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## *Service Manual*

**Lexmark™ X850e, X852e, and X854e MFP**

**7500-XXX**

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## Notices

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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.

### Laser

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

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

### Avis relatif à l'utilisation de laser

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

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

### Avvertenze sui prodotti laser

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

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

---

## Avisos sobre el láser

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

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

---

## Declaração sobre Laser

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

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

---

## Laserinformatie

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

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

---

## Lasermeddelelse

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

---

## 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 määrätyksiä voimakkaammalle säteilylle kirjoittimen normaalin toiminnan, käyttäjän tekemien huoltotoimien tai muiden huoltotoimien yhteydessä.

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

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

---

## Laser-notis

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

Laserprodukter i Klass I anses ej hälsovådliga. Skrivaren har en inbyggd laser av Klass IIIb (3b) som består av en laserenhet av gallium-arsenid på 5 milliwatt som arbetar i våglängdsområdet 770-795 nanometer.

Lasersystemet och skrivaren är utformade så att det aldrig finns risk för att någon person utsätts för laserstrålning över Klass I-nivå vid normal användning, underhåll som utförs av användaren eller annan föreskriven serviceåtgärd.

---

## Laser-melding

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

Klasse I-laserprodukter er ikke å betrakte som farlige. Skriveren inneholder internt en klasse IIIb (3b)-laser, som består av en gallium-arsenlaserenhet som avgir stråling i bølglengdeområdet 770-795 nanometer.

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

---

## Avís sobre el Làser

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

Els productes làser de classe I no es consideren perillosos. Aquesta impressora conté un làser de classe IIIb (3b) d'arseniür de gal.li, nominalment de 5 mil.liwats, i funciona a la regió de longitud d'ona de 770-795 nanòmetres. El sistema làser i la impressora han sigut concebuts de manera que mai hi hagi exposició a la radiació làser per sobre d'un nivell de classe I durant una operació normal, durant les tasques de manteniment d'usuari ni durant els serveis que satisfacin les condicions prescrites.

---

#### レーザーに関するお知らせ

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

クラスIのレーザー製品には危険性はないと考えられています。このプリンターはクラスIII b(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。


---

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

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


---

## Safety information

- The 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.


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## Informações de Segurança

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




## Informació de Seguretat

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

## 안전 사항

- 본 제품은 원래 설계 및 특정 구성품에 대한 테스트 결과로 안정성이 입증된 것입니다. 따라서 무허가 교체부품을 사용하는 경우에는 제조업체에서 안전에 대한 책임을 지지 않습니다.
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- 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

Service information for the Lexmark X850e, X852Ee, and X854e is contained within two service manuals:

- *MFP Service Manual*—Contains specific service information for the MFP and includes the options error codes.
- *Options Service Manual*—Contains specific service information for the 2X 500-Sheet Drawer (2TM), High Capacity Feeder, and Finisher.

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 are required, as well as general environmental and safety instructions.
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 adjustments and removing and installing FRUs.
5. **Component locations** uses illustrations to identify the component 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.

---

## Definitions

**Note:** A note provides additional information.

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

**CAUTION:** A caution identifies something that might cause a servicer harm.



**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.

# 1. General information

The Lexmark™ X850e, X852e, and X854e MFP are high-performance departmental monochrome MFPs with reliable, high-capacity input designed to meet the needs of rigorous business applications. Automatic 2-sided printing is included as a standard features. This manual is a standard service manual containing information required for maintenance.

## Printer technology

- Monochrome laser

## Print speed

- X850e: Up to 35 ppm
- X852e: Up to 45 ppm
- X854e: Up to 55 ppm

## Maximum resolution

- Up to 1200 x 1200 dpi

## Time to first page

- As fast as 6.8 seconds

## Processor

- 625 MHz

## Memory

- Standard: 256 MB
- Maximum: 768 MB
- Hard Drive: 80+GB

## Standard connectivity

- USB, Parallel and Ethernet

## Optional connectivity

- Parallel
- Serial
- Wireless 802.11g adapter
- Coax-Twinax adapter

## Operating systems – printer driver

- Microsoft® Windows®
- Linux®
- Mac® OS
- Novell
- UNIX

## Emulation

- PCL® 6 emulation
- PostScript® 3
- PPDS Migration Tool

## Fonts

- PCL 6 emulation
  - Scalable: 89 (84 plus 5 special)
  - Bit mapped: 2
- PostScript 3 emulation
  - Scalable: 158
- PPDS
  - Scalable: 39
  - Bit mapped: 5
- PDF 1.5

## Paper capacity

- Input
  - Standard: 3 sources for 3,100 sheets
  - Maximum: 4 sources for 5,100 sheets
- Output
  - Standard: 1 bin for 500 sheets
  - Maximum: 2 bins – one with finisher -- for 3,500 sheets

## Paper handling

- Input
  - Standard
    - 100-sheet multipurpose feeder
    - Two 500-sheet drawers
    - 2,000-sheet dual input (one 1,200- and one 800-sheet drawer)
  - Optional
    - 2,000-sheet High Capacity Feeder
- Output
  - Standard
    - 500-sheet output (reduced to 300 sheets if finisher is installed)
  - Optional
    - Finisher (3-hole or 4-hole punch)
      - Finisher bin 1: 500 sheets
      - Finisher bin 2: Up to 3,000 sheets

**Media types**

- Plain paper, envelopes, card stock, transparencies, paper labels

**Media weights**

- Plain paper: 17 to 28 lb.
- Card stock: Up to 90 lb. index

**Size and weight – without finisher**

- Size: W x D x H – 25 x 26 x 33 in. (640 x 649 x 832 mm)
- Weight: 233 lb. (106 kg)

**Duty cycle**

- **Printer**
  - 200,000 pages per month maximum, based on a single-month's usage
- Standard warranty
  - One year On Site or 600,000 pages, whichever comes first

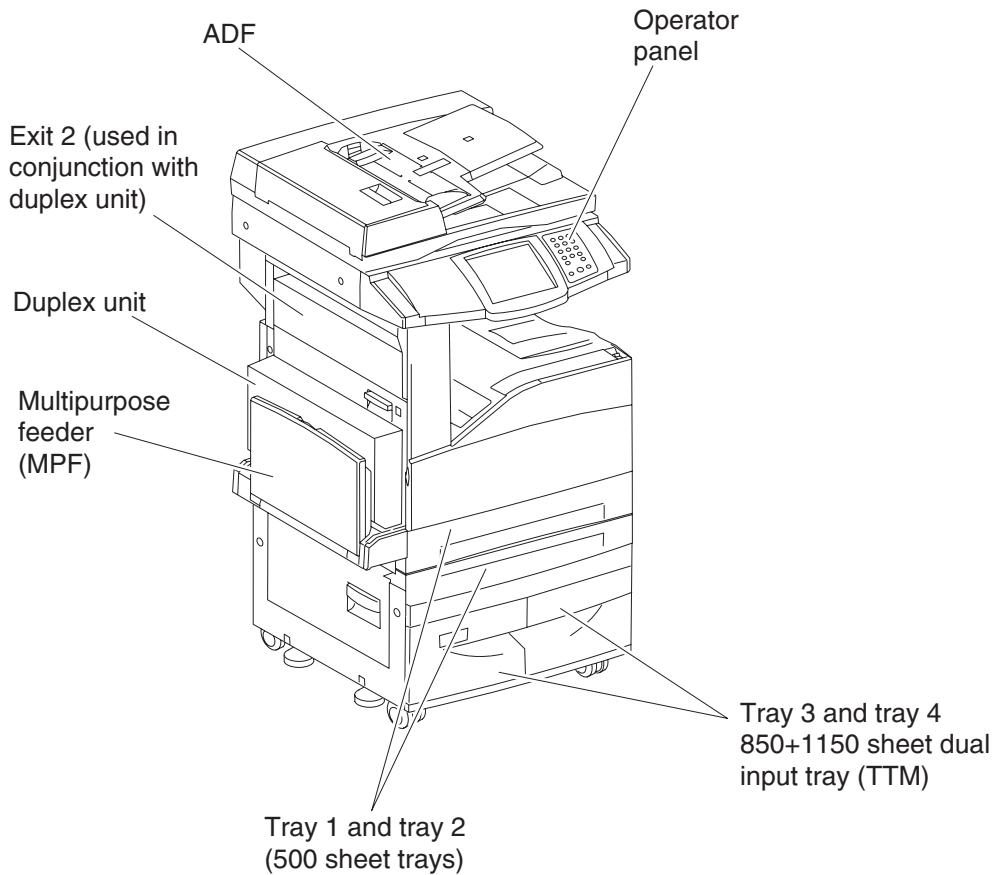
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## Printer overview

**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.

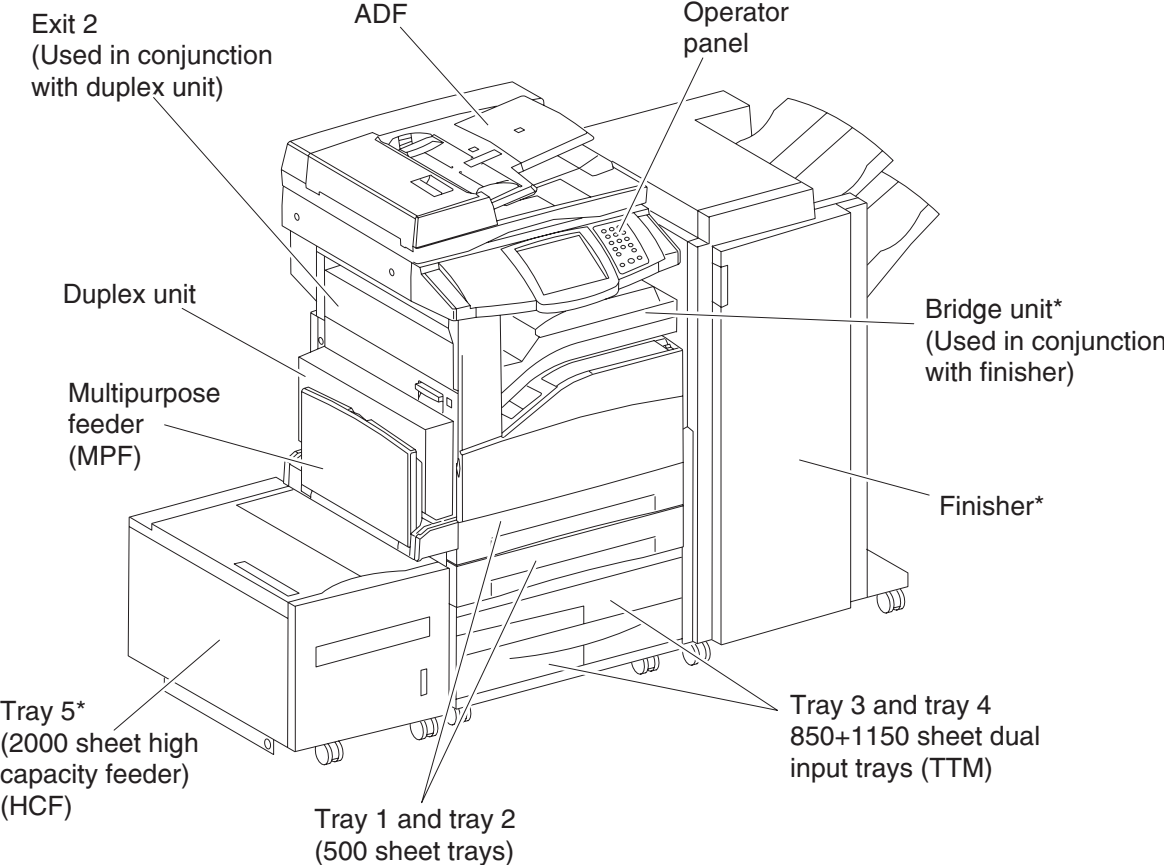
### Basic model

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.

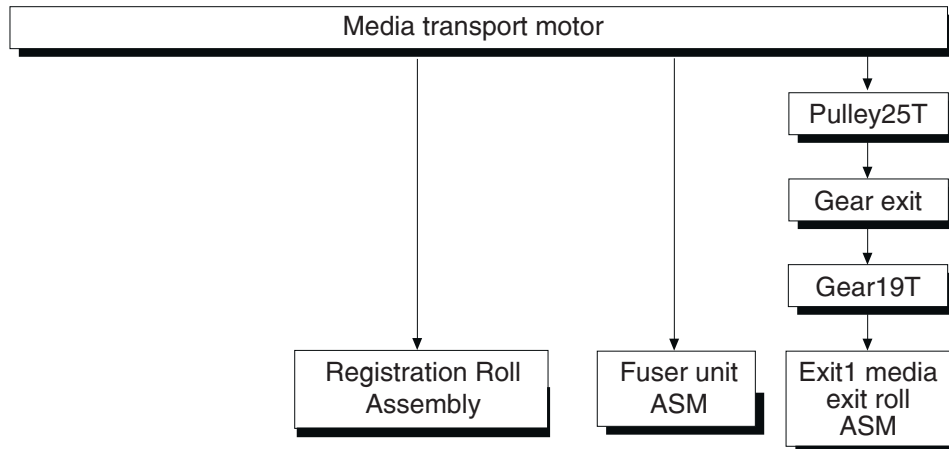


## Printer theory

### Driving force transmission path

#### Media transport motor

The rotating force of the transport motor is transmitted through the gear and the pulley (25 tooth) to components that need mechanical driving force as shown in the following diagram.



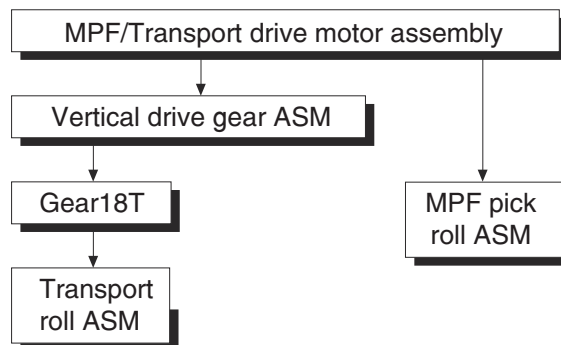
The driving force transmitted to the gear drives the transport roll assembly, multipurpose feeder (MPF) feed roll, registration roll assembly, fuser assembly, and exit 1 media exit roll assembly through the clutch and gears.

The driving force transmitted to the pulley (25 tooth) drives the exit 1 media exit roll assembly through the gears.

The driving force transmitted to the fuser assembly drives the heat roll.

#### MPF/transport drive motor

The rotating force of the transport motor is transmitted through the gear and the pulley (25 tooth) to components that need mechanical driving force as shown in the following diagram.



The MPF/transport drive motor provides the driving force transmitted to the gear drives, the transport roll assembly, and the multipurpose feeder (MPF) pick roll.

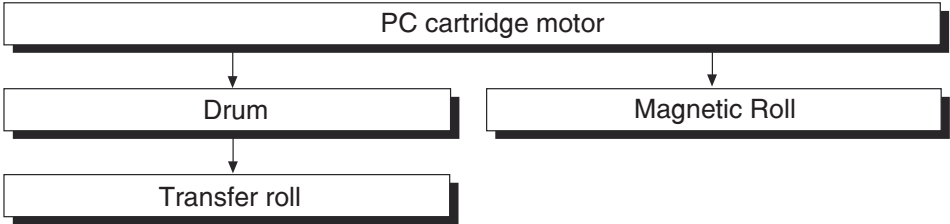
The driving force transmitted to the pulley (25 tooth) drives the exit 1 media exit roll assembly through the gears.

The driving force transmitted to the fuser assembly drives the heat roll.



**PC cartridge motor**

The rotating force of the PC cartridge motor is transmitted through the gears to components that need a mechanical driving force as shown in the following diagram.

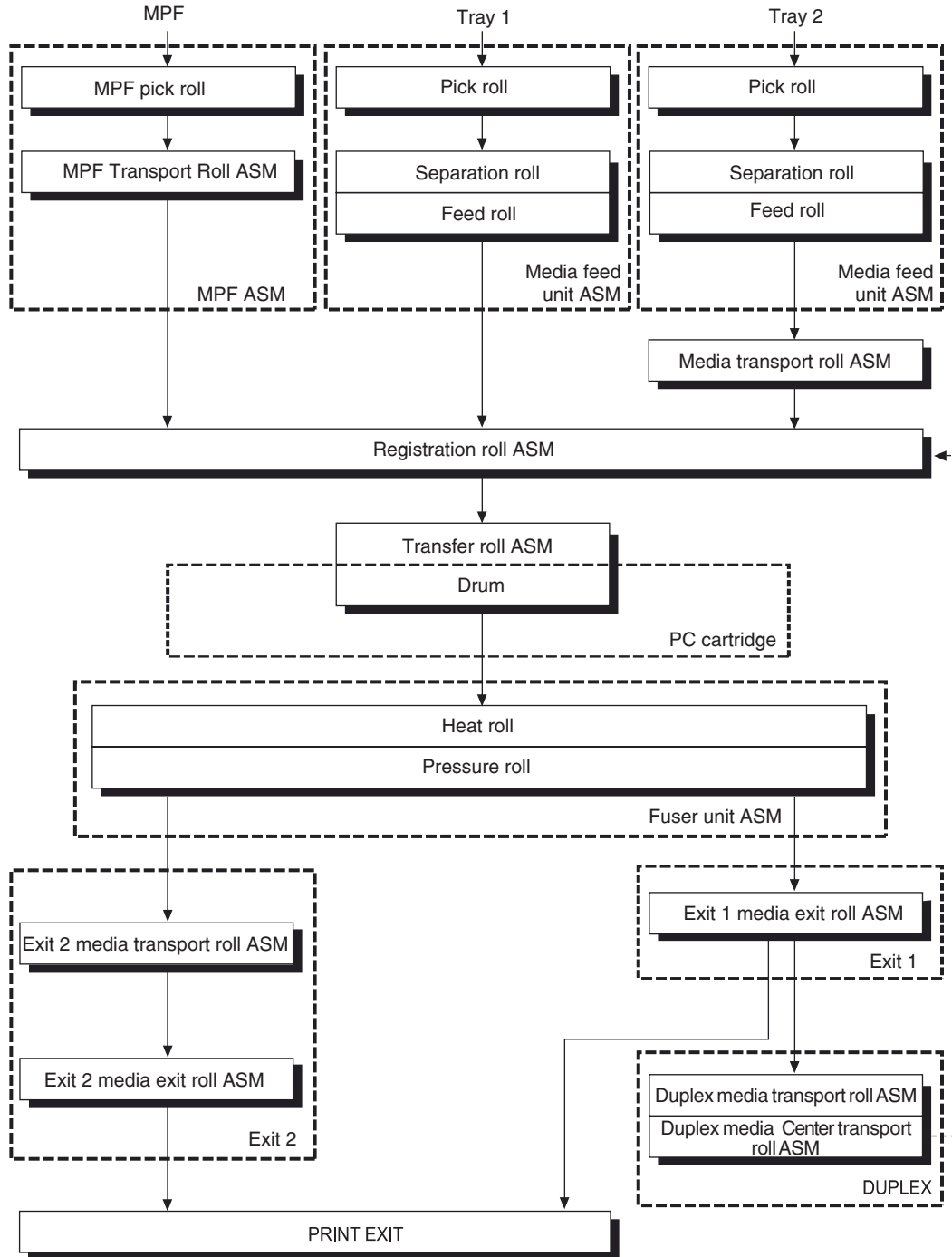


The driving force transmitted to the PC cartridge drives the drum. The driving force is then transmitted to the transfer roll assembly by direct contact with the drum.

## Media transport

### Media transport path

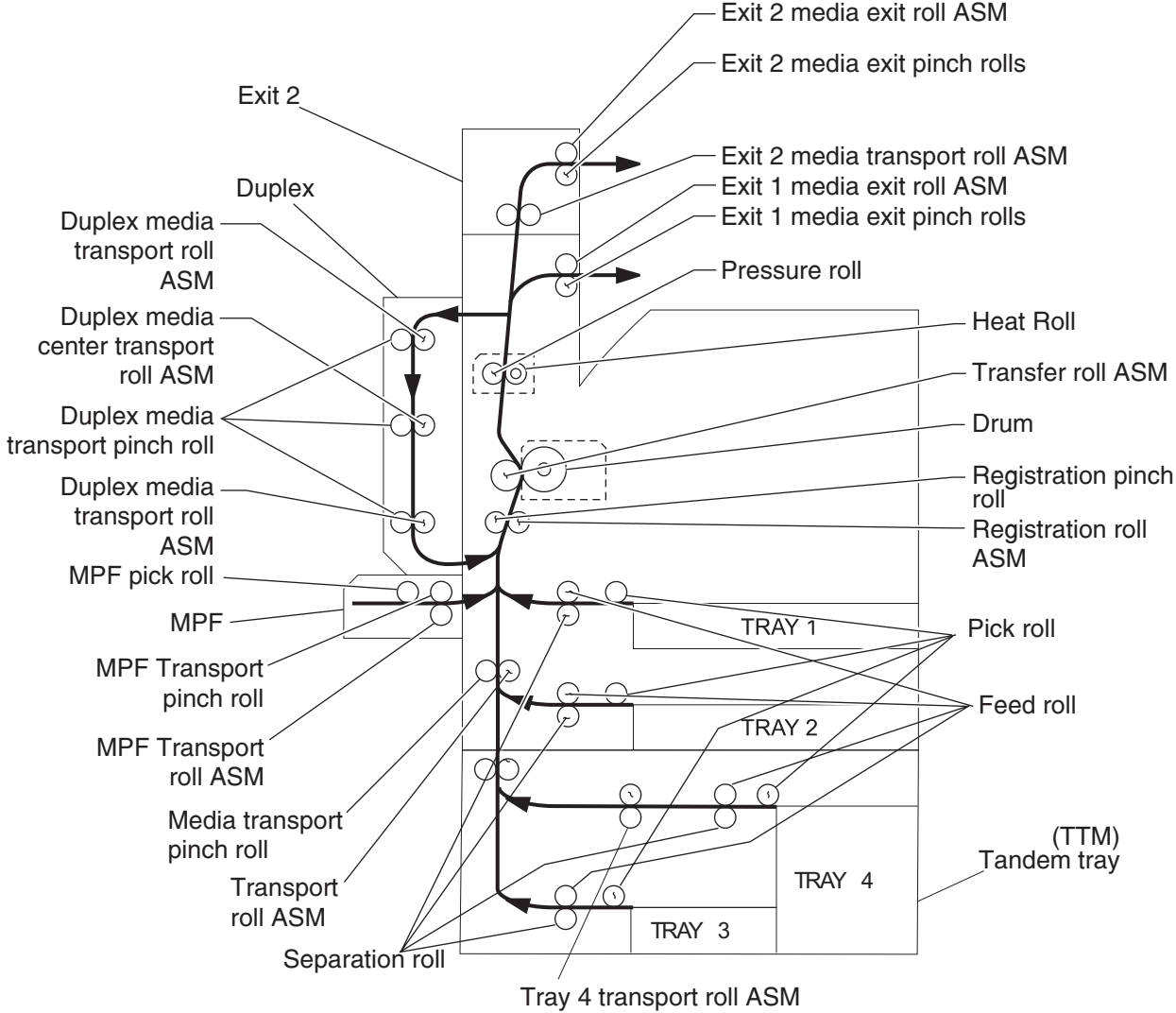
Media is supplied from the MPF, tray 1 or tray 2, and is transported to the printer along the media transport path shown below.



**Media transport path layout**

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

**Main components associated with transport of media**



## Functions of main components

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

### Media tray assembly

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

### Front media tray guide assembly and rear media guide

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

The rear media tray guide moves together with the front media tray guide assembly.

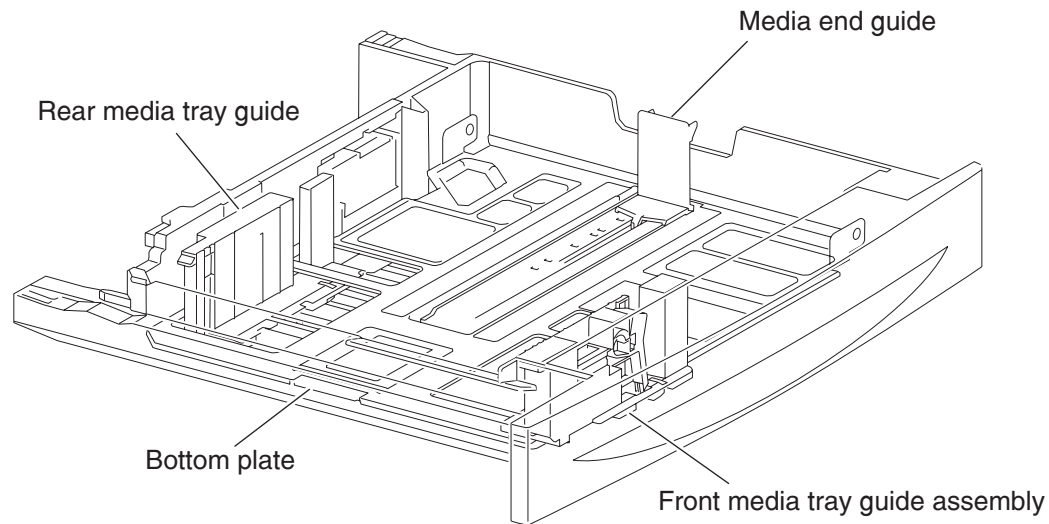
### Media tray end guide

The media tray assembly is designed so it can adapt to the media length in the media feed direction by moving the media tray 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 to the lift up shaft through the gear (13/60 tooth) and sector gear (12 tooth). 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.

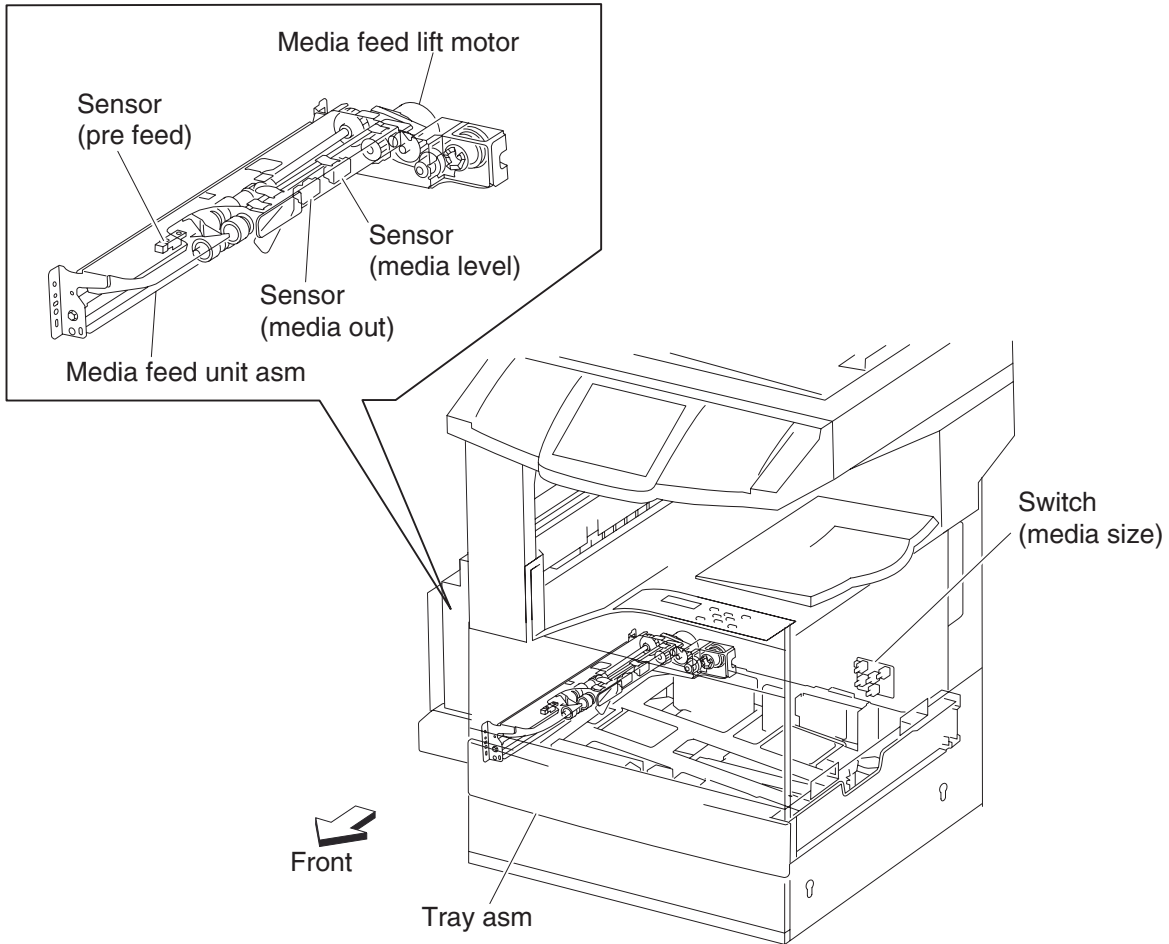
### Sensor (media level)

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 (pre-feed)

This sensor detects a media jam in the media tray assembly by the media position and sensor on/off time.

The sensor on/off states can be monitored by media passing through the sensor (pre-feed) sensing area.



## Multi-purpose feeder (MPF)

The MPF is a mechanical unit supplying media to the printer. The driving force from the transport motor of the dual drive motor assembly is transmitted to the MPF feed roll to feed media.

### MPF pick roll

The MPF pick roll feeds media set on the MPF and into the feeder.

### MPF pick solenoid

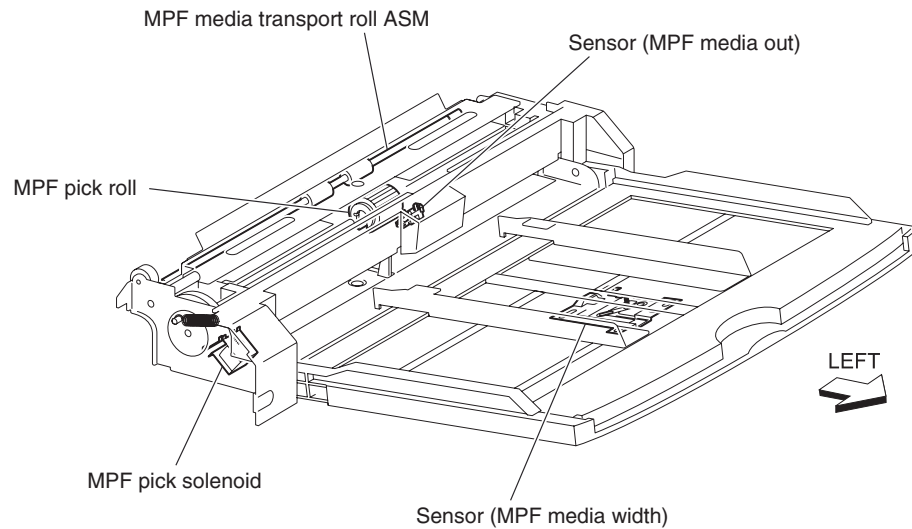
The MPF pick solenoid transmits the driving force from the main motor to the MPF pick roll.

### 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.



## Detecting media size

The size of media on the MPF is transmitted by moving the MPF side guide, and is determined by the printer engine card assembly.

Media sizes that can be automatically detected are as follows:

Media size	Width (mm)	Feed length (mm)
Side-guide stopper (min.)	84	-
Media detection area (min.)	88.2	-
3.5" x 8.5"SEF	88.9	215.9
Postcard SEF	101.6	152.4
5.5" x 8.5" SEF	139.7	215.9
Postcard LEF	148	100
A6 LEF	148	105
A5 SEF	148	210
Postcard LEF	152.4	101.6
B6 LEF	182	128.5
B5 SEF	182	257
Monarch LEF	190.5	98.4
A5 LEF	210	148
A4 SEF	210	297
5.5" x 8.5" LEF	215.9	139.7
5.5" x 11" SEF(Letter)	215.9	279.4
5.5" x 13" SEF(Legal)	215.9	330.2
5.5" x 14" SEF(Legal)	215.9	355.6
DL LEF	220	110
C5 LEF	229	162
C4 SEF	229	324
Rectangular LEF	235	120
Com10 LEF	241.3	104.8
B5 LEF	257	182
B4 SEF	257	364
Executive LEF	266.7	184.2
16K LEF TFX(PRC)	267(270)	194(195)
8K SEF TFX(PRC)	267(270)	389(390)
8.5" x 11" SEF(Letter)	279.4	215.9
11" x 17" LEF	279.4	431.8
A4 LEF	297	210
A3 SEF	297	420
Stopper (max.)	303	-



## Registration

### Sensor (registration)

The sensor (registration) must be installed before the registration roll assembly can detect whether media exists in the registration path.

### Registration clutch

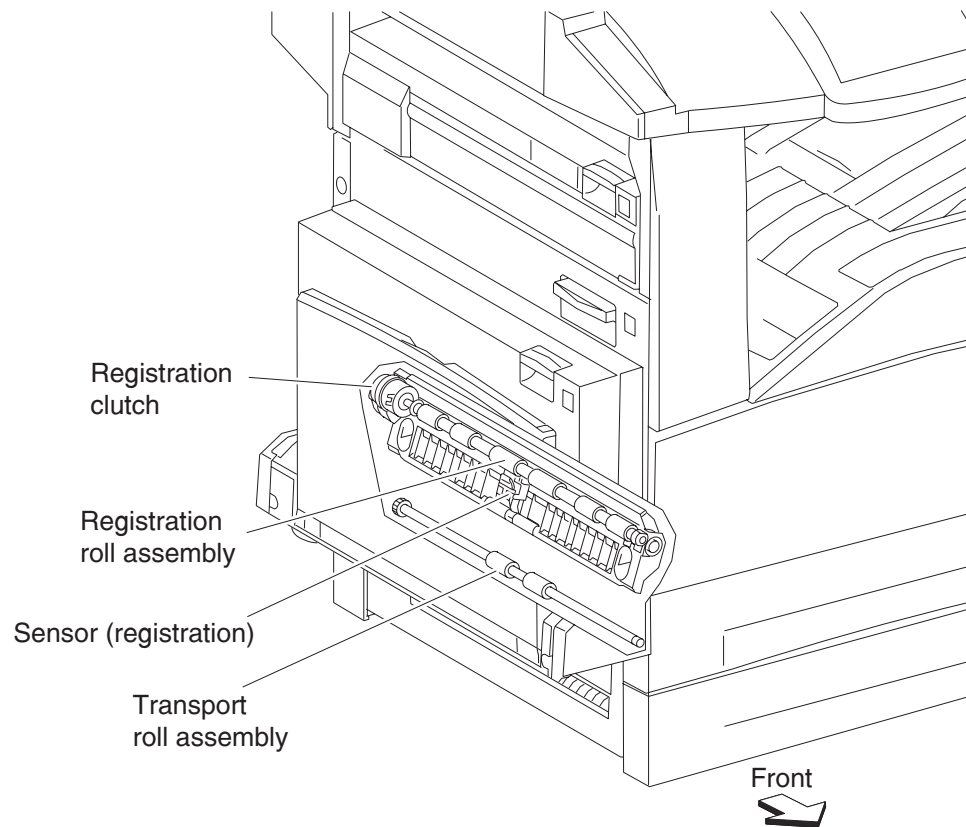
The registration clutch transmits the drive force of the main motor to the registration roll assembly.

### Transport roll assembly

The transport roll assembly feeds paper from the tray 2, TTM, and optional tray to the PC cartridge and fuser.

### Registration roll assembly

The registration roll assembly feeds paper from the tray 2, TTM, and optional tray or MPF to the PC cartridge and the fuser.

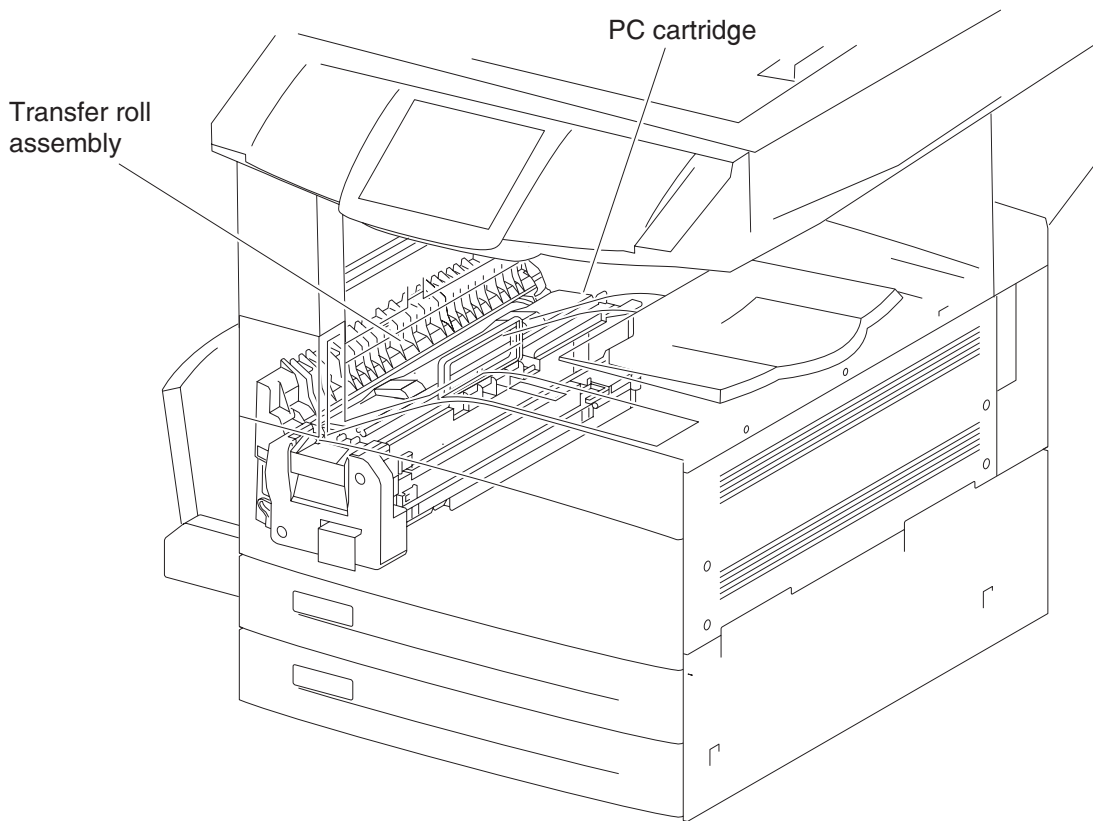


## Transfer roll assembly

The transfer roll assembly is driven by direct contact with the drum of the PC cartridge.

The transfer roll assembly applies positive charges to the rear surface of the media when the media passes between the transfer roll assembly and the drum. The negatively charged toner image is attracted by positive

charges on the rear surface of the media. Thus, the toner image is transferred from the drum surface to the media surface.



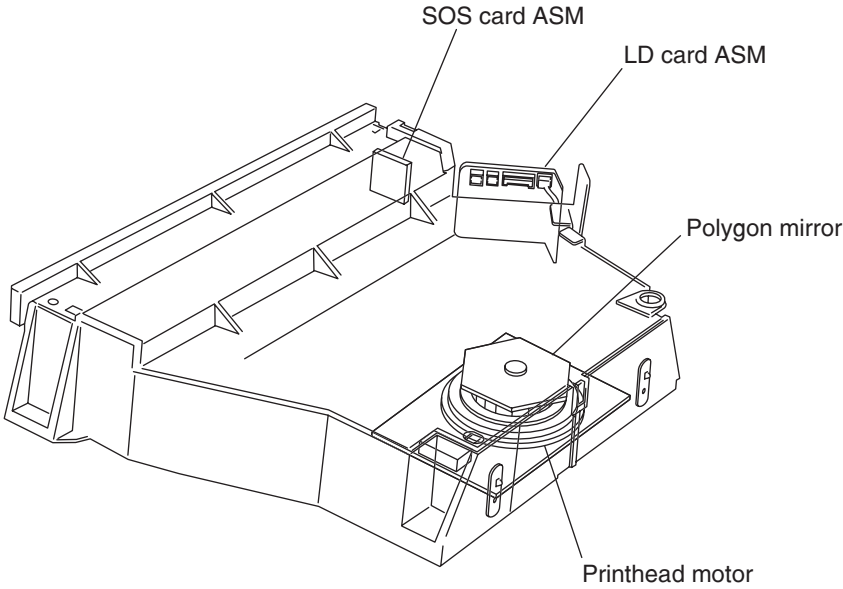
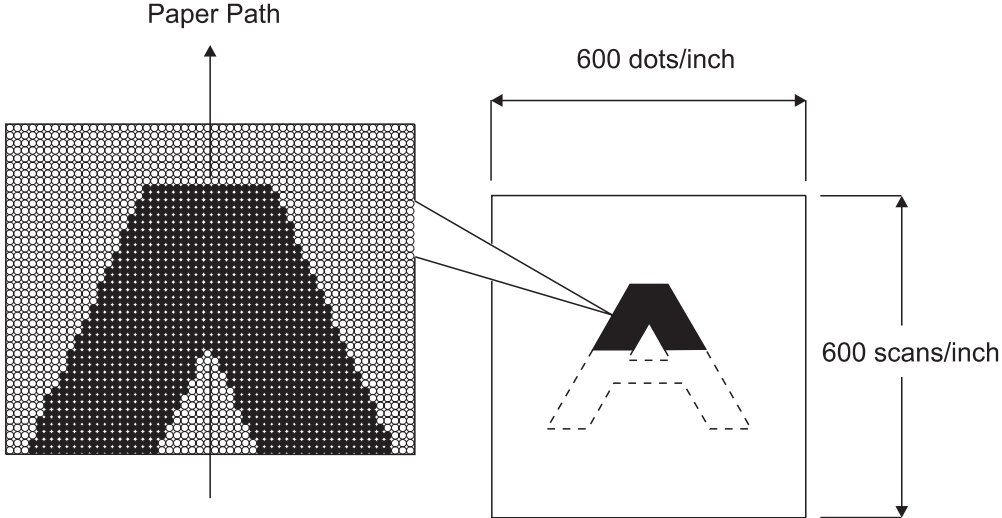
## Printhead assembly

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

1. LD card assembly — generates a laser beam with the two LDs of LD1 and LD2. The beam is turned on or off according to a print data signal.
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 the lens (L1), lens (L2), and window. 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



## **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 roll**

The pressure roll is a metal shaft coated with sponge rubber. Pressure is applied to the media between the pressure roll and heat roll, pressing the melted toner against the media.

### **Heater lamp**

The heater rod of the lamp is compressed of a quartz glass tube containing a heater coil. A terminal is mounted to the end of the heater rod via a harness. Three heater lamps are provided: the main heater rod to heat entire heat roll, and the sub heater lamp 1 and 2 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 rod and sub heater rods 1 and 2.

### **Center thermistor**

The center 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 lamps 1 and 2.

### **Rear thermistor**

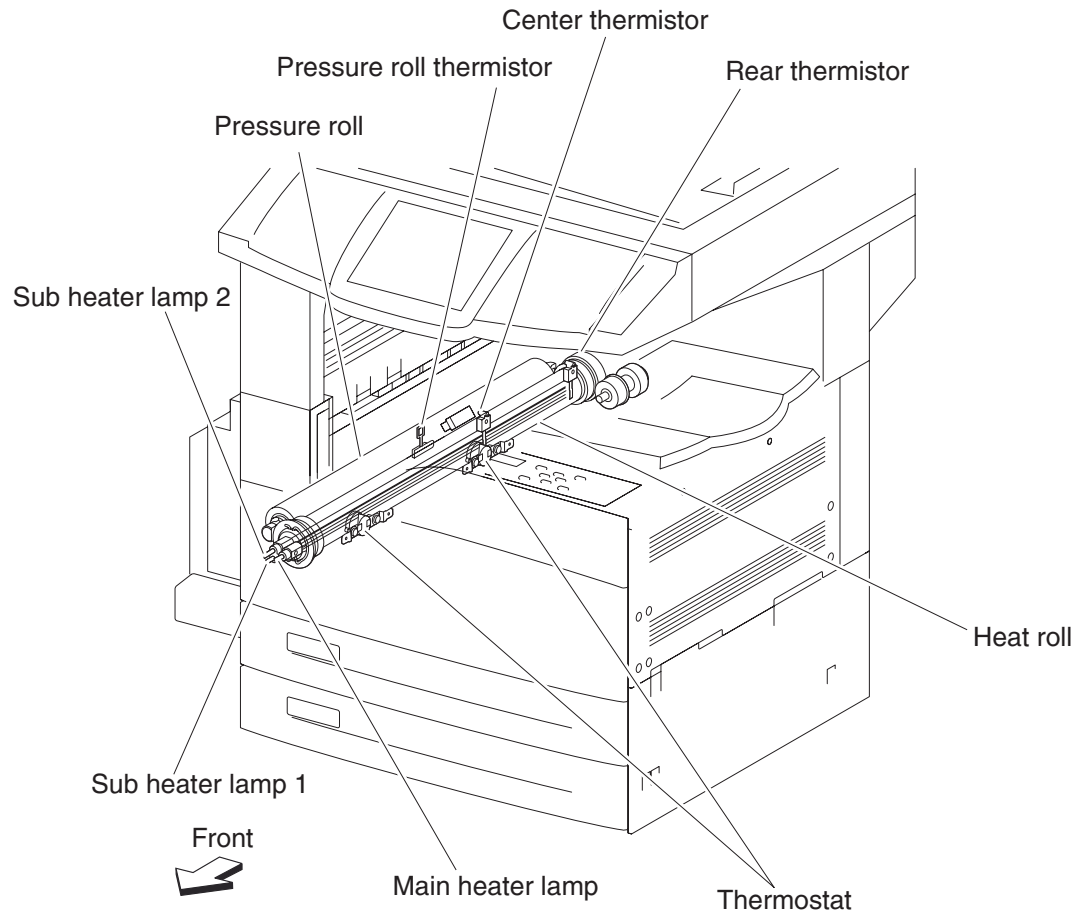
The rear thermistor monitors the surface temperature at the rear side of the heat roll to switch the heater lamp to on.

### **Pressure roll thermistor**

The pressure roll thermistor monitors the temperature of the pressure roll to control the idling time for fuser warm-up before printing.

## 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

Exit 1 ejects printed media from the printer to the standard bin 1. With the exit 2 installed, it is also possible to eject media to the standard bin 2 by changing the orientation of the diverter gate on the exit 1.

### Dual drive motor assembly

Drives the exit 1 media exit roll assembly that feeds media to each bin.

### Exit 1 media exit roll assembly

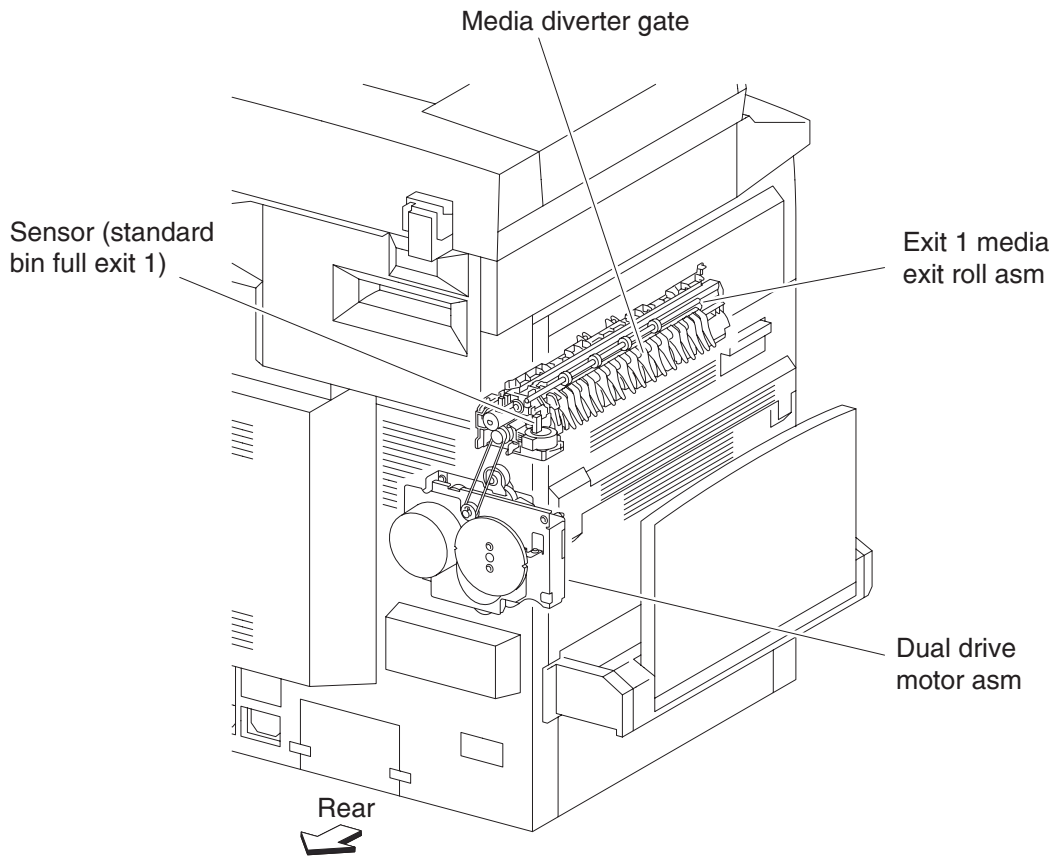
The exit 1 media exit roll assembly feeds printed media from the fuser to the standard bins.

### Sensor (standard bin full exit 1)

The sensor (standard bin 1 full) detects whether the exit 1 face down tray is full by moving the actuator up and down.

### Media diverter gate

The media diverter gate switches the media transport path. When the media diverter gate is lifted, media is fed to the standard bin exit 1. When it is lowered, media is fed to the standard bin exit 2.



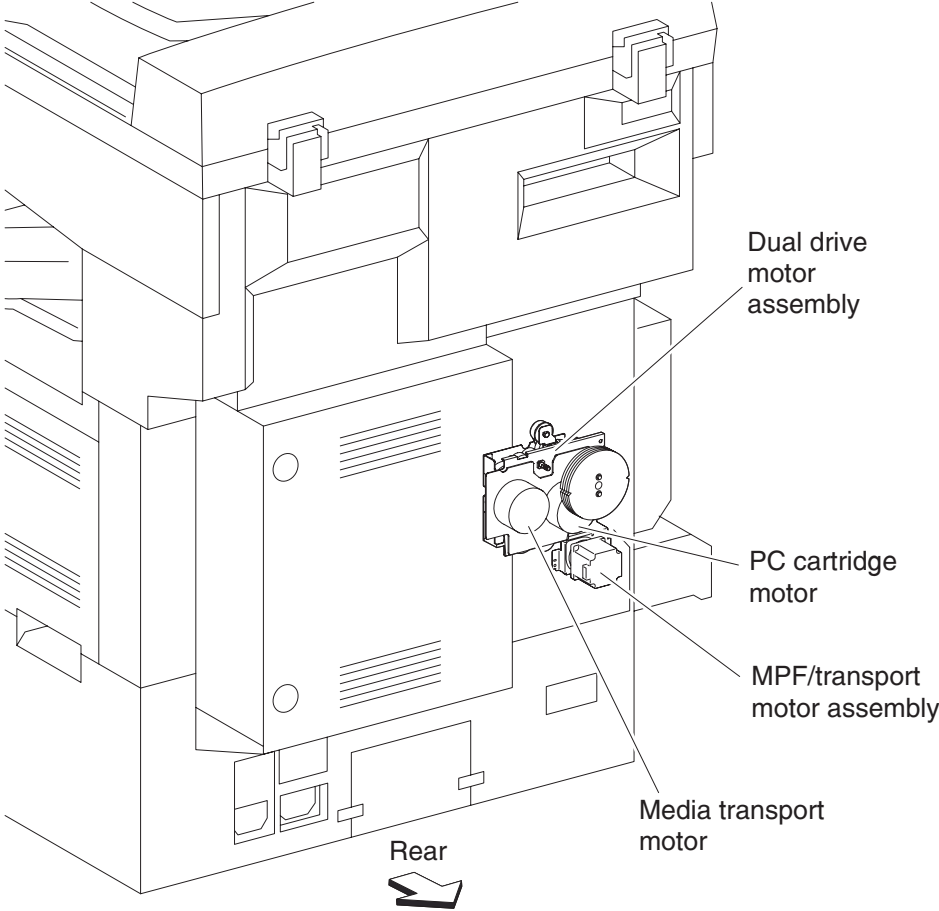
**Drive**

**Media transport motor**

The media transport motor is a DC brushless motor that drives the exit 1 media exit shaft assembly, fuser assembly, registration roll assembly.

**PC cartridge motor**

The PC cartridge motor is a DC brushless motor that drives the PC cartridge, mag roll and transfer roll assembly.



## 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 main LVPS (low voltage power supply) 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 (PC Cartridge interlock)

The switch (PC interlock) 5 V interlock is a safety switch to cut off a 5 VDC power supply from the LVPS card assembly to the printhead while the PC cartridge is removed.

### 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.

### LVPS card assembly

The LVPS card assembly generates low voltages (5 V and 3.3 V for logic circuits, 5 V for laser diodes, and 24 V for motors/clutches) from AC power. It also contains the fuser relay to feed/cut off AC power to the heater lamps of the fuser assembly.

### HVPS card assembly

The HVPS card assembly generates AC power, a high DC voltage, and feeds them to the charge roll, development (magnet roll), transfer roll assembly.

### Printer engine card assembly

The printer engine card assembly controls printing operation based on the communication with the RIP card assembly and on sensor/switch information. It also controls optional module boards.

### RIP card assembly

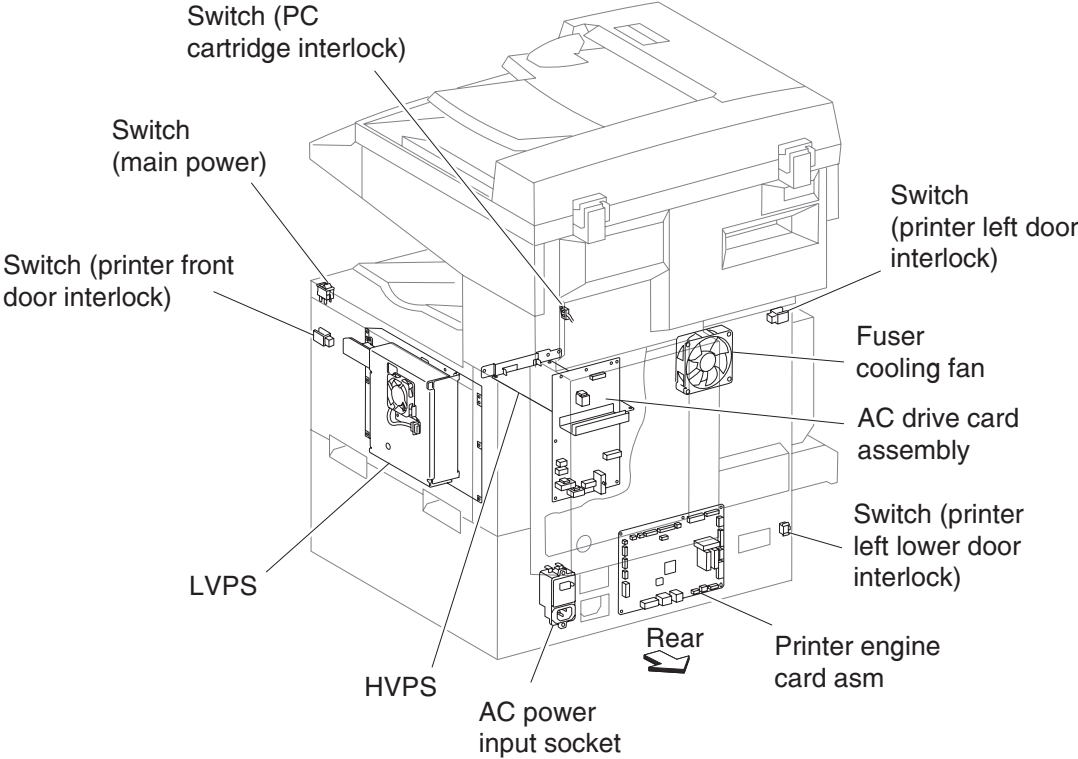
The RIP card assembly connected to the printer engine card assembly controls the entire system.

### Transport roll assembly

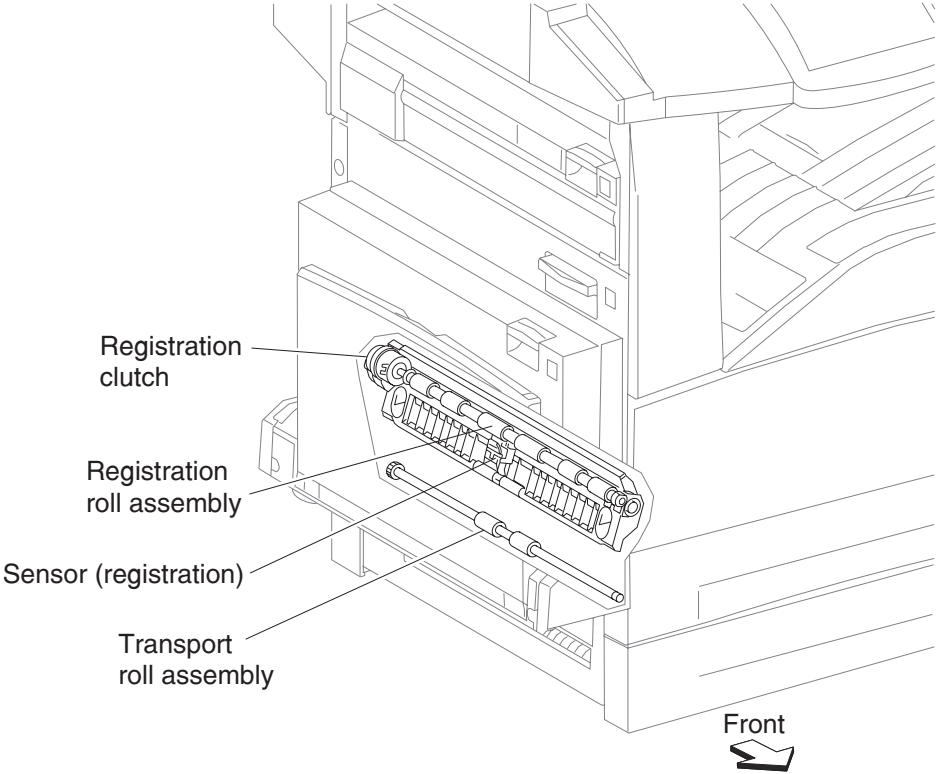
The transport roll assembly feeds media from tray 2, 3, and 4 to the registration roll assembly.



**Registration roll assembly**



The registration roll assembly feeds media from all trays to the PC cartridge or fuser.



## 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 LVPS 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.

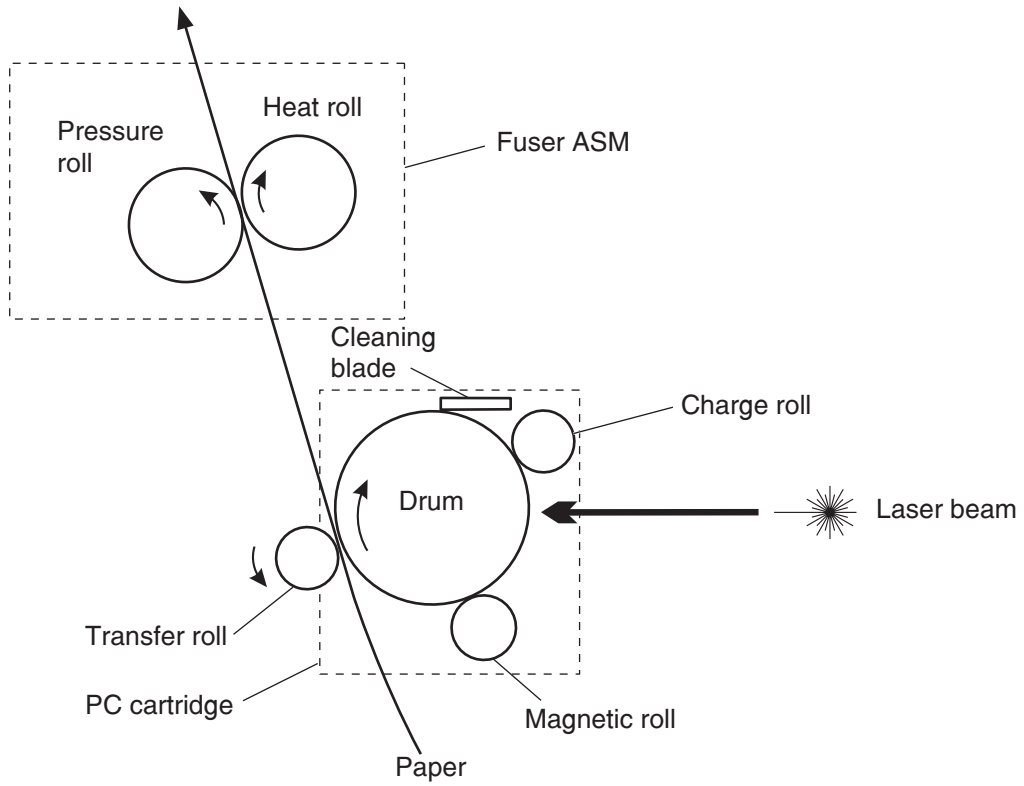
### Main/sub heater lamps on/off control

The center 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

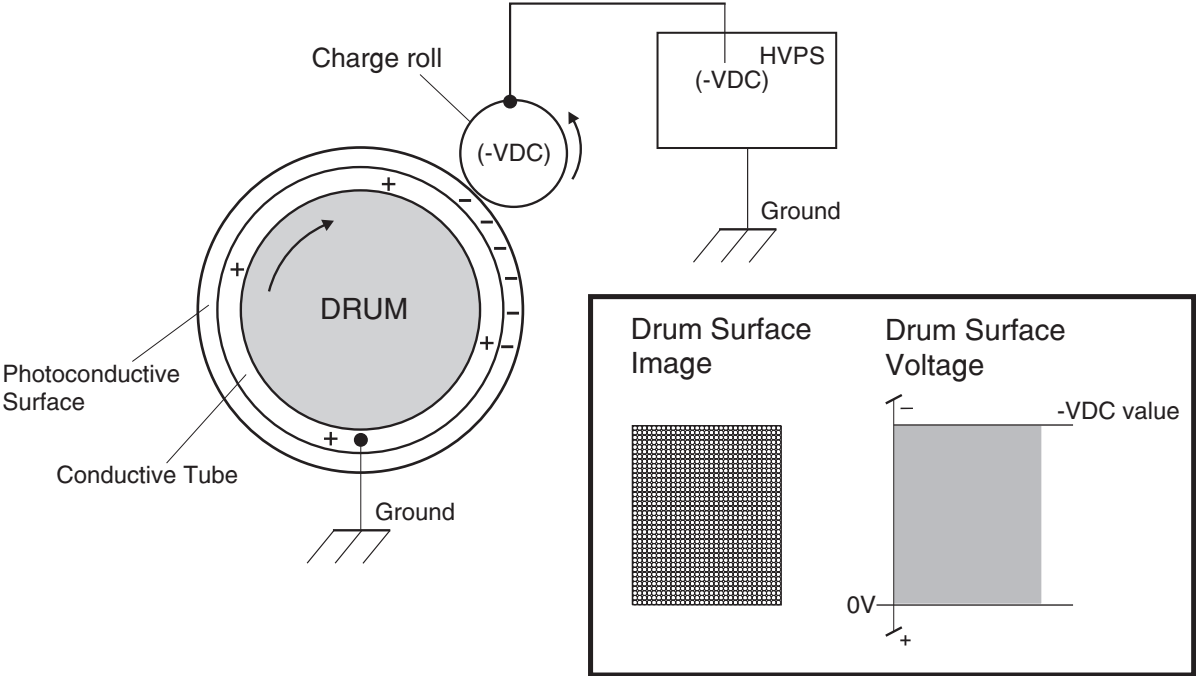
The fuser warm-up starts at the time of power on, interlock open or close, jam reset, or return from the low power mode, and ends when the ready temperature is attained, when a failure occurs, or when executing diagnosis.

### Xerographic Process During a Print Cycle

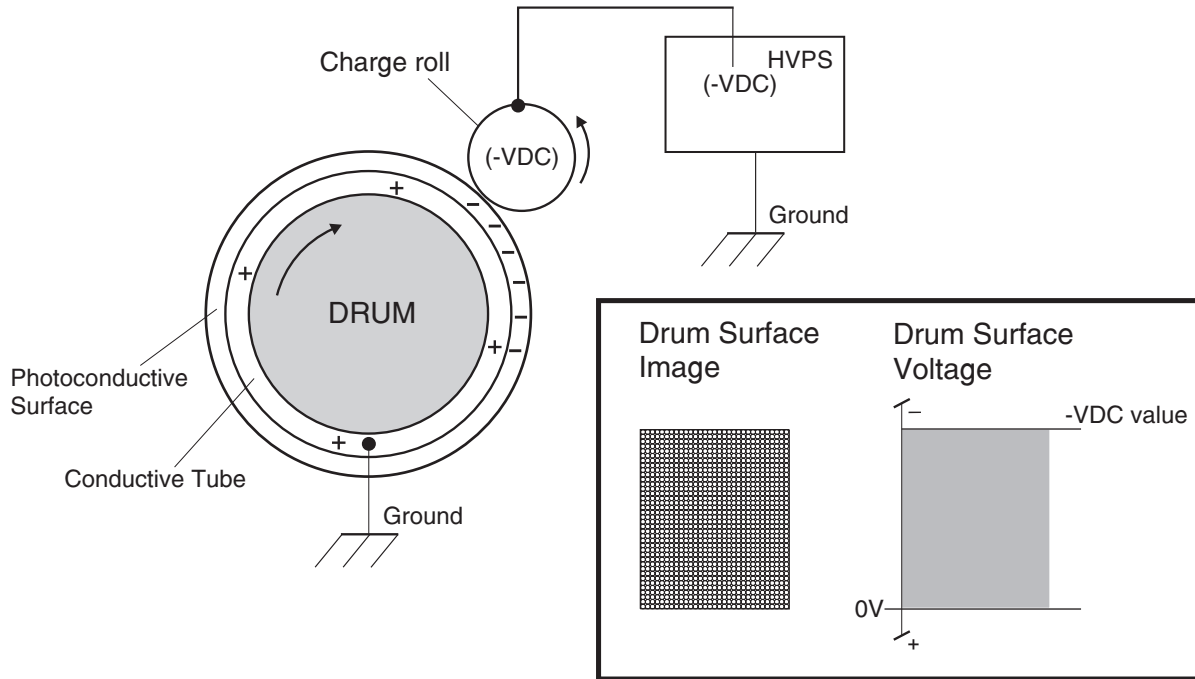


**Charge**

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.

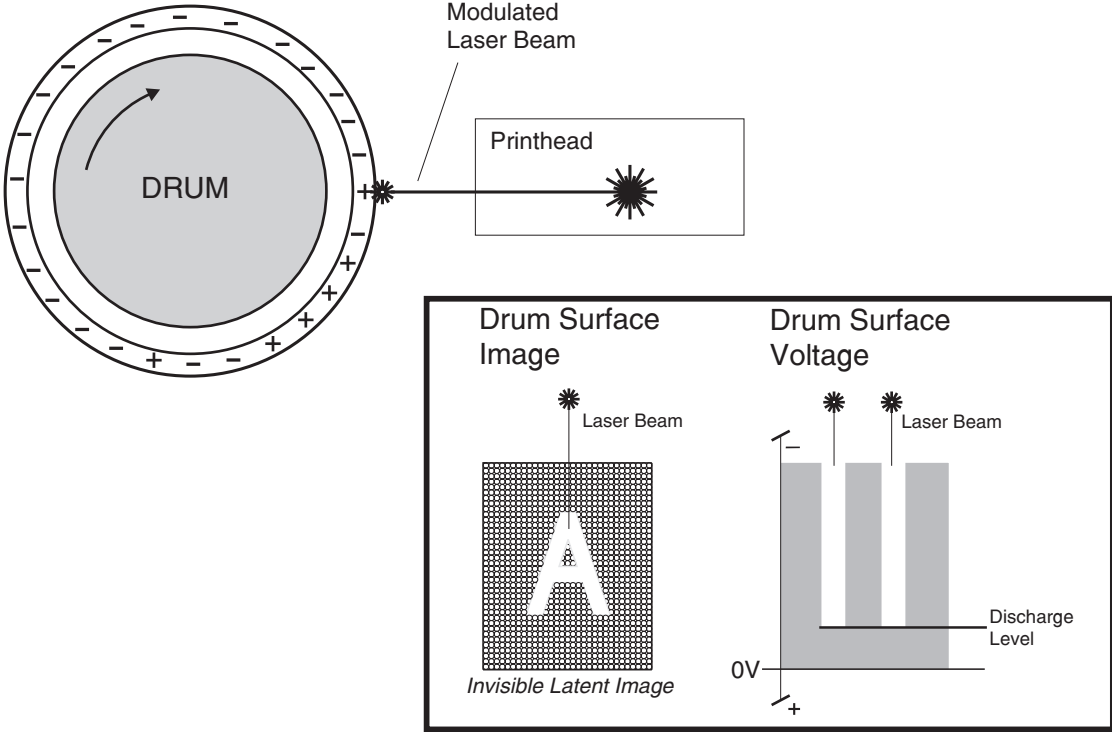


## Exposure

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.

The Printhead also helps to clean and prepare the drum by scanning the surface of the drum at the beginning of each individual printer cycle. This action discharges a residual DC charge that may still remain on the Drum from the last print cycle.



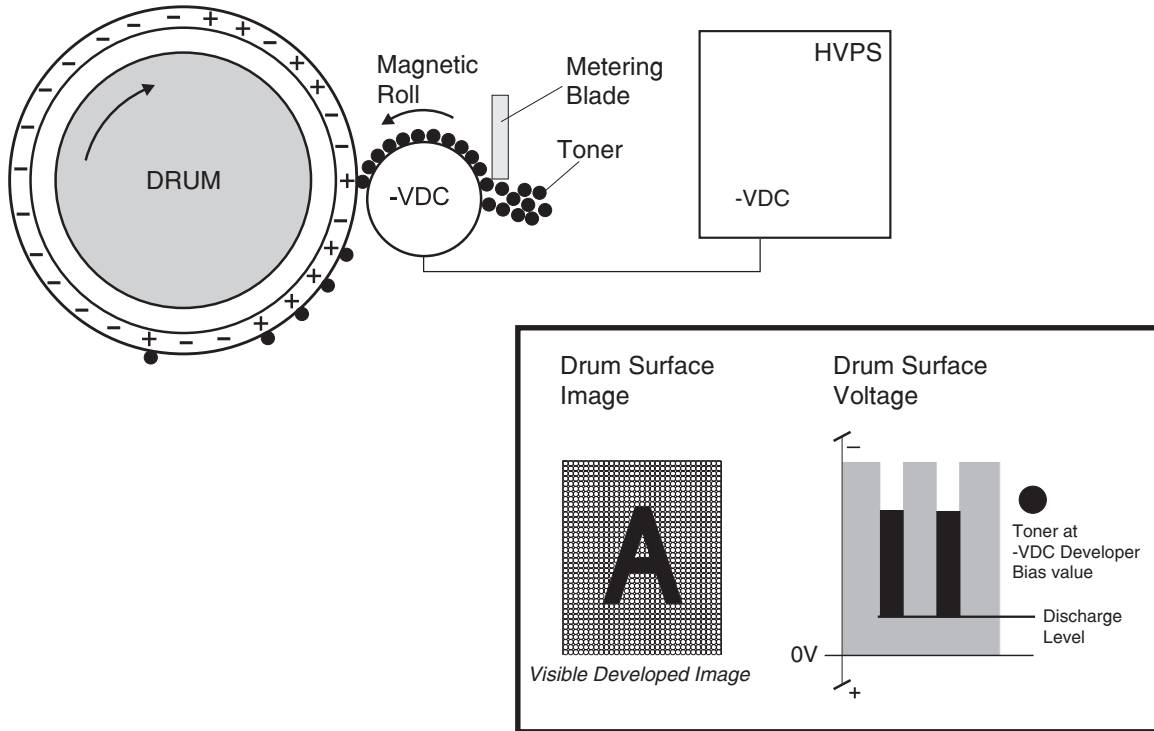
**Development**

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.

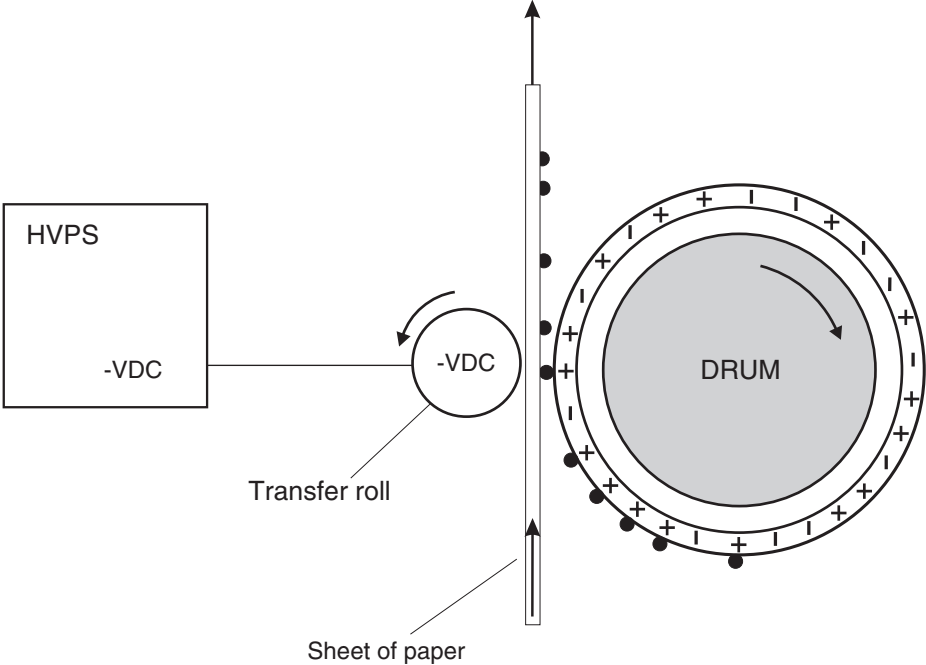
The toner adhering to the Magnet Roll is always in contact with the drum surface. When a less negative point on the drum (a discharged area) comes in contact with the more negative charged toner on the Magnet Roll, toner transfers from the Magnet Roll to that point on the drum. There is now a visible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





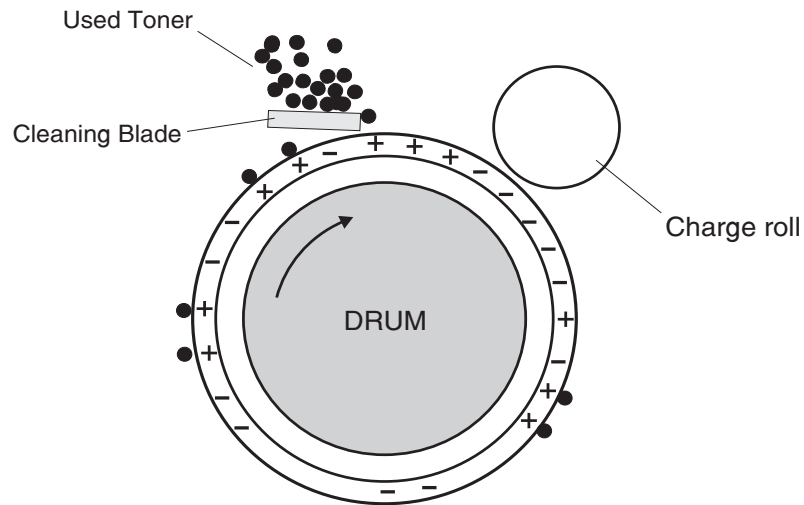
**Transfer**

As the paper travels between the Transfer Roll and the drum 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 drum surface to the top surface of the paper. The toner image is now on the paper and the paper is now stuck to the drum surface 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

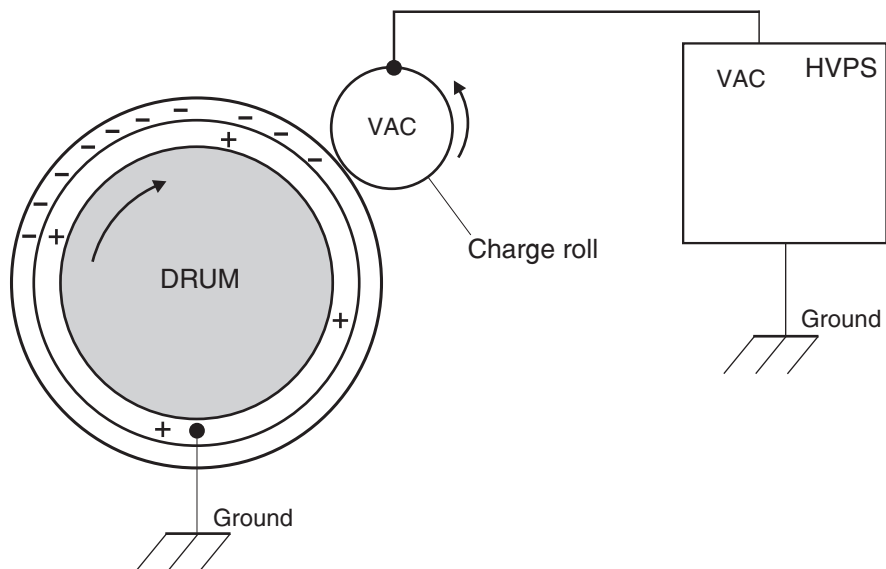
The Cleaning Blade removes any toner that remains on the drum after the transfer process. The toner that the Cleaning Blade removes is collected inside the sealed PC Cartridge and reused.



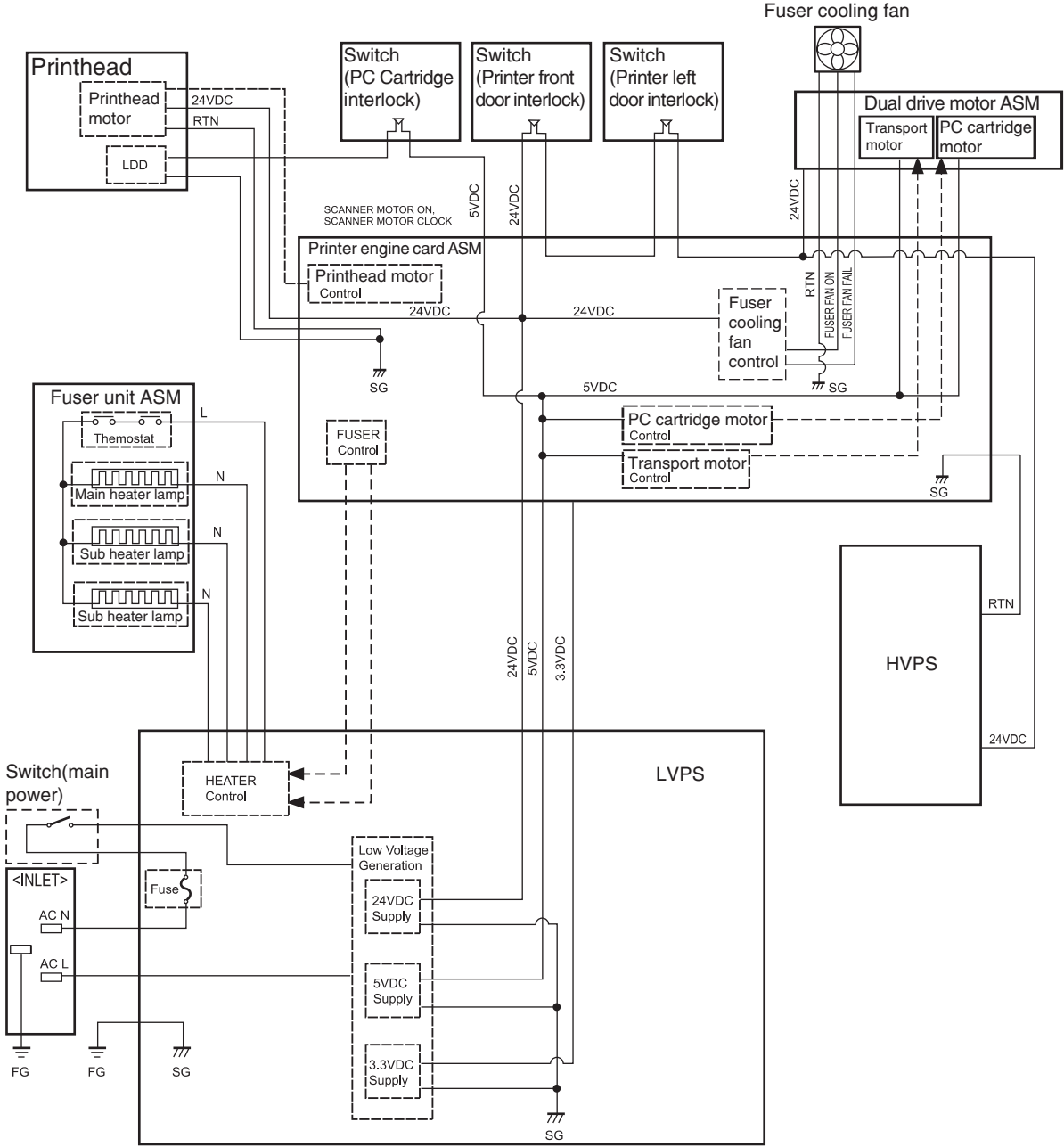
## Discharge

At both the start and the end of each individual printer cycle, the HVPS supplies the charge roll with an AC voltage that is used to electrically clean the drum. The AC voltage 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.



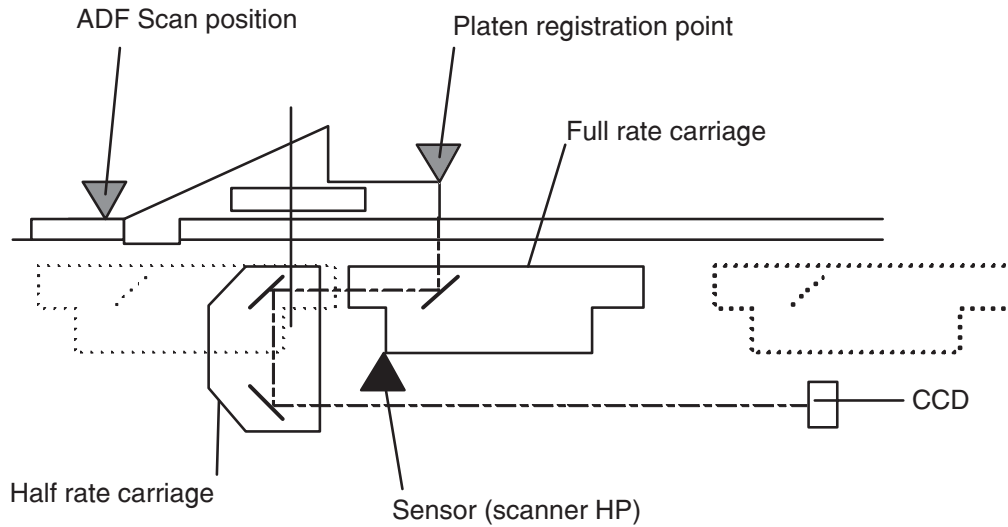
# Safety system diagram



## Document scanning

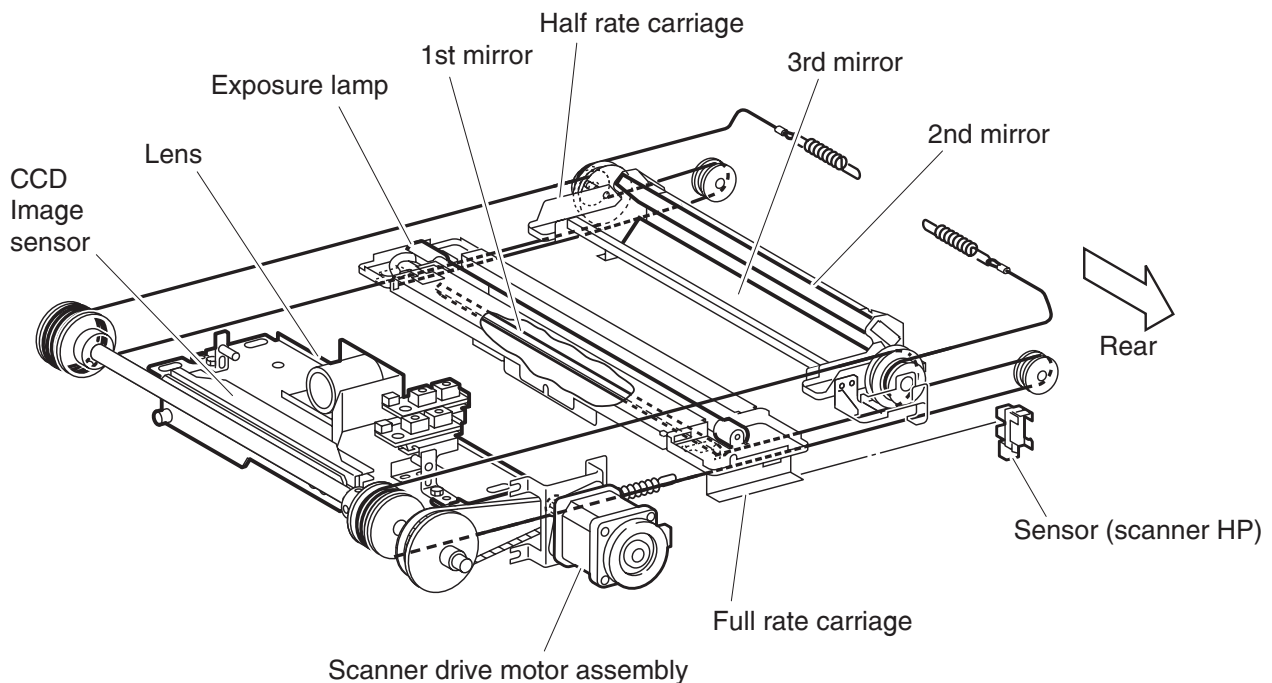
The document scanning section of this machine consists of a scanner that reads a single-sheet document placed on the platen glass and a document feeder that can transport a multiple-sheet document and flip the sheets for two-sided scanning.

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.

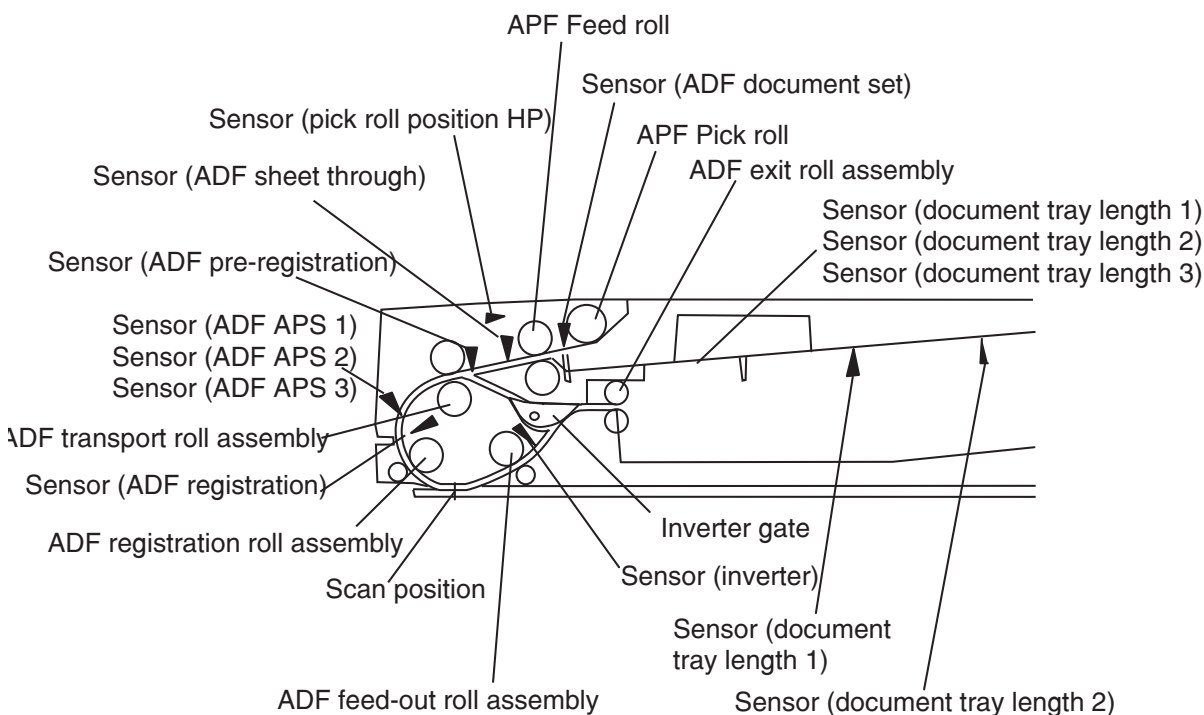
In conjunction with the full rate carriage, the half rate carriage travels half of the stroke of the full rate carriage.

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.

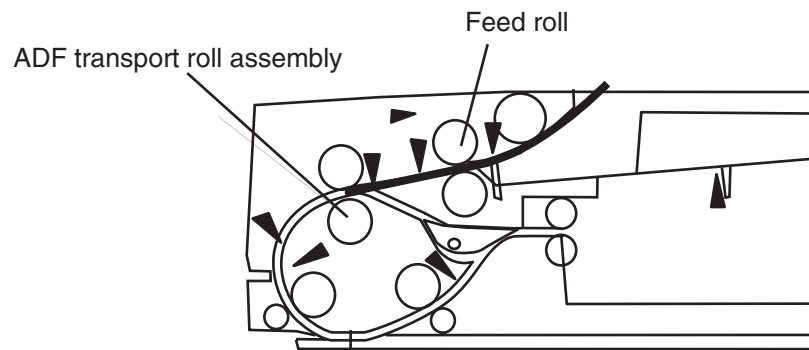
Upon completion of document feed, the pick roll returns to the normal (raised) position.

### 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.

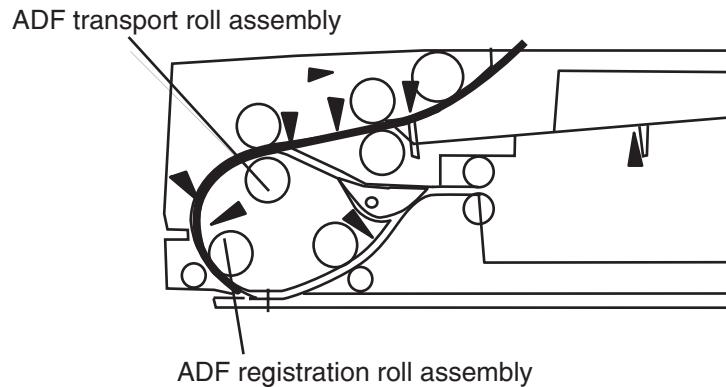


### Pre-registration

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 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

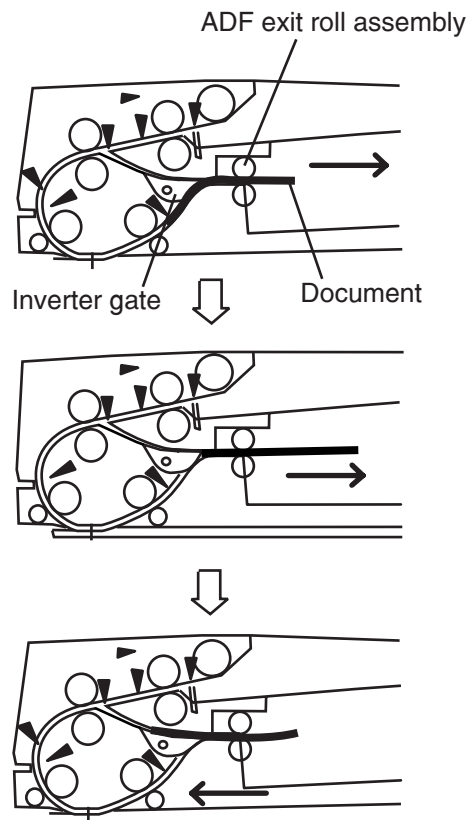
In the inversion step, the document sheet is inverted at the inverter gate and fed to the ADF transport roll assembly again. By thrusting the document sheet against the ADF transport roll assembly at rest, the skew of the inverted document sheet is corrected.

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.

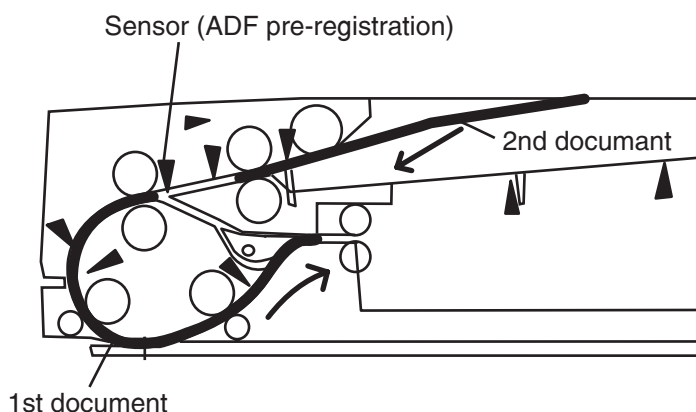


### Simplex document

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

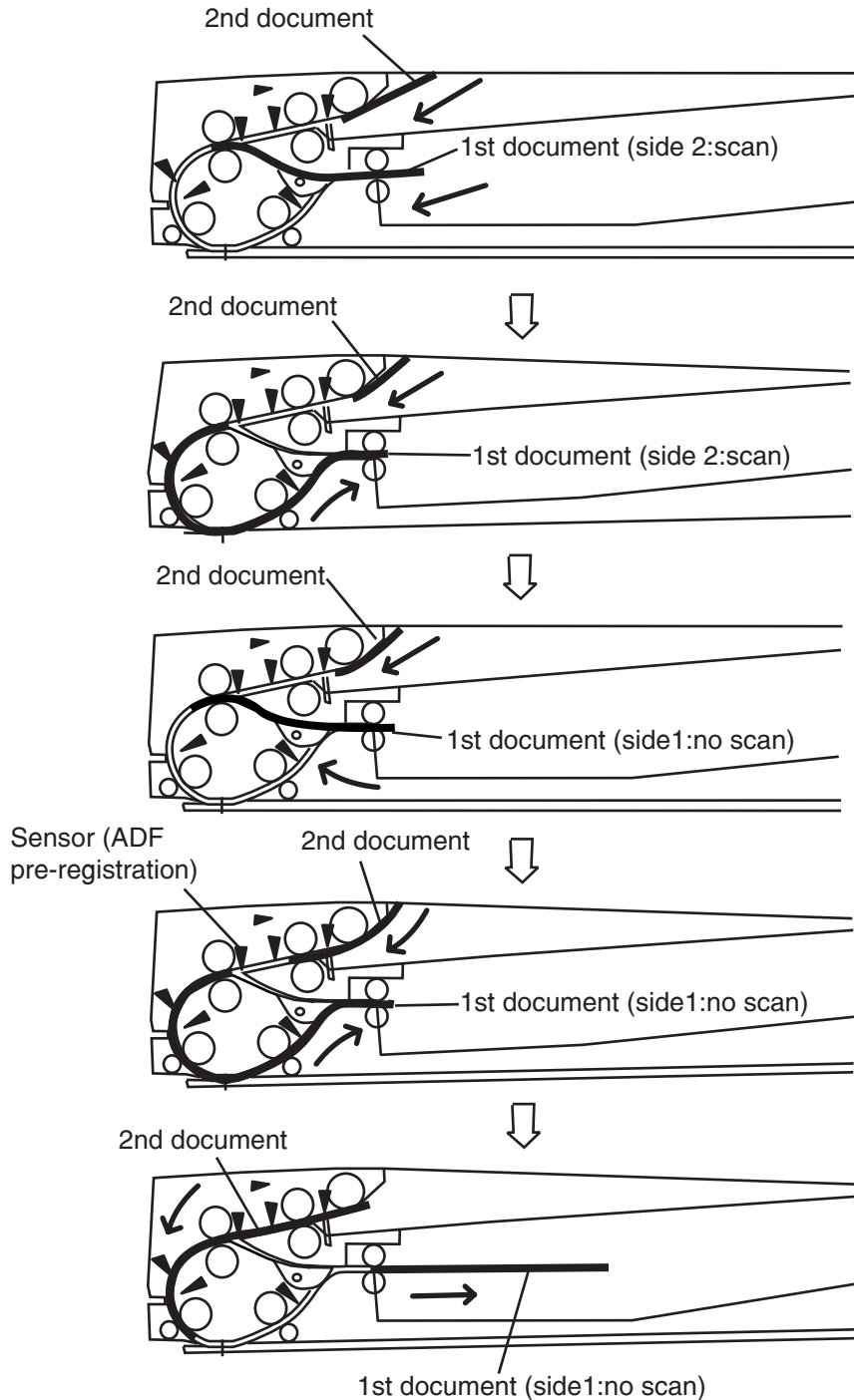
The ADF scans the image on Side 1 (side facing up when set on the tray), inverts the document sheet, scans the image on Side 2 (side facing down when set on the tray), and then ejects the document sheet while inverting it.

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.

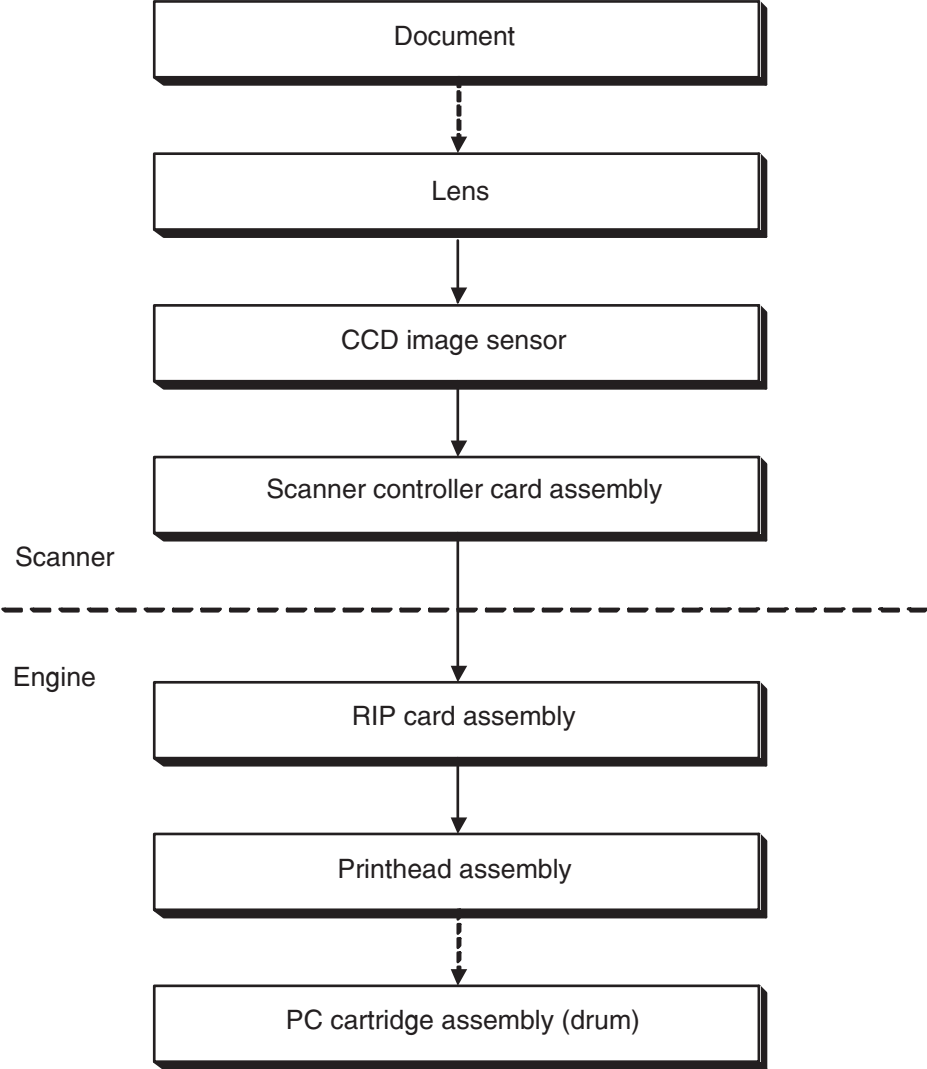
1. The first document sheet (Side 1) is fed to the ADF transport roll assembly. (see Pre-feed)
2. The document sheet (Side 1) is fed to the ADF registration roll assembly and then fed to the scan feed reference position. (see Pre-registration)
3. The document sheet (Side 1) is fed at the feed speed corresponding 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.



# Image data flow

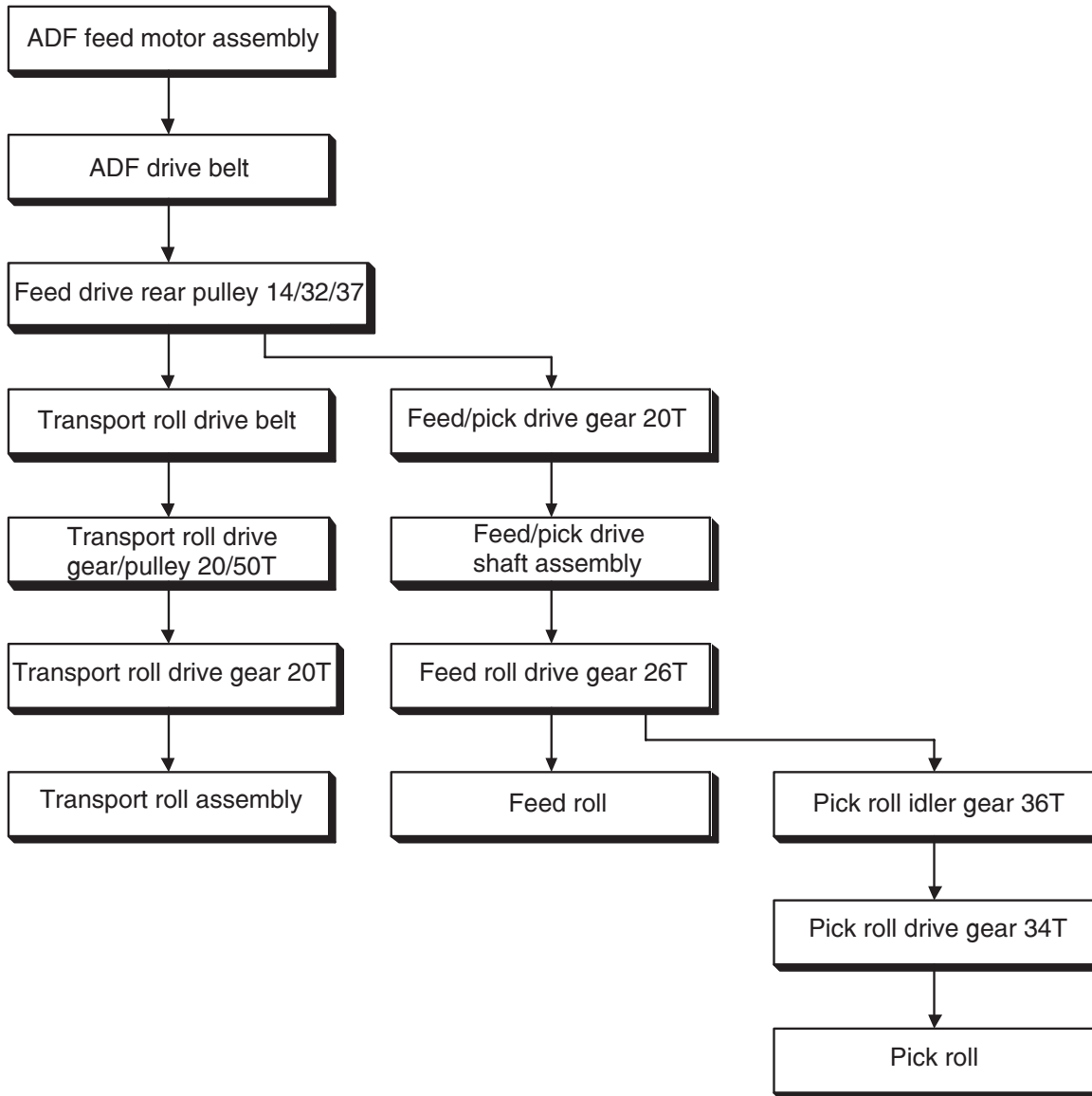
The image data from the document set on the scanner unit assembly or ADF goes through the following components before it is printed at the Engine section.



## Drive torque transfer scheme

### ADF feed motor assembly

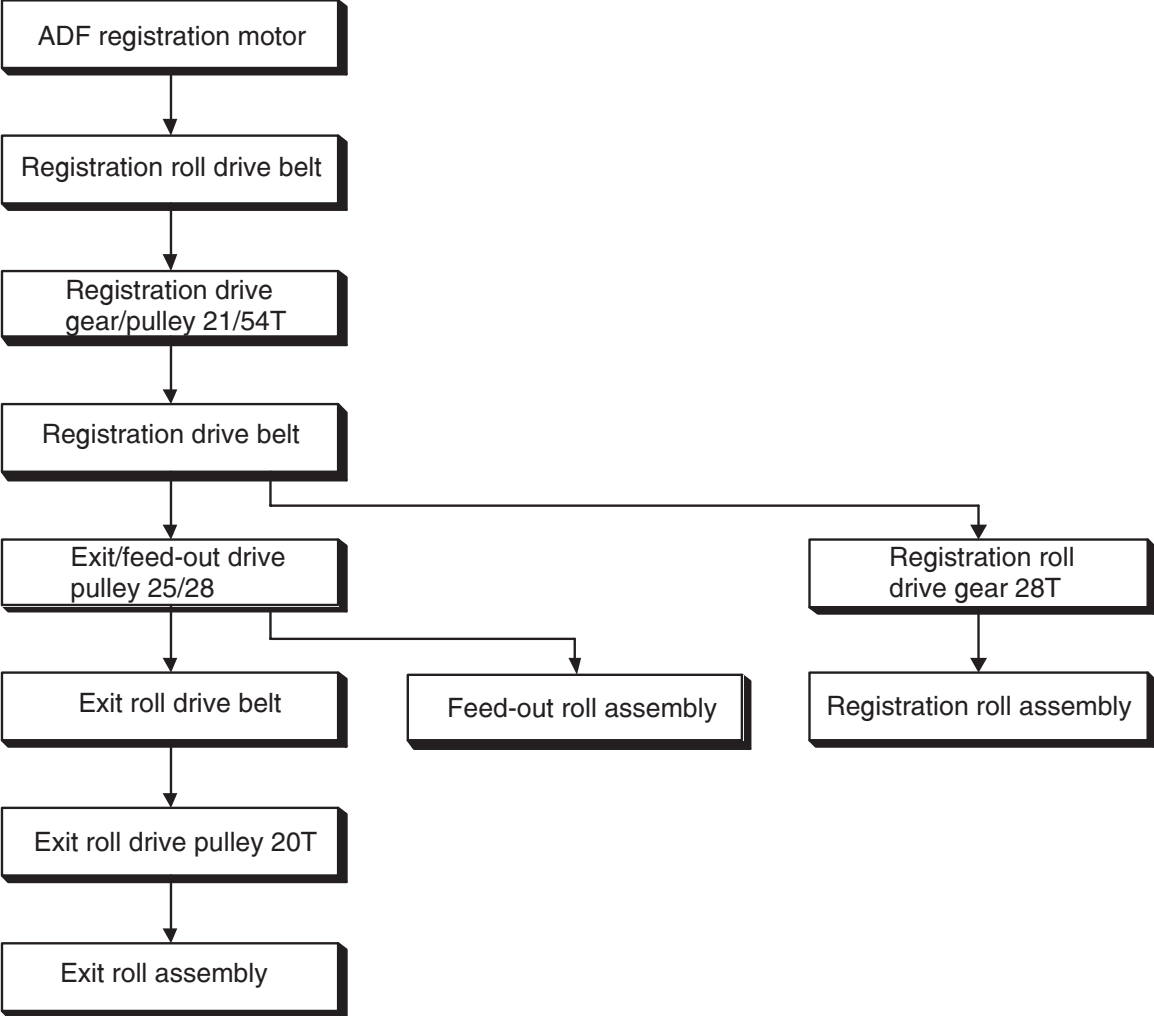
The rotational force of the ADF feed motor assembly is transferred to each document feeding roll as shown below.

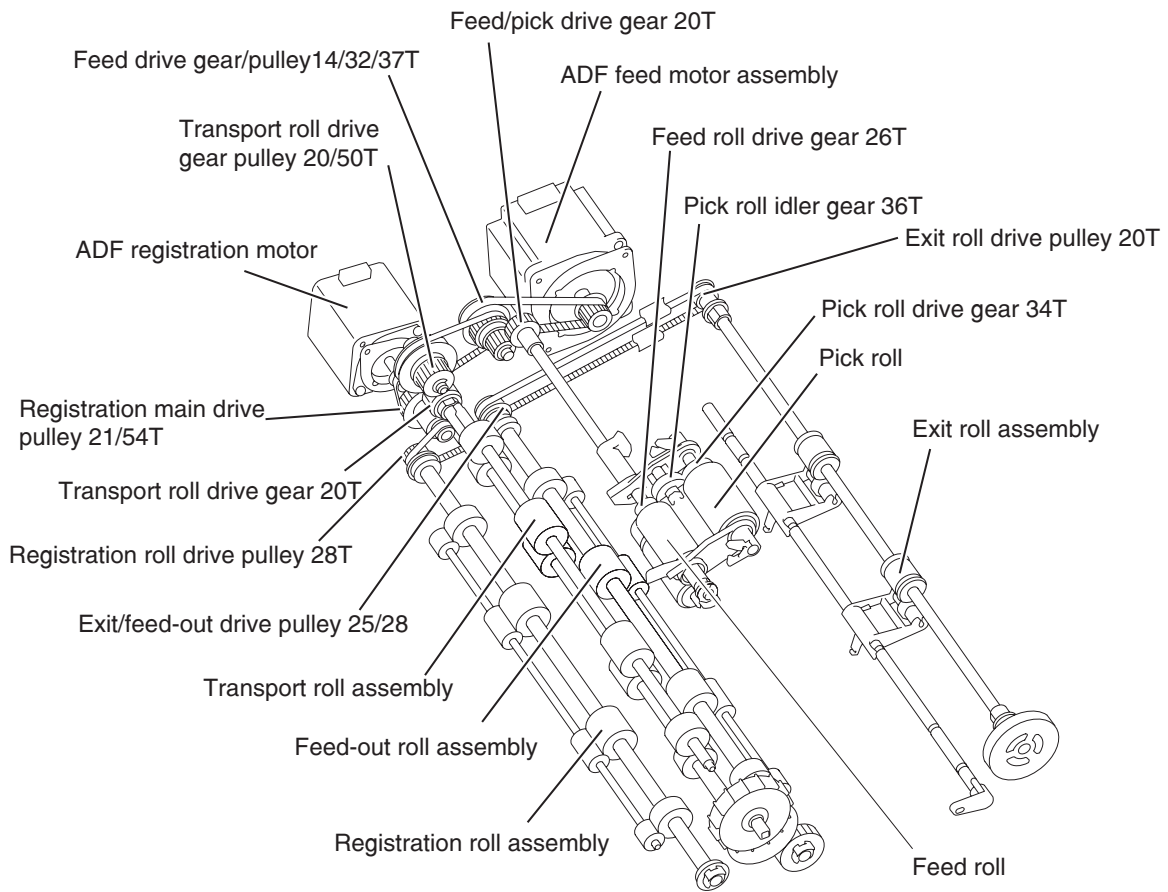


### ADF registration motor

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

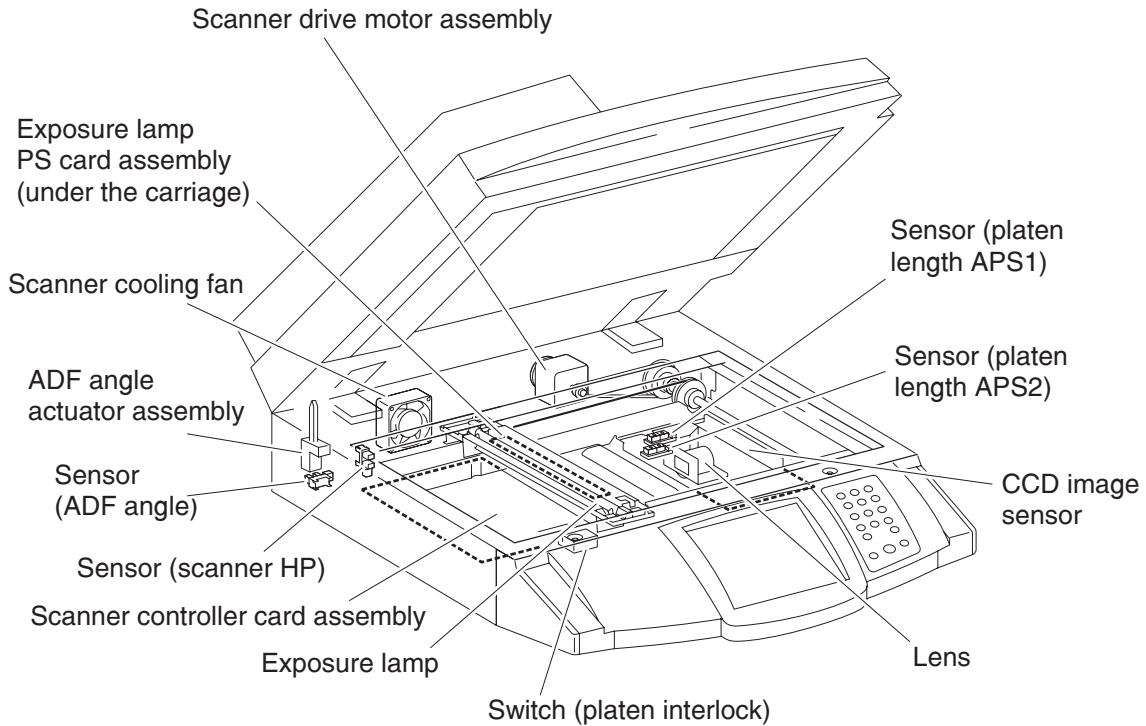
A kit that consists of a lens used to read the document and a CCD image sensor used to photoelectrically convert the image data read from the document.

### 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

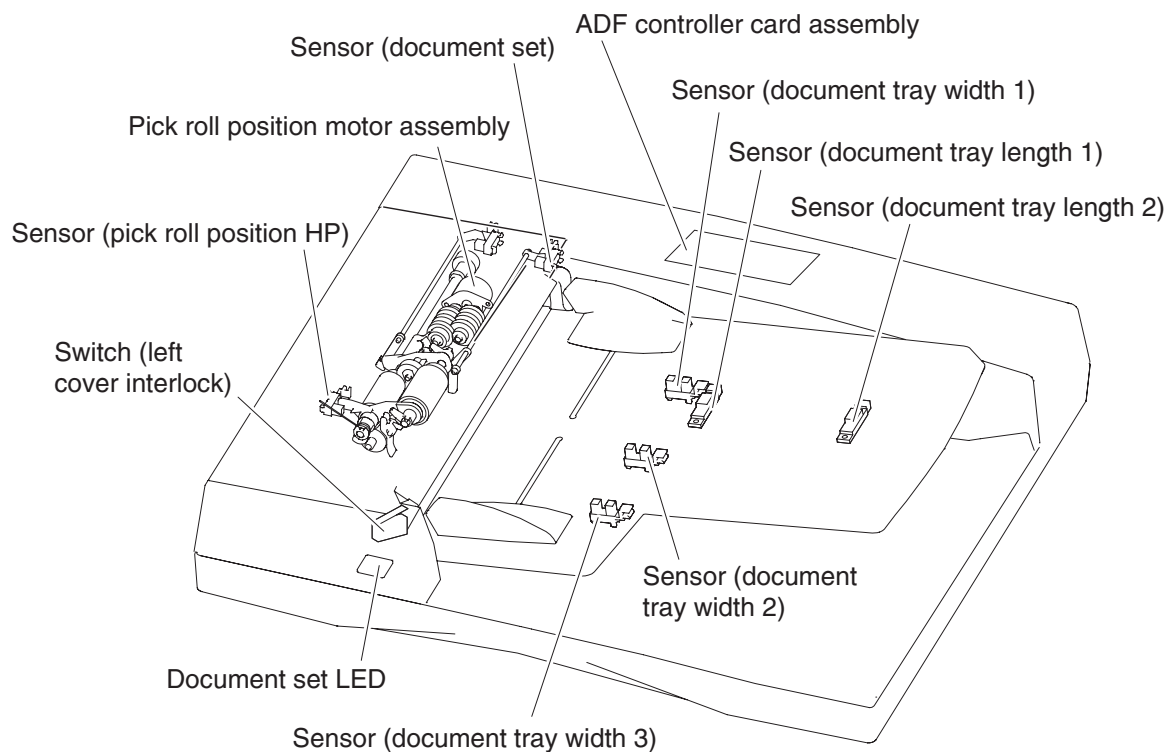
An LED that illuminates when a document is set on the ADF Document Tray.

### 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.

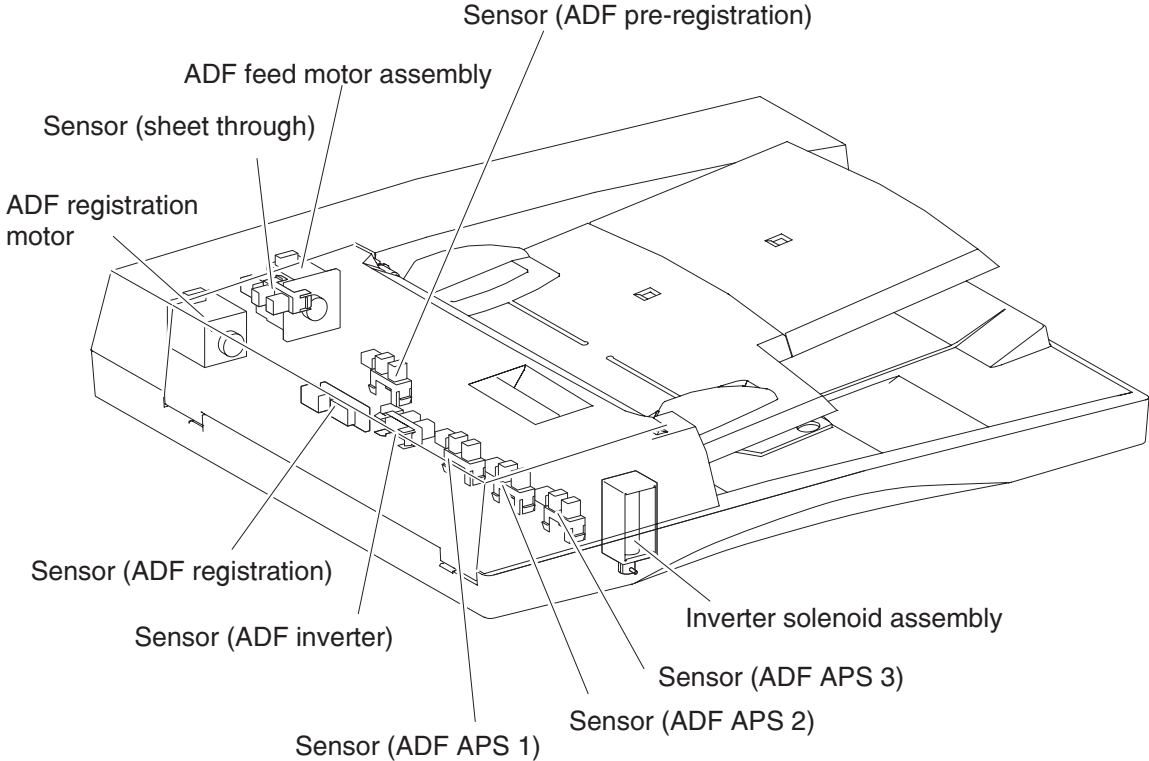
### **Inverter solenoid assembly**

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:

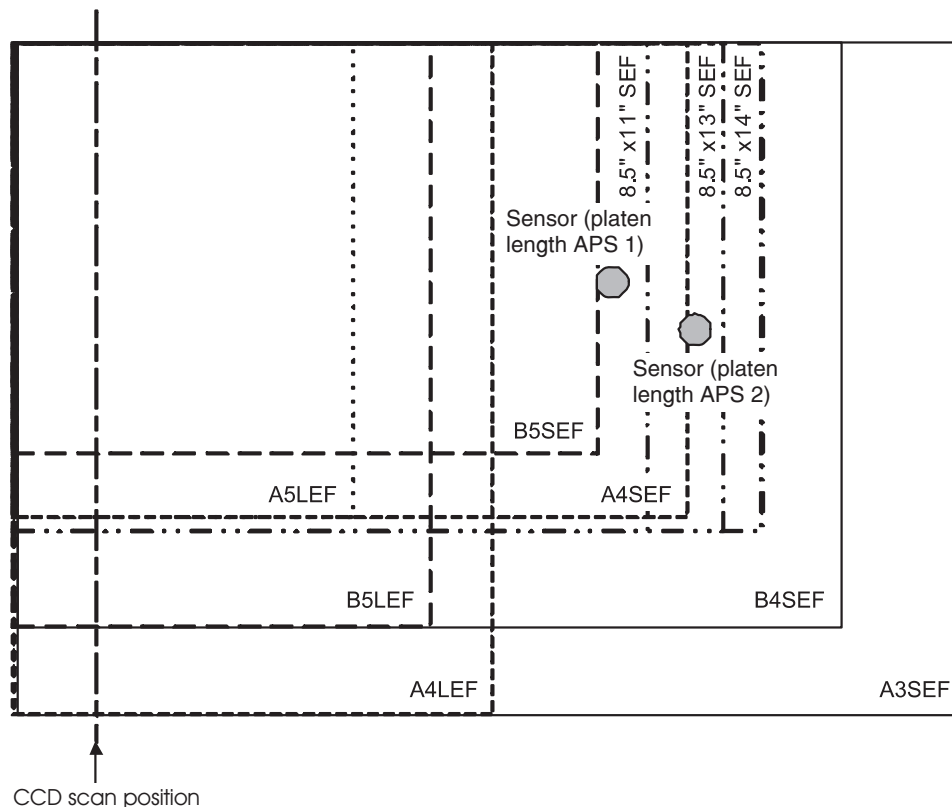
- When the Platen Cover (ADF) is closed
- When the START button is pressed with the Platen Cover (ADF) open

### 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.

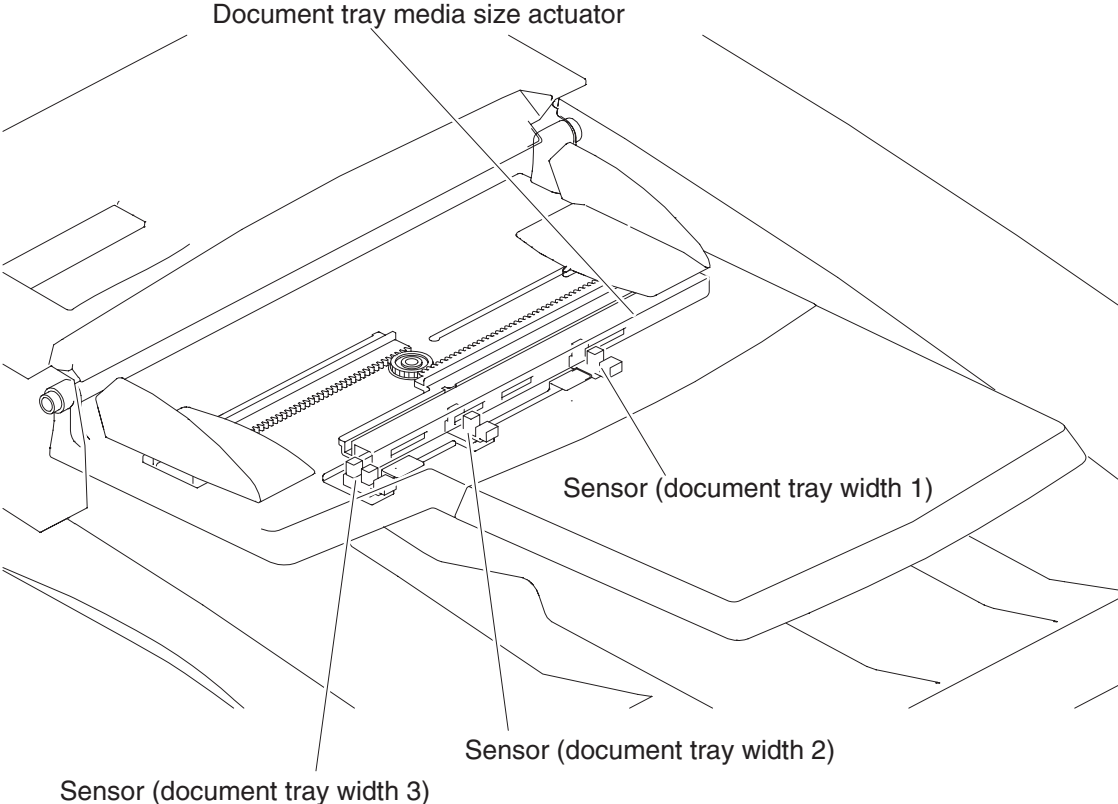
When the document is set on the document tray, the document size is determined by a combination of ON/off status of the sensor (ADF APS 1), sensor (ADF APS 2) and the sensor (ADF APS 3) for detecting the document width (in the fast scanning direction) and ON/off status of the sensor (document tray length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

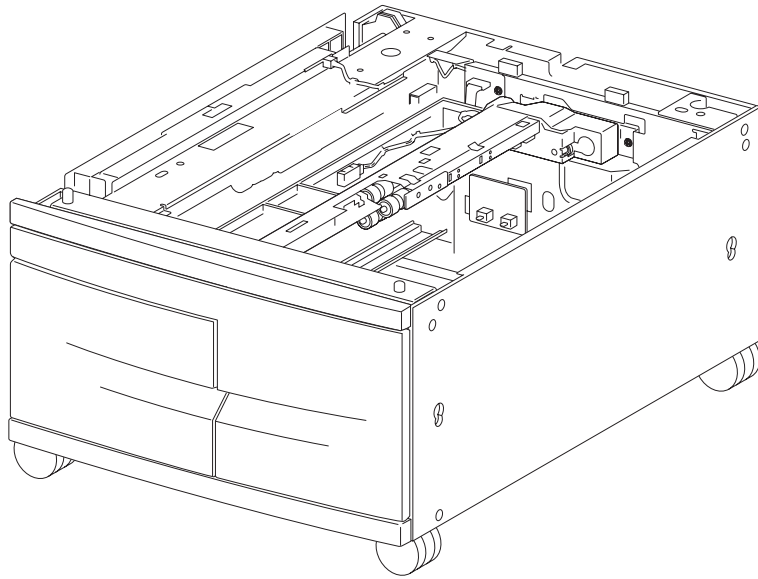
Black level variation compensation is performed to compensate for variation in black level that is caused by the temperature drift of the CCD image sensor and analog circuit.

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.

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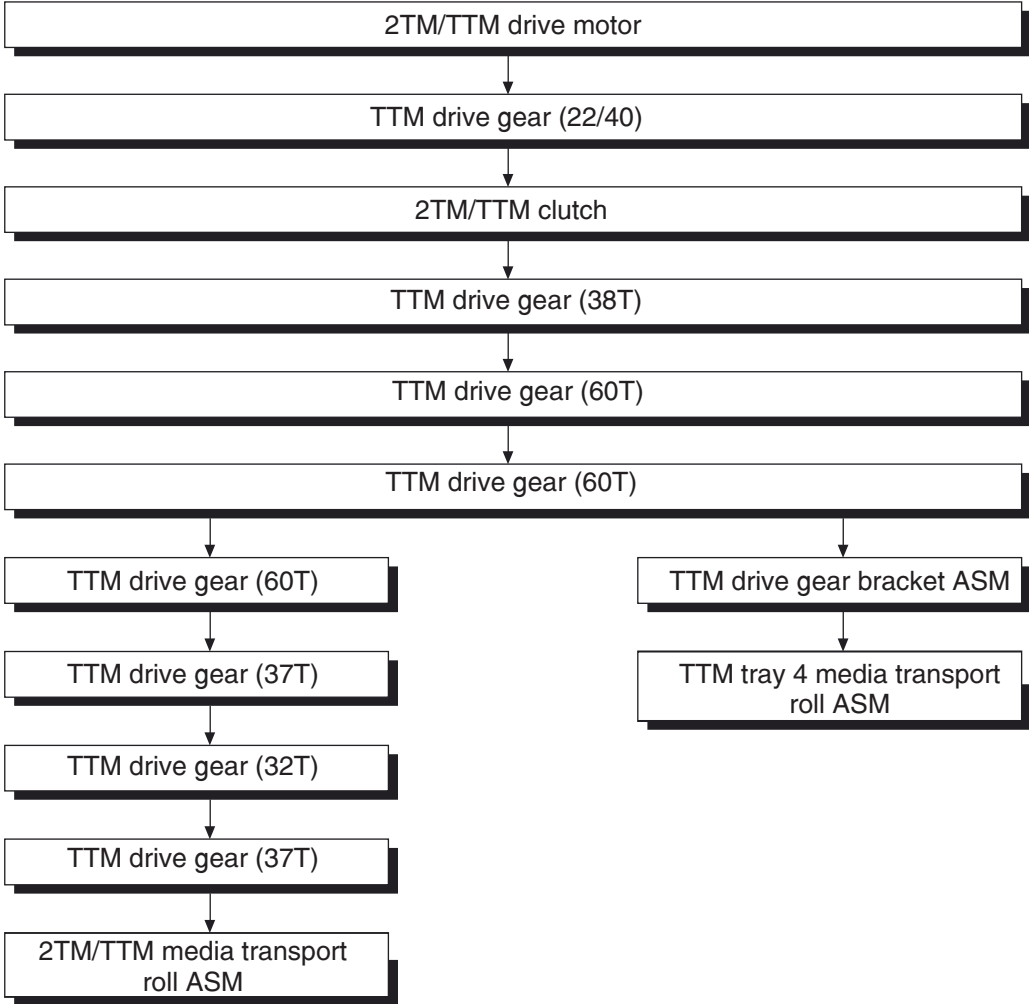
## Tandem tray theory



# Driving force transmission path

## 2 tray / tandem tray drive motor assembly

The rotating force of the 2 tray / tandem tray motor is transmitted through the gears to components that require mechanical driving force as shown below.

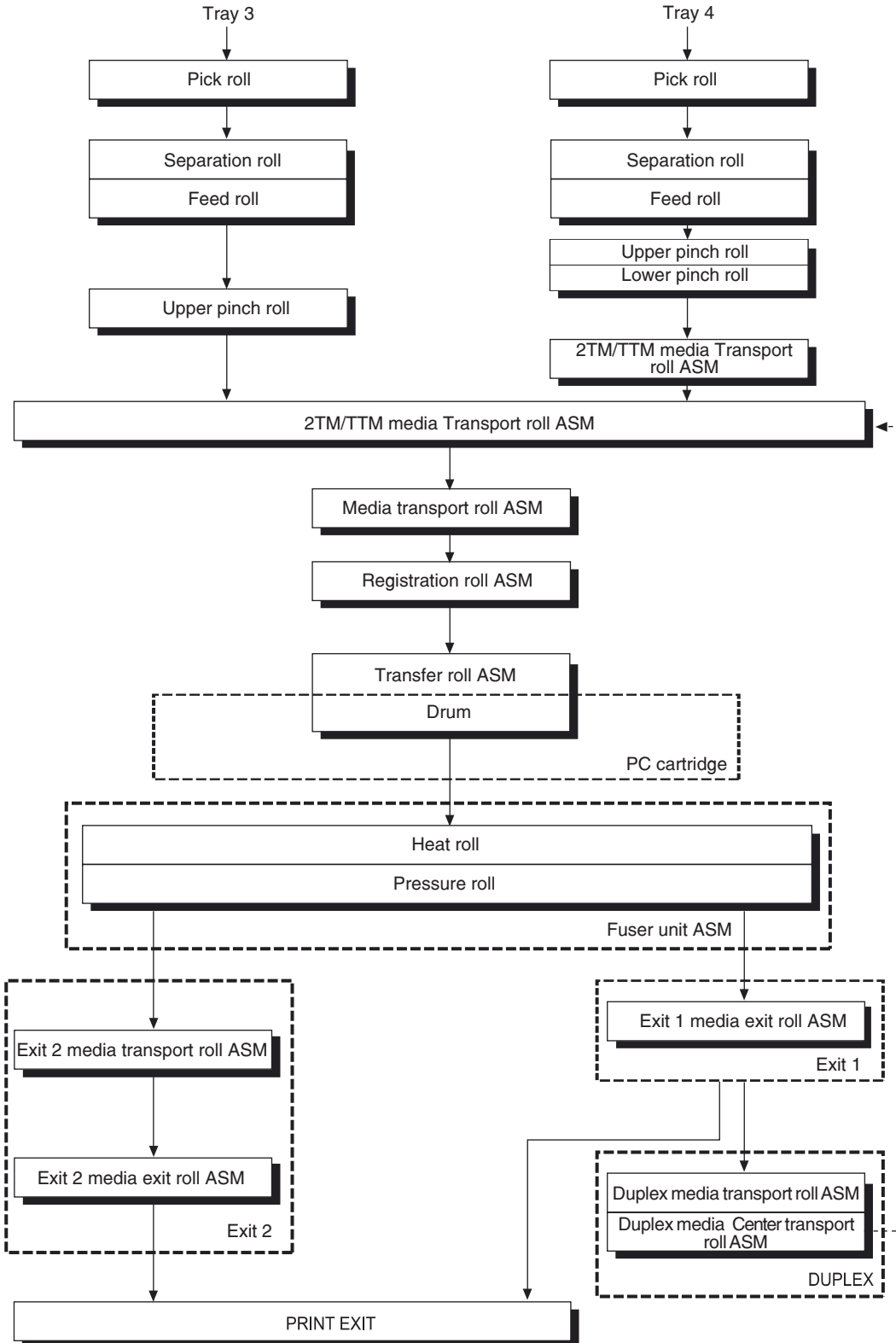


The driving force transmitted to the gear 22/40T drives the transport roll assembly through the clutch and gears.

## Media transport

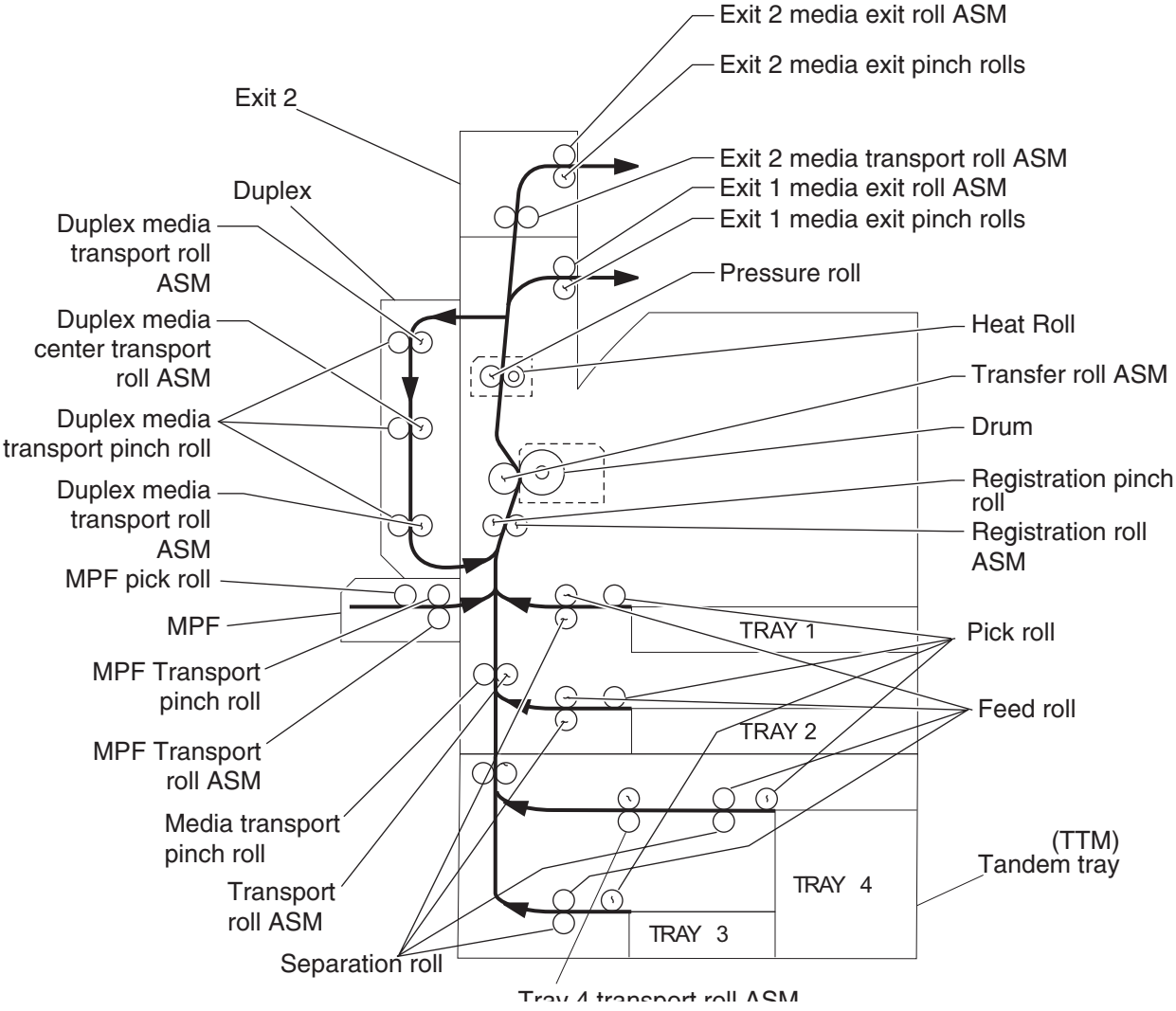
### Media transport path

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 tandem tray module is installed under the printer, additional trays are available.

## Media tray assembly

### Media feed unit assembly

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

### Front media guide / rear media guide

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

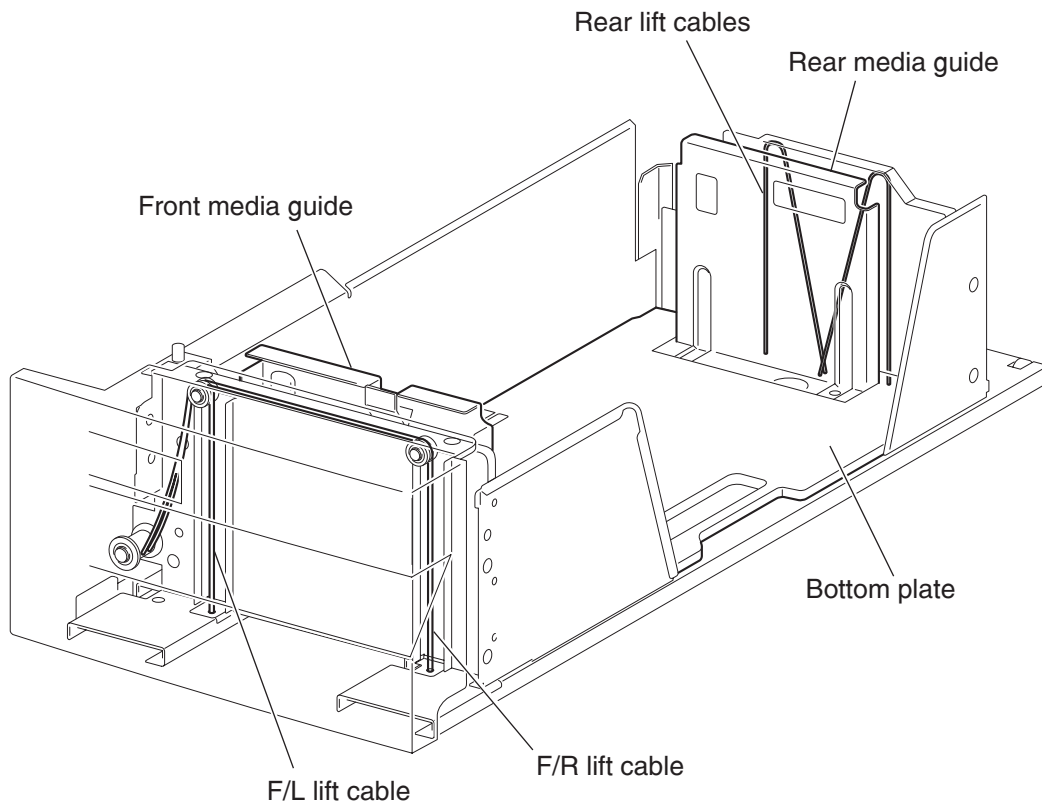
The rear side guide moves together with the front side guide.

### Bottom plate

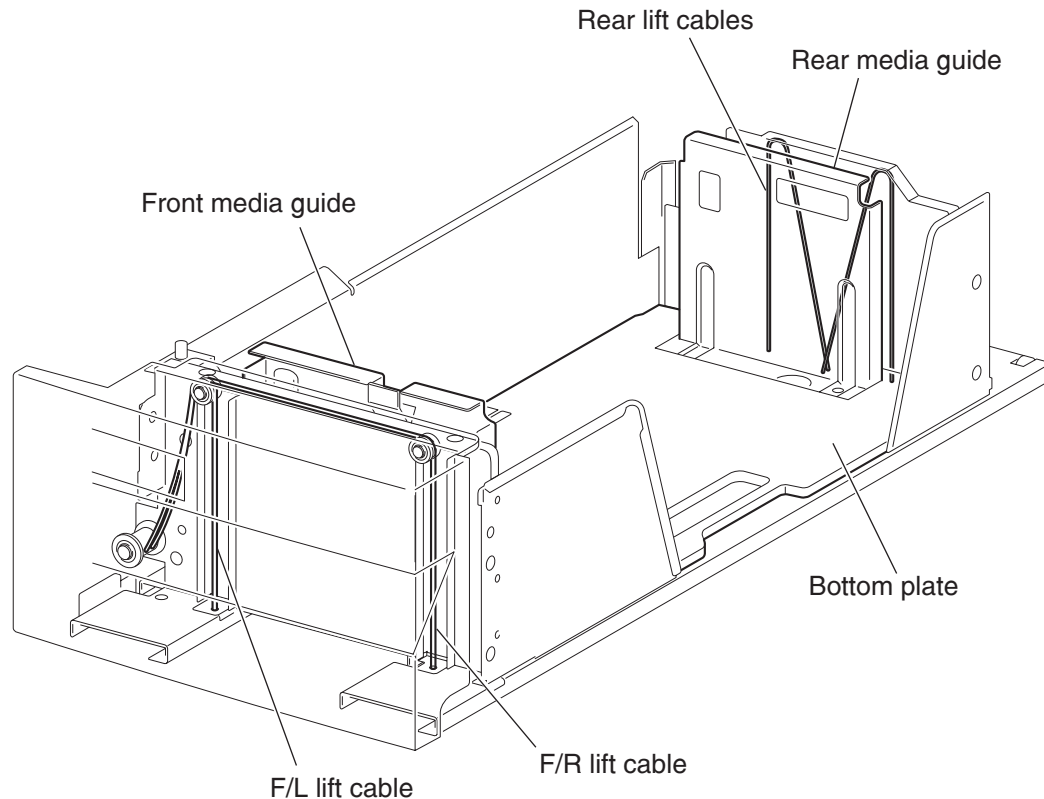
The force pushing up the bottom plate of tray 3 is transmitted by the driving force of the media feed lift motor on the media feed unit assembly to the media lift shaft assembly through the tray lift gear assembly 3. The bottom plate is lifted up via the rear tray cables, front right cable and front 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 3 media tray assembly



### Tray 4 media tray assembly



### 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 (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.

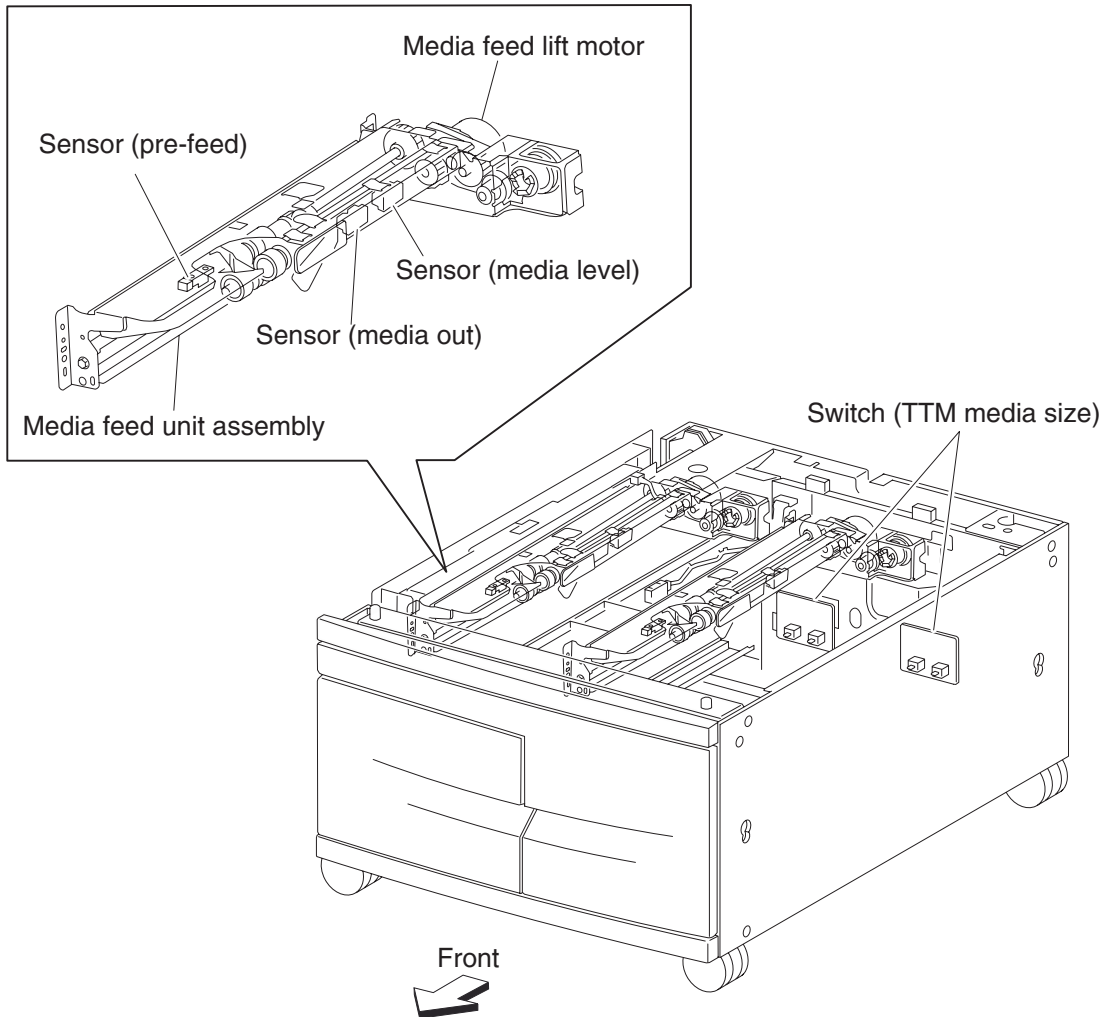
### Sensor (media level)

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.

### Sensor (pre-feed)

This sensor detects a media jam in the media tray assembly by the media position and sensor on/off time.

The sensor on/off states can be monitored by media passing through the sensor (pre-feed) sensing area.





### Main components

#### Switch (2TM/TTM left door interlock)

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

#### 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)

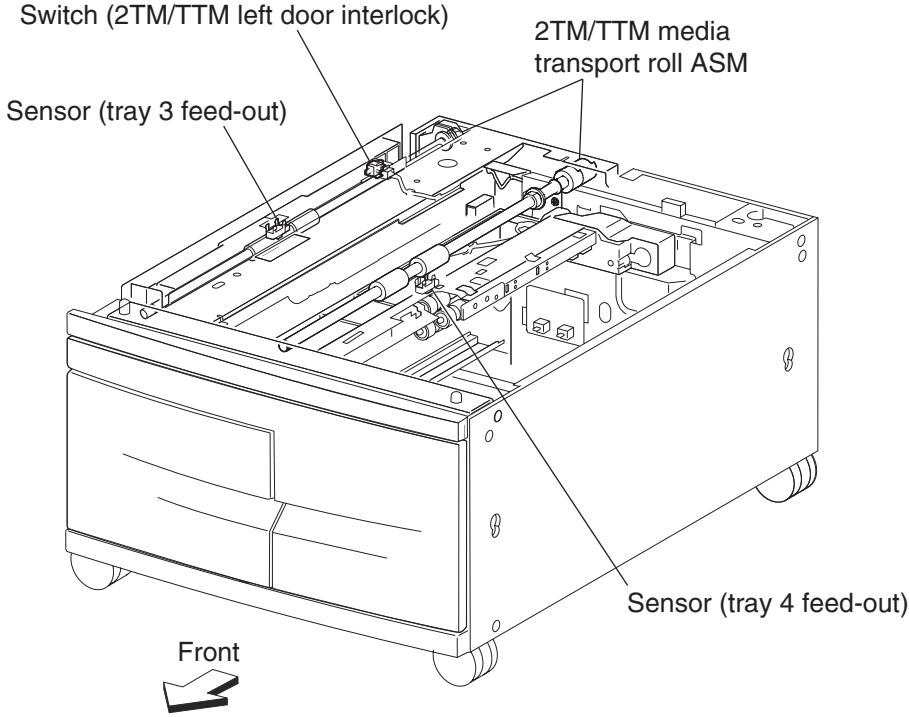
The sensor (tray 4 feed-out) detects media fed from the tray 4.

#### 2TM/TTM media transport roll assembly

The 2TM/TTM transport roll assembly feeds media from the tray 3 or tray 4 to the printer.

#### 2TM/TTM controller card assembly

The 2TM/TTM controller card assembly, which contains a CPU, controls media feed in the tandem tray module upon receiving a command from the printer engine card assembly and sensor/switch information.



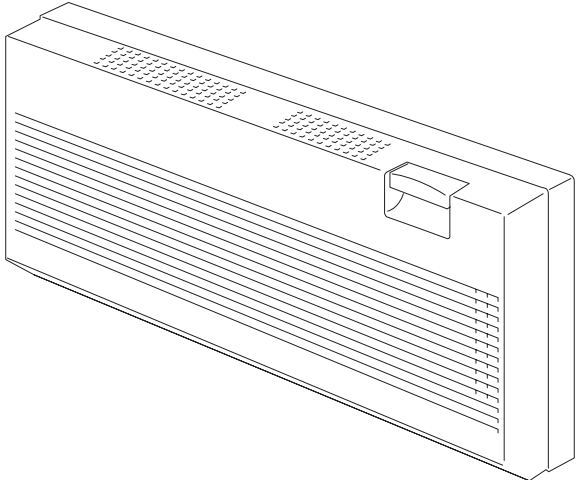
**Switch (tandem tray media size)**

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.

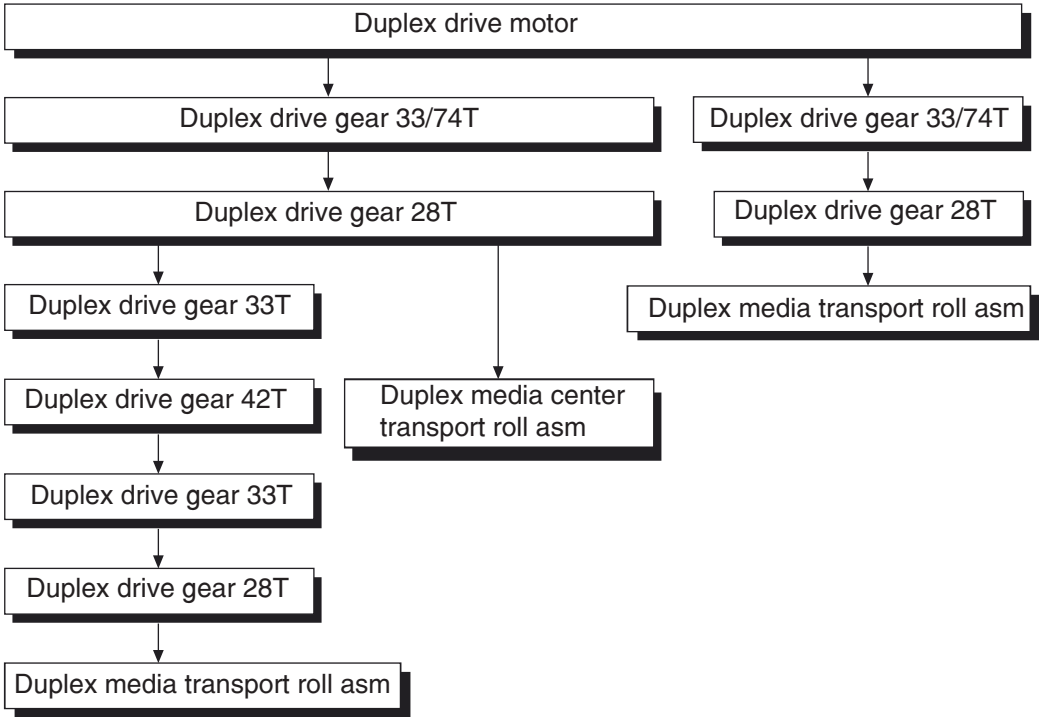
Media Size	Analog switch	
	S/W1	S/W3
No Tray	Off	Off
B5L/7.25" x 10.5"L	Off	On
8.5" x 11"L	On	Off
A4L	On	On

# Duplex



## Duplex drive motor

The rotating force of the drive motor is transmitted through the gears to components that need mechanical driving force as shown below.

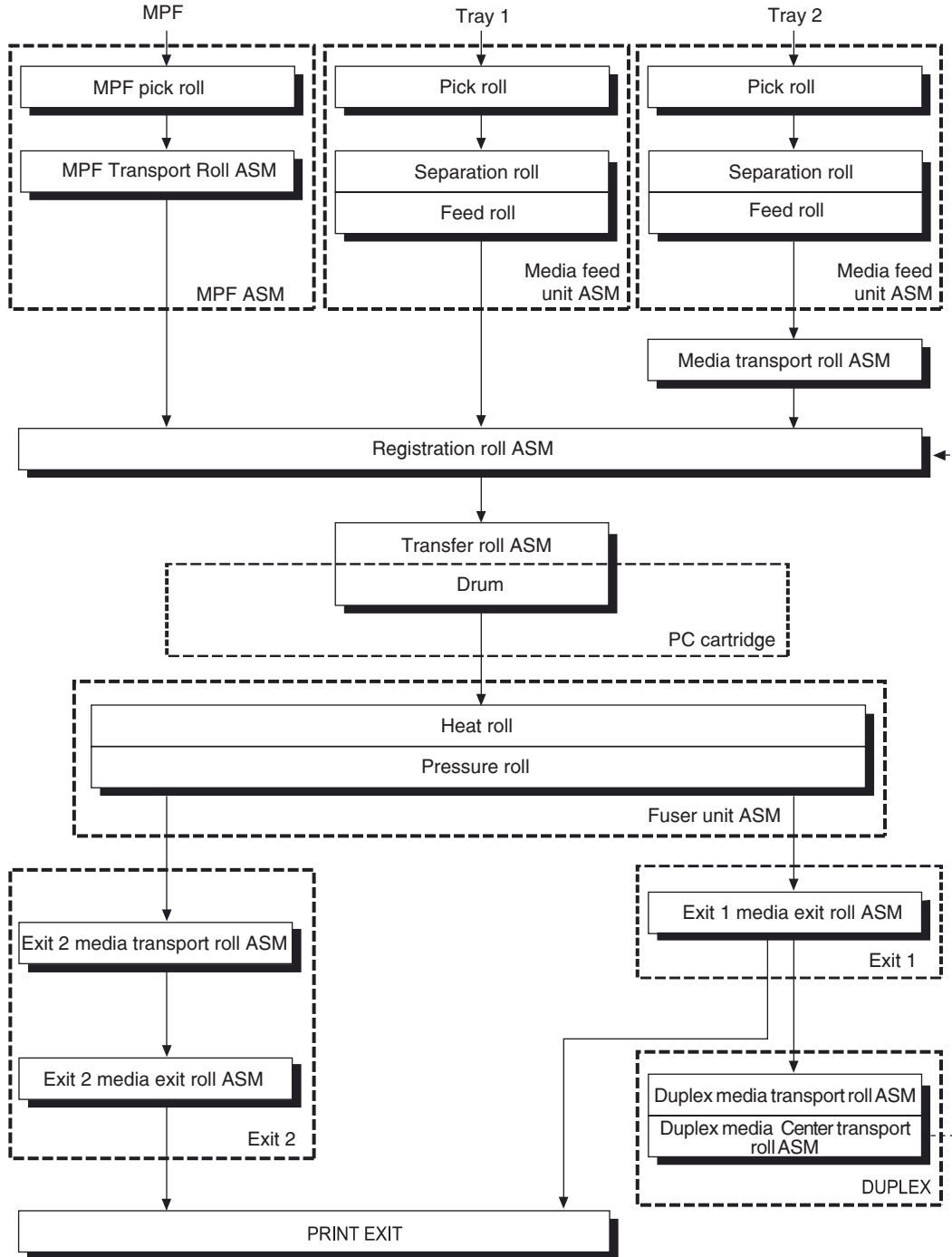


The transmitted driving force drives the two duplex media transport roll assemblies, and the (duplex media center transport roll assembly) through the gears.

## Media transport

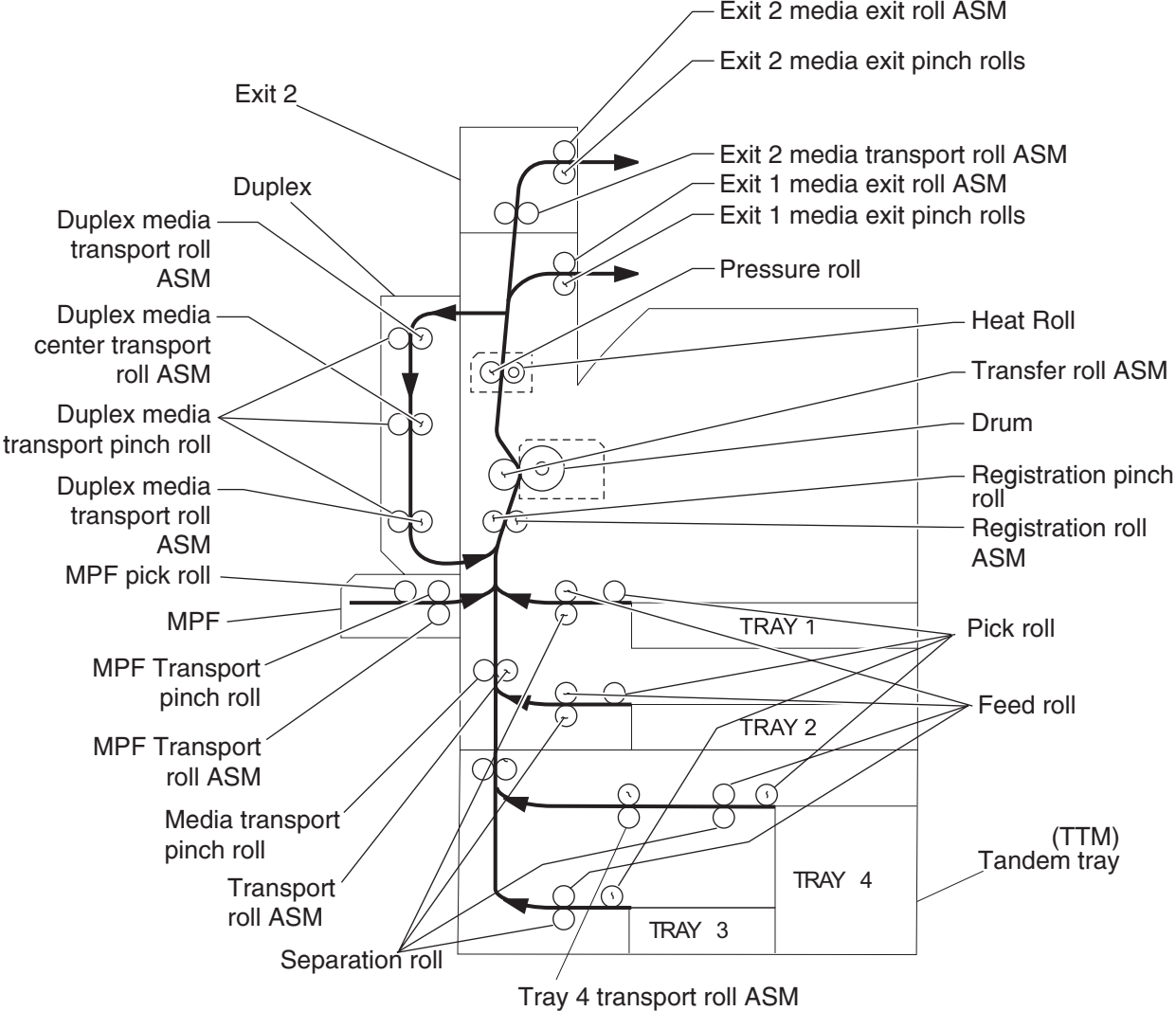
### Media transport path

With the duplex installed, media is supplied from the MPF, tray 1 or tray 2, and is transported to the printer along the media transport path shown below.



**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

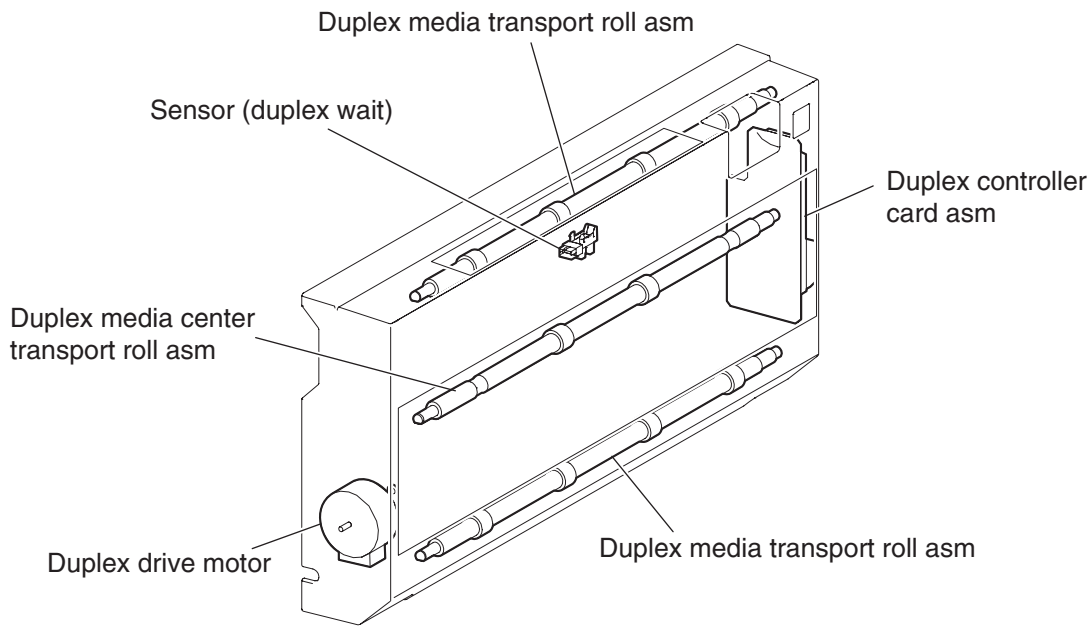
The two duplex media transport roll assemblies and the duplex media center transport roll assembly re-feeds the media printed on the front side through the duplex to print on the rear side.

### Duplex controller card assembly

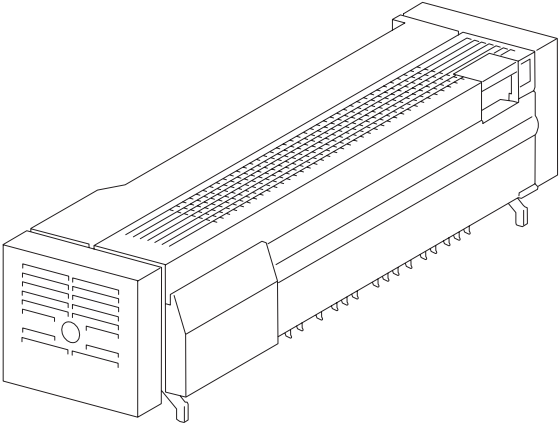
The duplex controller card assembly that contains a CPU controls media feed in the duplex upon receiving a command from the printer engine card assembly and sensor/switch information.

### 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.

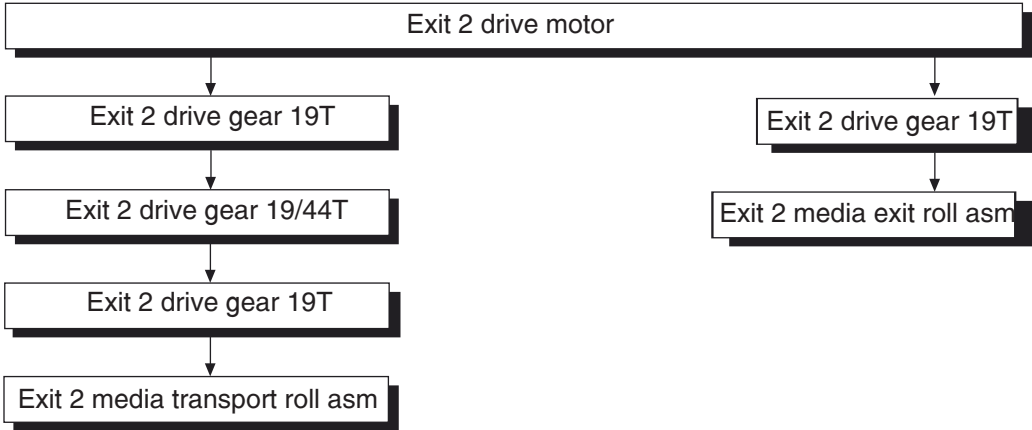


# Exit 2



## Exit 2 drive motor

The rotating force of the exit 2 drive motor is transmitted through the gears to components that need mechanical driving force as shown below.

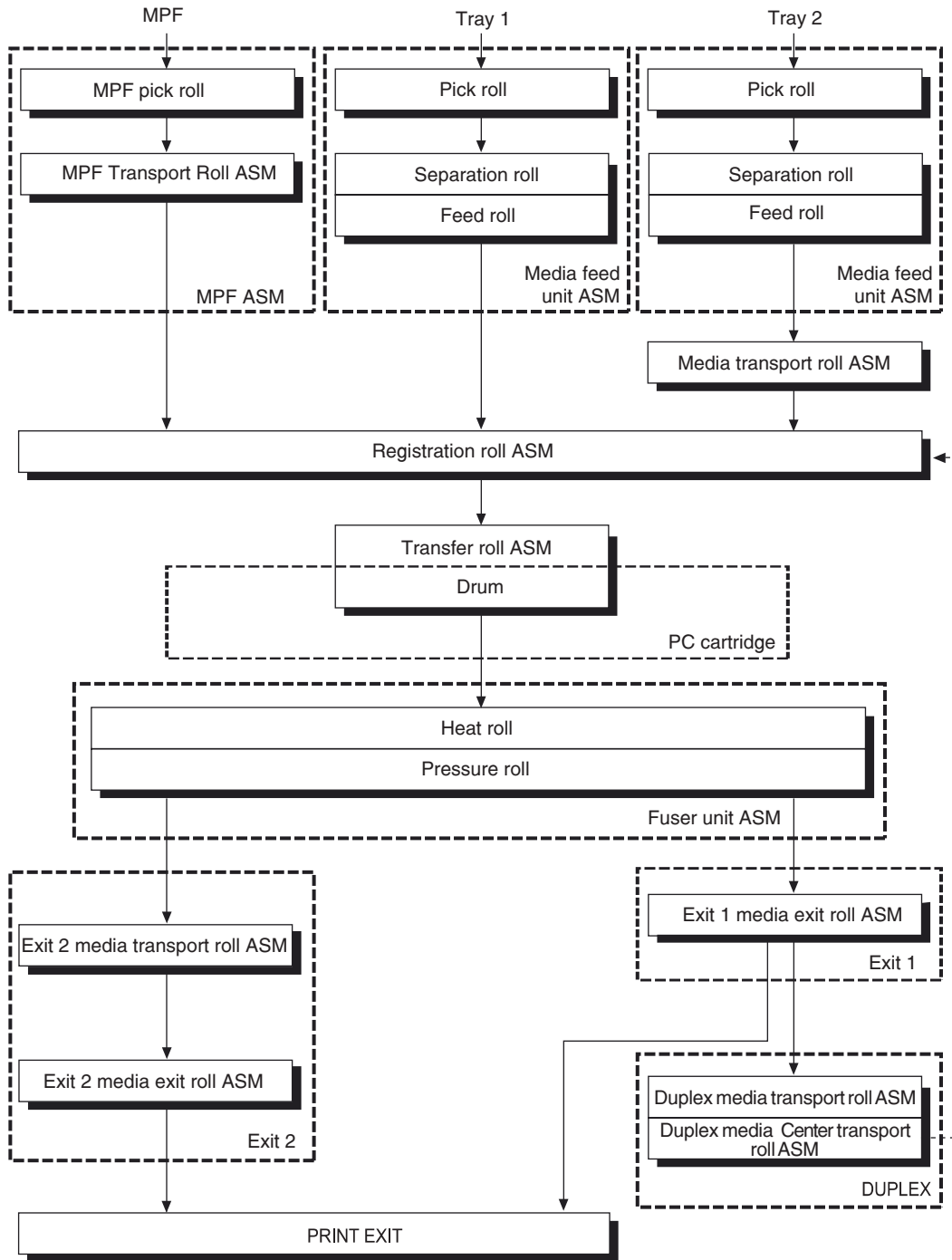


The transmitted driving force drives the exit 2 media transport roll assembly and the exit 2 media exit roll assembly through the gears.

## Media transport

### Media transport path

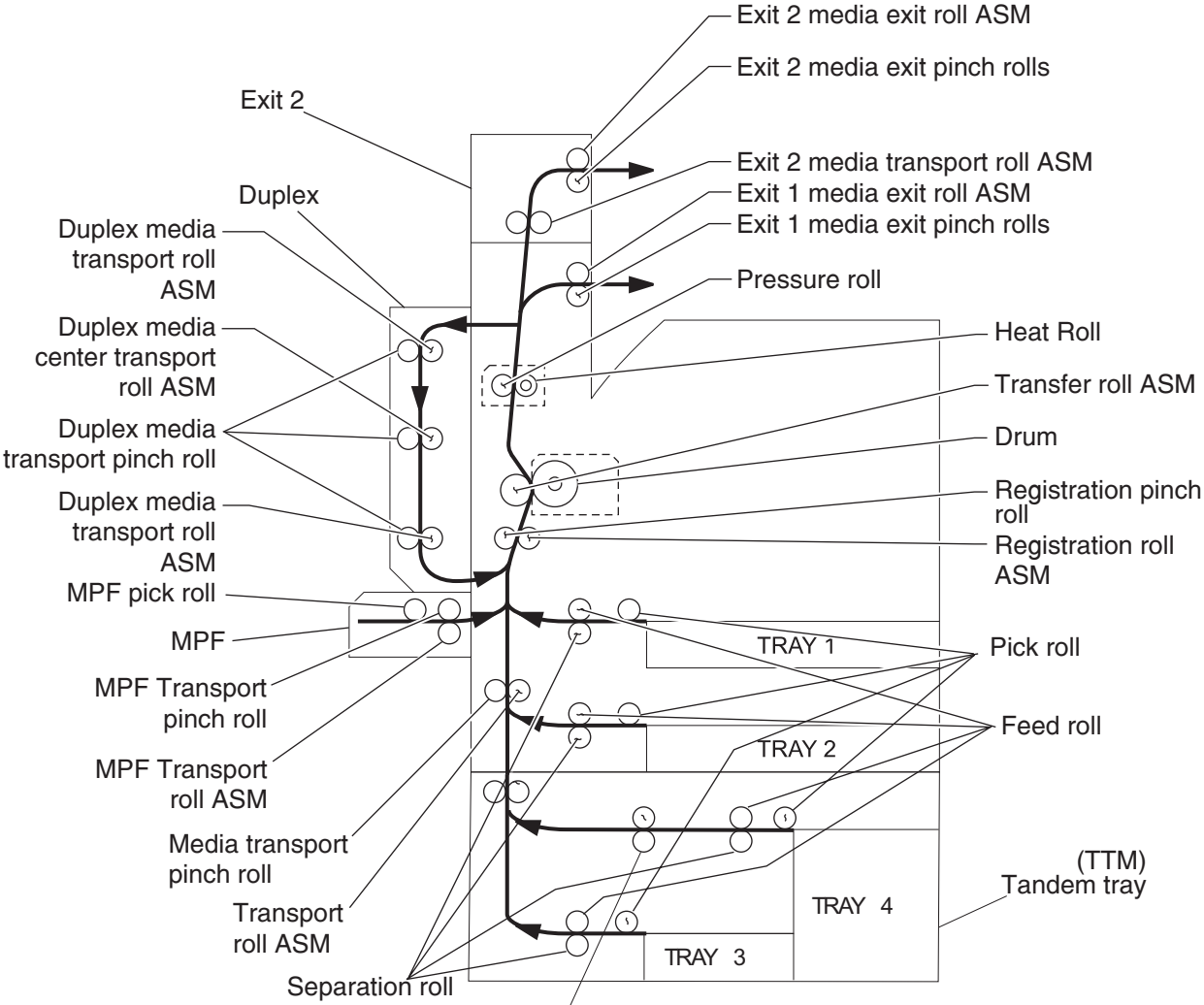
With the exit 2 installed, media is supplied from the MPF, tray 1, or tray 2 and is transported to the printer along the media transport path shown below.





### Layout of media transport path

The following figure illustrates the main components directly associated with the media path and transport with the exit 2 installed.



### Functions of Main Components

#### Drive motor

The drive motor is a stepping motor driving the transport roll assembly and media exit roll assembly. Forward rotation of this motor drives these rollers to feed media to the exit 2 standard bin. Reverse rotation of this motor drives the transport roll assembly to feed media to the duplex.

#### Media shift motor

The media shift motor is a stepping motor moving the media exit roll assembly frontward or rearward. Forward rotation of this motor moves the media exit roll assembly to the front side. Reverse rotation of this motor moves it to the rear side.

### **Exit interface card assembly (located in the printer)**

The exit interface card assembly contains a CPU and controls media feed in the exit 2 upon receiving a command from the printer engine card assembly and sensor/switch information.

### **Exit 2 left door assembly**

The left door assembly detects open/close of the exit 2.

### **Sensor (exit 2)**

The sensor (exit 2) detects whether media is remaining in the exit 2.

### **Sensor (Standard bin full exit 2)**

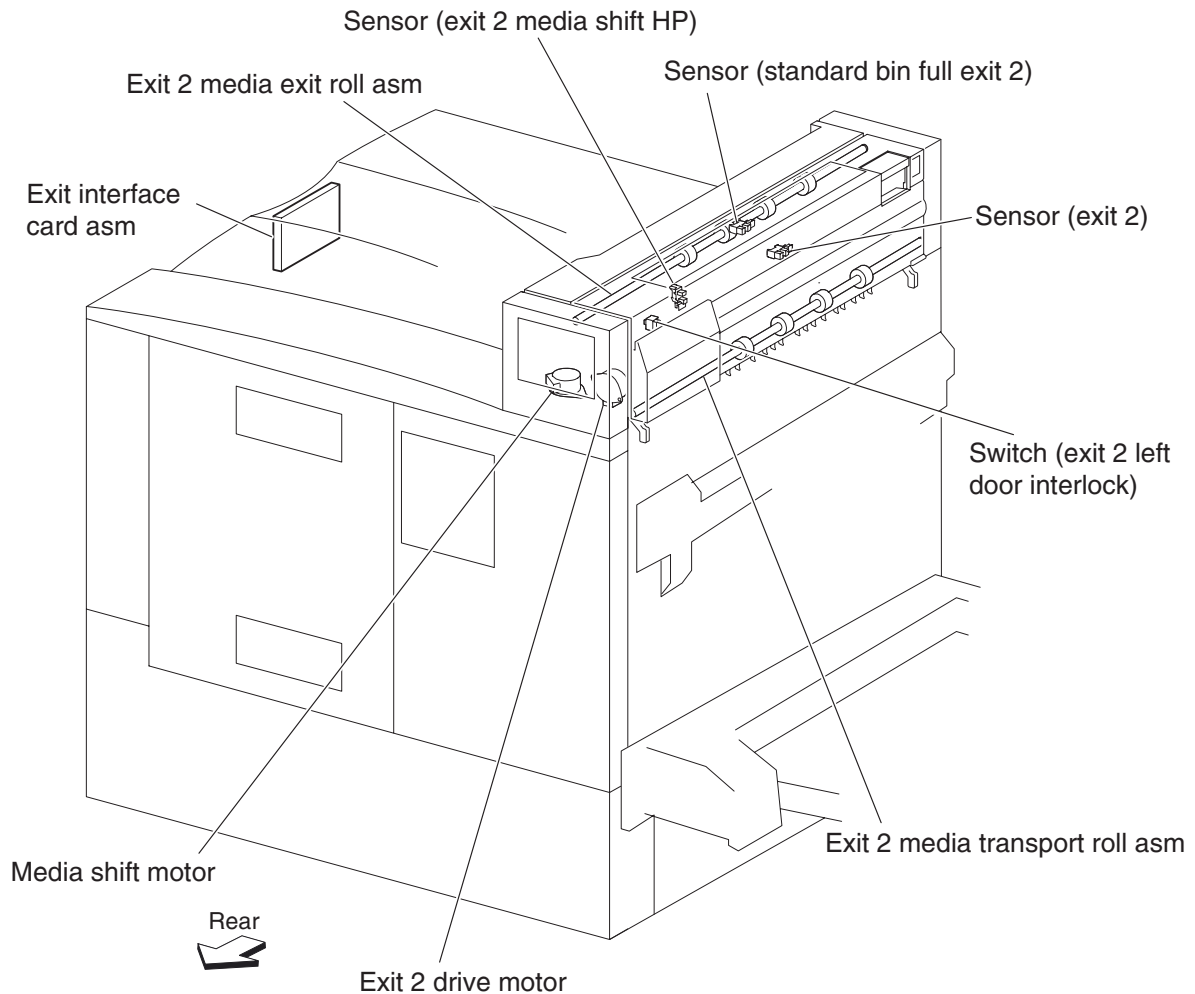
The sensor (exit 2 standard bin full) detects whether the standard bin is full.

### **Sensor (exit 2 media shift HP)**

The sensor (exit 2 media shift HP) detects the media exit roll assembly position.

## Exit 2 transport roll assembly and media exit roll assembly

The exit 2 transport roll assembly and exit 2 media exit roll assembly are rollers used to eject media to the exit 2 standard bin or to feed media to the duplex.




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## 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)

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## Acronyms

2TM	2 Tray Module
AC	Alternating Current
ADF	Automatic Document Feeder
APS	Automatic Paper Size
ASIC	Application Specific Integrated Circuit
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

7500-XXX

## 2. Diagnostic information

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### Start



**CAUTION:** Unplug the power cord from the printer or electrical outlet before you connect or disconnect any cable or electronic board or assembly for personal safety and to prevent damage to the printer. Disconnect any connections between the printer and PC peripherals.

**CAUTION:** The MFP weighs approximately 106 kg (233 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.

**CAUTION:** If the printer is kept on, never touch the conductive parts while it is 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.

**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.

**CAUTION:** Be careful to avoid burns by safely handling hot parts.

**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.**

### Using service checks

To determine the corrective action necessary to repair a printer, look for the following information:

- Verify the installation status. Go to **“Confirm the installation status” on page 2-2.**
- Does POR (Power-on Reset) stop? Check the POR sequence. Go to **“Power-on Reset sequence” on page 2-2.**
- If you get an error code message, go to **“Error code messages” on page 2-13.**
  - For detailed information on specific error codes and error messages, go to **“Service checks” on page 2-40.**
- If you have an attendance message, refer to the *User’s Guide*.
- For additional operator panel information, go to **“Control panel” on page 2-3.**

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

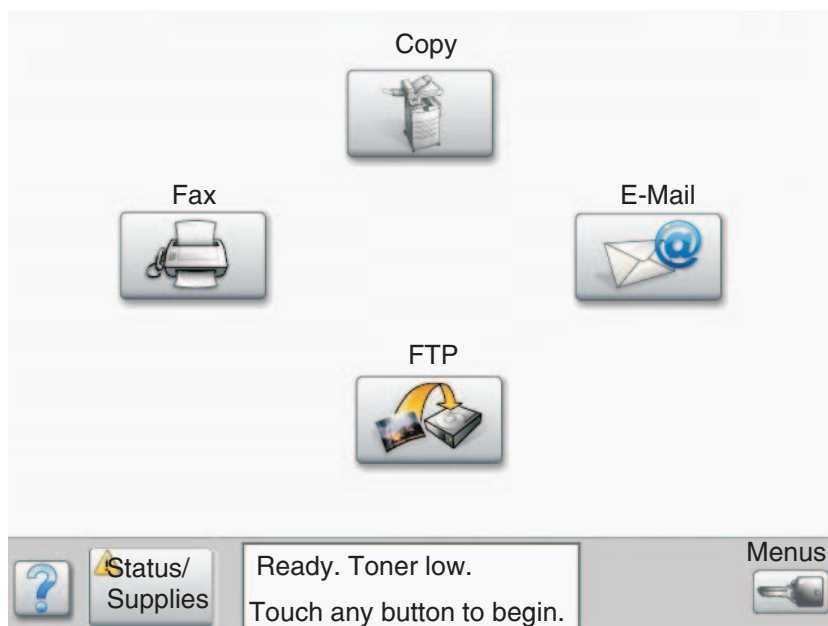
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## Power-on Reset sequence

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**

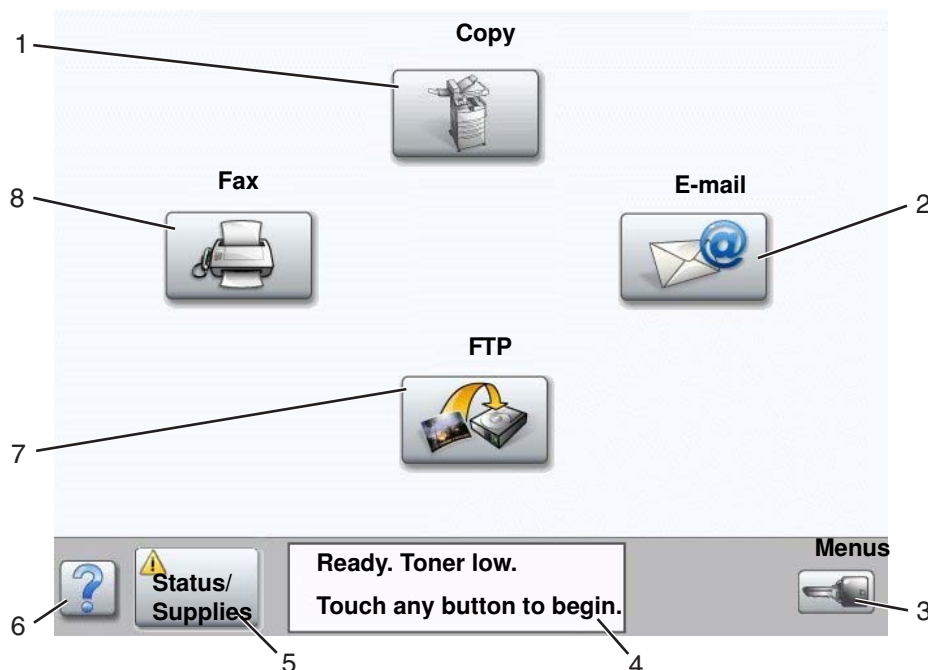


Callout	Control panel item	Function										
1	LCD	A liquid crystal display (LCD) which shows home screen buttons, menus, menu items, and values. Allows for making selections within Copy, Fax, and so on.										
2	Indicator light	<p>Gives information about the status of the MFP using the colors red and green.</p> <table border="1"> <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	Clear All	<p>Press to restore all default settings to a screen and return the MFP to the home screen.</p> <p>When in the menus, it cancels all changes that have not been submitted and returns the MFP to the home screen.</p> <p>When in other menus, it returns all settings to their default values, and then returns the MFP to the home screen.</p>
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 (*)	<p>* is used as part of a fax number or as an alphanumeric character.</p>
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 [.dcm 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



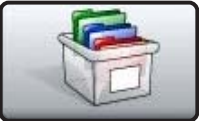

After the MFP is turned on and a short warm-up period occurs, the LCD shows the following basic screen which is referred to as the Home screen. Use the Home screen buttons to initiate an action such as copy, fax, or scan, to open the menu screen, or to respond to messages.





Callout number	Button	Function
1	Copy	Touch to access the Copy menus. If the home screen is shown, press a number to access the Copy menus, too.
2	E-mail	Touch to access the E-mail menus. It is possible to scan a document directly to an e-mail address.
3	Menu (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 Menu button is on a gray bar called the navigation bar. The bar contains other buttons described as follows.
4	Status message bar	Shows the current MFP status such as <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> .
5	Status/Supplies	Appears on the LCD whenever the MFP status includes a message requiring intervention. Touch it to access the messages screen for more information on the message including how to clear it.
6	? (Tips)	All menus have a Tips button. Tips is a context-sensitive Help feature within the LCD touch screens.

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

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

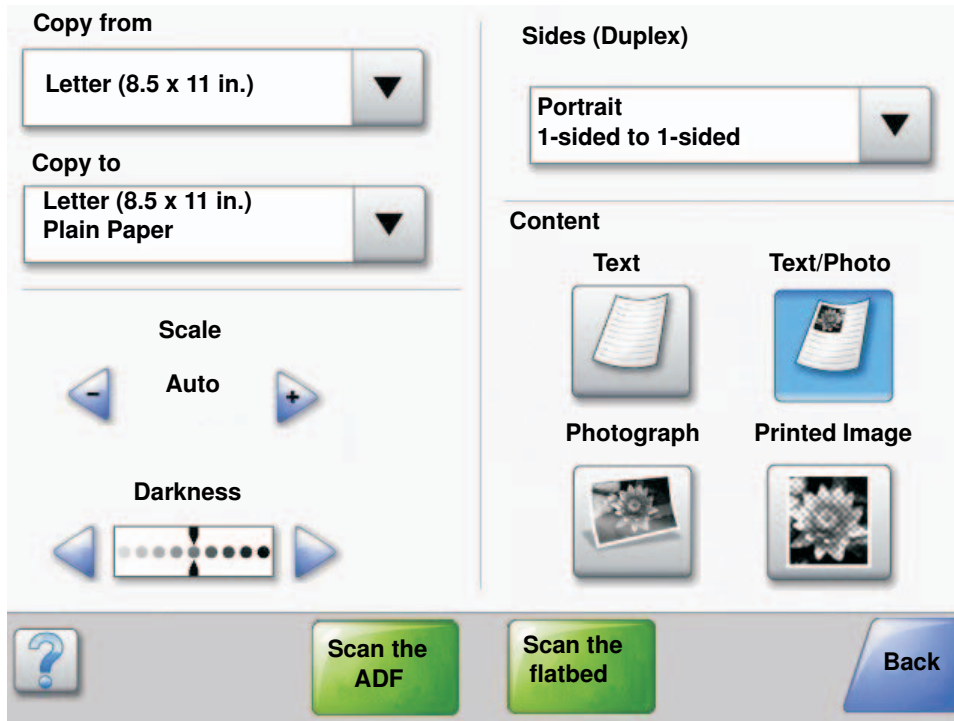
Button	Button name	Function
	Release Held Faxes (or Held Faxes if in Manual Mode)	There are held faxes with a scheduled hold time previously set. To access the list of held faxes, touch this button.
	Search Held Jobs	To search on any of the following items and return any matches: <ul style="list-style-type: 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>

	Unlock Device	<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>
	Cancel Jobs	<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

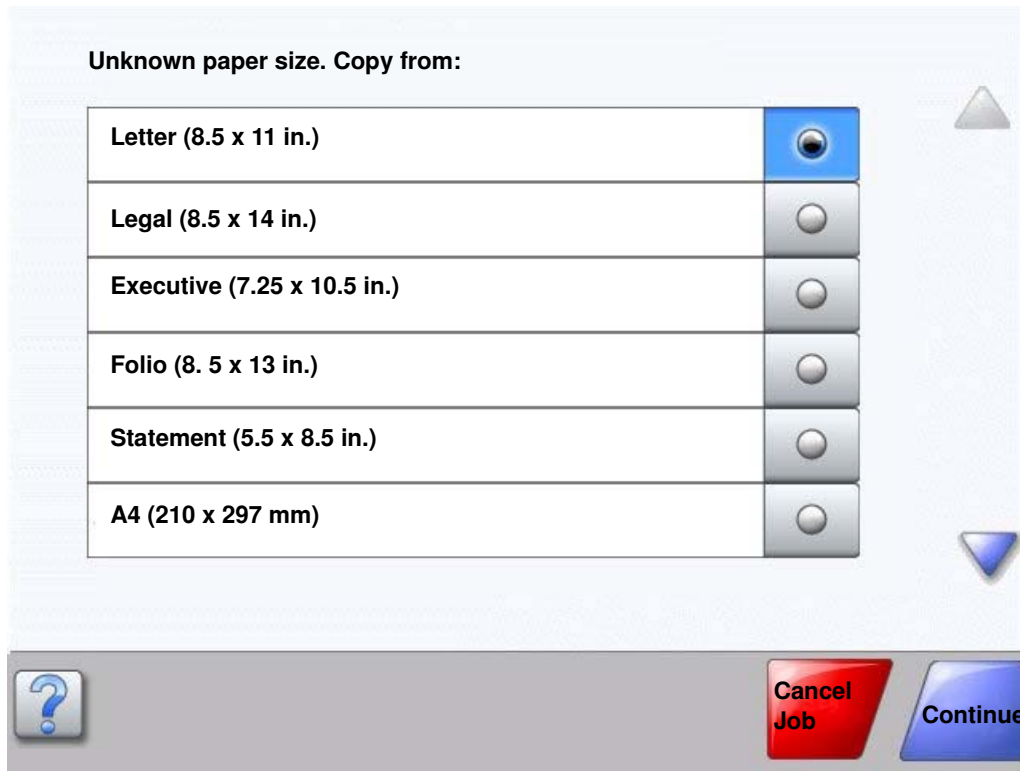


### Information on touch-screen buttons





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  Submit	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.  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> .  
	Back	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.  For example, in <color>Sample screen one, all the selections for scanning have been made. One of the preceding green buttons should be touched. The only other button available is <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.
	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	Touch <b>Cancel</b> to cancel an action or a selection. Touch to cancel out of a screen and return to the previous screen.
	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	A line is located at the top of each menu screen. This feature acts as a trail. It gives the exact location within the menus. Touch any of the underlined words to return to that menu or menu item. The Number of Copies is not underlined since this is the current screen.  If this feature is used on the Number of Copies screen before the Number of Copies is set and saved, then the selection is not saved, and it does not become the user default setting.
	Attendance message alert	If an attendance message occurs which closes a function, such as copy or fax, then a blinking red exclamation point appears over the function button on the home screen. This feature indicates an attendance message exists.

## Error code messages

Error code or message	Error contents	Description/Action
200.00 Paper jam Check area A	Sensor (registration) off jam (too long)	The sensor (registration) is not turned off within the specified time after the registration clutch is turned on. Go to <b>“200.00 Sensor (registration) off jam (too long)” on page 2-40.</b>
200.01 Paper jam Check area A	Sensor (registration) static jam	Media remains on the sensor (registration). Go to <b>“200.01 Sensor (registration) static on jam” on page 2-41.</b>
201.00 Paper jam Check area A	Sensor (fuser exit) on jam	The sensor (fuser exit) is not turned on within the specified time after the registration clutch is turned on. Go to <b>“201.00 Sensor (fuser exit) on jam” on page 2-42.</b>
202.00 Paper jam Check area A	Sensor (fuser exit) off jam	The sensor (fuser exit) is not turned off within the specified time after the sensor (fuser exit) is turned on. Go to <b>“202.00 Sensor (fuser exit) off jam” on page 2-43.</b>
202.01 Paper jam Check area A	Sensor (fuser exit) off (too short) jam	The sensor (fuser exit) is turned off earlier than the specified time after the sensor (fuser exit) is turned on. Go to <b>“202.01 Sensor (fuser exit) off (too short) jam” on page 2-44.</b>
202.02 Paper jam Check area A	Sensor (fuser exit) static jam	Media remains on the sensor (fuser exit). Go to <b>“202.02 Sensor (fuser exit) static jam” on page 2-45.</b>
203.00 Paper jam Check area A	Sensor (exit 2) on jam	The sensor (exit 2) is not turned on within the specified time after the sensor (fuser exit) is turned on. Refer to <b>“203.00 Sensor (exit 2) on jam” on page 2-45.</b>
203.01 Paper jam Check areas A, E	Sensor (exit 2) off jam	The sensor (exit 2) is not turned off within the specified time after the sensor (exit 2) is turned on. Go to <b>“203.01 Sensor (exit 2) off jam” on page 2-47.</b>
203.02 Paper jam Check areas A, E	Sensor (exit 2) is on in the standard bin or simplex finisher	The sensor (exit 2) was turned on when the media is delivered to the exit 1 standard bin or simplex finisher. Go to <b>“203.02 Sensor (exit 2) on jam in standard bin or finisher” on page 2-49.</b>
203.03 Paper jam Check areas A, E	Sensor (exit 2) static jam	Media remains on the sensor (exit2). Go to <b>“203.03 Sensor (exit 2) static jam” on page 2-50.</b>

Error code or message	Error contents	Description/Action
230.00 Paper jam Check areas A, E	Sensor (duplex wait) on jam	The sensor (duplex wait) is not turned on within the specified time after the exit2 motor is turned on. Go to <b>“230.00 Sensor (duplex wait) on jam” on page 2-52.</b>
230.01 Paper jam Check area D	Sensor (duplex wait) static jam	Media remains on the sensor (duplex wait). Go to <b>“230.01 Sensor (duplex wait) static jam” on page 2-54.</b>
231.00 Paper jam Check areas n A, D	Sensor (registration) on jam (duplex paper feed)	Sensor (registration) is not turned on within the specified time after the duplex motor is turned on. Go to <b>“231.00 Sensor (registration) on jam (duplex paper feed)” on page 2-54.</b>
231.01 Paper jam Check areas A, D	Sensor (registration) on jam (duplex paper feed)	Sensor (registration) is not turned on within the specified time after the sensor (duplex wait) is turned on. Go to <b>“231.01 Sensor (registration) on jam (duplex paper feed)” on page 2-56.</b>
241.00 Paper Jam Check area, tray 1	Sensor (pre-feed) on jam (tray 1 feed)	The sensor (pre-feed) tray 1 is not turned on within the specified time after the tray 1 media feed lift motor is turned on. Go to <b>“241.00 Sensor (pre-feed) on jam (tray 1 feed)” on page 2-58.</b>
241.01 Paper jam Check areas A, tray 1	Sensor (registration) on jam (tray 1 feed)	The sensor (registration) is not turned on within the specified time after the sensor (pre-feed) media feed unit 1 is turned on. Go to <b>“241.01 Sensor (registration) on jam (tray 1 feed)” on page 2-59.</b>
242.00 Paper jam Check area tray 2	Sensor (pre-feed) on jam (tray 2 feed)	The sensor (pre-feed) tray 2 is not turned on within the specified time after the tray 2 media feed lift motor is turned on. Go to <b>“242.00 Sensor (pre-feed) on jam (tray 2 feed)” on page 2-60.</b>
242.01 Paper jam Check area B, tray 2	Sensor (tray 2 feed-out) on jam (tray 2 feed)	The sensor (tray 2 feed-out) is not turned on within the specified time after the sensor (pre-feed) media feed unit 2 is turned on. Go to <b>“242.01 Sensor (tray 2 feed-out) on jam (tray 2 feed)” on page 2-62.</b>
242.02 Paper jam Check area B	Sensor (registration) on jam (tray 2 feed)	The sensor (registration) is not turned on within the specified time after the sensor (tray 2 feed-out) is turned on. Go to <b>“242.02 Sensor (registration) on jam (tray 2 feed)” on page 2-64.</b>
242.03 Paper jam Check area B	Sensor (tray 2 feed-out) static jam	Media remains on the sensor (tray 2 feed-out). Go to <b>“242.03 Sensor (tray 2 feed-out) static jam” on page 2-66.</b>

Error code or message	Error contents	Description/Action
243.00 Paper jam Check area tray 3	Sensor (pre-feed) on jam (tray 3 media feed)	The sensor (pre-feed) is not turned on within the specified time after the tray 3 feed lift motor is turned on.  TTM equipped machines, go to <b>“243.00 Sensor (pre-feed) on jam (tray 3 media feed)” on page 2-66.</b>  2TM equipped machines, refer to the <i>Options Service Manual</i> .
243.01 Paper jam Check areas C, tray 3	Sensor (tray 3 feed-out) on jam (tray 3 media feed)	The sensor (tray 3 feed-out) is not turned on within the specified time after the pre-feed sensor3 is on.  TTM equipped machines, go to <b>“243.01 Sensor (tray 3 feed-out) on jam (tray 3 media feed)” on page 2-68.</b>  2TM equipped machines, refer to the <i>Options Service Manual</i> .
243.02 Paper jam Check areas A, B	Sensor (tray 2 feed-out) on jam (tray 3 media feed)	The sensor (tray 2 feed-out) is not turned on within the specified time after the sensor (tray 3 feed-out) is turned on.  TTM equipped machines, go to <b>“243.02 Sensor (tray 2 feed-out) on jam (tray 3 media feed)” on page 2-70.</b>  2TM equipped machines, refer to the <i>Options Service Manual</i> .
243.03 Paper jam Check area B	Sensor (registration) on jam (tray 3 media feed)	The sensor (registration) is not turned on within the specified time after the sensor (tray 3 feed-out) is turned on.  TTM equipped machines, go to <b>“243.03 Sensor (registration) on jam (tray 3 media feed)” on page 2-71.</b>  2TM equipped machines, refer to the <i>Options Service Manual</i> .
243.04 Paper jam Check area C	Sensor (tray 3 feed-out) static jam	Media remains on the sensor (tray 3 feed-out).  TTM equipped machines, go to <b>“243.04 Sensor (tray 3 feed-out) static jam” on page 2-73.</b>  2TM equipped machines, refer to the <i>Options Service Manual</i> .
244.00 Paper jam Check areas C, tray 4	Sensor (tray 4 feed-out) on jam (tray 4 media feed)	The sensor (tray 4 feed-out) is not turned on within the specified time after the sensor (pre-feed) is turned on.  TTM equipped machines, go to <b>“244.00 Sensor (tray 4 feed-out) on jam (tray 4 media feed)” on page 2-74.</b>  2TM equipped machines, refer to the <i>Options Service Manual</i> .
244.01 Paper jam Check areas C, tray 4	Sensor (tray 3 feed-out) on jam (tray 4 media feed)	The sensor (tray 3 feed-out) is not turned on within the specified time after the sensor (tray 4 feed-out) is turned on.  TTM equipped machines, go to <b>“244.01 Sensor (tray 3 feed-out) on jam (tray 4 media feed)” on page 2-77.</b>  2TM equipped machines, refer to the <i>Options Service Manual</i> .

Error code or message	Error contents	Description/Action
244.02 Paper jam Check areas B, C	Sensor (tray 2 feed-out) on jam (tray 4 media feed)	The sensor (tray 2 feed-out) is not turned on within the specified time after the sensor (tray 4 feed-out) is turned on.  TTM equipped machines, go to <b>“244.02 Sensor (tray 2 feed-out) on jam (tray 4 media feed)” on page 2-79.</b>  2TM equipped machines, refer to the <i>Options Service Manual</i> .
244.03 Paper jam Check area B	Sensor (registration) on jam (tray 4 media feed)	The sensor (registration) is not turned on within the specified time after the sensor (tray 4 feed-out) is turned on.  TTM equipped machines, go to <b>“244.03 Sensor (registration) on jam (tray 4 media feed)” on page 2-81.</b>  2TM equipped machines, refer to the <i>Options Service Manual</i> .
244.04 Paper jam Check area tray 4	Sensor (pre-feed) on jam (tray 4 media feed)	The sensor (pre-feed) is not turned on within the specified time after the tray 4 feed lift motor is turned on.  TTM equipped machines, go to <b>“244.04 Sensor (pre-feed) on jam (tray 4 media feed)” on page 2-82.</b>  2TM equipped machines, refer to the <i>Options Service Manual</i> .
244.05 Paper jam Check areas C, tray 4	Sensor (tray 4 feed-out) static jam	Media remains on the sensor (tray 4 feed-out). TTM equipped machines, go to <b>“244.05 Sensor (tray 4 feed-out) static jam” on page 2-84.</b> 2TM equipped machines, refer to the <i>Options Service Manual</i> .
245.00 Paper jam Check area K, tray 5	Sensor (tray 5 feed-out) on jam	The sensor (tray 5 feed-out) is not turned on with in the specified time after the HCF feed lift motor is turned on.  Refer to the <i>Options Service Manual</i> .
245.01 Paper jam Check area K	Sensor (tray 2 feed-out) on jam	The sensor (tray 2 feed-out) on the printer is not turned on within the specified time after the HCF feed lift motor is turned on.  Refer to the <i>Options Service Manual</i> .
245.02 Paper jam Check area B	Sensor (registration) on jam	The sensor (registration) on the printer is not turned on within the specified time after the HCF feed lift motor is turned on.  Refer to the <i>Options Service Manual</i> .
245.03 Paper jam Check area K	Sensor (tray 5 feed-out) static jam	Paper remains on the sensor (tray 5 feed-out).  Refer to the <i>Options Service Manual</i> .
250.00 Paper jam Check areas A, MPF	Sensor (registration) on jam (MPF pick)	The sensor (registration) is not turned on within the specified time after the MPF pick solenoid is turned on.  Go to <b>“250.00 Sensor (registration) on jam (MPF pick)” on page 2-85.</b>

Error code or message	Error contents	Description/Action
280.00 Paper jam Check areas A	Sensor (bridge unit media entrance) on jam	Sensor (bridge unit media entrance) is not turned on within the specified time after the sensor (fuser exit) in the printer is turned on. Refer to the <i>Options Service Manual</i> .
280.01 Paper jam Check area A	Sensor (bridge unit media entrance) static jam A	Paper remains on the sensor (bridge unit media entrance). Refer to the <i>Options Service Manual</i> .
280.02 Paper jam Check area F	Sensor (bridge unit media entrance) static jam B	Paper remains on the sensor (bridge unit media entrance). Refer to the <i>Options Service Manual</i> .
281.00 Paper jam Check area A	Sensor (bridge unit media exit) on jam A	Sensor (bridge unit media exit) is not turned on within the specified time after the sensor (bridge unit media entrance) is turned on. At this time, the sensor (fuser exit) in the printer is in the on state. Refer to the <i>Options Service Manual</i> .
281.01 Paper jam Check area F	Sensor (bridge unit media exit) on jam B	Sensor (bridge unit media exit) is not turned on within the specified time after the sensor (bridge unit media entrance) is turned on. At this time, the sensor (bridge unit media entrance) is in the on state. Refer to the <i>Options Service Manual</i> .
281.02 Paper jam Check area F	Sensor (bridge unit media exit) on jam C	Sensor (bridge unit media exit) is not turned on within the specified time after the sensor (bridge unit media entrance) is turned on. Refer to the <i>Options Service Manual</i> .
281.03 Paper jam Check area F	Sensor (bridge unit media exit) static jam A	Paper remains on the sensor (bridge unit media exit). Refer to the <i>Options Service Manual</i> .
282.00 Paper jam Check area F	Sensor (finisher media entrance) on jam	Sensor (finisher media entrance) is not turned on with the specified time after the sensor (bridge unit media exit) is turned on. Refer to the <i>Options Service Manual</i> .
282.01 Paper jam Check areas F	Sensor (finisher media entrance) static jam A	Paper remains on the sensor (finisher media entrance). At this time, the sensor (bridge unit media exit) is turned on. Refer to the <i>Options Service Manual</i> .
283.00 Paper jam Check areas G, G4	Sensor (buffer path) on jam A	Sensor (buffer path) is not turned on within the specified time after the sensor (finisher media entrance) is turned on. Refer to the <i>Options Service Manual</i> .

Error code or message	Error contents	Description/Action
283.01 Paper jam Check area G2	Sensor (buffer path) on jam B	Sensor (buffer path) is not turned on within the specified time after the sensor (finisher media entrance) is turned on. At this time, the sensor (diverter gate) is turned on. Refer to the <i>Options Service Manual</i> .
283.02 Paper jam Check areas G2, G3	Sensor (buffer path) static jam A	Paper remains on the sensor (finisher buffer path). At this time, both sensor (diverter gate) and sensor (finisher media exit) are on state. Refer to the <i>Options Service Manual</i> .
283.03 Paper jam Check areas G2	Sensor (buffer path) static jam B	Paper remains on the sensor (finisher buffer path). At this time, the sensor (diverter gate) is on state but the sensor (finisher media entrance) is turned off. Refer to the <i>Options Service Manual</i> .
283.04 Paper jam Check areas G4	Sensor (buffer path) static jam C	Paper remains on the sensor (finisher buffer path). At this time, the sensor (diverter gate) is turned off. Refer to the <i>Options Service Manual</i> .
284.00 Paper jam Check area F	Sensor (lower media exit) off jam A	Sensor (lower media exit) is not turned off within the specified time after the finisher sensor (lower media exit) is turned on. At this time, the sensor (bridge unit media exit) is turned off. Refer to the <i>Options Service Manual</i> .
284.01 Paper jam Check area F	Sensor (lower media exit) on jam A	Sensor (buffer path) is not turned on within the specified time after the sensor (finisher media entrance) is turned on. At this time the sensor (bridge unit media exit) is turned on. Refer to the <i>Options Service Manual</i> .
284.02 Paper jam Check areas G2, G3	Sensor (lower media exit) on jam B	Sensor (buffer path) is not turned on within the specified time after the sensor (bridge unit media entrance) is turned on. At this time, the sensor (finisher media entrance) is turned on. Refer to the <i>Options Service Manual</i> .
284.03 Paper jam Check area G2	Sensor (lower media exit) on jam C	Finisher sensor (lower media exit) not turned on within the specified time after the sensor (buffer path) is turned on. Refer to the <i>Options Service Manual</i> .
284.04 Paper jam Check area H	Sensor (lower media exit) off jam B	Finisher sensor (lower media exit) not turned off within the specified time after the finisher sensor (lower media exit) on. At this time, the sensor (finisher media entrance) is turned on. Refer to the <i>Options Service Manual</i> .



Error code or message	Error contents	Description/Action
284.05 Paper jam Check area H	Sensor (lower media exit) static jam	Paper remains on the sensor (lower media exit). Refer to the <i>Options Service Manual</i> .
285.00 Paper jam Check area H	Finisher set eject jam	Finisher sensor (compiler media in) is not turned on within the specified time after the media eject motor is turned on. Refer to the <i>Options Service Manual</i> .
286.00 Paper jam Check area H	Sensor (compiler media in) static jam	Paper remains on the sensor (compiler media in). Refer to the <i>Options Service Manual</i> .
287.00 Paper jam Check area F	Sensor (upper media exit) on jam A	Sensor (upper media exit) is not turned on within the specified time after the sensor (finisher media entrance) is turned on. At this time, the sensor (bridge unit media exit) is turned on. Refer to the <i>Options Service Manual</i> .
287.01 Paper jam Check area F	Sensor (upper media exit) off jam A	Sensor (upper media exit) is not turned off within the specified time after the sensor (upper media exit) is turned on. At this time, the sensor (bridge unit media exit) is turned on. Refer to the <i>Options Service Manual</i> .
287.02 Paper jam Check areas G1, G3	Sensor (upper media exit) on jam B	Sensor (upper media exit) is not turned on within the specified time after the sensor (finisher media entrance) is turned on. At this time, the sensor (bridge unit media exit) is on state Refer to the <i>Options Service Manual</i> .
287.03 Paper jam Check area G1	Sensor (upper media exit) on jam C	Sensor (upper media exit) is not turned on within the specified time after the sensor (finisher media entrance) is turned on. At this time, the sensor (bridge unit media exit) is turned on. Refer to the <i>Options Service Manual</i> .
287.04 Paper jam Check area G	Sensor (upper media exit) off jam B	Sensor (upper media exit) is not turned off within the specified time after the sensor (upper media exit) is turned off. At this time, the sensor (bridge unit media exit) is turned off. Refer to the <i>Options Service Manual</i> .
287.05 Paper jam Check area F	Sensor (upper media exit) static jam A	Paper remains on the sensor (upper media exit). At this time, the sensor (bridge unit media exit) is turned on. Refer to the <i>Options Service Manual</i> .

Error code or message	Error contents	Description/Action
287.06 Paper jam Check areas G1, G3	Sensor (upper media exit) static jam B	Paper remains on the sensor (upper media exit). At this time, the sensor (bridge unit media exit) is off state but the finisher sensor (finisher media entrance) is turned on. Refer to the <i>Options Service Manual</i> .
287.07 Paper jam Check area G1	Sensor (upper media exit) static jam C	Paper remains on the sensor (upper media exit). At this time, both sensor (bridge unit media exit) and sensor (finisher media entrance) are turned off. Refer to the <i>Options Service Manual</i> .
288.00 Paper jam Check area F	Sensor (diverter gate) on jam	Sensor (diverter gate) is not turned on within the specified time after the sensor (bridge unit media exit) is turned on. Refer to the <i>Options Service Manual</i> .
288.01 Paper jam Check area F	Sensor (diverter gate) static jam (to top bin) A	Paper remains on the sensor (diverter gate) when the finisher is in the upper bin exit mode. At this time the sensor (bridge unit media exit) is turned on. Refer to the <i>Options Service Manual</i> .
288.02 Paper jam Check areas G2, G3	Sensor (diverter gate) static jam (to top bin) B	Paper remains on the sensor (diverter gate) when the finisher is in the upper bin exit mode. At this time, the sensor (finisher media entrance) is turned on, but the sensor (bridge unit media exit) is turned off. Refer to the <i>Options Service Manual</i> .
288.03 Paper jam Check area G1	Sensor (diverter gate) static jam (to top bin) C	Paper remains on the sensor (diverter gate) when the finisher is in the upper bin exit mode. At this time, both sensor (finisher media entrance) and sensor (bridge unit media exit) are turned off. Refer to the <i>Options Service Manual</i> .
288.04 Paper jam Check area F	Sensor (diverter gate) static jam (to stacker bin) A	Paper remains on the sensor (diverter gate) when the finisher is in the stacker bin exit mode. At this time, the sensor (bridge unit media exit) is turned on. Refer to the <i>Options Service Manual</i> .
288.05 Paper jam Check areas G2, G3	Sensor (diverter gate) static jam (to stacker bin) B	Paper remains on the sensor (diverter gate) when the finisher is in the stacker bin exit mode. At this time, the sensor (finisher media entrance) is turned on, but the sensor (bridge unit media exit) is turned off. Refer to the <i>Options Service Manual</i> .
288.06 Paper jam Check area G2	Sensor (diverter gate) static jam (to stacker bin) C	Paper remains on the sensor (diverter gate) when the finisher is in the stacker bin exit mode. At this time, both sensor (finisher media entrance) and sensor (bridge unit media exit) are turned off. Refer to the <i>Options Service Manual</i> .

Error code or message	Error contents	Description/Action
290.00 Scanner jam Remove all originals from the scanner.	Switch (sheet through) static jam	The system detected that the sensor (sheet through) is on. Go to <b>“290.00 Switch (sheet through) static jam” on page 2-87.</b>
290.01 Scanner jam Remove all originals from the scanner.	Sensor (sheet through) on jam	After the first feed operation started, the feed drive motor turned on (CW) in Duplex mode, the sensor (sheet through) did not turn on within the specified time. Go to <b>“290.01 Sensor (sheet through) on jam” on page 2-87.</b>
290.02 Scanner jam Remove all originals from the scanner.	Sensor (ADF pre-registration) on jam ADF simplex side 1	After the Pre Feed operation started for the first sheet, the feed drive motor turned on (CW) in Duplex or Simplex mode, the sensor (ADF pre-registration) did not turn on within the specified time. After the Pre Feed operation started for the second sheet, the feed drive motor turned on (CW) in Duplex mode, the sensor (ADF pre-registration) did not turn on within the specified time. Go to <b>“290.02 Sensor (ADF pre-registration) on jam ADF simplex side 1” on page 2-90.</b>
290.03 Scanner jam Remove all originals from the scanner.	Sensor (ADF pre-registration) off jam	After the sensor (sheet through) turned off in simplex mode, the sensor (ADF pre-registration) did not turn off within the specified time. After the ADF registration motor turned on in duplex mode, the sensor (ADF pre-registration) did not turn off within the specified time. Go to <b>“290.03 Sensor (ADF pre-registration) off jam” on page 2-92.</b>
290.10 Scanner jam Remove all originals from the scanner.	Sensor (ADF pre-registration) static jam	The system detected that the sensor (ADF pre-registration) is on. Go to <b>“290.10 Sensor (ADF pre-registration) static jam” on page 2-94.</b>
290.11 Scanner jam Remove all originals from the scanner.	Sensor (ADF registration) on jam ADF simplex side 1	After pre-registration started, the feed drive motor turned on (CCW), the sensor (ADF registration) did not turn on within the specified time. Go to <b>“290.11 Sensor (ADF registration) on jam ADF simplex side 1” on page 2-95.</b>
290.12 Scanner jam Remove all originals from the scanner.	Sensor (ADF registration) on jam side 2	After the sensor (ADF pre-registration) turned on at Invert, the sensor (ADF registration) did not turn on within the specified time. Go to <b>“290.12 Sensor (ADF registration) on jam side 2” on page 2-97.</b>
290.13 Scanner jam Remove all originals from the scanner.	Sensor (ADF registration) off jam	After the sensor (ADF pre-registration) turned off during the Read operation, the sensor (ADF registration) did not turn off within the specified time. Go to <b>“290.13 Sensor (ADF registration) off jam” on page 2-99.</b>

Error code or message	Error contents	Description/Action
290.14 Scanner jam Remove all originals from the scanner.	Sensor (ADF inverter) on jam (Inverting)	After the sensor (ADF registration) turned on during the Invert operation, the sensor (ADF inverter) did not turn on within the specified time.  Go to <b>“290.14 Sensor (ADF inverter) on jam (Inverting)” on page 2-100.</b>
290.15 Scanner jam Remove all originals from the scanner.	Sensor (ADF registration) off jam (inverting)	After the sensor (ADF pre-registration) turned off at Invert, the sensor (ADF registration) did not turn off within the specified time.  Go to <b>“290.15 Sensor (ADF registration) off jam (inverting)” on page 2-103.</b>
290.21 Scanner jam Remove all originals from the scanner.	Sensor (ADF width APS 1) static jam	The system detected that the sensor (ADF width APS 1) is on.  Go to <b>“290.21 Sensor (ADF width APS 1) static jam” on page 2-106.</b>
290.22 Scanner jam Remove all originals from the scanner.	Sensor (ADF width APS 2) static jam	The system detected that the sensor (ADF width APS 2) is on.  Go to <b>“290.22 Sensor (ADF width APS 2) static jam” on page 2-107.</b>
290.23 Scanner jam Remove all originals from the scanner.	Sensor (ADF width APS 3) static jam	The system detected that the sensor (ADF width APS 3) is on.  Go to <b>“290.23 Sensor (ADF width APS 3) static jam” on page 2-107.</b>
291.00 Scanner jam Remove all originals from the scanner.	Sensor (ADF registration) static jam	The system detected that the sensor (ADF pre-registration) is on.  Go to <b>“291.00 Sensor (ADF registration) static jam” on page 2-108.</b>
291.01 Scanner jam Remove all originals from the scanner.	Sensor (ADF inverter) off jam (Inverting)	After the sensor (ADF registration) turned off during the Invert operation of the last document, the sensor (ADF inverter) did not turn off within the specified time.  After the ADF registration motor turned on (CCW) during Invert operation, the sensor (ADF inverter) did not turn off within the specified time.  Go to <b>“291.01 Sensor (ADF inverter) off jam (inverting)” on page 2-109.</b>
291.02 Scanner jam Remove all originals from the scanner.	Sensor (ADF inverter) on jam 2	After the Read Speed Control operation started, the ADF registration motor turned on (CCW), the sensor (ADF inverter) did not turn on within the specified time.  Go to <b>“291.02 Sensor (ADF inverter) on jam 2” on page 2-111.</b>

Error code or message	Error contents	Description/Action
291.03 Scanner jam Remove all originals from the scanner.	Sensor (ADF inverter) off jam	<p>After the sensor (ADF registration) turned off during the Read operation of the last document, the sensor (ADF inverter) did not turn off within the specified time. (Simplex mode)</p> <p>After the ADF registration motor turned on (CCW) during the Read operation, the sensor (ADF inverter) did not turn off within the specified time. (Simplex mode)</p> <p>After the sensor (ADF registration) turned off during the Read operation, the sensor (ADF inverter) did not turn off within the specified time. (Duplex mode)</p> <p>Go to <b>“291.03 Sensor (ADF inverter) off jam” on page 2-113.</b></p>
294.00 Scanner jam Remove all originals from the scanner.	Sensor (ADF inverter) static jam	<p>The system detected that the sensor (ADF inverter) is on.</p> <p>Go to <b>“294.00 Sensor (ADF inverter) static jam” on page 2-116.</b></p>
294.01 Scanner jam Remove all originals from the scanner.	Sensor (ADF pre-registration) on jam side 2	<p>After the Invert operation started, the ADF registration motor turned on (CW) at Invert, the sensor (ADF pre-registration) did not turn on within the specified time.</p> <p>Go to <b>“294.01 Sensor (ADF pre-registration) on jam side 2” on page 2-117.</b></p>
294.02 Scanner jam Remove all originals from the scanner.	Sensor (ADF pre-registration) off jam on inverting	<p>After the ADF registration motor turned on at Invert, the sensor (ADF pre-registration) did not turn off within the specified time.</p> <p>Go to <b>“294.02 Sensor (ADF pre-registration) off jam on inverting” on page 2-119.</b></p>
295.00 Scanner jam Remove all originals from the scanner.	Size mismatch Jam (Mix-size)	<p>In Mixed Size Originals, it was detected that the Fast Scan Direction size was different from the width of the document guide.</p> <p>Go to <b>“295.00 Size mismatch jam (mix-size)” on page 2-121.</b></p>
295.01 Scanner jam Remove all originals from the scanner.	Size mismatch Jam (No Mix-size)	<p>The second and subsequent documents are different size from the first document.</p> <p>Go to <b>“295.01 Size mismatch jam (no mix-size)” on page 2-123.</b></p>
295.02 Scanner jam Remove all originals from the scanner.	Invalid Combine Size Jam	<p>An invalid document size combination was detected.</p> <p>Go to <b>“295.02 Invalid combine size jam” on page 2-124.</b></p>
295.03 Scanner jam Remove all originals from the scanner.	Too Short Size Jam	<p>The system detected a document with a length shorter than 115mm in the Slow Scan Direction.</p> <p>Go to <b>“295.03 Too short size jam” on page 2-125.</b></p>

Error code or message	Error contents	Description/Action
295.04 Scanner jam Remove all originals from the scanner.	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 2-127.</b>
32 Unsupported toner cartridge	Toner cartridge RFID failure	A toner cartridge of a incorrect specification is installed. Go to <b>“Toner cartridge RFID failure” on page 2-196.</b>
34 Incorrect media, check tray 1 guides.	Tray 1 media size mismatch in length	The media length detected by the sensor (registration) after the media is fed from media tray 1 does not match the length detected by media tray 1 switch (media size). Go to <b>“Tray 1 media size mismatch in length” on page 2-198.</b>
34 Incorrect media, check tray 2 guides	Tray 2 media size mismatch in length	The media length detected by the sensor (registration) after the media is fed from media tray 2 does not match the length detected by media tray 2 switch (media size). Go to <b>“Tray 2 media size mismatch in length” on page 2-200.</b>
34 Incorrect media, check tray 3 guides	Tray 3 media size mismatch in length	Go to <b>“Tray 3 media size mismatch in length” on page 2-204.</b>
34 Incorrect media, check tray 4 guides	Tray 4 media size mismatch in length	Go to <b>“Tray 4 media size mismatch in length” on page 2-206.</b>
80 Scheduled maintenance	Scheduled maintenance required	Service is required to maintain printer performance. Go to <b>“Scheduled maintenance required” on page 2-190.</b>
84 Insert PC unit	PC cartridge set failure	The PC cartridge is not installed or is not installed properly. Go to <b>“PC cartridge set failure” on page 2-187.</b>
84 PC unit abnormal	PC cartridge RFID failure	A PC cartridge of a incorrect specification is installed. Go to <b>“PC cartridge RFID failure” on page 2-187.</b>
84 Replace PC unit	PC cartridge end of life	The PC cartridge needs to be replaced. Go to <b>“PC cartridge end of life” on page 2-186.</b>
841.00 Service image pipeline	Image pipeline ASIC failure	The image pipeline for processing the data that comes from the scanner, prior to being printed, has failed. Go to <b>“841.00 Image pipeline ASIC failure” on page 2-128.</b>

Error code or message	Error contents	Description/Action
842.00 Service scanner failure	Scanner communication failure	Controller detected a communication failure. Communication timeout Go to <b>“842.00 Scanner communication failure” on page 2-128.</b>
842.01 Service scanner failure	Scanner communication failure	Controller detected a communication failure packet timeout. Go to <b>“842.01 Scanner communication failure” on page 2-129.</b>
842.02 Service scanner failure	Scanner communication failure	Controller detected a communication failure. Invalid message checksum Go to <b>“842.02 Scanner communication failure” on page 2-129.</b>
842.03 Service scanner failure	Scanner communication failure	Controller detected a communication failure. Invalid message parameter(s) Go to <b>“842.03 Scanner communication failure” on page 2-130.</b>
842.04 Service scanner failure	Scanner communication failure	Controller detected a communication failure. Invalid message command Go to <b>“842.04 Scanner communication failure” on page 2-130.</b>
842.10 Service scanner failure	Scanner unit assembly - ADF communication failure	Communication failure occurred between the scanner controller card assembly and the ADF controller card assembly. Go to <b>“842.10 Scanner unit assembly - ADF communication failure” on page 2-131.</b>
842.11 Service scanner failure	Scanner communication failure (by scanner)	Communication failure occurred between the scanner controller card assembly and the RIP card assembly. Go to <b>“842.11 Scanner communication failure (by scanner)” on page 2-131.</b>
842.12 Service scanner failure	Scanner unit assembly communication failure	Communication failure occurred between the scanner controller card assembly and the RIP card assembly. Go to <b>“842.12 Scanner unit assembly communication failure” on page 2-132.</b>
843.00 Service scanner failure	Sensor (scanner HP) failure	An failure 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) failure” on page 2-133.</b>
843.01 Service scanner failure	Scanner carriage over run failure	The scanner carriage has over run. Go to <b>“843.01 Scanner carriage over run failure” on page 2-134.</b>

Error code or message	Error contents	Description/Action
843.10 Service scanner failure	ADF RAM test failure	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 failure” on page 2-134.</b>
843.11 Service scanner failure	ADF EEPROM failure	The ADF-EEPROM failed during the read/write operation. Go to <b>“843.11 ADF EEPROM failure” on page 2-134.</b>
843.12 Service scanner failure	ADF pick roll position lift up failure	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 failure” on page 2-135.</b>
843.20 Service scanner failure	Scanner unit assembly connection failure	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 failure” on page 2-136</b>
843.21 Service scanner failure	Scanner unit assembly EEPROM failure	The scanner unit assembly EEPROM failed during the read/write operation. Go to <b>“843.21 Scanner unit assembly EEPROM failure” on page 2-136.</b>
843.22 Service scanner failure	Scanner unit assembly EEPROM sub system failure	The scanner unit assembly EEPROM failed during the read/write operation. Go to <b>“843.22 Scanner unit assembly EEPROM sub system failure” on page 2-137.</b>
843.23 Service scanner failure	Scanner cooling fan failure	The scanner cooling fan has failed. Go to <b>“843.23 Scanner cooling fan failure” on page 2-137.</b>
843.24 Service scanner failure	Image processing failure	An failure occurred in the image-processing system. Go to <b>“843.24 Image processing failure” on page 2-138.</b>
843.25 Service scanner failure	Scanner controller card assembly failure 1	An internal processing failure occurred in the scanner controller card assembly. Go to <b>“843.25 Scanner controller card assembly failure 1” on page 2-138.</b>
843.26 Service scanner failure	Scanner controller card assembly failure 2	An internal processing failure occurred in the scanner controller card assembly. Go to <b>“843.26 Scanner controller card assembly failure 2” on page 2-139.</b>



Error code or message	Error contents	Description/Action
844.00 Service scanner failure	Exposure lamp failure	A failure has occurred with the exposure lamp. Go to <b>“844.00 Exposure lamp failure” on page 2-139.</b>
844.01 Service scanner failure	White reference/exposure lamp illumination failure	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 failure” on page 2-140.</b>
845.00 Service scanner failure	CCD failure	A failure has occurred with the CCD sensor assembly. Go to <b>“845.00 CCD failure” on page 2-142.</b>
845.01 Service scanner failure	CCD initialization (lamp on) failure	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) failure” on page 2-142.</b>
845.02 Service scanner failure	CCD initialization (lamp off) failure	The CCD does not make a correct output when light is absent. Go to <b>“845.02 CCD initialization (lamp off) failure” on page 2-143.</b>
846.00 Service scanner failure	Scanner communication failure	Controller detected failures. Scanner download timeout Go to <b>“846.00 Scanner communication failure” on page 2-143.</b>
846.01 Service scanner failure	Scanner communication failure	Controller detected failures. Detected I/O failure Go to <b>“846.01 Scanner communication failure” on page 2-144.</b>
846.10 Service scanner failure	Sensor (ADF width APS X) failure	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) failure” on page 2-144.</b>
846.12 Service scanner failure	Scanner unit assembly software logic failure	A software failure was detected by the scanner controller card assembly. Go to <b>“846.12 Scanner unit assembly software logic failure” on page 2-146.</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 2-146.</b>
847.00 Service modem	Fax modem failure	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 failure” on page 2-147.</b>

Error code or message	Error contents	Description/Action
847.01 Service fax	Fax storage	The remaining memory available on the hard drive is too small. Go to <b>“847.01 Fax failure” on page 2-148.</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 Modem failure” on page 2-148.</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 failure” on page 2-149.</b>
84 PC unit life warning	PC cartridge life near end	The PC cartridge needs to be replaced soon. Go to <b>“PC cartridge end of life” on page 2-186.</b>
88 Toner low	Toner cartridge near empty	The toner cartridge needs to be replaced soon. Go to <b>“Toner cartridge near empty” on page 2-195.</b>
88 Replace toner	Toner cartridge empty	All toner in the toner cartridge is consumed, or toner supply is clogged. Go to <b>“Toner cartridge empty” on page 2-193.</b>
900.XX Service RIP software	RIP card assembly software failure	A failure has occurred in the RIP card assembly software. Go to <b>“900.XX RIP card assembly software failure” on page 2-149.</b>
903.00 Service engine error	RAM read/write check failure	Read/write of RAM on the printer engine card assembly failed. Go to <b>“903.00 RAM read/write check failure” on page 2-149.</b>
904.00 Service engine error	NVM data failure	A data error of NVM on the printer engine card assembly occurred. Go to <b>“904.00 NVM data failure” on page 2-150.</b>
905.00 Service engine error	NVM read/write cannot be executed failure	Read/write of the NVM on the printer engine card assembly failed. Go to <b>“905.00 NVM read/write cannot be executed failure” on page 2-150.</b>
906.00 Service engine error	CPU power to access NVM failure	An internal process for data write of the NMVM on the printer engine card assembly failed. Go to <b>“906.00 CPU power to access NVM failure” on page 2-151.</b>
907.00 Service engine error	RFID ASIC failure	The RFID control circuit failed. Go to <b>“907.00 RFID ASIC failure” on page 2-151.</b>
908.00 Service engine error	PPM data failure	An incorrect NVM data is saved on the PPM. Go to <b>“908.00 PPM data failure” on page 2-152.</b>

Error code or message	Error contents	Description/Action
909.00 Service zero cross	Zero cross failure	The zero cross engine has failed. Go to <b>“909.00 Zero cross failure” on page 2-152.</b>
910.00 Service motor error	Transport motor stop failure	Due to the malfunction in the control system of the printer engine card assembly, the transport motor does not stop when media is not transported. Go to <b>“910.00 Transport motor stop failure” on page 2-153.</b>
911.00 Service motor error	Transport motor failure	The transport motor does not rotate at the specified speed. Go to <b>“911.00 Transport motor failure” on page 2-154.</b>
912.00 Service motor error	PC cartridge unit motor failure	The PC cartridge motor does not rotate at the specified speed. Go to <b>“912.00 PC cartridge unit motor failure” on page 2-154.</b>
913.00 Service motor error	Printhead assembly failure	Rotation speed of the printhead motor is less than the specified value even when the specified time is passed after the motor starts rotating. Light intensity of the LD1 is less than the specified value. Go to <b>“913.00 Printhead assembly failure” on page 2-155.</b>
914.00 Service motor error	Toner add motor assembly failure	The toner concentration in the PC cartridge does not increase when the toner add motor is turned on for more than the specified time. Go to <b>“914.00 Toner add motor assembly failure” on page 2-155.</b>
915.00 Service fan error	Fuser cooling fan failure	The fuser cooling fan has failed. Go to <b>“915.00 Fuser cooling fan failure” on page 2-156.</b>
916.00 Service fan error	PC cartridge cooling fan failure	The PC cartridge cooling fan has failed. Go to <b>“916.00 PC cartridge cooling fan failure” on page 2-157.</b>
917.00 Service fan error	LVPS cooling fan failure	The LVPS cooling fan has failed. Go to <b>“917.00 LVPS cooling fan failure” on page 2-158.</b>
918.00 Service std. bin 1 error	Sensor (exit 1 media shift HP) failure	The sensor (exit 1 media shift HP) is not turned on within the specified period after the exit 1 media shift motor is turned on. Go to <b>“918.00 Sensor (exit 1 media shift HP) failure” on page 2-158.</b>
919.00 Service std. bin 2 error	Sensor (exit 2 media shift HP) failure	The sensor (exit 2 media shift HP) is not turned on within the specified time after the exit 2 shift motor is turned on. Go to <b>“919.00 Sensor (exit 2 media shift HP) failure” on page 2-159.</b>

Error code or message	Error contents	Description/Action
919.01 Service std. bin 2	Exit 2 unit assembly connection failure	Exit 2 unit assembly is missing or damaged. Go to <b>“919.01 Exit 2 unit assembly connection failure” on page 2-160.</b>
920.00 Service fuser error	Fuser unit assembly on time failure	<p>During the warm-up period, the control thermistor does not detect the ready temperature even when the specified time is passed after the main lamp is turned on.</p> <p>During the standby period, the control thermistor does not detect the specified temperature even when the specified time is passed after the main lamp is on.</p> <p>During the standby period, the control thermistor does not detect the specified temperature even when the specified time is passed after the sub lamp in on.</p> <p>During idling, after power-on, the control thermistor does not detect the idling stop temperature even after the specified time is passed.</p> <p>During print, the control thermistor does not detect the specified temperature even when the specified time is passed after the main lamp is turned on.</p> <p>During print, the control thermistor does not detect the specified temperature even when the specified time is passed after the sub lamp is turned on.</p> <p>Go to <b>“920.00 Fuser unit assembly on time failure” on page 2-161.</b></p>
921.00 Service fuser error	Over heat temperature failure	<p>The control thermistor detects a temperature higher than the specified value.</p> <p>The lamp change thermistor detects a temperature higher than the specified value.</p> <p>Go to <b>“921.00 Over heat temperature failure” on page 2-161.</b></p>
922.00 Service fuser error	Center thermistor failure	<p>The center thermistor has failed.</p> <p>Go to <b>“922.00 Center thermistor failure” on page 2-162.</b></p>
923.00 Service fuser error	Rear thermistor failure	<p>The rear thermistor has failed.</p> <p>Go to <b>“923.00 Rear thermistor failure” on page 2-162.</b></p>
924.00 Service fuser error	Pressure roll thermistor failure	<p>The pressure roll thermistor has failed.</p> <p>Go to <b>“924.00 Pressure roll thermistor failure” on page 2-162.</b></p>
925.00 Service fuser error	Fuser operating temperature failure.	<p>Fuser temperature is not high enough during printing.</p> <p>Go to <b>“925.00 Fuser operating temperature failure” on page 2-163.</b></p>
927.00 Service PC cartridge	PC cartridge RFID data write failure	<p>A data write error occurred on the PC cartridge RFID tag in the PC cartridge.</p> <p>Go to <b>“927.00 PC cartridge RFID data write failure” on page 2-163.</b></p>

Error code or message	Error contents	Description/Action
928.00 Service PC cartridge	PC cartridge RFID communication failure	A communication error occurred between the PC cartridge RFID tag in the PC cartridge and the RFID ASIC on the printer engine card assembly. Go to <b>“928.00 PC cartridge RFID communication failure” on page 2-164.</b>
929.00 Service PC cartridge	Sensor (ATC) failure	The sensor (ATC) failed. Go to <b>“929.00 Sensor (ATC) failure” on page 2-164.</b>
930.00 Service printhead error	Laser power failure	Light intensity of the LD2 is less than the specified value. Go to <b>“930.00 Laser power failure” on page 2-164.</b>
932.00 Toner cartridge	Toner cartridge RFID data write failure	A data write error occurred on the toner cartridge RFID tag in the toner cartridge. Go to <b>“932.00 Toner cartridge RFID data write failure” on page 2-165.</b>
933.00 Toner cartridge	Toner cartridge RFID communication failure	A communication error occurred between the toner RFID tag in the toner cartridge and the RFID ASIC on the printer engine card assembly. Go to <b>“933.00 Toner cartridge RFID communication failure” on page 2-165.</b>
939.00 Service RIP engine Comm.	RIP card assembly communication failure	A communication error occurred between the printer engine card and the RIP card assembly. Go to <b>“939.00 RIP card assembly communication failure” on page 2-166.</b>
941.00 Service tray 1 failure	Media tray 1 lift up / no tray failure	The media tray 1 sensor (media level) is not turned on within the specified time after the tray 1 media feed lift motor is turned on. The media tray 1 switch (media size) detected no media tray. Go to <b>“941.00 Media tray 1 lift up / no media tray failure” on page 2-166.</b>
942.00 Service tray 2 failure	Media tray 2 lift up / no tray failure	The media tray 2 sensor (media level) is not turned on within the specified time after the media tray 2 media feed lift motor is turned on. The media tray 2 switch (media size) detected no media tray. Go to <b>“942.00 Media tray 2 lift up / no media tray failure” on page 2-168.</b>
943.00 Service tray 3 failure	Media tray 3 lift up / no tray failure	The tray 3 sensor (media level) is not turned on within the specified time after the tray 3 media feed lift motor is turned on. The tray 3 switch (media size) detected no tray. TTM equipped machines, go to <b>“943.00 Tray 3 lift up / no tray failure” on page 2-169.</b> 2TM equipped machines, refer to the <i>Options Service Manual</i> .

