



## *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.

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### Laser notice

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

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### 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.

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### 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.

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## Avisos sobre el láser

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

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

---

## Declaração sobre Laser

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

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

---

## Laserinformatie

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

---

## Lasermeddelelse

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

Klasse I-laserprodukter betragtes ikke som farlige. Printeren indeholder internt en Klasse IIIB (3b)-laser, der nominelt er en 5 milliwatt galliumarsenid laser, som arbejder på 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 määräytyksiä voimakkaammalle säteilylle kirjoittimen normaalin toiminnan, käyttäjän tekemien huoltotoimien tai muiden huoltotoimien yhteydessä.

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

**WARNING!** Osynlig laserstrålning när denna del är öppnad och 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 CFRサブチャプターJのクラスI (1)の基準を満たしたレーザー製品であることが証明されています。また米国以外ではIEC 825の基準を満たしたクラスIのレーザー製品であることが証明されています。

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

### 注意：

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

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

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

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




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## Safety information

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


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## Consignes de sécurité


- La sécurité de ce produit repose sur des tests et des agrégations portant sur sa conception d'origine et sur des composants particuliers. Le fabricant n'assume aucune responsabilité concernant la sécurité en cas d'utilisation de pièces de rechange non agréées.
- Les consignes d'entretien et de réparation de ce produit s'adressent uniquement à un personnel de maintenance qualifié.
- Le démontage et l'entretien de ce produit pouvant présenter certains risques électriques, le personnel d'entretien qualifié devra prendre toutes les précautions nécessaires.
-  **ATTENTION :** Ce symbole indique la présence d'une tension dangereuse dans la partie du produit sur laquelle vous travaillez. Débranchez le produit avant de commencer ou faites preuve de vigilance si l'exécution de la tâche exige que le produit reste sous tension.

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## Norme di sicurezza

- La sicurezza del prodotto si basa sui test e sull'approvazione del progetto originale e dei componenti specifici. Il produttore non è responsabile per la sicurezza in caso di sostituzione non autorizzata delle parti.
- Le informazioni riguardanti la manutenzione di questo prodotto sono indirizzate soltanto al personale di assistenza autorizzato.
- Durante lo smontaggio e la manutenzione di questo prodotto, il rischio di subire scosse elettriche e danni alla persona è più elevato. Il personale di assistenza autorizzato deve, quindi, adottare le precauzioni necessarie.
-  **ATTENZIONE:** Questo simbolo indica la presenza di tensione pericolosa nell'area del prodotto. Scollegare il prodotto prima di iniziare o usare cautela se il prodotto deve essere alimentato per eseguire l'intervento.


## Sicherheitshinweise

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

## Pautas de Seguridad


- La seguridad de este producto se basa en pruebas y aprobaciones del diseño original y componentes específicos. El fabricante no es responsable de la seguridad en caso de uso de piezas de repuesto no autorizadas.
- La información sobre el mantenimiento de este producto está dirigida exclusivamente al personal cualificado de mantenimiento.
- Existe mayor riesgo de descarga eléctrica y de daños personales durante el desmontaje y la reparación de la máquina. El personal cualificado debe ser consciente de este peligro y tomar las precauciones necesarias.
-  **PRECAUCIÓN:** este símbolo indica que el voltaje de la parte del equipo con la que está trabajando es peligroso. Antes de empezar, desenchufe el equipo o tenga cuidado si, para trabajar con él, debe conectarlo.

## Informações de Segurança

- A segurança deste produto baseia-se em testes e aprovações do modelo original e de componentes específicos. O fabricante não é responsável pela segurança, no caso de uso de peças de substituição não autorizadas.
- As informações de segurança relativas a este produto destinam-se a profissionais destes serviços e não devem ser utilizadas por outras pessoas.
- Risco de choques eléctricos e ferimentos graves durante a desmontagem e manutenção deste produto. Os profissionais destes serviços devem estar avisados deste facto e tomar os cuidados necessários.
-  **CUIDADO:** Quando vir este símbolo, existe a possível presença de uma potencial tensão perigosa na zona do produto em que está a trabalhar. Antes de começar, desligue o produto da tomada eléctrica ou seja cuidadoso caso o produto tenha de estar ligado à corrente eléctrica para realizar a tarefa necessária.




## Informació de Seguretat

- La seguretat d'aquest producte es basa en l'avaluació i aprovació del disseny original i els components específics.  
El fabricant no es fa responsable de les qüestions de seguretat si s'utilitzen peces de recanvi no autoritzades.
- La informació pel manteniment d'aquest producte està orientada exclusivament a professionals i no està destinada a ningú que no ho sigui.
- El risc de xoc elèctric i de danys personals pot augmentar durant el procés de desmuntatge i de servei d'aquest producte. El personal professional ha d'estar-ne assabentat i prendre les mesures convenients.
-  **PRECAUCIÓ:** aquest símbol indica que el voltatge de la part de l'equip amb la qual esteu treballant és perillós. Abans de començar, desendolieu l'equip o extreu les precaucions si, per treballar amb l'equip, l'heu de connectar.

## 안전 사항

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

## 安全信息

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

# Preface

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





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

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## 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:

	<p><b>CAUTION</b></p> <p>A caution identifies something that might cause a servicer harm.</p>
	<p><b>CAUTION</b></p> <p>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.</p>
	<p><b>CAUTION</b></p> <p>This type of caution indicates a hot surface.</p>
	<p><b>CAUTION</b></p> <p>This type of caution indicates a tipping hazard.</p>

# 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	54	7.0
Standby mode	32	

## Environment

Specified operating environment	
Operating temperature	15.6 C to 32.2 C (60 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

<b>Scanner</b>	
Number of light sources	1
Color bit depth	24
Maximum optical resolution	600 x 600
Scan area - flatbed	297 x 432 mm
<b>Scanner ADF</b>	
Type	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 <sup>2</sup> ) bond
Media weight	Maximum 32 lb (128g/m <sup>2</sup> )
Media weight	Minimum 16 lb (38 g/m <sup>2</sup> ) (50 g/m <sup>2</sup> for duplex mode)
Speed - maximum (Letter/A4 long-edge fed)	Mono: up to 45 SPM 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%

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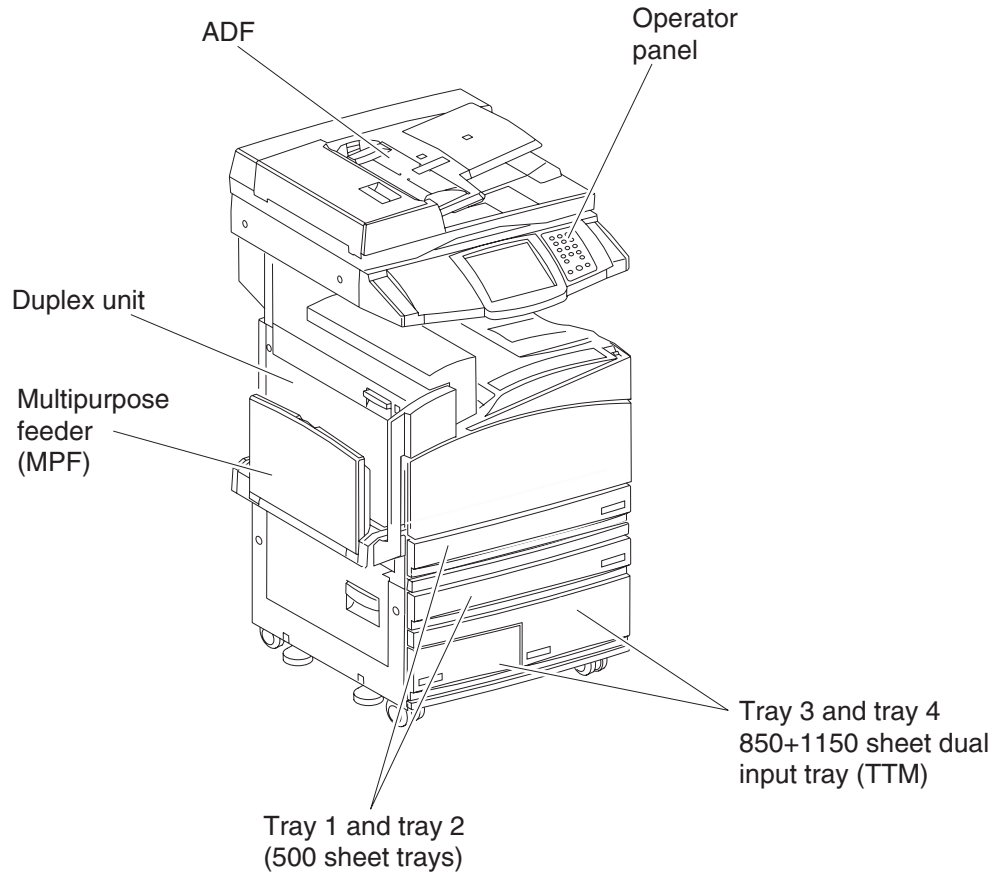
## Printer overview



**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.

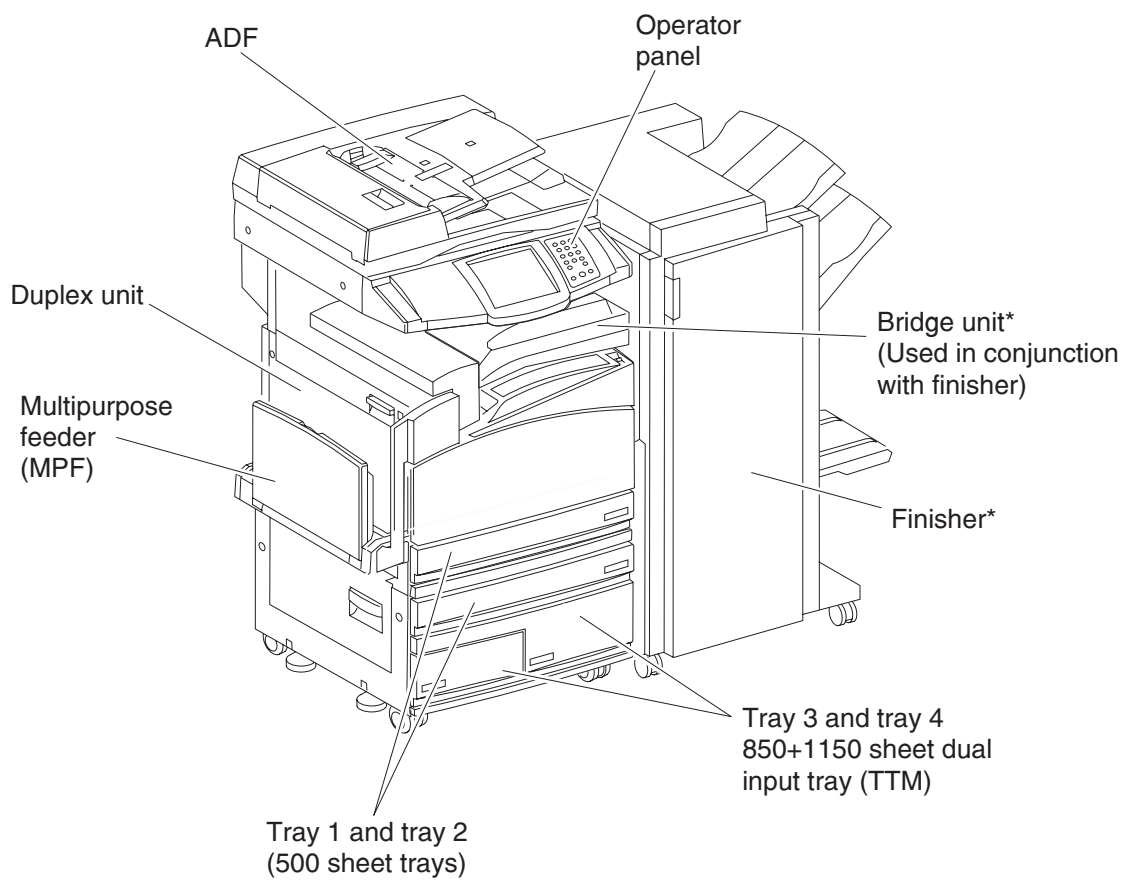
### Basic model

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.

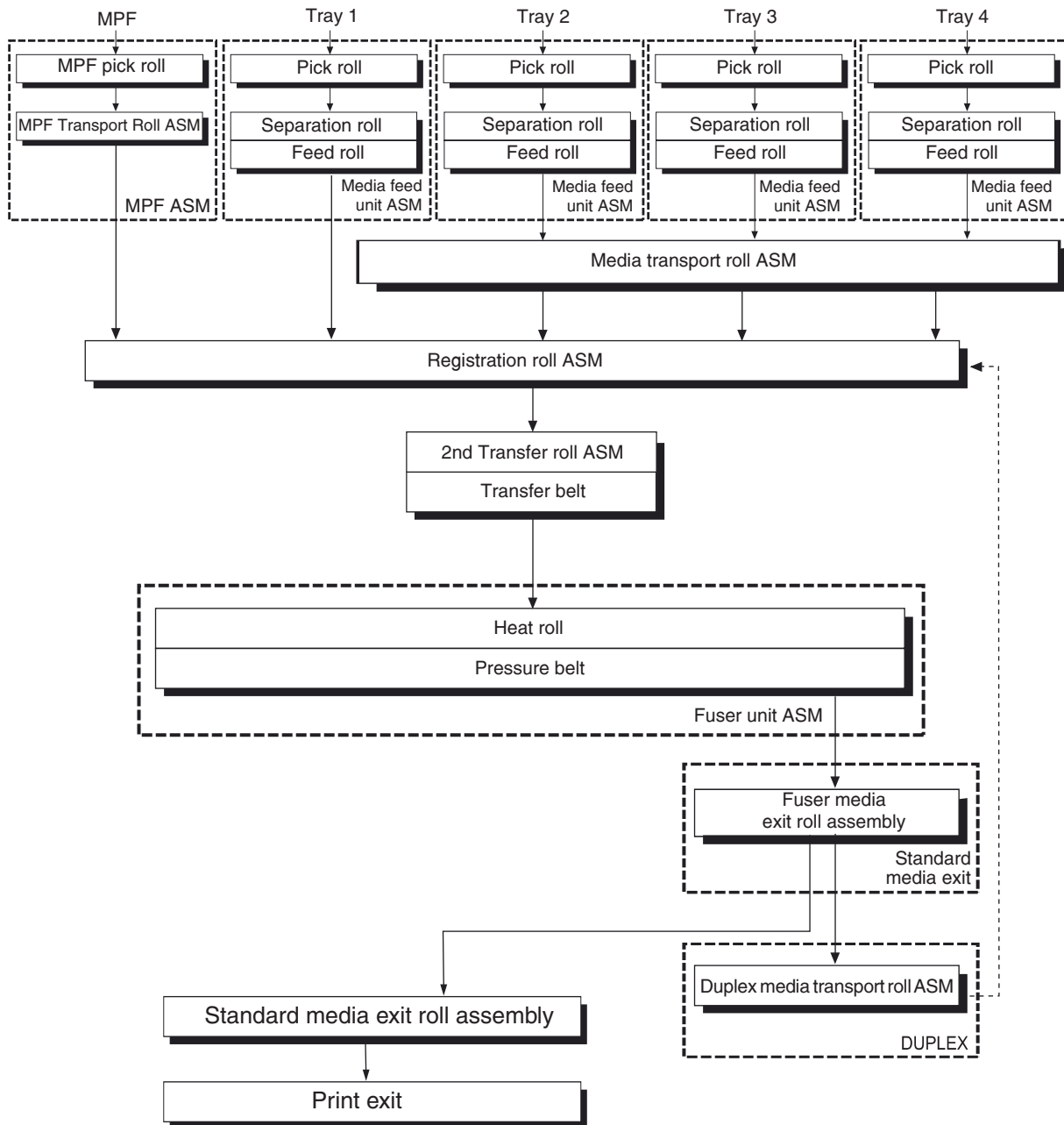


# Printer theory

## Media transport

### Media transport path

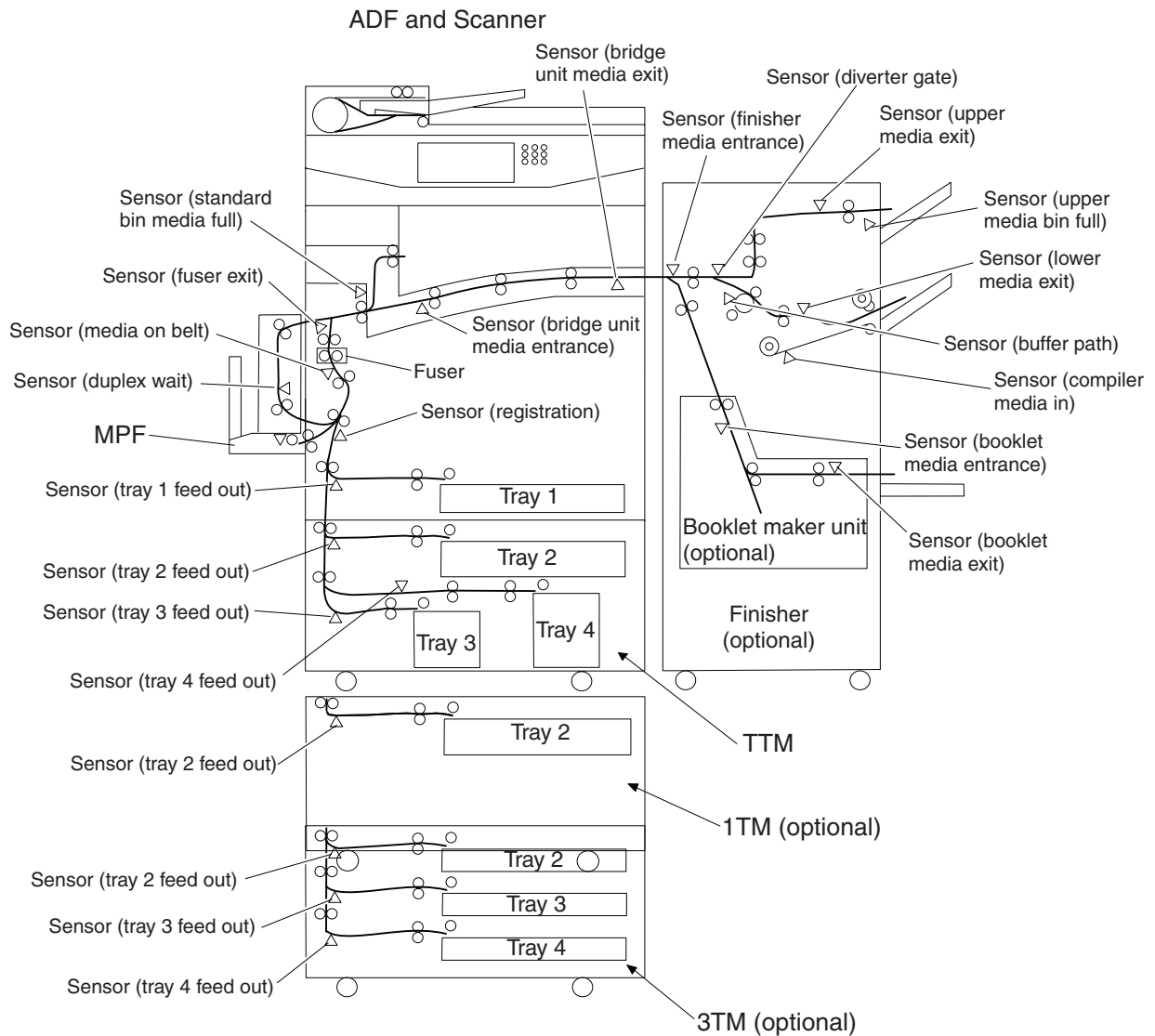
Media is supplied from the MPF, tray 1, 2, 3 or 4, and is transported to the printer along the media transport path shown below.







## MFP 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.

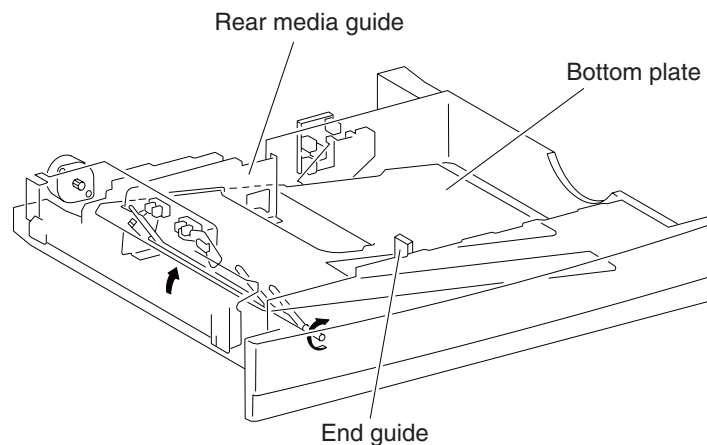
## End guide

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)

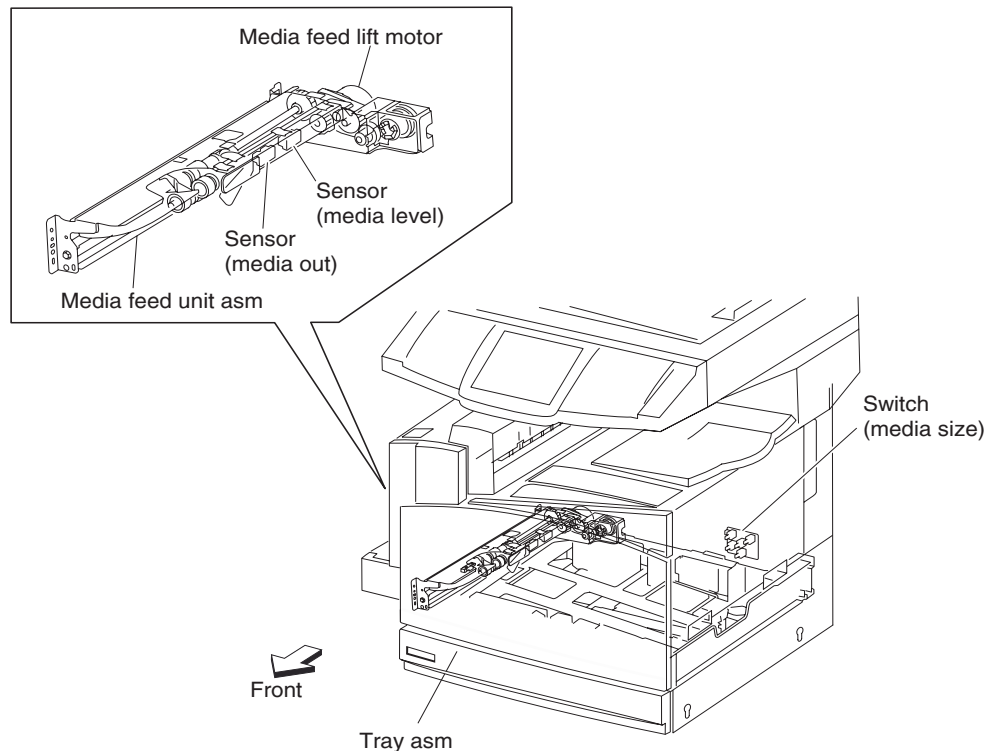
If media runs out in a media tray assembly, the actuator lowers and the actuator flag, unlocks the sensing area of the sensor (media out). The sensor light is transmitted. When the sensing area is blocked (media is present), the signal is off.

## 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 supplying 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**

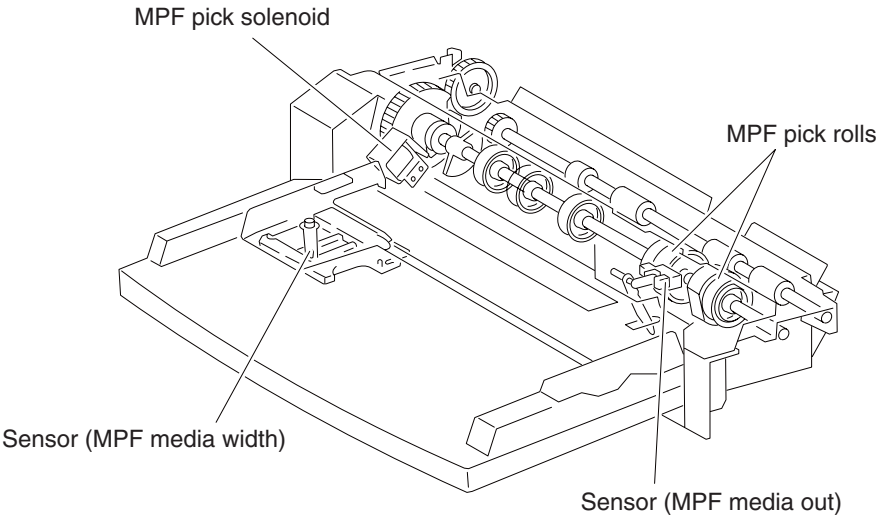
The MPF pick solenoid transmits the driving force from the MPF/transport drive to the MPF feed rolls.

**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.



**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
MPF only	5.5 to 11.7 inches	3.9 to 17 inches
	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

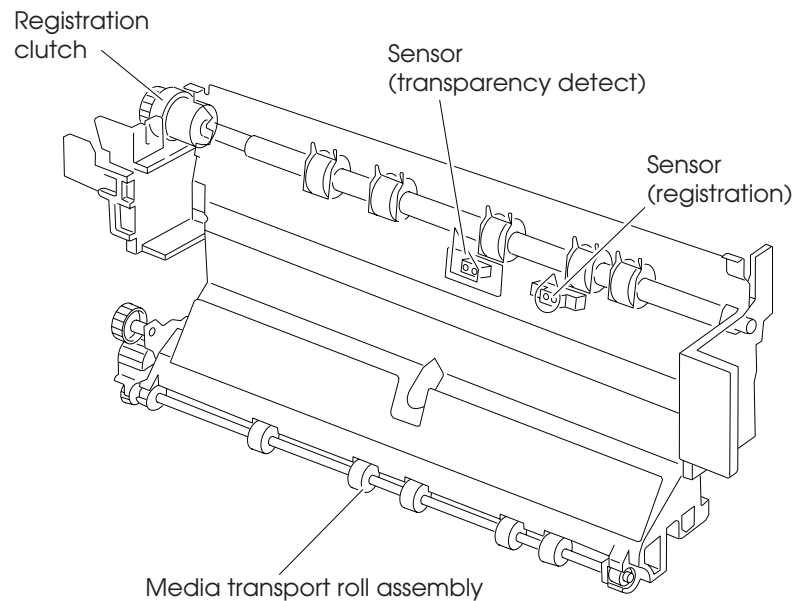
The registration clutch transmits the drive force of the K developer/transport drive motor to the registration roll assembly.

### Media transport roll assembly

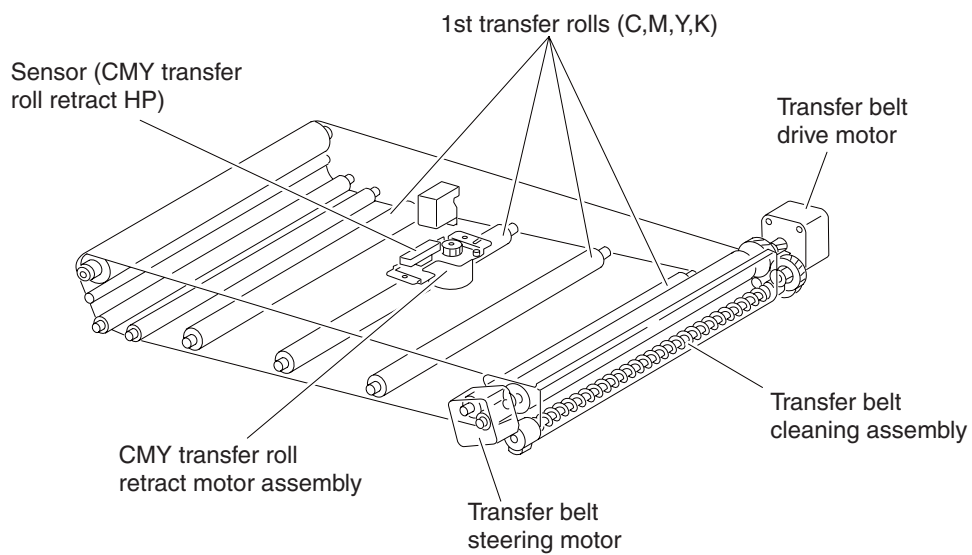
The media transport roll assembly feeds paper from tray 2, tray 3 and tray 4 toward the registration roll assembly.

### 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



### 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 belt unit assembly**

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**

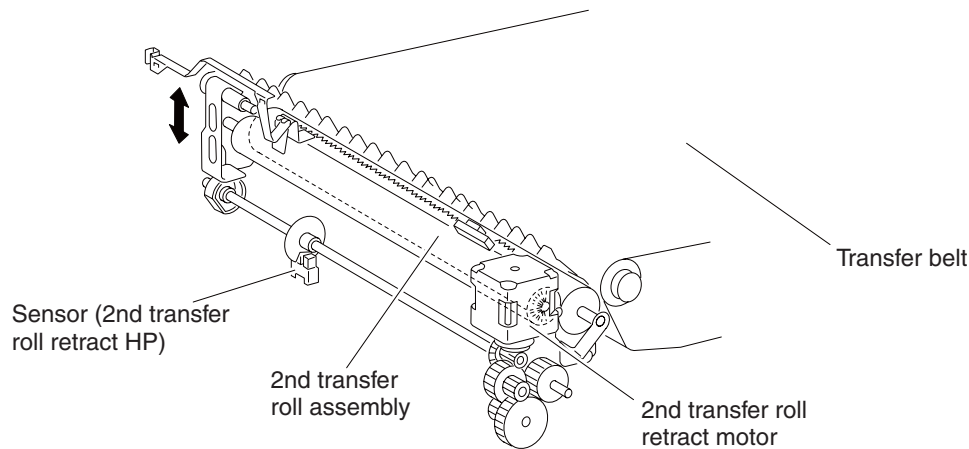
The 2nd transfer roll assembly applies positive charges to the rear surface of the media when the media passes between the 2nd transfer roll assembly and the transfer belt. The negatively charged toner image is attracted by positive charges on the surface of the media. Thus, the toner image is transferred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

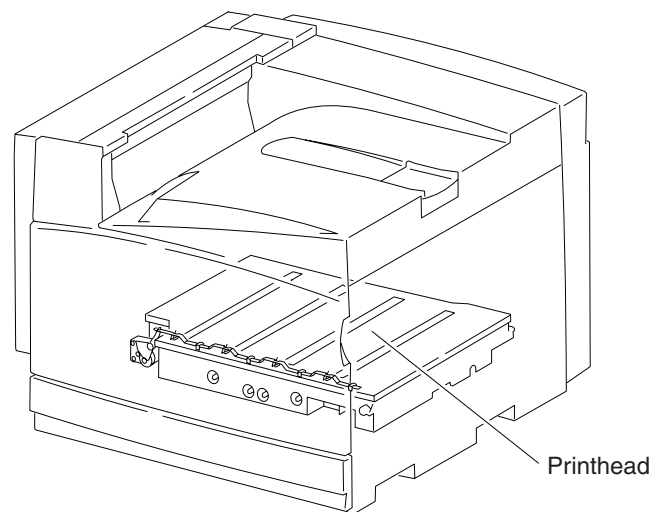
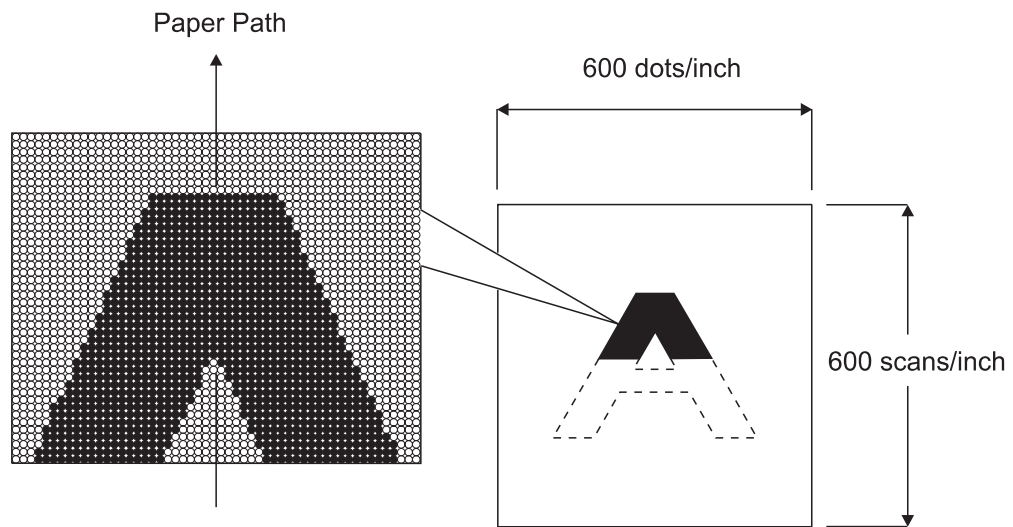
The printhead scans the four drum surface with four laser beams. It consists of four components: laser diode (LD) card assembly, printhead motor, polygon mirror, and four start of scan card assemblies.

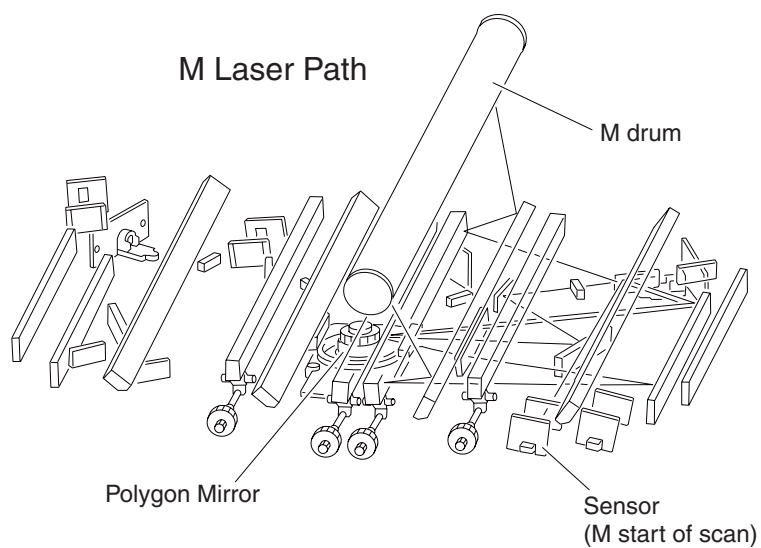
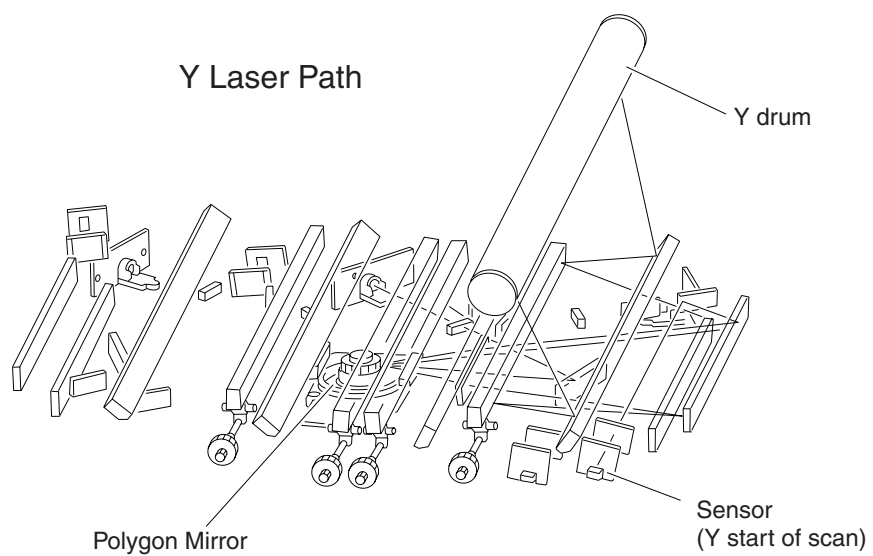
1. LD card assembly — generates a laser beam with the four LDs. The beam is turned on or off according to a print data signal. The printhead contains 4 LD card assemblies for the colors CMY & K.
2. Printhead motor/polygon mirror — the polygon mirror is mounted to the shaft of the printhead motor, and 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.
3. 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.

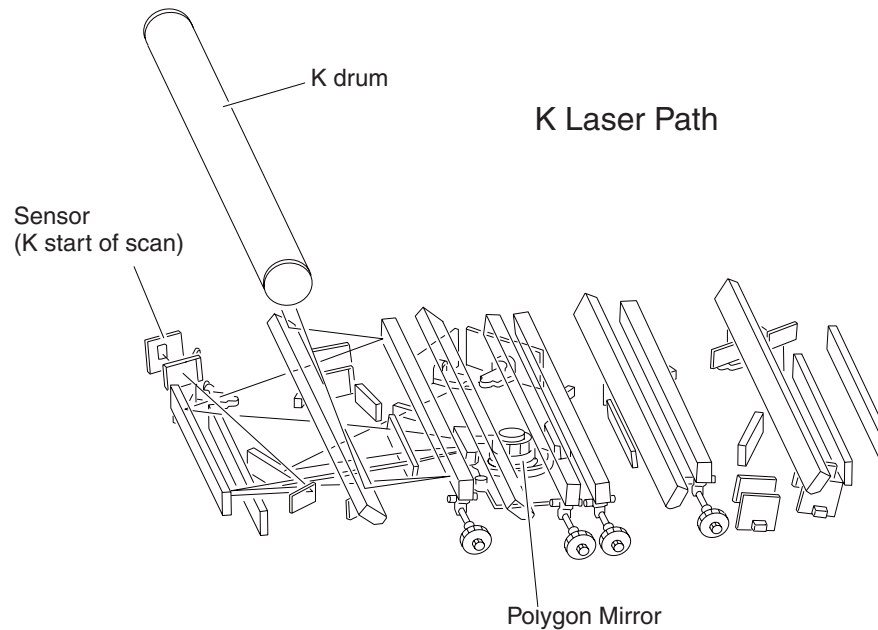
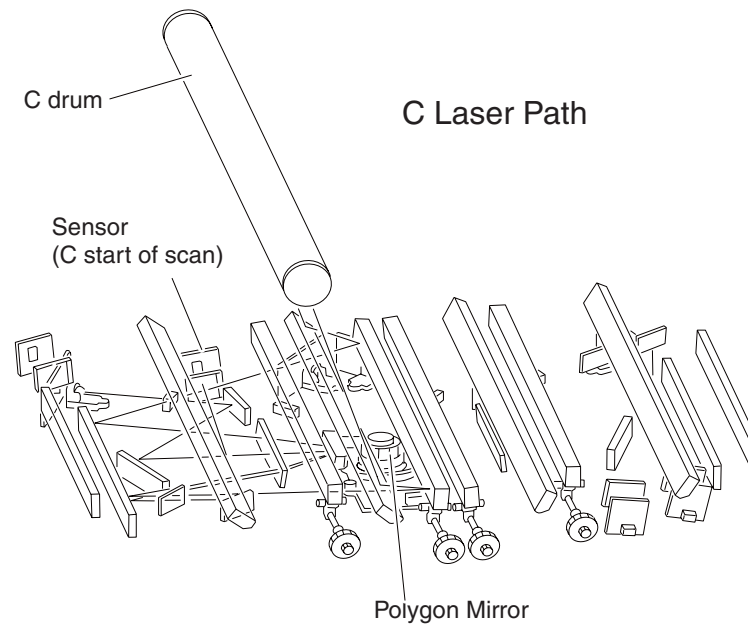
When a laser beam is scanned across the drum surface from one end to the other while turning on and off the beam, one line of latent image is created. If the scanning by the laser beam is repeated while rotating the drum, a two-dimensional image is created. The resolution in the scanning direction (from 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 sooner the scanning of the next row can be started.)



Conceptual diagram of an image created by scanning





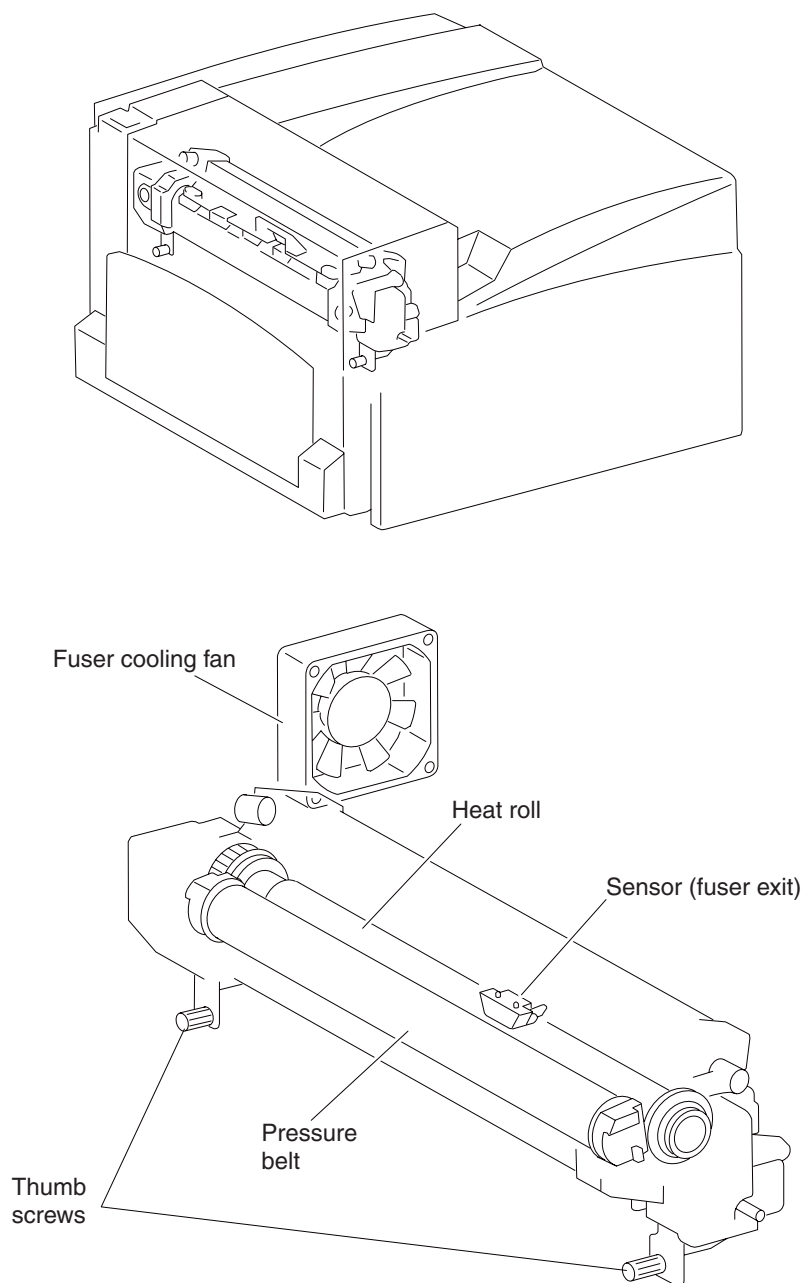


### Printhead shutter

The printhead shutter tightly covers the slit glass through which laser beams from the printhead pass to write the four drums. To prevent the slit 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

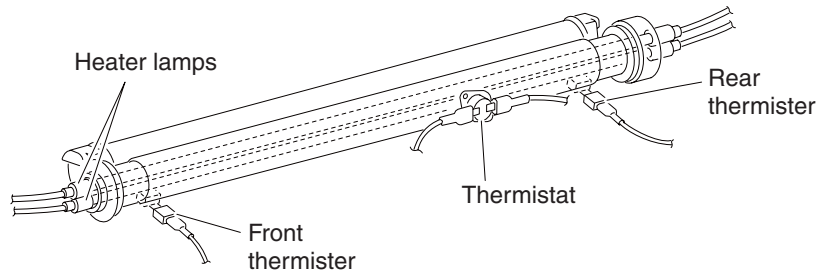


### Heat roll

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.

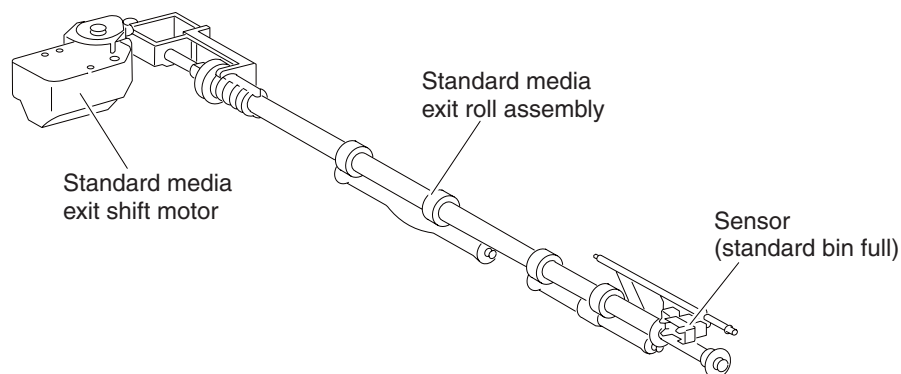
## Rear thermistor

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)

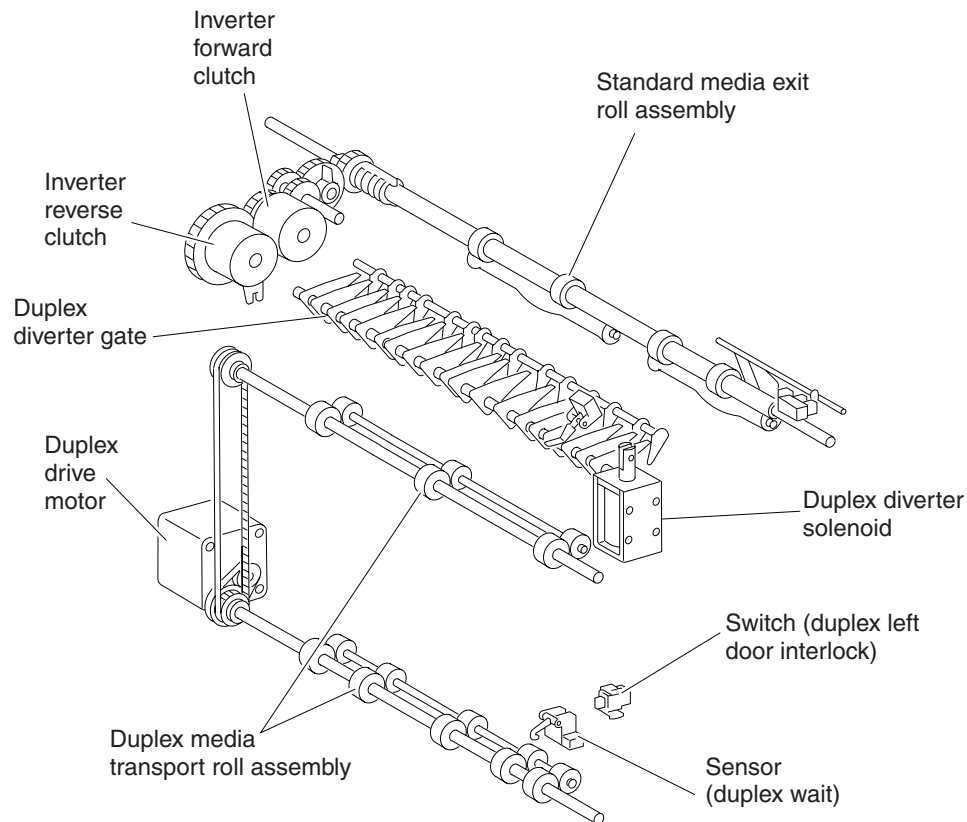
The sensor (standard bin full) detects whether the standard bin is full by moving the actuator up and down.

## 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.



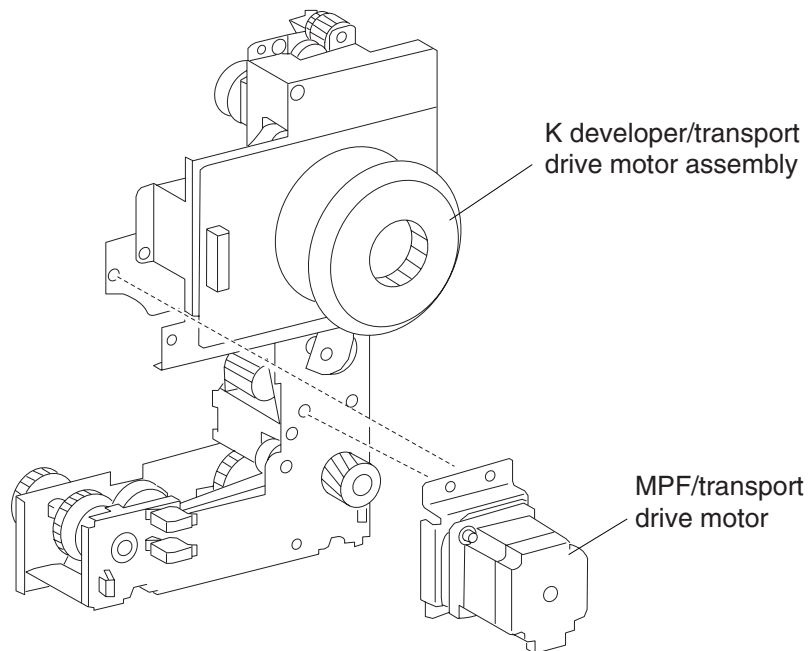
## Drive

### 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.

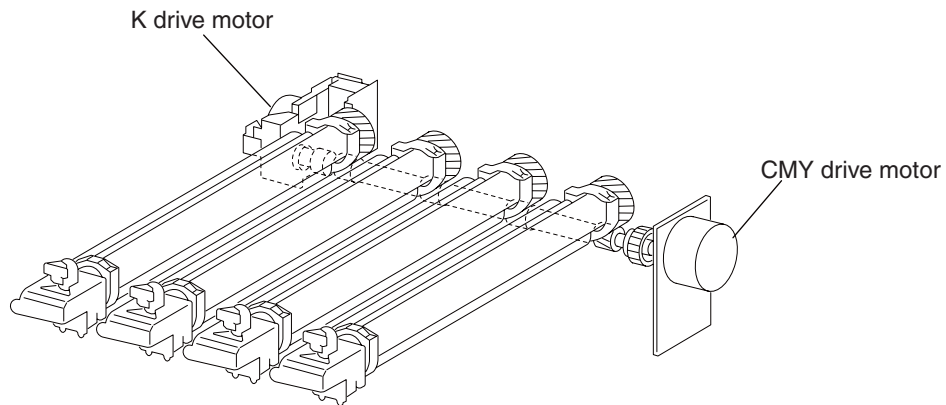
### MPF/transport drive motor

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.

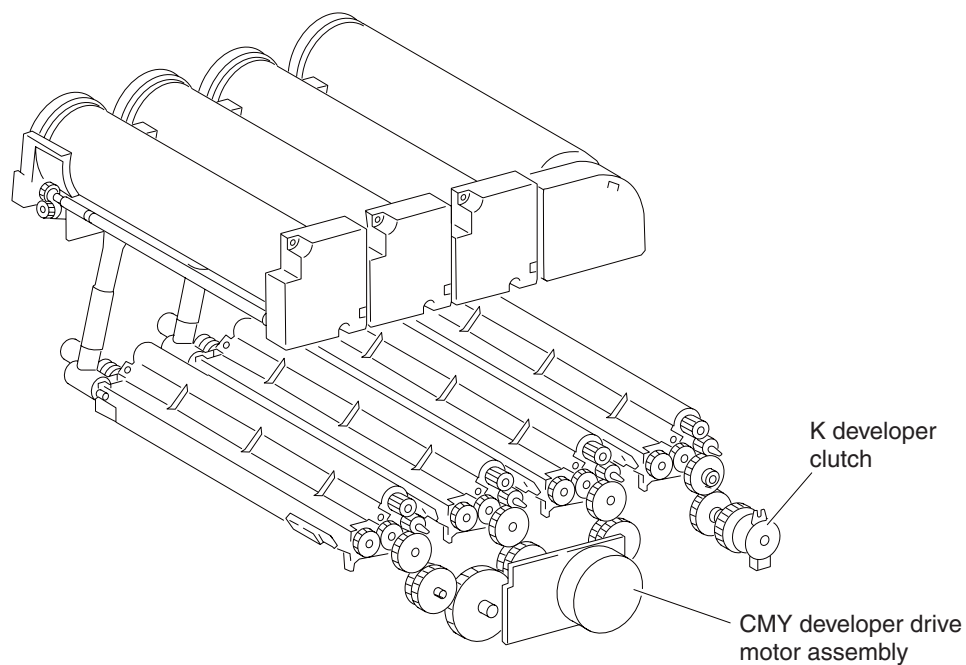


## CMY developer drive motor assembly

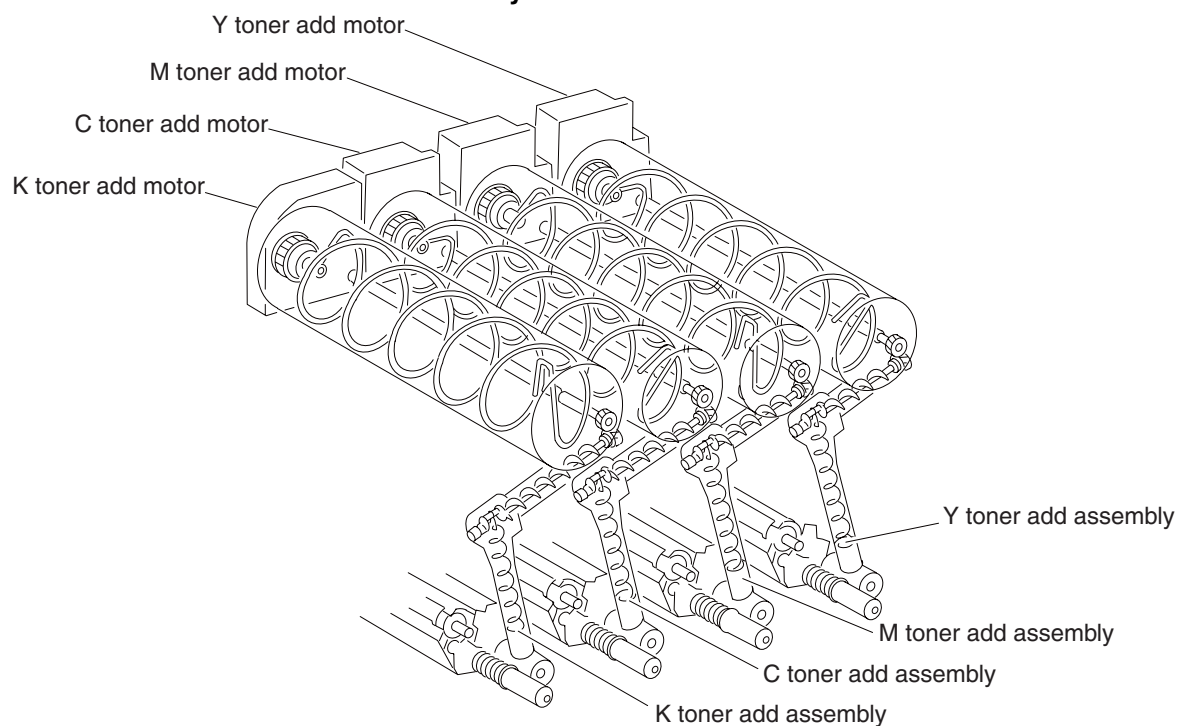
The CMY developer drive motor assembly uses a DC brushless motor to drive the three color developer unit assemblies.

## 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.



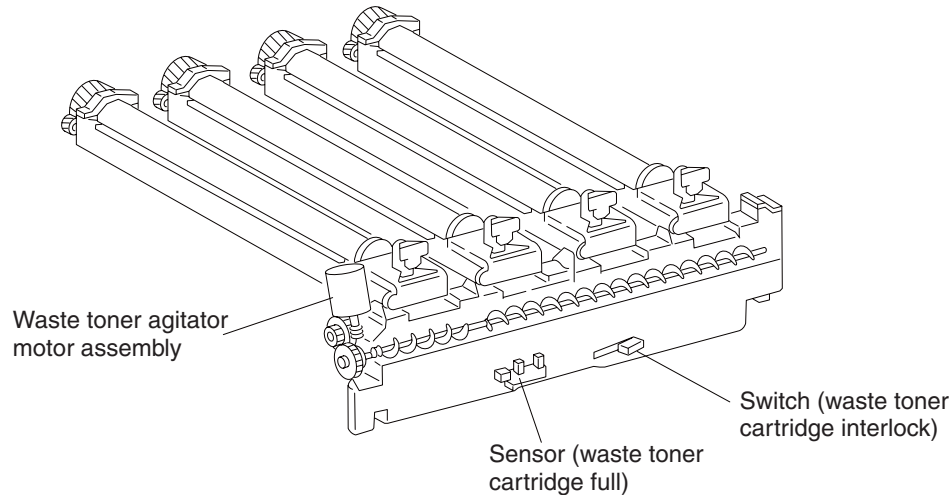
## CMYK toner add motor assembly





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**

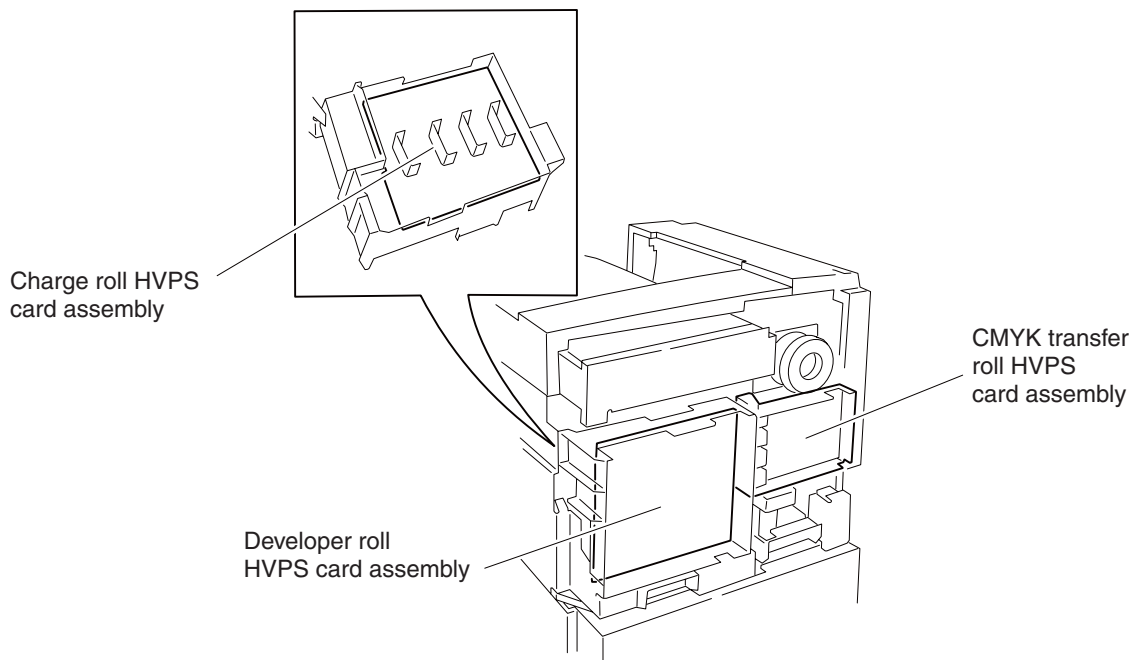
The CMYK transfer roll HVPS card assembly generates AC power and feeds it to the CMYK transfer rolls inside the transfer belt unit assembly.

**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

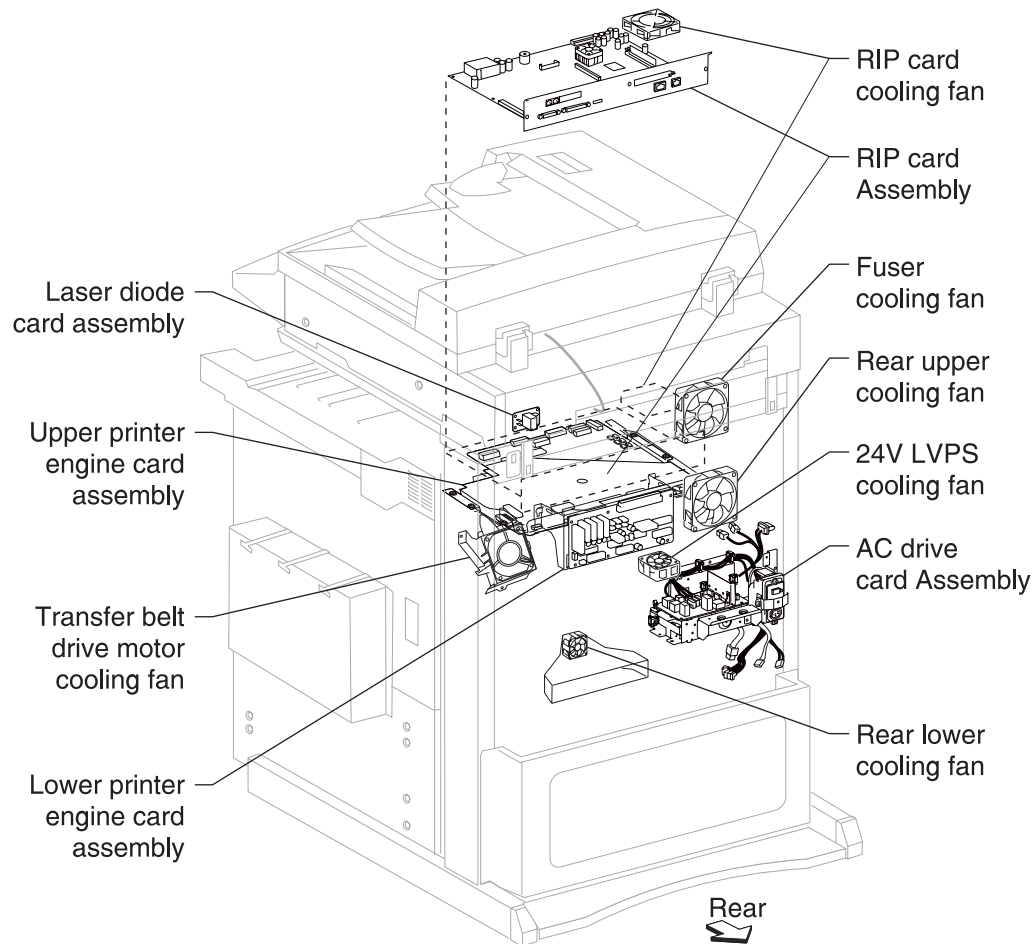
The upper printer engine card assembly controls printing operation based on the communication with the RIP card assembly and optional peripherals. It also controls toner dispense, erase lamps and fuser control.

## 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.



## Control

### 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.

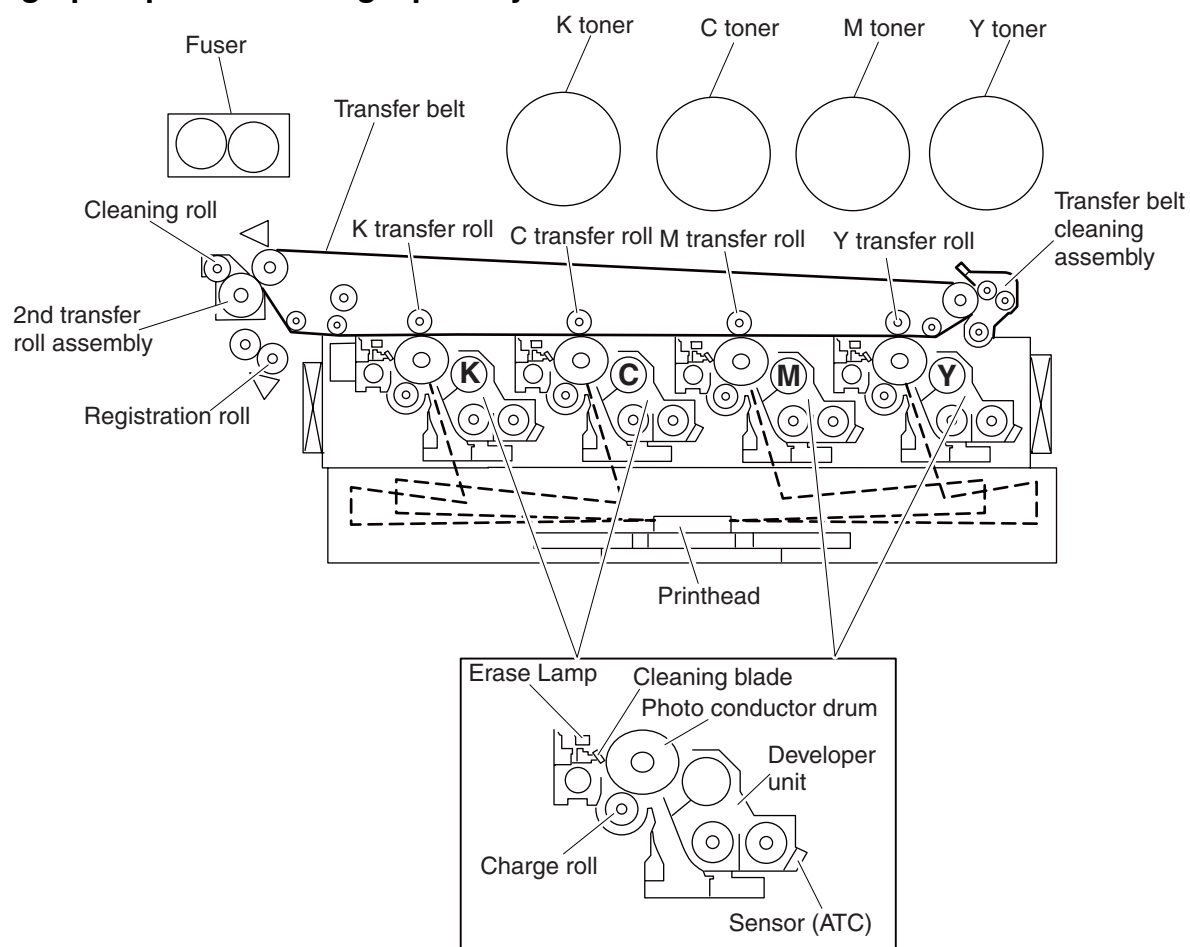
### Main/sub heater lamps on/off control

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

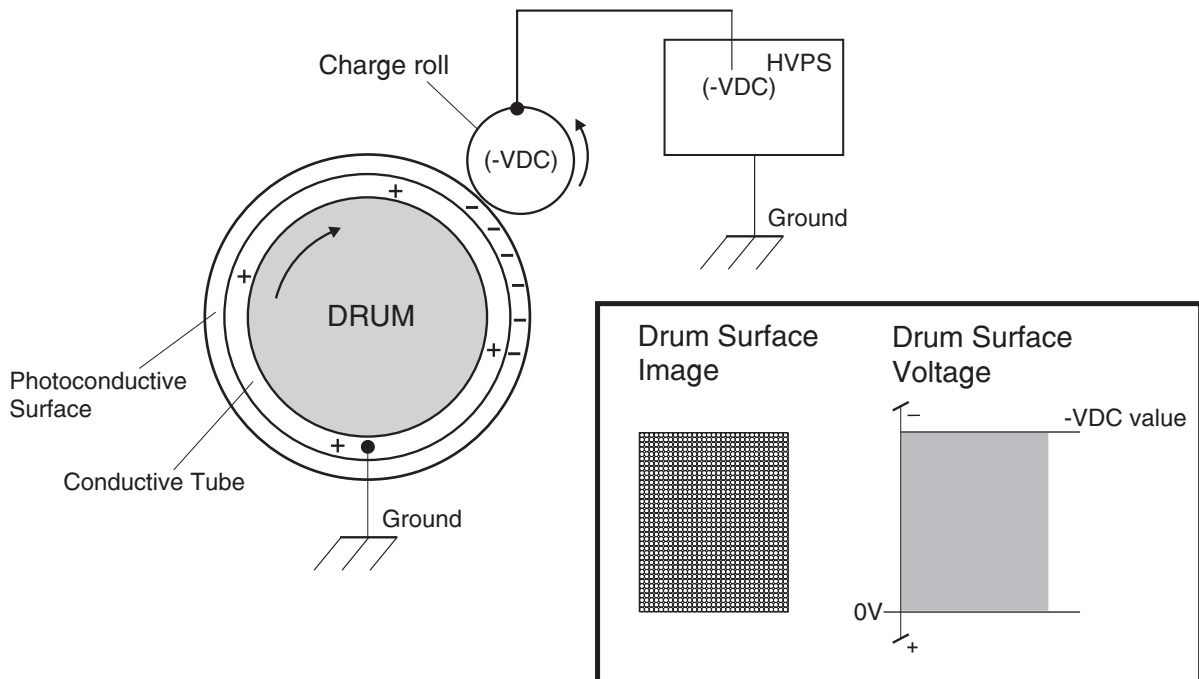
The fuser warm-up starts at the time of power on, interlock open or close, jam reset, or return from the low power mode, and ends when the ready temperature is attained, when a failure occurs, or when executing diagnosis.

## Xerographic process during a print cycle

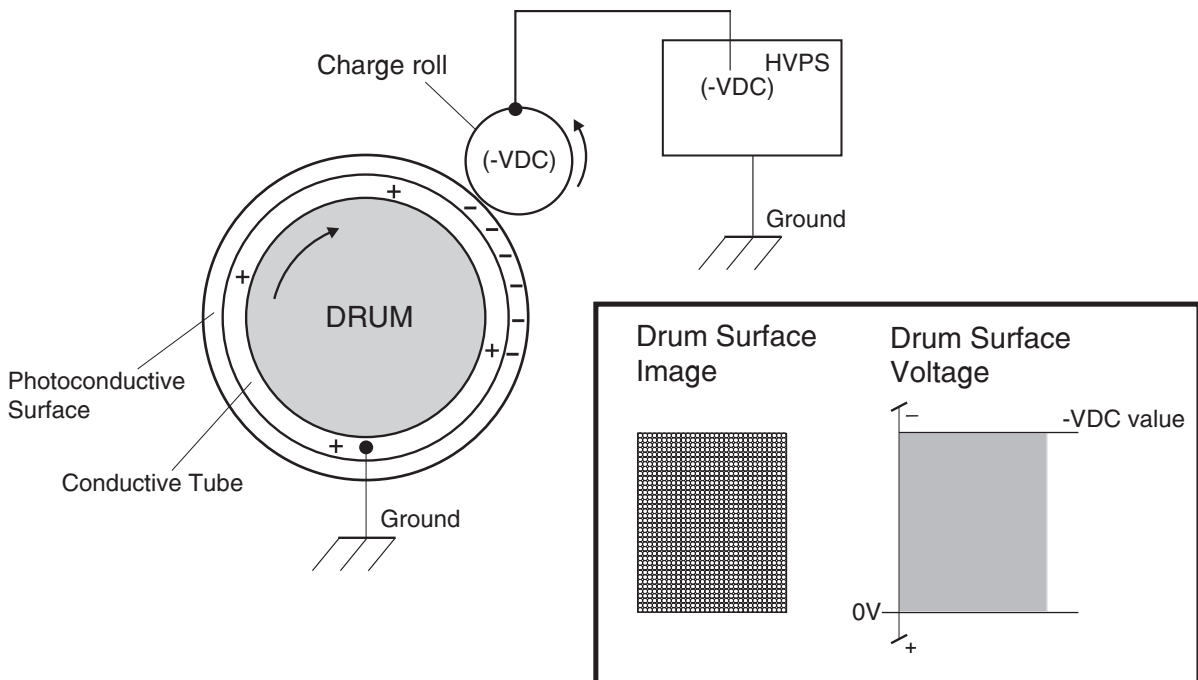


## Charge

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.



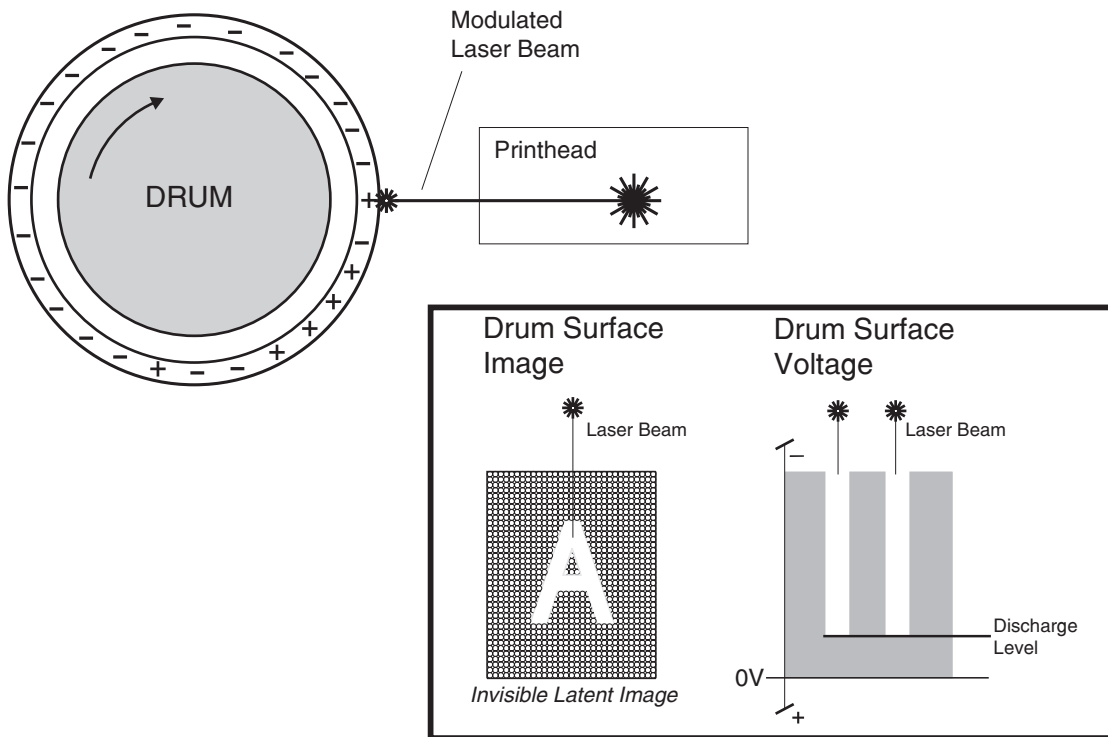
The charge roll is a conductive roll that is positioned slightly above the surface of the drum. The HVPS supplies the charge roll with two voltages; a negative DC charge voltage and an AC discharge voltage that is used for electrically cleaning the drum.



## 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

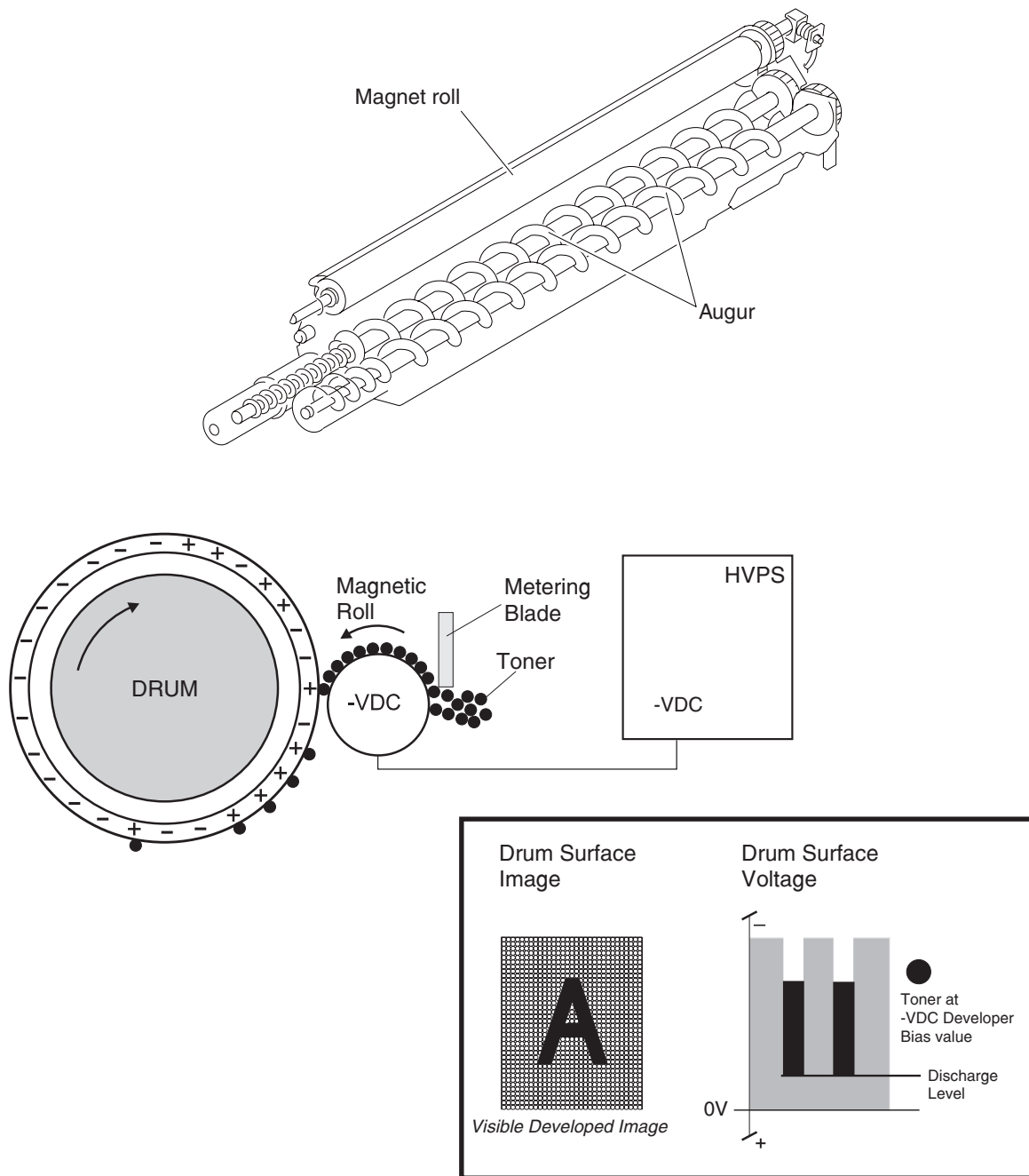
The toner contained within the PC Cartridge has a magnetic property that causes it to adhere to the Magnetic Roll. The Metering Blade spreads the toner into a very thin layer on the Magnetic Roll. Friction between the Magnetic Roll and the CM Blade generates a small electrical charge that is transferred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



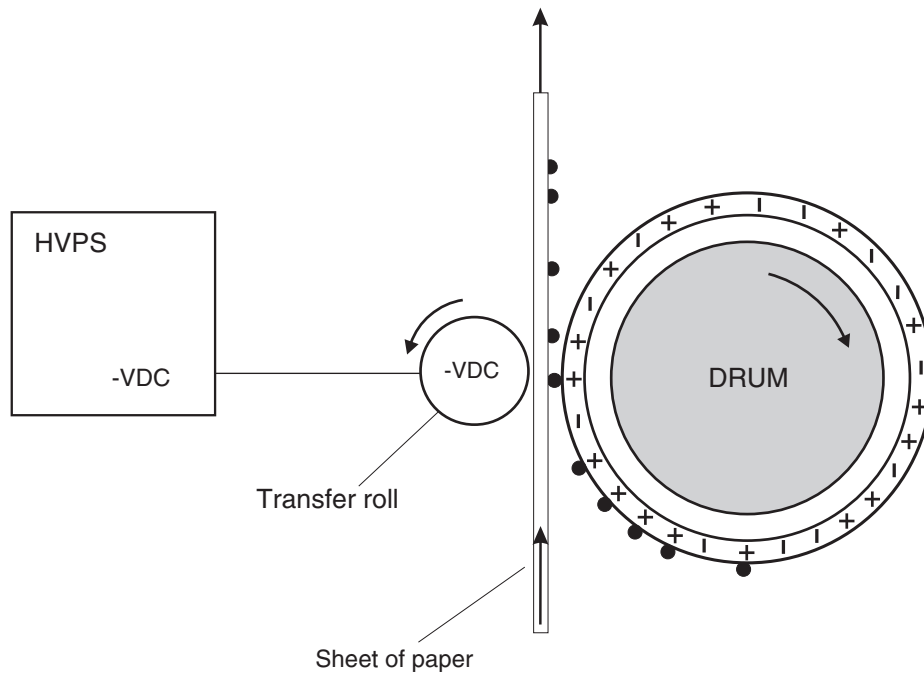
The toner adhering to the Magnet Roll is always in contact with the drum surface. When a less negative point on the drum (a discharged area) comes in contact with the more negative charged toner on the Magnet Roll, toner transfers from the Magnet Roll to that point on the drum. There is now a visible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



## Transfer

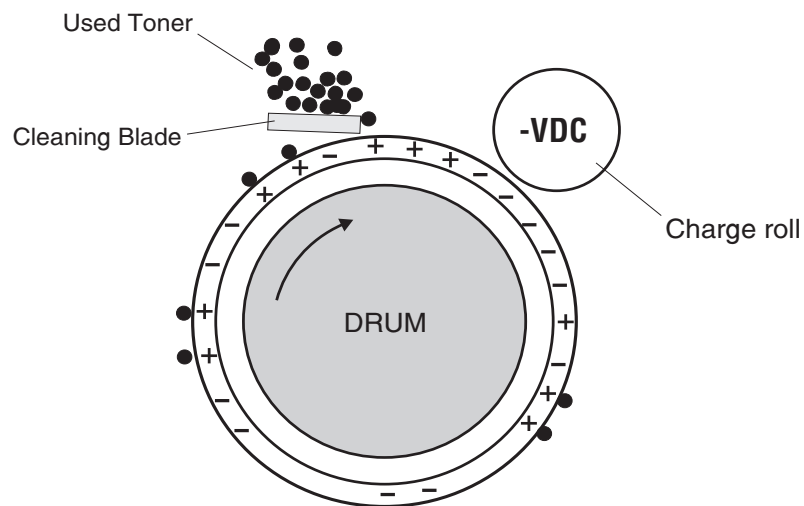
As the paper travels between the 2nd transfer Roll and the transfer belt surface, the Transfer Roll applies a positive charge to the back of the printing paper. This positive charge transfers the negative charged toner image from the transfer belt to the top surface of the paper. The toner image is now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

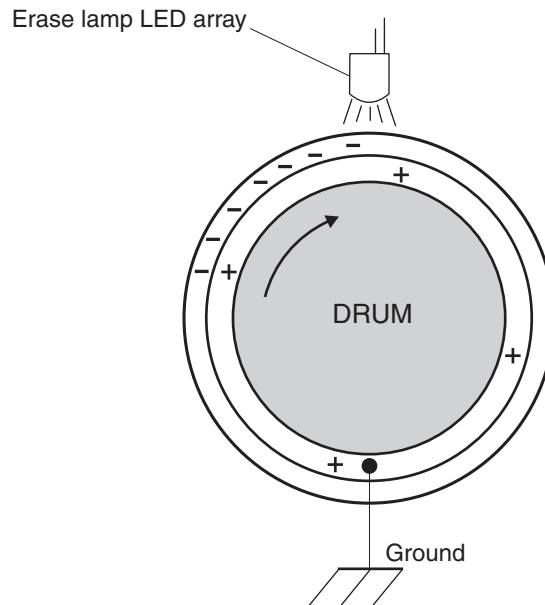
The Cleaning Blade removes any toner that remains on the drum after the transfer process. The toner that the Cleaning Blade removes is collected inside the sealed PC Cartridge and reused.



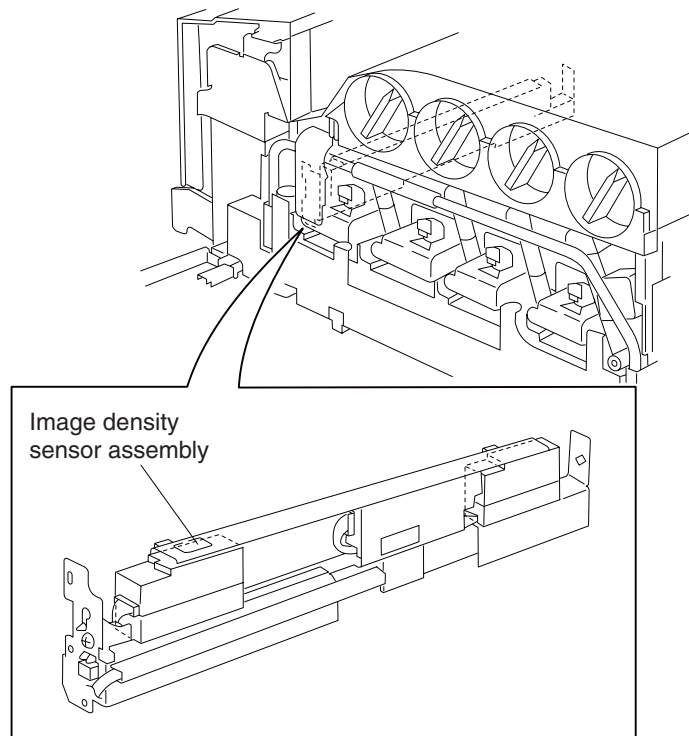
## Discharge

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.

At the beginning of each individual printer cycle, the Printhead scans the surface of the drum, further discharging any residual DC charge that may be left on the drum.



### Auto density sensing

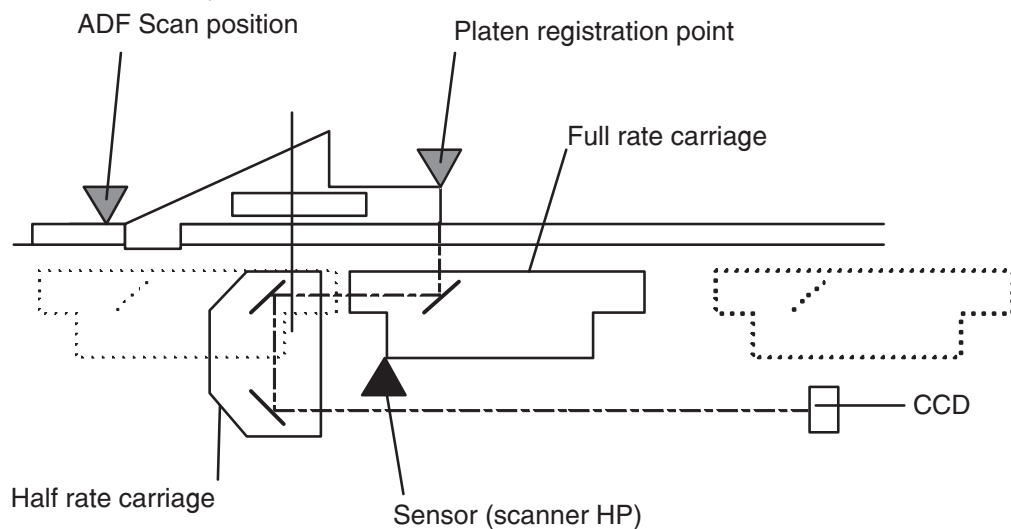


The image density sensor assembly uses a reflection type sensor that detects a pre-placed toner patch and image on the transfer belt and outputs pulses when the central line of the patch image aligns with the central line of the detector. The sensor outputs pulses at the timing the patch image passes 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

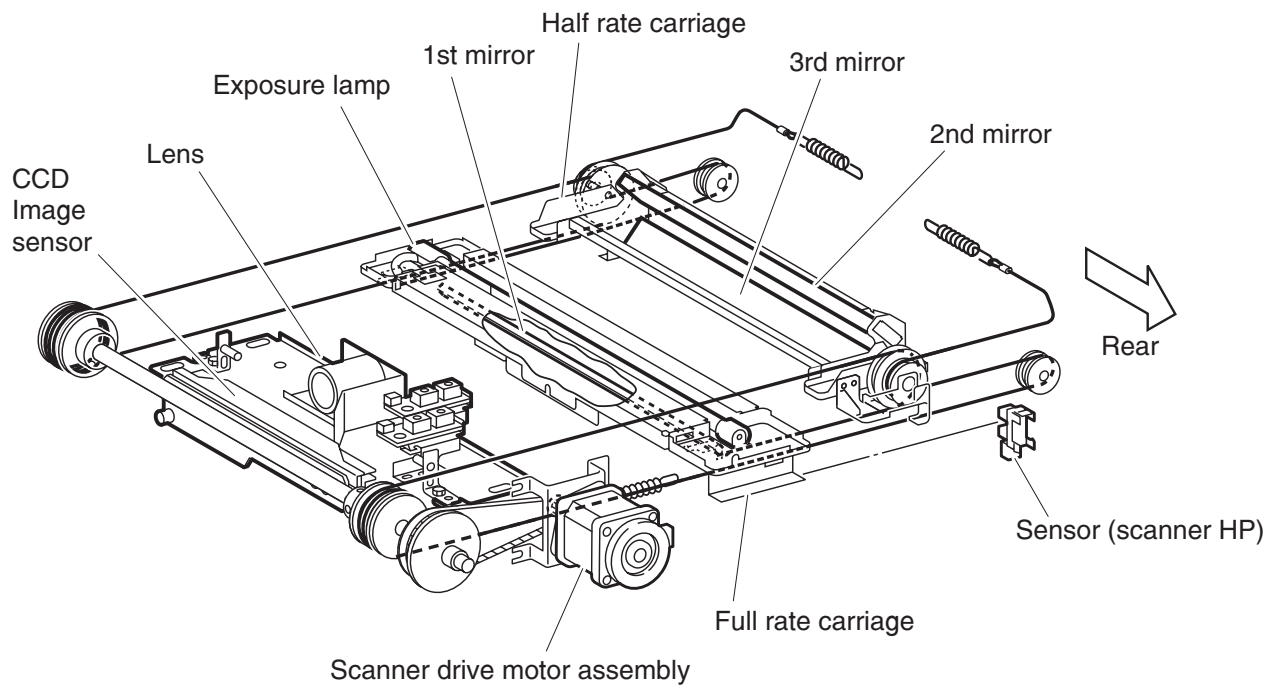
The document scanning section of this machine consists of a scanner that reads a single-sheet document placed on the platen glass and a document feeder that can transport a multiple-sheet document and flip the sheets for two-sided scanning.

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.

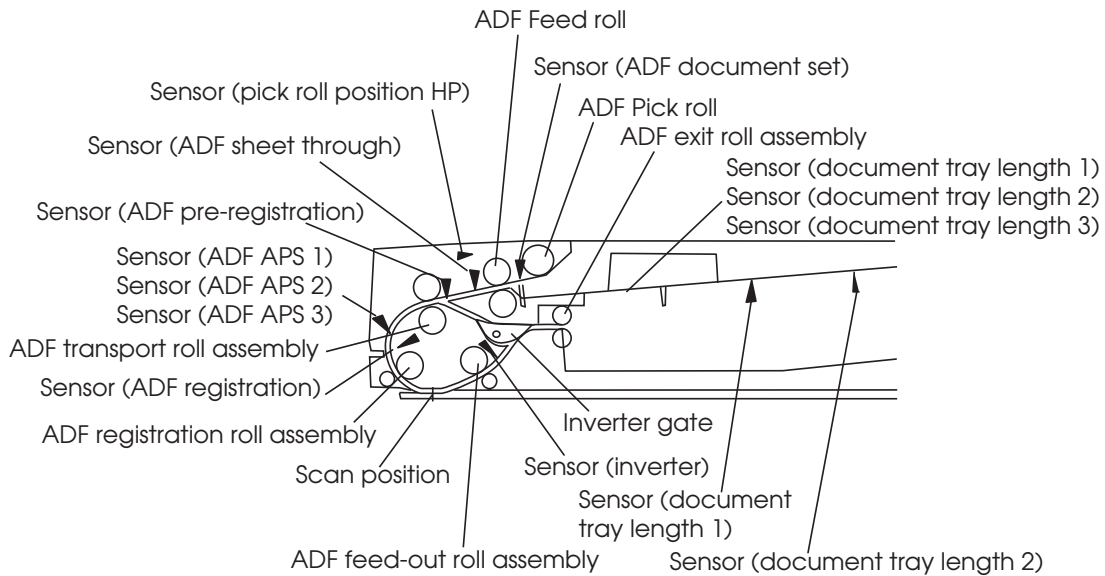
In conjunction with the full rate carriage, the half rate carriage travels half of the stroke of the full rate carriage.

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.

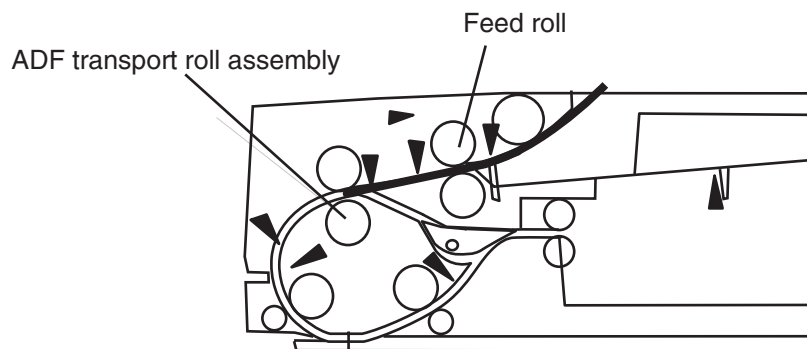
Upon completion of document feed, the pick roll returns to the normal (raised) position.

## 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.

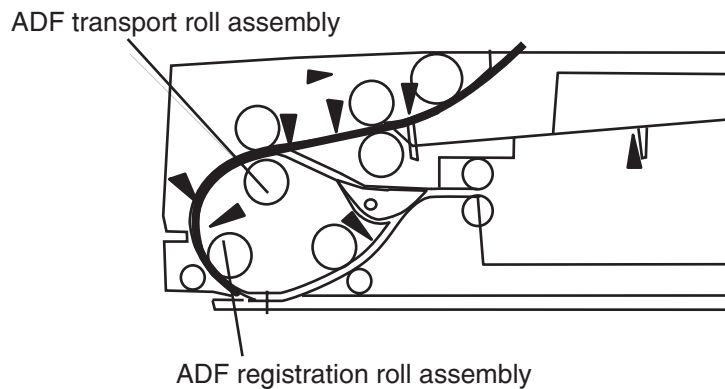


## Pre-registration

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, 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.



## 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

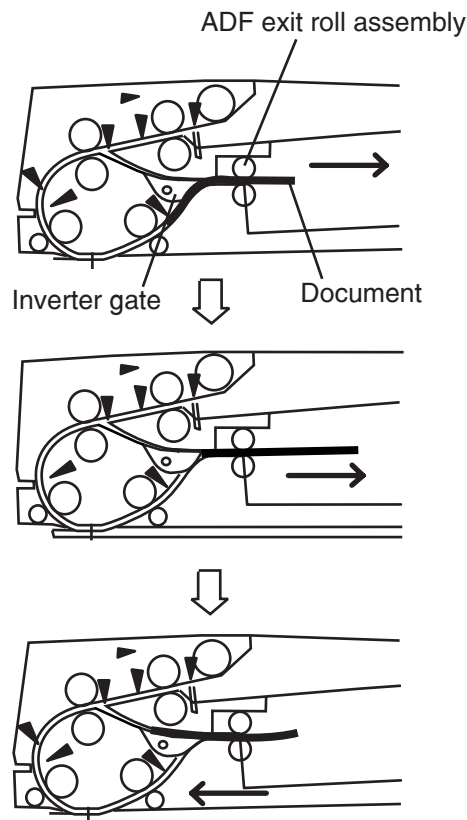
In the inversion step, the document sheet is inverted at the inverter gate and fed to the ADF transport roll assembly again. By thrusting the document sheet against the ADF transport roll assembly at rest, the skew of the inverted document sheet is corrected.

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.

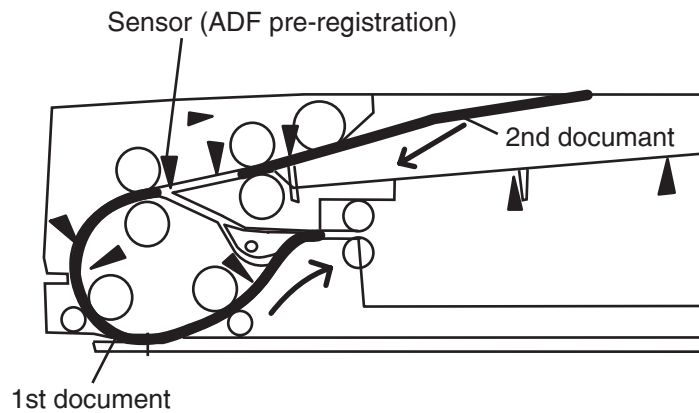


## Simplex document

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)
4. 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

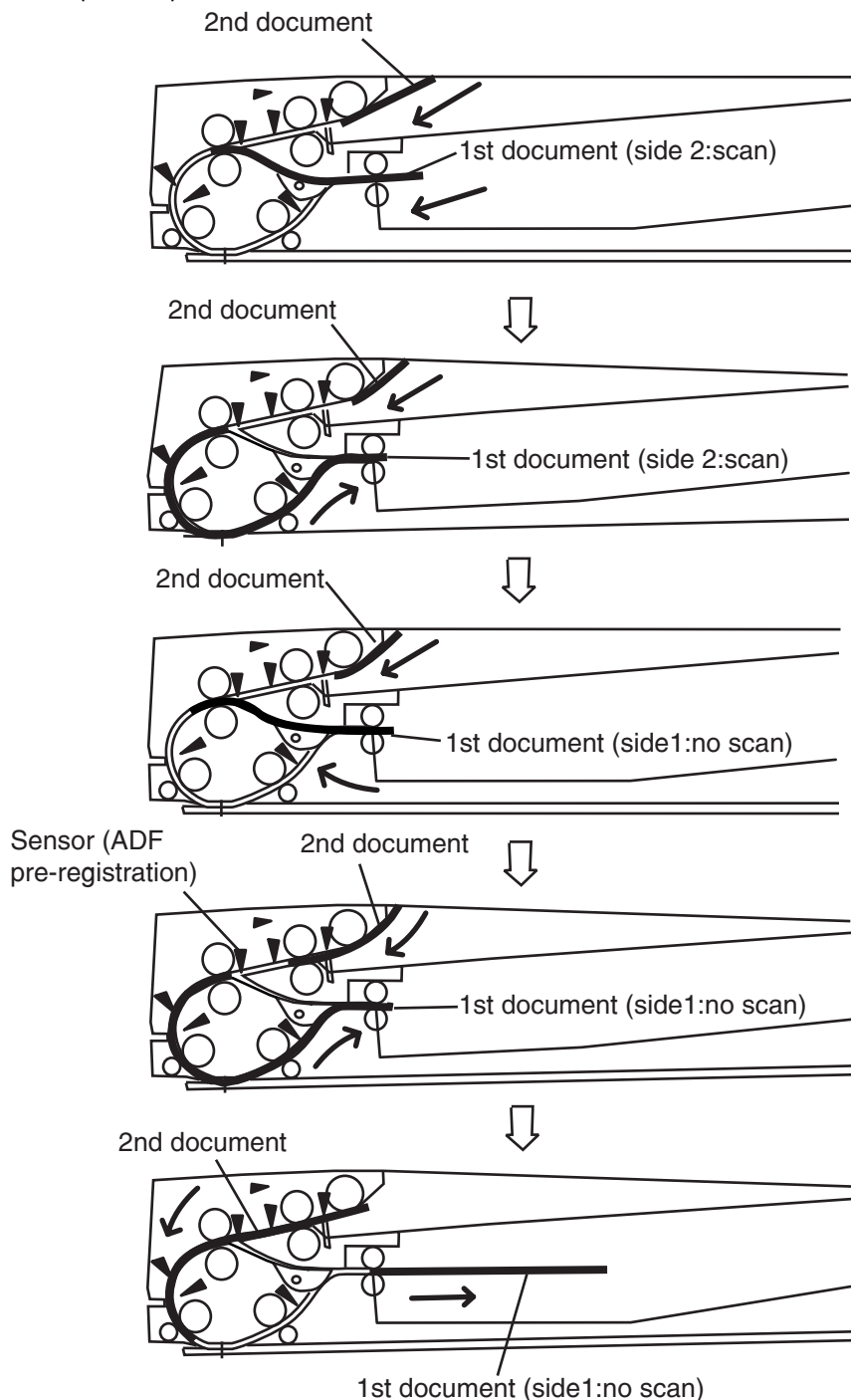
The ADF scans the image on Side 1 (side facing up when set on the tray), inverts the document sheet, scans the image on Side 2 (side facing down when set on the tray), and then ejects the document sheet while inverting it.

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.

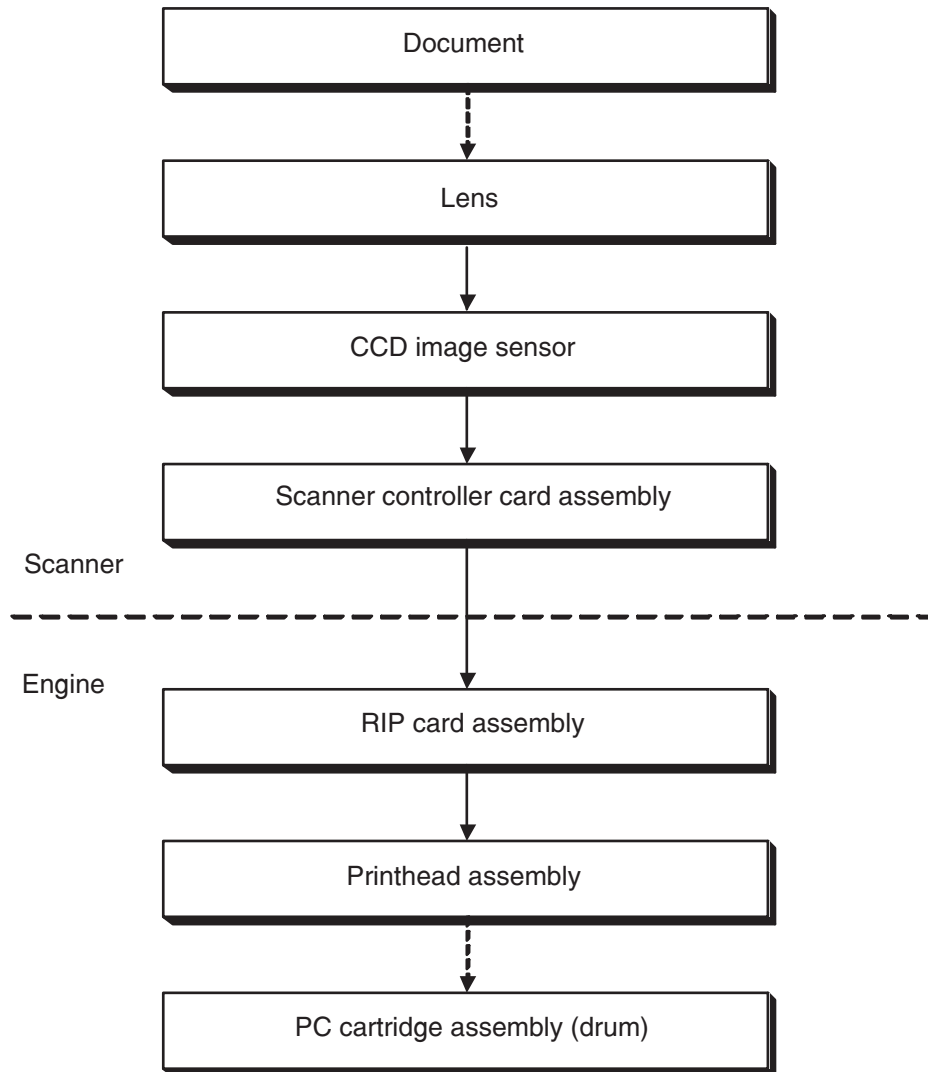
11. When the sensor (ADF pre-registration) detects the lead edge of document sheet (Side 1), the inverter solenoid assembly is turned on to release the nipped ADF exit roll assembly and exit pinch roll, and the ADF registration motor decelerates and stops.
12. After the predetermined time, the ADF registration 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.



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## Image data flow

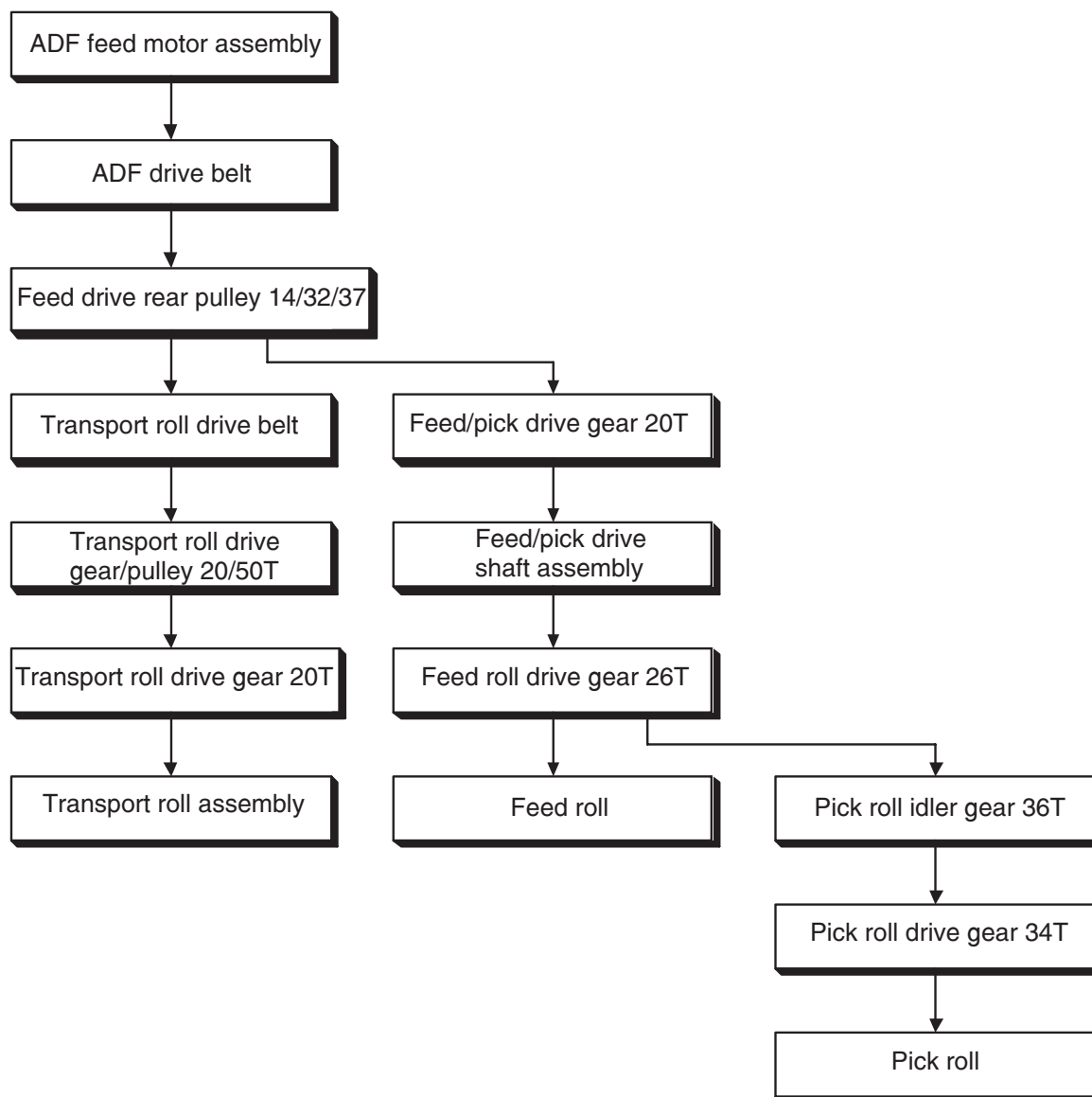
The image data from the document set on the scanner unit assembly or ADF goes through the following components before it is printed at the Engine section.



## Drive torque transfer scheme

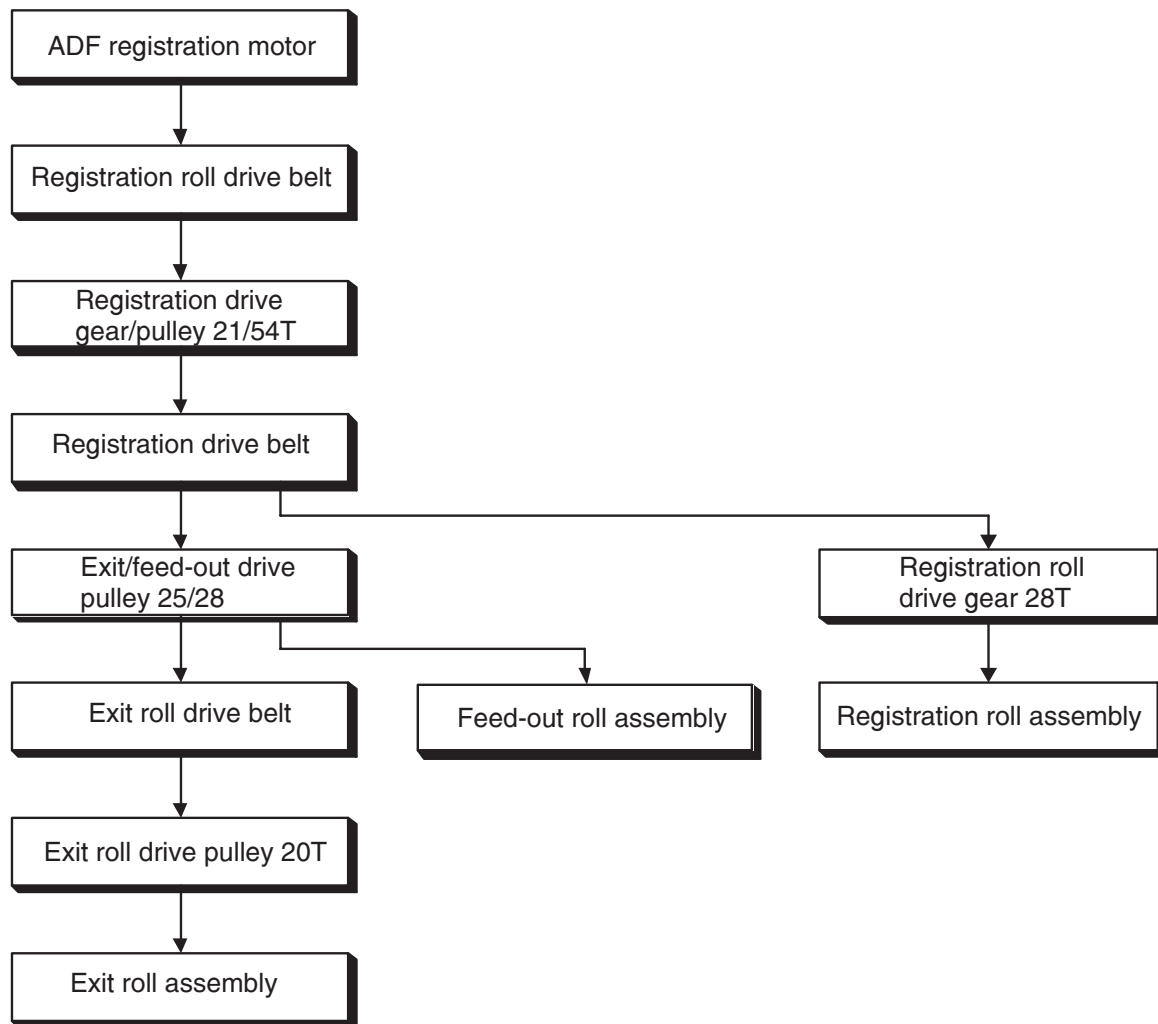
### ADF feed motor assembly

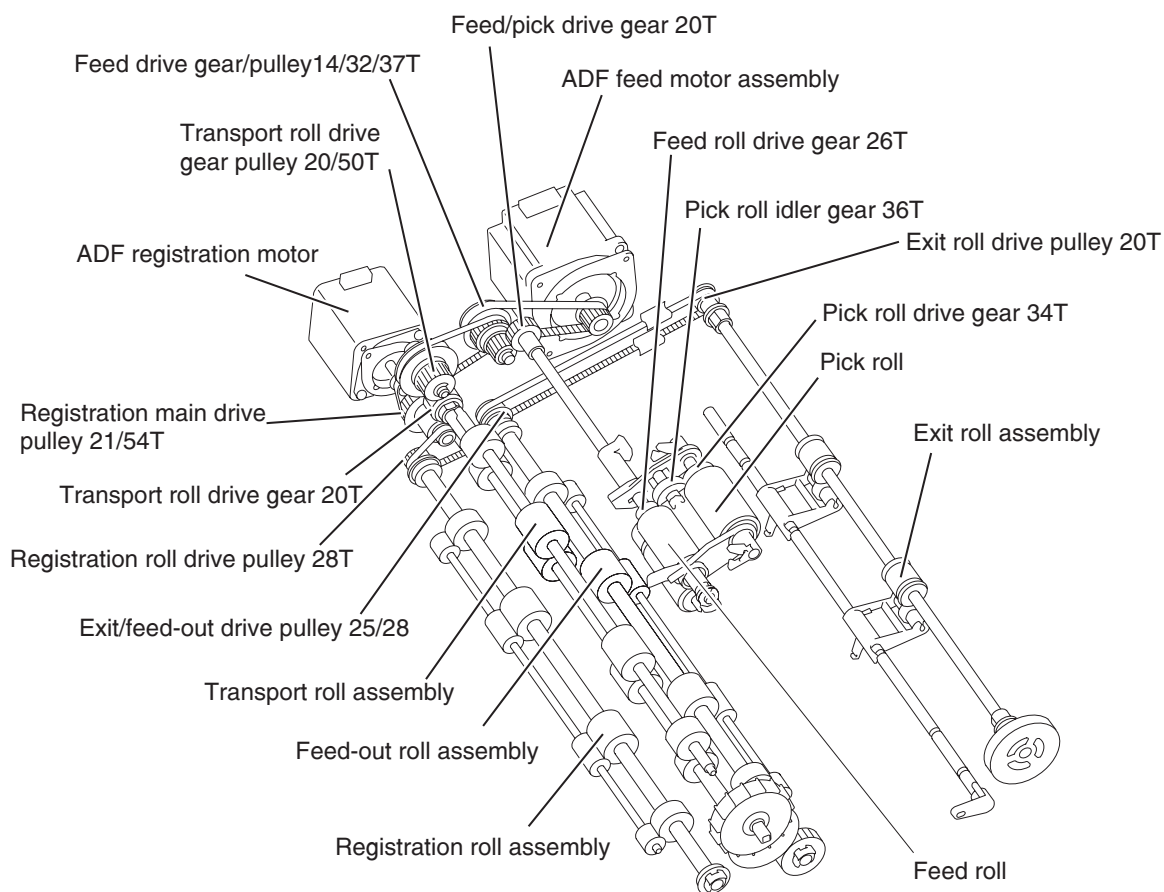
The rotational force of the ADF feed motor assembly is transferred to each document feeding roll as shown below.



### ADF registration motor

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

**Gear layout**



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## 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

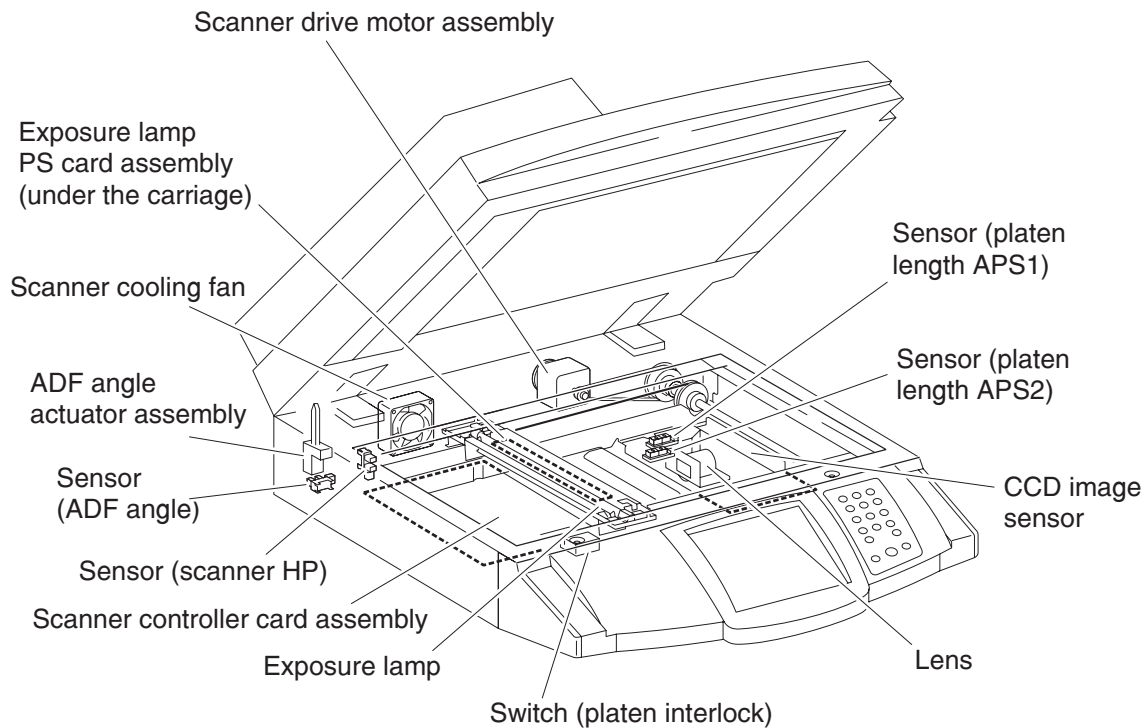
A kit that consists of a lens used to read the document and a CCD image sensor used to photoelectrically convert the image data read from the document.

### Scanner controller card assembly

A card that controls the scanner section.

### Scanner cooling fan

A fan that prevents overheating of the scanner controller card assembly and exposure lamp.



## 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

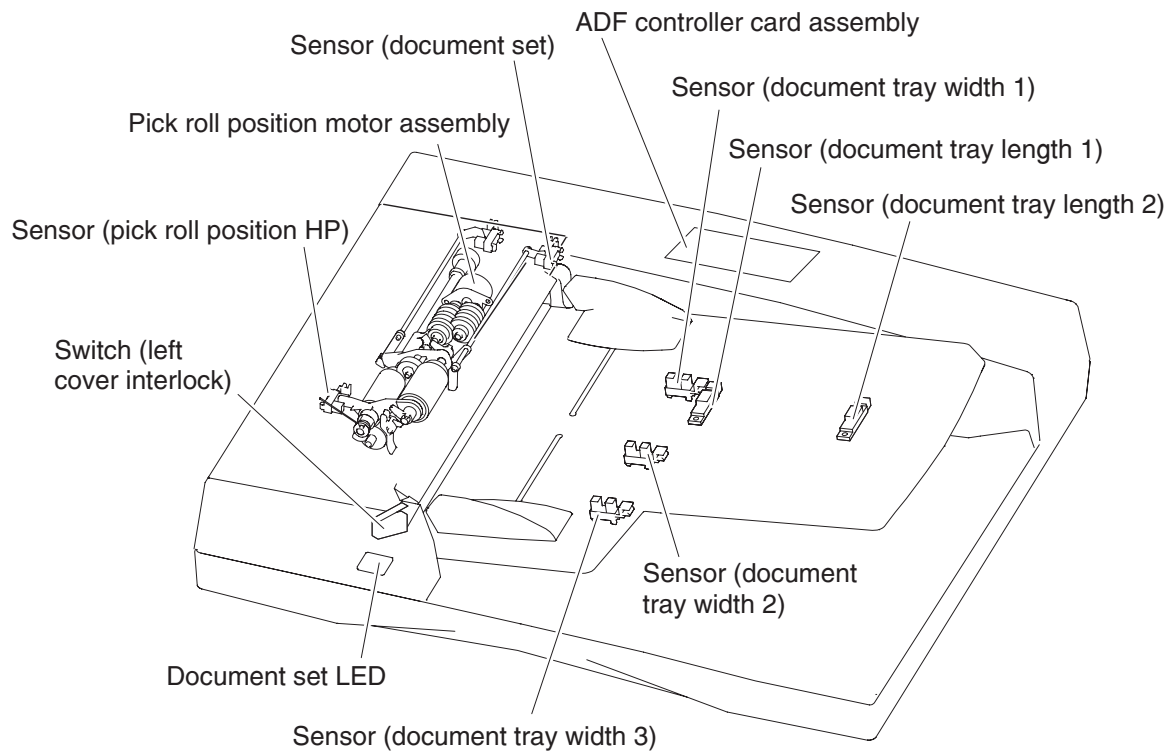
An LED that illuminates when a document is set on the ADF Document Tray.

## 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.

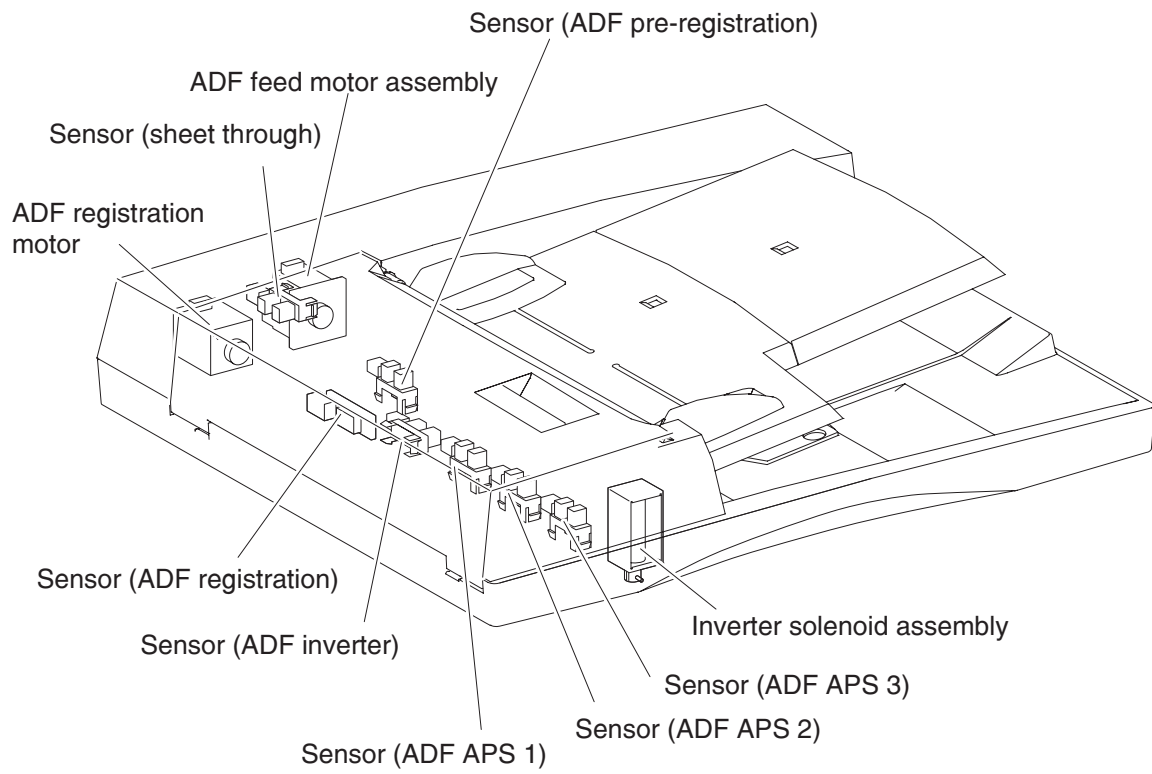
### **Inverter solenoid assembly**

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 Glass 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:

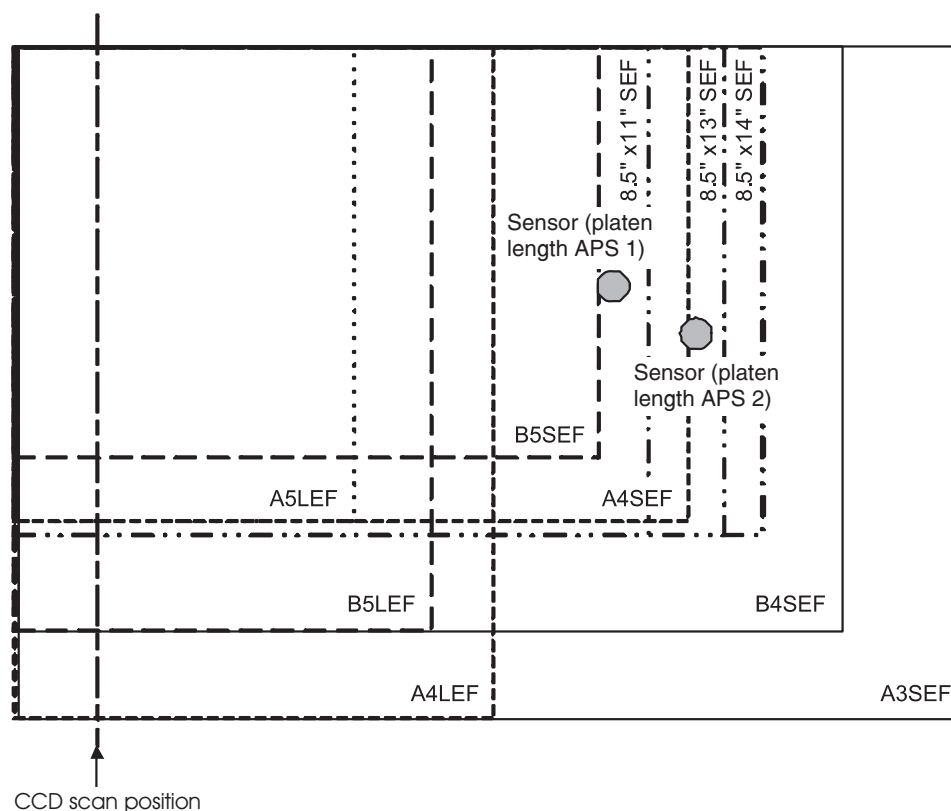
- When the Platen Cover (ADF) is closed
- When the START button is pressed with the Platen Cover (ADF) open

### 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.

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

Document Size	Width (Fast scanning direction: mm)		Length (Slow scanning direction)		Area		
	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	O	O	O <sup>*5</sup>
A3 SEF	297.2		On	On	O	O	O <sup>*5</sup>

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.

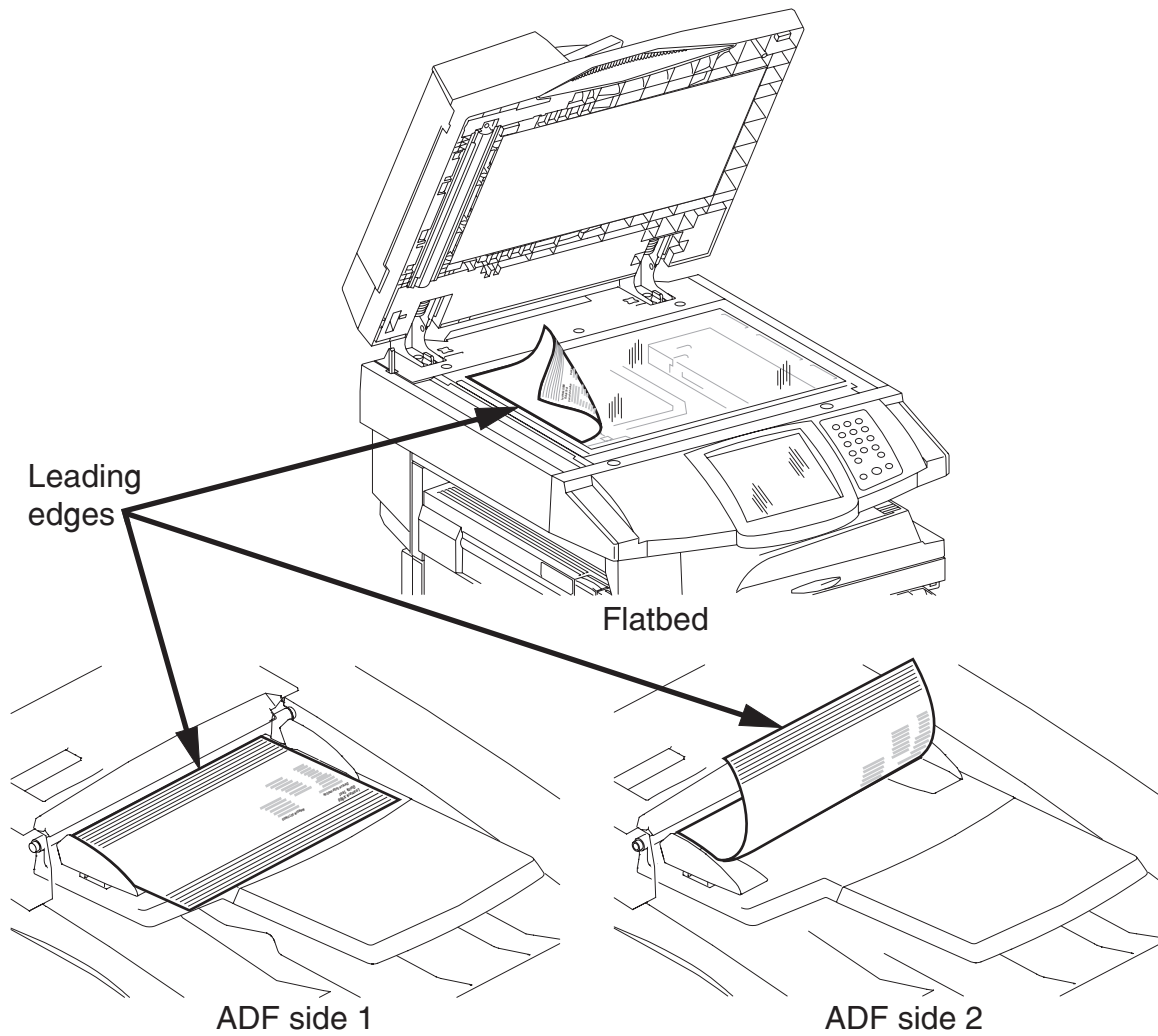
When the document is set on the document tray, the document size is determined by a combination of ON/off status of the sensor (ADF APS 1), sensor (ADF APS 2) and the sensor (ADF APS 3) for detecting the document width (in the fast scanning direction) and ON/off status of the sensor (document tray length 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	X	O	X
A5 SEF						O	X	O
B5 SEF	Off	Off	Off	On	Off	X	X	O
8 X 10 SEF						X	O	X
8 X 10.5 SEF						O	X	X
A5 LEF	Off	On	Off	Off	Off	O	O	O
A4 SEF				On	Off	O	O	O
5.5 X 8.5 LEF	Off	On	On	Off	Off	O	O	O
8.5 X 11 SEF				On	Off	O	O	O
8.5 X 13 SEF				On	On	O	X	X
8.5 X 14 SEF						X	O	O
8 X 10 LEF	On	Off	On	On	Off	O	O	O
B5 LEF				Off	Off	O	O	O
B4 SEF				On	On	O	O	O
8 X 10.5 LEF	On	Off	Off	On	Off	O	O	X
Executive LEF				Off	Off	O	O	X
16kai LEF						X	X	O
8kai SEF				On	On	O	O	O
8.5 X 11 LEF	On	On	Off	On	Off	O	O	O
11 X 17 SEF				On	On	O	O	O
A4 LEF	On	On	On	On	Off	O	O	O
A3 SEF				On	On	O	O	O

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**

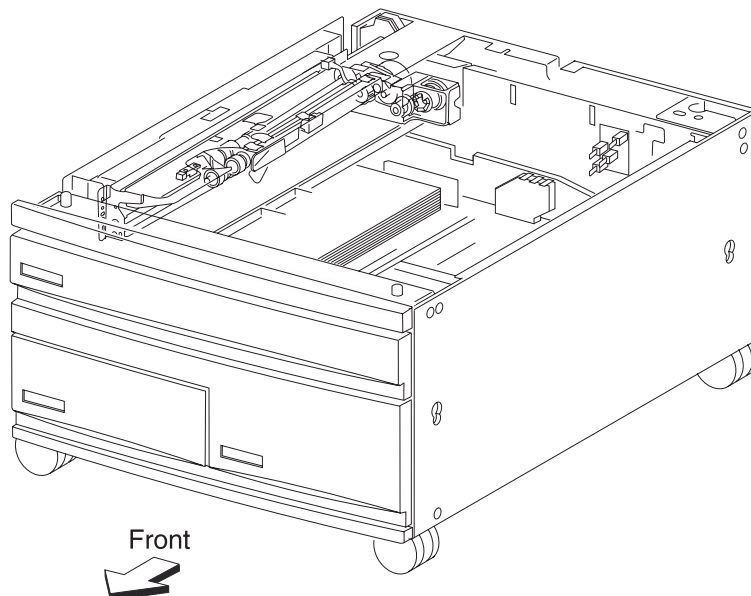
Black level variation compensation is performed to compensate for variation in black level that is caused by the temperature drift of the CCD image sensor and analog circuit.

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

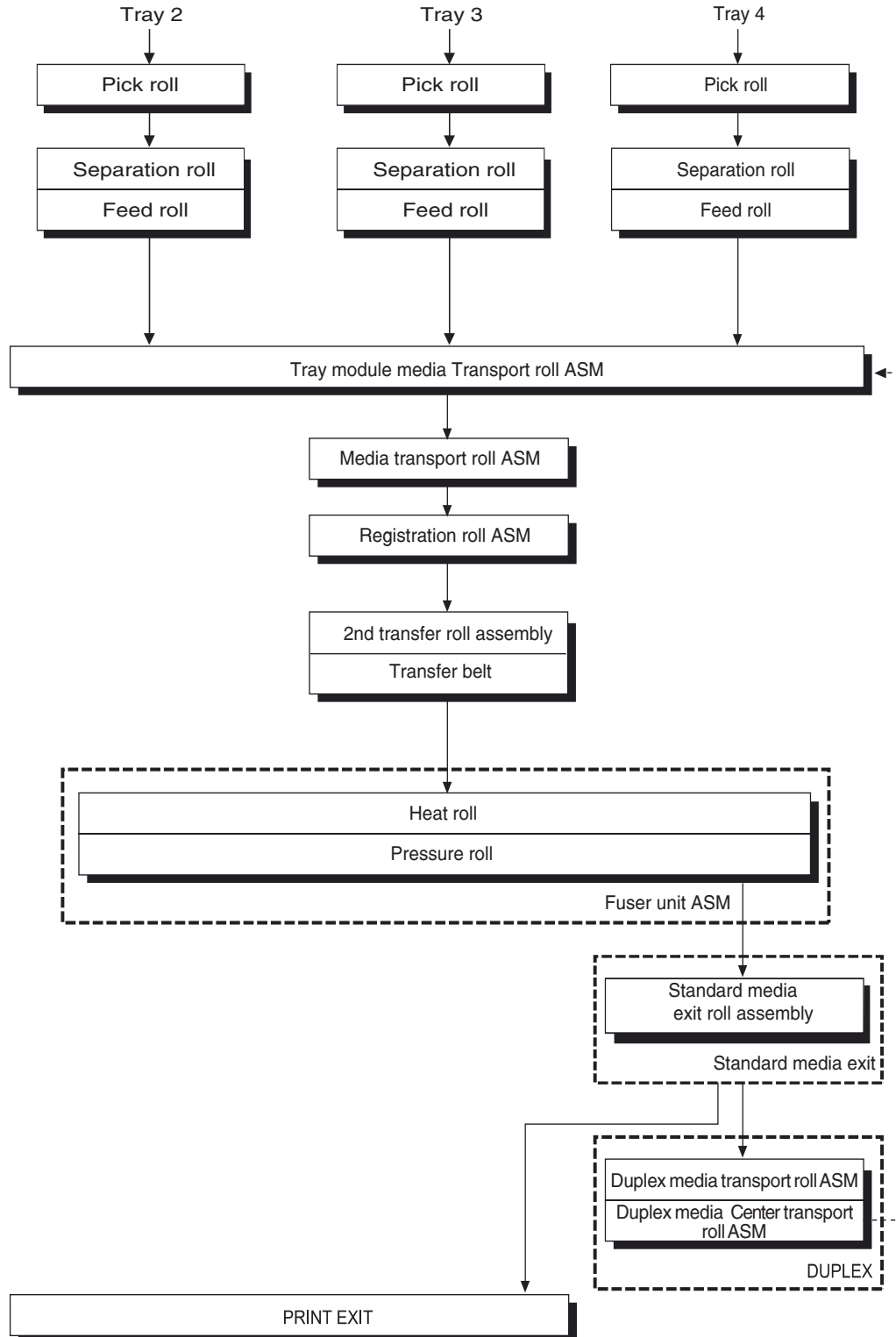
---



## Media transport

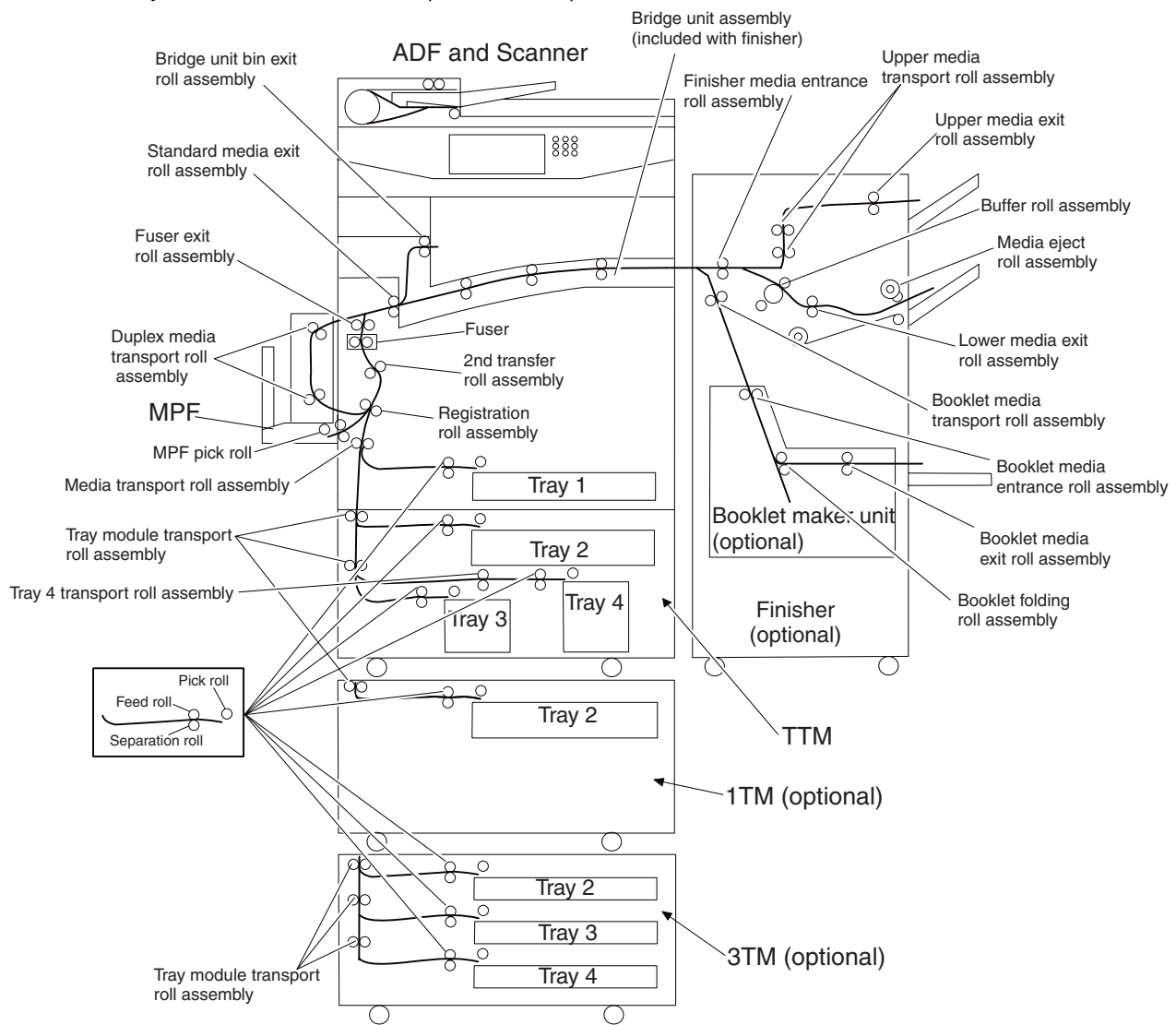
### Media transport path

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.

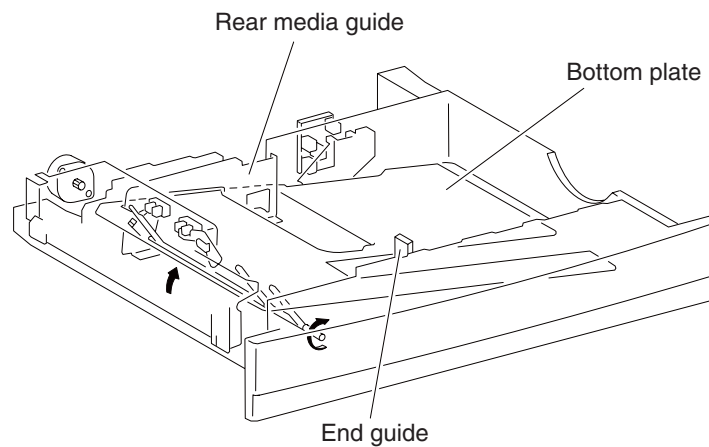
## Bottom plate

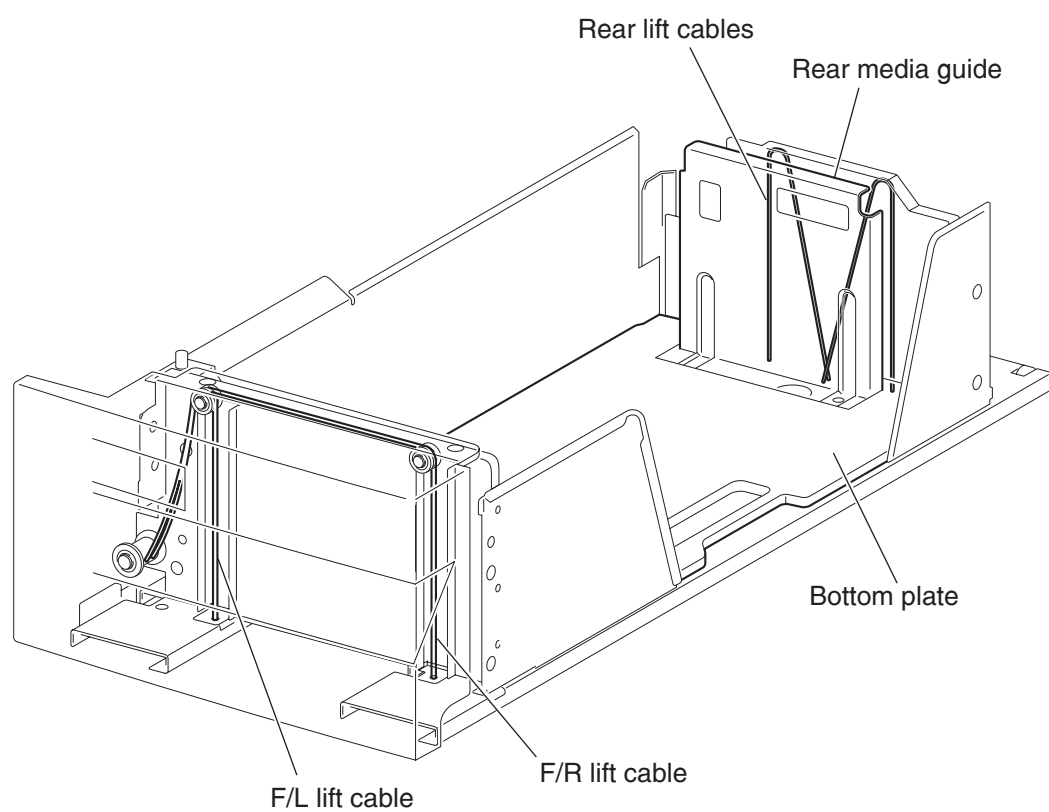
The force pushing up the bottom plate is transmitted by the driving force of the motor on the media feed unit assembly. The bottom plate is pushed up by the rotation of the lift up shaft, which causes the supplied media to come in contact with the pick roll.

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)

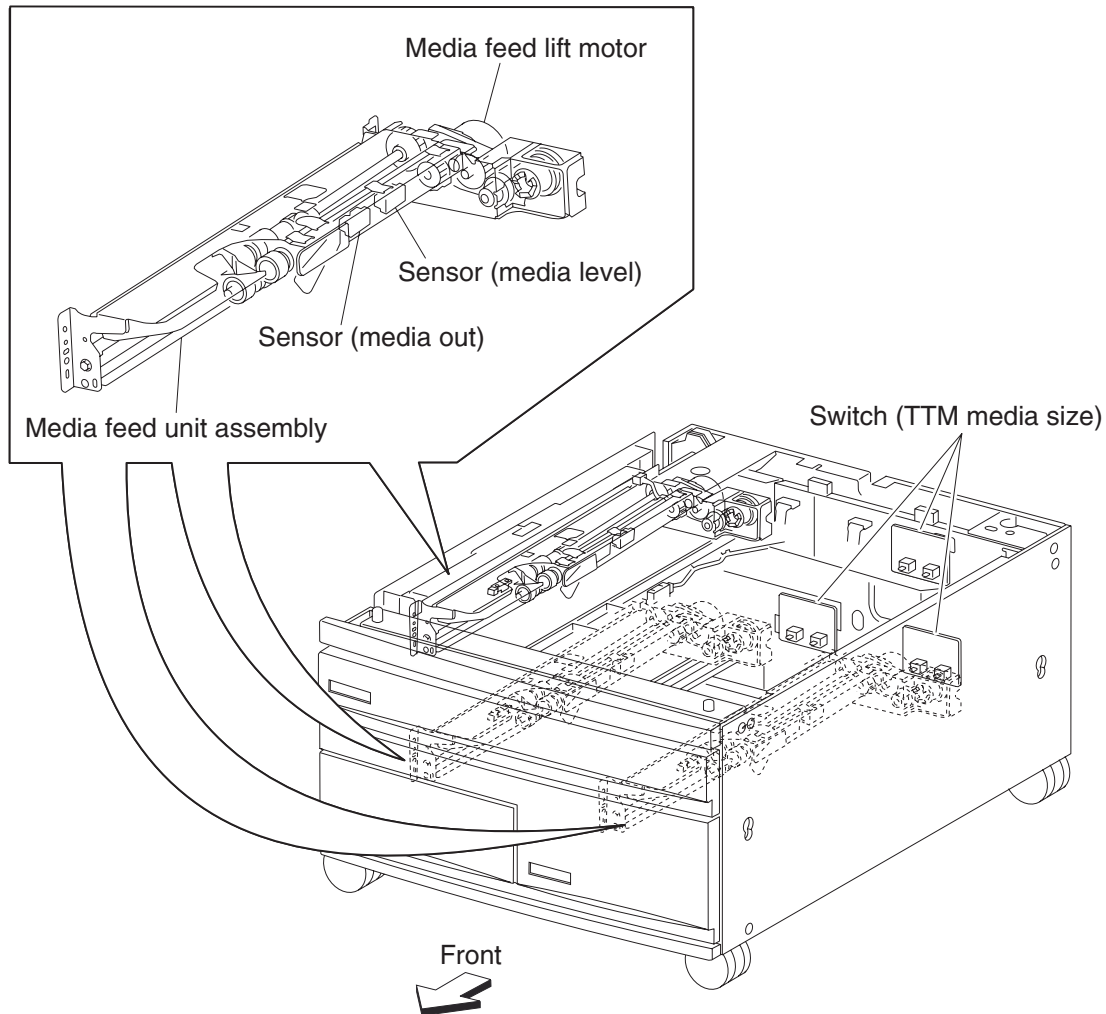
The switch (TTM media size) switches the setting of the size of media supplied from each media tray assembly. A signal indicating the set size is transmitted as a voltage to the printer engine card assembly.

### 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

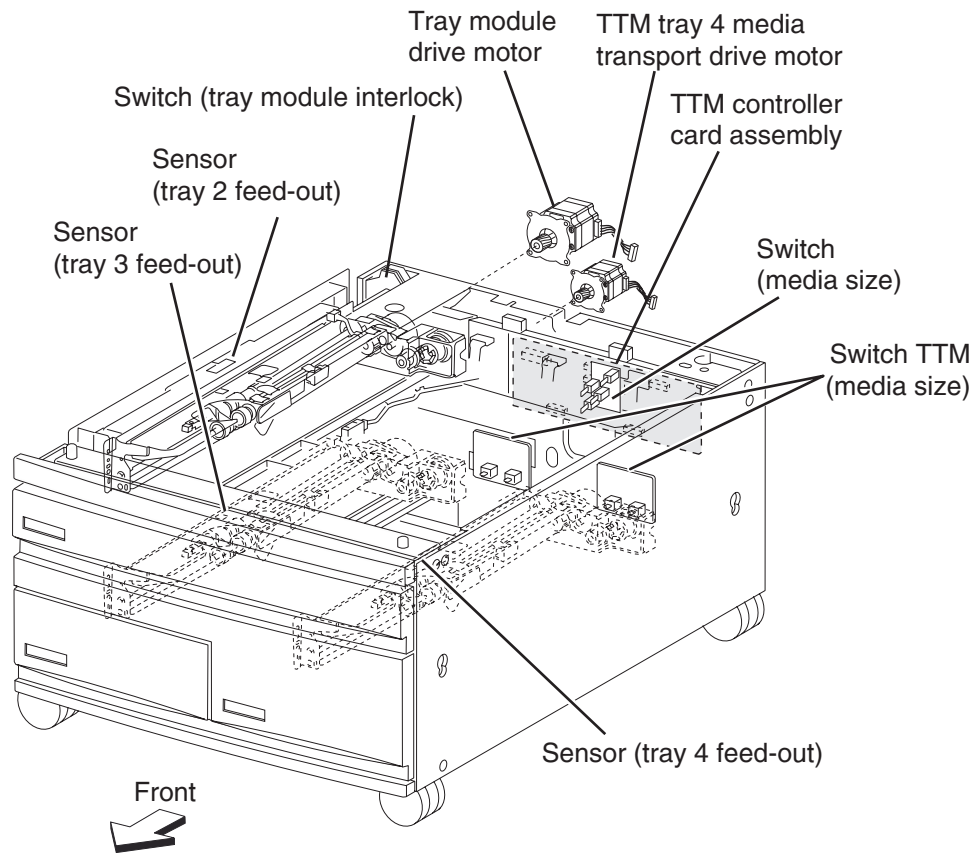
This motor is used to drive the media transport mechanism in the tray module.

