors

Sensor Name
Door A printer left
Door C printer left lower
Door D tray module left
Door E printer front
Door J transfer belt access

Devices Sensors

Sensor Name
C PC cartridge present
M PC cartridge present
Y PC cartridge present
K PC cartridge present
Waste toner full

Exit Level Sensor

Sensor Name	
Standard bin full	

Media Path Sensors

Registration Fuser exit Transparency detect 2nd transfer roll retract	Sensor Name	
Fuser exit Transparency detect 2nd transfer roll retract	Registration	
Transparency detect 2nd transfer roll retract	Fuser exit	
2nd transfer roll retract	Transparency detect	
	2nd transfer roll retract	

Transfer Belt Sensors

Sensor Name
Transfer belt HP
CMY transfer roll retract HP
Transfer belt edge
Transfer belt position detect
Transier beit position detect

To test any of the displayed sensors, you must manipulate the appropriate area of the printer so the sensor's value will toggle to Open or Closed.

If the panel inaccurately displays the sensor's status, then the sensor must be malfunctioning.

Press **Stop** X to cancel the test.

DEVICE TESTS

Quick Disk Test

This test will perform a non-destructive read/write on one block per track on the disk.

To run the Quick Disk Test:

- 1. Touch **DEVICE TESTS** from the Diagnostics Menu.
- 2. Touch Quick Disk Test.

Quick Disk Test Testing... appears on the LCD. This test cannot be canceled. After the test finishes, either Quick Disk Test Passed or Quick Disk Test Failed appears on the LCD. This message remains until you touch **Back**.

Disk Test/Clean

This test performs a low-level format of the hard disk.

Warning: This test destroys all data on the disk and should never be performed on a good disk. Use this test only when the disk contains bad data and is unusable. When this test completes, the disk automatically initializes with a new file system; therefore it is unnecessary to format the disk.

To run the Disk Test/Clean Test:

- 1. Touch **DEVICE TESTS** from the Diagnostics Menu.
- 2. Touch Disk Test/Clean Test.

Contents will be lost. Continue? appears on the LCD. To exit this test and return to DEVICE TESTS, touch **No**. This is your only chance to exit this test; once the test has begun, it cannot be stopped.

While this test runs, the following graphic appears:



This test cannot be interrupted once it has begun. After the test finishes, either Disk Test/Clean Test Passed or Disk Test/Clean Test Failed appears on the LCD. Press **Stop** to clear the final message and return to DEVICE TESTS.

PRINTER SETUP

To enter the PRINTER SETUP screen, touch **PRINTER SETUP** from the Diagnostics Menu. The following graphic appears on the LCD:



Defaults

The value of this setting determines whether the printer uses the US or Non-US factory default value for the printer settings listed below:

Printer Setting	US Value	Non-US Value
Paper Sizes (applies only to input sources which do not have hardware size sensing capability)	Letter	A4
Envelope Size (applies only to envelope feeding sources which do not have hardware size sensing capability)	10 Envelope	DL Envelope
PCL Symbol Set	PC-8	PC-850
PPDS Code Page	437	850
Universal Units of Measure	Inches	Millimeters

Touch **Submit** to change the value of this setting, then the LCD returns to the Diagnostics menu. To return to the PRINTER SETUP menu without changing the value of this setting, touch **Back**.

Printed Color Page Count

The value of this setting enables you to gauge the amount of usage on a device.

The Printed Page Count cannot be reset by the servicer.

Printed Mono Page Count

The value of this setting enables you to gauge the amount of usage on a device.

The Printed Page Count cannot be reset by the servicer.

Permanent Page Count

The value of this setting indicates the total number of pages that have been printed by the printer.

The Permanent Page Count cannot be reset.

Serial Number

This printer setting records the printer's serial number that was assigned by the manufacturer. When you select this setting, a replica of a keyboard appears on the LCD that enables you to edit the serial number.

Engine Setting 1 to 4

These settings are used by Engine code ECs to fix field problems.

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

Model Name

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

Configuration ID

The two configuration IDs are used to communicate information about certain areas of the printer that cannot be determined using hardware sensors. The configuration IDs are originally set at the manufacturer, however you may need to reset Configuration ID 1 or Configuration ID 2 when you replace the printer engine card assembly. This printer uses two Configuration IDs, each of which consists of eight digits. The first seven digits in each ID are hexadecimal numbers, while the last digit is a checksum of the preceding seven hexadecimal digits. Each ID can contain a combination of the digits 0 through 9 and the characters A to F.

If the printer's firmware detects that either of the printer's Configuration IDs has not been defined or is invalid, then the following occurs:

- 1. The firmware automatically uses the Configuration IDs defined for the printer's standard model.
- 2. The Configuration ID setting is the only item that appears when you open the Diagnostics menu.
- 3. When the printer is not in Diagnostics mode, Check Config ID appears on the LCD.

Note: Each of the above conditions will remain until a valid value is entered for Configuration ID 1 and Configuration ID 2.

The Configuration ID setting allows you to set both Configuration IDs simultaneously. To set one or both Configuration IDs:

1. From the PRINTER SETUP menu, touch the icon to the right of the Configuration ID menu item. The screen displays the value of both Configuration IDs. By default, the cursor appears on the Configuration ID 1 line.



- 2. To change the value of Configuration ID 1, touch the **Backspace** key to erase any of the existing characters. Then enter the correct ID using the number and letter keys that appear on the screen.
- To edit the value of Configuration ID 2, touch a section of the display screen that appears inside of the text box containing the current value of Configuration ID 2. The cursor appears in the text box containing the current value of Configuration ID 2.
- 4. To change the value of Configuration ID 2, touch the **Backspace** key to erase any of the existing characters. Then enter the correct ID using the number and letter keys that appear on the screen.

Note: To exit the Configuration ID screen and return to the PRINTER SETUP menu, touch Back.

Note: Although it is recommended that all unused and reserved bits be set to zero, the code will not validate or enforce this condition.

5. To save the values of both Configuration IDs, touch **Submit**. The printer validates both IDs. If either ID is invalid, the printer posts Invalid ID, discards any changes, and displays the original Configuration IDs. If both IDs are valid, the printer automatically returns to the PRINTER SETUP menu.

EVENT LOG

The exact number of events recorded in the Event Log will vary since each event requires a different amount of storage space. When the Event Log requires more space to record an event, it overwrites the oldest currently logged event(s) and inserts the new event into the first log position. Consecutive log entries may be identical if the same event occurred twice in a row.

The Event Log records the following types of events:

- All 9xx Service Errors
- 2xx Paper Jams

- Maintenance Count Resets
- NV Resets and various types of JFFS@ partition formats

Touch **EVENT LOG** from the Diagnostics Menu, and the following options are displayed:

Display Log Print Log Clear Log

Display the Event Log

Note: The displayed version of the Event Log shows only a subset of the information contained in the Diagnostics version of the printed Event Log. For the most comprehensive information about each logged event, print the Event Log. See "**Print the Event Log**" on page 3-22.

Touch **Display Log**, and a graphic similar to the following appears on the LCD:

/ga	
900.00 Service RIP Software 775 UIEventServer 0000-0000 libs/li	
900.00 Service RIP Software 432 Scanmgr OSed 0400-0000 doapps/sc	
900.00 Service RIP Software 795 OS_Scheduler 0800-0000 objstore	
900.00 Service RIP Software 796 OS_Scheduler 0800-0000 objstore	
Bac	ĸ

Each logged event is identified by the text that appeared when the event occurred. For instance, if the log recorded a 900 Service Error, the Display Log would show 900 Service RIP Software. Log entries appear in chronological order.

If additional log entries exist, touch \checkmark to view the next log entries. Continue following this procedure until you reach the end of the logged entries. To view earlier log entries, touch \blacktriangle .

Touch **Back** to return to the EVENT LOG.

Print the Event Log

Each page of the printed Event Log report has the title Event Log at the top of each page followed by the model name and serial number. The following is a sample of a printed Event Log:



As the Event Log report prints, Printing EVENT LOG appears on the LCD.

Clear the Event Log

To clear the Event Log:

- 1. Touch Event Log from the Diagnostics Menu.
- 2. Touch Clear Log.

Yes and No appears on the menu. If you touch Yes, Deleting EVENT LOG appears on the LCD and erases all Event Log information, including information from the printed report. Touch No to cancel deletion and return to the EVENT LOG menu, or touch **Back** to exit Clear Log and return to the EVENT LOG menu.

SCANNER TESTS

ASIC Test

This operation performs a diagnostic test on the scanner ASIC that cycles through all of the scanner ASIC's memory.

To perform the ASIC Test:

- 1. Touch SCANNER TESTS from the Diagnostics Menu.
- 2. Touch ASIC Test.

During this test, ASIC Test Running... appears on the LCD. At the completion of this test, ASIC Test Passed or ASIC Test Failed appears on the LCD. To clear the message, press **Stop** (2).

Feed Test

This test continuously executes flatbed and/or ADF scans but does not produce any printed output.

To perform the Feed Test:

- 1. Touch SCANNER TESTS from the Diagnostics Menu.
- 2. Touch Feed Test.

You are prompted to select a paper size for the ADF. For flatbed scans, the full length of the flatbed is traversed.

The device decides whether to run the flatbed or the ADF according to the following flowchart:



During the test, Running... Flatbed:xxxxx ADF:xxxxx appears on the LCD. The Flatbed number increases each time the scanner performs a flatbed scan, and the ADF number increases each time the scanner performs an ADF scan.

Press Stop 🗙 to end this test.

If an error occurs (such as a scanner jam), Feed Test Failed Flatbed:xxxxx ADF:xxxxx appears on the LCD. To clear the message, press **Stop** 🚫.

Scanner Manual Registration

Note: All scanner and ADF manual registration alignment verifications must be done in standard user mode, not in configuration or diagnostic mode.

Note: You should verify the printer registration alignment before conducting the manual scanner registration process. For more information regarding printer registration, see "ENGINE ADJUST" on page 3-26.

You can adjust the device's scanner and ADF registration through a manual process. Perform this operation when any of the following events occur:

- The flatbed scanner unit assembly has been replaced.
- The ADF unit assembly has been replaced.
- The CCD card/lens assembly has been replaced.
- Symptoms indicate that the scanner is not properly aligned.

Sensor Test (Scanner Tests)

To perform the Sensor Test:

- 1. Touch SCANNER TESTS from the Diagnostics Menu.
- 2. Touch Sensor Test.

The following example appears on the LCD:

```
Platen length APS 1
Platen length APS 2
ADF left cover interlock
ADF pre registration
ADF registration
Sheet through
ADF inverter
Tray media width 1
Tray media width 2
Tray media width 3
ADF width APS 1
ADF width APS 2
ADF width APS 3
Tray media length 1
Tray media length 2
Pick roll position HP
Document set
ADF angle
Scanner HP
Platen interlock
```

Press **Stop X** to return to SCANNER TESTS.

Trans Belt HP Fail Clear

To perform the Trans Belt Fail Clear Test:

- 1. Touch Trans Belt Fail Clear from the Diagnostics Menu.
- 2. Touch Trans Belt HP Fail Clear.

Trans Belt HP Fail Clear Testing.... appears on the LCD.

Press Stop 🔀 to return to Trans Blet PH Fail Clear.

Dev Unit Reset

To perform the Dev Unit Reset Test:

1. Touch Dev Unit Reset from the Diagnostics Menu.

The following tests appear on the LCD:

Touch the following:		Appears on the LCD:		
Y	Channel	Y	Channel	Testing
М	Channel	М	Channel	Testing
М	Channel	С	Channe1	Testing
Κ	Channel	Κ	Channe1	Testing

When each test completes, the LCD returns to Dev Unit Reset.

Fuser Temp Fail Clear

To perform the Fuser Temp Fail Clear Test:

- 1. Touch Fuser Temp Fail Clear from the Diagnostics Menu.
- 2. Touch Fuser Temp Fail Clear.

Fuser Temp Fail Clear Testing.... appears on the LCD.

When testing is complete, the LCD returns to Fuser Temp Fail Clear.

ATC SENSOR FAILURE CLEAR

To perform the ATC Sensor Failure Clear Test:

1. Touch ATC SENSOR FAILURE CLEAR from the Diagnostics Menu.

The following tests appear on the LCD:

Touch the following:			Appears on the LCD:		
Y	Channe1	(925.00)	Y	Channel	Testing
М	Channe1	(925.01)	М	Channe1	Testing
М	Channe1	(925.02)	С	Channe1	Testing
Κ	Channe1	(925.02)	Κ	Channe1	Testing

When each test completes, the LCD returns to ATC SENSOR FAILURE CLEAR.

ENGINE ADJUST

To begin PH Adjust (media tray registration), the test page must be printed.

To print the test page the printer must be in standard mode.

- 1. Select Menus.
- 2. Select Reports.
- 3. Select Network Setup Page

The following report prints.

Ethernet	10/100/1000
Standard Network Card	
Status:	Connected
Speed Duplex:	100 Mbps, Half Duplex (Auto)
802.1X: Current Date and Time:	2007_05_21 10:43
End-of-Job Timeout:	90
UAA:	00040091E1E1
LAA:	000000000000 NC NDS N125
Compi:	04-May-07 09:37. mls-bld
Password:	Not Set
Integrated Network Option Se	ttings
Printer Type:	Lexmark X940e
Integrated Network Option Se	ttings
Active:	On
Enable DHCP:	On
Enable BOOTP: Enable RARP:	On
AutoIP:	On
Address Source:	DHCP
Address:	157.184.168.82
Netmask: Goteway	255.255.255.128
Fully Qualified Domain Name:	ET00040091E1E1, dhen lexmark.com
WINS Status:	Registered
WINS Server:	157.184.147.17
Zero Configuration Name:	157.184.202.202 Unknown
lpv6	
Active:	On
Fully Qualified Domain Name:	ET00040091E1E1.dhep.lexmark.com
DHCPv6: Inv6 Address Source:	Un Automatic
Ipv6 Address:	fe80::204:ff:fc91:e1e1
Appletalk*	
Active:	Yes
Name:	ET00040091E1E1 Lexmark X940e
Type:	LaserWriter
Zone: Address:	101 225
NetWare	
Active	Yes
Login Name:	ET00040091E1E1
Mode:	PSERVER
Network Number	00000000

Using a fine incremental ruler, measure from the black line border to the edge of the media. Ideally, the borders should be centered on the page.

To perform the ENGINE ADJUST settings:

1. Select ENGINE ADJUST from the Diagnostics Menu.

The following tests appear on the LCD:

Select the following:	Then select: (Appears on the LCD:
PH Adjust (Media tray registration)	Adj Side Reg ALL (appears on LCD) (Adjside reg all trays)	Registration values appear on the LCD. If required, reset the values and Select √ to submit the changes.
	Adj Side Reg MSI (appears on LCD) (Adjsidereg MPF)	Registration values appear on the LCD. If required, reset the values and Select √ to submit the changes.
	Adj Side Reg DUP (appears on LCD) (Adjside reg duplex)	Registration values appear on the LCD. If required, reset the values and Select √ to submit the changes.

```
Adj Lead Reg ALL (appears on LCD)
(Adj lead reg all trays)
Adj Lead Reg Tr165 (appears on LCD)
(Adj lead reg tray 1 - plain/color)
Adj Lead Reg MSI165 (appears on LCD)
(Adj lead reg MPF - plain/color)
Adj Lead Reg MSIhp2 (appears on LCD)
(Adj lead reg MPF - heavy weight 2)
Adj Lead Reg DUP165 (appears on LCD)
(Adj lead reg duplex - plain/color)
MSI Guide Max Val (appears on LCD)
(MPF guide maximum analog - value)
MSI Guide Min Val (appears on LCD)
(MPF guide minimum analog - value)
Adj Side Reg Tr1 (appears on LCD)
(Adj side reg tray 1)
Adj Side Reg Tr2 (appears on LCD)
(Adj side reg tray 2)
Adj Side Reg Tr3 (appears on LCD)
(Adj side reg tray 3)
Adj Side Reg Tr4 (appears on LCD)
(Adj side reg tray 4)
Adj Side Reg ALLtr (appears on LCD)
(Adj side reg all trays)
Adj Lead Reg Trhp1 (appears on LCD)
(Adj lead reg tray 1 - heavy weight 1)
Adj Lead Reg MSIhp (appears on LCD)
(Adj lead reg MPF - heavy weight 1)
Adj Lead Reg Duphp1 (appears on LCD)
(Adj lead reg duplex - heavy weight 1)
Adj Lead Reg Tr208 (appears on LCD)
(Adj lead reg tray 1 - plain/BW)
Adj Lead Reg MSI208 (appears on LCD)
(Adj lead reg MPF - plain/BW)
Adj Lead DUP 208 (appears on LCD)
(Adj lead reg duplex - plain/BW)
```

Registration values appear on the LCD. If required, reset the values and **Select** $\sqrt{}$ to submit the changes.

Registration values appear on the LCD. If required, reset the values and **Select** $\sqrt{}$ to submit the changes.

Registration values appear on the LCD. If required, reset the values and **Select** $\sqrt{}$ to submit the changes.

Registration values appear on the LCD. If required, reset the values and **Select** $\sqrt{}$ to submit the changes.

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Registration values appear on the LCD. If required, reset the values and **Select** $\sqrt{}$ to submit the changes.

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Registration values appear on the LCD. If required, reset the values and **Select** $\sqrt{}$ to submit the changes.

Registration values appear on the LCD. If required, reset the values and **Select** $\sqrt{}$ to submit the changes.

PRO-CON (ATC sensor setup and adjust) This procedure is used to adjust the following: Sensor (C ATC) Sensor (M ATC) Sensor (Y ATC) Sensor (K ATC)

Select PRO-CON and select:	Then Select:	Appears on the LCD
ATC Sensor Adjust values (Sen Grad SNR-Y	Registration values appear on the LCD. If required, reset the values and Select \checkmark to submit the changes.
	Sen Grad SNR-M	Registration values appear on the LCD. If required, reset the values and Select \surd to submit the changes.
	Sen Grad SNR-C	Registration values appear on the LCD. If required, reset the values and $\textbf{Select}~$ to submit the changes.
	Sen Grad SNR-K	Registration values appear on the LCD. If required, reset the values and Select \surd to submit the changes.
	SNR Output Ref TC-Y	Registration values appear on the LCD. If required, reset the values and Select \checkmark to submit the changes.
	SNR Output Ref TC-M	Registration values appear on the LCD. If required, reset the values and Select \checkmark to submit the changes.
	SNR Output Ref TC-C	Registration values appear on the LCD. If required, reset the values and Select \checkmark to submit the changes.
	SNR Output Ref TC-K	Registration values appear on the LCD. If required, reset the values and Select \checkmark to submit the changes.
ATC Sensor Adjust Cycle		Testing Pass

RegCon (color registration) This procedure is used to adjust the printhead color registration.

Select RegCon Adjust and then select:	Appears on the LCD:		
Measurement Cycle	Reg Measuring Testing		
Control Sensor Check	Reg Control Sensor Testing		
Control Sensor Cycle	Reg Control Sensor Correction Testing		
Belt Edge Learn	Belt Edge Learn Tes	ting	
Select RegCon Adjust and then select:	Then select:	Appears on the LCD:	
Select RegCon Adjust and then select: Control Setup Cycles	Then select: Skew Fine Setup	Appears on the LCD: Skew Fine Setup Testing	
Select RegCon Adjust and then select: Control Setup Cycles	Then select: Skew Fine Setup IN/OUT Setup	Appears on the LCD: Skew Fine Setup Testing IN/OUT Setup Testing	
Select RegCon Adjust and then select: Control Setup Cycles	Then select: Skew Fine Setup IN/OUT Setup Center Setup	Appears on the LCD: Skew Fine Setup Testing IN/OUT Setup Testing Center Setup Testing	
Select RegCon Adjust and then select: Control Setup Cycles	Then select: Skew Fine Setup IN/OUT Setup Center Setup Skew Rough Setup	Appears on the LCD: Skew Fine Setup Testing IN/OUT Setup Testing Center Setup Testing Skew Rough Setup Testing	

Press Stop 😵 to return to ENGINE ADJUST.

Color registration (RegCon)

The purpose of the color registration is to establish correct horizontal and vertical positioning of the four primary color images.

The procedure consists of the following steps, which must be performed in the listed sequence:

- 1. Belt Edge Learn Used to align the transfer belt positioning system.
- 2. Fine Skew Setup Automatically performs horizontal and vertical alignment, and reports any skew in the various images caused by the printhead misalignment. The skew must be corrected through manual adjustment.
- 3. In/Out Setup Automatically performs magnification adjustment so that scan lines are the same length for all four colors. Also checks for skew.
- 4. Center Setup Aligns the midpoints of scan lines for all colors, for magnification balance. There is also a Rough Skew Setup when skew is outside the measurement parameters of the Fine Skew Test.

Booklet Fold Adjust

To perform the Booklet Fold Adjust Test:

1. Select Booklet Fold Adjust from the Diagnostics Menu.

The following tests appear on the LCD

Select the following:	Appears on the LCD:
Booklet Tamper Shift Adjust	Booklet Staple Fold Fine Adjust values appear on the LCD. If required, reset the values and submit.
Booklet Compile position	Booklet Compile position values appear on the LCD. If required, reset the values and submit.
Booklet 2-sheet	Booklet 2-sheet values appear on the LCD. If required reset the values and submit.
Booklet 15-sheet	Booklet 15-sheet values appear on the LCD. If required reset the values and submit.
Booklet Fold Pos Fine Adj	Booklet Staple Fold Fine Adjust values appear on the LCD. If required, reset the values and submit.
Booklet Staple Pos Fine Adj	Booklet Staple Fold Fine Adjust values appear on the LCD. If required, reset the values and submit.

Finisher Config

To perform Finisher Config:

1. Select Finisher Config from the Diagnostics Menu.

Finisher Config values appear on the LCD. If required, reset the values and submit

Note: Machine must be in Standard User Mode.

To properly position the Network Setup Page which will be used as the ADF test original page on the flatbed scanner and the ADF side 1 and ADF side 2, follow the graphic below:

Warning: Ensure that the Network Setup Page is properly positioned according to the diagrams, or registration and margins cannot be properly adjusted.

- 1. Place the Network Setup Page on the flatbed scanner according to the graphic below.
- 2. Make a copy of the Network Setup Page, and mark it "Flatbed".
- 3. Place the Network Setup Page, image side up, in the ADF according to the diagram below. This will be the ADF side 1 registration test.
- 4. Make a copy of the Network Setup Page, and mark it "ADF side 1".
- 5. Place the Network Setup Page, image side down, in the ADF according to the diagram below. This will be the ADF side 2 registration test.
- 6. Select "2 sided to 2 sided" while in copy mode to ensure that the rear side of the test original page is copied.
- 7. Make a copy of the Network Setup Page, and mark it "ADF side 2".

Note: You should now have three test copies of the Network Setup Page.



Analyzing the manual scanner registration copies

1. To analyze the manual scanner registration of the flatbed, ADF side 1, and ADF side 2, hold the test copy according to the diagram below.



- 2. Compare the three copies to the Network Setup Page for image placement. Ideally, the image should be centered on the page by measuring the page edge to the black border with a ruler.
- 3. If the leading and side margin edges are out of adjustment, then proceed to manually adjust the scanner and/or ADF side 1 and ADF side 2 registration.

Note: Margin tolerance is +/- 2 mm.

Manually adjusting the scanner's registration

- 1. Enter the Diagnostics Menu. Go to "Diagnostics Menu" on page 3-1.
- 2. Touch SCANNER TESTS.
- 3. Touch Scanner Manual Registration.

Note: Refer to analyzing the manual scanner registration copies. See "Analyzing the manual scanner registration copies" on page 3-31.

Note: All reference to Side Registration in the graphic below refers to the left side edge.



- 5. Turn the machine off and then back on in order to make a copy.
- 6. Using the registration test original page, make a copy using the flatbed scanner and the ADF side 1 and ADF side 2 to verify adjustments for accuracy.
- 7. If further adjustments are required, reenter the Diagnostic Menu and repeat items 2 through 6 as needed.

The panel displays the following settings:

Margin Setting	Range ¹	Units
Flatbed Side Registration ²	0–240	1/300 inch
Flatbed Lead Registration ³	16–184	1/300 inch
ADF Side1 Side Registration ⁴	0–240	1/300 inch
ADF Side1 Lead Registration ⁵	0–214	1/300 inch
ADF Side2 Side Registration ⁴	0–240	1/300 inch
ADF Side2 Lead Registration ⁵	0–214	1/300 inch

¹Each increment of adjustment corresponds to:

- 1 scan at 300 dpi for the Lead Margin setting or
- 1 pel at 300 dpi for each Side Margin setting

²Decreasing the registration value moves the text toward the left side edge of the page; increasing the registration value moves the text away from the left side edge of the page. The entire image moves left or right on the page; therefore, no compression or expansion of the image occurs to preserve the left side margin.

³Decreasing the registration value moves the text toward the lead edge of the page and narrows the lead margin; increasing the registration value moves the text away from the lead edge of the page and widens the lead margin. The entire image moves up or down on the page; therefore, no compression or expansion of the image occurs to preserve the lead margin.

⁴Decreasing the registration value moves the text away from the left side edge of the page; increasing the registration value moves the text toward the left side edge of the page. The entire image moves left or right on the page; therefore, no compression or expansion of the image occurs to preserve the left side margin.

⁵Decreasing the registration value moves text away from the lead edge of the page and widens the lead margin; increasing the registration value moves the text toward the lead edge of the page and narrows the lead margin. The entire image moves up or down on the page; therefore, no compression or expansion of the image occurs to preserve the lead margin.

Touch **Submit** to save the changes. Submitting Changes... appears on the LCD.

Touch Back to return to the Scanner Manual Registration screen without saving changes.

Scanner manual registration factory defaults

The factory scanner manual registration default settings are located on a label at the rear of the machine. Use the label values to reset the factory default settings when the current settings appear to be extremely out of range.

An example of this label is shown below.

Note: The values listed below should be considered examples. They may not match the label attached to the rear of the machine.

Chain-Function	Values
715-050	89
715-053	127
711-140	183
711-141	193
715-110	124
715-111	127

Use the following diagram to cross-reference the chain-function on the label to the text on the touch screen found in diagnostic mode when resetting the scanner manual registration factory default values.

Chain-Function	Values	Touch screen description
715-050	89	Flatbed lead registration
715-053	127	Flatbed side registration
711-140	183	ADF side 1 lead registration
711-141	193	ADF side 2 lead registration
715-110	124	ADF side 1 side registration
715-111	127	ADF side 2 side registration

Exiting Diagnostics Menu

From the Diagnostics Menu, touch **Back** until a graphic appears with **Exit Diag Menu** in the lower right corner. Touch **Exit Diag Menu** to perform a POR, and the following graphic appears on the LCD:



Configuration Menu

Entering Configuration Menu

- 1. Turn off the printer.
- 2. Press and hold the 2 and 6 buttons simultaneously.
- 3. Turn on the printer.
- 4. Release the buttons after 10 seconds.

Available menus

Ма	aintenance Counter Value	See "Maintenance Counter Value" on page 3-37.
Re	eset Maintenance Counter	See "Reset Maintenance Counter" on page 3-37.
US	B Scan to Local	
Bl	ack Only Mode	
Pr	int Quality Pages	See "USB Scan to Local" on page 3-38.
SI	ZE SENSING	See "SIZE SENSING" on page 3-39.
	Tray 1 Sensing	
	Tray 2 Sensing	
	Tray 3 Sensing	
	Tray 4 Sensing	
	Statement/A5	See "A5/Statement" on page 3-40.
	Executive/B5	See "B5/Executive" on page 3-40.
Pa	nel Menus	See "Panel Menus" on page 3-40.
PF	PDS Emulation	See "PPDS Emulation" on page 3-40.
Fa	ctory Defaults	See "Energy Conserve" on page 3-41.
Er	ergy Conserve	See "Energy Conserve" on page 3-41.
Mi	n Copy Memory	See "Min Copy Memory" on page 3-41.
Fo	rmat Fax Storage	See "Format Fax Storage" on page 3-42.
E\	ENT LOG	See "EVENT LOG (Configuration Menu)" on page 3-42.
A)F Edge Erase	See "ADF Edge Erase" on page 3-42.
FE	Edge Erase	See "FB Edge Erase" on page 3-42.
Pa	per Prompts	See "Paper Prompts" on page 3-43.
Er	velope Prompts	See "Envelope Prompts" on page 3-43.
Jo	bs On Disk	See "Jobs On Disk" on page 3-43.
Di	sk Encryption	See "Disk Encryption" on page 3-43.
W	pe Disk	See "Exiting Configuration Menu" on page 3-50.
Fo	nt Sharpening	See "Font Sharpening" on page 3-48.
Re	equire Standby	See "Require Standby" on page 3-49.
Sł	ort edge Printing	See "Short Edge Printing" on page 3-49.
Tra	ay Low Message	See "Tray Low Message" on page 3-49.
LE	S Application	See "LES Applications" on page 3-49.
Ke	y Repeat Initial Delay	See "Key Repeat Initial Delay" on page 3-50.
Ke	y Repeat Rate	See "Key Repeat Rate" on page 3-50.

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Exiting Configuration Menu	See "Exiting Configuration Menu" on page 3-50.
----------------------------	--

Maintenance Counter Value

This setting enables you to view the current maintenance count value of each maintenance kit. After selecting this item, you can choose a specific kit in order to view its current maintenance count value. To return to the Configuration Menu, press **Back**. All other control panel keys are ignored.

When a kit's maintenance count value equals its kit size (150K for the ADF Kit), the device posts the appropriate "80 Scheduled Maintenance" IR and a status indicator to notify the user to schedule the appropriate maintenance on the device.

To view the Maintenance Counter Value, touch Maintenance Counter Value from the Configuration Menu.

The panel displays the current value of the maintenance counter as illustrated below:



Touch **Back** to return to the Configuration Menu.

After installing the required maintenance kit, reset this count to zero.

Reset Maintenance Counter

After scheduled maintenance, reset the Maintenance Counter.

To reset the maintenance page counter to zero:

- 1. Touch Reset Maintenance Counter from the Configuration Menu.
- 2. **Reset Maintenance Counter** appears in the header.
- 3. Touch **100K Kit** or **600K Kit**. Yes and **No** appear in a menu.
- 4. To cancel the reset operation, touch Back or No. All other button presses are ignored.
- 5. To initiate the reset operation, touch Yes.