Error code or message	Error contents	Description/Action
944.00 Service tray 4 failure	Media tray 4 lift up / no tray failure	<p>The tray 4 sensor (media level) is not turned on within the specified time after the tray 4 media feed lift motor is turned on.</p> <p>The tray 4 switch (media size) detected no tray.</p> <p>TTM equipped machines, go to <b>“944.00 Tray 4 lift up / no tray failure” on page 2-170.</b></p> <p>2TM equipped machines, refer to the <i>Options Service Manual</i>.</p>
945.00 Service tray 5 failure	Media tray 5 lift up / no tray failure	<p>The sensor (HCF media level) is not turned on with the specified time after the HCF feed lift motor is turned on.</p> <p><i>Refer to the Options Service Manual.</i></p>
945.01 Service tray 5 failure	Tray 5 HCF NVM R/W failure	<p>A read/write error has occurred on the NVM of the tray 5 HCF controller card assembly.</p> <p><i>Refer to the Options Service Manual.</i></p>
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>• Operator panel assembly (universal)</li> <li>• Operator panel controller card assembly</li> <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 <b>“950.00 through 950.29 EPROM mismatch failure” on page 2-172.</b></p>

Error code or message	Error contents	Description/Action
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>• Operator panel assembly (universal)</li> <li>• Operator panel controller card assembly</li> <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 <b>“950.30 through 950.60 EPROM mismatch failure” on page 2-173.</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 <b>“951.XX RIP card assembly NVRAM failure” on page 2-174.</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 <b>“952.XX Interconnect card assembly NVRAM CRC failure” on page 2-174.</b></p>
953.XX Service NVRAM failure	Operator panel assembly NVRAM failure	<p>NVRAM chip failure with operator panel assembly (mirror).</p> <p>Go to <b>“953.XX Operator panel assembly NVRAM failure” on page 2-174.</b></p>
954.XX Service NVRAM failure	Interconnect card assembly NVRAM failure	<p>NVRAM chip failure with interconnect card assembly.</p> <p>Go to <b>“954.XX Interconnect card assembly NVRAM failure” on page 2-175.</b></p>
955.XX Service Code CRC	RIP card assembly NAND CRC failure	<p>The code ROM or NAND flash failed the cyclic redundancy check.</p> <p>Go to <b>“955.XX RIP card assembly NAND CRC failure” on page 2-175.</b></p>
956.00 Service system board	RIP card assembly processor failure	<p>The RIP card processor has failed.</p> <p>Go to <b>“956.00 RIP card assembly processor failure” on page 2-176.</b></p>

Error code or message	Error contents	Description/Action
956.01 Service system board	RIP card assembly processor over temperature failure	The RIP card assembly has exceeded safe operating temperature. Go to <b>“956.01 RIP card assembly processor over temperature failure” on page 2-176.</b>
956.02 Service system board	RIP card assembly cooling fan failure	The RIP card assembly cooling fan is not functioning properly. Go to <b>“956.02 RIP card assembly cooling fan failure” on page 2-176.</b>
956.03 Service system board	RIP card assembly FPGA failure	The RIP card assembly has failed. Go to <b>“956.03 RIP card assembly FPGA failure” on page 2-177.</b>
980.00 Service tray 3 comm.	Tray 3/4 communication failure	A communication error occurred between the printer engine card assembly and the 2TM/TTM controller card assembly. TTM equipped machines, go to <b>“980.00 2TM/TTM controller card assembly communication failure” on page 2-177.</b> 2TM equipped machines, refer to the <i>Options Service Manual</i> .
980.01 Service tray 5 comm.	Tray 5 HCF communication failure	A communication error occurred between the printer engine card assembly and the HCF controller card assembly. Refer to the <i>Options Service Manual</i> .
980.02 Service finisher error	Printer engine card-finisher communication failure	A communication error occurred between the printer engine card assembly and the finisher. Refer to the <i>Options Service Manual</i> .
980.03 Service standard bin comm.	Exit interface card assembly, communication failure	A communication error occurred between the printer engine card assembly and the exit interface card assembly. Go to <b>“980.03 Exit interface card assembly communication failure” on page 2-178.</b>
980.04 Service duplex comm.	Duplex controller card assembly communication failure	A communication error occurred between the printer engine card assembly and the duplex controller card assembly. Go to <b>“980.04 Duplex controller card assembly communication failure” on page 2-178.</b>
980.05 Service Flicker comm.	Engine flicker communication failure	A communication error has occurred in the printer engine card assembly. Go to <b>“980.05 Engine flicker communication failure” on page 2-179.</b>
981.00 Service finisher error	Stacker bin failure	The sensor (stacker bin level) is not turned on within the specified period after the stacker bin starts rising. Refer to the <i>Options Service Manual</i> .
981.01 Service finisher error	Stacker bin upper limit failure	The stacker bin abnormally rises beyond the specified upper limit position (stacker bin level). Refer to the <i>Options Service Manual</i> .



Error code or message	Error contents	Description/Action
981.02 Service finisher error	Stacker bin lower limit failure	The stacker bin abnormally lowers beyond the specified lower limit position (full stack). Refer to the <i>Options Service Manual</i> .
982.00 Service finisher error	Sensor (front tamper HP) on failure	The sensor (front tamper HP) is not turned on after the front tamper starts moving to the front tamper home position. Refer to the <i>Options Service Manual</i> .
982.01 Service finisher error	Sensor (front tamper HP) off failure	The sensor (front tamper HP) is not turned off within the specified time after the front tamper starts leaving from the front tamper home position. Or the sensor (front tamper HP) is turned on again after the sensor (compiler front tamper HP) is turned off, and the front tamper stopped its moving. Refer to the <i>Options Service Manual</i> .
983.00 Service finisher error	Sensor (rear tamper HP) on failure	The sensor (rear tamper HP) is not turned on after the rear tamper starts moving to the rear tamper home position. Refer to the <i>Options Service Manual</i> .
983.01 Service finisher error	Sensor (compiler rear tamper HP) off failure	The sensor (compiler rear tamper HP) is not turned off within the specified time after the rear tamper starts leaving from the rear tamper home position. Or the sensor (compiler rear tamper HP) is turned on again after the sensor (compiler rear tamper HP) is turned off, and the rear tamper stopped its moving. Refer to the <i>Options Service Manual</i> .
984.00 Service finisher error	Sensor (punch unit HP) on failure	The sensor (punch unit HP) is not turned on even when the specified time passed after the punch unit motor is turned on. Refer to the <i>Options Service Manual</i> .
984.01 Service finisher error	Sensor (punch unit HP) off failure	The sensor (punch unit HP) is not turned off even when the specified time passed after the punch unit motor is turned on. Refer to the <i>Options Service Manual</i> .
985.00 Service finisher error	Sensor (punch carriage shift HP) on failure	The sensor (punch carriage shift HP) is not turned on even when the specified time passed after the punch carriage shift motor assembly is turned on. Or the sensor (punch carriage shift HP) is turned off again after the sensor (punch carriage shift HP) is turned on and the punch carriage shift motor assembly stopped its rotation. Refer to the <i>Options Service Manual</i> .
985.01 Service finisher error	Sensor (punch carriage shift HP) off failure	The sensor (punch carriage shift HP) is not turned off even when the specified time passed after the punch carriage shift motor assembly is turned on. Or the sensor (punch carriage shift HP) is turned on again after the sensor (punch carriage shift HP) is turned off and the punch carriage shift motor assembly stopped its rotation. Refer to the <i>Options Service Manual</i> .

Error code or message	Error contents	Description/Action
986.00 Service finisher error	Sensor (eject clamp HP) on failure	The sensor (eject clamp HP) is not turned on within 500 ms after the eject clamp up starts. Refer to the <i>Options Service Manual</i> .
986.01 Service finisher error	Sensor (eject clamp HP) off failure	The sensor (eject clamp HP) is not turned off within 200 ms after the eject clamp down starts. Refer to the <i>Options Service Manual</i> .
987.00 Service finisher error	Sensor (media eject shaft HP) on failure	The sensor (media eject shaft HP) is not turned on within 200 ms after the set clamp starts operating. Refer to the <i>Options Service Manual</i> .
987.01 Service finisher error	Sensor (media eject shaft HP) off failure	The sensor (media eject shaft HP) is not turned off within the specified time after the set clamp ends operating. Refer to the <i>Options Service Manual</i> .
988.00 Service finisher error	Sensor (punch unit side reg 1) on failure Sensor (punch unit side reg 2) on failure	The sensor (punch unit side reg 1) or sensor (punch unit side reg 2) did not detect the media correctly or is defective. Refer to the <i>Options Service Manual</i> .
988.01 Service finisher error	Sensor (punch unit side reg 1) off failure Sensor (punch unit side reg 2) off failure	The sensor (punch unit side reg 1) or sensor (punch unit side reg 2) did not detect the media correctly or is defective. Refer to the <i>Options Service Manual</i> .
989.00 Service finisher error	Stapler unit failure	The off/on status of the sensor (stapler unit motor HP) is not detected within the specified time after the stapler unit motor (forward operation). Or the sensor (stapler unit motor HP) is not turned on within the specified timer after the stapler unit motor is on (reverse operation). Refer to the <i>Options Service Manual</i> .
990.00 Service finisher error	Sensor (stapler carriage HP) on failure	The sensor (stapler carriage HP) is not turned on within two seconds after the stapler starts moving toward the staple position, and also the sensor (stapler carriage HP) is turned off. Or the sensor (stapler carriage HP) is not turned on after the stapler was moved to the staple position. Or the sensor (stapler carriage HP) is turned off again after the sensor (stapler carriage HP) is turned on, and the stapler stopped its moving. Refer to the <i>Options Service Manual</i> .
990.01 Service finisher error	Sensor (stapler carriage HP) off failure	The sensor (stapler carriage HP) is not turned off within 500 ms after stapler starts moving to the staple position, and sensor (stapler carriage HP) is turned off. Or the sensor (stapler carriage HP) is not turned off after the stapler was moved to the staple position. Or the sensor (stapler carriage HP) is turned on again after the sensor (stapler carriage HP) is turned off, and the stapler stopped its moving. Refer to the <i>Options Service Manual</i> .

Error code or message	Error contents	Description/Action
995.00 Service finisher NV	Finisher NVM R/W failure	A read/write error occurred on the NVM of the finisher controller card assembly. Refer to the <i>Options Service Manual</i> .
996.00 Service wrong finisher	Finisher type failure	An incorrect type of finisher is connected. Refer to the <i>Options Service Manual</i> .
997.00 Service wrong duplex	Duplex controller card assembly type failure	A duplex controller card assembly of a different specification is installed. Go to <b>“997.00 Duplex controller card assembly type failure” on page 2-179.</b>
999.00 Service finisher error	Finisher engine/RIP functional failure	The engine reported a finisher failure that the RIP card assembly did not recognize. Refer to the <i>Options Service Manual</i> .
Check tray 1 guides	Tray 1 media size failure.	Although tray 1 is in the printer, the media size is not detected correctly. Go to <b>“Tray 1 media size failure” on page 2-197.</b>
Check tray 1 or 2 orientation or guides	Paper is installed (short edge) in the media paper tray.	This error occurs when short edge printing is disabled, and the paper in the tray is not installed long edge. (Letter A4) Go to <b>“Paper is installed (short edge) in the media paper tray” on page 2-186.</b>
Check tray 1 or tray 2 orientation or guides	Media size mismatch in width.	The media width is incorrect. Go to <b>“Media size mismatch in width” on page 2-182.</b>
Check tray 2 guides	Tray 2 media size failure.	Although tray 2 is in the printer, the media size is not detected correctly. Go to <b>“Tray 2 media size failure” on page 2-198.</b>
Check tray 3 or check tray 4 orientation or guides	Media size mismatch in width.	The media width is incorrect. Go to <b>“Media size mismatch in width” on page 2-183.</b>
Close cover F	Bridge unit cover is open.	The bridge unit assembly cover is open. Refer to the <i>Options Service Manual</i> .
Close cover K	HCF top door open	The tray 5 HCF top door is open. Refer to the <i>Options Service Manual</i> .
Close door A	Printer left door open.	The printer left door assembly is open. Go to <b>“Printer left door open” on page 2-189.</b>
Close door B	Printer left lower door open.	The printer left lower door assembly is open. Go to <b>“Printer left lower door open” on page 2-190.</b>
Close door C	2TM/TTM left door assembly open	The 2TM/TTM door is open. TTM equipped machines, go to <b>“2TM/TTM left door assembly open” on page 2-180.</b> 2TM equipped machines, refer to the <i>Options Service Manual</i> .

Error code or message	Error contents	Description/Action
Close door D	Duplex left door open	The duplex left cover is open. Go to <b>“Duplex left door assembly open” on page 2-181.</b>
Close door E	Exit 2 left door open	The exit 2 left door is open. Go to <b>“Exit 2 left door assembly open” on page 2-181.</b>
Close door G	Finisher front door open.	The finisher front door is open. Refer to the <i>Options Service Manual</i> .
Close door J	Printer front door open.	The printer front door assembly is open. Go to <b>“Printer front door open” on page 2-188.</b>
Close surface H	Eject cover open.	Finisher eject cover is open. Refer to the <i>Options Service Manual</i> .
Empty hole punch box	Punch waste box full.	The punch waste box is full. Refer to the <i>Options Service Manual</i> .
Insert hole punch box	Punch waste box missing.	No punch waste box. Refer to the <i>Options Service Manual</i> .
Load staples	Staple cartridge empty.	Staple cartridge empty. Refer to the <i>Options Service Manual</i> .
Load tray 1 or tray 2 with <media>	No media in the selected media tray.	Media is not loaded in the tray. Go to <b>“No media in the select media tray” on page 2-184.</b>
Load tray 3 or tray 4 with <media>	No media in the selected media tray.	Media is not loaded in the tray. Go to <b>“No media in the select media tray” on page 2-185.</b>
Load tray 5 with <media>	No media in the selected media tray.	Media is not loaded in the tray. Refer to the <i>Options Service Manual</i> .
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>Options 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>Options 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>Options 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 bin 1 full” on page 2-190.</b>

Error code or message	Error contents	Description/Action
Remove paper from standard output bin	Standard bin 2 full.	Media in standard bin 2 is at maximum capacity. Go to <b>“Standard bin 2 full” on page 2-191.</b>
Scanner ADF cover open	Switch (ADF left cover interlock) open	The system detected that the switch (ADF left cover interlock) is open. Go to <b>“Switch (ADF left cover interlock) open” on page 2-193.</b>
Scanner missing - cable unplugged	Scanner missing failure	The scanner unit assembly is unplugged or missing. Go to <b>“Scanner missing failure” on page 2-192.</b>
Toner low	Toner cartridge near empty	The toner in the toner cartridge is low, but can be used. Go to <b>“Toner cartridge near empty” on page 2-195.</b>
Toner unsupported	Toner cartridge RFID failure	A toner cartridge of a different specification is installed. Go to <b>“Toner cartridge RFID failure” on page 2-196.</b>
Tray 5 missing	HCF unit docking failure or HCF tray 5 set failure.	The tray 5 HCF unit is not properly docked with the printer or the HCF tray 5 is not set. Refer to the <i>Options Service Manual</i> .

## Service checks

### 200.00 Sensor (registration) off jam (too long)

Step	Check	Yes	No
1	Check the media position. Open the printer left door assembly and visually check it. Does the media touch the sensor (registration)?	Remove the media.	Go to step 2.
2	Check the roll. Open the printer left door assembly and check it. Is the transport roll assembly free of excess wear and contamination?	Go to step 3.	Clean or replace the transport roll assembly. Go to <b>“Transfer roll assembly removal” on page 4-73.</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>  Open the printer left door assembly and check it. Does the display, on the operator panel, change every time the sensor actuator is operated?	Go to step 5.	Go to step 4.
4	Check the sensor (registration) connection. Is the sensor (registration) properly connected?	Replace the sensor (registration). Go to <b>“Sensor (registration) removal” on page 4-81.</b>	Replace the connection.
5	Check the registration clutch for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Registrat clutch.</b>  Does the registration clutch make an audible clicking sound when activated?	Go to step 7.	Go to step 6.
6	Check the registration clutch connection. Is the registration clutch properly connected?	Replace the registration clutch. Go to <b>“Registration clutch assembly removal” on page 4-80.</b>	Replace the connection.
7	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

**200.01 Sensor (registration) static on jam**

Step	Check	Yes	No
1	Check the media position. Open the printer left door assembly and visually check it. Does the media touch the sensor (registration)?	Remove the media.	Go to step 2.
2	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> .  Open the printer left door assembly and check it. Does the display, on the operator panel, change every time the sensor actuator is operated?	Go to step 4.	Go to step 3.
3	Check the sensor (registration) connection. Is the sensor (registration) properly connected?	Replace the sensor (registration). Go to <b>“Sensor (registration) removal” on page 4-81</b> .	Replace the connection.
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117</b> .	Problem solved.

## 201.00 Sensor (fuser exit) on jam

Step	Check	Yes	No
1	Check the media position. Does the media touch the sensor (fuser exit)? Open the printer left door assembly and visually check it.	Remove the media.	Go to step 2.
2	Check the fuser exit actuator. Does the fuser exit actuator appear to be binding or sticking in its normal resting position and not allowing media to pass?	Replace the fuser exit actuator. Go to <b>“Sensor (fuser exit) removal” on page 4-103.</b>	Go to step 3.
3	Check the roll. Open the printer left door assembly and check it. Is the transfer roll assembly free of excess wear and contamination?	Go to step 4.	Clean or replace the transfer roll assembly. Go to <b>“Transfer roll assembly removal” on page 4-73.</b>
4	Inspect the pinch roll on the transfer roll guide assembly. Is the transfer roll guide assembly free of damage?	Go to step 5	Replace the transfer roll guide assembly Go to <b>“Transfer roll guide assembly removal” on page 4-77.</b>
5	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>  Open the printer left door assembly and check it. <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 sensor actuator is operated?	Go to step 7.	Go to step 6.
6	Check the sensor (fuser exit) connection. Is the sensor (fuser exit) properly connected?	Replace the sensor (fuser exit). Go to <b>“Sensor (fuser exit) removal” on page 4-103.</b>	Replace the connection.
7	Check the registration clutch for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Registrat clutch.</b>  Does the registration clutch make an audible clicking sound when activated?	Go to step 8.	Go to step 9



Step	Check	Yes	No
8	Check the registration clutch connection. Is the registration clutch properly connected?	Replace the registration clutch. Go to <b>“Registration clutch assembly removal” on page 4-80.</b>	Replace the connection.
9	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117</b>	Problem solved.

### 202.00 Sensor (fuser exit) off jam

Step	Check	Yes	No
1	Check the media position. Open the printer left door assembly and visually check it. Does the media touch the sensor (fuser exit)?	Remove the media.	Go to step 2.
2	Check the roll. Open the printer left door assembly and check it. Is the transport roll assembly free of excess wear and contamination?	Go to step 3.	Clean or replace the transport roll assembly.
3	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>  Open the printer left door assembly and check it. 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 sensor actuator is operated?	Go to step 5.	Go to step 4.
4	Check the sensor (fuser exit) connection. Is the sensor (fuser exit) properly connected?	Replace the sensor (fuser exit). Go to <b>“Sensor (fuser exit) removal” on page 4-103.</b>	Replace the connection.
5	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## 202.01 Sensor (fuser exit) off (too short) jam

Step	Check	Yes	No
1	Check the media position. Open the printer left door assembly and visually check it. Does the media touch the sensor (fuser exit)?	Remove the media.	Go to step 2.
2	Check the fuser unit assembly for a media jam. Open the printer left door assembly and check it. 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. Open the printer left door assembly and check it. Is the fuser unit assembly installed properly?	Go to step 4.	Install the fuser unit assembly properly. Go to <b>“Fuser unit assembly removal” on page 4-104.</b>
4	Checking the roll. Open the printer left door assembly and check it. Is the transport roll assembly free of excess wear and contamination?	Go to step 5.	Clean or replace the transport roll assembly. Go to <b>“Transfer roll guide assembly removal” on page 4-77.</b>
5	Check the sensor (fuser exit) for 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>  Open the printer left door assembly and check it. <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 sensor actuator is operated?	Go to step 7.	Go to step 6.
6	Check the sensor (fuser exit) connection. Is the sensor (fuser exit) properly connected?	Replace the sensor (fuser exit). Go to <b>“Sensor (fuser exit) removal” on page 4-103.</b>	Replace the connection.
7	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## 202.02 Sensor (fuser exit) static jam

Step	Check	Yes	No
1	Check the media position. Open the printer left door assembly and visually check it. Does the media touch the sensor (fuser exit). Open the printer left door assembly and visually check it.?	Remove the media.	Go to step 2.
2	Check the sensor (fuser exit) for 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> .  Open the printer left door assembly and check it. <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 sensor actuator is operated?	Go to step 4.	Go to step 3.
3	Is the sensor (fuser exit) properly connected?	Replace the sensor (fuser exit).  Go to <b>“Sensor (fuser exit) removal” on page 4-103.</b>	Replace the connection.
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## 203.00 Sensor (exit 2) on jam

Step	Check	Yes	No
1	Check the media position. Open the printer left door assembly, and visually check it. Does the media touch the sensor (fuser exit)?	Remove the media.	Go to step 2.
2	Check the media position. Open the exit 2 left door assembly, and visually check it. Does the media touch the sensor (exit 2)?	Remove the media.	Go to step 3.
3	Check the roll. Open printer left door assembly. Is the exit 1 media exit roll assembly free of excess wear and contamination?	Go to step 4.	Clean or replace the exit 1 media shift assembly.  Go to <b>“Exit 1 media shift assembly removal” on page 4-105</b>

Step	Check	Yes	No
4	<p>Check the drive power transmission.</p> <p>Does the exit 1 media exit roll assembly and the other gears rotate smoothly?</p>	Go to step 5.	<p>Replace damaged components.</p> <p>Go to <b>“Exit 1 media shift assembly removal” on page 4-105.</b></p>
5	<p>Check the sensor (fuser exit) 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>Media Path.</b></li> <li>4. Touch <b>Fuser exit.</b></li> </ol> <p>Open the printer left door assembly and check it.</p> <p><b>Caution:</b> 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 sensor actuator is operated?</p>	Go to step 7.	Go to step 6.
6	<p>Check the sensor (fuser exit).</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (fuser exit).</p> <p>Go to <b>“Sensor (fuser exit) removal” on page 4-103.</b></p>	Replace the connection.
7	<p>Check the exit 2 drive motor for proper operation.</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>Exit2 drive mtr.</b></li> <li>5. Touch <b>Forward or reverse.</b></li> </ol> <p>Does the above motor rotate normally?</p>	Go to step 9.	Go to step 8.
8	<p>Check the exit 2 drive motor for proper operation.</p> <p>Is the above motor connected properly?</p>	<p>Replace the exit 2 unit assembly.</p> <p>Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b></p>	Replace the connection.
9	<p>Check the sensor (exit 2) 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>Exit2.</b></li> </ol> <p>Open the printer left door assembly and the exit 2 left door assembly.</p> <p>Does the display on the operator panel change every time the actuator on the above sensor operates?</p>	Go to step 11.	Go to step 10.
10	<p>Check the sensor (exit 2) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (exit 2).</p> <p>Go to <b>“Exit 2 sensor (exit 2) removal” on page 4-328.</b></p>	Replace the connection.

Step	Check	Yes	No
11	<p>Check the media diverter solenoid for proper operation.</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>Diverter solenoid</b>.</li> </ol> <p>Open the printer left door assembly. Does the above component operate normally?</p>	Go to step 13.	Go to step 12.
12	<p>Check the media diverter solenoid for proper connection.</p> <p>Is the above component connect properly?</p>	<p>Replace the media diverter solenoid.</p> <p>Go to <b>“Exit 2 media diverter solenoid removal” on page 4-327.</b></p>	Replace the connection.
13	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the exit interface card assembly.</p> <p>Go to <b>“Exit interface card assembly removal” on page 4-116.</b></p> <p>Go to step 14.</p>	Problem solved.
14	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117.</b></p>	Problem solved.

### 203.01 Sensor (exit 2) off jam

Step	Check	Yes	No
1	<p>Check the media position.</p> <p>Open the exit 2 left door assembly, and visually check it.</p> <p>Does the media touch the sensor (exit 2)?</p>	Remove the media.	Go to step 2.
2	<p>Check the roll.</p> <p>Open the exit 2 left door assembly.</p> <p>Is the exit 2 media transport roll assembly free of excess wear and contamination?</p>	Go to step 3.	<p>Clean or replace the exit 2 unit assembly.</p> <p>Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b></p>
3	<p>Check the drive power transmission.</p> <p>Do the exit 2 media transport roll assembly and the other gears rotate smoothly?</p>	Go to step 4.	<p>Replace damaged parts.</p> <p>Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b></p>
4	<p>Check the roll.</p> <p>Open exit 2 left door assembly.</p> <p>Is the exit 2 media exit roll assembly free of excess wear and contamination?</p>	Go to step 5.	<p>Clean or replace the exit 2 unit assembly.</p> <p>Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b></p>

Step	Check	Yes	No
5	Check the drive power transmission. Do the exit 2 media exit roll assembly and the other gears rotate smoothly?	Go to step 6.	Replace damaged parts. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>
6	Check the sensor (exit 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>Exit2.</b>  Open the printer left door assembly and the exit 2 left door assembly. Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 8.	Go to step 7.
7	Check the sensor (exit 2) for proper connection. Is the above sensor connected properly?	Replace the sensor (exit 2). Go to <b>“Exit 2 sensor (exit 2) removal” on page 4-328.</b>	Replace the connection.
8	Check the exit 2 drive motor for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Exit2 drive mtr.</b> 5. Touch <b>Forward or reverse</b>  Does the above motor rotate normally?	Go to step 10.	Go to step 9.
9	Check the exit 2 drive motor for proper connection. Is the above motor connected properly?	Replace the exit 2 unit assembly. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>	Replace the connection.
10	Perform a print test. Does the error still occur?	Replace the exit interface card assembly. Go to <b>“Exit interface card assembly removal” on page 4-116.</b> Go to step 11.	Problem solved.
11	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## 203.02 Sensor (exit 2) on jam in standard bin or finisher

Step	Check	Yes	No
1	Check the position of the media diverter solenoid. Is the media diverter gate facing toward exit 1?	Go to step 2.	Go to step 3.
2	Check the media diverter gate for an obstruction. Is the media diverter gate free of any debris or obstructions?	Remove any obstructions.	Go to step 3.
3	Check the diverter solenoid for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer Motor Test</b> . 4. Touch <b>Diverter solenoid</b> .  Open the printer left door assembly. Does the above component operate normally?	Go to step 5.	Go to step 3.
4	Check the media diverter solenoid for proper connection. Is the above component connected properly?	Replace the exit 2 unit assembly. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>	Replace the connection.
5	Check the media position. Open the exit 2 left door assembly, and visually check it. Does the media touch the sensor (exit 2)?	Remove the media.	Go to step 6.
6	Check the sensor (exit 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST</b> . 3. Touch <b>Media Path</b> . 4. Touch <b>Exit2</b> .  Open the printer left door assembly and the exit 2 left door assembly. Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 8.	Go to step 7.
7	Check the sensor (exit 2) for proper connection. Is the above sensor connected properly?	Replace the sensor (exit 2). Go to <b>“Exit 2 sensor (exit 2) removal” on page 4-328.</b>	Replace the connection.
8	Perform a print test. Does the error still occur?	Replace the exit interface card assembly. Go to <b>“Exit interface card assembly removal” on page 4-116.</b> Go to step 9.	Problem solved.

Step	Check	Yes	No
9	Perform a print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 203.03 Sensor (exit 2) static jam

Step	Check	Yes	No
1	Check the media position. Open the exit 2 left door assembly, and visually check it. Does the media touch the sensor (exit 2)?	Remove the media.	Go to step 2.
2	Check the sensor (exit 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>Exit2.</b>  Open the printer left door assembly and the exit 2 left door assembly. Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 4.	Go to step 3.
3	Check the sensor (exit 2) for proper connection. Is the above sensor connected properly?	Replace the sensor (exit 2).  Go to <b>“Exit 2 sensor (exit 2) removal” on page 4-328.</b>	Replace the connection.
4	Perform a print test. Does the error still occur?	Replace the exit interface card assembly.  Go to <b>“Exit interface card assembly removal” on page 4-116.</b>  Go to step 5.	Problem solved.
5	Perform a print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.



## 230.00 Sensor (duplex wait) on jam

Step	Check	Yes	No
1	Check the media position. Does the media remain in the exit 2? Open the exit 2 left door assembly, and visually check it.	Remove the media.	Go to step 2.
2	Check the roll. Open exit 2 left door assembly. Is the exit 2 media transport roll assembly free of excess wear and contamination?	Go to step 3.	Clean or replace the exit 2 unit assembly. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>
3	Check the drive power transmission. Does the exit 2 media transport roll assembly and the other gears rotate smoothly?	Go to step 4.	Replace damaged parts. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>
4	Check the roll. Open exit 2 left door assembly. Is the exit 2 media exit roll assembly free of excess wear and contamination?	Go to step 5.	Clean or replace the exit 2 unit assembly. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>
5	Check the drive power transmission. Does the exit 2 media exit roll assembly and the other gears rotate smoothly?	Go to step 6.	Replace damaged parts. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>
6	Check the exit 2 drive motor for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Exit2 drive mtr.</b> 5. Touch <b>Forward or reverse.</b>  Does the above motor rotate normally?	Go to step 9.	Go to step 7.
7	Check the exit 2 drive motor for proper connection. Is the above motor connected properly?	Replace the exit 2 unit assembly. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>	Replace the connection.
8	Check the connection between the exit interface card assembly and the printer engine card assembly. Are connectors PJ431 and PJ421 connected properly?	Go to step 9.	Replace the connection.
9	Check the sensor (duplex wait) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>DUPLEX TESTS.</b> 3. Touch <b>Sensor Test.</b> 4. Touch <b>Duplex wait.</b>  Open the duplex left door assembly. Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 11.	Go to step 10.

Step	Check	Yes	No
10	Check the sensor (duplex wait) for proper connection. Is the above sensor connected properly?	Replace the sensor (duplex wait). Go to <b>“Duplex sensor (duplex wait) removal” on page 4-307.</b>	Replace the connection.
11	Perform a print test. Does the error still occur?	Replace the exit interface card assembly. Go to <b>“Exit interface card assembly removal” on page 4-116.</b> Go to step 11.	Problem solved.
12	Perform a print test. Does the error still occur?	Replace the duplex controller card assembly. Go to <b>“Duplex controller card assembly removal” on page 4-304.</b> Go to step 13.	Problem solved.
13	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 230.00 Sensor (duplex wait) on jam

Step	Check	Yes	No
1	Check the paper position. Open the exit 2 left door assembly, and visually check it. Does the paper remain in the exit 2?	Remove the paper.	Go to step 2.
2	Check the roll. Open exit 2 left door assembly. Is the exit 2 media transport roll assembly free of excess wear and contamination?	Go to step 3.	Clean or replace the exit 2 unit assembly. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>
3	Check the drive power transmission. Do the exit 2 media transport roll assembly and the other gears rotate smoothly?	Go to step 4.	Replace damaged components or the exit 2 unit assembly. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>
4	Check the roll. Open exit 2 left door assembly. Is the exit 2 media exit roll assembly free of excess wear and contamination?	Go to step 5.	Clean or replace the exit 2 unit assembly. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>

Step	Check	Yes	No
5	Check the drive power transmission. Do the exit 2 media exit roll assembly and the other gears rotate smoothly?	Go to step 6.	Replace damaged components. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>
6	Check the exit 2 drive motor for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Exit2 drive mtr.</b> 5. Touch <b>Forward or reverse.</b>  Does the above motor rotate normally?	Go to step 8.	Go to step 7.
7	Check the exit 2 drive motor for proper connection. Is the above motor connected properly?	Replace the exit 2 unit assembly. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>	Replace the connection.
8	Check the connection between the exit interface card assembly and the printer engine card assembly. Are connectors P431 and P421 connected properly?	Go to step 9.	Replace the connection.
9	Check the sensor (duplex wait) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>DUPLEX TESTS.</b> 3. Touch <b>Sensor Test.</b> 4. Touch <b>Duplex wait.</b>  Open the duplex left door assembly. Does the display on the operator panel change every time the sensing area of the above sensor is blocked by the duplex wait actuator?	Go to step 11.	Go to step 10.
10	Check the sensor (duplex wait) for proper connection. Is the above sensor connected properly?	Replace the sensor (duplex wait). Go to <b>“Duplex sensor (duplex wait) removal” on page 4-307.</b>	Replace the connection.
11	Perform a 2 sided print test. Does the error still occur?	Replace the duplex controller card assembly. Go to <b>“Duplex controller card assembly removal” on page 4-304.</b> Go to step 12.	Problem solved.
12	Perform a 2 sided print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

**230.01 Sensor (duplex wait) static jam**

Step	Check	Yes	No
1	Check the paper position. Open the duplex left door assembly, and visually check it. Does the paper touch the duplex wait actuator?	Remove the paper.	Go to step 2.
2	Check the sensor (duplex wait) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>DUPLEX TESTS</b> . 3. Touch <b>Sensor Test</b> . 4. Touch <b>Duplex wait</b> .  Open the duplex left door assembly. Does the display on the operator panel change every time the sensing area of the above sensor is blocked by the duplex wait actuator?	Go to step 4.	Go to step 3.
3	Check the sensor (duplex wait) for proper connection. Is the above sensor connected properly?	Replace the sensor (duplex wait). Go to <b>“Duplex sensor (duplex wait) removal” on page 4-307</b> .	Replace the connection.
4	Perform a 2 sided print test. Does the error still occur?	Replace the duplex controller card assembly. Go to <b>“Duplex controller card assembly removal” on page 4-304</b> . Go to step 5.	Problem solved.
5	Perform a 2 sided print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117</b> .	Problem solved.

**231.00 Sensor (registration) on jam (duplex paper feed)**

Step	Check	Yes	No
1	Check the paper position. Open the printer left door assembly and visually check it. Does the paper touch the sensor (registration)?	Remove the paper.	Go to step 2.
2	Check the Duplex for proper installation. Remove duplex unit assembly and reinstall it. Perform a two sided print test. Does the error still occur?	Go to step 3.	Problem solved.

Step	Check	Yes	No
3	Check the roll. Open the duplex left door assembly. Is the duplex media transport roll assembly free of excess wear and contamination?	Go to step 4.	Clean or replace the duplex media transport roll assembly. Go to <b>“Duplex media transport rolls removal” on page 4-313.</b>
4	Check the drive power transmission. Open the duplex left door assembly. Do the duplex media transport roll assembly and the other gears rotate smoothly?	Go to step 5.	Replace damaged components. Go to <b>“Duplex media transport rolls removal” on page 4-313.</b>
5	Check the roll. Open the duplex left door assembly. Is the duplex media transport center roll assembly free of excess wear and contamination?	Go to step 6.	Clean or replace the duplex media transport center roll assembly. Go to <b>“Duplex media center transport roll removal” on page 4-314.</b>
6	Check the drive power transmission. Open the duplex left door assembly. Do the duplex media transport center roll assembly and the other gears rotate smoothly?	Go to step 7.	Replace damaged components. Go to <b>“Duplex media center transport roll removal” on page 4-314.</b>
7	Check the duplex drive motor for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Duplex drv mtr.</b>  Open the duplex left cover assembly. Does the above motor rotate properly?	Go to step 9.	Go to step 8.
8	Check the duplex drive motor for proper connection. Is the above motor connected properly?	Go to step 9.	Replace the connection.
9	Check the duplex controller card assembly and printer engine card assembly for proper connection. Are the connections on the duplex controller card assembly and the connector P417 on the printer engine card assembly connected?	Go to step 10.	Replace the connection.
10	Perform a 2 sided print test. Does the error still occur?	Replace the duplex controller card assembly. Go to <b>“Duplex controller card assembly removal” on page 4-304.</b> Go to step 14	Problem solved.

Step	Check	Yes	No
14	Perform a 2 sided print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 231.01 Sensor (registration) on jam (duplex paper feed)

Step	Check	Yes	No
1	Check the paper position. Open the printer left door assembly, and visually check it. Does the paper touch the sensor (registration)?	Remove the paper.	Go to step 2.
2	Check the paper position. Open the duplex left door assembly and visually check it. Does the paper touch the duplex wait actuator?	Remove the paper.	Go to step 3.
3	Check the duplex unit for proper installation. Remove the duplex unit assembly and reinstall it. Perform a two sided print test. Does the error still occur?	Go to step 4.	Problem solved.
4	Check the roll. Open the duplex left door assembly. Is the roll of the duplex media transport roll assembly free of excess wear and contamination?	Go to step 5.	Clean or replace the duplex media transport roll assembly.  Go to <b>“Duplex media transport rolls removal” on page 4-313.</b>
5	Check the drive power transmission. Open the duplex left door assembly. Do the duplex media transport roll assembly and the other gears rotate smoothly?	Go to step 6.	Replace damaged components.  Go to <b>“Duplex media transport rolls removal” on page 4-313.</b>
6	Check the roll. Open the duplex left door assembly. Is the roll of the duplex media center transport roll assembly free of excess wear and contamination?	Go to step 7.	Clean or replace the duplex media center transport roll assembly.  Go to <b>“Duplex media center transport roll removal” on page 4-314.</b>

Step	Check	Yes	No
7	<p>Check the drive power transmission. Open the duplex left door assembly. Do the duplex media center transport roll assembly and the other gears rotate smoothly?</p>	Go to step 8.	<p>Replace damaged components. Go to <b>“Duplex media center transport roll removal” on page 4-314.</b></p>
8	<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>Open the duplex left door assembly. Does the display on the operator panel change every time the sensing area of the above sensor is blocked by the duplex wait actuator?</p>	Go to step 10.	Go to step 9.
9	<p>Check the sensor (duplex wait) for proper connection. Is the above sensor connected properly?</p>	Go to step 10.	Replace the connection.
10	<p>Check the duplex drive motor for proper operation.</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>Duplex drv mtr.</b></li> </ol> <p>Open the duplex left cover assembly. Does the above motor rotate properly?</p>	Go to step 12.	Go to step 11.
11	<p>Check the duplex drive motor assembly for proper connection. Is the above motor connected properly?</p>	<p>Replace the duplex drive motor. Go to <b>“Duplex drive motor assembly removal” on page 4-301.</b></p>	Replace the connection.
12	<p>Check the duplex controller card assembly and printer engine card assembly for proper connection. Are the connections on the duplex controller card assembly and the connector P417 on the printer engine card assembly connected?</p>	Go to step 13.	Replace the connection.
13	<p>Perform a 2 sided print test. Does the error still occur?</p>	<p>Replace the duplex controller card assembly. Go to <b>“Duplex controller card assembly removal” on page 4-304.</b> Go to step 14.</p>	Problem solved.
14	<p>Perform a 2 sided print test. Does the error still occur?</p>	<p>Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b></p>	Problem solved.

**241.00 Sensor (pre-feed) on jam (tray 1 feed)**

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the damaged media with new.	Go to step 2.
2	Check the media size setup. Does the media size, in use, match the size set for tray 1?	Go to step 3.	Replace the media, or change the media size setup.
3	Check the rolls for tray 1. Remove tray 1, check it over. Are the feed roll, separation roll, and pick roll 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 4-45</b> , <b>“Separation roll removal” on page 4-49</b> , and <b>“Pick roll removal” on page 4-51</b> .
4	Check the media position. Open the printer left door assembly and visually check it. Does the media touch the sensor (pre-feed) in tray 1 media feed unit assembly?	Remove the media.	Go to step 5
5	Check the sensor (pre-feed) for proper operation in tray 1. 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>Pre-feed</b> .  Remove the media tray assembly and check it. Does the display, on the operator panel, change every time a white piece of paper is placed over the sensing area?	Ensure the media feed unit front guide is installed properly. Go to step 7.	Go to step 6.
6	Check the sensor (pre-feed) connection. Is the sensor (pre-feed) properly connected?	Replace the sensor (pre-feed).	Replace the connection.
7	Check the media feed lift motor in tray 1 for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer motor tests</b> . 4. Touch <b>Tray 1 feed mtr</b> .  Pull out tray 1, and check it. Does the media feed lift motor rotate normally?	Go to step 10.	Skip to step 9.
8	Check the media feed lift motor connection. Is the media feed lift motor properly connected?	Go to step 9.	Replace the connection.



Step	Check	Yes	No
9	<p>Check the media feed lift motor for proper operation of tray 1.</p> <p>Replace the media feed lift motor for tray 1 with one from tray 2.</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>Tray 1 feed mtr</b>.</li> </ol> <p>Does the motor rotate normally?</p>	<p>Re-install the media feed lift motor for tray 2 as it previously was and replace the tray 1 motor with a new one.</p> <p>Go to <b>“Media feed lift motor removal” on page 4-33</b>.</p>	Go to step 10.
10	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117</b>.</p>	Problem solved.

### 241.01 Sensor (registration) on jam (tray 1 feed)

Step	Check	Yes	No
1	<p>Check the media condition.</p> <p>Is the media in the tray crumpled or damaged?</p>	Replace with new media; ensure it is dry.	Go to step 2.
2	<p>Check the media size setup.</p> <p>Does the size of media in use match the size set for tray 1?</p>	Go to step 3.	Replace the media or change the media size setup.
3	<p>Check the rolls for tray 1.</p> <p>Remove and check tray 1.</p> <p>Are the feed roll, separation roll, and pick roll free of excess wear and contamination?</p>	Go to step 4.	<p>Clean or replace the feed roll, separation roll, and pick roll.</p> <p>Go to <b>“Feed roll removal” on page 4-45</b>, <b>“Separation roll removal” on page 4-49</b>, and <b>“Pick roll removal” on page 4-51</b>.</p>
4	<p>Check the media position.</p> <p>Open the printer left door assembly, and visually check it.</p> <p>Does the media touch the sensor (registration) or the sensor (pre-feed) in tray 1 media feed unit assembly?</p>	Remove the media.	Go to step 5.

Step	Check	Yes	No
5	<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>Open the printer left door assembly.</p> <p>Does the display on the operator panel change every time the sensor actuator operates?</p>	Go to step 7.	Go to step 6.
6	<p>Check the sensor (registration) connection.</p> <p>Is the sensor (registration) properly connected?</p>	<p>Replace the sensor (registration).</p> <p>Go to <b>“Sensor (registration) removal” on page 4-81</b>.</p>	Replace the connection.
7	<p>Check the sensor (pre-feed) for proper operation in tray 1.</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 <b>Pre-feed</b>.</li> </ol> <p>Remove the media tray assembly, and check it.</p> <p>Does the display on the operator panel change every time a white piece of paper is placed over the sensing area?</p>	<p>Ensure the media feed unit front guide is installed properly.</p> <p>Go to step 9.</p>	<p>Replace the sensor (pre-feed).</p> <p>Go to <b>“Sensor (pre-feed) removal” on page 4-41</b>.</p>
8	<p>Check the sensor (pre-feed) connection.</p> <p>Is the sensor (pre-feed) properly connected?</p>	<p>Replace the sensor (pre-feed).</p> <p>Go to <b>“Sensor (pre-feed) removal” on page 4-41</b>.</p>	Replace the connection.
9	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the printer engine card assembly</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117</b>.</p>	Problem solved.

## 242.00 Sensor (pre-feed) on jam (tray 2 feed)

Step	Check	Yes	No
1	<p>Check the media condition.</p> <p>Is the media in the tray crumpled or damaged?</p>	Replace the media with new media; ensure it is dry.	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 2?</p>	Go to step 3.	Replace the media, or change the media size setup.

Step	Check	Yes	No
3	<p>Check the rolls for tray 2. Remove tray 2 and check it. Are the feed roll, separation roll, and pick roll free of excess wear and contamination?</p>	Go to step 4.	<p>Clean or replace the feed roll, separation roll, and pick roll. Go to <b>“Feed roll removal” on page 4-45</b>, <b>“Separation roll removal” on page 4-49</b>, and <b>“Pick roll removal” on page 4-51</b>.</p>
4	<p>Check the media position. Open the printer left lower door assembly, and visually check it. Does the media touch the sensor (pre-feed) in the tray 2 media feed unit?</p>	Remove the media.	Go to step 5.
5	<p>Check the sensor (pre-feed) in 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>Pre-feed</b>.</li> </ol> <p>Remove the media tray assembly, and check it. Does the display on the operator panel change every time a white piece of paper is placed over the sensing area?</p>	<p>Ensure the media feed unit front guide is installed properly. Go to step 7.</p>	Go to step 6.
6	<p>Check the sensor (pre-feed) connection. Is the sensor (pre-feed) properly connected?</p>	<p>Replace the sensor (pre-feed). Go to <b>“Sensor (pre-feed) removal” on page 4-41</b>.</p>	<p>Replace the connection. Go to <b>“Sensor (pre-feed) removal” on page 4-41</b>.</p>
7	<p>Check the media feed lift motor in tray 2 for proper operation.</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>Tray 2 feed mtr</b>.</li> </ol> <p>Pull out tray 2, and check it. Does the media feed lift motor rotate normally.</p>	Go to step 10.	Go to step 8.
8	<p>Check the media feed lift motor connection. Is the media feed lift motor properly connected?</p>	Go to step 9.	<p>Replace the connection. Go to <b>“Sensor (pre-feed) removal” on page 4-41</b>.</p>

Step	Check	Yes	No
9	<p>Check the media feed lift motor in tray 2 for proper operation.</p> <p>Replace the media feed lift motor for tray 2 with the one from tray 1.</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>Tray 2 feed mtr</b>.</li> </ol> <p>Does the media feed lift motor rotate normally?</p>	<p>Install the media feed lift motor for tray 1 as it previously was and replace the motor for tray 2 with a new motor.</p> <p>Go to <b>“Media feed lift motor removal” on page 4-33</b>.</p>	Go to step 10.
10	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117</b>.</p>	Problem solved.

### 242.01 Sensor (tray 2 feed-out) on jam (tray 2 feed)

Step	Check	Yes	No
1	<p>Check the media condition.</p> <p>Is the media in the tray crumpled or damaged?</p>	Replace the media with new media; ensure it is dry.	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 2?</p>	Go to step 2.	Replace the media, or change the media size setup.
3	<p>Check the rolls for tray 2.</p> <p>Pull out tray 2, and check it.</p> <p>Open the printer left lower door assembly, and visually check it.</p> <p>Are the feed roll, separation roll, and pick roll free of excess wear and contamination?</p>	Go to step 4.	<p>Clean or replace the feed roll, separation roll, and pick roll.</p> <p>Go to <b>“Feed roll removal” on page 4-45</b>, <b>“Separation roll removal” on page 4-49</b>, and <b>“Pick roll removal” on page 4-51</b>.</p>
4	<p>Check the media position.</p> <p>Does the media touch the sensor (tray 2 feed-out) or the tray 2 media feed unit?</p>	Remove the media.	Go to step 5.

Step	Check	Yes	No
5	<p>Check the sensor (tray 2 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 2</b>.</li> <li>5. Touch <b>Media out</b>.</li> </ol> <p>Open the printer left lower door assembly and check it.</p> <p>Does the display on the operator panel change every time a white piece of paper is placed over the sensing area?</p>	Go to step 7.	Go to step 6.
6	<p>Check the sensor (tray 2 feed-out) connection.</p> <p>Is the sensor (tray 2 feed-out) properly connected?</p>	<p>Replace the sensor (tray 2 feed-out).</p> <p>Go to <b>“Sensor (tray 2 feed-out) removal” on page 4-83</b>.</p>	Replace the connection.
7	<p>Check the sensor (pre-feed), in 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>Pre-feed</b>.</li> </ol> <p>Remove the media tray assembly and check it.</p> <p>Does the display, on the operation panel, change every time a white piece of paper is placed over the sensing area?</p>	<ul style="list-style-type: none"> <li>• Ensure the media feed unit front guide is installed properly.</li> <li>• Go to step 9.</li> </ul>	Replace the sensor (pre-feed).
8	<p>Check the sensor (pre-feed) connection.</p> <p>Is the sensor (pre-feed) properly connected?</p>	Replace the sensor (pre-feed).	Replace the connection.
9	<p>Check the MPF/transport drive motor.</p> <p>Perform the MPF/transport drive motor test.</p> <p>Open the ADF left cover assembly.</p> <p>Remove the rear motor cover. Go to <b>“Rear motor cover removal” on page 4-11</b>.</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 mtr</b></li> </ol> <p>Does the MPF/transport motor operate properly?</p>	Go to step 11.	Go to step 10.
10	<p>Check the MPF/transport drive motor for connection.</p> <p>Is the above motor connected properly?</p>	<p>Replace the MPF/transport drive motor.</p> <p>Go to <b>“MPF/transport drive motor assembly removal” on page 4-82</b>.</p>	Replace the connection.

Step	Check	Yes	No
11	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 242.02 Sensor (registration) on jam (tray 2 feed)

Step	Check	Yes	No
1	Check the media condition. Is the media, in the 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 tray 2?	Go to step 3.	Replace the media or change the media size setup.
3	Check the roll for tray 2. Remove tray 2 and check it. Are the feed roll, separation roll, and pick roll free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separation roll, and pick roll.  Go to <b>“Feed roll removal” on page 4-45</b> , <b>“Separation roll removal” on page 4-49</b> , and <b>“Pick roll removal” on page 4-51.</b>
4	Check the media position. Open the printer left door assembly and visually check it. Does the media touch the sensor (registration)?	Remove the media.	Go to step 5.
5	Check the media position. Open the printer left lower door assembly and visually check it. Does the media touch the sensor (tray 2 feed-out)?	Remove the media.	Go to step 6.
6	Check the sensor (registration) for proper operation. Open the printer left door assembly and check it. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>Registration.</b>  Open the printer left door assembly and check it. Does the display, on the operator panel, change every time the sensor actuator is operated?	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	Check the sensor (registration) connection. Is the sensor (registration) properly connected?	Replace the sensor (registration).  Go to <b>“Sensor (registration) removal” on page 4-81.</b>	Replace the connection.
8	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>  Open the printer left lower door assembly, and check it. Does the display on the operator panel change every time a white piece of paper is placed over the sensing area?	Go to step 10.	Go to step 9.
9	Check the sensor (tray 2 feed-out) connection. Is the sensor (tray 2 feed-out) properly connected?	Replace the sensor (tray 2 feed-out).  Go to <b>“Sensor (tray 2 feed-out) removal” on page 4-83.</b>	Replace the sensor (tray 2 feed-out).
10	Check the MPF/transport drive motor. Perform the MPF/transport drive motor test. Open the ADF left cover assembly. Remove the rear motor cover. Go to <b>“Rear motor cover removal” on page 4-11.</b> 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Tests.</b> 4. Touch <b>MPF/Transport mtr</b>  Does the MPF/transport motor operate properly?	Go to step 12.	Go to step 11.
11	Check the MPF/transport drive motor for connection. Is the above motor connected properly?	Replace the MPF/transport drive motor.  Go to <b>“MPF/transport drive motor assembly removal” on page 4-82.</b>	Replace the connection.
12	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 242.03 Sensor (tray 2 feed-out) static jam

Step	Check	Yes	No
1	Check the media position. Does the media touch the sensor (tray 2 feed-out)? Open the printer left lower door assembly, and visually check it.	Remove the media.	Go to step 2.
2	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> .  Open the printer left lower door assembly, and check it. Does the display on the operator panel change every time a white piece of paper is placed over the sensing area?	Go to step 4.	Go to step 3
3	Check the sensor (tray 2 feed-out) connection. Is the sensor (tray 2 feed-out) properly connected?	Replace the sensor (tray 2 feed-out).	Replace the connection.
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117</b> .	Problem solved.

### 243.00 Sensor (pre-feed) on jam (tray 3 media feed)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the media.	Go to step 2.
2	Check the media size setup. Does the media size in use match the size set for tray 3?	Go to step 3.	Replace the media, or change the media size setup.
3	Check the tray 3 rolls. Pull out tray 3, and check it. Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separation roll, and pick roll.  Go to <b>“2000-sheet dual input (TTM)—feed roll removal” on page 4-259</b> , <b>“2000-sheet dual input (TTM)—separation roll removal” on page 4-263</b> , and <b>“2000-sheet dual input (TTM)—pick roll removal” on page 4-266</b> .



Step	Check	Yes	No
4	<p>Check the media position.</p> <p>Open the 2TM/TTM left door assembly, and visually check it.</p> <p>Does the media touch the sensor (pre-feed) of the tray 3 media feed unit assembly?</p>	Remove the media.	Go to step 5.
5	<p>Check the tray 3 sensor (pre-feed) 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>Remove the media tray assembly.</p> <p>Does the display on the operator panel change every time a white piece of paper is placed over the sensing area of the above sensor?</p>	Go to step 7.	Go to step 6.
6	<p>Check the tray 3 sensor (pre-feed) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (pre-feed).</p> <p>Go to <b>“2000-sheet dual input (TTM)—sensor (pre-feed) removal” on page 4-256.</b></p>	Replace the connection.
7	<p>Check the connection between the 2TM/TTM controller card assembly and the printer engine card assembly.</p> <p>Are the above cards connected properly?</p>	Go to step 8.	Replace the connection.
8	<p>Check the tray 3 media feed lift motor for proper operation.</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>Tray 3 feed mtr.</b></li> </ol> <p>Does the above motor rotate normally?</p>	Go to step 11.	Go to step 9.
9	<p>Check the tray 3 media feed lift motor for proper connection.</p> <p>Is the above motor connected properly?</p>	Go to step 10.	Replace the connection.
10	<p>Check the tray 3 media feed lift motor for proper operation.</p> <p>Replace the media feed lift motor for tray 3 with that from tray 4.</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>Tray 3 feed mtr.</b></li> </ol> <p>Does the above motor rotate normally?</p>	<p>Reinstall the media feed lift motor for tray 4 as it previously was, and replace the media feed lift motor for tray 3 with a new one.</p> <p>Go to <b>“2000-sheet dual input (TTM)—media feed lift motor removal” on page 4-248.</b></p>	<p>Replace the 2TM/TTM controller card assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b></p>

Step	Check	Yes	No
11	Perform a print test. Does the error still occur?	Replace the 2TM/ TTM controller card assembly.  Go to <b>“2000-sheet dual input (TTM)— 2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 12.	Problem solved.
12	Perform a print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 243.01 Sensor (tray 3 feed-out) on jam (tray 3 media feed)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the media.	Go to step 2.
2	Check the media size setup. Does the media size in use match the size set for tray 3?	Go to step 3.	Replace the media, or change the media size setup.
3	Check the tray 3 rolls. Pull out tray 3, and check it.  Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separation roll, and pick roll.  Go to <b>“2000-sheet dual input (TTM)— feed roll removal” on page 4-259,</b> <b>“2000-sheet dual input (TTM)— separation roll removal” on page 4-263,</b> and <b>“2000-sheet dual input (TTM)—pick roll removal” on page 4-266.</b>
4	Check the media position. Open the 2TM/TTM left door assembly, and visually check it.  Does the media touch the tray 3 feed-out sensor or the sensor (pre-feed) of the tray 3 media feed unit assembly?	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>Open the 2TM/TTM left door assembly, and visually check it.</p> <p>Does the display on the operator panel change every time the actuator on the above sensor operates?</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 sensor connected properly?</p>	<p>Replace the sensor (tray 3 feed-out).</p> <p>Go to <b>“2000-sheet dual input (TTM)—sensor (tray 3 feed-out) removal” on page 4-247.</b></p>	Replace the connection.
7	<p>Check the connection between the 2TM/TTM controller card assembly and the printer engine card assembly.</p> <p>Are the above cards connected properly?</p>	Go to step 8.	Replace the connection.
8	<p>Check the tray 3 sensor (pre-feed) 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>Remove the media tray assembly.</p> <p>Does the display on the operator panel change every time a white piece of paper is placed over the sensing area of the above sensor?</p>	Go to step 10.	Go to step 9.
9	<p>Check the tray 3 sensor (pre-feed) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (pre-feed).</p> <p>Go to <b>“2000-sheet dual input (TTM)—sensor (pre-feed) removal” on page 4-256.</b></p>	Replace the connection.
10	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the 2TM/TTM controller card assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b></p> <p>Go to step 11.</p>	Problem solved.

Step	Check	Yes	No
11	Perform a print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 243.02 Sensor (tray 2 feed-out) on jam (tray 3 media feed)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the media.	Go to step 2.
2	Check the media size setup. Does the media size in use match the size set for tray 3?	Go to step 3.	Replace the media or change the media size setup.
3	Check the tray 3 rolls. Pull out tray 3, and check it.  Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separation roll, and pick roll.  Go to <b>“2000-sheet dual input (TTM)—feed roll removal” on page 4-259, “2000-sheet dual input (TTM)—separation roll removal” on page 4-263, and “2000-sheet dual input (TTM)—pick roll removal” on page 4-266.</b>
4	Check the media position. Open the printer left lower door assembly, and visually check it. Does the media touch the sensor (tray 2 feed-out)?	Remove the media.	Go to step 5.
5	Check the media position. Open the 2TM/TTM left door assembly, and visually check it. Does the media touch the sensor (tray 3 feed-out)?	Remove the media.	Go to step 6.
6	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>  Open the printer left lower door assembly, and visually check it.  Does the display on the operator panel change every time a white piece of paper is placed over the sensing area of the above sensor?	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	Check the sensor (tray 2 feed-out) for proper connection. Is the above sensor connected properly?	Replace the sensor (tray 2 feed-out). Go to <b>“Sensor (tray 2 feed-out) removal” on page 4-83.</b>	Replace the connection.
8	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>  Open the 2TM/TTM left door assembly, and visually check it.  Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 10.	Go to step 9.
9	Check the sensor (tray 3 feed-out) for proper connection. Is the above sensor connected properly?	Replace the sensor (tray 3 feed-out). Go to <b>“2000-sheet dual input (TTM)—sensor (tray 3 feed-out) removal” on page 4-247.</b>	Replace the connection.
10	Check the 2TM/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 11.	Replace the connection.
11	Perform a print test. Does the error still occur?	Replace the 2TM/TTM controller card assembly. Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 11.	Problem solved.
12	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 243.03 Sensor (registration) on jam (tray 3 media feed)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the media.	Go to step 2.

Step	Check	Yes	No
2	Check the media size setup. Does the media size in use match the size set for tray 3?	Go to step 3.	Replace the media or change the media size setup.
3	Check the tray 3 rolls. Pull out tray 3, and check it. Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separation roll, and pick roll. Go to <b>“2000-sheet dual input (TTM)—feed roll removal” on page 4-259, “2000-sheet dual input (TTM)—separation roll removal” on page 4-263, and “2000-sheet dual input (TTM)—pick roll removal” on page 4-266.</b>
4	Check the media position. Open the printer left door assembly, and visually check it. Does the media touch the sensor (registration)?	Remove the media.	Go to step 5.
5	Check the media position. Open the 2TM/TTM left door assembly, and visually check it. Does the media touch the sensor (tray 3 feed-out)?	Remove the media.	Go to step 6.
6	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>  Open the printer left door assembly, and visually check it. Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 8.	Go to step 7.
7	Check the sensor (registration) for proper connection. Is the above sensor connected properly?	Replace the sensor (registration). Go to <b>“Sensor (registration) removal” on page 4-81.</b>	Replace the connection.
8	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>  Open the 2TM/TTM left door assembly, and visually check it. Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 10.	Go to step 9.

Step	Check	Yes	No
9	Check the sensor (tray 3 feed-out) for proper connection. Is the above sensor connected properly?	Replace the sensor (tray 3 feed-out). Go to <b>“2000-sheet dual input (TTM)—sensor (tray 3 feed-out) removal” on page 4-247.</b>	Replace the connection.
10	Check the connection between the 2TM/TTM controller card assembly and the printer engine card assembly. Are the above boards connected properly?	Go to step 11.	Replace the connection.
11	Perform a print test. Does the error still occur?	Replace the 2TM/TTM controller card assembly. Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 12.	Problem solved.
12	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 243.04 Sensor (tray 3 feed-out) static jam

Step	Check	Yes	No
1	Check the media position. Does the media touch the sensor (tray 3 feed-out)? Open the 2TM/TTM left door assembly, and visually check it.	Remove the media.	Go to step 2.
2	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>  Open the 2TM/TTM left door assembly, and visually check it. Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 4.	Go to step 3.

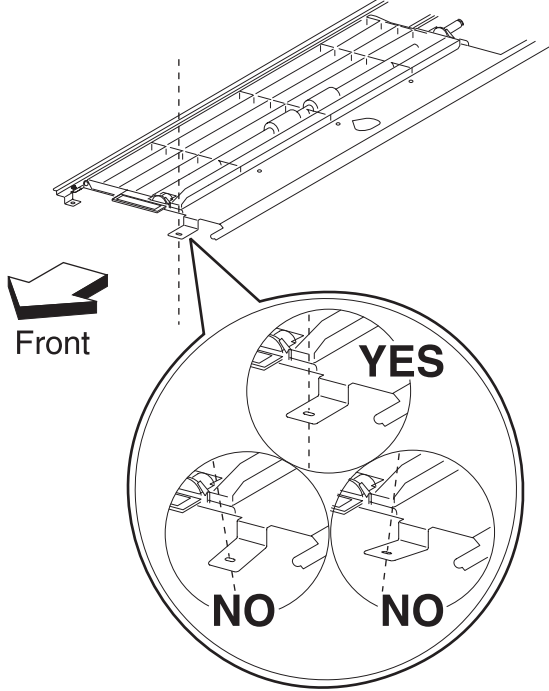
Step	Check	Yes	No
3	Check the sensor (tray 3 feed-out) for proper connection. Is the above sensor connected properly?	Replace the sensor (tray 3 feed-out). Go to <b>“2000-sheet dual input (TTM)—sensor (tray 3 feed-out) removal” on page 4-247.</b>	Replace the connection.
4	Perform a print test. Does the error still occur?	Replace the 2TM/TTM controller card assembly. Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 5.	Problem solved.
5	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

#### 244.00 Sensor (tray 4 feed-out) on jam (tray 4 media feed)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the media.	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 tray 4 rolls. Pull out tray 4, and check it. Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separation roll, and pick roll. Go to <b>“2000-sheet dual input (TTM)—feed roll removal” on page 4-259, “2000-sheet dual input (TTM)—separation roll removal” on page 4-263, and “2000-sheet dual input (TTM)—pick roll removal” on page 4-266.</b>
4	Check the media position. Open the 2TM/TTM left door assembly, and visually check it. Does the media touch the sensor (pre-feed) of the tray 4 media feed unit assembly or the sensor (tray 4 feed-out)?	Remove the media.	Go to step 5.

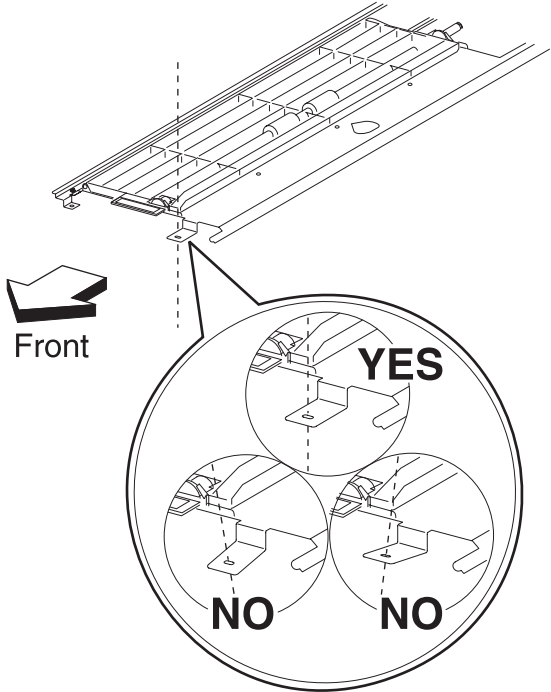


Step	Check	Yes	No
5	<p>Check the tray 4 sensor (pre-feed) for proper operation.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu.</li> <li>2. Touch <b>INPUT TRAY TESTS.</b></li> <li>3. Touch <b>Sensor Test.</b></li> <li>4. Touch <b>Tray 4.</b></li> <li>5. Touch <b>Feed-out.</b></li> </ol> <p>Remove the media tray assembly.</p> <p>Does the display on the operator panel change every time a white piece of paper is placed over the sensing area of the above sensor?</p>	Go to step 7.	Go to step 6.
6	<p>Check the tray 4 sensor (pre-feed) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (pre-feed).</p> <p>Go to <b>“2000-sheet dual input (TTM)—sensor (pre-feed) removal” on page 4-256.</b></p>	Replace the connection.
7	<p>Check the connection between the 2TM/TTM controller card assembly and the printer engine card assembly.</p> <p>Are the above cards connected properly?</p>	Go to step 8.	Replace the connection.
8	<p>Check the sensor (tray 4 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 4.</b></li> <li>5. Touch <b>Feed-out.</b></li> </ol> <p>Open the 2TM/TTM left door assembly, and visually check it.</p> <p>Does the display on the operator panel change every time the actuator on the above sensor operates?</p>	Go to step 10.	Go to step 9.
9	<p>Check the sensor (tray 4 feed-out) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (tray 4 feed-out).</p> <p>Go to <b>“2000-sheet dual input (TTM)—sensor (tray 4 feed-out) removal” on page 4-241.</b></p>	Replace the connection.

Step	Check	Yes	No
10	<p>Remove the tray 4 media transport assembly from the TTM.</p> <p>Go to <b>“2000-sheet dual input (TTM)—tray 4 media transport assembly removal” on page 4-229.</b></p> <p>Inspect the metal tab on the tray 4 media transport assembly as shown in the graphic below.</p>  <p>Is the metal tab on the tray 4 media transport assembly bent?</p>	<p>Staighthen the metal tab with needle nose plyiers or replace the tray 4 media transport assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—tray 4 media transport assembly removal” on page 4-229.</b></p>	Go to step 11.
11	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the 2TM/TTM controller card assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b></p> <p>Go to step 12.</p>	Problem solved.
12	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117.</b></p>	Problem solved.

## 244.01 Sensor (tray 3 feed-out) on jam (tray 4 media feed)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the media.	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 tray 4 rolls. Pull out tray 4, and check it. Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separation roll, and pick roll.  Go to <b>“2000-sheet dual input (TTM)—feed roll removal” on page 4-259</b> , <b>“2000-sheet dual input (TTM)—separation roll removal” on page 4-263</b> , and <b>“2000-sheet dual input (TTM)—pick roll removal” on page 4-266</b> .
4	Check the media position. Open the 2TM/TTM left door assembly, and visually check it. Does the media touch the sensor (tray 3 feed-out) or 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> .  Open the 2TM/TTM left door assembly, and visually check it. Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 7.	Go to step 6.
6	Check the sensor (tray 4 feed-out) for proper connection. Is the above sensor connected properly?	Replace the sensor (tray 4 feed-out).  Go to <b>“2000-sheet dual input (TTM)—sensor (tray 4 feed-out) removal” on page 4-241</b> .	Replace the connection.
7	Check the connection between the 2TM/TTM controller card assembly and the printer engine card assembly. Are the above cards connected properly?	Go to step 8.	Replace the connection.

Step	Check	Yes	No
8	<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>Open the 2TM/TTM left door assembly, and visually check it.</p> <p>Does the display on the operator panel change every time the actuator on the above sensor operates?</p>	Go to step 10.	Go to step 9.
9	<p>Check the sensor (tray 3 feed-out) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (tray 3 feed-out).</p> <p>Go to <b>“2000-sheet dual input (TTM)—sensor (tray 3 feed-out) removal” on page 4-247.</b></p>	Replace the connection.
10	<p>Remove the tray 4 media transport assembly from the TTM.</p> <p>Go to <b>“2000-sheet dual input (TTM)—tray 4 media transport assembly removal” on page 4-229.</b></p> <p>Inspect the metal tab on the tray 4 media transport assembly as shown in the graphic below.</p>  <p>Is the metal tab on the tray 4 media transport assembly bent?</p>	<p>Staighthen the metal tab with needle nose plyiers or replace the tray 4 media transport assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—tray 4 media transport assembly removal” on page 4-229.</b></p>	Go to step 11.

Step	Check	Yes	No
11	Perform a print test. Does the error still occur?	Replace the 2TM/ TTM controller card assembly.  Go to <b>“2000-sheet dual input (TTM)— 2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 12.	Problem solved.
12	Perform a print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

#### 244.02 Sensor (tray 2 feed-out) on jam (tray 4 media feed)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the media.	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 tray 4 rolls. Pull out tray 4, and check it. Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separation roll, and pick roll.  Go to <b>“2000-sheet dual input (TTM)—feed roll removal” on page 4-259,</b> <b>“2000-sheet dual input (TTM)—separation roll removal” on page 4-263,</b> and <b>“2000-sheet dual input (TTM)—pick roll removal” on page 4-266.</b>
4	Check the media position. Open the printer left lower door assembly, and visually check it. Does the media touch the sensor (tray 2 feed-out)?	Remove the media.	Go to step 5.
5	Check the media position. Open the 2TM/TTM left door assembly, and visually check it. Does the media touch the sensor (tray 4 feed-out)?	Remove the media.	Go to step 6.

Step	Check	Yes	No
6	<p>Check the sensor (tray 2 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 2.</b></li> <li>5. Touch <b>Feed-out.</b></li> </ol> <p>Open the printer left lower door assembly, and visually check it.</p> <p>Does the display on the operator panel change every time a white piece of paper is placed over the sensing area of the above sensor?</p>	Go to step 8.	Go to step 7.
7	<p>Check the sensor (tray 2 feed-out) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (tray 2 feed-out).</p> <p>Go to <b>“Sensor (tray 2 feed-out) removal” on page 4-83.</b></p>	Replace the connection.
8	<p>Check the sensor (tray 4 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 4.</b></li> <li>5. Touch <b>Feed-out.</b></li> </ol> <p>Open the 2TM/TTM left door assembly, and visually check it.</p> <p>Does the display on the operator panel change every time the actuator on the above sensor operates?</p>	Go to step 10.	Go to step 9.
9	<p>Check the sensor (tray 4 feed-out) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (tray 3 feed-out).</p> <p>Go to <b>“2000-sheet dual input (TTM)—sensor (tray 3 feed-out) removal” on page 4-247.</b></p>	Replace the connection.
10	<p>Check the connection between the 2TM/TTM controller card assembly and the printer engine card assembly.</p> <p>Are the above cards connected properly?</p>	Go to step 11.	Replace the connection.
11	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the 2TM/TTM controller card assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b></p> <p>Go to step 12.</p>	Problem solved.

Step	Check	Yes	No
12	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 244.03 Sensor (registration) on jam (tray 4 media feed)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the media.	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 tray 4 rolls. Pull out tray 4, and check it. Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separation roll, and pick roll. Go to <b>“2000-sheet dual input (TTM)—feed roll removal” on page 4-259, “2000-sheet dual input (TTM)—separation roll removal” on page 4-263, and “2000-sheet dual input (TTM)—pick roll removal” on page 4-266.</b>
4	Check the media position (1). Open the printer left door assembly, and visually check it. Does the media touch the sensor (registration)?	Remove the media.	Go to step 5.
5	Check the media position (2). Open the 2TM/TTM left door assembly, and visually check it. Does the media touch the sensor (tray 4 feed-out)?	Remove the media.	Go to step 6.
6	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>  Open the printer left door assembly, and visually check it. Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	Check the sensor (registration) for proper connection. Is the above sensor connected properly?	Replace the sensor (registration). Go to <b>“Sensor (registration) removal” on page 4-81.</b>	Replace the connection.
8	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>  Open the 2TM/TTM left door assembly, and visually check it.  Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 10.	Go to step 9.
9	Check the sensor (tray 4 feed-out) for proper connection. Is the above sensor connected properly?	Replace the sensor (tray 4 feed-out). Go to <b>“2000-sheet dual input (TTM)—sensor (tray 4 feed-out) removal” on page 4-241.</b>	Replace the connection.
10	Check the connection between the 2TM/TTM controller card assembly and the printer engine card assembly. Are the above cards connected properly?	Go to step 11.	Replace the connection.
11	Perform a print test. Does the error still occur?	Replace the 2TM/TTM controller card assembly. Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 12.	Problem solved.
12	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

#### 244.04 Sensor (pre-feed) on jam (tray 4 media feed)

Step	Check	Yes	No
1	Check the media condition. Is the media in the tray crumpled or damaged?	Replace the media.	Go to step 2.



Step	Check	Yes	No
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 tray 4 rolls. Pull out tray 4, and check it. Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 4.	Clean or replace the feed roll, separation roll, and pick roll.  Go to <b>“2000-sheet dual input (TTM)—feed roll removal” on page 4-259</b> , <b>“2000-sheet dual input (TTM)—separation roll removal” on page 4-263</b> , and <b>“2000-sheet dual input (TTM)—pick roll removal” on page 4-266</b> .
4	Check the media position. Does the media touch the sensor (pre-feed) of the tray 4 media feed unit assembly?	Remove the media.	Go to step 5.
5	Check the tray 4 sensor (pre-feed) 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>Pre-feed</b> .  Remove the media tray assembly. Does the display on the operator panel change every time a white piece of paper is placed over the sensing area of the above sensor?	Go to step 7.	Go to step 6.
6	Check the tray 4 sensor (pre-feed) for proper connection. Is the above sensor connected properly?	Replace the sensor (pre-feed). Go to <b>“2000-sheet dual input (TTM)—sensor (pre-feed) removal” on page 4-256</b> .	Replace the connection.
7	Check the connection between the 2TM/TTM controller card assembly and the printer engine card assembly. Are the above cards connected properly?	Go to step 8.	Replace the connection.
8	Check the tray 4 media feed lift motor for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer Motor Test</b> . 4. Touch <b>Tray 4 feed mtr</b> .  Does the above motor rotate normally?	Go to step 11.	Go to step 9.
9	Check the tray 4 media feed lift motor for proper connection. Is the above motor connected properly?	Go to step 10.	Replace the connection.

Step	Check	Yes	No
10	<p>Check the tray 4 media feed lift motor for proper operation.</p> <p>Replace the media feed lift motor for tray 4 with that for tray 3.</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>Tray 4 feed mtr</b>.</li> </ol> <p>Does the above motor rotate normally?</p>	<p>Reinstall the media feed lift motor for tray 3 as it previously was, and then replace the media feed lift motor for tray 4 with a new one.</p> <p>Go to <b>“2000-sheet dual input (TTM)—media feed lift motor removal” on page 4-248</b>.</p>	<p>Replace the 2TM/TTM controller card assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274</b>.</p>
11	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the 2TM/TTM controller card assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274</b>.</p> <p>Go to step 12.</p>	<p>Problem solved.</p>
12	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117</b>.</p>	<p>Problem solved.</p>

### 244.05 Sensor (tray 4 feed-out) static jam

Step	Check	Yes	No
1	<p>Check the media position.</p> <p>Open the 2TM/TTM left door assembly, and visually check it.</p> <p>Does the media touch the sensor (tray 4 feed-out)?</p>	<p>Remove the media.</p>	<p>Go to step 2.</p>
2	<p>Check the sensor (tray 4 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 4</b>.</li> <li>5. Touch <b>Feed-out</b>.</li> </ol> <p>Open the 2TM/TTM left door assembly, and visually check it.</p> <p>Does the display on the operator panel change every time the actuator on the above sensor operates?</p>	<p>Go to step 4.</p>	<p>Go to step 3.</p>

Step	Check	Yes	No
3	Check the sensor (tray 4 feed-out) for proper connection. Is the above sensor connected properly?	Replace the sensor (tray 4 feed-out). Go to <b>“2000-sheet dual input (TTM)—sensor (tray 4 feed-out) removal” on page 4-241.</b>	Replace the connection.
4	Perform a print test. Does the error still occur?	Replace the 2TM/TTM controller card assembly. Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 5.	Problem solved.
5	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 250.00 Sensor (registration) on jam (MPF pick)

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. Open the printer left door assembly, and visually check it. Does the media touch the sensor (registration)?	Remove the media.	Go to step 4.
4	Check the MPF media side guides for proper operation. Do the MPF media side guides operate smoothly?	Go to step 5.	Adjust the MPF media side guides correctly.
5	Check the MPF for proper installation. Remove the MPF feed unit assembly, and reinstall it. Perform a print test. Does an error occur during print test?	Go to step 6.	Problem solved.

Step	Check	Yes	No
6	Check the roll. Remove the MPF pick unit asm. Is the MPF feed roll assembly free of excess wear and contamination?	Go to step 7.	Clean or replace the MPF feed roll assembly. Go to <b>“MPF feed unit assembly removal” on page 4-54.</b>
7	Check the roll. Remove the MPF feed unit assembly. Is the MPF feed roll assembly free of excess wear and contamination?	Go to step 8.	Clean or replace the MPF feed roll assembly. Go to <b>“MPF feed unit assembly removal” on page 4-54.</b>
8	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>  Open the printer left door assembly and check it. Does the display, on the operator panel, change every time the sensor actuator is operated?	Go to step 10.	Go to step 9.
9	Check the sensor (registration) connection. Is the sensor (registration) properly connected?	Replace the sensor (registration). Go to <b>“Sensor (registration) removal” on page 4-81.</b>	Replace the connection.
10	Check the MPF pick solenoid for proper operation. 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 MPF pick solenoid make an audible clicking sound when activated?	Go to step 12.	Go to step 11.
11	Check the MPF pick solenoid connection. Is the MPF pick solenoid properly connected?	Replace the MPF pick solenoid. Go to <b>“MPF pick solenoid / pick lever removal” on page 4-62.</b>	Replace the connection.
12	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## 290.00 Switch (sheet through) static jam

Step	Check	Yes	No
1	Check the sensor (sheet through). Is the feed 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 operation. Perform the sensor (sheet through) test. Open the ADF left cover assembly. Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b> 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 blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (sheet through) for connection. Is the above sensor connected properly?	Replace the sensor (sheet through).  Go to <b>“Sensor (sheet through) removal” on page 4-200.</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 4-167.</b>	Go to step 5.
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 4-128.</b>	Problem solved.

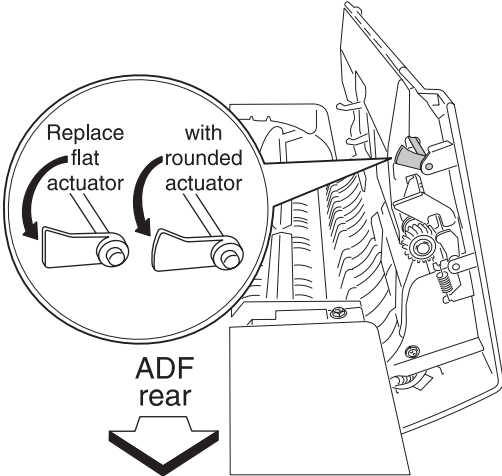
### 290.01 Sensor (sheet through) on jam

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

Step	Check	Yes	No
2	<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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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> <p>Perform the pick roll position motor test.</p> <p>Open ADF left cover assembly.</p> <p>Override the switch (ADF left cover interlock).</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 pick roll position motor assembly raise and lower 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 motor connected properly?</p>	<p>Replace the pick roll position motor assembly.</p> <p>Go to <b>“Pick roll position motor assembly removal” on page 4-182.</b></p>	Replace the connection.
6	<p>Check the feed drive motor for correct operation.</p> <p>Perform the feed drive motor test.</p> <p>Open the ADF left cover assembly.</p> <p>Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 feed drive motor rotate properly?</p>	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	Check the feed drive motor connection. Is the above motor connected properly?	Replace the ADF feed drive motor assembly.  Go to <b>“ADF feed drive motor assembly removal” on page 4-172.</b>	Replace the connection.
8	Check the sensor (sheet through) for operation. Perform the sensor (sheet through) test. Open the ADF left cover assembly. Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b> 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 blocked?	Go to step 10.	Go to step 9.
9	Check the sensor (sheet through) for connection. Is the above sensor connected properly?	Replace the sensor (sheet through).  Go to <b>“Sensor (sheet through) removal” on page 4-200.</b>	Replace the connection.
10	Check the feed drive motor connection. Is the above motor connected properly?	Replace the ADF feed drive motor assembly.  Go to <b>“ADF feed drive motor assembly removal” on page 4-172.</b>	Replace the connection.
11	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly.  Go to <b>“ADF controller card assembly removal” on page 4-167.</b>	Go to step 11.
12	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 4-128.</b>	Problem solved.

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

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>Open the ADF left cover assembly and inspect the document set actuator as shown in the graphic below.</p> <p>Is the document set actuator flag flat as shown in the graphic below?</p> 	<p>Replace the document set actuator.</p> <p><b>Note:</b> To receive the new rounded flag actuator, order 40X2283.</p> <p>Go to <b>“Document set actuator removal” on page 4-180.</b></p>	If problem remains, go to step 3.
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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</b></p>
4	<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 5.	Remove all contaminates from the media path.



Step	Check	Yes	No
5	Check the sensor (ADF pre registration) for operation. Perform the sensor (ADF pre registration) test. Open the ADF left cover assembly. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS</b> . 3. Touch <b>Sensor Tests</b> . 4. Touch <b>ADF pre registration</b> .  Operate the actuator of the sensor (ADF pre registration). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 7.	Go to step 6.
6	Check the sensor (ADF pre-registration) for connection. Is the above sensor connected properly?	Replace the sensor (ADF pre-registration).  Go to <b>“Sensor (ADF pre-registration)” on page 4-188</b> .	Replace the connection.
7	Check the feed drive motor for correct operation. Perform the feed drive motor test. Open the ADF left cover assembly. Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165</b> . 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Scanner Motor Tests</b> . 4. Touch <b>ADF feed drv mtr</b> .  Does the feed drive motor rotate properly?	Go to step 9.	Go to step 8.
8	Check the feed drive motor for connection. Is the above motor connected properly?	Replace the ADF feed drive motor assembly.  Go to <b>“ADF feed drive motor assembly removal” on page 4-172</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 4-167</b> .	Go to step 10.
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 4-128</b> .	Problem solved.

## 290.03 Sensor (ADF pre-registration) off 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 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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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 (sheet through) for operation.</p> <p>Perform the sensor (sheet through) test.</p> <p>Open the ADF left cover assembly.</p> <p>Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (sheet through) for connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (sheet through).</p> <p>Go to <b>“Sensor (sheet through) removal” on page 4-200.</b></p>	Replace the connection.

Step	Check	Yes	No
6	<p>Check the sensor (ADF pre registration) for operation.            Perform the sensor (ADF pre 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 pre registration.</b></li> </ol> <p>Operate the actuator of the sensor (ADF pre registration).            Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 8.	Go to step 7.
7	<p>Check the sensor (ADF pre-registration) for connection.            Is the above sensor connected properly?</p>	Replace the sensor (ADF pre-registration).  Go to <b>“Sensor (ADF pre-registration)” on page 4-188.</b>	Replace the connection.
8	<p>Check the feed drive motor for correct operation.            Perform the feed drive motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 feed drive motor rotate properly?</p>	Go to step 10.	Go to step 9.
9	<p>Check the feed drive motor for connection.            Is the above sensor connected properly?</p>	Replace the ADF feed drive motor assembly.  Go to <b>“ADF feed drive motor assembly removal” on page 4-172.</b>	Replace the connection.
10	<p>Check the registration motor (forward or reverse) test.            Perform the registration motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 ADF registration motor operate properly?</p>	Go to step 12.	Go to step 11.

Step	Check	Yes	No
11	Check the ADF registration motor for connection. Is the above motor connected properly?	Replace the ADF registration motor. Go to <b>“ADF registration motor removal” on page 4-201.</b>	Replace the connection.
12	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 4-167.</b>	Go to step 13.
13	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 4-128.</b>	Problem solved.

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

Step	Check	Yes	No
1	Check the sensor (ADF pre-registration). Is the feed media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	Check the sensor (ADF pre registration) for operation. Perform the sensor (ADF pre registration) test. Open the ADF left cover assembly. <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> Operate the actuator of the sensor (ADF pre registration). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF pre-registration) for connection. Is the above sensor connected properly?	Replace the sensor (ADF pre-registration). Go to <b>“Sensor (ADF pre-registration)” on page 4-188.</b>	Replace the connection.

Step	Check	Yes	No
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 4-167.</b>	Go to step 5.
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 4-128.</b>	Problem solved.

### 290.11 Sensor (ADF registration) on jam ADF simplex side 1

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to <b>“ADF feed/pick roll assembly removal” on page 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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.

Step	Check	Yes	No
4	<p>Check the sensor (ADF registration) for 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>Place a piece of white paper into the ADF media entrance and over the sensor (ADF registration).</p> <p>Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (ADF registration) for connection.            Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF registration).            Go to <b>“Sensor (ADF registration)” on page 4-187.</b></p>	Replace the connection.
6	<p>Check the feed drive motor for correct operation.            Perform the feed drive motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 feed drive motor rotate properly?</p>	<p>Replace the ADF feed drive motor assembly.            Go to <b>“ADF feed drive motor assembly removal” on page 4-172.</b></p>	Go to step 7.
7	<p>Check the feed drive motor for connection.            Is the above sensor connected properly?</p>	<p>Replace the ADF feed drive motor assembly.            Go to <b>“ADF feed drive motor assembly removal” on page 4-172.</b></p>	Replace the connection.
8	<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 4-167.</b></p>	Go to step 9.
9	<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 4-128.</b></p>	Problem solved.

## 290.12 Sensor (ADF registration) on 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.
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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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 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 4-191.</b></p>
5	<p>Check the sensor (ADF registration) for operation.</p> <p>Perform the sensor (ADF registration) test.</p> <p>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>Place a piece of white paper into the ADF media entrance and over the sensor (ADF registration).</p> <p>Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 7.	Go to step 6.
6	<p>Check the sensor (ADF registration) for connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF registration).</p> <p>Go to <b>“Sensor (ADF registration)” on page 4-187.</b></p>	Replace the connection.

Step	Check	Yes	No
7	<p>Check the feed drive motor for correct operation.            Perform the feed drive motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 feed drive motor rotate properly?</p>	Go to step 9.	Go to step 8.
8	<p>Check the feed drive motor for connection.            Is the above sensor connected properly?</p>	<p>Replace the ADF feed drive motor assembly.             Go to <b>“ADF feed drive motor assembly removal” on page 4-172.</b></p>	Replace the connection.
9	<p>Check the inverter solenoid assembly for operation.            Perform the inverter solenoid test.            Open the ADF left cover assembly.            Remove the ADF front cover assembly. Go to <b>“ADF front cover assembly removal” on page 4-166.</b>            Close the ADF left cover assembly.</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 inverter solenoid assembly operate properly?</p>	Go to step 11.	Go to step 10.
10	<p>Check the inverter solenoid assembly for connection.            Is the above motor connected properly?</p>	<p>Replace the inverter solenoid assembly.             Go to <b>“Inverter solenoid assembly removal” on page 4-173.</b></p>	Replace the connection.
11	<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 4-167.</b></p>	Go to step 12.
12	<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 4-128.</b></p>	Problem solved.



## 290.13 Sensor (ADF registration) off 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 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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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 operation.</p> <p>Perform the sensor (ADF registration) test.</p> <p>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>Place a piece of white paper into the ADF media entrance and over the sensor (ADF registration).</p> <p>Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (ADF registration) for connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF registration).</p> <p>Go to <b>“Sensor (ADF registration)” on page 4-187.</b></p>	Replace the connection.

Step	Check	Yes	No
6	<p>Check the registration motor (forward or reverse) test.            Perform the registration motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 ADF registration motor operate properly?</p>	Go to step 8.	Go to step 7.
7	<p>Check the ADF registration motor for connection.            Is the above motor connected properly?</p>	<p>Replace the ADF registration motor.            Go to <b>“ADF registration motor removal” on page 4-201.</b></p>	Replace the connection.
8	<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 4-167.</b></p>	Go to step 9.
9	<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 4-128.</b></p>	Problem solved.

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

Step	Check	Yes	No
1	<p>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?</p>	Go to step 2.	<p>Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.</p>

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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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 operation.</p> <p>Perform the sensor (ADF inverter) test.</p> <p>Open the ADF left cover assembly.</p> <p>Remove the ADF separation roll guide assembly. Go to <b>“ADF separation roll guide assembly” on page 4-195.</b></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>Insert a sheet of paper into the ADF paper path entrance.</p> <p>Manually rotate the ADF exit roll assembly by hand to feed the sheet through the ADF to operate the actuator of the sensor (ADF inverter).</p> <p>Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 5.	Go to FIP2.9.
5	<p>Check the sensor (ADF inverter) for connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF inverter).</p> <p>Go to <b>“Sensor (ADF inverter)” on page 4-189.</b></p>	Replace the connection.
6	<p>Check the registration motor (forward or reverse) test.</p> <p>Perform the registration motor test.</p> <p>Open the ADF left cover assembly.</p> <p>Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 ADF registration motor operate properly?</p>	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	<p>Check the ADF registration motor for connection. Is the above motor connected properly?</p>	<p>Replace the ADF registration motor. Go to <b>“ADF registration motor removal” on page 4-201.</b></p>	<p>Replace the connection.</p>
8	<p>Check the sensor (ADF registration) for 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>Place a piece of white paper into the ADF media entrance and over the sensor (ADF registration). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	<p>Go to step 10.</p>	<p>Go to step 9.</p>
9	<p>Check the sensor (ADF registration) for connection. Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF registration). Go to <b>“Sensor (ADF registration)” on page 4-187.</b></p>	<p>Replace the connection.</p>
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 4-167.</b></p>	<p>Go to step 11.</p>
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 4-128.</b></p>	<p>Problem solved.</p>

## 290.15 Sensor (ADF registration) off 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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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 operation.</p> <p>Perform the sensor (ADF registration) test.</p> <p>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>Place a piece of white paper into the ADF media entrance and over the sensor (ADF registration).</p> <p>Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (ADF registration) for connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF registration).</p> <p>Go to <b>“Sensor (ADF registration)” on page 4-187.</b></p>	Replace the connection.

Step	Check	Yes	No
6	<p>Check the sensor (ADF pre registration) for operation.            Perform the sensor (ADF pre 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 pre registration.</b></li> </ol> <p>Operate the actuator of the sensor (ADF pre registration).            Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 8.	Go to step 7.
7	<p>Check the sensor (ADF pre-registration) for connection.            Is the above sensor connected properly?</p>	Replace the sensor (ADF pre-registration). Go to <b>“Sensor (ADF pre-registration)” on page 4-188.</b>	Replace the connection.
8	<p>Check the feed drive motor for correct operation.            Perform the feed drive motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 feed drive motor rotate properly?</p>	Go to step 10.	Go to step 9.
9	<p>Check the feed drive motor for connection.            Is the above sensor connected properly?</p>	Replace the ADF feed drive motor assembly. Go to <b>“ADF feed drive motor assembly removal” on page 4-172.</b>	Replace the connection.

Step	Check	Yes	No
10	<p>Check the inverter solenoid assembly for operation.            Perform the inverter solenoid test.            Open the ADF left cover assembly.            Remove the ADF front cover assembly. Go to <b>“ADF front cover assembly removal” on page 4-166.</b>            Close the ADF left cover assembly.</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 inverter solenoid assembly operate properly?</p>	Go to step 12.	Go to step 11.
11	<p>Check the inverter solenoid assembly for connection.            Is the above motor connected properly?</p>	Replace the inverter solenoid assembly. Go to <b>“Inverter solenoid assembly removal” on page 4-173.</b>	Replace the connection.
12	<p>Check the registration motor (forward or reverse) test.            Perform the registration motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 ADF registration motor operate properly?</p>	Go to step 14.	Go to step 13.
13	<p>Check the ADF registration motor for connection.            Is the above motor connected properly?</p>	Replace the ADF registration motor. Go to <b>“ADF registration motor removal” on page 4-201.</b>	Replace the connection.
14	<p>Place an undamaged document in the ADF, and perform a ADF test.            Does the error remain?</p>	Replace the ADF controller card assembly. Go to <b>“ADF controller card assembly removal” on page 4-167.</b>	Go to step 15.

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 4-128.</b>	Problem solved.

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

Step	Check	Yes	No
1	Check the sensor (ADF width APS 1). Is the feed 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 1) for operation. Perform the sensor (ADF width APS 1) test. Open the ADF left cover assembly.  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>  Operate the actuator of the sensor (ADF width APS 1). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF width APS 1) for connection. Is the above sensor connected properly?	Replace the sensor (ADF width APS 1). Go to <b>“Sensor (ADF width APS 1)” on page 4-184.</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 4-167.</b>	Go to step 5.
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 4-128.</b>	Problem solved.



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

Step	Check	Yes	No
1	Check the sensor (ADF width APS 2). Is the feed media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	Check the sensor (ADF width APS 2) for operation. Perform the sensor (ADF width APS 2) test. Open the ADF left cover assembly.  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> .  Operate the actuator of the sensor (ADF width APS 2). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF width APS 1) for connection. Is the above sensor connected properly?	Replace the sensor (ADF width APS 1). Go to <b>“Sensor (ADF width APS 1)” on page 4-184</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 4-167</b> .	Go to step 5.
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 4-128</b> .	Problem solved.

## 290.23 Sensor (ADF width APS 3) static jam

Step	Check	Yes	No
1	Check the sensor (ADF width APS 3). Is the feed media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.

Step	Check	Yes	No
2	<p>Check the sensor (ADF width APS 3) for operation. Perform the sensor (ADF width APS 3) test. Open the ADF left cover assembly.</p> <p>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>.</p> <p>Operate the actuator of the sensor (ADF width APS 3). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 4.	Go to step 3.
3	<p>Check the sensor (ADF width APS 1) for connection. Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF width APS 1). Go to <b>“Sensor (ADF width APS 1)” on page 4-184</b>.</p>	Replace the connection.
4	<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 4-167</b>.</p>	Go to step 5.
5	<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 4-128</b>.</p>	Problem solved.

### 291.00 Sensor (ADF registration) static jam

Step	Check	Yes	No
1	<p>Check the sensor (ADF registration). Is the feed media path free of media or media fragments?</p>	Go to step 2.	Remove any media or media fragments.

Step	Check	Yes	No
2	<p>Check the sensor (ADF registration) for 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>Place a piece of white paper into the ADF media entrance and over the sensor (ADF registration). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 4.	Go to step 3.
3	<p>Check the sensor (ADF registration) for connection. Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF registration). Go to <b>“Sensor (ADF registration)” on page 4-187</b>.</p>	Replace the connection.
4	<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 4-167</b>.</p>	Go to step 5.
5	<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 4-128</b>.</p>	Problem solved.

### 291.01 Sensor (ADF inverter) off jam (inverting)

Step	Check	Yes	No
1	<p>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?</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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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 operation.</p> <p>Perform the sensor (ADF inverter) test.</p> <p>Open the ADF left cover assembly.</p> <p>Remove the ADF separation roll guide assembly. Go to <b>“ADF separation roll guide assembly” on page 4-195.</b></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>Insert a sheet of paper into the ADF paper path entrance.</p> <p>Manually rotate the ADF exit roll assembly by hand to feed the sheet through the ADF to operate the actuator of the sensor (ADF inverter).</p> <p>Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (ADF inverter) for connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF inverter).</p> <p>Go to <b>“Sensor (ADF inverter)” on page 4-189.</b></p>	Replace the connection.
6	<p>Check the registration motor (forward or reverse) test.</p> <p>Perform the registration motor test.</p> <p>Open the ADF left cover assembly.</p> <p>Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 ADF registration motor operate properly?</p>	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	Check the ADF registration motor for connection. Is the above motor connected properly?	Replace the ADF registration motor. Go to <b>“ADF registration motor removal” on page 4-201.</b>	Replace the connection.
8	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to <b>“ADF controller card assembly removal” on page 4-167.</b>	Go to step 9.
9	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 4-128.</b>	Problem solved.

## 291.02 Sensor (ADF inverter) on jam 2

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll guide assembly. Go to <b>“ADF feed/pick roll assembly removal” on page 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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.

Step	Check	Yes	No
4	<p>Check the sensor (ADF inverter) for operation.            Perform the sensor (ADF inverter) test.            Open the ADF left cover assembly.            Remove the ADF separation roll guide assembly. Go to <b>“ADF separation roll guide assembly” on page 4-195.</b></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>Insert a sheet of paper into the ADF paper path entrance.            Manually rotate the ADF exit roll assembly by hand to feed the sheet through the ADF to operate the actuator of the sensor (ADF inverter).            Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (ADF inverter) for connection.            Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF inverter).            Go to <b>“Sensor (ADF inverter)” on page 4-189.</b></p>	Replace the connection.
6	<p>Check the inverter gate condition.            Is the inverter gate free of damage and warpage and does it move smoothly?</p>	Go to step 7.	<p>Replace the inverter gate.            Go to <b>“Inverter gate removal” on page 4-191.</b></p>
7	<p>Check the registration motor (forward or reverse) test.            Perform the registration motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 ADF registration motor operate properly?</p>	Go to step 9.	Go to step 8.
8	<p>Check the ADF registration motor for connection.            Is the above motor connected properly?</p>	<p>Replace the ADF registration motor.            Go to <b>“ADF registration motor removal” on page 4-201.</b></p>	Replace the connection.

Step	Check	Yes	No
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 4-167.</b>	Go to step 10.
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 4-128.</b>	Problem solved.

### 291.03 Sensor (ADF inverter) off 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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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.

Step	Check	Yes	No
4	<p>Check the sensor (ADF inverter) for operation.            Perform the sensor (ADF inverter) test.            Open the ADF left cover assembly.            Remove the ADF separation roll guide assembly. Go to <b>“ADF separation roll guide assembly” on page 4-195.</b></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>Insert a sheet of paper into the ADF paper path entrance.            Manually rotate the ADF exit roll assembly by hand to feed the sheet through the ADF to operate the actuator of the sensor (ADF inverter).            Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (ADF inverter) for connection.            Is the above sensor connected properly?</p>	Replace the sensor (ADF inverter).  Go to <b>“Sensor (ADF inverter)” on page 4-189.</b>	Replace the connection.
6	<p>Check the sensor (ADF registration) for 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>Place a piece of white paper into the ADF media entrance and over the sensor (ADF registration).            Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 8.	Go to step 7.
7	<p>Check the sensor (ADF registration) for connection.            Is the above sensor connected properly?</p>	Replace the sensor (ADF registration).  Go to <b>“Sensor (ADF registration)” on page 4-187.</b>	Replace the connection.
8	<p>Check the inverter gate condition.            Is the inverter gate free of damage and warpage and does it move smoothly?</p>	Go to step 9.	Replace the inverter gate.  Go to <b>“Inverter gate removal” on page 4-191.</b>



Step	Check	Yes	No
9	<p>Check the registration motor (forward or reverse) test.            Perform the registration motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 ADF registration motor operate properly?</p>	Go to step 11.	Go to step 10.
10	<p>Check the ADF registration motor for connection.            Is the above motor connected properly?</p>	<p>Replace the ADF registration motor.            Go to <b>“ADF registration motor removal” on page 4-201.</b></p>	Replace the connection.
11	<p>Check the inverter solenoid assembly for operation.            Perform the inverter solenoid test.            Open the ADF left cover assembly.            Remove the ADF front cover assembly. Go to <b>“ADF front cover assembly removal” on page 4-166.</b>            Close the ADF left cover assembly.</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 inverter solenoid assembly operate properly?</p>	Go to step 13.	Go to step 12.
12	<p>Check the inverter solenoid assembly for connection.            Is the above motor connected properly?</p>	<p>Replace the inverter solenoid assembly.            Go to <b>“Inverter solenoid assembly removal” on page 4-173.</b></p>	Replace the connection.
13	<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 4-167.</b></p>	Go to step 14.
14	<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 4-128.</b></p>	Problem solved.

**294.00 Sensor (ADF inverter) static jam**

Step	Check	Yes	No
1	Check the sensor (ADF inverter). Is the feed media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	Check the sensor (ADF inverter) for operation. Perform the sensor (ADF inverter) test. Open the ADF left cover assembly. Remove the ADF separation roll guide assembly. Go to <b>“ADF separation roll guide assembly” on page 4-195.</b>  1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF inverter.</b>  Insert a sheet of paper into the ADF paper path entrance. Manually rotate the ADF exit roll assembly by hand to feed the sheet through the ADF to operate the actuator of the sensor (ADF inverter). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF inverter) for connection. Is the above sensor connected properly?	Replace the sensor (ADF inverter). Go to <b>“Sensor (ADF inverter)” on page 4-189.</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 4-167.</b>	Go to step 5.
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 4-128.</b>	Problem solved.

## 294.01 Sensor (ADF pre-registration) on 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.
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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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 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 4-191.</b></p>
5	<p>Check the sensor (ADF pre registration) for operation.</p> <p>Perform the sensor (ADF pre registration) test.</p> <p>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 pre registration.</b></li> </ol> <p>Operate the actuator of the sensor (ADF pre registration).</p> <p>Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 7.	Go to step 6.
6	<p>Check the sensor (ADF pre-registration) for connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF pre-registration).</p> <p>Go to <b>“Sensor (ADF pre-registration)” on page 4-188.</b></p>	Replace the connection.

Step	Check	Yes	No
7	<p>Check the registration motor (forward or reverse) test.            Perform the registration motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 ADF registration motor operate properly?</p>	Go to step 9.	Go to step 8.
87	<p>Check the ADF registration motor for connection.            Is the above motor connected properly?</p>	<p>Replace the ADF registration motor.            Go to <b>“ADF registration motor removal” on page 4-201.</b></p>	Replace the connection.
9	<p>Check the inverter solenoid assembly for operation.            Perform the inverter solenoid test.            Open the ADF left cover assembly.            Remove the ADF front cover assembly. Go to <b>“ADF front cover assembly removal” on page 4-166.</b>            Close the ADF left cover assembly.</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 inverter solenoid assembly operate properly?</p>	Go to step 11.	Go to step 10.
10	<p>Check the inverter solenoid assembly for connection.            Is the above motor connected properly?</p>	<p>Replace the inverter solenoid assembly.            Go to <b>“Inverter solenoid assembly removal” on page 4-173.</b></p>	Replace the connection.
11	<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 4-167.</b></p>	Go to step 12.
12	<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 4-128.</b></p>	Problem solved.

## 294.02 Sensor (ADF pre-registration) off jam on 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 4-178</b> or <b>“ADF separation roll guide assembly” on page 4-195.</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 (sheet through) for operation.</p> <p>Perform the sensor (sheet through) test.</p> <p>Open the ADF left cover assembly.</p> <p>Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (sheet through) for connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (sheet through).</p> <p>Go to <b>“Sensor (sheet through) removal” on page 4-200.</b></p>	Replace the connection.

Step	Check	Yes	No
6	<p>Check the sensor (ADF pre registration) for operation.            Perform the sensor (ADF pre 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 pre registration.</b></li> </ol> <p>Operate the actuator of the sensor (ADF pre registration).            Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 8.	Go to step 7.
7	<p>Check the sensor (ADF pre-registration) for connection.            Is the above sensor connected properly?</p>	Replace the sensor (ADF pre-registration).  Go to <b>“Sensor (ADF pre-registration)” on page 4-188.</b>	Replace the connection.
8	<p>Check the feed drive motor for correct operation.            Perform the feed drive motor test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 feed drive motor rotate properly?</p>	Go to step 10.	Go to step 9.
9	<p>Check the feed drive motor for connection.            Is the above sensor connected properly?</p>	Replace the ADF feed drive motor assembly.  Go to <b>“ADF feed drive motor assembly removal” on page 4-172.</b>	Replace the connection.
10	<p>Check the inverter solenoid assembly for operation.            Perform the inverter solenoid test.            Open the ADF left cover assembly.            Remove the ADF front cover assembly. Go to <b>“ADF front cover assembly removal” on page 4-166.</b>            Close the ADF left cover assembly.</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 inverter solenoid assembly operate properly?</p>	Go to step 12.	Go to step 11.

Step	Check	Yes	No
11	Check the inverter solenoid assembly for connection. Is the above motor connected properly?	Replace the inverter solenoid assembly.  Go to <b>“Inverter solenoid assembly removal” on page 4-173.</b>	Replace the connection.
12	Check the registration motor (forward or reverse) test. Perform the registration motor test. Open the ADF left cover assembly. Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b>  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 ADF registration motor operate properly?	Go to step 14.	Go to step 13.
13	Check the ADF registration motor for connection. Is the above motor connected properly?	Replace the ADF registration motor.  Go to <b>“ADF registration motor removal” on page 4-201.</b>	Replace the connection.
14	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly.  Go to <b>“ADF controller card assembly removal” on page 4-167.</b>	Go to step 15.
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 4-128.</b>	Problem solved.

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

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

Step	Check	Yes	No
2	<p>Check the sensor (ADF width APS 1) for operation. Perform the sensor (ADF width APS 1) test. Open the ADF left cover assembly.</p> <p>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>.</p> <p>Operate the actuator of the sensor (ADF width APS 1). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 2.	Go to step 3.
3	<p>Check the sensor (ADF width APS 1) for connection. Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF width APS 1).  Go to <b>“Sensor (ADF width APS 1)” on page 4-184</b>.</p>	Replace the connection.
4	<p>Check the sensor (ADF width APS 2) for operation. Perform the sensor (ADF width APS 2) test. Open the ADF left cover assembly.</p> <p>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>.</p> <p>Operate the actuator of the sensor (ADF width APS 2). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (ADF width APS 2) for connection. Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF width APS 2).  Go to <b>“Sensor (ADF width APS 2)” on page 4-185</b>.</p>	Replace the connection.
6	<p>Check the sensor (ADF width APS 3) for operation. Perform the sensor (ADF width APS 3) test. Open the ADF left cover assembly.</p> <p>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>.</p> <p>Operate the actuator of the sensor (ADF width APS 3). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 8.	Go to step 7.



Step	Check	Yes	No
7	Check the sensor (ADF width APS 3) for connection. Is the above sensor connected properly?	Replace the sensor (ADF width APS 3). Go to <b>“Sensor (ADF width APS 3)” on page 4-186.</b>	Replace the connection.
8	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to <b>“ADF controller card assembly removal” on page 4-167.</b>	Go to step 9.
9	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 4-128.</b>	Problem solved.

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

Step	Check	Yes	No
1	Check the document size. Is the correct size document being inserted into the ADF?	Go to step 2.	Insert the proper size document into the ADF.
2	Check the document tray media guide position. Are the document tray media guides set correctly?	Go to step 3.	Adjust the document tray media guides to the proper position.
3	Check the connection of each ADF controller card assembly connector. Is each connector of ADF controller card assembly connected properly?	Go to step 4.	Connect each connector of ADF controller card assembly properly.
4	Perform a POR. Does the error remain when the power is turned off/on?	Replace the ADF controller card assembly. Go to <b>“ADF controller card assembly removal” on page 4-167.</b>	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 4-128.</b>	Problem solved.

## 295.02 Invalid combine size jam

Step	Check	Yes	No
1	Check the document size. Is the correct size document being inserted into the ADF?	Go to step 2.	Insert the proper size document into the ADF.
2	Check the document tray media guide position. Are the document tray media guides set correctly?	Go to step 3.	Adjust the document tray media guides to the proper position.
3	Check the connection of each ADF controller card assembly connector. Is each connector of ADF controller card assembly connected properly?	Go to step 4.	Connect each connector of ADF controller card assembly properly.
4	Check the sensor (ADF width APS 1) for operation. Perform the sensor (ADF width APS 1) test. Open the ADF left cover assembly.  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> .  Operate the actuator of the sensor (ADF width APS 1). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF width APS 1) for connection. Is the above sensor connected properly?	Replace the sensor (ADF width APS 1).  Go to <b>"Sensor (ADF width APS 1)" on page 4-184</b> .	Replace the connection.
6	Check the sensor (ADF width APS 2) for operation. Perform the sensor (ADF width APS 2) test. Open the ADF left cover assembly.  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> .  Operate the actuator of the sensor (ADF width APS 2). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 8.	Go to step 7.
7	Check the sensor (ADF width APS 2) for connection. Is the above sensor connected properly?	Replace the sensor (ADF width APS 2).  Go to <b>"Sensor (ADF width APS 2)" on page 4-185</b> .	Replace the connection.

Step	Check	Yes	No
8	<p>Check the sensor (ADF width APS 3) for operation. Perform the sensor (ADF width APS 3) test. Open the ADF left cover assembly.</p> <p>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>.</p> <p>Operate the actuator of the sensor (ADF width APS 3). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 10.	Go to step 9.
9	<p>Check the sensor (ADF width APS 3) for connection. Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF width APS 3). Go to <b>“Sensor (ADF width APS 3)” on page 4-186</b>.</p>	Replace the connection.
10	<p>Perform a POR. Does the error remain when the power is turned off/on?</p>	<p>Replace the ADF controller card assembly. Go to <b>“ADF controller card assembly removal” on page 4-167</b>.</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 4-128</b>.</p>	Problem solved.

### 295.03 Too short size jam

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

Step	Check	Yes	No
2	<p>Check the sensor (sheet through) for operation.            Perform the sensor (sheet through) test.            Open the ADF left cover assembly.            Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b></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 blocked?</p>	Go to step 4.	Go to step 3.
3	<p>Check the sensor (sheet through) for connection.            Is the above sensor connected properly?</p>	<p>Replace the sensor (sheet through).            Go to <b>“Sensor (sheet through) removal” on page 4-200.</b></p>	Replace the connection.
4	<p>Check the sensor (ADF pre registration) for operation.            Perform the sensor (ADF pre 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 pre registration.</b></li> </ol> <p>Operate the actuator of the sensor (ADF pre registration).            Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 6.	Go to step 5.
5	<p>Check the sensor (ADF pre-registration) for connection.            Is the above sensor connected properly?</p>	<p>Replace the sensor (ADF pre-registration).            Go to <b>“Sensor (ADF pre-registration)” on page 4-188.</b></p>	Replace the connection.
6	<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 4-167.</b></p>	Go to step 7.
7	<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 4-128.</b></p>	Problem solved.

## 295.04 Too long size jam

Step	Check	Yes	No
1	Check the document size. Is the correct size document being inserted into the ADF?	Go to step 2.	Insert the proper size document into the ADF.
2	Check the sensor (sheet through) for operation. Perform the sensor (sheet through) test. Open the ADF left cover assembly. Remove the ADF rear cover. Go to <b>“ADF rear cover removal” on page 4-165.</b> 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 blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (sheet through) for connection. Is the above sensor connected properly?	Replace the sensor (sheet through).  Go to <b>“Sensor (sheet through) removal” on page 4-200.</b>	Replace the connection.
4	Check the sensor (ADF pre registration) for operation. Perform the sensor (ADF pre registration) test. Open the ADF left cover assembly. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF pre registration.</b>  Operate the actuator of the sensor (ADF pre registration). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF pre-registration) for connection. Is the above sensor connected properly?	Replace the sensor (ADF pre-registration).  Go to <b>“Sensor (ADF pre-registration)” on page 4-188.</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 4-167.</b>	Go to step 7.

Step	Check	Yes	No
7	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 4-128.</b>	Problem solved.

### 841.00 Image pipeline ASIC 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 4-128.</b>	Problem solved.

### 842.00 Scanner communication failure

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 4-143.</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 4-128.</b>	Problem solved.

**842.01 Scanner communication failure**

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 4-143.</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 4-128.</b>	Problem solved.

**842.02 Scanner communication failure**

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 4-143.</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 4-128.</b>	Problem solved.

### 842.03 Scanner communication failure

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 4-143.</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 4-128.</b>	Problem solved.

### 842.04 Scanner communication failure

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
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 4-143.</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 4-128.</b>	Problem solved.

### 842.10 Scanner unit assembly - ADF communication failure

Step	Check	Yes	No
1	Check all connections of the scanner controller card assembly. Are the connections of the scanner controller card assembly connected properly?	Go to step 2.	Replace all connections.
2	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.
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 4-167.</b>	Problem solved.
4	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 4-143.</b>	Problem solved.

### 842.11 Scanner communication failure (by scanner)

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

Step	Check	Yes	No
2	Check all connections of the ADF controller card assembly. Are the connections of the ADF controller card assembly connected properly?	Go to step 3.	Replace all connections.
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 4-167.</b>	Problem solved.
4	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 4-143.</b>	Problem solved.

### 842.12 Scanner unit assembly communication failure

Step	Check	Yes	No
1	Check all connections of the scanner controller card assembly. Are the connections of the scanner controller card assembly connected properly?	Go to step 2.	Replace all connections.
2	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.
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 4-167.</b>	Problem solved.
4	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 4-143.</b>	Problem solved.

## 843.00 Sensor (scanner HP) failure

Step	Check	Yes	No
1	Check the scanner carriage rails. Is there any foreign substance on the scanner rails?	Clean and lubricate the scanner carriage rails.	Go to step 2.
2	Check the sensor (scanner HP) for operation. Perform the sensor (scanner HP) test. Remove the large platen glass. Go to <b>“Large platen glass removal” on page 4-142.</b>  1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>Scanner HP.</b>  Gently move the scanner carriage side to side. Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (scanner HP) for connection. Is the above sensor connected properly?	Replace the sensor (scanner HP).  Go to <b>“Sensor (scanner HP) removal” on page 4-151.</b>	Replace the connection.
4	Check the scanner drive motor assembly. Perform the scanner drive motor test.  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.
5	Check the scanner drive motor assembly for connection. Is the above motor connected properly?	Replace the scanner drive motor assembly.  Go to <b>“Scanner drive motor assembly removal” on page 4-155.</b>	Replace the connection.
6	Place media on the large platen and perform a scanner test. Does the error remain?	Replace the scanner controller card assembly.  Go to <b>“Scanner controller card assembly removal” on page 4-143.</b>	Problem solved.

**843.01 Scanner carriage over run failure**

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 4-143.</b>	Problem solved.

**843.10 ADF RAM test failure**

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 4-167.</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 4-143.</b>	Go to step 3.

**843.11 ADF EEPROM failure**

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” on page 4-167.</b>	Problem solved.

### 843.12 ADF pick roll position lift up failure

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. Perform the sensor (pick roll position HP) test. Open the ADF left cover assembly. Remove the ADF left cover media guide. Go to <b>“ADF left cover media guide removal” on page 4-181.</b> 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>  Manually rotate the gears of the pick roll position motor assembly to raise and lower the pick roll. Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (pick roll position HP) for connection. Is the above sensor connected properly?	Replace the sensor (pick roll position HP). Go to <b>“Sensor (pick roll position HP) removal” on page 4-177.</b>	Replace the connection.
4	Check the pick roll position motor assembly. Perform the pick roll position motor test. Open ADF left cover assembly. Override the switch (ADF left cover interlock). 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 motor connected properly?	Replace the pick roll position motor assembly. Go to <b>“Pick roll position motor assembly removal” on page 4-182.</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 4-167.</b>	Go to step 7.

### 843.20 Scanner unit assembly connection failure

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 4-167.</b>	Problem solved.

### 843.21 Scanner unit assembly EEPROM failure

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 4-167.</b>	Problem solved.

### 843.22 Scanner unit assembly EEPROM sub system failure

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 4-143.</b>	Problem solved.

### 843.23 Scanner cooling fan failure

Step	Check	Yes	No
1	Check the scanner cooling fan operation. Perform the scanner cooling fan test. Remove the rear upper cover. Go to <b>“Rear upper cover removal” on page 4-15.</b> 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Scanner Motor Tests.</b> 4. Touch <b>Scanner cooling fan.</b>  Does the scanner cooling fan speed increase when the test is performed?	Go to step 2.	Replace the scanner controller card assembly.  Go to <b>“Scanner controller card assembly removal” on page 4-143.</b>
2	Check the scanner cooling fan for connection. Is the above fan connected properly?	Replace the scanner cooling fan. Go to <b>“Scanner cooling fan removal” on page 4-156.</b>	Replace the connection.

Step	Check	Yes	No
3	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.  Go to <b>“Scanner controller card assembly removal” on page 4-143.</b>	Problem solved.

### 843.24 Image processing failure

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.
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 4-143.</b>	Problem solved.

### 843.25 Scanner controller card assembly failure 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.
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 4-143.</b>	Problem solved.



Step	Check	Yes	No
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”</b> on page 4-154.	Problem solved.

### 843.26 Scanner controller card assembly failure 2

Step	Check	Yes	No
1	Check the connection of each scanner controller card assembly connector. Is each connector of scanner controller card assembly connected properly?	Go to step 2.	Connect each connector of scanner controller card assembly properly.
2	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly.  Go to <b>“Scanner controller card assembly removal”</b> on page 4-143.	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”</b> on page 4-154.	Problem solved.

### 844.00 Exposure lamp failure

Step	Check	Yes	No
1	Check the exposure lamp for operation. Perform the exposure lamp test. 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 6.	Go to step 3.

Step	Check	Yes	No
2	Check the exposure lamp for connection. Is the above component connected properly?	Replace the exposure lamp. Go to <b>“Exposure lamp removal” on page 4-158.</b>	Replace the connection.
3	Check the exposure lamp PS card assembly. Is the above card properly connected to the scanner controller card assembly?	Replace the exposure lamp PS card assembly. Go to <b>“Exposure lamp PS card assembly removal” on page 4-157.</b>	Replace the connection.
4	Check the scanner PS card assembly for connection. Is the above card connected properly?	Replace the scanner PS card assembly. Go to <b>“Scanner PS card assembly removal” on page 4-154.</b>	Replace the connection.
5	Perform a POR. Does the error remain when the power is turned off/on?	Replace the scanner controller card assembly. Go to <b>“Scanner controller card assembly removal” on page 4-143.</b>	Problem solved.

### 844.01 White reference/exposure lamp illumination failure

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 4-142.</b> Reinstall the large platen glass properly. Go to step 3.

Step	Check	Yes	No
2	Remove the large platen glass. 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. Perform the exposure lamp test. 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 connected properly?	Replace the exposure lamp. Go to <b>“Exposure lamp removal” on page 4-158</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. Go to <b>“Exposure lamp PS card assembly removal” on page 4-157</b> .	Replace the connection.
7	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 4-154</b> .	Replace the connection.
8	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 4-143</b> .	Problem solved.

## 845.00 CCD failure

Step	Check	Yes	No
1	Check the CCD/lens assembly connection. Is the CCD/lens assembly connected properly?	Go to step 2.	Replace the connection.
2	Check all the connections on the scanner controller card assembly. Are all the connections connected properly?	Replace the CCD/lens assembly.	Replace the connection.
3	Perform a POR. Does the error remain?	Replace the scanner controller card assembly.  Go to <b>“Scanner controller card assembly removal” on page 4-143.</b>	

## 845.01 CCD initialization (lamp on) failure

Step	Check	Yes	No
1	Check the exposure lamp for operation. Perform the exposure lamp test. 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 6.	Go to step 3.
2	Check the exposure lamp for connection. Is the above component connected properly?	Replace the exposure lamp.  Go to <b>“Exposure lamp removal” on page 4-158.</b>	Replace the connection.
3	Check the exposure lamp PS card assembly. Is the above card properly connected to the scanner controller card assembly?	Replace the exposure lamp PS card assembly.  Go to <b>“Exposure lamp PS card assembly removal” on page 4-157.</b>	Replace the connection.
4	Check the scanner PS card assembly for connection. Is the above card connected properly?	Replace the scanner PS card assembly.  Go to <b>“Scanner PS card assembly removal” on page 4-154.</b>	Replace the connection.

Step	Check	Yes	No
5	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 4-143.</b>	Problem solved.

### 845.02 CCD initialization (lamp off) failure

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 4-143.</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 4-154.</b>	Problem solved.

### 846.00 Scanner communication failure

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
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 4-143.</b> Go to step 4.	Problem solved.

### 846.01 Scanner communication failure

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 4-143.</b> Go to step 4.	Problem solved.

### 846.10 Sensor (ADF width APS X) failure

Step	Check	Yes	No
1	Check the sensor (ADF width APS 1) for operation. Perform the sensor (ADF width APS 1) test. Open the ADF left cover assembly.  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>  Operate the actuator of the sensor (ADF width APS 1). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 2.	Go to step 3.

Step	Check	Yes	No
2	Check the sensor (ADF width APS 1) for connection. Is the above sensor connected properly?	Replace the sensor (ADF width APS 1).  Go to <b>“Sensor (ADF width APS 1)” on page 4-184.</b>	Replace the connection.
3	Check the sensor (ADF width APS 2) for operation. Perform the sensor (ADF width APS 2) test. Open the ADF left cover assembly.  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>  Operate the actuator of the sensor (ADF width APS 2). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 6.	Go to step 5.
4	Check the sensor (ADF width APS 2) for connection. Is the above sensor connected properly?	Replace the sensor (ADF width APS 2).  Go to <b>“Sensor (ADF width APS 2)” on page 4-185.</b>	Replace the connection.
5	Check the sensor (ADF width APS 3) for operation. Perform the sensor (ADF width APS 3) test. Open the ADF left cover assembly.  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>  Operate the actuator of the sensor (ADF width APS 3). Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 8.	Go to step 7.
6	Check the sensor (ADF width APS 3) for connection. Is the above sensor connected properly?	Replace the sensor (ADF width APS 3).  Go to <b>“Sensor (ADF width APS 3)” on page 4-186.</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 4-167.</b>	Go to step 8.

### 846.12 Scanner unit assembly software logic failure

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 4-143.</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. Perform the sensor (ADF angle) test. 1. Enter the Diagnostics Menu. 2. Touch <b>SCANNER TESTS.</b> 3. Touch <b>Sensor Tests.</b> 4. Touch <b>ADF angle.</b>  Open and close the ADF unit assembly. Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (ADF angle) for connection. Is the above sensor connected properly?	Replace the sensor (ADF angle).  Go to <b>“Sensor (ADF angle) removal” on page 4-153.</b>	Replace the connection.



Step	Check	Yes	No
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” on page 4-143.</b>	Go to step 6.

### 847.00 Modem failure

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” on page 3-20.</b>
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 assembly removal” on page 4-129.</b>  Go to <b>“Configuration ID” on page 3-20.</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 4-128.</b>	Problem solved.

**847.01 Fax failure**

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 4-130.</b>	Problem solved.

**848.00 Modem failure**

Step	Check	Yes	No
1	Check the fax interface card assembly (modem) connection. Is the fax interface card assembly (modem) connected properly?	Replace the fax interface card assembly (modem) and properly set configuration ID.  Go to <b>“Fax interface card assembly removal” on page 4-129.</b>  Go to <b>“Configuration ID” on page 3-20.</b>	Replace the connection.
2	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 4-128.</b>	Problem solved.

**849.00 Hard drive failure**

Step	Check	Yes	No
1	Check the hard drive data and power connections. Are the above connections connected properly?	Replace the hard drive. Go to <b>“Hard drive removal” on page 4-130.</b>	Replace the connections.
2	Perform a POR. Does the error remain when the power is turned off/on again?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b>	Problem solved.

**900.XX RIP card assembly software 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 4-128.</b> Go to step 3.	Problem solved.
3	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

**903.00 RAM read/write check 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 printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</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 4-128.</b>	Problem solved.

### 904.00 NVM data 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 printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</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 4-128.</b>	Problem solved.

### 905.00 NVM read/write cannot be executed 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 printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</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 4-128.</b>	Problem solved.

### 906.00 CPU power to access NVM 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 printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</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 4-128.</b>	Problem solved.

### 907.00 RFID ASIC 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.

Step	Check	Yes	No
3	Check connector P419 on the printer engine card assembly. Is connector P419 on the printer engine card assembly properly connected?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b> Go to step 4.	Replace the connection.
4	Perform a print test. Does the error still occur?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b>	Problem solved.

### 908.00 PPM data 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 printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</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 4-128.</b>	Problem solved.

### 909.00 Zero cross 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 printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## 910.00 Transport motor stop failure

Step	Check	Yes	No
1	Check the dual drive motor assembly installation. Is the dual drive motor assembly properly installed? Open the rear motor cover and check it.	Go to step 2.	Install the PC cartridge properly.
2	Check the dual drive motor assembly rotation operation. Open the rear motor cover and check it. <ul 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>Transport motor.</b></li> </ul> Does the motor rotate normally?	Go to step 4	Go to step 3.
3	Check the dual drive motor assembly connection. Is the dual drive motor assembly properly connected?	Replace the dual drive motor assembly.  Go to <b>“Dual drive motor assembly removal” on page 4-113.</b>	Replace the connection.
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## 911.00 Transport motor failure

Step	Check	Yes	No
1	<p>Check the dual drive motor assembly for operation. Open the rear motor cover and check it.</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>Transport motor.</b></li> </ol> <p>Does the motor rotate normally?</p>	Go to step 3	Go to step 2.
2	<p>Check the dual drive motor assembly for proper installation. Remove the rear motor cover and check it. Is the dual drive motor assembly installed properly?</p>	Go to step 3.	Install the dual drive motor assembly properly.
3	<p>Check the rotation of the rotor in the dual drive motor assembly. Open the rear motor cover and check it. Can the rotor be rotated by hand without excessive load?</p>	Go to step 4.	Install the dual drive motor assembly properly.
4	<p>Check the dual drive motor assembly connection. Is the dual drive motor assembly properly connected?</p>	<p>Replace the dual drive motor assembly. Go to <b>“Dual drive motor assembly removal” on page 4-113.</b></p>	Replace the connection.
5	<p>Perform a print test. Does the error continue?</p>	<p>Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b></p>	Problem solved.

## 912.00 PC cartridge unit motor failure

Step	Check	Yes	No
1	<p>Check the PC cartridge for proper installation. Is the PC cartridge installed properly?</p>	Go to step 2.	Install the PC cartridge properly.
2	<p>Check the dual drive motor assembly for operation. Open the rear motor cover and check it.</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>Drum unit motor.</b></li> </ol> <p>Does the motor rotate normally.</p>	Go to step 4	Go to step 3.



Step	Check	Yes	No
3	Check the dual drive motor assembly for proper installation. Open the rear motor cover and check it. Is the dual drive motor assembly installed properly?	Go to step 4.	Install the dual drive motor assembly properly.
4	Check the rotation of the rotor in the dual drive motor assembly. Open the rear motor cover and check it. Can the rotor be rotated by hand without excessive load?	Go to step 5.	Install the dual drive motor assembly properly.
5	Check the dual drive motor assembly connection. Is the dual drive motor assembly properly connected?	Replace the dual drive motor assembly. Go to <b>“Dual drive motor assembly removal” on page 4-113.</b>	Replace the connection.
6	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 913.00 Printhead assembly failure

Step	Check	Yes	No
1	Check the printhead assembly for proper installation. Is the printhead assembly installed properly?	Go to step 2.	Install the printhead assembly properly.
2	Check the printhead assembly connection. Is the printhead assembly properly connected?	Replace the printhead.	Replace the connection.
3	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 914.00 Toner add motor assembly failure

Step	Check	Yes	No
1	Check the toner cartridge for proper installation. Remove the toner cartridge and reinstall it. Does it operate properly?	Problem solved.	Go to step 2.

Step	Check	Yes	No
2	Check the gear rotation for the toner cartridge guide assembly. Remove the toner guide assembly. Does the gear, located at the lower part of the toner cartridge guide assembly, rotate smoothly?	Go to step 3.	Replace the toner cartridge guide assembly.
3	Check the toner cartridge guide assembly for pipe clogging. Is the pipe, located at the lower part of the toner cartridge guide assembly, clogged?	Go to step 4.	Clean the pipe.
4	Check the toner add motor assembly for operation. <b>Warning:</b> Only perform this test in segments of three seconds or less, or toner spill will occur. Remove the top cover assembly. Go to <b>“Top cover assembly removal” on page 4-5.</b> Override the switch (printer front door interlock) 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Toner add motor.</b>  Observe the toner add motor for rotation. <b>Note:</b> When performing this test, the drum unit motor will also operate. Does the motor rotate normally?	Go to step 6.	Go to step 5.
5	Check the toner add motor assembly connection. Is the toner add motor assembly properly connected?	Replace the toner add motor.  <b>“Toner cartridge guide assembly removal” on page 4-95</b>	Replace the connection.
6	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 915.00 Fuser cooling fan failure

Step	Check	Yes	No
1	Check the fuser cooling fan for proper installation. Is the fuser cooling fan installed properly?	Go to step 2.	Install the fuser cooling fan properly.
2	Visually check the fuser cooling fan for rotation. Is the fuser cooling fan visually rotating?	Go to step 5.	Go to step 3.

Step	Check	Yes	No
3	<p>Check the fuser cooling fan for operation.</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>Fuser cooling fan</b>.</li> </ol> <p>Does the fuser cooling fan RPM increase?</p>	Go to step 5.	Go to step 4.
4	<p>Check the fuser cooling fan for connection.</p> <p>Is CN102 on the dual drive motor assembly connected properly?</p>	Replace the fuser cooling fan.	Replace the connection.
5	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117.</b></p>	Problem solved.

### 916.00 PC cartridge cooling fan failure

Step	Check	Yes	No
1	<p>Visually check the PC cartridge cooling fan rotation.</p> <p>Is the PC cartridge cooling fan visually rotating?</p>	Go to step 3.	Go to step 2.
2	<p>Check the PC cartridge cooling fan.</p> <p>Is there an object blocking the PC cartridge cooling fan rotation?</p>	Remove the object blocking the rotation.	Go to step 3.
3	<p>Check the PC cartridge cooling fan for operation.</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>PC unit cooling fan</b>.</li> </ol> <p>Does the fan rotate normally?</p>	Go to step 5.	Go to step 4.
4	<p>Check the PC cartridge cooling fan connection.</p> <p>Is the PC cartridge cooling fan properly connected?</p>	<p>Replace the PC cartridge cooling fan.</p> <p>Go to <b>“PC cartridge cooling fan removal” on page 4-102.</b></p>	Replace the connection.
5	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117.</b></p>	Problem solved.

## 917.00 LVPS cooling fan failure

Step	Check	Yes	No
1	Check the LVPS cooling fan for proper installation. Is the LVPS cooling fan installed properly?	Go to step 2.	Install the LVPS cooling fan properly.
2	Visually check the LVPS cooling fan for rotation. Is the LVPS cooling fan visually rotating?	Go to step 3.	Go to step 4.
3	Check the LVPS cooling fan connection. Is the LVPS cooling fan connected properly?	Replace the LVPS cooling fan. Go to <b>“LVPS cooling fan removal” on page 4-121.</b>	Replace the connection.
4	Perform a print test. Does the error remains?	Replace the LVPS card assembly. Go to <b>“LVPS card assembly removal” on page 4-119.</b>	Problem solved.

## 918.00 Sensor (exit 1 media shift HP) failure

Step	Check	Yes	No
1	Check the sensor (exit 1 media shift HP) for operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>Exit1 shift HP.</b>  Move the shift assembly, with your finger, in a side to side motion.  Does the display, on the operator panel, change every time the sensing area is blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (exit 1 media shift HP) for connection. Is the sensor (exit 1 media shift HP) connected?	Replace the sensor (exit 1 media shift HP). Go to <b>“Exit 1 media shift assembly removal” on page 4-105.</b>	Replace the connection.
3	Check the media shift motor for operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Exit1 shift motor.</b>  <b>Note:</b> A continuous operation check is allowed up to twice for each direction. Does the motor operate normally?	Go to step 5.	Go to step 4.

Step	Check	Yes	No
4	Check the media shift motor for connection. Is the above motor connected properly?	Replace the media exit shift motor.  Go to <b>“Media shift motor removal” on page 4-107.</b>	Replace the connection.
5	Check the printer engine card assembly for connection P421 and the exit interface card assembly connector P431. Are the above cards connected properly?	Replace the exit interface card assembly.  Go to <b>“Exit interface card assembly removal” on page 4-116.</b>	Replace the connection.
6	Perform a print test. Does the error still occur?	Replace the printer engine card assembly  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 919.00 Sensor (exit 2 media shift HP) failure



Step	Check	Yes	No
1	Check the sensor (exit 2 media shift HP) for proper operation.  1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>Exit2 shift HP.</b>  Move the shift assembly with your finger in a side to side motion.  Does the display on the operator panel change every time the sensing area of the above sensor is blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (exit 2 media shift HP) for proper connection. Is the above sensor connected properly?	Replace the sensor (exit 2 media shift HP).  Go to <b>“Exit 2 sensor (exit 2 media shift HP) removal” on page 4-329.</b>	Replace the connection.
3	Check the media shift motor for proper operation.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Exit2 shift mtr.</b>  Does the above motor rotate properly?	Go to step 5.	Go to step 4.

Step	Check	Yes	No
4	Check the media shift motor for proper connection. Is the above motor connected properly?	Replace the media shift motor. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>	Replace the connection.
5	Perform a print test. Does the error still occur?	Replace the exit interface card assembly. Go to <b>“Exit interface card assembly removal” on page 4-116.</b> Go to step 6.	Problem solved.
6	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.



### 919.01 Exit 2 unit assembly connection failure

Step	Check	Yes	No
1	Check the exit 2 unit assembly for proper installation. Is the exit 2 unit assembly installed properly?	Go to step 2.	Reinstall the exit 2 unit assembly, and POR. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>
2	Check the exit 2 unit assembly connector. Is the exit 2 unit assembly connector or the connector attached to the printer damaged?	Replace the exit 2 unit assembly or damaged connector. Go to <b>“Exit 2 unit assembly removal” on page 4-315.</b>	Go to step 3.
3	Perform a print test. Does the error still occur?	Replace the exit interface card assembly. Go to <b>“Exit interface card assembly removal” on page 4-116.</b> Go to step 4.	Problem solved.
4	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.


## 920.00 Fuser unit assembly on time failure

Step	Check	Yes	No
1	Check the fuser unit assembly for a media jam. Open the printer left door assembly and check it. Is there a media jam in the fuser unit assembly?	Remove the media.	Go to step 2.
2	Leave the printer powered on with the error code displayed for 10 minutes, then perform a POR. Does the error still occur?	Go to step 3.	Problem solved.
3	Check the fuser unit assembly for proper installation. Open the printer left door assembly and check it. Is the fuser unit assembly installed properly?	Go to step 4.	Install the fuser unit assembly properly.
4	Check the fuser unit assembly connection. Is the fuser unit assembly properly connected?	Go to step 5.	Replace the connection. 
5	Check between the LVPS card assembly P525 and the printer engine card assembly P401 for proper connection. Are the cards connected properly?	Replace the fuser unit assembly.	Replace the connection. 
6	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.


## 921.00 Over heat temperature failure

Step	Check	Yes	No
1	Check the fuser unit assembly for proper installation. Open the printer left door assembly and check it. Is the fuser unit assembly installed properly?	Go to step 2.	Install the fuser unit assembly properly.
2	Check the fuser unit assembly for proper connection.	Go to step 3.	Replace the connection. 
3	Check the connection between the LVPS card assembly P525 and the printer engine card assembly P401. Are the cards connected properly?	Replace the fuser unit assembly.	Replace the connection. 
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.


**922.00 Center thermistor failure**

Step	Check	Yes	No
1	Check the fuser unit assembly for proper installation. Open the printer left door assembly and check it. Is the fuser unit assembly installed properly?	Go to step 2.	Install the fuser unit assembly properly.
2	Check the fuser unit assembly connection. Is the fuser unit assembly properly connected?	Replace the fuser unit assembly.	Replace the connection. 
3	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

**923.00 Rear thermistor failure**

Step	Check	Yes	No
1	Check the fuser unit assembly for proper installation. Open the printer left door assembly and check it. Is the fuser unit assembly installed properly?	Go to step 2.	Install the fuser unit assembly properly.
2	Check the fuser unit assembly connection. Is the fuser unit assembly properly connected?	Replace the fuser unit assembly.	Replace the connection. 
3	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.



**924.00 Pressure roll thermistor failure**

Step	Check	Yes	No
1	Check the fuser unit assembly for proper installation. Open the printer left door assembly and check it. Is the fuser unit assembly installed properly?	Go to step 2.	Install the fuser unit assembly properly.
2	Check the fuser unit assembly connection. Is the fuser unit assembly properly connected?	Replace the fuser unit assembly.	Replace the connection. 



Step	Check	Yes	No
3	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 925.00 Fuser operating temperature failure

Step	Check	Yes	No
1	Check the fuser unit assembly for a media jam. Open the printer left door assembly and check it. Is there a media jam in the fuser unit assembly?	Go to the step 2.	Remove the media.
2	Leave the printer powered on with the error code displayed for 10 minutes, then perform a POR. Does the error still occur?	Go to step 3.	Problem solved.
3	Check the fuser unit assembly for proper installation. Open the printer left door assembly and check it. Is the fuser unit assembly installed properly?	Go to step 4.	Install the fuser unit assembly properly.
4	Check the fuser unit assembly connection. Is the fuser unit assembly properly connected?	Go to step 5.	Replace the connection. 
5	Check the connection between the LVPS card assembly P525 and the printer engine card assembly P401. Are the cards connected properly?	Replace the fuser unit assembly.	Replace the connection. 
6	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 927.00 PC cartridge RFID data write failure

Step	Check	Yes	No
1	Check the PC cartridge installation. Is the PC cartridge properly installed?	Go to step 2.	Install the PC cartridge properly.
2	Check the sensor (RFID PC cartridge) installation. Is the sensor (RFID PC cartridge) properly installed?	Go to step 3.	Install the sensor (RFID PC cartridge) correctly.

Step	Check	Yes	No
3	Check the sensor (RFID PC cartridge) connection. Is the sensor (RFID PC cartridge) properly connected?	Replace the sensor (RFID PC cartridge).	Replace the connection.
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 928.00 PC cartridge RFID communication failure

Step	Check	Yes	No
1	Check the PC cartridge installation. Is the PC cartridge properly installed?	Go to step 2.	Install the PC cartridge properly.
2	Check the sensor (RFID PC cartridge) installation. Is the sensor (RFID PC cartridge) properly installed?	Go to step 3.	Install the sensor (RFID PC cartridge) correctly.
3	Check the sensor (RFID PC cartridge) connection. Is the sensor (RFID PC cartridge) properly connected?	Replace the sensor (RFID PC cartridge).	Replace the connection.
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 929.00 Sensor (ATC) failure

Step	Check	Yes	No
1	Check the PC cartridge installation. Is the PC cartridge properly installed?	Go to step 2.	Install the PC cartridge properly.
2	Perform a POR. Does the error continue?	Replace the PC cartridge.	Problem solved.

### 930.00 Laser power failure

Step	Check	Yes	No
1	Check the printhead assembly for proper installation. Is the printhead assembly installed properly?	Go to step 2.	Install the printhead assembly properly.

Step	Check	Yes	No
2	Check the printhead assembly connection. Is the printhead assembly properly connected?	Replace the printhead.	Replace the connection.
3	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.
4	Perform a print test. Does the error continue?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b>	Problem solved.

### 932.00 Toner cartridge RFID data write failure

Step	Check	Yes	No
1	Check the toner cartridge installation. Is the toner cartridge properly installed?	Go to step 2.	Install the toner cartridge properly.
2	Check the sensor (RFID toner cartridge) installation. Is the sensor (RFID toner cartridge) properly installed?	Go to step 3.	Install the sensor (RFID toner cartridge) correctly.
3	Check the sensor (RFID toner cartridge) connection. Is the sensor (RFID toner cartridge) properly connected?	Replace the sensor (RFID toner cartridge).	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>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 933.00 Toner cartridge RFID communication failure

Step	Check	Yes	No
1	Check the toner cartridge installation. Is the toner cartridge properly installed?	Go to step 2.	Install the toner cartridge properly.
2	Check the sensor (RFID toner cartridge) installation. Is the sensor (RFID toner cartridge) properly installed?	Go to step 3.	Install the sensor (RFID toner cartridge) correctly.
3	Check the sensor (RFID toner cartridge) connection. Is the sensor (RFID toner cartridge) properly connected?	Replace the sensor (RFID toner cartridge).	Replace the connection.

Step	Check	Yes	No
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 939.00 RIP card assembly communication 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 assembly connection. Is the RIP card assembly connection JHAB2 and the printer engine card assembly connection P402 connected properly?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b> Go to step 4.	Replace the connection.
4	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 941.00 Media tray 1 lift up / no media tray failure

Step	Check	Yes	No
1	Check the media. Pull out media tray 1 to visually check it. Is media loaded in tray 1?	Go to step 2.	Load media properly.
2	Check the media tray. Replace media tray 1 with media tray 2. Is the replaced media tray lifted up?	Go to step 3.	Go to step 4.
3	Check the media tray. Are the tray lift sector gear 12T, of media tray 1, or surrounding parts damaged?	Replace the media tray lift sector gear 12T or other damaged components.	Go to step 4.

Step	Check	Yes	No
4	<p>Check the tray 1 media feed lift motor for proper operation.</p> <p><b>Warning:</b> Only perform this test with the paper tray assembly removed from the machine, or abnormal grinding noises 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 Tests</b>.</li> <li>4. Touch <b>Tray 1 lift mtr.</b></li> </ol> <p>Does the tray 1 media feed lift motor operate properly?</p>	Go to step 8.	Go to step 5.
5	Is the tray 1 media feed lift motor properly connected?	Replace the media feed lift motor.  Go to <b>“Media feed lift motor removal” on page 4-33.</b>  Go to step 6.	Replace the connection.
6	<p>Check the tray 1 sensor (media level) 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 <b>Media level</b>.</li> </ol> <p>Remove the media tray assembly. Move the pick roll, with your finger, up and down.</p> <p><b>Note:</b> Avoid touching the rubber roll surface.</p> <p>Does the display, on the operator panel, change every time the sensing area is blocked?</p>	Go to step 8.	Go to step 7.
7	<p>Check the tray 1 sensor (media level) connection.</p> <p>Is the tray 1 sensor (media level) properly connected?</p>	Replace the sensor (media level).  Go to <b>“Sensor (media level) removal” on page 4-39.</b>	Replace the connection.
8	<p>Check the tray 1 switch (media size) for proper connection.</p> <p>Is the switch connected properly?</p>	Replace the switch (media size).  Go to <b>“Switch (media size) removal” on page 4-19.</b>	Replace the connection.
9	<p>Perform a print test.</p> <p>Does the error continue?</p>	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## 942.00 Media tray 2 lift up / no media tray failure

Step	Check	Yes	No
1	Check the media. Pull out media tray 2 to visually check it. Is media loaded in tray 2?	Go to step 2.	Load media properly.
2	Check the media tray. Replace media tray 2 with media tray 1. Is the replaced media tray lifted up?	Go to step 3.	Go to step 4.
3	Check the media tray. Are the tray lift sector gear 12T, of media tray 2, or surrounding parts damaged?	Replace the media tray lift sector gear 12T or other damaged components.	Go to step 4.
4	Check the tray 2 media feed lift motor for proper operation. <b>Warning:</b> Only perform this test with the paper tray assembly removed from the machine, or abnormal grinding noises will occur.  1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Tests.</b> 4. Touch <b>Tray 2 lift mtr.</b>  Does the tray 2 media feed lift motor operate properly?	Go to step 8.	Go to step 5.
5	Is the tray 2 media feed lift motor properly connected?	Replace the media feed lift motor.  Go to <b>“Media feed lift motor removal” on page 4-33.</b> Go to step 6.	Replace the connection.
6	Check the tray 2 sensor (media level) for 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>Media level.</b>  Remove the media tray assembly. Move the pick roll, with your finger, up and down. <b>Note:</b> Avoid touching the rubber roll surface. Does the display, on the operator panel, change every time the sensing area is blocked?	Go to step 8.	Go to step 7.
7	Check the tray 2 sensor (media level) connection. Is the tray 2 sensor (media level) properly connected?	Replace the sensor (media level).  Go to <b>“Sensor (media level) removal” on page 4-39.</b>	Replace the connection.

Step	Check	Yes	No
8	Check the tray 2 switch (media size) for proper connection. Is the switch connected properly?	Replace the switch (media size). Go to <b>“Switch (media size) removal” on page 4-19.</b>	Replace the connection.
8	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### 943.00 Tray 3 lift up / no tray failure

Step	Check	Yes	No
1	Check the media. Pull out tray 3, and visually check it. Is any media loaded in tray 3?	Go to step 2.	Load media properly.
2	Check the tray. Is the tray 3 lift gear assembly or the surrounding parts of it damaged?	Go to step 3.	Replace the tray 3 lift gear assembly or any other damaged parts. Go to <b>“2000-sheet dual input (TTM)—tray 3 lift gear assembly removal” on page 4-271.</b>
3	Check the tray 3 media feed lift motor for proper operation. <b>Warning:</b> Only perform this test with the paper tray assembly removed from the machine, or abnormal grinding noises will occur. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Tests.</b> 4. Touch <b>Tray 3 lift mtr.</b>  Does the tray 3 media feed lift motor operate properly?	Go to step 6.	Go to step 4.
4	Check the tray 3 media feed lift motor for proper connection. Is the above motor connected properly?	Go to step 5.	Replace the connection.
5	Check the 2TM/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	<p>Check the tray 3 sensor (media level) 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>Remove the media tray assembly, and move the pick roll with your finger in an up and down motion. Avoid touching the rubber roll surface.</p> <p>Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 8.	Go to step 7.
7	<p>Check the sensor (media level) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (media level).</p> <p>Go to <b>“2000-sheet dual input (TTM)—sensor (media level) removal” on page 4-254.</b></p>	Replace the connection.
8	<p>Check the switch (TTM media size) for proper connection.</p> <p>Is the above switch connected properly?</p>	<p>Replace the switch (TTM media size).</p> <p>Go to <b>“2000-sheet dual input (TTM)—switch (TTM media size) removal” on page 4-242.</b></p>	Replace the connection.
9	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the 2TM/TTM controller card assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b></p> <p>Go to step 10.</p>	Problem solved.
10	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117.</b></p>	Problem solved.

### 944.00 Tray 4 lift up / no tray failure

Step	Check	Yes	No
1	<p>Check the media.</p> <p>Pull out tray 4, and visually check it.</p> <p>Is any media loaded in tray 4?</p>	Go to step 2.	Load media properly.



Step	Check	Yes	No
2	<p>Check the tray.</p> <p>Are the tray 4 lift gear assembly or the surrounding parts of it damaged?</p>	Go to step 3.	<p>Replace the tray 4 lift gear assembly or the obstacles.</p> <p>Go to <b>“2000-sheet dual input (TTM)—tray 4 lift gear assembly removal” on page 4-272.</b></p>
3	<p>Check the tray 4 media feed lift motor for proper operation.</p> <p><b>Warning:</b> Only perform this test with the paper tray assembly removed from the machine, or abnormal grinding noises 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 Tests.</b></li> <li>4. Touch <b>Tray 4 lift mtr</b></li> </ol> <p>Does the tray 4 media feed lift motor operate properly?</p>	Go to step 6.	Go to step 4.
4	<p>Check the tray 4 media feed lift motor for proper connection.</p> <p>Is the above motor connected properly?</p>	Go to step 5.	Replace the connection.
5	<p>Check the 2TM/TTM controller card assembly and the printer engine card assembly for proper connection.</p> <p>Are connectors P541 and P413 on the above cards connected properly?</p>	Go to step 6.	Replace the connection.
6	<p>Check the tray 4 sensor (media level) 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>Remove the media tray assembly, and move the pick roll with your finger in an up and down motion. Avoid touching the rubber roll surface.</p> <p>Does the display on the operator panel change every time the sensing area of the above sensor is blocked?</p>	Go to step 8.	Go to step 7.
7	<p>Check the sensor (media level) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (media level).</p> <p>Go to <b>“2000-sheet dual input (TTM)—sensor (media level) removal” on page 4-254.</b></p>	Replace the connection.
8	<p>Check the tray 4 switch (TTM media size) for proper connection.</p> <p>Is the above switch connected properly?</p>	<p>Replace the switch (TTM media size).</p> <p>Go to <b>“2000-sheet dual input (TTM)—switch (TTM media size) removal” on page 4-242.</b></p>	Replace the connection.

Step	Check	Yes	No
9	Perform a print test. Does the error still occur?	Replace the 2TM/ TTM controller card assembly.  Go to <b>“2000-sheet dual input (TTM)— 2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 10.	Problem solved.
10	Perform a print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	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>• Operator panel assembly (universal)</li> <li>• Operator panel controller card assembly</li> <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	Check the interconnect card assembly. Was the interconnect card assembly recently replaced?	Go to step 3.	Go to step 2.
2	Check the operator panel assembly. Was the operator panel recently replaced?	Go to step 4.	Contact next level of support.
3	Replace the current interconnect card assembly with the original interconnect card assembly. Does the error remain?	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 4-136.</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	<p>If problem remains, replace the original panel assembly with a new and not previously installed interconnect card assembly.</p> <p>Go to <b>“Interconnect card assembly removal” on page 4-131.</b></p> <p>Does the error remain?</p>	Contact the next level of support.	Problem solved.
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### 950.30 through 950.60 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>• Operator panel assembly (universal)</li> <li>• Operator panel controller card assembly</li> <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 RIP card assembly.</p> <p>Was the RIP card assembly 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	<p>Replace the current RIP card assembly with the original RIP card assembly.</p> <p>Go to <b>“Interconnect card assembly removal” on page 4-131.</b></p> <p>Does the error remain?</p>	Go to step 6.	Problem solved.
5	<p>If problem remains, replace the original interconnect card assembly with a new and not previously installed interconnect card assembly.</p> <p>Does the error remain?</p>	Contact the next level of support.	Problem solved.
6	<p>If problem remains, replace the original panel assembly with a new and not previously installed interconnect card assembly.</p> <p>Go to <b>“Interconnect card assembly removal” on page 4-131.</b></p> <p>Does the error remain?</p>	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 4-128.</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 4-131.</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 4-128.</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 4-136.</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 4-128.</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 4-131.</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 4-128.</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 4-128.</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 4-128.</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 4-128.</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 4-128.</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 4-128.</b>	Problem solved.

### 980.00 2TM/TTM controller card assembly communication failure

Step	Check	Yes	No
1	Check the 2TM/TTM controller card assembly and the printer engine card assembly for proper connection. Are connectors P541 and P413 on the above cards connected properly?	Problem solved.	Replace the connection.
2	Perform a print test. Does the error still occur?	Replace the 2TM/TTM controller card assembly. Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 3.	Problem solved.
3	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

**980.03 Exit interface card assembly communication failure**

Step	Check	Yes	No
1	Check the exit interface card assembly for proper connection.	Go to step 2.	Replace the connection.
2	Check the connection between the exit interface card assembly P430 and the LVPS assembly P526. Are the cards connected properly?	Go to step 3.	Replace the connection.
3	Perform a print test. Does the error continue?	Replace the exit interface card assembly.  Go to <b>“Exit interface card assembly removal” on page 4-116</b>	Problem solved.
4	Perform a print test. Does the error continue?	Replace the printer engine cord assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

**980.04 Duplex controller card assembly communication failure**

Step	Check	Yes	No
1	Check the duplex unit for proper installation. Remove duplex unit assembly, and reinstall it. Perform a two sided print test. Does the error still occur?	Go to step 2.	Problem solved.
2	Check the duplex controller card assembly and printer engine card assembly for proper connection. Are the connections on the duplex controller card assembly and the connector P417 on the printer engine card assembly connected?	Go to step 3.	Replace the connection.
3	Perform a 2 sided print test. Does the error still occur?	Replace the duplex controller card assembly.  Go to <b>“Duplex controller card assembly removal” on page 4-304.</b>  Go to step 4.	Problem solved.
4	Perform a 2 sided print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.



**980.05 Engine flicker communication 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 printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

**997.00 Duplex controller card assembly type failure**

Step	Check	Yes	No
1	Check the duplex unit for proper installation. Remove duplex unit assembly, and reinstall it. Perform a two sided print test. Does the error still occur?	Go to step 2.	Problem solved.
2	Perform a 2 sided print test. Does the error still occur?	Replace the duplex controller card assembly.  Go to <b>“Duplex controller card assembly removal” on page 4-304.</b>  Go to step 3.	Problem solved.
3	Perform a 2 sided print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## 2TM/TTM left door assembly open

Step	Check	Yes	No
1	<p>Check the 2TM/TTM left door assembly for opening and closing.</p> <p>Does the 2TM/TTM left door assembly open or close normally?</p>	Go to step 2.	<p>Check the 2TM/TTM left door assembly for deformation, and reinstall it.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM left door assembly removal” on page 4-269.</b></p>
2	<p>Check the switch (2TM/TTM 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 C 2TM/TTM.</b></li> </ol> <p>Open the 2TM/TTM left door assembly, and visually check it.</p> <p>Does the display on the operator panel change every time the actuator on the above switch operates?</p>	Go to step 4.	Go to step 3.
3	<p>Check the switch (2TM/TTM left door interlock) for proper connection.</p> <p>Is the above switch connected properly?</p>	<p>Replace the switch (2TM/TTM left door interlock).</p> <p>Go to <b>“2000-sheet dual input (TTM)—switch (2TM/TTM left door interlock) removal” on page 4-270.</b></p>	Replace the connection.
4	<p>Check the 2TM/TTM controller card assembly and the printer engine card assembly for proper connection.</p> <p>Are connectors P541 and P413 on the above cards connected properly?</p>	Go to step 5.	Replace the connection.
5	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the 2TM/TTM controller card assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b></p> <p>Go to step 6.</p>	Problem solved.
6	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117.</b></p>	Problem solved.

## Duplex left door assembly open

Step	Check	Yes	No
1	Check the duplex left door assembly for opening and closing. Does the duplex left door assembly open or close normally?	Go to step 2.	Check the duplex left cover assembly for deformation and reinstall it.
2	Check the switch (duplex left door interlock) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>DUPLEX TESTS</b> . 3. Touch <b>Sensor Test</b> . 4. Touch <b>Door D duplex left</b> .  Open the duplex left door assembly, and visually check it. Does the operator panel change every time the actuator on the above switch operates?	Reconnect the connector on the printer engine card assembly.	Go to step 3.
3	Check the switch (duplex left door interlock) for proper connection. Is the above switch connected properly?	Go to step 4.	Replace the connection.
4	Check the duplex controller card assembly and printer engine card assembly for proper connection. Are the connections on the duplex controller card assembly and the connector P417 on the printer engine card assembly connected?	Go to step 5.	Replace the connection.
5	Perform a 2 sided print test. Does the error still occur?	Replace the duplex controller card assembly. Go to <b>“Duplex controller card assembly removal” on page 4-304</b> . Go to step 6.	Problem solved.
6	Perform a 2 sided print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117</b> .	Problem solved.

## Exit 2 left door assembly open

Step	Check	Yes	No
1	Check the exit 2 left door assembly for opening and closing. Does the exit 2 left door assembly open or close normally?	Go to step 2.	Check the exit 2 left door assembly for deformation, and then reinstall it.  Go to <b>“Exit 2 left cover removal” on page 4-319</b> .

Step	Check	Yes	No
2	<p>Check the switch (exit 2 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 E exit2 left</b>.</li> </ol> <p>Does the display change on the operator panel every time the actuator for the above switch operates?</p>	Reconnect the connector of the printer engine card assembly.	Go to step 3.
3	<p>Check the switch (exit 2 left door interlock) for proper connection.</p> <p>Is the above switch connected properly?</p>	<p>Replace the switch (exit 2 left door interlock).</p> <p>Go to <b>“Exit 2 switch (exit 2 left door interlock) removal” on page 4-324</b>.</p>	Replace the connection.
4	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the exit interface card assembly.</p> <p>Go to <b>“Exit interface card assembly removal” on page 4-116</b>.</p> <p>Go to step 5.</p>	Problem solved.
5	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117</b>.</p>	Problem solved.

### Media size mismatch in width

Step	Check	Yes	No
1	<p>Check the media.</p> <p>Pull out the tray to visually check it.</p> <p>Is media properly loaded in the tray?</p>	Go to step 2.	Load media properly.
2	<p>Check the media.</p> <p>Pull out the tray to visually check it.</p> <p>Are the front media tray guide assembly, 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.
3	<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
4	Check the switch (media size) connection for tray 1 and/or tray 2. Is the switch (media size) properly connected for tray 1 and/or tray 2?	Replace the required switch (media size). <b>“Toner cartridge guide assembly removal” on page 4-95.</b>	Replace the connection.
5	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### Media size mismatch in width

Step	Check	Yes	No
1	Check the media. Pull out the tray, and visually check it. Is the media loaded in tray properly?	Go to step 2.	Load media properly.
2	Check the media. Pull out the tray, and visually check it. Are the front media guide and rear media guide on tray 3 or tray 4 set correctly?	Go to step 3.	Set the parts correctly.
3	Check the switch (TTM media size) for proper installation. Pull out the tray, and visually check it. Is the switch (TTM media size) for tray 3 or tray 4 installed properly?	Go to step 4.	Install the switch (TTM media size) correctly. Go to <b>“2000-sheet dual input (TTM)—switch (TTM media size) removal” on page 4-242.</b>
4	Check the switch (TTM media size) for proper connection. Check tray 3 and tray 4. Are the above sensors connected properly?	Replace the appropriate switch (TTM media size). Go to <b>“2000-sheet dual input (TTM)—switch (TTM media size) removal” on page 4-242.</b>	Replace the connection.
5	Check the 2TM/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 still occur?	Replace the 2TM/ TTM controller card assembly.  Go to <b>“2000-sheet dual input (TTM)— 2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 7.	Problem solved.
7	Perform a print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### No media in the select media tray

Step	Check	Yes	No
1	Check the media. Is media loaded in the selected tray?	Go to step 2.	Load media properly.
2	Check the sensor (media out) for 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 out.</b>  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>Media out.</b>  Remove the media tray assembly. Does the display, on the operator panel, change every time the sensing area is blocked by the media out actuator?	Go to step 4.	Go to step 3.
3	Check the sensor (media out) connection for tray 1 or tray 2. Is the sensor (media out) properly connected for tray 1 or tray 2?	Replace the sensor (media out).  Go to <b>“Sensor (media out) removal” on page 4-40.</b>	Replace the connection.

Step	Check	Yes	No
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### No media in the select media tray

Step	Check	Yes	No
1	Check the media. Is the media loaded in the selected tray?	Go to step 2.	Load media properly.
2	Check the sensor (media 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>Media out.</b>  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>Media out.</b>  Remove the appropriate media tray assembly. Does the display on the operator panel change every time the sensing area on the above sensor is blocked by the media out actuator.	Go to step 4.	Go to step 3.
3	Check the sensor (media out) for proper connection. Check tray 3 and tray 4. Is the above sensor connected properly?	Replace the appropriate sensor (media out).  Go to <b>“2000-sheet dual input (TTM)—sensor (media out) removal” on page 4-255.</b>	Replace the connection.
4	Check the 2TM/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 5.	Replace the connection.
5	Perform a print test. Does the error still occur?	Replace the 2TM/TTM controller card assembly.  Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b>  Go to step 6.	Problem solved.

Step	Check	Yes	No
6	Perform a print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	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 still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

**PC cartridge end of life**

Step	Check	Yes	No
1	Check the PC cartridge for proper installation. Is the PC cartridge installed properly?	Go to step 2.	Install the PC cartridge properly.
2	Is the sensor (RFID PC cartridge) installed properly?	Go to step 4.	Go to step 3.
3	Check the sensor (RFID PC cartridge) connection. Is the sensor (RFID PC cartridge) connected properly?	Replace the sensor (RFID PC cartridge)  Go to <b>“Sensor (RFID PC cartridge) and sensor (RFID toner cartridge) removal” on page 4-94.</b>	Connect P/J126 and P/J419 properly.



Step	Check	Yes	No
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### PC cartridge RFID failure

Step	Check	Yes	No
1	Check the PC cartridge installation. Is the PC cartridge properly installed?	Go to step 2.	Install the PC cartridge properly.
2	Check the sensor (RFID PC cartridge) installation. Is the sensor (RFID PC cartridge) properly installed?	Go to step 3.	Install the sensor (RFID PC cartridge).
3	Check the sensor (RFID PC cartridge) connection. Is the sensor (RFID PC cartridge) properly connected.	Replace the sensor (RFID PC cartridge).	Replace the connection.
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### PC cartridge set failure

Step	Check	Yes	No
1	Check the PC cartridge installation. Is the PC cartridge properly installed?	Go to step 2.	Install the PC cartridge properly.
2	Perform a POR. Does the error continue?	Go to step 3.	Problem solved.
3	Remove the PC cartridge from the machine. Remove the two screws securing the plastic to the front of the PC cartridge. Remove the plastic cover. Is the connector on the front of the PC cartridge connected properly?	Replace the PC cartridge.	Replace the connection.
4	Perform a POR. Does the error continue?	Go to step 5.	Problem solved.

Step	Check	Yes	No
5	Check the PC cartridge sensor connection. Is the PC cartridge sensor connector installed and functioning properly?	Replace the PC cartridge sensor connector.	Reinstall the PC cartridge sensor connector and ensure it connects to the PC cartridge properly.
6	Check the switch (PC cartridge interlock) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST</b> . 3. Touch <b>Devices</b> . 4. Touch <b>PC unit present</b> .  Open printer left door assembly and the front door assembly and check it. Does the display, on the operator panel, change every time the PC cartridge is removed and replaced?	Go to step 8.	Go to step 7.
7	Check the switch (PC cartridge interlock) connection. Is the connection P404 on the printer engine card connected properly?	Replace the switch (PC cartridge interlock).  Go to " <b>Switch (PC cartridge interlock) removal</b> " on page 4-84.	Replace the connection.
8	Perform a POR. Does the error continue?	Replace the printer engine card assembly.  Go to " <b>Printer engine card assembly removal</b> " on page 4-117.	Problem solved.

### Printer front door open

Step	Check	Yes	No
1	Check the opening and closing of the printer front door assembly. Is the printer front door assembly opening and closing normally?	Go to step 2.	Check the printer front door assembly for rotation and reinstall it.
2	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 J printer front</b> .  Open the printer front door assembly and check it. Does the display, on the operator panel, change every time the switch actuator is operated?	Go to step 4.	Go to step 3.

Step	Check	Yes	No
3	Check the switch (printer front door interlock) connection. Is the switch (printer front door interlock) properly connected?	Replace the switch (printer front door interlock).  Go to <b>“Switch (printer front door interlock) removal” on page 4-4.</b>	Replace the connection.
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### Printer left door open

Step	Check	Yes	No
1	Is the printer left door assembly opening and closing properly?	Go to step 2.	Check the printer left door assembly for deformation and reinstall it.
2	Check the switch (printer left 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 A left side.</b>  Open the printer left door assembly and check it. Does the display, on the operator panel, change every time the switch actuator is operated?	Go to step 4.	Go to step 3.
3	Check the switch (printer left door interlock) connection. Is the switch (printer left door interlock) connected properly?	Replace the switch (printer left door interlock).  Go to <b>“Switch (printer left door interlock) removal” on page 4-76.</b>	Replace the connection.
4	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## Printer left lower door open

Step	Check	Yes	No
1	Is the printer left lower door assembly opening and closing properly?	Go to step 2.	Check the printer front door assembly for deformation and reinstall it.
2	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 B left/lower</b> .  Open the printer front door assembly and check it. Does the display, on the operator panel, change every time the switch actuator is operated?	Go to step 4.	Go to step 3.
3	Check the switch (printer left lower door interlock) connection.  Is the switch (printer left lower door interlock) properly connected?	Replace the switch (printer front door interlock).  Go to <b>“Switch (printer front door interlock) removal” on page 4-4</b> .	Replace the connection.
4	Perform a print test.  Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117</b> .	Problem solved.

## Scheduled maintenance required

Step	Check	Yes	No
1	Install the proper maintenance kit.  Does the message still occur?	Reset the maintenance counter.  Go to <b>“Scheduled maintenance” on page 6-2</b> .	Problem solved.

## Standard bin 1 full

Step	Check	Yes	No
1	Check the actuator for movement.  Does the standard bin 1 full actuator move up and down normally?	Go to step 2.	Reinstall the standard bin 1 full actuator.

Step	Check	Yes	No
2	<p>Check the sensor (standard bin full exit 1) 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>Exit level</b>.</li> <li>4. Touch <b>Standard bin full 1</b>.</li> </ol> <p>Does the display, on the operator panel, change every time the sensing area is blocked?</p>	Go to step 5.	Go to step 3.
3	<p>Check the sensor (standard bin full 1) connection.</p> <p>Is the sensor (standard bin full 1) properly connected?</p>	<p>Replace the sensor (standard bin full exit 1).</p> <p>Go to <b>“Sensor (exit 1 bin full) removal” on page 4-109</b>.</p>	<p>Replace the connection.</p> <p>Go to step 4.</p>
4	<p>Check the exit interface card assembly connection P432, P433, and P434.</p> <p>Is the exit interface card assembly properly connected P432, P433, and P434?</p>	<p>Replace the exit interface card assembly.</p> <p>Go to <b>“Exit interface card assembly removal” on page 4-116</b>.</p>	Replace the connection.
5	<p>Perform a print test.</p> <p>Does the error continue?</p>	<p>Replace the printer engine card assembly.</p> <p>Go to <b>“Printer engine card assembly removal” on page 4-117</b>.</p>	Problem solved.

### Standard bin 2 full

Step	Check	Yes	No
1	<p>Check the actuator for movement.</p> <p>Does the media weight assembly move up and down normally?</p>	Go to step 2.	Reinstall the media weight assembly.
2	<p>Check the sensor (standard bin full exit 2) 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>Exit level</b>.</li> <li>4. Touch <b>Standard bin full 2</b></li> </ol> <p>Does the display, on the operator panel, change every time the sensing area is blocked?</p>	Go to step 5.	Go to step 3.

Step	Check	Yes	No
3	Check the sensor (standard bin full exit 2) connection. Is the sensor (standard bin full exit 2) properly connected?	Replace the sensor (standard bin full exit 2). Go to <b>“Exit 2 sensor (standard bin full exit 2) removal” on page 4-330.</b>	Replace the connection. Go to step 4.
4	Check the exit interface card assembly connection P432, P433, and P434. Is the exit interface card assembly properly connected P432, P433, and P434?	Replace the exit interface card assembly. Go to <b>“Exit interface card assembly removal” on page 4-116.</b>	Replace the connection.
5	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### Scanner missing failure

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 4-143.</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 4-128.</b>	Problem solved.

## Switch (ADF left cover interlock) open

Step	Check	Yes	No
1	Check the actuator of the ADF left cover assembly. Is the above actuator present and attached properly?	Go to step 2.	Replace the ADF left cover assembly. Go to <b>“ADF left cover assembly removal” on page 4-168.</b>
2	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.
3	Check the switch (ADF left cover interlock) for proper operation. Perform the switch (ADF left cover interlock) test. 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>  Open and close the ADF left cover assembly. Does the display on the operator panel change every time the above switch is activated?	Go to step 5.	Go to step 4.
4	Check the switch (ADF left cover interlock) for connection. Is the above switch connected properly?	Replace the switch (ADF left cover interlock). Go to <b>“Switch (ADF left cover interlock) removal” on page 4-183.</b>	Replace the connections.
5	Perform a POR. Does the error remain?	Replace the scanner controller card assembly. Go to <b>“Scanner controller card assembly removal” on page 4-143.</b>	Problem solved.

## Toner cartridge empty

Step	Check	Yes	No
1	Check remaining toner. Does the toner cartridge contain toner?	Go to step 2.	Replace the toner cartridge.
2	Check the toner cartridge for proper installation. Remove the toner cartridge and reinstall it. Does it operate properly?	Problem solved.	Go to step 3.

Step	Check	Yes	No
3	Check the toner cartridge guide assembly. Remove the toner cartridge guide assembly. Does the gear, located on the lower part of the toner cartridge guide assembly, rotate smoothly?	Go to step 4.	Replace toner cartridge guide assembly.
4	Check the pipe, located on the lower part of the toner cartridge for debris. Is the pipe, located on the lower part of the toner cartridge guide assembly, clogged?	Go to step 5.	Clean the pipe.
5	Check the sensor (RFID toner cartridge) for proper installation.	Go to step 6.	Install the sensor (RFID toner cartridge) correctly.
6	Check the sensor (RFID toner cartridge) for proper connection.	Replace the sensor (RFID toner cartridge). Go to <b>“Toner cartridge guide assembly removal” on page 4-95</b>	Replace the connection.
7	Check the toner add motor assembly for operation. <b>Warning:</b> Only perform this test in segments of three seconds or less, or toner spill will occur. Remove the top cover assembly. Go to <b>“Top cover assembly removal” on page 4-5</b> . Override the switch (printer front door interlock) 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer Motor Test</b> . 4. Touch <b>Toner add motor</b> .  Observe the toner add motor for rotation. <b>Note:</b> When performing this test, the drum unit motor will also operate. Does the motor rotate normally?	Go to step 9.	Go to step 8.
8	Check the toner add motor assembly connection. Is the toner add motor assembly properly connected?	Replace the toner add motor. <b>“Toner cartridge guide assembly removal” on page 4-95.</b>	Replace the connection.
9	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117</b> .	Problem solved.



## Toner cartridge near empty

Step	Check	Yes	No
1	Does the toner cartridge contain toner?	Go to step 2.	Replace the toner cartridge.
2	Check the toner cartridge for proper installation. Remove the toner cartridge and reinstall it. Does it install properly?	Problem solved	Go to step 3.
3	Check the gear rotation in the toner cartridge guide assembly. Remove the toner cartridge guide assembly. Does the gear, located at the lower part of the toner cartridge guide assembly, rotate smoothly?	Go to step 4.	Replace the toner guide assembly.
4	Check the toner cartridge guide assembly for pipe clogging. Is the pipe, located at the lower part of the toner cartridge guide assembly, clogged?	Go to step 5.	Clean the pipe.
5	Check the toner add motor assembly for operation. <b>Warning:</b> Only perform this test in segments of three seconds or less or toner spill will occur. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS</b> . 3. Touch <b>Printer Motor Test</b> . 4. Touch <b>Toner add motor</b> .  Does the motor rotate normally?	Go to step 7.	Go to step 6.
6	Check the toner add motor assembly connection. Is the toner add motor assembly properly connected?	Replace the toner add motor assembly.  Go to <b>“Toner add motor assembly removal” on page 4-97.</b>	Replace the connection.
7	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## Toner cartridge failure

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.

Step	Check	Yes	No
3	Checking the sensor (RFID toner cartridge) connection. Is the sensor (RFID toner cartridge) properly connected?	Replace the sensor (RFID toner cartridge).	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>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### Toner cartridge RFID failure

Step	Check	Yes	No
1	Check the toner cartridge installation. Is the toner cartridge properly installed?	Go to step 2.	Install the toner cartridge properly.
2	Check the sensor (RFID toner cartridge) installation. Is the sensor (RFID toner cartridge) properly installed?	Go to step 3.	Install the sensor (RFID toner cartridge) correctly.
3	Check the sensor (RFID toner cartridge) connection. Is the sensor (RFID toner cartridge) properly connected?	Replace the sensor (RFID toner cartridge).	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>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### Toner cartridge set failure

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.  Go to <b>“Toner cartridge guide assembly removal” on page 4-95.</b>
2	Checking the toner cartridge. Is the toner cartridge damaged?	Replace the toner cartridge.  Go to <b>“Toner cartridge guide assembly removal” on page 4-95.</b>	Go to step 3.

Step	Check	Yes	No
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 <b>“Toner cartridge guide assembly removal” on page 4-95.</b>	Go to step 4.
4	Checking the sensor (RFID toner cartridge). Is the above sensor attached and connected properly?	Replace the sensor (RFID toner cartridge).	Go to step 5.
5	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### Tray 1 media size failure

Step	Check	Yes	No
1	Check the media. Pull out media tray 1 to visually check it. Is media loaded in media tray 1 properly?	Go to step 2.	Load media properly.
2	Check the media. Pull out media tray 1 to visually check it. Are the front media tray guide assembly, rear media tray guide and media tray end guide of media tray 1 set correctly?	Go to step 3.	Set the guides properly.
3	Check the tray 1 switch (media size) for proper installation. Pull out media tray 1 to visually check it. Is the above switch installed properly?	Go to step 4.	Install switch (media size) for media tray 1 correctly.
4	Check the tray 1 switch (media size) connection. Is the tray 1 switch (media size) properly connected.	Replace the switch (media size). Go to <b>“Switch (media size) removal” on page 4-19.</b>	Replace the connection.
5	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## Tray 2 media size failure

Step	Check	Yes	No
1	Check the media. Is media loaded, in media tray 2, properly? Pull out media tray 2 to visually check it.	Go to step 2.	Load media properly.
2	Check the media. Are the front media tray guide assembly, rear media tray guide, and media tray end guide of media tray 2 set correctly? Pull out media tray 2 to visually check it.	Go to step 3.	Set the guides properly.
3	Check the tray 2 switch (media size) 2 for proper installation. Pull out media tray 2 to visually check it. Is the above switch installed properly?	Go to step 4.	Install the tray 2 switch (media size) correctly.
4	Check the tray 2 switch (media size) connection. Is the tray 2 switch (media size) properly connected?	Replace the switch (media size). <b>“Switch (media size) removal” on page 4-19.</b>	Replace the connection.
5	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## Tray 1 media size mismatch in length

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

Step	Check	Yes	No
5	Check the roll for tray 1. Pull out tray 1 and check it. Is the feed roll, separation roll, and pick roll free of excess wear and contamination?	Go to step 6.	Clean or replace the feed roll, separation roll, and pick roll.
6	Check the media position. Open the printer left door assembly and visually check it. Does the media touch the sensor (registration)?	Remove the media.	Go to step 7.
7	Check the roll. Open the printer left door assembly, and check it. Is the transport roll assembly free of excess wear and contamination?	Go to step 8.	Clean or replace the transport roll assembly. Go to <b>“Transfer roll guide assembly removal” on page 4-77.</b>
8	Check the roll. Open the printer left door assembly, and check it. Is the registration roll assembly free of excess wear and contamination?	Go to step 9.	Clean or replace the registration roll assembly. Go to <b>“Registration roll assembly removal” on page 4-79.</b>
9	Check the sensor (registration) for operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>Registration.</b>  Open the printer left door assembly, and check it. Does the display on the operator panel change every time the sensor (registration) actuator is operated?	Go to step 11.	Go to step 9.
10	Check the sensor (registration) connection. Is the sensor (registration) properly connected?	Replace the sensor (registration). Go to <b>“Sensor (registration) removal” on page 4-81.</b>	Replace the connection.
11	Check the registration clutch for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Registrat clutch.</b>  Does the above component operate normally?	Go to step 13.	Go to step 12.
12	Check the registration clutch connection. Is the registration clutch properly connected?	Replace the registration clutch. Go to <b>“Registration clutch assembly removal” on page 4-80.</b>	Replace the connection.

Step	Check	Yes	No
13	Perform a print test. Does the error continue?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

### Tray 2 media size mismatch in length

Step	Check	Yes	No
1	Check the media. Pull out tray 2 to visually check it. Is media loaded in tray 2 properly?	Go to step 2.	Load media properly.
2	Check the media. Pull out tray 2 to visually check it.  Are the front media tray guide assembly, rear media tray guide, and media tray end guide of tray 2 set correctly?	Go to step 3.	Set the guides properly.
3	Check the switch (media size) for tray 2 installation. Is the switch (media size) for tray 2 installed correctly? Pull out tray 2 to visually check it.	Go to step 4.	Install the switch (media size) for tray 2 correctly.  Go to <b>“Switch (media size) removal” on page 4-19.</b>
4	Check the switch (media size) for tray 2 connection. Is the switch (media size) for tray 2 properly connected?	Replace the switch (media size).  <b>“Switch (media size) removal” on page 4-19.</b>	Replace the connection.
5	Check the roll for tray 2. Pull out tray 2 and check it. Is the feed roll, separation roll, and pick roll free of excess wear and contamination?	Go to step 6.	Clean or replace the feed roll, separation roll, and pick roll.  Go to <b>“Feed roll removal” on page 4-45, “Separation roll removal” on page 4-49, and “Pick roll removal” on page 4-51.</b>
6	Open the printer left door assembly and visually check it. Check the media position. Does the media touch the sensor (registration)?	Remove the media.	Go to step 7.

Step	Check	Yes	No
7	Check the roll. Open the printer left door assembly and check it. Is the transport roll assembly free of excess wear and contamination?	Go to step 8.	Clean or replace the transport roll assembly. Go to <b>“Transfer roll assembly removal” on page 4-73.</b>
8	Check the roll. Open the printer left door assembly and check it. Is the roll, in the registration roll assembly, free of excess wear and contamination?	Go to step 9.	Clean or replace the registration roll assembly. Go to <b>“Registration roll assembly removal” on page 4-79.</b>
9	Check the sensor (registration) for operation. 1. Enter the Diagnostics Menu. 2. Touch <b>BASE SENSOR TEST.</b> 3. Touch <b>Media Path.</b> 4. Touch <b>Registration.</b>  Open the printer left door assembly and check it. Does the display, on the operator panel, change every time the sensor actuator is operated?	Go to step 11.	Go to step 10.
10	Check the sensor (registration) connection. Is the sensor (registration) properly connected?	Replace the sensor (registration). Go to <b>“Sensor (registration) removal” on page 4-81.</b>	Replace the connection.
11	Check the registration clutch for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Registrat clutch.</b>  Does the component make an audible clicking sound when it is operated?	Go to step 13.	Go to step 12.
12	Check the registration clutch connection. Is the registration clutch properly connected?	Replace the registration clutch. Go to <b>“Registration clutch assembly removal” on page 4-80.</b>	Replace the connection.
13	Perform a print test. Does the error continue?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## Tray 3 media size failure

Step	Check	Yes	No
1	Check the media. Pull out tray 3, and visually check it. Is the media loaded in tray 3 properly?	Go to step 2.	Load media properly.
2	Check the media. Pull out tray 3, and visually check it. Are the front media guide and rear media guide on tray 3 set correctly?	Go to step 3.	Set the parts properly.
3	Check the switch (TTM media size) for proper installation. Pull out tray 3, and visually check it. Is the switch (TTM media size) 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 4-242.</b>
4	Check the switch (TTM media size) for proper connection. Is the above switch installed correctly?	Replace the switch (TTM media size). Go to <b>“2000-sheet dual input (TTM)—switch (TTM media size) removal” on page 4-242.</b>	Replace the connection.
5	Check the 2TM/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.
6	Perform a print test. Does the error still occur?	Replace the 2TM/TTM controller card assembly. Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 7.	Problem solved.
7	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.



## Tray 4 media size failure

Step	Check	Yes	No
1	Check the media. Pull out tray 4, and visually check it. Is the media loaded in tray 4 properly?	Go to step 2.	Load media properly.
2	Check the media. Pull out tray 4, and visually check it. Are the front media guide and rear media guide on tray 4 set correctly?	Go to step 3.	Set the parts properly.
3	Check the switch (TTM media size) for proper installation. Pull out tray 4, and visually check it. Is the switch (TTM media size) for 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 4-242.</b>
4	Check the switch (TTM media size) for proper connection. Is the above switch connected correctly?	Replace the switch (TTM media size). Go to <b>“2000-sheet dual input (TTM)—switch (TTM media size) removal” on page 4-242.</b>	Replace the connection.
5	Check the 2TM/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.
6	Perform a print test. Does the error still occur?	Replace the 2TM/TTM controller card assembly. Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 7.	Problem solved.
7	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## Tray 3 media size mismatch in length

Step	Check	Yes	No
1	Check the media. Pull out tray 3, and visually check it. Is the media loaded in tray 3 properly?	Go to step 2.	Load media properly.
2	Check the media. Pull out tray 3, and visually check it. Are the front media guide and rear media guide on tray 3 set correctly?	Go to step 3.	Set the parts properly.
3	Check the switch (TTM media size) for proper operation. Pull out tray 3, and visually check it. Is the switch (TTM media size) for tray 3 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 4-242.</b>
4	Check the switch (TTM media size) for proper connection. Is the above switch connected properly?	Replace the switch (TTM media size). Go to <b>“2000-sheet dual input (TTM)—switch (TTM media size) removal” on page 4-242.</b>	Replace the connection.
5	Check the 2TM/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.
6	Check the tray 3 rolls. Pull out tray 3, and check it. Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 7.	Clean or replace the feed roll, separation roll, and pick roll. Go to <b>“2000-sheet dual input (TTM)—feed roll removal” on page 4-259, “2000-sheet dual input (TTM)—separation roll removal” on page 4-263, and “2000-sheet dual input (TTM)—pick roll removal” on page 4-266.</b>
7	Check the media position. Open the printer left door assembly, and visually check it. Does the media touch the sensor (registration)?	Remove the media.	Go to step 8.
8	Check the roll. Open the printer left door assembly, and visually check it. Is the transport roll assembly for transport free of excess wear and contamination?	Go to step 9.	Clean or replace the transport roll assembly.

Step	Check	Yes	No
9	Check the roll. Open the printer left door assembly, and visually check it. Is the registration roll assembly for transport free of excess wear and contamination?	Go to step 10.	Clean or replace the registration roll assembly. Go to <b>“Registration roll assembly removal” on page 4-79.</b>
10	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> Open the printer left door assembly, and visually check it. Does the display on the operator panel change every time the actuator on the above sensor operates?	Go to step 12.	Go to step 11.
11	Check the sensor (registration) for proper connection. Is the above sensor connected properly?	Replace the sensor (registration). Go to <b>“Sensor (registration) removal” on page 4-81.</b>	Replace the connection.
12	Check the registration clutch for proper operation. 1. Enter the Diagnostics Menu. 2. Touch <b>MOTOR TESTS.</b> 3. Touch <b>Printer Motor Test.</b> 4. Touch <b>Registrat clutch.</b> Does the above component make an audible clicking sound every time it operates?	Go to step 14.	Go to step 13.
13	Check the registration clutch for proper connection. Is the above component connected properly?	Replace the registration clutch. Go to <b>“Registration clutch assembly removal” on page 4-80.</b>	Replace the connection.
14	Perform a print test. Does the error still occur?	Replace the 2TM/TTM controller card assembly. Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b> Go to step 15.	Problem solved.
15	Perform a print test. Does the error still occur?	Replace the printer engine card assembly. Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## Tray 4 media size mismatch in length

Step	Check	Yes	No
1	Check the media. Pull out tray 4, and visually check it. Is the media loaded in tray 4 properly?	Go to step 2.	Load media properly.
2	Check the media. Pull out tray 4, and visually check it. Are the front media guide and rear media guide on tray 4 set correctly?	Go to step 3.	Set the parts properly.
3	Check the switch (TTM media size) for proper installation. Pull out tray 4, and visually check it. Is the switch (TTM media size) for 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 4-242.</b>
4	Check the switch (TTM media size) for proper connection. Is the above switch connected properly?	Replace the switch (TTM media size). Go to <b>“2000-sheet dual input (TTM)—switch (TTM media size) removal” on page 4-242.</b>	Replace the connection.
5	Check the 2TM/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 9.	Replace the connection.
6	Check the tray 4 rolls. Pull out tray 4, and check it. Are the feed roll, separation roll, and pick roll for transport free of excess wear and contamination?	Go to step 7.	Clean or replace the feed roll, separation roll, and pick roll. Go to <b>“2000-sheet dual input (TTM)—feed roll removal” on page 4-259, “2000-sheet dual input (TTM)—separation roll removal” on page 4-263, and “2000-sheet dual input (TTM)—pick roll removal” on page 4-266.</b>
7	Check the media position. Open the printer left door assembly, and visually check it. Does the media touch the sensor (registration)?	Remove the media.	Go to step 8.

Step	Check	Yes	No
8	<p>Check the roll.</p> <p>Open the printer left door assembly, and visually check it.</p> <p>Is the media transport roll assembly for transport free of excess wear and contamination?</p>	Go to step 9.	<p>Clean or replace the media transport roll assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM media transport roll assembly removal” on page 4-246.</b></p>
9	<p>Check the roll.</p> <p>Open the printer left door assembly, and visually check it.</p> <p>Is the registration roll assembly for transport free of excess wear and contamination?</p>	Go to step 10.	<p>Clean or replace the registration roll assembly.</p> <p>Go to <b>“Registration roll assembly removal” on page 4-79.</b></p>
10	<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>Open the printer left door assembly, and visually check it.</p> <p>Does the display on the operator panel change every time the actuator on the above sensor operates?</p>	Go to step 12.	Go to step 11.
11	<p>Check the sensor (registration) for proper connection.</p> <p>Is the above sensor connected properly?</p>	<p>Replace the sensor (registration).</p> <p>Go to <b>“Sensor (registration) removal” on page 4-81.</b></p>	Replace the connection.
12	<p>Check the registration clutch for proper operation.</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 every time it operates?</p>	Go to step 14.	Go to step 13.
13	<p>Check the registration clutch for proper connection.</p> <p>Is the above component connected properly?</p>	<p>Replace the registration clutch.</p> <p>Go to <b>“Registration clutch assembly removal” on page 4-80.</b></p>	Replace the connection.
14	<p>Perform a print test.</p> <p>Does the error still occur?</p>	<p>Replace the 2TM/TTM controller card assembly.</p> <p>Go to <b>“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal” on page 4-274.</b></p> <p>Go to step 15.</p>	Problem solved.

Step	Check	Yes	No
15	Perform a print test. Does the error still occur?	Replace the printer engine card assembly.  Go to <b>“Printer engine card assembly removal” on page 4-117.</b>	Problem solved.

## Image quality trouble

### 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 2-209.**
- Blank print (no print)— **“Blank print (no print)” on page 2-211.**
- Solid black— **“Solid black” on page 2-213.**
- Vertical blank lines (White stripes in media transport direction)— **“Vertical blank lines (white stripes in media transport direction)” on page 2-214.**
- Horizontal band— **“Horizontal bands” on page 2-216**
- Printhead out— **“913.00 Printhead assembly failure” on page 2-155**
- Vertical stripes— **“Vertical stripes” on page 2-218.**
- Horizontal stripes— **“Horizontal stripes” on page 2-220.**
- Partial lack— **“Partial lack” on page 2-222.**
- Spots— **“Spots” on page 2-223.**
- Afterimage— **“After image” on page 2-224.**
- Background (fog)— **“Background (fog)” on page 2-225.**
- Skew— **“Skew” on page 2-227.**
- Media damage— **“Media damage” on page 2-228.**
- No fix— **“No fuse” on page 2-229.**

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

## Image Quality

### Faint print (Low contrast)

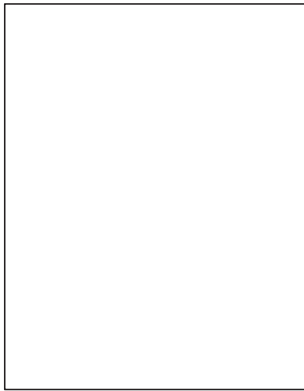


Before starting, check the media route for foreign objects, such as staples, clips, and scraps, in the media path.

Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media, and perform a print test. Is the image density normal?	Problem solved.	Go to step 2.
2	Check the toner cartridge. Install a new toner cartridge. Re-print the defective image. Is the image density normal?	Problem solved.	Go to step 3.
3	Check the transfer roll assembly. Remove the transfer roll assembly. Check the transfer roll assembly for contamination and wear. Is the transfer roll assembly free of excess wear and contamination?	Go to step 4.	Replace the transfer roll assembly.
4	Check the PC cartridge installation. Remove the PC cartridge. 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 PC cartridge or connector.
5	Check the drum grounding plate. Remove the PC cartridge. Check the drum grounding plate, located behind the rear motor cover. This plate can be found behind the flywheel. Is the drum grounding plate free of excess wear and contamination?	Go to step 6.	Correct and clean the drum grounding plate, or replace the PC cartridge.

Step	Check	Yes	No
6	<p>Check the image development process.            Perform a print test. Turn off the printer power while printing.</p> <p>Carefully remove the PC cartridge, and check the developed image formed on the drum right before the transfer roll assembly.</p> <p>Is the image completely formed on the drum, and the area clear, black, and easy to read?</p>	Go to step 7.	Go to step 9.
7	<p>Check the image transfer process.            Check the toner image formed on the drum after the transfer roll assembly.</p> <p>Is the toner image completely transferred on the media?</p>	Go to step 9.	Go to step 8.
8	<p>Check the HVPS card assembly.            Replace the HVPS card assembly.</p> <p>Perform a print test.</p> <p>Is the trouble rectified?</p>	Problem solved.	Go to step 9.
9	<p>Check the printer engine card assembly.            Replace the printer engine card assembly.</p> <p>Perform a print test.</p> <p>Does the error continue?</p>	Problem solved	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b>



**Blank print (no print)**

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

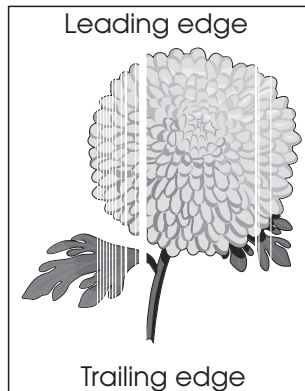
Step	Check	Yes	No
1	Check the toner cartridge. Install a new toner cartridge. Re-print the defective image. Is the image density normal?	Problem solved.	Go to step 2.
2	Check the transfer roll assembly. Remove the transfer roll assembly. Check the transfer roll assembly rotation. Is the transfer roll assembly free of excess wear and contamination?	Go to step 3.	Replace the transfer roll assembly.
3	Check the PC cartridge installation condition. Remove the PC cartridge. 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 PC cartridge or connector.
4	Check the PC cartridge ground. Remove the PC cartridge. Check the drum grounding plate, located behind the rear motor cover. This plate can be found behind the flywheel. Is the drum grounding plate free of excess wear and contamination?	Go to step 5.	Correct and clean the drum grounding plate, or replace the PC cartridge.
5	Check the laser beam route. Check for debris between the printhead assembly and the PC drum. Check the printhead assembly window for contamination. Is the laser beam route free of debris and the glass window, in the printhead assembly, free of contamination?	Go to step 6.	Remove debris or clean the printhead assembly window.

Step	Check	Yes	No
6	Check the printhead installation. Is the printhead assembly installed properly with four 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 error continue?	Problem solved.	Go to step 8.
8	Check the printhead for proper connection. <b>Warning:</b> If too much force is applied to the board when checking it, the printhead could become misaligned.	Go to step 9.	Replace the connection.
9	Check the image development process. Perform a print test. Turn off the printer power while printing. Carefully remove the PC cartridge. Check the toner image formed on the drum before the transfer roll assembly. Is the image completely formed on the drum, and the area clear, black, and easy to read?	Go to step 10.	Go to step 11.
10	Check the image transfer process. Check the toner image formed on the drum, after the transfer roll assembly. Is the toner image completely transferred on the media?	Go to step 12.	Go to step 11.
11	Check the HVPS card assembly. Replace the HVPS card assembly. Perform a print test. Does the error continue?	Problem solved.	Go to step 12.
12	Check the printer engine card assembly. Replace the printer engine card assembly. Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal”</b> on page 4-128.

**Solid black**

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

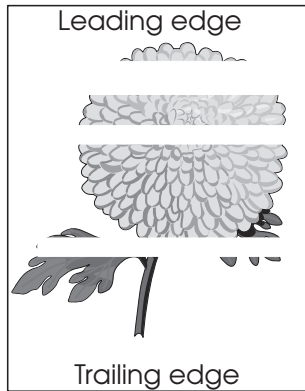
Step	Check	Yes	No
1	Check the toner cartridge. Install a new toner cartridge. Re-print the defective image. Is the image density normal?	Problem solved.	Go to step 2.
2	Check connector JHAB1 on the RIP card assembly. Is the above connector connected properly?	Go to step 3	Replace the connection.
3	Check the HVPS card assembly. Replace the HVPS card assembly. Perform a print test. Does the error continue?	Problem solved.	Go to step 4.
4	Check the printer engine card assembly. Replace the printer engine card assembly. Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b>

**Vertical blank lines (white stripes in media transport 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 laser beam route. Check for debris between the transfer roll assembly and the PC drum. Check the printhead assembly window for contamination. Is there any debris in the laser beam route and is the printhead assembly window free of debris and contamination?	Go to step 4.	Remove debris or clean the printhead assembly window.
4	Check the printhead assembly installation. Is the printhead assembly installed properly with four screws?	Go to step 6.	Go to step 5.
5	Check the printhead assembly installation. Install the printhead assembly properly and perform a print test. Does the error continue?	Problem solved.	Go to step 6.
6	Check the toner cartridge. Install a new toner cartridge. Re-print the defective image. Is the image density normal?	Problem solved.	Go to step 7.
7	Check the transfer roll assembly. Remove the transfer roll assembly. Is the transfer roll assembly rotating, free of contamination and wear?	Go to step 8.	Replace the transfer roll assembly.

Step	Check	Yes	No
8	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 or pressure roll?	Replace the fuser unit assembly.	Go to step 9.
9	Check the printer engine card assembly. Replace the printer engine card assembly. Perform a print test. Does the error continue?	Problem solved.	Go to step 10.
10	Check the printhead for connection. <b>Warning:</b> If too much force is applied to the board when checking it, the printhead could become misaligned. Is the component connected properly?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b>	Replace the connection.

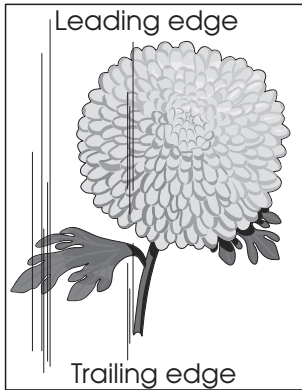
## Horizontal bands



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 toner cartridge. Install a new toner cartridge. Re-print the defective image. Is the image density normal?	Problem solved.	Go to step 4.
4	Check the transfer roll assembly. Remove the transfer roll assembly. Check the transfer roll assembly for rotation, contamination and wear.	Go to step 5.	Replace the transfer roll assembly.
5	Check white-band pitch. Is the white-band pitch approximately 78 mm (heat roll circumference)?	Go to step 6.	Go to step 9.
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 any cracks on the heat roll and/or the pressure roll?	Replace the fuser unit assembly.	Go to step 7.
7	Check the image development process. Perform a print test. Turn off the printer power while printing. Carefully remove the PC cartridge, and check the toner image formed on the drum before the transfer roll assembly. Is the image completely formed on the drum, and is the area clear, black, and easy to read?	Go to step 8.	Go to step 9.

Step	Check	Yes	No
8	Check the image transfer process. Check the toner image formed on the drum after the transfer roll assembly passed. Is the toner image completely transferred on the media?	Go to step 10.	Go to step 9.
9	Check the HVPS card assembly. Replace the HVPS card assembly. Perform a print test. Does the problem continue?	Problem solved.	Go to step 10.
10	Check the printer engine card assembly. Replace the printer engine card assembly. Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b>

## Vertical stripes

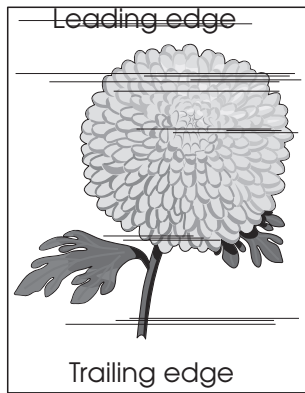


Step	Check	Yes	No
1	<p>Check the media condition.</p> <p>Load new, dry, recommended media.</p> <p>Re-print the defective image.</p> <p>Does the error continue?</p>	Go to step 2.	Problem solved.
2	<p>Are the media transfer route and the media path free of contamination or debris?</p>	Go to step 3.	Remove debris or contamination.
3	<p>Check the toner cartridge.</p> <p>Install a new toner cartridge.</p> <p>Re-print the defective image.</p> <p>Is the image density normal?</p>	Problem solved.	Go to step 4.
4	<p>Check the transfer roll assembly.</p> <p>Remove the transfer roll assembly.</p> <p>Is the transfer roll assembly rotating, free of contamination and wear?</p>	Go to step 5.	Replace the transfer roll assembly.
5	<p>Check the PC cartridge installation condition.</p> <p>Remove the PC cartridge.</p> <p>Check the PC cartridge connections.</p> <p>Are the PC cartridge connections free of excess wear and contamination?</p>	Go to step 6.	Correct and clean contaminated pins, or replace the PC cartridge or connector.
6	<p>Check the PC cartridge ground.</p> <p>Remove the PC cartridge.</p> <p>Check the drum grounding plate located behind rear motor cover. This plate can be found behind the flywheel.</p> <p>Is the drum grounding plate free of excess wear and contamination?</p>	Go to step 7.	Correct and clean the drum grounding plate, or replace the PC cartridge.



Step	Check	Yes	No
7	<p>Check the laser beam route.</p> <p>Check for debris between the transfer roll assembly and the PC drum.</p> <p>Check the printhead assembly window for contamination.</p> <p>Is there any debris in the laser beam route or the printhead assembly window?</p>	Go to step 8.	Remove debris, or clean the transfer roll assembly window.
8	<p>Check the heat roll and pressure roll.</p> <p>Remove the fuser unit assembly.</p> <p><b>Warning:</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>	Replace the fuser unit assembly.	Go to step 9.
9	<p>Check the printer engine card assembly.</p> <p>Replace the printer engine card assembly.</p> <p>Perform a print test.</p> <p>Does the error continue?</p>	Problem solved.	<p>Replace the RIP card assembly.</p> <p>Go to <b>“RIP card assembly removal”</b> on <b>page 4-128</b>.</p>

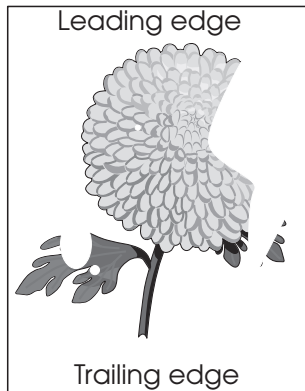
## Horizontal stripes



Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the media transfer route. Check the media route for contamination or obstacles.	Go to step 3.	Remove obstacles or contamination.
3	Check the toner cartridge. Install a new toner cartridge. Re-print the defective image. Is the image density normal?	Problem solved.	Go to step 4.
4	Check the transfer roll assembly. Remove the transfer roll assembly. Is the transfer roll assembly free of contamination and wear?	Go to step 5.	Replace the transfer roll assembly.
5	Check white-band pitch. Is the white-band pitch approximately 78 mm (heat roll circumference)?	Go to step 9	Go to step 6.
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 any contamination or crack on the heat roll and/or pressure roll?	Replace the fuser unit assembly.	Go to step 7.
7	Check the image development process. Perform a print test. Turn off the printer power while printing. Carefully remove the toner cartridge, and check the toner image formed on the drum before the transfer roll assembly. Is the image completely formed on the drum, and is the area clear, black, and easily read?	Go to step 8.	Go to step 9.

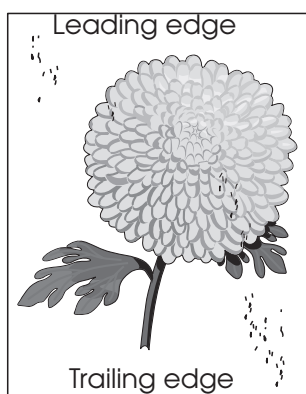
Step	Check	Yes	No
8	Check the image transfer process. Check the toner image formed on the drum after the transfer roll assembly passed. Is the toner image completely transferred on the media?	Go to step 9.	Go to step 10.
9	Check the HVPS. Replace the HVPS. Perform a print test. Does the error continue?	Problem solved.	Go to step 10.
10	Check the printer engine card assembly. Replace the printer engine card assembly. Perform a print test. Does the error continue?	Problem solved.	Go to step 11.
11	Check the printhead assembly for connection. <b>Warning:</b> If too much force is applied to the board when checking it, the printhead could become misaligned. Are P/J130, P/J620 and P/J406 connected properly?	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b>	Replace the connections.

### Partial lack



Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the media transfer route. Is the media path free of contamination or debris?	Go to step 3.	Remove debris or contamination.
3	Check the toner cartridge. Install a new toner cartridge. Re-print the defective image. Is the image density normal?	Problem solved.	Go to step 4.
4	Check the transfer roll assembly. Remove the transfer roll assembly. Is the transfer roll assembly rotating, and free of contamination, and wear?	Go to step 5.	Replace the transfer roll assembly.
5	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 the pressure roll?	Replace the fuser unit assembly.	Go to step 6.
6	Check the printer engine card assembly. Replace the printer engine card assembly. Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</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 toner cartridge. Install a new toner cartridge. Re-print the defective image. Is the image density normal?	Problem solved.	Go to step 4.
4	Check the transfer roll assembly. Remove the transfer roll assembly. Is the transfer roll assembly rotating, and free of contamination, and wear?	Go to step 5.	Replace the transfer roll assembly.
5	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 the pressure roll?	Replace the fuser unit assembly.	Go to step 6.
6	Check the printer engine card assembly. Replace the printer engine card assembly. Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b>

**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 toner cartridge. Install a new toner cartridge. Re-print the defective image. Is the image density normal?	Problem solved.	Go to step 3.
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 step 4.
4	Check the printer engine card assembly. Replace the printer engine card assembly. Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal” on page 4-128.</b>

**Background (fog)**

Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the media transfer route. Is the media path free of contamination or debris.	Go to step 3.	Remove debris or contamination.
3	Check the toner cartridge. Install a new toner cartridge. Re-print the defective image. Is the image density normal?	Problem solved.	Go to step 4.
4	Check the transfer roll assembly. Remove the transfer roll assembly. Is the transfer roll assembly rotating, and free of contamination, and wear?	Go to step 5.	Replace the transfer roll assembly.
5	Check the image development process. Perform a print test. Turn off the printer power while printing. Carefully remove the PC cartridge, and check the toner image formed on the drum before the transfer roll assembly. Is the image completely formed on the drum and the area clear, black, and easily read?	Go to step 6.	Go to step 7.
6	Check the image transfer process. Check the toner image formed on the drum after the transfer roll assembly passed. Is the toner image completely transferred on the media?	Go to step 8.	Go to step 7.
7	Check the HVPS card assembly. Replace the HVPS card assembly. Perform a print test. Does the error continue?	Problem solved.	Go to step 8.

Step	Check	Yes	No
8	Check the printer engine card assembly. Replace the printer engine card assembly. Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal”</b> on <b>page 4-128</b> .



## Skew



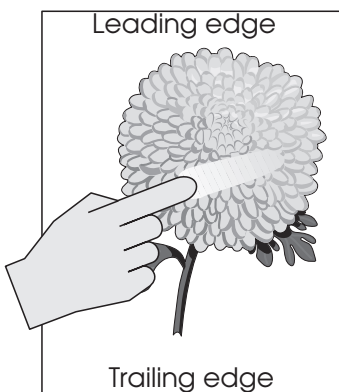
The printed image is not paralleled with both sides of the media.

Step	Check	Yes	No
1	Check printer installation placement. Check the installation surface for irregularities. Check for missing printer foot. Is the setup surface normal?	Go to step 2.	Correct the installation placement.
2	Properly load media into the media tray assembly. Properly install the media tray assembly into the printer. Re-print the defective image. Does the error continue?	Go to step 3.	Problem solved.
3	Is the media transfer route and the media route free of contamination or debris?	Go to step 4.	Remove debris or contamination.
4	Check the drive rolls on the media transfer route. Check all rolls on the transfer route for contamination, wear or damage. Check whether the pinch rolls rotate freely and spring pressure is applied evenly. Are all drive rolls free of contamination, wear or damage?	Go to step 5.	Replace defective rolls. (Go to applicable repair procedures for replacement.)
5	Check the printer engine card assembly. Replace the printer engine card assembly Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal”</b> on page 4-128.

## Media damage



Step	Check	Yes	No
1	<p>Check printer installation placement.</p> <p>Check the installation surface for irregularities.</p> <p>Check for missing printer foot.</p> <p>Is the setup surface normal?</p>	Go to step 2.	Correct the installation placement.
2	<p>Check the media feed.</p> <p>Remove the media tray assembly.</p> <p>Properly load media in the media tray assembly.</p> <p>Properly install the media tray assembly in the printer.</p> <p>Re-print the defective image.</p> <p>Does the error continue?</p>	Go to step 3.	Problem solved.
3	<p>Check the media condition.</p> <p>Load new, dry, recommended media.</p> <p>Re-print the defective image.</p> <p>Does the error continue?</p>	Go to step 4.	Problem solved.
4	<p>Check the media transfer route.</p> <p>Is the media path free of contamination or debris?</p>	Go to step 5.	Remove debris or contamination.
5	<p>Check the drive rolls on the media transfer route.</p> <p>Check all rolls on the transfer route for contamination, wear or damage.</p> <p>Are the pinch rolls rotating freely and spring pressure applied evenly?</p>	Go to step 6.	Replace defective rolls. (Go to applicable repair procedures for replacement).
6	<p>Check the heat roll and the pressure roll.</p> <p>Remove the fuser unit assembly.</p> <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 the pressure roll?</p>	Replace the fuser unit assembly.	Contact the technical engineer.

**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 error continue?</p>	Go to step 3.	Problem solved.
3	<p>Check the heat roll and the pressure roll.</p> <p>Remove the fuser unit assembly.</p> <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 the pressure roll?</p>	Replace the fuser unit assembly.	Go to step 4.
4	<p>Check the image development process.</p> <p>Perform a print test. Turn off the printer power while printing.</p> <p>Carefully remove the PC cartridge, and check the toner image formed on the drum before the transfer roll assembly.</p> <p>Is the image completely formed on the drum and the area clear, black, and easily read?</p>	Go to step 5.	Go to step 7.
5	<p>Check the image transfer process.</p> <p>Check the toner image formed on the drum after the transfer roll assembly is passed.</p> <p>Is the toner image completely transferred on the media?</p>	Go to step 7.	Go to step 6.
6	<p>Check the HVPS card assembly.</p> <p>Replace the HVPS card assembly.</p> <p>Perform a print test.</p> <p>Does the error continue?</p>	Problem solved.	Go to step 7.

Step	Check	Yes	No
7	Check the printer engine card assembly. Replace the printer engine card assembly. Perform a print test. Does the error continue?	Problem solved.	Replace the RIP card assembly. Go to <b>“RIP card assembly removal”</b> on <b>page 4-128</b> .

## 3. Diagnostic aids

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

### Accessing service menus

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

Diagnostics Menu	<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 Menu” 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 3-33</b> for more information.</p>

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## 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"</b> on page 3-5.
<b>Finisher Motor Tests</b>	
Sub paddle solenoid	
Media eject clutch	
Stapler unit mtr	
Bridge unit drv mtr	
Motor (entrance/paddle)	
Motor (buffer/transport)	
Motor (exit)	
Media eject clamp mtr	
Media eject mtr	
Punch unit mtr	
Fin diverter solenoid	
Fin Buffer solenoid	
Punch carriage shift mtr	
Front tamper mtr	
Rear tamper mtr	
Stapler carriage mtr	
Stacker lift mtr	
<b>Printer Motor Tests</b>	
Transport mtr	
2TM/TTM drv mtr	
2TM/TTM Clutch	
HCF transport mtr	
HCF pick solenoid	
MPF/Transport mtr	
Fuser cooling fan	
PC unit cooling fan	
Toner add mtr	
Drum unit	
Registrat clutch	

Tray 1 feed mtr	
Tray 2 feed mtr	
Tray 3 feed mtr	
Tray 4 feed mtr	
Tray 5 feed mtr	
MPF pick solenoid	
Duplex drv mtr	
Diverter solenoid	
Exit 2 cooling fan	
Tray 1 lift mtr	
Tray 2 lift mtr	
Tray 3 lift mtr	
Tray 4 lift mtr	
Tray 5 lift mtr	
Exit 1 shift mtr	
Exit 2 shift mtr	
Exit 2 drive mtr	
<b>Scanner Motor Tests</b>	
Feed drv mtr	
Exposure lamp	
Scanner cooling fan	
Reg drv	
Scanner drv	
Inverter solenoid	
Pick roll position mtr	
<b>PRINT TESTS</b>	See <b>“PRINT TESTS”</b> on page 3-6.
Tray 1	
Tray 2	
Tray 3	
Tray 4	
Tray 5 (if installed)	
MP Feeder	
Printing Quality Test Pages	See <b>“Print Quality Test Pages”</b> on page 3-6.
<b>HARDWARE TESTS</b>	
Panel Test	See <b>“Panel Test”</b> on page 3-7.
Button Test	See <b>“Button Test”</b> on page 3-7.
DRAM Test	See <b>“DRAM Test”</b> on page 3-8.
CACHE Test	See <b>“CACHE Test”</b> on page 3-9.
Parallel Wrap Test	See <b>“Parallel Wrap”</b> on page 3-9.
<b>DUPLEX TESTS</b>	
Quick Test	See <b>“Quick Test”</b> on page 3-10.
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 Tests	See <b>“Feed Tests (output bins)”</b> on page 3-12.
Feed To All Bins	See <b>“Feed To All Bins”</b> on page 3-12.
Sensor Test	See <b>“Sensor Test (output bin)”</b> on page 3-13.
<b>FINISHER TESTS</b>	
Staple Test	See <b>“Staple Test”</b> on page 3-13.
Hole Punch Test	See <b>“Hole Punch Test”</b> on page 3-14.
Feed Tests	See <b>“Feed Tests (Finisher)”</b> on page 3-14.
Sensor Tests	See <b>“Sensor Test (Finisher)”</b> on page 3-14.
<b>BASE SENSOR TESTS</b>	
Cover and Door	
Devices	
Exit Level	
Media Path	
<b>DEVISE TESTS</b>	
Quick Disk Test	See <b>“DEVICE TESTS”</b> on page 3-17.
Disk Test/Clean	
<b>PRINTER SETUP</b>	
Defaults	See <b>“Defaults”</b> on page 3-19.
Printed Page Count	See <b>“Printed Page Count”</b> on page 3-20.
Permanent Page Count	See <b>“Permanent Page Count”</b> on page 3-20.
Serial Number	See <b>“Serial Number”</b> on page 3-20.
Engine Setting 1 to 4	See <b>“Engine Setting 1 to 4”</b> on page 3-20.
Model Number	See <b>“Model Name”</b> on page 3-20.
Configuration ID	See <b>“Configuration ID”</b> on page 3-20.
Edge to Edge	See <b>“Edge to Edge”</b> on page 3-21.
Parallel Strobe Adjustment	<b>“Parallel Strobe Adjustment (Par S Strobe Adj)”</b> on page 3-22.
<b>EVENT LOG</b>	
Display Log	See <b>“Display the Event Log”</b> on page 3-22.
Print Log	See <b>“Print the Event Log”</b> on page 3-24.
Clear Log	See <b>“Clear the Event Log”</b> on page 3-24.
<b>SCANNER TESTS</b>	
ASIC Test	See <b>“ASIC Test”</b> on page 3-25.
Feed Test	See <b>“Feed Test”</b> on page 3-25.
Scanner Manual Registration	See <b>“Scanner Manual Registration”</b> on page 3-26.
Sensor Tests	See <b>“Sensor Test (Scanner Tests)”</b> on page 3-31.
<b>Exit Diagnostics Menu</b>	See <b>“Exiting Diagnostics Menu”</b> on page 3-32.



## 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:

- Sub paddle solenoid
- Media eject clutch
- Stapler unit mtr
- Bridge unit drv mtr
- Motor (entrance/paddle)
- Motor (buffer/transport)
- Motor (exit)
- Media eject clamp mtr
- Media eject mtr
- Punch unit mtr
- Fin diverter solenoid
- Fin Buffer solenoid
- Punch carriage shift mtr
- Front tamper mtr
- Rear tamper mtr
- Stapler carriage mtr
- Stacker lift mtr

### The following Printer Motor Tests are available:

- Transport mtr
- 2TM/TTM drv mtr
- 2TM/TTM Clutch
- HCF transport mtr
- HCF pick solenoid
- MPF/Transport mtr
- Fuser cooling fan
- PC unit cooling fan
- Toner add mtr
- Drum unit
- Registrat clutch
- Tray 1 feed mtr
- Tray 2 feed mtr
- Tray 3 feed mtr
- Tray 4 feed mtr
- Tray 5 feed mtr
- MPF pick solenoid
- Duplex drv mtr
- Diverter solenoid
- Exit 2 cooling fan
- Tray 1 lift mtr
- Tray 2 lift mtr
- Tray 3 lift mtr
- Tray 4 lift mtr
- Tray 5 lift mtr
- Exit 1 shift mtr
- Exit 2 shift mtr
- Exit 2 drive mtr

### The following Scanner Motor Tests are available:

- ADF feed drv mtr
- Exposure lamp
- Scanner cooling fan
- ADF registration drv mtr
- Scanner drv mtr
- Inverter solenoid
- Pick roll position mtr
- 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...
Tray 5 (if installed)	Tray 5 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 PRINT TESTS.

### 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 four pages in English. 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.

If Duplex is activated, this report will be printed on both sides of the paper; otherwise, it will be printed on the front sides of the paper only.

## Print Quality Pages Content by Report Page Number

Page Number	Content
1	General printer information includes: <ul style="list-style-type: none"> <li>• A circular graphic with spokes emanating from a dark center</li> <li>• Device Information</li> <li>• (Envelope Enhance)</li> <li>• Engine Setting 1 to 4</li> <li>• Edge to Edge</li> <li>• Current values of each variable listed</li> <li>• A repeated string of characters in varying font sizes</li> </ul>
2	Page is gray with two black squares
3	Page is solid black
4	Page is blank (this page verifies that the device does not streak or smear toner)


## HARDWARE TESTS

Touch the following Hardware Tests from this menu:

- Panel Test
- Button Test
- DRAM Test
- CACHE Test
- Parallel Wrap

### 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.

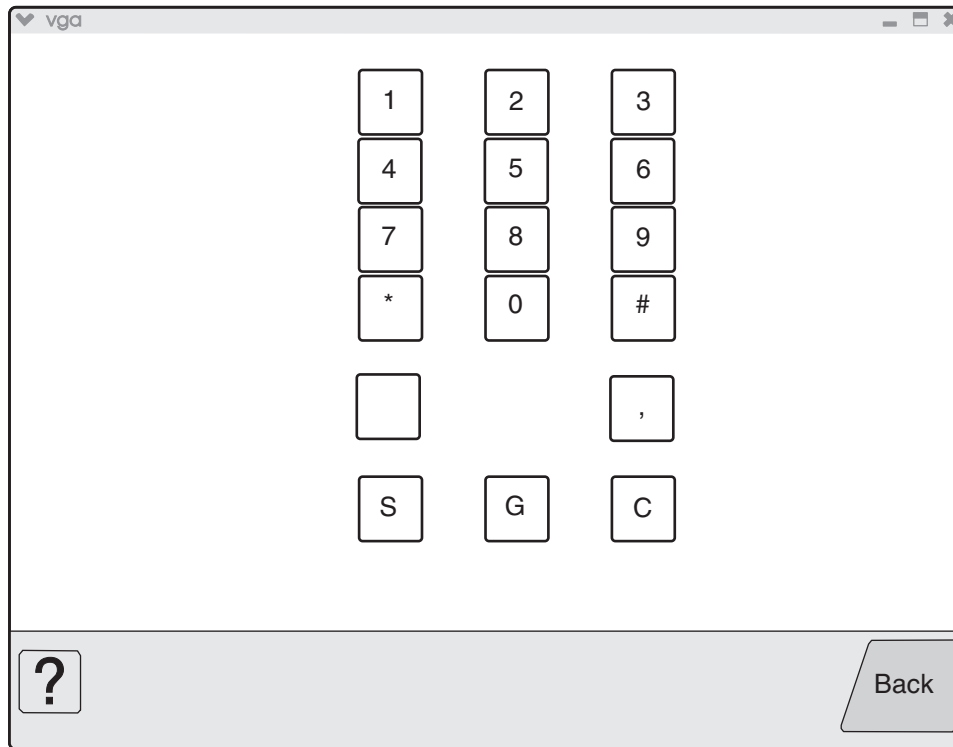
### Button Test

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.