## 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.



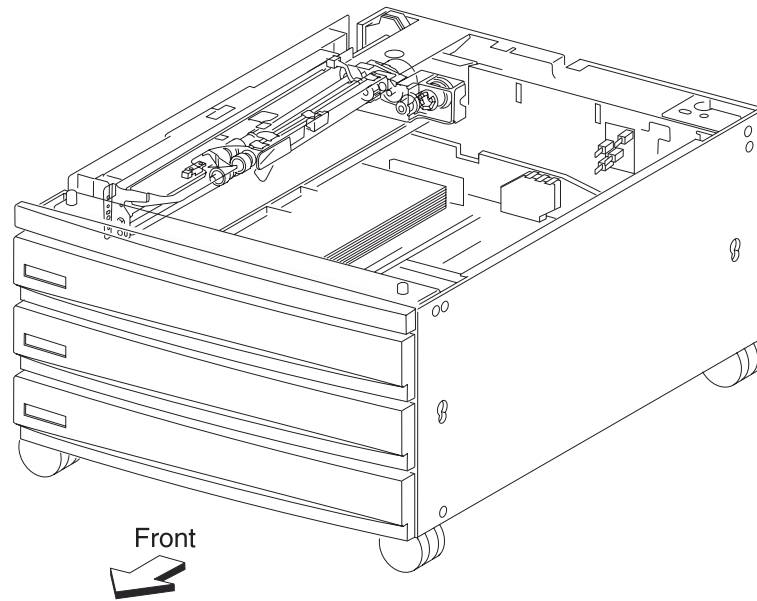
**Switch (TTM media size)**

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.

Media Size	Analog switch	
	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

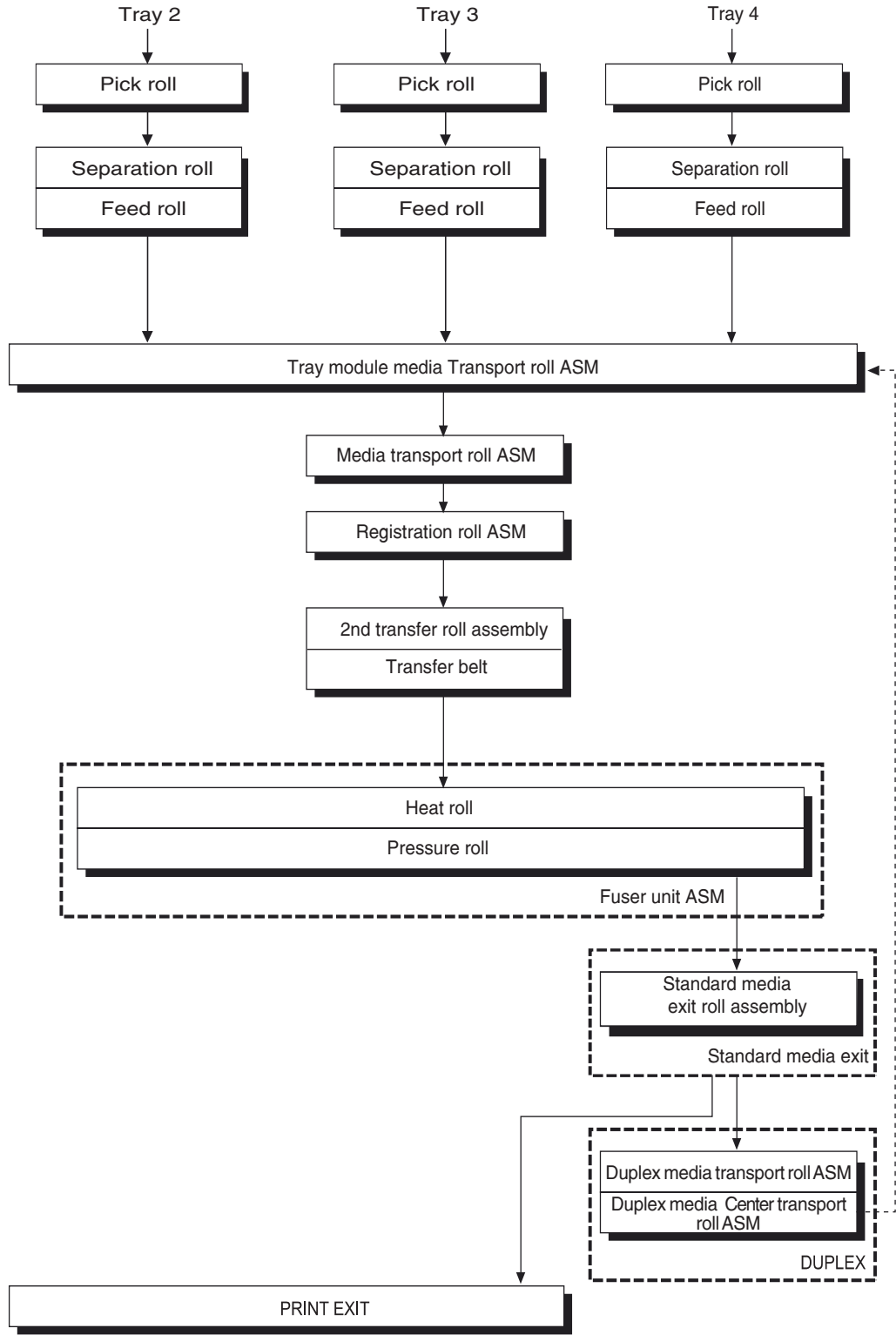
## 3TM theory



Media transport

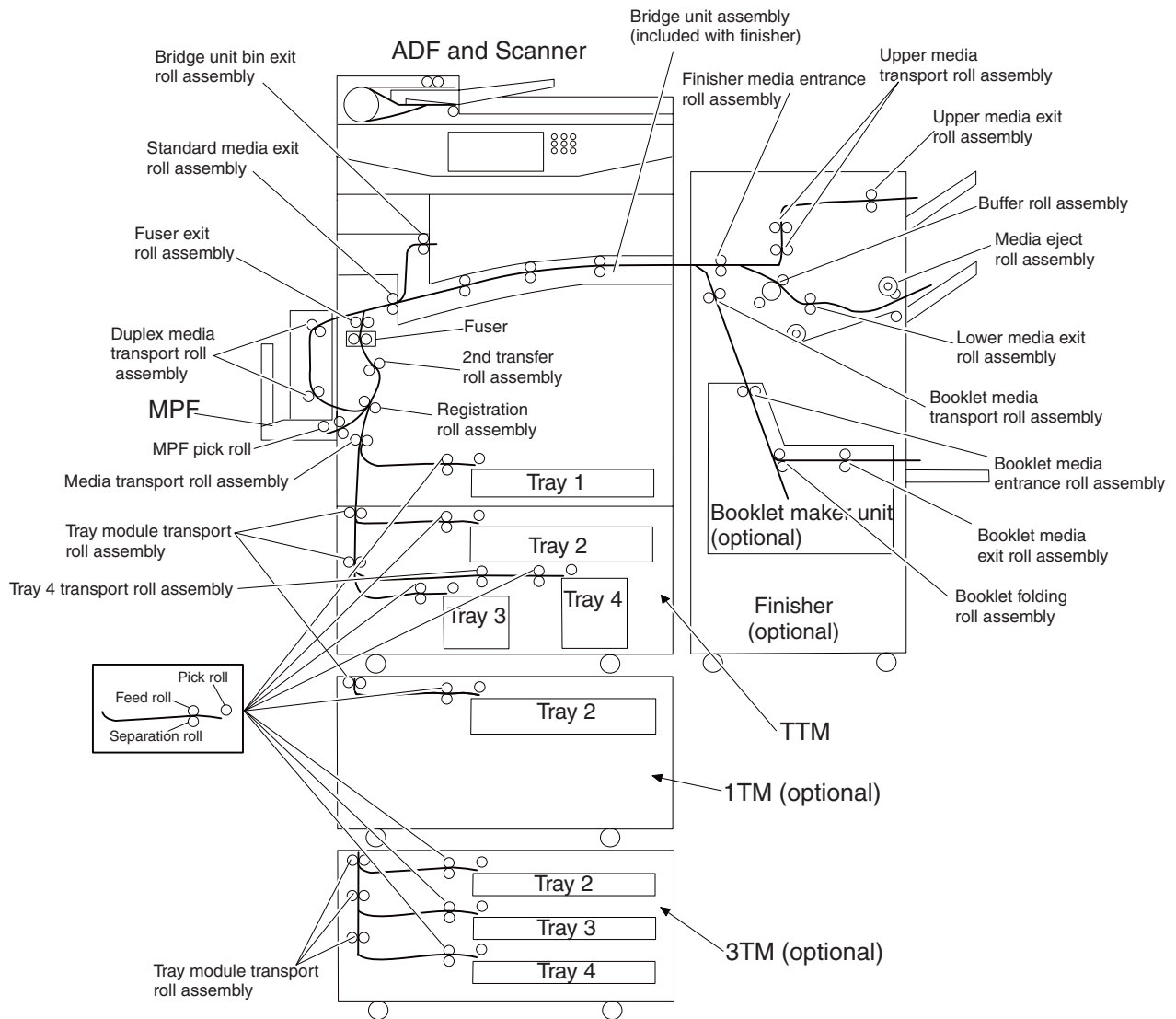
Media transport path

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.

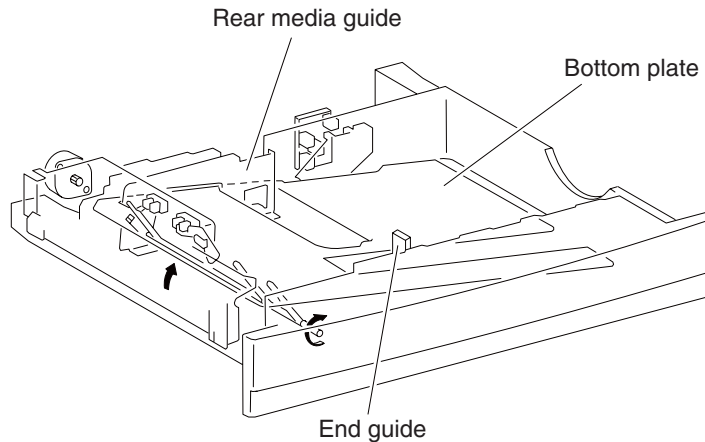
### Rear media guide

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)

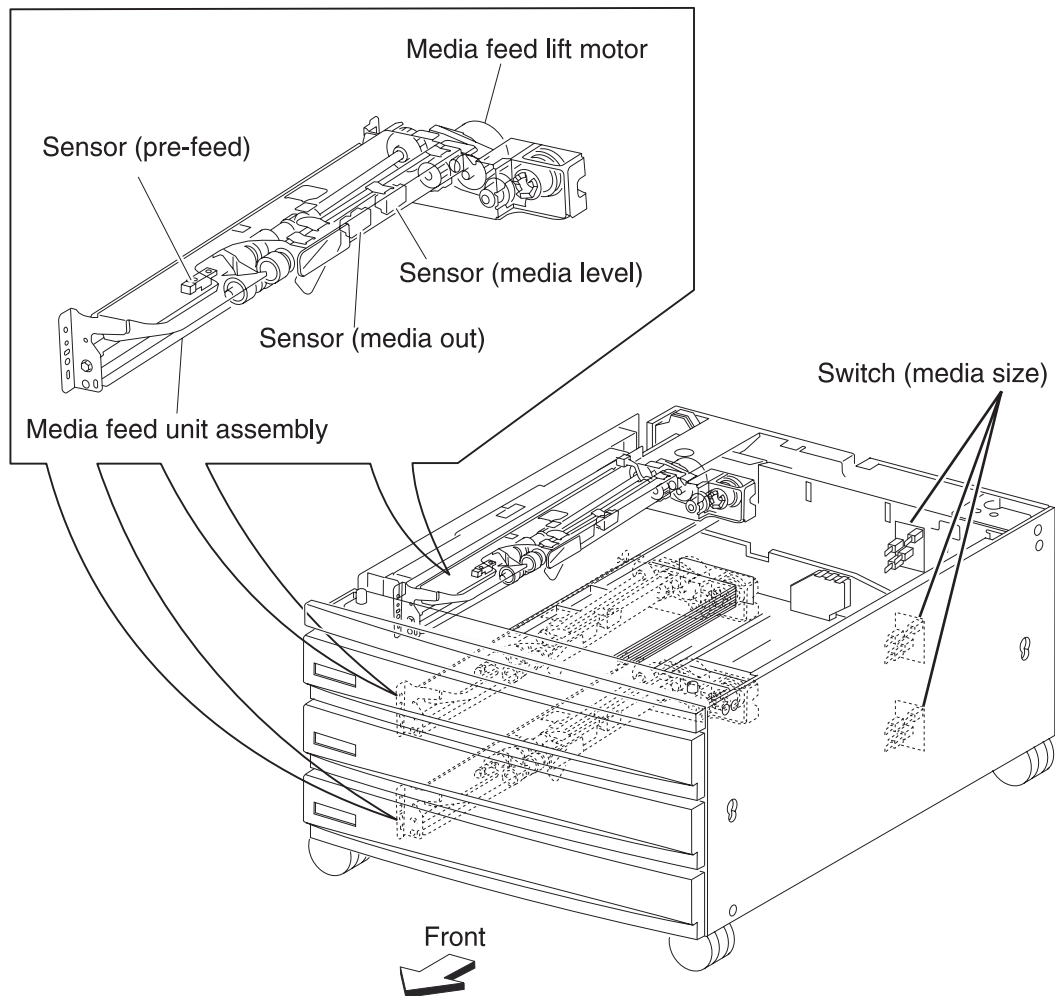
The switch (media size) switches the setting of the size of media supplied from each media tray assembly. A signal indicating the set size is transmitted as a voltage to the printer engine card assembly.

### 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

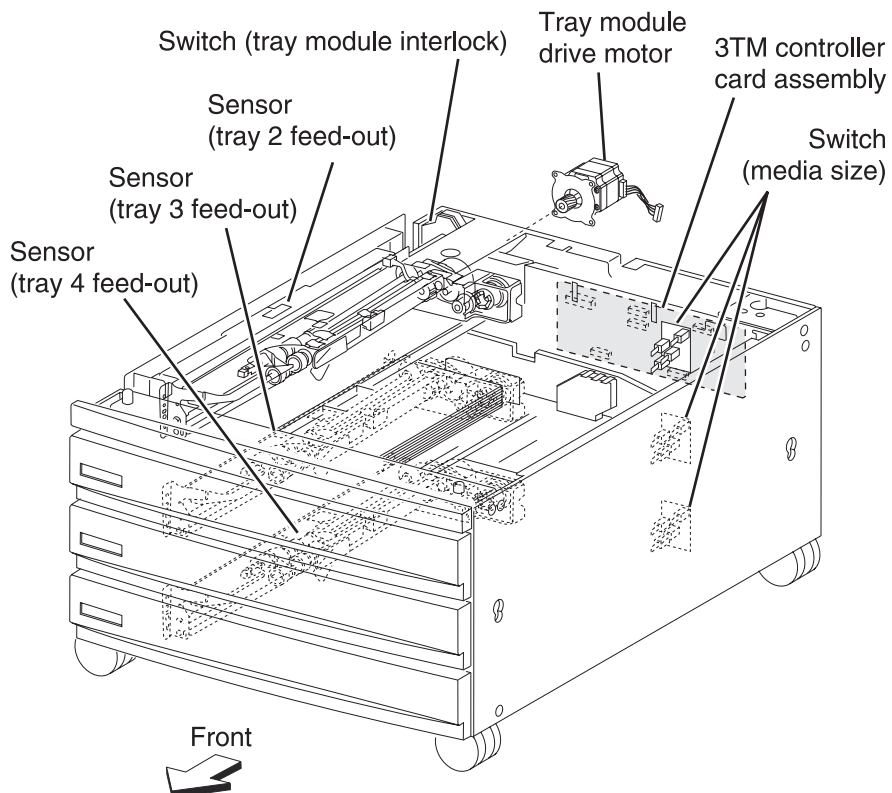
The tray module transport roll assembly feeds media from the tray 3 or tray 4 to the printer.

### 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)

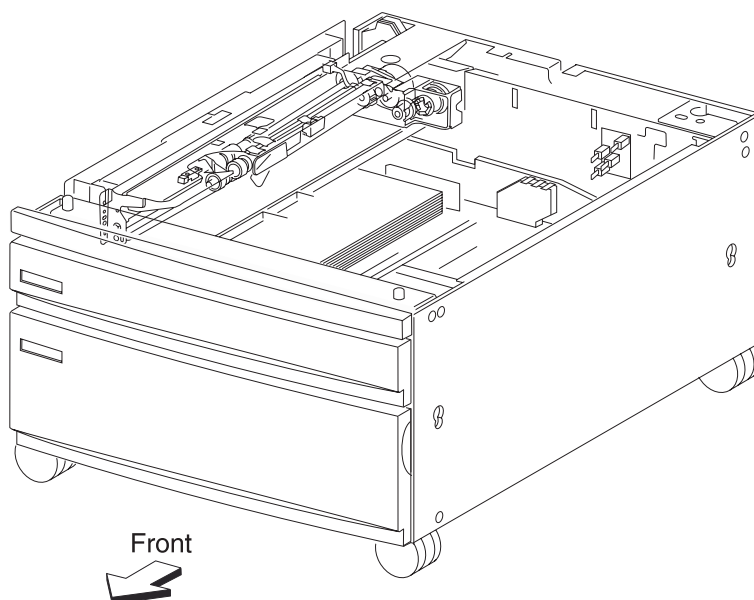
The following table gives on/off states of the switches on the switch (media size), corresponding to the media sizes of the media tray assembly.

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

Media Size	Analog switch	
	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

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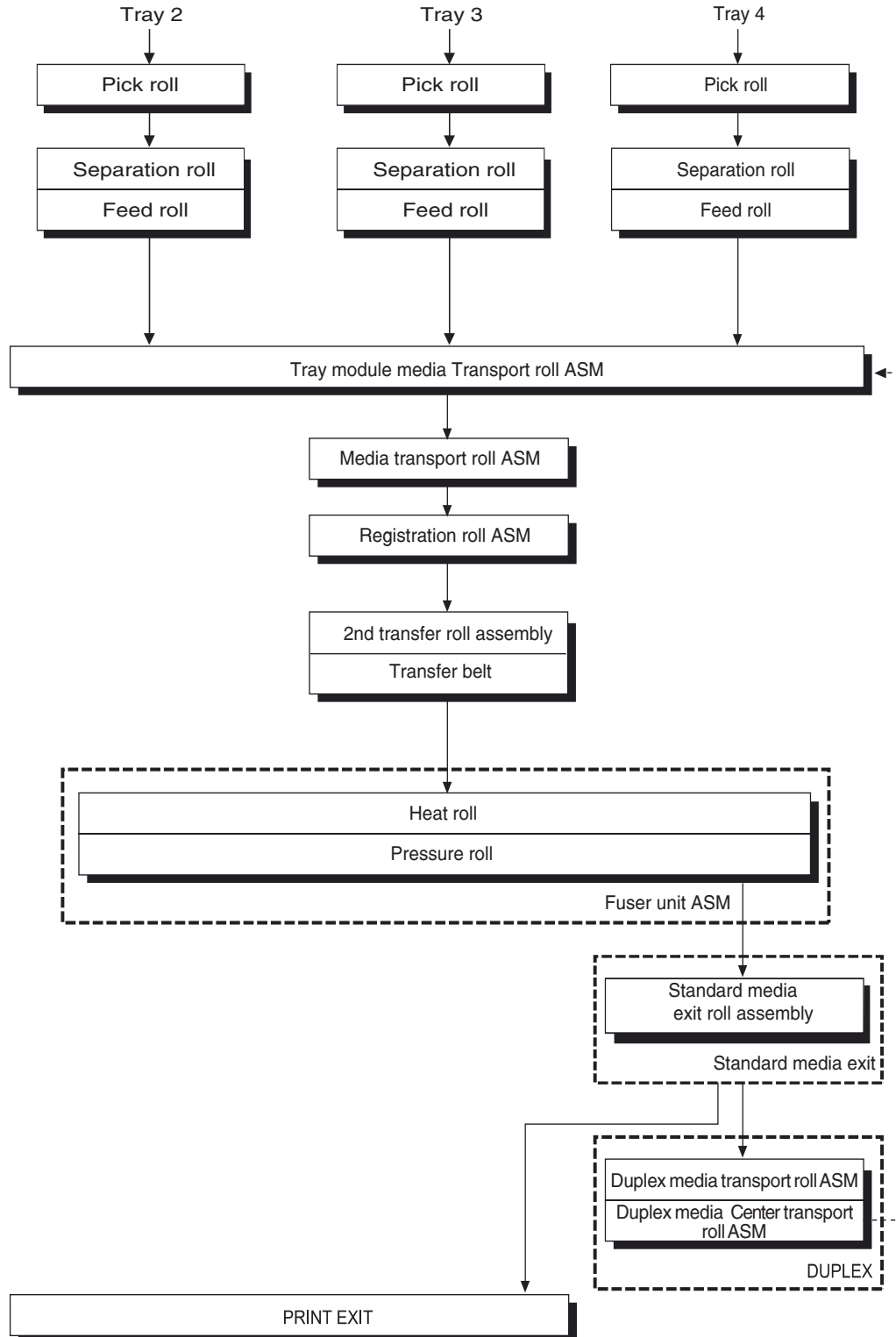
## 1TM theory



## Media transport

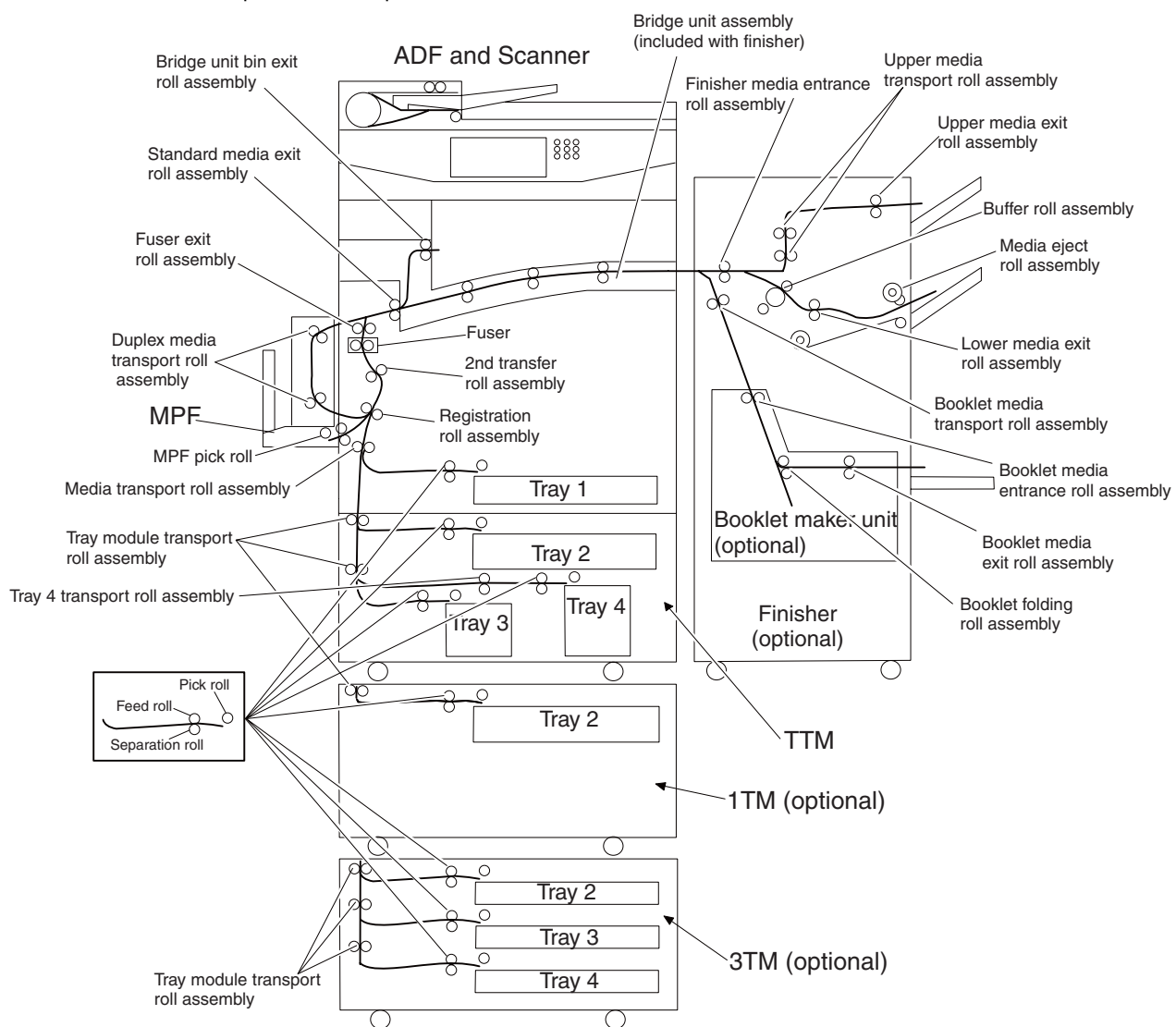
### Media transport path

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 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.

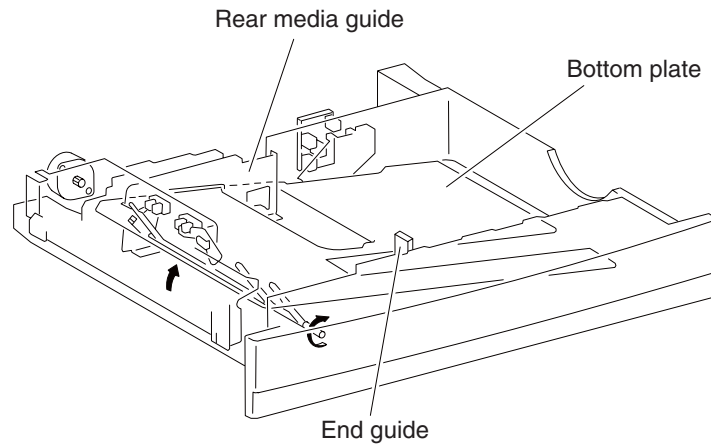
### Rear media guide

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)

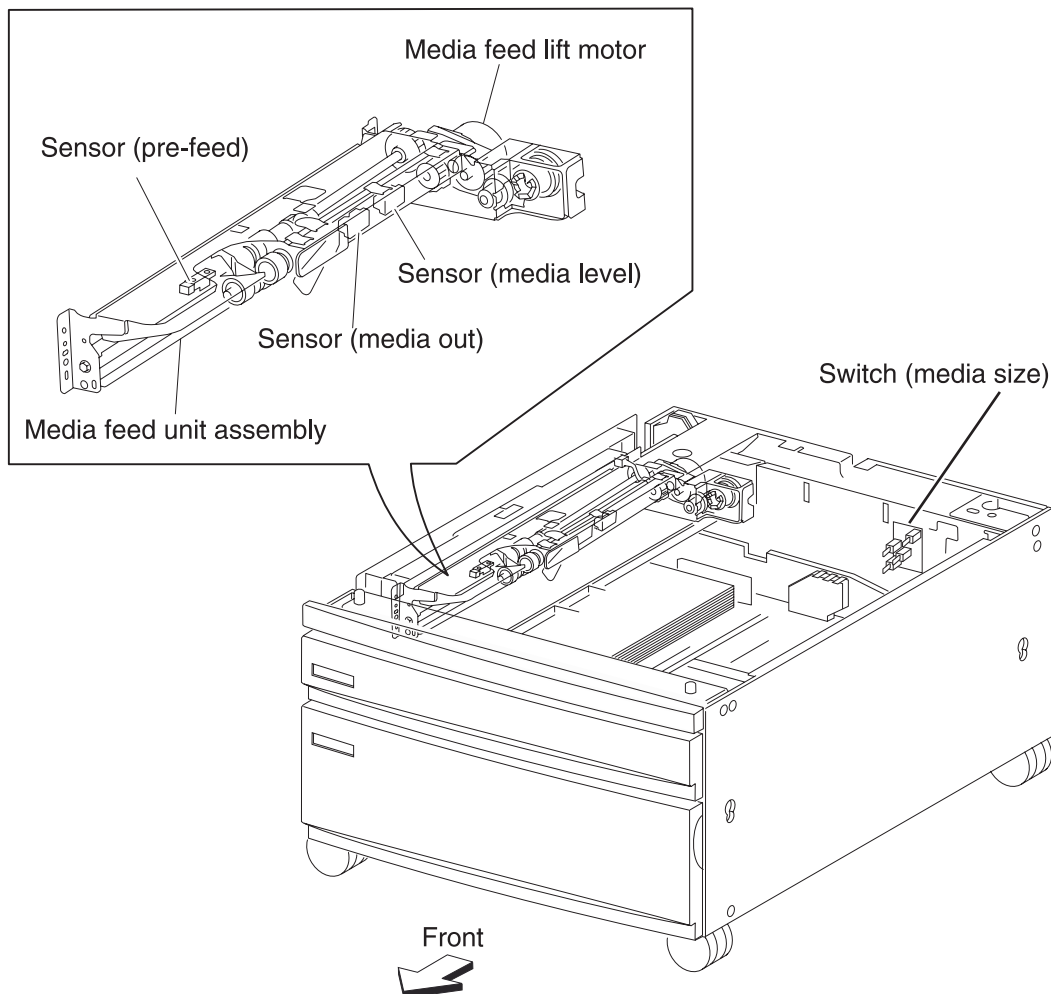
The switch (media size) switches the setting of the size of media supplied from each media tray assembly. A signal indicating the set size is transmitted as a voltage to the printer engine card assembly.

### 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**

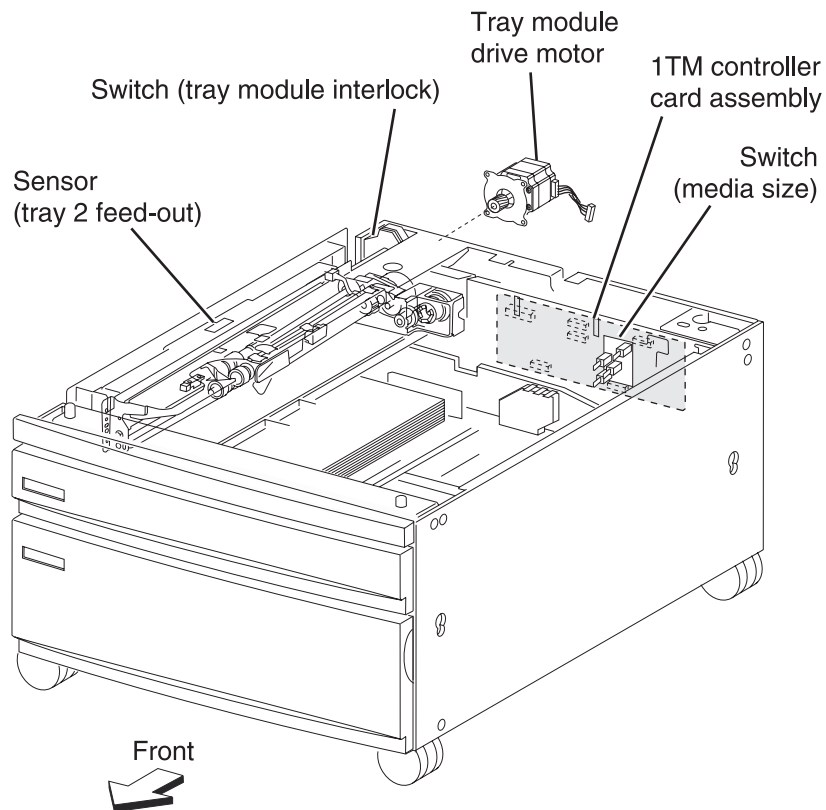
The tray module transport roll assembly feeds media from the tray 2.

**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)**

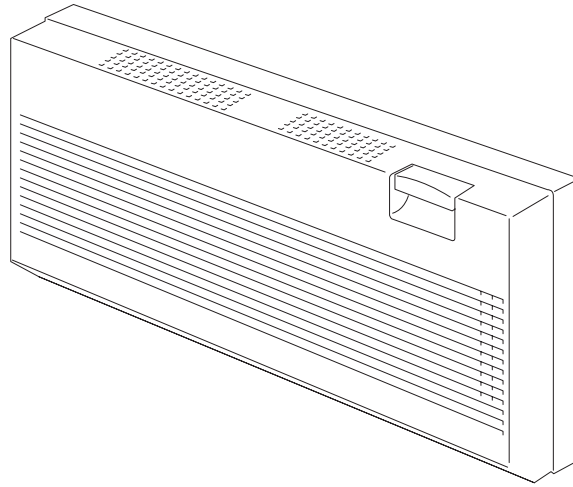
The following table gives on/off states of the switches on the switch (media size), corresponding to the media sizes of the media tray assembly.

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

Media Size	Analog switch	
	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

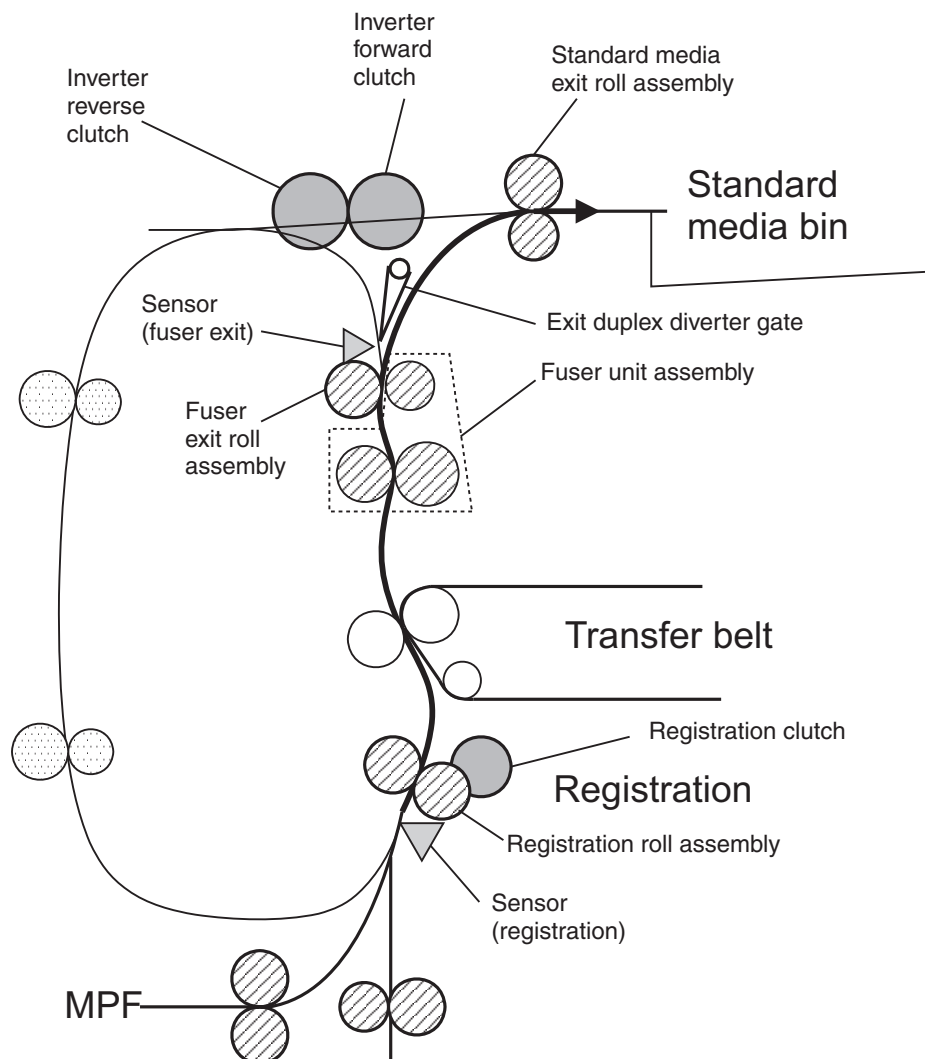


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**Duplex**

## 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

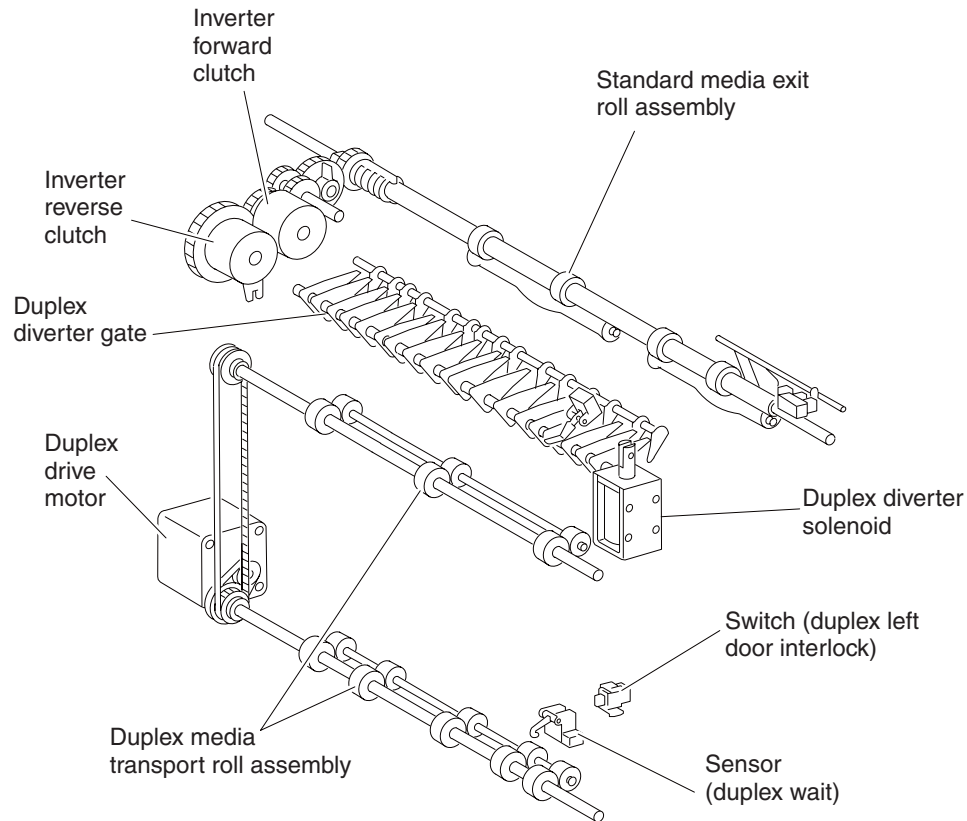
The two duplex media transport roll assemblies and the duplex media center transport roll assembly re-feeds the media printed on the front side through the duplex to print on the rear side.

## 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  
#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

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## 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 Radiation
LCD	Liquid Crystal Display
LD	Laser Diode
LED	Light-Emitting Diode
LEF	Long Edge Feed
LVPS	Low Voltage Power Supply
MPF	Multi-Purpose Feeder
MS	Microswitch
NVM	Nonvolatile Memory
NVRAM	Nonvolatile Random Access Memory
OEM	Original Equipment Manufacturer
OPT	Optical Sensor
PC	Photoconductor
PEL	Picture element
POR	Power-on Reset
POST	Power-on Self Test
PPM	Pages Per Minute
PSC	Parallel Synchronous Communications
PSD	Position Sensing Device
PWM	Pulse Width Modulation
RFID	Radio Frequency Identification
RIP	Raster Imaging Processor
ROM	Read only Memory
RPM	Revolutions Per Minute
SDRAM	Synchronous Dual Random Access Memory
SEF	Short Edge Feed
SIMM	Single Inline Memory Module
SOS	Start of scan

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

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### 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.

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## 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.

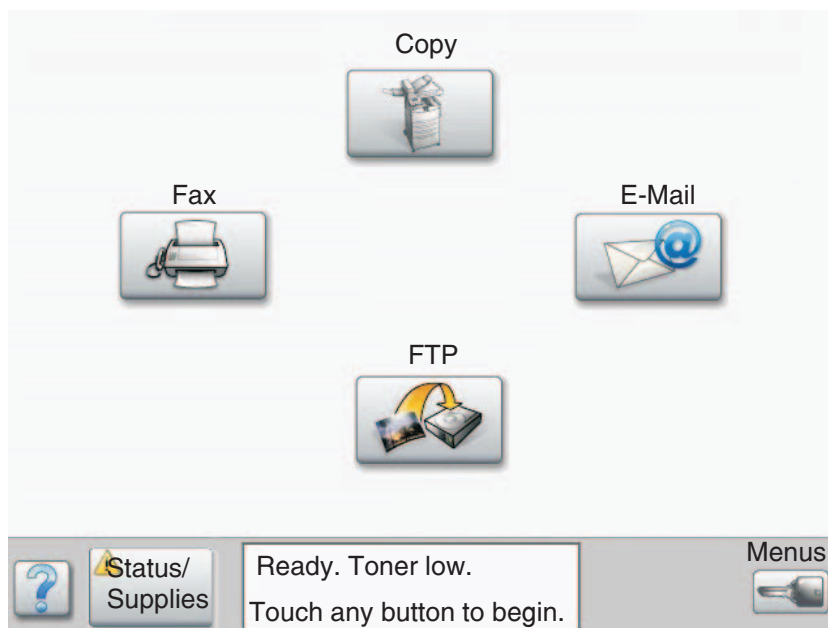
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## Power-on Reset sequence

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

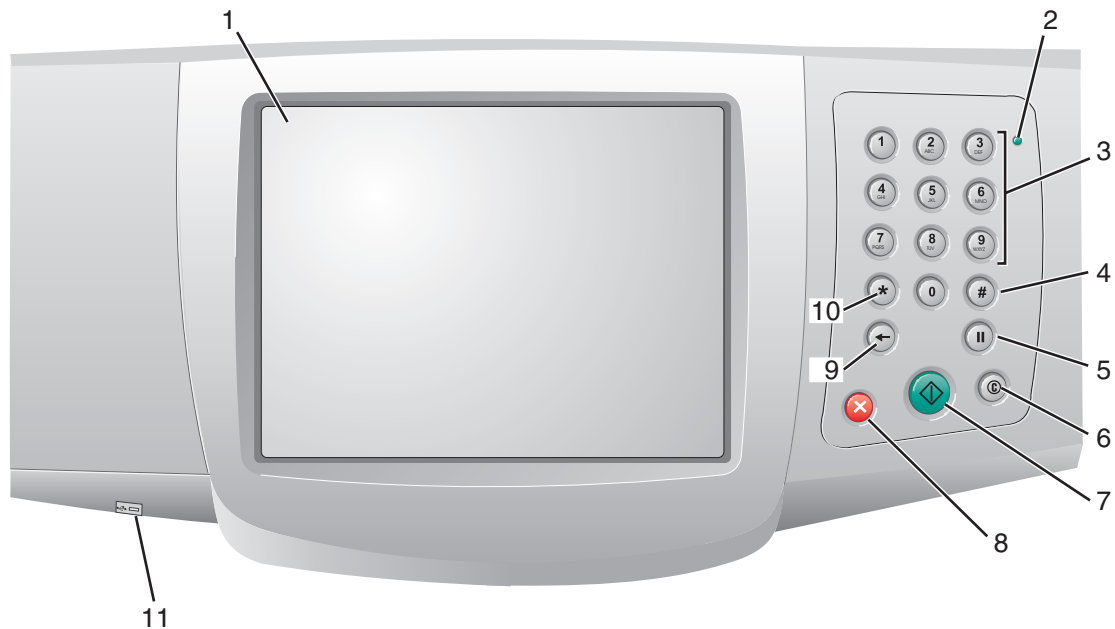
1. Turn the machine on.
2. The Lexmark splash screen appears with a progress bar in the center until the code is loaded.
3. The scanner exposure lamp flashes several times.
4. The fuser cooling fan turns on.
5. The fuser unit assembly lamps turn on.
6. The RIP card assembly cooling fan turns on.
7. Operator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

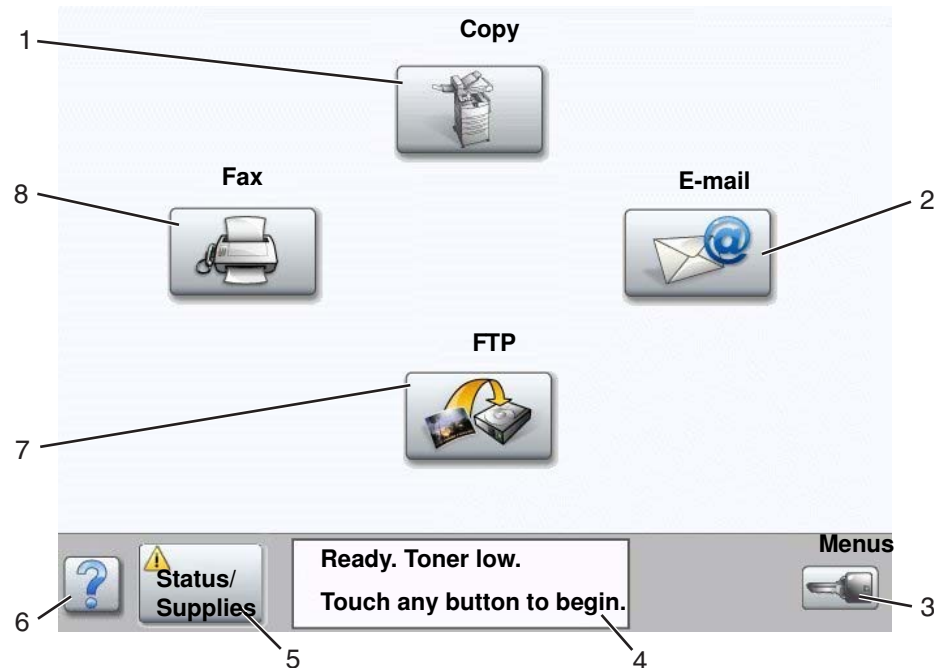


Callout	Control panel item	Function										
1	LCD	A liquid crystal display (LCD) which shows home screen buttons, menus, menu items, and values. Allows for making selections within Copy, Fax, and so on.										
2	Indicator light	<p>Gives information about the status of the MFP using the colors red and green.</p> <table><thead><tr><th>Status</th><th>Indicates</th></tr></thead><tbody><tr><td>Off</td><td>MFP power is off.</td></tr><tr><td>Blinking green</td><td>MFP is warming up, processing data, or printing a job.</td></tr><tr><td>Solid green</td><td>MFP is on, but idle.</td></tr><tr><td>Solid red</td><td>Operator intervention is required.</td></tr></tbody></table>	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.
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 <b>Note:</b> Referred to as the numeric keypad.	<p>Press these buttons to enter numbers when the LCD screen has a field that accepts the entry of numbers. Also, use these buttons to dial phone numbers for faxes.</p> <p><b>Note:</b> If a number is pressed while on the home screen without pressing the # button first, the Copy menu opens and changes the Copy Quantity.</p>										
4	# (Pound or number character)	<p>Press this button:</p> <ul style="list-style-type: none"><li>For a shortcut identifier.</li><li>Within phone numbers. For a Fax number with a #, enter it twice — ##.</li><li>From the home screen, the Fax Destination List menu item, E-mail Destination List menu item, or Profile List menu item to access shortcuts.</li></ul>										

5	Dial Pause	<p>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.</p> <p>Press from the home screen to redial a fax number.</p> <p>When outside of the Fax menu, fax function, or home screen, pressing Dial Pause causes an error beep.</p> <p>When sending a fax, in the Fax To: field, a Dial Pause press is represented by a comma (,).</p>
6	Home t	Press to return to home/start screen.
7	Start	<p>Press to initiate the current job indicated on the control panel.</p> <p>From the home screen, press it to start a copy job with the default settings.</p> <p>If pressed while a job runs through the scanner, the button has no effect.</p>
8	Stop	<p>Press to cause the printing or scanning to stop.</p> <p>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).</p> <p>During a print job, the print media path is cleared before the printing stops.</p> <p><b>Stopping</b> appears on the control panel during this process.</p>
9	Backspace	<p>Within the Copy menu, which is accessed by touching the Copy button, press <b>Backspace</b> 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 <b>Backspace</b> numerous times.</p> <p>Within the Fax Destination List, press <b>Backspace</b> 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 <b>Backspace</b> causes the cursor to move up one line.</p> <p>Within the E-mail Destination List, press <b>Backspace</b> to delete the character to the left of the cursor. If the entry is in a shortcut, the entire entry is deleted.</p>
10	Asterisk (*)	* is used as part of a fax number or as an alphanumeric character.
11	USB Direct interface	<p>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.</p> <p>The USB direct interface can also be used to scan a document to a USB flash memory device using the PDF, TIFF, or JPEG formats.</p>

## 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
<b>1</b>	Copy	Touch to access the Copy menus. If the home screen is shown, press a number to access the Copy menus, too.
<b>2</b>	E-mail	Touch to access the E-mail menus. It is possible to scan a document directly to an e-mail address.
<b>3</b>	Menus (A key is shown on the button.)	Touch to access the menus. These menus are only available when the MFP is in the <b>Ready</b> state. The Menus button is on a gray bar called the navigation bar. The bar contains other buttons described as follows.
<b>4</b>	Status message bar	Shows the current MFP status such as <b>Ready</b> or <b>Busy</b> . Shows MFP conditions such as <b>Toner Low</b> . Shows intervention messages to give instructions on what the user should do so the MFP can continue processing, such as <b>Close door or insert print cartridge</b> .
<b>5</b>	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.
<b>6</b>	? (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:

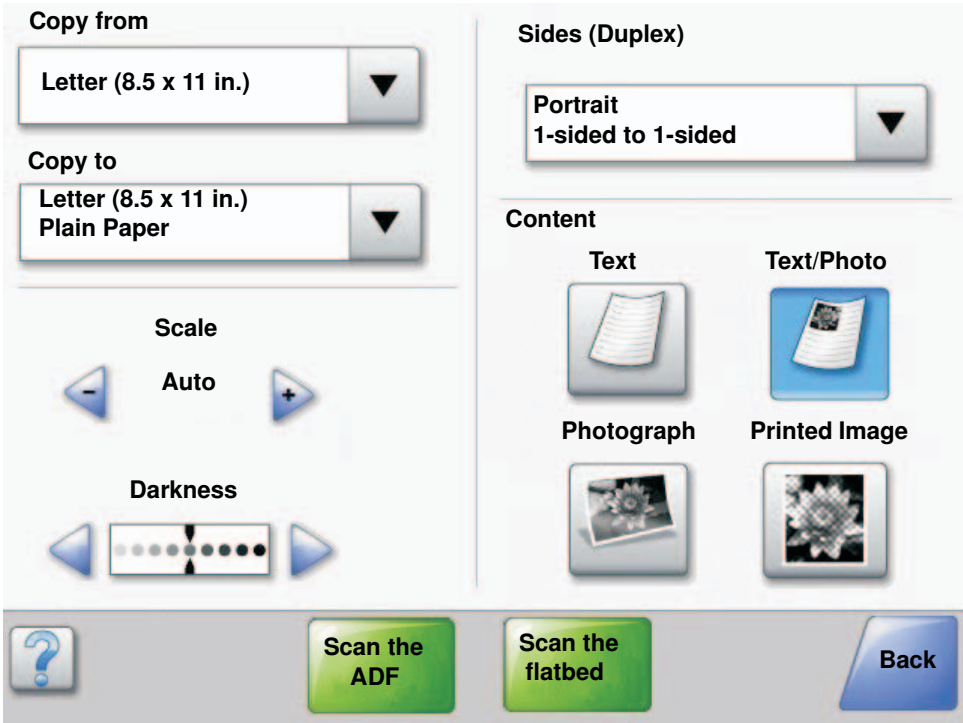
Button	Button name	Function
	Release Held Faxes (or Held Faxes if in Manual Mode)	There are held faxes with a Check the sensor (sheet through) for proper operation. Hold time previously set. To access the list of held faxes, touch this button.
	Search Held Jobs	To search on any of the following items and return any matches: <ul style="list-style-type: none"> <li>• User names for held or confidential print jobs</li> <li>• Job names for held jobs, excluding confidential print jobs</li> <li>• Profile names</li> <li>• Bookmark container or job names</li> <li>• USB container or job names for supported extensions only</li> </ul>
	Held Jobs	To open a screen containing all the held jobs containers.
	Lock Device	<p>This button appears on the screen when the MFP is unlocked and Device Lockout Personal Identification Number (PIN) is not null or empty.</p> <p>To lock the MFP:</p> <ol style="list-style-type: none"> <li>1 Touch Lock Device to open a PIN entry screen.</li> <li>2. Enter the correct PIN to lock the control panel which locks both the control panel buttons and the touch-screen buttons.</li> </ol> <p>Once the control panel is locked, the PIN entry screen clears, and the Lock Device button is replaced with the Unlock Device button.</p> <p><b>Note:</b> If an invalid PIN is entered, <b>Invalid PIN.</b> appears. A pop-up screen appears with the Continue button. Touch <b>Continue</b>. The home screen returns with the Lock Device button.</p>

	<p>Unlock Device</p>	<p>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.</p> <p>To unlock the MFP:</p> <ol style="list-style-type: none"> <li>1 Touch Unlock Device to open a PIN entry screen.</li> <li>2. Enter the correct PIN to unlock the numeric keypad (0–9) and the Backspace button on the control panel.</li> </ol> <p><b>Note:</b> If an invalid PIN is entered, <b>Invalid PIN.</b> appears. A pop-up screen appears with the Continue button. Touch Continue. The home screen returns with the Unlock Device button.</p>
	<p>Cancel Jobs</p>	<p>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:</p> <ul style="list-style-type: none"> <li>• print job</li> <li>• copy job</li> <li>• fax</li> <li>• profile</li> <li>• FTP</li> <li>• e-mail send</li> </ul> <p>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 <b>down arrow</b> appears at the bottom of the column. Each touch of the <b>down arrow</b> accesses one job in the list. When more than three jobs exist, once the fourth job in the list is reached, then an <b>up arrow</b> appears at the top of the column. For illustrations of the up and <b>down arrow</b> buttons, see &lt;color&gt;Information on touch-screen buttons.</p>




# Using the LCD touch-screen buttons





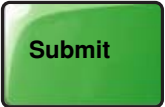


The following section provides information on navigating through several screens. Only a few are chosen to demonstrate the use of the buttons.

## Sample screen one

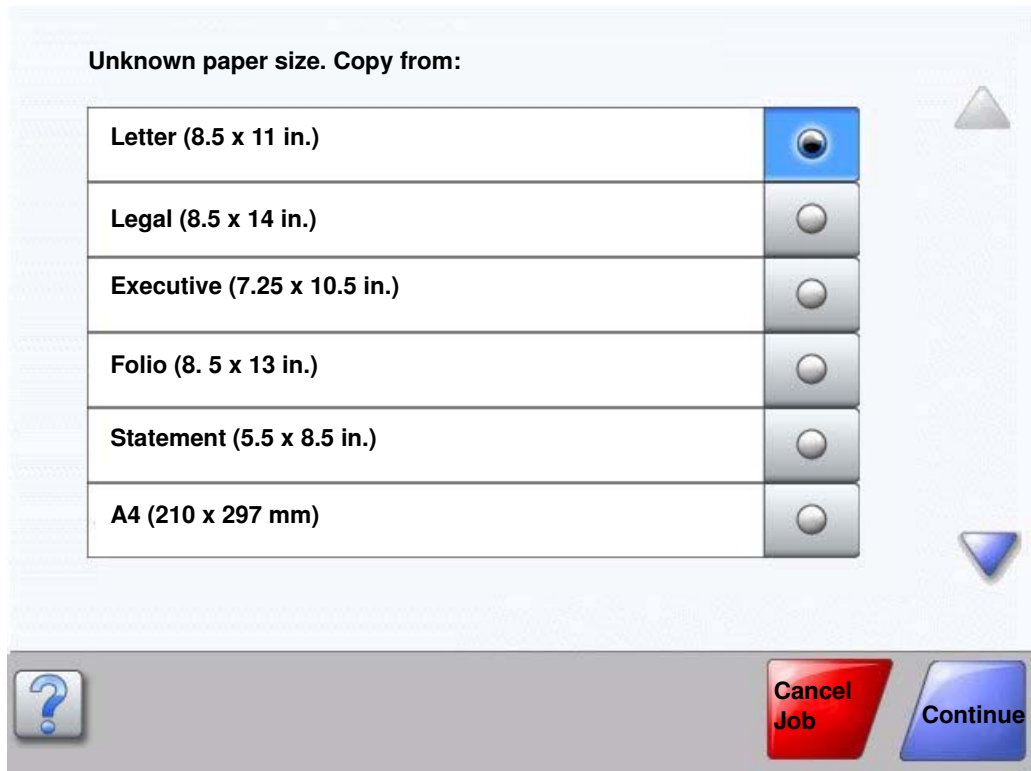


## Information on touch-screen buttons





Button	Button name	Function or description
	Touch button	Touch the <b>select</b> button to have another screen appear with additional items. On the first screen, the user default setting is shown. Once the <b>select</b> 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 <b>left scroll decrease</b> button to scroll to another value in decreasing order.
	Right scroll increase button	Touch the <b>right scroll increase</b> button to scroll to another value in increasing order.

Button	Button name	Function or description
	Left arrow button	Touch the <b>left arrow</b> button to scroll left to: <ul style="list-style-type: none"> <li>Reach a decreased value shown by an illustration.</li> <li>See a full text field on the left.</li> </ul>
	Right arrow button	Touch the <b>right arrow</b> button to scroll right to: <ul style="list-style-type: none"> <li>Reach an increased value shown by an illustration.</li> <li>See a full text field on the right.</li> </ul>
  	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	<p>A <i>green button</i> 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 <b>Submit</b>.</p> 
	Back	<p>When the <b>Back</b> 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.</p> <p>For example, in &lt;color&gt;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 <b>Back</b>. Touch <b>Back</b> to return to the previous screen, and all the settings for the scan job made on Sample screen one are lost.</p>
	Back	When the <b>Back</b> 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 <b>Back</b> .



Sample screen two






Information on touch-screen buttons




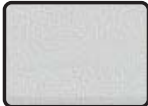

Button	Button name	Function or description
	Down arrow	Touch the <b>down arrow</b> to move down to the next item in a list, such as a list of menu items or values. The <b>down arrow</b> does not appear on a screen with a short listing. It only appears if the entire listing cannot be seen on one screen.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



Button	Button name	Function or description
	Cancel Job	See <b>“Cancel Jobs”</b> on page 2-7.
	Continue	<p>Touch <b>Continue</b> 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 <b>Continue</b> is touched, the original screen appears.</p> <p>For example, if one touched <b>Copy</b> on the home screen, the Copy screen appears like <b>“Sample screen one”</b> on page 2-8. The following example shows how the Continue button reacts.</p> <ol style="list-style-type: none"> <li>1 Touch the <b>select</b> button by the <b>Copy to</b> box and a new screen appears.</li> <li>2. Touch MP Feeder and a new screen appears.</li> <li>3. Touch Legal and a new screen appears.</li> <li>4. Touch Next and a new screen appears.</li> <li>5. Touch Plain Paper for the type of print media needed.</li> <li>6. Touch <b>Continue</b>. 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.</li> </ol> <p>Touch <b>Continue</b> to return to the original screen and make other setting changes for a copy job before the <b>Copy it</b> button is touched to start the job.</p>

### Other touch-screen buttons

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

Button	Button name	Function or description
	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	Touch the <b>Back</b> button to return to the previous screen, and no settings are saved on the screen where it was touched. The <b>Back</b> button appears on each menu screen except for the home screen.
	Home	Touch the <b>Home</b> button to return to the home screen. The <b>Home</b> button appears on every screen except the home screen. See the <b>“Home screen and Home screen buttons” on page 2-5.</b>
	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	Menu trail line	<p>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.</p> <p>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.</p>
	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 **3** and **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
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 <b>“200.00 Sensor (registration) late jam” on page 2-38.</b>
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 <b>“200.01 Sensor (registration) lag jam” on page 2-39.</b>
200.02 Paper jam	Sensor static jam	Media remains in the areas shown on the operator panel after power on. Go to <b>“200.02 Sensor static jam” on page 2-41.</b>
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 <b>“200.03 Sensor (media on belt) late jam” on page 2-42.</b>
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 <b>“201.00 Sensor (fuser exit) late jam” on page 2-43.</b>
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 <b>“202.00 Sensor (fuser exit) lag jam” on page 2-45.</b>
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 <b>“230.00 Sensor (duplex wait) late jam (duplex media feed)” on page 2-46.</b>
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 <b>“231.01 Sensor (registration) late jam (duplex media feed)” on page 2-50.</b>

Error code or message	Error contents	Description/Action
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 <b>“231.01 Sensor (registration) late jam (duplex media feed)” on page 2-50.</b>
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 <b>“241.00 Sensor (tray 1 feed-out) late jam” on page 2-52.</b>
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 <b>“242.00 Sensor (tray 2 feed-out) late jam” on page 2-54.</b>
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 <b>“242.01 Sensor (tray 1 feed-out) late jam (feeding from tray 2)” on page 2-55.</b>
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 <b>“243.00 Sensor (tray 3 feed-out) late jam” on page 2-56.</b>  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 <b>“243.01 Sensor (tray 2 feed-out) late jam (feeding from tray 3)” on page 2-58.</b>  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 <b>“244.00 Sensor (tray 4 feed-out) late jam” on page 2-60.</b>  3TM equipped machines refer to <i>Options Service Manual</i> .
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 <b>“244.01 Sensor (tray 3 feed-out) on jam (feeding from tray 4)” on page 2-62.</b>  3TM equipped machines refer to the <i>Options Service Manual</i> .

Error code or message	Error contents	Description/Action
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 <b>“250.00 Sensor (registration) late jam (feeding from the MPF)” on page 2-63.</b>
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 <i>Finisher Service Manual</i> .
280.01 Paper jam	Sensor (bridge unit media entrance) static jam	Media remains on the sensor (bridge unit media entrance).  Refer to the <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
281.03 Paper jam	Sensor (bridge unit media exit) static jam	Media remains on the sensor (bridge unit media exit).  Refer to the <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
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 Paper jam	Sensor (finisher media entrance) late jam	The media is late reaching the sensor (finisher media entrance) within the specified time after reaching the sensor (bridge unit media exit).  Refer to the <i>Finisher Service Manual</i> .
282.01 Paper jam	Sensor (finisher media entrance) static jam	Paper remains on the sensor (finisher media 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> .
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> .

Error code or message	Error contents	Description/Action
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> .
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> .

Error code or message	Error contents	Description/Action
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 <b>“290.00 Switch (sheet through) static jam” on page 2-65.</b>
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 <b>“290.01 Sensor (sheet through) late jam” on page 2-66.</b>
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 <b>“290.02 Sensor (ADF pre-registration) late jam (side 1)” on page 2-68.</b>
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 <b>“290.03 Sensor (ADF pre-registration) lag jam” on page 2-69.</b>
290.10 Scanner jam	Sensor (ADF pre-registration) static jam	Media remains on the sensor (ADF pre-registration). Go to <b>“290.10 Sensor (ADF pre-registration) static jam” on page 2-72.</b>
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 <b>“290.11 Sensor (ADF registration) late jam (side 1)” on page 2-73.</b>
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 <b>“290.12 Sensor (ADF registration) late jam (side 2)” on page 2-74.</b>
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 <b>“290.13 Sensor (ADF registration) lag jam” on page 2-77.</b>
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 <b>“290.14 Sensor (ADF inverter) late jam (Inverting)” on page 2-79.</b>

Error code or message	Error contents	Description/Action
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 <b>“290.15 Sensor (ADF registration) lag jam (inverting)” on page 2-81.</b>
290.20 Scanner jam	Sensor (ADF width APS1), sensor (ADF width APS 2) and the sensor (ADF width APS 3) static jam	Media remain on the sensor (ADF width APS1), sensor (ADF width APS 2) and the sensor (ADF width APS 3). Go to <b>“290.20 Sensor (ADF width APS1), sensor (ADF width APS 2) and sensor (ADF width APS 3) static jam” on page 2-84.</b>
290.21 Scanner jam	Sensor (ADF width APS 1) static jam	Media remains on the sensor (ADF width APS 1). Go to <b>“290.21 Sensor (ADF width APS 1) static jam” on page 2-85.</b>
290.22 Scanner jam	Sensor (ADF width APS 2) static jam	Media remains on the sensor (ADF width APS 2). Go to <b>“290.22 Sensor (ADF width APS 2) static jam” on page 2-86.</b>
290.23 Scanner jam	Sensor (ADF width APS 3) static jam	Media remains on the sensor (ADF width APS 3). Go to <b>“290.23 Sensor (ADF width APS 3) static jam” on page 2-87.</b>
291.00 Scanner jam	Sensor (ADF registration) static jam	Media remains on the sensor (ADF registration). Go to <b>“291.00 Sensor (ADF registration) static jam” on page 2-88.</b>
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 <b>“291.01 Sensor (ADF inverter) lag jam (inverting)” on page 2-88.</b>
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 <b>“291.02 Sensor (ADF inverter) late jam 2” on page 2-90.</b>
291.03 Scanner jam	Sensor (ADF inverter) lag jam	The media reached the sensor (ADF inverter) but did not clear it within the specified time. Go to <b>“291.03 Sensor (ADF inverter) lag jam” on page 2-92.</b>
292.01 Scanner jam	ADF raised jam	The ADF unit assembly was raised while the ADF was operating. Go to <b>“292.01 ADF raised jam” on page 2-94.</b>
292.02 Scanner jam	ADF left cover jam	The ADF left cover was opened while the ADF was operating. Go to <b>“292.02 ADF left cover jam” on page 2-94.</b>
293.00 Scanner jam	Document missing jam	The system did not detect a set document when it was instructed to feed from the ADF. Go to <b>“293.00 Document missing jam” on page 2-94.</b>



Error code or message	Error contents	Description/Action
294.00 Scanner jam	Sensor (ADF inverter) static jam	Media remains on the sensor (ADF inverter). Go to <b>“294.00 Sensor (ADF inverter) static jam” on page 2-95.</b>
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 <b>“294.01 Sensor (ADF pre-registration) late jam (side 2)” on page 2-96.</b>
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 <b>“294.02 Sensor (ADF pre-registration) lag jam (inverting)” on page 2-98.</b>
295.00 Scanner jam	Size mismatch Jam (mix-size)	During mixed original document feeding, it was detected that the Fast Scan Direction size was different from the width of the document guide. Go to <b>“295.00 Size mismatch jam (mix-size)” on page 2-101.</b>
295.01 Scanner jam	Size mismatch Jam (no mix-size)	The second and subsequent documents are different size from the first document. Go to <b>“295.01 Size mismatch jam (no mix-size)” on page 2-103.</b>
295.02 Scanner jam	Invalid combine size jam	An invalid document size combination was detected. Go to <b>“295.02 Invalid combine size jam” on page 2-104.</b>
295.03 Scanner jam	Media too short size jam	The system detected a document with a length shorter than 115mm in the Slow Scan Direction. Go to <b>“295.03 Too short size jam” on page 2-105.</b>
295.04 Scanner jam	Media too long size jam	The system detected a document with the following length in the Slow Scan Direction: <ul style="list-style-type: none"> <li>• Simplex mode: 672.4mm or longer</li> <li>• Duplex mode: 480.1mm or longer</li> </ul> Go to <b>“295.04 Too long size jam” on page 2-106.</b>
295.05 Scanner jam	Mixed size not supported	When feeding mixed size originals, the user has selected a fixed size from the menu settings. <b>“295.05 Mixed size not supported” on page 2-108.</b>
298.01	Scanner power cable missing or unplugged	The scanner is not receiving input power. Go to <b>“298.01 Scanner cable missing or unplugged” on page 2-108.</b>
31 Missing or defective black cartridge	Black toner cartridge detection error	The Black toner cartridge is defective not installed. Go to <b>“Toner cartridge error” on page 2-184.</b>

Error code or message	Error contents	Description/Action
31 Missing or defective <color> cartridge	<Color> toner cartridge detection error	The <Color> toner cartridge is defective or not installed. Go to “<Color> toner cartridge detection error” on page 2-191.
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.
32 Replace unsupported <Color> cartridge	Incorrect <color> toner cartridge error.	A <color> toner cartridge of an incorrect specification is installed. Go to “Incorrect <color> toner cartridge error” on page 2-192.
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 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 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.

Error code or message	Error contents	Description/Action
80 Scheduled maintenance 100K kit	100K maintenance required	Service is required to maintain printer performance. Go to <b>“100K maintenance required” on page 2-181.</b>
80 Scheduled maintenance 600K kit	600K maintenance required	Service is required to maintain printer performance. Go to <b>“600K maintenance required” on page 2-181.</b>
80 Scheduled maintenance ADF kit	ADF maintenance required	Service is required to maintain printer performance. Go to <b>“ADF maintenance required” on page 2-182.</b>
82 Replace waste toner	Waste toner cartridge full	Replace the waste toner cartridge. Go to <b>“Waste toner cartridge full” on page 2-185.</b>
82 Waste toner missing	Waste toner cartridge not detected	Reinstall the waste toner cartridge. Go to <b>“Waste toner cartridge not detected” on page 2-185.</b>
82 Waste toner nearly full	Waste toner cartridge nearly full	Waste toner cartridge is nearing the replacement interval. Go to <b>“Waste toner cartridge nearly full” on page 2-186.</b>
84 (color) PC unit missing	(Color) PC cartridge not detected	A (color) PC cartridge is not installed or not installed properly. Go to <b>“&lt;Color&gt; PC cartridge not detected” on page 2-187.</b>
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. Go to <b>“Black toner cartridge detection error 841.00 Image pipeline ASIC error” on page 2-108.</b>
842.00 Service scanner failure	Scanner communication error	Controller detected a communication error. Communication timeout Go to <b>“842.00 Scanner communication error” on page 2-109.</b>
842.01 Service scanner failure	Scanner communication error	Controller detected a communication error packet timeout. Go to <b>“842.01 Scanner communication error” on page 2-110.</b>
842.02 Service scanner failure	Scanner communication error	Controller detected a communication error. Invalid message checksum Go to <b>“842.02 Scanner communication error” on page 2-110.</b>
842.03 Service scanner failure	Scanner communication error	Controller detected a communication error. Invalid message parameter(s) Go to <b>“842.03 Scanner communication error” on page 2-111.</b>

Error code or message	Error contents	Description/Action
842.04 Service scanner failure	Scanner communication errors the above components the above component	Controller detected a communication error. Invalid message command Go to <b>"842.04 Scanner communication error" on page 2-111.</b>
842.10 Service scanner failure	Scanner unit assembly - ADF communication error	Communication error occurred between the scanner controller card assembly and the ADF controller card assembly. Go to <b>"842.10 Scanner unit assembly - ADF communication error" on page 2-112.</b>
842.11 Service scanner failure	Scanner communication error (by scanner)	Communication error occurred between the scanner controller card assembly and the RIP card assembly. Go to <b>"842.11 Scanner communication error (by scanner)" on page 2-112.</b>
842.12 Service scanner failure	Scanner unit assembly communication error	Communication error occurred between the scanner controller card assembly and the RIP card assembly. Go to <b>"842.12 Scanner unit assembly communication error" on page 2-113.</b>
843.00 Service scanner failure	Sensor (scanner HP) error	An error occurred while counting the pulses of the scanner drive motor assembly. After the Carriage Motor turned on, the sensor (scanner HP) did not turn on within the specified time. Go to <b>"843.00 Sensor (scanner HP) error" on page 2-114.</b>
843.01 Service scanner failure	Scanner carriage over run error	The scanner carriage has overrun. Go to <b>"843.01 Scanner carriage over run error" on page 2-115.</b>
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 <b>"843.10 ADF RAM test error" on page 2-115.</b>
843.11 Service scanner failure	ADF EEPROM error	The ADF-EEPROM failed during the read/write operation. Go to <b>"843.11 ADF EEPROM error" on page 2-115.</b>
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 <b>"843.12 ADF pick roll position lift up error" on page 2-116.</b>

Error code or message	Error contents	Description/Action
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 <b>“843.20 Scanner unit assembly connection error” on page 2-117</b>
843.21 Service scanner failure	Scanner unit assembly EEPROM error	The scanner unit assembly EEPROM failed during the read/write operation. Go to <b>“843.21 Scanner unit assembly EEPROM error” on page 2-117.</b>
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 <b>“843.22 Scanner unit assembly EEPROM sub system error” on page 2-118.</b>
843.23 Service scanner failure	Scanner cooling fan error	The scanner cooling fan has failed. Go to <b>“843.23 Scanner cooling fan error” on page 2-118.</b>
843.24 Service scanner failure	Image processing error	An error occurred in the image-processing system. Go to <b>“843.24 Image processing error” on page 2-119.</b>
843.25 Service scanner failure	Scanner controller card assembly error 1	An internal processing error occurred in the scanner controller card assembly. Go to <b>“843.25 Scanner controller card assembly error 1” on page 2-119.</b>
843.26 Service scanner failure	Scanner controller card assembly error 2	An internal processing error occurred in the scanner controller card assembly. Go to <b>“843.26 Scanner controller card assembly error 2” on page 2-120.</b>
844.00 Service scanner failure	Exposure lamp error	A error has occurred with the exposure lamp. Go to <b>“844.00 Exposure lamp error” on page 2-121.</b>
844.01 Service scanner failure	White reference/exposure lamp Illumination error	The large platen glass is not properly installed or missing  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 <b>“844.01 White reference/exposure lamp illumination error” on page 2-122.</b>
845.00 Service scanner failure	CCD error	A error has occurred with the CCD sensor assembly. Go to <b>“845.00 CCD error” on page 2-123.</b>
845.01 Service scanner failure	CCD initialization (lamp on) error	The CCD does not make a correct output when it receives a specified amount of light. Go to <b>“845.01 CCD initialization (lamp on) error” on page 2-124.</b>

Error code or message	Error contents	Description/Action
845.02 Service scanner failure	CCD initialization (lamp off) error	The CCD does not make a correct output when light is absent. Go to <b>"845.02 CCD initialization (lamp off) error" on page 2-125.</b>
846.00 Service scanner failure	Scanner communication error	Controller detected errors. Scanner download timeout Go to <b>"846.00 Scanner communication error" on page 2-125.</b>
846.01 Service scanner failure	Scanner communication error	Controller detected errors. Detected I/O error Go to <b>"846.01 Scanner communication error" on page 2-126.</b>
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 <b>"846.10 Sensor (ADF width APS X) error" on page 2-126.</b>
846.12 Service scanner failure	Scanner unit assembly software logic error	A software error was detected by the scanner controller card assembly. Go to <b>"846.12 Scanner unit assembly software logic error" on page 2-127.</b>
846.13 Service scanner error	Switch (platen interlock) open	The system detected that the switch (platen interlock) is open. Go to <b>"846.13 Switch (platen interlock) open" on page 2-128.</b>
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 <b>"847.00 Modem error" on page 2-128.</b>
847.01 Service fax	Fax storage	The remaining memory available on the hard drive is too small. Go to <b>"847.01 Fax storage error" on page 2-129.</b>
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 <b>"848.00 Fax/modem configuration ID mismatch" on page 2-130.</b>
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 <b>"849.00 Hard drive/configuration ID mismatch" on page 2-130.</b>
84 Black PC unit life warning	K PC cartridge nearly exhausted	The black PC cartridge is nearing the replacement interval. Go to <b>"K PC cartridge nearly exhausted" on page 2-188.</b>
84 Color PC unit life warning	K PC cartridges nearly exhausted.	All color PC cartridges are nearing the replacement interval. Go to <b>"K PC cartridge nearly exhausted" on page 2-188.</b>

Error code or message	Error contents	Description/Action
84 Replace black PC unit	K PC cartridge exhausted	The black PC cartridge requires replacing. Go to <b>"K PC cartridge exhausted" on page 2-189.</b>
84 Replace color PC units	CMY PC cartridges exhausted	All color PC cartridges require replacing. Go to <b>"CMY PC cartridges exhausted" on page 2-188.</b>
84 Unsupported (color) PC unit	(Color) PC cartridge invalid	A (color) PC cartridge of an incorrect specification is installed. Go to <b>"&lt;Color&gt; PC cartridge invalid" on page 2-187.</b>
88 (Color) toner low	(Color) toner cartridge nearly empty	The (color) toner cartridge is nearing the replacement interval. Go to <b>"&lt;Color&gt; toner cartridge nearly empty" on page 2-189.</b>
88 Replace (color) toner	(Color) toner cartridge empty	The (color) toner cartridge requires replacing. Go to <b>"&lt;Color&gt; toner cartridge empty" on page 2-190.</b>
900.xx Service RIP software	RIP card assembly software error	A error has occurred in the RIP card assembly software. Go to <b>"900.XX RIP card assembly software error" on page 2-130.</b>
901.xx Service engine error	RIP card assembly software error	A error has occurred in the RIP card assembly software. Go to <b>"900.XX RIP card assembly software error" on page 2-130.</b>
903.00 Service motor error	K developer/transport drive motor error	K developer/transport drive motor error does not rotate at the specified speed. Go to <b>"903.00 K developer/transport drive assembly motor error" on page 2-131.</b>
903.01 Service motor error	K PC drive motor error	The K PC cartridge drive motor does not rotate at the specified speed. Go to <b>"903.01 K PC drive motor error" on page 2-132.</b>
903.02 Service motor error	CMY PC drive motor error	The CMY PC cartridge drive motor does not rotate at the specified speed. Go to <b>"903.02 CMY PC drive motor error" on page 2-133.</b>
903.03 Service motor error	Developer drive motor error	The developer drive motor does not rotate at the specified speed. Go to <b>"903.03 Developer drive motor error" on page 2-134.</b>

Error code or message	Error contents	Description/Action
904.00 Service transfer belt	Sensor (transfer belt HP) late error	<p>The sensor (transfer belt HP) does not detect the transfer belt home position in the specified time or the transfer belt is damaged or torn in half.</p> <p>The transfer belt cleaning assembly is missing.</p> <p>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.</p> <p>Go to <b>“904.00 Sensor (transfer belt HP) late error” on page 2-135.</b></p>
904.01 Service transfer belt	Transfer belt position failure	<p>The transfer belt is out of correct position or the transfer belt cleaning assembly is missing.</p> <p>Go to <b>“904.01 Transfer belt position failure” on page 2-135.</b></p>
904.02 Service transfer belt	Sensor (transfer belt edge) failure	<p>The sensor (transfer belt edge detect) is not detecting the transfer belt edge properly.</p> <p>Go to <b>“904.02 Sensor (transfer belt edge) failure” on page 2-136.</b></p>
904.03 Service transfer belt	Sensor (2nd transfer roll retract HP) late error	<p>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.</p> <p>Go to <b>“904.03 Sensor (2nd transfer roll retract HP) late error” on page 2-137.</b></p>
904.04 Service transfer belt	Sensor (2nd transfer roll retract HP) lag error	<p>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.</p> <p>Go to <b>“904.04 Sensor (2nd transfer roll retract HP) lag error” on page 2-138.</b></p>
904.05 Service transfer belt	Sensor (CMY transfer roll retract HP) late error	<p>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.</p> <p>Go to <b>“904.05 Sensor (CMY transfer roll retract HP) late error” on page 2-139.</b></p>
904.06 Service transfer belt	Sensor (CMY transfer roll retract HP) lag or transfer belt unit assembly missing.	<p>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.</p> <p>Go to <b>“904.06 Sensor (CMY transfer roll retract HP) lag error” on page 2-140.</b></p>
904.07 Service transfer belt	CMY transfer roll retract motor time out	<p>The CMY transfer roll retract motor has failed.</p> <p>Go to <b>“904.07 CMY transfer roll retract motor time out” on page 2-140.</b></p>
905.00 Service engine error	NVM read/write cannot be executed error	<p>Engine NVM read/write has failed.</p> <p>Go to <b>“905.00 NVM read/write cannot be executed error” on page 2-140.</b></p>
905.01 Service engine error	Marking device video error	<p>Internal processing error occurred in printer engine.</p> <p>Go to <b>“905.01 Marking device video error” on page 2-141.</b></p>



Error code or message	Error contents	Description/Action
905.02 Service engine error	Marking device Xerographic error	Internal processing error occurred in printer engine. Go to <b>“905.02 Marking device Xerographics error” on page 2-141.</b>
905.03 Service engine error	Marking device other1 error	Internal processing error occurred in printer engine. Go to <b>“905.03 Marking device other1 error” on page 2-142.</b>
905.04 Service engine error	Marking device paper handling error	Internal processing error occurred in printer engine. Go to <b>“905.04 Marking device paper handling error” on page 2-142.</b>
905.05 Service engine error	Marking device other2 error	Internal processing error occurred in printer engine. Go to <b>“905.05 Marking device other2 error” on page 2-142.</b>
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 <b>“907.00 Printhead polygon mirror motor error” on page 2-142</b>
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 <b>“907.01 Y laser SOS internal error” on page 2-143.</b>
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 <b>“907.02 M laser SOS internal error” on page 2-143.</b>
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 <b>“907.03 C laser SOS internal error” on page 2-144.</b>
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 <b>“907.04 K laser SOS internal error” on page 2-144.</b>
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 <b>“907.05 Printhead control error” on page 2-144.</b>
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 <b>“908.00 Waste toner full error” on page 2-145.</b>
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 <b>“911.00 24V LVPS cooling fan error” on page 2-145.</b>

Error code or message	Error contents	Description/Action
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 <b>"911.01 Transfer belt drive motor cooling fan error" on page 2-146.</b>
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 <b>"911.02 Fuser cooling fan lock error" on page 2-146.</b>
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 <b>"918.00 Standard media exit shift error" on page 2-147.</b>
920.00 Service fuser error	Fuser main lamp overheat error	The front thermistor detected an abnormal high temperature. This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur. Go to <b>"920.00 Fuser main lamp overheat error" on page 2-147.</b>
920.01 Service fuser error	Front thermistor disconnection error	The system detected an open circuit in the fuser front thermistor. Go to <b>"920.01 Front thermistor disconnection error" on page 2-148.</b>
920.02 Service fuser error	Fuser sub lamp overheat error	The rear thermistor detected an abnormal high temperature. This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur. Go to <b>"920.02 Fuser sub lamp overheat error" on page 2-149.</b>
920.03 Service fuser error	Rear thermistor disconnection error	The system detected an open circuit in the fuser rear thermistor. Go to <b>"920.03 Rear thermistor disconnection error" on page 2-149.</b>
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 <b>"920.04 Main lamp warm up error" on page 2-150.</b>
920.05 Service fuser error	Main lamp on-time error	The main lamp was turned on for 20 seconds or longer. Go to <b>"920.05 Main lamp on-time error" on page 2-150.</b>
920.06 Service fuser error	Sub lamp warm up error	The fuser temperature did not reach the ready temperature in the specified time. Go to <b>"920.06 Sub lamp warm-up failure" on page 2-151.</b>

Error code or message	Error contents	Description/Action
920.07 Service fuser error	Sub lamp on-time error	The Sub lamp was turned on for 20 seconds or longer. Go to <b>"920.07 Sub lamp on-time error" on page 2-152.</b>
924.00 Service engine error	Yellow toner RFID communication error	Communication error with the Y sensor (RFID toner cartridge) has occurred. Go to <b>"924.00 Yellow toner RFID communication error" on page 2-152.</b>
924.01 Service engine error	Magenta toner RFID communication error	Communication error with the M sensor (RFID toner cartridge) has occurred. Go to <b>"924.01 Magenta toner RFID communication error" on page 2-153.</b>
924.02 Service engine error	Cyan toner RFID communication error	Communication error with the C sensor (RFID toner cartridge) has occurred. Go to <b>"924.02 Cyan toner RFID communication error" on page 2-153.</b>
924.03 Service engine error	Black toner RFID communication error	Communication error with the K sensor (RFID toner cartridge) has occurred. Go to <b>"924.03 Black toner RFID communication error" on page 2-153.</b>
925.00 Service PC cartridge	Sensor (Y ATC)	Outputs of the sensor (Y ATC) are not in the specified range. This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur. Go to <b>"925.00 Sensor (Y ATC) error" on page 2-154.</b>
925.01 Service PC cartridge	Sensor (M ATC)	Outputs of the sensor (M ATC) are not in the specified range. This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur. Go to <b>"925.01 Sensor (M ATC) error" on page 2-155.</b>
925.02 Service PC cartridge	Sensor (C ATC)	Outputs of the sensor (C ATC) are not in the specified range. This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur. Go to <b>"925.02 Sensor (C ATC) error" on page 2-155.</b>
925.03 Service PC cartridge	Sensor (K ATC)	Outputs of the sensor (K ATC) are not in the specified range. This error must be reset inside diagnostic mode before troubleshooting or machine operation can occur. Go to <b>"925.03 Sensor (K ATC) error" on page 2-156.</b>

Error code or message	Error contents	Description/Action
940.00 Service MPF failure	MPF Tray 5 size sensing error	The MPF size width sensor has failed. Go to <b>“940.00 MPF tray 5 size sensing error” on page 2-156.</b>
941.00 Service tray 1 failure	Switch (media size) size sensing error (tray 1)	The tray 1 switch (media size) detected an invalid size setting. Go to <b>“941.00 Switch (media size) size sensing error (tray 1)” on page 2-157.</b>
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 <b>“941.01 Sensor (media level) late error (tray 1)” on page 2-157.</b>
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. Go to <b>“942.00 Switch (media size) size sensing error (tray 2)” on page 2-158.</b>
942.01 Service tray 2 failure	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. Go to <b>“942.01 Sensor (media level) late error (tray 2)” on page 2-159.</b>
943.00 Service tray 3 failure	Switch (media size) size sensing error (tray 3)	The tray 3 switch (media size) detected an invalid size setting. Go to <b>“943.00 Switch (media size) size sensing error (tray 3)” on page 2-160.</b>
943.01 Service tray 3 failure	Sensor (media level) late error (tray 3)	The sensing area of the sensor (media level) in the media tray 3 is not interrupted within the specified time after the lift tray has risen to operating level. Go to <b>“943.01 Sensor (media level) late error (tray 3)” on page 2-161.</b>
944.00 Service tray 4 failure	Switch (media size) size sensing error (tray 4)	The tray 4 switch (media size) detected an invalid size setting. Go to <b>“944.00 Switch (media size) size sensing error (tray 4)” on page 2-162.</b>
944.01 Service tray 4 failure	Sensor (media level) late error (tray 4)	The sensing area of the sensor (media level) in the media tray 4 is not interrupted within the specified time after the lift tray has risen to operating level. Go to <b>“944.01 Sensor (media level) late error (tray 4)” on page 2-163.</b>

Error code or message	Error contents	Description/Action
950.00 through 950.29 Service NVRAM mismatch	EPROM mismatch failure	<p>This error code indicates a mismatch between the operator panel assembly and the interconnect card assembly.</p> <p><b>Warning:</b> In the event of replacement of any one of the following components:</p> <ul style="list-style-type: none"> <li>• RIP card assembly</li> <li>• Interconnect card assembly</li> </ul> <p>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.</p> <p><b>Warning:</b> 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.</p> <p>Go to Go to <b>“950.00 through 950.29 EPROM mismatch failure” on page 2-164.</b></p>
950.30 through 950.60 Service NVRAM mismatch	EPROM mismatch failure	<p>This error code indicates a mismatch between the RIP card assembly and the interconnect card assembly.</p> <p><b>Warning:</b> In the event of replacement of any one of the following components:</p> <ul style="list-style-type: none"> <li>• RIP card assembly</li> <li>• Interconnect card assembly</li> </ul> <p>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.</p> <p><b>Warning:</b> 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.</p> <p>Go to Go to <b>“950.30 through 950.60 EPROM mismatch failure” on page 2-165.</b></p>
951.XX Service NVRAM failure	RIP card assembly NVRAM failure	<p>A failure has occurred in the RIP card asm NVRAM.</p> <p>Go to Go to <b>“951.XX RIP card assembly NVRAM failure” on page 2-166.</b></p>
952.XX Service NV failure	Interconnect card assembly NVRAM CRC failure	<p>A recoverable NVRAM Cyclic redundancy check (CRC) error occurred.</p> <p>Go to Go to <b>“952.XX Interconnect card assembly NVRAM CRC failure” on page 2-166.</b></p>

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

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 <i>Finisher Service Manual</i> .
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. Refer to the <i>Finisher 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> .
987.01 Service finisher error	Sensor (media eject shaft HP) lag error	The 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 <i>Finisher Service Manual</i> .
988.01 Service finisher error	Sensor (punch unit side reg 1) lag error Sensor (punch unit side reg 2) lag error	The sensor (punch unit side reg 1) or sensor (punch unit side reg 2) did not detect any media correctly. Refer to the <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .




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 <i>Finisher Service Manual</i> .
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. Refer to the <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
991.06 Service finisher error	Sensor (booklet unit interlock) error	The sensor (booklet unit interlock) detected that the booklet maker was not completely inserted when the finisher front door assembly was closed. Refer to the <i>Finisher Service Manual</i> .
991.07 Service finisher error	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. Refer to the <i>Finisher Service Manual</i> .
991.08 Service finisher error	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. Refer to the <i>Finisher Service Manual</i> .
991.09 Service finisher error	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. Refer to the <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
991.11 Service finisher error	Booklet stapler error	The booklet stapler unit has failed. Refer to the <i>Finisher Service Manual</i> .
991.12 Service finisher error	Communication error with booklet controller card assembly	A communication error has occurred with the booklet controller card assembly and the finisher controller card assembly. Refer to the <i>Finisher Service Manual</i> .


Error code or message	Error contents	Description/Action
991.13 Service finisher error	Booklet unit maker error	Booklet set recovery was detected too many times for the same job. Perform a POR. Refer to the <i>Finisher Service Manual</i> .
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 <i>Finisher Service Manual</i> .
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 <b>“Printer left door open” on page 2-179.</b>
Close door B	Duplex left door assembly open.	The Duplex left door assembly is open. Go to <b>“Duplex left door assembly open” on page 2-172.</b>
Close door C	Printer left lower door assembly open	The printer lower left door assembly is open. Go to <b>“Printer left lower door assembly open” on page 2-180.</b>
Close door D	1TM, 3TM or TTM left door assembly open	The 1TM, 3TM or TTM tray left door assembly is open. Go to <b>“1TM, 3TM or TTM left door assembly open” on page 2-171.</b>
Close door E	Printer front door assembly open	Printer front door assembly is open. Go to <b>“Printer front door assembly open” on page 2-178.</b>
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 <b>“Transfer belt access door open” on page 2-180.</b>
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>	No media in the selected media tray.	Media is not loaded in the tray. Go to <b>“No media in the selected media tray” on page 2-175.</b>
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 <b>“Standard media bin full” on page 2-182.</b>
Scanner ADF cover open	ADF left cover assembly is open	The ADF left cover assembly is open. Go to <b>“ADF left cover assembly is open” on page 2-183.</b>
Scanner missing cable unplugged	Scanner unit assembly not detected	The scanner unit assembly is unplugged or missing. Go to <b>“Scanner unit assembly not detected” on page 2-182.</b>
Toner unsupported	Toner cartridge RFID error	A toner cartridge of a different specification is installed. Go to <b>“Toner cartridge set error” on page 2-184.</b>

## Service checks

### 200.00 Sensor (registration) late jam


Step	Check	Yes	No
1	Check the media position. Does the media touch the sensor (registration)?	Remove the media.	Go to step 2.
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 <b>"Registration / transport roll assembly removal" on page 4-36.</b>
3	Check the sensor (registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST</b> . 3. Touch <b>Media Path</b> . 4. Touch <b>Registration</b> .  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 (registration) for proper connection. Is the above component properly connected?	Replace the sensor (registration).  Go to <b>"Sensor (registration) removal" on page 4-37.</b>	Replace the connection.
5	Check the transport roll/MPF drive motor assembly for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer Motor Test</b> . 4. Touch <b>MPF/transport drive motor</b> .  Does the above component operate properly?	Go to step 7.	Go to step 6.
6	Check the MPF / transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the MPF/ transport drive motor assembly.  Go to <b>"MPF / transport drive motor assembly removal" on page 4-104.</b>	Replace the connection.

Step	Check	Yes	No
7	<p>Check the Replace the K developer/transport drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch. <b>K developer/transport drive motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 9.	Go to step 8.
8	<p>Check the K developer/transport drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the K developer / transport drive motor assembly.</p> <p>Go to <b>“K developer / transport drive motor assembly removal” on page 4-95.</b></p>	Replace the connection.
9	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b></p>	Problem solved.

## 200.01 Sensor (registration) lag jam

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

Step	Check	Yes	No
<b>4</b>	<p>Check the sensor (registration) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>BASE SENSOR TEST</b>.</li> <li>3. Touch <b>Media Path</b>.</li> <li>4. Touch <b>Registration</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 6.	Go to step 5.
<b>5</b>	<p>Check the sensor (registration) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (registration).</p> <p>Go to <b>“Sensor (registration) removal” on page 4-37.</b></p>	Replace the connection.
<b>6</b>	<p>Check the sensor (fuser exit) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>BASE SENSOR TEST</b>.</li> <li>3. Touch <b>Media Path</b>.</li> <li>4. Touch <b>Fuser exit</b></li> </ol> <p>Caution: The area around the actuator is very hot. Allow the fuser area to cool before proceeding.</p> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 8.	Go to step 7.
<b>7</b>	<p>Check the sensor (fuser exit) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (fuser exit).</p> <p>Go to <b>“Sensor (fuser exit) removal” on page 4-25.</b></p>	Replace the connection.
<b>8</b>	<p>Check the registration clutch for proper operation.</p> <div> </div> <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch <b>Registration clutch</b>.</li> </ol> <p>Does the above component make an audible clicking sound when activated?</p>	Go to step 10.	Go to step 9.
<b>9</b>	<p>Check the registration clutch for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the registration clutch.</p> <p>Go to <b>“Registration clutch removal” on page 4-37.</b></p>	Replace the connection.

Step	Check	Yes	No
10	<p>Check the Replace the K developer/transport drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch <b>K developer/transport drive motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 12.	Go to step 11.
11	<p>Check the Replace the K developer/transport drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the K developer/transport drive motor assembly.</p> <p>Go to "<b>K developer / transport drive motor assembly removal</b>" on page 4-95.</p>	Replace the connection.
12	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to "<b>Lower printer engine card assembly removal</b>" on page 4-79.</p>	Problem solved.

## 200.02 Sensor static jam

Step	Check	Yes	No
1	<p>Check the media position in the area shown on the operator panel.</p> <p>Is media present in the area shown on the operator panel?</p>	Remove the media.	Go to step 2.
2	<p>Check the sensor in the appropriate area for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>BASE SENSOR TEST</b>.</li> <li>3. Touch <b>Media Path</b>.</li> <li>4. Touch <b>Registration</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the appropriate sensor is interrupted or blocked?</p>	Go to step 4.	Go to step 3.
3	<p>Check the appropriate sensor for proper connection.</p> <p>Is the above component properly connected?</p>	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.  Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b>	Problem solved.



### 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 <b>“2nd transfer roll assembly removal” on page 4-35.</b>
4	Check the sensor (media on belt) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>Media on belt.</b>  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 <b>“Sensor (media on belt) removal” on page 4-30.</b>	Replace the connection.
6	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly.  Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b>	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 <b>"Sensor (fuser exit) removal" on page 4-25.</b>	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 <b>"2nd transfer roll assembly removal" on page 4-35.</b>
4	Check the sensor (fuser exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST</b> . 3. Touch <b>Media Path</b> . 4. Touch <b>Fuser exit</b> .  <b>Caution:</b> 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 <b>"Sensor (fuser exit) removal" on page 4-25.</b>	Replace the connection.
6	Check the duplex diverter gate solenoid for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer Motor Test</b> . 4. Touch <b>Duplex diverter gate solenoid</b> .  Does the above component operate properly?	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	<p>Check the duplex diverter gate solenoid for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the duplex media inverter assembly.</p> <p>Go to <b>“Duplex media inverter assembly removal” on page 4-9.</b></p>	<p>Replace the connection.</p>
8	<p>Check the registration clutch for proper operation.</p> <p> <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS.</b></li> <li>3. Touch <b>Printer Motor Test.</b></li> <li>4. Touch <b>Registrat clutch.</b></li> </ol> <p>Does the above component make an audible clicking sound when activated?</p>	<p>Go to step 10.</p>	<p>Go to step 9.</p>
9	<p>Check the registration clutch for proper connection.</p> <p>Is the registration clutch properly connected?</p>	<p>Replace the registration clutch.</p> <p>Go to <b>“Registration clutch removal” on page 4-37.</b></p>	<p>Replace the connection.</p>
10	<p>Check the Replace the K developer/transport drive motor assembly for proper operation.</p> <p> <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS.</b></li> <li>3. Touch <b>Printer Motor Test.</b></li> <li>4. Touch <b>K developer/transport drive motor.</b></li> </ol> <p>Does the above component operate properly?</p>	<p>Go to step 12.</p>	<p>Go to step 11.</p>
11	<p>Check the K developer/transport drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the K developer/transport drive motor assembly.</p> <p>Go to <b>“K developer / transport drive motor assembly removal” on page 4-95.</b></p>	<p>Replace the connection.</p>

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



## 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 <b>BASE SENSOR TEST</b> . 3. Touch <b>Media Path</b> . 4. Touch <b>Fuser exit</b> .  <b>Caution:</b> 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 4.	Go to step 3.
3	Check the sensor (fuser exit) for proper connection. Is the above component properly connected?	Replace the sensor (fuser exit). Go to <b>“Sensor (fuser exit) removal”</b> on page 4-25.	Replace the connection.
4	Check the duplex diverter gate solenoid for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer Motor Test</b> . 4. Touch <b>Duplex diverter gate solenoid</b> .  Does the above component operate properly?	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 <b>“Duplex media inverter assembly removal”</b> on page 4-9.	Replace the connection.

Step	Check	Yes	No
6	<p>Check the Replace the K developer/transport drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch <b>K developer/transport drive motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 8.	Go to step 7.
7	<p>Check the K developer/transport drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the K developer/transport drive motor assembly.</p> <p>Go to "<b>K developer / transport drive motor assembly removal</b>" on page 4-95.</p>	Replace the connection.
8	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to "<b>Lower printer engine card assembly removal</b>" on page 4-79.</p>	Problem solved.

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



Step	Check	Yes	No
1	<p>Check the media position.</p> <p>Does the media remain in standard media exit?</p>	Remove the media.	Go to step 2.
2	<p>Check the duplex unit assembly rolls.</p> <p>Are the duplex unit assembly rolls free of excess wear and contamination?</p>	Go to step 3.	<p>Clean or replace the duplex unit assembly.</p> <p>Go to "<b>Duplex unit assembly removal</b>" on page 4-10.</p>
3	<p>Check the sensor (duplex wait) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>DUPLEX TESTS</b>.</li> <li>3. Touch <b>Sensor Test</b>.</li> <li>4. Touch <b>Duplex wait</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 5.	Go to step 4.


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 <b>“Sensor (duplex wait) removal” on page 4-11.</b>	Replace the connection.
5	Check the duplex diverter gate solenoid for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Duplex diverter gate solenoid.</b>  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 <b>“Duplex media inverter assembly removal” on page 4-9.</b>	Replace the connection.
7	Check the duplex drive motor for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Duplex drive motor.</b>  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 <b>“Duplex drive motor removal” on page 4-13.</b>	Replace the connection.

Step	Check	Yes	No
9	<p>Check the duplex media inverter clutch for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch <b>Registrat clutch</b>.</li> </ol> <p>Does the above component make an audible clicking sound when activated?</p>	Go to step 11.	Go to step 10.
10	<p>Check the duplex media inverter clutch for proper connection.</p> <p>Is the registration clutch properly connected?</p>	<p>Replace the duplex media inverter assembly.</p> <p>Go to <b>“Duplex media inverter assembly removal” on page 4-9.</b></p>	Replace the connection.
11	<p>Perform a 2 sided print test.</p> <p>Does the error remain?</p>	<p>Replace the duplex controller card assembly.</p> <p>Go to <b>“Duplex controller card assembly removal” on page 4-14.</b></p> <p>Go to step 12.</p>	Problem solved.
12	<p>Perform a 2 sided print test.</p> <p>Does the error remain?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b></p>	Problem solved.

### 231.00 Sensor (registration) late jam (duplex feed)

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



Step	Check	Yes	No
<b>3</b>	<p>Check the sensor (registration) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>BASE SENSOR TESTS</b>.</li> <li>3. Touch <b>Media Path</b>.</li> <li>4. Touch <b>Registration</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 5.	Go to step 4.
<b>4</b>	<p>Check the sensor (registration) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (registration).</p> <p>Go to <b>“Sensor (registration) removal” on page 4-37</b>.</p>	Replace the connection.
<b>5</b>	<p>Check the duplex diverter gate solenoid for proper operation.</p> <div>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> </div> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch <b>Duplex diverter gate solenoid</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 7.	Go to step 6.
<b>6</b>	<p>Check the duplex diverter gate solenoid for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace duplex media inverter assembly.</p> <p>Go to <b>“Duplex media inverter assembly removal” on page 4-9</b>.</p>	Replace the connection.
<b>7</b>	<p>Check the duplex drive motor for proper operation.</p> <div>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> </div> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch <b>Duplex drive motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 9.	Go to step 8.
<b>8</b>	<p>Check the duplex drive motor for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace duplex drive motor.</p> <p>Go to <b>“Duplex drive motor removal” on page 4-13</b>.</p>	Replace the connection.


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

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

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




Step	Check	Yes	No
<b>3</b>	<p>Check the sensor (registration) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>BASE SENSOR TESTS</b>.</li> <li>3. Touch <b>Media Path</b>.</li> <li>4. Touch <b>Registration</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 5.	Go to step 4.
<b>4</b>	<p>Check the sensor (registration) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (registration).</p> <p>Go to <b>“Sensor (registration) removal” on page 4-37</b>.</p>	Replace the connection.
<b>5</b>	<p>Check the duplex diverter gate solenoid for proper operation.</p> <div>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> </div> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch <b>Duplex diverter gate solenoid</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 7.	Go to step 6
<b>6</b>	<p>Check the duplex diverter gate solenoid for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace duplex media inverter assembly.</p> <p>Go to <b>“Duplex media inverter assembly removal” on page 4-9</b>.</p>	Replace the connection.
<b>7</b>	<p>Check the duplex drive motor for proper operation.</p> <div>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> </div> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch <b>Duplex drive motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 9.	Go to step 8.
<b>8</b>	<p>Check the duplex drive motor for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace duplex drive motor.</p> <p>Go to <b>“Duplex drive motor removal” on page 4-13</b>.</p>	Replace the connection.


Step	Check	Yes	No
9	<p>Check the duplex media inverter clutch for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch <b>Registrat clutch</b>.</li> </ol> <p>Does the above component make an audible clicking sound when activated?</p>	Go to step 11.	Go to step 10.
10	<p>Check the duplex media inverter clutch for proper connection.</p> <p>Is the registration clutch properly connected?</p>	<p>Replace the duplex media inverter assembly.</p> <p>Go to <b>“Duplex media inverter assembly removal” on page 4-9.</b></p>	Replace the connection.
11	<p>Perform a 2 sided print test.</p> <p>Does the error remain?</p>	<p>Replace the duplex controller card assembly.</p> <p>Go to <b>“Duplex controller card assembly removal” on page 4-14.</b></p> <p>Go to step 12.</p>	Problem solved.
12	<p>Perform a 2 sided print test.</p> <p>Does the error remain?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b></p>	Problem solved.

## 241.00 Sensor (tray 1 feed-out) late jam

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

Step	Check	Yes	No
<b>3</b>	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 <b>"Feed roll removal" on page 4-105</b> , <b>"Separation roll removal" on page 4-107</b> , and <b>"Pick roll removal" on page 4-106</b> .
<b>4</b>	Check the media position. Does the media touch the sensor (tray 1 feed-out)?	Remove the media.	Go to step 5.
<b>5</b>	Check the sensor (tray 1 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>INPUT TRAY TESTS</b> . 3. Touch <b>Sensor test</b> . 4. Touch <b>Tray 1</b> . 5. Touch <b>Feed-out</b> .  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.
<b>6</b>	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.
<b>7</b>	Check the media feed lift motor in media tray 1 for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer motor tests</b> . 4. Touch <b>Tray 1 media feed/lift motor</b> .  Does the above component operate properly?	Go to step 9.	Skip to step 8.
<b>8</b>	Check the media feed lift motor for proper connection. Is the above component properly connected?	Replace the media feed lift motor. Go to <b>"Media feed lift motor removal" on page 4-112</b> .	Replace the connection.
<b>9</b>	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to <b>"Lower printer engine card assembly removal" on page 4-79</b> .	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 <b>"Feed roll removal"</b> on page 4-105, <b>"Separation roll removal"</b> on page 4-107, and <b>"Pick roll removal"</b> 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 <b>INPUT TRAY TESTS</b> . 3. Touch <b>Sensor test</b> . 4. Touch <b>Tray 2</b> . 5. Touch <b>Feed-out</b> .  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.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer motor tests</b> . 4. Touch <b>Tray 2 media feed/lift motor</b> .  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 <b>"Media feed lift motor removal"</b> 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.  Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b>	Problem solved.

### 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 <b>INPUT TRAY TESTS.</b> 3. Touch <b>Sensor test.</b> 4. Touch <b>Tray 1.</b> 5. Touch <b>Feed-out.</b>  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 <b>INPUT TRAY TESTS.</b> 3. Touch <b>Sensor test.</b> 4. Touch <b>Tray 2.</b> 5. Touch <b>Feed-out.</b>  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	<p>Check the MPF/transport drive motor for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer motor tests</b>.</li> <li>4. Touch <b>MPF/transport drive motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 9.	Skip to step 8.
8	<p>Check the MPF/transport drive motor for proper connection. Is the above component properly connected?</p>	<p>Replace the MPF / transport drive motor.</p> <p>Go to <b>"MPF / transport drive motor assembly removal" on page 4-104.</b></p>	Replace the connection.
9	<p>Perform a print test. Does the error continue?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>"Lower printer engine card assembly removal" on page 4-79.</b></p>	Problem solved.

### 243.00 Sensor (tray 3 feed-out) late jam

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


Step	Check	Yes	No
5	<p>Check the sensor (tray 3 feed-out) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS</b>.</li> <li>3. Touch <b>Sensor test</b>.</li> <li>4. Touch <b>Tray 3</b>.</li> <li>5. Touch <b>Feed-out</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 7.	Go to step 6.
6	<p>Check the sensor (tray 3 feed-out) for proper connection.</p> <p>Is the above component properly connected?</p>	Replace the sensor (tray 3 feed-out).	Replace the connection.
7	<p>Check the media feed lift motor in media tray 3 for proper operation.</p> <div> </div> <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer motor tests</b>.</li> <li>4. Touch <b>Tray 3 media feed/lift motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 9.	Skip to step 8.
8	<p>Check the media feed lift motor for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the media feed lift motor.</p> <p>Go to <b>“Media feed lift motor removal” on page 4-112</b>.</p>	Replace the connection.
9	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the 1TM controller card assembly or the 3TM controller card assembly or the TTM controller card assembly.</p> <p>Go to <b>“1X 500-sheet drawer (1TM)—1TM controller card assembly removal” on page 4-251</b> <b>“3X 500-sheet drawer (3TM)—3TM controller card assembly removal” on page 4-230</b> or <b>“2000-sheet dual input (TTM)—TTM controller card assembly removal” on page 4-204</b>.</p> <p>Go to step 10.</p>	Problem solved.

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


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


Step	Check	Yes	No
<b>1</b>	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the damaged media with new.	Go to step 2.
<b>2</b>	Check the media position. Does the media touch the sensor (tray 2 feed-out)?	Remove the media.	Go to step 5
<b>3</b>	Check the sensor (tray 2 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>INPUT TRAY TESTS.</b> 3. Touch <b>Sensor test.</b> 4. Touch <b>Tray 2.</b> 5. Touch <b>Feed-out.</b>  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.
<b>4</b>	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.
<b>5</b>	Check the sensor (tray 3 feed-out) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>INPUT TRAY TESTS.</b> 3. Touch <b>Sensor test.</b> 4. Touch <b>Tray 3.</b> 5. Touch <b>Feed-out.</b>  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.
<b>6</b>	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	<p>Check the tray module drive motor for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer motor tests</b>.</li> <li>4. Touch <b>Tray module drive motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 9.	Skip to step 8.
8	<p>Check the tray module drive motor for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the tray module drive motor.</p> <p>Go to <b>“2000-sheet dual input (TTM)—tray module drive motor assembly removal” on page 4-202</b> or <b>“2000-sheet dual input (TTM)—tray module drive motor assembly removal” on page 4-202</b>.</p>	Replace the connection.
9	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the 1TM controller card assembly or the 3TM controller card assembly or the TTM controller card assembly.</p> <p>Go to <b>“1X 500-sheet drawer (1TM)—1TM controller card assembly removal” on page 4-251</b> <b>“3X 500-sheet drawer (3TM)—3TM controller card assembly removal” on page 4-230</b> or <b>“2000-sheet dual input (TTM)—TTM controller card assembly removal” on page 4-204</b>.</p> <p>Go to step 10.</p>	Problem solved.
10	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>“Lower printer engine card assembly removal” on page 4-79</b>.</p>	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 <b>"Feed roll removal"</b> on page 4-105, <b>"Separation roll removal"</b> on page 4-107, and <b>"Pick roll removal"</b> 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 <b>INPUT TRAY TESTS</b> . 3. Touch <b>Sensor test</b> . 4. Touch <b>Tray 4</b> . 5. Touch <b>Feed-out</b> .  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.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer motor tests</b> . 4. Touch <b>Tray 4 media feed/lift motor</b> .  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 <b>"Media feed lift motor removal"</b> on page 4-112.	Replace the connection.

Step	Check	Yes	No
9	<p>Check the TTM tray 4 transport motor for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer motor tests</b>.</li> <li>4. Touch <b>TTM tray 4 media transport motor</b></li> </ol> <p>Does the above component operate properly?</p>	Go to step 9.	Skip to step 8.
10	<p>Check the TTM tray 4 transport motor for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the TTM tray 4 transport motor.</p> <p>Go to <b>“2000-sheet dual input (TTM)—TTM tray 4 transport motor removal” on page 4-204.</b></p>	Replace the connection.
11	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the 1TM controller card assembly or the 3TM controller card assembly or the TTM controller card assembly.</p> <p>Go to <b>“1X 500-sheet drawer (1TM)—1TM controller card assembly removal” on page 4-251</b> <b>“3X 500-sheet drawer (3TM)—3TM controller card assembly removal” on page 4-230</b> or <b>“2000-sheet dual input (TTM)—TTM controller card assembly removal” on page 4-204.</b></p> <p>Go to step 12.</p>	Problem solved.
12	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b></p>	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 <b>INPUT TRAY TESTS</b> . 3. Touch <b>Sensor test</b> . 4. Touch <b>Tray 3</b> . 5. Touch <b>Feed-out</b> .  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 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 <b>INPUT TRAY TESTS</b> . 3. Touch <b>Sensor test</b> . 4. Touch <b>Tray 4</b> . 5. Touch <b>Feed-out</b> .  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 tray module drive motor for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer motor tests</b> . 4. Touch <b>Tray module drive motor</b> .  Does the above component operate properly?	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 <b>“2000-sheet dual input (TTM)—tray module drive motor assembly removal” on page 4-202</b> or <b>“2000-sheet dual input (TTM)—tray module drive motor assembly removal” on page 4-202.</b>	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 <b>“1X 500-sheet drawer (1TM)—1TM controller card assembly removal” on page 4-251</b> <b>“3X 500-sheet drawer (3TM)—3TM controller card assembly removal” on page 4-230</b> or <b>“2000-sheet dual input (TTM)—TTM controller card assembly removal” on page 4-204.</b> Go to step 10.	Problem solved.
10	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b>	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 <b>"Pick roll removal" on page 4-106.</b>
5	Check the sensor (registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>Registration.</b>  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 (registration) for proper connection connection. Is the above component properly connected?	Replace the sensor (registration). Go to <b>"Sensor (registration) removal" on page 4-37.</b>	Replace the connection.
7	Check the MPF pick solenoid for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>MPF pick solenoid.</b>  Does the above component operate properly?	Go to step 9.	Go to step 8.
8	Check the MPF pick solenoid for proper connection connection. Is the above component properly connected?	Replace the MPF feed unit assembly. Go to <b>"MPF feed unit assembly removal" on page 4-8.</b>	Replace the connection.
9	Check the MPF/transport drive motor for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer motor tests.</b> 4. Touch <b>MPF/transport drive motor.</b>  Does the above component operate properly?	Go to step 11.	Skip to step 10.

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. Go to <b>"MPF / transport drive motor assembly removal"</b> on page 4-104.	Replace the connection.
11	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to <b>"Lower printer engine card assembly removal"</b> on page 4-79.	Problem solved.


### 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 <b>SCANNER TESTS</b> . 3. Touch <b>Sensor Tests</b> . 4. Touch <b>Sheet through</b> .  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 (sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (sheet through). Go to <b>"Sensor (sheet through) removal"</b> on page 4-157.	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 <b>"ADF controller card assembly removal"</b> 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 <b>"RIP card assembly removal"</b> on page 4-72.	Problem solved.

## 290.01 Sensor (sheet through) late jam


Step	Check	Yes	No
1	<p>Check the original document condition.</p> <p>Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?</p>	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	<p>Check the ADF rolls for wear.</p> <p>Is the ADF feed/pick roll assembly or the ADF separation roll assembly free of excess wear?</p>	Go to step 3.	<p>Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly.</p> <p>Go to <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b></p>
3	<p>Check the media path for contaminates.</p> <p>Is the media path free of excess media dust and foreign objects such as paper clips and staples?</p>	Go to step 4.	Remove all contaminates from the media path.
4	<p>Check the pick roll position motor assembly.</p> <div> </div> <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS.</b></li> <li>3. Touch <b>Scanner Motor Tests.</b></li> <li>4. Touch <b>Pick roll position mtr.</b></li> </ol> <p>Does the above component operate properly?</p>	Go to step 6.	Go to step 5.
5	<p>Check the pick roll position motor assembly connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the pick roll position motor assembly.</p> <p>Go to <b>“Pick roll position motor assembly removal” on page 4-143.</b></p>	Replace the connection.



Step	Check	Yes	No
6	<p>Check the ADF feed drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>ADF feed drv mtr</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 8.	Go to step 7.
7	<p>Check the ADF feed drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF feed drive motor assembly.</p> <p>Go to <b>“ADF feed drive motor assembly removal” on page 4-133.</b></p>	Replace the connection.
8	<p>Check the sensor (sheet through) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS</b>.</li> <li>3. Touch <b>Sensor Tests</b>.</li> <li>4. Touch <b>Sheet through</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 10.	Go to step 9.
9	<p>Check the sensor (sheet through) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (sheet through).</p> <p>Go to <b>“Sensor (sheet through) removal” on page 4-157.</b></p>	Replace the connection.
10	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal” on page 4-137.</b></p> <p>Go to step 11.</p>	Problem solved.
11	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal” on page 4-72.</b></p>	Problem solved.

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



Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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 <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b>
<b>3</b>	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.
<b>4</b>	Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF pre registration.</b>  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.
<b>5</b>	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre-registration).  Go to <b>“Sensor (ADF pre-registration) removal” on page 4-149.</b>	Replace the connection.

Step	Check	Yes	No
<b>6</b>	<p>Check the ADF feed drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>ADF feed drv mtr</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 8.	Go to step 7.
<b>7</b>	<p>Check the ADF feed drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF feed drive motor assembly.</p> <p>Go to <b>“ADF feed drive motor assembly removal” on page 4-133.</b></p>	Replace the connection.
<b>8</b>	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal” on page 4-137.</b></p> <p>Go to step 9.</p>	Problem solved.
<b>9</b>	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal” on page 4-72.</b></p>	Problem solved.

### 290.03 Sensor (ADF pre-registration) lag jam

Step	Check	Yes	No
<b>1</b>	<p>Check the original document condition.</p> <p>Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?</p>	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
<b>2</b>	<p>Check the ADF rolls for wear.</p> <p>Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?</p>	Go to step 3.	<p>Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly.</p> <p>Go to <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b></p>
<b>3</b>	<p>Check the media path for contaminants.</p> <p>Is the media path free of excess media dust and foreign objects such as paper clips and staples?</p>	Go to step 4.	Remove all contaminants from the media path.
<b>4</b>	<p>Check the sensor (sheet through) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS.</b></li> <li>3. Touch <b>Sensor Tests.</b></li> <li>4. Touch <b>Sheet through.</b></li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 6.	Go to step 5.
<b>5</b>	<p>Check the sensor (sheet through) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (sheet through).</p> <p>Go to <b>“Sensor (sheet through) removal” on page 4-157.</b></p>	Replace the connection.
<b>6</b>	<p>Check the sensor (ADF pre registration) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS.</b></li> <li>3. Touch <b>Sensor Tests.</b></li> <li>4. Touch <b>ADF pre registration.</b></li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 8.	Go to step 7.
<b>7</b>	<p>Check the sensor (ADF pre-registration) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF pre-registration).</p> <p>Go to <b>“Sensor (ADF pre-registration) removal” on page 4-149.</b></p>	Replace the connection.

Step	Check	Yes	No
8	<p>Check the ADF feed drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>ADF feed drv mtr</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 10.	Go to step 9.
9	<p>Check the ADF feed drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF feed drive motor assembly.</p> <p>Go to <b>“ADF feed drive motor assembly removal” on page 4-133.</b></p>	Replace the connection.
10	<p>Check the ADF registration motor for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>ADF registration drv mtr</b>.</li> <li>5. Touch <b>Forward or reverse</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 12.	Go to step 11.
11	<p>Check the ADF registration motor for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF registration motor.</p> <p>Go to <b>“ADF registration motor removal” on page 4-158.</b></p>	Replace the connection.
12	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal” on page 4-137.</b></p> <p>Go to step 13.</p>	Problem solved.


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

## 290.10 Sensor (ADF pre-registration) static jam

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

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


Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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 <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b>
<b>3</b>	Check the media path for contaminants. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminants from the media path.
<b>4</b>	Check the sensor (ADF registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF registration.</b>  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.
<b>5</b>	Check the sensor (ADF registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF registration). Go to <b>“Sensor (ADF registration) removal” on page 4-148.</b>	Replace the connection.

Step	Check	Yes	No
6	<p>Check the ADF feed drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>ADF feed drv mtr</b>.</li> </ol> <p>Does the above component operate properly?</p>	<p>Replace the ADF feed drive motor assembly.</p> <p>Go to <b>“ADF feed drive motor assembly removal”</b> on page 4-133.</p>	Go to step 7.
7	<p>Check the ADF feed drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF feed drive motor assembly.</p> <p>Go to <b>“ADF feed drive motor assembly removal”</b> on page 4-133.</p>	Replace the connection.
8	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal”</b> on page 4-137.</p> <p>Go to step 9.</p>	Problem solved.
9	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal”</b> on page 4-72.</p>	Problem solved.

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

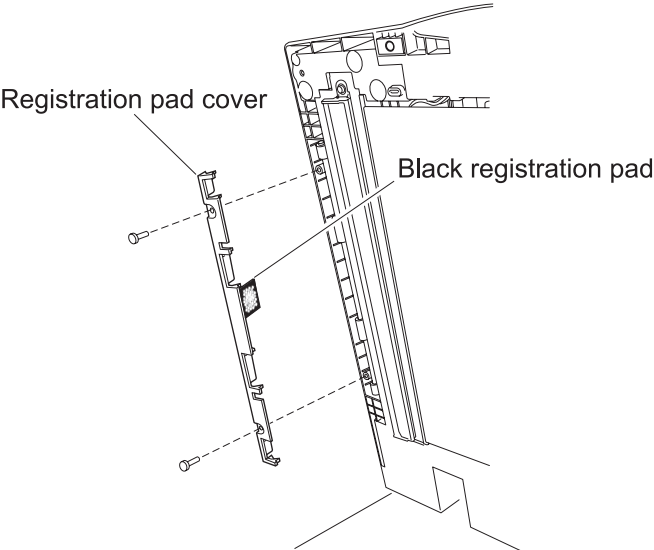
Step	Check	Yes	No
1	<p>Check the original document condition.</p> <p>Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?</p>	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform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




Step	Check	Yes	No
2	<p>Check the ADF rolls for wear.</p> <p>Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?</p>	Go to step 3.	<p>Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly.</p> <p>Go to <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b></p>
3	<p>Check the media path for contaminants.</p> <p>Is the media path free of excess media dust and foreign objects such as paper clips and staples?</p>	Go to step 4.	Remove all contaminants from the media path.
4	<p>Check the inverter gate condition.</p> <p>Is the inverter gate free of damage and warpage and does it move smoothly?</p>	Go to step 5.	<p>Replace the inverter gate.</p> <p>Go to <b>“Inverter gate removal” on page 4-151.</b></p>
5	<p>Check the sensor (ADF registration) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS.</b></li> <li>3. Touch <b>Sensor Tests.</b></li> <li>4. Touch <b>ADF registration.</b></li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 7.	Go to step 6.
6	<p>Check the sensor (ADF registration) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF registration).</p> <p>Go to <b>“Sensor (ADF registration) removal” on page 4-148.</b></p>	Replace the connection.
7	<p>Check the ADF feed drive motor assembly for proper operation.</p> <div>  </div> <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS.</b></li> <li>3. Touch <b>Scanner Motor Tests.</b></li> <li>4. Touch <b>ADF feed drv mtr.</b></li> </ol> <p>Does the above component operate properly?</p>	Go to step 9.	Go to step 8.

Step	Check	Yes	No
8	<p>Check the ADF feed drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF feed drive motor assembly.</p> <p>Go to <b>“ADF feed drive motor assembly removal”</b> on page 4-133.</p>	<p>Replace the connection.</p>
9	<p>Check the inverter solenoid assembly for proper operation.</p> <div> </div> <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>Inverter solenoid</b>.</li> </ol> <p>Does the above component operate properly?</p>	<p>Go to step 11.</p>	<p>Go to step 10.</p>
10	<p>Check the inverter solenoid assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the inverter solenoid assembly.</p> <p>Go to <b>“Inverter solenoid assembly removal”</b> on page 4-138.</p>	<p>Replace the connection.</p>
11	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal”</b> on page 4-137.</p> <p>Go to step 12.</p>	<p>Problem solved.</p>
12	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal”</b> on page 4-72.</p>	<p>Problem solved.</p>


## 290.13 Sensor (ADF registration) lag jam

Step	Check	Yes	No
1	<p>Check the original document condition.</p> <p>Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?</p>	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	<p>Remove the registration pad cover and clean the black registration pad shown in the diagram below.</p> <ol style="list-style-type: none"> <li>1. Raise the ADF to the full upright position.</li> <li>2. Remove the two screws securing the registration pad cover.</li> <li>3. Remove the registration pad cover.</li> <li>4. Clean or replace the black registration pad of excess paper dust.</li> <li>5. Reinstall the registration pad cover.</li> </ol>  <p>Registration pad cover</p> <p>Black registration pad</p> <p>Place several undamaged documents in the ADF, and perform an ADF test.</p> <p>Does the problem remain?</p>	Go to step 3.	Problem solved.
3	<p>Check the ADF rolls for wear.</p> <p>Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?</p>	Go to step 4.	<p>Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly.</p> <p>Go to <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b></p>

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 <b>SCANNER TESTS</b> . 3. Touch <b>Sensor Tests</b> . 4. Touch <b>ADF registration</b> .  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 <b>"Sensor (ADF registration) removal" on page 4-148.</b>	Replace the connection.
7	Check the ADF registration motor for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Scanner Motor Tests</b> . 4. Touch <b>ADF registration drv mtr</b> . 5. Touch <b>Forward or reverse</b> .  Does the above component operate properly?	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 <b>"ADF registration motor removal" on page 4-158.</b>	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 <b>"ADF controller card assembly removal" on page 4-137.</b> 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 <b>"RIP card assembly removal" on page 4-72.</b>	Problem solved.

## 290.14 Sensor (ADF inverter) late jam (Inverting)

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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 <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b>
<b>3</b>	Check the media path for contaminants. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminants from the media path.
<b>4</b>	Check the sensor (ADF inverter) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF inverter.</b>  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.
<b>5</b>	Check the sensor (ADF inverter) for proper connection. Is the above component properly connected?	Replace the sensor (ADF inverter). Go to <b>“Sensor (ADF inverter) removal” on page 4-150.</b>	Replace the connection.



Step	Check	Yes	No
6	<p>Check the ADF registration motor for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS.</b></li> <li>3. Touch <b>Scanner Motor Tests.</b></li> <li>4. Touch <b>ADF registration drv mtr.</b></li> <li>5. Touch <b>Forward or reverse.</b></li> </ol> <p>Does the above component operate properly?</p>	Go to step 8.	Go to step 7.
7	<p>Check the ADF registration motor for proper connection. Is the above component properly connected?</p>	<p>Replace the ADF registration motor. Go to <b>“ADF registration motor removal” on page 4-158.</b></p>	Replace the connection.
8	<p>Check the sensor (ADF registration) for proper operation. Perform the sensor (ADF registration) test. Open the ADF left cover assembly.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS.</b></li> <li>3. Touch <b>Sensor Tests.</b></li> <li>4. Touch <b>ADF registration.</b></li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 10.	Go to step 9.
9	<p>Check the sensor (ADF registration) for proper connection. Is the above component properly connected?</p>	<p>Replace the sensor (ADF registration). Go to <b>“Sensor (ADF registration) removal” on page 4-148.</b></p>	Replace the connection.
10	<p>Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?</p>	<p>Replace the ADF controller card assembly. Go to <b>“ADF controller card assembly removal” on page 4-137.</b> Go to step 11.</p>	Problem solved.
11	<p>Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?</p>	<p>Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b></p>	Problem solved.

## 290.15 Sensor (ADF registration) lag jam (inverting)

Step	Check	Yes	No
1	<p>Check the original document condition.</p> <p>Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?</p>	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	<p>Check the ADF rolls for wear.</p> <p>Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?</p>	Go to step 3.	<p>Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly.</p> <p>Go to <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b></p>
3	<p>Check the media path for contaminates.</p> <p>Is the media path free of excess media dust and foreign objects such as paper clips and staples?</p>	Go to step 4.	Remove all contaminates from the media path.
4	<p>Check the sensor (ADF registration) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS.</b></li> <li>3. Touch <b>Sensor Tests.</b></li> <li>4. Touch <b>ADF registration.</b></li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (ADF registration) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF registration).</p> <p>Go to <b>“Sensor (ADF registration) removal” on page 4-148.</b></p>	Replace the connection.

Step	Check	Yes	No
6	<p>Check the sensor (ADF pre registration) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS</b>.</li> <li>3. Touch <b>Sensor Tests</b>.</li> <li>4. Touch <b>ADF pre registration</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 8.	Go to step 7.
7	<p>Check the sensor (ADF pre-registration) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF pre-registration).</p> <p>Go to <b>“Sensor (ADF pre-registration) removal” on page 4-149.</b></p>	Replace the connection.
8	<p>Check the ADF feed drive motor assembly for proper operation.</p> <div> </div> <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>ADF feed drv mtr.</b></li> </ol> <p>Does the above component operate properly?</p>	Go to step 10.	Go to step 9.
9	<p>Check the ADF feed drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF feed drive motor assembly.</p> <p>Go to <b>“ADF feed drive motor assembly removal” on page 4-133.</b></p>	Replace the connection.



Step	Check	Yes	No
10	<p>Check the inverter solenoid assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>Inverter solenoid</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 12.	Go to step 11.
11	<p>Check the inverter solenoid assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the inverter solenoid assembly.</p> <p>Go to <b>“Inverter solenoid assembly removal” on page 4-138.</b></p>	Replace the connection.
12	<p>Check the ADF registration motor for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>ADF registration drv mtr</b>.</li> <li>5. Touch <b>Forward or reverse</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 14.	Go to step 13.
13	<p>Check the ADF registration motor for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF registration motor.</p> <p>Go to <b>“ADF registration motor removal” on page 4-158.</b></p>	Replace the connection.
14	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal” on page 4-137.</b></p> <p>Go to step 15.</p>	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 <b>“RIP card assembly removal” on page 4-72.</b>	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 <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF width APS 1.</b>  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 <b>“Sensor (ADF width APS 1) removal” on page 4-145.</b>	Replace the connection.
5	Check the sensor (ADF width APS 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF width APS 2.</b>  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 <b>“Sensor (ADF width APS 2) removal” on page 4-146.</b>	Replace the connection.

Step	Check	Yes	No
<b>7</b>	<p>Check the sensor (ADF width APS 3) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS</b>.</li> <li>3. Touch <b>Sensor Tests</b>.</li> <li>4. Touch <b>ADF width APS 3</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 9.	Go to step 8.
<b>8</b>	<p>Check the sensor (ADF width APS 3) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF width APS 3).</p> <p>Go to <b>“Sensor (ADF width APS 3) removal” on page 4-147.</b></p>	Replace the connection.
<b>9</b>	<p>Perform a POR.</p> <p>Does the error remain when the power is turned off/on?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal” on page 4-137.</b></p> <p>Go to step 10.</p>	Problem solved.
<b>10</b>	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal” on page 4-72.</b></p>	Problem solved.

### 290.21 Sensor (ADF width APS 1) static jam

Step	Check	Yes	No
<b>1</b>	<p>Check the media path.</p> <p>Is the media path free of media or media fragments?</p>	Go to step 2.	Remove any media or media fragments.
<b>2</b>	<p>Check the sensor (ADF width APS 1) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS</b>.</li> <li>3. Touch <b>Sensor Tests</b>.</li> <li>4. Touch <b>ADF width APS 1</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 4.	Go to step 3.

Step	Check	Yes	No
<b>3</b>	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 <b>“Sensor (ADF width APS 1) removal” on page 4-145.</b>	Replace the connection.
<b>4</b>	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly.  Go to <b>“ADF controller card assembly removal” on page 4-137.</b> Go to step 5.	Problem solved.
<b>5</b>	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly.  Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

## 290.22 Sensor (ADF width APS 2) static jam

Step	Check	Yes	No
<b>1</b>	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
<b>2</b>	Check the sensor (ADF width APS 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF width APS 2.</b>  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.
<b>3</b>	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 <b>“Sensor (ADF width APS 2) removal” on page 4-146.</b>	Replace the connection.
<b>4</b>	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly.  Go to <b>“ADF controller card assembly removal” on page 4-137.</b> Go to step 5.	Problem solved.

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

### 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 <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF width APS 3.</b>  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 3) for proper connection. Is the above component properly connected?	Replace the sensor (ADF width APS 3). Go to <b>“Sensor (ADF width APS 3) removal” on page 4-147.</b>	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 <b>“ADF controller card assembly removal” on page 4-137.</b> 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 <b>“RIP card assembly removal” on page 4-72.</b>	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 <b>SCANNER TESTS</b> . 3. Touch <b>Sensor Tests</b> . 4. Touch <b>ADF registration</b> .  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 <b>"Sensor (ADF registration) removal"</b> 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 <b>"ADF controller card assembly removal"</b> 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 <b>"RIP card assembly removal"</b> 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	<p>Check the ADF rolls for wear.</p> <p>Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?</p>	Go to step 3.	<p>Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly.</p> <p>Go to <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b></p>
3	<p>Check the media path for contaminants.</p> <p>Is the media path free of excess media dust and foreign objects such as paper clips and staples?</p>	Go to step 4.	Remove all contaminants from the media path.
4	<p>Check the sensor (ADF inverter) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS.</b></li> <li>3. Touch <b>Sensor Tests.</b></li> <li>4. Touch <b>ADF inverter.</b></li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (ADF inverter) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF inverter).</p> <p>Go to <b>“Sensor (ADF inverter) removal” on page 4-150.</b></p>	Replace the connection.
6	<p>Check the ADF registration motor for proper operation.</p> <p> <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS.</b></li> <li>3. Touch <b>Scanner Motor Tests.</b></li> <li>4. Touch <b>ADF registration drv mtr.</b></li> <li>5. Touch <b>Forward or reverse.</b></li> </ol> <p>Does the above component operate properly?</p>	Go to step 8.	Go to step 7.
7	<p>Check the ADF registration motor for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF registration motor.</p> <p>Go to <b>“ADF registration motor removal” on page 4-158.</b></p>	Replace the connection.

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

## 291.02 Sensor (ADF inverter) late jam 2



Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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 <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b>
<b>3</b>	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.
<b>4</b>	Check the sensor (ADF inverter) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF inverter.</b>  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 <b>“Sensor (ADF inverter) removal” on page 4-150.</b>	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 <b>“Inverter gate removal” on page 4-151.</b>
7	<p>Check the ADF registration motor for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS.</b></li> <li>3. Touch <b>Scanner Motor Tests.</b></li> <li>4. Touch <b>ADF registration drv mtr.</b></li> <li>5. Touch <b>Forward or reverse.</b></li> </ol> <p>Does the above component operate properly?</p>	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 <b>“ADF registration motor removal” on page 4-158.</b>	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 <b>“ADF controller card assembly removal” on page 4-137.</b>  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 <b>“RIP card assembly removal” on page 4-72.</b>	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 <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b>
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 <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF inverter.</b>  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 <b>“Sensor (ADF inverter) removal” on page 4-150.</b>	Replace the connection.
6	Check the sensor (ADF registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF registration.</b>  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 <b>“Sensor (ADF inverter) removal” on page 4-150.</b>	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 <b>“Inverter gate removal” on page 4-151.</b>
9	Check the ADF registration motor for proper operation.  <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Scanner Motor Tests.</b> 4. Touch <b>ADF registration drv mtr.</b> 5. Touch <b>Forward or reverse.</b>  Does the above component operate properly?	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 <b>“ADF registration motor removal” on page 4-158.</b>	Replace the connection.
11	Check the inverter solenoid assembly for proper operation.  <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Scanner Motor Tests.</b> 4. Touch <b>Inverter solenoid.</b>  Does the above component operate properly?	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 <b>“Inverter solenoid assembly removal” on page 4-138.</b>	Replace the connection.

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

### 292.01 ADF raised jam

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

### 292.02 ADF left cover jam

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

### 293.00 Document missing jam

Step	Check	Yes	No
<b>1</b>	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
<b>2</b>	<p>Check the sensor (document set) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS</b>.</li> <li>3. Touch <b>Sensor Tests</b>.</li> <li>4. Touch <b>Document set</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 4.	Go to step 3.
<b>3</b>	<p>Check the sensor (document set) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (document set).</p> <p>Go to <b>"Sensor (document set) removal"</b> on page 4-156.</p>	Replace the connection.
<b>4</b>	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>"ADF controller card assembly removal"</b> on page 4-137.</p> <p>Go to step 5.</p>	Problem solved.
<b>5</b>	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>"RIP card assembly removal"</b> on page 4-72.</p>	Problem solved.

## 294.00 Sensor (ADF inverter) static jam


Step	Check	Yes	No
<b>1</b>	<p>Check the media path.</p> <p>Is the media path free of media or media fragments?</p>	Go to step 2.	Remove any media or media fragments.
<b>2</b>	<p>Check the sensor (ADF inverter) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS</b>.</li> <li>3. Touch <b>Sensor Tests</b>.</li> <li>4. Touch <b>ADF inverter</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 4.	Go to step 3.

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

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

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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 <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b>
<b>3</b>	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	<p>Check the inverter gate condition.</p> <p>Is the inverter gate free of damage and warpage, and does it move smoothly?</p>	Go to step 5.	<p>Replace the inverter gate.</p> <p>Go to <b>“Inverter gate removal”</b> on page 4-151.</p>
5	<p>Check the sensor (ADF pre registration) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS.</b></li> <li>3. Touch <b>Sensor Tests.</b></li> <li>4. Touch <b>ADF pre registration.</b></li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 7.	Go to step 6.
6	<p>Check the sensor (ADF pre-registration) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF pre-registration).</p> <p>Go to <b>“Sensor (ADF pre-registration) removal”</b> on page 4-149.</p>	Replace the connection.
7	<p>Check the ADF registration motor for proper operation.</p> <div> </div> <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS.</b></li> <li>3. Touch <b>Scanner Motor Tests.</b></li> <li>4. Touch <b>ADF registration drv mtr.</b></li> <li>5. Touch <b>Forward or reverse.</b></li> </ol> <p>Does the above component operate properly?</p>	Go to step 9.	Go to step 8.
8	<p>Check the ADF registration motor for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF registration motor.</p> <p>Go to <b>“ADF registration motor removal”</b> on page 4-158.</p>	Replace the connection.



Step	Check	Yes	No
<b>9</b>	<p>Check the inverter solenoid assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>Inverter solenoid</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 11.	Go to step 10.
<b>10</b>	<p>Check the inverter solenoid assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the inverter solenoid assembly.</p> <p>Go to <b>“Inverter solenoid assembly removal” on page 4-138</b>.</p>	Replace the connection.
<b>11</b>	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal” on page 4-137</b>.</p> <p>Go to step 12.</p>	Problem solved.
<b>12</b>	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal” on page 4-72</b>.</p>	Problem solved.


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

Step	Check	Yes	No
<b>1</b>	<p>Check the original document condition.</p> <p>Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?</p>	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
<b>2</b>	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 <b>“ADF feed/pick roll assembly removal” on page 4-141</b> or <b>“ADF separation roll guide assembly” on page 4-154.</b>
<b>3</b>	Check the media path for contaminants. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminants from the media path.
<b>4</b>	Check the sensor (sheet through) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>Sheet through.</b>  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.
<b>5</b>	Check the sensor (sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (sheet through).  Go to <b>“Sensor (sheet through) removal” on page 4-157.</b>	Replace the connection.
<b>6</b>	Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF pre registration.</b>  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.
<b>7</b>	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre-registration).  Go to <b>“Sensor (ADF pre-registration) removal” on page 4-149.</b>	Replace the connection.

Step	Check	Yes	No
8	<p>Check the ADF feed drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>ADF feed drv mtr</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 10.	Go to step 9.
9	<p>Check the ADF feed drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF feed drive motor assembly.</p> <p>Go to <b>“ADF feed drive motor assembly removal” on page 4-133.</b></p>	Replace the connection.
10	<p>Check the inverter solenoid assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>Inverter solenoid</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 12.	Go to step 11.
11	<p>Check the inverter solenoid assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the inverter solenoid assembly.</p> <p>Go to <b>“Inverter solenoid assembly removal” on page 4-138.</b></p>	Replace the connection.

Step	Check	Yes	No
12	<p>Check the ADF registration motor for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>ADF registration drv mtr</b>.</li> <li>5. Touch <b>Forward or reverse</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 14.	Go to step 13.
13	<p>Check the ADF registration motor for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the ADF registration motor.</p> <p>Go to <b>“ADF registration motor removal” on page 4-158.</b></p>	Replace the connection.
14	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal” on page 4-137.</b></p> <p>Go to step 15.</p>	Problem solved.
15	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal” on page 4-72.</b></p>	Problem solved.

### 295.00 Size mismatch jam (mix-size)

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

Step	Check	Yes	No
<b>2</b>	<p>Check the sensor (ADF width APS 1) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS.</b></li> <li>3. Touch <b>Sensor Tests.</b></li> <li>4. Touch <b>ADF width APS 1.</b></li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 2.	Go to step 3.
<b>3</b>	<p>Check the sensor (ADF width APS 1) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF width APS 1).</p> <p>Go to <b>“Sensor (ADF width APS 1) removal” on page 4-145.</b></p>	Replace the connection.
<b>4</b>	<p>Check the sensor (ADF width APS 2) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS.</b></li> <li>3. Touch <b>Sensor Tests.</b></li> <li>4. Touch <b>ADF width APS 2.</b></li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 6.	Go to step 5.
<b>5</b>	<p>Check the sensor (ADF width APS 2) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF width APS 2).</p> <p>Go to <b>“Sensor (ADF width APS 2) removal” on page 4-146.</b></p>	Replace the connection.
<b>6</b>	<p>Check the sensor (ADF width APS 3) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS.</b></li> <li>3. Touch <b>Sensor Tests.</b></li> <li>4. Touch <b>ADF width APS 3.</b></li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 8.	Go to step 7.
<b>7</b>	<p>Check the sensor (ADF width APS 3) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF width APS 3).</p> <p>Go to <b>“Sensor (ADF width APS 3) removal” on page 4-147.</b></p>	Replace the connection.

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

### 295.01 Size mismatch jam (no mix-size)

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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.
<b>3</b>	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.
<b>4</b>	Perform a POR. Does the error remain when the power is turned off/on?	Replace the ADF controller card assembly.  Go to <b>“ADF controller card assembly removal” on page 4-137.</b> Go to step 5.	Problem solved.
<b>5</b>	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly.  Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

## 295.02 Invalid combine size jam

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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.
<b>3</b>	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.
<b>4</b>	Check the sensor (ADF width APS 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS</b> . 3. Touch <b>Sensor Tests</b> . 4. Touch <b>ADF width APS 1</b> .  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.
<b>5</b>	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 <b>"Sensor (ADF width APS 1) removal" on page 4-145.</b>	Replace the connection.
<b>6</b>	Check the sensor (ADF width APS 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS</b> . 3. Touch <b>Sensor Tests</b> . 4. Touch <b>ADF width APS 2</b> .  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.
<b>7</b>	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 <b>"Sensor (ADF width APS 2) removal" on page 4-146.</b>	Replace the connection.

Step	Check	Yes	No
<b>8</b>	<p>Check the sensor (ADF width APS 3) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS</b>.</li> <li>3. Touch <b>Sensor Tests</b>.</li> <li>4. Touch <b>ADF width APS 3</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 10.	Go to step 9.
<b>9</b>	<p>Check the sensor (ADF width APS 3) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF width APS 3).</p> <p>Go to <b>“Sensor (ADF width APS 3) removal” on page 4-147</b>.</p>	Replace the connection.
<b>10</b>	<p>Perform a POR.</p> <p>Does the error remain when the power is turned off/on?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal” on page 4-137</b>.</p> <p>Go to step 11.</p>	Problem solved.
<b>11</b>	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal” on page 4-72</b>.</p>	Problem solved.

### 295.03 Too short size jam

Step	Check	Yes	No
<b>1</b>	<p>Check the document size.</p> <p>Is the correct size document being inserted into the ADF?</p>	Go to step 2.	Insert the proper size document into the ADF.
<b>2</b>	<p>Check the sensor (sheet through) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS</b>.</li> <li>3. Touch <b>Sensor Tests</b>.</li> <li>4. Touch <b>Sheet through</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 4.	Go to step 3.

Step	Check	Yes	No
<b>3</b>	Check the sensor (sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (sheet through). Go to <b>“Sensor (sheet through) removal” on page 4-157.</b>	Replace the connection.
<b>4</b>	Check the sensor (ADF pre registration) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF pre registration.</b>  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.
<b>5</b>	Check the sensor (ADF pre-registration) for proper connection. Is the above component properly connected?	Replace the sensor (ADF pre-registration). Go to <b>“Sensor (ADF pre-registration) removal” on page 4-149.</b>	Replace the connection.
<b>6</b>	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to <b>“ADF controller card assembly removal” on page 4-137.</b> Go to step 7.	Problem solved.
<b>7</b>	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

### 295.04 Too long size jam

Step	Check	Yes	No
<b>1</b>	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
<b>2</b>	<p>Check the sensor (sheet through) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS</b>.</li> <li>3. Touch <b>Sensor Tests</b>.</li> <li>4. Touch <b>Sheet through</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 4.	Go to step 3.
<b>3</b>	<p>Check the sensor (sheet through) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (sheet through).</p> <p>Go to <b>“Sensor (sheet through) removal” on page 4-157.</b></p>	Replace the connection.
<b>4</b>	<p>Check the sensor (ADF pre registration) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>SCANNER TESTS</b>.</li> <li>3. Touch <b>Sensor Tests</b>.</li> <li>4. Touch <b>ADF pre registration</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 6.	Go to step 5.
<b>5</b>	<p>Check the sensor (ADF pre-registration) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (ADF pre-registration).</p> <p>Go to <b>“Sensor (ADF pre-registration) removal” on page 4-149.</b></p>	Replace the connection.
<b>6</b>	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the ADF controller card assembly.</p> <p>Go to <b>“ADF controller card assembly removal” on page 4-137.</b></p> <p>Go to step 7.</p>	Problem solved.
<b>7</b>	<p>Place an undamaged document in the ADF, and perform a ADF test.</p> <p>Does the error remain?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal” on page 4-72.</b></p>	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. Is the above component properly connected?	Go to step 2.	Replace the connections.
2	Check the multiple connections on the scanner controller card assembly. Are all the connections on the above component properly connected?	Replace the scanner controller card assembly.  Go to <b>“Scanner controller card assembly removal” on page 4-122.</b>	Replace the connections.
3	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

## 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 the black toner cartridge. Does the error continue?	Go 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 <b>“Sensor (RFID toner cartridge) removal” on page 4-108.</b>	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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

Step	Check	Yes	No
5	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

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 <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

## 842.00 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. Is the scanner interface cable assembly connected properly?	Go to step 2.	Replace the connection.
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 <b>“Scanner controller card assembly removal” on page 4-122.</b> 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 <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

**842.01 Scanner communication error**

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

**842.02 Scanner communication error**

Step	Check	Yes	No
<b>1</b>	Check the scanner interface cable assembly connection between the RIP card assembly and the scanner unit assembly. Is the scanner interface cable assembly connected properly?	Go to step 2.	Replace the connection.
<b>2</b>	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.
<b>3</b>	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to <b>“Scanner controller card assembly removal” on page 4-122.</b> Go to step 4.	Problem solved.

Step	Check	Yes	No
4	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

### 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. Is the scanner interface cable assembly connected properly?	Go to step 2.	Replace the connection.
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 <b>“Scanner controller card assembly removal” on page 4-122.</b> 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 <b>“RIP card assembly removal” on page 4-72.</b>	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. Is the scanner interface cable assembly connected properly?	Go to step 2.	Replace the connection.
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
<b>3</b>	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.  Go to <b>“Scanner controller card assembly removal” on page 4-122.</b> Go to step 4.	Problem solved.
<b>4</b>	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly.  Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

### 842.10 Scanner unit assembly - ADF communication error

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

### 842.11 Scanner communication error (by scanner)


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

## 842.12 Scanner unit assembly communication error

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

**843.00 Sensor (scanner HP) error**

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	Check the sensor (scanner HP) for operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS</b> . 3. Touch <b>Sensor Tests</b> . 4. Touch <b>Scanner HP</b> .  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.
<b>3</b>	Check the sensor (scanner HP) for connection. Is the above component properly connected?	Replace the sensor (scanner HP).  Go to <b>"Sensor (scanner HP) removal" on page 4-123.</b>	Replace the connection.
<b>4</b>	Check the scanner drive motor assembly.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Scanner Motor Tests</b> . 4. Touch <b>Scanner drv mtr</b> . 5. Touch <b>Forward or reverse</b> .  Does the scanner drive motor assembly operate properly?	Go to step 6.	Go to step 5.
<b>5</b>	Check the scanner drive motor assembly for connection. Is the above component properly connected?	Replace the scanner drive motor assembly.  Go to <b>"Scanner drive motor assembly removal" on page 4-120.</b>	Replace the connection.
<b>6</b>	Place media on the large platen and perform a scanner test. Does the error remain?	Replace the scanner controller card assembly.  Go to <b>"Scanner controller card assembly removal" on page 4-122.</b>	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 <b>“Scanner controller card assembly removal” on page 4-122.</b>	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 <b>“ADF controller card assembly removal” on page 4-137.</b>	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 <b>“Scanner controller card assembly removal” on page 4-122.</b>	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 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. Go to <b>“ADF controller card assembly removal”</b> on page 4-137.	Problem solved.

### 843.12 ADF pick roll position lift up error

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

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. Go to <b>“Pick roll position motor assembly removal” on page 4-143.</b>	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 <b>“ADF controller card assembly removal” on page 4-137.</b>	Go to step 7.

### 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 <b>“ADF controller card assembly removal” on page 4-137.</b>	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 connected properly?	Go to step 2.	Connect each connector of the 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 ADF controller card assembly. Go to <b>“ADF controller card assembly removal” on page 4-137.</b>	Problem solved.

### 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. Go to <b>“Scanner controller card assembly removal” on page 4-122.</b>	Problem solved.

### 843.23 Scanner cooling fan error

Step	Check	Yes	No
1	<p>Check the scanner cooling fan operation.</p> <div> </div> <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <p>Perform the scanner cooling fan test.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS.</b></li> <li>3. Touch <b>Scanner Motor Tests.</b></li> <li>4. Touch <b>Scanner cooling fan.</b></li> </ol> <p>Does the scanner cooling fan speed increase when the test is performed?</p>	Go to step 2.	<p>Replace the scanner controller card assembly.</p> <p>Go to <b>“Scanner controller card assembly removal” on page 4-122.</b></p>

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

### 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 <b>“Scanner controller card assembly removal” on page 4-122.</b>	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
<b>2</b>	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.  Go to <b>“Scanner controller card assembly removal” on page 4-122.</b>	Problem solved.
<b>3</b>	Perform a POR. Does the error remain when the power is turned off/on?	Replace the CCD card /lens assembly.  Go to <b>“CCD card/lens assembly removal” on page 4-118.</b>	Problem solved.
<b>4</b>	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the scanner PS card assembly.  Go to <b>“Scanner PS card assembly removal” on page 4-125.</b>	Problem solved.