USB Scan to Local

To change this setting:

- 1. Touch **USB Scan to Local** from the Configuration Menu. ◀ [setting's current value] ▶ appears on the touch-screen.
- 2. Touch \blacktriangleleft or \blacktriangleright to scroll through the setting's possible values.
- 3. Touch **Back** to cancel and return to the Configuration Menu.
- 4. Touch **Submit** to save the change.

Black Only Mode

To change this setting:

- 1. Touch Black Only Mode from the Configuration Menu. ◀ [setting's current value] ▶ appears on the touch-screen.
- 2. Touch \blacktriangleleft or \blacktriangleright to scroll through the setting's possible values.
- 3. Touch **Back** to cancel and return to the Configuration Menu.
- 4. Touch **Submit** to save the change.

Print Quality Pages (Configuration Menu)

This entry enables you to print a report that contains a limited set of the information that appears in the Diagnostics version of the Print Quality Pages report. The limited (Configuration) and the full (Diagnostics) printed versions of this report display the same panel messages when they print and follow the same layout guidelines.

To print the Print Quality Pages:

- 1. Touch **Print Quality Pages** from the Configuration Menu. Printing Quality Test Pages... appears on the LCD.
- 2. Touch **Back** to return to the Configuration Menu.

Note: When this report is printed from the Configuration Menu, the device enforces the toner cartridge lockout mechanism, that is, the Machine Class ID of its cartridge must match the Machine Class ID stored in the printer's NVRAM.

SIZE SENSING

This setting controls whether the printer automatically registers the size of paper installed in an input source equipped with size sensing hardware.

	Size sensing	
	Length	Width
Multipurpose feeder (integrated MPF)		1
Tray 1 (integrated 520-sheet drawer)	1	1
Tray 2 (520-sheet drawer) 1TC, HCF, 3TM	1	1
Tray 3 (optional HCF 850-sheet drawer)		1
Tray 4 (optional HCF 1150-sheet drawer)		1
Tray 3 (optional 3TM 520-sheet drawer)	1	1
Tray 4 (optional 3TM 520-sheet drawer)	1	1

To change the value of this setting:

1. Touch **SIZE SENSING** from the Configuration Menu. The screen displays each size sensing equipped input source and its current Size Sensing value.

SIZE SENSING	
Statement/A5	Sense Statement
Submit	Back

- 2. Touch \blacktriangleleft or \blacktriangleright to scroll through the setting's other possible values.
- 3. Touch **Back** to cancel and return to the Configuration Menu.
- 4. Touch **Submit** to save the change.

Turning off auto size sensing is not selectable on this machine.

A5/Statement

Due to engine limitations, Trays 1 through 4 cannot simultaneously sense A5- and statement-size paper. The value of this setting determines which of the two paper sizes these trays will sense automatically. This setting will apply to all automatic trays, but not to the MP Feeder. The MP Feeder can support these paper sizes regardless of the value of this setting.

B5/Executive

Due to engine limitations, Trays 1 through 4 cannot simultaneously sense executive and JIS-B5-size paper. The value of this setting determines which of the two paper sizes these trays will sense automatically. This setting will apply to all automatic trays, but not to the MP Feeder. The MP Feeder can support these paper sizes regardless of the value of this setting.

Panel Menus

Selections are to Disable or Enable (default) operator panel menus.

To change the value of this setting:

- 1. Touch **Panel Menus** from the Configuration Menu. ◀ [setting's current value] ▶ appears on the touch-screen.
- 2. Touch \blacktriangleleft or \blacktriangleright to scroll through the setting's other possible values.
- 3. Touch **Back** to cancel and return to the Configuration Menu.
- 4. Touch **Submit** to save the change.

PPDS Emulation

The value of the PPDS Emulation menu item determines if a device can recognize and use the PPDS datastream. The current value of this setting appears in parentheses to the right of the setting on the Configuration Menu screen.

The following table indicates how the value of this setting affects the user default value for the Smartswitch and Printer Language settings:

Value of PPDS Emulation setting	Resulting value of Smartswitch setting (all ports)	Resulting value for Printer Language settings
Activate	Off	PPDS Emulation
		Note: You can still switch languages on the operator panel or through the PJL ENTER LANGUAGE command.
Deactivate	On	Printer's factory default value

To change the value of this setting:

- 1. Touch **PPDS Emulation** from the Configuration Menu. ◀ [setting's current value] ▶ appears on the touch-screen.
- 2. Touch ◀ or ▶ to scroll through the setting's possible values.
- 3. Touch **Back** to cancel and return to the Configuration Menu.
- 4. Touch **Submit** to save the change.

Factory Defaults

Warning: This operation cannot be undone.

This setting enables you to restore all of the printer's settings to the base printer settings, the network settings, or to remove all Lexmark Embedded Solutions (LES) applications.

To restore the Factory Default settings:

- 1. Touch Factory Defaults from the Configuration Menu.
- 2. Touch Restore Base to restore all non-critical base printer NVRAM settings.
- 3. Touch Restore Network to restore all network NVRAM settings.
- 4. Touch Restore LES to remove all Lexmark Embedded Solution applications.

When you select either value, the LCD displays Restoring Factory Defaults and then Resetting the Device. The device immediately performs a POR and restores the appropriate settings to their factory default values.

The following settings are not changed:

- Display Language (general settings)
- Network/Ports Menu
- Standard USB, USB (x) Menus (if an ENA is installed)

Energy Conserve

This menu controls what values appear on the Power Saver menu. If **Off** is selected in the Energy Conserve menu, then Disabled appears in the Power Saver menu, and Power Saver can be turned off. If **On** is set in the Energy Conserve menu, the Power Saver feature cannot be disabled.

To change this setting:

- 1. Touch **Energy Conserve** from the Configuration Menu. ◀ [setting's current value] ▶ appears on the touch-screen.
- 2. Touch \blacktriangleleft or \blacktriangleright to scroll through the setting's possible values.
- 3. Touch **Back** to cancel and return to the Configuration Menu.
- 4. Touch Submit to save the change.

Min Copy Memory

Values will only be displayed if the amount of installed DRAM is at least twice the amount of the value, that is, at least 200 MB of installed DRAM is required to display the 100 MB selection.

To change this setting:

- 1. Touch **Min Copy Memory** from the Configuration Menu. ◀ [setting's current value] ▶ appears on the touch-screen.
- 2. Touch \blacktriangleleft to decrease the setting's value; touch \blacktriangleright to increase the setting's value.
- 3. Touch **Back** to cancel and return to the Configuration Menu.
- 4. Touch Submit to save the change.

Format Fax Storage

This setting enables you to format the non-volatile storage used for storing faxes.

To change this setting:

1. Touch Format Fax Storage from the Configuration Menu.

Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.

- 2. Touch **Submit** to save the change.
- 3. Touch **Back** to cancel and return to the Configuration Menu.

Formatting Fax Flash DO NOT POWER OFF appears on the LCD while the format operation is active.

EVENT LOG (Configuration Menu)

This entry enables you to print a report that contains a limited set of the information that appears in the Diagnostics version of the Event Log report. See "EVENT LOG" on page 3-20. The limited (Configuration) and the full (Diagnostics) printed versions of this report display the same panel messages when they print and follow the same layout guidelines.

To print the Event Log:

- 1. Touch EVENT LOG from the Configuration Menu.
- 2. Touch Print Log.

Touch **Back** to return to the Configuration Menu.

Note: An event log printed from the Configuration Menu will not contain debug information or secondary codes for 900 service errors. However, the event log printed from the Diagnostics Menu does include this information.

ADF Edge Erase

The ADF Edge Erase and FB Edge Erase settings specify, in millimeters, the size of a border around the scanned image that will be erased. For copies, the printed page will have a 2 mm no-print border. The larger of the 2 mm no-print border and the Edge Erase setting will be used in this situation.

To change this setting:

- 1. Touch **ADF Edge Erase** from the Configuration Menu. ◀ [setting's current value] ▶ appears on the touch-screen.
- 2. Touch \blacktriangleright to increase the value or \blacktriangleleft to decrease the value.
- 3. Touch Submit to save the change.
- 4. Touch **Back** to cancel and return to the Configuration Menu.

FB Edge Erase

The ADF Edge Erase and FB Edge Erase settings specify, in millimeters, the size of a border around the scanned image that will be erased. For copies, the printed page will have a 2 mm no-print border. The larger of the 2 mm no-print border and the Edge Erase setting will be used in this situation.

To change this setting:

- 1. Touch **FB Edge Erase** from the Configuration Menu. ◀ [setting's current value] ▶ appears on the touch-screen.
- 2. Touch > to increase the value or < to decrease the value.
- 3. Touch **Submit** to save the change.
- 4. Touch Back to cancel and return to the Configuration Menu.

Paper Prompts

When a tray is out of the indicated paper size, a prompt is sent to the user to load paper in a tray. This setting controls the tray the user is directed to fill. Selections are Auto (default), MP Feeder, and Manual Paper.

To change this setting:

- 1. Touch **Paper Prompts** from the Configuration Menu. ◀ [setting's current value] ▶ appears on the touch-screen.
- 2. Touch \blacktriangleleft or \blacktriangleright to scroll through the setting's other possible values.
- 3. To exit this screen without changing the setting's value, touch **Back**.
- 4. To save the setting's new value, touch Submit.

Envelope Prompts

This setting controls the tray the user is directed to refill when a specific envelope size is out. The selections are Auto (default), MP Feeder, and Manual Env.

To change the value of this setting:

- 1. Touch Env Prompts from the Configuration Menu. ◀ [setting's current value] ▶ appears on the touchscreen.
- 2. Touch \blacktriangleleft or \blacktriangleright to scroll through the setting's possible values.
- 3. To exit this screen without changing the setting's value, touch **Back**.
- 4. To save the setting's new value, touch Submit.

Jobs On Disk

Jobs On Disk allows you to delete buffered jobs saved on the disk.

To delete jobs saved on the disk:

- 1. Touch **Jobs On Disk** from the Configuration Menu.
- 2. Touch **Delete** to decrease the setting's value; touch > to increase the setting's value.
- 3. Touch **Back** to cancel and return to the Configuration Menu.

Disk Encryption

This setting determines if the printer encrypts the information that it writes to the hard disk. The values are Disable and Enable.

Warning: If the value is changed from **Enable** to **Disable** or from **Disable** to **Enable**, then the printer completely formats the hard disk. All information on the disk will be unrecoverable.

To change this setting:

1. Touch Disk Encryption from the Configuration Menu.

Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.

- 2. Touch Submit to save the change.
- 3. Touch **Back** to cancel and return to the Configuration Menu.

If you remove an encrypted disk from a device and then try to install another disk, Disk Corrupted. Reformat? appears on the LCD. You can format the newly installed disk or remove it from the device.

When you touch **Enable** (encryption) or **Disable** (formatting), Contents will be lost. Continue? appears on the LCD. Touch **No** to cancel or **Yes** to proceed. If you touch **Yes**, the printer performs the selected action on the hard disk. The following graphic appears when the encryption process is selected:



The following graphic appears when the formatting process is selected:



The panel provides many progress indicators during the two-stage process.

- 1. **1/2** indicates that the process is currently in the first stage.
- 2. **0%** indicates the progress of the current stage of the process.
- 3. The progress bar indicates the overall completion of the entire process by filling in throughout each separate stage.

When the first stage of either process completes, the printer displays either of the following graphics depending on the process selected and then begins the second stage of the process:





The entire process is complete when the progress bar appears completely shaded and the percentage indicator shows **100%**. After completion, the panel returns to Disk Encryption.

Wipe Disk

This setting provides you with a tool for erasing the contents of a disk.

Warning: Wipe Disk removes a disk's data in such a way that it cannot be recovered.

To change this setting:

1. Touch **Wipe Disk** from the Configuration Menu.

Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.

- 2. Touch Wipe disk now. Contents will be lost. Continue? appears on the LCD.
- 3. Touch Back to cancel and return to the Configuration Menu.

If you touch **No**, the device cancels the Wipe Disk process and returns to the Configuration Menu. If you touch **Yes**, the following screen appears:



The panel provides the following progress indicators during the execution of this process:

- 1. **1/2** indicates that the process is currently in the first stage.
- 2. **0%** indicates the progress of the current stage of the process.
- 3. The progress bar indicates the overall completion of the entire process by filling in throughout each separate stage.

When the first stage of the process completes, the printer displays the following graphic and then begins the second stage of the process:



The entire process is complete when the progress bar appears completely shaded and the percentage indicator shows **100%**. The panel returns to the screen that shows the values for the Wipe Disk setting.

Font Sharpening

This setting allows you to set a text point size below which the high-frequency screens are used when printing font data. For example, at the default 24, all text in font sizes 24 and less will use the high frequency screens. The values for this setting range from 0 to 150.

To change this setting:

- 1. Touch Font Sharpening from the Configuration Menu.
- 2. Touch > to increase the value or < to decrease the value.
- 3. Touch **Back** to cancel and return to the Configuration Menu.
- 4. Touch Submit to save the change.

This setting affects the PostScript, PCL, PDF, and XL emulators.

This function is not supported when the device generates output at 600 dpi resolution.
Require Standby

This setting determines if the Standby Mode is **On** or **Off**. The default is **On**.

To change this setting:

- 1. Touch Require Standby from the Configuration Menu.
- 2. Touch **Back** to cancel and return to the Configuration Menu.
- 3. Touch **Submit** to save the change.

If Standby Mode is on, the printer begins functioning in Standby Mode when it remains idle for an amount of time. The Standby Mode enables the printer:

- To consume less energy than when operating in normal mode but not as little as when operating in Power Saver
- To return to the Ready state more quickly than when operating in Power Saver

Short Edge Printing

The default printing orientation is long edge. This setting allows you to enable or prohibit short edge fed paper. If the setting **Disabled** (default) is selected, letter and A4 paper can only be fed long edge. If they are fed short edge, a prompt will ask you to use the correct paper size. When the setting is **Enabled**, you can feed paper either long edge or short edge.

To change this setting:

- 1. Touch Short Edge Printing from the Configuration Menu.
- 2. Touch **Back** to cancel and return to the Configuration Menu.
- 3. Touch **Submit** to save the change.

Tray Low Message

This setting allows you to disable any Tray Low warnings that the printer may register.

Touching **Disabled** turns off the tray low prompts. The default is **Enabled**.

To change this setting:

- 1. Touch **Require Standby** from the Configuration Menu.
- 2. Touch **Back** to cancel and return to the Configuration Menu.
- 3. Touch Submit to save the change.

LES Applications

This disables all installed Lexmark Embedded Solution applications. The default is **Enabled**.

To change this setting:

1. Touch LES Applications from the Configuration Menu.

Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.

- 2. Touch **Back** to cancel and return to the Configuration Menu.
- 3. Touch **Submit** to save the change.

Key Repeat Initial Delay

When a key is touched repeatedly, this is the delay before the key begins repeating. The delay ranges from .25 seconds to 5 seconds. The default is 1 second. Values are given in increments of .25 seconds.

To change this setting:

- 1. Touch **Key Repeat Initial Delay** from the Configuration Menu.
- 2. Touch > to increase the value or < to decrease the value.
- 3. Touch Submit to save the change.
- 4. Touch **Back** to cancel and return to the Configuration Menu.

Key Repeat Rate

This is the number of times per second that a repeating key will repeat. The range is 1–100, with a default of 15 times per second.

To change this setting:

- 1. Touch Key Repeat Initial Delay from the Configuration Menu.
- 2. Touch > to increase the value or < to decrease the value.
- 3. Touch **Submit** to save the change.
- 4. Touch **Back** to cancel and return to the Configuration Menu.

Exiting Configuration Menu

From the Configuration Menu, touch **Back** until a graphic appears with **Exit Config Menu** in the lower right corner. Touch **Exit Config Menu** to exit the Configuration Menu. Resetting the Printer appears on the LCD. The printer performs a POR, and the following graphic appears on the LCD:



Roll	Pitch
2nd transfer roll	83.05 mm
Registration roll	62.61 mm
Developer magnetic roll	33.76 mm
Developer auger roll	43.89 mm
Fuser hot roll	85.15 mm
Charge roll	43.98 mm
PC drum	94.25 mm
Transfer belt	949.00 mm



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 (ESD). To prevent damage to ESD-sensitive parts, use the following instructions in addition to all the usual precautions, such as turning off power before removing logic boards:

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

Removal procedures

Before starting service work



CAUTION:

Remove the power cord from the electrical outlet before you connect or disconnect any cable or electronic board or assembly.



CAUTION:

While performing service around the fuser assembly, ensure the fuser area has cooled down.

Note: Some removal procedures require removing cable ties. You must replace cable ties during reassembly to avoid pinching wires, obstructing the paper path, or restricting mechanical movement.

Note: A wide variety of screws are used; make note of their positions during service.

Printer front door assembly removal

- 1. Open the printer front door assembly.
- 2. Press the tab, and rotate the two flexible supports (A) 90°, and pull from the machine.
- 3. Remove the two flexible supports (A).
- 4. Remove the two screws securing the two brackets (B) to the printer front door assembly (C).
- 5. Remove the two brackets (B).
- 6. Remove the printer front door assembly (C).



Right cover assembly removal

Note: Detach the finisher if equipped. Refer to the MFP or Printer Finisher Service Manual.

- 1. Open the transfer belt unit access door (A).
- 2. Remove the three screws securing the right cover assembly (B) to the machine.
- 3. Move the right cover assembly (B) down, and pull out.
- 4. Remove the right cover assembly (B).



Top cover assembly removal

- 1. Remove the base machine from the scanner/ADF stand assembly.
- 2. Open the printer front door assembly.
- 3. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 4. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4.
- 5. Remove the three screws securing the top cover assembly (A) to the machine.
- 6. Remove the top cover assembly (A).



Rear cover assembly removal

- 1. Remove the blind cover (A).
- 2. Remove all connectors and power cords from the rear of the machine.
- 3. Remove the four screws securing the rear cover assembly (B) to the machine.
- 4. Remove the rear cover assembly (B).



Rear left middle cover removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Open the printer left door assembly.
- 3. Remove the screw securing the rear left middle cover (A) to the machine.
- 4. Remove the rear left middle cover.



Rear left upper cover removal

- Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
 Warning: Ensure that the rear left middle cover is removed before removing the rear left upper cover, or damage will occur.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove one screw securing the rear left upper cover (A) to the machine.
- 4. Release the hook securing the rear left upper cover (A) to the machine.
- 5. Remove the rear left upper cover (A).



Printer left lower door assembly removal

- 1. Remove the media tray 1.
- 2. Open the printer left lower door assembly.
- 3. Disconnect the connector from the printer left lower door assembly (A).
- 4. Release the harness from the clamp.
- 5. Pull the cap of the hinge pin (B) out with a prying tool to remove the hinge pin (B) from the machine.
- 6. Remove the hinge pin (B).
- 7. Remove the printer left lower door assembly (A).



MPF feed unit assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Disconnect the connector from the MPF feed unit assembly (A).
- 4. Detach the frame clamp from the machine.
- 5. Remove the two screws securing the MPF feed unit assembly (A) to the machine.
- 6. Remove the MPF feed unit assembly (A).



Front left cover removal

- 1. Open the printer front door assembly.
- 2. Remove the two screws securing the front left cover (A) to the machine.
- 3. Move the front left cover (A) up and pull out.
- 4. Remove the front left cover (A).



Duplex media inverter assembly removal

- 1. Open the printer left door assembly.
- 2. Remove the E-clip securing the fuser exit roll assembly (A) to the machine.
- 3. Remove the bushing (B).
- 4. Remove the fuser exit roll assembly (A).
- 5. Remove the two screws securing the duplex media inverter assembly (C).
- 6. Remove the duplex media inverter assembly (C).





Duplex unit assembly removal

- 1. Remove the two screws securing the duplex unit assembly (A) to the printer left door assembly (B).
- 2. Gently pull the duplex unit assembly (A) from the printer left door assembly (B).
- **Note:** When removing the duplex unit assembly (A), the plastic panel (C) may become detached.
- 3. Remove the duplex unit assembly (A).



- 1. Remove the duplex unit assembly. See "Duplex unit assembly removal" on page 4-10.
- 2. Remove the screw securing the bracket (A) to the duplex unit assembly (B).
- 3. Release the hooks securing the sensor (duplex wait) (C) to the bracket (A).
- 4. Remove the sensor (duplex wait) (C).
- 5. Disconnect the connector from the sensor (duplex wait) (C).



Switch (duplex left door interlock) removal

- 1. Remove the duplex unit assembly. See "Duplex unit assembly removal" on page 4-10.
- 2. Release the hooks securing the switch (duplex left door interlock) (A).
- 3. Remove the switch (duplex left door interlock) (A).
- 4. Disconnect the connector from the switch (duplex left door interlock) (A).



- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the printer left door assembly. See "Printer left door assembly removal" on page 4-26.
- 5. Lay the printer left door assembly on a flat surface.
- 6. Move the duplex media exit turn guide (A) toward the rear, and release the hook from the front hinge.
- 7. Remove the duplex media exit turn guide (A).



Replacement note: When replacing the printer left door assembly (B), ensure that the black lines are aligned on the damper assembly (C), or the door will not properly operate.

Replacement note: When replacing the printer left door assembly (B), ensure that the duplex media exit turn guide (A) is held up, or the printer left door assembly (B) will not close properly.



Duplex drive motor removal

- 1. Remove the duplex unit assembly. See "Duplex unit assembly removal" on page 4-10.
- 2. Remove the screw securing the connector access cover (A) to the duplex unit assembly (B).
- 3. Disconnect the connector from the duplex drive motor (C).
- 4. Remove the harness from the clamps.
- 5. Remove the three screws securing the duplex drive motor (C) to the duplex unit assembly (B). **Note:** When removing the duplex drive motor (C), the belt (D) will become detached.
- 6. Remove the duplex drive motor (C).



- 1. Remove the duplex unit assembly. See "Duplex unit assembly removal" on page 4-10.
- 2. Remove the screw securing the connector access cover (A) to the duplex unit assembly (C).
- 3. Disconnect the connectors from the duplex controller card assembly (B).
- 4. Remove the two screws securing the duplex controller card assembly (B) to the duplex unit assembly (C).
- 5. Remove the duplex controller card assembly (B).



Fuser unit assembly removal



CAUTION: The fuser unit assembly can be extremely hot, handle with care to avoid getting burned.

- 1. Open the printer left door assembly.
- 2. Loosen the two thumb screws to release the fuser unit assembly (A) from the machine.
- 3. Pull the two handles on the fuser unit assembly (A) away from the machine.
- 4. Remove the fuser unit assembly (A) from the machine.



Transfer belt unit assembly removal

Warning: When removing the transfer belt unit assembly, do not touch the belt surface, or damage will occur.

Note: Detach the finisher if equipped. Refer to the MFP or the Printer Finisher Service Manual.

- 1. Open the printer front door assembly.
- 2. Open the transfer belt access cover.
- 3. Press the button on the transfer belt lift latch (A).
- 4. Raise the transfer belt lift latch (A) to its upper-most position.
- 5. Lower the transfer belt lift handle (B) to its lower-most position.
- 6. Lift the safety latch (C) while pulling the transfer belt unit assembly (D) out of the machine.
- 7. Remove the transfer belt unit assembly (D).



Replacement warning: When reinstalling the transfer belt unit assembly, do not touch the belt surface, or damage will occur.

Transfer belt cleaning assembly removal

Warning: When removing the transfer belt unit assembly, do not touch the belt surface, or damage will occur.

Note: It is not required to completely remove the transfer belt unit assembly (B) from the machine. It can be partially pulled out to provide access to the transfer belt cleaning assembly (A).

- 1. Remove the transfer belt unit assembly. See "Transfer belt unit assembly removal" on page 4-16.
- 2. Remove the two screws securing the transfer belt cleaning assembly (A) to the transfer belt unit assembly (B).
- 3. Remove the transfer belt cleaning assembly (A).

Replacement warning: When reinstalling the transfer belt unit assembly, do not touch the belt surface, or damage will occur.



Standard media exit shift assembly removal

- Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
 Warning: Ensure that the rear left middle cover is removed before removing the rear left upper cover, or damage will occur.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the rear left upper cover. See "Rear left upper cover removal" on page 4-7.
- 4. Disconnect the two connectors from the standard media exit shift assembly (A).
- 5. Remove the four screws securing the standard media exit shift assembly (A) to the machine.
- 6. Remove the standard media exit shift assembly (A) from the machine.





Standard media exit bin full actuator removal

- Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
 Warning: Ensure that the rear left middle cover is removed before removing the rear left upper cover, or damage will occur.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the rear left upper cover. See "Rear left upper cover removal" on page 4-7.
- 4. Remove the screw securing the standard exit top cover (A) to the machine.
- 5. Gently lift the standard exit top cover (A) from the machine.
- 6. Remove the standard exit top cover (A) from the machine.
- 7. Remove the screw securing the bracket (B) to the machine.
- 8. Remove the bracket (B).
- 9. Gently flex the standard media exit bin full actuator (C) to detach it from the machine.
- 10. Remove the standard media exit bin full actuator (C) from the machine.







Switch (printer left door interlock) removal

- Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
 Warning: Ensure that the rear left middle cover is removed before removing the rear left upper cover, or damage will occur.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the rear left upper cover. See "Rear left upper cover removal" on page 4-7.
- 4. Remove the standard media exit shift assembly. See "Standard media exit shift assembly removal" on page 4-17.

- 5. Remove the screw securing the bracket (A) to the standard media exit bin shift assembly.
- 6. Remove the bracket (A).
- 7. Release the hooks securing the switch (printer left door interlock) (B) to the bracket (A).
- 8. Remove the switch (printer left door interlock).





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Sensor (standard media bin full) removal

- Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
 Warning: Ensure that the rear left middle cover is removed before removing the rear left upper cover, or damage will occur.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the rear left upper cover. See "Rear left upper cover removal" on page 4-7.
- 4. Remove the standard media exit bin full actuator. See "Standard media exit bin full actuator removal" on page 4-18.
- 5. Remove the screw securing the bracket (A) to the machine.
- 6. Remove the bracket (A).
- 7. Release the hooks securing the sensor (standard bin full) (B) to the bracket (A).
- 8. Remove the sensor (standard bin full) (B).
- 9. Disconnect the connector from the sensor (standard media bin full) (B).



Media feed unit assembly 1 removal

- 1. Remove the media tray 1.
- 2. Remove the printer left lower door assembly. See "Printer left lower door assembly removal" on page 4-8.
- 3. Disconnect the connector from the media feed unit assembly (A).
- 4. Remove the two screws securing the media feed unit assembly (A) to the machine.
- 5. Remove the media feed unit assembly (A).



- 1. Remove the printer left lower door assembly. See "Printer left lower door assembly removal" on page 4-8.
- 2. Remove the media feed unit assembly. See "Media feed unit assembly 1 removal" on page 4-21.
- 3. Remove the media feed unit assembly. See "Media feed lift motor removal" on page 4-112.
- 4. Remove the media out actuator. See "Media out actuator removal" on page 4-22.
- 5. Disconnect the connector from the sensor (media out) (A).
- 6. Release the hooks securing the sensor (media out) (A) to the media feed unit.
- 7. Remove the sensor (media out) (A).



Media out actuator removal

- 1. Remove the media feed unit assembly. See "Media feed unit assembly 1 removal" on page 4-21.
- 2. Remove the media feed unit assembly. See "Media feed lift motor removal" on page 4-112.
- 3. Release the two bosses on the media out actuator (A) from the media feed unit assembly.

4. Remove the media out actuator (A).



- 1. Remove the printer left lower door assembly. See "Printer left lower door assembly removal" on page 4-8.
- 2. Remove the appropriate media feed unit assembly. See "Media feed unit assembly 1 removal" on page 4-21.
- 3. Disconnect the connector from the sensor (media level) (A).
- 4. Release the hooks securing the sensor (media level) (A) to the media feed unit.
- 5. Remove the sensor (media level) (A).



Sensor (fuser exit) removal

- 1. Open the printer left door assembly.
- 2. Remove the E-clip securing the fuser exit roll assembly (A) to the machine.
- 3. Remove the bushing (B).
- 4. Remove the fuser exit roll assembly (A).
- 5. Remove the two screws securing the sensor (fuser exit) (C) to the machine.
- 6. Remove the sensor (fuser exit) (C).
- 7. Release the harness from the clamps.
- 8. Disconnect the connector from the sensor (fuser exit) (C).



Replacement note: When replacing the sensor (fuser exit), ensure that any shims that may be present beneath the old sensor are placed beneath the new sensor.

Printer left door assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the screw securing the connector access cover (A) to the machine.
- 5. Remove the connector access cover (A).



- 6. Disconnect the three connectors from the printer left door assembly (B).
- 7. Gently pull the harnesses through the hole in the machine frame.
- 8. Open the printer left door assembly (B).
- 9. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 10. Remove the safety screw from the machine.
- 11. Detach the safety arm (C) from the machine.
- 12. Remove the C-clip from the machine.
- 13. Remove the support arm (D) from the machine.
- 14. Lower the printer left door assembly (B) to an approximate 75° angle as shown in the graphic.
- 15. Lift the printer left door assembly (B) up to remove it from the machine.
- 16. Remove the printer left door assembly (B).



Replacement warning: When replacing the printer left door assembly (B), ensure that the black lines are aligned on the damper assembly (E), or the door will not properly operate.





Replacement warning: When replacing the printer left door assembly (B), ensure that the duplex media exit turn guide (F) is held in its upper-most position, or the printer left door assembly (B) will not close properly.

Printer left door damper removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the printer left door assembly. See "Printer left door assembly removal" on page 4-26.
- 5. Remove the E-clip securing the shaft (A) to the machine.
- 6. Remove the shaft (A).
- 7. Remove the printer left door damper idler gear (B).
- 8. Remove the screw securing the printer left door damper (C) to the machine.

9. Remove the printer left door damper (C).



Replacement warning: When replacing the printer left door assembly (D), ensure that the black lines are aligned on the damper assembly (C), or the door will not properly operate.



Replacement warning: When replacing the printer left door assembly (D), ensure that the duplex media exit turn guide (E) is held in its upper-most position, or the printer left door assembly (D) will not close properly.