- 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 standard and optional DRAM memory. The test writes patterns of data to DRAM to verify that each bit in memory can be set and read correctly.

To run the DRAM Test:

- Touch **HARDWARE TESTS** from the Diagnostics Menu.
- Touch **DRAM Test**. DRAM Test Testing... appears on the LCD. Then the message *Resetting the Printer* appears and the power LED is green. While the DRAM test executes, the power indicator *blinks* amber. 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. Then the message `Resetting the Printer` appears. While the CACHE test executes, the power LED is green. 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.

## Parallel Wrap

This test verifies the proper functioning of the parallel port hardware using a wrap plug. Each parallel signal is tested.

To run the Parallel Wrap tests:

1. Disconnect the parallel interface cable, and install the parallel wrap plug.
2. Touch **HARDWARE TESTS** from the Diagnostics Menu.
3. Touch **Parallel Wrap** and the following appears on the LCD.


Parallel Wrap Testing...
Pass Count: 0 Fail Count: 0

Each time the printer finishes a test, it increments Pass Count or Fail Count by one according to the success or failure of the parallel port hardware. When the maximum number of tests have been executed, the test stops and displays the results.

Press **Stop**  to stop the test. `Parallel Wrap Cancelled` appears on the LCD, and then returns to the **HARDWARE TESTS** menu.

## 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 is pressed **Stop** .

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**. *Duplex wait Testing...* appears on the LCD.
4. Manually actuate each of the duplex wait sensors. When the sensor is closed, *Closed* displays; when the sensor is open, *Open* displays.

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. To observe the paper path, open the upper read door while this test executes. No information is printed on the feed test pages since the laser is not engaged during this test.


**Note:** The upper front door (used to access the print cartridge) cannot be opened during the feed 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...
Tray 5 (if installed)	Tray 5 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							
	Pre-feed <sup>1</sup>	Feed-out <sup>2</sup>	Media out <sup>3</sup>	Media level <sup>4</sup>	HCF unit docking <sup>5</sup>	HCF media tray set <sup>6</sup>	HCF media size L	HCF media size R
Tray 1	Yes	No	Yes	Yes	No	No	No	No
Tray 2	Yes	Yes	Yes	Yes	No	No	No	No
Tray 3	Yes	Yes	Yes	Yes	No	No	No	No
Tray 4	Yes	Yes	Yes	Yes	No	No	No	No
Tray 5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MP Feeder	No	No	Yes	No	No	No	No	No

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

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

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

<sup>4</sup>Media level Testing... appears on the LCD with the sensor's current state (Open or Closed).

<sup>5</sup>Hcf unit docking Testing... appears on the LCD with the sensor's current state (Open or Closed).

<sup>6</sup>Hcf media tray set Testing... appears on the LCD with the sensor's current state (Open or Closed). After selecting a specific sensor, you can manipulate the printer in such a way as to toggle the sensor between its two values (Open or Closed).


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. (The output bins are displayed in the order installed on the printer.)
  - Standard Bin
  - Output Bin 1
  - Output Bin 2
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 OUTPUT BIN TESTS.

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. If a test is canceled, [Selected Output Bin] Canceled appears on the LCD.


### 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**.

The panel displays each installed bin, one bin per line. When you select an output bin, the panel displays the selected output bin in the header row, and then displays the name of each of the bin's sensors. 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... the LCD displays the sensor's name in the header row and, below the header row, the sensor's name and current state. The table below indicates which sensors are available in each output bin.

Output Bin	Std bin full exit1	Std bin full exit2	Fin upper bin full	Stacker bin level1	Stacker bin level2
Standard Bin	✓	✓			
Output Bin 1			✓		
Output Bin 2				✓	✓

When you selects a specific sensor, the LCD displays the sensor's current state (Open or Closed). You can manipulate the printer in such a way as to actuate the selected sensor. The LCD displays **Closed** when the sensor is closed or **Open** when the sensor is open. 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**.

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 Feed 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	Description
Cover F bridge top	Sensor (bridge unit top cover interlock)
Door G finisher front	Switch (finisher front door interlock)
Surface H finisher eject	Switch (eject cover interlock)

## Available Bin Level Sensors

Sensor Name	Description
Fin upper bin full	Sensor (upper media bin full)
Stacker bin level1	Sensor (stacker bin level 1)
Stacker bin level2	Sensor (stacker bin level 2)
Stacker bin upper limit	Sensor (stacker bin upper limit)
Stacker bin no media	Sensor (stacker bin no media)
Stacker bin level encod	Sensor (stacker bin level encoder)

## Available Media Path 1 Sensors

Sensor Name	Description
Bridge media entrance	Sensor (bridge media entrance)
Bridge media exit	Sensor (bridge unit exit)
Finisher media enter	Sensor (finisher media enter)
Buffer path	Sensor (buffer path)
Upper media exit	Sensor (upper media exit)
Lower media exit	Sensor (lower media exit)
Compiler media in	Sensor (complier media in)

## Available Media Path 2 Sensors

Sensor Name	Description
Diverter gate	Sensor (diverter gate)
Front tamper hp	Sensor (front tamper HP)
Rear tamper hp	Sensor (rear tamper HP)
Eject clamp hp	Sensor (media eject clamp HP)
Media eject shaft hp	Sensor (media eject shaft HP)

## Available Punch and Staple Sensors

Sensor Name	Description
Punch side reg1	Sensor (punch unit side reg 1)
Punch side reg2	Sensor (punch unit side reg 2)
Punch box set	Sensor (punch waste box set)
Punch waste full	Sensor (punch waste box full)
Low staple	Sensor (low staple)
Punch carriage shift hp	Sensor (punch carriage shift HP)
Punch unit hp	Sensor (punch unit HP)
Stapler carriage shift hp	Sensor (stapler carriage HP)
Punch cam front	Sensor (punch unit cam front)
Punch hole select	Sensor (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

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	Description
Door A printer left	Switch (printer left door interlock)
Door B printer left/lower	Switch (left lower door interlock)
Door C 2TM/TTM left	Switch (2TM/TTM left door interlock)
Door D duplex left	Switch (duplex left door interlock)
Door E exit 2 left	Switch (exit 2 left door interlock)
Door J front	Switch (printer front door interlock)
Door K HCF top	Switch (HCF top door interlock)

### Device Present Functions

Sensor Name	Description
PC unit present	Indicates the PC cartridge is installed
Exit2 present	Indicates the exit 2 unit assembly is installed

### Exit Level Sensors

Sensor Name	Description
Std bin full exit 1	Sensor (std bin full exit 1)
Std bin full exit 2	Sensor (std bin full exit 2)

## Media Path Sensors

Sensor Name	Description
Registration	Sensor (registration)
Fuser exit	Sensor (fuser exit)
Exit1 shift hp	Sensor (exit 1 media shift HP)
Exit2	Sensor (exit 2)
Exit2 shift hp	Sensor (exit 2 media shift HP)

To test any of the displayed sensors, you must manipulate the appropriate area of the printer so the sensor's value will toggle.

If the panel inaccurately displays the sensor's status, then the sensor must be malfunctioning.

Press **Stop**  to cancel the test. Base Sensor Test Canceled appears on the LCD.

## 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.

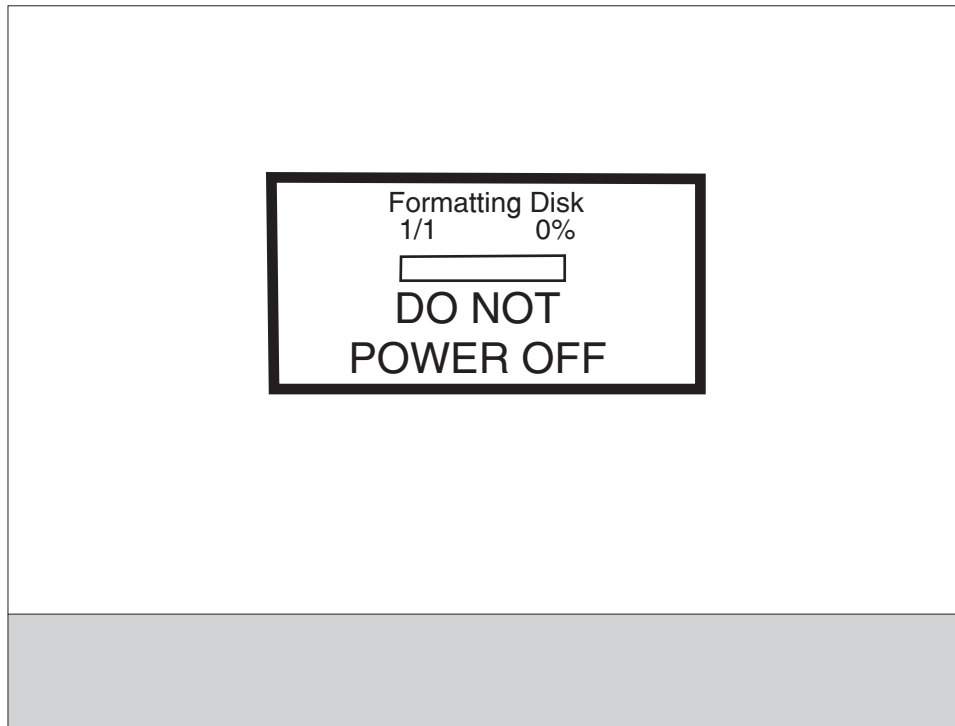
**Warning:** This test destroys all data on the disk and should never be performed on a good disk. Use this test only when the disk contains bad data and is unusable. When this test completes, the disk automatically initializes with a new file system; therefore it is unnecessary to format the disk.


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:

The screenshot shows the PRINTER SETUP screen with the following settings and navigation options:

- Defaults:** U.S. (Navigation: Left arrow, Right arrow, Up arrow)
- Printed Page Count:** 24
- Perm Page Count:** 0
- Serial Number:** NV26T470
- Envelope Entrance:** Medium (Navigation: Left arrow, Right arrow)
- Engine Setting 1:** 0 (Navigation: Left arrow, Right arrow, Down arrow)

At the bottom of the screen, there are four buttons: a question mark icon, a "Submit" button, a "Back" button, and a greyed-out button.

### 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 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:

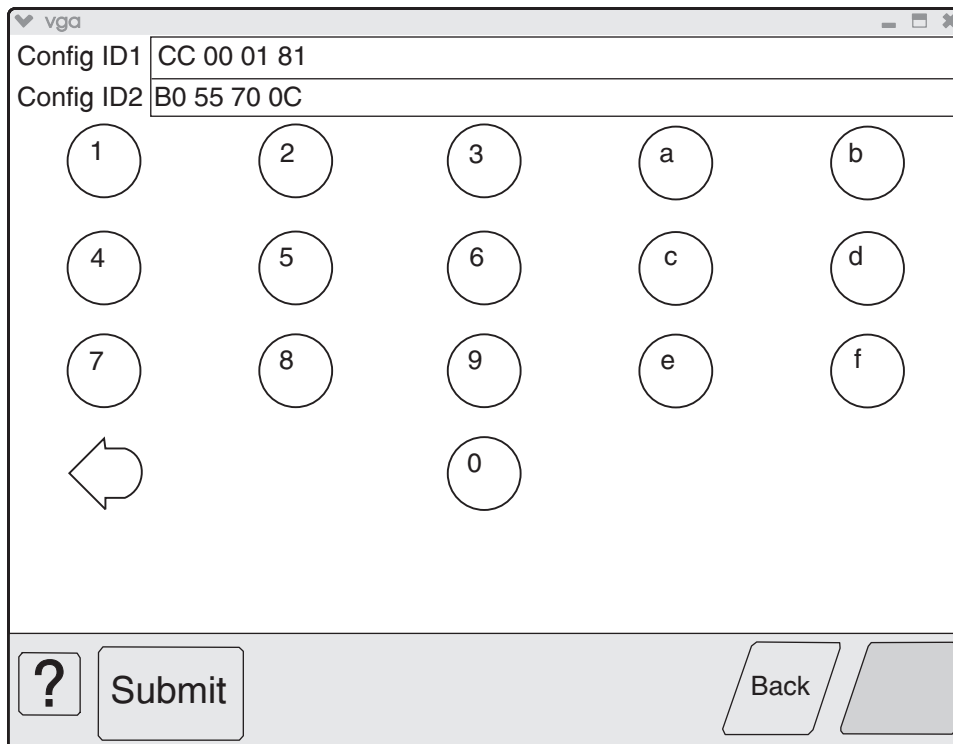
1. The firmware automatically uses the Configuration IDs defined for the printer's standard model.
2. The Configuration ID setting is the only item that appears when you open the Diagnostics menu.
3. When the printer is not in Diagnostics mode, Check Config ID appears on the LCD.

**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 `I n v a l i d I D`, discards any changes, and displays the original Configuration IDs. If both IDs are valid, the printer automatically returns to the PRINTER SETUP menu.

## Edge to Edge

When this setting is On, the text and graphics are shifted to the physical edges of the paper for all margins. When this setting is Off, the normal margins are restored.

## Parallel Strobe Adjustment (Par S Strobe Adj)

This setting enables you to adjust the amount of time the strobe is sampled in order to determine if valid data is available on the parallel port. Each time this value is incremented by 1, the strobe is sampled 50 ns longer. Each time this value is decreased by 1, the strobe is sampled 50 ns less. When the value of this setting is 0, the factory default value is used to determine the length of time the strobe is sampled.

If you increases the value of this setting from 0 to 3, then the strobe will be sampled for 150 ns more than the factory default value. Or, if you reduced the value of this setting from 0 to -1, then the strobe will be sampled for 50 ns less than the factory default value.

## 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
- JFFS2 Partition Format (Security Files)
- JFFS2 Partition Format (BookmarkMgrData)

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 3-24.**

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:

Model and Serial number

Printer information

Panel display when error occurred

Page count

Earliest error code

Next error code

```

Event Log (Page 1)
Lexmark X8540 (s/n:XXX-XXXX)

Device Information
Page Count 2520
Installed Memory 256 MB
Processor Speed 625MHz
Serial 11-41-0025-0
Laser 180-AP-0015-0
Kernel 13-0A-0025-0
Base 180-AP-0015-0
Network 13-0A-0025-0
Network Driver 4.0
Panel 3
Type 3
Font 0-11001-0A-4
Bit 2
On:00-0

Event Log Information
880.01 Service Fin Stapling
Panel Message 990.01 Service Fin Stapling
Page Count 2527
Page Count 273
Date and Time Thu Jan 31 00:00:43
Up Time 49 secs 197 msec

Error Levels
Error Levels
0: Loader-L3-0A-0025 Tue Apr 12 10:21:30 2005 m1a-b1a
1: Kernel-ESB-AP-0015 Thu Apr 12 10:21:30 2005 m1a-b1a
3: Base-L3-0A-0025 Thu Apr 12 10:21:30 2005 m1a-b1a
4: Network-MSD-AP-0016 Thu Apr 12 10:21:30 2005 m1a-b1a
23: Security-Files-1-0 Thu Apr 12 10:21:31 2005 m1a-b1a
24: Security-Files-1-0 Thu Apr 12 10:21:31 2005 m1a-b1a
25: MFP-Nv-1-0 Thu Apr 12 10:21:31 2005 m1a-b1a
27: History-1-0 Thu Apr 12 10:21:31 2005 m1a-b1a
31: Network-Wv-1-0 Thu Apr 12 10:21:31 2005 m1a-b1a
Engine:11-41-0

Debug Data
880.01 Service Fin Stapling
Panel Message 990.01 Service Fin Stapling
Page Count 1927
Page Count 263
Date and Time Thu Jan 31 00:00:35 1970
Up Time 35 secs 323 msec

Error Levels
Error Levels
0: Loader-L3-0A-0025 Tue Apr 12 10:21:30 2005 m1a-b1a
1: Kernel-ESB-AP-0015 Thu Apr 12 10:21:30 2005 m1a-b1a
3: Base-L3-0A-0025 Thu Apr 12 10:21:30 2005 m1a-b1a
4: Network-MSD-AP-0016 Thu Apr 12 10:21:30 2005 m1a-b1a
23: Security-Files-1-0 Thu Apr 12 10:21:31 2005 m1a-b1a
24: Security-Files-1-0 Thu Apr 12 10:21:31 2005 m1a-b1a
25: MFP-Nv-1-0 Thu Apr 12 10:21:31 2005 m1a-b1a
27: History-1-0 Thu Apr 12 10:21:31 2005 m1a-b1a
31: Network-Wv-1-0 Thu Apr 12 10:21:31 2005 m1a-b1a
Engine:11-41-0
    
```

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

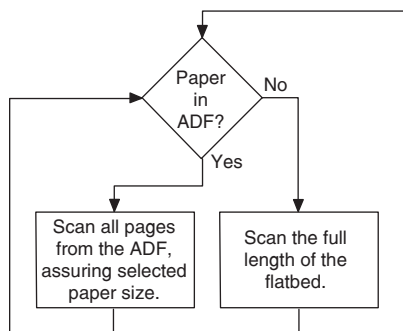
This test continuously executes flatbed and/or ADF scans but does not produce any printed output.

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 information on the printer registration process, see **“REGISTRATION” on page 3-36**.

You can adjust the device's scanner and ADF registration through a manual process. Perform this operation when any of the following events occur:

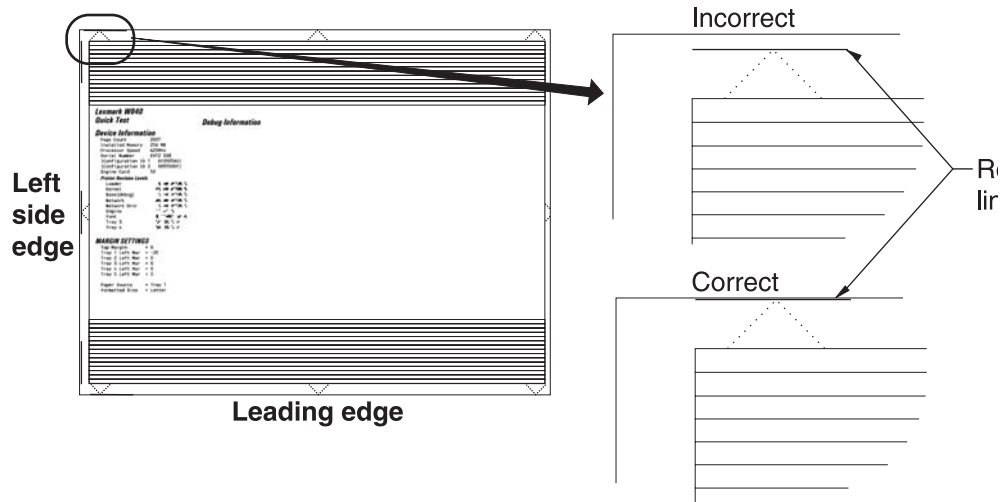
- The flatbed scanner unit assembly has been replaced.
- The ADF unit assembly has been replaced.
- The CCD card/lens assembly has been replaced.
- Symptoms indicate that the scanner is not properly aligned.

### Printing the registration test original page

Perform this process to acquire the registration test original page. This is the page required to align the registration for the flatbed scanner and ADF side 1 and ADF side 2.

1. Ensure the printer media tray registration in all trays is set correctly.
2. Enter configuration menu. Go to **“Configuration Menu” on page 3-33**.
3. Touch **REGISTRATION**.
4. Touch **Quick Test**. At this time the registration test original page will be printed.

The registration test original page should appear as shown in graphic below:



## Testing the manual scanner registration

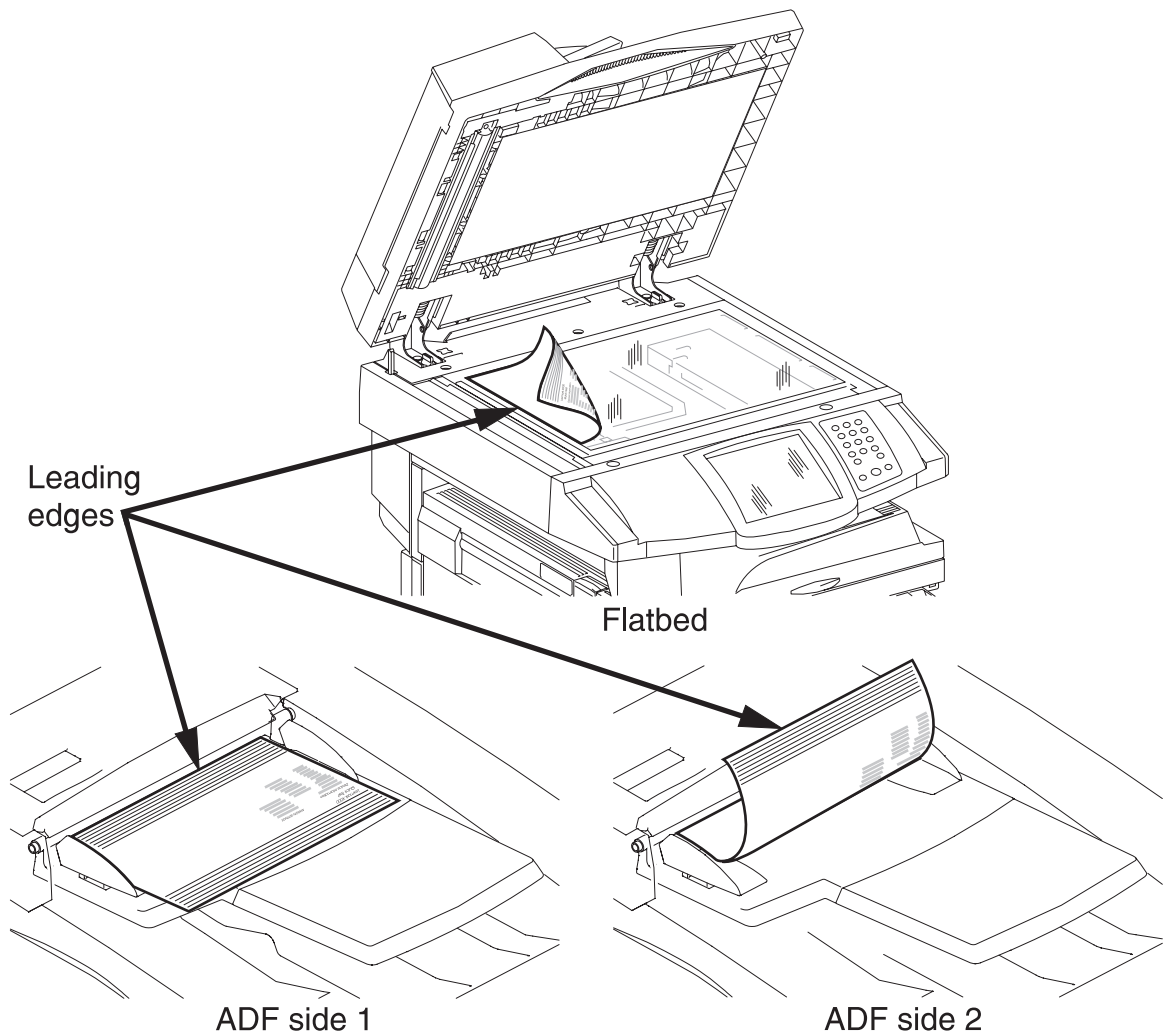
**Note:** Machine must be in Standard User Mode.

To properly position the registration test original page on the flatbed scanner and the ADF side 1 and ADF side 2, follow the graphic below:

**Warning:** Ensure that the registration test original page is properly positioned according to the diagrams or registration and margins cannot be properly adjusted.

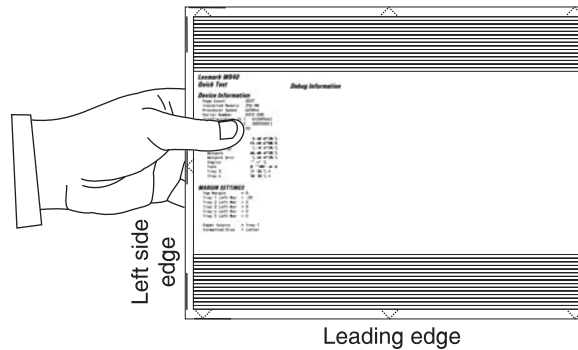
1. Place the registration test original page on the flatbed scanner according to the graphic below.
2. Make a copy of the registration test original page and mark it "Flatbed".
3. Place the registration test original page, image side up, in the ADF according to the diagram below. This will be the ADF side 1 registration test.
4. Make a copy of the registration test original page and mark it "ADF side 1".
5. Place the registration test original 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 is copied.
7. Make a copy of the registration test original page and mark it "ADF side 2".

**Note:** You should now have three test copies of the registration test original 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 registration test original page for image placement. Ideally, the image should be centered on the page by measuring the paper edge arrows or the black lines 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 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 3-28.



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	◀	<b>XX</b>	▶	
Flatbed Lead Registration	◀	<b>XX</b>	▶	
ADF Side 1 Side Registration	◀	<b>XX</b>	▶	
ADF Side 1 Lead Registration	◀	<b>XX</b>	▶	
ADF Side 2 Side Registration	◀	<b>XX</b>	▶	
ADF Side 2 Lead Registration	◀	<b>XX</b>	▶	

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 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 consider 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


## Sensor Test (Scanner Tests)

To perform the Sensor Test:

1. Touch **SCANNER TESTS** from the Diagnostics Menu.
2. Touch **Sensor Test**.

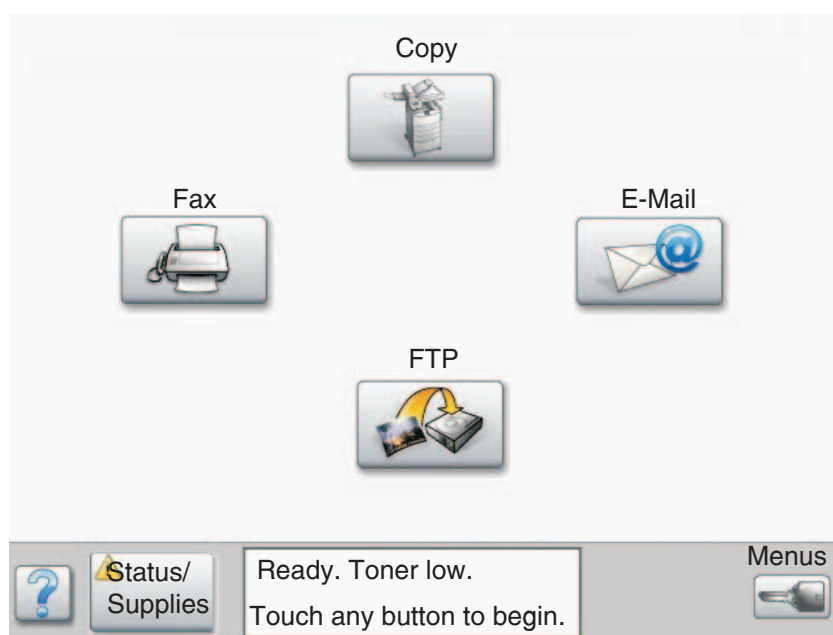
The following example appears on the LCD:

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 the SCANNER TESTS.

## 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

<b>Maintenance Count Value</b>	See <b>“Maintenance Counter Value”</b> on page 3-35.
<b>Reset Maintenance Counter</b>	See <b>“Reset Maintenance Counter”</b> on page 3-35.
<b>REGISTRATION</b>	See <b>“REGISTRATION”</b> on page 3-36.
Top Margin	
Tray 1 Left Margin	
Tray 2 Left Margin	
Tray 3 Left Margin (if installed)	
Tray 4 Left Margin (if installed)	
Tray 5 Left Margin (if installed)	
Quick Test	See <b>“Quick Test”</b> on page 3-37.
<b>Print Quality Pages</b>	See <b>“Print Quality Pages (Configuration Menu)”</b> on page 3-38.
<b>SIZE SENSING</b>	See <b>“SIZE SENSING”</b> on page 3-39.
Tray 1 Sensing	
Tray 2 Sensing	
Tray 3 Sensing (if installed)	
Tray 4 Sensing (if installed)	
Tray 5 Sensing (if installed)	
Statement/A5	See <b>“A5/Statement”</b> on page 3-40.
Executive/B5	See <b>“B5/Executive”</b> on page 3-40.
<b>Panel Menus</b>	See <b>“Panel Menus”</b> on page 3-40.
<b>PPDS Emulation</b>	See <b>“PPDS Emulation”</b> on page 3-40.
<b>Factory Defaults</b>	See <b>“Energy Conserve”</b> on page 3-41.
<b>Energy Conserve</b>	See <b>“Energy Conserve”</b> on page 3-41.
<b>Min Copy Memory</b>	See <b>“Min Copy Memory”</b> on page 3-41.
<b>Format Fax Storage</b>	See <b>“Format Fax Storage”</b> on page 3-42.
<b>EVENT LOG</b>	See <b>“EVENT LOG (Configuration Menu)”</b> on page 3-42.
<b>ADF Edge Erase</b>	See <b>“ADF Edge Erase”</b> on page 3-42.
<b>FB Edge Erase</b>	See <b>“FB Edge Erase”</b> on page 3-42.
<b>Paper Prompts</b>	See <b>“Paper Prompts”</b> on page 3-43.
<b>Envelope Prompts</b>	See <b>“Envelope Prompts”</b> on page 3-43.
<b>Jobs On Disk</b>	See <b>“Jobs On Disk”</b> on page 3-43.
<b>Disk Encryption</b>	See <b>“Disk Encryption”</b> on page 3-43.

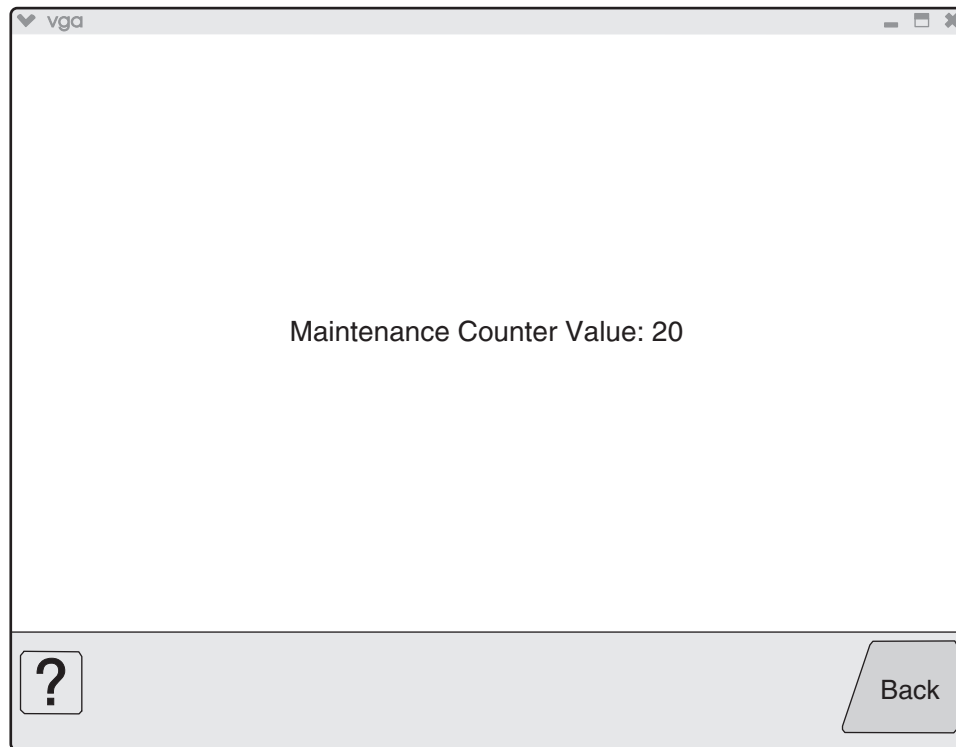
<b>Wipe Disk</b>	See <b>“Exiting Configuration Menu” on page 3-50.</b>
<b>Font Sharpening</b>	See <b>“Font Sharpening” on page 3-48.</b>
<b>Require Standby</b>	See <b>“Require Standby” on page 3-49.</b>
<b>Short edge Printing</b>	See <b>“Short Edge Printing” on page 3-49.</b>
<b>Tray Low Message</b>	See <b>“Tray Low Message” on page 3-49.</b>
<b>LES Application</b>	See <b>“LES Applications” on page 3-49.</b>
<b>Key Repeat Initial Delay</b>	See <b>“Key Repeat Initial Delay” on page 3-50.</b>
<b>Key Repeat Rate</b>	See <b>“Key Repeat Rate” on page 3-50.</b>
<b>Exiting Configuration Menu</b>	See <b>“Exiting Configuration Menu” on page 3-50.</b>

## ***Maintenance Counter Value***

The Maintenance Page Count is used to track general printer usage. A print job containing a single printed side will increment the Maintenance Count by one while a print job containing two printed sides (a duplex print job) will increment it by two. Whenever this count reaches 300,000, the printer posts an intervention and a status indicator, 80 scheduled maintenance, that notifies the user that scheduled maintenance is recommended.

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***

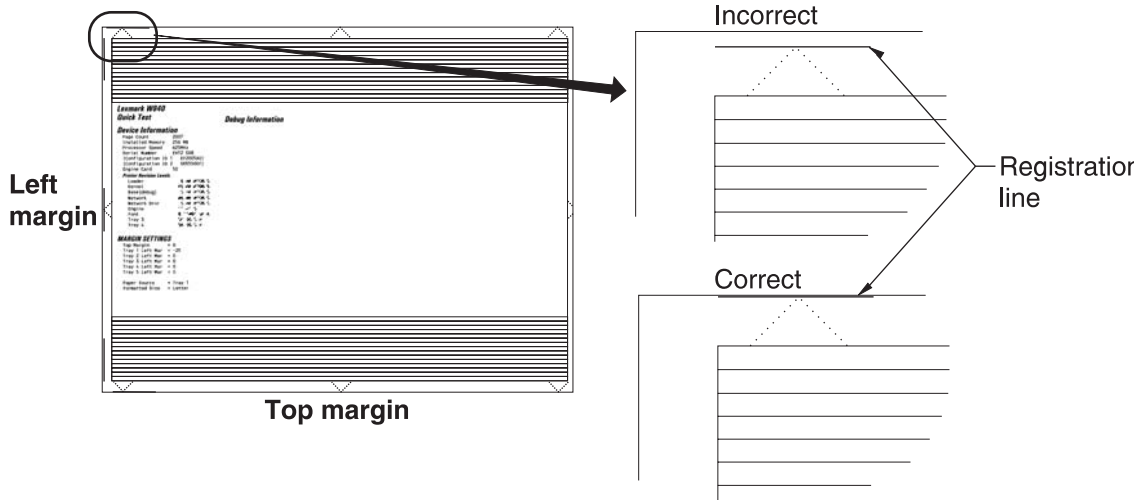
After scheduled maintenance, reset the Maintenance Counter.

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 and **Yes** and **No** appears in a menu below the header.
3. To cancel the reset operation, touch **Back** or **No**. All other button presses are ignored.
4. To initiate the reset operation, touch **Yes**.

## REGISTRATION

Print registration makes sure the printing is properly aligned on the page. This setting allows separate Left Margin settings for each media tray. (The Top Margin setting is the same for all trays.)



The Registration menu item enables you to:

- Establish the Top Margin setting for all installed paper trays.
- Establish a unique Left Margin setting for each installed paper tray.

By adjusting the Top Margin setting, you move the top margin of all installed paper trays either up or down the page. By adjusting the Left Margin setting of a specific paper tray, you move that tray's left margin either to the right or to the left.

Enter Configuration Menu. See **“Entering Configuration Menu” on page 3-33.**

Touch **REGISTRATION** from the Configuration Menu. The current margin settings appear on the LCD.



Perform a Quick Test. See **“Quick Test”** on page 3-10.

Margin Setting	Range <sup>1</sup>	Units
Top Margin <sup>2</sup>	0..50	1/300 inch
Tray 1 Left Margin <sup>3</sup>	-50..50	1/300 inch
Tray 2 Left Margin	-50..50	1/300 inch
Tray 3 Left Margin	-50..50	1/300 inch
Tray 4 Left Margin	-50..50	1/300 inch
Tray 5 Left Margin	-50..50	1/300 inch
Quick Test	This cannot be adjusted, but is an option in the Registration Menu. It also happens when one of the Margins above is adjusted.	


<sup>1</sup>Each increment of adjustment corresponds to:

- 1 scan at 300 dpi for the Top Margin setting or
- 1 pel at 300 dpi for each Left Margin setting

<sup>2</sup>Increasing the registration value moves text up the page and widens the top margin; decreasing the registration value moves text down the page and narrows the top margin. The entire image moves up or down the page; therefore, no compression or expansion of the image occurs to preserve the bottom margin.

<sup>3</sup>Increasing the registration value moves the margin to the left; decreasing the registration value moves the margin to the right. The entire image moves left or right on the page; therefore, no compression or expansion of the image occurs to preserve the right margin.

To change the value of any of the margin settings:

1. Touch  to the right of the appropriate margin setting. The panel displays the setting's name in the header and ◀ [setting's current value] ▶ in a menu below the header row.
2. Touch ◀ to decrease the value and ▶ to increase the value.
3. Touch **Back** to cancel and return to the Configuration Menu.
4. Touch **Submit** to save the change, at this time an alignment page will print.

The device prints a Quick Test page from the appropriate paper tray. While the Quick Test page prints, Printing Alignment Page appears on the LCD.

## Quick Test

The Quick Test verifies that the Registration margin values of the device's default input source are set appropriately.

To print the Quick Test page:

1. Touch **REGISTRATION** from the Configuration Menu.
2. Touch **Quick Test**.
3. Touch **Back** to return to REGISTRATION.
4. Touch **Back** again to return to the Configuration Menu.

The printed Quick Test page consists of:

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

The printer always uses media from its default input source to print this test, except when the default source only supports envelopes. In this case, the printer automatically uses media from Tray 1. To generate the most accurate and useful registration information, print the Quick Test on letter- or A4-size paper.

If the default input source is empty, the printer stops printing and Load [Input Source] with [Paper Type] [Paper Size] IR appears on the LCD.

While the Quick Test prints, Quick Test Printing... appears on the LCD. No buttons are active while the Quick Test page is printing. When printing finishes, the panel returns to REGISTRATION.

### ***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.

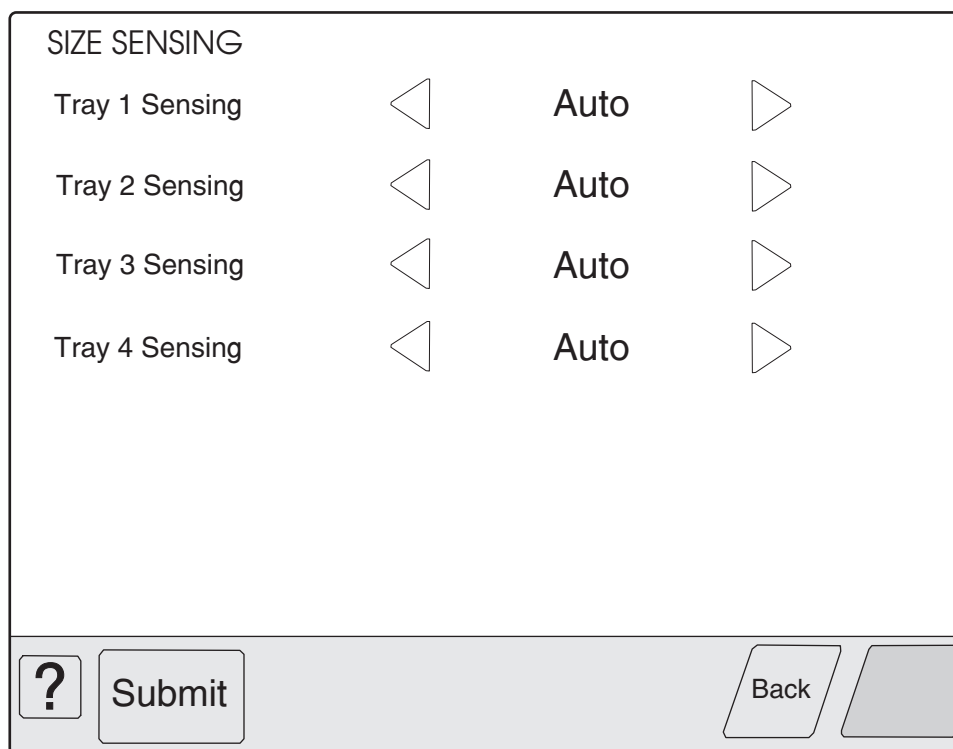
## SIZE SENSING

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 500-sheet drawer)	✓	✓
Tray 2 (integrated 500-sheet drawer)	✓	✓
Tray 3 (integrated TTM 850-sheet drawer)		✓
Tray 4 (integrated TTM 1150-sheet drawer)		✓
Tray 3 (optional 2TM 500-sheet drawer)	✓	✓
Tray 4 (optional 2TM 500-sheet drawer)	✓	✓
Tray 5 (optional HCF 2000-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.



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.

By turning this setting to **Auto**, every input option equipped with size sensing hardware automatically registers what size paper it contains. When this setting is turned **Off**, the printer ignores the size detected by the hardware and treats the input source as a non-sensing source. The media size can be set by the operator panel or the data stream.

## 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 in 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 applications (LES).

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.

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 3-22. 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 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:

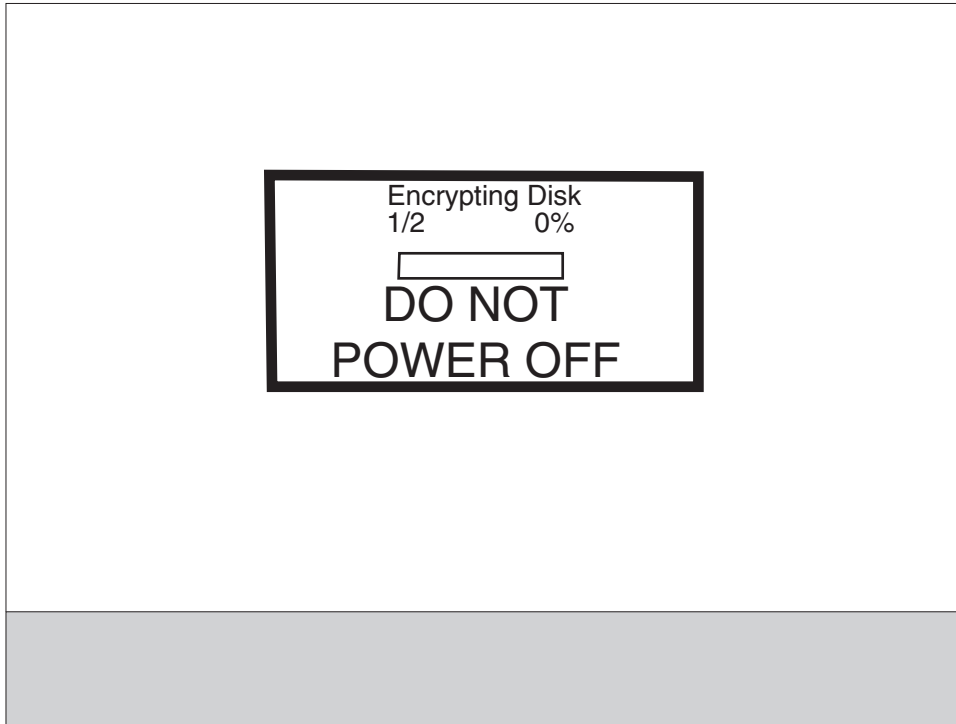
1. Touch **Disk Encryption** from the Configuration Menu.

**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.

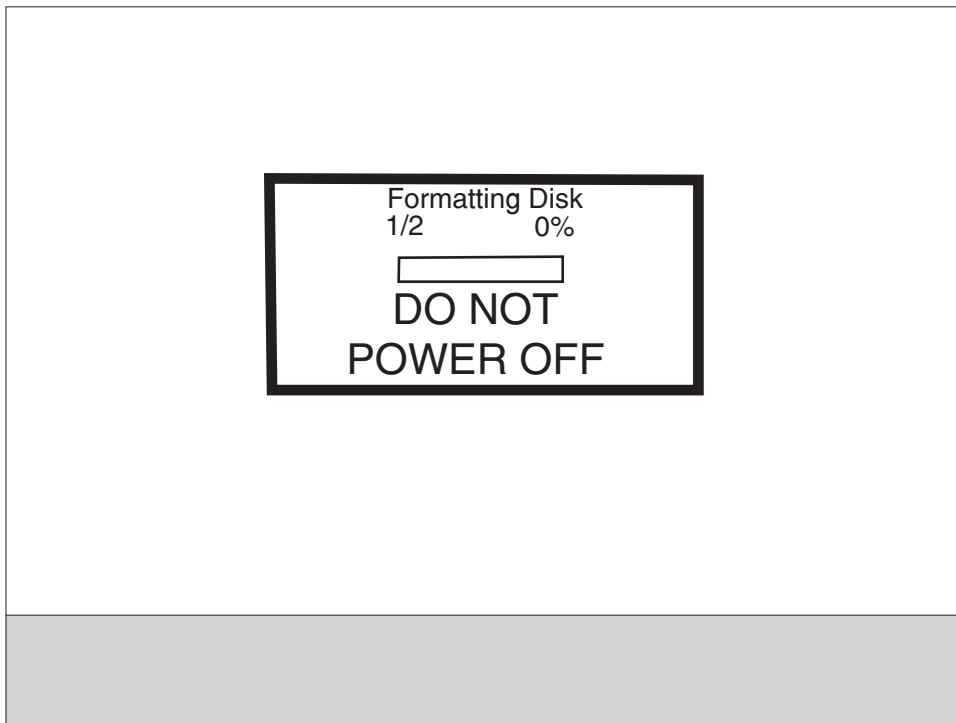
2. Touch **Submit** to save the change.
3. Touch **Back** to cancel and return to the Configuration Menu.

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:

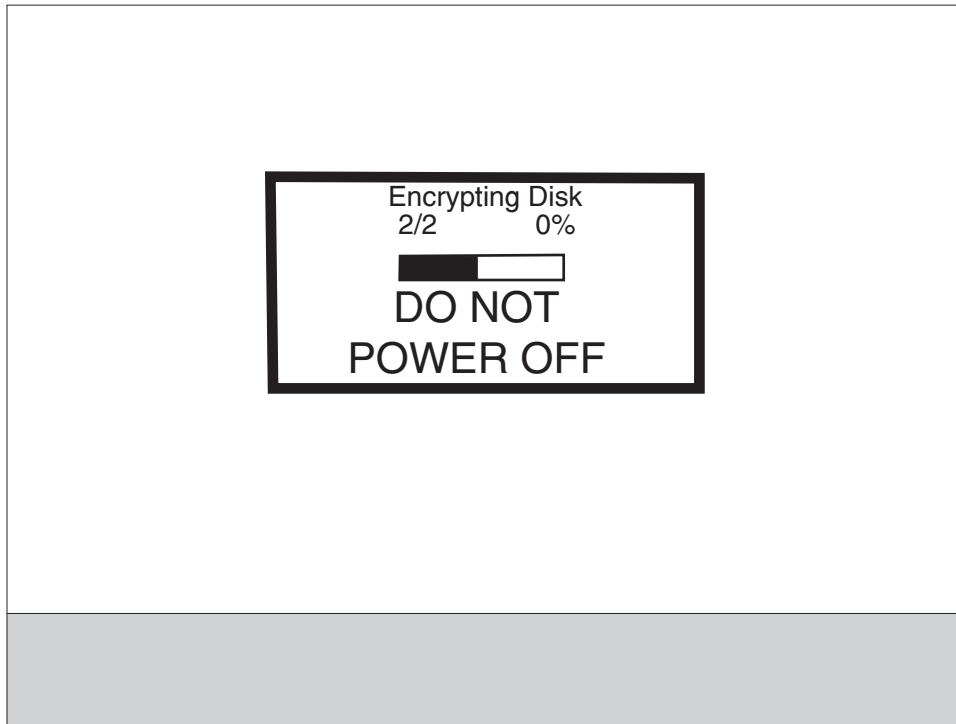


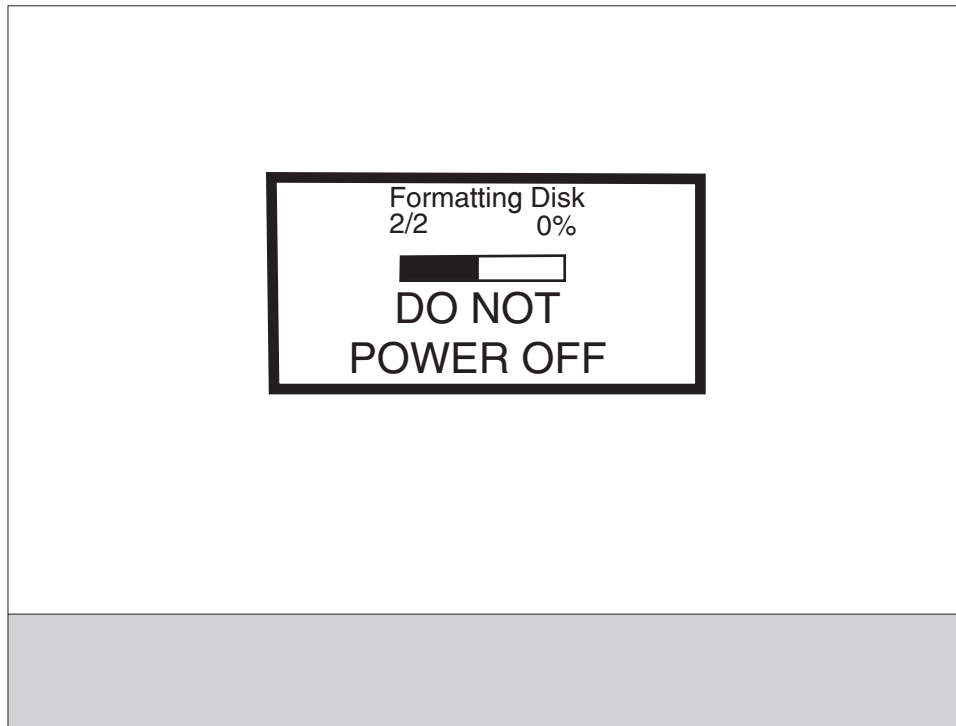


The panel provides many progress indicators during the two-stage process.

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.

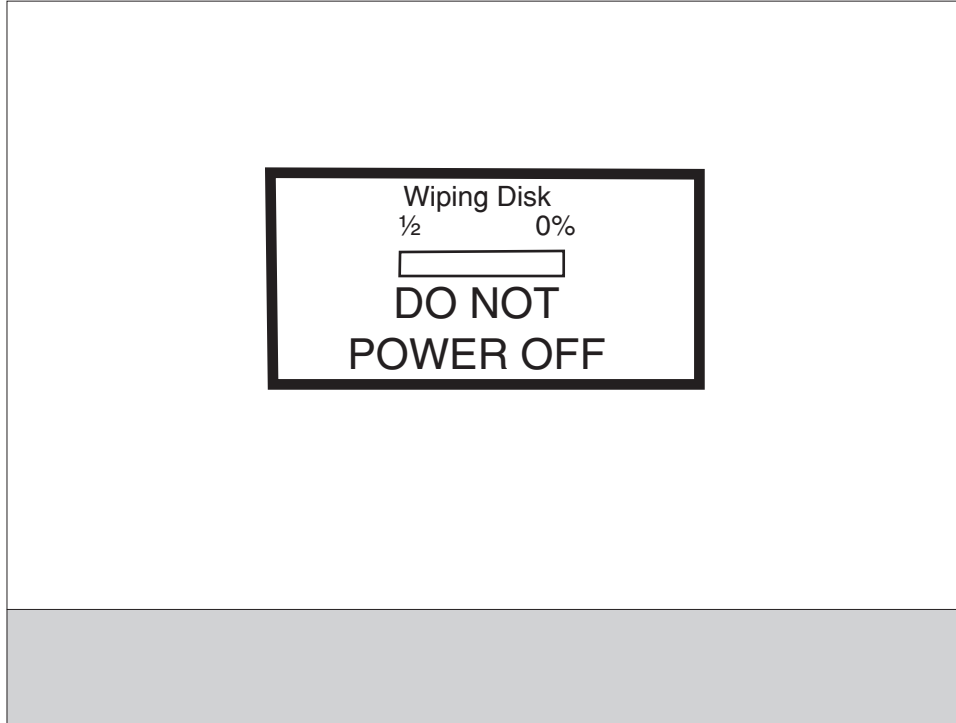
To change this setting:

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.

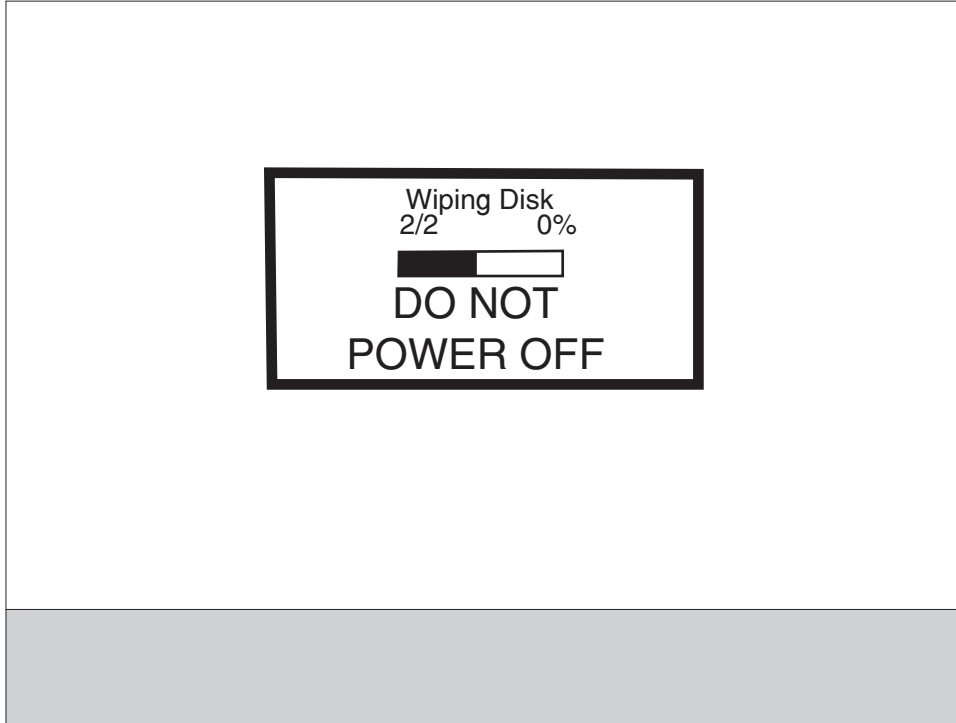
If you touch **No**, the device cancels the Wipe Disk process and returns to the Configuration Menu. If you touch **Yes**, the following screen appears:



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

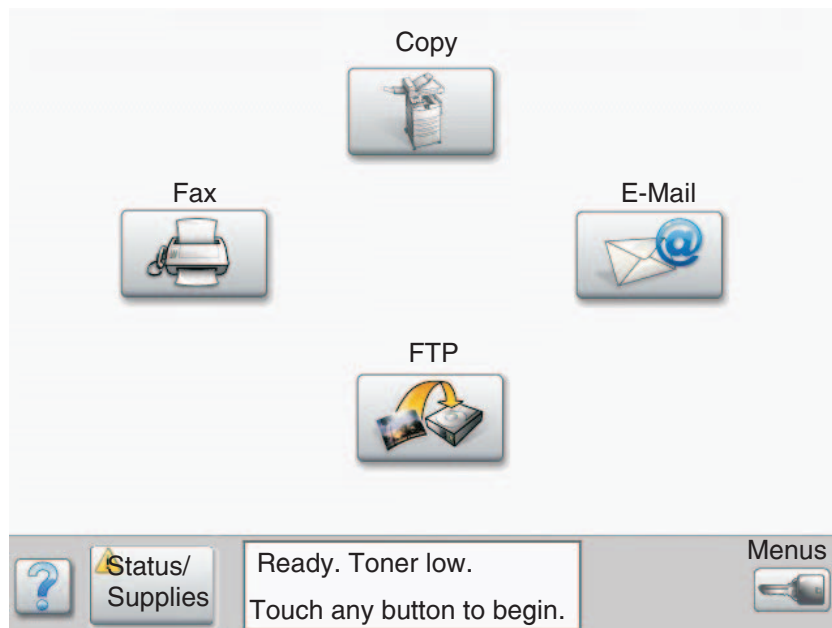
This is the number of times per second that a repeating key will repeat. The range is 1–100, with a default of 15 times per second.

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:



## 4. Repair information

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

---

### Handling ESD-sensitive parts

Many electronic products use parts that are known to be sensitive to electrostatic discharge (ESD). To prevent damage to ESD-sensitive parts, use the following instructions in addition to all the usual precautions, such as turning off power before removing logic boards:

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

---

## Removal procedures



**CAUTION:** Remove the power cord from the printer or electrical outlet before connecting or disconnecting any cable or electronic board or assembly for personal safety and to prevent damage to the printer. Disconnect any connections between the printer and PCs/peripherals. The MFP weighs approximately 70 kg (154 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.

Parts removal and replacement procedures are described in this chapter.

**Note:** Parts are controlled as spare parts. When servicing parts for which no procedure is described, observe the assembly before starting the service.

**Note:** Though the optional parts are assumed to be removed, they may not be removed if not required for the purpose of service.

### Before starting service work

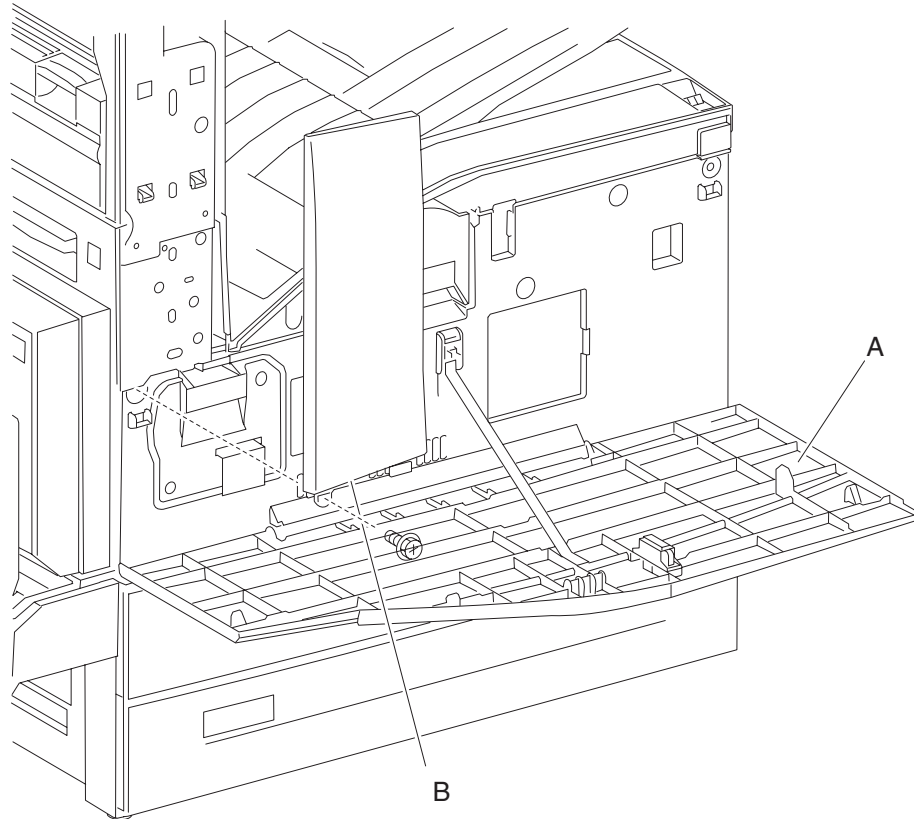
**CAUTION:** While performing service around the fuser assembly, ensure the fuser area has cooled down.

**Note:** A wide variety of screws are used; make note of their positions during service.



## Printer front left cover removal

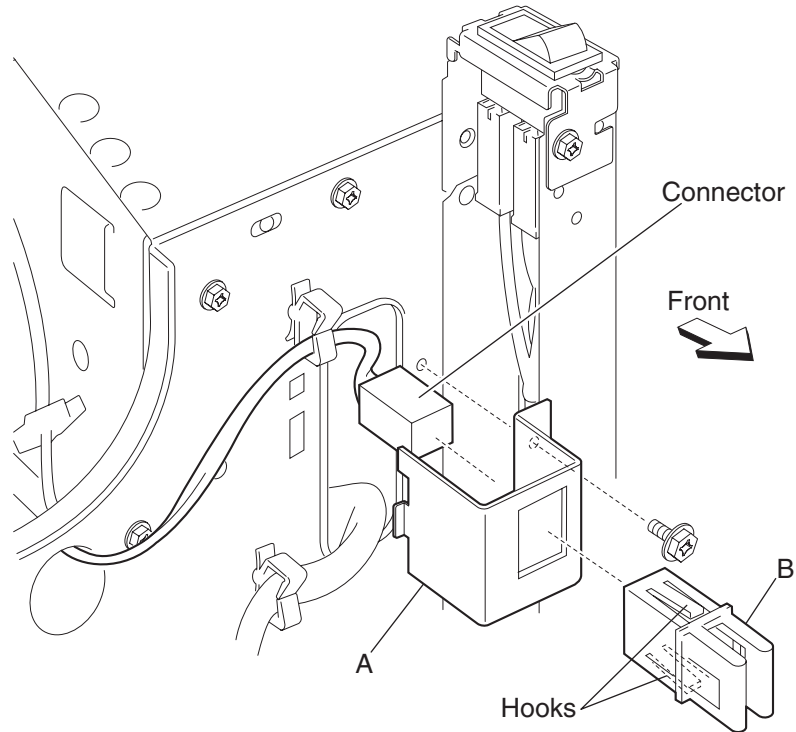
1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the printer front door assembly (A).
3. Remove the one screw securing the front left cover (B) to the machine.
4. Remove the printer front left cover (B).



## Switch (printer front door interlock) removal

**Note:** First remove the bridge unit and finisher, if equipped. Refer to the *Options Service Manual*.

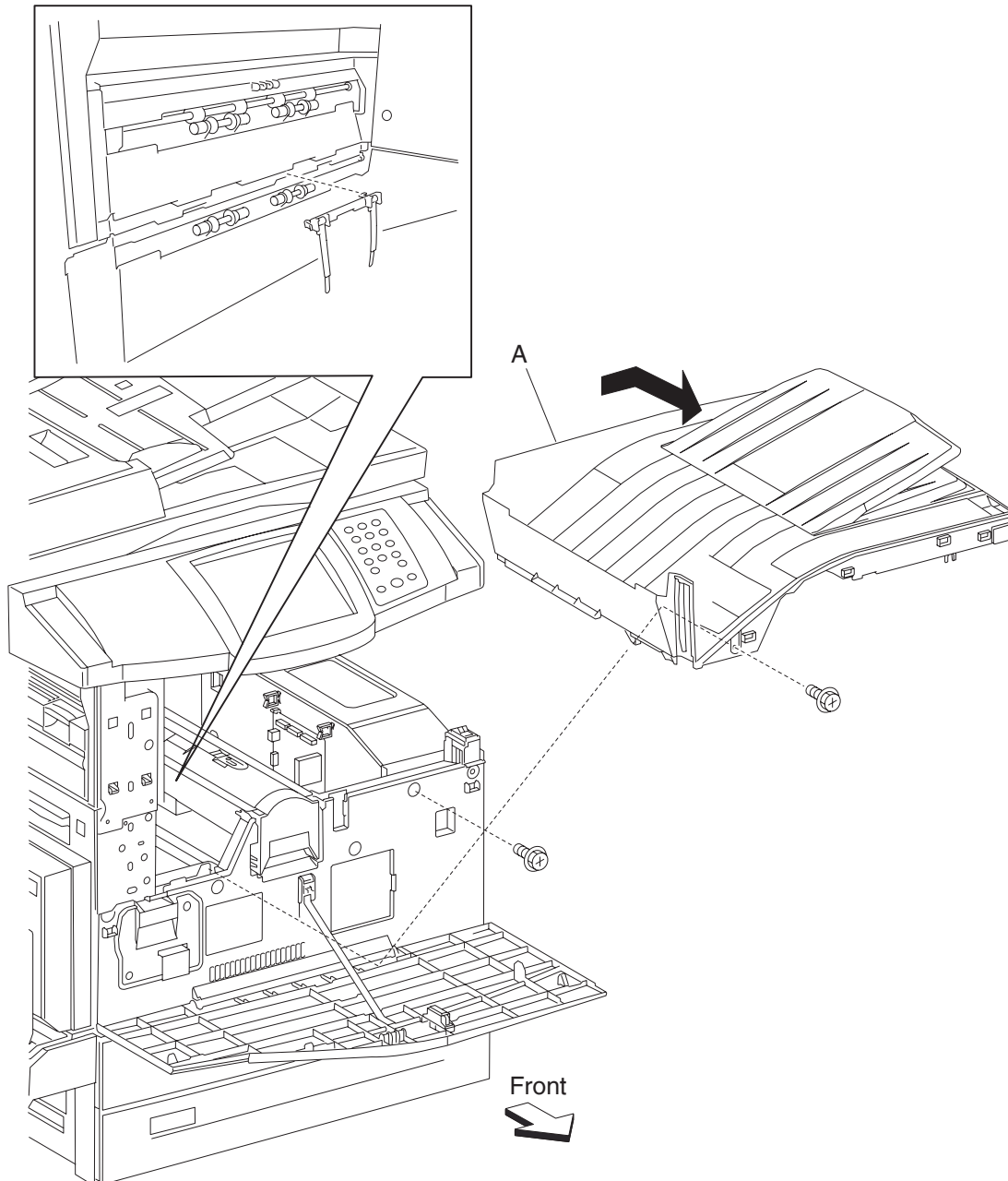
1. Remove the top cover assembly. Go to **“Top cover assembly removal”** on page 4-5.
2. Remove the printer front door assembly. Go to **“Printer front door assembly removal”** on page 4-6.
3. Remove the printer front left cover. See **“Printer front left cover removal”** on page 4-3.
4. Remove the front inner cover. See **“Front inner cover removal”** on page 4-8.
5. Remove one screw securing the bracket (A).
6. Disconnect the connector from the switch (printer front door interlock) (B).
7. Release the hooks securing the switch (printer front door interlock) (B) to the bracket (A).
8. Remove the switch (printer front door interlock) (B).



## Top cover assembly removal

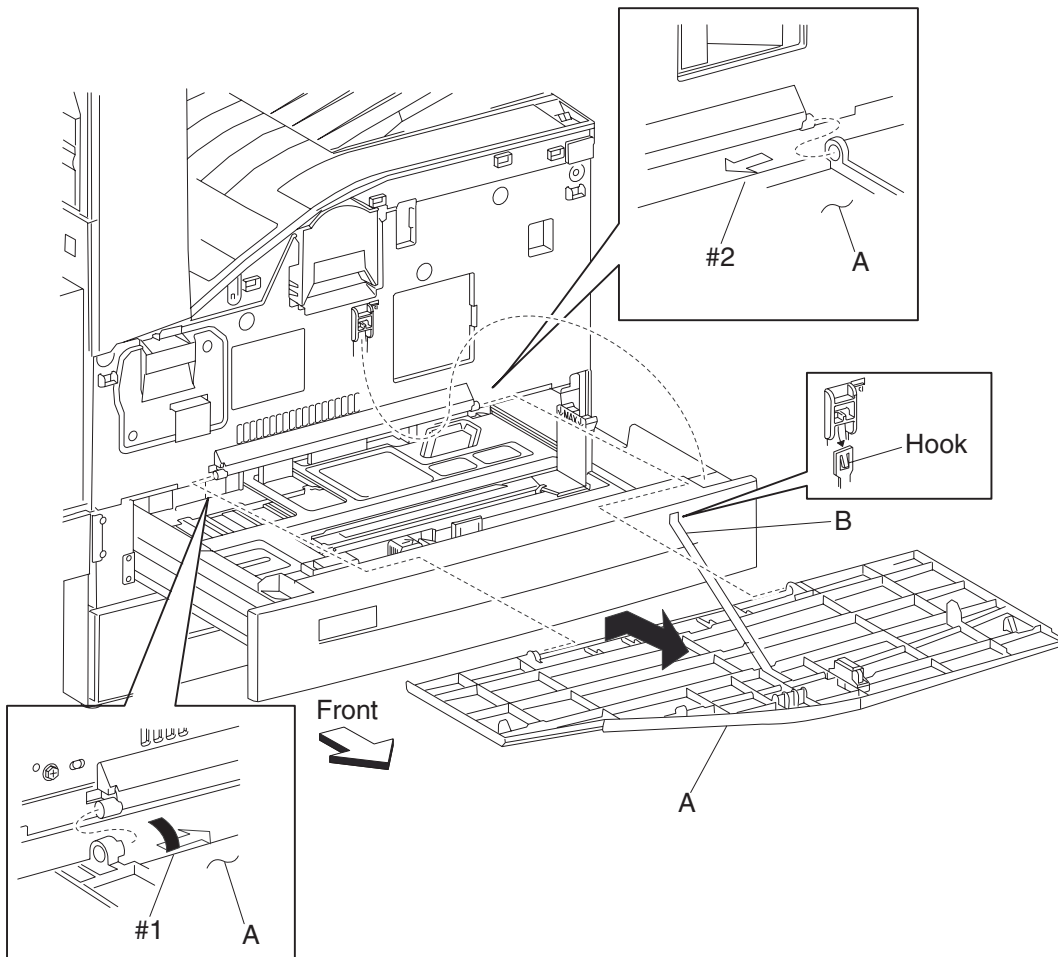
**Note:** First remove the bridge unit and finisher, if equipped.

1. Remove the operator panel assembly. See **“Operator panel assembly removal”** on page 4-136.
2. Remove the printer front door assembly. See **“Printer front door assembly removal”** on page 4-6.
3. Remove the printer front left cover. See **“Printer front left cover removal”** on page 4-3.
4. Remove two screws securing the top cover assembly (A).
5. Remove the top cover assembly (A) by sliding it to the right and then forward in the direction of the arrow.



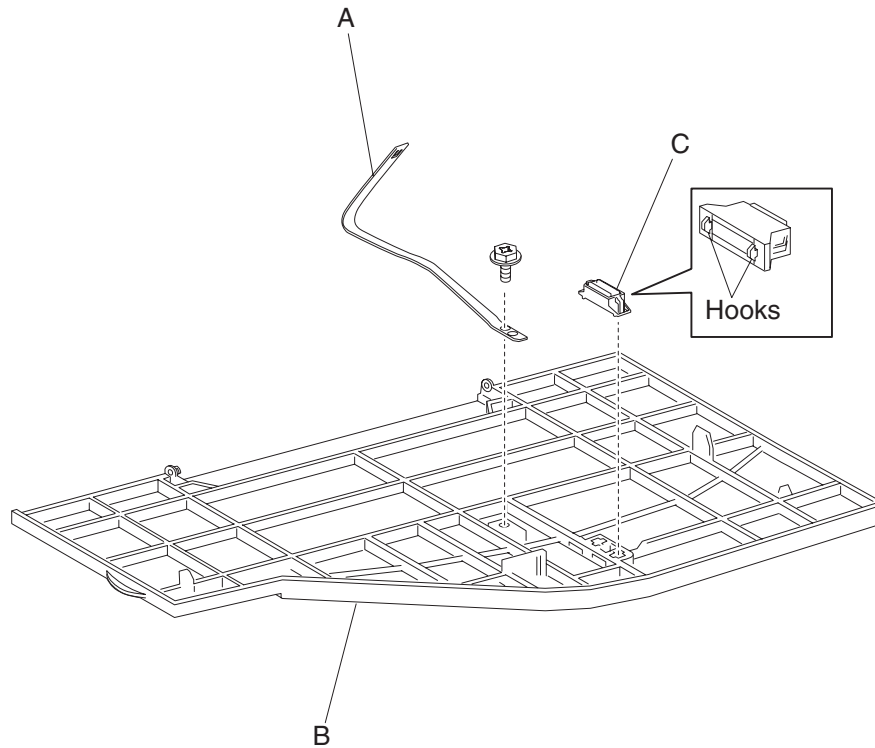
## Printer front door assembly removal

1. Open printer front door assembly (A).
2. Remove the front door support strap (B) securing the printer front door assembly (A) to the printer by releasing the plastic hook.
3. With the front door support strap (B) disconnected, place the printer front door assembly (A) in the lowermost position.
4. Slide the printer front door assembly (A) first to the right (as shown by arrow #1) to remove the printer front door assembly (A) from the right hinge point.
5. Slide the printer front door assembly (A) to the left (as shown by arrow #2) to remove the printer front door assembly (A) from the left hinge point.
6. Raise the printer front door assembly to its upright position, and remove it.



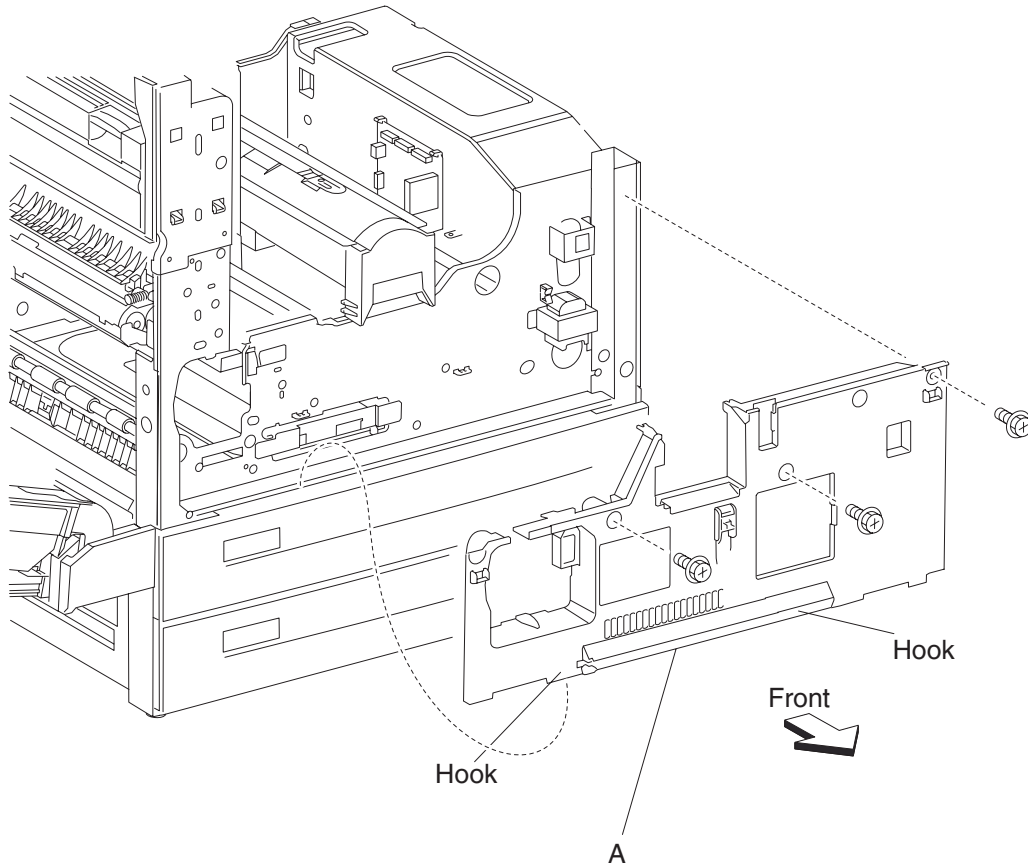
## Front door support strap and front door magnetic catch removal

1. Open the printer front door assembly.
2. Remove one screw securing the front door support strap (A) to the printer front door assembly (B).
3. Remove the front door support strap (A).
4. Release two hooks on the printer front door assembly securing the front door magnetic catch (C).
5. Remove the front door magnetic catch (C).



## Front inner cover removal

1. Remove the top cover assembly. See **“Top cover assembly removal”** on page 4-5.
2. Remove the printer front door assembly. See **“Printer front door assembly removal”** on page 4-6.
3. Remove the printer front left cover. See **“Printer front left cover removal”** on page 4-3.
4. Remove the PC cartridge.
5. Remove the three screws securing the front inner cover (A).
6. Remove the front inner cover (A).



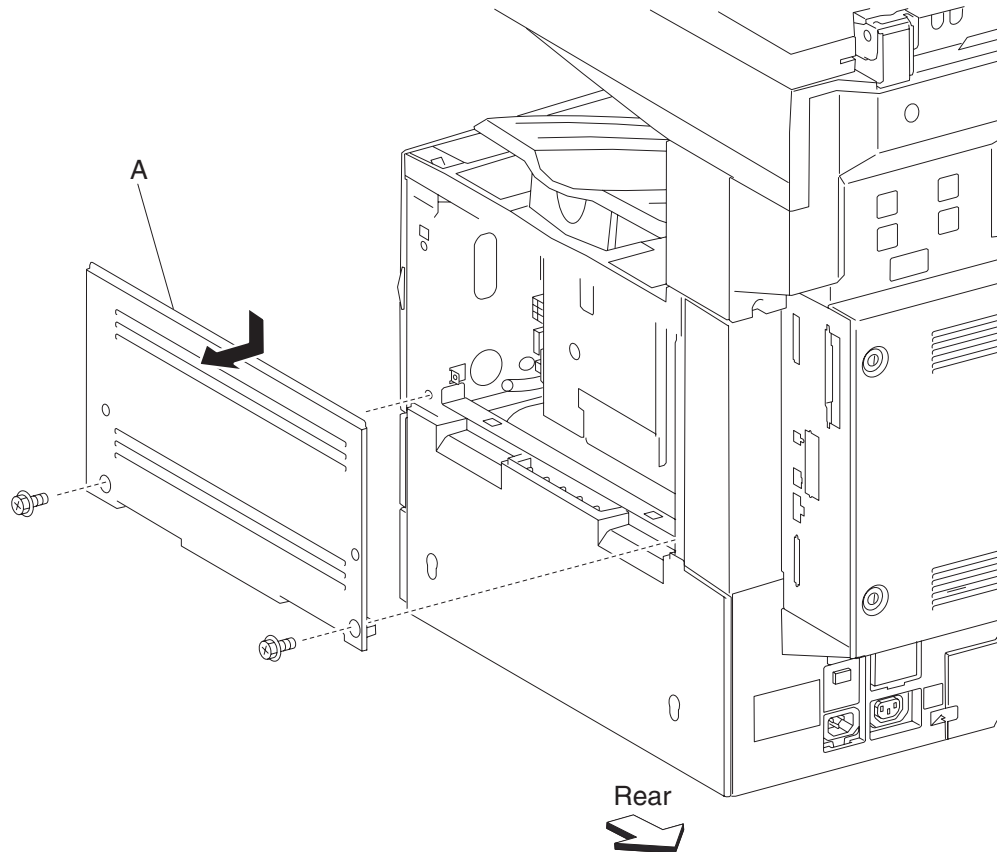
**Note:** To reinstall the front inner cover (A), start with the four plastic hooks on the bottom of the front inner cover.

## Right upper cover removal

**Note:** First, remove the bridge unit, finisher and finisher docking bracket, if equipped.

1. Remove two screws securing the right upper cover (A).
2. Move the upper edge of the right upper cover (A) downward and outward as shown by the arrow.
3. Move the lower edge of the right upper cover (A) downward to release the right upper cover (A).
4. Remove the right upper cover (A).

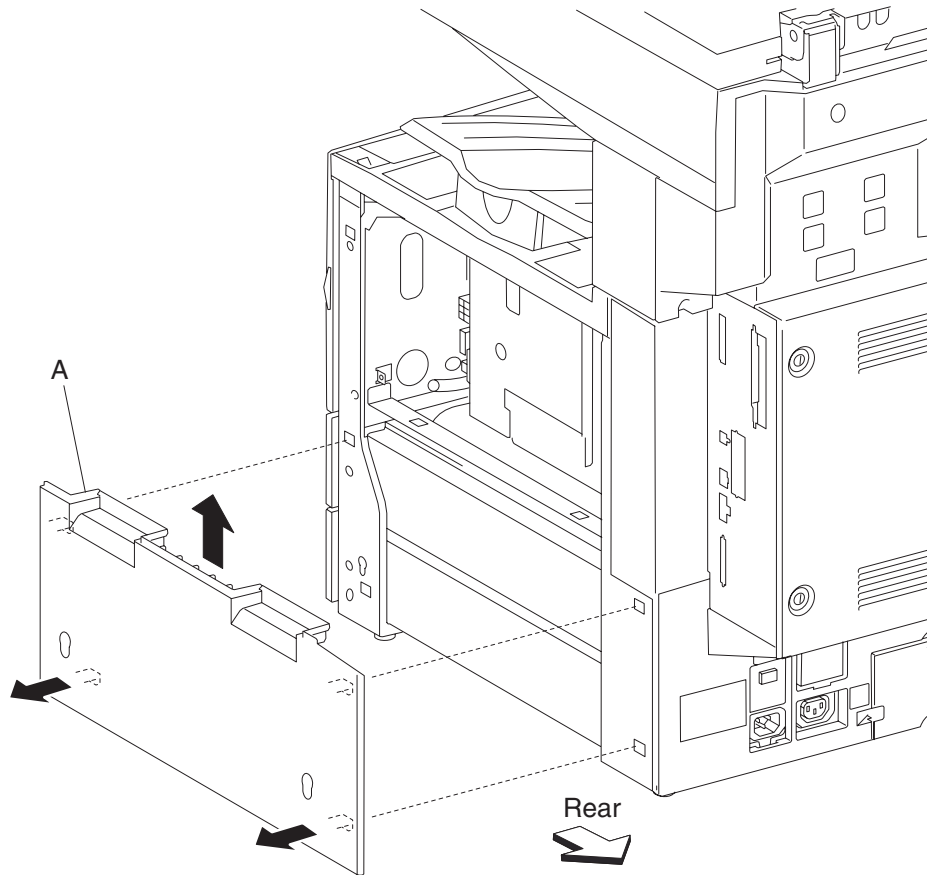
**Note:** The right upper cover (A) may take some extra force to remove.



## Right lower cover removal

1. Remove the right upper cover. See **“Right upper cover removal”** on page 4-9.
2. Pull out media Tray 1 and media Tray 2.
3. Remove the right lower cover (A) by lifting it upward then outward.

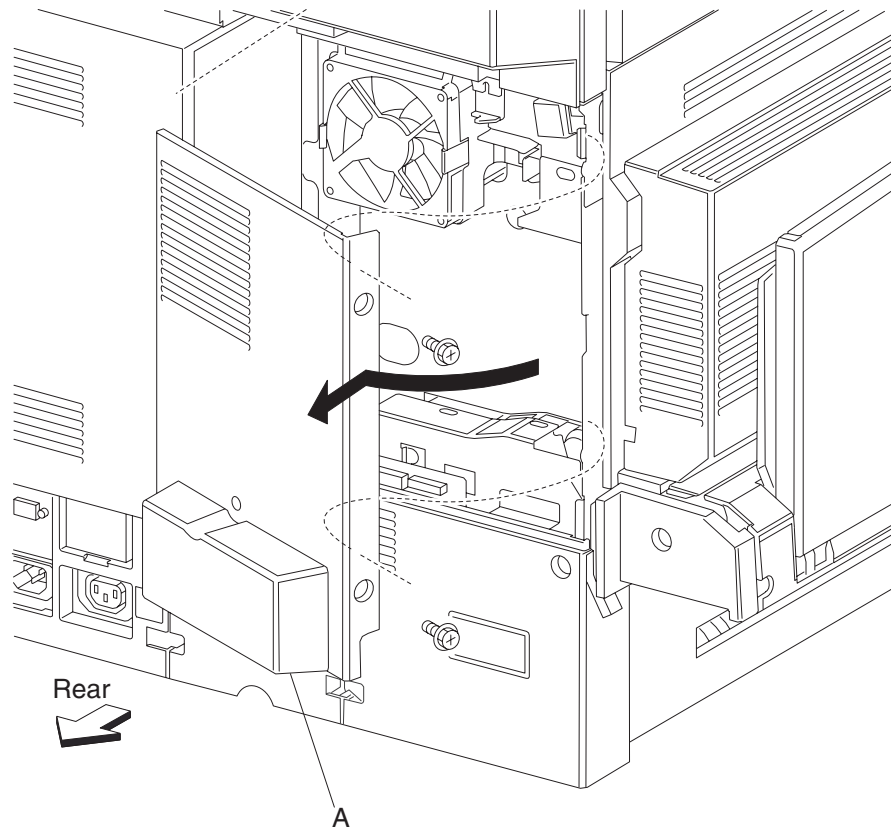
**Note:** The right lower cover may require some force to remove.





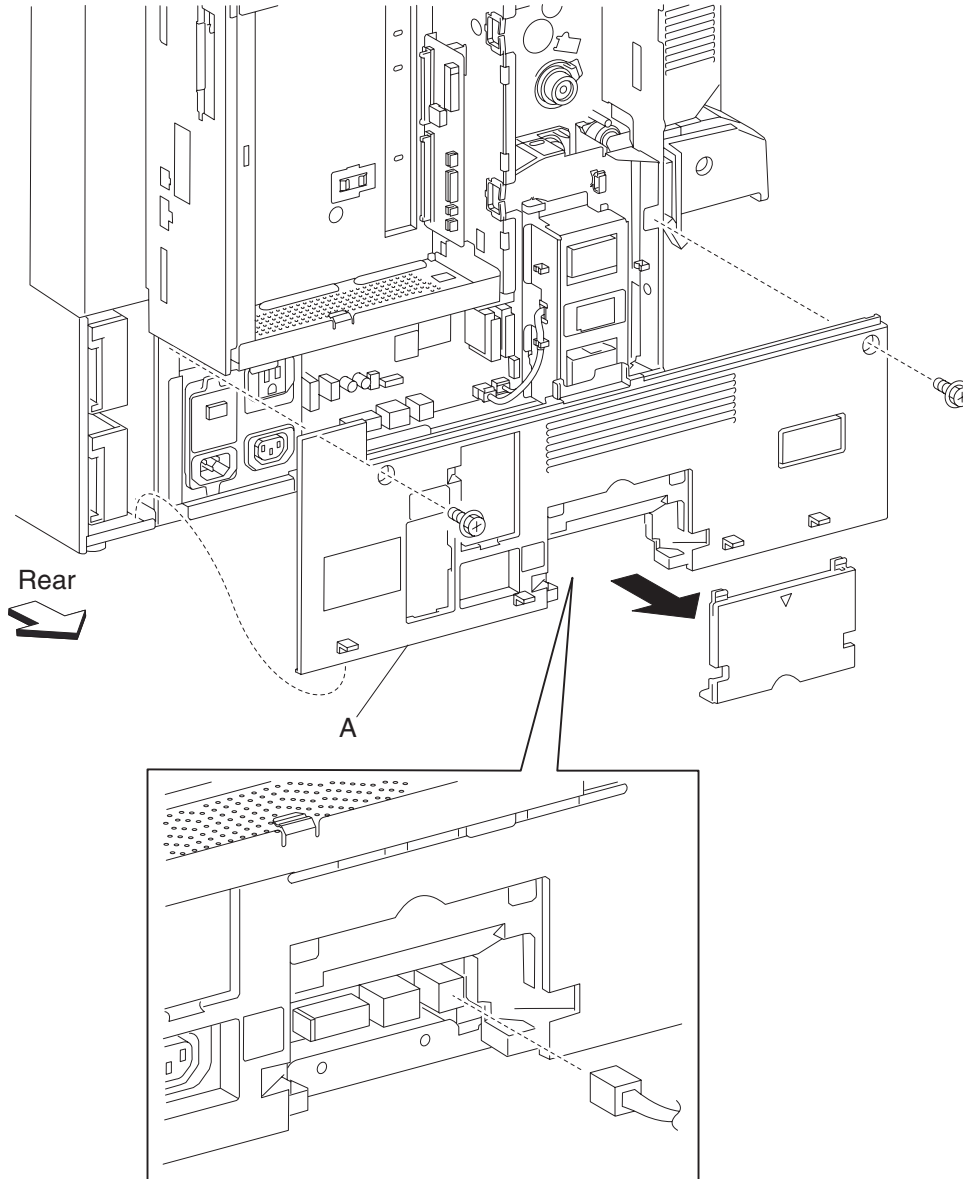
## Rear motor cover removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the controller box side cover. See **“Controller box side cover removal”** on page 4-18.
3. Remove the two screws securing the rear motor cover (A).
4. Open the rear motor cover (A) by swinging it outward in the direction of the arrow.
5. Remove the rear motor cover (A).



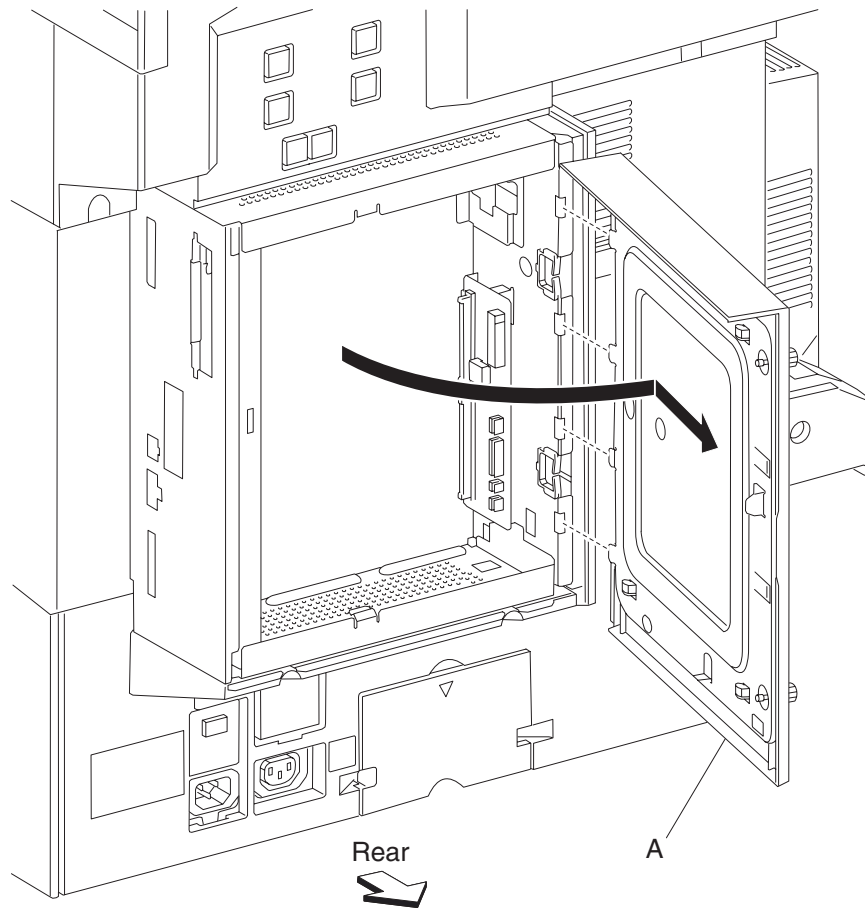
## Rear lower cover removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Remove the controller box lower cover. See **“Controller box lower cover removal”** on page 4-17.
4. Remove the two screws securing the rear lower cover (A).
5. Remove the rear lower cover (A).



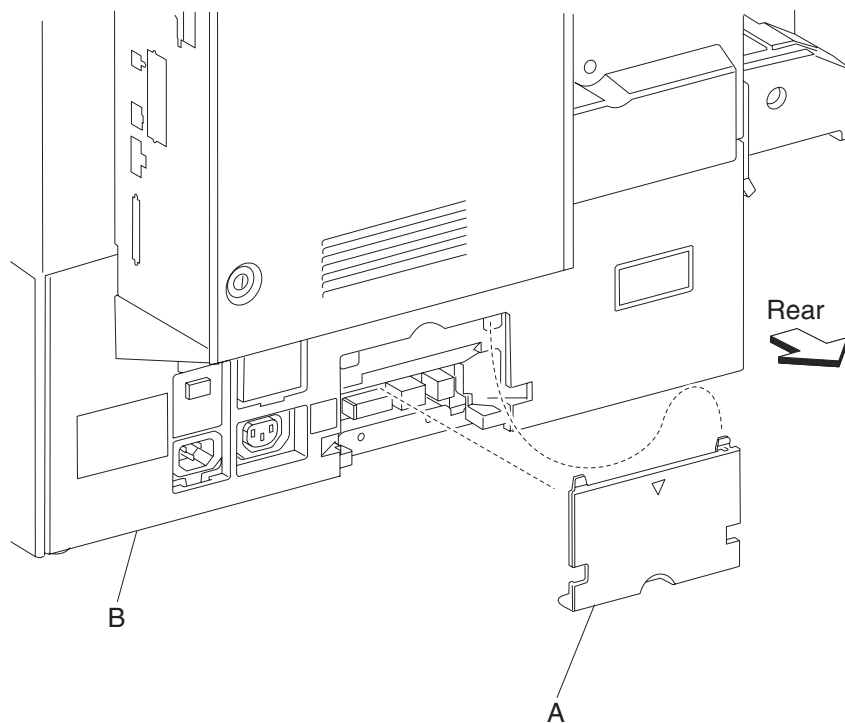
## Rear RIP card cover removal

1. Loosen the two screws securing the rear RIP card cover (A).
2. Remove the rear RIP card cover (A) by moving it in the direction of the arrow.



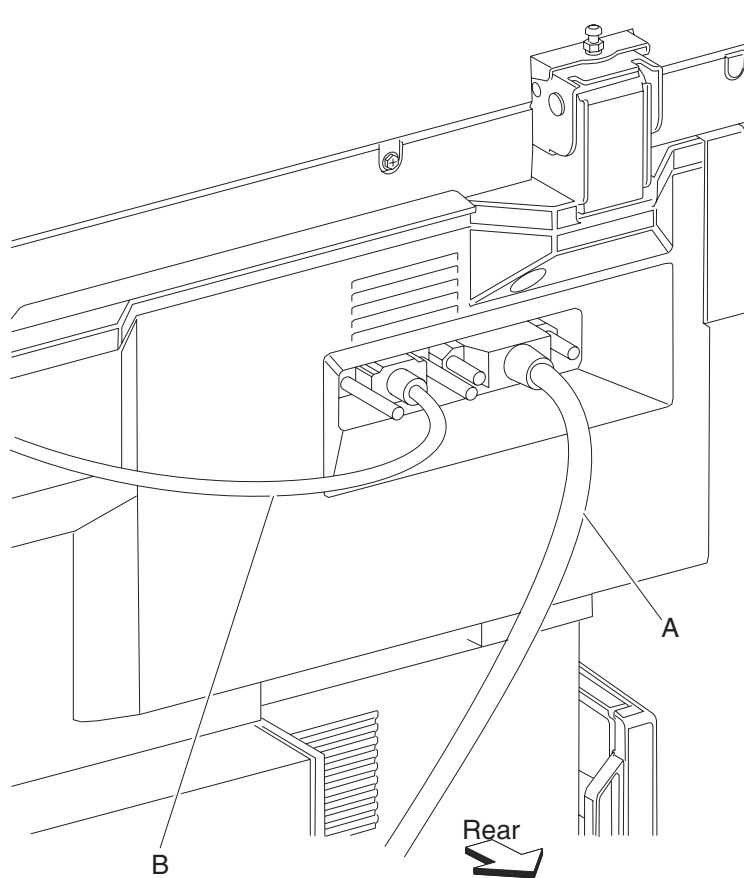
## Option hookup cover removal

Remove the option hookup cover (A) from the rear lower cover (B) by moving it outward in the direction of the arrow.



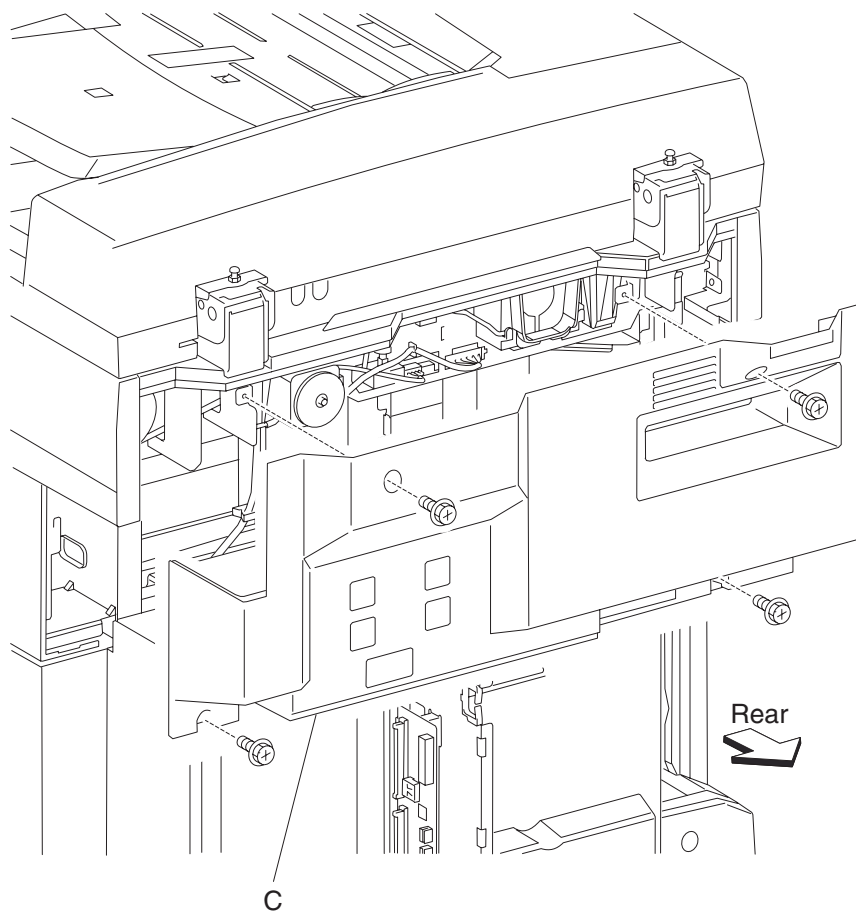
## Rear upper cover removal

1. Remove the scanner interface cable assembly (A).
2. Remove the ADF interface cable assembly (B).



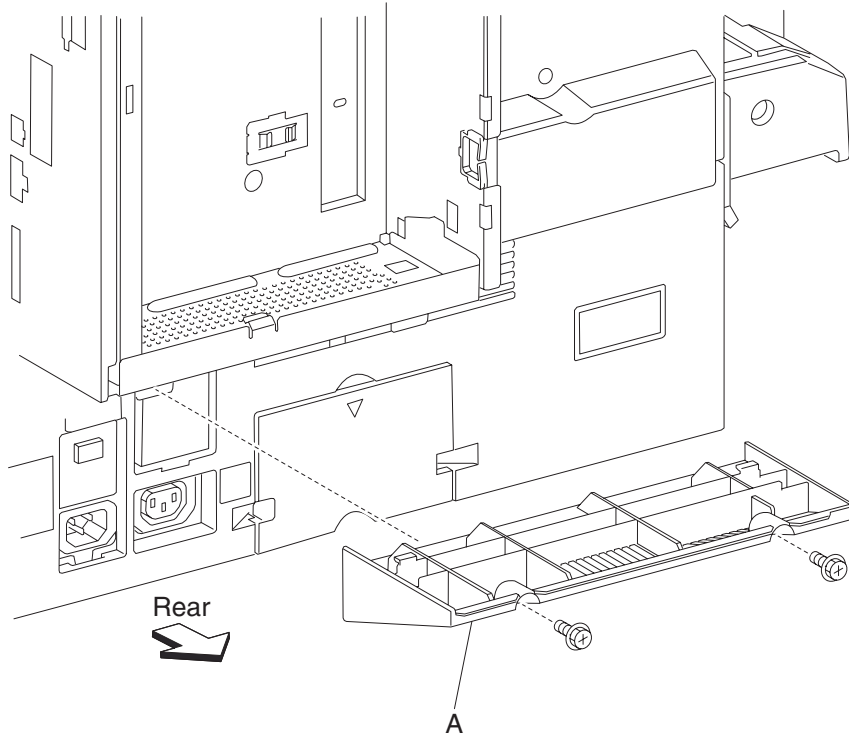
3. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
4. Remove the controller box side cover. See **“Controller box side cover removal”** on page 4-18.
5. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
6. Remove the four screws securing the rear upper cover (C) to the machine.

7. Remove the rear upper cover (C).



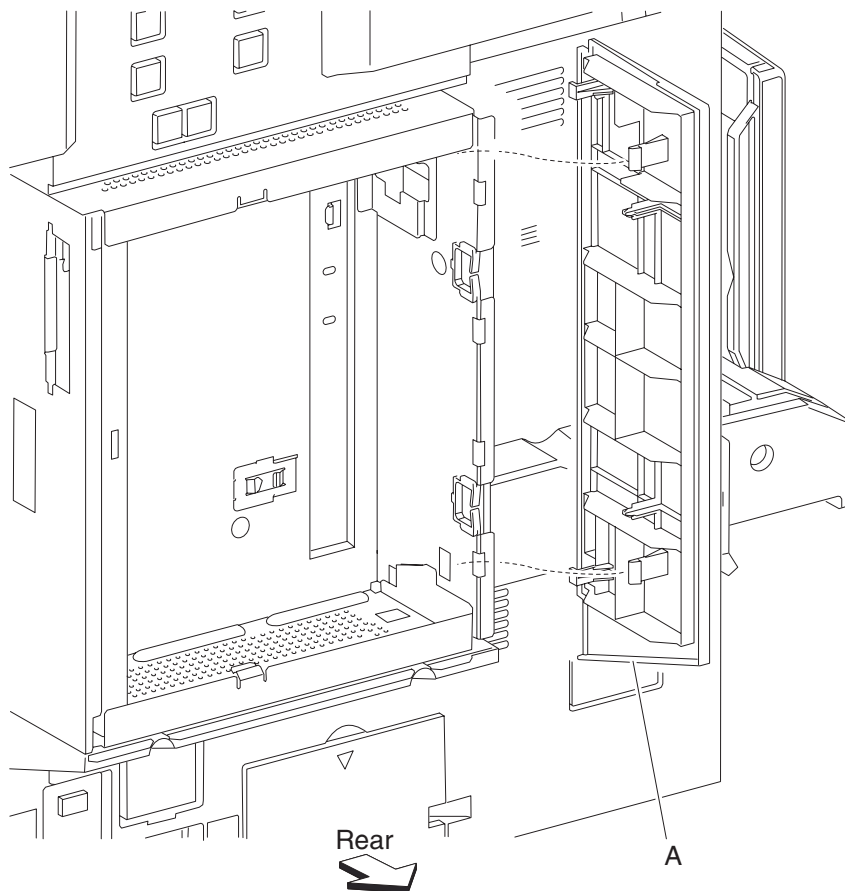
## Controller box lower cover removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the two screws securing the controller box lower cover (A) to the machine.
3. Remove the controller box lower cover (A).



## Controller box side cover removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Release the two hooks securing the controller box side cover (A) to the machine.
3. Remove the controller box side cover (A).

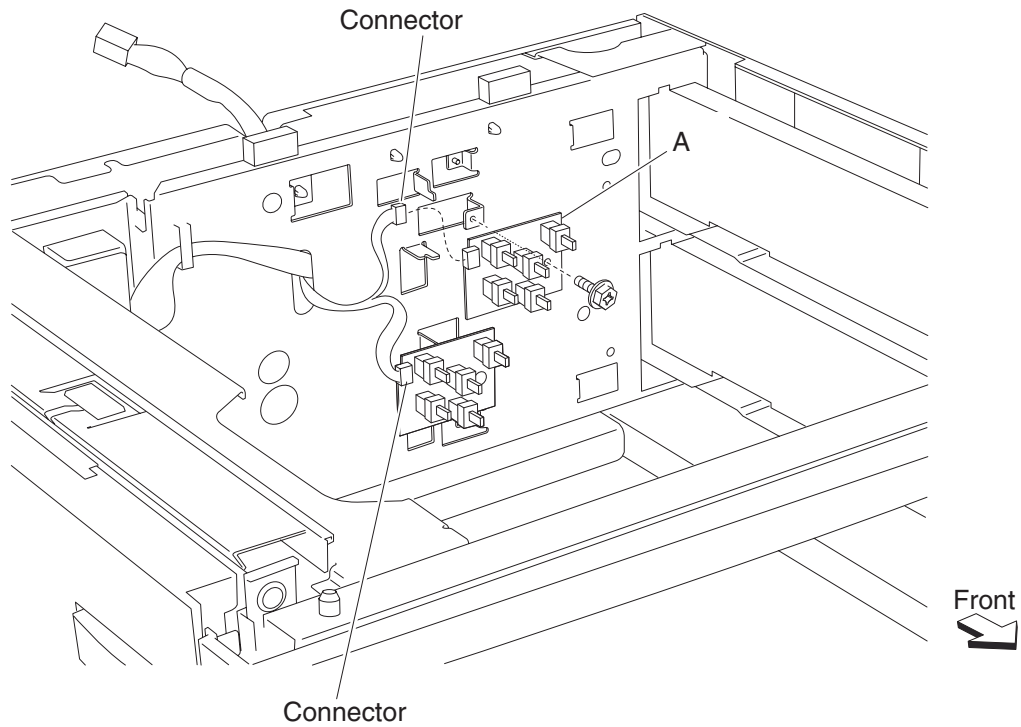




## Switch (media size) removal

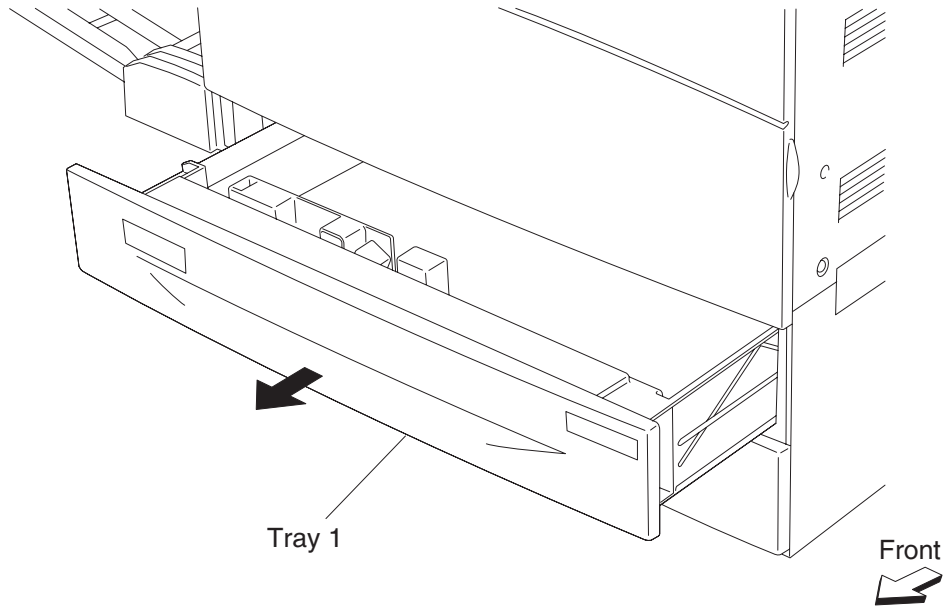
**Note:** This procedure can be applied to tray 1 or tray 2 switch (media size).

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).

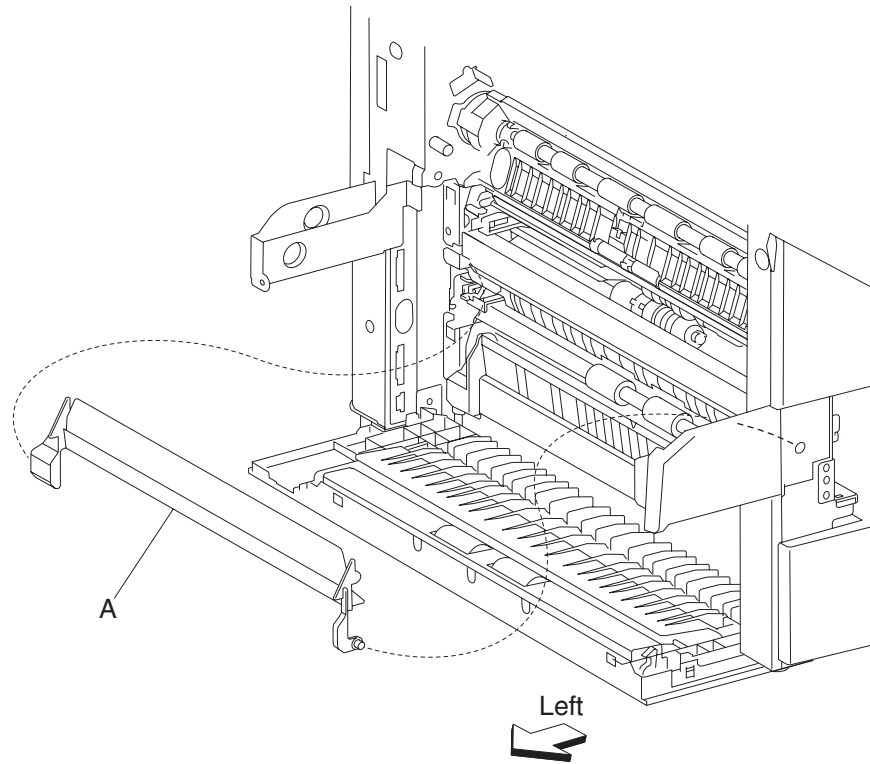


## Media feed unit assembly 1 removal

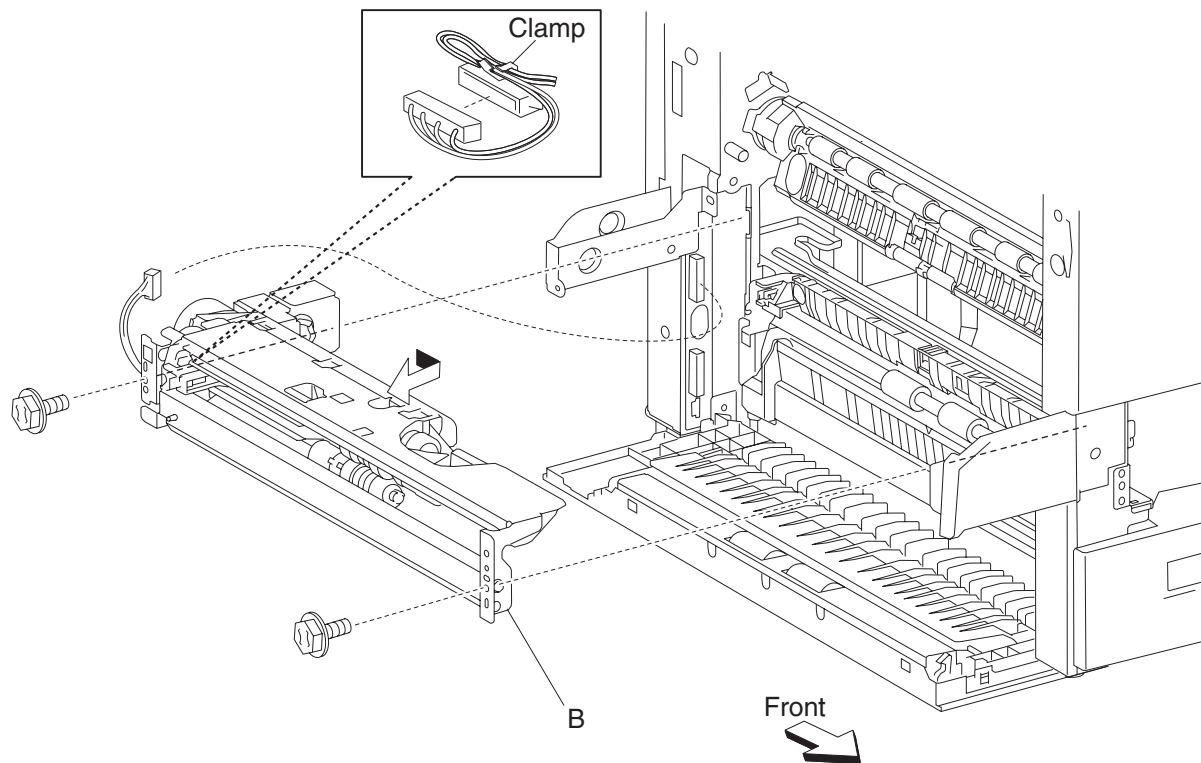
1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the printer left door assembly. See **“Printer left door assembly removal”** on page 4-75.
4. Remove the vertical drive gear assembly. See **“Vertical drive gear assembly removal”** on page 4-67.
5. Pull out media Tray 1.



6. Release the plastic bosses on both ends of the vertical turn mylar guide (A).
7. Remove the vertical turn mylar guide (A).  
**Warning:** The vertical turn mylar guide will take extra force to remove. Be careful not to damage it.
8. Release the harness from the plastic clamps on the machine.
9. Disconnect the connector.

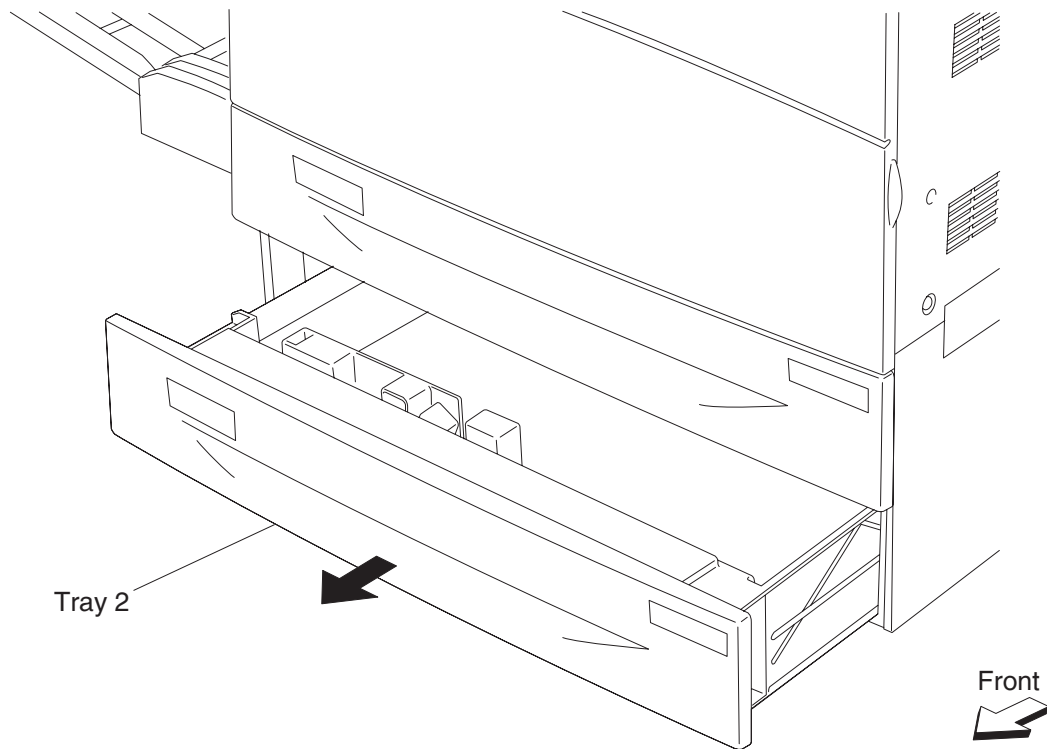


10. Remove the two screws securing the media feed unit assembly (B).
11. Remove the media feed unit assembly (B) in the direction of the arrow.

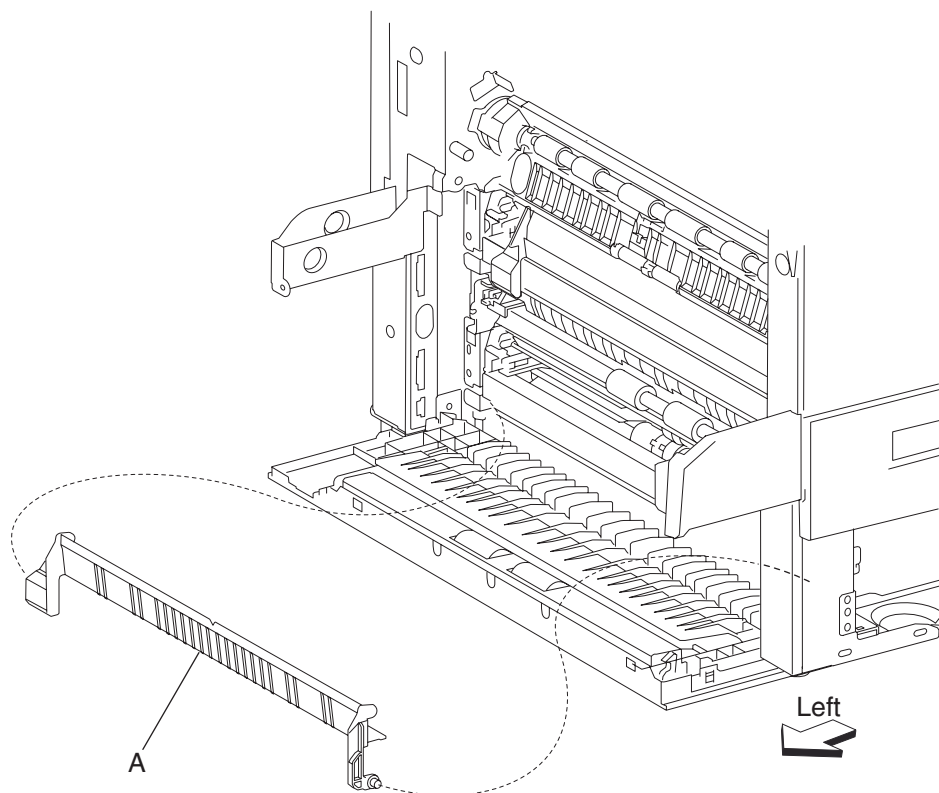


## Media feed unit assembly 2 removal

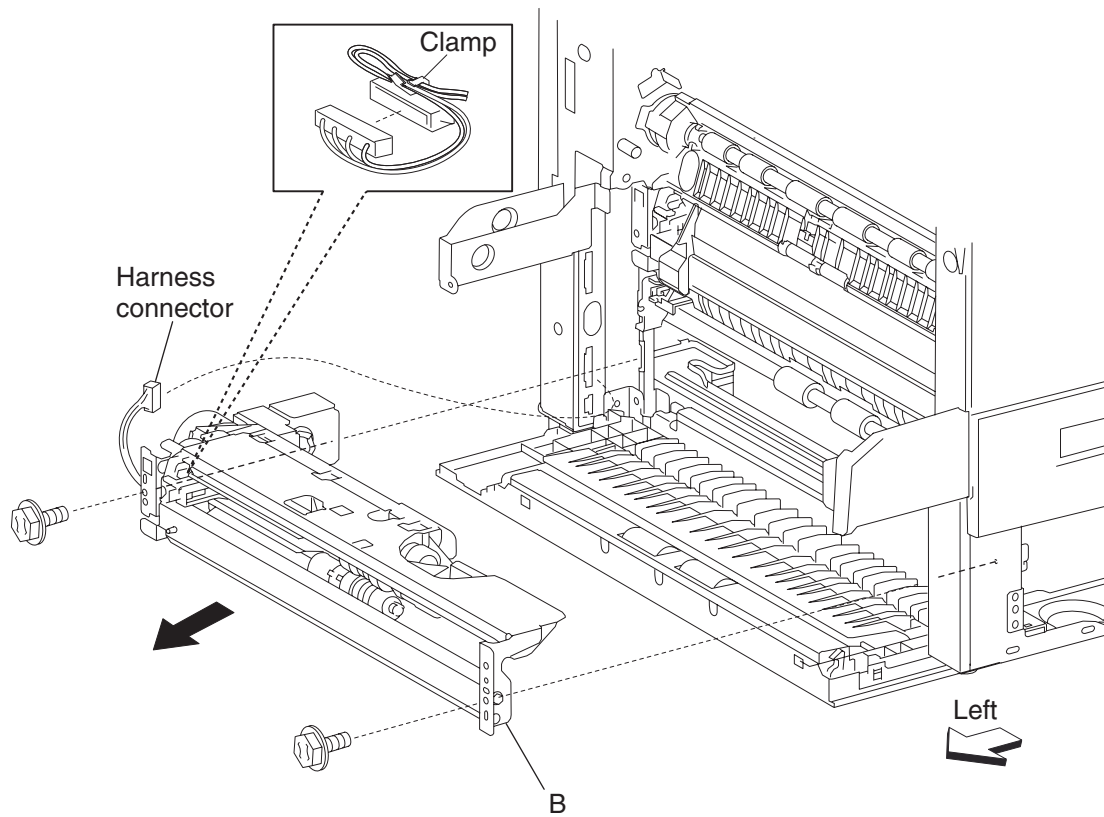
1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the printer left door assembly. See **“Printer left door assembly removal”** on page 4-75.
4. Open the printer left lower door assembly. See **“Printer left lower door assembly removal”** on page 4-70.
5. Remove the vertical drive gear assembly. See **“Vertical drive gear assembly removal”** on page 4-67.
6. Pull out media Tray 2.



7. Release the plastic bosses on both ends of the vertical turn guide (A).
8. Remove the vertical turn guide (A).

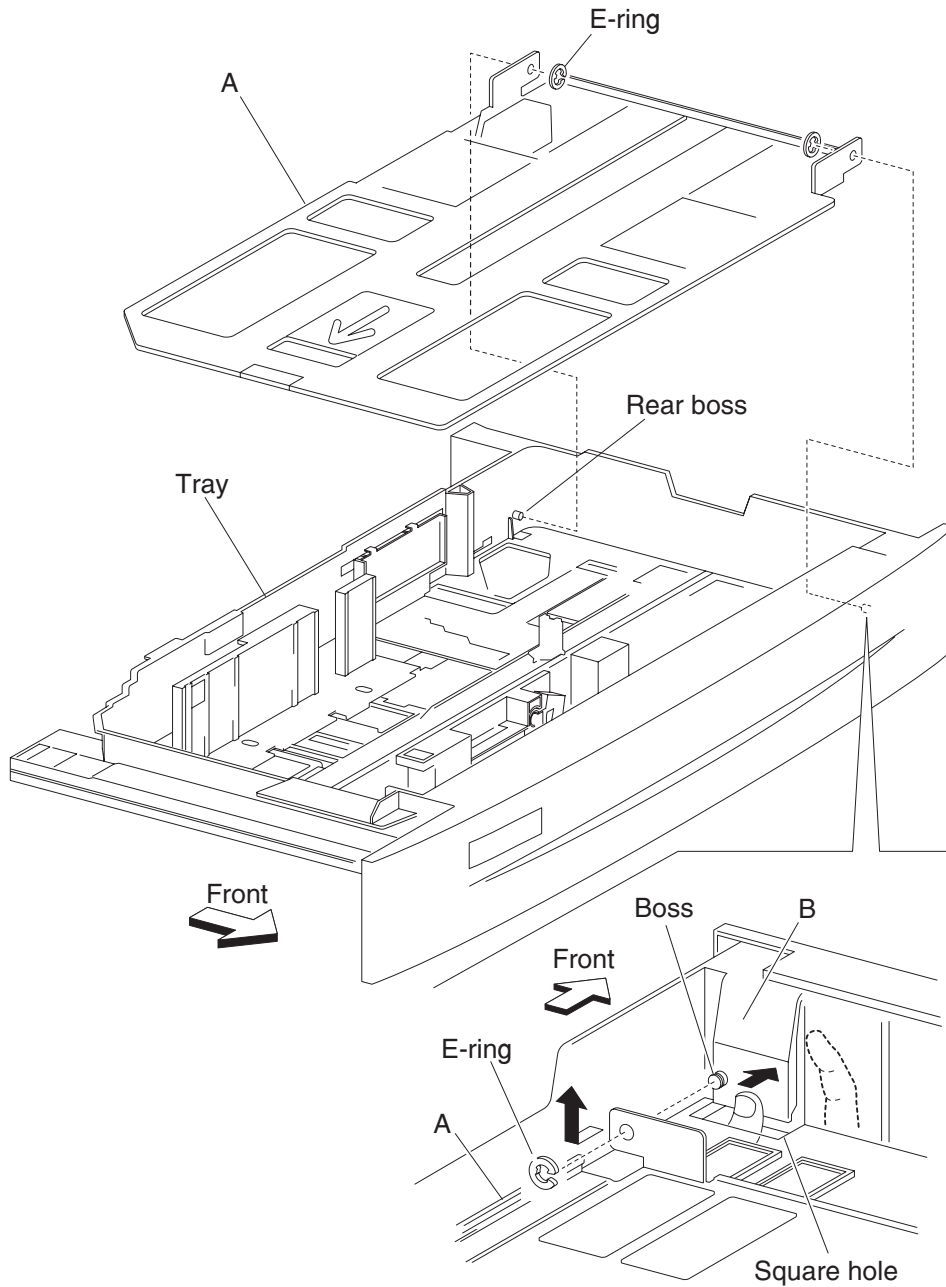


9. Release the harness from the plastic clamps on the machine.
10. Disconnect the harness connector from the machine.
11. Remove the two screws securing the media feed assembly (B).
12. Remove the media feed assembly (B) in the direction of the arrow.



## Media tray side guides removal

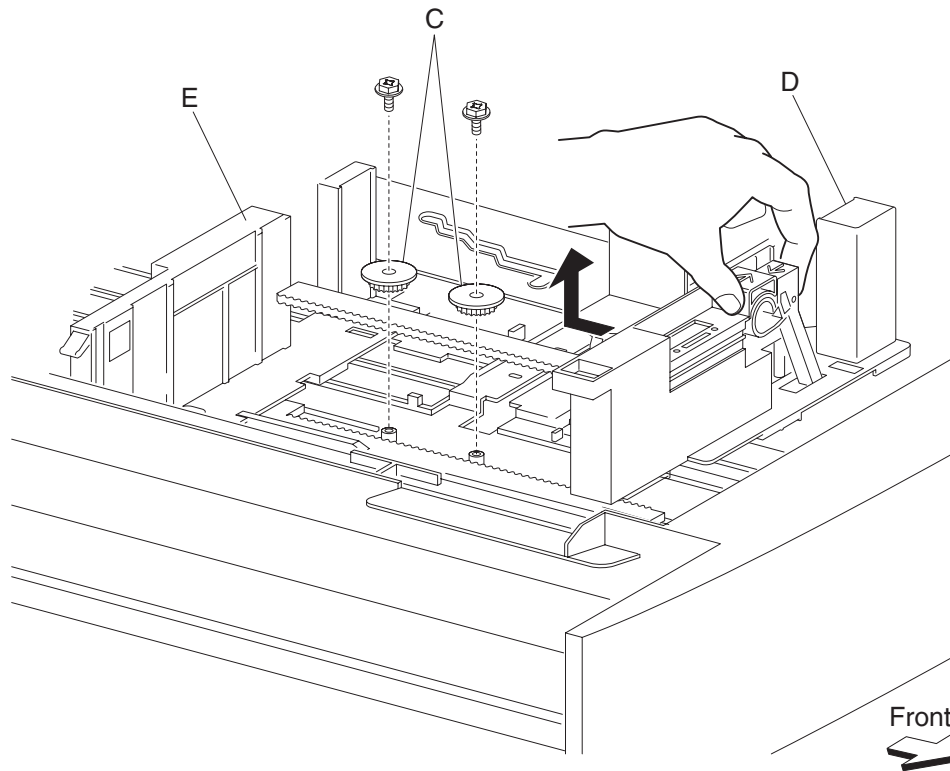
1. Remove the media tray.
2. Remove the two e-rings securing the metal bottom plate (A) to the media tray using a small prying tool.
3. Push the front hinge point (B) in the direction of the arrow to release the front boss from the metal bottom plate (A).
4. Remove the metal bottom plate (A) by sliding it off the rear boss.





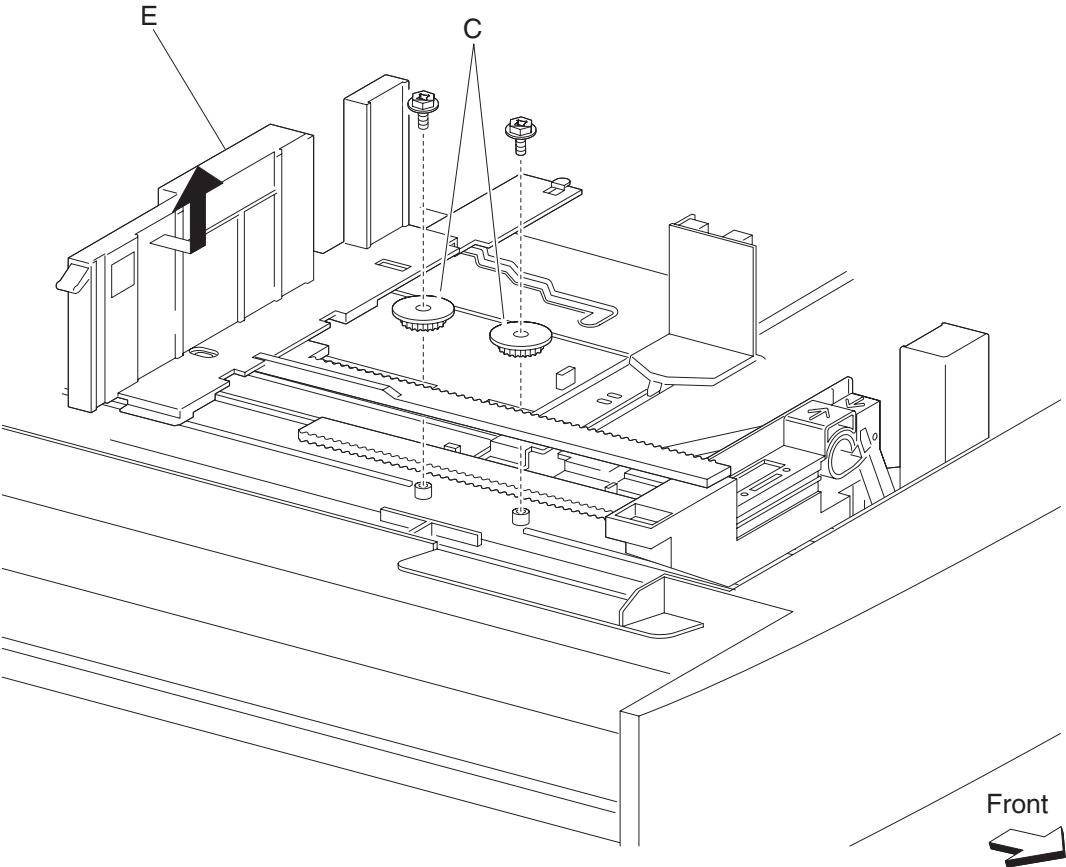
5. Remove the two screws securing the two pinion gears (C) to the media tray.
6. Remove the pinion gears (C).

7. Remove the front media guide assembly (D) and the rear media guide (E) by sliding them toward the center of the media tray assembly and lifting up.



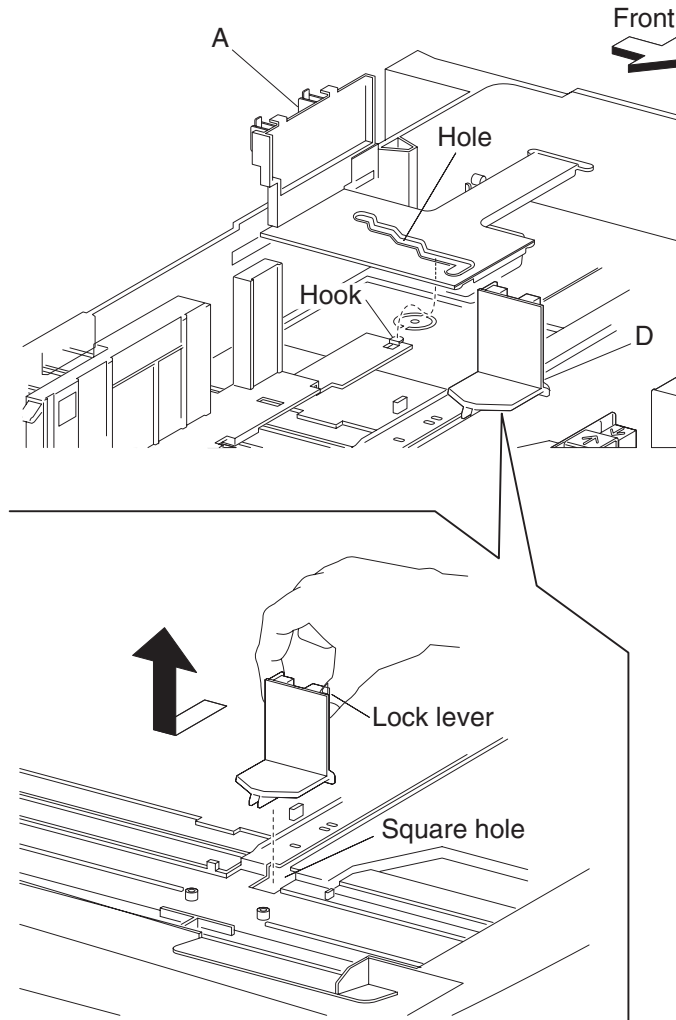
**Note:** Before reinstalling the pinion gears (C), slide the front media tray guide assembly (D) and the rear

media guide (E) to their outward most positions. Ensure the media side guides slide smoothly.

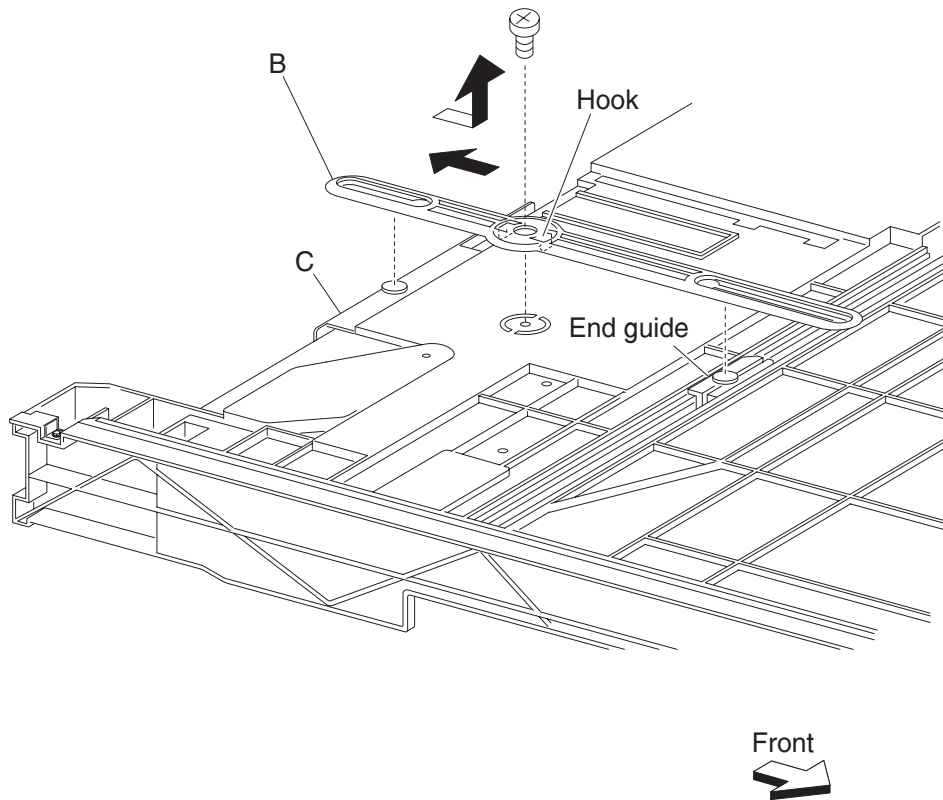


## Media tray end guide removal

1. Remove the media tray.
2. Remove the media tray side guides. See **“Media tray side guides removal”** on page 4-26.
3. Remove the media side guide actuator (A).

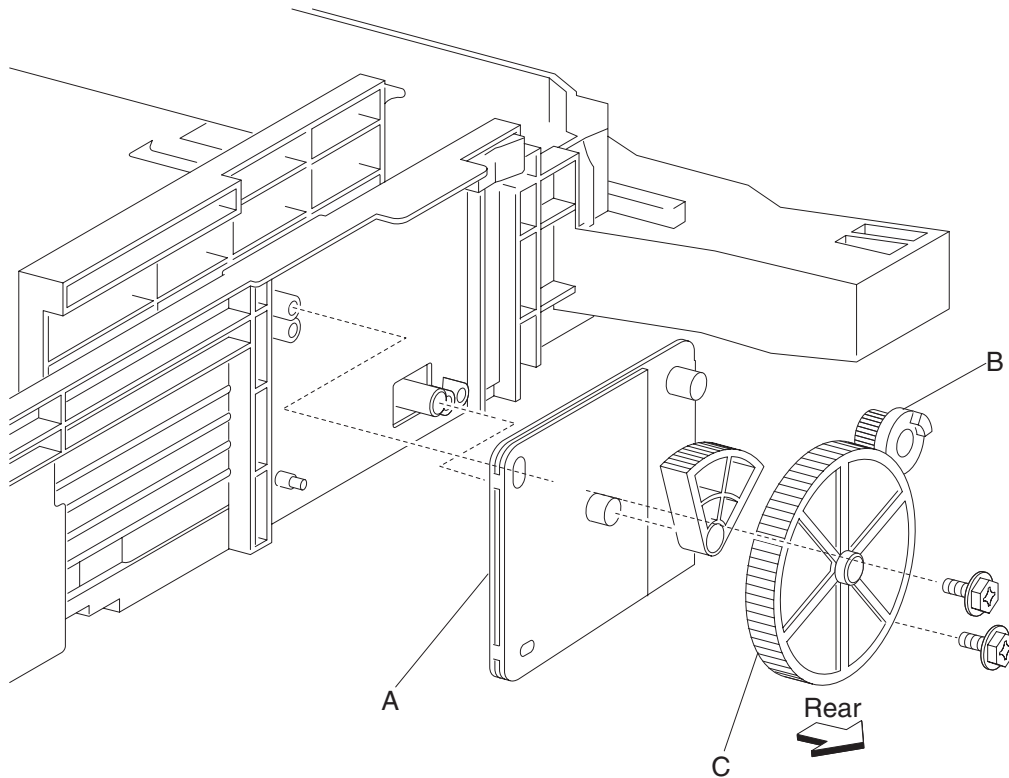


4. Turn the media tray assembly upside down, and remove the screw and two hooks securing the actuator link (B) to the media tray.
5. Release the boss on the media end guide actuator (C) from the hole in the actuator link (B) by moving the link in the direction of the arrow.
6. Remove the media end guide actuator (C).
7. Turn the media tray assembly right side up, and slide the media tray end guide (D) toward the center of the media tray assembly to remove.



## Media tray lift gear group removal

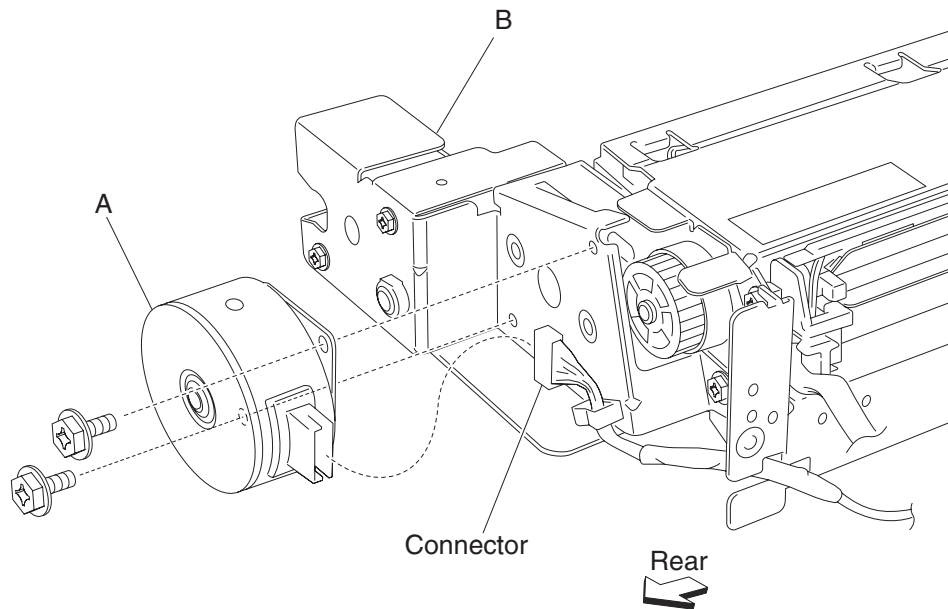
1. Remove the media tray from the machine.
2. Remove the two screws securing bracket (A).
3. Remove the bracket (A).
4. Remove the tray lift coupling gear 13 tooth (B) from bracket (A).
5. Remove the tray lift gear 13/60 tooth (C) from bracket (A).



**Note:** Extra force is required to pull the tray lift coupling gear 13 tooth (B) and the tray lift gear 13/60 tooth (C) from bracket (A).

## Media feed lift motor removal

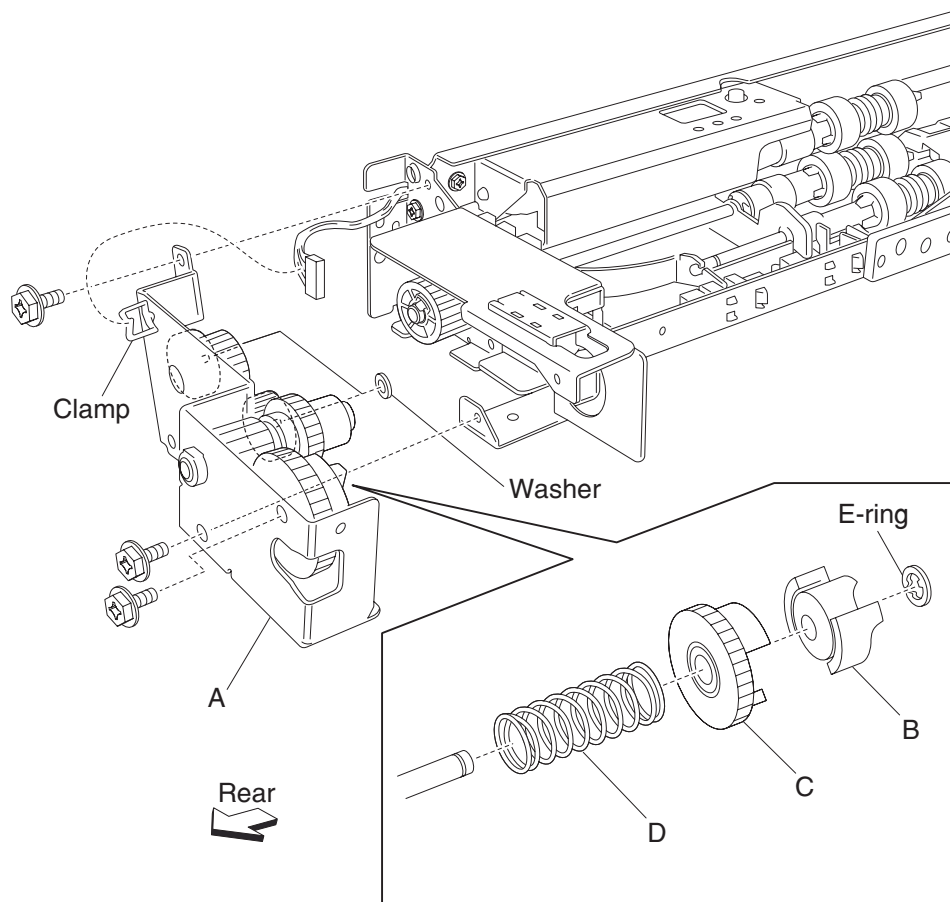
1. Remove the media feed unit. See **“Media feed unit assembly 1 removal” on page 4-20** or **“Media feed unit assembly 2 removal” on page 4-23**.
2. Disconnect the harness from the media feed lift motor (A).
3. Remove the two screws securing the media feed lift motor (A) to the media feed unit assembly (B).
4. Remove the media feed lift motor (A).



## Tray lift coupling assembly removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the printer left door. See **“Printer left door assembly removal”** on page 4-75.
4. Remove the vertical drive gear assembly. See **“Vertical drive gear assembly removal”** on page 4-67.
5. Remove the media feed unit assembly. See **“Media feed unit assembly 1 removal”** on page 4-20 or **“Media feed unit assembly 2 removal”** on page 4-23.
6. Remove the harness from bracket (A).
7. Remove three screws securing bracket (A) to the media feed unit.
8. Remove bracket (A).
 

**Note:** The gears may become detached from bracket (A).
9. Remove the e-ring with a prying tool securing the tray lift coupling (B) to bracket (A).
10. Remove the tray lift coupling gear 31 tooth (C).
11. Remove the spring (D).

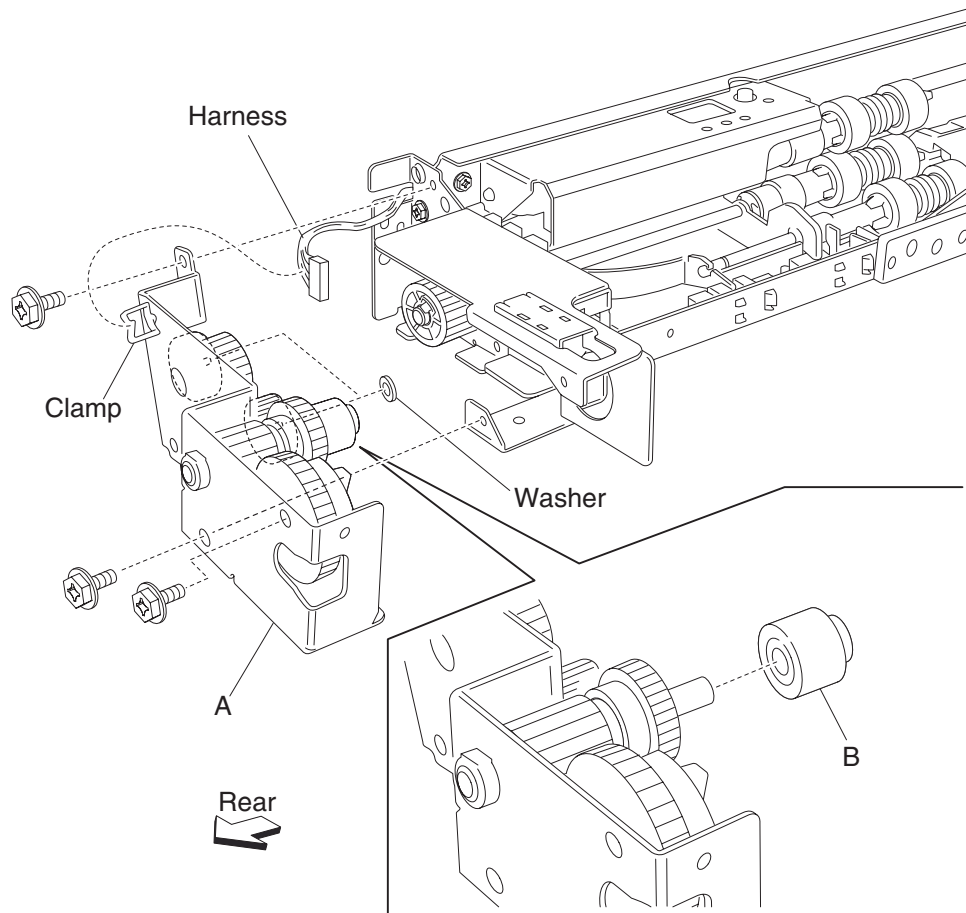


**Note:** Before reinstalling, ensure all gears and washers attached to bracket (A) are securely installed.

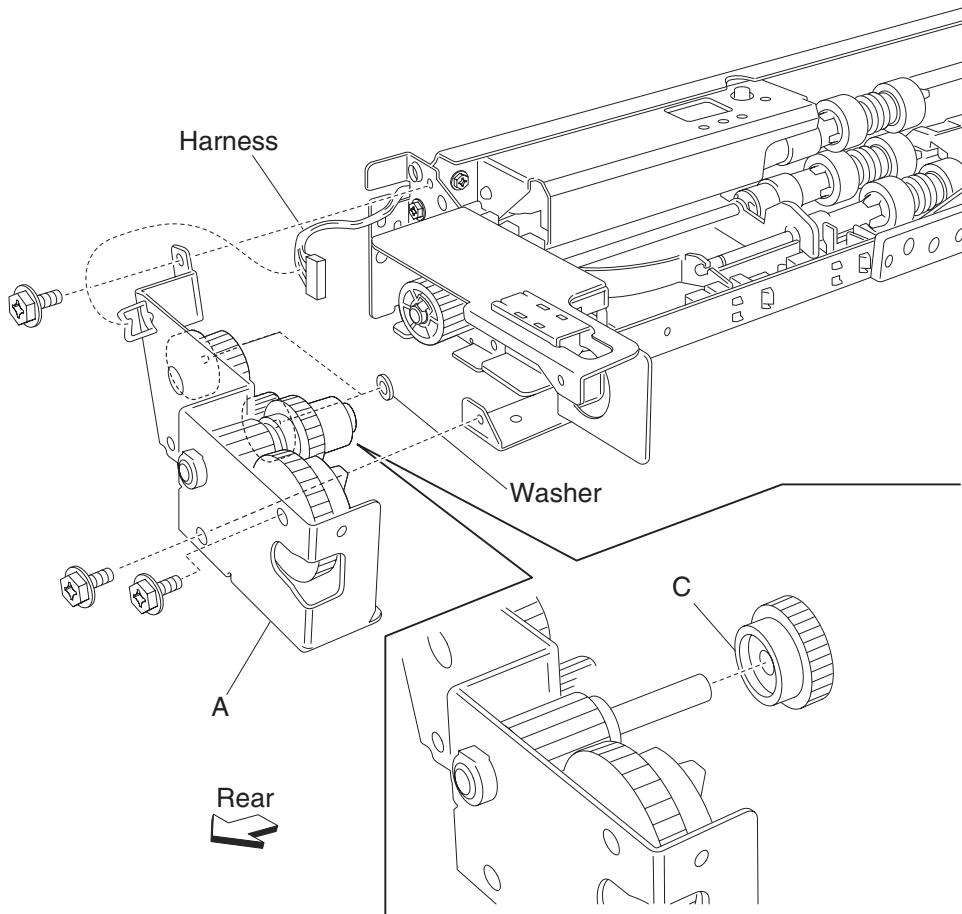


## Tray lift one way clutch / gear assembly removal

1. Remove the media feed unit assembly. Go to **“Media feed unit assembly 1 removal”** on page 4-20 or **“Media feed unit assembly 2 removal”** on page 4-23.
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).

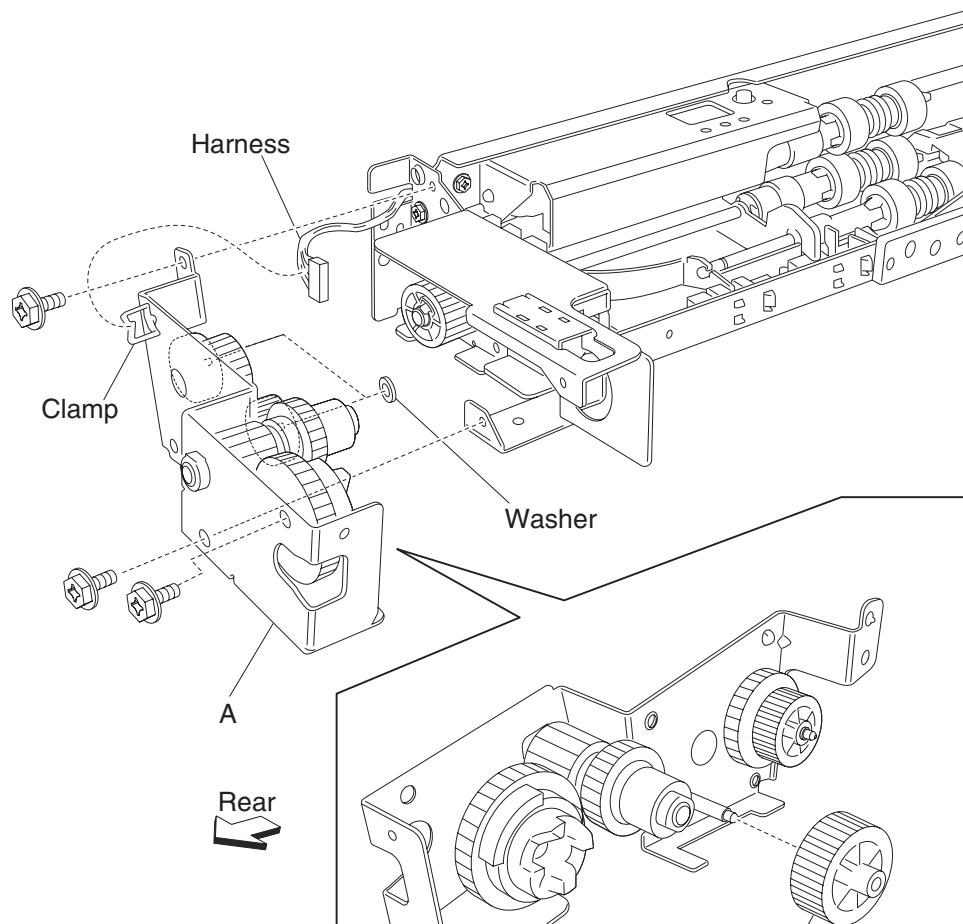


**Note:** Before reinstalling, ensure all gears and washers are securely attached to the bracket (A).

## Media feed unit drive gear - 13 tooth removal

1. Remove the appropriate media feed unit assembly. See **“Media feed unit assembly 1 removal” on page 4-20** or **“Media feed unit assembly 2 removal” on page 4-23**.
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).
 

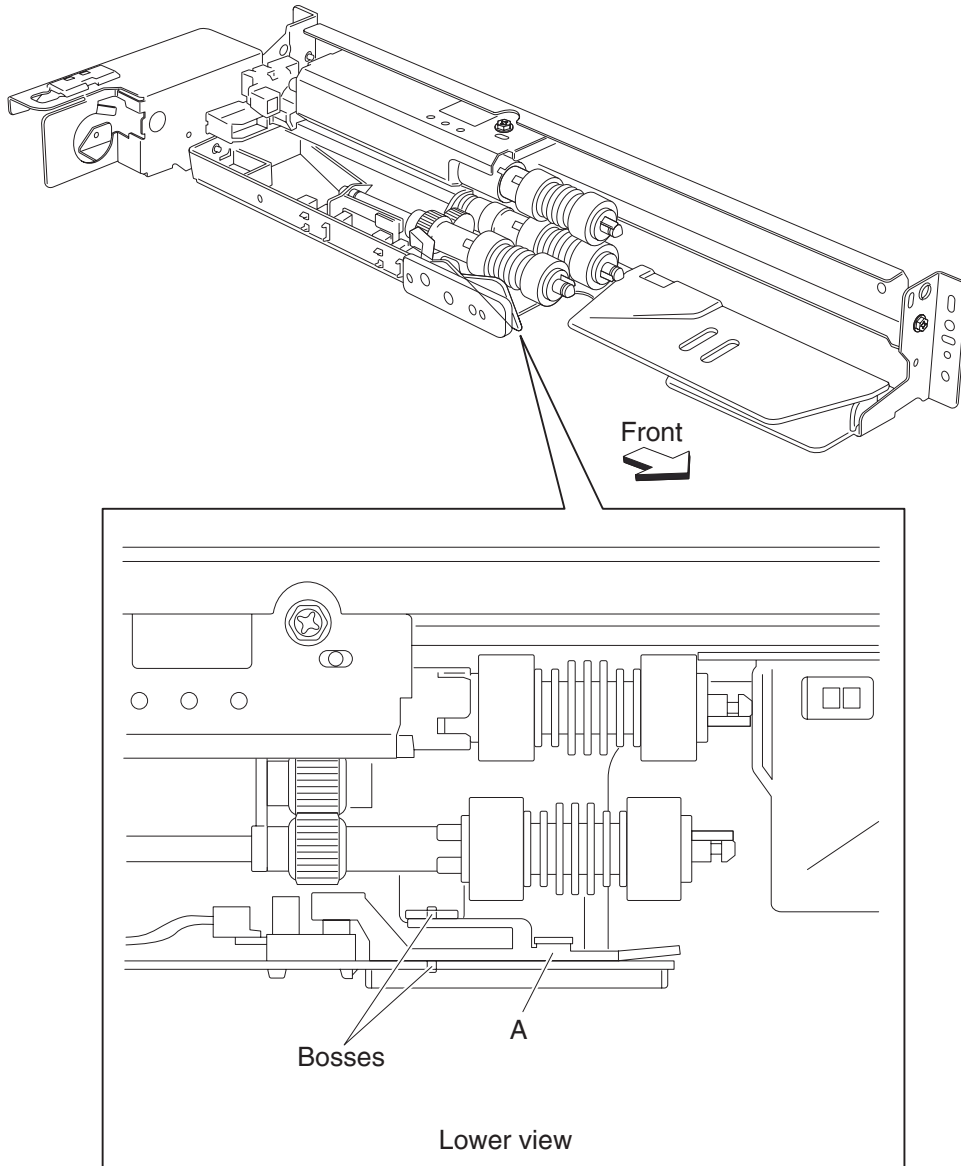
**Note:** Gears may become detached from the bracket (A).
5. Remove the tray lift one-way clutch. See **“Tray lift one way clutch / gear assembly removal” on page 4-35**.
6. Remove the tray lift one-way gear 24 tooth. See **“Tray lift one way clutch / gear assembly removal” on page 4-35**.
7. Remove the media feed unit drive gear - 13 tooth (B).



**Note:** Before reinstalling, ensure all gears and washers are securely attached to the bracket (A).

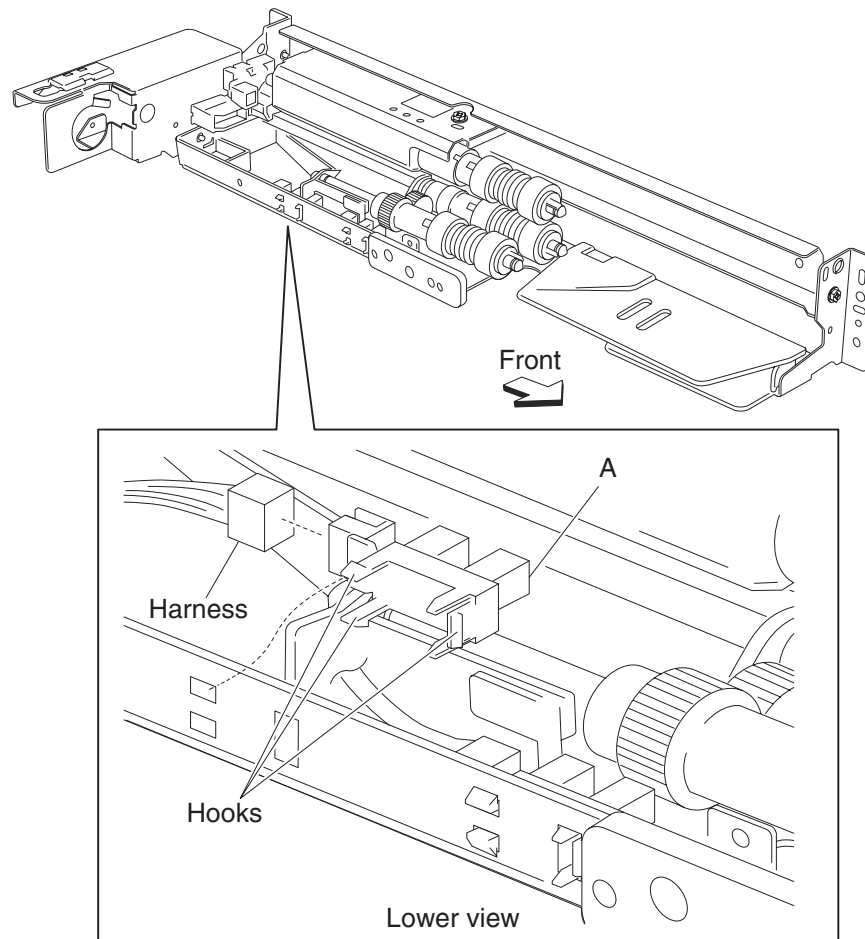
## Media out actuator removal

1. Remove the appropriate media feed unit assembly. See **“Media feed unit assembly 1 removal” on page 4-20** or **“Media feed unit assembly 2 removal” on page 4-23**.
2. Remove the two bosses on the media out actuator (A) to the media feed unit assembly.
3. Remove the media out actuator (A).



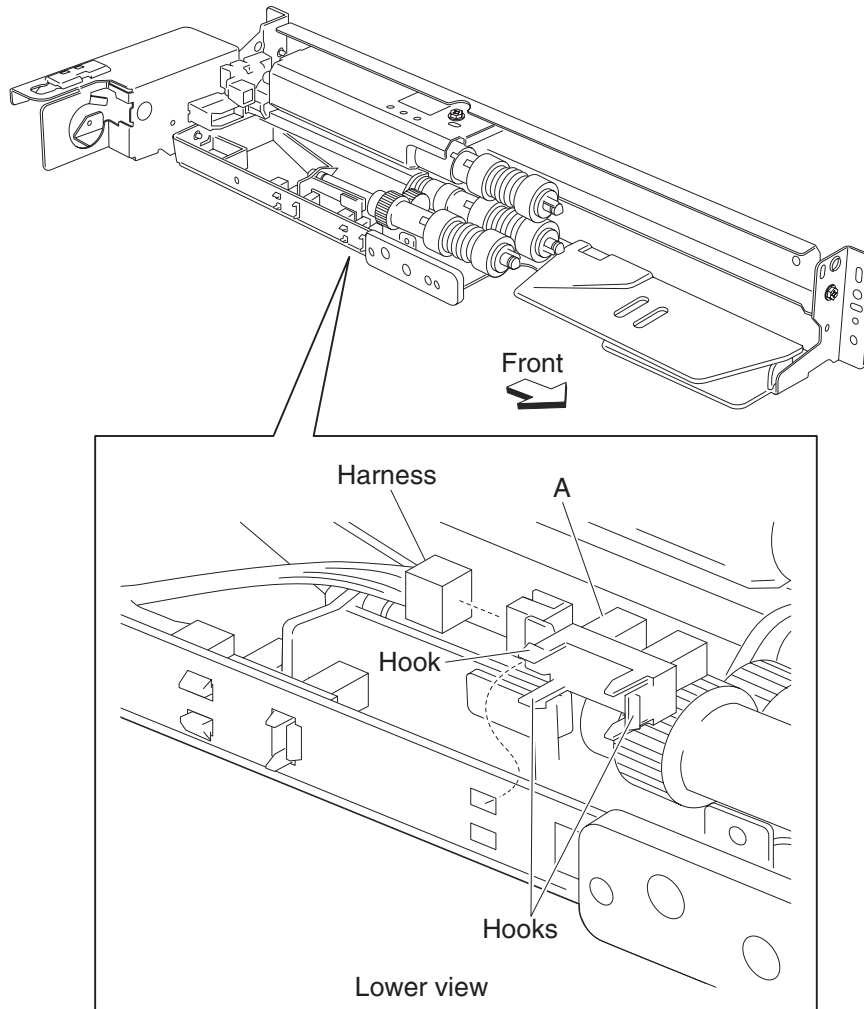
## Sensor (media level) removal

1. Remove the appropriate media feed unit assembly. See **“Media feed unit assembly 1 removal”** on **page 4-20** or **“Media feed unit assembly 2 removal”** on **page 4-23**.
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.
4. Remove the sensor (media level) (A).



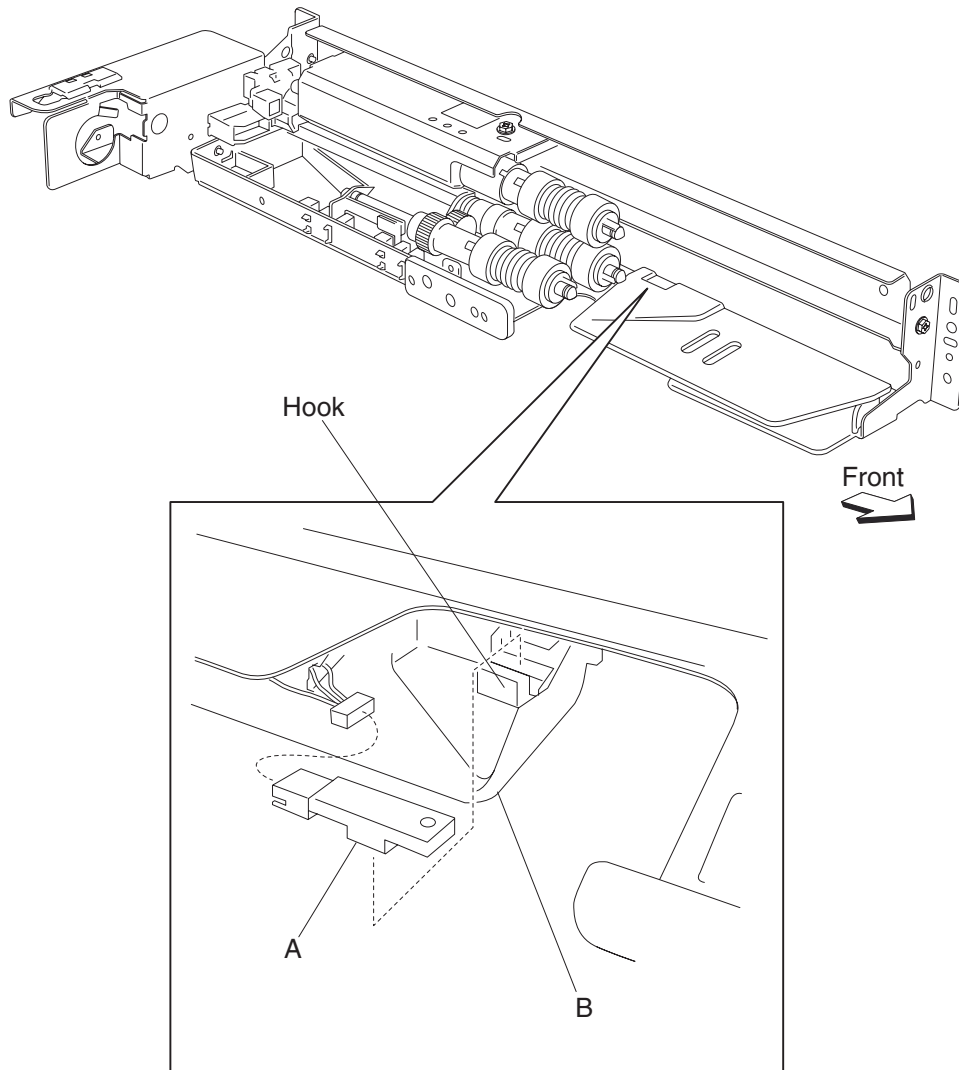
## Sensor (media out) removal

1. Remove the appropriate media feed unit assembly. See **“Media feed unit assembly 1 removal”** on page 4-20 or **“Media feed unit assembly 2 removal”** on page 4-23.
2. Remove the media out actuator. See **“Media out actuator removal”** on page 4-38.
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.
5. Remove the sensor (media out) (A).



## Sensor (pre-feed) removal

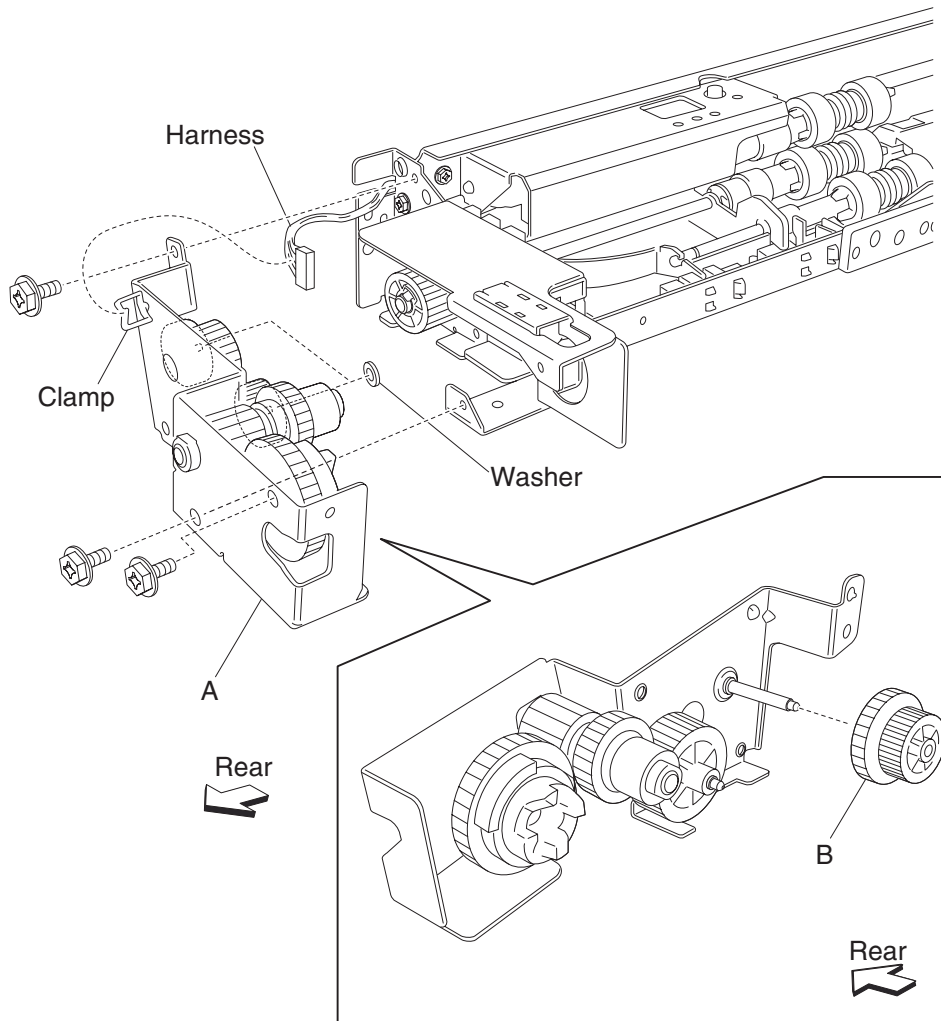
1. Remove the appropriate media feed unit assembly. See **“Media feed unit assembly 1 removal”** on **page 4-20** or **“Media feed unit assembly 2 removal”** on **page 4-23**.
2. Release the hook securing the sensor (pre-feed) (A).
3. Remove the sensor (pre-feed) (A) from the feed unit front guide (B).
4. Disconnect the connector from the sensor (pre-feed) (A).
5. Remove the sensor (pre-feed) (A).



## Media feed unit drive gear - 28 / 21 tooth removal

1. Remove the appropriate media feed unit assembly. See **“Media feed unit assembly 1 removal”** on page 4-20 or **“Media feed unit assembly 2 removal”** on page 4-23.
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 media feed unit drive gear - 28 / 21 tooth (B).

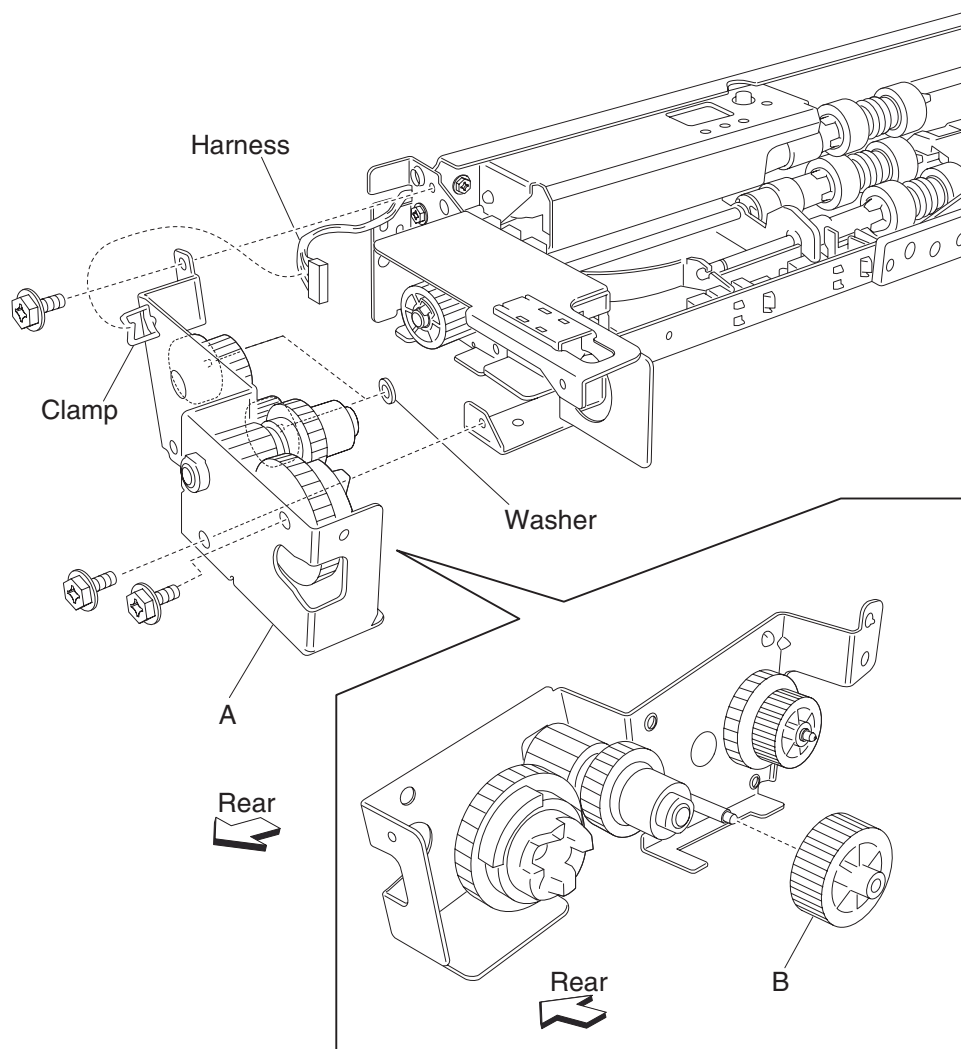


**Note:** Before reinstalling, ensure all gears and washers are securely attached to the bracket (A).

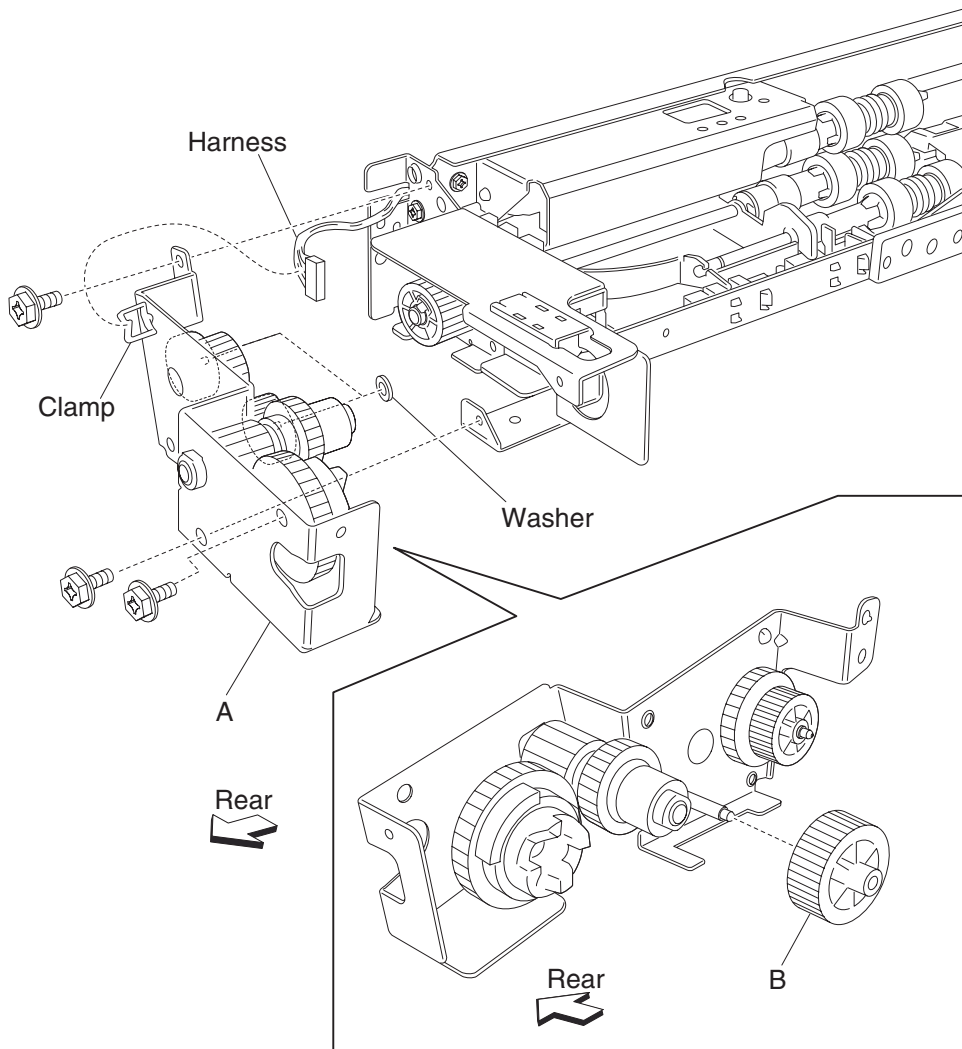


## Media feed unit drive gear - 29 tooth removal

1. Remove the appropriate media feed unit assembly. See **“Media feed unit assembly 1 removal”** on page 4-20 or **“Media feed unit assembly 2 removal”** on page 4-23.
  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 media feed unit drive gear - 29 tooth (B).



6. Remove the media feed unit drive gear - 29 tooth (B).

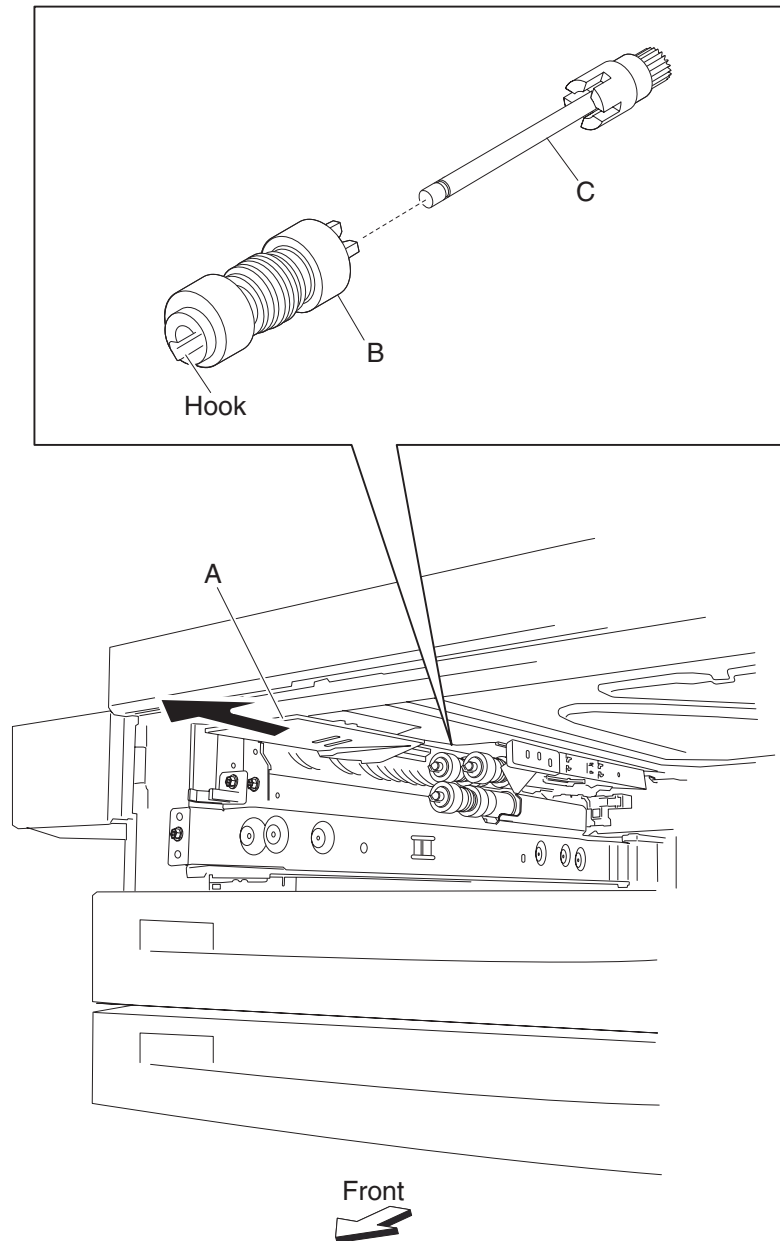


**Note:** Before reinstalling, ensure all gears and washers are securely attached to the bracket (A).

## Feed roll removal

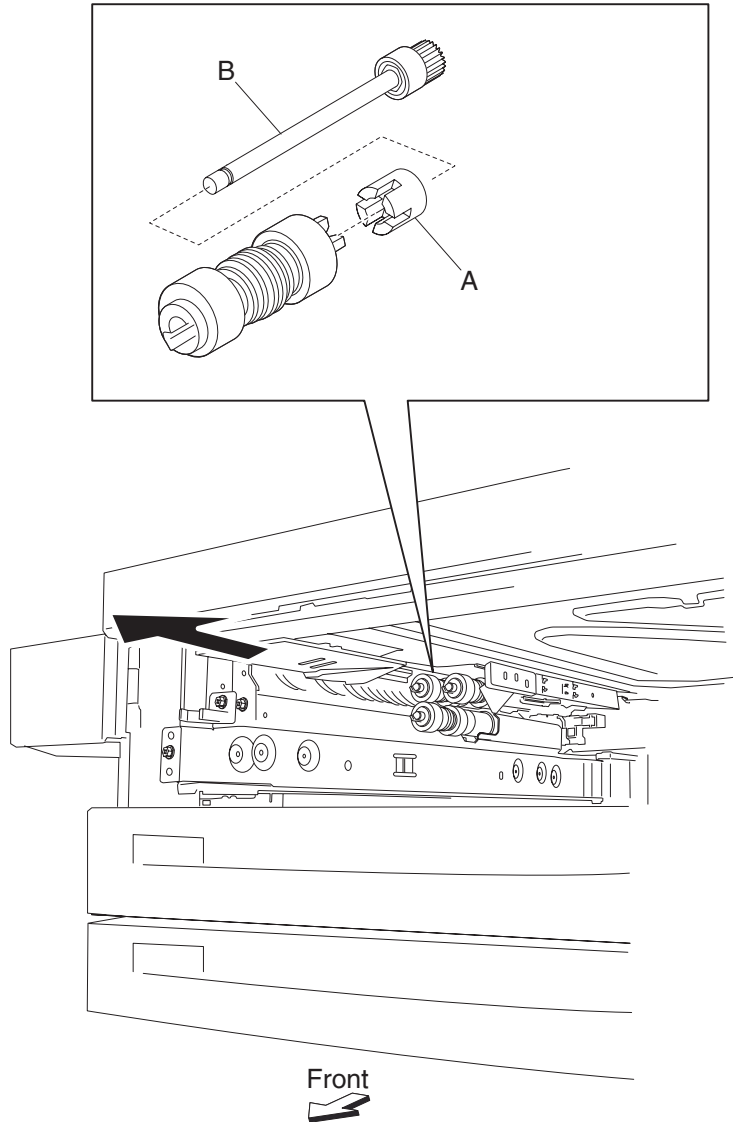
1. Remove the media tray.
2. Move the feed unit front guide (A) in the direction of the arrow.
3. Release the hook securing the feed roll (B) to the shaft (C).
4. Remove the feed roll (B).

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



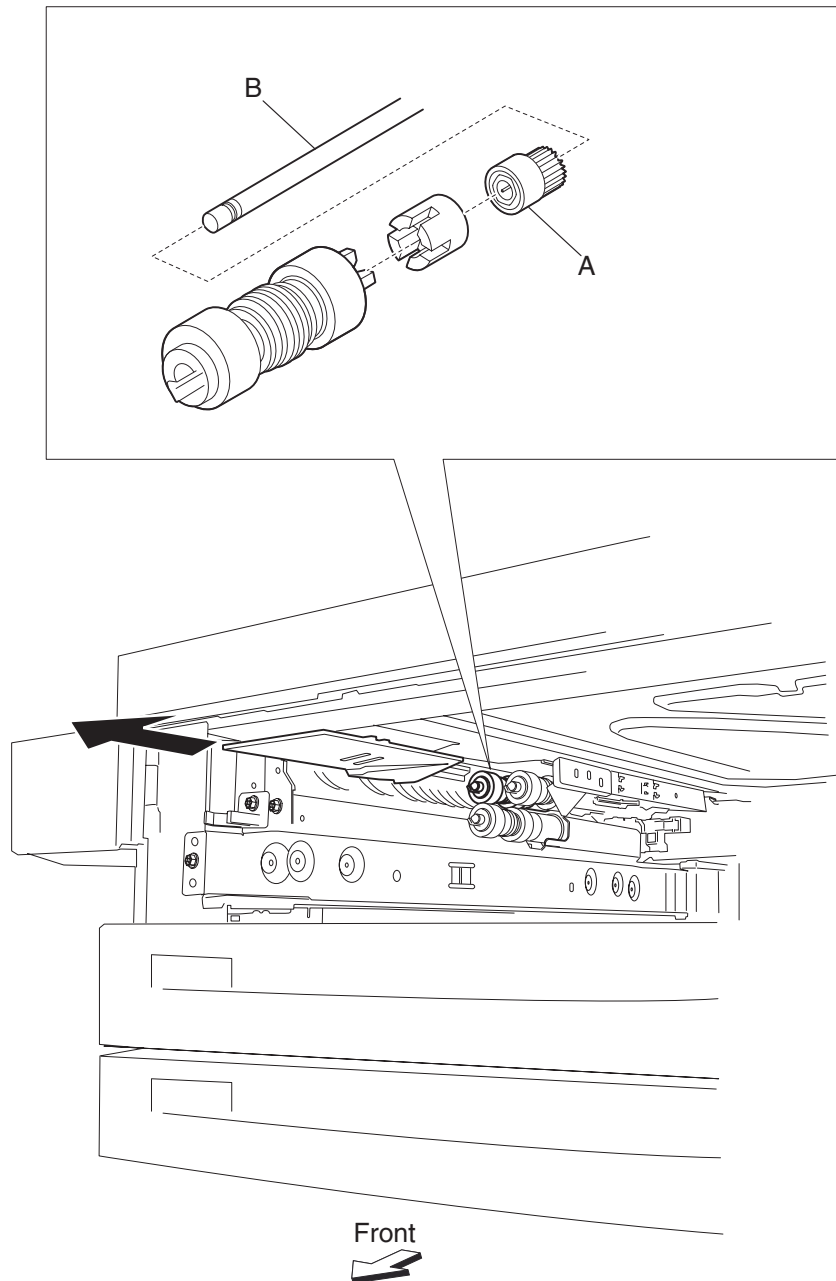
## Feed roll one way clutch removal

1. Remove the media tray.
2. Remove the feed roll. See **“Feed roll removal”** on page 4-45.
3. Remove the feed roll one way clutch (A) from the shaft (B).



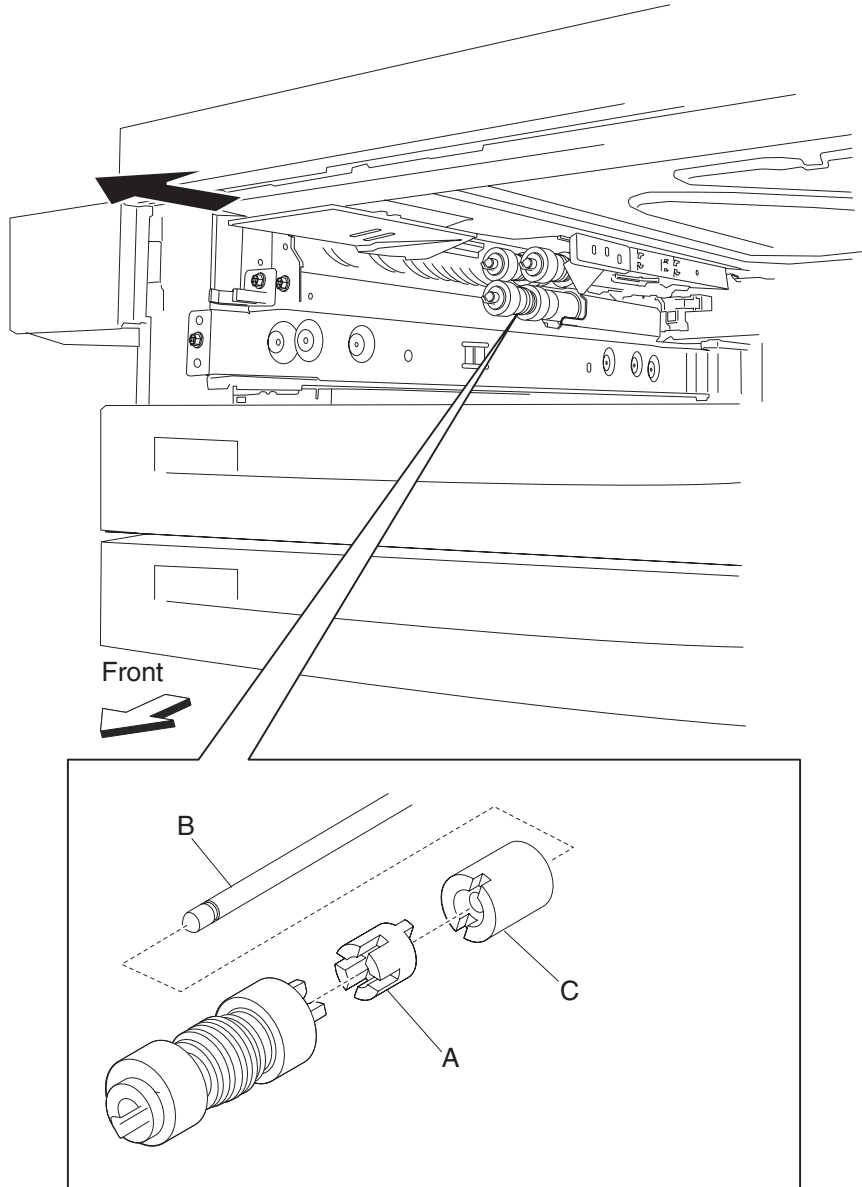
## Feed roll one way gear 22 tooth removal

1. Remove the media tray.
2. Remove the feed roll. See **“Feed roll removal”** on page 4-45.
3. Remove the feed roll one way clutch. See **“Feed roll one way clutch removal”** on page 4-46.
4. Remove the feed roll one-way gear 22 tooth (A) from the shaft (B).



## Separation roll one way friction clutch removal

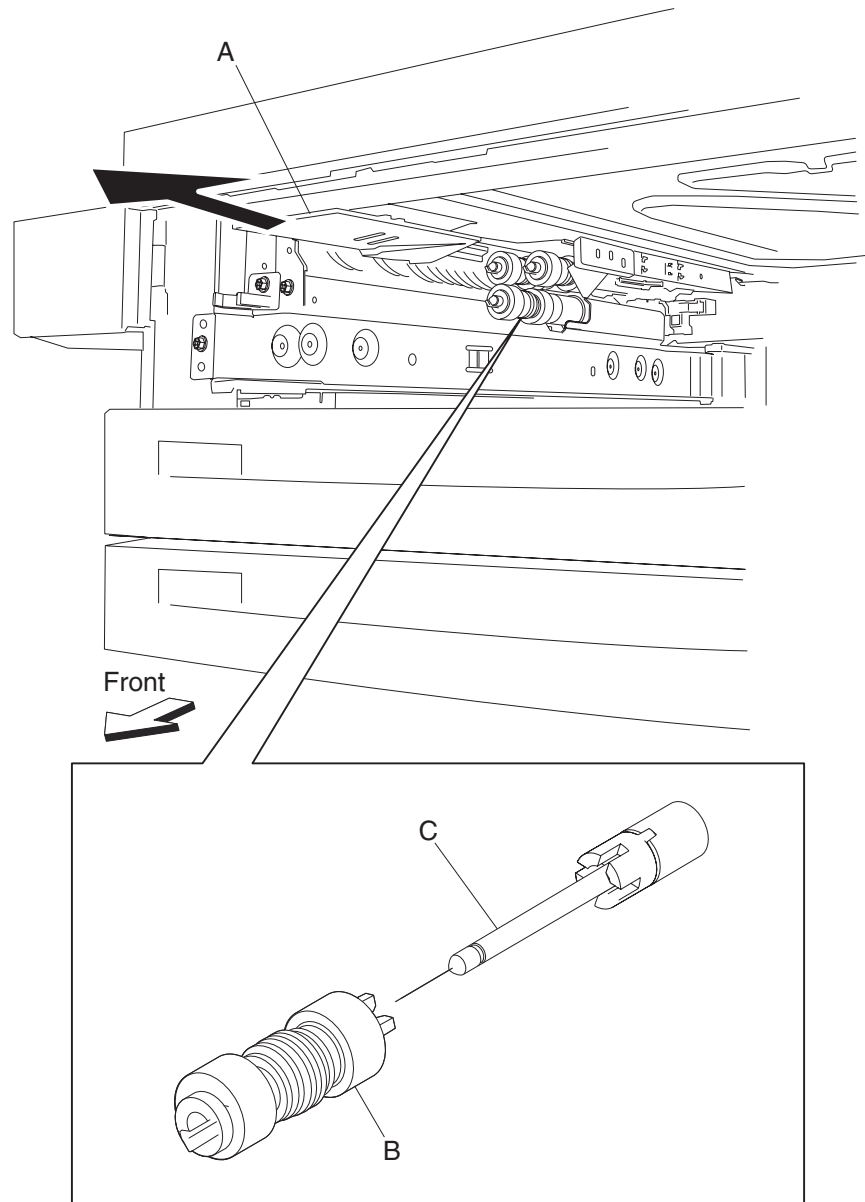
1. Remove the media tray.
2. Remove the separation roll. See **“Separation roll removal” on page 4-49.**
3. Remove the separation roll spacer (A) from the shaft (B).
4. Remove the separation roll one-way friction clutch (C) from the shaft (B).



## 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).

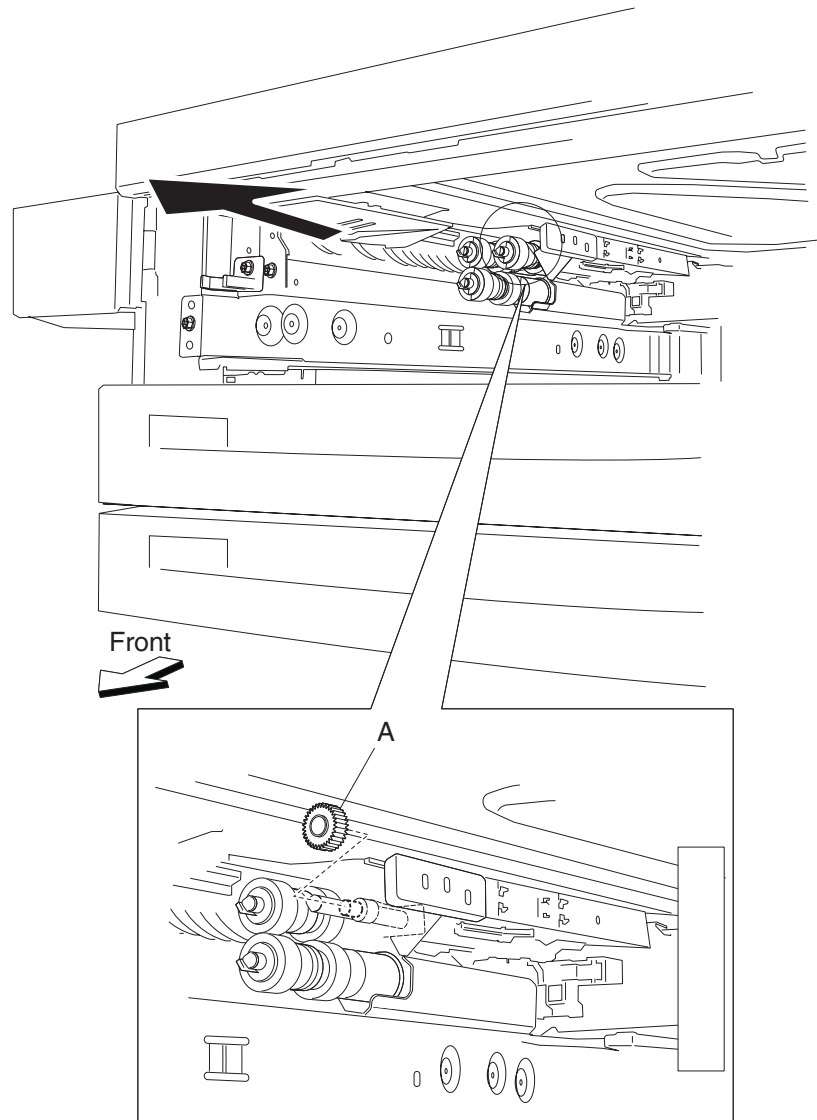
**Note:** Do not touch the rubber surface of the feed roll (B).



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

## Pick roll idler gear 33 tooth removal

1. Remove the media tray.
2. Release the pick roll. See **“Pick roll removal” on page 4-51.**
3. Remove the pick roll drive gear - 25 tooth. See **“Pick roll drive gear 25 tooth removal” on page 4-52.**
4. Remove the pick roll idler gear - 33 tooth (A).

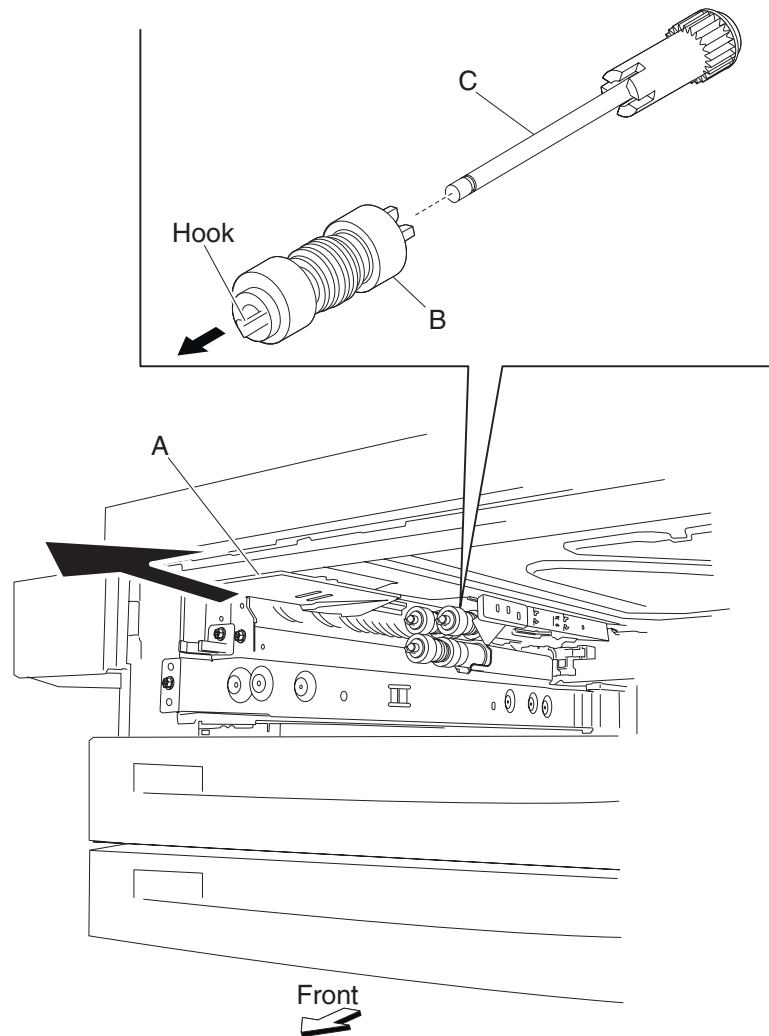




## Pick roll removal

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).

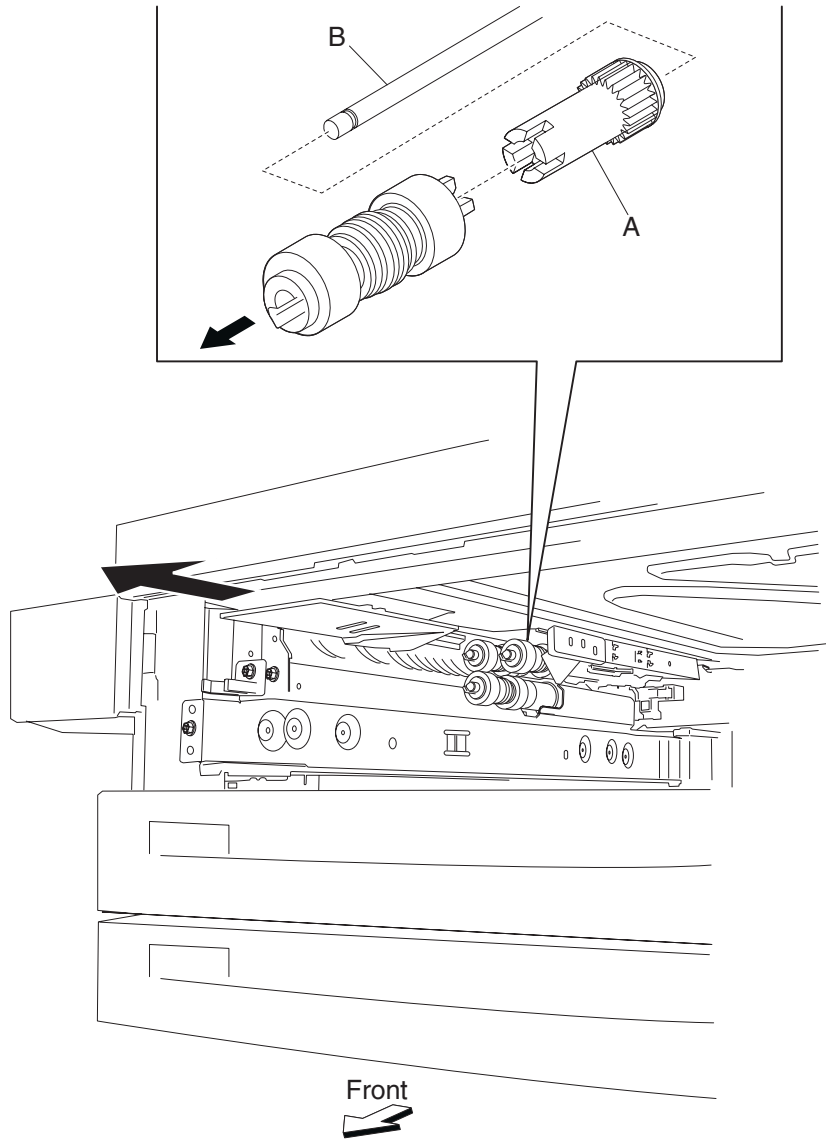
**Note:** Do not touch the rubber surface of the feed roll (B).



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

## Pick roll drive gear 25 tooth removal

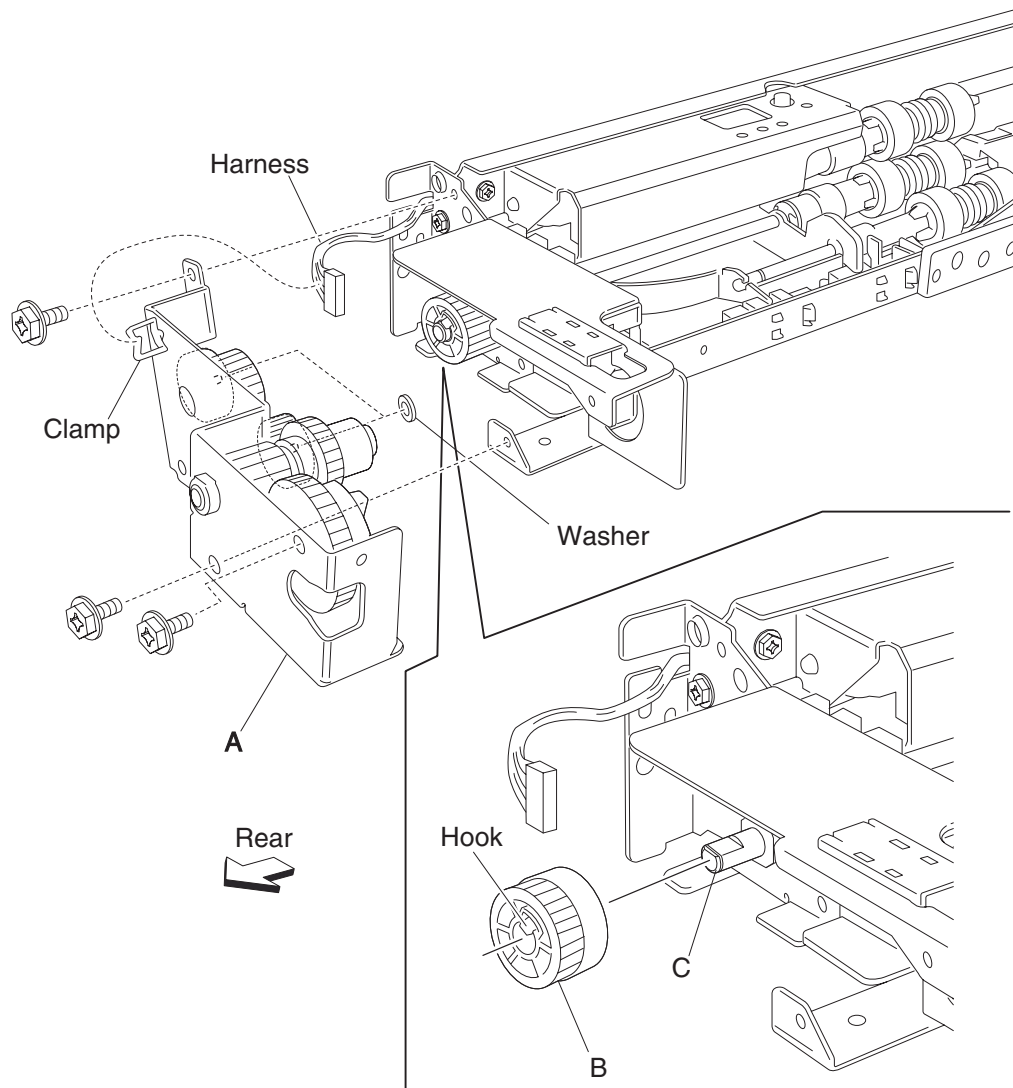
1. Remove the media tray.
2. Remove the pick roll. See **“Pick roll removal” on page 4-51**.
3. Remove the pick roll drive gear 25 tooth (A) from the shaft (B).



## Feed unit drive gear 27 tooth removal

1. Remove the media feed unit assembly. See **“Media feed unit assembly 1 removal”** on page 4-20 or **“Media feed unit assembly 2 removal”** on page 4-23.
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).
 

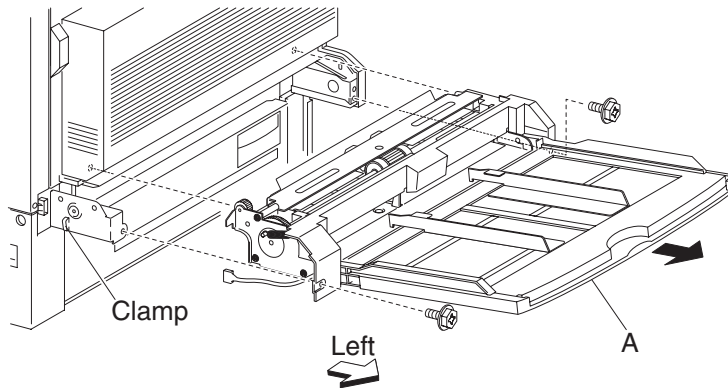
**Note:** The gears may become detached from the bracket (A).
5. Remove the hook securing the feed unit drive gear 27 tooth (B) to the shaft (C).
6. Remove the feed unit drive gear 27 tooth (B).



**Note:** Before reinstalling, ensure all gears and washers are securely attached to the bracket (A).

## MPF feed unit assembly removal

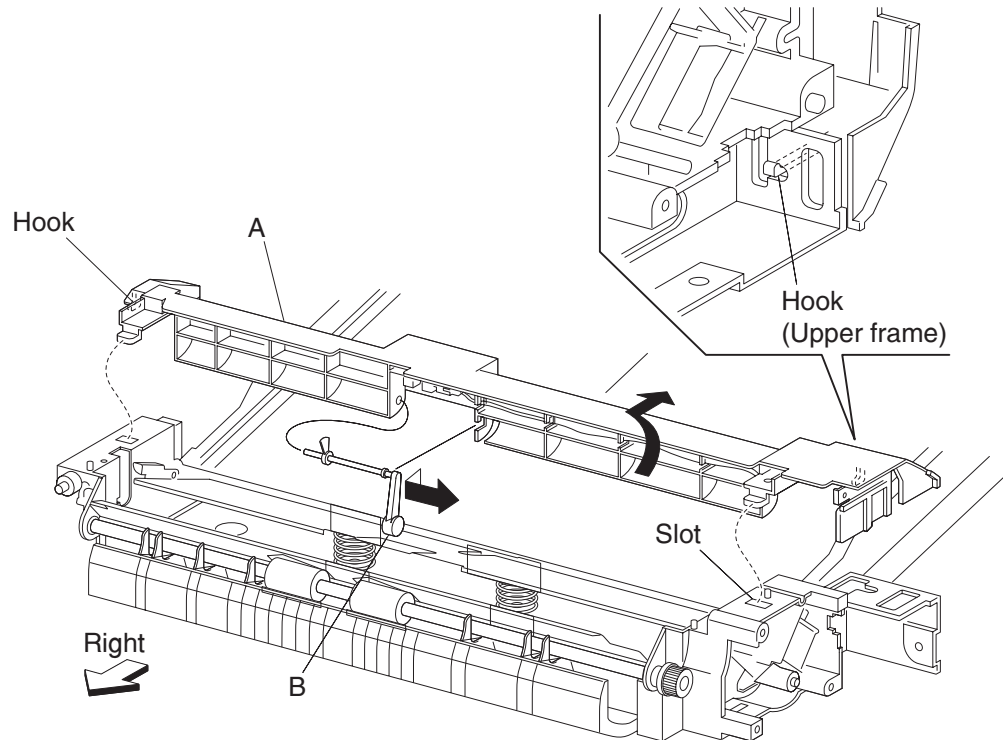
1. Remove the MPF rear cover. **“MPF rear cover removal” on page 4-58.**
2. Disconnect the connector.
3. Release the harness from the clamp.
4. Remove the two screws securing the MPF feed unit assembly (A).
5. Remove the MPF feed unit assembly (A).



**Note:** Before reinstalling, place the harness along the slot on the left of the MPF feed unit assembly (A) so it does not pinch the harness between the feed unit.

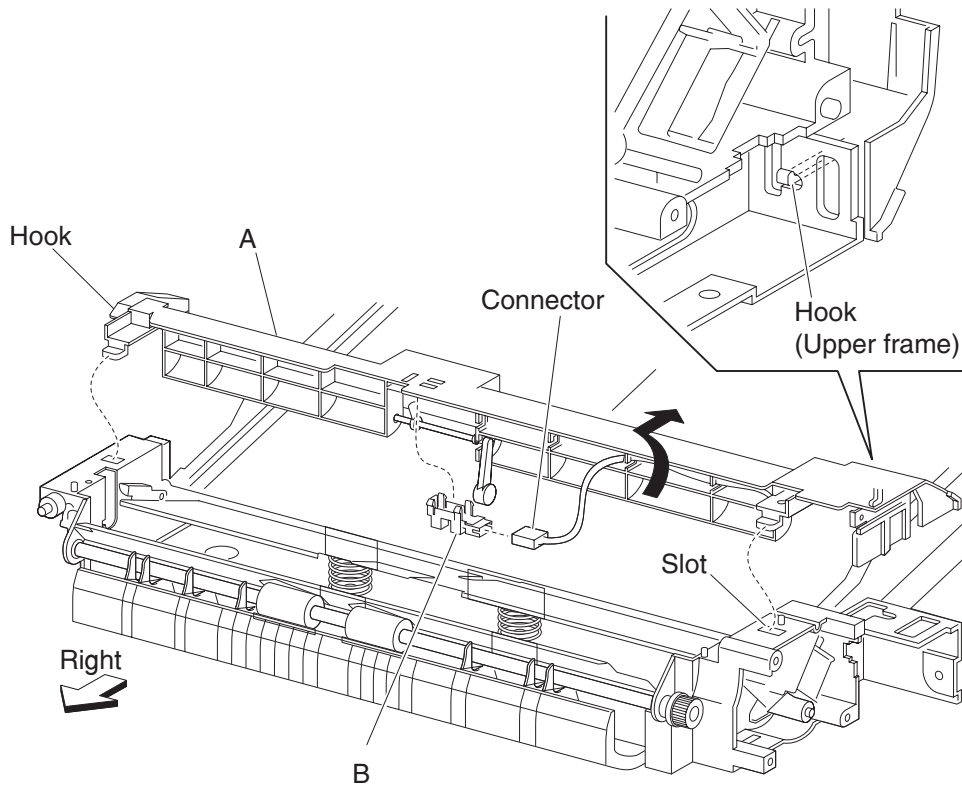
## MPF media out actuator and upper frame removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the two hooks securing the upper frame (A).
4. Remove the upper frame (A) by moving it up and out in the direction of the arrow.
5. Remove the MPF media out actuator (B) by prying it outward with a flat tip screwdriver, then slide it out in the direction of the arrow.



## Sensor (MPF media out) removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the two hooks securing the upper frame (A) to the MPF feed unit assembly.
4. Remove the upper frame (A) by moving it up and out in the direction of the arrow.
5. Disconnect the connector from the sensor (MPF media out) (B).
6. Release the hooks securing the sensor (MPF media out) (B) in the upper frame (A).
7. Remove the sensor (MPF media out) (B).

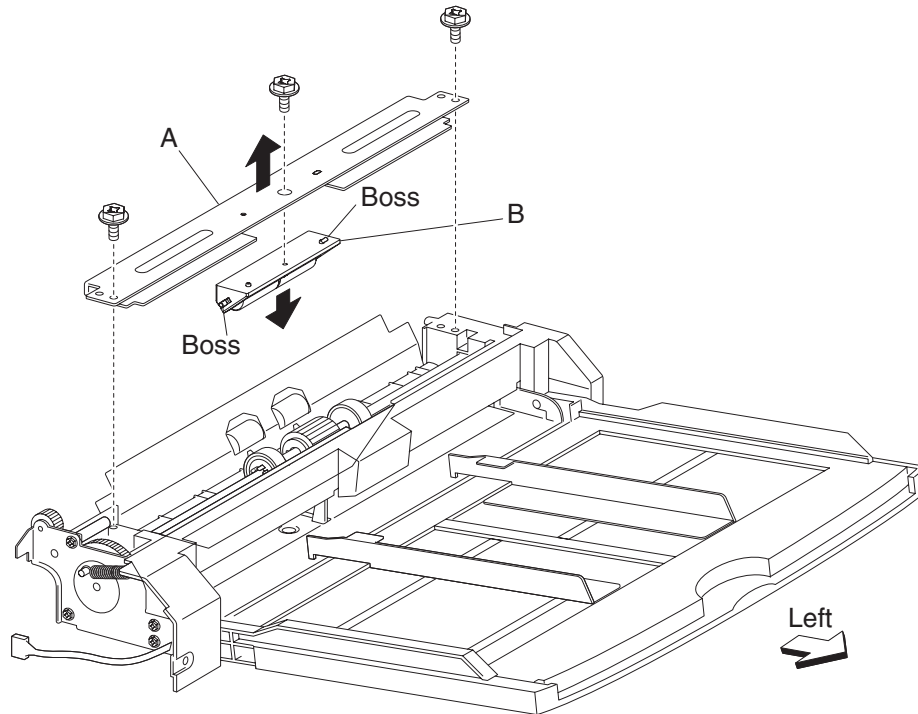


## MPF transport pinch roll assembly removal

1. Remove the MPF rear cover. Go to **“MPF rear cover removal” on page 4-58.**
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal” on page 4-54.**
3. Remove the two end screws securing the upper bracket (A) to the MPF feed unit assembly.
4. Remove the upper bracket (A).
5. Remove the one center screw securing the MPF transport pinch roll assembly (B) to the upper bracket (A).
6. Release the bosses securing the MPF transport pinch roll assembly (B) to the upper bracket.
7. Remove the MPF transport pinch roll assembly (B) by moving it in the direction of the arrow.

**Note:** Do not touch the plastic surface of the MPF pinch roll.

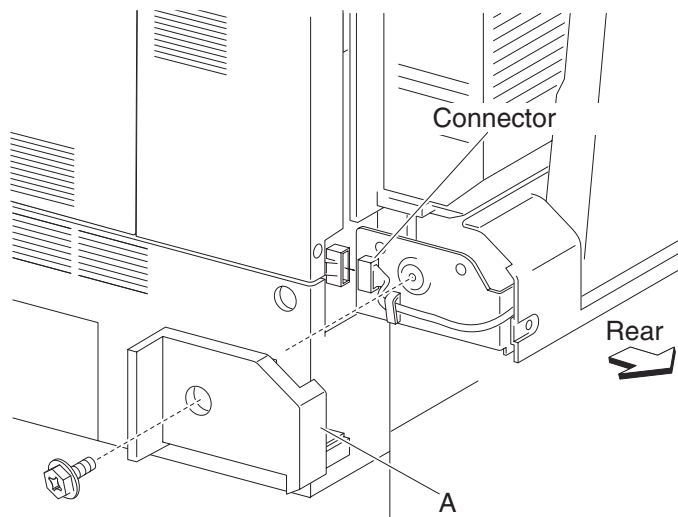
**Note:** Bushings and springs may become detached.



**Note:** Before reinstalling, ensure you do not touch the plastic roll surface.

## MPF rear cover removal

1. Remove the one screw securing the MPF rear cover (A).
2. Remove the MPF rear cover (A).



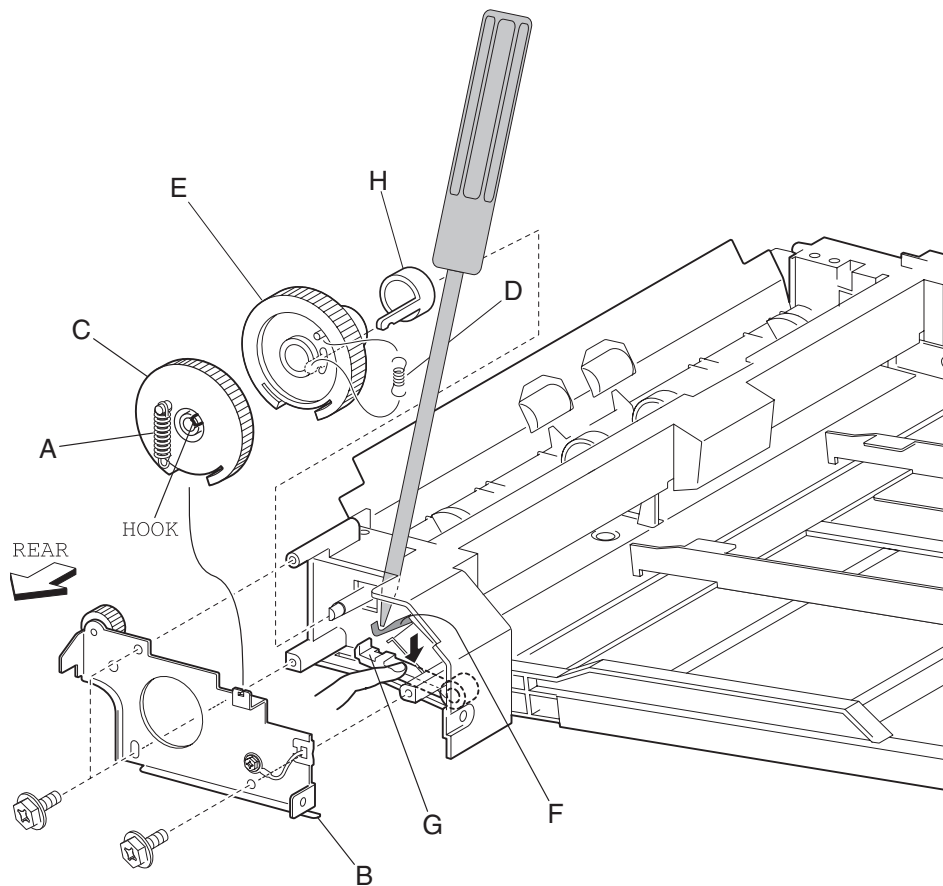


## MPF feed drive gear group removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the pickup spring (A) from the idler gear bracket assembly (B).  
**Note:** Leave the pickup spring (A) attached to the MPF feed drive gear pickup (C).
4. Remove the three screws securing the idler gear bracket assembly (B) to the MPF feed unit assembly.
5. Remove the idler gear bracket assembly (B).
6. Release the hooks securing the MPF feed drive gear pickup (C) to the shaft.
7. Remove the MPF feed drive gear pickup and pickup spring (A and C).

**Warning:** Depress the pick solenoid lever (F) and the pick lever (G) while performing step 8, or damage may occur.

8. Remove the small spring (D) from the drive cam gear (E).

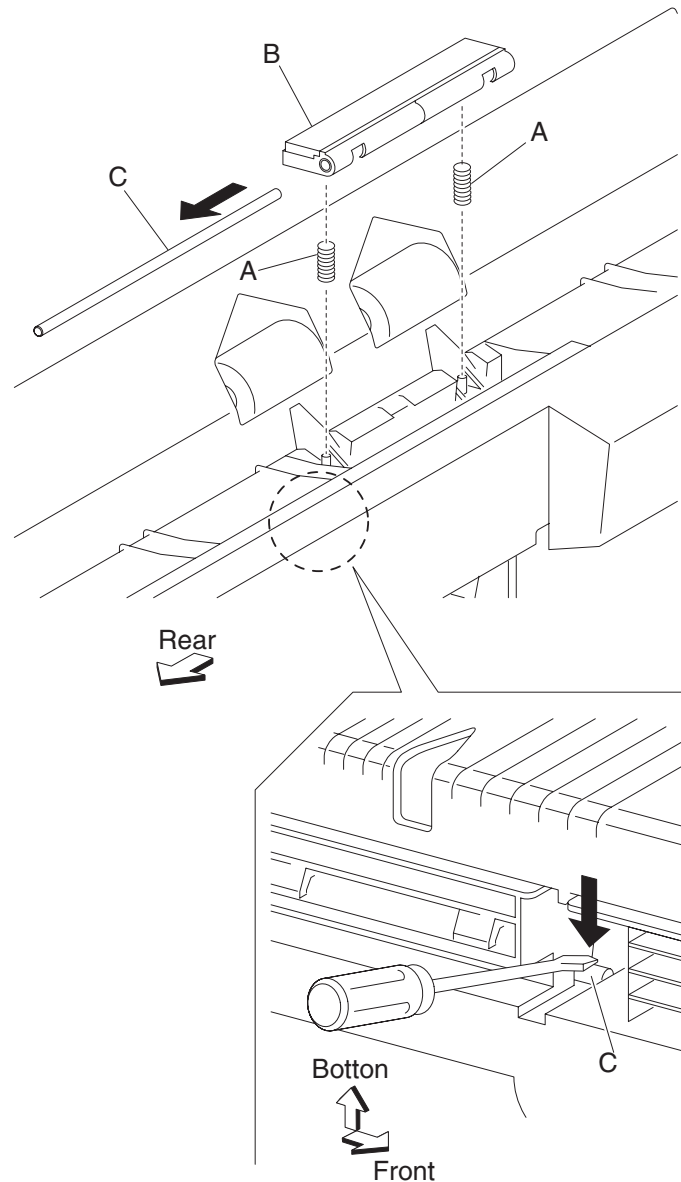


9. Remove the drive gear cam (E) and the drive stopper (H).

**Warning:** Before reinstalling, depress the pick solenoid lever and the pick lever while replacing the drive gear cam (E) and the drive stopper (H), or damage may occur.