### 843.26 Scanner controller card assembly error 2

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.  Go to <b>“Scanner controller card assembly removal” on page 4-122.</b>	Problem solved.
<b>3</b>	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the scanner PS card assembly.  Go to <b>“Scanner PS card assembly removal” on page 4-125.</b>	Problem solved.

## 844.00 Exposure lamp error

Step	Check	Yes	No
1	<p>Check the exposure lamp for operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <p>Perform the exposure lamp test.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>Exposure lamp</b>.</li> </ol> <p>Does the exposure lamp operate properly?</p>	Go to step 6.	Go to step 3.
2	<p>Check the exposure lamp for connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the exposure lamp.</p> <p>Go to <b>“Exposure lamp removal” on page 4-121.</b></p>	Replace the connection.
3	<p>Check the exposure lamp PS card assembly.</p> <p>Is the above card properly connected to the scanner controller card assembly?</p>	<p>Replace the exposure lamp PS card assembly.</p> <p><b>“Exposure lamp PS card assembly removal” on page 4-121.</b></p>	Replace the connection.
4	<p>Check the scanner PS card assembly for connection.</p> <p>Is the above card connected properly?</p>	<p>Replace the scanner PS card assembly.</p> <p>Go to <b>“Scanner PS card assembly removal” on page 4-125.</b></p>	Replace the connection.
5	<p>Perform a POR.</p> <p>Does the error remain when the power is turned off/on?</p>	<p>Replace the scanner controller card assembly.</p> <p>Go to <b>“Scanner controller card assembly removal” on page 4-122.</b></p>	Problem solved.

## 844.01 White reference/exposure lamp illumination error

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 <b>“Large platen glass removal” on page 4-116.</b>  Reinstall the large platen glass properly.  Go to step 3.
2	Remove the large platen glass. Go to <b>“Large platen glass removal” on page 4-116.</b> Check the bottom of the large platen glass in the vicinity the white reference strip for contamination. Is the vicinity of white reference strip contaminated?	Clean the bottom of the large platen glass in the vicinity of the white reference strip.  Reinstall the large platen glass properly.  Go to step 3.	Go to step 4.
3	Perform a POR. Does the error remain?	Go to step 4.	Problem solved.
4	Check the exposure lamp for operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Scanner Motor Tests.</b> 4. Touch <b>Exposure lamp.</b>  Does the exposure lamp operate properly?	Go to step 8.	Go to step 5.
5	Check the exposure lamp for connection. Is the above component properly connected?	Replace the exposure lamp.  Go to <b>“Exposure lamp removal” on page 4-121.</b>	Replace the connection.
6	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.  <b>“Exposure lamp PS card assembly removal” on page 4-121.</b>	Replace the connection.




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

### 845.00 CCD error

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

## 845.01 CCD initialization (lamp on) error

Step	Check	Yes	No
1	<p>Check the exposure lamp for operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Scanner Motor Tests</b>.</li> <li>4. Touch <b>Exposure lamp</b>.</li> </ol> <p>Does the exposure lamp operate properly?</p>	Go to step 6.	Go to step 3.
2	<p>Check the exposure lamp for connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the exposure lamp.</p> <p>Go to <b>“Exposure lamp removal” on page 4-121.</b></p>	Replace the connection.
3	<p>Check the exposure lamp PS card assembly.</p> <p>Is the above card properly connected to the scanner controller card assembly?</p>	<p>Replace the exposure lamp PS card assembly.</p> <p><b>“Exposure lamp PS card assembly removal” on page 4-121.</b></p>	Replace the connection.
4	<p>Check the scanner PS card assembly for connection.</p> <p>Is the above card connected properly?</p>	<p>Replace the scanner PS card assembly.</p> <p>Go to <b>“Scanner PS card assembly removal” on page 4-125.</b></p>	Replace the connection.
5	<p>Perform a POR.</p> <p>Does the error remain when the power is turned off/on?</p>	<p>Replace the scanner controller card assembly.</p> <p>Go to <b>“Scanner controller card assembly removal” on page 4-122.</b></p>	Problem solved.

## 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 <b>“Scanner controller card assembly removal” on page 4-122.</b>	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 <b>“Scanner PS card assembly removal” on page 4-125.</b>	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. Is the scanner interface cable assembly connected properly?	Go to step 2.	Replace the connection.
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 <b>“Scanner controller card assembly removal” on page 4-122.</b> 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. Is the scanner interface cable assembly connected properly?	Go to step 2.	Replace the connection.
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 <b>“Scanner controller card assembly removal” on page 4-122.</b> 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 <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF width APS 1.</b>  Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 2.	Go to step 3.
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 <b>“Sensor (ADF width APS 1) removal” on page 4-145.</b>	Replace the connection.
3	Check the sensor (ADF width APS 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF width APS 2.</b>  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 <b>“Sensor (ADF width APS 2) removal” on page 4-146.</b>	Replace the connection.
5	Check the sensor (ADF width APS 3) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF width APS 3.</b>  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 <b>“Sensor (ADF width APS 3) removal” on page 4-147.</b>	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 <b>“ADF controller card assembly removal” on page 4-137.</b>	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. Is the version of the software of the scanner controller card assembly correct?	Go to step 2.	Upgrade the software of the scanner controller card assembly.
2	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to <b>“Scanner controller card assembly removal” on page 4-122.</b>	Problem solved.

### 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 <b>SCANNER TESTS</b> . 3. Touch <b>Sensor Tests</b> . 4. Touch <b>ADF angle</b> .  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 <b>"Sensor (ADF angle) removal"</b> 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 <b>"Scanner controller card assembly removal"</b> on page 4-122.	Go to step 6.

### 847.00 Modem error

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 <b>"Configuration ID"</b> 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.  Go to <b>“Fax interface card (modem) assembly removal” on page 4-73.</b>  Go to <b>“Configuration ID” on page 3-19.</b>	Replace the connection.
3	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly.  Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

### 847.01 Fax storage error

Step	Check	Yes	No
1	Perform a POR. Does the error remain?	Perform format fax storage.  <b>Warning:</b> Performing format fax storage will erase all fax information.  Go to <b>“Format Fax Storage” on page 3-42.</b>	Problem solved.
2	Check the hard drive data and power connections. Is the hard drive connected properly?	Replace the hard drive.  Go to <b>“Hard drive removal” on page 4-73.</b>	Problem solved.

**848.00 Fax/modem configuration ID mismatch**

Step	Check	Yes	No
<b>1</b>	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.  Go to <b>“Fax interface card (modem) assembly removal” on page 4-73.</b>  Go to <b>“Configuration ID” on page 3-19.</b>	Replace the connection.
<b>2</b>	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly.  Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

**849.00 Hard drive/configuration ID mismatch**

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

**900.XX RIP card assembly software error**

Step	Check	Yes	No
<b>1</b>	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 <b>“RIP card assembly removal” on page 4-72.</b> 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 <b>“RIP card assembly removal” on page 4-72.</b> 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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	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	<p>Check the K developer/transport drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Tests</b></li> <li>4. Touch <b>K developer/transport drive motor</b></li> </ol> <p>Does the above component operate properly?</p>	Go to step 4.	Go to step 3.
3	<p>Check the K developer/transport drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the K developer/transport drive motor assembly.</p> <p>Go to "<b>K developer / transport drive motor assembly removal</b>" on page 4-95.</p>	Replace the connection.
4	<p>Perform a POR.</p> <p>Does the error occur when the power is turned off/on?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to "<b>Lower printer engine card assembly removal</b>" on page 4-79.</p>	Problem solved.

### 903.01 K PC drive motor error

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


Step	Check	Yes	No
2	<p>Check the CMYK PC cartridge drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Tests</b></li> <li>4. Touch <b>K PC cartridge drive motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 4.	Go to step 3.
3	<p>Check the CMYK PC cartridge drive motor assembly for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the CMYK PC cartridge drive motor assembly.</p> <p>Go to <b>"CMYK PC cartridge drive motor assembly removal"</b> on page 4-90.</p>	Replace the connection.
4	<p>Perform a POR.</p> <p>Does the error occur when the power is turned off/on?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>"Lower printer engine card assembly removal"</b> on page 4-79.</p>	Problem solved.

### 903.02 CMY PC drive motor error

Step	Check	Yes	No
1	<p>Perform a POR.</p> <p>Does the error occur when the power is turned off/on?</p>	Go to step 2.	Perform several print tests. If the problem remains, go to step 2.
2	<p>Check the CMYK PC cartridge drive motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Tests</b></li> <li>4. Touch <b>CMY cartridge drive motor</b></li> </ol> <p>Does the above component operate properly?</p>	Go to step 4.	Go to step 3.

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.  Go to <b>“CMYK PC cartridge drive motor assembly removal” on page 4-90.</b>	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 <b>“Lower printer engine card assembly removal” on page 4-79.</b>	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. If the problem remains, go to step 2.
2	Check the CMY developer drive motor assembly for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor tests</b> 4. Touch <b>CMY developer drive motor.</b>  Does the above component operate properly?	Go to step 4.	Go to step 3.
3	Check the CMY developer drive motor assembly for proper connection. Is the above component properly connected?	Replace the CMY developer drive motor assembly.  Go to <b>“CMY developer drive motor assembly removal” on page 4-89.</b>	Replace the connection.


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 <b>“Lower printer engine card assembly removal” on page 4-79.</b>	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 <b>Trans belt fail HP.</b> 3. Touch <b>Trans belt fail HP.</b>  Does the transfer belt appear damaged or torn in half?	Go to step 2.	Go to step 3.
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. Does the error occur when the power is turned off/on?	Go to step 4.	Perform several print tests. If the problem remains, go to step 4.
4	Replace the transfer belt unit assembly. To to <b>“Transfer belt unit assembly removal” on page 4-16.</b> Does the error remain?	Replace the lower printer engine card assembly.  Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b>	Problem solved.

### 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	<p>Check the transfer belt steering motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor tests</b></li> <li>4. Touch <b>Transfer belt steering motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 6.	Go to step 5.
5	<p>Check the transfer belt steering motor for proper connection.</p> <p>Is the above component properly connected.</p>	<p>Replace the transfer belt steering motor.</p> <p>Go to <b>“Transfer belt steering motor removal” on page 4-63.</b></p>	Replace the connection.
6	<p>Perform a POR.</p> <p>Does the error occur when the power is turned off/on?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b></p>	Problem solved.

### 904.02 Sensor (transfer belt edge) failure

Step	Check	Yes	No
1	<p>Check the transfer belt unit assembly for proper installation.</p> <p>Is the above component properly installed?</p>	Go to step 2.	Re-install the transfer belt unit assembly.
2	<p>Check the transfer belt unit assembly for damage.</p> <p>Is the above component free of damage to the frame and the belt?</p>	Go to step 3.	Replace the transfer belt unit assembly.
3	<p>Check the transfer belt steering motor assembly for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor tests</b></li> <li>4. Touch <b>Transfer belt steering motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	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 <b>“Transfer belt steering motor removal” on page 4-63.</b>	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 <b>“Lower printer engine card assembly removal” on page 4-79.</b>	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 <b>Base Sensor Tests.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>2nd transfer roll retract HP.</b>  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 <b>“Sensor (2nd transfer roll retract HP) removal” on page 4-34.</b>	Replace the connection.
4	Check the 2nd transfer roll retract motor for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TESTS.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>2nd transfer roll retract HP.</b>  Does the above component operate properly?	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 <b>"2nd transfer roll retract motor assembly removal" on page 4-35.</b>	Replace the connection.
6	Perform a print test. Does the error continue?	Replace the lower printer engine card assembly. Go to <b>"Lower printer engine card assembly removal" on page 4-79.</b>	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 <b>"Lower printer engine card assembly removal" on page 4-79.</b>	Problem solved.

#### 904.04 Sensor (2nd transfer roll retract HP) lag 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 <b>Base Sensor Tests</b> . 3. Touch <b>Media Path</b> . 4. Touch <b>2nd transfer roll retract HP</b> .  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 <b>"Sensor (2nd transfer roll retract HP) removal" on page 4-34.</b>	Replace the connection.



Step	Check	Yes	No
4	 <p><b>Caution:</b> Check the 2nd transfer roll retract motor for proper operation. When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <p>1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b>. 3. Touch <b>Printer motor tests</b>. 4. Touch <b>2nd transfer roll retract motor</b></p> <p>Does the above component operate properly?</p>	Go to step 6.	Skip to step 5.
5	<p>Check the 2nd transfer roll retract motor for proper connection.</p> <p>Is the above component properly connected?</p>	Replace the 2nd transfer roll retract motor. Go to	Replace the connection.
6	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b></p>	Problem solved.
7	<p>Perform a POR.</p> <p>Does the error occur when the power is turned off/on?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b></p>	Problem solved.

#### 904.05 Sensor (CMY transfer roll retract HP) late error

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

**905.00 NVM read/write cannot be executed 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 printer engine card assembly.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b> Go to step 3.	Problem solved.
3	Perform a POR. Does the error occur when the power is turned off/on?	Replace the RIP card assembly.  Go to <b>“RIP card assembly removal” on page 4-72.</b>	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.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

### 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.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

**905.03 Marking device other1 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.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

**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.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

**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.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

**907.00 Printhead polygon mirror 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.
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.

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

### 907.01 Y laser SOS internal error

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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.
<b>3</b>	Perform a POR. Does the error occur when the power is turned off/on?	Replace the printhead assembly.  Go to <b>“Printhead assembly removal” on page 4-94.</b>	Problem solved.

### 907.02 M laser SOS internal error

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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.
<b>3</b>	Perform a POR. Does the error occur when the power is turned off/on?	Replace the printhead assembly.  Go to <b>“Printhead assembly removal” on page 4-94.</b>	Problem solved.

**907.03 C laser SOS internal error**

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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.
<b>3</b>	Perform a POR. Does the error occur when the power is turned off/on?	Replace the printhead assembly. Go to <b>“Printhead assembly removal” on page 4-94.</b>	Problem solved.

**907.04 K laser SOS internal error**

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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.
<b>3</b>	Perform a POR. Does the error occur when the power is turned off/on?	Replace the printhead assembly. Go to <b>“Printhead assembly removal” on page 4-94.</b>	Problem solved.

**907.05 Printhead control error**

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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.

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

## 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. Go to step 2.	Problem solved.
2	Check the sensor (waste toner full) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST</b> . 3. Touch <b>Devices</b> . 4. Touch <b>Waste toner cartridge full</b> .  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 <b>"Lower printer engine card assembly removal"</b> 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. Is the above component properly connected?	Replace the 24V LVPS cooling fan assembly. Go to <b>"24V LVPS cooling fan removal"</b> on page 4-87.	Replace the connection.

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.  Go to <b>“Lower printer engine card assembly removal” on page 4-79.</b>	Problem solved.


### 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 <b>“Transfer belt drive motor cooling fan removal” on page 4-80.</b>	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 <b>“Lower printer engine card assembly removal” on page 4-79.</b>	Problem solved.

### 911.02 Fuser cooling fan lock 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	<p>Check the fuser cooling fan for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <p>1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b>. 3. Touch <b>Fuser cooling fan</b>.</p> <p>Does the above component operate properly?</p>	Go to step 4.	Go to step 3.
3	<p>Check the fuser cooling fan for proper connection. Is the above component properly connected?</p>	<p>Replace the fuser cooling fan.</p> <p>Go to <b>“Fuser cooling fan removal” on page 4-91</b></p>	Replace the connection.
4	<p>Perform a POR. Does the error occur when the power is turned off/on?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>“Lower printer engine card assembly removal” on page 4-79</b>.</p>	Problem solved.

### 918.00 Standard media exit shift error


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

### 920.00 Fuser main lamp overheat error


Step	Check	Yes	No
1	<p>Reset the fuser overheat failure lock out condition.</p> <p>1. Enter the Diagnostics Menu. 2. Touch <b>Fuser temp fail clear</b>. 3. Touch <b>Fuser temp fail clear</b>.</p> <p>Perform a POR. Does the error occur when the power is turned off/on?</p>	Go to step 2.	Go to step 5.

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 <b>"Fuser unit assembly removal" on page 4-15.</b> 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 <b>"AC drive card bracket assembly removal" on page 4-99.</b>	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 <b>"Fuser unit assembly removal" on page 4-15.</b>	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 <b>Fuser temp fail clear</b> . 3. Touch <b>Fuser temp fail clear</b> .  Perform a POR. Does the error occur when the power is turned off/on?	Go to step 2.	Go to step 5.
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 <b>"Fuser unit assembly removal" on page 4-15</b> . 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 <b>"AC drive card bracket assembly removal" on page 4-99</b> .	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. Does the error occur when the power is turned off/on?	Replace the fuser unit assembly. Go to <b>"Fuser unit assembly removal" on page 4-15.</b>	Problem solved.

#### 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 <b>"Fuser unit assembly removal" on page 4-15.</b> 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 <b>"AC drive card bracket assembly removal" on page 4-99.</b>	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 <b>“Fuser unit assembly removal” on page 4-15.</b> 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 <b>“AC drive card bracket assembly removal” on page 4-99.</b>	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 <b>“Fuser unit assembly removal” on page 4-15.</b> 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 <b>“AC drive card bracket assembly removal” on page 4-99.</b>	Problem solved.

## 920.07 Sub 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.
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 <b>"Fuser unit assembly removal" on page 4-15.</b> 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 <b>"AC drive card bracket assembly removal" on page 4-99.</b>	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 <b>"CMYK toner add motor assembly removal" on page 4-92.</b>	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 <b>"Upper printer engine card assembly removal" on page 4-76.</b>	Problem solved.

### 924.01 Magenta toner RFID communication error

Step	Check	Yes	No
1	Check the M toner cartridge. Is the M toner cartridge properly installed?	Go to step 2.	Reinstall the M toner cartridge.
2	Check the sensor (M toner RFID) for proper connection. Is the above component properly connected?	Replace the CMYK toner add motor assembly. Go to <b>“CMYK toner add motor assembly removal” on page 4-92.</b>	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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

### 924.02 Cyan toner RFID communication error

Step	Check	Yes	No
1	Check the C toner cartridge. Is the C toner cartridge properly installed?	Go to step 2.	Reinstall the C toner cartridge.
2	Check the sensor (C toner RFID) for proper connection. Is the above component properly connected?	Replace the CMYK toner add motor assembly. Go to <b>“CMYK toner add motor assembly removal” on page 4-92.</b>	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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

### 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
<b>2</b>	Check the sensor (Y toner RFID) for proper connection. Is the above component properly connected?	Replace the CMYK toner add motor assembly.  Go to <b>“CMYK toner add motor assembly removal” on page 4-92.</b>	Replace the connection.
<b>3</b>	Perform a POR. Does the error occur when the power is turned off/on?	Replace the upper printer engine card assembly.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

### 925.00 Sensor (Y ATC) error

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



### 925.01 Sensor (M ATC) error

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

### 925.02 Sensor (C ATC) error

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

### 925.03 Sensor (K ATC) error

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

### 940.00 MPF tray 5 size sensing error


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

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

Step	Check	Yes	No
<b>1</b>	Check the media. Is media loaded in tray 1 properly?	Go to step 2.	Load media properly.
<b>2</b>	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.
<b>3</b>	Check the tray 1 switch (media size) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>INPUT TRAY TESTS</b> . 3. Touch <b>Sensor Test</b> . 4. Touch <b>Tray 1</b> . 5. Touch <b>Tray 1 present</b> .  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.
<b>4</b>	Check the tray 1 switch (media size) for proper connection. Is the above component properly connected?	Replace the switch (media size).  Go to <b>“Switch (media size) removal” on page 4-113.</b>	Replace the connection.
<b>5</b>	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

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

Step	Check	Yes	No
<b>1</b>	Check the media. Is media loaded in tray 1 properly?	Go to step 2.	Load media properly.
<b>2</b>	Check the sensor (media level) (tray 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>INPUT TRAY TESTS</b> . 3. Touch <b>Sensor Test</b> . 4. Touch <b>Tray 1</b> . 5. Touch <b>Media level</b> .  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.

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). Go to <b>“Sensor (media level) removal” on page 4-24.</b>	Replace the connection.
4	Check the media feed/lift motor (tray 1) for proper operation.   <b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Tray 1 media feed/lift motor.</b>  Warning: The media tray must be opened before performing this test or paper jam may occur. Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Check the media feed/lift motor (tray 1) for proper connection. Is the above component properly connected?	Replace the media feed/lift motor. Go to <b>“Media feed lift motor removal” on page 4-112.</b>	Replace the connection.
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.


### 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
<b>3</b>	<p>Check the tray 2 switch (media size) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS</b>.</li> <li>3. Touch <b>Sensor Test</b>.</li> <li>4. Touch <b>Tray 2</b>.</li> <li>5. Touch <b>Tray 2 present</b>.</li> </ol> <p>Does the display on the operator panel, change every time the media tray is opened and closed?</p>	Go to step 5.	Go to step 4.
<b>4</b>	<p>Check the tray 2 switch (media size) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the switch (media size).</p> <p>Go to <b>“Switch (media size) removal” on page 4-113</b>.</p>	Replace the connection.
<b>5</b>	<p>Perform a POR.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the upper printer engine card assembly.</p> <p>Go to <b>“Upper printer engine card assembly removal” on page 4-76</b>.</p>	Problem solved.

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

Step	Check	Yes	No
<b>1</b>	<p>Check the media.</p> <p>Is media loaded in tray 2 properly?</p>	Go to step 2.	Load media properly.
<b>2</b>	<p>Check the sensor (media level) (tray 2) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS</b>.</li> <li>3. Touch <b>Sensor Test</b>.</li> <li>4. Touch <b>Tray 2</b>.</li> <li>5. Touch <b>Media level</b>.</li> </ol> <p>Does the display on the operator panel, change every time the media tray is opened and closed?</p>	Go to step 4.	Go to step 3.
<b>3</b>	<p>Check the sensor (media level) (tray 2) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (media level).</p> <p>Go to <b>“Sensor (media level) removal” on page 4-24</b>.</p>	Replace the connection.

Step	Check	Yes	No
4	<p>Check the media feed/lift motor (tray 2) for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Tray 2 media feed/lift motor</b>.</li> </ol> <p>Warning: The media tray must be opened before performing this test or paper jam may occur.</p> <p>Does the above component operate properly?</p>	Go to step 6.	Go to step 5.
5	<p>Check the media feed/lift motor (tray 2) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the media feed/lift motor.</p> <p>Go to <b>“Media feed lift motor removal” on page 4-112.</b></p>	Replace the connection.
6	<p>Perform a POR.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the upper printer engine card assembly.</p> <p>Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b></p>	Problem solved.


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

Step	Check	Yes	No
1	<p>Check the media.</p> <p>Is media loaded in tray 3 properly?</p>	Go to step 2.	Load media properly.
2	<p>Check the media tray.</p> <p>Are the size sensing mechanisms on the back and the bottom of the media tray damaged.</p>	Replace the media tray assembly.	Go to step 3.
3	<p>Check the tray 3 switch (media size) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS</b>.</li> <li>3. Touch <b>Sensor Test</b>.</li> <li>4. Touch <b>Tray 3</b>.</li> <li>5. Touch <b>Tray 3 present</b>.</li> </ol> <p>Does the display on the operator panel, change every time the media tray is opened and closed?</p>	Go to step 5.	Go to step 4.

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

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

Step	Check	Yes	No
<b>1</b>	<p>Check the media.</p> <p>Is media loaded in tray 3 properly?</p>	Go to step 2.	Load media properly.
<b>2</b>	<p>Check the sensor (media level) (tray 3) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS.</b></li> <li>3. Touch <b>Sensor Test.</b></li> <li>4. Touch <b>Tray 3.</b></li> <li>5. Touch <b>Media level.</b></li> </ol> <p>Does the display on the operator panel, change every time the media tray is opened and closed?</p>	Go to step 4.	Go to step 3.
<b>3</b>	<p>Check the sensor (media level) (tray 3) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (media level).</p> <p>Go to <b>“Sensor (media level) removal” on page 4-24.</b></p>	Replace the connection.

Step	Check	Yes	No
4	<p>Check the media feed/lift motor (tray 3) for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <p>1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b>. 3. Touch <b>Tray 3 media feed/lift motor</b>.</p> <p>Warning: The media tray must be opened before performing this test or paper jam may occur.</p> <p>Does the above component operate properly?</p>	Go to step 6.	Go to step 5.
5	<p>Check the media feed/lift motor (tray 3) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the media feed/lift motor.</p> <p>Go to <b>“Media feed lift motor removal” on page 4-112.</b></p>	Replace the connection.
6	<p>Perform a POR.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the upper printer engine card assembly.</p> <p>Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b></p>	Problem solved.

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


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



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

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

Step	Check	Yes	No
<b>1</b>	<p>Check the media.</p> <p>Is media loaded in tray 4 properly?</p>	Go to step 2.	Load media properly.
<b>2</b>	<p>Check the sensor (media level) (tray 4) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS.</b></li> <li>3. Touch <b>Sensor Test.</b></li> <li>4. Touch <b>Tray 4.</b></li> <li>5. Touch <b>Media level.</b></li> </ol> <p>Does the display on the operator panel, change every time the media tray is opened and closed?</p>	Go to step 4.	Go to step 3.
<b>3</b>	<p>Check the sensor (media level) (tray 4) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the sensor (media level).</p> <p>Go to <b>“Sensor (media level) removal” on page 4-24.</b></p>	Replace the connection.

Step	Check	Yes	No
4	<p>Check the media feed/lift motor (tray 4) for proper operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <p>1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b>. 3. Touch <b>Tray 4 media feed/lift motor</b>.</p> <p>Warning: The media tray must be opened before performing this test or paper jam may occur.</p> <p>Does the above component operate properly?</p>	Go to step 6.	Go to step 5.
5	<p>Check the media feed/lift motor (tray 4) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the media feed/lift motor.</p> <p>Go to <b>“Media feed lift motor removal” on page 4-112.</b></p>	Replace the connection.
6	<p>Perform a POR.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the upper printer engine card assembly.</p> <p>Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b></p>	Problem solved.

## 950.00 through 950.29 EPROM mismatch failure

<p><b>Warning:</b> In the event of replacement of any one of the following components:</p> <ul style="list-style-type: none"> <li>• RIP card assembly</li> <li>• Interconnect card assembly</li> </ul> <p>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.</p> <p><b>Warning:</b> 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.</p>			
Step	Check	Yes	No
1	<p>Check the interconnect card assembly.</p> <p>Was the interconnect card assembly recently replaced?</p>	Go to step 3.	Go to step 2.
2	<p>Check the operator panel assembly.</p> <p>Was the operator panel recently replaced?</p>	Go to step 4.	Contact next level of support.
3	<p>Replace the current interconnect card assembly with the original interconnect card assembly.</p> <p>Does the error remain?</p>	Go to step 5.	Problem solved.

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

### 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. Was the interconnect card assembly recently replaced?	Go to step 3.	Go to step 2.
2	Check the RIP card assembly. Was the RIP card assembly recently replaced?	Go to step 4.	Contact next level of support.
3	Replace the current interconnect card assembly with the original interconnect card assembly. Does the error remain?	Go to step 5	Problem solved.
4	Replace the current RIP card assembly with the original RIP card assembly. Go to <b>“Interconnect card assembly removal” on page 4-74.</b> Does the error remain?	Go to step 6.	Problem solved.
5	If problem remains, replace the original interconnect card assembly with a new and not previously installed interconnect card assembly. Does the error remain?	Contact the next level of support.	Problem solved.
6	If problem remains, replace the original panel assembly with a new and not previously installed interconnect card assembly. Go to <b>“Interconnect card assembly removal” on page 4-74.</b> Does the error remain?	Contact the next level of support.	Problem solved.

**951.XX RIP 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 RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b> Go to step 3.	Problem solved.

**952.XX Interconnect card assembly NVRAM 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. 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. Go to <b>“Interconnect card assembly removal” on page 4-74.</b> Go to step 3.	Problem solved.
3	Perform a print test. Does the error still occur?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

**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. Go to <b>“Operator panel assembly removal” on page 4-118.</b> Go to step 3.	Problem solved.
3	Perform a print test. Does the error still occur?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b> Go to step 4.	Problem solved.

#### 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 <b>“Interconnect card assembly removal” on page 4-74.</b> Go to step 3.	Problem solved.
3	Perform a print test. Does the error still occur?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b> 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. 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 <b>“RIP card assembly removal” on page 4-72.</b>	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 <b>“RIP card assembly removal” on page 4-72.</b>	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. Does the error occur when the power is turned off/on again?	Go to step 3.	Problem solved.
3	Check the RIP card cooling fan and heatsink for proper installation. Is the RIP card cooling fan and heatsink installed correctly?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>	Install the RIP card cooling fan and heatsink correctly.

### 956.02 RIP card assembly cooling fan 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?	Go to step 3.	Problem solved.
3	Checking the RIP card assembly cooling fan and heatsink attachment. Is the above fan attached properly?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>	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 <b>“RIP card assembly removal” on page 4-72.</b>	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. Is the above component properly connected?	Go to step 2.	Replace the connection.
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. Go to <b>“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.</b> Go to step 3.	Problem solved.

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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

### 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. Is the above component properly connected?	Go to step 2.	Replace the connection.
2	Perform a POR. Does the error continue when the power is turned off/on?	Replace the developer roll HVPS card assembly.  Go to <b>“Developer / transfer roll HVPS card assembly removal” on page 4-102.</b> 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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

### 980.02 Communication error between printer and RIP card assembly

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



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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	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. Is the above component properly connected?	Go to step 2.	Replace the connection.
2	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly.  Refer to the <i>Finisher Service Manual</i> . 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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

### 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 <b>“1X 500-sheet drawer (1TM)—tray module 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 page 4-199.</b>

Step	Check	Yes	No
<b>2</b>	<p>Check the switch (tray module left door interlock) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>BASE SENSOR TEST</b>.</li> <li>3. Touch <b>Cover and Door</b>.</li> <li>4. Touch <b>Door D tray module left</b>.</li> </ol> <p>Does the display on the operator panel change every time the actuator on the above switch is operated?</p>	Go to step 4.	Go to step 3.
<b>3</b>	<p>Check the switch (tray module left door interlock) for proper connection.</p> <p>Is the above switch properly connected?</p>	<p>Replace the switch (tray module left door interlock).</p> <p>Go to <b>“1X 500-sheet drawer (1TM)—switch (tray module left door interlock) removal” on page 4-250</b>.</p>	Replace the connection.
<b>4</b>	<p>Perform a POR.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the 1TM, 3TM, or TTM controller card assembly.</p> <p>Go to <b>“1X 500-sheet drawer (1TM)—1TM controller card assembly removal” on page 4-251</b>, Go to <b>“3X 500-sheet drawer (3TM)—3TM controller card assembly removal” on page 4-230</b>, or Go to <b>“2000-sheet dual input (TTM)—TTM controller card assembly removal” on page 4-204</b>.</p> <p>Go to step 5.</p>	Problem solved.
<b>5</b>	<p>Perform a POR.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the upper printer engine card assembly.</p> <p>Go to <b>“Upper printer engine card assembly removal” on page 4-76</b>.</p>	Problem solved.

### Duplex left door assembly open

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

Step	Check	Yes	No
<b>2</b>	<p>Check the switch (duplex left door interlock) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>DUPLEX TESTS</b>.</li> <li>3. Touch <b>Sensor Test</b>.</li> <li>4. Touch <b>Door D duplex left</b>.</li> </ol> <p>Does the display on the operator panel change every time the actuator on the above switch is operated?</p>	Reconnect the connector on the printer engine card assembly.	Go to step 3.
<b>3</b>	<p>Check the switch (duplex left door interlock) for proper connection.</p> <p>Is the above switch connected properly?</p>	<p>Replace the switch (duplex left door interlock).</p> <p>Go to <b>“Switch (duplex left door interlock) removal” on page 4-11</b>.</p>	Replace the connection.
<b>4</b>	<p>Perform a POR.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the duplex controller card assembly.</p> <p>Go to <b>“Duplex controller card assembly removal” on page 4-14</b>.</p> <p>Go to step 5.</p>	Problem solved.
<b>5</b>	<p>Perform a POR.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the lower printer engine card assembly.</p> <p>Go to <b>“Lower printer engine card assembly removal” on page 4-79</b>.</p>	Problem solved.

### Media size mismatch in width

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

Step	Check	Yes	No
<b>4</b>	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 <b>“Switch (media size) removal” on page 4-113.</b>	Replace the connection.
<b>5</b>	Perform a print test. Does the error continue when the power is turned off/on?	Replace the upper printer engine card assembly. Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

### Media size mismatch in width

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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.
<b>3</b>	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 <b>“2000-sheet dual input (TTM)—switch (TTM media size) removal” on page 4-181.</b>
<b>4</b>	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 <b>“2000-sheet dual input (TTM)—switch (TTM media size) removal” on page 4-181.</b>	Replace the connection.
<b>5</b>	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
6	Perform a print test. Does the error remain?	Replace the appropriate 1TM, 3TM, or TTM controller card assembly.  Go to <b>"1X 500-sheet drawer (1TM)—1TM controller card assembly removal" on page 4-251</b> , Go to <b>"3X 500-sheet drawer (3TM)—3TM controller card assembly removal" on page 4-230</b> , or Go to <b>"2000-sheet dual input (TTM)—TTM controller card assembly removal" on page 4-204</b> .  Go to step 7.	Problem solved.
7	Perform a print test. Does the error remain?	Replace the printer engine card assembly.  Go to <b>"Upper printer engine card assembly removal" on page 4-76</b> .	Problem solved.

### No media in the selected media tray

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

Step	Check	Yes	No
<b>2</b>	<p>Check the sensor (media out) for operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS</b>.</li> <li>3. Touch <b>Sensor test</b>.</li> <li>4. Touch <b>Tray 1</b>.</li> <li>5. Touch Media out.</li> </ol> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS</b>.</li> <li>3. Touch <b>Sensor test</b>.</li> <li>4. Touch <b>Tray 2</b>.</li> <li>5. Touch Media out.</li> </ol> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS</b>.</li> <li>3. Touch <b>Sensor test</b>.</li> <li>4. Touch <b>Tray 3</b>.</li> <li>5. Touch Media out.</li> </ol> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS</b>.</li> <li>3. Touch <b>Sensor test</b>.</li> <li>4. Touch <b>Tray 4</b>.</li> <li>5. Touch <b>Media out</b>.</li> </ol> <p>Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?</p>	Go to step 4.	Go to step 3.
<b>3</b>	<p>Check the sensor (media out) connection for proper connection on the appropriate media tray.</p> <p>Is the above component connected properly?</p>	<p>Replace the appropriate sensor (media out).</p> <p>Go to <b>“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.</b></p>	Replace the connection.
<b>4</b>	<p>Perform a POR.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the upper printer engine card assembly.</p> <p>Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b></p>	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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

### PC cartridge end of life

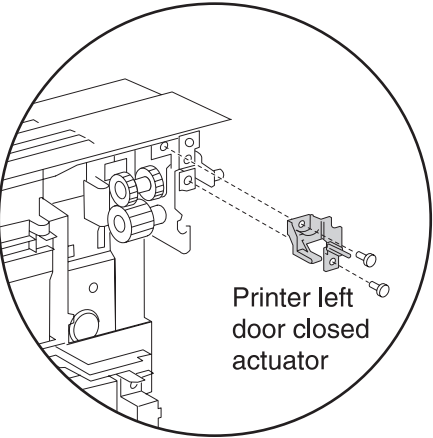
Step	Check	Yes	No
1	Check the appropriate PC cartridge for proper installation. Is the appropriate PC cartridge installed properly?	Go to step 2.	Install the appropriate PC cartridge properly.
2	Check the appropriate PC cartridge for damage. Does the appropriate PC cartridge appear damaged?	Replace the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

## Printer front door assembly open

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



## Printer left door open

Step	Check	Yes	No
1	<p>Check the printer left door closed actuator located on the rear of the printer left door assembly for damage.</p> <p>Is the above component, as shown in the graphic below, free of damage?</p>  <p>Printer left door closed actuator</p>	Go to step 2.	Replace the printer left door closed actuator (40X0498).
2	<p>Check the printer left door for proper operation.</p> <p>Does the above component open and close properly?</p>	Go to step 3.	<p>Replace the printer left door assembly.</p> <p>Go to <b>“Printer left door assembly removal” on page 4-26.</b></p>
3	<p>Check the sensor (printer left door interlock) for operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Select <b>BASE SENSOR TEST.</b></li> <li>3. Select <b>Cover and Door.</b></li> <li>4. Select <b>Door A left side.</b></li> </ol> <p>Does the display on the operator panel change every time the actuator on the above switch is operated?</p>	Go to step 5.	Go to step 4.
4	<p>Check the switch (printer left door interlock) for proper connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the switch (printer left door interlock).</p> <p>Go to <b>“Switch (printer left door interlock) removal” on page 4-19.</b></p>	Replace the connection.
5	<p>Perform a print test.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the upper printer engine card assembly.</p> <p>Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b></p>	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 <b>“Printer left door damper removal” on page 4-28.</b>
2	Check the switch (transfer belt access door interlock) for operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST.</b> 3. Touch <b>Cover and Door.</b> 4. Touch <b>Door E Transfer Belt access.</b>  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 (transfer belt access door interlock) for proper connection. Is the above component properly connected?	Replace the switch (transfer belt access door interlock).  Go to <b>“Switch (transfer belt access door interlock) removal” on page 4-81.</b>	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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

## 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 <b>“Printer left lower door assembly removal” on page 4-8.</b>

Step	Check	Yes	No
<b>2</b>	<p>Check the switch (printer left lower door interlock) for operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>BASE SENSOR TEST</b>.</li> <li>3. Touch <b>Cover and Door</b>.</li> <li>4. Touch <b>Door B left/lower</b>.</li> </ol> <p>Does the display on the operator panel change every time the actuator on the above switch is operated?</p>	Go to step 4.	Go to step 3.
<b>3</b>	<p>Check the switch (printer left lower door interlock) connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the switch (printer left lower door interlock).</p> <p>Go to <b>"Switch (printer left door interlock) removal" on page 4-19</b>.</p>	Replace the connection.
<b>4</b>	<p>Perform a print test.</p> <p>Does the error continue when the power is turned off/on?</p>	<p>Replace the upper printer engine card assembly.</p> <p>Go to <b>"Upper printer engine card assembly removal" on page 4-76</b>.</p>	Problem solved.

### 100K maintenance required

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

### 600K maintenance required

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

## ADF maintenance required

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

## Standard media bin full

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

## 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. Is the above component properly connected?	Go to step 2.	Replace the connection.
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
<b>3</b>	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.  Go to <b>“Scanner controller card assembly removal” on page 4-122.</b> Go to step 4.	Problem solved.
<b>4</b>	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly.  Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

### ADF left cover assembly is open

Step	Check	Yes	No
<b>1</b>	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 <b>“ADF left cover assembly removal” on page 4-131.</b>
<b>2</b>	Check the actuating lever of the switch (ADF left cover interlock). Is the above actuating lever attached and aligned properly?	Go to step 3.	Adjust the actuating lever for proper alignment.
<b>3</b>	Check the switch (ADF left cover interlock) for proper operation.  1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF left cover interlock.</b>  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.
<b>4</b>	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.
<b>5</b>	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the upper printer engine card assembly.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

## 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 <b>"Sensor (RFID toner cartridge) removal" on page 4-108.</b>	Replace the connection.
4	<ul style="list-style-type: none"> <li>Perform a print test.</li> <li>Does the error continue?</li> </ul>	Replace the printer engine card assembly.  Go to <b>"Upper printer engine card assembly removal" on page 4-76.</b>	Problem solved.

## Toner cartridge set error

Step	Check	Yes	No
1	Checking the toner cartridge for correct installation. Open the printer front door assembly. Is the toner cartridge installed properly?	Go to step 2.	Reinstall the toner cartridge properly.
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 <b>"Sensor (RFID toner cartridge) removal" on page 4-108.</b>	Go to step 5.
5	Perform a print test. Does the error remain?	Replace the printer engine card assembly.  Go to <b>"Upper printer engine card assembly removal" on page 4-76.</b>	Problem solved.

## Waste toner cartridge full

Step	Check	Yes	No
<b>1</b>	Check the waste toner cartridge. Is the above component properly installed?	Go to step 2.	Reinstall the waste toner cartridge.
<b>2</b>	Check the sensor (waste toner cartridge full) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST</b> . 3. Touch <b>Exit level</b> . 4. Touch <b>Standard bin full 1</b> .  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.
<b>3</b>	Check the sensor (waste toner cartridge full) connection. Is the above component properly connected?	Replace the sensor (waste toner cartridge full).  Go to <b>“Sensor (waste toner cartridge full) removal” on page 4-40.</b>	Replace the connection.
<b>4</b>	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the upper printer engine card assembly.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

## Waste toner cartridge not detected

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

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 <b>"Upper printer engine card assembly removal"</b> on page 4-76.	Problem solved.

### Waste toner cartridge nearly 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 <b>BASE SENSOR TEST</b> . 3. Touch <b>Exit level</b> . 4. Touch <b>Standard bin full 1</b> .  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 <b>"Sensor (waste toner cartridge full) removal"</b> 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 <b>"Upper printer engine card assembly removal"</b> on page 4-76.	Problem solved.



**<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. Go to <b>"PC cartridge unit removal" on page 4-44.</b>
2	Replace the appropriate PC cartridge. Does the error remain?	Go to step 3.	Problem solved.
3	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the upper printer engine card assembly. Go to <b>"Upper printer engine card assembly removal" on page 4-76.</b>	Problem solved.

**<Color> PC cartridge invalid**

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. Go to <b>"PC cartridge unit removal" on page 4-44.</b>
2	Replace the appropriate PC cartridge. Does the error remain?	Go to step 3.	Problem solved.
3	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the upper printer engine card assembly. Go to <b>"Upper printer engine card assembly removal" on page 4-76.</b>	Problem solved.

**CMY PC cartridges nearly exhausted**

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

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

### CMY PC cartridges exhausted

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

### 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 <b>“PC cartridge unit removal” on page 4-44.</b>
2	Replace the K PC cartridge. Does the error remain?	Go to step 3.	Problem solved.
3	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the upper printer engine card assembly.  Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	Problem solved.

## K PC cartridge 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 <b>"PC cartridge unit removal"</b> on page 4-44.
2	Replace the K PC cartridge. Does the error remain?	Go to step 3.	Problem solved.
3	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the upper printer engine card assembly. Go to <b>"Upper printer engine card assembly removal"</b> on page 4-76.	Problem solved.


## <Color> toner cartridge nearly empty

Step	Check	Yes	No
1	Check the appropriate toner cartridge. Does the appropriate toner cartridge contain toner?	Go to step 2.	Replace the toner cartridge.
2	Check the appropriate toner cartridge for proper installation. Is the appropriate above component properly installed?	Go to step 3.	Reinstall the appropriate toner cartridge.
3	Check the gear rotation in the appropriate toner add assembly. Does the gear, located at the lower part of the above component rotate smoothly?	Go to step 4.	Replace the appropriate toner add assembly. Go to <b>"CMY toner add assembly removal"</b> on page 4-47 or <b>"K toner add assembly removal"</b> on page 4-48.
4	Check the appropriate toner add assembly chute for clogging. Is the chute, located at the lower part of the above component, free of clogs and obstructions?	Go to step 5.	Clean any obstructions.

Step	Check	Yes	No
5	<p>Check the appropriate segment of the CMYK toner add motor assembly for operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <p><b>Warning:</b> Only perform this test in segments of three seconds or less or toner spill will occur.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS.</b></li> <li>3. Touch <b>Printer Motor Test.</b></li> <li>4. Touch <b>C, M, Y or K toner add motor.</b></li> </ol> <p>Does the above component operate properly?</p>	Go to step 7.	Go to step 6.
6	<p>Check the CMYK toner add motor assembly connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the CMYK toner add motor assembly.</p> <p>Go to <b>“CMYK toner add motor assembly removal” on page 4-92.</b></p>	Replace the connection.
7	<p>Perform a POR.</p> <p>Does the error remain when the power is turned off/on again?</p>	<p>Replace the upper printer engine card assembly.</p> <p>Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b></p>	Problem solved.

### <Color> toner cartridge empty

Step	Check	Yes	No
1	<p>Check the appropriate toner cartridge.</p> <p>Does the appropriate toner cartridge contain toner?</p>	Go to step 2.	Replace the toner cartridge.
2	<p>Check the appropriate toner cartridge for proper installation.</p> <p>Is the appropriate above component properly installed?</p>	Go to step 3.	Reinstall the appropriate toner cartridge.
3	<p>Check the gear rotation in the appropriate toner add assembly.</p> <p>Does the gear, located at the lower part of the above component rotate smoothly?</p>	Go to step 4.	<p>Replace the appropriate toner add assembly.</p> <p>4 go to's</p>
4	<p>Check the appropriate toner add assembly chute for clogging.</p> <p>Is the chute, located at the lower part of the above component, free of clogs and obstructions?</p>	Go to step 5.	Clean any obstructions.

Step	Check	Yes	No
5	<p>Check the appropriate segment of the CMYK toner add motor assembly for operation.</p>  <p><b>Caution:</b> When performing motor tests, ensure that all cover and door interlock switches are overridden.</p> <p><b>Warning:</b> Only perform this test in segments of three seconds or less or toner spill will occur.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>MOTOR TESTS</b>.</li> <li>3. Touch <b>Printer Motor Test</b>.</li> <li>4. Touch <b>C, M, Y or K toner add motor</b>.</li> </ol> <p>Does the above component operate properly?</p>	Go to step 7.	Go to step 6.
6	<p>Check the CMYK toner add motor assembly connection.</p> <p>Is the above component properly connected?</p>	<p>Replace the CMYK toner add motor assembly.</p> <p>Go to <b>“CMYK toner add motor assembly removal” on page 4-92.</b></p>	Replace the connection.
7	<p>Perform a POR.</p> <p>Does the error remain when the power is turned off/on again?</p>	<p>Replace the upper printer engine card assembly.</p> <p>Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b></p>	Problem solved.

### <Color> toner cartridge detection error

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

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

### Incorrect black toner cartridge error

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

### Tray 1 media size mismatch error

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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.
<b>3</b>	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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	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 <b>“RIP card assembly removal” on page 4-72.</b>	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. Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>	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 <b>“RIP card assembly removal” on page 4-72.</b>	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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	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 <b>“RIP card assembly removal” on page 4-72.</b>	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 <b>“Upper printer engine card assembly removal” on page 4-76.</b>	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 <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

### Tray 1 media type mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 1 for the correct media type. Does the above tray contain the correct type of media?	Go to step 2.	Install the correct 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 <b>BASE SENSOR TESTS.</b> 3. Touch <b>Media path.</b> 4. Touch <b>Transparency detect</b>  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 <b>“Sensor (transparency detect) removal” on page 4-38.</b>	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 <b>“Lower printer engine card assembly removal” on page 4-79.</b>	Problem solved.

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

## Tray 2 media type mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 2 for the correct media type. Does the above tray contain the correct type of media?	Go to step 2.	Install the correct 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 <b>BASE SENSOR TESTS</b> . 3. Touch <b>Media path</b> . 4. Touch <b>Transparency detect</b>  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 <b>"Sensor (transparency detect) removal"</b> 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 <b>"Lower printer engine card assembly removal"</b> 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 <b>"RIP card assembly removal"</b> 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.
2	Check the media tray assembly 3 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 <b>BASE SENSOR TESTS</b> . 3. Touch <b>Media path</b> . 4. Touch <b>Transparency detect</b>  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 <b>"Sensor (transparency detect) removal" on page 4-38.</b>	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 <b>"Lower printer engine card assembly removal" on page 4-79.</b>	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 <b>"RIP card assembly removal" on page 4-72.</b>	Problem solved.

### Tray 4 media type mismatch error

Step	Check	Yes	No
1	Check the media tray assembly 4 for the correct media type. Does the above tray contain the correct type of media?	Go to step 2.	Install the correct 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 <b>BASE SENSOR TESTS</b> . 3. Touch <b>Media path</b> . 4. Touch <b>Transparency detect</b>  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 <b>"Sensor (transparency detect) removal" on page 4-38.</b>	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 <b>"Lower printer engine card assembly removal" on page 4-79.</b>	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 <b>"RIP card assembly removal" on page 4-72.</b>	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.

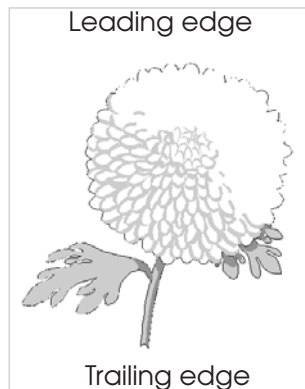
#### Image quality symptoms

- 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

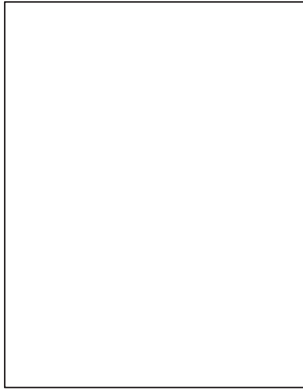
### Faint print (Low contrast)



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

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	Check the four toner cartridges. Re-print the defective image. Is the image density normal?	Problem solved.	Replace any empty toner cartridges.
<b>3</b>	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 <b>"2nd transfer roll assembly removal" on page 4-35.</b>
<b>4</b>	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.
<b>5</b>	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
<b>6</b>	<p>Check the toner add motor assembly.  Replace the toner add motor assembly.  Go to <b>"CMYK toner add motor assembly removal" on page 4-92.</b>  Does the error continue.</p>	Go to step 7.	Problem solved.
<b>7</b>	<p>Check the developer/transfer roll HVPS card assembly.  Replace the developer/transfer roll HVPS card assembly.  Go to <b>"Developer / transfer roll HVPS card assembly removal" on page 4-102.</b>  Perform a print test.  Does the problem remain?</p>	Go to step 8.	Problem solved.
<b>8</b>	<p>Check the printhead assembly.  Replace the printhead assembly.  Go to <b>"Printhead assembly removal" on page 4-94.</b>  Does the error continue?</p>	Go to step 9.	Problem solved.
<b>9</b>	<p>Check the upper printer engine card assembly.  Replace the upper printer engine card assembly.  Go to <b>"Upper printer engine card assembly removal" on page 4-76.</b>  Perform a print test.  Does the problem remain?</p>	<p>Replace the RIP card assembly.  Go to <b>"RIP card assembly removal" on page 4-72.</b></p>	Problem solved.

**Blank print (no print)**

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

Step	Check	Yes	No
<b>1</b>	Check the four toner cartridges. Re-print the defective image. Is the image density normal?	Problem solved.	Replace any empty toner cartridges.
<b>2</b>	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 <b>“2nd transfer roll assembly removal” on page 4-35.</b>
<b>3</b>	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.
<b>4</b>	Replace the 2nd transfer roll assembly. Go to <b>“2nd transfer roll assembly removal” on page 4-35.</b>	Replace the 2nd transfer roll assembly. Go to <b>“2nd transfer roll assembly removal” on page 4-35.</b>	Replace the 2nd transfer roll assembly. Go to <b>“2nd transfer roll assembly removal” on page 4-35.</b>
<b>5</b>	Check the toner add motor assembly. Replace the toner add motor assembly. Go to <b>“CMYK toner add motor assembly removal” on page 4-92.</b> Does the error continue.	Go to step 6.	Problem solved.
<b>6</b>	Check the printhead installation. Is the printhead assembly installed properly with two screws?	Go to step 8.	Go to step 7.



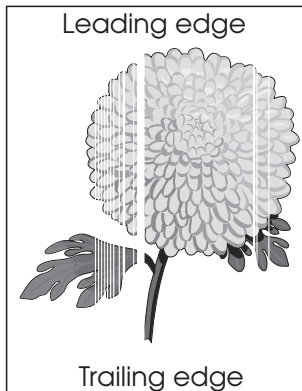
Step	Check	Yes	No
7	Check the printhead assembly installation. Install the printhead assembly properly, and perform a print test. Does the problem remain?	Go to step 8.	Problem solved.
8	Check the printhead assembly for connection. Is the above component properly connected?	Go to step 9.	Replace the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

**Solid black**

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

Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	Check the charge roll HVPS card assembly connections Is the above component properly connected?	Go to step 3	Replace the connection.
<b>3</b>	Replace the charge roll HVPS card assembly. Go to <b>“Charge roll HVPS card assembly removal” on page 4-103.</b> Perform a print test. Does the error continue?	Go to step 4.	Problem solved.
<b>4</b>	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b> Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>	Problem solved.

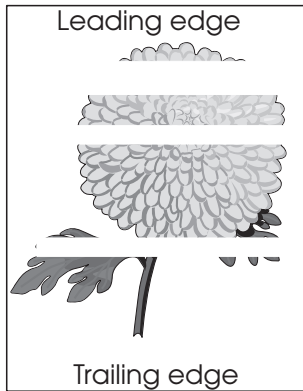
### Vertical lines and bands (process direction)



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	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 <b>"2nd transfer roll assembly removal"</b> on page 4-35.
6	Replace the transfer belt unit assembly. Go to <b>"Transfer belt unit assembly removal"</b> 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 <b>"Printhead assembly removal"</b> 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 <b>“Upper printer engine card assembly removal” on page 4-76.</b> 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 <b>“RIP card assembly removal” on page 4-72.</b>	Replace the connection.

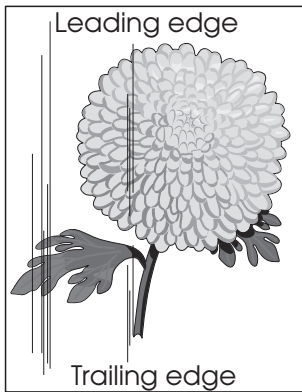
### Horizontal white stripes or bands (side to side direction)




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 <b>“2nd transfer roll assembly removal” on page 4-35.</b>
5	Replace the transfer belt unit assembly. Go to <b>“Transfer belt unit assembly removal” on page 4-16.</b> Does the problem remain?	Go to step 6.	Problem solved.
6	Replace the four developer units and four developer carriers. Go to <b>“Developer unit assembly removal” on page 4-53</b> and <b>“Developer carrier removal and replacement” on page 4-56.</b> 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 <b>“Developer / transfer roll HVPS card assembly removal” on page 4-102.</b> Perform a print test. Does the problem remain?	Go to step 8.	Problem solved.

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

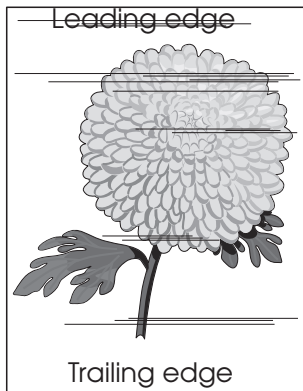
### Vertical stripes (process direction)




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 <b>"2nd transfer roll assembly removal"</b> 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 <b>"Transfer belt unit assembly removal"</b> 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.  <b>CAUTION:</b> 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 <b>"Fuser unit assembly removal"</b> 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 <b>“Upper printer engine card assembly removal” on page 4-76.</b> Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>

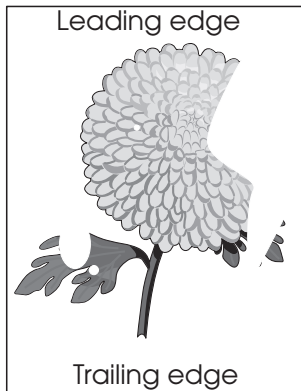


**Horizontal stripes (side to side direction)**

Step	Check	Yes	No
<b>1</b>	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
<b>2</b>	Check the media transfer route. Check the media route for contamination or obstacles.	Go to step 3.	Remove obstacles or contamination.
<b>3</b>	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.
<b>4</b>	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 <b>"2nd transfer roll assembly removal"</b> on page 4-35.
<b>5</b>	Replace the transfer belt unit assembly. Go to <b>"Transfer belt unit assembly removal"</b> on page 4-16. Does the problem remain?	Go to step 6.	Problem solved.
<b>6</b>	Check the heat roll and pressure roll. Remove the fuser unit assembly.  <b>CAUTION:</b> 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 <b>"Fuser unit assembly removal"</b> on page 4-15.	Go to step 6.

Step	Check	Yes	No
<b>7</b>	<p>Check the developer/transfer roll HVPS card assembly.            Replace the developer/transfer roll HVPS card assembly.            Go to <b>“Developer / transfer roll HVPS card assembly removal” on page 4-102.</b>            Perform a print test.            Does the problem remain?</p>	Go to step 8.	Problem solved.
<b>8</b>	<p>Check the upper printer engine card assembly.            Replace the upper printer engine card assembly.            Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b>            Perform a print test.            Does the error continue?</p>	<p>Replace the RIP card assembly.            Go to <b>“RIP card assembly removal” on page 4-72.</b></p>	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 <b>“2nd transfer roll assembly removal” on page 4-35.</b>
5	Replace the transfer belt unit assembly. Go to <b>“Transfer belt unit assembly removal” on page 4-16.</b> 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 <b>“Printhead assembly removal” on page 4-94.</b> 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 <b>“Upper printer engine card assembly removal” on page 4-76.</b> Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>

## 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 <b>"2nd transfer roll assembly removal"</b> on page 4-35.
5	Check the heat roll and pressure roll. Remove the fuser unit assembly.  <b>CAUTION:</b> 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 <b>"Fuser unit assembly removal"</b> on page 4-15.	Go to step 6.
6	Replace the transfer belt unit assembly. Go to <b>"Transfer belt unit assembly removal"</b> 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 <b>"Printhead assembly removal" on page 4-94.</b> 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 <b>"Upper printer engine card assembly removal" on page 4-76.</b> Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to <b>"RIP card assembly removal" on page 4-72.</b>	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. <b>Caution:</b> 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 <b>"Fuser unit assembly removal" on page 4-15.</b>	Go to step 4.

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

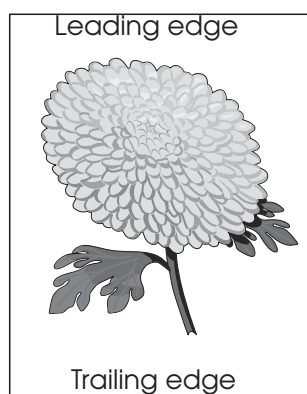
**Background (fog)**

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



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

## Skew



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


Step	Check	Yes	No
<b>1</b>	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.
<b>2</b>	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.
<b>3</b>	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.
<b>4</b>	Is the printer left door assembly properly and evenly closed.	Go to step 5.	Open then properly close the printer left door assembly.
<b>5</b>	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 <b>“2nd transfer roll assembly removal”</b> on page 4-35.

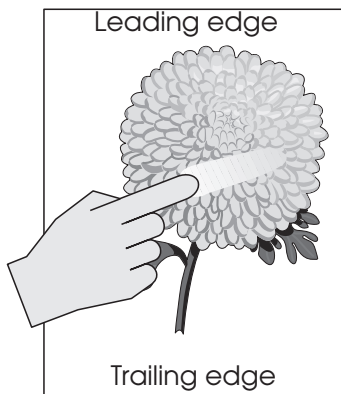
Step	Check	Yes	No
<b>6</b>	Check the registration/transport roll assembly. Are all drive rolls on the registration/transport roll assembly free of contamination, wear and damage?	Go to step 7.	Replace registration/transport roll assembly.  Go to <b>“Registration / transport roll assembly removal” on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


## Media damage



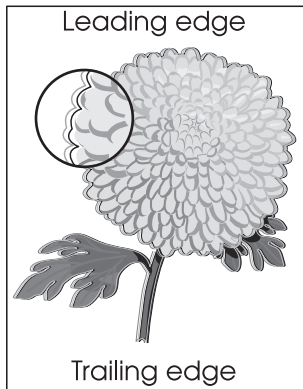
Step	Check	Yes	No
<b>1</b>	Check printer installation placement. Check the installation surface for irregularities. Check for missing printer foot. Is the setup surface normal?	Go to step 2.	Correct the installation placement.
<b>2</b>	Check the media feed. Remove the media tray assembly. Properly load 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.
<b>3</b>	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 4.	Problem solved.
<b>4</b>	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 <b>"2nd transfer roll assembly removal"</b> on page 4-35.
<b>5</b>	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 <b>"Registration / transport roll assembly removal"</b> on page 4-36.

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

**No fuse**

Step	Check	Yes	No
1	<p>Check the fuser unit assembly installation.</p> <p>Check that the levers, on both sides of the fuser unit assembly, are pushed down.</p> <p>Re-print the defective image.</p> <p>Does the error continue?</p>	Go to step 2.	Problem solved.
2	<p>Check the media condition.</p> <p>Load new, dry, recommended media.</p> <p>Re-print the defective image.</p> <p>Does the problem remain?</p>	Go to step 3.	Problem solved.
3	<p>Check the heat roll and pressure roll.</p> <p>Remove the fuser unit assembly.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p><b>CAUTION:</b> Allow the fuser unit assembly to cool down.</p> </div> </div> <p>Is there contamination or cracks on the heat roll and/or pressure roll?</p>	<p>Replace the fuser unit assembly.</p> <p>Go to <b>“Fuser unit assembly removal” on page 4-15.</b></p>	Go to step 4.
4	<p>Check the connections on the AC drive card assembly.</p> <p>Replace the AC drive card assembly.</p> <p>Go to <b>“AC drive card bracket assembly removal” on page 4-99</b></p> <p>Does the error continue?</p>	Go to step 5.	Problem solved.
5	<p>Check the upper printer engine card assembly.</p> <p>Replace the upper printer engine card assembly.</p> <p>Go to <b>“Upper printer engine card assembly removal” on page 4-76.</b></p> <p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal” on page 4-72.</b></p>	Problem solved.

### Color misregistration



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

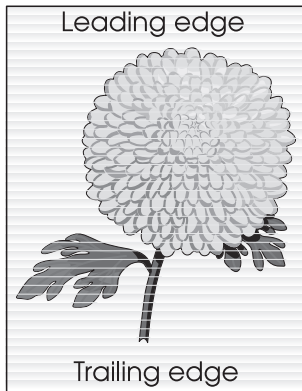
## Deletions



Step	Check	Yes	No
<b>1</b>	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the problem remain?	Go to step 2.	Problem solved.
<b>2</b>	Replace the transfer belt unit assembly. Go to <b>"Transfer belt unit assembly removal" on page 4-16.</b> Does the problem remain?	Go to step 3.	Problem solved.
<b>3</b>	Check the upper printer engine card assembly. Replace the upper printer engine card assembly. Go to <b>"Upper printer engine card assembly removal" on page 4-76.</b> Perform a print test. Does the problem continue?	Replace the RIP card assembly. Go to <b>"RIP card assembly removal" on page 4-72.</b>	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 <b>"Developer unit assembly removal" on page 4-53</b> and <b>"Developer carrier removal and replacement" on page 4-56</b> . Does the problem remain?	Go to step 3.	Problem solved.
3	Replace the printhead. Go to <b>"Printhead assembly removal" on page 4-94</b> . Does the problem remain?	Go to step 2.	Problem solved.
4	Re-adjust the color registration (Regcon) for the new printhead. Go to <b>"Color registration (RegCon)" on page 4-256</b> . 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 <b>"Upper printer engine card assembly removal" on page 4-76</b> . Perform a print test. Does the problem continue?	Replace the RIP card assembly. Go to <b>"RIP card assembly removal" on page 4-72</b> .	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

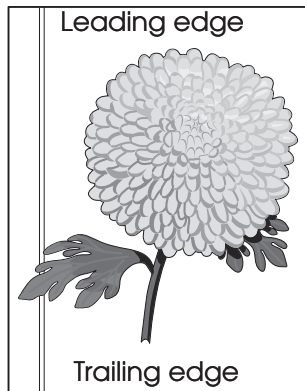
### Dark image quality (using ADF or Scanner)



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

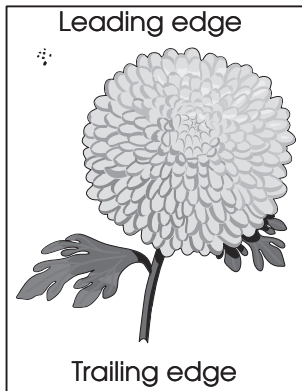
Step	Check	Yes	No
1	Check the large and small platen glass on the scanner unit assembly. Is the large and small platen glass contaminated?	Clean both sides of the large and small platen glass.	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. Are the three mirrors contaminated or 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 <b>"CCD card/lens assembly removal"</b> 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 <b>"Scanner controller card assembly removal"</b> on page 4-122.	Problem solved.

### Vertical lines (process direction using the ADF)

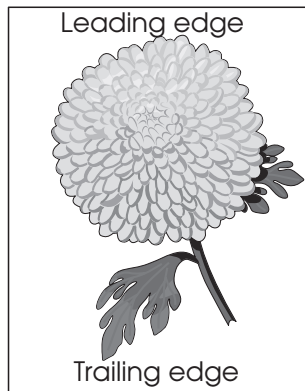


Step	Check	Yes	No
1	Check the small platen glass on the scanner unit assembly. Is the large and small platen glass contaminated or damaged?	Clean or replace the small platen glass. Go to <b>“Large platen glass removal” on page 4-116.</b>	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. 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 <b>“CCD card/lens assembly removal” on page 4-118.</b>	Problem solved.
5	Perform a print test using the ADF unit assembly. Does the error continue?	Replace the scanner controller card assembly. Go to <b>“Scanner controller card assembly removal” on page 4-122.</b>	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 <b>"Large platen glass removal" on page 4-116.</b>	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 <b>"CCD card/lens assembly removal" on page 4-118.</b>	Problem solved.
5	Perform a print test using the flatbed scanner assembly. Does the error continue?	Replace the scanner controller card assembly. Go to <b>"Scanner controller card assembly removal" on page 4-122.</b>	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 <b>“ADF feed/pick roll assembly removal” on page 4-141.</b>
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 <b>“ADF separation roll guide assembly” on page 4-154.</b>

### 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. Does the error continue?	Go to step 2.	Problem solved.
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 <b>“ADF feed/pick roll assembly removal” on page 4-141.</b>
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 <b>“ADF separation roll guide assembly” on page 4-154.</b>
6	Check the ADF controller card assembly. Replace the ADF controller card assembly. Go to <b>“ADF controller card assembly removal” on page 4-137.</b> Perform a print test using the ADF. Does the error continue?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-72.</b>	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 Renummer

**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  
NPA Mode  
USB Buffer  
Job Buffering

**Finishing Menu**

Duplex  
Duplex Bind  
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 Menu**

PCL SmartSwitch  
PS SmartSwitch  
MAC Binary PS  
NPA Mode  
Network Buffer  
Job Buffering  
Network <x> Setup  
Std Net Setup

**Paper Menu**

Paper Source  
Paper Size  
Paper Type  
Custom Types  
Output Bin  
Configure Bins  
Overflow Bin  
Assign Type/Bin  
Substitute Size  
Configure MP  
Paper Texture  
Paper Weight  
Paper Loading  
Universal 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  
Job Accounting  
Print Area  
Black & White Lock

**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

**Parallel Menu**

PCL SmartSwitch  
PS SmartSwitch  
NPA Mode  
Parallel Buffer  
Job Buffering  
Advanced Status  
Protocol  
Honor Init  
Parallel Mode 1  
Parallel Mode 2  
MAC Binary PS

**Help Menu**

Print All  
Help Guide  
Printing Guide  
Supplies Guide  
Print Quality  
Color Quality  
Media Guide  
Connection Guide  
Moving Guide  
Print Defects  
Jam Clearance

**PostScript Menu**

Print PS Error  
Font Priority  
Image Smoothing



## 3. Diagnostic aids

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

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### Accessing service menus

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

Diagnostics Menu	<ol style="list-style-type: none"><li>1. Turn off the printer.</li><li>2. Press and hold the <b>3</b> and <b>6</b> buttons simultaneously.</li><li>3. Turn on the printer.</li><li>4. Release the buttons after 10 seconds.</li></ol>	<p>The Diagnostics Menu group consists of menus, settings, and operations that are used to diagnose various printer problems.</p> <p>Note: While the Diagnostics Menu Group is active, all host interfaces are offline.</p> <p>See <b>“Entering Diagnostics Menus” on page 3-2</b> for more information.</p>
Configuration Menu	<ol style="list-style-type: none"><li>1. Turn off the printer.</li><li>2. Press and hold the <b>2</b> and <b>6</b> buttons simultaneously.</li><li>3. Turn on the printer.</li><li>4. Release the buttons after 10 seconds.</li></ol>	<p>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.</p> <p>See <b>“Entering Configuration Menu” on page 3-35</b> for more information.</p>

## 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:

<b>MOTOR TESTS</b>	See <b>"MOTOR TESTS" on page 3-6.</b>
<b>Finisher Motor Tests</b>	
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	
<b>Printer Motor Tests</b>	
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	
<b>Scanner Motor Tests</b>	
ADF feed drv mtr	
Exposure lamp	
ADF registration drv mtr	
Scanner drv mtr	
Inverter solenoid	
Pick roll position mtr	
Document set LED	

<b>PRINT TESTS</b>		See <b>“PRINT TESTS”</b> on page 3-7.
	Tray 1	
	Tray 2	
	Tray 3	
	Tray 4	
	MP Feeder	
	Printing Quality Test Pages	See <b>“Print Quality Test Pages”</b> on page 3-7.
<b>HARDWARE TESTS</b>		
	Panel Test	See <b>“Panel Test”</b> on page 3-8.
	Button Test	See <b>“Button Test”</b> on page 3-8.
	DRAM Test	See <b>“DRAM Test”</b> on page 3-9.
	CACHE Test	See <b>“CACHE Test”</b> on page 3-9.
<b>DUPLEX TESTS</b>		
	Quick Test	See <b>“Quick Test”</b> on page 3-9.
	Sensor Test	See <b>“Sensor Test (duplex)”</b> on page 3-10.
<b>INPUT TRAY TESTS</b>		
	Feed Tests	See <b>“Feed Tests”</b> on page 3-10.
	Sensor Test	See <b>“Sensor Test (input tray)”</b> on page 3-11.
<b>OUTPUT BIN TESTS</b>		
	Feed to All Bins	See <b>“Feed Tests (output bins)”</b> on page 3-11.
	Feed Tests	See <b>“Feed To All Bins”</b> on page 3-12.
	Sensor Tests	See <b>“Sensor Test (output bin)”</b> on page 3-12.
<b>FINISHER TESTS</b>		
	Staple Test	See <b>“Staple Test”</b> on page 3-12.
	Hole Punch Test	See <b>“Hole Punch Test”</b> on page 3-13.
	Feed Tests	See <b>“Feed Tests (Finisher)”</b> on page 3-13.
	Sensor Tests	See <b>“Sensor Test (Finisher)”</b> on page 3-13.
<b>BASE SENSOR TESTS</b>		See <b>“BASE SENSOR TEST”</b> on page 3-15.
	Cover and Door	
	Devices	
	Exit Level	
	Media Path	
	Transfer Belt	
<b>DEVICE TESTS</b>		See <b>“DEVICE TESTS”</b> on page 3-16.
	Quick Disk Test	
	Disk Test/Clean	
<b>PRINTER SETUP</b>		
	Defaults	See <b>“Defaults”</b> on page 3-18.
	Prt Color Pg Count	See <b>“Printed Color Page Count”</b> on page 3-18.
	Prt Mono Pg Count	See <b>“Printed Mono Page Count”</b> on page 3-19.
	Perm Page Count	See <b>“Permanent Page Count”</b> on page 3-19.
	Serial Number	See <b>“Serial Number”</b> on page 3-19.
	Engine Setting 1 to 4	See <b>“Engine Setting 1 to 4”</b> on page 3-19.

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

### 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
- 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
- Printhead shutter motor
- Standard exit shift motor
- K erase lamps
- CMY erase lamps

### The following Scanner Motor Tests are available:

- ADF feed drv mtr
- Exposure lamp
- ADF registration drv mtr
- Scanner drv mtr
- Inverter solenoid
- Pick roll position mtr
- Scanner drive reverse
- Document set LED

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

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


Press **Stop**  to stop the test.

## 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.

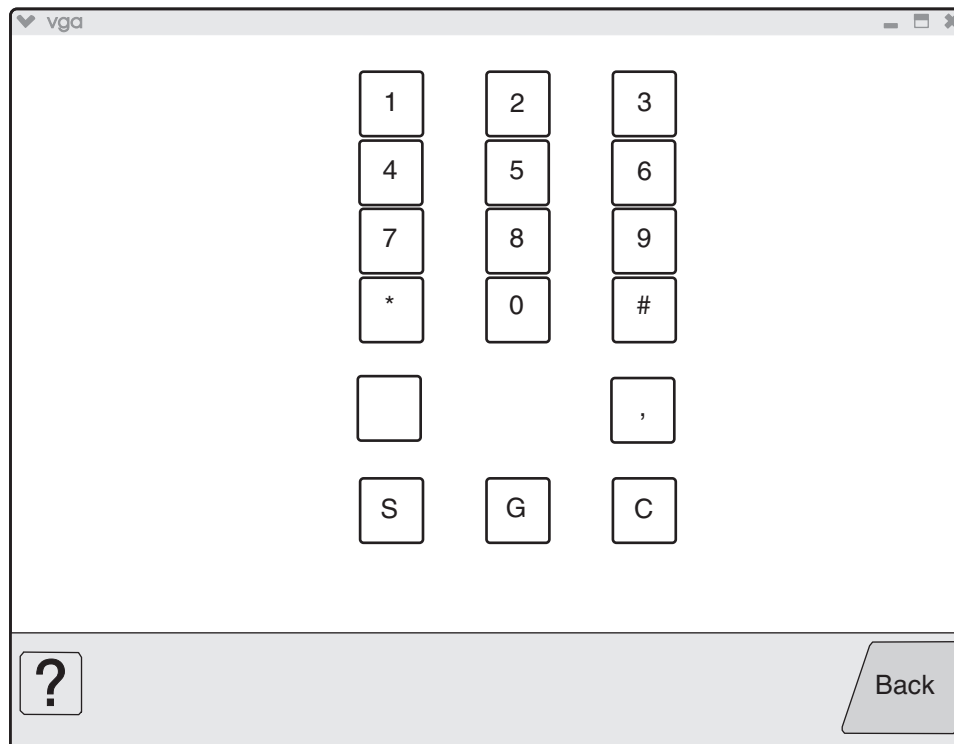
This test continues until you press **Stop** , then the LCD returns to HARDWARE TESTS.

### 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**  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** .

### 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**  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 <sup>1</sup>	Media out <sup>2</sup>	Media level <sup>3</sup>	Tray 1 present <sup>4</sup>
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

<sup>1</sup>Feed-out Testing... appears on the LCD with the sensor's current state (Open or Closed).

<sup>2</sup>Media out Testing... appears on the LCD with the sensor's current state (Open or Closed).

<sup>3</sup>Media level Testing... appears on the LCD with the sensor's current state (Open or Closed).

<sup>4</sup>Tray 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 **Open** 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**  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 Open 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.

## 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**  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 *Open* 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

Sensor Name
Registration
Fuser exit
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

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**  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.

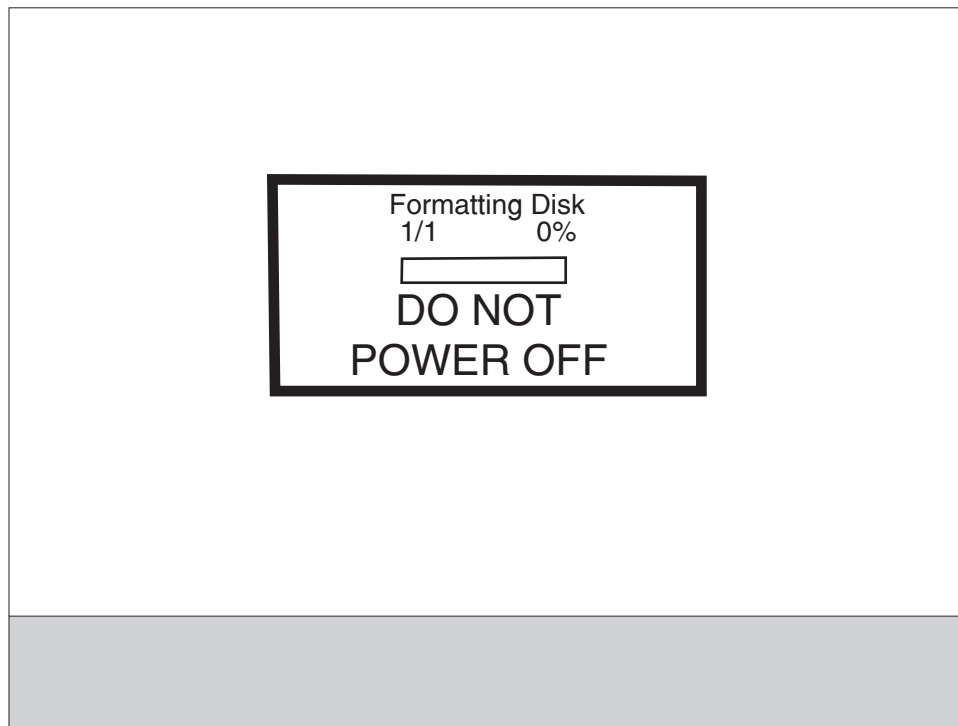
**Warning:** This test destroys all data on the disk and should never be performed on a good disk. Use this test only when the disk contains bad data and is unusable. When this test completes, the disk automatically initializes with a new file system; therefore it is unnecessary to format the disk.


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:

PRINTER SETUP

Defaults

U.S.

Prt Color Pg Count

24

Prt Mono Pg Count

17

Prt Pg Count

0

Serial Number

NV26T470

Envelope Entrance

Medium

Engine Setting 1

0

?

Submit

Back

**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.
3. 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:



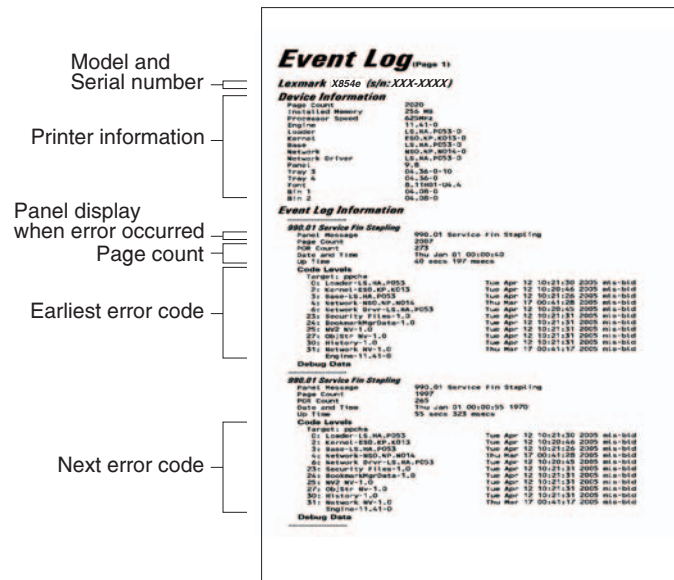
Each logged event is identified by the text that appeared when the event occurred. For instance, if the log recorded a 900 Service Error, the Display Log would show 900 Service RIP Software. Log entries appear in chronological order.

If additional log entries exist, touch ▼ 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 ▲.

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** .

### Feed Test

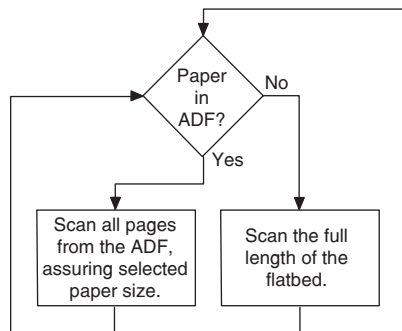
This test continuously executes flatbed and/or ADF scans but does not produce any printed output.

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**  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 Belt 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:

<b>Touch the following:</b>	<b>Appears on the LCD:</b>
Y Channel	Y Channel Testing...
M Channel	M Channel Testing...
M Channel	C Channel Testing...
K Channel	K Channel 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:

<b>Touch the following:</b>	<b>Appears on the LCD:</b>
Y Channel (925.00)	Y Channel Testing...
M Channel (925.01)	M Channel Testing...
M Channel (925.02)	C Channel Testing...
K Channel (925.02)	K Channel Testing...

When each test completes, the LCD returns to ATC SENSOR FAILURE CLEAR.

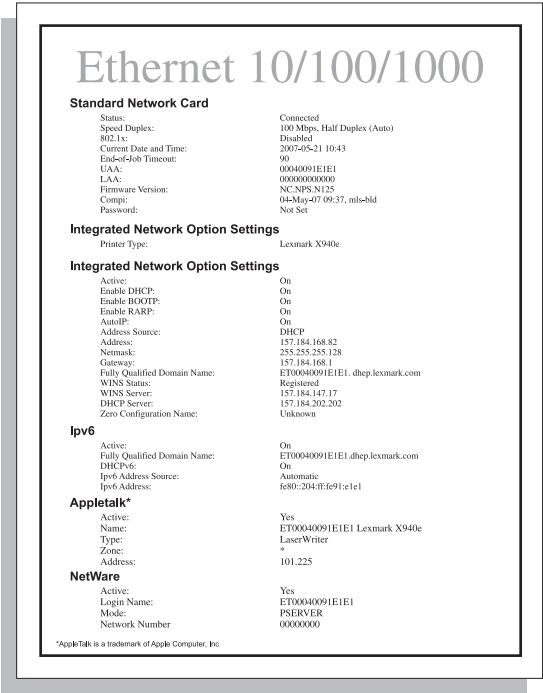
ENGINE ADJUST

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.



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:  
  
PH Adjust  
(Media tray registration)

Then select: (  
  
Adj Side Reg ALL (appears on LCD)  
(Adj side reg all trays)  
  
Adj Side Reg MSI (appears on LCD)  
(Adj side reg MPF)  
  
Adj Side Reg DUP (appears on LCD)  
(Adj side reg duplex)

Appears on the LCD:  
  
Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.  
  
Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.  
  
Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.

Adj Lead Reg ALL (appears on LCD) <b>(Adj lead reg all trays)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Lead Reg Tr165 (appears on LCD) <b>(Adj lead reg tray 1 - plain/color)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Lead Reg MSI165 (appears on LCD) <b>(Adj lead reg MPF - plain/color)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Lead Reg MSIhp2 (appears on LCD) <b>(Adj lead reg MPF - heavy weight 2)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Lead Reg DUP165 (appears on LCD) <b>(Adj lead reg duplex - plain/color)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
MSI Guide Max Val (appears on LCD) <b>(MPF guide maximum analog - value)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
MSI Guide Min Val (appears on LCD) <b>(MPF guide minimum analog - value)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Side Reg Tr1 (appears on LCD) <b>(Adj side reg tray 1)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Side Reg Tr2 (appears on LCD) <b>(Adj side reg tray 2)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Side Reg Tr3 (appears on LCD) <b>(Adj side reg tray 3)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Side Reg Tr4 (appears on LCD) <b>(Adj side reg tray 4)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Side Reg ALLtr (appears on LCD) <b>(Adj side reg all trays)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Lead Reg Trhp1 (appears on LCD) <b>(Adj lead reg tray 1 - heavy weight 1)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Lead Reg MSIhp (appears on LCD) <b>(Adj lead reg MPF - heavy weight 1)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Lead Reg Duphp1 (appears on LCD) <b>(Adj lead reg duplex - heavy weight 1)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Lead Reg Tr208 (appears on LCD) <b>(Adj lead reg tray 1 - plain/BW)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Lead Reg MSI208 (appears on LCD) <b>(Adj lead reg MPF - plain/BW)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
Adj Lead DUP 208 (appears on LCD) <b>(Adj lead reg duplex - plain/BW)</b>	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ 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 <b>Select</b> ✓ to submit the changes.
	Sen Grad SNR-M	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
	Sen Grad SNR-C	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
	Sen Grad SNR-K	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
	SNR Output Ref TC-Y	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
	SNR Output Ref TC-M	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
	SNR Output Ref TC-C	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ to submit the changes.
	SNR Output Ref TC-K	Registration values appear on the LCD. If required, reset the values and <b>Select</b> ✓ 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 Testing...

Select RegCon Adjust and then select:	Then select:	Appears on the LCD:
Control Setup Cycles	Skew Fine Setup	Skew Fine Setup Testing...
	IN/OUT Setup	IN/OUT Setup Testing...
	Center Setup	Center Setup Testing...
	Skew Rough Setup	Skew Rough Setup Testing...
	Cycle Result Value	Cycle Result Values appear on the LCD.

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:

Booklet Tamper Shift Adjust

Booklet Compile position

Booklet 2-sheet

Booklet 15-sheet

Booklet Fold Pos Fine Adj

Booklet Staple Pos Fine Adj

### Appears on the LCD:

Booklet Staple Fold Fine Adjust values appear on the LCD. If required, reset the values and submit.

Booklet Compile position values appear on the LCD. If required, reset the values and submit.

Booklet 2-sheet values appear on the LCD. If required reset the values and submit.

Booklet 15-sheet values appear on the LCD. If required reset the values and submit.

Booklet Staple Fold Fine Adjust values appear on the LCD. If required, reset the values and submit.

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

## Testing the manual scanner registration

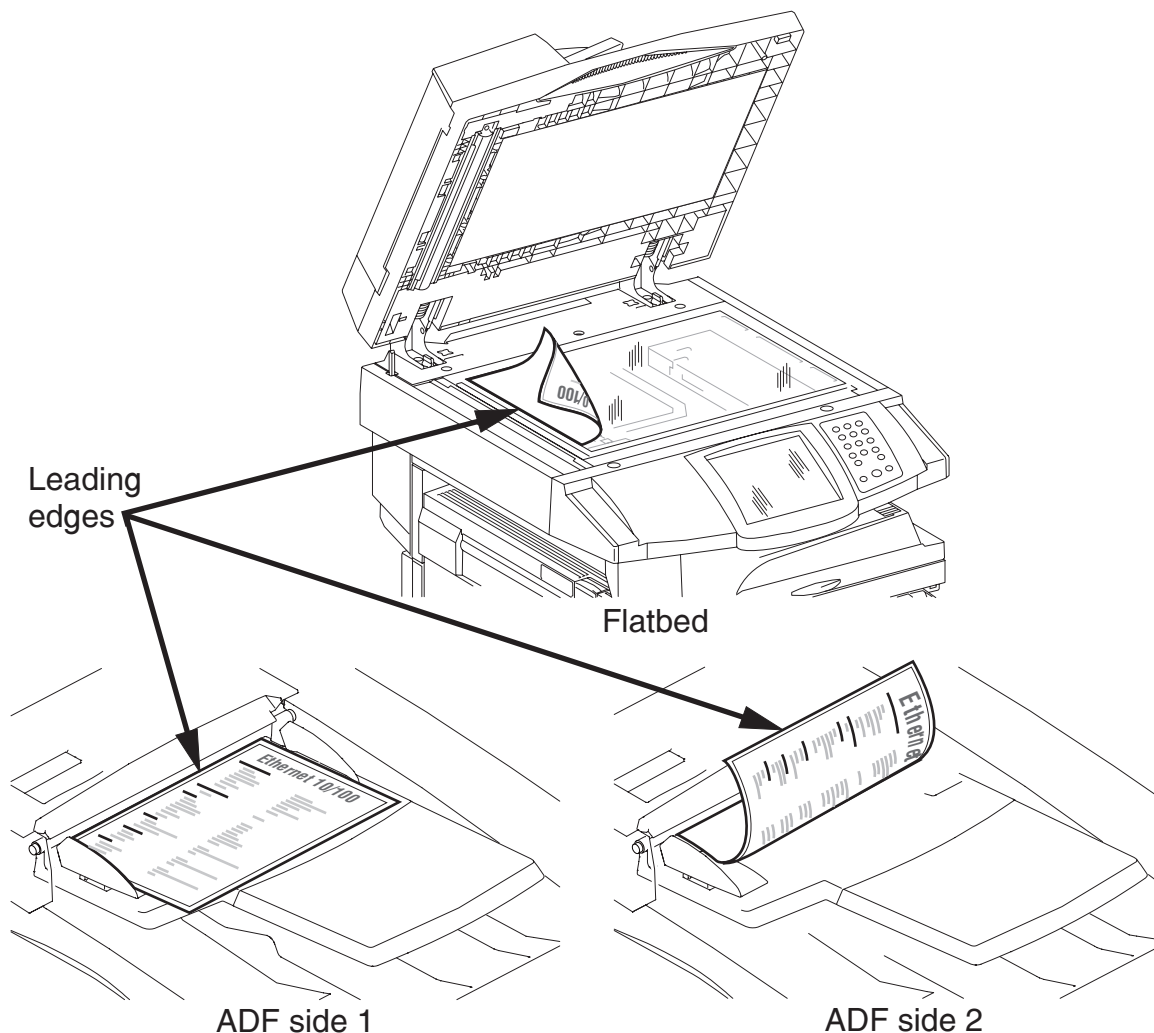
**Note:** Machine must be in Standard User Mode.

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.

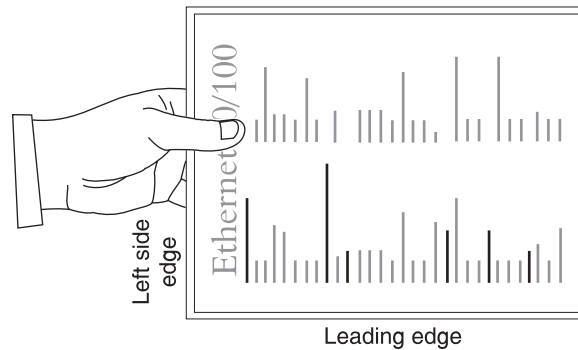
1. Place the Network Setup Page on the flatbed scanner according to the graphic below.
2. Make a copy of the Network Setup Page, and mark it "Flatbed".
3. Place the Network Setup Page, image side up, in the ADF according to the diagram below. This will be the ADF side 1 registration test.
4. Make a copy 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**.

4. Make required adjustments, and touch **Submit**.

**Note:** All reference to Side Registration in the graphic below refers to the left side edge.

Scanner Manual Registration

Flatbed Side Registration

◀

XX

▶

Flatbed Lead Registration

◀

XX

▶

ADF Side 1 Side Registration

◀

XX

▶

ADF Side 1 Lead Registration

◀

XX

▶

ADF Side 2 Side Registration

◀

XX

▶

ADF Side 2 Lead Registration

◀

XX

▶

Submit

△ Status  
Supplies

Back

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 <sup>1</sup>	Units
Flatbed Side Registration <sup>2</sup>	0–240	1/300 inch
Flatbed Lead Registration <sup>3</sup>	16–184	1/300 inch
ADF Side1 Side Registration <sup>4</sup>	0–240	1/300 inch
ADF Side1 Lead Registration <sup>5</sup>	0–214	1/300 inch
ADF Side2 Side Registration <sup>4</sup>	0–240	1/300 inch
ADF Side2 Lead Registration <sup>5</sup>	0–214	1/300 inch

<sup>1</sup>Each 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

<sup>2</sup>Decreasing 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.



<sup>3</sup>Decreasing 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.

<sup>4</sup>Decreasing 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.

<sup>5</sup>Decreasing 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.

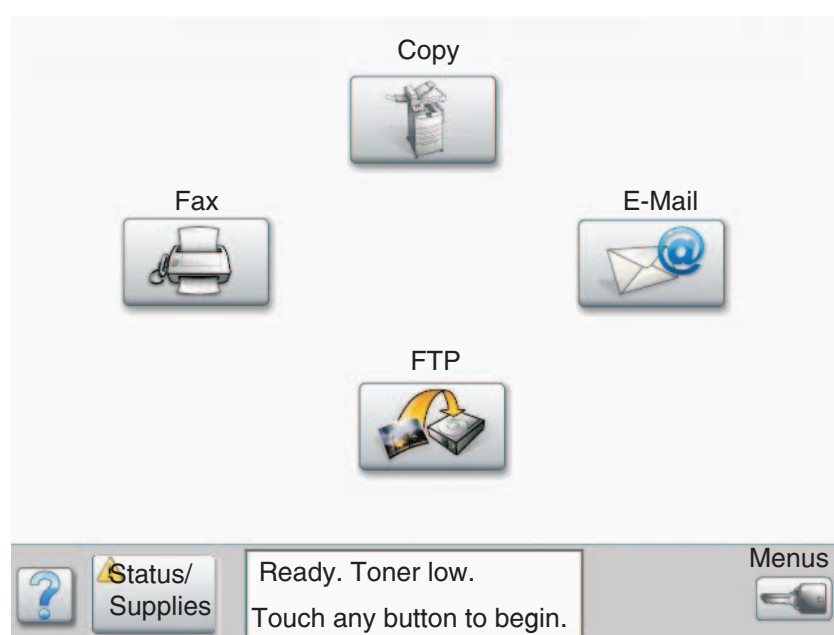
Chain-Function	Values
715-050	89
715-053	127
711-140	183
711-141	193
715-110	124
715-111	127

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

Maintenance Counter Value	See <b>"Maintenance Counter Value"</b> on page 3-37.
Reset Maintenance Counter	See <b>"Reset Maintenance Counter"</b> on page 3-37.
USB Scan to Local	
Black Only Mode	
Print Quality Pages	See <b>"USB Scan to Local"</b> on page 3-38.
SIZE SENSING	See <b>"SIZE SENSING"</b> on page 3-39.
Tray 1 Sensing	
Tray 2 Sensing	
Tray 3 Sensing	
Tray 4 Sensing	
Statement/A5	See <b>"A5/Statement"</b> on page 3-40.
Executive/B5	See <b>"B5/Executive"</b> on page 3-40.
Panel Menus	See <b>"Panel Menus"</b> on page 3-40.
PPDS Emulation	See <b>"PPDS Emulation"</b> on page 3-40.
Factory Defaults	See <b>"Energy Conserve"</b> on page 3-41.
Energy Conserve	See <b>"Energy Conserve"</b> on page 3-41.
Min Copy Memory	See <b>"Min Copy Memory"</b> on page 3-41.
Format Fax Storage	See <b>"Format Fax Storage"</b> on page 3-42.
EVENT LOG	See <b>"EVENT LOG (Configuration Menu)"</b> on page 3-42.
ADF Edge Erase	See <b>"ADF Edge Erase"</b> on page 3-42.
FB Edge Erase	See <b>"FB Edge Erase"</b> on page 3-42.
Paper Prompts	See <b>"Paper Prompts"</b> on page 3-43.
Envelope Prompts	See <b>"Envelope Prompts"</b> on page 3-43.
Jobs On Disk	See <b>"Jobs On Disk"</b> on page 3-43.
Disk Encryption	See <b>"Disk Encryption"</b> on page 3-43.
Wipe Disk	See <b>"Exiting Configuration Menu"</b> on page 3-50.
Font Sharpening	See <b>"Font Sharpening"</b> on page 3-48.
Require Standby	See <b>"Require Standby"</b> on page 3-49.
Short edge Printing	See <b>"Short Edge Printing"</b> on page 3-49.
Tray Low Message	See <b>"Tray Low Message"</b> on page 3-49.
LES Application	See <b>"LES Applications"</b> on page 3-49.
Key Repeat Initial Delay	See <b>"Key Repeat Initial Delay"</b> on page 3-50.
Key Repeat Rate	See <b>"Key Repeat Rate"</b> on page 3-50.

Exiting Configuration Menu	See <b>“Exiting Configuration Menu”</b> on page 3-50.
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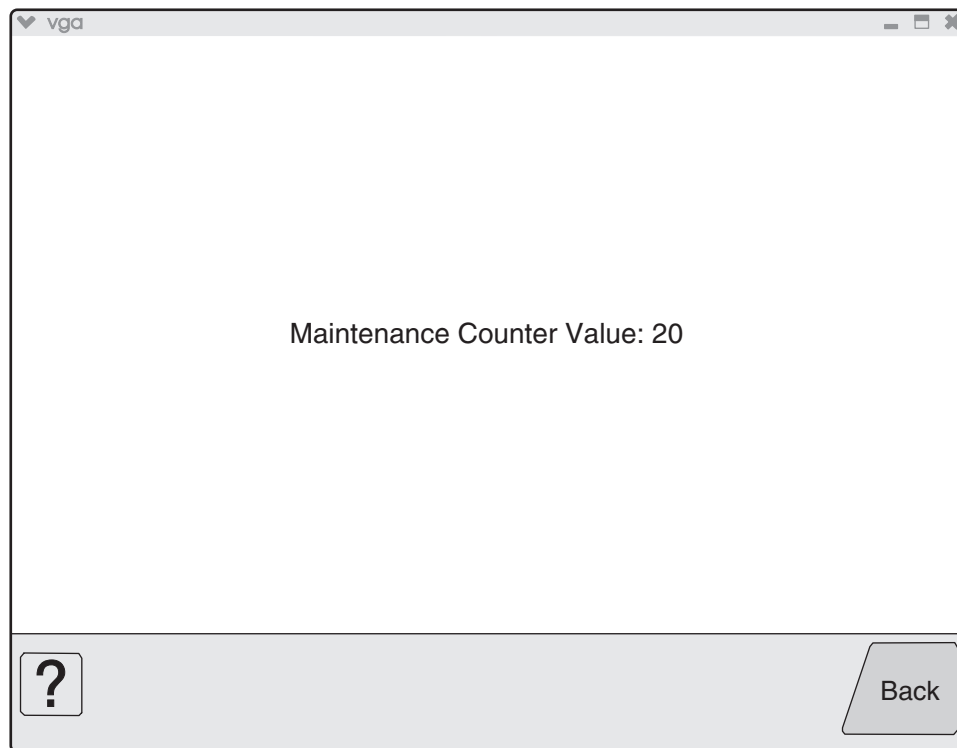
## Maintenance Counter Value

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 ◀ 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.

## ***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 ◀ 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.

## ***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.

Input source	Size sensing	
	Length	Width
Multipurpose feeder (integrated MPF)		✓
Tray 1 (integrated 520-sheet drawer)	✓	✓
Tray 2 (520-sheet drawer) 1TC, HCF, 3TM	✓	✓
Tray 3 (optional HCF 850-sheet drawer)		✓
Tray 4 (optional HCF 1150-sheet drawer)		✓
Tray 3 (optional 3TM 520-sheet drawer)	✓	✓
Tray 4 (optional 3TM 520-sheet drawer)	✓	✓

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 ◀ or ▶ 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 ◀ or ▶ 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 PJI 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 ◀ 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.

## 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 ◀ to decrease the setting's value; touch ▶ 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 ▶ 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.

## **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 ◀ or ▶ 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 touch-screen.
2. Touch ◀ or ▶ 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:

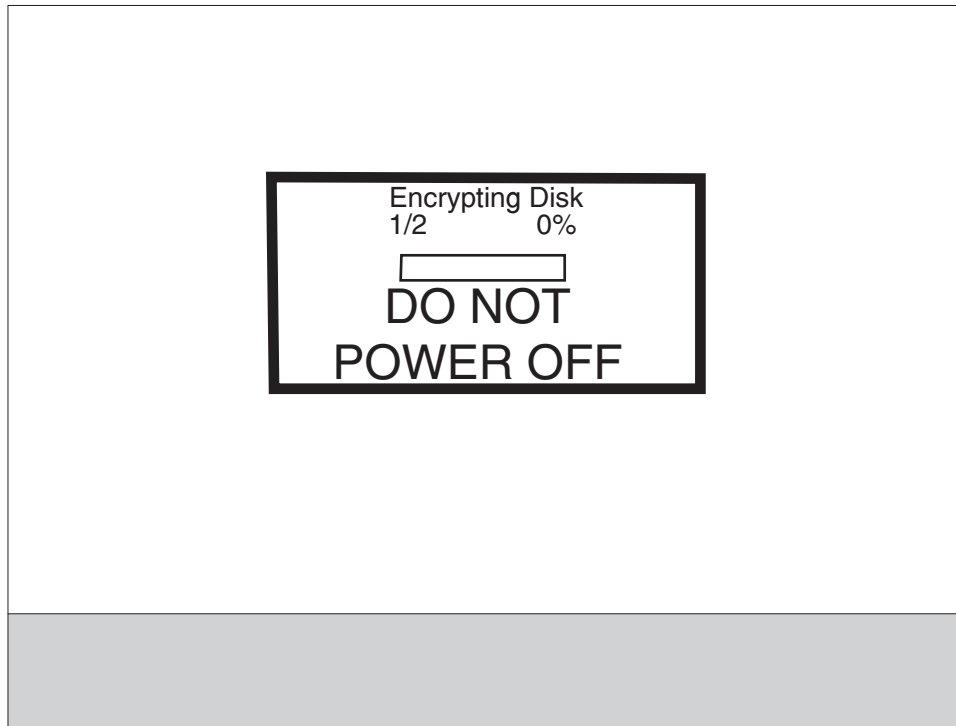
1. Touch **Disk Encryption** from the Configuration Menu.

**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.

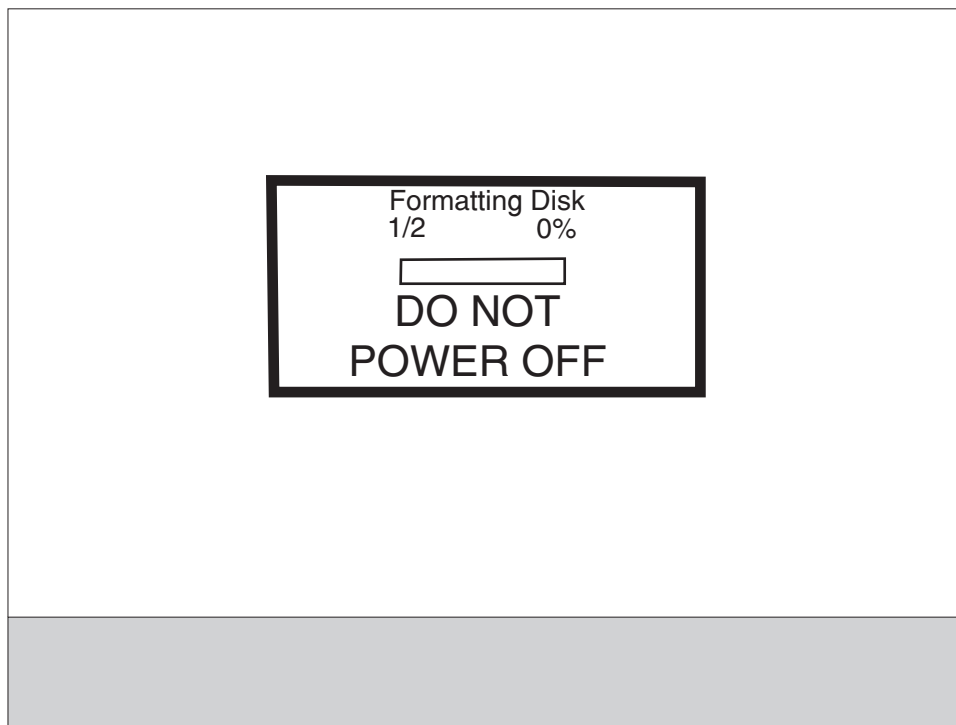
2. Touch **Submit** to save the change.
3. Touch **Back** to cancel and return to the Configuration Menu.

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:



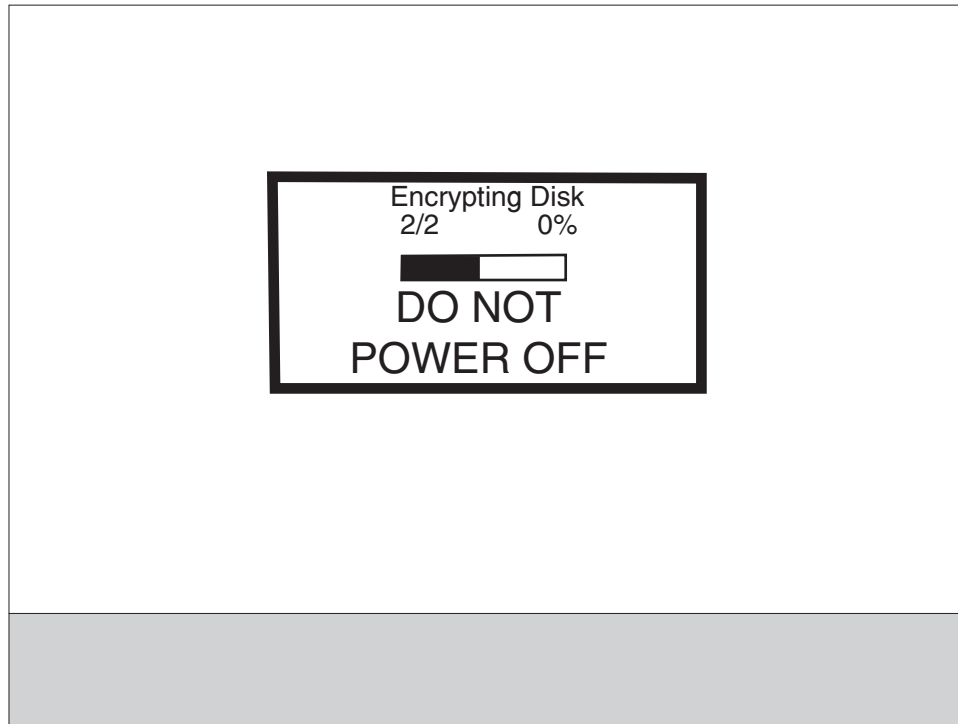
The following graphic appears when the formatting process is selected:

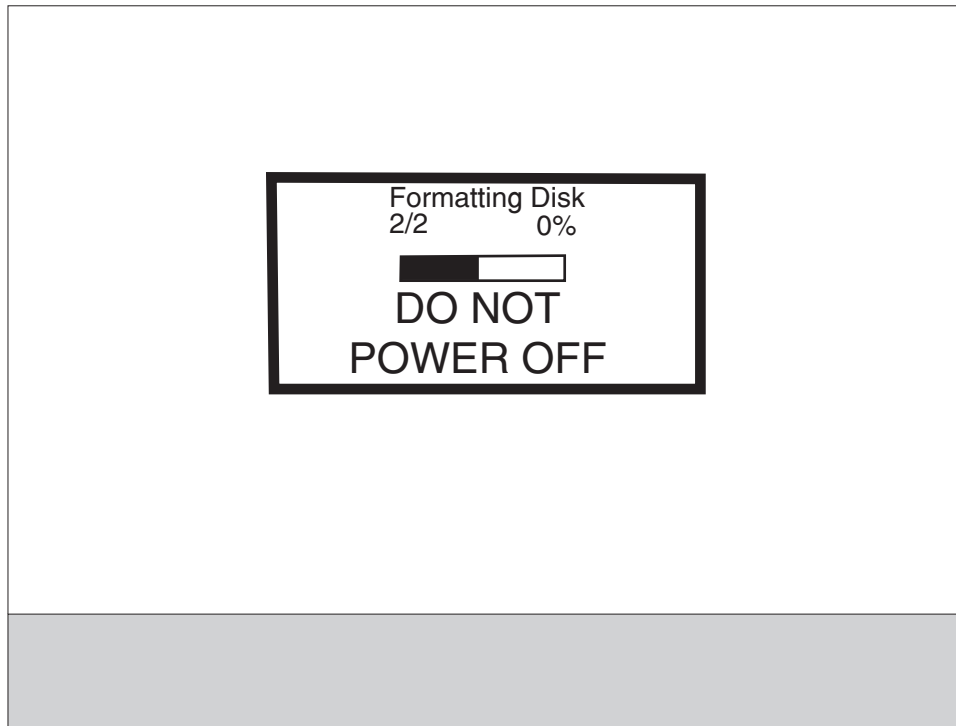


The panel provides many progress indicators during the two-stage process.

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.

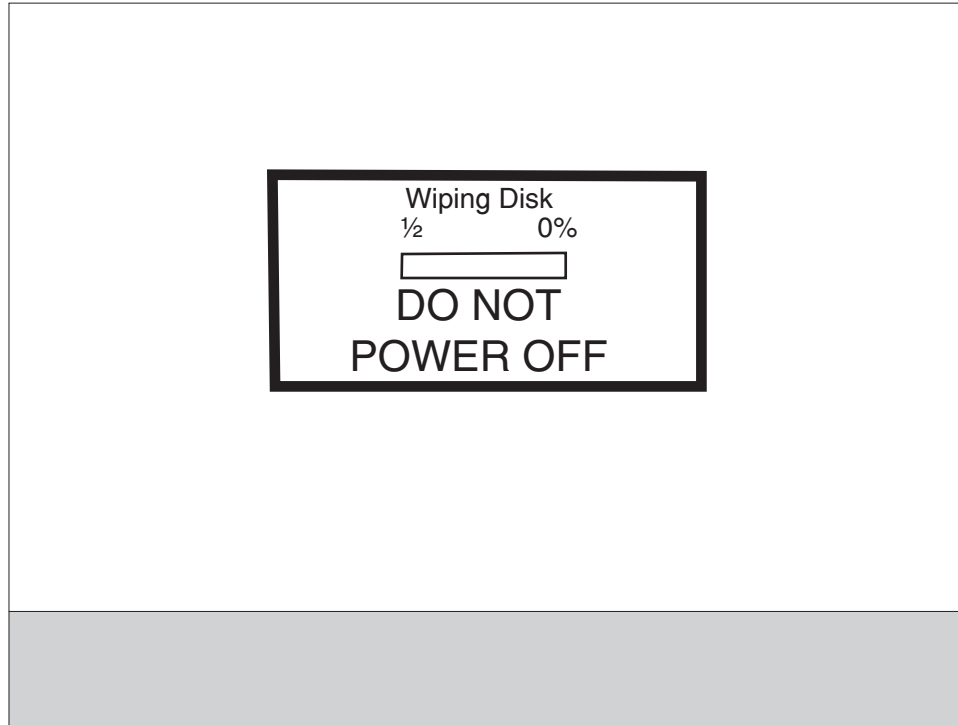
To change this setting:

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.

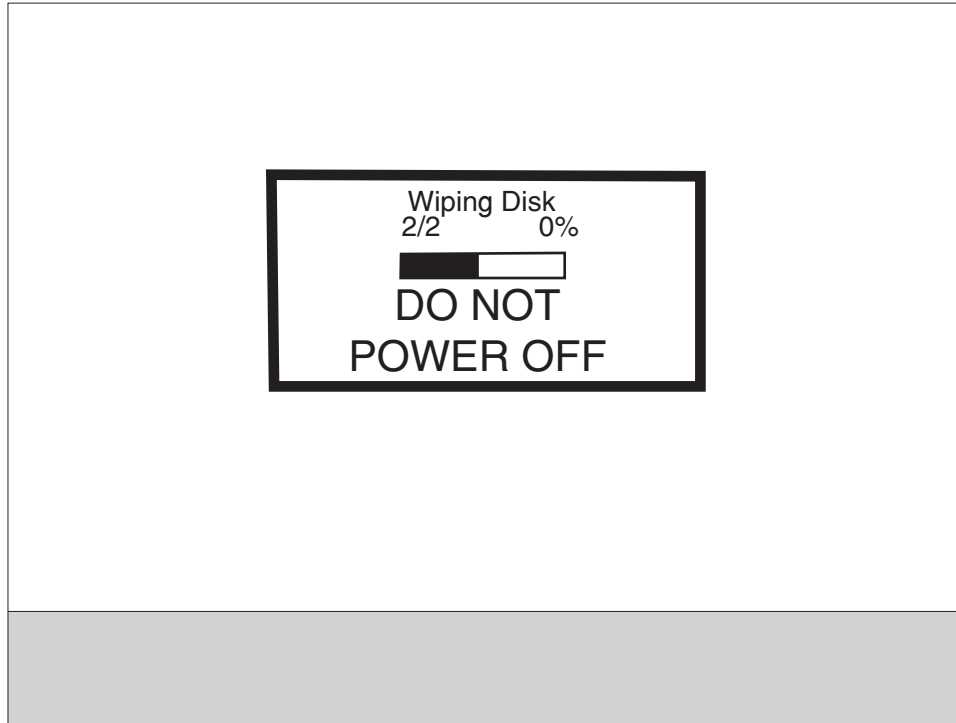
If you touch **No**, the device cancels the Wipe Disk process and returns to the Configuration Menu. If you touch **Yes**, the following screen appears:



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

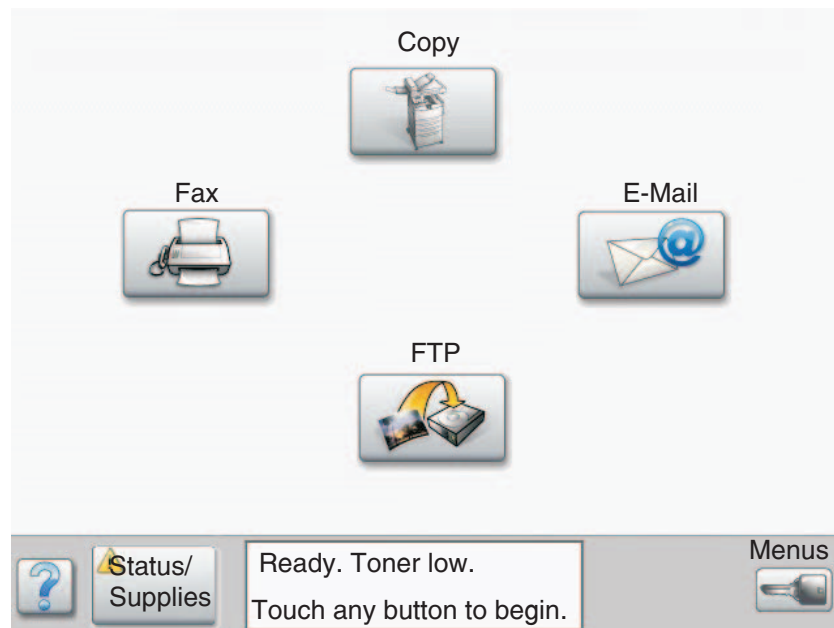
This is the number of times per second that a repeating key will repeat. The range is 1–100, with a default of 15 times per second.

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.

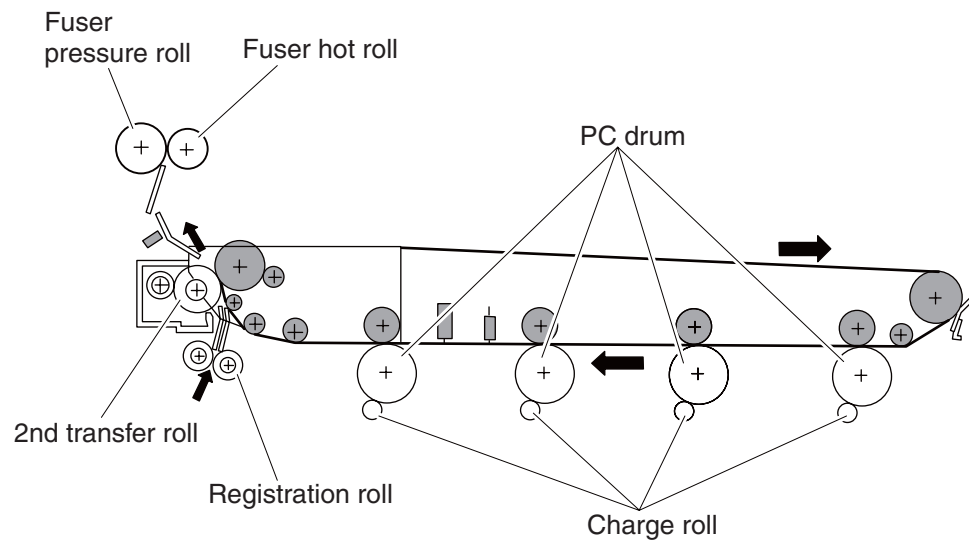
## Exiting Configuration Menu

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:



***Repeating defects***

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.

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## 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:**

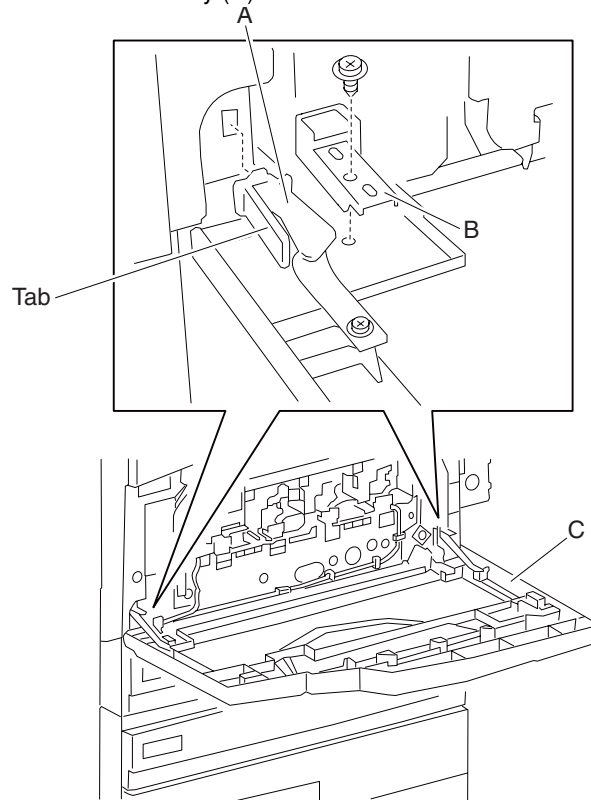
While performing service around the fuser assembly, ensure the fuser area has cooled down.

**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***

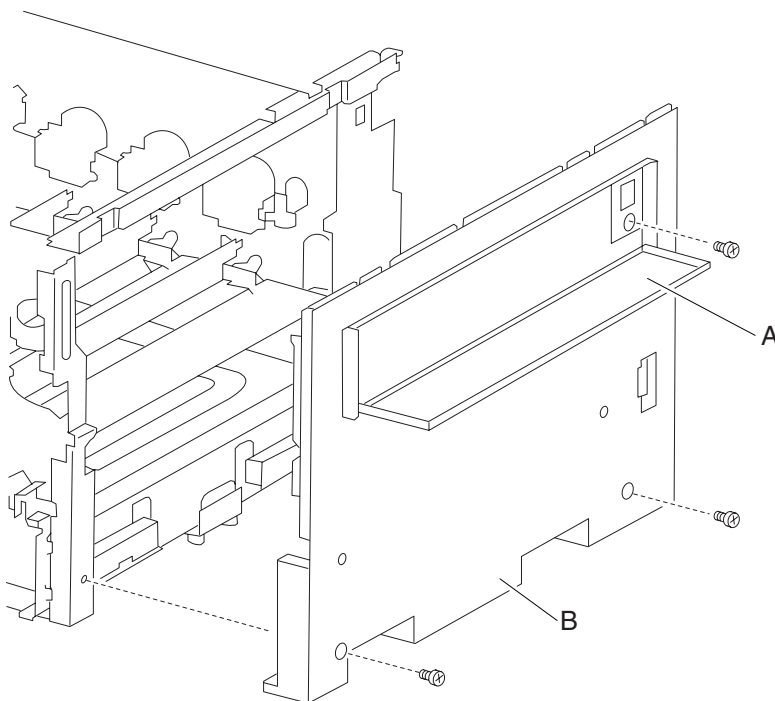
1. Open the printer front door assembly.
2. Press the tab, and rotate the two flexible supports (A) 90°, and pull from the machine.
3. Remove the two flexible supports (A).
4. Remove the two screws securing the two brackets (B) to the printer front door assembly (C).
5. Remove the two brackets (B).
6. Remove the printer front door assembly (C).



## Right cover assembly removal

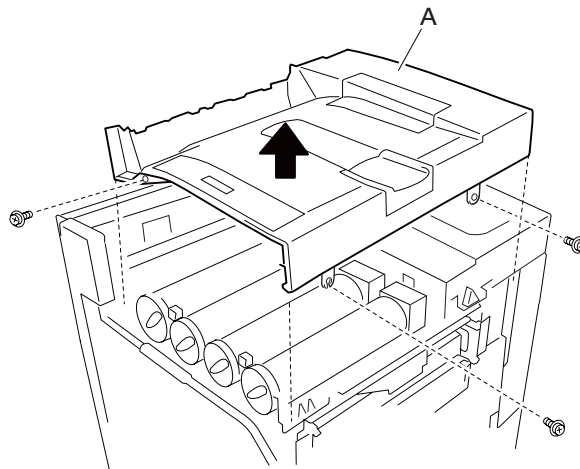
**Note:** Detach the finisher if equipped. Refer to the *MFP* or *Printer Finisher Service Manual*.

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

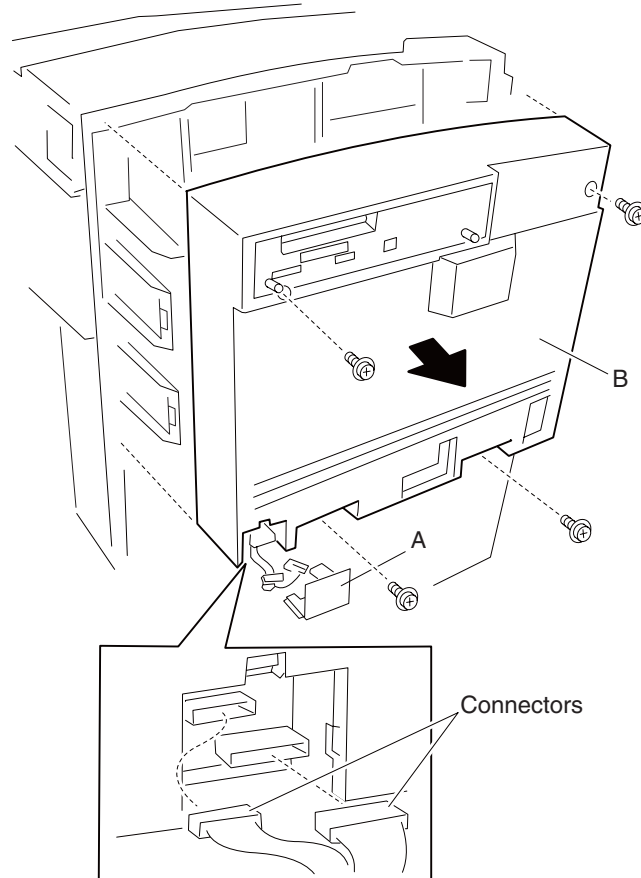
1. Remove the base machine from the scanner/ADF stand assembly.
2. Open the printer front door assembly.
3. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
4. Remove the right cover assembly. See **“Right cover assembly removal” on page 4-4.**
5. Remove the three screws securing the top cover assembly (A) to the machine.
6. Remove the top cover assembly (A).





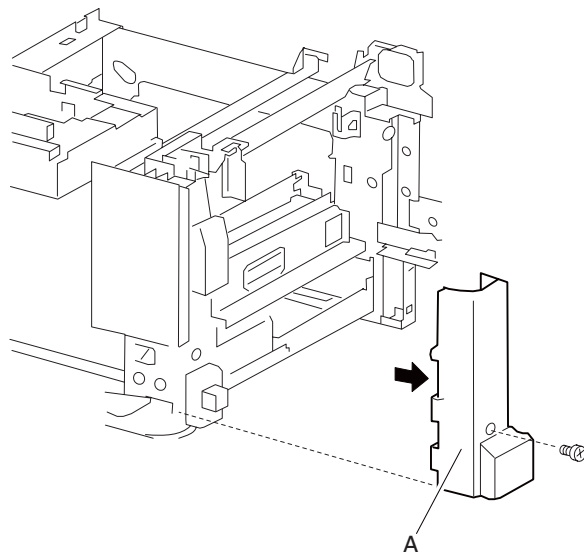
### ***Rear cover assembly removal***

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).



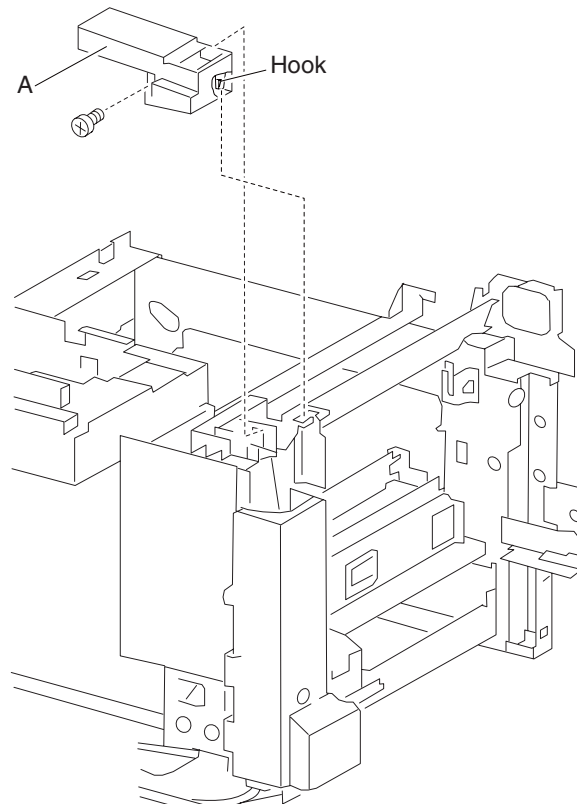
### ***Rear left middle cover removal***

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.



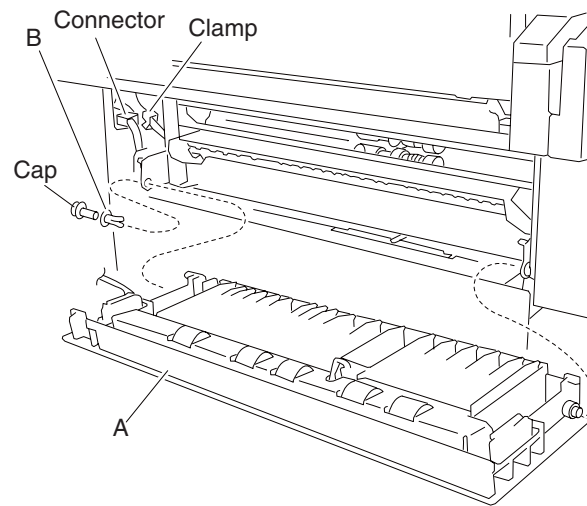
### ***Rear left upper cover removal***

1. 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).



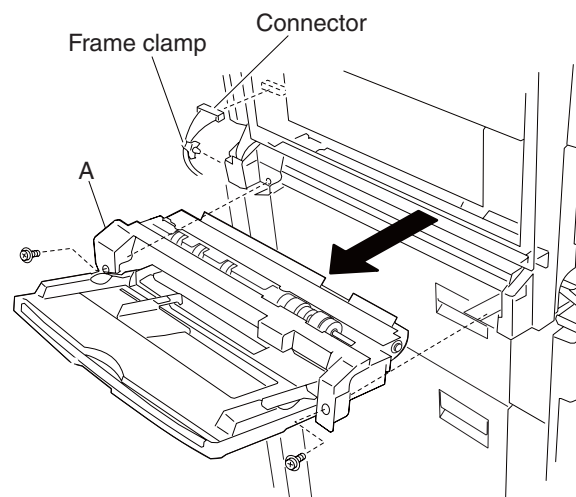
### ***Printer left lower door assembly removal***

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).



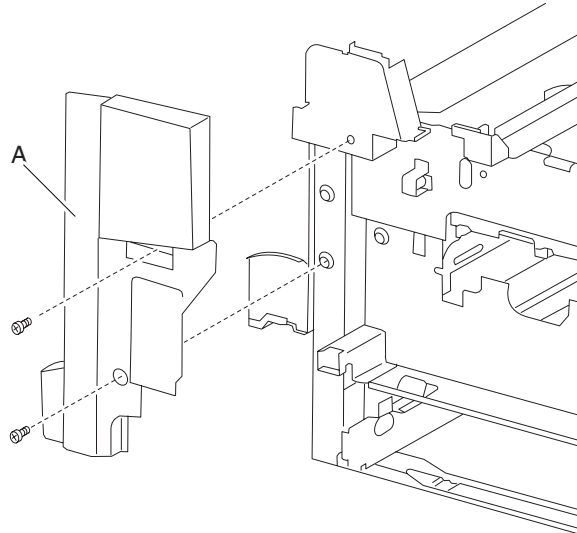
### ***MPF feed unit assembly removal***

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).



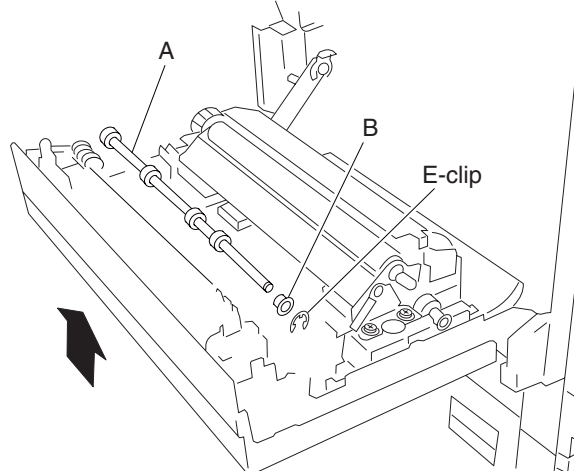
### ***Front left cover removal***

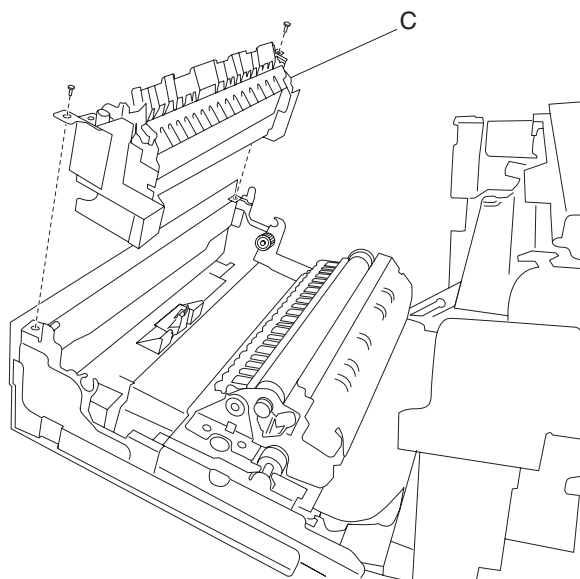
1. Open the printer front door assembly.
2. Remove the two screws securing the front left cover (A) to the machine.
3. Move the front left cover (A) up and pull out.
4. Remove the front left cover (A).



### ***Duplex media inverter assembly removal***

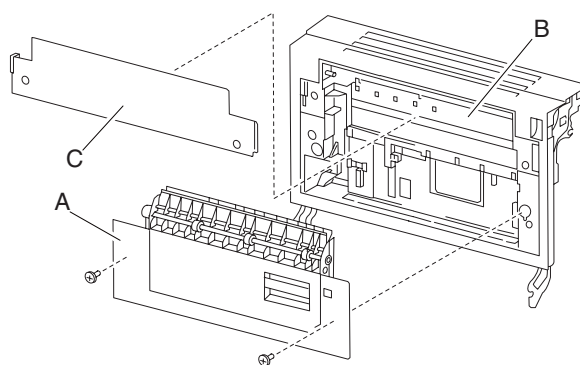
1. Open the printer left door assembly.
2. Remove the E-clip securing the fuser exit roll assembly (A) to the machine.
3. Remove the bushing (B).
4. Remove the fuser exit roll assembly (A).
5. Remove the two screws securing the duplex media inverter assembly (C).
6. Remove the duplex media inverter assembly (C).





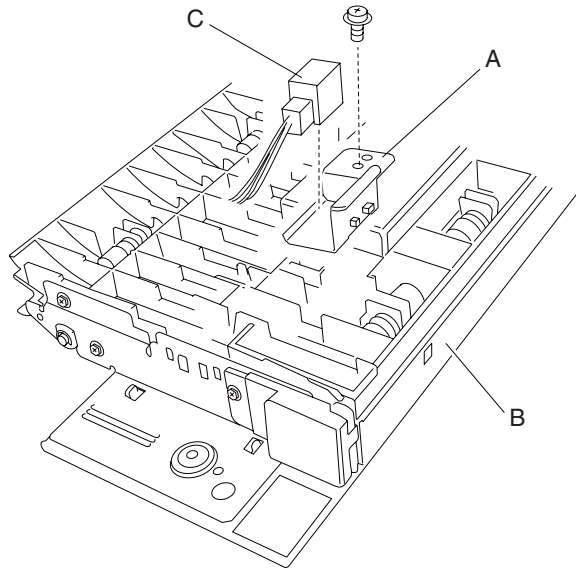
### ***Duplex unit assembly removal***

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).



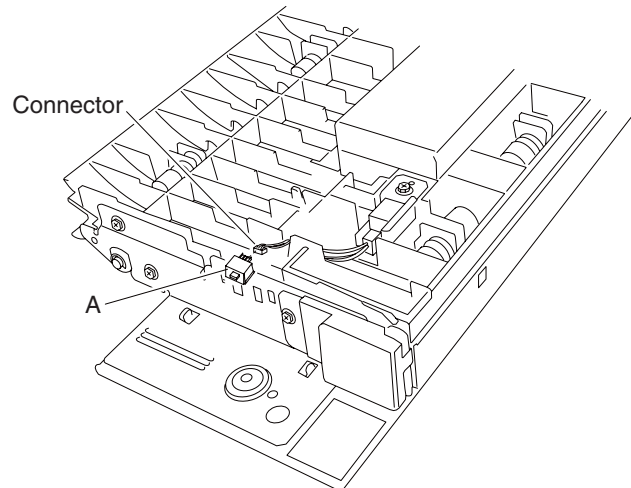
### ***Sensor (duplex wait) removal***

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).



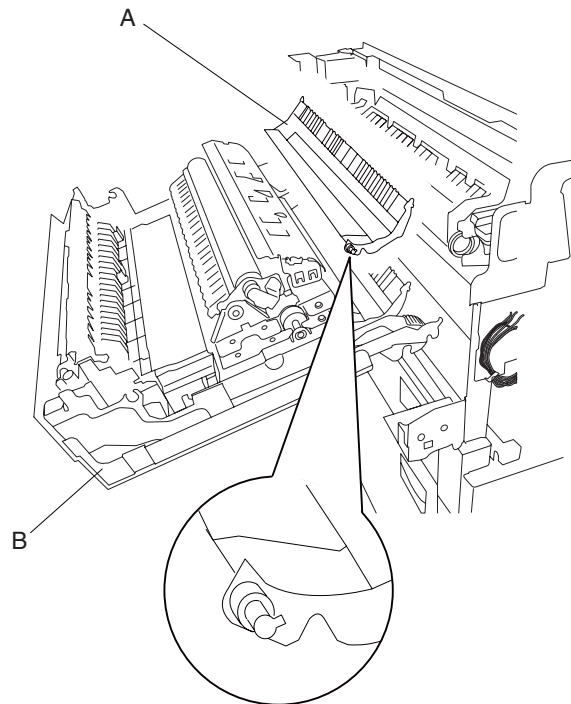
### ***Switch (duplex left door interlock) removal***

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).



### ***Duplex media exit turn guide removal***

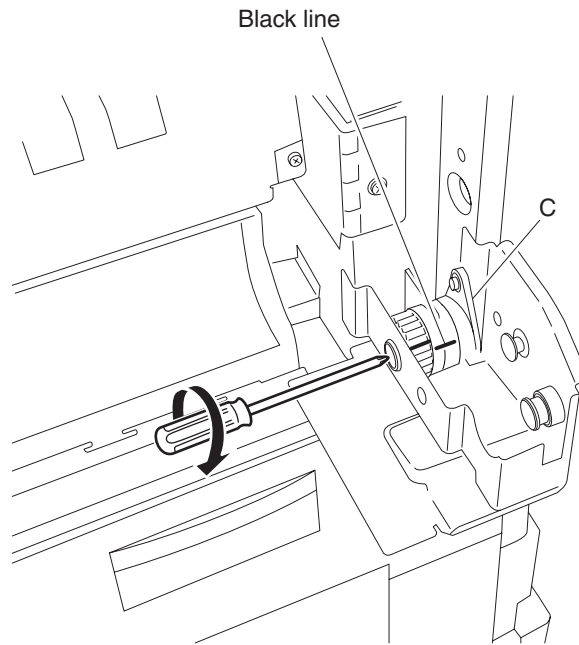
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear left middle cover. See **“Rear left middle cover removal” on page 4-6.**
3. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal” on page 4-8.**
4. Remove the printer left door assembly. See **“Printer left door assembly removal” on page 4-26.**
5. 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.

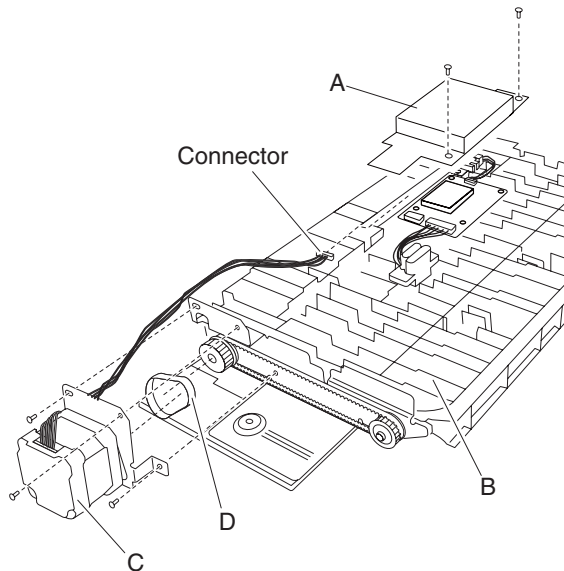


**Replacement note:** When replacing the printer left door assembly (B), ensure that the duplex media exit turn guide (A) is held up, or the printer left door assembly (B) will not close properly.



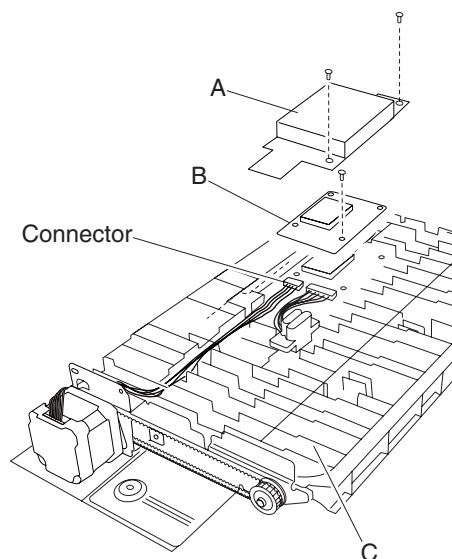
### **Duplex drive motor removal**

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).



### ***Duplex controller card assembly 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 (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).

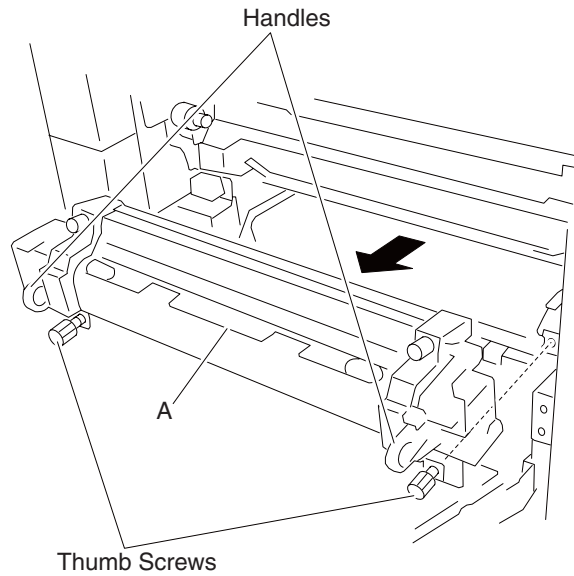


## Fuser unit assembly removal



**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.

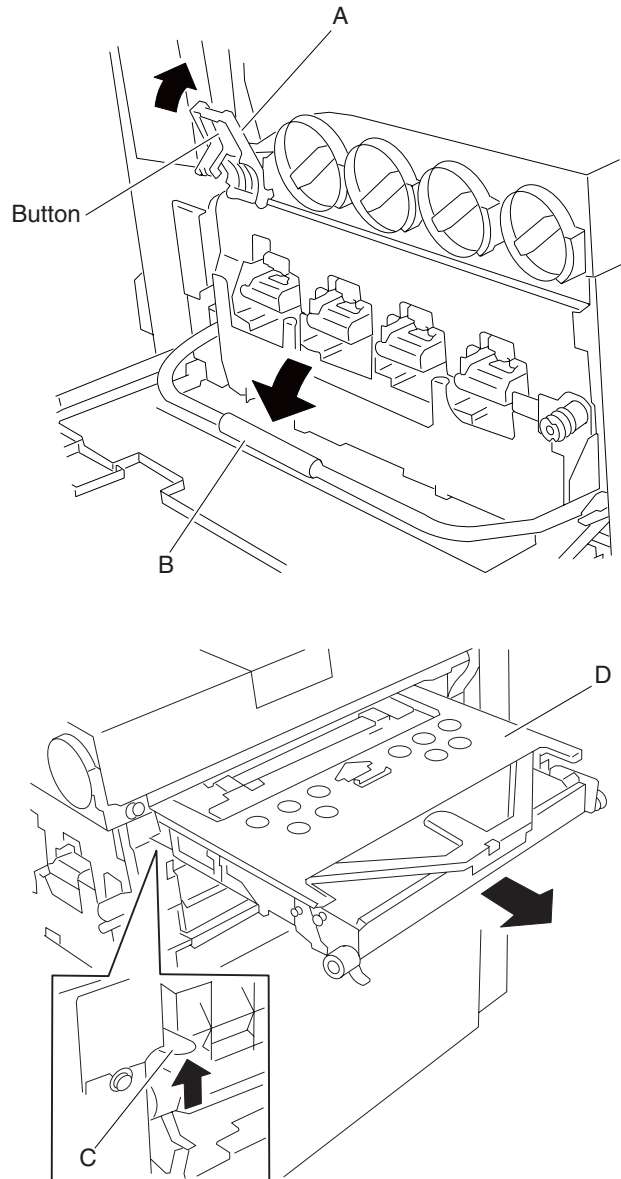


## Transfer belt unit assembly removal

**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.

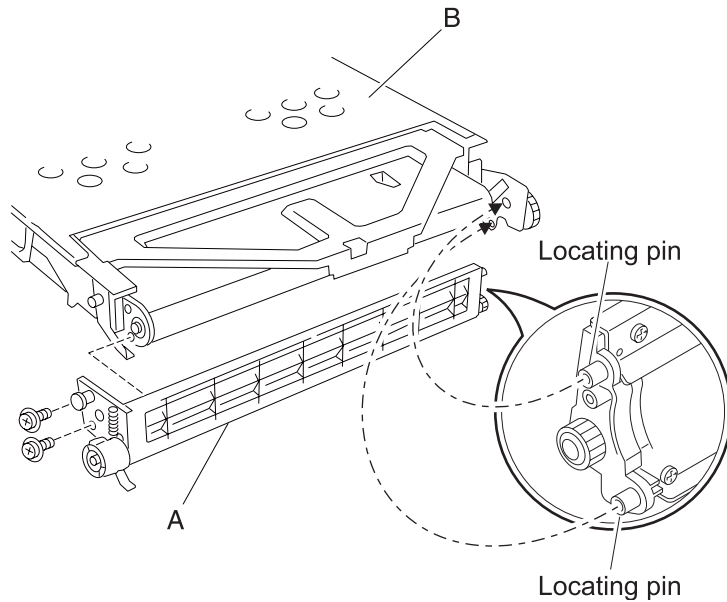
## Transfer belt cleaning assembly removal

**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.

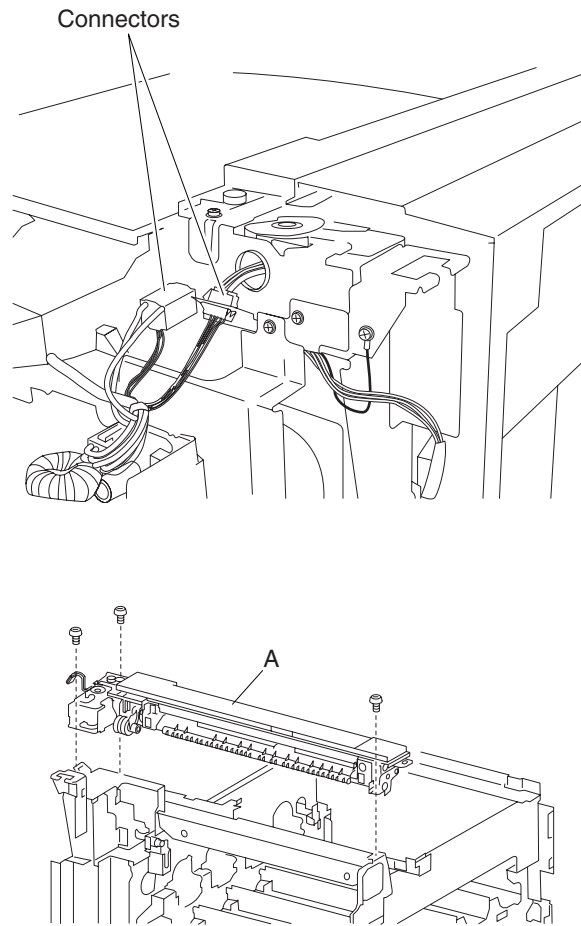


## Standard media exit shift assembly removal

1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**

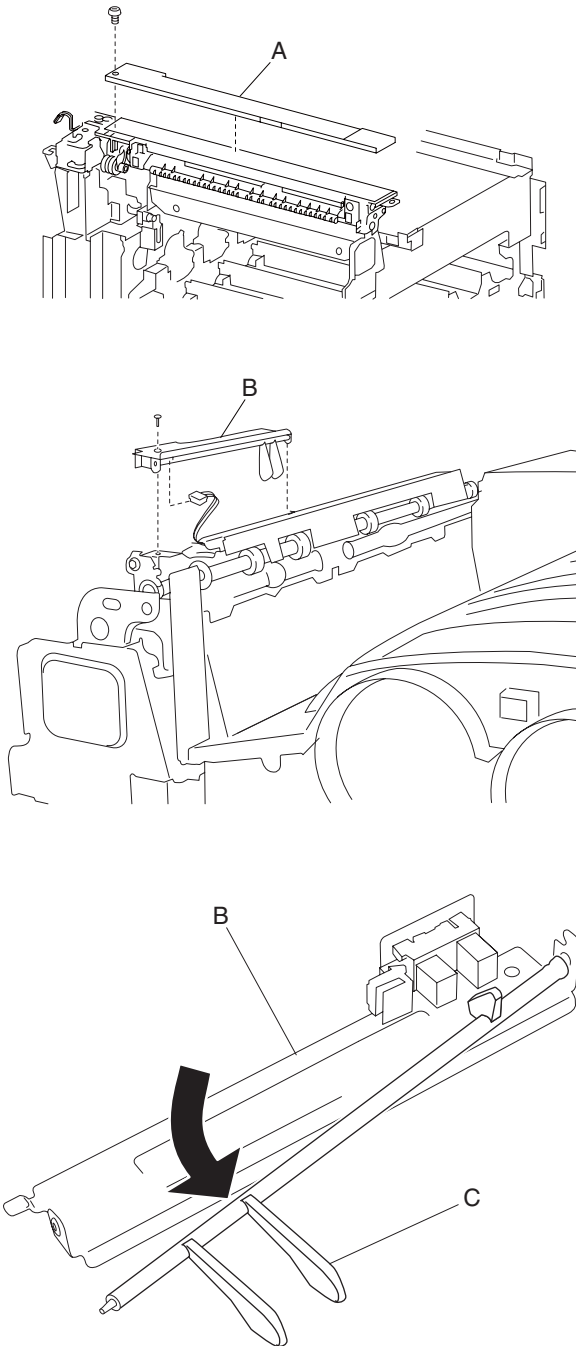
**Warning:** Ensure that the rear left middle cover is removed before removing the rear left upper cover, or damage will occur.

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***

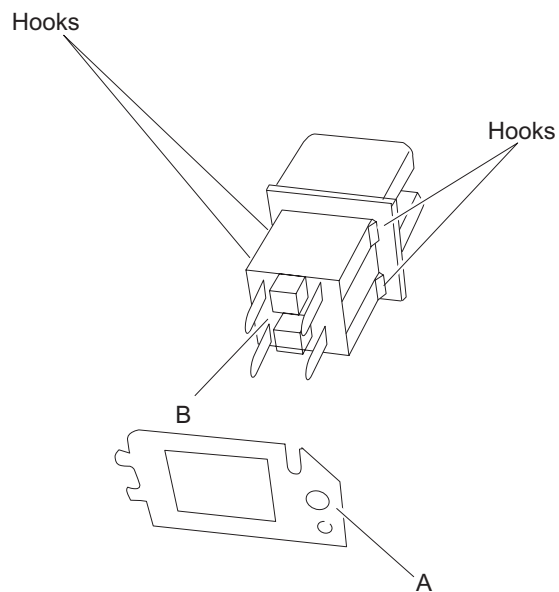
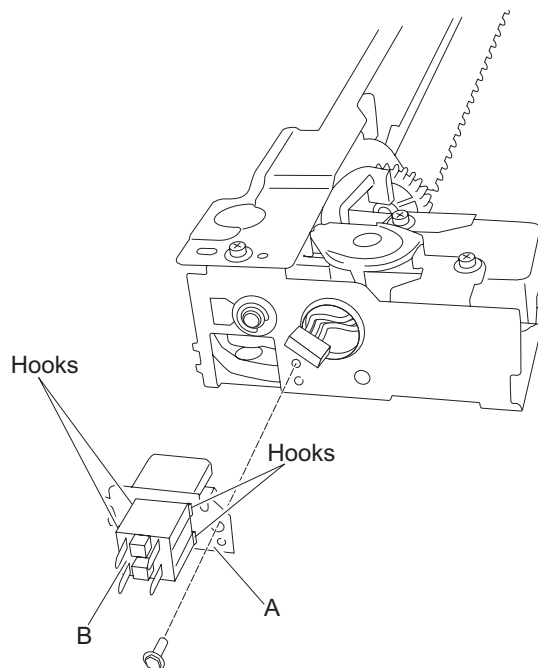
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**  
**Warning:** Ensure that the rear left middle cover is removed before removing the rear left upper cover, or damage will occur.
2. Remove the rear left middle cover. See **“Rear left middle cover removal” on page 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***

1. 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.**

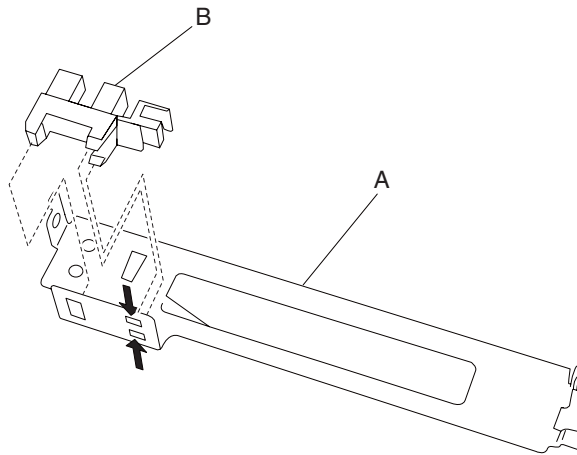
5. Remove the screw securing the bracket (A) to the standard media exit bin shift assembly.
6. Remove the bracket (A).
7. Release the hooks securing the switch (printer left door interlock) (B) to the bracket (A).
8. Remove the switch (printer left door interlock).