Sensor (media on belt) removal

- 1. Open the printer left door assembly.
- 2. Remove the screw securing the sensor (media on belt) (A) to the machine.
- 3. Disconnect the connector from the sensor (media on belt) (A).
- 4. Remove the sensor (media on belt) (A).



2nd transfer roll retract cam assembly removal

- 1. Remove the 2nd transfer roll assembly. See "2nd transfer roll assembly removal" on page 4-35.
- 2. Remove the two screws securing the registration pinch guide assembly (A) to the machine.
- 3. Remove the registration pinch guide assembly (A).
- 4. Remove the screw securing the bracket (B) to the machine.
- 5. Slide the bracket (B) to remove it from the machine.
- 6. Move the bracket (B) toward the front of the machine.
- 7. Detach the bracket (B).
- 8. Disconnect the connector from the transfer roll retract motor assembly (C).
- 9. Remove the three screws securing the transfer roll retract cam assembly (D) to the machine.
- Lift the transfer roll retract cam assembly (D) up.
 Note: When removing the transfer roll retract cam assembly (D), the bushing (E), pin (F), and washer may become detached.
- 11. Remove the transfer roll retract cam assembly (D).





Replacement note: When reinstalling the transfer roll retract cam assembly (D), ensure that the bushing (E), pin (F), and washer are replaced.


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Sensor (2nd transfer roll retract HP) removal

- 1. Remove the 2nd transfer roll assembly. See "2nd transfer roll assembly removal" on page 4-35.
- 2. Remove the two screws securing the registration pinch guide assembly (A) to the machine.
- 3. Remove the registration pinch guide assembly (A).
- 4. Remove the screw securing the bracket (B) to the machine.
- 5. Slide the bracket (B) to remove it from the machine.
- 6. Move the bracket (B) toward the front of the machine.
- 7. Detach the bracket (B).
- 8. Disconnect the connector from the sensor (transfer roll retract HP) (C).
- 9. Release the hooks securing the sensor (transfer roll retract HP) (C) to the bracket (B).
- 10. Remove the sensor (transfer roll retract HP).



Connector



2nd transfer roll retract motor assembly removal

- 1. Remove the 2nd transfer roll assembly. See "2nd transfer roll assembly removal" on page 4-35.
- 2. Remove the 2nd transfer roll retract cam assembly. See "2nd transfer roll retract cam assembly removal" on page 4-31.
- 3. Remove the screw securing the transfer roll retract motor assembly (A) to the 2nd transfer roll retract cam assembly (B).
- 4. Remove the transfer roll retract motor assembly (A).



2nd transfer roll assembly removal

- 1. Open the printer left door assembly.
- 2. Remove the two screws securing the registration pinch guide assembly (A) to the machine.
- 3. Remove the registration pinch guide assembly (A).



- 4. Remove the four screws securing the transfer roll assembly (B) to the machine.
- 5. Gently remove the transfer roll assembly (B).



Warning: When removing the main transfer roll assembly (B), do not touch the roll surface.

Replacement warning: When reinstalling the transfer roll assembly (B), do not touch the roll surface.

Registration / transport roll assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the printer left door assembly. See "Printer left door assembly removal" on page 4-26.
- 5. Open the printer left lower door assembly.
- 6. Disconnect the connector from the registration transport roll assembly (A).
- 7. Remove the two screws securing the registration transport roll assembly (A) to the machine.
- 8. Remove the registration transport roll assembly (A).



Registration clutch removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the printer left door assembly. See "Printer left door assembly removal" on page 4-26.
- Remove the registration transport roll assembly. See "Registration / transport roll assembly removal" on page 4-36.
- 6. Disconnect the connector from the registration clutch (A).
- 7. Remove the E-clip securing the registration clutch (A) to the registration transport roll assembly (B).
- 8. Remove the registration clutch (A).



Replacement note: Before reinstalling, ensure that the notch on the registration clutch (A) is placed over the boss on the registration transport roll assembly (B).

Sensor (registration) removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the printer left door assembly. See "Printer left door assembly removal" on page 4-26.
- 5. Remove the two screws securing the plate (A) to the registration transport roll assembly (B).
- 6. Remove the plate (A).
- 7. Remove the screw securing the sensor (registration) (C) to the registration transport roll assembly (B).
- 8. Remove the sensor (registration) (C).

9. Disconnect the connector from the sensor (registration) (C).



Sensor (transparency detect) removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the printer left door assembly. See "Printer left door assembly removal" on page 4-26.
- 5. Remove the two screws securing the plate (A) to the registration transport roll assembly (B).
- 6. Remove the plate (A).
- 7. Remove the screw securing the sensor (transparency detect) (C) to the registration transport roll assembly (B).
- 8. Remove the sensor (transparency detect) (C).
- 9. Disconnect the connector from the sensor (transparency detect) (C).



Waste toner cartridge cover removal

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Lower the waste toner cartridge cover (A) to its lower-most position.
- 3. Remove the waste toner cartridge.
- 4. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 5. Remove the C-clip securing the waste toner cartridge cover (A) to the machine.
- 6. Move the waste toner cartridge cover (A) to the left.
- 7. Remove the waste toner cartridge cover (A).



Waste toner cartridge sensor assembly removal

- 1. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 2. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 3. Remove the screw securing the bracket (A) to the machine.
- 4. Remove the bracket (A).

Note: When removing the waste toner cartridge sensor assembly (B), ensure the plastic bosses are not broken off when they insert into the brackets.

Note: If removing the developer units, the waste toner cartridge sensor assembly (B) does not need to be removed from the machine. It may be allowed to gently hang by the harness.

- 5. Remove the harness from the clamps.
- 6. Disconnect the connector from the waste toner cartridge sensor assembly (B).

7. Remove the waste toner cartridge sensor assembly (B).



Sensor (waste toner cartridge full) removal

- 1. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 2. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 3. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 4. Disconnect the connector from the sensor (waste toner cartridge full) (A).
- 5. Release the hooks securing the sensor (waste toner cartridge full) (A) to the assembly.
- 6. Remove the sensor (waste toner cartridge full) (A).



Switch (waste toner cartridge interlock) removal

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 5. Release the hooks securing the switch (waste toner cartridge interlock) (A) to the assembly.
- 6. Remove the switch (waste toner cartridge interlock) (A).



Inner cover removal

- 1. Open the printer front door assembly.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 5. Remove the toner waste cartridge.
- 6. Press the button and raise the transfer belt lift latch assembly (A) to its upper-most position.
- 7. Move the transfer belt lift handle (B) to the lower-most position.
- Warning: Ensure that all four PC cartridges are concealed from all sources of light, or damage will occur.
- Remove the four PC cartridge units.
 Note: After removing the four PC cartridges, ensure that each cartridge is marked according to its particular color.
- 9. Remove the four screws securing the inner cover (C) to the machine.
- 10. Remove the inner cover (C).





Waste toner agitator motor assembly removal

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 5. Remove the inner cover. See "Inner cover removal" on page 4-43.
- 6. Disconnect the connector from the waste toner agitator motor assembly (A).
- 7. Remove the two screws securing the waste toner agitator motor assembly (A) to the machine.
- 8. Remove the waste toner agitator motor assembly (A).



PC cartridge unit removal

Note: The following procedure applies to the C, M, Y, and K PC cartridge units.

Warning: When removing or installing the PC cartridge units, do not touch the drum surfaces, or damage will occur.

Warning: When removing the PC cartridge units, ensure that the drum surfaces are not exposed to any sources of light, or damage will occur.

- 1. Open the printer front door.
- 2. Press the button, and raise the transfer belt lift latch assembly (A) to its upper-most position.
- 3. Lower the transfer belt lift handle (B) to its lower-most position.
- 4. Gently pull the appropriate PC cartridge assembly (B) out of the machine.

Warning: When placing the PC cartridge units on a level surface, ensure that no part of the OPC drum or any roller comes into contact with the resting surface.

Replacement warning: Ensure that all PC cartridge units are properly seated and aligned before raising the transfer belt lift handle to its upper-most position, or damage will occur. Never force the transfer belt lift handle into its home position, or damage will occur.



Image density sensor assembly removal

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 5. Remove the inner cover. See "Inner cover removal" on page 4-43.
- 6. Remove the waste toner agitator motor assembly. See "Waste toner agitator motor assembly removal" on page 4-44.
- 7. Remove the screw securing the harness access cover (A) to the machine.

Warning: Note the orientation of the harnesses to ensure they are not pinched when replacing the harness access cover (A), or damage will occur.

8. Remove the harness access cover (A) from the machine.



- 9. Disconnect the three connectors from the image density sensor assembly (B).
- 10. Release the harnesses from the clamps.



Remove the screw securing the image density sensor assembly (B) to the machine.
 Note: Ensure the transfer belt lift handle is in its lower-most position before removing the image density sensor assembly (B).

12. Remove the image density sensor assembly (A).



Replacement note: Requires color calibration adjustments.

Replacement warning: When replacing the harness access cover, ensure that the harnesses are not pinched, or damage will occur.

CMY toner add assembly removal

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 5. Remove the inner cover. See "Inner cover removal" on page 4-43.
- 6. Remove the screw securing the appropriate CMY toner add assembly (A) to the machine. **Warning:** Pull the appropriate shutters to reduce toner spillage into the machine.

Warning: The C, M, and Y toner add assemblies must be removed in this order: Y, M, C, or damage will occur.



K toner add assembly removal

Warning: Ensure the three CMY toner add assemblies are removed before removing the K toner add assembly, or damage will occur.

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 5. Remove the inner cover. See "Inner cover removal" on page 4-43.
- 6. Remove the three CMY toner add assemblies. See "CMY toner add assembly removal" on page 4-47.
- 7. Remove the screw securing the K toner add assembly (A) to the machine. **Warning:** Pull the shutter to reduce toner spillage into the machine.
- 8. Remove the K toner add assembly (A).



Developer interlock plate assembly removal

Warning: Always perform color registration adjustment (RegCon) when removing or reinstalling the printhead, NVM initialization, or developer interlock plate assembly. See "Color registration (RegCon)" on page 4-256.

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.

Note: It is not required to remove the waste toner cartridge sensor assembly; allow it to loosely hang out of the way.

- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- Remove the inner cover. See "Inner cover removal" on page 4-43.
 Warning: When removing the CMY toner add assemblies, the toner cartridges should be left installed in order to reduce toner spillage.
- Remove the three CMY toner add assemblies. See "CMY toner add assembly removal" on page 4-47.
 Warning: When removing the K toner add assembly, the toner cartridge should be left installed in order to reduce toner spillage.
- 7. Remove the K toner add assembly. See "K toner add assembly removal" on page 4-48.
- 8. Remove the harnesses from the clamps on the developer interlock plate assembly (A).



Warning: Use extreme caution when disconnecting the next seven connectors from the upper harness strip, or damage will occur.

- 9. Disconnect the seven connectors from the upper harness strip.
- 10. Remove the six screws securing the developer interlock plate assembly (A) to the machine.
- 11. Remove the purple harness from the large black plastic clamp on the developer interlock plate assembly (A)



Warning: Note the orientation of the four developer unit harnesses and the three erase lamp harnesses to ensure proper reinstallation or damage may occur.

12. Remove the four developer harnesses from the four small plastic clamps on the developer interlock plate assembly (A).

13. While holding the four developer unit assemblies firmly inside the machine, gently remove the developer interlock plate assembly (A).



- 14. Remove the developer interlock plate assembly (A) and allow it to gently hang down by the harness if removing the developer interlock plate assembly (A) from the machine, goes to step 15.
- 15. Remove the screw securing the harness cover (B) to the machine.
- 16. Remove the harness cover (B).
- 17. Disconnect the connector from the developer interlock plate assembly (A).



Replacement note: When replacing the developer interlock plate assembly (A), install the bottom edge first and ensure that all four developer unit assemblies are properly aligned when replacing the developer interlock plate assembly (A).



Replacement warning: Ensure that the erase lamp harnesses and developer unit assembly harnesses are correctly installed in the clamps, or they may become detached. Verify that the harnesses are properly secured in the clamps by moving the transfer belt lift handle up and down several times before reinstalling the inner cover.



Developer unit assembly removal

Note: The following procedure can be applied to the C, M, Y, and K developer unit assemblies.

Warning: When removing developer unit assemblies, ensure that the area on the floor in front of the machine is protected from toner spillage.

Warning: When replacing the developer unit assemblies, ensure that all toner spillage and contamination is removed.

Warning: Always perform the sensor (ATC sensor) setup and adjustment if required or print quality problems may occur. Go to "Sensor (ATC) setup" on page 4-252.

Warning: Always perform color registration adjustment (RegCon) when removing or reinstalling the printhead, developer unit assembly or developer interlock plate assembly or print quality problems may occur. See "Color registration (RegCon)" on page 4-256.

- 1. Remove the transfer belt assembly. See "Transfer belt unit assembly removal" on page 4-16.
- 2. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 3. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 4. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.

Note: The waste toner cartridge sensor assembly does not need to be removed from the machine. It may be allowed to hang by the wires.

- Remove the inner cover. See "Inner cover removal" on page 4-43.
 Warning: When removing the CMY toner add assemblies, the toner cartridges should be left installed in order to reduce toner spillage.
- Remove the three CMY toner add assemblies. See "CMY toner add assembly removal" on page 4-47.
 Warning: When removing the K toner add assembly, the toner cartridge should be left installed in order to reduce toner spillage.
- 8. Remove the K toner add assembly. See "K toner add assembly removal" on page 4-48.
- 9. Remove the developer interlock plate assembly. See "Developer interlock plate assembly removal" on page 4-49.

Note: When removing the developer unit assembly, position it in the way it is removed from the machine, or toner spillage will occur.

10. Ensure the transfer belt lift handle is in the down position and gently remove the appropriate developer unit assembly (A).

Note: When removing the developer unit assembly, ensure that it is positioned in the same manner in which it is removed from the machine or spillage will occur.

Warning: Ensure that the harness coupler (B) is removed from the old developer unit assembly (A) and installed on the new one.



Replacement warning: Ensure that the rear area new developer unit assembly (A) is properly engaged into the machine or the magnetic rolls will not turn properly.

Use the following procedure to test for proper magnetic roll engagement immediately after installing the new **C**, **M** or **Y** developer unit assembly (A):



CAUTION: When performing motor tests, ensure that all cover and door interlock switches are overridden.

- Enter the diagnostic mode.
- Touch MOTOR TESTS.
- Touch Printer Motor Tests.
- Touch CMY developer drive motor (this test will not work for the K developer unit assembly). Warning: If the magnetic roll and the waste auger can be seen turning then the developer unit assembly (A) is installed correctly, if the magnetic roll and the waste auger are not turning, then the developer unit assembly (A) must be reinstalled and the motor test repeated.



- 11. Perform the ATC sensor setup and adjustment. See "Sensor (ATC) setup" on page 4-252.
- 12. Perform the color registration (RegCon) setup and adjustment. See "Color registration (RegCon)" on page 4-256.
- 13. Remove the printhead cleaning tool from the printer front door assembly.





Developer carrier removal and replacement

Note: The following procedure can be applied to the C, M, Y, and K developer carriers.

Warning: Always perform the sensor (ATC sensor) setup and adjustment if required or print quality problems may occur. Go to "Sensor (ATC) setup" on page 4-252.

Warning: Always perform color registration adjustment (RegCon) when removing or reinstalling the printhead, developer unit assembly or developer interlock plate assembly or print quality problems may occur. See "Color registration (RegCon)" on page 4-256.

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
 Note: The waste toner cartridge sensor assembly does not need to be removed from the machine. It may be allowed to hang by the wires.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 5. Remove the inner cover. See "Inner cover removal" on page 4-43.
- 6. Remove the three CMY toner add assemblies. See "CMY toner add assembly removal" on page 4-47.
- 7. Remove the K toner add assembly. See "K toner add assembly removal" on page 4-48.
- 8. Remove the developer interlock plate assembly. See "Developer interlock plate assembly removal" on page 4-49
- 9. Remove the developer unit assembly. See "Developer unit assembly removal" on page 4-53.
- 10. Using a prying tool, gently release the two tabs securing the top cover (A) to the assembly.
- 11. Remove the top cover (A).
- 12. Completely remove the carrier (B) from the assembly by dumping it and using a toner vacuum or if installing a new developer unit assembly, go to next step.

Replacement warning: If reusing an existing developer unit assembly, ensure that all traces of old carrier (B) are removed from the developer unit assembly, or print quality issues may occur.



To install the new carrier (B):

Warning: Ensure that the carrier is installed evenly and uniformly in the assembly, or spillage may occur.

1. Open the appropriate bag, and dump the appropriate carrier into the appropriate assembly.



- Rotate the gears in the assembly to evenly distribute the carrier (B).
 Warning: Ensure that the two seals are properly positioned in the assembly before replacing the top cover (A), or spillage may occur which may lead to print quality problems.
- 3. Replace the top cover (A).
- 4. Perform the ATC sensor setup and adjustment. Go to "Sensor (ATC) setup" on page 4-252.
- 5. Perform the color registration (RegCon) setup and adjustment. Go to "Color registration (RegCon)" on page 4-256.

Photoconductor (PC) unit assembly removal

Warning: Ensure that all four PC cartridges are concealed from all sources of light, or damage will occur.

Note: This procedure can be applied to either the C, M, Y, or K PC unit assemblies.

- 1. Open the printer front door assembly.
- 2. Press the button on the transfer belt lift latch (A).
- 3. Raise the transfer belt lift latch (A) to its upper-most position.
- 4. Lower the transfer belt lift handle (B) to its lower-most position.



5. Pull the appropriate PC unit assembly (C) from the machine.



Note: When the PC unit assembly (C) is removed, ensure that it is stored in the position as shown in the graphic below.



Replacement warning: When replacing the PC unit assembly (C), ensure that the rail on the PC unit assembly (C) is properly inserted into the metal track or physical binding and damage will occur. In the event that the PC unit assembly (C) becomes bound, it can be removed by twisting it in a clockwise direction while pulling it from the machine.



Transfer belt lift latch assembly removal

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 5. Remove the sensor (waste toner cartridge full). See "Sensor (waste toner cartridge full) removal" on page 4-40.
- 6. Remove the inner cover. See "Inner cover removal" on page 4-43.
- 7. Remove the two screws securing the transfer belt lift latch (A) to the machine.
- 8. Release the harnesses from the clamp.

9. Remove the transfer belt lift latch assembly (A).



Transfer belt steering motor removal

- 1. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 2. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- Remove the sensor (waste toner cartridge full). See "Sensor (waste toner cartridge full) removal" on page 4-40.
- 5. Remove the inner cover assembly. See "Inner cover removal" on page 4-43.
- 6. Disconnect the connector transfer belt steering motor (A).
- 7. Remove the three screws securing the transfer belt steering belt motor (A) to the machine.
- 8. Remove the transfer belt steering motor (A).



CMY erase lamp assembly removal

Warning: Ensure the transfer belt unit assembly is removed, or damage will occur.

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- Remove the sensor (waste toner cartridge full). See "Sensor (waste toner cartridge full) removal" on page 4-40
- 6. Remove the inner cover. See "Inner cover removal" on page 4-43.
- 7. Raise the transfer belt lift handle (A) to its upper-most position.
- 8. Disconnect the connector from the appropriate CMY erase lamp assembly (B).
- 9. Release the harness from the clamp.
- 10. Remove the screw securing the appropriate bracket (C) to the machine.
- 11. Lower the transfer belt lift handle (A) to its lower-most position.

Note: Access to the rear mounting hook on the CMY erase lamp (B) can be gained by reaching into the transfer belt unit opening from the right side of the machine.

- 12. Gently raise the rear of the appropriate CMY erase lamp assembly (B) to detach the mounting hook from the machine.
- 13. Remove the appropriate CMY erase lamp assembly (B).





K erase lamp assembly removal

Warning: Ensure the transfer belt assembly unit is removed, or damage will occur.

- 1. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 2. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 4. Remove the sensor (waste toner cartridge full). See "Sensor (waste toner cartridge full) removal" on page 4-40.
- 5. Remove the transfer belt unit assembly. See "Transfer belt unit assembly removal" on page 4-16.
- 6. Remove the inner cover. See "Inner cover removal" on page 4-43.
- 7. Raise the transfer belt lift handle (A) to its upper-most position.
- 8. Disconnect the connector from the K erase lamp assembly (B).
- 9. Release the harness from the clamp.
- 10. Remove the screw securing the bracket (C) to the machine.
- 11. Lower the transfer belt lift handle (A) to its lower-most position.
- 12. Access to the rear mounting hook on the K erase lamp (B) can be gained by reaching into the transfer belt unit opening from the right side of the machine.

13. Gently raise the rear of the K erase lamp assembly (B) to detach the mounting hook from the machine.
 14. Remove the K erase lamp assembly (B).





Printhead shutter motor assembly

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the printer left door assembly. See "Printer left door assembly removal" on page 4-26.
- 5. Remove the registration transport roll assembly. See "Registration / transport roll assembly removal" on page 4-36.

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- 6. Disconnect the connector from the printhead shutter motor assembly (A).
- 7. Remove the two screws securing the printhead shutter motor assembly (A) to the machine.
- 8. Remove the printhead shutter motor assembly (A) from the machine.

Replacement warning: When reinstalling the printhead shutter motor assembly (A), ensure that the plastic arm is inserted into the printhead shutter (B).



Switch (printer front door interlock) removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4.
- 3. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4 or "Rear cover assembly removal" on page 4-5.
- 4. Remove the connector form the switch (printer front door interlock) (A).
- 5. Release the hooks securing the switch (printer front door interlock) (A) to the machine.
- 6. Remove the switch (printer front door interlock) (A) from the machine.



Sensor (printer left lower door interlock) removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Release the hooks securing the sensor (printer left lower door interlock) (A) to the machine.
- 5. Remove the sensor (printer left lower interlock (A).
- 6. Disconnect the connector from the sensor (printer left lower door interlock) (A).



RIP card cooling fan cover assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4
- 3. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4.
- 4. Remove the RIP card assembly. See "RIP card assembly removal" on page 4-72.
- 5. Disconnect the connector from the RIP card cooling fan cover assembly (A).
- 6. Remove the four screws securing the controller box top over assembly (A) to the machine.
- 7. Move the RIP card cooling fan cover assembly (A) toward the front of the machine.
8. Remove the RIP card cooling fan cover assembly (A).



Controller box assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4
- 3. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4.
- 4. Remove the RIP card assembly. See "RIP card assembly removal" on page 4-72.
- Remove the controller box top cover assembly. See "RIP card cooling fan cover assembly removal" on page 4-68.
- 6. Remove the switch (main power). See "Switch (main power) removal" on page 4-70.
- 7. Loosen the screw securing the ground wire (A).
- 8. Remove the ground wire (A).
- 9. Disconnect the connector (B), and rotate it 90°.
- 10. Remove the connector (B).
- Remove the four screws securing the controller box assembly (C) to the machine.
 Note: When lifting the controller box assembly (C), the bridge card assembly (D) and the upper printer engine card assembly (E) will become detached.
- 12. Lift the controller box assembly (C).



Switch (main power) removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4.
- 3. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4.
- 4. Detach the metal rod (A) from the switch (main power) (B).
- 5. Release the two hooks securing the switch (main power) (B) to the machine.
- 6. Remove the switch (main power) (B).
- 7. Disconnect the connector from the switch (main power) (B).
- 8. Disconnect the two large connectors from the switch (main power).



Bridge card assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4
- 3. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4.
- 4. Remove the RIP card assembly. See "RIP card assembly removal" on page 4-72.
- 5. Remove the controller box top cover assembly. See "**RIP card cooling fan cover assembly removal**" on page 4-68.
- 6. Remove the switch (main power). See "Switch (main power) removal" on page 4-70.
- 7. Remove the controller box assembly. See "Controller box assembly removal" on page 4-69.
- 8. Remove the three screws securing the bracket (A) to the controller box assembly (B).
- 9. Remove the bracket (A).
- 10. Remove the four screws securing the bridge card assembly (C) to the bracket (A).
- 11. Remove the bridge card assembly (C).





Replacement warning: Ensure that the bridge card assembly (C) and the lower printer engine card (D) are connected.

RIP card access cover removal

- 1. Using your finger, lift the RIP card access cover (A) by the notch.
- 2. Remove the RIP card access cover (A).



RIP card assembly removal

- 1. Remove the two screws securing the RIP card assembly (A) to the machine.
- 2. Pull the two knurled thumb screws to remove the RIP card assembly (A) from the machine.
- 3. Remove the RIP card assembly (A) from the machine.



Fax interface card (modem) assembly removal

- 1. Remove the RIP card assembly. See "RIP card assembly removal" on page 4-72.
- 2. Remove the two screws securing the fax interface card (modem) assembly (A) to the assembly.
- 3. Disconnect the connectors from the fax interface card (modem) assembly (A).
- 4. Remove the fax interface card (modem) assembly (A).



Hard drive removal

- 1. Remove the RIP card assembly. See "**RIP card assembly removal**" on page 4-72. **Warning:** Do not drop the RIP card assembly, or damage will occur.
- 2. Remove the fax interface card (modem) assembly. See "Fax interface card (modem) assembly removal" on page 4-73.
- 3. Remove the two connectors from the hard drive (A).
- 4. Remove the four screws securing the hard drive (B) to the side of the RIP card assembly (A).
- 5. Remove the hard drive (B).

Warning: Do not drop the hard drive, or damage will occur.



Interconnect card assembly removal

Warning: In the event of replacement of any one of the following components:

- RIP card assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one, or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.

- 1. Remove the RIP card assembly. See "**RIP card assembly removal**" on page 4-72. **Warning:** Do not drop the RIP card assembly, or damage will occur.
- 2. Gently pull the interconnect card assembly (A) from the RIP card assembly (B).
- 3. Remove the interconnect card assembly (A).



Upper printer engine card bracket assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4
- 3. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4.
- 4. Remove the RIP card assembly. See "RIP card assembly removal" on page 4-72.
- 5. Remove the controller box top cover assembly. See "**RIP card cooling fan cover assembly removal**" on page 4-68.
- 6. Remove the switch (main power). See "Switch (main power) removal" on page 4-70.
- 7. Remove the controller box assembly. See "Controller box assembly removal" on page 4-69.
- 8. Disconnect the thirteen connectors from the upper printer engine card assembly (A).
- 9. Release the harnesses from the clamps.
- Remove the four screws securing the upper printer engine card bracket assembly (A) to the machine.
 Note: When removing the upper printer engine card bracket assembly (A), the upper printer engine card assembly (B) and the lower printer engine card assembly (C) will become detached.
- 11. Lift the upper printer engine card bracket assembly (A).
- 12. Remove the upper printer engine card bracket assembly (A).





Replacement warning: Ensure that the upper printer engine card (B) assembly and the lower printer engine card assembly (C) are connected.

Upper printer engine card assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4
- 3. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4.
- 4. Remove the RIP card assembly. See "RIP card assembly removal" on page 4-72.
- 5. Remove the controller box top cover assembly. See "**RIP card cooling fan cover assembly removal**" on page 4-68.
- 6. Remove the switch (main power). See "Switch (main power) removal" on page 4-70.
- 7. Remove the controller box assembly. See "Controller box assembly removal" on page 4-69.
- 8. Remove the upper printer engine card bracket assembly. See "Upper printer engine card bracket assembly removal" on page 4-75.
- 9. Remove the six screws securing the metal cover (A) to the upper printer engine card assembly (B).
- 10. Remove the metal cover (A).
- 11. Remove the five screws securing the upper printer engine card assembly (B) to the bracket (C).
- 12. Remove the upper printer engine card assembly (B).

13. Remove the NVM board (D) from the upper printer engine card assembly (B).





Replacement warning: Ensure that the bridge card assembly (C) and the lower printer engine card (D) are connected.

Note: Perform color registration adjustment.

Lower printer engine card bracket assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the fifteen connectors from the lower printer engine card bracket assembly (A).
- 5. Remove the harnesses from the clamps.
- 6. Remove the two screws securing the lower printer engine card bracket assembly (A) to the machine.
 Note: When removing the lower printer engine card bracket assembly (A), the lower printer engine card assembly (B) and the upper printer engine card assembly (C) will become detached.
- 7. Move the lower printer engine card bracket assembly (A) down.
- 8. Remove the lower printer engine card bracket assembly (A).





Lower printer engine card assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the lower printer engine card bracket assembly. See "Lower printer engine card bracket assembly removal" on page 4-78.
- 5. Remove the three screws securing the lower printer engine card assembly (A) to the lower printer engine card bracket assembly (B).
- 6. Release the two plastic retainers with needle nose pliers securing the lower printer engine card assembly (A) to the lower printer engine card bracket assembly (B).
- 7. Remove the lower printer engine card assembly (A).



Transfer belt drive motor cooling fan removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Disconnect the connector from the transfer belt drive motor cooling fan (A).
- 5. Remove the harness clamp from the transfer belt drive motor cooling fan (A).
- 6. Remove the two screws securing the transfer belt drive motor cooling fan (A) to the machine.
- 7. Remove the transfer belt drive motor cooling fan (A).



Transfer belt drive motor assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the transfer belt drive motor cooling fan. See "Transfer belt drive motor cooling fan removal" on page 4-80.
- 5. Disconnect the connector from the transfer belt drive motor assembly (A).
- 6. Remove the transfer belt drive motor assembly (A).



Switch (transfer belt access door interlock) removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the transfer belt drive motor cooling fan. See "Transfer belt drive motor cooling fan removal" on page 4-80.
- 5. Disconnect the connector from the switch (transfer belt access door interlock) (A).
- 6. Release the hooks securing the switch (transfer belt access door interlock) (A) to the machine.



Laser diode power card assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the lower printer engine card bracket assembly. See "Lower printer engine card bracket assembly removal" on page 4-78.
- 5. Disconnect the connector from the laser diode power card assembly (A).
- 6. Release the four plastic supports with needle nose pliers.

7. Remove the laser diode power card assembly (A).



- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 4. Disconnect the four connectors from the 24V LVPS card bracket assembly (A).
- 5. Remove the harnesses from the clamps.
- 6. Remove the five screws securing the 24V LVPS card bracket assembly (A) to the machine.
- 7. Remove the 24V LVPS card bracket assembly (A).