## MPF pressure pad removal

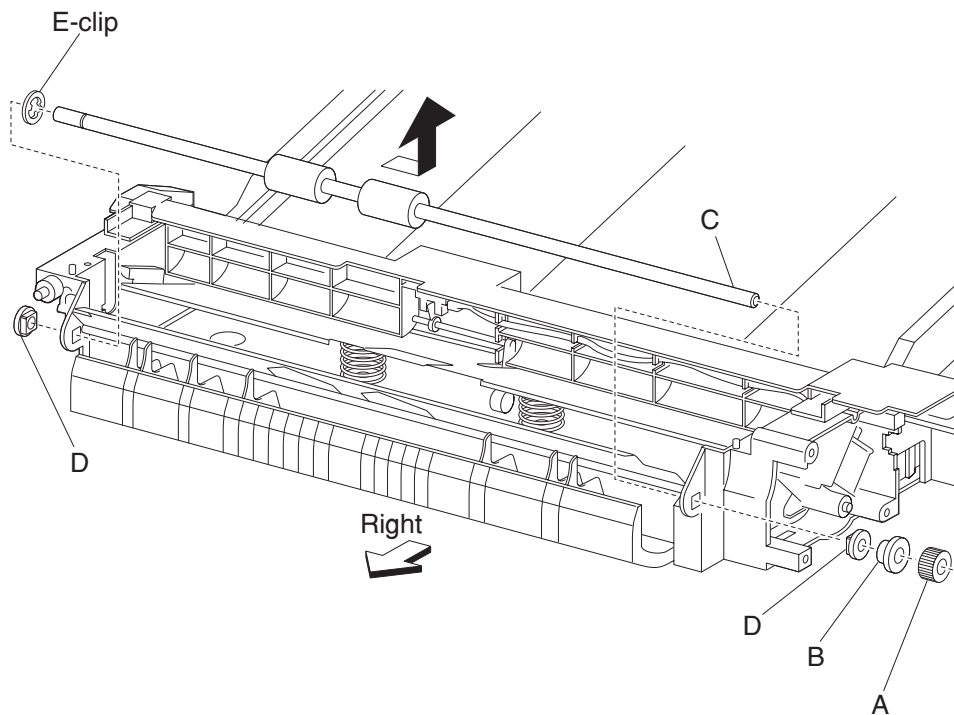
1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the MPF pick roll. See **“MPF pick roll removal”** on page 4-64.
4. Remove the MPF feed shaft assembly. See **“MPF feed shaft assembly removal”** on page 4-63.
5. Remove the two springs (A) under the pressure pad (B).
6. Turn the MPF upside down, and pry the shaft out with a flat blade screwdriver.
7. Remove the separation pad (B) and the shaft (C) by moving it in the direction of the arrow from the backside.



**Note:** Before reinstalling, ensure the two springs (A) remain in the proper position during reassembly of the feed shaft assembly and MPF feed roll.

## MPF transport roll assembly removal

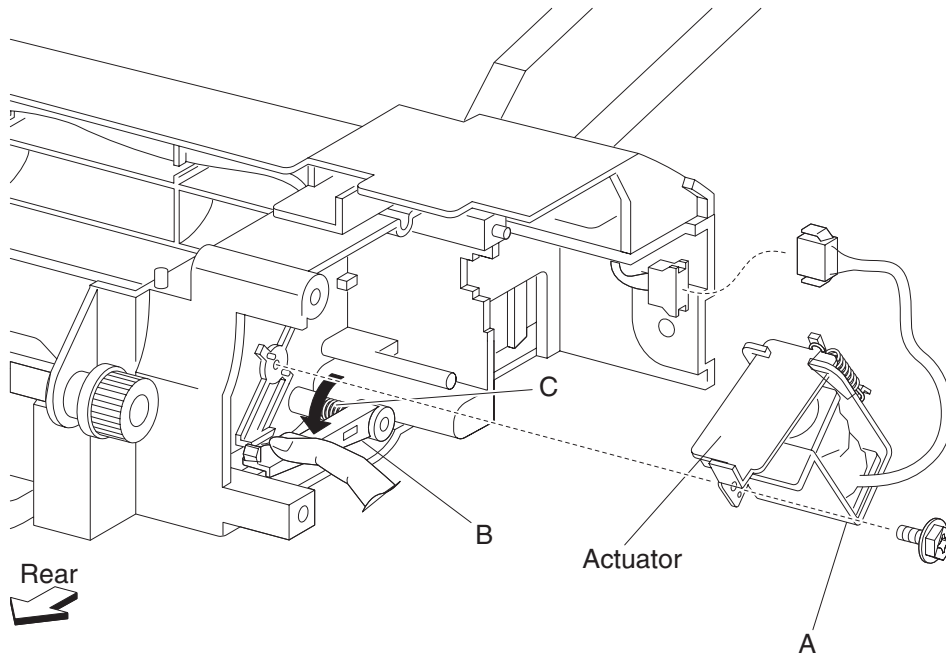
1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the two end screws securing the upper bracket to the MPF feed unit assembly.
4. Remove the upper bracket.
5. Remove the MPF transport gear - 18 tooth (A).  
**Note:** The MPF transport gear - 18 tooth will be tight and requires extra force to remove.
6. Remove the transport shaft collar (B).
7. Remove the e-clip with a prying tool securing the MPF transport roll assembly (C) to the MPF feed unit assembly.
8. Remove the two bushings 8 mm (D).
9. Remove the MPF transport roll assembly by moving it rightward then upward in the direction of the arrow.  
**Note:** When removing the MPF transport roll assembly (C), do not touch the rubber surface.



**Note:** Before reinstalling the MPF transport roll assembly (C), do not touch the rubber surface.

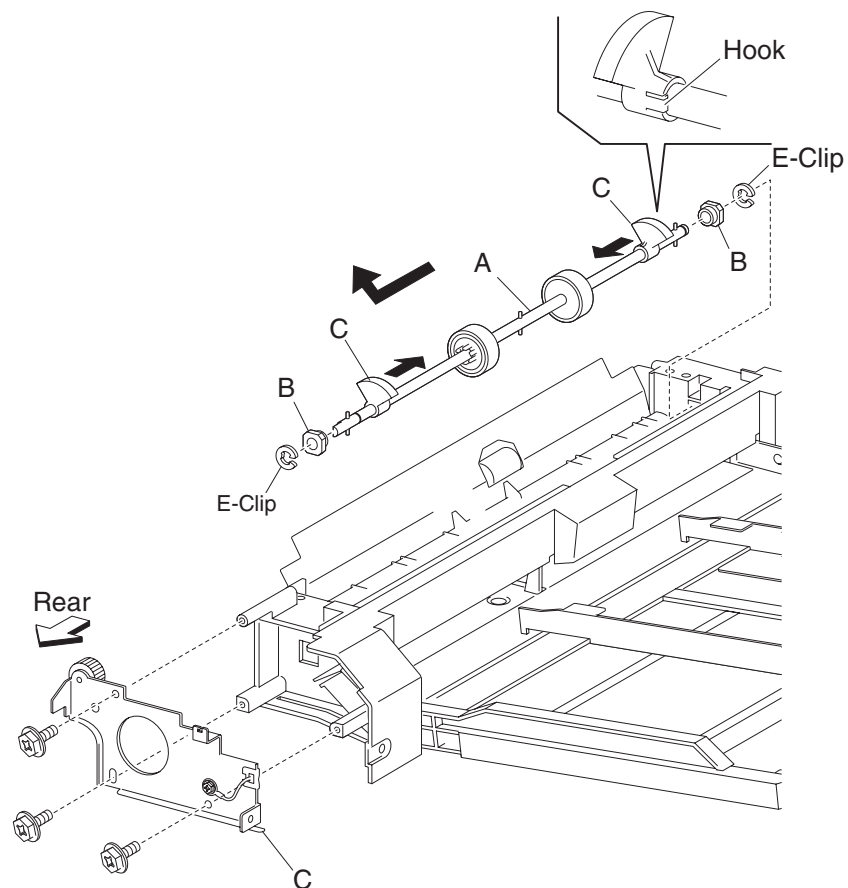
## MPF pick solenoid / pick lever removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the MPF feed drive gear group. See **“MPF feed drive gear group removal”** on page 4-59.
4. Remove one screw securing the pick solenoid (A).
5. Disconnect the connector from the pick solenoid (A).
6. Remove the MPF pick solenoid (A).  
**Note:** When removing the pick solenoid (A), lower the actuator (B).
7. Remove the pick lever (B).
8. Remove the spring (C).



## MPF feed shaft assembly removal

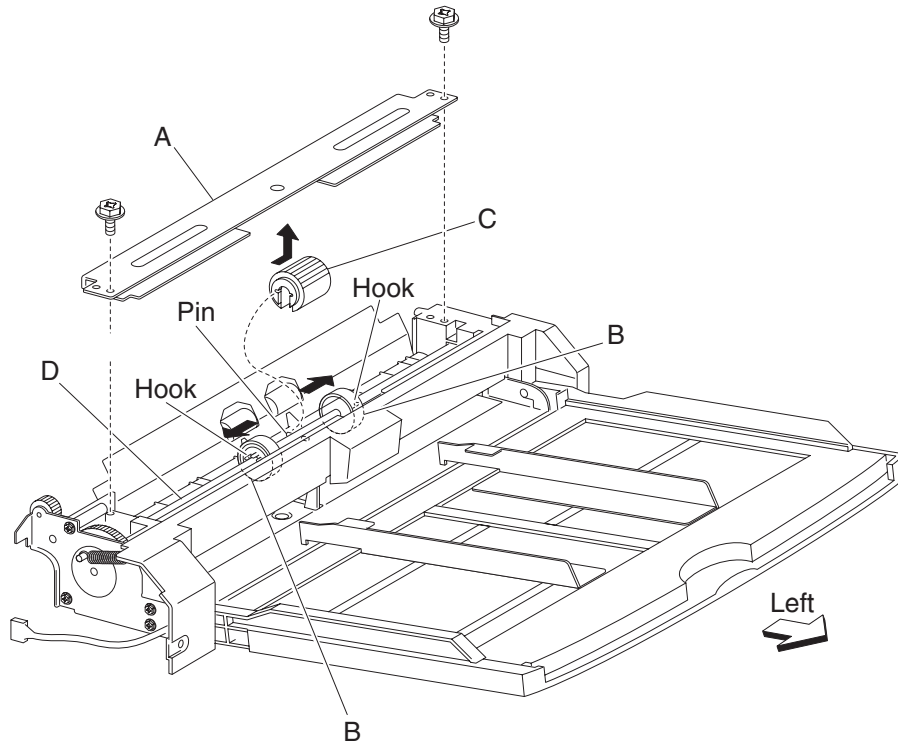
1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the MPF pick roll. See **“MPF pick roll removal”** on page 4-64.
4. Remove the MPF feed drive gear group. See **“MPF feed drive gear group removal”** on page 4-59.
5. Remove the two e-rings with a prying tool that secures the feed shaft assembly (A) to the MPF feed unit assembly.
6. Remove the two bushings (B).
7. Release the hooks securing the two feed shaft cams (C), and slide them inward towards the center of the MPF feed shaft assembly (A).
8. Remove the feed shaft assembly (A) by moving it to the side then upwards in the direction of the arrow.



## MPF pick roll removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the two end screws securing the upper bracket (A) to the MPF feed unit assembly.
4. Remove the upper bracket (A).
5. Release the two hooks securing the two feed shaft cores (B), and slide them both outward.
6. Remove the MPF pick roll (C) from the feed shaft assembly (D) by sliding it to the right in the direction of the arrow and lifting upward.

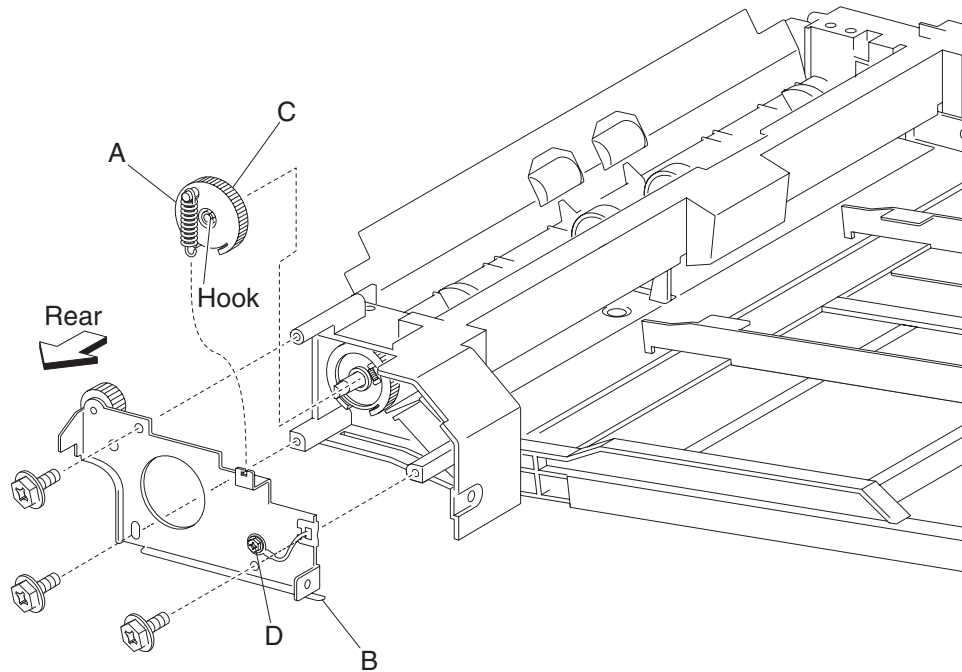
**Note:** When removing the MPF pick roll (C), do not touch the rubber surface.



**Note:** Before reinstalling the MPF pick roll assembly (C), do not touch the rubber surface.

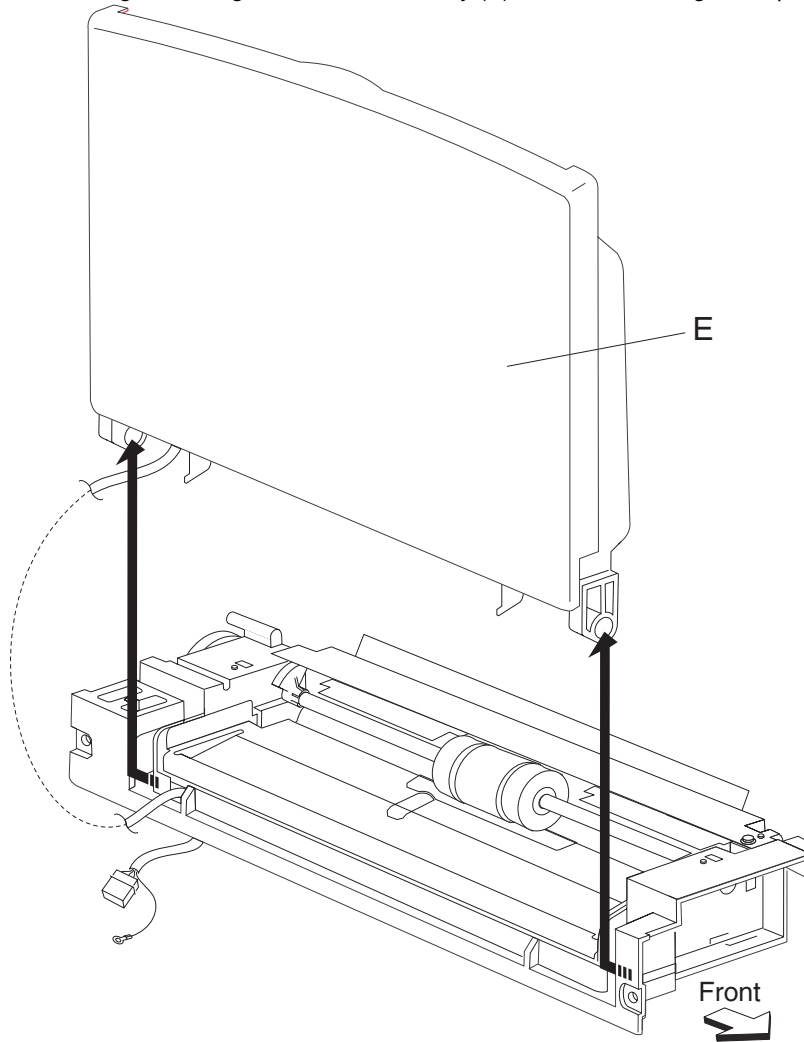
## MPF fold down tray assembly removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the MPF upper frame. See **“MPF media out actuator and upper frame removal”** on page 4-55.
4. Remove the pickup spring (A) from the idler gear bracket assembly (B).  
**Note:** Leave the pickup spring (A) attached to the MPF feed drive gear pickup (C).
5. Remove three screws securing the idler gear bracket assembly (B) to the MPF feed unit assembly.
6. Remove the idler gear bracket assembly (B).
7. Remove the green ground wire (D) from the idler gear bracket assembly (B).
8. Remove the green (D) ground wire from the clamp.



9. Disconnect the connector leading to the MPF fold down tray assembly (E).
10. Raise the MPF fold down tray assembly (E) to its upright position, and slide it to the side.
11. Remove the MPF fold down tray assembly (E).

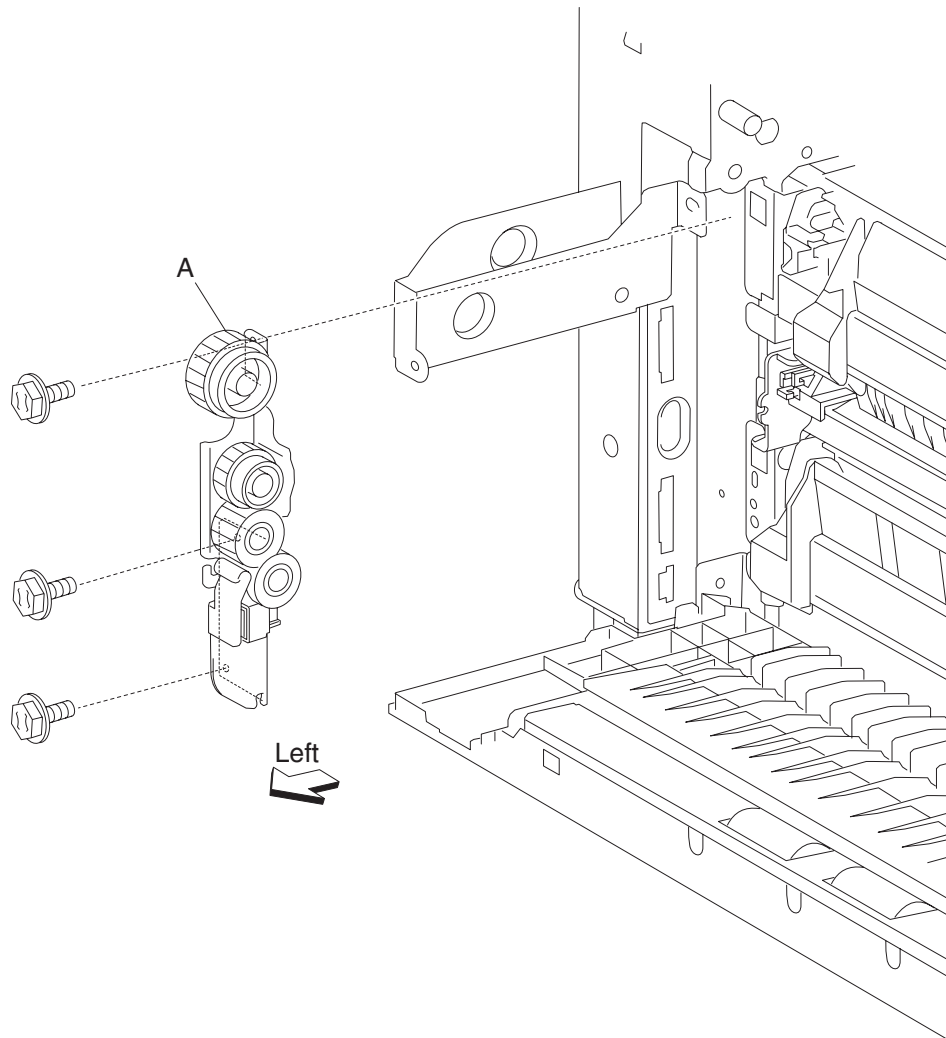
**Note:** Before reinstalling the idler gear bracket assembly (B), ensure the wiring is not pinched.





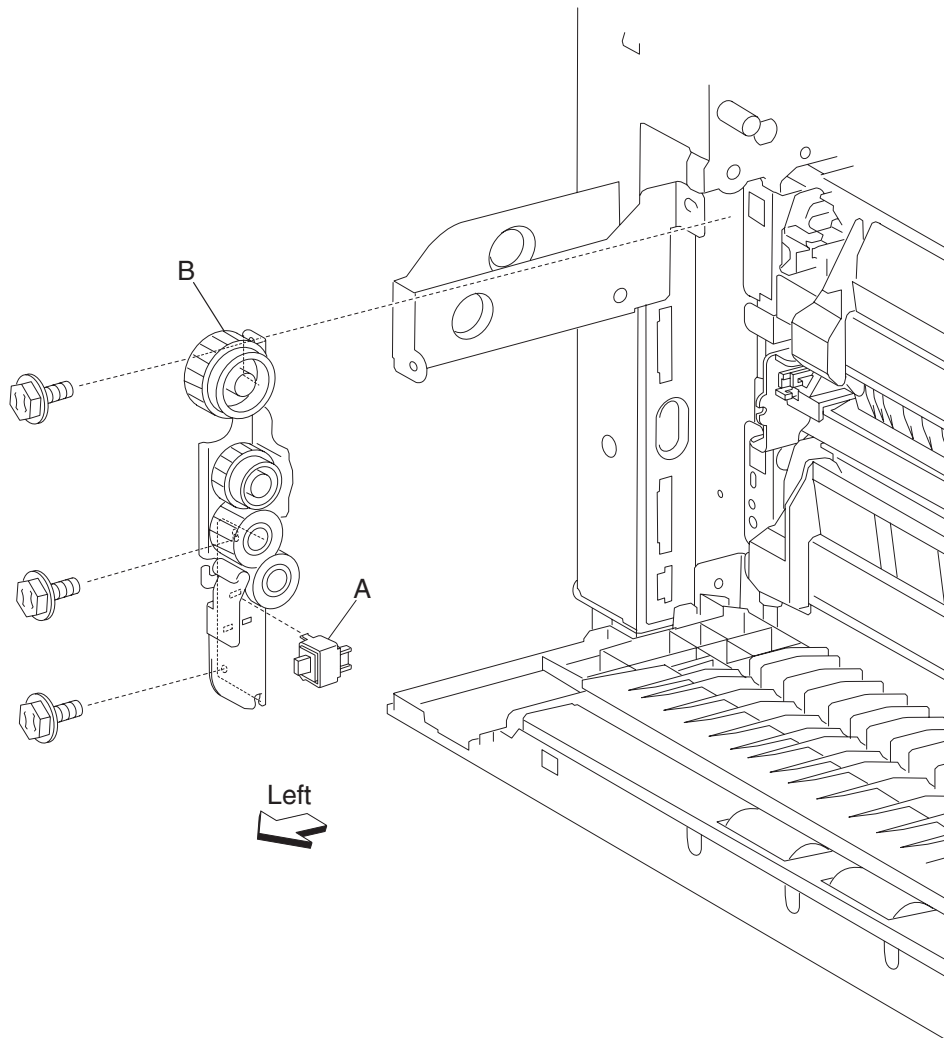
## Vertical drive gear assembly removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the printer left door assembly. See **“Printer left door assembly removal”** on page 4-75.
4. Open the printer left lower door assembly.
5. Remove the three screws securing the vertical drive gear assembly (A).
6. Release the harness from the clamp on the vertical drive gear assembly (A).
7. Remove the vertical drive gear assembly (A).



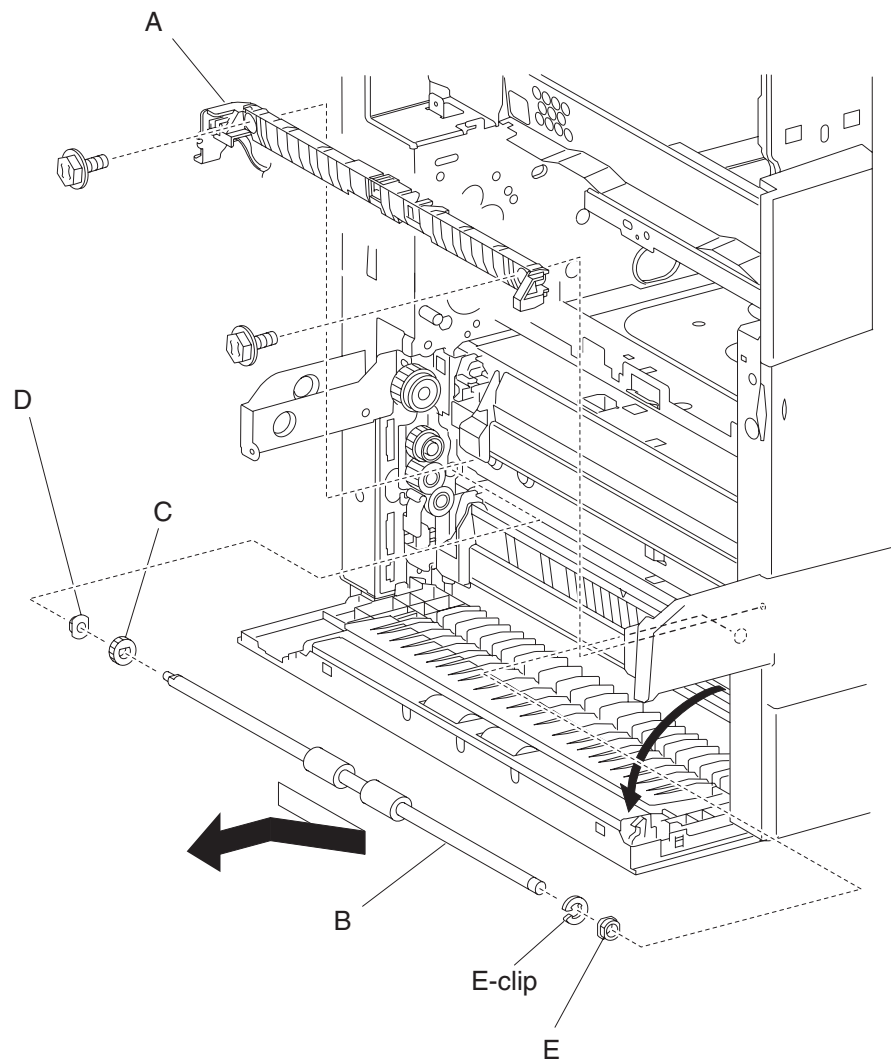
## Switch (left lower door interlock)

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the printer left door assembly. See **“Printer left door assembly removal”** on page 4-75.
4. Remove the vertical drive gear assembly. See **“Vertical drive gear assembly removal”** on page 4-67.
5. Disconnect the harness from the switch (left lower door interlock) (A).
6. Release the hooks securing the switch (left lower door interlock) (A) to the vertical drive gear assembly (B).
7. Remove the lower switch (left lower door interlock) (A).



## Media transport roll assembly / gear removal

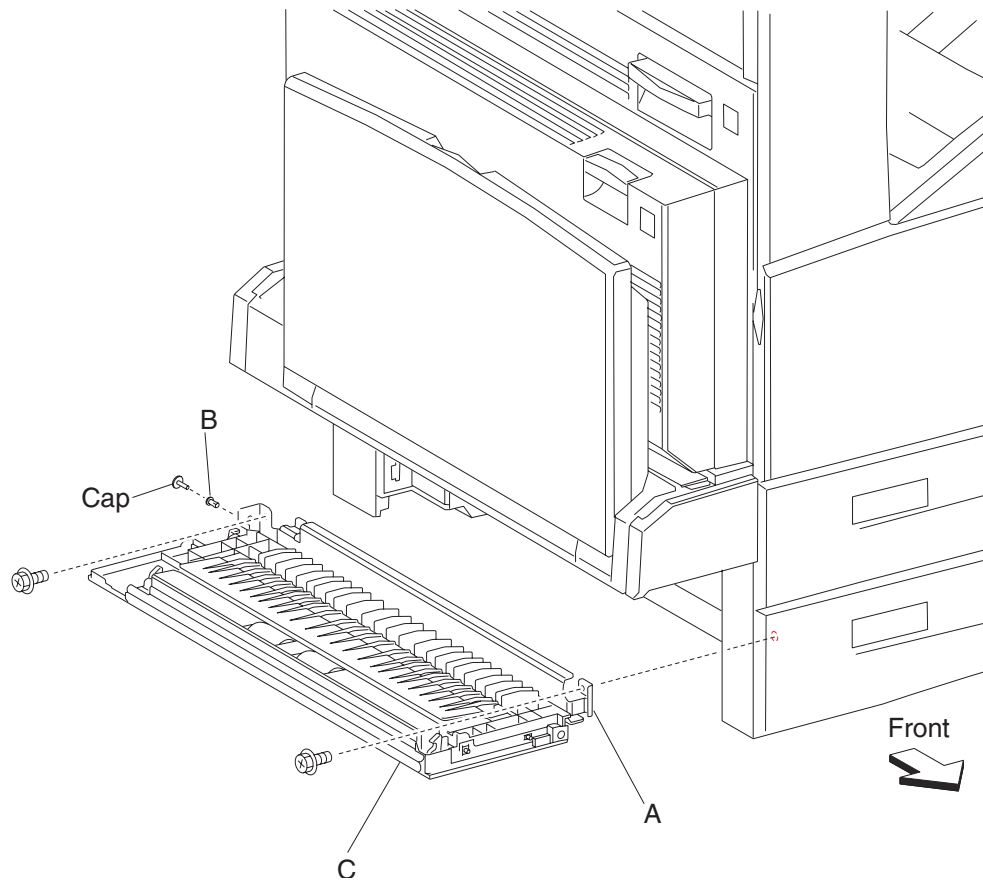
1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the printer left door assembly. See **“Printer left door assembly removal”** on page 4-75.
4. Open the printer left lower door assembly.
5. Remove the two screws securing the tray 2 feed-out sensor guide (A).
6. Remove the tray 2 feed-out sensor guide (A) while pulling on its center most point.
7. Remove the e-clip with needle nose pliers on the front side securing the media transport roll (B).
8. Remove the media transport roll assembly (B) by sliding it in the direction of the arrow and pulling out.  
**Note:** When removing the media transport roll assembly (B), do not touch the rubber surface.  
**Note:** When removing the media transport roll (B), the bushings and gear may become detached.
9. Remove the media transport roll gear 18 tooth (C).
10. Remove the transport roll rear bushing (D).
11. Remove the transport roll front bushing (E).



**Note:** Before reinstalling the media transport roll assembly (B), do not touch the rubber surface.

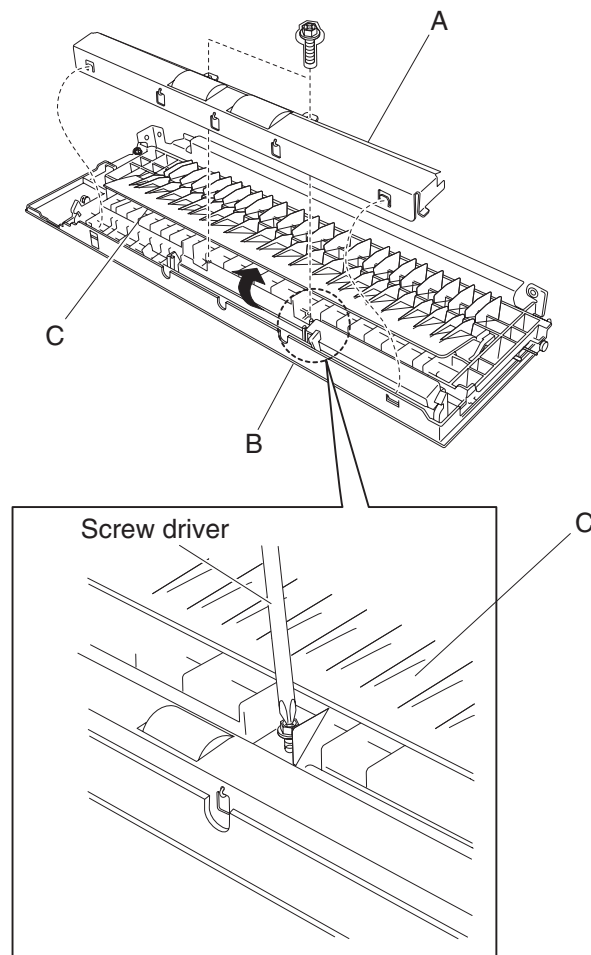
## Printer left lower door assembly removal

1. Open the printer left lower door assembly.
2. Remove the two screws securing the bracket (A).
3. Remove the bracket (A).
4. Pull the cap of the hinge pin (B) out with a prying tool to remove the hinge pin (B) from the bracket (A).
5. Remove the hinge pin (B).
6. Remove the printer left lower door assembly (C) from the bracket (A).



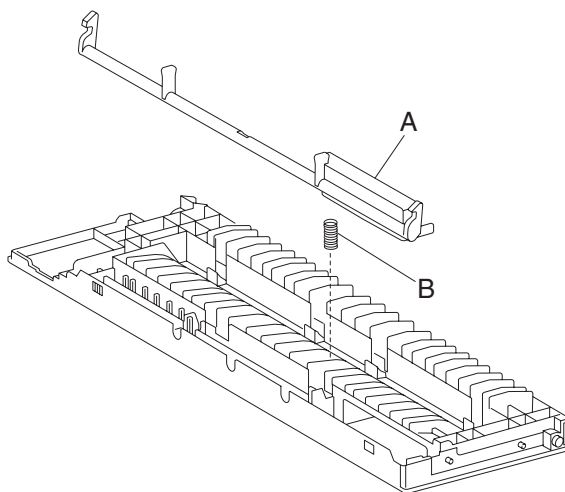
## Printer left lower pinch roll assembly removal

1. Open the printer left lower door assembly.
2. Remove the two screws securing the left lower pinch roll assembly (A) to the printer left lower door assembly (B).  
**Note:** The media guide (C) can be slightly lifted to gain better access to the attaching screws.
3. Release two hooks securing the left lower pinch roll assembly (A) to the printer left lower door assembly (B).
4. Remove the left lower pinch roll assembly (A).



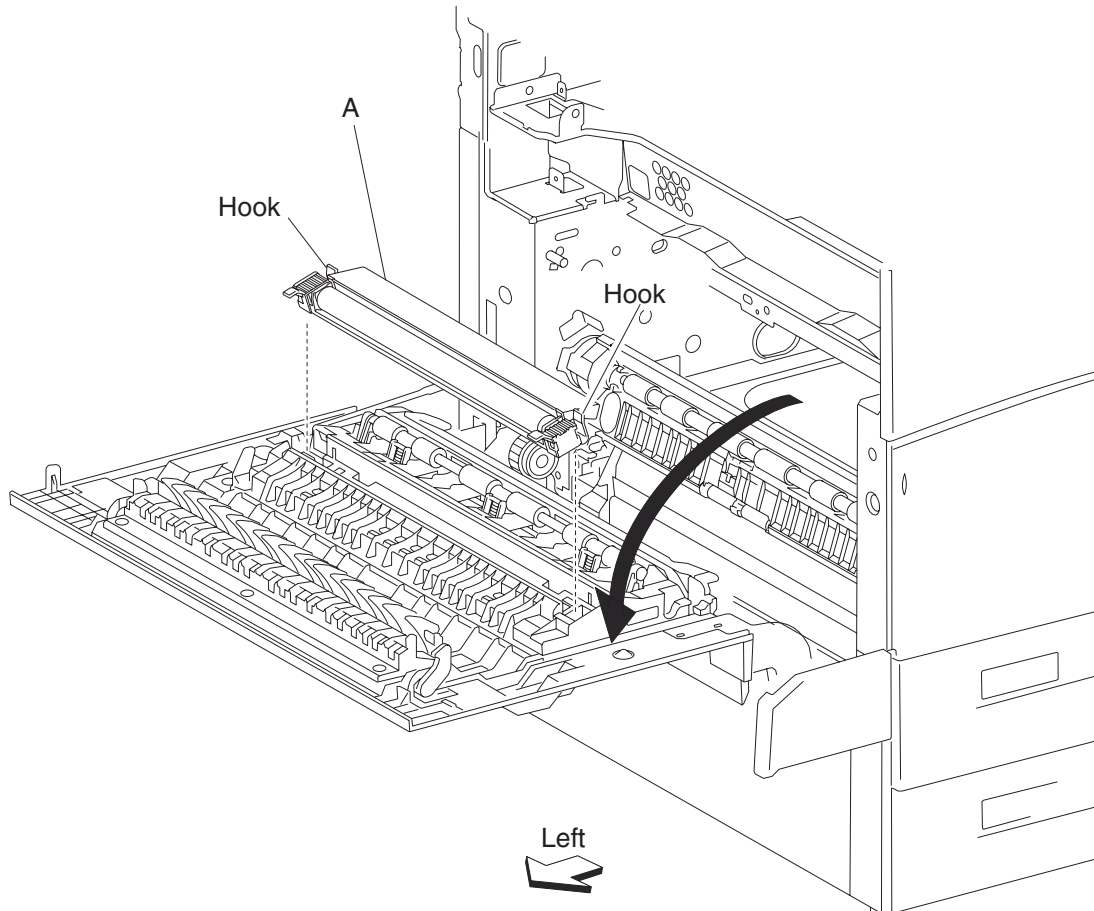
## Left lower door handle assembly removal

1. Open the printer left lower door assembly.
2. Remove the printer left lower pinch roll assembly. See **“Printer left lower pinch roll assembly removal” on page 4-71.**
3. Remove the left lower door handle (A).
4. Remove the spring (B).



## Transfer roll assembly removal

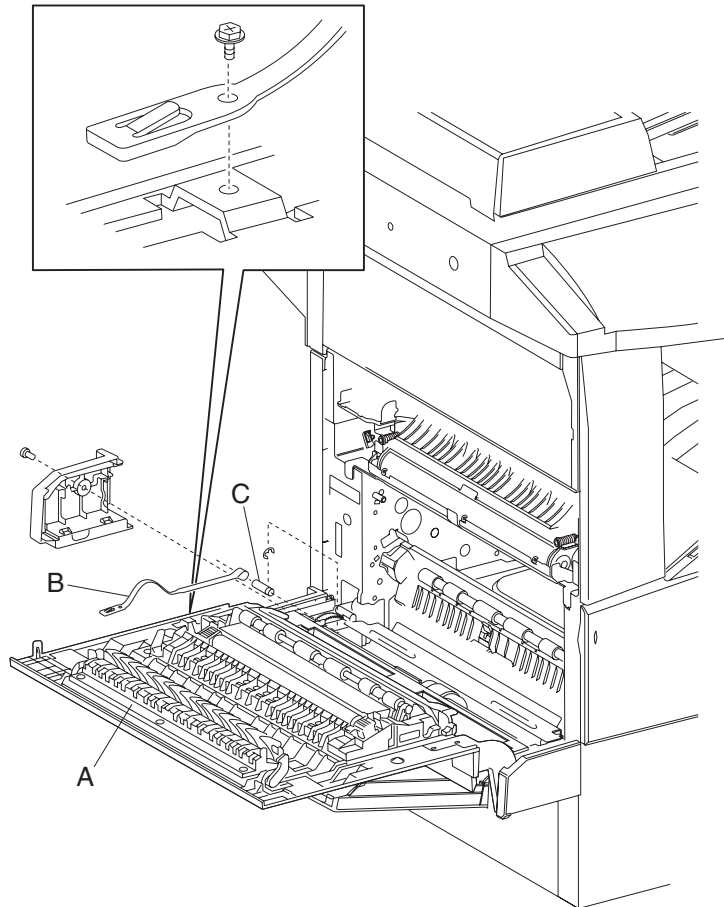
1. Open the printer left door assembly.
2. Release the two plastic hooks on the transfer roll assembly (A).
3. Remove the transfer roll assembly (A) by lifting it upward.  
**Note:** When removing the transfer roll assembly (A), do not touch the roll surface.



**Note:** Before reinstalling the transfer roll assembly (A), do not touch the roll surface.

## Printer left door support strap removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Open the printer left door assembly (A).
3. Remove the screw securing the printer left door support strap (B) to the printer left door (A).
4. Remove the e-clip securing the shaft (C) to the printer.
5. Remove the shaft (C).
6. Remove the printer left door support strap (B).

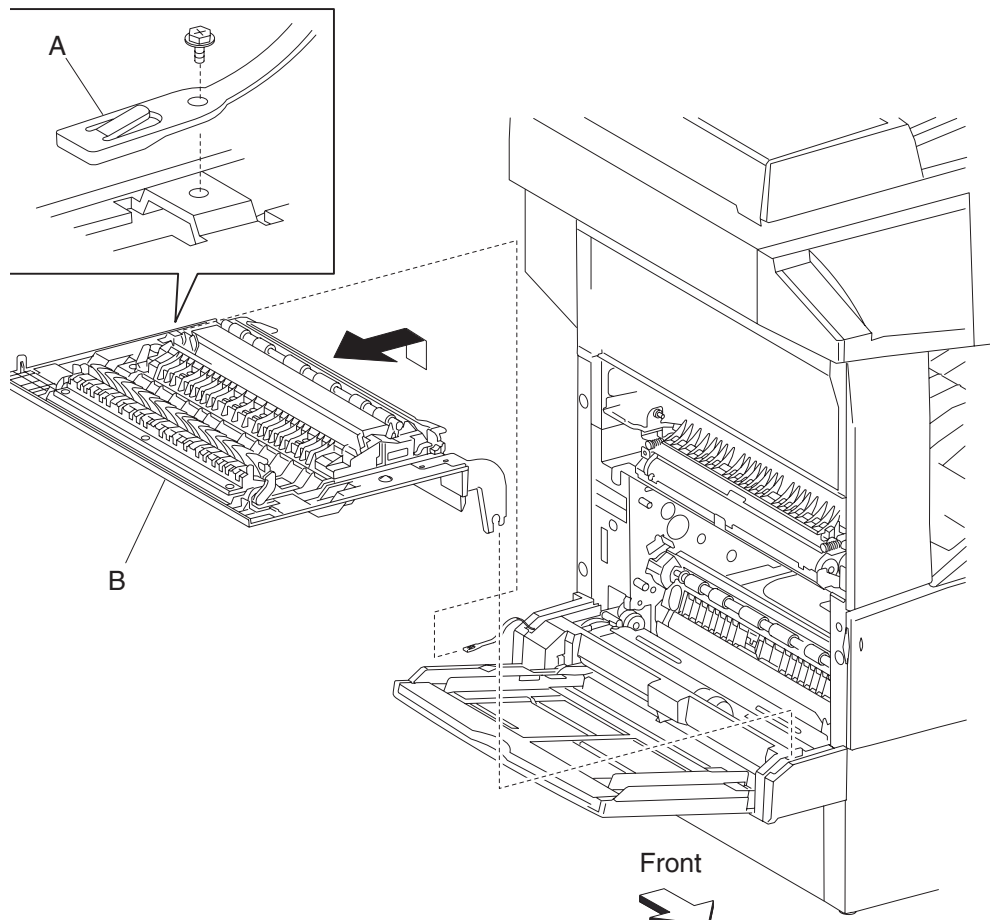




## Printer left door assembly removal

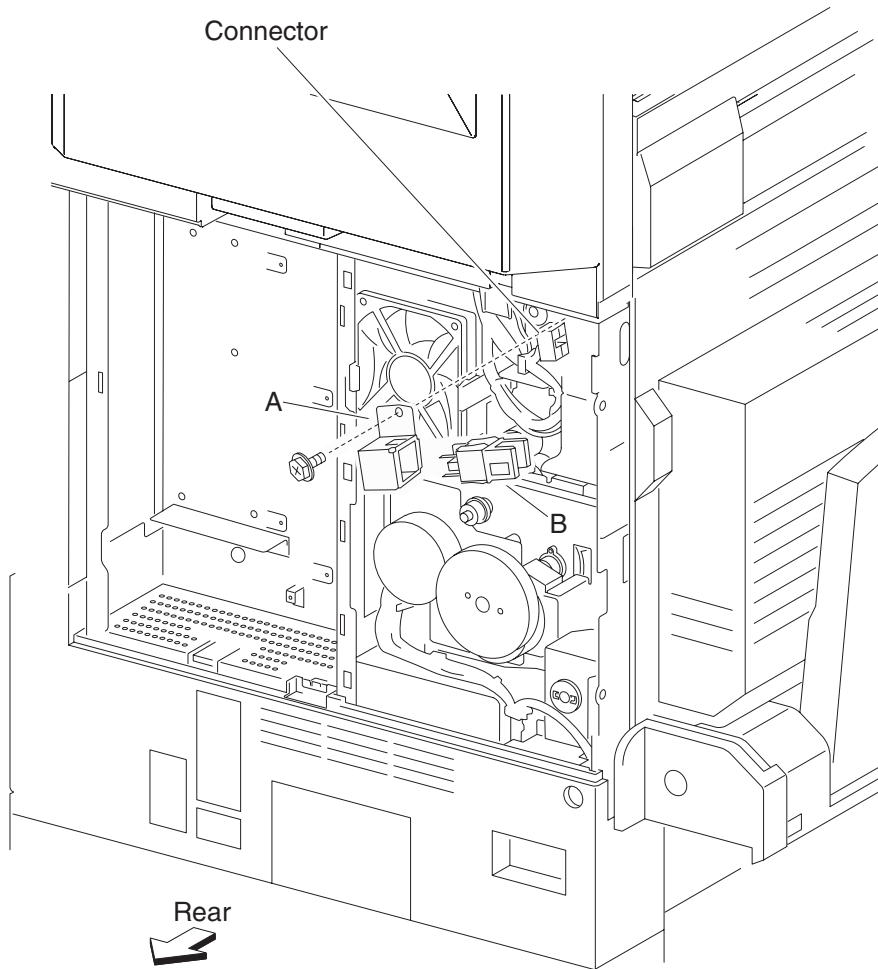
**Note:** First, remove the duplex unit assembly if equipped.

1. Open the printer left door assembly.
2. Remove the screw securing the left door support strap (A) to the printer left door assembly (B).
3. Remove the printer left door assembly (B) by lowering it then lifting upward.



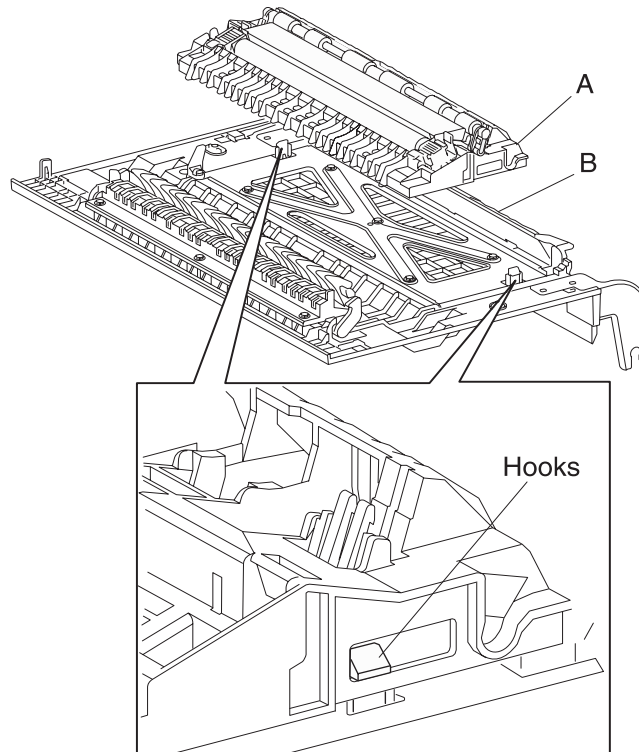
## Switch (printer left door interlock) removal

1. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
2. Open the printer left door assembly.
3. Remove the one screw securing the bracket (A) to the printer.
4. Remove the bracket (A).
5. Disconnect the connector from the switch (printer left door interlock) (B).
6. Release the hooks securing the switch (printer left door interlock) (B) to the bracket (A).
7. Remove the switch (printer left door interlock) (B).



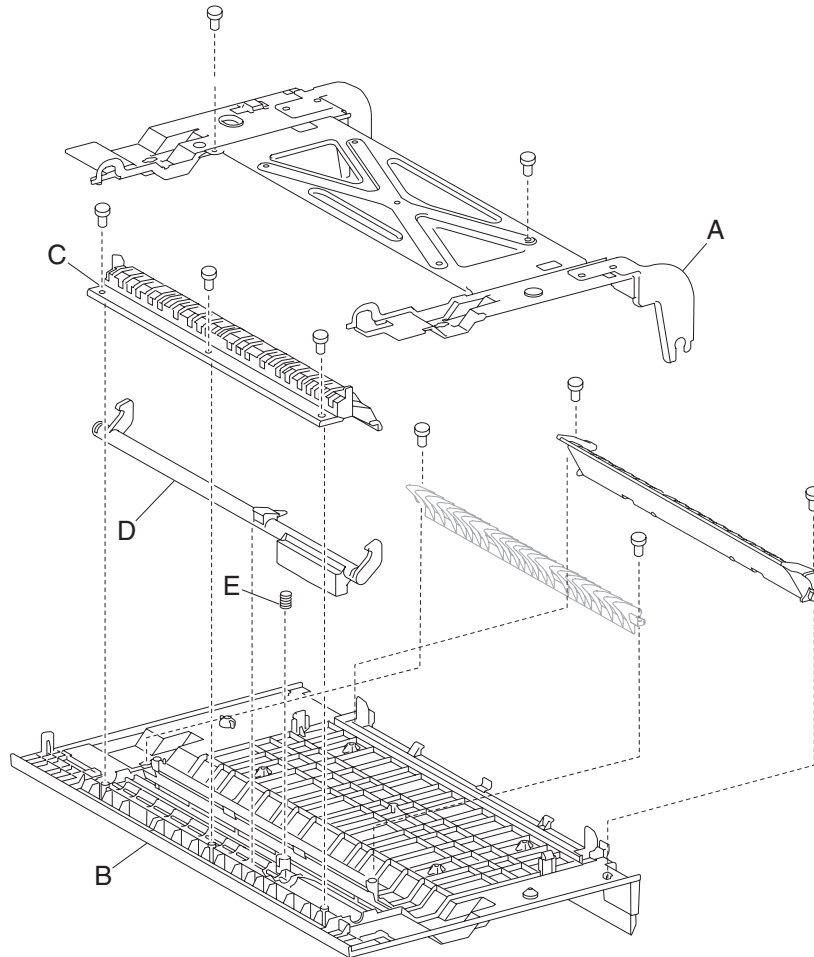
## Transfer roll guide assembly removal

1. Open the printer left door assembly.
2. Remove the printer left door assembly. See **“Printer left door assembly removal”** on page 4-75.
3. Remove the transfer roll assembly. See **“Transfer roll assembly removal”** on page 4-73.
4. Release the two hooks securing the transfer roll guide assembly (A) to the printer left door assembly (B).
5. Remove the transfer roll guide assembly (A).



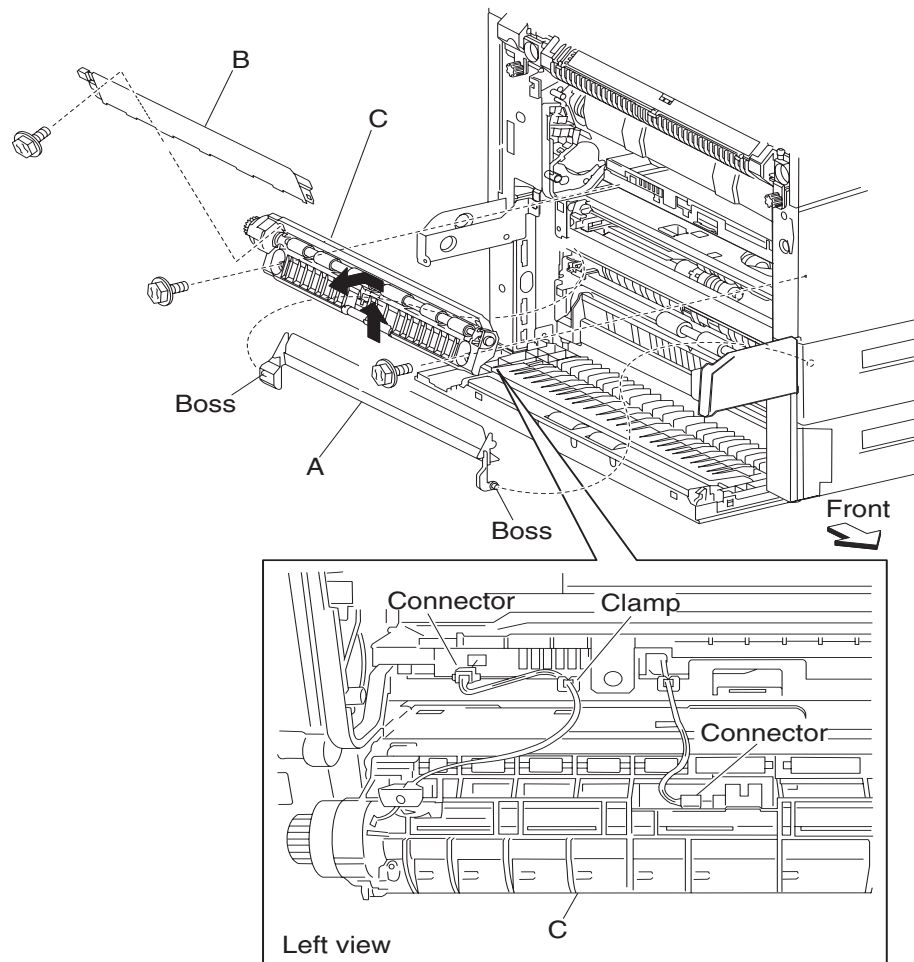
## Printer left door assembly handle removal

1. Open the printer left door assembly.
2. Remove the printer left door assembly. See **“Printer left door assembly removal” on page 4-75.**
3. Remove the transfer roll guide assembly. See **“Transfer roll guide assembly removal” on page 4-77.**
4. Remove five screws securing the metal frame (A) to the plastic cover (B).
5. Remove the metal frame (A) by lifting it upward and sliding outward.
6. Remove the three screws securing the handle cover (C).
7. Remove the handle cover (C).
8. Remove the printer left door assembly handle (D).
9. Remove the spring (E).



## Registration roll assembly removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the printer left door assembly. See **“Printer left door assembly removal”** on page 4-75.
4. Remove the bosses on both ends of the vertical turn mylar guide (A).
5. Remove the vertical turn mylar guide (A).  
**Warning:** The vertical turn mylar guide (A) requires moderate force to remove. Be careful not to damage it.
6. Remove the two screws securing the registration mylar guide assembly (B) to the registration roll assembly (C).
7. Remove the registration mylar guide assembly (B).
8. Remove the two screws securing registration roll assembly (C).
9. Remove the registration roll assembly (C) by lifting it upward and outward in the direction of the arrow.  
**Note:** When removing the registration roll assembly (C), use care not to damage the two harnesses located on the backside of the assembly.
10. Release the harness from the clamp.
11. Disconnect the two connectors from the registration roll assembly (C).

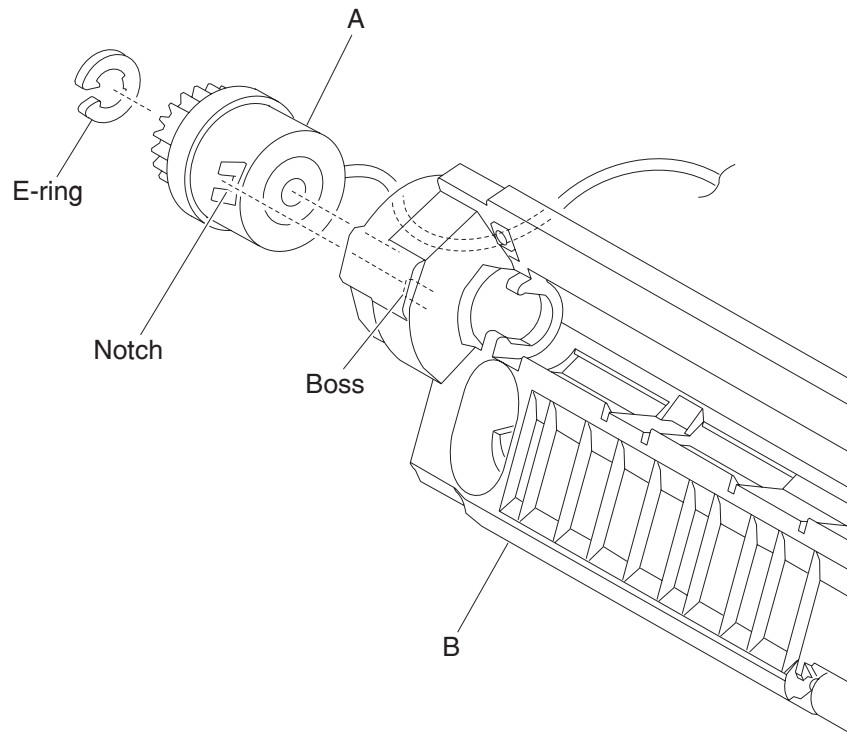


### Note:

- Before reinstalling the registration roll assembly (C), fit the bosses on the rear center of the assembly into the holes.
- Before reinstalling the two harness connectors, ensure they are plugged in properly.

## Registration clutch assembly removal

1. Remove the MPF rear cover. See **“MPF rear cover removal” on page 4-58.**
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal” on page 4-54.**
3. Remove the printer left door assembly. See **“Printer left door assembly removal” on page 4-75.**
4. Remove the registration roll assembly. See **“Registration roll assembly removal” on page 4-79.**
5. Remove the e-ring with a prying tool securing the registration clutch assembly (A) to the registration roll assembly (B).
6. Remove the registration clutch assembly (A) along with the harness.

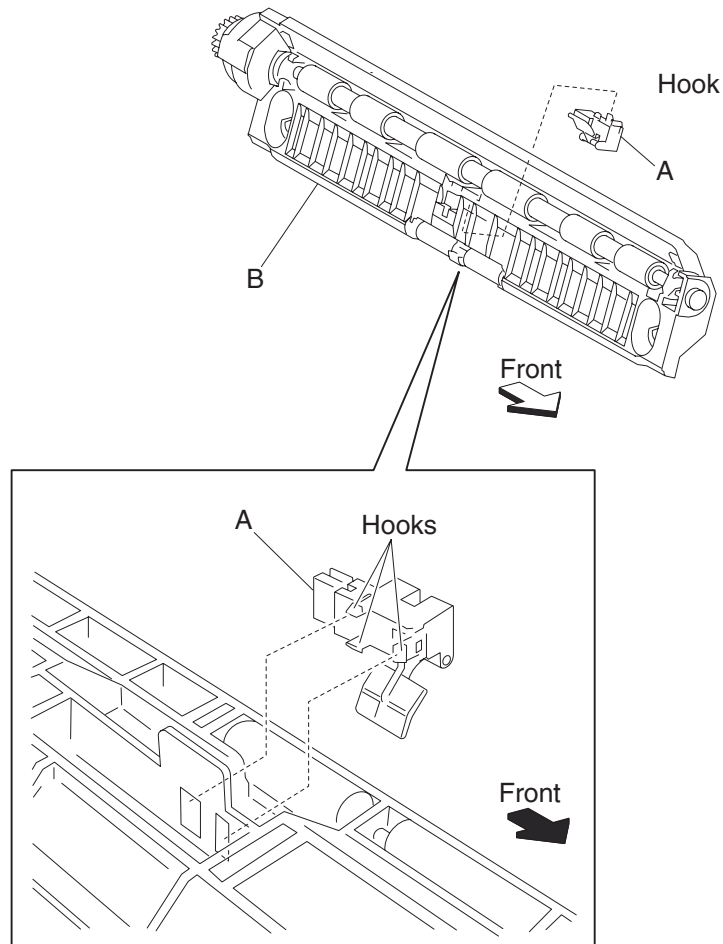


### Note:

- Before reinstalling, the harness for the clutch must be placed through the hole on the registration roll assembly (B).
- Before reinstalling, the notch on the registration clutch assembly (A) must be placed over the boss of the registration roll assembly (B).

## Sensor (registration) removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the printer left door assembly. See **“Printer left door assembly removal”** on page 4-75.
4. Remove the registration roll assembly. See **“Registration roll assembly removal”** on page 4-79.
5. Release the hooks securing the sensor (registration) (A) to the registration roll assembly (B).
6. Remove the sensor (registration) (A).
7. Disconnect the connector from the sensor (registration).

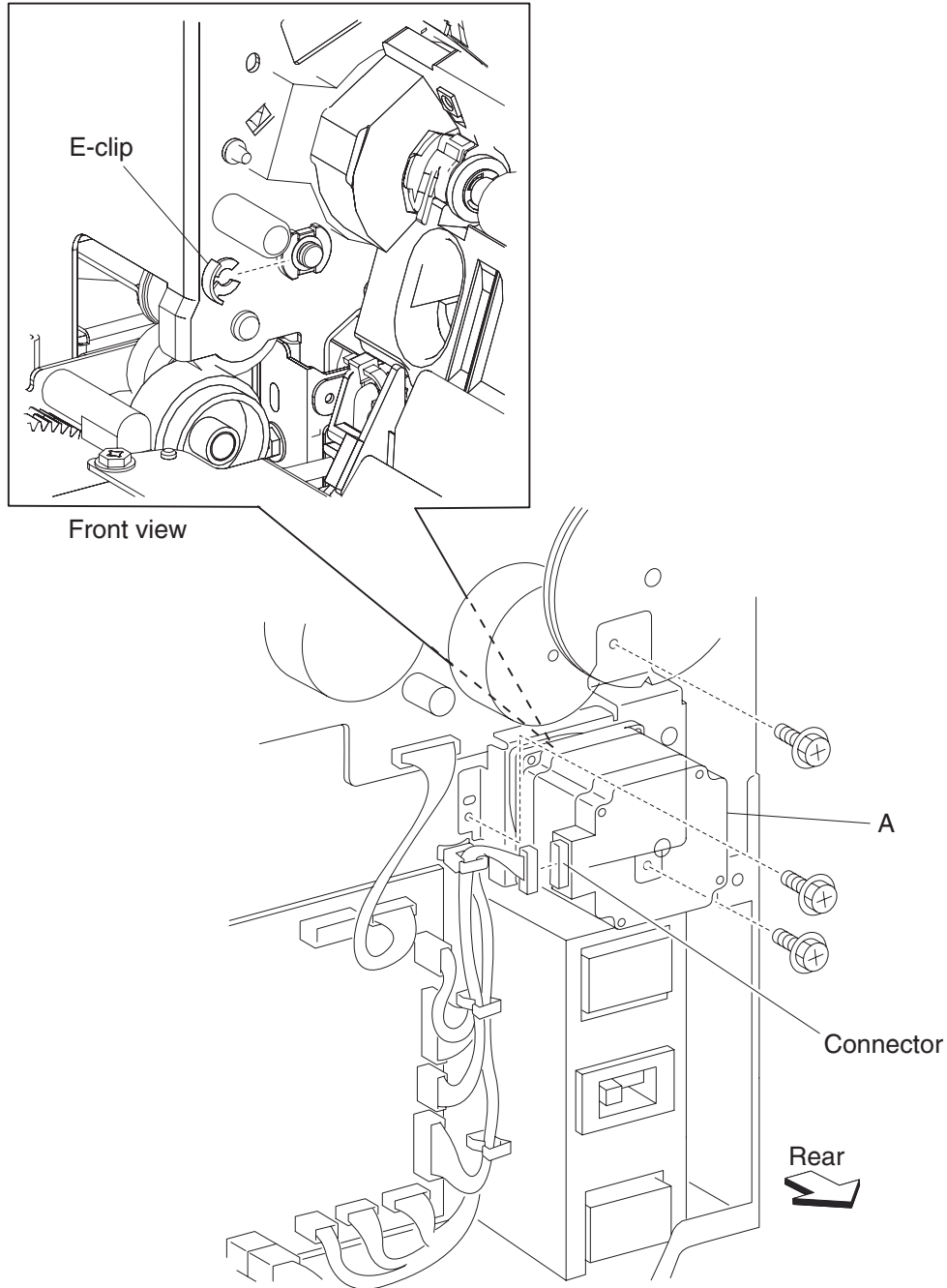


## MPF/transport drive motor assembly removal

1. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
2. Remove the rear lower cover. See **“Rear lower cover removal”** on page 4-12.
3. Open the printer left door assembly.
4. Remove the e-clip with needle nose pliers.

**Note:** This e-clip is located inside the machine behind the printer left door.

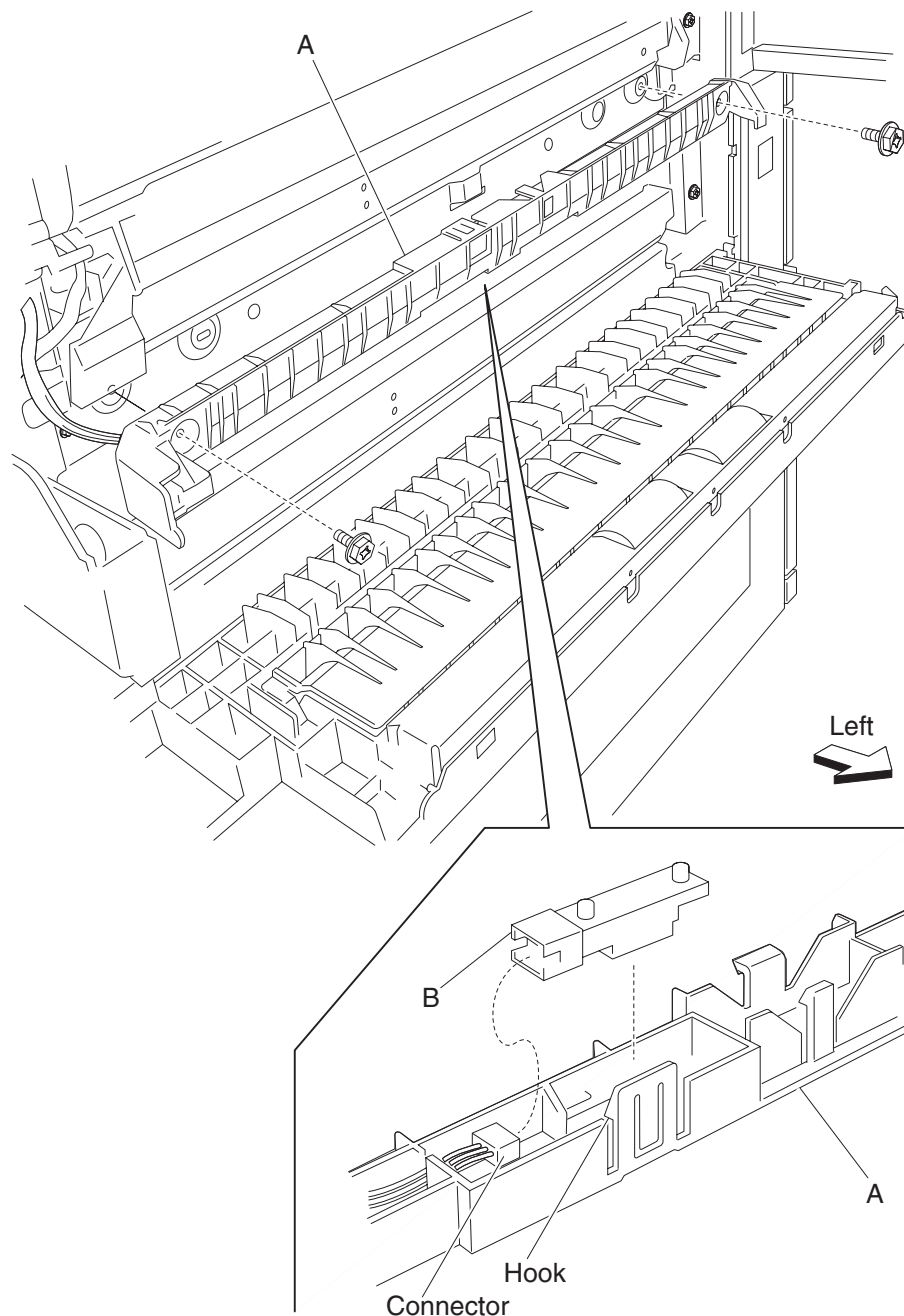
5. Release the hook and disconnect the connector from the MPF/transport drive motor assembly (A).
6. Remove the three screws securing the MPF/transport drive motor assembly (A) to the machine.
7. Remove the MPF/transport drive motor assembly (A).





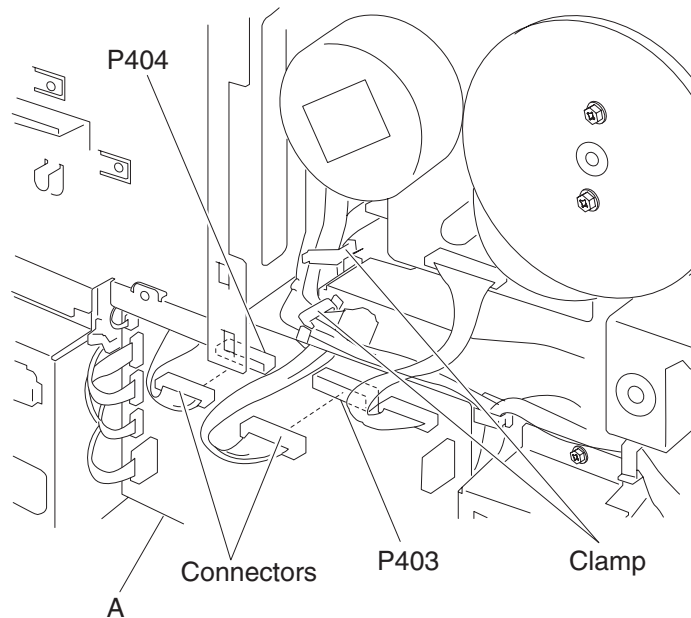
## Sensor (tray 2 feed-out) removal

1. Remove the MPF rear cover. See **“MPF rear cover removal”** on page 4-58.
2. Remove the MPF feed unit assembly. See **“MPF feed unit assembly removal”** on page 4-54.
3. Remove the printer left door assembly. See **“Printer left door assembly removal”** on page 4-75.
4. Open the printer left lower door assembly. See **“Printer left lower door assembly removal”** on page 4-70.
5. Remove the two screws securing the tray 2 feed-out sensor guide (A).
6. Remove the tray 2 feed-out sensor guide (A) while pulling on its center most point.
7. Disconnect the connector from the sensor (tray 2 feed-out) (B).
8. Release the hook securing the sensor (tray 2 feed-out) (B).
9. Remove the sensor (tray 2 feed-out) (B).



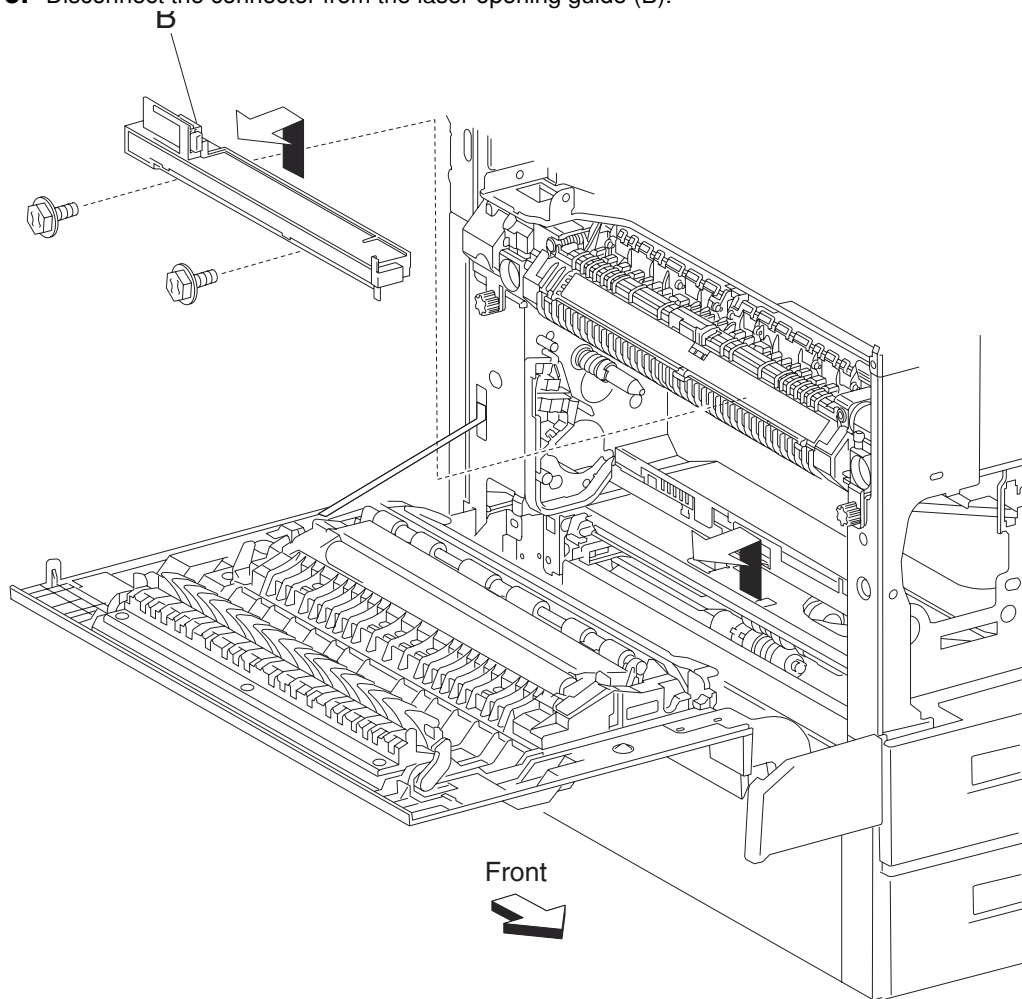
## Switch (PC cartridge interlock) removal

1. Remove the printer front left cover. See **“Printer front left cover removal” on page 4-3.**
2. Remove the top cover assembly. See **“Top cover assembly removal” on page 4-5.**
3. Remove the PC cartridge.
4. Remove the toner cartridge.
5. Remove the printer front door assembly. See **“Printer front door assembly removal” on page 4-6.**
6. Remove the front inner cover. See **“Front inner cover removal” on page 4-8.**
7. Remove the HVPS card assembly. See **“High voltage power supply (HVPS) card removal” on page 4-114.**
8. Remove the toner cartridge guide assembly. See **“Toner cartridge guide assembly removal” on page 4-95.**
9. Remove the rear lower cover. See **“Rear lower cover removal” on page 4-12.**
10. Disconnect the two connectors P403 and P404 from the printer engine card assembly (A).

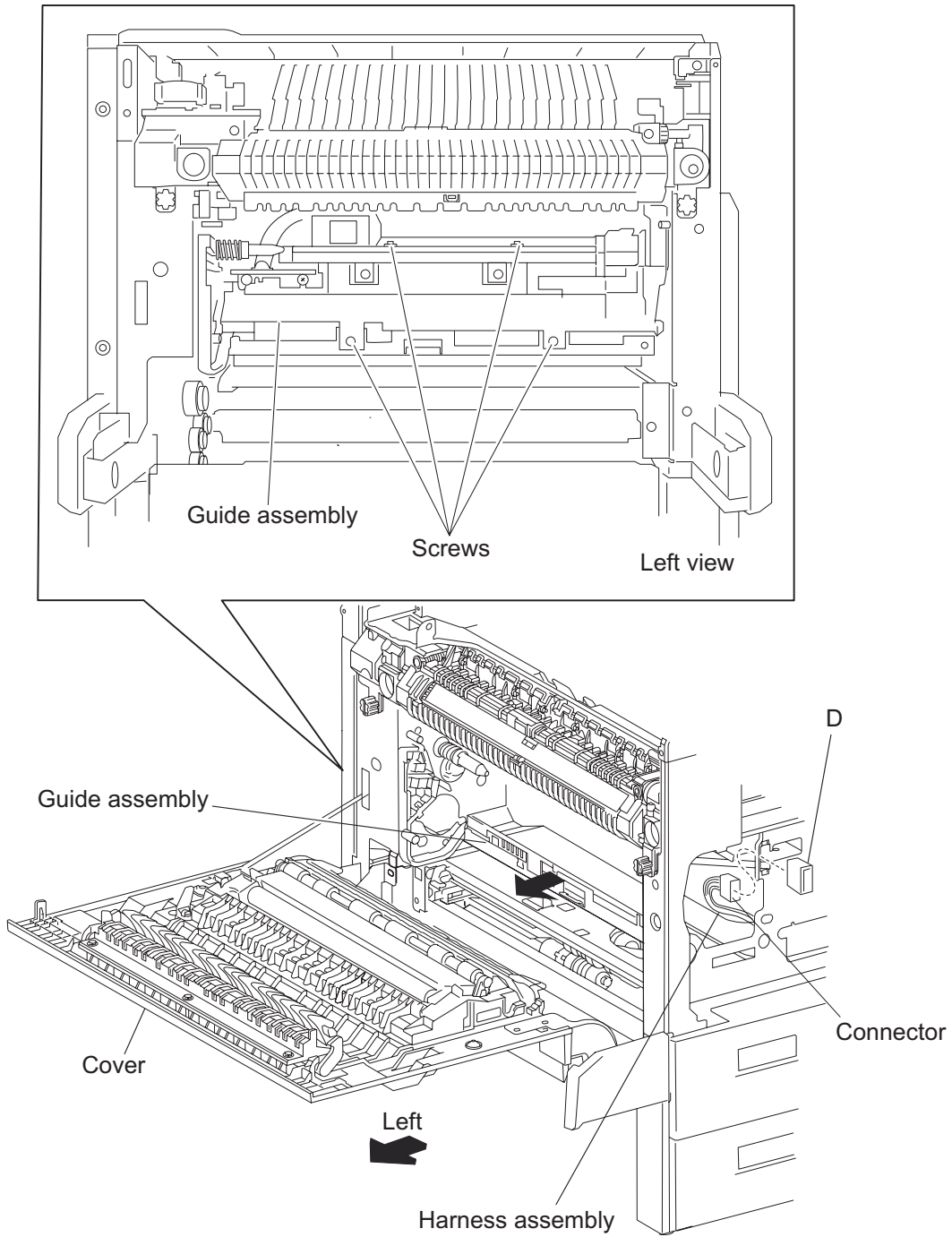


11. Open the printer left door assembly.
12. Remove the registration roll assembly. See **“Registration roll assembly removal” on page 4-79.**

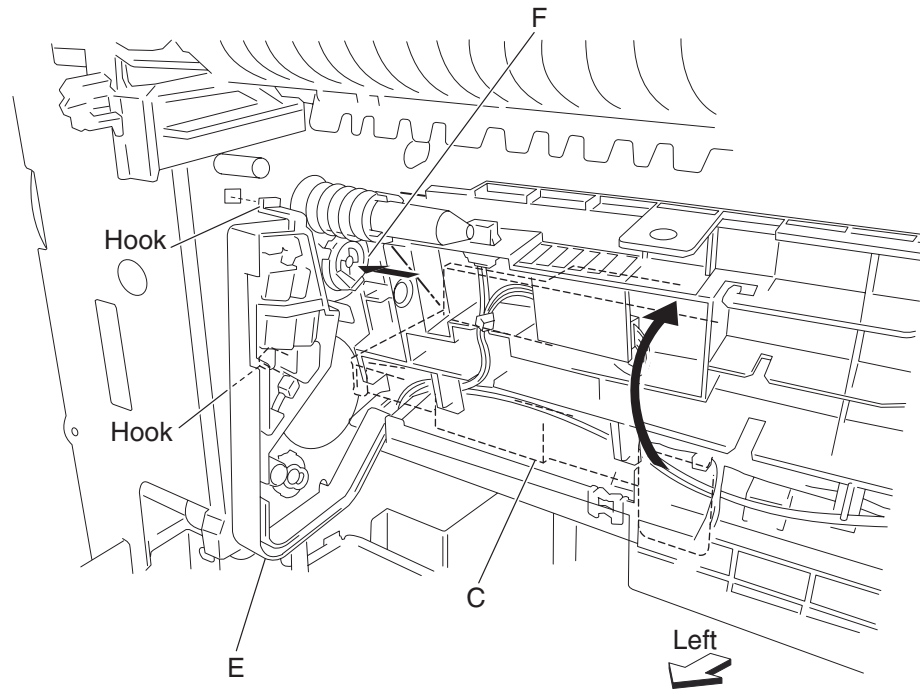
13. Remove the two screws securing the laser opening guide (B).
14. Release the harness from the clamp on the laser opening guide (B).
15. Disconnect the connector from the laser opening guide (B).

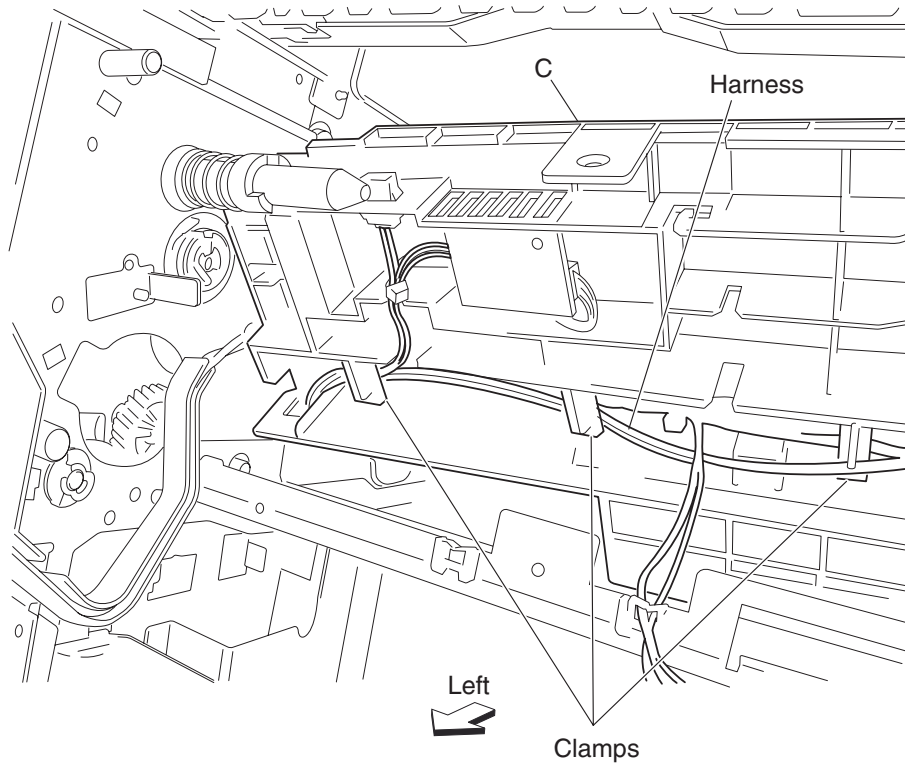


- 16. Remove the laser opening guide (B) by lifting it upward then outward in the direction of the arrow.
- 17. Remove the four screws securing the PC cartridge guide (C).

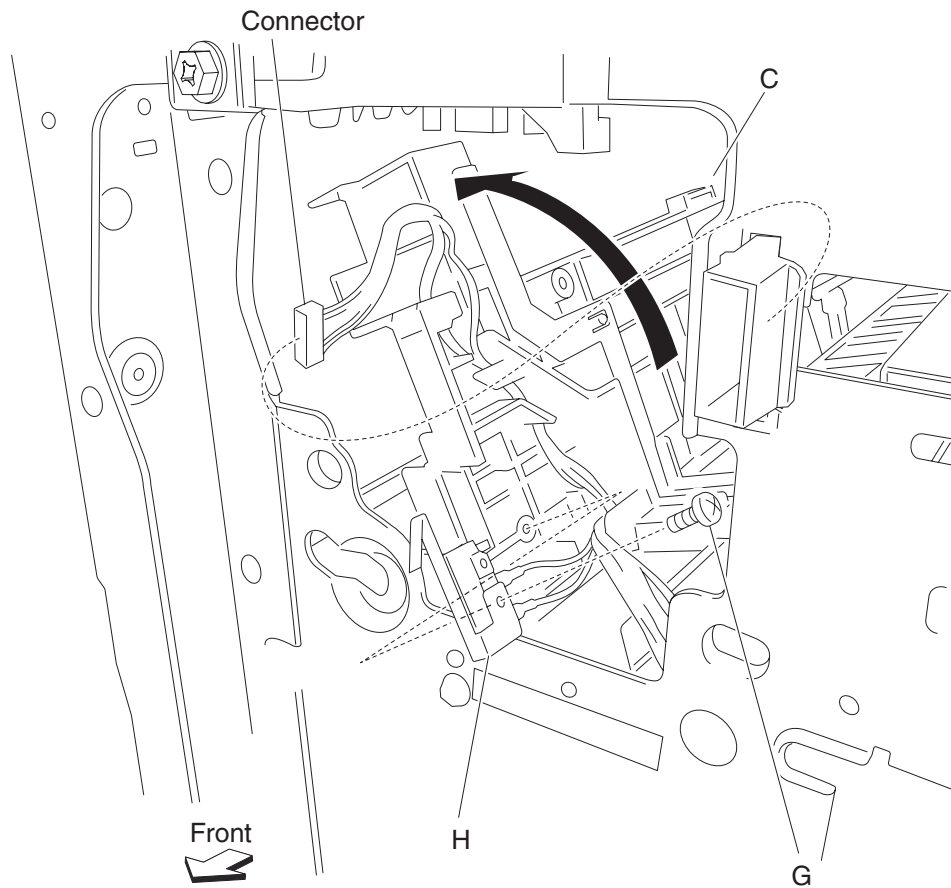


18. Slide the PC cartridge guide (C) toward the left side and disconnect the connector from the PC cartridge sensor connector.
19. Remove the two hooks securing the transfer roll power contact (E).
20. While pressing the PC cartridge drive coupler (F), lift the front side of the PC cartridge guide assembly (C) upward.
21. Release the harness from the clamp on the rear side of the PC cartridge guide assembly (C).
22. While pressing the PC cartridge drive coupler (F), lower the left side of the PC cartridge guide assembly (C).





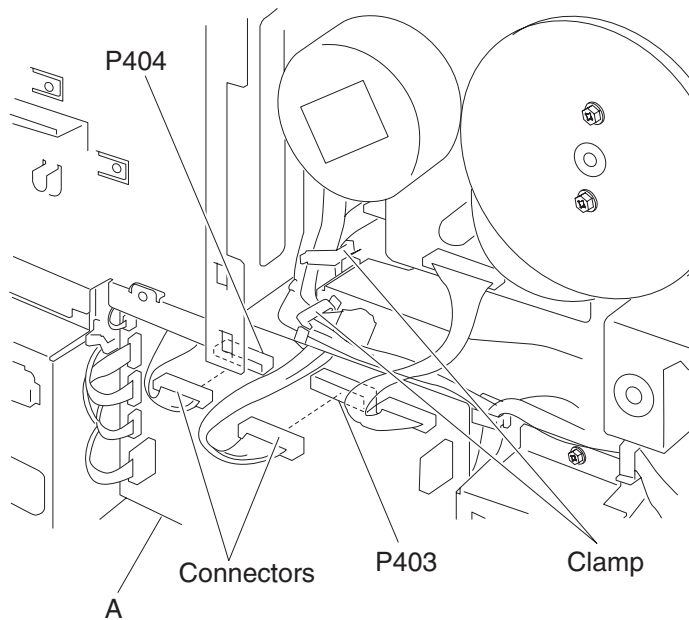
- 23.** Lift the right side of the PC cartridge guide assembly (C). Remove the screw (G) securing the switch (PC cartridge interlock) (H) to the PC cartridge guide assembly (C). Remove the switch (PC cartridge interlock) (H).



- 24.** Remove the PC cartridge guide assembly (C) from the printer.

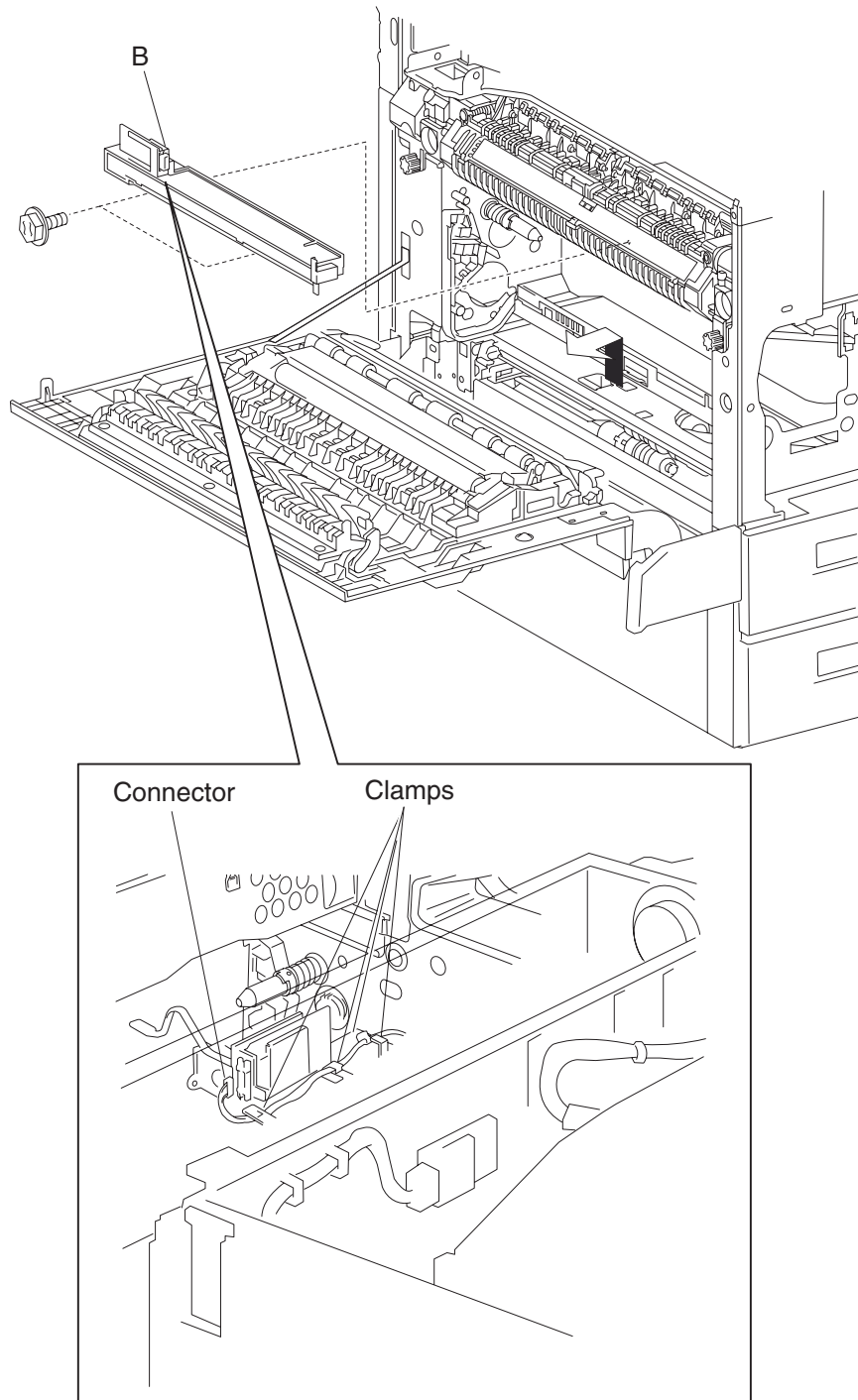
## Sensor (humidity and temperature) removal

1. Remove the printer front left cover. See **“Printer front left cover removal” on page 4-3.**
2. Remove the top cover assembly. See **“Top cover assembly removal” on page 4-5.**
3. Remove the PC cartridge.
4. Remove the toner cartridge.
5. Remove the printer front door assembly. See **“Printer front door assembly removal” on page 4-6.**
6. Remove the front inner cover. See **“Front inner cover removal” on page 4-8.**
7. Remove the HVPS card. See **“High voltage power supply (HVPS) card removal” on page 4-114.**
8. Remove the toner cartridge guide assembly. See **“Toner cartridge guide assembly removal” on page 4-95.**
9. Remove the rear lower cover. See **“Rear lower cover removal” on page 4-12.**
10. Disconnect the two connectors P403 and P404 from the printer engine card assembly (A).
11. Release the harnesses from the two clamps.
12. Remove the registration roll assembly. See **“Registration roll assembly removal” on page 4-79.**

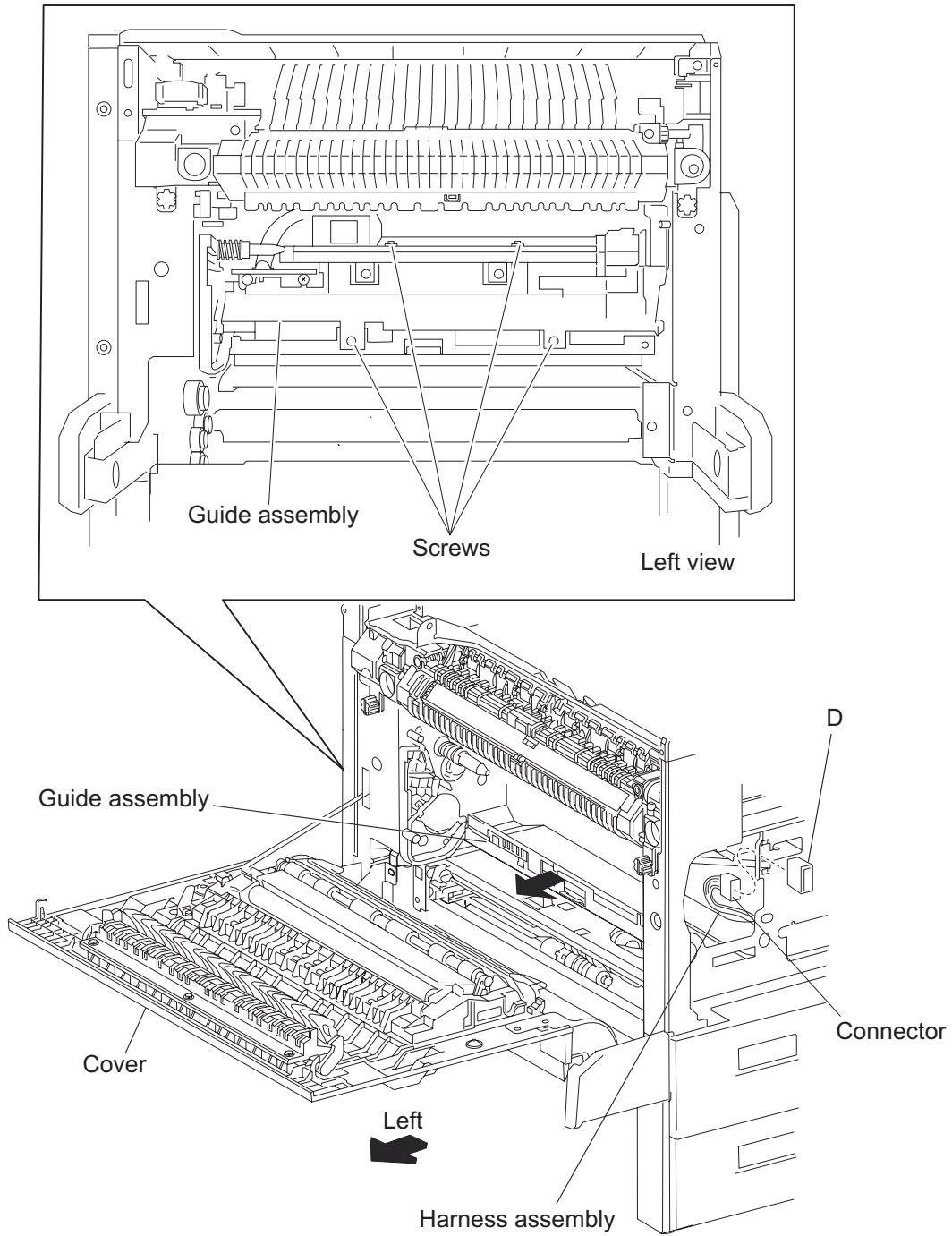




13. Remove the two screws securing the laser opening guide (B).
14. Release the harness from the clamp on the laser opening guide (B).
15. Disconnect the connector from the laser opening guide (B).

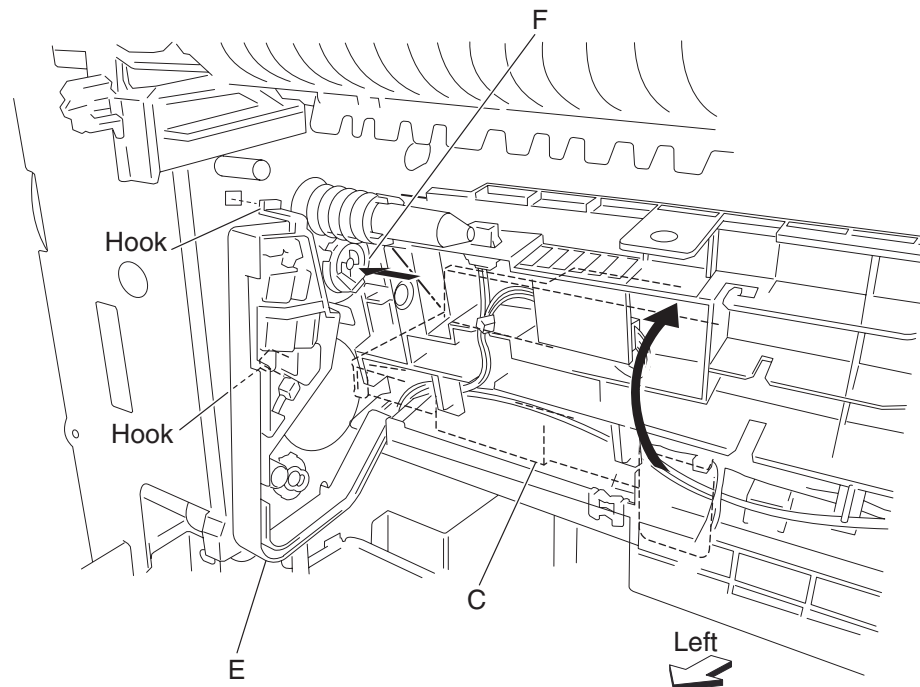


16. Remove the laser opening guide (B) by lifting it upward then outward in the direction of the arrow.

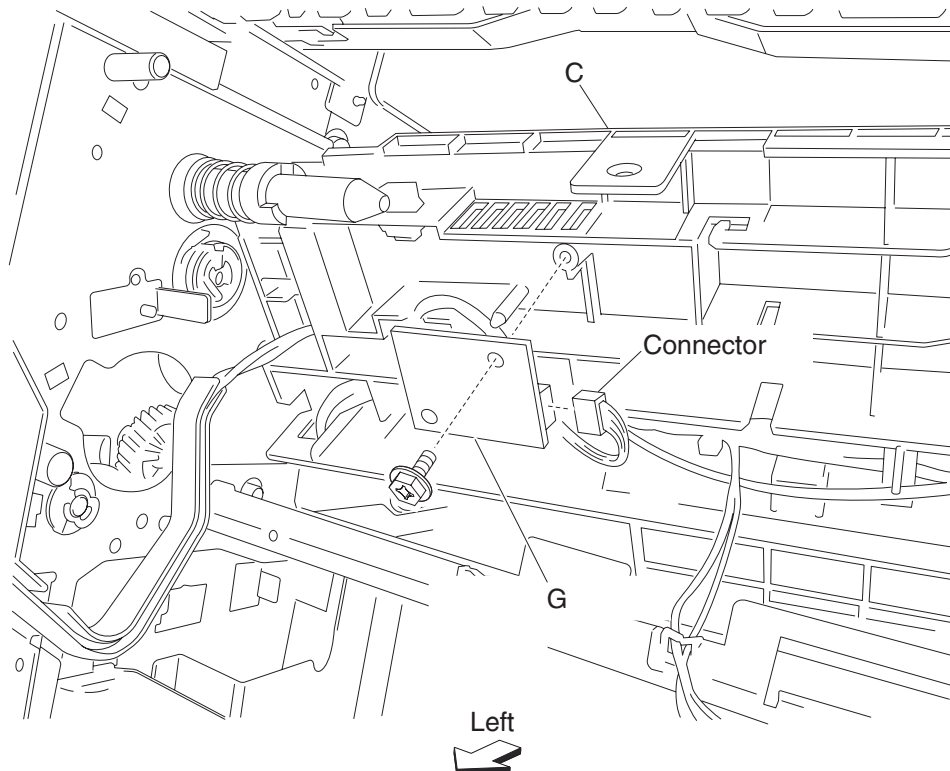


17. Remove the four screws securing the PC cartridge guide (D).

18. Slide the PC cartridge guide (D) toward the left side, and disconnect the connector from the PC cartridge sensor connector (E).
19. Remove the two hooks securing the transfer roll power contact (F).
20. While pressing the PC cartridge drive coupler (G), lift the front side of the PC cartridge guide (C) upward.



21. Disconnect the connector from the sensor (humidity and temperature) (H).
22. Remove the screw securing the sensor (humidity and temperature) (H) to the PC cartridge guide (C).
23. Remove the sensor (humidity and temperature) (H).

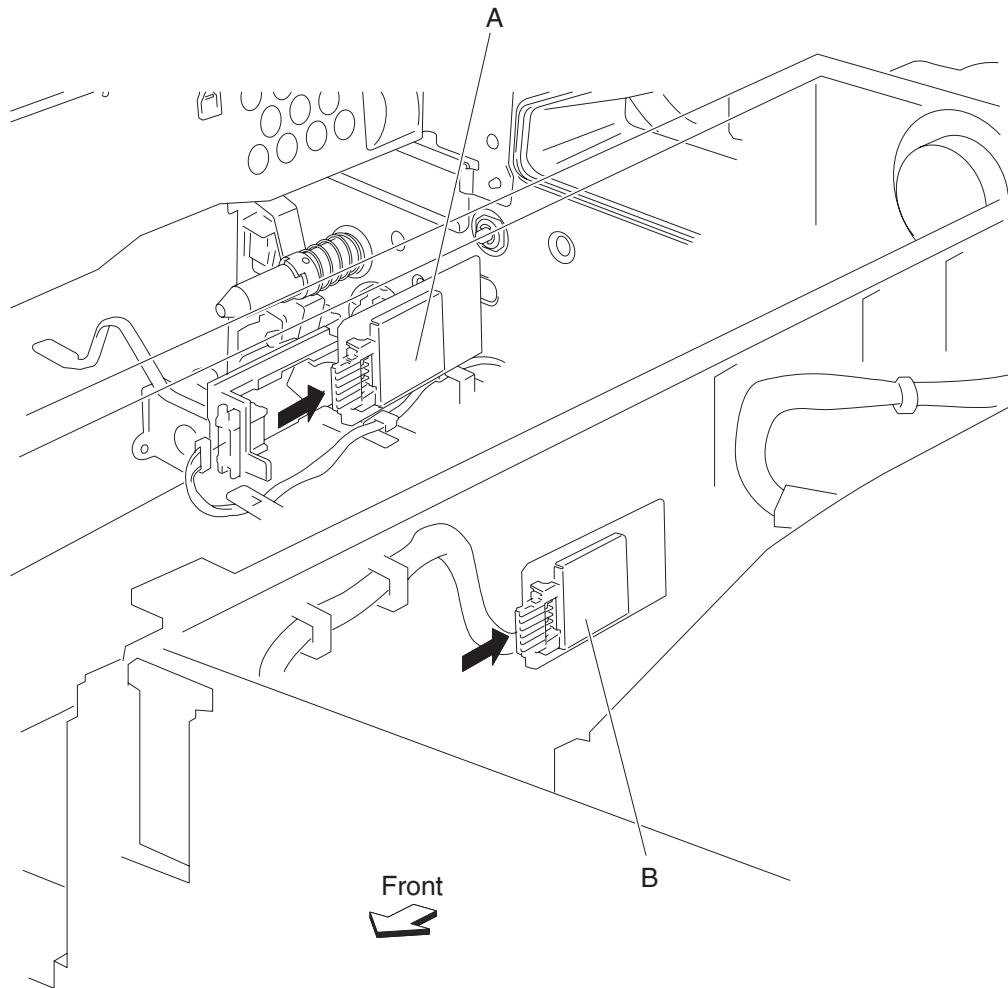


## Sensor (RFID PC cartridge) and sensor (RFID toner cartridge) removal

**Note:** This removal applies to the sensor (RFID PC cartridge) (A) and the sensor (RFID toner cartridge) (B).

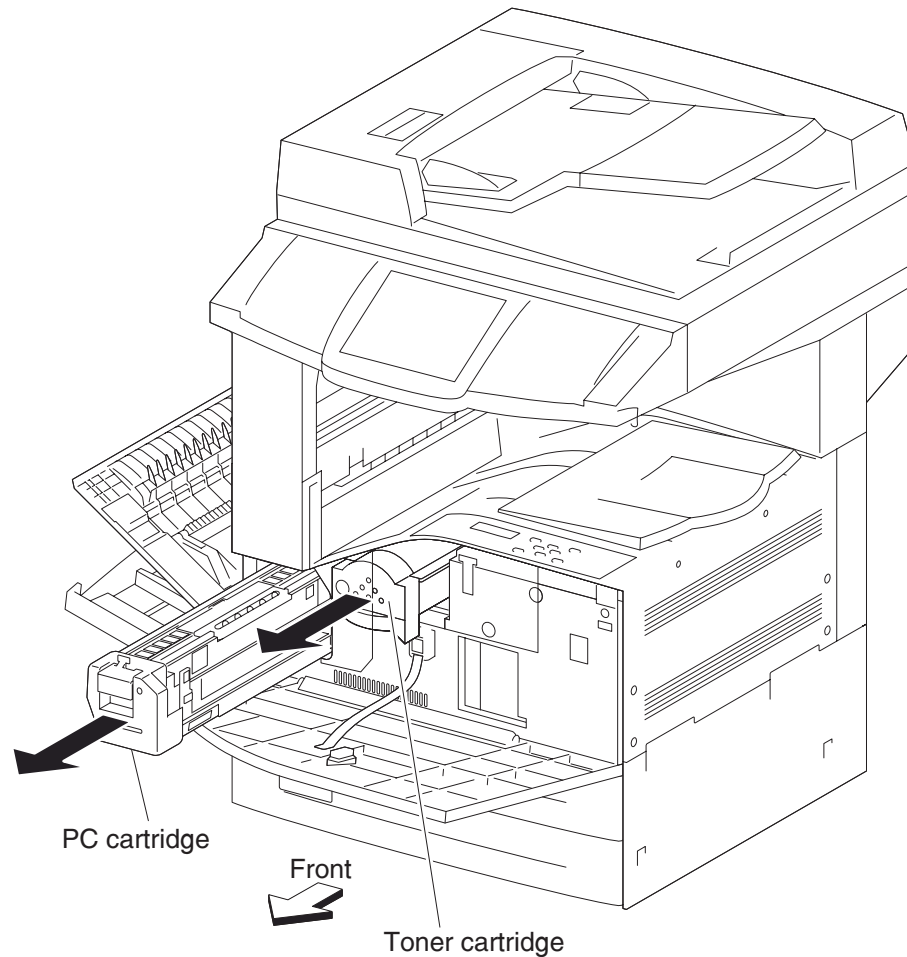
1. Remove the top cover assembly. See **“Top cover assembly removal” on page 4-5.**
2. Remove the toner cartridge guide assembly. See **“Toner cartridge guide assembly removal” on page 4-95.**
3. Disconnect the connector from the sensor (RFID PC cartridge) (A) or the sensor (RFID toner cartridge) (B).
4. Release the hooks securing the sensor (RFID PC cartridge) (A) or the sensor (RFID toner cartridge) (B).
5. Remove the sensor (RFID PC cartridge) (A) or sensor (RFID toner cartridge) (B) by sliding it out in the direction of the arrow.

**Note:** the sensor (RFID PC cartridge) (A) and sensor (RFID toner cartridge) (B) require moderate force to remove.



## Toner cartridge guide assembly removal

1. Remove the printer front left cover. See **“Printer front left cover removal”** on page 4-3.
2. Remove the top cover assembly. See **“Top cover assembly removal”** on page 4-5.
3. Remove the PC cartridge.
4. Remove the toner cartridge.

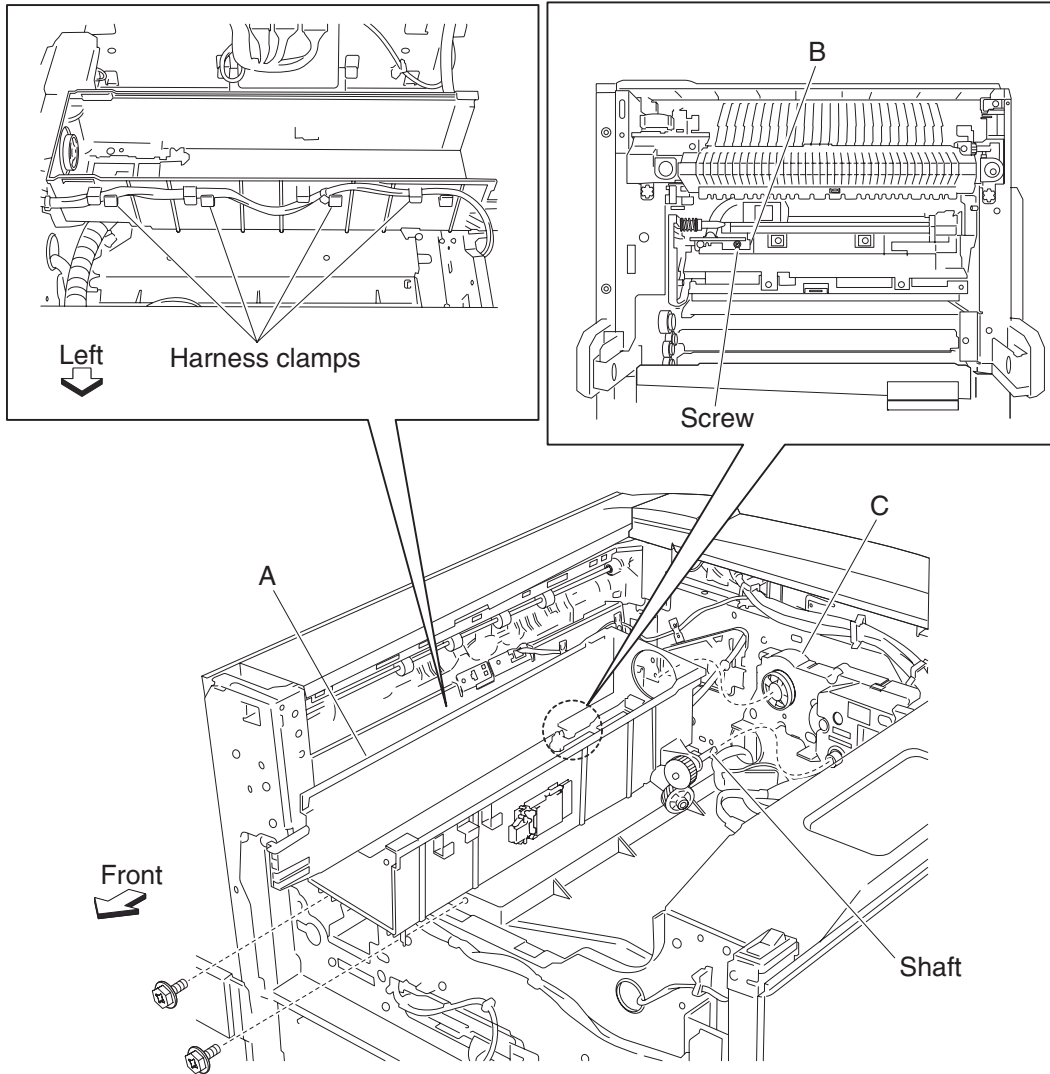


5. Remove the printer front door assembly. See **“Printer front door assembly removal”** on page 4-6.
6. Remove the front inner cover. See **“Front inner cover removal”** on page 4-8.
7. Disconnect the two harnesses from the toner cartridge guide assembly (A), one on the right and one on the left.
8. Remove the harnesses from the clamps.
9. Remove the two screws on the front of the printer securing the toner cartridge guide assembly (A).
10. Open the printer left door assembly. See **“Printer left door assembly removal”** on page 4-75.
11. Remove the printer left door support strap. See **“Printer left door support strap removal”** on page 4-74.
12. Remove the screw securing the toner add chute (B) to the frame.

- 13.** While moving the toner cartridge guide assembly (A) to the left, release the toner add chute (B) from the frame. Remove the toner cartridge guide assembly (C) from the printer.

**Note:** Remove all spilled toner from the printer.

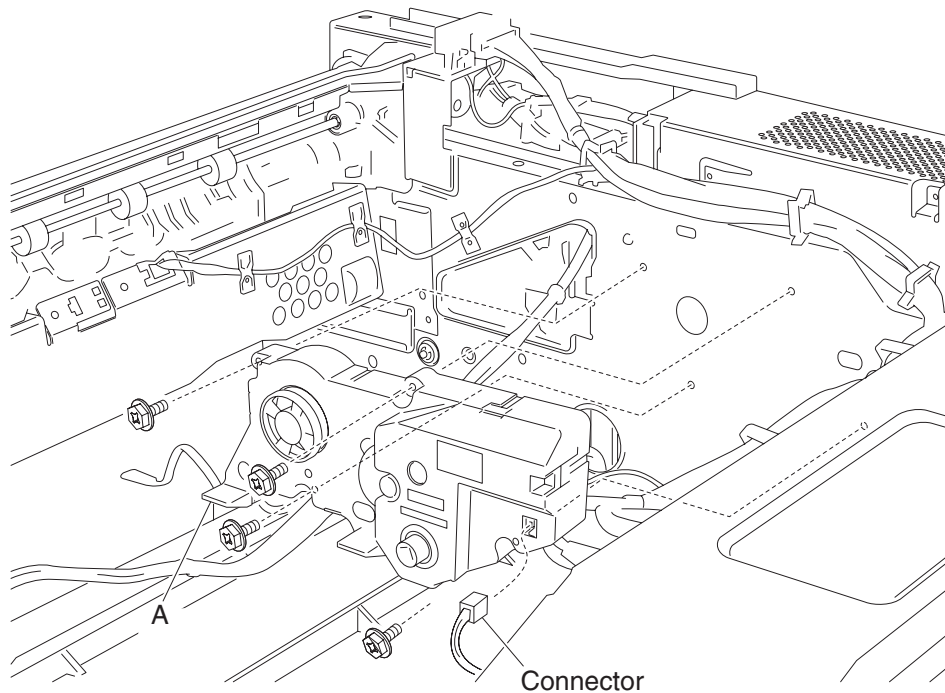
**Note:** Before reinstalling, ensure the shaft on the toner cartridge guide assembly is inserted into the toner add motor assembly (C).



**Note:** Before reinstalling, ensure the shaft (C) on the toner cartridge guide assembly (A) is inserted into the toner add motor assembly (D).

## Toner add motor assembly removal

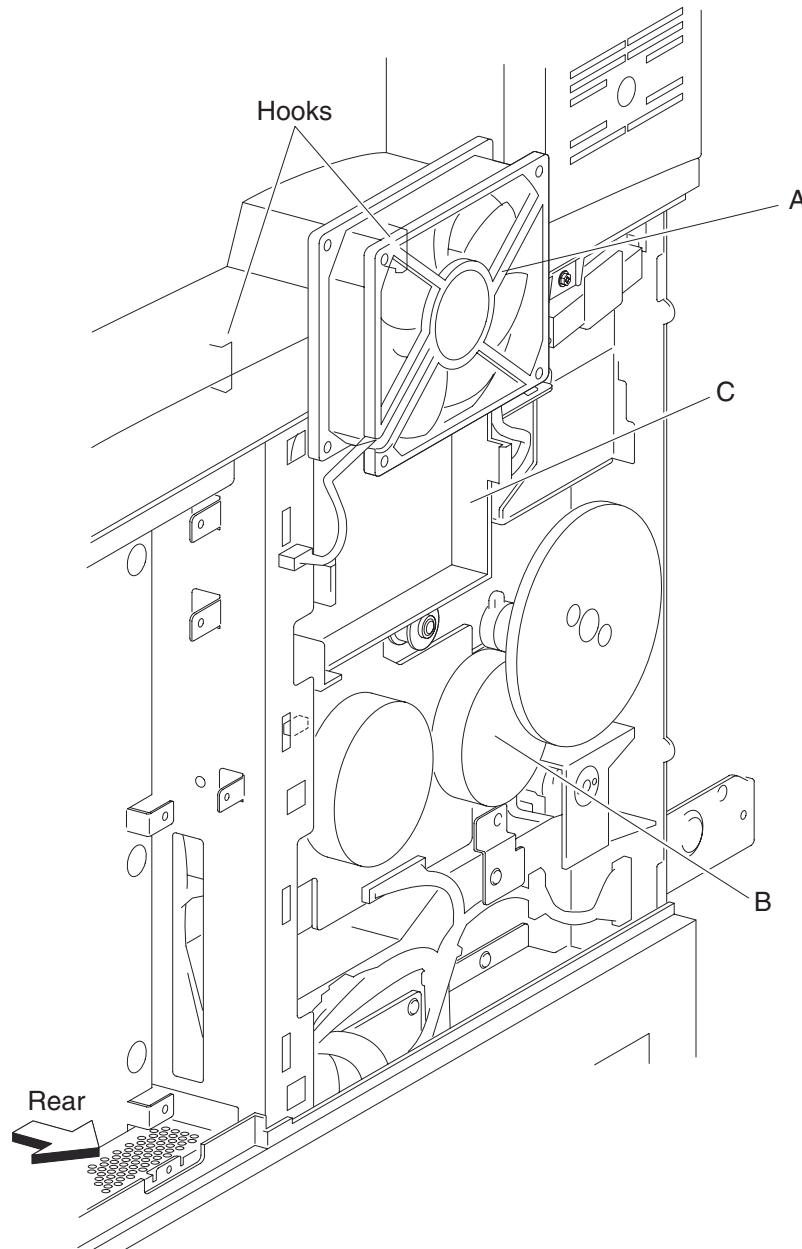
1. Remove the printer front left cover. See **“Printer front left cover removal”** on page 4-3.
2. Remove the top cover assembly. See **“Top cover assembly removal”** on page 4-5.
3. Remove the PC cartridge.
4. Remove the toner cartridge.
5. Remove the printer front door assembly. See **“Printer front door assembly removal”** on page 4-6.
6. Remove the front inner cover. See **“Front inner cover removal”** on page 4-8.
7. Remove the toner cartridge guide assembly. See **“Toner cartridge guide assembly removal”** on page 4-95.
8. Disconnect the connector from the toner add motor assembly (A).
9. Remove the four screws securing the toner add motor assembly (A).
10. Remove the toner add motor assembly (A).



**Note:** Before reinstalling, ensure the shaft on the toner cartridge guide assembly is inserted into the toner add motor assembly (A).

## Fuser cooling fan removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Disconnect the connector from the fuser cooling fan (A) from the dual drive motor assembly (B).
4. Release the two hooks securing the fuser cooling fan (A) to the fan duct (C).
5. Remove the fuser cooling fan (A).

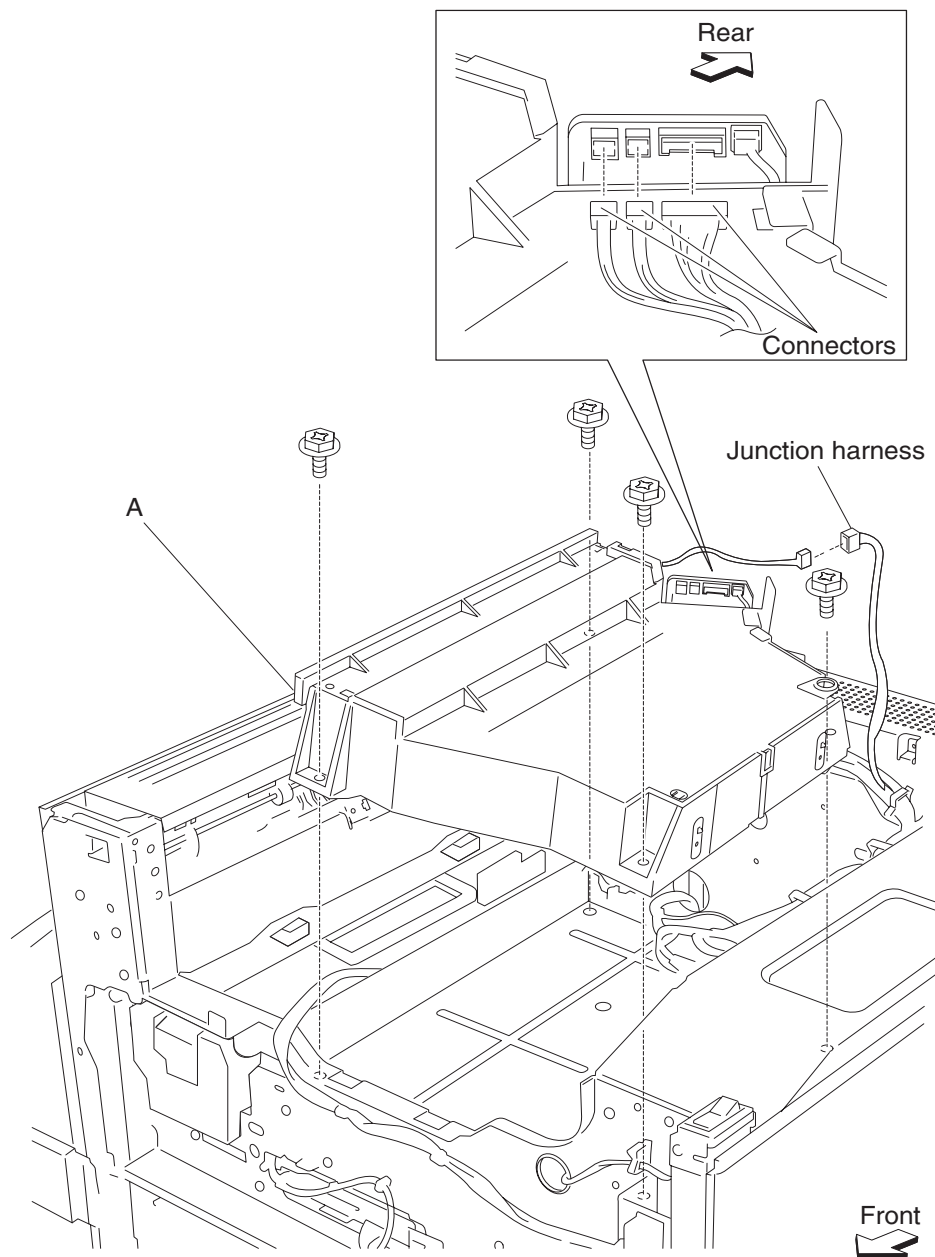


**Note:** Before reinstalling, the fuser cooling fan (A) must be installed with the center label facing outward.



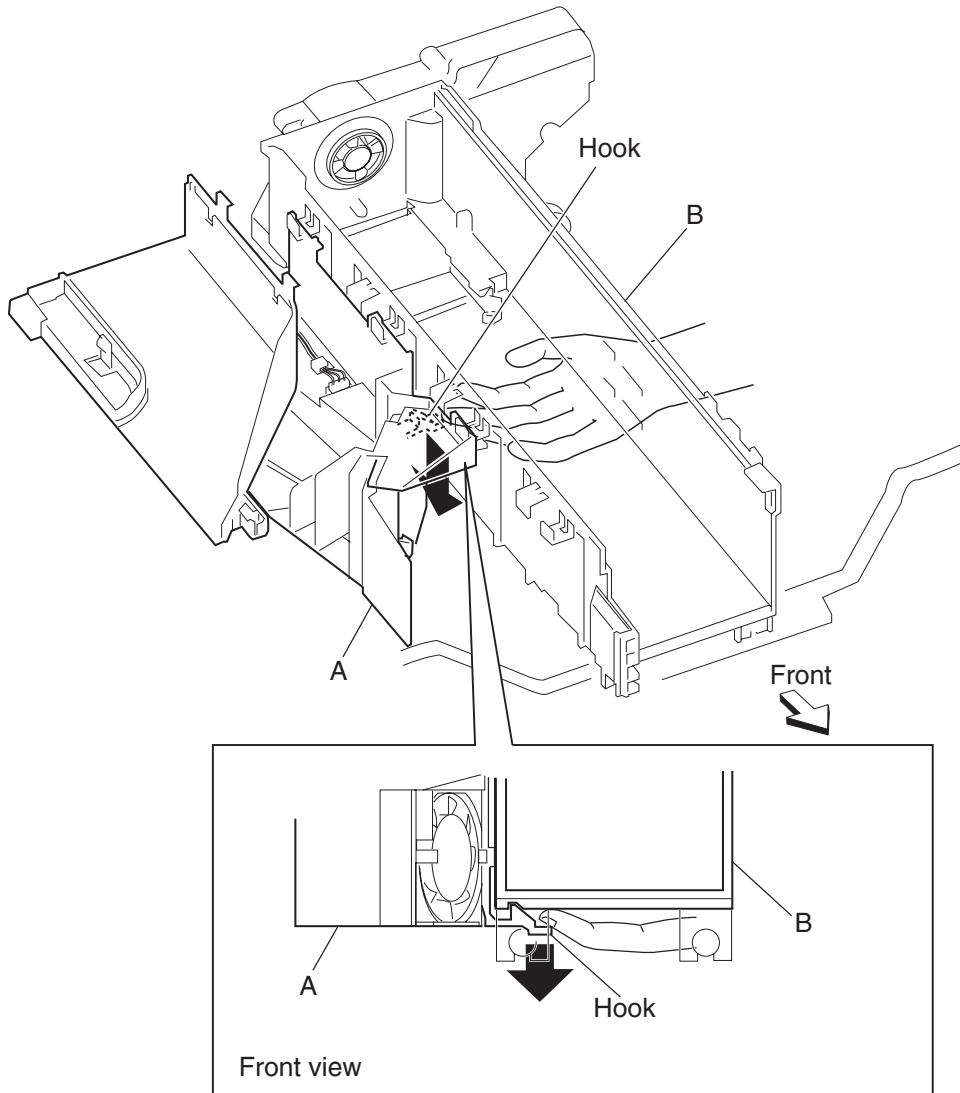
## Printhead assembly removal

1. Remove the top cover assembly. See **“Top cover assembly removal”** on page 4-5.
2. Open the printer front door assembly. See **“Printer front door assembly removal”** on page 4-6.
3. Remove the PC cartridge.
4. Remove the toner cartridge.
5. Remove the printer front door assembly. See **“Printer front door assembly removal”** on page 4-6.
6. Remove the front inner cover. See **“Front inner cover removal”** on page 4-8.
7. Remove the toner cartridge guide assembly. See **“Toner cartridge guide assembly removal”** on page 4-95.
8. Disconnect the three connectors from the printhead assembly (A).
9. Disconnect the connector from the junction harness.
10. Remove the four screws securing the printhead assembly (A).
11. Remove the printhead assembly (A) by lifting it upward.

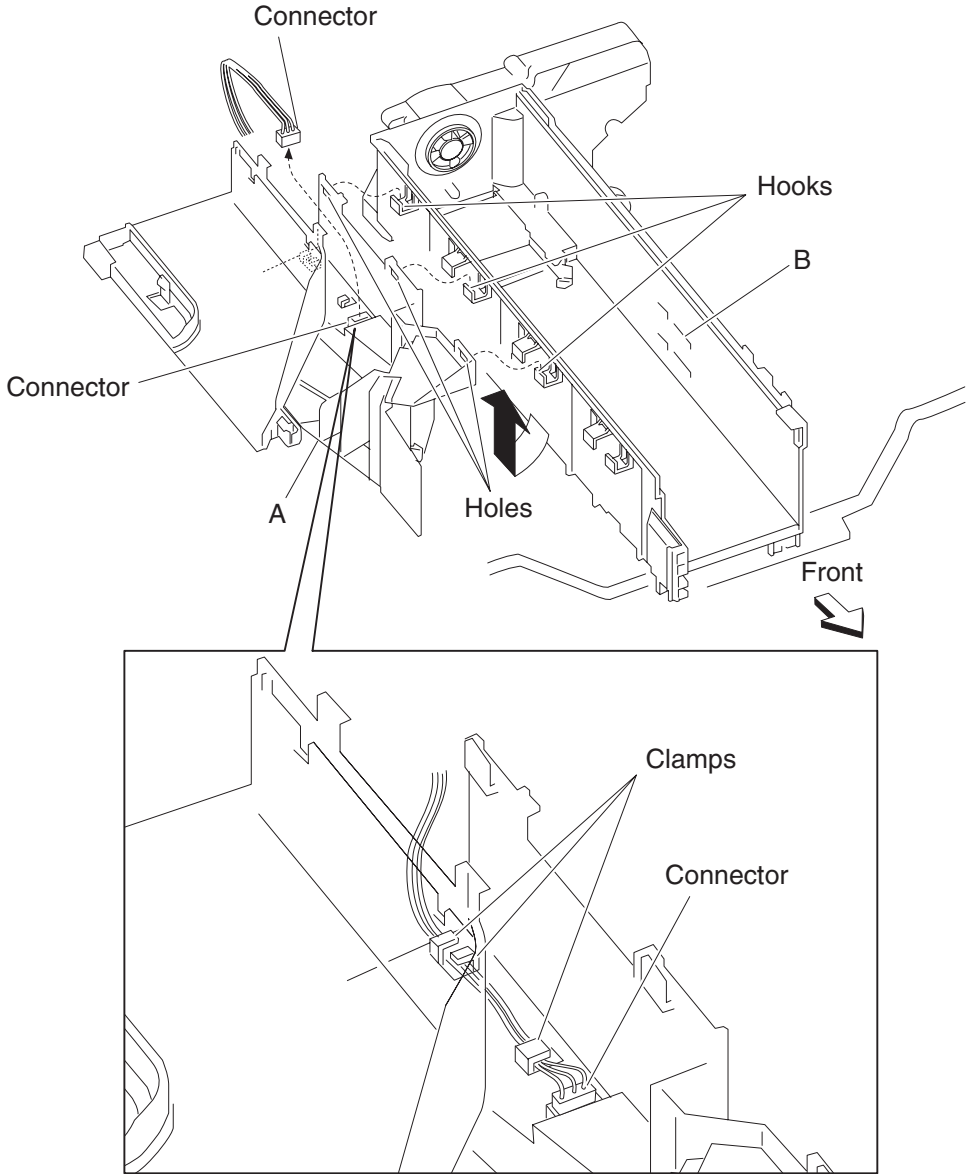


## PC cartridge cooling fan duct removal

1. Remove the top cover assembly. See **“Top cover assembly removal”** on page 4-5.
2. Disconnect the harness from the duct connector.
3. Release the connector harness from the clamp on the PC cartridge cooling fan duct (A).
4. Release the hook securing the PC cartridge cooling fan duct (A) to the toner cartridge guide assembly (B).

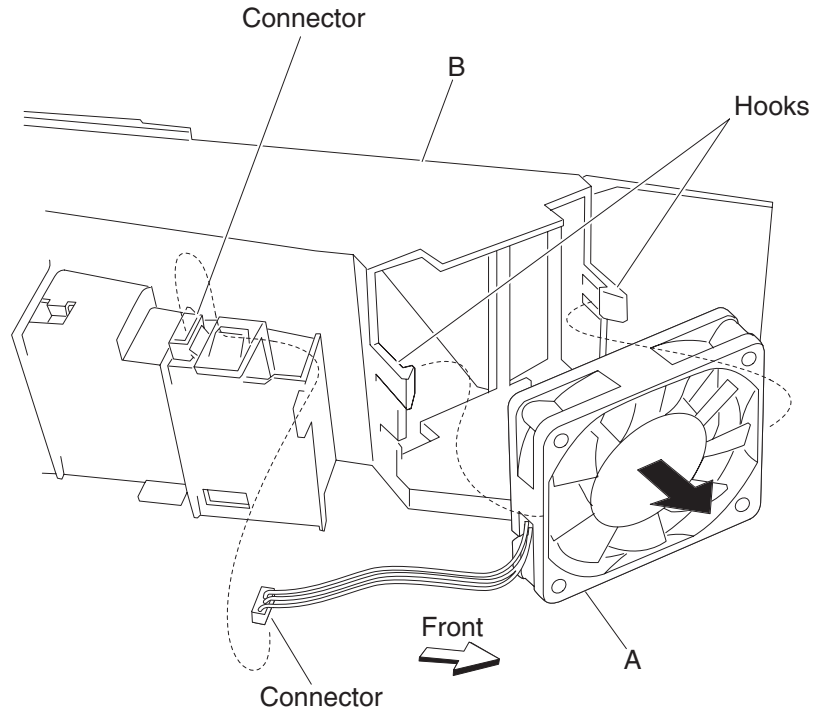


- 5. Move the PC cartridge cooling fan duct (A) in the direction of the arrow while lifting the left side, to release the hook securing it to the toner cartridge guide assembly (B).
- 6. Remove the PC cartridge cooling fan duct (A).



## PC cartridge cooling fan removal

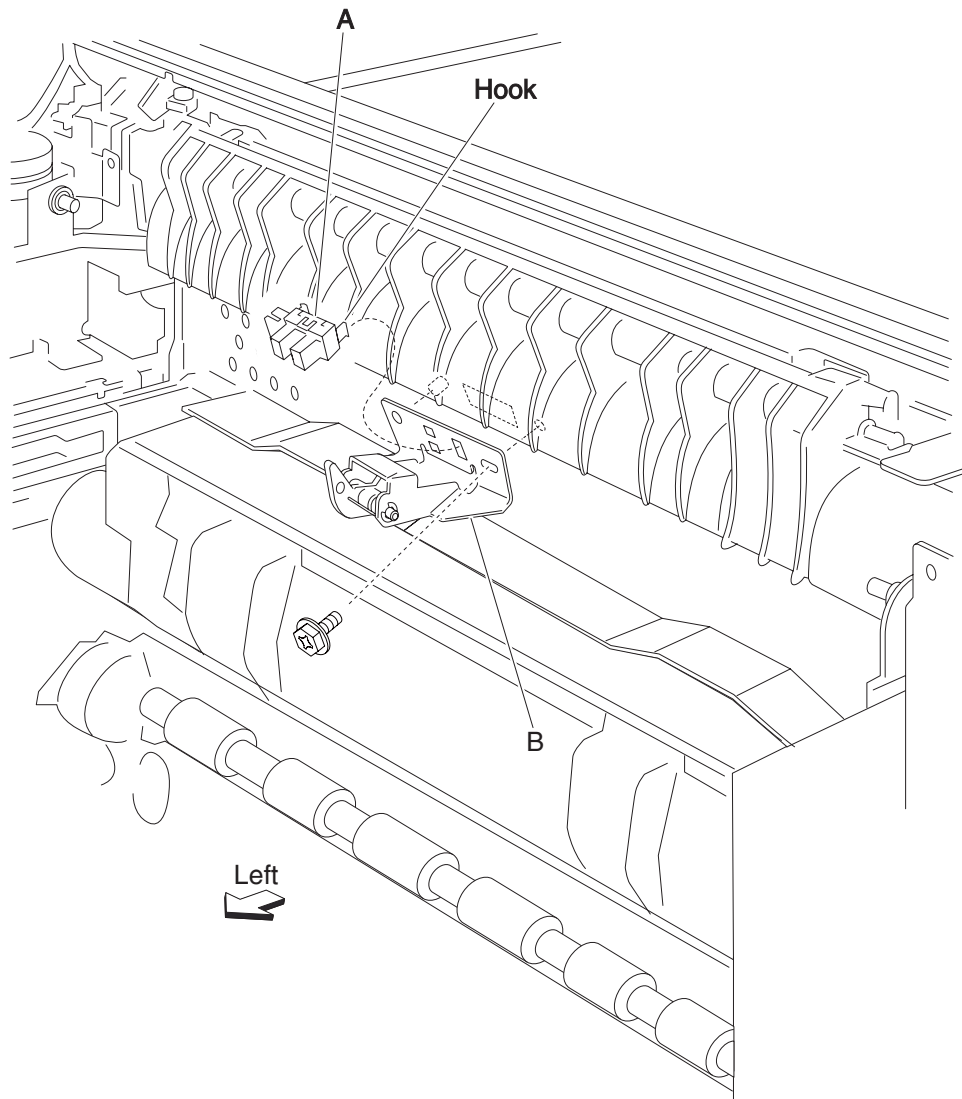
1. Remove the top cover assembly. See **“Top cover assembly removal” on page 4-5.**
2. Remove the PC cartridge cooling fan duct. See **“PC cartridge cooling fan duct removal” on page 4-100.**
3. Disconnect the harness of the PC cartridge cooling fan (A) to the PC cartridge cooling fan duct (B).
4. Release two hooks securing the PC cartridge cooling fan (A) to the PC cartridge cooling fan duct (B).  
**Note:** Use care in handling the PC cartridge cooling fan duct hooks, as they easily break.
5. Release the harness of the PC cartridge cooling fan (A) from the slot in the PC cartridge cooling fan duct (B).
6. Remove the PC cartridge cooling fan (A).



**Note:** Before reinstalling the PC cartridge cooling fan (A), ensure the fan blade is facing toward the front of the machine.

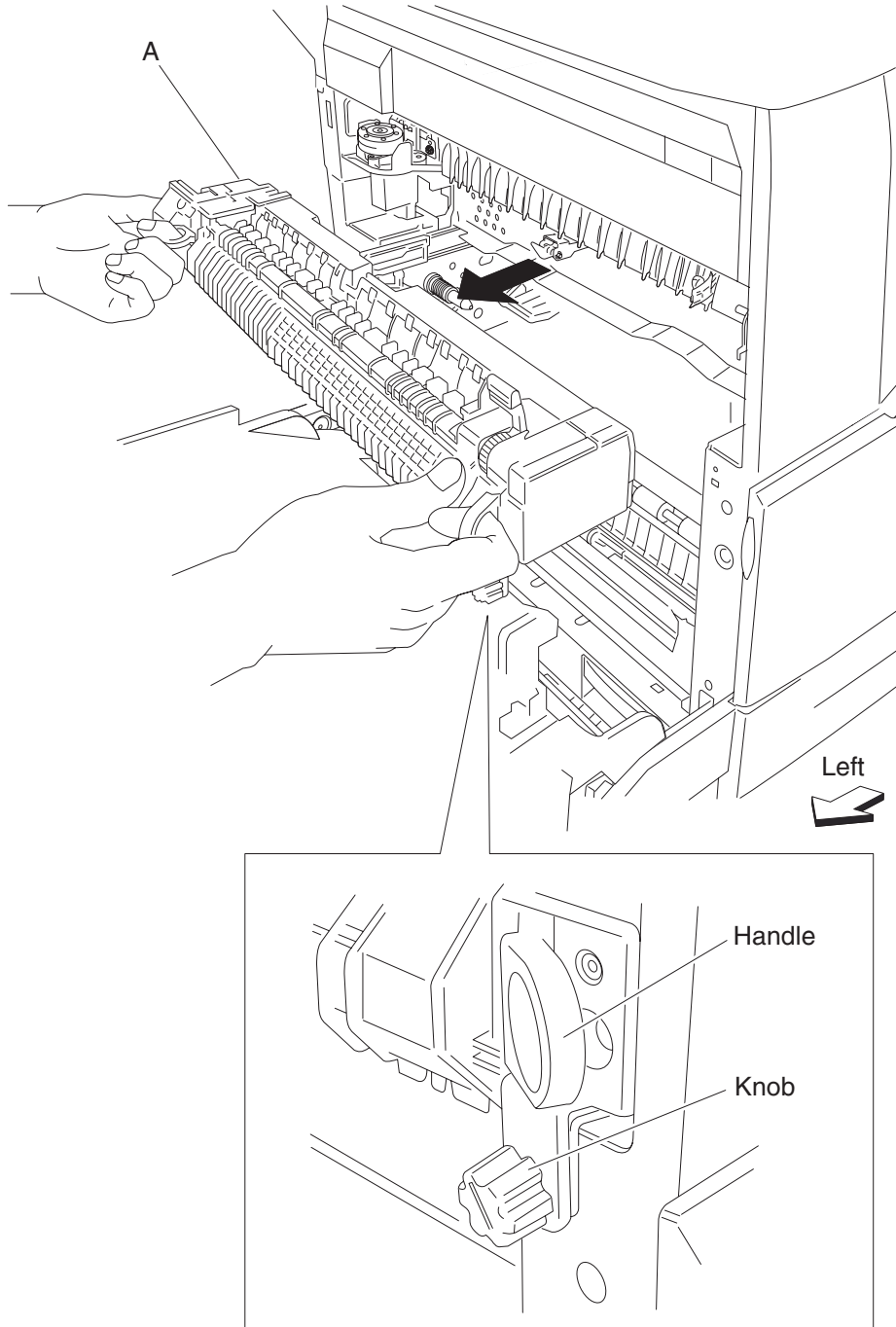
## Sensor (fuser exit) removal

1. Open the printer left door assembly.
2. Remove the fuser unit. See **“Fuser unit assembly removal” on page 4-104.**
3. Disconnect the connector from the sensor (fuser exit) (A).
4. Remove the screw securing the bracket (B).
5. Remove the three hooks securing the sensor (fuser exit) (A) to the bracket (B).
6. Remove the sensor (fuser exit) (A).



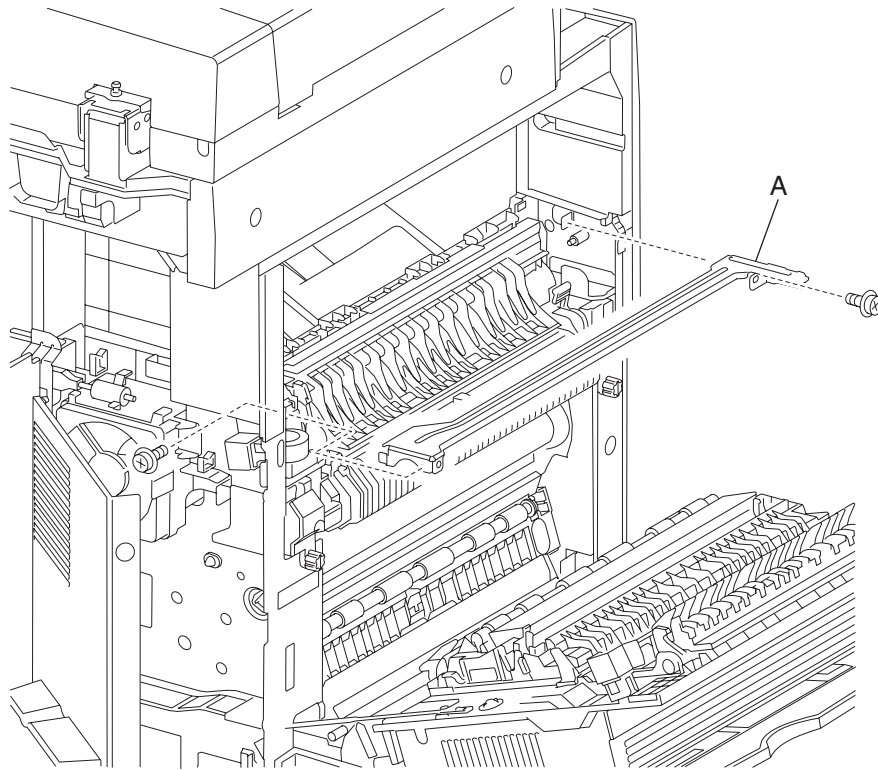
## Fuser unit assembly removal

1. Open the printer left cover assembly.
2. Loosen the two colored knobs securing the fuser unit (A).
3. Pull on the two colored handles to remove the fuser unit (A).



## Exit 1 media shift assembly removal

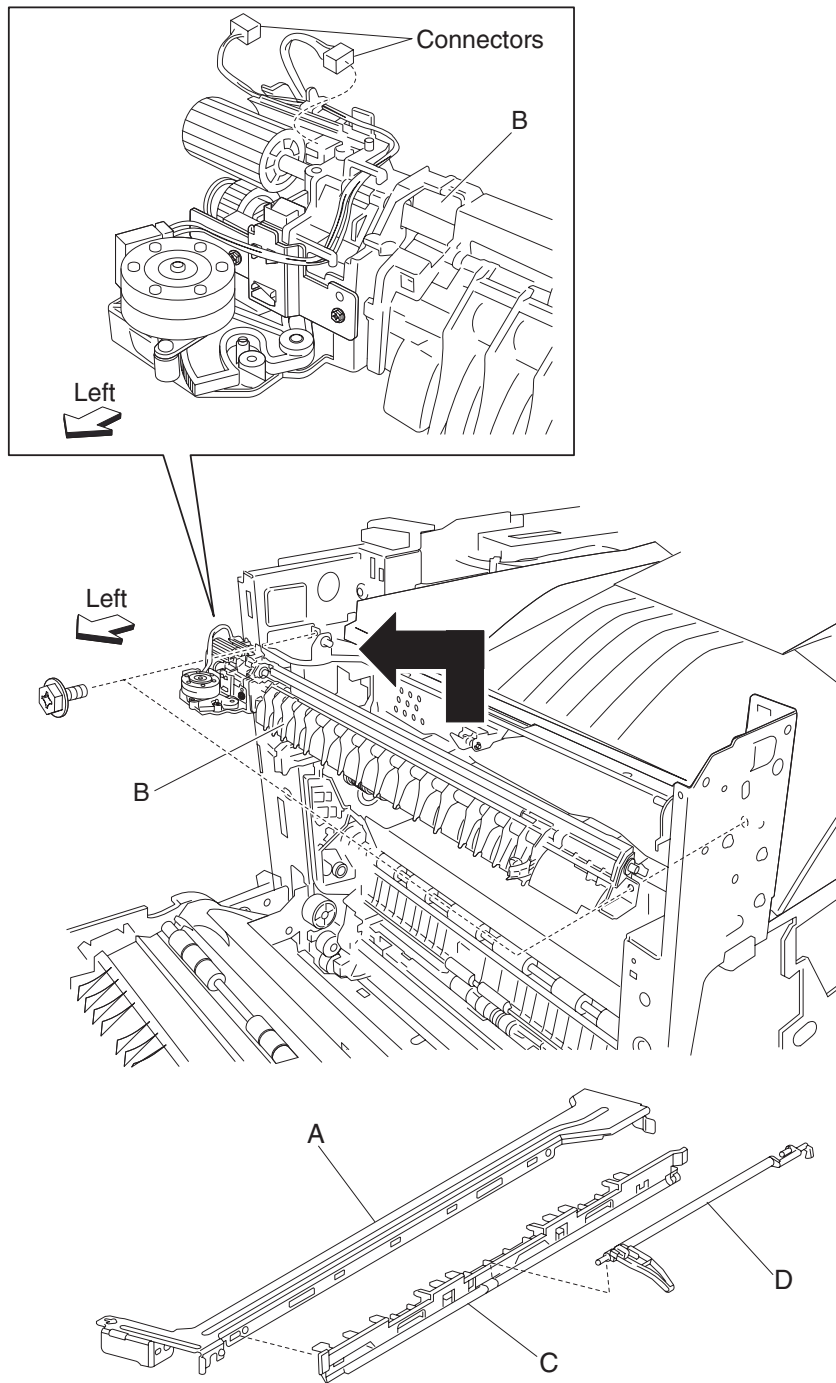
1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Remove the rear upper cover. See **“Rear upper cover removal”** on page 4-15.
4. Open the printer left door assembly.
5. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
6. Open the printer front door assembly. See **“Printer front door assembly removal”** on page 4-6.
7. Remove the printer front left cover. See **“Printer front left cover removal”** on page 4-3.
8. Remove the two screws securing the bracket (A).
9. Remove the bracket (A) by lifting it upward.
10. Remove the exit 1 drive belt. See **“Exit 1 drive belt removal”** on page 4-112.
11. Disconnect the two connectors from the exit 1 media shift assembly (B).
12. Remove the two screws securing the exit 1 media shift assembly (B) to the printer.
13. Remove the exit 1 media shift assembly (B) by lifting it upward and outward in the direction of the arrow.



**Note:** Disconnect the two connectors from the sensor (exit 1 media shift) and the sensor (exit 1 bin full).

14. Remove the two screws securing the exit 1 media shift assembly (B).

15. Remove the exit 1 media shift assembly (B) by lifting it upward and outward in the direction of the arrow.



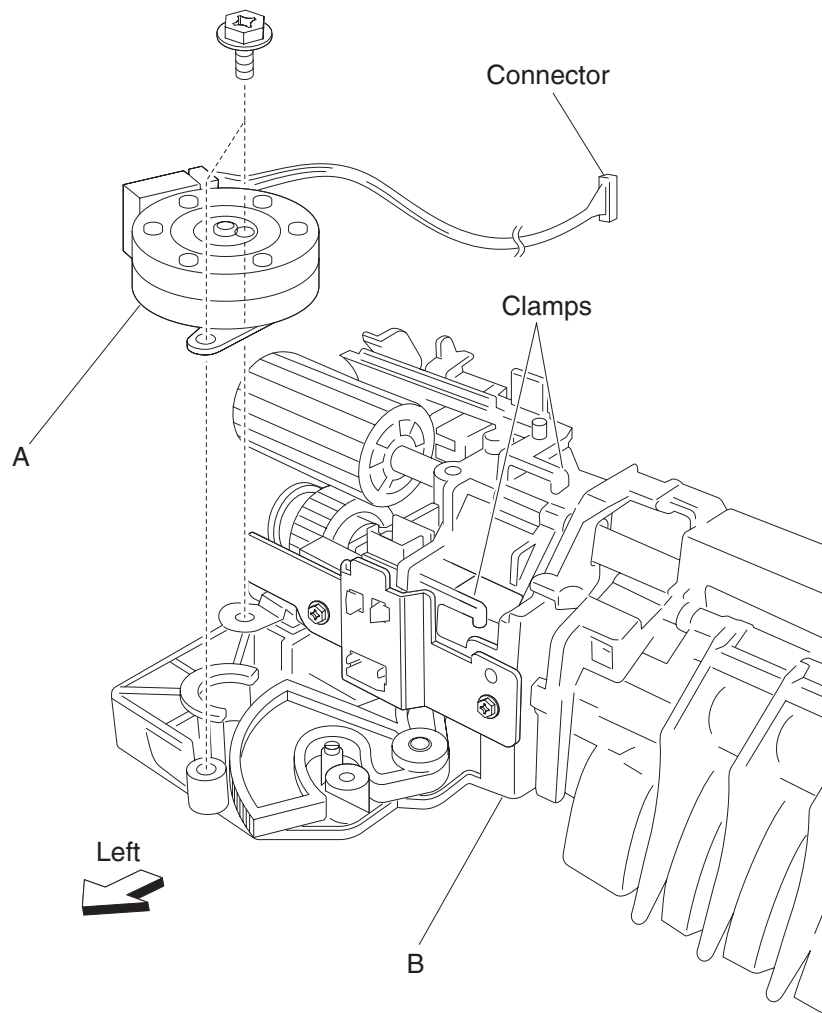
**Note:** When reinstalling the bracket (A), first release the hooks securing the plastic guide (C) that is attached to the bracket (A).

- Remove the plastic guide (C) from the bracket (A).
- Install the bracket (A).
- Install the plastic guide (C) and the standard bin full exit 1 actuator shaft (D) at the same time.
- Make sure the standard bin full exit 1 actuator shaft (D) operates smoothly without binding.



## Media shift motor removal

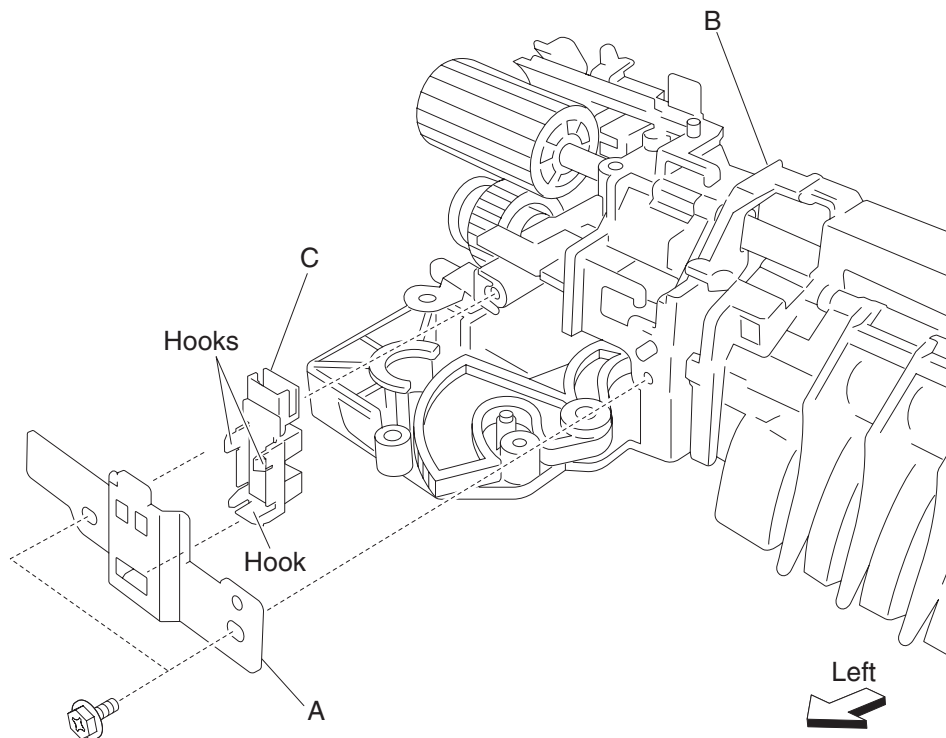
1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Remove the rear upper cover. See **“Rear upper cover removal”** on page 4-15.
4. Open the printer left door assembly.
5. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
6. Open the printer front door assembly.
7. Remove the printer front left cover. See **“Printer front left cover removal”** on page 4-3.
8. Remove the exit 1 media shift assembly. See **“Exit 1 media shift assembly removal”** on page 4-105.
9. Disconnect the connector from the media shift motor (A).
10. Remove the two screws securing the media shift motor (A) to the exit 1 media shift assembly (B).
11. Remove the media shift motor (A).



**Note:** Before reinstalling, secure the media shift motor (A) harness to the clamps on the exit 1 media shift assembly (B) to prevent damage.

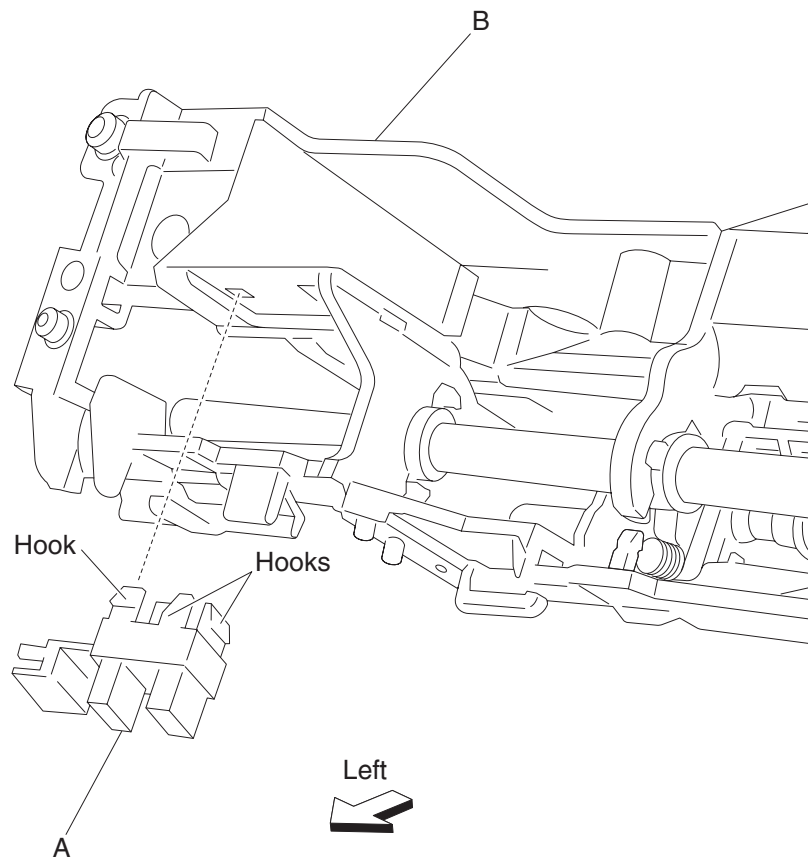
## Sensor (exit 1 media shift) removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal” on page 4-13.**
2. Remove the rear motor cover.
3. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-15.**
4. Open the printer left door assembly.
5. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal” on page 4-315.**
6. Open the printer front door assembly.
7. Remove the printer front left cover. See **“Printer front left cover removal” on page 4-3.**
8. Remove the exit 1 media shift assembly. See **“Exit 1 media shift assembly removal” on page 4-105.**
9. Remove the media shift motor. See **“Media shift motor removal” on page 4-107.**
10. Remove the two screws securing the bracket (A) to the exit 1 media shift assembly (B).
11. Remove the bracket (A).
12. Release the hooks securing the sensor (exit 1 media shift) (C) to the bracket (A).
13. Remove the sensor (exit 1 media shift) (C).



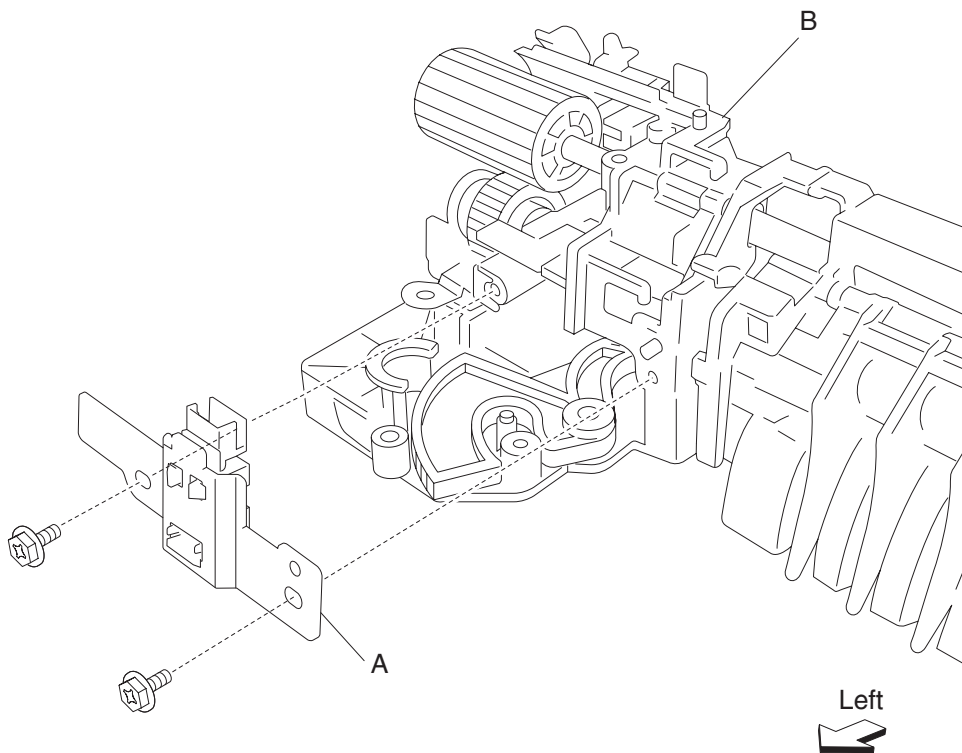
## Sensor (exit 1 bin full) removal

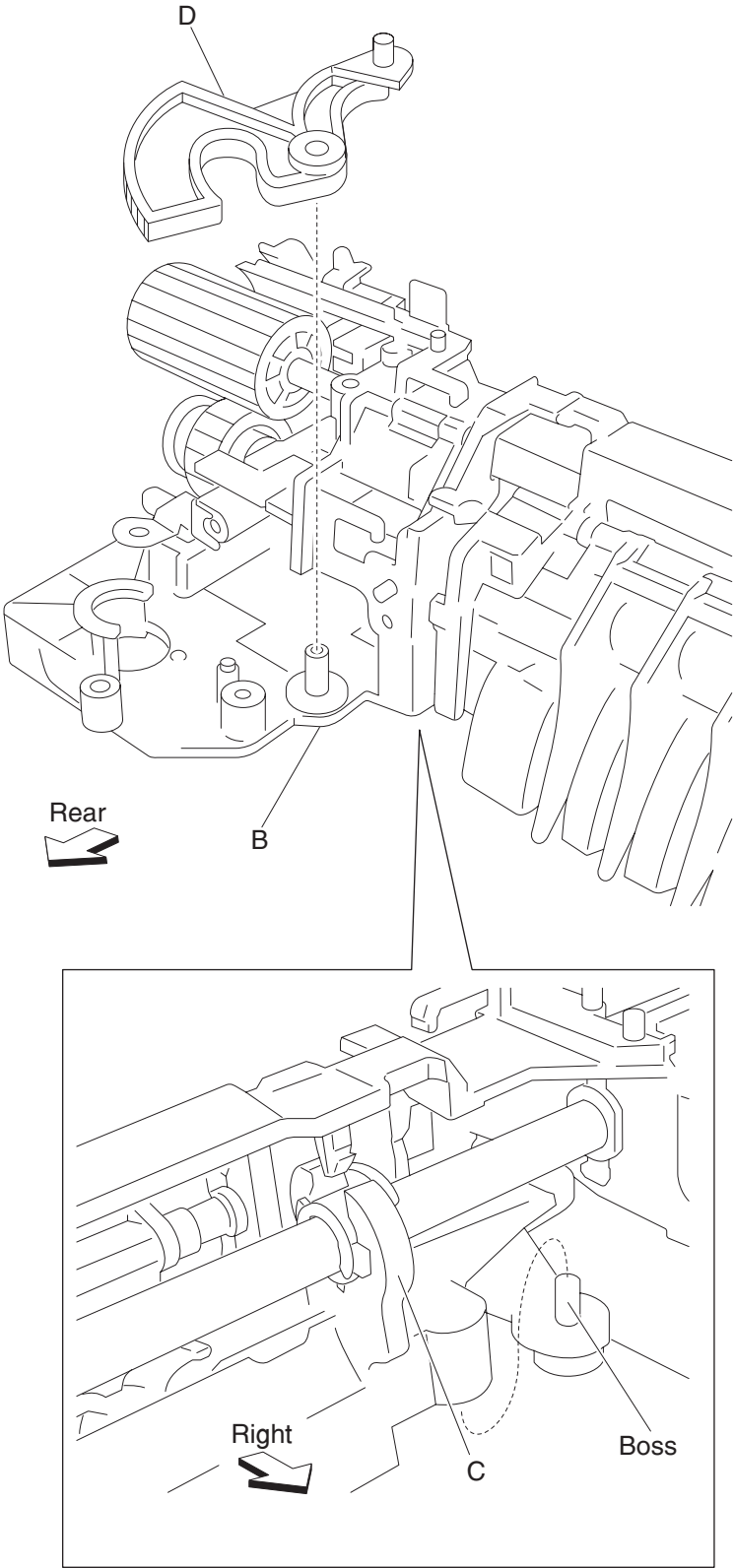
1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Remove the rear upper cover. See **“Rear upper cover removal”** on page 4-15.
4. Open the printer left door assembly.
5. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
6. Open the printer front door assembly.
7. Remove the printer front left cover. See **“Printer front left cover removal”** on page 4-3.
8. Remove the exit 1 media shift assembly. See **“Exit 1 media shift gear removal”** on page 4-110.
9. Release the hooks securing the sensor (exit 1 bin full) (A) to the exit 1 media shift assembly (B).
10. Remove the sensor (exit 1 bin full) (A).



## Exit 1 media shift gear removal

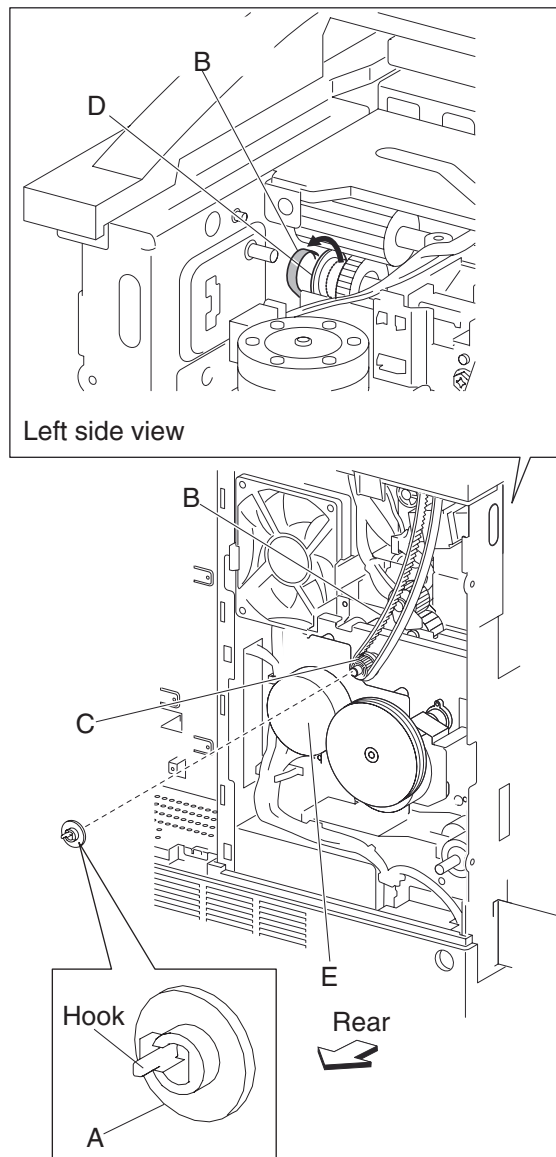
1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Remove the rear upper cover. See **“Rear upper cover removal”** on page 4-15.
4. Open the printer left door assembly.
5. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
6. Open the printer front door assembly.
7. Remove the printer front left cover. See **“Printer front left cover removal”** on page 4-3.
8. Remove the exit 1 media shift assembly. See **“Exit 1 media shift assembly removal”** on page 4-105.
9. Remove the exit 1 media shift motor. See **“Media shift motor removal”** on page 4-107.
10. Remove the 2 screws securing the bracket (A) to the exit 1 media shift assembly (B).
11. Remove the bracket (A) from the exit 1 media shift assembly (B).
12. Slide the shift assembly (C) in order to release the shift assembly boss from the exit 1 media shift gear (D).
13. Remove the exit 1 media shift gear (D) by lifting it upward.





## Exit 1 drive belt removal

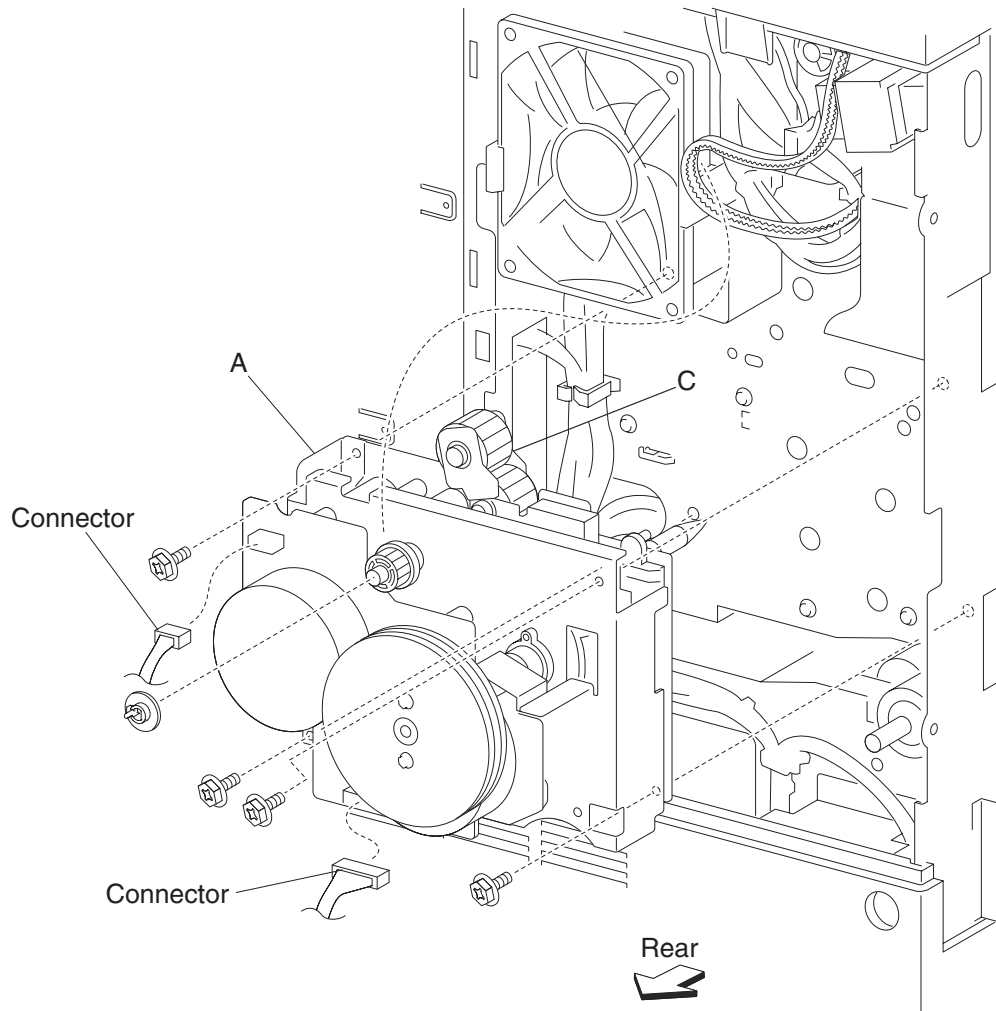
1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
4. Release the hook on the drive belt flange (A).
5. Remove the drive belt flange (A).
6. Remove the exit 1 drive belt (B) from the drive pulley - 25 tooth (C).  
**Note:** The drive pulley -25 tooth (C) may become detached.
7. Remove the exit 1 drive belt (B) from the exit 1 media shift assembly (D).



**Note:** Press on the exit 1 drive belt (B) while slowly turning the motor (E) by hand.

## Dual drive motor assembly removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Open the printer left door assembly.
4. Remove the PC cartridge.
5. Remove the exit 1 drive belt. See **“Exit 1 drive belt removal”** on page 4-112.
6. Disconnect the two harness connectors from the dual drive motor assembly (A).



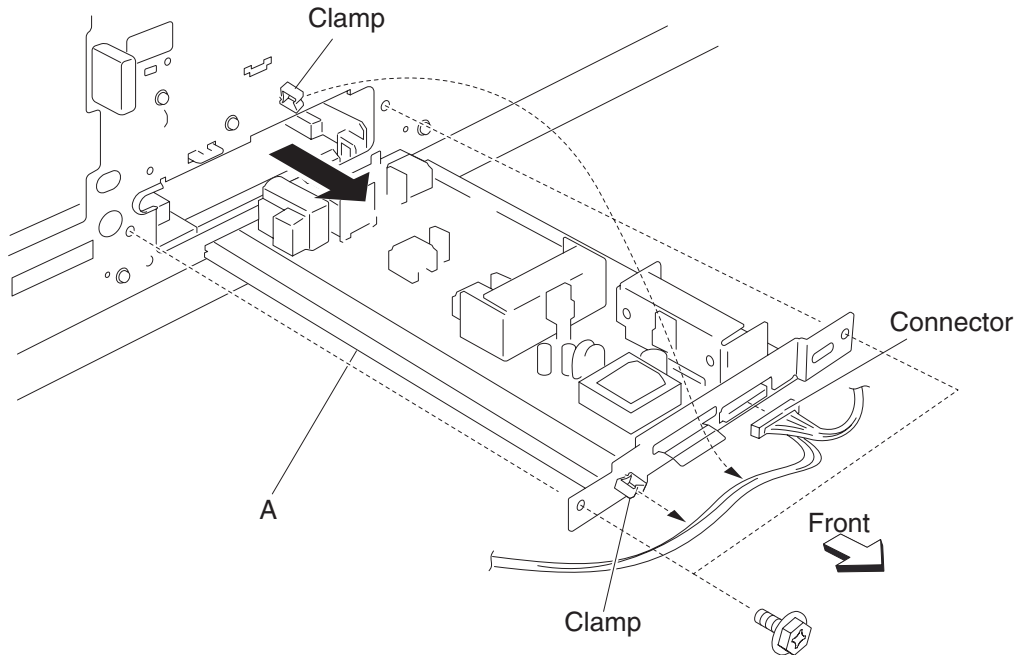
7. Remove the four screws securing the dual drive motor assembly (A) to the printer.
8. Remove the dual drive motor assembly (A).

**Warning:** Depress the spring loaded gear (C) while removing the dual drive motor assembly (A) to prevent damage.

**Warning:** Before reinstalling, depress the spring loaded gear (C) while replacing the dual drive motor assembly (A) to prevent damage.

## High voltage power supply (HVPS) card removal

1. Remove the printer front left cover. See **“Printer front left cover removal”** on page 4-3.
2. Remove the top cover assembly. See **“Top cover assembly removal”** on page 4-5.
3. Remove the PC cartridge.
4. Remove the printer front door assembly. See **“Printer front door assembly removal”** on page 4-6.
5. Remove the front inner cover. See **“Front inner cover removal”** on page 4-8.
6. Disconnect the connector from the HVPS card assembly (A).
7. Release the harness from the clamps.
8. Remove the two screws securing the HVPS card assembly (A).
9. Remove the HVPS card assembly (A) by sliding it outward in the direction of the arrow.



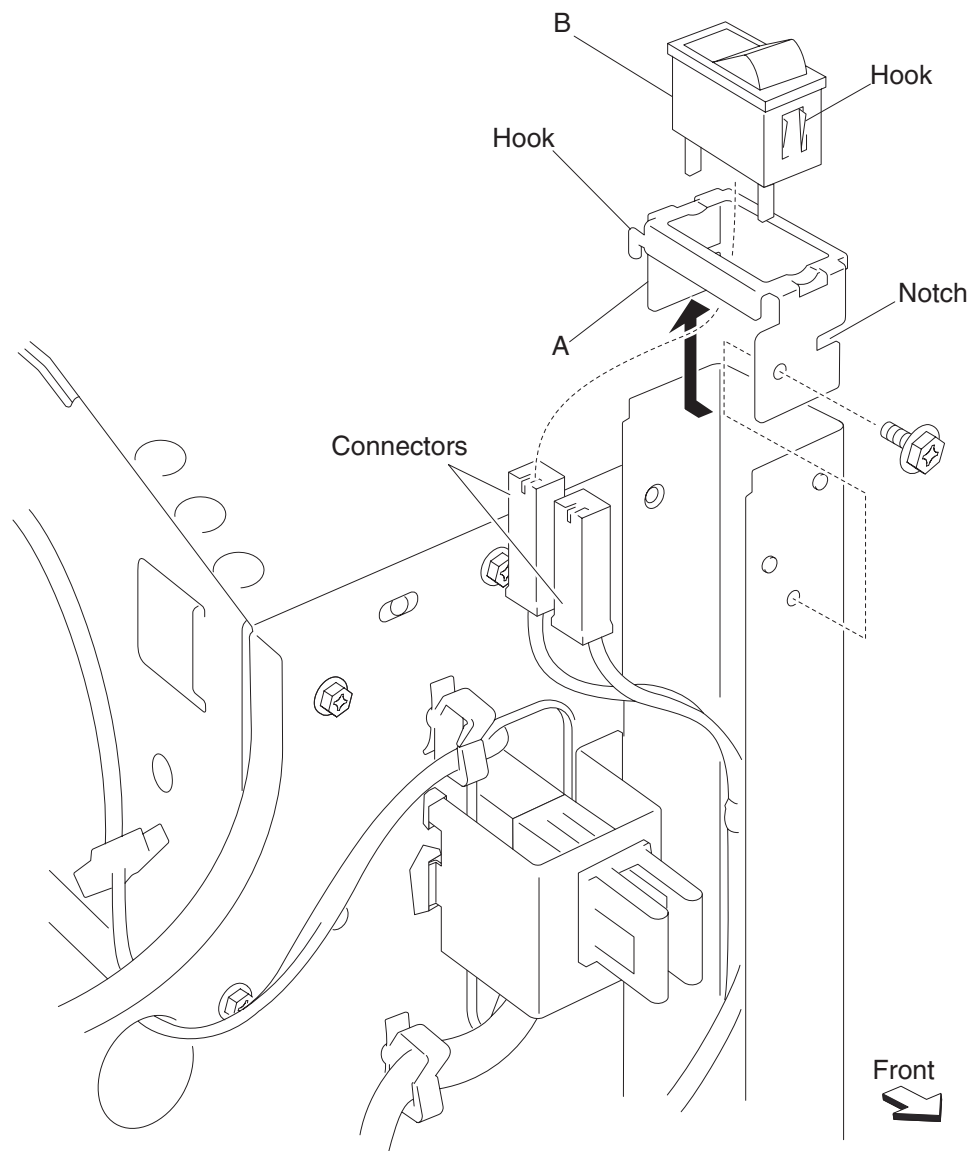
**Note:** Before reinstalling, ensure the HVPS (A) is inserted into the side slots properly.



## Switch (main power) removal



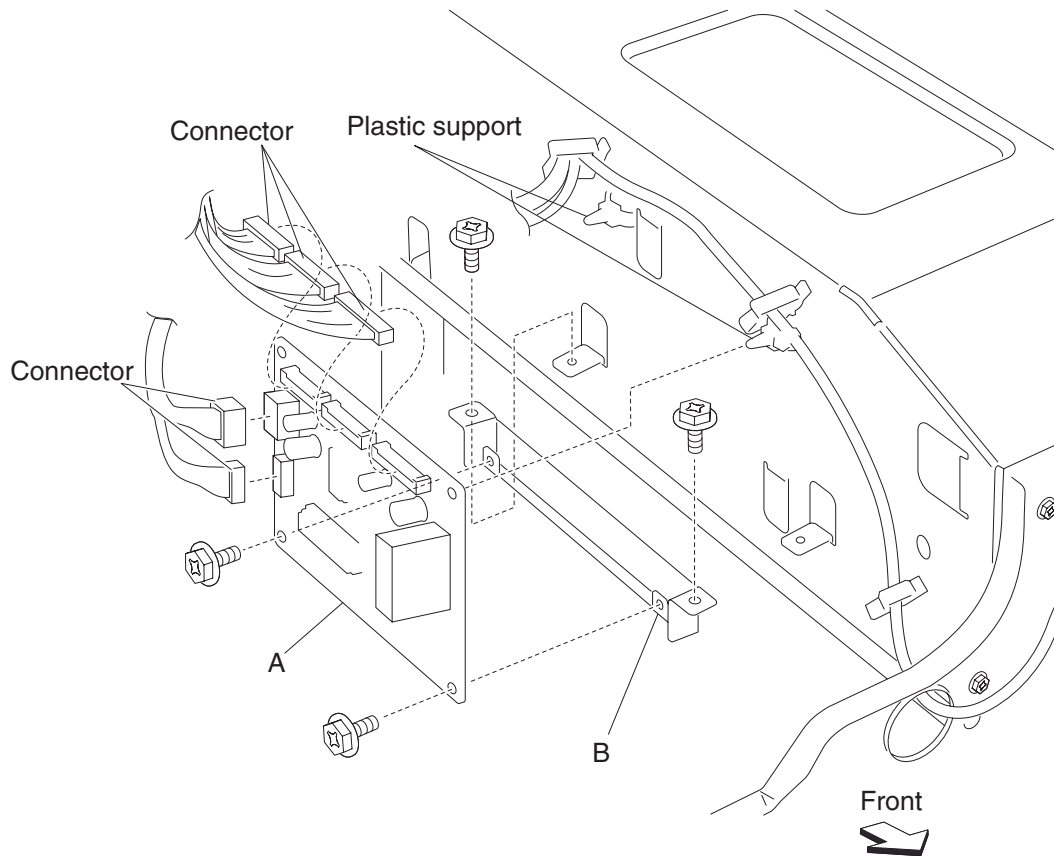
1. Remove the top cover assembly. See **“Top cover assembly removal”** on page 4-5.
2. Open the printer front door assembly.
3. Remove the right upper cover. See **“Right upper cover removal”** on page 4-9.
4. Remove the screw securing the bracket (A).
5. Slide the bracket (A) to the side and then upward in the direction of the arrow.
6. Remove the bracket (A).
7. Disconnect the four connectors from the switch (main power) (B).  
**Note:** Make note of the proper location of the four connectors.
8. Release the hooks securing the switch (main power) (B) to the bracket (A).
9. Remove the switch (main power) (B).



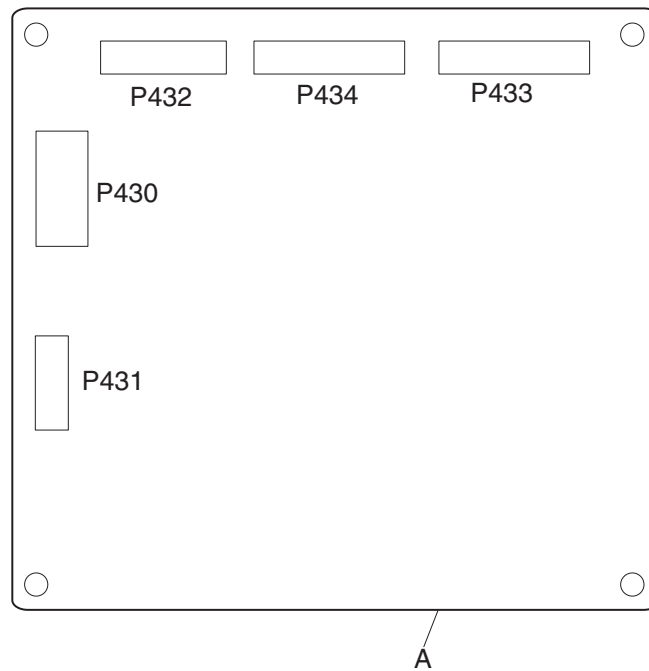
**Note:** Before reinstalling, ensure the four connectors are plugged into their proper location to prevent damage.

## Exit interface card assembly removal

1. Remove the top cover assembly. See **“Top cover assembly removal”** on page 4-5.
2. Disconnect all the connectors from the exit interface card assembly (A).  
**Note:** Connector P430 has a hook that must first be released.
3. Remove the two screws securing the exit interface card assembly (A).
4. Release the plastic supports securing the exit interface card assembly (A).
5. Remove the exit interface card assembly (A) along with the bracket (B).
6. Remove the two screws securing the exit interface card assembly (A) to the bracket (B).



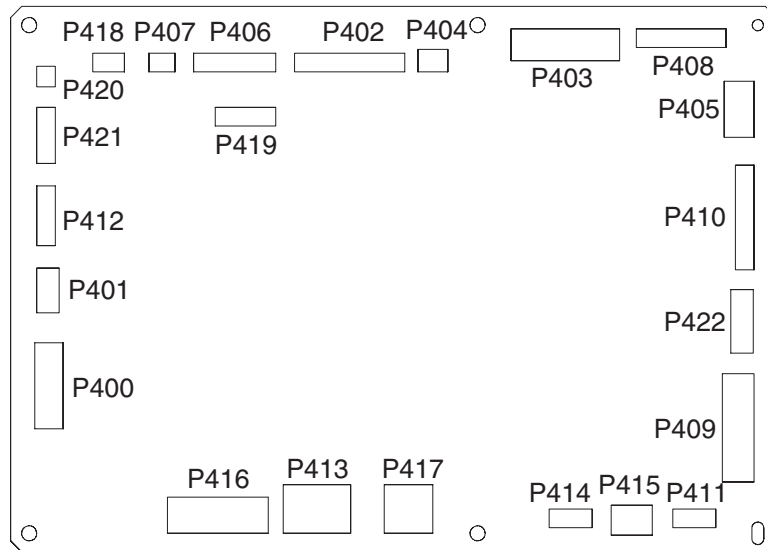
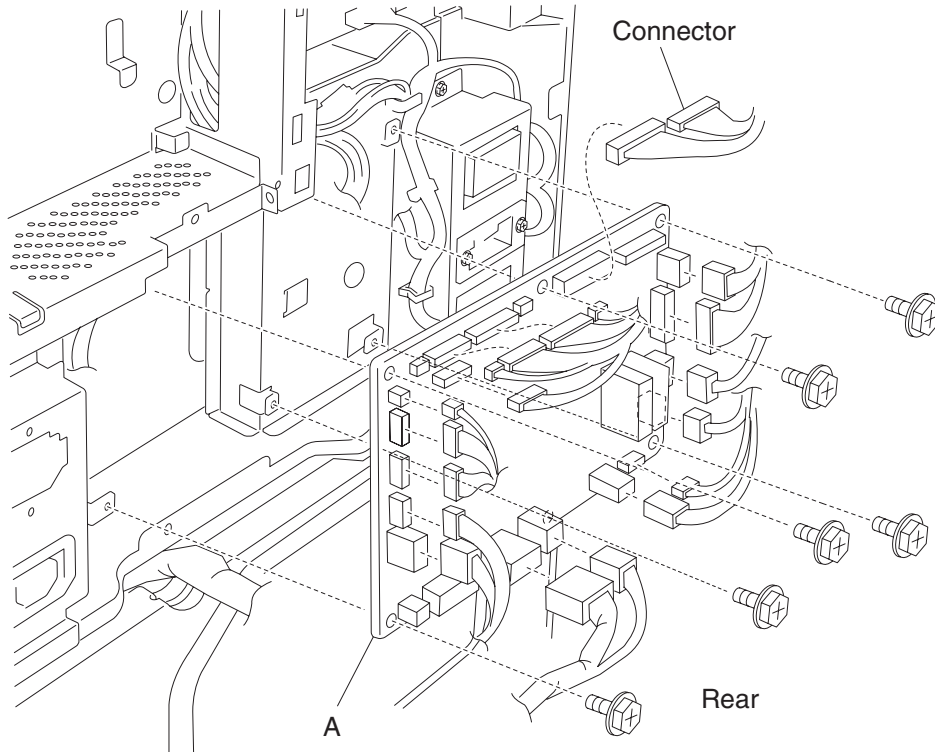
7. Remove the exit 2 card assembly (A).



### Printer engine card assembly removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal” on page 4-13.**
2. Remove the rear motor cover. See **“Rear motor cover removal” on page 4-11.**
3. Remove the rear lower cover. See **“Rear lower cover removal” on page 4-12.**
4. Disconnect all the connectors from the engine controller card assembly (A).  
**Note:** Connectors P405, P414, P416, and P400 have a hook that must be released.
5. Remove the six screws securing the printer engine card assembly (A).

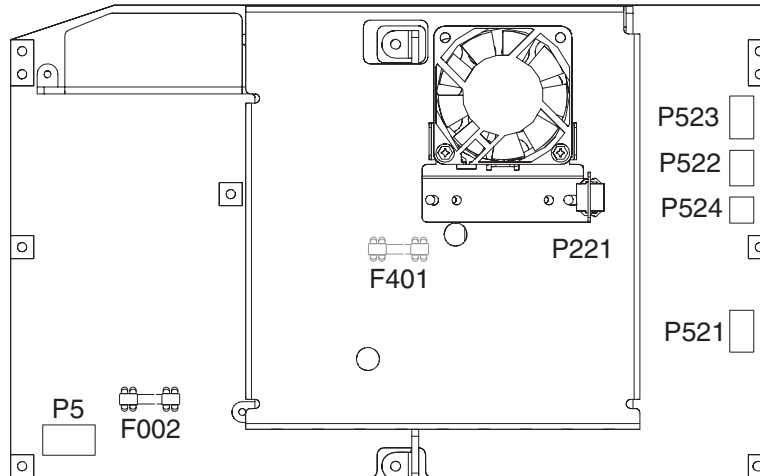
6. Remove the printer engine card assembly (A).

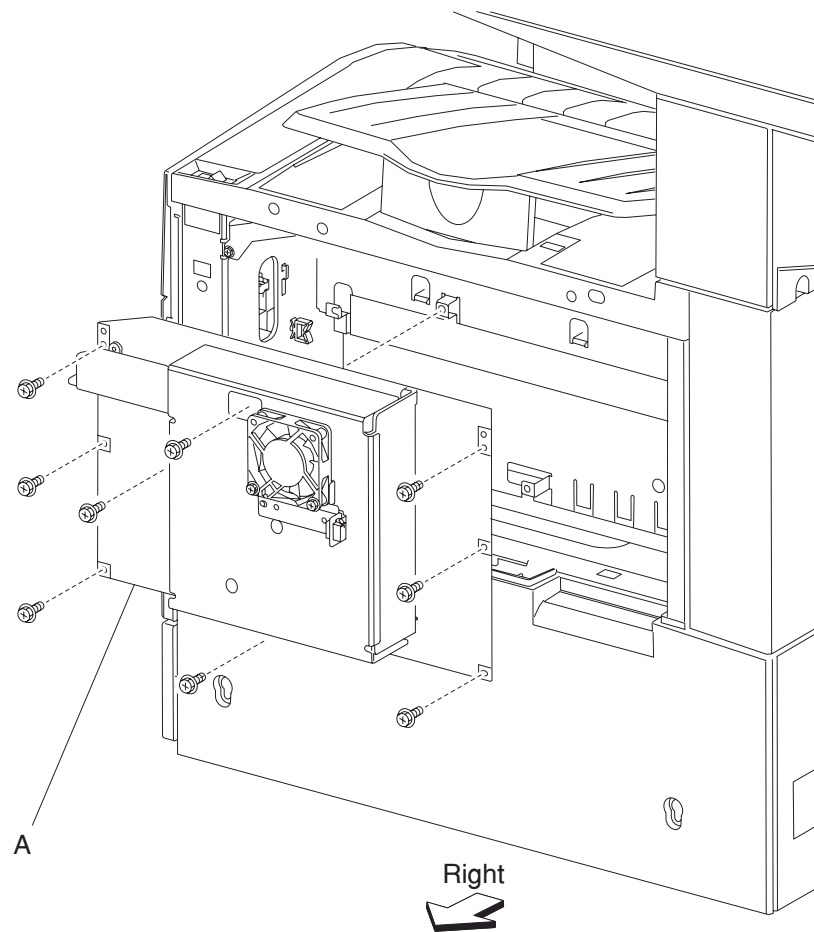


## LVPS card assembly removal



1. Remove the right upper cover. See **“Right upper cover removal”** on page 4-9.
2. Disconnect the connectors from the LVPS card assembly (A).  
**Note:** The connectors P5, P521, P522, and P524 have hooks that must first be released.
3. Remove the nine screws securing the LVPS card assembly (A) to the printer.

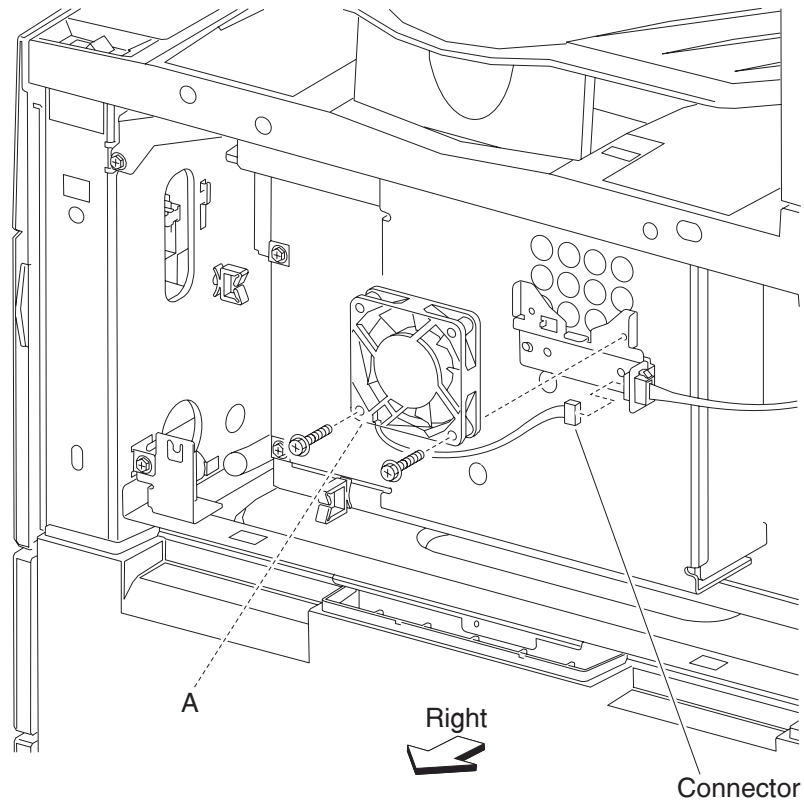




4. Remove the LVPS card assembly (A).  
**Note:** Grasp the card by the edge; avoid touching the bottom of the LVPS assembly (A).

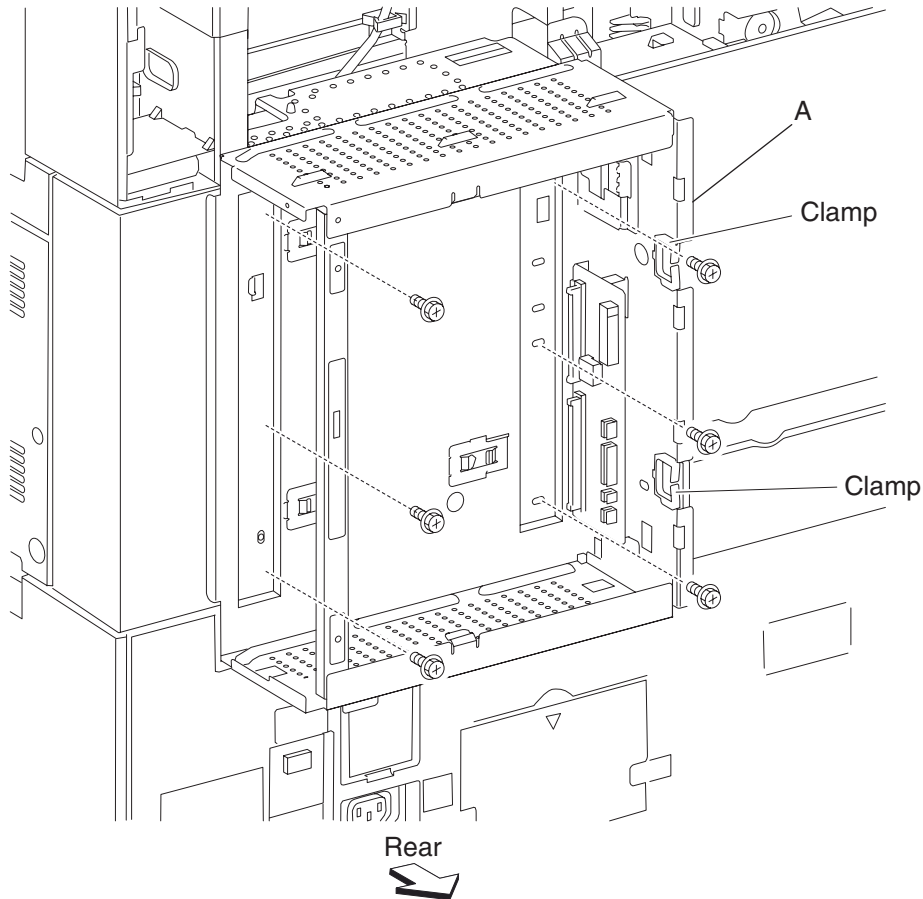
## LVPS cooling fan removal

1. Remove the right upper cover. See **“Right upper cover removal”** on page 4-9.
2. Disconnect the connector from the LVPS cooling fan (A).
3. Remove the two screws securing the LVPS cooling fan to the machine.
4. Remove the LVPS cooling fan (A).



## AC drive card assembly removal

1. Remove the RIP card chassis bracket. See **“RIP card chassis bracket removal”** on page 4-127.
2. Remove the controller box side cover. See **“Controller box side cover removal”** on page 4-18.
3. Remove all harnesses from the clamps on the controller cage (A).
4. Remove the six screws securing the controller cage (A) to the printer.
5. Move the controller cage (A) leftward and outward.
6. Remove the controller cage (A).



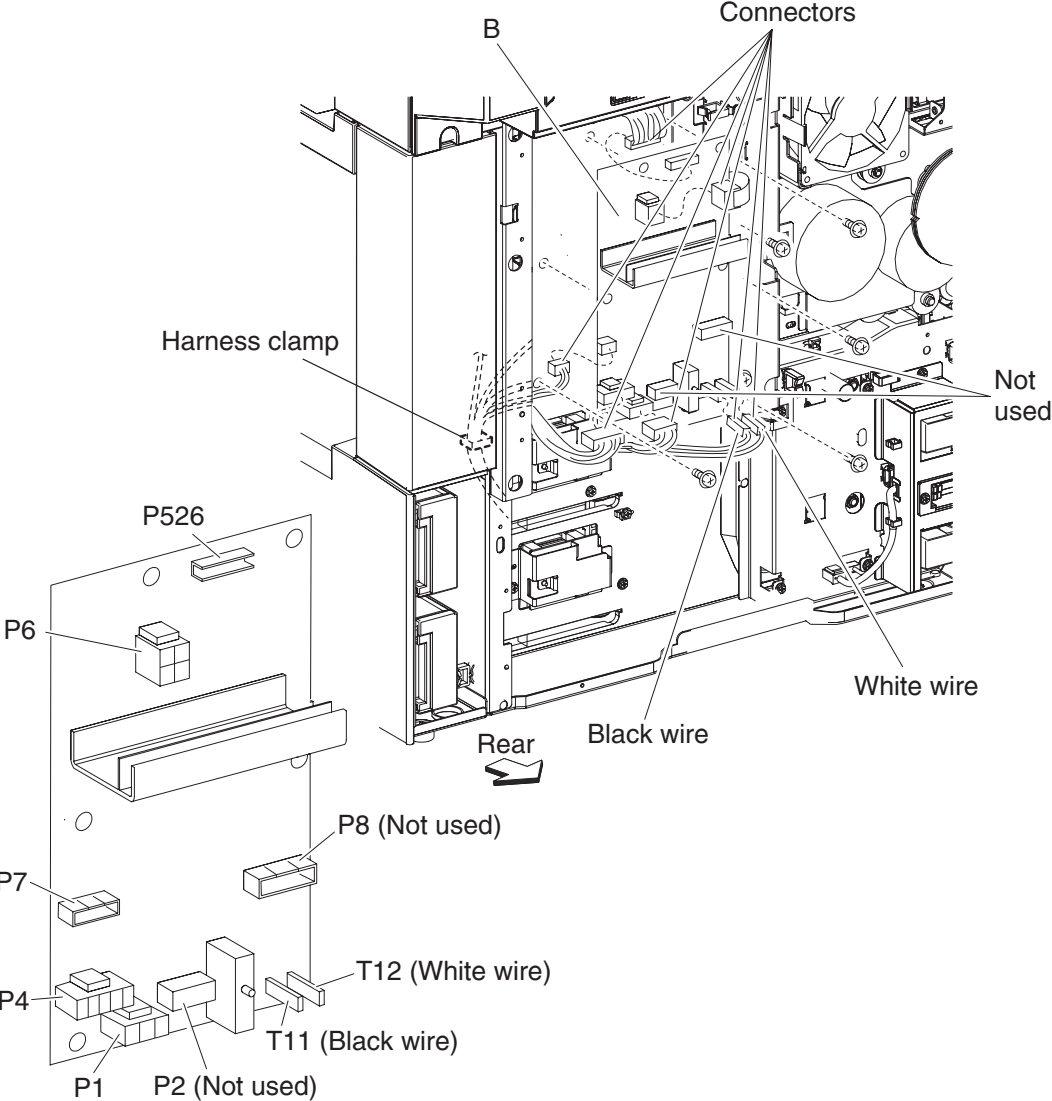
7. Remove the seven connections to the AC drive card assembly (B).
8. Remove the six screws securing the AC drive card assembly (B) to the printer.

**Note:** Connectors P1, P4, P6, and P7 have a hook that must be released.



9. Remove the AC drive card assembly (B).

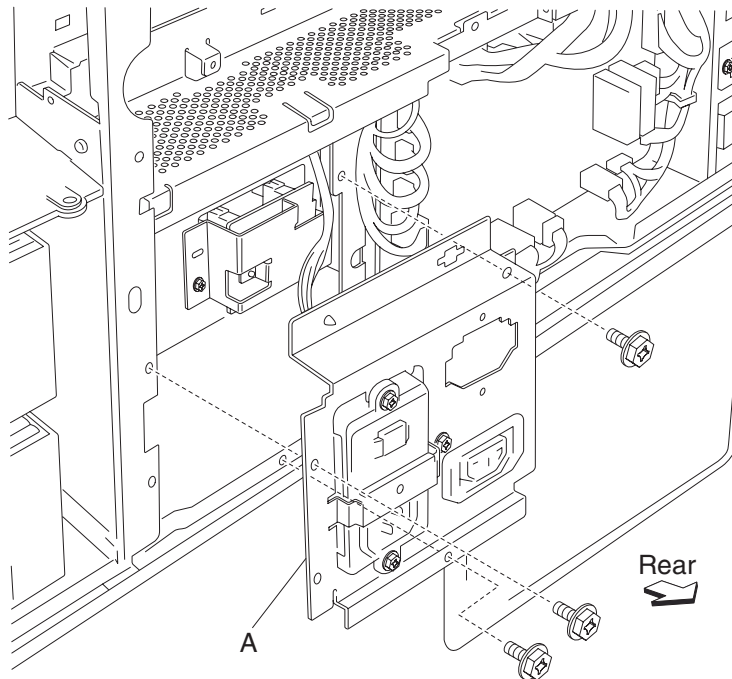
**Note:** Before reinstalling, ensure that all electrical connections are properly connected.



## AC power input socket assembly removal



1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Remove the rear lower cover. See **“Rear lower cover removal”** on page 4-12.
4. Remove the top cover assembly. See **“Top cover assembly removal”** on page 4-5.
5. Remove the right upper cover. See **“Right upper cover removal”** on page 4-9.
6. Remove the three screws securing the AC power input socket assembly (A).
7. Release the harness from the clamp.
8. Remove the AC power bracket assembly (A).

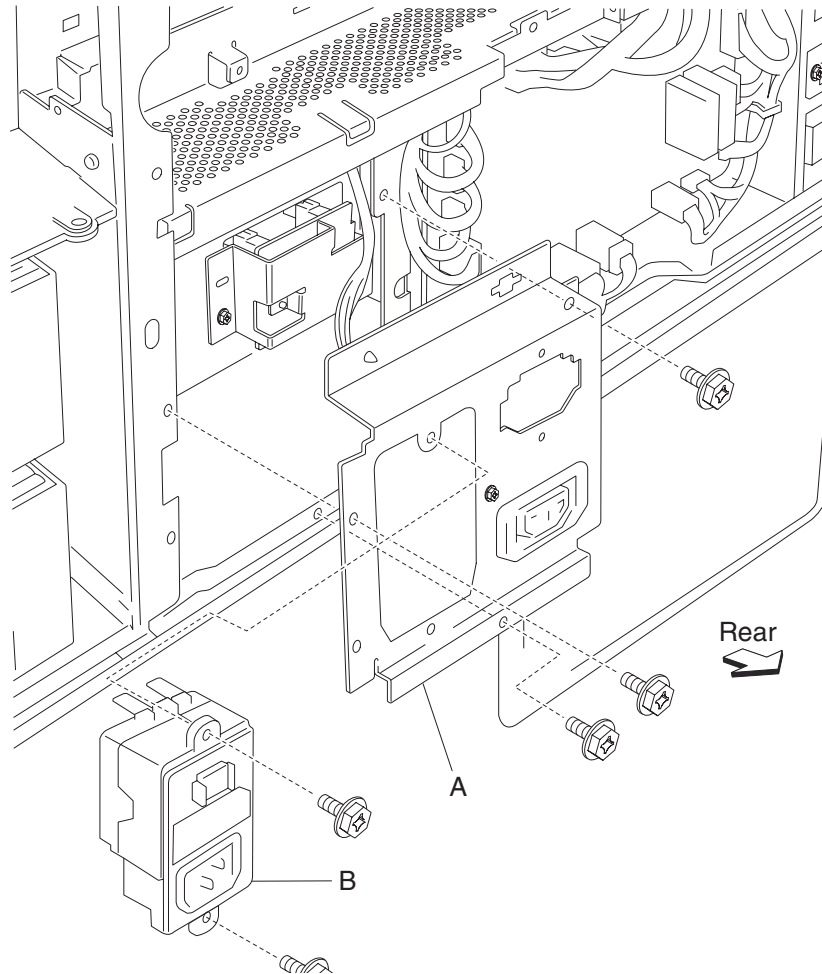


**Warning:** Before reinstalling, ensure all connectors are plugged into their proper location to prevent damage.

## AC power input socket removal



1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Remove the rear lower cover. See **“Rear lower cover removal”** on page 4-12.
4. Remove the three screws securing the bracket (A).
5. Disconnect the two connectors to the AC power input socket (B).
6. Remove the two screws securing the AC power input socket (B) to the bracket (A).
7. Remove the AC GFI breaker (B).

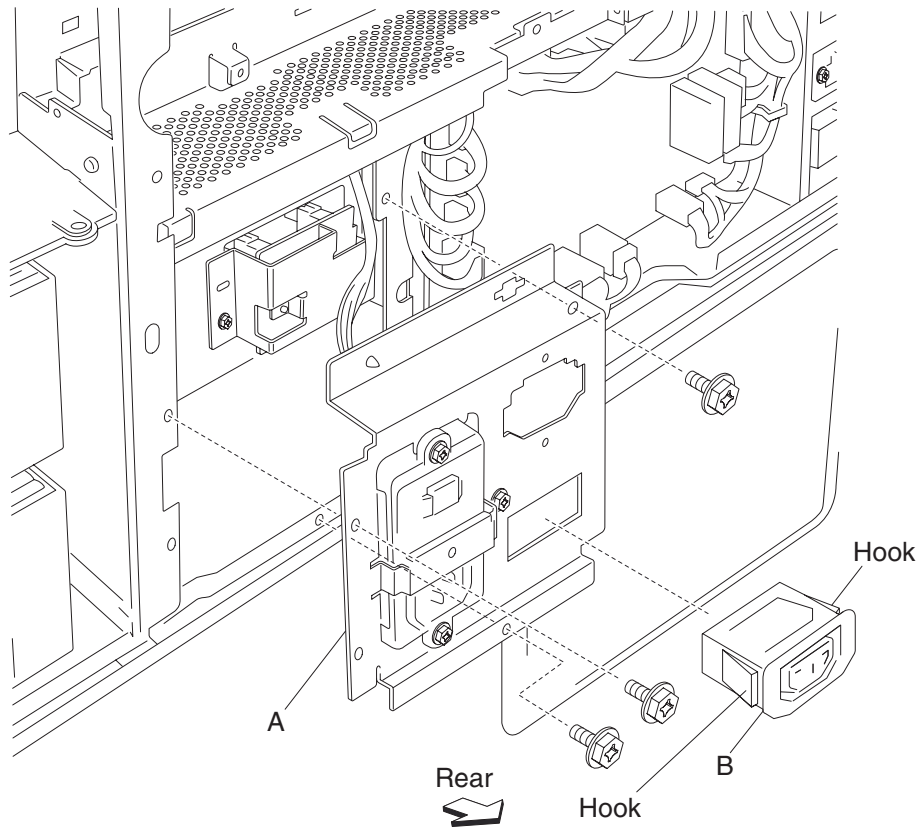


**Warning:** Before reinstalling, ensure all connectors are plugged into their proper location to prevent damage.

## Finisher AC output removal



1. Remove the RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the rear motor cover. See **“Rear motor cover removal”** on page 4-11.
3. Remove the rear lower cover. See **“Rear lower cover removal”** on page 4-12.
4. Remove the printer engine card assembly. See **“Printer engine card assembly removal”** on page 4-117.
5. Remove the three screws securing the bracket (A).
6. Disconnect the three connectors to the finisher AC output (B).
7. Release the two hooks securing the finisher AC output (B) to the bracket (A).
8. Remove the finisher AC output (B).

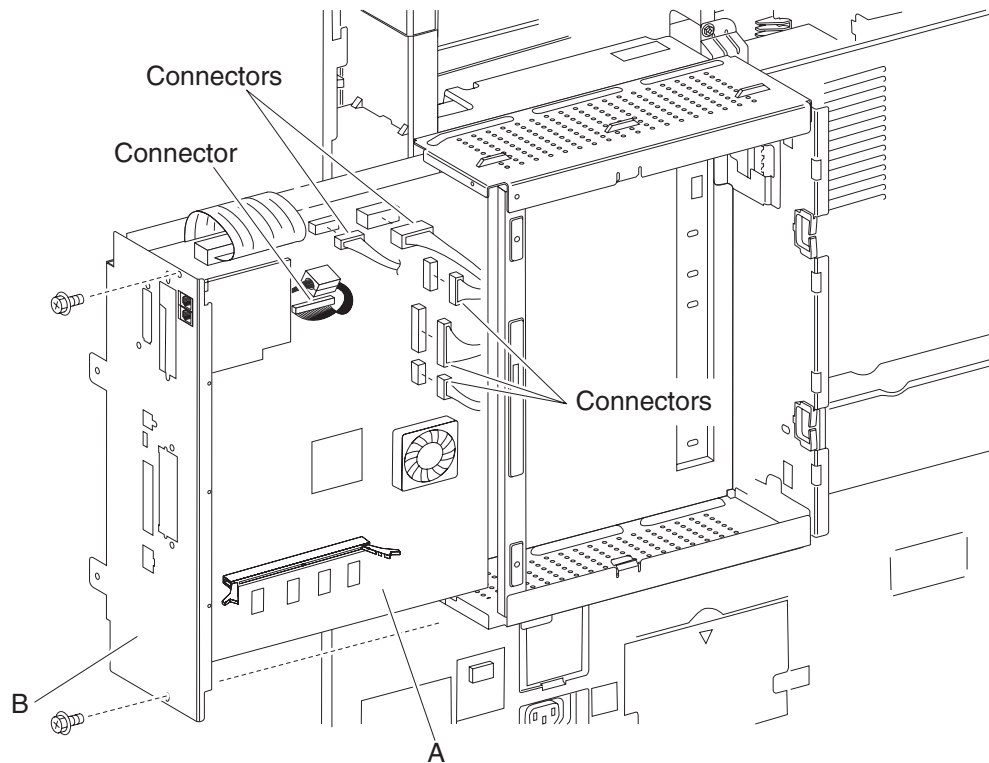


**Warning:** Before reinstalling, ensure all connectors are plugged into their proper location to prevent damage.

## RIP card chassis bracket removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Disconnect five connections from the RIP card assembly (A).
3. Remove the two screws securing the RIP card chassis bracket (B) to the frame.
4. Slide the RIP card chassis bracket (B) to the left and out of the frame.

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



## RIP card assembly removal

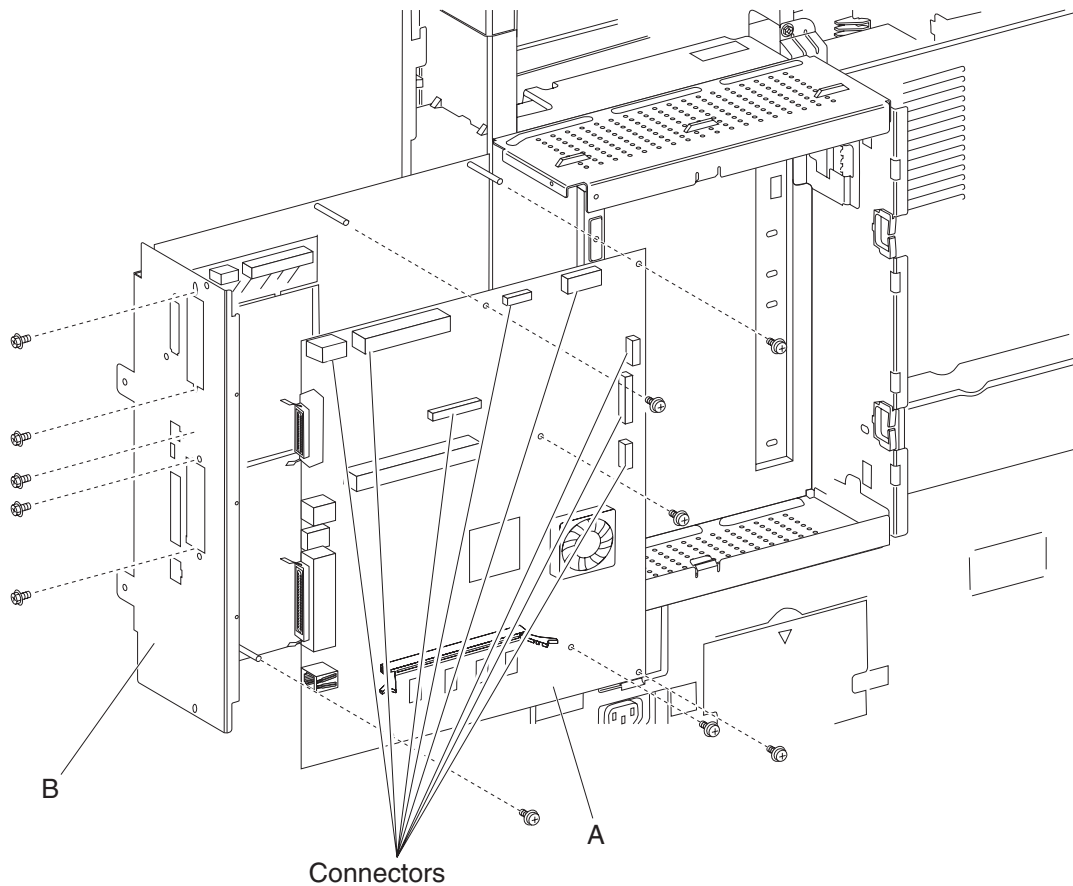
**Warning:** In the event of replacement of any one of the following components:

- Operator panel assembly (universal)
- Operator panel controller card assembly
- 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.

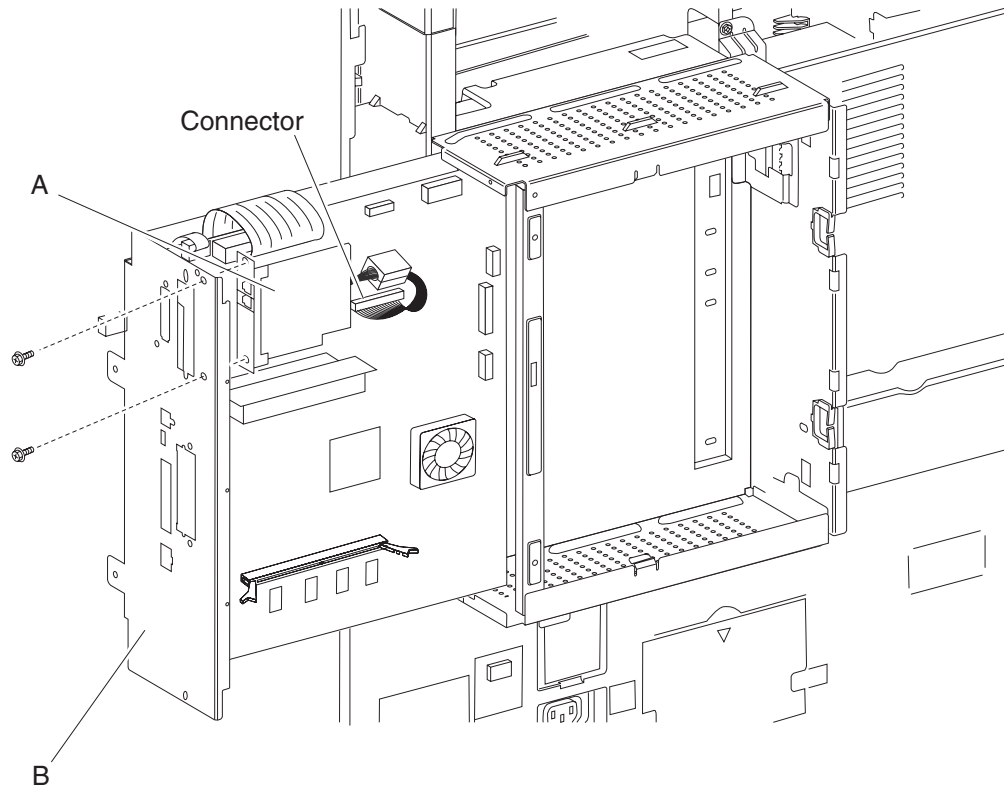
**Warning:** Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the RIP card chassis bracket. See **“RIP card chassis bracket removal”** on page 4-127.
3. Disconnect the eight connections from the RIP card assembly (A).
4. Remove the five screws securing the RIP card assembly (A) to the side of the RIP card chassis bracket (B).
5. Remove the six screws securing the RIP card assembly (A) to the face of the RIP card chassis bracket (B).
6. Remove the RIP card assembly (A).



## Fax interface card assembly removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Disconnect the connection from the fax interface card assembly (A).
3. Remove the two screws securing the fax interface card assembly (A) to the side of the RIP card chassis bracket (B).
4. Remove the fax interface card assembly (A).



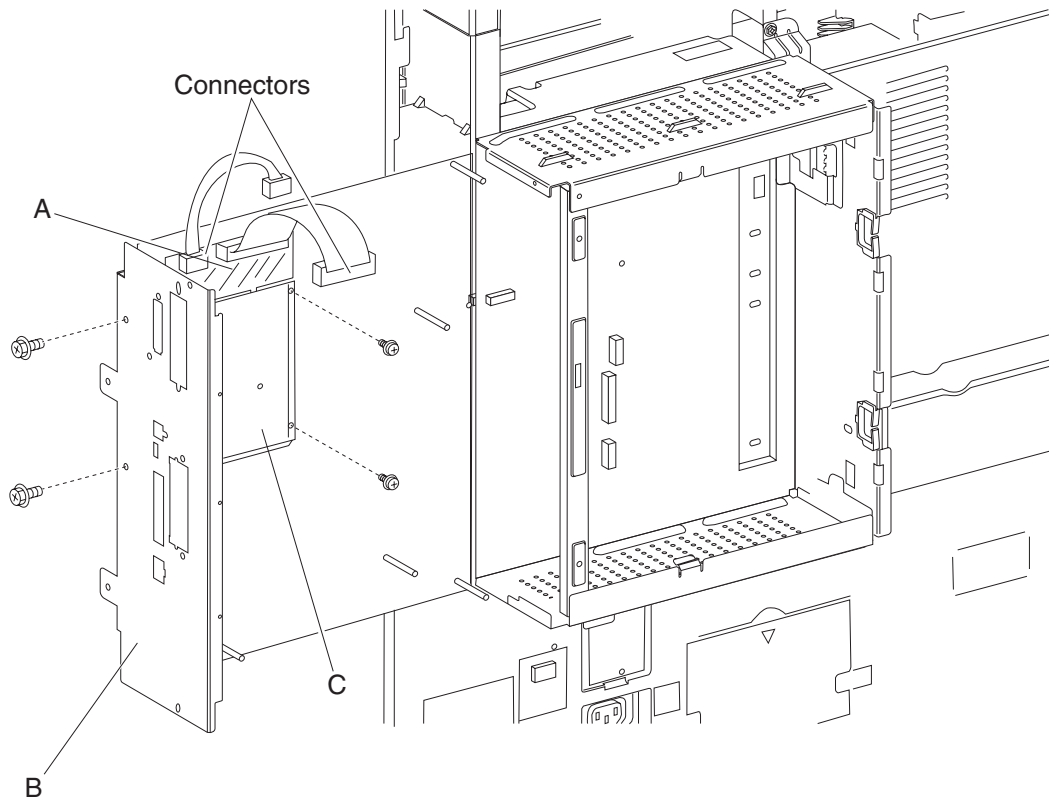
## Hard drive removal

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Remove the RIP card chassis bracket. See **“RIP card chassis bracket removal”** on page 4-127.
3. Remove the RIP card assembly. See **“RIP card assembly removal”** on page 4-128.

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

4. Remove the two connectors from the hard drive (A).
5. Remove the two screws securing the hard drive (A) to the side of the RIP card chassis bracket (B).
6. Remove or loosen the two screws securing the bracket (C) to the face of the RIP card chassis bracket (B).
7. Remove the hard drive (A).

**Warning:** Do not drop the hard drive, or damage will occur.





## Interconnect card assembly removal

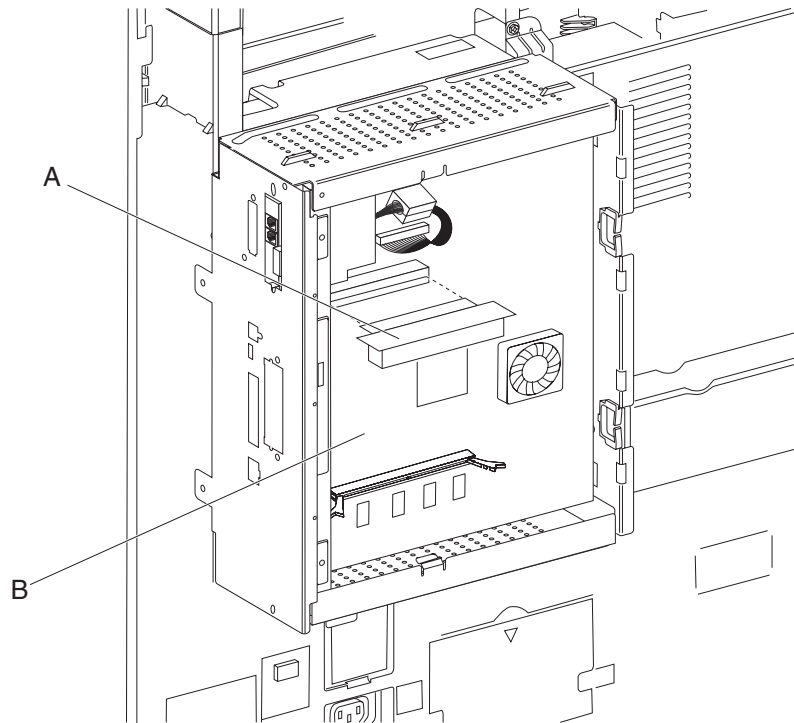
**Warning:** In the event of replacement of any one of the following components:

- Operator panel assembly (universal)
- Operator panel controller card assembly
- 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.

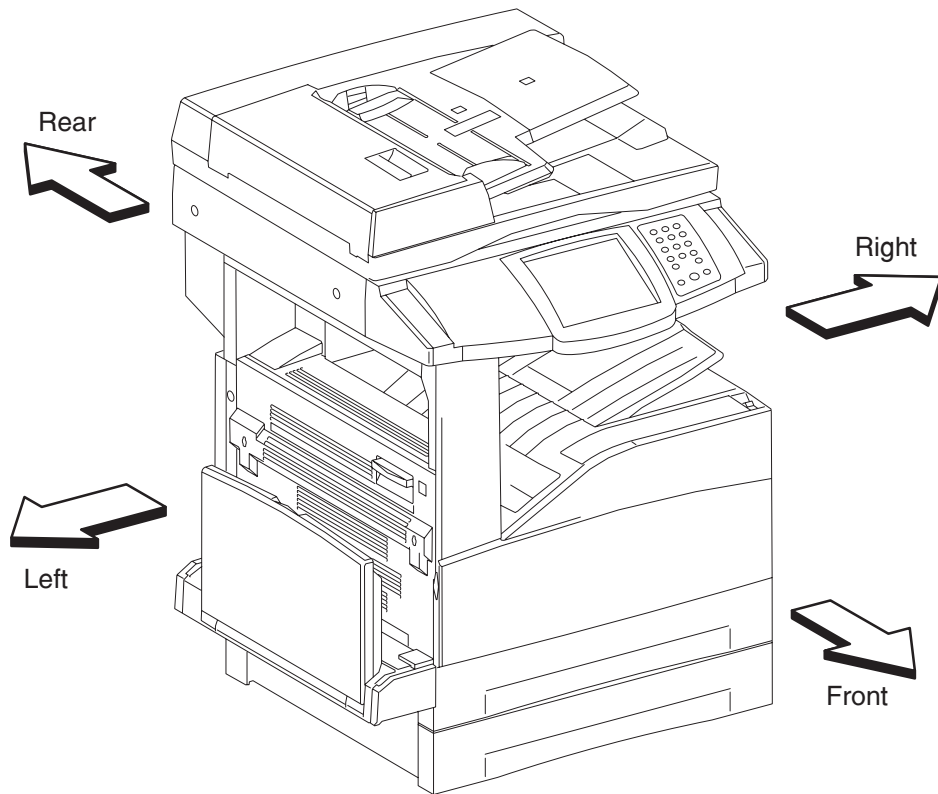
**Warning:** Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it cannot be used in another machine. It must be returned to the manufacturer.

1. Remove the rear RIP card cover. See **“Rear RIP card cover removal”** on page 4-13.
2. Gently pull the interconnect card assembly (A) from the RIP card assembly (B).
3. Remove the interconnect card assembly (A).