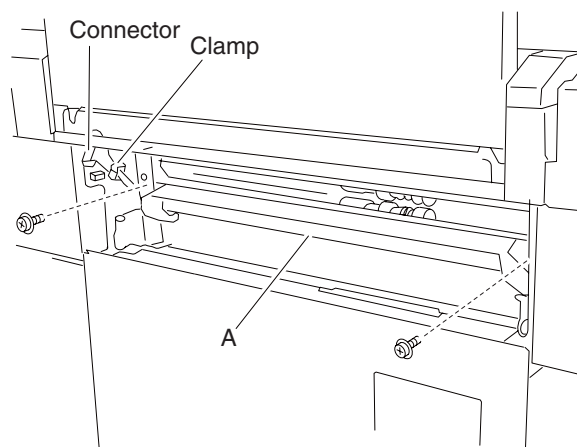
### **Sensor (standard media bin full) removal**

1. 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).



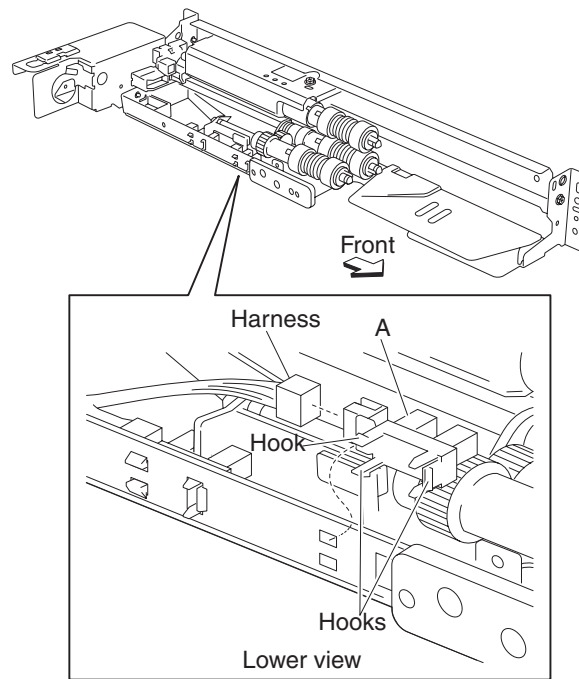
### **Media feed unit assembly 1 removal**

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).



### ***Sensor (media out) removal***

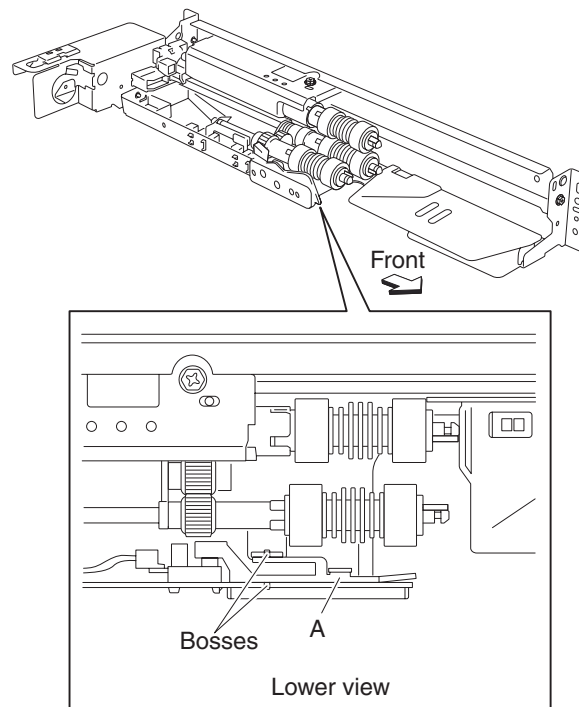
1. Remove the printer left lower door assembly. See **“Printer left lower door assembly removal” on page 4-8.**
2. Remove the media feed unit assembly. See **“Media feed unit assembly 1 removal” on page 4-21.**
3. Remove the media feed unit assembly. See **“Media feed lift motor removal” on page 4-112.**
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***

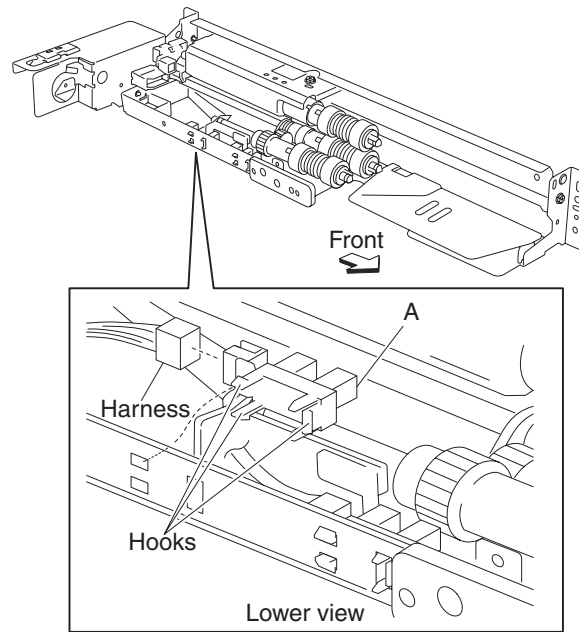
1. Remove the media feed unit assembly. See **“Media feed unit assembly 1 removal” on page 4-21.**
2. Remove the media feed unit assembly. See **“Media feed lift motor removal” on page 4-112.**
3. Release the two bosses on the media out actuator (A) from the media feed unit assembly.

4. Remove the media out actuator (A).



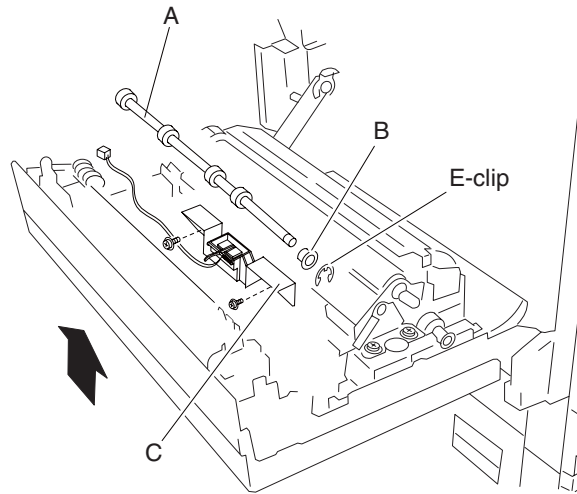
### ***Sensor (media level) removal***

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***

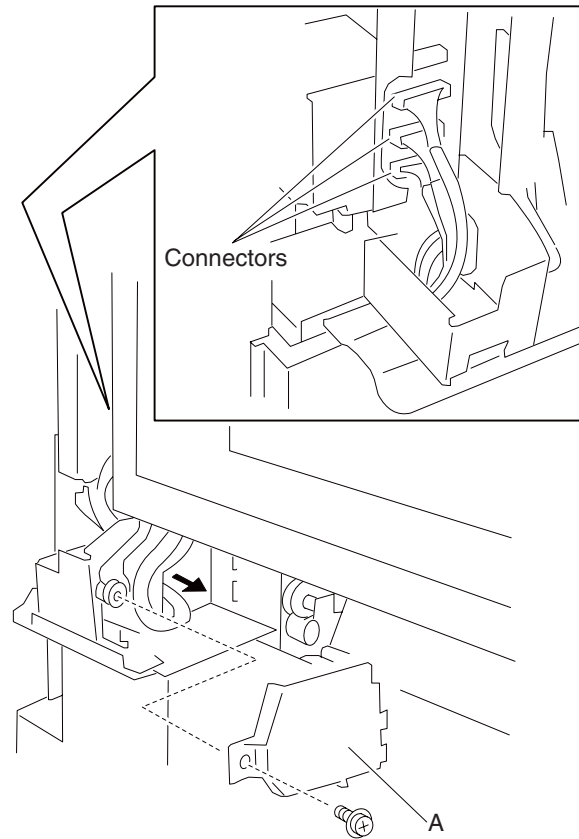
1. Open the printer left door assembly.
2. Remove the E-clip securing the fuser exit roll assembly (A) to the machine.
3. Remove the bushing (B).
4. Remove the fuser exit roll assembly (A).
5. Remove the two screws securing the sensor (fuser exit) (C) to the machine.
6. Remove the sensor (fuser exit) (C).
7. Release the harness from the clamps.
8. Disconnect the connector from the sensor (fuser exit) (C).



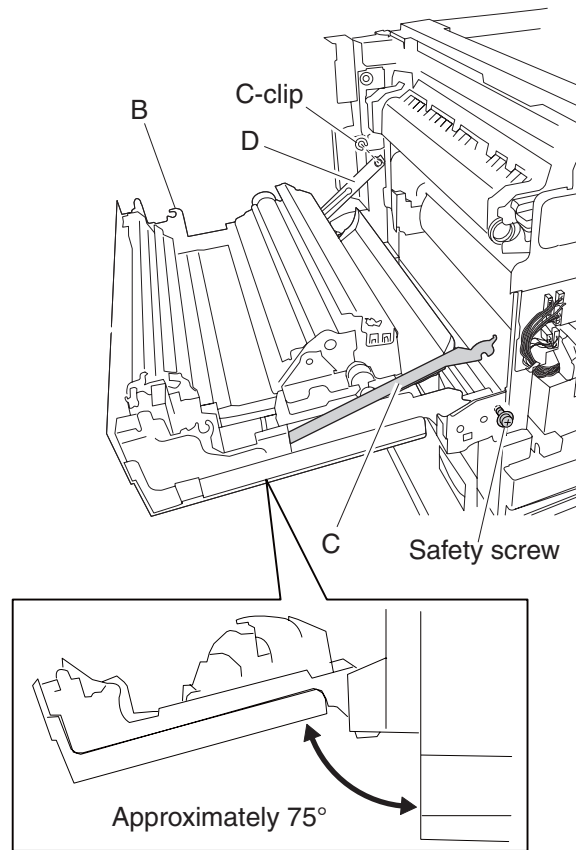
**Replacement note:** When replacing the sensor (fuser exit), ensure that any shims that may be present beneath the old sensor are placed beneath the new sensor.

## Printer left door assembly removal

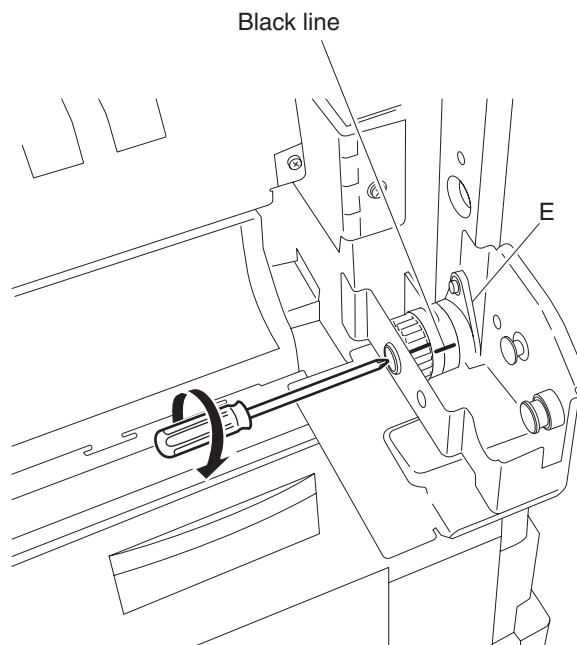
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear left middle cover. See **“Rear left middle cover removal” on page 4-6.**
3. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal” on page 4-8.**
4. Remove the screw securing the connector access cover (A) to the machine.
5. Remove the connector access cover (A).

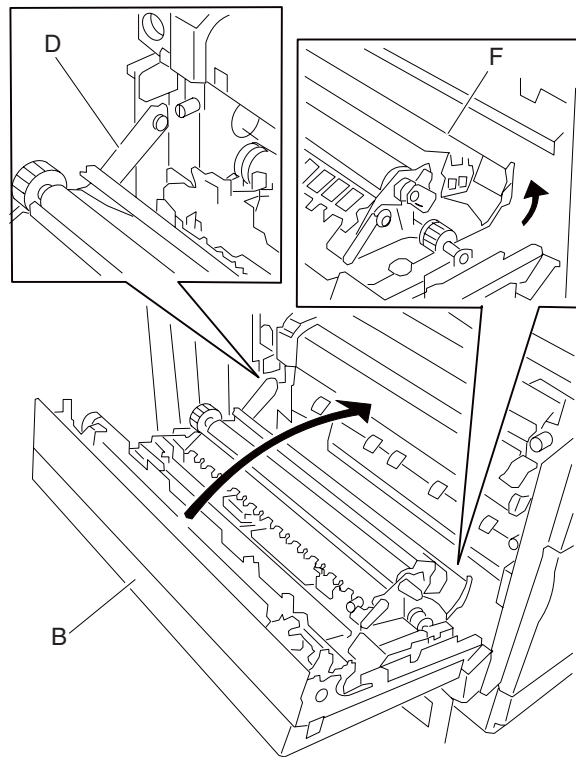


6. Disconnect the three connectors from the printer left door assembly (B).
7. Gently pull the harnesses through the hole in the machine frame.
8. Open the printer left door assembly (B).
9. Remove the front left cover. See **“Front left cover removal” on page 4-9.**
10. Remove the safety screw from 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.





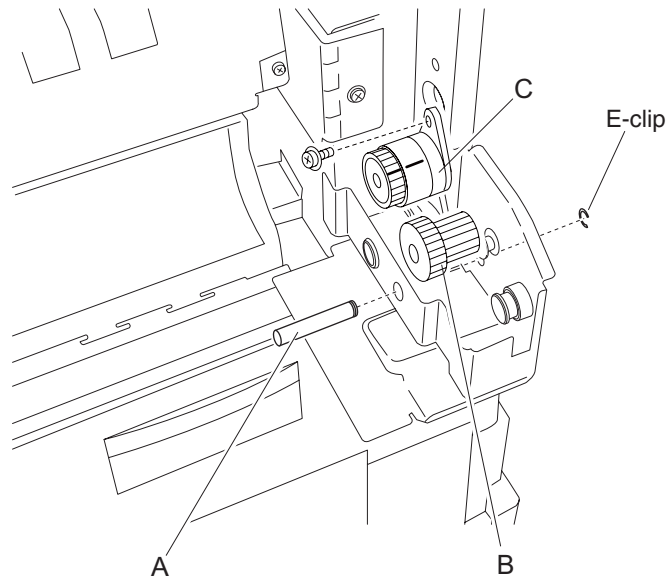
**Replacement warning:** When replacing the printer left door assembly (B), ensure that the duplex media exit turn guide (F) is held in its upper-most position, or the printer left door assembly (B) will not close properly.

### ***Printer left door damper removal***

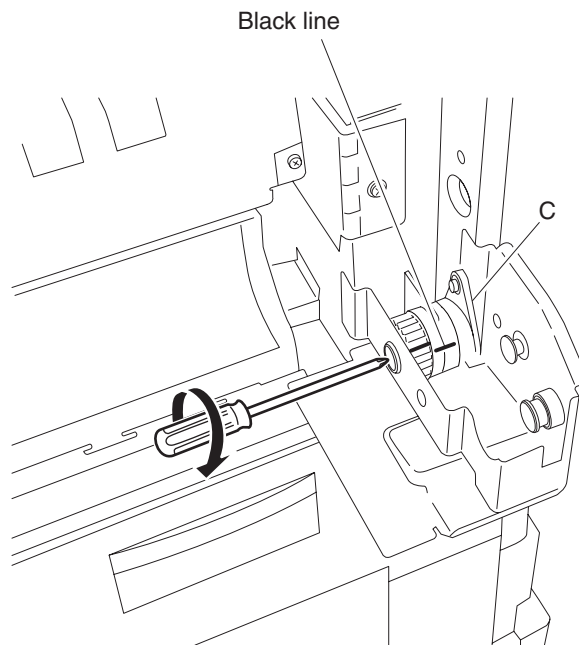
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear left middle cover. See **“Rear left middle cover removal” on page 4-6.**
3. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal” on page 4-8.**
4. Remove the printer left door 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.



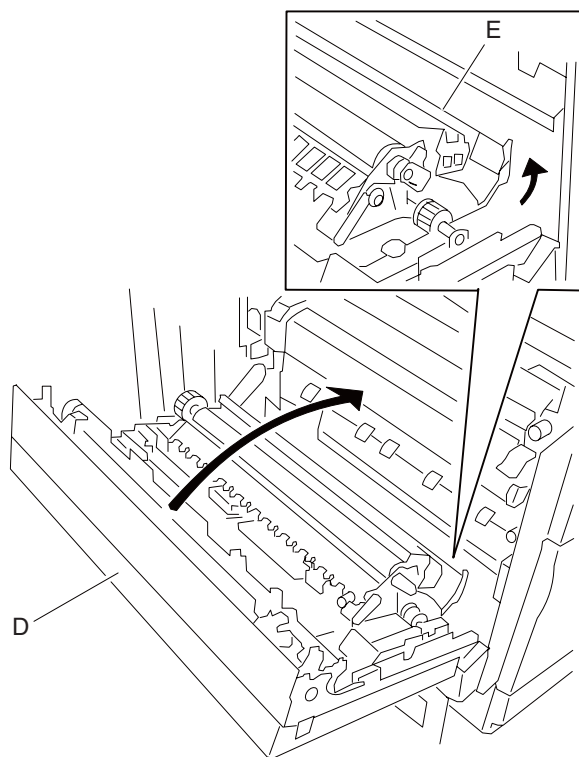
9. Remove the printer left door damper (C).



**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.

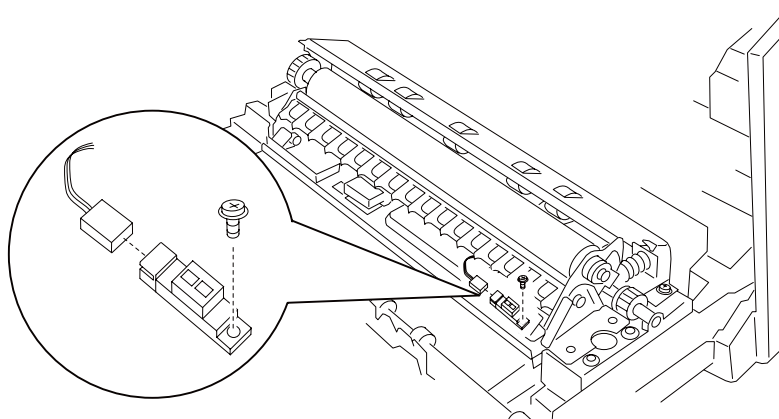


**Replacement warning:** When replacing the printer left door assembly (D), ensure that the duplex media exit turn guide (E) is held in its upper-most position, or the printer left door assembly (D) will not close properly.



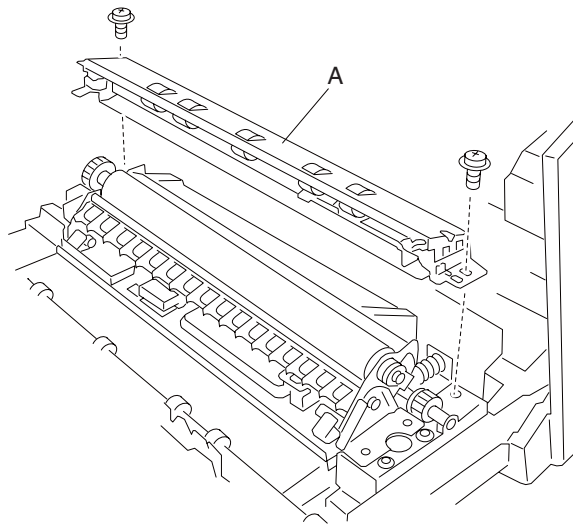
### ***Sensor (media on belt) removal***

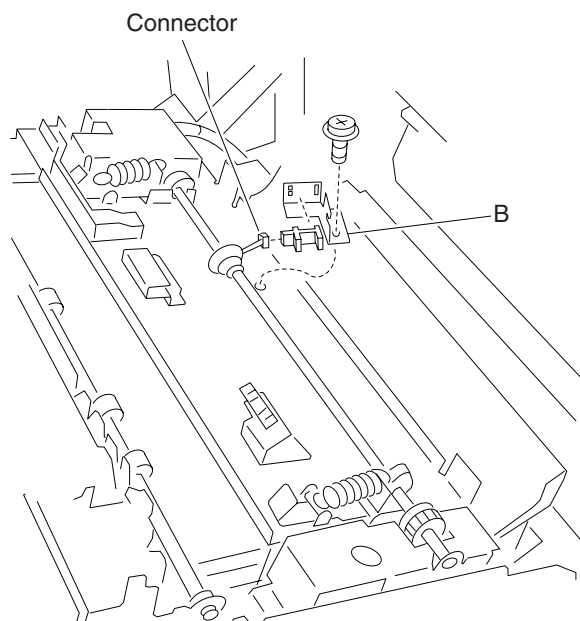
1. Open the printer left door assembly.
2. Remove the screw securing the sensor (media on belt) (A) to the machine.
3. Disconnect the connector from the sensor (media on belt) (A).
4. Remove the sensor (media on belt) (A).



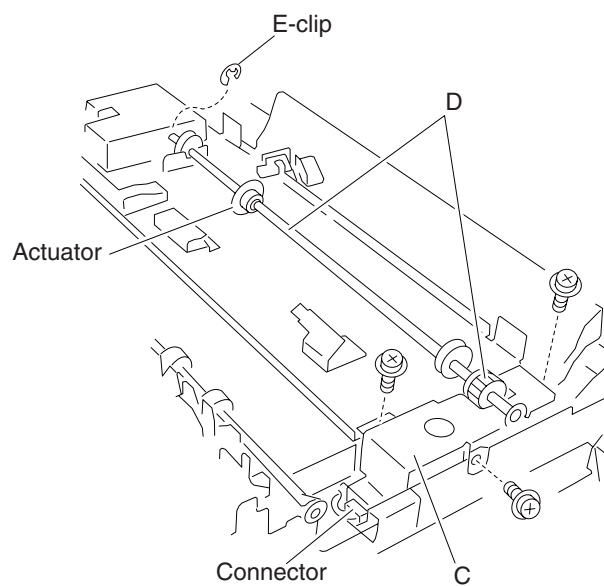
## 2nd transfer roll retract cam assembly removal

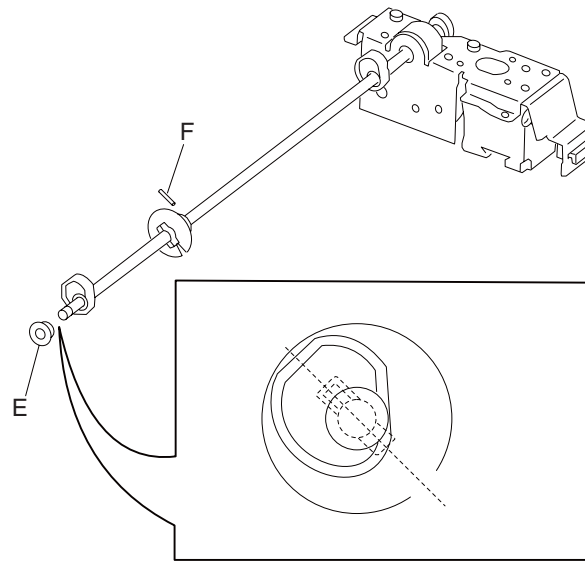
1. Remove the 2nd transfer roll assembly. See **"2nd transfer roll assembly removal"** on page 4-35.
2. Remove the two screws securing the registration pinch guide assembly (A) to the machine.
3. Remove the registration pinch guide assembly (A).
4. Remove the screw securing the bracket (B) to the machine.
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.
10. 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).





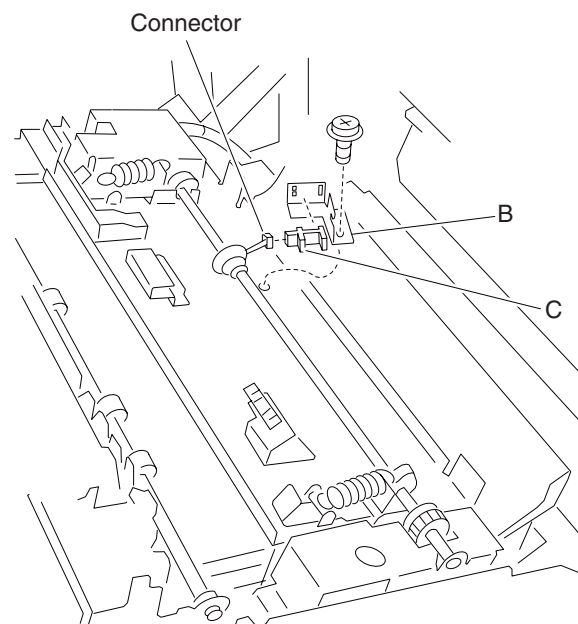
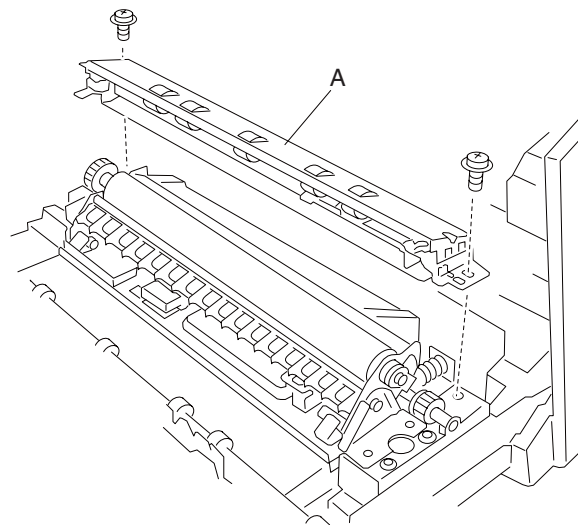
**Replacement note:** When reinstalling the transfer roll retract cam assembly (D), ensure that the bushing (E), pin (F), and washer are replaced.





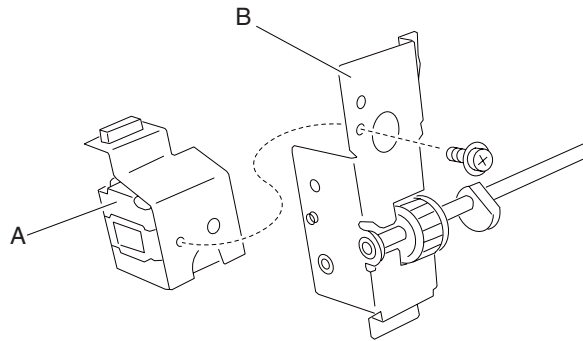
### **Sensor (2nd transfer roll retract HP) removal**

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).



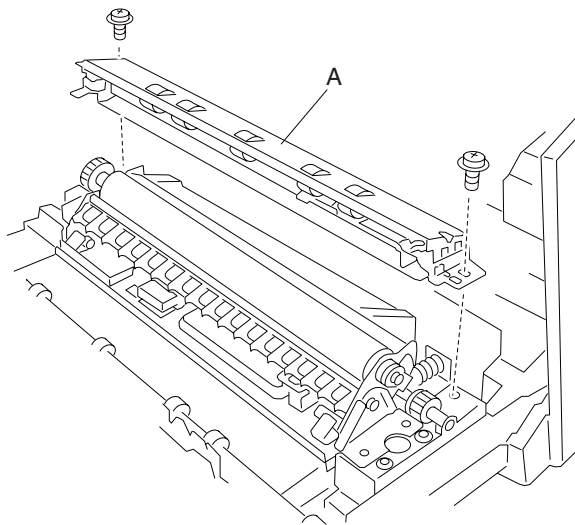
## 2nd transfer roll retract motor assembly removal

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).



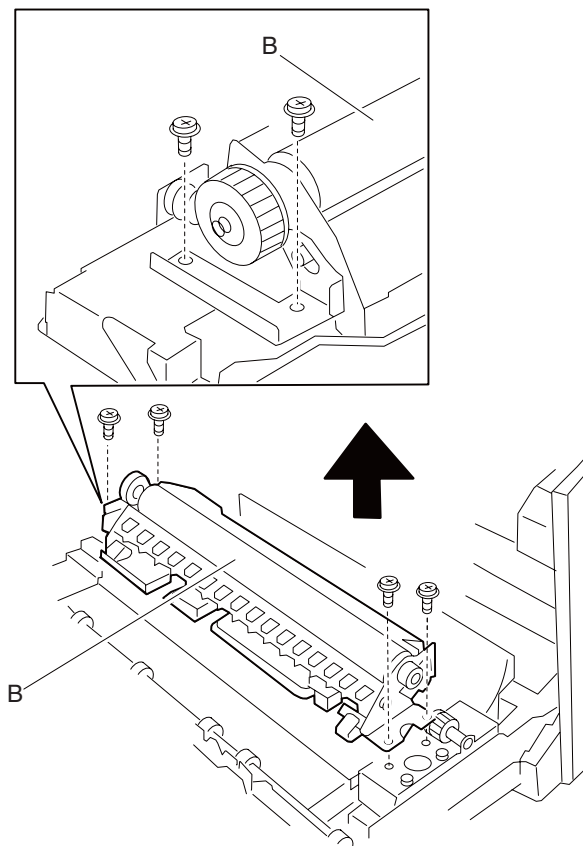
## 2nd transfer roll assembly removal

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).

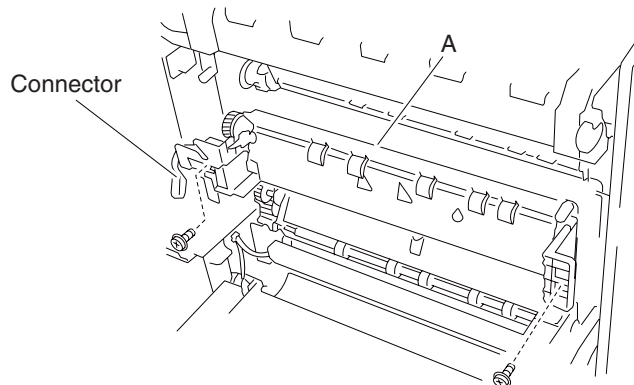
**Warning:** When removing the main transfer roll assembly (B), do not touch the roll surface.



**Replacement warning:** When reinstalling the transfer roll assembly (B), do not touch the roll surface.

### ***Registration / transport roll assembly removal***

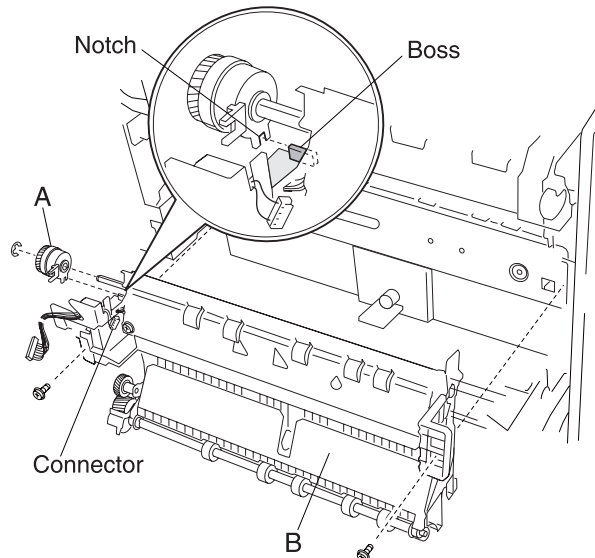
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear left middle cover. See **“Rear left middle cover removal” on page 4-6.**
3. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal” on page 4-8.**
4. Remove the printer left door 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.**
5. 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).

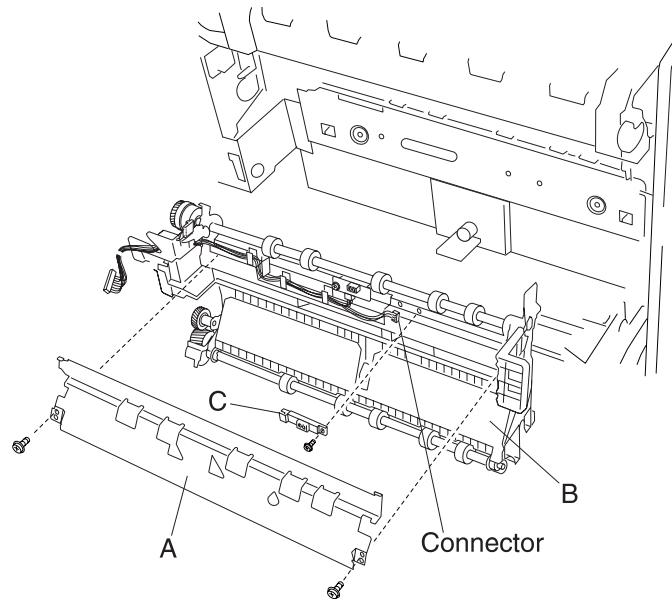


**Replacement note:** Before reinstalling, ensure that the notch on the registration clutch (A) is placed over the boss on the registration transport roll assembly (B).

## Sensor (registration) removal

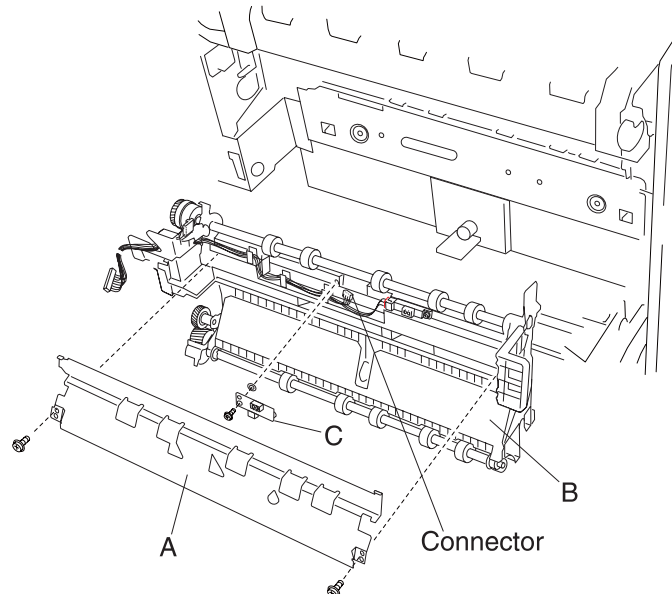
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear left middle cover. See **“Rear left middle cover removal” on page 4-6.**
3. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal” on page 4-8.**
4. Remove the printer left door 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).



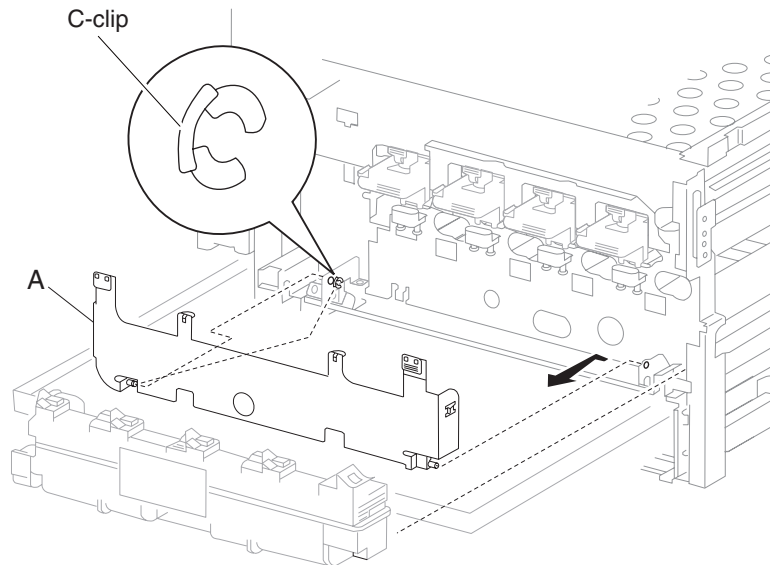
### ***Sensor (transparency detect) removal***

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

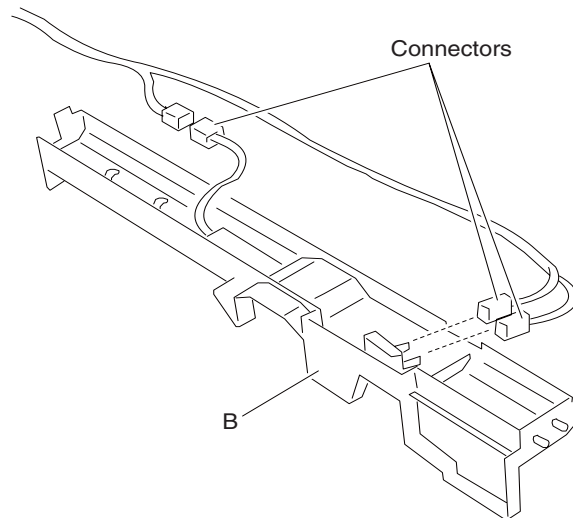
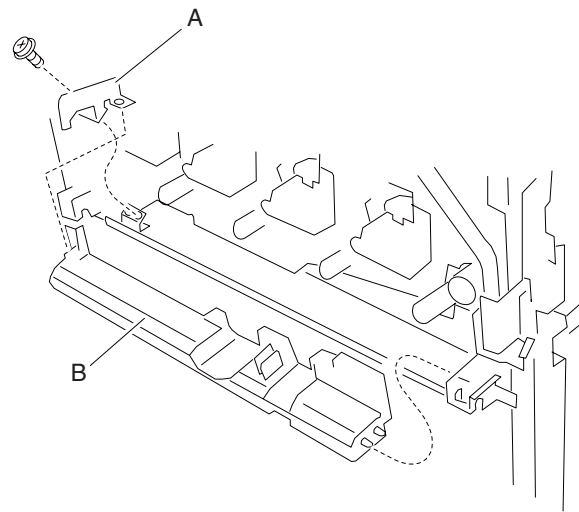
1. Remove the front left cover. See **“Front left cover removal” on page 4-9.**
2. Remove the waste toner cartridge cover. See **“Waste toner cartridge cover removal” on page 4-39.**
3. Remove the screw securing the bracket (A) to the machine.
4. Remove the bracket (A).

**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.

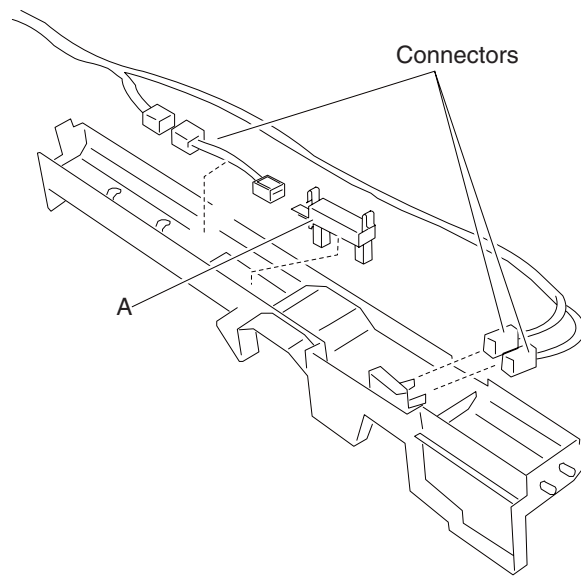
5. Remove the harness from the clamps.
6. Disconnect the connector from the waste toner cartridge sensor assembly (B).

7. Remove the waste toner cartridge sensor assembly (B).



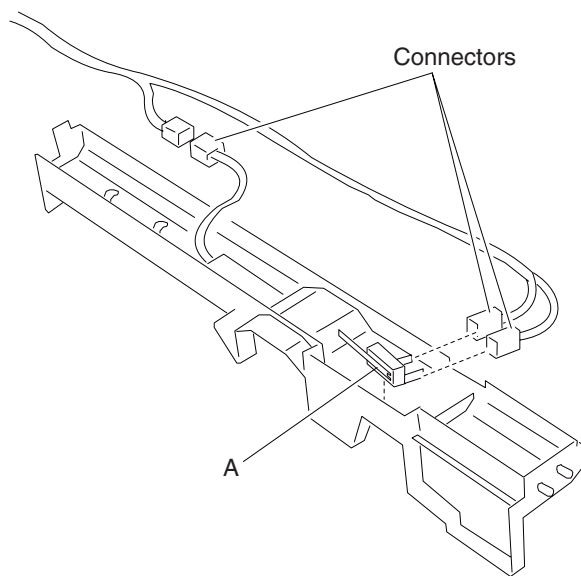
### ***Sensor (waste toner cartridge full) removal***

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).

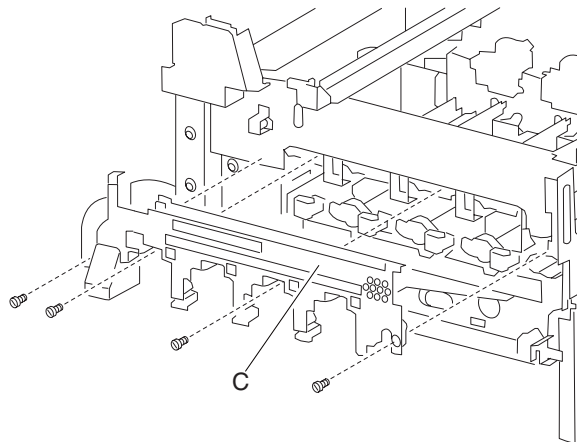
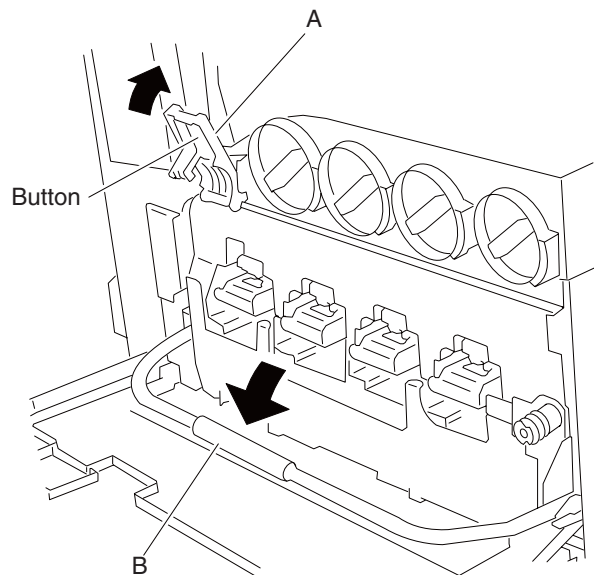


## Inner cover removal

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.
 

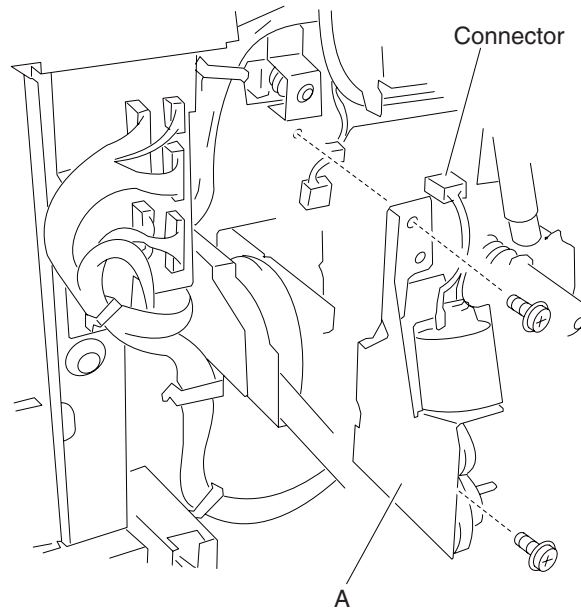
**Warning:** Ensure that all four PC cartridges are concealed from all sources of light, or damage will occur.
8. Remove the four PC cartridge units.
 

**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.

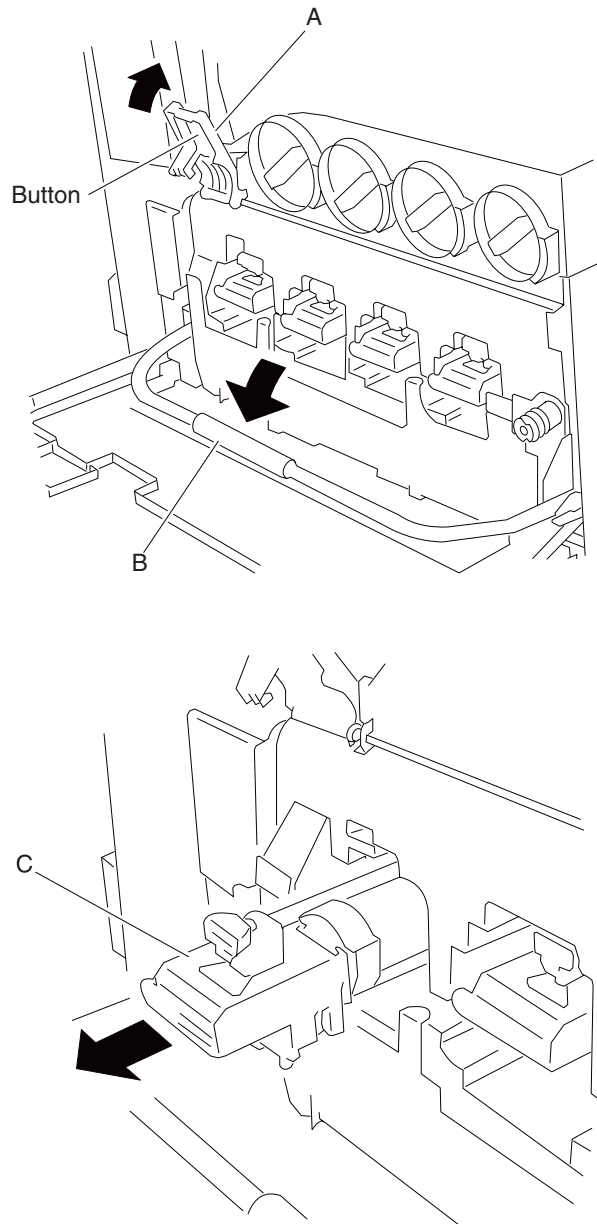
**Warning:** When removing the PC cartridge units, ensure that the drum surfaces are not exposed to any sources of light, or damage will occur.

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.

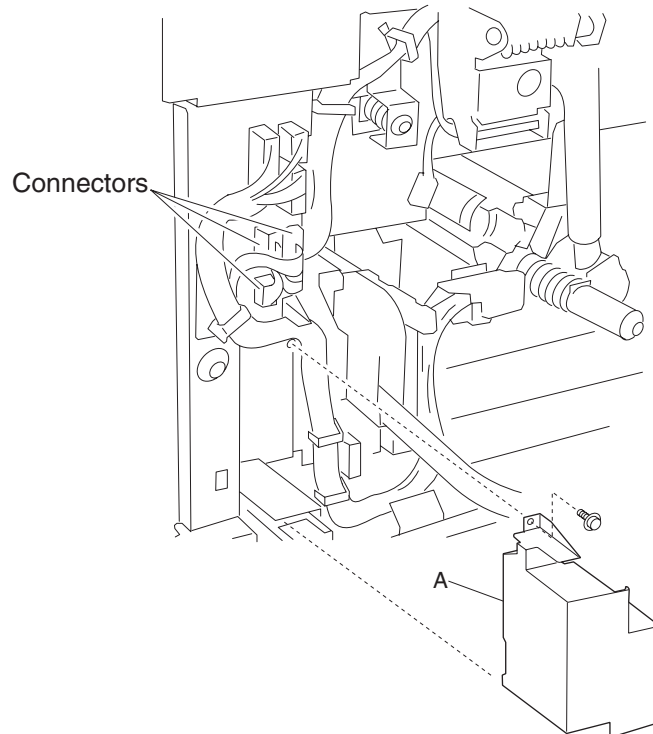


### ***Image density sensor assembly removal***

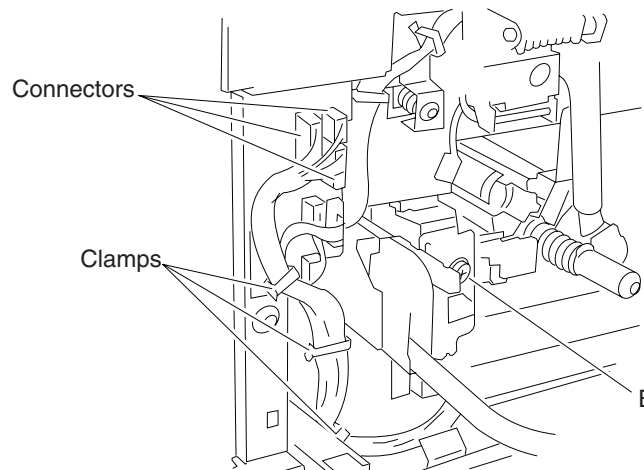
1. Remove the printer front door assembly. See **“Printer front door assembly removal”** on page 4-3.
2. Remove the front left cover. See **“Front left cover removal”** on page 4-9.
3. Remove the waste toner cartridge cover. See **“Waste toner cartridge cover removal”** on page 4-39.
4. Remove the waste 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.



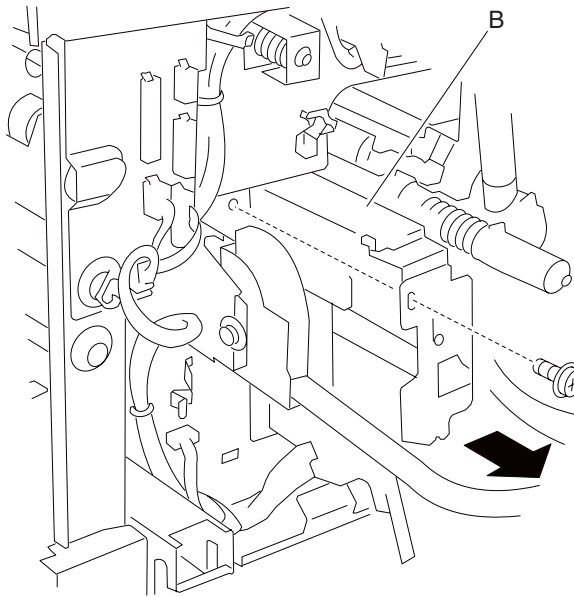
9. Disconnect the three connectors from the image density sensor assembly (B).  
10. Release the harnesses from the clamps.



11. 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).



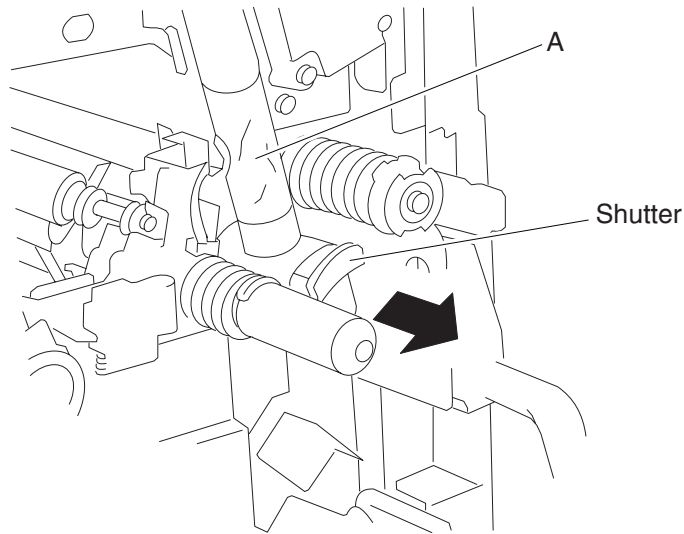
**Replacement note:** Requires color calibration adjustments.

**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.

7. Remove the appropriate CMY toner add assemblies (A).



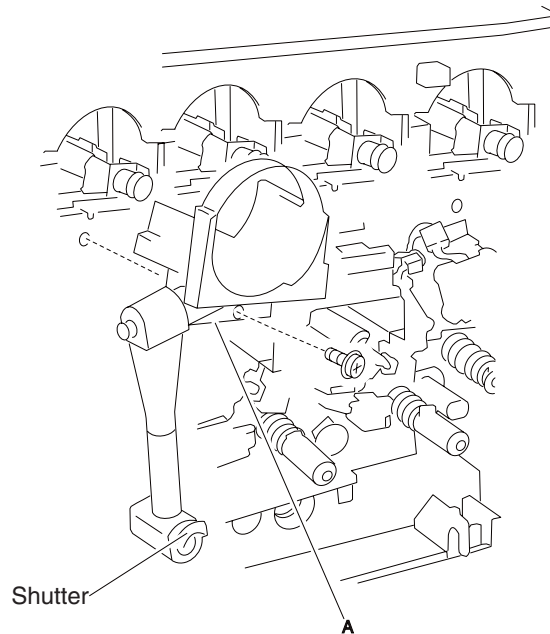
### ***K toner add assembly removal***

**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***

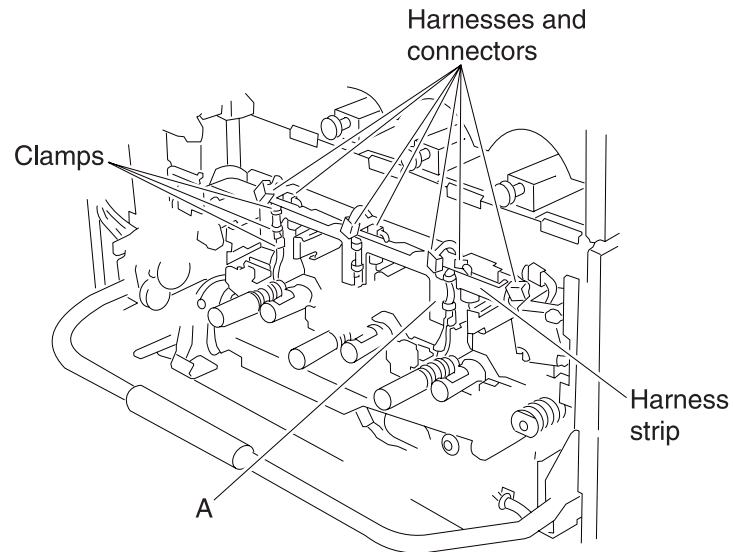
**Warning:** Always perform color registration adjustment (RegCon) when removing or reinstalling the printhead, NVM initialization, or developer interlock plate assembly. See **“Color registration (RegCon)” on page 4-256**.

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**.

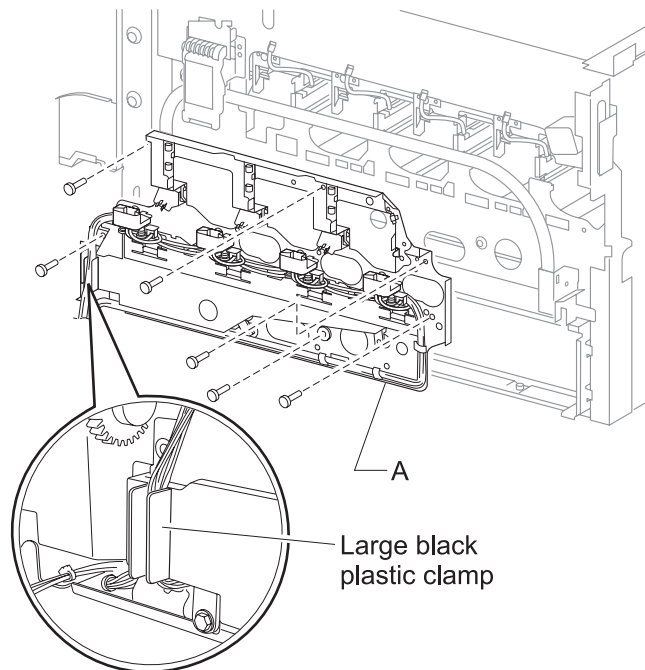
**Note:** It is not required to remove the waste toner cartridge sensor assembly; allow it to loosely hang out of the way.

4. Remove the waste toner cartridge sensor assembly. See **“Waste toner cartridge sensor assembly removal” on page 4-39**.
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 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.



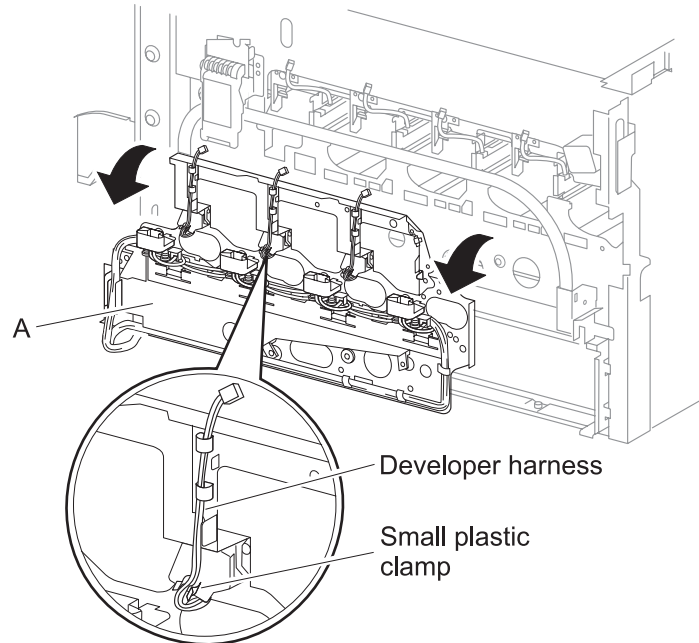
9. Disconnect the seven connectors from the upper harness strip.
10. Remove the six screws securing the developer interlock plate assembly (A) to the machine.
11. Remove the purple harness from the large black plastic clamp on the developer interlock plate assembly (A)



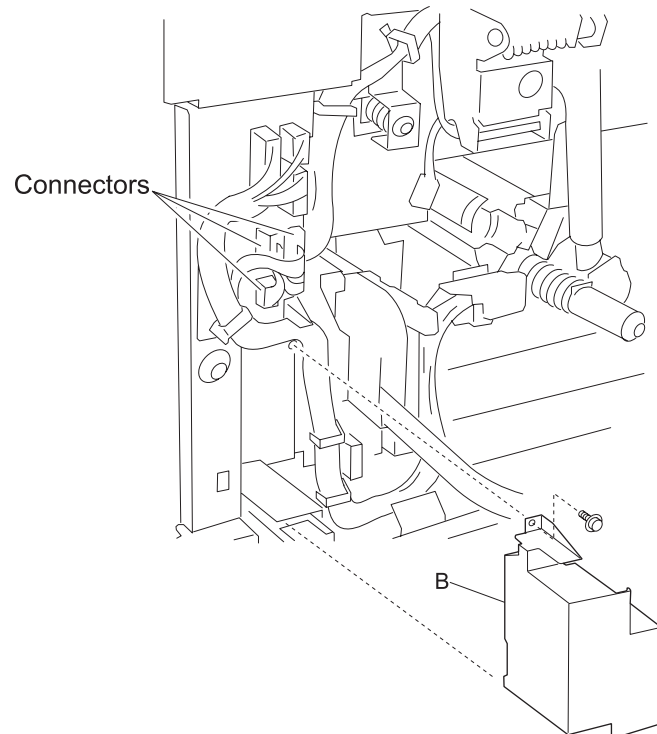
**Warning:** Note the orientation of the four developer unit harnesses and the three erase lamp harnesses to ensure proper reinstallation or damage may occur.

12. Remove the four developer harnesses from the four small plastic clamps on the developer interlock plate assembly (A).

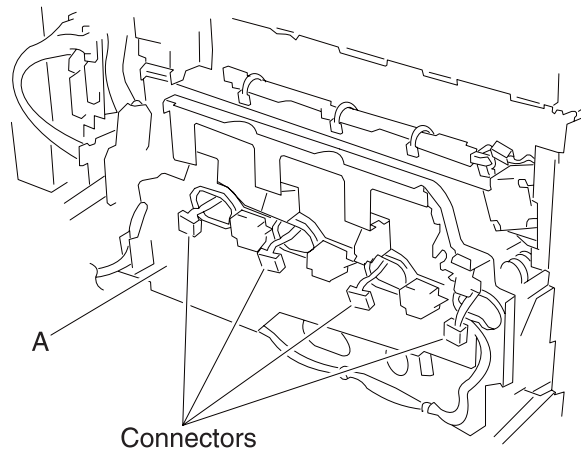
13. While holding the four developer unit assemblies firmly inside the machine, gently remove the developer interlock plate assembly (A).



14. Remove the developer interlock plate assembly (A) and allow it to gently hang down by the harness if removing the developer units. 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).

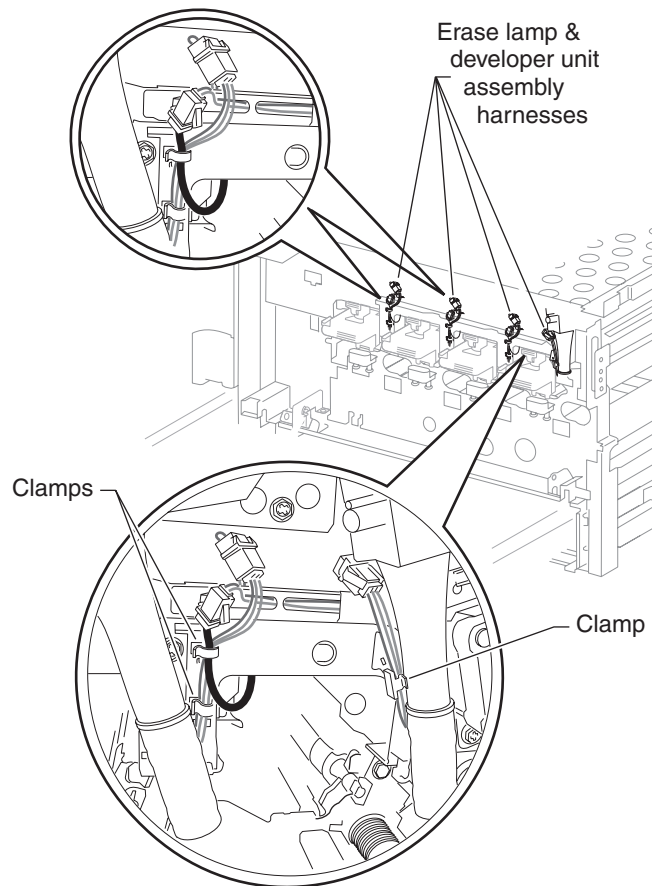


**Replacement note:** When replacing the developer interlock plate assembly (A), install the bottom edge first and ensure that all four developer unit assemblies are properly aligned when replacing the developer interlock plate assembly (A).





**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**.
5. 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.

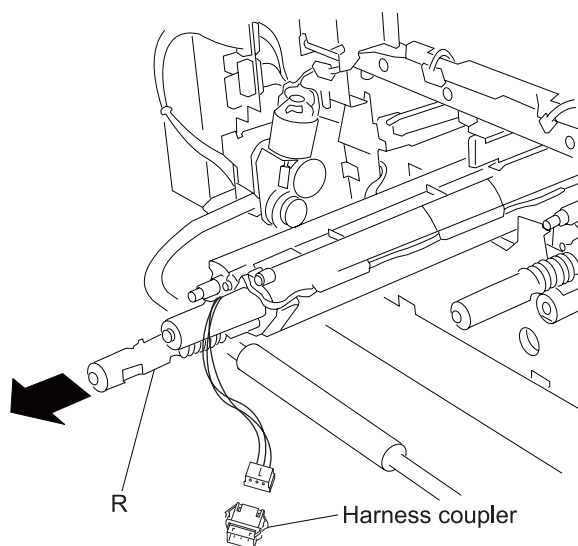
6. Remove the inner cover. See **“Inner cover removal” on page 4-43.**
7. Remove the three CMY toner add assemblies. See **“CMY toner add assembly removal” on page 4-47.**
8. Remove the K toner add assembly. See **“K toner add assembly removal” on page 4-48.**
9. Remove the developer interlock plate 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):

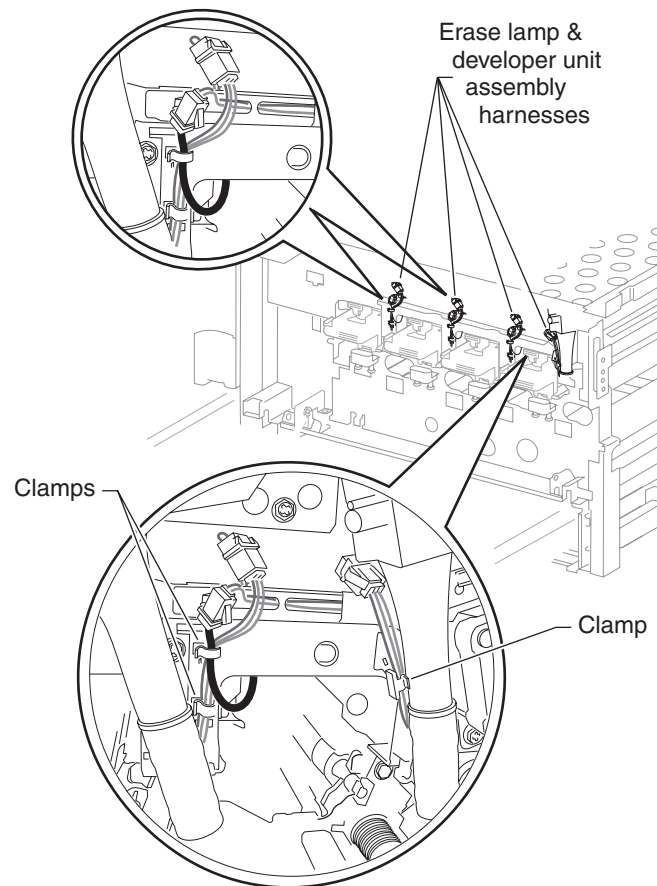
**CAUTION:** When performing motor tests, ensure that all cover and door interlock switches are overridden.



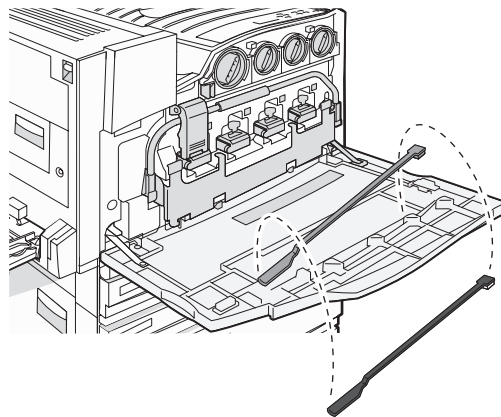
- Enter the diagnostic mode.
- Touch **MOTOR TESTS.**
- Touch **Printer Motor Tests.**
- Touch **CMY developer drive motor (this test will not work for the K developer unit assembly).**

**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.

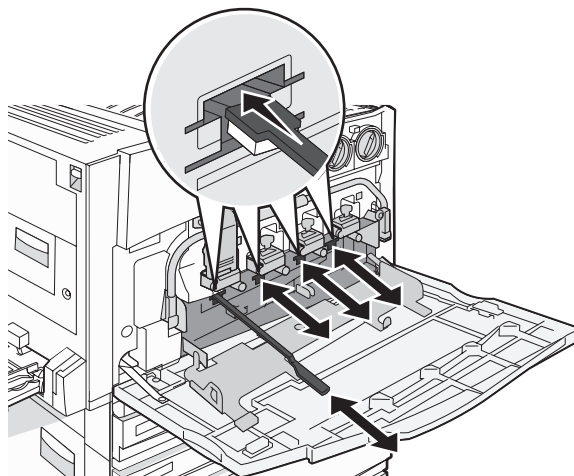
**Warning:** When replacing the developer interlock plate assembly, ensure that the erase lamp harnesses and developer unit assembly harnesses are correctly installed in the clamps, or they may become detached. Verify that the harnesses are properly secured in the clamps by moving the transfer belt lift handle up and down several times before reinstalling the inner cover.



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.



14. Clean the four printhead glass windows using the printhead cleaning tool.



### ***Developer carrier removal and replacement***

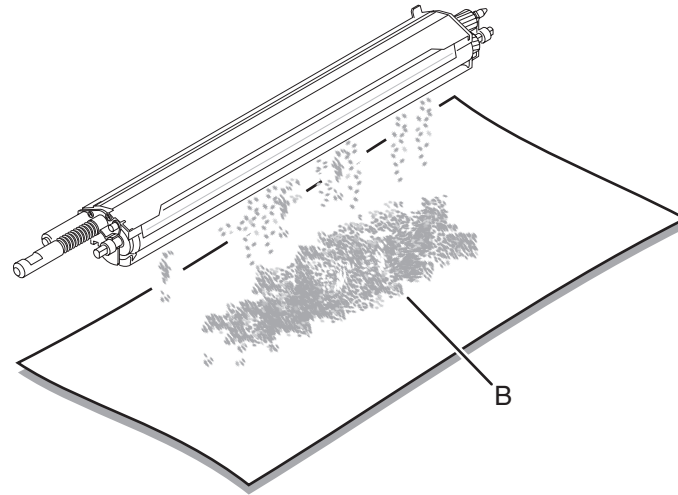
**Note:** The following procedure can be applied to the C, M, Y, and K developer carriers.

**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.**
3. 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.

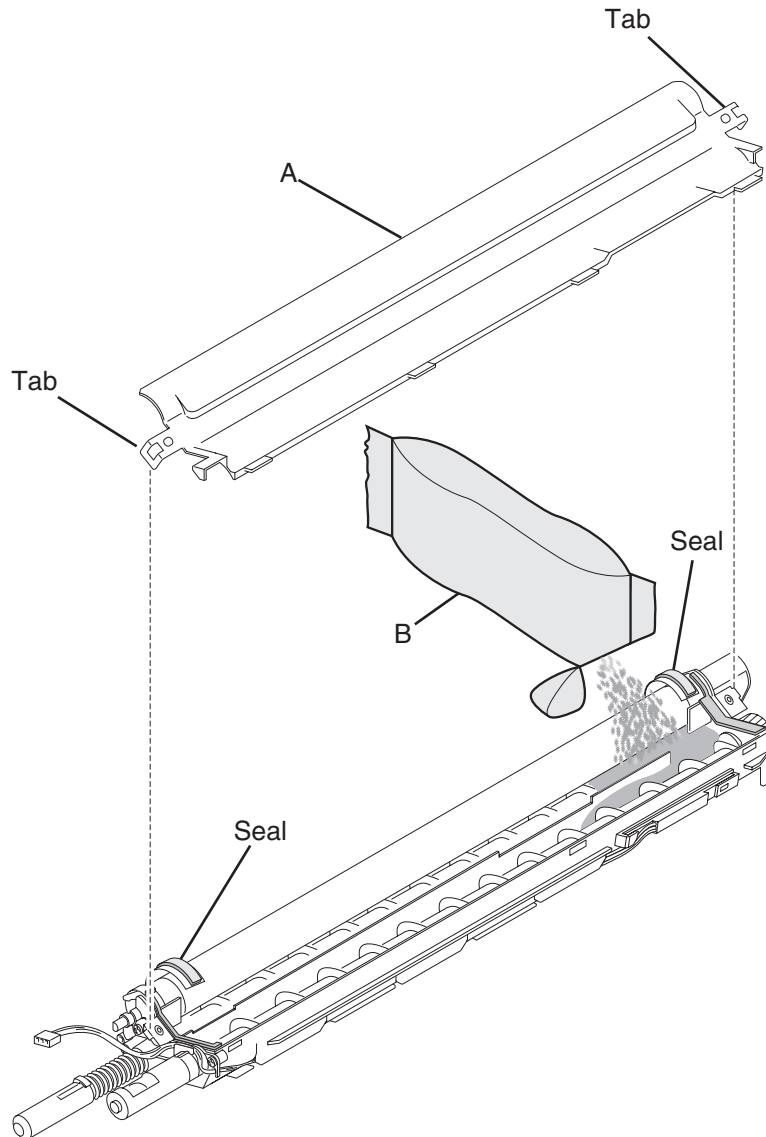
**Replacement warning:** If reusing an existing developer unit assembly, ensure that all traces of old carrier (B) are removed from the developer unit assembly, or print quality issues may occur.



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.



2. 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.

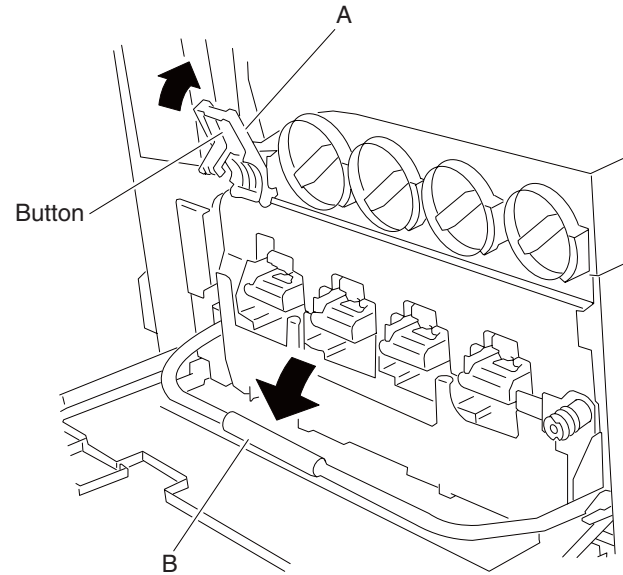
3. Replace the top cover (A).
4. Perform the ATC sensor setup and adjustment. Go to **“Sensor (ATC) setup” on page 4-252.**
5. Perform the color registration (RegCon) setup and adjustment. Go to **“Color registration (RegCon)” on page 4-256.**

## ***Photoconductor (PC) unit assembly removal***

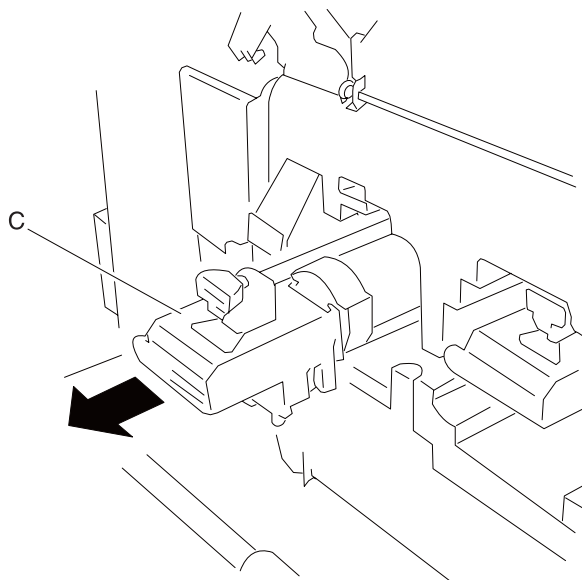
**Warning:** Ensure that all four PC cartridges are concealed from all sources of light, or damage will occur.

**Note:** This procedure can be applied to either the C, M, Y, or K PC unit assemblies.

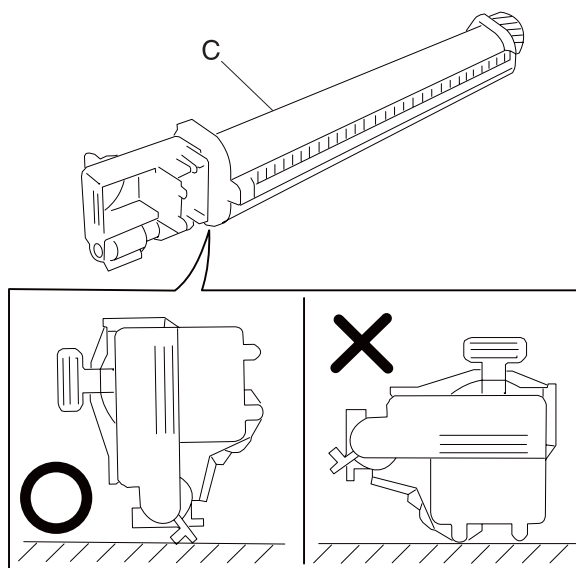
1. Open the printer front door assembly.
2. Press the button on the transfer belt lift latch (A).
3. Raise the transfer belt lift latch (A) to its upper-most position.
4. Lower the transfer belt lift handle (B) to its lower-most position.



5. Pull the appropriate PC unit assembly (C) from the machine.

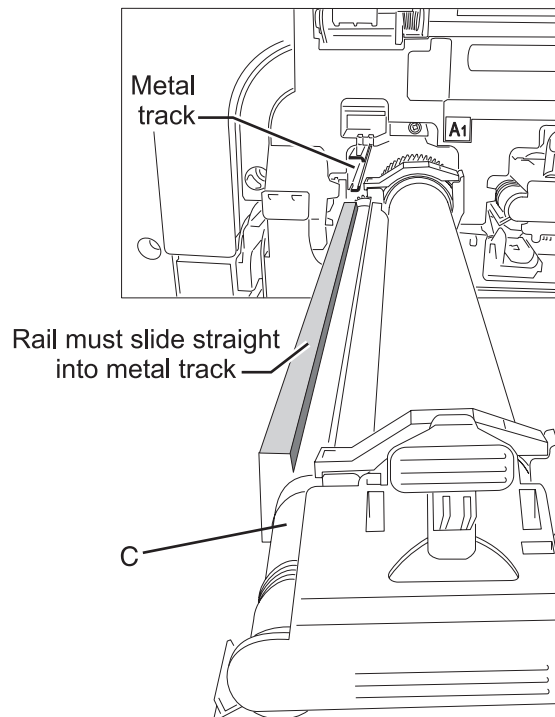


**Note:** When the PC unit assembly (C) is removed, ensure that it is stored in the position as shown in the graphic below.





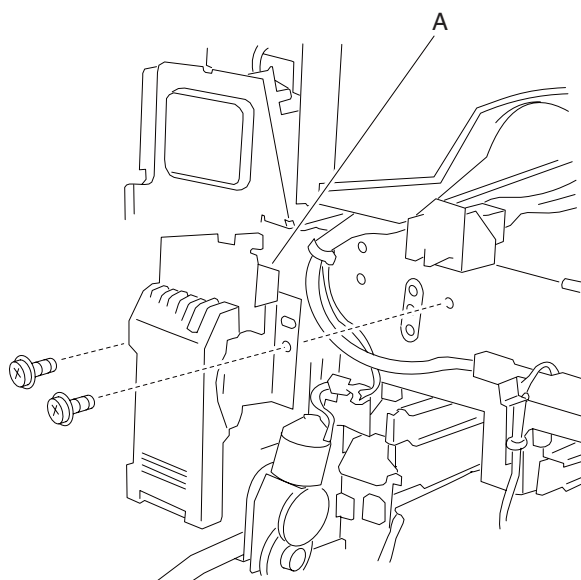
**Replacement warning:** When replacing the PC unit assembly (C), ensure that the rail on the PC unit assembly (C) is properly inserted into the metal track or physical binding and damage will occur. In the event that the PC unit assembly (C) becomes bound, it can be removed by twisting it in a clockwise direction while pulling it from the machine.



### ***Transfer belt lift latch assembly removal***

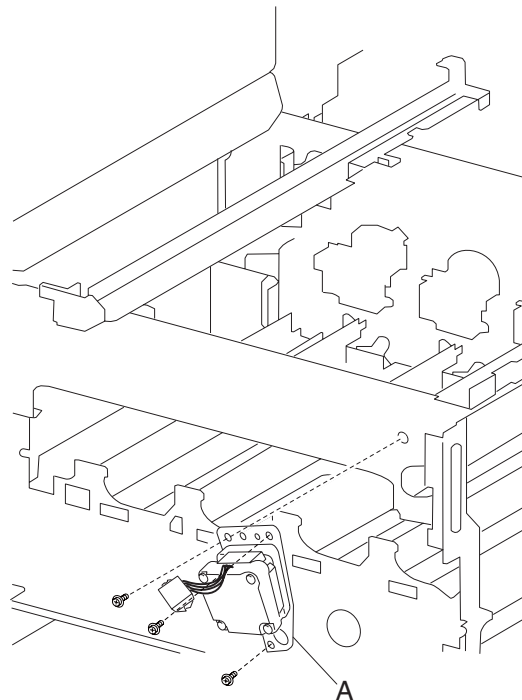
1. Remove the printer front door assembly. See **“Printer front door assembly removal” on page 4-3.**
2. Remove the front left cover. See **“Front left cover removal” on page 4-9.**
3. Remove the waste toner cartridge cover. See **“Waste toner cartridge cover removal” on page 4-39.**
4. Remove the waste 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.**
3. 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 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).



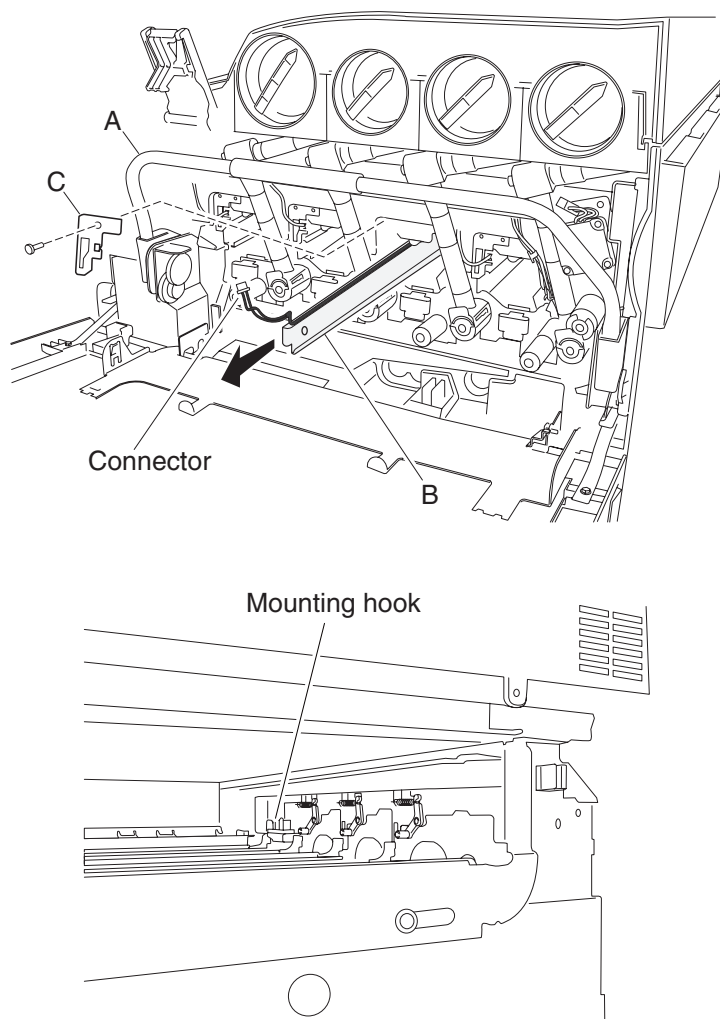
## CMY erase lamp assembly removal

**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.**
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. 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).

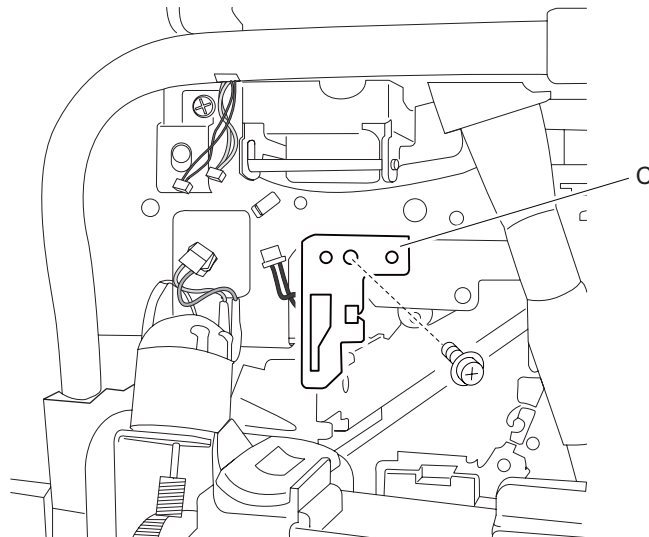
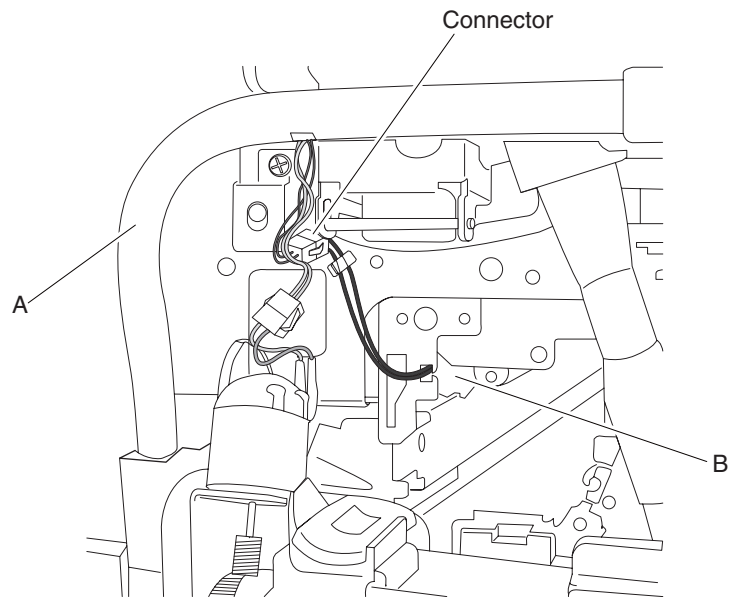


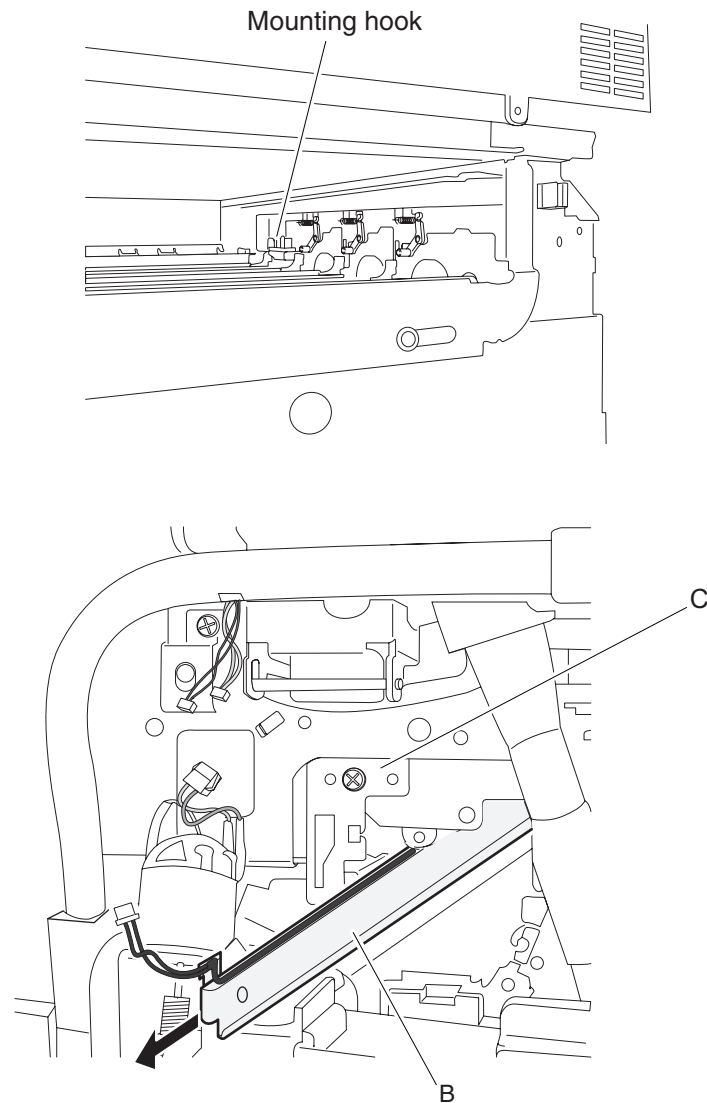
### ***K erase lamp assembly removal***

**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.**
3. 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).

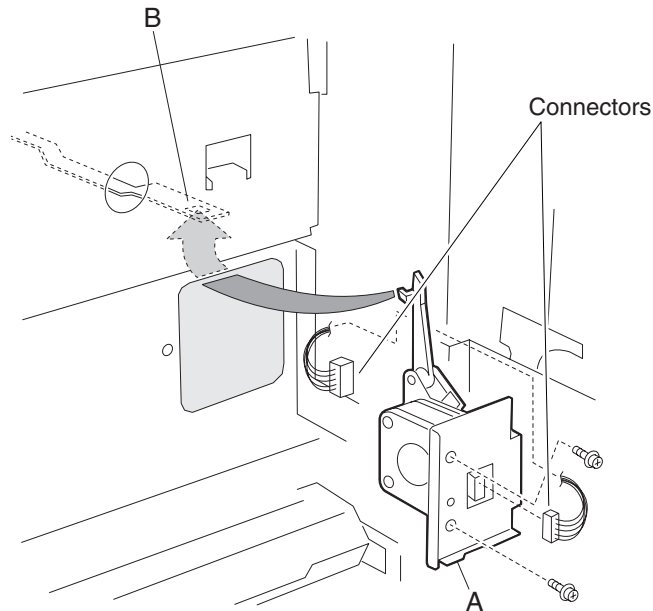




### ***Printhead shutter motor assembly***

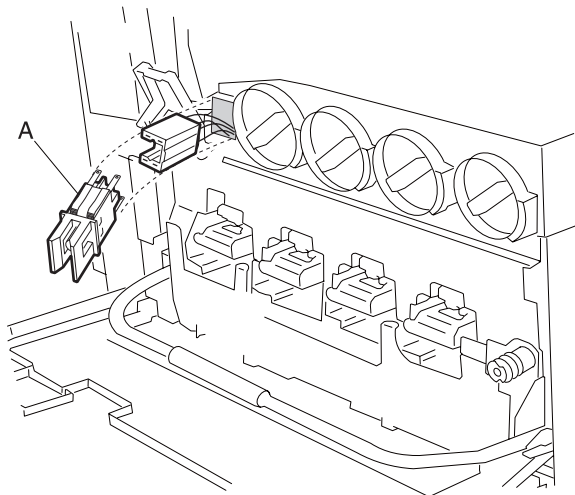
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear left middle cover. See **“Rear left middle cover removal” on page 4-6.**
3. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal” on page 4-8.**
4. Remove the printer left door 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.**
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).



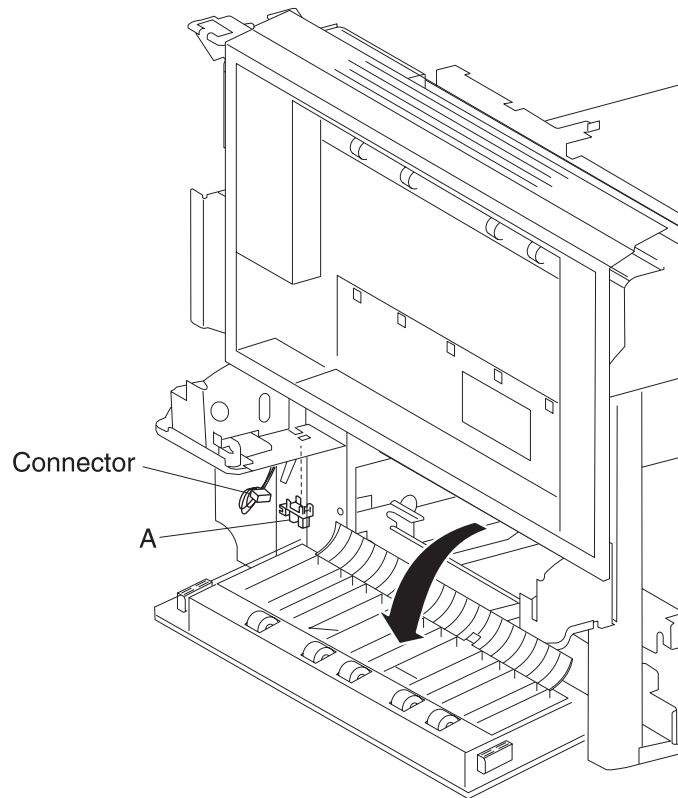
### **Switch (printer front door interlock) removal**

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 from 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).

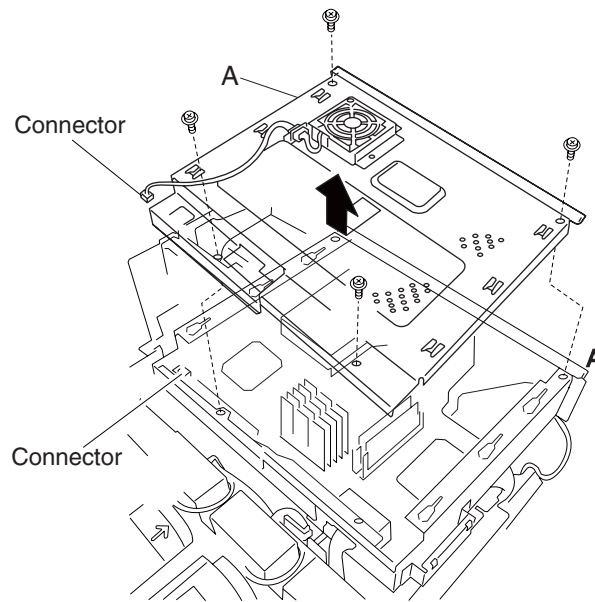


### ***RIP card cooling fan cover assembly removal***

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.

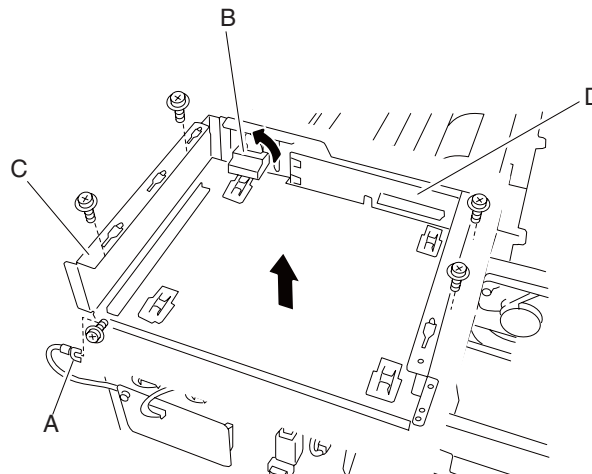


8. Remove the RIP card cooling fan cover assembly (A).



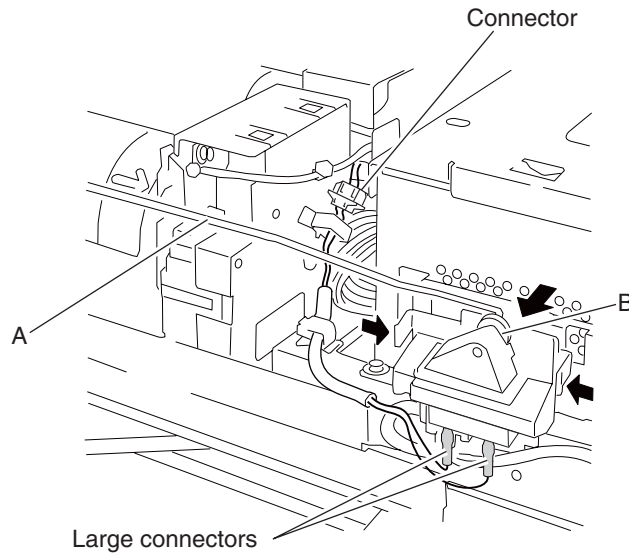
### **Controller box assembly removal**

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.
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. 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).
11. 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).



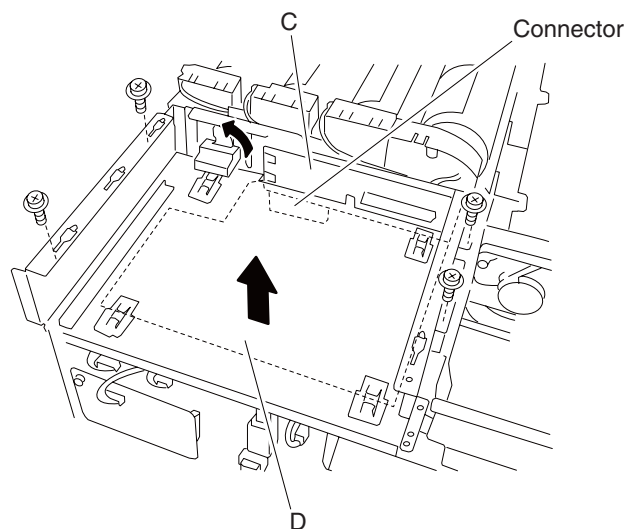
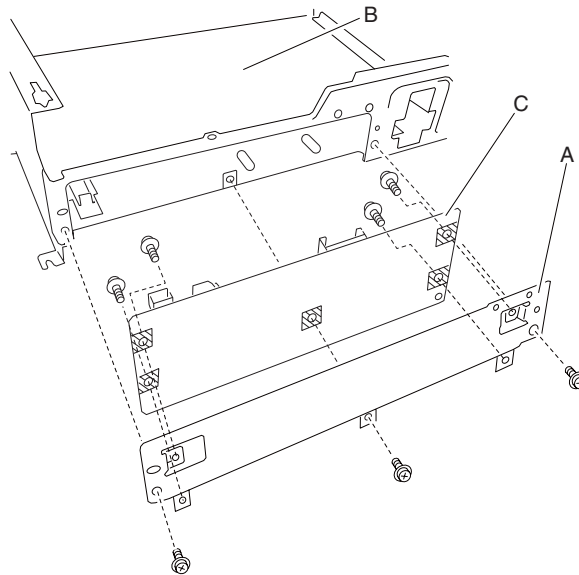
### **Switch (main power) removal**

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

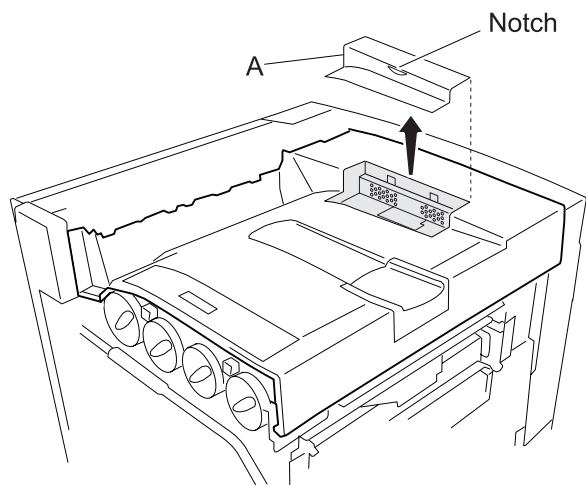
1. Remove the rear cover assembly. See **“Rear cover assembly removal”** on page 4-5.
2. Remove the right cover assembly. See **“Right cover assembly removal”** on page 4-4.
3. Remove the top cover assembly. See **“Top cover assembly removal”** on page 4-4.
4. Remove the RIP card assembly. See **“RIP 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.

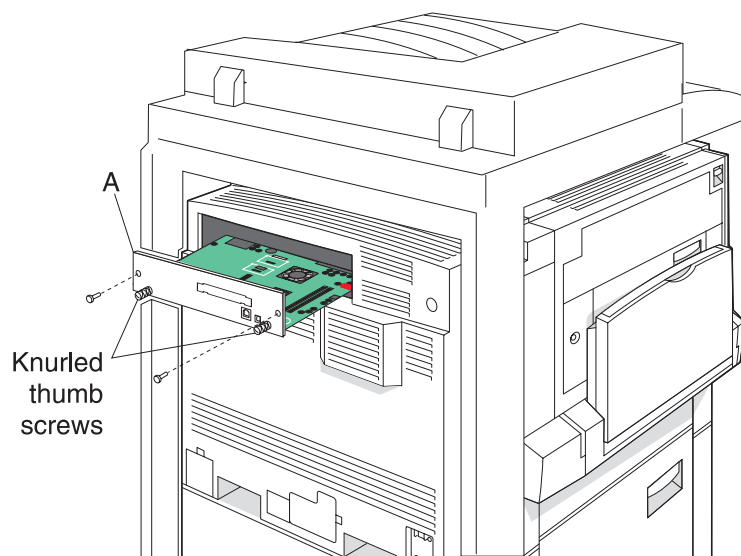
### ***RIP card access cover removal***

1. Using your finger, lift the RIP card access cover (A) by the notch.
2. Remove the RIP card access cover (A).



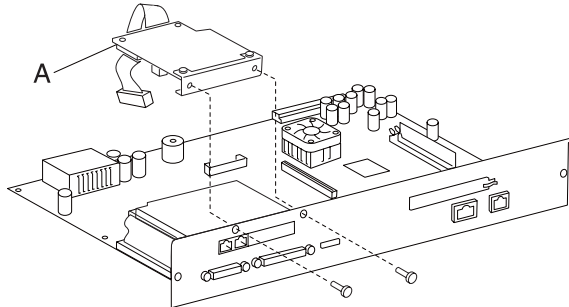
### ***RIP card assembly removal***

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.



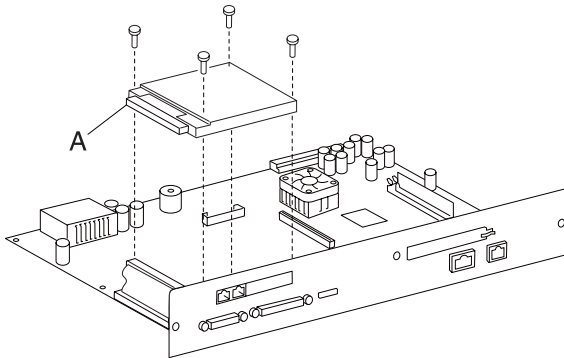
### ***Fax interface card (modem) assembly removal***

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

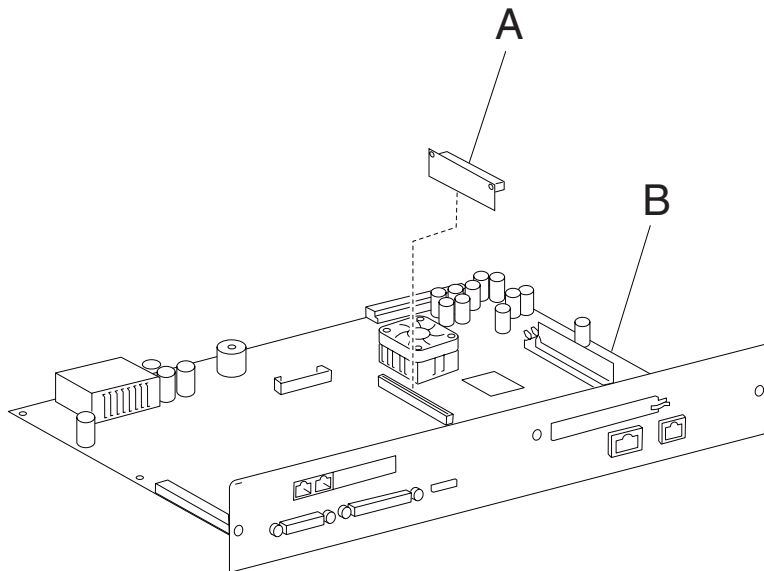
Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing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

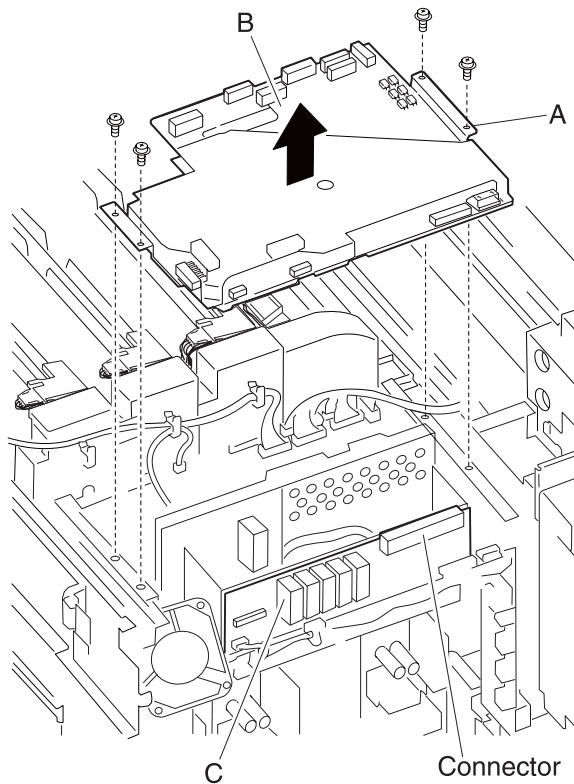
**Warning:** Do not drop the RIP card assembly, or damage will occur.

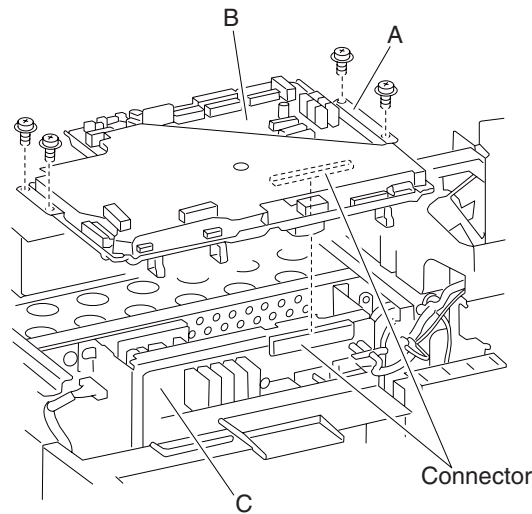
2. Gently pull the interconnect card assembly (A) from the RIP card assembly (B).
3. Remove the interconnect card assembly (A).



## 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.
10. 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).





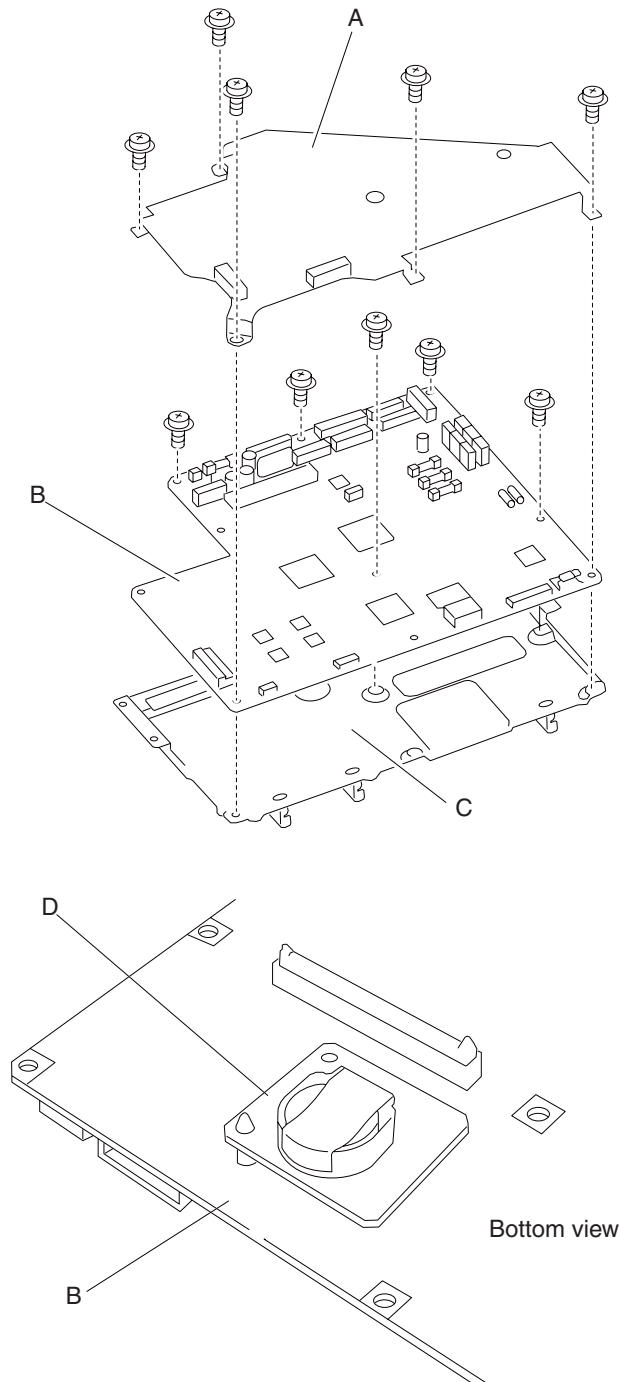
**Replacement warning:** Ensure that the upper printer engine card (B) assembly and the lower printer engine card assembly (C) are connected.

### ***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).



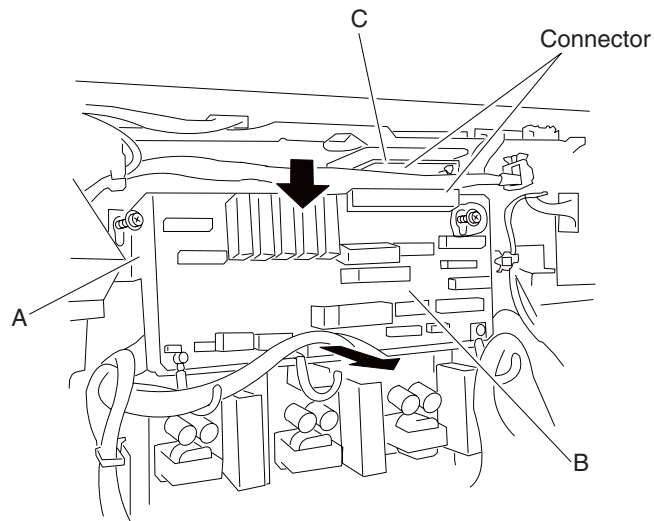
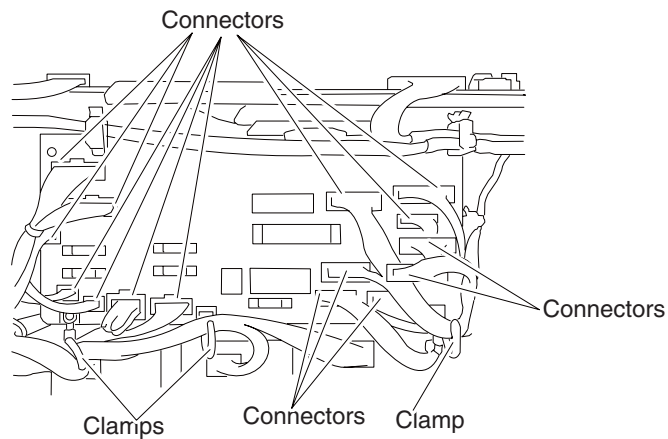
**Replacement warning:** When reinstalling the upper printer engine card assembly (B), ensure that the NVM board (D) is installed on the new upper printer engine card assembly (B), or the machine may not function properly.

**Replacement warning:** Ensure that the bridge card assembly (C) and the lower printer engine card (D) are connected.

**Note:** Perform color registration adjustment.

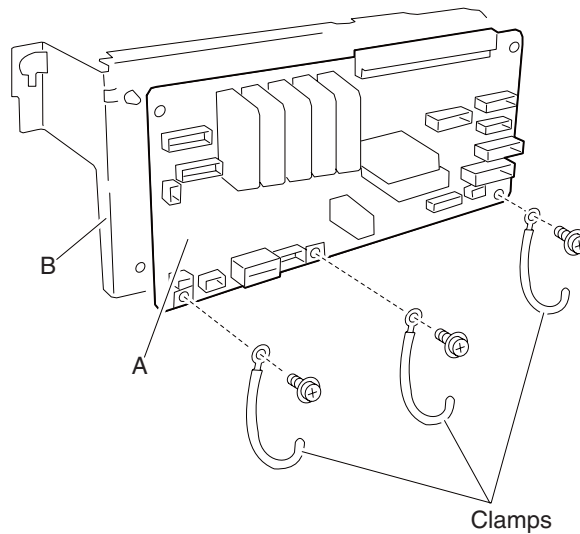
## Lower printer engine card bracket assembly removal

1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
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 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).



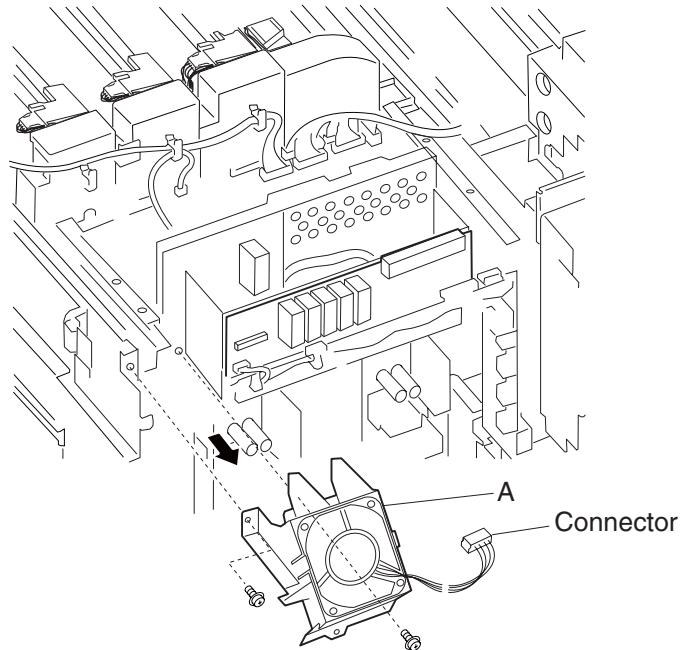
### ***Lower printer engine card assembly removal***

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).



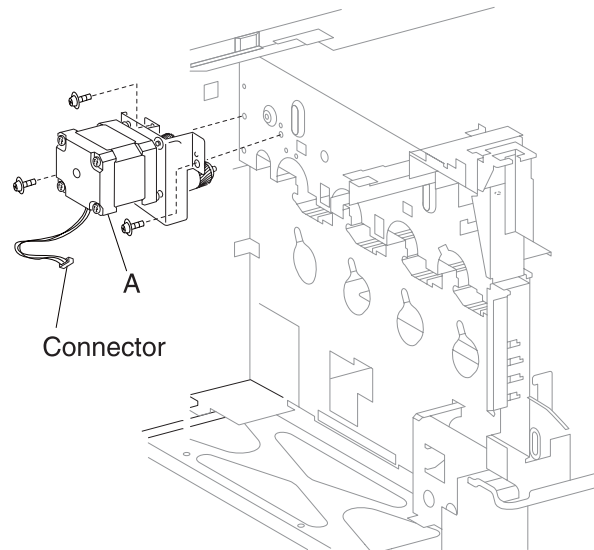
### ***Transfer belt drive motor cooling fan removal***

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***

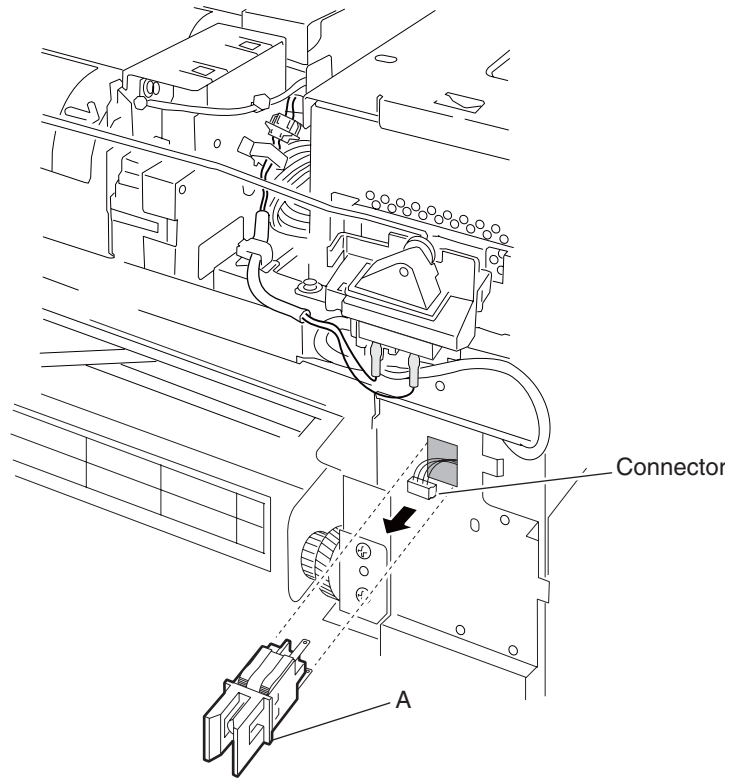
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear upper cooling fan bracket assembly. See **“Rear upper cooling fan bracket assembly removal” on page 4-101.**
3. Remove the developer / transfer roll HVPS card assembly. See **“Developer / transfer roll HVPS card assembly removal” on page 4-102.**
4. Remove the 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.**
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 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.

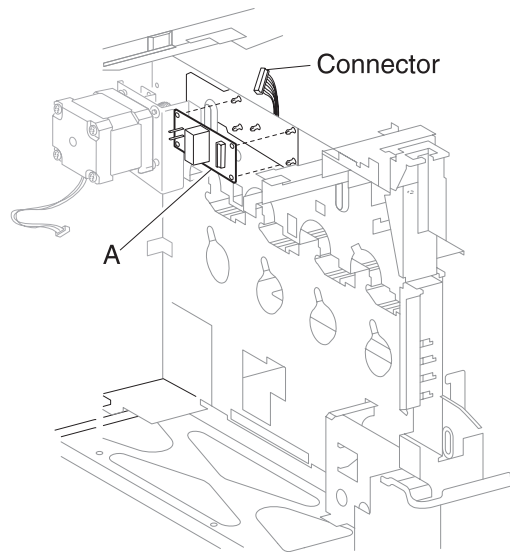
7. Remove the switch (transfer belt access door interlock) (A).



### ***Laser diode power card assembly removal***

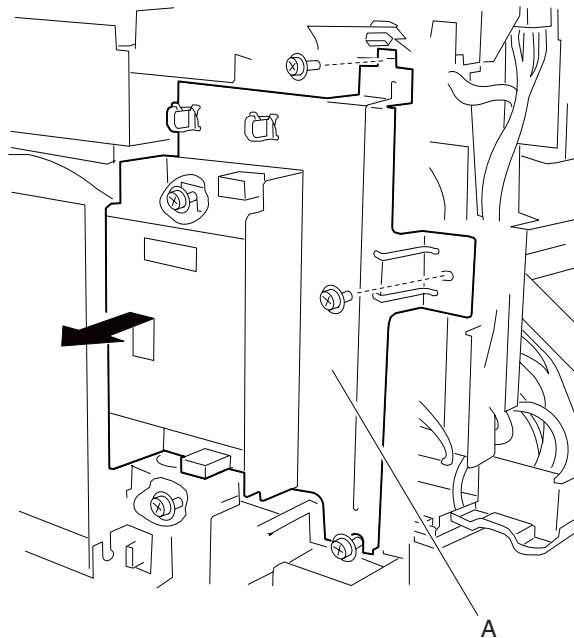
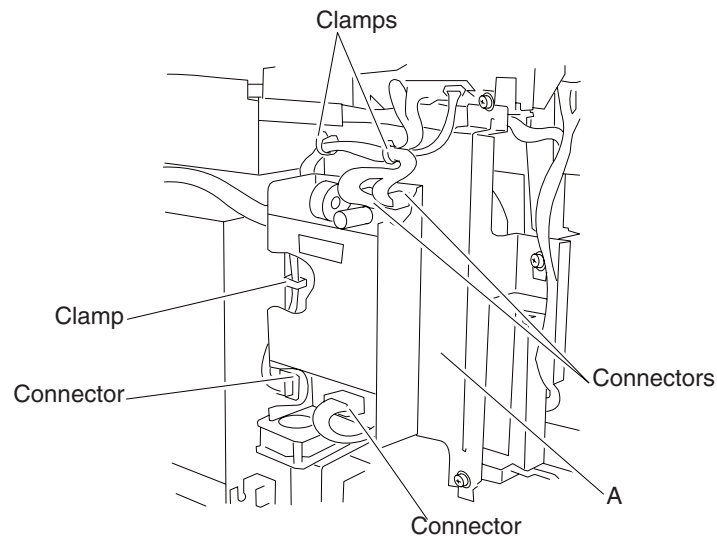
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear upper cooling fan bracket assembly. See **“Rear upper cooling fan bracket assembly removal” on page 4-101.**
3. Remove the developer / transfer roll HVPS card assembly. See **“Developer / transfer 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).



### 24V LVPS card bracket assembly removal

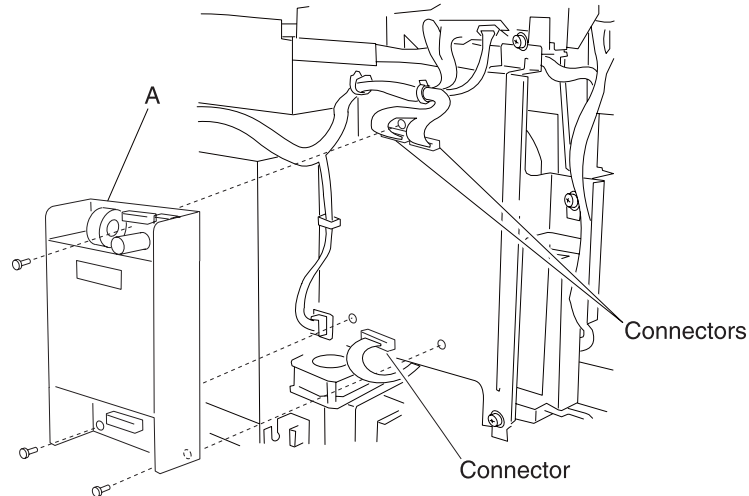
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear upper cooling fan bracket assembly. See **“Rear upper cooling fan bracket assembly removal” on page 4-101.**
3. Remove the rear left middle cover. See **“Rear left middle cover removal” on page 4-6.**
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).





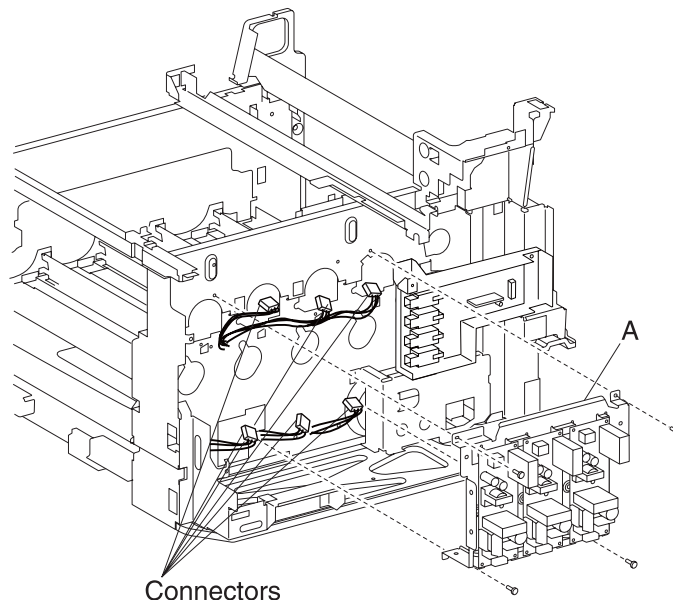
### 24V LVPS card assembly removal

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).



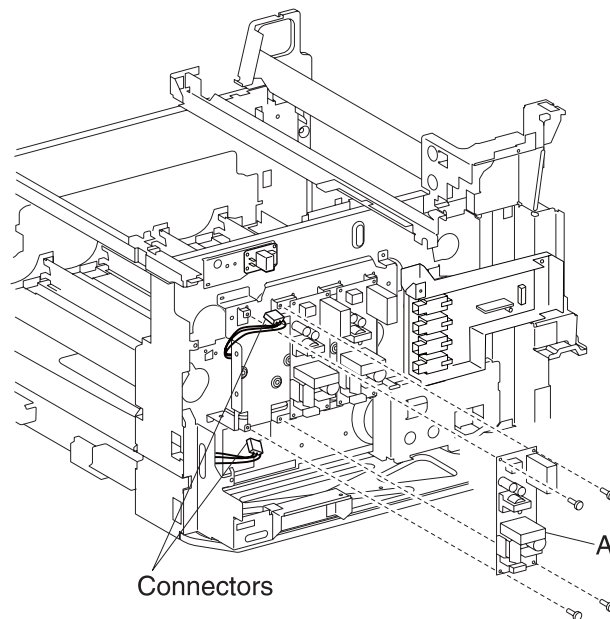
### 5V LVPS card bracket assembly removal

1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
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 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).



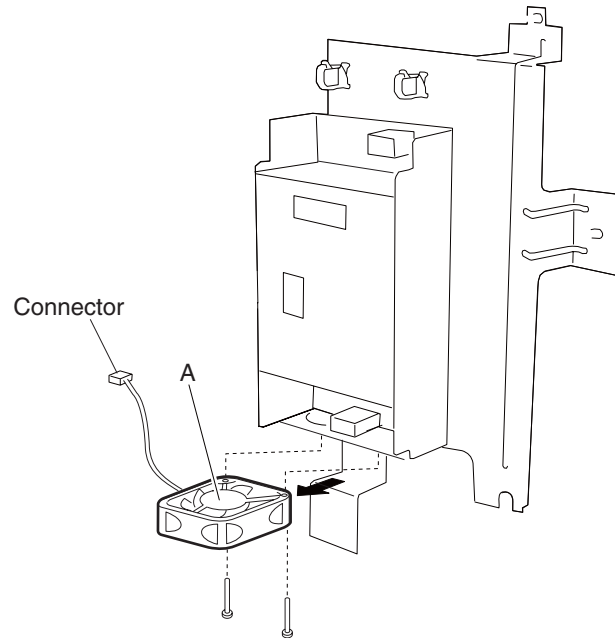
### **5V LVPS card assembly removal**

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

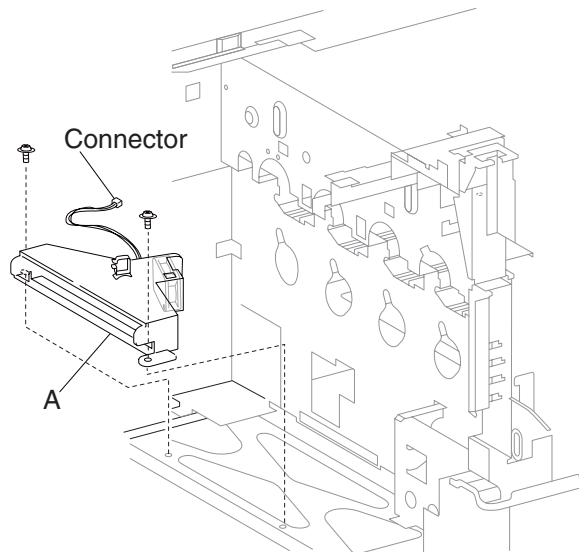
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear upper cooling fan bracket assembly. See **“Rear upper cooling fan bracket assembly removal” on page 4-101.**
3. Remove the rear left middle cover. See **“Rear left middle cover removal” on page 4-6.**
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.

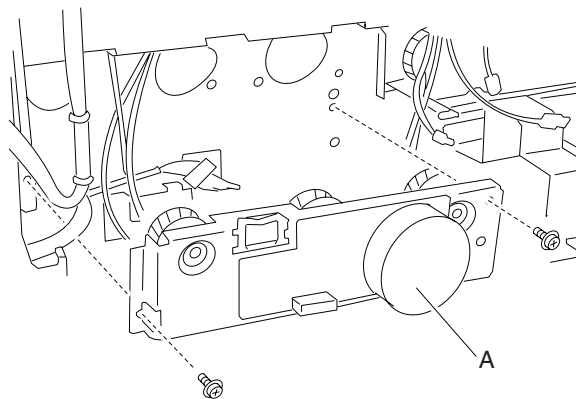
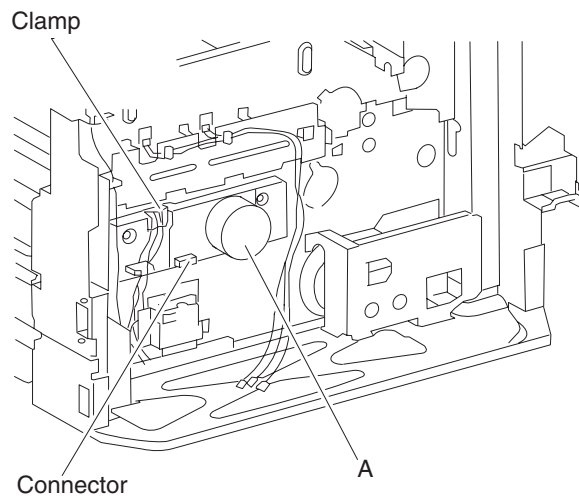
## ***Rear lower cooling fan assembly removal***

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.**
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 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

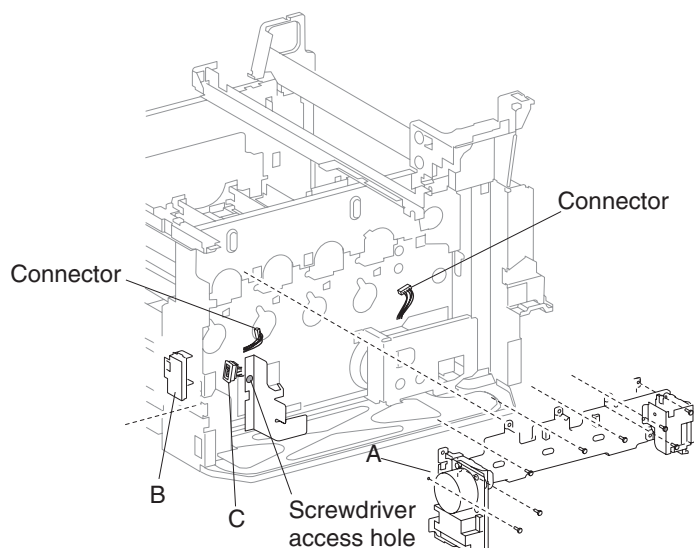
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear upper cooling fan bracket assembly. See **“Rear upper cooling fan bracket assembly removal” on page 4-101.**
3. Remove the developer / transfer roll HVPS card assembly. See **“Developer / transfer 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 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

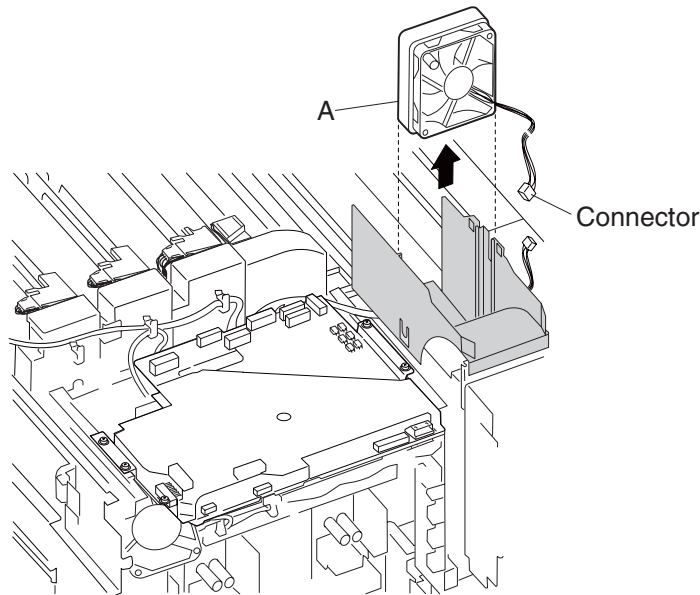
**Warning:** Ensure that all four PC cartridges are concealed from all sources of light, or damage will occur.

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.**
4. Remove the rear upper cooling fan bracket assembly. See **“Rear upper cooling fan bracket assembly removal” on page 4-101.**
5. Remove the developer / transfer roll HVPS card assembly. See **“Developer / transfer roll HVPS card assembly removal” on page 4-102.**
6. 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.**
8. 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***

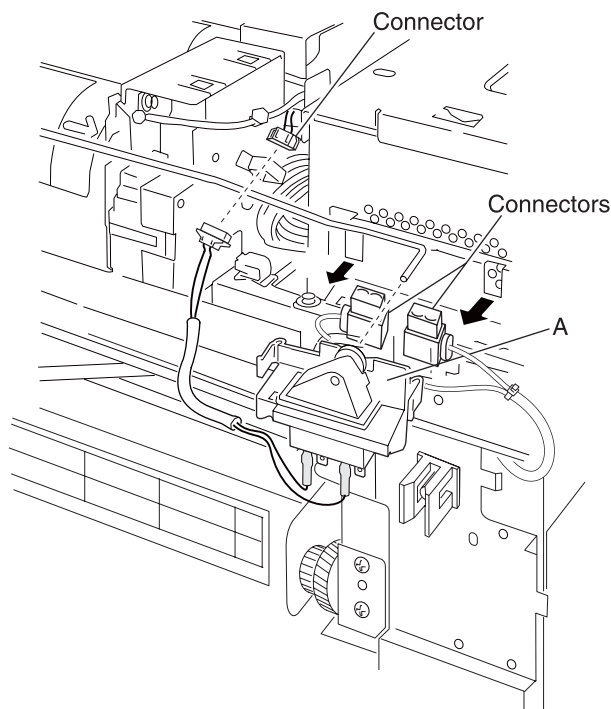
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the right cover assembly. See **“Right cover assembly removal” on page 4-4.**
3. Remove the top cover assembly. See **“Top cover assembly removal” on page 4-4** or **“Rear cover assembly removal” on page 4-5.**
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).

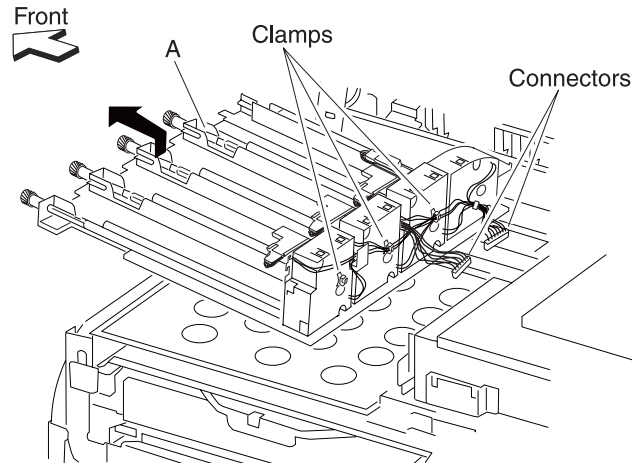


### ***CMYK toner add motor assembly removal***

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).

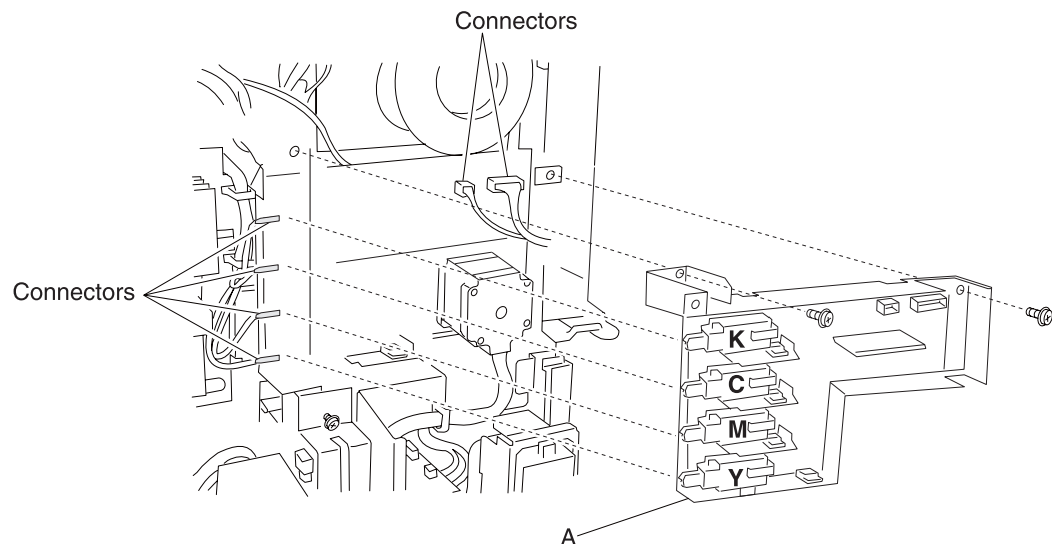


18. Remove the CMYK toner add motor assembly (A).



### **CMYK transfer HVPS card assembly removal**

1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
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. 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).



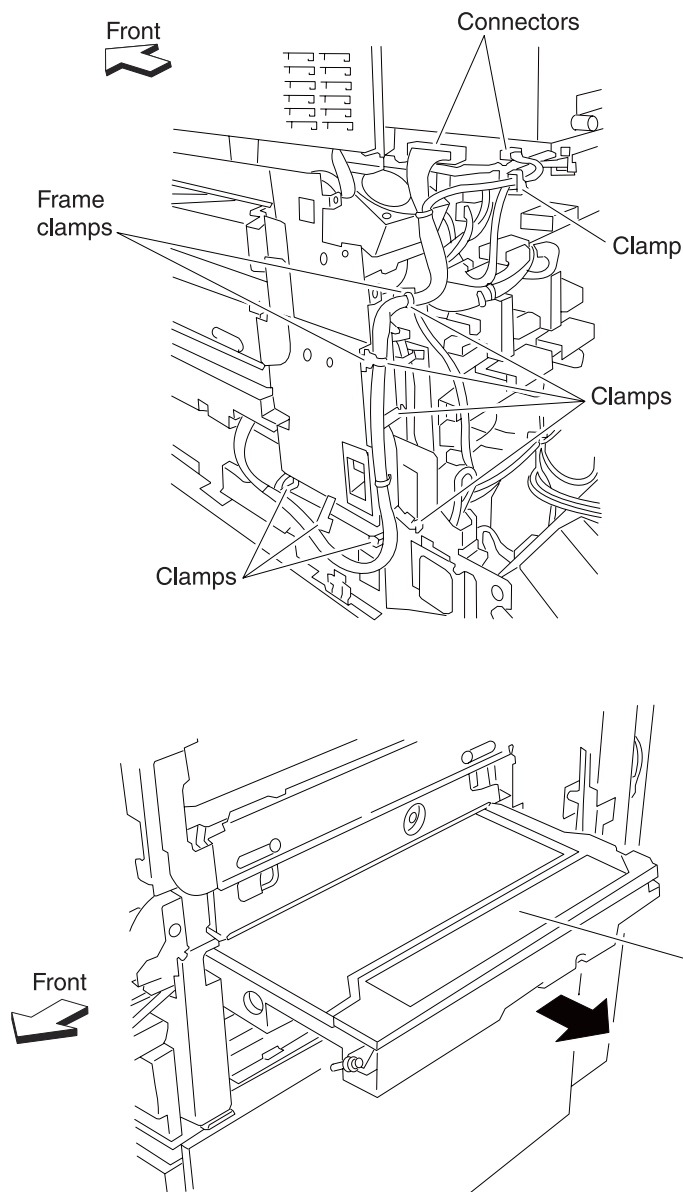
**Warning:** When reinstalling the CMYK transfer HVPS card assembly (A), ensure that the four high voltage cables are properly hooked up to the CMYK transfer HVPS card assembly (A) or print quality problems will occur..

## 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.

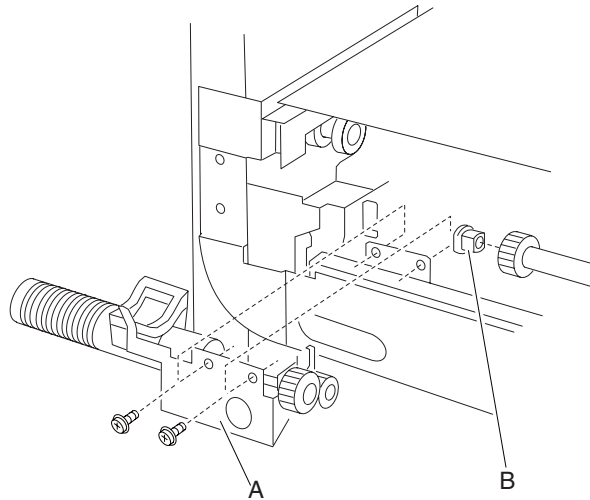
1. Detach the finisher if equipped. Refer to the *MFP* or the *Printer Finisher Service Manual*.
2. Remove the base machine from the scanner/ADF stand assembly.
3. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
4. Remove the right cover assembly. See **“Right cover 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***

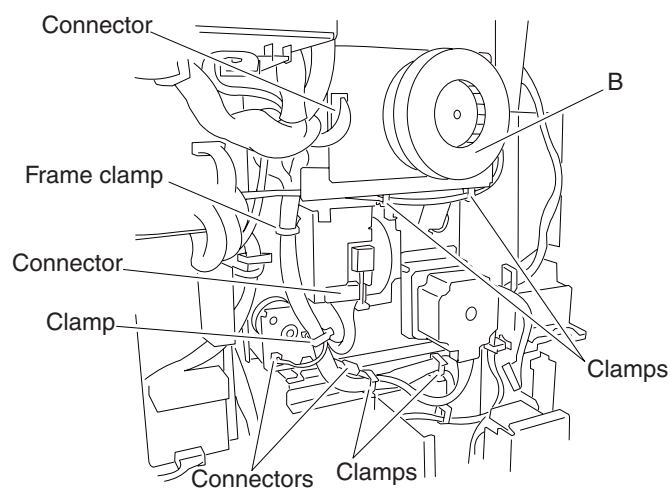
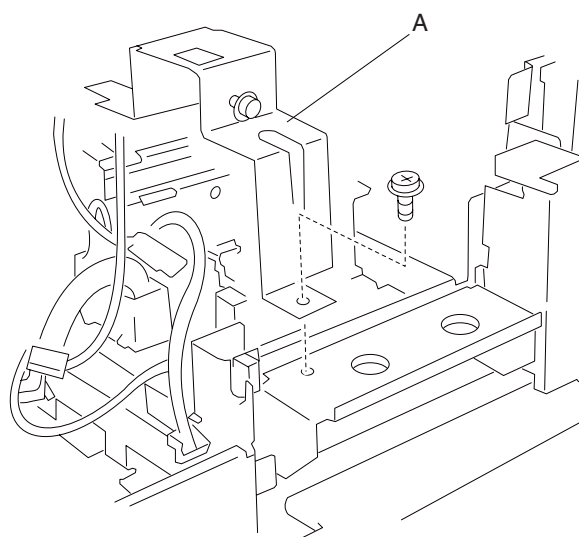
1. Remove the transfer belt unit assembly. See **“Transfer belt unit assembly removal” on page 4-16.**
2. Remove the two screws securing the transfer belt waste toner auger assembly (A).
3. Detach the bushing (B) from the transfer belt waste toner auger assembly (A).
4. Move the transfer belt waste toner auger assembly (A) toward the rear of the machine.
5. Remove the transfer belt waste toner auger assembly (A) from the machine.

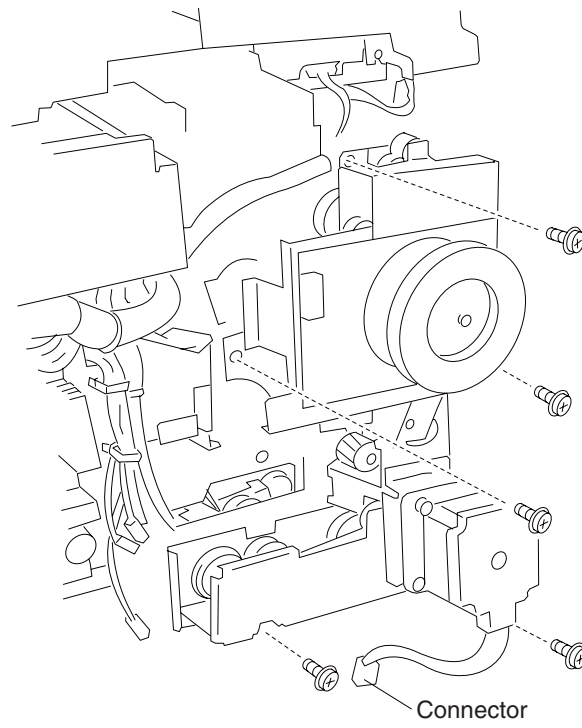


### ***K developer / transport drive motor assembly removal***

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.**
7. 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.**
9. 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.

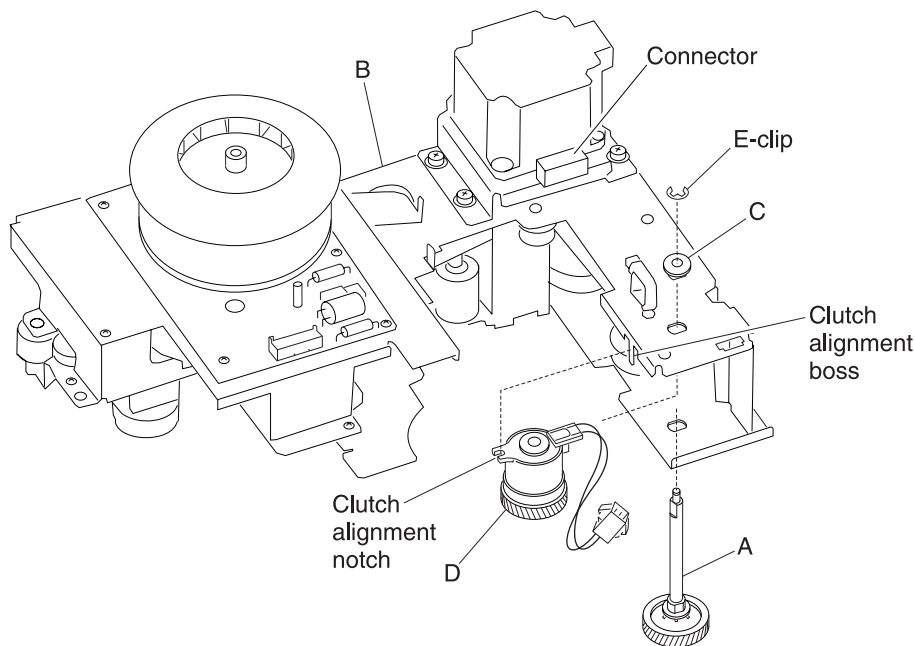
16. Gently remove the K developer transport drive motor assembly (A).





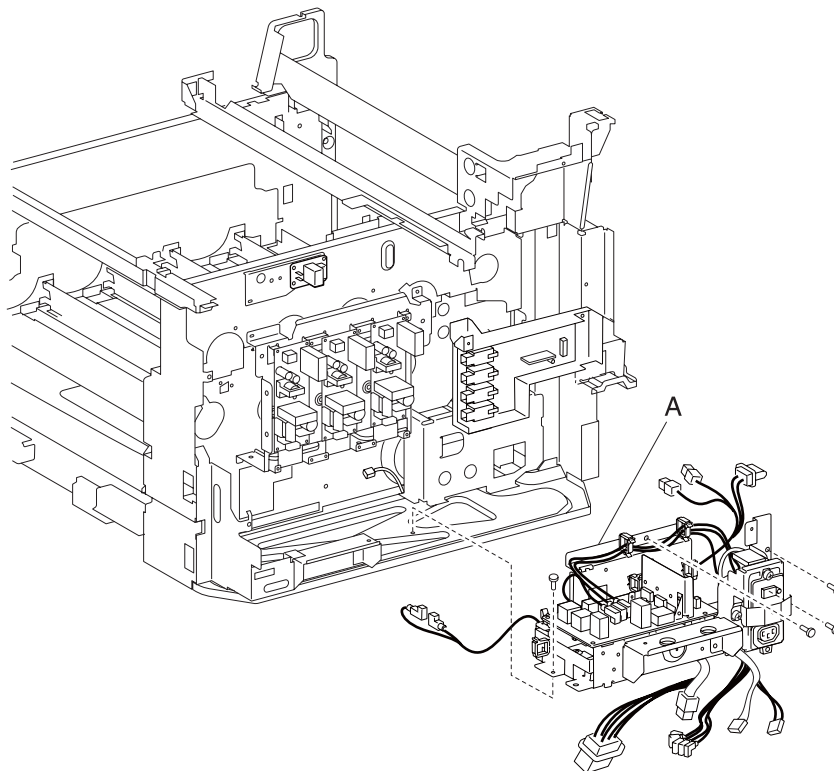
## ***K developer clutch removal***

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.
8. Remove the 24V LVPS card bracket assembly. See **"24V LVPS card bracket assembly removal"** on page 4-84.
9. 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).