- 1. Disconnect the three connectors from the 24V LVPS card assembly (A).
- 2. Remove the three screws securing the 24V LVPS card assembly (A).
- 3. Remove the 24V LVPS card assembly (A).



5V LVPS card bracket assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the lower printer engine card bracket assembly. See "Lower printer engine card bracket assembly removal" on page 4-78.
- 5. Disconnect the six connectors from the 5V LVPS card bracket assembly (A).
- 6. Release the harnesses from the clamps.
- 7. Remove the four screws securing the 5V LVPS card bracket assembly (A) to the machine.
- 8. Remove the 5V LVPS card bracket assembly (A).



5V LVPS card assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the lower printer engine card bracket assembly. See "Lower printer engine card bracket assembly removal" on page 4-78.
- 5. Remove the 5V HVPS card bracket assembly. See "5V LVPS card bracket assembly removal" on page 4-85.
- 6. Remove the four screws securing appropriate 5V LVPS card assembly (A) to the 5V HVPS card bracket assembly.
- 7. Remove the appropriate 5V LVPS card assembly (A).



24V LVPS cooling fan removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 4. Remove the 24V LVPS card bracket assembly. See "24V LVPS card bracket assembly removal" on page 4-84.
- 5. Disconnect the connector from the 24V LVPS cooling fan (A).
- 6. Remove the two screws securing the 24V LVPS cooling fan (A) to the 24V LVPS card bracket assembly (B).
- 7. Remove the 24V LVPS cooling fan (A).



Replacement warning: When replacing the 24V LVPS cooling fan (A), ensure that the label is facing up.

Rear lower cooling fan assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the lower printer engine card bracket assembly. See "Lower printer engine card bracket assembly removal" on page 4-78.
- 5. Remove the 5V LVPS card bracket assembly. See "5V LVPS card bracket assembly removal" on page 4-85.
- 6. Disconnect the connector from the rear lower cooling fan assembly (A).
- 7. Release the harnesses from the clamp.
- 8. Remove the two screws securing the rear lower cooling fan assembly (A) to the machine.
- 9. Remove the rear lower cooling fan assembly (A).



CMY developer drive motor assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the lower printer engine card bracket assembly. See "Lower printer engine card bracket assembly removal" on page 4-78.
- 5. Remove the 5V LVPS card bracket assembly. See "5V LVPS card bracket assembly removal" on page 4-85.
- 6. Disconnect the connector from the CMY developer drive motor assembly (A).
- 7. Release the harnesses from the clamps.
- 8. Remove the two screws securing the CMY developer drive motor assembly (A) to the machine.
- 9. Remove the CMY developer drive motor assembly (A).



CMYK PC cartridge drive motor assembly removal

Warning: Ensure that all four PC cartridges are concealed from all sources of light, or damage will occur.

- 1. Remove the four PC cartridges from the machine.
- 2. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 3. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- Remove the lower printer engine card bracket assembly. See "Lower printer engine card bracket assembly removal" on page 4-78.
- 7. Remove the 5V LVPS card bracket assembly. See "5V LVPS card bracket assembly removal" on page 4-85.
- Remove the transfer belt drive motor assembly. See "Transfer belt drive motor assembly removal" on page 4-81.
- 9. Remove the duplex unit assembly. See "Duplex unit assembly removal" on page 4-10.
- 10. Remove the fuser unit assembly. See "Duplex controller card assembly removal" on page 4-14.
- 11. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 12. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 13. Remove the 24V LVPS card bracket assembly. See "24V LVPS card bracket assembly removal" on page 4-84.
- 14. Remove the CMYK transfer HVPS card assembly. See "CMYK transfer HVPS card assembly removal" on page 4-93
- 15. Remove the K developer transport drive motor assembly. See "K developer / transport drive motor assembly removal" on page 4-95.
- 16. Remove the two connectors from the CMYK PC cartridge drive motor assembly (A).
- 17. Release the hook securing the access cover (B) to the machine.
- 18. Remove the access cover (B).
- 19. Remove the two screws securing the socket (C) to the machine.
- 20. Detach the socket (C) from the machine.

Note: The lower left screw can be accessed through the hole in the frame where the socket (B) was detached in step 7.

- 21. Remove the eight screws securing the CMY PC cartridge drive motor assembly (A) to the machine.
- 22. When removing the CMYK PC cartridge drive motor assembly (A), ensure none of the harnesses become damaged.
- 23. Remove the CMYK PC cartridge drive motor assembly (A).



Fuser cooling fan removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4.
- 3. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4 or "Rear cover assembly removal" on page 4-5.
- 4. Disconnect the connector from the fuser cooling fan (A).
- 5. Remove the harness from the clamps.
- 6. Lift the fuser cooling fan (A).
- 7. Remove the fuser cooling fan.



Main power switch actuator removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4.
- 3. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4.
- 4. Remove the screw securing the main power switch actuator (A) to the machine.
- 5. Release the hook securing the main power switch actuator (A) to the machine.

6. Remove the main power switch actuator (A).



CMYK toner add motor assembly removal

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 5. Remove the inner cover. See "Inner cover removal" on page 4-43.
- 6. Remove the three CMY toner add assemblies. See "CMY toner add assembly removal" on page 4-47.
- 7. Remove the K toner add assembly. See "K toner add assembly removal" on page 4-48.
- 8. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 9. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4.
- 10. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4.
- 11. Remove the main power switch actuator. See "Main power switch actuator removal" on page 4-91.
- 12. Remove the two screws securing the CMYK toner add motor assembly (A) to the machine.
- 13. Lift the CMYK toner add motor assembly (A) slightly, and pull it towards the front of the machine.
- 14. Release the harnesses from the clamps.
- 15. Disconnect the connector from the CMYK toner add motor assembly (A).
- 16. Release the tabs securing the four sensors (toner RFID) to the assembly.
- 17. Remove the four sensors (toner RFID).

18. Remove the CMYK toner add motor assembly (A).



CMYK transfer HVPS card assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 5. Remove the 24V LVPS card bracket assembly. See "24V LVPS card bracket assembly removal" on page 4-84.
- 6. Disconnect the two connectors from the CMYK transfer HVPS card assembly (A).
- 7. Disconnect the four faston connectors from the CMYK transfer HVPS card assembly (A).
- 8. Remove the two screws securing the CMYK transfer HVPS card assembly (A) to the machine.
- 9. Remove the CMYK transfer HVPS card assembly (A).



Warning: When reinstalling the CMYK transfer HVPS card assembly (A), ensure that the four high voltage cables are properly hooked up to the CMYK transfer HVPS card assembly (A) or print quality problems will occur.

Printhead assembly removal

Warning: When removing the printhead assembly, be careful not to drop it, or damage will occur.

Warning: Always perform color registration adjustment when reinstalling the printhead, NVM initialization, or developer interlock plate assembly.

- 1. Detach the finisher if equipped. Refer to the MFP or the Printer Finisher Service Manual.
- 2. Remove the base machine from the scanner/ADF stand assembly.
- 3. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 4. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4.
- 5. Disconnect the two connectors from the printhead assembly (A).
- 6. Release the two frame clamps from the machine.
- 7. Release the harness from the clamps.
- 8. Remove the two screws securing the printhead assembly (A) to the machine.
- 9. Gently pull the printhead assembly (A) from the machine.



Replacement warning: When replacing the printhead assembly, perform the color registration (RegCon) setup and adjustment. See "Color registration (RegCon)" on page 4-256.

Transfer belt waste toner auger assembly removal

- 1. Remove the transfer belt unit assembly. See "Transfer belt unit assembly removal" on page 4-16.
- 2. Remove the two screws securing the transfer belt waste toner auger assembly (A).
- 3. Detach the bushing (B) from the transfer belt waste toner auger assembly (A).
- 4. Move the transfer belt waste toner auger assembly (A) toward the rear of the machine.
- 5. Remove the transfer belt waste toner auger assembly (A) from the machine.



K developer / transport drive motor assembly removal

- 1. Remove the duplex unit assembly. See "Duplex unit assembly removal" on page 4-10.
- 2. Remove the fuser unit assembly. See "Duplex controller card assembly removal" on page 4-14.
- 3. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 4. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 5. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 6. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 8. Remove the 24V LVPS card bracket assembly. See "24V LVPS card bracket assembly removal" on page 4-84.
- Remove the CMYK transfer HVPS card assembly. See "CMYK transfer HVPS card assembly removal" on page 4-93.
- 10. Remove the screw securing the bracket (A) to the machine.
- 11. Remove the bracket (A).
- 12. Disconnect the four connectors from the K developer transport drive motor assembly (B).
- 13. Release the harnesses from the clamps.
- 14. Release the frame clamp from the K developer transport drive motor assembly (B).
- 15. Remove the five screws securing the K developer transport drive motor assembly (B) to the machine. Warning: The K developer transport drive motor assembly (B) may be difficult to remove; ensure that none of the harnesses become damaged.

16. Gently remove the K developer transport drive motor assembly (A).







K developer clutch removal

- 1. Remove the duplex unit assembly. See "Duplex unit assembly removal" on page 4-10.
- 2. Remove the fuser unit assembly. See "Duplex controller card assembly removal" on page 4-14.
- 3. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 4. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 5. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 6. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 7. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- Remove the 24V LVPS card bracket assembly. See "24V LVPS card bracket assembly removal" on page 4-84.
- Remove the CMYK transfer HVPS card assembly. See "CMYK transfer HVPS card assembly removal" on page 4-93.
- 10. Remove the K developer transport drive assembly. See "K developer / transport drive motor assembly removal" on page 4-95.
- 11. Remove the E-clip securing the shaft (A) to the K developer / transport drive assembly (B).
- 12. Remove the busing (C).
- 13. Remove the shaft (A).
- 14. Disconnect the connector from the K developer clutch (D).
- 15. Remove the K developer clutch (D).



AC drive card bracket assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 5. Remove the 24V LVPS card bracket assembly. See "24V LVPS card bracket assembly removal" on page 4-84.
- Remove the CMYK transfer HVPS card assembly. See "CMYK transfer HVPS card assembly removal" on page 4-93.
- 7. Remove four screws securing the AC drive card bracket assembly (A) to the machine.
- 8. Disconnect the six connectors from the AC drive card bracket assembly (A).
- 9. Remove the five faston connectors from the AC drive card bracket assembly (A).
- 10. Remove the three screws securing the AC drive card bracket assembly (A) to the machine.
- 11. Release the plastic retainer securing the AC drive card bracket assembly (A) to the machine.
- 12. Remove the AC drive card bracket assembly (A).



Noise filter assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 5. Remove the 24V LVPS card bracket assembly. See "24V LVPS card bracket assembly removal" on page 4-84.
- Remove the CMYK transfer HVPS card assembly. See "CMYK transfer HVPS card assembly removal" on page 4-93.
- 7. Remove the AC drive card assembly. See "AC drive card bracket assembly removal" on page 4-99.
- 8. Disconnect the heavy gauge connector from the circuit breaker.
- 9. Remove the screw securing the noise filter assembly (A) to the machine.
- 10. Release the two plastic retainers with needle nose pliers securing the noise filter assembly (A) to the machine.
- 11. Remove the noise filter assembly (A).



Rear upper cooling fan bracket assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Disconnect the connector from the rear upper cooling fan bracket assembly (A).
- 3. Remove the two screws securing the upper cooling fan bracket assembly (A) to the machine.
- 4. Remove the rear upper cooling fan bracket assembly (A).



Rear upper cooling fan removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Disconnect the connector from the rear upper cooling fan (A).
- 4. Remove the rear upper cooling fan (A) from the rear upper cooling fan bracket.



Developer / transfer roll HVPS card assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Loosen the screw securing the ground wire (A) to the machine.
- Remove the ground wire (A).
 Warning: The connector P572 and P502 are permanently attached to the developer / transfer roll HVPS card assembly (B); do not attempt to remove these connectors, or damage will occur.
- 5. Disconnect the five connectors from the developer / transfer roll HVPS card assembly (B).
- 6. Remove the three screws securing the developer / transfer roll HVPS card assembly (B) to the machine. **Note:** The developer / transfer roll HVPS card assembly (B) can be supported by the plastic support (C) by attaching it to the hook on the machine.
- 7. Lower the developer / transfer roll HVPS card assembly (B).
- 8. Remove the connector from the developer / transfer roll HVPS card assembly (B).
- 9. Release the harnesses from the clamps.
- 10. Lift the right side of the developer / transfer roll HVPS card assembly up (B).
- 11. Remove the developer / transfer roll HVPS card assembly (B).



Charge roll HVPS card assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. Go to "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the two screws securing the charge roll HVPS card assembly (A) to the assembly.
- 5. Release the hooks securing the charge roll HVPS card assembly (A) to the assembly.
- 6. Remove the charge roll HVPS card assembly (A).



MPF / transport drive motor assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear upper cooling fan bracket assembly. See "Rear upper cooling fan bracket assembly removal" on page 4-101.
- 3. Remove the developer / transfer roll HVPS card assembly. See "Developer / transfer roll HVPS card assembly removal" on page 4-102.
- 4. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 5. Remove the 24V LVPS card bracket assembly. See "24V LVPS card bracket assembly removal" on page 4-84.
- 6. Remove the CMYK transfer HVPS card assembly. See "CMYK transfer HVPS card assembly removal" on page 4-93.
- 7. Disconnect the connector from the MPF transport drive motor assembly (A).
- 8. Remove the three screws securing the MPF/transport drive motor assembly (A) to the machine.
- 9. Remove the MPF/transport drive motor assembly (A).


Feed roll removal

- 1. Remove the media tray.
- 2. Move the feed unit front guide (A) in the direction of the arrow.
- 3. Release the hook securing the feed roll (B) to the shaft (C).
- 4. Remove the feed roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Front

- 1. Remove the media tray.
- 2. Move the media feed unit front guide (A) in the direction of the arrow.
- 3. Release the hook securing the pick roll (B) to the shaft (C).
- 4. Remove the pick roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Replacement note: Before reinstalling, do not touch the rubber surface of the pick roll (B).

Separation roll removal

- 1. Remove the media tray.
- 2. Move the feed unit front guide (A) in the direction of the arrow.
- 3. Release the hook securing the separation roll (B) to the shaft (C).
- 4. Remove the separation roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Replacement note: Before reinstalling, do not touch the rubber surface of the separation roll (B).

Sensor (RFID toner cartridge) removal

Note: This removal applies to the sensor (RFID K toner cartridge), (RFID C toner cartridge), (RFID M toner cartridge) and (RFID Y toner cartridge).

- 1. Remove the printer front door assembly. See "Printer front door assembly removal" on page 4-3.
- 2. Remove the front left cover. See "Front left cover removal" on page 4-9.
- 3. Remove the waste toner cartridge cover. See "Waste toner cartridge cover removal" on page 4-39.
- 4. Remove the waste toner cartridge sensor assembly. See "Waste toner cartridge sensor assembly removal" on page 4-39.
- 5. Remove the inner cover. See "Inner cover removal" on page 4-43.
- 6. Remove the three CMY toner add assemblies. See "CMY toner add assembly removal" on page 4-47.
- 7. Remove the K toner add assembly. See "K toner add assembly removal" on page 4-48.
- 8. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 9. Remove the right cover assembly. See "Right cover assembly removal" on page 4-4.
- 10. Remove the top cover assembly. See "Top cover assembly removal" on page 4-4.
- 11. Remove the main power switch actuator. See "Main power switch actuator removal" on page 4-91.
- 12. Remove the CMYK toner add motor assembly. See "CMYK toner add motor assembly removal" on page 4-92.
- 13. Release the hooks securing the appropriate sensor (RFID toner cartridge) (A) to the assembly.
- 14. Remove the appropriate sensor (RFID toner cartridge) (A).
- 15. Remove the connection from the sensor (RFID toner cartridge) (A).



Fuser exit roll assembly removal

- 1. Open the printer left door assembly.
- 2. Remove the E-clip securing the fuser exit roll assembly (A) to the machine.
- 3. Remove the bushings (B).
- 4. Remove the fuser exit roll assembly (A).



MPF media out actuator removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the two screws securing the upper frame cover (A).
- 5. Remove the upper frame cover (A).
- 6. Using a prying tool, gently pry the MPF media out actuator (B) from the upper frame cover (A).
- 7. Remove the MPF media out actuator (B).



- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the two screws securing the upper frame cover (A).
- 5. Remove the upper frame cover (A).
- 6. Release the hooks securing the sensor (MPF media out) (B) to the upper frame cover (A).
- 7. Remove the sensor (MPF media out) (B).



MPF pick roll assembly removal

- 1. Remove the rear cover assembly. See "Rear cover assembly removal" on page 4-5.
- 2. Remove the rear left middle cover. See "Rear left middle cover removal" on page 4-6.
- 3. Remove the MPF feed unit assembly. See "MPF feed unit assembly removal" on page 4-8.
- 4. Remove the three screws securing the MPF pinch roll assembly (A) to the MPF feed unit assembly (B).
- 5. Remove the MPF pinch roll assembly (A).
- 6. Release the two hooks of the two feed shaft cores (B), and move them both outwards in the directions in the arrows.

Note: When removing the MPF feed roll assembly (C), do not touch the rubber surface.

7. Remove the two MPF feed roll assemblies (C) by moving them outward in the direction of the arrows and lifting upwards.





Replacement note: When replacing the MPF feed roll assemblies (C), do not touch the rubber surface. **Replacement note:** When replacing the MPF feed roll assemblies (C), ensure that the directional arrow is properly aligned.

- 1. Remove the printer left lower door assembly. See "Printer left lower door assembly removal" on page 4-8.
- 2. Remove the media feed unit assembly. See "Media feed unit assembly 1 removal" on page 4-21.
- 3. Disconnect the harness from the media feed lift motor (A).
- 4. Remove the two screws securing the media feed lift motor to the media feed unit assembly (B).
- 5. Remove the media feed lift motor (B).





Switch (media size) removal

Note: This procedure can be applied to tray 1 or tray 2 switch (media size).

- 1. Remove media Tray 1 and media Tray 2.
- 2. Remove one screw securing the switch (media size) (A) to the bracket inside the machine.
- 3. Remove the connector from switch (media size) (A).
- 4. Remove the switch (media size) (A).



Scanner removals

Scanner unit assembly removal

- 1. Remove the platen cushion assembly. See "Platen cushion removal" on page 4-129.
- 2. Remove the ADF unit assembly. See "ADF unit assembly removal" on page 4-128.
- 3. Remove the operator panel assembly. See "Operator panel assembly removal" on page 4-118.
- 4. Disconnect all connections from the scanner unit assembly (A).
- 5. Remove the two rear screws securing the scanner unit assembly (A) to the machine.
- 6. Remove the two screws securing the two brackets (B) to the machine.
- 7. Remove the two brackets (B).
- 8. Remove the scanner unit assembly (A).



Platen cushion removal

- 1. Open the ADF unit assembly.
- 2. Gently pull off the platen cushion (A) from the ADF.

Note: Before reinstalling the platen cushion (A), position the ADF in its upright position, and place the platen cushion (A) on the large platen glass (B) flush with the left and top edges. Gently close the ADF to attach the platen cushion (A) to the ADF.



Large platen glass removal

- 1. Remove the two screws securing the large platen glass retainer (A) to the scanner unit assembly.
- 2. Remove the large platen glass retainer (A).
- 3. Gently lift the large platen glass (B) upward, and move it rightward in the direction of the arrow.
- 4. Remove the large platen glass (B).

Warning: Do not drop the large platen glass (B), or damage will occur.

Note: Avoid touching the underside of the large platen glass (B).

Note: Before reinstalling the large platen glass (B), clean the underside with glass cleaner, and then install the large platen glass assembly (B). After installation, clean the top of the large platen glass (B) with glass cleaner.



Scanner left cover removal

- 1. Remove the two screws securing the scanner left cover (A) to the scanner unit assembly.
- 2. Disengage the rear side of scanner left cover (A) from the scanner unit assembly, and shift the scanner left cover (A) rearward.
- 3. Release the two hooks securing the front side of scanner left cover (A), and remove the scanner left cover (A).



Scanner right cover removal

- 1. Remove the two screws securing the scanner right cover (A) to the scanner unit assembly.
- 2. Disengage the rear side of scanner right cover (A) from the scanner unit assembly, and shift the scanner right cover (A) rearward.
- 3. Release the two hooks securing the front side of the scanner right cover (A), and remove the scanner right cover (A).



Scanner top rear cover removal

- 1. Open the ADF left cover assembly.
- 2. Remove the two screws securing the scanner top rear cover (A) to the machine.
- 3. Remove the scanner top rear cover (A).



Operator panel assembly removal

Replacement warning: In the event of replacement of any one of the following components:

- RIP card assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one, or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.

- 1. Remove the two screws securing the operator panel assembly (A) to the scanner unit assembly.
- 2. Remove the two screws securing the two brackets (B) to the operator panel assembly (A).
- 3. Remove the two brackets (B).
- 4. Move the operator panel assembly (A) forward.
- 5. Disconnect the two connectors from the operator panel assembly (A).
- 6. Remove the operator panel assembly (A).

Warning: Do not drop the operator panel assembly (A), or damage will occur.



CCD card/lens assembly removal

- 1. Remove the large platen glass. See "Large platen glass removal" on page 4-116.
- 2. Loosen the six screws securing the cover (A) to the scanner unit assembly.
- 3. Remove the cover (A).
- 4. Disconnect the two connections to the sensor (platen length APS 1) (B) and the sensor (platen length APS 2) (C).
- 5. Release the harnesses from the clamps.
- Disconnect the CCD ribbon cable assembly (D) from the CCD card/lens assembly (E).
 Warning: Do not remove or disturb any red painted screws, or optical misalignment will occur.
- 7. Remove the four screws securing the CCD card/lens assembly (E) to the scanner unit assembly.

8. Remove the CCD card/lens assembly (E).

Note: Ensure that the white connector is plugged into the sensor (platen length APS 1) (B).



Scanner drive motor assembly removal

- 1. Remove the platen cushion assembly. See "Platen cushion removal" on page 4-129.
- 2. Remove the ADF unit assembly. See "ADF unit assembly removal" on page 4-128.
- 3. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 4. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 5. Remove the ADF left cover assembly. See "ADF left cover assembly removal" on page 4-131.
- 6. Remove the document tray assembly. See "Document tray assembly removal" on page 4-136.
- 7. Remove the scanner left cover. See "Scanner left cover removal" on page 4-116.
- 8. Remove the scanner right cover. See "Scanner right cover removal" on page 4-117.
- 9. Remove the scanner top rear cover. See "Scanner top rear cover removal" on page 4-117.
- 10. Disconnect the connector from the scanner drive motor assembly (A).
- 11. Release the frame clamp from the machine.
- 12. Remove the scanner drive motor tension spring (B) from the scanner drive motor assembly (A).
- 13. Remove the three screws securing the scanner drive motor assembly (A) to the scanner unit assembly.
- 14. Remove the scanner drive motor assembly (A).
 - **Note:** To correctly set the scanner drive belt (C) tension, install the scanner drive motor assembly (A) and the scanner drive motor tension spring (B) before completely tightening the three screws.



Exposure lamp removal

- 1. Remove the large platen glass. See "Large platen glass removal" on page 4-116.
- 2. Gently move the scanner carriage (A) to the large opening of the frame to provide access to the front side of the exposure lamp (B).
- 3. Release the hook, and disconnect the connector from the exposure lamp (B).
- 4. Remove the screw securing the exposure lamp to the scanner carriage (A).
- 5. Pull out the harness of the exposure lamp (B) from the square opening in the scanner carriage.
- 6. Remove the exposure lamp (B).

Warning: Do not touch the glass surface of the exposure lamp, or failure will occur (B).

Note: Before reinstalling the exposure lamp (B), ensure that the indexing pin on the end of the exposure lamp (B) is inserted into the hole on the scanner carriage (A).

Note: Ensure that the exposure lamp (B) is properly reconnected.



Exposure lamp PS card assembly removal

- 1. Remove the large platen glass. See "Large platen glass removal" on page 4-116.
- 2. Remove the screw securing the exposure lamp PS card assembly (A) to the scanner carriage (B).
- 3. Move the exposure lamp PS card assembly rearward, then release the two hooks securing it to the scanner carriage (B).
- 4. Remove the exposure lamp PS card assembly (A).
- 5. Disconnect the exposure lamp (C) from the exposure lamp PS card assembly (A).
- 6. Disconnect the exposure lamp PS ribbon cable (D) from the exposure lamp PS card assembly (A).
- 7. Remove the two screws securing the exposure lamp PS card assembly to the insulator bracket (E).

8. Remove the insulator bracket (E).

Note: Before reinstalling the exposure lamp PS card assembly (A), ensure that all connections are properly connected.

Note: Ensure that all harnesses and cables move freely without binding.

Note: Ensure that the exposure lamp PS card assembly is securely mounted to the scanner carriage (B).



Scanner controller card assembly removal

- 1. Remove the scanner top rear cover. See "Scanner top rear cover removal" on page 4-117.
- 2. Remove the large platen glass. See "Large platen glass removal" on page 4-116.
- 3. Gently move the scanner carriage assembly completely to the left to provide access to the screws.
- 4. Remove the three screws securing the cover (A) to the scanner unit assembly.
- 5. Move the cover (A) forward then upward in the direction of the arrow.
- 6. Remove the cover (A).
- 7. Remove the four card mounting screws (B) securing the scanner controller card assembly (C) from the rear of the scanner unit assembly.
- 8. Remove the screw from the rear securing the scanner controller card assembly (C) to the assembly.
- 9. Disconnect the four connections from the scanner controller card assembly (C).
- 10. Remove the seven screws securing the scanner controller card assembly (C) to the scanner unit assembly.
- 11. Remove the scanner controller card assembly (C).





Sensor (scanner HP) removal

- 1. Remove the scanner top rear cover. See "Scanner top rear cover removal" on page 4-117.
- 2. Remove the large platen glass. See "Large platen glass removal" on page 4-116.
- 3. Gently move the scanner carriage (A) rightward to provide access to the sensor (scanner HP) (B).
- 4. Release the hooks securing the sensor (scanner HP) (B) to the scanner unit assembly.
- 5. Disconnect the connector from the sensor (scanner HP) (B).
- 6. Remove the sensor (scanner HP) (B).



- 1. Remove the platen cushion assembly. See "Platen cushion removal" on page 4-129.
- 2. Remove the ADF unit assembly. See "ADF unit assembly removal" on page 4-128.
- 3. Remove the scanner left cover. See "Scanner left cover removal" on page 4-116.
- 4. Remove the scanner right cover. See "Scanner right cover removal" on page 4-117.
- 5. Remove the scanner top rear cover. See "Scanner top rear cover removal" on page 4-117.
- 6. Remove the large platen glass. See "Large platen glass removal" on page 4-116.
- 7. Remove the screw securing the ADF angle actuator assembly (A) to the scanner unit assembly.
- 8. Remove the ADF angle actuator assembly (A).



Sensor (ADF angle) removal

- 1. Remove the platen cushion assembly. See "Platen cushion removal" on page 4-129.
- 2. Remove the ADF unit assembly. See "ADF unit assembly removal" on page 4-128.
- 3. Remove the scanner left cover. See "Scanner left cover removal" on page 4-116.
- 4. Remove the scanner right cover. See "Scanner right cover removal" on page 4-117.
- 5. Remove the scanner top rear cover. See "Scanner top rear cover removal" on page 4-117.
- 6. Remove the large platen glass. See "Large platen glass removal" on page 4-116.
- 7. Remove the ADF angle actuator assembly. See "ADF angle actuator assembly removal" on page 4-124.
- 8. Release the hooks securing the sensor (ADF angle) (A) to the scanner unit assembly.
- 9. Disconnect the connector from the sensor (ADF angle) (A).

10. Remove the sensor (ADF angle) (A).



Scanner PS card assembly removal

- 1. Remove the platen cushion assembly. See "Platen cushion removal" on page 4-129.
- 2. Remove the ADF unit assembly. See "ADF unit assembly removal" on page 4-128.
- 3. Remove the scanner left cover. See "Scanner left cover removal" on page 4-116.
- 4. Remove the scanner right cover. See "Scanner right cover removal" on page 4-117.
- 5. Remove the scanner top rear cover assembly. See "Scanner top rear cover removal" on page 4-117.
- 6. Remove the two screws securing the scanner PS card assembly (A) to the machine.
- 7. Disconnect all the connectors from the scanner PS card assembly (A).

8. Remove the scanner PS card assembly (A).



Scanner PS cooling fan removal

- 1. Remove the platen cushion assembly. See "Platen cushion removal" on page 4-129.
- 1. Remove the ADF unit assembly. See "ADF unit assembly removal" on page 4-128.
- 2. Remove the scanner left cover. See "Scanner left cover removal" on page 4-116.
- 3. Remove the scanner right cover. See "Scanner right cover removal" on page 4-117.
- 4. Remove the scanner top rear cover assembly. See "Scanner top rear cover removal" on page 4-117.
- 5. Remove the two screws securing the scanner PS cooling fan assembly (A) to the machine.
- 6. Disconnect the connector from the scanner PS cooling fan assembly (A).

7. Remove the scanner PS cooling fan assembly (A).



ADF removals

ADF unit assembly removal

Warning: The ADF is very heavy; do not drop it, or damage will occur.

- 1. Remove the platen cushion assembly. See "Platen cushion removal" on page 4-129.
- 2. Open the ADF to its full upright position.
- 3. Remove the connection from the ADF to the rear of the scanner unit assembly.
- 4. Remove the two ADF mounting screws (A).
- 5. Move the ADF slightly rearward, and then lift upward in the direction of the arrow.
- 6. Remove the ADF unit assembly.



Platen cushion removal

- 1. Open the ADF unit assembly.
- 2. Gently pull off the platen cushion (A) from the ADF.

Note: Before reinstalling the platen cushion (A), position the ADF in its upright position, and place the platen cushion (A) on the large platen glass (B) flush with the left and top edges. Gently close the ADF to attach the platen cushion (A) to the ADF.



- 1. Open the ADF left cover assembly.
- 2. Lift the document tray assembly.
- 3. Remove the three screws securing the ADF rear cover (A).
- 4. Lift the ADF rear cover (A) upward.
- 5. Remove the ADF rear cover (A).