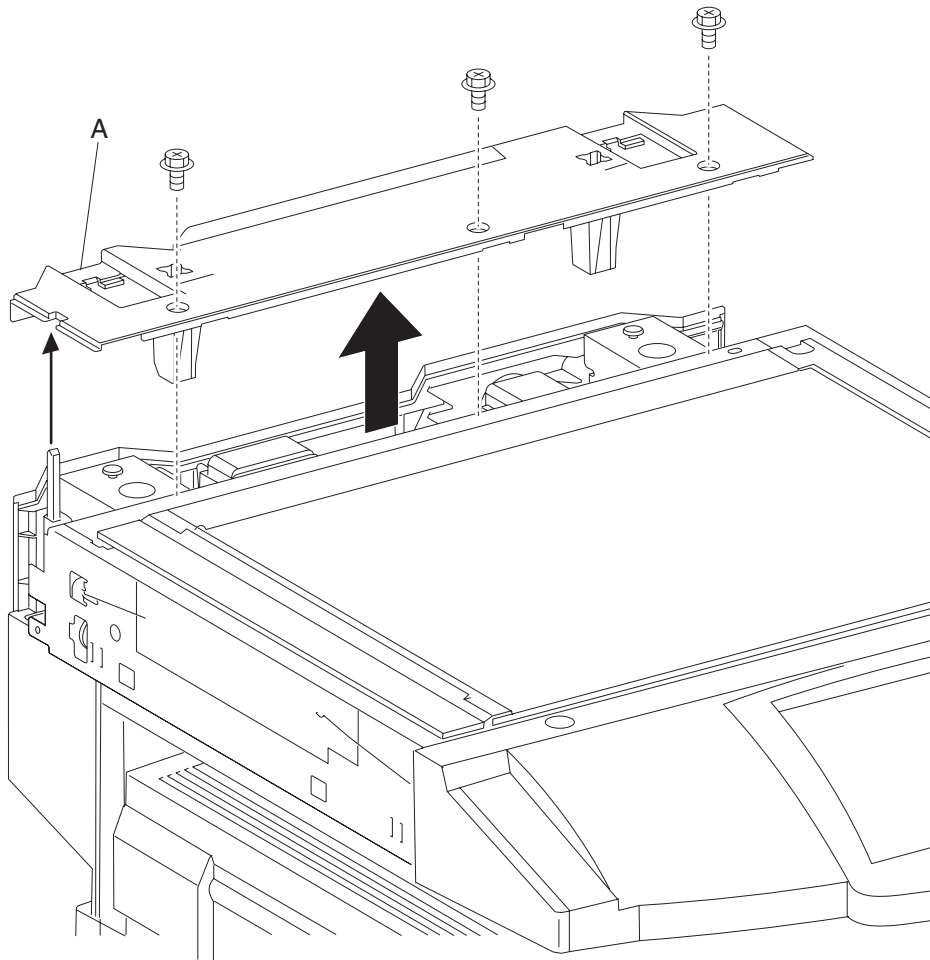
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## Scanner removals



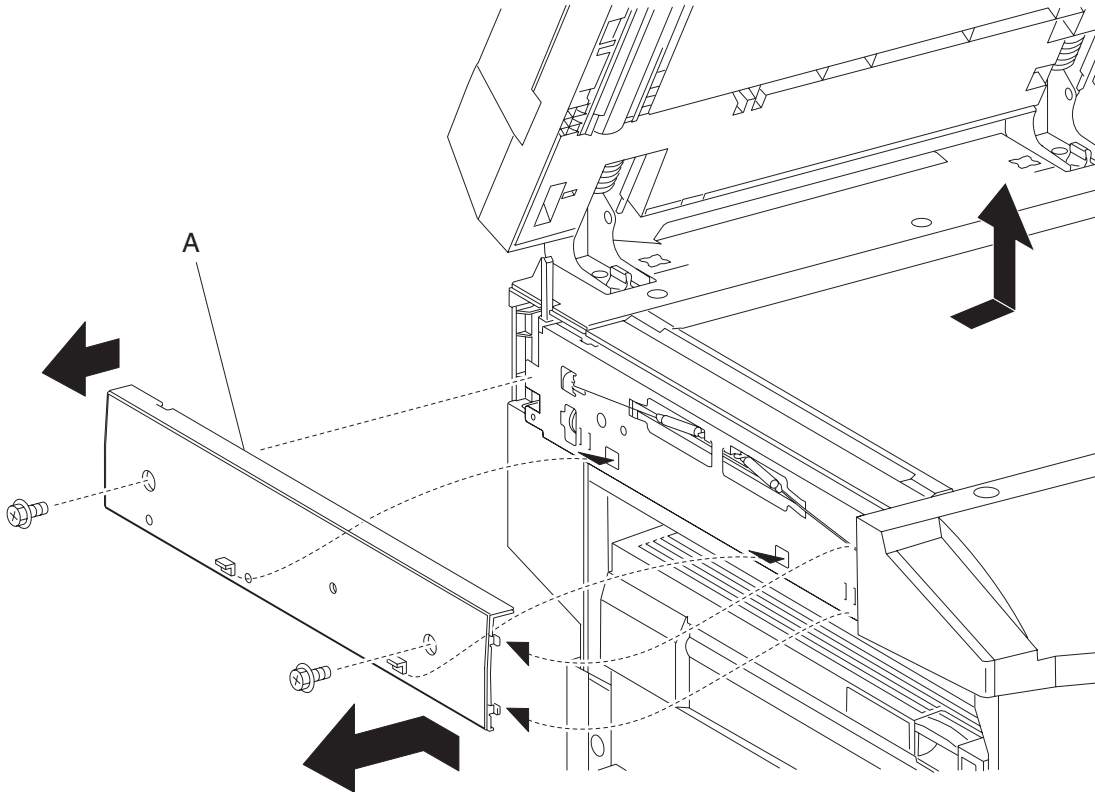
## Scanner top rear cover removal

1. Remove the ADF unit assembly. See **“ADF unit assembly removal” on page 4-159.**
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-15.**
3. Remove the scanner left cover. See **“Scanner left cover removal” on page 4-134.**
4. Remove the scanner right cover. See **“Scanner right cover removal” on page 4-135.**
5. Remove the three screws securing the scanner top rear cover (A) to the scanner unit assembly.
6. Lift the scanner top rear cover (A) upward.
7. Remove the scanner top rear cover (A).



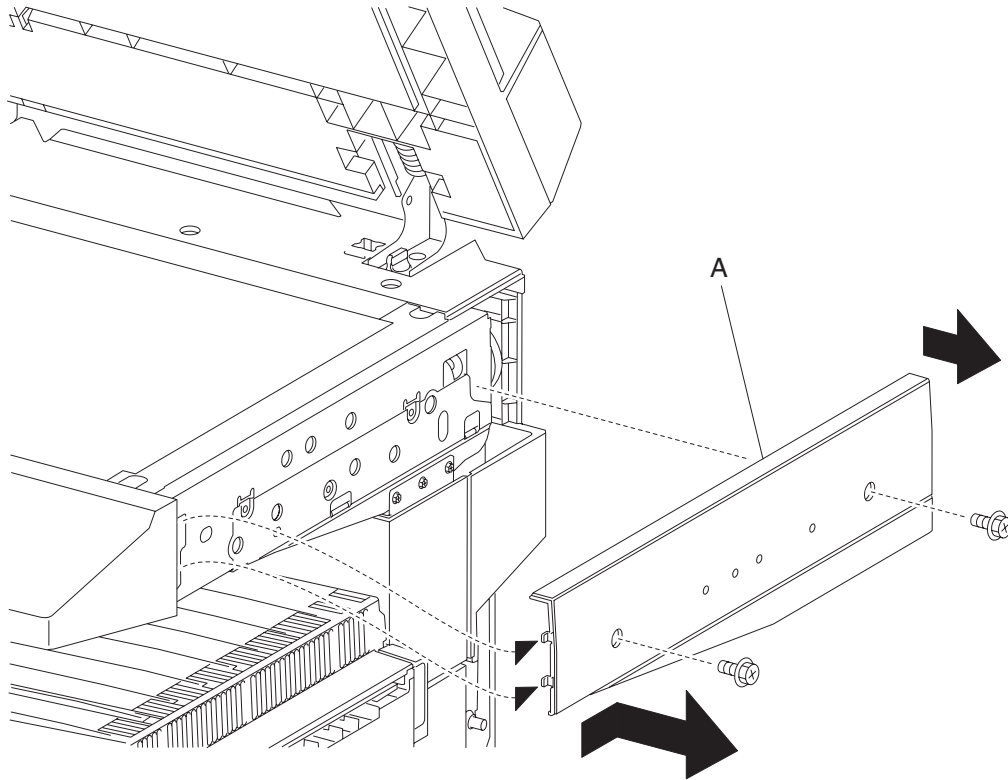
## Scanner left cover removal

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).



## Operator panel assembly removal

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

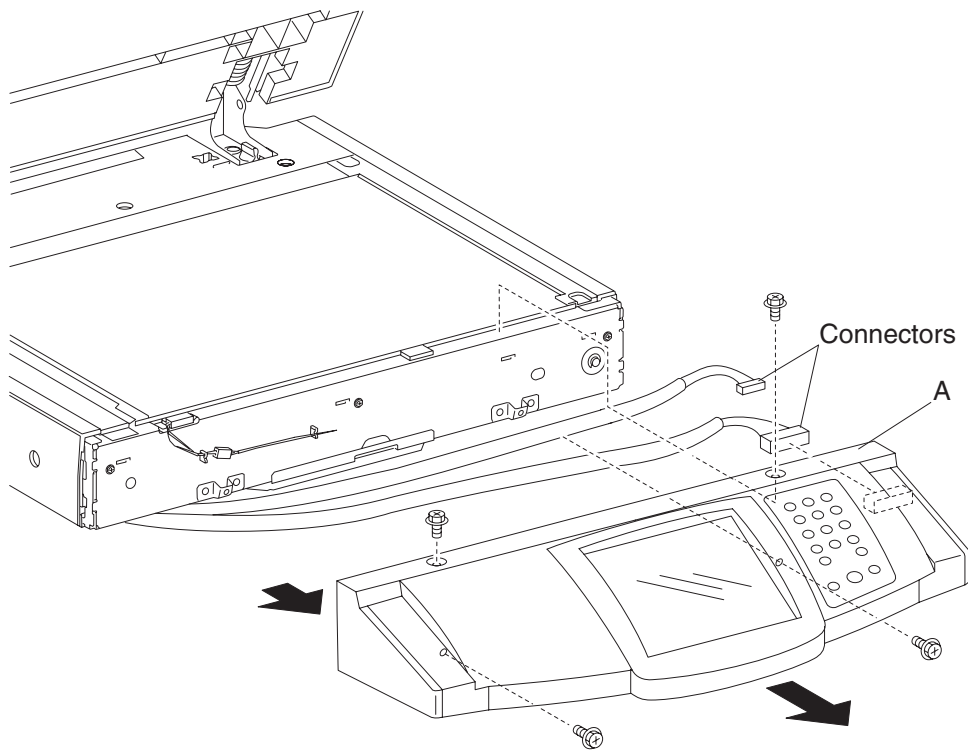
- Operator panel assembly (universal)
- Operator panel controller card assembly
- RIP card assembly
- Interconnect card assembly

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.

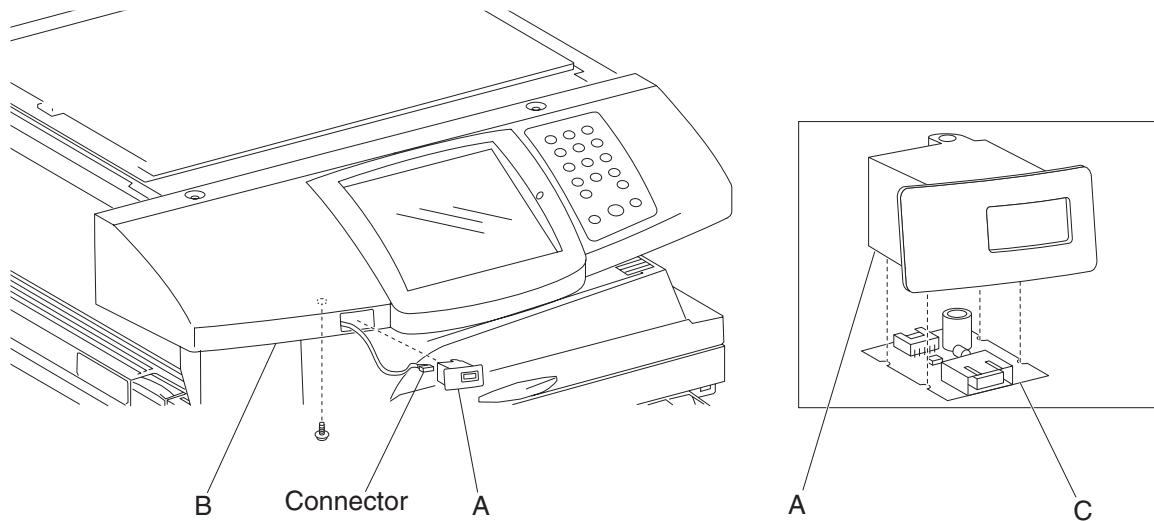
1. Remove the four screws securing the operator panel assembly (A) to the scanner unit assembly.
2. Move the operator panel assembly (A) forward.
3. Disconnect the two connectors from the operator panel assembly (A).
4. Remove the operator panel assembly (A).

**Warning:** Do not drop the operator panel assembly (A), or damage will occur.



## USB connector removal

1. Remove the one screw securing the USB connector housing (A) to the operator panel assembly (B).
2. Pull the USB connector housing (A) from the operator panel assembly (B).
3. Remove the connector from the USB connector (C).
4. Remove the USB connector (C) from the USB connector housing (A).



## Operator panel user touch screen removal

1. Remove the operator panel assembly. Go to **“Operator panel assembly removal” on page 4-136.**
2. Remove one screw securing the ground wires (A) to the rear of the operator panel assembly (B).
3. Remove the six screws securing the bottom cover (C) to the operator panel assembly (B).
4. Remove the bottom cover (C) from the operator panel assembly (B).

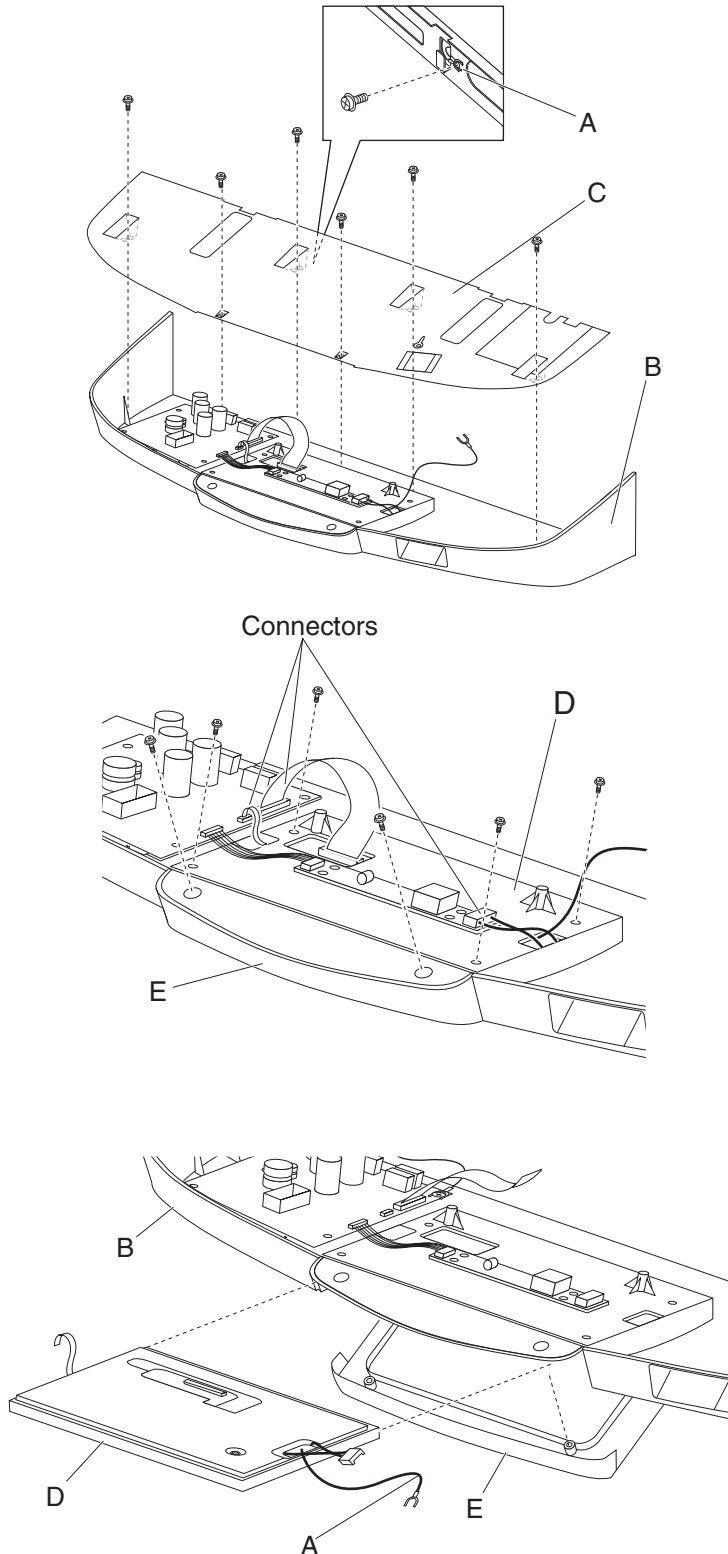
**Warning:** Be careful when removing ribbon connections to avoid damage.

5. Remove the three connections from the operator panel user touch screen (D).
6. Remove the two screws securing the bezel (E) to the operator panel assembly (B).
7. Remove the bezel (E).
8. Remove the four screws securing the operator panel user touch screen (D) to the operator panel assembly (B).

9. Remove the operator panel user touch screen (D).

**Note:** Before reinstalling the operator panel user touch screen (D), ensure that all connections are properly replaced.

**Note:** Before reinstalling the operator panel assembly (B), ensure that all ground wires (A) are properly replaced.





## Operator panel controller card assembly removal

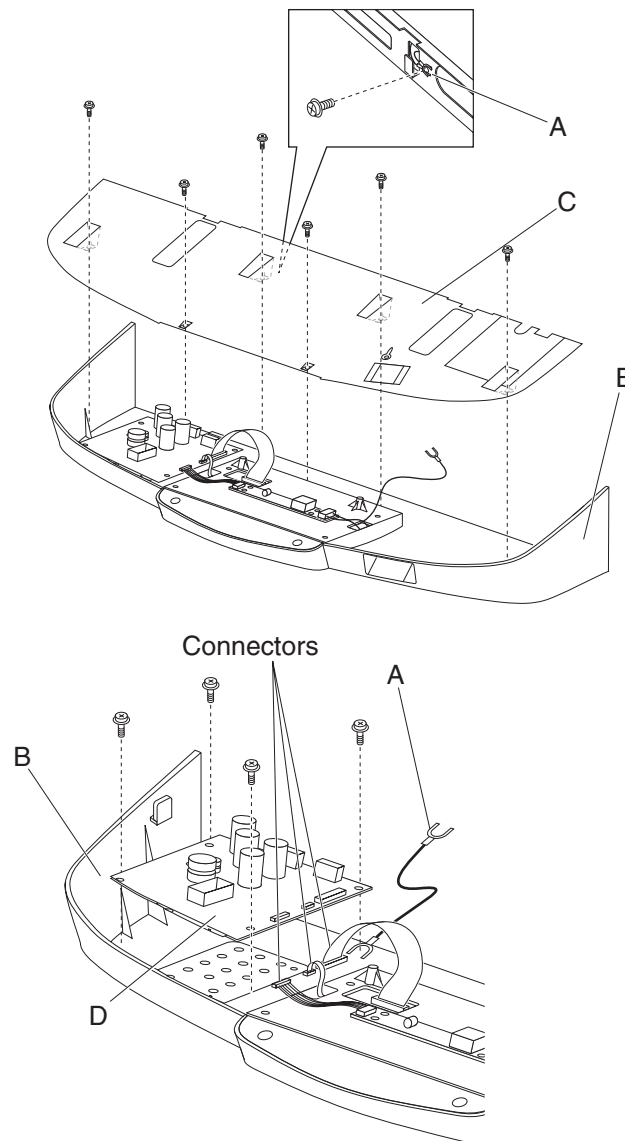
1. Remove the operator panel assembly. Go to **“Operator panel assembly removal” on page 4-136.**
2. Remove one screw securing the ground wires (A) to the rear of the operator panel assembly (B).
3. Remove the six screws securing the bottom cover (C) to the operator panel assembly (B).
4. Remove the bottom cover (C) from the operator panel assembly (B).

**Warning:** Be careful when removing ribbon connections to avoid damage.

5. Remove the three connections from the operator panel controller card assembly (D).
6. Remove the four screws securing the operator panel controller card assembly (D) to the operator panel assembly (B).
7. Remove the ground wire (A).
8. Remove the operator panel controller card assembly (D).

**Note:** Before reinstalling the operator panel controller card assembly (D), ensure that all connections are properly replaced.

**Note:** Before reinstalling the operator panel assembly (B), ensure that all ground wires (A) are properly replaced.

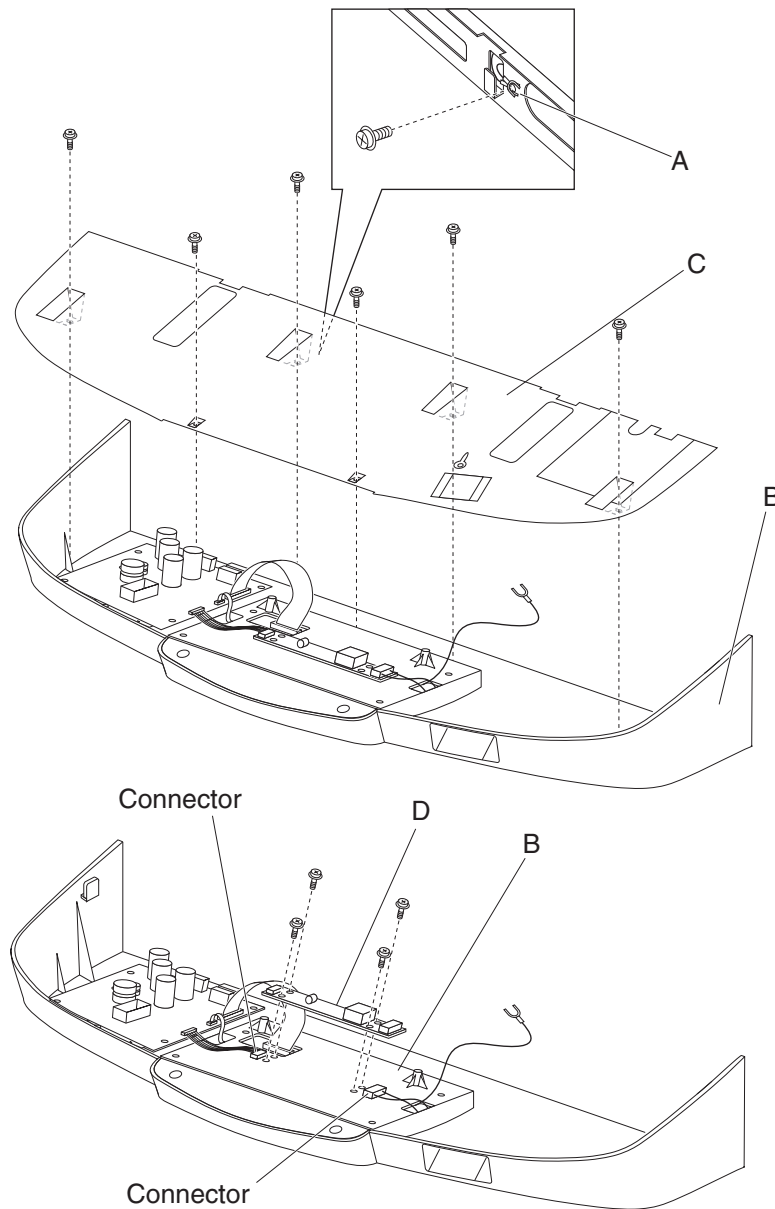


## Operator panel inverter card assembly removal

1. Remove the USB connector. Go to **“USB connector removal” on page 4-137.**
2. Remove the operator assembly. Go to **“Operator panel assembly removal” on page 4-136.**
3. Remove one screw securing the ground wires (A) to the rear of the operator panel assembly (B).
4. Remove the six screws securing the bottom cover (C) the operator panel assembly (B).
5. Remove the bottom cover (C) from the operator panel assembly (B).
6. Remove the two connections from the operator inverter card assembly (D).
7. Remove the four screws securing the operator inverter card assembly (D) to the operator panel assembly (B).
8. Remove the operator panel inverter card assembly (D).

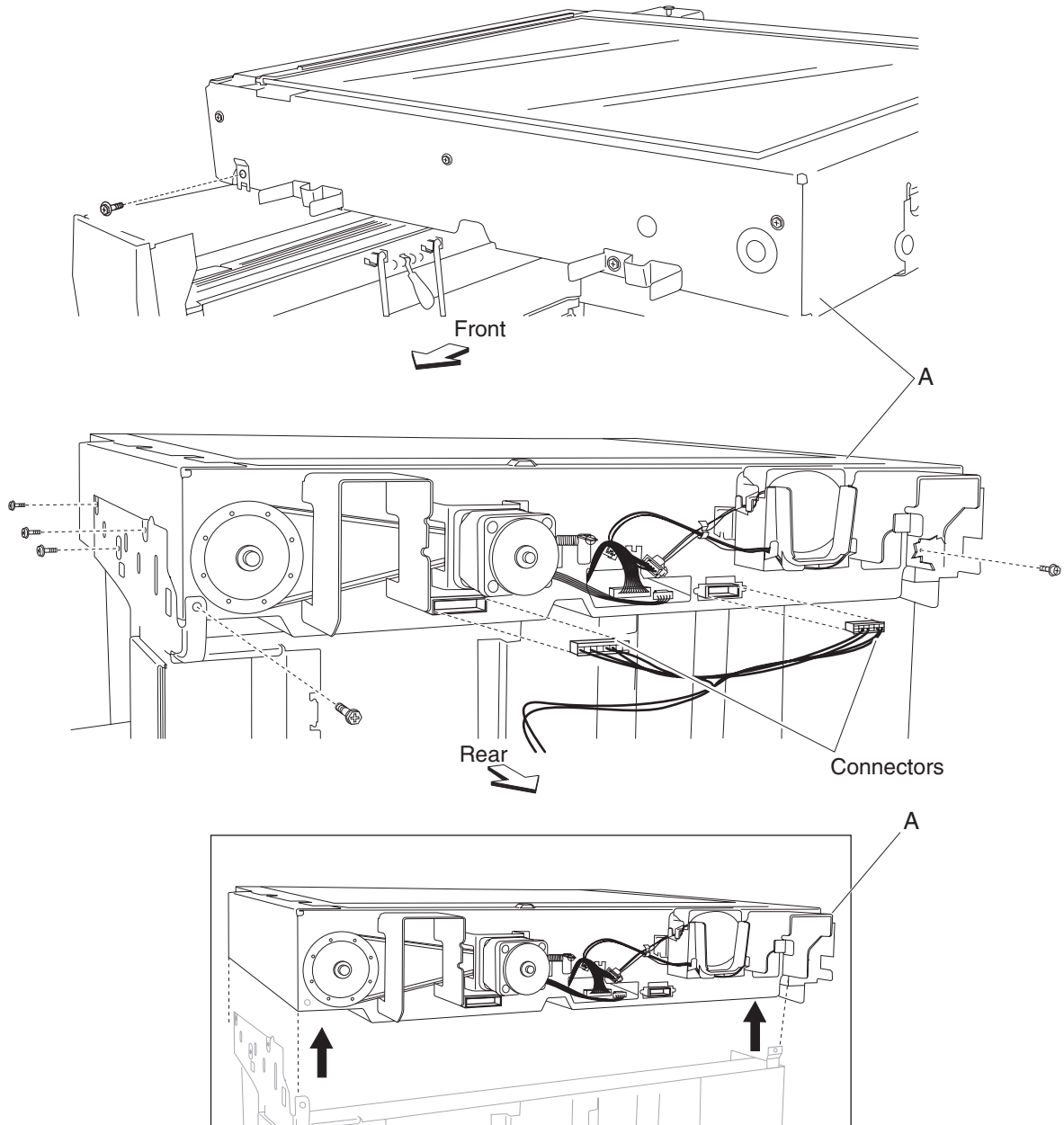
**Note:** Before reinstalling the operator panel inverter card assembly (D), ensure that all connections are properly replaced.

**Note:** Before reinstalling the operator panel assembly (B), ensure all ground wires (A) are properly replaced.



## Scanner unit assembly removal

1. Remove the ADF unit assembly. See **“ADF unit assembly removal”** on page 4-159.
2. Remove the operator panel assembly. See **“Operator panel assembly removal”** on page 4-136.
3. Remove the scanner left cover. See **“Scanner left cover removal”** on page 4-134.
4. Remove the scanner right cover. See **“Scanner right cover removal”** on page 4-135.
5. Remove the rear upper cover. See **“Rear upper cover removal”** on page 4-15.
6. Remove the scanner top rear cover. See **“Scanner top rear cover removal”** on page 4-133.
7. Remove the two power connections from the rear of the scanner unit assembly (A).
8. Remove the six screws securing the scanner unit assembly (A) to the machine.
9. Remove the scanner unit assembly (A).



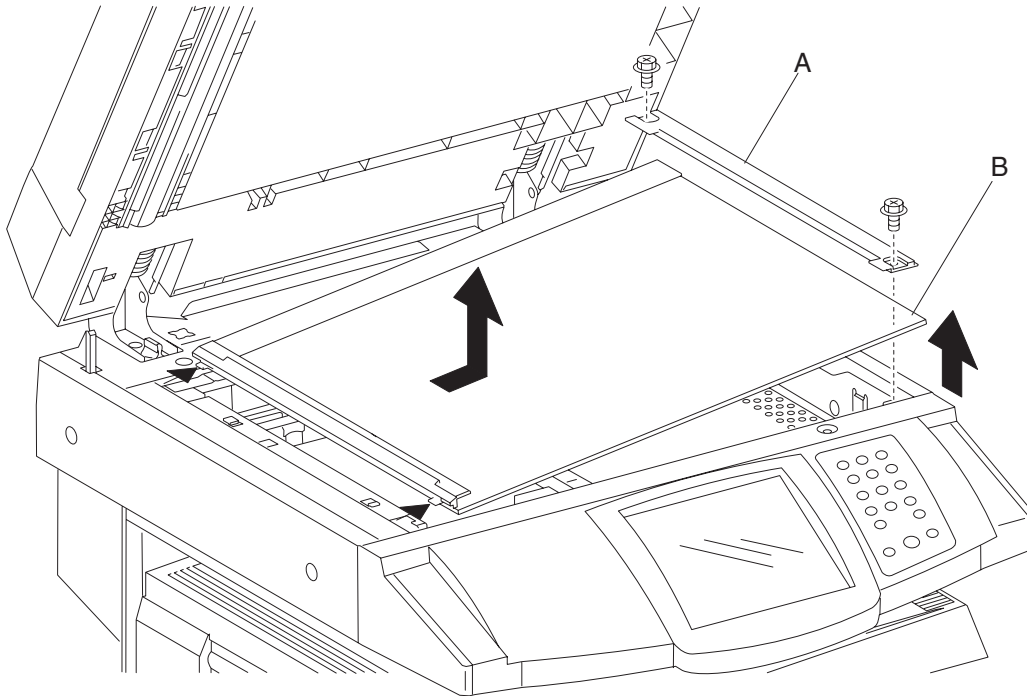
## Large platen glass removal

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.

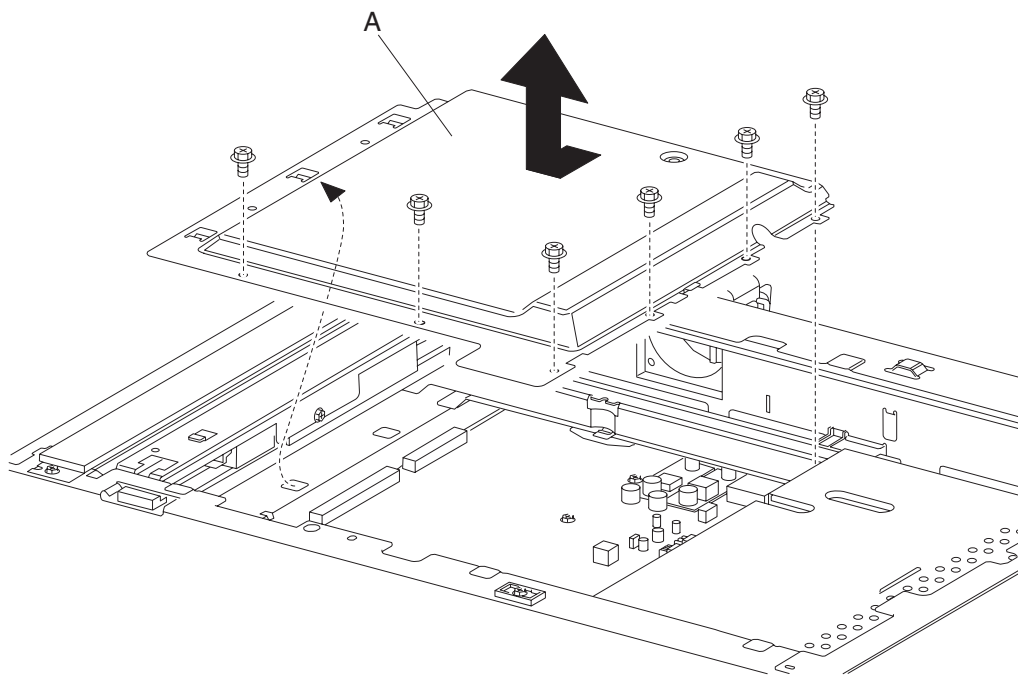
**CAUTION:** Avoid touching the underside of the large platen glass (B).

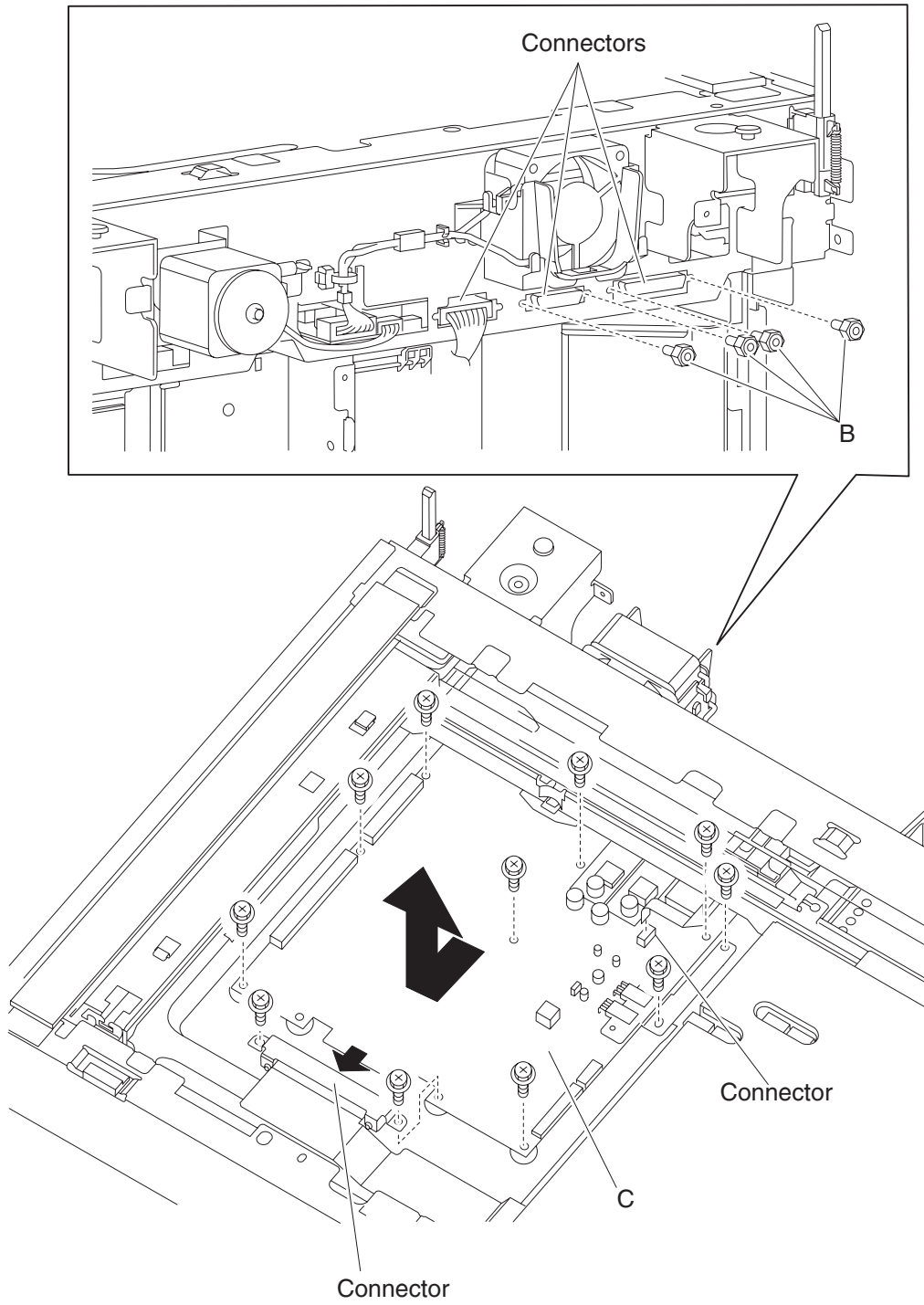
**Note:** Before reinstalling the large platen glass (B), clean the underside with glass cleaner, and then install the large platen glass assembly (B). After installation, clean the top of the large platen glass (B) with glass cleaner.



## Scanner controller card assembly removal

1. Remove the rear upper cover. See **“Rear upper cover removal”** on page 4-15.
2. Remove the scanner top rear cover. See **“Scanner top rear cover removal”** on page 4-133.
3. Remove the large platen glass. See **“Large platen glass removal”** on page 4-142.
4. Gently move the scanner carriage assembly completely to the left to provide access to the screws.
5. Remove the six screws securing the cover (A) to the scanner unit assembly.
6. Move the cover (A) forward then upward in the direction of the arrow.
7. Remove the cover (A).
8. Remove the four card mounting screws (B) securing the scanner controller card assembly (C) from the rear of the scanner unit assembly.
9. Disconnect all connections from the scanner controller card assembly (C).
10. Remove the eleven screws securing the scanner controller card assembly (C) to the scanner unit assembly.
11. Remove the scanner controller card assembly (C).





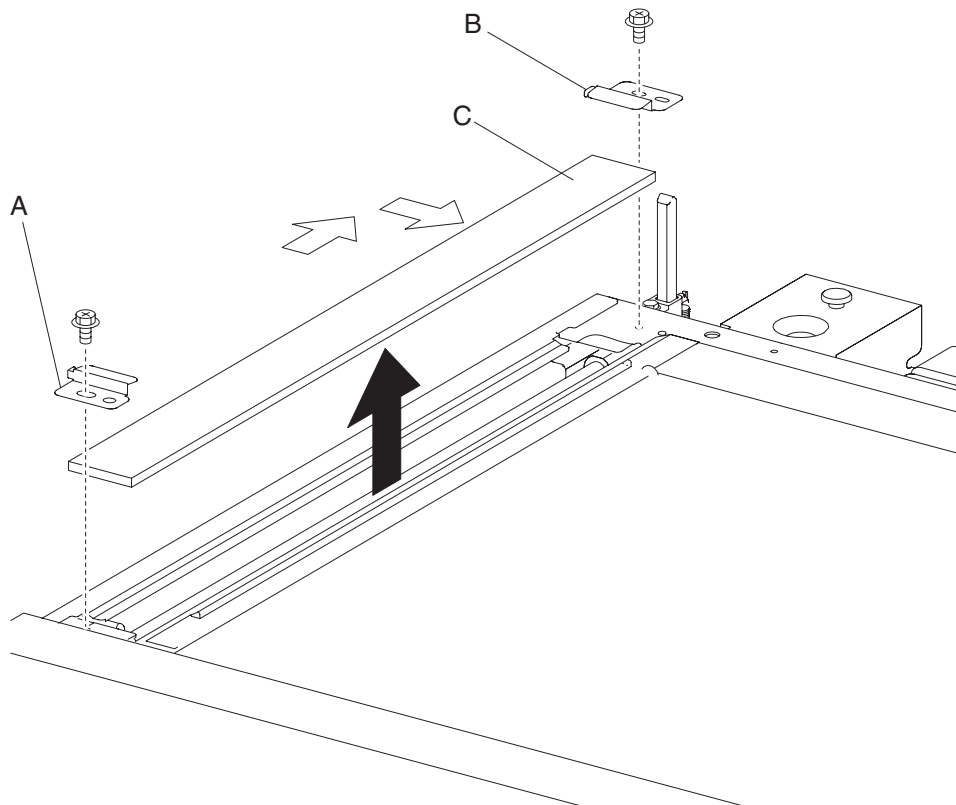
## Small platen glass removal

1. Remove the ADF unit assembly. See **“ADF unit assembly removal” on page 4-159.**
2. Remove the operator panel assembly. See **“Operator panel assembly removal” on page 4-136.**
3. Remove the scanner left cover. See **“Scanner left cover removal” on page 4-134.**
4. Remove the scanner right cover. See **“Scanner right cover removal” on page 4-135.**
5. Remove the scanner top rear cover. See **“Scanner top rear cover removal” on page 4-133.**
6. Remove the screw securing the small platen glass front retainer (A) to the scanner unit assembly.
7. Remove the small platen glass front retainer (A).
8. Remove the screw securing the small platen glass rear retainer (B) to the scanner unit assembly.
9. Remove the small platen glass rear retainer (B).
10. Remove the small platen glass (C).

**Warning:** Do not drop the small platen glass (C), or damage will occur.

**CAUTION:** Avoid touching the underside of the small platen glass (C).

**Note:** Before reinstalling the small platen glass (C), clean the underside of the small platen glass (C) with glass cleaner, then install the small platen glass assembly (C). After installation, clean the top of the small platen glass (C) with glass cleaner.



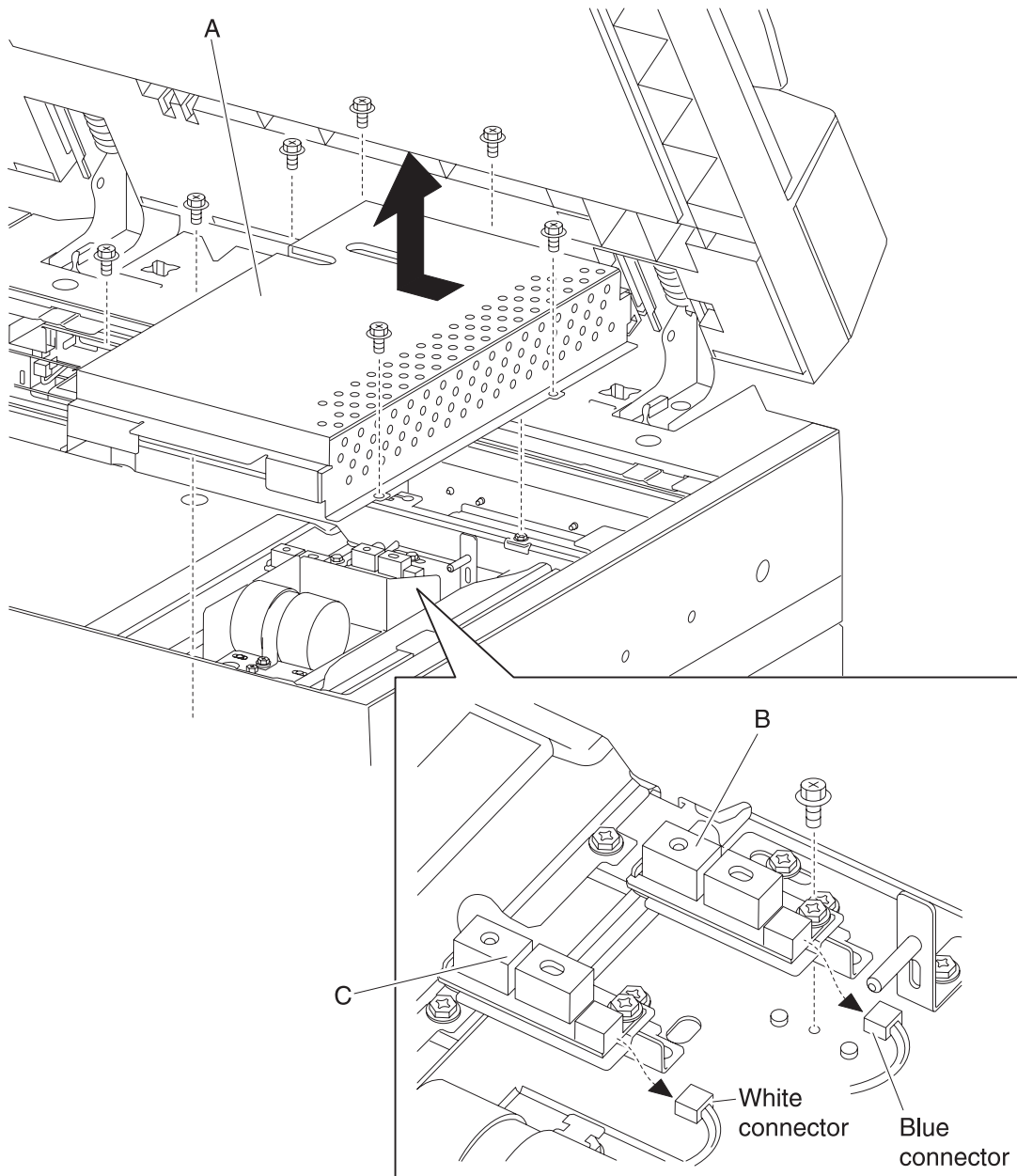
## CCD card/lens assembly removal

1. Remove the large platen glass. See **“Large platen glass removal”** on page 4-142.
2. Remove the eight screws securing the cover (A) to the scanner unit assembly.
3. Remove the cover (A).
4. Disconnect the connections to the sensor (platen length APS 1) (B) and the sensor (platen length APS 2) (C).
5. Disconnect the CCD ribbon cable assembly (D) from the CCD card/lens assembly (E).

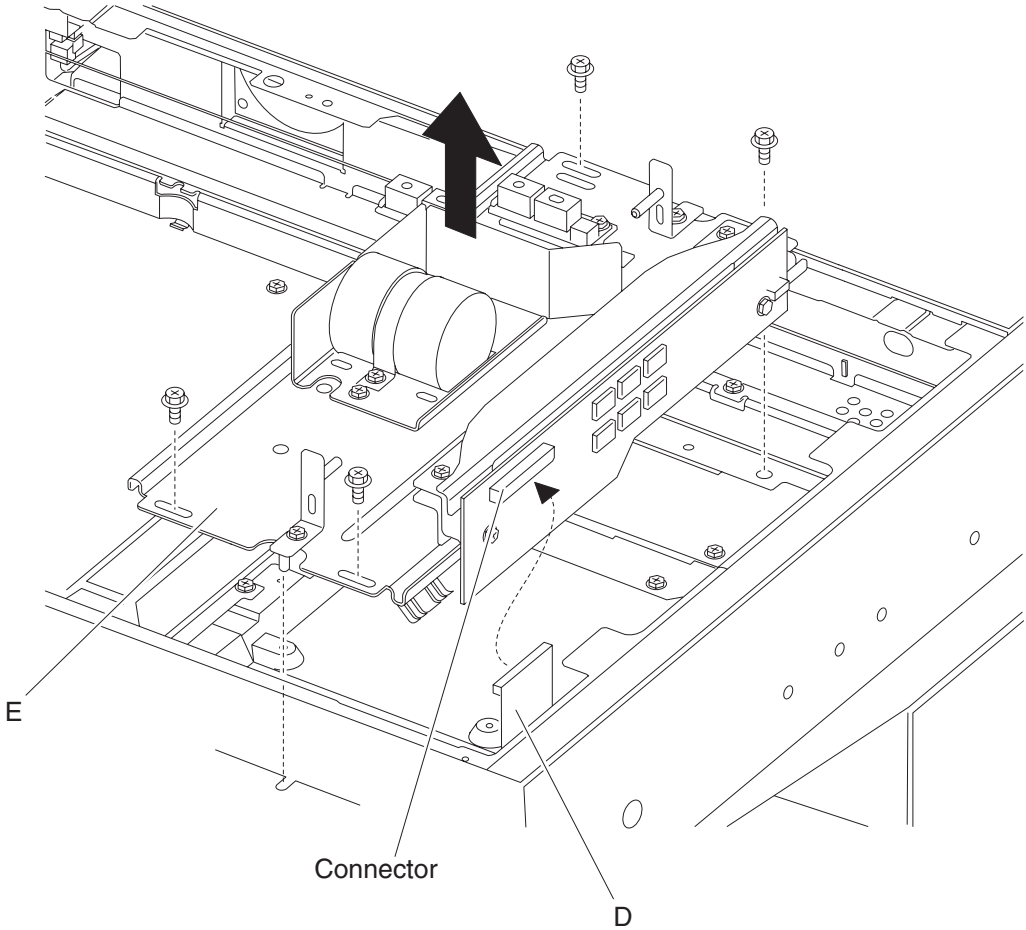
**Warning:** Do not remove or disturb any red painted screws or optical misalignment will occur.

6. Remove the four screws securing the CCD card/lens assembly (E) to the scanner unit assembly.
7. Remove the CCD card/lens assembly (E).

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



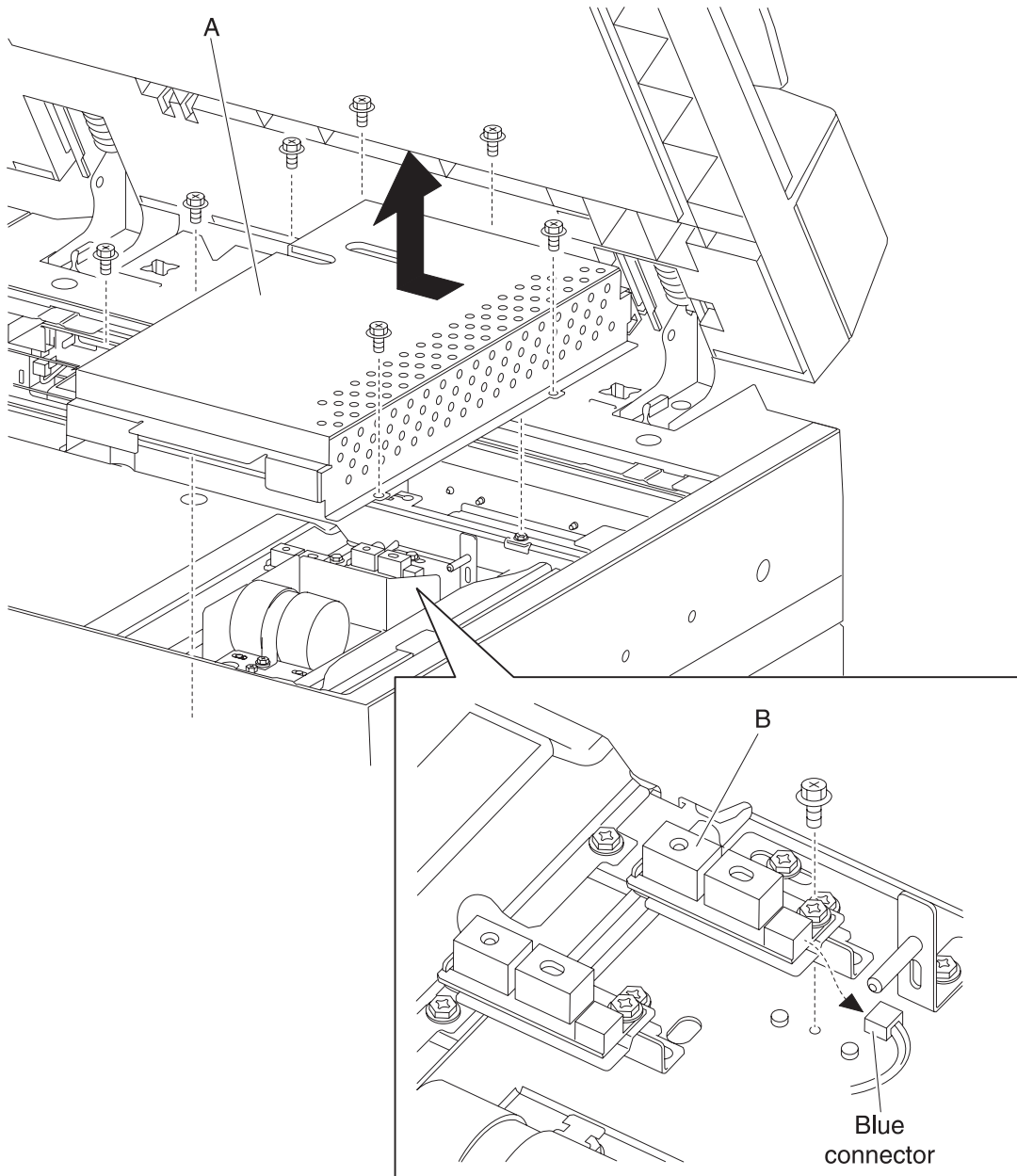




## Sensor (platen length APS 1) removal

1. Remove the large platen glass. See **“Large platen glass removal”** on page 4-142.
2. Remove the eight screws securing the cover (A) to the scanner unit assembly.
3. Remove the cover (A).
4. Disconnect the sensor (platen length APS 1) (B).
5. Remove the screw securing the sensor (platen length APS 1) (B).
6. Remove the sensor (platen length APS 1) (B).

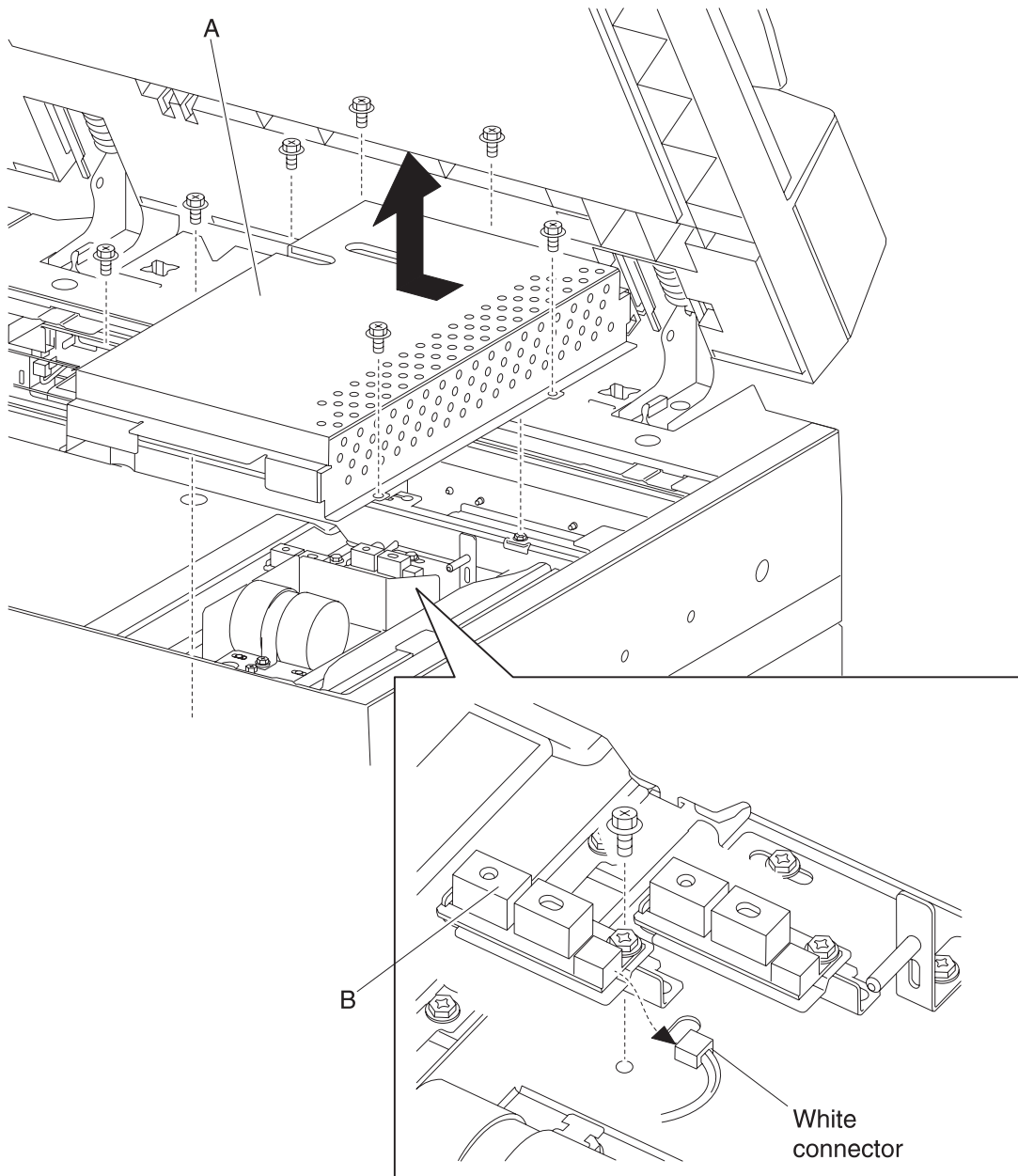
**Note:** Ensure that the blue connector is plugged into the sensor (platen length APS 1) (B).



## Sensor (platen length APS 2) removal

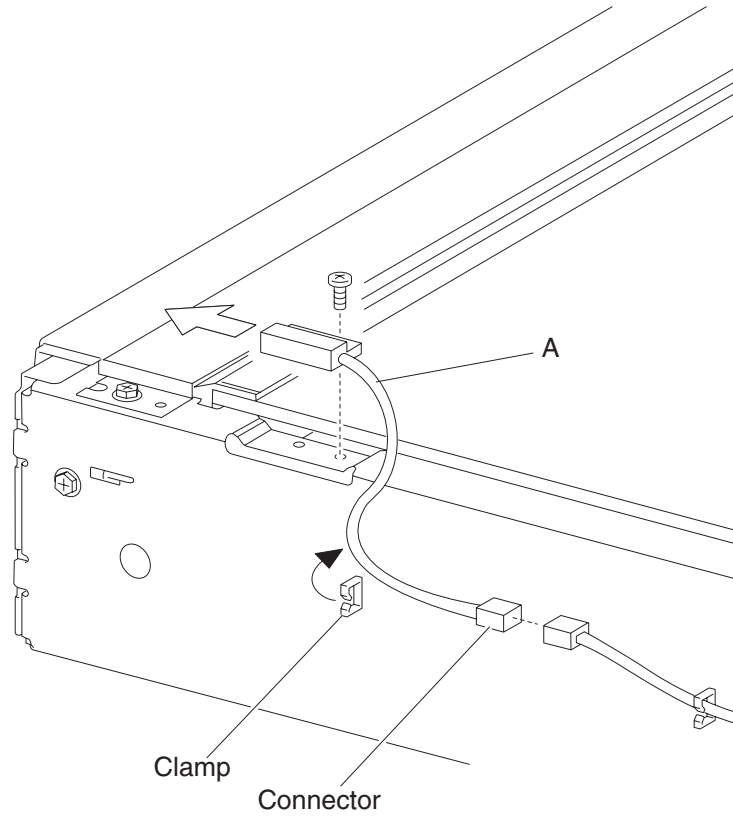
1. Remove the large platen glass. See **“Large platen glass removal”** on page 4-142.
2. Remove the eight screws securing the cover (A) to the scanner unit assembly.
3. Remove the cover (A).
4. Disconnect the sensor (platen length APS 2) (B).
5. Remove the screw securing the sensor (platen length APS 2) (B).
6. Remove the sensor (platen length APS 2) (B).

**Note:** Ensure that the white connector is plugged into the sensor (platen length APS 2) (B).



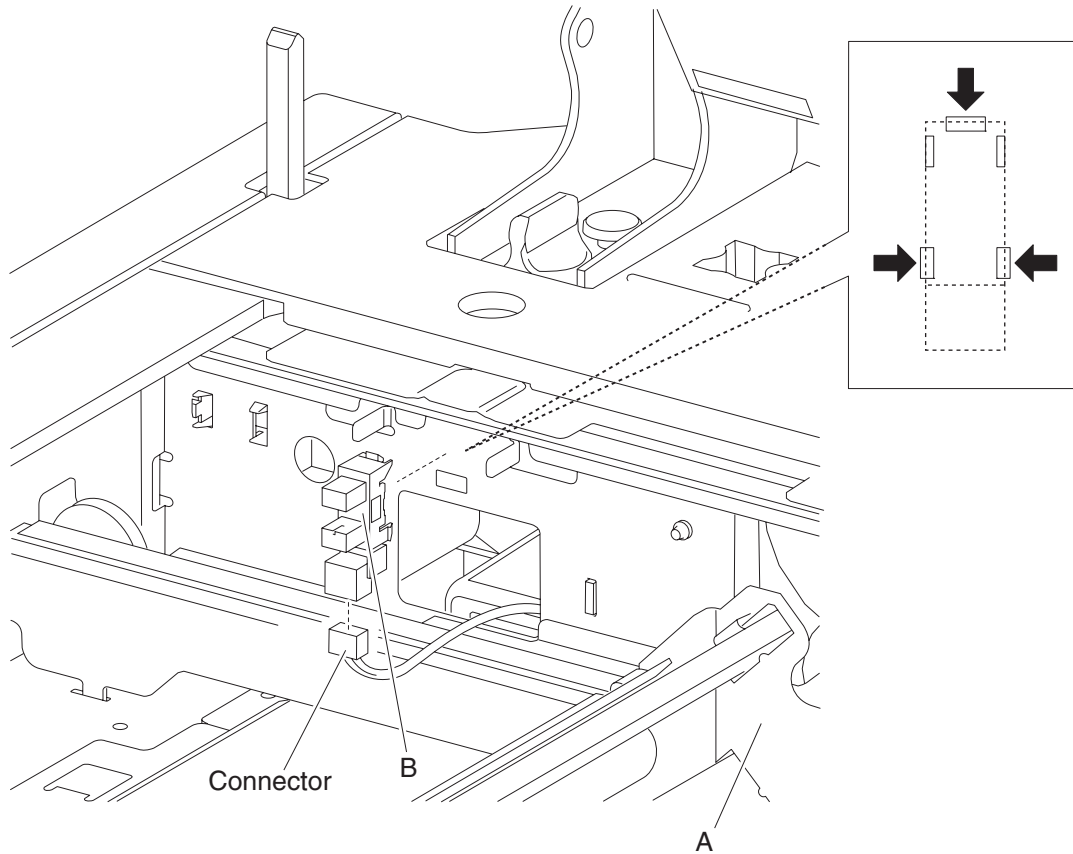
## Switch (platen interlock) removal

1. Remove the operator panel assembly. See **“Operator panel assembly removal”** on page 4-136.
2. Disconnect the connector from the switch (platen interlock) (A).
3. Release the harness of the switch (platen interlock) (A) from the clamp.
4. Remove the screw securing the switch (platen interlock) (A) to the scanner unit assembly.
5. Remove the switch (platen interlock) (A).



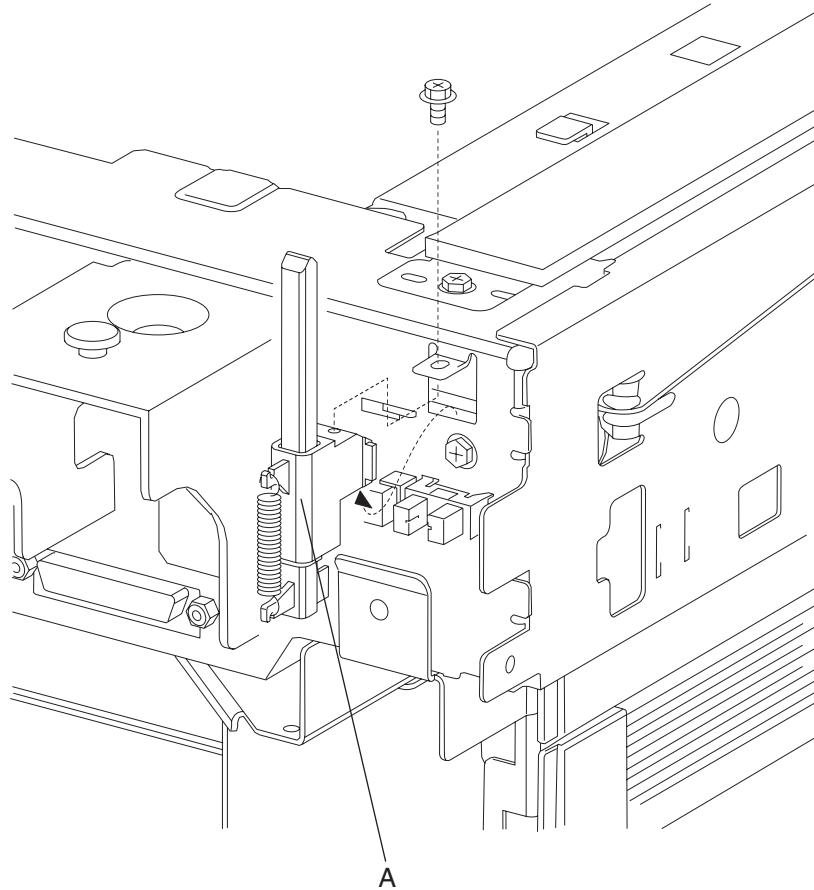
## Sensor (scanner HP) removal

1. Remove the scanner top rear cover. See **“Scanner top rear cover removal”** on page 4-133.
2. Remove the large platen glass. See **“Large platen glass removal”** on page 4-142.
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).



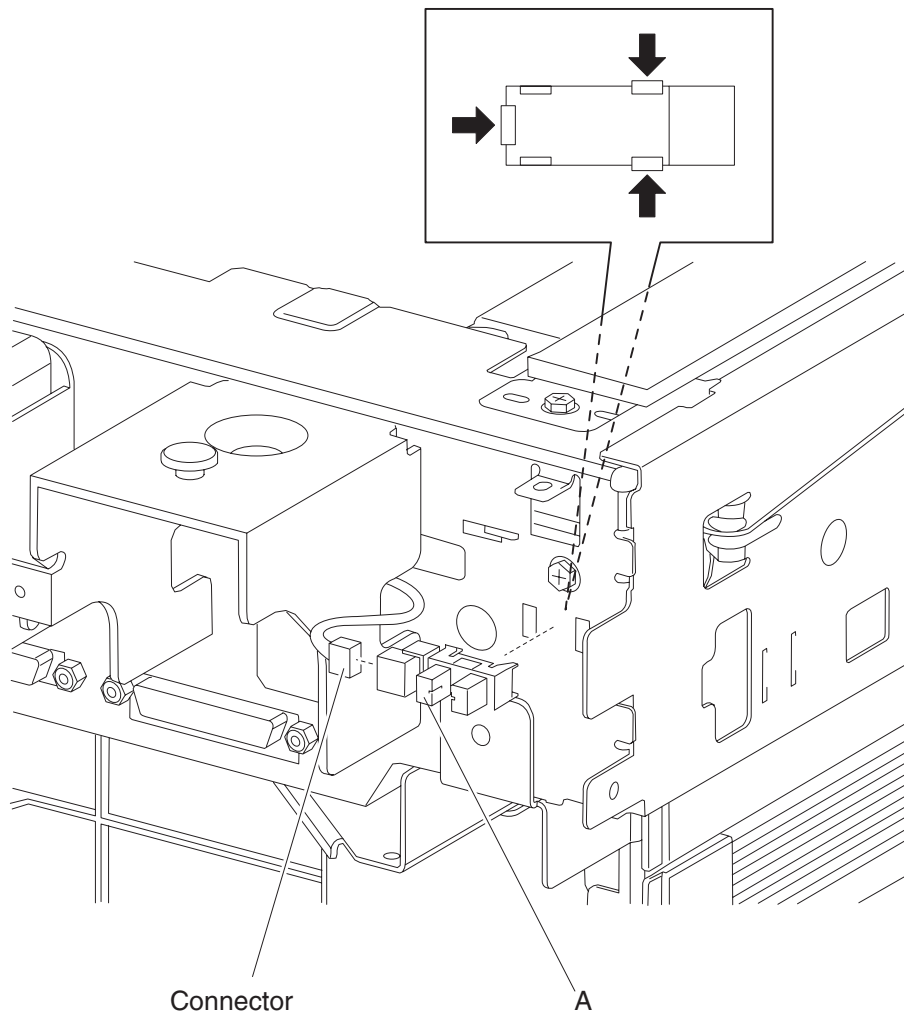
## ADF angle actuator assembly removal

1. Remove the ADF unit assembly. See **“ADF unit assembly removal” on page 4-159.**
2. Remove the scanner left cover. See **“Scanner left cover removal” on page 4-134.**
3. Remove the scanner right cover. See **“Scanner right cover removal” on page 4-135.**
4. Remove the scanner top rear cover. See **“Scanner top rear cover removal” on page 4-133.**
5. Remove the large platen glass. See **“Large platen glass removal” on page 4-142.**
6. Remove the one screw securing the ADF angle actuator assembly (A) to the scanner unit assembly.
7. Remove the ADF angle actuator assembly (A).



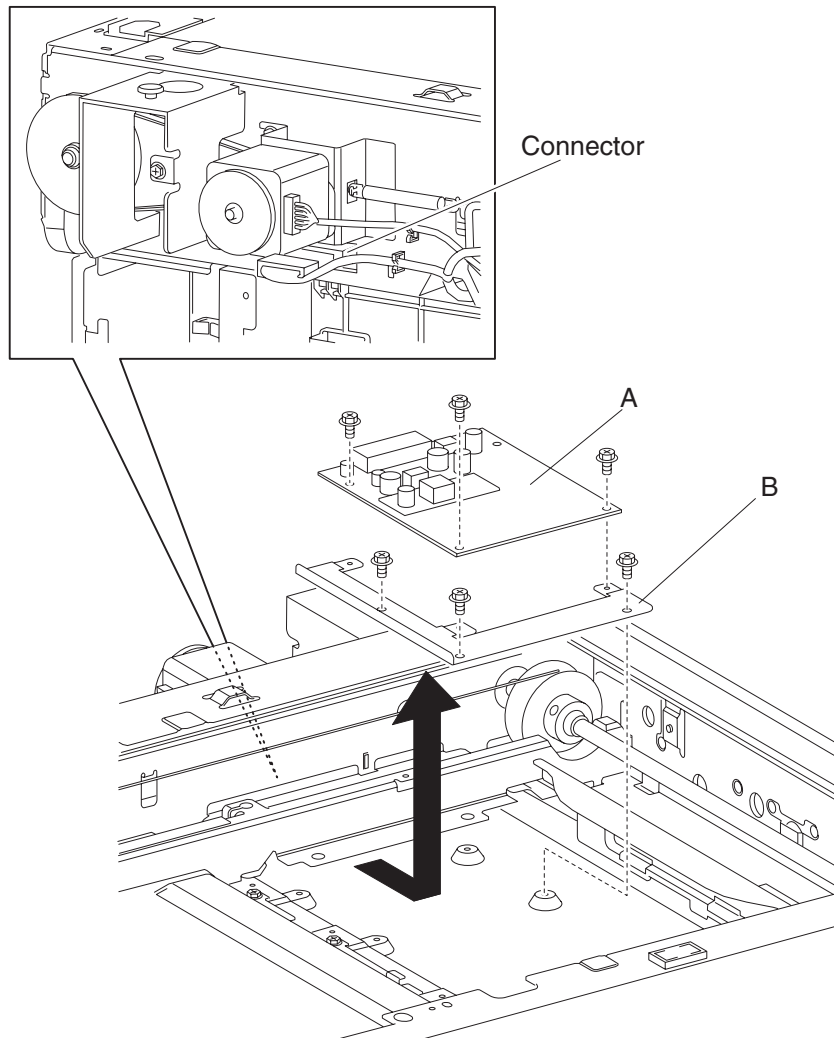
## Sensor (ADF angle) removal

1. Remove the ADF unit assembly. See **“ADF unit assembly removal” on page 4-159.**
2. Remove the scanner left cover. See **“Scanner left cover removal” on page 4-134.**
3. Remove the scanner right cover. See **“Scanner right cover removal” on page 4-135.**
4. Remove the scanner top rear cover. See **“Scanner top rear cover removal” on page 4-133.**
5. Remove the large platen glass. See **“Large platen glass removal” on page 4-142.**
6. Remove the ADF angle actuator assembly. See **“ADF angle actuator assembly removal” on page 4-152.**
7. Release the hooks securing the sensor (ADF angle) (A) to the scanner unit assembly.
8. Disconnect the connector from the sensor (ADF angle) (A).
9. Remove the sensor (ADF angle) (A).



## Scanner PS card assembly removal

1. Remove the ADF unit assembly. See **“ADF unit assembly removal”** on page 4-159.
2. Remove the large platen glass. See **“Large platen glass removal”** on page 4-142.
3. Remove the CCD card/lens assembly. See **“CCD card/lens assembly removal”** on page 4-146.
4. Remove all connections from the scanner PS card assembly (A).
5. Remove the three screws securing the bracket (B) to the scanner unit assembly.
6. Remove the bracket (B).
7. Remove the three screws securing the scanner PS card assembly (A) to the bracket (B).
8. Remove the scanner PS card assembly (A).

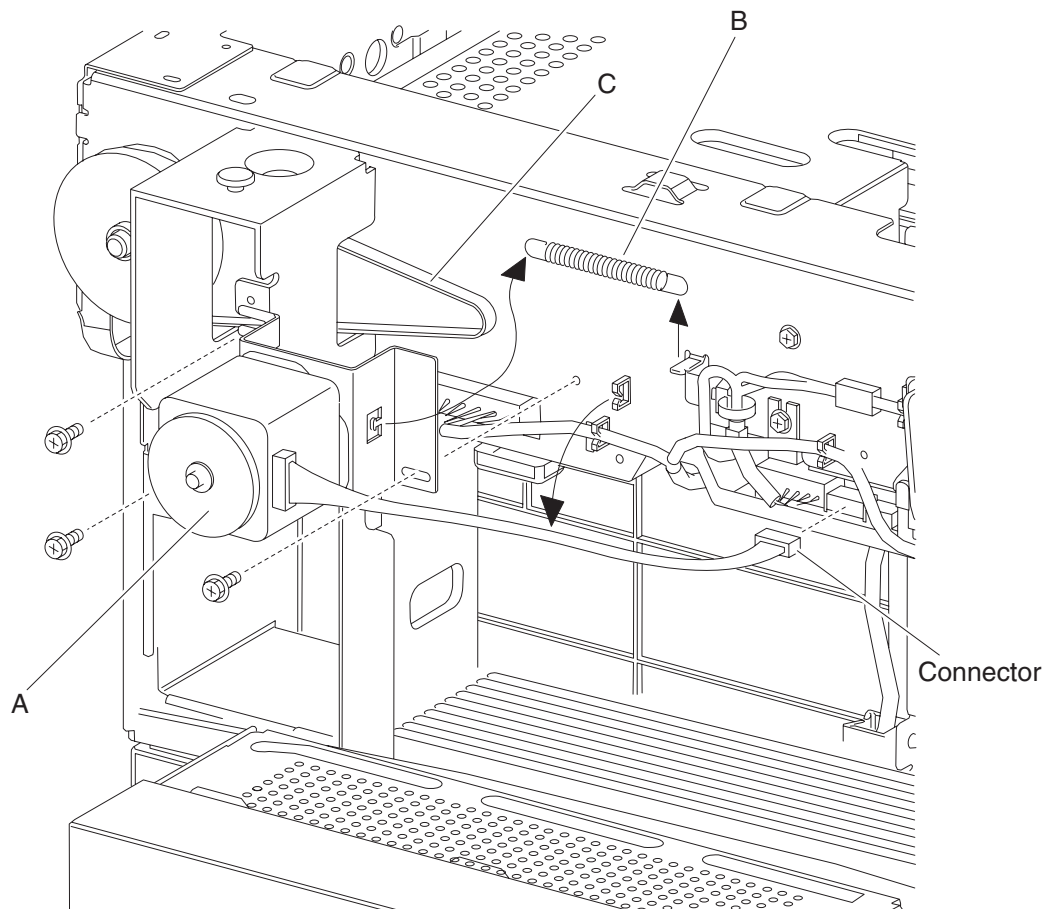




## Scanner drive motor assembly removal

1. Remove the ADF unit assembly. See **“ADF unit assembly removal” on page 4-159.**
2. Remove the scanner left cover. See **“Scanner left cover removal” on page 4-134.**
3. Remove the scanner right cover. See **“Scanner right cover removal” on page 4-135.**
4. Remove the scanner top rear cover. See **“Scanner top rear cover removal” on page 4-133.**
5. Disconnect the connector from the scanner drive motor assembly (A).
6. Remove the scanner drive motor tension spring (B) from the scanner drive motor assembly (A).
7. Remove the three screws securing the scanner drive motor assembly (A) to the scanner unit assembly.
8. Remove the scanner drive motor assembly (A).

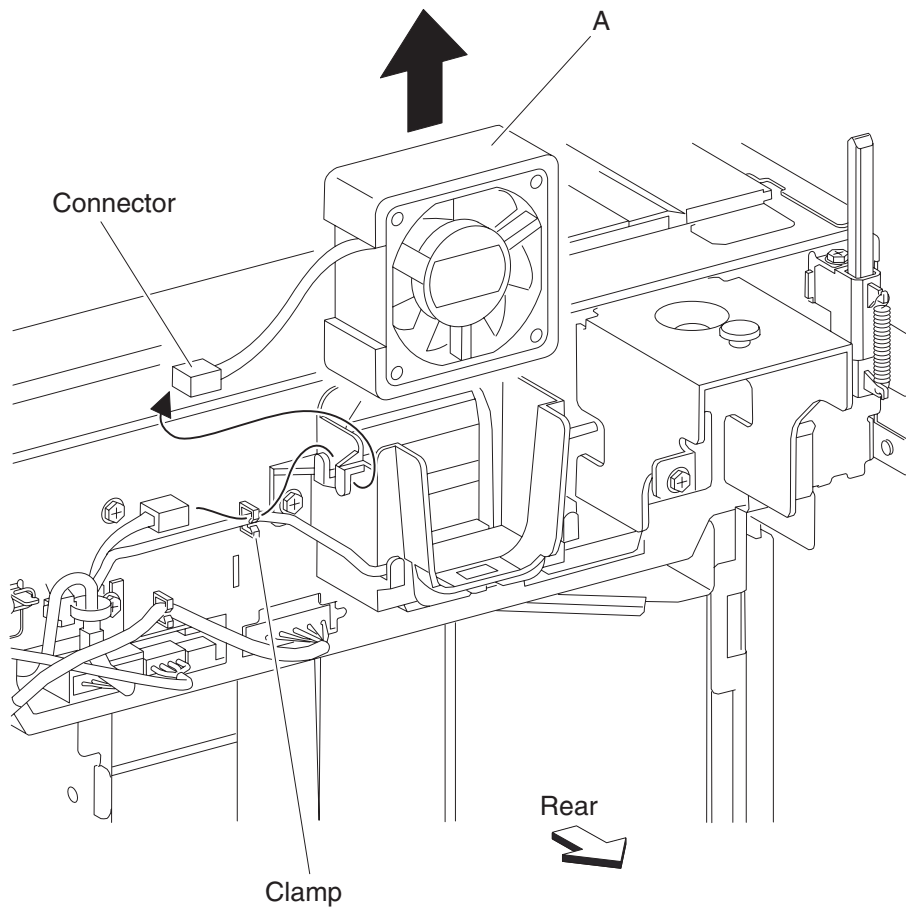
**Note:** To correctly set the scanner drive belt (C) tension, install the scanner drive motor assembly (A) and the scanner drive motor tension spring (B) before completely tightening the three screws.



## Scanner cooling fan removal

1. Remove the ADF unit assembly. See **“ADF unit assembly removal” on page 4-159.**
2. Remove the scanner left cover. See **“Scanner left cover removal” on page 4-134.**
3. Remove the scanner right cover. See **“Scanner right cover removal” on page 4-135.**
4. Remove the scanner top rear cover. See **“Scanner top rear cover removal” on page 4-133.**
5. Disconnect the connector from the scanner cooling fan (A).
6. Remove the harness from the clamp.
7. Lift the scanner cooling fan (A) upward in the direction of the arrow.
8. Remove the scanner cooling fan (A).

**Note:** Before reinstalling the scanner cooling fan (A), ensure that the label on the scanner cooling fan (A) is facing toward the rear of the scanner unit assembly.



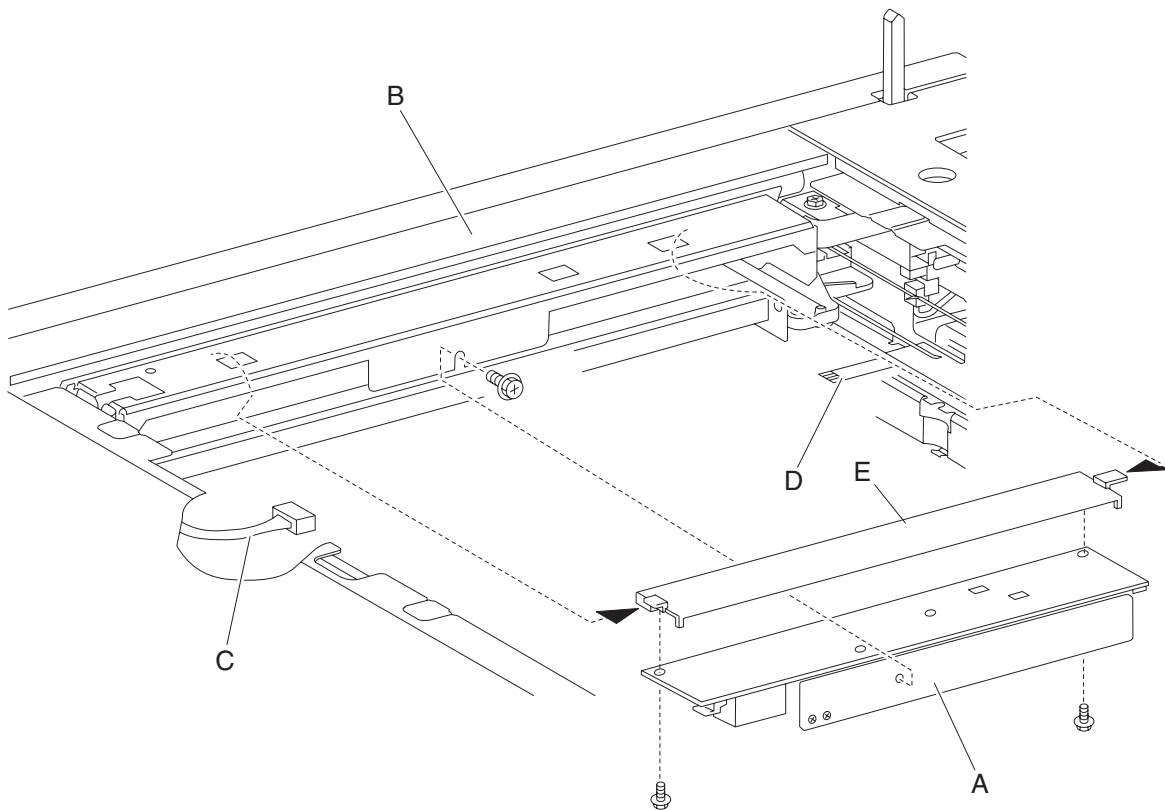
## Exposure lamp PS card assembly removal

1. Remove the large platen glass. See **“Large platen glass removal”** on page 4-142.
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).



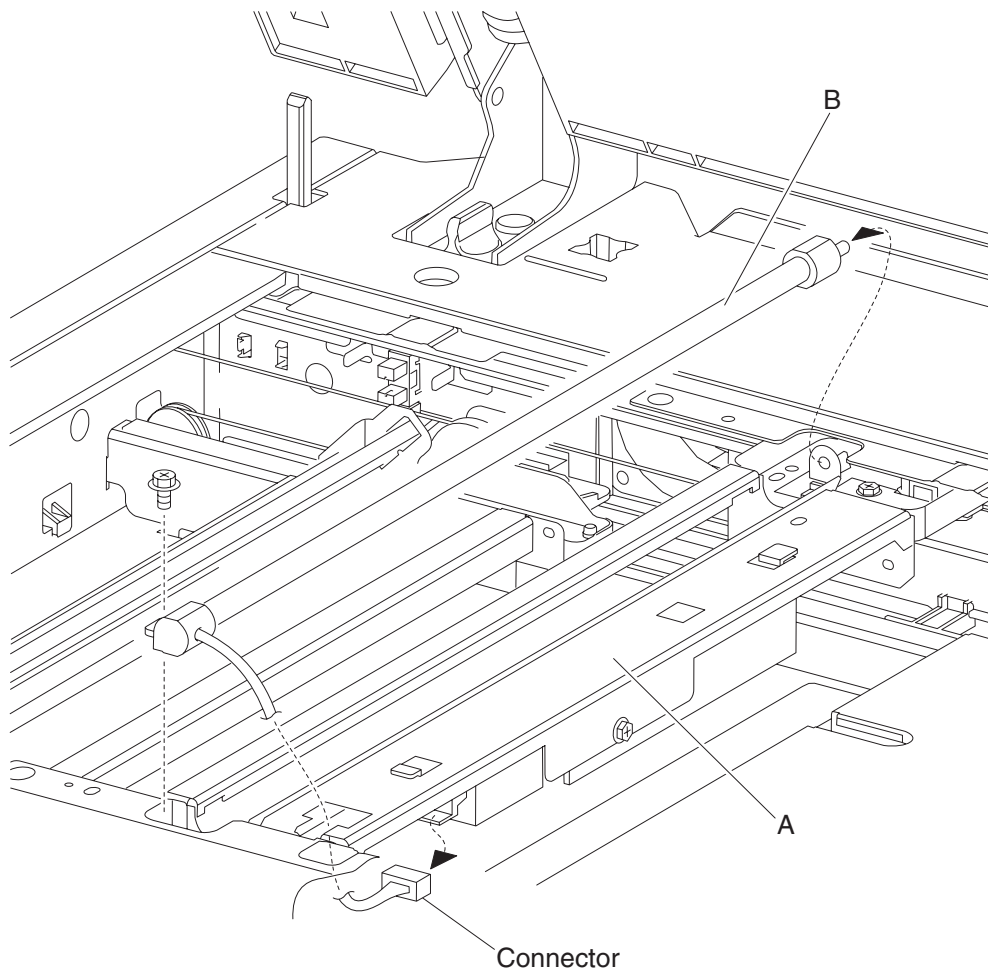
## Exposure lamp removal

1. Remove the large platen glass. See **“Large platen glass removal”** on page 4-142.
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.

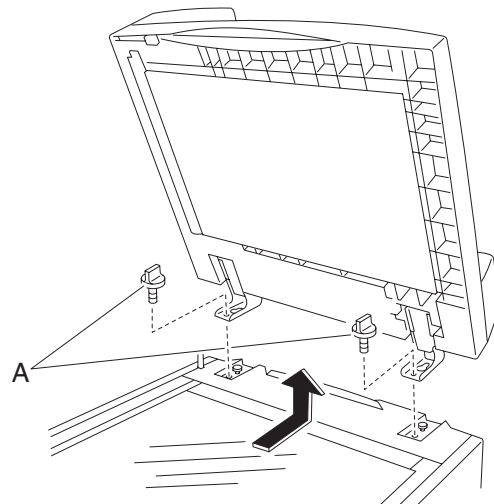
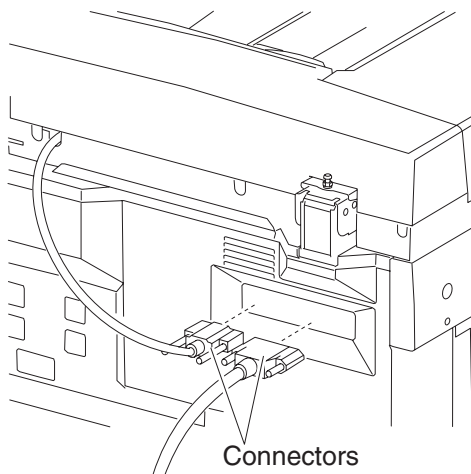
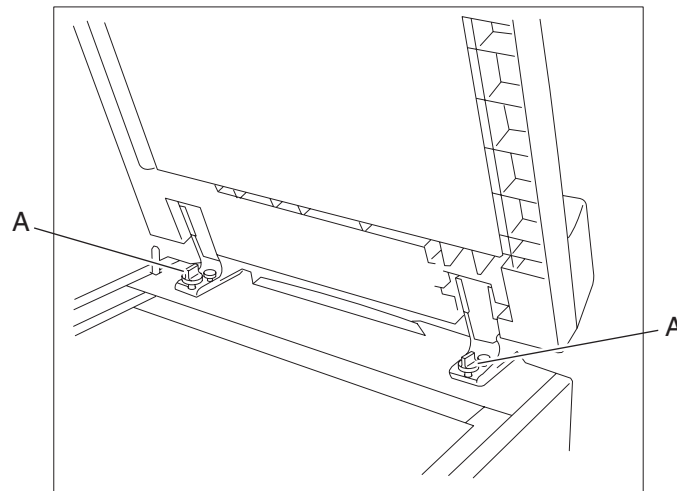


## ADF removals

### ADF unit assembly removal

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

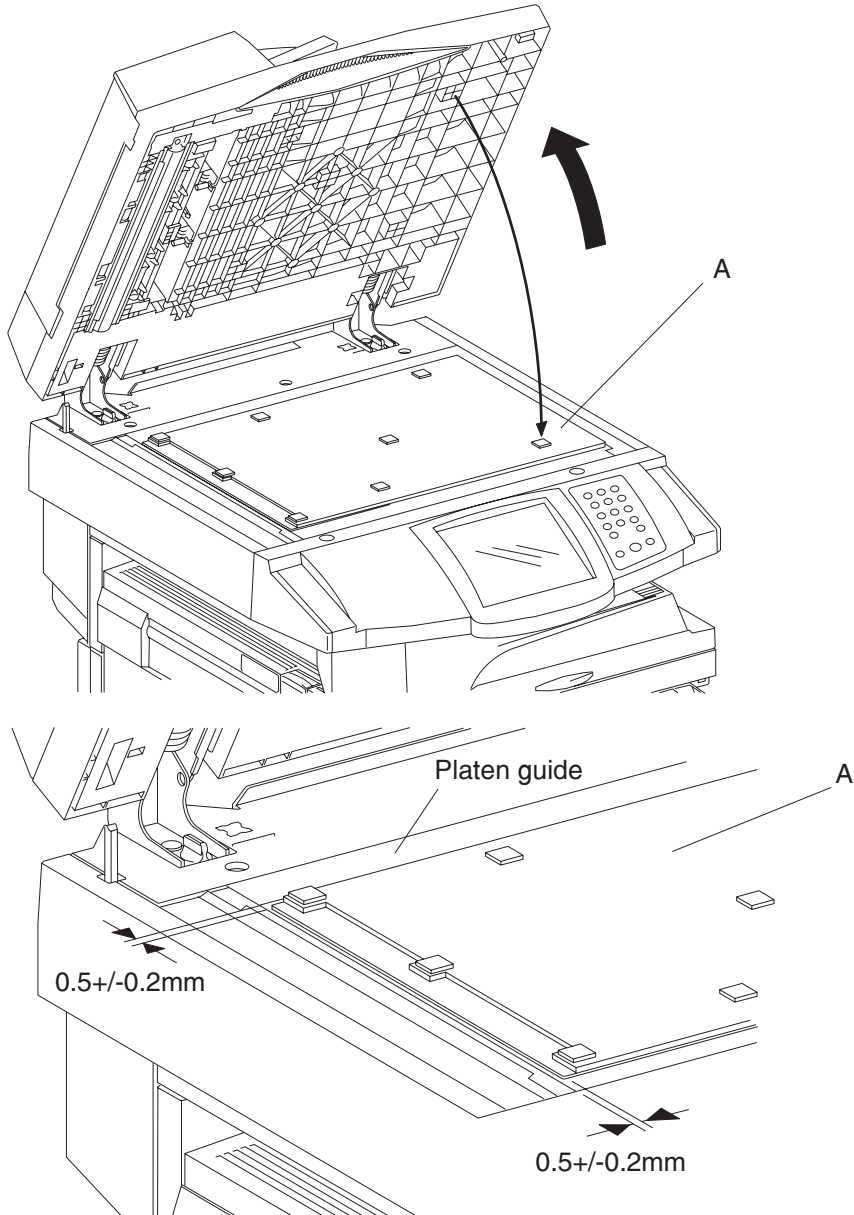
1. Remove the platen cushion assembly. See **“Platen cushion removal”** on page 4-160.
2. Open the ADF to its full upright position.
3. Remove the connection from the ADF to the rear of the scanner unit assembly.
4. Remove the two ADF mounting screws (A).
5. Move the ADF slightly rearward, and then lift upward in the direction of the arrow.
6. Remove the ADF unit assembly.



## Platen cushion removal

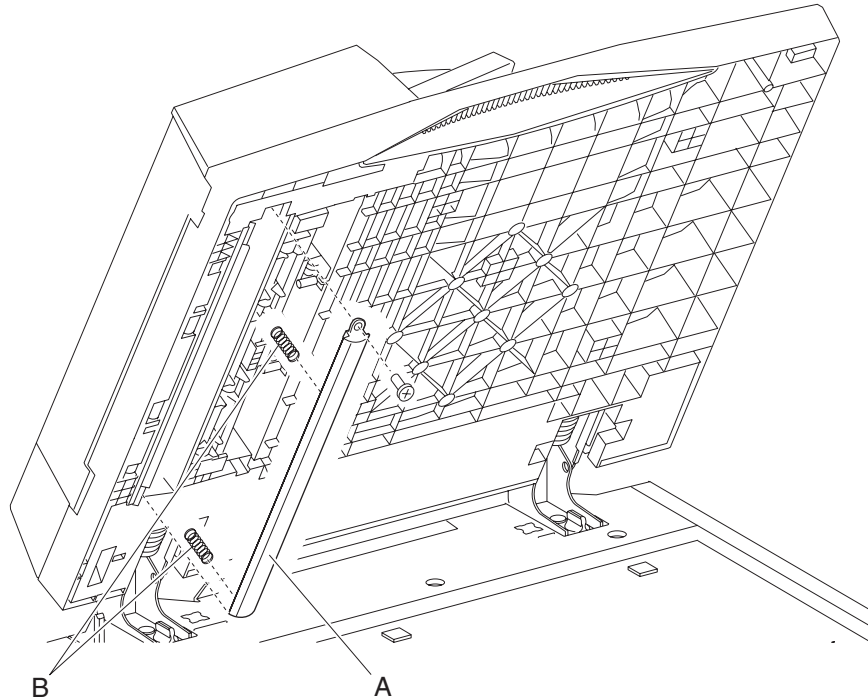
1. Open the ADF unit assembly.
2. Gently pull off the platen cushion (A) from the ADF.

**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.



## 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).

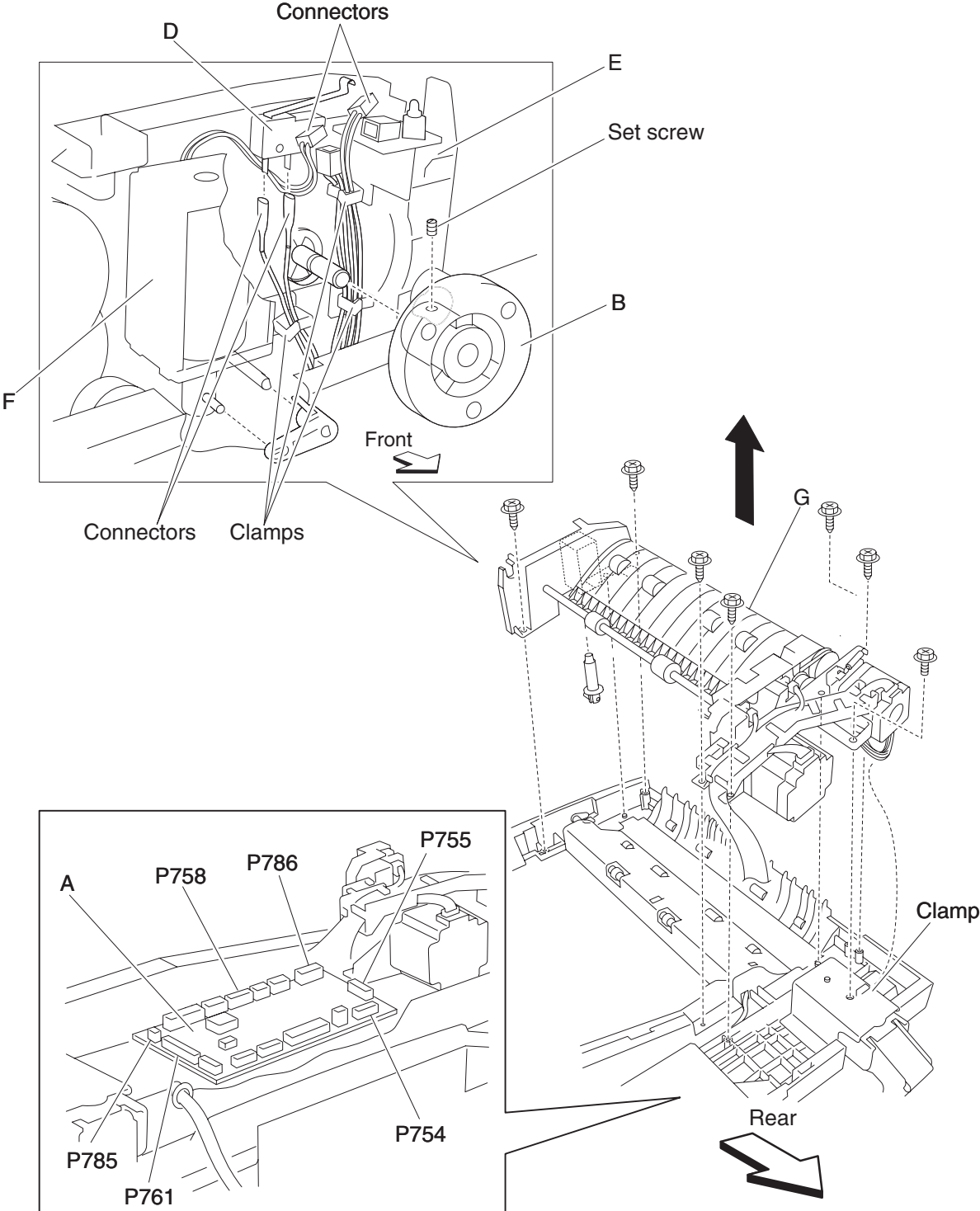


## ADF media feed assembly removal

1. Remove the ADF unit assembly. See “**ADF unit assembly removal**” on page 4-159.
2. Remove the ADF front cover assembly. See “**ADF front cover assembly removal**” on page 4-166.
3. Remove the ADF rear cover. See “**ADF rear cover removal**” on page 4-165.
4. Remove the ADF left cover assembly. See “**ADF left cover assembly removal**” on page 4-168.
5. Remove the document tray assembly. See “**Document tray assembly removal**” on page 4-164.
6. Disconnect connectors P754, P755, P758, P761, P785, and P786 from the ADF controller card assembly (A).
7. Loosen the set screw securing the damper (B) with an Allen wrench.
8. Remove the damper (B).
9. Disconnect the two connections from the switch (ADF left cover interlock) (D) with needle nose pliers.
10. Disconnect the connector from the document set LED (E).
11. Disconnect the connector from the inverter solenoid assembly (F).
12. Release the harness from the three clamps.
13. Remove the two front screws and the five rear screws securing the ADF media feed assembly (G) to the ADF.
14. 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.
15. Remove the ADF media feed assembly (G) from the ADF.  
**Note:** The plunger in the inverter solenoid assembly (F) will become detached.  
**Note:** Before reinstalling the ADF media feed assembly (G), ensure that the harnesses are reinserted into their appropriate clamps.  
**Note:** Ensure that the plunger is properly reinserted into the inverter solenoid assembly (F).  
**Note:** Ensure that all connections are properly reconnected.



**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.

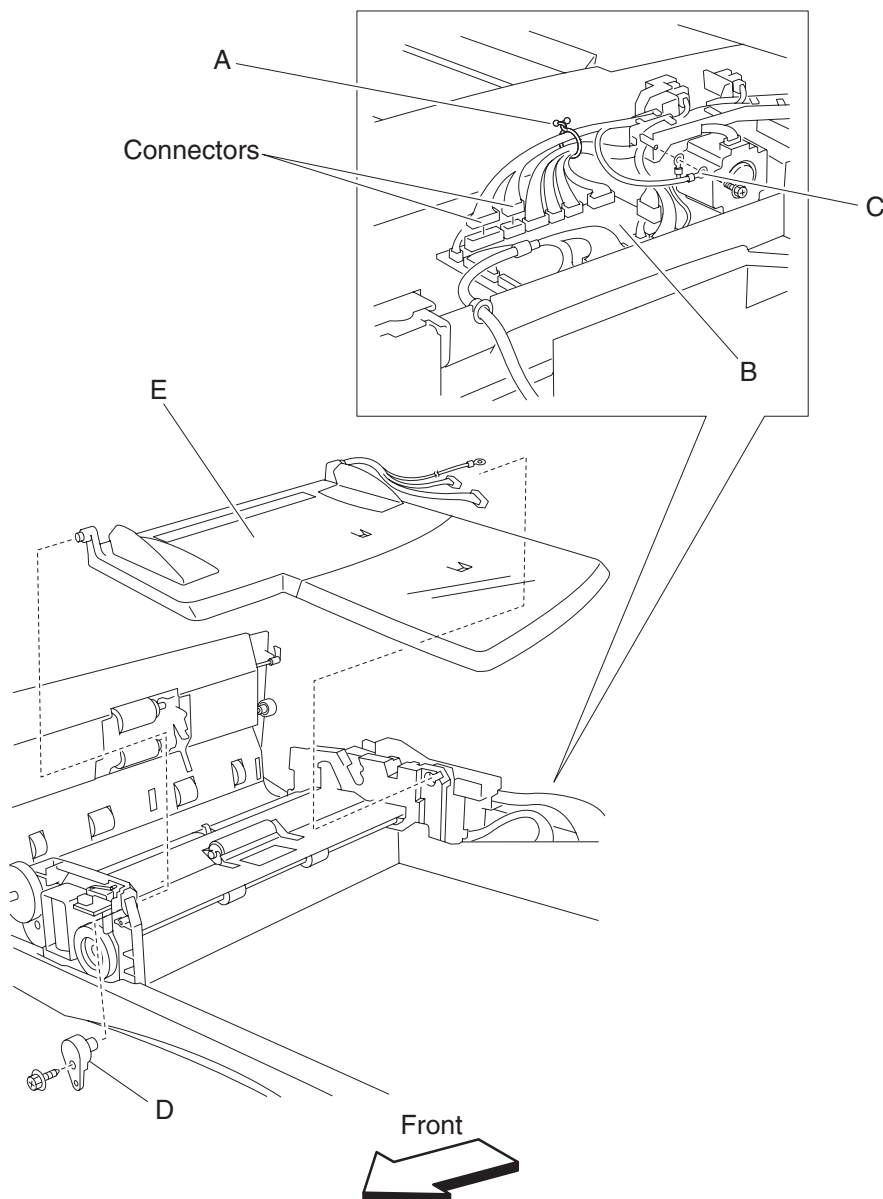


## Document tray assembly removal

1. Remove the ADF front cover assembly. See **“ADF front cover assembly removal”** on page 4-166.
2. Remove the ADF rear cover. See **“ADF rear cover removal”** on page 4-165.
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.

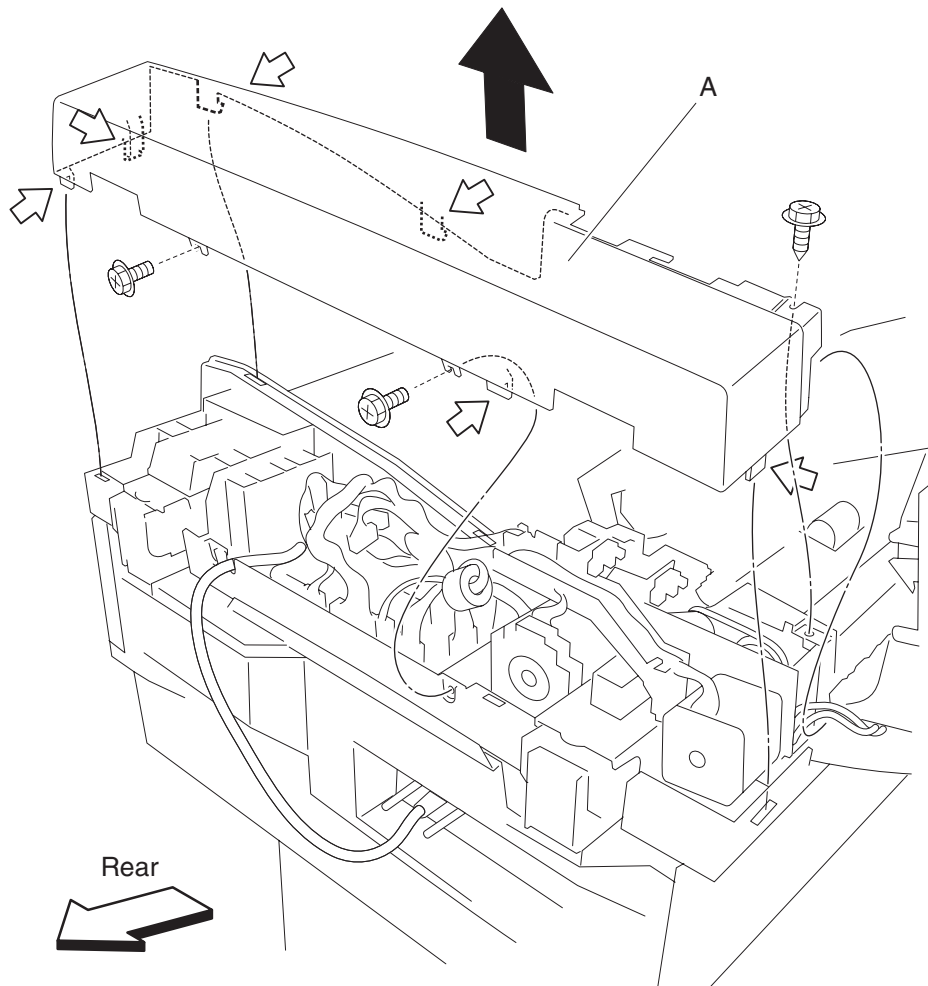
**Note:** Before reinstalling the document tray assembly, ensure all connections are properly reconnected.

**Note:** Ensure the green ground wire (C) is reconnected.



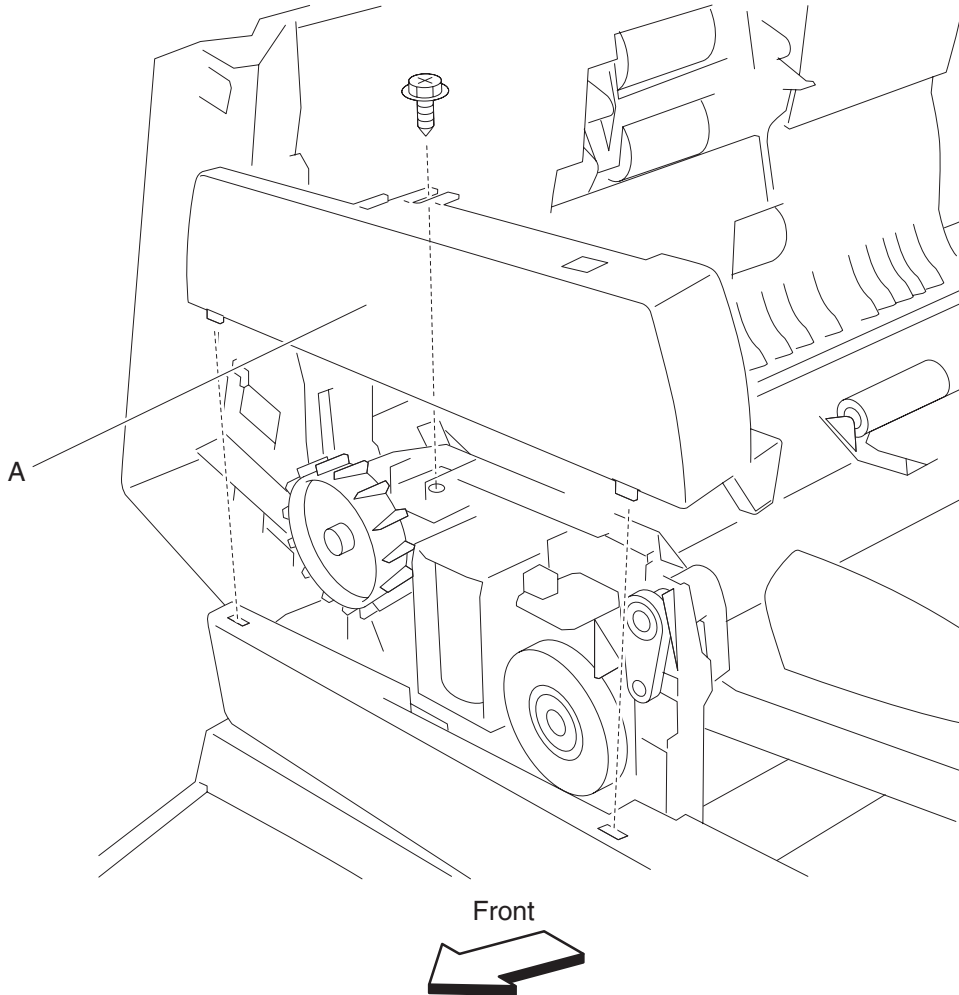
## ADF rear cover removal

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).

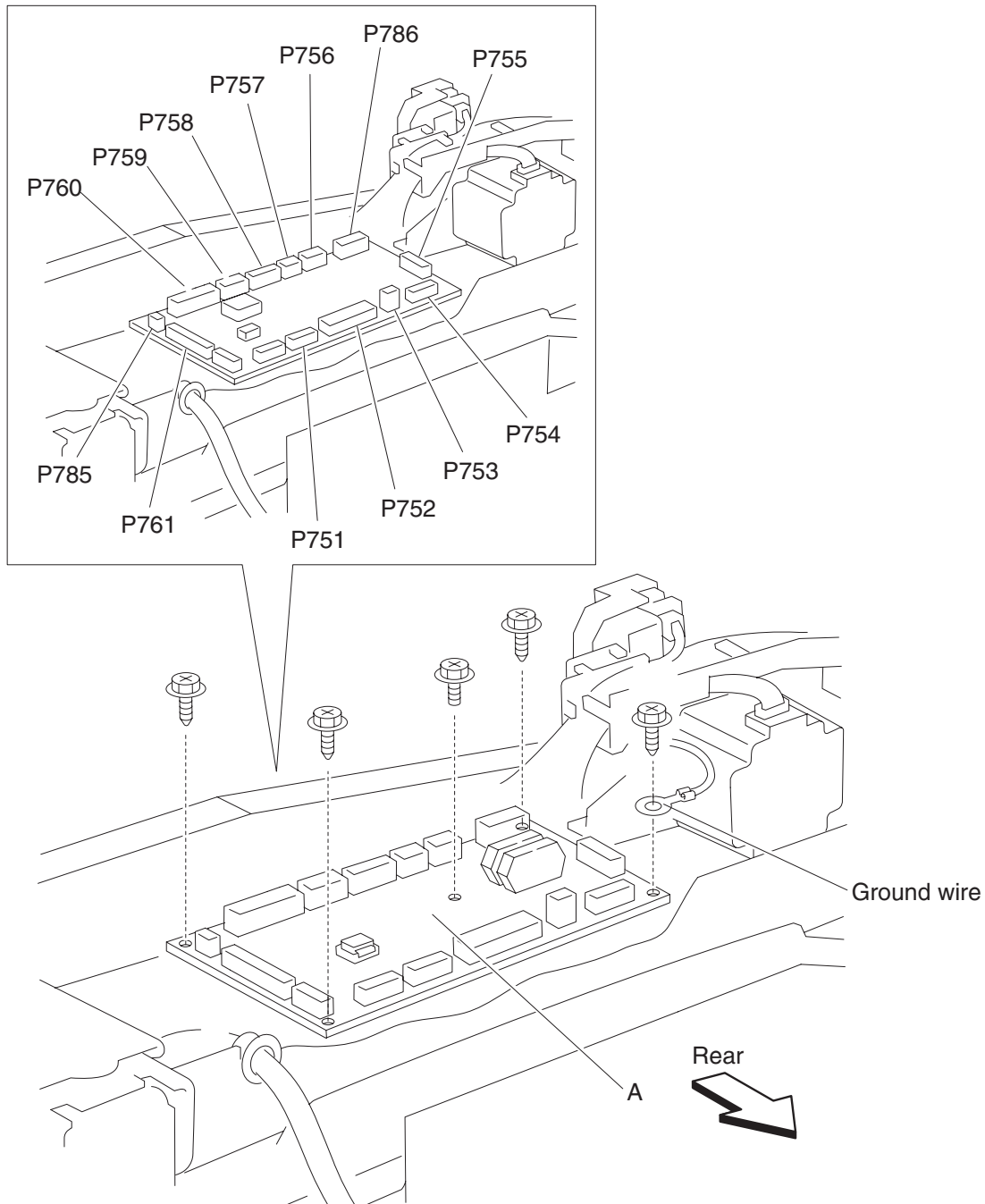


## ADF controller card assembly removal

1. Remove the ADF rear cover. See **“ADF rear cover removal” on page 4-165.**
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).

**Note:** Ensure that all connections are properly reconnected.

**Note:** Ensure that the ground wire is reconnected.



## 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 4-166.**
3. Remove the ADF rear cover. See **“ADF rear cover removal” on page 4-165.**
4. Remove the ADF left cover media guide. See **“ADF left cover media guide removal” on page 4-181.**
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 4-171.**
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.

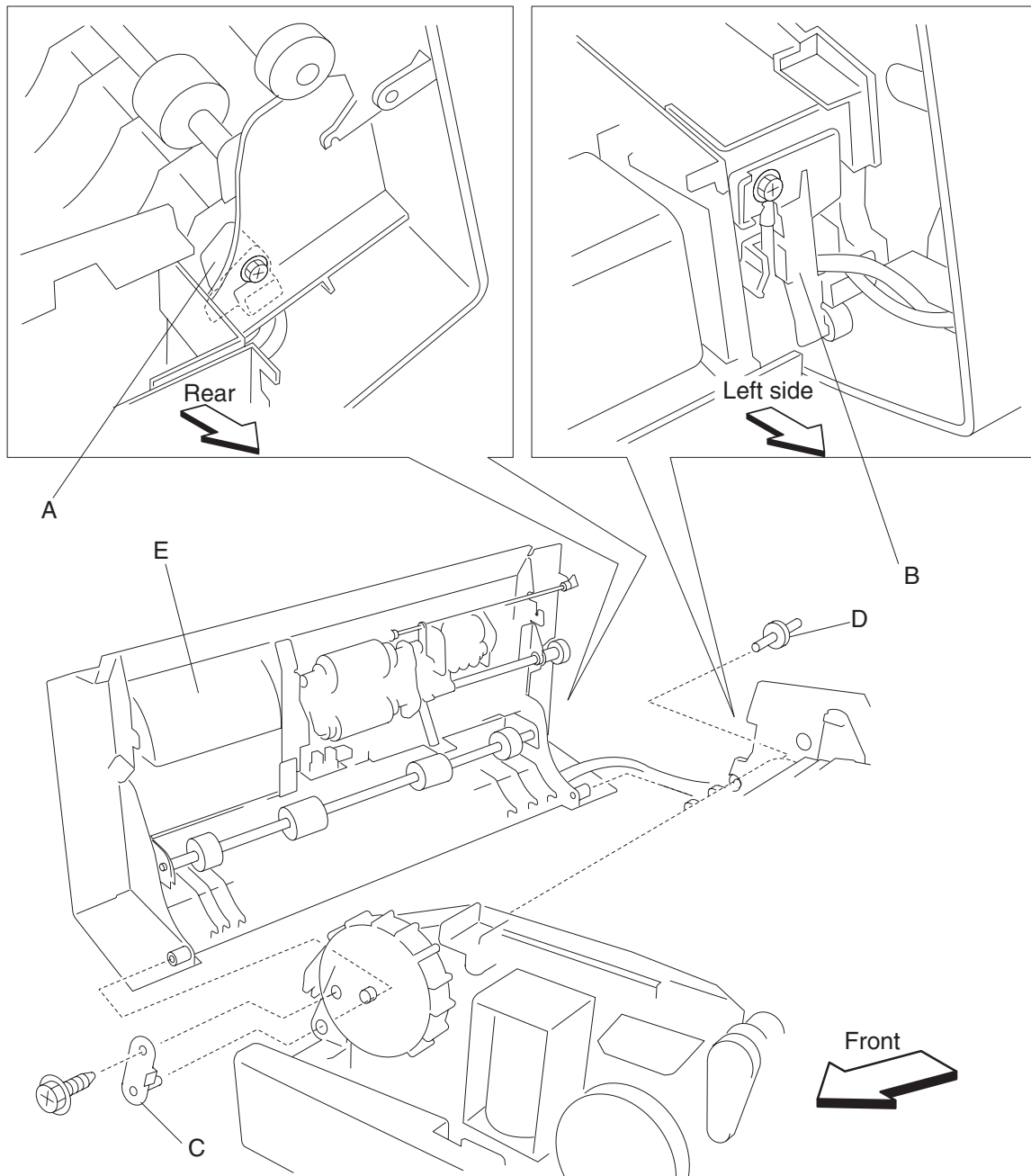
**Note:** Before reinstalling the ADF left cover assembly (E), ensure that the harness is properly routed and is not pinched.

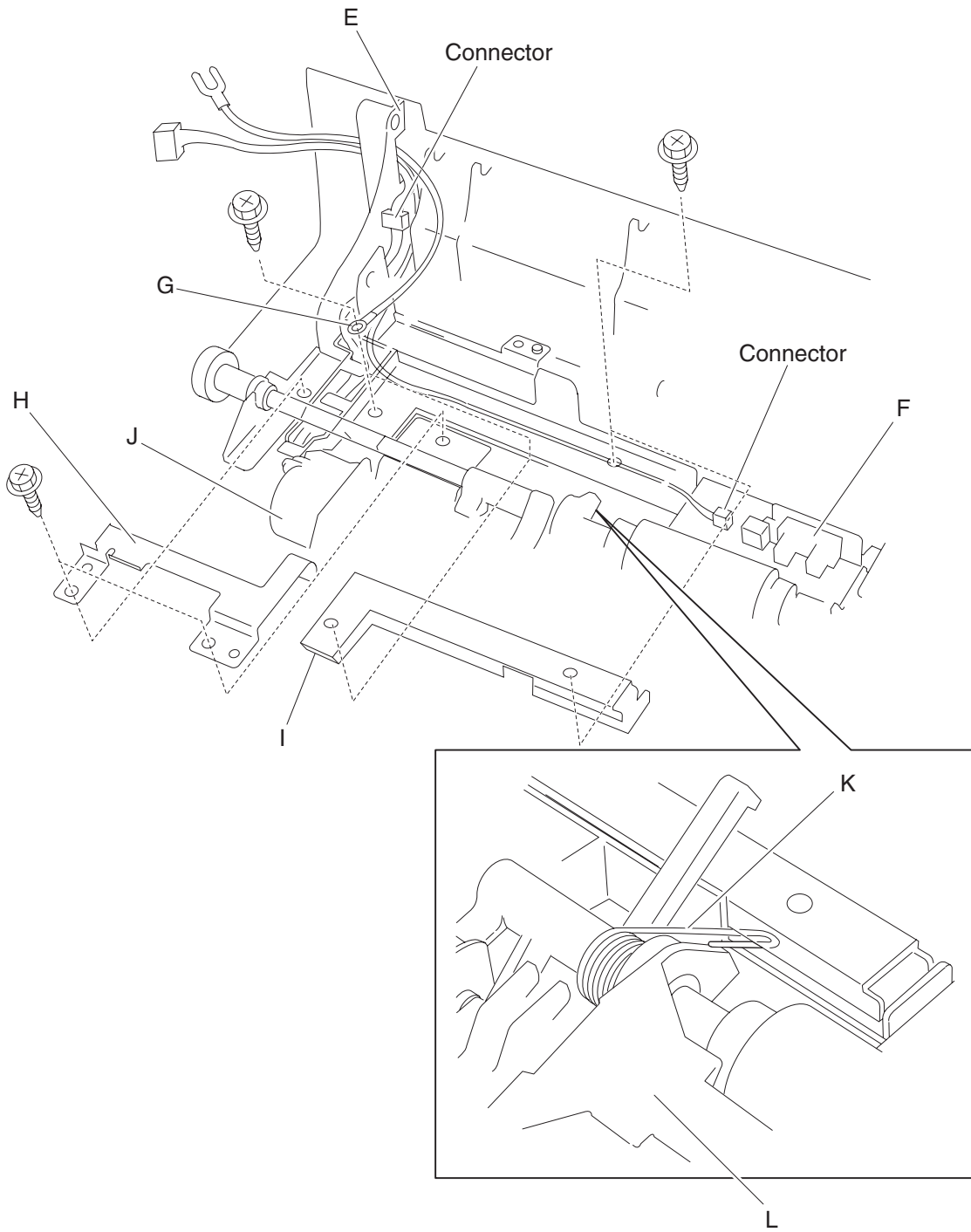
**Note:** Ensure that the harnesses are properly captured by the harness guide (I).

**Note:** Ensure that the green ground wire (G) and the grounding plate (H) is 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.

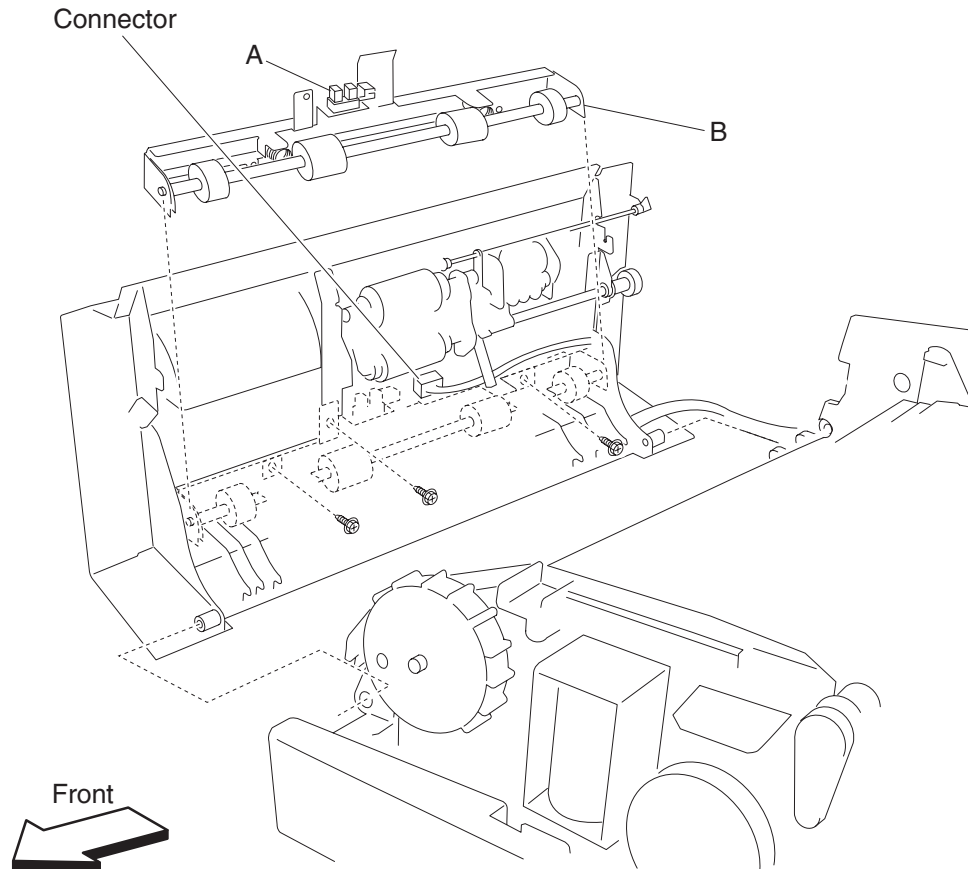






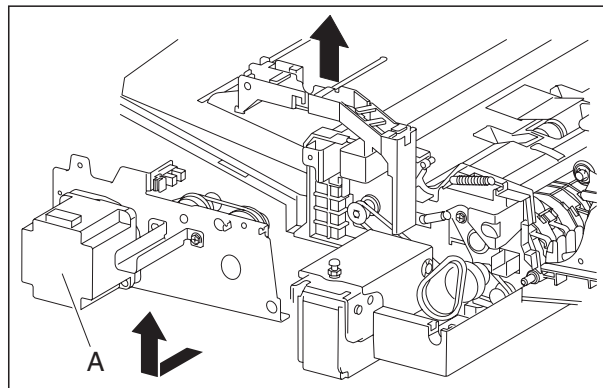
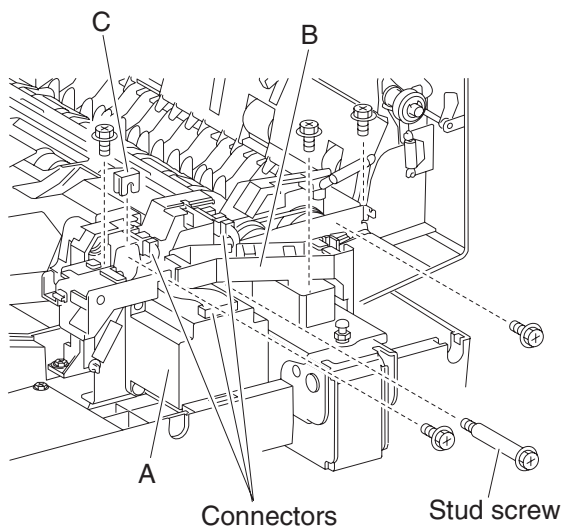
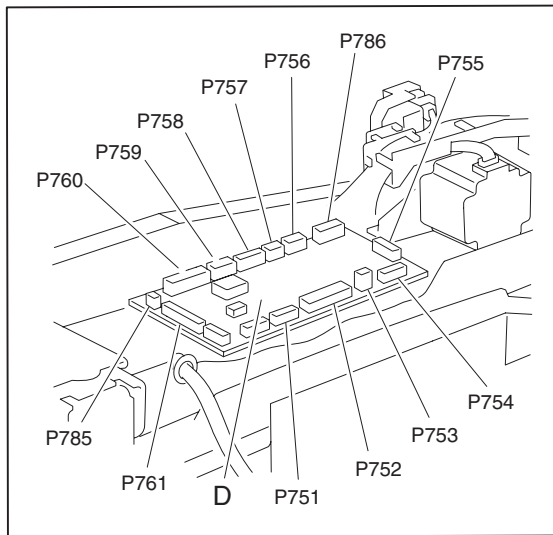
## Left cover pinch roll assembly removal

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

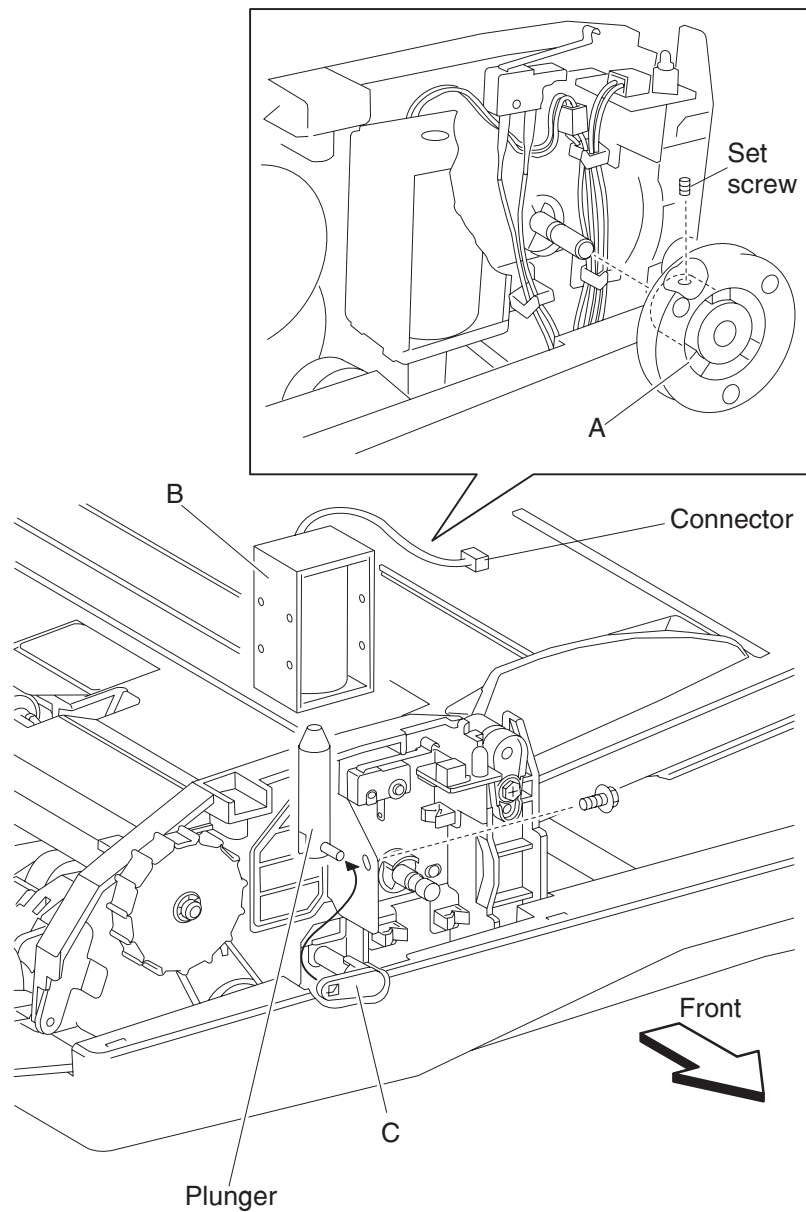
1. Open the ADF left cover assembly.
2. Lift the document tray assembly.
3. Remove the ADF rear cover. See **“ADF rear cover removal” on page 4-165.**
4. Remove the ADF registration motor. See **“ADF registration motor removal” on page 4-201.**
5. Disconnect the three connectors from the ADF dual drive 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.



## Inverter solenoid assembly removal

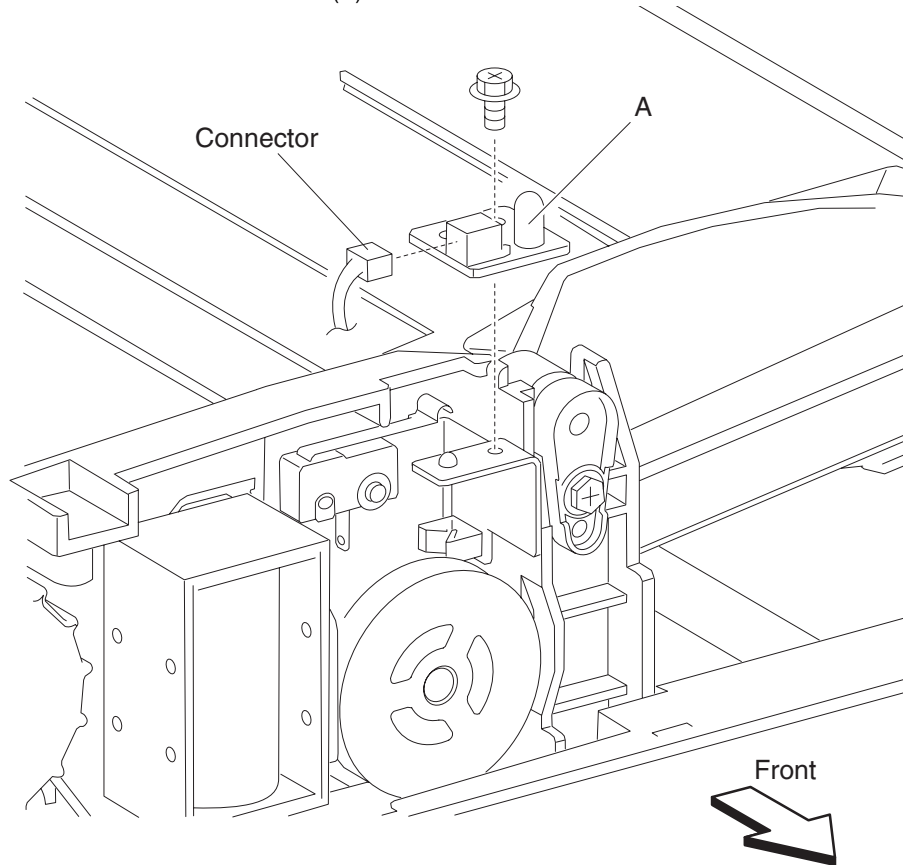
1. Open the ADF left cover assembly.
2. Remove the ADF front cover assembly. See **“ADF front cover assembly removal” on page 4-166.**
3. Loosen the set screw securing the damper (A).
4. Remove the damper (A).
5. Disconnect the connector from the inverter solenoid assembly (B).
6. Remove the screw securing 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 4-166.
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).

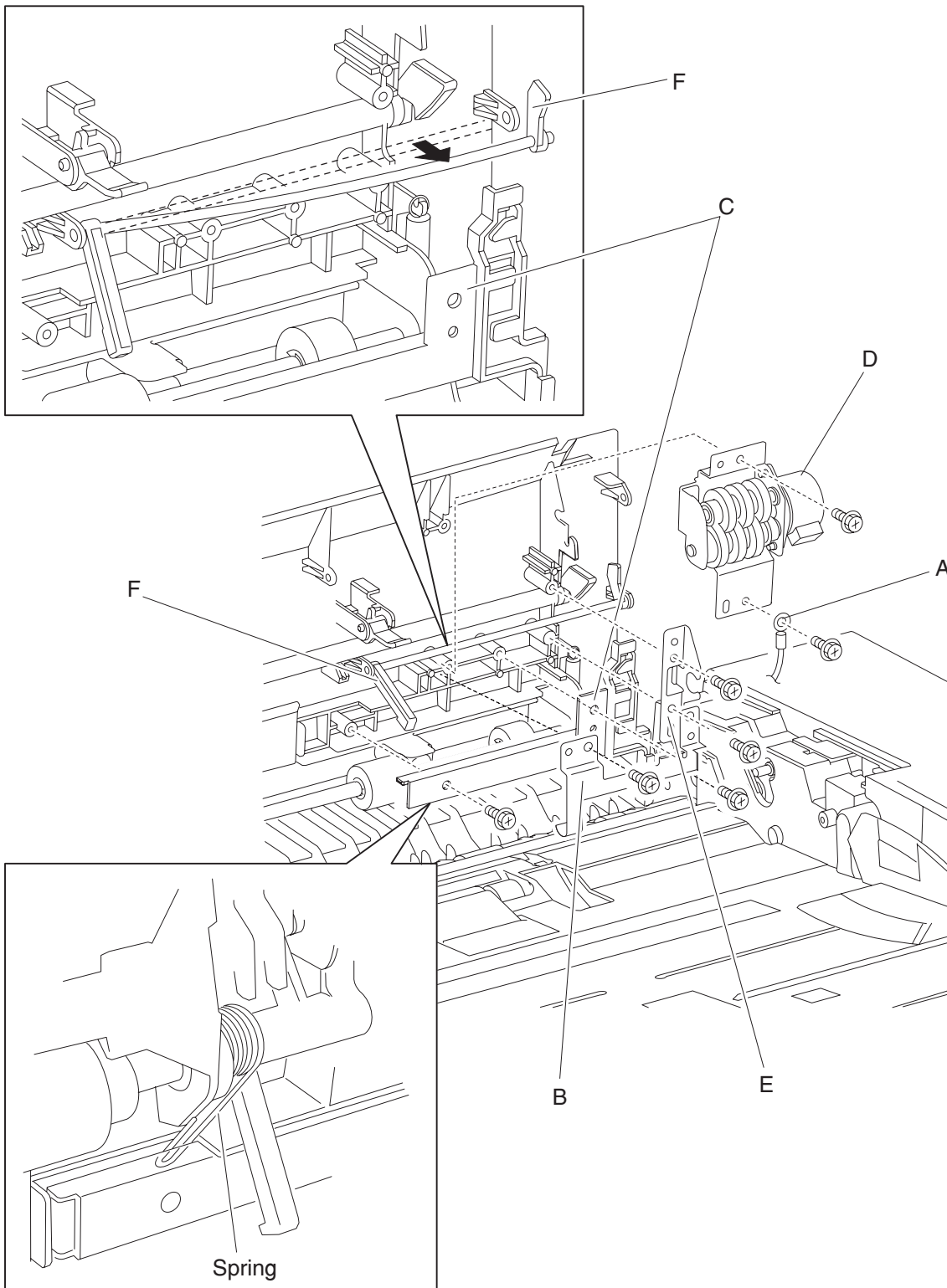


## Sheet through actuator removal

1. Open the ADF left cover assembly.
  2. Remove the ADF left cover media guide. See **“ADF left cover media guide removal” on page 4-181.**
  3. Remove the ADF feed/pick roll assembly. See **“ADF feed/pick roll assembly removal” on page 4-178.**
  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 one screw securing the pick roll position motor assembly (D).
  10. Remove the pick roll position motor assembly (D).
  11. Remove the one 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.

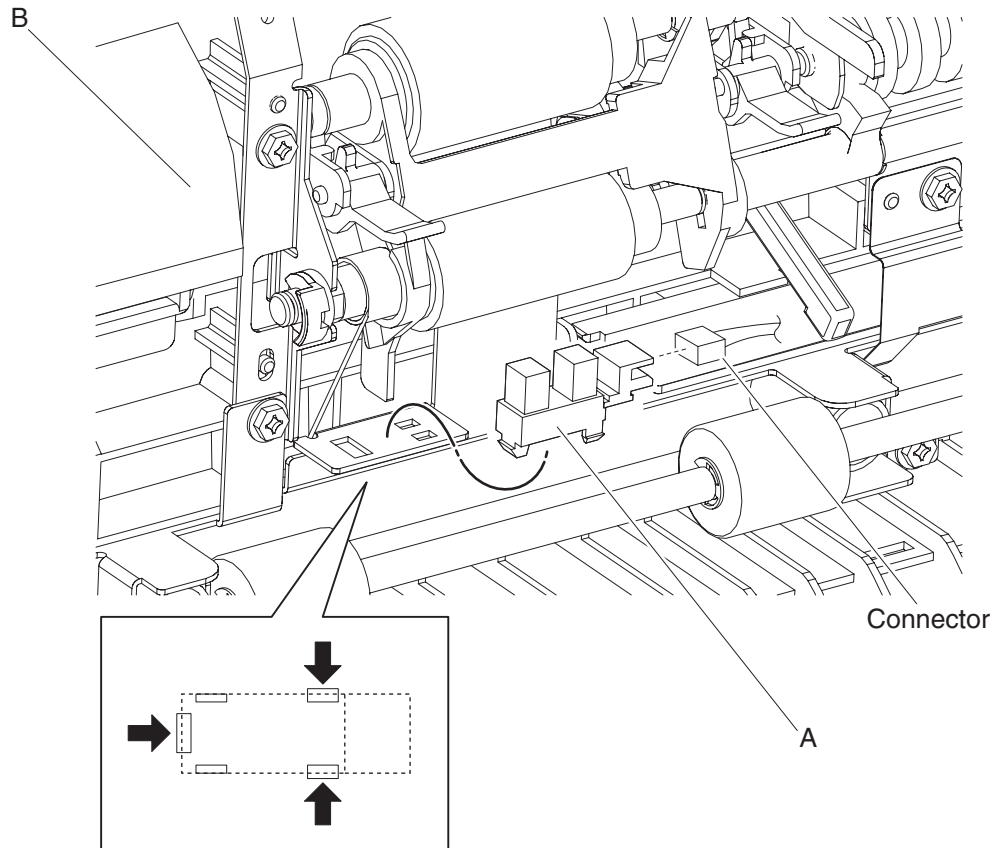
14. Remove the sheet through actuator (F).

**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 4-181.
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 4-181.**

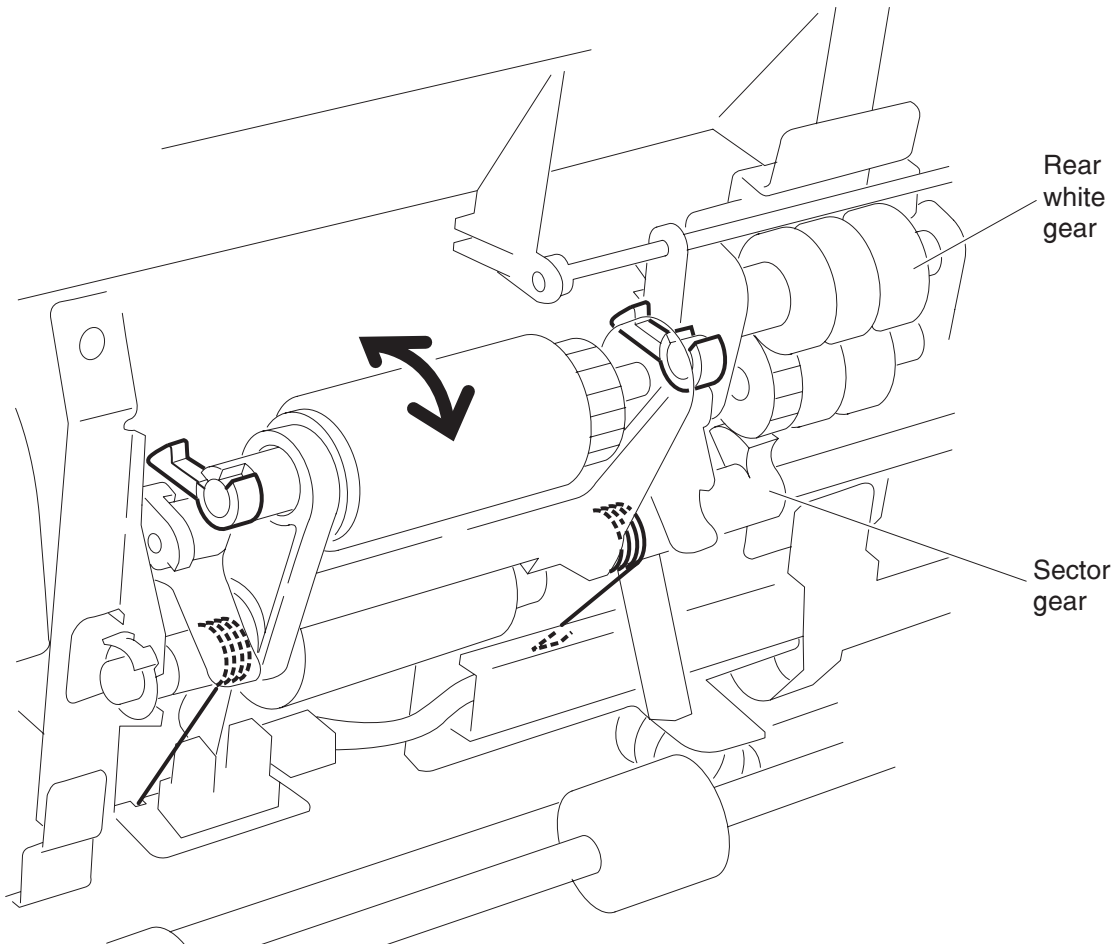
**Note:** Rotate the rear most white gear of the pick roll position motor assembly until the pick roll is completely lowered and the sector gear is completely disengaged.

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.

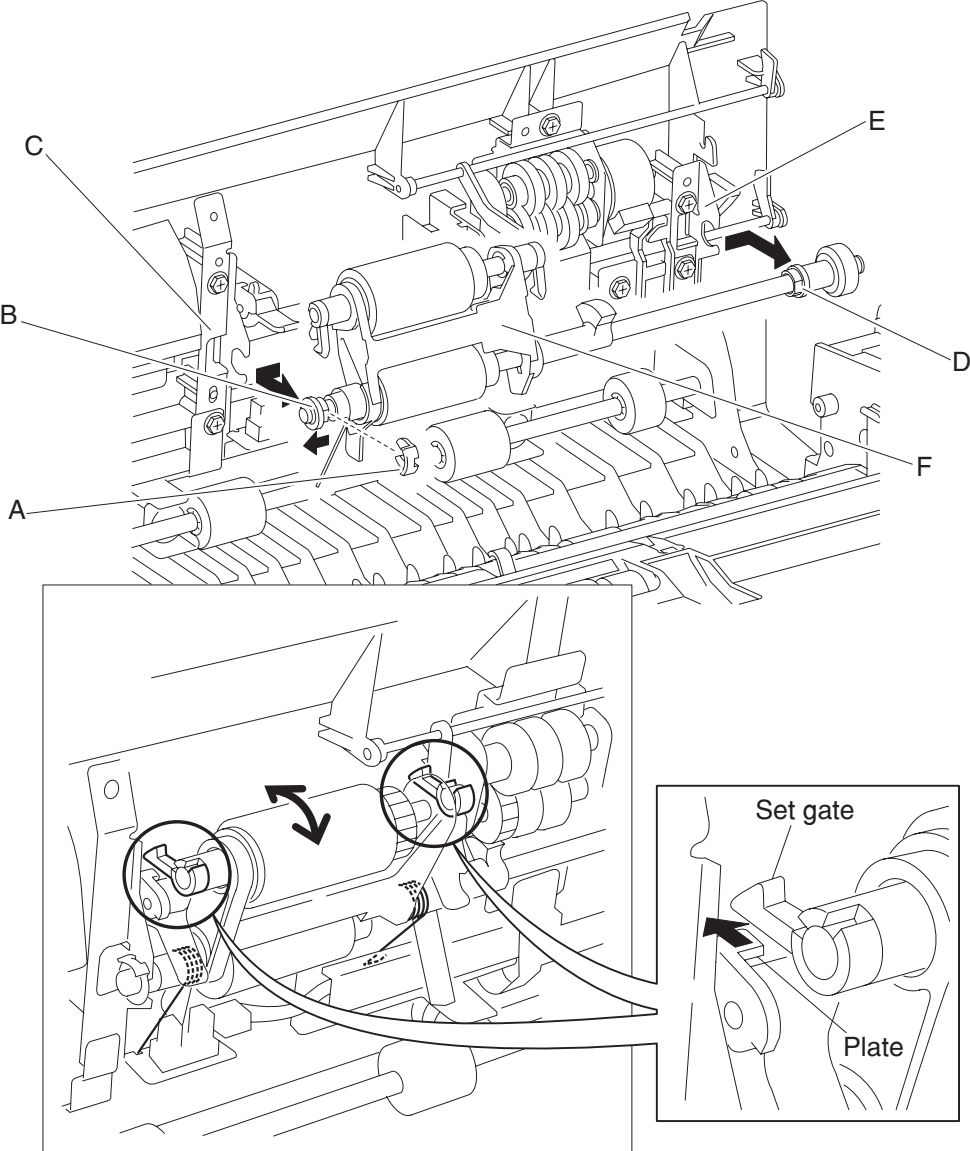
**Note:** Before reinstalling the ADF feed/pick roll assembly (F), ensure that the document set stops are positioned correctly and the two set gates are positioned as shown in the diagram or the ADF will malfunction and jam.

**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.

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

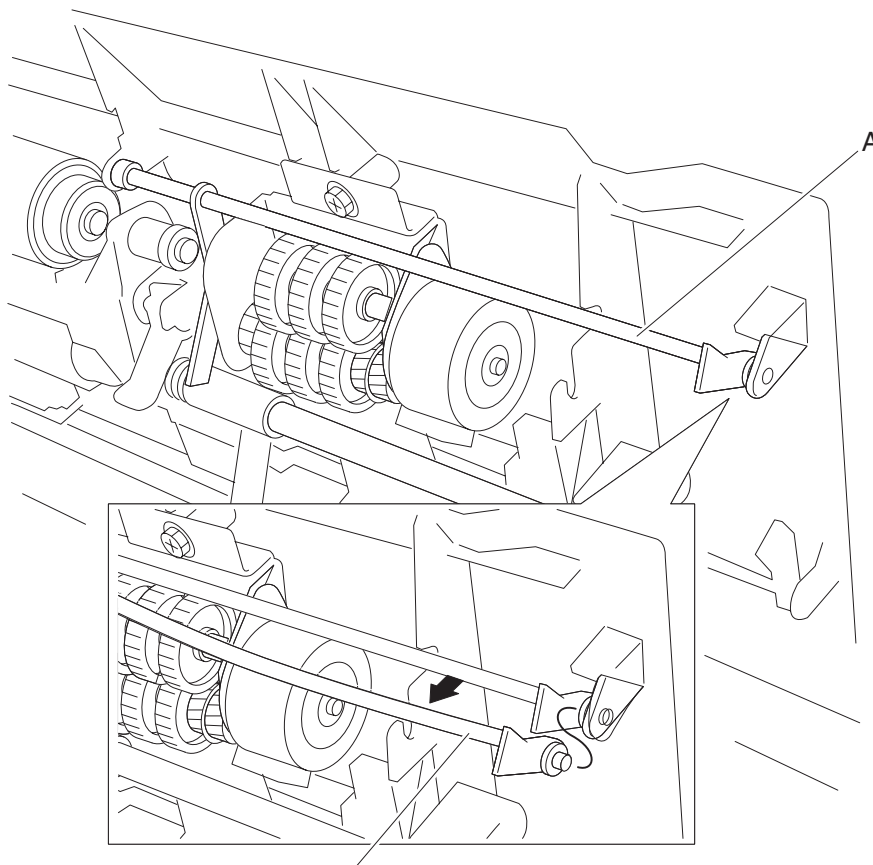






## Document set actuator removal

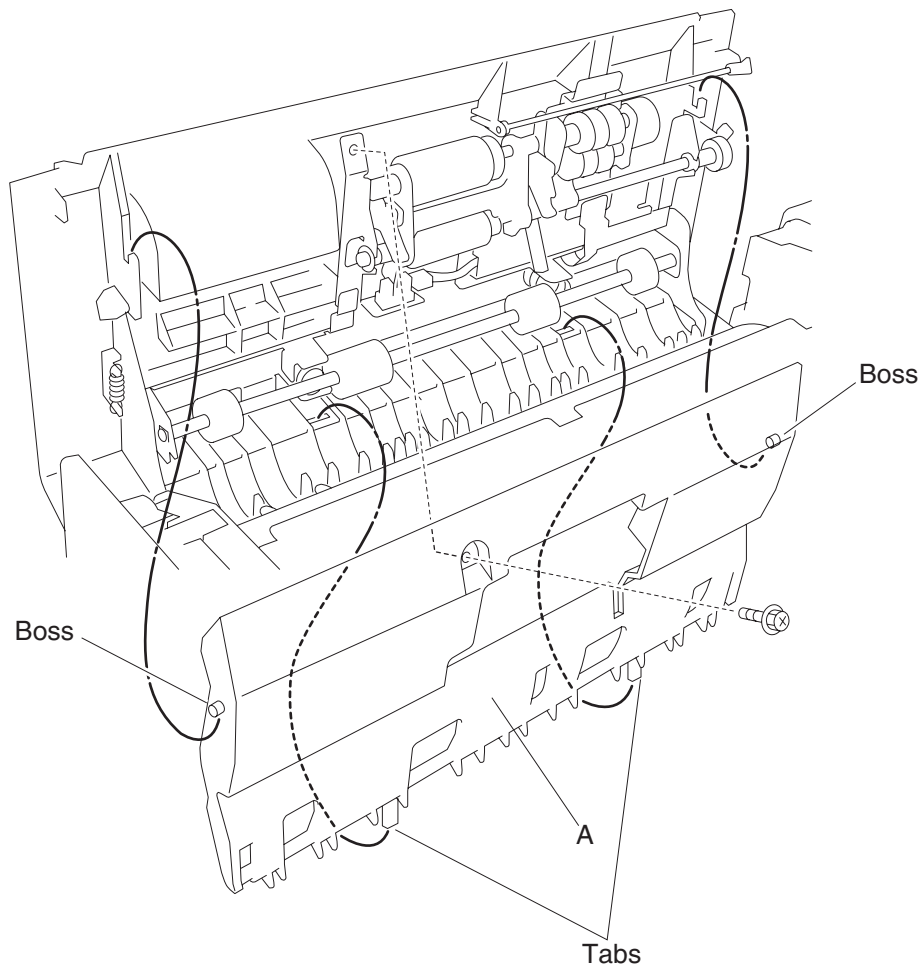
1. Open the ADF left cover assembly.
2. Remove the ADF left cover media guide. See **“ADF left cover media guide removal”** on page 4-181.
3. Gently pry the document set actuator (A) from the ADF left cover assembly.
4. Remove the document set actuator (A).



## ADF left cover media guide removal

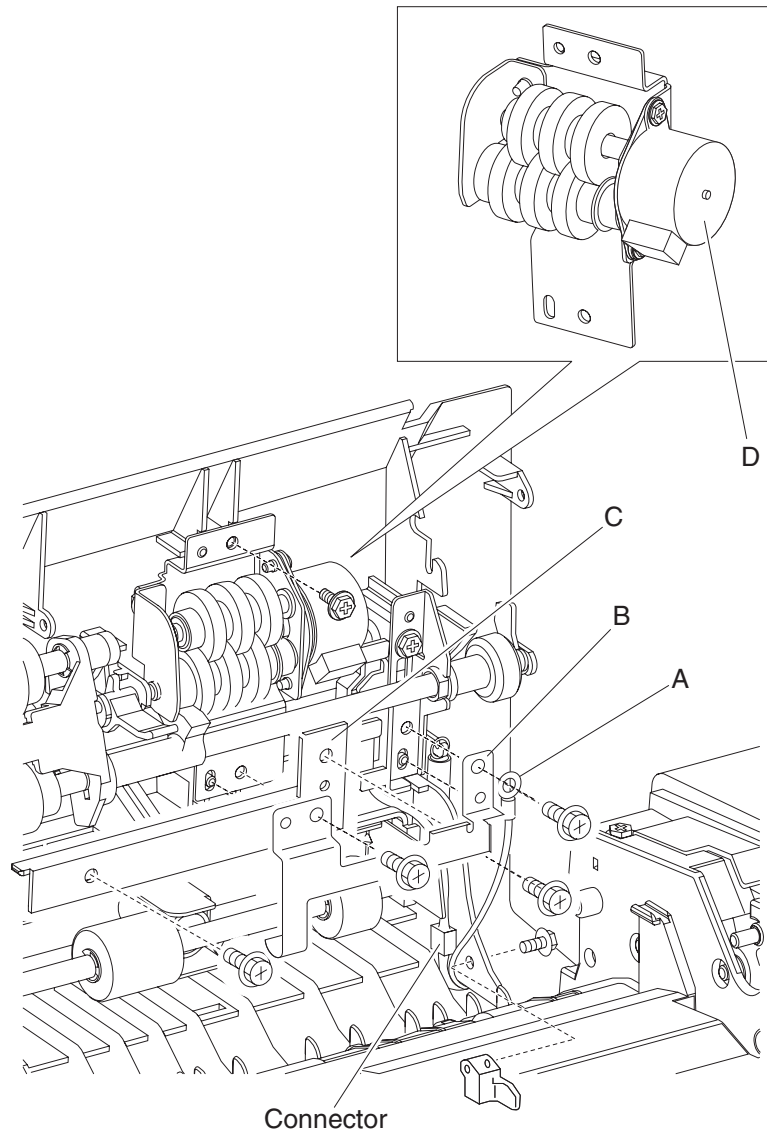
1. Open the ADF left cover assembly.
2. Remove the screw securing the ADF left cover media guide (A).
3. Lift the ADF left cover media guide (A) upward, then remove the two bosses from the slot, and remove the two tabs from the holes.
4. Remove the ADF left cover media guide (A).

**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.



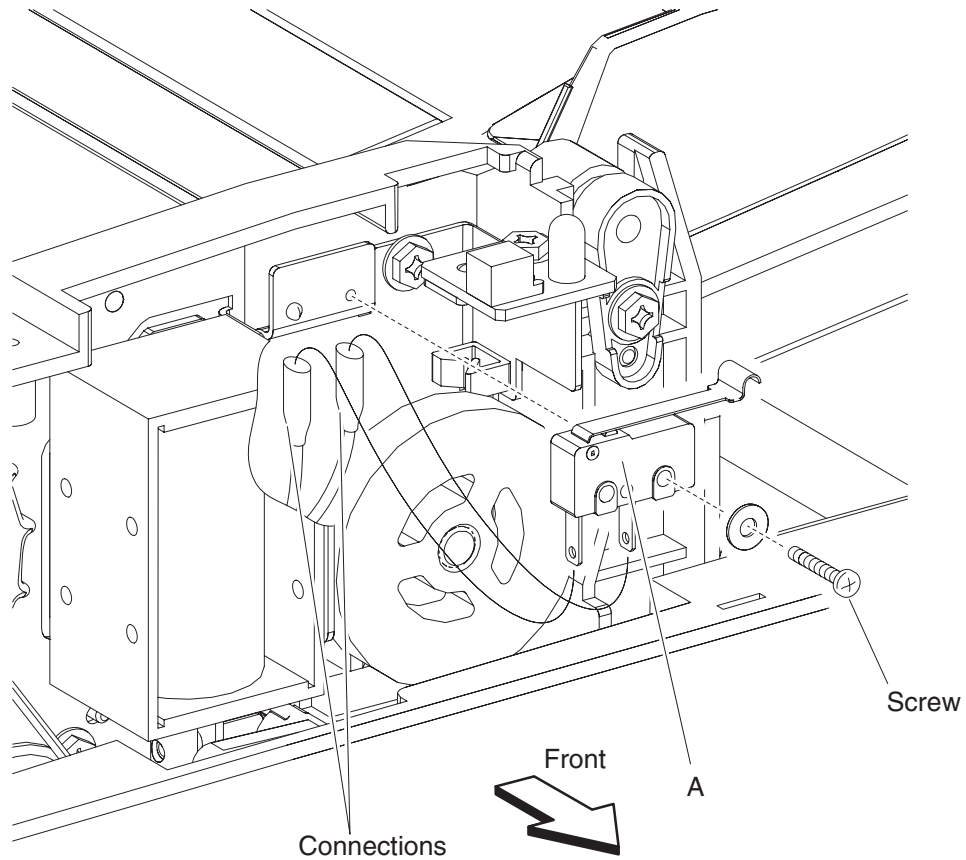
## Pick roll position motor assembly removal

1. Open the ADF left cover assembly.
2. Remove the ADF left cover media guide. See **“ADF left cover media guide removal” on page 4-181.**
3. Remove the document set actuator. See **“” on page 4-179.**
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 one 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

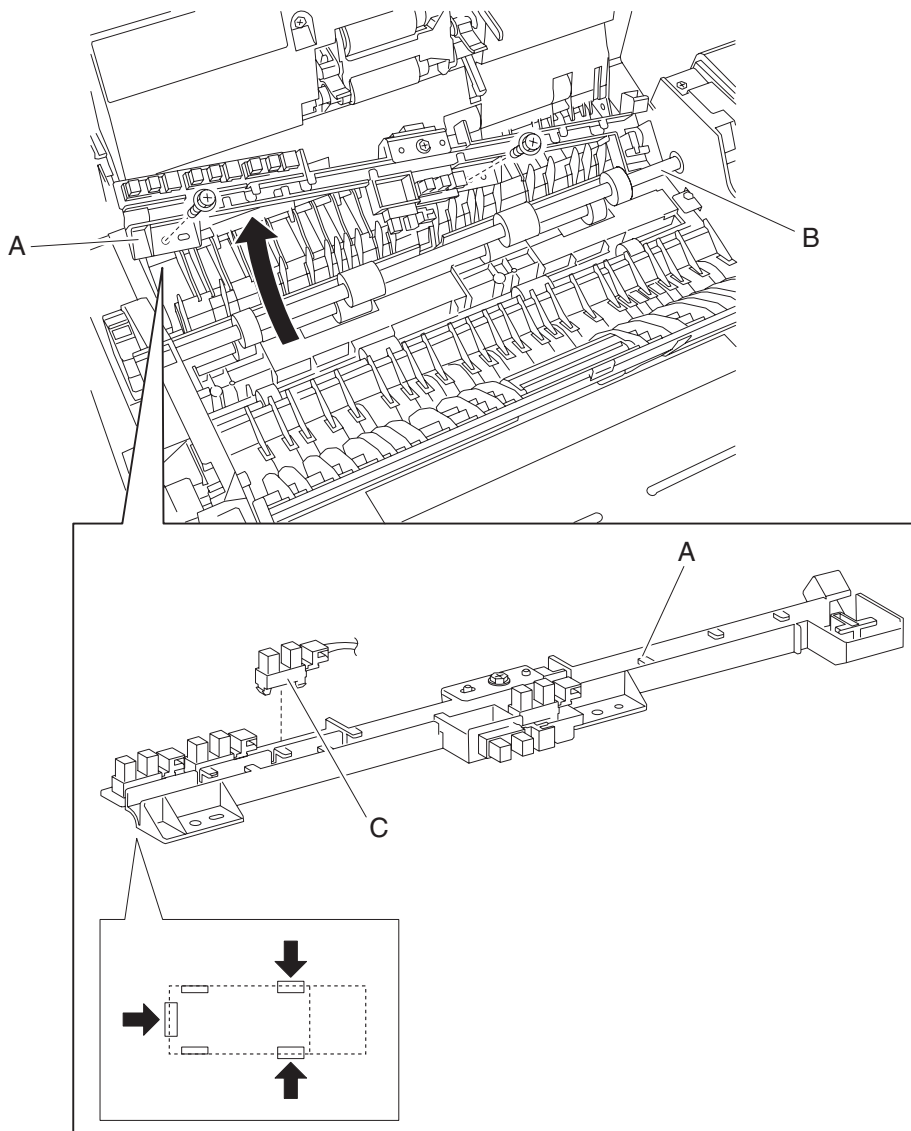
1. Open the ADF left cover assembly.
2. Remove the ADF front cover assembly. See **“ADF front cover assembly removal” on page 4-166.**
3. Remove the screw and washer securing the switch (ADF left cover interlock) (A).
4. Disconnect the two connections to the switch (ADF left cover interlock) (A) with needle nose pliers.
5. Remove the switch (ADF left cover interlock).



## Sensor (ADF width APS 1)

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 4-190.**
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).

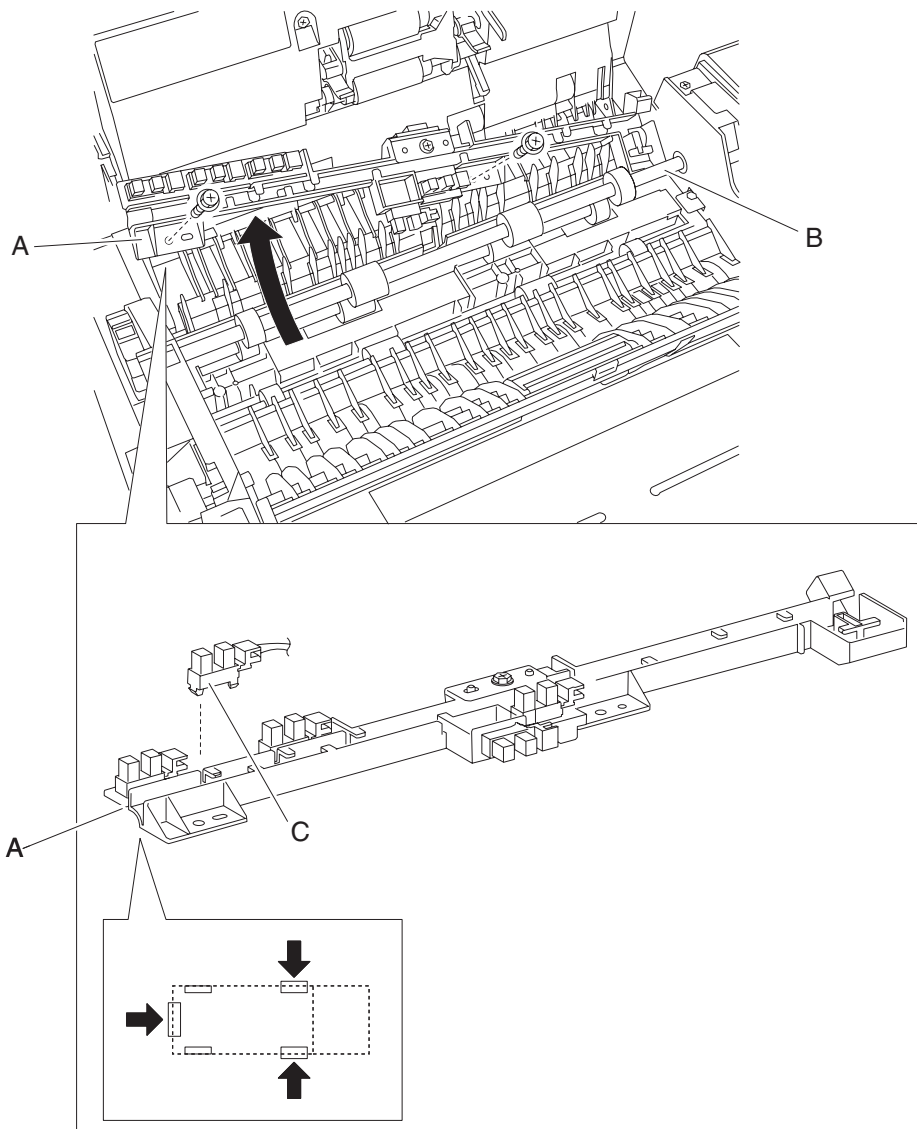
The APS, pre-registration, and inverter sensors are removed in the same manner. Release the hook, disconnect the connector, and remove the sensor.



## Sensor (ADF width APS 2)

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 4-190**.
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).

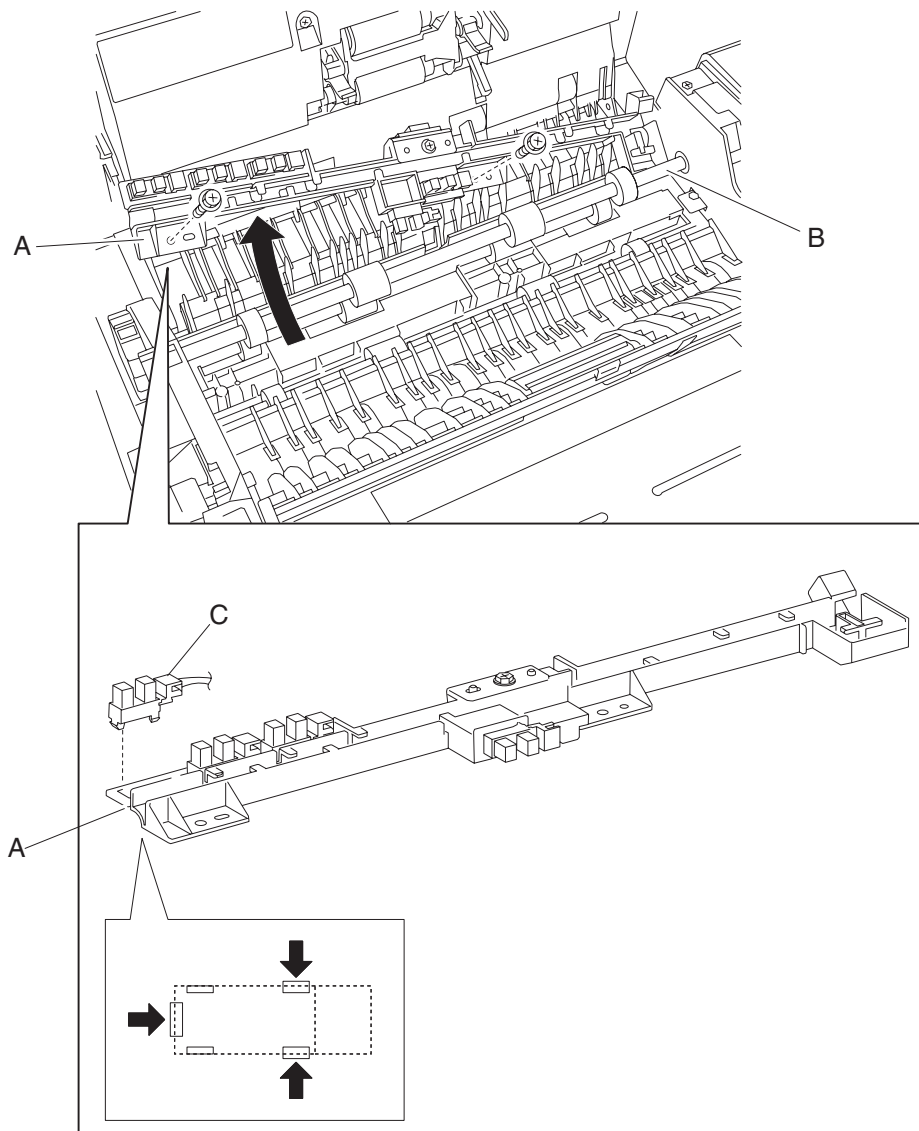
The APS, pre-registration, and inverter sensors are removed in the same manner. Release the hook, disconnect the connector, and remove the sensor.



## Sensor (ADF width APS 3)

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 4-190.**
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.

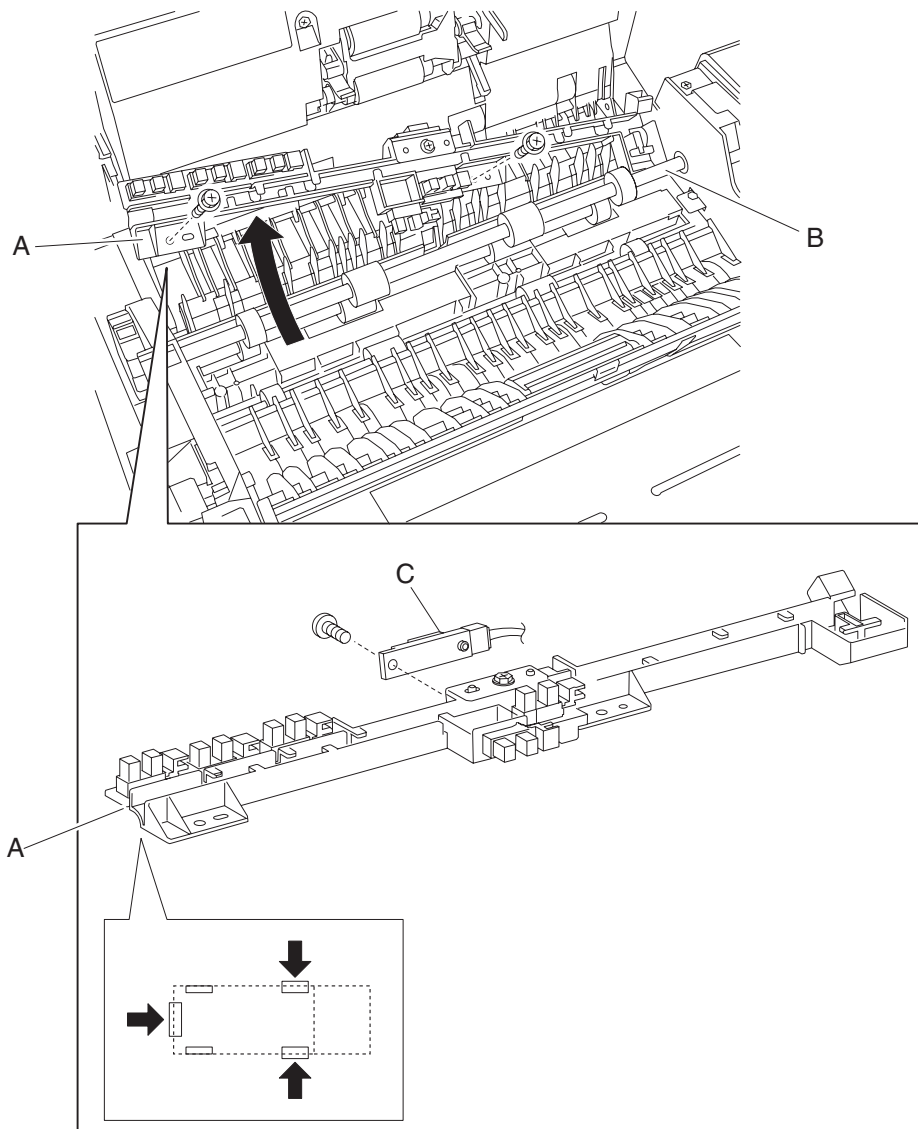




## Sensor (ADF registration)

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 4-190.**
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).

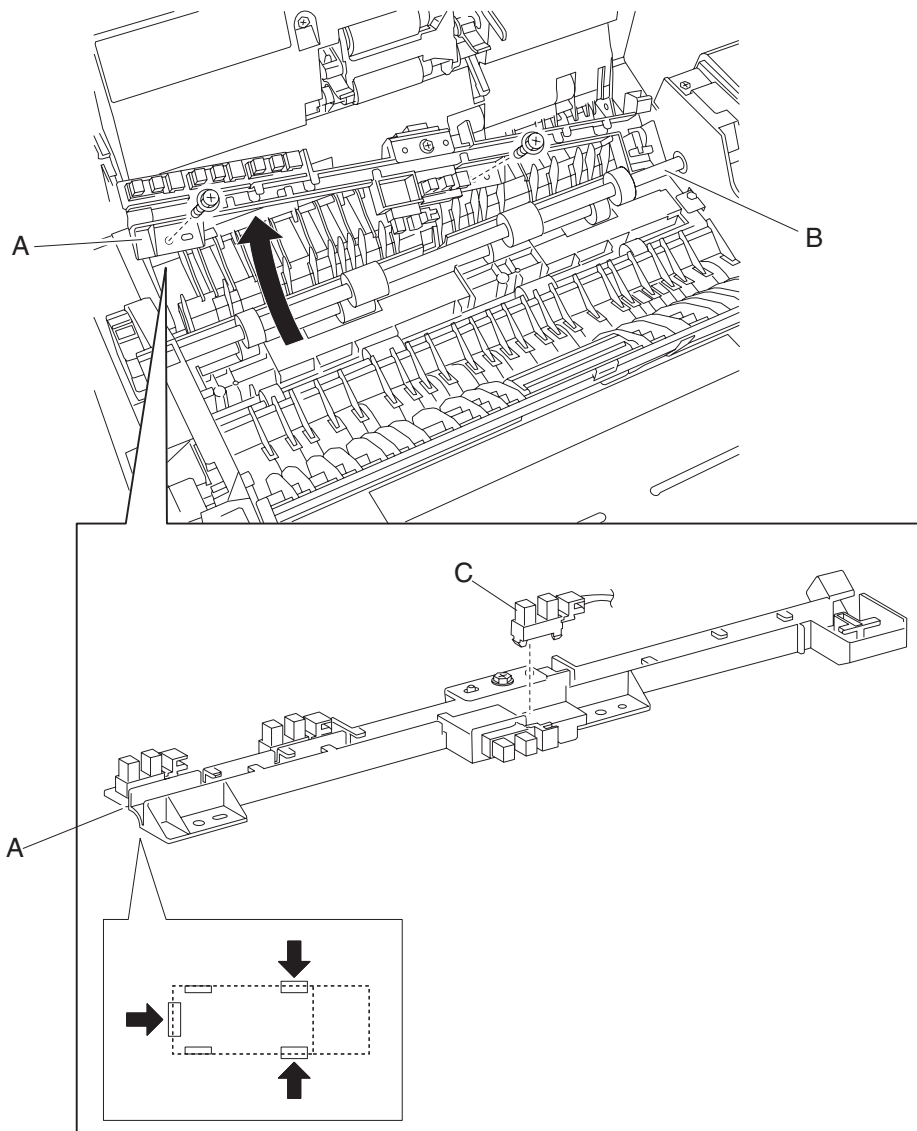
The APS, pre-registration, and inverter sensors are removed in the same manner. Release the hook, disconnect the connector, and remove the sensor.



## Sensor (ADF pre-registration)

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 4-190.**
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).

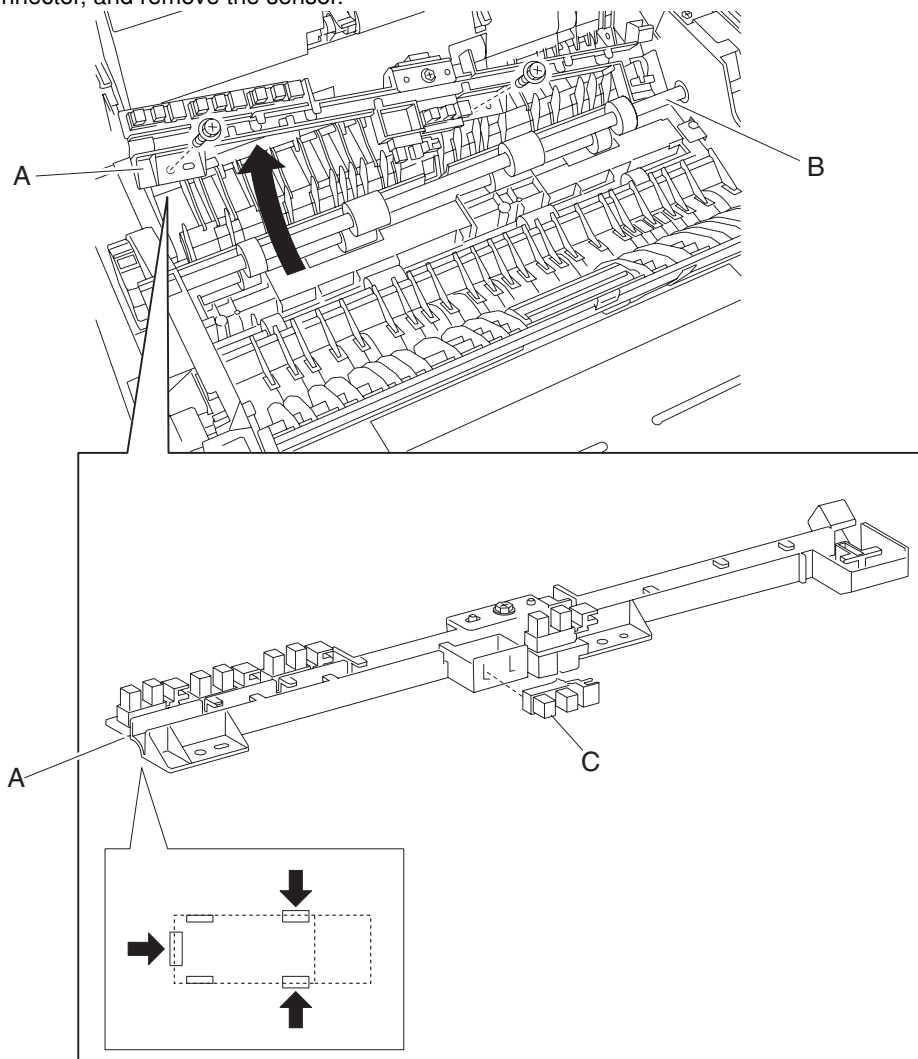
The APS, pre-registration, and inverter sensors are removed in the same manner. Release the hook, disconnect the connector, and remove the sensor.



## Sensor (ADF inverter)

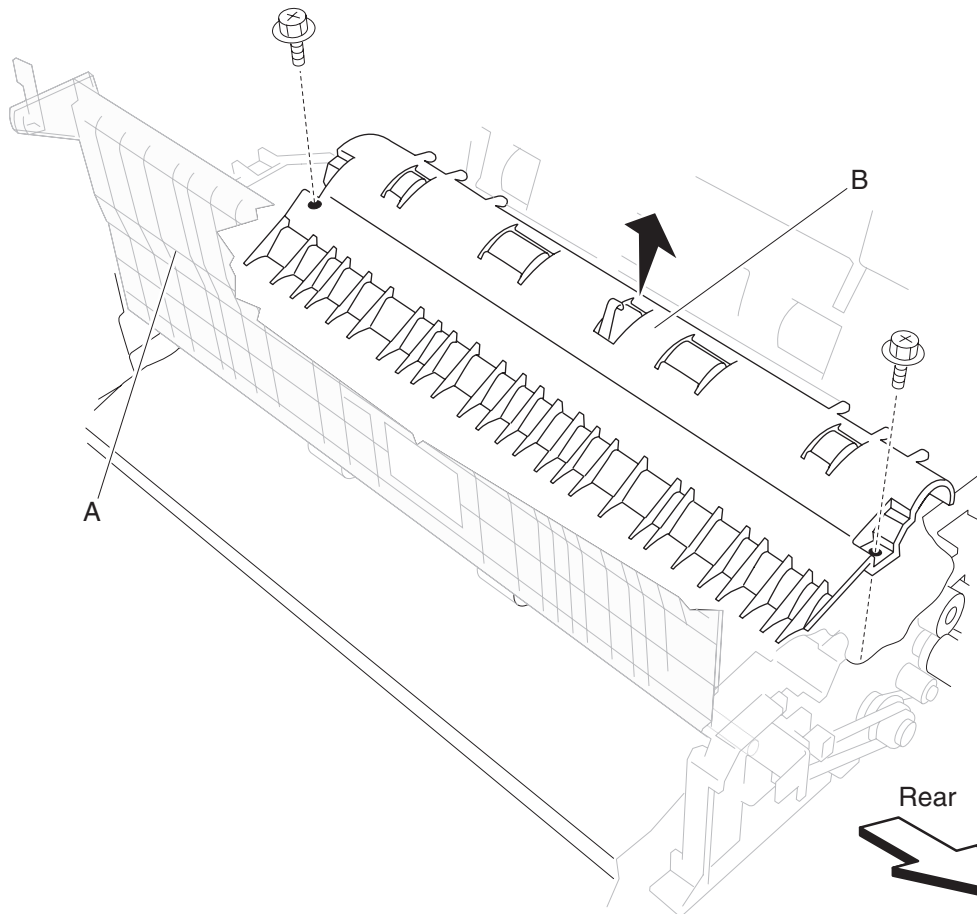
1. Open the ADF left cover assembly.
2. Lift the separation roll guide assembly to its uppermost position.
3. Remove the actuator/media guide assembly. See **“Actuator/media guide assembly removal” on page 4-190.**
4. Remove the two screws securing the sensor mount (A) to the ADF.
5. Slide the sensor 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.



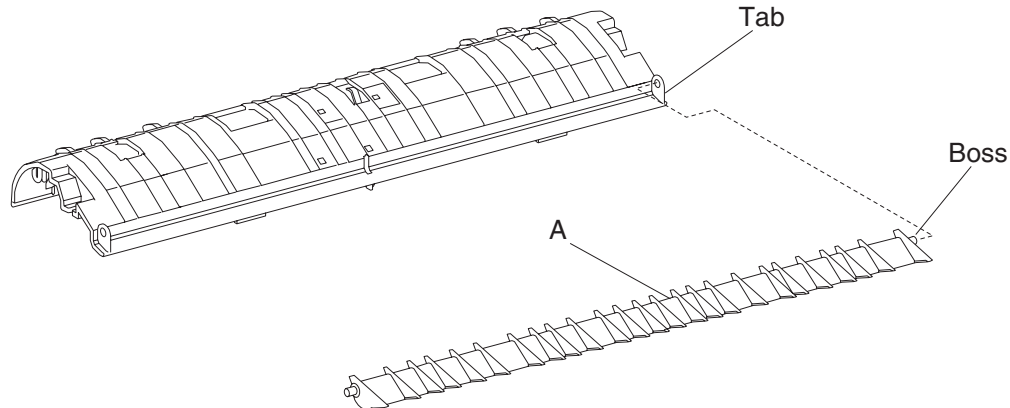
## Actuator/media guide assembly removal

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 4-190.**
2. Flex the tab, and remove the boss from the hole.
3. Remove the inverter gate (A).



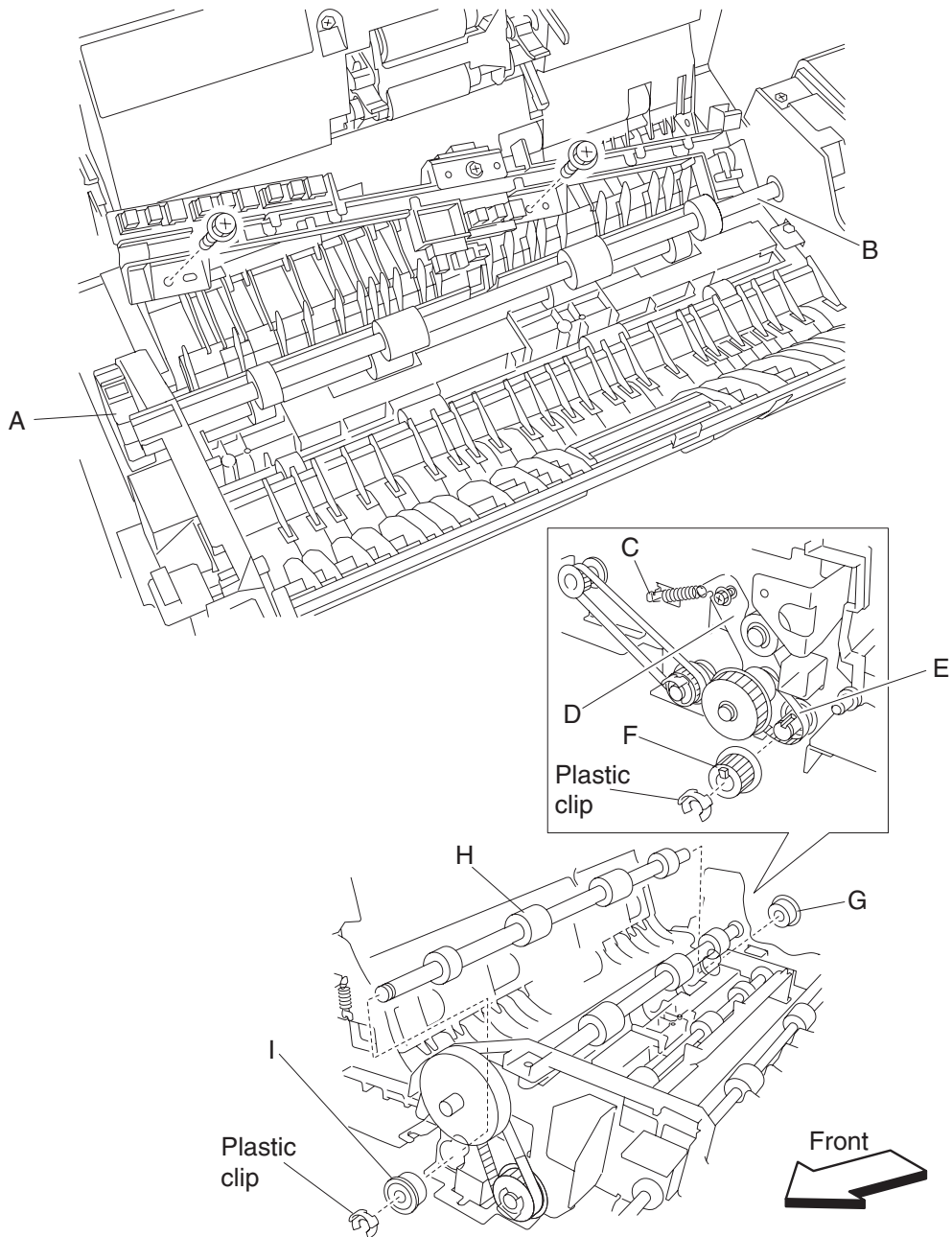
## ADF registration roll assembly removal

1. Remove the ADF unit assembly. See **“ADF unit assembly removal” on page 4-159.**
2. Open the ADF left cover assembly.
3. Remove the ADF front cover assembly. See **“ADF front cover assembly removal” on page 4-166.**
4. Remove the ADF rear cover. See **“ADF rear cover removal” on page 4-165.**
5. Remove the document tray assembly. See **“Document tray assembly removal” on page 4-164.**
6. Remove the ADF media feed assembly. See **“ADF media feed assembly removal” on page 4-162.**
7. Remove the ADF feed drive motor assembly. See **“ADF feed drive motor assembly removal” on page 4-172.**
8. Lift the separation roll guide assembly to its uppermost position.
9. Remove the actuator/media guide assembly. See **“Actuator/media guide assembly removal” on page 4-190.**
10. Remove the two screws securing the sensor mount (A) to the ADF.
11. Slide the sensor mount (A) from the underside of the ADF transport roll (B), and move it out of the way.
12. Remove the tension spring (C).
13. Loosen the screw securing the tension bracket (D), and loosen the registration secondary drive belt (E) tension.
14. Remove the plastic clip securing the registration roll drive pulley 28T (F).
15. Slide the registration secondary drive belt (E) from the registration roll drive pulley 28T (F).
16. Remove the ADF registration motor. See **“ADF registration motor removal” on page 4-201.**
17. Remove the registration roll drive pulley 28T (F).
18. Remove the bearing 8 mm (G) securing the ADF registration roll assembly (H) to the rear of the feed assembly.
19. Remove the plastic clip securing the bearing 8 mm (I) of front side.
20. Remove the bearing 8 mm (I) securing the ADF registration roll assembly (H) to the front of the feed assembly.
21. Move the ADF registration roll assembly (H) frontward and upward.
22. Remove the ADF registration roll assembly (H).

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

**Note:** Before reinstalling the registration secondary drive belt (E), ensure that it is routed properly.

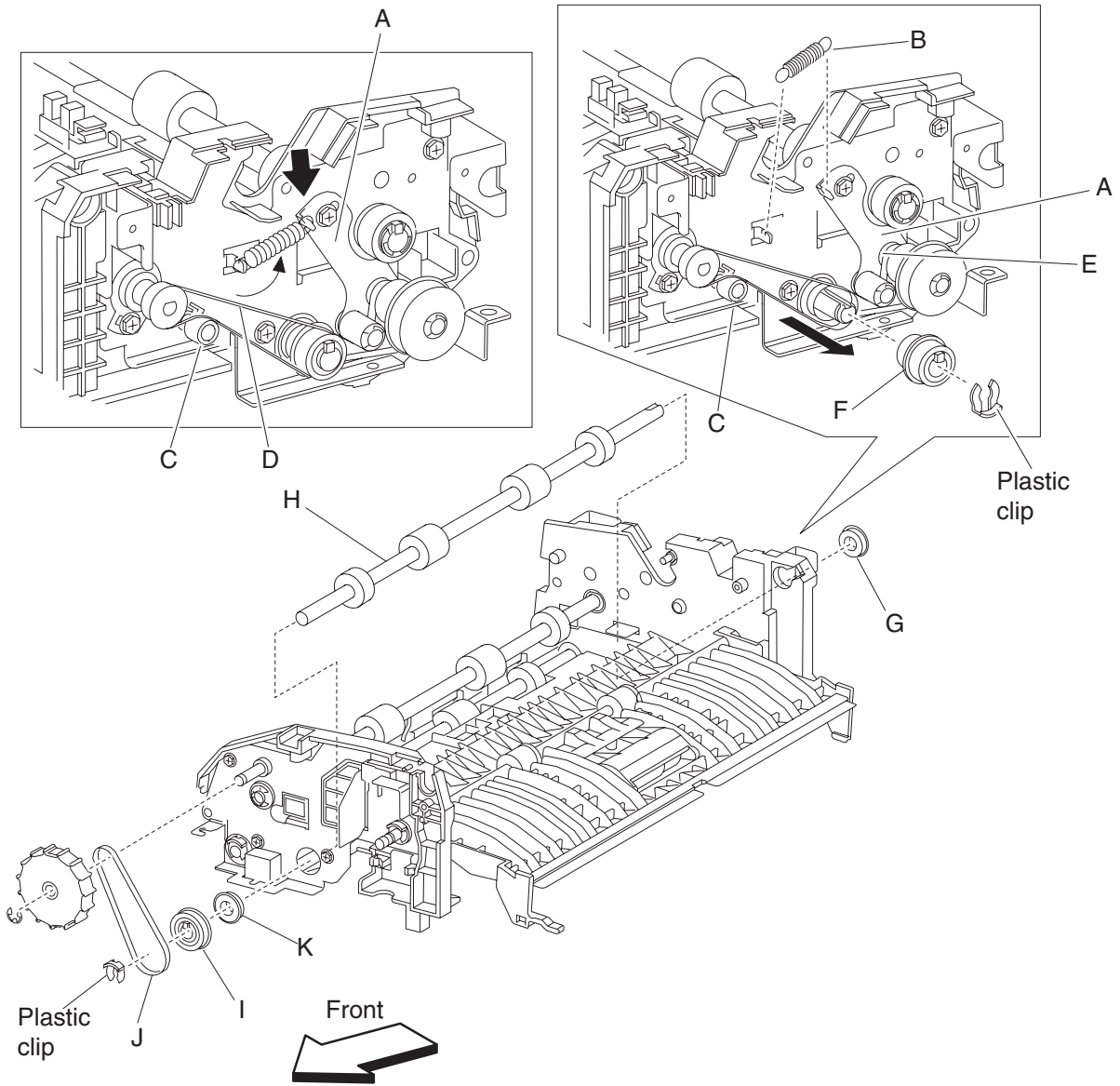
**Note:** Loosen and then retighten the two screws that set the belt tension after tension spring (C) is attached.



## ADF feed-out roll assembly removal

1. Remove the ADF unit assembly. See **“ADF unit assembly removal” on page 4-159.**
2. Open the ADF left cover assembly.
3. Remove the ADF front cover assembly. See **“ADF front cover assembly removal” on page 4-166.**
4. Remove the ADF rear cover. See **“ADF rear cover removal” on page 4-165.**
5. Remove the document tray assembly. See **“Document tray assembly removal” on page 4-164.**
6. Remove the ADF registration motor. See **“ADF registration motor removal” on page 4-201.**
7. Remove the ADF media feed assembly. See **“ADF media feed assembly removal” on page 4-162.**
8. Remove the ADF feed drive motor assembly. See **“ADF feed drive motor assembly removal” on page 4-172.**
9. Lift the separation roll guide assembly to its uppermost position.
10. Remove the actuator/media guide assembly. See **“Actuator/media guide assembly removal” on page 4-190.**
11. Loosen the screw securing the tension bracket (A) and loosen the registration secondary belt (B) tension.
12. Remove the tension spring (B).
13. Loosen the screw securing the small tension bracket (C).
14. Remove the exit roll drive belt (D).
15. Remove the registration secondary drive belt (E).
16. Remove the plastic clip securing the exit/feed-out roll drive pulley 25/28T (F).
17. Remove the exit/feed-out roll drive pulley 25/28T (F).
18. Remove the bearing 8 mm (G) securing the ADF feed-out roll assembly (H) to the rear of the feed assembly.
19. Remove the plastic clip securing the manual feed drive pulley (I).
20. Remove the manual feed drive pulley (I).
21. Remove the manual feed drive belt (J).
22. Remove the bearing 8 mm (K) securing the feed-out roll assembly to the front of the feed assembly.
23. Move the ADF feed-out roll assembly (H) rearward and upward.
24. Remove the ADF feed-out roll assembly (H).

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

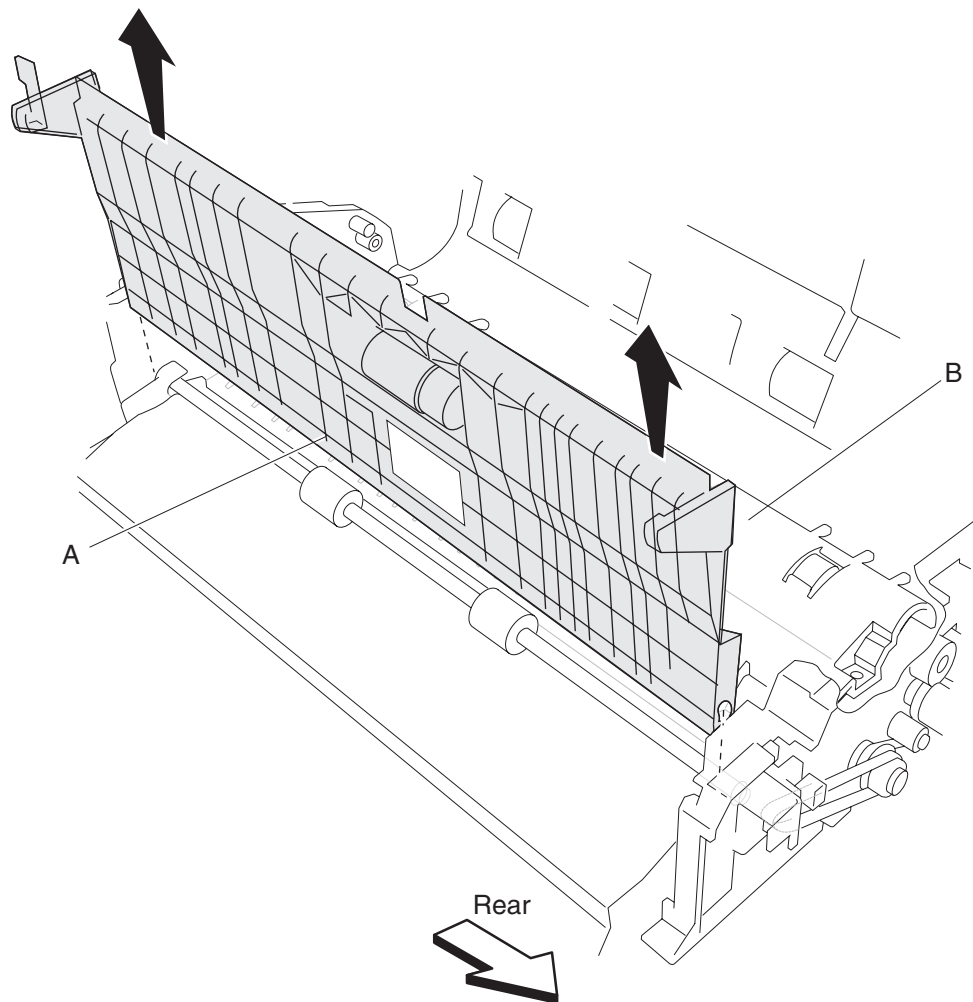




## ADF separation roll guide assembly

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.

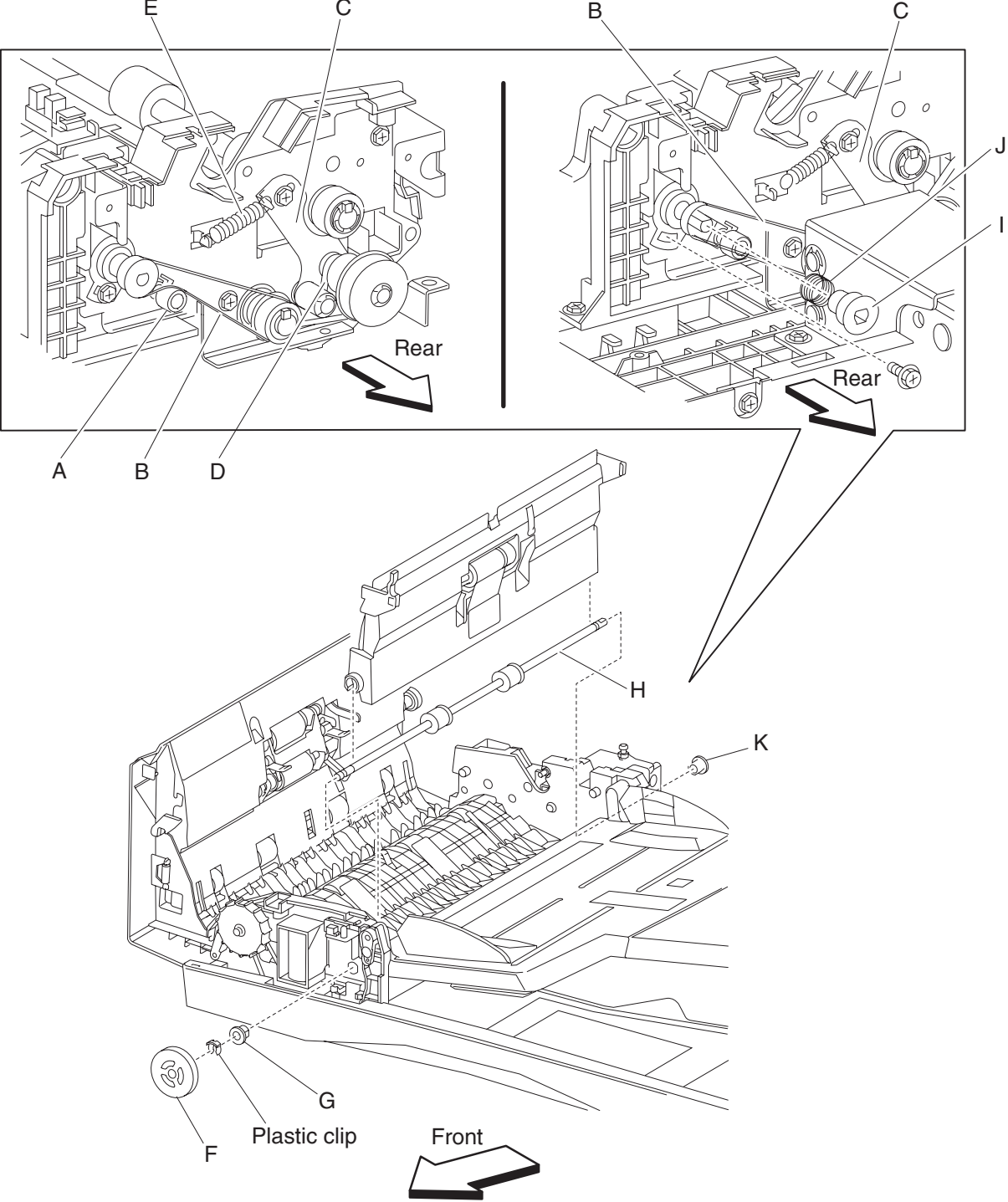


## ADF exit roll assembly removal

1. Open the ADF left cover assembly.
2. Remove the ADF front cover assembly. See **“ADF front cover assembly removal” on page 4-166.**
3. Remove the ADF rear cover. See **“ADF rear cover removal” on page 4-165.**
4. Remove the ADF feed drive motor assembly. See **“ADF feed drive motor assembly removal” on page 4-172.**
5. Remove the ADF separation roll guide assembly. See **“ADF separation roll guide assembly” on page 4-195.**
6. Loosen the screw securing the small tension bracket (A) and loosen the exit roll drive belt tension (B).
7. Loosen the screw securing the tension bracket (C), and loosen the registration secondary belt (D) tension.
8. Remove the registration secondary drive belt (D).
9. Remove the tension spring (E).
10. Remove the exit roll drive belt (B).
11. Loosen the set screw securing the damper (F).
12. Remove the damper (F).
13. Remove the plastic clip securing the bushing 6 mm (G) on the front of the feed assembly.
14. Remove the bushing 6 mm (G).
15. Move the ADF exit roll assembly (H) to the rear.
16. Release the hook securing the exit roll drive pulley 20T (I) to the ADF exit roll assembly (H).
17. Remove the exit roll drive pulley 20T (I).
18. Remove the retainer spring (J).
19. Remove the bushing 6 mm (K).
20. 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).

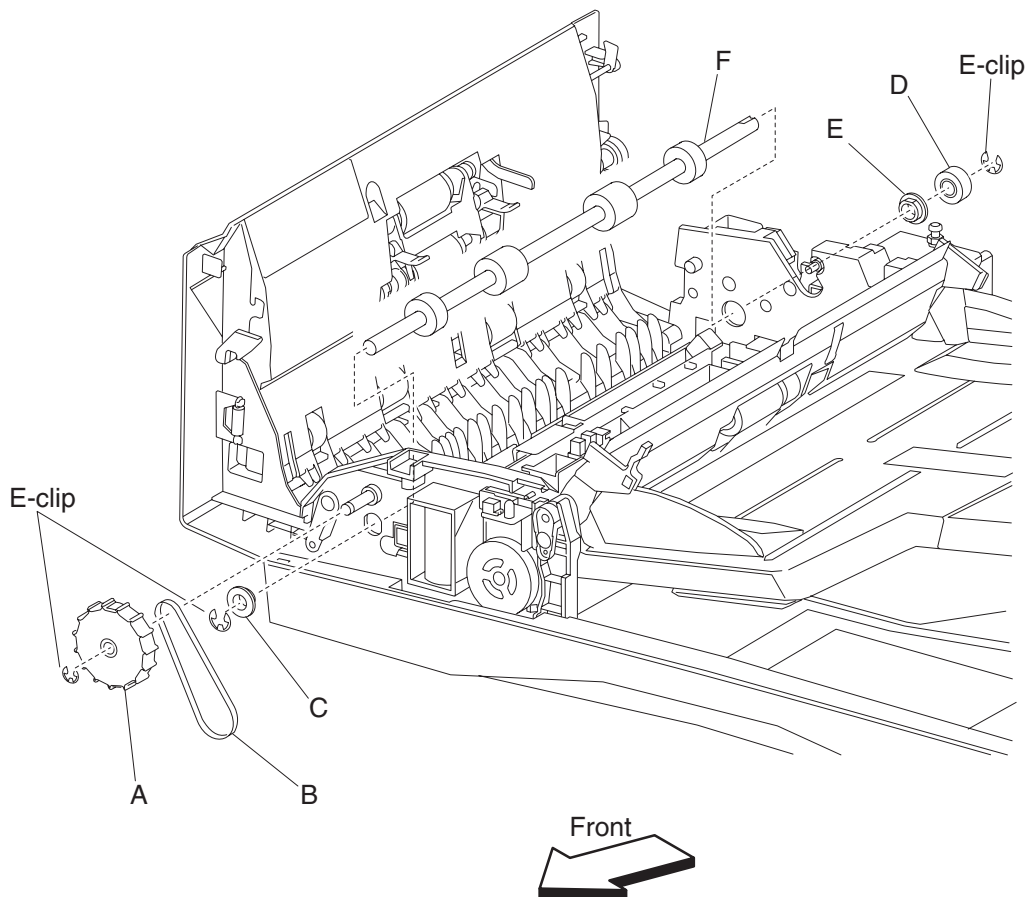
21. Remove the ADF exit roll assembly (H).



## ADF transport roll assembly removal

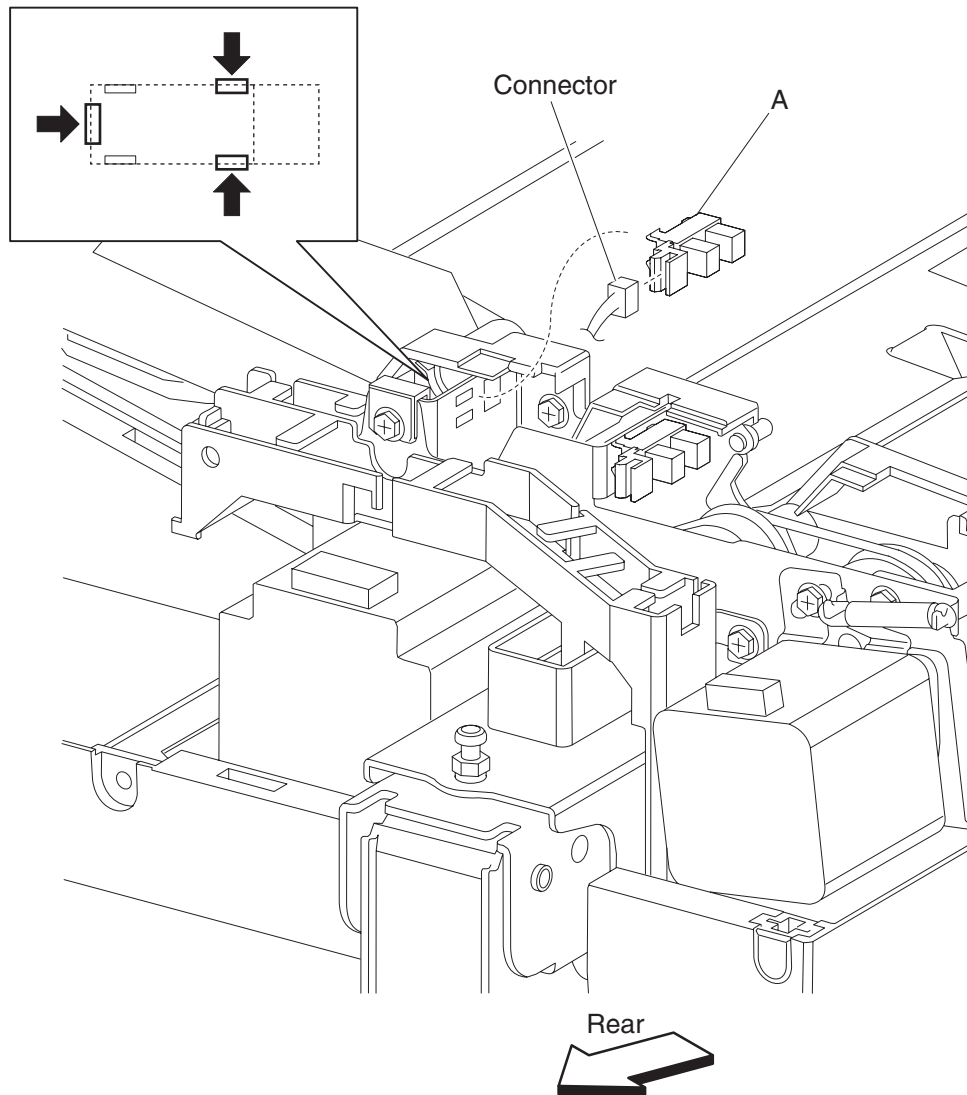
1. Open the ADF left cover assembly.
2. Remove the ADF front cover assembly. See **“ADF front cover assembly removal” on page 4-166.**
3. Remove the ADF rear cover. See **“ADF rear cover removal” on page 4-165.**
4. Remove the ADF feed drive motor assembly. See **“ADF feed drive motor assembly removal” on page 4-172.**
5. Remove the actuator/media guide assembly. See **“Actuator/media guide assembly removal” on page 4-190.**
6. Remove the e-clip securing the manual feed drive wheel (A).
7. Remove the manual feed drive wheel (A).
8. Remove the manual feed drive belt (B).
9. Remove the e-clip securing the bushing 8 mm (C).
10. Remove the bushing 8 mm (C).
11. Remove the e-clip securing the transport roll drive gear 20T (D).
12. Remove the transport roll drive gear 20T (D).
13. Remove the bushing 8 mm (E).
14. Move the ADF transport roll assembly (F) rearward and upward.
15. Remove the ADF transport roll assembly (F).

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



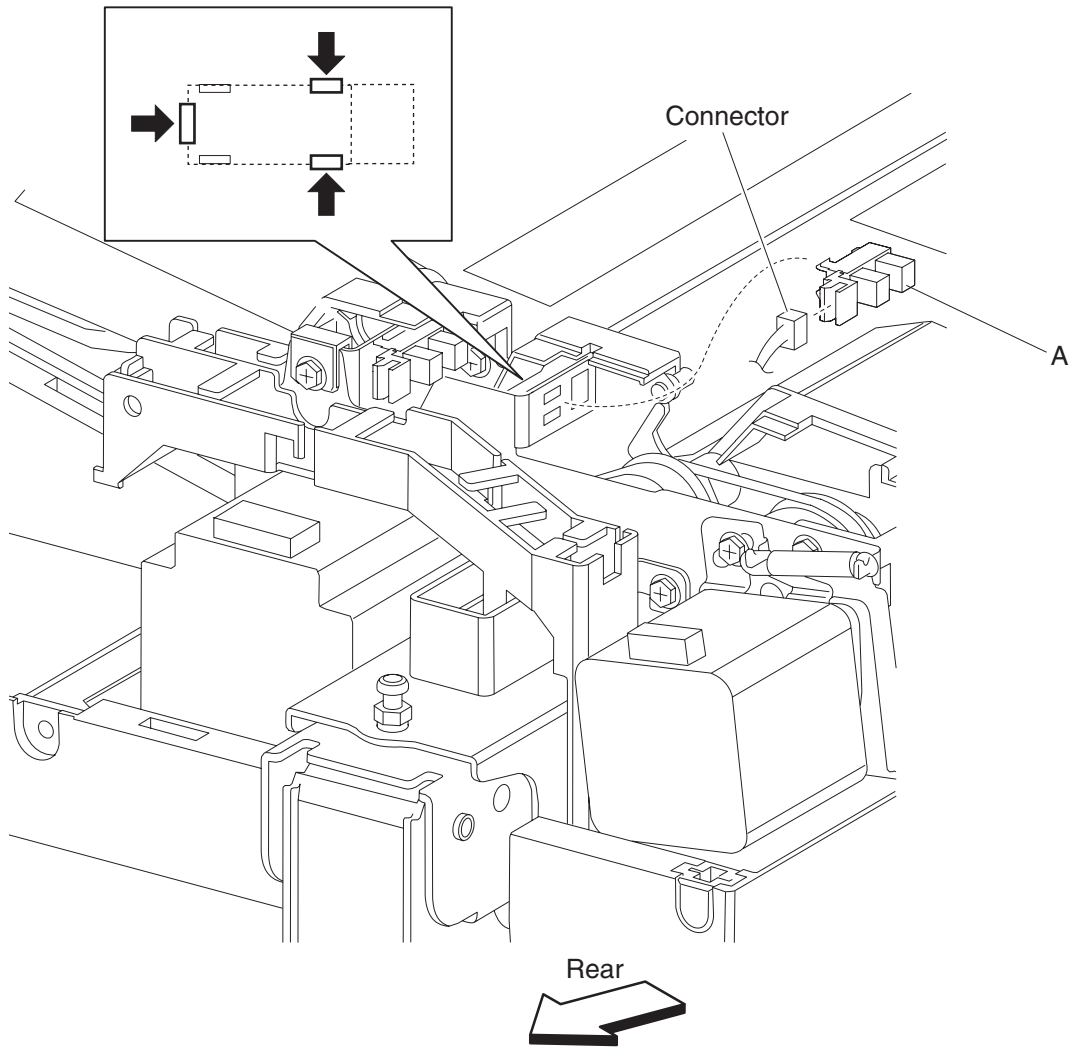
## Sensor (document set) removal

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 4-165.**
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 4-165.
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).



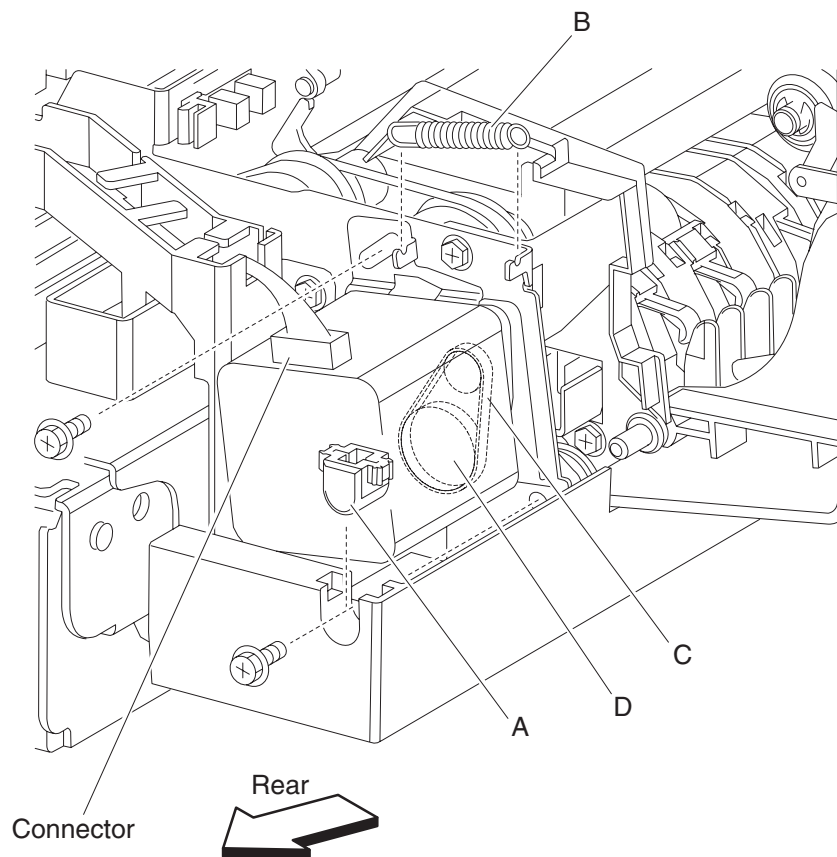
## ADF registration motor removal

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 4-165.
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).

**Note:** Before reinstalling the ADF registration motor (A), place the registration main drive belt (C) on the registration main drive pulley 21/54T (D).

**Note:** Ensure that the registration main drive belt (C) is properly routed.

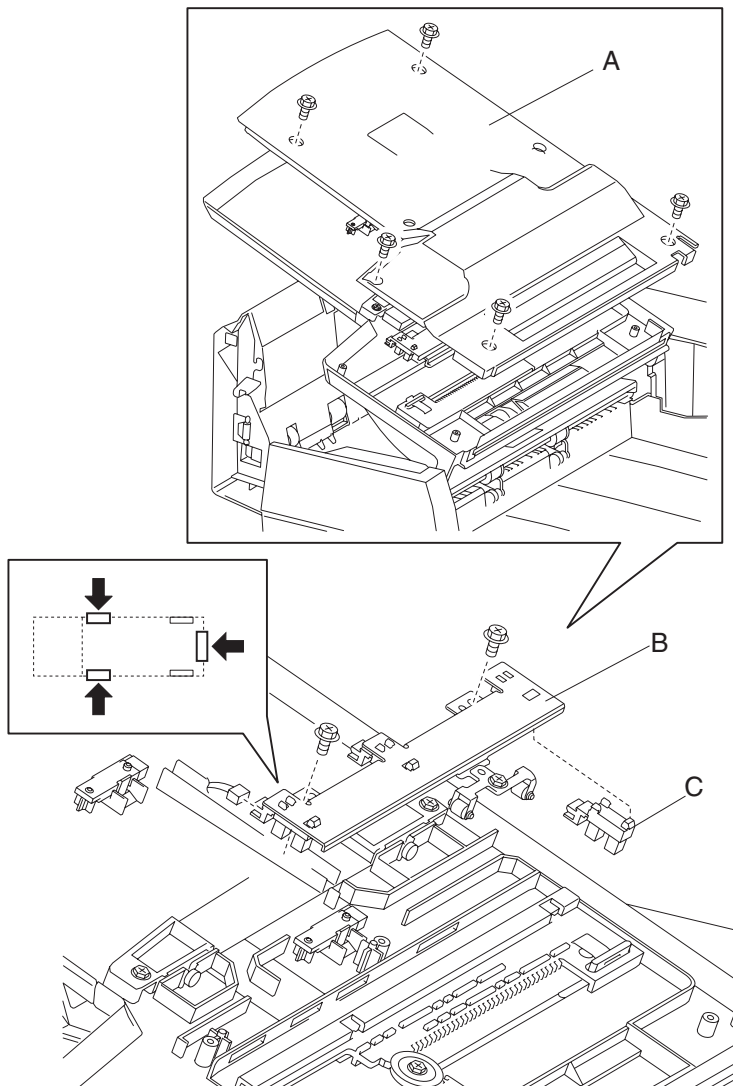
**Note:** To correctly set the registration main drive belt (C) tension, install the ADF registration motor (A) and the tension spring (B) before completely tightening the two screws.



## 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.

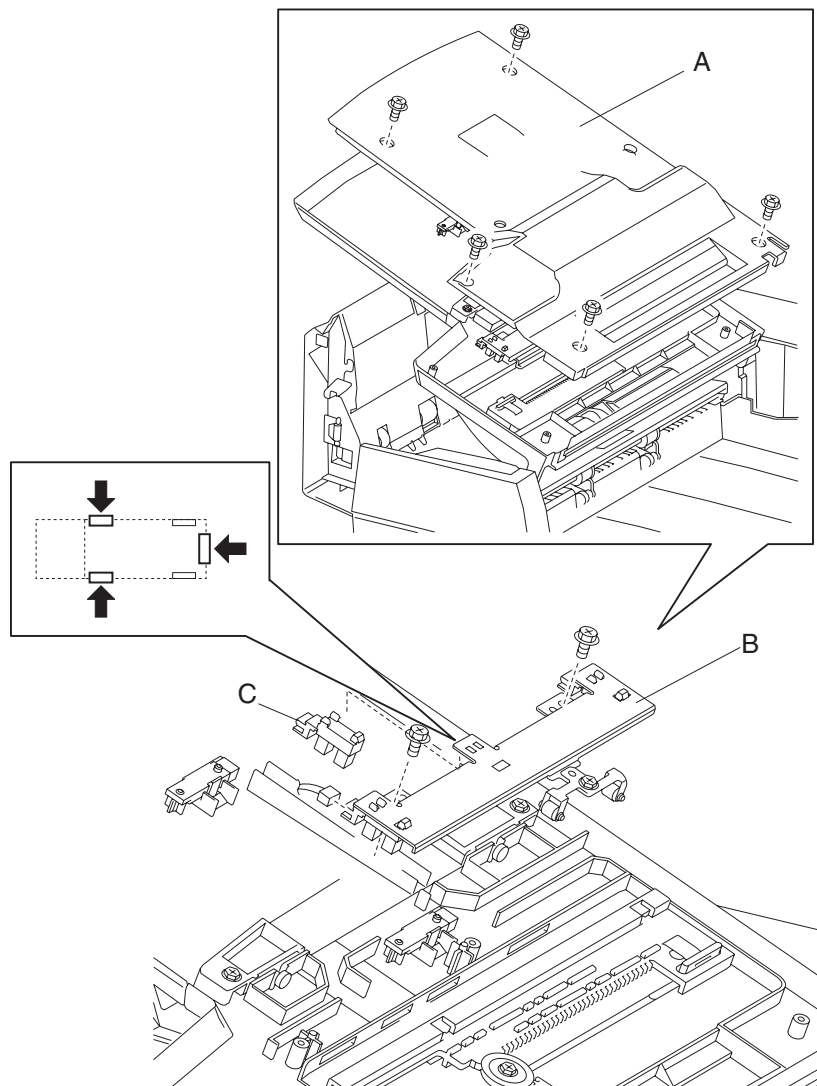




## Sensor (document tray width 2) removal

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).

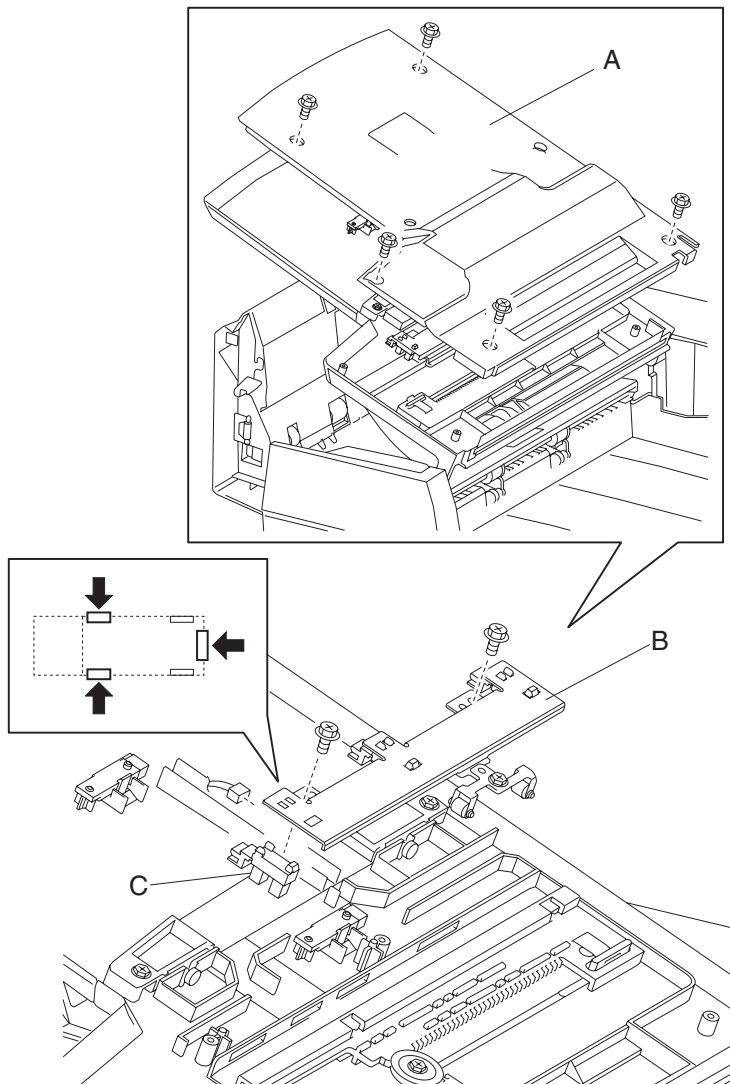
**Note:** The sensor (document tray width 1), sensor (document tray width 2), or the sensor (document tray width 3) are all identical.