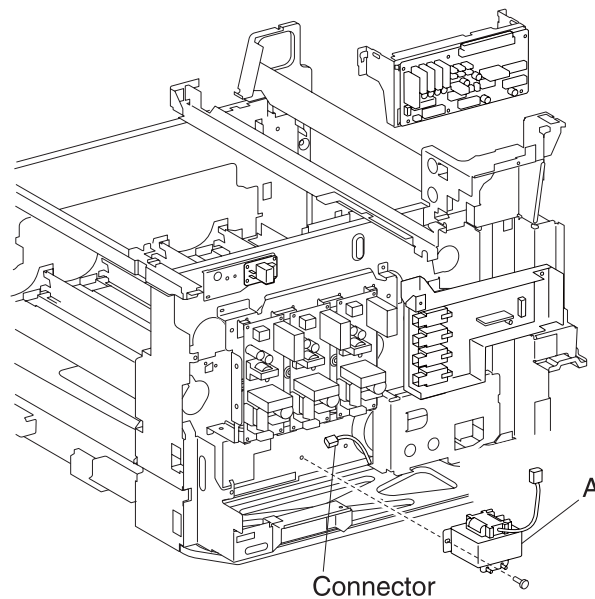
## AC drive card bracket assembly removal

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.**
6. 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

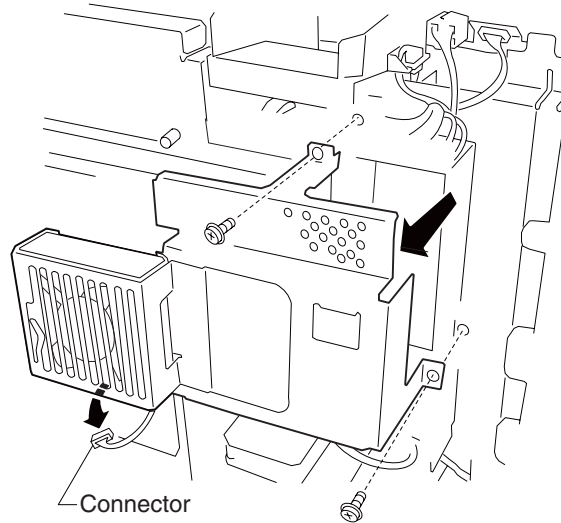
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear upper cooling fan bracket assembly. See **“Rear upper cooling fan bracket assembly removal” on page 4-101.**
3. Remove the developer / transfer roll HVPS card assembly. See **“Developer / transfer 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. 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).





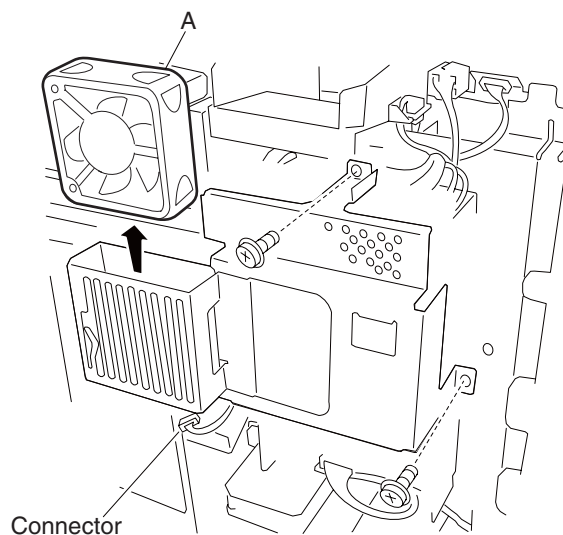
### ***Rear upper cooling fan bracket assembly removal***

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.

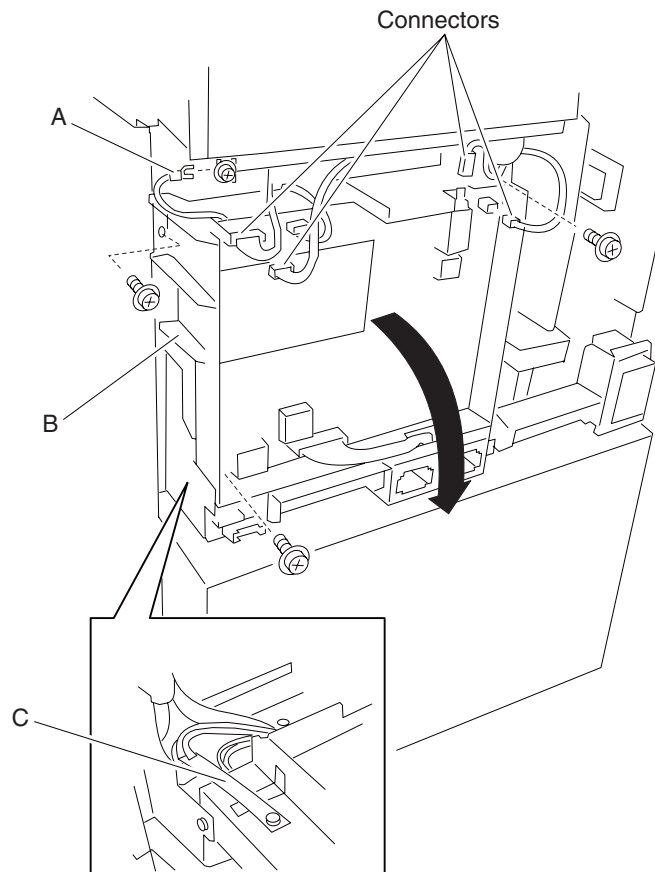


## Developer / transfer roll HVPS card assembly removal

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.
4. Remove the ground wire (A).

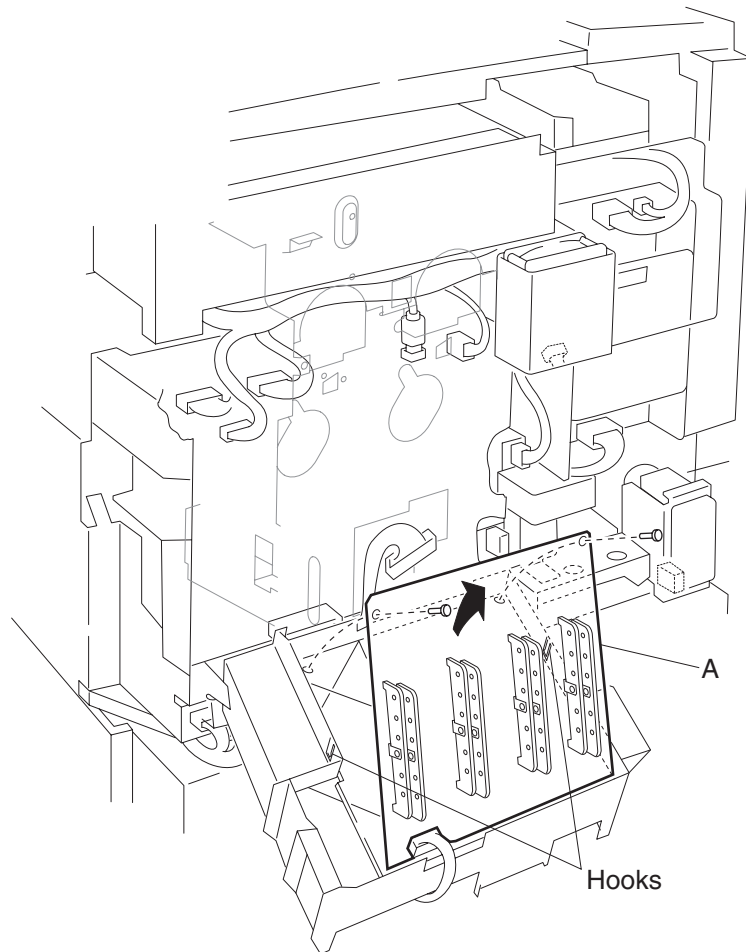
**Warning:** The connector P572 and P502 are permanently attached to the developer / transfer roll HVPS card assembly (B); do not attempt to remove these connectors, or damage will occur.

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).



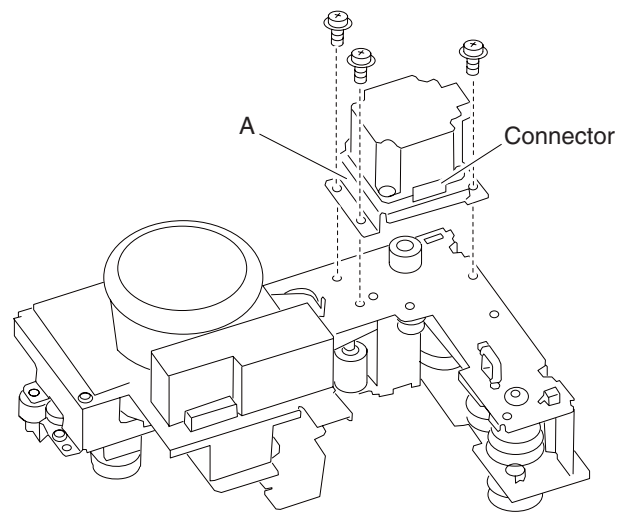
### ***Charge roll HVPS card assembly removal***

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***

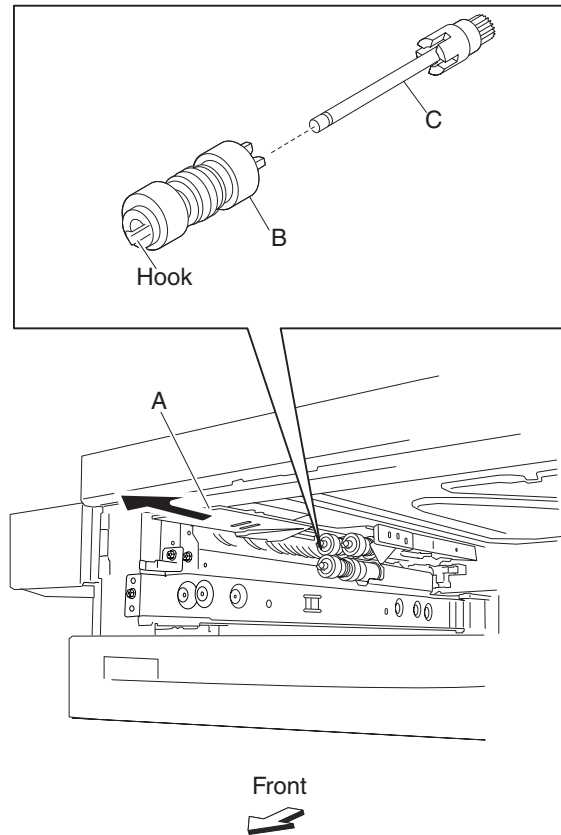
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear upper cooling fan bracket assembly. See **“Rear upper cooling fan bracket assembly removal” on page 4-101.**
3. Remove the developer / transfer roll HVPS card assembly. See **“Developer / transfer 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).

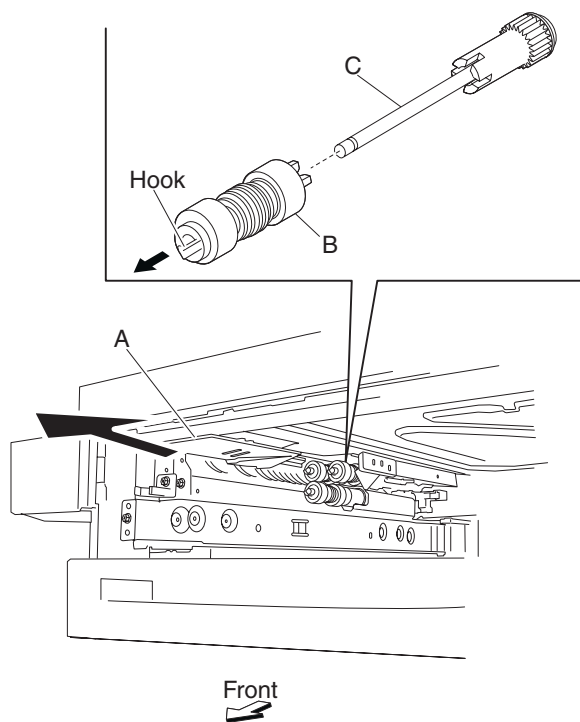
**Note:** Do not touch the rubber surface of the feed roll (B).



### Pick roll removal

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).

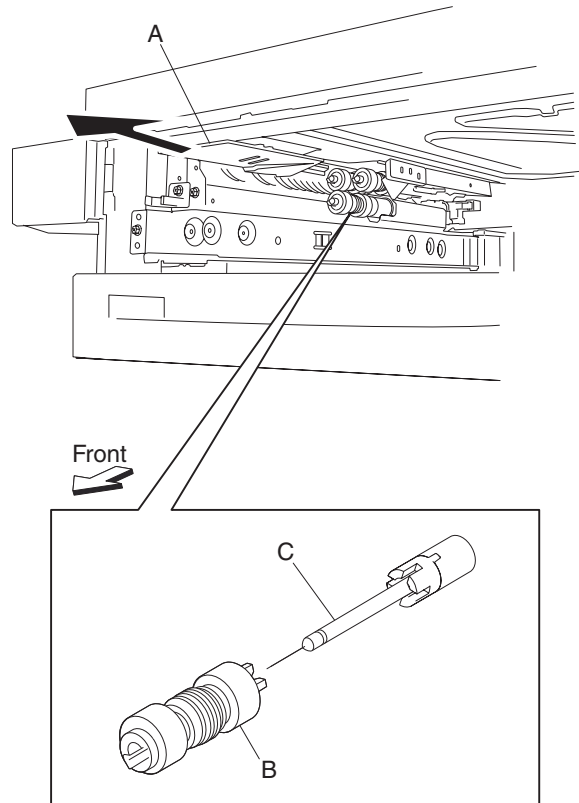


**Replacement note:** Before reinstalling, do not touch the rubber surface of the pick roll (B).

## 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).

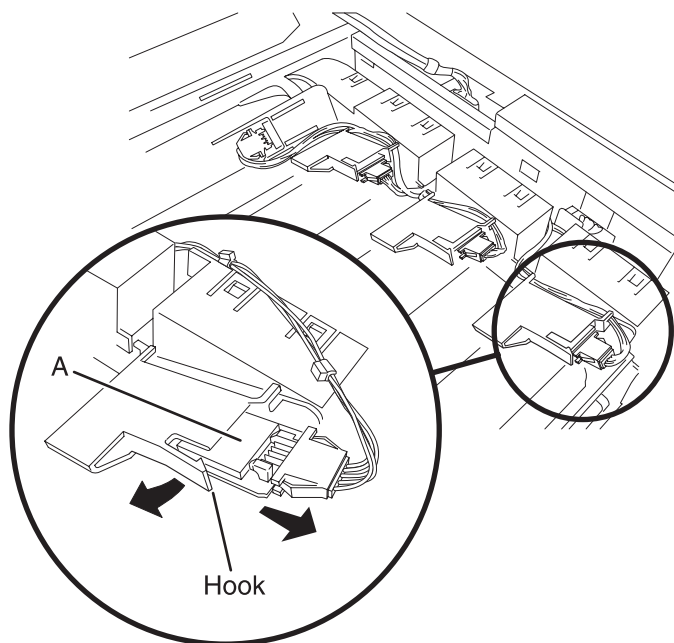


**Replacement note:** Before reinstalling, do not touch the rubber surface of the separation roll (B).

## 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).

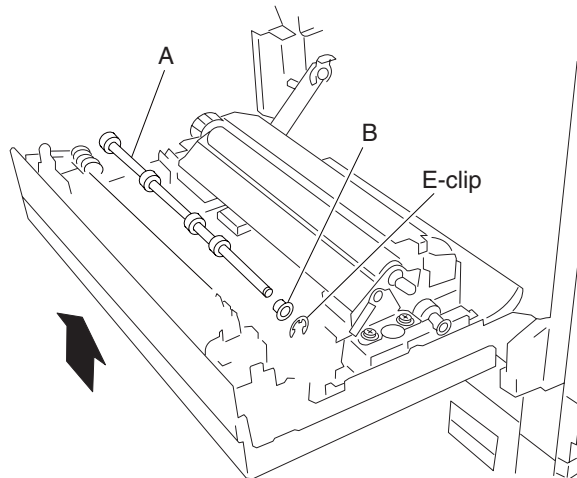
1. Remove the printer front door assembly. See **“Printer front door assembly removal” on page 4-3.**
2. Remove the front left cover. See **“Front left cover removal” on page 4-9.**
3. Remove the waste toner cartridge cover. See **“Waste toner cartridge cover removal” on page 4-39.**
4. Remove the waste 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).





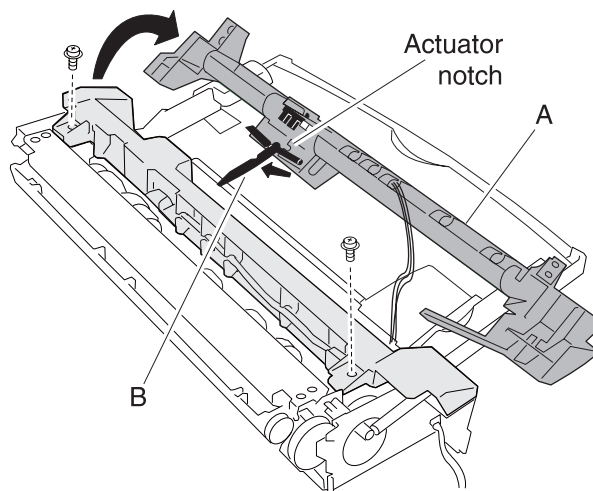
### ***Fuser exit roll assembly removal***

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).



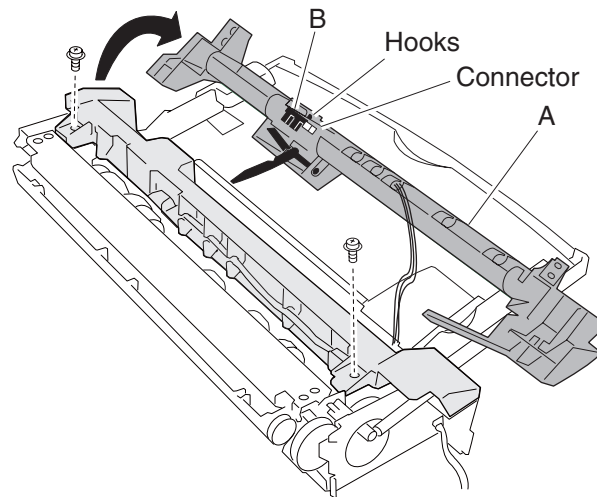
### ***MPF media out actuator removal***

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).



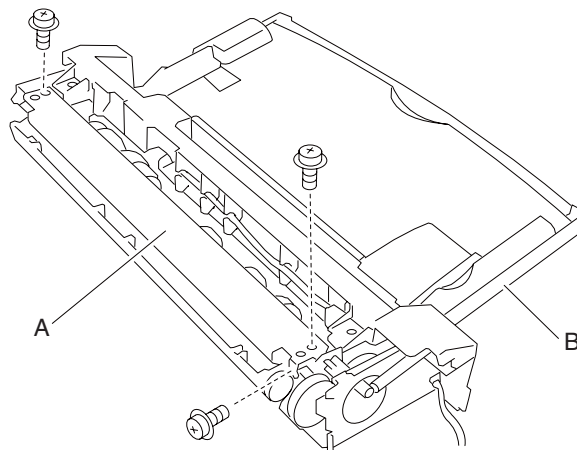
### **Sensor (MPF media out) removal**

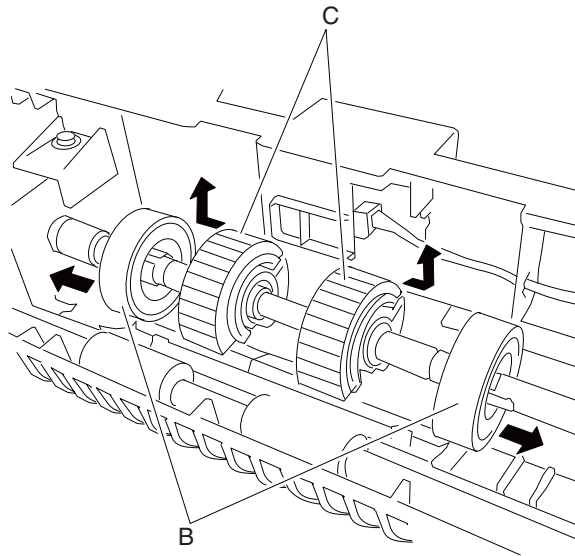
1. Remove the rear cover assembly. See **“Rear cover assembly removal” on page 4-5.**
2. Remove the rear left middle cover. See **“Rear left middle cover removal” on page 4-6.**
3. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal” on page 4-8.**
4. Remove the two screws securing the upper frame cover (A).
5. Remove the upper frame cover (A).
6. 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.



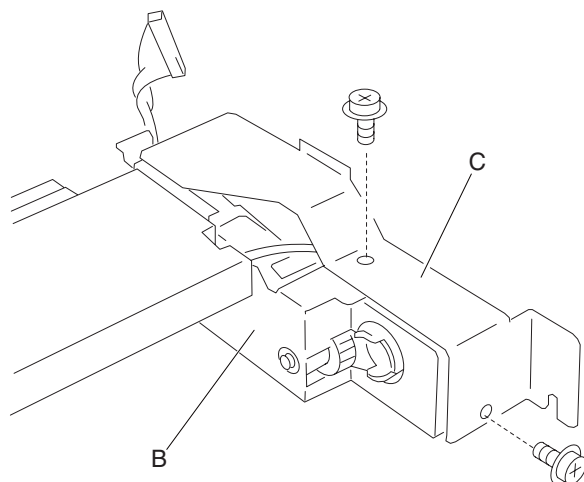
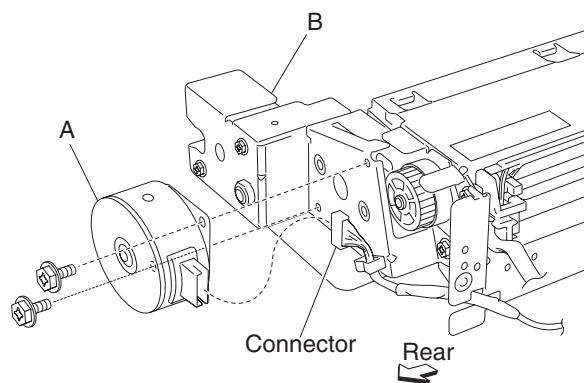


**Replacement note:** When replacing the MPF feed roll assemblies (C), do not touch the rubber surface.

**Replacement note:** When replacing the MPF feed roll assemblies (C), ensure that the directional arrow is properly aligned.

### ***Media feed lift motor removal***

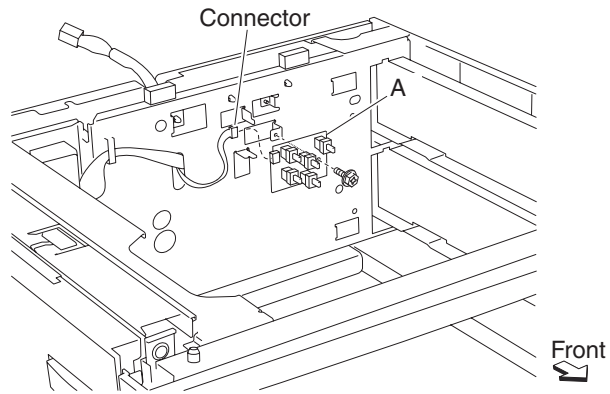
1. Remove the printer left lower door assembly. See **“Printer left lower door assembly removal”** on page 4-8.
2. Remove the media feed unit assembly. See **“Media feed unit assembly 1 removal”** on page 4-21.
3. Disconnect the harness from the media feed lift motor (A).
4. Remove the two screws securing 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).

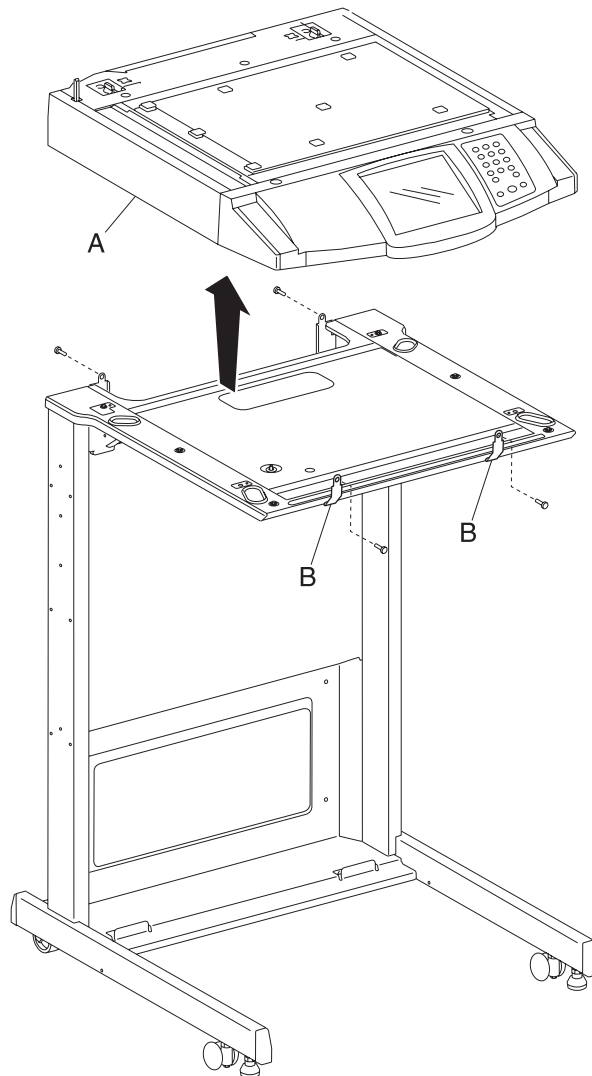


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## Scanner removals

### *Scanner unit assembly removal*

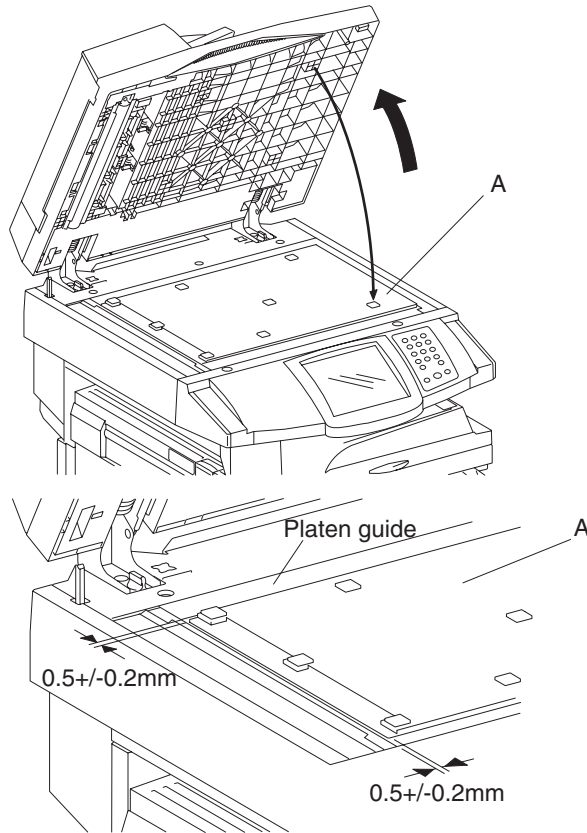
1. Remove the platen cushion assembly. See **“Platen cushion removal”** on page 4-129.
2. Remove the ADF unit assembly. See **“ADF unit assembly removal”** on page 4-128.
3. Remove the operator panel assembly. See **“Operator panel assembly removal”** on page 4-118.
4. Disconnect all connections from 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.



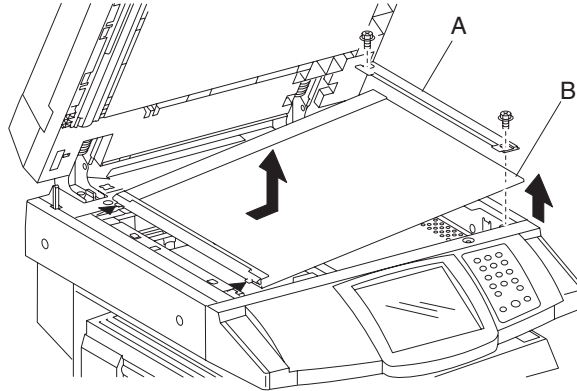
## Large platen glass removal

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.

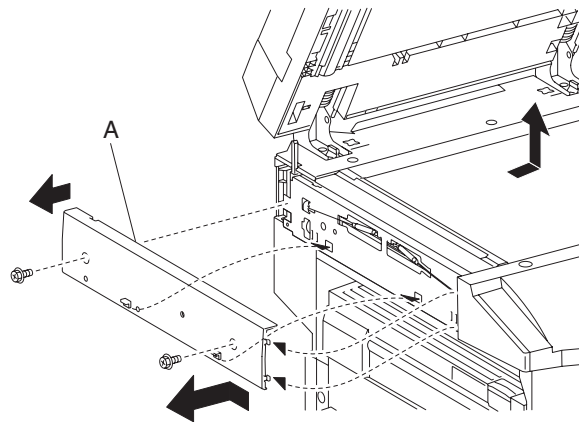
**Note:** Avoid touching the underside of the large platen glass (B).

**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

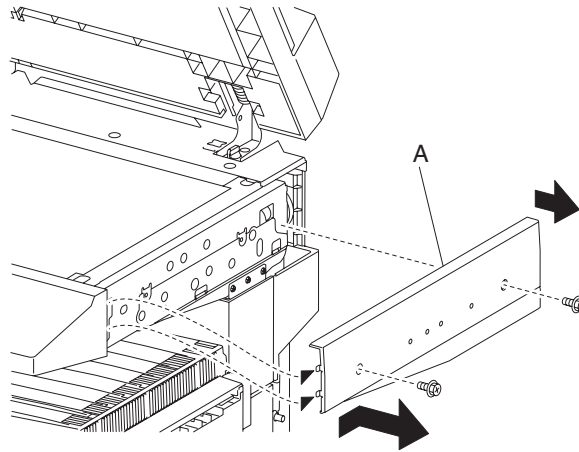
1. Remove the two screws securing the scanner left cover (A) to the scanner unit assembly.
2. Disengage the rear side of scanner left cover (A) from the scanner unit assembly, and shift the scanner left cover (A) rearward.
3. Release the two hooks securing the front side of scanner left cover (A), and remove the scanner left cover (A).





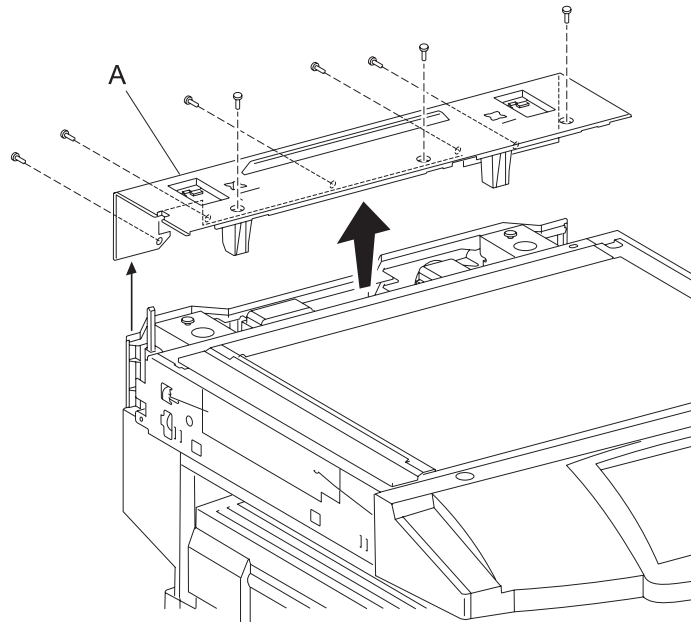
### ***Scanner right cover removal***

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:

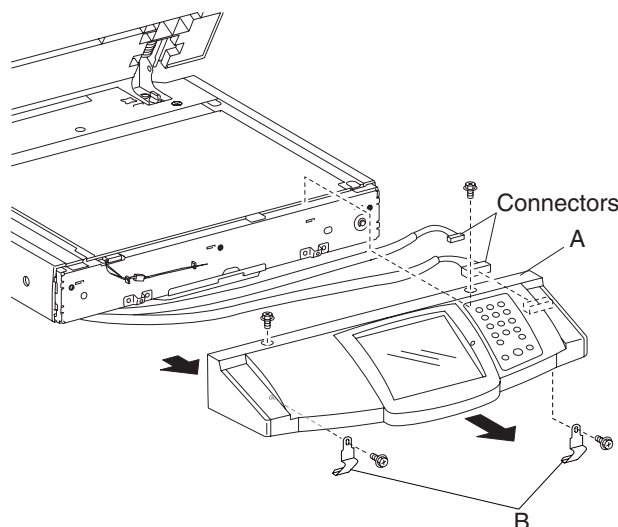
- RIP card assembly
- Interconnect card assembly

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

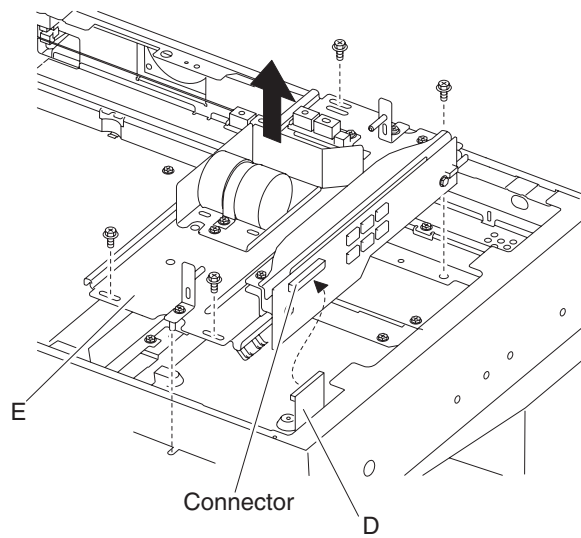
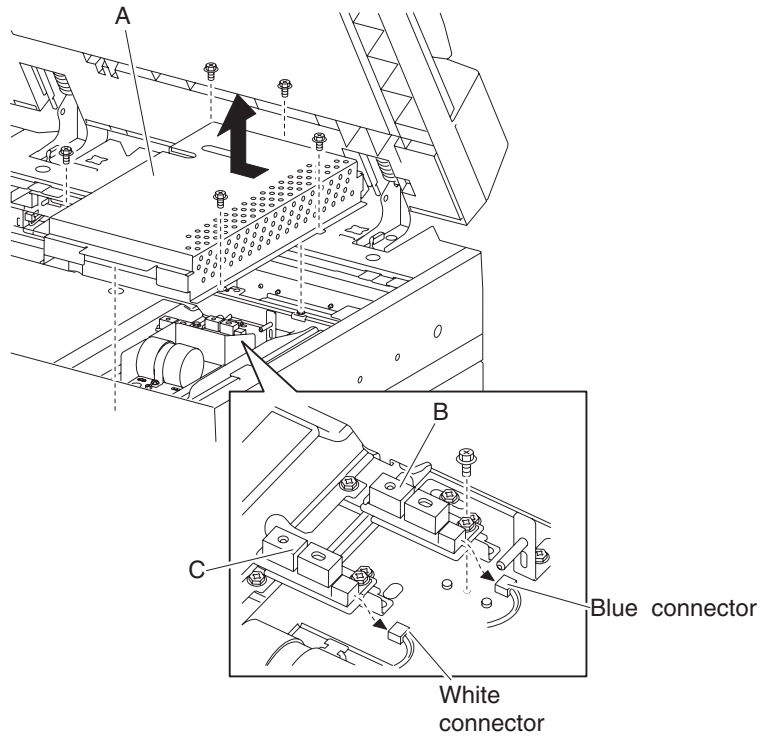
1. Remove the large platen glass. See **“Large platen glass removal” on page 4-116**.
2. Loosen the six screws securing the cover (A) to the scanner unit assembly.
3. Remove the cover (A).
4. Disconnect the two connections to the sensor (platen length APS 1) (B) and the sensor (platen length APS 2) (C).
5. Release the harnesses from the clamps.
6. 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).

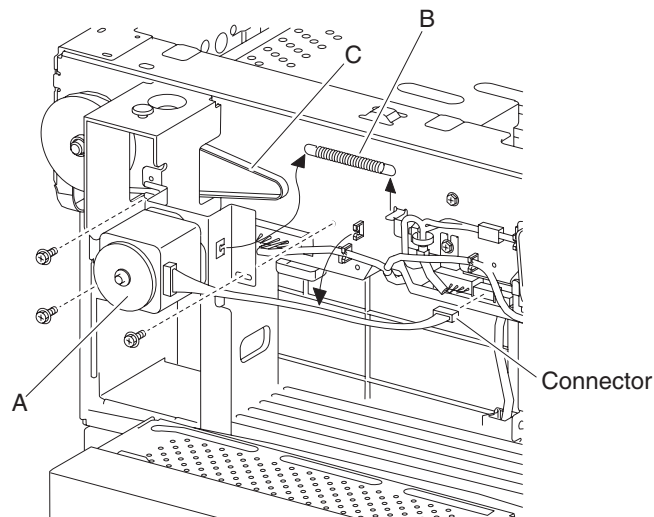
**Note:** Ensure that the white connector is plugged into the sensor (platen length APS 1) (B).



## 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.



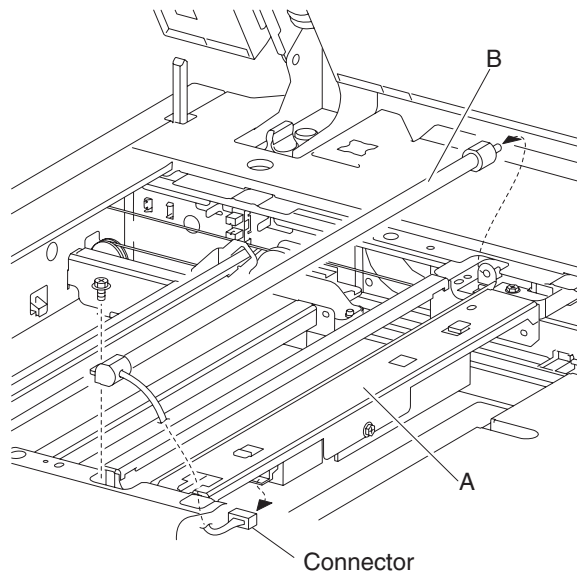
## Exposure lamp removal

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

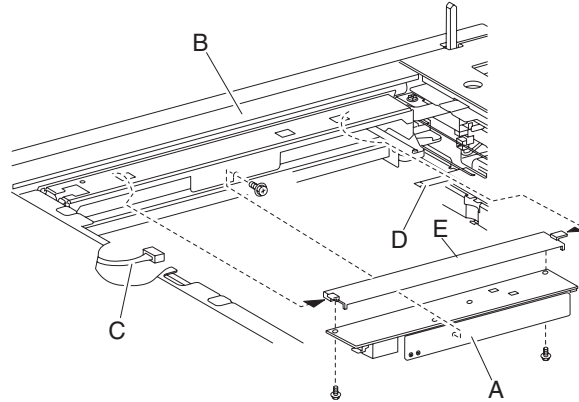
1. Remove the large platen glass. See **“Large platen glass removal” on page 4-116.**
2. Remove the screw securing the exposure lamp PS card assembly (A) to the scanner carriage (B).
3. Move the exposure lamp PS card assembly rearward, then release the two hooks securing it to the scanner carriage (B).
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.

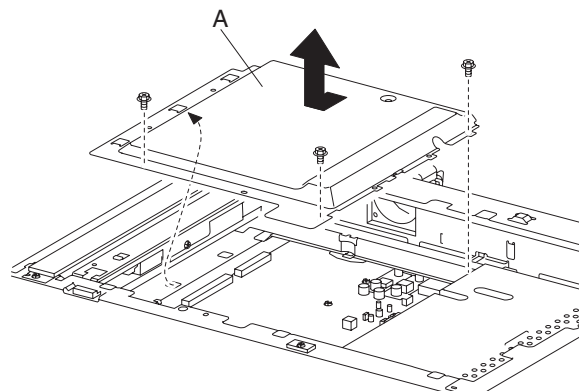
**Note:** Ensure that all harnesses and cables move freely without binding.

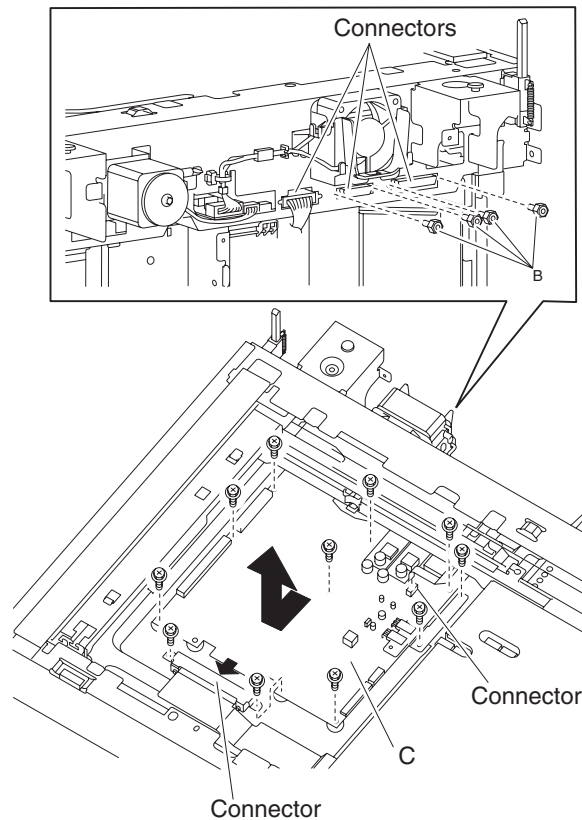
**Note:** Ensure that the exposure lamp PS card assembly is securely mounted to the scanner carriage (B).



### **Scanner controller card assembly removal**

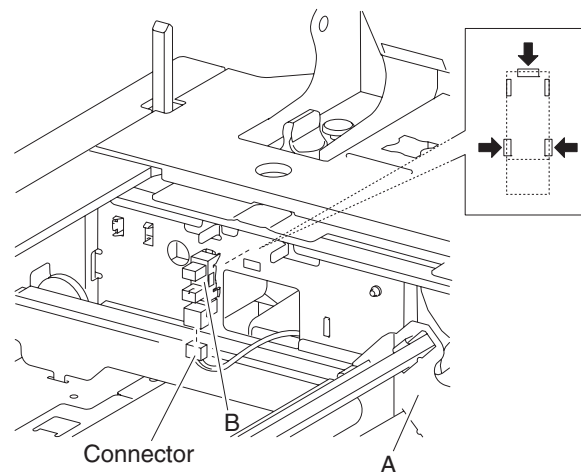
1. Remove the scanner top rear cover. See **“Scanner top rear cover removal” on page 4-117.**
2. Remove the large platen glass. See **“Large platen glass removal” on page 4-116.**
3. Gently move the scanner carriage assembly completely to the left to provide access to the screws.
4. Remove the three 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).





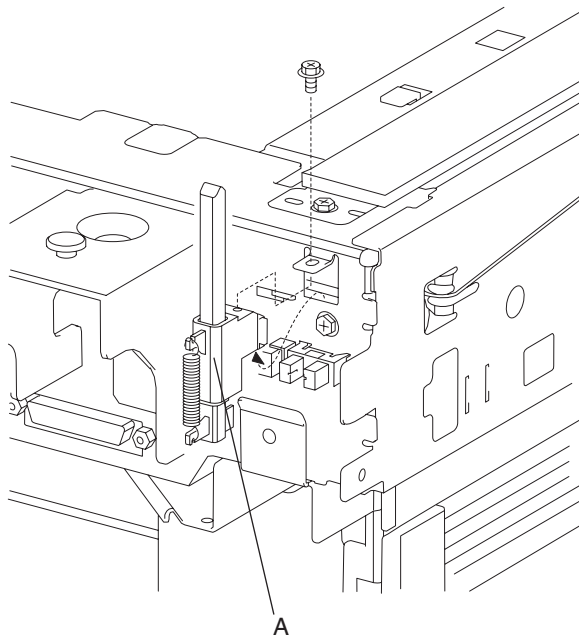
### **Sensor (scanner HP) removal**

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).



### ***ADF angle actuator 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. 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).

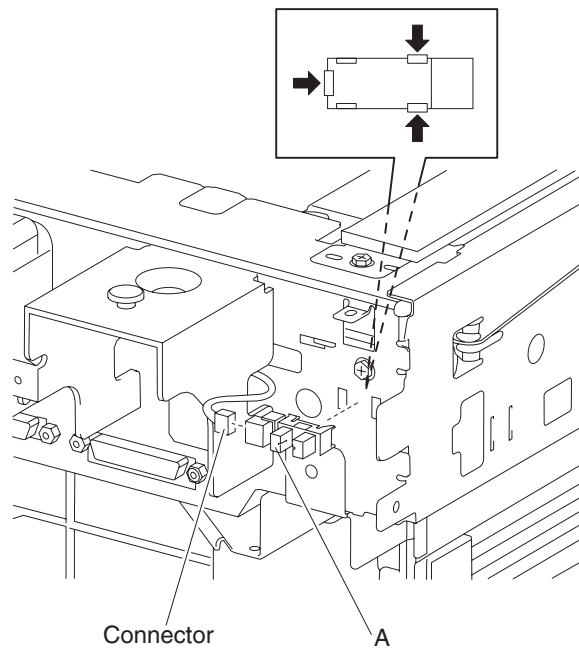


### ***Sensor (ADF angle) removal***

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).



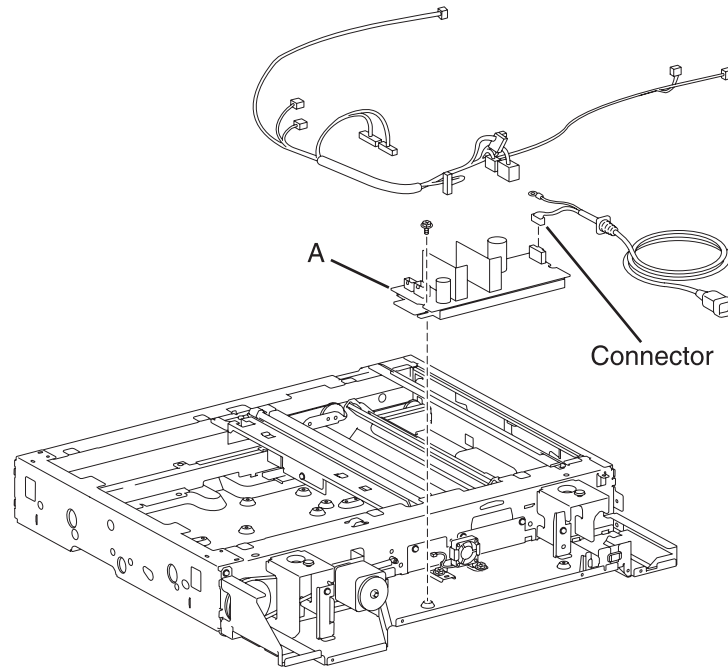
10. Remove the sensor (ADF angle) (A).



### ***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).

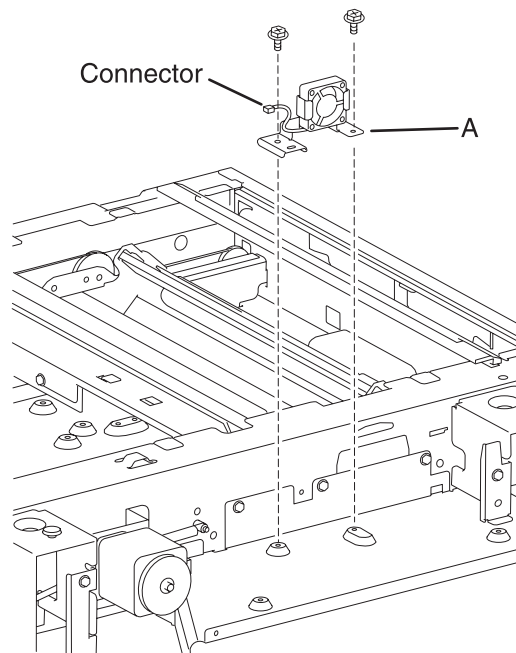
8. Remove the scanner PS card assembly (A).



### ***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).



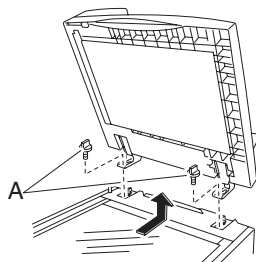
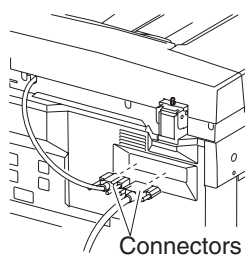
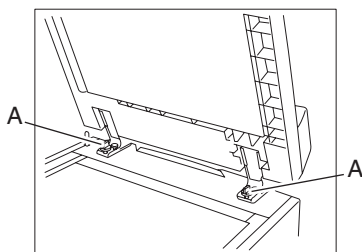
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## ADF removals

### *ADF unit assembly removal*

**Warning:** The ADF is very heavy; do not drop it, or damage will occur.

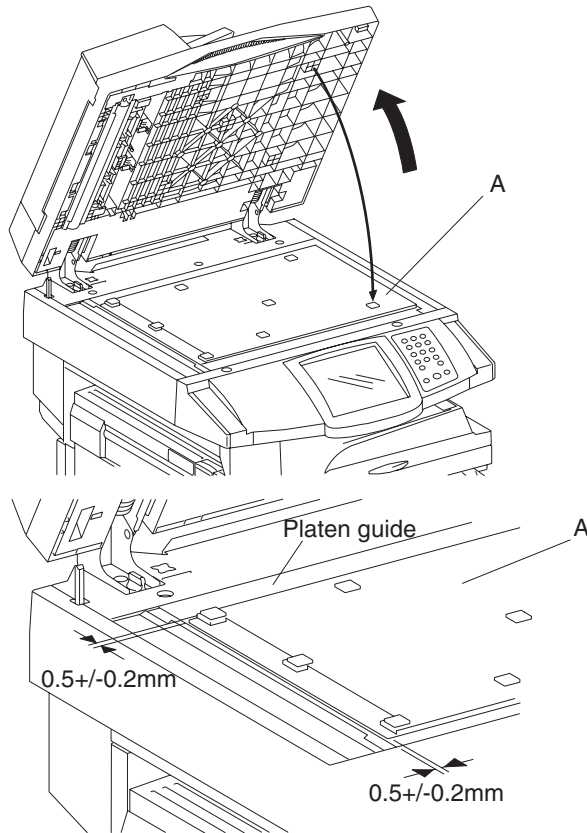
1. Remove the platen cushion assembly. See **“Platen cushion removal”** on page 4-129.
2. Open the ADF to its full upright position.
3. Remove the connection from the ADF to the rear of the scanner unit assembly.
4. Remove the two ADF mounting screws (A).
5. Move the ADF slightly rearward, and then lift upward in the direction of the arrow.
6. Remove the ADF unit assembly.



## Platen cushion removal

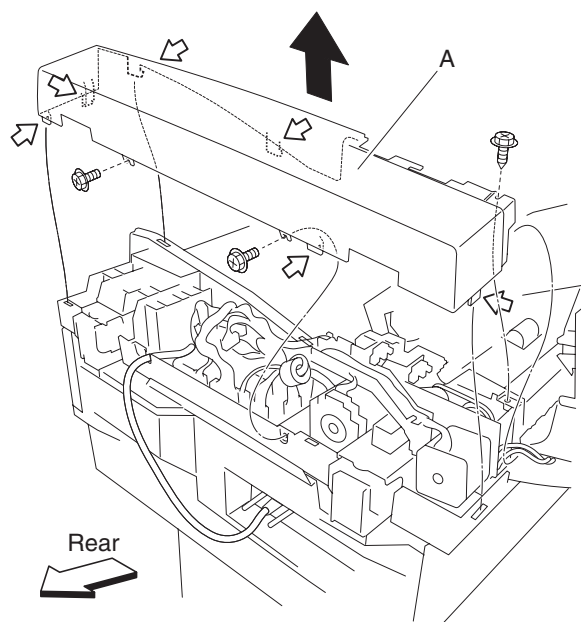
1. Open the ADF unit assembly.
2. Gently pull off the platen cushion (A) from the ADF.

**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.



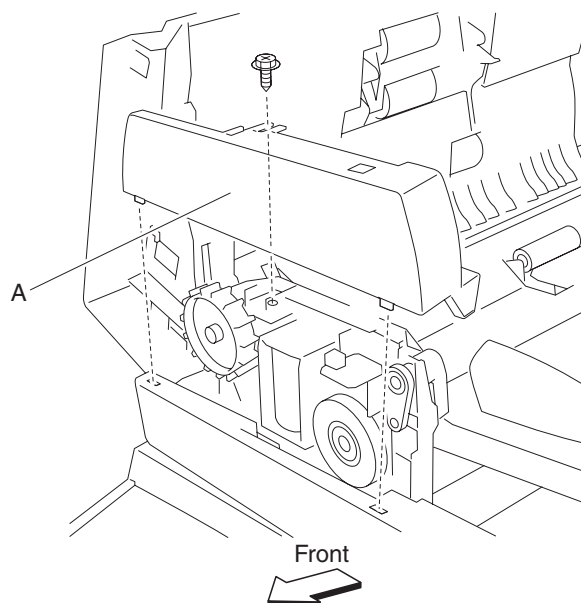
### ***ADF rear cover removal***

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).
20. Remove the harness from the rectangular opening of the side of the ADF left cover assembly.

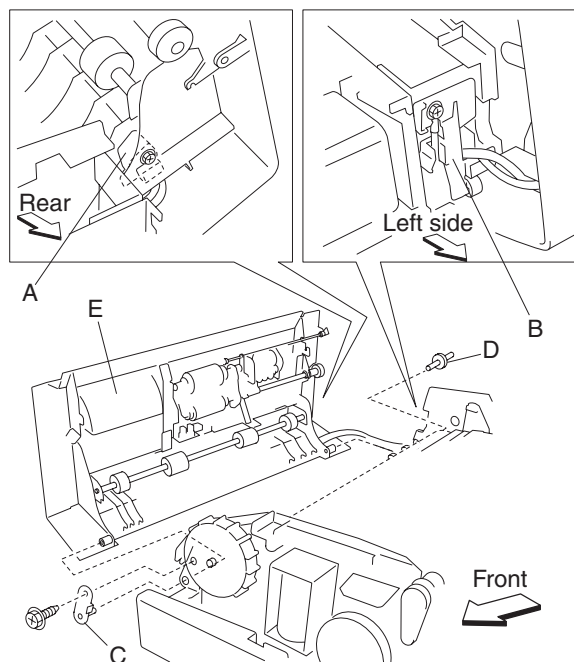
**Note:** Before reinstalling the ADF left cover assembly (E), ensure that the harness is properly routed and is not pinched.

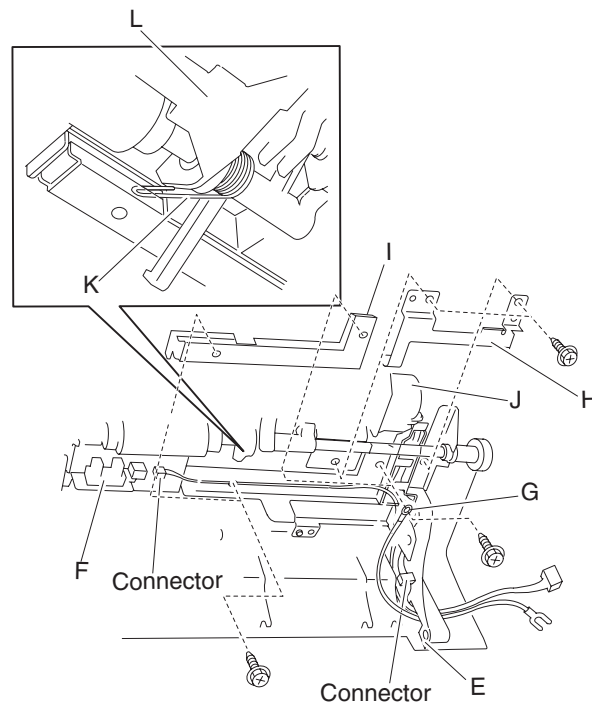
**Note:** Ensure that the harnesses are properly captured by the harness guide (I).

**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***

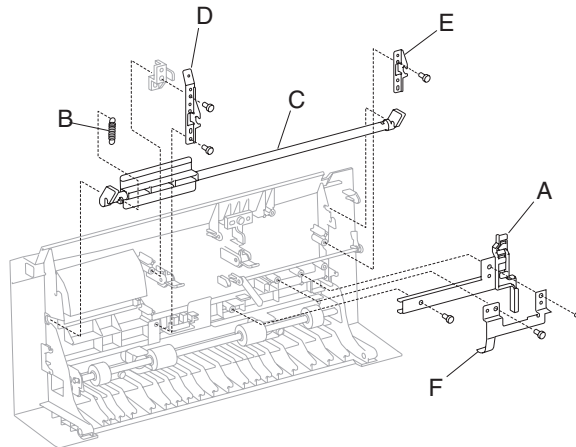
1. Open the ADF left cover assembly.
2. Remove the ADF left cover media guide. See **“ADF left cover media guide removal” on page 4-143.**
3. Remove the ADF left cover media guide. See **“ADF left cover media guide removal” on page 4-143.**
4. Remove the ADF feed/pick assembly. See **“ADF feed/pick roll 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.**
7. 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 hang loosely out of the way.

8. 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 hang 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).

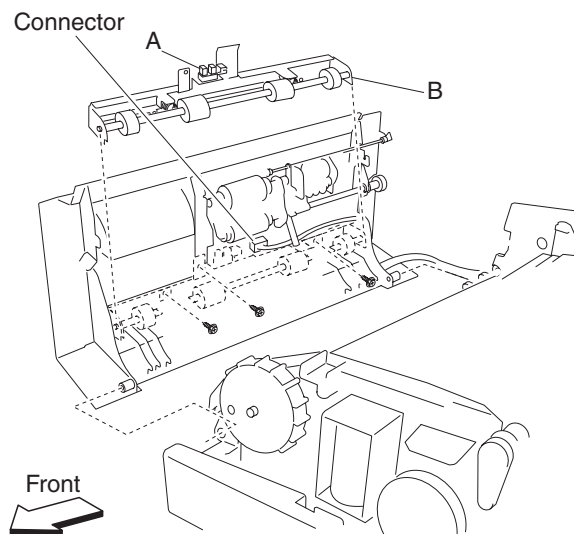


**Replacement note:** Ensure that the grounding plate (E) is properly reattached.



### ***Left cover pinch roll assembly removal***

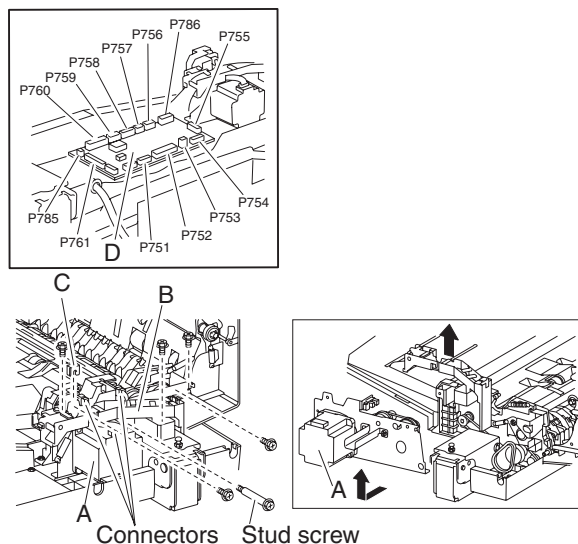
1. Open the ADF left cover assembly.
2. Disconnect the connector from the sensor (pick roll position HP) (A).
3. Remove the three screws securing the left cover pinch roll assembly (B).
4. Remove the left cover pinch roll assembly (A).



### ***ADF feed drive motor assembly removal***

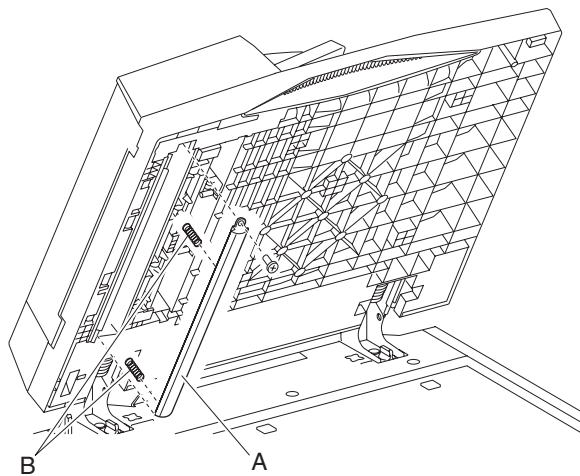
1. Open the ADF left cover assembly.
2. Lift the document tray assembly.
3. Remove the ADF rear cover. See **“ADF rear cover removal” on page 4-130.**
4. Remove the ADF registration motor. See **“ADF registration motor removal” on page 4-158.**
5. Disconnect the three connectors from the ADF dual drive 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.

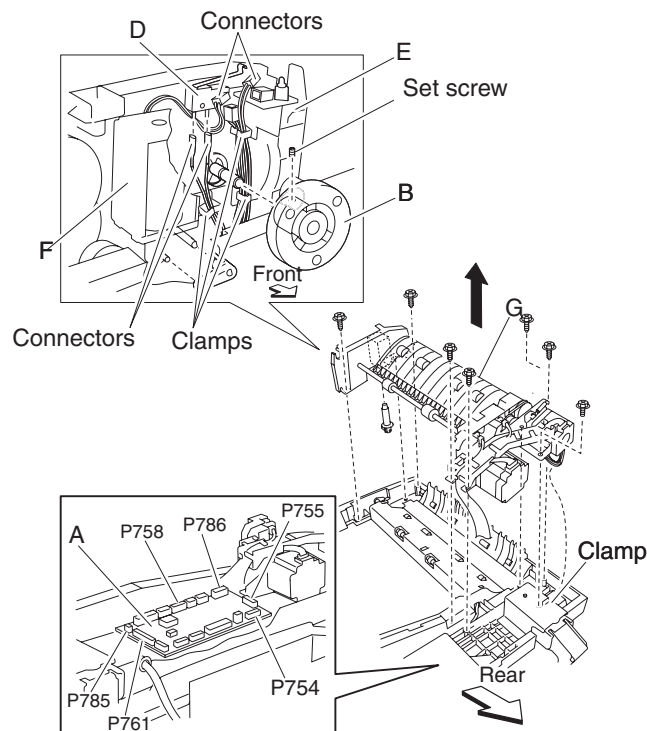
**Note:** The plunger in the inverter solenoid assembly (F) will become detached.

**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.

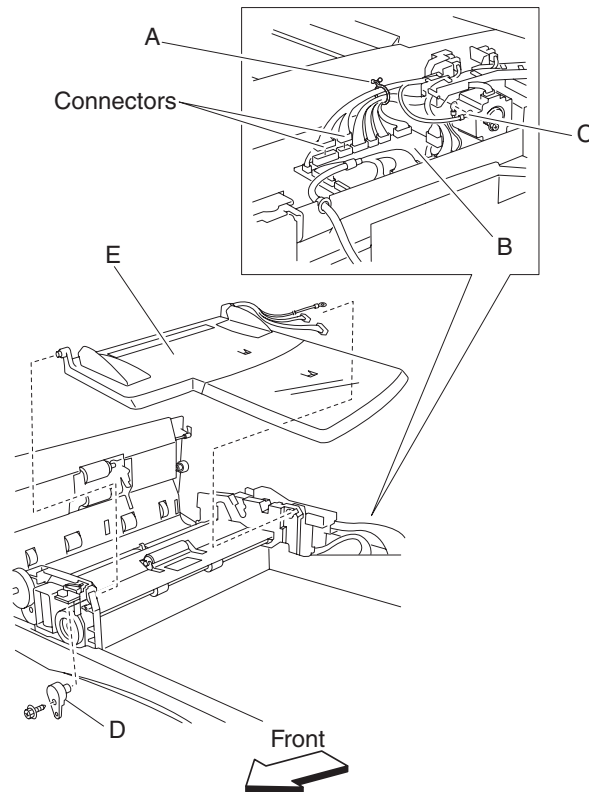


## Document tray assembly removal

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.

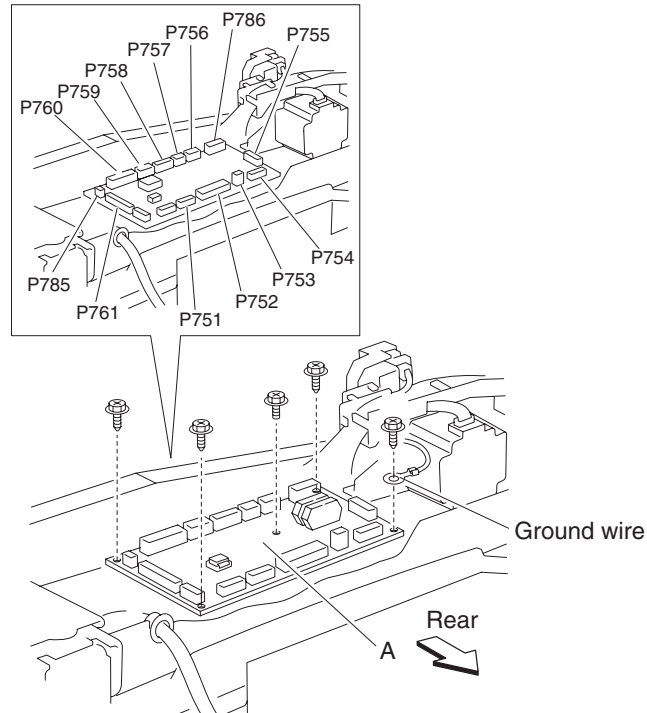


## ADF controller card assembly removal

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.

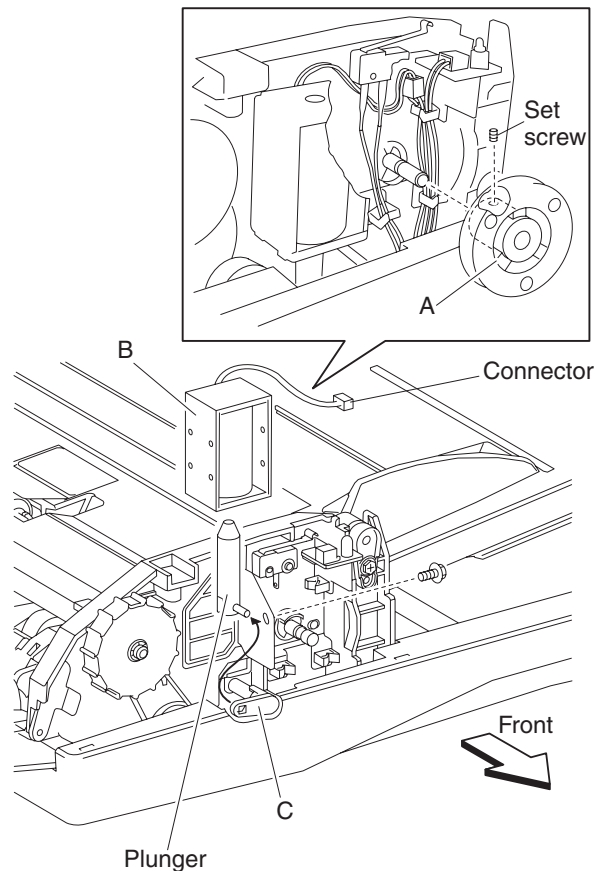
**Replacement note:** Ensure that the ground wire is reconnected.



## ***Inverter solenoid assembly removal***

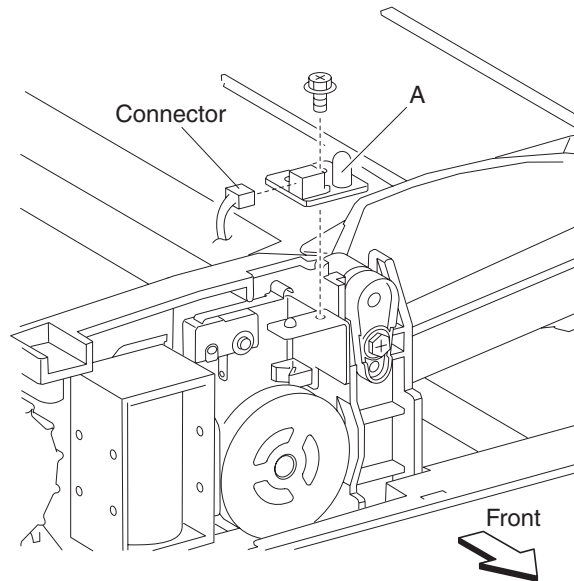
1. Open the ADF left cover assembly.
2. Remove the ADF front cover assembly. See **“ADF front cover assembly removal” on page 4-130.**
3. Loosen the set screw securing the damper (A).
4. Remove the damper (A).
5. Disconnect the connector from the inverter solenoid assembly (B).
6. Remove the screw securing 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).



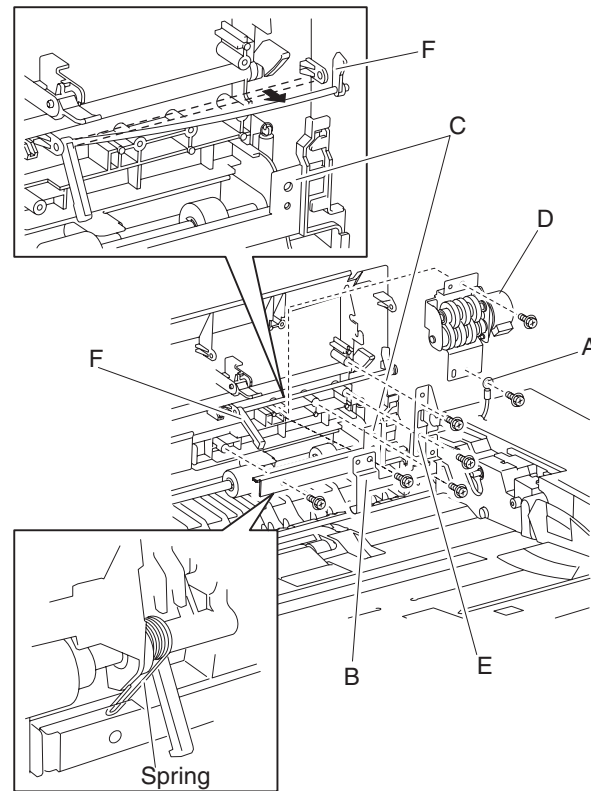
### Sheet through actuator removal

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).
11. 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.

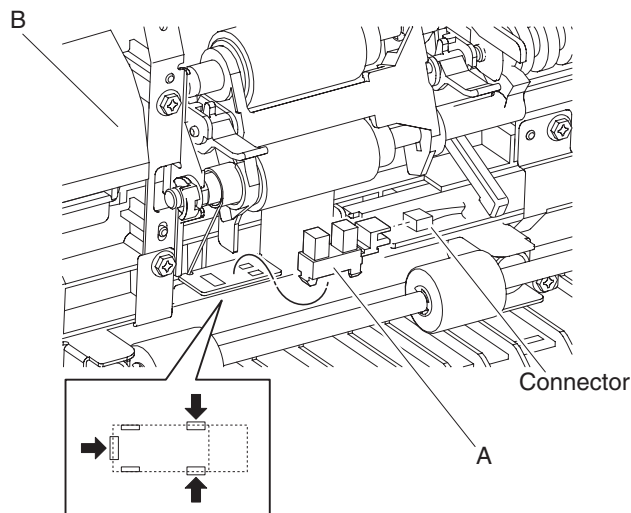
12. Remove the rear bracket (E).
13. Gently pry the sheet through actuator (F) out of the ADF left cover assembly.
14. Remove the sheet through actuator (F).

**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.
3. Remove the ADF left cover media guide. See **“ADF left cover media guide removal” on page 4-143.**

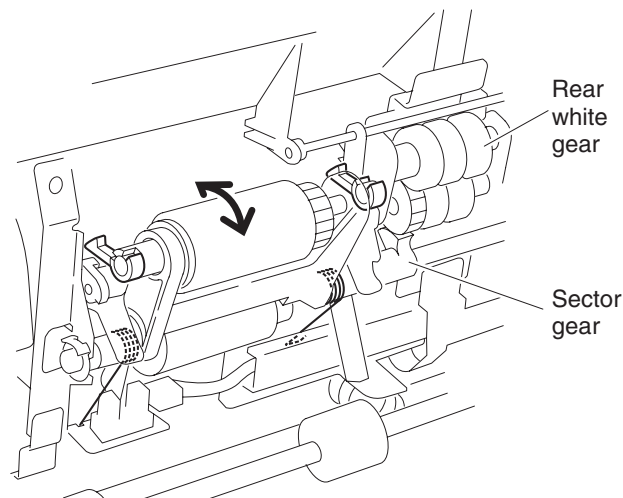
**Note:** Rotate the rear most white gear of the pick roll position motor assembly until the pick roll is completely lowered and the sector gear is completely disengaged.

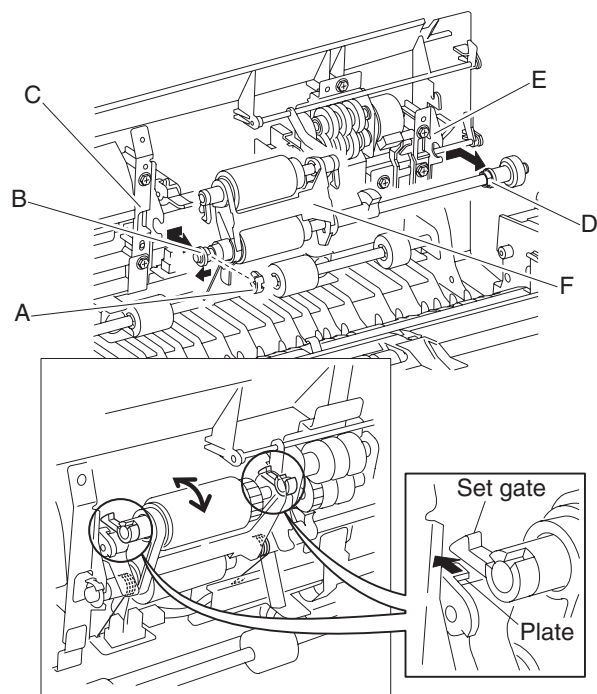
4. Release the two springs from the ADF left cover assembly.
5. Remove the plastic clip (A).
6. Move the front bushing (B) frontward in the direction of the arrow to remove it from the front bracket (C).
7. Gently pull the front end of the ADF feed/pick roll assembly away from the ADF left cover assembly.
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.

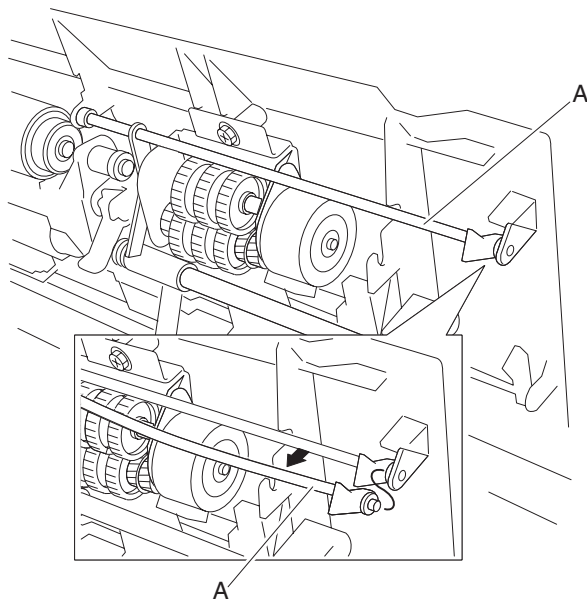
**Replacement note:** Ensure that the two springs are positioned and installed properly, or the ADF will malfunction and jam.





### ***Document set actuator removal***

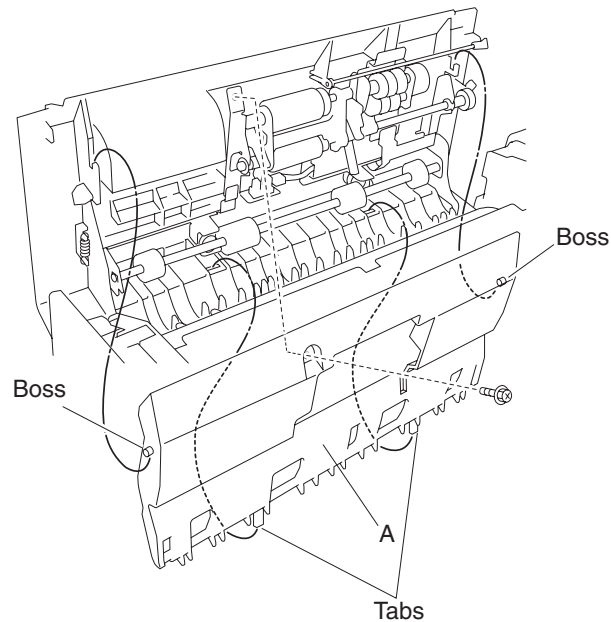
1. Open the ADF left cover assembly.
2. Remove the ADF left cover media guide. See **“ADF left cover media guide removal” on page 4-143.**
3. Gently pry the document set actuator (A) from the ADF left cover assembly.
4. Remove the document set actuator (A).



### ***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).

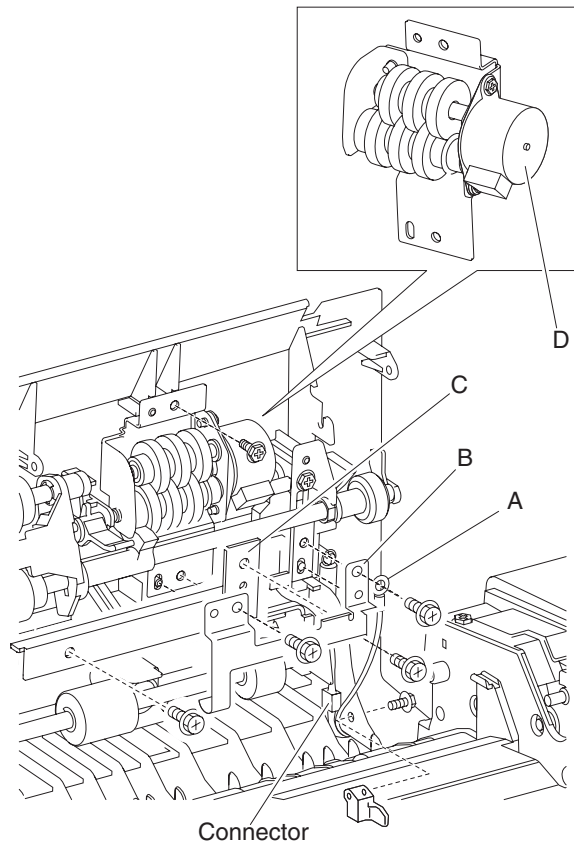
**Replacement note:** Before reinstalling the ADF left cover media guide (A), ensure that the two bosses and two tabs are correctly installed, or jamming will occur.



### ***Pick roll position motor assembly removal***

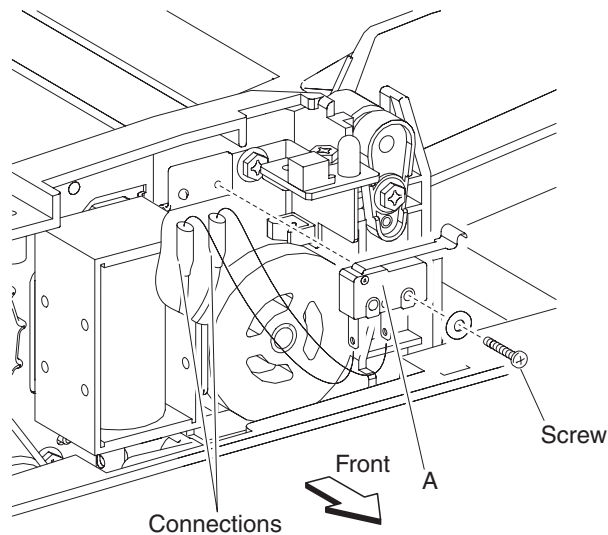
1. Open the ADF left cover assembly.
2. Remove the ADF left cover media guide. See **“ADF left cover media guide removal” on page 4-143.**
3. Remove the document set actuator. See **“Document set actuator removal” on page 4-142.**
4. Remove the screw from the green ground wire (A).
5. Remove the screw 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**

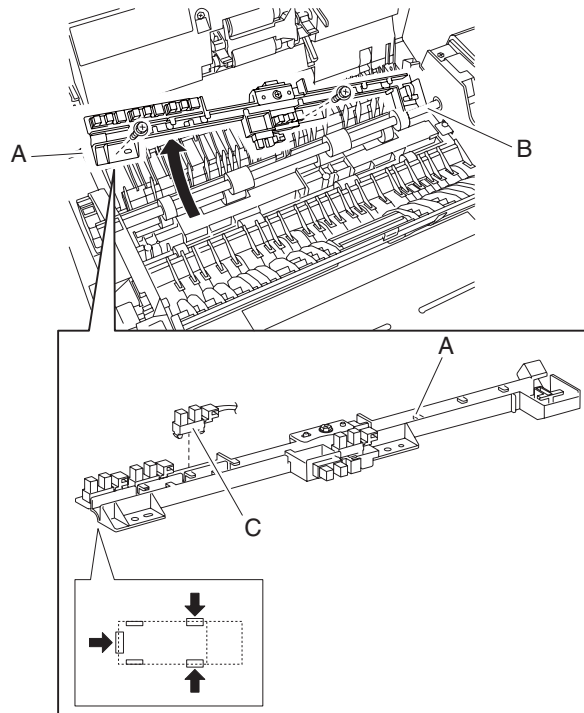
1. Open the ADF left cover assembly.
2. Remove the ADF front cover assembly. See **“ADF front cover assembly removal” on page 4-130.**
3. Remove the screw and washer securing the switch (ADF left cover interlock) (A).
4. Disconnect the two connections to the switch (ADF left cover interlock) (A) with 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).

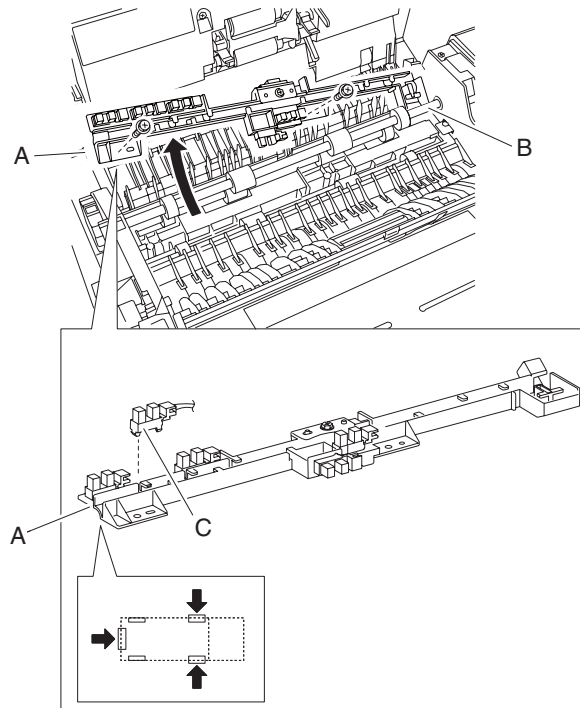
The APS, pre-registration, and inverter sensors are removed in the same manner. Release the hook, disconnect the connector, and remove the sensor.



### **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).

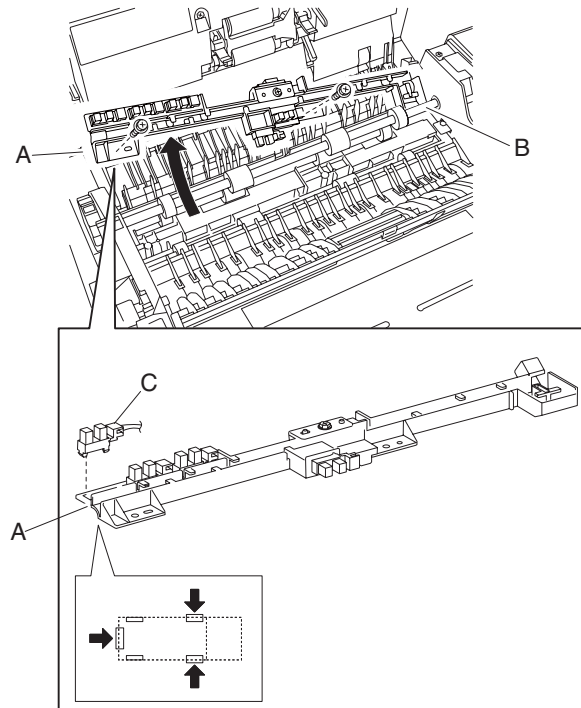
The APS, pre-registration, and inverter sensors are removed in the same manner. Release the hook, disconnect the connector, and remove the sensor.



### **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).

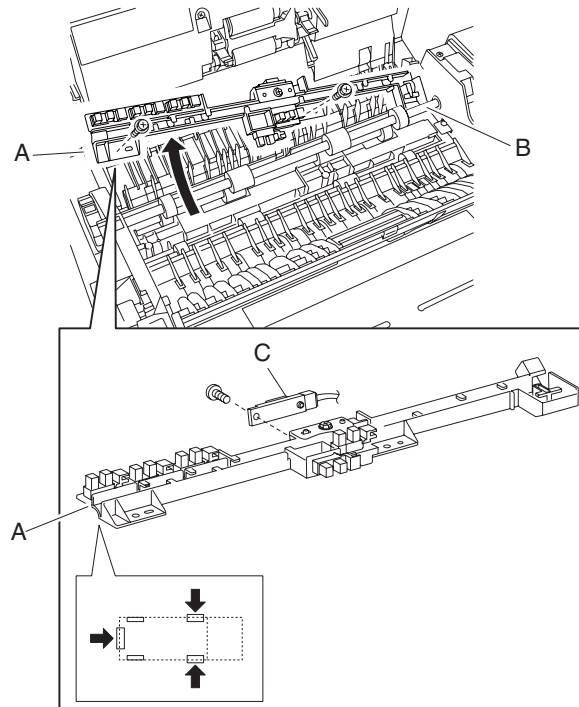
The APS, pre-registration, and inverter sensors are removed in the same manner. Release the hook, disconnect the connector, and remove the sensor.



### ***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).

The APS, pre-registration, and inverter sensors are removed in the same manner. Release the hook, disconnect the connector, and remove the sensor.

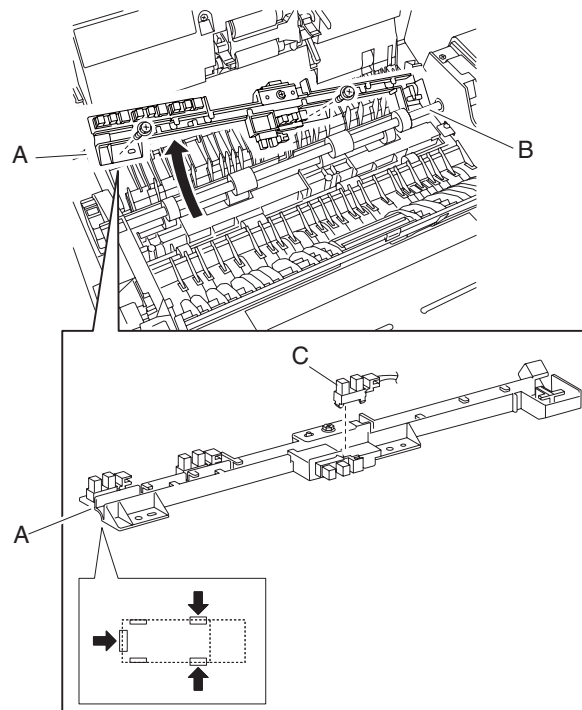




## Sensor (ADF pre-registration) removal

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).

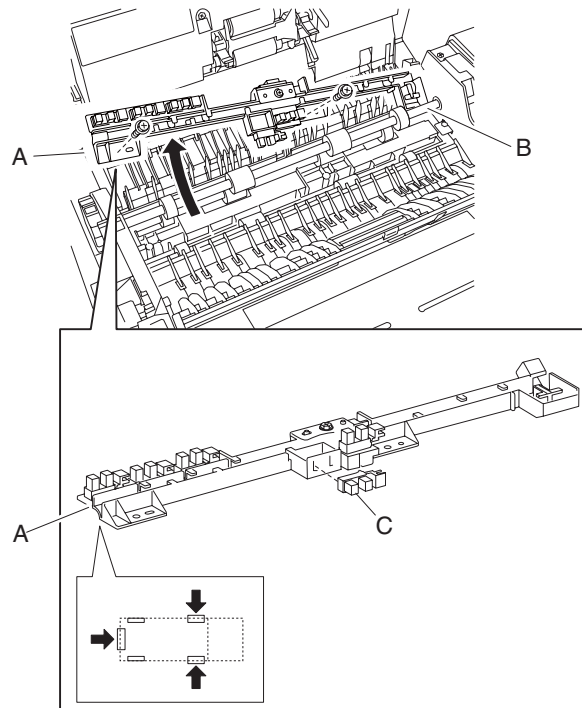
The APS, pre-registration, and inverter sensors are removed in the same manner. Release the hook, disconnect the connector, and remove the sensor.



## Sensor (ADF inverter) removal

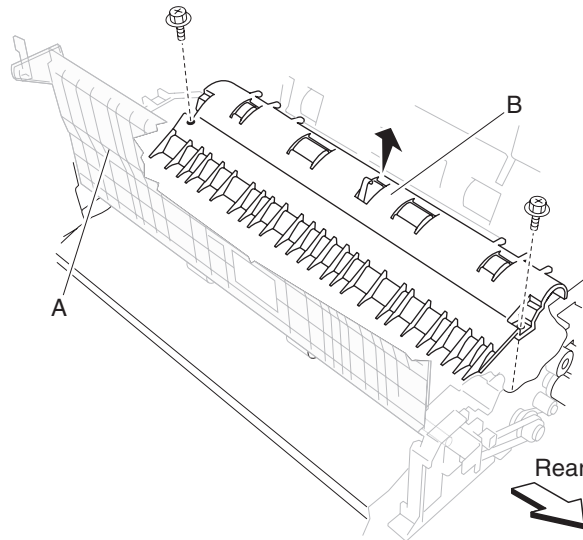
1. Open the ADF left cover assembly.
2. Lift the separation roll guide assembly to its uppermost position.
3. Remove the actuator/media guide assembly. See **“Actuator/media guide assembly removal” on page 4-151.**
4. Remove the two screws securing the sensor mount (A) to the ADF.
5. Slide the sensor 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).

The APS, pre-registration, and inverter sensors are removed in the same manner. Release the hook, disconnect the connector, and remove the sensor.



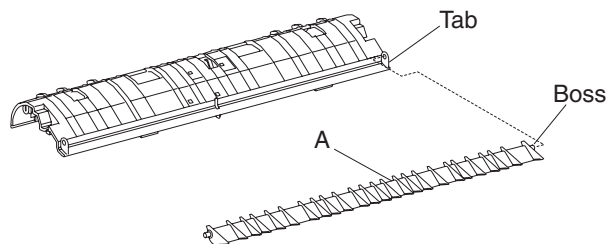
### Actuator/media guide assembly removal

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).



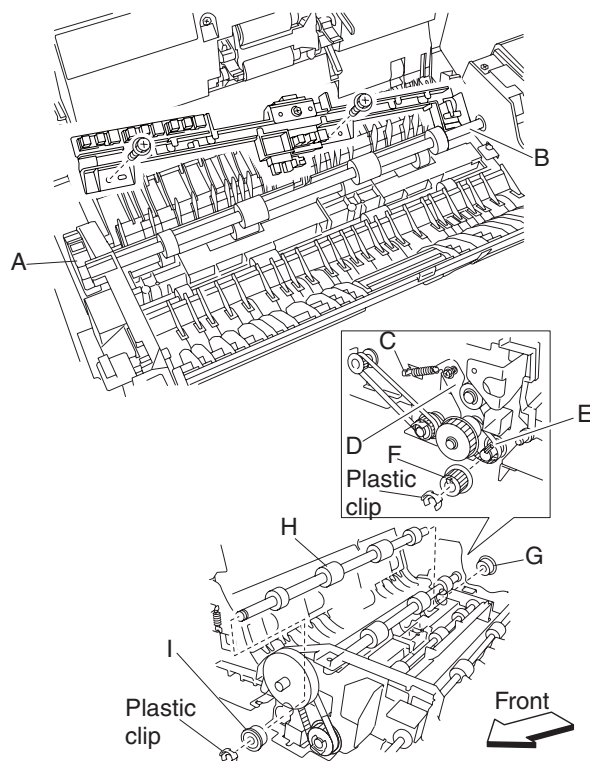
### ADF registration roll assembly removal

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.**
14. Remove the two screws securing the sensor mount (A) to the ADF.
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.



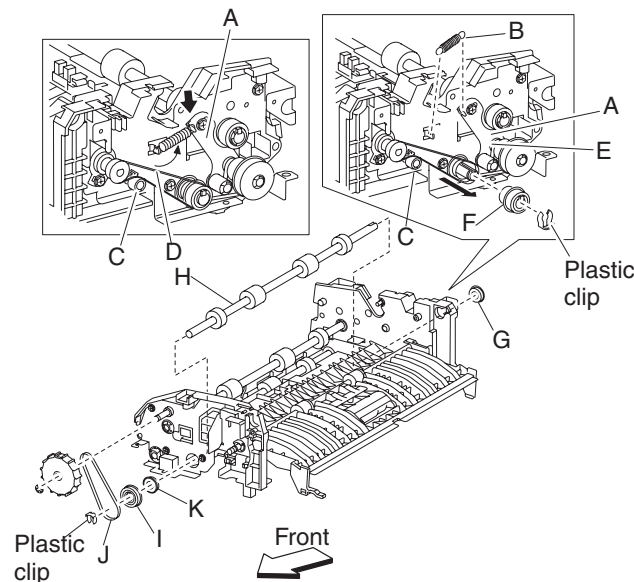
**Replacement note:** Loosen and then retighten the two screws that set the belt tension after the tension spring (C) is attached.

### **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).

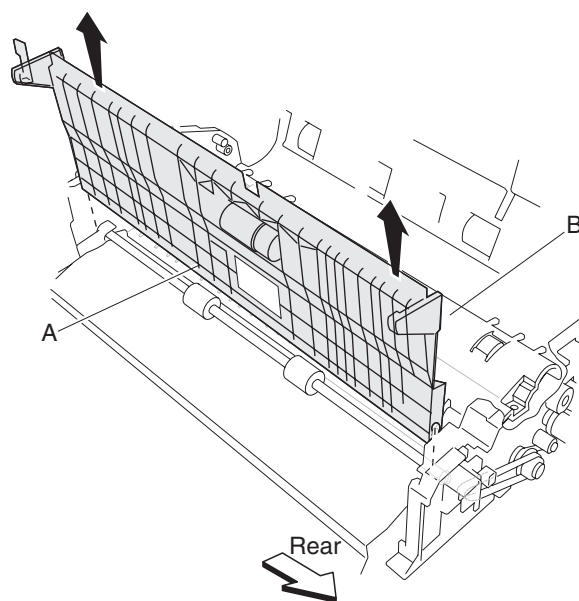
**Warning:** Do not touch the rubber surface of the ADF exit roll assembly (G).



### ***ADF separation roll guide assembly***

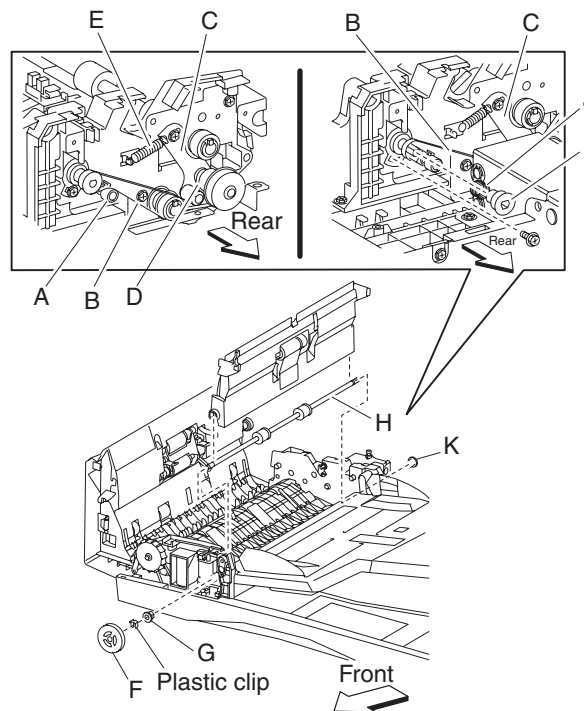
1. Open the ADF left cover assembly.
2. Lift the separation roll guide assembly (A) to its uppermost position.
3. Lift and remove the separation roll guide assembly (A).

**Note:** Extra upward force is required to remove the separation roll guide assembly.



## ADF exit roll assembly removal

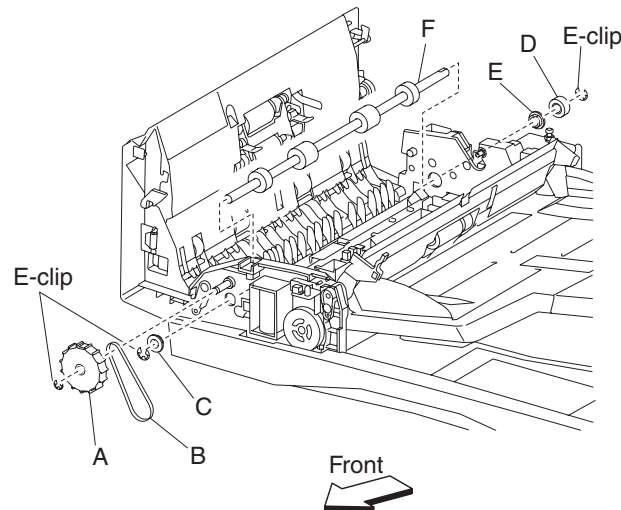
1. Open the ADF left cover assembly.
  2. Remove the ADF front cover assembly. See **“ADF front cover assembly removal” on page 4-130.**
  3. Remove the ADF rear cover. See **“ADF rear cover removal” on page 4-130.**
  4. Remove the ADF registration motor. See **“ADF registration motor removal” on page 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).
  21. 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).

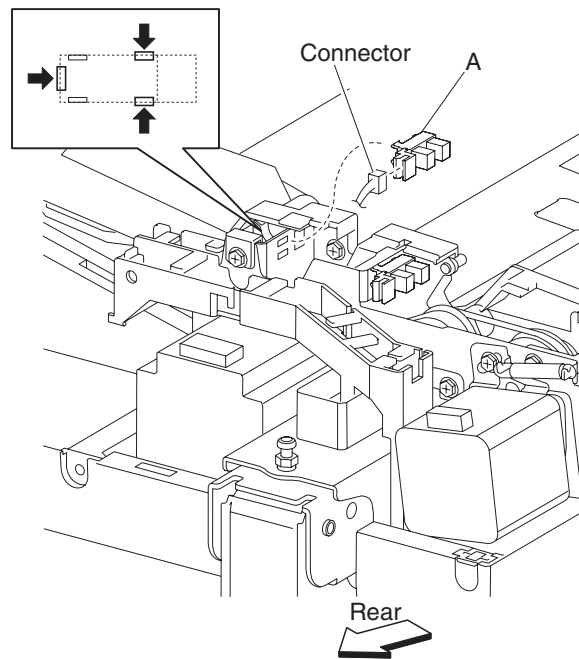


## Sensor (document set) removal

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).

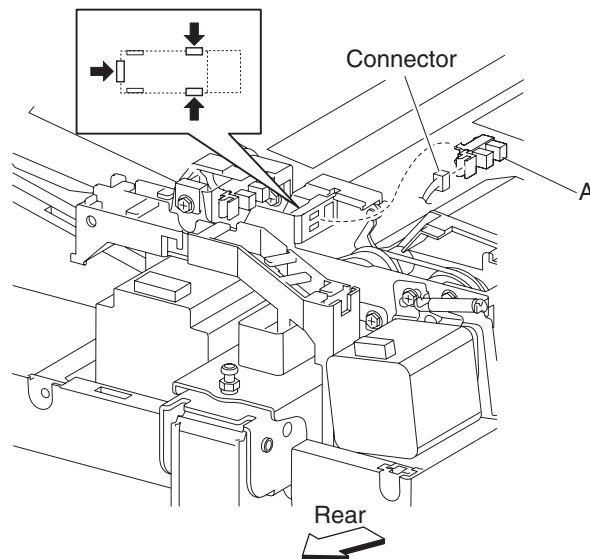


6. Remove the sensor (document set) (A).



### ***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).

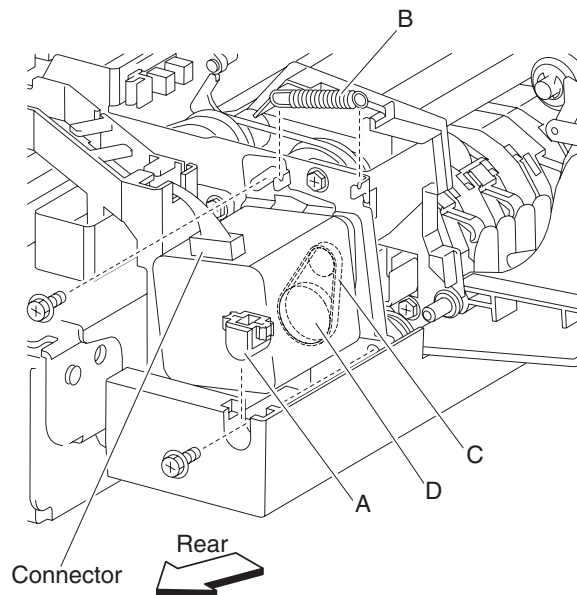


## ADF registration motor removal

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).

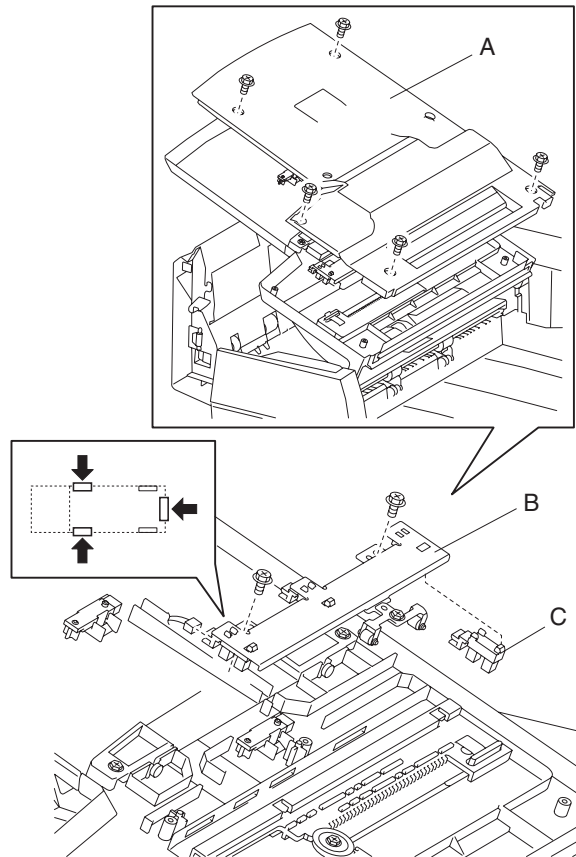
**Replacement note:** Ensure that the registration main drive belt (C) is properly routed. To correctly set the registration main drive belt (C) tension, install the ADF registration motor (A) and the tension spring (B) before completely tightening the two screws.



### ***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).

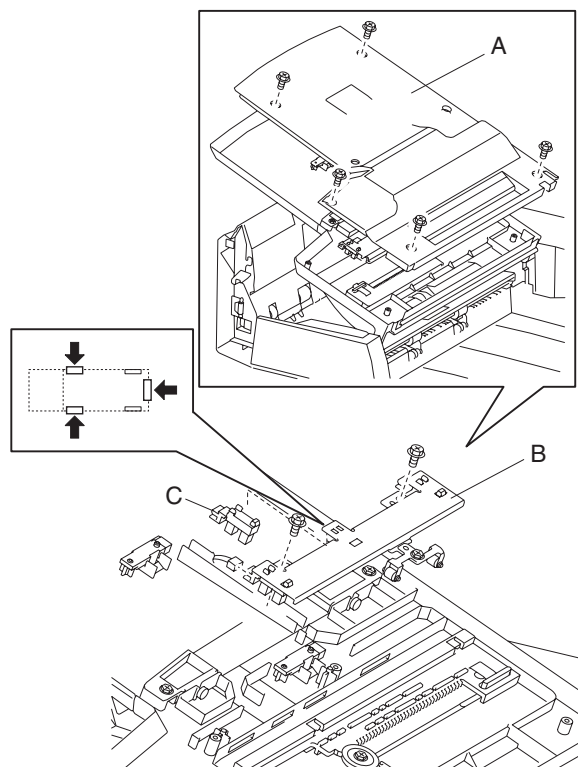
**Note:** The sensor (document tray width 1), sensor (document tray width 2), or the sensor (document tray width 3) are all identical.



### ***Sensor (document tray width 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 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).

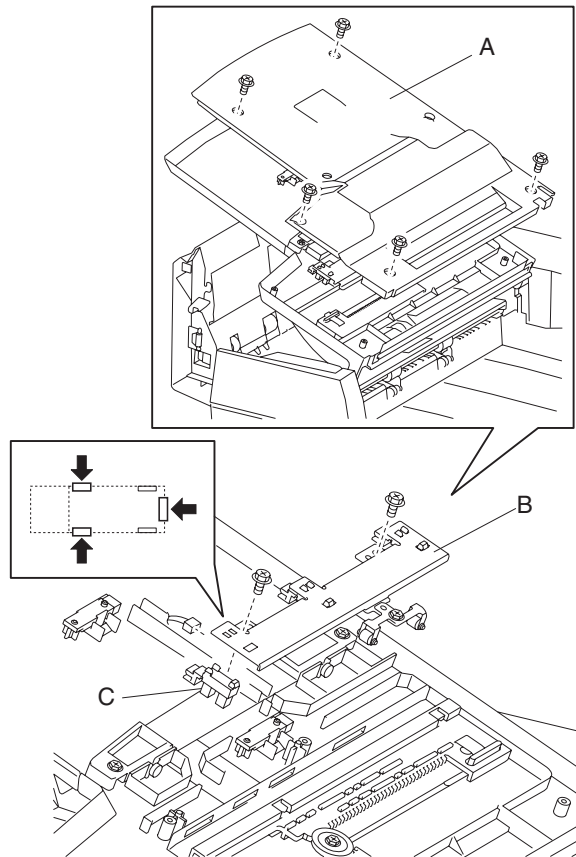
**Note:** The sensor (document tray width 1), sensor (document tray width 2), or the sensor (document tray width 3) are all identical.



### ***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).

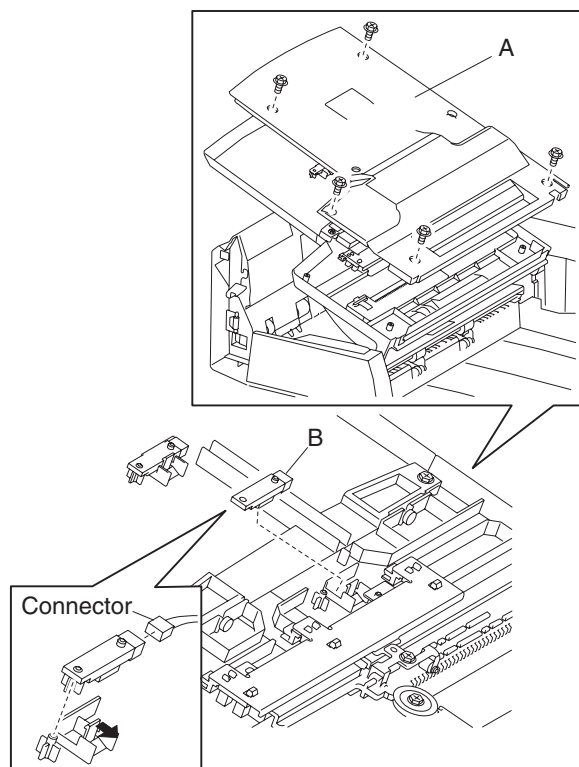
**Note:** The sensor (document tray width 1), sensor (document tray width 2), or the sensor (document tray width 3) are all identical.



### ***Sensor (document tray length 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 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).

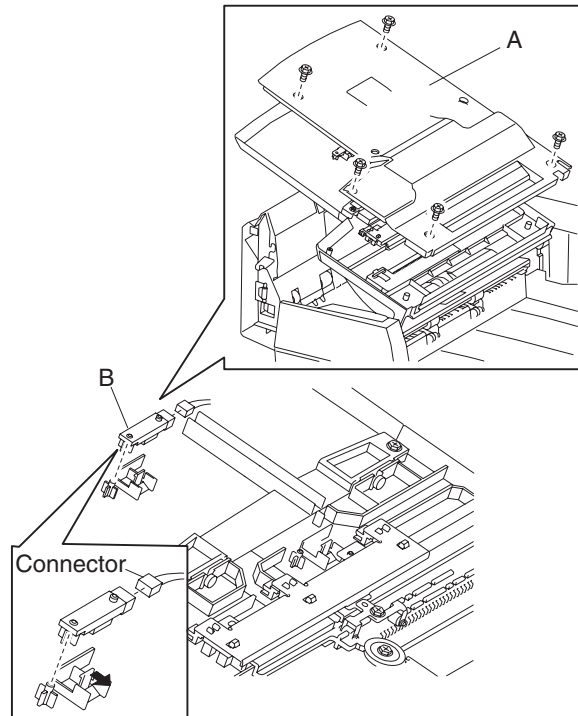
**Note:** The sensor (document tray length 1) and the sensor (document tray length 2) are identical.



### ***Sensor (document tray length 2) removal***

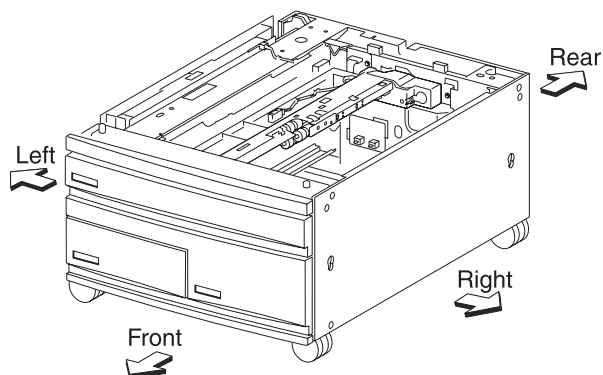
1. Open the ADF left cover assembly.
2. Lift the document tray assembly.
3. Remove the five screws securing the cover (A).
4. Remove the cover (A).
5. Remove the connector from the sensor (document tray length 2) (B).
6. Release the hook securing the sensor (document tray length 2) (B).
7. Remove the sensor (document tray length 2) (B).

**Note:** The sensor (document tray length 1) and the sensor (document tray length 2) are identical.



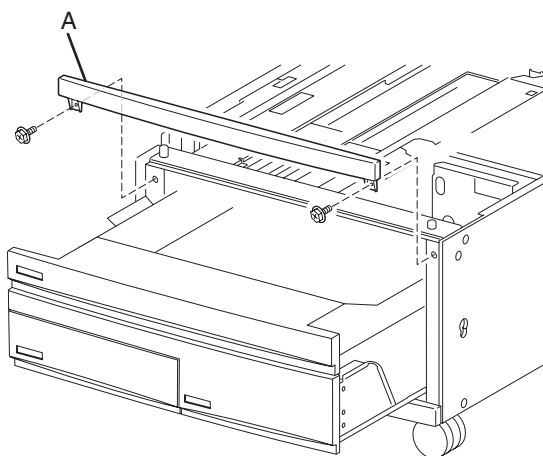
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## 2000-sheet dual input (TTM) removals



### ***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).

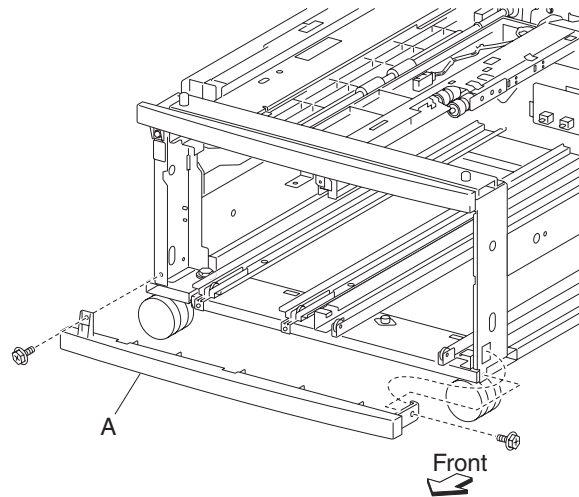


### ***2000-sheet dual input (TTM)—foot cover removal***

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.

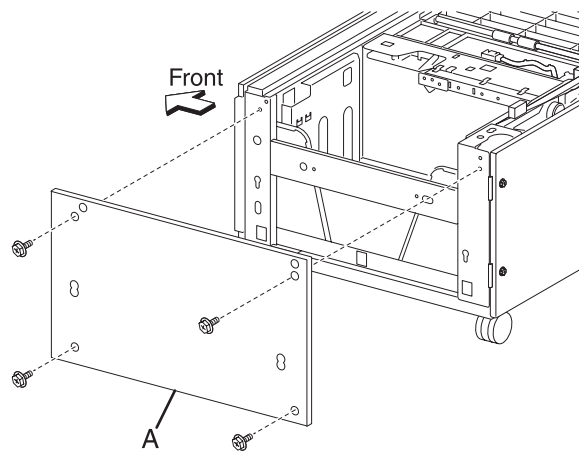


4. Remove the foot cover (A).



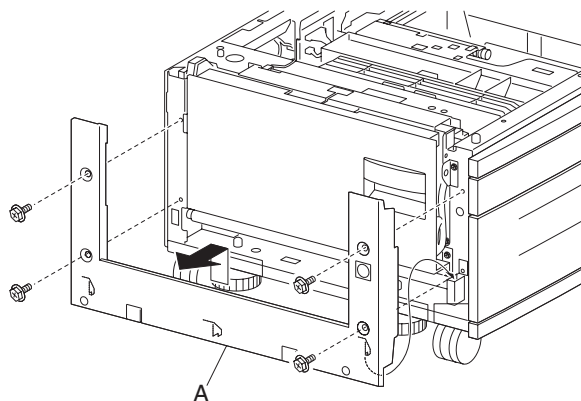
### ***2000-sheet dual input (TTM)—right cover removal***

1. Remove the four screws securing the right cover (A).
2. Remove the right cover (A) by lifting up and out.



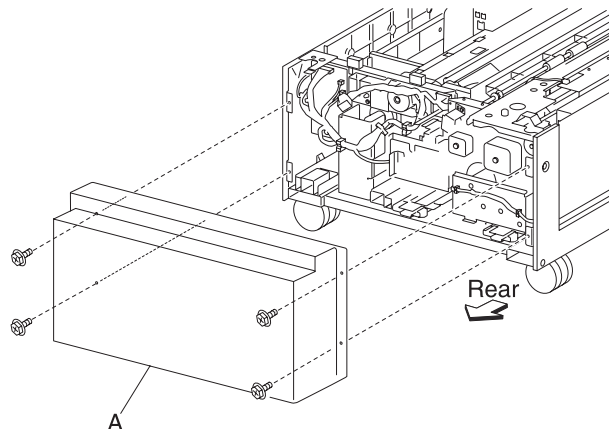
### ***2000-sheet dual input (TTM)— tray module left cover removal***

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***

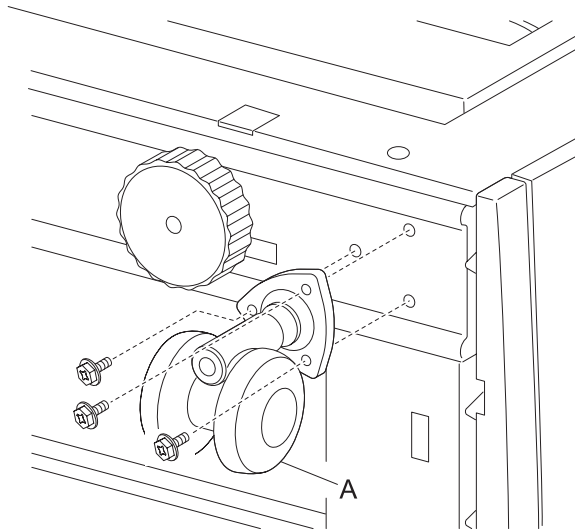
1. Remove the four screws securing the rear cover (A).
2. Remove the rear cover (A).



### ***2000-sheet dual input (TTM)—caster removal***

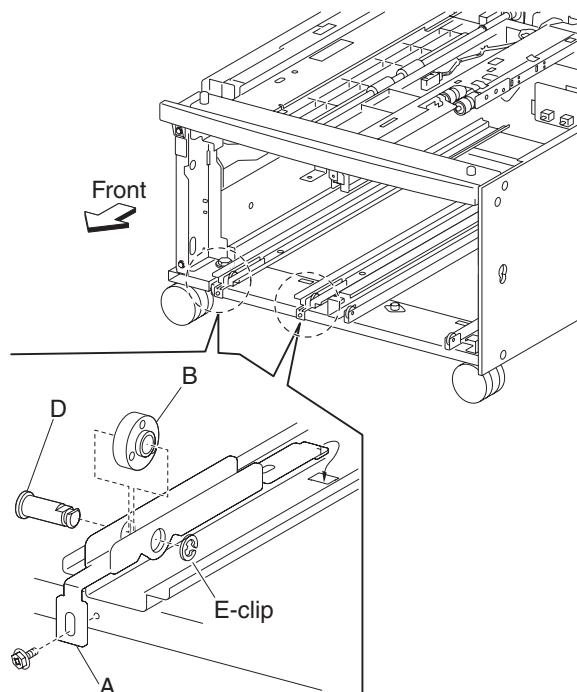
1. Remove the media tray 2.
2. Remove the tray module left cover. See **“2000-sheet dual input (TTM)— tray module left cover removal” on page 4-166.**
3. Remove TTM media tray 3 assembly. See **“2000-sheet dual input (TTM)—TTM media tray 3 assembly removal” on page 4-170.**
4. Remove media tray 4 assembly. 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).

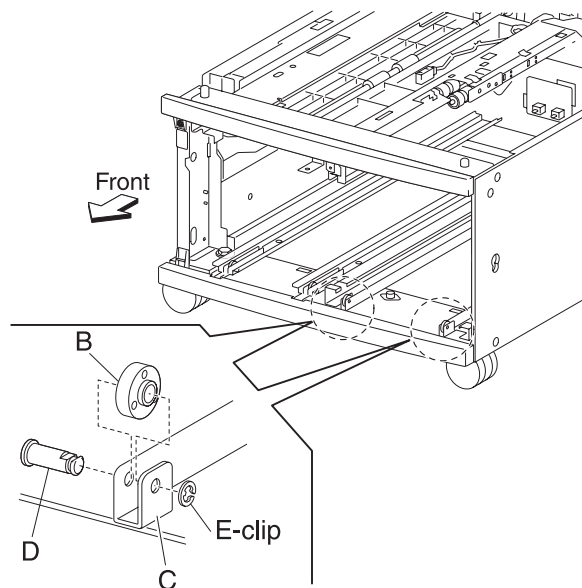


### ***2000-sheet dual input (TTM)—tray support roll removal***

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).

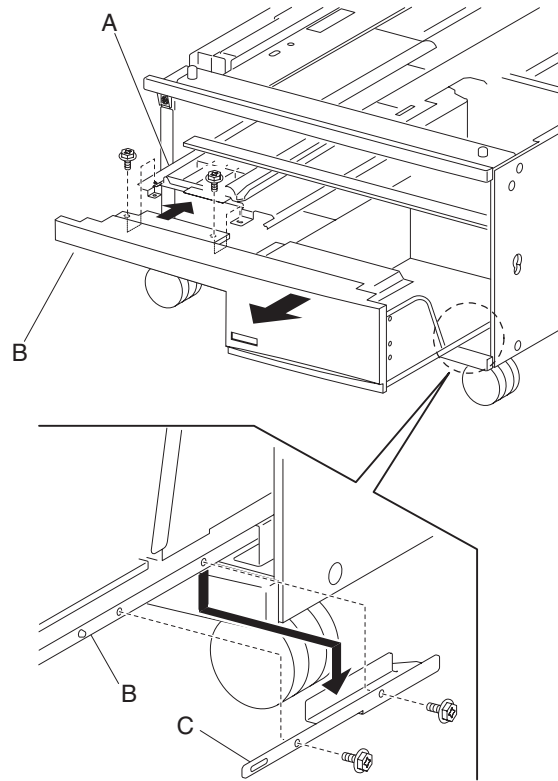


8. Remove the shafts (D).
9. Remove the tray support rolls (B).



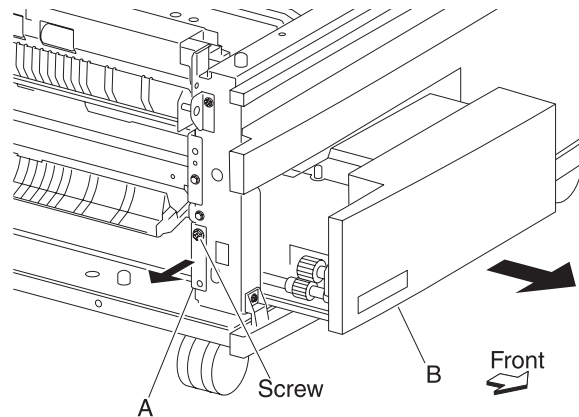
**2000-sheet dual input (TTM)—TTM media tray 4 assembly removal**

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).



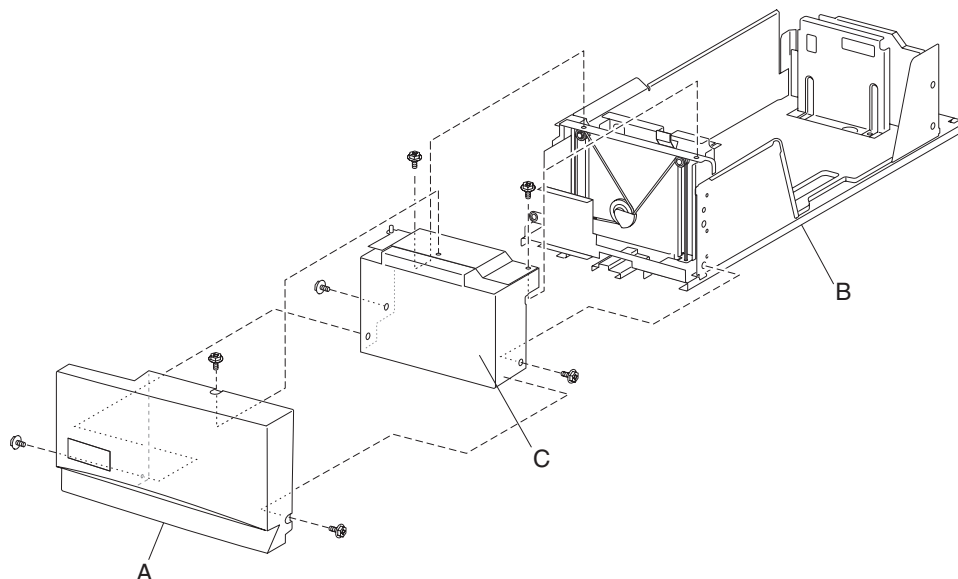
### **2000-sheet dual input (TTM)—TTM media tray 3 assembly removal**

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).



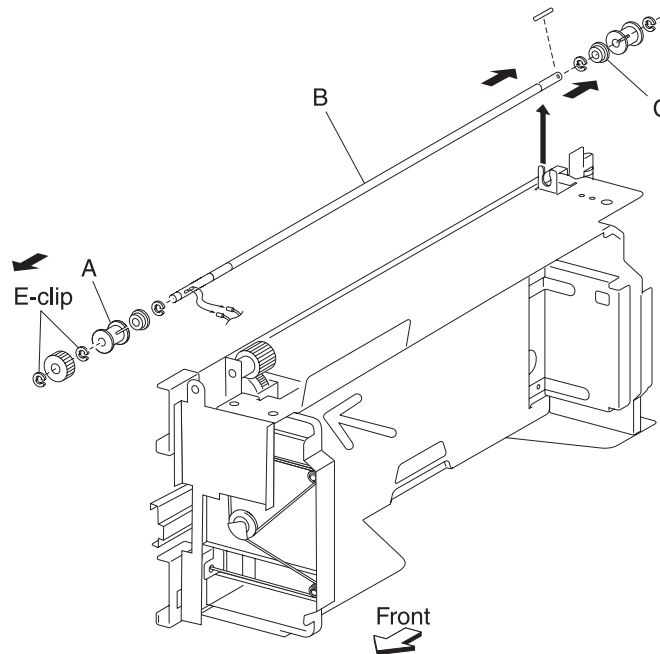
### **2000-sheet dual input (TTM)—tray 3 front cover removal**

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).

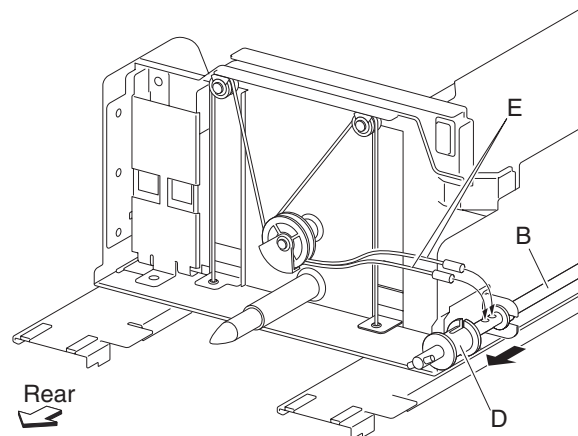


## 2000-sheet dual input (TTM)—tray 3 rear cable assembly removal

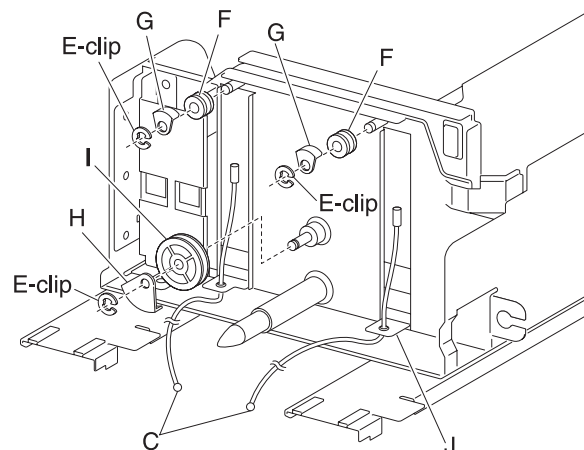
1. Remove the tray module left cover. See “2000-sheet dual input (TTM)—tray module left cover removal” on page 4-166.
  2. Remove the TTM media tray 3 assembly. See “2000-sheet dual input (TTM)—TTM media tray 3 assembly removal” on page 4-170.
  3. Remove the tray 3 front cover. See “2000-sheet dual 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:

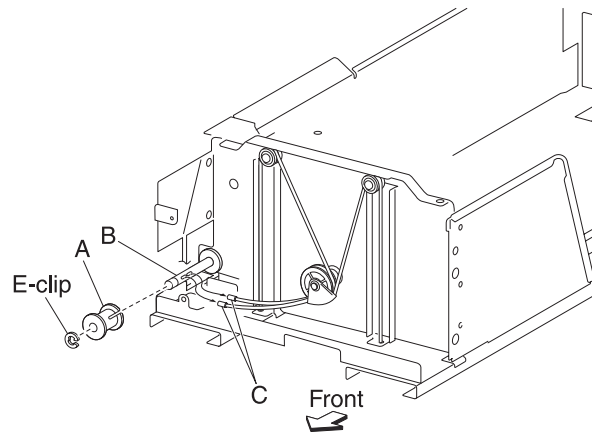
- Ensure tray 3 rear cables (E) are not twisted or kinked.
- Route the cables properly as shown in the figure.

**Replacement note:** Replace the cables by setting the frame assembly on its side as shown in the figure.

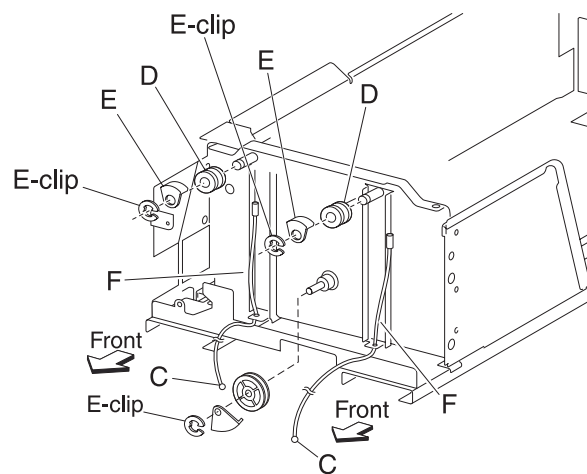


## 2000-sheet dual input (TTM)—tray 3 front cable assembly removal

1. Remove the tray module left cover. See “2000-sheet dual input (TTM)—tray module left cover removal” on page 4-166.
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 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).

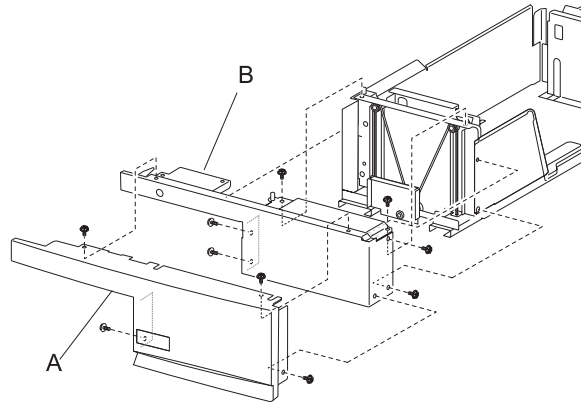


### Replacement note: Before re-installing:

- 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**

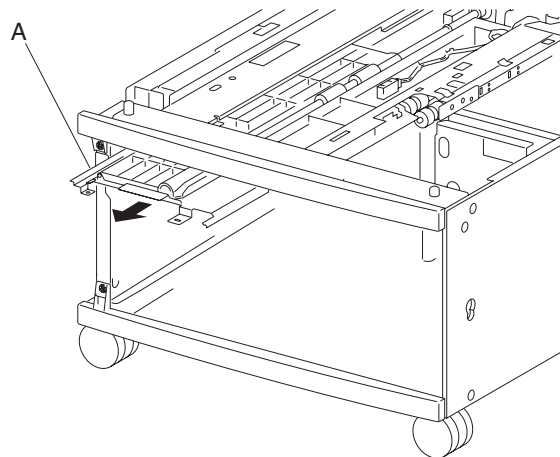
1. Pull out the TTM media tray 4 assembly.
2. Remove the four screws securing the TTM tray 4 front cover (A).
3. Remove the TTM tray 4 front cover (A).
4. Remove the six screws securing the bracket (B) to the tray.
5. Remove the bracket (B).



### **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.



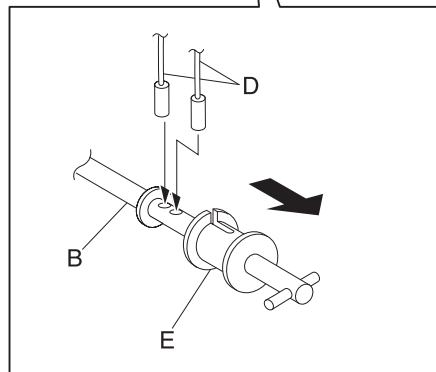
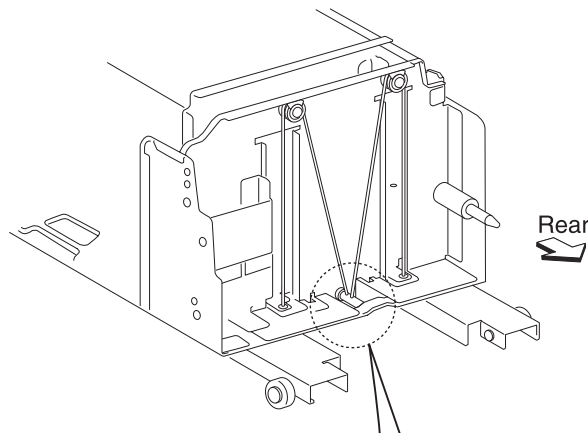
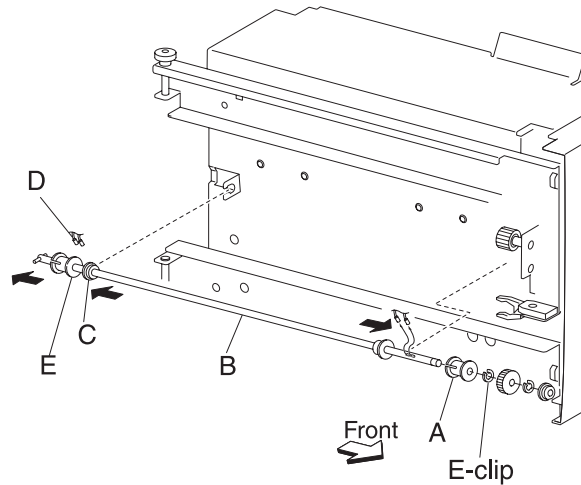
### **2000-sheet dual input (TTM)—tray 4 rear cables removal**

1. Remove the TTM media tray 4 assembly. See **“2000-sheet dual input (TTM)—TTM media tray 4 assembly removal” on page 4-169.**
2. 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.

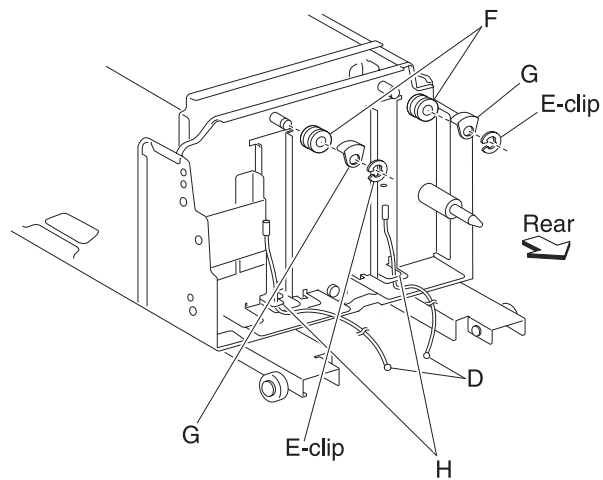
**Note:** Do not remove the front lift cable pulley (A), or the front lift cables will become detached.

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).

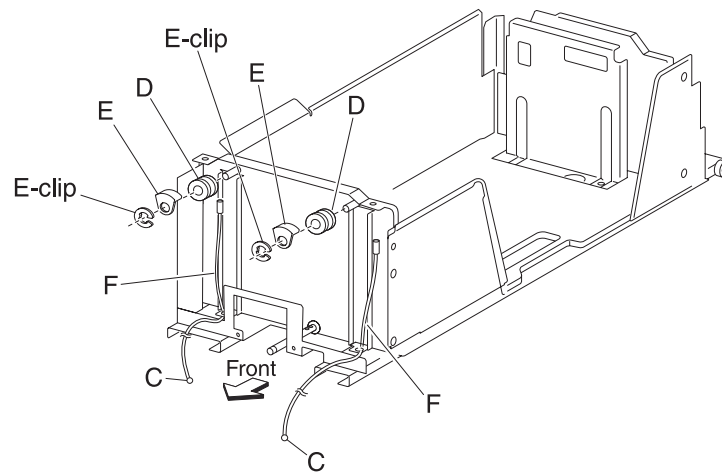


**Replacement note:** Before re-installing:

- 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.



10. Remove the tray 4 front cables (C) from the bottom plates (F).



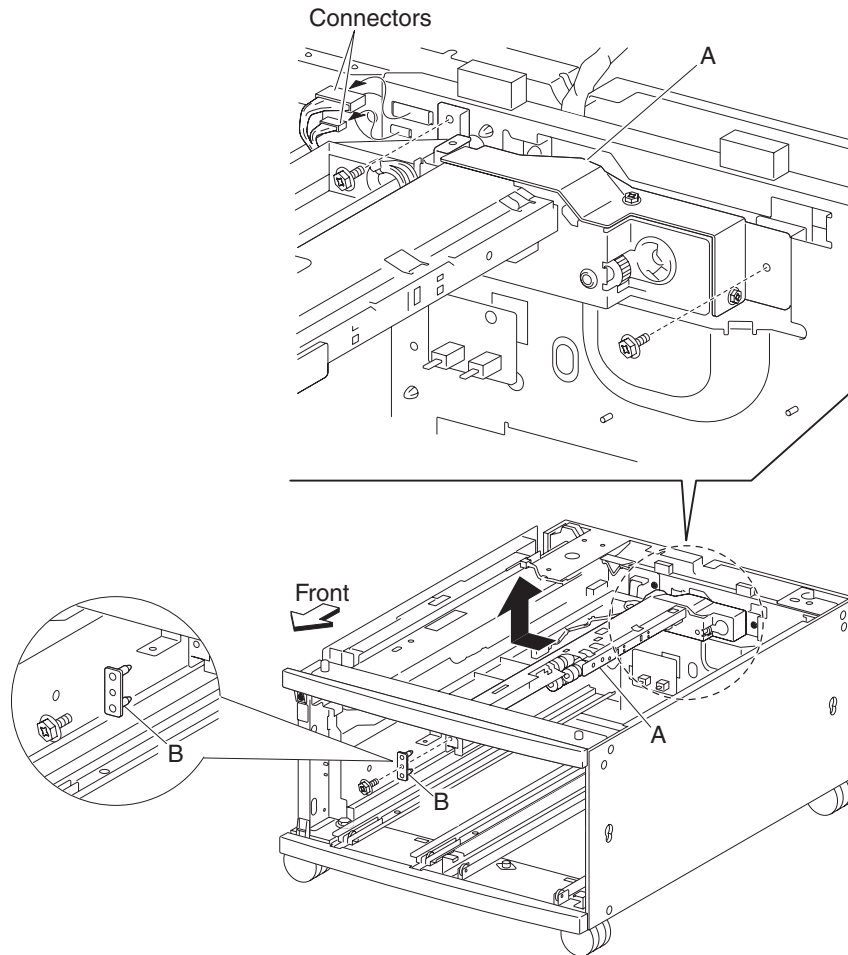
**Replacement note:** Before re-installing:

- 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.

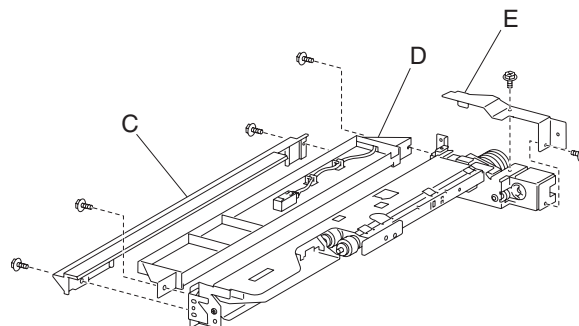
### ***2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)***

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).

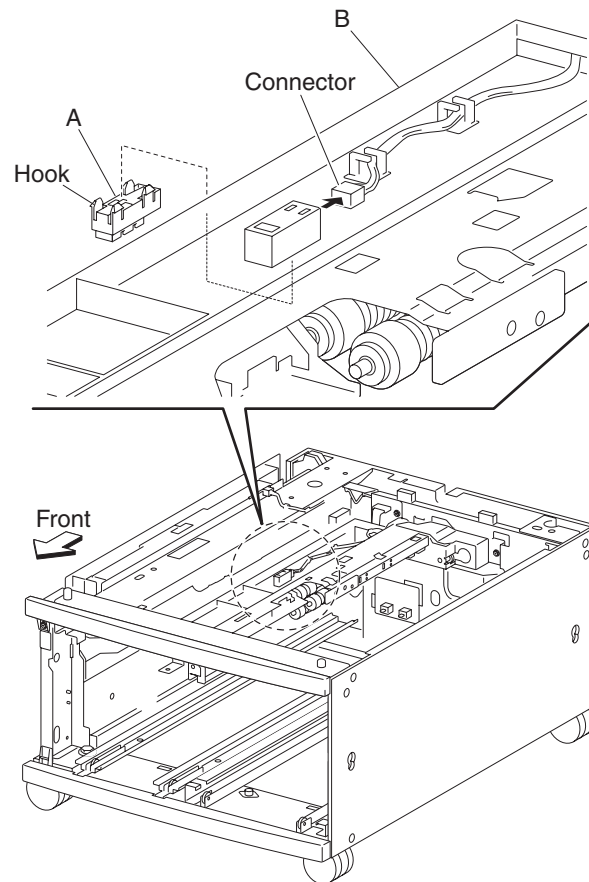


8. Remove one screw securing the front bracket (B) to the machine.  
 9. Remove the front bracket (B).  
 10. Move the media feed unit assembly (A) to the left and up in the direction of the arrow.  
 11. Remove the media feed unit assembly (A).  
 12. Remove the two screws securing the lower guide (C) 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).

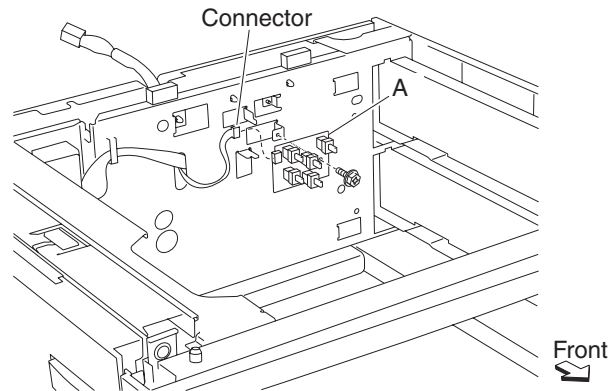




## 2000-sheet dual input (TTM) switch (media size) removal

**Note:** This procedure can be applied to tray 1 or tray 2 switch (media size).

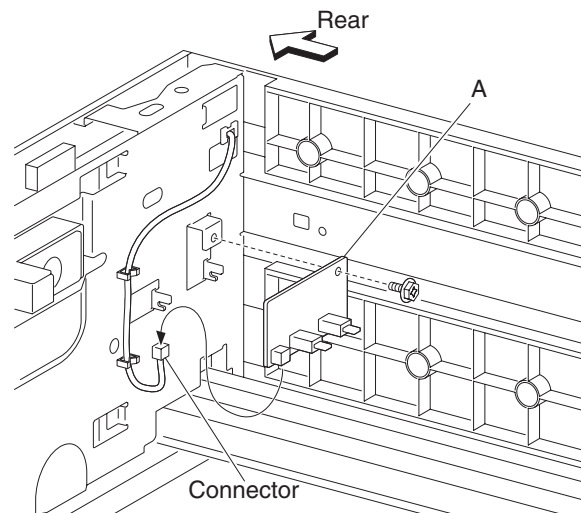
1. Remove media Tray 1 and media Tray 2.
2. Remove one screw securing the switch (media size) (A) to the bracket inside the machine.
3. Remove the connector from switch (media size) (A).
4. Remove the switch (media size) (A).



## 2000-sheet dual input (TTM)—switch (TTM media size) removal

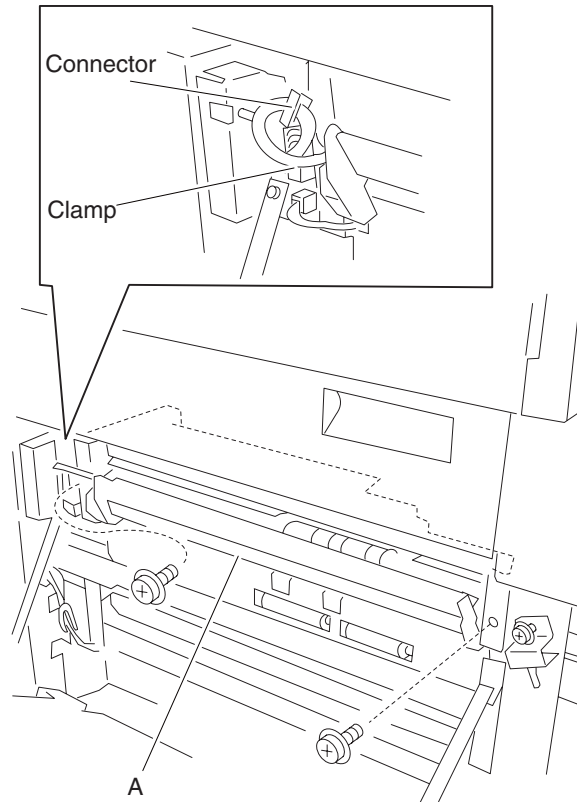
**Note:** This removal procedure may be applied to TTM media tray 3 and TTM media tray 4.

1. Remove the tray module left cover. See [“2000-sheet dual input \(TTM\)—tray module left cover removal” on page 4-166](#).
2. 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).



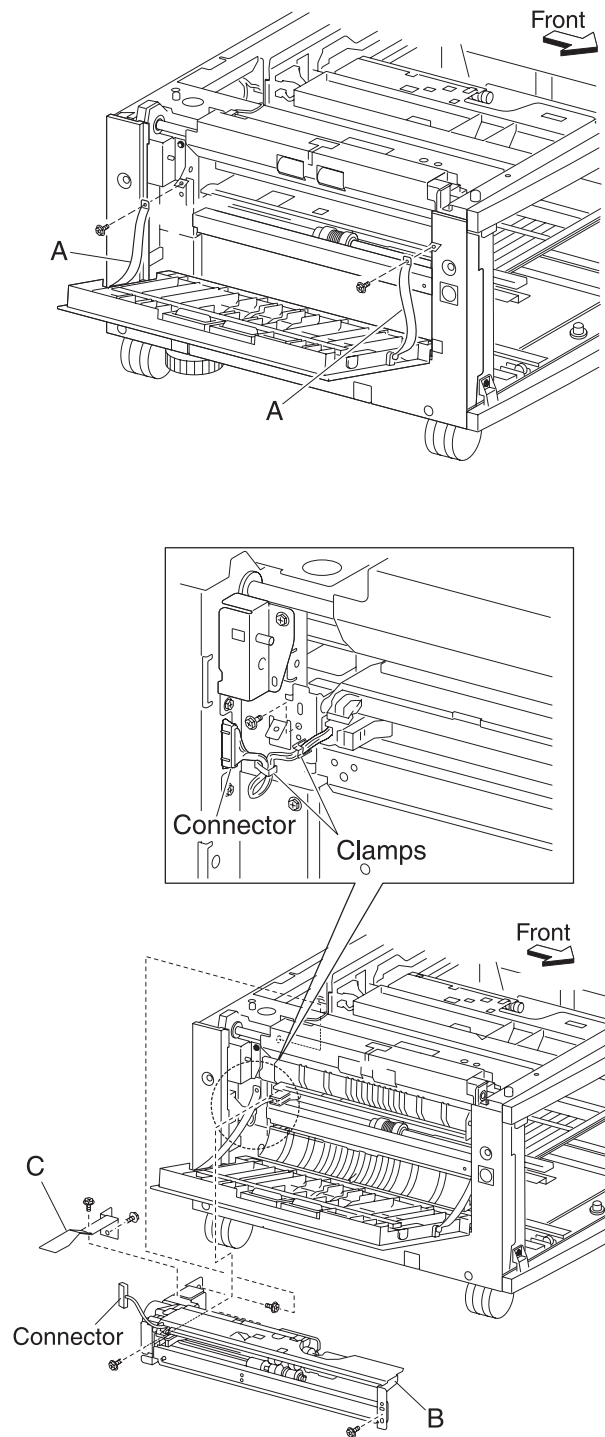
## 2000-sheet dual input (TTM)—media feed unit assembly 2 removal

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.



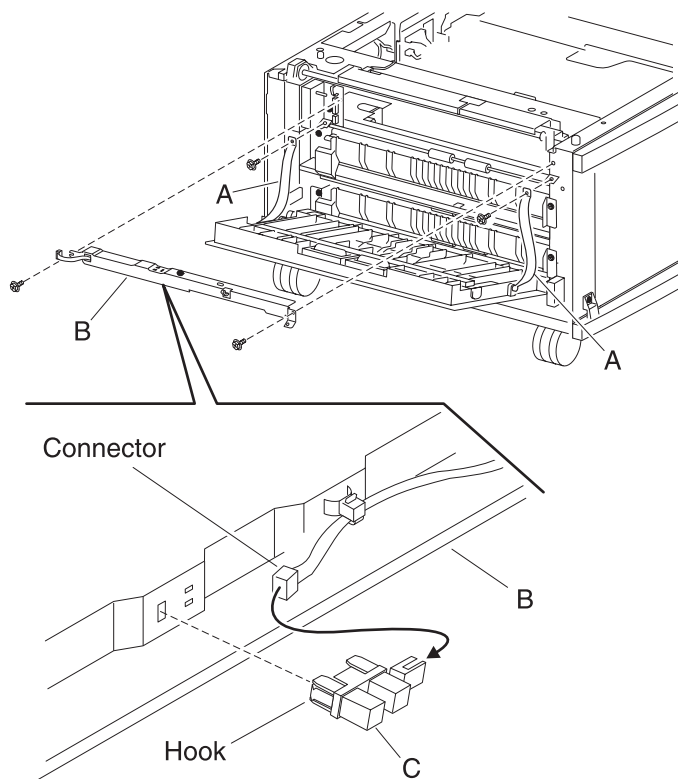
## 2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)

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).