ADF front cover assembly removal

- 1. Open the ADF left cover assembly.
- 2. Remove the screw securing the ADF front cover assembly (A).
- 3. Lift the ADF front cover (A) upward.
- 4. Remove the ADF left cover assembly (A).



ADF left cover assembly removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 3. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 4. Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
- 5. Remove the screw securing the harness retainer (A).
- 6. Remove the harness retainer (A).
- 7. Remove the screw securing the left cover hinge retainer (B).
- 8. Remove the left cover hinge retainer (B).
- 9. Remove the screw securing the front hinge pin (C).
- 10. Remove the front hinge pin (C).
- 11. While holding the ADF left cover assembly, remove the rear hinge pin with needle nose pliers (D), and remove the ADF left cover assembly (E) from the ADF.

Warning: Do not allow the ADF left cover assembly (E) to hang by the harness, or damage will occur.

- 12. Remove the left cover pinch roll assembly. See "Left cover pinch roll assembly removal" on page 4-133.
- 13. Disconnect the connector from the sensor (pick roll position HP) (F) located on the ADF left cover assembly (E).
- 14. Remove the screw from the green ground wire (G).
- 15. Remove the screw securing the grounding plate (H).
- 16. Remove the grounding plate (H).
- 17. Remove the two screws securing the harness guide (I).
- 18. Detach the harness guide (I).
- 19. Disconnect the connector from the pick roll position motor assembly (J).
- Remove the harness from the rectangular opening of the side of the ADF left cover assembly.
 Note: Before reinstalling the ADF left cover assembly (E), ensure that the harness is properly routed and is not pinched.

Note: Ensure that the harnesses are properly captured by the harness guide (I).

- Note: Ensure that the green ground wire (G) and the grounding plate (H) are reconnected.
- Note: Ensure that the ADF left cover assembly (E) opens and closes without binding.
- Note: Ensure that the spring (K) attached to the feed/pick roll assembly (L) is properly reinstalled.





ADF left cover handle removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
- 3. Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
- 4. Remove the ADF feed/pick assembly. See "ADF feed/pick roll assembly removal" on page 4-141.
- 5. Remove the sheet through actuator. See "Sheet through actuator removal" on page 4-139.
- 6. Remove the document set actuator. See "Document set actuator removal" on page 4-142.
- Remove the pick roll position motor assembly. See "Pick roll position motor assembly removal" on page 4-143.

Note: The pick roll position motor assembly does not need to be completely removed; it can be allowed to hand loosely out of the way.

- Remove the two screws securing the plastic harness guide (A) to the assembly.
 Note: The plastic harness guide (A) does not need to be completely removed; it can be allowed to hand loosely out of the way.
- 9. Remove the spring (B) from the ADF left cover handle (C).
- 10. Remove the two screws securing the front bracket (D) to the assembly.
- 11. Remove the front bracket (D).
- 12. Remove the two screws securing the rear bracket (E) to the assembly.
- 13. Remove the rear bracket (E).

Note: The grounding plate (F) will become detached.

- 14. Gently pry or push the ADF left cover handle (C) from the front and rear mounting points in the assembly.
- 15. Remove the ADF left cover handle (C).

Replacement note: Ensure that the grounding plate (E) is properly reattached.



Left cover pinch roll assembly removal

- 1. Open the ADF left cover assembly.
- 2. Disconnect the connector from the sensor (pick roll position HP) (A).
- 3. Remove the three screws securing the left cover pinch roll assembly (B).
- 4. Remove the left cover pinch roll assembly (A).



ADF feed drive motor assembly removal

- 1. Open the ADF left cover assembly.
- 2. Lift the document tray assembly.
- 3. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 4. Remove the ADF registration motor. See "ADF registration motor removal" on page 4-158.
- 5. Disconnect the three connectors from the ADF dual drive motor assembly (A).
- 6. Remove the screw securing the harness guide (B) to the ADF.
- 7. Remove the two screws securing the ADF dual drive motor assembly (A) to the base of the ADF.
- 8. Remove the two screws securing the ADF dual drive motor assembly (A) to the rear of the ADF.
- 9. Remove the stud screw securing the ADF dual drive motor assembly (A) to the rear of the ADF.
- 10. Remove the plastic support (C).

- 11. Remove the connectors P751, P754, P755, P758, P761, P785 and P786 from the ADF controller card assembly (D).
- 12. Remove the harness guide (B) containing the harnesses, and swing it out of the way.
- 13. Remove the ADF dual drive motor assembly (A) from the ADF.



Media scan guide removal

- 1. Open the ADF unit assembly.
- 2. Remove the screw securing the media scan guide (A) to the ADF unit assembly.
- 3. Remove the media scan guide (A).
- 4. Remove the two media scan guide springs (B) from the media scan guide (A).



ADF media feed assembly removal

- 1. Remove the platen cushion assembly. See "Platen cushion removal" on page 4-129.
- 2. Remove the ADF unit assembly. See "ADF unit assembly removal" on page 4-128.
- 3. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 4. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 5. Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
- 6. Remove the left cover pinch roll assembly. See "Left cover pinch roll assembly removal" on page 4-133.
- 7. Remove the ADF left cover assembly. See "ADF left cover assembly removal" on page 4-131.

- 8. Remove the document tray assembly. See "Document tray assembly removal" on page 4-136.
- 9. Disconnect connectors P754, P755, P758, P761, P785, and P786 from the ADF controller card assembly (A).
- 10. Loosen the set screw securing the damper (B) with an Allen wrench.
- 11. Remove the damper (B).
- 12. Disconnect the two connections from the switch (ADF left cover interlock) (D) with needle nose pliers.
- 13. Disconnect the connector from the document set LED (E).
- 14. Disconnect the connector from the inverter solenoid assembly (F).
- 15. Release the harness from the three clamps.
- 16. Remove the two front screws and the five rear screws securing the ADF media feed assembly (G) to the ADF.
- 17. Release the two harness from the clamp molded into the base of the ADF.
- **Note:** The above clamp is located beneath the ADF registration motor. Do not excessively bend the clamp, or it may break.
- 18. Remove the ADF media feed assembly (G) from the ADF.

Note: The plunger in the inverter solenoid assembly (F) will become detached.

Replacement note: Before reinstalling the ADF media feed assembly (G), ensure that the harnesses are reinserted into their appropriate clamps.

Replacement note: Ensure that the plunger is properly reinserted into the inverter solenoid assembly (F).

Replacement note: Ensure that all connections are properly reconnected.

Replacement note: When replacing the complete ADF media feed assembly, first remove the ADF left cover assembly and the ADF registration motor from the replacement part.



Document tray assembly removal

- 1. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 2. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 3. Open the ADF left cover assembly.
- 4. Release the wire clamp (A) that binds the harnesses together.
- 5. Disconnect the two connectors P759 and P760 from the ADF controller card assembly (B).
- 6. Remove the screw securing the green ground wire (C).
- 7. Remove the screw securing the document tray hinge (D).
- 8. Remove the document tray hinge (D).
- 9. Move the document tray assembly (E) upward to detach it from the ADF.
- 10. Remove the document tray assembly (E).
- 11. Remove the harness from the round opening in the ADF.

Replacement note: Before reinstalling the document tray assembly, ensure all connections are properly reconnected.

Replacement note: Ensure the green ground wire (C) is reconnected.



ADF controller card assembly removal

- 1. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 2. Disconnect all connectors from the ADF controller card assembly (A).
- 3. Remove the five screws securing the ADF controller card assembly (A).
- 4. Remove the ADF controller card assembly (A).
- Replacement note: Ensure that all connections are properly reconnected.

Replacement note: Ensure that the ground wire is reconnected.



Inverter solenoid assembly removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 3. Loosen the set screw securing the damper (A).
- 4. Remove the damper (A).
- 5. Disconnect the connector from the inverter solenoid assembly (B).
- 6. Remove the screw securing the inverter solenoid assembly (B).
- 7. Remove the inverter solenoid assembly (B).
- 8. Remove the plunger from the inverter lever (C).

Note: Before reinstalling the inverter solenoid assembly (B), ensure that the plunger is properly inserted into the inverter solenoid assembly (B) and attached to the inverter lever (C).



Document set LED removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 3. Disconnect the connector from the document set LED (A).
- 4. Remove the screw securing the document set LED (A).
- 5. Remove the document set LED (A).



Sheet through actuator removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
- 3. Remove the ADF feed/pick roll assembly. See "ADF feed/pick roll assembly removal" on page 4-141.
- 4. Remove the screw from the green ground wire (A).
- 5. Remove the screw securing the grounding plate (B).
- 6. Remove the grounding plate (B).
- 7. Remove the two screws securing the harness guide (C).
- 8. Remove the harness guide (C).
- 9. Remove the screw securing the pick roll position motor assembly (D).
- 10. Remove the pick roll position motor assembly (D).
- Remove the screw securing the rear bracket (E).
 Warning: Shims may be present under the rear bracket (E) and may possibly fall out. Note the locations of any shims.
- 12. Remove the rear bracket (E).
- 13. Gently pry the sheet through actuator (F) out of the ADF left cover assembly.
- 14. Remove the sheet through actuator (F).



Replacement note: Before reinstalling the rear bracket (E), replace any shims that were originally present.

Sensor (pick roll position HP) removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
- 3. Disconnect the connector from the sensor (pick roll position HP) (A).
- 4. Release the hooks securing sensor (pick roll position HP) (A) to the ADF left cover assembly (B).
- 5. Remove the sensor (pick roll position HP) (A).


ADF feed/pick roll assembly removal

Warning: Do not touch the rubber surface of the feed roll or the pick roll.

1. Turn the machine off.

Warning: To reduce the chance of pick roll position errors and mechanical misalignments, ensure that the machine is turned off when replacing the ADF feed/pick roll assembly.

- 2. Open the ADF left cover assembly.
- Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
 Note: Rotate the rear most white gear of the pick roll position motor assembly until the pick roll is completely lowered and the sector gear is completely disengaged.
- 4. Release the two springs from the ADF left cover assembly.
- 5. Remove the plastic clip (A).
- 6. Move the front bushing (B) frontward in the direction of the arrow to remove it from the front bracket (C).
- 7. Gently pull the front end of the ADF feed/pick roll assembly away from the ADF left cover assembly.
- 8. Move the rear bushing (D) rearward in the arrow direction to remove it from the rear bracket (E).
- 9. Gently remove the ADF feed/pick roll assembly (F) from the left cover assembly.

Replacement note: Before reinstalling the ADF feed/pick roll assembly (F), ensure that the document set stops are positioned correctly and the two set gates are positioned as shown in the diagram, or the ADF will malfunction and jam.

Replacement note: Once the ADF feed/pick roll assembly is secured and the plastic clip is installed, rotate the rear most white gear of the pick roll position motor assembly until the pick roll has completely raised.

Replacement note: Ensure that the two springs are positioned and installed properly, or the ADF will malfunction and jam.





Document set actuator removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
- 3. Gently pry the document set actuator (A) from the ADF left cover assembly.
- 4. Remove the document set actuator (A).



ADF left cover media guide removal

- 1. Open the ADF left cover assembly.
- 2. Remove the screw securing the ADF left cover media guide (A).
- 3. Lift the ADF left cover media guide (A) upward, then remove the two bosses from the slot, and remove the two tabs from the holes.
- 4. Remove the ADF left cover media guide (A).

Replacement note: Before reinstalling the ADF left cover media guide (A), ensure that the two bosses and two tabs are correctly installed, or jamming will occur.



Pick roll position motor assembly removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
- 3. Remove the document set actuator. See "Document set actuator removal" on page 4-142.
- 4. Remove the screw from the green ground wire (A).
- 5. Remove the screw securing the grounding plate (B).
- 6. Remove the grounding plate (B).
- 7. Remove the two screws securing the harness guide (C).
- 8. Remove the harness guide (C).
- 9. Disconnect the connector from the pick roll position motor assembly (D).
- 10. Remove the screw securing the pick roll position motor assembly (D).
- 11. Remove the pick roll position motor assembly (D).

12. Remove the harness from the harness guide (C).



Switch (ADF left cover interlock) removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 3. Remove the screw and washer securing the switch (ADF left cover interlock) (A).
- 4. Disconnect the two connections to the switch (ADF left cover interlock) (A) with needle nose pliers.
- 5. Remove the switch (ADF left cover interlock).



Sensor (ADF width APS 1) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the separation roll guide assembly to its uppermost position.
- 3. Remove the actuator/media guide assembly. See "Actuator/media guide assembly removal" on page 4-151.
- 4. Remove the two screws securing the sensor mount (A) to the ADF.
- 5. Slide the sensor mount (A) from the underside of the ADF transport roll (B), and move it to the position in which the required sensor is easily removed.
- 6. Release the hook securing the sensor (ADF width APS 1) (C) to the sensor mount (A).
- 7. Disconnect the connection from sensor (ADF width APS 1) (C).
- 8. Remove the sensor (ADF width APS 1) (C).



Sensor (ADF width APS 2) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the separation roll guide assembly to its uppermost position.
- 3. Remove the actuator/media guide assembly. See "Actuator/media guide assembly removal" on page 4-151.
- 4. Remove the two screws securing the sensor mount (A) to the ADF.
- 5. Slide the sensor mount (A) from the underside of the ADF transport roll (B), and move it to the position in which the required sensor is easily removed.
- 6. Release the hook securing the sensor (ADF width APS 2) (C) to the sensor mount (A).
- 7. Disconnect the connection from sensor (ADF width APS 2) (C).
- 8. Remove the sensor (ADF width APS 2) (C).



Sensor (ADF width APS 3) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the separation roll guide assembly to its uppermost position.
- 3. Remove the actuator/media guide assembly. See "Actuator/media guide assembly removal" on page 4-151.
- 4. Remove the two screws securing the sensor mount (A) to the ADF.
- 5. Slide the sensor mount (A) from the under of the ADF transport roll (B), and move it to the position in which the required sensor is easily removed.
- 6. Release the hook securing the sensor (ADF width APS 3) (C) to the sensor mount (A).
- 7. Disconnect the connection from sensor (ADF width APS 3) (C).
- 8. Remove the sensor (ADF width APS 3) (C).



Sensor (ADF registration) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the separation roll guide assembly to its uppermost position.
- 3. Remove the actuator/media guide assembly. See "Actuator/media guide assembly removal" on page 4-151.
- 4. Remove the two screws securing the sensor mount (A) to the ADF.
- 5. Slide the sensor mount (A) from the underside of the ADF transport roll (B), and move it to the position in which the required sensor is easily removed.
- 6. Remove the screw securing the ADF registration sensor.
- 7. Disconnect the connector from the sensor (ADF registration).
- 8. Remove the sensor (ADF registration) (C).



Sensor (ADF pre-registration) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the separation roll guide assembly to its uppermost position.
- 3. Remove the actuator/media guide assembly. See "Actuator/media guide assembly removal" on page 4-151.
- 4. Remove the two screws securing the sensor mount (A) to the ADF.
- 5. Slide the sensor mount (A) from the underside of the ADF transport roll (B), and move it to the position in which the required sensor is easily removed.
- 6. Release the hooks securing the sensor (ADF pre-registration) (C) to the sensor mount (A).
- 7. Disconnect the connector from the sensor (ADF pre-registration) (C).
- 8. Remove the sensor (ADF pre-registration) (C).



Sensor (ADF inverter) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the separation roll guide assembly to its uppermost position.
- 3. Remove the actuator/media guide assembly. See "Actuator/media guide assembly removal" on page 4-151.
- 4. Remove the two screws securing the sensor mount (A) to the ADF.
- 5. Slide the sensor mount (A) from the underside of the ADF transport roll (B), and move it to the position in which the required sensor is easily removed.
- 6. Release the hooks securing the sensor (ADF inverter) (C) to the sensor mount (A).
- 7. Disconnect the connector from the sensor (ADF inverter) (C).
- 8. Remove the sensor (ADF inverter).



Actuator/media guide assembly removal

- 1. Open the ADF left cover assembly.
- 2. Lift the separation roll guide assembly (A) to its uppermost position.
- 3. Remove the two screws securing the actuator/media guide assembly (B) to the ADF.
- 4. Remove the actuator/media guide assembly (B).



Inverter gate removal

- 1. Remove the actuator/media guide assembly. See "Actuator/media guide assembly removal" on page 4-151.
- 2. Flex the tab, and remove the boss from the hole.
- 3. Remove the inverter gate (A).



ADF registration roll assembly removal

- 1. Remove the platen cushion assembly. See "Platen cushion removal" on page 4-129.
- 2. Remove the ADF unit assembly. See "ADF unit assembly removal" on page 4-128.
- 3. Open the ADF left cover assembly.
- 4. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 5. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 6. Remove the document tray assembly. See "Document tray assembly removal" on page 4-136.
- 7. Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
- 8. Remove the left cover pinch roll assembly. See "Left cover pinch roll assembly removal" on page 4-133.
- 9. Remove the ADF left cover assembly. See "ADF left cover assembly removal" on page 4-131.
- 10. Remove the ADF media feed assembly. See "ADF media feed assembly removal" on page 4-134.
- 11. Remove the ADF feed drive motor assembly. See "ADF feed drive motor assembly removal" on page 4-133.
- 12. Lift the separation roll guide assembly to its uppermost position.
- 13. Remove the actuator/media guide assembly. See "Actuator/media guide assembly removal" on page 4-151.

- 15. Slide the sensor mount (A) from the underside of the ADF transport roll (B), and move it out of the way.
- 16. Remove the tension spring (C).
- 17. Loosen the screw securing the tension bracket (D), and loosen the registration secondary drive belt (E) tension.
- 18. Remove the plastic clip securing the registration roll drive pulley 28T (F).
- 19. Slide the registration secondary drive belt (E) from the registration roll drive pulley 28T (F).
- 20. Remove the ADF registration motor. See "ADF registration motor removal" on page 4-158.
- 21. Remove the registration roll drive pulley 28T (F).
- 22. Remove the bearing 8 mm (G) securing the ADF registration roll assembly (H) to the rear of the feed assembly.
- 23. Remove the plastic clip securing the bearing 8 mm (I) of the front side.
- 24. Remove the bearing 8 mm (I) securing the ADF registration roll assembly (H) to the front of the feed assembly.
- 25. Move the ADF registration roll assembly (H) frontward and upward.
- 26. Remove the ADF registration roll assembly (H).

Warning: Do not touch the rubber surface of the ADF registration roll assembly (H).

Replacement note: Before reinstalling the registration secondary drive belt (E), ensure that it is routed properly.



Replacement note: Loosen and then retighten the two screws that set the belt tension after the tension spring (C) is attached.

ADF feed-out roll assembly removal

- 1. Remove the platen cushion assembly. See "Platen cushion removal" on page 4-129.
- 1. Remove the ADF unit assembly. See "ADF unit assembly removal" on page 4-128.
- 2. Open the ADF left cover assembly.
- 3. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 4. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 5. Remove the ADF left cover media guide. See "ADF left cover media guide removal" on page 4-143.
- 6. Remove the left cover pinch roll assembly. See "Left cover pinch roll assembly removal" on page 4-133.
- 7. Remove the ADF left cover assembly. See "ADF left cover assembly removal" on page 4-131.
- 8. Remove the document tray assembly. See "Document tray assembly removal" on page 4-136.

- 9. Remove the ADF registration motor. See "ADF registration motor removal" on page 4-158.
- 10. Remove the ADF media feed assembly. See "ADF media feed assembly removal" on page 4-134.
- 11. Remove the ADF feed drive motor assembly. See "ADF feed drive motor assembly removal" on page 4-133.
- 12. Lift the separation roll guide assembly to its uppermost position.
- 13. Remove the actuator/media guide assembly. See "Actuator/media guide assembly removal" on page 4-151.
- 14. Loosen the screw securing the tension bracket (A) and loosen the registration secondary belt (B) tension.
- 15. Remove the tension spring (B).
- 16. Loosen the screw securing the small tension bracket (C).
- 17. Remove the exit roll drive belt (D).
- 18. Remove the registration secondary drive belt (E).
- 19. Remove the plastic clip securing the exit/feed-out roll drive pulley 25/28T (F).
- 20. Remove the exit/feed-out roll drive pulley 25/28T (F).
- 21. Remove the bearing 8 mm (G) securing the ADF feed-out roll assembly (H) to the rear of the feed assembly.
- 22. Remove the plastic clip securing the manual feed drive pulley (I).
- 23. Remove the manual feed drive pulley (I).
- 24. Remove the manual feed drive belt (J).
- 25. Remove the bearing 8 mm (K) securing the feed-out roll assembly to the front of the feed assembly.
- 26. Move the ADF feed-out roll assembly (H) rearward and upward.
- 27. Remove the ADF feed-out roll assembly (H).

Warning: Do not touch the rubber surface of the ADF exit roll assembly (G).



ADF separation roll guide assembly

- 1. Open the ADF left cover assembly.
- 2. Lift the separation roll guide assembly (A) to it uppermost position.
- 3. Lift and remove the separation roll guide assembly (A).
 - Note: Extra upward force is required to remove the separation roll guide assembly.



ADF exit roll assembly removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 3. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 4. Remove the ADF registration motor. See "ADF registration motor removal" on page 4-158
- 5. Remove the ADF feed drive motor assembly. See "ADF feed drive motor assembly removal" on page 4-133.
- 6. Remove the ADF separation roll guide assembly. See "ADF separation roll guide assembly" on page 4-154.
- 7. Loosen the screw securing the small tension bracket (A), and loosen the exit roll drive belt tension (B).
- 8. Loosen the screw securing the tension bracket (C), and loosen the registration secondary belt (D) tension.
- 9. Remove the registration secondary drive belt (D).
- 10. Remove the tension spring (E).
- 11. Remove the exit roll drive belt (B).
- 12. Loosen the set screw securing the damper (F).
- 13. Remove the damper (F).
- 14. Remove the plastic clip securing the bushing 6 mm (G) on the front of the feed assembly.
- 15. Remove the bushing 6 mm (G).
- 16. Move the ADF exit roll assembly (H) to the rear.
- 17. Release the hook securing the exit roll drive pulley 20T (I) to the ADF exit roll assembly (H).
- 18. Remove the exit roll drive pulley 20T (I).
- 19. Remove the retainer spring (J).
- 20. Remove the bushing 6 mm (K).
- Move the ADF exit roll assembly (H) to the rear and then up.
 Note: Ensure that the small tension bracket (A) is applying adequate tension to the exit roll drive belt (B).
- 22. Remove the ADF exit roll assembly (H).



ADF transport roll assembly removal

- 1. Open the ADF left cover assembly.
- 2. Remove the ADF front cover assembly. See "ADF front cover assembly removal" on page 4-130.
- 3. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 4. Remove the ADF registration motor. See "ADF registration motor removal" on page 4-158.
- 5. Remove the ADF feed drive motor assembly. See "ADF feed drive motor assembly removal" on page 4-133.
- 6. Remove the actuator/media guide assembly. See "Actuator/media guide assembly removal" on page 4-151.
- 7. Remove the E-clip securing the manual feed drive wheel (A).
- 8. Remove the manual feed drive wheel (A).
- 9. Remove the manual feed drive belt (B).
- 10. Remove the E-clip securing the bushing 8 mm (C).
- 11. Remove the bushing 8 mm (C).
- 12. Remove the E-clip securing the transport roll drive gear 20T (D).
- 13. Remove the transport roll drive gear 20T (D).
- 14. Remove the bushing 8 mm (E).
- 15. Move the ADF transport roll assembly (F) rearward and upward.
- 16. Remove the ADF transport roll assembly (F).

Warning: Do not touch the rubber surface of the ADF transport roll assembly (F).



Sensor (document set) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the document tray assembly.
- 3. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 4. Disconnect the connector from the sensor (document set) (A).
- 5. Release the hooks securing the sensor (document set) (A).

6. Remove the sensor (document set) (A).



Sensor (sheet through) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the document tray assembly.
- 3. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 4. Disconnect the connector from the sensor (sheet through) (A).
- 5. Release the hooks securing the sensor (sheet through) (A).
- 6. Remove the sensor (sheet through) (A).



ADF registration motor removal

- 1. Open the ADF left cover assembly.
- 2. Lift the document tray assembly.
- 3. Remove the ADF rear cover. See "ADF rear cover removal" on page 4-130.
- 4. Remove the access cap (A).
- 5. Disconnect the connector from the ADF registration motor (A).
- 6. Remove the tension spring (B) from the ADF registration motor (A).
- 7. Remove the two screws securing the ADF registration motor (A).
- 8. Remove the registration main drive belt (C).

Replacement note: Before reinstalling the ADF registration motor (A), place the registration main drive belt (C) on the registration main drive pulley 21/54T (D).

Replacement note: Ensure that the registration main drive belt (C) is properly routed. To correctly set the registration main drive belt (C) tension, install the ADF registration motor (A) and the tension spring (B) before completely tightening the two screws.



Sensor (document tray width 1) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the document tray assembly.
- 3. Remove the five screws securing the cover (A).
- 4. Remove the cover (A).
- 5. Remove the two screws securing the bracket (B).
- 6. Remove the bracket (B).
- 7. Remove the connector from the sensor (document tray width 1) (C).
- 8. Release the hooks securing the sensor (document tray width 1) (C).
- 9. Remove the sensor (document tray width 1) (C).
 - **Note:** The sensor (document tray width 1), sensor (document tray width 2), or the sensor (document tray width 3) are all identical.



- 1. Open the ADF left cover assembly.
- 2. Lift the document tray assembly.
- 3. Remove the five screws securing the cover (A).
- 4. Remove the cover (A).
- 5. Remove the two screws securing the bracket (B).
- 6. Remove the bracket (B).
- 7. Remove the connector from the sensor (document tray width 2) (C).
- 8. Release the hooks securing the sensor (document tray width 2) (C).
- 9. Remove the sensor (document tray width 2) (C).
 - **Note:** The sensor (document tray width 1), sensor (document tray width 2), or the sensor (document tray width 3) are all identical.



Sensor (document tray width 3) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the document tray assembly.
- 3. Remove the five screws securing the cover (A).
- 4. Remove the cover (A).
- 5. Remove the two screws securing the bracket (B).
- 6. Remove the bracket (B).
- 7. Remove the connector from the sensor (document tray width 3) (C).
- 8. Release the hooks securing the sensor (document tray width 3) (C).
- 9. Remove the sensor (document tray width 3) (C).
 - **Note:** The sensor (document tray width 1), sensor (document tray width 2), or the sensor (document tray width 3) are all identical.



- 1. Open the ADF left cover assembly.
- 2. Lift the document tray assembly.
- 3. Remove the five screws securing the cover (A).
- 4. Remove the cover (A).
- 5. Remove the connector from the sensor (document tray length 1) (B).
- 6. Release the hook securing the sensor (document tray length 1) (B).
- 7. Remove the sensor (document tray length 1) (B).

Note: The sensor (document tray length 1) and the sensor (document tray length 2) are identical.



Sensor (document tray length 2) removal

- 1. Open the ADF left cover assembly.
- 2. Lift the document tray assembly.
- 3. Remove the five screws securing the cover (A).
- 4. Remove the cover (A).
- 5. Remove the connector from the sensor (document tray length 2) (B).
- 6. Release the hook securing the sensor (document tray length 2) (B).
- 7. Remove the sensor (document tray length 2) (B).

Note: The sensor (document tray length 1) and the sensor (document tray length 2) are identical.



2000-sheet dual input (TTM) removals



2000-sheet dual input (TTM)—top cover removal

- 1. Pull out tray 2 assembly.
- 2. Remove the two screws securing the top cover (A).
- 3. Remove the top cover (A).



2000-sheet dual input (TTM)—foot cover removal

- 1. Pull out the TTM media tray 3 assembly.
- 2. Pull out the media tray 4 assembly.
- 3. Remove the two screws securing the foot cover (A) to the machine.

4. Remove the foot cover (A).



2000-sheet dual input (TTM)—right cover removal

- 1. Remove the four screws securing the right cover (A).
- 2. Remove the right cover (A) by lifting up and out.



2000-sheet dual input (TTM)— tray module left cover removal

- 1. Remove the four screws securing the tray module left cover (A).
- 2. Remove the tray module left cover (A).



2000-sheet dual input (TTM)—rear cover removal

- 1. Remove the four screws securing the rear cover (A).
- 2. Remove the rear cover (A).



2000-sheet dual input (TTM)—caster removal

- 1. Remove the media tray 2.
- Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- 3. Remove TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- 4. Remove media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- 5. Place the right side of the drawer down.
- 6. Remove three screws securing the caster (A).

7. Remove the caster (A).



2000-sheet dual input (TTM)—tray support roll removal

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- 2. Remove TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- 3. Remove media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- 4. Remove the foot cover. See "2000-sheet dual input (TTM)-foot cover removal" on page 4-164.
- 5. Remove the two screws securing the two brackets (A).
- 6. Remove the two E-clips securing the tray support rolls (B) to the two brackets (A) using a prying tool.
- 7. Remove the two E-clips securing the tray support rolls (B) to the main frame (C).



- 8. Remove the shafts (D).
- 9. Remove the tray support rolls (B).



2000-sheet dual input (TTM)—TTM media tray 4 assembly removal

- 1. Pull out the TTM media tray 4 assembly.
- 2. Remove the two screws securing the TTM tray 4 media transport assembly (A) to the TTM media tray 4 assembly (B).
- 3. Push the TTM tray 4 media transport assembly (A) into the machine in the direction of the arrow.
- 4. Remove the two screws securing the TTM tray 4 stopper (C) to the lower part of TTM media tray 4 assembly (B).
- 5. Remove the TTM tray 4 stopper (C).
- 6. Remove the TTM tray 4 assembly (B).



2000-sheet dual input (TTM)—TTM media tray 3 assembly removal

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- 2. Open the TTM left door assembly.
- 3. Loosen the screw securing the TTM tray 3 stopper (A).
- 4. Move the TTM tray 3 stopper (A) out in the direction of the arrow while pulling out the TTM media tray 3 assembly (B).
- 5. Remove the TTM media tray 3 assembly (B).



2000-sheet dual input (TTM)—tray 3 front cover removal

- 1. Pull out the TTM media tray 3 assembly.
- 2. Remove three screws securing the tray 3 front cover (A) to TTM media tray 3 assembly (B).
- 3. Remove the tray 3 front cover (A).
- 4. Remove the four screws securing the bracket (C) to the TTM media tray 3 assembly (B).
- 5. Remove the bracket (C).