## 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).

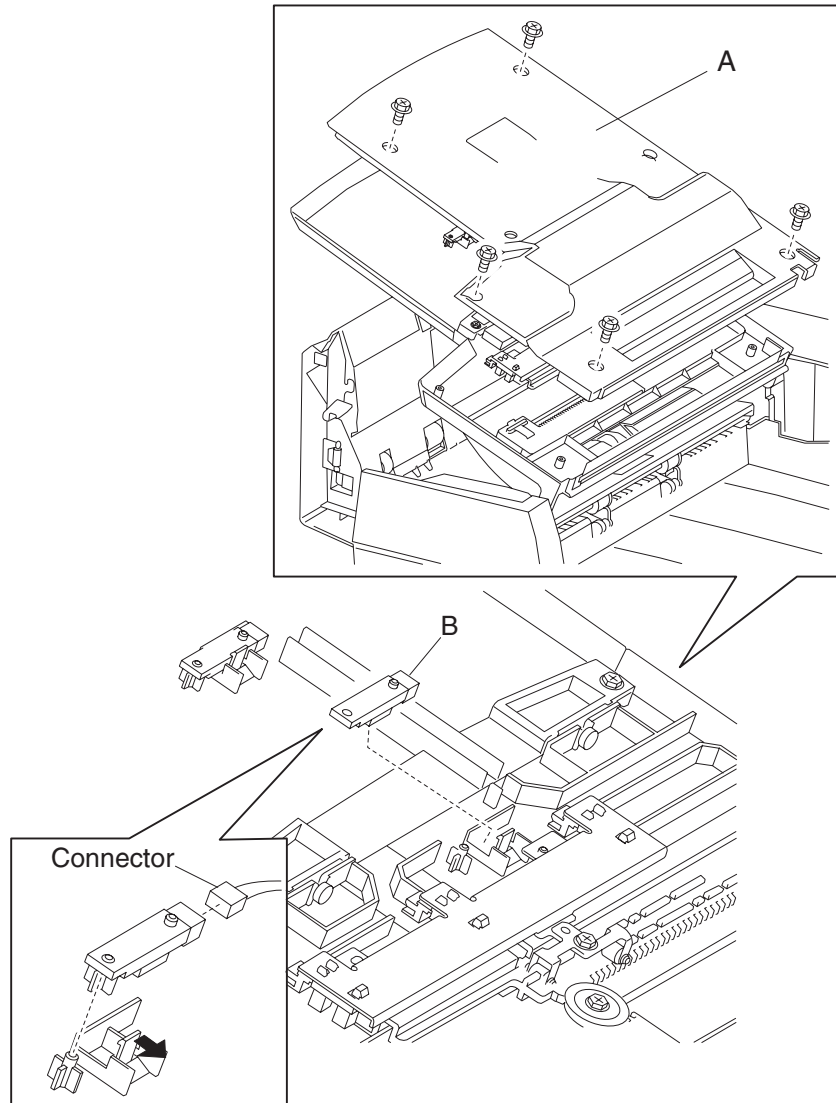
**Note:** The sensor (document tray width 1), sensor (document tray width 2), or the sensor (document tray width 3) are all identical.



## 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).

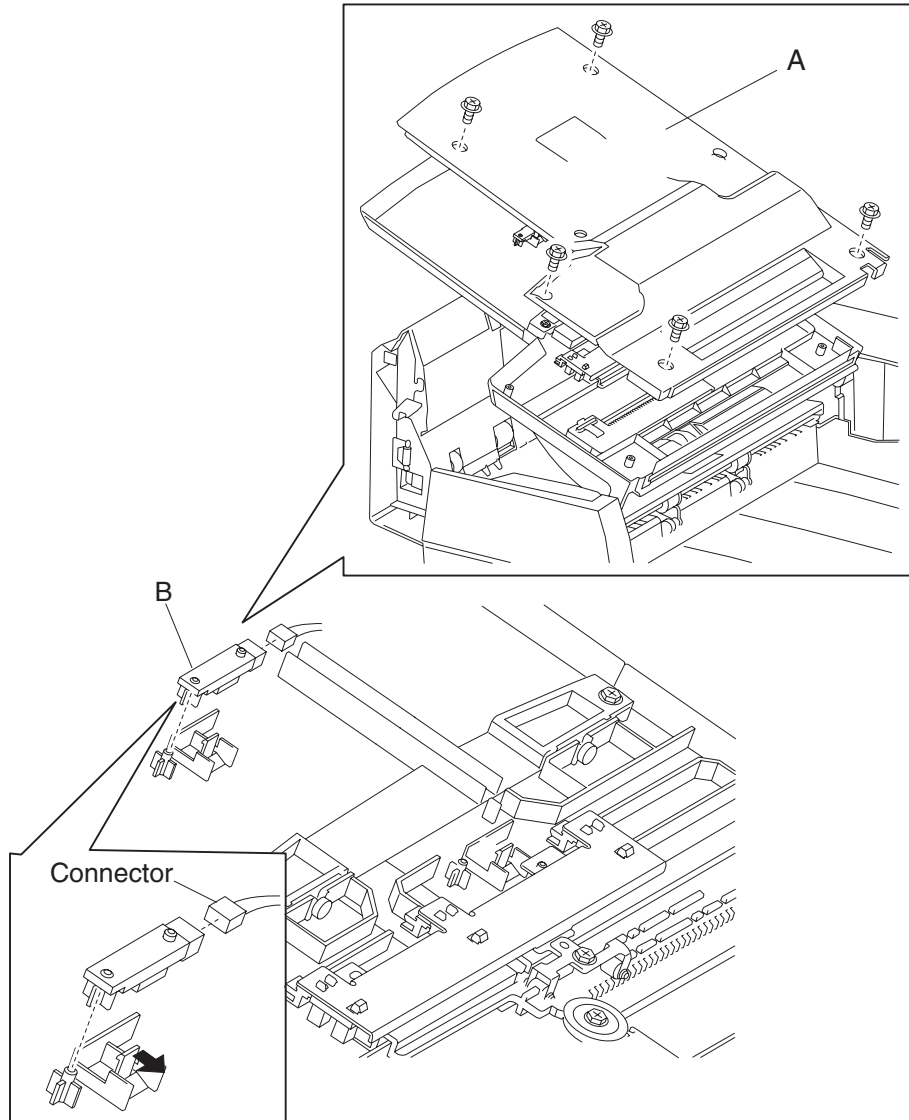
**Note:** The sensor (document tray length 1) and the sensor (document tray length 2) are identical.



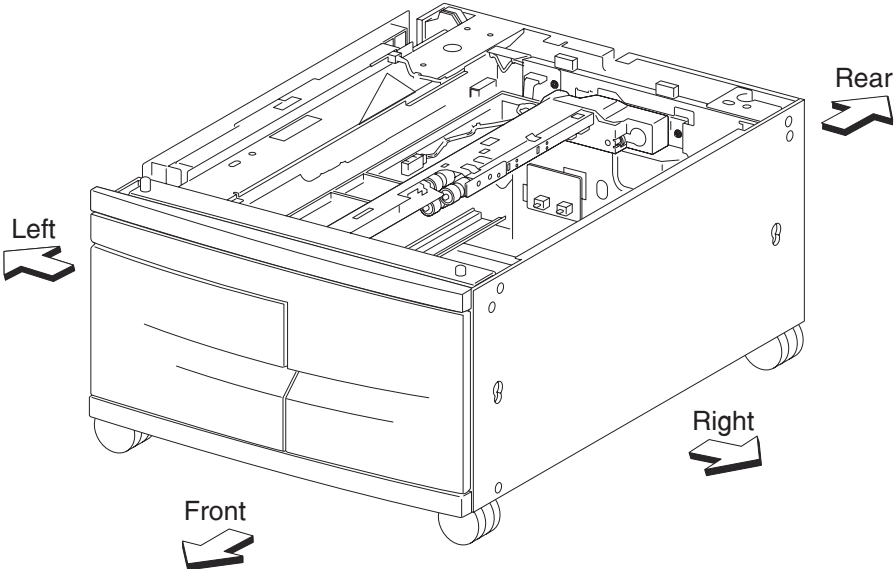
## Sensor (document tray length 2) removal

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.

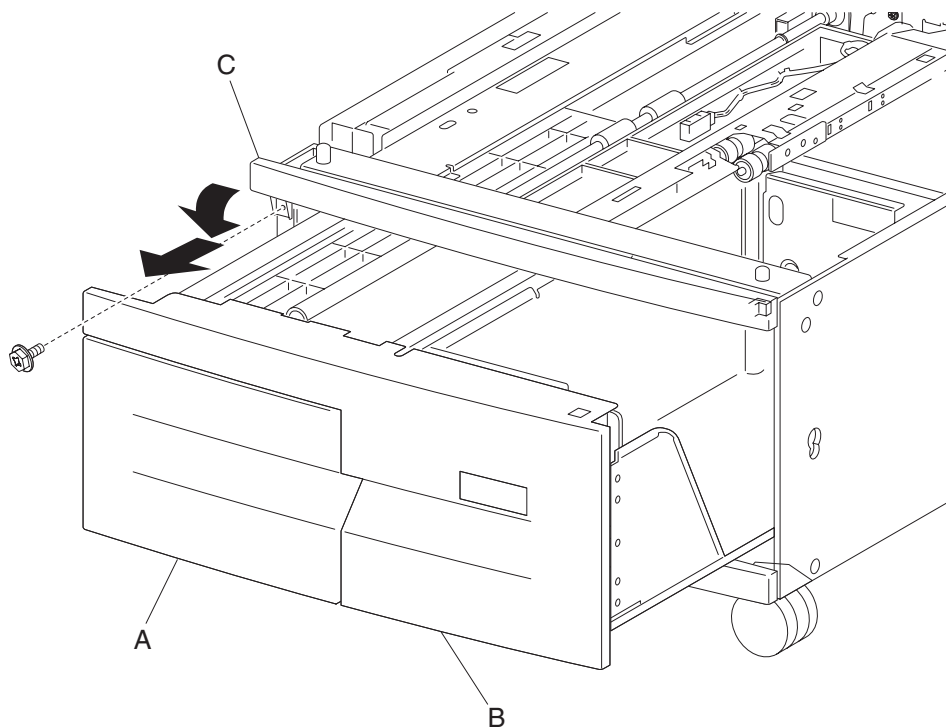


**2000-sheet dual input (TTM) removals**



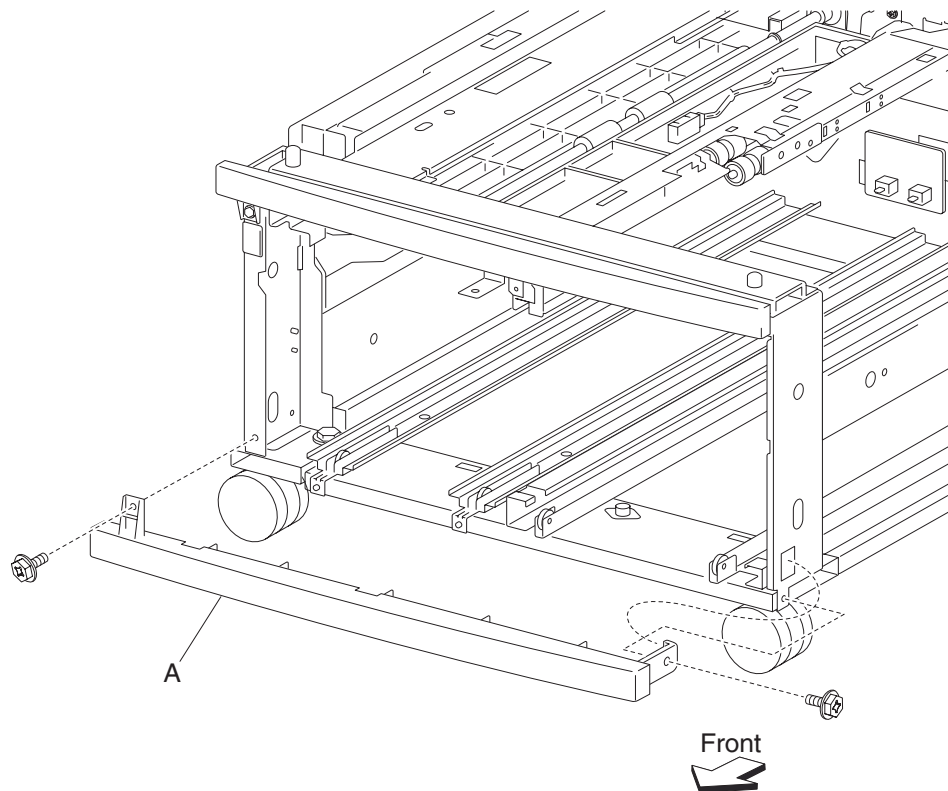
## 2000-sheet dual input (TTM)—top cover removal

1. Pull out tray 3 (A) and tray 4 (B).
2. Remove one screw securing the top cover (C).
3. Remove the top cover (C).



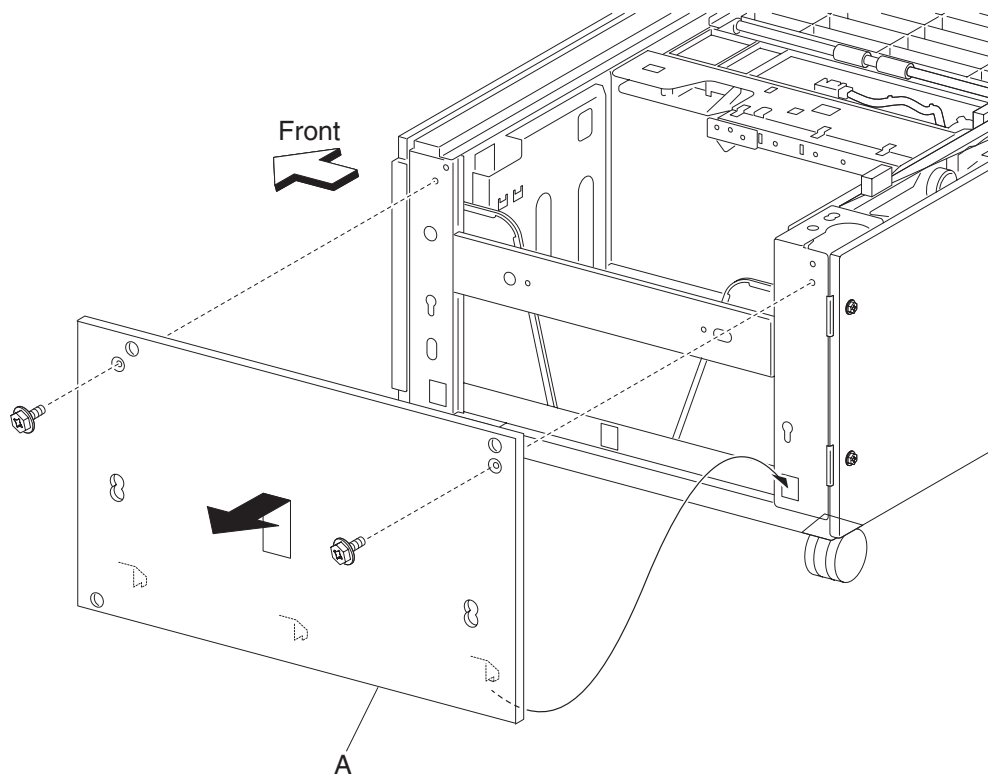
## 2000-sheet dual input (TTM)—foot cover removal

1. Remove tray 3 assembly. See “2000-sheet dual input (TTM)—tray 3 assembly removal” on page 4-217.
2. Remove tray 4 assembly. See “2000-sheet dual input (TTM)—tray 4 assembly removal” on page 4-216.
3. Remove the right cover. See “2000-sheet dual input (TTM)—right cover removal” on page 4-210.
4. Remove two screws securing the foot cover (A).
5. Remove the foot cover (A).



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

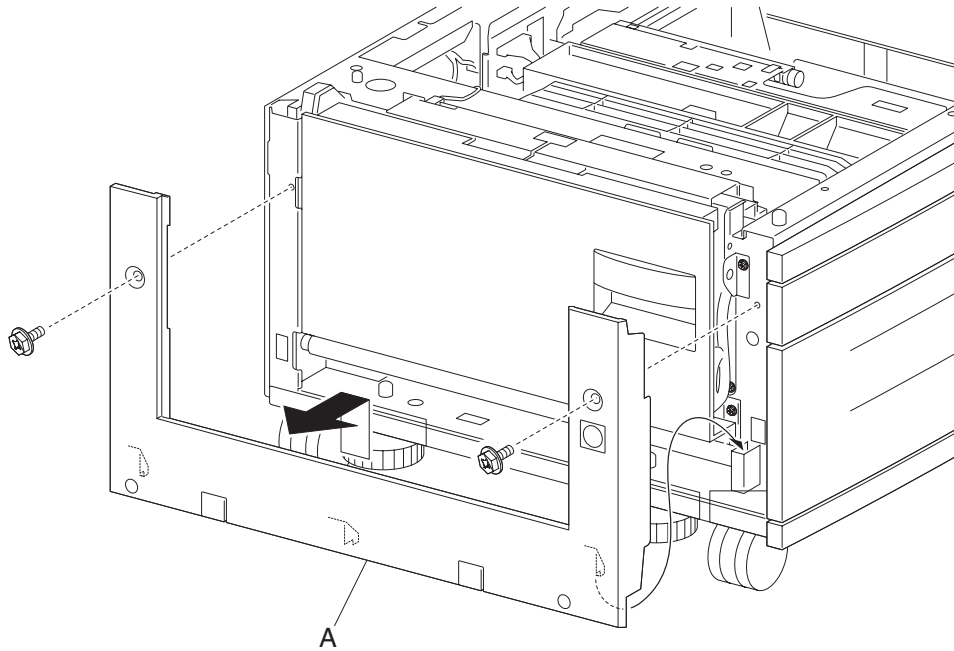
1. Remove two screws securing the right cover (A).
2. Remove the right cover (A) by lifting upward and outward in the direction of the arrow.





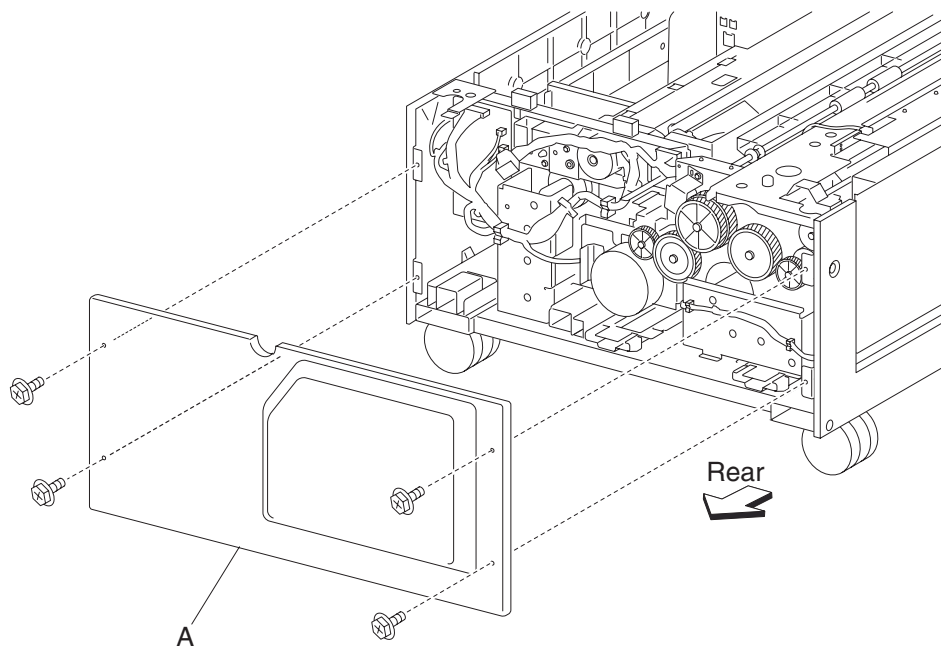
## 2000-sheet dual input (TTM)—left cover removal

1. Remove two screws securing the left cover (A).
2. Remove the left cover (A).



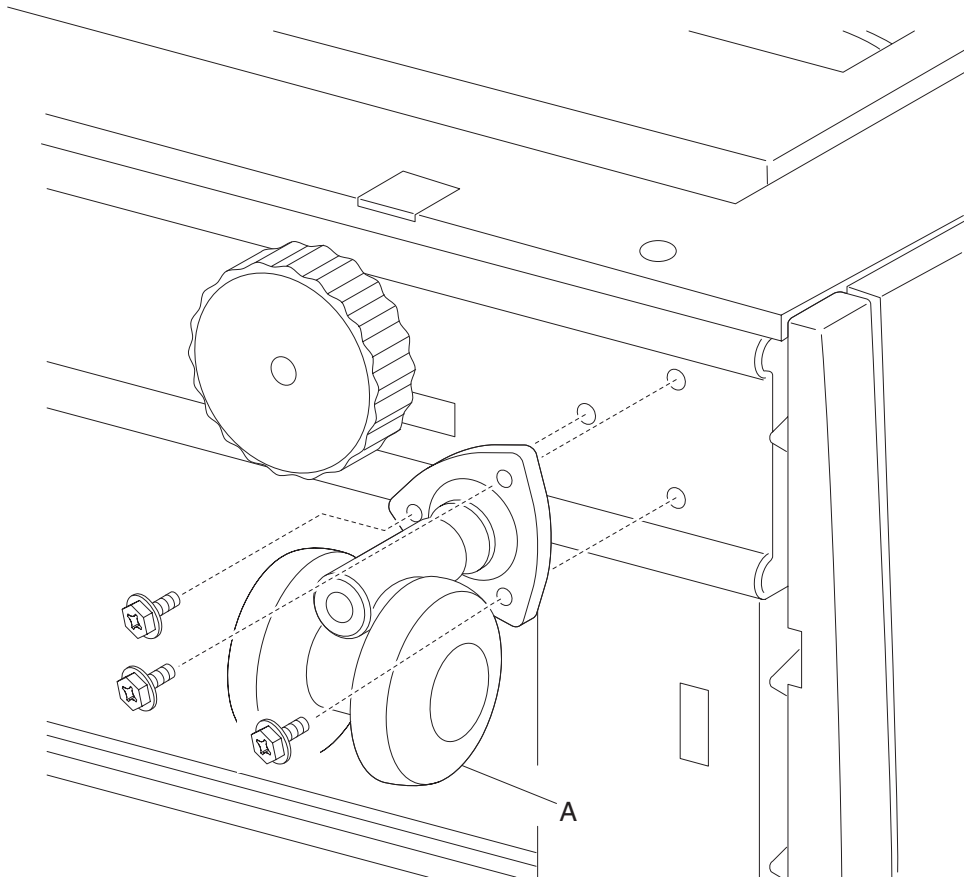
## 2000-sheet dual input (TTM)—rear cover removal

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



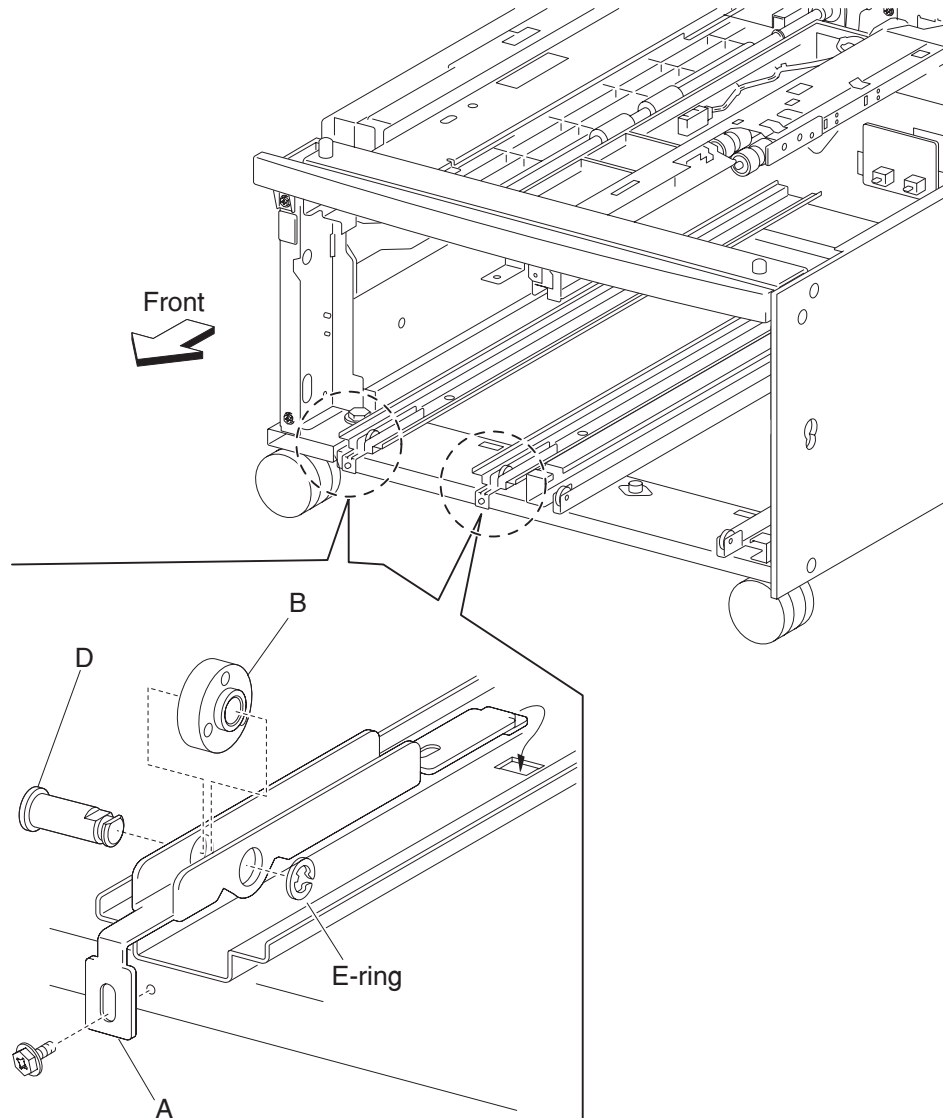
## 2000-sheet dual input (TTM)—caster removal

1. Remove tray 3 assembly. See “2000-sheet dual input (TTM)—tray 3 assembly removal” on page 4-217.
2. Remove tray 4 assembly. See “2000-sheet dual input (TTM)—tray 4 assembly removal” on page 4-216.
3. Place the right side down.
4. Remove three screws securing the caster (A).
5. Remove the caster (A).



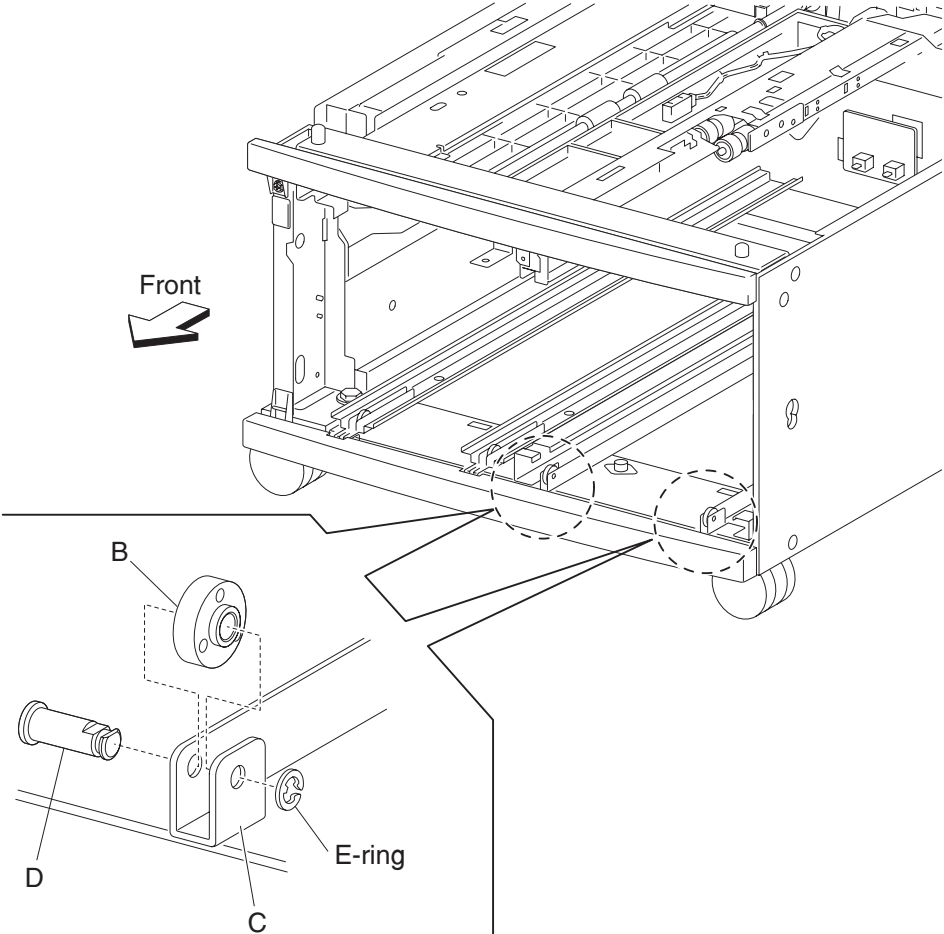
## 2000-sheet dual input (TTM)—tray support roll removal

1. Remove tray 3 assembly. See “2000-sheet dual input (TTM)—tray 3 assembly removal” on page 4-217.
2. Remove tray 4 assembly. See “2000-sheet dual input (TTM)—tray 4 assembly removal” on page 4-216.
3. Remove the foot cover. See “2000-sheet dual input (TTM)—foot cover removal” on page 4-209.
4. Remove two screws securing the two brackets (A).
5. Remove the two e-clips securing the tray support rolls (B) to the two brackets (A) using a prying tool.
6. Remove the two e-clips securing the tray support rolls (B) to the main frame.



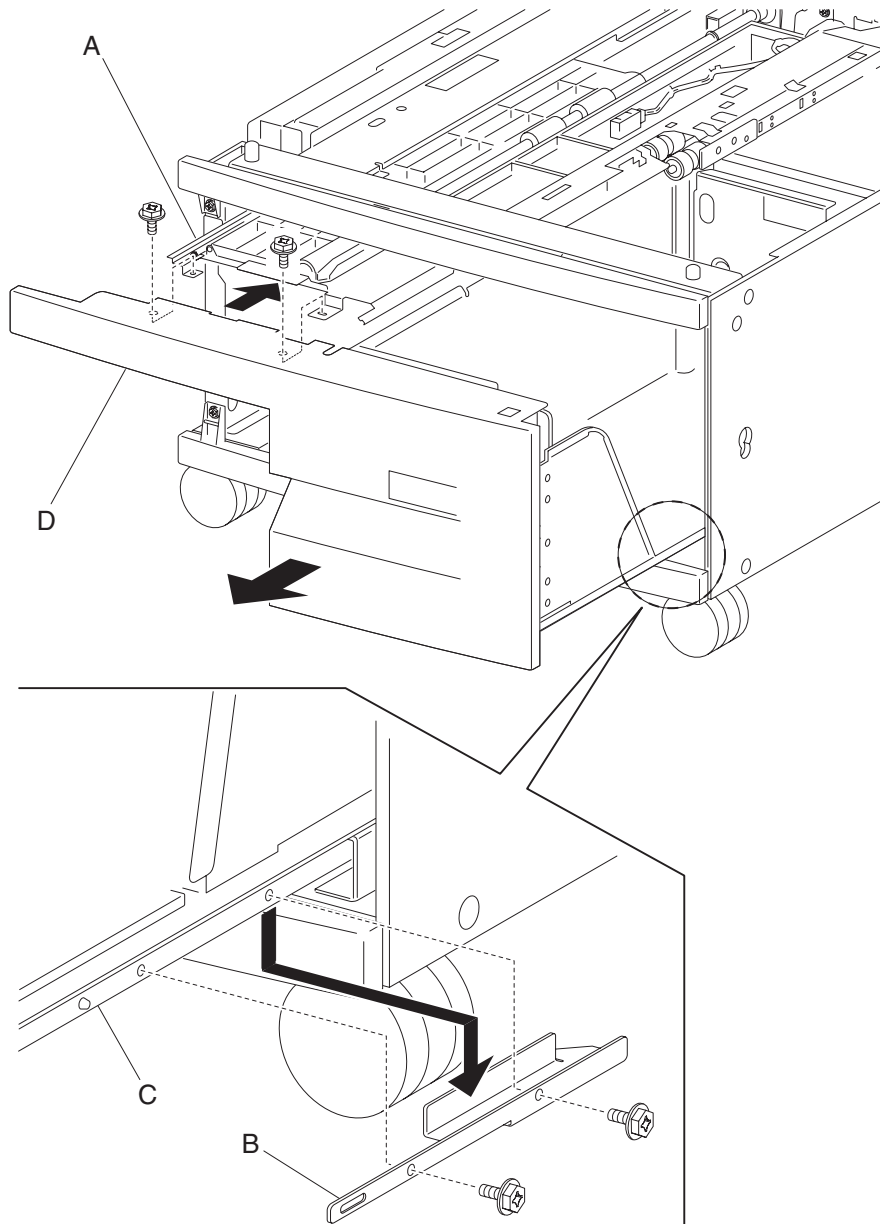
7. Remove the shafts (D).

8. Remove the tray support rolls (B).



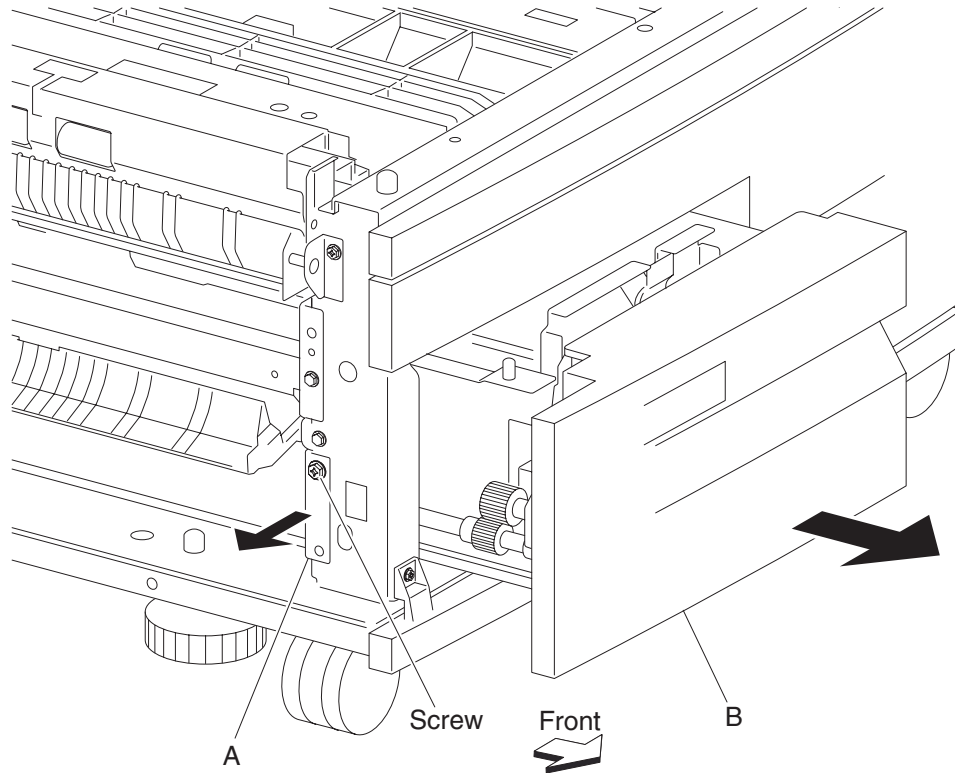
## 2000-sheet dual input (TTM)—tray 4 assembly removal

1. Pull out the tray 4 assembly.
2. Remove two screws securing the tray 4 transport assembly (A).
3. Push the tray 4 transport assembly (A) into the machine in the direction of the arrow.
4. Remove two screws securing the tray 4 stopper (B) to the lower part of tray 4 assembly (C).
5. Remove the tray 4 stopper (B).
6. Remove the tray 4 assembly (C).



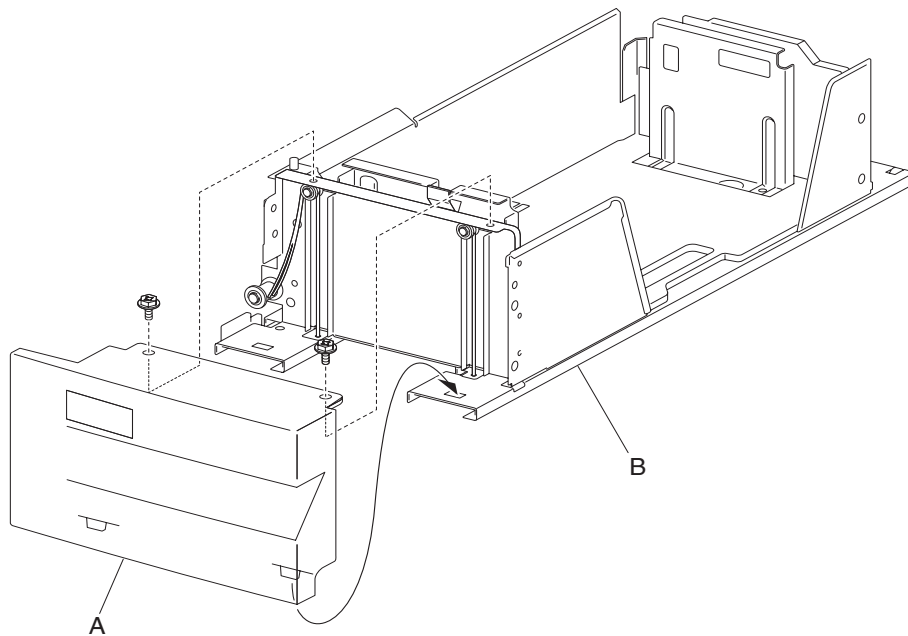
## 2000-sheet dual input (TTM)—tray 3 assembly removal

1. Remove the left cover. See **“2000-sheet dual input (TTM)—left cover removal”** on page 4-211.
2. Open the 2TM/TTM left door assembly.
3. Loosen the screw securing the tray 3 stopper (A).
4. Move the tray 3 stopper (A) outward in the direction of the arrow while pulling out the tray 3 assembly (B).
5. Remove the tray 3 assembly (B).



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

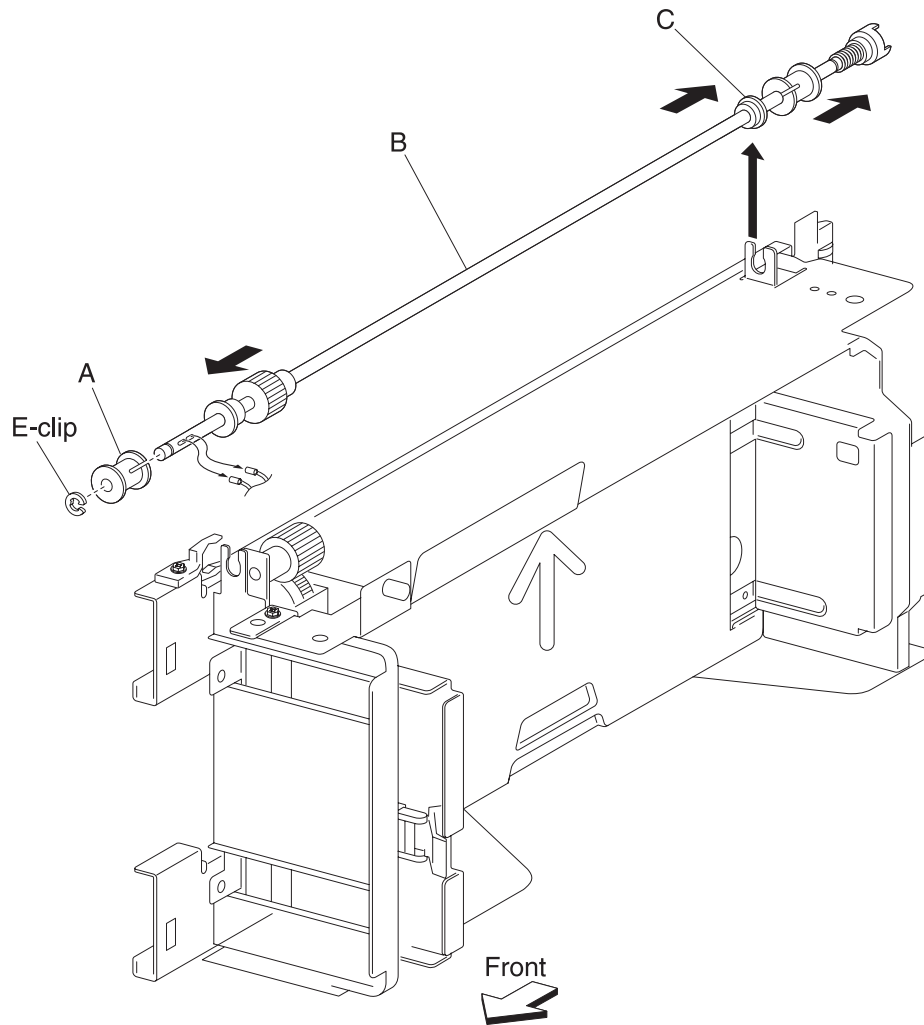
1. Pull out the tray 3 assembly.
2. Remove two screws securing the tray 3 front cover (A) to tray 3 assembly (B).
3. Remove the tray 3 front cover (A).



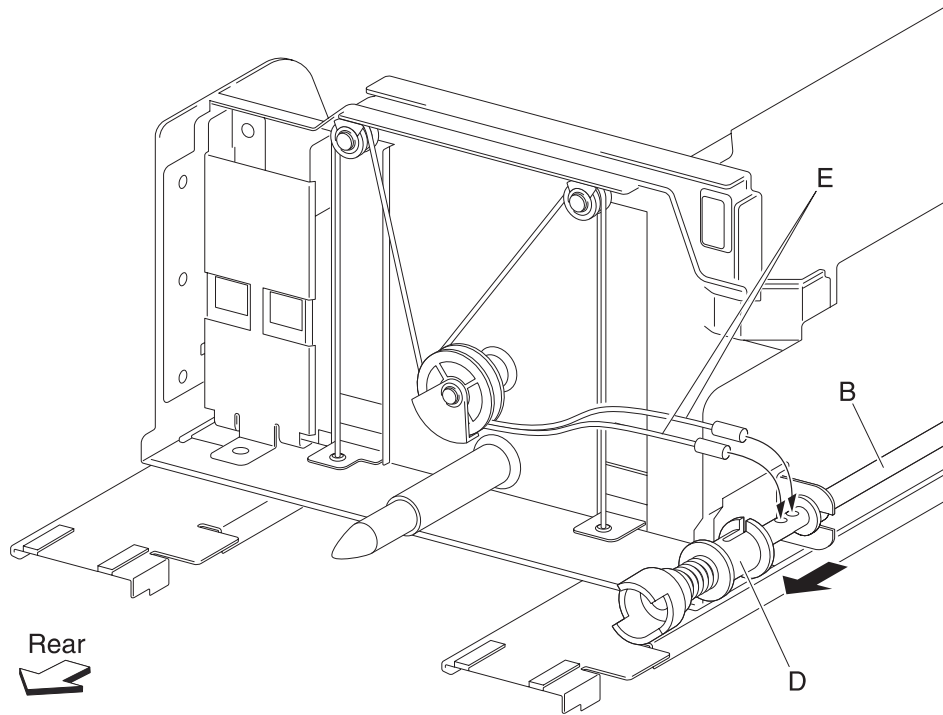


## 2000-sheet dual input (TTM)—tray 3 rear cable assembly removal

1. Remove the left cover. See “2000-sheet dual input (TTM)—left cover removal” on page 4-211.
  2. Remove the tray 3 assembly. See “2000-sheet dual input (TTM)—tray 3 assembly removal” on page 4-217.
  3. Remove the tray 3 front cover. See “2000-sheet dual input (TTM)—tray 3 front cover removal” on page 4-218.
  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.

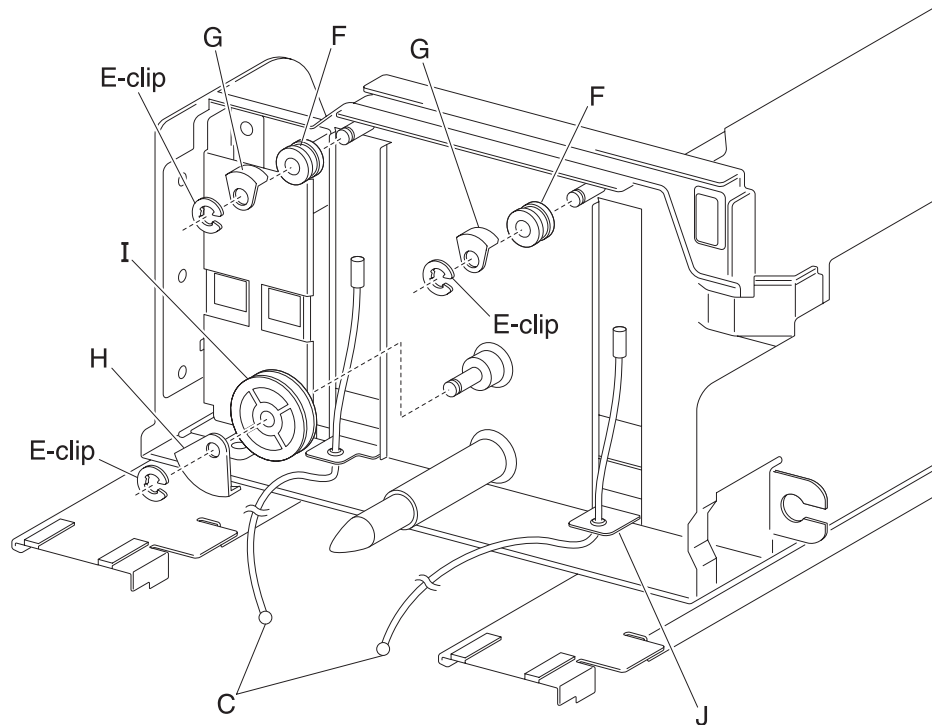


7. Move the rear lift cable pulley (D) toward the rear of the tray to release the two tray 3 rear cables (E) from the tray lift shaft assembly (B).



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).



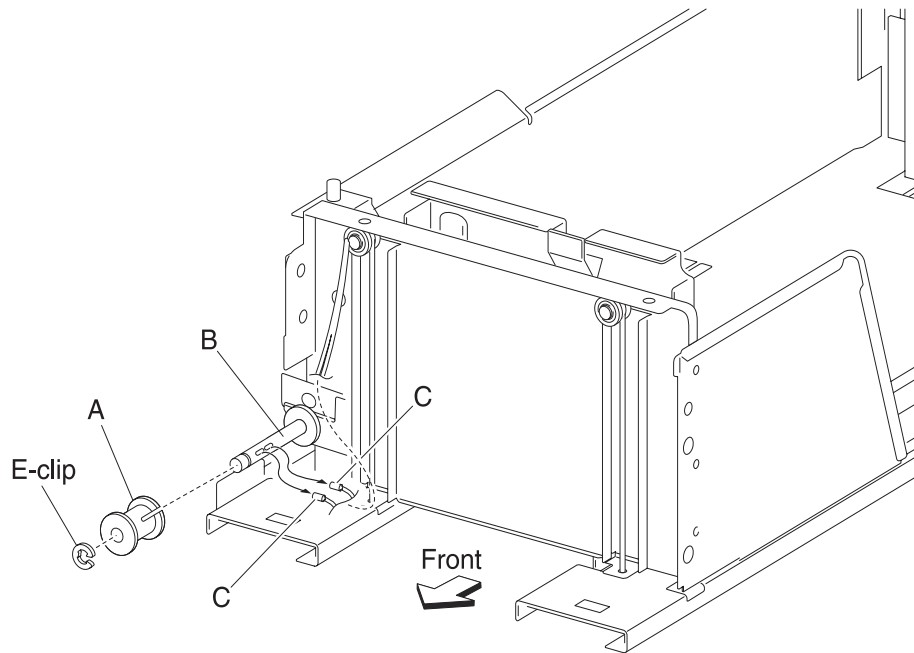
**Note:** Before re-installing:

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

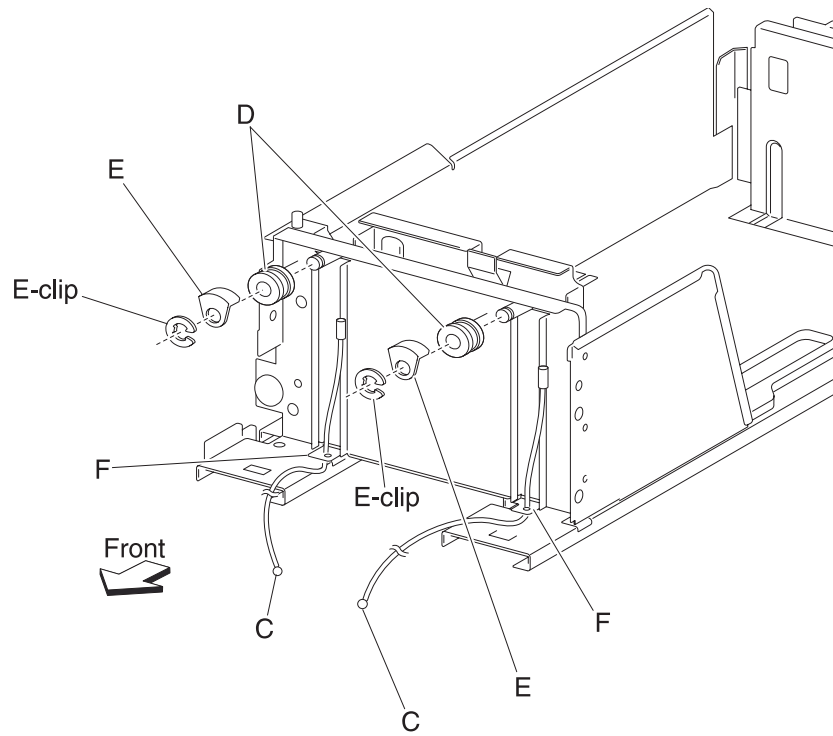
Replace the cables by setting the frame assembly on its side as shown in the figure.

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

1. Remove the left cover. See “2000-sheet dual input (TTM)—left cover removal” on page 4-211.
2. Remove the tray 3 assembly. See “2000-sheet dual input (TTM)—tray 3 assembly removal” on page 4-217.
3. Remove the tray 3 front cover. See “2000-sheet dual input (TTM)—tray 3 front cover removal” on page 4-218.
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).



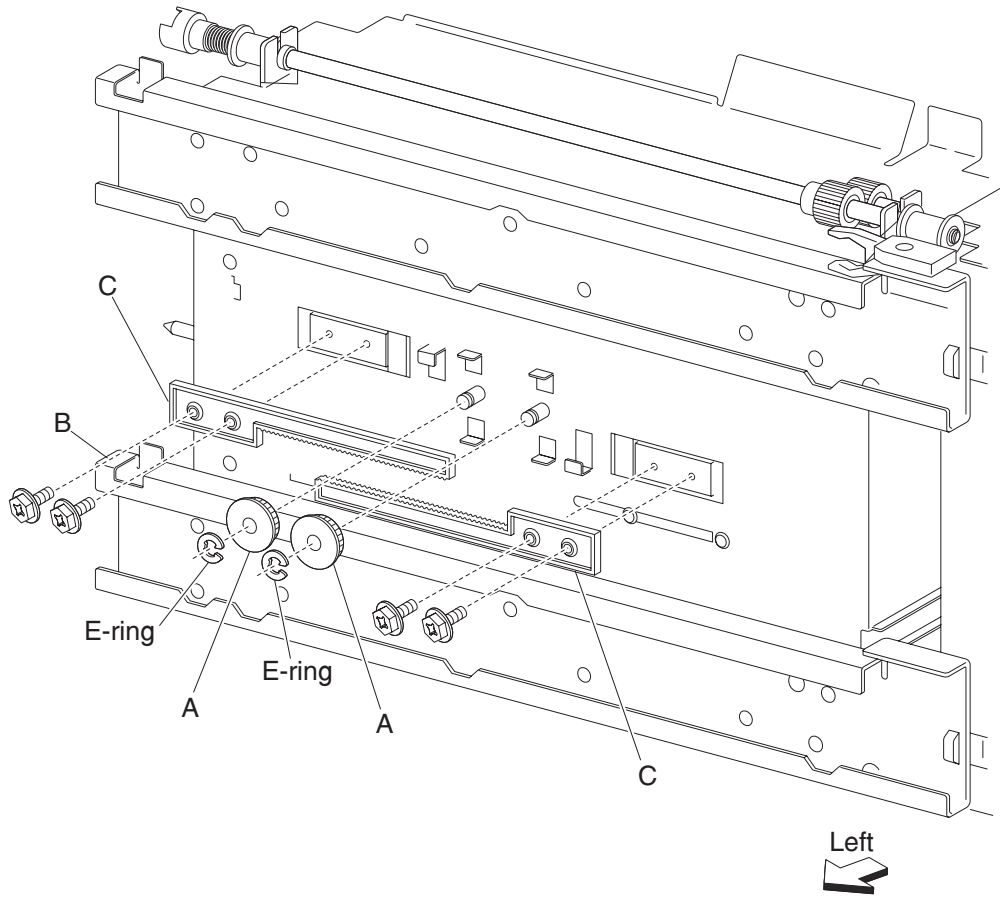
**Note:** Before re-installing:

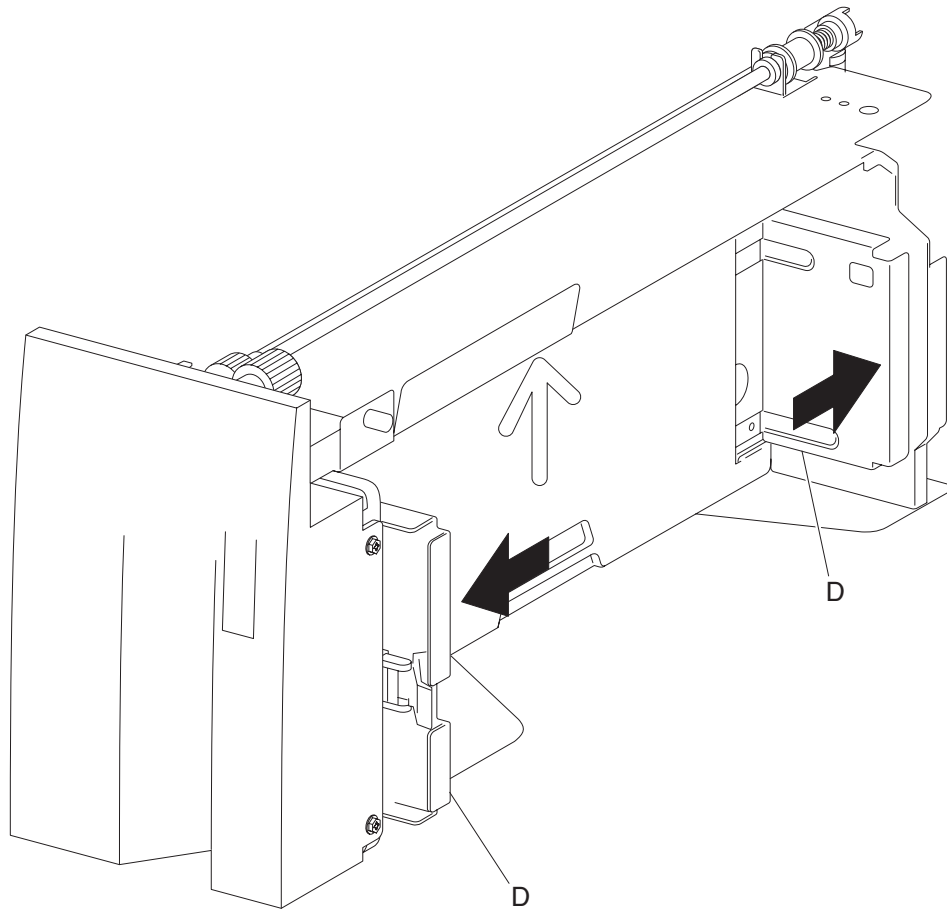
- It is recommended that all four cables be replaced.
- Ensure tray 3 front cables (C) are not twisted or kinked.
- Route the cables properly as shown in the figure.
- Replace the cables by setting the frame assembly (B) on its side as shown in the figure.

### 2000-sheet dual input (TTM)—media guide rack and pinion removal

1. Remove the tray 3 assembly. See **“2000-sheet dual input (TTM)—tray 3 assembly removal” on page 4-217.**
2. Place the tray 3 assembly on its right side.
3. Remove two e-clips securing the two pinion gears (A) to the frame assembly (B).
4. Remove the two pinion gears (A).
5. Remove the four screws securing the two rack gears (C) to the frame assembly (B).

6. Remove the rack gears (C).



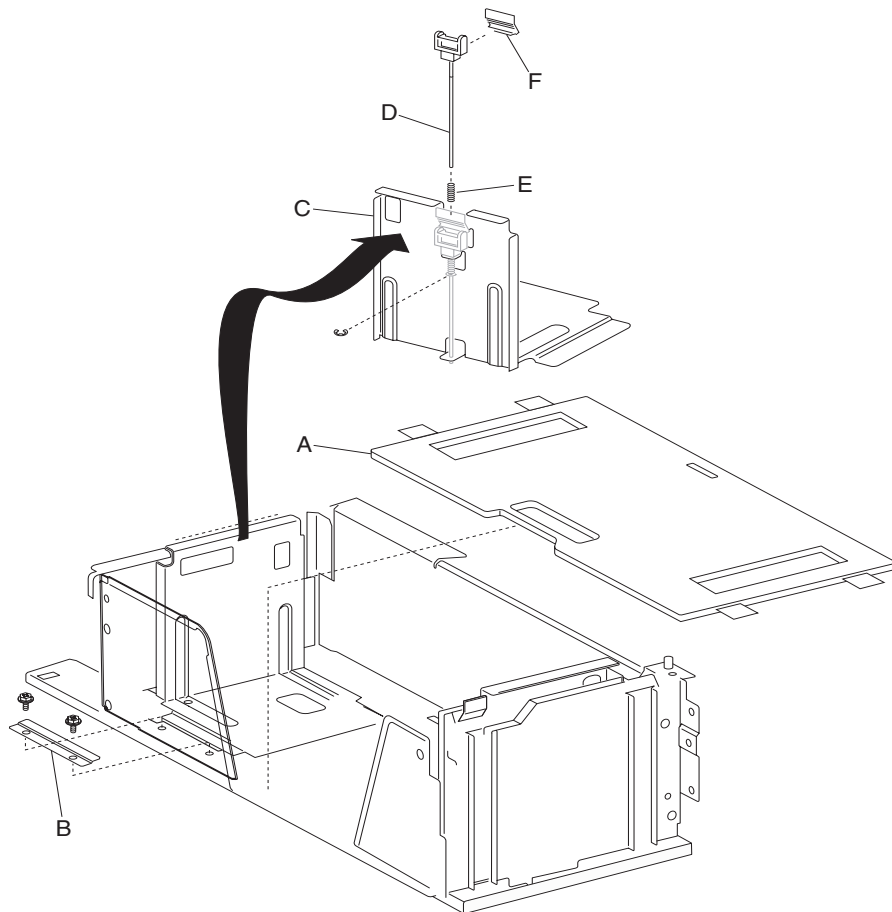


**Note:** Before re-installing, move the two side guides (D) of the frame assembly (B) fully outward before installing the two pinion gears (A).

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

1. Remove the tray 3 assembly. See “2000-sheet dual input (TTM)—tray 3 assembly removal” on page 4-217.
2. Remove the tray 3 front cover. See “2000-sheet dual input (TTM)—tray 3 front cover removal” on page 4-218.
3. Remove the tray 3 rear cable assembly. See “2000-sheet dual input (TTM)—tray 3 rear cable assembly removal” on page 4-219.
4. Remove the tray 3 front cable assembly. See “2000-sheet dual input (TTM)—tray 3 front cable assembly removal” on page 4-222.
5. Remove the media guide rack and pinion. See “2000-sheet dual input (TTM)—media guide rack and pinion removal” on page 4-223.
6. Move both media guides fully inward.
7. Lift the front edge of the bottom plate from the tray.
8. Remove the bottom plate (A) from the tray.
9. Remove the two screws securing the bracket (B) to the tray.
10. Remove the front media guide (C).
11. Remove the e-clip securing the tray 3 media guide lock (D) to the front media guide (C).
12. Remove the tray 3 media guide lock (D).
13. Remove the spring (E).
14. Remove the tray 3 media guide lock button (F) from the tray 3 media guide lock (D).

**Note:** Before re-installing, ensure the tray 3 media guide lock (D) and the tray 3 media guide lock button (F) are properly installed as shown in the figure.

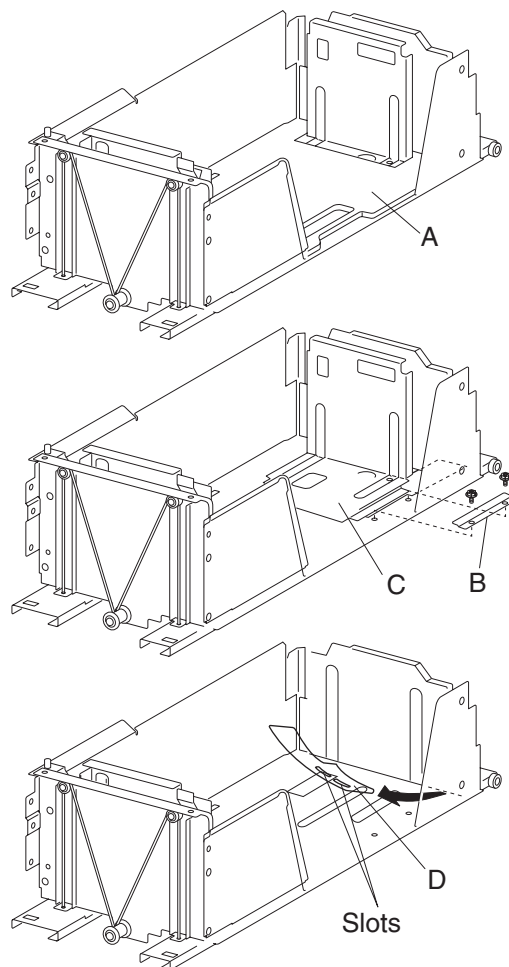




## 2000-sheet dual input (TTM)—tray 3 mylar actuator removal

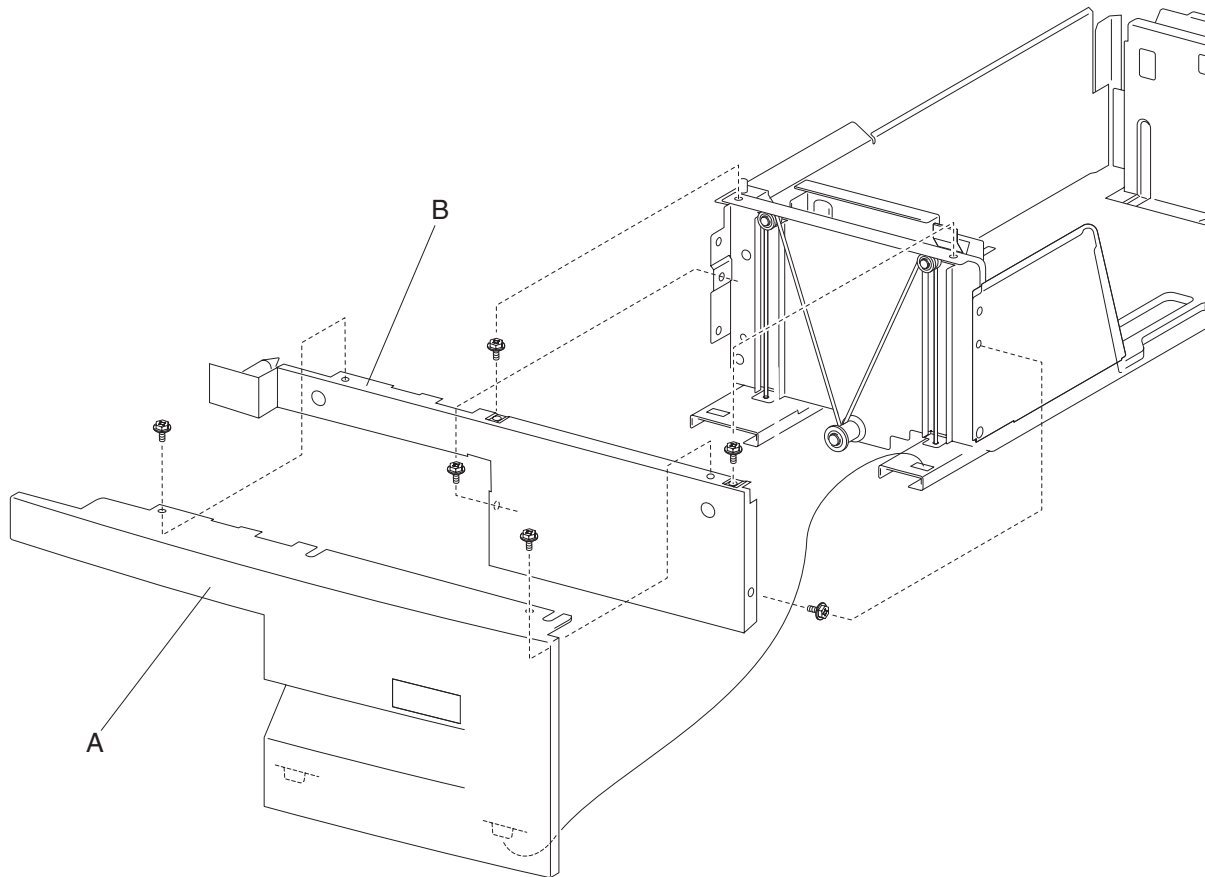
1. Remove the tray 3 assembly. See “2000-sheet dual input (TTM)—tray 3 assembly removal” on page 4-217.
2. Remove the tray 3 front cover. See “2000-sheet dual input (TTM)—tray 3 front cover removal” on page 4-218.
3. Remove the tray 3 rear cable assembly. See “2000-sheet dual input (TTM)—tray 3 rear cable assembly removal” on page 4-219.
4. Remove the tray 3 front cable assembly. See “2000-sheet dual input (TTM)—tray 3 front cable assembly removal” on page 4-222.
5. Remove the media guide rack and pinion. See “2000-sheet dual input (TTM)—media guide rack and pinion removal” on page 4-223.
6. Move both media guides fully inward.
7. Lift the front edge of the bottom plate (A) from the tray.
8. Remove the bottom plate (A) from the tray.
9. Remove the two screws securing the bracket (B) to the tray.
10. Remove the rear media guide (C).
11. Remove the mylar actuator (D) by sliding it out of the tray in the direction of the arrow.

**Note:** Before re-installing, ensure the bosses on the rear media guide (C) are fitted into the slots on the mylar actuator (D) as shown in the figure.



## 2000-sheet dual input (TTM)—tray 4 front cover removal

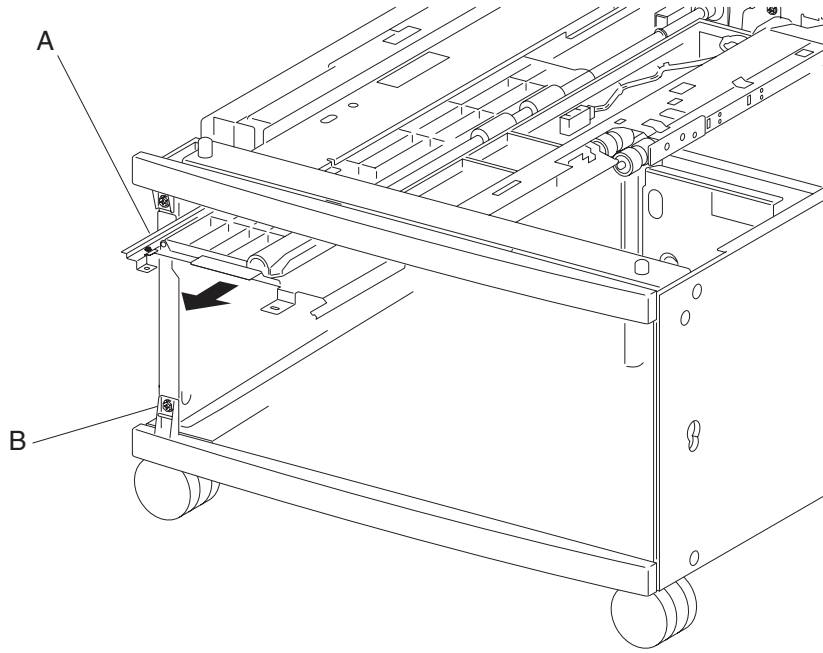
1. Remove the tray 4 assembly. See **“2000-sheet dual input (TTM)—tray 4 assembly removal” on page 4-216.**
2. Remove two screws securing the tray 4 front cover (A).
3. Remove the tray 4 front cover (A) by moving it upward in the direction of the arrow.
4. Remove the four screws securing the bracket (B) to the tray.
5. Remove the bracket (B).



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

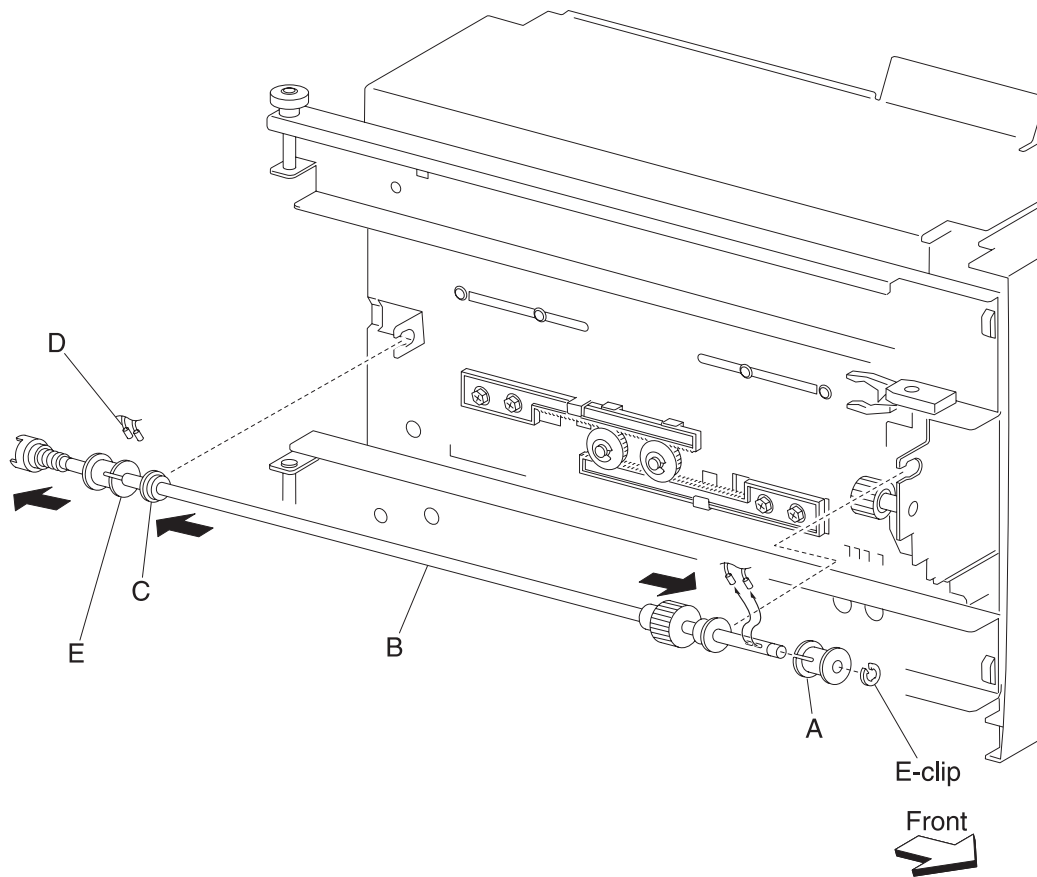
1. Remove the tray 4 assembly. See [“2000-sheet dual input \(TTM\)—tray 4 assembly removal” on page 4-216](#).
2. Remove the tray 4 transport assembly (A).

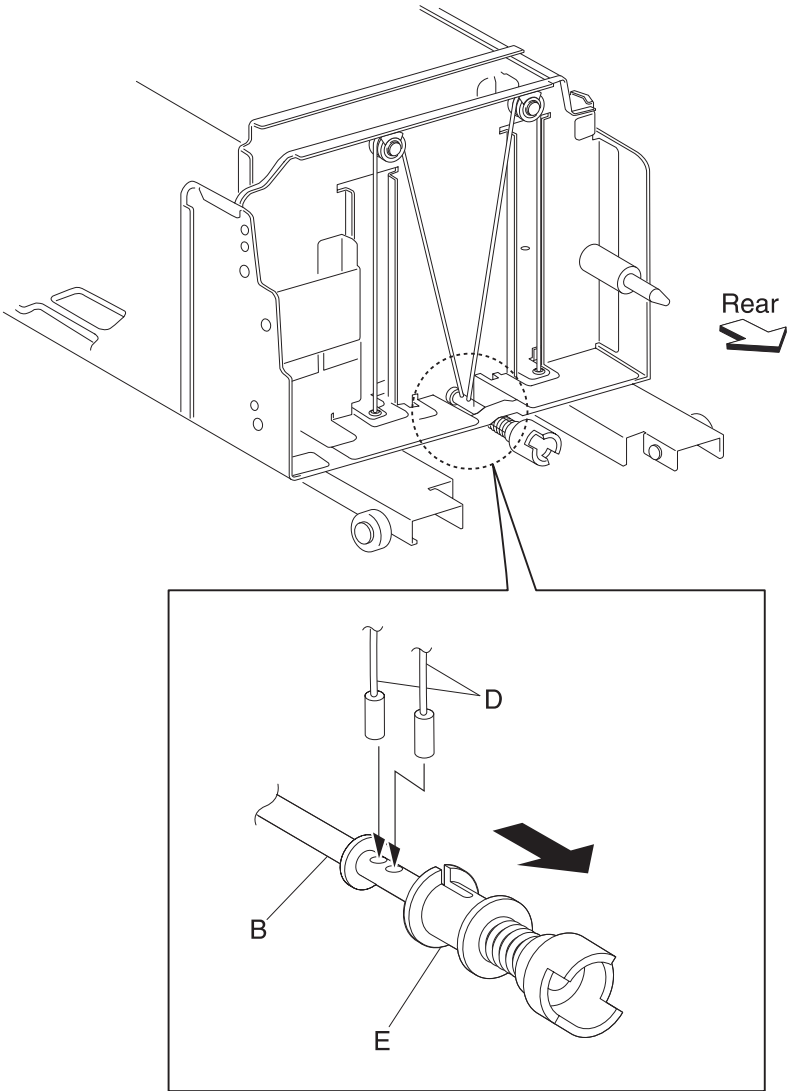
**Note:** Before re-installing, insert the tray 4 transport assembly (A) into the rails of the frame assembly (B).



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

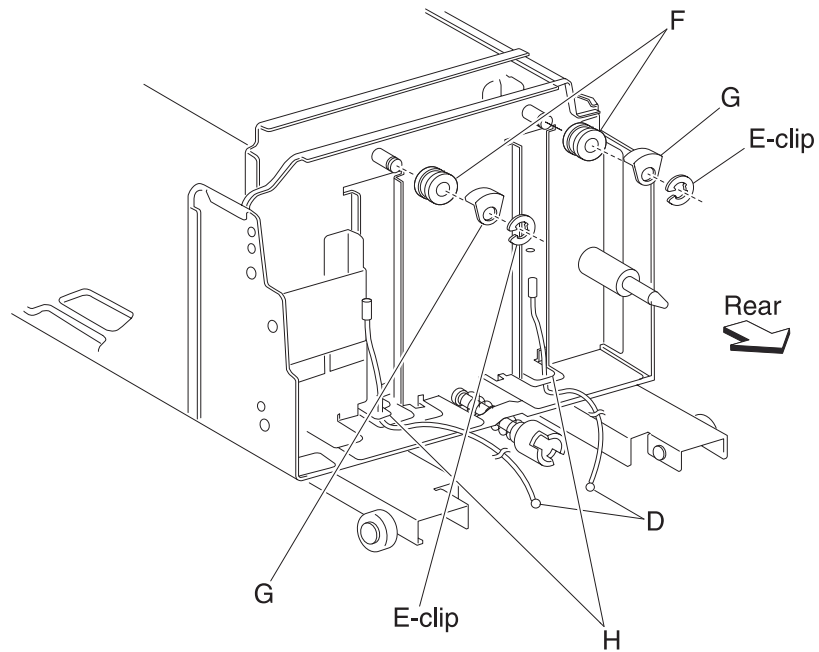
1. Remove the tray 4 assembly. See “2000-sheet dual input (TTM)—tray 4 assembly removal” on page 4-216.
2. Remove the tray 4 front cover. See “2000-sheet dual input (TTM)—tray 4 front cover removal” on page 4-228.
3. Place the tray 4 assembly on its right side as shown in the figure.
4. Remove the E-clip 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 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).

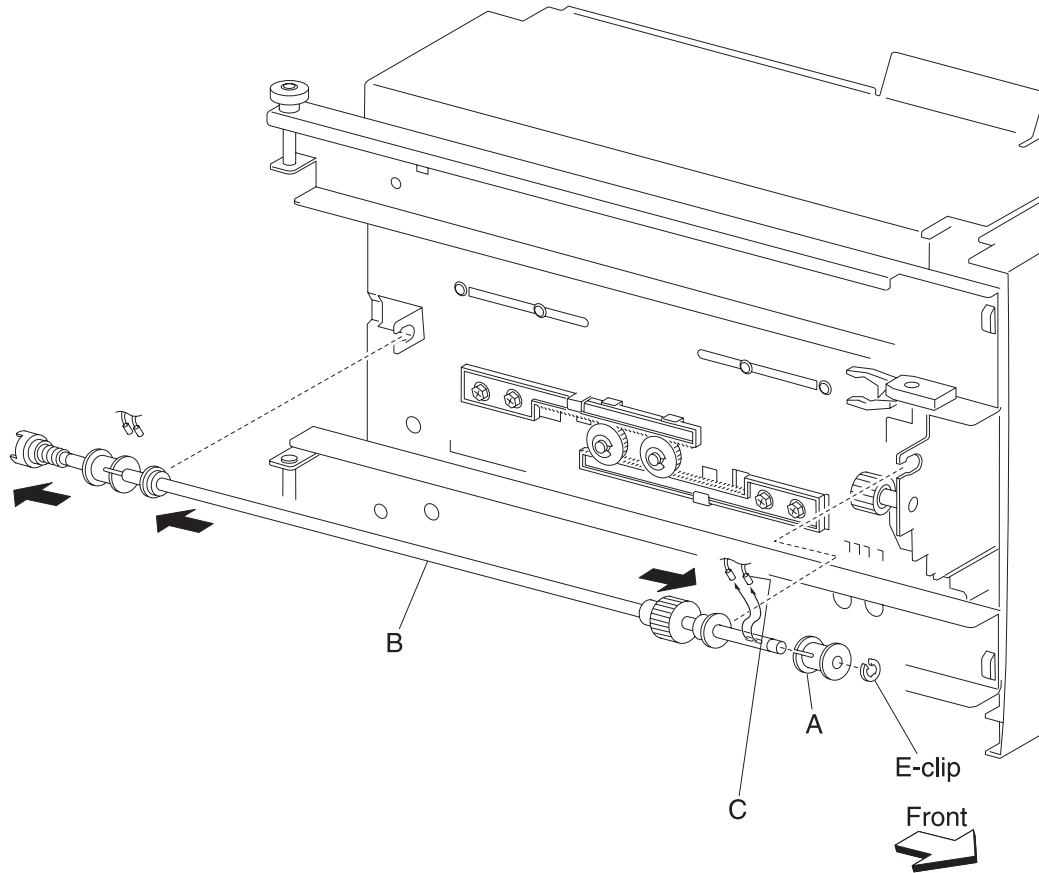


**Note:** Before re-installing:

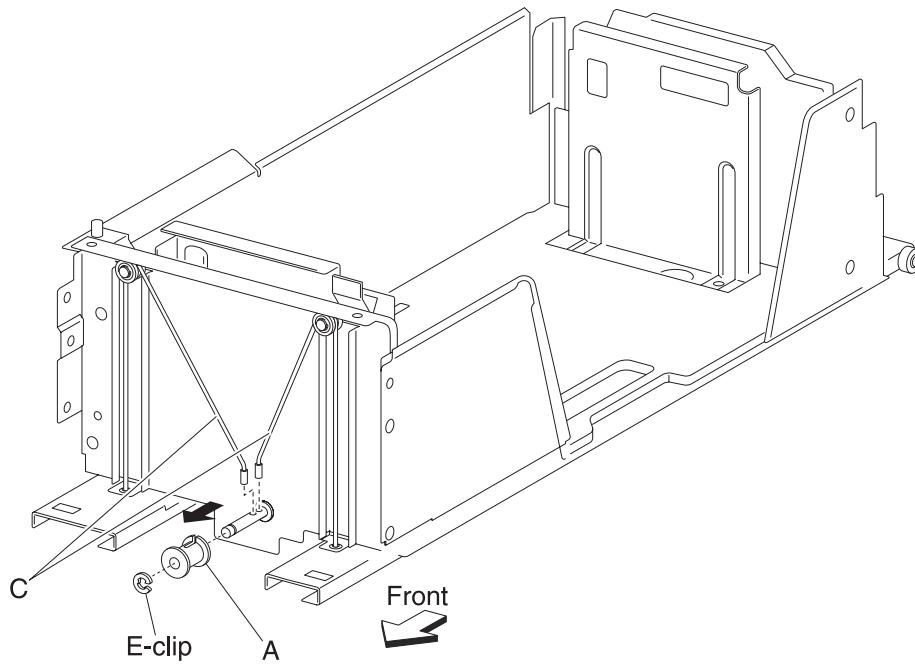
- It is recommended that all four cables be replaced.
- Ensure tray 4 rear cables (D) are not twisted or kinked.
- Route the cables properly as shown in the figure.
- Replace the cables by setting the frame assembly on its side as shown in the figure.

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

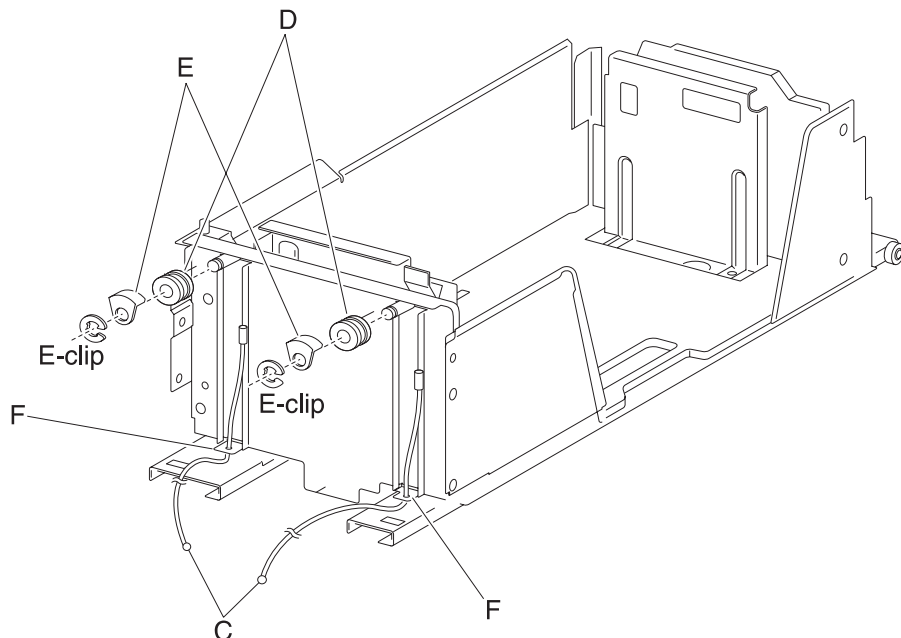
1. Remove the tray 4 assembly. See “2000-sheet dual input (TTM)—tray 4 assembly removal” on page 4-216.
  2. Remove the tray 4 front cover. See “2000-sheet dual input (TTM)—tray 4 front cover removal” on page 4-228.
  3. Place the tray 4 assembly on its right side, as shown in the figure.
  4. Remove the E-clip with a prying tool securing the front tray lift pulley (A) to the tray lift shaft assembly (B).
  5. Remove the front tray lift pulley (A).
  6. Remove the tray 4 front cables (C) from the tray lift shaft assembly (B).
- Note:** The tray 4 front cables (C) become detached.



7. Place the tray 4 assembly back in its upright position.



8. Remove two E-clips with a prying tool securing the two small pulleys (D) on the front of the frame assembly.
9. Remove the two small guides (E) and the two small pulleys (D).
10. Remove the tray 4 front cables (C) from the bottom plates (F).



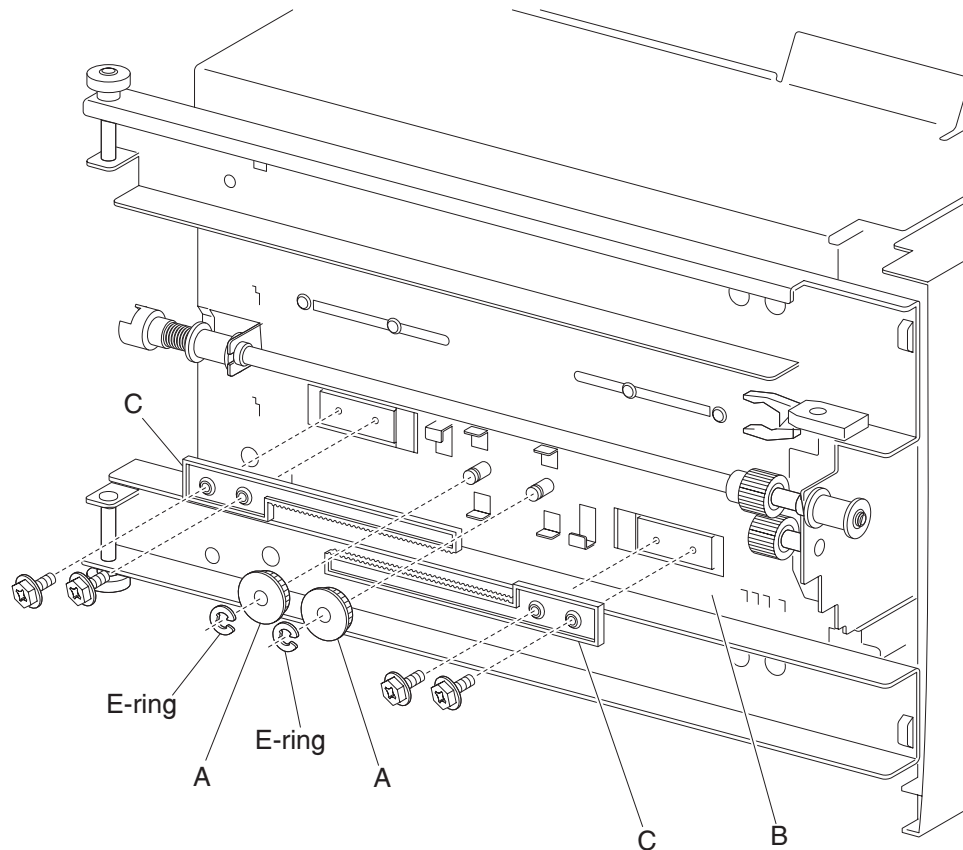
**Note:** Before re-installing:

- 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.



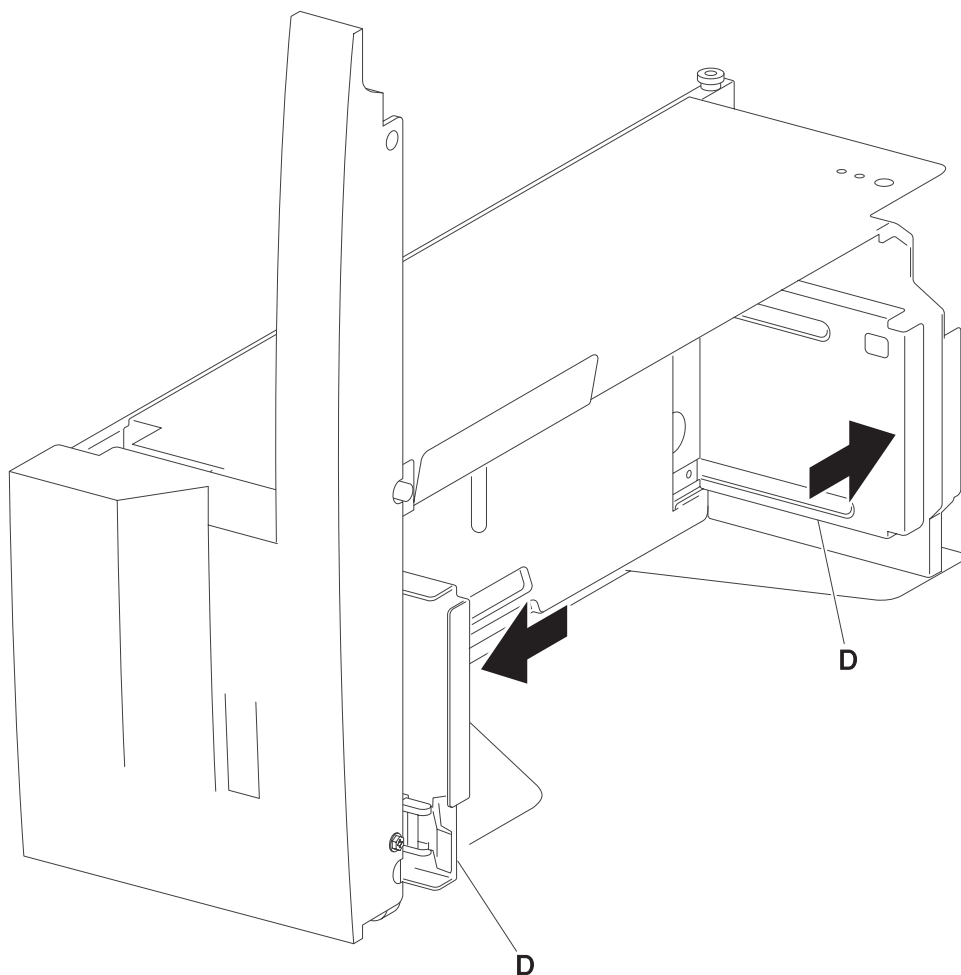
## 2000-sheet dual input (TTM)—tray 4 media guide rack and pinion removal

1. Remove the tray 4 assembly. See **“2000-sheet dual input (TTM)—tray 4 assembly removal”** on **page 4-216**.
2. Place the tray 4 assembly on its right side, as shown in the figure.
3. Remove two e-clips securing the two pinion gears (A) to the frame assembly (B).
4. Remove two pinion gears (A).



5. Remove four screws securing the two rack gears (C) to the frame assembly (B).

6. Remove the rack gears (C).

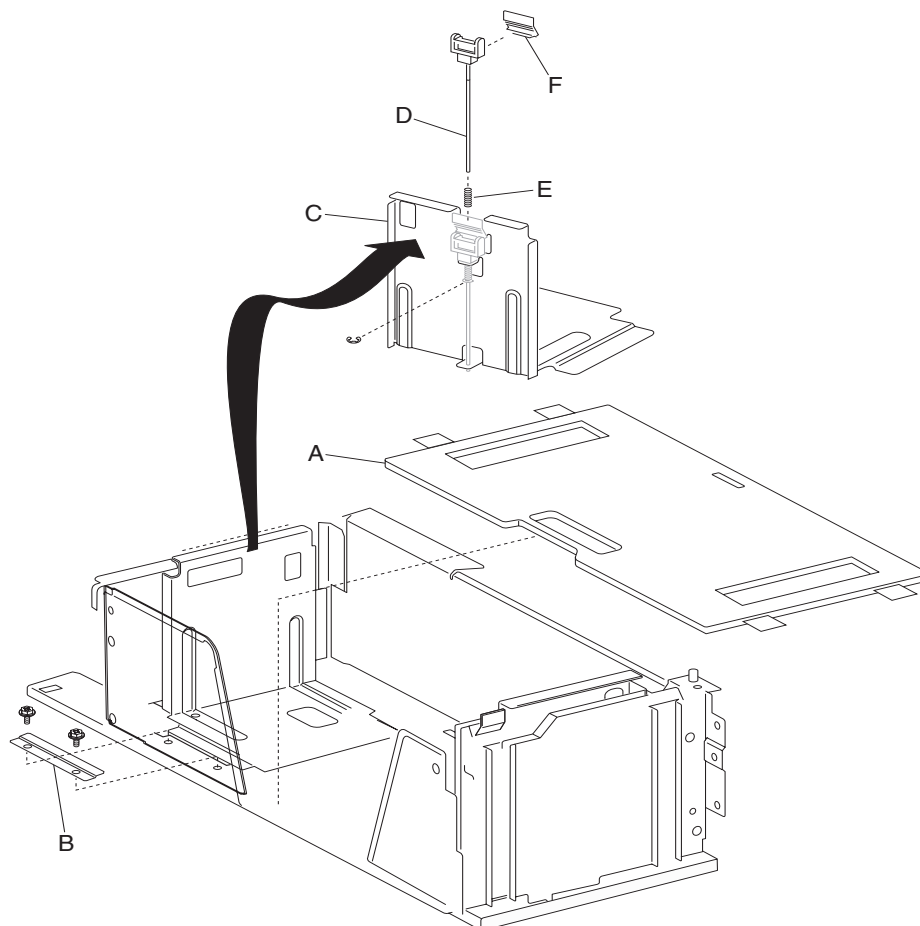


**Note:** Before re-installing, move the two side guides (D) of the frame assembly (B) fully outward before installing the two pinion gears (A).

## 2000-sheet dual input (TTM)—tray 4 media guide lock assembly removal

1. Remove the tray 4 assembly. See “2000-sheet dual input (TTM)—tray 4 assembly removal” on page 4-216.
2. Remove the tray 4 front cover. See “2000-sheet dual input (TTM)—tray 4 front cover removal” on page 4-228.
3. Remove the tray 4 rear cable assembly. See “2000-sheet dual input (TTM)—tray 4 rear cables removal” on page 4-230.
4. Remove the tray 4 front cable assembly. See “2000-sheet dual input (TTM)—tray 4 front cables removal” on page 4-233.
5. Remove the media guide rack and pinion. See “2000-sheet dual input (TTM)—media guide rack and pinion removal” on page 4-223.
6. Move both media guides inward.
7. Lift the front edge of the bottom plate from the tray.
8. Remove the bottom plate (A) from the tray.
9. Remove two screws securing the bracket (B) to the tray.
10. Remove the front media guide (C).
11. Remove the e-clip securing the tray 4 media guide lock (D) to the front media guide (C).
12. Remove the tray 4 media guide lock (D).
13. Remove the spring (E).
14. Remove the tray 4 media guide lock button (F) from the tray 4 media guide lock (D).

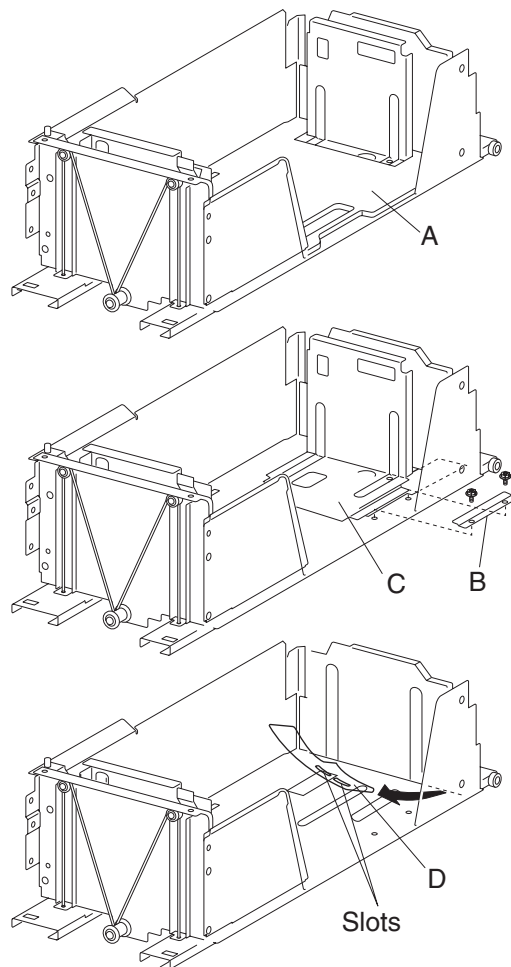
**Note:** Before re-installing, ensure the tray 4 media guide lock (D) and the tray 4 media guide lock button (F) are properly installed as shown in the figure.



## 2000-sheet dual input (TTM)—tray 4 mylar actuator removal

1. Remove the tray 4 assembly. See “2000-sheet dual input (TTM)—tray 4 assembly removal” on page 4-216.
2. Remove the tray 4 front cover. See “2000-sheet dual input (TTM)—tray 4 front cover removal” on page 4-228.
3. Remove the tray 4 rear cable assembly. See “2000-sheet dual input (TTM)—tray 4 rear cables removal” on page 4-230.
4. Remove the tray 4 front cable assembly. See “2000-sheet dual input (TTM)—tray 4 front cables removal” on page 4-233.
5. Remove the media guide rack and pinion. See “2000-sheet dual input (TTM)—media guide rack and pinion removal” on page 4-223.
6. Move both media guides inward.
7. Lift the front edge of the bottom plate (A) from the tray.
8. Remove the bottom plate (A) from the tray.
9. Remove two screws securing the bracket (B) to the tray.
10. Remove the rear media guide (C).
11. Remove the mylar actuator (D) by sliding it out of the tray in the direction of the arrow.

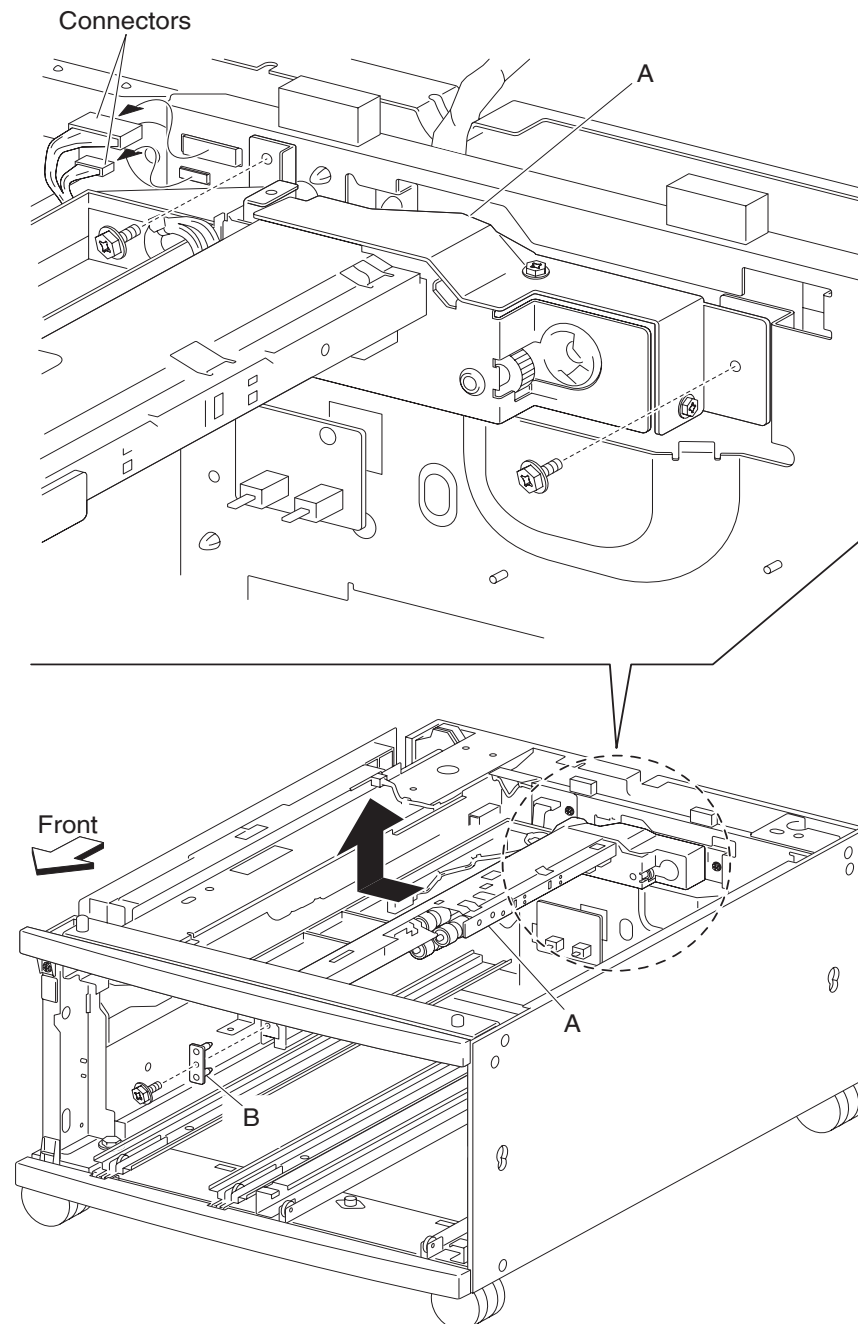
**Note:** Before re-installing, ensure the bosses on the rear media guide (C) are fitted into the slots on the mylar actuator (D) as shown in the figure.



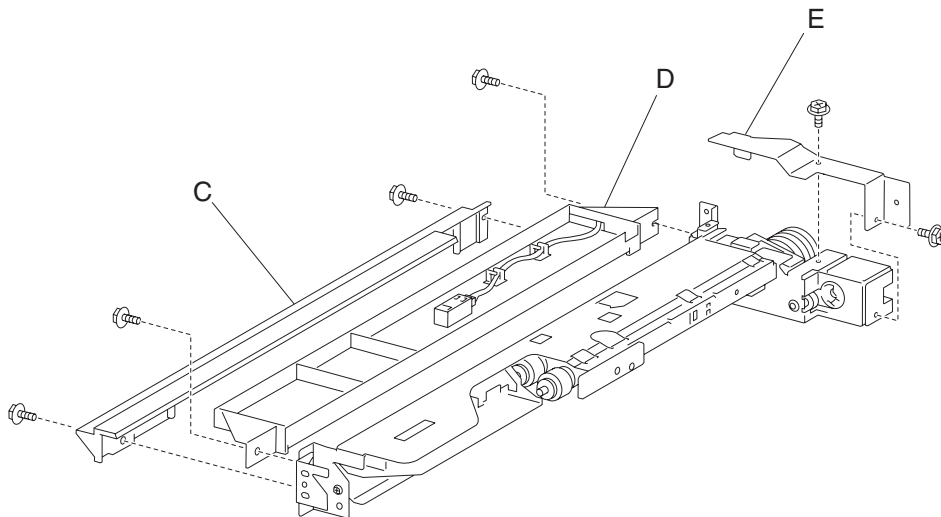
## 2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)

1. Remove the tray 3 assembly. See “2000-sheet dual input (TTM)—tray 3 assembly removal” on page 4-217.
2. Remove the tray 4 assembly. See “2000-sheet dual input (TTM)—tray 4 assembly removal” on page 4-216.
3. Remove the tray 4 transport assembly. See “2000-sheet dual input (TTM)—tray 4 media transport assembly removal” on page 4-229.
4. Disconnect the two connectors from the media feed unit assembly (A).
5. Remove two screws securing the media feed unit assembly (A).

**Note:** Removing the media tray 1 and media tray 2 in the printer makes removing the media feed unit assembly (A) rear screws easier.

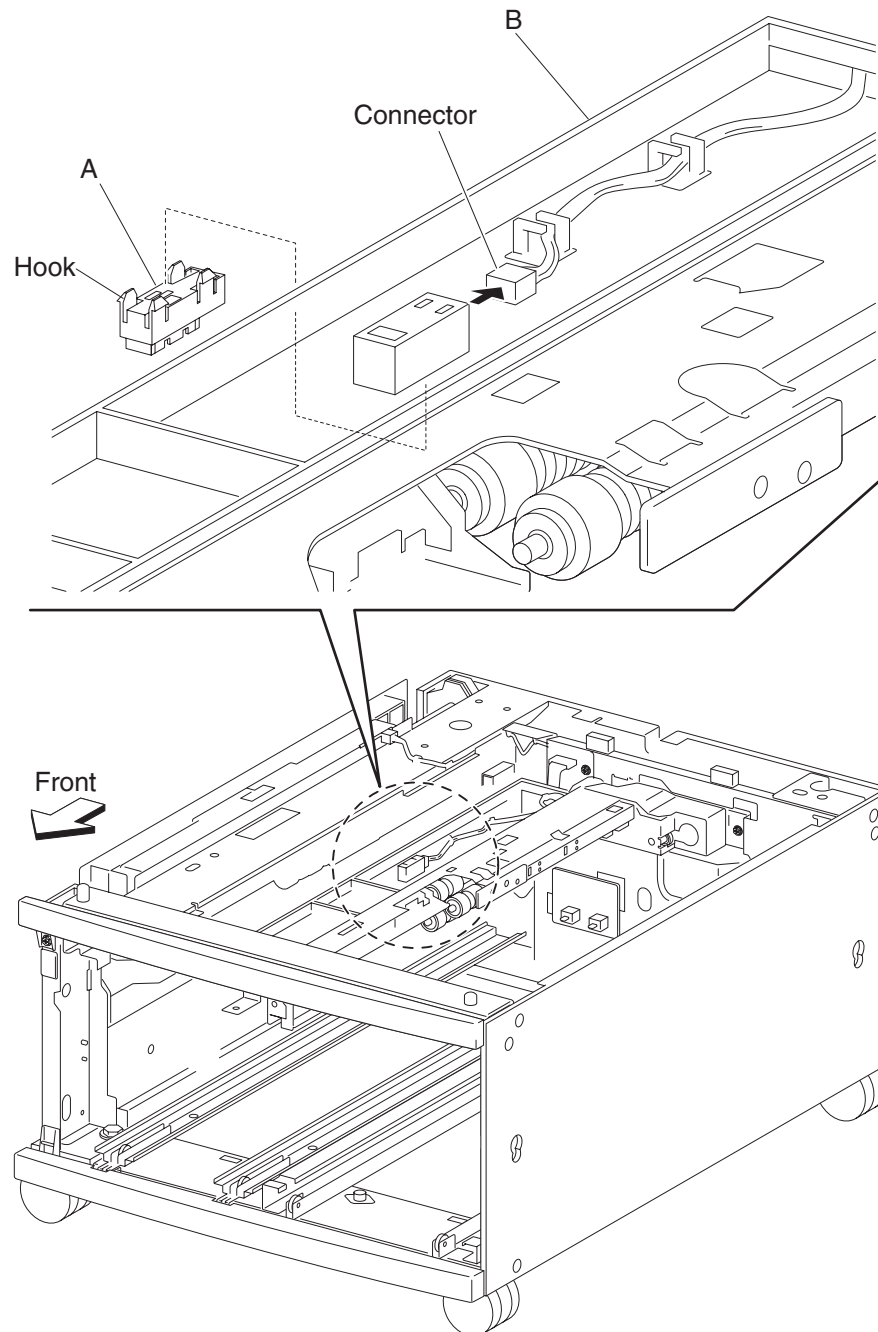


6. Remove one screw securing the front bracket (B).
7. Remove the front bracket (B).
8. Move the media feed unit assembly (A) leftward and upward in the direction of the arrow to remove it.
9. Remove the two screws securing the lower guide (C) to the media feed unit assembly (A).
10. Remove the lower guide (C).
11. Remove two screws securing the upper guide (D) to the media feed unit assembly (A).
12. Remove the upper guide (D).
13. Remove two screws securing the rear bracket (E) to the media feed unit assembly (A).
14. Remove the rear bracket (E).



## 2000-sheet dual input (TTM)—sensor (tray 4 feed-out) removal

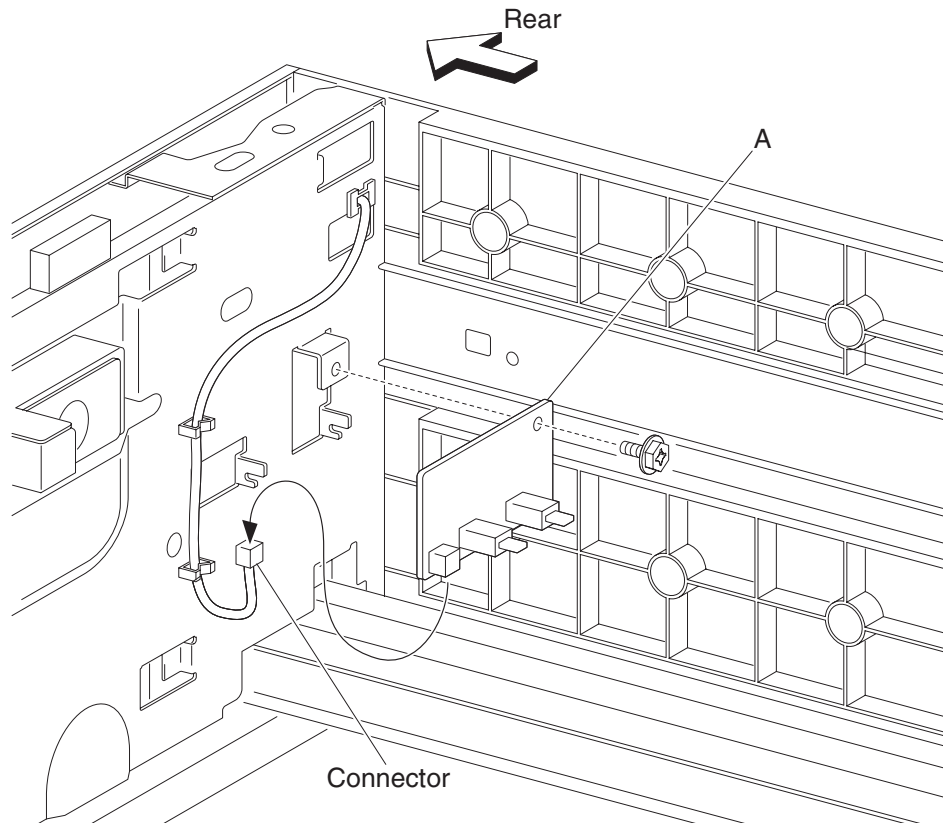
1. Remove the tray 3 assembly. See [“2000-sheet dual input \(TTM\)—tray 3 assembly removal” on page 4-217.](#)
2. Remove the tray 4 assembly. See [“2000-sheet dual input \(TTM\)—tray 4 assembly removal” on page 4-216.](#)
3. Disconnect the connector from the sensor (tray 4 feed-out) (A).
4. Release the hooks securing the sensor (tray 4 feed-out) (A) to the upper guide (B).
5. Remove the sensor (tray 4 feed-out) (A).



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

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

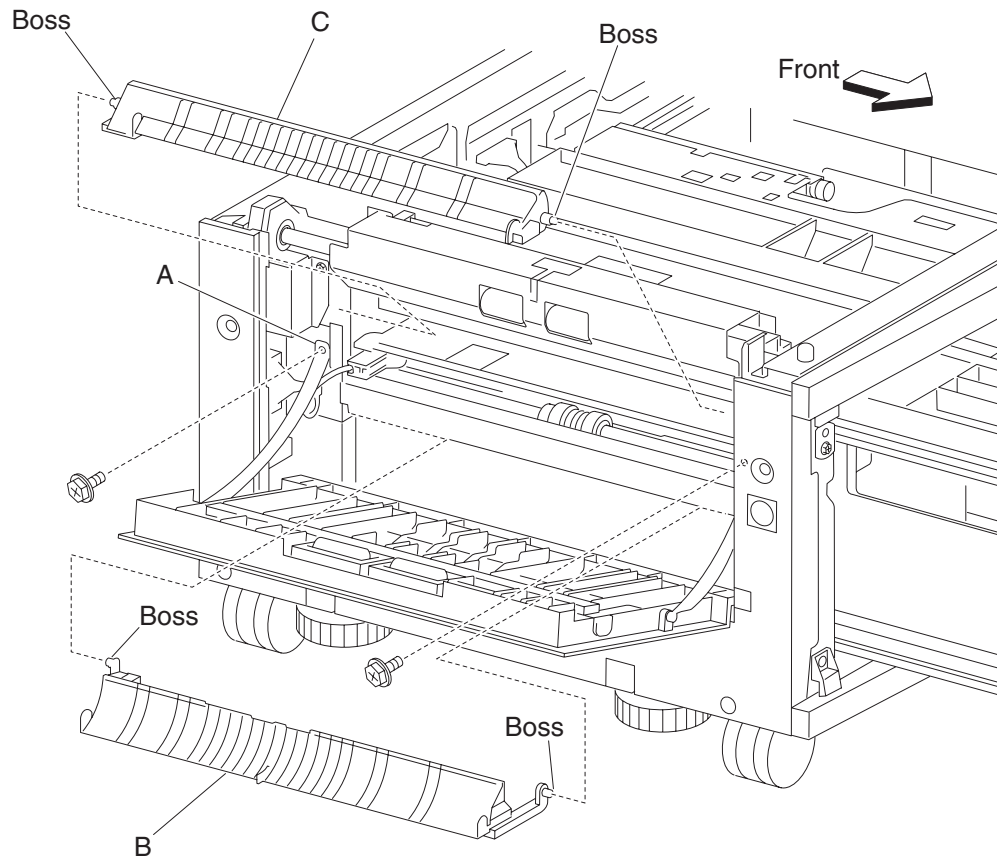
1. Remove the tray 3 assembly See (“**2000-sheet dual input (TTM)—tray 3 assembly removal**” on page 4-217) or tray 4 assembly (“**2000-sheet dual input (TTM)—tray 4 assembly removal**” on page 4-216).
2. Disconnect the connector from the switch (TTM media size) (A).
3. Remove one screw securing the switch (TTM media size) (A).
4. Remove the switch (TTM media size) (A).



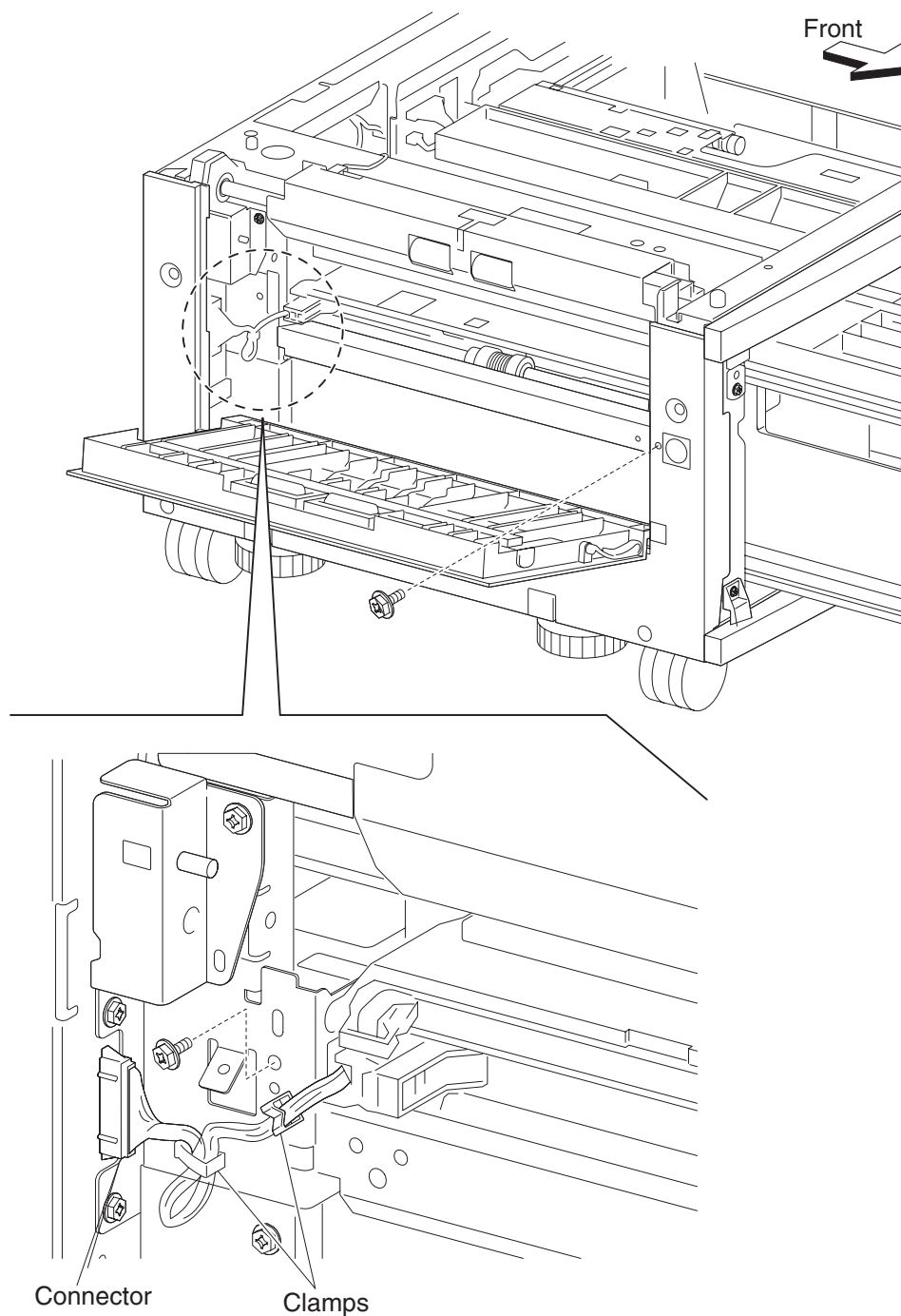


## 2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)

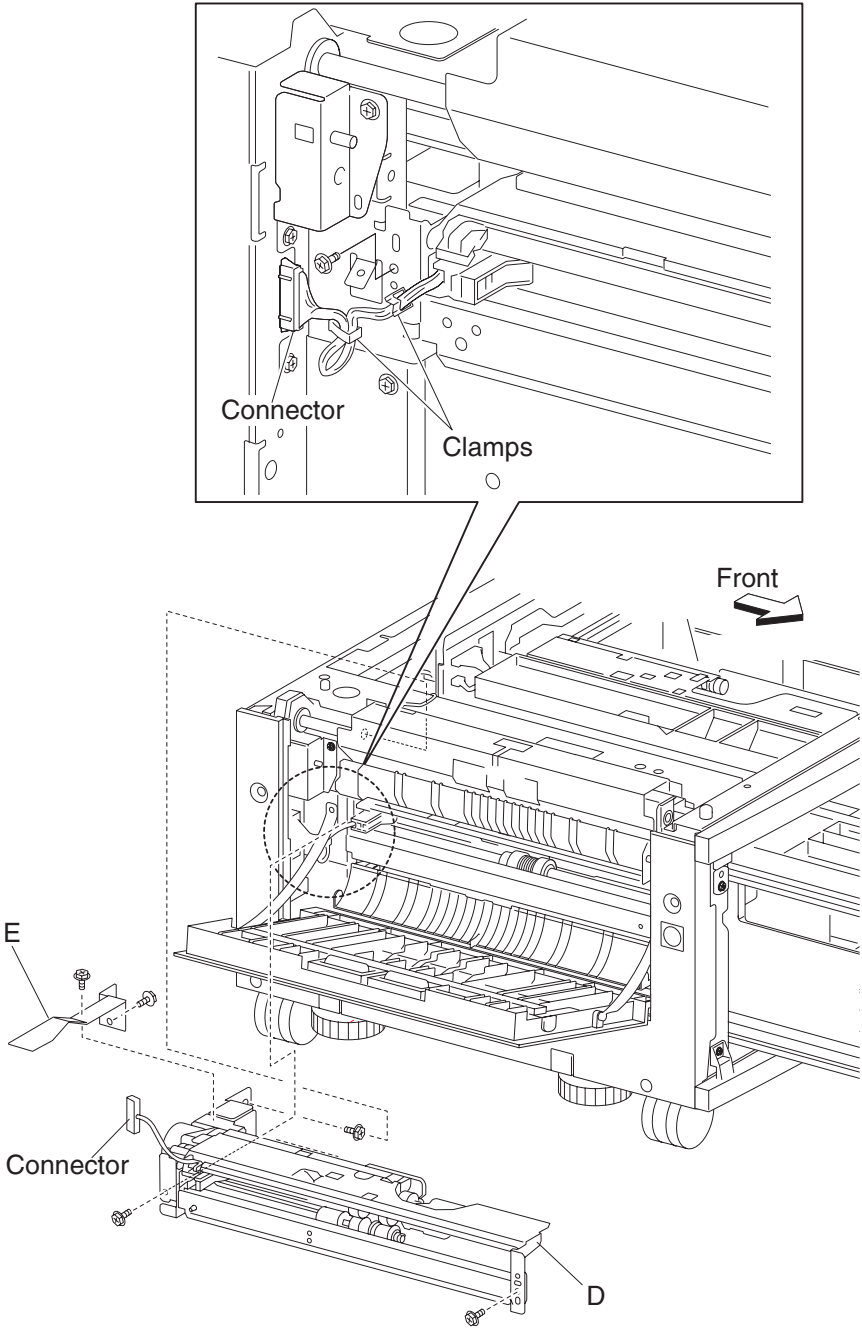
1. Pull out the tray 3 assembly.
2. Pull out the tray 4 assembly.
3. Open the 2TM/TTM left door assembly.
4. Remove one screw securing the 2TM/TTM left door support strap (A).
5. Release the bosses on both sides securing the vertical turn guide (B).
6. Remove the vertical turn guide (B).
7. Release the bosses on both sides securing the upper vertical turn guide (C).
8. Remove the upper vertical turn guide (C).



9. Release the harness from the clamp.
10. Disconnect the connector from the machine.



- 11. Remove three screws securing the media feed unit assembly (D).
- 12. Remove the media feed unit assembly (D) by pulling outward.
- 13. Remove two screws securing the rear bracket (E) to the media feed unit assembly (D).
- 14. Remove the rear bracket (E).

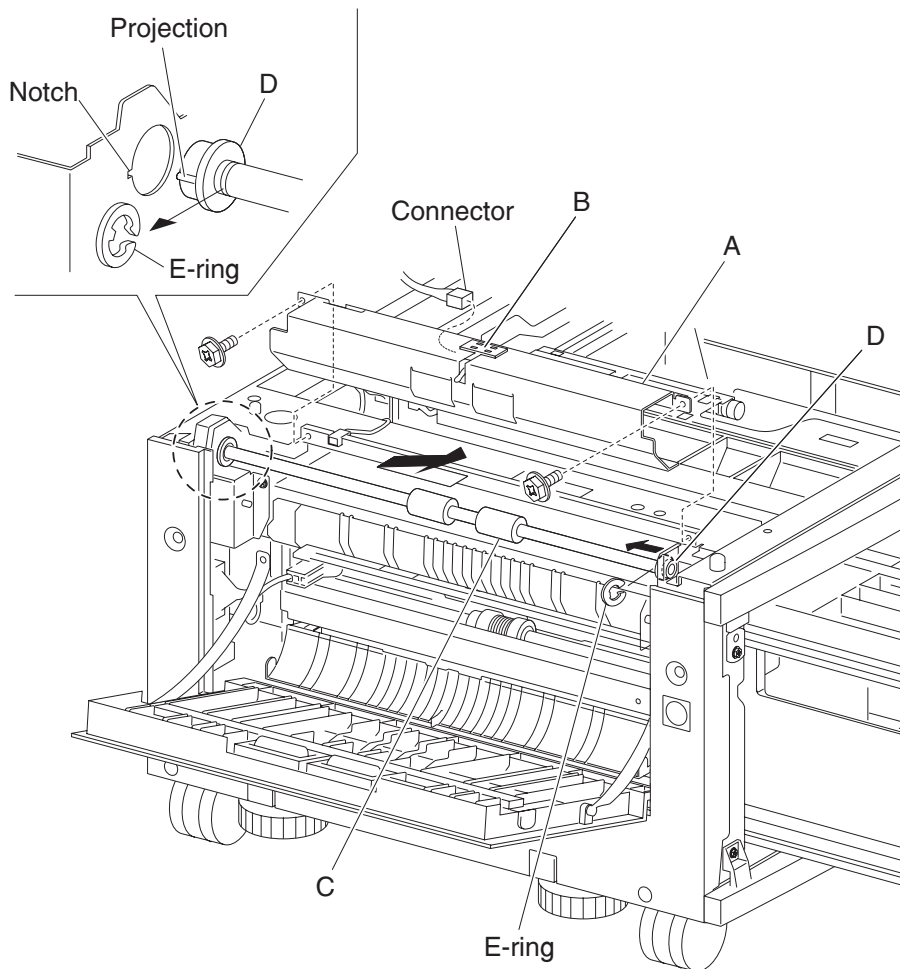


## 2000-sheet dual input (TTM)—2TM/TTM media transport roll assembly removal

1. Open the left door assembly.
2. Remove two screws securing the bracket (A).
3. Disconnect the connector to the sensor (tray 3 feed-out) (B).
4. Remove the bracket (A).
5. Remove the large e-clip on the left securing the 2TM/TTM media transport roll assembly (C).
6. Slide the bushing (D) to the right.
7. Move the 2TM/TTM media transport roll assembly (C) leftward and outward in the direction of the arrow to remove.
8. Remove the 2TM/TTM media transport roll assembly (C).

**Note:** One of the bushings may become detached.

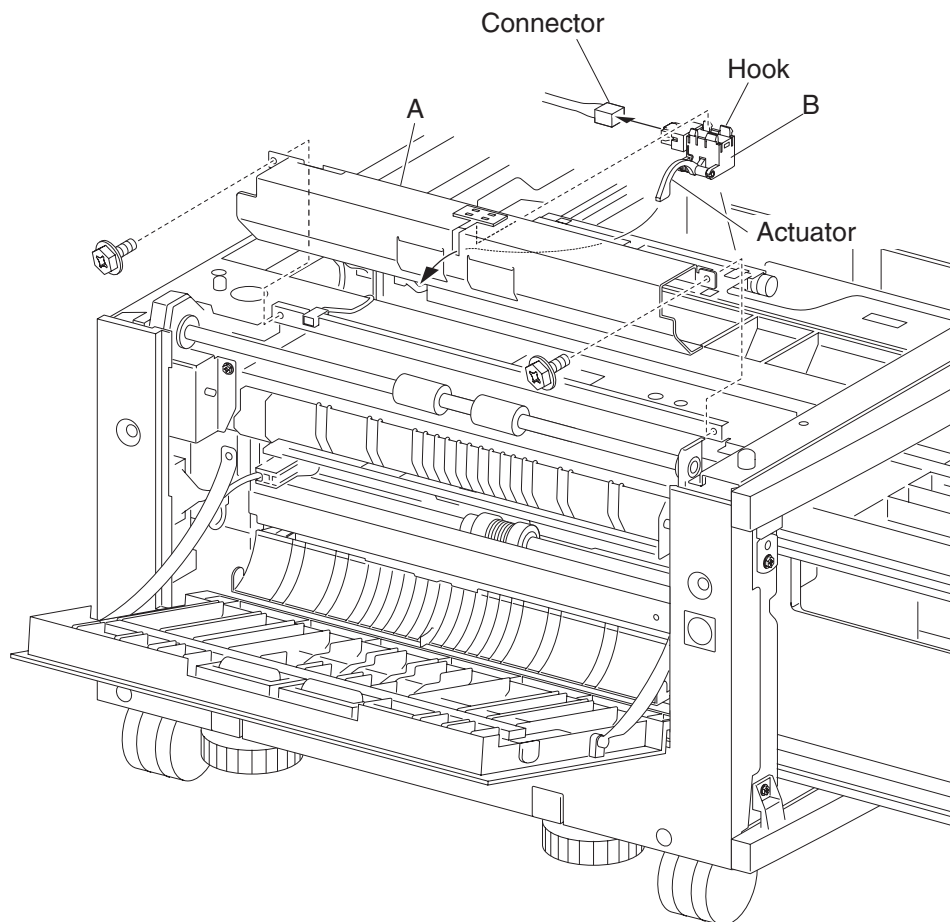
**Note:** When removing the 2TM/TTM media transport roll assembly (C), do not touch the rubber surface.



**Note:** Before re-installing the 2TM/TTM media transport roll assembly (C), do not touch the rubber surface.

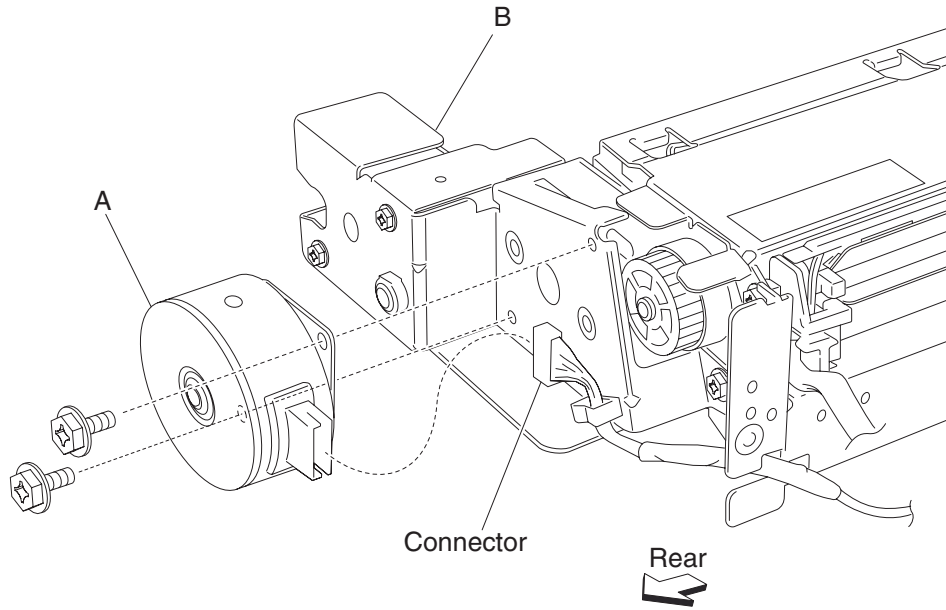
## 2000-sheet dual input (TTM)—sensor (tray 3 feed-out) removal

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



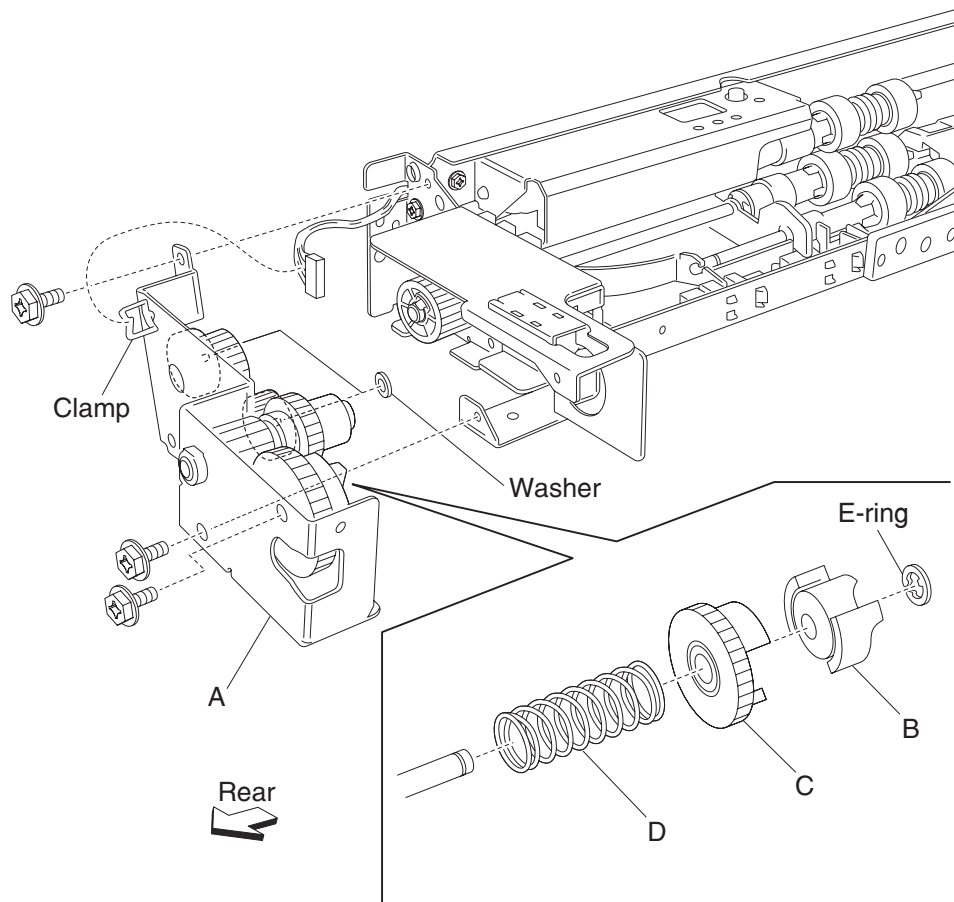
## 2000-sheet dual input (TTM)—media feed lift motor removal

1. Remove the media feed unit assembly. See **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243** or **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239**.
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).



## 2000-sheet dual input (TTM)—lift coupling assembly removal

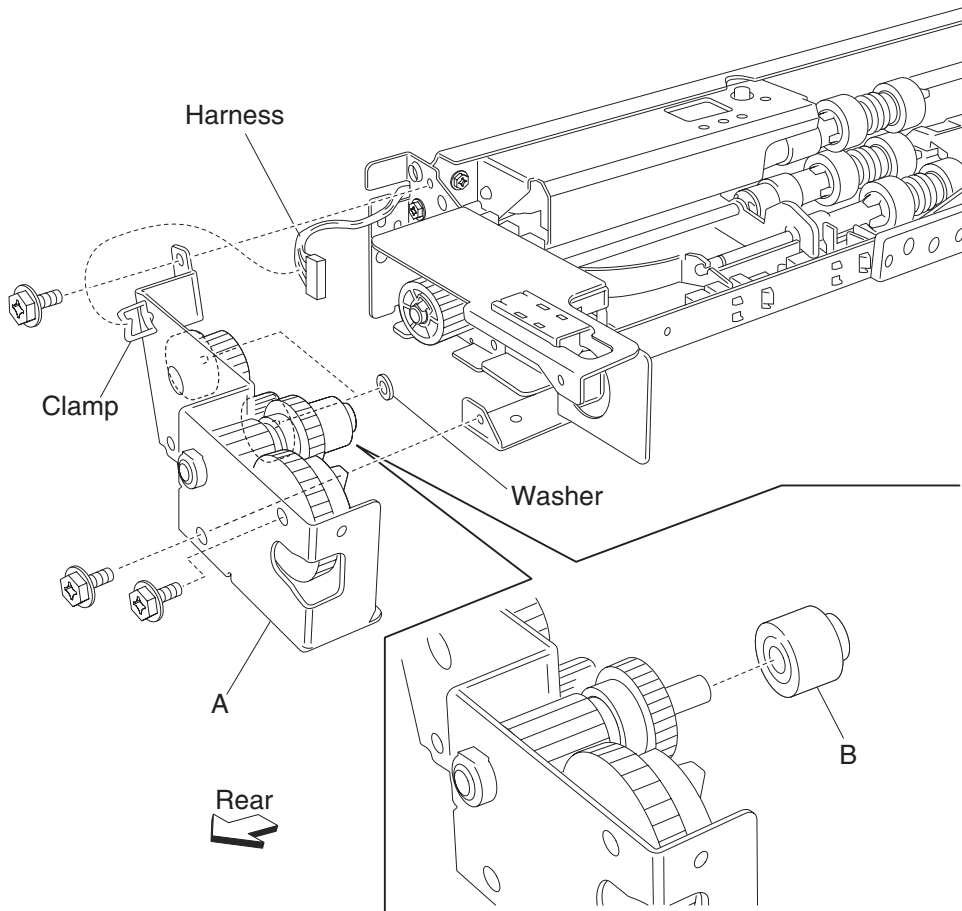
1. Remove the media feed unit assembly. See “2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243 or “2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239.
2. Remove the harness from bracket (A).
3. Remove three screws securing bracket (A) to the media feed unit assembly.
4. Remove bracket (A).  
**Note:** The gears may become detached from bracket (A).
5. Remove the e-ring with a prying tool securing the tray lift coupling (B) to bracket (A).
6. Remove the tray lift coupling gear 31 tooth (C).
7. Remove the spring (D).



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

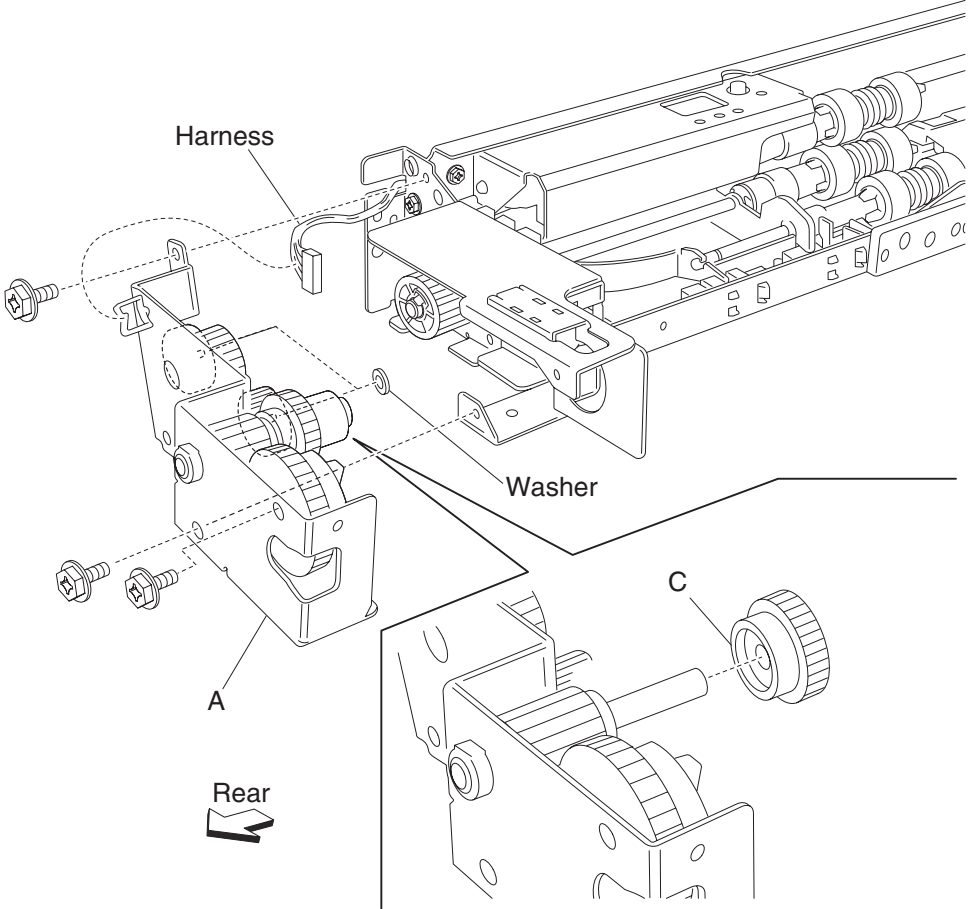
## 2000-sheet dual input (TTM)—one-way clutch / gear assembly removal

1. Remove the media feed unit assembly. See **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243** or **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239**.
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).





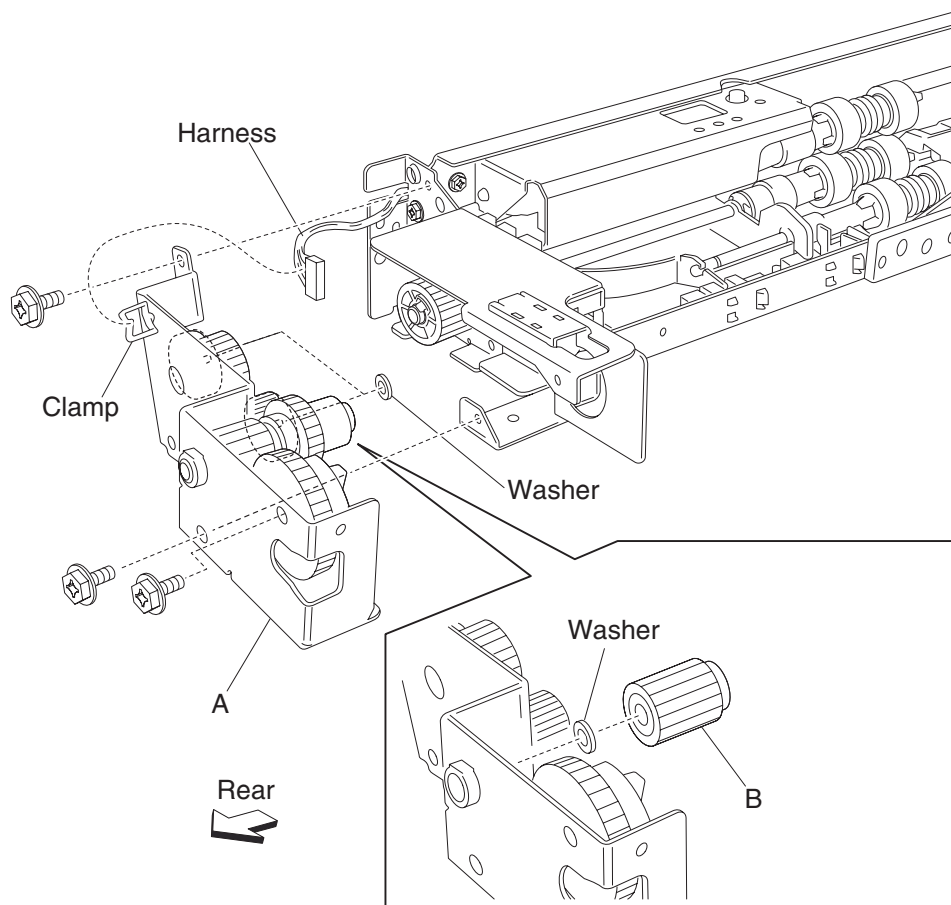
6. Remove the tray lift one-way gear 24 tooth (C).



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

## 2000-sheet dual input (TTM)—media feed unit drive gear 13 tooth removal

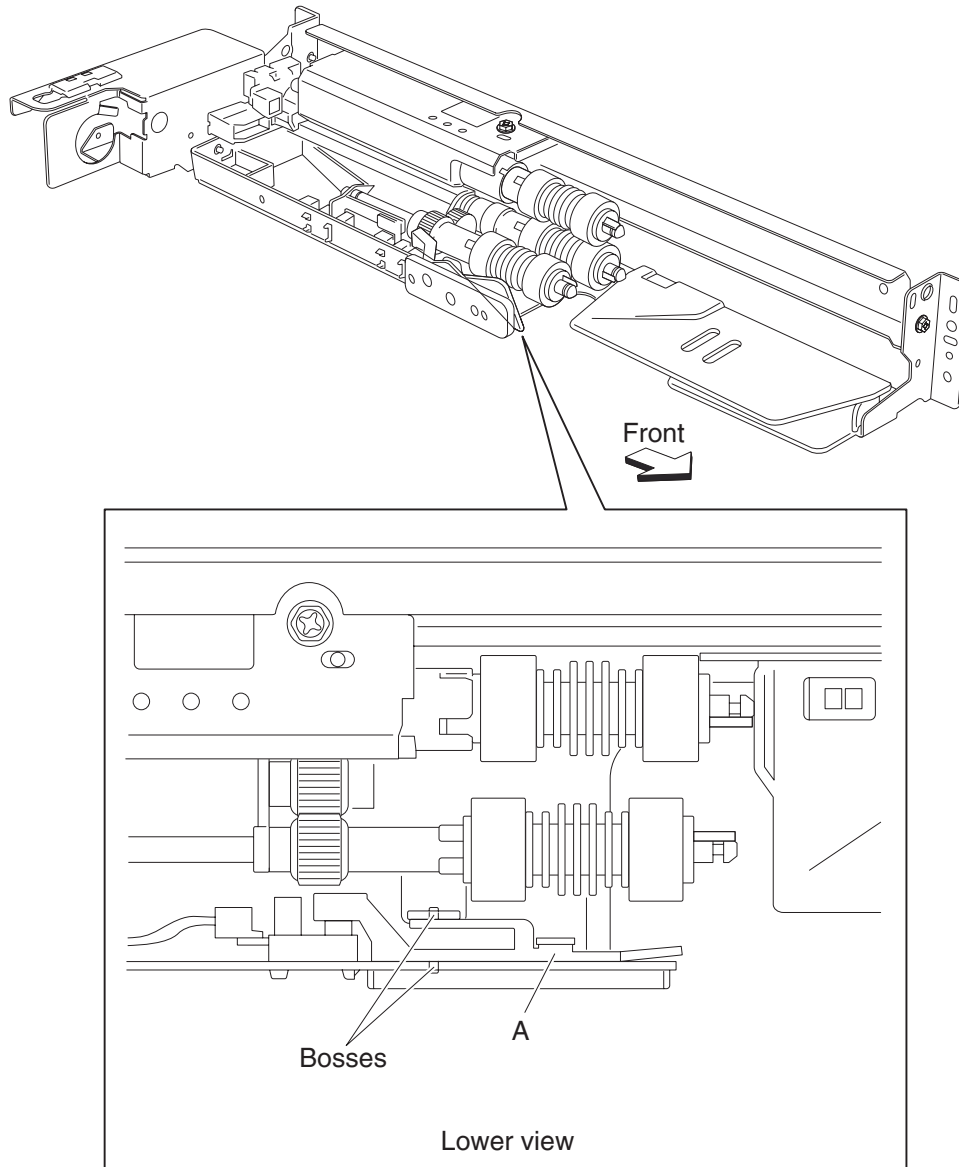
1. Remove the media feed unit assembly. See **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243** or **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239**.
2. Remove the harness from the bracket (A).
3. Remove the three screws securing the bracket (A) to the media feed unit assembly.
4. Remove the bracket (A).  
**Note:** Gears may become detached from the bracket (A).
5. Remove the tray lift one-way clutch. See **“2000-sheet dual input (TTM)—feed roll one-way clutch removal” on page 4-260**.
6. Remove the tray lift one-way gear 24 tooth. See **“2000-sheet dual input (TTM)—one-way 22 tooth removal” on page 4-261**.
7. Remove the media feed unit drive gear - 13 tooth (B).



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

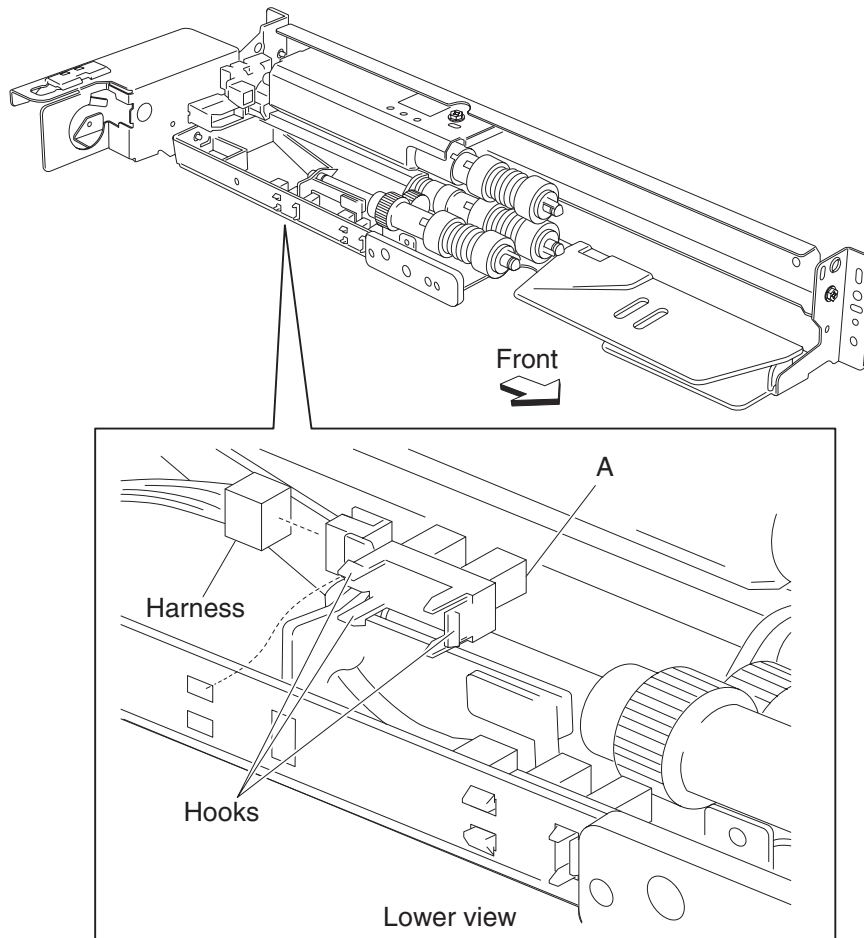
## 2000-sheet dual input (TTM)—media out actuator removal

1. Remove the media feed unit assembly. See “2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243 or “2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239.
2. Remove the two bosses on the media out actuator (A) from the media feed unit assembly.
3. Remove the media out actuator (A).



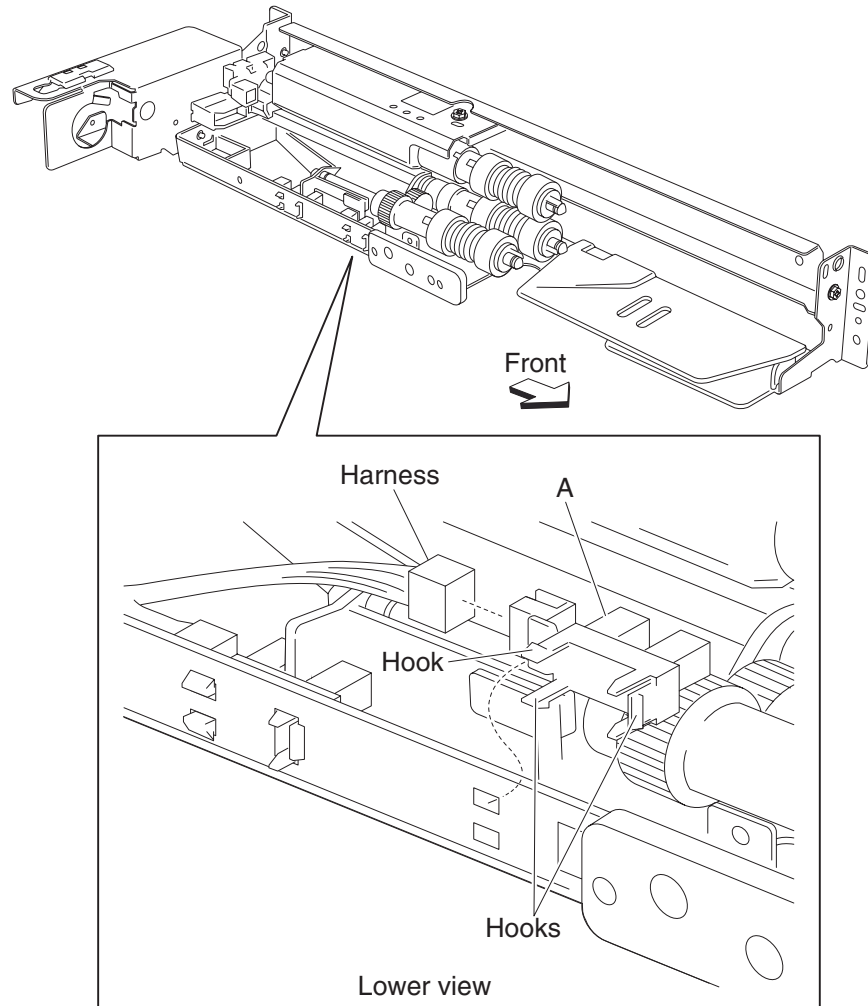
## 2000-sheet dual input (TTM)—sensor (media level) removal

1. Remove the media feed unit assembly. See **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243** or **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239**.
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).



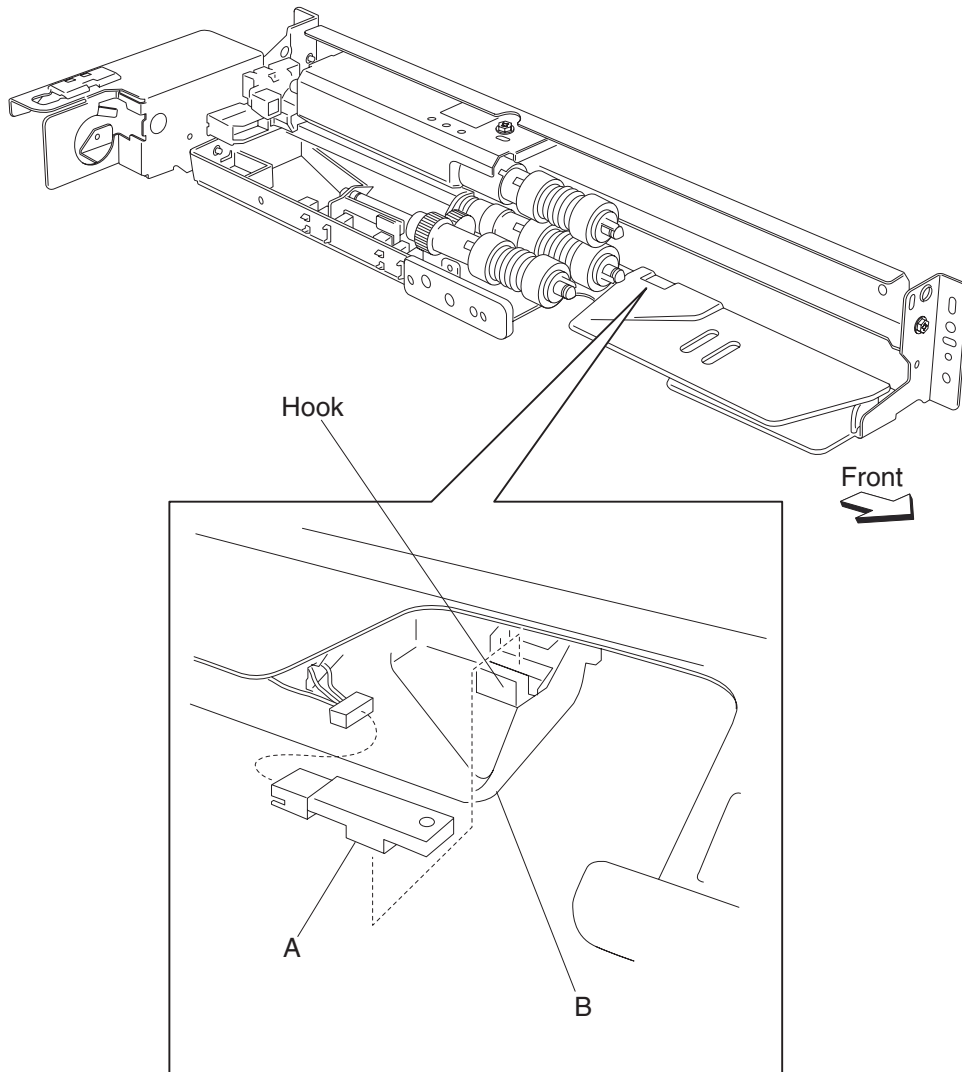
## 2000-sheet dual input (TTM)—sensor (media out) removal

1. Remove the media feed unit assembly. See **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243** or **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239**.
2. Remove the media out actuator. See **“2000-sheet dual input (TTM)—media out actuator removal” on page 4-253**.
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).



## 2000-sheet dual input (TTM)—sensor (pre-feed) removal

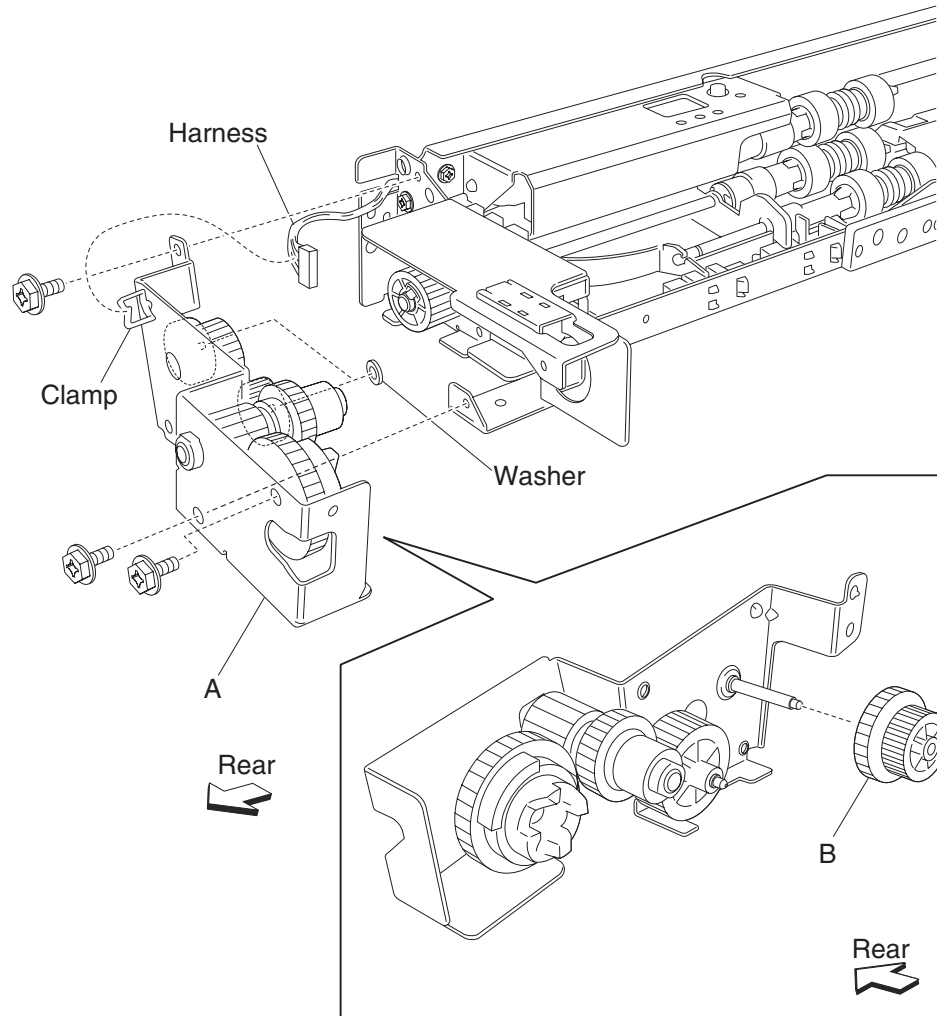
1. Remove the media feed unit assembly. See **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243** or **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239**.
2. Remove the sensor (pre-feed) (A) from the feed unit front guide (B).
3. Disconnect the connector from the sensor (pre-feed) (A).



## 2000-sheet dual input (TTM)—media feed unit drive gear 28 / 21 tooth removal

1. Remove the media feed unit assembly. See “2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243 or “2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239.
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).
 

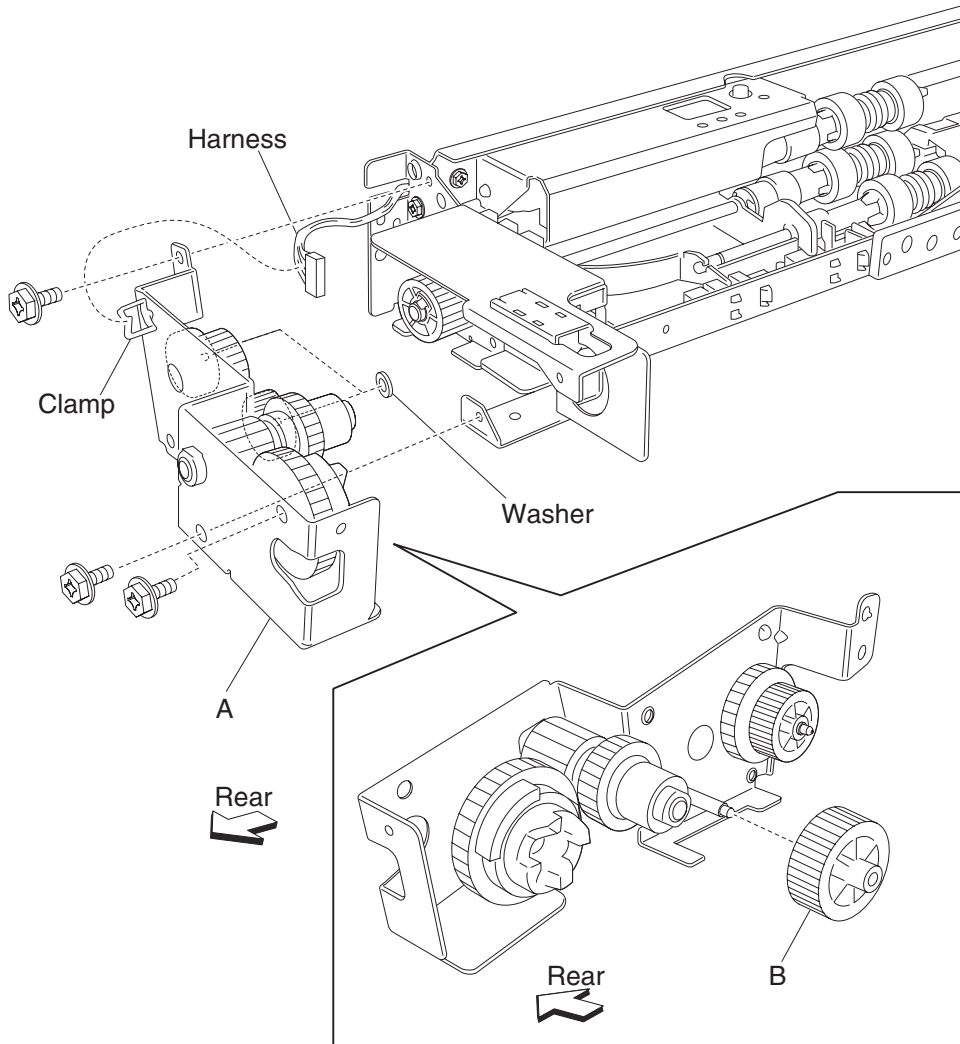
**Note:** The gears may become detached from the bracket (A).
5. Remove the feed unit drive gear - 28 tooth / 21 tooth (B).



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

## 2000-sheet dual input (TTM)—media feed unit drive gear 29 tooth removal

1. Remove the media feed unit assembly. See **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243** or **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239**.
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 feed unit drive gear - 28 tooth / 21 tooth (B).



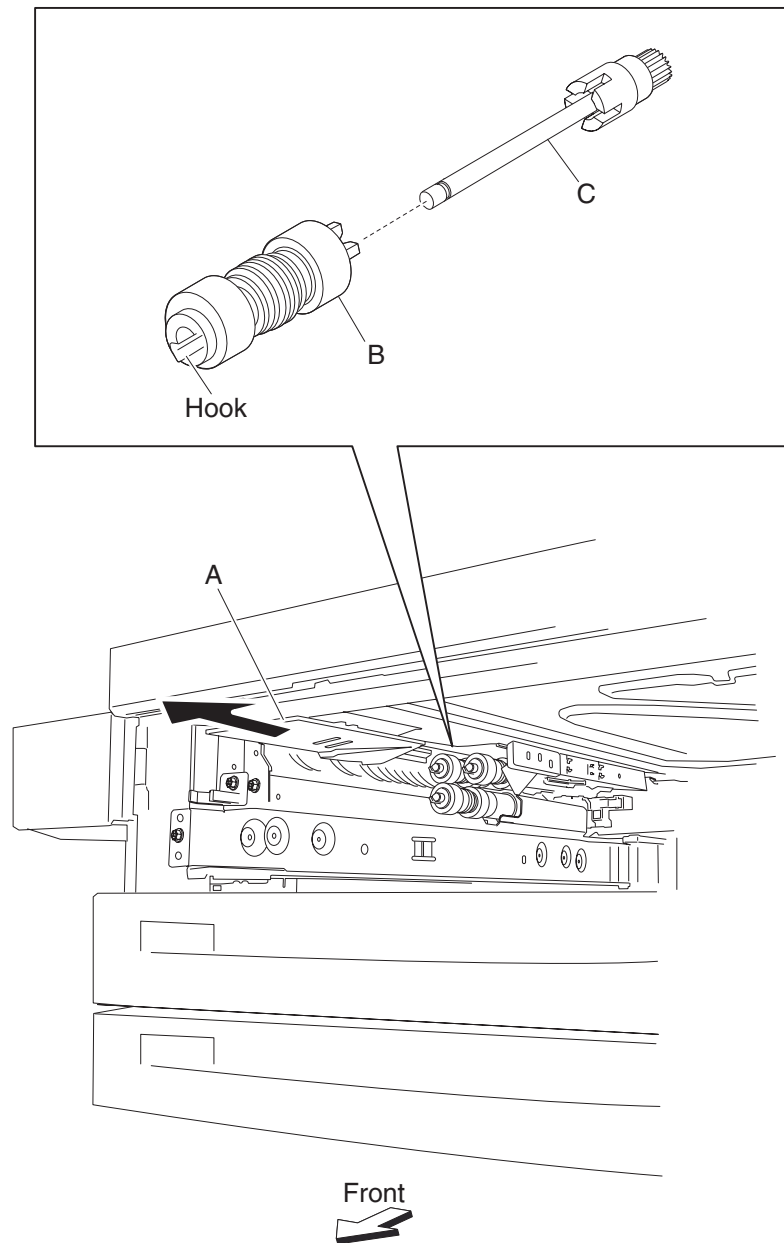
**Note:** Before re-installing, ensure all gears and washers are securely attached to the bracket (A).



## 2000-sheet dual input (TTM)—feed roll removal

1. Remove the media tray assembly.
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).

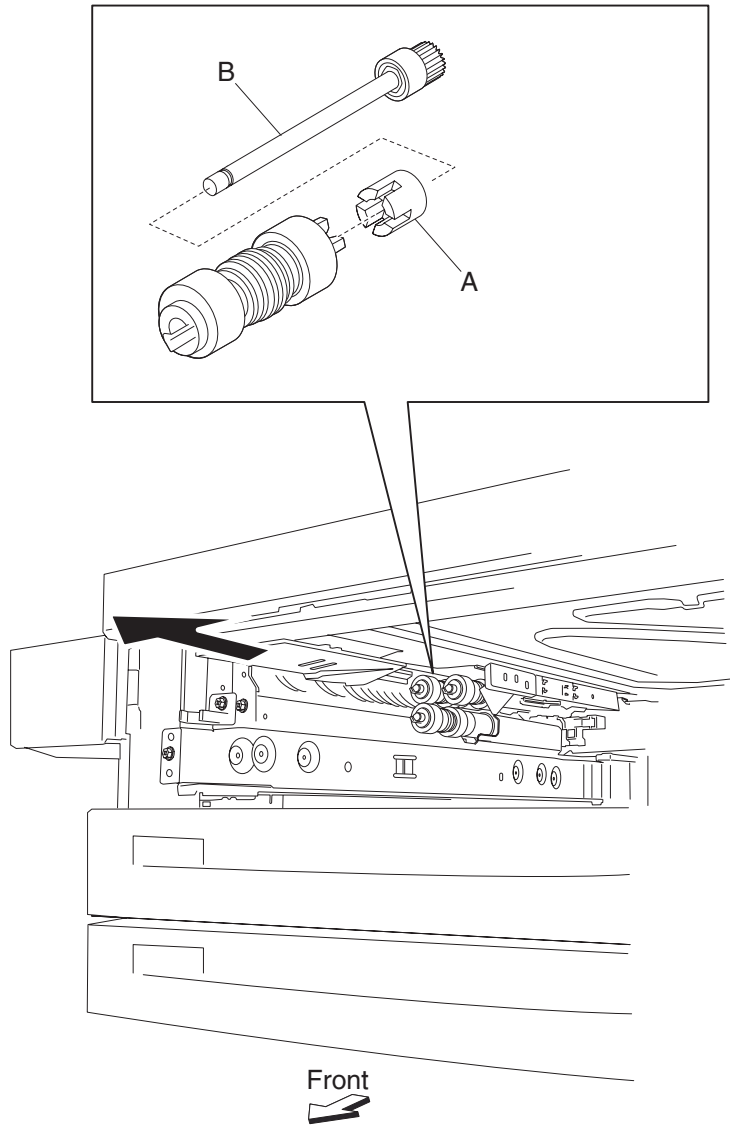
**Note:** Do not touch the rubber surface of the feed roll (B).



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

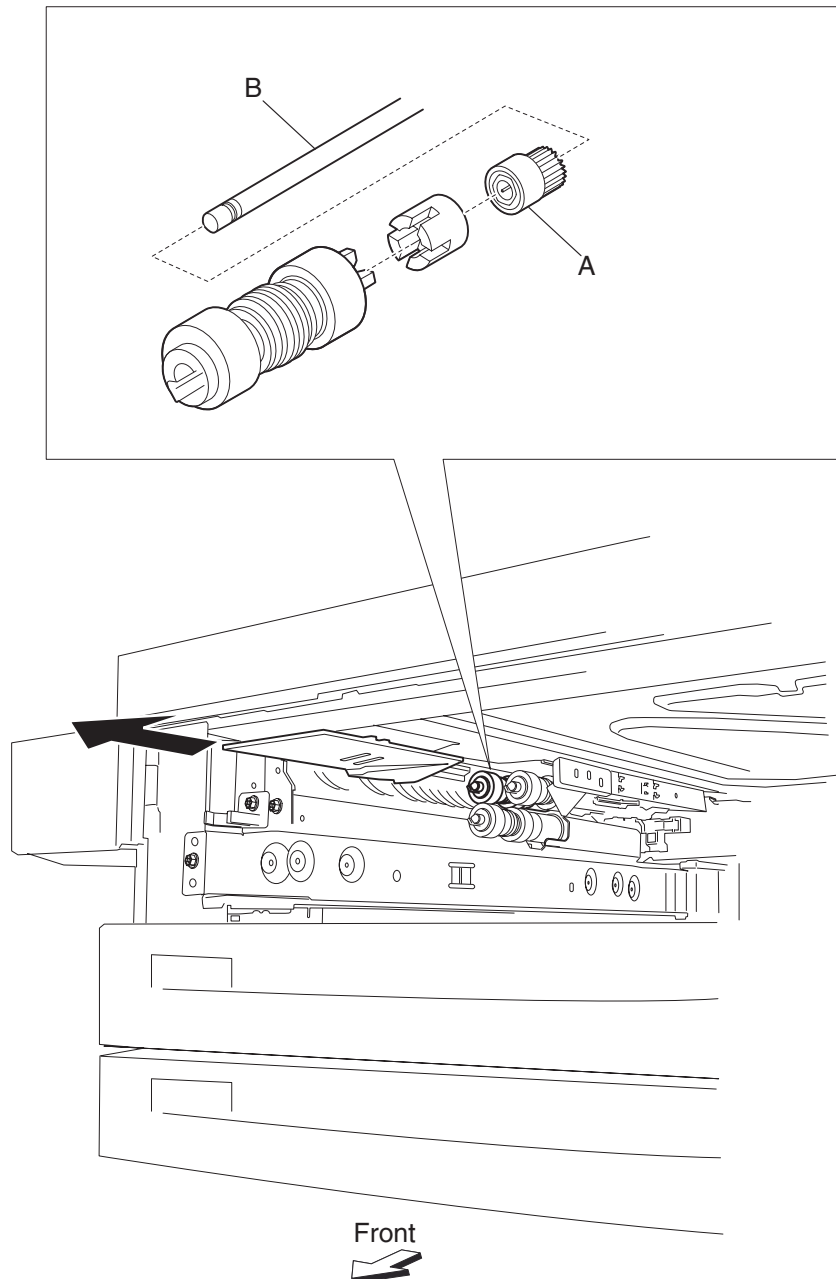
## 2000-sheet dual input (TTM)—feed roll one-way clutch removal

1. Remove the media tray assembly.
2. Remove the feed roll. See **“2000-sheet dual input (TTM)—feed roll removal”** on page 4-259.
3. Remove the feed roll one-way clutch (A) from the shaft (B).



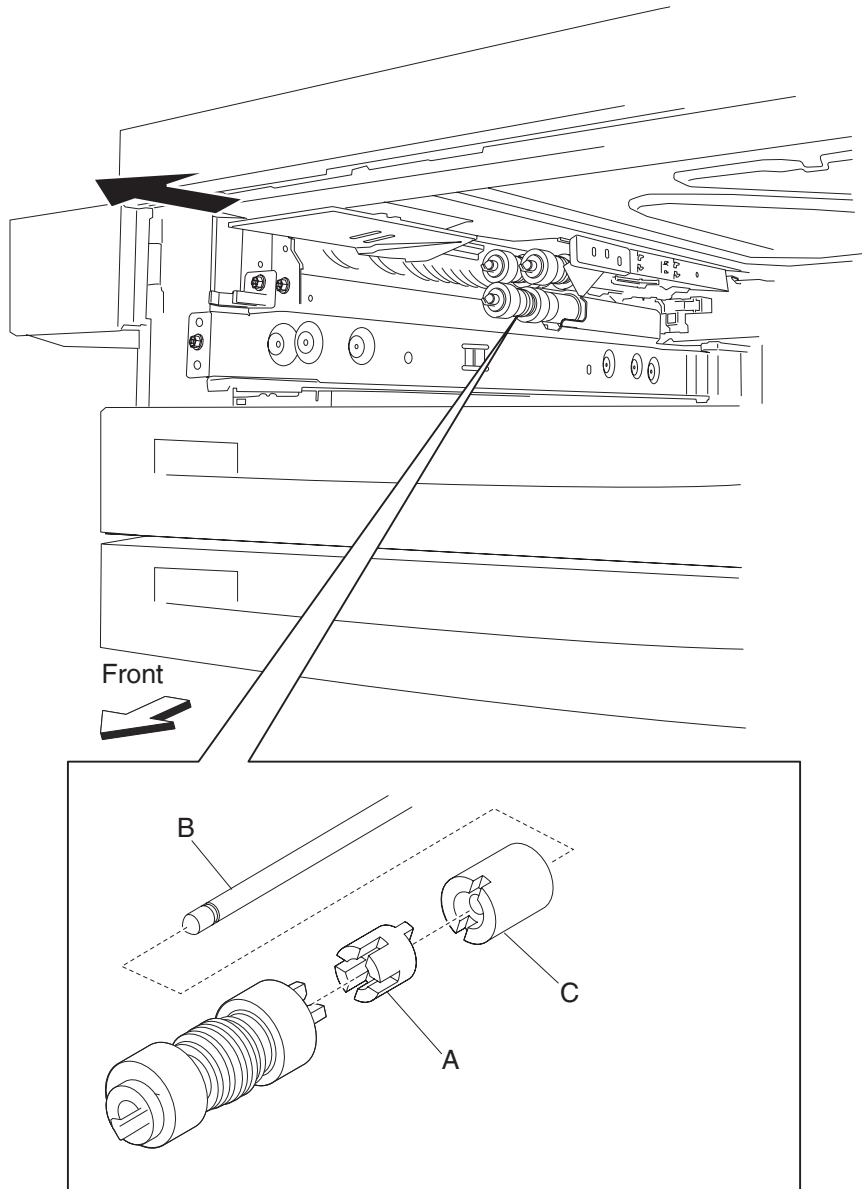
## 2000-sheet dual input (TTM)—one-way 22 tooth removal

1. Remove the media tray assembly.
2. Remove the feed roll. See [“2000-sheet dual input \(TTM\)—feed roll removal” on page 4-259](#).
3. Remove the feed roll one-way clutch. See [“2000-sheet dual input \(TTM\)—feed roll one-way clutch removal” on page 4-260](#).
4. Remove the feed roll one-way gear 22 tooth (A).



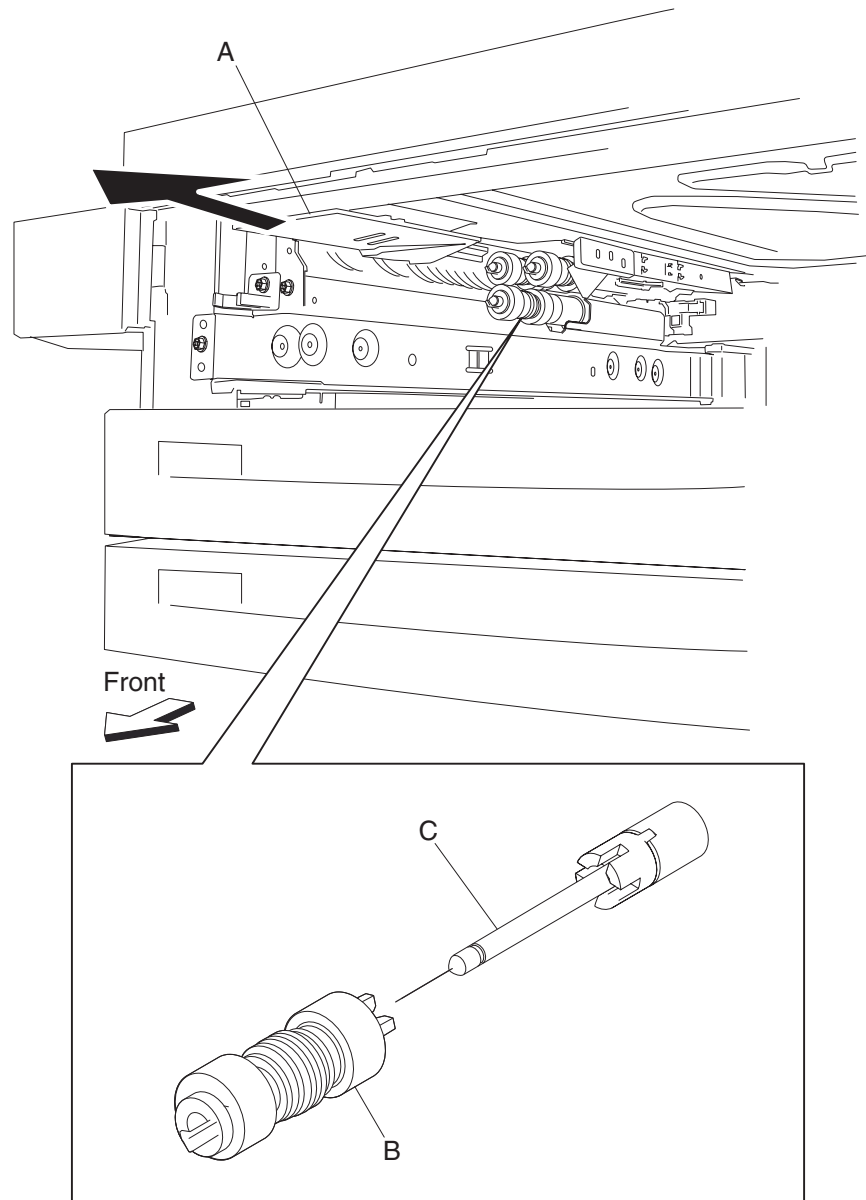
## 2000-sheet dual input (TTM)—separation roll one-way friction clutch removal

1. Remove the media tray assembly.
2. Remove the separation roll. See [“2000-sheet dual input \(TTM\)—separation roll removal” on page 4-263](#).
3. Remove the separation roll spacer (A).
4. Remove the separation roll one-way friction clutch (B).



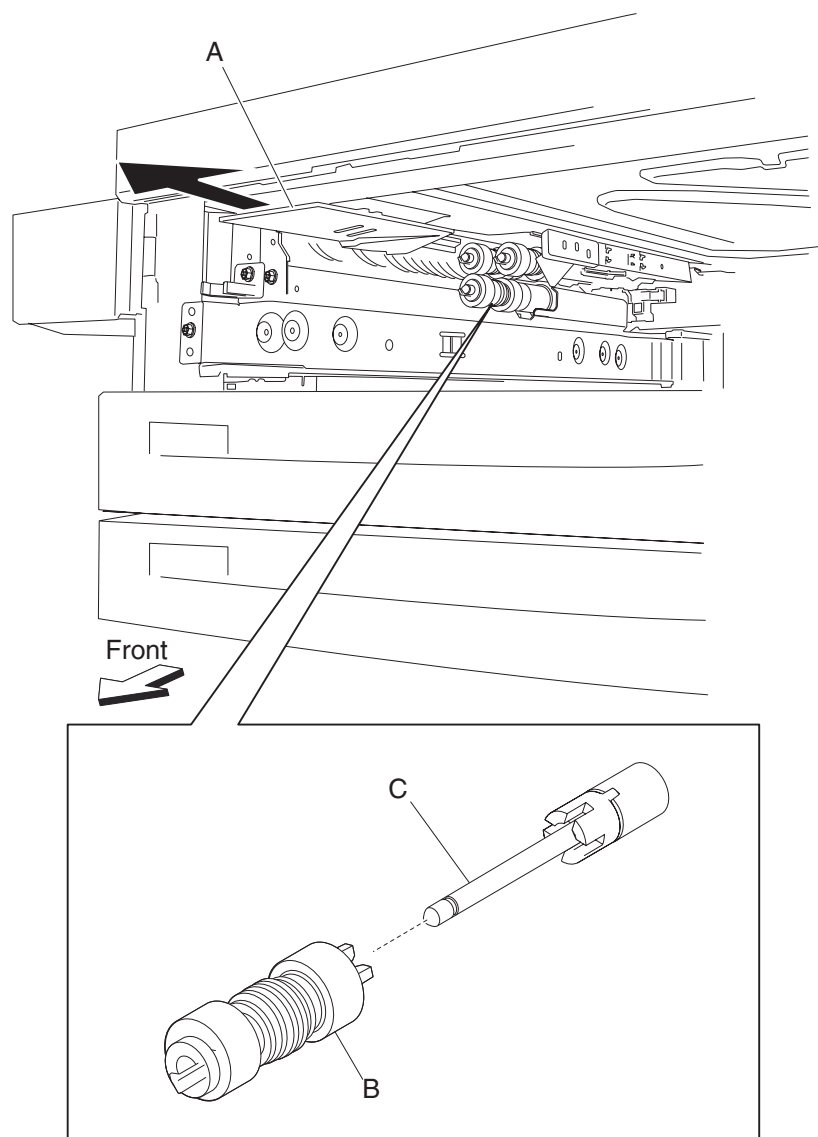
## 2000-sheet dual input (TTM)—separation roll removal

1. Remove the media tray assembly.
2. Move the feed unit front guide (A) 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).

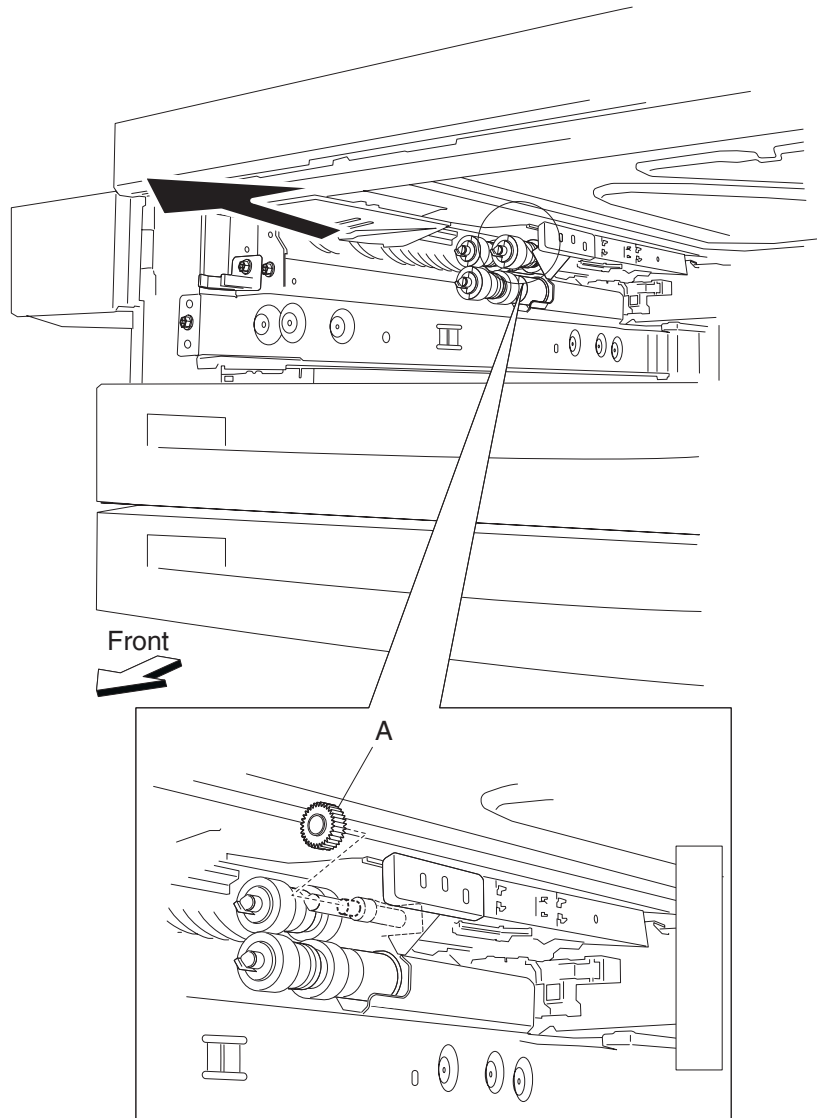
**Note:** Do not touch the rubber surface of the feed roll (B).



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

## 2000-sheet dual input (TTM)—pick roll idler gear 33 tooth removal

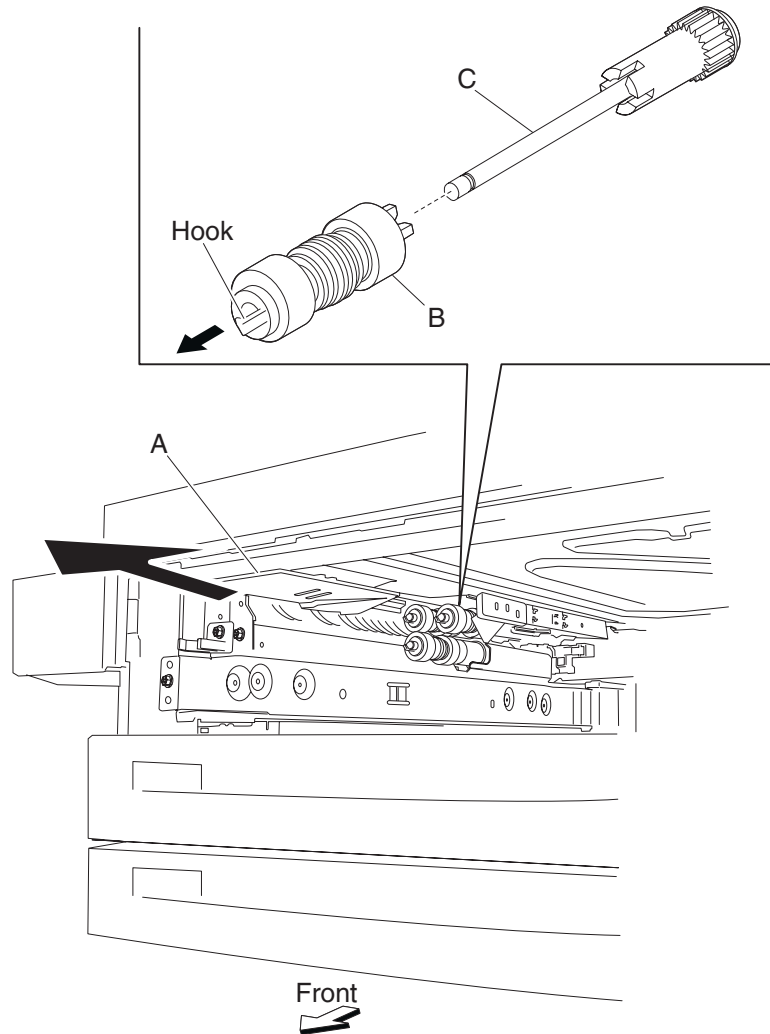
1. Remove the media tray assembly.
2. Remove the pick roll. See [“2000-sheet dual input \(TTM\)—pick roll removal” on page 4-266](#).
3. Remove the pick roll drive gear 25 tooth. See [“2000-sheet dual input \(TTM\)—pick roll drive gear 25 tooth removal” on page 4-267](#).
4. Remove the pick roll idler gear 33 tooth (A).



## 2000-sheet dual input (TTM)—pick roll removal

1. Remove the media tray assembly.
2. Move the 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).

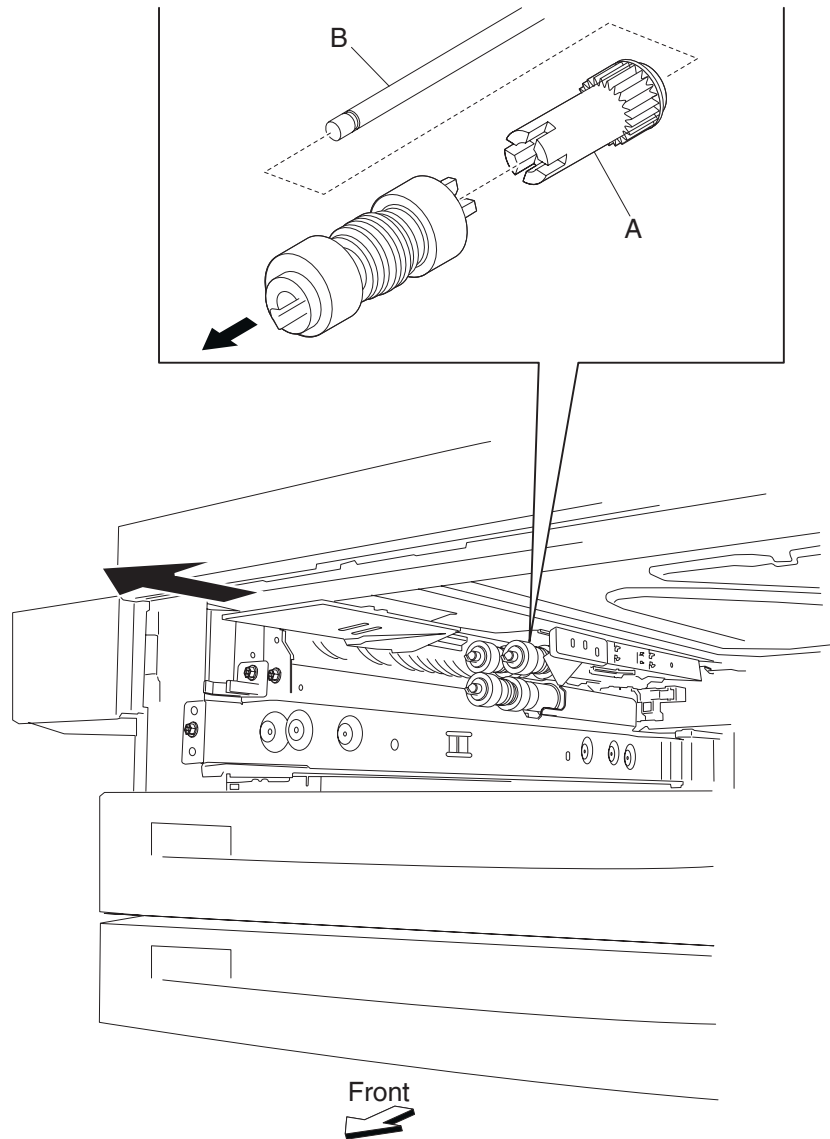


**Note:** Before re-installing, do not touch the rubber surface of the pick roll (B).



## 2000-sheet dual input (TTM)—pick roll drive gear 25 tooth removal

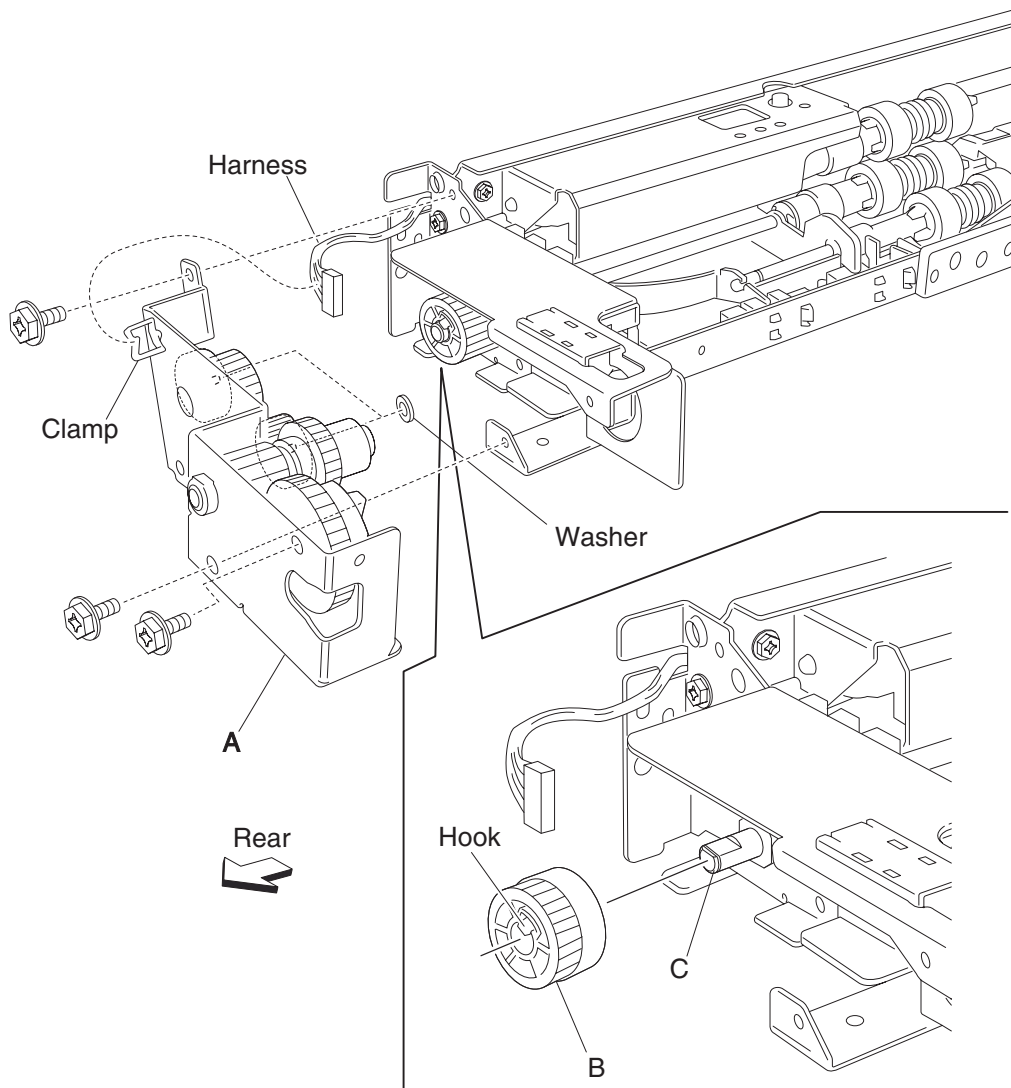
1. Remove the media tray assembly.
2. Remove the pick roll. See **“2000-sheet dual input (TTM)—pick roll removal”** on page 4-266.
3. Remove the pick roll drive gear 25 tooth (A).



## 2000-sheet dual input (TTM)—feed unit drive gear 27 tooth removal

1. Remove the media feed unit assembly. See “2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)” on page 4-243 or “2000-sheet dual input (TTM)—media feed unit assembly removal (tray 4)” on page 4-239.
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).
 

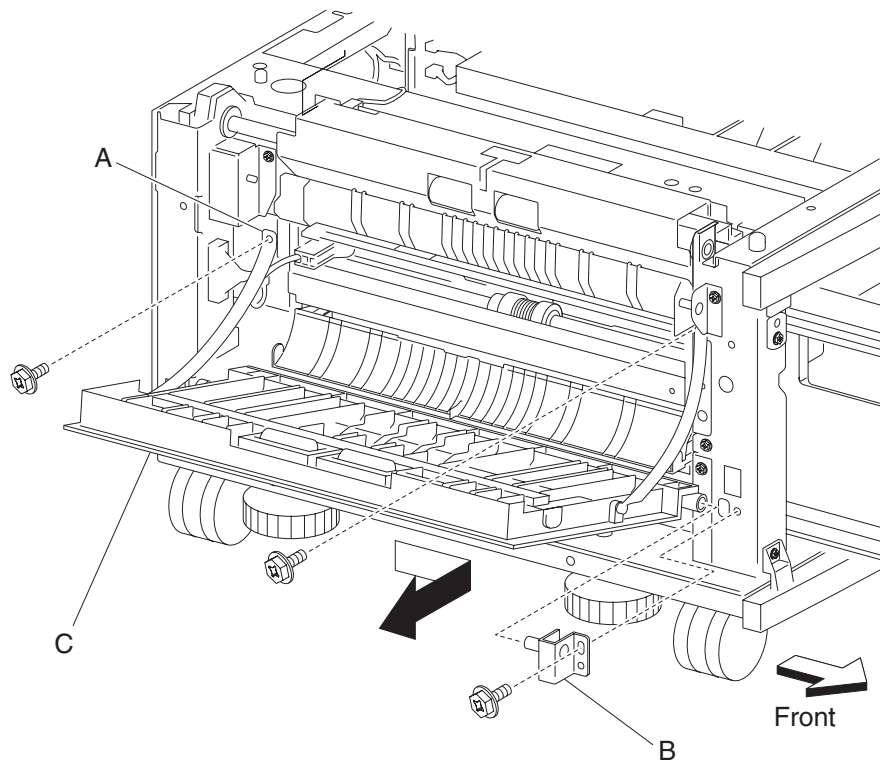
**Note:** The gears may become detached from the bracket (A).
5. Remove the hook securing the feed unit drive gear - 27 tooth (B) to the shaft (C).
6. Remove the feed unit drive gear - 27 tooth (B).



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

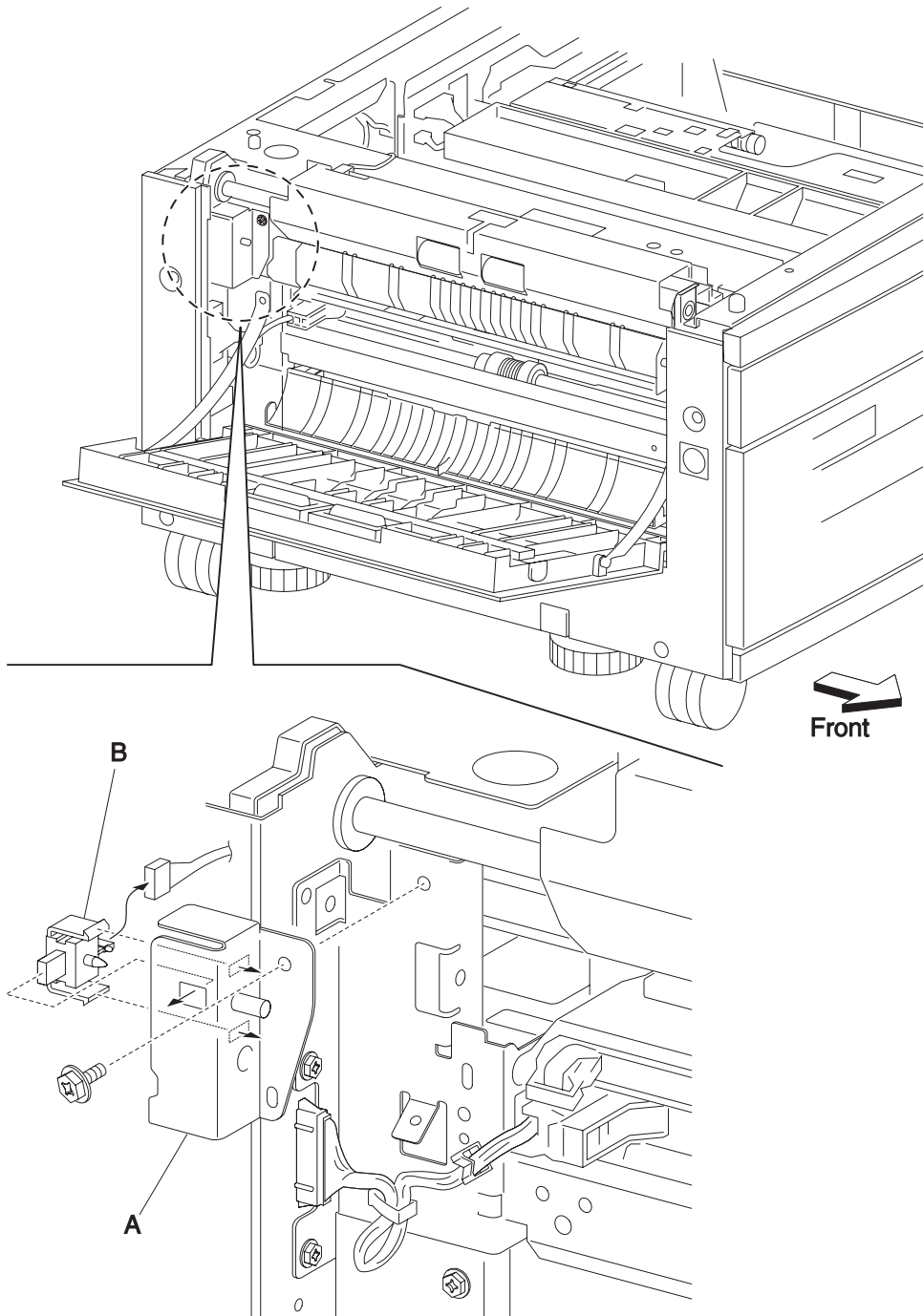
## 2000-sheet dual input (TTM)—2TM/TTM left door assembly removal

1. Open the 2TM/TTM left door assembly.
2. Remove one screw securing the 2TM/TTM left door support strap (A).
3. Remove one screw securing the bracket (B).
4. Remove the bracket (B).
5. Move the 2TM/TTM left door assembly (C) toward the right and outward in the direction of the arrow.
6. Remove the 2TM/TTM left door assembly (C).



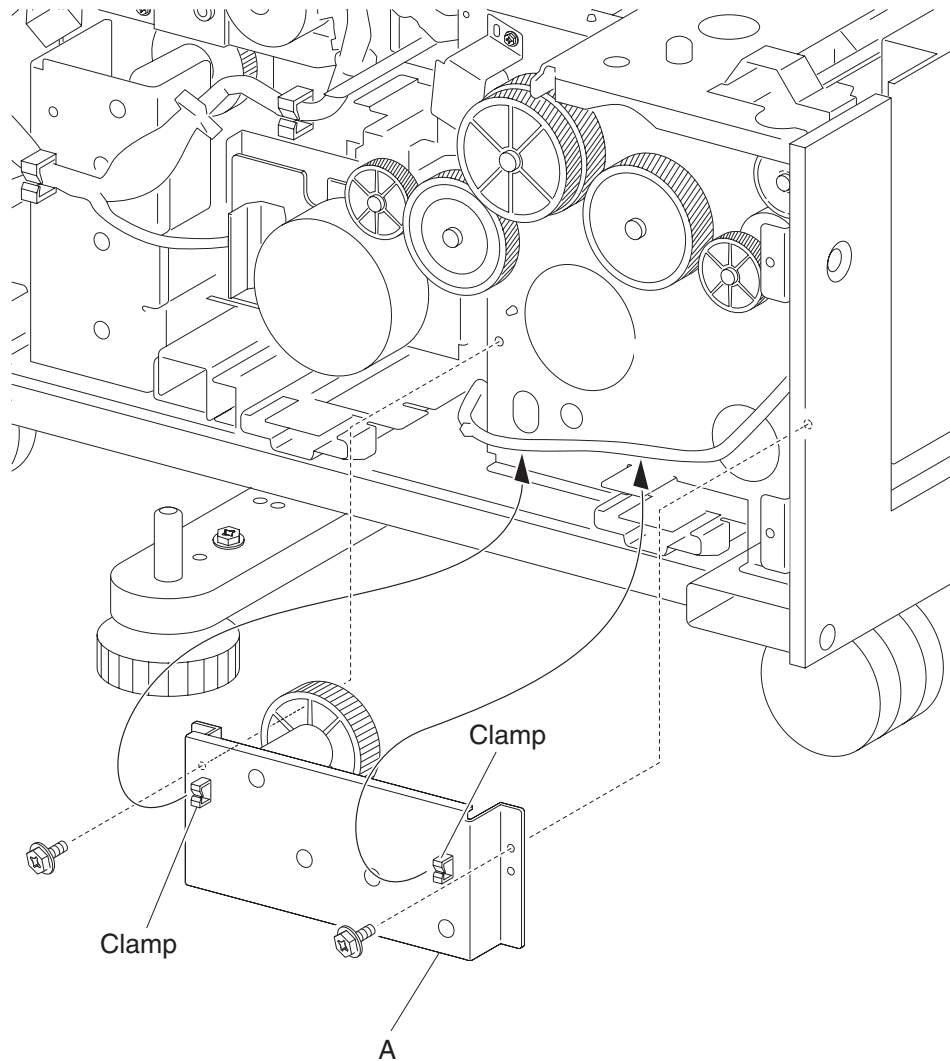
## 2000-sheet dual input (TTM)—switch (2TM/TTM left door interlock) removal

1. Open the left door assembly.
2. Remove the screw securing the bracket (A).
3. Remove the bracket (A).
4. Disconnect the connector from the switch (2TM/TTM left door interlock) (B).
5. Release the hooks securing the switch (2TM/TTM left door interlock) (B) to the bracket (A).
6. Remove the switch (2TM/TTM left door interlock) (B).



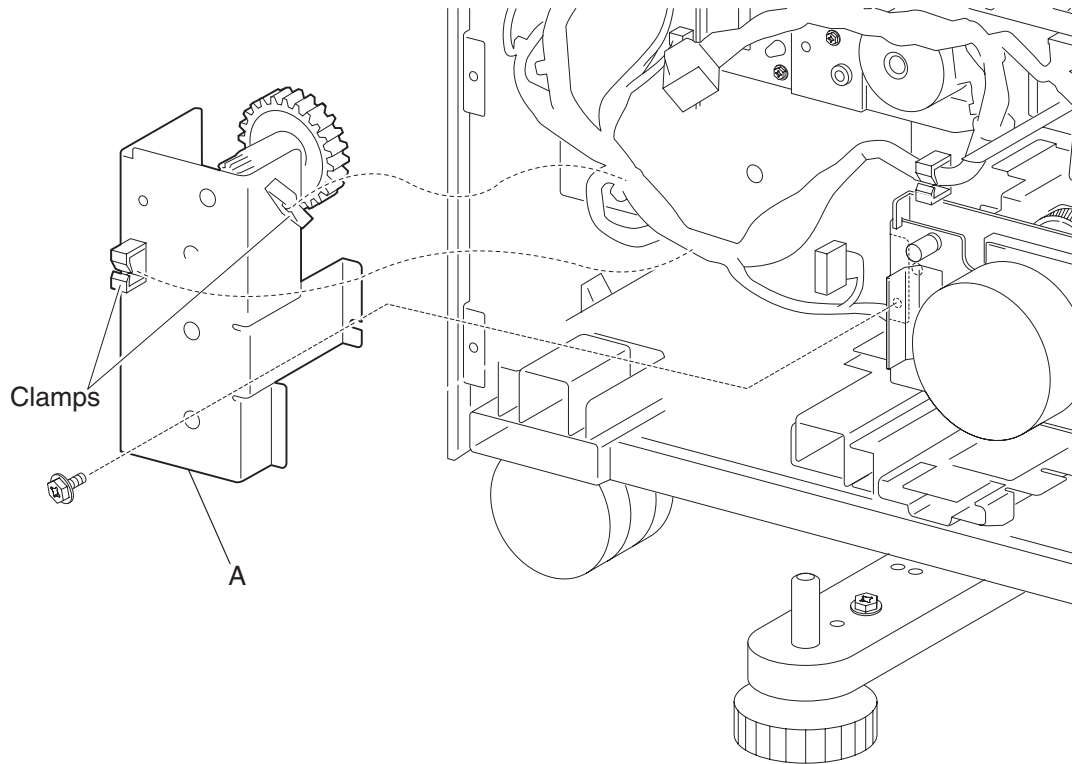
## 2000-sheet dual input (TTM)—tray 3 lift gear assembly removal

1. Remove the rear cover. See **“2000-sheet dual input (TTM)—rear cover removal”** on page 4-212.
2. Remove the media feed unit 3 assembly. See **“2000-sheet dual input (TTM)—media feed unit assembly removal (tray 3)”** on page 4-243.
3. Release the harness from the clamp of the tray 3 lift gear assembly (A).
4. Remove two screws securing the tray 3 lift gear assembly (A).
5. Remove the tray 3 lift gear assembly (A).



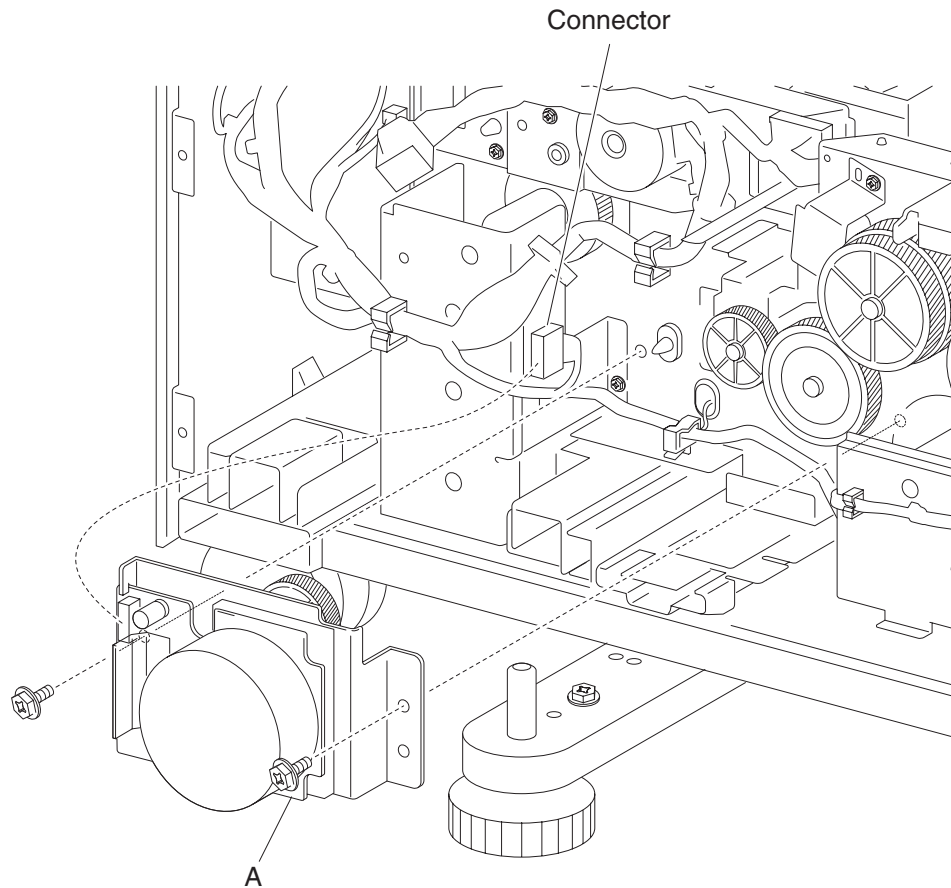
## 2000-sheet dual input (TTM)—tray 4 lift gear assembly removal

1. Remove the rear cover. See **“2000-sheet dual input (TTM)—rear cover removal”** on page 4-212.
2. Remove the controller card assembly. See **“2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal”** on page 4-274.
3. Release the two harnesses from the clamp of the tray 4 lift gear assembly (A).
4. Remove two screws securing the tray 4 lift gear assembly (A).
5. Remove the tray 4 lift gear assembly (A).



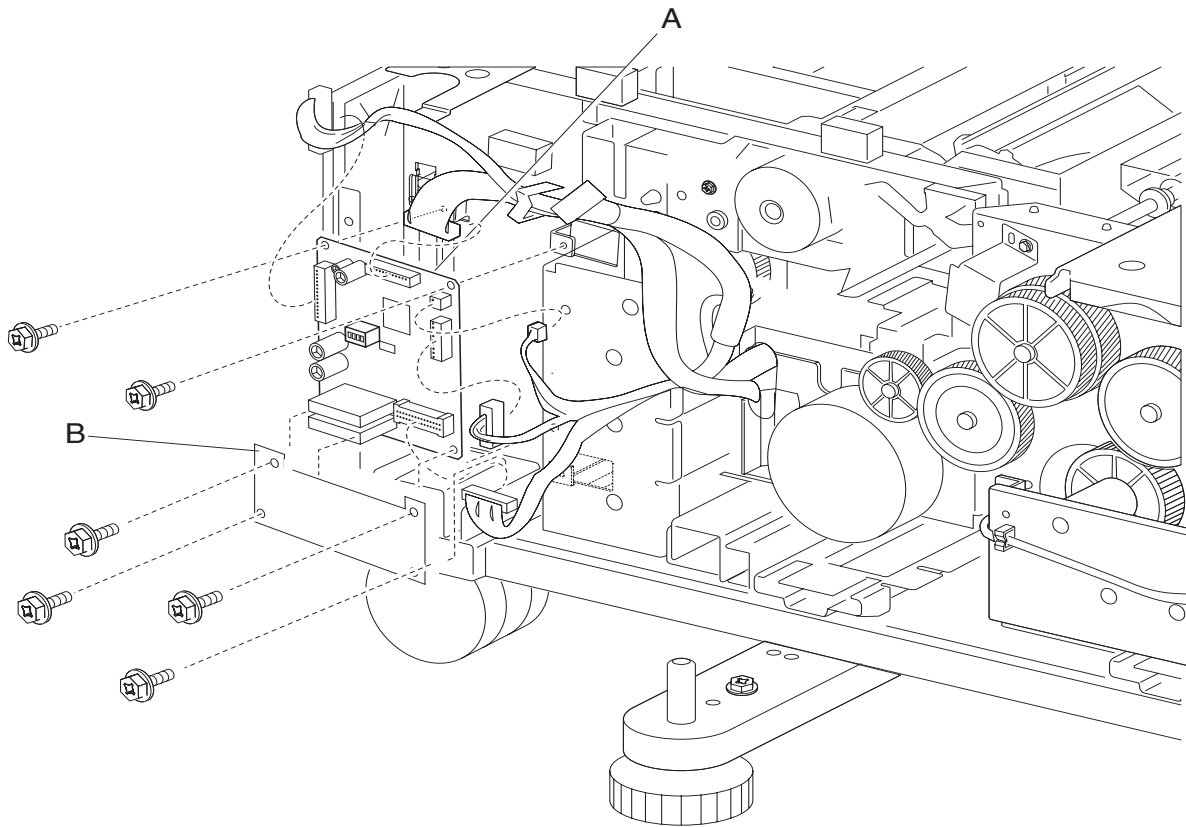
## 2000-sheet dual input (TTM)—drive motor assembly removal

1. Remove the rear cover. See **“2000-sheet dual input (TTM)—rear cover removal”** on page 4-212.
2. Disconnect the connector from the 2TM/TTM drive motor (A).
3. Remove two screws securing the 2TM/TTM drive motor (A).
4. Remove the 2TM/TTM drive motor (A).

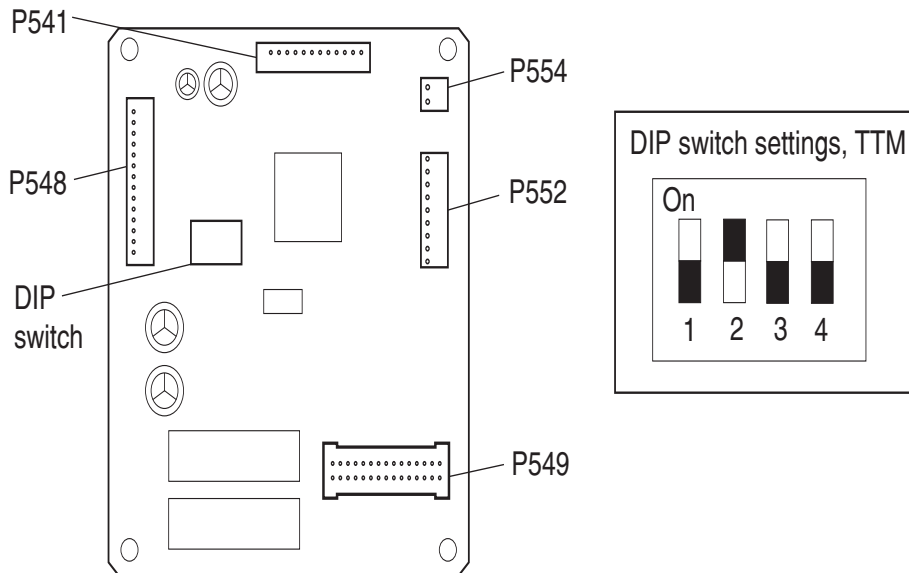


## 2000-sheet dual input (TTM)—2TM/TTM controller card assembly removal

1. Remove the rear cover. See **“2000-sheet dual input (TTM)—rear cover removal”** on page 4-212.
2. Disconnect all the connectors from the 2TM/TTM controller card assembly (A).



3. Remove four screws securing the 2TM/TTM controller card assembly (A).
4. Remove the controller card assembly (A).

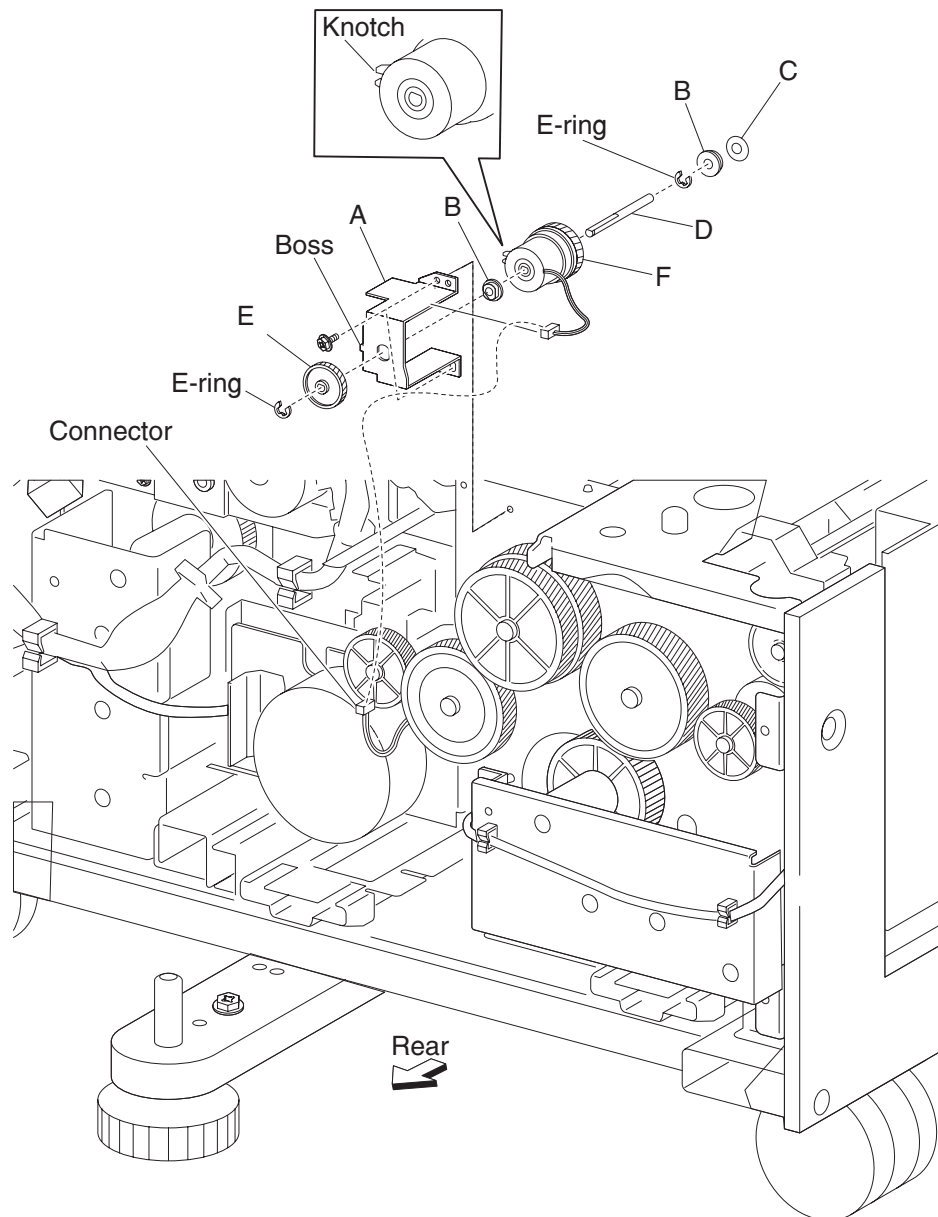


2TM /TTM control card



## 2000-sheet dual input (TTM)—clutch removal

1. Remove the rear cover. See **“2000-sheet dual input (TTM)—rear cover removal”** on page 4-212.
2. Disconnect the connector from the machine to the bracket (A).
3. Remove two screws securing the bracket (A) to the frame assembly.
4. Remove the bracket (A).  
**Note:** The bushing (B) and washer (C) may become detached from the shaft (D).
5. Remove the e-clip securing the clutch gear - 38 tooth (E) to the shaft (D) using a prying tool, and remove the clutch gear - 38 tooth (E).
6. Disconnect the harness connector to the 2TM/TTM clutch (F) from the bracket (A).
7. Remove the 2TM/TTM clutch (F).



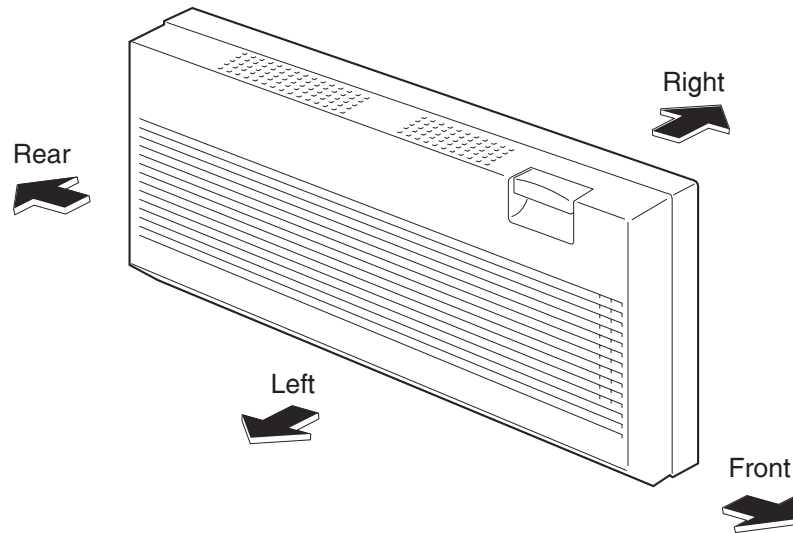
**Note:** Before re-installing:

- The notch on the 2TM/TTM clutch (F) must be placed over the boss of the bracket (A), as shown in the figure.

- Ensure the harness does not come in contact with the gears.