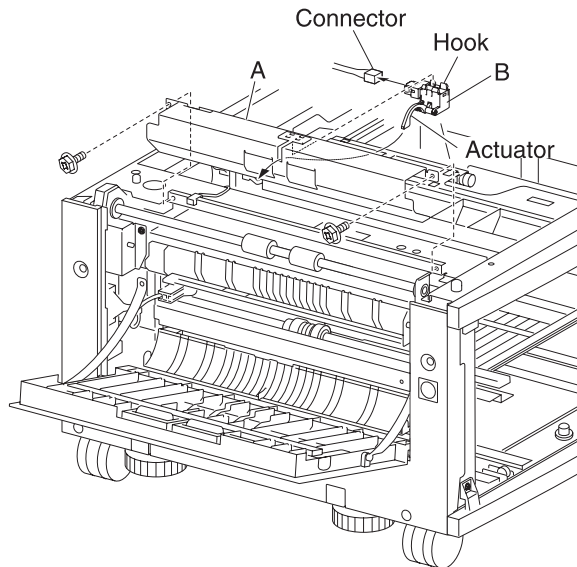
**2000-sheet dual input (TTM)—sensor (tray 3 feed-out) removal**

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***

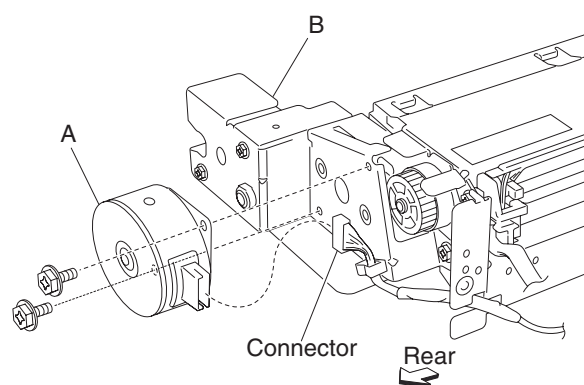
1. Open the TTM left door assembly.
2. Remove the two screws securing bracket (A) to the machine.
3. Remove the bracket (A).
4. Disconnect the connector from the sensor (tray 2 feed-out) (B).
5. Release the hooks securing the sensor (tray 2 feed-out) (B) to the bracket (A).
6. Remove the sensor (tray 2 feed-out) (B).



### ***2000-sheet dual input (TTM)—media feed lift motor removal***

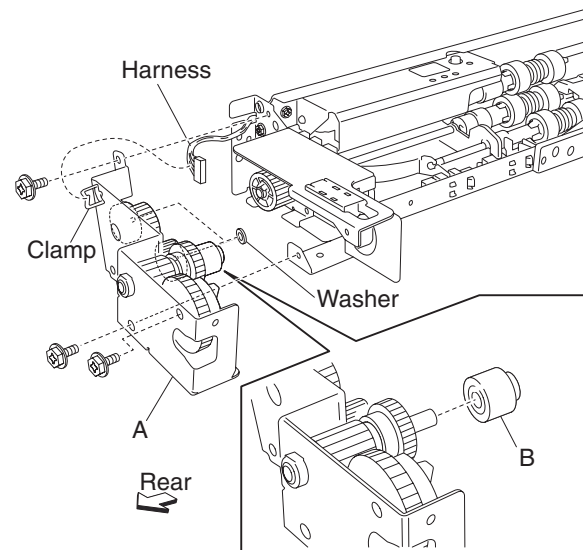
1. Remove the tray module left cover. See **“2000-sheet dual input (TTM)—tray module left cover removal” on page 4-166.**
2. Remove the TTM media tray 3 assembly. See **“2000-sheet dual input (TTM)—TTM media tray 3 assembly removal” on page 4-170.**
3. Remove the TTM media tray 4 assembly. See **“2000-sheet 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).

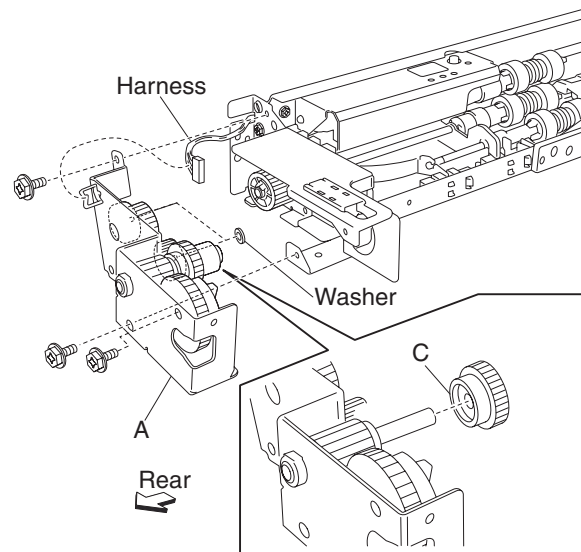


## 2000-sheet dual input (TTM)—one-way clutch / gear assembly removal

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).

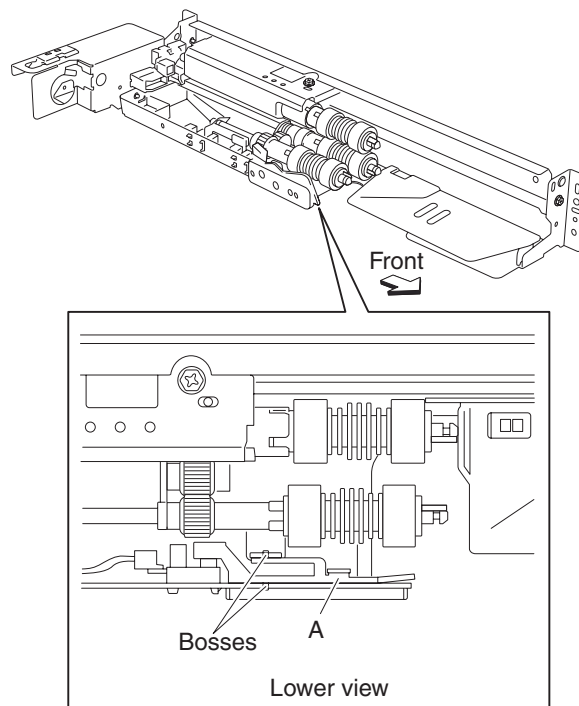


**Replacement note:** Before re-installing, ensure all gears and washers are securely attached to the bracket (A).



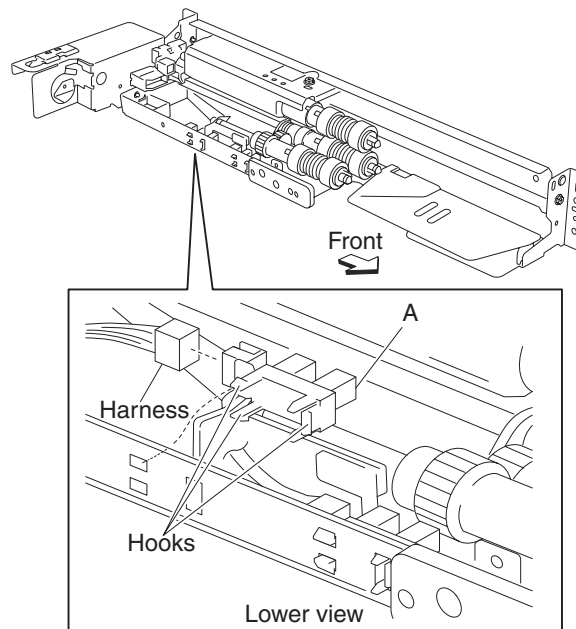
## ***2000-sheet dual input (TTM)—media out actuator removal***

1. Remove the tray module left cover. See **“2000-sheet dual input (TTM)—tray module left cover removal” on page 4-166.**
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. Release the two bosses on the media out actuator (A) from the media feed unit assembly.
7. Remove the media out actuator (A).



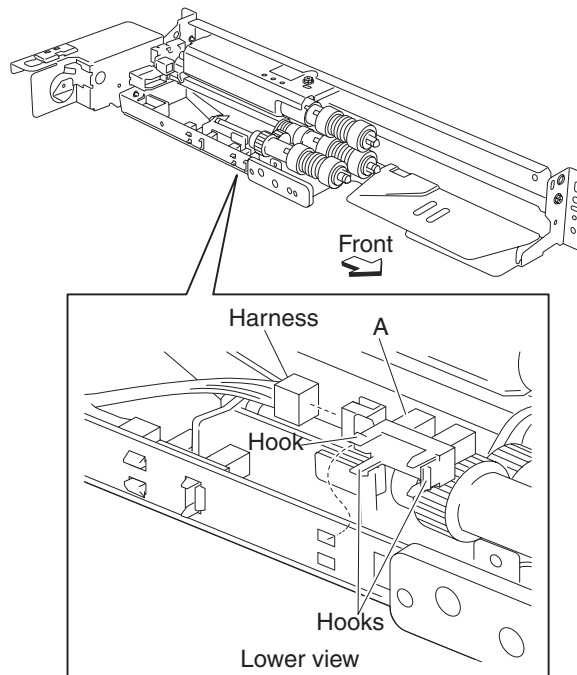
**2000-sheet dual input (TTM)—sensor (media level) removal**

1. Remove the tray module left cover. See **“2000-sheet dual input (TTM)—tray module left cover removal” on page 4-166.**
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. 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

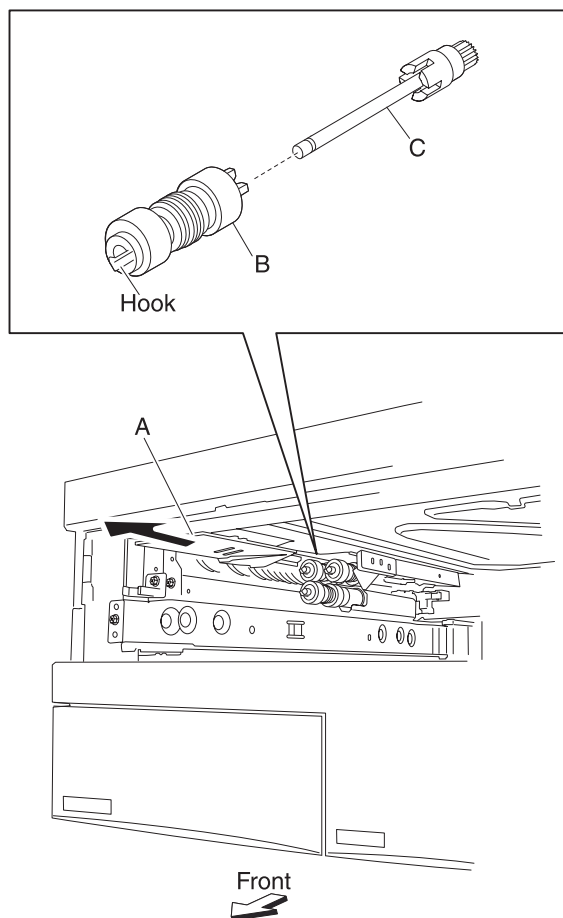
1. Remove the tray module left cover. See “2000-sheet dual input (TTM)—tray module left cover removal” on page 4-166.
2. Remove the TTM media tray 3 assembly. See “2000-sheet dual input (TTM)—TTM media tray 3 assembly removal” on page 4-170.
3. Remove the TTM media tray 4 assembly. See “2000-sheet dual 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).



**2000-sheet dual input (TTM)—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).

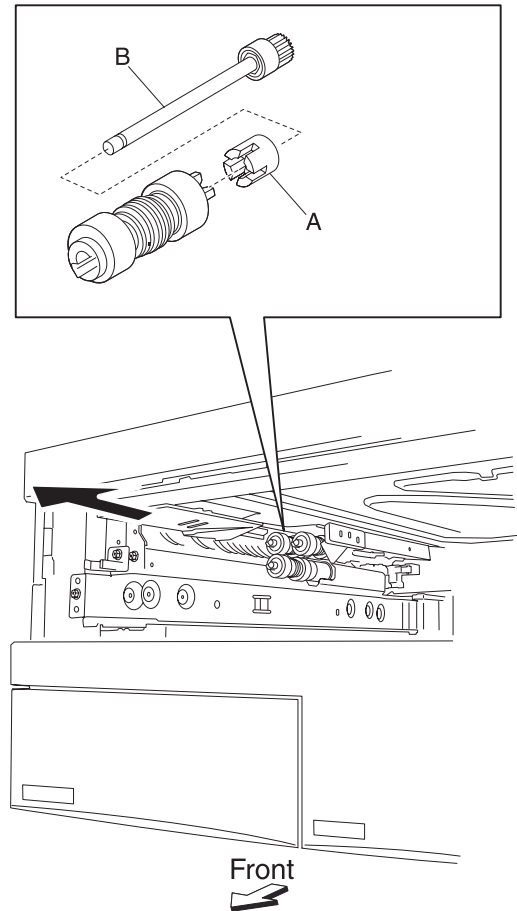
**Note:** Do not touch the rubber surface of the feed roll (B).



**Replacement note:** Before re-installing, do not touch the rubber surface of the feed roll (B).

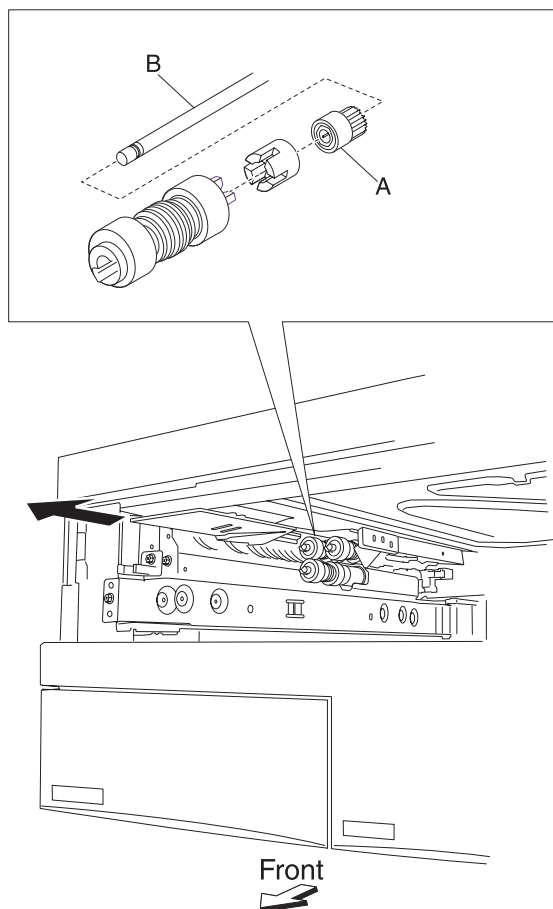
**2000-sheet dual input (TTM)—feed roll one-way clutch removal**

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).



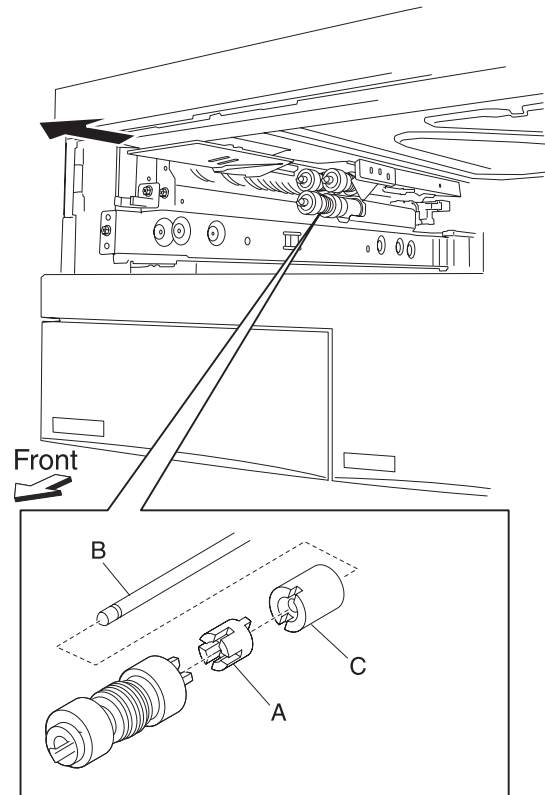
**2000-sheet dual input (TTM)—one-way 22 tooth removal**

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).



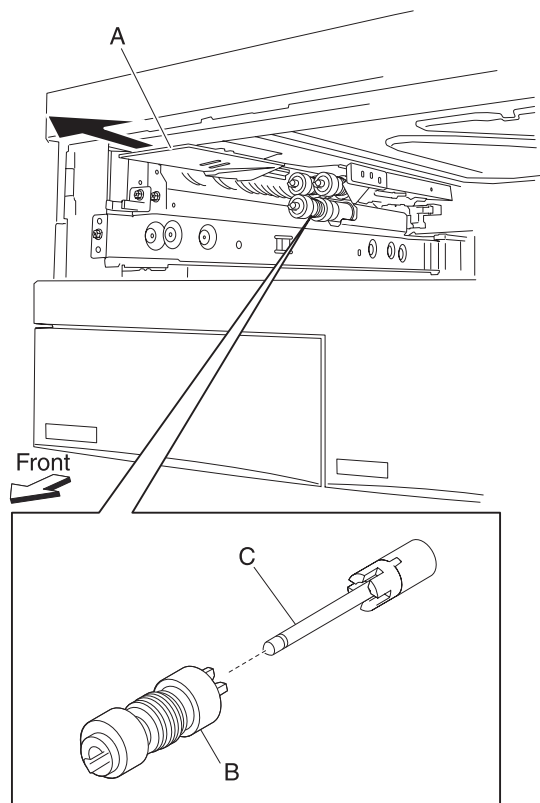
**2000-sheet dual input (TTM)—separation roll one-way friction clutch removal**

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).



**2000-sheet dual input (TTM)—separation roll removal**

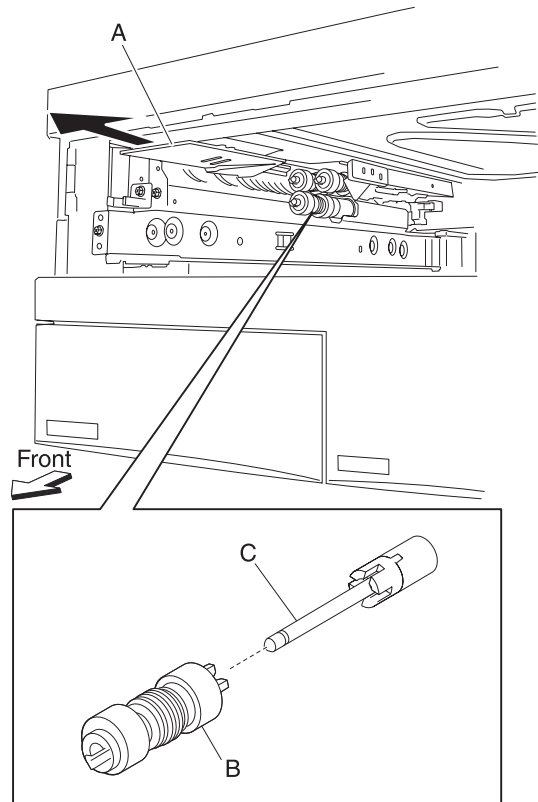
1. Remove the media tray assembly.
2. Move the feed unit front guide (A) toward the front in the direction of the arrow.
3. Release the hook securing the separation roll (B) to the shaft (C).





4. Remove the separation roll (B).

**Note:** Do not touch the rubber surface of the feed roll (B).

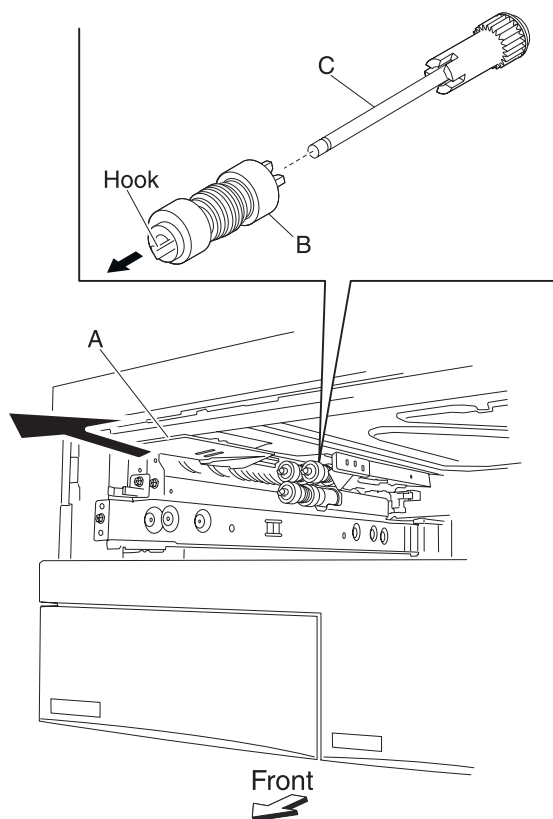


**Replacement note:** Before re-installing, do not touch the rubber surface of the separation roll (B).

**2000-sheet dual input (TTM)—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).

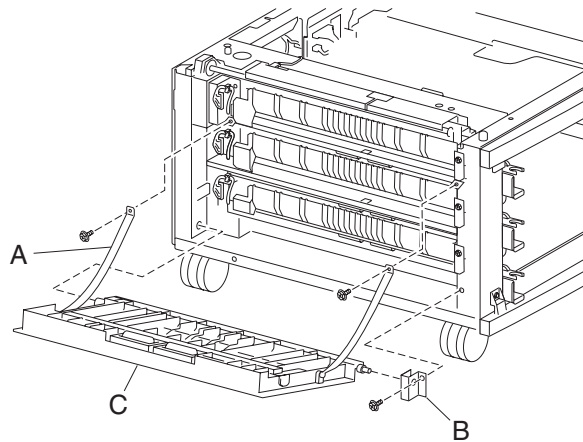
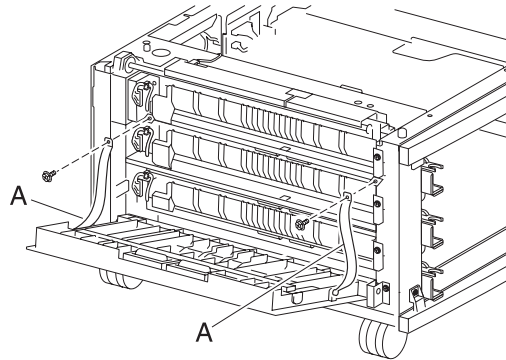
**Note:** Do not touch the rubber surface of the feed roll (B).



**Replacement note:** Before re-installing, do not touch the rubber surface of the pick roll (B).

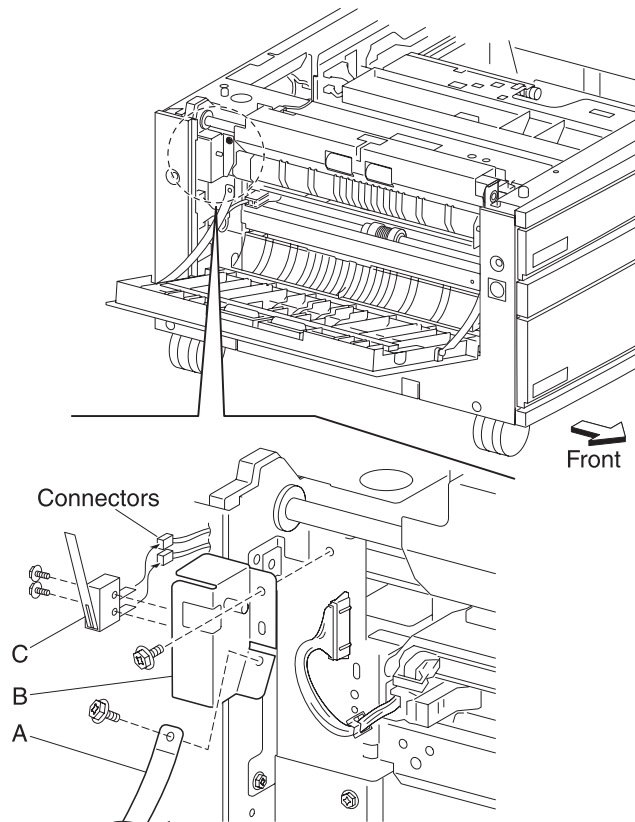
### ***2000-sheet dual input (TTM)—left door assembly removal***

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).

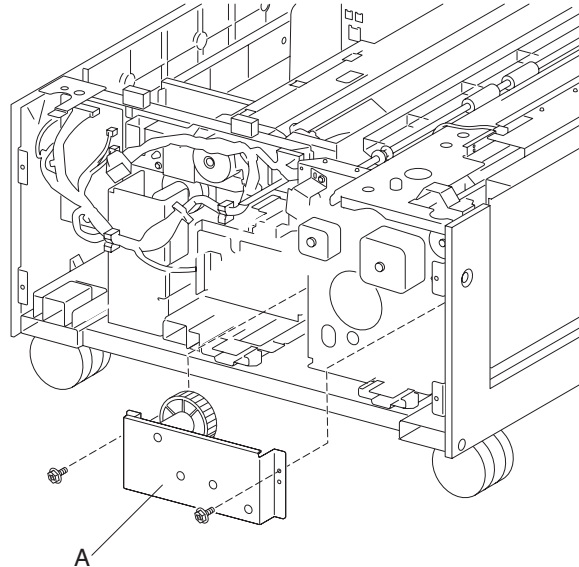


### **2000-sheet dual input (TTM)—tray 3 lift gear assembly removal**

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) may become detached.

4. Remove the tray 3 lift gear assembly (A).

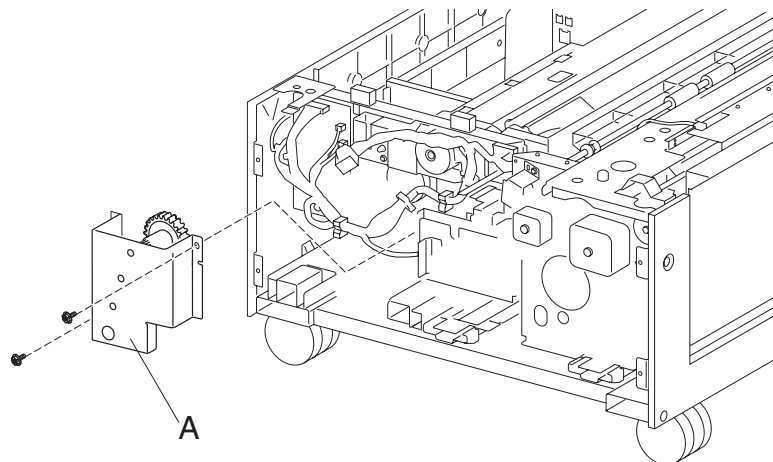


### **2000-sheet dual input (TTM)—tray 4 lift gear assembly removal**

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.
3. 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.

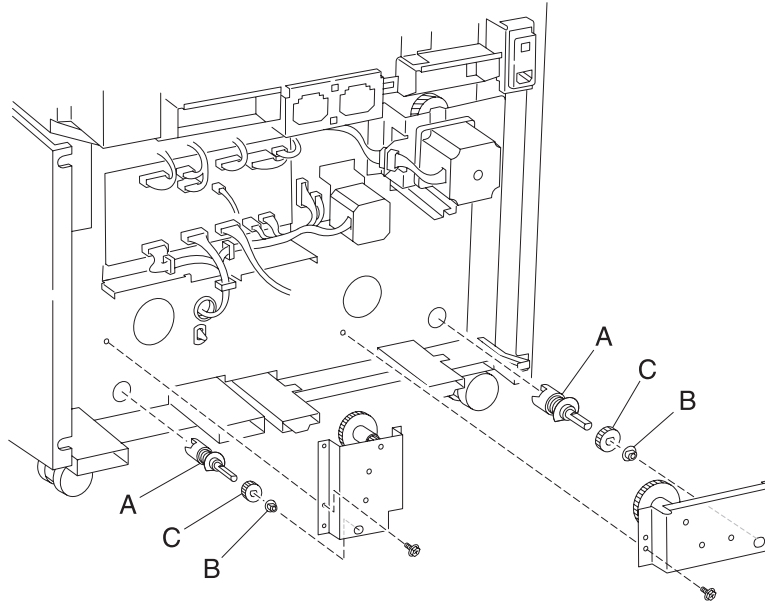
4. Remove the tray 4 lift gear assembly (A).



### ***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.

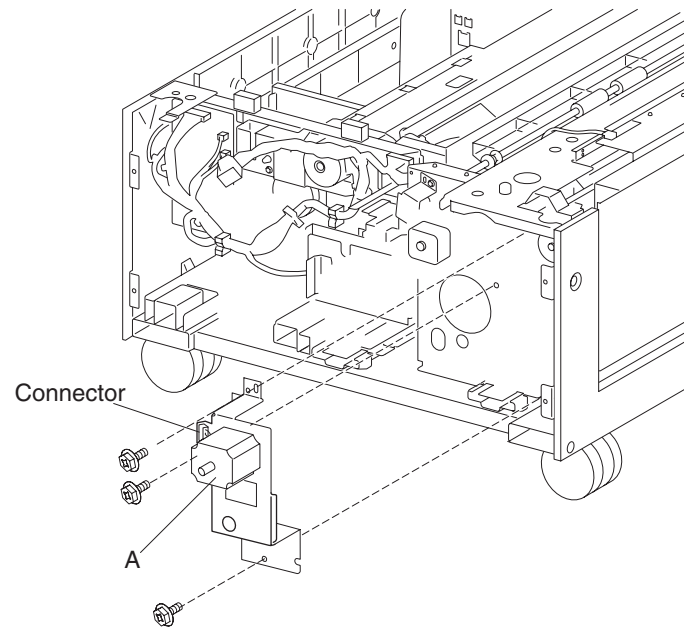
1. Remove the rear cover. See **“2000-sheet dual input (TTM)—rear cover removal” on page 4-166.**
2. Remove the tray 3 lift gear or the tray 3 lift gear assembly. See **“2000-sheet dual input (TTM)—tray 3 lift gear assembly removal” on page 4-201** or **“2000-sheet dual input (TTM)—tray 4 lift gear assembly 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***

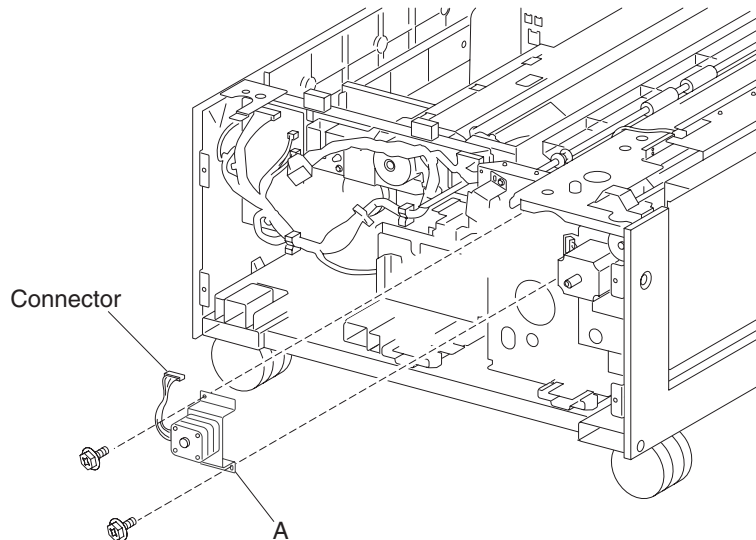
1. Remove the rear cover. See **“2000-sheet dual input (TTM)—rear cover removal” on page 4-166.**
2. Disconnect the connector from the tray module drive motor (A).
3. Remove the three screws securing the tray module drive motor (A) to the machine.

4. Remove the tray module drive motor (A).



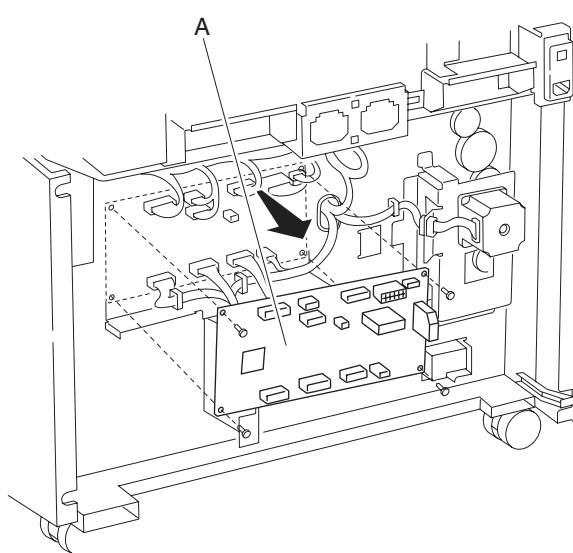
### **2000-sheet dual input (TTM)—TTM tray 4 transport motor removal**

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**

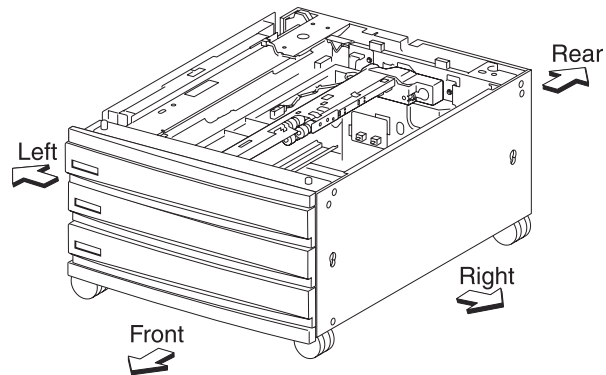
1. Remove the rear cover. See **“2000-sheet dual input (TTM)—rear cover removal” on page 4-166.**
2. Disconnect all connectors from the TTM controller card assembly (A).
3. Remove the four screws securing the TTM controller card assembly (A) to the machine.
4. Remove the TTM controller card assembly (A).





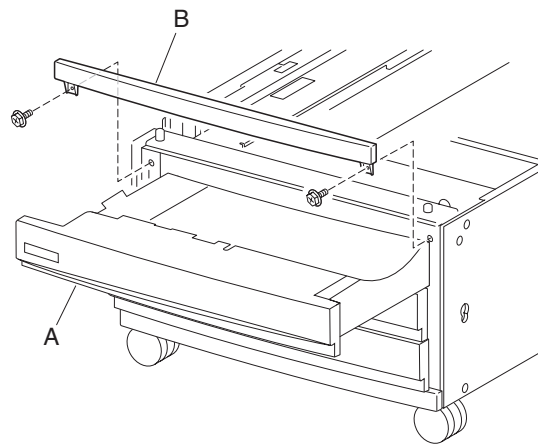
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## 3X 500-sheet drawer (3TM) removals



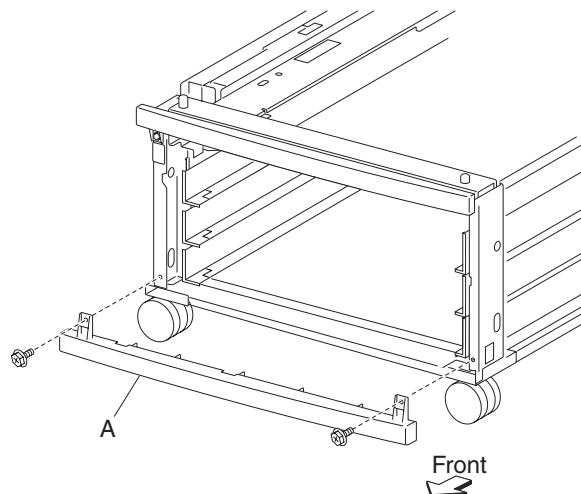
### ***3X 500-sheet drawer (3TM)—top cover removal***

1. Pull out tray 2 assembly (A).
2. Remove the two screws securing the top cover (B).
3. Remove the top cover (B).



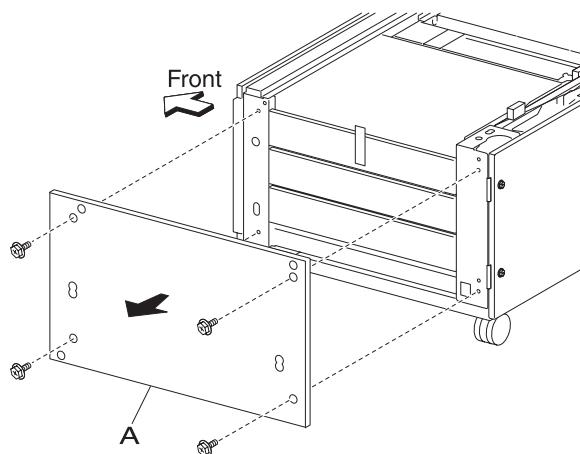
### ***3X 500-sheet drawer (3TM)—foot cover removal***

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).



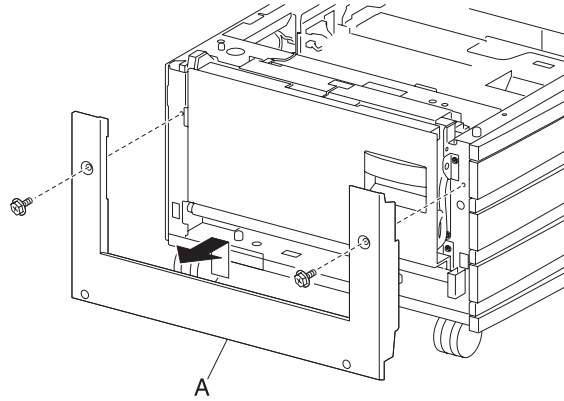
### ***3X 500-sheet drawer (3TM)—right cover removal***

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.



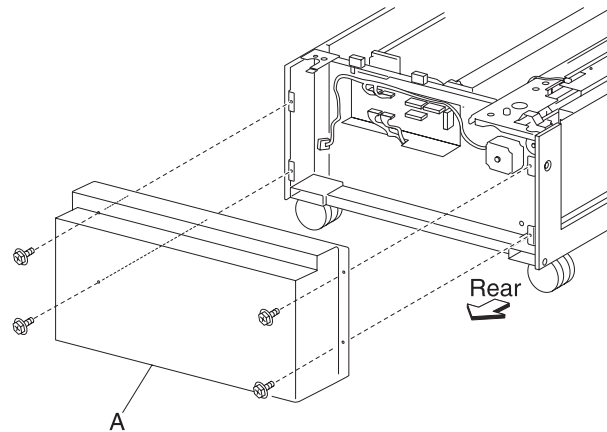
### ***3X 500-sheet drawer (3TM)—tray module left cover removal***

1. Remove the four screws securing the tray module left cover (A).
2. Remove the tray module left cover (A).



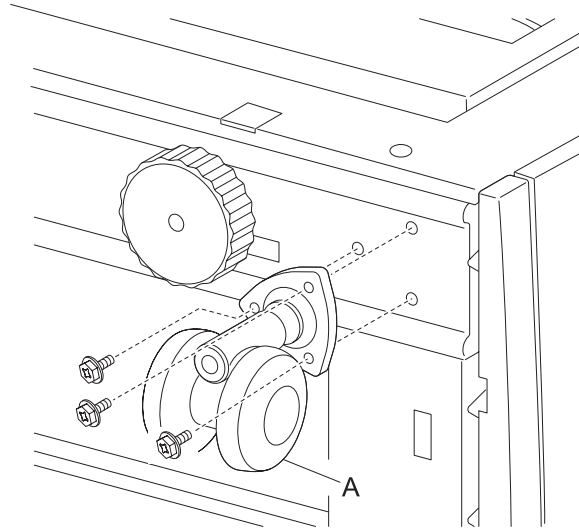
### ***3X 500-sheet drawer (3TM)—rear cover removal***

1. Remove the four screws securing the rear cover (A).
2. Remove the rear cover (A).



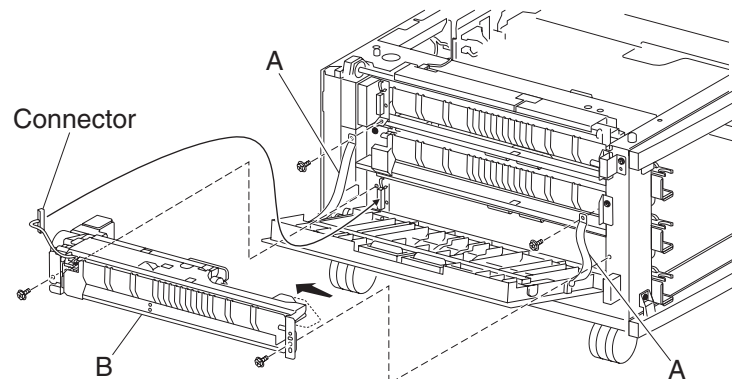
### ***3X 500-sheet drawer (3TM)—caster removal***

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).



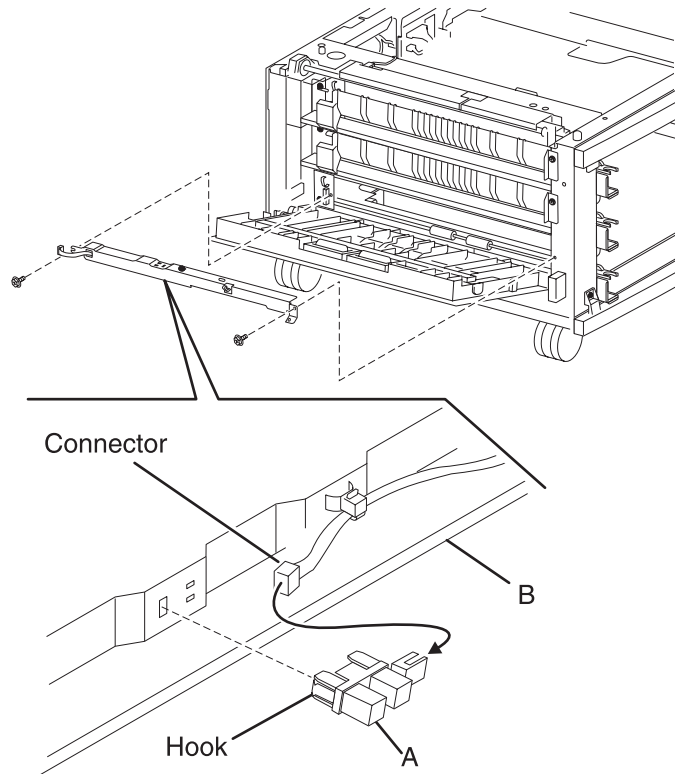
### ***3X 500-sheet 3TM)—media feed unit assembly removal (tray 4)***

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).



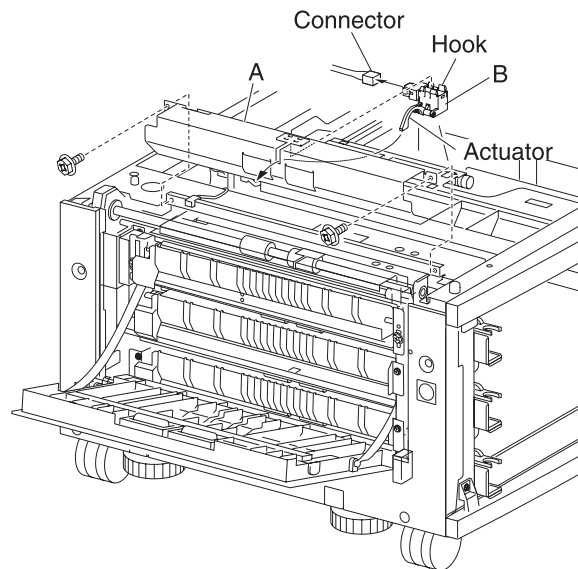
**3X 500-sheet drawer (3TM)—sensor (tray 4 feed-out) removal**

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**

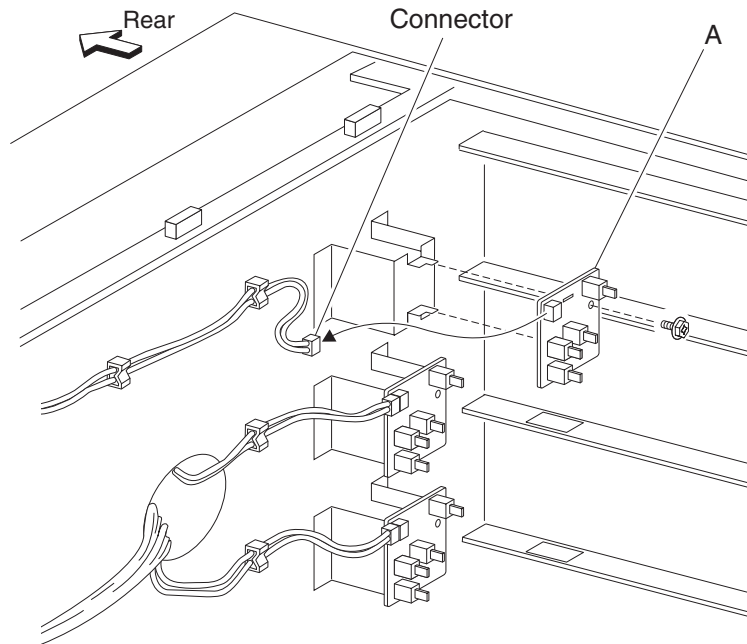
1. Open the 3TM left door assembly.
2. Remove the two screws securing bracket (A) to the machine.
3. Remove the bracket (A).
4. Disconnect the connector from the sensor (tray 2 feed-out) (B).
5. Release the hooks securing the sensor (tray 2 feed-out) (B) to the bracket (B).
6. Remove the sensor (tray 2 feed-out) (B).



### ***3X 500-sheet drawer (3TM)—switch (media size) removal***

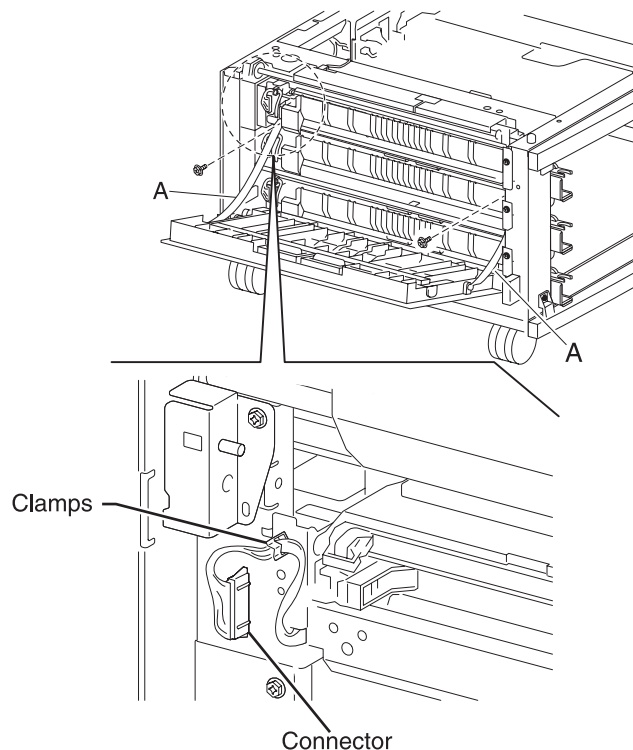
**Note:** This removal procedure may be applied to media tray 2, 3 and media tray 4 assemblies.

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).

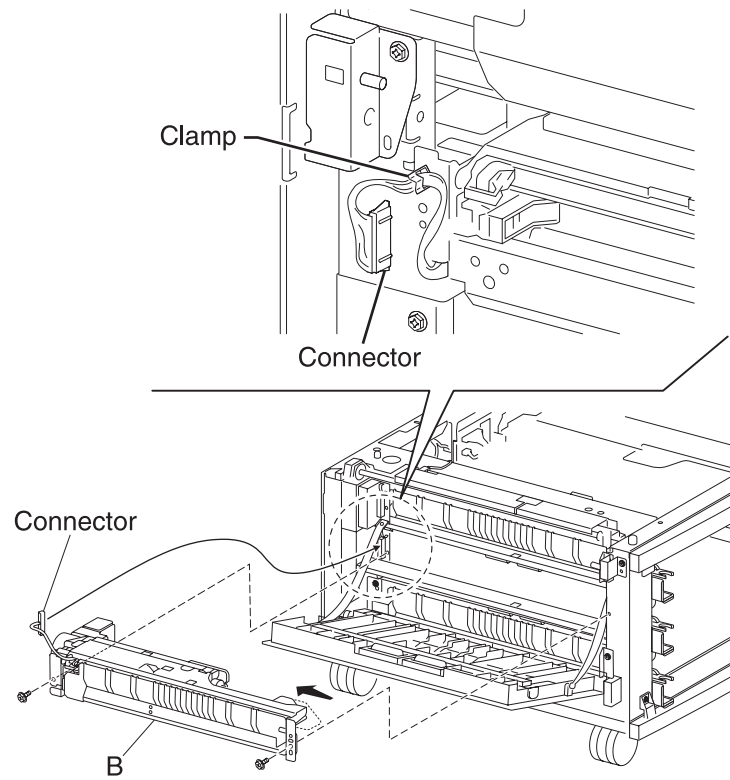


**3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 3)**

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).

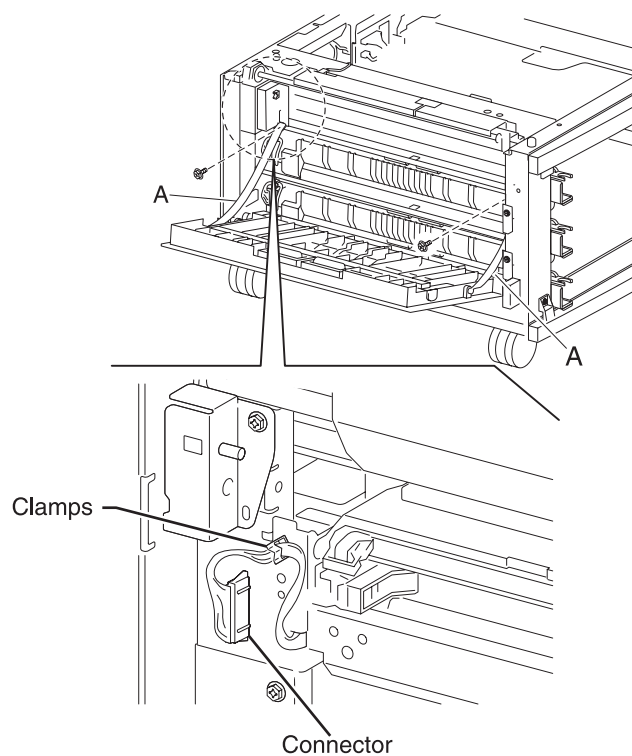


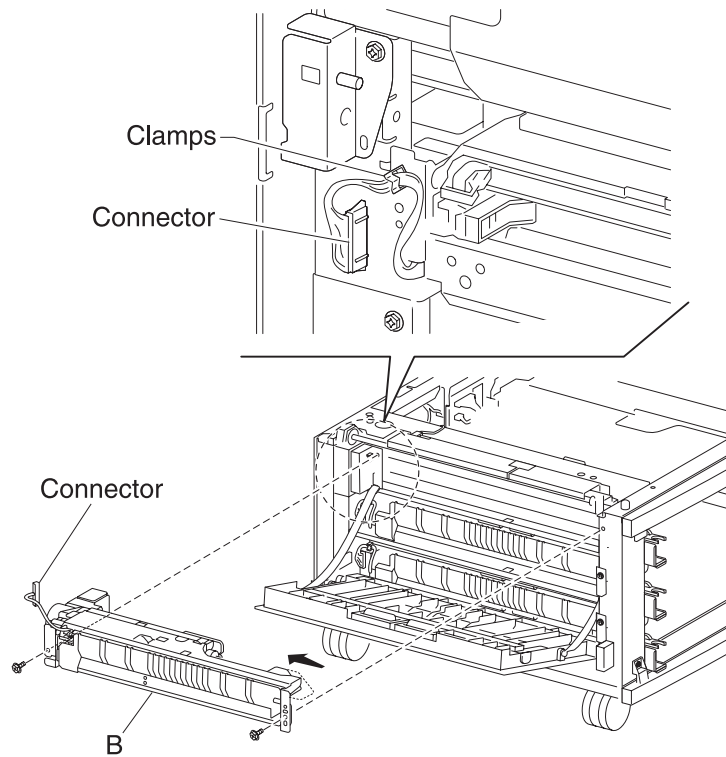




**3X 500-sheet drawer (3TM)—media feed unit assembly removal (tray 2)**

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).

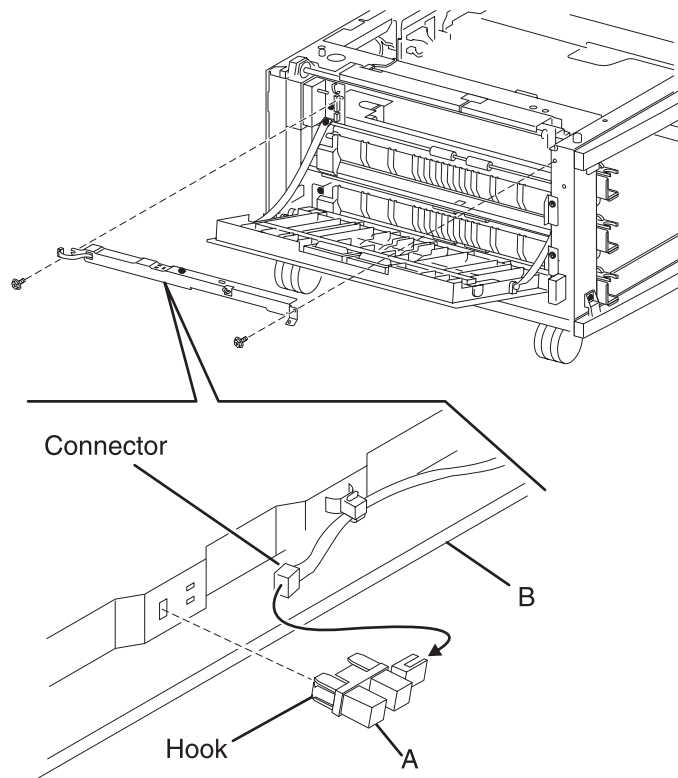




### ***3X 500-sheet drawer (3TM)—sensor (tray 3 feed-out) removal***

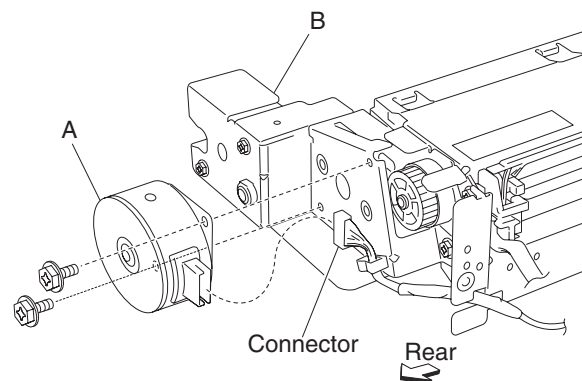
1. Open the 3TM left door assembly.
2. Remove the two screws securing the two support straps (A) to the machine.
3. Disconnect the connector from the sensor (tray 3 feed-out) (B).
4. Remove the two screws securing bracket (C) to the machine.
5. Remove the bracket (C).
6. Release the hooks securing the sensor (tray 3 feed-out) (B) to the bracket (C).

7. Remove the sensor (tray 3 feed-out) (B).



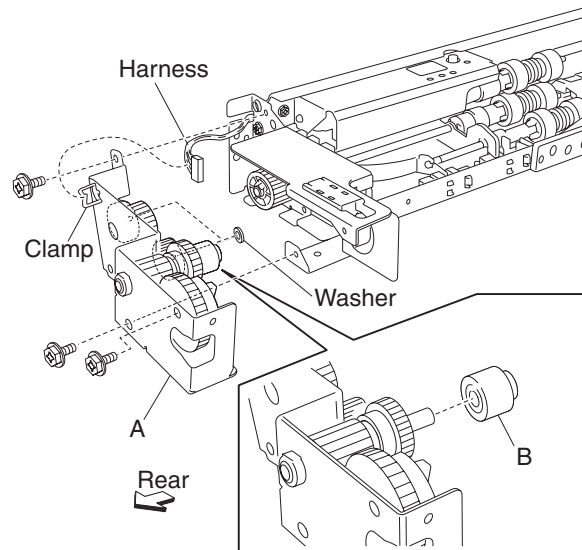
### ***3X 500-sheet drawer (3TM)—media feed lift motor removal***

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).

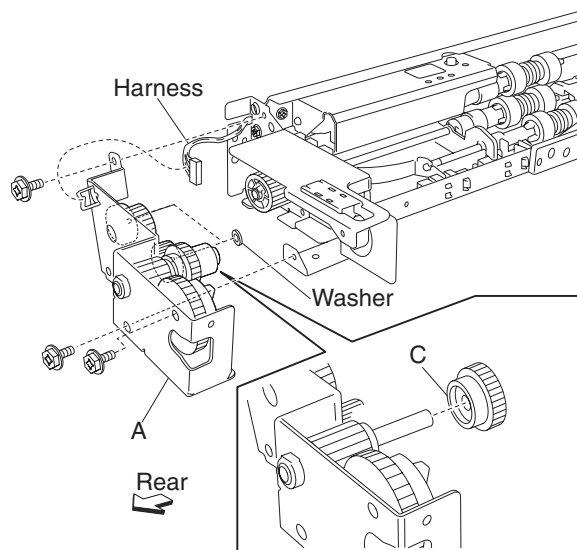


### 3X 500-sheet drawer (3TM)—one-way clutch / gear assembly removal

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).



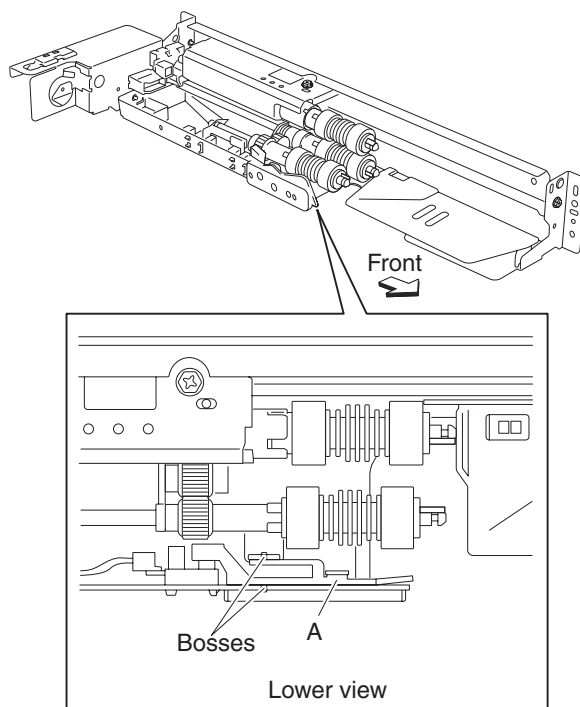
6. Remove the tray lift one-way gear 24 tooth (C).



**Replacement note:** Before re-installing, ensure all gears and washers are securely attached to the bracket (A).

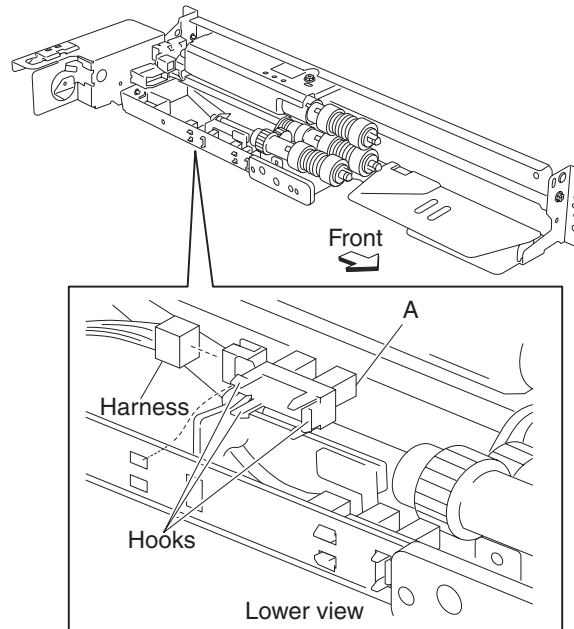
**3X 500-sheet drawer (3TM)—media out actuator removal**

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).



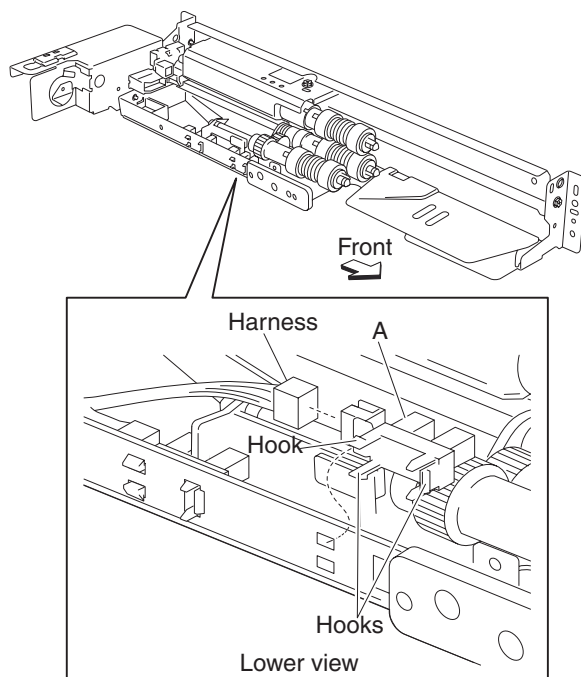
**3X 500-sheet drawer (3TM)—sensor (media level) removal**

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).

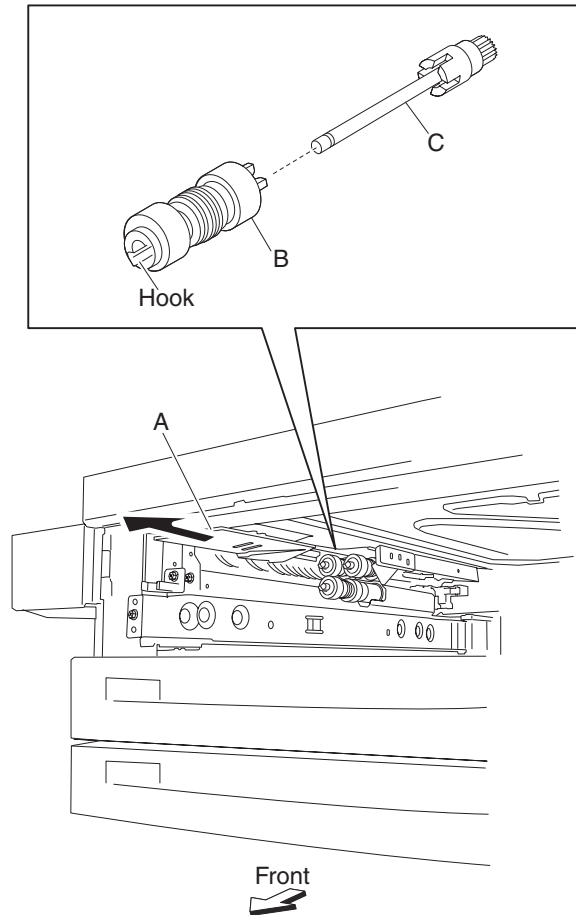




### ***3X 500-sheet drawer (3TM)—feed roll removal***

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).

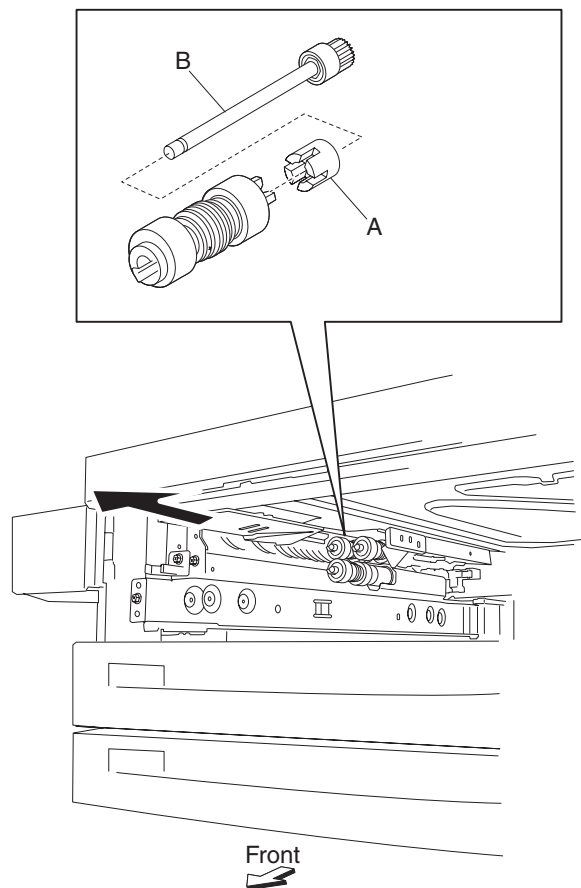
**Note:** Do not touch the rubber surface of the feed roll (B).



**Replacement note:** Before re-installing, do not touch the rubber surface of the feed roll (B).

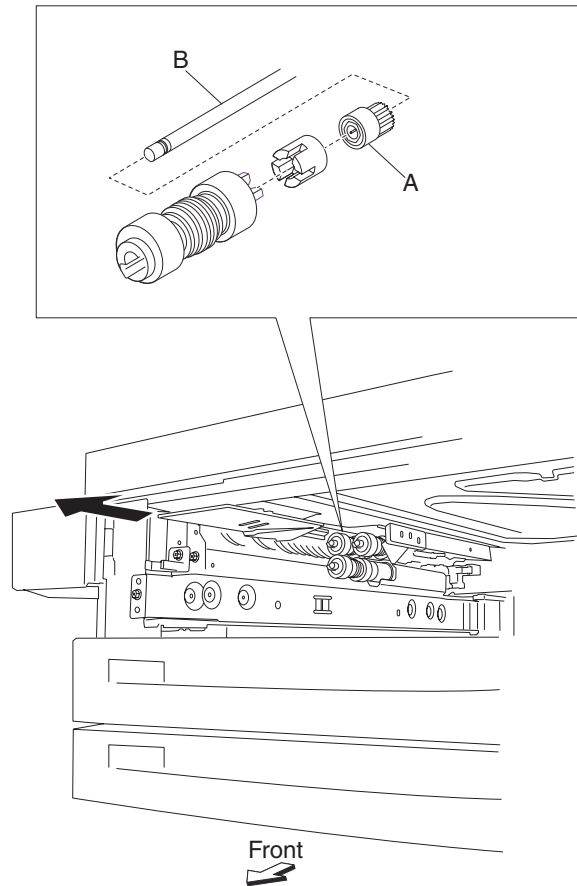
**3X 500-sheet drawer (3TM)—feed roll one-way clutch removal**

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).



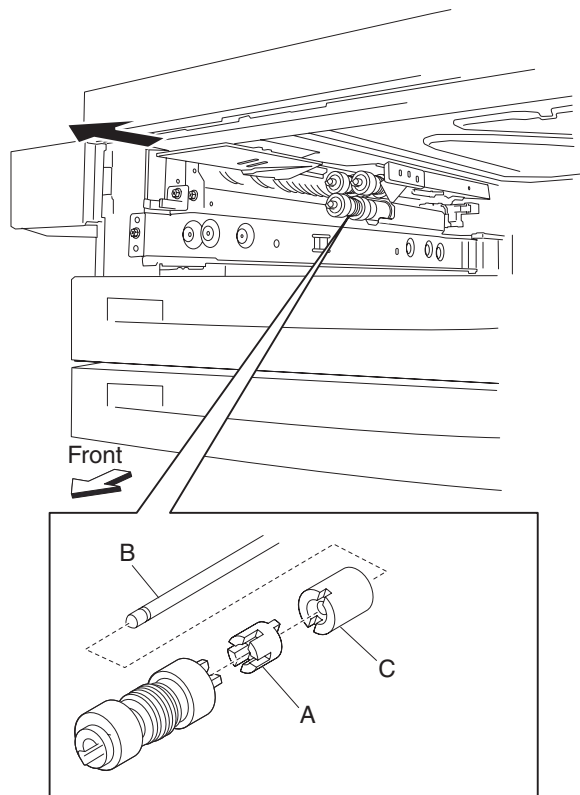
**3X 500-sheet drawer (3TM)—one-way 22 tooth removal**

1. Remove the media tray assembly.
2. Remove the feed roll. See **“2000-sheet dual input (TTM)—feed roll removal” on page 4-192.**
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).



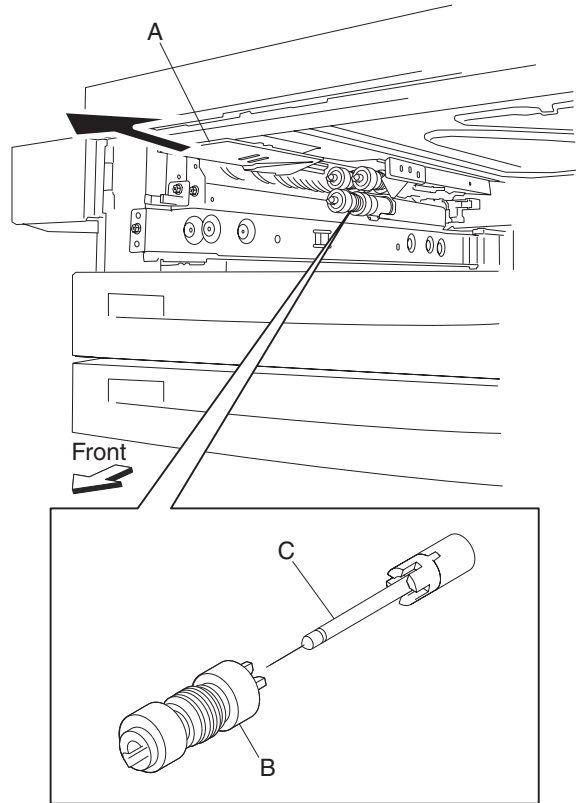
**3X 500-sheet drawer (3TM)—separation roll one-way friction clutch removal**

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).



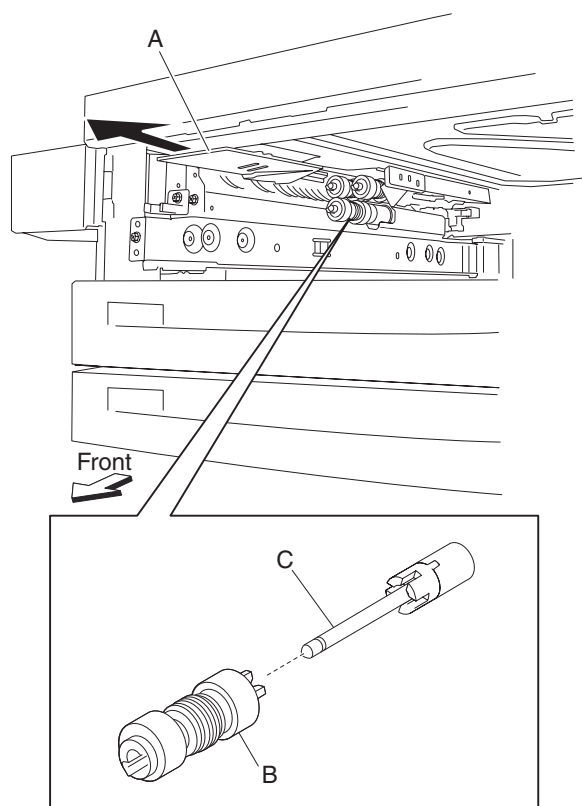
**3X 500-sheet drawer (3TM)—separation roll removal**

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).

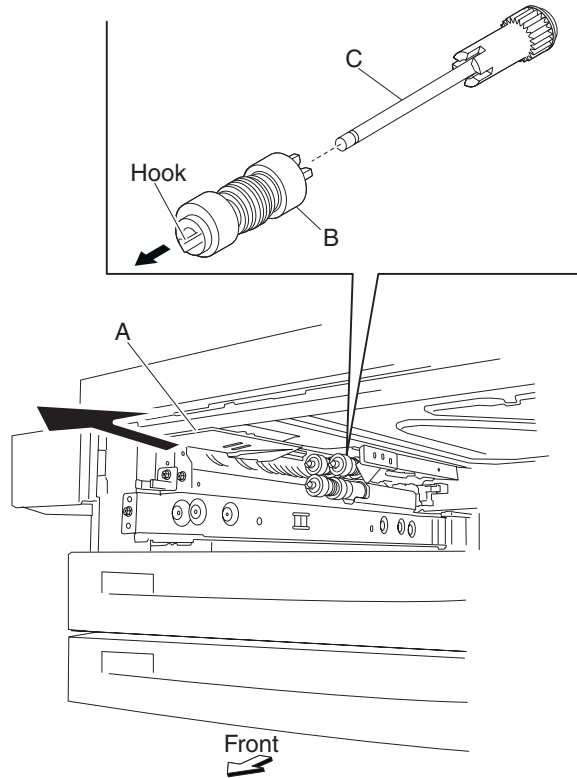


**Replacement note:** Before re-installing, do not touch the rubber surface of the separation roll (B).

### ***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).

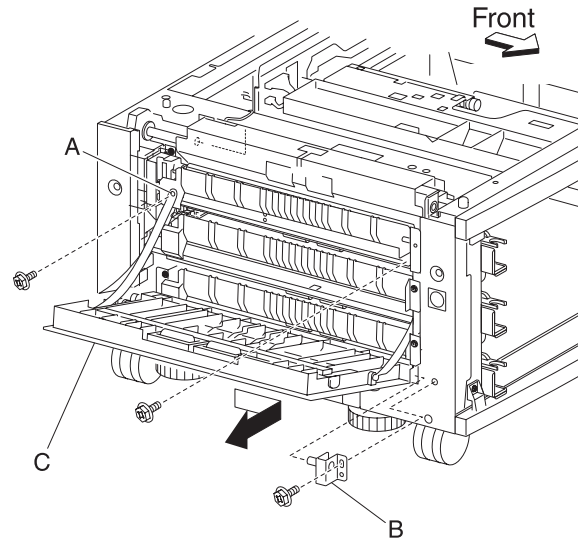
**Note:** Do not touch the rubber surface of the feed roll (B).



**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**

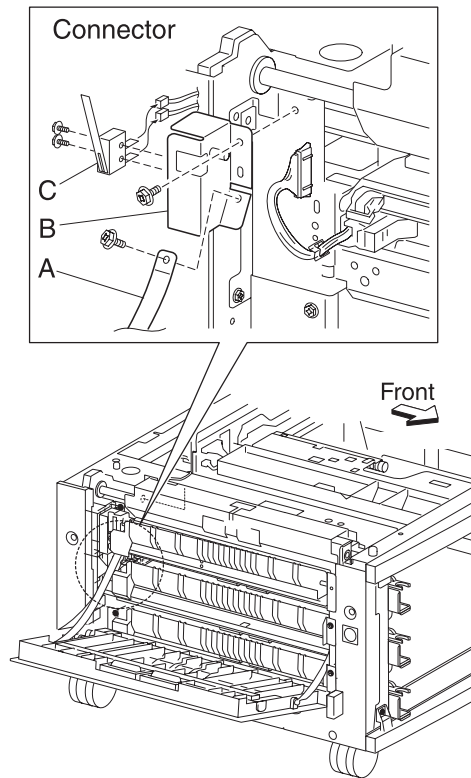
1. Open the 3TM left door assembly.
2. Remove the two screws securing the two supports straps (A) to the machine.
3. Remove the screw securing the bracket (B) to the machine.
4. Remove the bracket (B).
5. Move the tray module left door assembly (C) to the front and out in the direction of the arrow.
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).

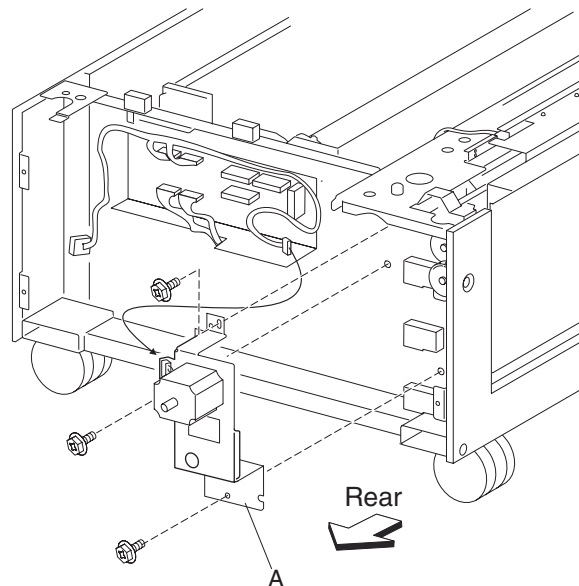


7. Remove the switch (tray module left door interlock) (C).



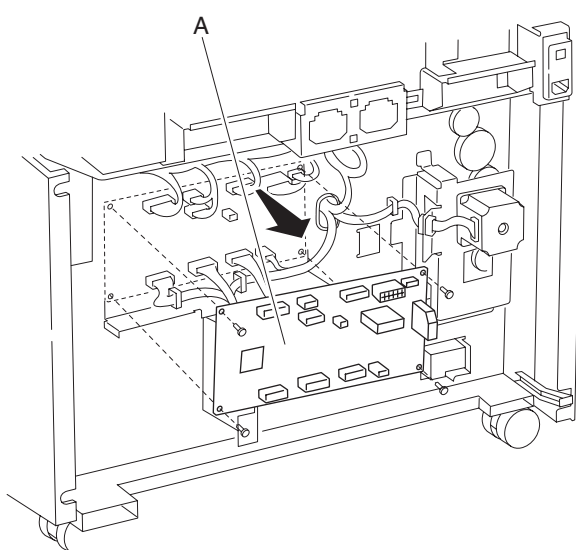
### **3X 500-sheet drawer (3TM)—tray module drive motor assembly removal**

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).



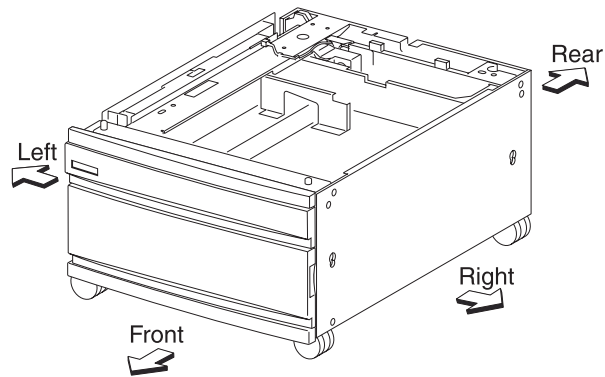
**3X 500-sheet drawer (3TM)—3TM controller card assembly removal**

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).



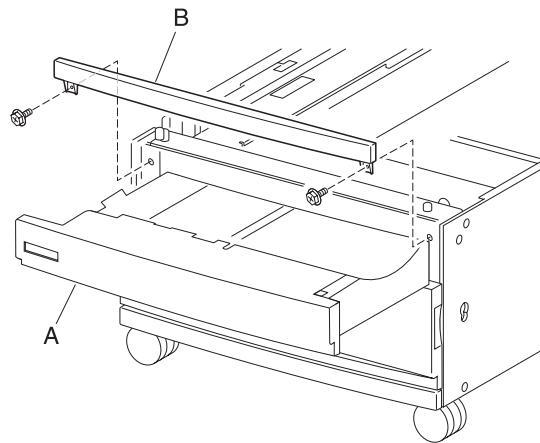
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## 1X 500-sheet drawer (1TM) removals



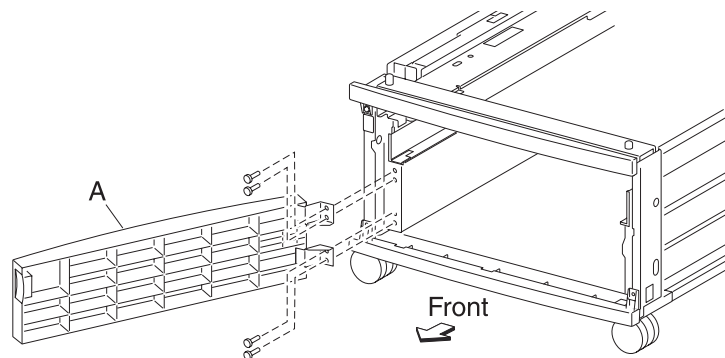
### ***1X 500-sheet drawer (1TM)—top cover removal***

1. Pull out tray 2 assembly (A).
2. Remove the two screws securing the top cover (B).
3. Remove the top cover (B).

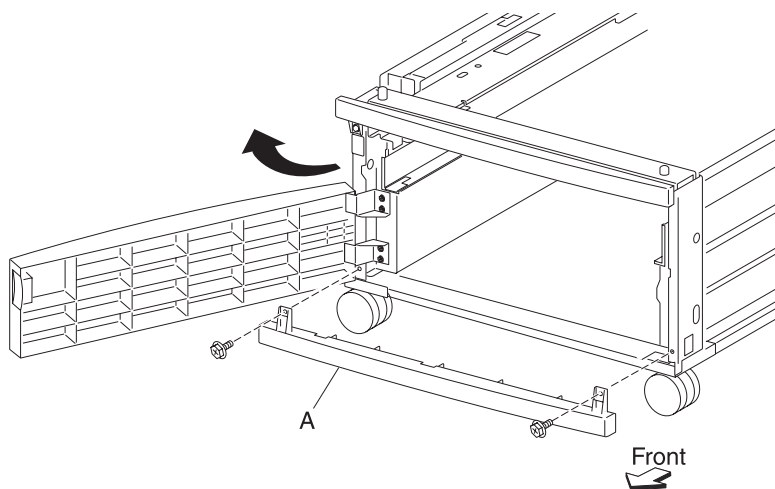


**1X 500-sheet drawer (1TM)—front door removal**

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).

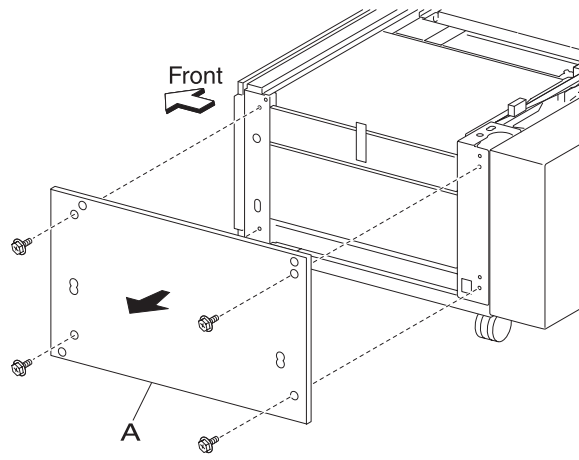
**1X 500-sheet drawer (1TM)—foot cover removal**

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).



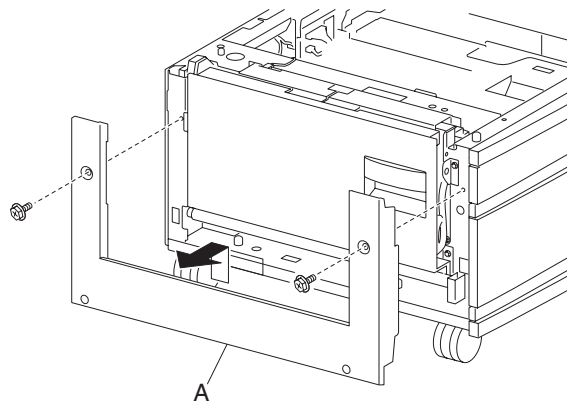
**1X 500-sheet drawer (1TM)—right cover removal**

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.

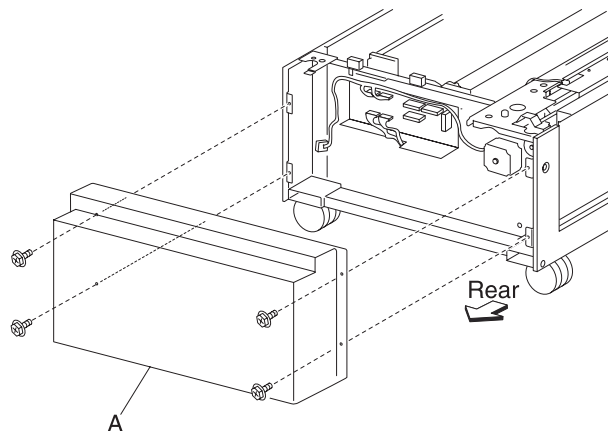


**1X 500-sheet drawer (1TM)—tray module left cover removal**

1. Remove the four screws securing the tray module left cover (A).
2. Remove the tray module left cover (A).

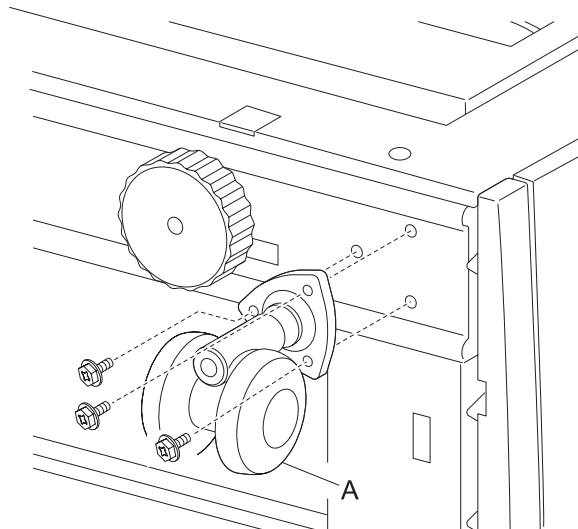
**1X 500-sheet drawer (1TM)—rear cover removal**

1. Remove the four screws securing the rear cover (A).
2. Remove the rear cover (A).



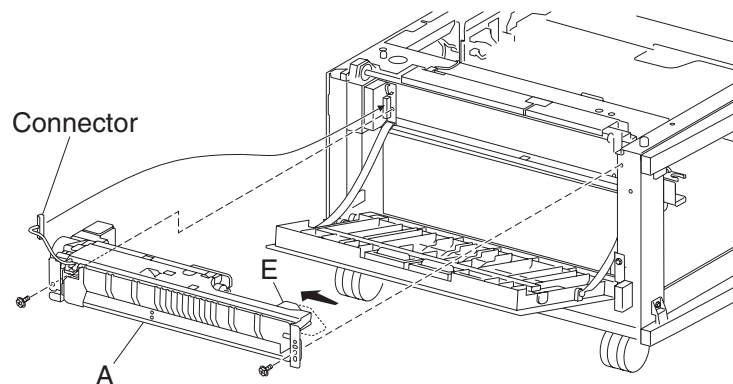
### ***1X 500-sheet drawer (1TM)—caster removal***

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).



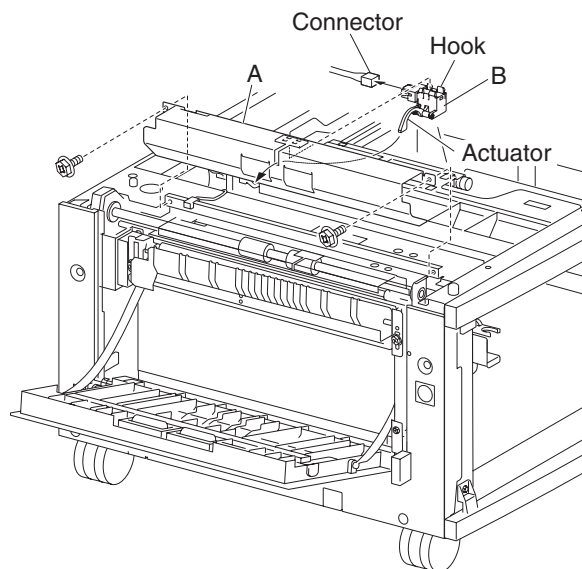
### ***1X 500-sheet drawer (1TM)—media feed unit assembly removal (tray 2)***

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**

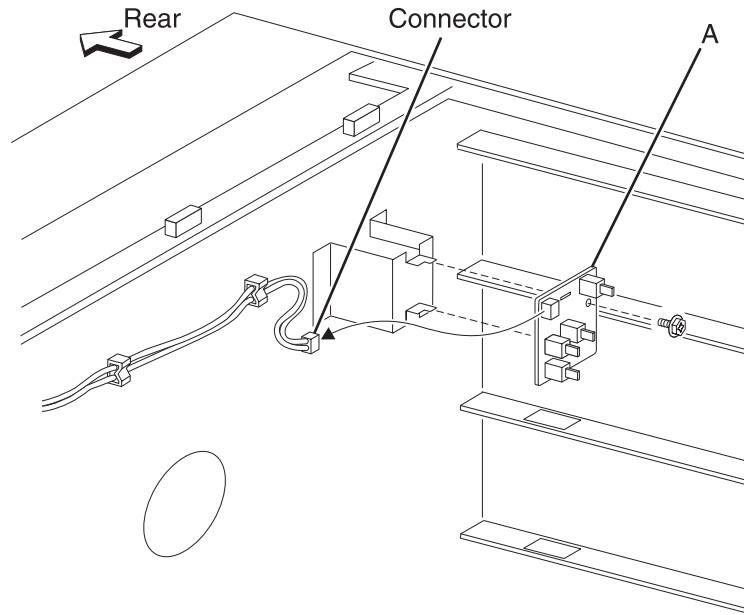
1. Open the 1TM left door assembly.
2. Remove the two screws securing bracket (A) to the machine.
3. Remove the bracket (A).
4. Disconnect the connector from the sensor (tray 2 feed-out) (B).
5. Release the hooks securing the sensor (tray 2 feed-out) (B) to the bracket (B).
6. Remove the sensor (tray 2 feed-out) (B).





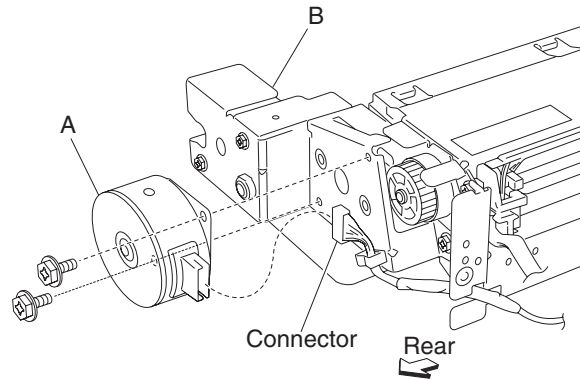
**1X 500-sheet drawer (1TM)—switch (media size) removal**

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).



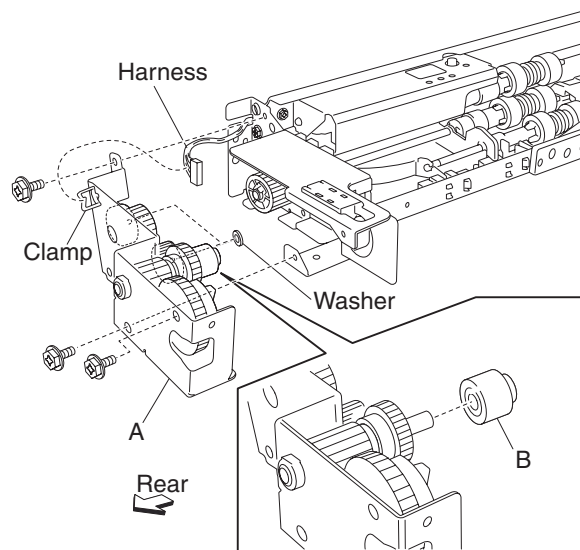
### 1X 500-sheet drawer (1TM)—media feed lift motor removal

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).

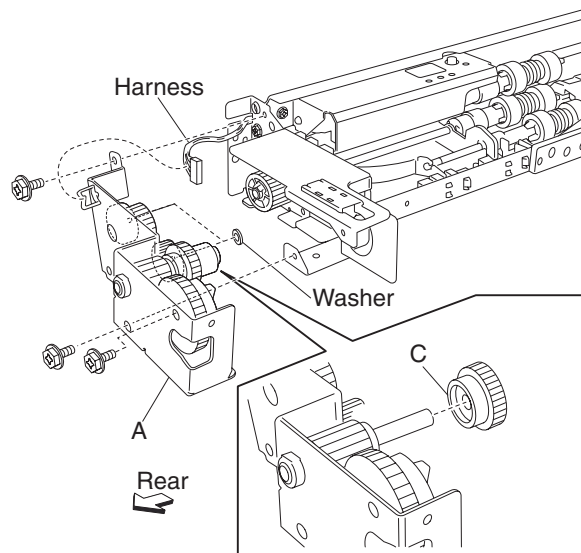


### 1X 500-sheet drawer (1TM)—one-way clutch / gear assembly removal

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).
  5. Remove the tray lift one-way clutch (B).
- Note:** The gears may become detached from the bracket (A).



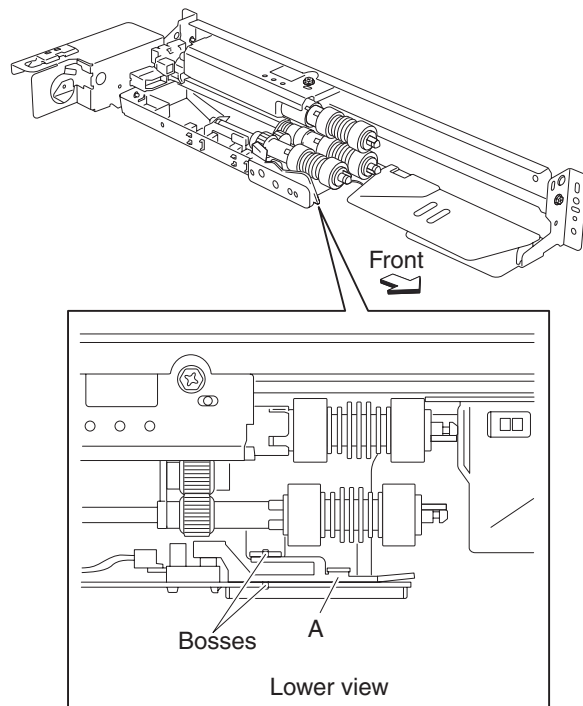
6. Remove the tray lift one-way gear 24 tooth (C).



**Replacement note:** Before re-installing, ensure all gears and washers are securely attached to the bracket (A).

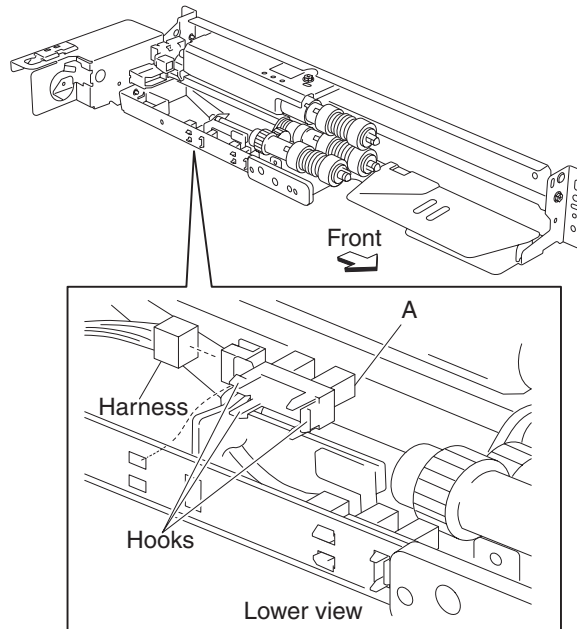
**1X 500-sheet drawer (1TM)—media out actuator removal**

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).



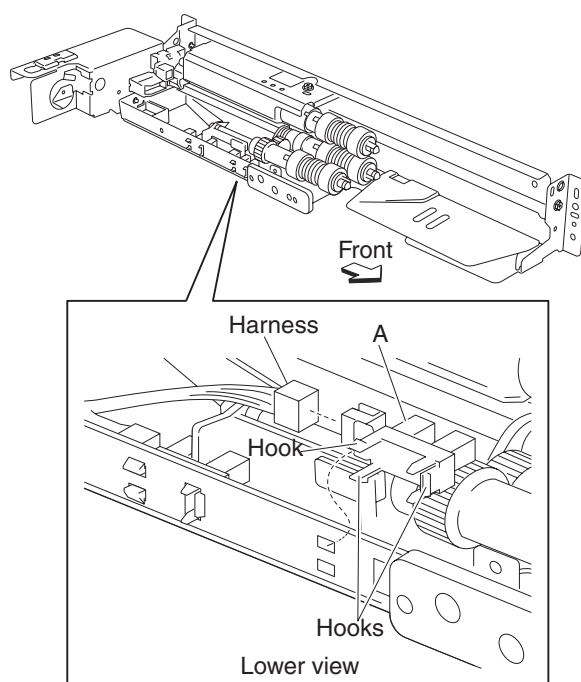
**1X 500-sheet drawer (1TM)—sensor (media level) removal**

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**

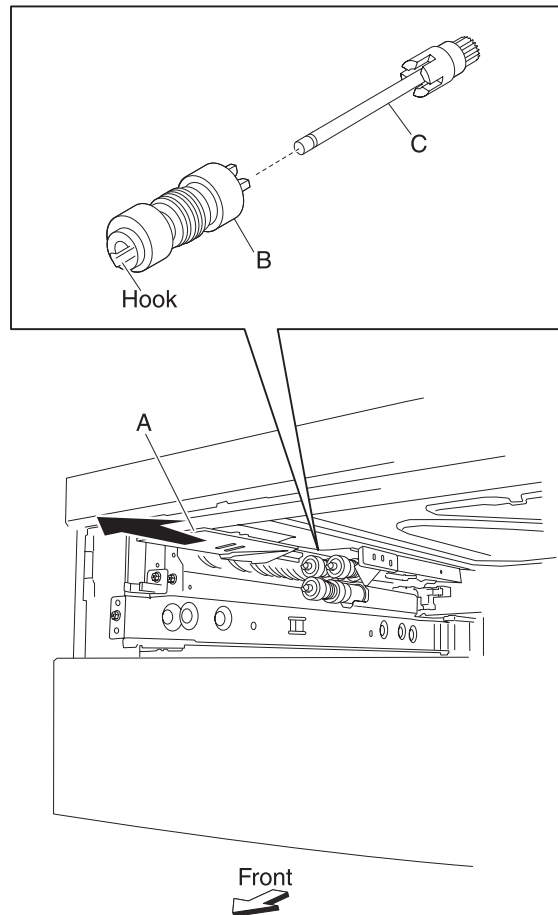
1. Remove the media feed unit assembly. See “**1X 500-sheet drawer (1TM)—media feed unit assembly removal (tray 2)**” on page 4-235.
2. Remove the media out actuator. See “**1X 500-sheet drawer (1TM)—media out actuator removal**” on page 4-240.
3. Disconnect the connector from the sensor (media out) (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).

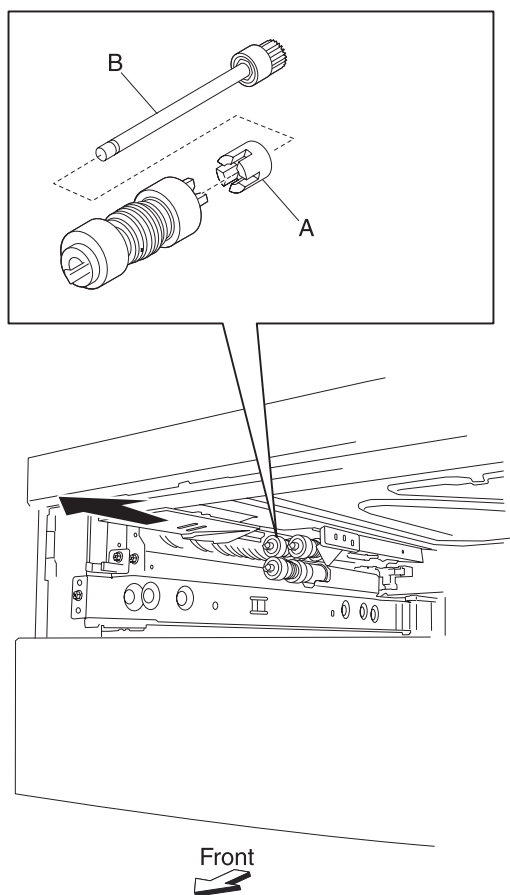
**Note:** Do not touch the rubber surface of the feed roll (B).



**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**

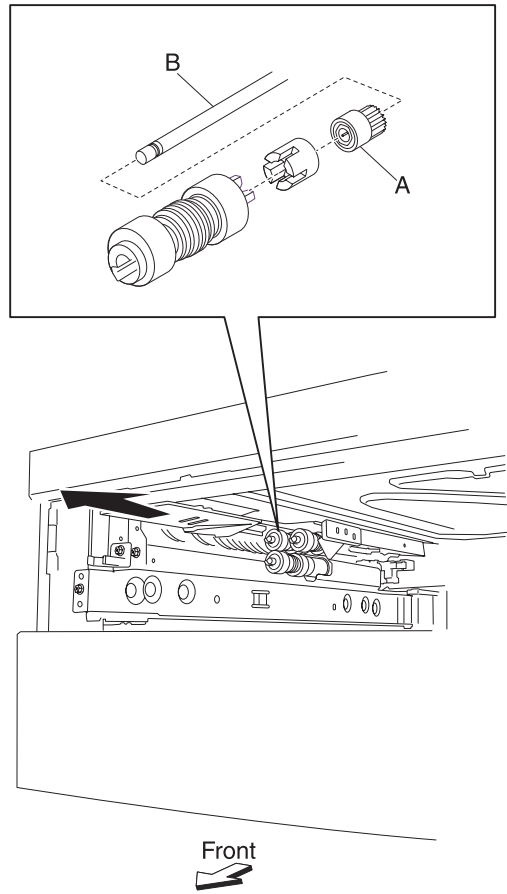
1. Remove the media tray assembly.
2. Remove the feed roll. See **“2000-sheet dual input (TTM)—feed roll removal”** on page 4-192.
3. Remove the feed roll one-way clutch (A) from the shaft (B).





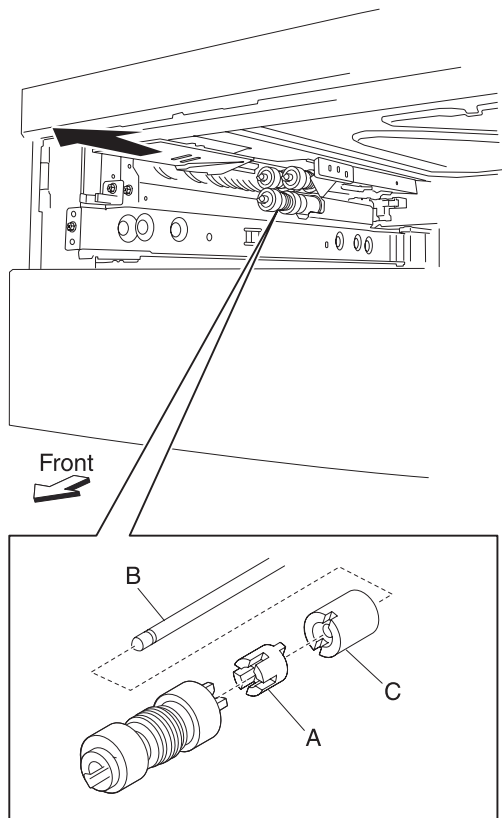
**1X 500-sheet drawer (1TM)—one-way 22 tooth removal**

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**

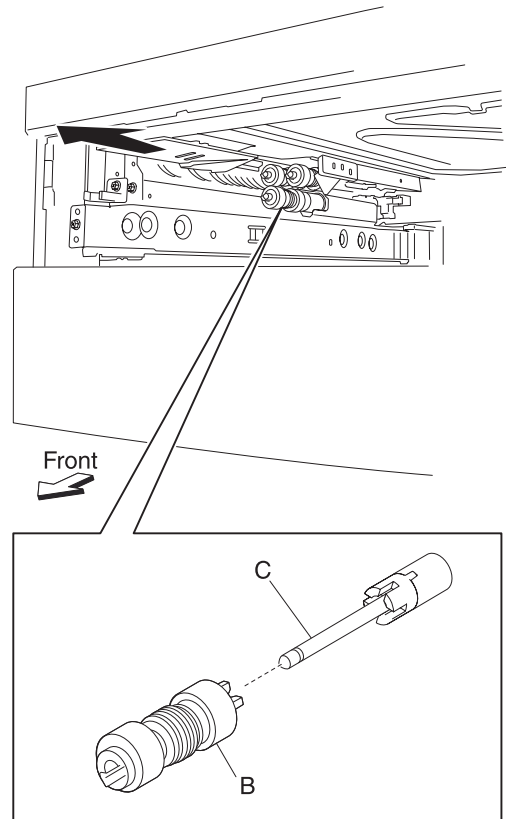
1. Remove the media tray assembly.
2. Remove the separation roll. See **“1X 500-sheet drawer (1TM)—separation roll removal” on page 4-247**.
3. Remove the separation roll spacer (A).
4. Remove the separation roll one-way friction clutch (B).



**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).

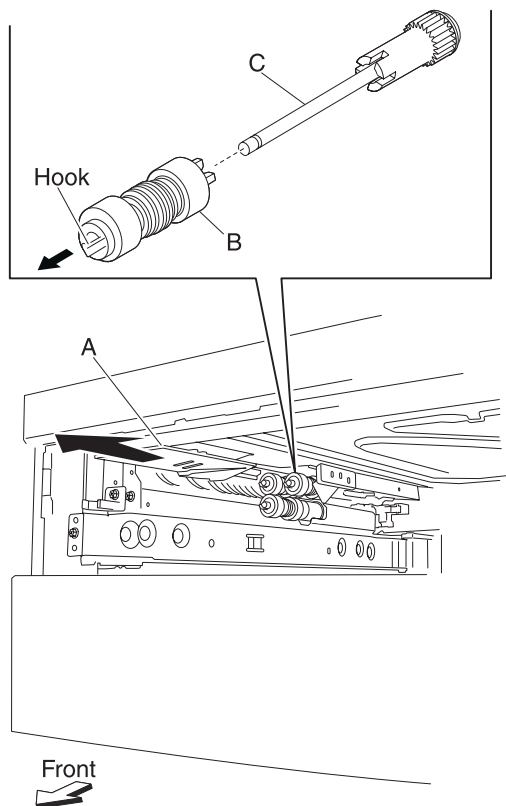


**Replacement note:** Before re-installing, do not touch the rubber surface of the separation roll (B).

**1X 500-sheet drawer (1TM)—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).

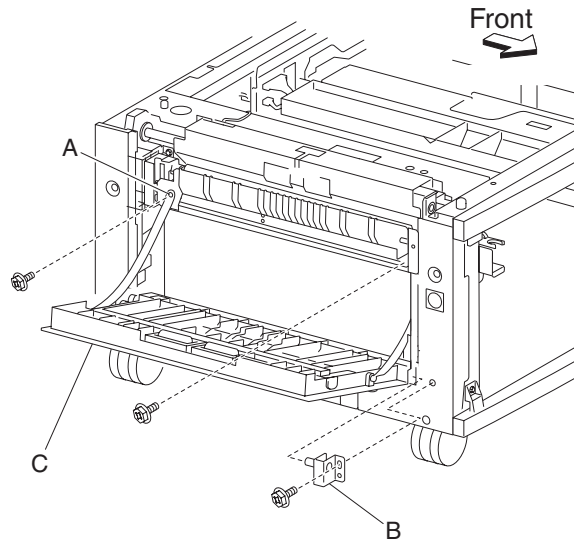
**Note:** Do not touch the rubber surface of the feed roll (B).



**Replacement note:** Before re-installing, do not touch the rubber surface of the pick roll (B).

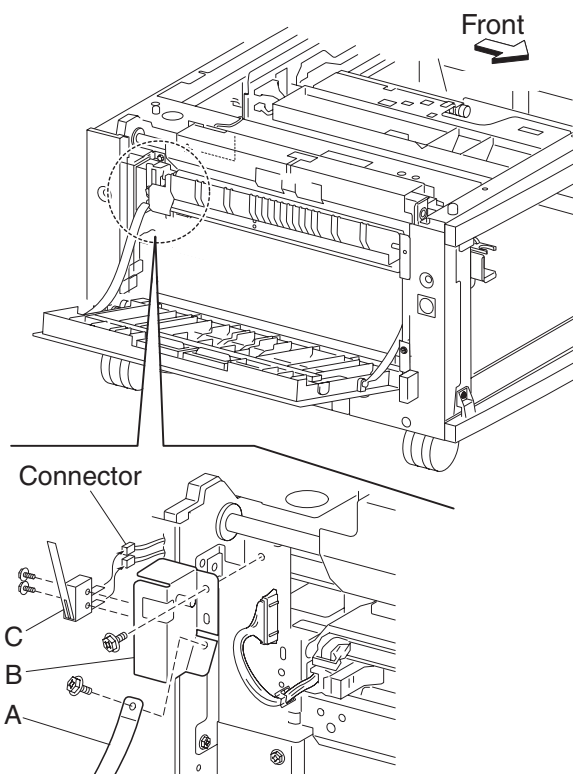
**1X 500-sheet drawer (1TM)—tray module left door assembly removal**

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).



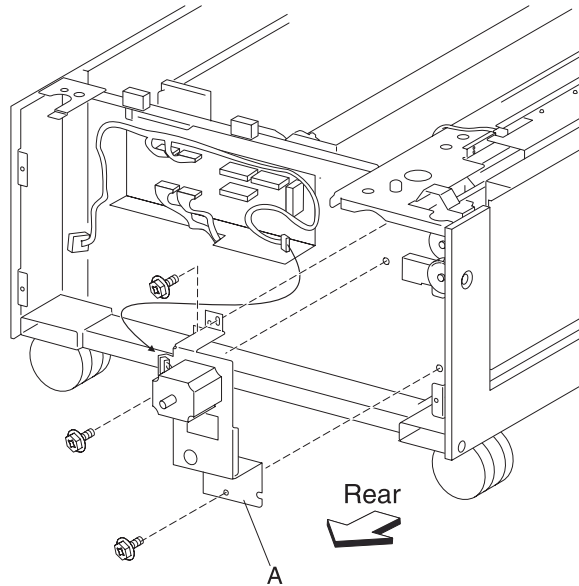
**1X 500-sheet drawer (1TM)—switch (tray module left door interlock) removal**

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).



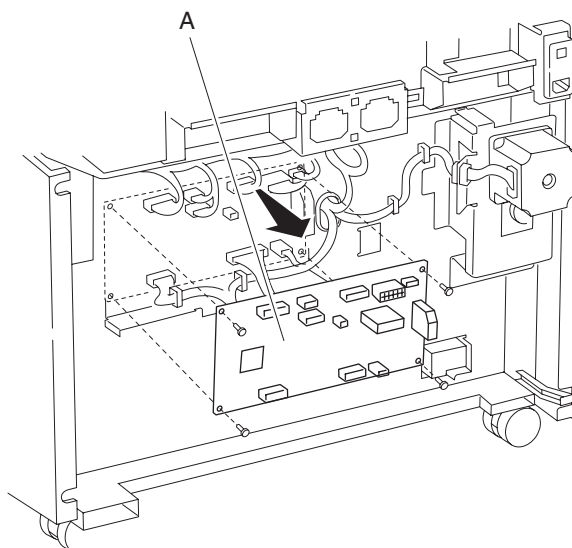
### **1X 500-sheet drawer (1TM)—tray module drive motor assembly removal**

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).



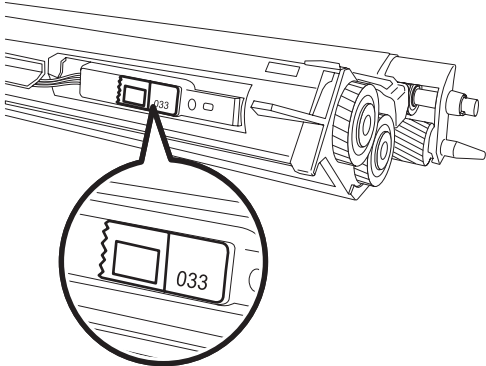
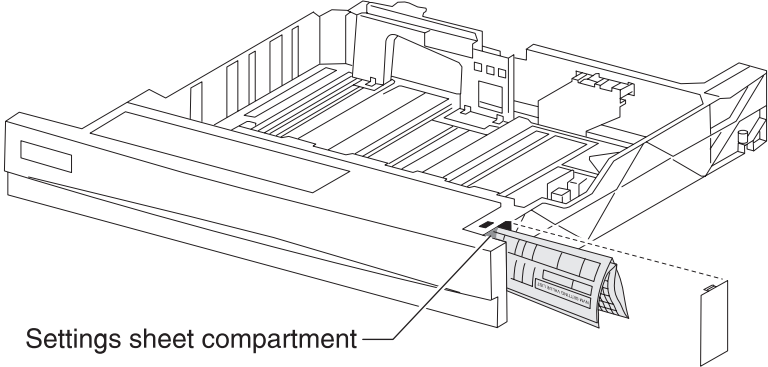
### **1X 500-sheet drawer (1TM)—1TM controller card assembly removal**

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	<p><b>Warning:</b> Before installing any new developer unit assemblies in the machine, record the bar code number located on the sensor (ATC) for all new developer units being installed.</p> <p>Example:</p>  <p><b>Sensor (C ATC) XXX</b> <b>Sensor (M) ATC XXX</b> <b>Sensor (Y) ATC XXX</b> <b>Sensor (K) ATC XXX</b></p>		
2	<p>Using the bar code number recorded from the sensor (ATC) on each of the new developer unit assemblies in step 1, locate the values for the following settings using the ATC value conversion chart shown after step 5:</p> <p><b>Sensitivity gradient</b> <b>Sensor output reference</b></p>		
3	<p><b>Warning:</b> The following step must be performed or the new machine settings will not match the settings listed on the birth certificate in the event it is required for NVM value replacement.</p> <p>Retrieve the birth certificate from the compartment in the media tray 1, record the eight new sensitivity gradient and sensor output reference settings from step 2 to the birth certificate.</p>  <p>Settings sheet compartment</p>		



Step	Check	Yes	No
4	<p>Update the following settings using the newly converted values from step 2 for all newly installed developer units:</p> <p><b>Sensitivity gradient</b></p> <p><b>Sensor output reference</b></p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>ENGINE ADJUST.</b></li> <li>3. Touch <b>ATC Sensor Adjust Values</b></li> <li>4. Enter new values.</li> <li>5. Touch <b>Submit.</b></li> </ol> <p><b>Warning:</b> This procedure must be done for all new developer unit assemblies being installed or print quality problems may occur.</p>		
5	<p><b>Note:</b> Ensure that all photoconductor unit assemblies are installed before performing this step.</p> <p><b>Finalize the newly updated settings.</b></p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>ENGINE ADJUST.</b></li> <li>3. Touch <b>ATC Sensor Adjust Cycles</b></li> </ol> <p>Does the above test pass?</p>	The sensor (ATC) setup is now complete.	Ensure that the photoconductor unit assemblies are installed before performing this test.

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
<b>1</b>	<b>Perform the Measurement cycle test.</b> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>ENGINE ADJUST.</b></li> <li>3. Touch <b>RegCon adjust</b></li> <li>4. Touch <b>Measurement cycle</b></li> </ol> <p>Does the above test pass?</p>	Perform the "Control sensor check". See <b>"Control sensor check" on page 4-258.</b>	Go to step 2.
<b>2</b>	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 <b>"Transfer belt unit assembly removal" on page 4-16.</b>	Go to step 3.
<b>3</b>	Check the image density sensor assembly connection. Is the above component properly connected?	Replace the image density sensor assembly. See <b>"Image density sensor assembly removal" on page 4-45.</b>	Replace the connection.
<b>4</b>	Re-perform the Measurement cycle test again. Does the above test pass?	Perform the "Control sensor check". Go to <b>"Control sensor check" on page 4-258.</b>	Contact next level of support.

## Control sensor check

Step	Check	Yes	No
<b>1</b>	Perform the Control sensor check test. 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control Sensor Check</b>  Does the above test pass?	Perform the "Control sensor cycle".  See <b>"Control sensor cycle" on page 4-258.</b>	Go to step 2.
<b>2</b>	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 <b>"Transfer belt unit assembly removal" on page 4-16.</b>	Go to step 3.
<b>3</b>	Re-perform the Control sensor check test again.  <b>Does the above test pass?</b>	Perform the "Control sensor cycle".  See <b>"Control sensor cycle" on page 4-258.</b>	Contact next level of support.

## Control sensor cycle

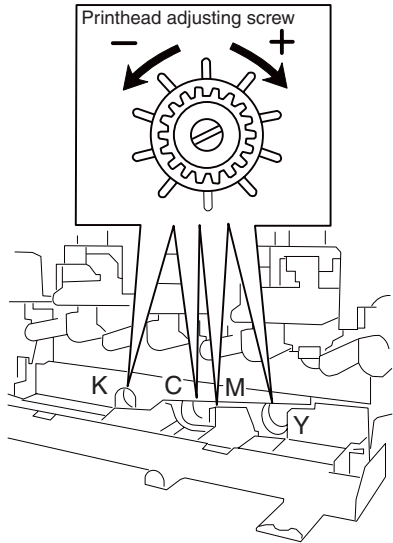
Step	Check	Yes	No
<b>1</b>	Perform the Control sensor cycle test. 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control Sensor Cycle</b>  Does the above test pass?	Perform the "Belt edge learn test".  See <b>"Belt edge learn test" on page 4-259.</b>	Go to step 2.
<b>2</b>	Check the upper printer engine card assembly connections. Is the above component properly connected?	Replace the upper printer engine card assembly.  See <b>"Upper printer engine card assembly removal" on page 4-76.</b>	Replace the connection.
<b>3</b>	Re-perform the Measurement cycle test again. Does the above test pass?	Perform the "Belt edge learn test".  See <b>"Belt edge learn test" on page 4-259.</b>	Contact next level of support.

### Belt edge learn test

Step	Check	Yes	No
<b>1</b>	Perform the Belt edge learn test. 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Belt edge learn</b>  Does the above test pass?	Perform "Skew setup". See " <b>Skew fine setup</b> " on page 4-259.	Go to step 2.
<b>2</b>	Replace the transfer belt unit assembly. See " <b>Transfer belt unit assembly removal</b> " on page 4-16. Does the error continue?	Perform "Skew setup". See " <b>Skew fine setup</b> " on page 4-259.	Contact next level of support.

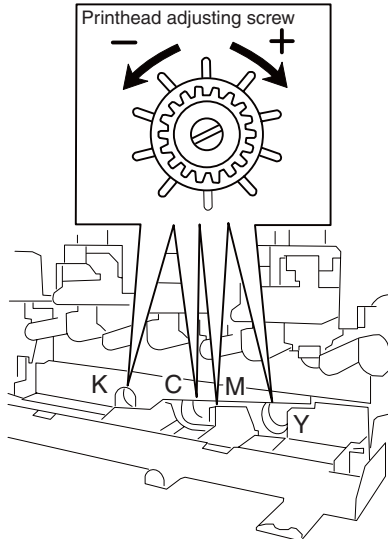
### Skew fine setup

Step	Check	Yes	No
<b>1</b>	Perform the Skew fine setup. 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control setup cycles</b> 5. Touch <b>Skew fine setup</b>  Does the above test pass?	Go to step 2.	Go to step 3.

Step	Check	Yes	No
2	<p>Perform the Skew fine setup printhead adjustment.            Touch <b>Cycle result values</b>.</p> <p>Locate the following new values for the following settings:            Y- Skew adjustment            M- Skew adjustment            C- Skew adjustment            K- Skew adjustment</p> <p>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.</p> <p>+values require turning the screw <b>Clockwise</b>            - values require turning the screw <b>Counter Clockwise</b>.</p> <p>EG: Y-Skew adjustment 10. Turn the screw CW 10 clicks.            EG: Y-Skew adjustment -10. Turn the screw CCW 10 clicks.</p>  <p>Have the appropriate printhead adjustment screws been adjusted?</p>	<p>Perform the In/Out setup.            See <b>“In/out setup” on page 4-264</b>.</p>	<p>Adjust the printhead adjustment screws then perform the In/Out setup.            See <b>“In/out setup” on page 4-264</b>.</p>



Step	Check	Yes	No
<b>3</b>	<p>Analyze the fine skew setup.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>ENGINE ADJUST.</b></li> <li>3. Touch <b>RegCon adjust</b></li> <li>4. Touch <b>Control setup cycles</b></li> <li>5. Touch <b>Cycle result values</b></li> </ol> <p>Locate the following new values for the following settings: Patch-B in Patch-B out</p> <p>Is the value for both of the above settings a "4"?</p>	Go to step 4.	Go to step 6.
<b>4</b>	<p>Perform the skew rough setup.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>ENGINE ADJUST.</b></li> <li>3. Touch <b>RegCon adjust</b></li> <li>4. Touch <b>Control setup cycles</b></li> <li>5. Touch <b>Skew rough setup</b></li> </ol> <p>Does the above test pass?</p>	Go to step 5.	Go to step 6.

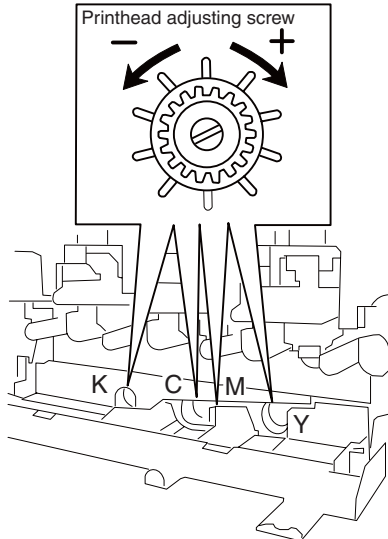
Step	Check	Yes	No
5	<p>Perform the skew rough setup printhead adjustment.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>ENGINE ADJUST.</b></li> <li>3. Touch <b>RegCon adjust</b></li> <li>4. Touch <b>Control setup cycles</b></li> <li>5. Touch <b>Cycle result values</b></li> </ol> <p>Locate the following new values for the following settings:</p> <p>Y- Skew adjustment M- Skew adjustment C- Skew adjustment K- Skew adjustment</p> <p>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.</p> <p>+values require turning the screw <b>Clockwise</b> - values require turning the screw <b>Counter Clockwise</b>.</p> <p>EG: Y-Skew adjustment 10. Turn the screw CW 10 clicks. EG: Y-Skew adjustment -10. Turn the screw CCW 10 clicks.</p>  <p>Have the appropriate printhead adjustment screw been adjusted?</p>	<p>Re-perform step 1. If the test fails then replace the printhead.</p> <p>See <b>“Printhead assembly removal” on page 4-94.</b></p> <p>Once the printhead is replaced then re-perform the entire RegCon procedure.</p> <p>See <b>“Color registration (RegCon)” on page 4-256.</b></p>	Go to step 6.
6	<p>Check the image density sensor assembly connection.</p> <p>Is the above component properly connected?</p>	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 <b>“Image density sensor assembly removal” on page 4-45.</b>	Go to step 8.
8	Re-Perform the Skew fine setup. 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control setup cycles</b> 5. Touch <b>Skew fine setup</b>  Does the above test pass?	Perform the In/Out setup. See <b>“In/out setup” on page 4-264.</b>	Replace the image density sensor assembly. See <b>“Image density sensor assembly removal” on page 4-45.</b>
9	Re-Perform the Skew fine setup. 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control setup cycles</b> 5. Touch <b>Skew fine setup</b>  Does the above test pass?	Perform the In/Out setup. See <b>“In/out setup” on page 4-264.</b>	Contact next level of support.

## In/out setup

Step	Check	Yes	No
<b>1</b>	Perform the In/out setup: 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control setup cycles</b> 5. Touch <b>In/out setup</b>  Does the above test pass?	Perform the Center setup.  See <b>“Center setup” on page 4-268.</b>	Go to step 2.
<b>2</b>	Analyze the In/out setup. 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control setup cycles</b> 5. Touch <b>Cycle result values</b>  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.
<b>3</b>	Perform the skew rough setup. 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control setup cycles</b> 5. Touch <b>Skew rough setup</b>  Does the above test pass?	Go to step 4.	Go to step 7.

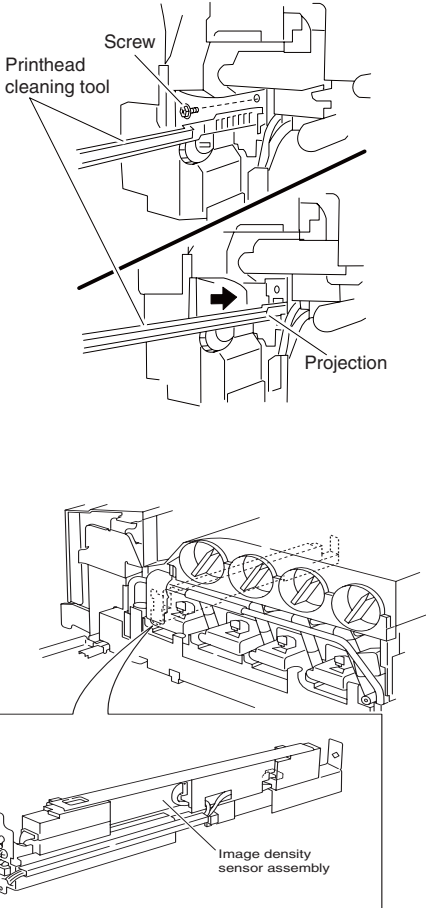
Step	Check	Yes	No
4	<p>Perform the skew rough setup printhead adjustment.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>ENGINE ADJUST.</b></li> <li>3. Touch <b>RegCon adjust</b></li> <li>4. Touch <b>Control setup cycles</b></li> <li>5. Touch <b>Cycle result values</b></li> </ol> <p>Locate the following new values for the following settings:</p> <p>Y- Skew adjustment M- Skew adjustment C- Skew adjustment K- Skew adjustment</p> <p>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.</p> <p>+values require turning the screw <b>Clockwise</b> - values require turning the screw <b>Counter Clockwise</b>.</p> <p>EG: Y-Skew adjustment 10. Turn the screw CW 10 clicks. EG: Y-Skew adjustment -10. Turn the screw CCW 10 clicks.</p> <div> </div> <p>Have the appropriate printhead adjustment screw been adjusted?</p>	<p>Re-perform step 1. If the test fails then replace the printhead.</p> <p>See <b>“Printhead assembly removal”</b> on page 4-94.</p> <p>Once the printhead is replaced then re-perform the entire RegCon procedure.</p> <p>See <b>“Color registration (RegCon)”</b> on page 4-256.</p>	Go to step 7.

Step	Check	Yes	No
5	<p>Perform the In/out skew setup printhead adjustment.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>ENGINE ADJUST.</b></li> <li>3. Touch <b>RegCon adjust</b></li> <li>4. Touch <b>Control setup cycles</b></li> <li>5. Touch <b>Cycle result values</b></li> </ol> <p>Locate the following new values for the following settings:</p> <p>Y- Skew adjustment M- Skew adjustment C- Skew adjustment K- Skew adjustment</p> <p>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.</p> <p>+values require turning the screw <b>Clockwise</b> - values require turning the screw <b>Counter Clockwise</b>.</p> <p>EG: Y-Skew adjustment 10. Turn the screw CW 10 clicks. EG: Y-Skew adjustment -10. Turn the screw CCW 10 clicks.</p>  <p>Have the appropriate printhead adjustment screw been adjusted?</p>	<p>Go to the Center setup.</p> <p>See <b>“Center setup” on page 4-268.</b></p>	<p>Adjust the printhead adjustment screw then go to Center setup.</p> <p>See <b>“Center setup” on page 4-268.</b></p>
6	<p>Check the image density sensor assembly connection.</p> <p>Is the above component properly connected</p>	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 <b>“Image density sensor assembly removal” on page 4-45.</b>	Go to step 8.
8	Re-Perform the In/out setup. 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control setup cycles</b> 5. Touch <b>In/out setup</b>  Does the above test pass?	Perform the Center setup. See <b>“Center setup” on page 4-268.</b>	Replace the image density sensor assembly. See <b>“Image density sensor assembly removal” on page 4-45.</b>
9	Re-Perform the In/out setup. 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control setup cycles</b> 5. Touch <b>In/out setup</b>  Does the above test pass?	Perform the Center setup. See <b>“Center setup” on page 4-268.</b>	Contact next level of support.

## Center setup



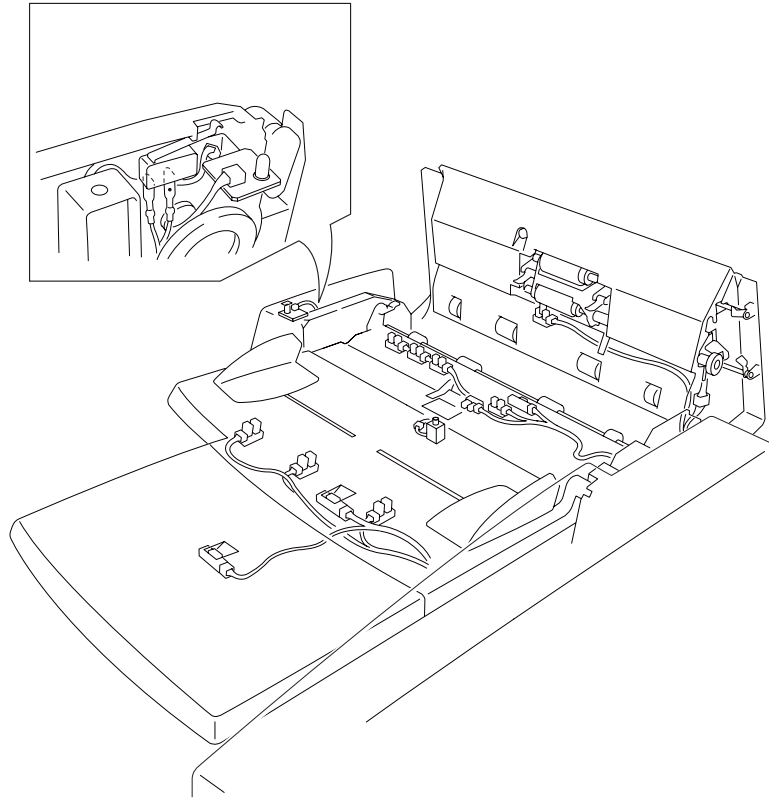
Step	Check	Yes	No
1	<p><b>Warning: Ensure that the image density sensor assembly is moved to the center position or the test will not function.</b></p> <p>Move the image density sensor assembly to the center position.</p> <ol style="list-style-type: none"> <li>1. Open the Printer front door.</li> <li>2. Remove the waste toner cartridge.</li> <li>3. Remove the printhead cleaning tool from the printer front door.</li> <li>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.</li> <li>5. Remove the screw as shown in the diagram.</li> <li>6. Push the image density sensor assembly toward the center of the machine as far as it will go using the printhead cleaning tool.</li> <li>7. Gently detach the printhead cleaner from the image density cleaning assembly.</li> <li>8. Replace the waste toner cartridge.</li> <li>9. Close the printer front door assembly.</li> </ol>  <p>Have all of the above steps been performed?</p>	Go to step 2.	Repeat step 1.

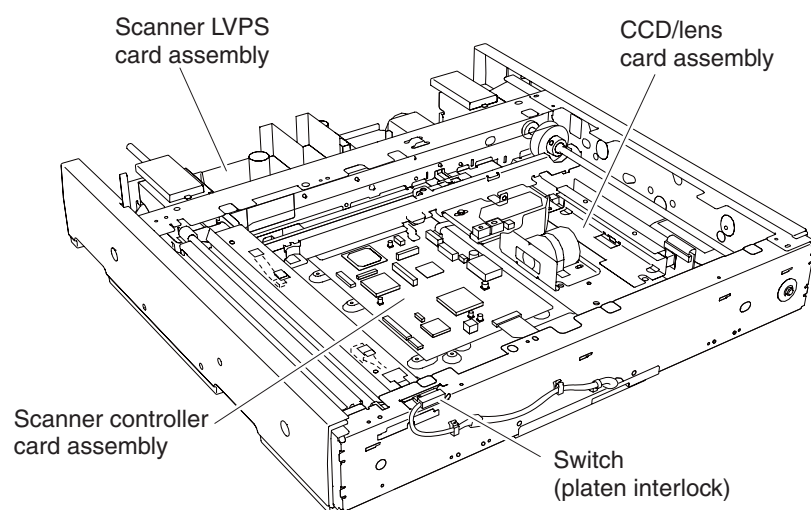
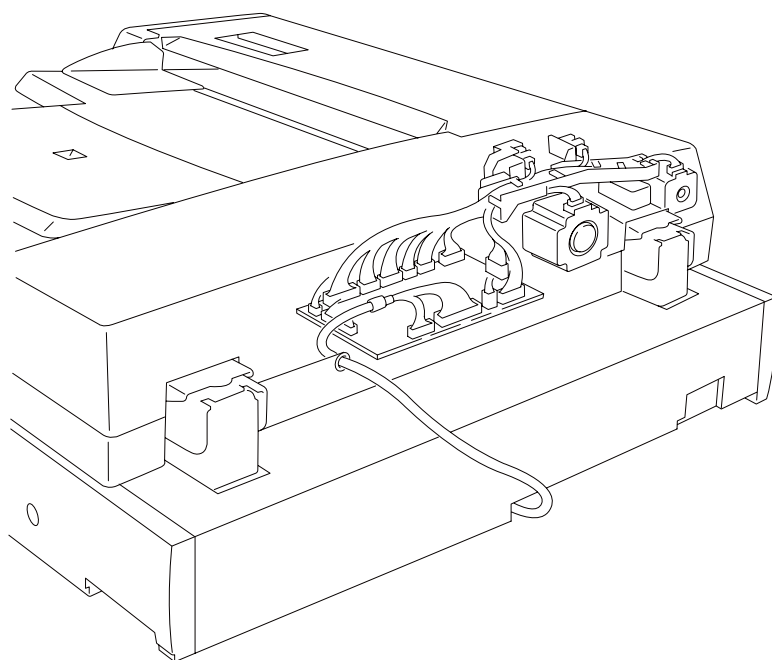
Step	Check	Yes	No
<b>2</b>	Perform the center setup: 1. Enter the Diagnostics Menu. 2. Touch <b>ENGINE ADJUST.</b> 3. Touch <b>RegCon adjust</b> 4. Touch <b>Control setup cycles</b> 5. Touch <b>Center setup</b>  Does the above test pass?	Move the image density sensor back to its original position.  The color registration (RegCon) procedure is now complete.	Go to step 3.
<b>3</b>	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.