2000-sheet dual input (TTM)—tray 3 rear cable assembly removal

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- Remove the TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- Remove the tray 3 front cover. See "2000-sheet dual input (TTM)—tray 3 front cover removal" on page 4-170.
- 4. Remove the E-clip with a prying tool securing the front lift cable pulley (A) to the tray lift shaft assembly (B).
- 5. Gently move the tray lift shaft assembly (B) toward the rear of the tray, and detach the rear bushing (C) from the frame.
- Note: Do not remove the front lift cable pulley (A), or the front lift cables will become detached.
- 6. Move the rear portion of the tray lift shaft assembly (B) away from the frame.



7. Move the rear lift cable pulley (D) toward the rear of the tray to release the two tray 3 rear cables (E) from the tray lift shaft assembly (B).



- 8. Remove the two tray 3 rear cables (E) from the tray lift shaft assembly (B).
- 9. Remove two E-clips with a prying tool securing the two small pulleys (F) on the rear of the frame assembly.
- 10. Remove the two small guides (G) and the two small pulleys (F).
- 11. Remove the E-clip with a prying tool securing the large guide (H) and the large pulley (I) to the frame assembly.
- 12. Remove the large guide (H) and the large pulley (I).
- 13. Remove the tray 3 rear cables (E) from the bottom plate (J).



Replacement note: Before re-installing:

- Ensure tray 3 rear cables (E) are not twisted or kinked.
- Route the cables properly as shown in the figure.

Replacement note: Replace the cables by setting the frame assembly on its side as shown in the figure.

2000-sheet dual input (TTM)—tray 3 front cable assembly removal

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- Remove the TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- Remove the tray 3 front cover. See "2000-sheet dual input (TTM)—tray 3 front cover removal" on page 4-170.
- 4. Remove the E-clip with a prying tool securing the tray lift pulley (A) to the tray lift shaft assembly (B).
- 5. Remove the lift cable pulley (A).
- Note: The tray 3 front cables (C) become detached.
- 6. Remove the tray 3 front cables (C) from the tray lift shaft assembly (B).



- 7. Remove two E-clips with a prying tool securing the two small pulleys (D) on the front of the frame assembly.
- 8. Remove two small guides (E) and the two small pulleys (D).
- 9. Remove the tray 3 front cables (C) from the bottom plate (F).



Replacement note: Before re-installing:

- It is recommended that all four cables be replaced.
- Ensure tray 3 front cables (C) are not twisted or kinked.
- Route the cables properly as shown in the figure.
- Replace the cables by setting the frame assembly (B) on its side as shown in the figure.

2000-sheet dual input (TTM)—TTM media tray 4 front cover removal

- 1. Pull out the TTM media tray 4 assembly.
- 2. Remove the four screws securing the TTM tray 4 front cover (A).
- 3. Remove the TTM tray 4 front cover (A).
- 4. Remove the six screws securing the bracket (B) to the tray.
- 5. Remove the bracket (B).



2000-sheet dual input (TTM)—TTM tray 4 media transport assembly removal

- 1. Remove the TTM media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- 2. Remove the TTM tray 4 media transport assembly (A).

Replacement note: Before re-installing, insert the TTM tray 4 media transport assembly (A) into the rails of the frame assembly.



2000-sheet dual input (TTM)—tray 4 rear cables removal

- 1. Remove the TTM media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- Remove the TTM media tray 4 front cover. See "2000-sheet dual input (TTM)—TTM media tray 4 front cover removal" on page 4-174.
- 3. Place the TTM media tray 4 assembly on its right side as shown in the figure.
- 4. Remove the E-clip with a prying tool securing the tray lift cable pulley (A) to the tray lift shaft assembly (B).

5. Gently move the tray lift shaft assembly (B) toward the rear of the tray and detach the rear bushing (C) from the frame.

Note: Do not remove the front lift cable pulley (A), or the front lift cables will become detached.

6. Move the rear portion of the tray lift shaft assembly (B) away from the frame.

- 7. Move the rear the rear lift cable pulley (E) toward the rear of the tray to release the two tray 4 rear cables (D) from the tray lift shaft assembly (B).
- 8. Remove the two tray 4 rear cables (D) from the tray lift shaft assembly (B).





- 9. Place the TTM media tray 4 assembly back to its upright position.
- 10. Remove two E-clips with a prying tool securing the two small pulleys (F) on the rear of the frame assembly.
- 11. Remove two small guides (G) and two small pulleys (F).

12. Remove the tray 4 rear cables (D) from the bottom plate (H).



Replacement note: Before re-installing:

- It is recommended that all four cables be replaced.
- Ensure tray 4 rear cables (D) are not twisted or kinked.
- Route the cables properly as shown in the figure.
- Replace the cables by setting the frame assembly on its side as shown in the figure.
2000-sheet dual input (TTM)—tray 4 front cables removal

- 1. Remove the TTM media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- Remove the tray 4 front cover. See "2000-sheet dual input (TTM)—TTM media tray 4 front cover removal" on page 4-174.
- 3. Place the TTM media tray 4 assembly on its right side, as shown in the figure.
- 4. Remove the E-clip with a prying tool securing the front tray lift pulley (A) to the tray lift shaft assembly (B).
- 5. Remove the front tray lift pulley (A).
- Note: The tray 4 front cables (C) become detached.
- 6. Remove the tray 4 front cables (C) from the tray lift shaft assembly (B).



7. Place the TTM media tray 4 assembly back in its upright position.



8. Remove two E-clips with a prying tool securing the two small pulleys (D) on the front of the frame assembly.9. Remove the two small guides (E) and the two small pulleys (D).

10. Remove the tray 4 front cables (C) from the bottom plates (F).



Replacement note: Before re-installing:

- It is recommended that all four cables be replaced.
- Ensure tray 4 front cables (C) are not twisted or kinked.
- Route the cables properly as shown in the figure.
- Replace the cables by setting the frame assembly (B) on its side as shown in the figure.

2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)

- 1. Remove the media tray 2 assembly.
- 2. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- 3. Remove the TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- 4. Remove the TTM media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- 5. Remove the tray 4 media transport assembly. See "2000-sheet dual input (TTM)—TTM tray 4 media transport assembly removal" on page 4-174.
- 6. Disconnect the two connectors from the media feed unit assembly (A).

7. Remove the two screws securing the media feed unit assembly (A).



- 8. Remove one screw securing the front bracket (B) to the machine.
- 9. Remove the front bracket (B).
- 10. Move the media feed unit assembly (A) to the left and up in the direction of the arrow.
- 11. Remove the media feed unit assembly (A).
- 12. Remove the two screws securing the lower guide (C) to the media feed unit assembly (A).
- 13. Remove the lower guide (C).
- 14. Remove the two screws securing the upper guide (D) to the media feed unit assembly (A).
- 15. Remove the upper guide (D).
- 16. Remove the two screws securing the rear bracket (E) to the media feed unit assembly (A).
- 17. Remove the rear bracket (E).



2000-sheet dual input (TTM)—sensor (tray 4 feed-out) removal

- 1. Remove the media tray 2 assembly.
- 2. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- 3. Remove the TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- 4. Remove the TTM media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- 5. Disconnect the connector from the sensor (tray 4 feed-out) (A).
- 6. Release the hooks securing the sensor (tray 4 feed-out) (A) to the upper guide (B).
- 7. Remove the sensor (tray 4 feed-out) (A).



2000-sheet dual input (TTM) switch (media size) removal

Note: This procedure can be applied to tray 1 or tray 2 switch (media size).

- 1. Remove media Tray 1 and media Tray 2.
- 2. Remove one screw securing the switch (media size) (A) to the bracket inside the machine.
- 3. Remove the connector from switch (media size) (A).
- 4. Remove the switch (media size) (A).



2000-sheet dual input (TTM)—switch (TTM media size) removal

Note: This removal procedure may be applied to TTM media tray 3 and TTM media tray 4.

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- Remove the TTM media tray 3 assembly See ("2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170) or TTM media tray 4 assembly ("2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169).
- 3. Disconnect the connector from the switch (TTM media size) (A).
- 4. Remove one screw securing the switch (TTM media size) (A).
- 5. Remove the switch (TTM media size) (A).



2000-sheet dual input (TTM)—media feed unit assembly 2 removal

- 1. Remove the media tray 2.
- 2. Open the TTM left door assembly.
- 3. Disconnect the connector from the media feed unit assembly (A).
- 4. Release the harness from the clamp.
- 5. Remove the two screws securing the media feed unit assembly (A) to the machine.
- 6. Remove the media feed unit assembly.



2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- 2. Remove the TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- 3. Remove the two screws securing the two support straps (A) to the machine.
- 4. Remove the three screws securing the media feed unit assembly (B) to the machine.
- 5. Release the harness from the clamp.
- 6. Disconnect the connector from the media feed unit assembly (B).
- 7. Remove the media feed unit assembly (B).
- 8. Remove the two screws securing the bracket (C) to the assembly.
- 9. Remove the bracket (C).





2000-sheet dual input (TTM)—sensor (tray 3 feed-out) removal

- 1. Open the TTM left door assembly.
- 2. Remove the two screws securing the two support straps (A) to the machine.
- 3. Disconnect the connector to the bracket (B).
- 4. Remove the two screws securing the bracket (B) to the machine.
- 5. Remove the bracket (B).
- 6. Release the hooks securing the sensor (tray 3 feed-out) (C) to the bracket (B).
- 7. Remove the sensor (tray 3 feed-out) (C).



2000-sheet dual input (TTM)—sensor (tray 2 feed-out) removal

- 1. Open the TTM left door assembly.
- 2. Remove the two screws securing bracket (A) to the machine.
- 3. Remove the bracket (A).
- 4. Disconnect the connector from the sensor (tray 2 feed-out) (B).
- 5. Release the hooks securing the sensor (tray 2 feed-out) (B) to the bracket (A).
- 6. Remove the sensor (tray 2 feed-out) (B).



2000-sheet dual input (TTM)—media feed lift motor removal

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- 2. Remove the TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- 3. Remove the TTM media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- 4. Remove the tray 4 media transport assembly. See "2000-sheet dual input (TTM)—TTM tray 4 media transport assembly removal" on page 4-174.
- 5. Remove the media feed unit assembly. See "2000-sheet dual input (TTM)—media feed unit assembly 2 removal" on page 4-182 or "2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)" on page 4-178.
- 6. Disconnect the harness from the media feed lift motor (A).
- 7. Remove the two screws securing the media feed lift motor to the media feed unit assembly (B).

8. Remove the media feed lift motor (B).



2000-sheet dual input (TTM)—one-way clutch / gear assembly removal

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- 2. Remove the TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- 3. Remove the TTM media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- 4. Remove the tray 4 media transport assembly. See "2000-sheet dual input (TTM)—TTM tray 4 media transport assembly removal" on page 4-174.
- 5. Remove the media feed unit assembly. See "2000-sheet dual input (TTM)—media feed unit assembly 2 removal" on page 4-182, "2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)" on page 4-182, or "2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)" on page 4-178.
- 6. Remove the harness from the bracket (A).
- 7. Remove the three screws securing the bracket (A) to the media feed unit assembly.
- 8. Remove the bracket (A).

Note: The gears may become detached from the bracket (A).

9. Remove the tray lift one-way clutch (B).



10. Remove the tray lift one-way gear 24 tooth (C).



Replacement note: Before re-installing, ensure all gears and washers are securely attached to the bracket (A).

2000-sheet dual input (TTM)—media out actuator removal

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- Remove the TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- 3. Remove the TTM media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- 4. Remove the tray 4 media transport assembly. See "2000-sheet dual input (TTM)—TTM tray 4 media transport assembly removal" on page 4-174.
- 5. Remove the media feed unit assembly. See "2000-sheet dual input (TTM)—media feed unit assembly 2 removal" on page 4-182, "2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)" on page 4-182, or "2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)" on page 4-178.
- 6. Release the two bosses on the media out actuator (A) from the media feed unit assembly.
- 7. Remove the media out actuator (A).



2000-sheet dual input (TTM)—sensor (media level) removal

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- Remove the TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- 3. Remove the TTM media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- 4. Remove the tray 4 media transport assembly. See "2000-sheet dual input (TTM)—TTM tray 4 media transport assembly removal" on page 4-174.
- 5. Remove the media feed unit assembly. See "2000-sheet dual input (TTM)—media feed unit assembly 2 removal" on page 4-182, "2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)" on page 4-182, or "2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)" on page 4-178.
- 6. Disconnect the connector from the sensor (media level) (A).
- 7. Release the hooks securing the sensor (media level) (A) to the media feed unit assembly.
- 8. Remove the sensor (media level) (A).



2000-sheet dual input (TTM)—sensor (media out) removal

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- 2. Remove the TTM media tray 3 assembly. See "2000-sheet dual input (TTM)—TTM media tray 3 assembly removal" on page 4-170.
- 3. Remove the TTM media tray 4 assembly. See "2000-sheet dual input (TTM)—TTM media tray 4 assembly removal" on page 4-169.
- 4. Remove the tray 4 media transport assembly. See "2000-sheet dual input (TTM)—TTM tray 4 media transport assembly removal" on page 4-174.
- 5. Remove the media feed unit assembly. See "2000-sheet dual input (TTM)—media feed unit assembly 2 removal" on page 4-182, "2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)" on page 4-182, or "2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)" on page 4-178.
- 6. Remove the media out actuator. See "2000-sheet dual input (TTM)—media out actuator removal" on page 4-189.
- 7. Disconnect the connector from the sensor (media out) (A).
- 8. Release the hooks securing the sensor (media out) (A) to the media feed unit assembly.
- 9. Remove the sensor (media out) (A).



- 1. Remove the media tray assembly.
- 2. Move the feed unit front guide (A) toward the front in the direction of the arrow.
- 3. Release the hook securing the feed roll (B) to the shaft (C).
- 4. Remove the feed roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Replacement note: Before re-installing, do not touch the rubber surface of the feed roll (B).

2000-sheet dual input (TTM)—feed roll one-way clutch removal

- 1. Remove the media tray assembly.
- 2. Remove the feed roll. See "2000-sheet dual input (TTM)—feed roll removal" on page 4-192.
- 3. Remove the feed roll one-way clutch (A) from the shaft (B).



2000-sheet dual input (TTM)—one-way 22 tooth removal

- 1. Remove the media tray assembly.
- 2. Remove the feed roll. See "2000-sheet dual input (TTM)—feed roll removal" on page 4-192.
- 3. Remove the feed roll one-way clutch. See "2000-sheet dual input (TTM)—feed roll one-way clutch removal" on page 4-193.
- 4. Remove the feed roll one-way gear 22 tooth (A).



2000-sheet dual input (TTM)—separation roll one-way friction clutch removal

- 1. Remove the media tray assembly.
- 2. Remove the separation roll. See "2000-sheet dual input (TTM)-separation roll removal" on page 4-196.
- 3. Remove the separation roll spacer (A).
- 4. Remove the separation roll one-way friction clutch (B).



- 1. Remove the media tray assembly.
- 2. Move the feed unit front guide (A) toward the front in the direction of the arrow.
- 3. Release the hook securing the separation roll (B) to the shaft (C).



4. Remove the separation roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Replacement note: Before re-installing, do not touch the rubber surface of the separation roll (B).

- 1. Remove the media tray assembly.
- 2. Move the front guide (A) toward the front in the direction of the arrow.
- 3. Release the hook securing the pick roll (B) to the shaft (C).
- 4. Remove the pick roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Replacement note: Before re-installing, do not touch the rubber surface of the pick roll (B).

2000-sheet dual input (TTM)—left door assembly removal

- 1. Remove the tray module left cover. See "2000-sheet dual input (TTM)— tray module left cover removal" on page 4-166.
- 2. Open the TTM left door assembly.
- 3. Remove the two screws securing the two support straps (A) to the machine.
- 4. Remove one screw securing the bracket (B).
- 5. Remove the bracket (B).
- 6. Move the TTM left door assembly (C) to the front and out in the direction of the arrow.
- 7. Remove the TTM left door assembly (C).





2000-sheet dual input (TTM)—switch (TTM left door interlock) removal

- 1. Open the TTM left door assembly.
- 2. Remove the screw securing the support strap (A) to the machine.
- 3. Remove the screw securing the bracket (B) to the machine.
- 4. Remove the bracket (B).
- 5. Disconnect the two connectors from the switch (TTM left door interlock) (C).
- 6. Remove the two screws securing the switch (TTM left door interlock) (C) to the bracket (B).
- 7. Remove the switch (TTM left door interlock) (C).



2000-sheet dual input (TTM)—tray 3 lift gear assembly removal

- 1. Remove the rear cover. See "2000-sheet dual input (TTM)-rear cover removal" on page 4-166.
- 2. Pull the tray 3 media assembly out of the machine.
- 3. Remove the two screws securing the tray 3 lift gear assembly (A) to the machine.
 - Note: When removing the tray 3 lift gear assembly (A), the tray lift coupling assembly (B) my become detached.
- 4. Remove the tray 3 lift gear assembly (A).



2000-sheet dual input (TTM)—tray 4 lift gear assembly removal

- 1. Remove the rear cover. See "2000-sheet dual input (TTM)-rear cover removal" on page 4-166.
- 2. Pull the TTM media tray 4 out of the machine.
- Remove the two screws securing the tray 4 lift gear assembly (A) from the machine.
 Note: When removing the tray 4 lift gear assembly (A), the tray lift coupling assembly (B) may become detached.
- 4. Remove the tray 4 lift gear assembly (A).



2000-sheet dual input (TTM)—tray lift coupling assembly removal

Note: This procedure can be applied to both the tray 3 and the tray 4 media assemblies.

- 1. Remove the rear cover. See "2000-sheet dual input (TTM)-rear cover removal" on page 4-166.
- Remove the tray 3 lift gear or the tray 3 lift gear assembly. See "2000-sheet dual input (TTM)—tray 3 lift gear assembly removal" on page 4-201 or "2000-sheet dual input (TTM)—tray 4 lift gear assembly removal" on page 4-201.
- 3. Remove the tray lift coupling assembly (A) from the machine.
- 4. Remove the bushing (B) from the tray lift coupling assembly (A).
- 5. Remove the gear (C) from the tray lift coupling assembly (A).



2000-sheet dual input (TTM)—tray module drive motor assembly removal

- 1. Remove the rear cover. See "2000-sheet dual input (TTM)-rear cover removal" on page 4-166.
- 2. Disconnect the connector from the tray module drive motor (A).
- 3. Remove the three screws securing the tray module drive motor (A) to the machine.

4. Remove the tray module drive motor (A).



2000-sheet dual input (TTM)—TTM tray 4 transport motor removal

- 1. Remove the rear cover. See "2000-sheet dual input (TTM)-rear cover removal" on page 4-166.
- 2. Disconnect the connector from the TTM tray 4 transport motor (A).
- 3. Release the harness from the clamp.
- 4. Remove the two screws securing the TTM tray 4 transport motor (A) to the machine.
- 5. Remove the TTM transport drive motor (A).



2000-sheet dual input (TTM)—TTM controller card assembly removal

- 1. Remove the rear cover. See "2000-sheet dual input (TTM)-rear cover removal" on page 4-166.
- 2. Disconnect all connectors from the TTM controller card assembly (A).
- 3. Remove the four screws securing the TTM controller card assembly (A) to the machine.
- 4. Remove the TTM controller card assembly (A).



3X 500-sheet drawer (3TM) removals



3X 500-sheet drawer (3TM)—top cover removal

- 1. Pull out tray 2 assembly (A).
- 2. Remove the two screws securing the top cover (B).
- 3. Remove the top cover (B).



3X 500-sheet drawer (3TM)—foot cover removal

- 1. Remove the media tray 4 assembly.
- 2. Remove the two screws securing the foot cover (A) to the machine.
- 3. Remove the foot cover (A).



3X 500-sheet drawer (3TM)—right cover removal

- 1. Remove the four screws securing the right cover (A).
- 2. Remove the right cover (A) by lifting up and out in the direction of the arrow.



3X 500-sheet drawer (3TM)—tray module left cover removal

- 1. Remove the four screws securing the tray module left cover (A).
- 2. Remove the tray module left cover (A).



3X 500-sheet drawer (3TM)—rear cover removal

- 1. Remove the four screws securing the rear cover (A).
- 2. Remove the rear cover (A).



- 1. Remove the media tray 2 assembly.
- 2. Remove the media tray 3 assembly.
- 3. Remove the media tray 4 assembly.
- 4. Place the right side of the drawer down.
- 5. Remove the three screws securing the caster (A).
- 6. Remove the caster (A).



3X 500-sheet 3TM)—media feed unit assembly removal (tray 4)

- 1. Remove the media tray 4 assembly.
- 2. Open the 3TM left door assembly.
- 3. Remove the two screws securing the two support straps (A) to the machine.
- 4. Release the harness from the clamp.
- 5. Disconnect the connector from the media feed unit assembly (B).
- 6. Remove the two screws securing the media feed unit assembly (B) to the machine.
- 7. Remove the media feed unit assembly (B).



3X 500-sheet drawer (3TM)—sensor (tray 4 feed-out) removal

- 1. Open the 3TM left door assembly.
- 2. Remove the two screws securing the two support straps (A) to the machine.
- 3. Disconnect the connector from the sensor (tray 4 feed-out) (B).
- 4. Remove the two screws securing bracket (C) to the machine.
- 5. Remove the bracket (C).
- 6. Release the hooks securing the sensor (tray 4 feed-out) (B) to the bracket (C).
- 7. Remove the sensor (tray 4 feed-out) (B).



3X 500-sheet drawer (3TM)—sensor (tray 2 feed-out) removal

- 1. Open the 3TM left door assembly.
- 2. Remove the two screws securing bracket (A) to the machine.
- 3. Remove the bracket (A).
- 4. Disconnect the connector from the sensor (tray 2 feed-out) (B).
- 5. Release the hooks securing the sensor (tray 2 feed-out) (B) to the bracket (B).
- 6. Remove the sensor (tray 2 feed-out) (B).



3X 500-sheet drawer (3TM)—switch (media size) removal

Note: This removal procedure may be applied to media tray 2, 3 and media tray 4 assemblies.

- 1. Remove the media tray 2 assembly.
- 2. Remove the media tray 3 assembly.
- 3. Remove the media tray 4 assembly.
- 4. Disconnect the connector from the appropriate switch (media size) (A).
- 5. Remove the screw securing the appropriate switch (media size) (A).
- 6. Remove the appropriate switch (media size) (A).



3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 3)

- 1. Remove the media tray 4 assembly.
- 2. Open the 3TM left door assembly.
- 3. Remove the two screws securing the two support straps (A) to the machine.
- 4. Release the harness from the clamp.
- 5. Disconnect the connector from the media feed unit assembly (B).
- 6. Remove the two screws securing the media feed unit assembly (B) to the machine.
- 7. Remove the media feed unit assembly (B).




3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 2)

- 1. Remove the media tray 2 assembly.
- 2. Open the 3TM left door assembly.
- 3. Remove the two screws securing the two support straps (A) to the machine.
- 4. Release the harness from the clamp.
- 5. Disconnect the connector from the media feed unit assembly (B).
- 6. Remove the two screws securing the media feed unit assembly (B) to the machine.
- 7. Remove the media feed unit assembly (B).





3X 500-sheet drawer (3TM)—sensor (tray 3 feed-out) removal

- 1. Open the 3TM left door assembly.
- 2. Remove the two screws securing the two support straps (A) to the machine.
- 3. Disconnect the connector from the sensor (tray 3 feed-out) (B).
- 4. Remove the two screws securing bracket (C) to the machine.
- 5. Remove the bracket (C).
- 6. Release the hooks securing the sensor (tray 3 feed-out) (B) to the bracket (C).

7. Remove the sensor (tray 3 feed-out) (B).



3X 500-sheet drawer (3TM)—media feed lift motor removal

- 1. Remove the media feed unit assembly. See "3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 2)" on page 4-214 or "3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 3)" on page 4-212.
- 2. Disconnect the harness from the media feed lift motor (A).
- 3. Remove the two screws securing the media feed lift motor to the media feed unit assembly (B).
- 4. Remove the media feed lift motor (B).



3X 500-sheet drawer (3TM)—one-way clutch / gear assembly removal

- 1. Remove the media feed unit assembly. See"3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 2)" on page 4-214 or "3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 3)" on page 4-212.
- 2. Remove the harness from the bracket (A).
- 3. Remove the three screws securing the bracket (A) to the media feed unit assembly.
- 4. Remove the bracket (A).
 - Note: The gears may become detached from the bracket (A).
- 5. Remove the tray lift one-way clutch (B).



6. Remove the tray lift one-way gear 24 tooth (C).



Replacement note: Before re-installing, ensure all gears and washers are securely attached to the bracket (A).

3X 500-sheet drawer (3TM)—media out actuator removal

- 1. Remove the media feed unit assembly. See "3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 2)" on page 4-214 or "3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 3)" on page 4-212.
- 2. Release the two bosses on the media out actuator (A) from the media feed unit assembly.
- 3. Remove the media out actuator (A).



3X 500-sheet drawer (3TM)—sensor (media level) removal

- 1. Remove the media feed unit assembly. See"3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 2)" on page 4-214 or "3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 3)" on page 4-212.
- 2. Disconnect the connector from the sensor (media level) (A).
- 3. Release the hooks securing the sensor (media level) (A) to the media feed unit assembly.
- 4. Remove the sensor (media level) (A).



3X 500-sheet drawer (3TM)—sensor (media out) removal

- 1. Remove the media feed unit assembly. See"3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 2)" on page 4-214 or "3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 3)" on page 4-212.
- 2. Remove the media out actuator. See "3X 500-sheet drawer (3TM)—media out actuator removal" on page 4-218.
- 3. Disconnect the connector from the sensor (media out) (A).
- 4. Release the hooks securing the sensor (media out) (A) to the media feed unit assembly.
- 5. Remove the sensor (media out) (A).



3X 500-sheet drawer (3TM)—feed roll removal

- 1. Remove the media tray assembly.
- 2. Move the feed unit front guide (A) toward the front in the direction of the arrow.
- 3. Release the hook securing the feed roll (B) to the shaft (C).
- 4. Remove the feed roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Replacement note: Before re-installing, do not touch the rubber surface of the feed roll (B).

3X 500-sheet drawer (3TM)—feed roll one-way clutch removal

- 1. Remove the media tray assembly.
- 2. Remove the feed roll. See "2000-sheet dual input (TTM)—feed roll removal" on page 4-192.
- 3. Remove the feed roll one-way clutch (A) from the shaft (B).



3X 500-sheet drawer (3TM)—one-way 22 tooth removal

- 1. Remove the media tray assembly.
- 2. Remove the feed roll. See "2000-sheet dual input (TTM)—feed roll removal" on page 4-192.
- Remove the feed roll one-way clutch. See "2000-sheet dual input (TTM)—feed roll one-way clutch removal" on page 4-193.
- 4. Remove the feed roll one-way gear 22 tooth (A).



3X 500-sheet drawer (3TM)—separation roll one-way friction clutch removal

- 1. Remove the media tray assembly.
- 2. Remove the separation roll. See "2000-sheet dual input (TTM)-separation roll removal" on page 4-196.
- 3. Remove the separation roll spacer (A).
- 4. Remove the separation roll one-way friction clutch (B).



3X 500-sheet drawer (3TM)—separation roll removal

- 1. Remove the media tray assembly.
- 2. Move the feed unit front guide (A) toward the front in the direction of the arrow.
- 3. Release the hook securing the separation roll (B) to the shaft (C).



4. Remove the separation roll (B). **Note:** Do not touch the rubber surface of the feed roll (B).



Replacement note: Before re-installing, do not touch the rubber surface of the separation roll (B).

3X 500-sheet drawer (3TM)—pick roll removal

- 1. Remove the media tray assembly.
- 2. Move the front guide (A) toward the front in the direction of the arrow.
- 3. Release the hook securing the pick roll (B) to the shaft (C).
- 4. Remove the pick roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Replacement note: Before re-installing, do not touch the rubber surface of the pick roll (B).

3X 500-sheet drawer (3TM)—3TM left door assembly removal

- 1. Open the 3TM left door assembly.
- 2. Remove the two screws securing the two supports straps (A) to the machine.
- 3. Remove the screw securing the bracket (B) to the machine.
- 4. Remove the bracket (B).
- 5. Move the tray module left door assembly (C) to the front and out in the direction of the arrow.
- 6. Remove the tray module left door assembly (C).



3X 500-sheet drawer (3TM)—switch (tray module left door interlock) removal

- 1. Open the 3TM left door assembly.
- 2. Remove the screw securing the support strap (A) to the machine.
- 3. Remove the screw securing the bracket (B) to the machine.
- 4. Remove the bracket (B).
- 5. Disconnect the two connectors from the switch (tray module left door interlock) (C).
- 6. Remove the two screws securing the switch (tray module left door interlock) (C) to the bracket (B).

7. Remove the switch (tray module left door interlock) (C).



3X 500-sheet drawer (3TM)—tray module drive motor assembly removal

- 1. Remove the rear cover. See "3X 500-sheet drawer (3TM)—rear cover removal" on page 4-207.
- 2. Disconnect the connector from the tray module drive motor (A).
- 3. Remove the two screws securing the tray module drive motor (A) to the machine.
- 4. Remove the tray module drive motor (A).



3X 500-sheet drawer (3TM)—3TM controller card assembly removal

- 1. Remove the rear cover. See "3X 500-sheet drawer (3TM)—rear cover removal" on page 4-207.
- 2. Disconnect the nine connectors from the 3TM controller card assembly (A).
- 3. Remove the four screws securing the 3TM controller card assembly (A) to the machine.
- 4. Remove the 3TM controller card assembly (A).



1X 500-sheet drawer (1TM) removals



1X 500-sheet drawer (1TM)—top cover removal

- 1. Pull out tray 2 assembly (A).
- 2. Remove the two screws securing the top cover (B).
- 3. Remove the top cover (B).



1X 500-sheet drawer (1TM)—front door removal

- 1. Open the 1TM front door.
- 2. Remove the four screws securing the front door (A) to the machine.
- 3. Remove the front door (A).



1X 500-sheet drawer (1TM)—foot cover removal

- 1. Open the 1TM front door.
- 2. Remove the two screws securing the foot cover (A) to the machine.
- 3. Remove the foot cover (A).