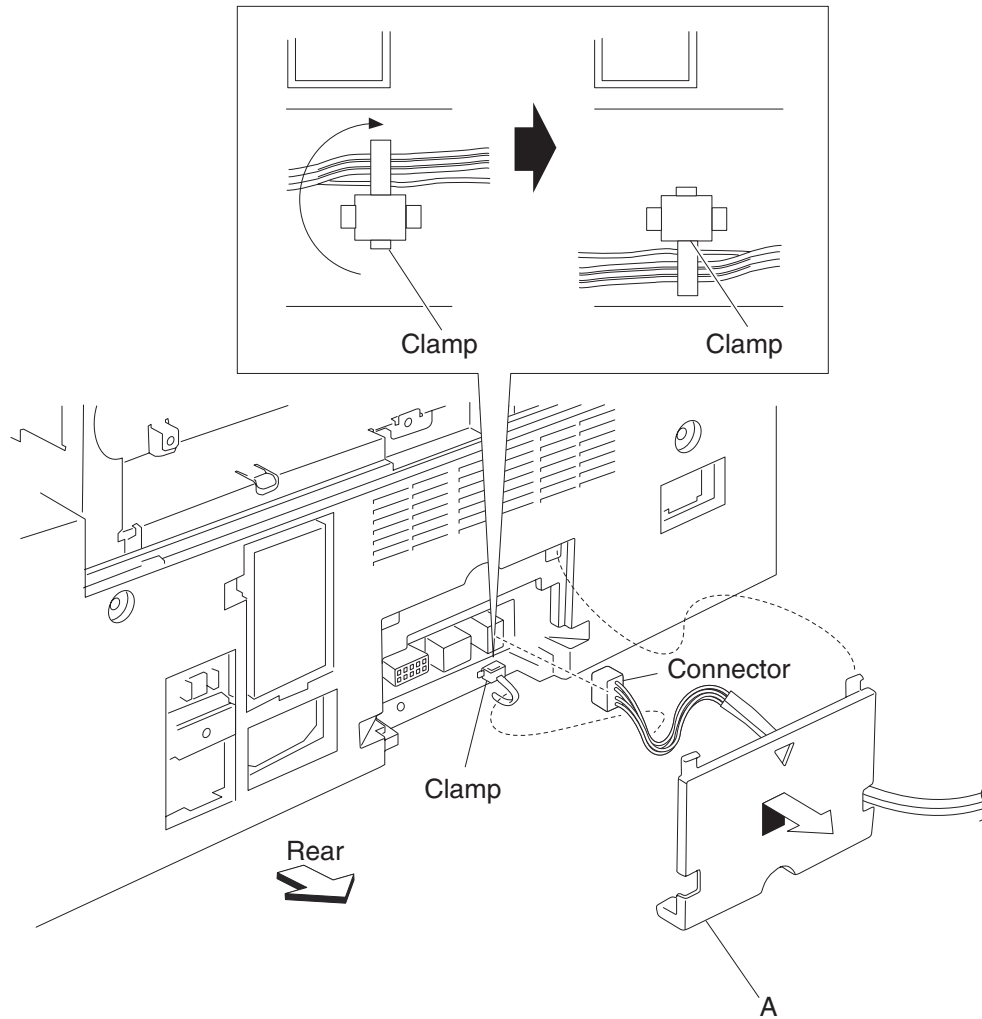
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## Duplex unit removals

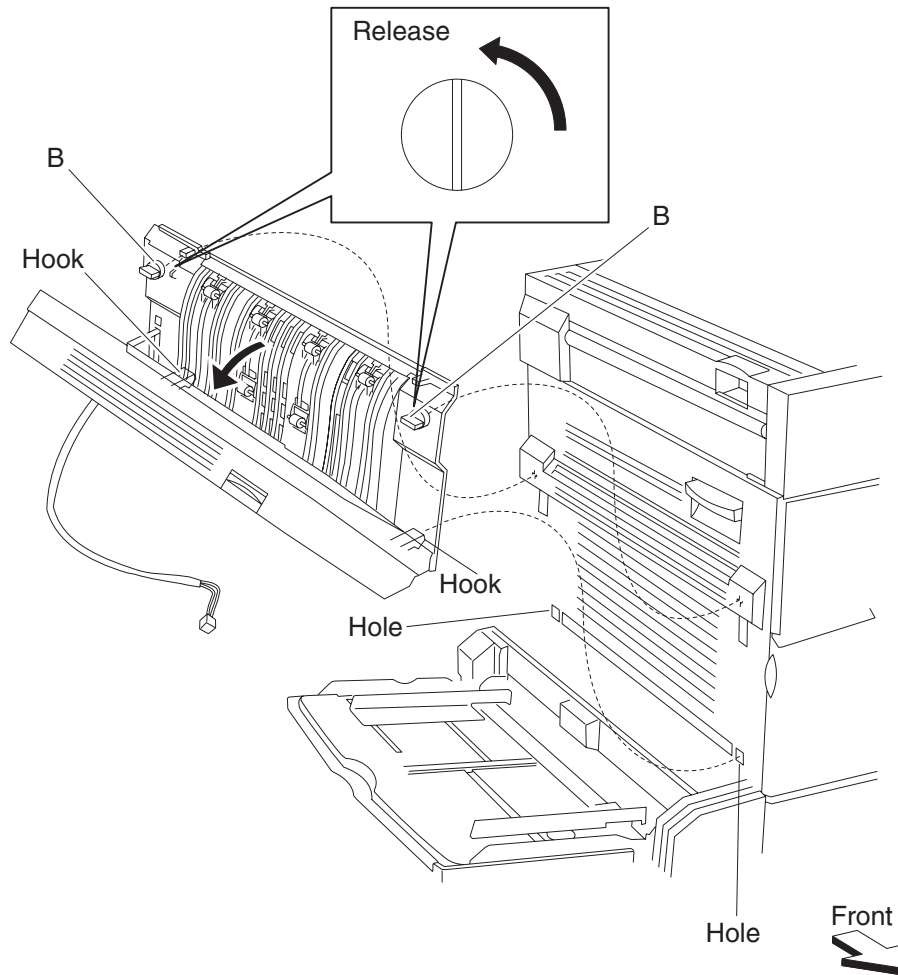


## Duplex unit assembly removal

1. Pull the option hookup cover (A) outward in the direction of the arrow to remove.
2. Disconnect the connector of the duplex unit assembly harness from the machine.
3. Release the duplex unit assembly harness clamp from the machine.
4. Open the duplex unit assembly.

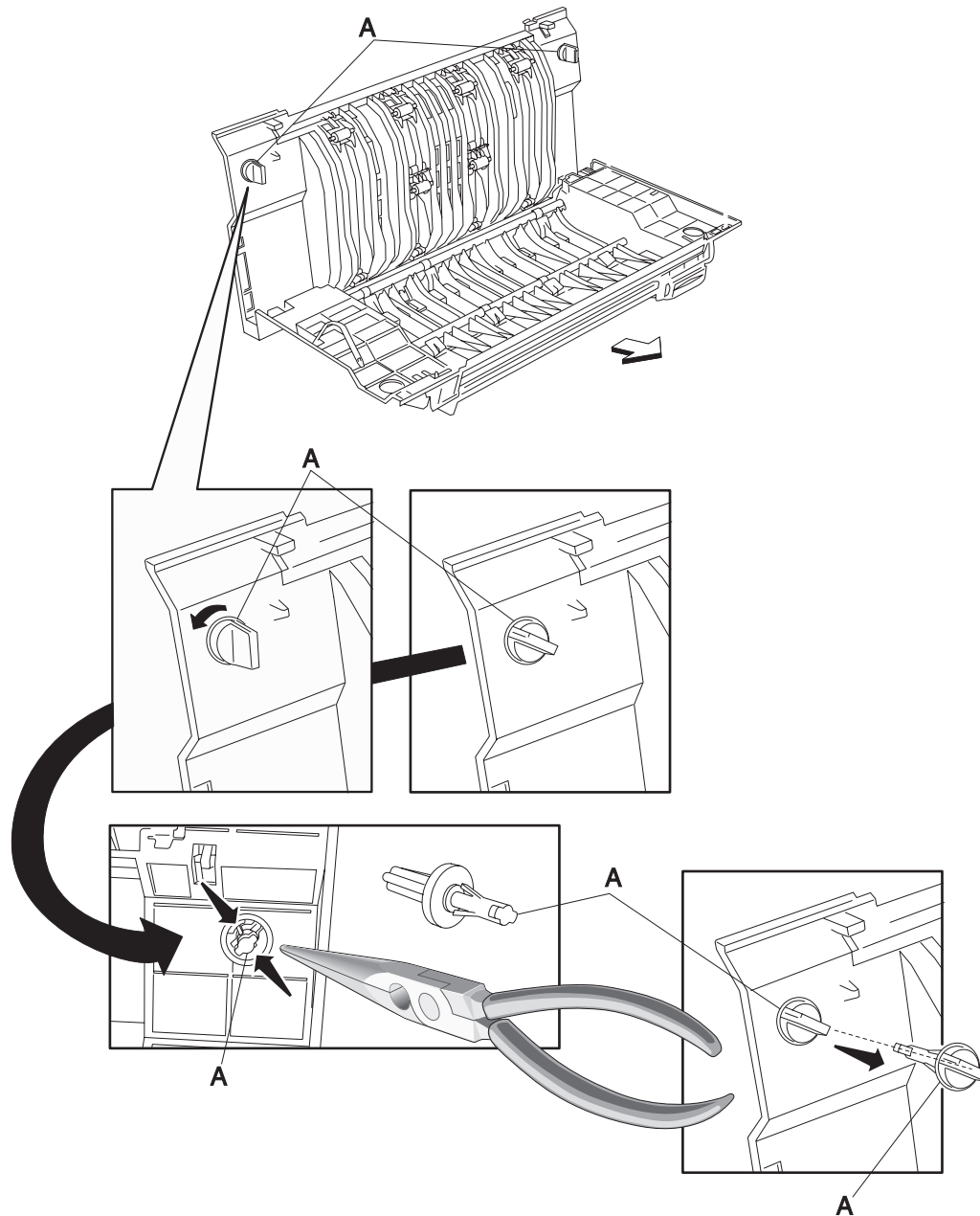


5. Turn the two duplex docking locks (B) on the duplex unit assembly by 90 degrees counterclockwise to release the duplex unit assembly from the machine.
6. Remove the duplex unit assembly.



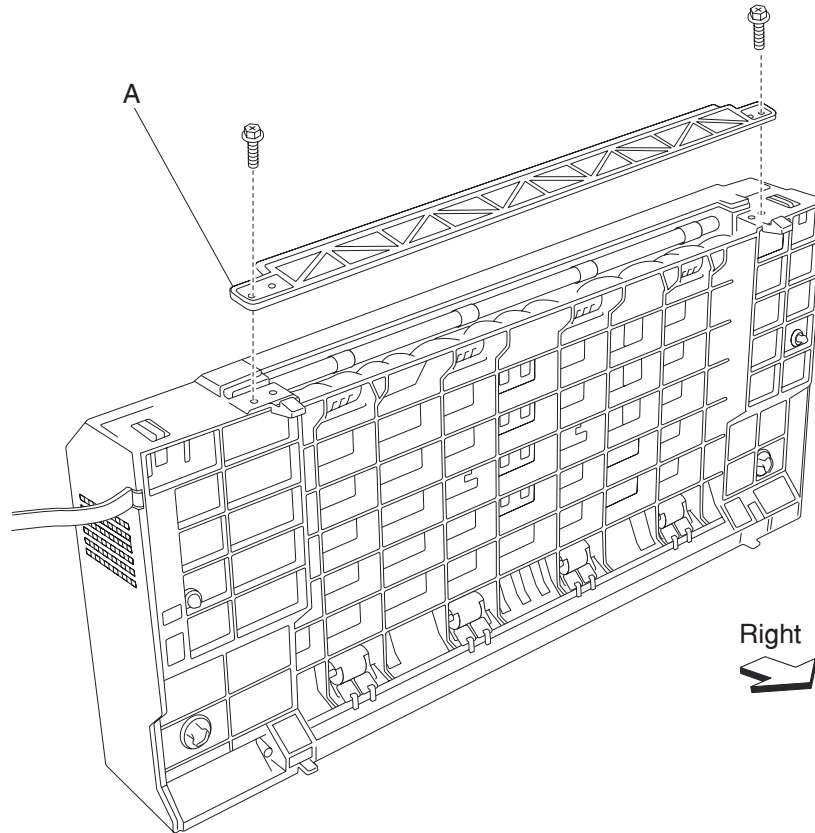
## Duplex docking locks removal

1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Open the duplex unit assembly.
3. Turn the two duplex docking locks (A) 45 degrees, and release the hooks with needle nose pliers on the back side securing them to the duplex.
4. Remove the two duplex docking locks (A).

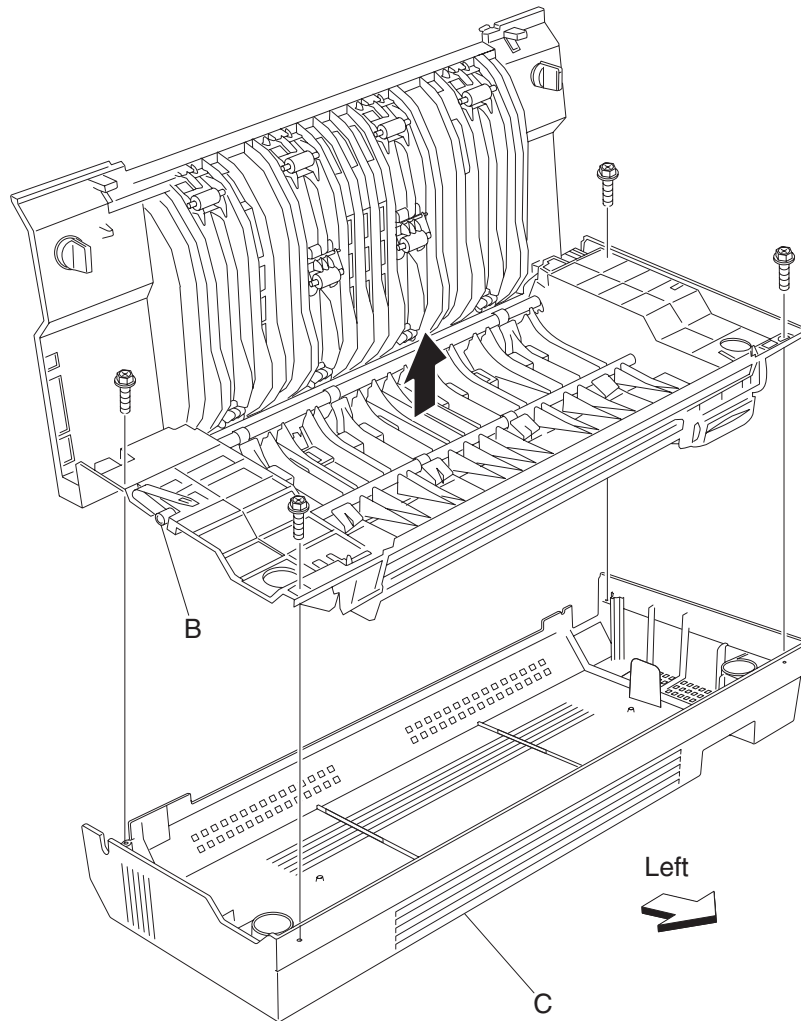


## Duplex support strap removal

1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).

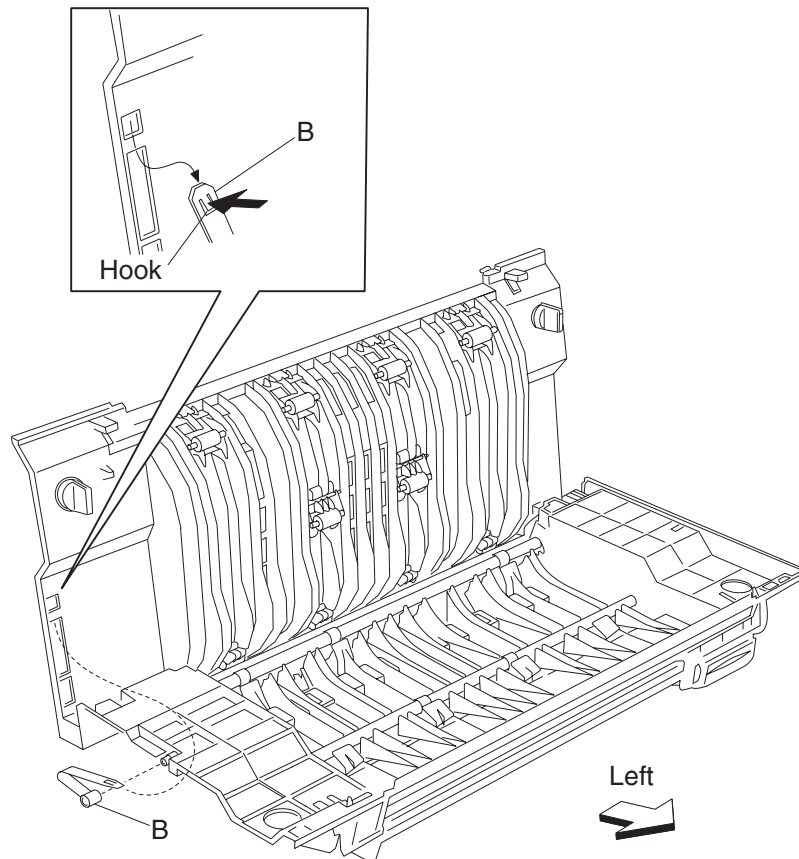


4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.



6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).

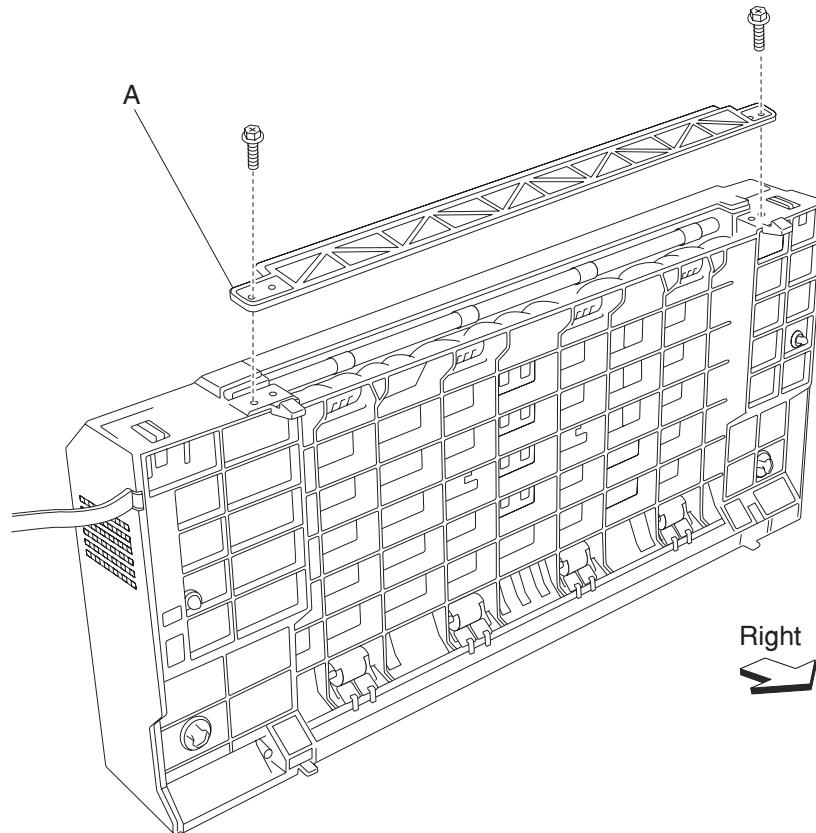
8. Remove the duplex left door support strap (B) from the duplex unit assembly.



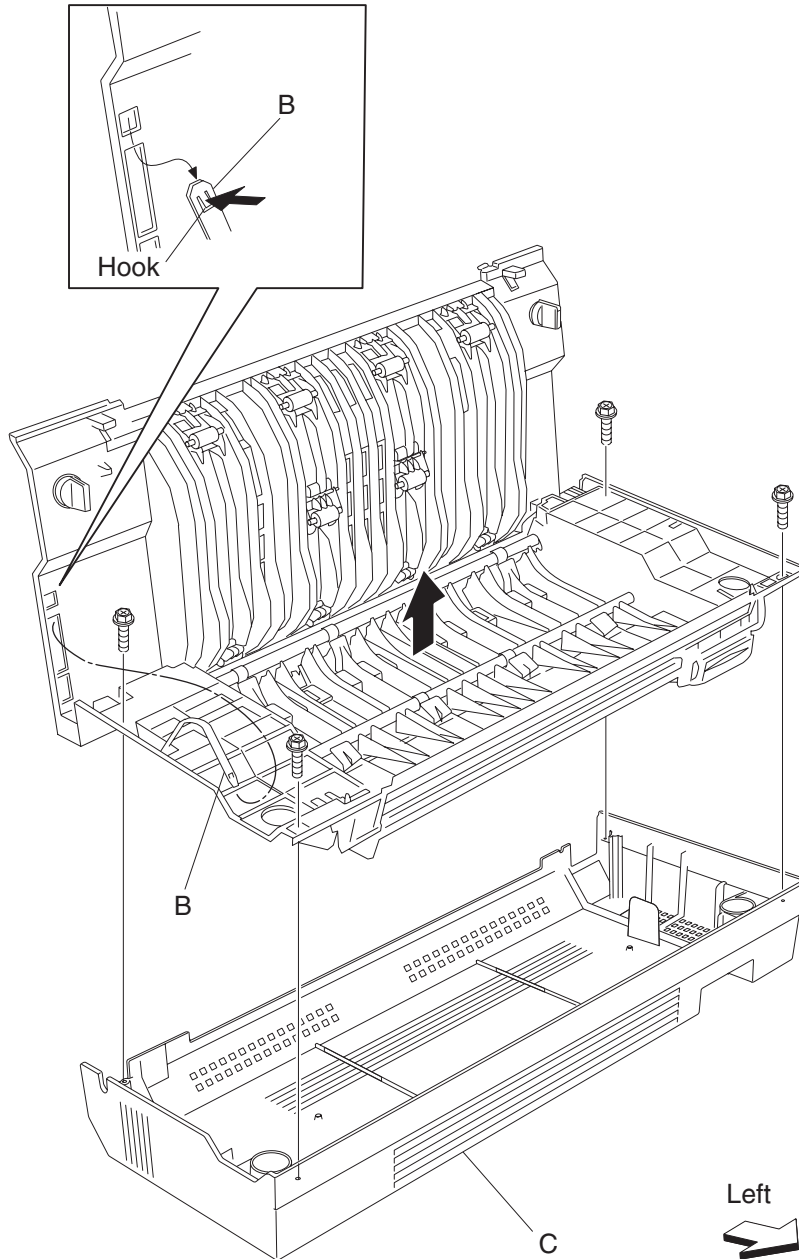


## Duplex drive gear 28 tooth removal

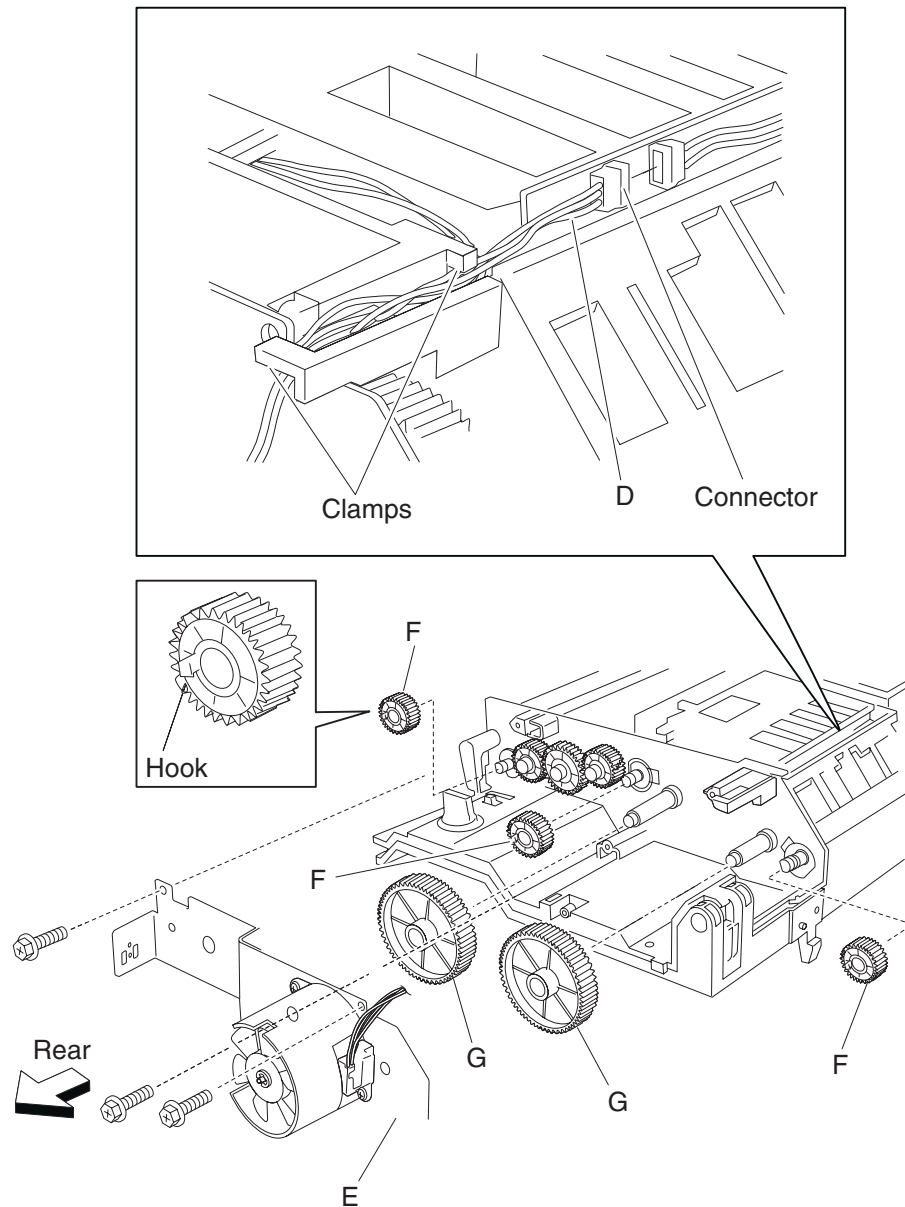
1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).



4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.
6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).

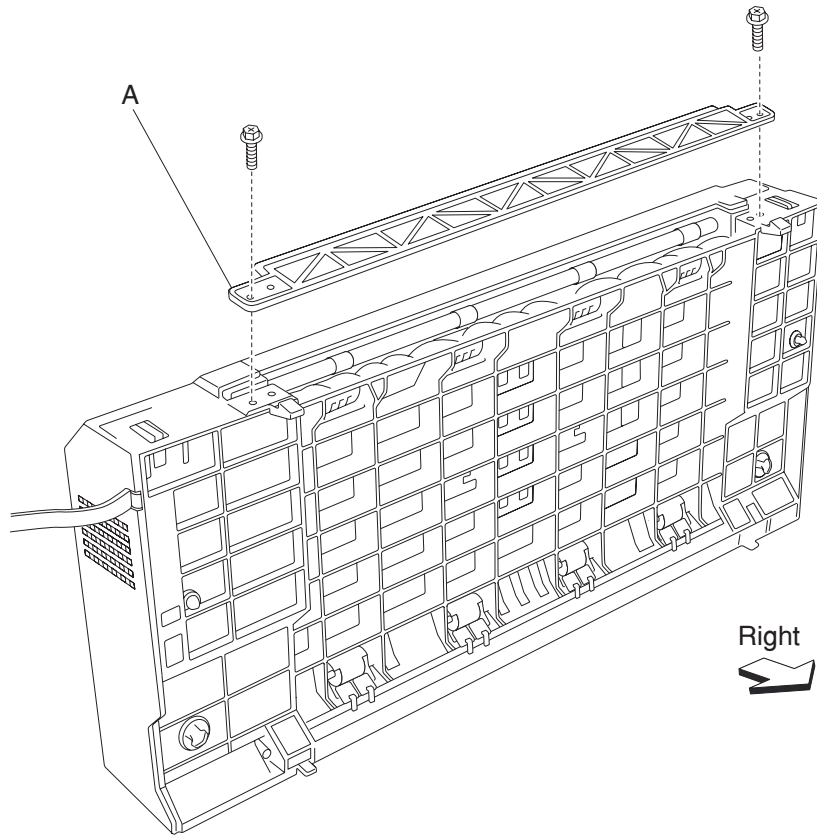


8. Disconnect the connector of the harness from duplex drive motor assembly (D) to the duplex main cable assembly.
9. Release the harness from the clamps of the duplex unit assembly.
10. Remove the three screws securing the bracket (E) to the duplex unit assembly.
11. Remove the bracket (E).
12. Remove the two duplex drive gears 33/74T (G).
13. Release the hooks securing the three duplex drive gears 28T (F) to the duplex unit assembly.
14. Remove the three duplex drive gears 28T (F).

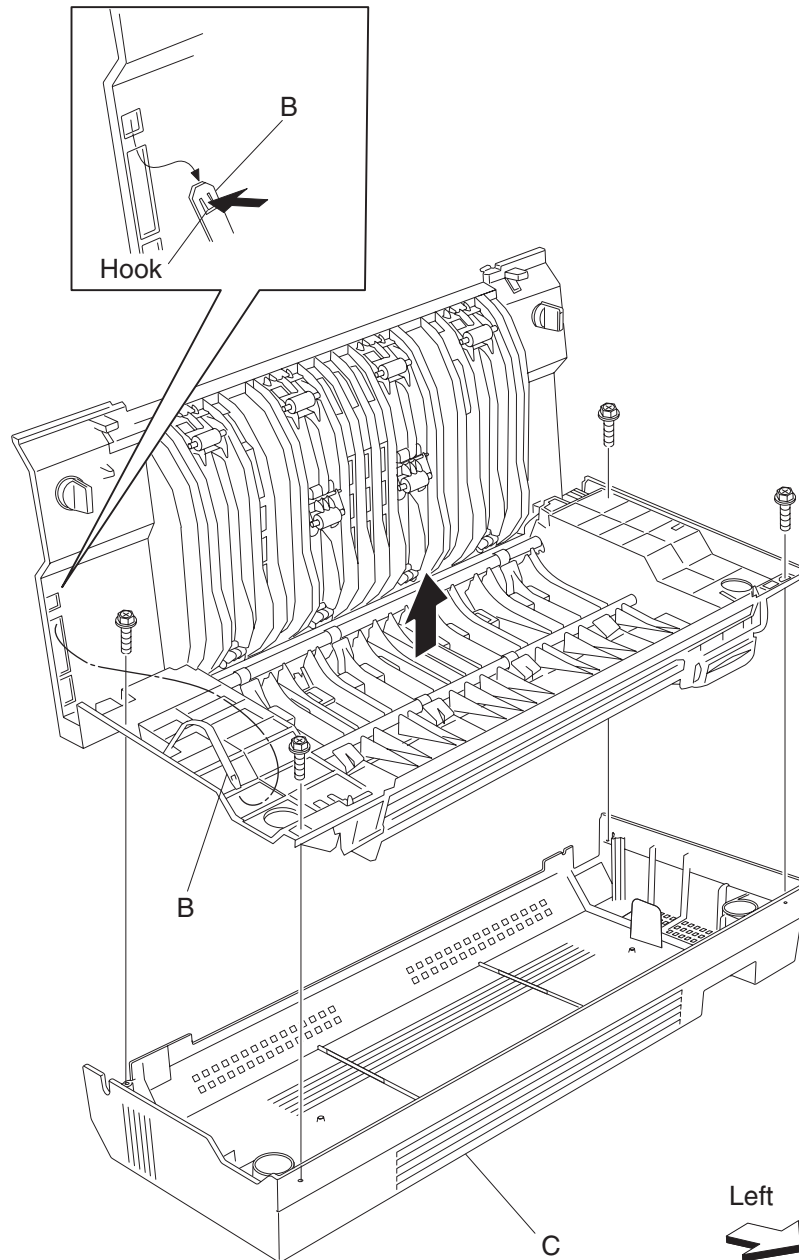


## Duplex drive gear 33 / 74 tooth removal

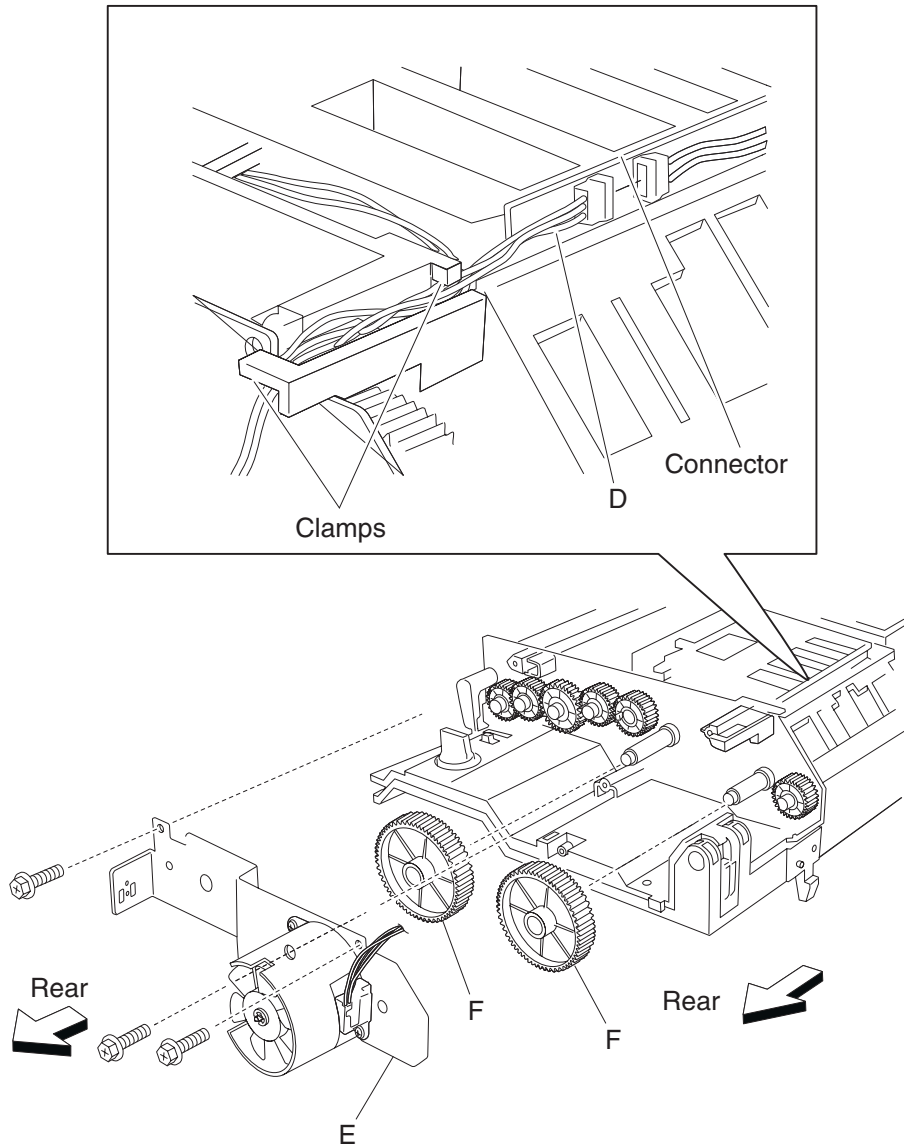
1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).



4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.
6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).

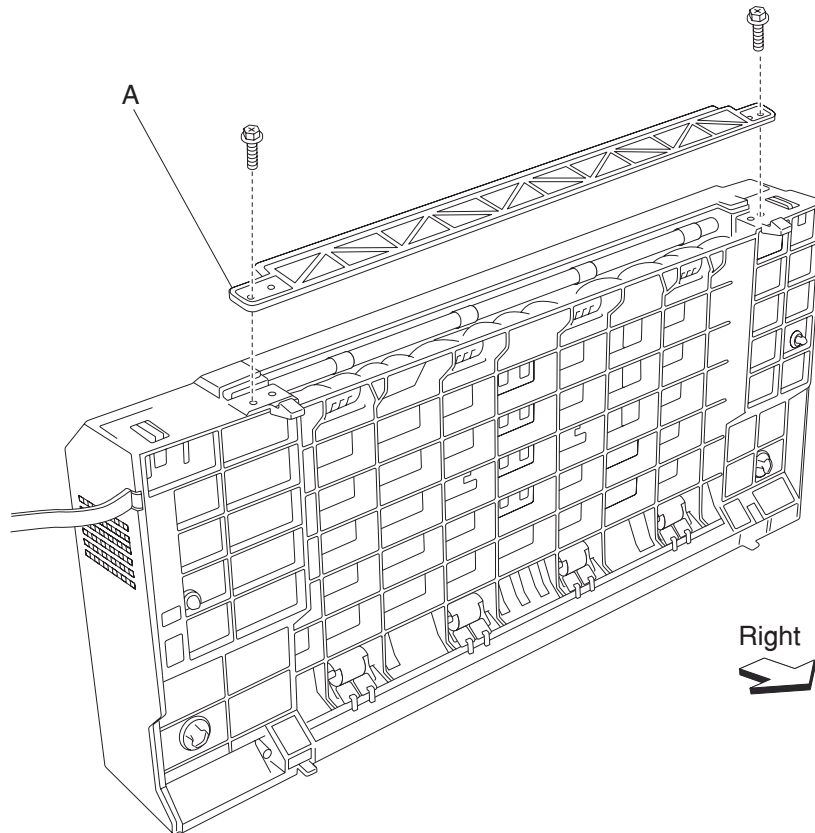


8. Disconnect the connector of the harness from duplex drive motor assembly (D) to the duplex main cable assembly.
9. Release the harness from the clamps of the duplex unit assembly.
10. Remove the three screws securing the bracket (E) to the duplex unit assembly.
11. Remove the bracket (E).
12. Remove the two duplex drive gears 33/74T (F).

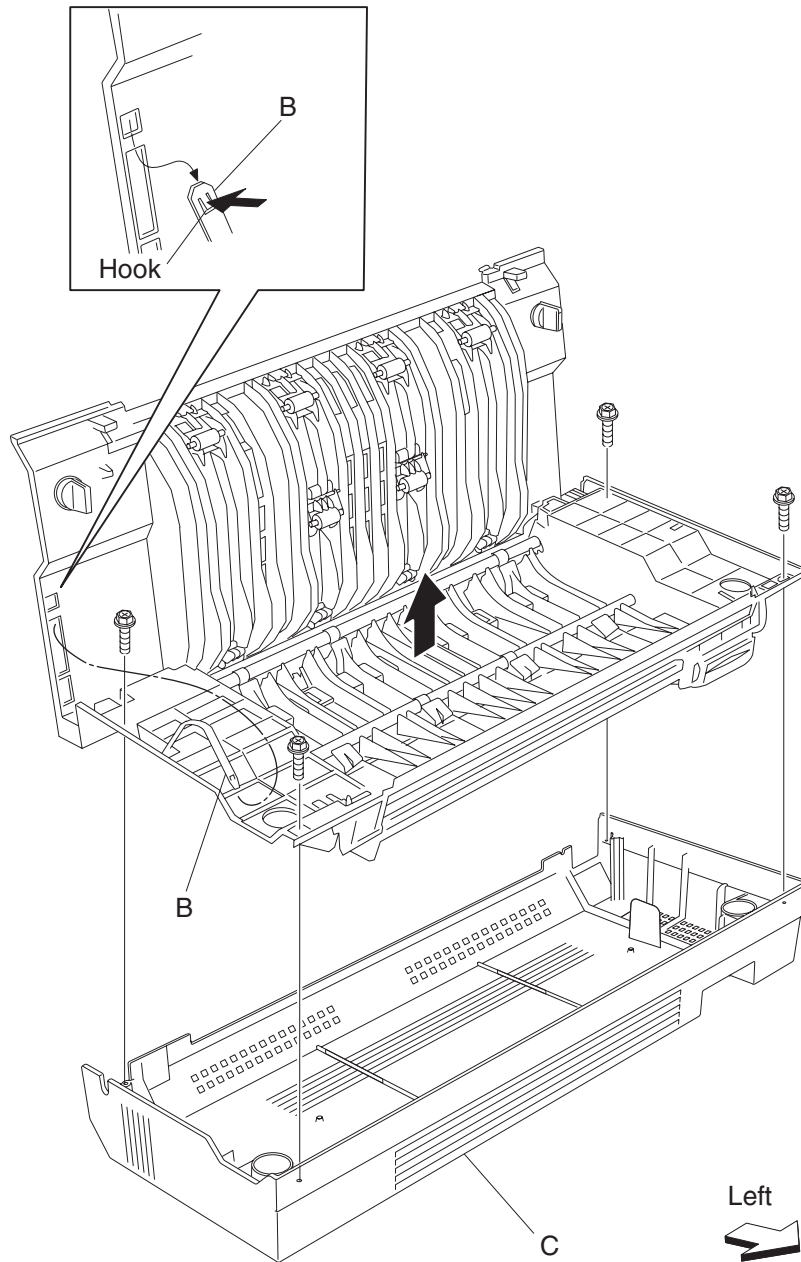


## Duplex drive gear 33 tooth removal

1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).

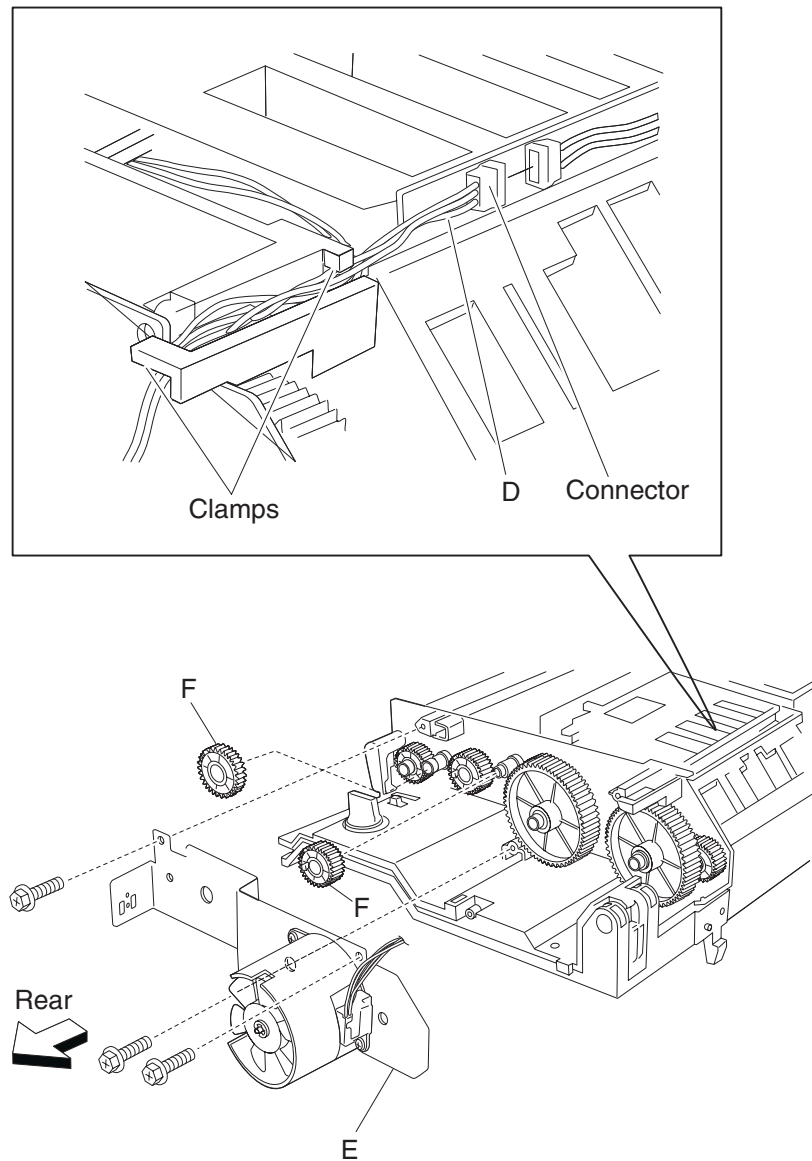


4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.
6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).



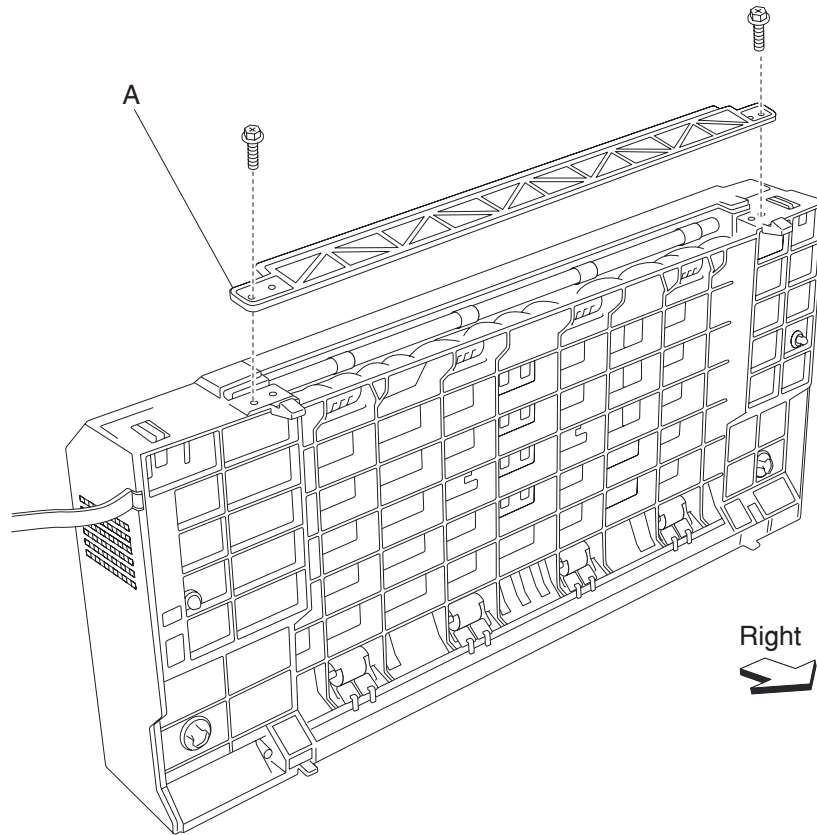


8. Disconnect the connector of the harness from the duplex drive motor assembly (D) to the duplex main cable assembly.
9. Release the harness from the clamps of the duplex unit assembly.
10. Remove the three screws securing the bracket (E) to the duplex unit assembly.
11. Remove the bracket (E).
12. Remove the two duplex drive gears 33T (F).

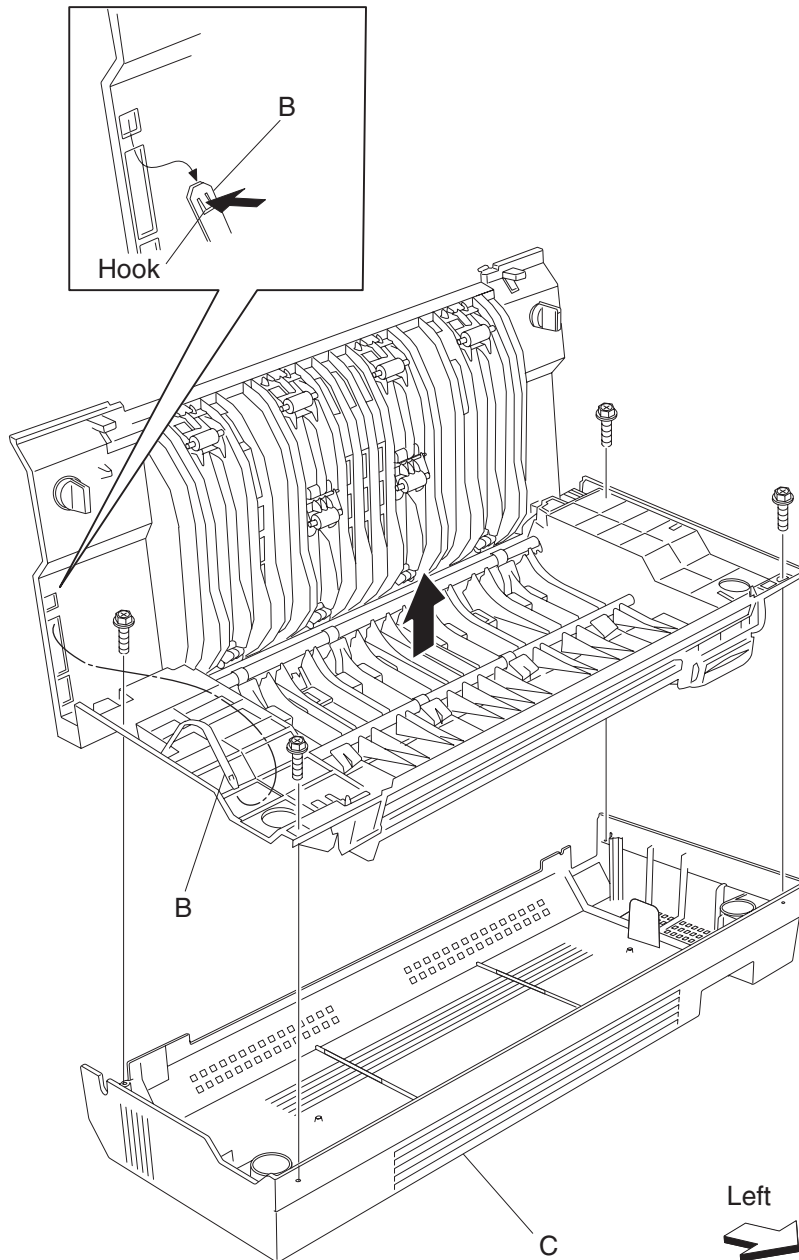


## Duplex drive gear 42 tooth removal

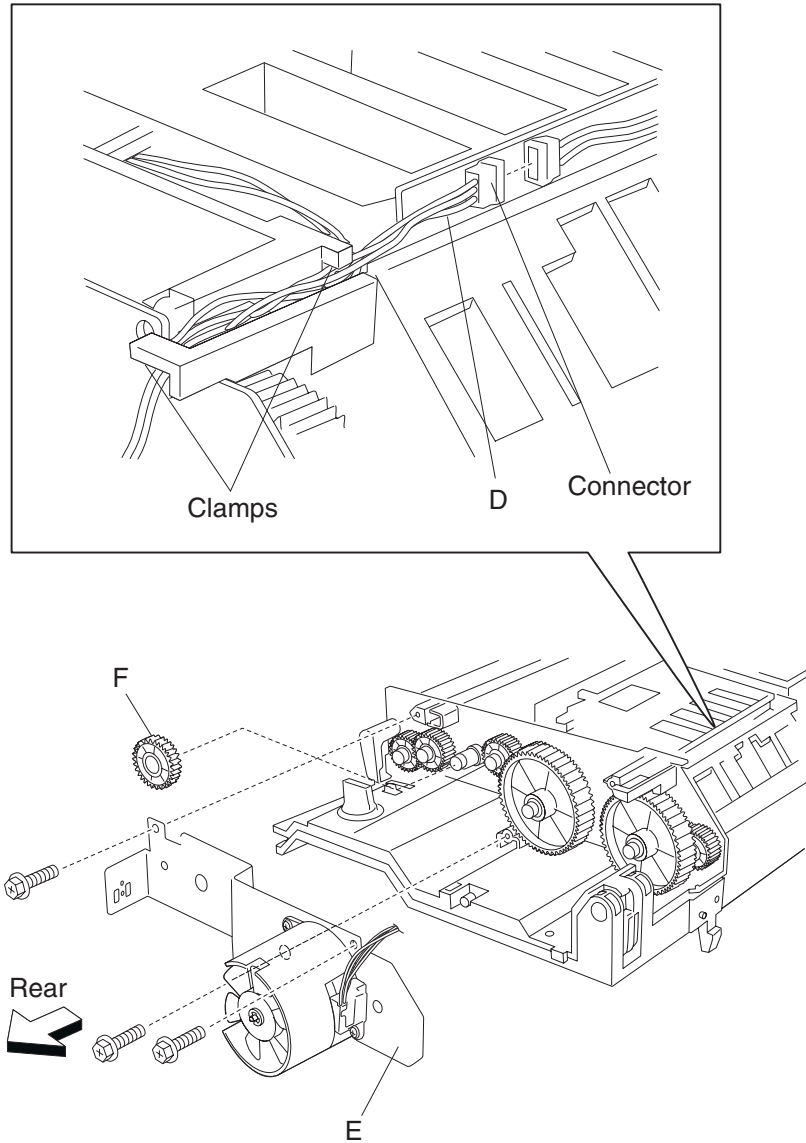
1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).



4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.
6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).

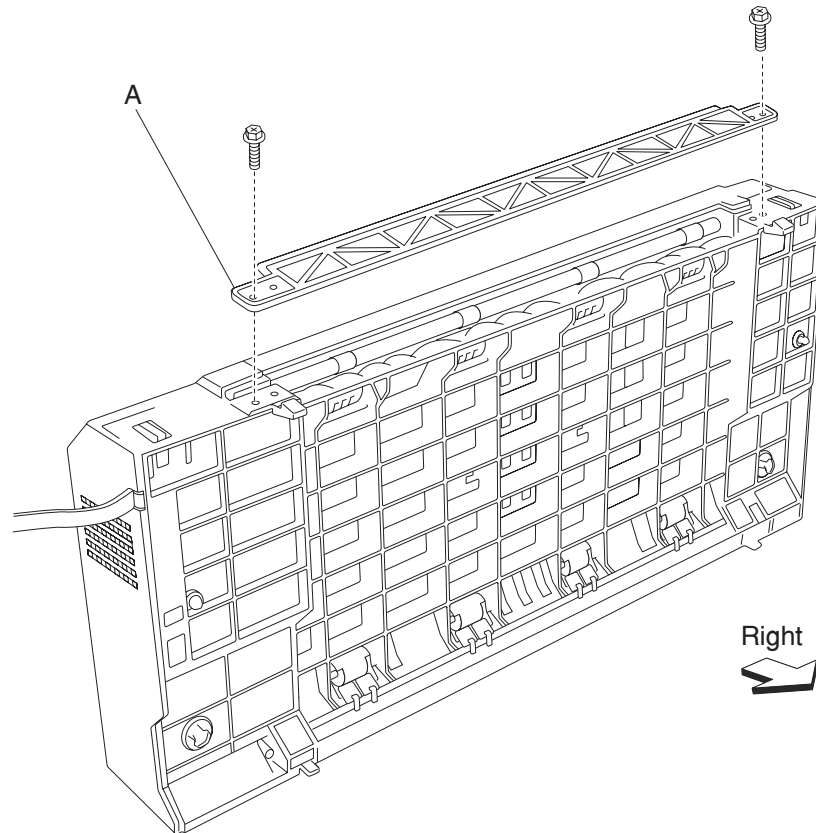


8. Disconnect the connector of the harness from duplex drive motor assembly (D) to the duplex main cable assembly.
9. Release the harness from the clamps of the duplex unit assembly.
10. Remove the three screws securing the bracket (E) to the duplex unit assembly.
11. Remove the bracket (E).
12. Remove the duplex drive gear 42T (F).

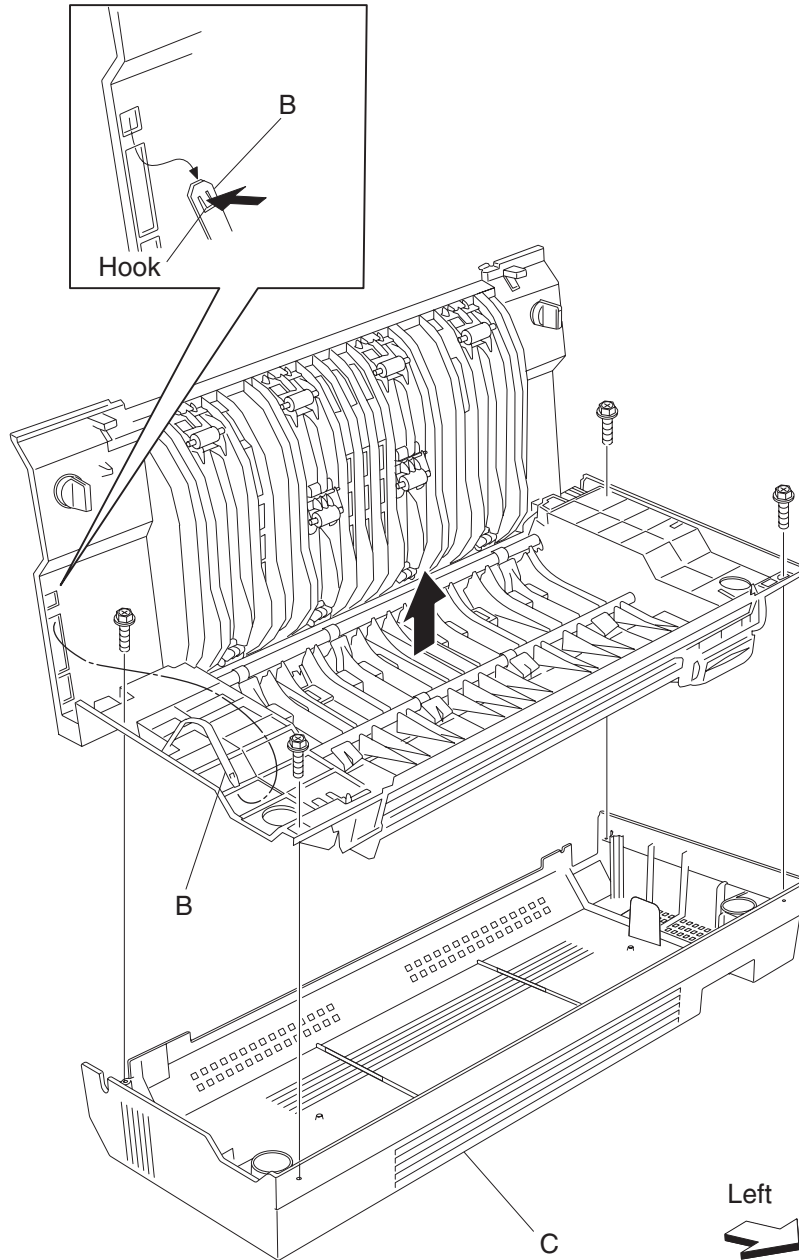


## Duplex switch (left cover interlock) removal

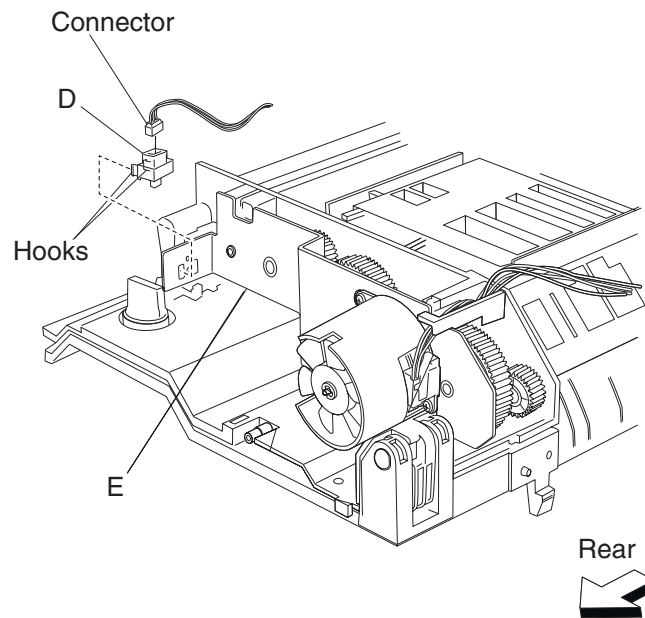
1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).



4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.
6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).

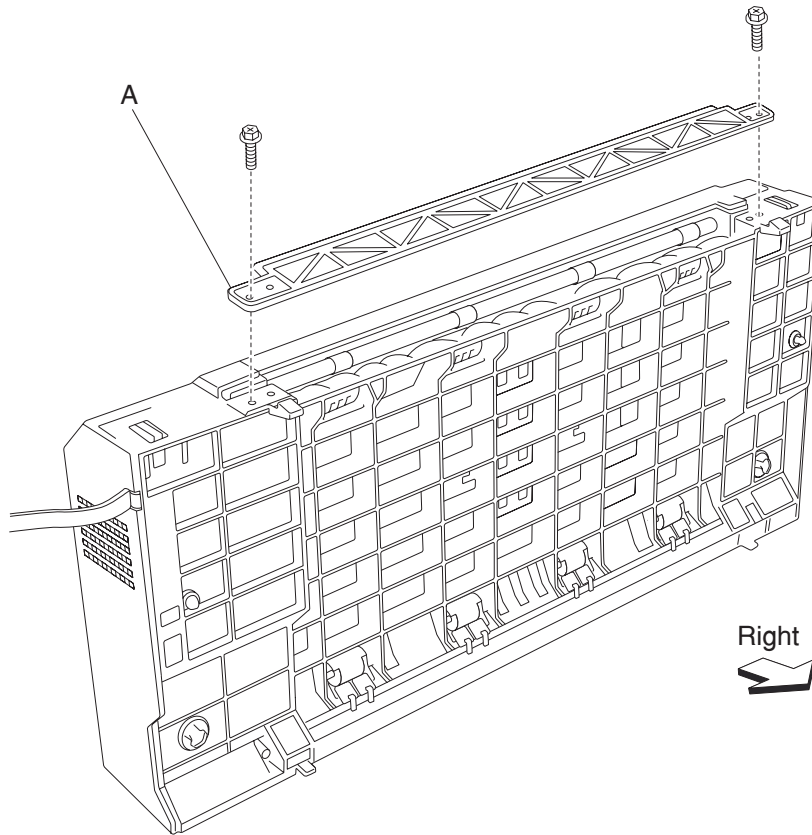


8. Disconnect the connector from the switch (duplex left door interlock) (D).
9. Release the hooks securing the switch (duplex cover interlock) (D) to the bracket (E).
10. Remove the switch (duplex left door interlock) (D).



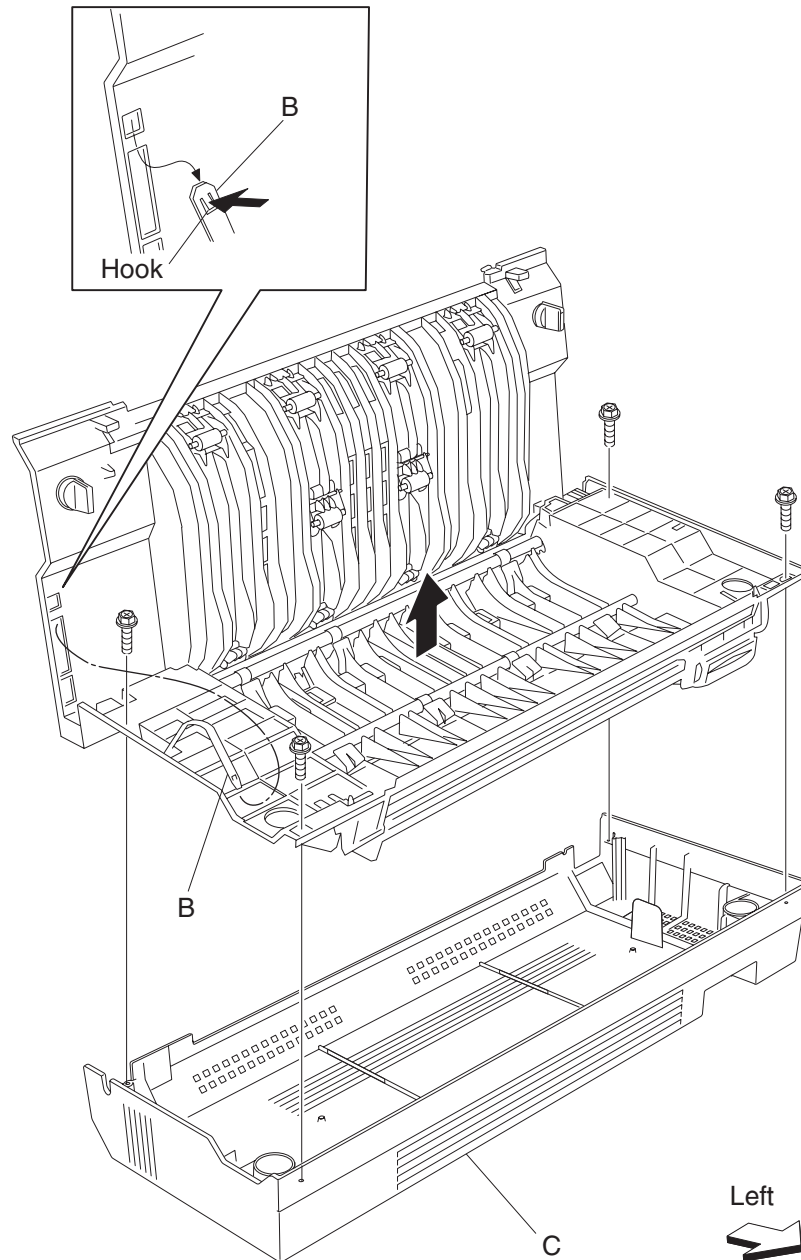
## Duplex media in actuator removal

1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).

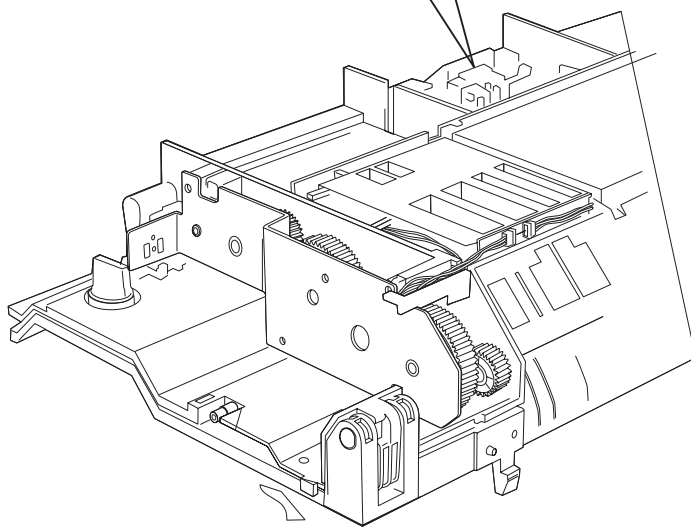
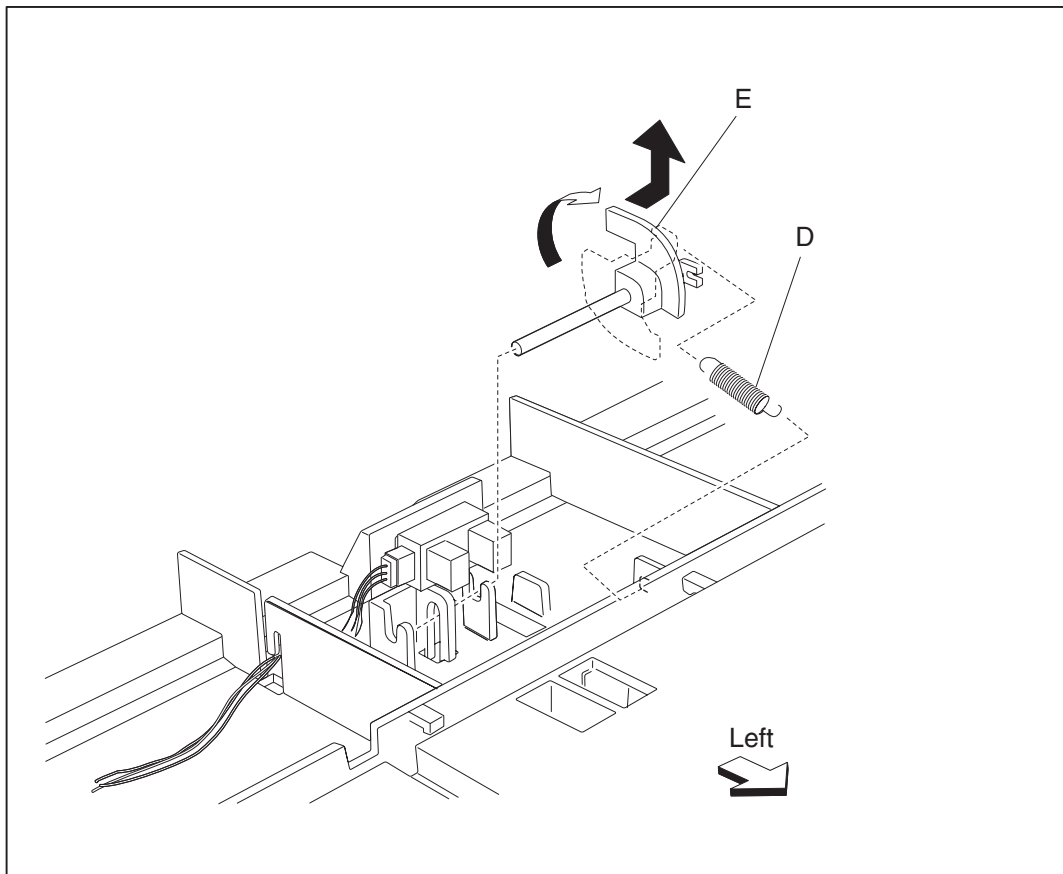




4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.
6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).

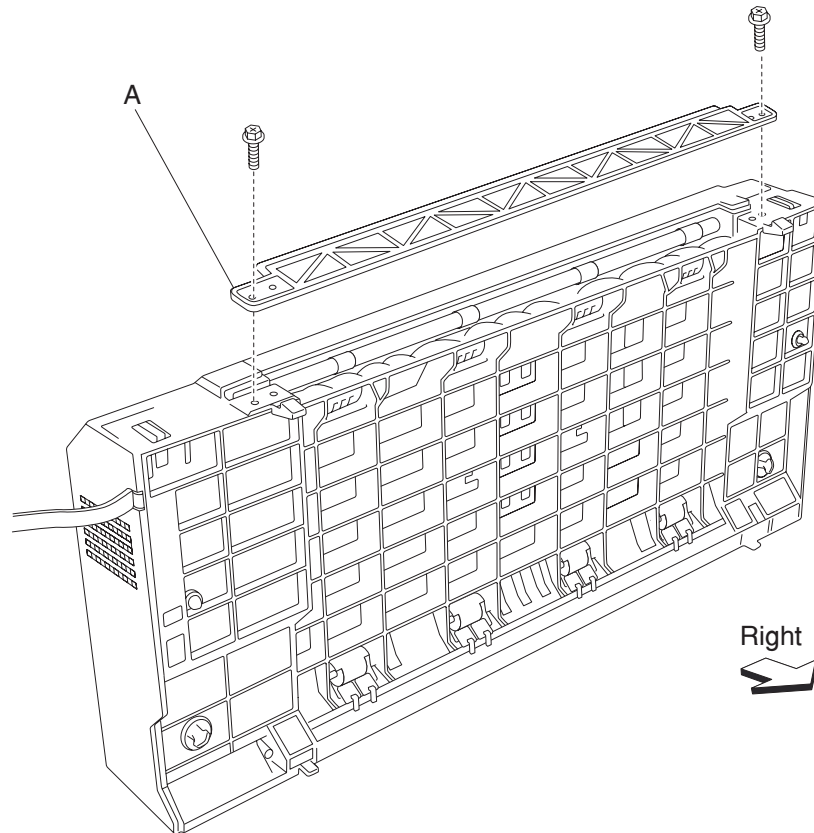


8. Remove the spring (D) from the duplex wait actuator (E).
9. Turn the duplex wait in actuator (E) 180 degrees, and move it rightward and upward in the direction of the arrow.
10. Remove the duplex wait actuator (E).

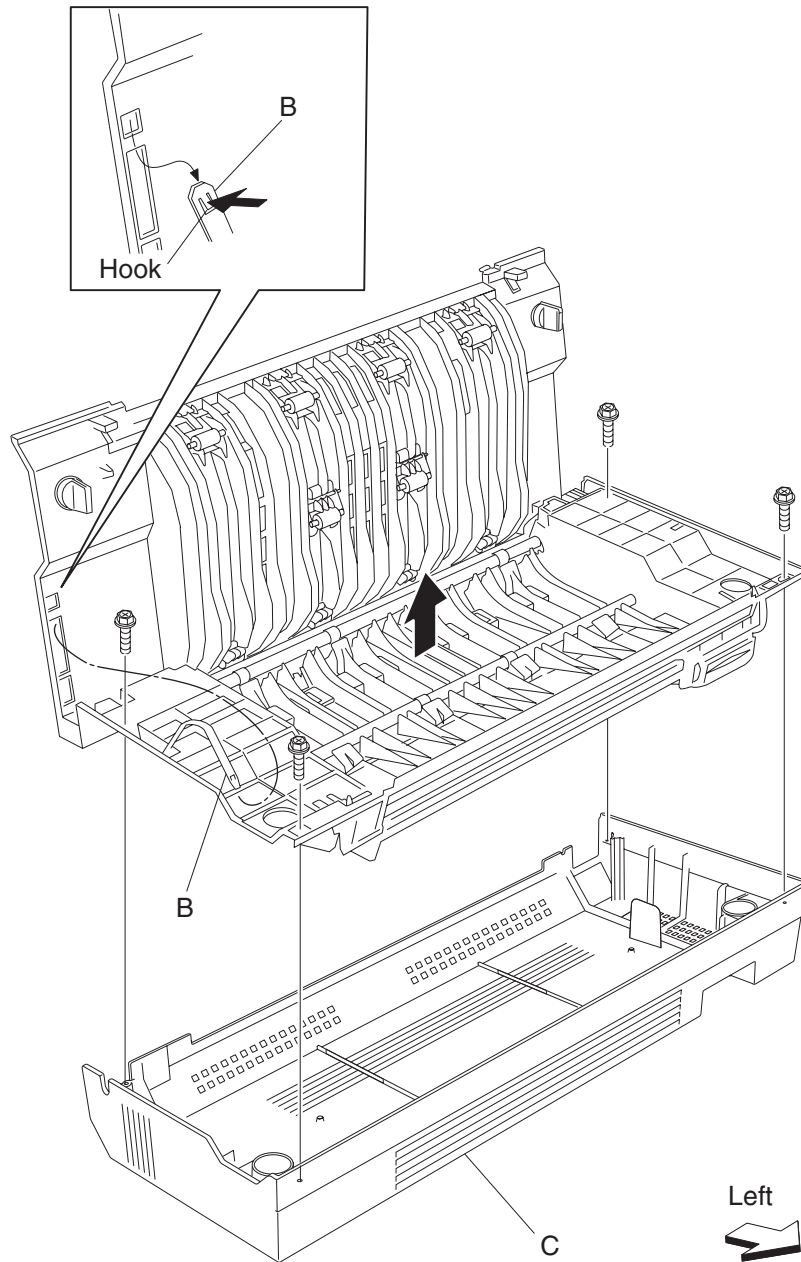


## Duplex drive motor assembly removal

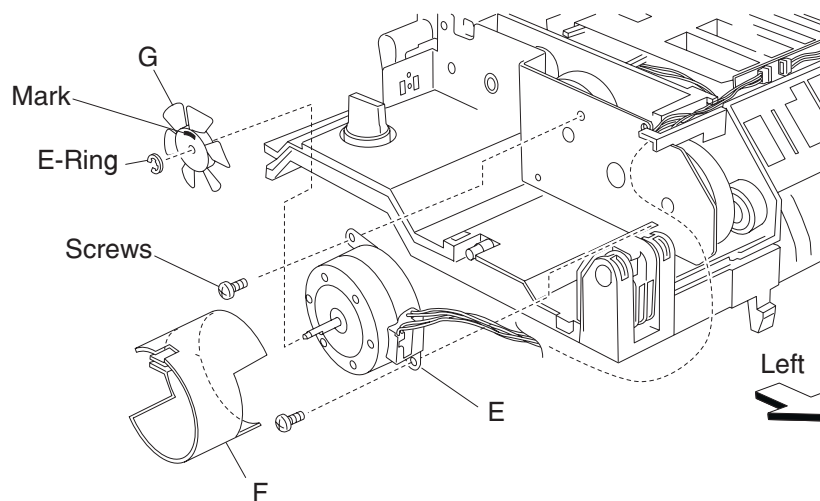
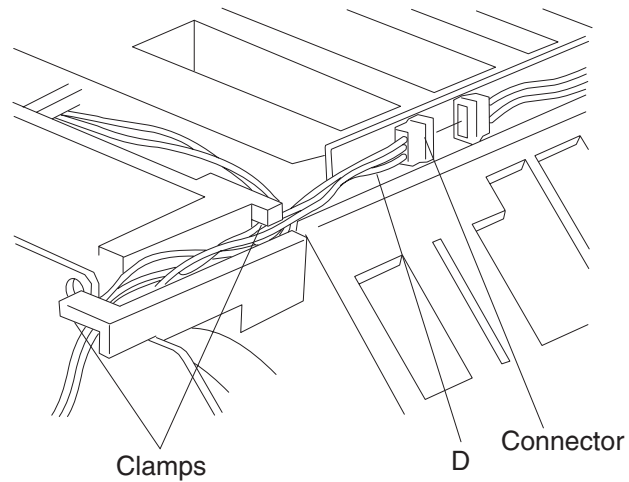
1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).



4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.
6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).

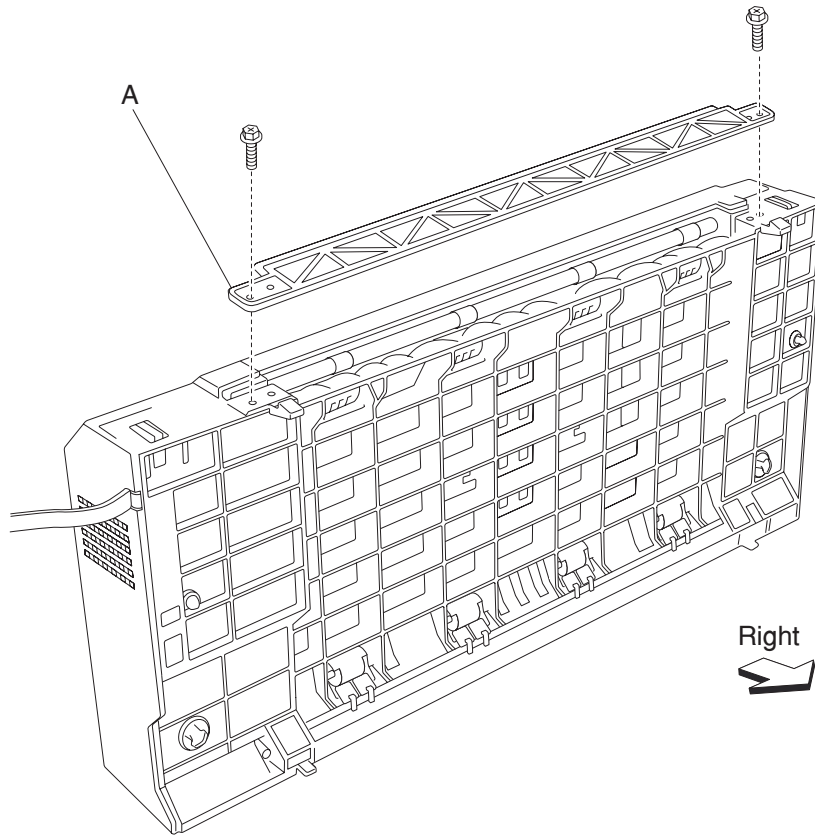


8. Disconnect the connector of the harness from the duplex motor assembly (D) to the duplex main cable assembly.
9. Release the harness from the clamps of the duplex unit assembly.
10. Remove the two screws securing the duplex drive motor assembly (E) to the duplex unit assembly.
11. Remove the duplex drive motor assembly (E).
12. Remove the duplex drive motor duct (F) from the duplex drive motor assembly (E).
13. Remove the e-clip with a prying tool securing the duplex drive motor fan (G) to the duplex drive motor assembly (E).
14. Remove the duplex drive motor fan (G).

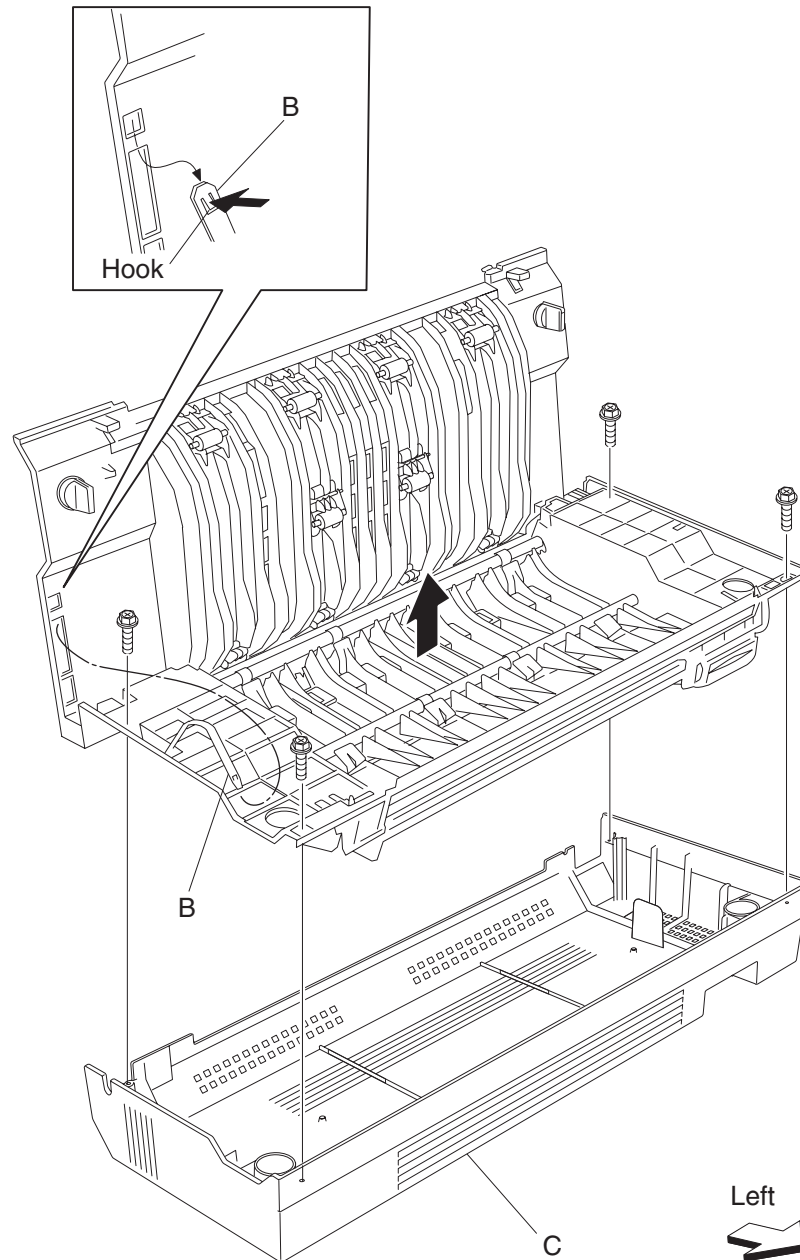


## Duplex controller card assembly removal

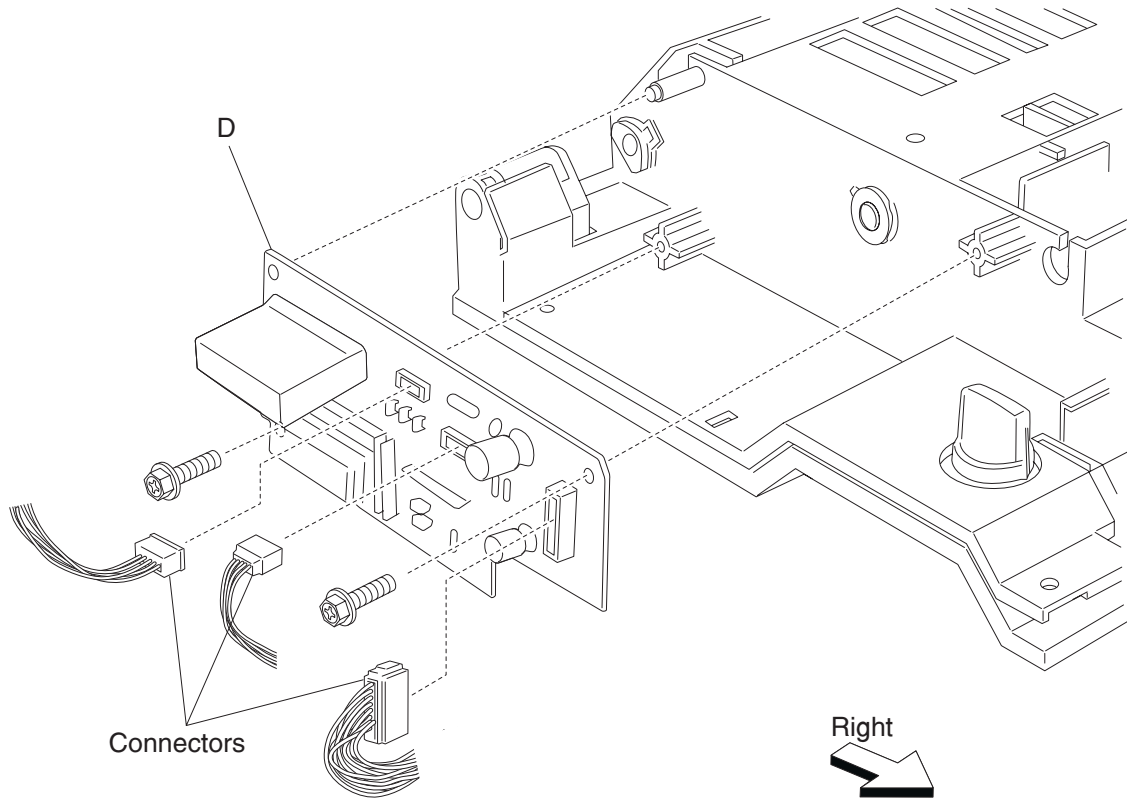
1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).



4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.
6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).



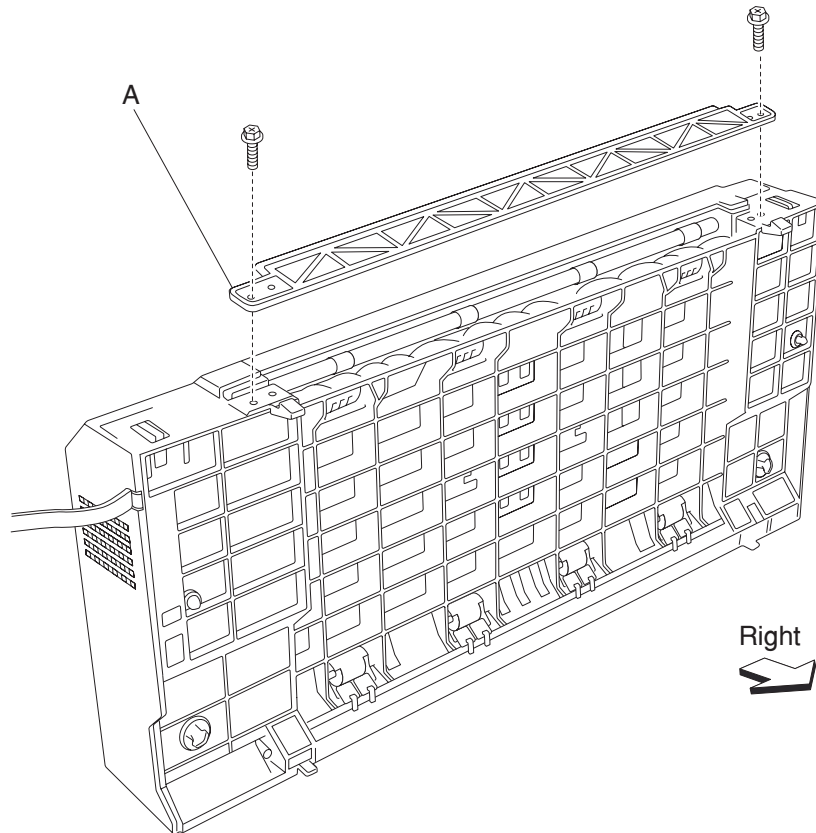
8. Disconnect all the connectors to the duplex controller card assembly (D).
9. Remove the two screws securing the duplex controller card assembly (D) to the duplex unit assembly.
10. Remove the duplex controller card assembly (D).



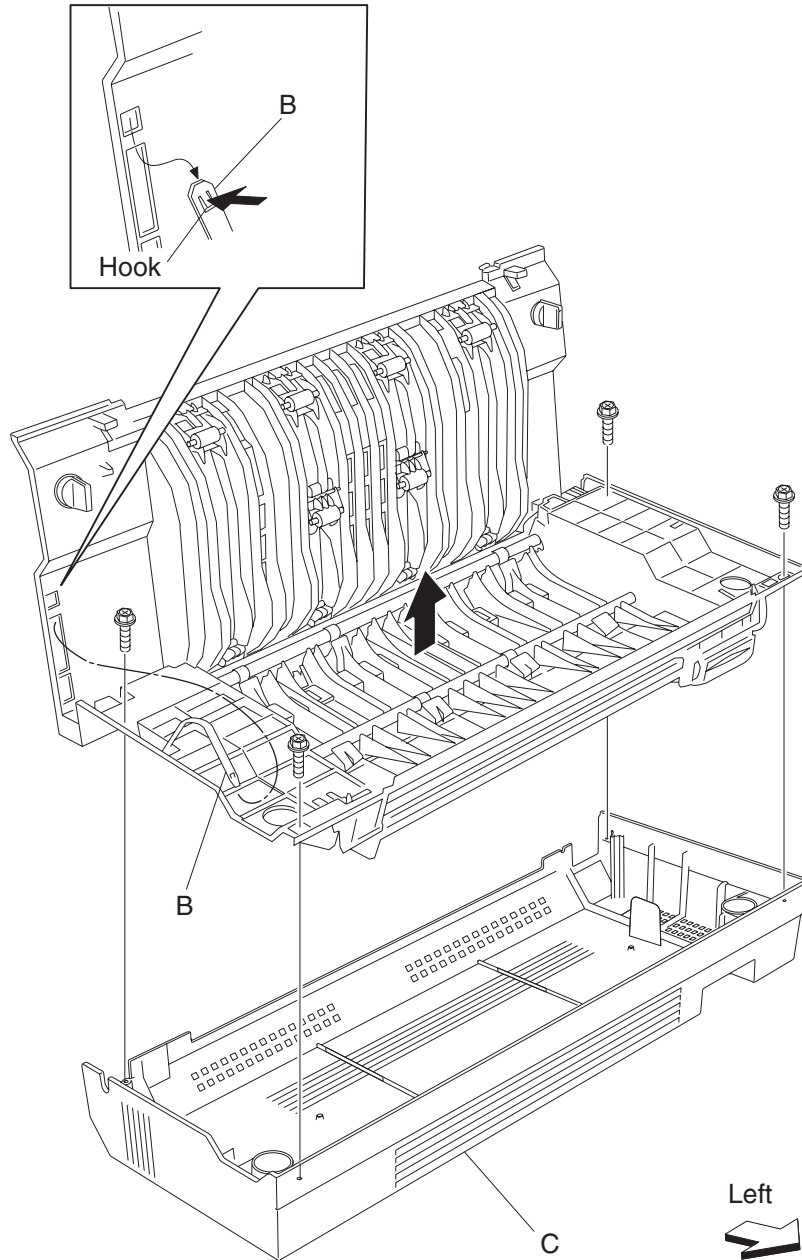


## Duplex sensor (duplex wait) removal

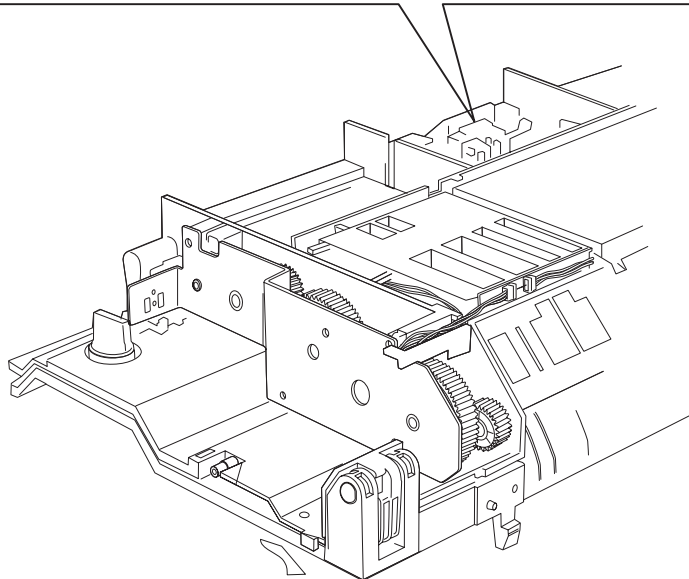
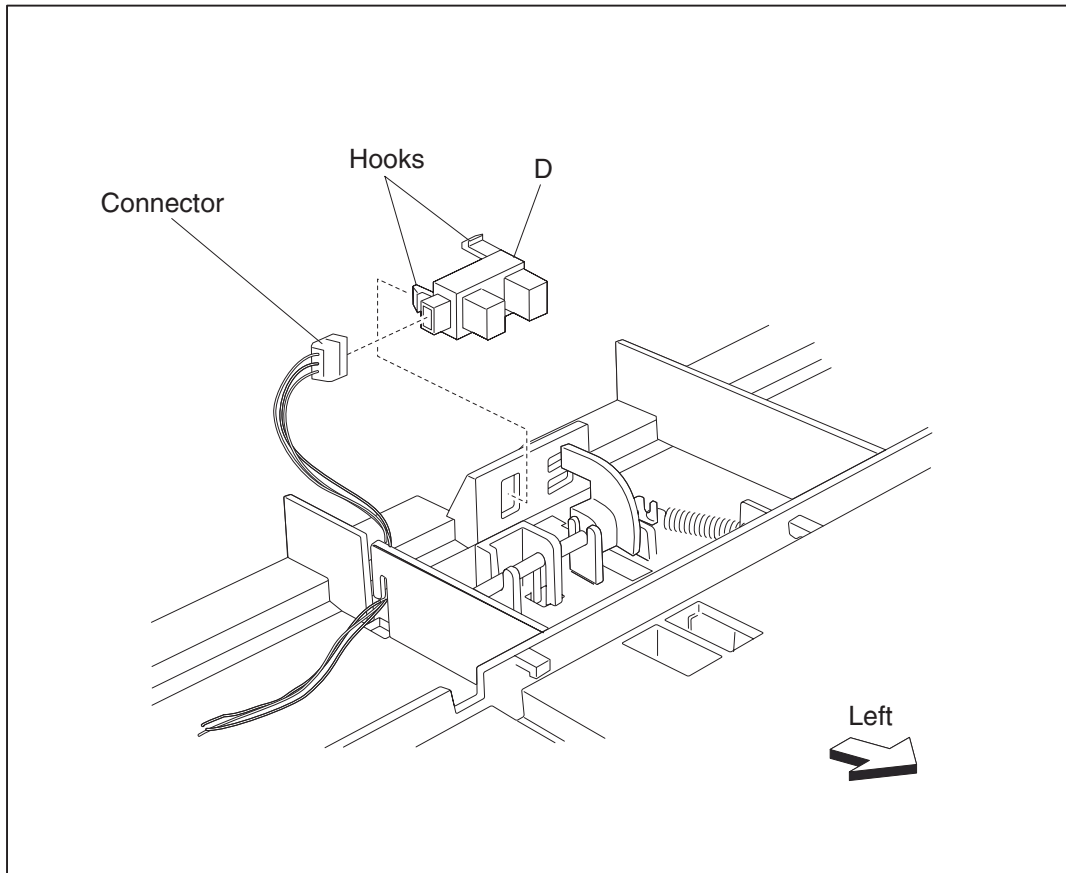
1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).



4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.
6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).

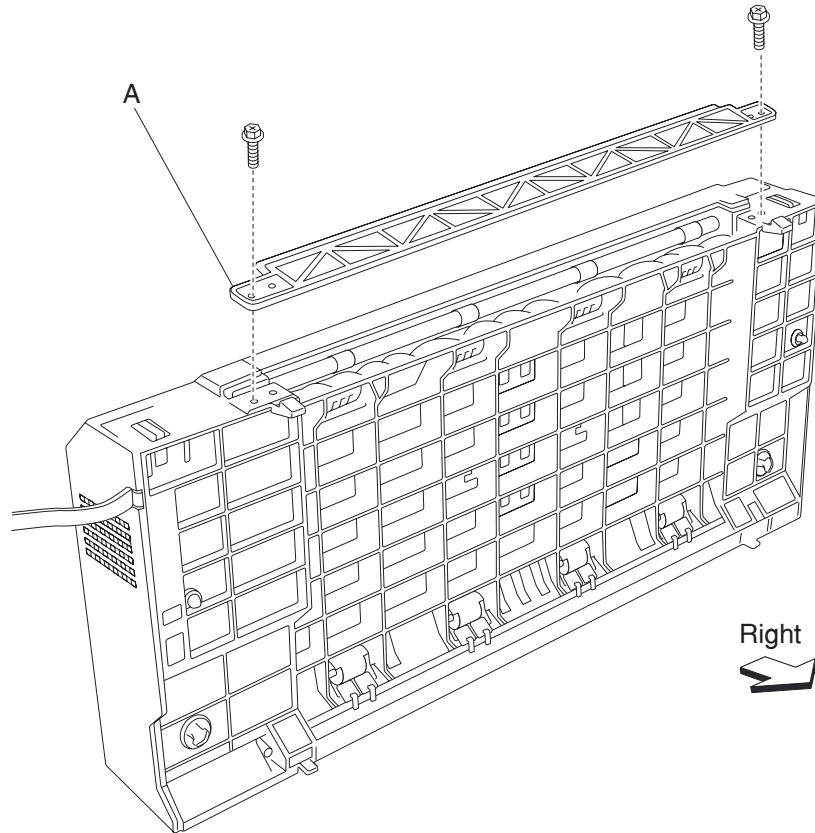


8. Disconnect the connector of the harness from the sensor (duplex wait) (D).
9. Release the hooks securing the sensor (duplex wait) (D) to the duplex unit assembly.
10. Remove the sensor (duplex wait) (D).

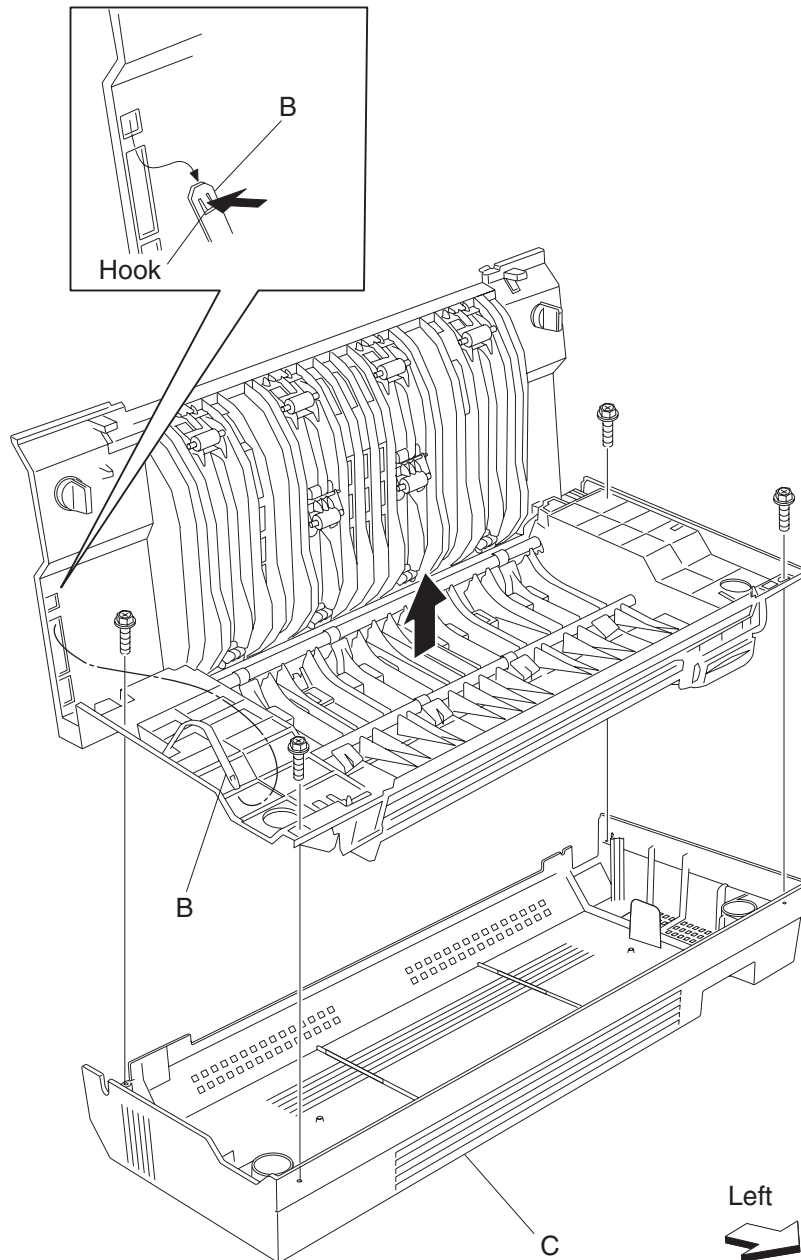


## Duplex access handle removal

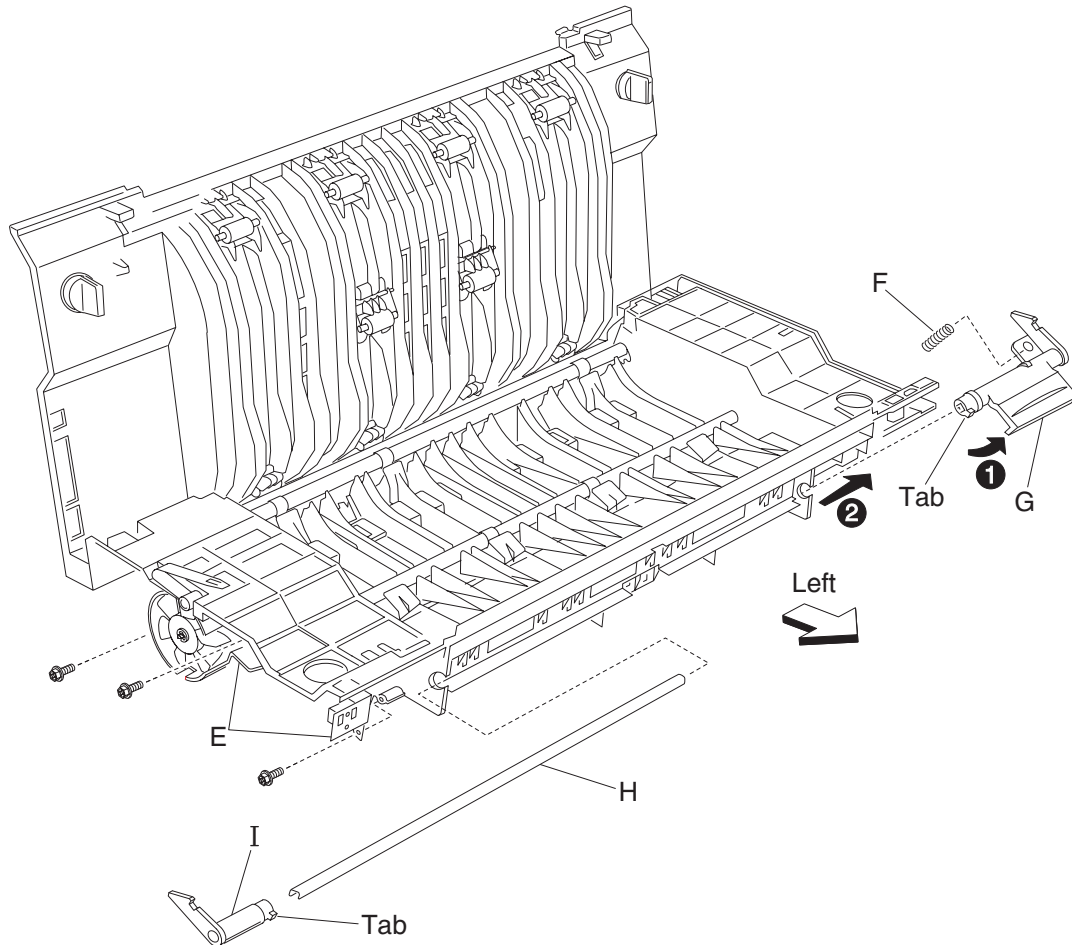
1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the two screws securing the duplex lower guide (A) to the duplex unit assembly.
3. Remove the duplex lower guide (A).



4. Open the duplex unit assembly.
5. Release the hook of the duplex left door support strap (B) securing the duplex left cover (C) to the duplex unit assembly.
6. Remove the four screws securing the duplex left cover (C) to the duplex unit assembly.
7. Remove the duplex left cover (C).



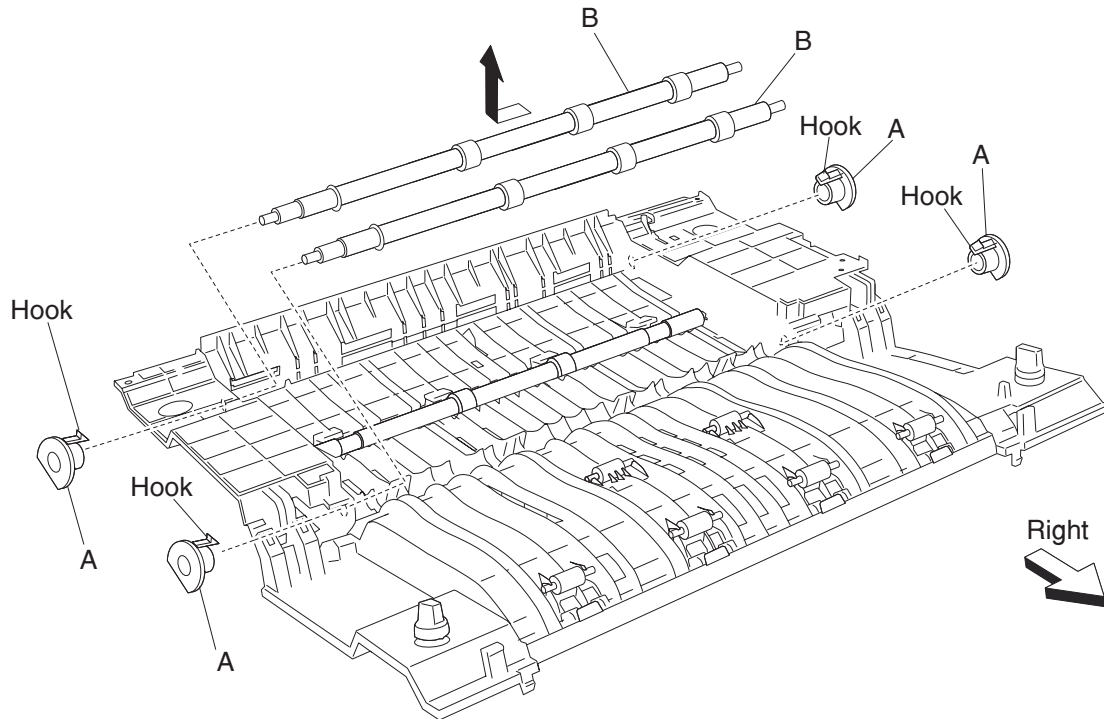
8. Remove the three screws securing the bracket (E) to the duplex unit assembly.
9. Remove the bracket (E).
10. Remove the spring (F).
11. Rotate the duplex left door handle (G) upward, and move in the direction of the arrow.  
**Note:** The metal shaft (H) may become detached.
12. Remove the duplex left door handle (G).
13. Rotate the duplex left door handle latch (I) upward, and move in the direction of the arrow.
14. Remove the duplex left door handle latch (I).



## Duplex media transport rolls removal

1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the duplex controller card assembly. See **“Duplex controller card assembly removal”** on page 4-304.
3. Remove the duplex drive gears 28T. See **“Duplex drive gear 28 tooth removal”** on page 4-283.
4. Remove the hooks of the four bushings (A) securing the two duplex media transport rolls (B) to the duplex unit assembly.
5. Remove the two duplex media transport rolls (B).

**Note:** When removing the two duplex media transport rolls (B), do not touch the rubber surface.

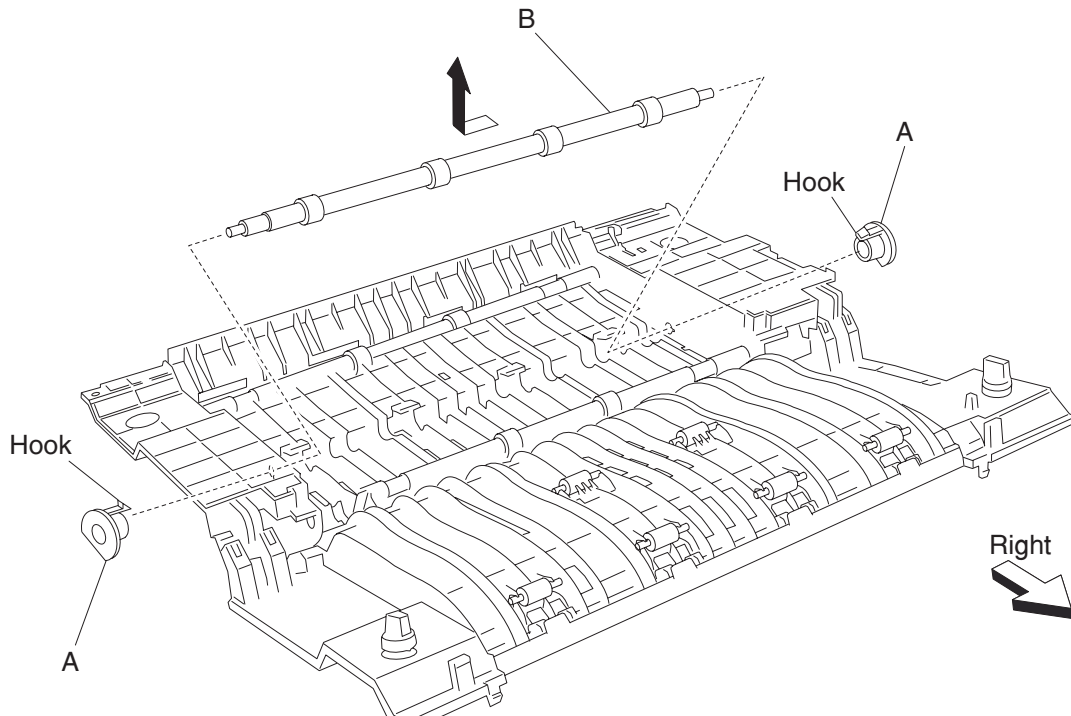


**Note:** When replacing the two duplex media transport rolls (B), do not touch the rubber surface.

## Duplex media center transport roll removal

1. Remove the duplex unit assembly. See **“Duplex unit assembly removal”** on page 4-277.
2. Remove the duplex controller card assembly. See **“Duplex controller card assembly removal”** on page 4-304.
3. Remove the hooks of the two bushings (A) securing the duplex media transport center roll (B) to the duplex unit assembly.
4. Remove the duplex media center transport roll (B).

**Note:** When removing the duplex media center transport roll (B), do not touch the rubber surface.



**Note:** When replacing the duplex media center transport roll (B), do not touch the rubber surface.



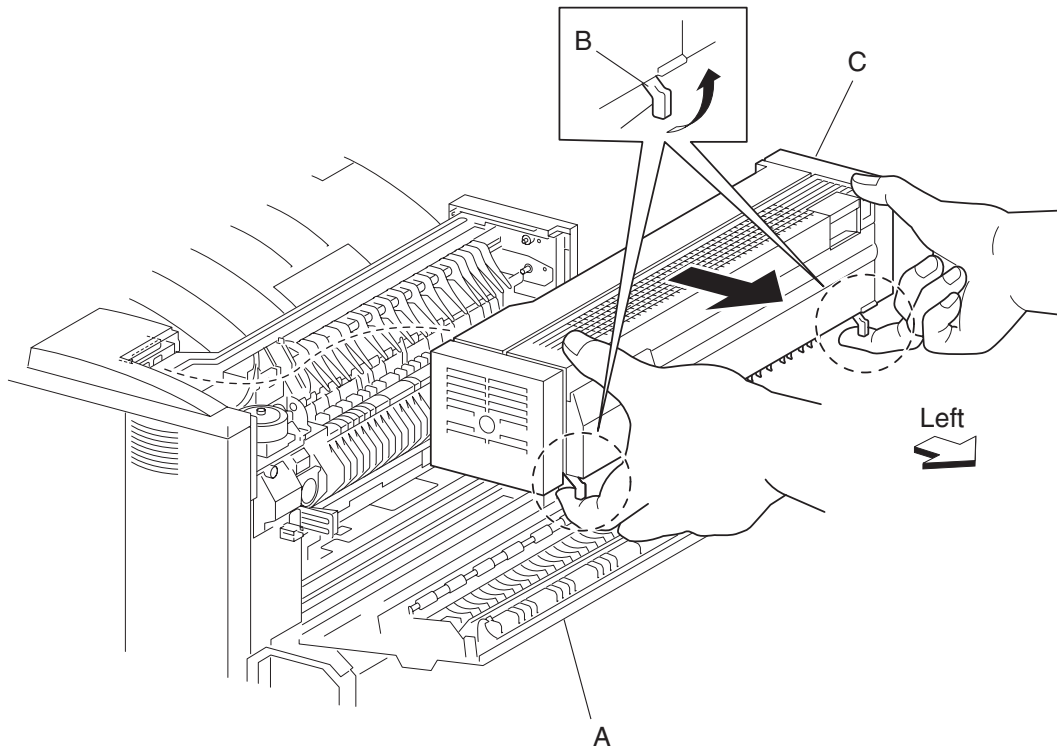
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## Exit 2 removals

### Exit 2 unit assembly removal

1. Open the printer left door assembly (A).
2. Lift the two levers (B) while pulling the exit 2 unit (C) outward in the direction of the arrow.
3. Remove the exit 2 unit (C).

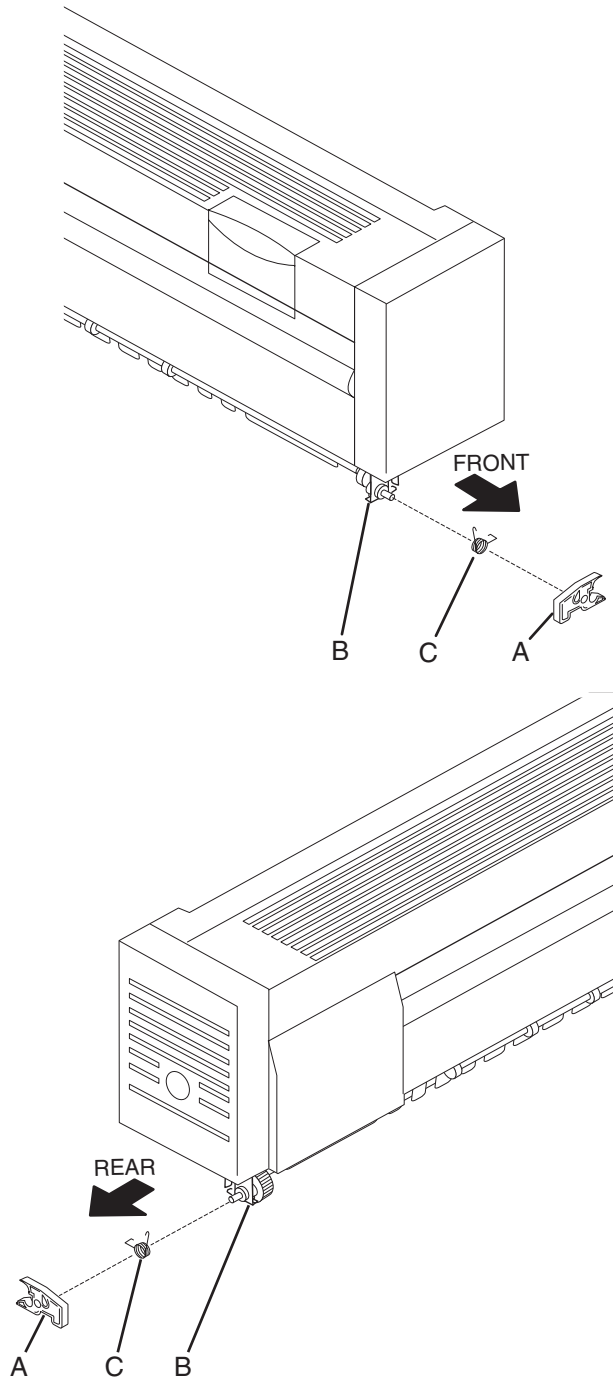
**Note:** The rear side of the exit 2 unit (C) may require some force to disengage the electrical connector.



**Note:** Before reinstalling, ensure the exit 2 (C) unit is properly aligned and the electrical connector is properly connected.

## Exit 2 unit docking lever removal

1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Remove the two exit 2 unit docking levers (A) with a prying tool from the brackets (B).  
**Note:** When removing the two exit 2 docking levers, ensure the brackets (B) are not bent or deformed.
3. Remove the springs (C) from the brackets (B).



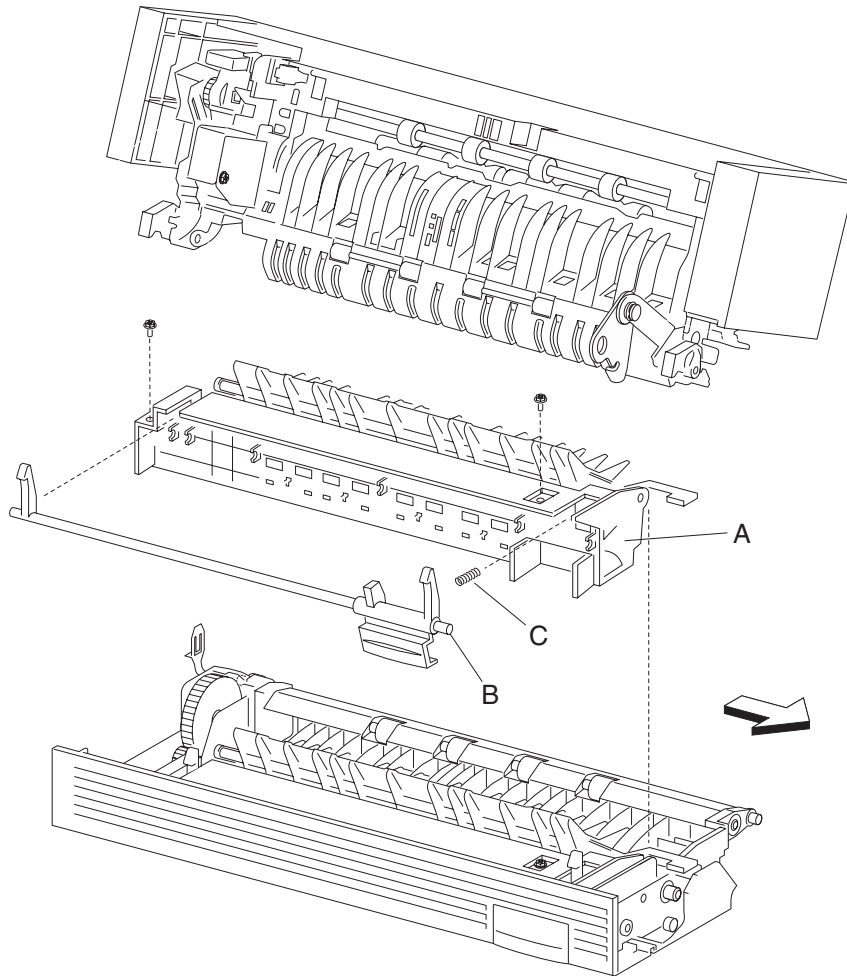
## Exit 2 left door handle removal

1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly.
3. Remove two screws securing the upper guide assembly (A) to the exit 2 unit assembly.
4. Remove the upper guide assembly (A).

**Note:** The exit 2 left door handle (B) may become detached.

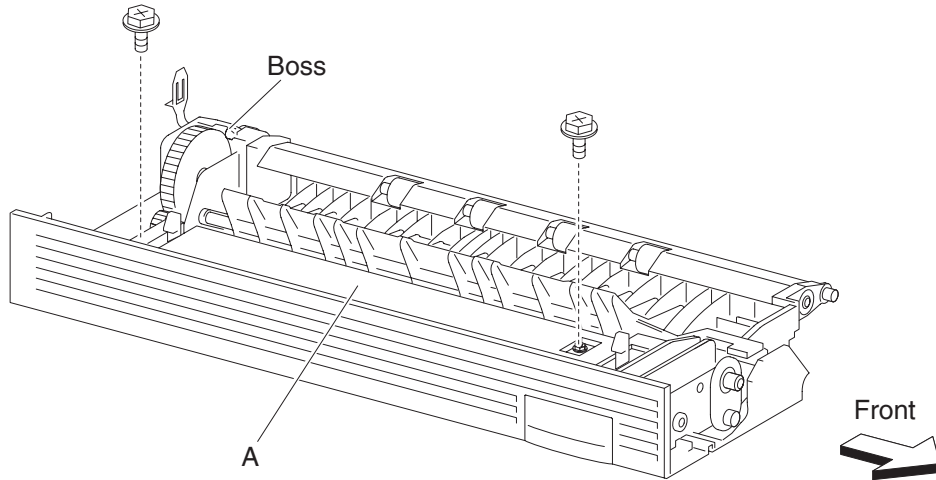
5. Remove the exit 2 left door handle (B) from the upper guide assembly (A).
6. Remove the spring (C) from the upper guide assembly (A).

**Note:** After reinstalling the upper guide assembly (A), ensure the exit 2 left door handle (B) operates freely.



## Exit 2 diverter gate removal

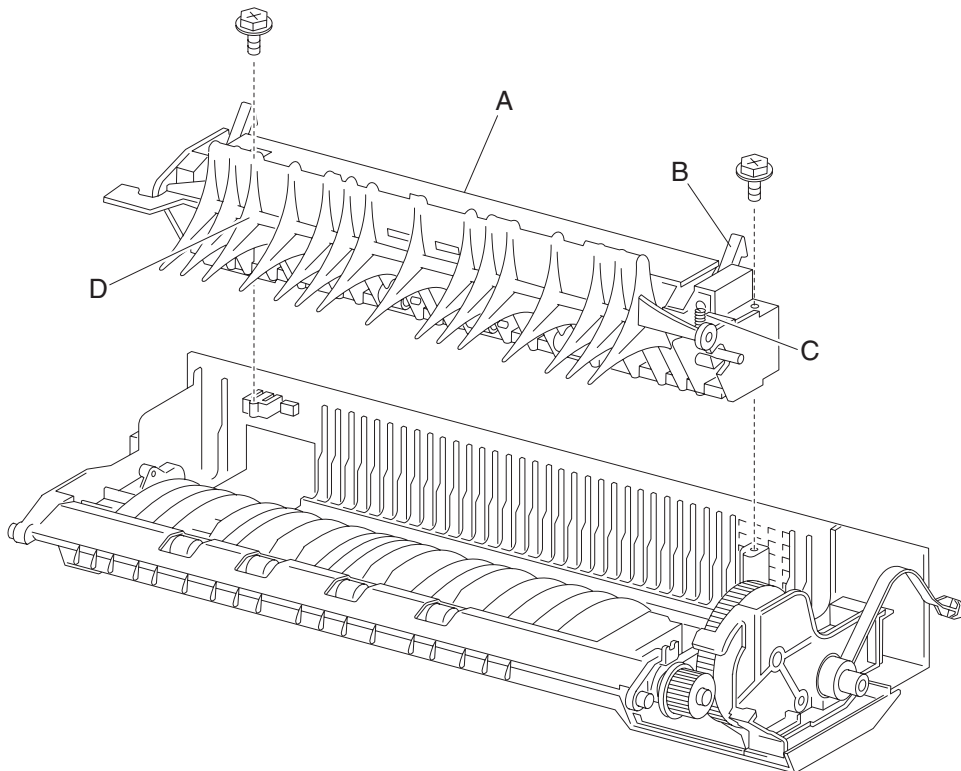
1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly.
3. Remove two screws securing the upper guide assembly (A) to the exit 2 unit assembly.



4. Remove the upper guide assembly (A).

**Note:** The exit 2 access handle (B) may become detached.

5. Remove the spring (C) connecting the exit 2 diverter gate (D) to the upper guide assembly (A).
6. Gently flex the mounting points securing the exit 2 diverter gate (D) to the upper guide assembly (A).
7. Remove the exit 2 diverter gate (D)

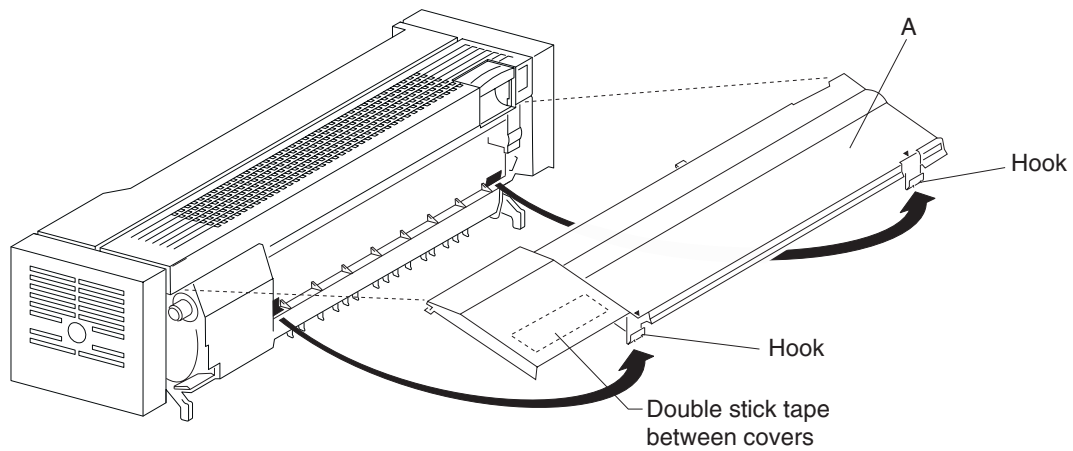


**Note:** After reinstalling the upper guide assembly (A), ensure the exit 2 access handle (B) operates freely.

## Exit 2 left cover removal

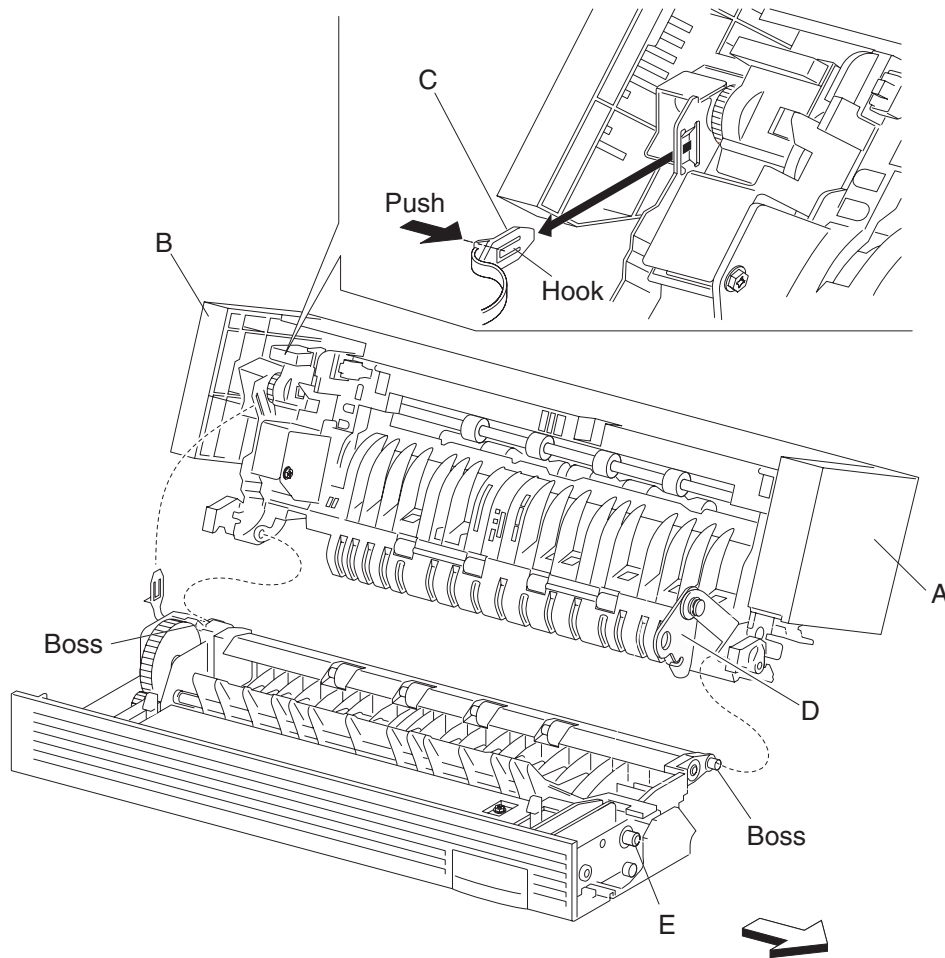
1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly.
3. Release two hooks securing the exit 2 left cover (A) to the exit 2 unit assembly.
4. Move the exit 2 left cover (A) downward and outward in the direction of the arrow.
5. Remove the exit 2 left cover (A).

**Note:** Extra force is required on the rear of the exit 2 left cover to break the seal of the double stick tape.

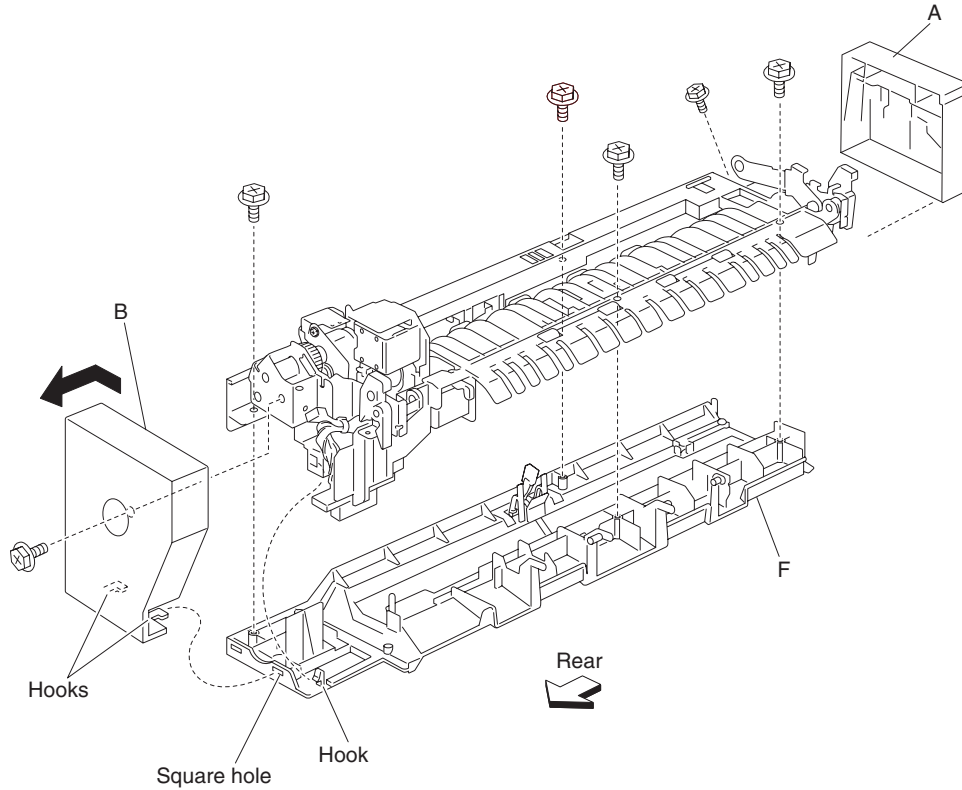


## Exit 2 right cover removal

1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal” on page 4-315.**
2. Open the exit 2 unit assembly.
3. Remove the exit 2 left cover. See **“Exit 2 left cover removal” on page 4-319.**
4. Remove the one screw securing the exit 2 front cover (A) to the exit 2 unit assembly.
5. Remove the exit 2 front cover (A).
6. Remove one screw securing the exit 2 rear cover (B).
7. Move the exit 2 rear cover (B) upward and outward in the direction of the arrow.
8. Remove the exit 2 rear cover (B).
9. Release the hook of the exit 2 support strap (C).
10. Gently remove the link (D) from the bracket (E).

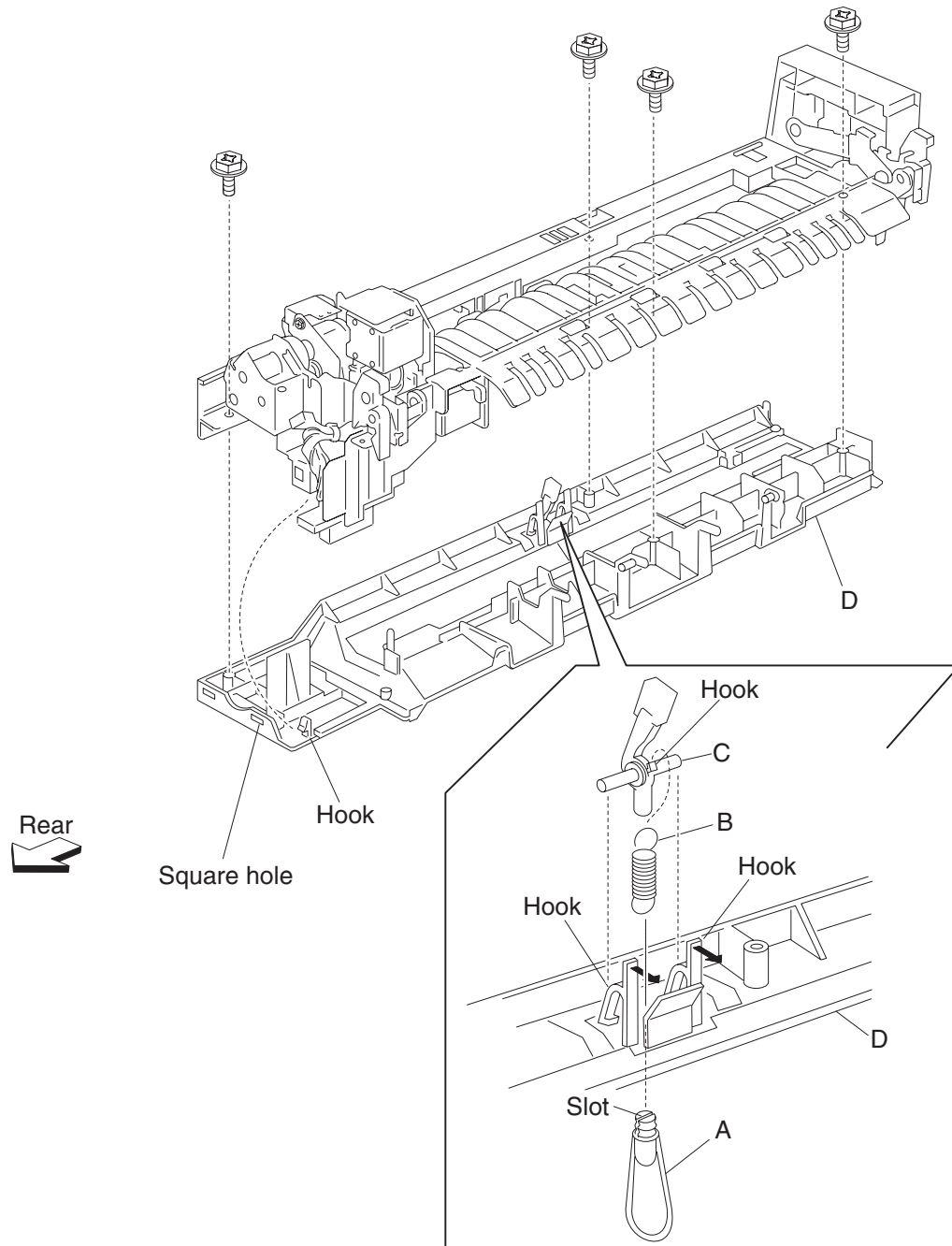


11. Gently pry apart, with a flat tip screwdriver, the boss on the right then the one on the left to separate the exit 2 unit assembly into two pieces.  
**Note:** The exit 2 unit assembly should be in two pieces.
12. Remove the four screws securing the exit 2 right cover assembly (F) to the exit 2 unit assembly.
13. Release two hooks securing the exit 2 right cover assembly (F) to the exit 2 unit assembly.
14. Remove the exit 2 right cover assembly (F).



## Standard bin full exit 2 actuator removal

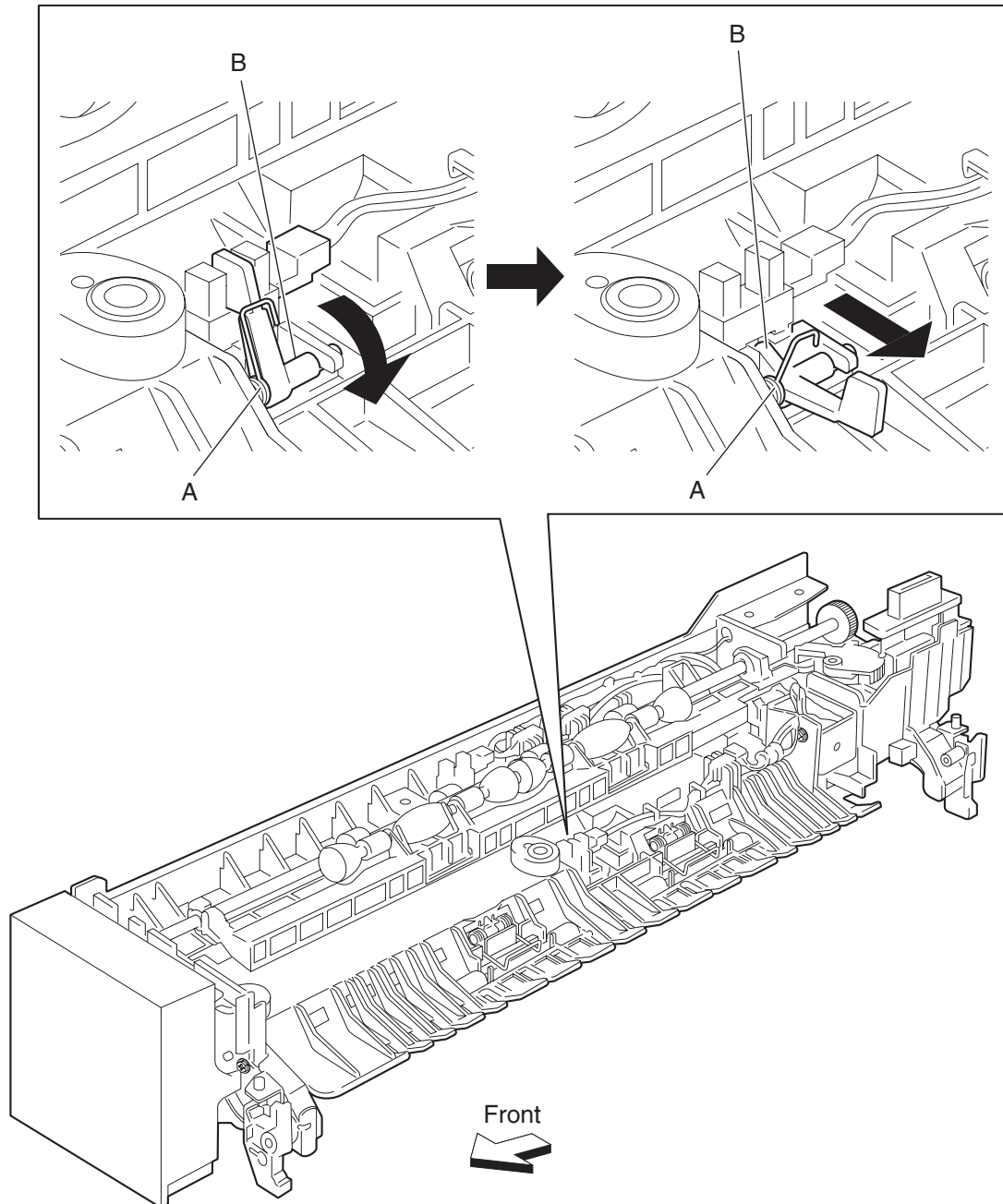
1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly (A).
3. Remove the exit 2 left cover. See **“Exit 2 left cover removal”** on page 4-319.
4. Remove the exit 2 right cover. See **“Exit 2 right cover removal”** on page 4-320.
5. Remove the standard bin full exit 2 actuator outer (A) from the spring (B).
6. Release the hooks securing the standard bin full exit 2 actuator inner (C) to the right cover (D).
7. Release the spring (B) from the hook of the standard bin full exit 2 actuator inner (C).





## Exit 2 actuator removal

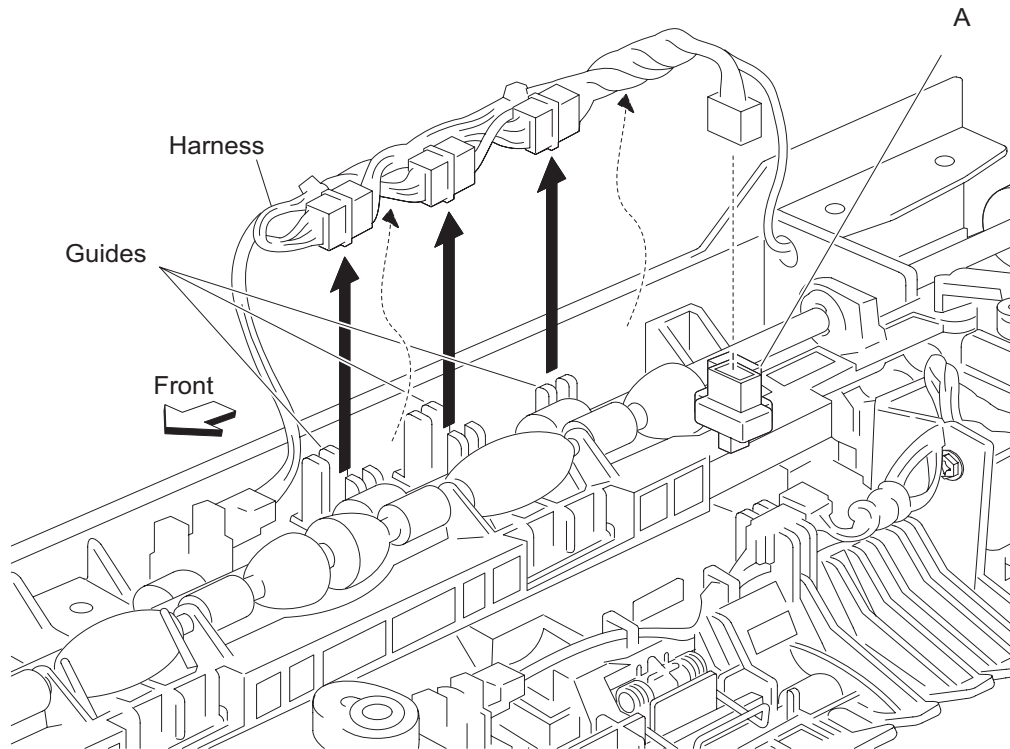
1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly.
3. Remove the exit 2 left cover. See **“Exit 2 left cover removal”** on page 4-319.
4. Remove the exit 2 right cover. See **“Exit 2 right cover removal”** on page 4-320.
5. Release the spring (A) on the exit 2 actuator (B).
6. Move the exit 2 actuator (B) to the right in the direction of the arrow to release two hooks.
7. Remove the exit 2 actuator (B).
8. Remove the spring (A) from the exit 2 actuator (B).



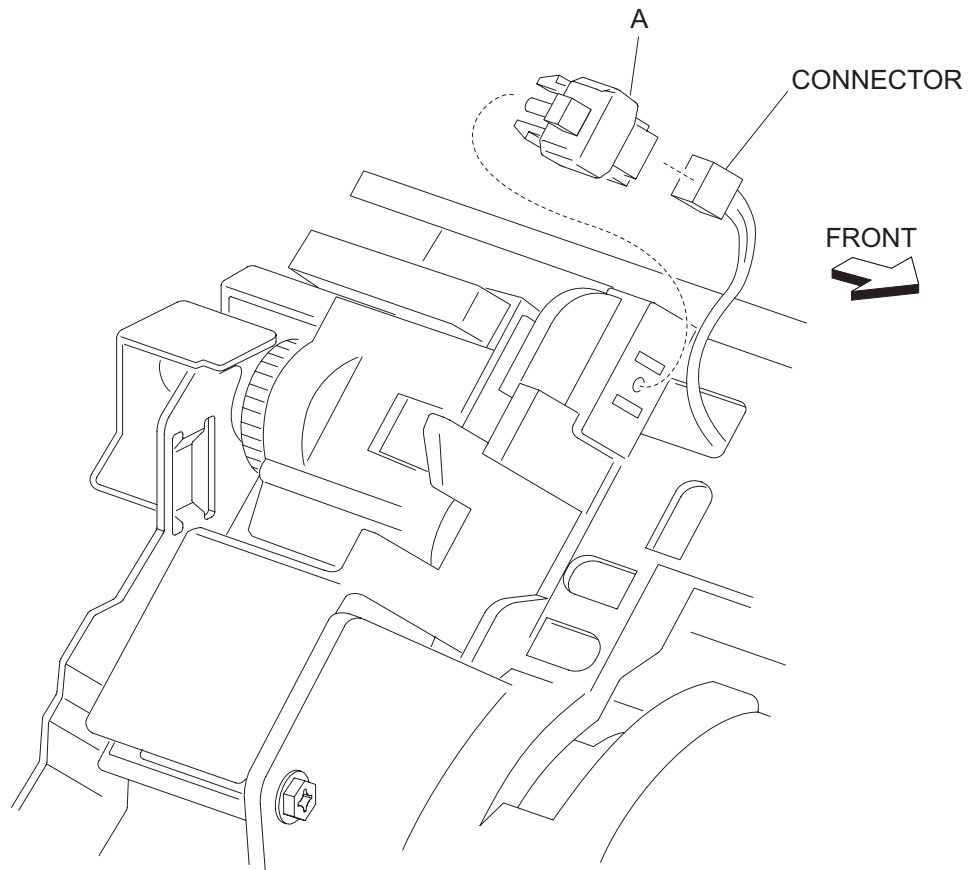
**Note:** Before reinstalling the exit 2 actuator (B), ensure the spring (A) is properly installed.

## Exit 2 switch (exit 2 left door interlock) removal

1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly.
3. Remove the exit 2 left cover. See **“Exit 2 left cover removal”** on page 4-319.
4. Remove the exit 2 right cover. See **“Exit 2 right cover removal”** on page 4-320.
5. Release the hooks securing the switch (exit 2 left door interlock) (A) to the exit 2 unit assembly.
6. Remove the switch (exit 2 door interlock) (A).



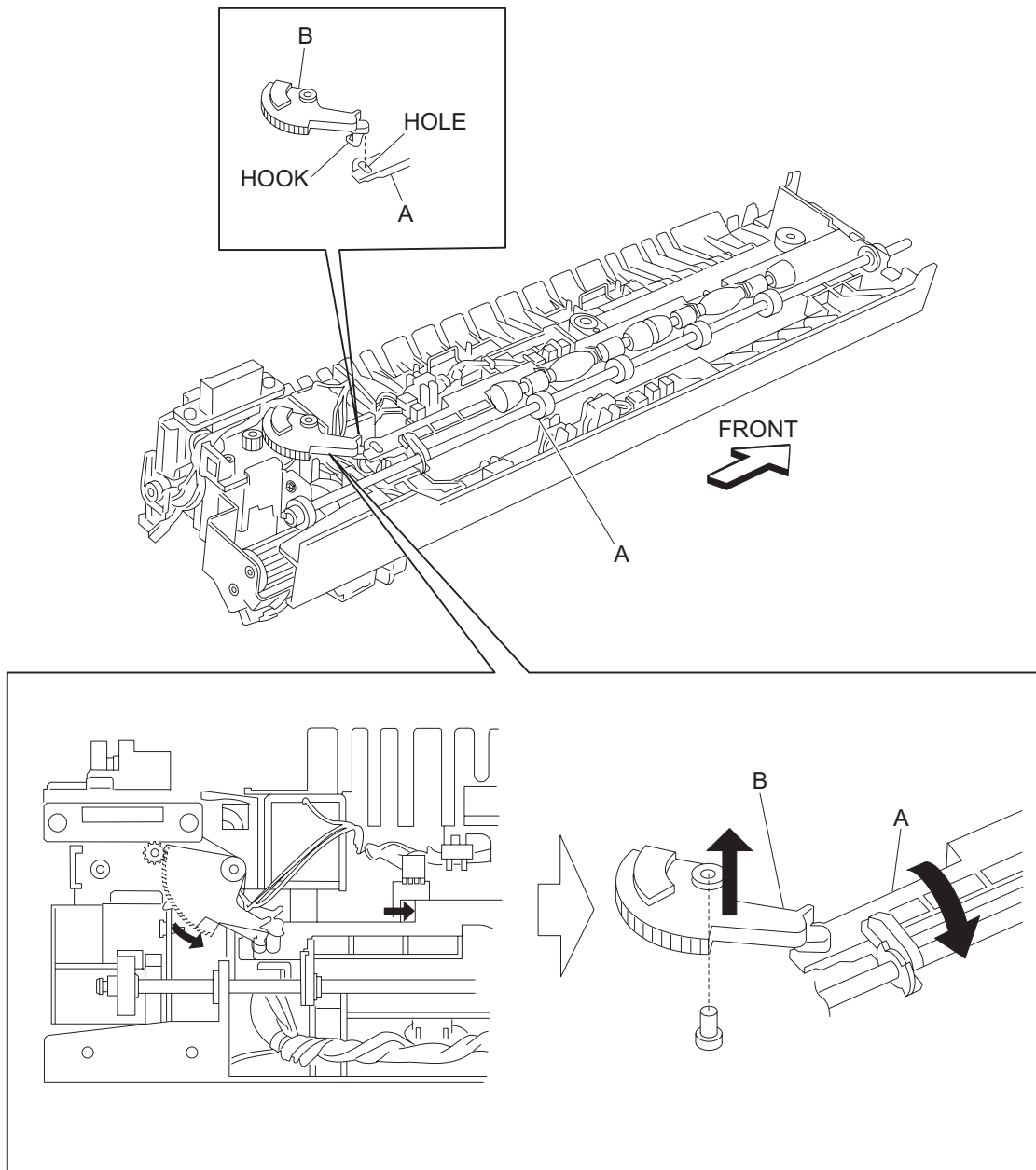
7. Remove the connector from the exit 2 switch (exit 2 left door interlock) (A).



**Note:** Before reinstalling the switch (exit 2 left door interlock) (A), ensure all the harnesses and connectors are properly installed.

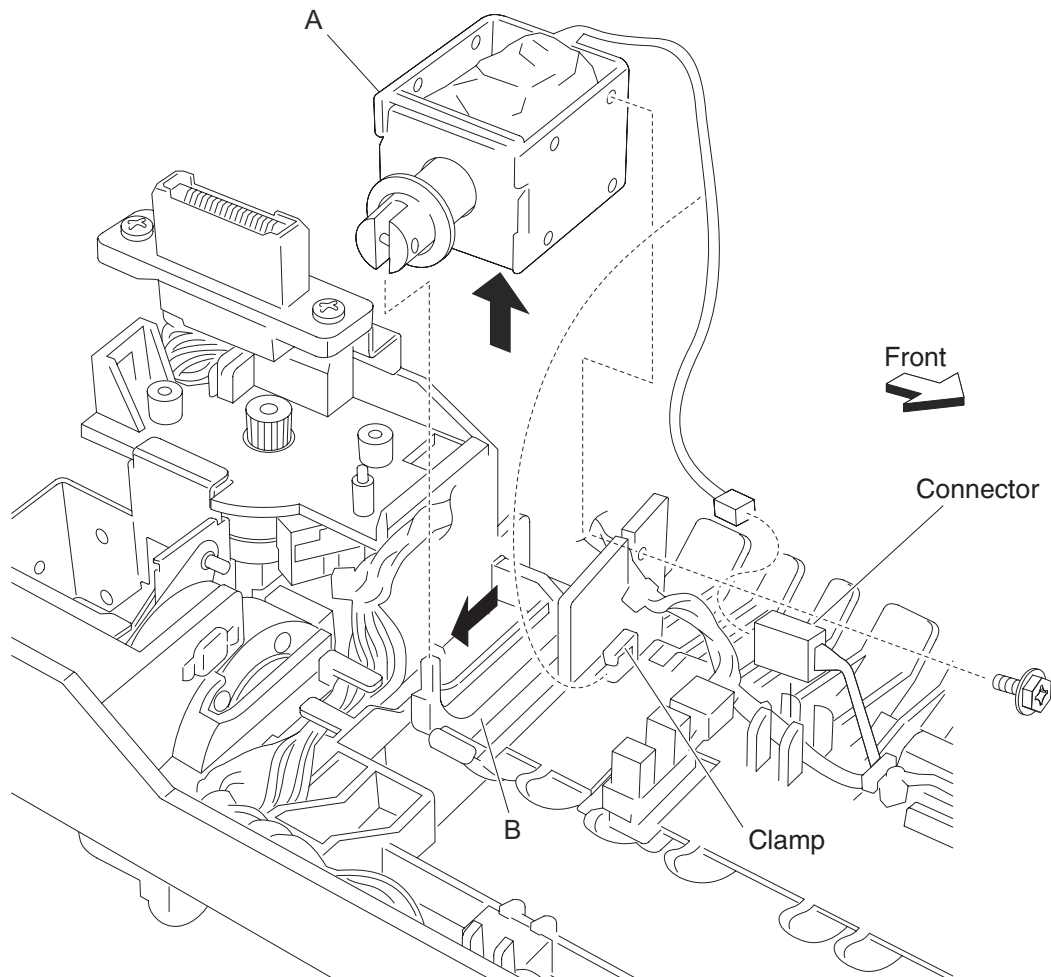
## Exit 2 media shift gear removal

1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly.
3. Remove the exit 2 left cover. See **“Exit 2 left cover removal”** on page 4-319.
4. Remove the exit 2 right cover. See **“Exit 2 right cover removal”** on page 4-320.
5. Move the roll assembly (A) fully to the right (front).
6. Lift the exit 2 media shift gear (B) upward to release it from the exit 2 unit assembly.
7. Release the hook on the exit 2 media shift gear (B) from the hole in the roll assembly (A).
8. Remove the exit 2 media shift gear (B).



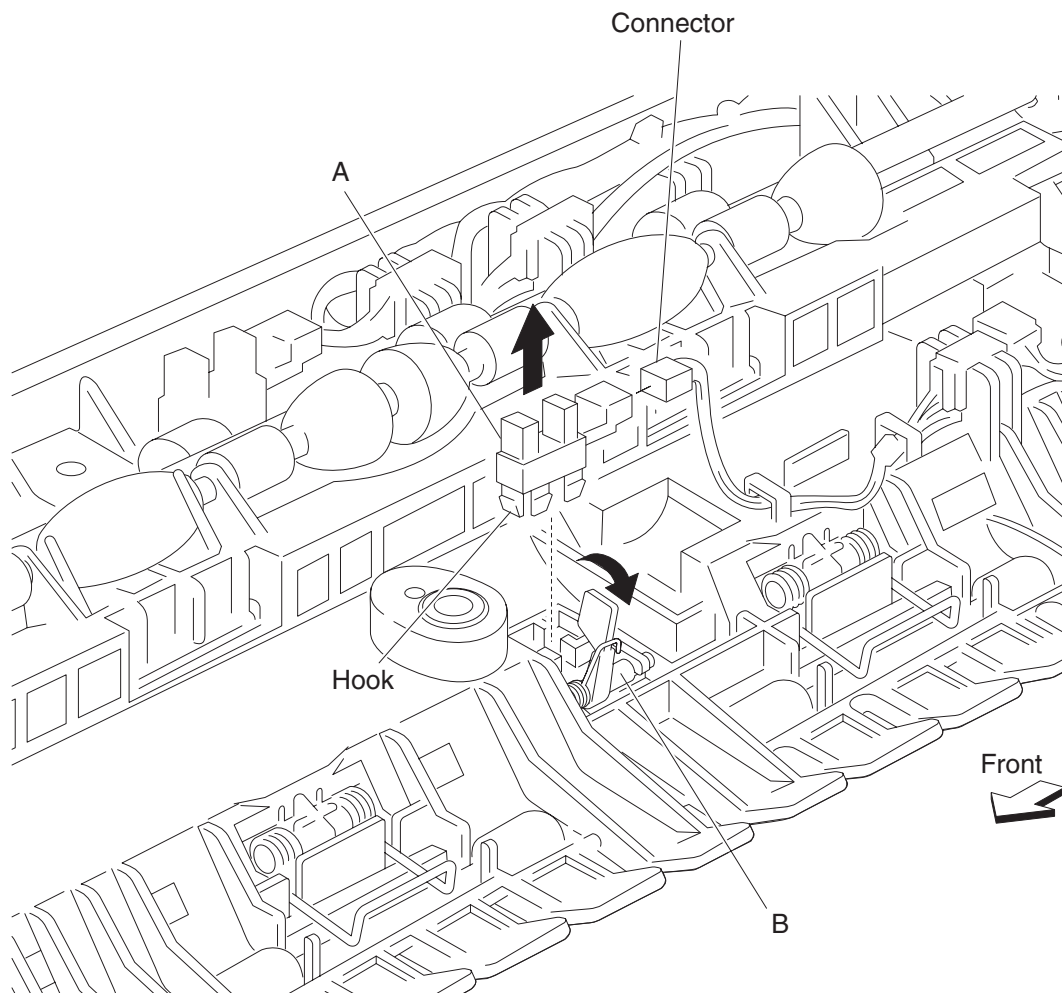
## Exit 2 media diverter solenoid removal

1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal” on page 4-315.**
2. Open the exit 2 unit assembly.
3. Remove the exit 2 left cover. See **“Exit 2 left cover removal” on page 4-319.**
4. Remove the exit 2 right cover. See **“Exit 2 right cover removal” on page 4-320.**
5. Disconnect the media diverter solenoid (A).
6. Release the harness from the clamp.
7. Remove the screw securing the media diverter solenoid (A) to the exit 2 unit assembly.
8. Remove the media diverter solenoid (A).
9. Move the media diverter link (B) toward the top of the exit 2 unit assembly in the direction of the arrow.
10. Remove the media diverter link (B) from the media diverter solenoid (A).



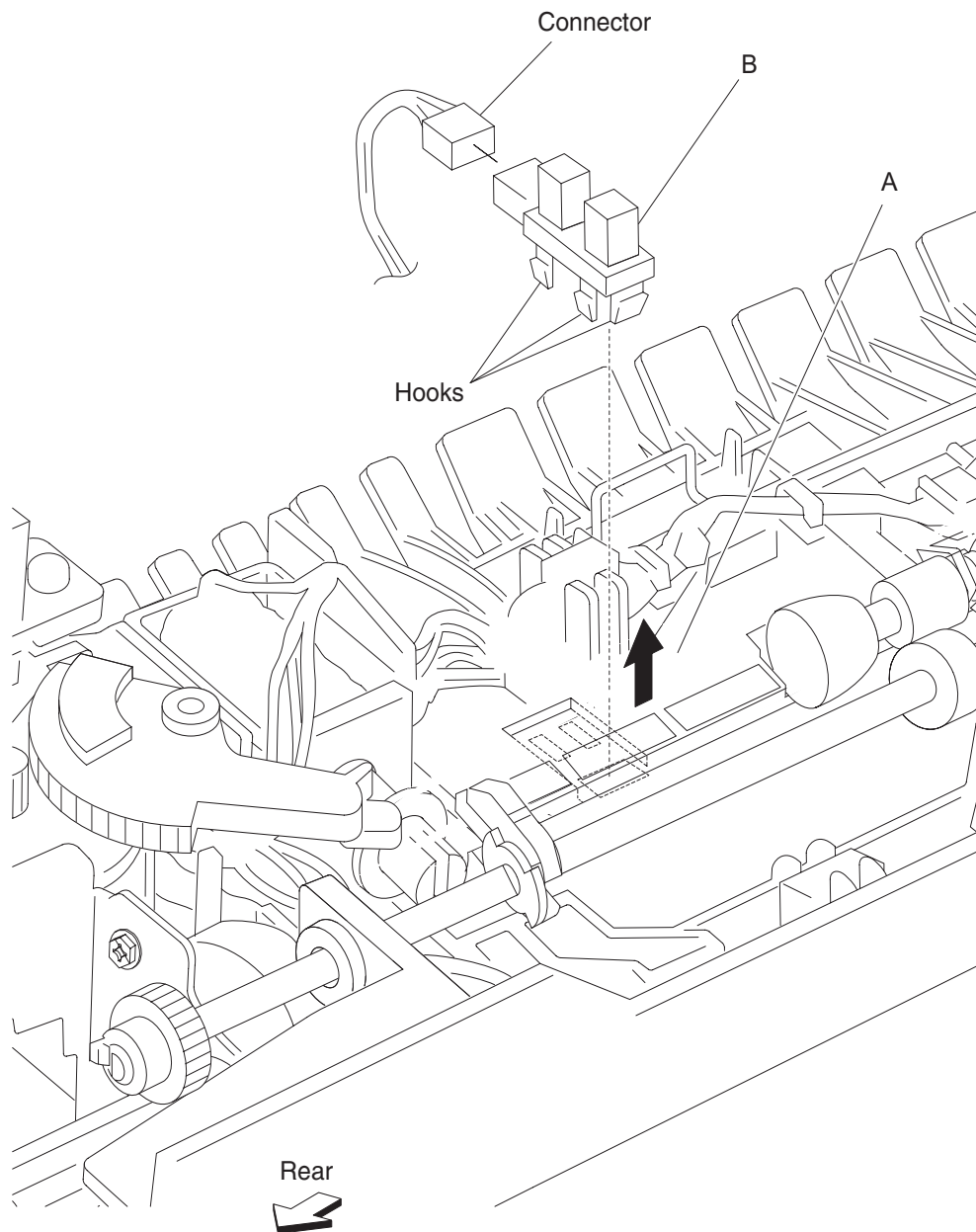
## Exit 2 sensor (exit 2) removal

1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly.
3. Remove the exit 2 left cover. See **“Exit 2 left cover removal”** on page 4-319.
4. Remove the exit 2 right cover. See **“Exit 2 right cover removal”** on page 4-320.
5. Disconnect the connector from the sensor (exit 2) (A).
6. Pull the exit 2 sensor (actuator) (B) back in the direction of the arrow.
7. Release the hooks securing the sensor (exit 2) (A) to the exit 2 unit assembly.
8. Remove the sensor (exit 2) (A).



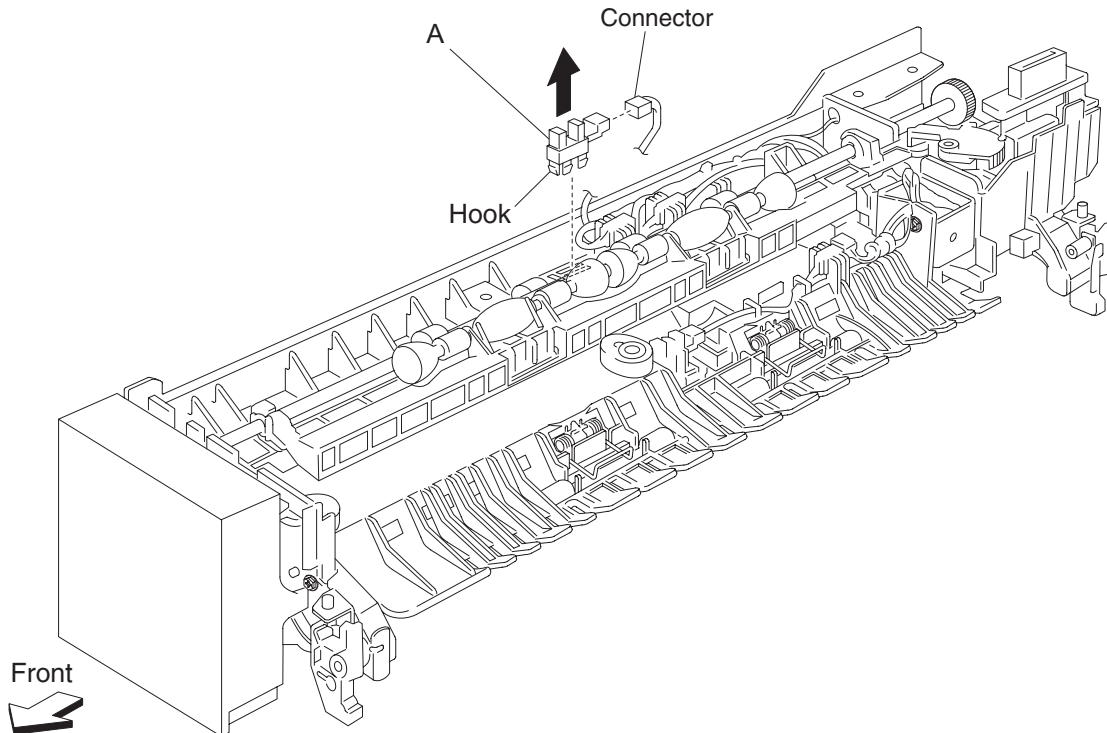
## Exit 2 sensor (exit 2 media shift HP) removal

1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly.
3. Remove the exit 2 left cover. See **“Exit 2 left cover removal”** on page 4-319.
4. Remove the exit 2 right cover. See **“Exit 2 right cover removal”** on page 4-320.
5. Remove the exit 2 media shift gear. See **“Exit 2 media shift gear removal”** on page 4-326.
6. Rotate the shift assembly (A) upward in the direction of the arrow.
7. Disconnect the connector from the sensor (exit 2 media shift HP) (B).
8. Release the hooks securing the sensor (exit 2 media shift HP) (B) to the exit 2 unit assembly.
9. Remove the sensor (exit 2 media shift HP) (B).



## Exit 2 sensor (standard bin full exit 2) removal

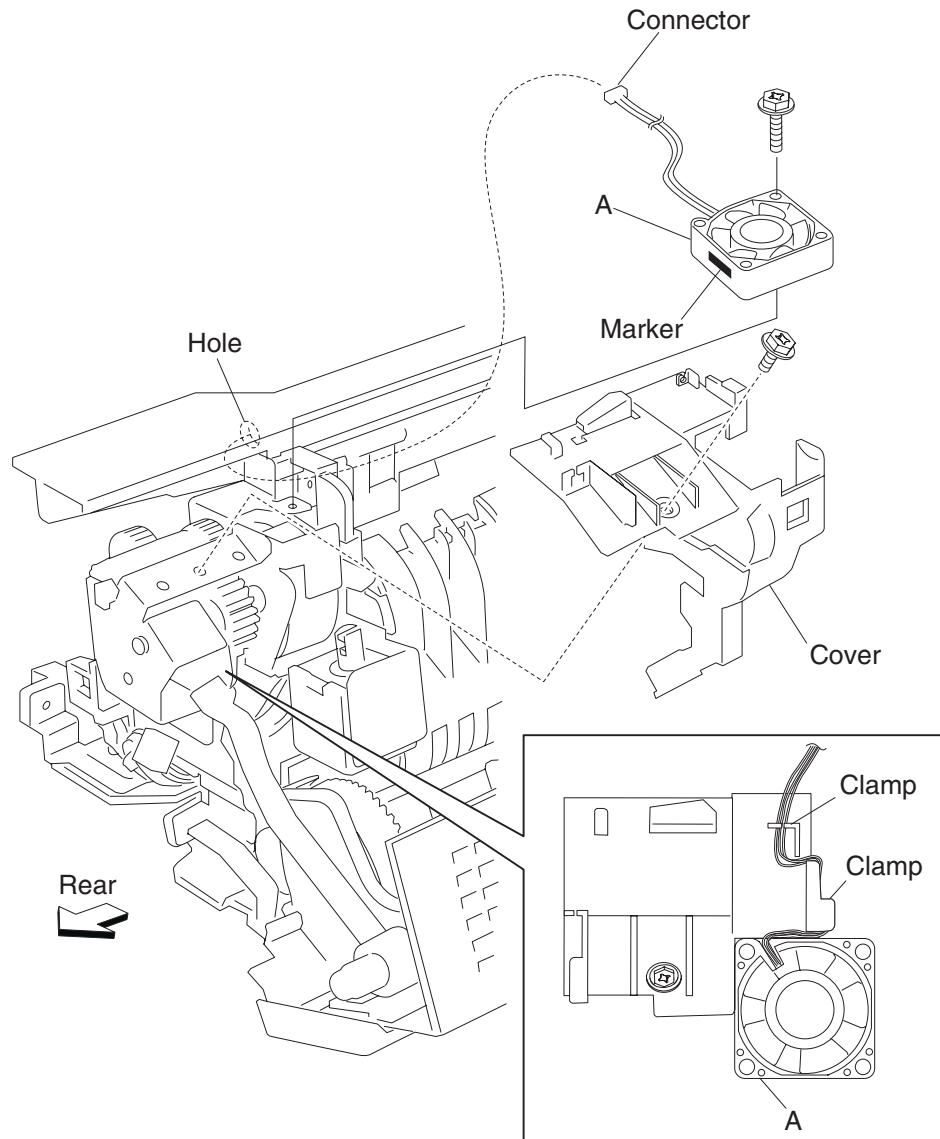
1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly.
3. Remove the exit 2 left cover. See **“Exit 2 left cover removal”** on page 4-319.
4. Remove the exit 2 right cover. See **“Exit 2 right cover removal”** on page 4-320.
5. Disconnect the sensor (standard bin full exit 2) (A).
6. Release the hooks to the sensor (standard bin full exit 2) (A) from the exit 2 unit assembly.
7. Remove the sensor (standard bin full exit 2) (A).





## Exit 2 cooling fan removal

1. Remove the exit 2 unit assembly. See **“Exit 2 unit assembly removal”** on page 4-315.
2. Open the exit 2 unit assembly.
3. Remove the exit 2 left cover. See **“Exit 2 left cover removal”** on page 4-319.
4. Remove the exit 2 right cover. See **“Exit 2 right cover removal”** on page 4-320.
5. Disconnect the connector from the exit 2 cooling fan (A).
6. Remove the harness from the hole in the exit 2 unit assembly.
7. Remove the screw securing the exit 2 cooling fan (A) to the exit 2 unit assembly.
8. Remove the exit 2 cooling fan (A).



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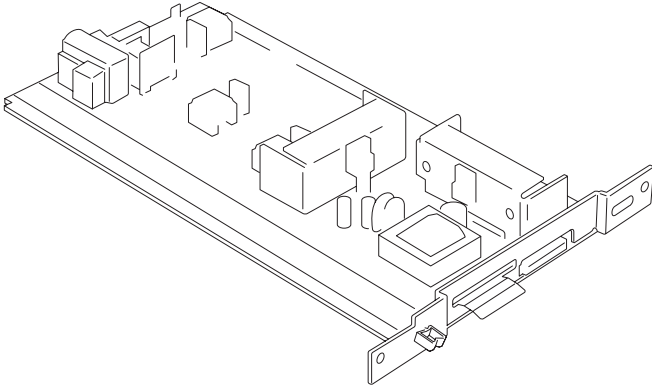
# 5. Component locations

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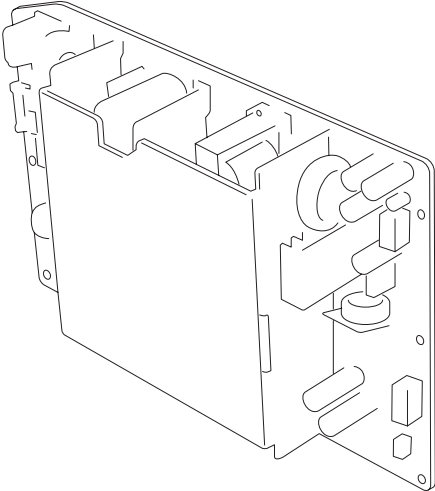
## Locations

*Printer boards*

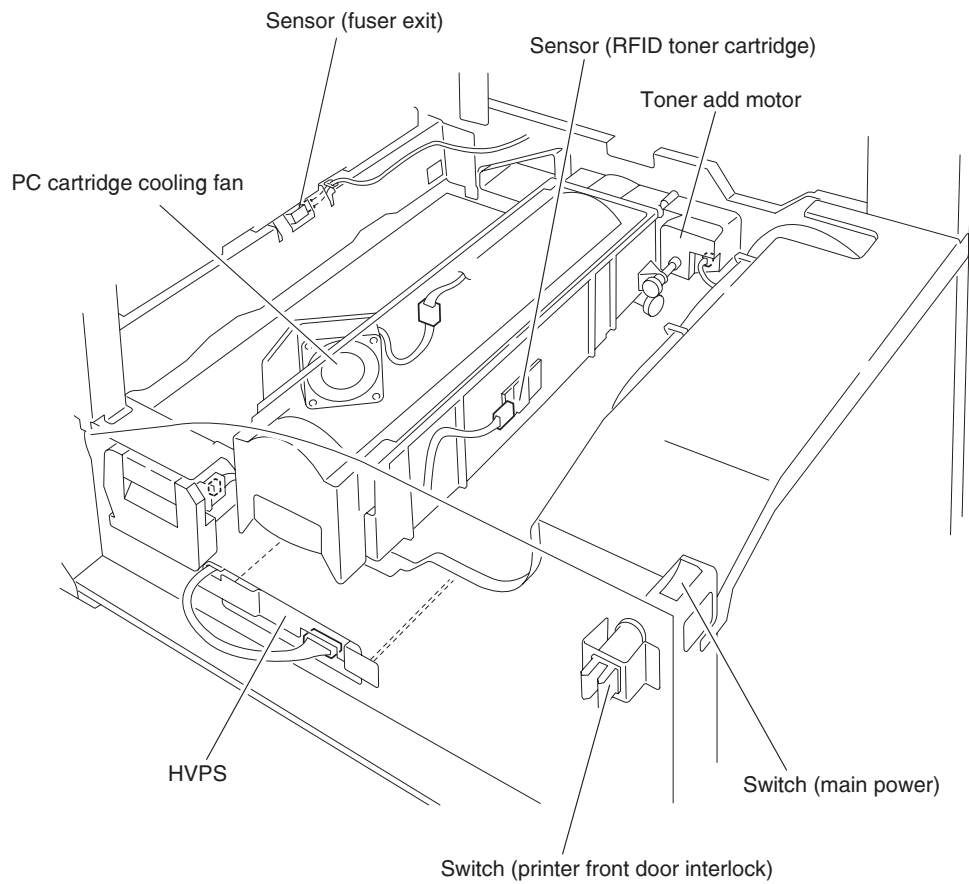
**HVPS**

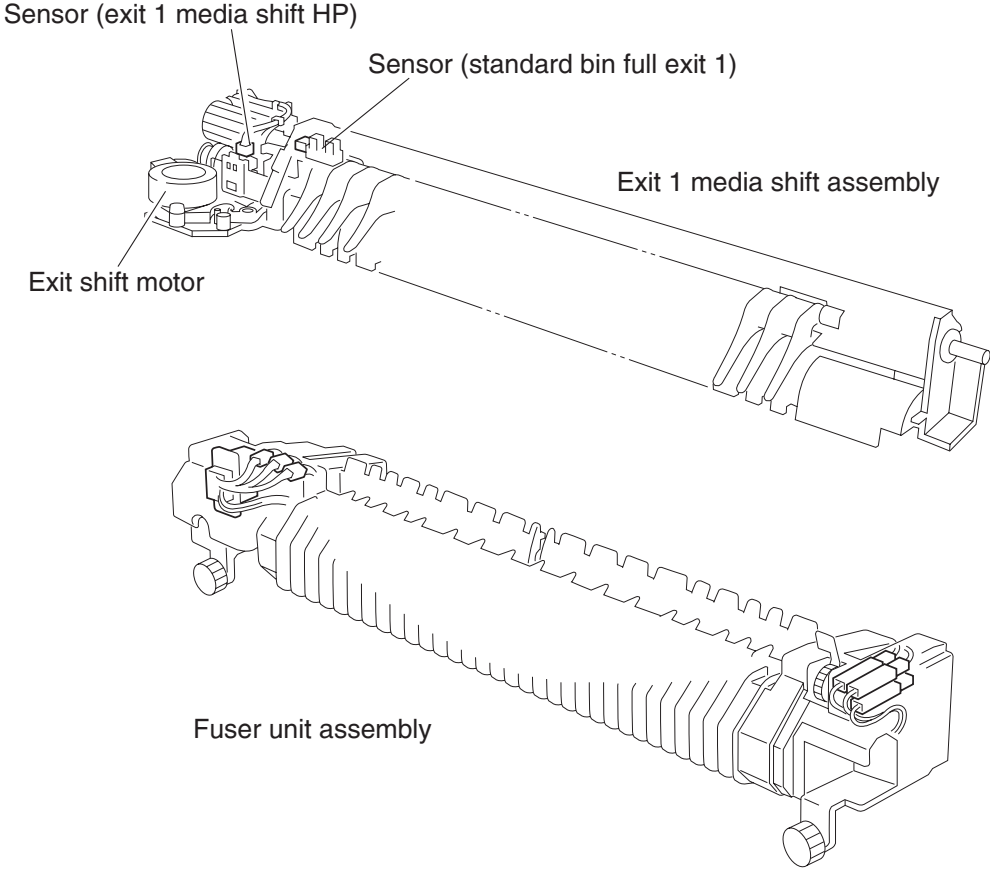


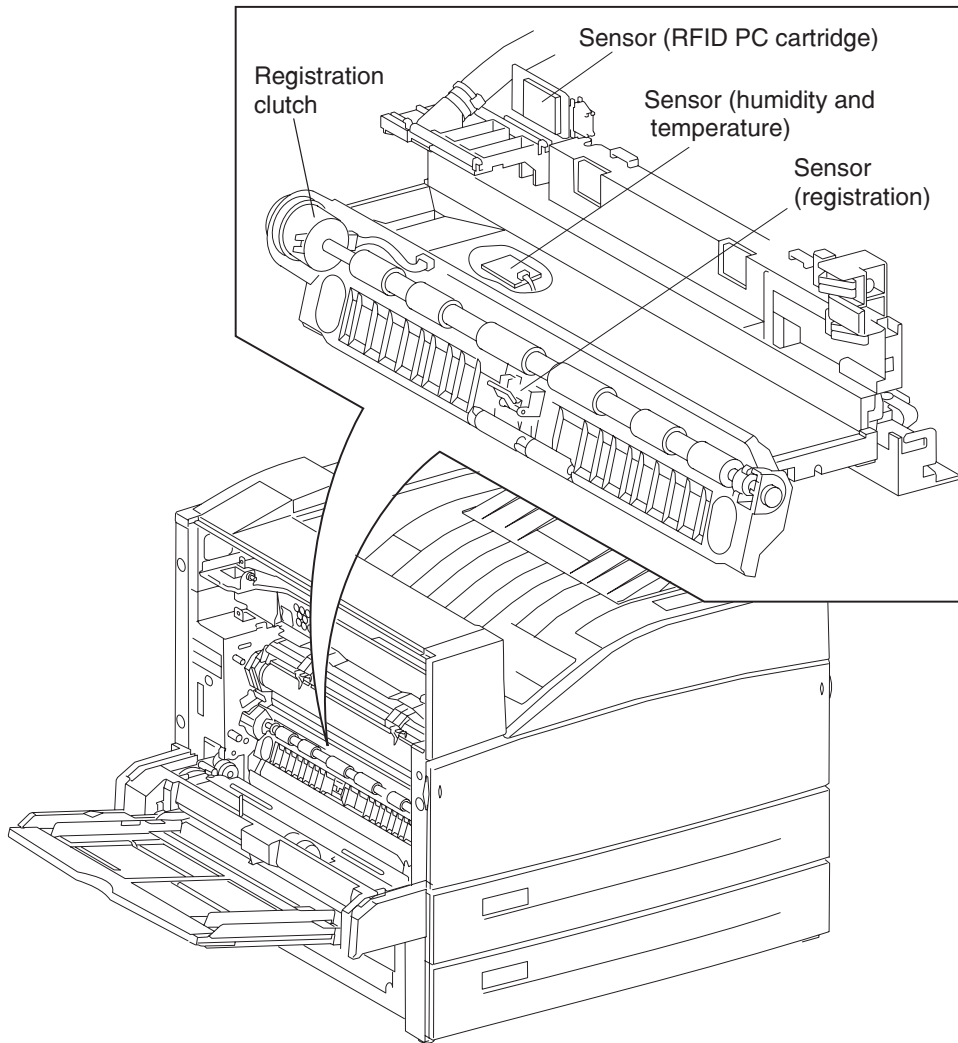
**LVPS**

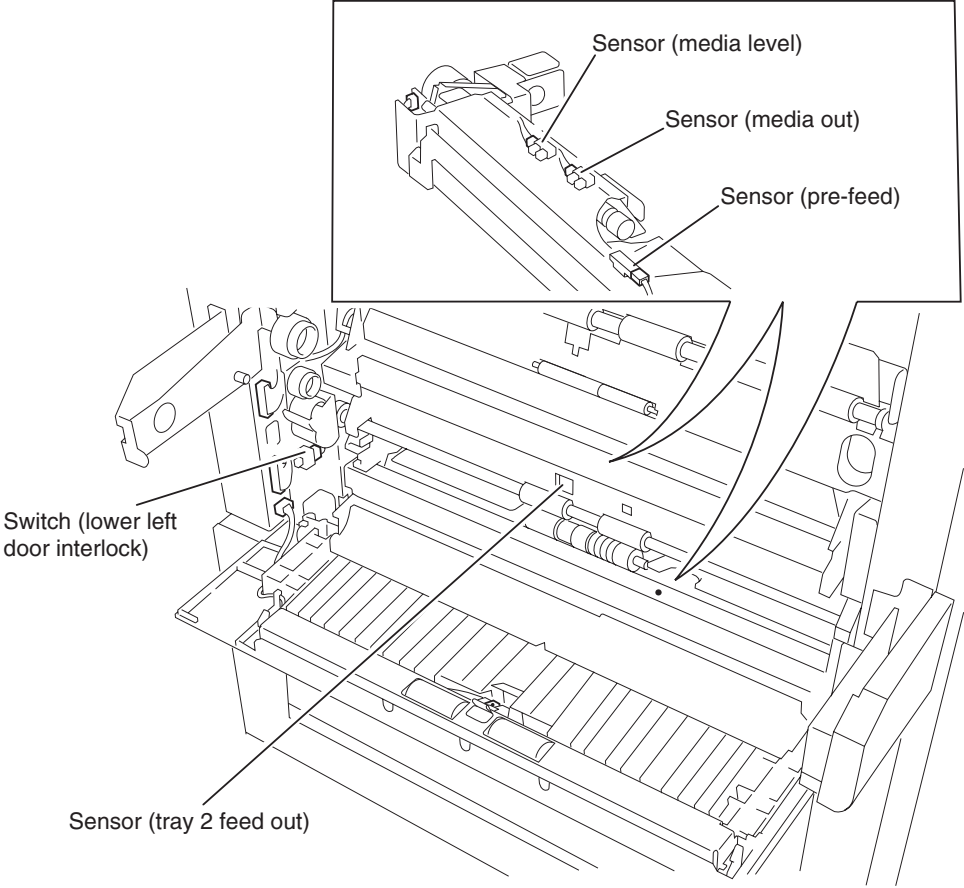


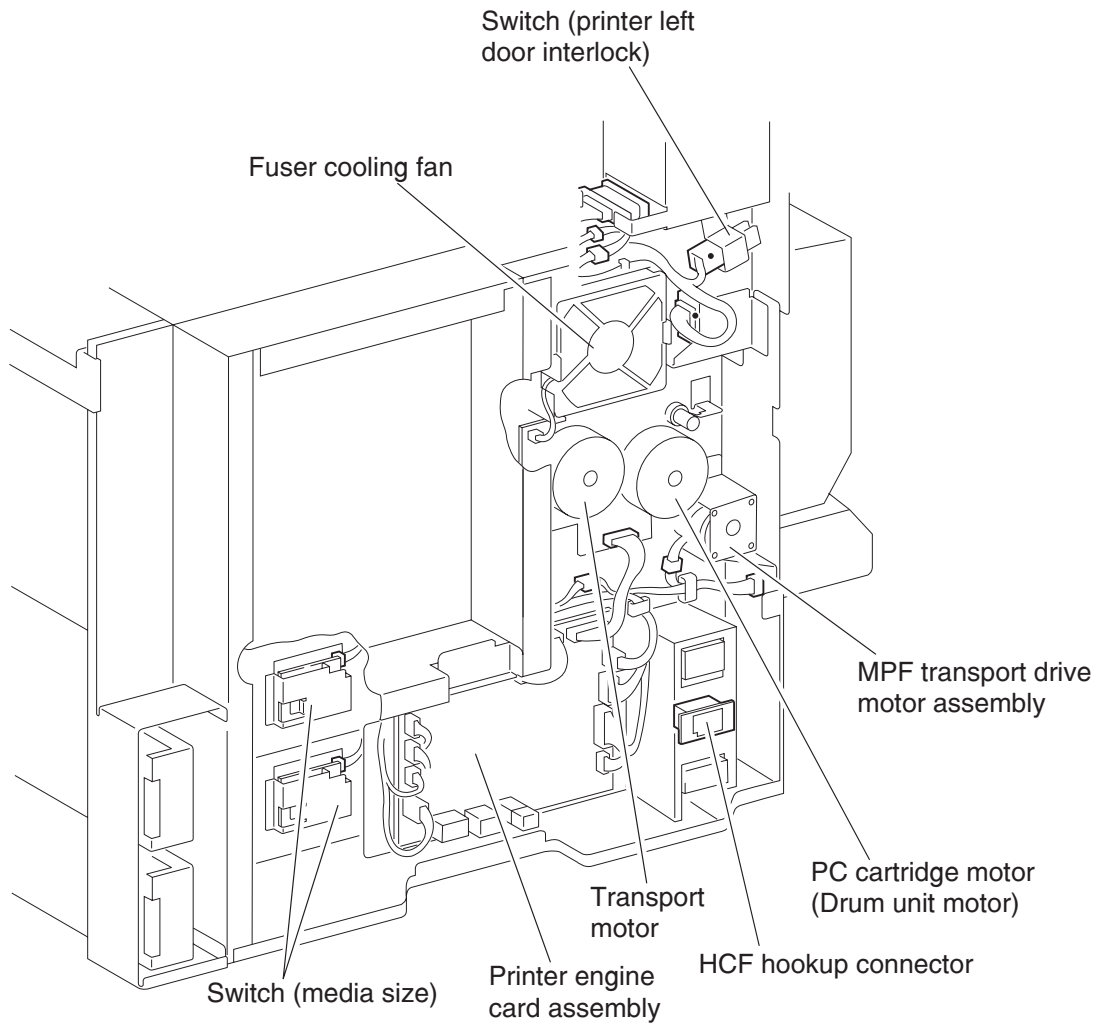
### Printer motors and sensors





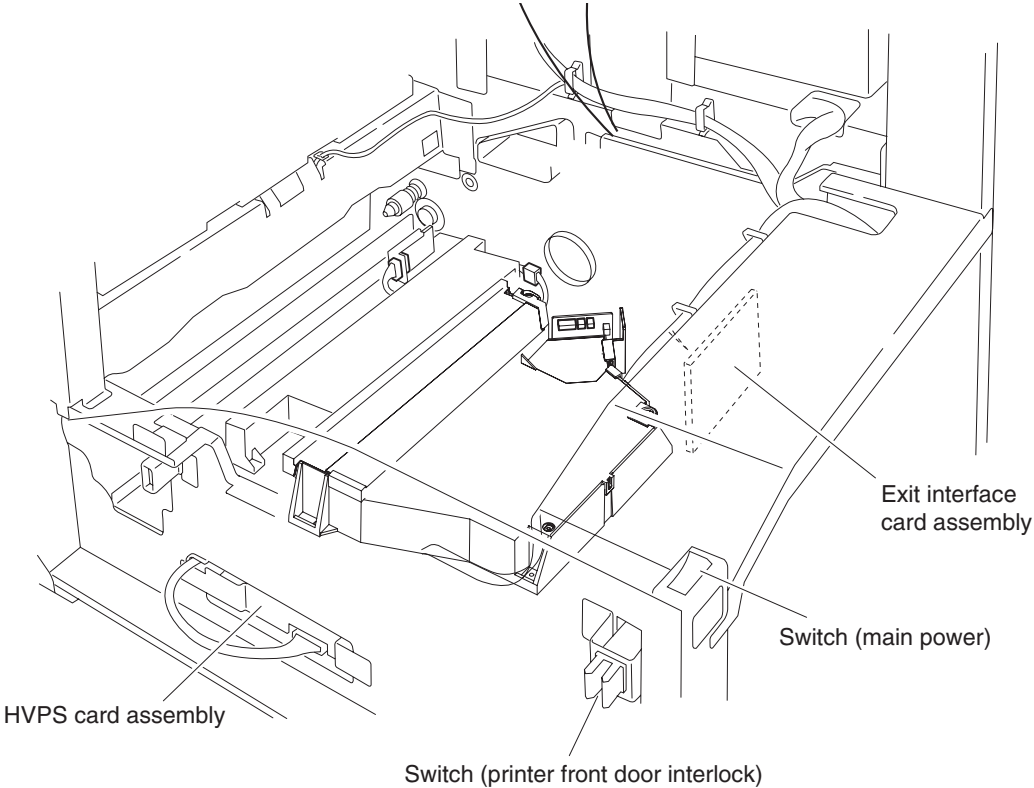




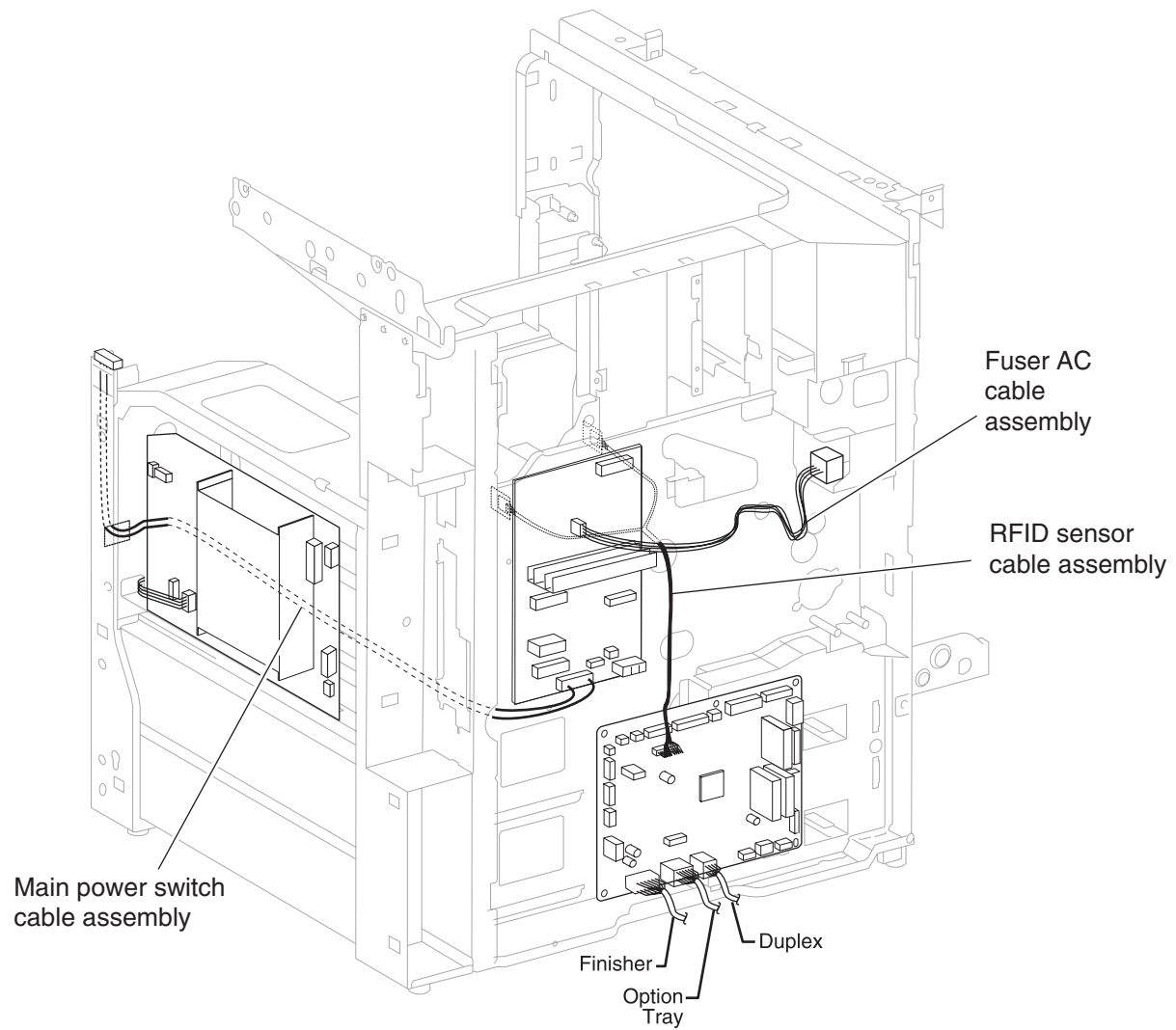


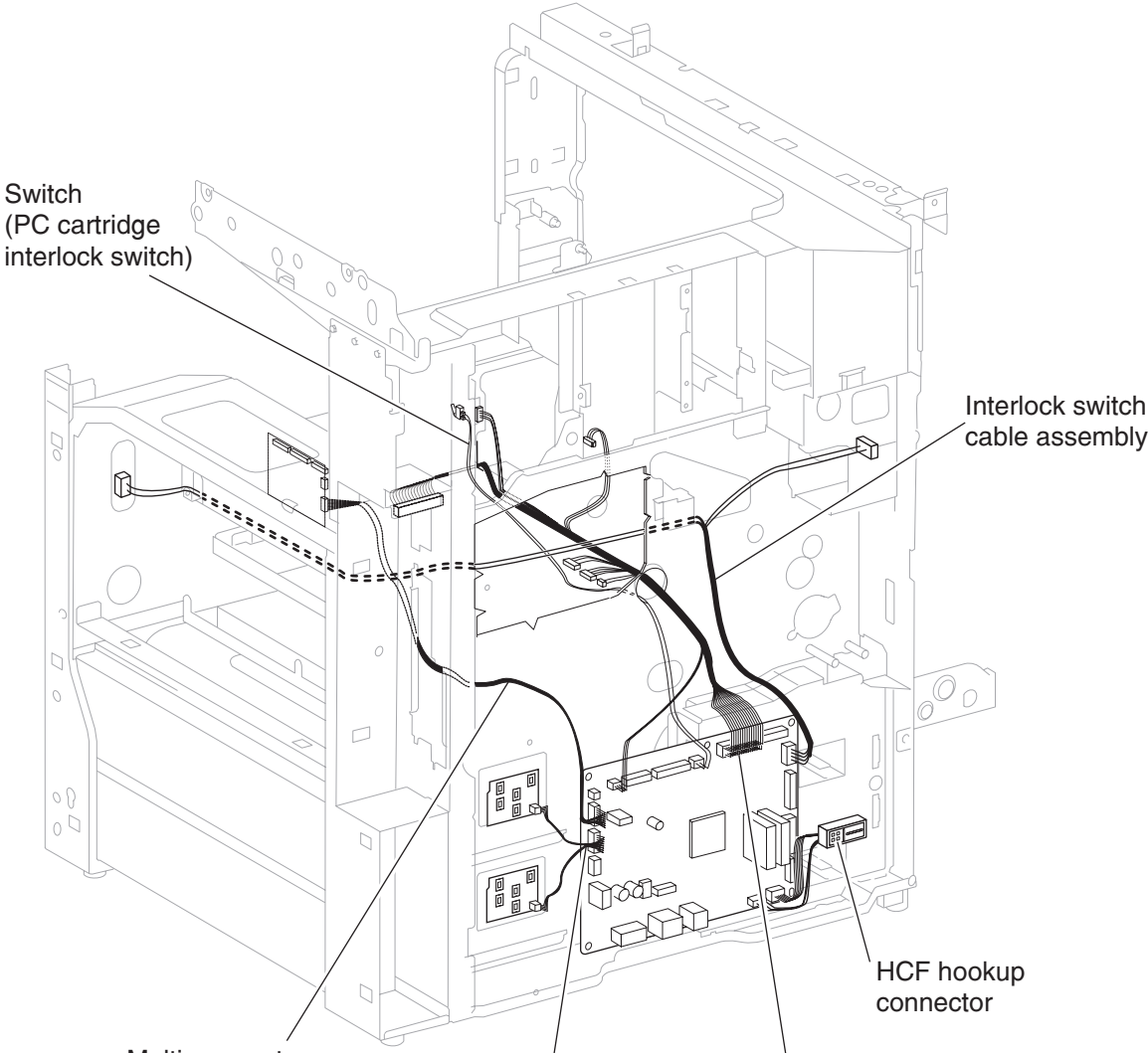


**Printer switches**



## Cables





Switch  
(PC cartridge  
interlock switch)

Interlock switch  
cable assembly

HCF hookup  
connector

Multi connect  
cable assembly 1  
connects the following:

- LVPS
- LVPS cooling fan
- Toner add motor
- Exit interface card assembly
- Fuser cable assembly (data)

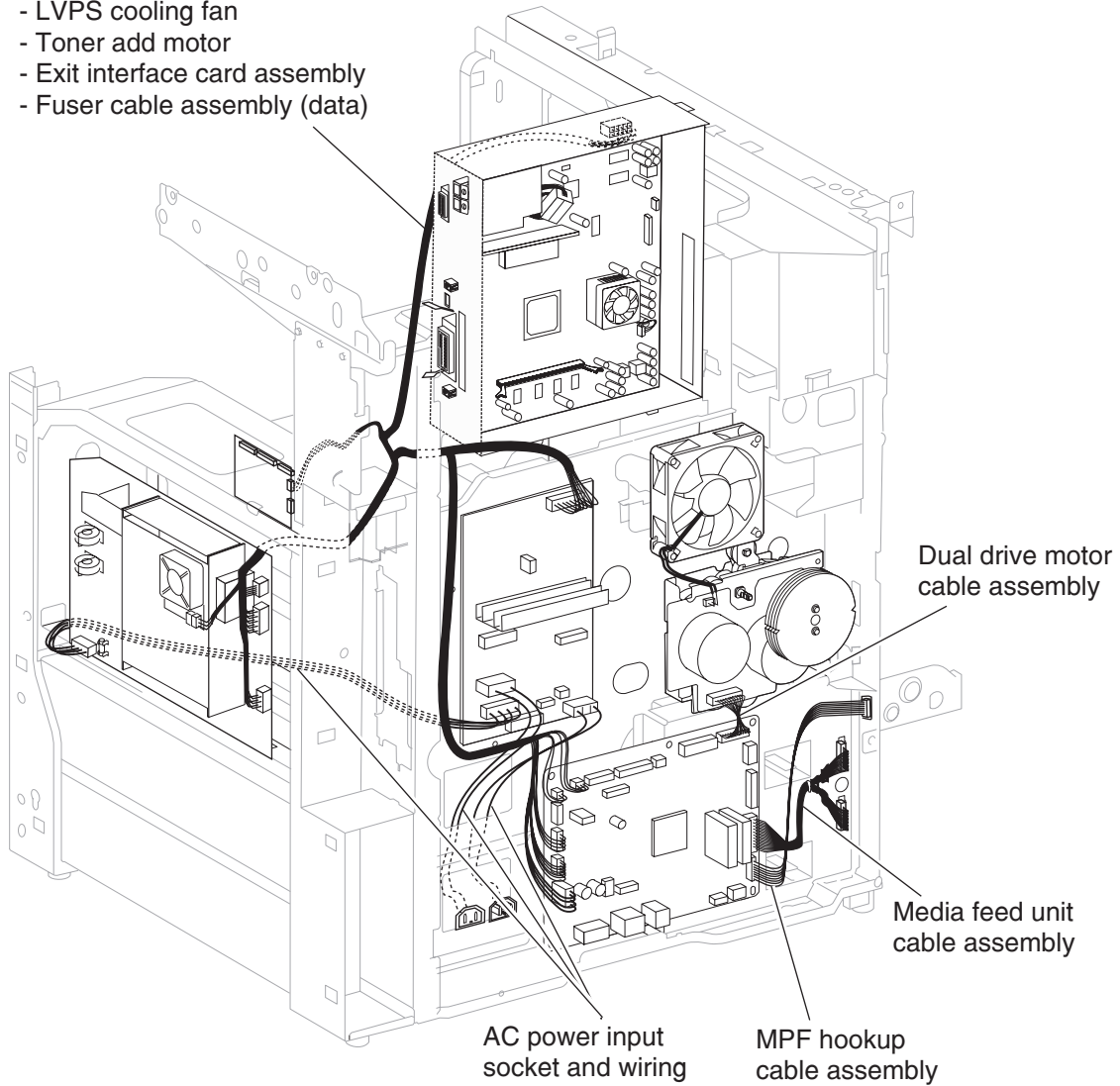
Media size switch  
cable assembly

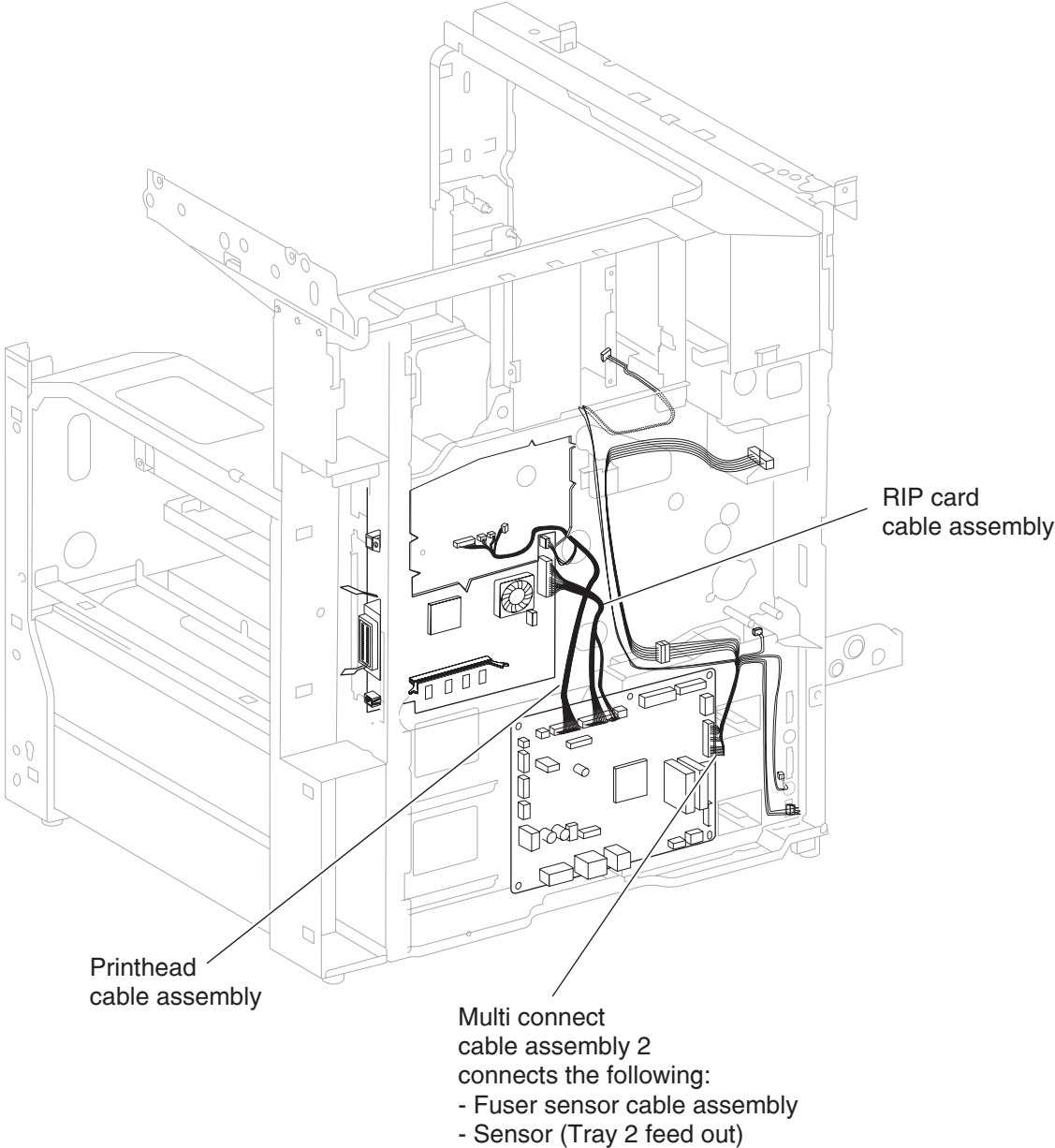
Multi connect  
cable assembly 1  
connects the following:

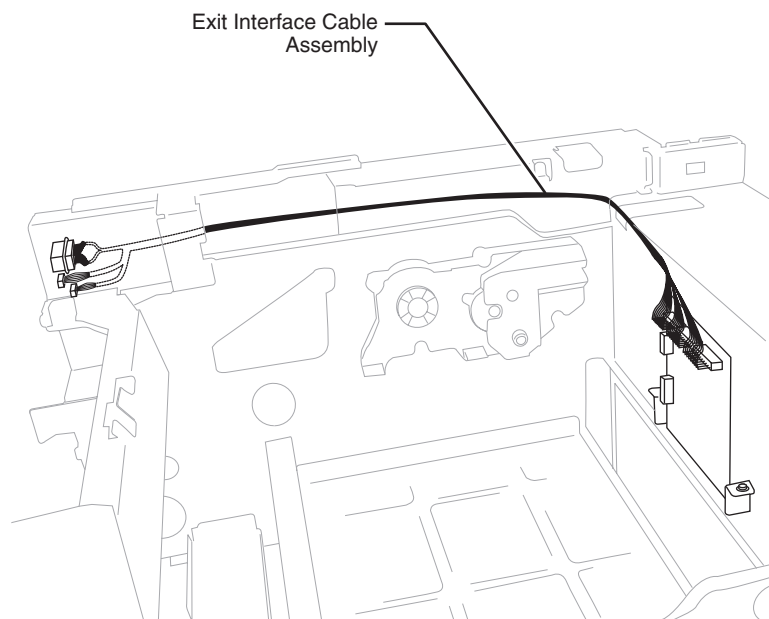
- HVPS
- Registration clutch
- Sensor (registration)
- Sensor (hum/temp)
- PC cartridge sensor connector

Multi connect  
cable assembly 3  
connects the following:

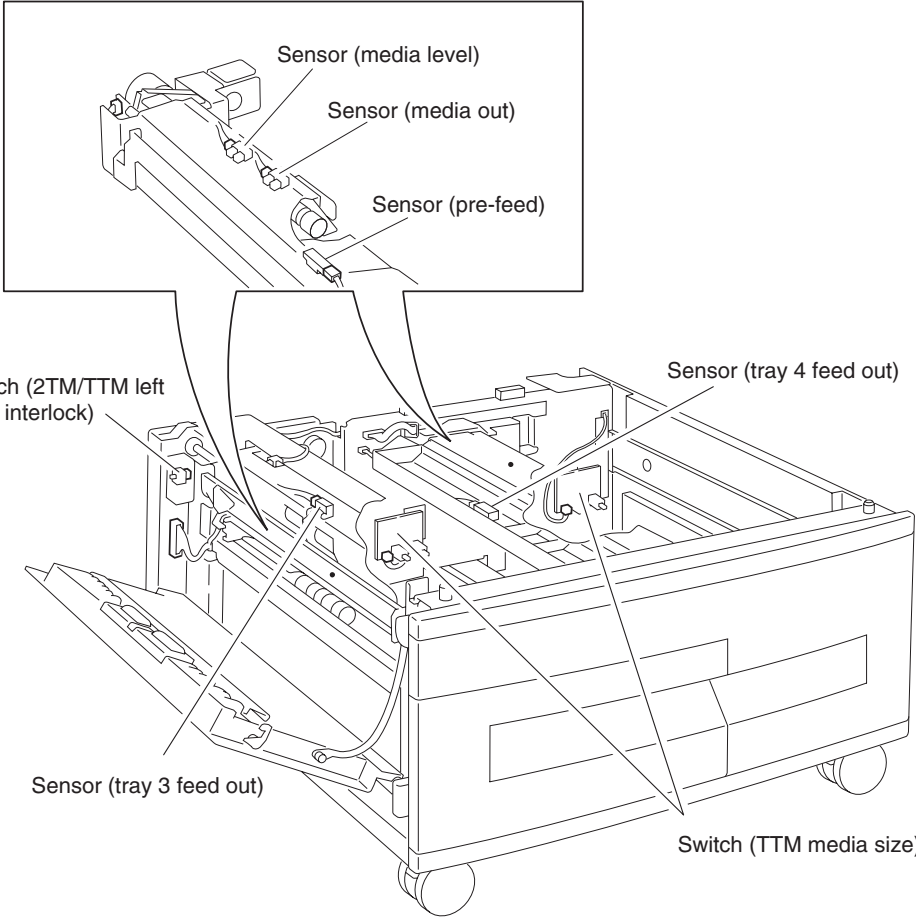
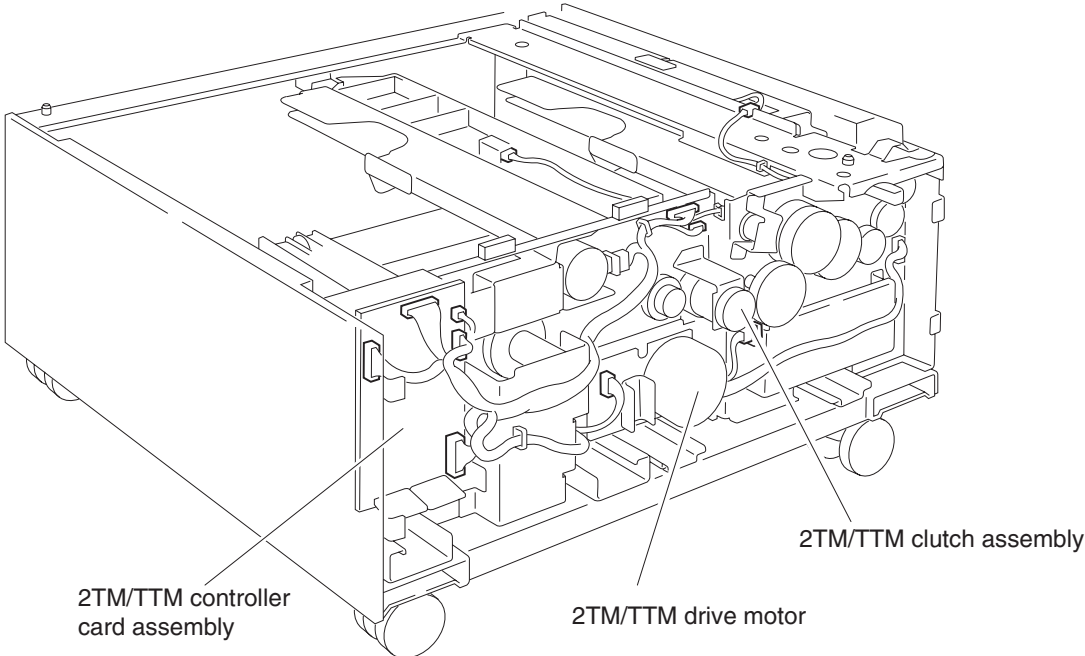
- LVPS
- LVPS cooling fan
- Toner add motor
- Exit interface card assembly
- Fuser cable assembly (data)



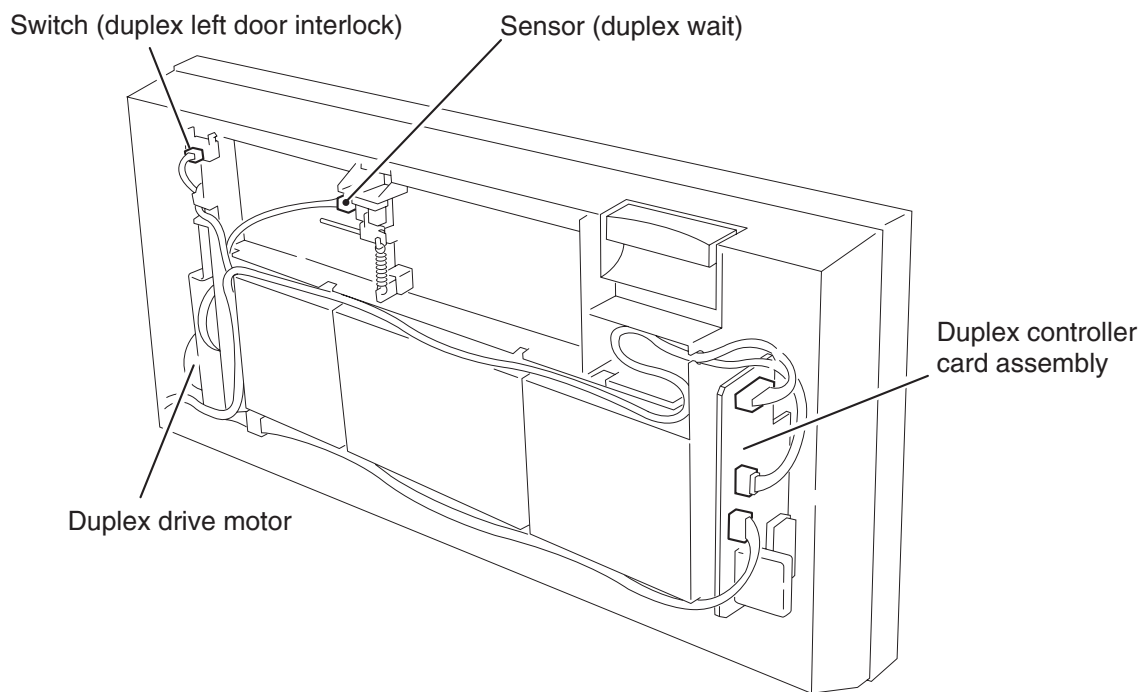




# TTM components

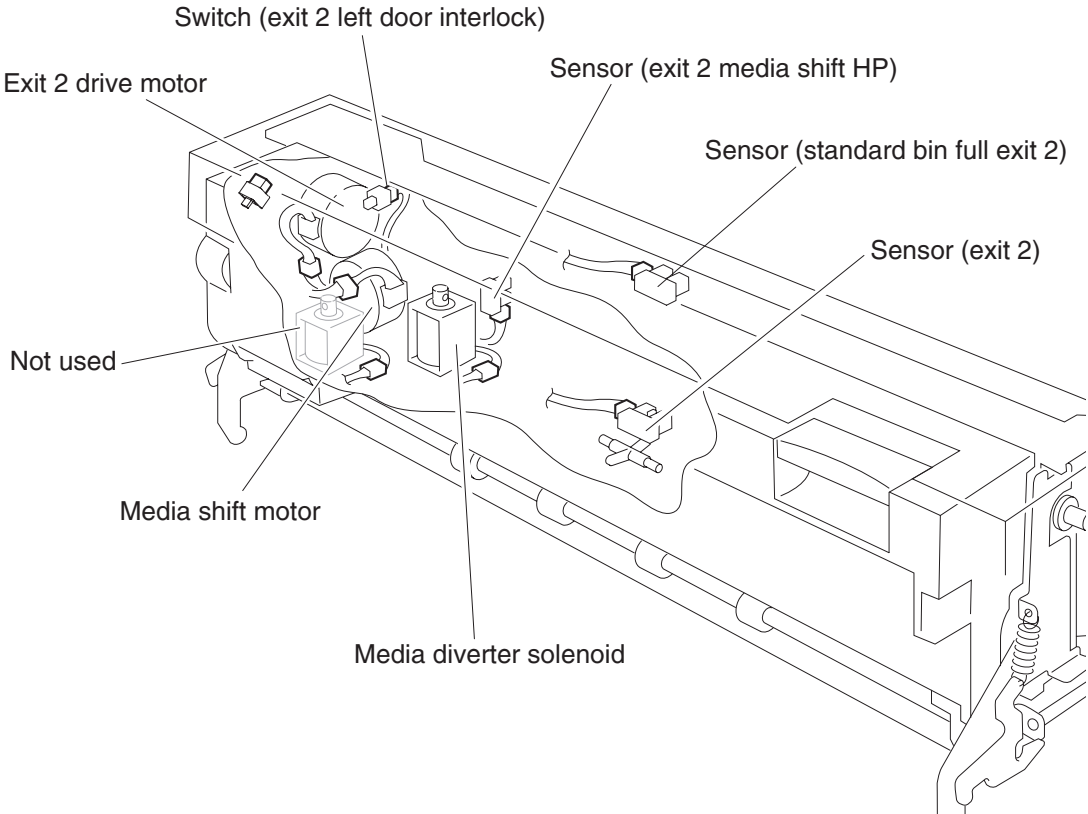


## Duplex components





# Exit 2 components



7500-XXX

## 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 X850e, X852e, X854e</b>	<b>EVERY SERVICE CALL</b>	<b>EVERY 300K</b>	<b>NOTE:</b>
<b>MEDIA TRAY—PRINTER 2TM/TTM</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 Group		Inspect	
<b>MEDIA FEED UNIT—PRINTER TTM</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 feed roll	Inspect	Clean	Water or alcohol
Transport Roll Assembly		Clean	Water or alcohol
Sensor (registration)		Clean	Brush or blower brush
Sensor (tray 2 feed-out)		Clean	Brush or blower brush
<b>MEDIA FEED UNIT HCF (if equipped)</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
HCF Transport Roll Assembly		Clean	Water or alcohol
Front Edge Guide	Inspect		Check for correct positioning
Rear Edge Guide	Inspect		Check for correct positioning
Long Edge Guide	Inspect		Check for correct positioning
Separation Pad	Inspect	Clean	Damp cloth
<b>TRANSFER ROLL</b>			
Transfer Roll	Inspect	Replace	
<b>FUSER UNIT</b>			
Fuser Unit	Inspect	Replace	
Sensor (fuser exit)		Clean	Blower brush
<b>DUPLEX</b>			
Duplex Transport Roll (2)		Clean	Water or alcohol

<b>LEXMARK X850e, X852e, X854e</b>	<b>EVERY SERVICE CALL</b>	<b>EVERY 300K</b>	<b>NOTE:</b>
Duplex Transport Roll Middle		Clean	Water or alcohol
<b>EXIT 2</b>			
Exit 2 Transport Roll		Clean	Water or alcohol
Exit 2 Media Exit Roll		Clean	Water or alcohol
<b>FINISHER (if equipped)</b>			
Bridge Unit Transport Belts		Clean	Water or alcohol
Main Paddles (3)		Inspect	
Sub Paddles (2)		Inspect	
Clamp Paddles (3)		Inspect	
Punch Waste Box		Clean	
Stapler Cartridge	Inspect	Inspect	Check for correct operation
<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 X850e, X852e, X854e</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.