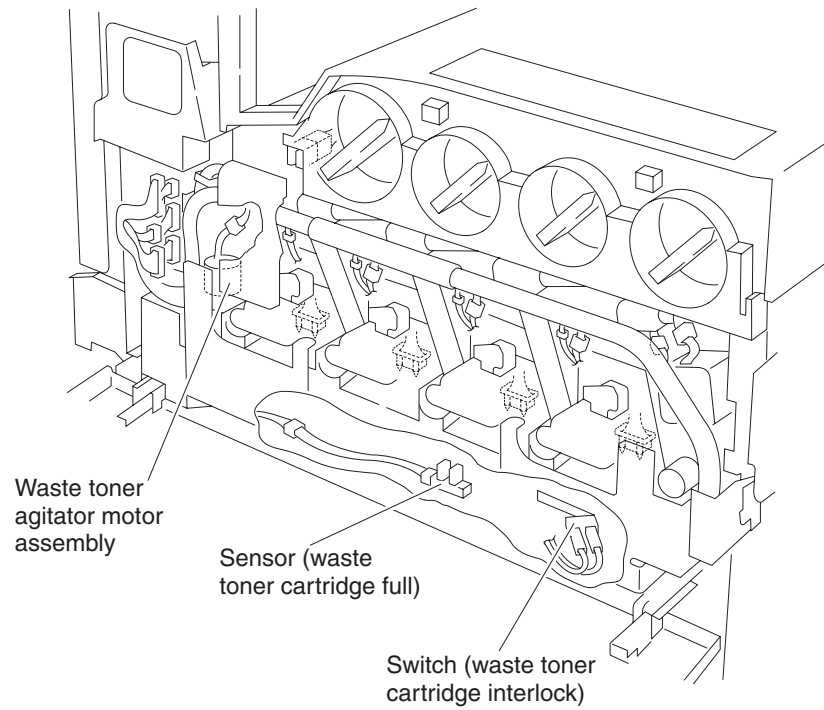
## 5. Connector locations

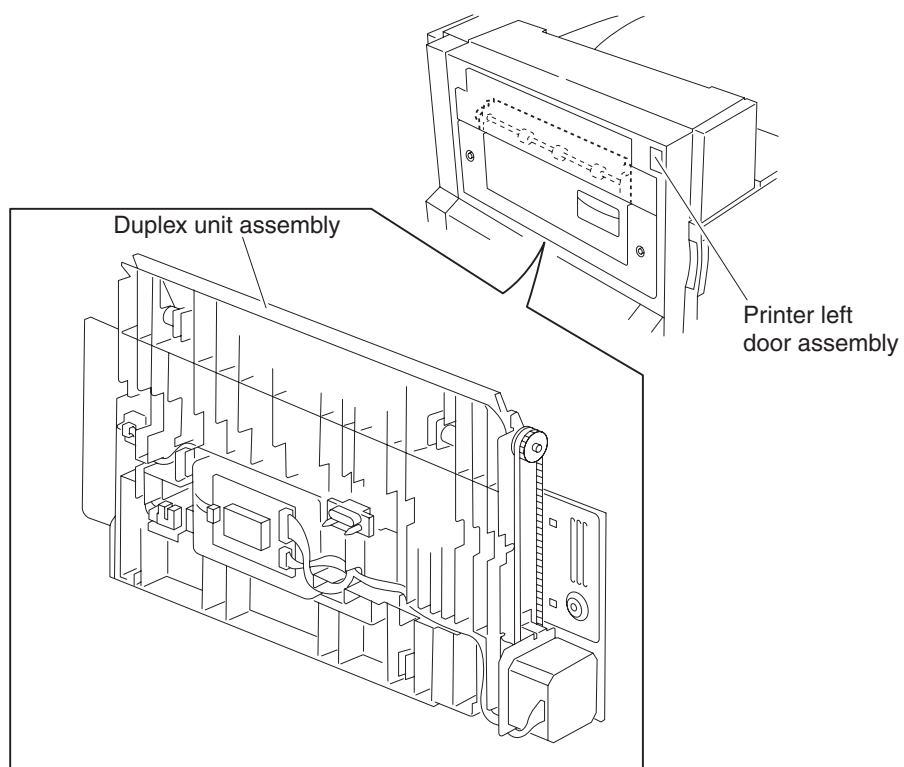
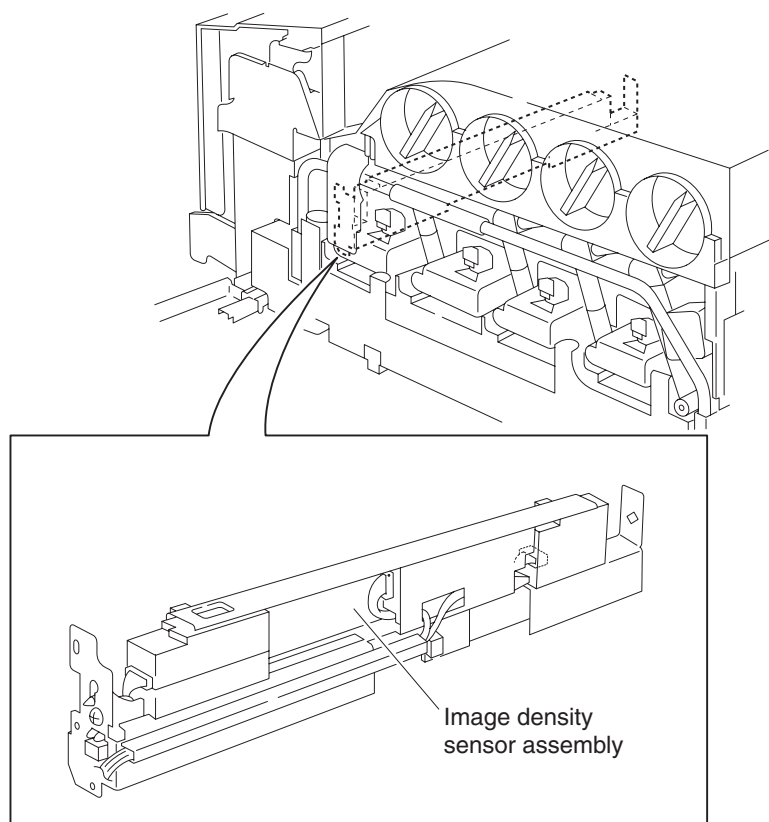
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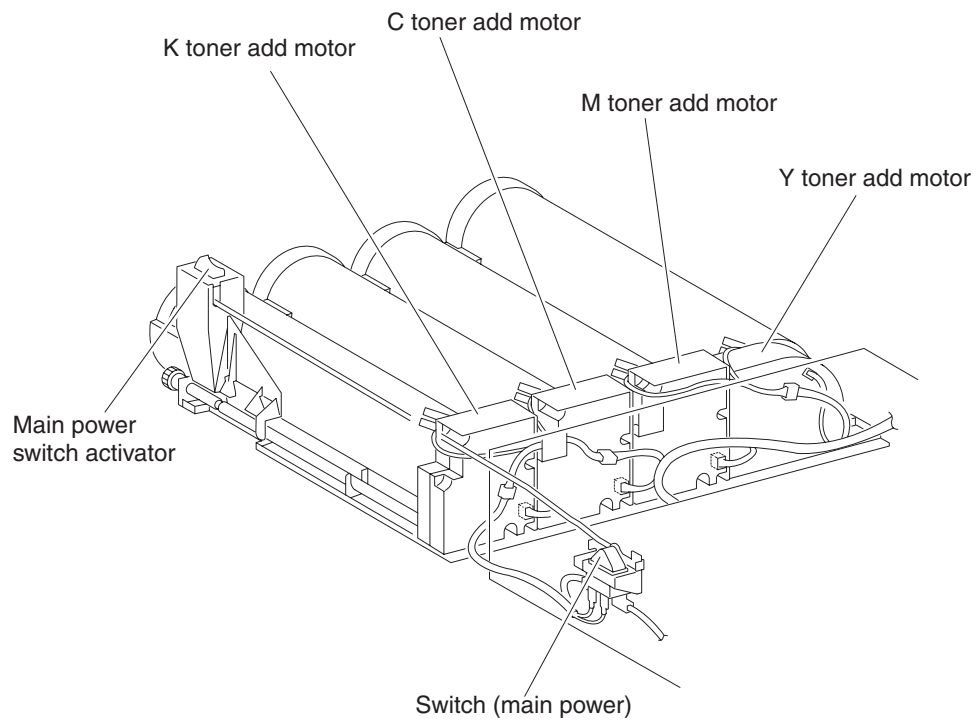
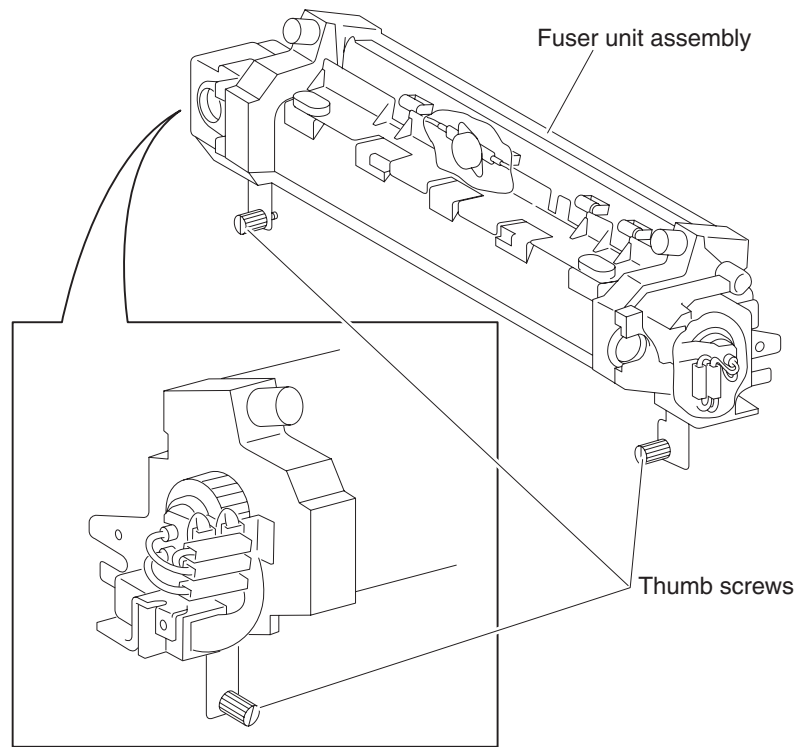
### Locations

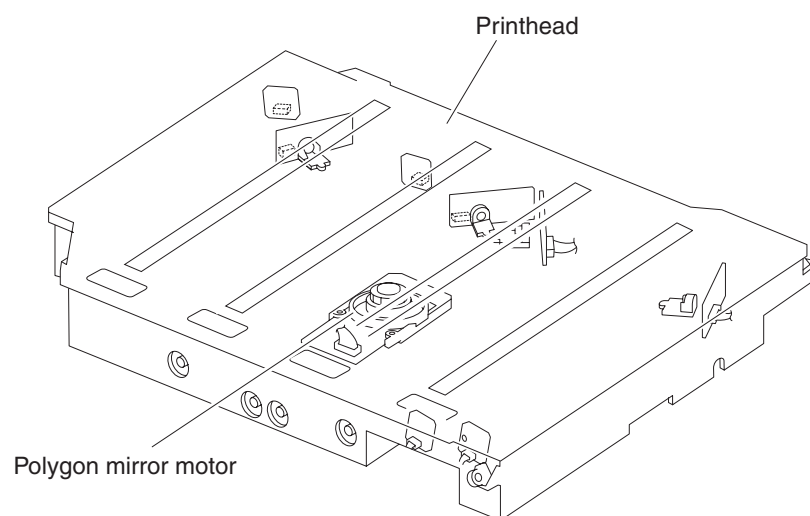




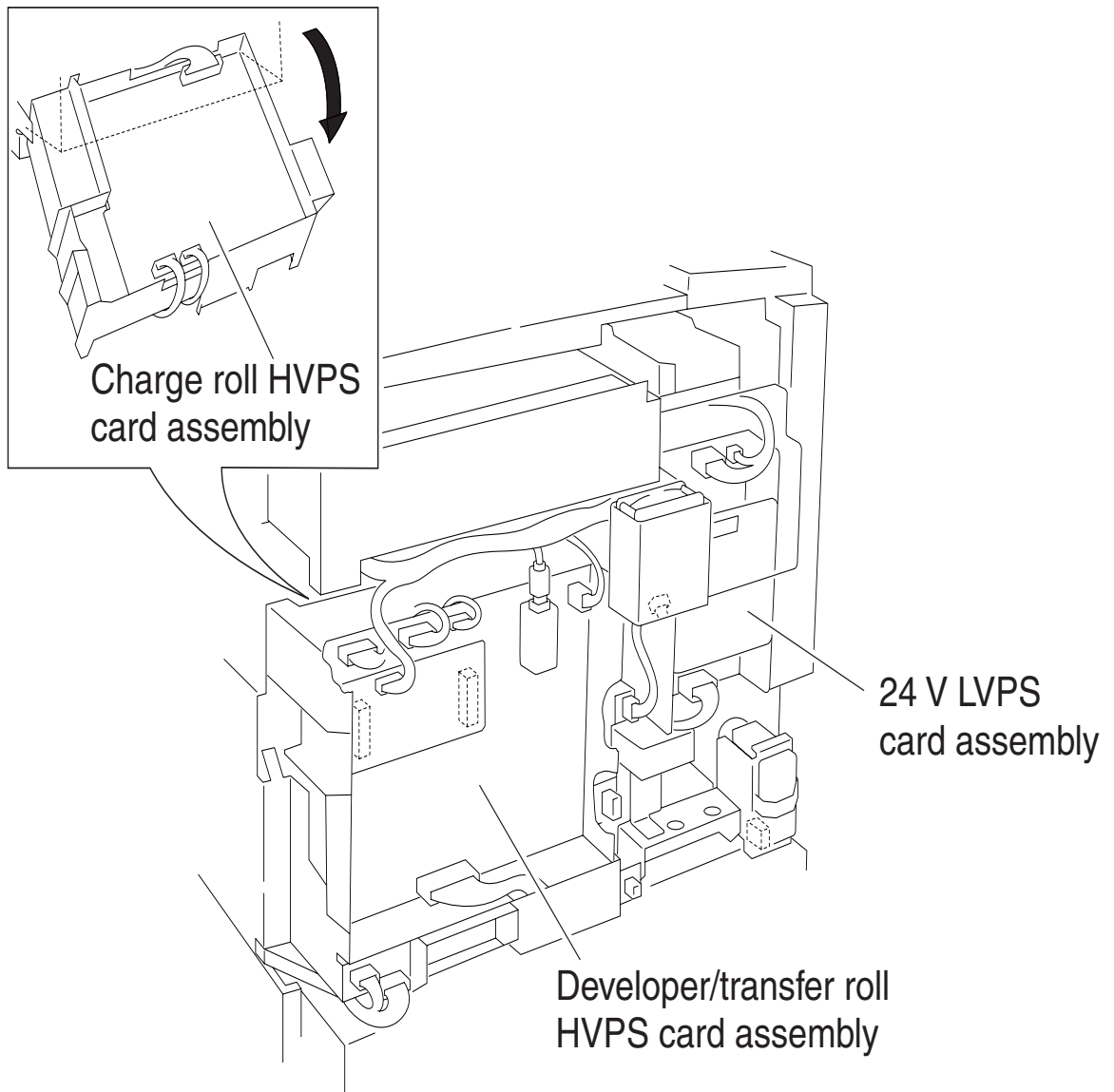


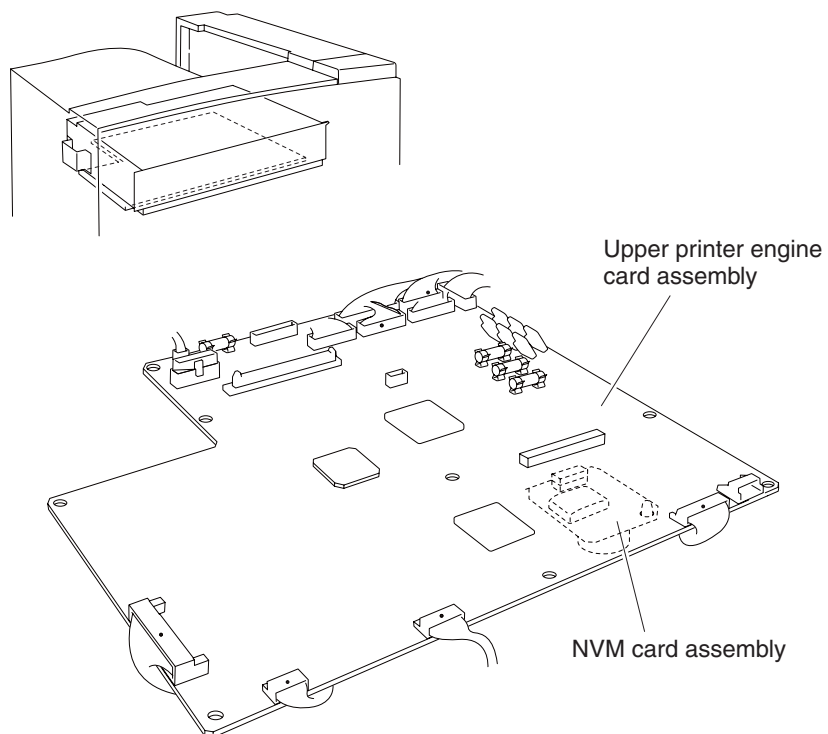
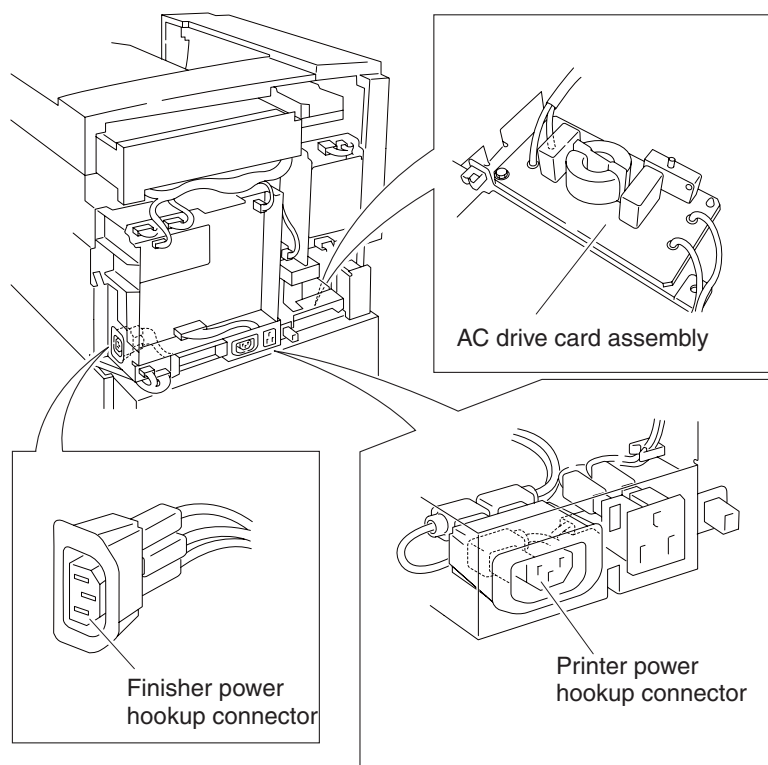


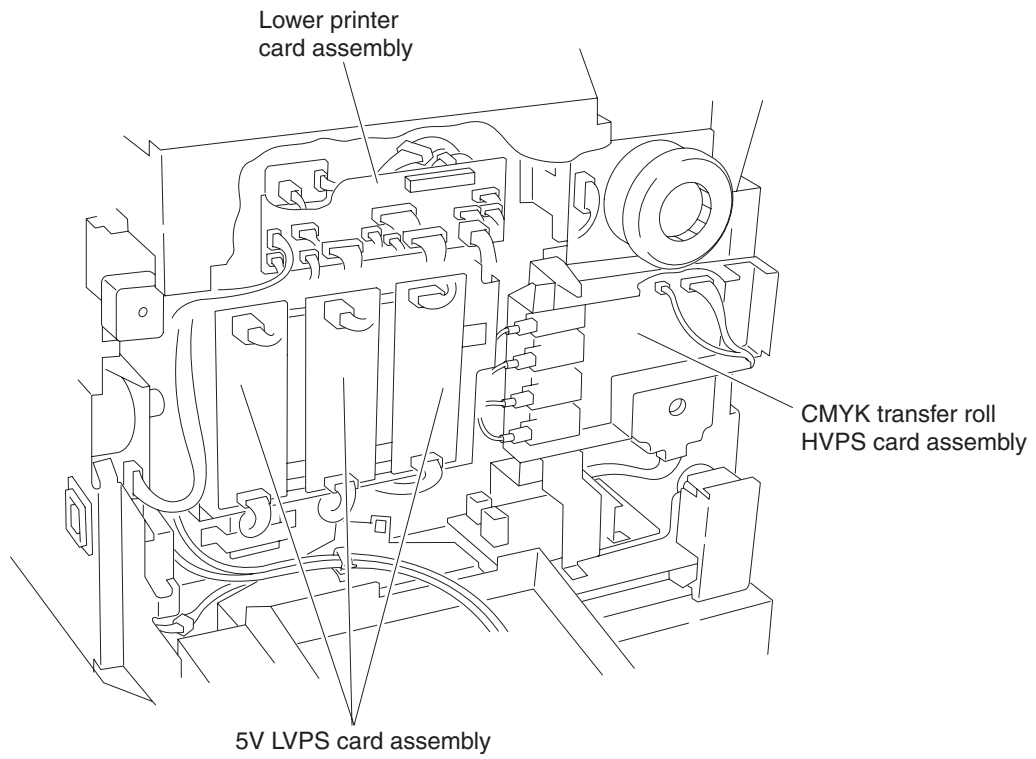


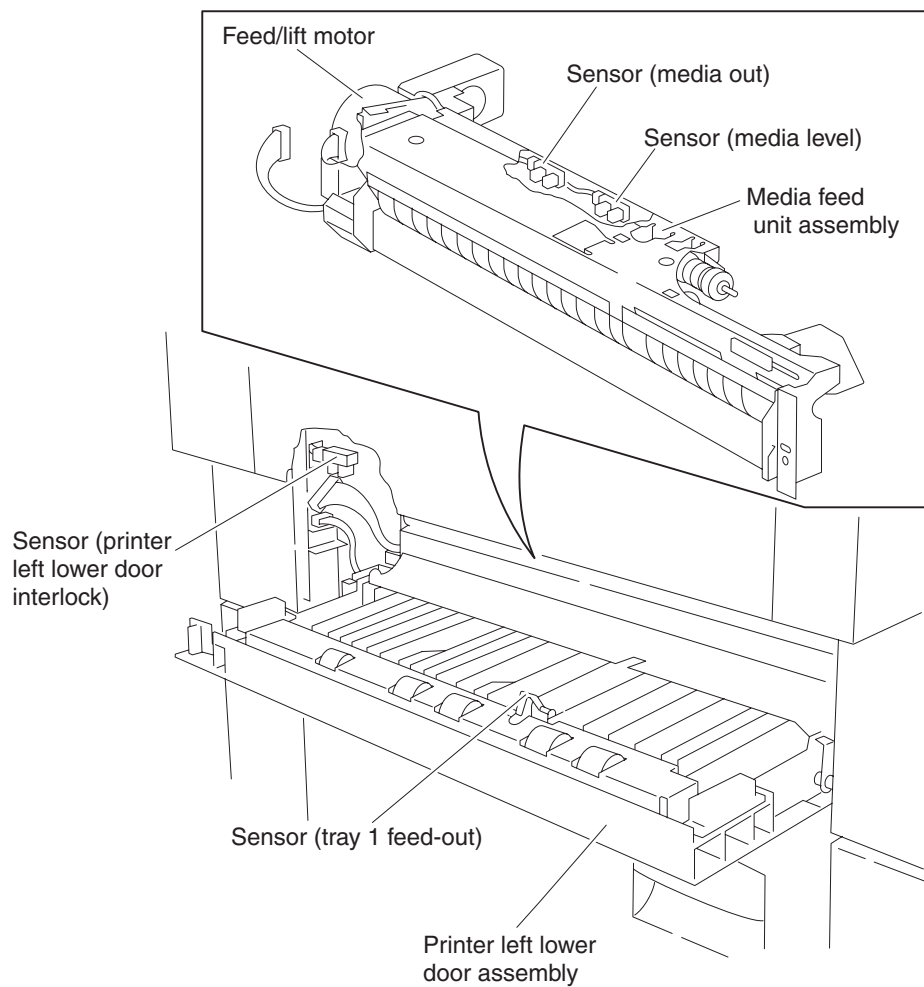


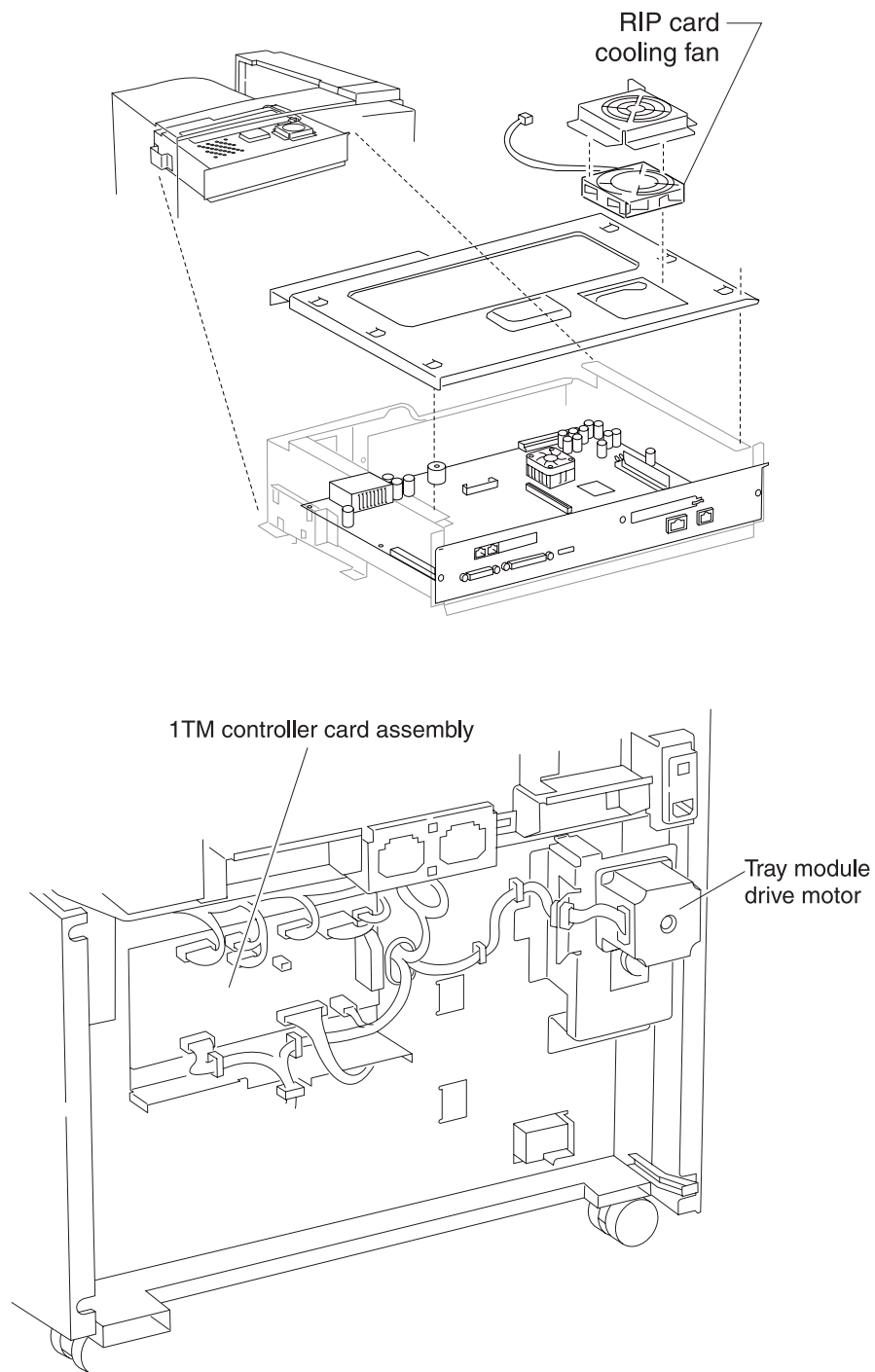


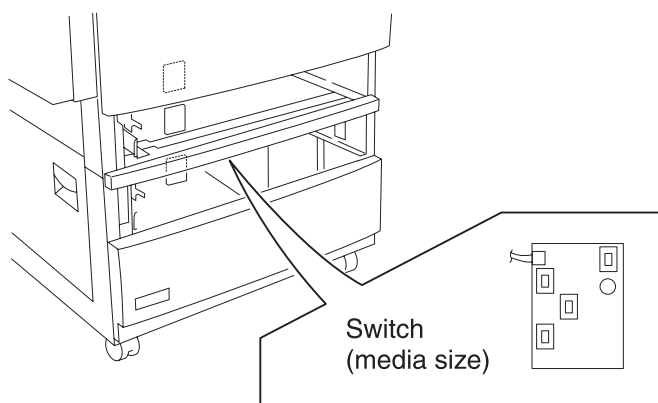
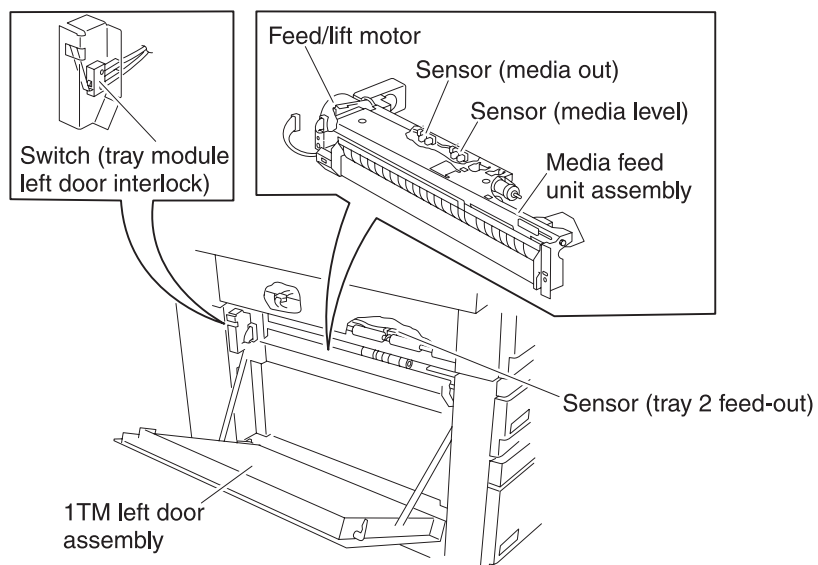


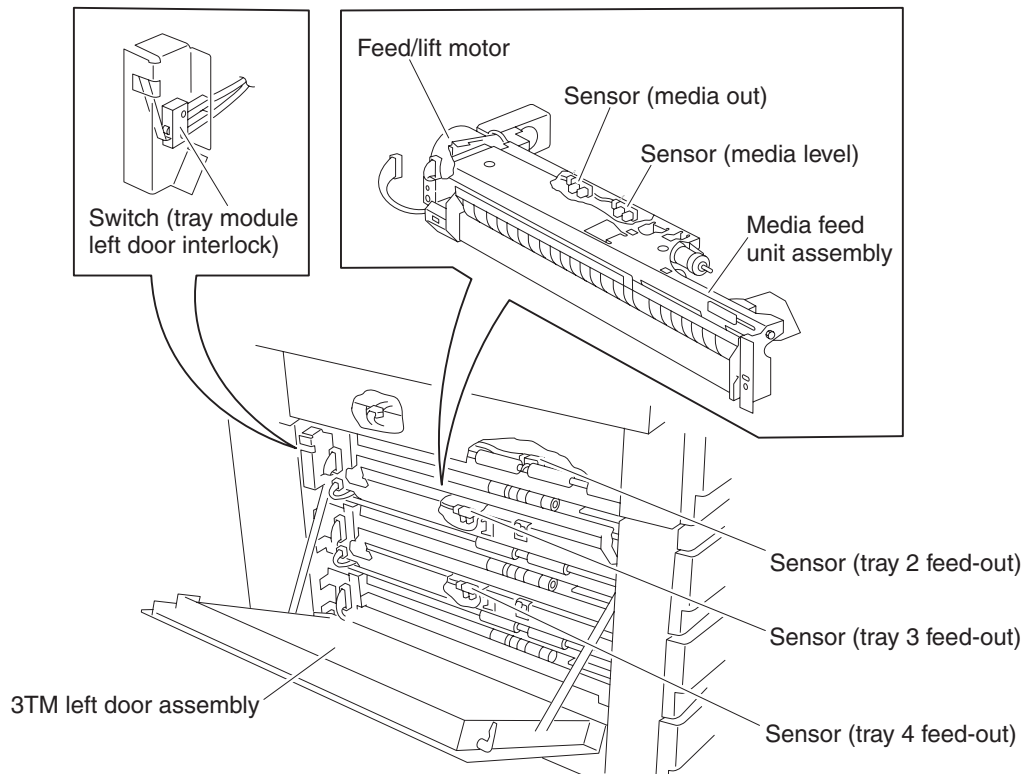
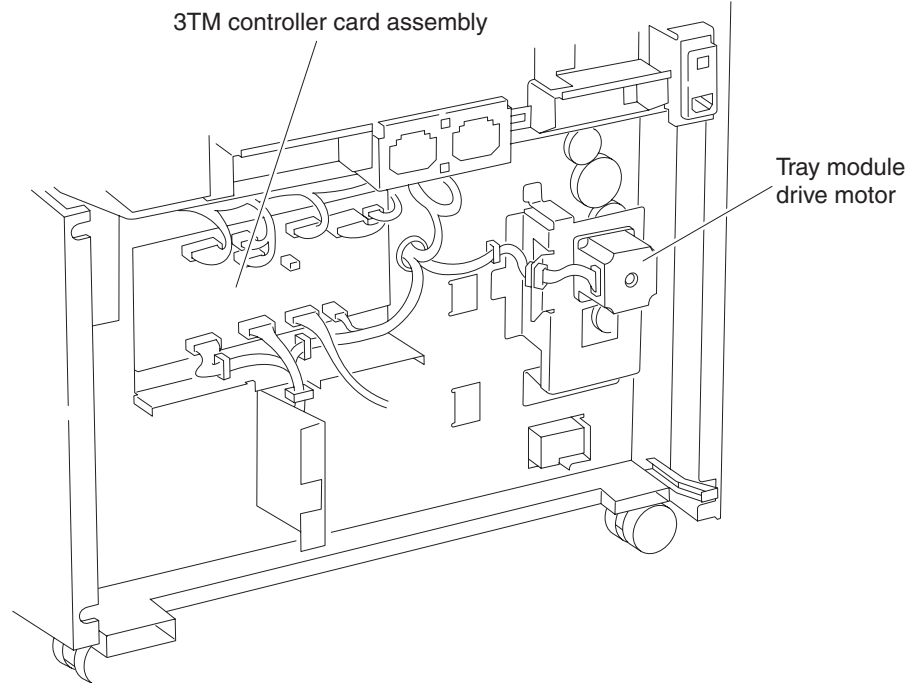


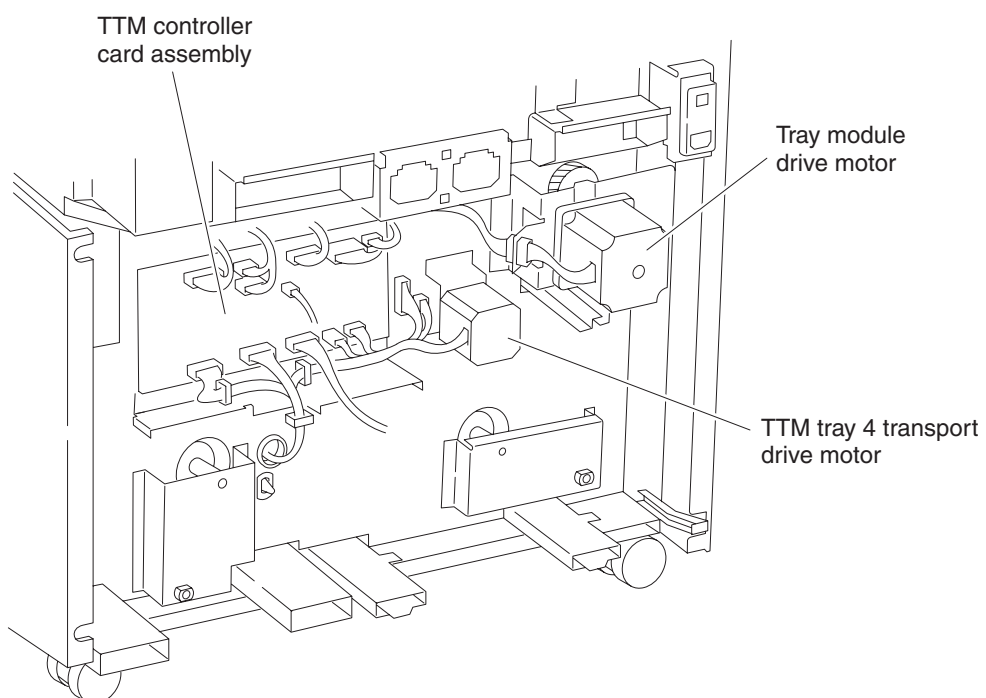
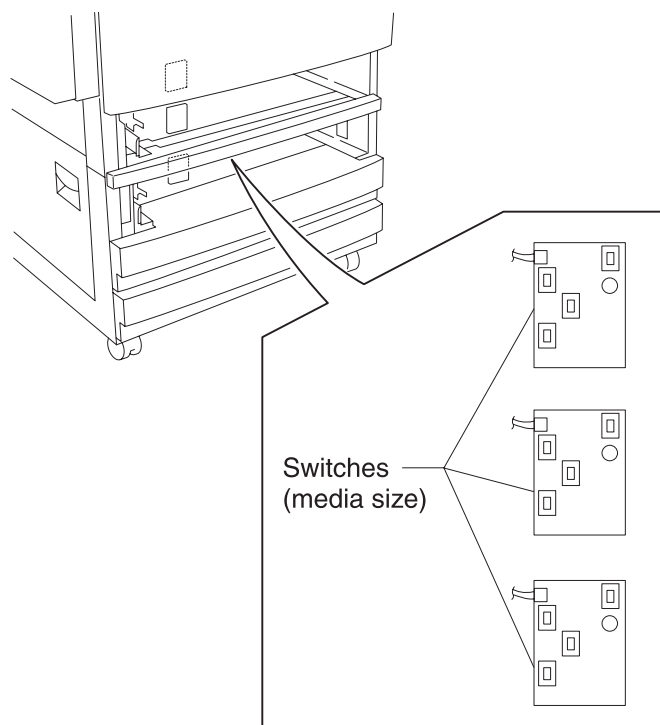




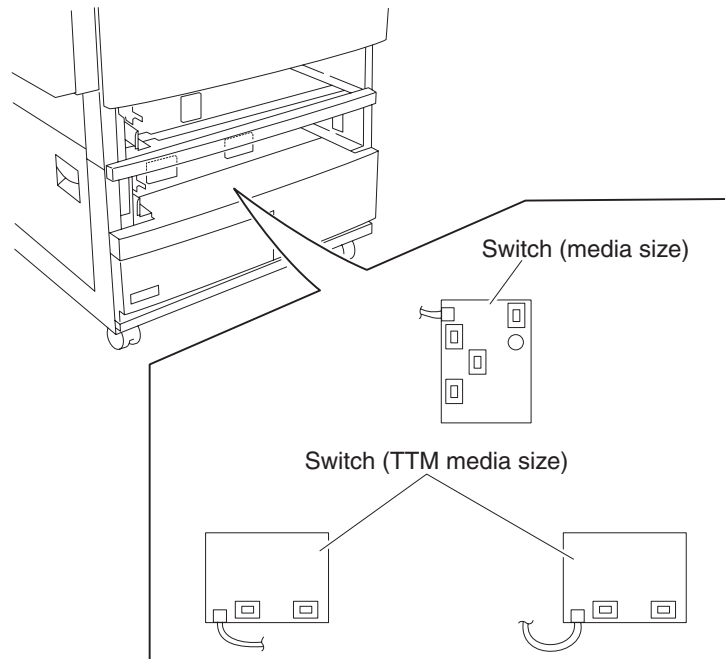
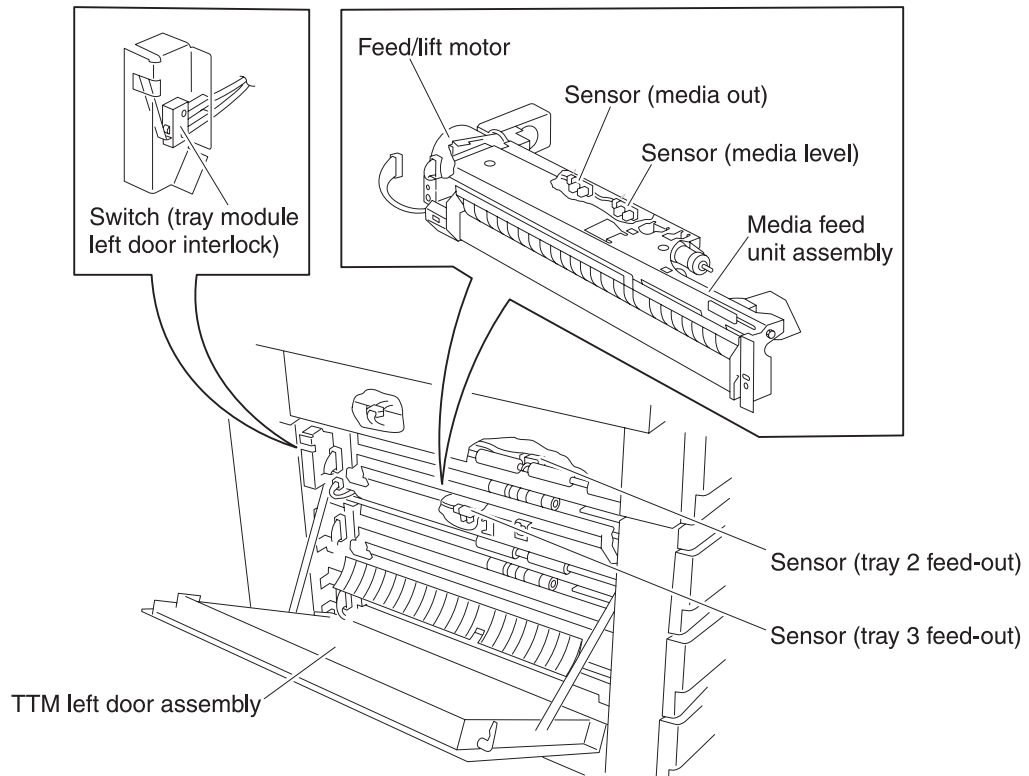


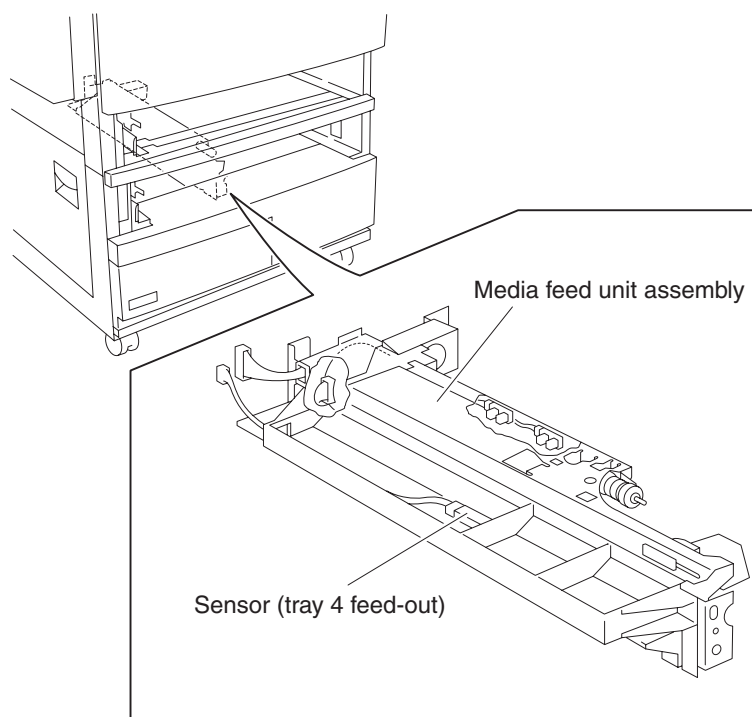












## 6. Preventive maintenance

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

<b>LEXMARK X940e &amp; X945e</b>	<b>EVERY SERVICE CALL</b>	<b>EVERY 100K</b>	<b>EVERY 600K</b>	<b>NOTE:</b>
<b>MEDIA TRAY—ALL</b>				
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		
<b>MEDIA FEED UNIT—ALL</b>				
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
<b>PRINthead</b>				
Printhead slit glass (4)	Clean	Clean		Printhead cleaning tool

<b>LEXMARK X940e &amp; X945e</b>	<b>EVERY SERVICE CALL</b>	<b>EVERY 100K</b>	<b>EVERY 600K</b>	<b>NOTE:</b>
<b>DEVELOPER UNITS Transfer</b>				
Developer unit (4)			Replace	
C developer carrier			Replace	
M developer carrier			Replace	
Y developer carrier			Replace	
K developer carrier			Replace	
<b>TRANSFER ROLL</b>				
2nd Transfer Roll assembly	Inspect	Replace		
<b>TRANSFER BELT UNIT</b>				
Transfer belt unit assembly		Inspect	Replace	Damp cloth
Transfer belt cleaning assembly		Replace		
<b>FUSER UNIT</b>				
Fuser Unit	Inspect	Replace		
Sensor (fuser exit)		Clean		Blower brush
<b>DUPLEX</b>				
Duplex Media Transport Roll (2)		Clean		Water or alcohol
<b>FLATBED SCANNER</b>				
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

<b>LEXMARK X940e &amp; X945e</b>	<b>EVERY SERVICE CALL</b>	<b>EVERY 150K</b>	<b>NOTE:</b>
<b>ADF</b>			
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.

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## 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

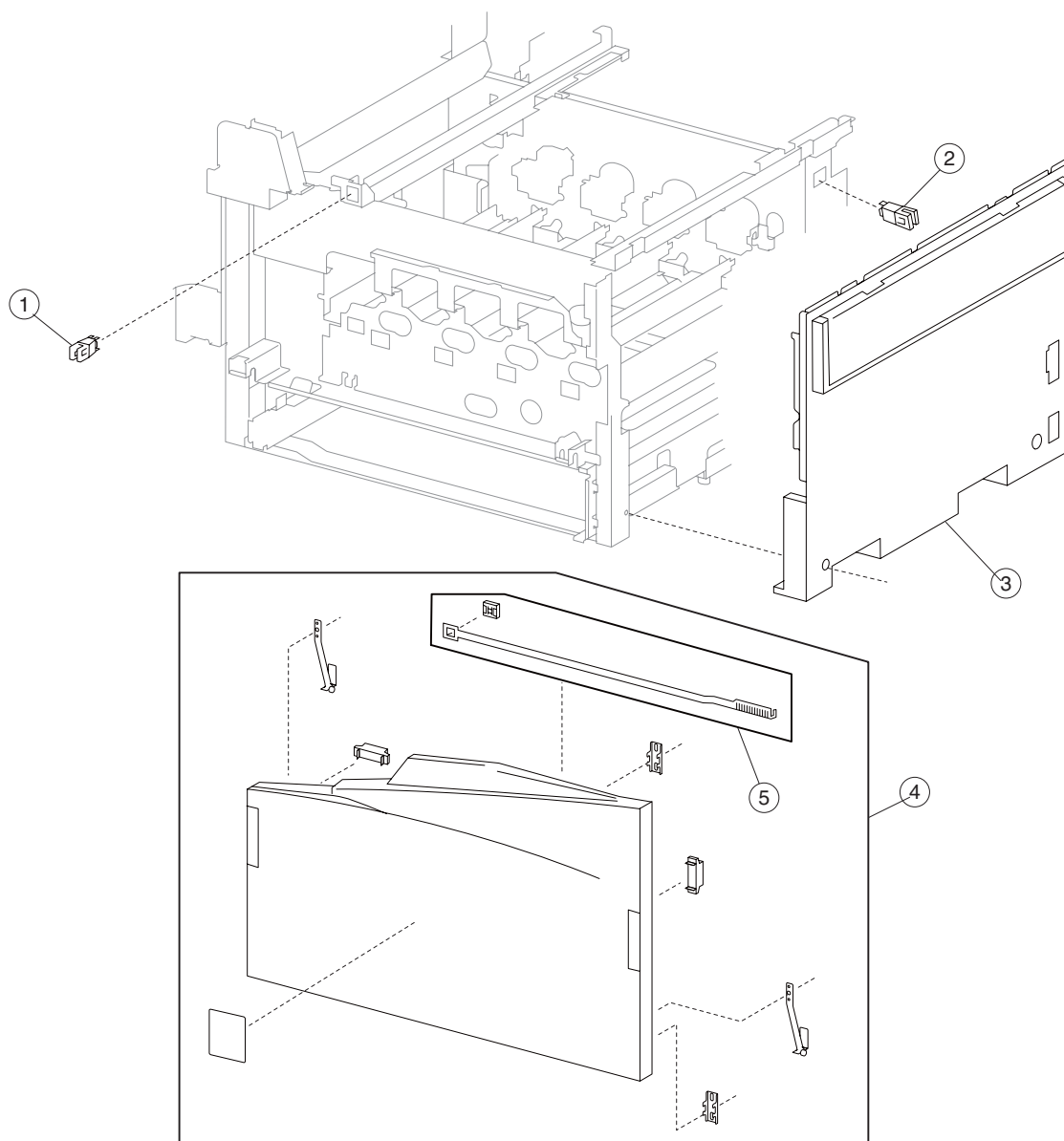
The following legend is used in the parts catalog:

Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
-----------	-------------	---------------	---------------	-------------

- **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

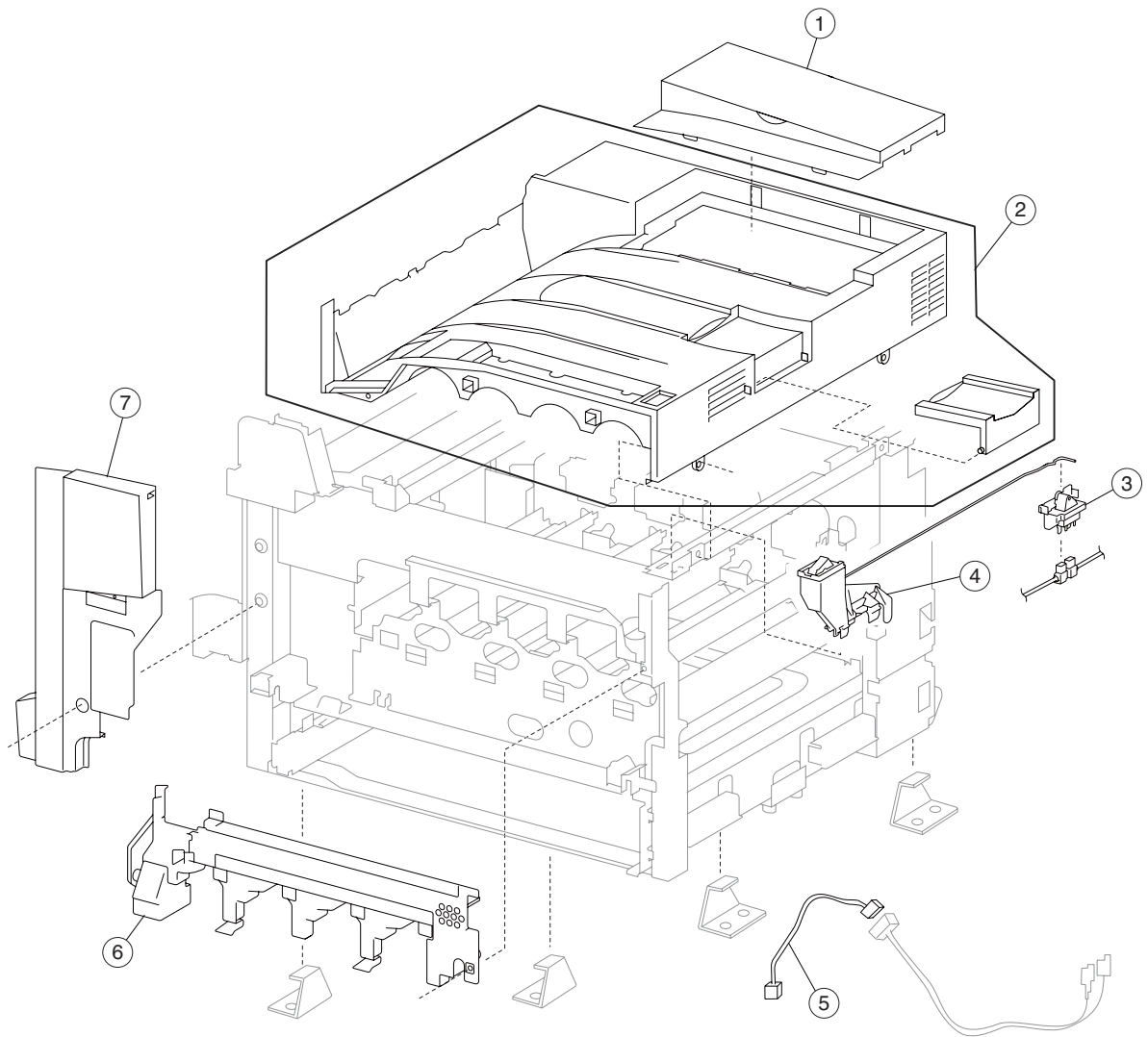
## Assembly 1: Covers 1



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

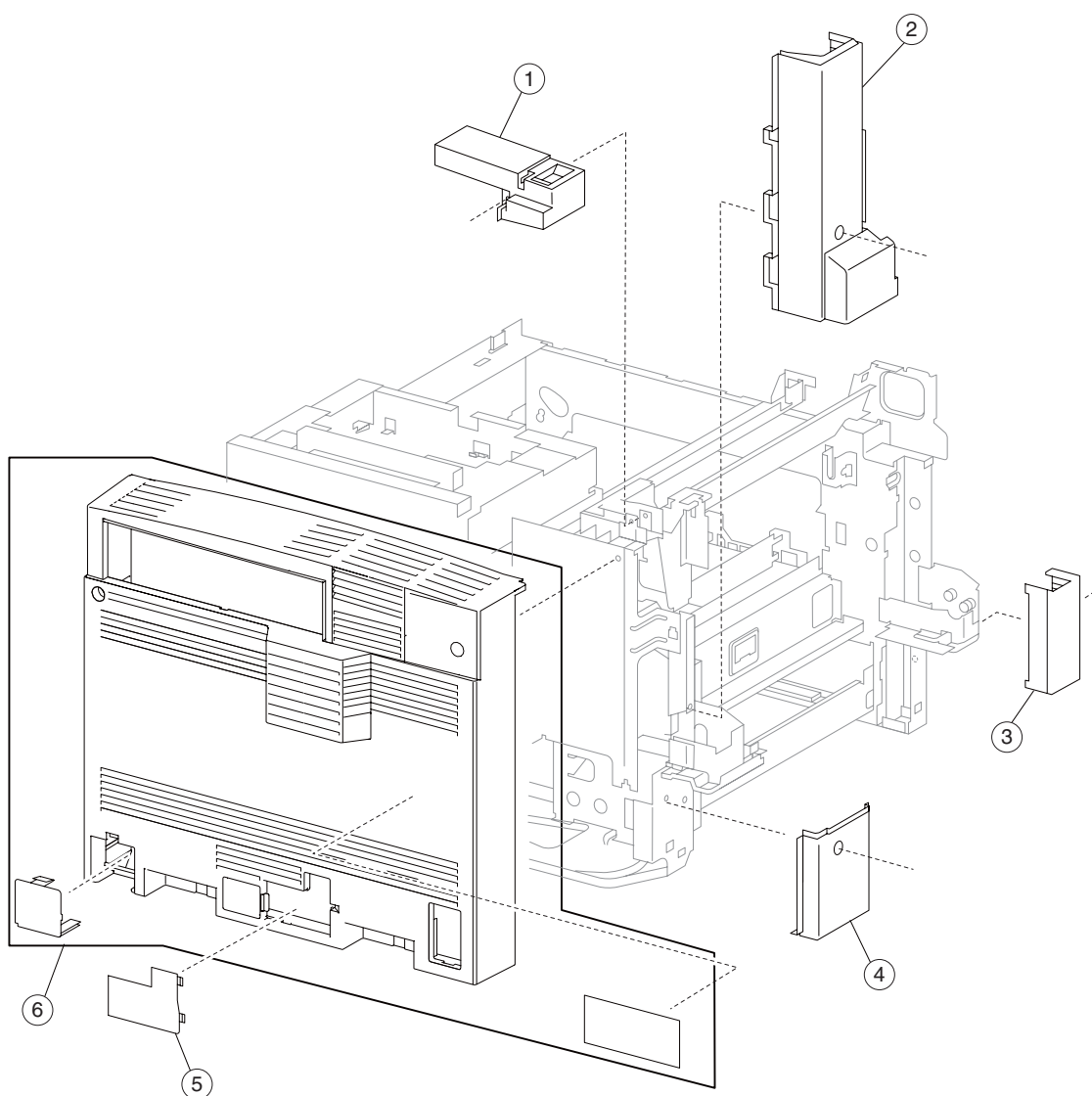


## Assembly 2: Covers 2



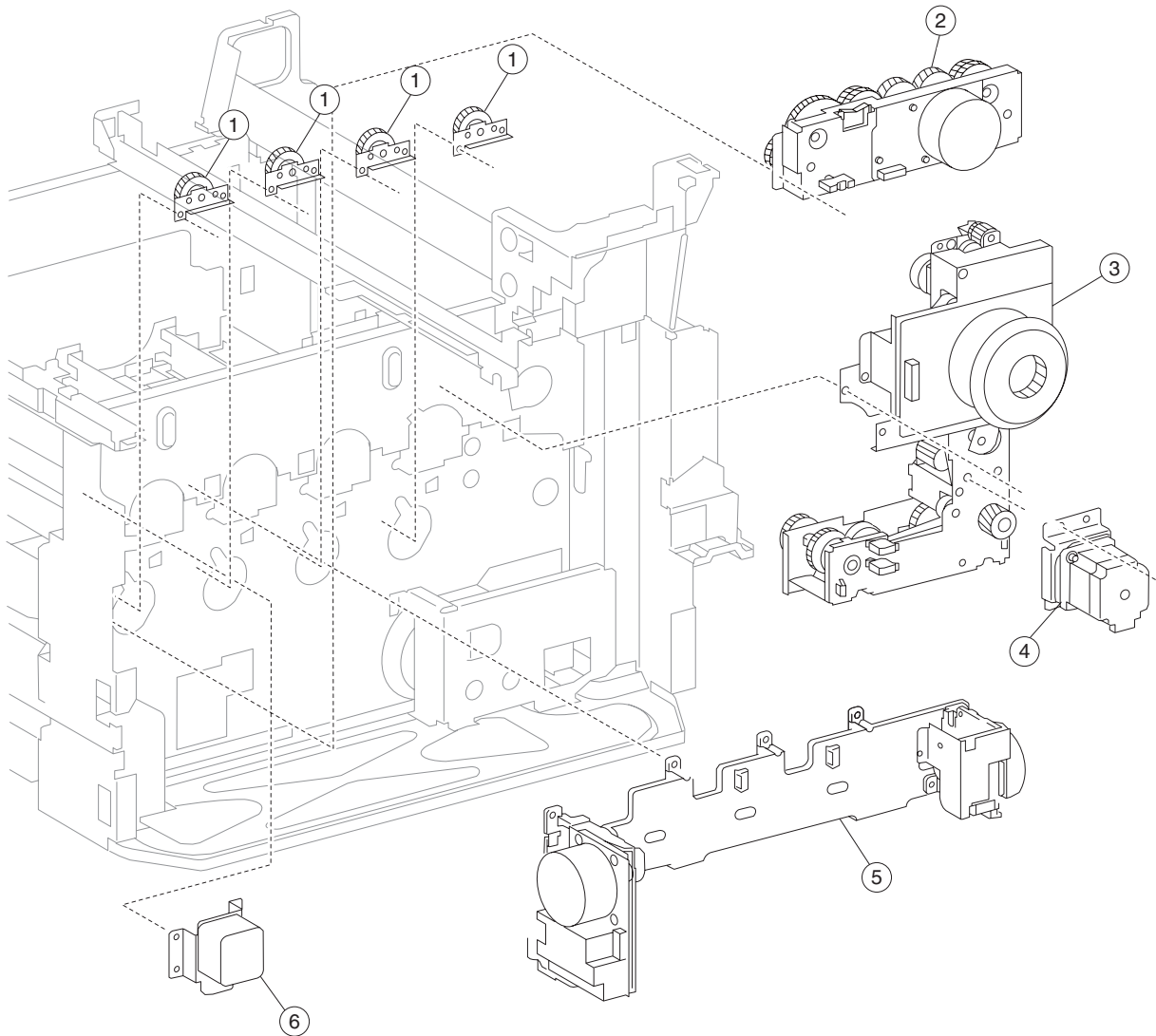
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3782	1	1	RIP card access cover
2	40X3781	1	1	Top cover assembly
3	40X3787	1	1	Switch (main power)
4	40X3786	1	1	Main power switch actuator
5	40X3783	1	1	Main switch cable assembly
6	40X3785	1	1	Inner cover
7	40X3784	1	1	Front left cover

## Assembly 3: Covers 3



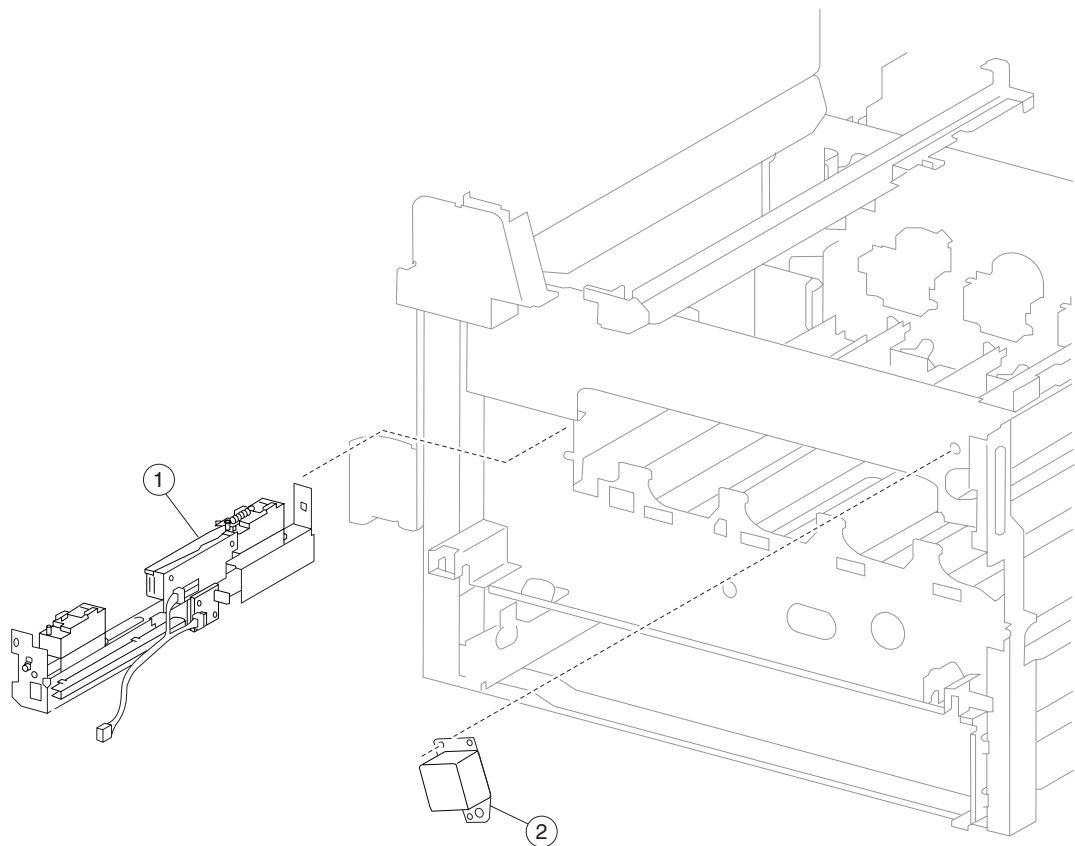
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3796	1	1	Rear left upper cover
2	40X3793	1	1	Rear left middle cover
3	40X3795	1	1	Left front cover
4	40X3794	1	1	Rear left lower cover
5	40X3788	1	1	Rear blind cover
6	40X3789	1	1	Rear cover assembly 110 V
6	40X3790	1	1	Rear cover assembly 220 V

## Assembly 4: PC cartridge and developer drive



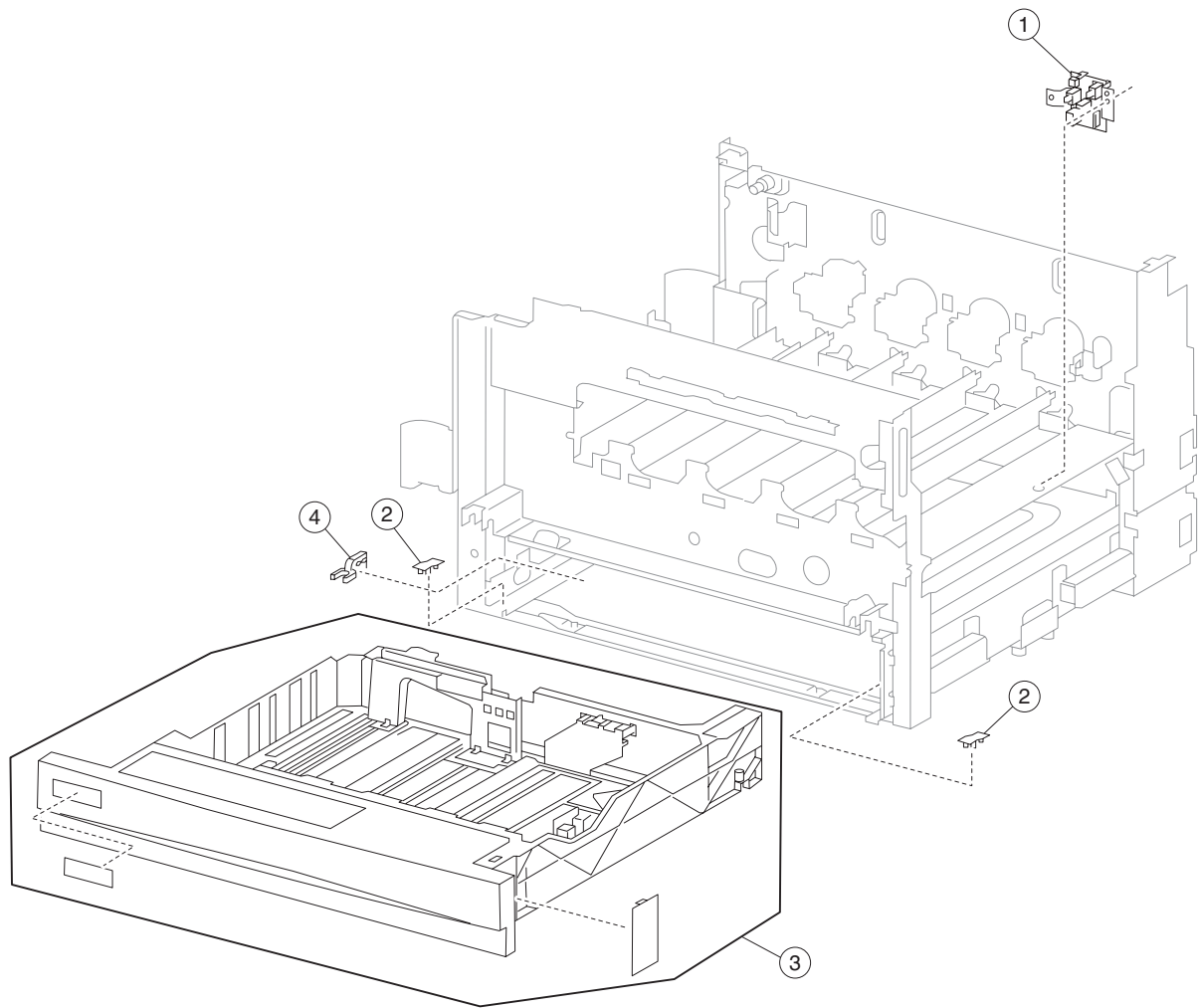
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3671	4	1	Developer idler gear assembly
2	40X3669	1	1	CMY developer drive motor assembly
3	40X3670	1	1	Developer/transport drive motor assembly
4	40X3672	1	1	MPF/transport drive motor assembly
5	40X3667	1	1	CMYK PC cartridge drive motor assembly
6	40X3668	1	1	Transfer belt drive motor assembly

Assembly 5: ID sensor and transfer belt steering



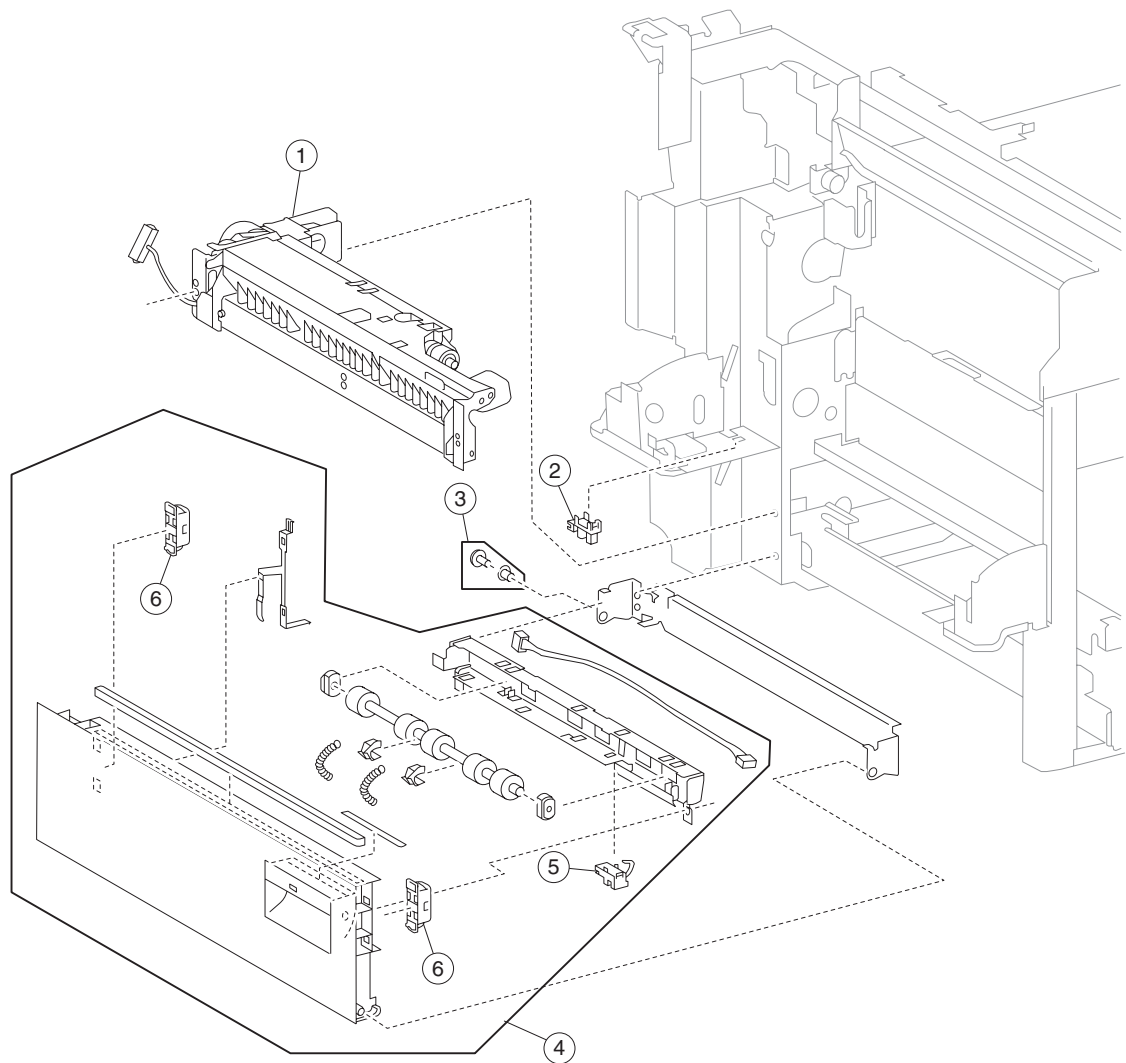
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3674	1	1	Image density sensor assembly
2	40X3673	1	1	Transfer belt steering motor

## Assembly 6: Media tray

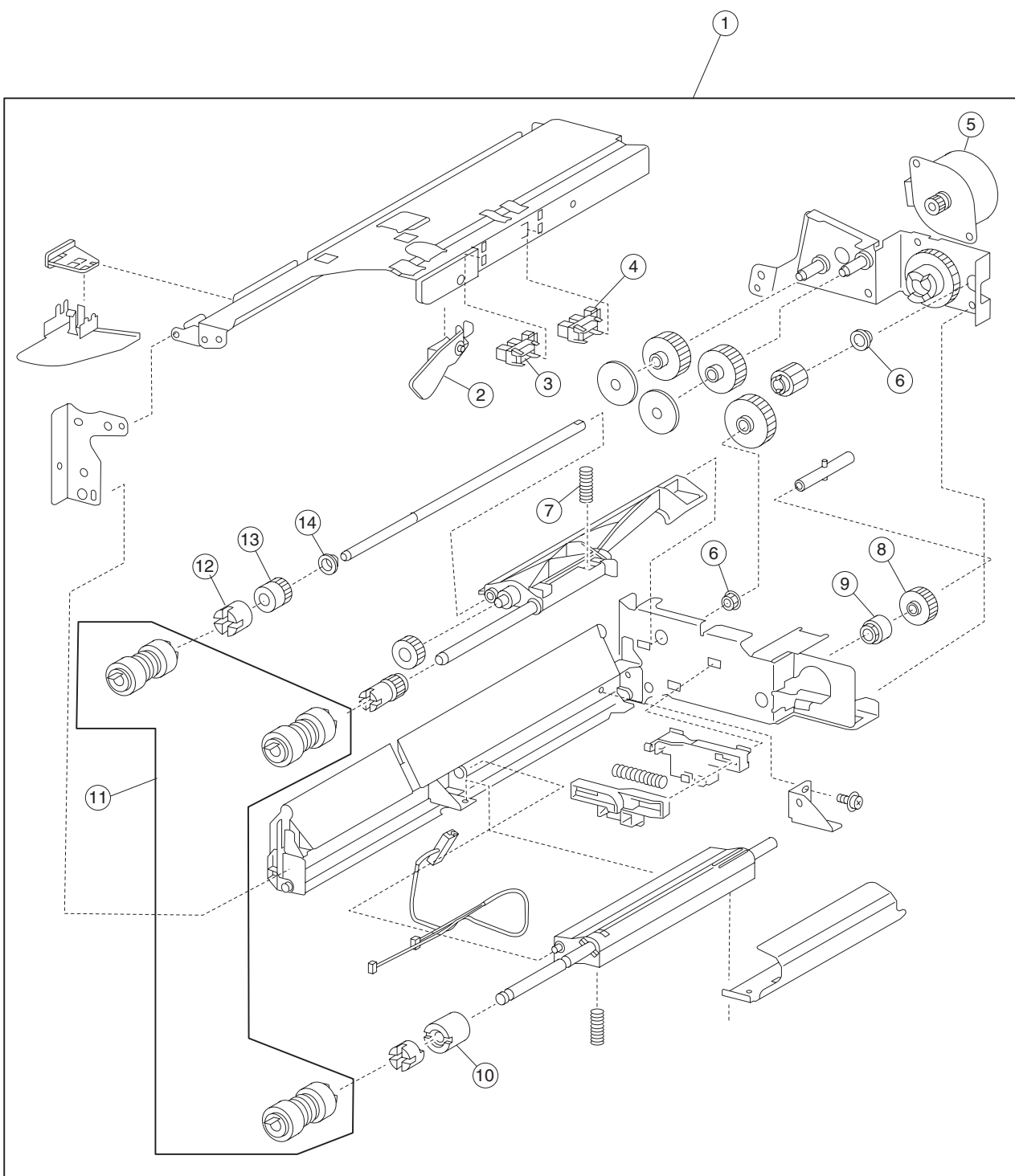


Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3677	2	1	Switch (media size)
2	40X3676	8	1	Media tray slide
3	40X3678	3	6	Media tray assembly kit <ul style="list-style-type: none"> <li>Media tray assembly</li> <li>#1 label</li> <li>#2 label</li> <li>#3 label</li> <li>#4 label</li> <li>Instruction label</li> </ul>
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

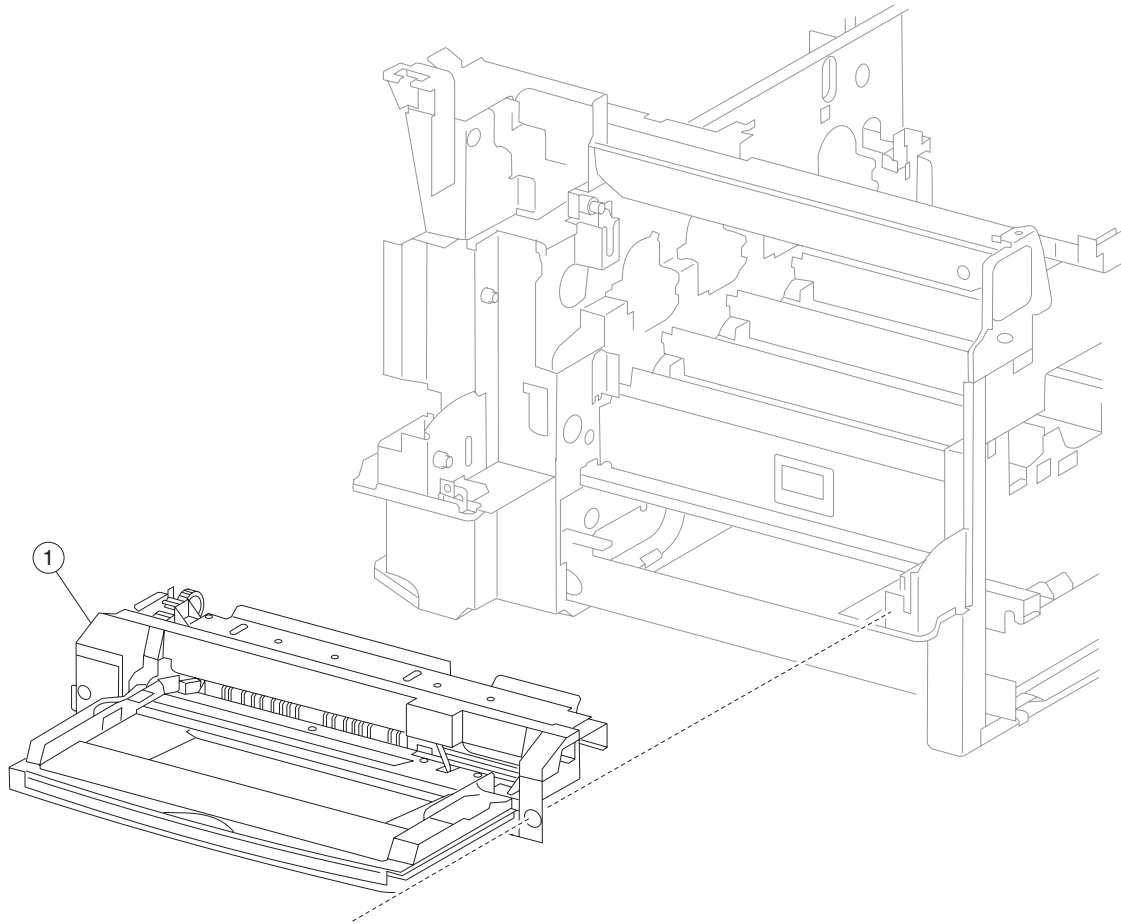
**Assembly 8: Media feed unit**

**Assembly 8: Media feed unit**

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 <ul style="list-style-type: none"> <li>• Feed roll (2)</li> <li>• Pick roll (2)</li> <li>• Separation roll (2)</li> </ul>
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

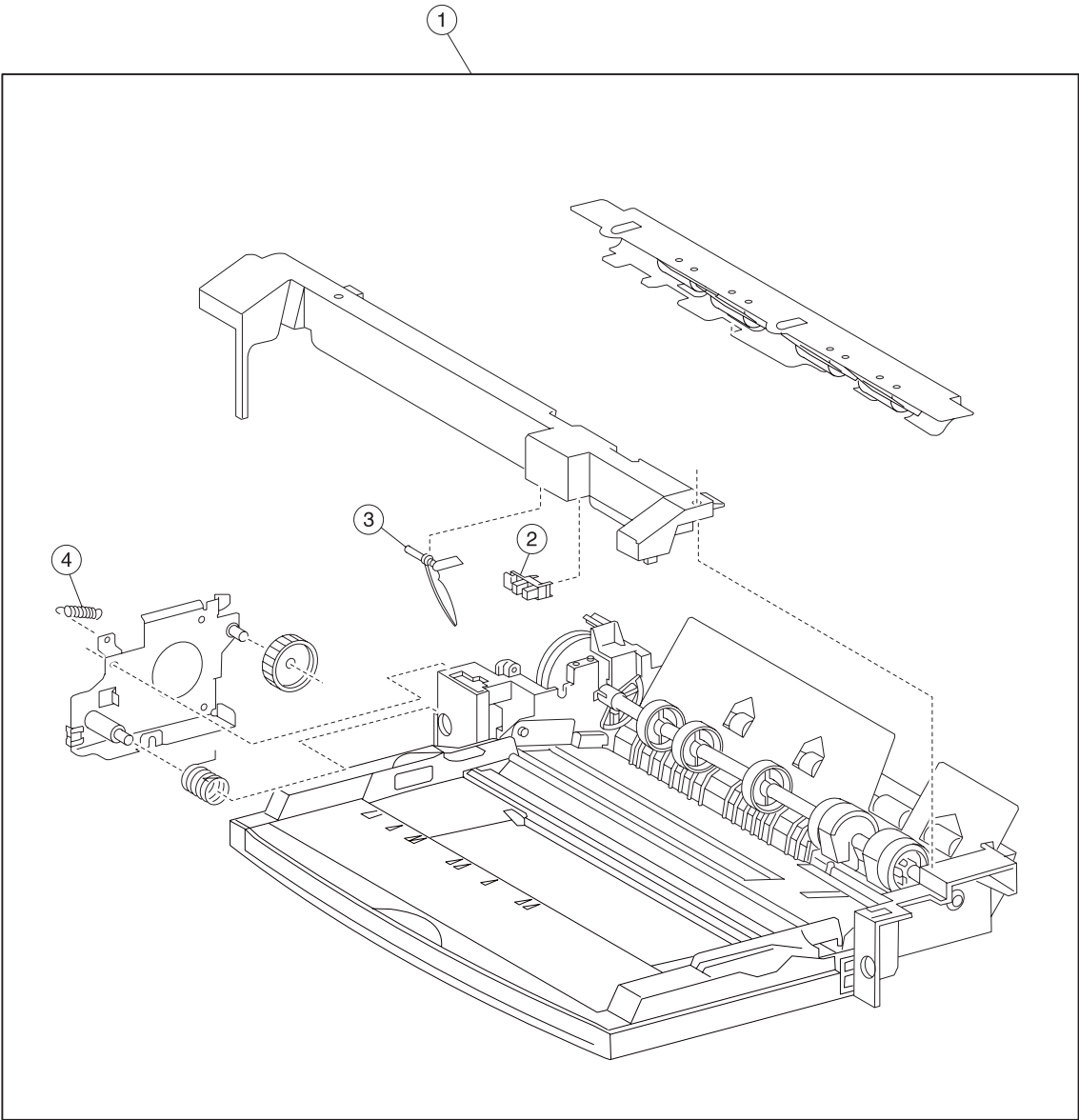


## Assembly 9: MPF feed unit assembly 1



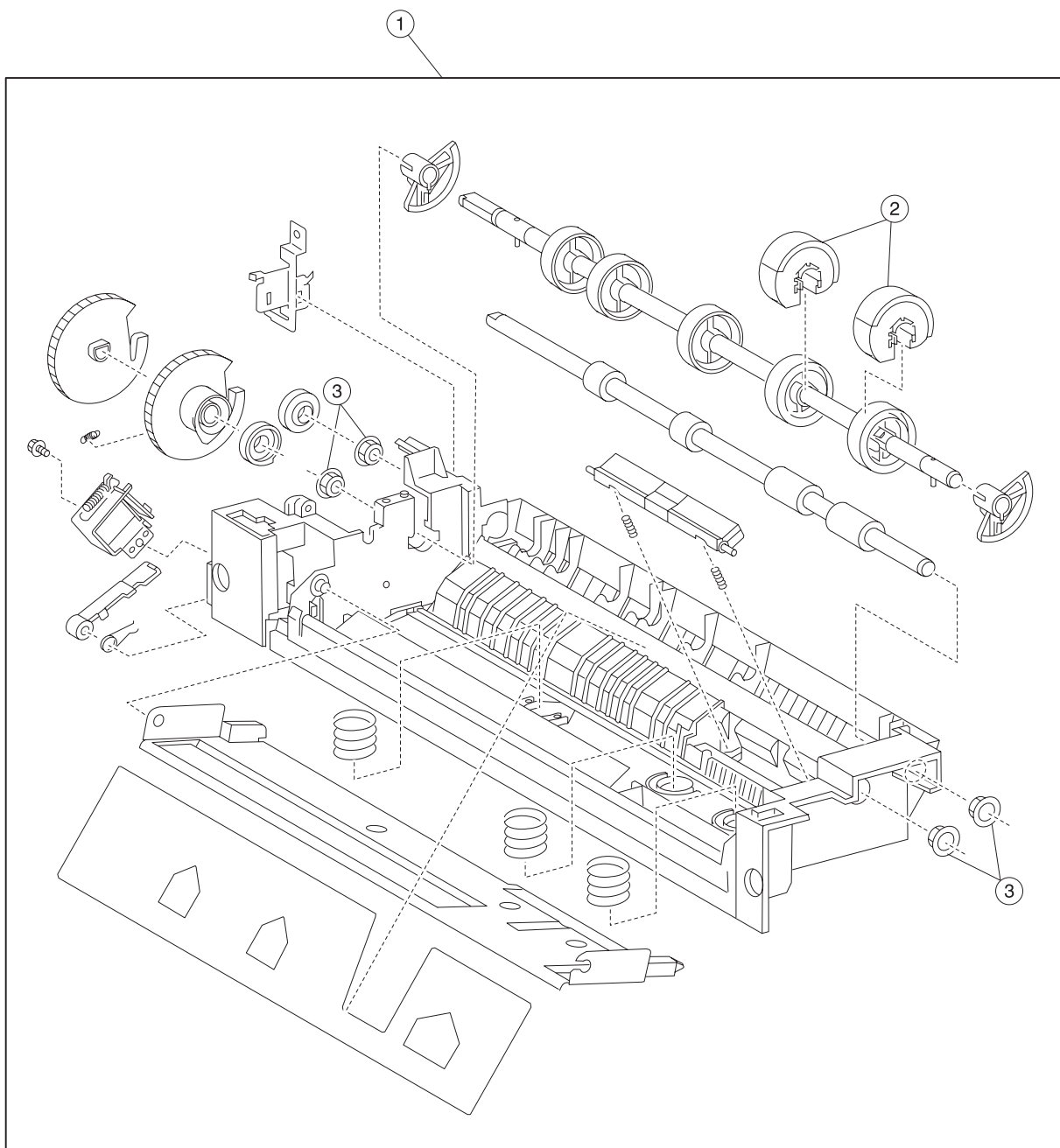
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4079	1	1	MPF feed unit assembly (this comes assembled)

Assembly 10: MPF feed unit assembly 2



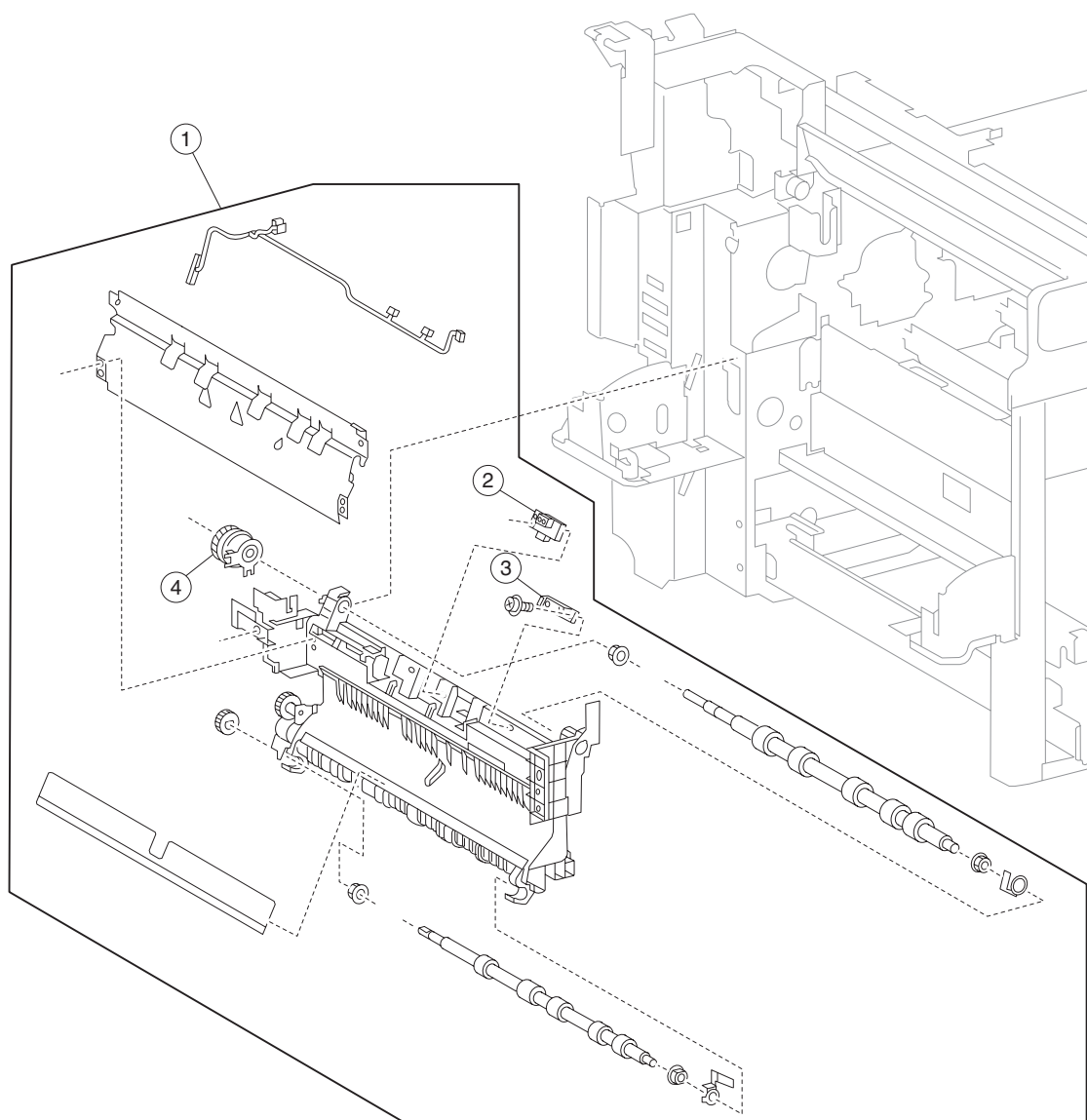
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4079	1	1	MPF feed unit assembly (this comes assembled)
2	40X3688	30	1	Sensor (MPF media out)
3	40X3709	1	1	MPF media out actuator
4	40X0755	1	1	MPF pickup spring

## Assembly 11: MPF feed unit assembly 3



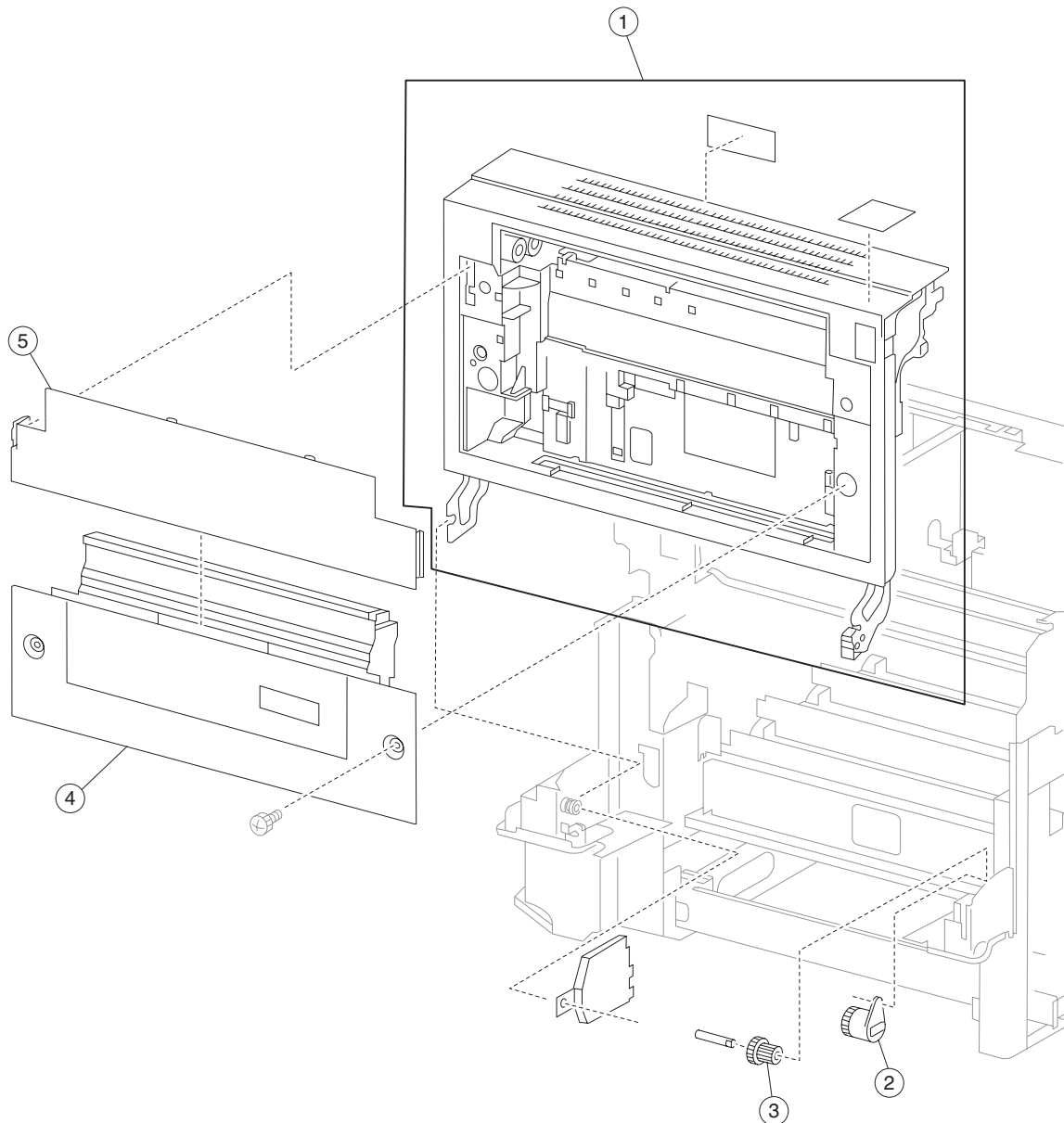
Asm-index	Part number	FRUs/mach	Units/FRU	Description
1	40X4079	1	1	MPF feed unit assembly (this comes assembled)
2	40X3711	1	2	MPF pick roll kit <ul style="list-style-type: none"> <li>• MPF pick roll (2)</li> </ul>
3	40X1381	4	1	Bushing 8 mm

## Assembly 12: Registration / transport roll assembly



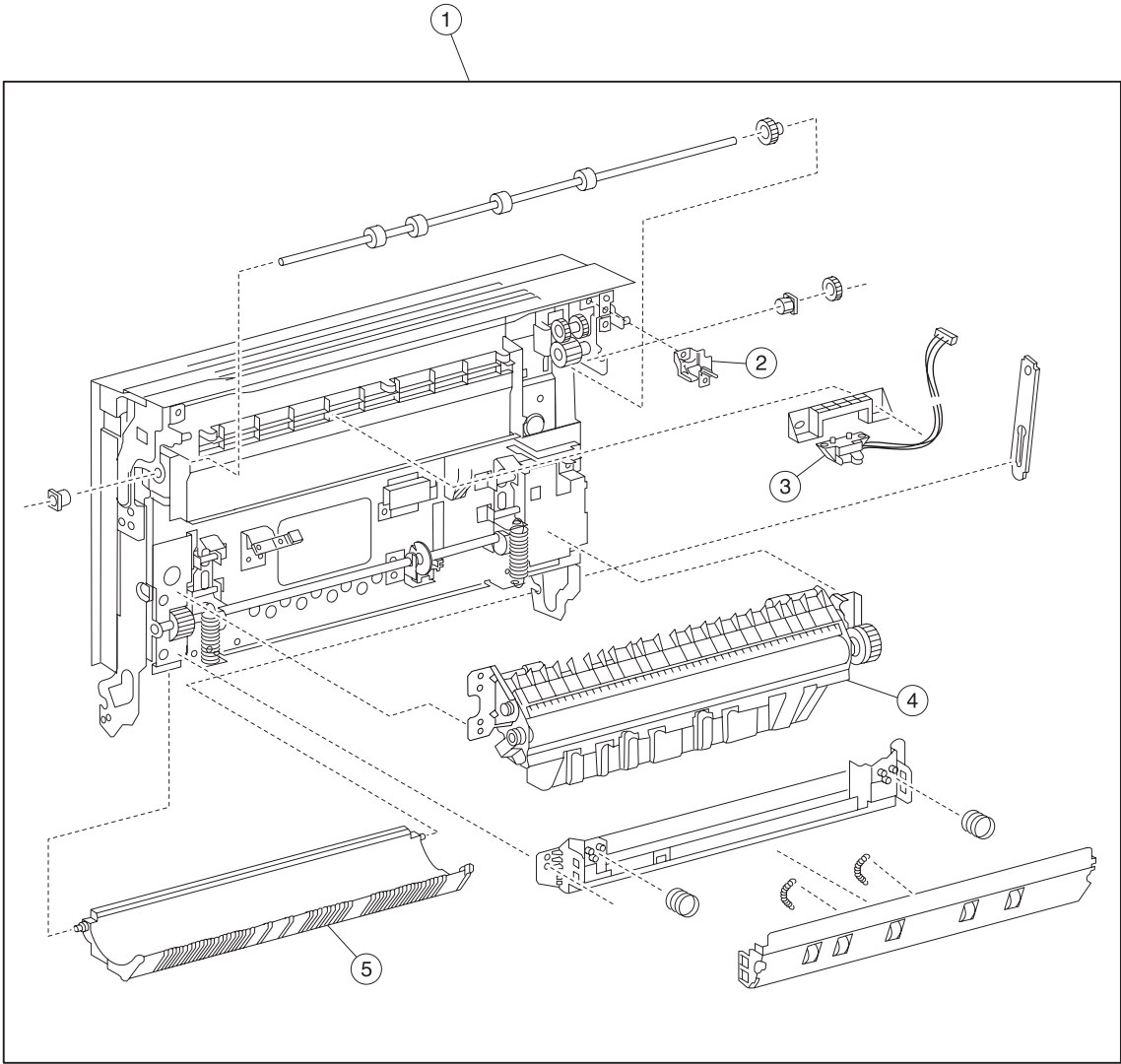
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3692	1	1	Registration/transport roll assembly (this comes assembled)
2	40X3695	1	1	Sensor (transparency detect)
3	40X3694	2	1	Sensor (registration)
4	40X3693	1	1	Registration clutch

## Assembly 13: Printer left door and duplex



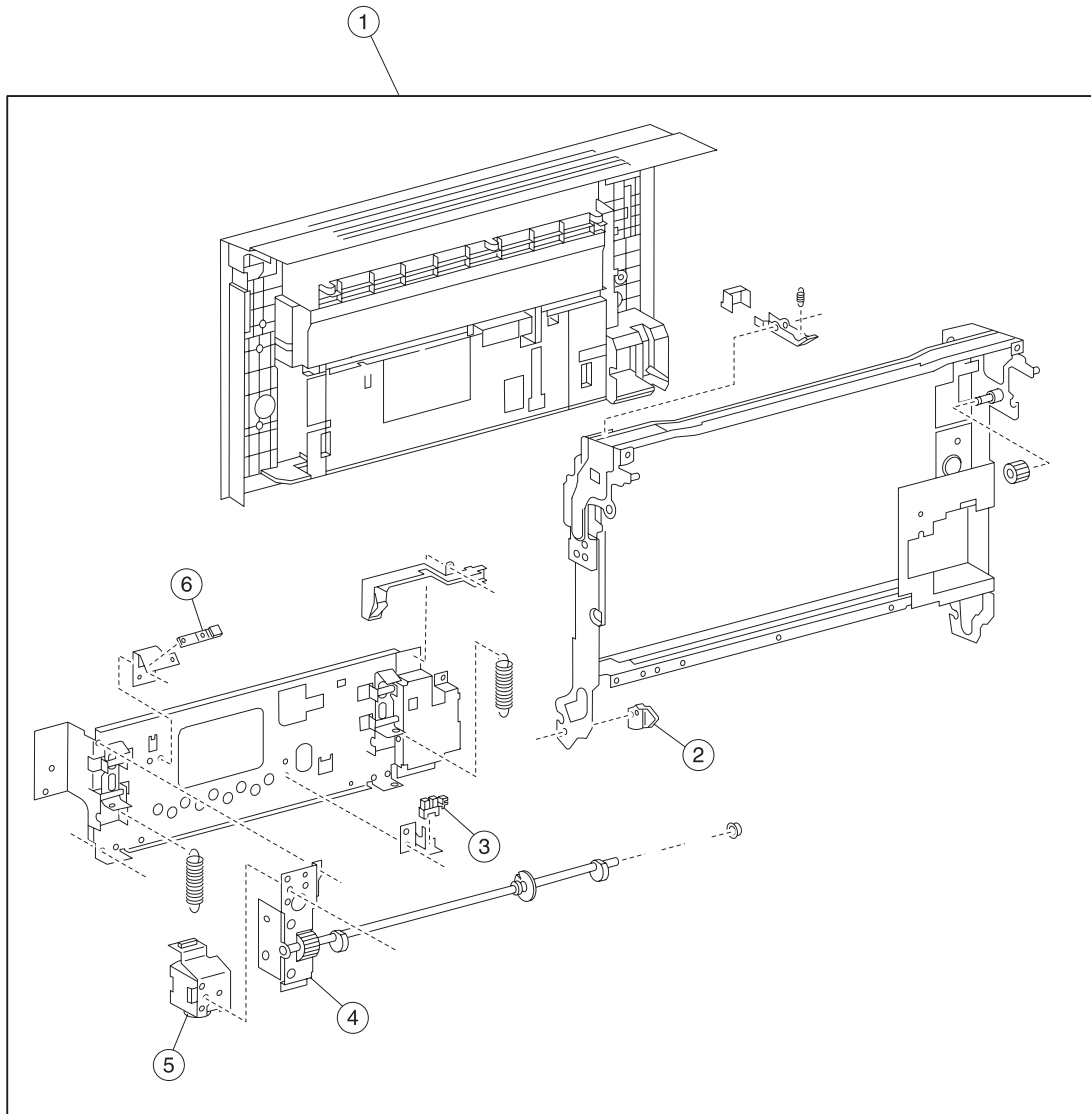
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4078	1	1	Printer left door assembly (this comes assembled)
2	40X3697	1	1	Printer left door damper assembly
3	40X3696	1	1	Printer left door damper idler gear
4	40X3799	1	1	Duplex unit assembly (this comes assembled)
5	40X3798	1	1	Printer left door blind cover

Assembly 14: Printer left door assembly 1



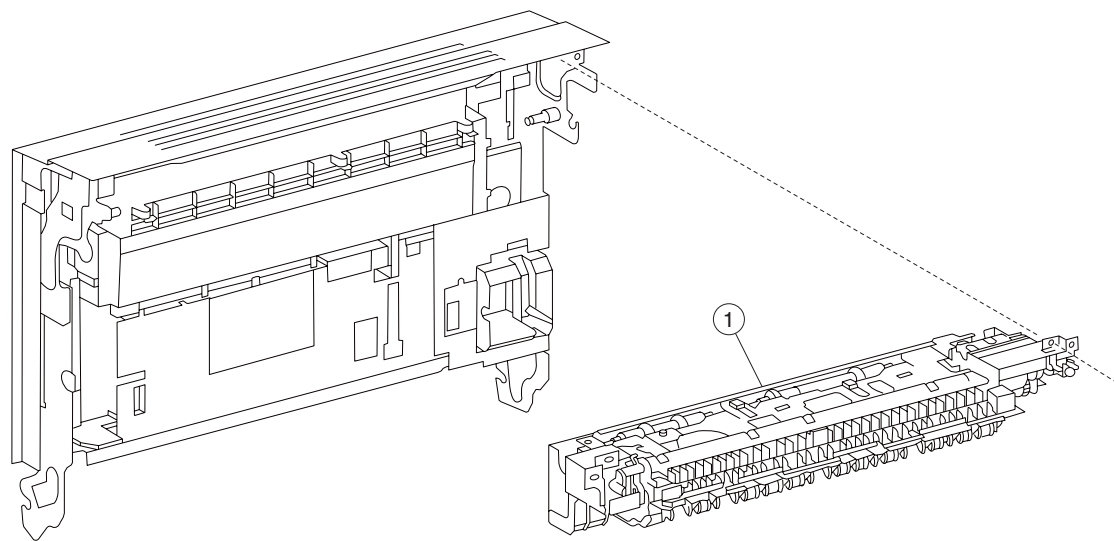
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4078	1	1	Printer left door assembly (this comes assembled)
2	40X4098	1	1	Printer left door closed actuator
3	40X3699	1	1	Sensor (fuser exit)
4	40X3698	1	1	2nd transfer roll assembly
5	40X3700	1	1	Printer left door duplex exit guide

## Assembly 15: Printer left door assembly 2



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)

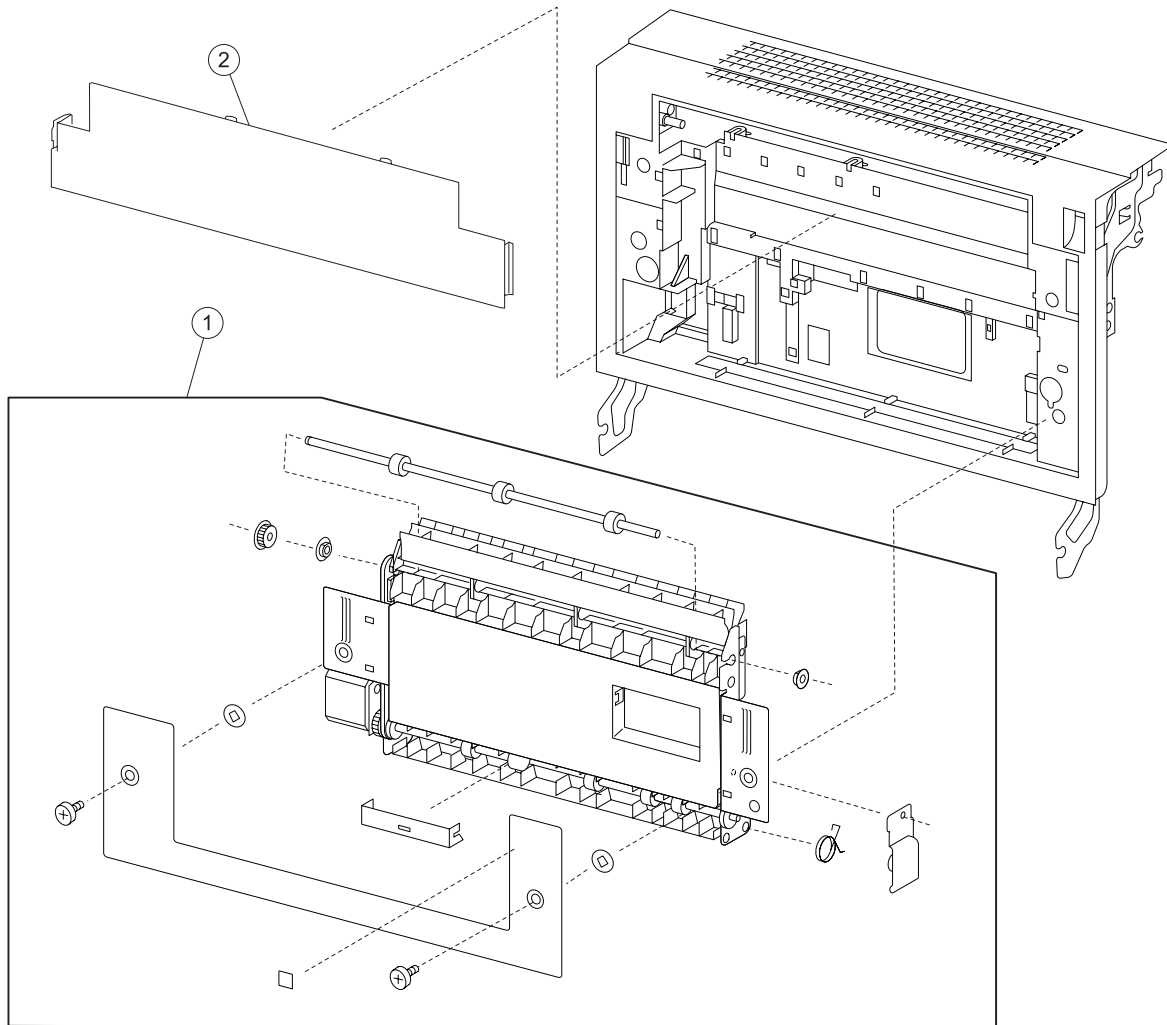
Assembly 16: Duplex media inverter assembly



Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3797	1	1	Duplex media inverter assembly

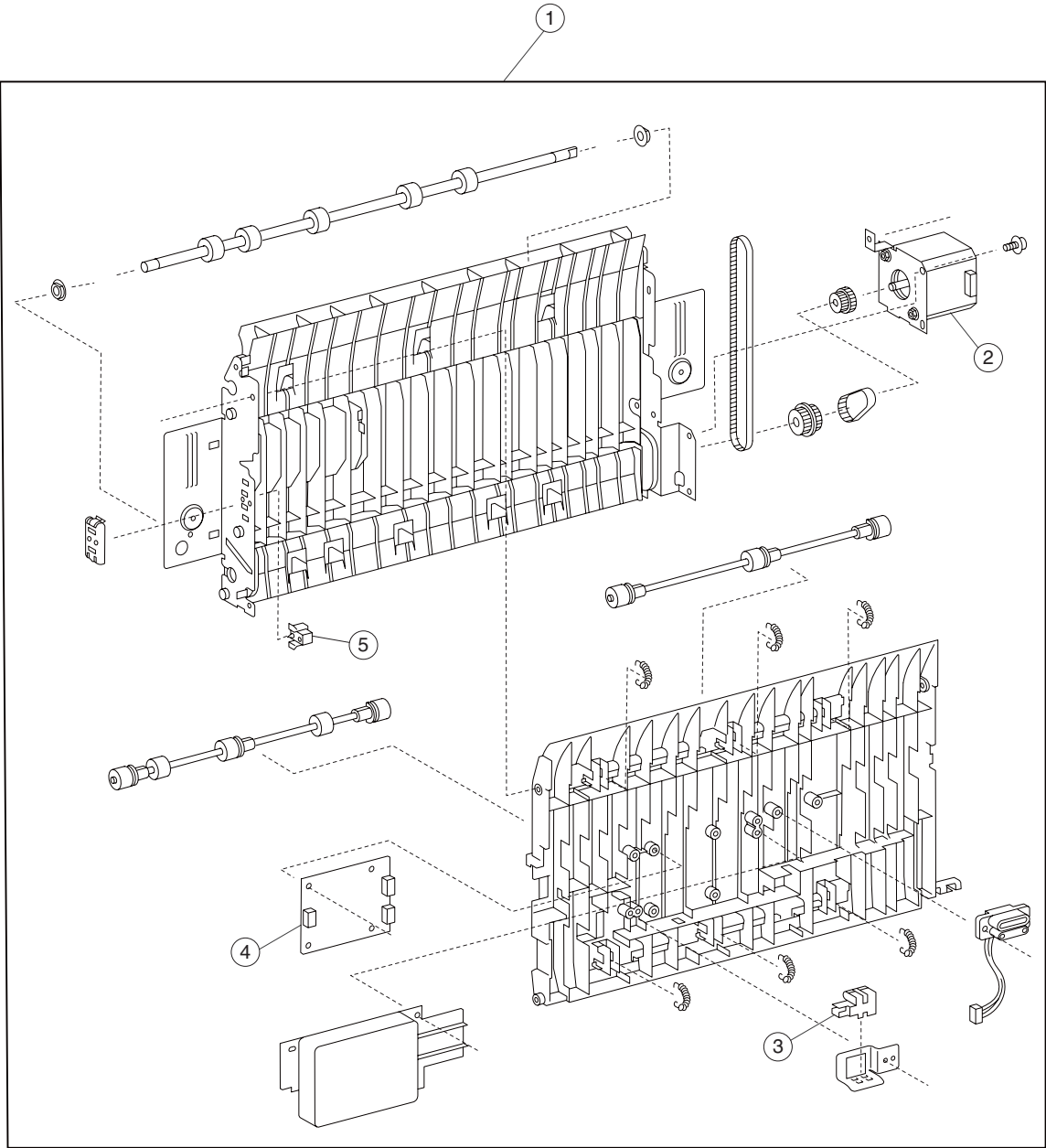


## Assembly 17: Duplex 1



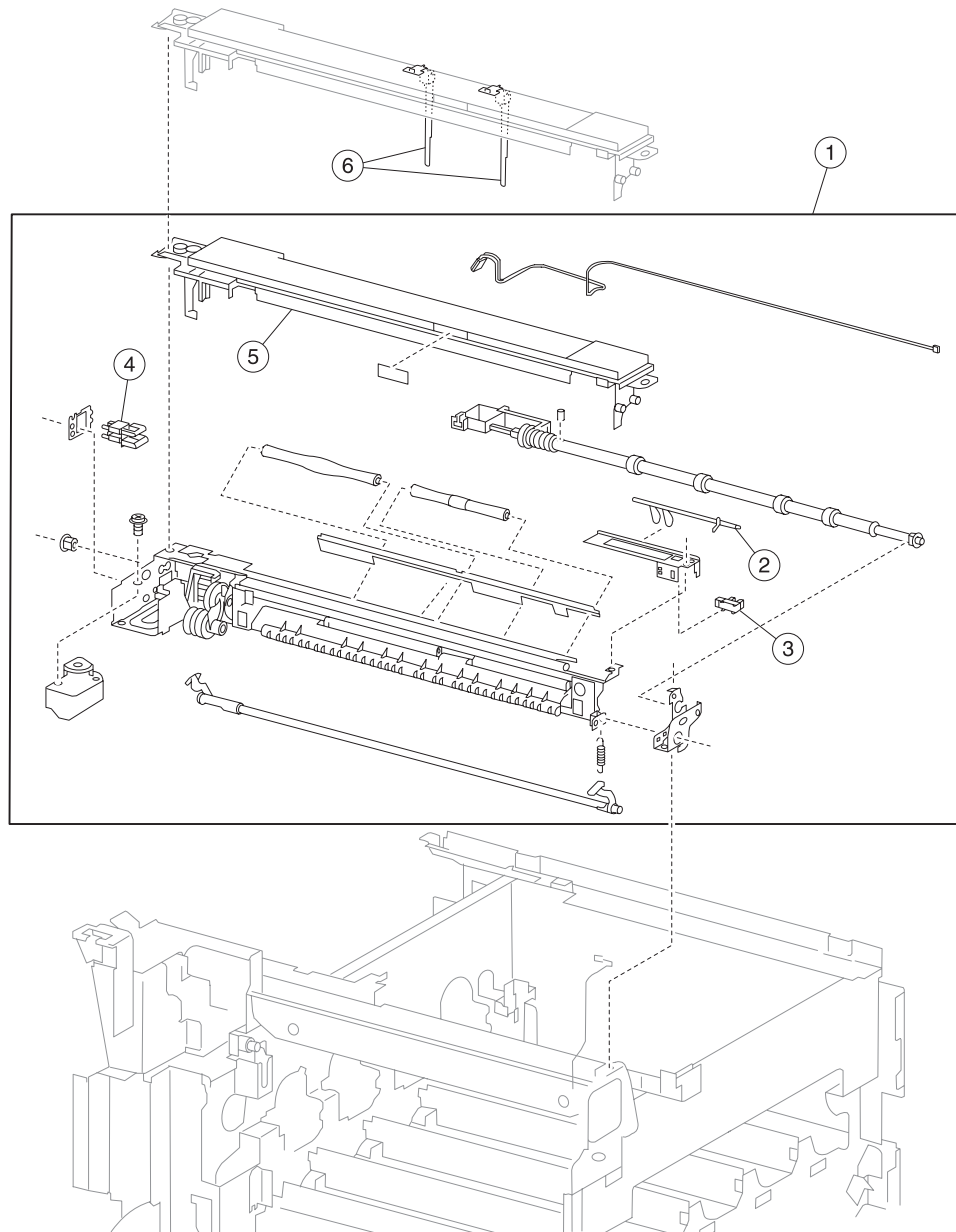
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3799	1	1	Duplex unit assembly (this comes assembled)
2	40X3798	1	1	Printer left door blind cover

Assembly 18: Duplex 2



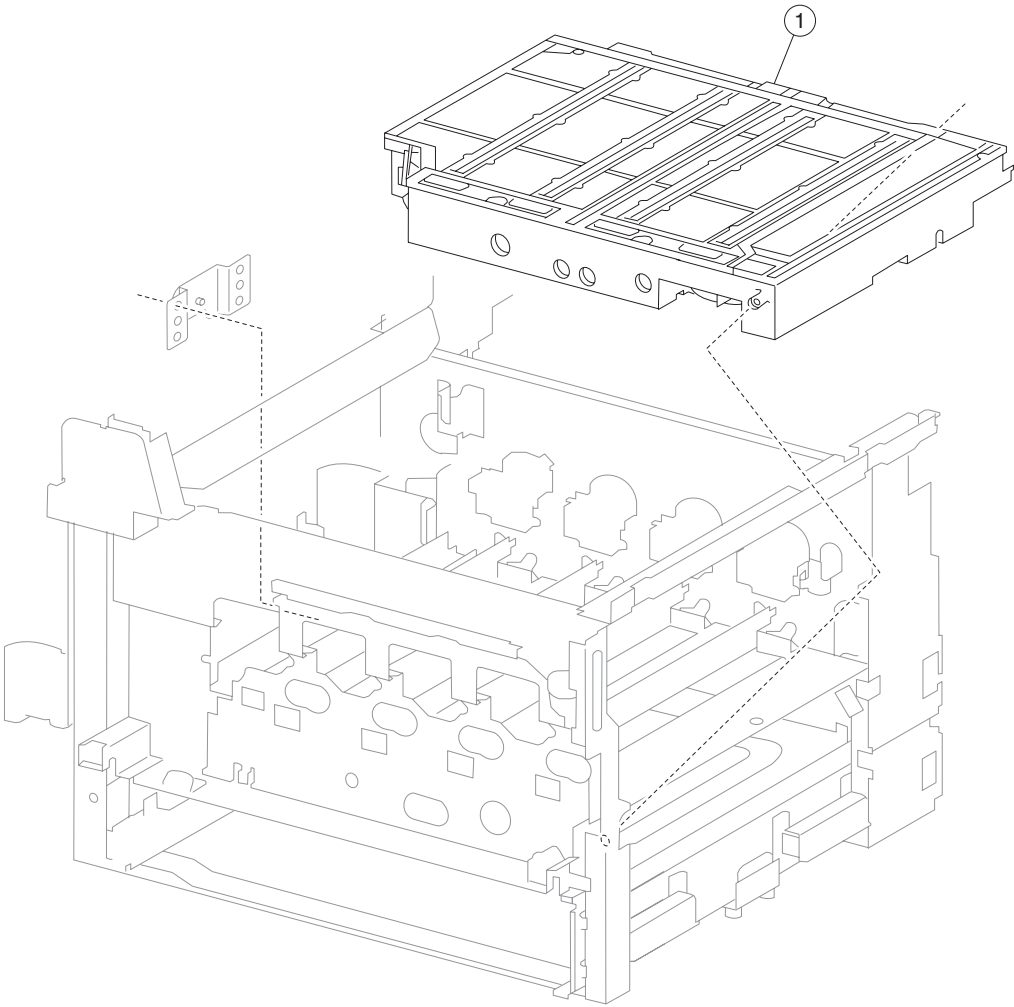
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3799	1	1	Duplex unit assembly (this comes assembled)
2	40X3802	1	1	Duplex drive motor
3	40X3801	1	1	Sensor (duplex wait)
4	40X3800	1	1	Duplex controller card assembly
5	40X3803	1	1	Switch (duplex left door interlock)

## Assembly 19: Standard media exit shift



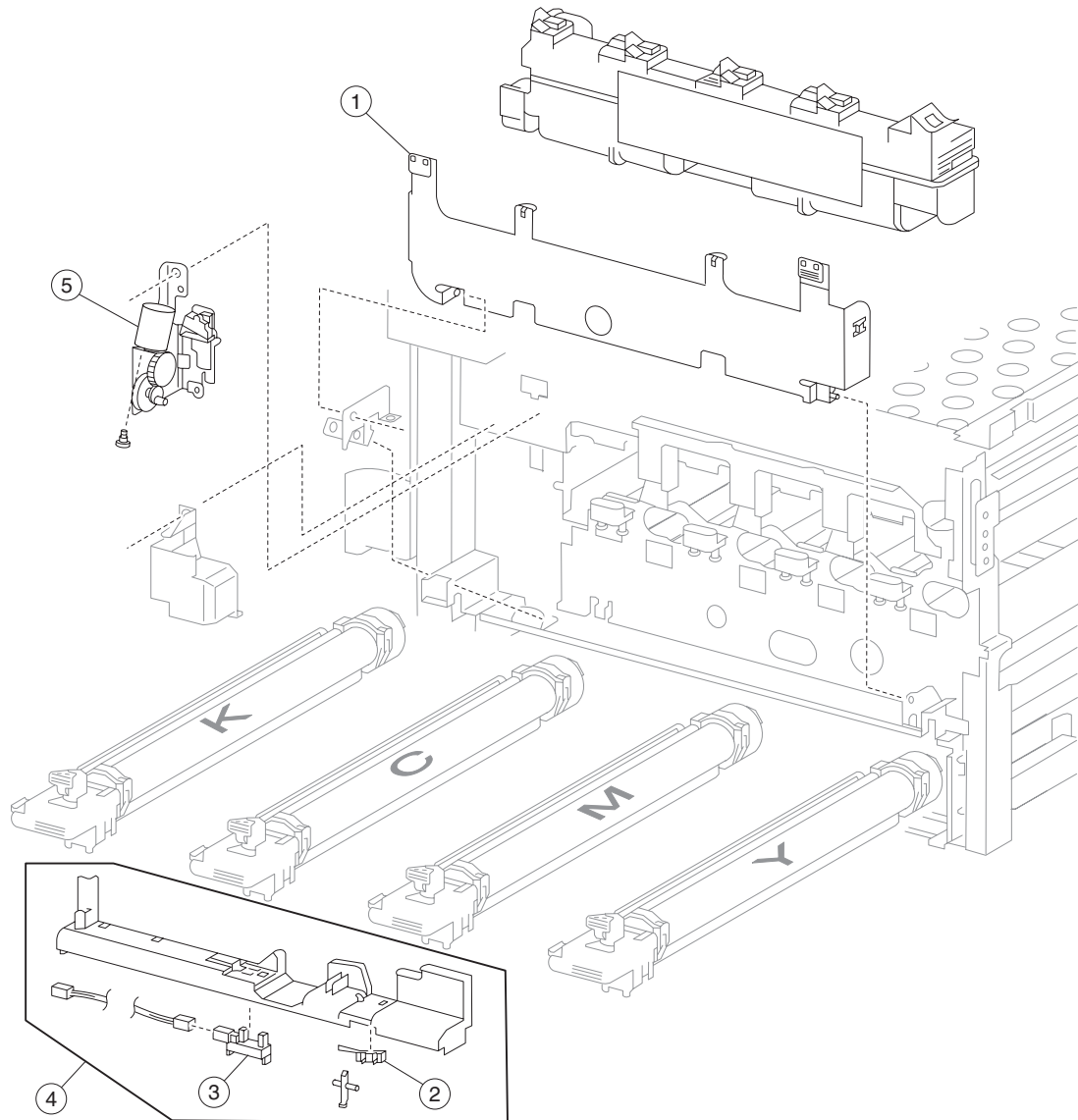
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3705	1	1	Standard media exit shift assembly (this comes assembled)
2	40X3707	1	1	Standard bin full actuator
3	40X3688	30	1	Sensor (standard bin full)
4	40X0553	3	1	Switch (printer left door interlock)
5	40X3706	1	1	Standard exit top cover
6	40X4080	1	3	Standard output bin paper weight assembly <ul style="list-style-type: none"> <li>Paper weight (2)</li> <li>Installation template</li> </ul>

Assembly 20: Printhead assembly



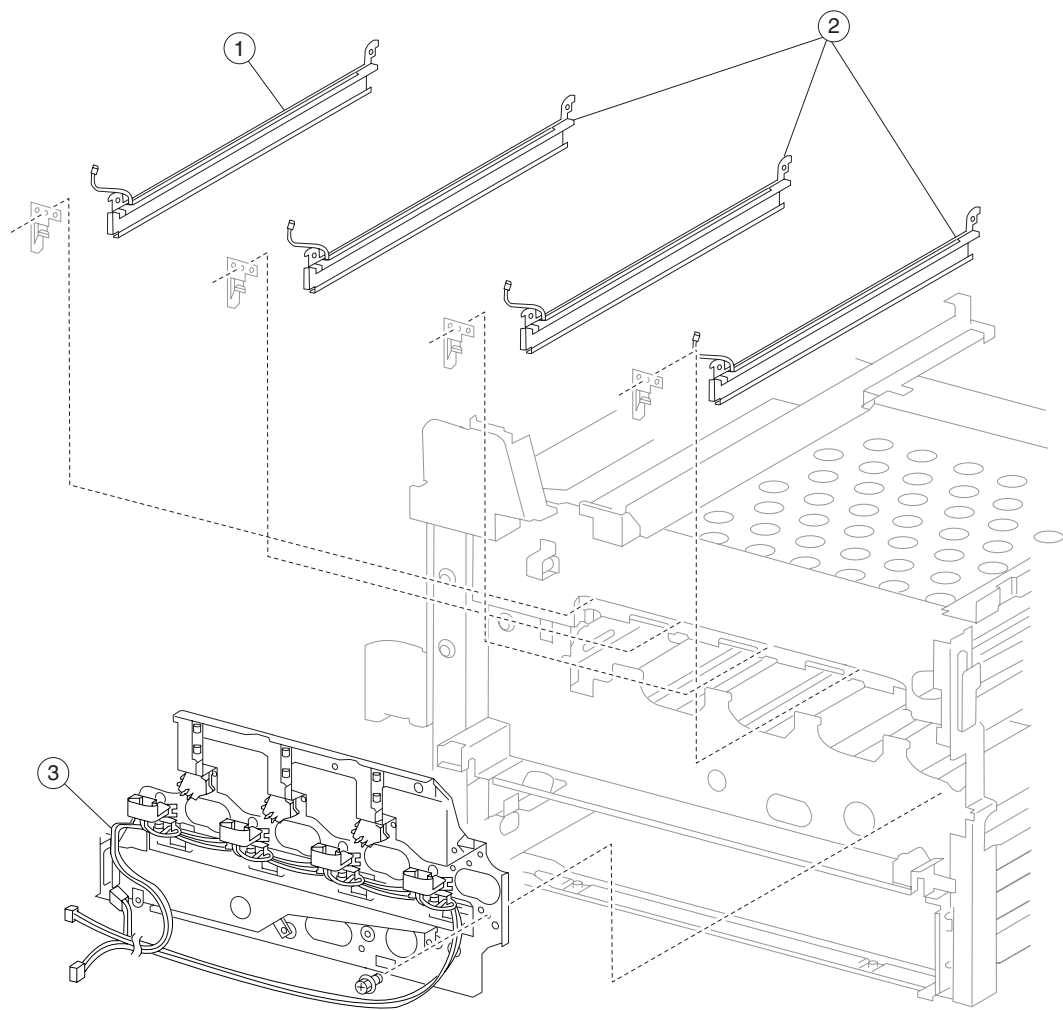
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3712	1	1	Printhead assembly

## Assembly 21: Xerographic and waste toner



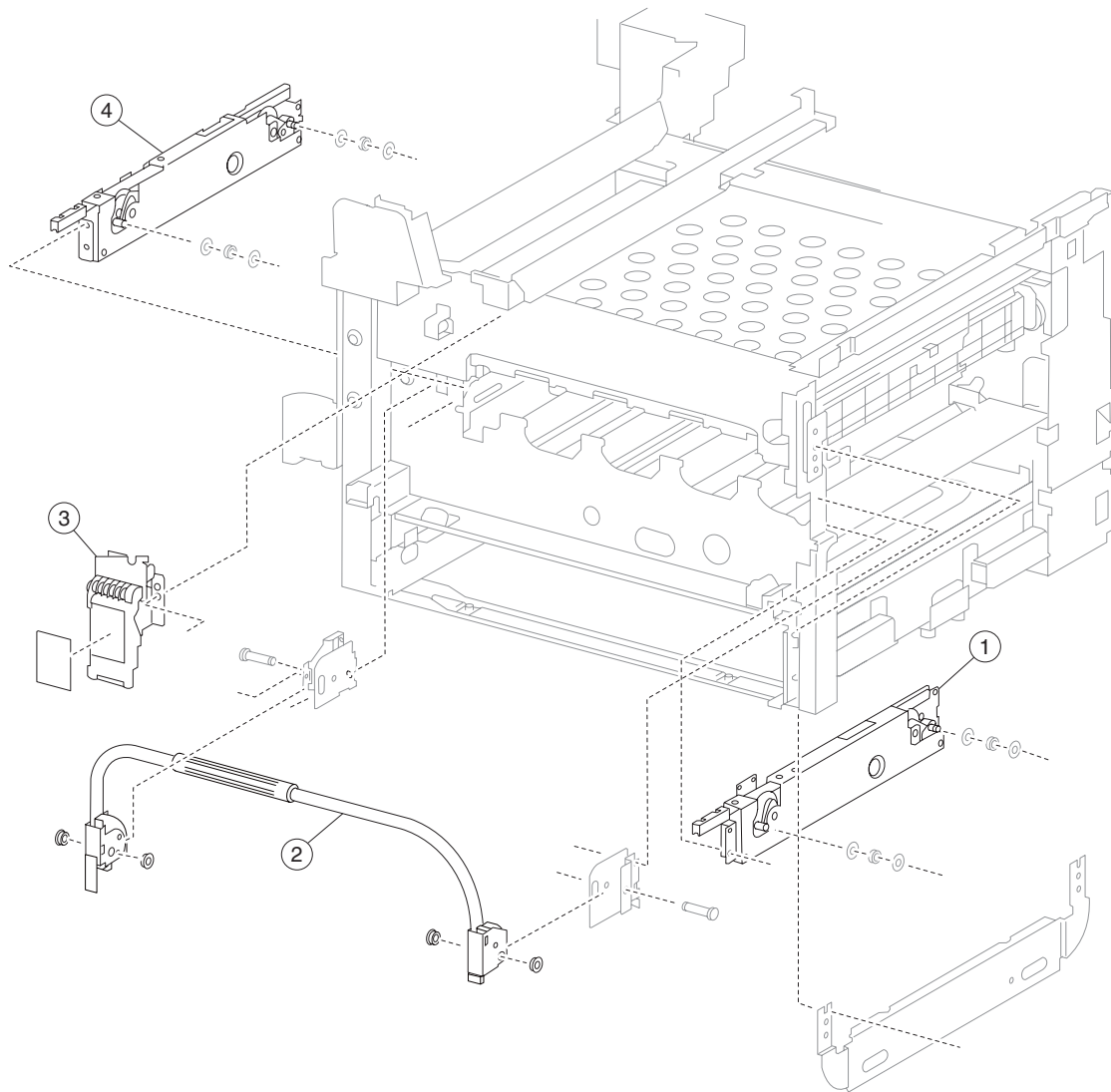
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3713	1	1	Waste toner cartridge cover
2	40X3715	1	1	Switch (waste toner cartridge interlock)
3	40X3717	1	1	Sensor (waste toner cartridge full)
4	40X3714	1	1	Waste toner cartridge sensor assembly (this comes assembled)
5	40X3716	1	1	Waste toner agitator motor assembly

Assembly 22: Erase lamps and developer interlock plate



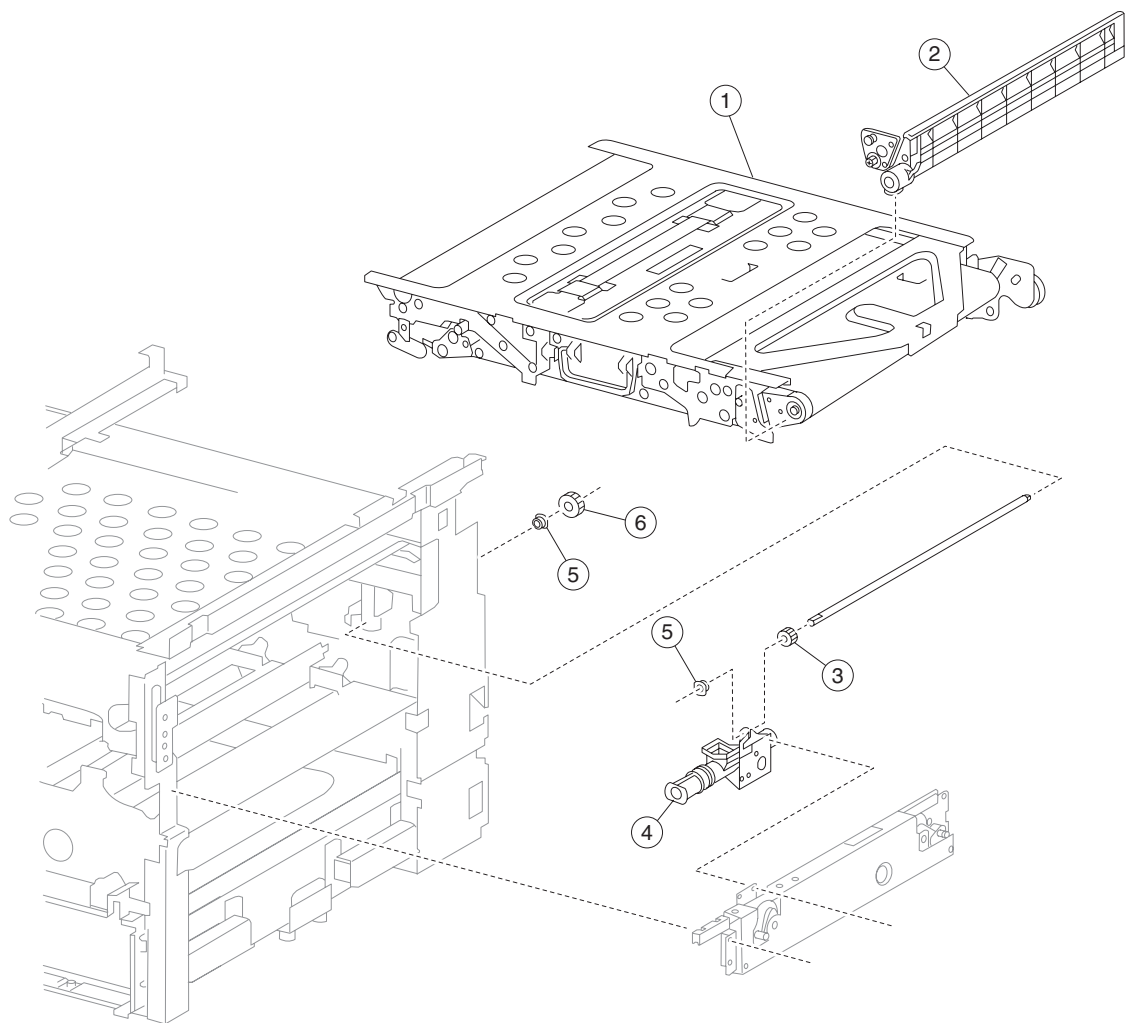
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3720	1	1	K erase lamp assembly
2	40X3719	3	1	CMY erase lamp assembly
3	40X3718	1	1	Developer interlock plate assembly

## 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

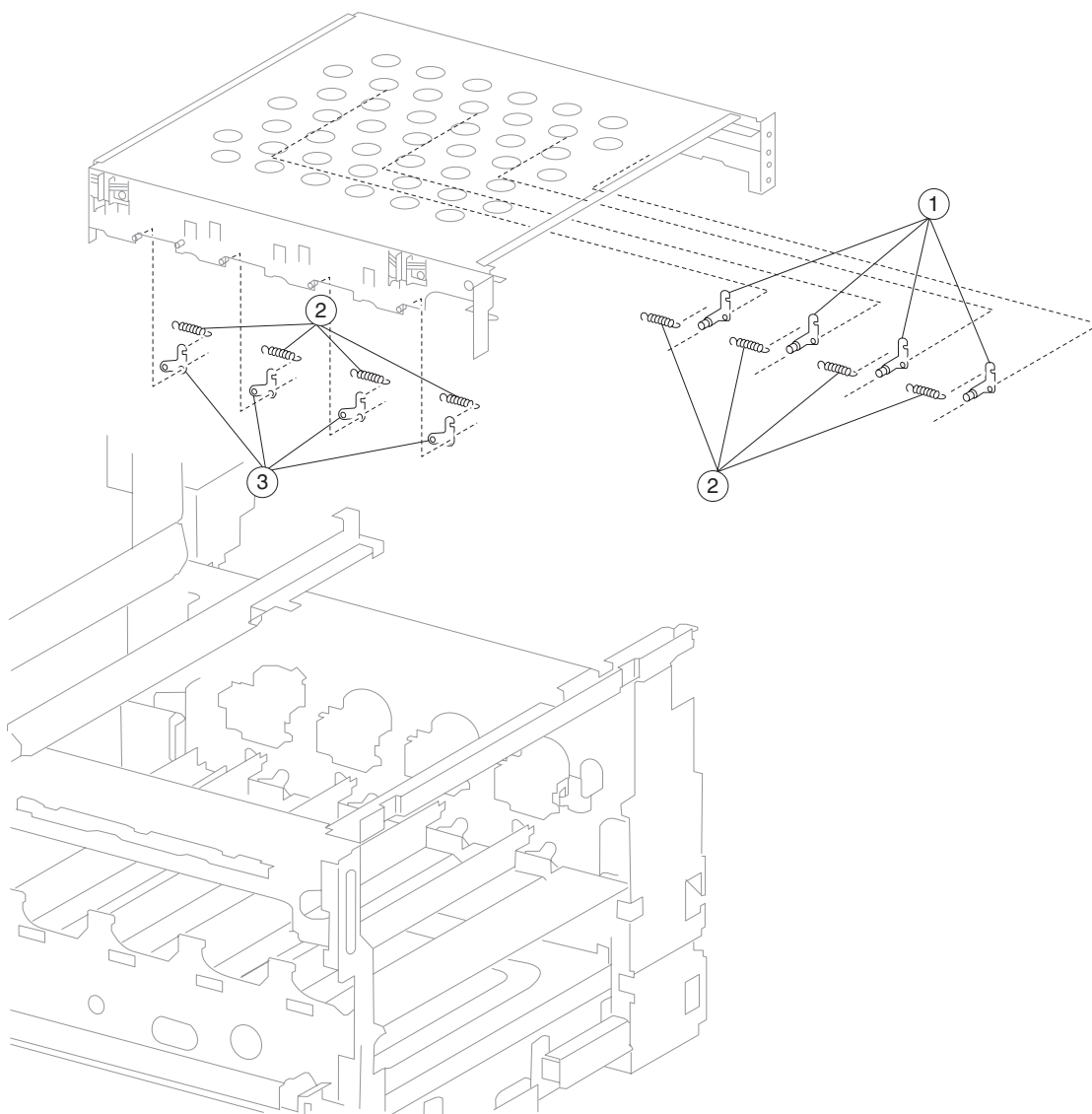
Assembly 24: Transfer belt



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

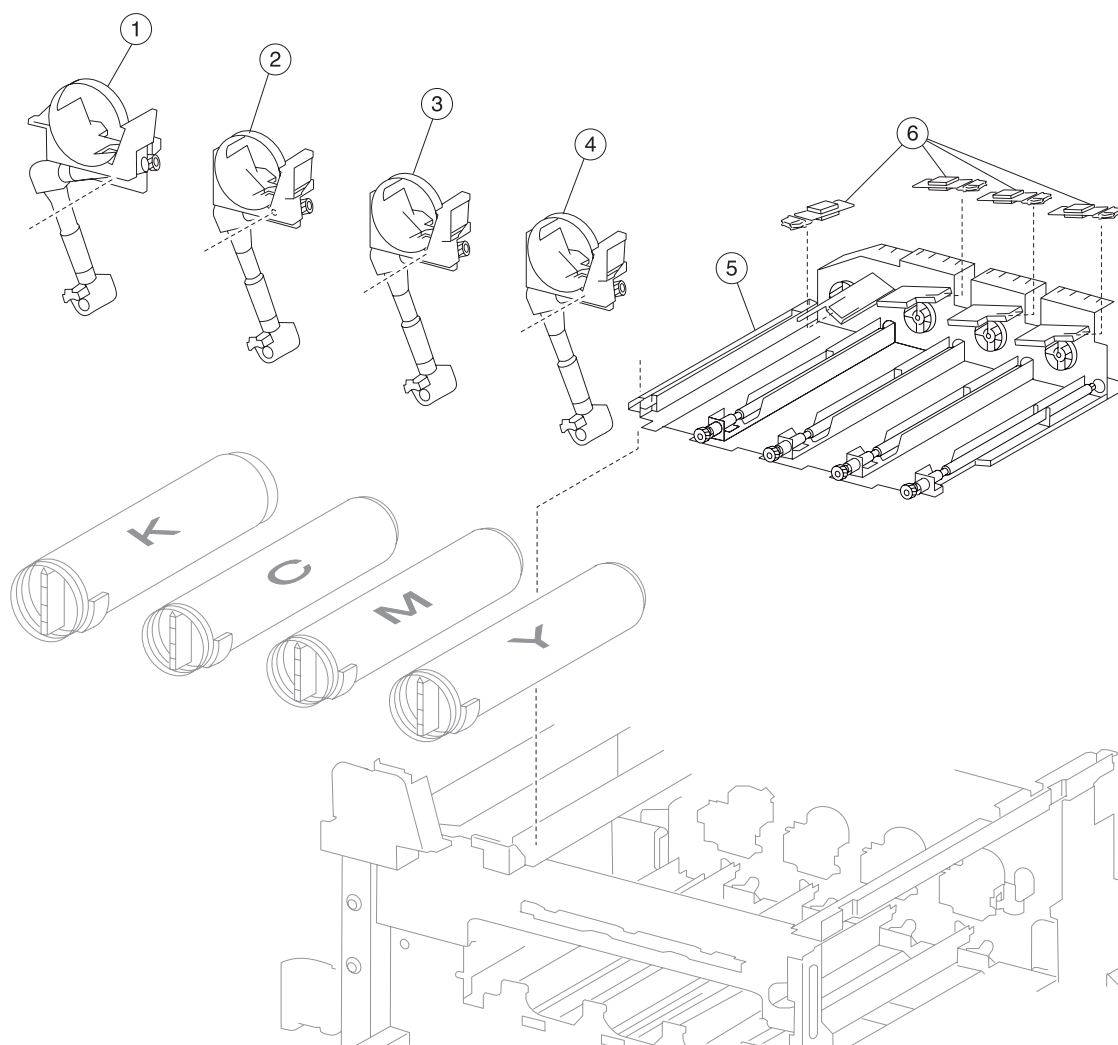


## Assembly 25: Transfer belt lift 2



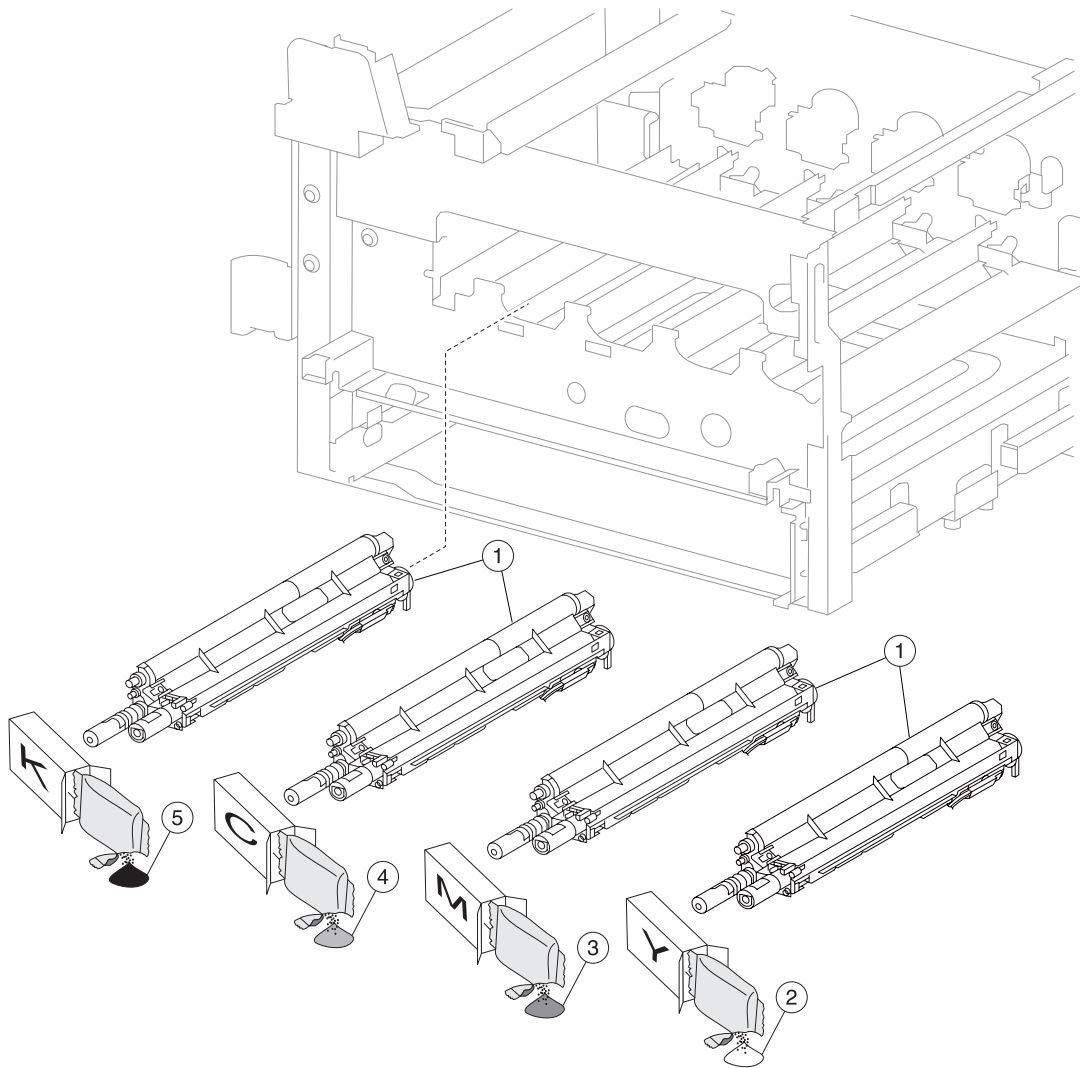
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3735	4	1	Transfer belt lift rear plunger assembly
2	40X3734	8	1	Transfer belt lift recoil spring
3	40X3736	4	1	Transfer belt lift front plunger assembly

## Assembly 26: Toner Dispense



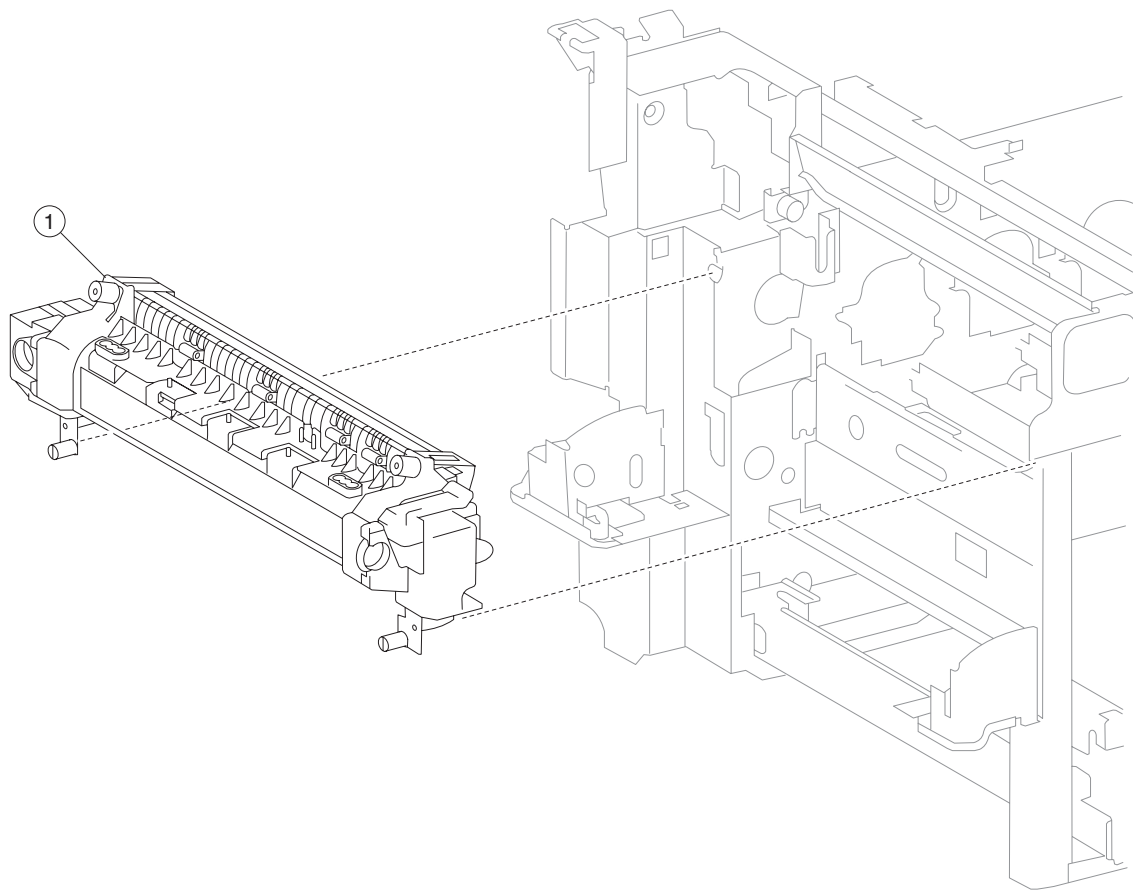
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3740	1	1	K toner dispense assembly
2	40X3739	1	1	C toner dispense assembly
3	40X3738	1	1	M toner dispense assembly
4	40X3737	1	1	Y toner dispense assembly
5	40X3741	1	1	CMYK toner add motor assembly
6	40X0636	4	1	Sensor (RFID toner cartridge)

## Assembly 27: Developer unit assemblies



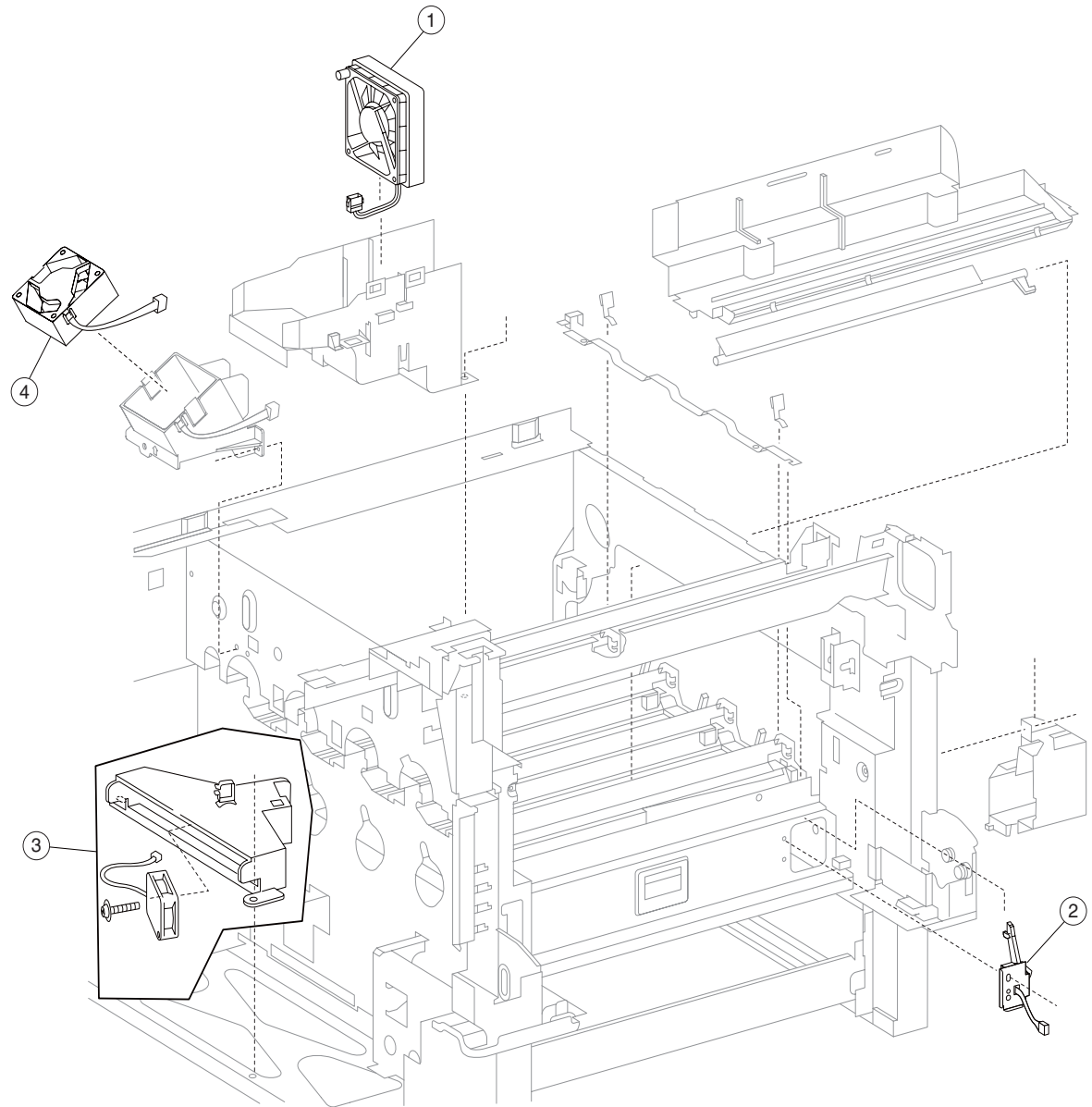
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3742	4	1	Developer unit assembly
2	40X3744	1	1	Y developer carrier
3	40X3745	1	1	M developer carrier
4	40X3746	1	1	C developer carrier
5	40X3743	1	1	K developer carrier

Assembly 28: Fuser assembly



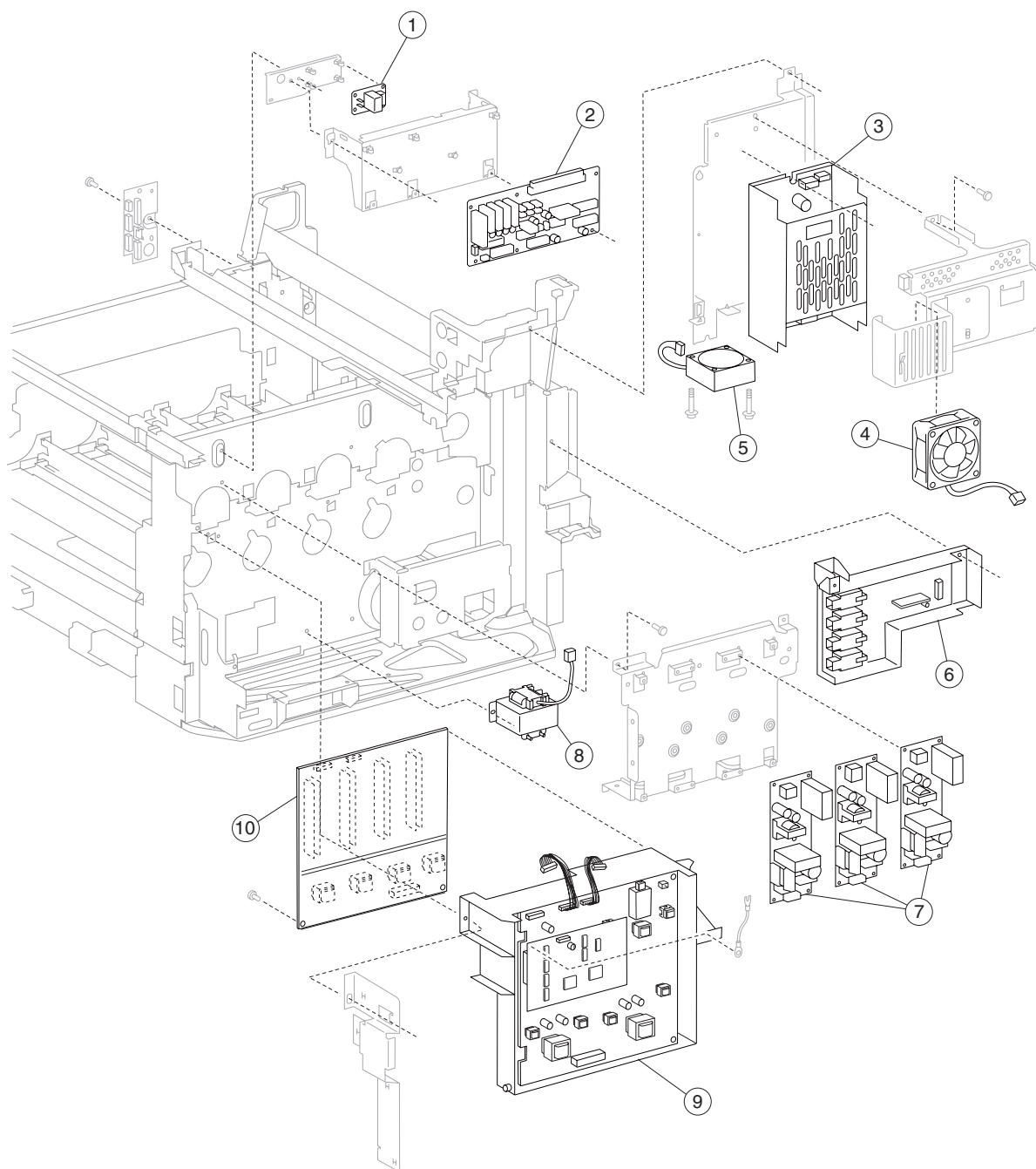
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4153	1	1	Fuser assembly 100 V
1	40X3747	1	1	Fuser assembly 110 V
1	40X3748	1	1	Fuser assembly 220 V

## Assembly 29: Cooling fans



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

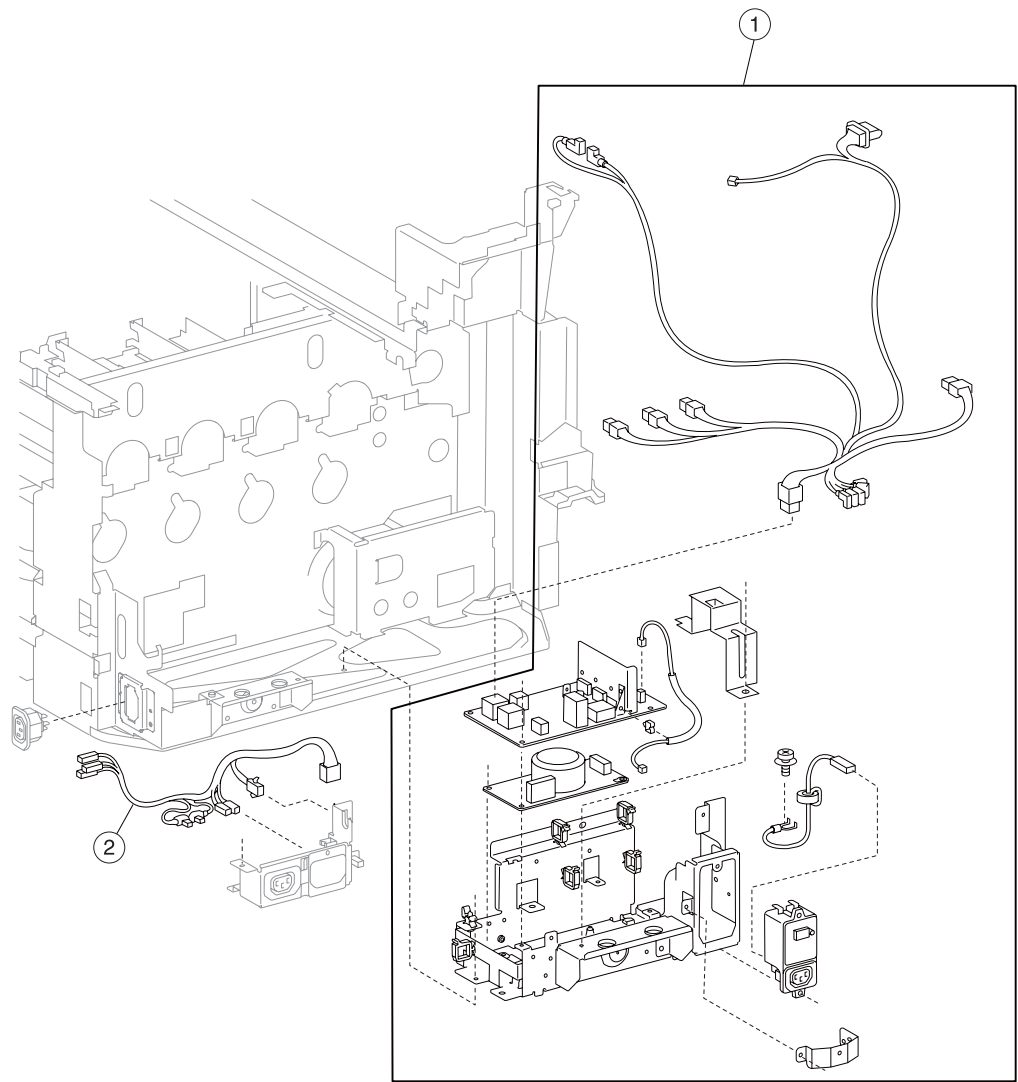
## Assembly 30: Electrical 1



## 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

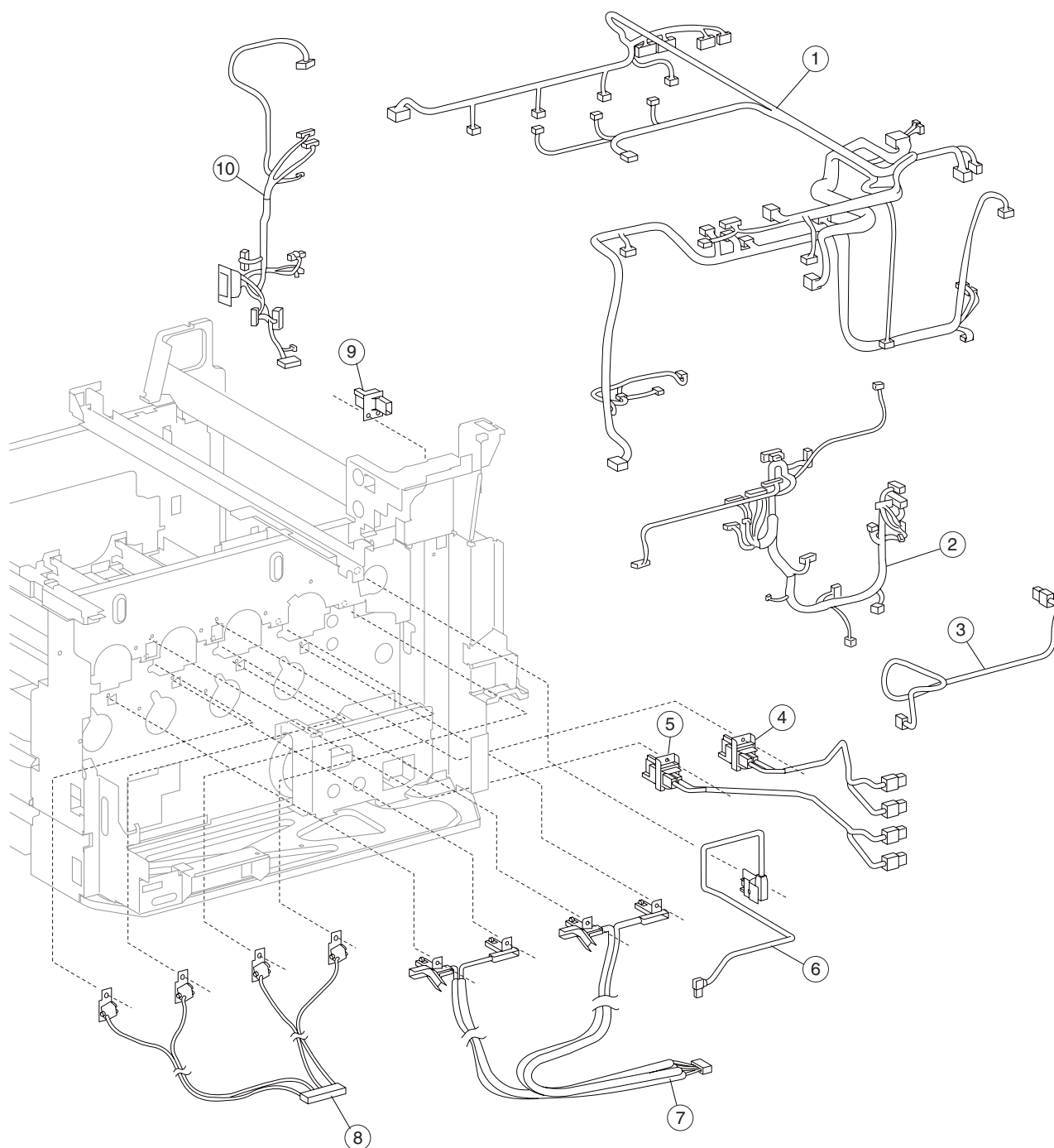
Assembly 31: Electrical 2



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



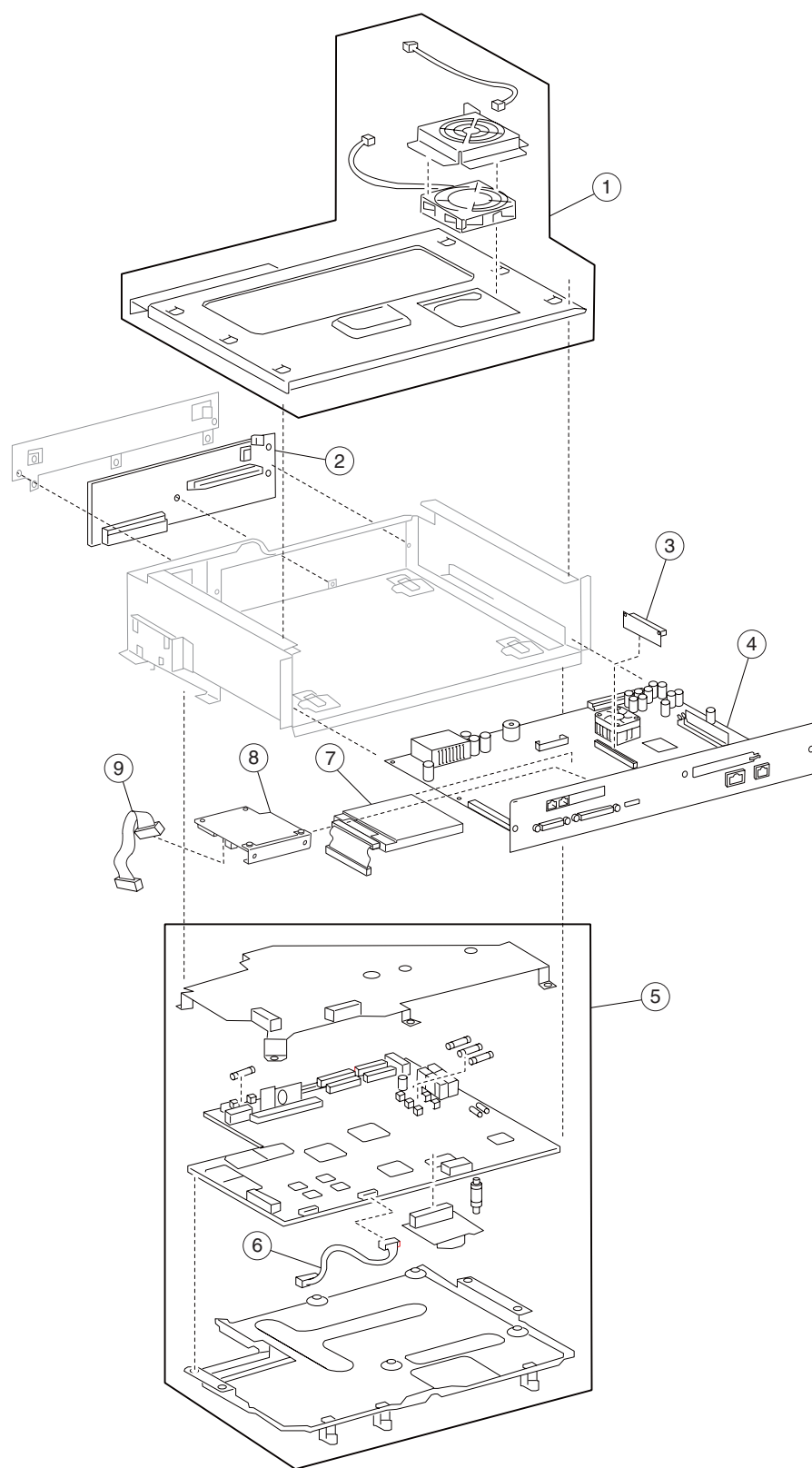
## Assembly 32: Electrical 3



**Assembly 32: Electrical 3**

<b>Asm-index</b>	<b>Part number</b>	<b>FRUs/ mach</b>	<b>Units/ FRU</b>	<b>Description</b>
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



## Assembly 33: Electrical 4

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: <ul style="list-style-type: none"> <li>• 2.5" 80GB hard drive</li> <li>• Data cable</li> <li>• Mounting bracket with hardware</li> </ul>
8	40X2360	1	1	Fax interface card assembly
9	40X0507	1	1	Fax interface card cable assembly

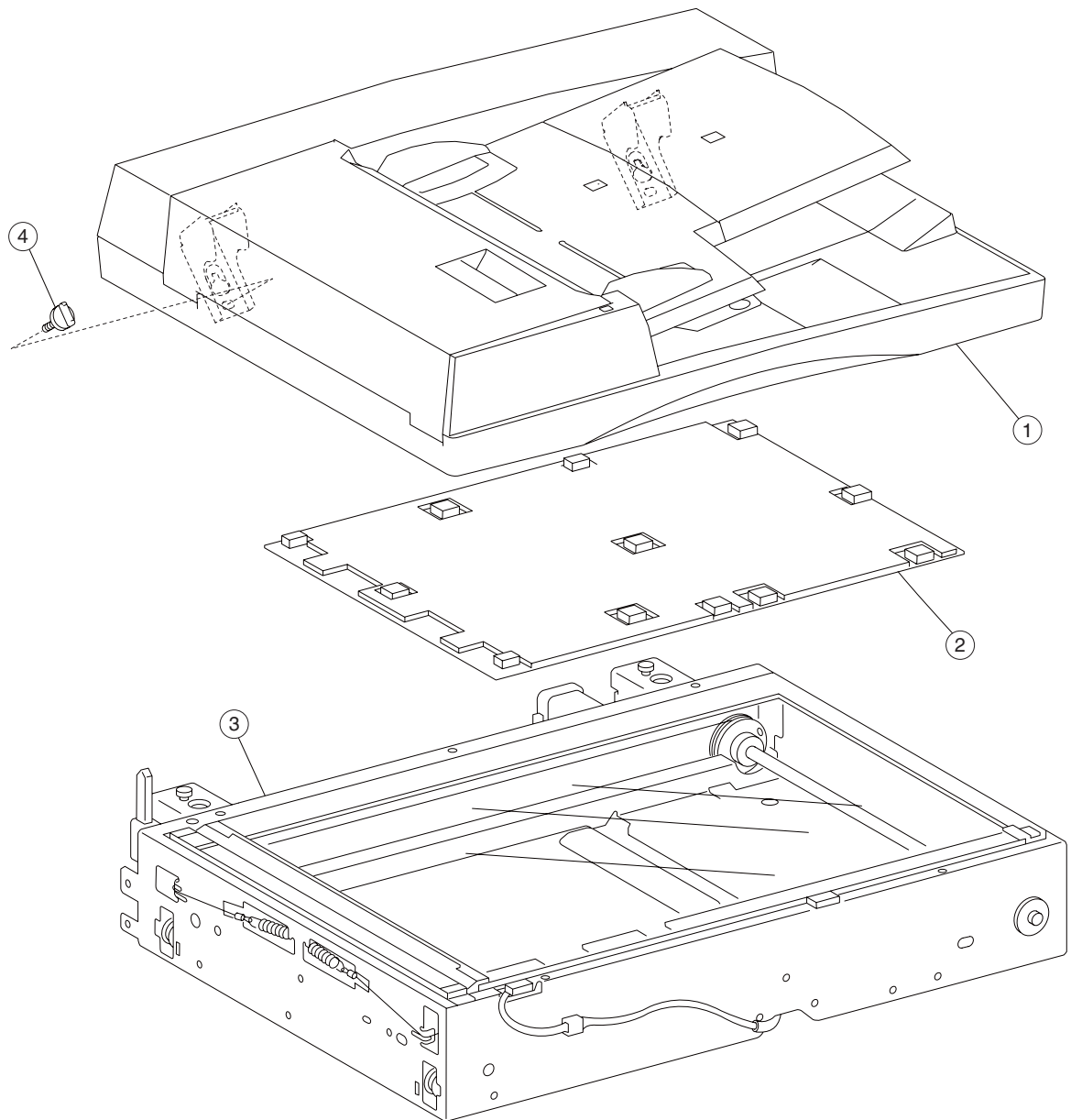
**WARNING:** In the event of replacement of any one of the following components:

- 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.