1X 500-sheet drawer (1TM)—right cover removal

- 1. Remove the four screws securing the right cover (A).
- 2. Remove the right cover (A) by lifting up and out in the direction of the arrow.



1X 500-sheet drawer (1TM)—tray module left cover removal

- 1. Remove the four screws securing the tray module left cover (A).
- 2. Remove the tray module left cover (A).



1X 500-sheet drawer (1TM)—rear cover removal

- 1. Remove the four screws securing the rear cover (A).
- 2. Remove the rear cover (A).



1X 500-sheet drawer (1TM)—caster removal

- 1. Remove the media tray 2 assembly.
- 2. Place the right side of the drawer down.
- 3. Remove the three screws securing the caster (A).
- 4. Remove the caster (A).



1X 500-sheet drawer (1TM)—media feed unit assembly removal (tray 2)

- 1. Remove the media tray 2 assembly.
- 2. Open the 1TM left door assembly.
- 3. Release the harness from the clamp.
- 4. Disconnect the connector from the media feed unit assembly (A).
- 5. Remove the two screws securing the media feed unit assembly (A) to the machine.
- 6. Remove the media feed unit assembly (A).



1X 500-sheet drawer (1TM)—sensor (tray 2 feed-out) removal

- 1. Open the 1TM left door assembly.
- 2. Remove the two screws securing bracket (A) to the machine.
- 3. Remove the bracket (A).
- 4. Disconnect the connector from the sensor (tray 2 feed-out) (B).
- 5. Release the hooks securing the sensor (tray 2 feed-out) (B) to the bracket (B).
- 6. Remove the sensor (tray 2 feed-out) (B).



1X 500-sheet drawer (1TM)—switch (media size) removal

- 1. Remove the media tray 2 assembly.
- 2. Open the 1TM front door.
- 3. Disconnect the connector from the switch (media size) (A).
- 4. Remove the screw securing the switch (media size) (A).
- 5. Remove the switch (media size) (A).



1X 500-sheet drawer (1TM)—media feed lift motor removal

- 1. Remove the media feed unit assembly. See "1X 500-sheet drawer (1TM)—media feed unit assembly removal (tray 2)" on page 4-235.
- 2. Disconnect the harness from the media feed lift motor (A).
- 3. Remove the two screws securing the media feed lift motor to the media feed unit assembly (B).
- 4. Remove the media feed lift motor (B).



1X 500-sheet drawer (1TM)—one-way clutch / gear assembly removal

- 1. Remove the media feed unit assembly. See "1X 500-sheet drawer (1TM)—media feed unit assembly removal (tray 2)" on page 4-235.
- 2. Remove the harness from the bracket (A).
- 3. Remove the three screws securing the bracket (A) to the media feed unit assembly.
- 4. Remove the bracket (A).Note: The gears may become detached from the bracket (A).
- 5. Remove the tray lift one-way clutch (B).



6. Remove the tray lift one-way gear 24 tooth (C).



Replacement note: Before re-installing, ensure all gears and washers are securely attached to the bracket (A).

1X 500-sheet drawer (1TM)—media out actuator removal

- 1. Remove the media feed unit assembly. See "1X 500-sheet drawer (1TM)—media feed unit assembly removal (tray 2)" on page 4-235.
- 2. Release the two bosses on the media out actuator (A) from the media feed unit assembly.
- 3. Remove the media out actuator (A).



1X 500-sheet drawer (1TM)—sensor (media level) removal

- 1. Remove the media feed unit assembly. See "1X 500-sheet drawer (1TM)—media feed unit assembly removal (tray 2)" on page 4-235.
- 2. Disconnect the connector from the sensor (media level) (A).
- 3. Release the hooks securing the sensor (media level) (A) to the media feed unit assembly.
- 4. Remove the sensor (media level) (A).



1X 500-sheet drawer (1TM)—sensor (media out) removal

- 1. Remove the media feed unit assembly. See "1X 500-sheet drawer (1TM)—media feed unit assembly removal (tray 2)" on page 4-235.
- 2. Remove the media out actuator. See "1X 500-sheet drawer (1TM)—media out actuator removal" on page 4-240.
- 3. Disconnect the connector from the sensor (media out) (A).
- 4. Release the hooks securing the sensor (media out) (A) to the media feed unit assembly.
- 5. Remove the sensor (media out) (A).



1X 500-sheet drawer (1TM)—feed roll removal

- 1. Remove the media tray assembly.
- 2. Move the feed unit front guide (A) toward the front in the direction of the arrow.
- 3. Release the hook securing the feed roll (B) to the shaft (C).
- 4. Remove the feed roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Replacement note: Before re-installing, do not touch the rubber surface of the feed roll (B).

1X 500-sheet drawer (1TM)—feed roll one-way clutch removal

- 1. Remove the media tray assembly.
- 2. Remove the feed roll. See "2000-sheet dual input (TTM)—feed roll removal" on page 4-192.
- 3. Remove the feed roll one-way clutch (A) from the shaft (B).



1X 500-sheet drawer (1TM)—one-way 22 tooth removal

- 1. Remove the media tray assembly.
- 2. Remove the feed roll. See "1X 500-sheet drawer (1TM)-feed roll removal" on page 4-243.
- 3. Remove the feed roll one-way clutch. See "1X 500-sheet drawer (1TM)—feed roll one-way clutch removal" on page 4-244.
- 4. Remove the feed roll one-way gear 22 tooth (A).



1X 500-sheet drawer (1TM)—separation roll one-way friction clutch removal

- 1. Remove the media tray assembly.
- 2. Remove the separation roll. See "1X 500-sheet drawer (1TM)-separation roll removal" on page 4-247.
- 3. Remove the separation roll spacer (A).
- 4. Remove the separation roll one-way friction clutch (B).



1X 500-sheet drawer (1TM)—separation roll removal

- 1. Remove the media tray assembly.
- 2. Move the feed unit front guide (A) toward the front in the direction of the arrow.
- 3. Release the hook securing the separation roll (B) to the shaft (C).
- 4. Remove the separation roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Replacement note: Before re-installing, do not touch the rubber surface of the separation roll (B).

- 1. Remove the media tray assembly.
- 2. Move the front guide (A) toward the front in the direction of the arrow.
- 3. Release the hook securing the pick roll (B) to the shaft (C).
- 4. Remove the pick roll (B).

Note: Do not touch the rubber surface of the feed roll (B).



Replacement note: Before re-installing, do not touch the rubber surface of the pick roll (B).
1X 500-sheet drawer (1TM)—tray module left door assembly removal

- 1. Open the 3TM/TMM left door assembly.
- 2. Remove the two screws securing the two supports straps (A) to the machine.
- 3. Remove the screw securing the bracket (B) to the machine.
- 4. Remove the bracket (B).
- 5. Move the tray module left door assembly (C) to the front and out in the direction of the arrow.
- 6. Remove the tray module left door assembly (C).



1X 500-sheet drawer (1TM)—switch (tray module left door interlock) removal

- 1. Open the 1TM left door assembly.
- 2. Remove the screw securing the support strap (A) to the machine.
- 3. Remove the screw securing the bracket (B) to the machine.
- 4. Remove the bracket (B).
- 5. Disconnect the two connectors from the switch (tray module left door interlock) (C).
- 6. Remove the two screws securing the switch (tray module left door interlock) (C) to the bracket (B).
- 7. Remove the switch (tray module left door interlock) (C).



1X 500-sheet drawer (1TM)—tray module drive motor assembly removal

- 1. Remove the rear cover. See "1X 500-sheet drawer (1TM)-rear cover removal" on page 4-234.
- 2. Disconnect the connector from the tray module drive motor (A).
- 3. Remove the two screws securing the tray module drive motor (A) to the machine.
- 4. Remove the tray module drive motor (A).



1X 500-sheet drawer (1TM)—1TM controller card assembly removal

- 1. Remove the rear cover. See "1X 500-sheet drawer (1TM)-rear cover removal" on page 4-234.
- 2. Disconnect the seven connectors from the 1TM controller card assembly (A).
- 3. Remove the four screws securing the 1TM controller card assembly (A) to the machine.
- 4. Remove the 1TM controller card assembly (A).



Setup and adjustments

Sensor (ATC) setup

Step	Check	Yes	No
1	Warning: Before installing any new developer unit assemble	s in the machine, rec	ord the bar code
	Example:	nto being motalied.	
	Sensor (C ATC) XXX		
	Sensor (M) ATC XXX		
	Sensor (K) ATC XXX		
2	Using the bar code number recorded from the sensor (ATC) assemblies in step 1, locate the values for the following settin shown after step 5:	on each of the new d gs using the ATC val	eveloper unit ue conversion chart
	Sensitivity gradient		
	Sensor output reference		
3	Warning: The following step must be performed or the new settings listed on the birth certificate in the event it is required	machine settings will d for NVM value repla	not match the cement.
	Retrieve the birth certificate from the compartment in the mec gradient and sensor output reference settings from step 2 to	lia tray 1, record the e the birth certificate.	eight new sensitivity
	Settings sheet compartment		

Step	Check	Yes	No	
4	Update the following settings using the newly converted valu developer units:	es from step 2 for all	newly installed	
	Sensitivity gradient			
	 Sensor output reference 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch ATC Sensor Adjust Values 4. Enter new values. 5. Touch Submit. 			
	quality problems may occur.			
5	Note: Ensure that all photoconductor unit assemblies are installed before performing this step.	The sensor (ATC) setup is now	Ensure that the photoconductor	
	Finalize the newly updated settings.	complete.	are installed	
	 Enter the Diagnostics Menu. Touch ENGINE ADJUST. 		before performing this test.	
	3. Iouch AIC Sensor Adjust Cycles			
	Does the above test pass?			

ATC VALUE CONVERSION CHART			
Bar code number (last 2 digits)	Sensitivity gradient default value	Standard TC output default value	
00	526	169	
01	572	166	
02	617	162	
03	663	158	
04	708	154	
05	753	150	
06	799	146	
07	844	142	
08	889	138	
09	934	134	
10	526	171	
11	572	168	
12	617	164	
13	663	160	

ATC VALUE CONVERSION CHART				
Bar code number (last 2 digits)	Sensitivity gradient default value	Standard TC output default value		
14	708	156		
15	753	152		
16	799	148		
17	844	144		
18	889	140		
19	934	136		
20	527	174		
21	572	169		
22	617	166		
23	663	162		
24	708	158		
25	753	154		
26	799	150		
27	844	146		
28	889	142		
29	934	138		
30	527	176		
31	572	172		
32	617	168		
33	663	164		
34	708	160		
35	753	156		
36	799	152		
37	844	148		
38	889	144		
39	934	140		
40	527	178		
41	572	174		
42	617	170		
43	663	166		
44	708	162		

ATC VALUE CONVERSION CHART			
Bar code number (last 2 digits)	Sensitivity gradient default value	Standard TC output default value	
45	753	158	
46	799	154	
47	844	150	
48	889	146	
49	934	142	
50	526	179	
51	572	176	
52	617	172	
53	663	168	
54	708	164	
55	753	160	
56	799	156	
57	844	152	
58	889	148	
59	934	144	
60	526	181	
61	572	178	
62	617	174	
63	663	170	
64	708	166	
65	753	162	
66	799	158	
67	844	154	
68	889	150	
69	934	146	
70	526	183	
71	572	180	
72	617	176	
73	663	172	
74	708	168	
75	753	164	

ATC VALUE CONVERSION CHART			
Bar code number (last 2 digits)	Sensitivity gradient default value	Standard TC output default value	
76	799	160	
77	844	156	
78	889	152	
79	934	148	
80	526	185	
81	572	182	
82	617	178	
83	663	174	
84	708	170	
85	753	166	
86	799	162	
87	844	158	
88	889	154	
89	934	150	
90	526	187	
91	572	184	
92	617	180	
93	663	176	
94	708	172	
95	753	168	
96	799	164	
97	844	160	
98	889	156	
99	934	152	

Color registration (RegCon)

Measurement cycle test

Step	Check	Yes	No
1	Perform the Measurement cycle test. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Measurement cycle	Perform the "Control sensor check". See "Control sensor check" on page 4-258.	Go to step 2.
2	Check the transfer belt unit assembly for damage. Does above component show signs of damage on the frame or on the belt?	Replace the transfer belt unit assembly. See "Transfer belt unit assembly removal" on page 4-16.	Go to step 3.
3	Check the image density sensor assembly connection. Is the above component properly connected?	Replace the image density sensor assembly. See "Image density sensor assembly removal" on page 4-45.	Replace the connection.
4	Re-perform the Measurement cycle test again. Does the above test pass?	Perform the "Control sensor check". Go to"Control sensor check" on page 4-258.	Contact next level of support.

Control sensor check

Step	Check	Yes	No
1	Perform the Control sensor check test. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control Sensor Check Does the above test pass?	Perform the "Control sensor cycle". See "Control sensor cycle" on page 4-258.	Go to step 2.
2	Check the transfer belt unit assembly for damage. Does above component show signs of damage on the frame or on the belt?	Replace the transfer belt unit assembly. See "Transfer belt unit assembly removal" on page 4-16.	Go to step 3.
3	Re-perform the Control sensor check test again. Does the above test pass?	Perform the "Control sensor cycle". See "Control sensor cycle" on page 4-258.	Contact next level of support.

Control sensor cycle

Step	Check	Yes	No
1	Perform the Control sensor cycle test. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control Sensor Cycle Does the above test pass?	Perform the "Belt edge learn test". See "Belt edge learn test" on page 4-259.	Go to step 2.
2	Check the upper printer engine card assembly connections. Is the above component properly connected?	Replace the upper printer engine card assembly. See "Upper printer engine card assembly removal" on page 4-76.	Replace the connection.
3	Re-perform the Measurement cycle test again. Does the above test pass?	Perform the "Belt edge learn test". See "Belt edge learn test" on page 4-259.	Contact next level of support.

Belt edge learn test

Step	Check	Yes	No
1	Perform the Belt edge learn test. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Belt edge learn Does the above test pass?	Perform "Skew setup". See "Skew fine setup" on page 4-259.	Go to step 2.
2	Replace the transfer belt unit assembly. See "Transfer belt unit assembly removal" on page 4-16. Does the error continue?	Perform "Skew setup". See "Skew fine setup" on page 4-259.	Contact next level of support.

Skew fine setup

Step	Check	Yes	No
1	Perform the Skew fine setup.	Go to step 2.	Go to step 3.
	 Enter the Diagnostics Menu. Touch ENGINE ADJUST. Touch RegCon adjust Touch Control setup cycles Touch Skew fine setup 		
	Does the above test pass?		

Step	Check	Yes	No
Step 2	Check Perform the Skew fine setup printhead adjustment. Tou ch Cycle result values. Locate the following new values for the following settings: Y- Skew adjustment C- Skew adjustment K- Skew adjustment Turn the appropriate printhead adjustment screws located behind the waste toner cartridge the number of clicks (rotation until a snap sound is heard and felt) based on the above settings. +values require turning the screw Clockwise - values require turning the screw Clockwise. EG: Y-Skew adjustment 10. Turn the screw CW 10 clicks. EG: Y-Skew adjustment -10. Turn the screw CCW 10 clicks.	Yes Perform the In/Out setup. See "In/out setup" on page 4-264.	No Adjust the printhead adjustment screws then perform the In/Out setup. See "In/out setup" on page 4-264.
	Have the appropriate printhead adjustment screws been adjusted?		

Step	Check	Yes	No
3	Analyze the fine skew setup. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch Cycle result values Locate the following new values for the following settings:	Go to step 4.	Go to step 6.
	Patch-B in Patch-B out Is the value for both of the above settings a "4"?		
4	 Perform the skew rough setup. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch Skew rough setup 	Go to step 5.	Go to step 6.
	Does the above test pass?		

Step	Check	Yes	No
Step 5	Check Perform the skew rough setup printhead adjustment. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch Cycle result values Locate the following new values for the following settings: Y- Skew adjustment M- Skew adjustment C- Skew adjustment K- Skew adjustment Turn the appropriate printhead adjustment screws, located behind the waste toner cartridge, the number of clicks (rotation until a snap sound is heard and felt) based on the above settings. +values require turning the screw Counter Clockwise. EG: Y-Skew adjustment 10. Turn the screw CW 10 clicks. EG: Y-Skew adjustment -10. Turn the screw CCW 10 clicks.	Yes Re-perform step 1. If the test fails then replace the printhead. See "Printhead assembly removal" on page 4-94. Once the printhead is replaced then re- perform the entire RegCon procedure. See "Color registration (RegCon)" on page 4-256.	No Go to step 6.
	Have the appropriate printhead adjustment screw been adjusted?		
6	Check the image density sensor assembly connection. Is the above component properly connected?	Go to step 7.	Replace the connection.

Step	Check	Yes	No
7	Check the image density sensor assembly for toner contamination. Is the above component dirty or contaminated?	Remove and clean the image density sensor assembly. See "Image density sensor assembly removal" on page 4-45.	Go to step 8.
8	 Re-Perform the Skew fine setup. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch Skew fine setup Does the above test pass?	Perform the In/Out setup. See "In/out setup" on page 4-264.	Replace the image density sensor assembly. See "Image density sensor assembly removal" on page 4-45.
9	 Re-Perform the Skew fine setup. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch Skew fine setup Does the above test pass?	Perform the In/Out setup. See "In/out setup" on page 4-264.	Contact next level of support.

In/out setup

Step	Check	Yes	No
1	Perform the In/out setup: 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch In/out setup Does the above test pass?	Perform the Center setup. See "Center setup" on page 4-268.	Go to step 2.
2	 Analyze the In/out setup. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch Cycle result values Locate the following new values for the following settings: Y- Skew adjustment M- Skew adjustment C- Skew adjustment K- Skew adjustment Is the value for all of the above settings a "0"? 	Go to step 3.	Go to step 5.
3	 Perform the skew rough setup. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch Skew rough setup Does the above test pass?	Go to step 4.	Go to step 7.

Step	Check	Yes	No
Step 4	Check Perform the skew rough setup printhead adjustment. I. Enter the Diagnostics Menu. Touch ENGINE ADJUST. Touch RegCon adjust Touch Control setup cycles Touch Cycle result values Locate the following new values for the following settings: Y- Skew adjustment Skew adjustment Skew adjustment V- Skew adjustment Turn the appropriate printhead adjustment screws, located behind the waste toner cartridge, the number of clicks (rotation until a snap sound is heard and felt) based on the above settings. +values require turning the screw Clockwise -values require turning the screw Counter Clockwise. EG: Y-Skew adjustment 10. Turn the screw CW 10 clicks. EG: Y-Skew adjustment -10. Turn the screw CCW 10 clicks.	Yes Re-perform step 1. If the test fails then replace the printhead. See "Printhead assembly removal" on page 4-94. Once the printhead is replaced then re- perform the entire RegCon procedure. See "Color registration (RegCon)" on page 4-256.	No Go to step 7.
	Have the appropriate printhead adjustment screw been adjusted?		

Step	Check	Yes	No
Step 5	Check Perform the In/out skew setup printhead adjustment. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch Cycle result values Locate the following new values for the following settings: Y- Skew adjustment M- Skew adjustment C- Skew adjustment Turn the appropriate printhead adjustment screws, located behind the waste toner cartridge, the number of clicks (rotation until a snap sound is heard and felt) based on the above settings. +values require turning the screw Clockwise - values require turning the screw Clockwise. EG: Y-Skew adjustment 10. Turn the screw CW 10 clicks. EG: Y-Skew adjustment -10. Turn the screw CCW 10 clicks.	Yes Go to the Center setup. See "Center setup" on page 4-268.	No Adjust the printhead adjustment screw then go to Center setup. See "Center setup" on page 4-268.
	Have the appropriate printhead adjustment screw been		
6	Check the image density sensor assembly connection. Is the above component properly connected	Go to step 7.	Replace the connection.

Step	Check	Yes	No
7	Check the image density sensor assembly for toner contamination. Is the above component dirty or contaminated?	Remove and clean the image density sensor assembly. See "Image density sensor assembly removal" on page 4-45.	Go to step 8.
8	 Re-Perform the In/out setup. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch In/out setup Does the above test pass? 	Perform the Center setup. See "Center setup" on page 4-268.	Replace the image density sensor assembly. See "Image density sensor assembly removal" on page 4-45.
9	 Re-Perform the In/out setup. 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch In/out setup Does the above test pass? 	Perform the Center setup. See "Center setup" on page 4-268.	Contact next level of support.

Center setup

Step	Check	Yes	No
1	Warning: Ensure that the image density sensor assembly is moved to the center position or the test will not function.	Go to step 2.	Repeat step 1.
	Move the image density sensor assembly to the center position.		
	1. Open the Printer front door.		
	2. Remove the waste toner cartridge.		
	3. Remove the printhead cleaning tool from the printer front door.		
	4. Place the hook on the end of the printhead cleaning tool into the front of the image density sensor assembly as shown in the diagram.		
	5. Remove the screw as shown in the diagram.		
	6. Push the image density sensor assembly toward the center of the machine as far as it will go using the printhead cleaning tool.		
	Gently detach the printhead cleaner from the image density cleaning assembly.		
	8. Replace the waste toner cartridge.		
	9. Close the printer front door assembly.		
	Printhead cleaning tool		
	Inage density sensor assembly		
	Have all of the above steps been performed?		

Step	Check	Yes	No
2	Perform the center setup: 1. Enter the Diagnostics Menu. 2. Touch ENGINE ADJUST. 3. Touch RegCon adjust 4. Touch Control setup cycles 5. Touch Center setup Does the above test pass?	Move the image density sensor back to its original position. The color registration (RegCon) procedure is now complete.	Go to step 3.
3	The image density sensor is not properly set in the center position. Ensure the image density is placed in the center position. Is the image density placed in the center position.	Go to step 2.	Repeat step 3.

5. Connector locations

Locations


































6. Preventive maintenance

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

Safety inspection guide

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

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

Check the following items:

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

LEXMARK <i>X940e & X945e</i>	EVERY SERVICE CALL	EVERY 100K	EVERY 600K	NOTE:
MEDIA TRAY—ALL				
Media Side Guides	Inspect	Inspect		Check for correct positioning
Media End Guide	Inspect	Inspect		Check for correct positioning
Separation Pad	Inspect	Clean		Damp cloth
Tray Lift Gear assembly		Inspect		
MEDIA FEED UNIT—ALL	·			
Feed Roll	Inspect	Replace		Verify page count before replacing
Pick Roll	Inspect	Replace		Verify page count before replacing
Separation Roll	Inspect	Replace		Verify page count before replacing
MPF pick roll	Inspect	Clean		Water or alcohol
Media Transport Roll Assembly		Clean		Water or alcohol
Sensor (registration)		Clean		Brush or blower brush
Sensor (tray 1 feed-out)		Clean		Brush or blower brush
Sensor (tray 2 feed-out)		Clean		Brush or blower brush
Sensor (tray 3 feed-out)		Clean		Brush or blower brush
Sensor (tray 4 feed-out)		Clean		Brush or blower brush
PRINTHEAD	·			
Printhead slit glass (4)	Clean	Clean		Printhead cleaning tool

LEXMARK <i>X940e & X945e</i>	EVERY SERVICE CALL	EVERY 100K	EVERY 600K	NOTE:					
DEVELOPER UNITS Transfer									
Developer unit (4)			Replace						
C developer carrier			Replace						
M developer carrier			Replace						
Y developer carrier			Replace						
K developer carrier			Replace						
TRANSFER ROLL									
2nd Transfer Roll assembly	Inspect	Replace							
TRANSFER BELT UNIT	·	·							
Transfer belt unit assembly		Inspect	Replace	Damp cloth					
Transfer belt cleaning assembly		Replace							
FUSER UNIT	·	·							
Fuser Unit	Inspect	Replace							
Sensor (fuser exit)		Clean		Blower brush					
DUPLEX	·	·							
Duplex Media Transport Roll (2)		Clean		Water or alcohol					
FLATBED SCANNER									
Mirrors (3)	Inspect	Clean		Glass cleaner					
Lens	Inspect	Clean		Glass cleaner					
Small Platen Glass	Clean	Clean		Glass cleaner					
Large Platen Glass	Clean	Clean		Glass cleaner					

LEXMARK X940e & X945e	EVERY SERVICE CALL	EVERY 150K	NOTE:
ADF			
Feed Pick Roll Assembly	Inspect	Replace	
Separation Roll Guide Assembly	Inspect	Replace	
ADF Registration Roll Assembly	Inspect	Clean	Water or alcohol
ADF Feed-Out Roll Assembly	Inspect	Clean	Water or alcohol
ADF Exit Roll Assembly	Inspect	Clean	Water or alcohol
ADF Transport Roll Assembly	Inspect	Clean	Water or alcohol

Lubrication specifications

Lubricate only when parts are replaced or as needed, not on a scheduled basis. Use of lubricants other than those specified can cause premature failure. Some unauthorized lubricants may chemically attack polycarbonate parts. Use IBM no. 10 oil, P/N 1280443 (Approved equivalents: Mobil DTE27, Shell Tellus 100, Fuchs Renolin MR30), IBM no. 23 grease (Approved equivalent Shell Darina 1), and grease, P/N 99A0394 to lubricate appropriate areas.

Scheduled maintenance

The LCD displays 80 scheduled maintenance at each 100K and 600K page count interval. It is necessary to replace the appropriate maintenance kit at this interval to maintain the print quality and reliability of the printer. The parts are available as a maintenance kit with the following part numbers:

40X4031—100K Maintenance Kit, 110 V 40X4093—100K Maintenance Kit, 220 V 40X4032—600K Maintenance Kit, 110 & 220 V

The ADF requires scheduled maintenance at each 150K page count interval. It is necessary to replace the feed/ pick roll assembly and the separation guide assembly at this interval to maintain ADF media feed reliability. The parts are available as a maintenance kit with the following part number:

40X4033-Maintenance Kit, ADF

After replacing the kit, the maintenance count must be reset to zero to clear the "80 scheduled maintenance" message.

To reset the maintenance count

- **1.** Turn off the printer.
- 2. Press and hold the 2 and 6 buttons simultaneously.
- **3.** Turn on the printer.
- 4. Release the buttons after 10 seconds. The Configuration Menu appears on the LCD.
- 5. Touch Reset Maintenance Counter from the Configuration Menu.
- 6. Reset Maintenance Counter appears in the header, and Yes and No appears below the header.
- 7. To cancel the reset operation, press Back or No. All other button presses are ignored.
- 8. To initiate the reset operation, select Yes.

The maintenance count resets to zero, and the LCD returns to the Configuration Menu.