## Scheduled maintenance

The LCD displays 80 scheduled maintenance at each 300K page count interval. It is necessary to replace the fuser assembly, transfer roller, and feed, pick and separation rollers 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:

40X2375—Maintenance Kit, 110 V  
 40X2376—Maintenance Kit, 220 V  
 40X2377—Maintenance Kit, 100 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:

40X2734—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 300K 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
- Exit 2 area
- Standard bins
- Bridge unit area (if equipped)
- Finisher media bins (if equipped)

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## 7. Parts catalog

### How to use this parts catalog

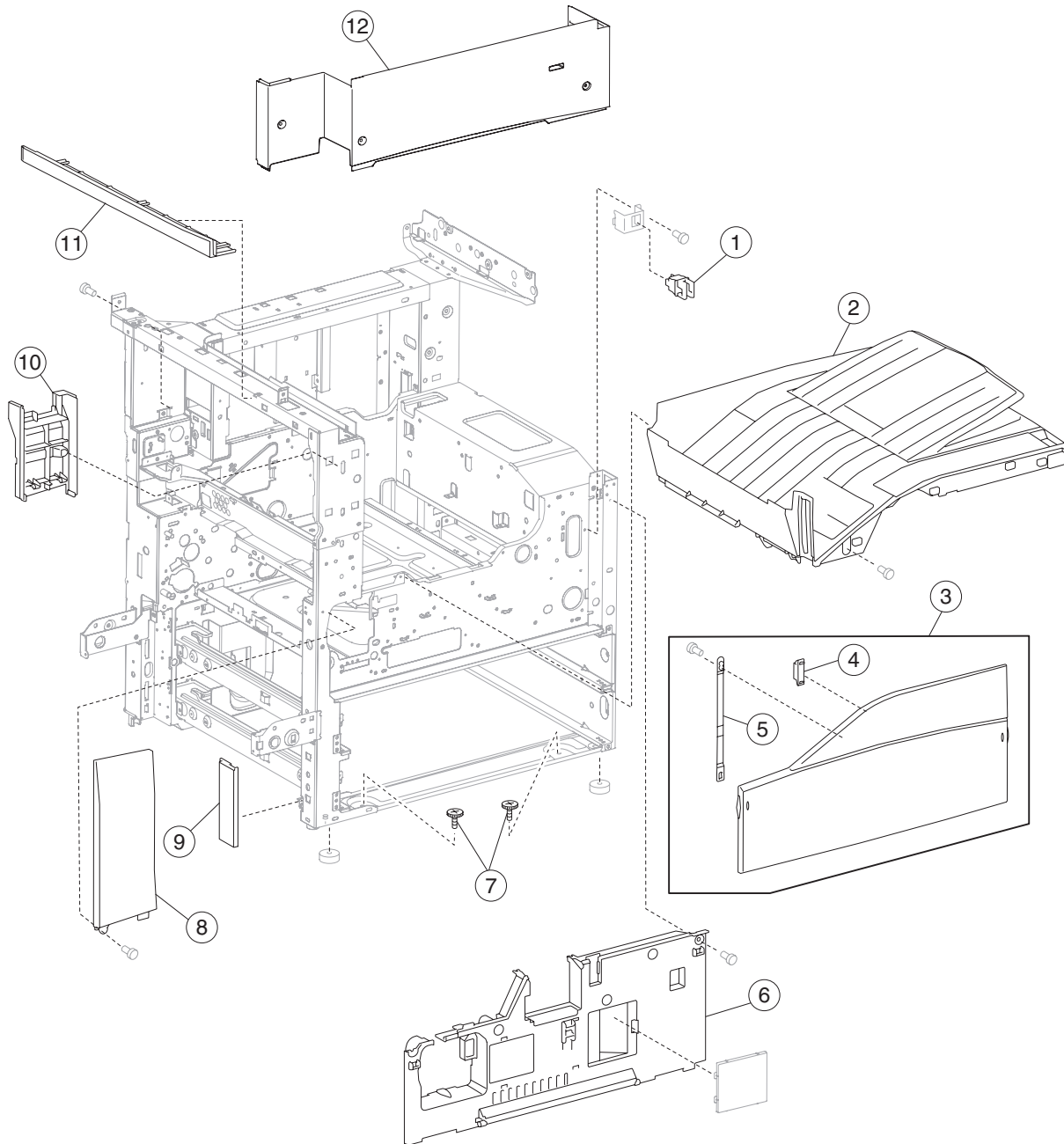
The following legend is used in the parts catalog:

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
-----------	-------------	------------	------------------	-------------

- **Assembly-index:** Identifies the assembly and the item in the diagram. For example 3-1 indicates Assembly 3 and the item number 1 in the table.
- **Part number:** Identifies the unique number that identifies this FRU.
- **Units/mach:** Refers to the number of units actually used in the base machine or product.
- **Units/kit or pkg:** Refers to the number of units packaged together and identified by the part number.
- **NS:** (Not shown) in the assembly-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	Speed
Lexmark X850e	Network	7500-000	35 PPM
Lexmark X852e	Network	7500-100	45 PPM
Lexmark X854e	Network	7500-200	55 PPM

### Assembly 1: Covers (1 of 2)

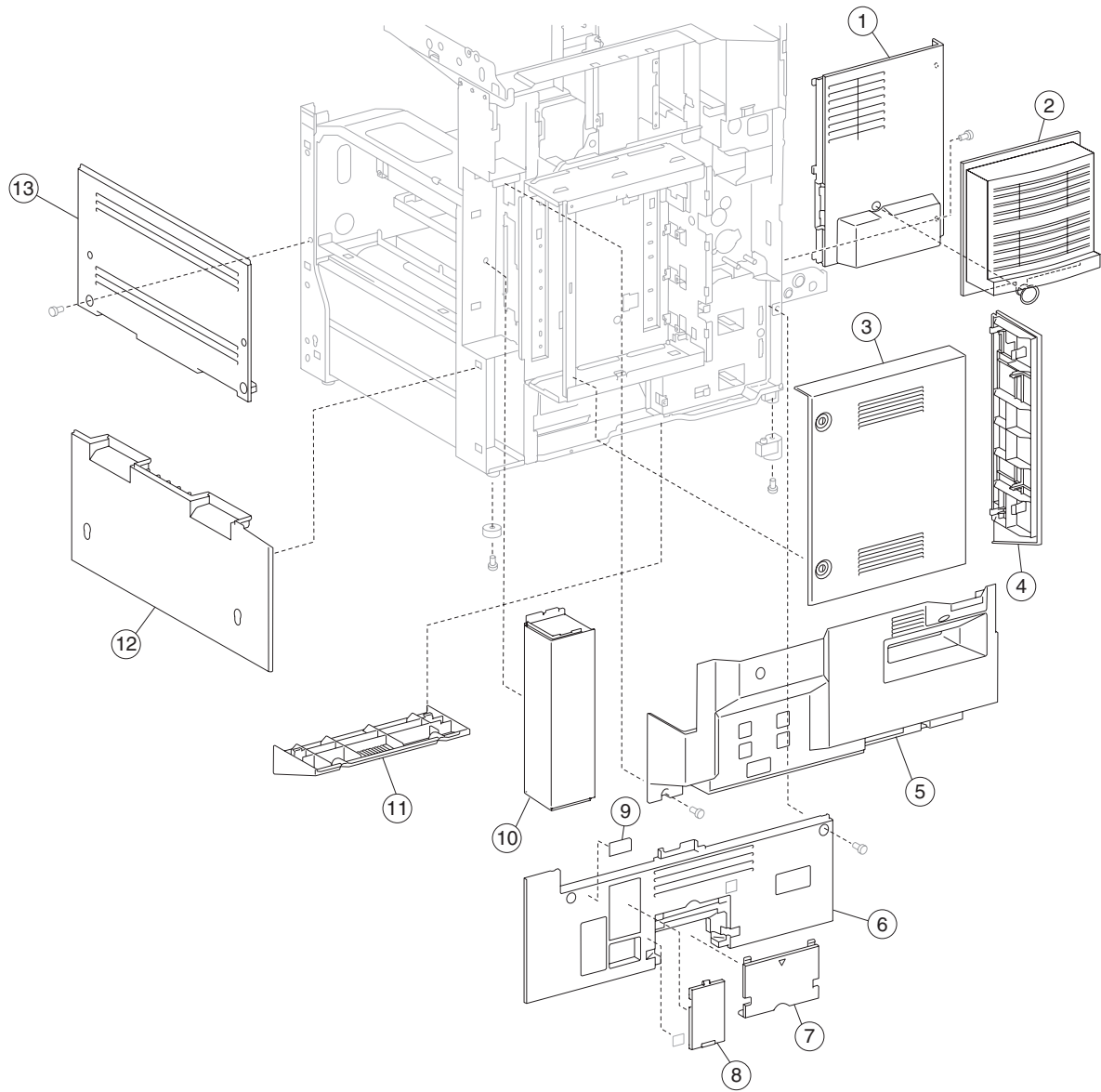




## Assembly 1: Covers (1 of 2)

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
1-1	40X0553	1	1	Switch (printer front door interlock)
2	40X2366	1	1	Top cover assembly
3	40X2385	1	1	Printer front door assembly
4	40X0560	1	1	Front door magnetic catch
5	40X0561	1	1	Front door support strap
6	40X0562	1	1	Front inner cover
7	40X0960	1	2	2TM/TTM retaining screws
8	40X2294	1	1	Front left cover
9	40X0550	1	1	Left lower cover
10	40X2296	1	1	Front interior cover
11	40X2297	1	1	Left upper cover
12	40X2295	1	1	Rear interior cover

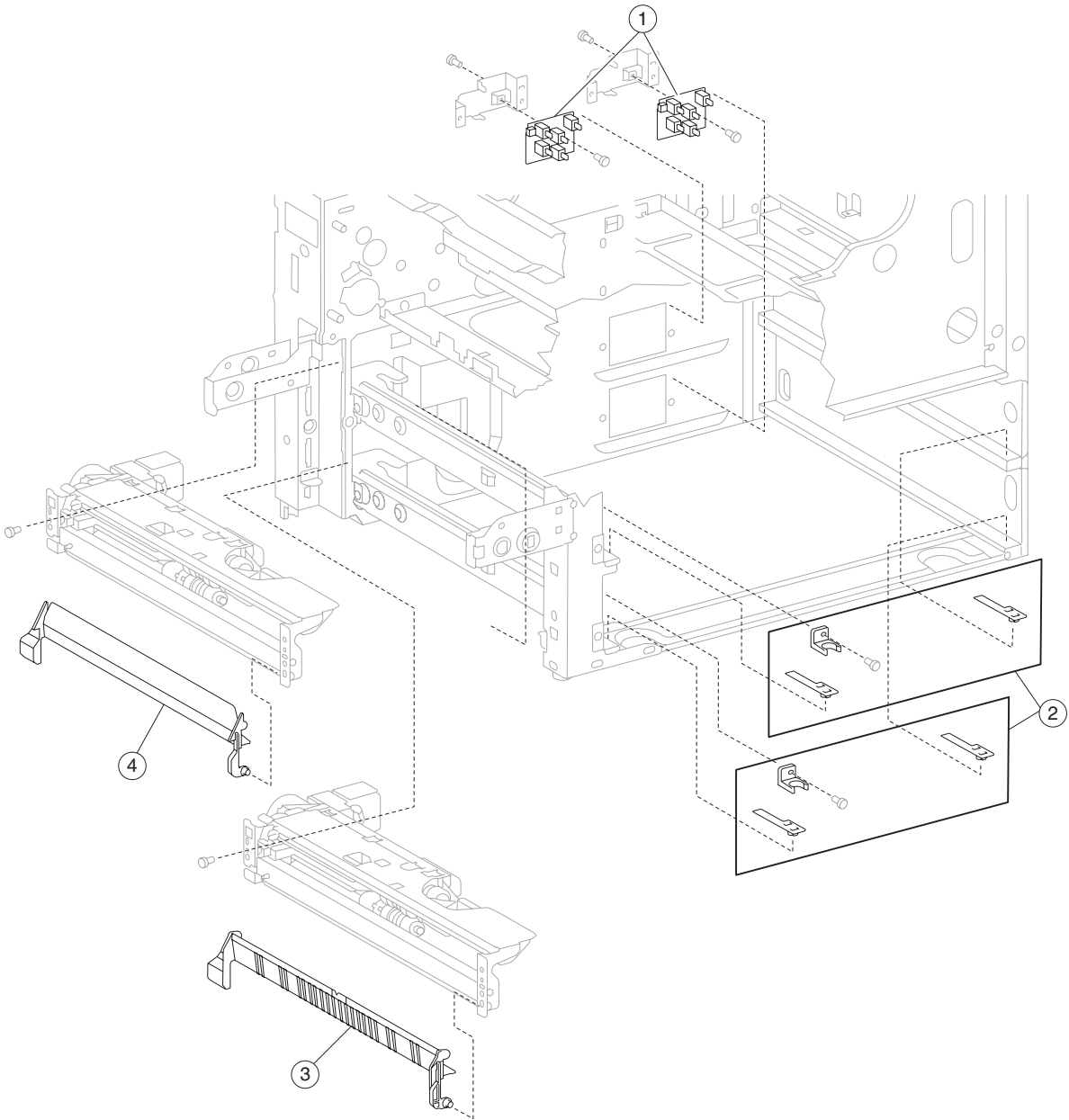
## Assembly 2: Covers



## Assembly 2: Covers

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
1-1	40X2300	1	1	Rear motor cover
2	40X2382	1	1	TVOC filter assembly
3	40X2304	1	1	Rear RIP card cover
4	40X2306	1	1	Controller box side cover
5	40X2301	1	1	Rear Upper cover
6	40X2386	1	1	Rear lower cover (110V)
6	40X2387	1	1	Rear lower cover (220V)
7	40X0568	1	1	Option hookup cover
8	40X2302	1	1	Rear lower cap cover
9	40X2303	1	1	GFI label
10	40X2299	1	1	Rear corner cover
11	40X2305	1	1	Controller box lower cover
12	40X0564	1	1	Right lower cover
13	40X0563	1	1	Right upper cover

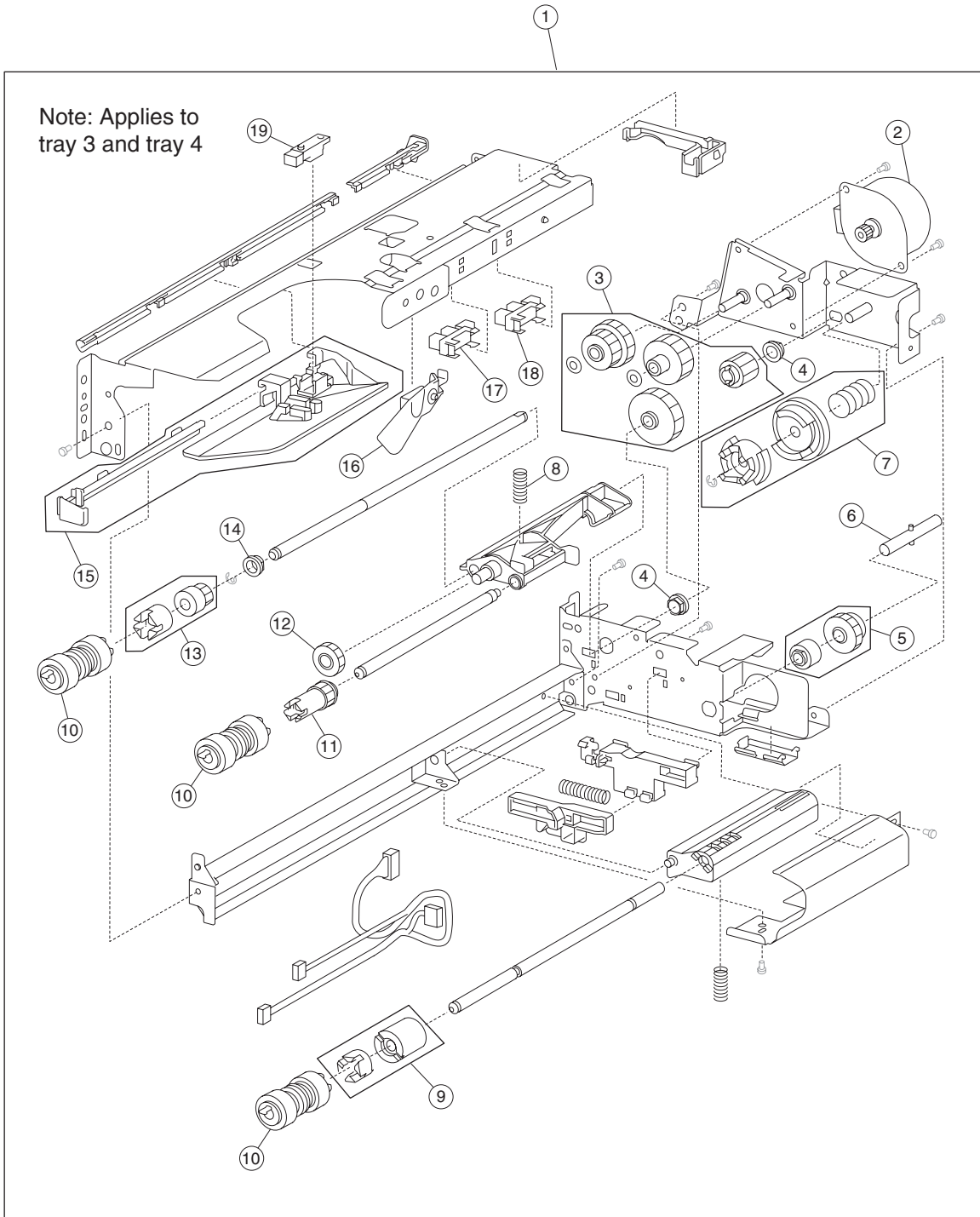
### Assembly 3: Media feed unit



**Assembly 3: Media feed unit**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
3-1	40X0570	2	1	Switch (media size)
2	40X0569	2	3	Media tray catch kit includes: <ul style="list-style-type: none"><li>• Media tray catch</li><li>• Media tray slide (2 each)</li></ul>
3	40X0572	1	1	Vertical turn guide
4	40X0571	1	1	Vertical turn mylar guide

### Assembly 4: Media feed unit exploded (tray 1 and tray 2)

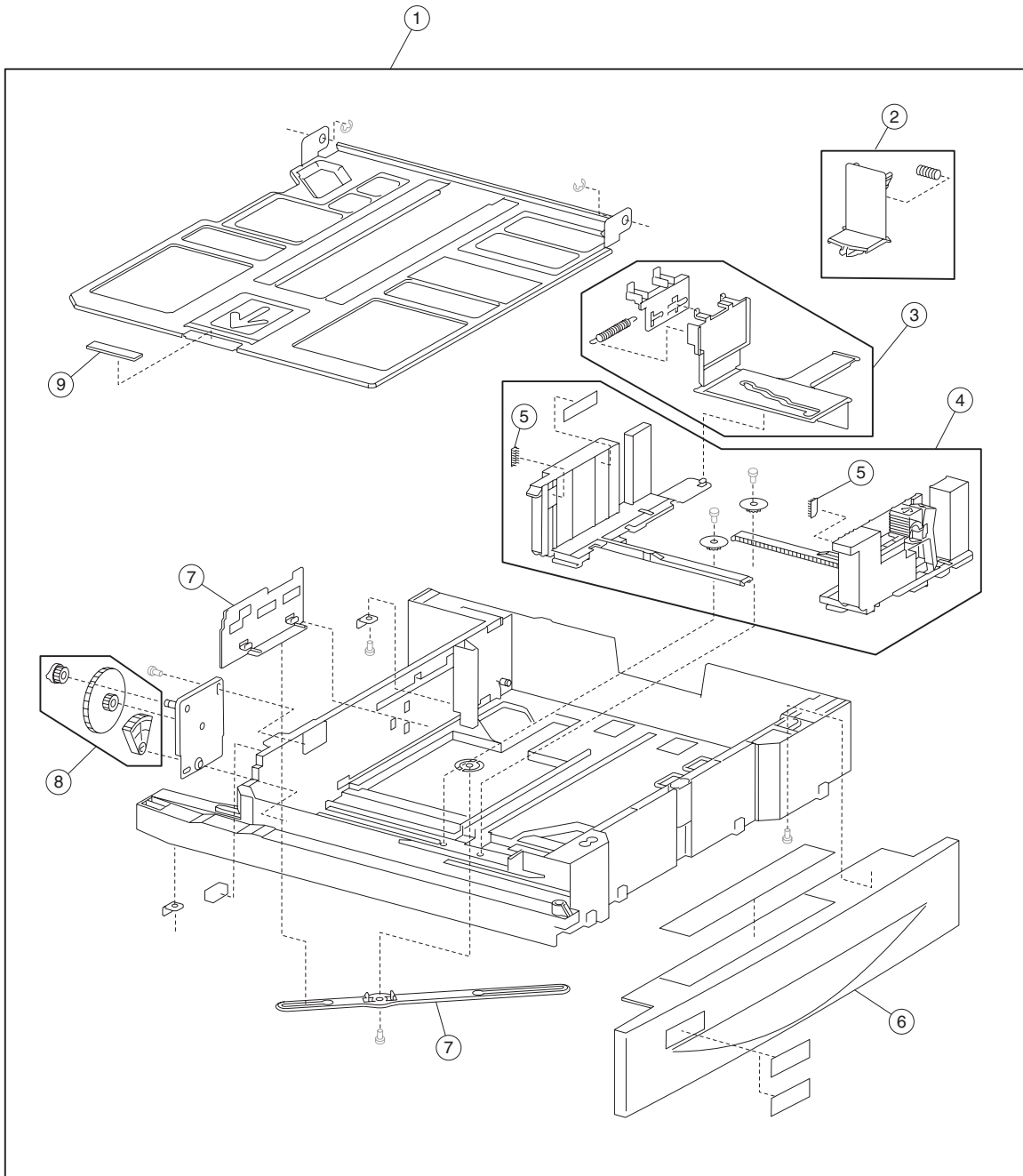


### Assembly 4: Media feed unit exploded (tray 1 and tray 2)

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
4-1	40X0581	2	1	Media feed unit assembly
2	40X0582	2	1	Media feed lift motor
3	40X0585	2	6	Media feed drive gear kit includes: <ul style="list-style-type: none"> <li>• Media feed unit drive gear 13T</li> <li>• Media feed unit drive gear 28/21T</li> <li>• Media feed unit drive gear 29T</li> <li>• Media feed unit drive gear 27T</li> <li>• 2 mm washer (2 each)</li> </ul>
4	40X0880	2	1	Bushing 6 mm
5	40X0967	2	2	Media tray lift one-way clutch/gear kit includes: <ul style="list-style-type: none"> <li>• Media tray lift one-way clutch</li> <li>• Media tray lift one-way gear</li> </ul>
6	40X0968	2	1	Media tray lift one-way shaft
7	40X0583	2	3	Tray lift coupling kit includes: <ul style="list-style-type: none"> <li>• Tray lift coupling</li> <li>• Tray lift coupling gear 31T</li> <li>• Spring</li> </ul>
8	40X0590	2	1	Pick roll assembly spring
9	40X0593	2	2	Separation roll friction clutch kit includes: <ul style="list-style-type: none"> <li>• Separation roll one-way friction clutch</li> <li>• Separation roll spacer</li> </ul>
10	40X0594	2	6	Feed unit roll kit includes: <ul style="list-style-type: none"> <li>• Feed roll (2 each)</li> <li>• Pick roll (2 each)</li> <li>• Separation roll (2 each)</li> </ul>
11	40X0970	2	1	Pick roll drive gear
12	40X0969	2	1	Pick roll idler gear
13	40X0591	2	2	Feed roll one-way clutch kit includes: <ul style="list-style-type: none"> <li>• Feed roll one-way clutch</li> <li>• Feed roll one-way gear 22T</li> </ul>
14	40X0952	2	1	Bushing 6 mm
15	40X0586	2	2	Media feed unit front guide kit includes: <ul style="list-style-type: none"> <li>• Media feed unit front guide</li> <li>• Media feed unit front guide rail</li> </ul>
16	40X0587	2	1	Media out actuator
17	40X0588	2	1	Sensor (media out)
18	40X0588	2	1	Sensor (media level)
19	40X0589	2	1	Sensor (pre-feed)

**Note:** Assembly index items 17 and 18 are identical sensors with different functions; therefore, they are the same part number with different descriptions.

### Assembly 5: Media tray

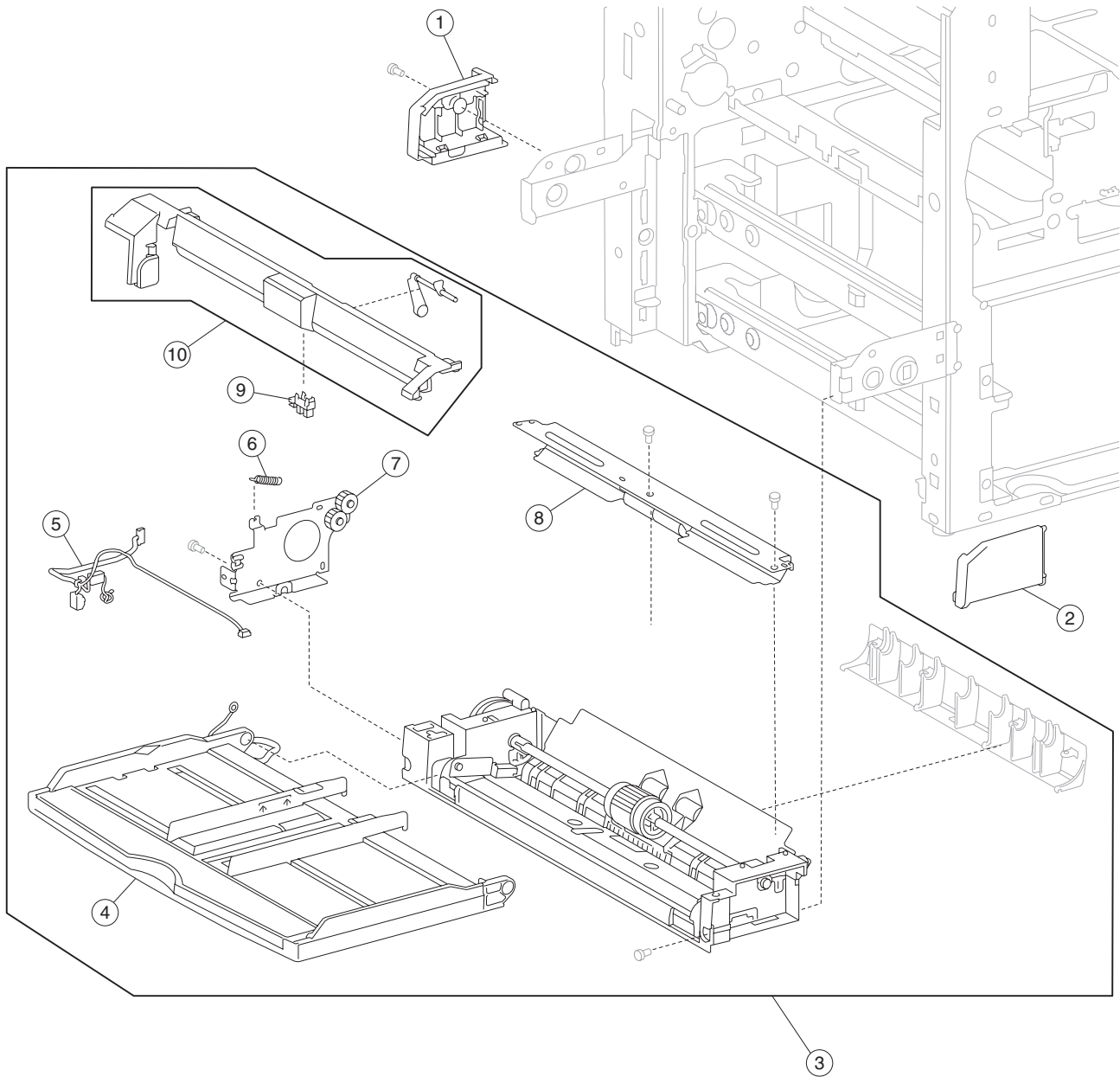




## Assembly 5: Media tray

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
5-1	40X0573	2	3	Media tray assembly includes: (this comes assembled) <ul style="list-style-type: none"> <li>• Media tray assembly</li> <li>• Labels (2 each)</li> </ul>
2	40X0578	2	2	Media tray end guide kit includes: <ul style="list-style-type: none"> <li>• Media tray end guide</li> <li>• Spring</li> </ul>
3	40X0577	2	3	Media tray side guide actuator kit includes: <ul style="list-style-type: none"> <li>• Media tray side guide actuator</li> <li>• Media tray side guide slide</li> <li>• Spring</li> </ul>
4	40X0576	2	5	Media tray side guide kit includes: <ul style="list-style-type: none"> <li>• Media max label</li> <li>• Front media tray guide assembly</li> <li>• Rear media tray guide</li> <li>• Pinion gear (2 each)</li> </ul>
5	40X0966	4	1	Media tray separation brush
6	40X0574	2	1	Media tray front cover includes: <ul style="list-style-type: none"> <li>• Media tray front cover</li> <li>• Labels (2 each)</li> </ul>
7	40X0579	2	2	Media tray end guide actuator kit includes: <ul style="list-style-type: none"> <li>• Media end guide actuator</li> <li>• Actuator link</li> </ul> <p><b>Note:</b> The graphic on the previous page, shows two #7 callouts. These callouts are the two items that make up the media tray end guide actuator kit.</p>
8	40X0580	2	3	Media tray lift gear kit includes: <ul style="list-style-type: none"> <li>• Tray lift coupling gear 13T</li> <li>• Tray lift gear 13/60T</li> <li>• Tray lift sector gear 12T</li> </ul>
9	40X0965	2	1	Media tray separation pad

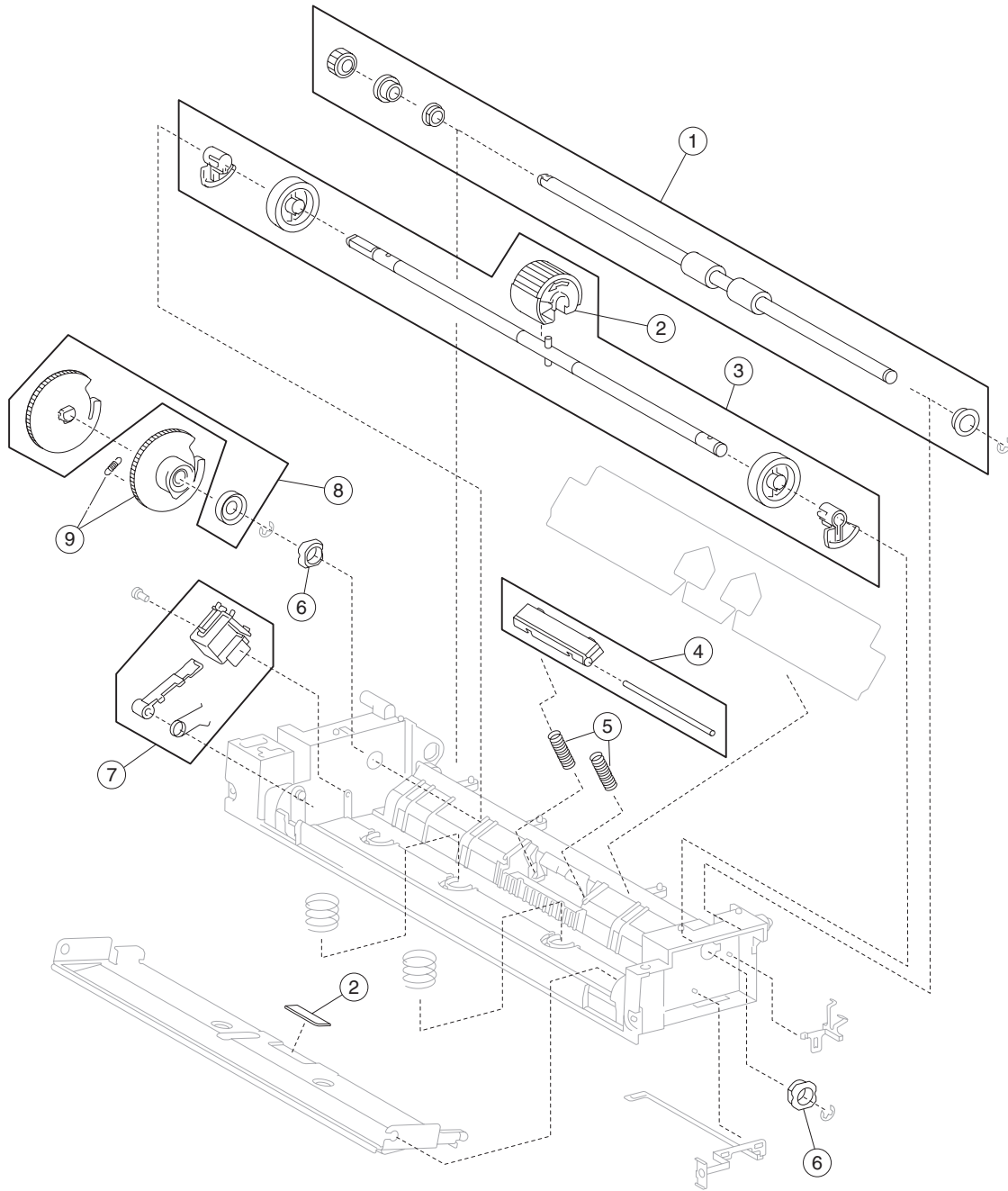
### Assembly 6: MPF unit



**Assembly 6: MPF unit**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
6-1	40X0600	1	1	MPF rear cover
2	40X0599	1	1	MPF front cover
3	40X0595	1	1	MPF feed unit assembly
4	40X0608	1	1	MPF fold down tray assembly
5	40X0597	1	1	MPF unit cable assembly
6	40X0755	1	1	MPF pickup spring
7	40X0598	1	1	MPF idler gear bracket assembly
8	40X0601	1	1	MPF transport pinch roll assembly
9	40X0588	1	1	Sensor (MPF media out)
10	40X0596	1	2	MPF media out actuator kit includes: <ul style="list-style-type: none"> <li>• MPF media out actuator</li> <li>• Upper frame</li> </ul>

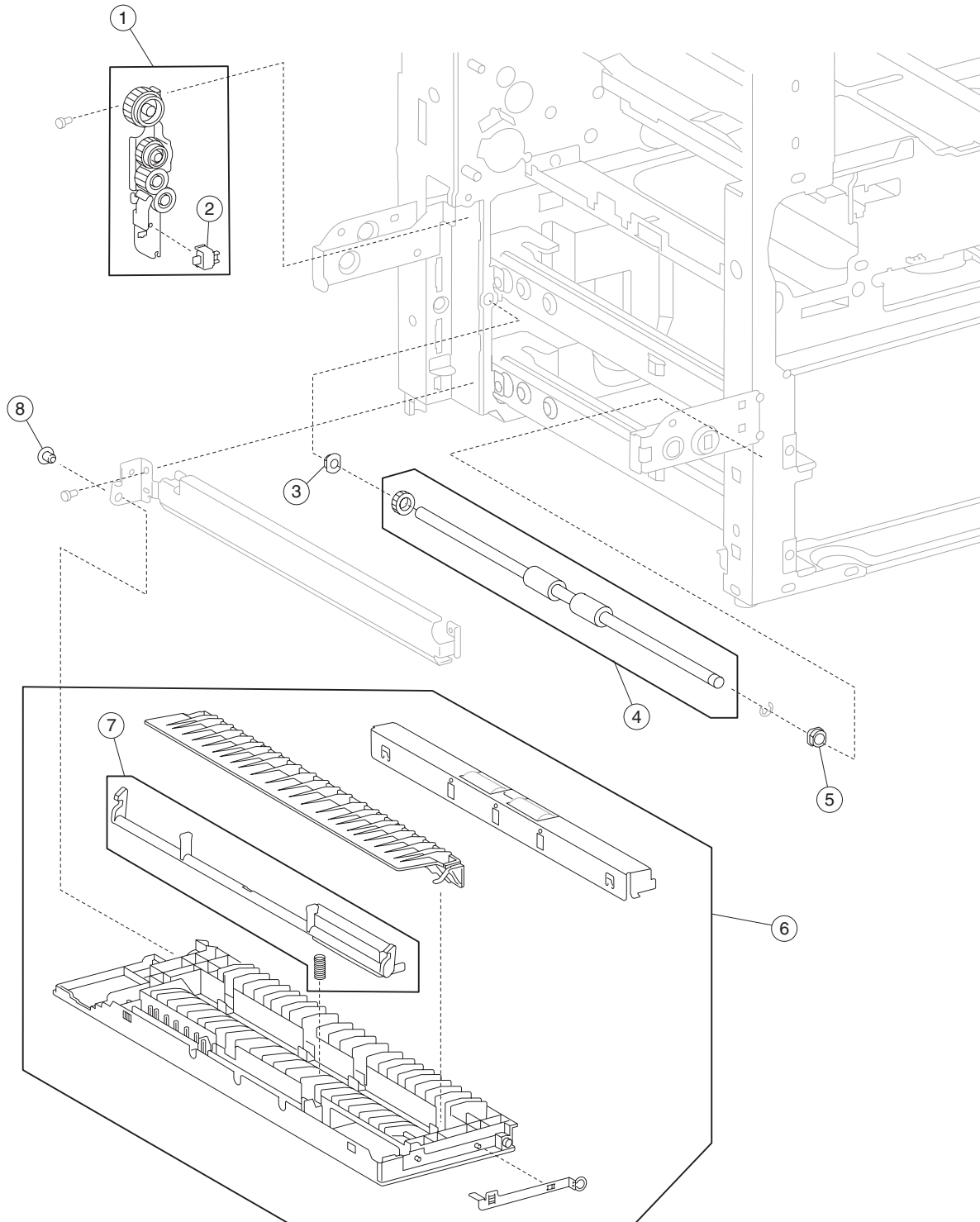
### Assembly 7: MPF unit feed



**Assembly 7: MPF unit feed**

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
7-1	40X0605	1	5	MPF transport roll kit includes: <ul style="list-style-type: none"> <li>• MPF transport shaft collar</li> <li>• MPF transport gear 18T</li> <li>• MPF transport roll assembly</li> <li>• Bushing 8 mm (2 each)</li> </ul>
2	40X0603	1	2	MPF pick roll kit includes: <ul style="list-style-type: none"> <li>• MPF pressure pad</li> <li>• MPF pick roll assembly</li> </ul>
3	40X1382	1	6	MPF feed shaft kit includes: <ul style="list-style-type: none"> <li>• MPF feed shaft</li> <li>• MPF feed shaft cam rear</li> <li>• MPF feed shaft cam front</li> <li>• MPF feed shaft roll core (2 each)</li> <li>• MPF feed roll assembly</li> </ul>
4	40X0974	1	2	MPF pressure pad kit includes: <ul style="list-style-type: none"> <li>• Shaft</li> <li>• MPF pressure pad</li> </ul>
5	40X1380	2	1	MPF pressure pad spring
6	40X1381	2	1	MPF feed shaft bushing
7	40X0606	1	3	MPF pick solenoid kit includes: <ul style="list-style-type: none"> <li>• Pick lever</li> <li>• Pick solenoid</li> <li>• Spring</li> </ul>
8	40X0971	1	2	MPF feed drive gear kit includes: <ul style="list-style-type: none"> <li>• MPF feed gear</li> <li>• MPF feed gear stopper</li> </ul>
9	40X0973	1	2	MPF feed cam gear kit includes: <ul style="list-style-type: none"> <li>• MPF feed cam gear</li> <li>• Spring</li> </ul>

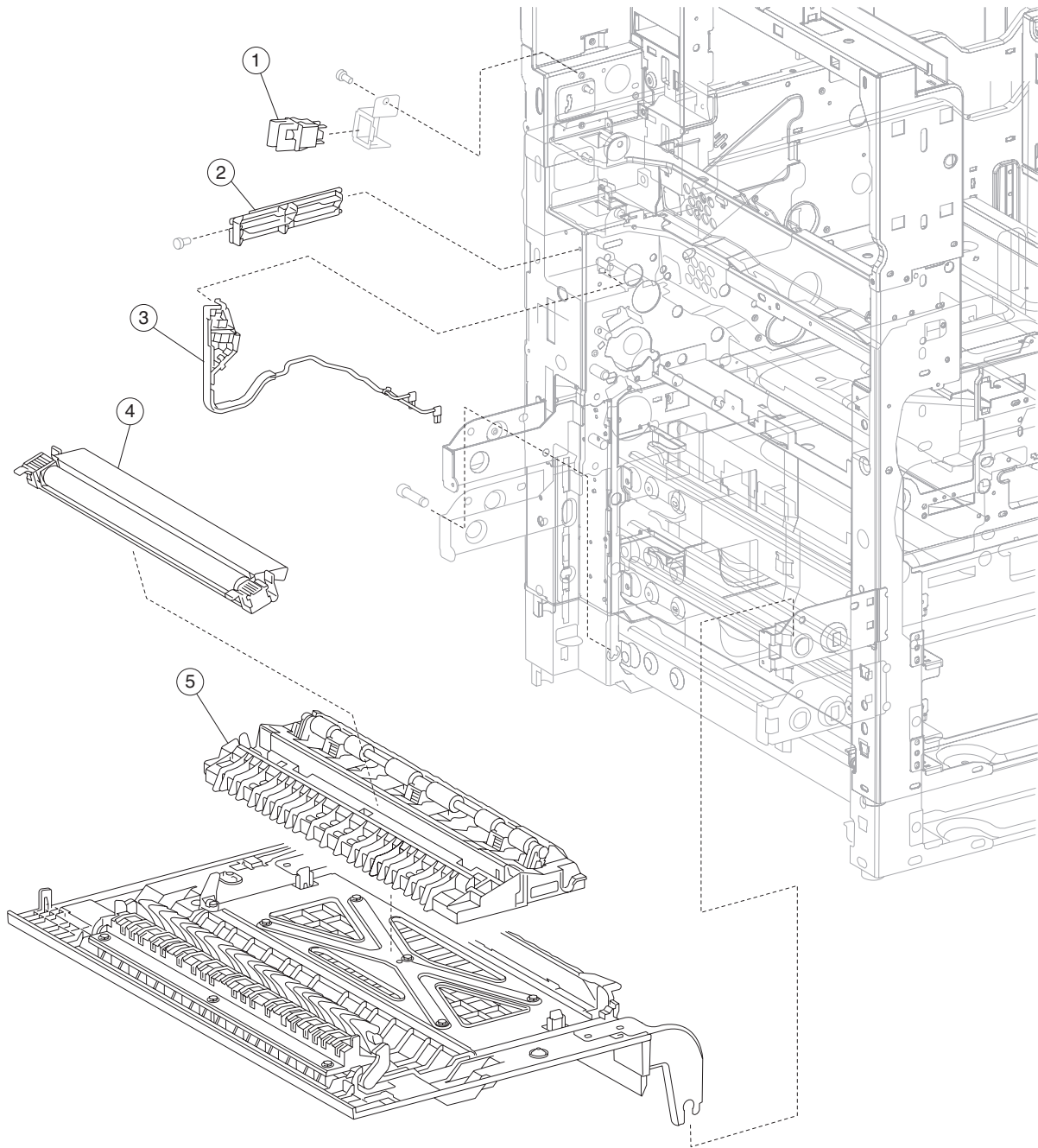
### Assembly 8: Left lower door and transport



## Assembly 8: Left lower door and transport

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
8-1	40X0609	1	1	Vertical drive gear assembly
2	40X0610	1	1	Switch (left lower door interlock)
3	40X1386	1	1	Bushing 6 mm (transport roll rear)
4	40X1387	1	2	Transport roll kit includes: <ul style="list-style-type: none"> <li>• Transport roll assembly</li> <li>• Transport roll gear 18T</li> </ul>
5	40X1388	1	1	Bushing 8 mm
6	40X0612	1	1	Printer left lower door assembly (this comes assembled)
7	40X0614	1	2	Left lower door handle kit includes: <ul style="list-style-type: none"> <li>• Left lower door handle</li> <li>• Spring</li> </ul>
8	40X0613	1	1	Hinge pin

## Assembly 9: Left door and transfer roll

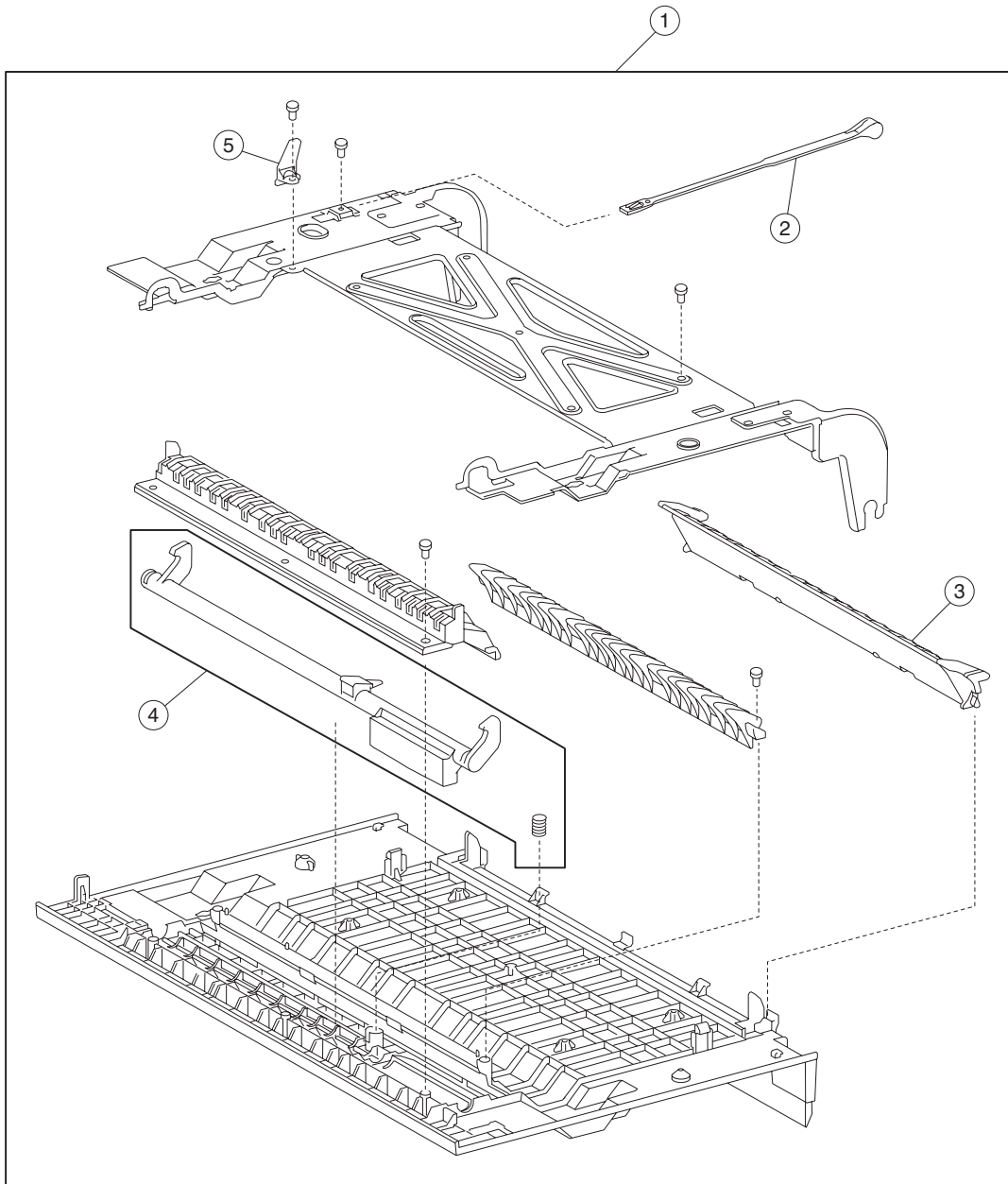




**Assembly 9: Left door and transfer roll**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
9-1	40X0553	1	1	Switch (printer left door interlock)
2	40X0618	1	1	PC cartridge shutter link
3	40X0617	1	1	Transfer roll power contact
4	40X0616	1	1	Transfer roll assembly
5	40X0619	1	1	Transfer roll guide assembly

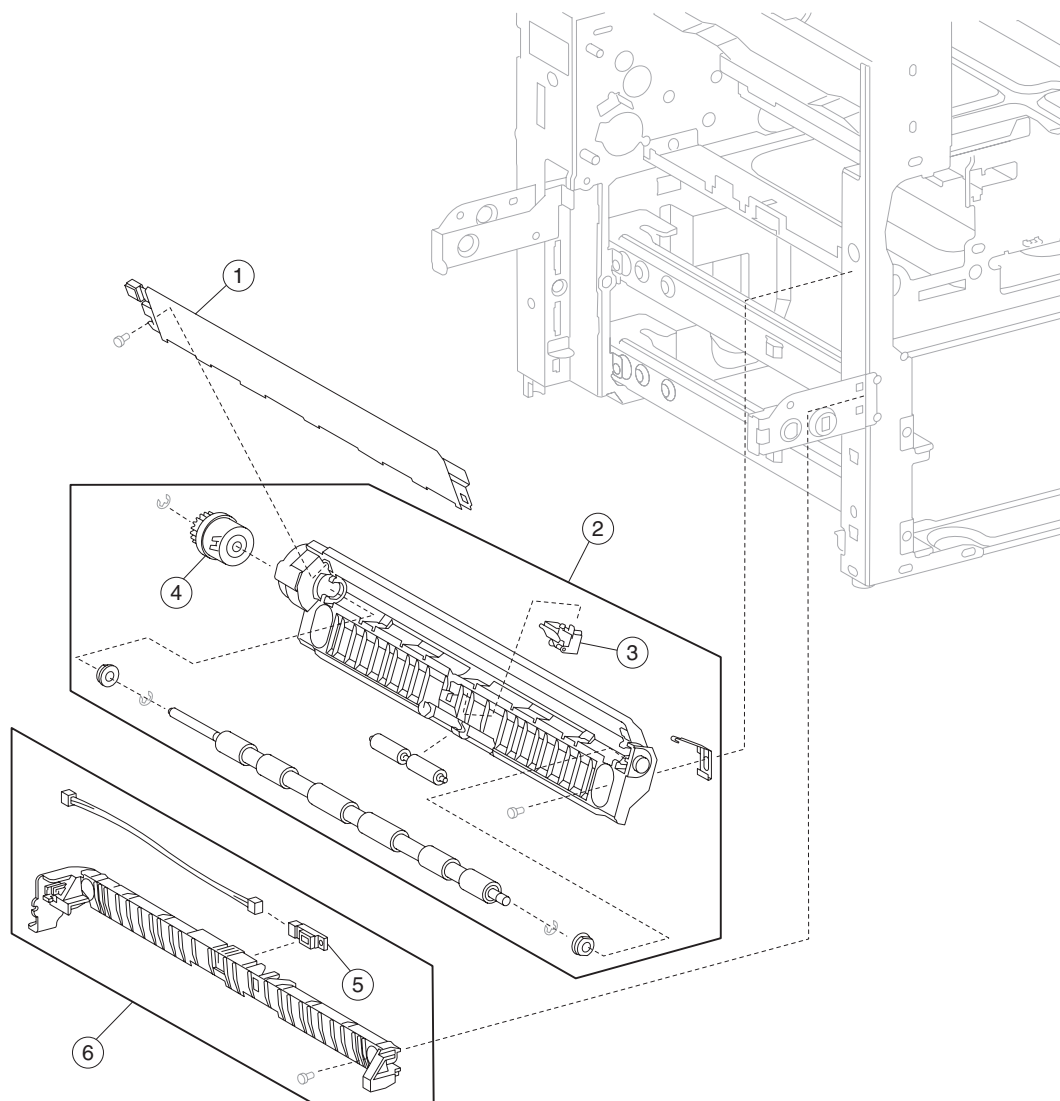
## Assembly 10: Printer left door



## Assembly 10: Printer left door

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
10-1	40X0620	1	1	Printer left door assembly (this comes assembled)
2	40X0624	1	1	Printer left door support strap
3	40X0623	1	1	Left door duplex entrance guide
4	40X0621	1	2	Printer left door assembly handle kit includes: <ul style="list-style-type: none"> <li>• Printer left door assembly handle</li> <li>• Spring</li> </ul>
5	40X0622	1	1	PC cartridge shutter actuator

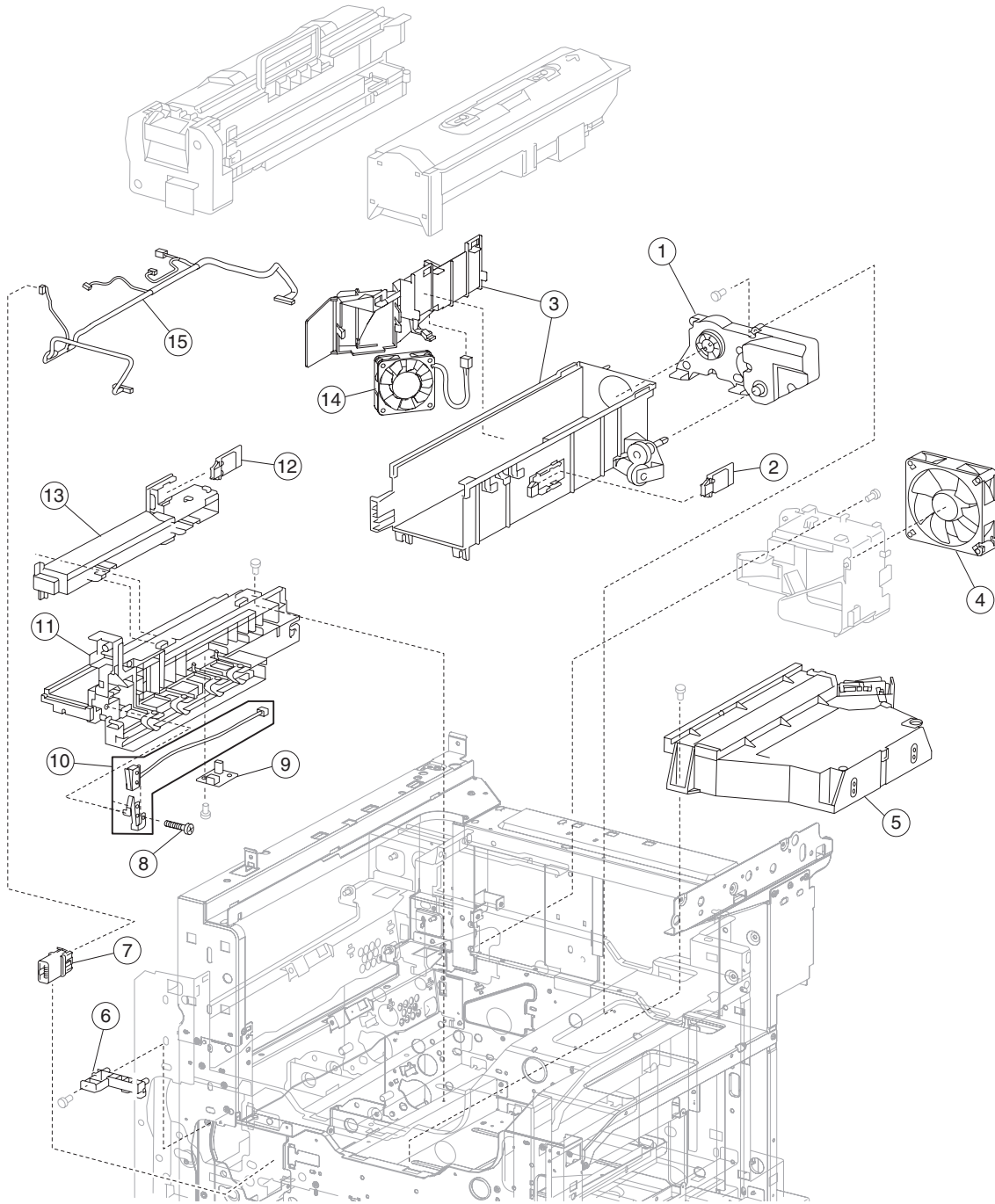
## Assembly 11: Registration



## Assembly 11: Registration

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
11-1	40X0628	1	1	Registration mylar guide assembly (this comes assembled)
2	40X0625	1	1	Registration roll assembly
3	40X0627	1	1	Sensor (registration)
4	40X0626	1	1	Registration clutch
5	40X0589	1	1	Sensor (tray 2 feed-out)
6	40X0630	1	1	Tray 2 feed-out sensor guide (this comes assembled)

### Assembly 12: Printhead, cartridge guides, and fans

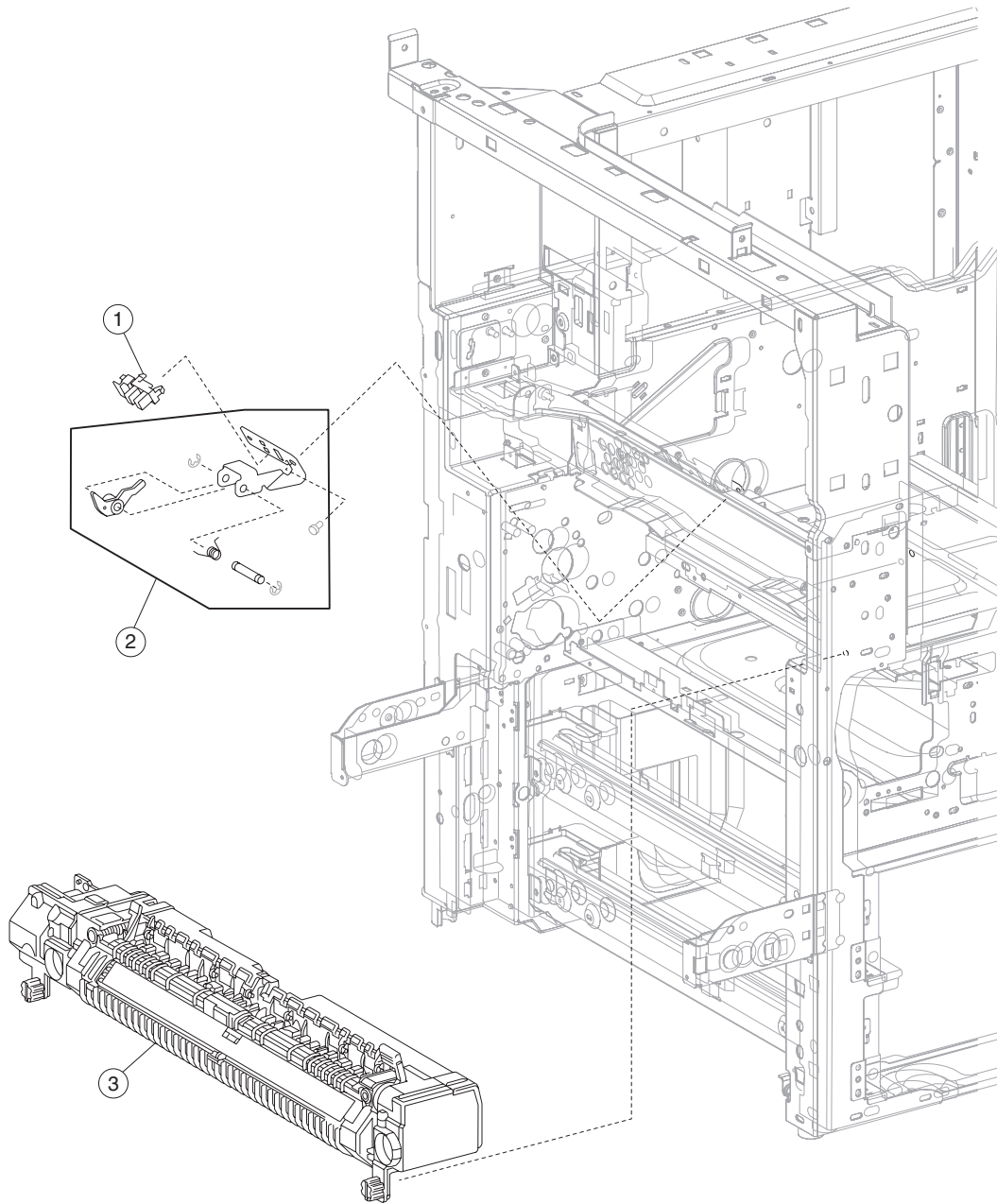


## Assembly 12: Printhead, cartridge guide and fans

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
12-1	40X0639	1	1	Toner add motor assembly
2	40X0636	1	1	Sensor (RFID toner cartridge)
3	40X0638	1	2	Toner cartridge guide kit includes: <ul style="list-style-type: none"> <li>• Toner cartridge guide assembly</li> <li>• PC cartridge cooling fan duct</li> </ul>
4	40X0640	1	1	Fuser cooling fan
5	40X0641	1	1	Printhead assembly
6	40X0631	1	1	PC cartridge stop
7	40X0644	1	1	PC cartridge sensor connector
8	40X1389	1	1	PC cartridge interlock switch screw
9	40X0633	1	1	Sensor (hum & temp)
10	40X1390	1	2	Switch (PC cartridge interlock) kit includes: <ul style="list-style-type: none"> <li>• Backup spring</li> <li>• Switch (PC cartridge interlock)</li> </ul>
11	40X0634	1	1	PC cartridge guide assembly
12	40X0636	1	1	Sensor (RFID PC cartridge)
13	40X0635	1	1	Laser opening guide
14	40X0643	1	1	PC cartridge cooling fan
15	40X0637	1	1	Multi connector cable assembly 1

**Note:** Assembly index items 2 and 11 are identical sensors with different functions; therefore, they are the same part number with different descriptions.

## Assembly 13: Fuser

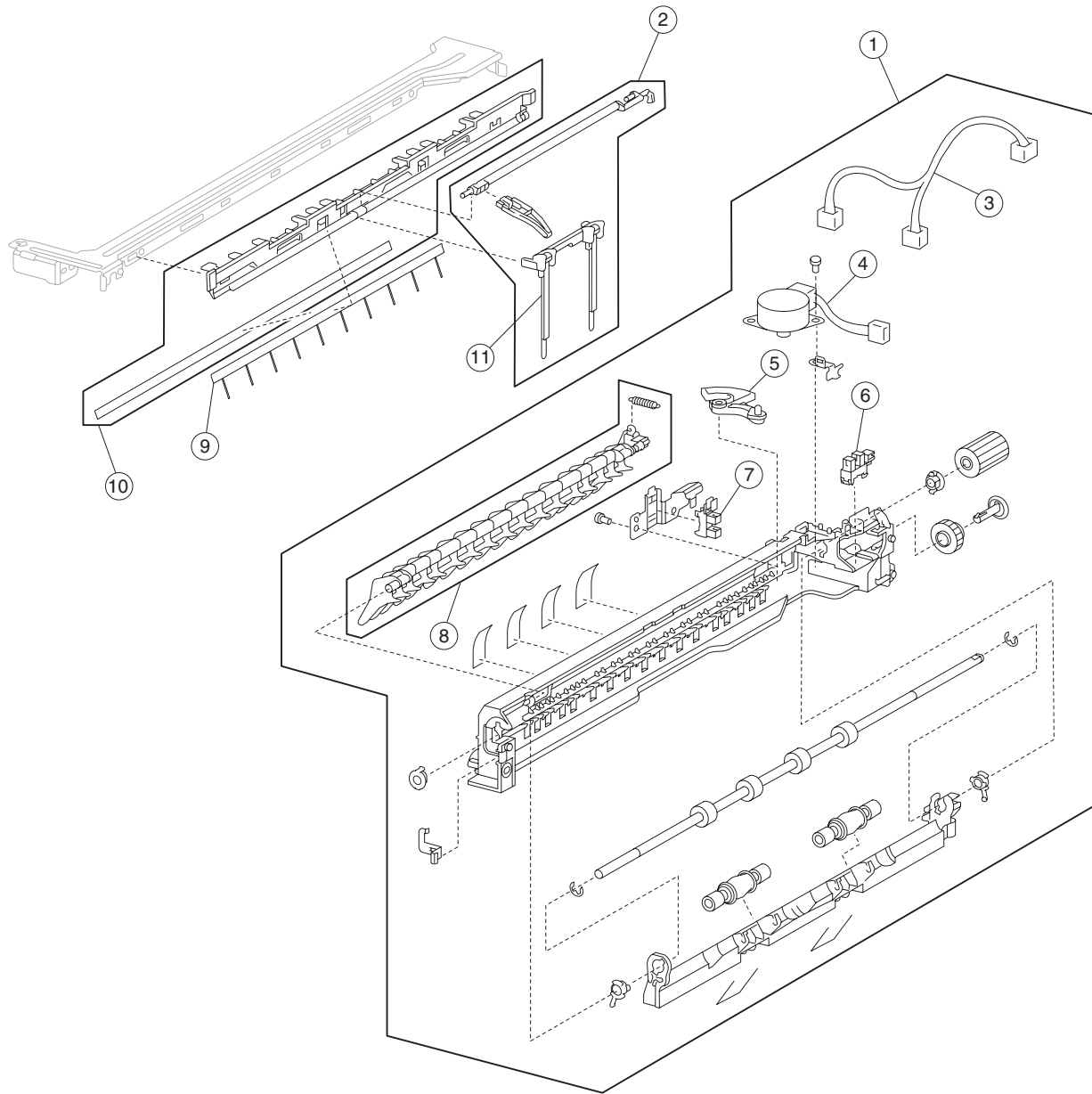




**Assembly 13: Fuser**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
13-1	40X0588	1	1	Sensor (fuser exit)
2	40X0645	1	4	Fuser exit actuator kit includes: <ul style="list-style-type: none"> <li>• Shaft</li> <li>• Fuser exit actuator</li> <li>• Spring</li> <li>• Bracket</li> </ul>
3	40X2307	1	1	Fuser assembly 110V (this comes assembled)
3	40X2308	1	1	Fuser assembly 220V (this comes assembled)
3	40X2378	1	1	Fuser assembly 100V (this comes assembled)

## Assembly 14: Standard Exit 1

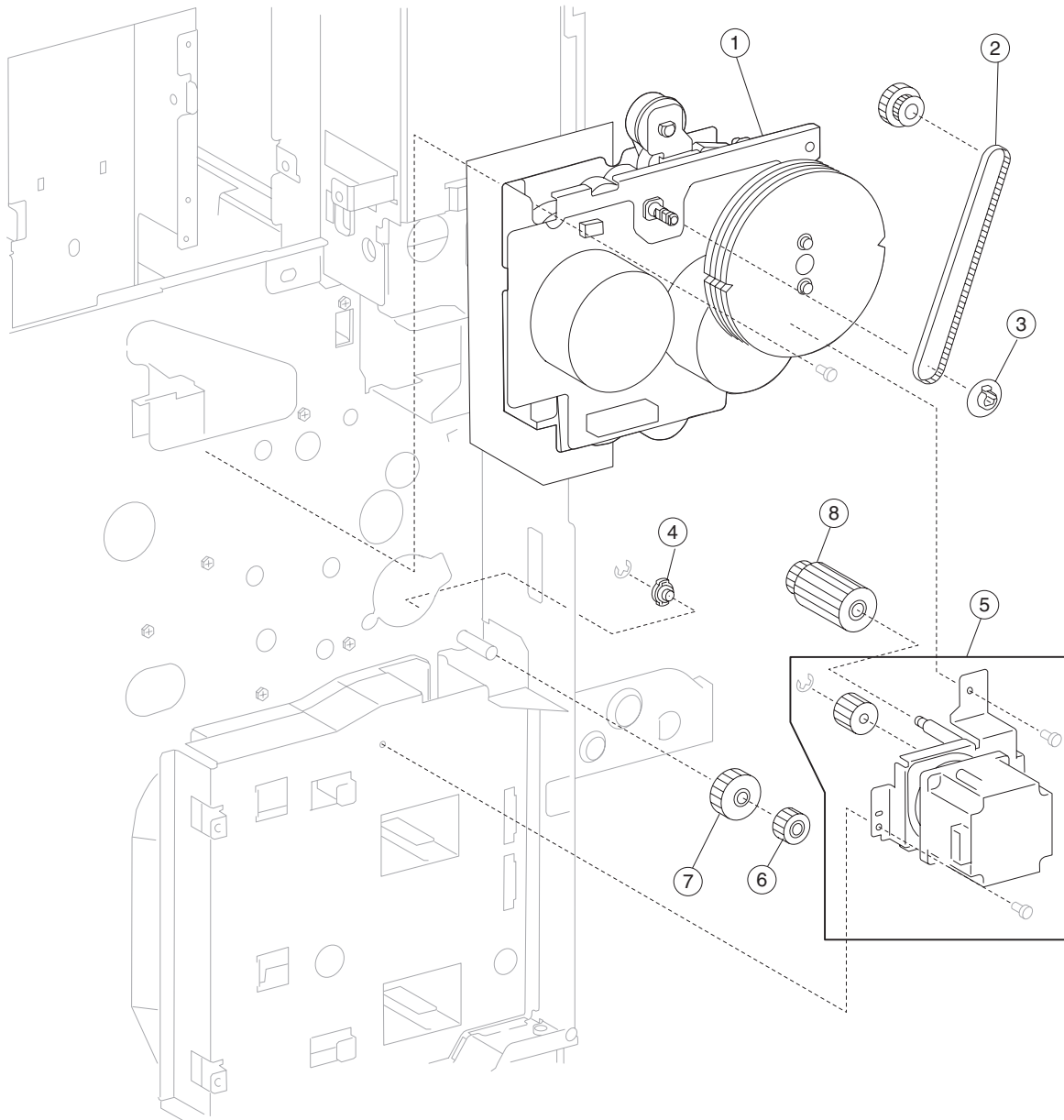


## Assembly 14: Standard Exit 1

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
14-1	40X2384	1	1	Exit 1 media shift assembly (this comes assembled)
2	40X0657	1	3	Standard bin full exit 1 actuator kit includes: <ul style="list-style-type: none"> <li>• Standard bin full exit 1 actuator shaft</li> <li>• Standard bin full exit 1 actuator</li> <li>• Output guide</li> </ul>
3	40X0650	1	1	Exit 1 sensor cable assembly
4	40X0651	1	1	Media shift motor
5	40X0653	1	1	Exit 1 media shift gear
6	40X0588	1	1	Sensor (standard bin full exit 1)
7	40X0588	1	1	Sensor (exit 1 media shift HP)
8	40X0654	1	2	Media diverter gate kit includes: <ul style="list-style-type: none"> <li>• Media diverter gate</li> <li>• Spring</li> </ul>
9	40X1391	1	1	Exit 1 static eliminator
10	40X1392	1	2	Exit 1 media exit guide kit includes: <ul style="list-style-type: none"> <li>• Exit 1 media exit guide</li> <li>• Exit 1 media exit guide pad</li> </ul>
11	40X2389	1	1	Output guide

**Note:** Assembly index items 6 and 7 are identical sensors with different functions; therefore, they are the same part number with different descriptions.

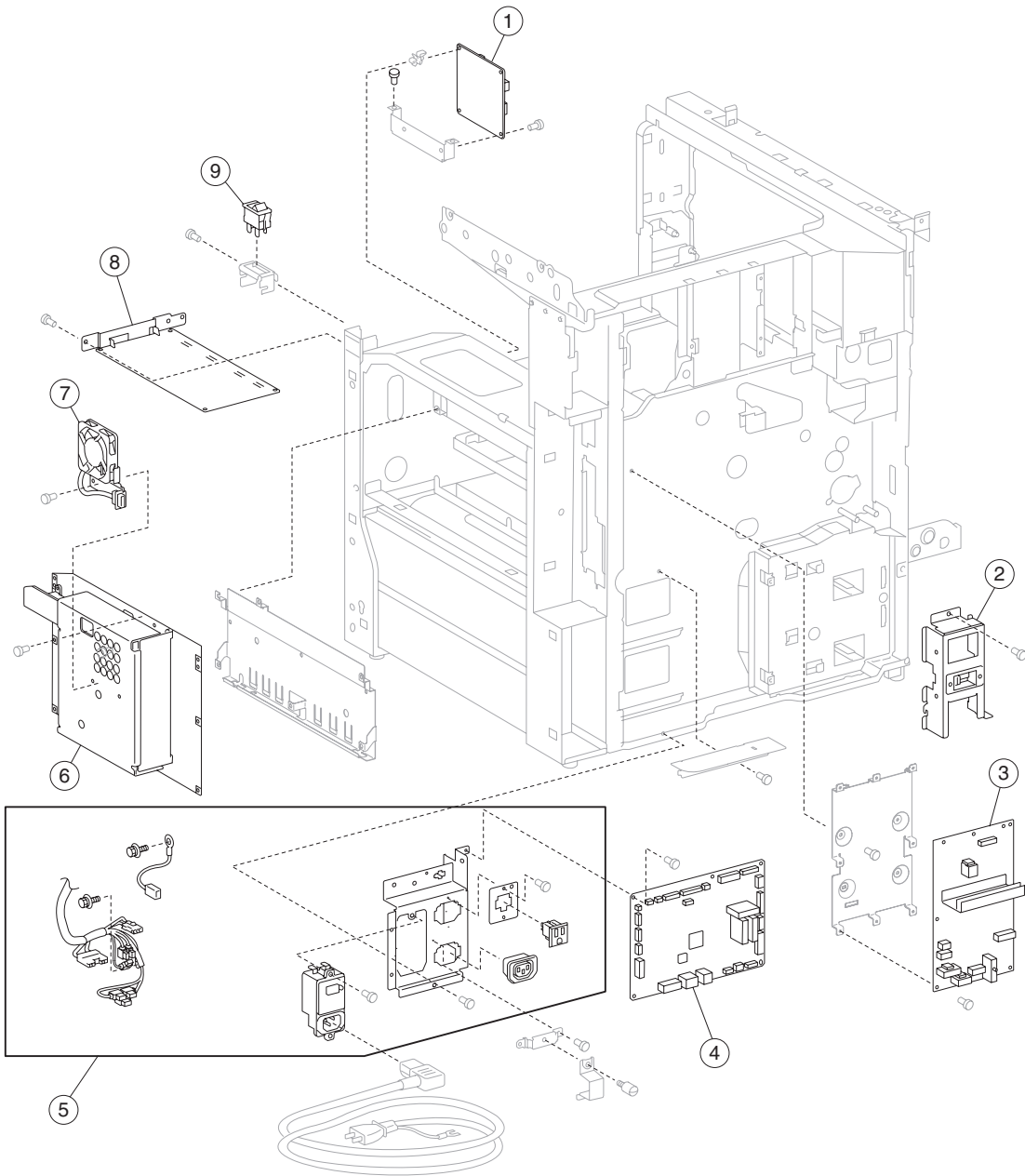
### Assembly 15: Dual unit drive motor



**Assembly 15: Dual unit drive motor**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
15-1	40X0660	1	1	Dual drive motor assembly
2	40X0659	1	1	Exit 1 drive belt
3	40X0661	1	1	Drive belt flange
4	40X2374	1	1	Transport motor support bushing
5	40X2309	1	1	MPF/transport drive motor assembly
6	40X2373	1	1	MPF drive gear 18T
7	40X2372	1	1	Transport roll drive gear 28T
8	40X2310	1	1	MPF/transport drive gear 19/29T

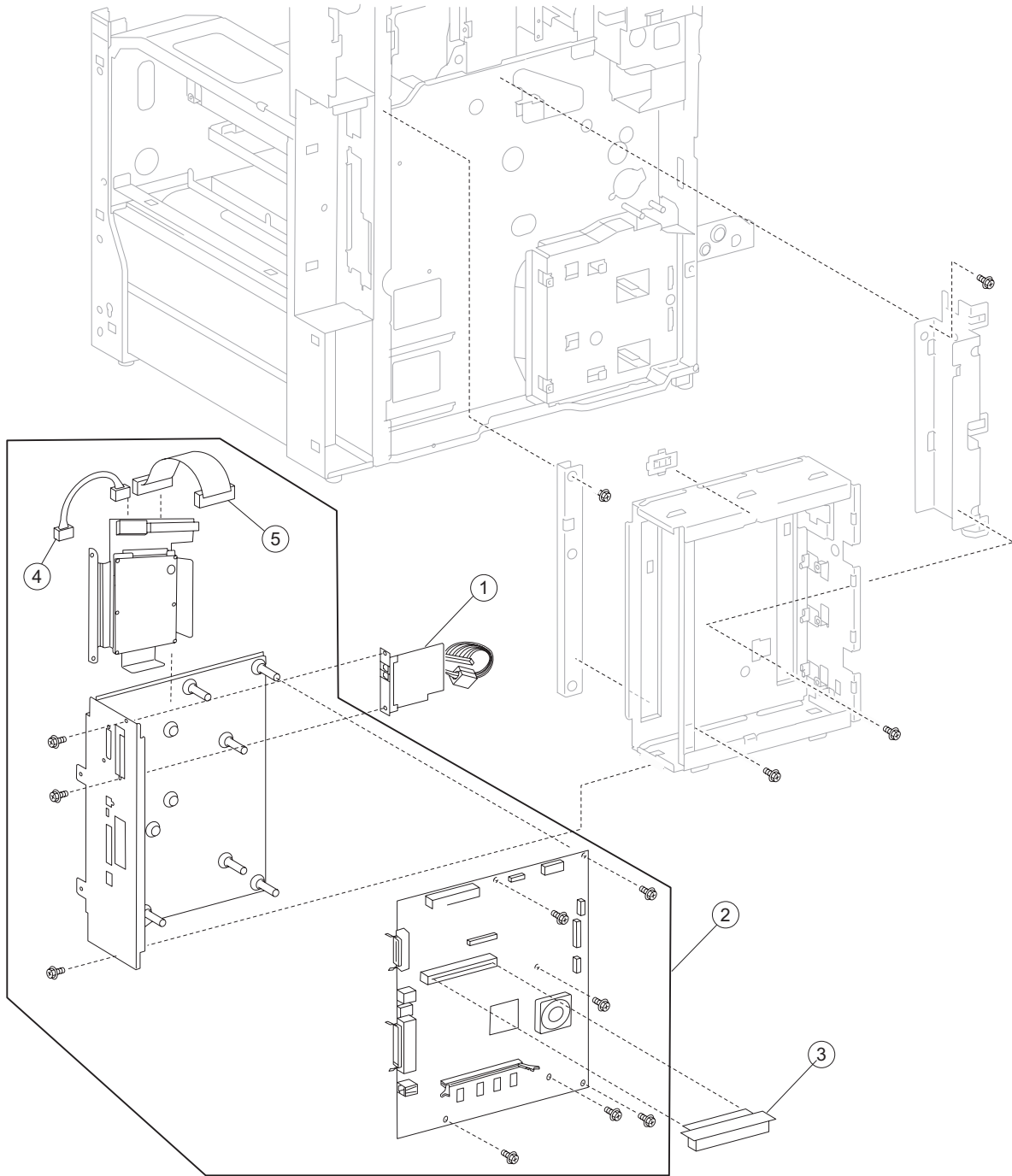
# Assembly 16: Electrical



**Assembly 16: Electrical**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
16-1	40X0664	1	1	Exit interface card assembly
2	40X0673	1	1	HCF hookup connector assembly
3	40X2314	1	1	AC drive card assembly 110 V
3	40X2315	1	1	AC drive card assembly 220 V
4	40X2316	1	1	Printer engine card assembly X850e
4	40X2379	1	1	Printer engine card assembly X852e
4	40X2380	1	1	Printer engine card assembly X854e
5	40X2313	1	7	AC power input socket kit includes: <ul style="list-style-type: none"> <li>• Screws 4 mm (2 each)</li> <li>• Bracket</li> <li>• AC power input socket</li> <li>• Ground wire</li> <li>• Main AC cable assembly</li> <li>• Finisher AC output</li> </ul>
6	40X2312	1	1	Universal LVPS card assembly
7	40X2311	1	1	LVPS cooling fan
8	40X0662	1	1	HVPS
9	40X2388	1	1	Switch (main power)

### Assembly 16 (continued): Electrical





**Assembly 16 (continued): Electrical**

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
16-1	40X2360	1	1	Fax interface card assembly
2	40X4652	1	1	RIP card chassis bracket assembly (this comes assembled)
3	40X2359	1	1	Interconnect card assembly
4	40X2369	1	1	Hard drive power cable assembly
5	40X2370	1	1	Hard drive data cable assembly

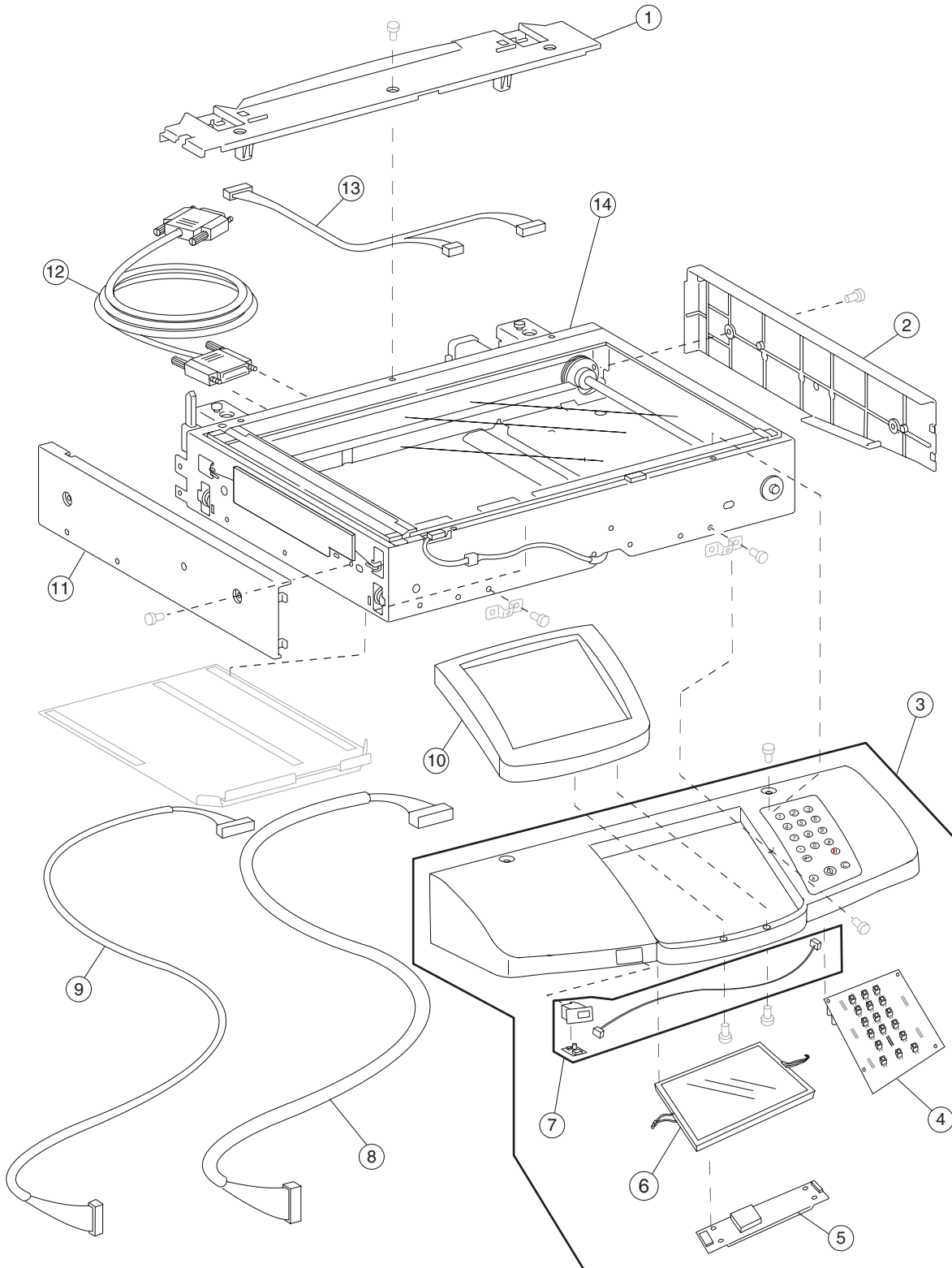
**Warning:** In the event of replacement of any one of the following components:

- Operator panel assembly (universal)
- Operator panel controller card assembly
- 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 17: Covers and operator panel



## Assembly 17: Covers and operator panel

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
17-1	40X2200	1	1	Scanner top rear cover
2	40X2201	1	1	Scanner right cover
3	40X2736	1	1	Operator panel assembly (universal) <b>Note:</b> This operator panel can be used on any X850 Series product. <b>Note:</b> This operator panel does not include the model specific bezel.
4	40X2363	1	1	Operator panel controller card assembly
5	40X2364	1	1	Operator panel inverter card assembly
6	40X2362	1	1	Operator panel user touch screen
7	40X2365	1	1	USB connecto2r/housing/cable
8	40X2203	1	1	Operator panel cable assembly
9	40X2399	1	1	USB cable assembly
10	40X2730	1	1	Operator panel bezel (X850e)
10	40X2731	1	1	Operator panel bezel (X852e)
10	40X2732	1	1	Operator panel bezel (X854e)
11	40X2205	1	1	Scanner left cover
12	40X2219	1	1	Scanner interface cable assembly
13	40X2207	1	1	Scanner PS cable assembly
14	40X2206	1	1	Flatbed scanner unit assembly (this comes assembled) <b>Note:</b> This assembly includes all individual parts on pages 7-38, 7-40, 7-42, and 7-44.

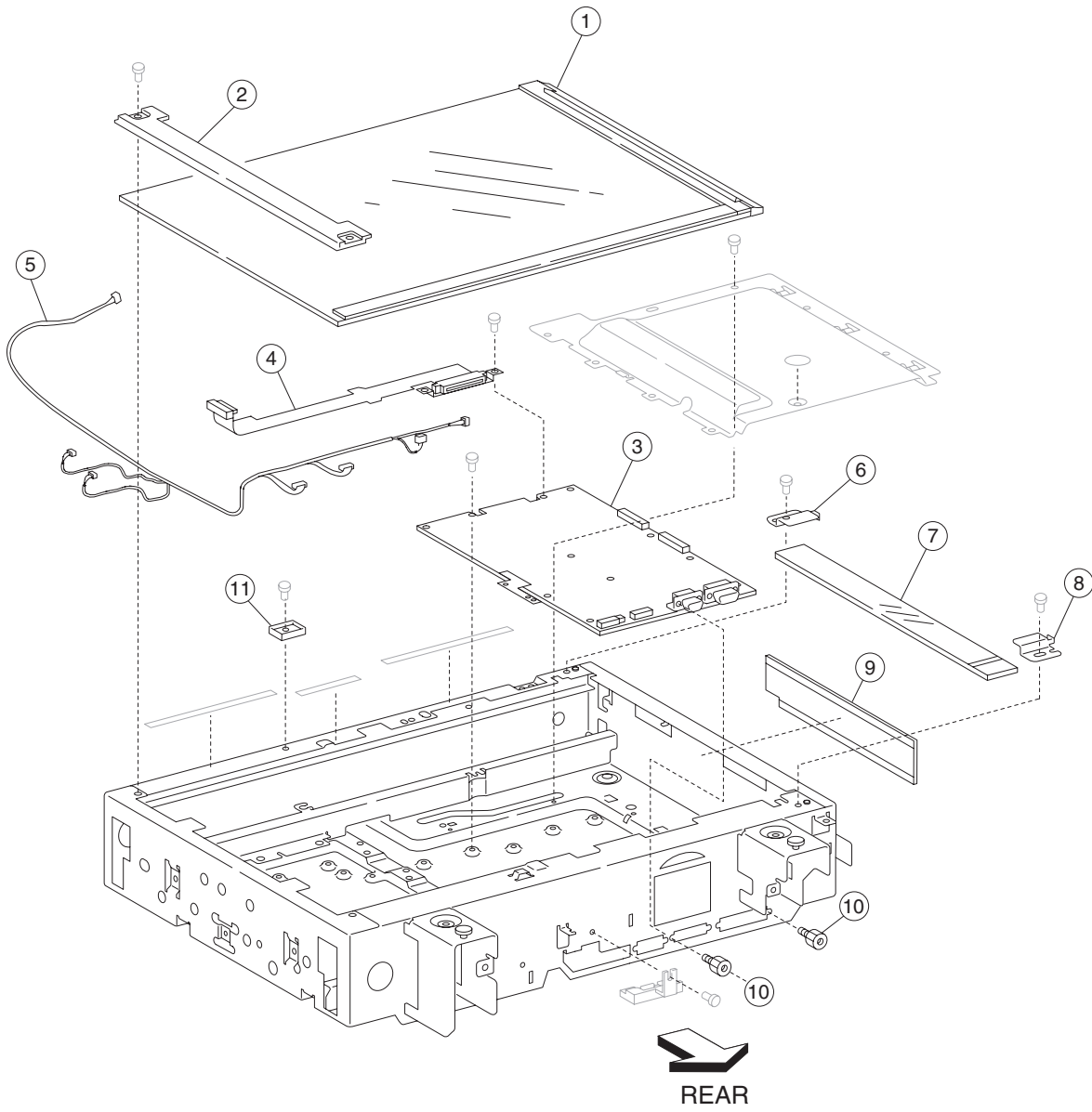
**Warning:** In the event of replacement of any one of the following components:

- Operator panel assembly (universal)
- Operator panel controller card assembly
- 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.

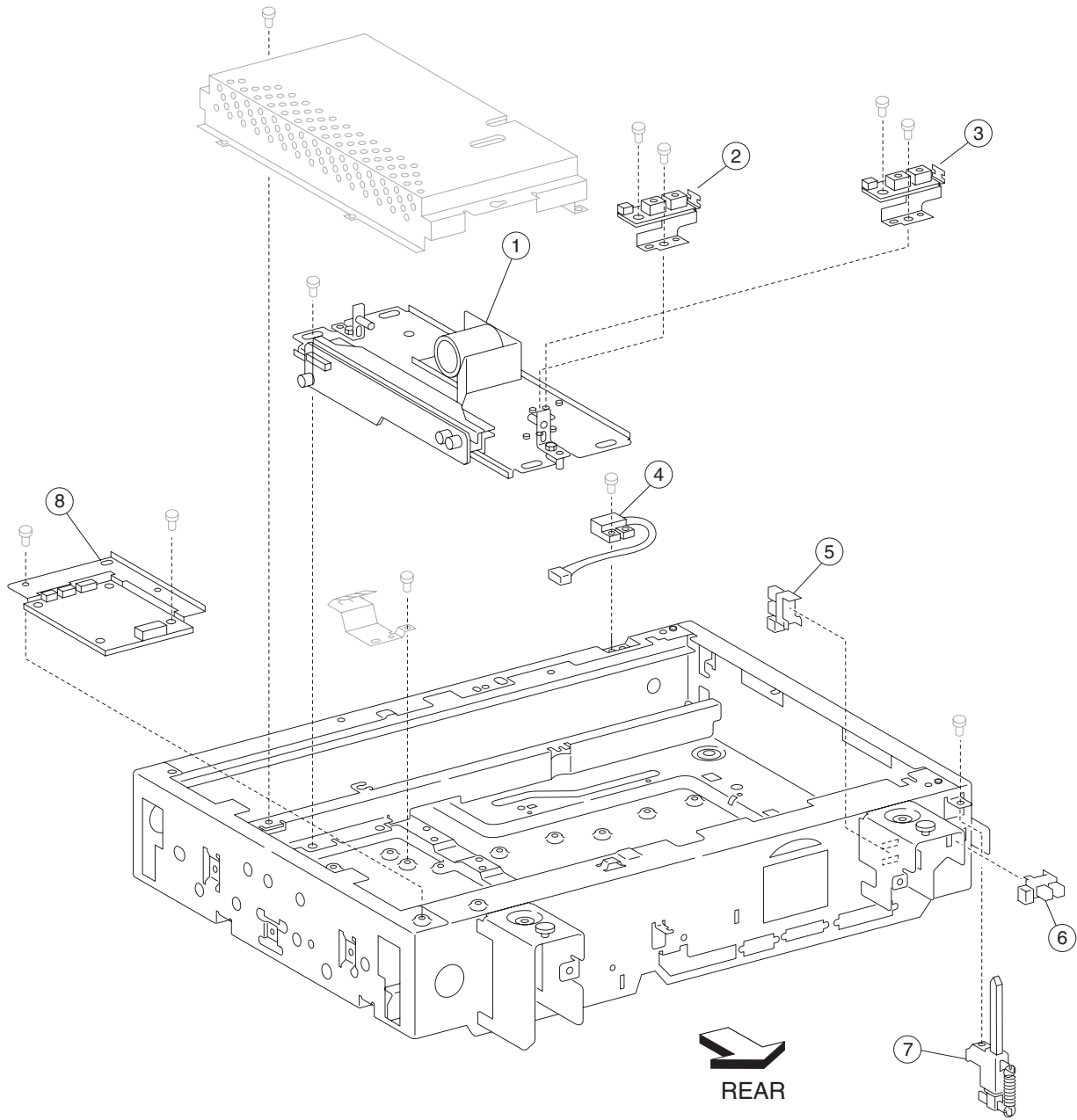
### Assembly 18: Platen glass



**Assembly 18: Platen glass**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
18-1	40X2208	1	1	Large platen glass
2	40X2209	1	1	Large platen glass retainer cover
3	40X2210	1	1	Scanner controller card assembly
4	40X2211	1	1	CCD ribbon cable assembly
5	40X2212	1	1	Scanner main cable assembly
6	40X2213	1	1	Small platen glass front retainer
7	40X2214	1	1	Small platen glass
8	40X2215	1	1	Small platen glass rear retainer
9	40X2216	1	1	Scanner filter
10	40X2217	4	1	Card mounting screws
11	40X2218	1	1	Large platen retainer

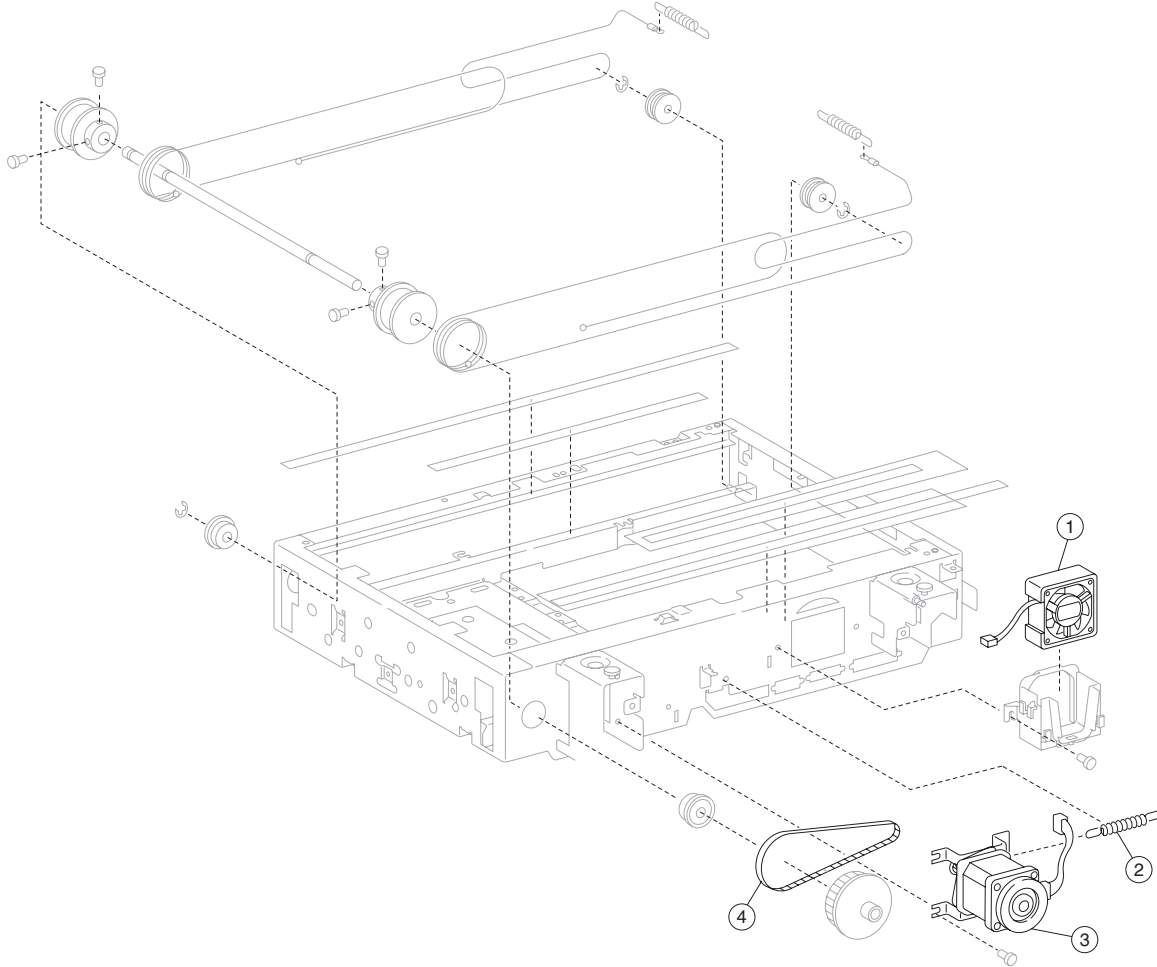
## Assembly 19: Lens and sensors



## Assembly 19: Lens and sensors

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
19-1	40X2220	1	1	CCD card/lens assembly
2	40X2320	2	1	Sensor (platen length APS 1)
3	40X2320	2	1	Sensor (platen length APS 2)
4	40X2222	1	1	Switch (platen interlock)
5	40X2223	13	1	Sensor (Scanner HP)
6	40X2223	13	1	Sensor (ADF angle)
7	40X2224	1	1	ADF angle actuator assembly
8	40X2225	1	1	Scanner PS card assembly

## Assembly 20: Carriage motor and cooling fan

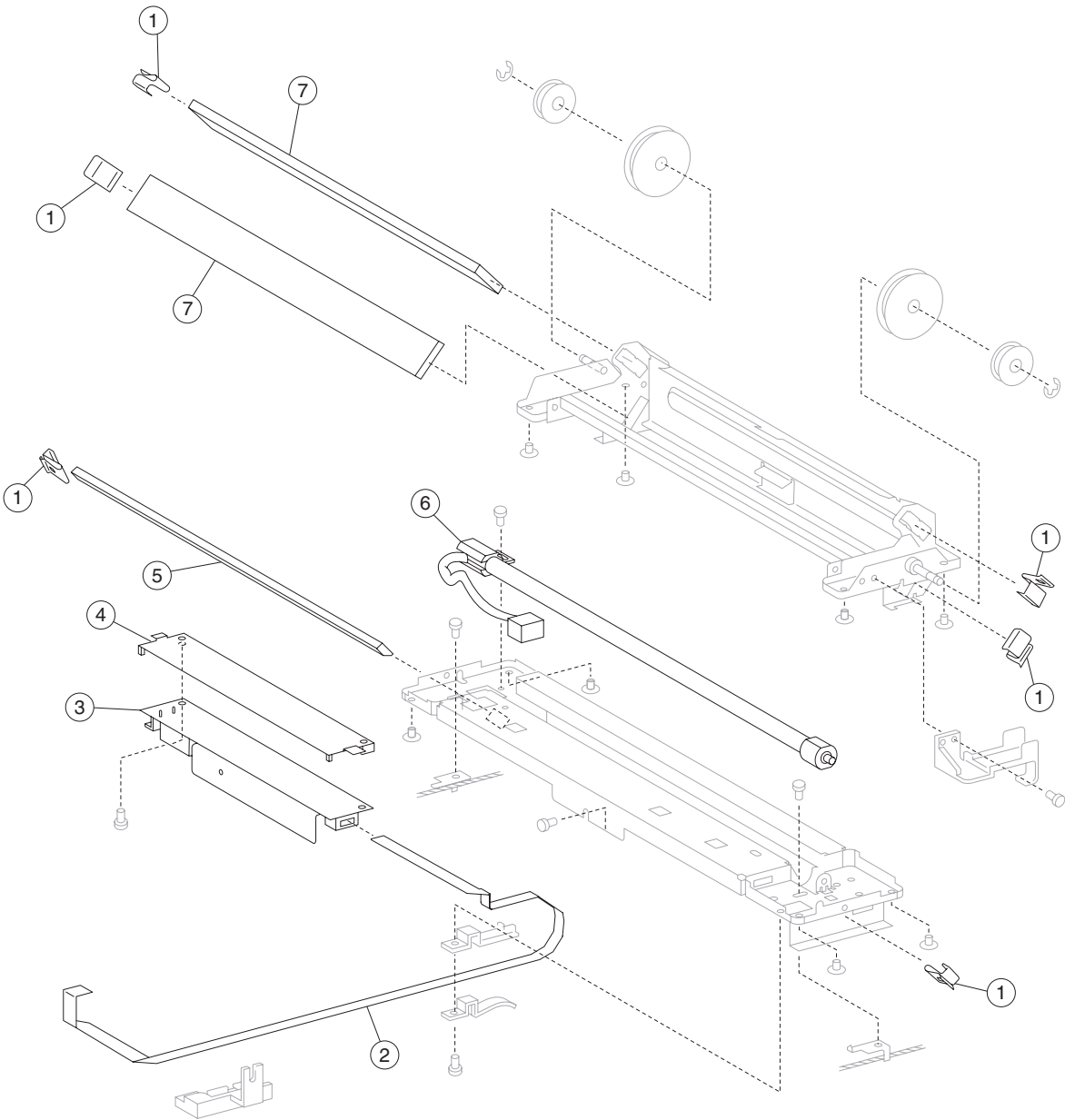




**Assembly 20: Carriage motor and cooling fan**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
20-1	40X2231	1	1	Scanner cooling fan
2	40X2229	1	1	Scanner drive motor tension spring
3	40X2228	1	1	Scanner drive motor assembly
4	40X2226	1	1	Scanner drive belt

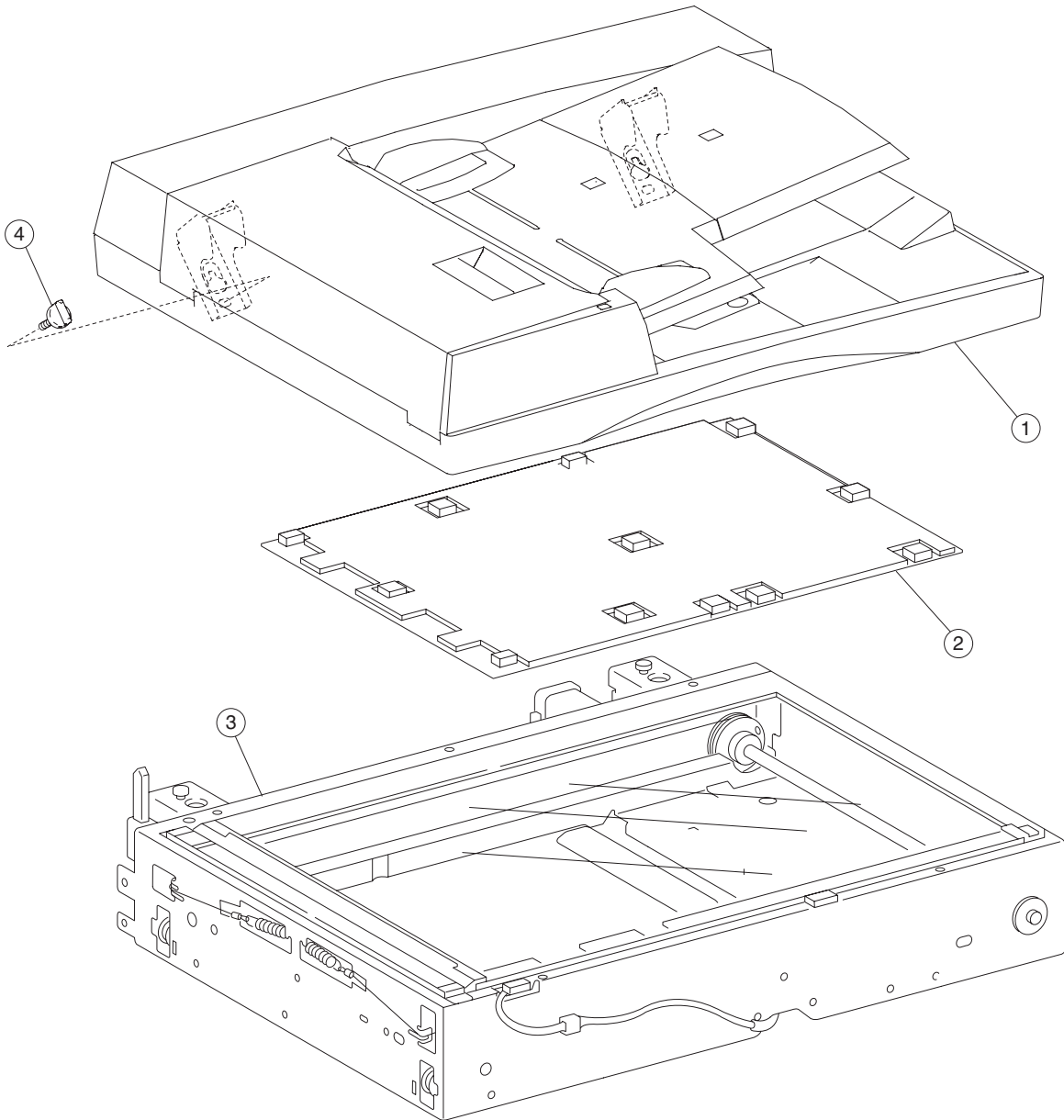
### Assembly 21: Full/half rate carriage



**Assembly 21: Full/half rate carriage**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
21-1	40X2233	6	1	Mirror retaining clip
2	40X2236	1	1	Exposure lamp PS ribbon cable
3	40X2353	1	1	Exposure lamp PS card assembly
4	40X2352	1	1	Exposure lamp PS card insulator
5	40X2234	1	1	Scanner 1st mirror
6	40X2237	1	1	Exposure lamp
7	40X2232	2	1	Scanner 2nd/3rd mirror

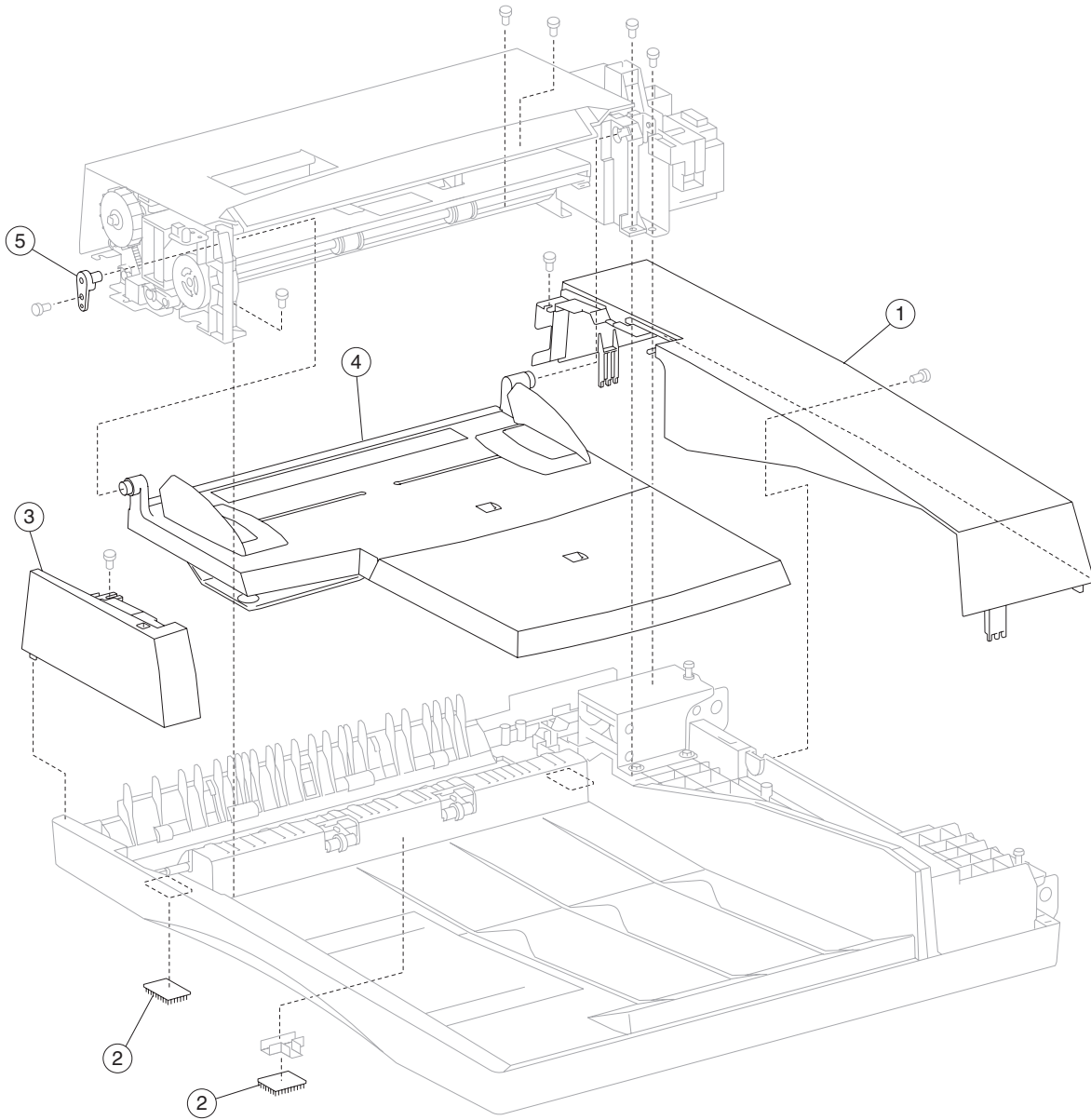
## Assembly 22: ADF assembly



**Assembly 22: ADF assembly**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
22-1	40X2240	1	1	ADF unit assembly (complete unit)
2	40X2239	1	1	Platen cushion
3	40X2206	1	1	Flatbed scanner unit assembly
4	40X2238	2	1	ADF mounting screw

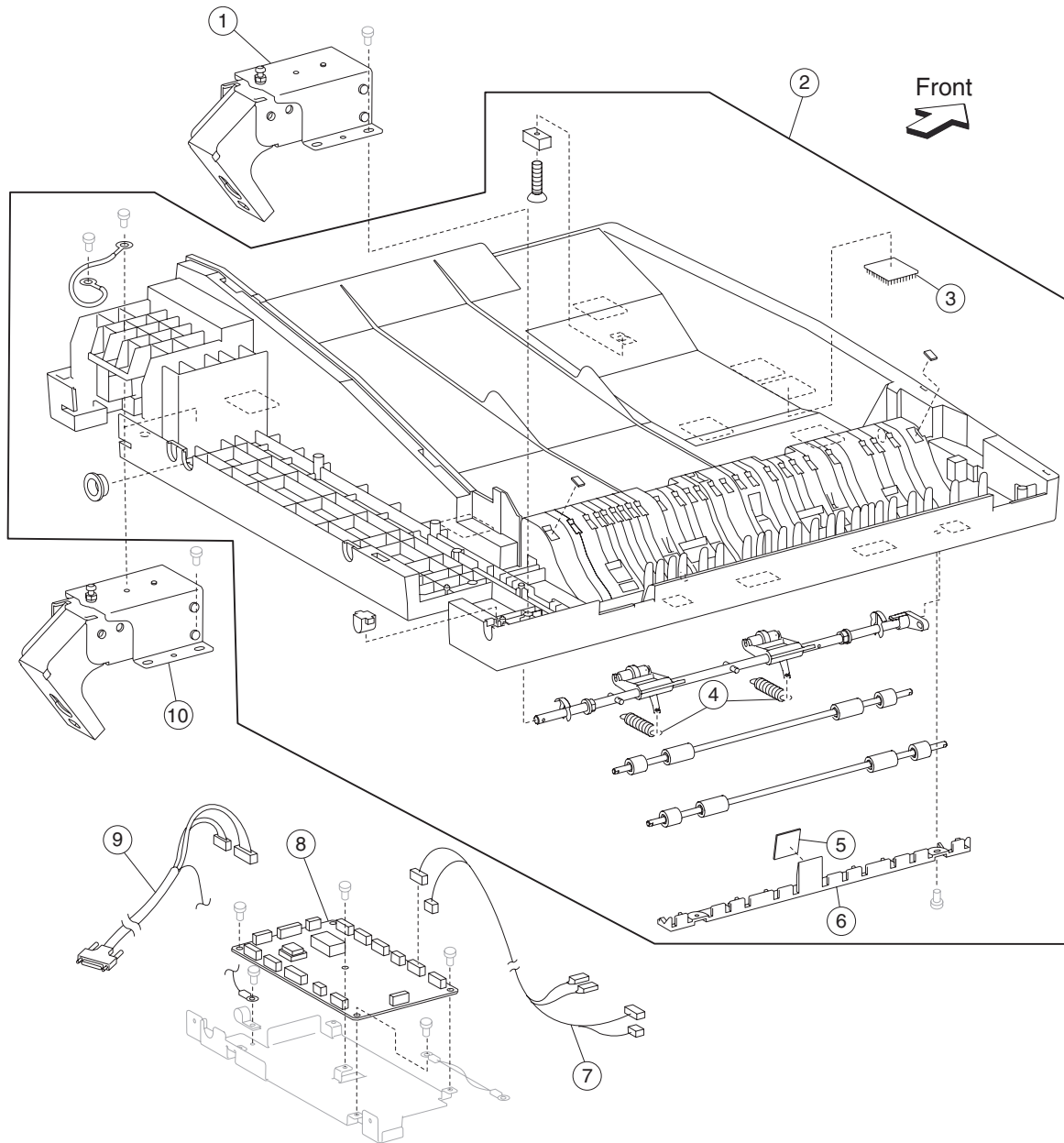
## Assembly 23: ADF covers and components



**Assembly 23: ADF covers and components**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
23-1	40X2244	1	1	ADF rear cover
2	40X2246	2	1	Small hook/loop strip
3	40X2245	1	1	ADF front cover assembly
4	40X2242	1	1	Document tray assembly (this comes assembled)
5	40X2243	1	1	Document tray hinge

### Assembly 24: ADF base

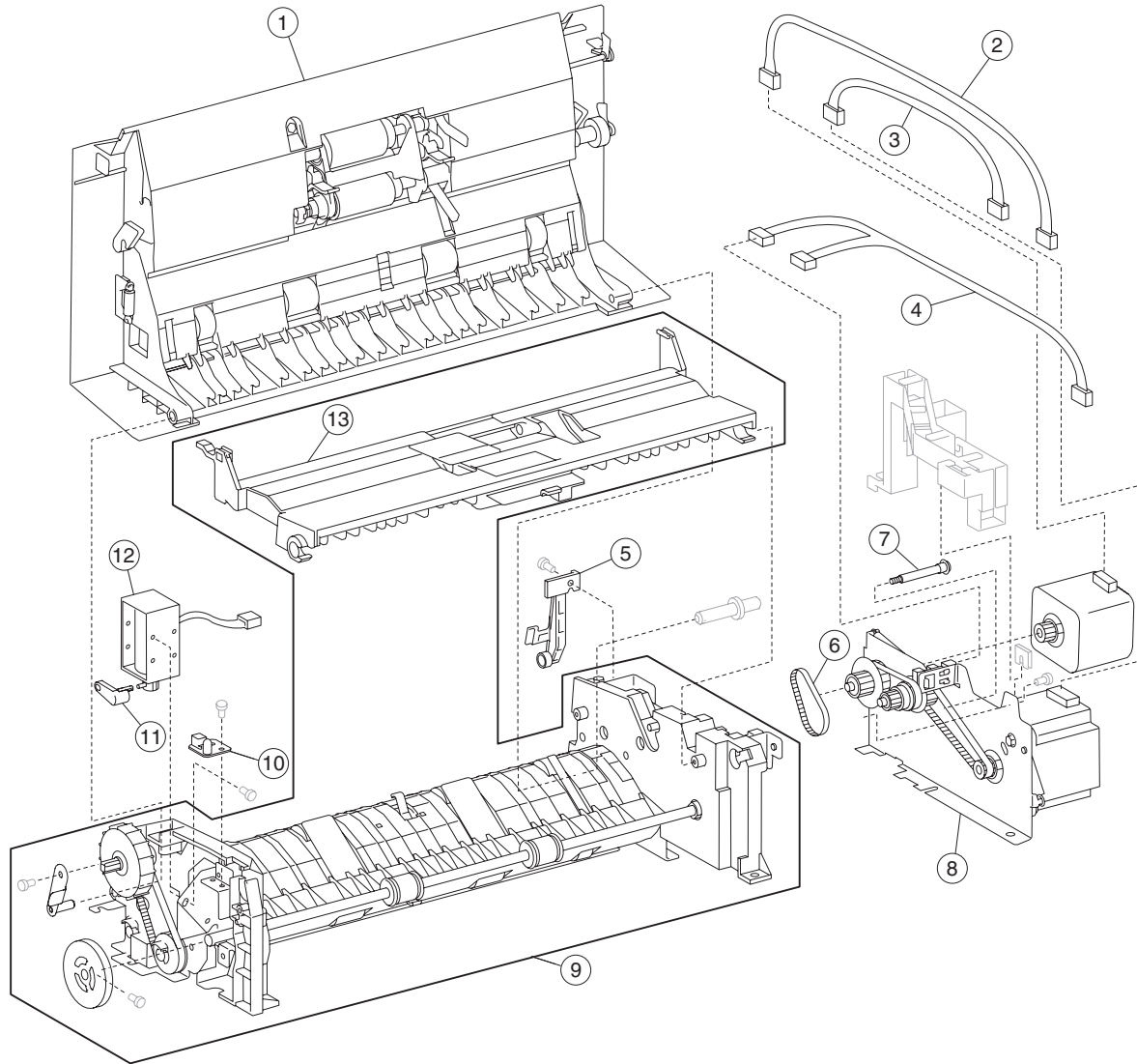




**Assembly 24: ADF base**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
24-1	40X2257	1	1	ADF left hinge
2	40X2371	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	40X2355	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

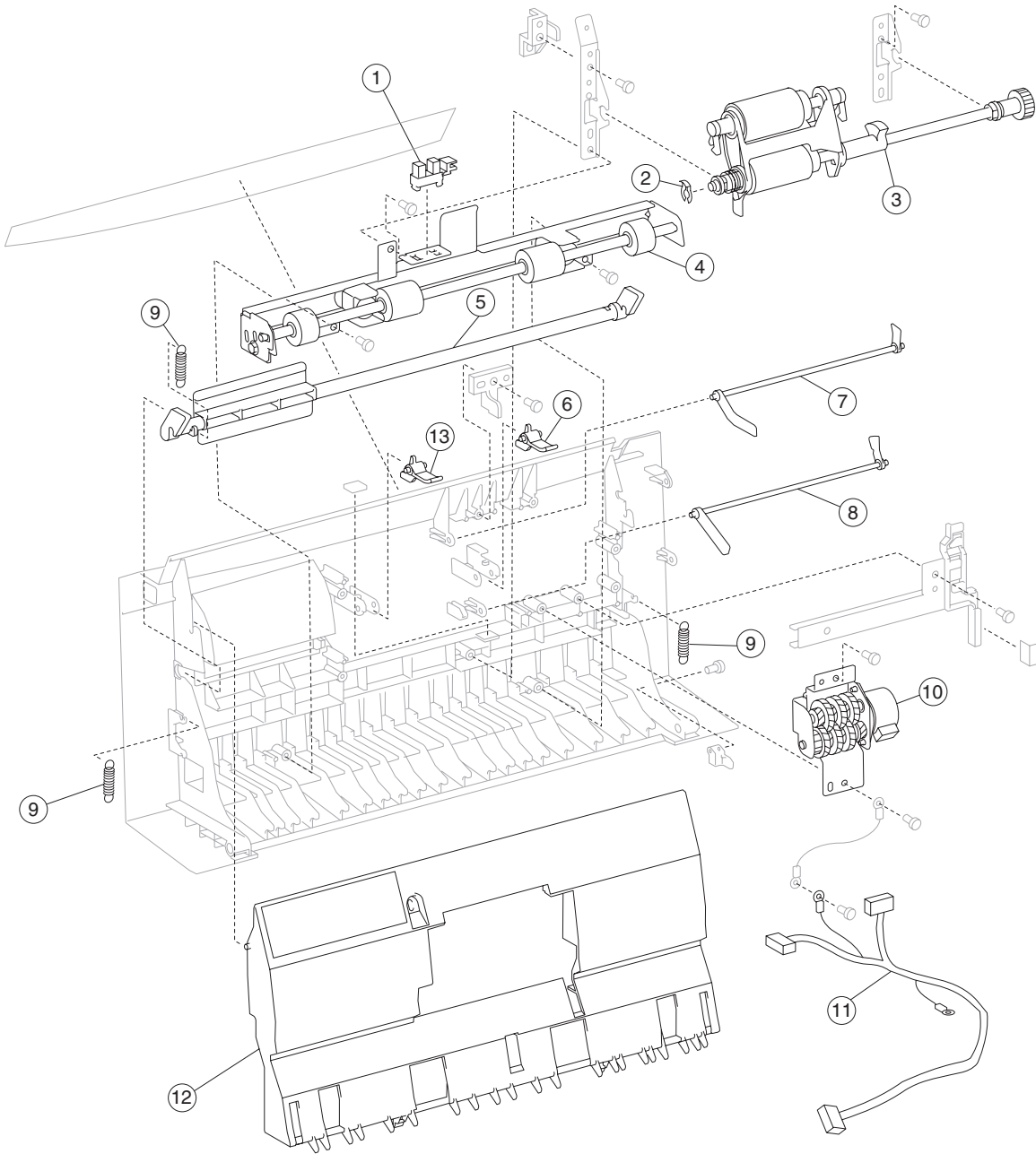
## Assembly 25: ADF feeder



**Assembly 25: ADF feeder**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
25-1	40X2262	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)

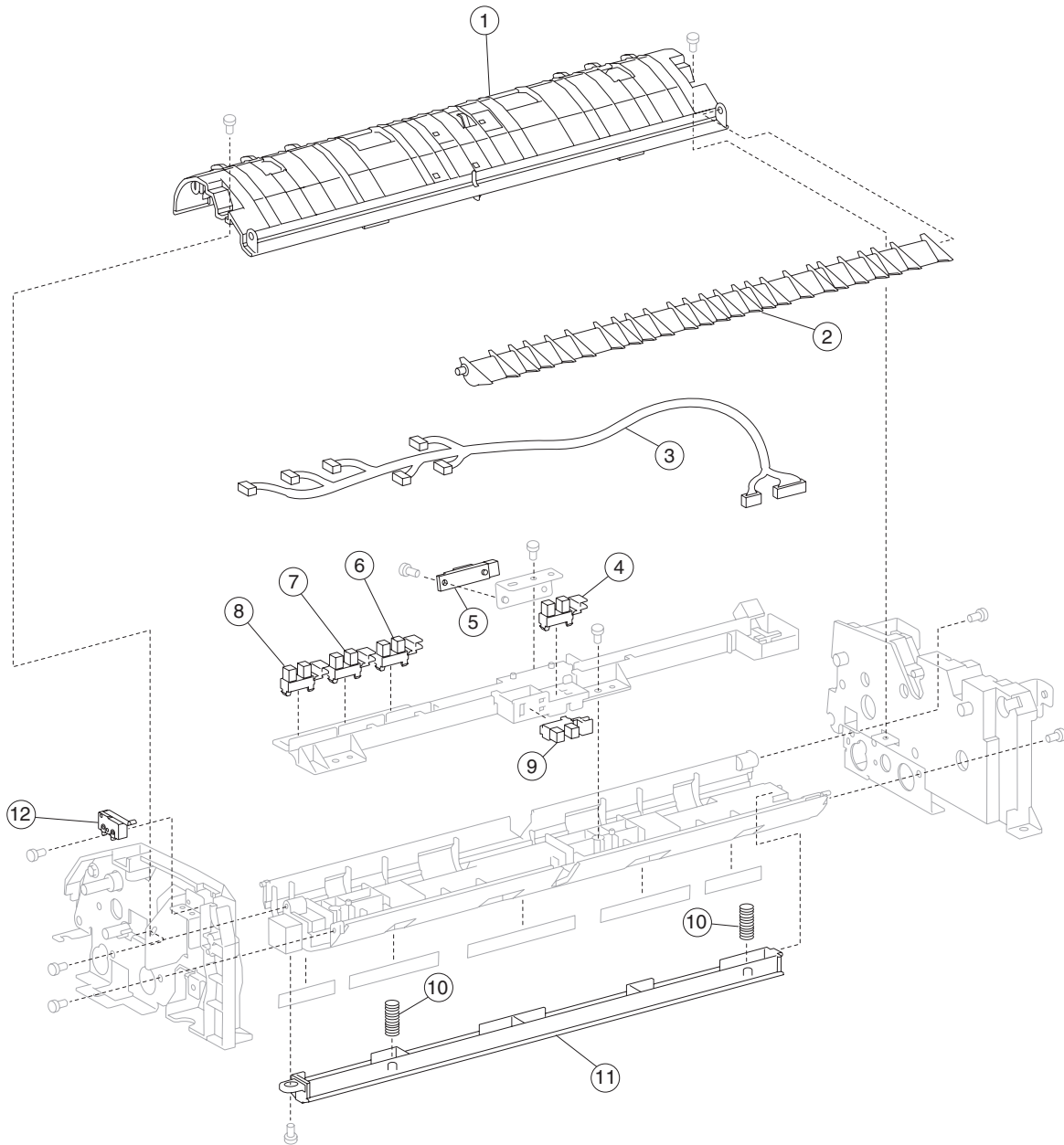
### Assembly 26: ADF left cover components



**Assembly 26: 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>
26-1	40X2223	13	1	Sensor (pick roll position HP)
2	40X2291	3	4	Plastic ring clip 6 mm
3	40X2280	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

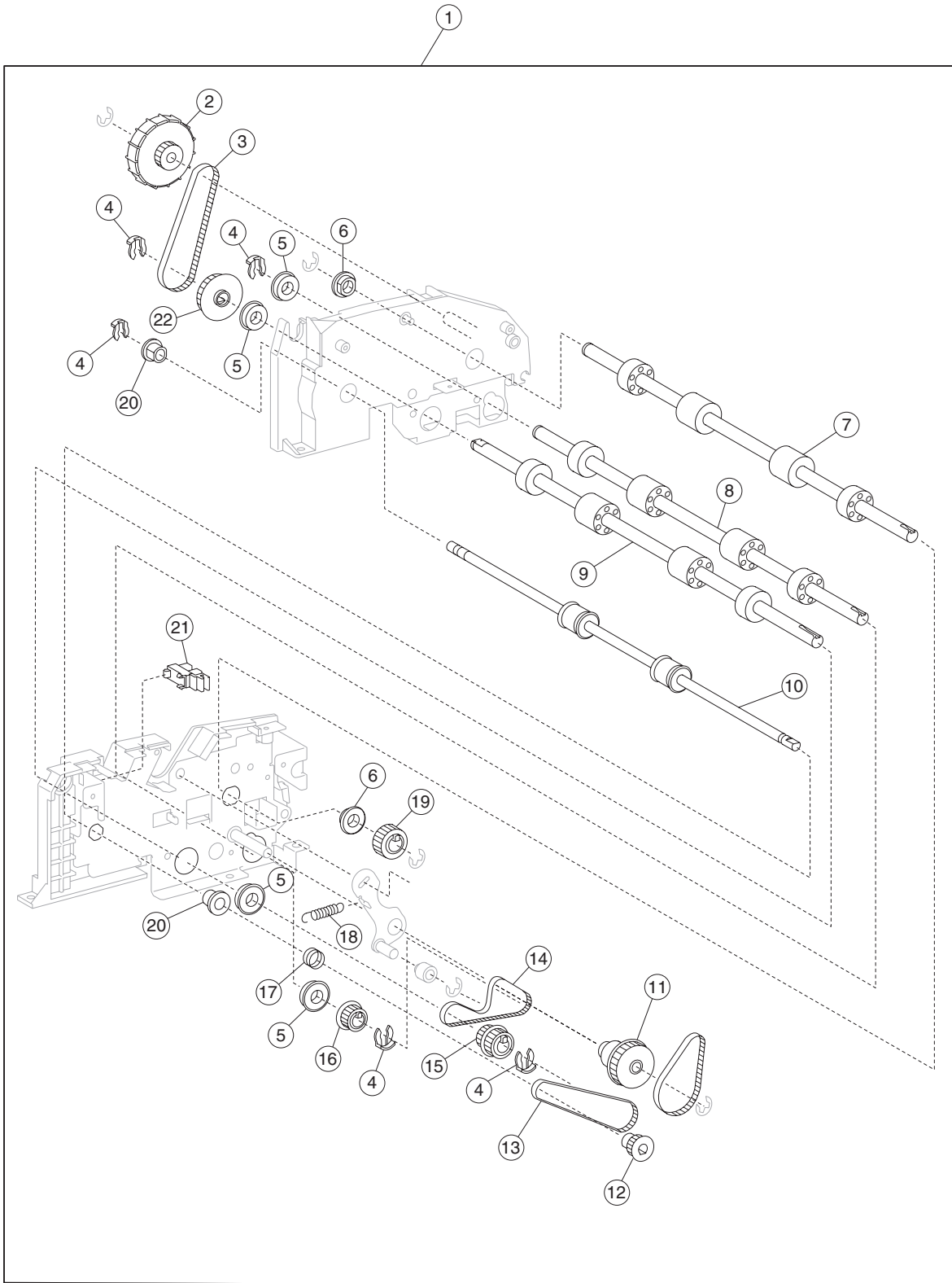
## Assembly 27: ADF media guide



## Assembly 27: ADF media guide

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
27-1	40X2290	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	40X2324	2	1	Media scan guide spring
11	40X2323	1	1	Media scan guide
12	40X2286	1	1	Switch (ADF left cover interlock)

### Assembly 28: ADF feeder roll

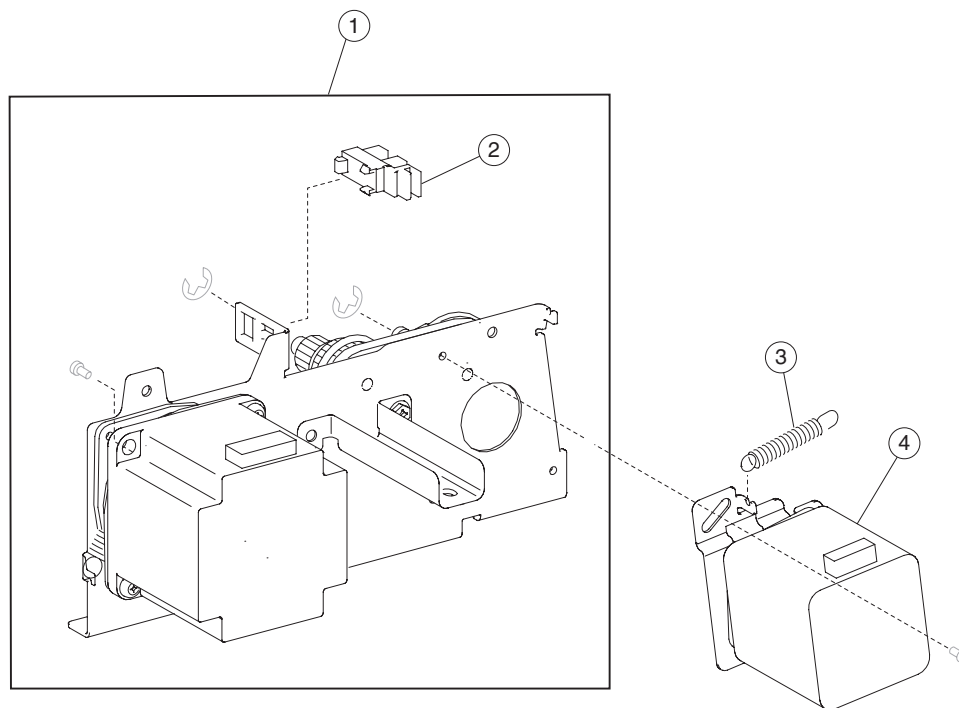




**Assembly 28: ADF feeder roll**

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
28-1	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

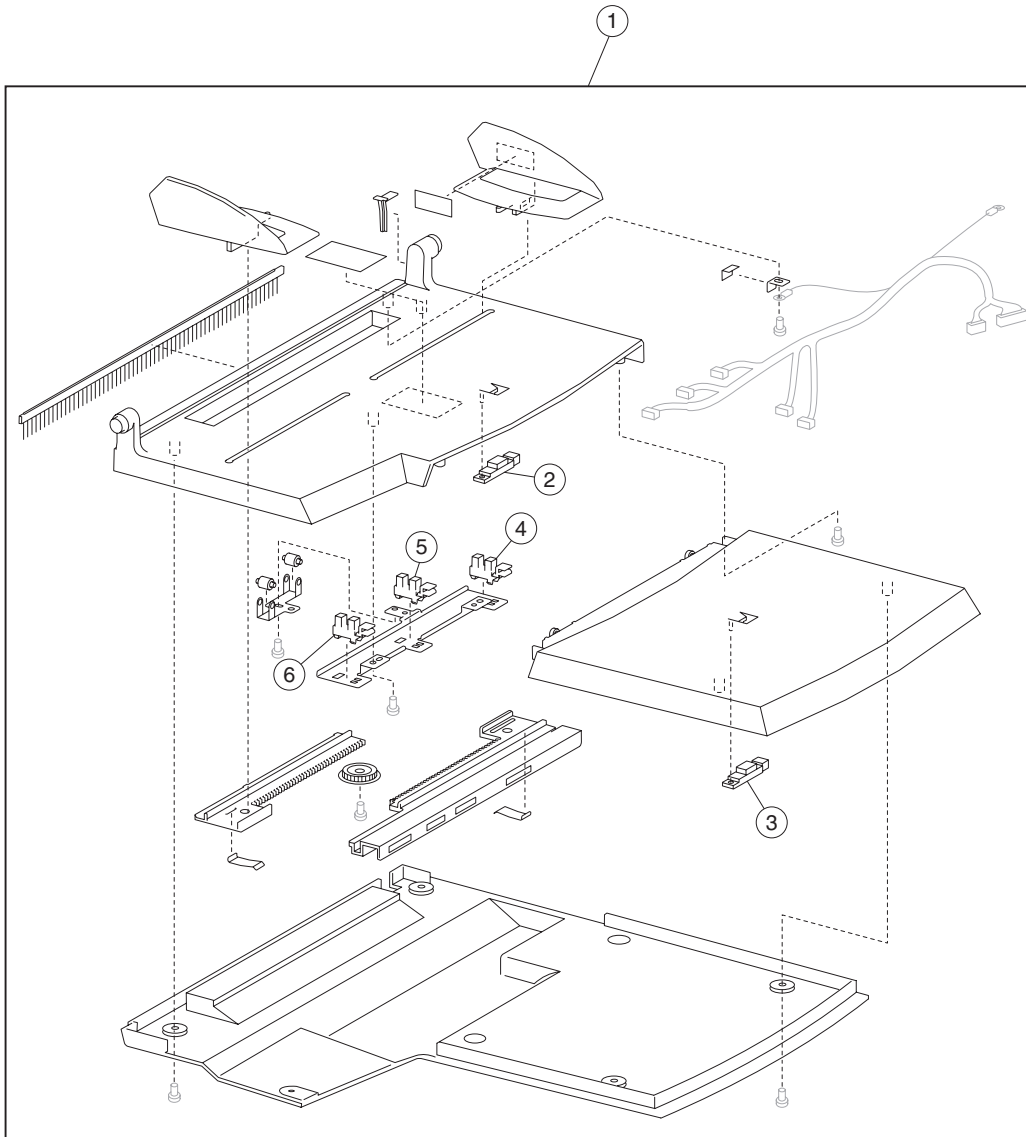
## Assembly 29: ADF motor unit



**Assembly 29: ADF motor unit**

<b>Asm Index</b>	<b>Part number</b>	<b>Units/mach</b>	<b>Units/kit or pkg</b>	<b>Description</b>
29-1	40X2327	1	1	ADF feed motor assembly (this comes assembled)
2	40X2223	13	1	Sensor (sheet through)
3	40X2326	1	1	Tension spring
4	40X2325	1	1	ADF registration motor

### Assembly 30: ADF document tray

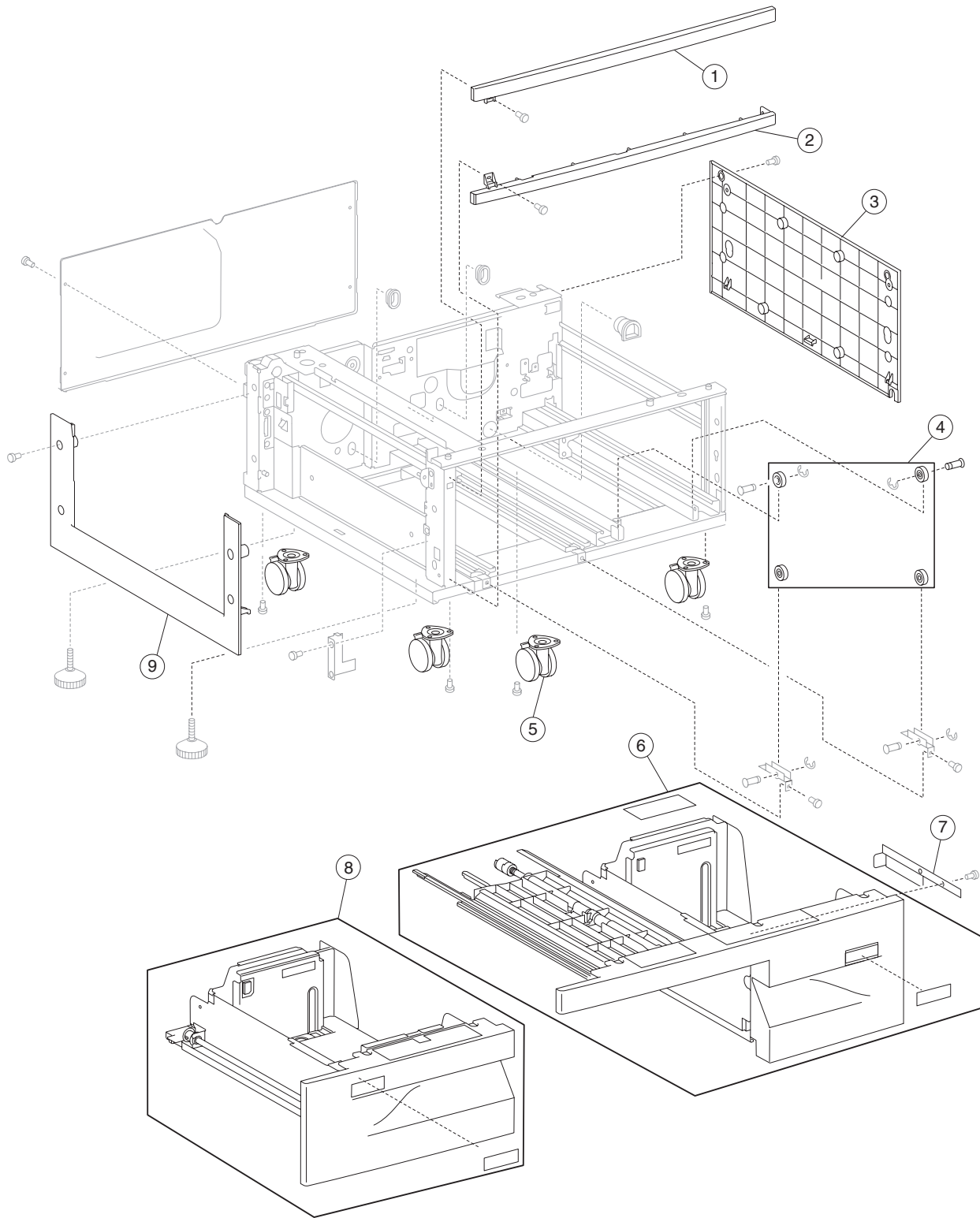


### Assembly 30: ADF document tray

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
30-1	40X2242	1	1	Document tray assembly (this comes assembled)
2	40X2328	1	1	Sensor (document tray length 1)
3	40X2328	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.

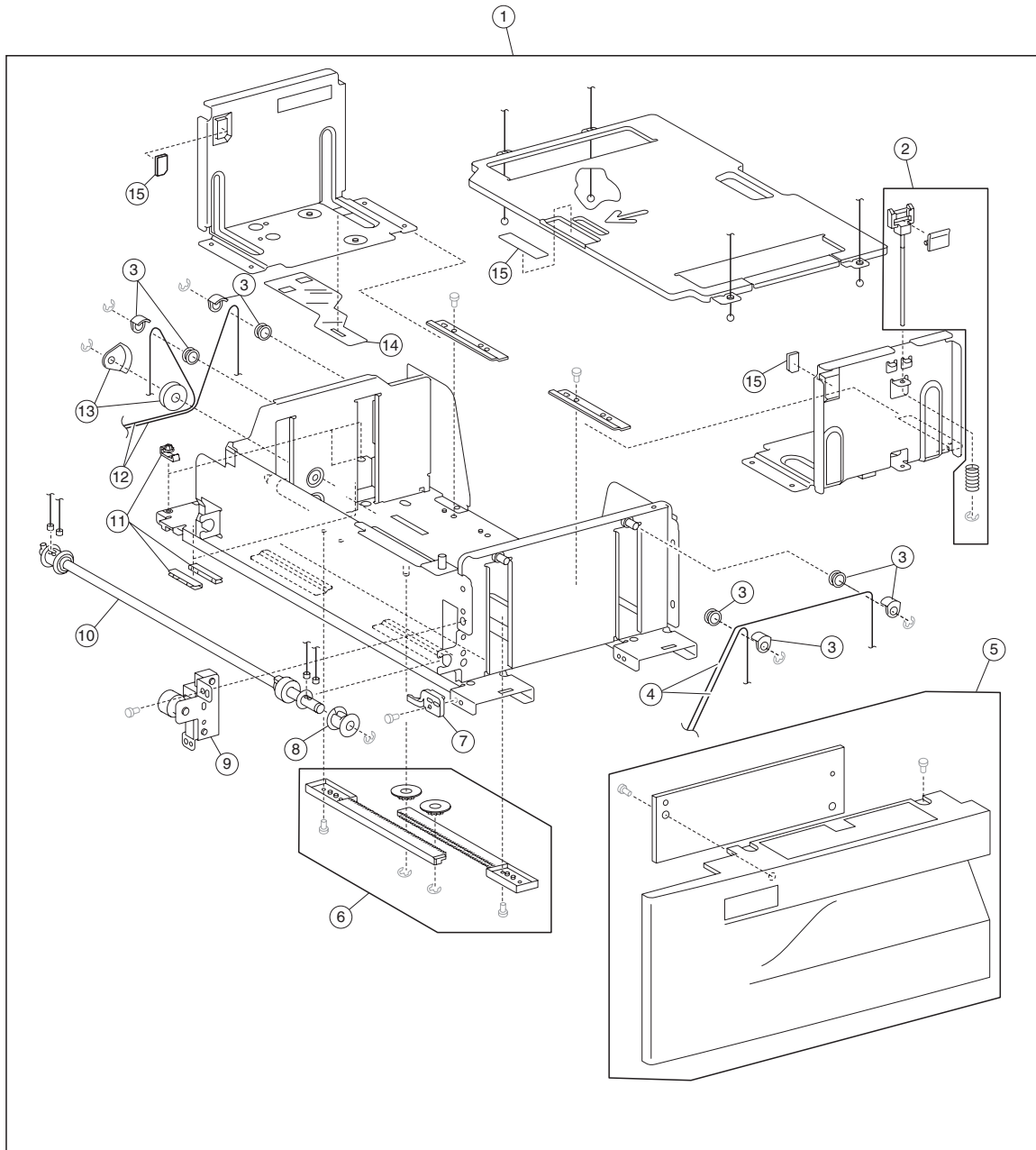
### Assembly 31: 2000-sheet dual input (TTM)—covers



**Assembly 31: 2000-sheet dual input (TTM)—covers**

Asm-Index	Part number	Units/ option	Units/ FRU	Description
31-1	40X0687	1	1	Top cover
2	40X0688	1	1	Foot cover
3	40X0689	1	1	Right cover
4	40X0703	1	4	Tray support roll (4 each)
5	40X0691	4	1	Locking caster
6	40X0963	1	3	TTM media tray 4 assembly (this comes assembled) <ul style="list-style-type: none"> <li>• TTM media tray 4 assembly</li> <li>• Label (2 each)</li> </ul>
7	40X0704	1	1	Tray 4 stopper
8	40X0962	1	2	TTM media tray 3 assembly (this comes assembled) <ul style="list-style-type: none"> <li>• TTM media tray 3 assembly</li> <li>• Label</li> </ul>
9	40X0690	1	1	Left cover

### Assembly 32: 2000-sheet dual input (TTM)—tray 3

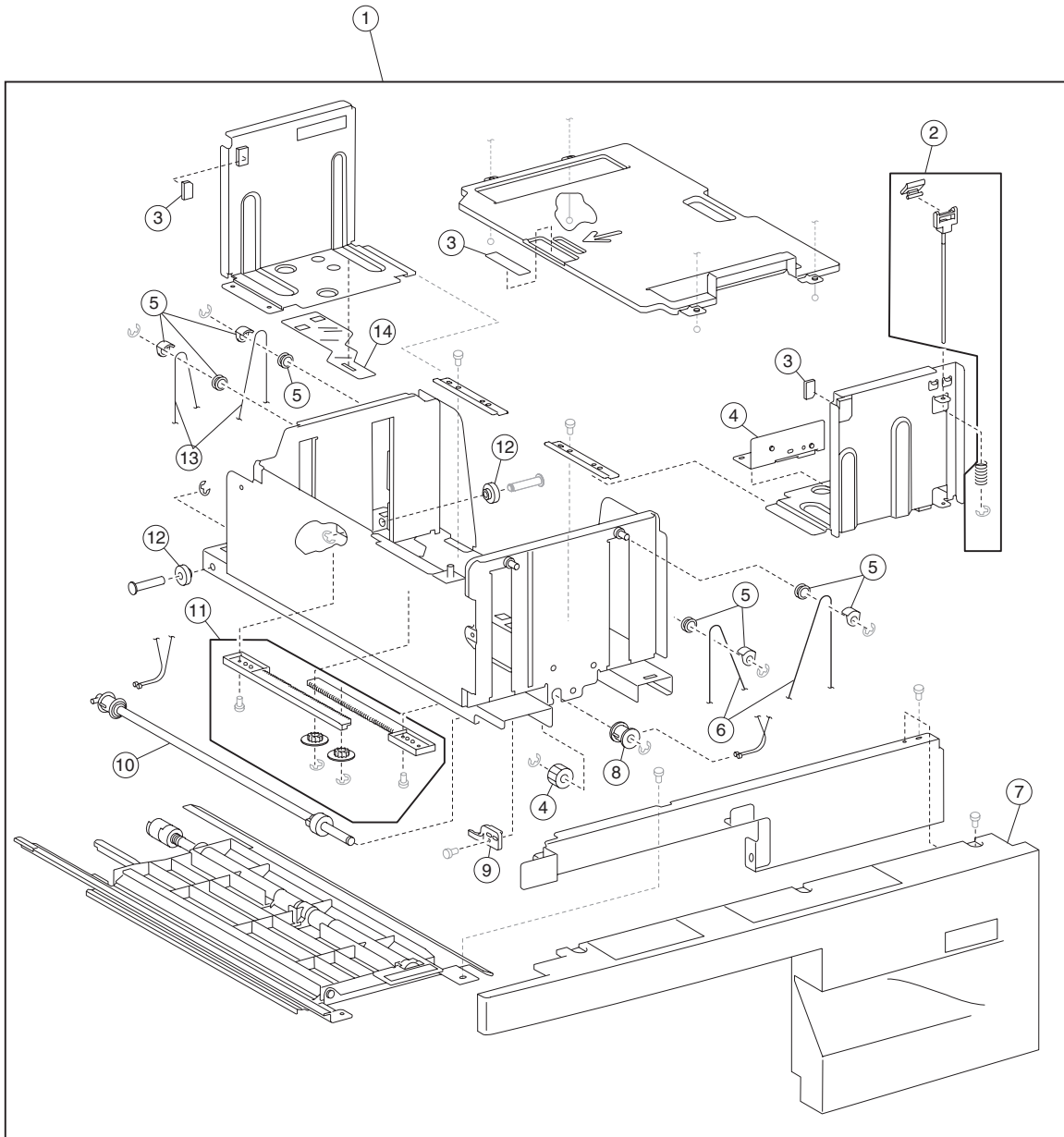




## Assembly 32: 2000-sheet dual input (TTM)—tray 3

Asm-Index	Part number	Units/ option	Units/ FRU	Description
32-1	40X0962	1	3	TTM media tray 3 assembly (this comes assembled) <ul style="list-style-type: none"> <li>• TTM media tray 3 assembly</li> <li>• Label (2 each)</li> </ul>
2	40X0712	1	3	Tray 3 media guide lock kit includes: <ul style="list-style-type: none"> <li>• Tray 3 media guide lock button</li> <li>• Tray 3 media guide lock shaft</li> <li>• Spring</li> </ul>
3	40X0953	2	8	TTM tray lift pulley kit includes: <ul style="list-style-type: none"> <li>• TTM tray lift pulley (4 each)</li> <li>• Pulley guide (4 each)</li> </ul>
4	40X0710	1	2	Tray 3 front cable (2 each)
5	40X0705	1	2	Tray 3 front cover kit includes: <ul style="list-style-type: none"> <li>• Tray 3 front cover</li> <li>• Tray 3 tray handle</li> </ul>
6	40X0713	2	4	Media guide rack and pinion kit includes: <ul style="list-style-type: none"> <li>• Media guide rack gear (2 each)</li> <li>• Media guide pinion gear (2 each)</li> </ul>
7	40X0714	2	1	TTM media tray catch
8	40X0706	2	1	Lift cable pulley
9	40X0715	1	1	Tray 3 brake assembly
10	40X0707	2	1	Tray lift shaft assembly
11	40X0716	1	4	Tray 3 slide kit includes: <ul style="list-style-type: none"> <li>• Tray 3 slide strip (2 each)</li> <li>• Tray 3 slide button (2 each)</li> </ul>
12	40X0709	1	2	Tray 3 rear cable (2 each)
13	40X0708	2	2	Large idler pulley kit includes: <ul style="list-style-type: none"> <li>• Large idler pulley</li> <li>• Large idler guide</li> </ul>
14	40X0717	2	1	Mylar actuator
15	40X0711	2	3	TTM tray separator kit includes: <ul style="list-style-type: none"> <li>• TTM tray separation pad</li> <li>• TTM tray brush (2 each)</li> </ul>

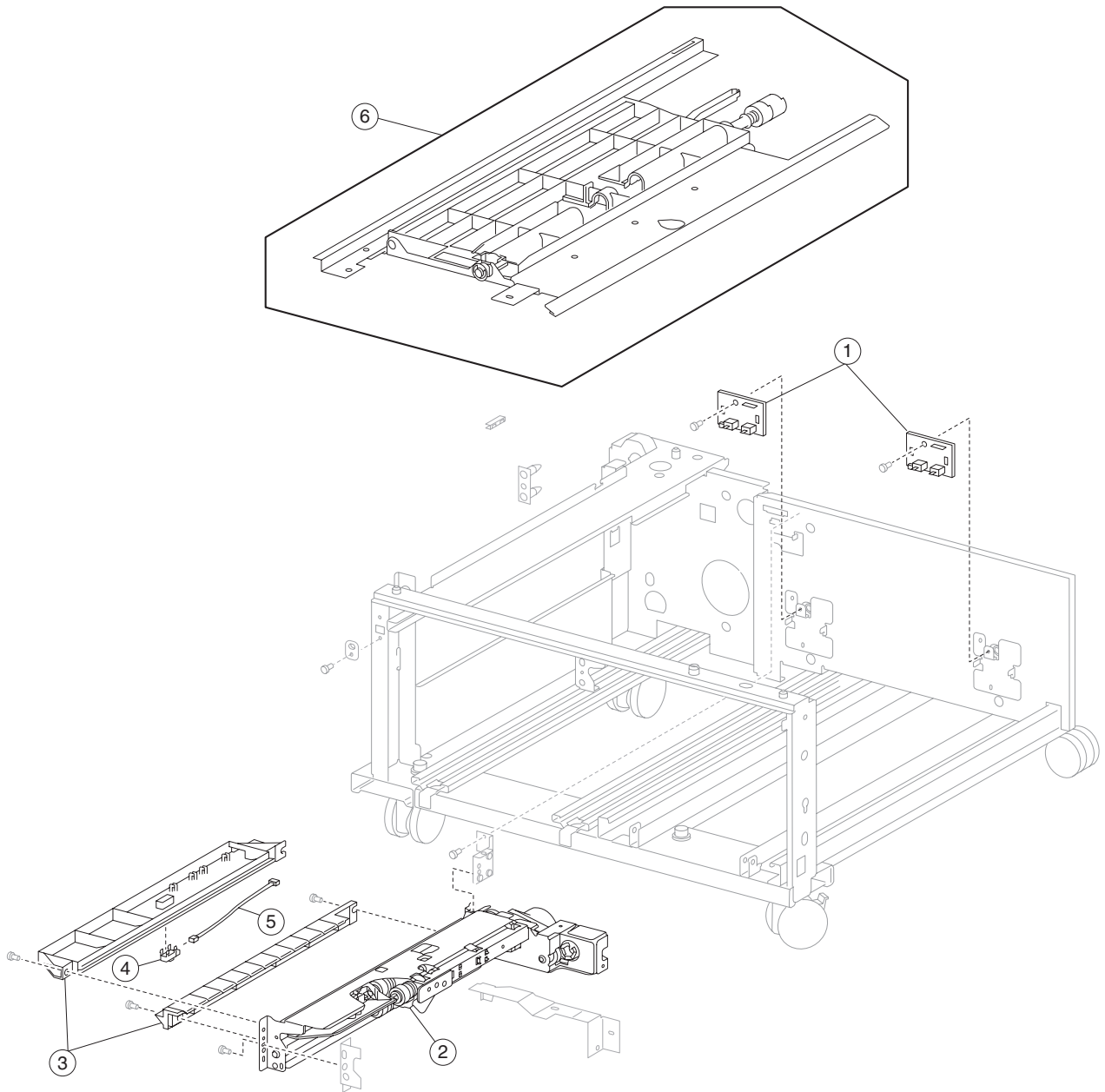
### Assembly 33: 2000-sheet dual input (TTM)—tray 4



**Assembly 33: 2000-sheet dual input (TTM)—tray 4**

Asm-Index	Part number	Units/option	Units/FRU	Description
33-1	40X0963	1	2	TTM media tray 4 assembly (this comes assembled) <ul style="list-style-type: none"> <li>• TTM media tray 4 assembly</li> <li>• Label</li> </ul>
2	40X0721	1	3	Tray 4 media guide lock kit includes: <ul style="list-style-type: none"> <li>• Tray 4 media guide lock button</li> <li>• Tray 4 media guide lock shaft</li> <li>• Spring</li> </ul>
3	40X0711	2	3	TTM Tray separator kit includes: <ul style="list-style-type: none"> <li>• TTM tray separation pad</li> <li>• TTM tray brush (2 each)</li> </ul>
4	40X0722	1	2	Tray 4 brake kit includes: <ul style="list-style-type: none"> <li>• Tray 4 brake assembly</li> <li>• Tray 4 brake gear 18T</li> </ul>
5	40X0953	2	8	TTM tray lift pulley kit includes: <ul style="list-style-type: none"> <li>• TTM tray lift pulley (4 each)</li> <li>• Pulley guide (4 each)</li> </ul>
6	40X0720	1	2	Tray 4 front cable (2 each)
7	40X0718	1	1	Tray 4 front cover
8	40X0706	2	1	Lift cable pulley
9	40X0714	2	1	TTM media tray catch
10	40X0707	2	1	Tray lift shaft assembly
11	40X0713	2	4	Media guide rack and pinion kit includes: <ul style="list-style-type: none"> <li>• Media guide rack gear (2 each)</li> <li>• Media guide pinion gear (2 each)</li> </ul>
12	40X0723	1	2	Tray 4 rear support roll (2 each)
13	40X0719	1	2	Tray 4 rear cable (2 each)
14	40X0717	2	1	Mylar actuator

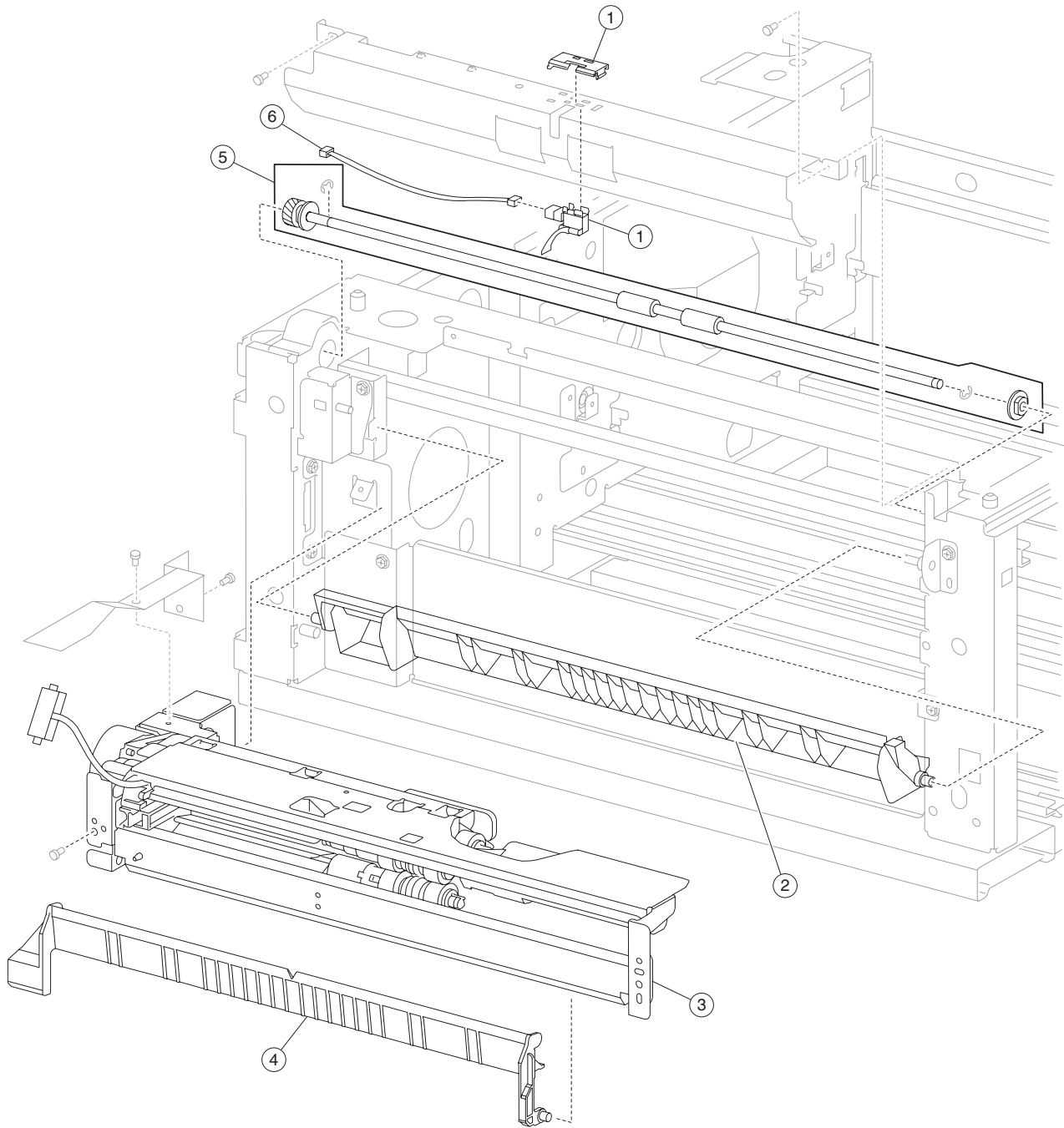
### Assembly 34: 2000-sheet dual input (TTM)—feed and transport



**Assembly 34: 2000-sheet dual input (TTM)—feed and transport**

<b>Asm-Index</b>	<b>Part number</b>	<b>Units/option</b>	<b>Units/FRU</b>	<b>Description</b>
34-1	40X0729	2	1	Switch (TTM media size switch)
2	40X0581	2	1	Media feed unit assembly (this comes assembled)
3	40X0728	1	2	Tray 4 media guide kit includes: <ul style="list-style-type: none"> <li>• Tray 4 upper media guide</li> <li>• Tray 4 lower media guide</li> </ul>
4	40X0727	1	1	Sensor (tray 4 feed-out)
5	40X0730	1	1	Tray 4 feed-out sensor cable assembly
6	40X0724	1	1	Tray 4 media transport assembly

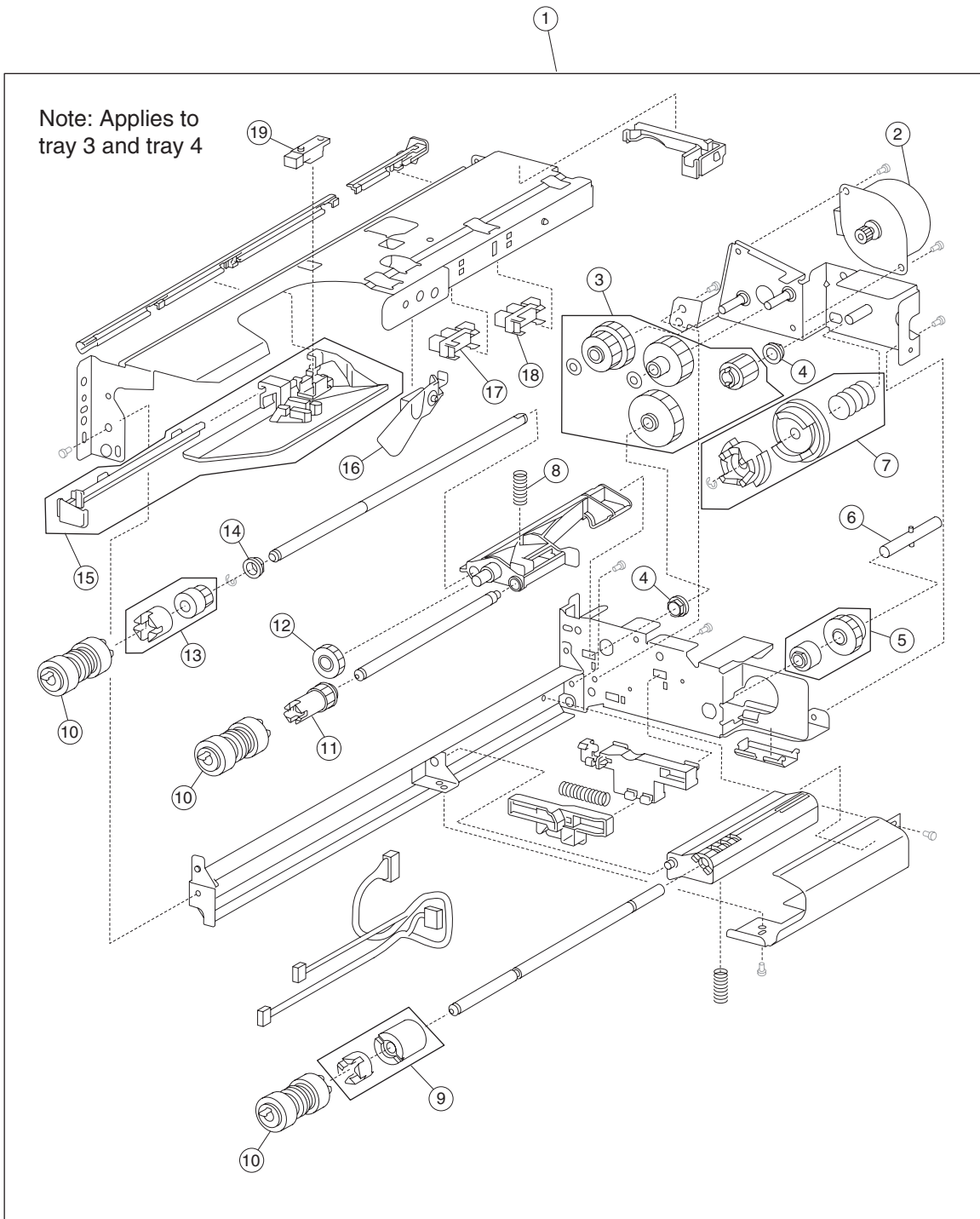
### Assembly 35: 2000-sheet dual input (TTM)—feed and transport



**Assembly 35: 2000-sheet dual input (TTM)—feed and transport**

Asm-Index	Part number	Units/ option	Units/ FRU	Description
35-1	40X0692	1	2	Sensor (tray 3 feed-out) kit includes: <ul style="list-style-type: none"> <li>• Sensor (tray 3 feed-out)</li> <li>• Sensor protector</li> </ul>
2	40X0732	1	1	Upper vertical turn guide
3	40X0581	2	1	Media feed unit assembly (this comes assembled)
4	40X0572	1	1	Vertical turn guide
5	40X0695	1	2	2TM/TTM media transport roll assembly kit includes: <ul style="list-style-type: none"> <li>• 2TM/TTM media transport roll assembly</li> <li>• Bushing 8 mm</li> </ul>
6	40X0693	1	2	Sensor cable kit includes: <ul style="list-style-type: none"> <li>• Tray 3 feed-out sensor cable</li> <li>• Tray 4 feed-out sensor cable</li> </ul>

### Assembly 36: 2000-sheet dual input (TTM)—media feed unit



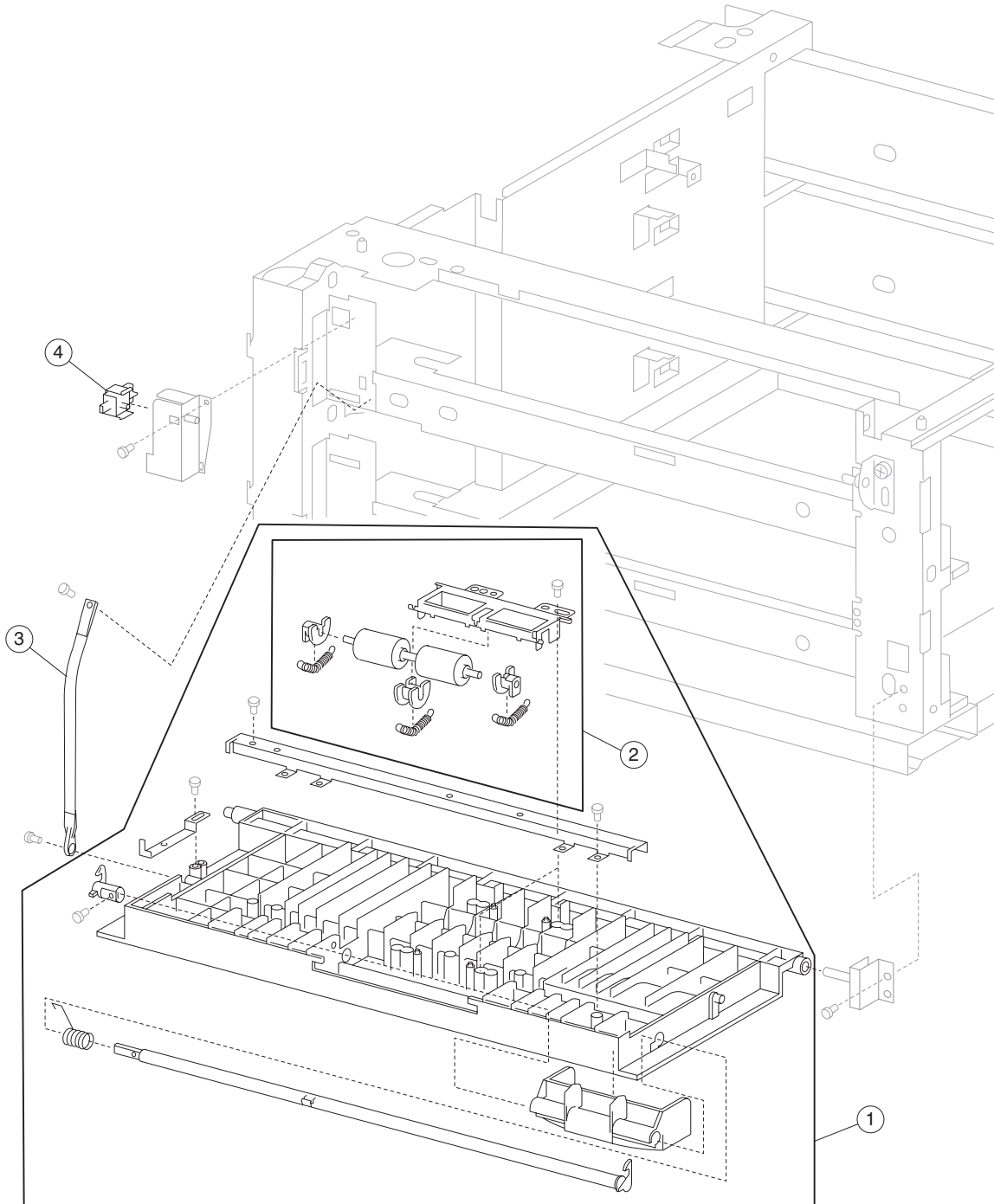


## Assembly 36: 2000-sheet dual input (TTM)—media feed unit

Asm-Index	Part number	Units/ option	Units/ FRU	Description
36-1	40X0581	2	1	Media feed unit assembly (this comes assembled)
2	40X0582	2	1	Media feed lift motor
3	40X0585	2	6	Media feed drive gear kit includes: <ul style="list-style-type: none"> <li>• Media feed unit drive gear 13T</li> <li>• Media feed unit drive gear 28/21T</li> <li>• Media feed unit drive gear 29T</li> <li>• Media feed unit drive gear 27T</li> <li>• 2 mm washer (2 each)</li> </ul> <b>Note:</b> The graphic on the previous page, shows two #3 callouts. These callouts are the items that make up the media feed drive gear kit.
4	40X0880	2	1	Bushing 6 mm
5	40X0967	2	2	Media tray lift one-way clutch/gear kit includes: <ul style="list-style-type: none"> <li>• Media tray lift one-way clutch</li> <li>• Media tray lift one-way gear</li> </ul>
6	40X0968	2	1	Media tray lift one-way shaft
7	40X0583	2	3	Tray lift coupling kit includes: <ul style="list-style-type: none"> <li>• Tray lift coupling</li> <li>• Tray lift coupling gear 31T</li> <li>• Spring</li> </ul>
8	40X0590	2	1	Pick roll assembly spring
9	40X0593	2	2	Separation roll friction clutch kit includes: <ul style="list-style-type: none"> <li>• Separation roll one-way friction clutch</li> <li>• Separation roll spacer</li> </ul>
10	40X0594	2	3	Feed unit roll kit includes: <ul style="list-style-type: none"> <li>• Feed roll</li> <li>• Pick roll</li> <li>• Separation roll</li> </ul>
11	40X0970	2	1	Pick roll drive gear
12	40X0969	2	1	Pick roll idler gear
13	40X0591	2	2	Feed roll one-way clutch kit includes: <ul style="list-style-type: none"> <li>• Feed roll one-way clutch</li> <li>• Feed roll one-way gear 22T</li> </ul>
14	40X0952	2	1	Bushing 6 mm
15	40X0586	2	2	Media feed unit front guide kit includes: <ul style="list-style-type: none"> <li>• Media feed unit front guide</li> <li>• Media feed unit front guide rail</li> </ul>
16	40X0587	2	1	Media out actuator
17	40X0588	2	1	Sensor (media out)
18	40X0588	2	1	Sensor (media level)
19	40X0589	2	1	Sensor (pre-feed)

**Note:** Assembly index items 17 and 18 are identical sensors with different functions; therefore, they are the same part number with different descriptions.

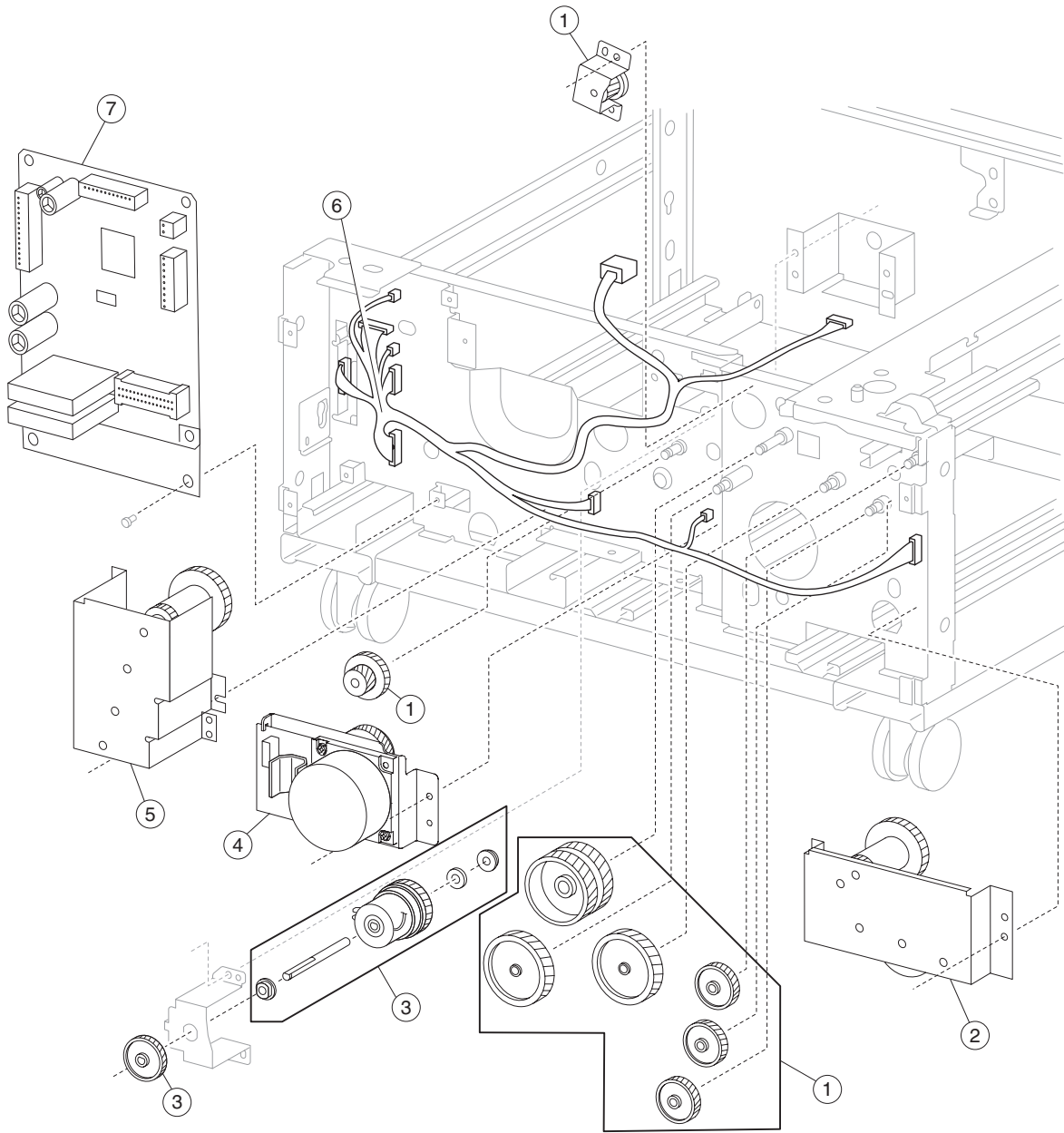
### Assembly 37: 2000-sheet dual input (TTM)—left door



**Assembly 37: 2000-sheet dual input (TTM)—left door**

<b>Asm-Index</b>	<b>Part number</b>	<b>Units/ option</b>	<b>Units/ FRU</b>	<b>Description</b>
37-1	40X0733	1	1	2TM/TTM left door assembly (this comes assembled)
2	40X0696	1	1	2TM/TTM left door pinch assembly (this comes assembled)
3	40X0697	1	1	2TM/TTM left door support strap
4	40X0610	1	1	Switch (2TM/TTM left door interlock)

### Assembly 38: 2000-sheet dual input (TTM)—drive and electrical



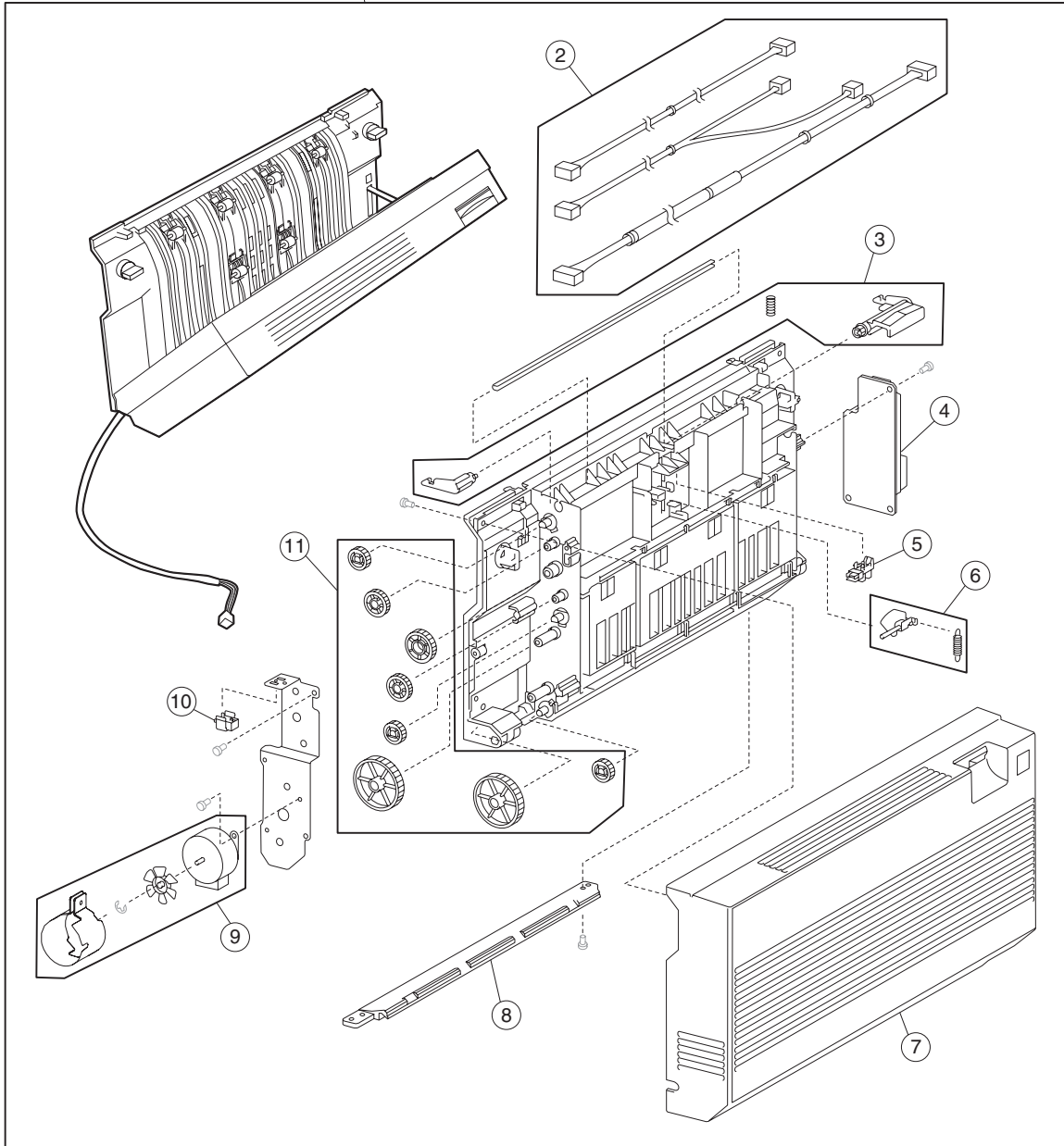
**Assembly 38: 2000-sheet dual input (TTM)—drive and electrical**

Asm-Index	Part number	Units/ option	Units/ FRU	Description
38-1	40X0736	1	8	TTM drive gear kit includes: <ul style="list-style-type: none"> <li>• TTM drive gear 22/40T</li> <li>• TTM drive gear 37T (2 each)</li> <li>• TTM drive gear 32T</li> <li>• TTM drive gear 60T (2 each)</li> <li>• TTM drive gear 60T</li> <li>• TTM drive gear bracket assembly</li> </ul>
2	40X0734	1	1	Tray 3 lift gear assembly
3	40X0699	1	6	2TM/TTM clutch kit includes: <ul style="list-style-type: none"> <li>• 2TM/TTM clutch assembly</li> <li>• Shaft</li> <li>• Bushing 8 mm</li> <li>• Clutch gear 38T</li> <li>• Bushing 8 mm</li> <li>• Washer</li> </ul>
4	40X3664	1	1	2TM/TTM drive motor
5	40X0735	1	1	Tray 4 lift gear assembly
6	40X3666	1	1	TTM main cable assembly
7	40X2735	1	1	2TM/TTM controller card assembly

# Assembly 39: Duplex outer

1

Note: This assembly includes everything on pages 7-80 and 7-82.

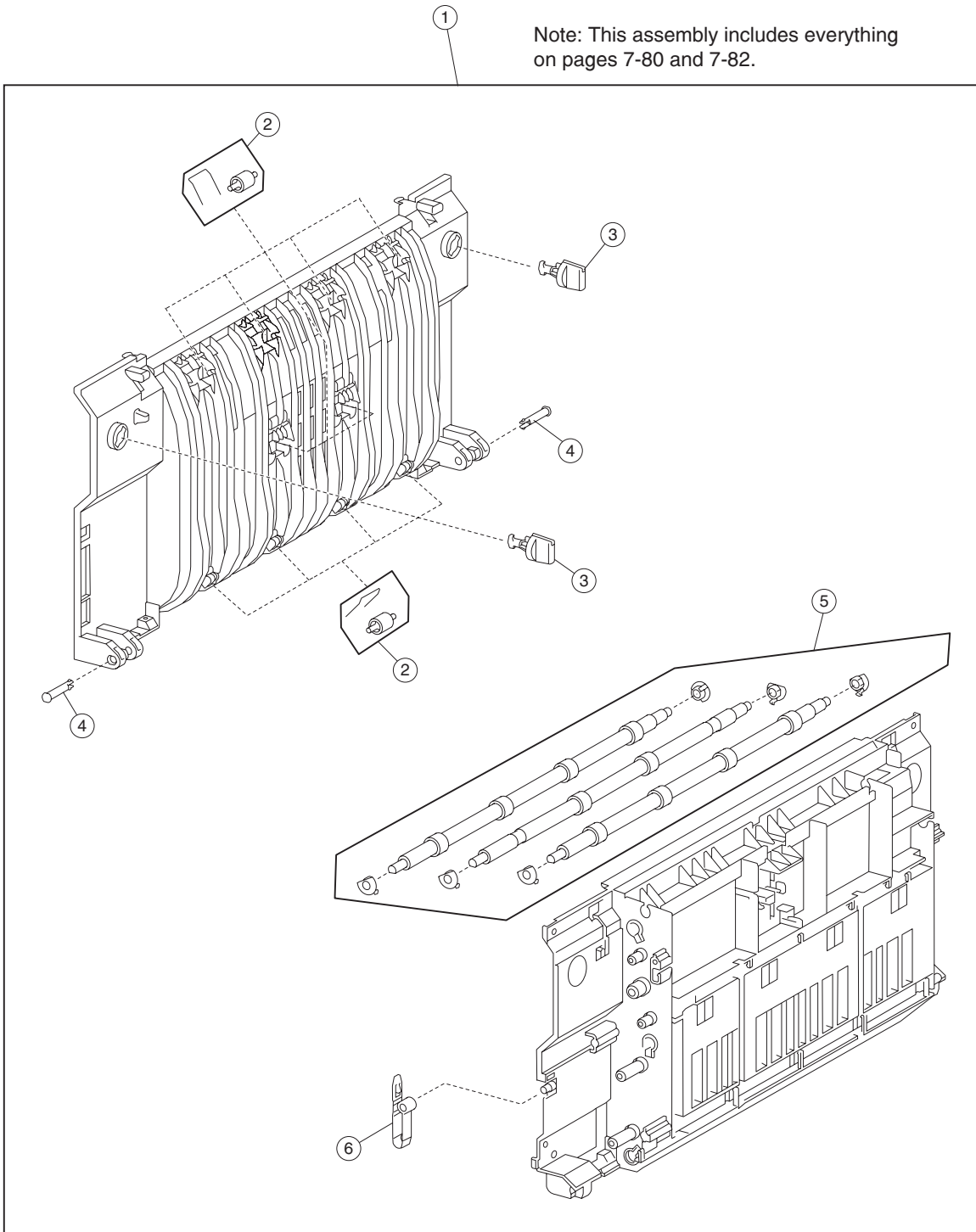


**Assembly 39: Duplex outer**

Asm-Index	Part number	Units/ option	Units/ FRU	Description
39-1	40X0780	1	1	Duplex unit assembly (this comes assembled)
2	40X0788	1	3	Duplex cable kit includes: <ul style="list-style-type: none"> <li>• Duplex sensor cable assembly</li> <li>• Duplex motor cable assembly</li> <li>• Duplex main cable assembly</li> </ul>
3	40X0782	1	3	Duplex left door handle kit includes: <ul style="list-style-type: none"> <li>• Duplex left door handle latch</li> <li>• Duplex left door handle</li> <li>• Spring</li> </ul>
4	40X0786	1	1	Duplex controller card assembly
5	40X0588	1	1	Sensor (duplex wait)
6	40X0784	1	2	Duplex wait actuator kit includes: <ul style="list-style-type: none"> <li>• Duplex wait actuator</li> <li>• Spring</li> </ul>
7	40X0787	1	1	Duplex left cover
8	40X0783	1	1	Duplex lower guide
9	40X0785	1	3	Duplex drive motor kit includes: <ul style="list-style-type: none"> <li>• Duplex drive motor</li> <li>• Duplex drive motor cooling fan</li> <li>• Duplex drive motor cooling fan shroud</li> </ul>
10	40X0610	1	1	Switch (duplex left door interlock)
11	40X0781	1	8	Duplex drive gear kit includes: <ul style="list-style-type: none"> <li>• Duplex drive gear 28T (3 each)</li> <li>• Duplex drive gear 33/74T (2 each)</li> <li>• Duplex drive gear 33T (2 each)</li> <li>• Duplex drive gear 42T</li> </ul>

### Assembly 40: Duplex inner

Note: This assembly includes everything on pages 7-80 and 7-82.

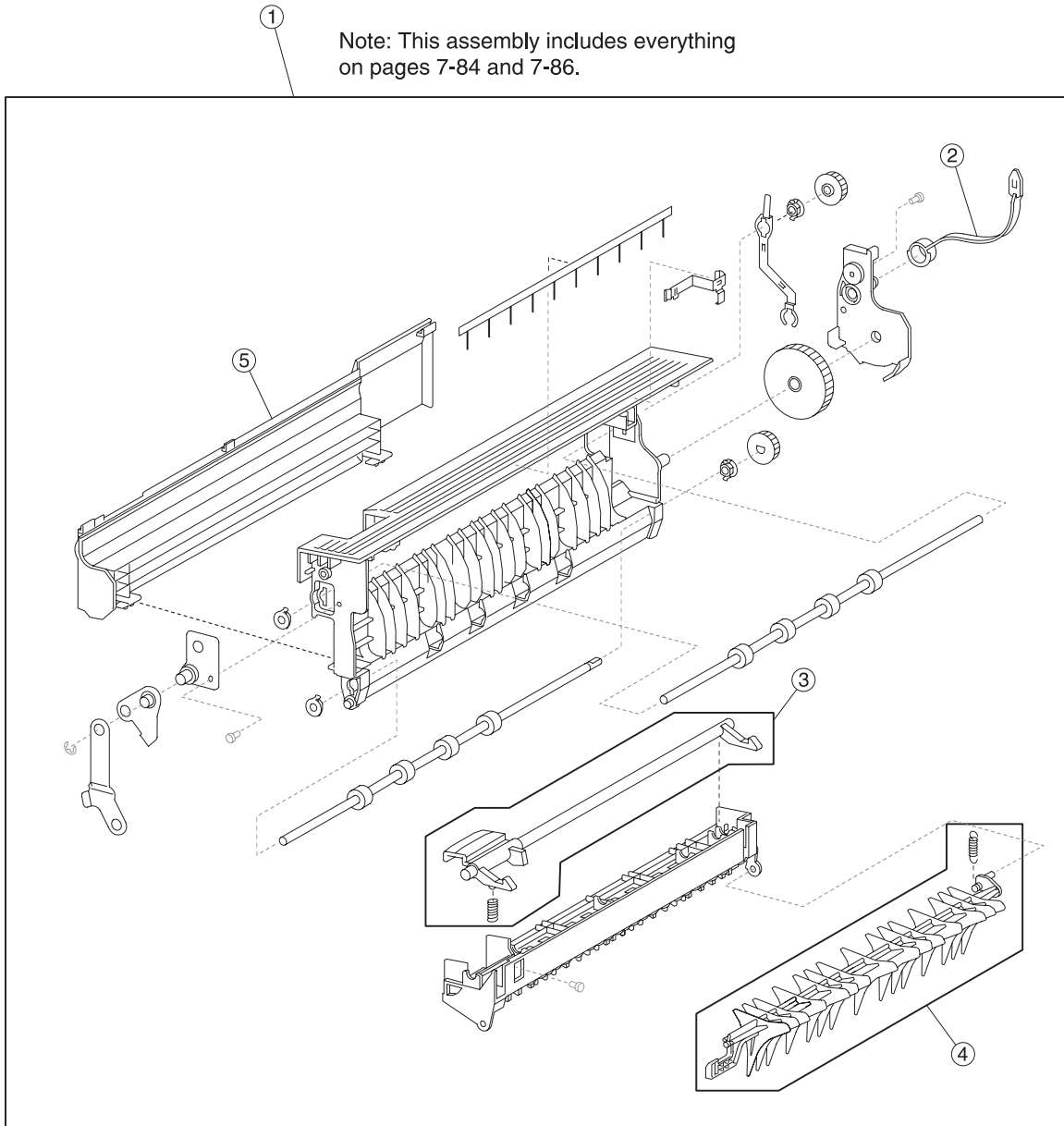




**Assembly 40: Duplex inner**

<b>Asm-Index</b>	<b>Part number</b>	<b>Units/ option</b>	<b>Units/ FRU</b>	<b>Description</b>
40-1	40X0780	1	1	Duplex unit assembly (this comes assembled)
2	40X0792	1	20	Duplex media transport pinch roll kit includes: <ul style="list-style-type: none"> <li>• Duplex media transport pinch roll (10 each)</li> <li>• Spring (10 each)</li> </ul>
3	40X0790	1	2	Duplex docking lock (2 each)
4	40X0791	1	2	Hinge pin (2 each)
5	40X0793	1	9	Duplex media transport roll kit includes: <ul style="list-style-type: none"> <li>• Bushing 6 mm (6 each)</li> <li>• Duplex media transport roll (2 each)</li> <li>• Duplex media center transport roll</li> </ul>
6	40X0789	1	1	Duplex left door support strap

## Assembly 41: Exit 2 outer

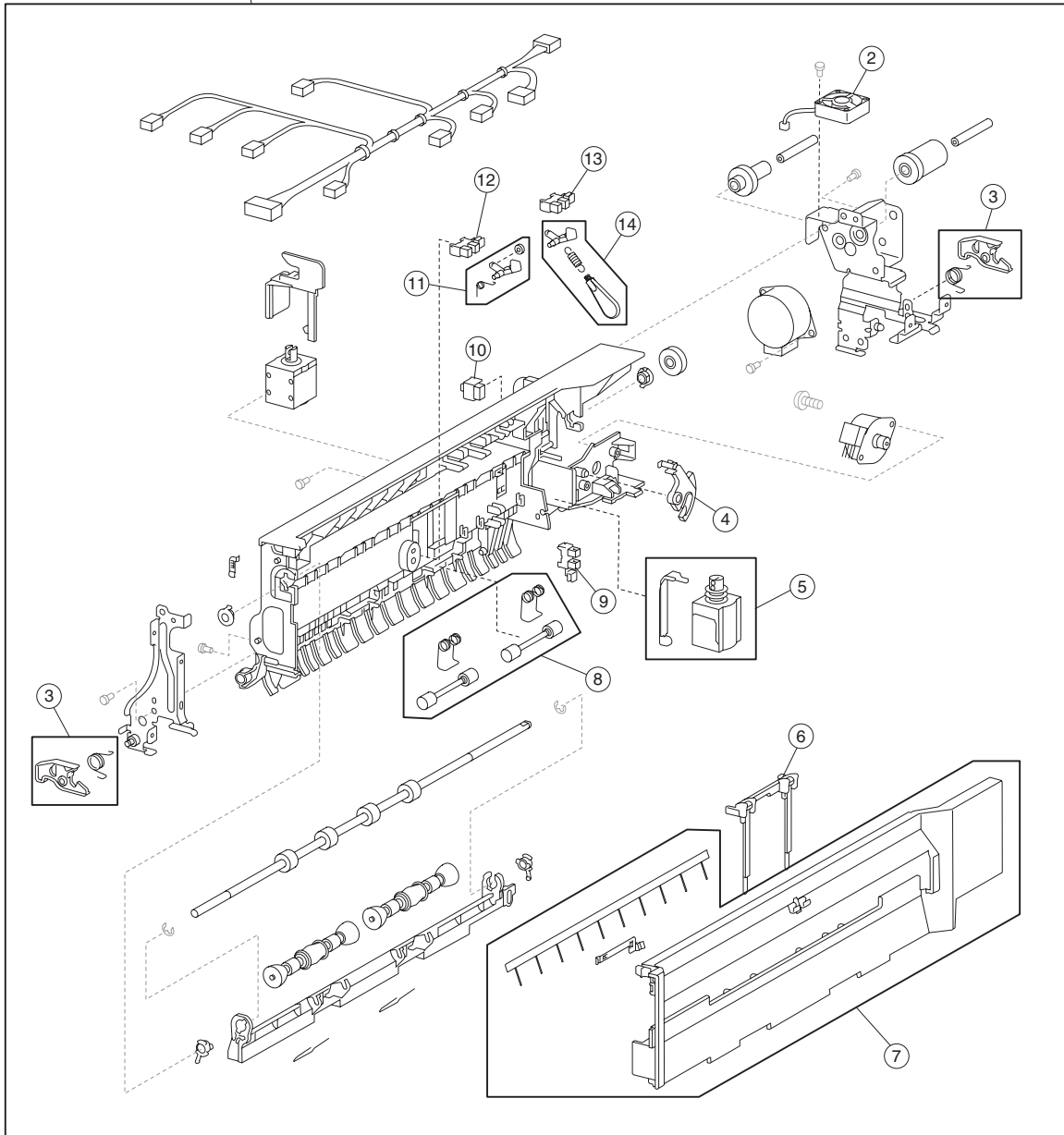


**Assembly 41: Exit 2 outer**

<b>Asm-Index</b>	<b>Part number</b>	<b>Units/option</b>	<b>Units/FRU</b>	<b>Description</b>
41-1	40X0794	1	1	Exit 2 unit assembly (this comes assembled)
2	40X0797	1	1	Exit 2 left door support strap
3	40X0795	1	2	Exit 2 left door handle kit includes: <ul style="list-style-type: none"> <li>• Exit 2 left door handle</li> <li>• Spring</li> </ul>
4	40X0796	1	2	Media diverter gate kit includes: <ul style="list-style-type: none"> <li>• Media diverter gate</li> <li>• Spring</li> </ul>
5	40X0798	1	1	Left cover

## Assembly 42: Exit 2 inner

1 Note: This assembly includes everything on pages 7-84 and 7-86.

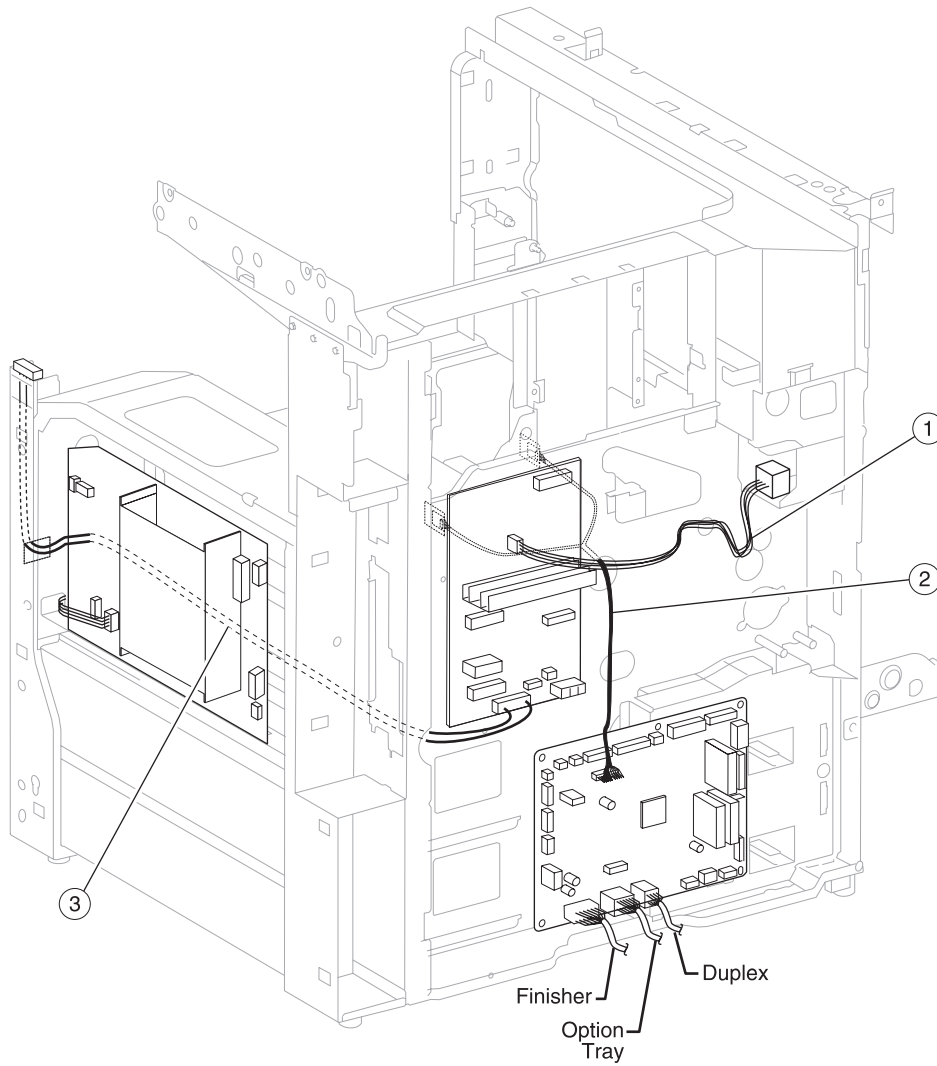


## Assembly 42: Exit 2 inner

Asm-Index	Part number	Units/option	Units/FRU	Description
42-1	40X0794	1	1	Exit 2 unit assembly (this comes assembled)
2	40X0807	1	1	Exit 2 cooling fan
3	40X0802	1	4	Exit 2 docking latch kit includes: <ul style="list-style-type: none"> <li>• Docking latch (2 each)</li> <li>• Docking latch spring front</li> <li>• Docking latch spring rear</li> </ul>
4	40X0803	1	1	Exit 2 media shift gear
5	40X0805	1	2	Media diverter solenoid kit includes: <ul style="list-style-type: none"> <li>• Media diverter solenoid</li> <li>• Media diverter link</li> </ul>
6	40X2389	1	3	• Output guide
7	40X0801	1	3	Right cover kit includes: <ul style="list-style-type: none"> <li>• Right cover</li> <li>• Right cover anti static brush</li> <li>• Right cover grounding plate</li> </ul>
8	40X0806	1	4	Exit 2 pinch roll kit includes: <ul style="list-style-type: none"> <li>• Spring (2 each)</li> <li>• Exit 2 pinch roll (2 each)</li> </ul>
9	40X0588	1	1	Sensor (exit 2 media shift HP)
10	40X0610	1	1	Switch (exit 2 left door interlock)
11	40X0809	1	3	Exit 2 actuator kit includes: <ul style="list-style-type: none"> <li>• Exit 2 actuator</li> <li>• Roller</li> <li>• Spring</li> </ul>
12	40X0588	1	1	Sensor (exit 2)
13	40X0588	1	1	Sensor (standard bin full exit 2)
14	40X0808	1	3	Standard bin full exit 2 actuator kit includes: <ul style="list-style-type: none"> <li>• Standard bin full exit 2 actuator inner</li> <li>• Standard bin full exit 2 actuator outer</li> <li>• Spring</li> </ul>

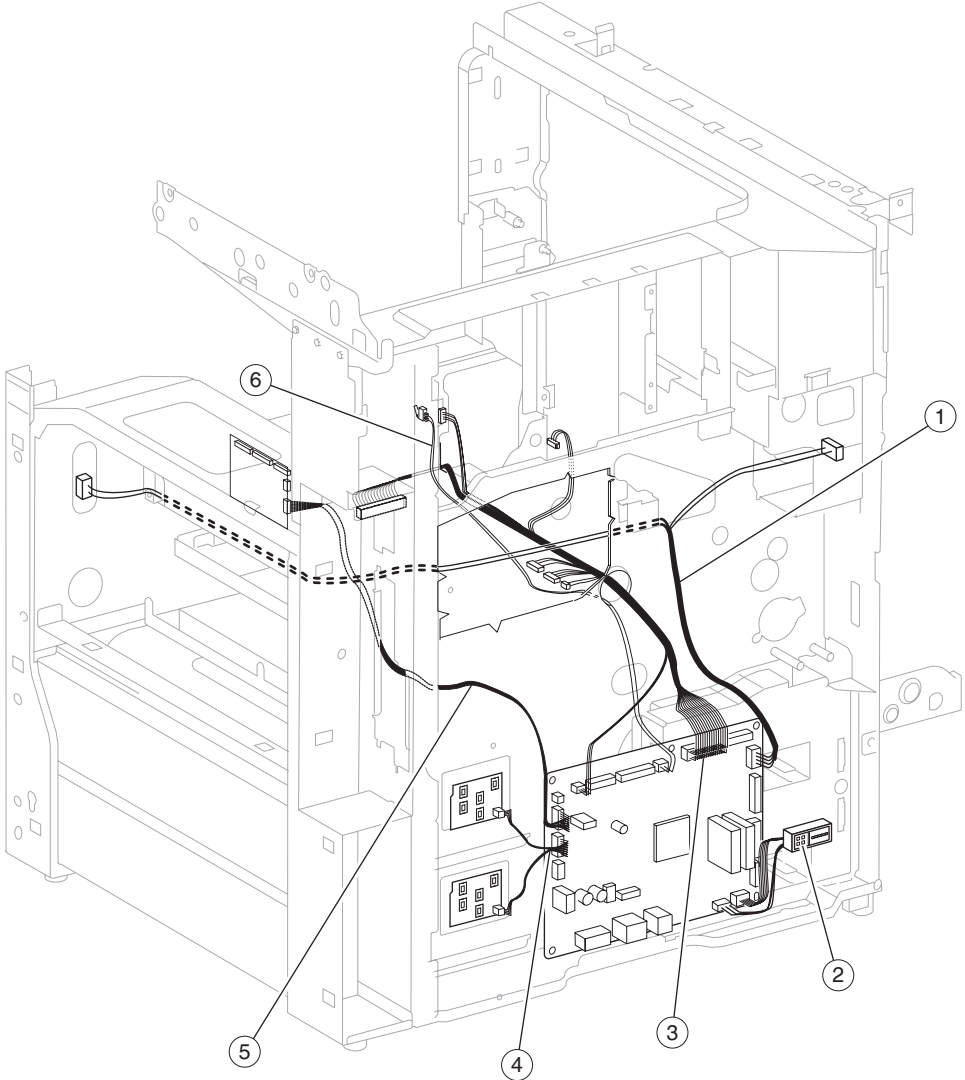
**Note:** Assembly index items 12 and 13 are identical sensors with different functions; therefore, they are the same part number with different descriptions.

## Assembly 43: Electrical cables



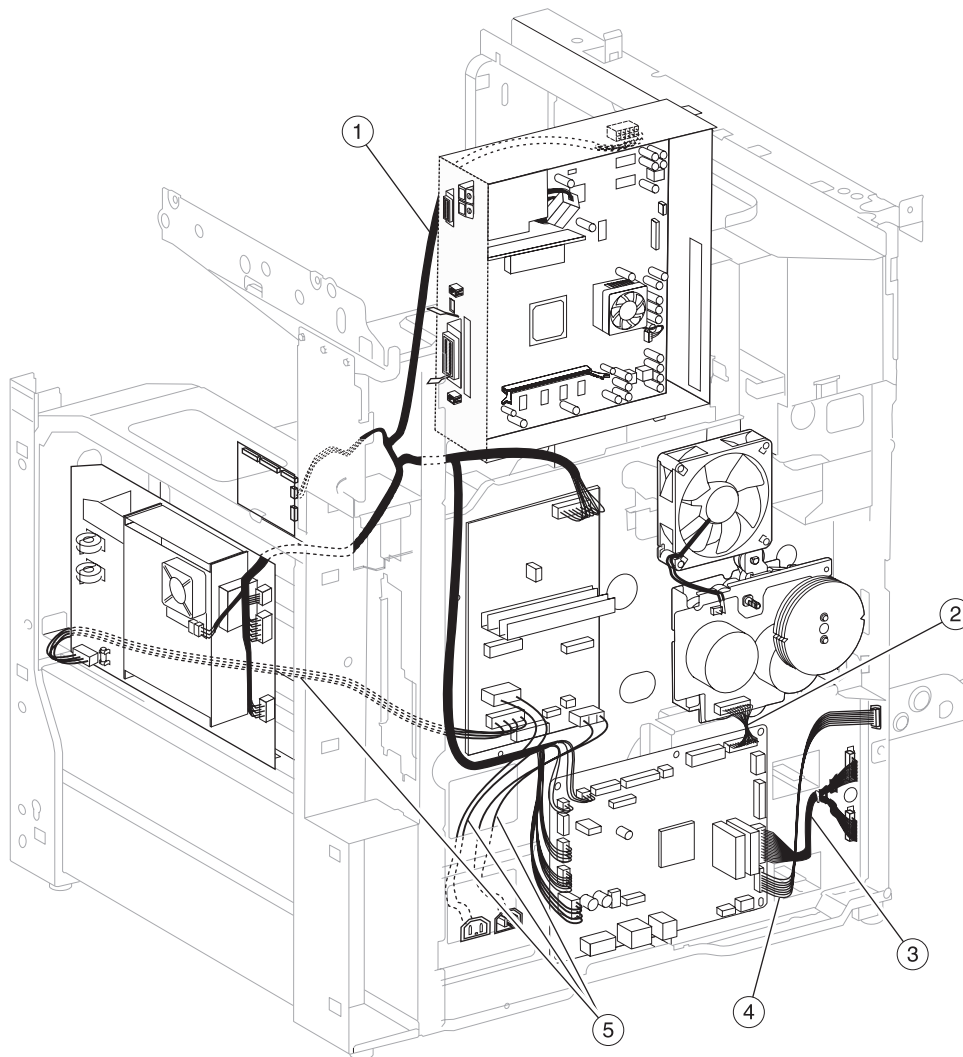
Asm Index	Part number	Units/mach	Units/kit or pkg	Description
43-1	40X2368	1	1	Fuser AC cable assembly
2	40X0686	1	1	RFID sensor cable assembly
3	40X2319	1	1	Main switch cable assembly

**Assembly 44: Electrical cables**



Asm Index	Part number	Units/mach	Units/kit or pkg	Description
44-1	40X0683	1	1	Interlock switch cable assembly
2	40X0673	1	1	HCF hookup connector assembly
3	40X0637	1	1	Multi connector cable assembly 1
4	40X0676	1	1	Media size switch cable assembly
5	40X2318	1	1	Multi connector cable assembly 3
6	40X1390	1	2	Switch (PC cartridge interlock) kit includes: <ul style="list-style-type: none"> <li>• Backup spring</li> <li>• Switch (PC cartridge interlock)</li> </ul>

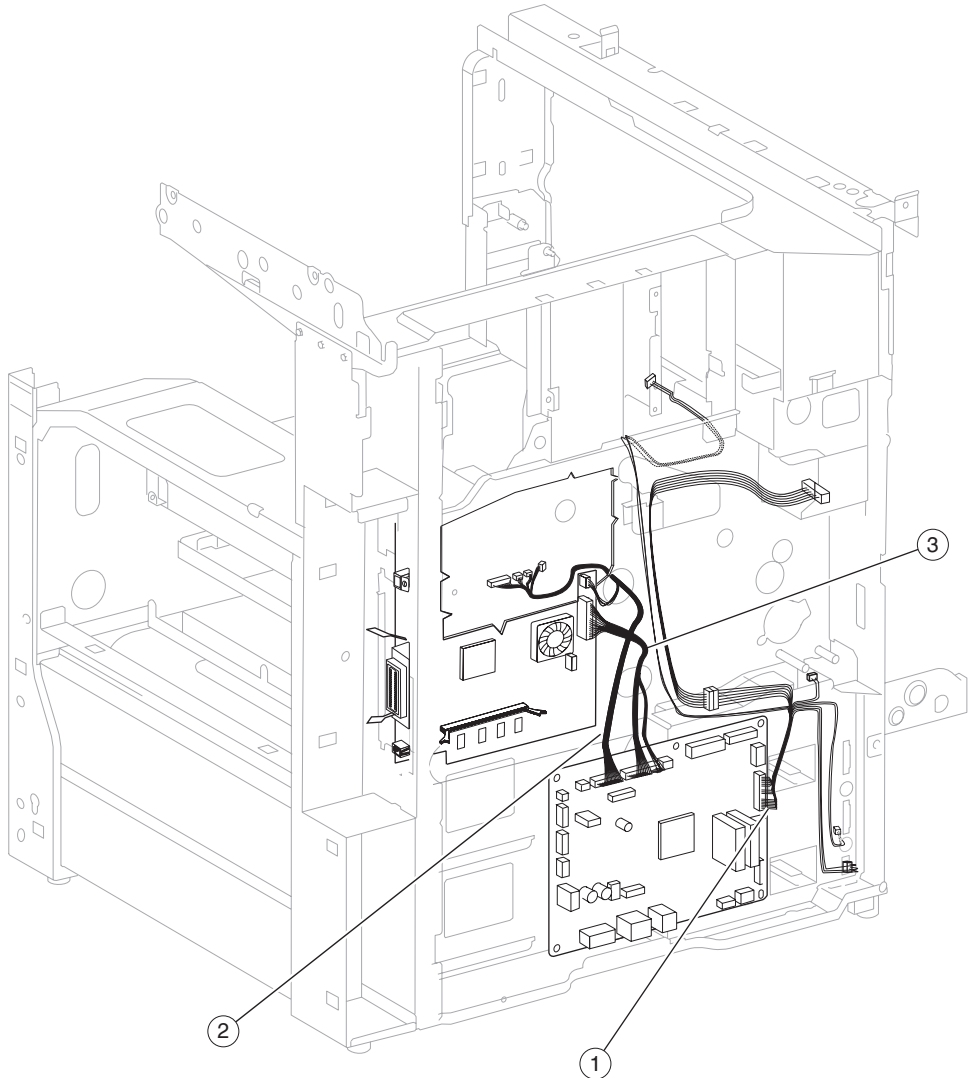
## Assembly 45: Electrical cables



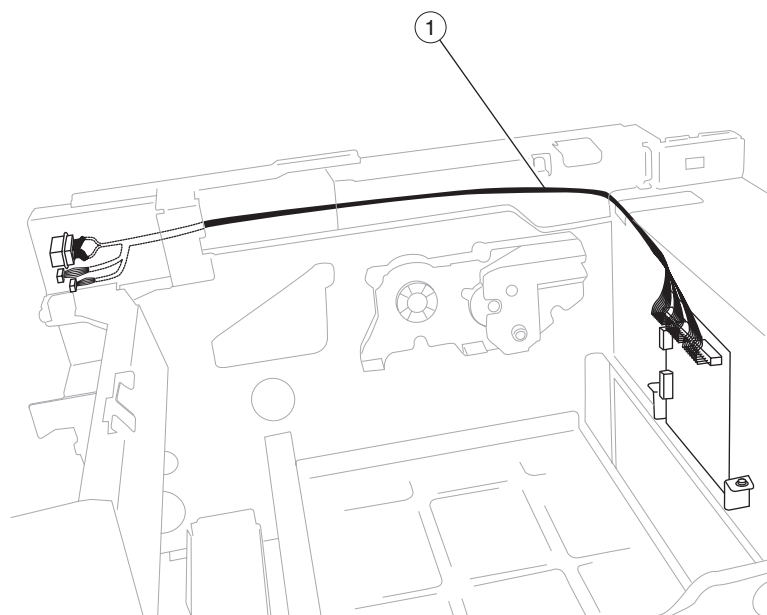
Asm Index	Part number	Units/mach	Units/kit or pkg	Description
45-1	40X2318	1	1	Multi connector cable assembly 3 <b>Note:</b> Assembly 44 (Index # 5) on page 89 and Assembly 45 (Index #1) on page 90 is a cable bundle that makes up Multi connector cable assembly 3.
2	40X0685	1	1	Dual drive motor cable assembly
3	40X0674	1	1	Media feed unit cable assembly
4	40X0675	1	1	MPF hookup cable assembly
5	40X2313	1	7	AC power input socket kit includes: <ul style="list-style-type: none"> <li>• Screws 4 mm (2 each)</li> <li>• Bracket</li> <li>• AC power input socket</li> <li>• Ground wire</li> <li>• Main AC cable assembly</li> <li>• Finisher AC output</li> </ul>



### Assembly 46: Electrical cables



Asm Index	Part number	Units/mach	Units/kit or pkg	Description
46-1	40X2367	1	1	Multi connector cable assembly 2
2	40X2317	1	1	Printhead cable assembly
3	40X0677	1	1	RIP card cable assembly

**Assembly 47: Electrical cable**

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
47-1	40X0679	1	1	Exit interface cable assembly

## Assembly 48: Power cords

Asm Index	Part number	Units/mach	Units/kit or pkg	Description
48-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	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	40X1771	1	1	Power cord—Israel HV 8ft straight
NS	40X1772	1	1	Power cord—Liechtenstein, Switzerland HV 8ft straight
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

## Assembly 49: Miscellaneous

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
49-NS	40X0179	1	1	Nyogel 744 grease packet
NS	40X0290	1	1	RS232C serial interface card
NS	40X0291	1	1	Parallel 1284-B interface card
NS	40X0948	NA	NA	Assorted E-clip packet
NS	40X0949	NA	NA	Assorted screw packet
NS	40X1375	1	1	MarkNet 8000 Fast Ethernet
NS	40X1376	1	1	MarkNet 8020 Gigabit Ethernet
NS	40X1377	1	1	MarkNet 8030 Fiber Ethernet
NS	40X1378	1	1	MarkNet 8050 wireless, US
NS	40X1508	1	1	128MB memory option
NS	40X1509	1	1	256MB memory option
NS	40X1510	1	1	512MB memory option
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	40X1562	1	1	MarkNet 8050 wireless, non-US
NS	40X1564	1	1	32MB Flash card
NS	40X1455	1	1	64MB Flash card
NS	40X2375	1	14	Maintenance kit (110 V) <ul style="list-style-type: none"> <li>• Fuser unit assembly</li> <li>• Transfer roll assembly</li> <li>• Feed rolls (4 each)</li> <li>• Pick rolls (4 each)</li> <li>• Separation rolls (4 each)</li> </ul>
NS	40X2376	1	14	Maintenance kit (220 V) <ul style="list-style-type: none"> <li>• Fuser unit assembly</li> <li>• Transfer roll assembly</li> <li>• Feed rolls (4 each)</li> <li>• Pick rolls (4 each)</li> <li>• Separation rolls (4 each)</li> </ul>
NS	40X2377	1	14	Maintenance kit (100 V) <ul style="list-style-type: none"> <li>• Fuser unit assembly</li> <li>• Transfer roll assembly</li> <li>• Feed rolls (4 each)</li> <li>• Pick rolls (4 each)</li> <li>• Separation rolls (4 each)</li> </ul>
NS	40X3500	1	1	IPDS card assembly
NS	40X2734	1	2	Maintenance kit (ADF) <ul style="list-style-type: none"> <li>• Feed/pick roll assembly</li> <li>• Separation guide assembly</li> </ul>
NS	40X2794	1	1	Forms card assembly
NS	40X4252	1	1	Bar code card assembly
NS	40X4256	1	1	PRESCRIBE card assembly

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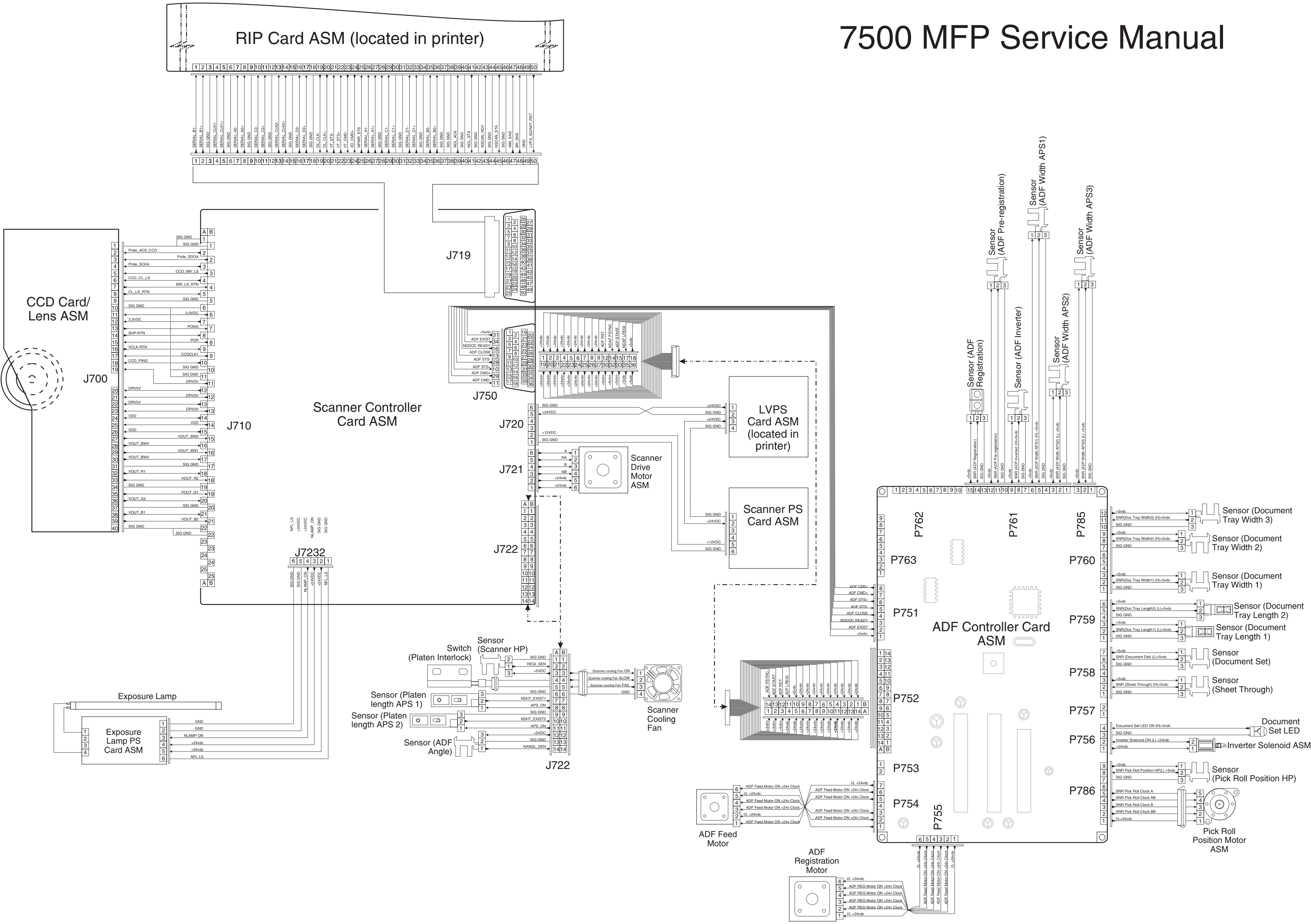
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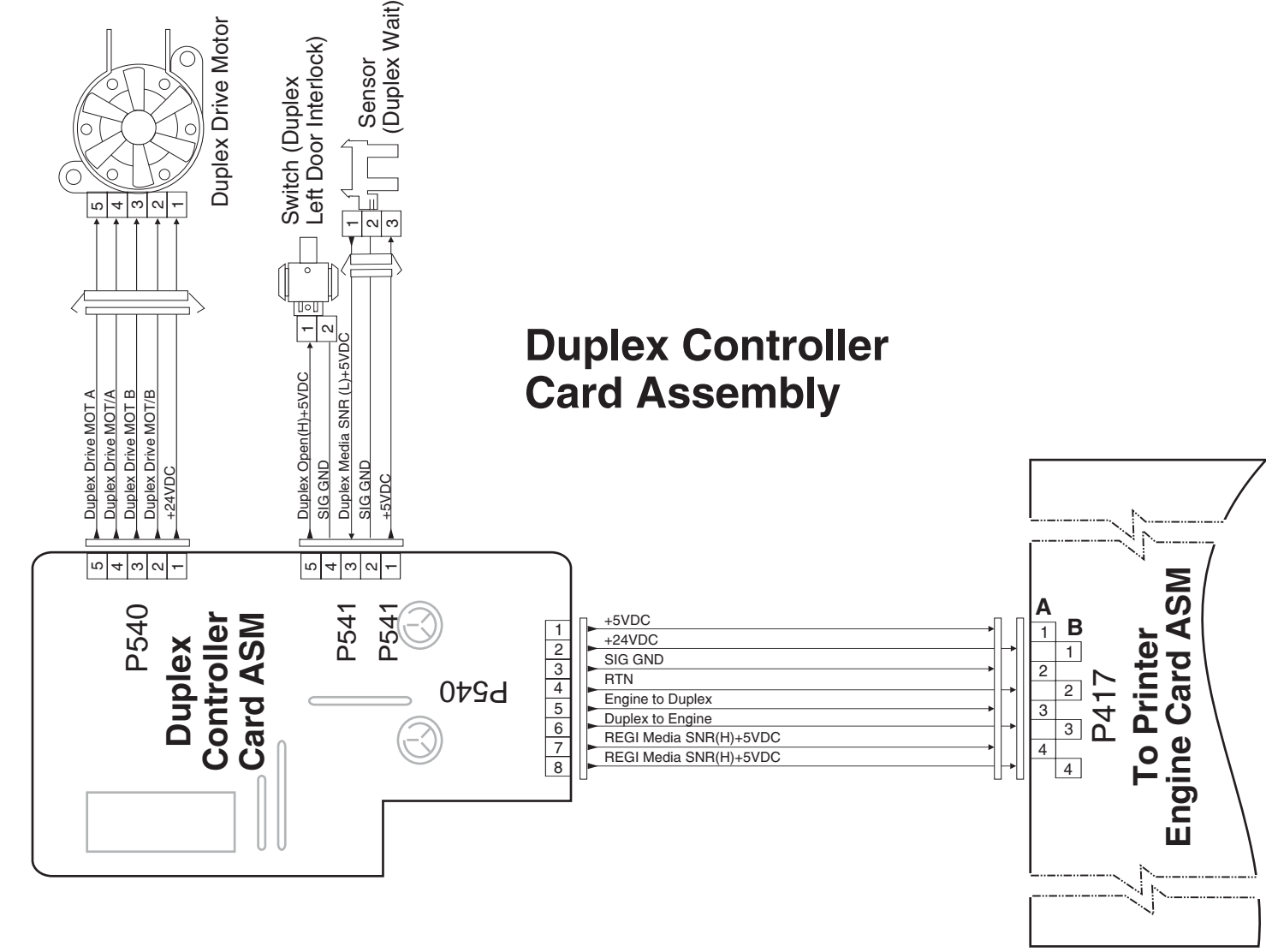
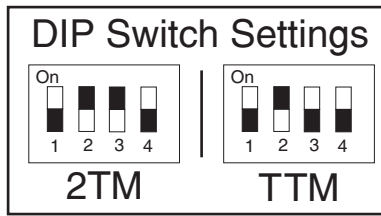
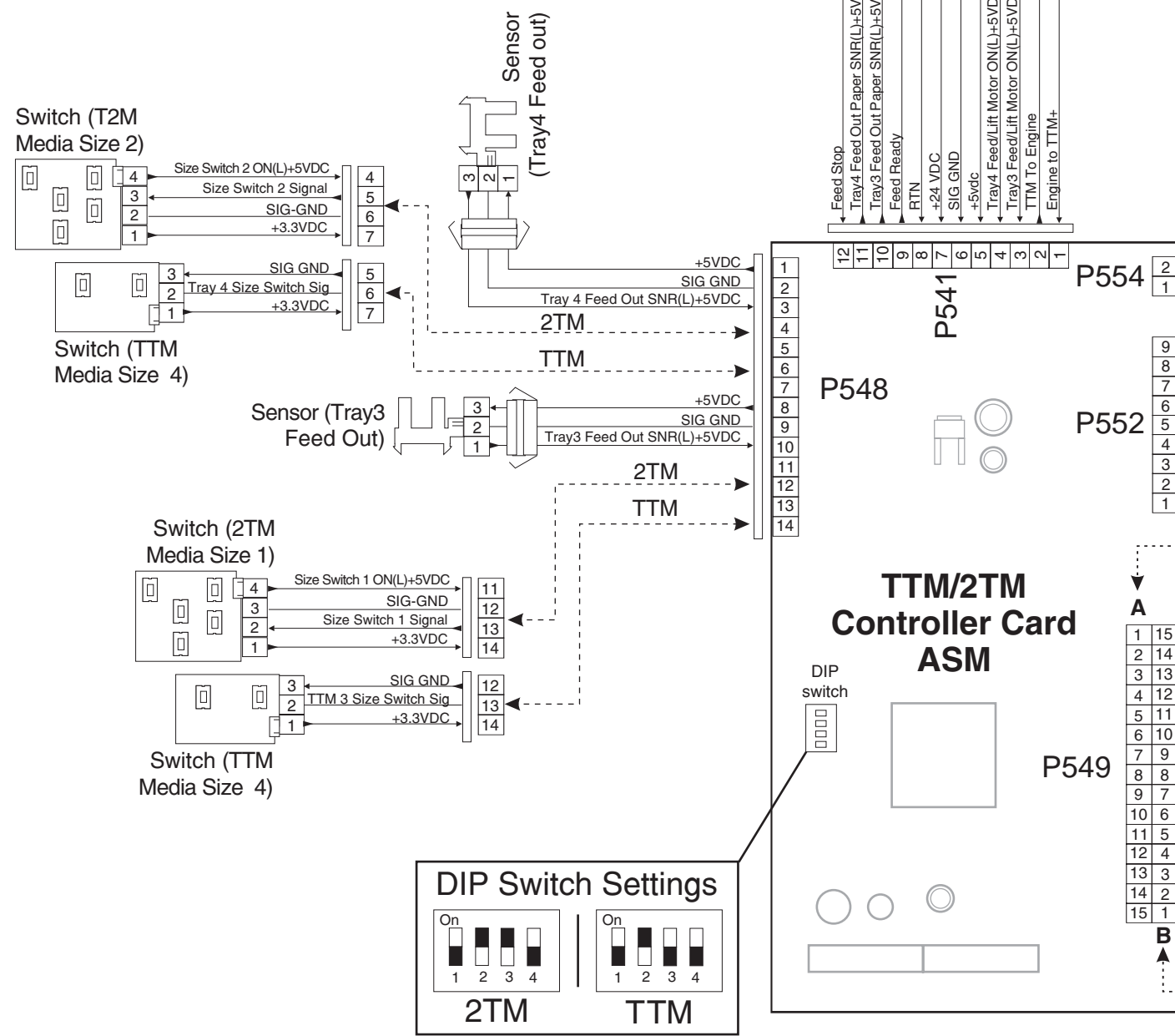
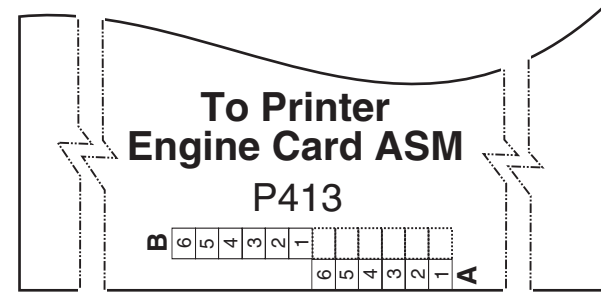
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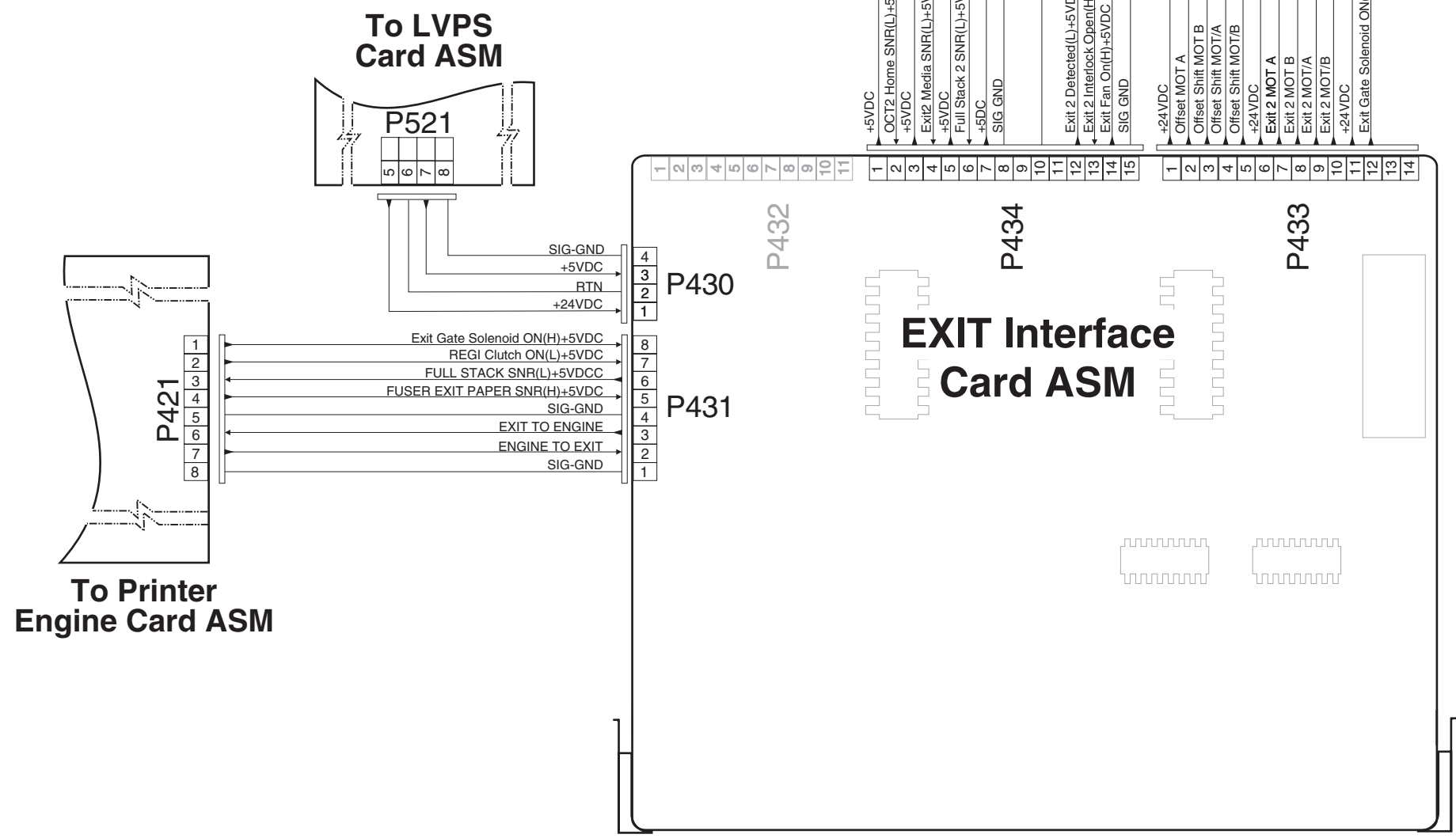


# 7500 MFP Service Manual

## TTM/2TM Controller Card Assembly



## EXIT Interface Card Assembly



## EXIT Interface Card ASM