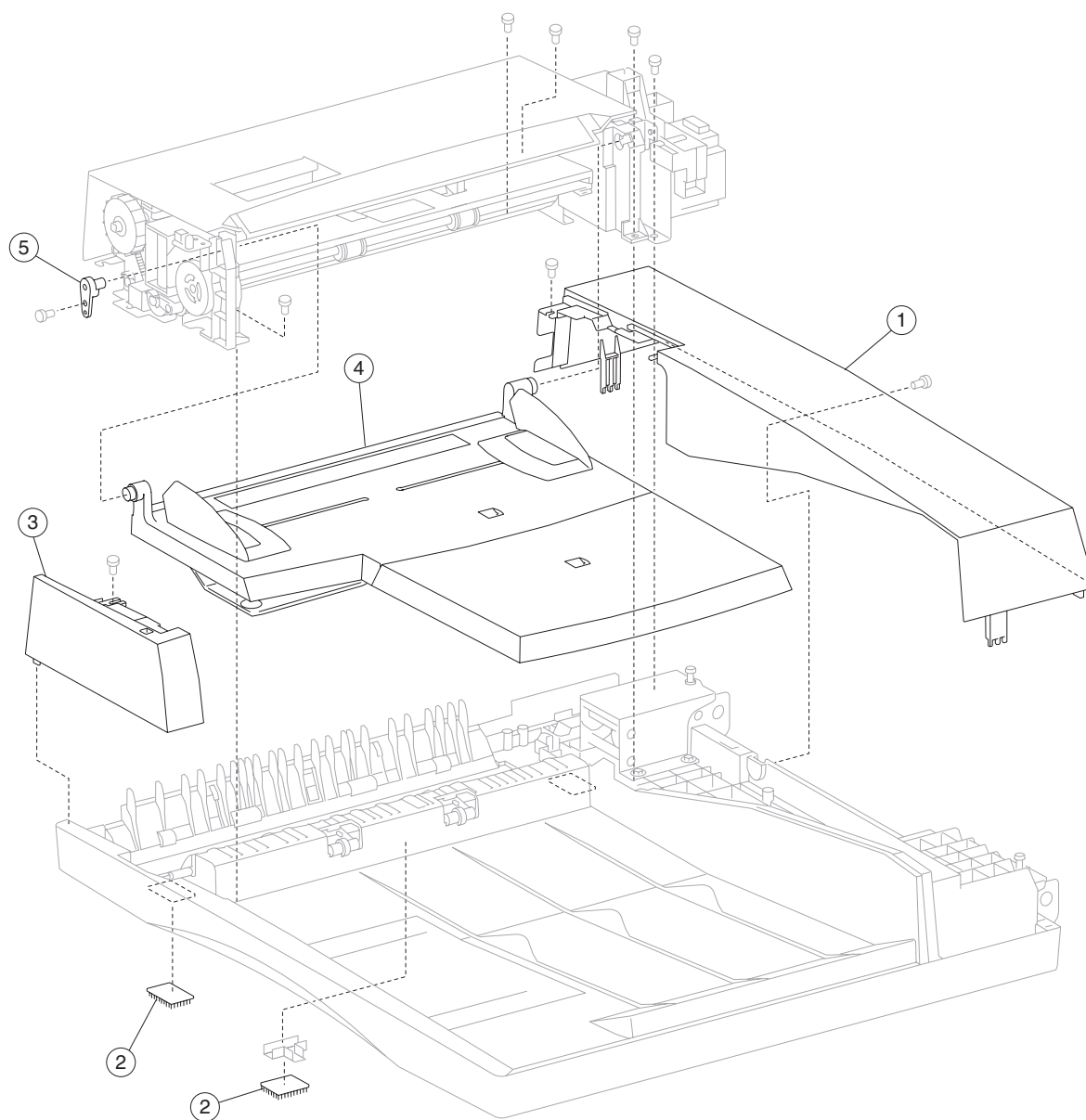
**WARNING:** Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.

## Assembly 34: ADF assembly

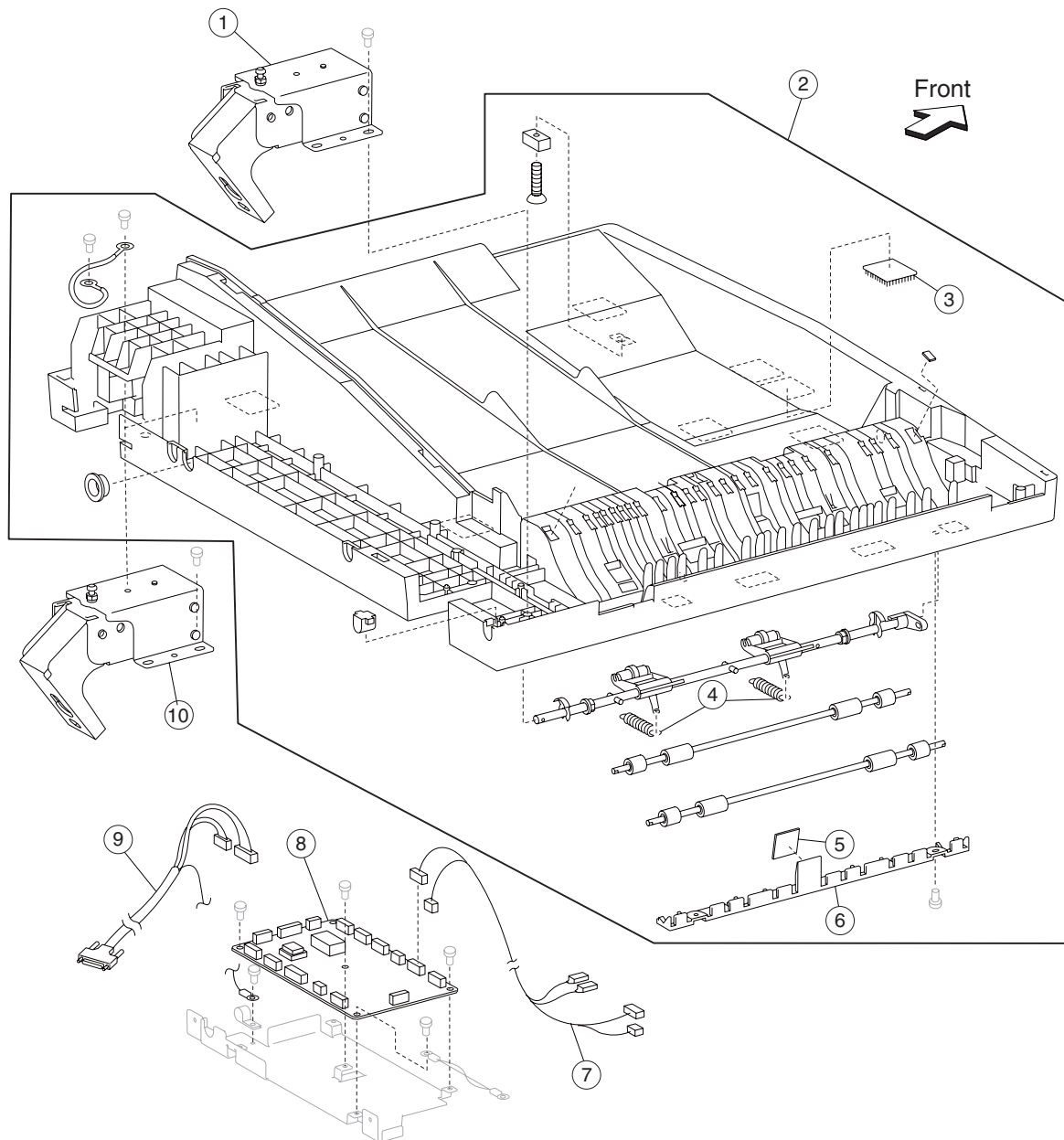


Asm Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X3879	1	1	ADF unit assembly (this comes assembled)
2	40X2239	1	1	Platen cushion
3	40X4094	1	1	Scanner unit assembly (this comes assembled)
4	40X2238	2	1	ADF mounting screw

## 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

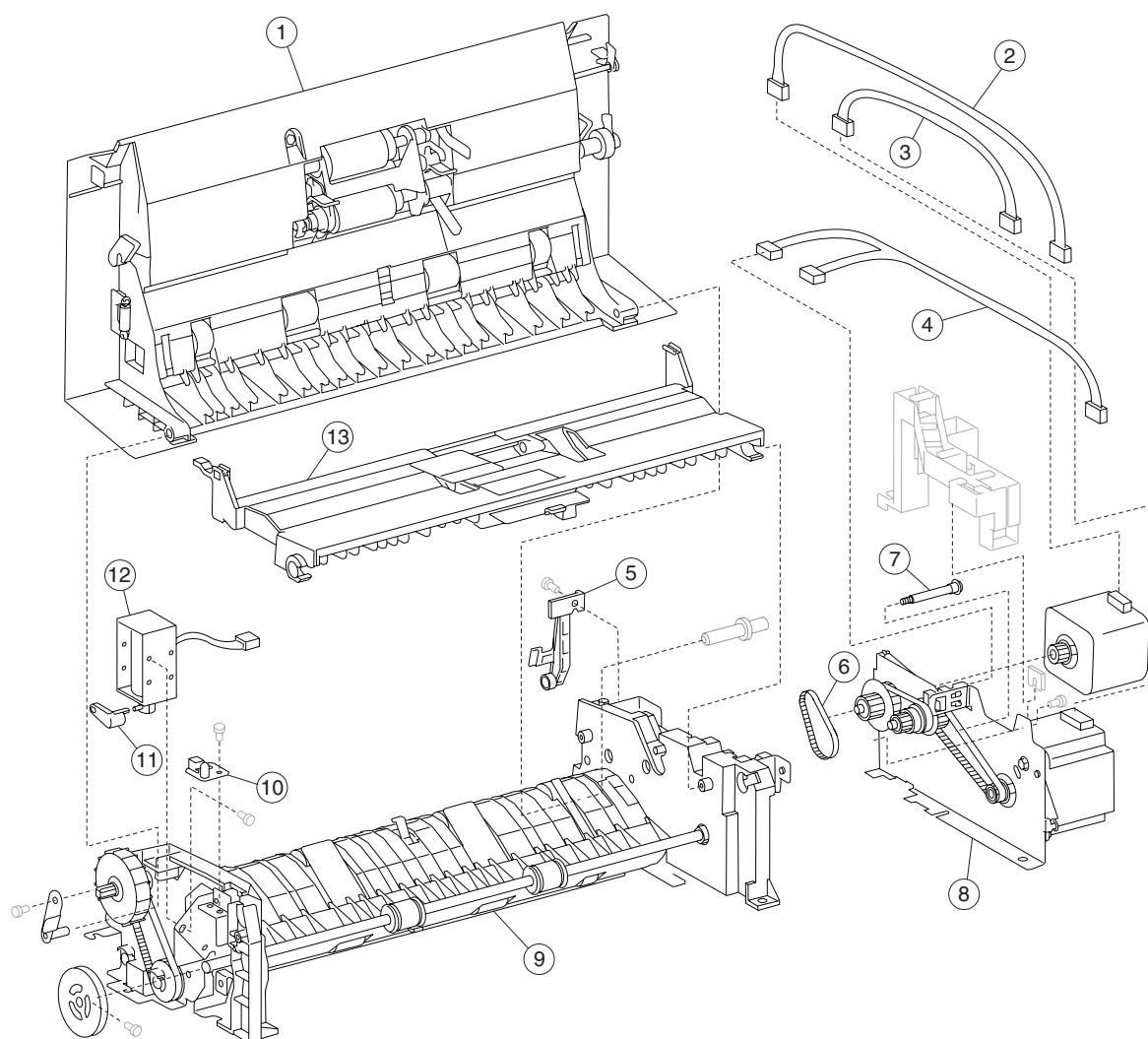
**Assembly 36: ADF base**

**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



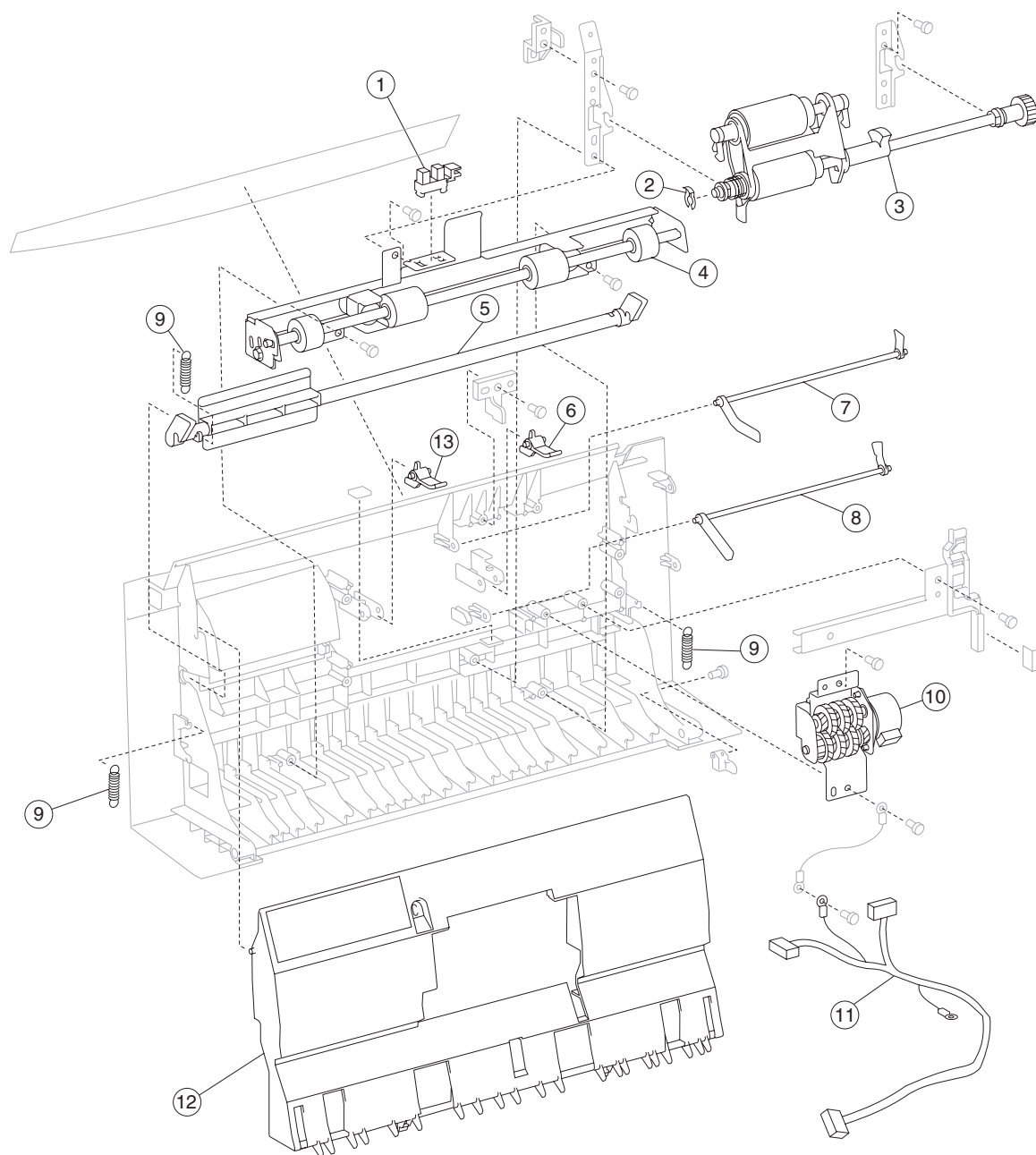
## Assembly 37: ADF feeder



**Assembly 37: ADF feeder**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
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)

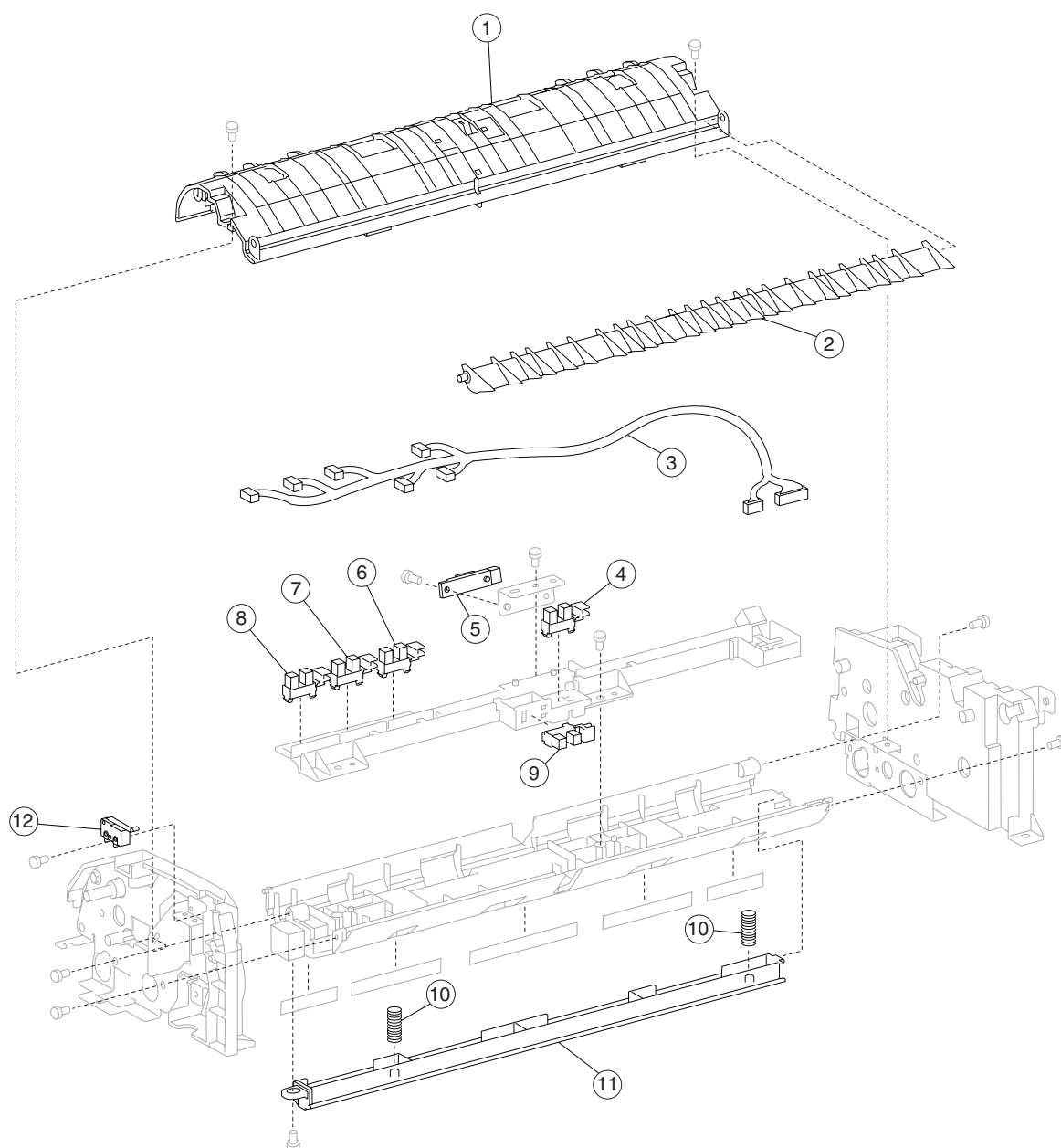
## Assembly 38: ADF left cover components



**Assembly 38: ADF left cover components**

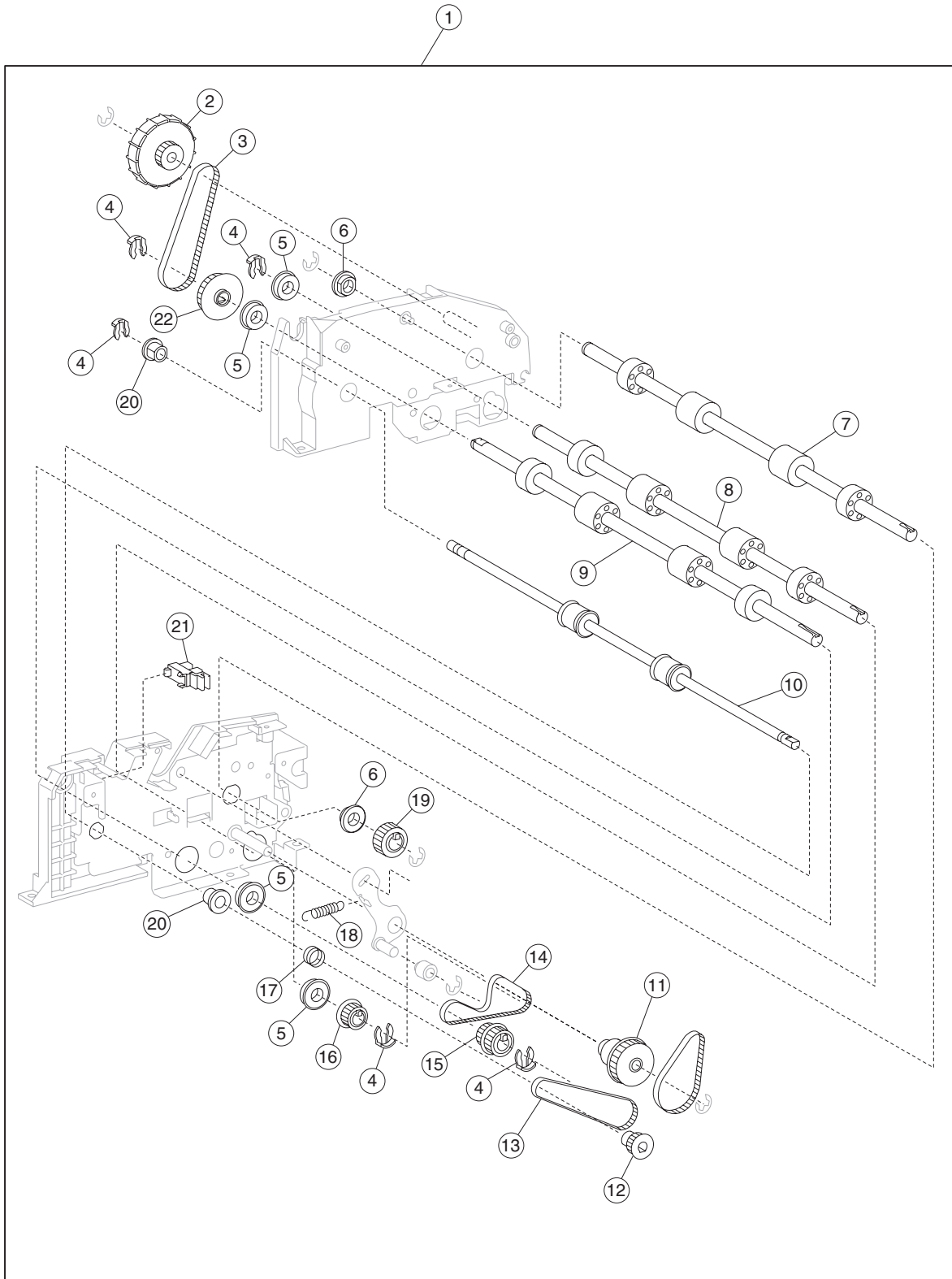
<b>Asm Index</b>	<b>Part number</b>	<b>Units/ mach</b>	<b>Units/ kit or pkg</b>	<b>Description</b>
1	40X2223	13	1	Sensor (pick roll position HP)
2	40X2291	3	4	Plastic ring clip 6 mm
3	40X2287	1	1	ADF feed/pick roll assembly (this comes assembled)
4	40X2276	1	1	Left cover pinch roll assembly (this comes 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 39: ADF media guide



**Assembly 39: ADF media guide**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
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)

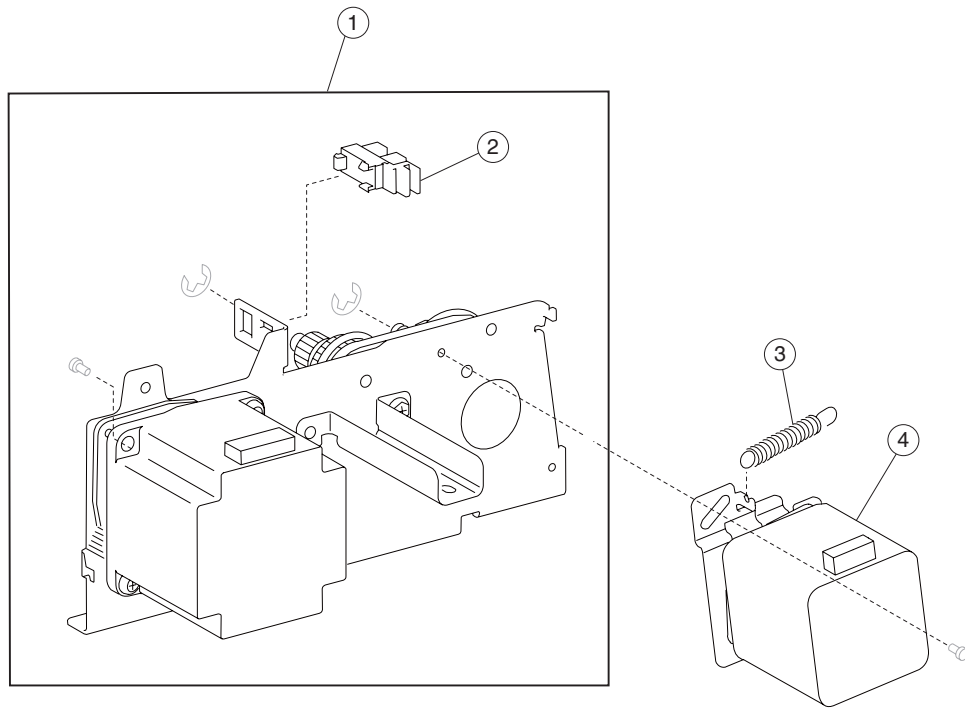
**Assembly 40: ADF feeder roll**

## 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: <ul style="list-style-type: none"> <li>• Plastic ring clip 6 mm</li> <li>• Plastic ring clip 8 mm</li> </ul>
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

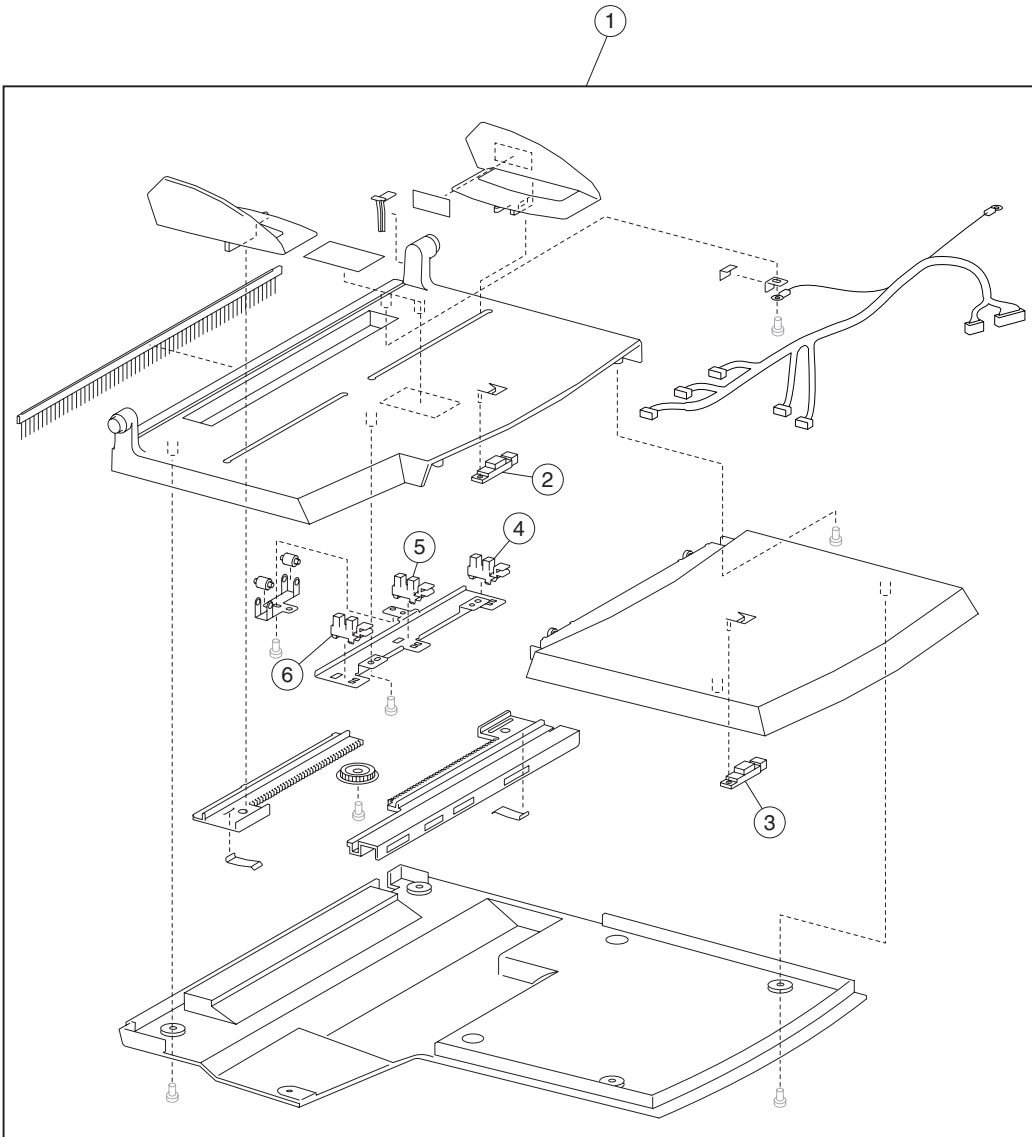


## Assembly 41: ADF motor unit



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

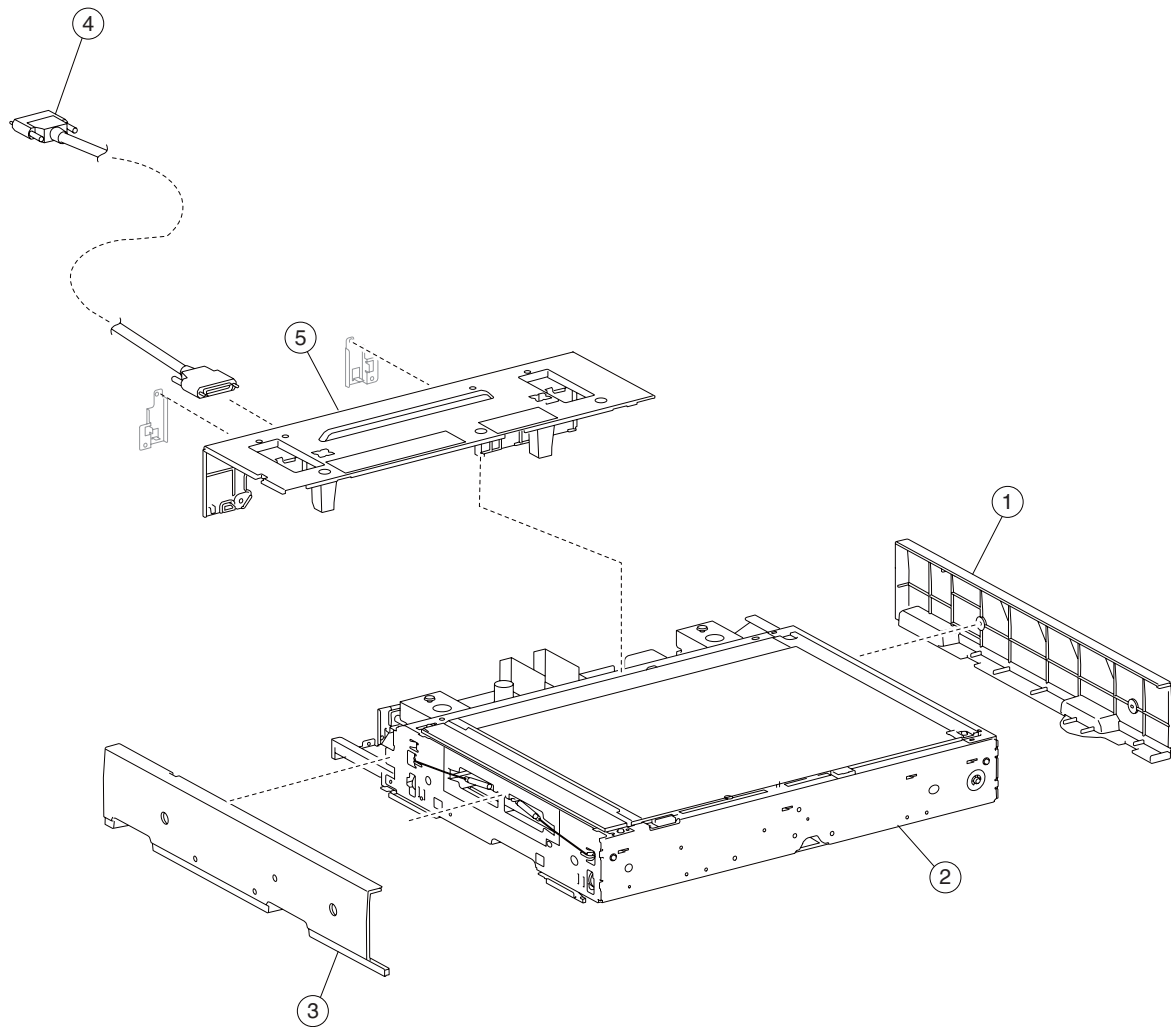
Assembly 42: ADF document tray



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)

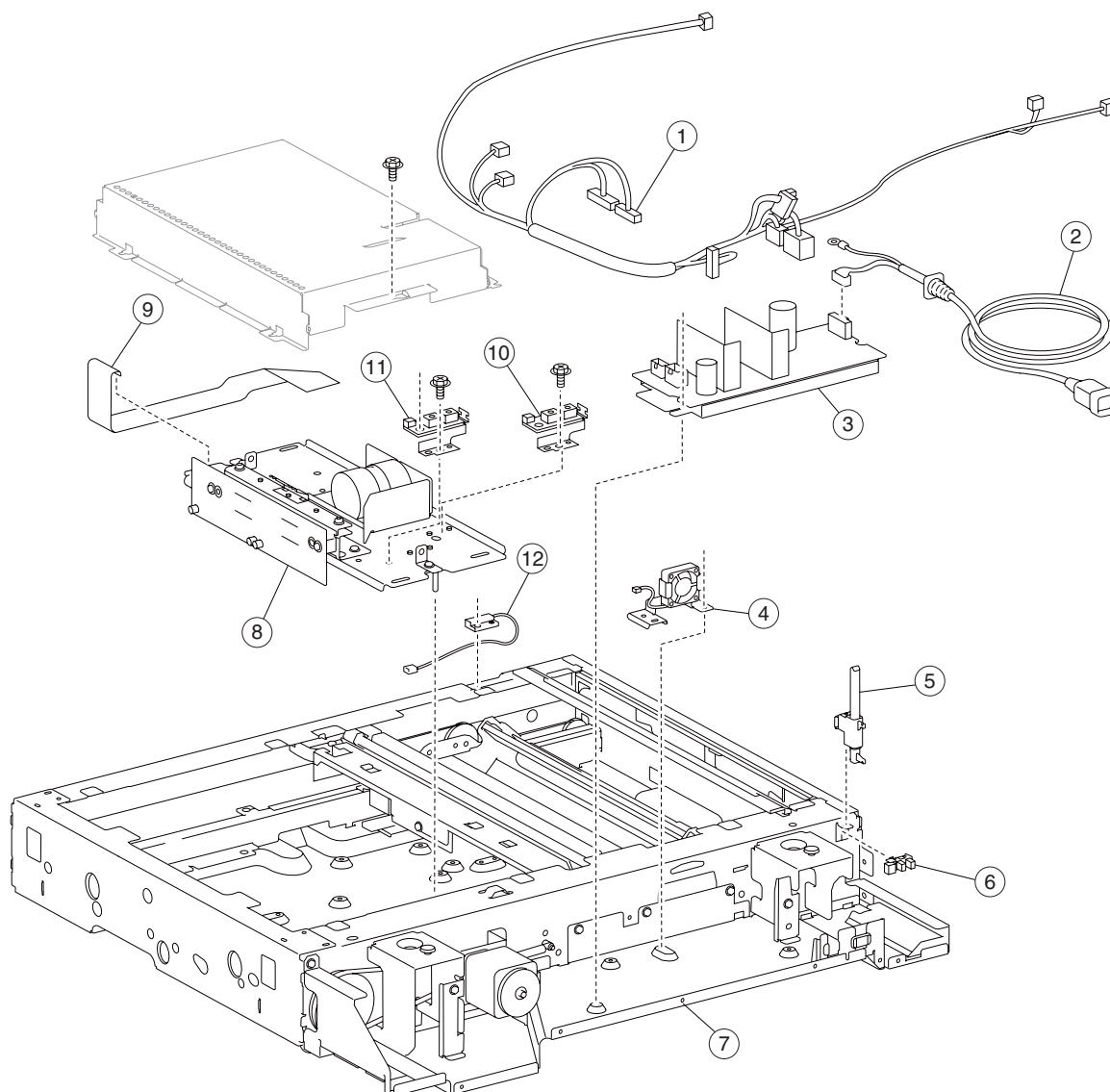
**Note:** Assembly index items 2, 3, 4, 5 and 6 are identical sensors with different functions; therefore, they are the same part number with different descriptions.

## 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

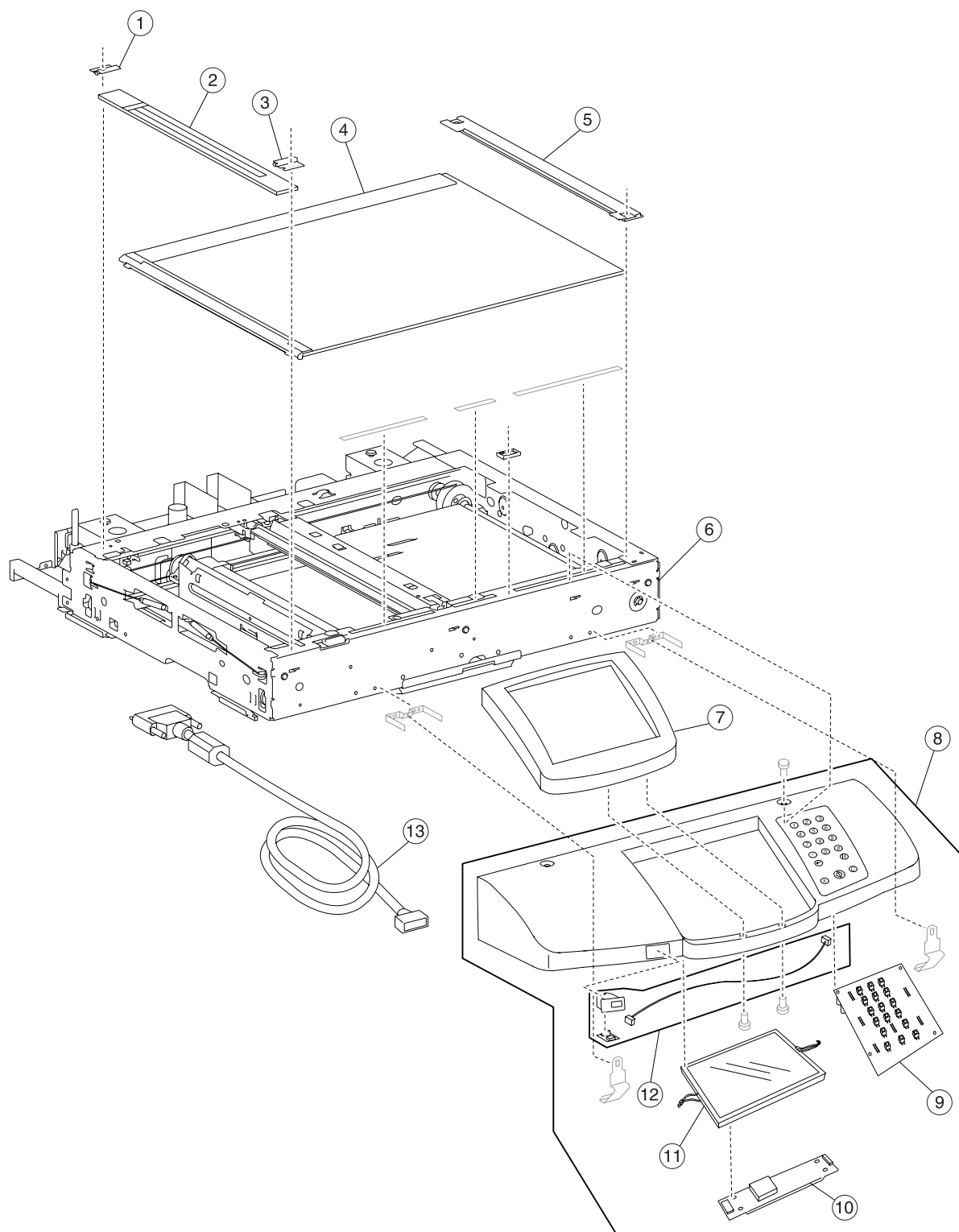
## Assembly 44: CCD lens assembly



## 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 45: Control panel and platen glass



## 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

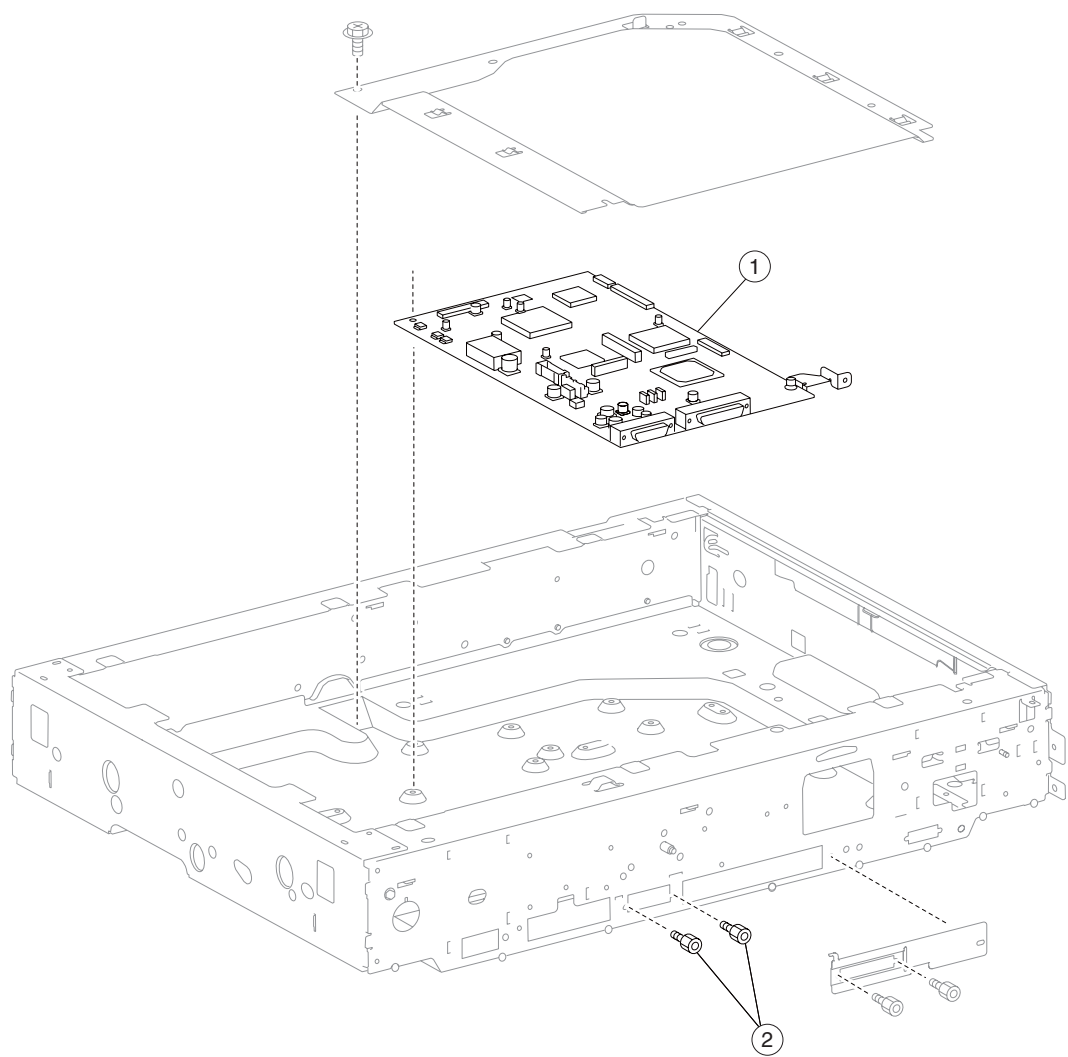
**Warning:** In the event of replacement of any one of the following components:

- 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.

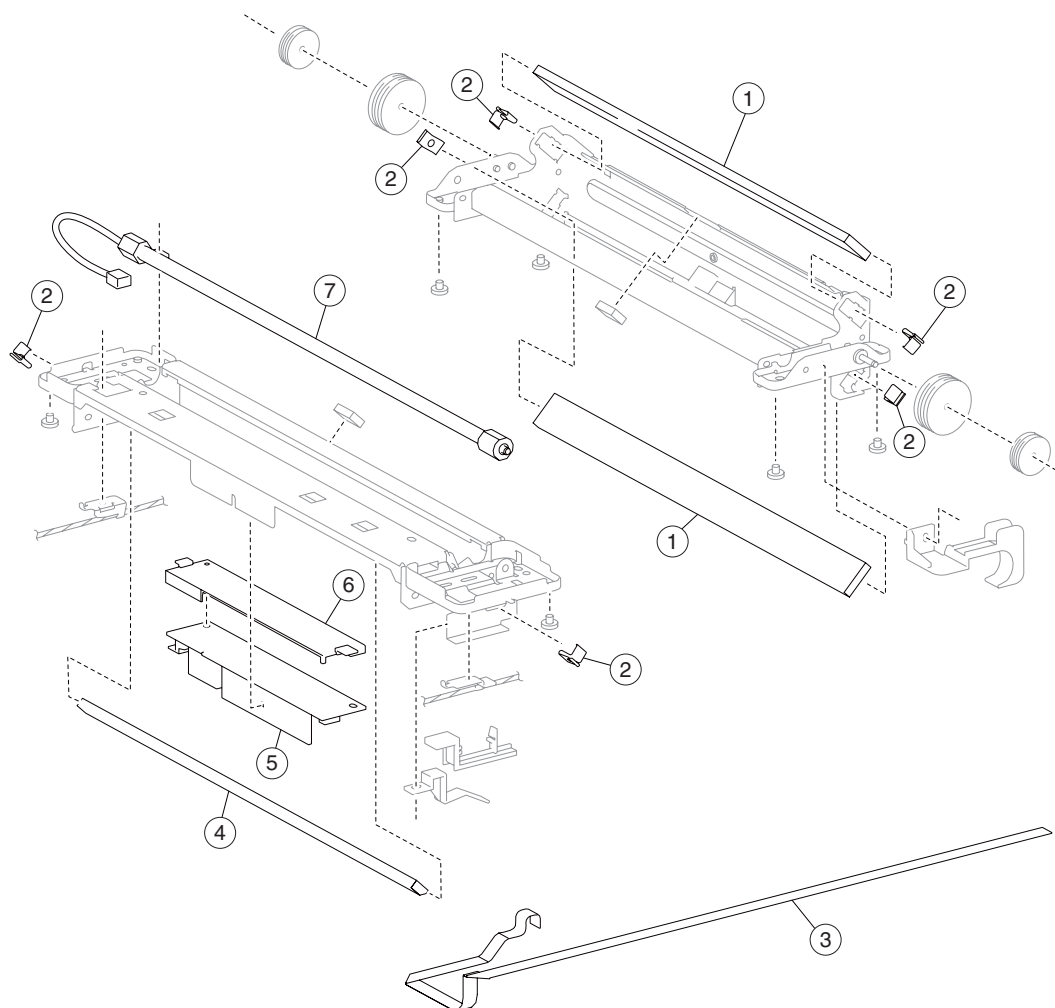
Assembly 46: Scanner electrical



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



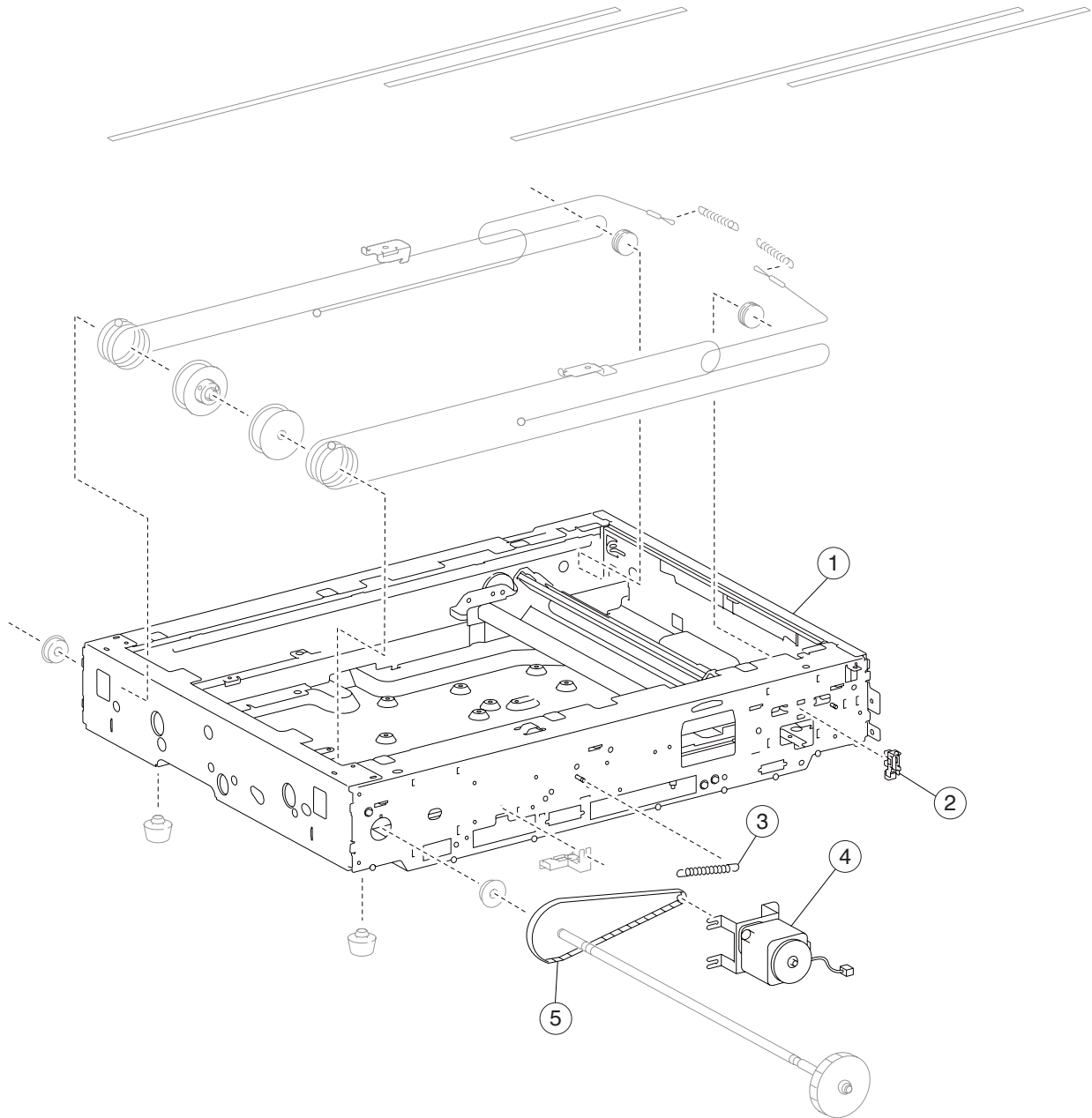
## Assembly 47: Scanner optics



**Assembly 47: Scanner optics**

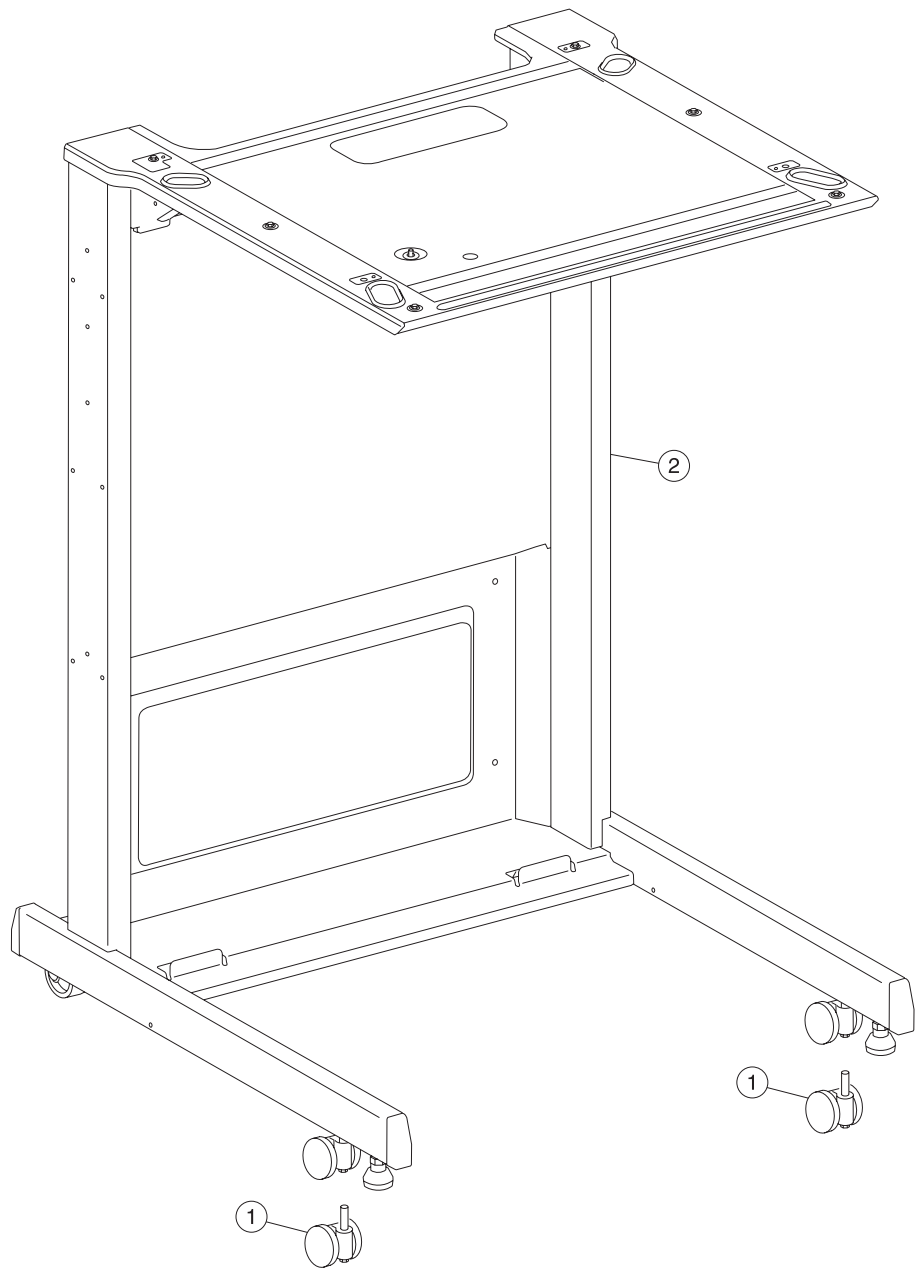
Asm Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X2232	2	1	2nd/3rd mirror
2	40X2233	6	4	Scanner mirror clip
3	40X3872	1	1	Exposure lamp PS ribbon cable
4	40X2234	1	1	1st mirror
5	40X3871	1	1	Exposure lamp PS card assembly
6	40X3873	1	1	Exposure lamp PS card insulator
7	40X3874	1	1	Exposure lamp

## Assembly 48: Carriage cable and motor



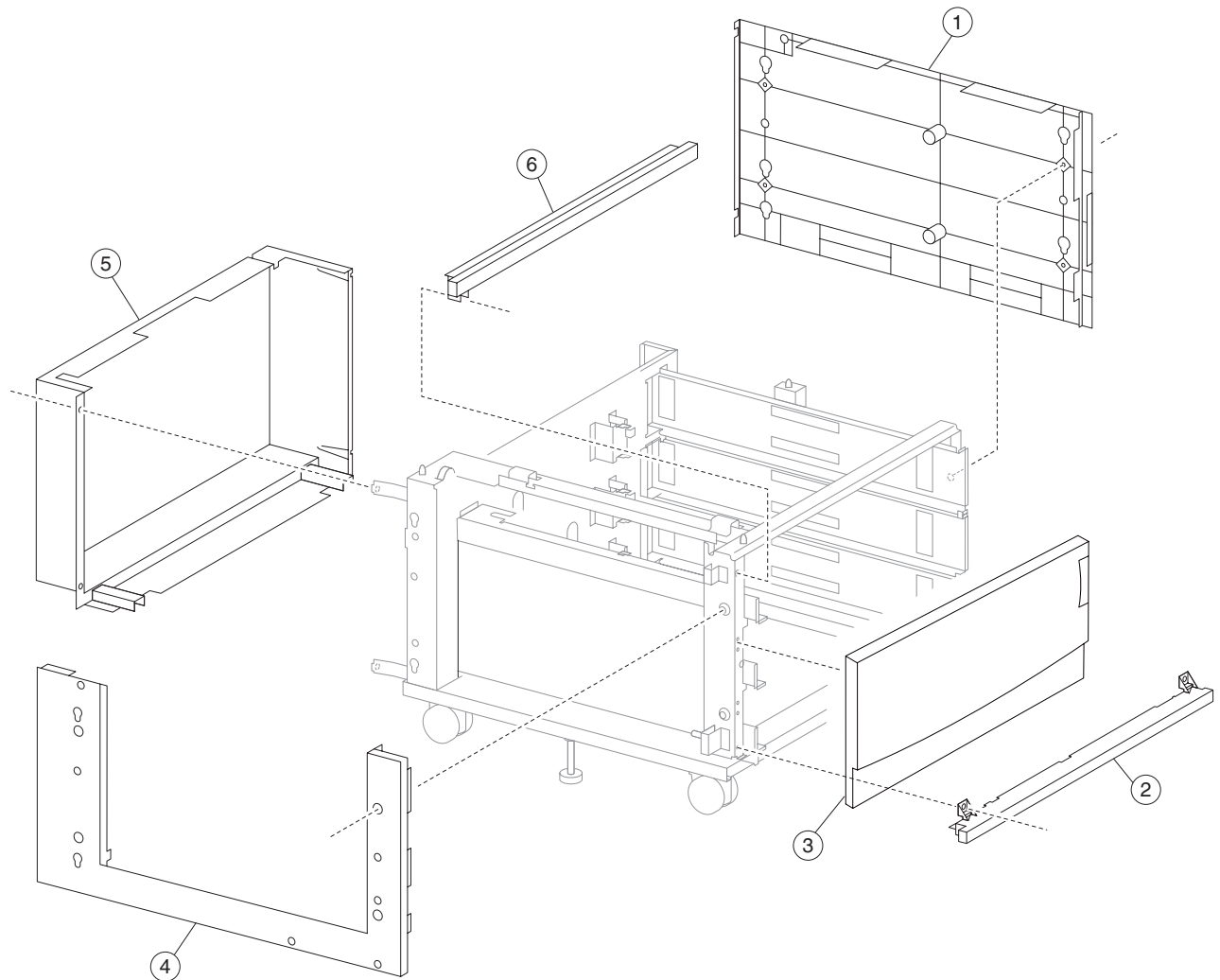
Asm Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4094	1	1	Complete scanner assembly (this comes assembled)
2	40X2223	2	1	Sensor (scanner HP)
3	40X2229	1	1	Scanner drive motor tension spring
4	40X3868	1	1	Scanner drive motor assembly
5	40X2226	1	1	Scanner drive belt

Assembly 49: MFP rack



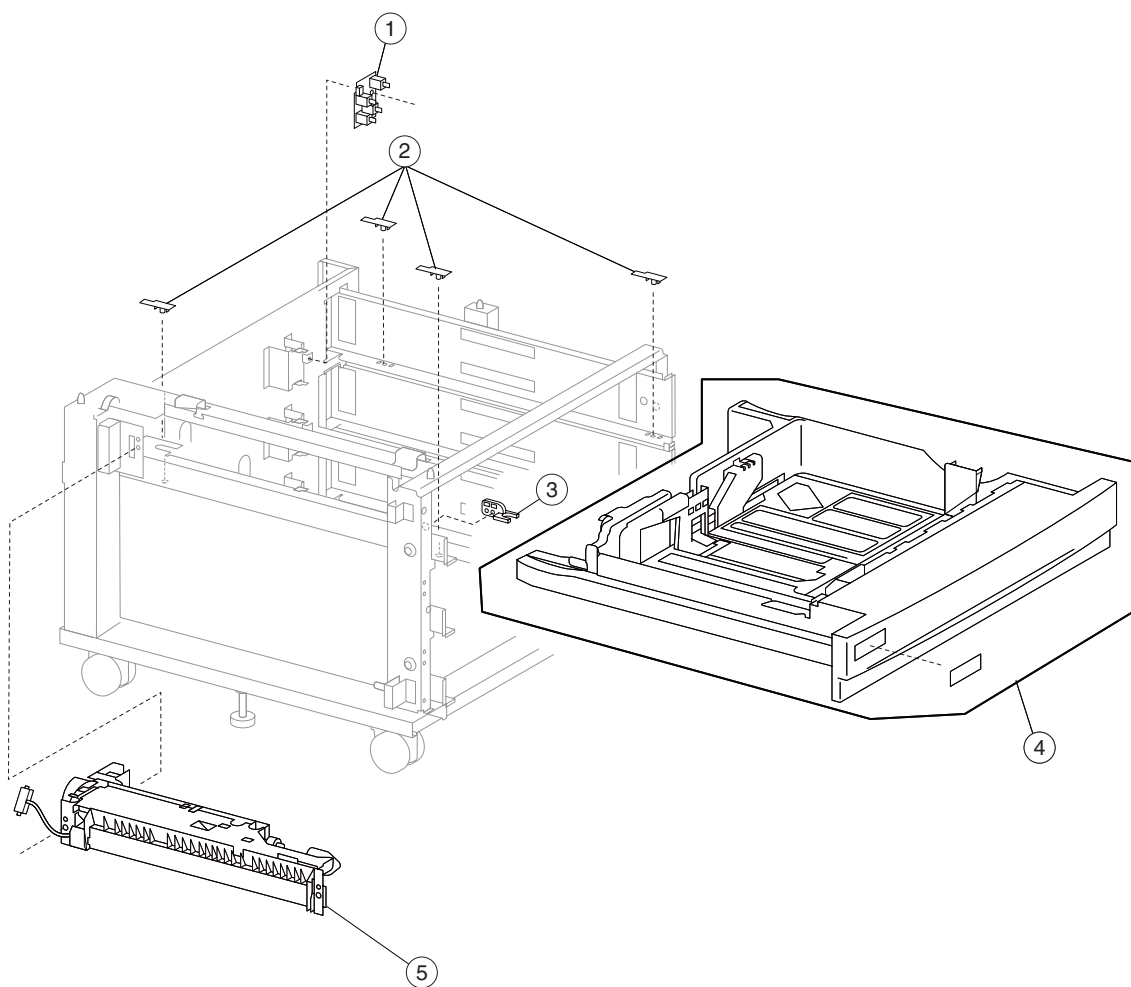
Asm Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X3878	2	1	Main stand caster
2	40X4097	1	1	Main stand attach bracket

## Assembly 50: 1TM covers



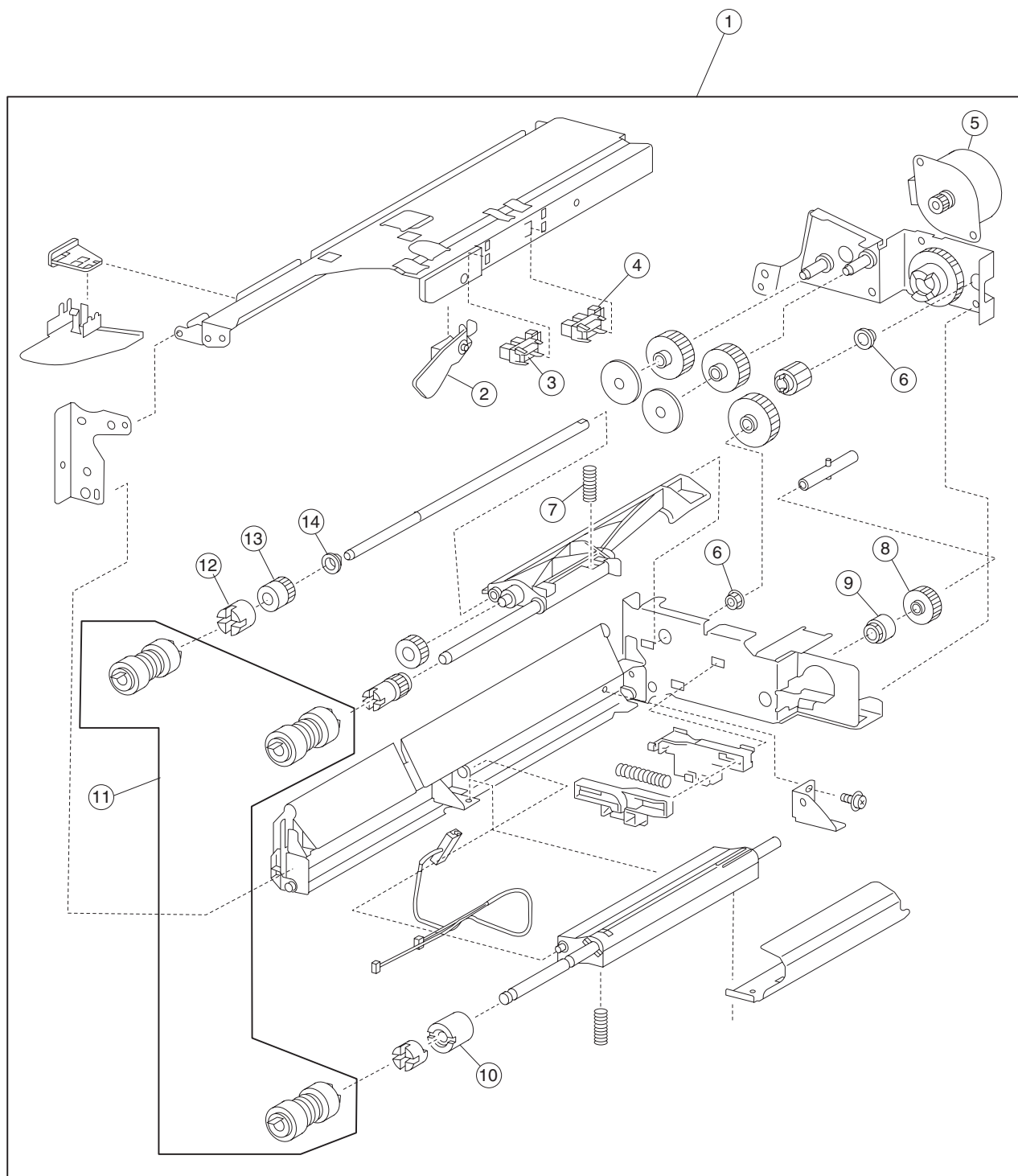
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3825	1	1	Tray module right cover
2	40X3824	1	1	Tray module foot cover
3	40X4142	1	1	1TM front door assembly
4	40X3826	2	1	Tray module left cover
5	40X3827	1	1	Tray module rear cover
6	40X3823	1	1	Tray module top cover

## Assembly 51: 1TM feed unit assembly



## 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 <ul style="list-style-type: none"> <li>• Media tray assembly</li> <li>• #1 label</li> <li>• #2 label</li> <li>• #3 label</li> <li>• #4 label</li> <li>• Instruction label</li> </ul>
5	40X3679	1	1	Media feed unit assembly

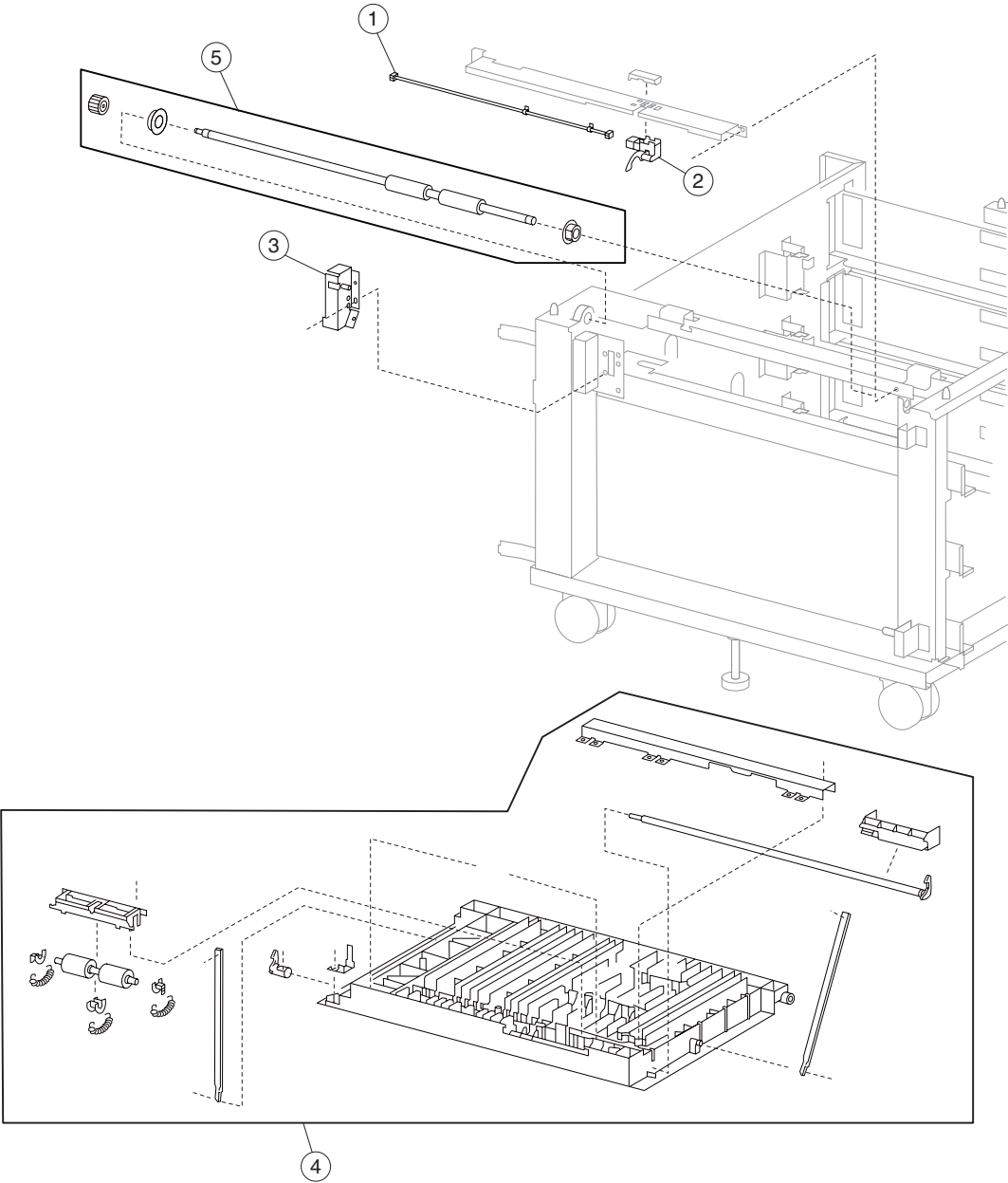
**Assembly 52: 1TM media feed unit**



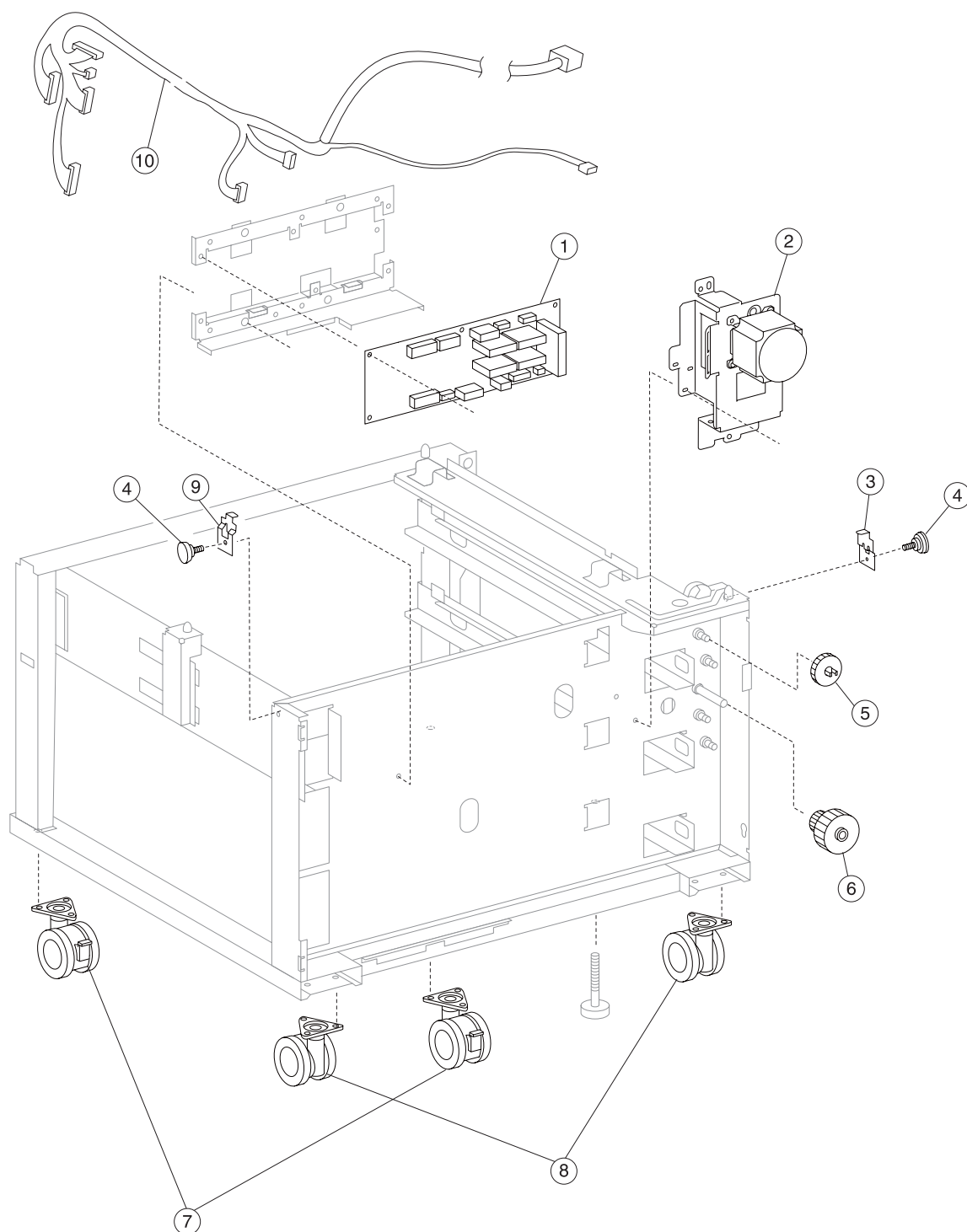
## Assembly 52: 1TM media feed unit

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 <ul style="list-style-type: none"> <li>• Feed roll (2)</li> <li>• Pick roll (2)</li> <li>• Separation roll (2)</li> </ul>
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 53: 1TM left door

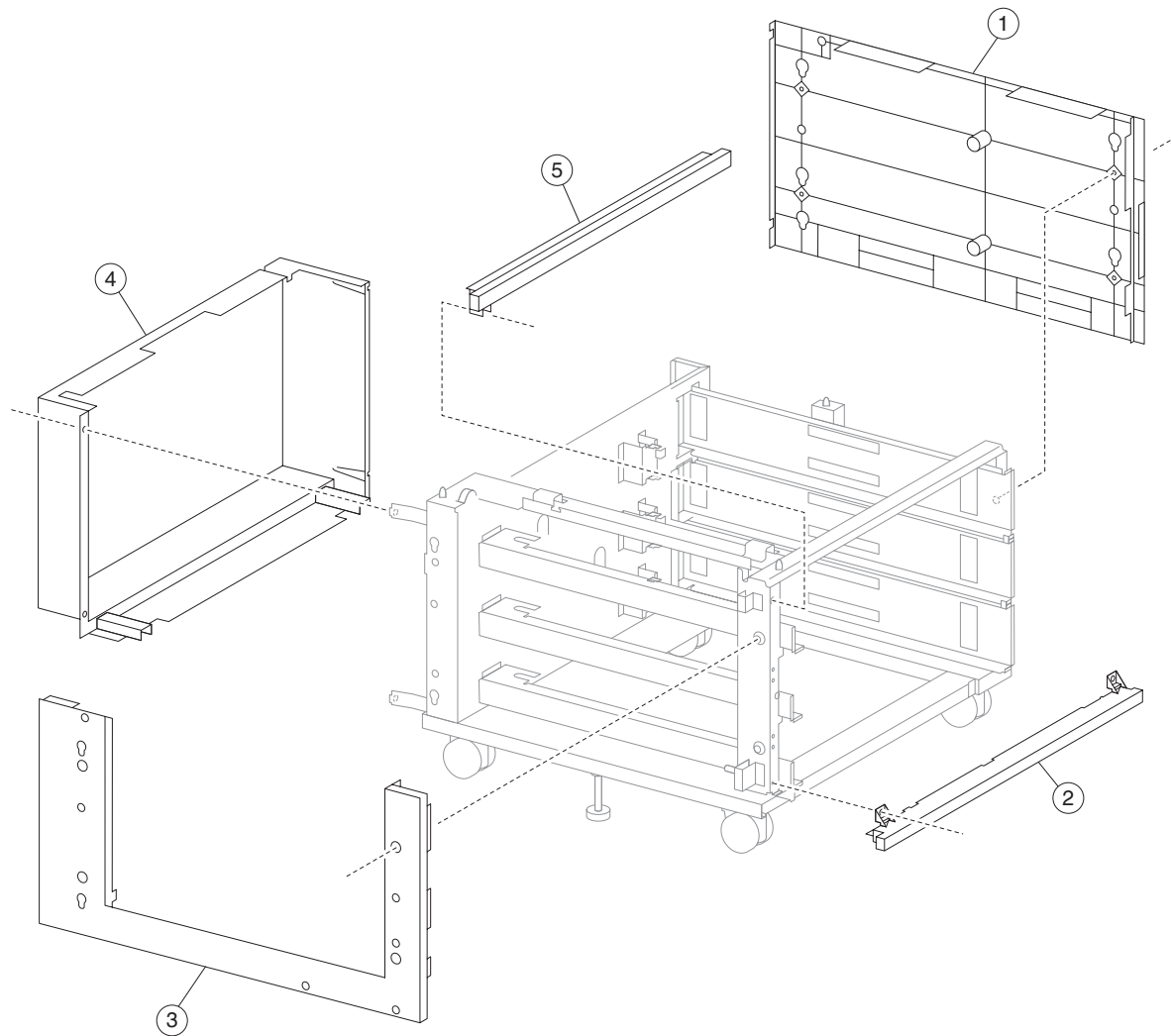


Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3818	1	1	Tray 2 feed-out sensor cable assembly
2	40X3817	1	1	Sensor (tray 2 feed-out)
3	40X3821	1	1	Switch (tray module left door interlock)
4	40X4141	1	1	1TM left door assembly (this comes assembled)
5	40X4119	1	1	Tray module media transport roll assembly

**Assembly 54: 1TM drive and electrical**

**Assembly 54: 1TM drive and electrical**

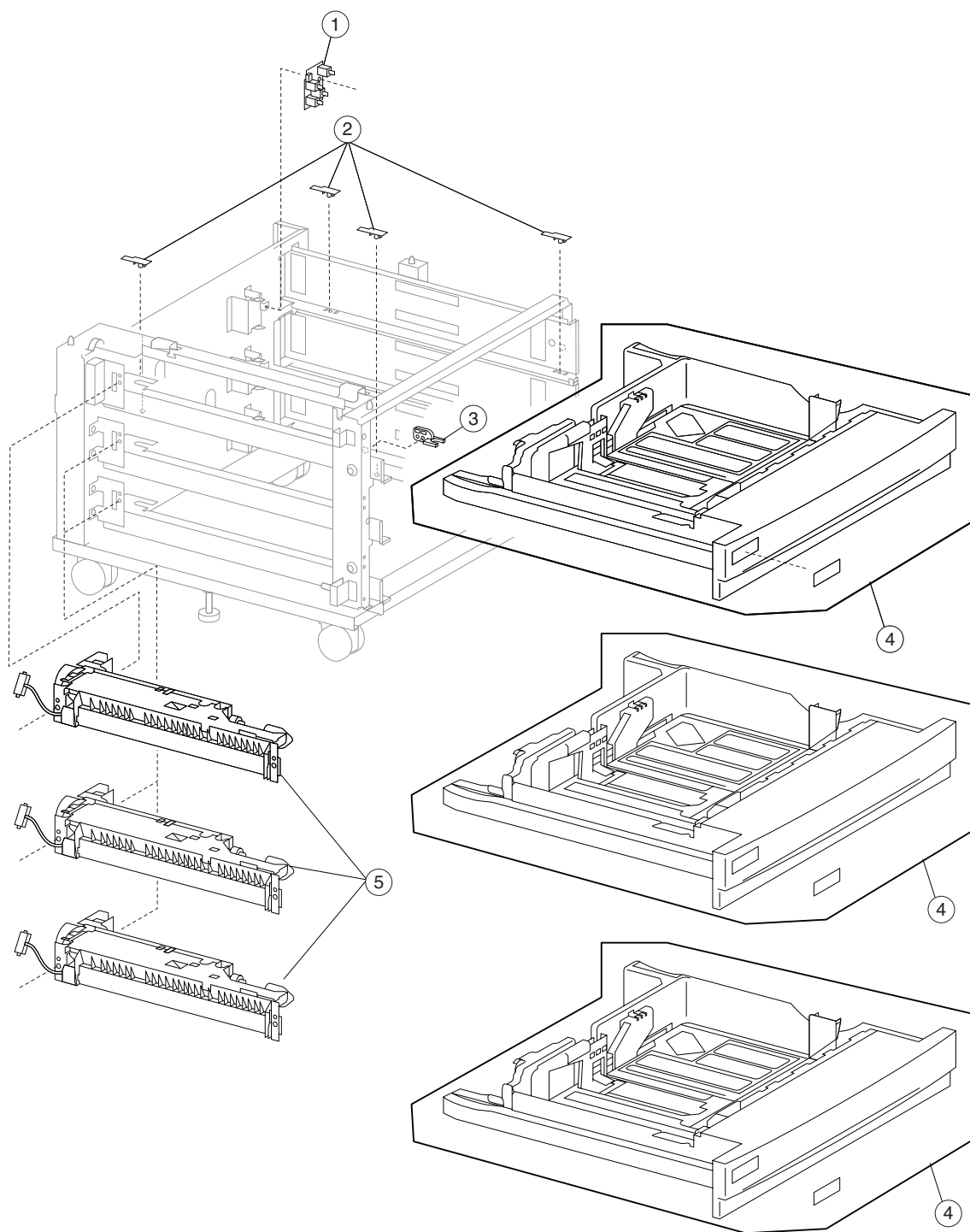
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X4152	1	1	1TM controller card assembly
2	40X3812	1	1	Tray module drive motor assembly
3	40X4068	1	1	Tray module left retaining bracket
4	40X4034	2	1	Tray module retainer screw
5	40X3815	1	3	Media transport gear 33T
6	40X3813	1	1	Media transport 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 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

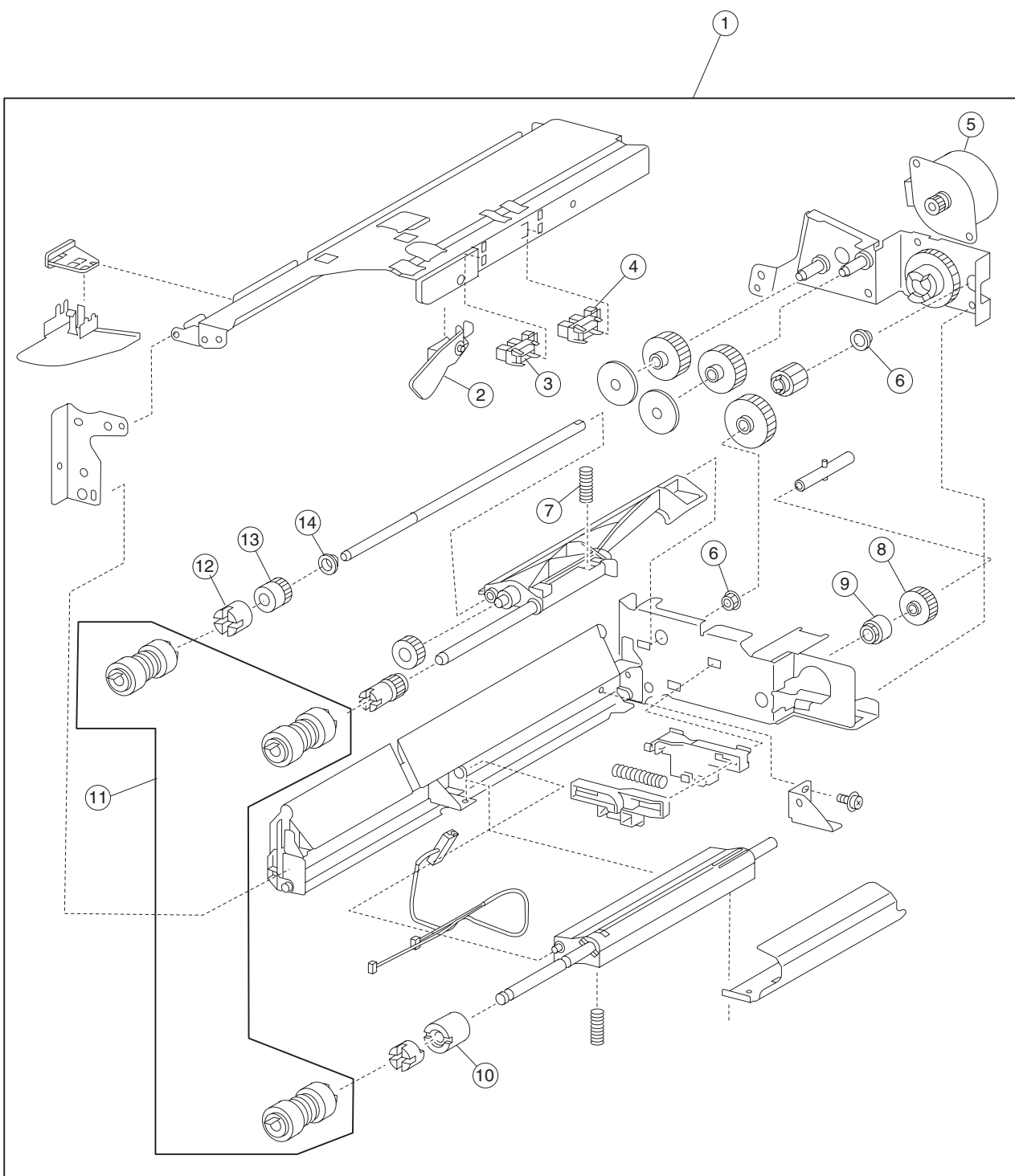
## Assembly 56: 3TM feed unit assembly



**Assembly 56: 3TM feed unit assembly**

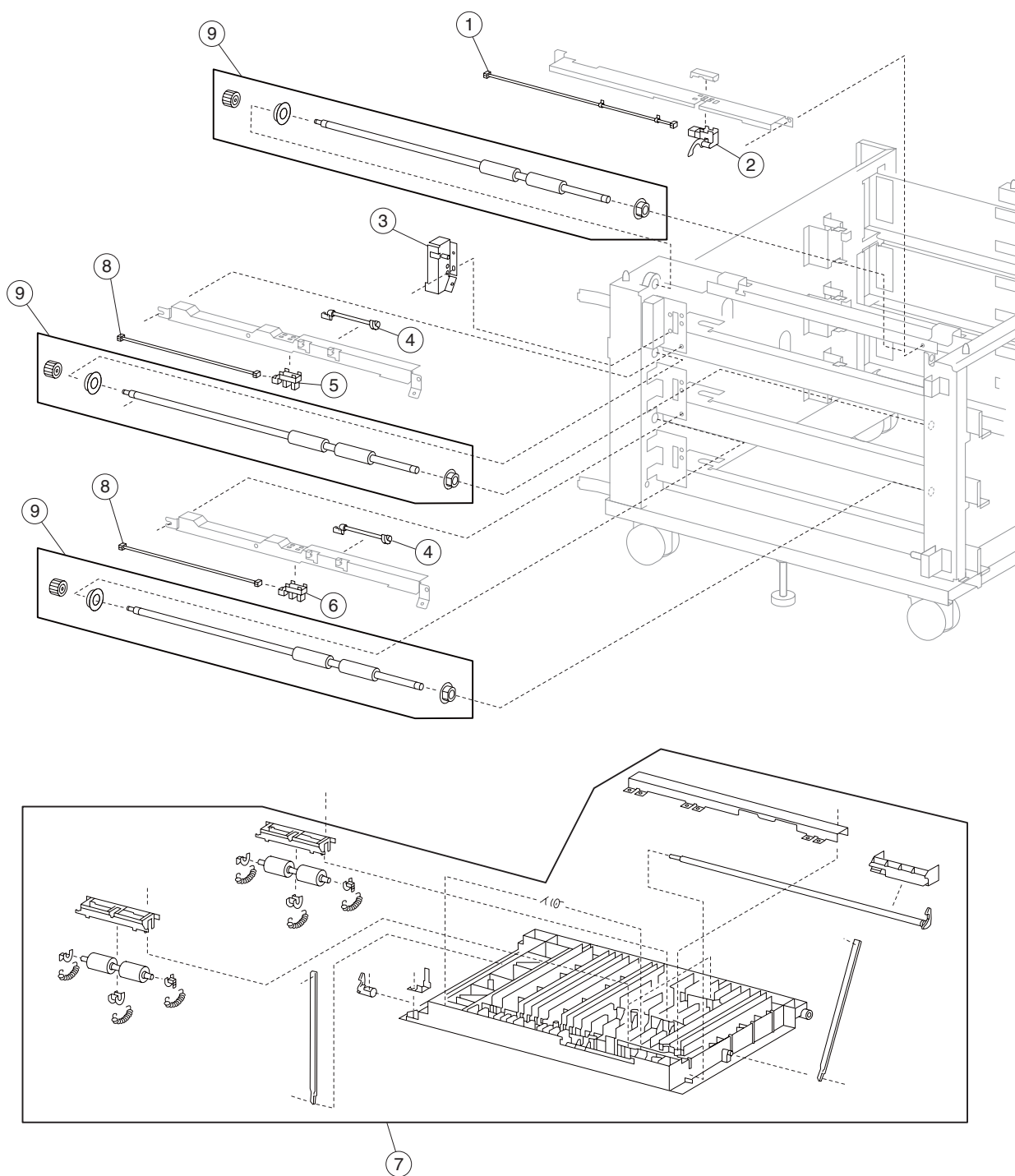
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3677	3	1	Switch (media size)
2	40X3676	6	1	Media tray slide
3	40X3675	3	1	Media tray catch
4	40X3678	3	6	Media tray assembly kit <ul style="list-style-type: none"> <li>• Media tray assembly</li> <li>• #1 label</li> <li>• #2 label</li> <li>• #3 label</li> <li>• #4 label</li> <li>• Instruction label</li> </ul>
5	40X3679	1	1	Media feed unit assembly



**Assembly 57: 3TM media feed unit**

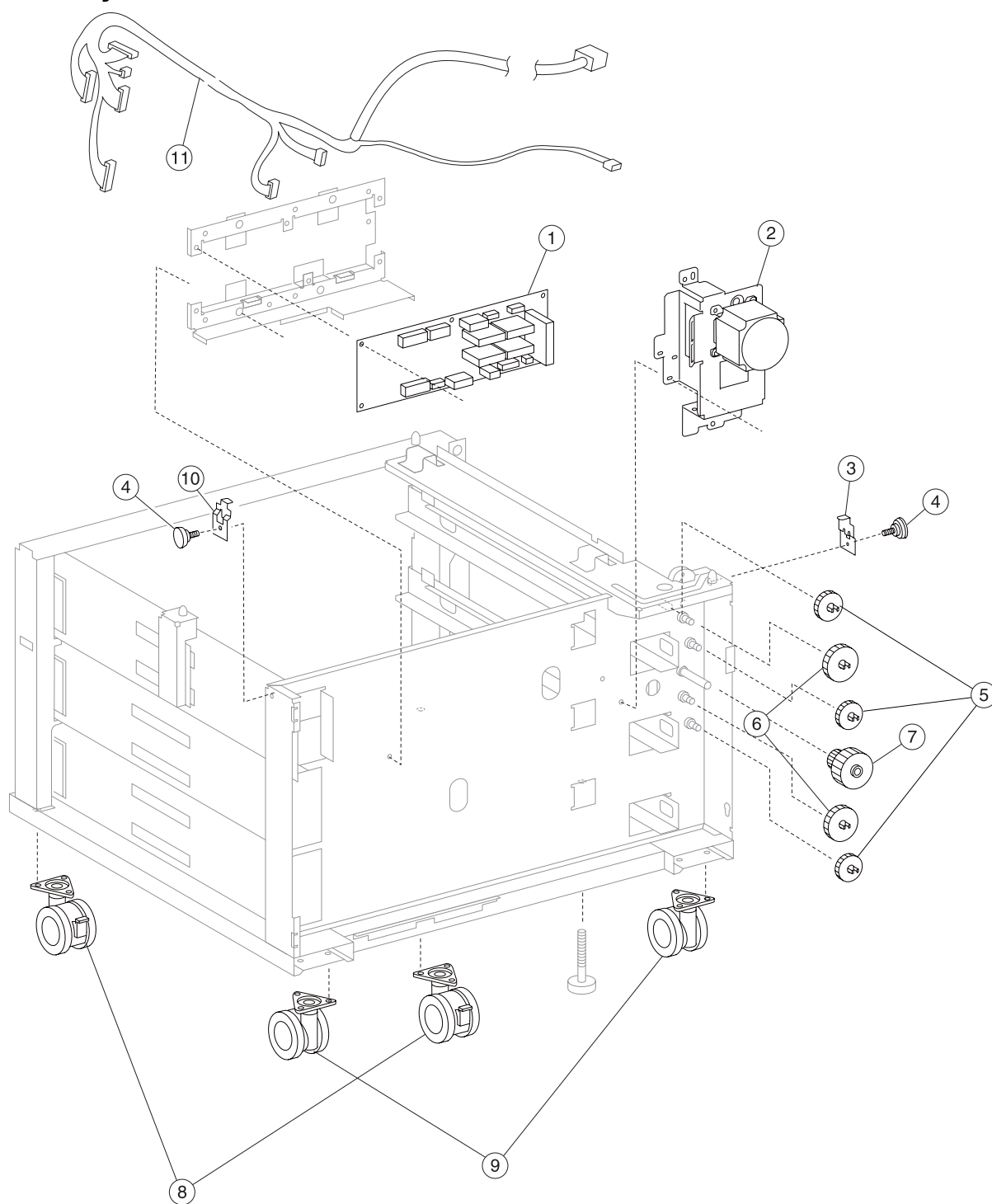
**Assembly 57: 3TM Media feed unit**

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 <ul style="list-style-type: none"> <li>• Feed roll (2)</li> <li>• Pick roll (2)</li> <li>• Separation roll (2)</li> </ul>
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 58: 3TM left door**

**Assembly 58: 3TM left door**

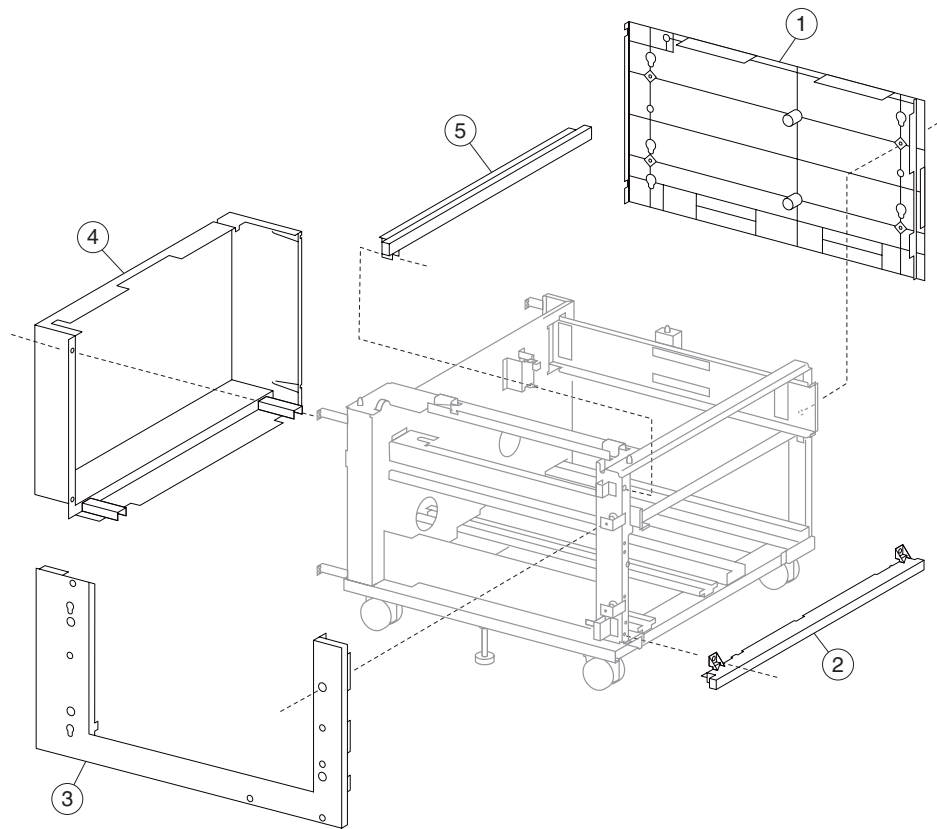
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3818	1	1	Tray 2 feed-out sensor cable assembly
2	40X3817	1	1	Sensor (tray 2 feed-out)
3	40X3821	1	1	Switch (tray module left door interlock)
4	40X3819	1	1	Tray 3/4 feed-out sensor actuator
5	40X3820	2	1	Sensor (tray 3 feed-out)
6	40X3820	2	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 59: 3TM drive and electrical**

**Assembly 59: 3TM drive and electrical**

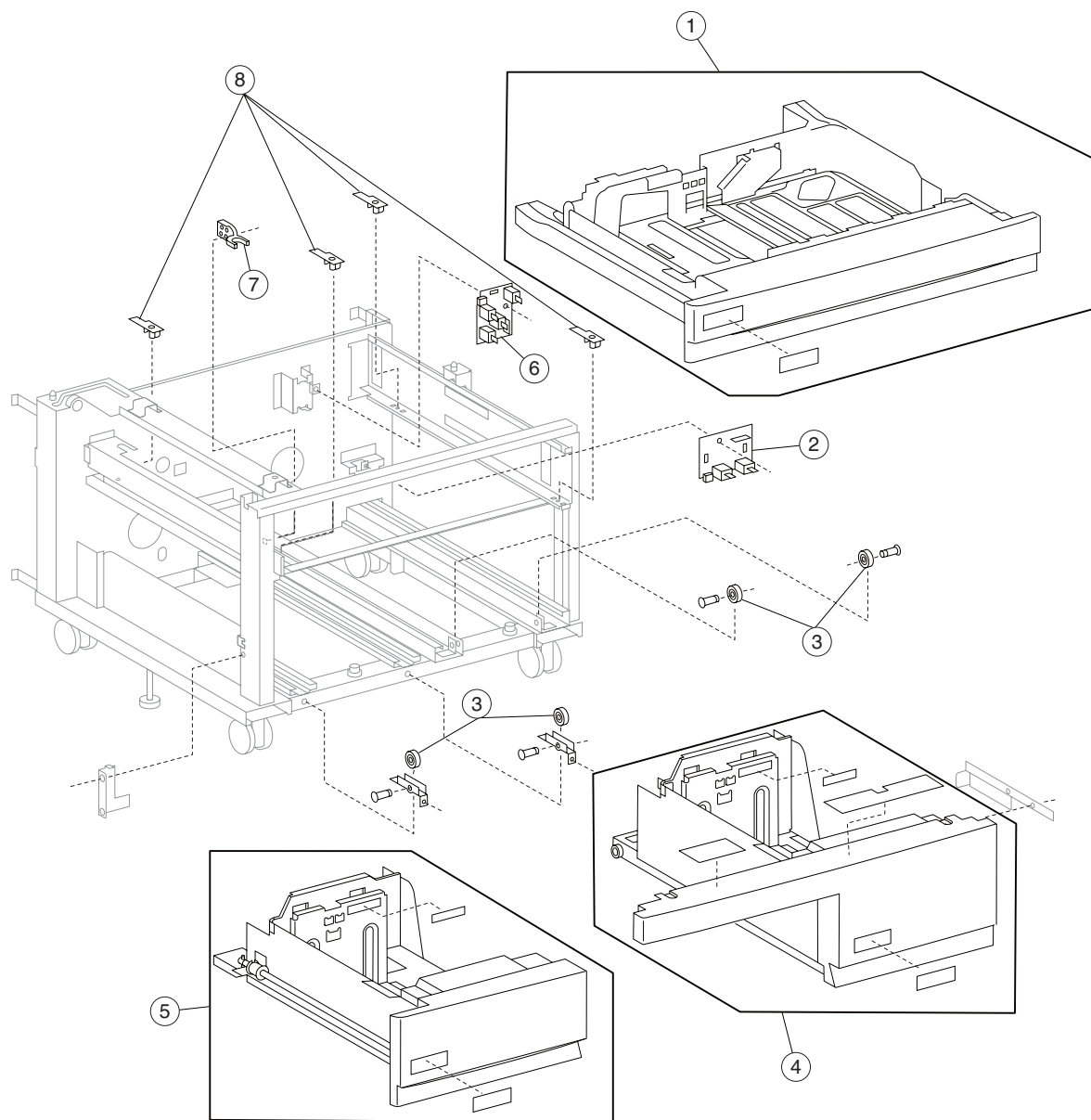
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3811	1	1	3TM controller card assembly
2	40X3812	1	1	Tray module drive motor assembly
3	40X4068	1	1	Tray module left retaining bracket
4	40X4034	2	1	Tray module retainer screw
5	40X3815	1	3	Media transport gear 33T
6	40X3813	1	1	Media transport 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 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

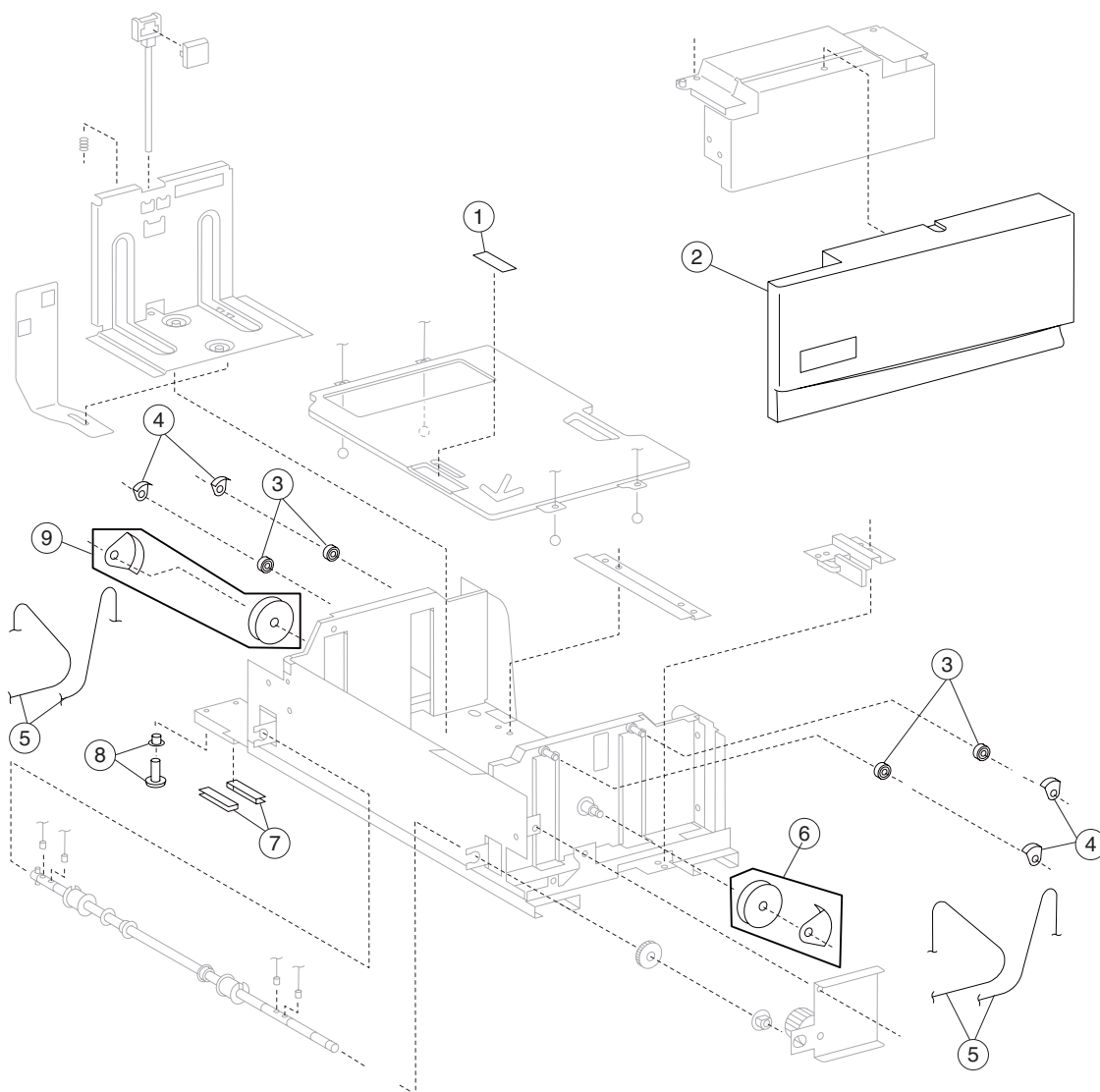
## Assembly 61: TTM media trays





## Assembly 61: TTM media trays

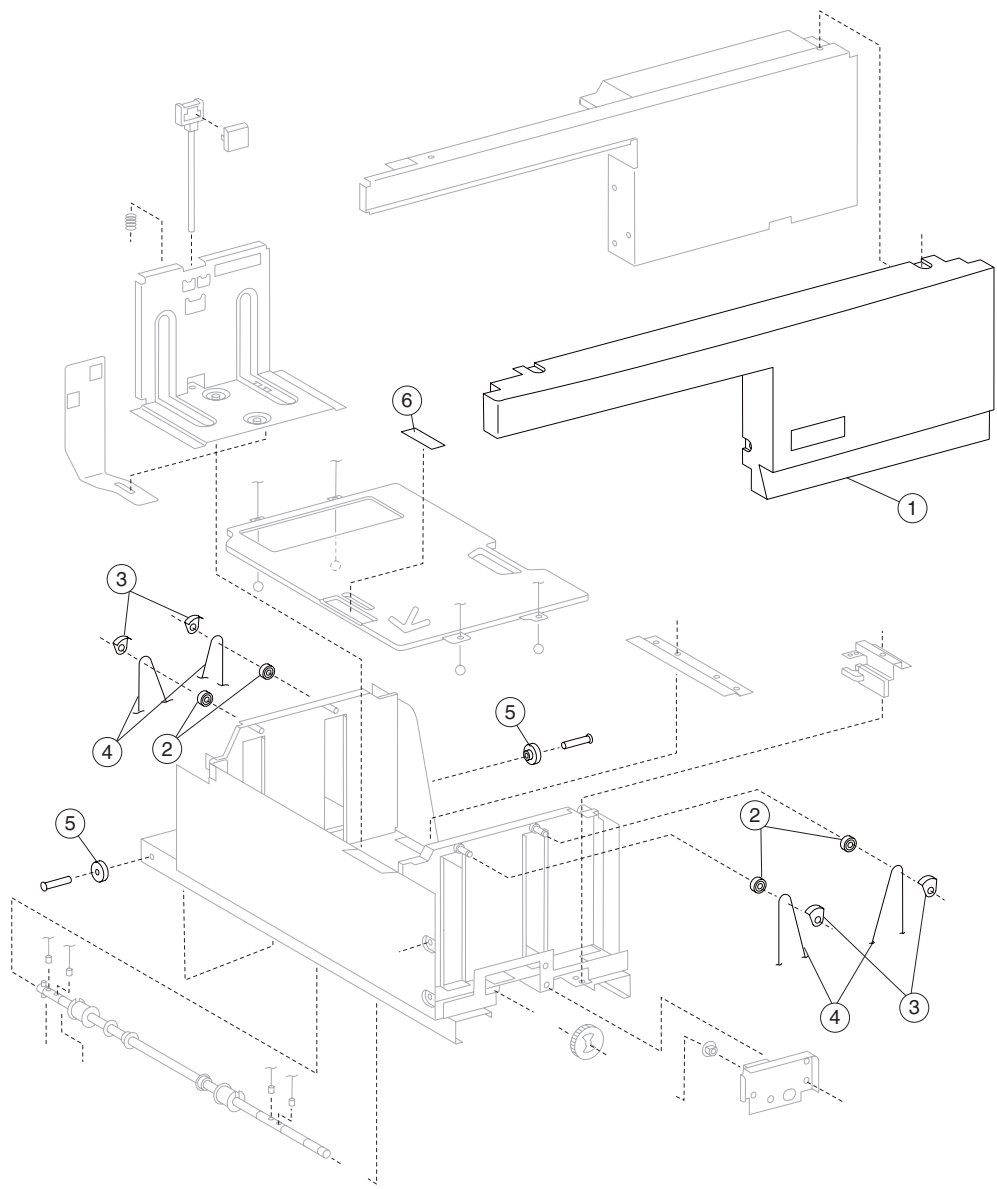
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3678	3	6	Media tray assembly kit <ul style="list-style-type: none"> <li>• Media tray assembly</li> <li>• #1 label</li> <li>• #2 label</li> <li>• #3 label</li> <li>• #4 label</li> <li>• Instruction label</li> </ul>
2	40X3830	2	1	Switch (TTM media size)
3	40X3831	4	1	TTM tray support roll
4	40X3829	1	3	TTM media tray 4 assembly kit <ul style="list-style-type: none"> <li>• TTM media tray 4</li> <li>• #4 label</li> <li>• Instruction label</li> </ul>
5	40X3828	1	2	TTM media tray 3 assembly kit <ul style="list-style-type: none"> <li>• TTM media tray 3</li> <li>• #3 label</li> <li>• Instruction label</li> </ul>
6	40X3677	3	1	Switch (media size)
7	40X3675	3	1	Media tray catch
8	40X3676	2	1	Media tray slide

**Assembly 62: TTM media tray 3**

## Assembly 62: TTM tray 3

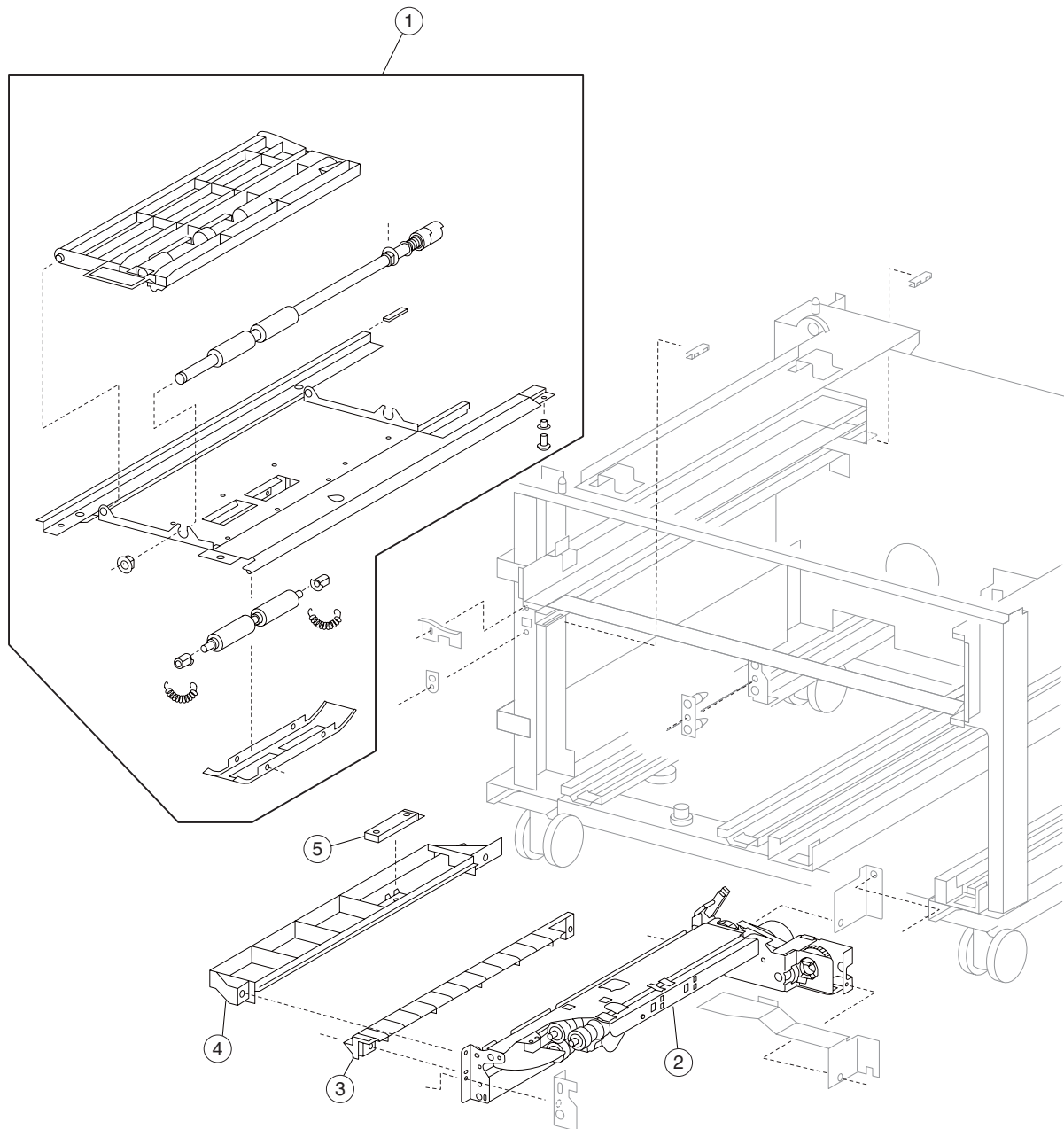
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X0711	2	1	TTM tray separation pad
2	40X3832	1	1	TTM tray 3 front cover
3	40X4126	4	1	TTM tray lift idler pulley
4	40X4127	4	1	TTM tray lift idler pulley guide
5	40X4084	4	1	TTM tray 3 lift cable
6	40X0708	2	1	TTM large idler pulley kit <ul style="list-style-type: none"> <li>• TTM large idler pulley</li> <li>• TTM large idler pulley guide</li> </ul>
7	40X3834	2	1	TTM tray 3 slide strip
8	40X3835	2	1	TTM tray 3 slide button

Assembly 63: TTM media tray 4



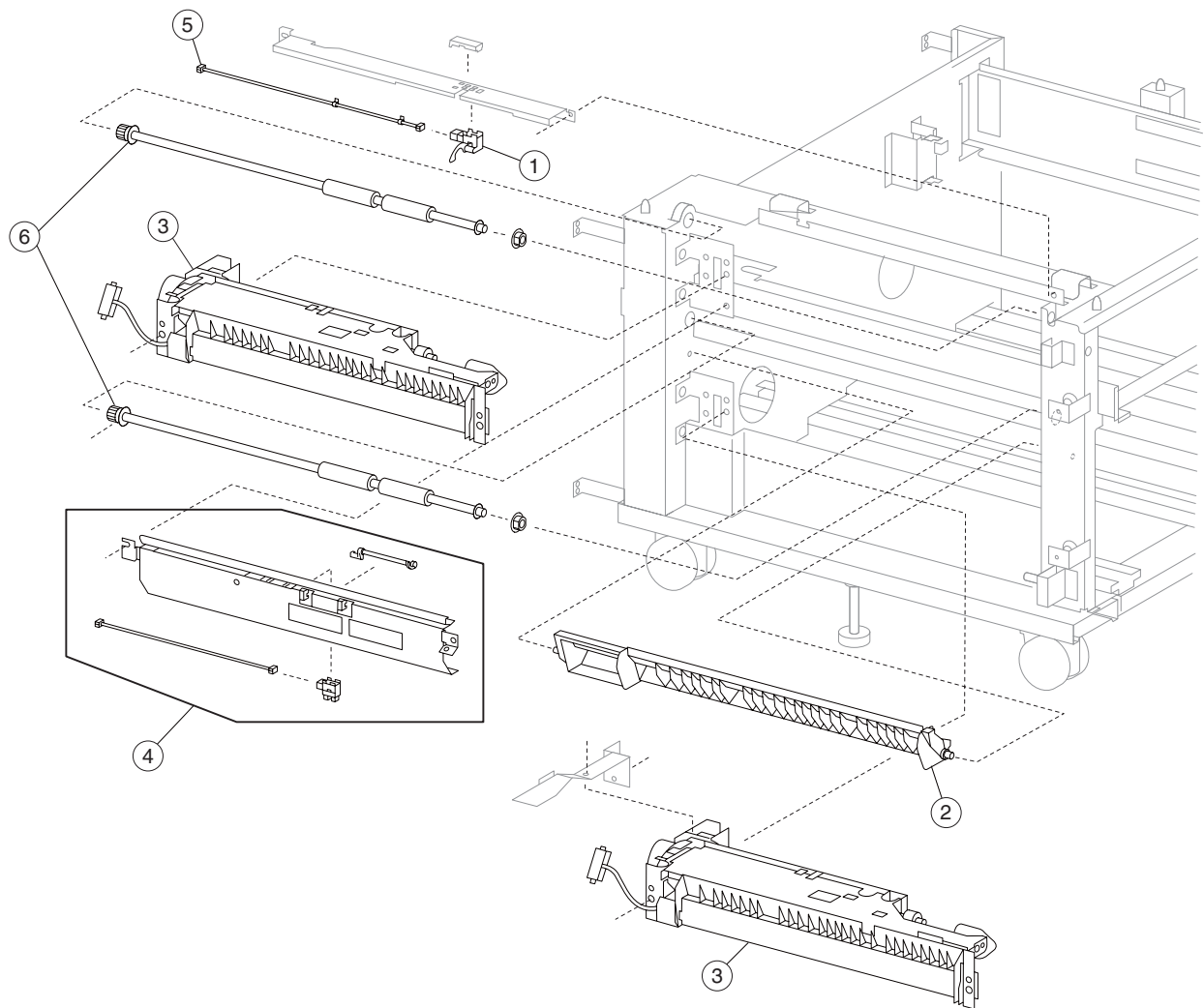
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3836	1	1	TTM tray 4 front cover
2	40X4126	4	1	TTM tray lift idler pulley
3	40X4127	4	1	TTM tray lift idler pulley guide
4	40X4085	4	1	TTM tray 4 lift cable
5	40X0723	1	2	TTM tray 4 rear support roll (2)
6	40X0711	2	1	TTM tray separation pad

## Assembly 64: TTM media tray 4 transport



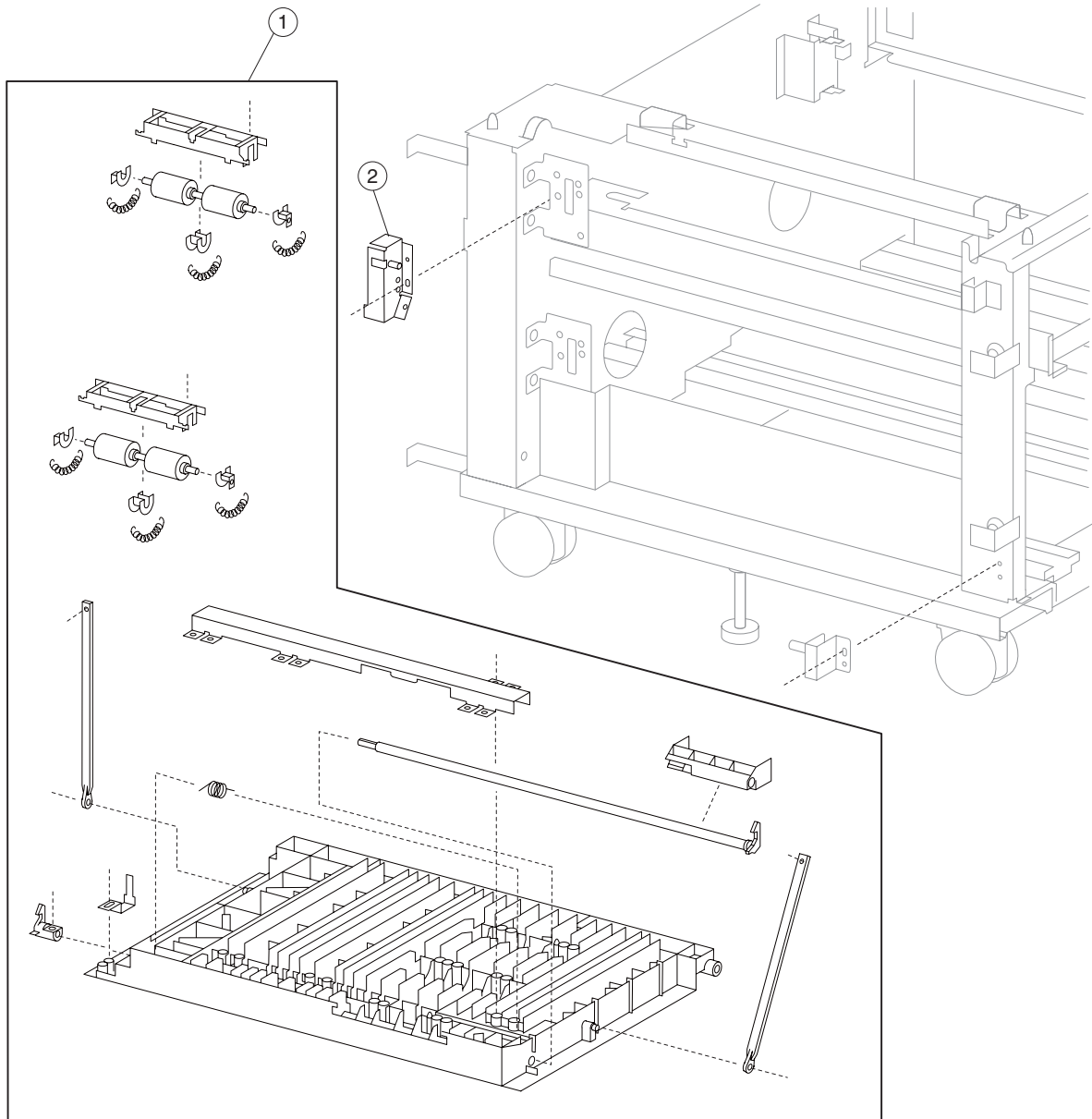
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3838	1	1	TTM tray 4 media transport assembly
2	40X3679	1	1	Media feed unit assembly
3	40X3841	1	1	TTM tray 4 lower media guide
4	40X3840	1	1	TTM tray 4 upper media guide
5	40X3694	2	1	Sensor (tray 4 feed-out)

Assembly 65: TTM media transport



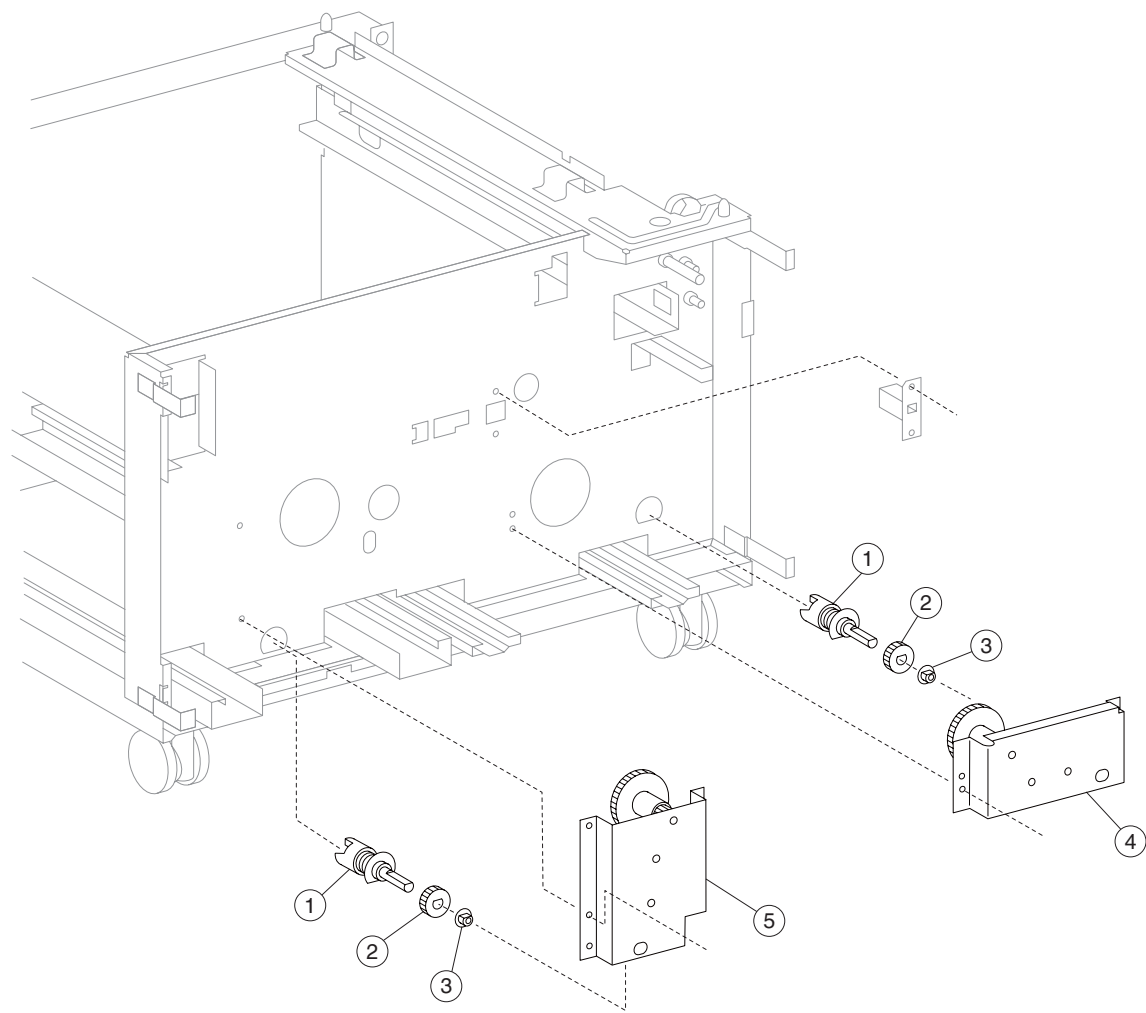
Asm-index	Part number	FRUs/ mach	Units/ FRU	Description
1	40X3817	2	1	Sensor (tray 2 feed-out)
2	40X3843	1	1	TTM vertical turn guide
3	40X3679	1	1	Media feed unit assembly
4	40X3842	1	1	Tray 3 feed-out sensor assembly (this comes assembled)
5	40X3818	2	1	Tray 2 feed-out sensor cable assembly
6	40X4119	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)

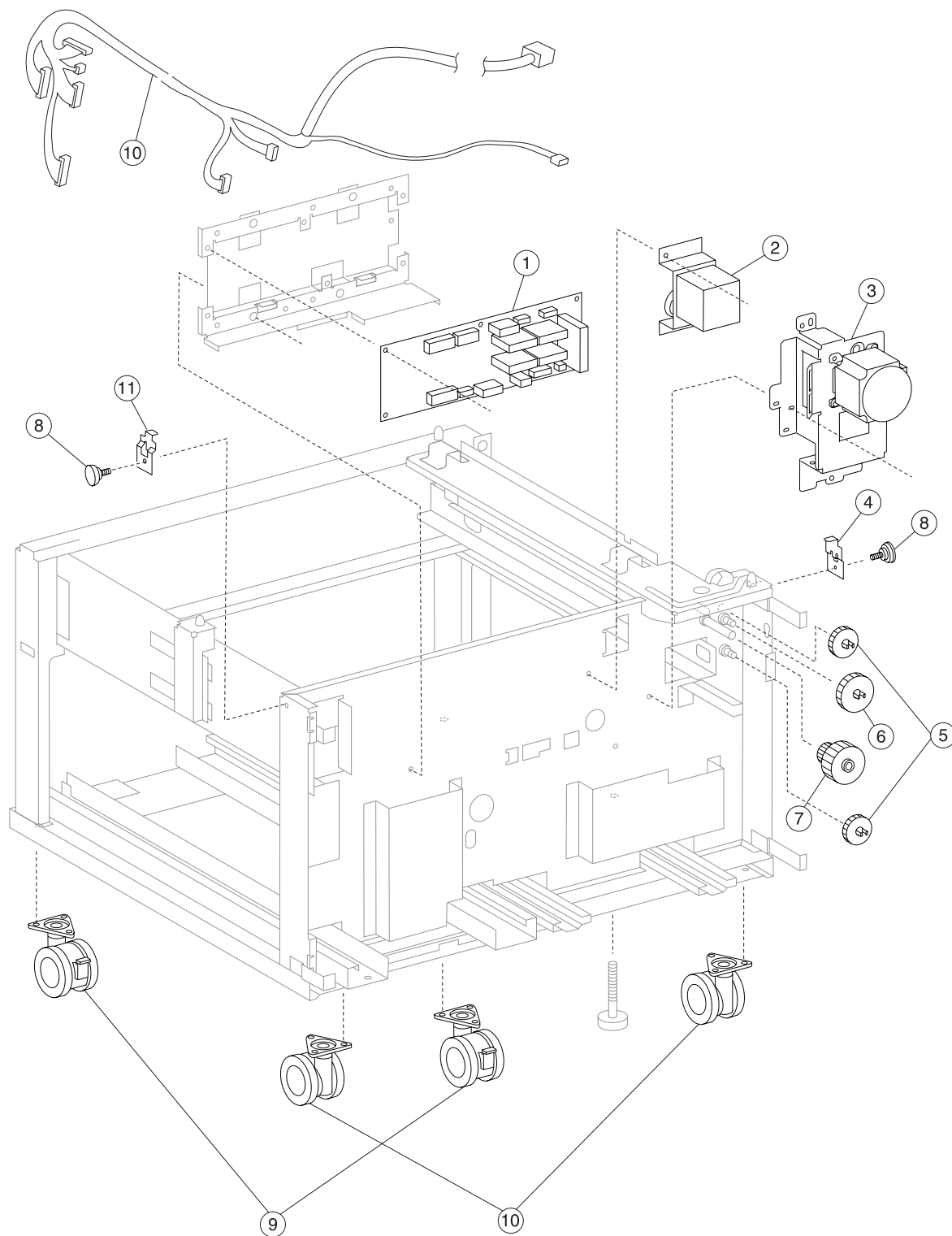
Assembly 67: TTM tray lift drive



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



**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 69: Miscellaneous

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
NS	40X4031	1	15	100K printer maintenance kit (110V) includes: <ul style="list-style-type: none"> <li>• 110V fuser unit assembly</li> <li>• Transfer belt cleaning assembly</li> <li>• 2nd transfer roll assembly</li> <li>• Feed rolls (4 each)</li> <li>• Pick rolls (4 each)</li> <li>• Separation rolls (4 each)</li> </ul>
NS	40X4093	1	15	100K printer maintenance kit (220V) includes: <ul style="list-style-type: none"> <li>• 220V fuser unit assembly</li> <li>• Transfer belt cleaning assembly</li> <li>• 2nd transfer roll assembly</li> <li>• Feed rolls (4 each)</li> <li>• Pick rolls (4 each)</li> <li>• Separation rolls (4 each)</li> </ul>
NS	40X4032	1	9	600K printer maintenance kit includes: <ul style="list-style-type: none"> <li>• (4) developer unit assemblies (empty)</li> <li>• C developer carrier</li> <li>• Y developer carrier</li> <li>• M developer carrier</li> <li>• K developer carrier</li> <li>• Transfer belt unit assembly</li> </ul>
NS	40X4033	1	2	Maintenance kit (ADF) <ul style="list-style-type: none"> <li>• Feed/pick roll assembly</li> <li>• Separation guide assembly</li> </ul>
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	Printcrypton 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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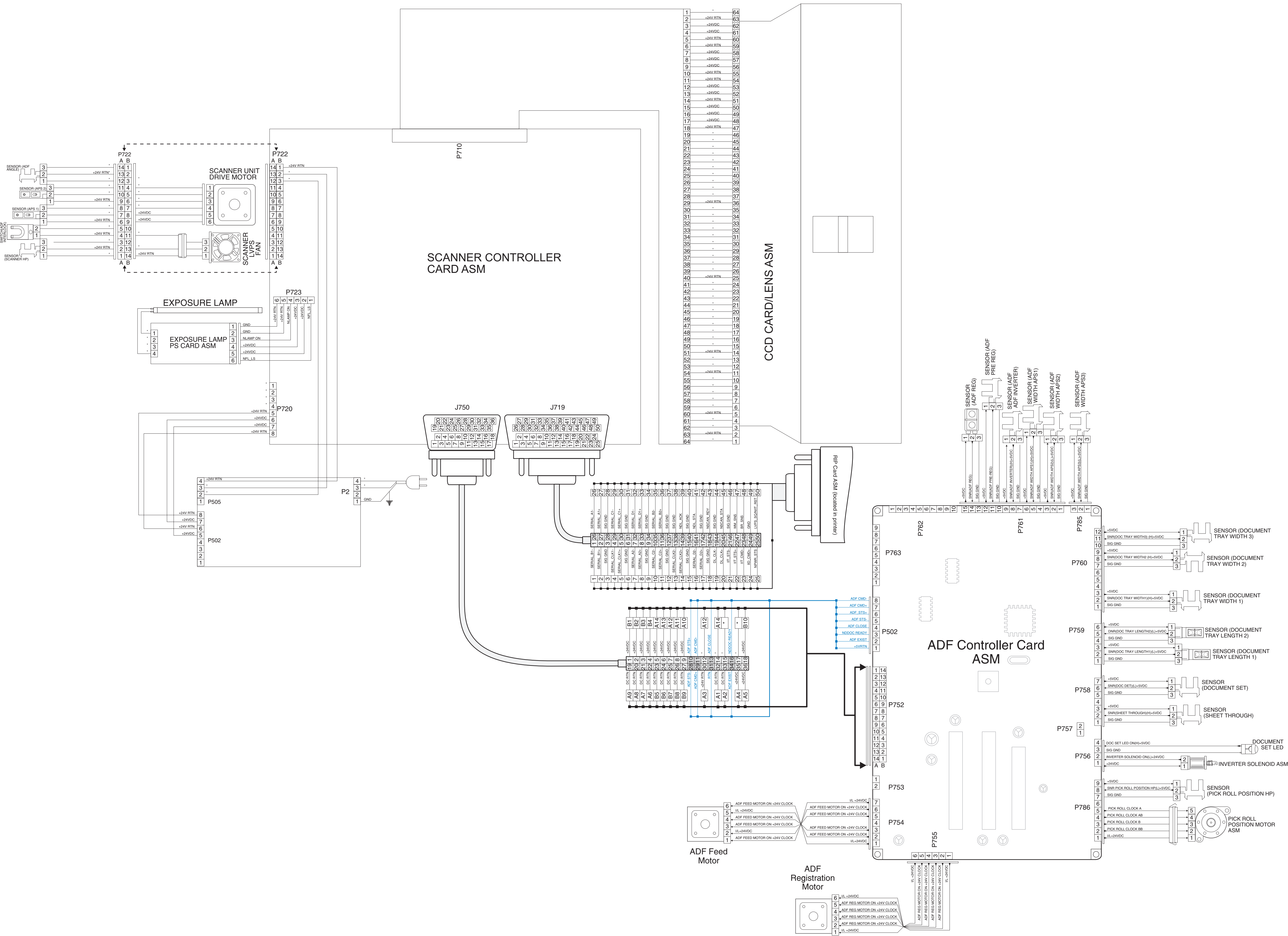
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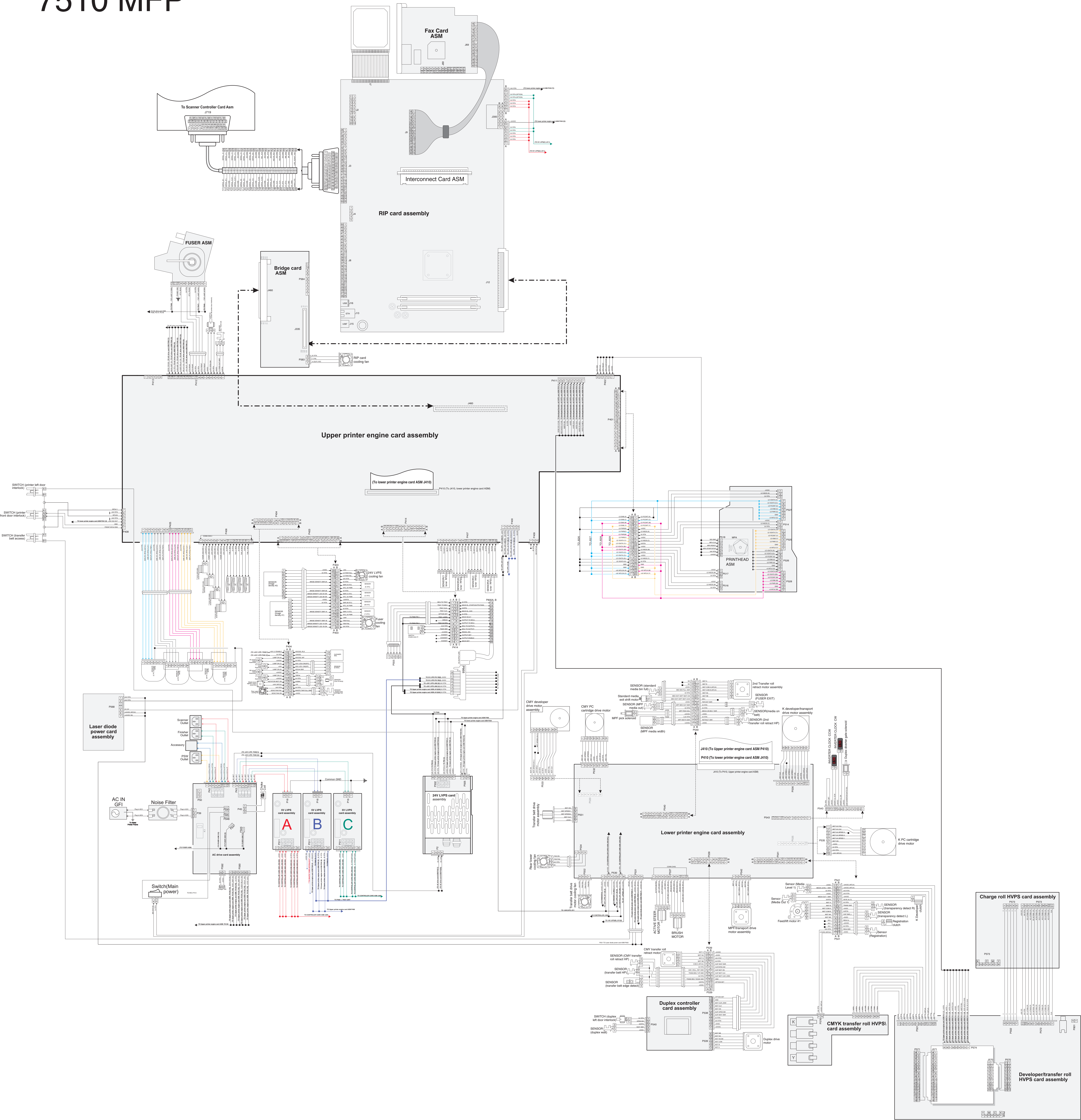


# 7510 MFP Scanner/ADF





# 7510 MFP



# 5057 AND 7510 Tray Modules