When performing the 100K, 150K, or 600K scheduled maintenance procedure, the following areas should be cleaned of media dust and toner contamination:

- Media trays
- PC cartridge area
- Transfer roll area
- Duplex area
- Standard bin
- Bridge unit area (if equipped)
- Finisher media bins (if equipped)

7. Parts catalog

How to use this parts catalog

The following legend is used in the parts catalog:

- Asm-index: Identifies the assembly and the item in the diagram. For example, 3-1 indicates Assembly 3 and item number 1 in the table.
- Part number: Identifies the unique number that identifies this FRU.
- FRUs/mach: Refers to the number of FRUs used in the 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 name	Configuration	Machine type	Maximum speed
Lexmark X940e	Network	7510-030	35 PPM
Lexmark X945e	Network	7510-230	45 PPM
Lexmark C930	Network	5057-030	35 PPM
Lexmark C935	Network	5057-230	45 PPM

Assembly 1: Covers 1



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X0553	3	1	Switch (printer front door interlock)
2	40X0553	3	1	Switch (transfer access door interlock)
3	40X3780	1	1	Right cover assembly
4	40X3778	1	1	Printer front door assembly (this comes assembled)
5	40X3779	1	1	Printhead slit glass cleaning assembly



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3782	1	1	RIP card access cover
2	40X3781	1	1	Top cover assembly
3	40X3787	1	1	Switch (main power)
4	40X3786	1	1	Main power switch actuator
5	40X3783	1	1	Main switch cable assembly
6	40X3785	1	1	Inner cover
7	40X3784	1	1	Front left cover

Assembly 3: Covers 3



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3796	1	1	Rear left upper cover
2	40X3793	1	1	Rear left middle cover
3	40X3795	1	1	Left front cover
4	40X3794	1	1	Rear left lower cover
5	40X3788	1	1	Rear blind cover
6	40X3789	1	1	Rear cover assembly 110 V
6	40X3790	1	1	Rear cover assembly 220 V



Assembly 4: PC cartridge and developer drive

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3671	4	1	Developer idler gear assembly
2	40X3669	1	1	CMY developer drive motor assembly
3	40X3670	1	1	Developer/transport drive motor assembly
4	40X3672	1	1	MPF/transport drive motor assembly
5	40X3667	1	1	CMYK PC cartridge drive motor assembly
6	40X3668	1	1	Transfer belt drive motor assembly





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3674	1	1	Image density sensor assembly
2	40X3673	1	1	Transfer belt steering motor



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3677	2	1	Switch (media size)
2	40X3676	8	1	Media tray slide
3	40X3678	3	6	Media tray assembly kit
				 Media tray assembly #1 label #2 label #3 label #4 label Instruction label
4	40X3675	2	1	Media tray catch



Assembly 7: Printer left lower door and media feed unit

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3679	4	1	Media feed unit assembly
2	40X3688	30	1	Sensor (printer left lower door interlock)
3	40X0613	1	1	Hinge pin
4	40X3680	1	1	Printer left lower door assembly (this comes assembled)
5	40X3681	1	1	Sensor (tray 1 feed-out)
6	40X3682	2	1	Magnetic catch





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3679	4	1	Media feed unit assembly
2	40X3687	4	1	Media out actuator
3	40X3688	30	1	Sensor (tray media out)
4	40X3688	30	1	Sensor (tray media level)
5	40X3684	4	1	Media feed lift motor
6	40X0888	6	1	Bushing 6 mm
7	40X0590	2	1	Pick roll assembly spring
8	40X3686	4	1	Media tray lift one-way gear
9	40X3685	4	1	Media tray lift one-way clutch
10	40X4086	4	2	Separation roll friction clutch
11	40X0594	2	1	Feed unit roll kit
				 Feed roll (2) Pick roll (2) Separation roll (2)
12	40X3690	4	1	Feed roll one-way clutch
13	40X3691	4	1	Feed roll one-way gear 22T
14	40X0952	6	1	Bushing 6 mm

Assembly 8: Media feed unit

Assembly 9: MPF feed unit assembly 1



Asm-	Part	FRUs/	Units/	Description
index	number	mach	FRU	
1	40X4079	1	1	MPF feed unit assembly (this comes assembled)





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4079	1	1	MPF feed unit assembly (this comes assembled)
2	40X3688	30	1	Sensor (MPF media out)
3	40X3709	1	1	MPF media out actuator
4	40X0755	1	1	MPF pickup spring





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4079	1	1	MPF feed unit assembly (this comes assembled)
2	40X3711	1	2	MPF pick roll kit
				MPF pick roll (2)
3	40X1381	4	1	Bushing 8 mm





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3692	1	1	Registration/transport roll assembly (this comes assembled)
2	40X3695	1	1	Sensor (transparency detect)
3	40X3694	2	1	Sensor (registration)
4	40X3693	1	1	Registration clutch





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4078	1	1	Printer left door assembly (this comes assembled)
2	40X3697	1	1	Printer left door damper assembly
3	40X3696	1	1	Printer left door damper idler gear
4	40X3799	1	1	Duplex unit assembly (this comes assembled)
5	40X3798	1	1	Printer left door blind cover





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4078	1	1	Printer left door assembly (this comes assembled)
2	40X4098	1	1	Printer left door closed actuator
3	40X3699	1	1	Sensor (fuser exit)
4	40X3698	1	1	2nd transfer roll assembly
5	40X3700	1	1	Printer left door duplex exit guide





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4078	1	1	Printer left door assembly (this comes assembled)
2	40X3704	1	1	Printer left door damper sector gear
3	40X3688	30	1	Sensor (2nd transfer roll retract HP)
4	40X3701	1	1	2nd transfer roll retract cam assembly
5	40X3702	1	1	2nd transfer retract motor assembly
6	40X3703	1	1	Sensor (media on belt)

Assembly 16: Duplex media inverter assembly

Asm-	Part	FRUs/	Units/	Description
index	number	mach	FRU	
1	40X3797	1	1	Duplex media inverter assembly

Assembly 17: Duplex 1



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3799	1	1	Duplex unit assembly (this comes assembled)
2	40X3798	1	1	Printer left door blind cover

Assembly 18: Duplex 2



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3799	1	1	Duplex unit assembly (this comes assembled)
2	40X3802	1	1	Duplex drive motor
3	40X3801	1	1	Sensor (duplex wait)
4	40X3800	1	1	Duplex controller card assembly
5	40X3803	1	1	Switch (duplex left door interlock)

Assembly 19: Standard media exit shift



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3705	1	1	Standard media exit shift assembly (this comes assembled)
2	40X3707	1	1	Standard bin full actuator
3	40X3688	30	1	Sensor (standard bin full)
4	40X0553	3	1	Switch (printer left door interlock)
5	40X3706	1	1	Standard exit top cover
6	40X4080	1	3	Standard output bin paper weight assembly
				Paper weight (2)Installation template



Assembly 20: Printhead assembly

Asm-	Part	FRUs/	Units/	Description
index	number	mach	FRU	
1	40X3712	1	1	Printhead assembly

Assembly 21: Xerographic and waste toner



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3713	1	1	Waste toner cartridge cover
2	40X3715	1	1	Switch (waste toner cartridge interlock)
3	40X3717	1	1	Sensor (waste toner cartridge full)
4	40X3714	1	1	Waste toner cartridge sensor assembly (this comes assembled)
5	40X3716	1	1	Waste toner agitator motor assembly





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3720	1	1	K erase lamp assembly
2	40X3719	3	1	CMY erase lamp assembly
3	40X3718	1	1	Developer interlock plate assembly



Assembly 23: Transfer belt lift 1

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3722	1	1	Right transfer belt lift assembly
2	40X3727	1	1	Transfer belt lift handle assembly
3	40X3723	1	1	Transfer belt lift latch assembly with label
4	40X3721	3	1	Left transfer belt lift assembly



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3732	1	1	Transfer belt unit assembly
2	40X3733	1	1	Transfer belt cleaning assembly
3	40X3729	1	1	Transfer belt auger front gear 14T
4	40X3731	1	1	Transfer belt auger assembly
5	40X0880	6	1	Bushing 6 mm
6	40X3730	1	1	Transfer belt auger rear gear 18T

Assembly 25: Transfer belt lift 2



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3735	4	1	Transfer belt lift rear plunger assembly
2	40X3734	8	1	Transfer belt lift recoil spring
3	40X3736	4	1	Transfer belt lift front plunger assembly



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3740	1	1	K toner dispense assembly
2	40X3739	1	1	C toner dispense assembly
3	40X3738	1	1	M toner dispense assembly
4	40X3737	1	1	Y toner dispense assembly
5	40X3741	1	1	CMYK toner add motor assembly
6	40X0636	4	1	Sensor (RFID toner cartridge)

Assembly 26: Toner Dispense

Assembly 27: Developer unit assemblies



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3742	4	1	Developer unit assembly
2	40X3744	1	1	Y developer carrier
3	40X3745	1	1	M developer carrier
4	40X3746	1	1	C developer carrier
5	40X3743	1	1	K developer carrier





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4153	1	1	Fuser assembly 100 V
1	40X3747	1	1	Fuser assembly 110 V
1	40X3748	1	1	Fuser assembly 220 V


Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3750	1	1	Fuser cooling fan
2	40X3749	1	1	Printhead shutter motor assembly
3	40X3752	1	1	Rear lower cooling fan assembly (this comes assembled)
4	40X3751	1	1	Transfer belt drive motor cooling fan



Assembly 30: Electrical 1

Assembly 30: Electrical 1

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3762	1	1	Laser diode power card assembly
2	40X3757	1	1	Lower printer engine card assembly
3	40X3758	1	1	24 V LVPS card assembly
4	40X3763	1	1	Rear upper cooling fan
5	40X3759	1	1	24 V LVPS cooling fan
6	40X3760	1	1	CMYK transfer roll HVPS card assembly
7	40X3755	3	1	5 V LVPS card assembly 110 V
7	40X3756	3	1	5 V LVPS card assembly 220 V
8	40X3761	1	1	Noise filter assembly
9	40X3753	1	1	Developer/transfer roll HVPS card assembly
10	40X3754	1	1	Charge roll HVPS card assembly

Assembly 31: Electrical 2



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3764	1	1	AC drive card bracket assembly 110 V (this comes assembled)
1	40X3765	1	1	AC drive card bracket assembly 220 V (this comes assembled)
2	40X3766	1	1	Outlet power panel cable assembly

Assembly 32: Electrical 3



Assembly 32: Electrical 3

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3775	1	1	DC main cable assembly
2	40X3776	1	1	DC rear right cable assembly
3	40X3774	1	1	2nd transfer charge roll cable
4	40X3771	1	1	CK transfer roll cable assembly
5	40X3770	1	1	YM transfer roll cable assembly
6	40X3772	1	1	Transfer belt charge cable
7	40X3769	1	1	Charge roll block cable assembly
8	40X3768	1	1	Developer block cable assembly
9	40X3773	1	1	2nd transfer roll charge connector
10	40X3777	1	1	DC rear left cable assembly

Assembly 33: Electrical 4



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Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3804	1	1	RIP card cooling fan cover assembly (this comes assembled)
2	40X3807	1	1	RIP bridge card assembly
3	40X2359	1	1	Interconnect card assembly
4	40X4091	1	1	MFP RIP card assembly (X940, X945 model)
5	40X3808	1	1	Upper printer engine card chassis assembly
6	40X4081	1	1	Upper printer engine card cable assembly
7	40X4151	1	1	Hard drive assembly includes:
				 2.5" 80GB hard drive Data cable Mounting bracket with hardware
8	40X2360	1	1	Fax interface card assembly
9	40X0507	1	1	Fax interface card cable assembly

WARNING: In the event of replacement of any one of the following components:

- RIP card assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one, or the printer will be rendered inoperable.

WARNING: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.



Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X3879	1	1	ADF unit assembly (this comes assembled)
2	40X2239	1	1	Platen cushion
3	40X4094	1	1	Scanner unit assembly (this comes assembled)
4	40X2238	2	1	ADF mounting screw

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Assembly 35: ADF covers and components

Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X2244	1	1	ADF rear cover
2	40X2246	2	1	Small hook/loop strip
3	40X2245	1	1	ADF front cover assembly
4	40X3880	1	1	Document tray assembly (this comes assembled)
5	40X2243	1	1	Document tray hinge

Assembly 36: ADF base



Assembly 36: ADF base

Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X2257	1	1	ADF left hinge
2	40X3883	1	1	ADF registration pinch/frame assembly (this comes assembled)
3	40X2247	7	1	Large hook/loop strip
4	40X2330	5	1	Spring
5	40X2354	1	1	Registration pad
6	40X4104	1	1	Registration pad cover
7	40X2248	1	1	Solenoid/interlock cable assembly
8	40X2260	1	1	ADF controller card assembly
9	40X2259	1	1	ADF interface cable assembly
10	40X2258	1	1	ADF right hinge

Assembly 37: ADF feeder



Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X3884	1	1	ADF left cover assembly (this comes assembled)
2	40X2265	1	1	Registration motor cable assembly
3	40X2266	1	1	ADF feed motor cable assembly
4	40X2264	1	1	Document set/sheet through cable assembly
5	40X2267	1	1	Left cover hinge retainer
6	40X2270	1	1	Registration main drive belt
7	40X2269	1	1	Stud screw
8	40X2327	1	1	ADF feed motor assembly (this comes assembled)
9	40X2383	1	1	ADF main feed assembly (this comes assembled)
10	40X2272	1	1	Document set LED
11	40X2256	1	1	Inverter lever
12	40X2271	1	1	Inverter solenoid assembly
13	40X2273	1	1	Separation roll guide assembly (this comes assembled)

Assembly 38: ADF left cover components



Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X2223	13	1	Sensor (pick roll position HP)
2	40X2291	3	4	Plastic ring clip 6 mm
3	40X2287	1	1	ADF feed/pick roll assembly (this comes assembled)
4	40X2276	1	1	Left cover pinch roll assembly (this comes assembled)
5	40X2274	1	1	ADF left cover handle
6	40X2381	1	1	Document set rear stop
7	40X2283	1	1	Document set actuator
8	40X2275	1	1	Sheet through actuator
9	40X2330	5	1	Spring
10	40X2277	1	1	Pick roll position motor assembly
11	40X2278	1	1	Pick roll position cable assembly
12	40X2321	1	1	Left cover media guide
13	40X2279	1	1	Document set front stop

Assembly 38: ADF left cover components

Assembly 39: ADF media guide



Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X3890	1	1	Actuator/media guide assembly (this comes assembled)
2	40X2289	1	1	Inverter gate
3	40X2288	1	1	ADF main feed cable assembly
4	40X2223	1	1	Sensor (ADF pre-registration)
5	40X0589	1	1	Sensor (ADF registration)
6	40X2223	13	1	Sensor (ADF width APS 1)
7	40X2223	13	1	Sensor (ADF width APS 2)
8	40X2223	13	1	Sensor (ADF width APS 3)
9	40X2223	13	1	Sensor (ADF inverter)
10	40X3889	2	1	Media scan guide spring
11	40X3888	1	1	Media scan guide
12	40X2286	1	1	Switch (ADF left cover interlock)

Assembly 39: ADF media guide



Assembly 40: ADF feeder roll

Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X2383	1	1	ADF main feed assembly (this comes assembled)
2	40X2346	1	1	Manual feed drive wheel
3	40X2345	1	1	Manual feed drive belt
4	40X2291	3	4	Plastic ring clip kit includes: • Plastic ring clip 6 mm • Plastic ring clip 8 mm
5	40X2337	4	1	Bearing 8 mm
6	40X2339	2	1	Bushing 8 mm
7	40X2336	1	1	ADF transport roll assembly
8	40X2333	1	1	ADF registration roll assembly
9	40X2334	1	1	ADF feed-out roll assembly
10	40X2335	1	1	ADF exit roll assembly
11	40X2349	1	1	Registration main drive pulley 21/54T
12	40X2342	1	1	Exit roll drive pulley 20T
13	40X2347	1	1	Exit roll drive belt
14	40X2350	1	1	Registration secondary drive belt
15	40X2341	1	1	Exit/feed-out roll drive pulley 25/28T
16	40X2340	1	1	Registration roll drive pulley 28T
17	40X2351	1	1	Retainer spring
18	40X2348	1	1	Tension spring
19	40X2343	1	1	Transport roll drive gear 20T
20	40X2338	2	1	Bushing 6 mm
21	40X2223	13	1	Sensor (document set)
22	40X2344	1	1	Manual feed drive pulley

Assembly 41: ADF motor unit



Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X2327	1	1	ADF feed motor assembly (this comes assembled)
2	40X2223	13	1	Sensor (sheet through)
3	40X2229	1	1	Tension spring
4	40X2325	1	1	ADF registration motor



Assembly 42: ADF document tray

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Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X3880	1	1	Document tray assembly (this comes assembled)
2	40X3892	1	1	Sensor (document tray length 1)
3	40X3892	1	1	Sensor (document tray length 2)
4	40X2223	1	1	Sensor (document tray width 1)
5	40X2223	1	1	Sensor (document tray width 2)
6	40X2223	1	1	Sensor (document tray width 3)
Note: Assembly index items 2, 3, 4, 5 and 6 are identical sensors with different functions; therefore, they are the same part number with different descriptions.				

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Assembly 43: Scanner covers



Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X3852	1	1	Scanner right cover
2	40X4094	1	1	Complete scanner assembly (this comes assembled)
3	40X3851	1	1	Scanner left cover
4	40X3855	1	1	Scanner interface cable assembly
5	40X3856	1	1	Scanner rear cover assembly

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Assembly 44: CCD lens assembly

Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X3867	1	1	Scanner main cable assembly
2	40X3864	1	1	Scanner LVPS cable assembly 110 V
2	40X4037	1	1	Scanner LVPS cable assembly 220 V
3	40X3865	1	1	Scanner LVPS card assembly 110 V
3	40X3866	1	1	Scanner LVPS card assembly 220 V
4	40X3862	1	1	Scanner LVPS cooling fan assembly
5	40X2224	1	1	ADF angle actuator assembly
6	40X2223	2	1	Sensor (ADF angle)
7	40X4094	1	1	Complete scanner unit assembly (this comes assembled)
8	40X3861	1	1	CCD card/lens assembly
9	40X4036	1	1	CCD ribbon cable assembly
10	40X2320	2	1	Sensor (platen length APS 1)
11	40X2320	2	1	Sensor (platen length APS 2)
12	40X2222	1	1	Switch (platen interlock)

Assembly 44: CCD lens assembly



Assembly 45: Control panel and platen glass

Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X2215	1	1	Small platen glass rear retainer
2	40X2214	1	1	Small platen glass
3	40X2213	1	1	Small platen glass front retainer
4	40X2208	1	1	Large platen glass
5	40X3858	1	1	Large platen glass retainer
6	40X4094	1	1	Complete scanner assembly (this comes assembled)
7	40X3863	1	1	Operator panel bezel X940e model
7	40X3870	1	1	Operator panel bezel X945e model
8	40X4096	1	1	Operator panel assembly (universal)
9	40X2363	1	1	Operator panel controller card assembly
10	40X2364	1	1	Operator panel inverter card assembly
11	40X2362	1	1	Operator panel user touch screen
12	40X2365	1	1	USB interface card assembly
13	40X3859	1	1	Operator panel cable assembly

Assembly 45: Control panel and platen glass

Warning: In the event of replacement of any one of the following components:

RIP card assembly

• Interconnect card assembly

Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one, or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.



Assembly 46: Scanner electrical

Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X3875	1	1	Scanner controller card assembly
2	40X2217	4	1	Card mounting screw

Assembly 47: Scanner optics



Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X2232	2	1	2nd/3rd mirror
2	40X2233	6	4	Scanner mirror clip
3	40X3872	1	1	Exposure lamp PS ribbon cable
4	40X2234	1	1	1st mirror
5	40X3871	1	1	Exposure lamp PS card assembly
6	40X3873	1	1	Exposure lamp PS card insulator
7	40X3874	1	1	Exposure lamp

Assembly 47: Scanner optics



Assembly 48: Carriage cable and motor

Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X4094	1	1	Complete scanner assembly (this comes assembled)
2	40X2223	2	1	Sensor (scanner HP)
3	40X2229	1	1	Scanner drive motor tension spring
4	40X3868	1	1	Scanner drive motor assembly
5	40X2226	1	1	Scanner drive belt

Assembly 49: MFP rack



Asm Index	Part number	Units/ mach	Units/kit or pkg	Description
1	40X3878	2	1	Main stand caster
2	40X4097	1	1	Main stand attach bracket

Assembly 50: 1TM covers



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3825	1	1	Tray module right cover
2	40X3824	1	1	Tray module foot cover
3	40X4142	1	1	1TM front door assembly
4	40X3826	2	1	Tray module left cover
5	40X3827	1	1	Tray module rear cover
6	40X3823	1	1	Tray module top cover

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Assembly 51: 1TM feed unit assembly

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3677	3	1	Switch (media size)
2	40X3676	6	1	Media tray slide
3	40X3675	3	1	Media tray catch
4	40X3678	3	6	Media tray assembly kit
				 Media tray assembly #1 label #2 label #3 label #4 label Instruction label
5	40X3679	1	1	Media feed unit assembly

Assembly 51: 1TM feed unit assembly




Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3679	4	1	Media feed unit assembly
2	40X3687	4	1	Media out actuator
3	40X3688	30	1	Sensor (tray media out)
4	40X3688	30	1	Sensor (tray media level)
5	40X3684	4	1	Media feed lift motor
6	40X0888	6	1	Bushing 6 mm
7	40X3686	4	1	Media tray lift one-way gear
8	40X3685	4	1	Media tray lift one-way clutch
9	40X4086	4	2	Separation roll friction clutch
10	40X0594	2	1	Feed unit roll kit
				 Feed roll (2) Pick roll (2) Separation roll (2)
11	40X3690	4	1	Feed roll one-way clutch
12	40X3691	4	1	Feed roll one-way gear 22T
13	40X0952	6	1	Bushing 6 mm

Assembly 52: 1TM media feed unit





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3818	1	1	Tray 2 feed-out sensor cable assembly
2	40X3817	1	1	Sensor (tray 2 feed-out)
3	40X3821	1	1	Switch (tray module left door interlock)
4	40X4141	1	1	1TM left door assembly (this comes assembled)
5	40X4119	1	1	Tray module media transport roll assembly



Assembly 54: 1TM drive and electrical

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4152	1	1	1TM controller card assembly
2	40X3812	1	1	Tray module drive motor assembly
3	40X4068	1	1	Tray module left retaining bracket
4	40X4034	2	1	Tray module retainer screw
5	40X3815	1	3	Media transport gear 33T
6	40X3813	1	1	Media transport gear 23/46T
7	40X4117	2	1	Front locking caster
8	40X4143	2	1	Rear non-locking caster
9	40X4069	2	1	Tray module right retaining bracket
10	40X4109	1	1	1TM main cable assembly

Assembly 54: 1TM drive and electrical

Assembly 55: 3TM covers



Assembly 55: 3TM covers

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3825	1	1	Tray module right cover
2	40X3824	1	1	Tray module foot cover
3	40X3826	2	1	Tray module left cover
4	40X3827	1	1	Tray module rear cover
5	40X3823	1	1	Tray module top cover

Assembly 56: 3TM feed unit assembly



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3677	3	1	Switch (media size)
2	40X3676	6	1	Media tray slide
3	40X3675	3	1	Media tray catch
4	40X3678	3	6	Media tray assembly kit
				 Media tray assembly #1 label #2 label #3 label #4 label Instruction label
5	40X3679	1	1	Media feed unit assembly

Assembly 56: 3TM feed unit assembly





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3679	4	1	Media feed unit assembly
2	40X3687	4	1	Media out actuator
3	40X3688	30	1	Sensor (tray media out)
4	40X3688	30	1	Sensor (tray media level)
5	40X3684	4	1	Media feed lift motor
6	40X0888	6	1	Bushing 6 mm
7	40X3686	4	1	Media tray lift one-way gear
8	40X3685	4	1	Media tray lift one-way clutch
9	40X4086	4	2	Separation roll friction clutch
10	40X0594	2	1	Feed unit roll kit
				 Feed roll (2) Pick roll (2) Separation roll (2)
11	40X3690	4	1	Feed roll one-way clutch
12	40X3691	4	1	Feed roll one-way gear 22T
13	40X0952	6	1	Bushing 6 mm

Assembly 57: 3TM Media feed unit

Assembly 58: 3TM left door



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3818	1	1	Tray 2 feed-out sensor cable assembly
2	40X3817	1	1	Sensor (tray 2 feed-out)
3	40X3821	1	1	Switch (tray module left door interlock)
4	40X3819	1	1	Tray 3/4 feed-out sensor actuator
5	40X3820	2	1	Sensor (tray 3 feed-out)
6	40X3820	2	1	Sensor (tray 4 feed-out)
7	40X3816	1	1	3TM left door assembly (this comes assembled)
8	40X4035	2	1	Tray 3/4 feed-out sensor cable assembly
9	40X4119	3	1	Tray module media transport roll assembly

Assembly 58: 3TM left door



Assembly 59: 3TM drive and electrical

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3811	1	1	3TM controller card assembly
2	40X3812	1	1	Tray module drive motor assembly
3	40X4068	1	1	Tray module left retaining bracket
4	40X4034	2	1	Tray module retainer screw
5	40X3815	1	3	Media transport gear 33T
6	40X3813	1	1	Media transport gear 23/46T
7	40X3814	1	2	Media transport gear 46T
8	40X4117	2	1	Front locking caster
9	40X4143	2	1	Rear non-locking caster
10	40X4069	2	1	Tray module right retaining bracket
11	40X4108	1	1	3TM main cable assembly

Assembly 59: 3TM drive and electrical

Assembly 60: TTM covers



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3825	1	1	Tray module right cover
2	40X3824	1	1	Tray module foot cover
3	40X3826	2	1	Tray module left cover
4	40X3827	1	1	Tray module rear cover
5	40X3823	1	1	Tray module top cover





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3678	3	6	Media tray assembly kit
				 Media tray assembly #1 label #2 label #3 label #4 label Instruction label
2	40X3830	2	1	Switch (TTM media size)
3	40X3831	4	1	TTM tray support roll
4	40X3829	1	3	TTM media tray 4 assembly kit
				 TTM media tray 4 #4 label Instruction label
5	40X3828	1	2	TTM media tray 3 assembly kit
				 TTM media tray 3 #3 label Instruction label
6	40X3677	3	1	Switch (media size)
7	40X3675	3	1	Media tray catch
8	40X3676	2	1	Media tray slide

Assembly 61: TTM media trays

Assembly 62: TTM media tray 3



Assembly 62: TTM tray 3

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X0711	2	1	TTM tray separation pad
2	40X3832	1	1	TTM tray 3 front cover
3	40X4126	4	1	TTM tray lift idler pulley
4	40X4127	4	1	TTM tray lift idler pulley guide
5	40X4084	4	1	TTM tray 3 lift cable
6	40X0708	2	1	TTM large idler pulley kit
				TTM large idler pulleyTTM large idler pulley guide
7	40X3834	2	1	TTM tray 3 slide strip
8	40X3835	2	1	TTM tray 3 slide button

Assembly 63: TTM media tray 4



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3836	1	1	TTM tray 4 front cover
2	40X4126	4	1	TTM tray lift idler pulley
3	40X4127	4	1	TTM tray lift idler pulley guide
4	40X4085	4	1	TTM tray 4 lift cable
5	40X0723	1	2	TTM tray 4 rear support roll (2)
6	40X0711	2	1	TTM tray separation pad





Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3838	1	1	TTM tray 4 media transport assembly
2	40X3679	1	1	Media feed unit assembly
3	40X3841	1	1	TTM tray 4 lower media guide
4	40X3840	1	1	TTM tray 4 upper media guide
5	40X3694	2	1	Sensor (tray 4 feed-out)



Assembly 65: TTM media transport

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3817	2	1	Sensor (tray 2 feed-out)
2	40X3843	1	1	TTM vertical turn guide
3	40X3679	1	1	Media feed unit assembly
4	40X3842	1	1	Tray 3 feed-out sensor assembly (this comes assembled)
5	40X3818	2	1	Tray 2 feed-out sensor cable assembly
6	40X4119	2	1	Tray module media transport roll assembly

Assembly 66: TTM left door



Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3844	1	1	TTM left door assembly (this comes assembled)
2	40X3821	1	1	Switch (tray module left door interlock)



Assembly 67: TTM tray lift drive

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3848	2	1	TTM tray lift coupling assembly
2	40X3847	2	1	TTM tray lift gear 17T
3	40X0880	2	1	Bushing 6 mm
4	40X3845	1	1	TTM tray 3 lift gear assembly
5	40X3846	1	1	TTM tray 4 lift gear assembly



Assembly 68: TTM drive and electrical

Asm- index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3850	1	1	TTM controller card assembly
2	40X3849	1	1	TTM tray 4 transport drive motor assembly
3	40X3812	2	1	Tray module drive motor assembly
4	40X4068	1	1	Tray module left retaining bracket
5	40X3815	1	3	Media transport gear 33T
6	40X3813	1	1	Media transport gear 23/46T
7	40X3814	1	2	Media transport gear 46T
8	40X4034	1	1	Tray module retainer screw
9	40X4117	2	1	Front locking caster
10	40X4143	2	1	Rear non-locking caster
11	40X4069	1	1	Tray module right retaining bracket
12	40X4103	1	1	TTM main cable assembly

Assembly 68: TTM drive and electrical

Assembly 69: Miscellaneous

Asm- Index	Part number	Units/ mach	Units/kit or pkg	Description
NS	40X4031	1	15	100K printer maintenance kit (110V) includes:
				 110V fuser unit assembly Transfer belt cleaning assembly 2nd transfer roll assembly Feed rolls (4 each) Pick rolls (4 each) Separation rolls (4 each)
NS	40X4093	1	15	100K printer maintenance kit (220V) includes:
				 220V fuser unit assembly Transfer belt cleaning assembly 2nd transfer roll assembly Feed rolls (4 each) Pick rolls (4 each) Separation rolls (4 each)
NS	40X4032	1	9	600K printer maintenance kit includes:
				 (4) developer unit assemblies (empty) C developer carrier Y developer carrier M developer carrier K developer carrier Transfer belt unit assembly
NS	40X4033	1	2	Maintenance kit (ADF)
				Feed/pick roll assemblySeparation guide assembly
NS	40X4088	1	1	Banner media tray assembly
NS	40X0948	1	1	Assorted E-clip packet
NS	40X0949	1	1	Assorted screw packet
NS	40X4101	1	1	MFP relocation kit
NS	56P2129	1	1	Lexmark MarkNet N7020e (4 USB ports) 1-0/100/1000 w/out power cord
NS	56P2744	1	1	N4050e 802.11g Wireless Print Server (Americas, Argentina, & Brazil) w/out power cord
NA	56P2745	1	1	N4050e 802.11g Wireless Print Server (European, UK/Ireland, & Australia) w/out power cord
NS	40X0269	1	1	Power cord—USA, Canada, Latin America, Asia Pacific LV 8ft right angle
NS	40X0270	1	1	Power cord—Japan 15A LV 8ft straight
NS	40X0271	1	1	Power cord—United Kingdom 8ft straight
NS	40X0273	1	1	Power cord—Chile, Italy, Uruguay HV 8ft straight
NS	40X0275	1	1	Power cord—Israel HV 8ft straight
NS	40X0277	1	1	Power cord—Brazil high amp LV 6ft straight
NS	40X0280	1	1	Power cord—Korea 10A HV 6ft straight
NS	40X0281	1	1	Power cord—Taiwan 13A LV 6ft straight
NS	40X0288	1	1	Power cord—Argentina HV 8ft straight
NS	40X0301	1	1	Power cord—Australia, New Zealand HV 8ft straight
NS	40X0303	1	1	Power cord—China HV 2.44 m straight
NS	40X1767	1	1	Power cord—Austria, Belgium, Brazil, France, Germany, Greece, Italy, Luxembourg, Netherlands, Nordic countries, Paraguay, Poland, Portugal, Russia, Senegal, Spain HV 8ft straight
NS	40X1772	1	1	Power cord—Liechtenstein, Switzerland HV 8ft straight

Asm- Index	Part number	Units/ mach	Units/kit or pkg	Description
NS	40X1773	1	1	Power cord—South Africa, Hong Kong, Singapore, Thailand, Malaysia HV 8ft straight
NS	40X1774	1	1	Power cord—Denmark HV 8ft straight
NS	40X1508	1	1	128MB memory option
NS	40X1509	1	1	256MB memory option
NS	40X1510	1	1	512MB memory option
NS	40X1454	1	1	32MB flash card
NS	40X1455	1	1	64MB flash card
NS	40X2771	1	1	Bar code card assembly
NS	40X2773	1	1	PRESCRIBE card assembly
NS	40X2774	1	1	Printcryption card assembly
NS	40X2772	1	1	IPDS card assembly
NS	40X1512	1	1	Japanese font card
NS	40X1513	1	1	Simplified Chinese font card
NS	40X1514	1	1	Traditional Chinese font card
NS	40X1515	1	1	Korean font card
NS	40X1375	1	1	Marknet N8000 10/100BaseTX ethernet
NS	40X1376	1	1	Marknet N8020 10/100/1000BaseT Ethernet
NS	40X1377	1	1	Marknet N8030 10BaseFL & 100BaseFX Ethernet (multimode fiber)
NS	40X1378	1	1	Marknet N8050 802.11g wireless, US
NS	40X1562	1	1	Marknet N8050 802.11g wireless, International
NS	40X1593	1	1	Lexmark marknet N7000e (1 USB port) 10/100 ethernet
NS	40X1594	1	1	Lexmark marknet N7002e (1 parallel port) 10/100 ethernet
NS	40X1592	1	1	Lexmark marknet N7020e (4 USB ports) 10/100/1000 ethernet
NS	40X0290	1	1	RS232C serial interface card
NS	40X0291	1	1	Parallel 1284-B interface card

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